SEOUL HIGH COURT

Administration Division No. 7

Judgment

Case:	2017 *Nu* 48 Revocation of the Corrective Order, etc.	
Plaintiffs (“Plaintiffs” or “Qualcomm”):	1.	Qualcomm Incorporated 5775 Morehouse Drive, San Diego, California, USA Steve M. Mollenkopf, CEO
	2.	Qualcomm Technologies Incorporated 2711 Centerville Road, Suite 400, Wilmington, Delaware, USA Steve M. Mollenkopf, CEO
	3.	Qualcomm CDMA Technologies Asia-Pacific PTE Limited 6 Serangoon, North Avenue 5#03-04, Singapore Wei Hsiung Lee, Cher Shen Chang, Roawen Chen, Directors

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Defendant (“KFTC”): Korea Fair Trade Commission

Representative: Joh Sung-wook, Chairperson

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Closing of Hearing: August 14, 2019

Declaration of Decision: December 4, 2019

ORDER

1. The Corrective Orders 5 and 6 and the portions of Corrective Orders 7 and 8 related to the Corrective Orders 5 and 6 issued by Korea Fair Trade Commission to the Plaintiffs under its Decision No. 2017-025 dated January 20, 2017 as set forth in Attachment 1 are revoked.
2. The remaining claims of the Plaintiffs are dismissed.
3. The litigation costs including the portion incurred as the result of intervention shall be borne by each party.

PURPORT OF CLAIMS BY THE PLAINTIFFS

All of the Corrective Orders and the Order for Payment of Penalty Surcharge issued by Korea Fair Trade Commission to the Plaintiffs under its Decision No. 2017-025 dated January 20, 2017 as set forth in Attachment 1 shall be revoked.

REASONING

1. Findings of Fact and Background of the KFTC Orders

[Grounds for Findings of Fact] Undisputed facts; statements in each of the following Exhibits: P 1-2[1], P 24, 82, 177, 178, 184, 191, 192, 227, 239, 286; DA 32, 34, 176, 180, 181, 232, 235; DB 22, 39, 40; DC 21, 25; and DF 5, 11; and the whole purport of pleadings

A. Status and General Corporate Information of Plaintiffs

1) Status of Plaintiffs

The Plaintiffs, Qualcomm Incorporated ("QI") , Qualcomm Technologies Incorporated ("QTI")

[1] Exhibits will be hereinafter abbreviated to such a form of 'P 1-2'.

and Qualcomm CDMA Technologies Asia-Pacific PTE Limited (“QCTAP”) are companies incorporated under the laws of the United States of America (“US”) or the Republic of Singapore (“Singapore”) that engage in licensing their patents necessary for mobile communication standards such as Code Division Multiple Access (“CDMA”), Wideband Code Division Multiple Access (“WCDMA”), and Long-Term Evolution (“LTE”) to handset manufacturers[2] and collecting royalties as a consideration, and selling modem chipsets[3] for handset (“Modem Chipset(s)”) and relevant software.

The Plaintiffs[4] have been carrying out the licensing business through Qualcomm Technology Licensing (“QTL”) while carrying out the modem chipset business through Qualcomm CDMA Technologies (“QCT”). Thus, revenues from the licensing business belong to QTL while revenues from the modem chipset business belong to QCT. QTL is a part of QI, which is responsible for licensing agreements and owns almost all of the Qualcomm’s patents. The Plaintiffs spun off QCT from QI and merged QI into QTI, which is a wholly-owned subsidiary of QI on October 1, 2012 and QTI has been

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[2] “Handset” refers to a cellular telecommunications device where a modem chipset is installed (such as cellular phone and tablet). “Handset Manufacturer” refers to a company that manufactures handsets by itself or through other companies and sells Handsets.

[3] “Modem chipset” refers to wireless baseband chipsets or communication processors for the purpose of wireless communications. Further, “modem chipset manufacturer” refers to a company that manufactures modem chipsets by itself or through other companies, and sells modem chipsets.

[4] “Plaintiffs (or Qualcomm)” refer to QI in terms of the licensing business while QI and QCTAP prior to the spin-off in 2012 and QTI and QCTAP after the spin-off in 2012 in terms of the modem chipset business. Plaintiffs refer to all of QI, QTI, and QCTAP when it comes to both licensing business and the modem chipset businesses.

operating the modem chipset business through QCT since the restructuring. Meanwhile, QCTAP[5] is primarily responsible for the modem chipset supply agreements with the Handset Manufacturers and QCTAP has been executing the modem chipset supply agreements with the Handset Manufacturers before the modem chipset business was transferred from QI to QTI. Simply put, QTI and QCTAP, the wholly-owned subsidiaries of QI as the top parent company, under QI's control, have been engaging in the modem chipset and licensing businesses respectively.

2) General Corporate Information

The general corporate information on the Plaintiffs as of the end of September 2015 is set forth in the following [Table 1]:

[Table 1] General Corporate Information

(As of the end of Sept. 2015, Unit: USD million)

Plaintiff	CEO	Year of Incorporation	Total Assets	Revenue	Net Income
QI	Steve Mollenkopf	1985	50,796	25,281	5,268
QTI	Christiano Amon	2011	2,923	17,154	2,465
QCTAP	Tuan Reng Tai, and Roawen Chen	1999	1,832	15,834	11

Since incorporated in 1985, the Plaintiffs, serving a leading role in adopting CDMA as standard technology, were engaged in a wide range of cellular telecommunications businesses regarding operation of the Base Transceiver Station and manufacturing cellular phones and parts until the 1990s and then started focusing on the patent licensing business and the modem chipset business from 2000 on after winding up the cellular phone and Base Transceiver Station businesses in the end of 1990s. The Plaintiffs recorded USD 25 billion as revenue generated from the licensing and the modem chipset businesses in 2015 – the licensing business accounted for approximately 32% of the revenue.

[Table 2] Revenues from Licensing Business and Modem Chipset Business

(Unit: USD million)

	2013	2014	2015
Licensing Business	7,554	7,569	7,947
Modem Chipset Business	16,715	18,665	17,154

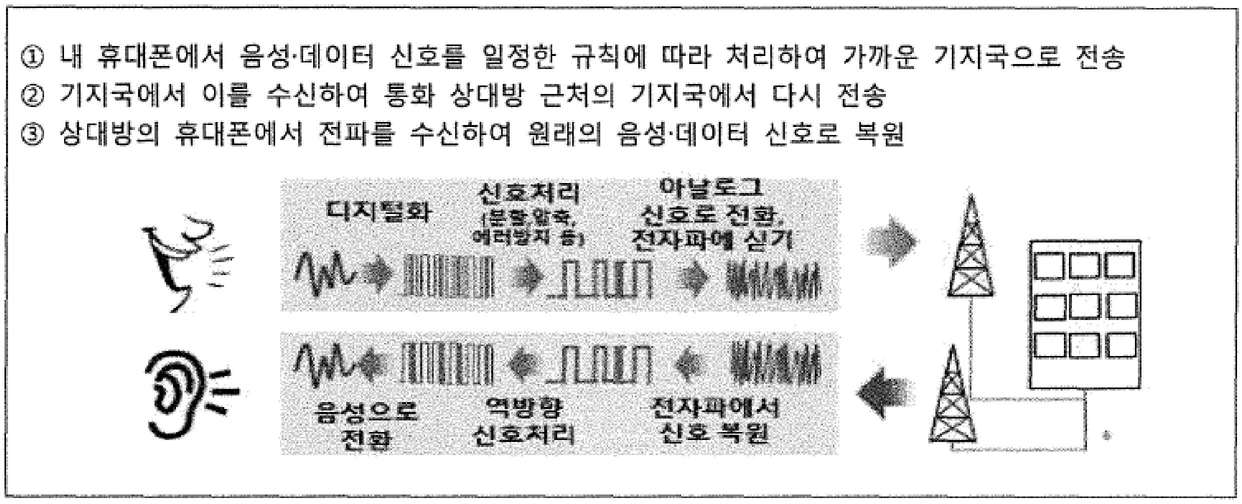
[5] QCTAP was established on Dec. 11, 1999 and has become a wholly-owned subsidiary of QTI since QCT (a modem chipset business division of the Plaintiffs) was transferred from QI to QTI.

B. Overview of Mobile Communications Market

1) Mobile Communications

Wireless communications refer to a form of communications in which a wireless method such as radio waves is used to carry voice and data signals. Mobile communications are a form of wireless communications in which wireless communication is feasible not only between two fixed points but also while mobile, which work in the manner as described in [Table 3] below.

[Table 3] How Mobile Communications Work



2) Evolution of Mobile Communications Method and Backward-Compatibility

A standard, which is an agreement to use identical protocols, is necessary to enable the transfer of voice or data between two different types of cellular phones. As the number of mobile telecommunications users and the quantity of transferred data have progressively increased, mobile telecommunications technologies have developed and mobile telecommunications standards have evolved accordingly in order to efficiently use a limited range of frequencies and quickly process data. The standard technologies are classified into generation as follows:

[Table 4] Key Standard Technologies in Generation of Mobile Communication Standard

Generation	Key Standard Technologies
1st	AMPS, TACS
2nd (1990 ~ 2012)	GSM, CDMA, TDMA, D-AMPS
3rd (2003 ~ 2011)	CDMA 2000, UMTS (WCDMA)[6], HSDPA, HSUPA, HSPA+, Wibro
4th (Since 2012)	LTE (Advanced)[7], Wibro-evolution
5th (Since 2019)	NR (New Radio)

Although mobile telecommunications technologies are evolving, it does not mean that a generation of standard is replaced by the other and the earlier generation disappears in the market. As there are still many users of cellphones complying with the earlier generation of standard, cellphone services based on the old technology must be available for a while in order to enable communication between cellphone users with an earlier generation of standard with a newer generation. This is called "backward-compatibility." Thus, the old generations of standards, CDMA and WCDMA are also serving a critical role in the market in addition to the latest generation of standards, LTE and 5G.

3) Features and Evolution of Mobile Telecommunications, CDMA, WCDMA, and LTE

[CDMA and WCDMA]

CDMA is a representative digital mobile telecommunications method developed by the Plaintiffs. CDMA is a mobile telecommunications method in which different codes are assigned to each subscribing cellphone and those codes of users are transmitted through the same wireless communications resources. The Telecommunications Industry Association ("TIA") adopted CDMA as the US mobile communication standard in 1993. The earlier generation of CDMA was capable of transmitting voice signals but CDMA2000, the later generation of CDMA, enabled transmission of voice signals as well as data.

[6] Use hereinafter "WCDMA" for "UMTS (WCDMA)."
[7] Use "LTE" for "LTE (Advanced)."

WCDMA was developed by the 3rd Generation Partnership Project ("3GPP"), which is a standard-setting organization, established by European mobile communication companies with the aim of creating an advanced second generation of the GSM standard. WCDMA is a standard technology based on CDMA. 3GPP submitted WCDMA standard under the name of IMT-DS for the third generation of mobile telecommunications standard (IMT-2000) invited by the International Telecommunication Union Radiocommunication Sector ("ITU-R"). WCDMA has enabled transmission of voice, data, and video call. WCDMA is similar to CDMA2000 in its capability of transmitting various types of communications, but differs in the method of assigning codes. CDMA2000 uses a single code like multiple different codes by differentiating the beginning point of the code based on the GPS absolute time while all the base transceiver stations are using a single code. By contrast, WCDMA groups base transceiver stations across the world into 512 codes and each station uses different codes by differentiating the beginning points.

WCDMA technology has steadily evolved into Release 99 with advanced voice transmission speed, HSDPA (Release 5) with advanced downward data speed, and HSPA+ (Release 7) with advanced upward and downward data speed.

[Table 5] Terminology for Mobile Communications Standards

Standard	Subcategory of Standard	Abbreviation	Technology Method
CDMA[8]	CDMAone	IS-95A	CDMAone IS-95A
		IS-95B	CDMAone IS-95B
	CDMA2000	1x	CDMA2000 1x
		EVDO	CDMA2000 1xEVDO
		EVDV	CDMA2000 1xEVDV
WCDMA	Release 99	WCDMA	
	Release 5	HSDPA	
	Release 7	HSPA+	

[LTE Technology]

[8] 'CDMA' includes both 'CDMAone' and 'CDMA2000.'

The Institute of Electrical and Electronics Engineers ("IEEE") developed WiMax (802.16e) standard, which enhanced data transmission speed by combining Orthogonal Frequency Division Multiplexing ("OFDM") with an antenna technology for wireless communications, Multiple Input Multiple Output ("MIMO") as an alternative to CDMA technology. Further, in 2008, 3GPP, motivated by IEEE's development of the WiMax standard, set up a standard technology of LTE based on the technology developed from a combination of OFDM and MIMO, which achieved leapfrogging enhancement in data transmission speed and acceptability for high-speed communication in comparison with existing technologies.

4) Development of Mobile Communications in Korea

Korea Mobile Telecommunications Services Corp., a subsidiary of Korea Electricity and Telecommunications Corp., was established in 1984 and launched car-phone services by adopting the AMPS cellular system in May 1984. Since 1988, the number of cellular phones has increased and the concept of mobile phones began to change from car phones to "handy phone." In 1993, the old Ministry of Information and Communications adopted CDMA as the mobile communication standard. CDMA was elected, inter alia, because CDMA was superior to other technologies in terms of subscriber capacity and CDMA would likely enable Korea to achieve technology independence in case of CDMA success in Korea. The Telecommunication Technology Association ("TTA") adopted CDMA as the standard for mobile communications, which uses seven approved patents applied by the Plaintiffs in 1996. Since CDMA-based mobile telecommunications services were launched in Korea through a successful commercialization of CDMA in 1996, CDMA-based mobile telecommunications services have been provided in Korea. Korea commenced a third generation of mobile communication standard services based on WCDMA in March 2005; and further, the fourth generation LTE service and the fifth generation 5G service began to be provided to consumers in July 2011 and May 2019, respectively.

Currently, the second (CDMA-based), third (WCDMA-based), fourth (LTE-based) and fifth (5G-based) generations of mobile communications standards are still being used simultaneously.

[Table 6] Number of Subscribers to Mobile Communications Services and Market Share

	2012	2013	2014	2015
CDMA	10,753,379	7,741,958	6,331,643	6,331,643
	19.7%	13.9%	10.9%	10.9%
WCDMA	27,059,688	18,489,445	14,874,490	14,870,808
	49.5%	33.2%	25.6%	25.6%
LTE	15,811,360	28,449,437	36,001,824	36,087,905
	28.9%	51.5%	62.0%	62.1%
WiBro	1,049,788	983,387	868,481	868,481
	1.9%	1.8%	1.5%	1.5%
Total	54,674,215	55,664,227	58,076,438	58,158,837
	100,0%	100.0%	100.0%	100.0%

C. Standardization of Mobile Telecommunications and Standard Essential Patents

1) Concept of Standard Technologies and Standard Essential Patents

"Standard Technologies" refer to technologies in a certain industry adopted as standard by governments, standard-setting organizations ("SSOs"), or industry players.[9] Generally speaking, standard technologies are adopted by entities such as SSOs in order to prevent repetitive investments and to encourage technology developments in the relevant industry sector.

"Standard Essential Patents" ("SEPs") refer to patents that are required to be licensed to provide standard-compliant goods or services on a voluntary commitment to be licensed on fair,

[9] See KFTC, Guidelines on Unreasonable Exercise of Intellectual Property Rights (Amended as of Mar. 23, 2016, KFTC Rule No. 247), I. 3. A(5).

reasonable, and non-discriminatory ("FRAND") terms[10]. In other words, when ordinary industry practices and technologies to be used without licenses are considered, SEPs are patents that are essential to manufacture, sell, lease, maintain, use, operate or dispose of standard-compliant goods or services without patent infringement so that licenses to SEPs must be granted by the SEP holders.

Moreover, those patents which are not directly related to standard technologies are called separately from SEPs as "non-SEPs" or "other patents". Non-SEPs mean patents that are non-essential to practice a designated standard technology or able to practice the same function through circumventing or bypassing design.

2) SSOs for Mobile Communications

In addition to IEEE, TIA and TTA as reviewed earlier, there are some SSOs active in the mobile telecommunications industry such as the International Telecommunication Union ("ITU") and European Telecommunications Standard Institute ("ETSI"). There are also mobile communications industry collaborations between SSOs such as 3GPP (for specifications related to WCDMA and LTE), and 3GPP2 (for specifications related to CDMA).

3) Developing Standard Technologies and Adoption Process

Although there are disparities in the process of developing standard technologies through SSOs and the nature of technologies to be standardized, the basic features are common. SSOs are operated by members who propose standard technologies, and then adopt finalized standard technologies through certain procedures (e.g., review by technical assessment committee and a vote of the standardization committee). In general, SSOs do not have a process of assessing whether patents labeled as SEPs are valid or essential to the adopted standard technologies when a patent holder declares that its patents are SEPs. According to Clause 3.2.1 of the ETSI Guide on IPRs dated

[10] See KFTC, Guidelines on Unreasonable Exercise of Intellectual Property Rights (Amended as of Mar. 23, 2016, KFTC Rule No. 247), I. 3. A(6).

Sep. 19, 2013, "ETSI does not perform any check on the status and validity of any Essential IPRs notified to ETSI."[11] In reality, it is known that a considerable number of patents declared as SEPs have turned out to be invalid or non-SEPs through various litigations.[12] Thus, in cases where a patent holder intends to collect royalties or claim damages on its patents declared as SEPs, the patent holder generally identifies the patents alleged to have been infringed and the licensees dispute such allegations.

4) General Effects of Standardization

The upsides of standardization are as follows: First, standardization increases network externalities resulting from inter-operability enhancement. If standardization eliminates uncertainty and secures inter-operability instead, product utilities would increase in proportion to the number of users. Second, standardization would enable producers to save costs by achieving the economies of scale through innovation of production process and expansion of market. Third, standardization would improve consumer welfare through price reduction, innovation encouragement, quality enhancement because it would increase competition in the downstream market and decrease consumer switching and transaction costs.

By contrast, the downsides of standardization are as follows: First, existing competition among potentially substitutable technologies would be artificially eliminated once standard technologies are adopted and standardization would establish barriers for entry into the market.

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[11] The original text is as follows, and the original texts are hereinafter marked off by quotation marks in footnotes: "ETSI does not perform any check on the status and validity of any Essential IPRs notified to ETSI."

[12] According to Fairfield Resources International, a leading intellectual property consultancy, 50% ~73% of the patents declared as SEPs for GSM, WCDMA and LTE standard technologies were found to be non-SEPs. "Analysis of Patent Declared as Essential to GSM as of June 6, 2007"; "Review of Patents Declared as Essential to WCDMA through December 2008"; and "Review of Patents Declared as Essential to LTE and SAE (4G Wireless Standards) through June 30, 2009".

Second, a company possessing dominant standard technologies would be able to strengthen its market dominant power as a SEP holder, and may be able to engage in activities interrupting implementation of the adopted standard, i.e., ‘patent hold-up’, by refusing to license SEPs or imposing unreasonable licensing terms by taking advantage of this strengthened dominant position. Third, once SSOs adopt standard technologies, it would lead to a lock-in. Sunken costs suffered by the participants in the industry such as standard-compliant component manufacturers and network service providers would increase so that the SEP holder would more likely abuse its market dominant power acquired through standardization.

D. SEPs and FRAND Commitments

1) Significance of FRAND Commitments

With the aim of maximizing the positive effects of standardization and avoiding the risk of abuse of intellectual property rights, most SSOs operate IPR Policy with provisions on the disclosure of patent information and the negotiation process of license terms. This includes obligations of relevant patent holders to disclose their patent information and to voluntarily declare its commitment to license on fair, reasonable, and non-discriminatory terms (‘FRAND commitment’) before the incorporation of relevant technology into the standards. Upon rejection, such Policy allows the exclusion of relevant patent from the standards. In this light, the FRAND commitment is a move to accept licensing on FRAND terms. Thus, once the SEP holders commit to licensing on FRAND terms, they have an obligation to license the SEPs on FRAND terms.

2) FRAND Policy of Major SSOs

The ITU, International Organization for Standardization (“ISO”), and International Electro-Technical Commission (“IEC”) announced the Common Patent Policy for ITU-T/ITU-R/ISO/IEC in March 2007, which compares and coordinates the patent policies set up and operated by each SSO starting from November 2004. A key theme of the policy is that SSOs require the SEP holders to submit a written commitment that they will grant a license[13] on FRAND terms to willing licensees who are willing to pay fair and reasonable royalties, and those SEP holders who fail to comply with this policy shall be excluded from participating in standardization.

[Table 7] Key Terms of Common Patent Policy for ITU-T/ITU-R/ISO/IEC

(a) Any party participating in the work of these organizations should, from the onset, draw their attention to any known patent or to any known pending patent application, either its own or that of other organizations.
(b) If the patent holders do not engage in negotiation of the free or paid licensing agreements on FRAND terms even though the standard is already developed and information of (a) is disclosed, the patents shall not be included in the adopted standard technologies.
(c) The patent holders shall submit a "Patent Statement and Licensing Declaration" to these organizations.

ETSI has a similar IPR policy. According to the policy, the SEP holders are required to submit an irrevocable written commitment stipulating that it is prepared to grant irrevocable licenses on FRAND terms.

IEEE, which adopted some key standards including the Wi-Fi technology standard in February 2015, revised its IPR policy to specifically define the meaning of the RAND commitment. IEEE, after obtaining its board's approval, released its IPR policy, under which the SEP holder shall (1) make available a license for its SEPs to an unrestricted number of applicants on a worldwide basis without compensation or under a reasonable rate, with other 'Reasonable And Non-Discriminatory ("RAND")[14] terms; (2) not file a petition for injunction against willing licensees or applicants; and (3)

[13] The term 'license' used hereinafter includes the right to manufacture and the right to sell, lease, or otherwise dispose of equipment so manufactured; repair, use, or operate equipment; and use methods, and the terms 'permit to implement' or 'licensing' are used to have the same meaning.

[14] Since the concept of fairness is deemed to be included in the concept of 'reasonableness' or 'non-discrimination', the expression of 'RAND' is also used instead of 'FRAND'.

assign the obligation to license on RAND terms when its SEPs are to be assigned to a third party.

The following table shows comparison of the key terms of the Common Patent Policy for ITU-T/ITU-R/ISO/IEC, ETSI IPR policy and IEEE IPR policy:

[Table 8] Intellectual Property Rights Policy of Major SSOs

	ISO/IEC/ITU	ETSI	IEEE
Disclosure Obligation	Scope: Required to disclose SEPs and pending patent applications Timing: Beginning of Standardization	Scope: Required to disclose SEPs and pending patent applications Timing: "As early as possible" is recommended	Scope: May (not required to) disclose SEPs and pending patent applications Timing: Opportunities to disclose are given to participants at the beginning of the meeting.
Patent Search Obligation		Stipulated as not required	Stipulated as not required
Licensing Rules	Licensing on RAND terms or free of charge	Licensing on FRAND terms In the case where a third party holds SEPs, ETSI may require the third party to declare to license on FRAND terms.	Licensing on RAND terms or free of charge
Refusal to License	Notice of patent number, claims and relevant specifications (recommended in ISO/IEC while required in ITU) Relevant committees exclude technologies using the patents at issue from standards (amend or remove standards)	Exclude technologies using the patents at issue from standards and re-develop standards bypassing the patents at issue ETSI may sanction intentionally delayed disclosure	Exclude technologies using the patents at issue from standards
Negotiation Rules	Negotiation by stakeholders outside of ISO/IEC/ITU	Prohibit commercial debate or negotiation within ETSI on concerete licensing terms	Prohibit discussion on the scope of the patent rights or pricing cartel Comparison of technologies is allowed to elect the most proper technologies during the

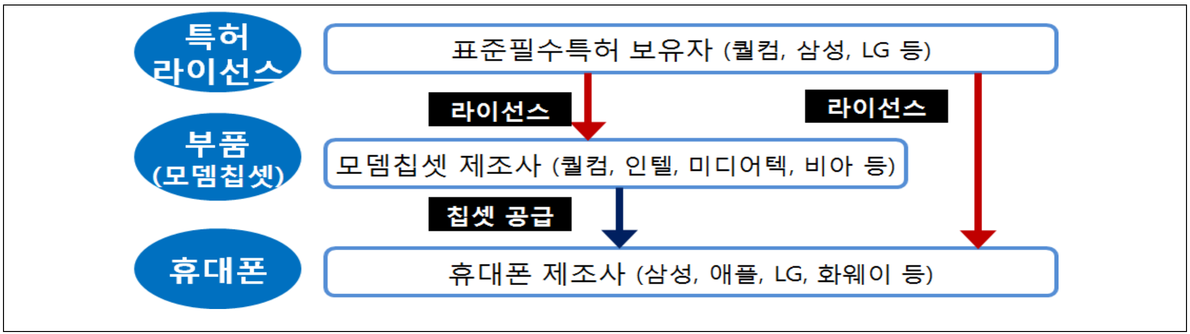
			course of standardization

E. Structure of Mobile Communications Market

1) Structure of Front- and Back-end Markets

The mobile communications market is mainly comprised of the patent license market, components market (such as modem chipsets used in handsets), and handset market.

[Table 9] Overview of Front- and Back-end Market Structure of Mobile Communications Industry



In the mobile communications patent license market, the source technology owner who developed the given communication method becomes a supplier. While Qualcomm retains most of the CDMA SEPs as well as a number of WCDMA and LTE SEPs, other enterprises, including Samsung Electronics ("Samsung")[15], InterDigital, LG Electronics ("LGE")[16], Nokia and Ericsson, also retain a substantial number of patents. The source technology owners license their patented technology to components manufacturers such as modem chipset makers, the handset manufacturers and communication equipment manufacturers, and receive royalties in return. The component manufacturers, such as those who make modem chipsets, obtain the license from the source technology owners and then, manufacture various components that get integrated into handsets and sell the components to the handset manufacturers. The Plaintiffs are the mobile communications SEPs holder and seller of modem chipsets. They are vertically integrated enterprises operating in both the patent license market and the modem chipset market that comprise the upper stage and the upstream market and downstream market in the mobile communications market, respectively.

[15] When a company name is described hereinafter, the name of corporate form such as 'Co., Ltd.' will be omitted.
[16] When LG, Intel, MediaTek and Huawei, the Intervenors for KFTC, are mentioned hereinafter, the name of intervenor for KFTC will be omitted.

The handset companies manufacture handsets by integrating the components and software and make payments for royalties on the patented technologies that are practiced in the handsets. After manufacturing the handsets, the handset manufacturers sell them to the wireless carriers or consumers, and the wireless carriers provide mobile communication services to the consumers.

2) Patent License Market by Cellular Standard

Cellular communication standards are categorized by generation, and within each generation, there may be one or more communication standards; in the case of the second generation standard, 19% of the global handset market adopted CDMA, and 81% adopted the GSM standard. Further, for the third generation standard that began in the early 2000s, the WCDMA market retains 85%, CDMA2000 market retains 13%, and the China-adopted TD-SCDMA market retains 2% share of the market, and as for the 4th generation that began around 2012, the entire global cellphone market is compliant with the single LTE standard. The details are set forth in the following [Table 10][17]:

[Table 10] Market Share by Cellular Communication Standard

	Communication Standard	Major Functions	Handset Market Share
2G (1990 ~ 2012)	GSM	Voice/text	81%
	CDMA		19%
3G (2003 ~ 2011)	WCDMA	Voice/video communication, data communication	85%
	CDMA2000		13%
	TD-SCDMA		2%
4G (2012~)	LTE	High speed data communication	100%

The second generation CDMA standard was essentially Qualcomm's independently developed technology, such that Qualcomm's SEPs accounted for more than 90% of the total second generation SEPs. However, as for the third generation WCDMA and 4th generation LTE standards, Qualcomm as well as a number of patent owners contributed to the development of the technologies, wherein Qualcomm's SEP shares decreased to 27% and 16%, respectively. The

[17] 2G data is based on the aggregate sales quantity accumulated from 1990 to 2002, and 3G data is based on the same between 2003 and 2015. The distinction was made based on the year 2003 when the third generation began gaining wide acceptance, such that sales prior to year 2002 were categorized as second generation and sales in 2003 and thereafter were categorized as third generation.

following tables show ownership of WCDMA and LTE SEPs by company based on ETSI website. However, even for one SEP, in order to manufacture and sell the standard-compliant product, the implementation of the SEP is required, irrespective of the percentage of SEPs owned by a certain SEP holder.

[Table 11] Ownership of WCDMA SEPs by Company

(Source: ETSI Website; Unit: patent)

	Company	Disclosed	Registered	Total
1	**Qualcomm**	**786**	**1042**	**1,828(27.3%)**
2	IDC	293	670	963(14.4%)
3	Nokia	214	745	959(14.3%)
4	Ericsson	175	431	606(9.1%)
5	LGE	78	426	504(7.5%)
6	Huawei	224	183	407(6.0%)
7	Blackberry	141	213	354(5.3%)
8	Apple	97	185	282(4.2%)
9	Motorola	48	219	267(4.0%)
10	NEC	128	137	265(4.0%)
11	Samsung	59	201	260(3.9%)
Total Declared		**2,243**	**4,452**	**6,695**

[Table 12] Ownership of LTE SEPs by Company

(Based on ETSI Webpage; Unit: patent)

	Company	Disclosed	Registered	Total
1	**Qualcomm**	**808**	**839**	**1,647(16.0%)**
2	Samsung	503	536	1,039(10.0%)
3	IDC	346	560	906(8.8%)
4	LGE	398	481	879(8.5%)
5	Nokia	196	521	717(6.9%)
6	Ericsson	315	391	706(6.8%)
7	Huawei	255	176	431(4.2%)
8	Panasonic	137	260	397(3.8%)

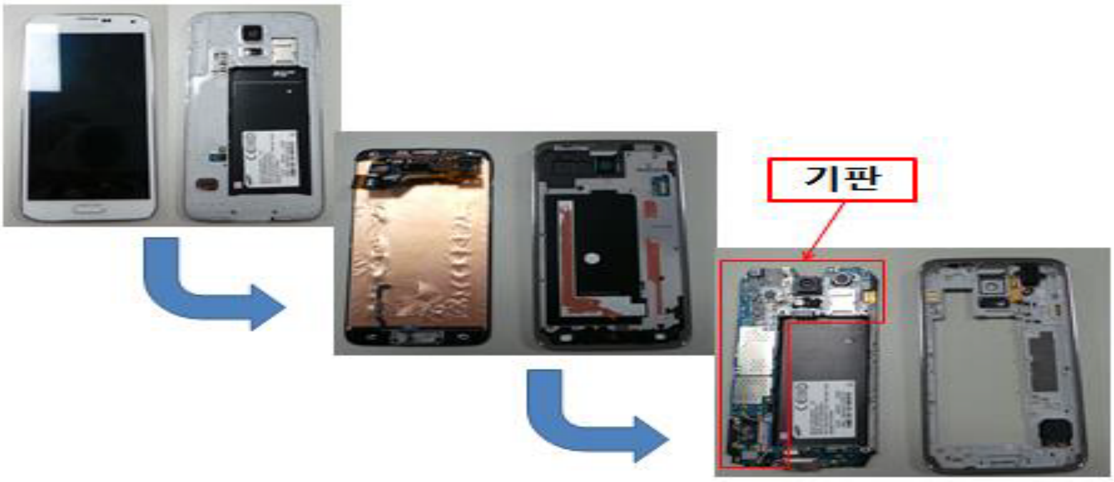
9	Motorola	110	284	394(3.8%)
10	NEC	170	167	337(3.3%)
Total Declared		**4620**	**5708**	**10,328**

3) Component Market

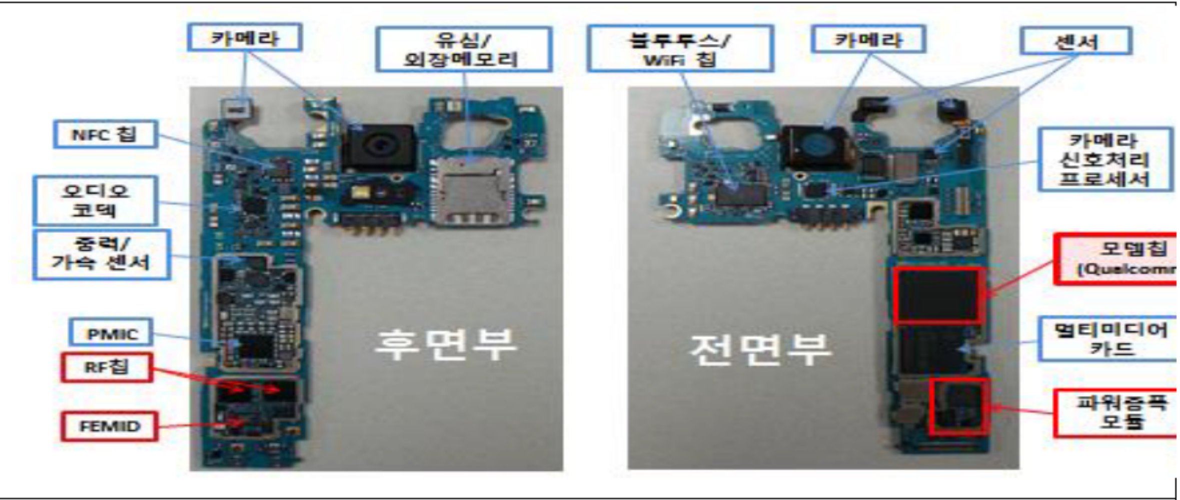
[Components of a Handset]

While the function of early handsets was limited to voice communication, recent smartphones much more functions such as convenient operating systems, fast program processing speed, high resolution cameras, touchscreens, and displays. To that end, various components are integrated, including display, memory, wireless module, camera module, application processor ("AP"), and power management integrated circuit, among others. Below shows the handset's internal structure and main components, and those denoted in red letters are mobile communication-related components, such as modem chipset, power amplifying module, RF chip, FEMID, etc.

[Table 13] Handset's Internal Structure and Main Components



Printed circuit board



(clockwise from the bottom left) FEMID, FR Chip, PMIC, gravity/accelorometer, audio codec, NFC chip, camera, USIM/expandable memory, blutooth/wifi chip, camera, sensor, camera signal processor, modem chip, multimedia card, power amplification module.
(in white letters) back/front

Modem chipsets, priced at between USD 20 and USD 40 on average, account for 4% of the entire price of the handset.

[Table 14] Handset Main Components and Rough Pricing Structure

Component	Price ($)	Percentage
Modem chipset (Communication Chipset)	**21.00**	**4.0**
Memory	47.00	8.9
AP (Application Processor)	19.50	3.7
High resolution display	50.00	9.5
High performance camera	15.50	3.0
WiFi, Bluetooth, GPS	17.65	3.4
Battery	8.00	1.5
Miscellaneous	38.50	7.3
(Components subtotal)	**217.15**	**41.4**
Marketing expenses, R&D expenses, labor costs, other expenses, profits, etc.	307.85	58.6
Total Price of Handset	**525**	**100**

[Function of Modem Chipset]

Modem chipset refers to a chipset manufactured to carry out modulation and demodulation functions[18] in one chip. In the case of a modem chipset made for mobile communication the signal is transmitted via a transmission channel using a high frequency signal, such as 2GHz, whereby the modulated output signal from the modem chipset is converted into high frequency before being transmitted through an antenna. Conversely, the high frequency signal received through the antenna is converted into low frequency and inputted into the modem chipset. For this reason, the modem chipset is often referred to as a baseband chipset.

AP (Application Processor) is a processor installed on a handset that operates the operating system and application programs, as well as controlling the various peripheral devices and interfaces, including the user's memory, camera, keypad, and the display. Recently, in accordance with the improvement in semiconductor integration technology, there emerged AP-Modem combined chipsets combining the AP that used to be manufactured separately. AP-Modem combination chipsets have the advantage of lowering the manufacturing cost of the handsets compared to implementing the modem and the AP in separate chips and minimizing the size of the handset, but the downside is that the development period is longer and the response time to the speed of the technological improvements is relatively slow.

Due to the backward compatibility of the mobile communication standards requiring the ability to communicate with users of handsets implementing the second generation CDMA and third generation WCDMA, present modem chipsets are generally multi-mode baseband chipsets that generally support 4th generation LTE, and older standard CDMA, WCDMA mobile communication standards. Accordingly, "LTE modem chipset" not only refers to modem chipsets that solely implement the LTE standard, but also includes multi-mode chipsets that support backward standards, including CDMA or WCDMA. It is the same with regard to WCDMA modem chipsets.

[Market Conditions of Modem Chipset]

The global modem chipset market experienced a huge growth after 2008, such that, the sales quantity for 2015 is double that of 2008 at USD 21,264 million dollars. During the process of the entire modem chipset market growth, Qualcomm increased its market share dramatically from 36.8%

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[18] Modulation refers to a function of converting digital information, for the purpose of transmitting the information, into appropriate symbols or signals suitable for the communication channel's characteristics. Conversely, demodulation refers to extracting digital information from the symbols or signals that were converted into the form useable in the channel.

in 2008 to 59.4% in 2015 (at the highest 66.1% in 2014) and maintained the position of a top company in the market. On the contrary, during the same period, most of the modem chipset companies experienced a decrease in their market share, and some companies even exited the market, and there were no modem chipset companies that were able to make an entry into the market and obtain significant market share, except for MediaTek.[19]

[Table 15] Global Modem Chipset Market Condition

(Unit: USD million)

Company	2008	2009	2010	2011	2012	2013	2014	2015
Qualcomm	4,092 (36.8%)	4,417 (40.0%)	5,248 (39.9%)	6,764 (45.0%)	9,174 (52.6%)	12,251 (63.1%)	14,660 (66.1%)	12,626 (59.4%)
Media Teck	1,291 (11.6%)	1,890 (17.1%)	1,911 (14.5%)	1,736 (11.5%)	2,132 (12.2%)	2,486 (12.8%)	3,737 (16.9%)	4,133 (19.4%)
Spreadtrum	98 (0.9%	78 (0.7%)	295 (2.2%)	530 (3.5%)	647 (3.7%)	967 (5.0%)	1,125 (5.1%)	1,452 (6.8%)
Samsung	-	-	13 (0.1%)	72 (0.5%)	103 (0.6%)	139 (0.7%)	231 (1.0%)	1,249 (5.9%)
Intel	643 (5.8%)	872 (7.9%)	1,590 (12.1%)	2,315 (15.4%)	2,227 (12.8%)	1,470 (7.6%)	561 (2.5%)	346 (1.6%)
Marvell	125 (1.1%)	154 (1.4%)	250 (1.9%)	316 (2.1%)	345 (2.0%)	508 (2.6%)	674 (3.0%)	353 (1.7%)
VIA	45 (0.4%)	62 (0.6%)	96 (0.7%)	152 (1.0%)	156 (0.9%)	108 (0.6%)	72 (0.3%)	35 (0.2%)
Broadcom	78 (0.7%)	240 (2.2%)	483 (3.7%)	813 (5.4%)	889 (5.1%)	699 (3.6%)	365 (1.6%)	-
NVidia	14 (0.1%)	32 (0.3%)	68 (0.5%)	89 (0.6%)	48 (0.3%)	5 (0.0%)	12 (0.1%)	-
Ericsson	1,417 (12.7%)	1,134 (10.3%)	1,045 (7.9%)	770 (5.1%)	896 (5.1%)	343 (1.8%)	16 (0.1%)	-
Renesas	157 (1.4%)	143 (1.3%)	175 (1.3%)	142 (0.9%)	44 (0.3%)	5 (0.0%)	-	-
TI	2,538 (22.8%)	1,725 (15.6%)	1,715 (13.0%)	1,026 (6.8%)	288 (1.7%)	26 (0.1%)	-	-
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮
Total	**11,120**	**11,042**	**13,140**	**15,034**	**17,437**	**19,415**	**22,165**	**21,264**

19 Samsung has been manufacturing modem chipsets for its own captive use in accordance with the Modem Chipset Licensing Agreement with Qualcomm.

The following tables show Qualcomm's market share by CDMA, WCDMA and LTE standard:

[Table 16] Global CDMA Modem Chipset Market Share

(Based on Revenues)

Companies	2008	2009	2010	2011	2012	2013	2014	2015
Qualcomm	**98.4%**	**97.6%**	**96.4%**	**94.3%**	**92.4%**	**93.1%**	**91.6%**	**83.1%**
TI	0.0%	-	-	-	-	-	-	-
VIA	1.6%	2.4%	3.6%	5.7%	7.6%	6.9%	8.4%	16.9%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

[Table 17] Global WCDMA Modem Chipset Market Share

(Based on Revenues)

Companies	2008	2009	2010	2011	2012	2013	2014	2015
Qualcomm	**38.8%**	**47.4%**	**45.7%**	**55.0%**	**50.4%**	**53.9%**	**48.8%**	**32.3%**
Media Tek	-	-	0.7%	2.3%	11.1%	15.5%	31.2%	35.9%
Spreadtrum	-	-	-	-	0.0%	0.9%	7.4%	23.9%
HiSilicon	0.4%	0.7%	0.5%	0.7%	0.6%	0.2%	0.5%	0.5%
Intel	4.7%	9.5%	14.4%	16.8%	15.6%	11.8%	3.8%	2.9%
RDA	-	-	-	-	-	-	0.5%	2.6%
Marvell	0.9%	1.8%	3.0%	3.0%	1.4%	4.3%	2.9%	0.8%
Rockchip	-	-	-	-	-	-	-	0.5%
Freescale	2.2%	1.0%	0.5%	0.3%	0.1%	0.0%	-	-
Broadcom	2.1%	1.3%	1.3%	3.9%	9.7%	9.3%	4.7%	0.5%
NVidia	0.4%	0.8%	1.2%	1.2%	0.6%	0.1%	0.0%	0.0%
Ericsson	15.1%	11.7%	6.8%	3.6%	7.1%	3.4%	0.1%	-
Renesas	4.6%	3.6%	3.0%	1.9%	0.5%	0.1%	-	-
TI	30.7%	22.3%	22.9%	11.3%	3.0%	0.3%	-	-
Misc.	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	0.1%	0.0%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

[Table 18] Global LTE Modem Chipset Market Share

(Based on Revenues)

Companies	2010	2011	2012	2013	2014	2015
Qualcomm	**34.2%**	**58.8%**	**94.5%**	**96.0%**	**84.8%**	**69.4%**
Media Tek	-	-	-	-	4.1%	13.7%
Samsung	65.8%	26.9%	3.1%	2.0%	1.9%	7.9%
Spreadtrum	-	-	0.0%	0.0%	0.3%	0.9%
HiSilicon	-	0.1%	0.0%	0.3%	3.4%	3.7%
Intel	-	-	-	0.7%	1.2%	1.0%
Sequence	-	0.0%	0.0%	0.0%	0.1%	0.2%
Marvell	-	-	-	0.2%	3.3%	2.0%
Altair	-	0.1%	0.0%	0.2%	0.4%	0.3%
Leadcore	-	-	-	-	0.0%	0.9%
GCT	-	4.4%	0.6%	0.4%	0.1%	0.0%
Broadcom	-	-	-	0.0%	0.1%	-
NVidia	-	-	0.0%	0.0%	0.1%	0.0%
Ericsson	0.0%	0.0%	0.0%	0.0%	0.0%	-
Renesas	-	-	-	0.0%	-	-
Mics.	-	9.7%	1.7%	0.2%	0.0%	0.0%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

As shown in the foregoing [Table 16], [Table 17] and [Table 18], as new generations of mobile communications emerge, the percentages of modem chipset by standard technology in the whole modem chip market have changed. The modem chipset market has been rapidly reorganized focused on LTE standard since 2014 when the LTE standard mobile communication service commenced, resulting in gradual downsizing WCDMA modem chipset market, and Qualcomm has no more released new model of WCDMA modem chipset since 2013.

[Table 19] Percentage of Revenues of Modem Chipset by Standard Technology in the Global Modem Chipset Market

Standard	2008	2009	2010	2011	2012	2013	2014	2015	2016
CDMA	25.2%	23.4%	20.3%	17.7%	11.8%	8.0%	3.8%	1.0%	0.3%
WCDMA	30.7%	36.1%	44.4%	49.4%	47.1%	38.4%	33.4%	21.0%	10.2%
LTE	-	-	0.1%	1.8%	18.9%	35.5%	54.4%	74.6%	87.2%

[Participants in the Modem Chipset Market]

◆ [20] Qualcomm: Qualcomm manufactured its first modem chipsets in 1999. Thereafter, they began manufacturing AP-Modem Combination Chipsets, and in 2008 started selling in earnest the combination chipset that supported the GSM, WCDMA, CDMA2000 standards. Qualcomm then released in 2012, an AP-Modem Combination Chipset that supported the GSM, WCDMA, CDMA2000 standards as well as the LTE standard.

◆ MediaTek: MediaTek, which is headquartered in Taiwan, entered the WCDMA modem chipset market in 2010. Focusing on mainly China and other Asian markets, it supplies chipsets used in mid- to low-end smartphone products. It started selling LTE modem chipsets from 2014.

◆ Spreadtrum: Spreadtrum is a Chinese company that started developing modem chipsets from 2004, and presently sells modem chipsets that support GSM, WCDMA, and LTE standards.

◆ Samsung: Samsung started developing modem chipsets from 1999, and recently manufactured and used modem chipsets and AP-Modem Combination Chipsets supporting GSM, WCDMA, and LTE standards in its smartphone models targeting Korea and other territories. However, Samsung may only consume its modem chipsets for use in its own smartphone models and may not sell its modem chipsets to the other handset companies pursuant to the patent license agreement with Qualcomm.

[20] Facts of specific cases are hereinafter indicated with the ◆ mark.

- Intel: Intel is a semiconductor manufacturing company headquartered in the U.S. Around the end of 2010, Intel acquired the modem business unit of Germany's Infineon that had products and technology supporting GSM, WCDMA modems and RF technology and products. Currently, Intel is supplying modem chipsets and AP-Modem Combination Chipset products that support WCDMA and LTE.[21] As of 2015, Intel has 1.6% market share of the global modem chipset market.

- VIA: VIA is a company headquartered in Taiwan. VIA began its CDMA modem chipset business in 2002. From 2009 until present, VIA is the only company, other than Qualcomm, that supplies CDMA modem chipsets. However, it does not have the ability to supply multimode modem chipsets that support WCDMA and LTE standards, instead supplying CDMA modem chipsets to be used in mainly low-end cellphones.

- Broadcom: Broadcom is a company headquartered in the U.S. It entered the modem chipset market in 2004, released modem chipsets and AP-Modem Combination Chipsets that support GSM, WCDMA, and LTE standards, but exited from the modem chipset business in June 2014.

- NVidia: NVidia is a U.S. semiconductor company that, after acquiring Icera in May 2011, released AP-Modem Combination Chipsets in February 2013, but exited from the modem chipset market in May 2015.

- ST-Ericsson: Ericsson is a Swedish communication equipment company. Ericsson split off its wireless business in February 2009 and merged with ST Microelectronics to incorporate ST-Ericsson, which was dissolved in August 2013. Thereafter, the modem chipset business of ST-Ericsson was acquired by Ericsson, but it exited from the modem chipset market in September 2014.

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[21] In 2014, Intel acquired 20% interest in Tsinghua Unigroup which owns Spreadtrum and RDA. Intel develops and sells AP-Modem Combination Chipsets jointly with Spreadtrum and RDA.

◆ Eonex: Eonex is a Korean modem chipset development/architecture company incorporated in 2000, which supplied modem chipsets to LGE, among others, but closed its business in 2009.

4) Handset Market

The handset market, the downstream market of the modem chipset market, was led by leaders in the industry such as Samsung, Apple and Nokia. However, today, Nokia is losing its market share with Apple's market share on the rise.

Apple does not directly manufacture cell phones, but manufactures them through third party manufacturers like Foxconn. Accordingly, Apple does not have direct license agreements with Qualcomm, but has an indirect licensing contract system as it would purchase products from third parties (like Foxconn and others) who have license agreements with Qualcomm, and upon the third parties' payment of royalties on the patents to Qualcomm, Apple would make a full reimbursement of such amount to the third parties.

[Table 20] Number of Units Sold by Vendors in the Global Handset Market and Their Market Share

(Unit: million)

Sales Volume (Market Share)	2010	2011	2012	2013	2014	2015
Samsung	280.2 (20.6%)	327.4 (21.2%)	396.5 (25.1%)	451.7 (26.8%)	405.0 (22.1%)	390.0 (20.7%)
Apple	47.5 (3.5%)	93.0 (6.0%)	135.8 (8.6%)	153.4 (9.1%)	192.7 (10.5%)	231.5 (12.3%)
Huawei	30.9 (2.3%)	53.8 (3.5%)	48.3 (3.1%)	57.0 (3.4%)	76.4 (4.2%)	107.6 (5.7%)
Nokia (MS)	453.0 (33.3%)	417.1 (27.0%)	335.6 (21.2%)	252.4 (15.0%)	199.7 (10.9%)	119.8 (6.4%)
LG Electronics	116.7 (8.6%)	88.1 (5.7%)	56.6 (3.6%)	71.0 (4.2%)	78.1 (4.3%)	72.1 (3.8%)
TCL-Alcatel	29.7 (2.2%)	39.7 (2.6%)	39.5 (2.5%)	52.0 (3.1%)	70.3 (3.8%)	71.5 (3.8%)
Xiaomi	-	-	5.7 (0.4%)	18.7 (1.1%)	61.1 (3.3%)	72.0 (3.8%)
ZTE	50.7 (3.7%)	78.1 (5.1%)	71.7 (4.5%)	59.8 (3.5%)	54.7 (3.0%)	62.7 (3.3%)
Lenovo-Motorola	46.0 (3.4%)	55.6 (3.6%)	59.6 (3.8%)	63.6 (3.8%)	93.6 (5.1%)	74.5 (4.0%)

Others	305.3 (22.4%)	393.2 (25.4%)	430.7 (27.3%)	505.4 (30.0%)	600.0 (32.8%)	681.1 (36.2%)
Total	**1360.0 (100%)**	**1546.0 (100%)**	**1580.0 (100%)**	**1685.0 (100%)**	**1831.6 (100%)**	**1882.8 (100%)**

Over 70% of the market share in the domestic handset market is taken up by local cell phone manufacturers, such as Samsung, LGE, and Pantech, and Apple is the only foreign cell phone manufacturer who has been holding over 1 percent of the market share in the domestic handset market since 2009.

[Table 21] Vendor Market Share In the Domestic Handset Market

	2009	2010	2011	2012	2013	2014	2015
Samsung	51.6%	51.8%	52.5%	58.8%	56.3%	56.6%	54%
LGE	28.7%	20.3%	16.7%	13.5%	20.6%	21.4%	17.2%
Apple	-	6.5%	10.8%	6.1%	5.8%	10.3%	17.2%
Pantech	13.7%	14.3%	13.8%	19.3%	16.6%	7.3%	1.5%
Blackberry	-	-	-	0.2%	-	-	-
HTC	-	-	-	1.2%	-	-	-
Nokia	-	-	-	0.2%	-	-	-
Others	6.1%	7.2%	6.2%	0.6%	0.8%	4.4%	10%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

F. Qualcomm's Status in the Mobile Communications Industry and its Business Model

1) Vertically-Integrated Enterprise and SEP Holder who Declared FRAND Commitments to SSOs

Since their establishment in 1985, Qualcomm has engaged in all areas of the telecommunications business including base stations, cell phones and components. However, in the late 1990's, they sold off or closed down their base station and cell phone businesses, and from 2000 onwards, they concentrated on the manufacture and sale of modem chipsets and patent licensing. Thereafter, Qualcomm, as a vertically integrated enterprise, continued to hold dominance in both the telecommunications patent licensing market and the modem chipset markets. Each time the cellular standards were established, from 2G CDMA in 1993, 3G WCDMA and CDMA2000 from the late 1990s to early 2000s, and 4G LTE in the late 2000s, Qualcomm made FRAND commitments to the respective SSOs including the ETSI, TIA, ITU, and TTA to license their patents on FRAND terms.

2) Doctrine of Patent Exhaustion and License

While Qualcomm does not allow modem chipset manufacturers to implement its SEPs with respect to CDMA, WCDMA and LTE standards, it grants licenses to handset manufacturers at the hanset level, thereby charging the handset manufacturers royalties based on the handset price. Such business model of Qualcomm has much to do with the doctrine of patent exhaustion. The Patent Act (Article 2, sub-paragraph 3) categorizes inventions into three: 'an invention of a product'; 'an invention of a process'; and 'an invention of a process of manufacturing a product'. If a patentee or a licensee authorized by the patent holder with regard to 'an invention of a product' (the "Patentee, et al") lawfully transfers a thing conforming to the patented invention in Korea, the patent rights to the transferred product are exhausted because its purpose has been already achieved. Accordingly, the patent has no effect on use or transfer of the product by the transferee or subsequent purchaser (the "Transferee, et al"). This is also true if the Patentee, et al of 'an invention of a process of manufacturing a product' lawfully transfer the thing manufactured by the patented process in Korea. In the event where the Patentee, et al of the 'invention of a process' including the 'invention of a process of manufacturing a product' lawfully transfer a product used to use the patented process in Korea and the product substantially conforms to the invented process, the patent to the invented process has been exhausted because its purpose has been already achieved; and therefore, the patent has no effect on the Transferee, et al licensing the invented process by using the product (see the Supreme Court Decision 2017 Da 289903 dated Jan. 31, 2019). This is called “the doctrine of patent exhaustion.” If the Patentee, et al lawfully sell the product with the patent, the patent right of the Licensee to restrict use of the product will be exhausted. Therefore, the user or purchaser of the product may use it as he/she wishes without having to execute a separate patent license agreement with the Licensee.

Under the case law in the U.S., the longstanding doctrine of patent exhaustion has been established providing that the first authorized sale of an article that substantially embodies a patent exhausts the patent holder’s rights[22], and the patentee’s right to exclude thus comes to an end with respect to the thing patented after its unrestricted sale[23] (P 82 Declaration of John M. Whealan). This doctrine has been accepted by the precedents in Germany and Japan, either (P 227). Therefore, if a modem chipset manufacturer has obtained a license for SEP embodied in the modem chipset from the SEP holder, and manufactured and sold the modem chipset to a handset manufacturer, the handset manufacturer’s manufacture and sale of handsets by using the modem chipset is not affected by the SEP holder’s patent right; and thus, the handset manufacturer does not have to enter into a separate patent license agreement with the SEP holder.

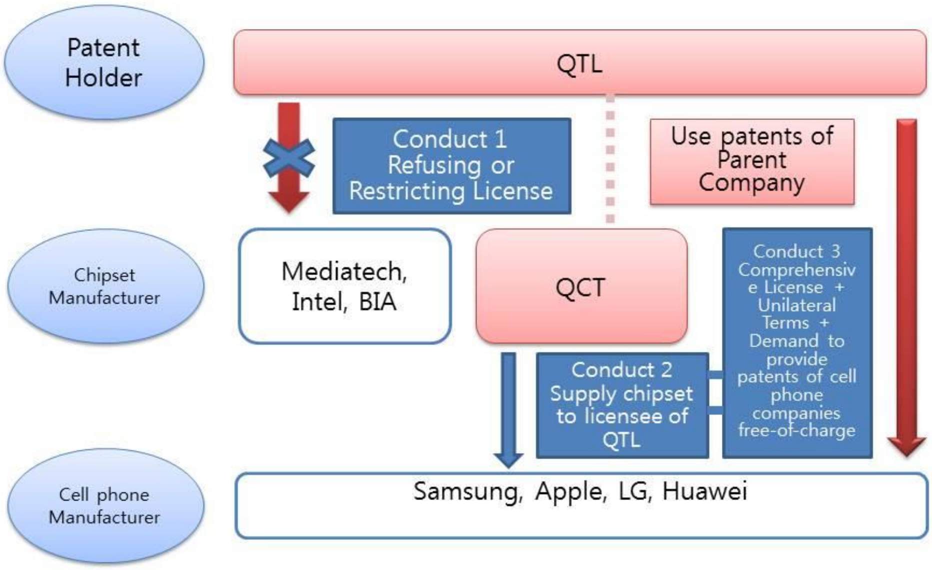
3) Qualcomm’s Business Model

Qualcomm has a business policy which separates its cellular patents from the sale of modem chipsets, thereby licensing them at the stage of hansets. Therefore, handset manufacturers who purchase modem chipsets from their competitors must execute a separate license agreement with Qualcomm. Since concentrating their businesses in patent licensing and the manufacture and sale of modem chipsets from 2000 onwards, they have stated in their modem chipset supply agreement

[22] Quanta Computer, Inc. v. LG Electronics, Inc., 533 U.S. 617 (2008)
[23] Motion Picture Patents Co. v. Universal Film Mfg. Co., 243 U.S. 502 (1917)

that notwithstanding the sale of modem chipsets, the license of the patents in the modem chipsets do not transfer (to the purchasers). Conducts under Qualcomm's business model may be categorized into three types of Conduct 1, Conduct 2 and Conduct 3 (collectively the "Conducts") as follows:

[Table 22] <u>Overview of Qualcomm's Business Model</u>



① Conduct 1: Refusing or restricting the license of cellular SEPs to competing modem chipset manufacturers

Qualcomm does not provide complete licenses of their cellular SEPs to their competing modem chipset manufacturers. Upon their request for such license, Qualcomm restricted the scope of license or refused to license, by granting a license excluding the right to use the modem chipset. Qualcomm also restricted their sales, by allowing the sale of their chipsets to only those handset manufacturers who enter into the license agreements with Qualcomm, by offering the covenant-not-to- sue, covenant to exhaust remedies or standstill agreement in order to prevent the patent exhaustion in the modem chipset level. Qualcomm required the modem chipset manufacturers who have license agreements with them to report their respective business information, including the quantity of modem chipsets sold, buyers, the quantity of modem chipsets bought by each buyer, date and time of purchase, types of product, price and the like. Qualcomm also demanded the modem shipset manufacturers such terms that they exhaustively license their patents to Qualcomm or that they could claim no infringement against Qualcomm or its customers who buy Qualcomm modem chipsets.

② Conduct 2: Executing patent license agreements with handset manufacturers based on tying the modem chipset supply agreement with patent license agreements

Qualcomm demanded those handset manufacturers who wished to buy its modem chipsets to first enter into a patent license agreement, and provided that breach of the patent license agreement constitutes an event of termination of the modem chipset supply agreement or refusal to supply the modem chipsets, under which if the handset manufacturer fails to enter into or perform the patent license agreement with Qualcomm, Qualcomm may be entitled to withhold or suspend or restrict supply of modem chipsets (DA 32, 34).

③ Conduct 3: Imposing terms of portfolio license, royalties based on handset price and cross-grant in the patent license agreement with handset manufacturers

While entering into the patent license agreement with handset manufacturers through the Conducts 1 and 2, Qualcomm has granted a portfolio license covering its cellular SEPs embodied in the modem chipset as well as all of its own patents including non-cellular SEPs and non-SEPs, and collected royalties calculated at a certain rate of the handset price as a consideration, and obtained the license from the handset manufacturer for its own patent or prevented the handset manufacturer from claiming infringement on its own patent against Qualcomm and its customers who buy modem chipsets from Qualcomm.

G. KFTC's Disposition

1) Corrective Order and Order for Payment of Penalty Surcharge

Under the KFTC's Full Commission Decision No. 2017-025 dated January 20, 2017, KFTC issued the corrective orders in Paragraphs 1 through 10 in Attachment 1 (the "Corrective Orders", and a specific paragraph is referred to the "Corrective Order #") and the order for payment of penalty surcharge as stated in Paragraph 11 of Attachment 1 (the "Order for Payment of Penalty Surcharge" or "Payment Order") (the Corrective Orders and the Order for Payment of Penalty Surcharge are collectively referred to as the "Disposition") to Qualcomm on the grounds that (i) Conduct 1 constitutes the abuse of market-dominant position under Article 3-2 (1) 3 of the old Monopoly Regulation and Fair Trade Act (before the amendment by Law No. 14813 on April 18, 2017, the "MRFTA"), Articles 5(3) 3 (Limiting access to indispensable elements) and 5(3) 4 (Other interference with business activities) of the Enforcement Decree of MRFTA (the "Enforcement Decree of MRFTA"), and IV. 3. D. (2) of the Guidelines on Examination of Abuse of Market Dominating Position (KFTC Notification No. 2015-15 dated October 23, 2015, the "Examination Guidelines"), respectively; and (ii) Conducts 2 and 3 constitute the abuse of market-dominant position under Article 3-2 (1) 3 of the MRFTA, Articles 5(3) 4 of the Enforcement Decree of MRFTA, and IV. 3. D. (3) of the Examination Guidelines, and the unfair trade practices under Article 23 (1) 4 of the MRFTA, and [Attached Table 1-2] 6. D. of Article 36(1) of the Enforcement Decree of MRFTA, respectively.

[Table 23] Violations Alleged in the Disposition and Applicable Laws

	Violations Alleged in the Disposition and Applicable Laws
Conduct 1	Refusing or restricting the license of cellular SEPs to competing modem chipset manufacturers
	Article 3-2 (1) 3 of the MRFTA, Article 5(3) 4 of the Enforcement Decree of MRFTA, and IV. 3. D. (2) of the Examination Guidelines: Abuse of market-dominant position – Unfairly interferes with the business activities of other enterprises by offering unreasonable terms in light of the ordinary practice in transactions
	Article 3-2 (1) 3 of the MRFTA, Article 5(3) 3 of the Enforcement Decree of MRFTA: Abuse of market-dominant position – Unfairly interferes with the business activities of other enterprises by restricting access to the use of indispensable elements
Conduct 2	Executing patent license agreements with handset manufacturers based on the correlation of modem chipset supply agreements with patent license agreements
	Article 3-2 (1) 3 of the MRFTA, Article 5(3) 4 of the Enforcement Decree of MRFTA, and IV. 3. D. (3) of the Examination Guidelines: Abuse of market-dominant position – Unfairly interferes with the business activities of other enterprises by coercing disadvantageous transaction or act
	Article 23 (1) 4 of the MRFTA, [Attached Table 1-2] 6. D. of Article 36(1) of the

	Enforcement Decree of MRFTA: Unfair trade practices – Abuse of position in transaction by imposing disadvantages
Conduct 3	Imposing terms of portfolio license, fixed-rate royalties based on handset price and cross-grant in the patent license agreement with handset manufacturers
	Article 3-2 (1) 3 of the MRFTA, Article 5(3) 4 of the Enforcement Decree of MRFTA, and IV. 3. D. (3) of the Examination Guidelines: Abuse of market-dominant position – Unfairly interferes with the business activities of other enterprises by coercing disadvantageous transaction or act
	Article 23 (1) 4 of the MRFTA, [Attached Table 1-2] 6. D. of Article 36(1) of the Enforcement Decree of MRFTA: Unfair trade practices – Abuse of position in transaction by imposing disadvantages

2) Basis for Calculation of Penalty Surcharge

When KFTC imposed the penalty surcharge on Qualcomm in accordance with Articles 6, 24-2 (for the Conducts 2 and 3), 55-3 of the MRFTA, Article 9 and [Attached Table 2] to Article 61 of the Enforcement Decree of MRFTA, the Notification of Detailed Criteria for Imposition of Penalty Surcharge (KFTC Notification No. 2015-14 dated October 7, 2015; the "Penalty Surcharge Notification"), it calculated the total penalty surcharge, taking each of the Conducts as a whole, given that under Qualcomm's business policy, each of the Conducts organically combines together; and in turn, the effects of each Conduct are mutually connected with each other. Below are the details of calculation of the penalty surcharge:

○ Violation Period: Since each Conduct is made on the basis of and in connection with Conduct 1, the violation period shall be deemed to start on November 19, 2009, the date when Qualcomm entered into the limited covenant-not-to- sue with MediaTek where the intention, purpose and unfairness of violation in the Conduct 1 have been expressly found, and to end on December 21, 2016, the date of final hearing by the KFTC.

○ Relevant Revenues: The relevant revenues shall be the revenues or equivalent amount thereof in relation to the relevant products sold by Qualcomm during the violation period, and the relevant products for calculation of the penalty surcharge shall be the modem chipsets related to CDMA, WCDMA and LTE standards and the patent licenses related to CDMA, WCDMA and LTE standards.

With regard to the modem chipsets related to CDMA, WCDMA and LTE standards, out of the revenues of the modem chipsets related to CDMA, WCDMA and LTE standards sold by Qualcomm to both the Korean handset manufacturers and foreign handset manufacturers during the violation period, the revenues of the modem chipsets equipped in the handsets sold in Korea[24] is $ 18,734,319,351 in the aggregate. With regard to the patent licenses related to CDMA, WCDMA and LTE standards, out of the revenues of the patent licenses related to CDMA, WCDMA and LTE standards sold by Qualcomm to both the Korean handset manufacturers and foreign handset manufacturers during the violation period, the revenues of the patent licenses for the handsets sold in Korea is $13,326,302,653. However, the revenues of modem chipsets are all for QCTAP, and the revenues of patent licenses are all for QI. Thus, the relevant revenues by Plaintiff are as follows: $18,734,319,351 for QCTAP and $13,326,302,653 for QI.

○ Applicable Standard Rate for Imposition: 2.7% shall be applied to the abuse of market-dominant position and 1.8% to the unfair trade practices since the Conducts constitute a very material violation.

○ Calculation of Penalty Surcharge to be Imposed for Violation: Since there is no reason to make the first and second adjustments as set forth in the Penalty Surcharge Notification, the penalty surcharges to be imposed on each Plaintiff shall be calculated as follows: the base amount for calculation by Plaintiff is calculated by multiplying the relevant revenues of each Plaintiff by the respectively applicable standard rate for imposition and subsequently discarding the figures in decimal places; and then, the base amount for calculation by Plaintiff in dollars is converted into Korean Won at the base exchange rate (1USD=KRW1,191.2) first notified by KEB Hana Bank Co., Ltd on the date of final hearing by the KFTC (December 21, 2016) when each Conduct terminated and subsequently discarding any amounts less than one million Won. As a result, the penalty surcharges imposed on QI, QCTAP for their respective violations are set forth in [Table 24] as follows:

○ Final Penalty Surcharge to Be Imposed: The provision prohibiting the abuse of market dominant position and the provision prohibiting the unfair trade practice may be concurrently

[24] However, 'out of the revenues of modem chipsets sold to handset manufacturers which are headquartered out of Korea', the KFTC estimated the 'revenues of modem chipsets equipped in handsets sold in Korea' on the basis of the quantity of handsets equipped with Qualcomm modem chipsets and sold by Apple in Korea and the average unit price at which Apple purchased the modem chipsets from Qualcomm.

applicable to the Conducts 2 and 3. However, considering that the cause of violation of law is based on one fact, only the penalty surcharge for violation of the provision prohibiting the abuse of market dominant position, of which the applicable standard rate for imposition is higher, is imposed. Therefore, the final penalty surcharges to be imposed on each Plaintiff shall be KRW 428,605,000,000 for QI and KRW 602,540,000,000 for QCTAP.

[Table 24] Calculation of Penalty Surcharge by Plaintiff

Plaintiff	Type of Violation	Relevant Revenues ($)	Standard Rate for Imposition (%)	Base Amount for Calculation ($)	Amount Converted into Korean Won after Adjustment (KRW)
QI	Abuse of market-dominant position	13,326,302,653	2.7	359,810,171	428,605,000,000
	Unfair trade practice		1.8	239,873,447	285,737,000,000
QCTAP	Abuse of market-dominant position	18,734,319,351	2.7	505,826,622	602,540,000,000
	Unfair trade practice		1.8	337,217,748	401,693,000,000

H. Decisions of Foreign Courts and Competition Authorities

1) Japan Fair Trade Commission ("JFTC")

Article 19 of the Act on Prohibition of Private Monopolization and Maintenance of Fair Trade of Japan (before it was amended by Act No. No.51 in 2009; the "Antimonopoly Act of Japan") provides that a company shall not use unfair trade practices. Article 2(9) 4 of the Antimonopoly Act of Japan lists practices as designated by JFTC that would likely harm fair competition by offering terms unfairly restricting the counterparty's business activities as one of the unfair trade practices. Furthermore, Paragraph 13 of the old Unfair Trade Practices (JFTC Notification No. 15 in 1982 before it was amended by JFTC Notification No. 18 in 2009) provides that a company has transactions with the counterparty by offering terms unfairly restricting the counterparty and its transaction and other business activities of the counterparty. With regard to "Qualcomm's conduct that in entering into the license agreement with Japanese handset manufacturers for the intellectual property rights related to CDMA wireless communications owned or to be owned by Qualcomm, Qualcomm coerced Japanese handset manufacturers to grant Qualcomm royalty-free license for the intellectual property rights owned or to be owned by them, and to agree that Japanese handset manufacturers would not claim any rights based on the intellectual property rights owned or to be owned by them”, on September 28, 2009, JFTC found that Qualcomm’s conduct is an unfair transaction with Japanese handset manufacturers by offering terms unfairly restricting their business activities and thus, falls under Article 2(9)4 of the Antimonopoly Act of Japan and Paragraph 13 of the old Unfair Trade Practices, which constitutes violation of Article 19 of the Antimonopoly Act of Japan, and ordered Qualcomm to exclude such terms (P 239).

In response on November 24, 2009, Qualcomm filed an appeal brief to seek revocation of all of the order for exclusion. On December 4, 2018, the Judge of JTFC proposed a trial decision to revoke the order for exclusion on the grounds that the royalty-free clauses[25] in the patent license agreement between Qualcomm and Japanese handset manufacturers cannot be deemed to harm fair competition; and therefore, the conduct cannot be deemed to fall under Article 2(9)4 of the Antimonopoly Act of Japan and Paragraph 13 of the old Unfair Trade Practices, and constitute violation of Article 19 of the Antimonopoly Act of Japan. On March 13, 2019, JFTC made a decision to revoke the order for exclusion as proposed by the trial decision (P 239).

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[25] ‘Royalty-free clauses’ in the trial decision means the following clauses of the patent license agreement Qualcomm entered into with Japanese handset manufacturers:

a. That the Japanese handset manufacturer shall grant Qualcomm non-transferable, worldwide and non-exclusive license for the intellectual property rights owned or to be owned by the Japanese handset manufacturers and designated as the subject in the patent license agreement for Qualcomm’s manufacture and sale of CDMA handsets and CDMA components;

b. That the Japanese handset manufacturer agrees that it will not claim any right based on the intellectual property rights owned or to be owned by the Japanese handset manufacturer and designated as the subject in the patent license agreement for Qualcomm’s licensee’s manufacture and sale of CDMA handsets against Qualcomm’s licensee; and

c. That Nihon Electric, Panasonic Mobile and Mitsubishi Electric among the Japanese handset manufacturers agree that they will not claim any right based on the intellectual property rights owned or to be owned by the Japanese handset manufacturer and designated as the subject in the patent license agreement against Qualcomm and/or its customers who buy CDMA components from Qualcomm (“Qualcomm’s Customer” in this paragraph), with regard to Qualcomm’s manufacture and sale of CDMA components and/or Qualcomm’s Customer’s installation of CDMA components in its own products.

2) European Commission (“EC”)

On October 1, 2007, EC commenced the formal investigation on the allegation whether the royalties that Qualcomm has been charging since its patented technology became part of Europe’s 3G standard are unreasonably high. In the press release dated November 24, 2009, EC announced that it has decided to close the formal antitrust proceedings against Qualcomm concerning an alleged breach of EC Treaty rules on abuse of a dominant market position (Article 82), which was opened on October 1, 2007, because all complainants have withdrawn or indicated their intention to withdraw their complaints, and EC had therefore to decide where best to focus its resources and priorities (P 24, DC 25).

On January 24, 2018, EC fined Qualcomm €992 million for abusing its market dominance in the modem chipset markets, finding that Qualcomm prevented rivals from competing in the market by making significant payments to Apple on condition it would not buy from rivals (DC 21, DF 5).

On July 17, 2019, EC fined Qualcomm €242 million for engaging in predatory pricing, with the aim of forcing its competitor Icera out of the 3G standard SEP modem chipset market.

3) People's Republic of China National Development and Reform Commission (“NDRC”)

Article 17(1)1 of the Anti-Monopoly Law of People's Republic of China (“AML”) prohibits a dominant undertaking from selling products at an unfairly high price, and Article 17(1)5 of the AML prohibits a dominant undertaking from tying products without justification or imposing any unreasonable trade terms in a transaction. On February 9, 2015, NDRC issued administration sanction including fine to Qualcomm on the grounds that Qualcomm had the market-dominant position in each of the markets for its own CDMA, WCDMA and LTE cellular SEPs and the modem chipset markets for its own CDMA, WCDMA and LTE standard technologies; and that each of Qualcomm's conducts violates the AML as summarized in the following [Table 25] (P 184):

[Table 25] Qualcomm's Violations of AML as Stated in NDRC's Administrative Sanction dated Feb. 9, 2015

a. Qualcomm imposed unfairly high royalties by refusing to provide the patent list, entering with the license agreement with terms of free cross-grant and portfolio license and charging the royalties based on net selling price of handset, which constitutes imposition of unfairly high royalty by abusing its market-dominant position in the cellular SEP licensing market; Qualcomm violates Article 17(1)1 of the AML. b. Qualcomm's tying its non-wireless SEPs license with license to its wireless SEPs without justifiable causes constitutes abuse of its dominant position in the wireless SEP license market, where Qualcomm violates Article 17(1)5 of the AML. c. Qualcomm imposed unfair terms, by conditioning licensee's procurement of Qualcomm's modem chipsets on signing and non-challenging of the patent licensing agreement without justifiable causes, which constitutes abuse of its dominant position in the modem chipset market, where Qualcomm violates Article 17(1)5 of the AML.

Details of NDRC's administrative sanction dated February 9, 2015 are summarized as set forth in [Table 26], and for Qualcomm's conduct of licensing of wireless SEPs issued outside China, the above orders do not apply (P 184). NDRC also assessed a fine on Qualcomm at the amount of RMB 6.088 billion, which equals 8% of its annual turnover within China in 2013.

[Table 26] NDRC's Administrative Sanction dated Feb. 9, 2015

i.	In licensing wireless SEPs to wireless communication device manufacturers within P.R.C., Qualcomm shall provide the licensees with a list of patents, and shall not charge royalties for expired patents.
ii.	In licensing its wireless SEPs to wireless communication device manufacturers within P.R.C., Qualcomm shall not, against licensee's will, require such licensee to grant cross-license of its non-wireless-SEPs; Qualcomm shall not coerce a licensee to grant cross-license of its relevant patents to Qualcomm without paying reasonable considerations.
iii.	For the wireless communication devices sold for use within P.R.C., Qualcomm shall not use the full wholesale NSP as the base to calculate royalties for license of wireless SEPs while insisting on a relatively high royalty rate.
iv.	In licensing wireless SEPs to wireless communication device manufacturers within P.R.C., Qualcomm shall not tie the license of non-wireless-SEPs without justifiable causes.
v.	Qualcomm shall not premise its selling of baseband chips to wireless communication device manufacturers within P.R.C on the potential licensee's acceptance of unreasonable conditions including charging for expired patents, free cross-license of patents, and "tying" non-wireless-SEPs without justifiable causes; Qualcomm shall not condition its supply of baseband chips on non-challenge of the patent licensing agreement.

On February 9, 2015, the same date when the NDRC's administrative sanction was issued, Qualcomm submitted the Rectification Plan, including the contents set forth in [Table 27] below, to NDRC, and NDRC announced Qualcomm's Rectification Plan satisfied the requirements of its administrative sanction (P 177, 178, 286).

[Table 27] (Partial) Rectification Plan Submitted by Qualcomm

➢ Qualcomm will provide a list of patents to each Chinese Manufacturer with which Qualcomm engages in license negotiations subject to this Rectification Plan and will negotiate the length of the term of the license agreement with such Manufacturer.
➢ A Reification Licensing Offer will not require that a Chinese Manufacturer cross-license any of its patents without compensation. If Qualcomm desires a cross-license from a Chinese Manufacturer under the Chinse Manufacturer's patents as part of the consideration for a license to Qualcomm's Chinese Wireless SEPs: (i) Qualcomm will fairly and reasonably value such

Manufacturer’s patents and the scope of such cross-license and will negotiate the terms of such cross-license in good faith; and (ii) Qualcomm will treat entities with equal standing similarly when negotiating for such cross-licenses.

- Qualcomm agrees to charge a royalty equal to 5% (for a Branded Device that implements CDMA2000 and/or WCDMA, whether or not such Branded Device also implements LTE) or 3.5% (for a Branded Device that implements LTE (FDD and/or TDD) and that does not implement CDMA2000 or WCDMA) of, in each case, the Manufacturer’s Adjusted Net Selling Price of such Branded Device.
- A Rectification Licensing Offer will include all Qualcomm Chinese Wireless SEPs and will include only Qualcomm Chinese Wireless SEPs (i.e., it will not include any other Qualcomm patents). This rectification measure does not preclude Qualcomm from offering a license to other patents simultaneously with a Rectification Licensing Offer if the Manufacturer wants a license that is broader in scope.
- With respect to a Chinese Manufacturer that is not a Licensed Manufacturer and seeks to purchase chips from Qualcomm (each, a “Potential Chip Customer”), Qualcomm will not require that the Potential Chip Customer enter into a license agreement for Chinese Wireless SEPs that is inconsistent with the License Rectification Measures. However, this rectification measure does not require Qualcomm to sell chips to any entity that is not a Qualcomm licensee.

4) Taiwan Fair Trade Commission (“TFTC”)

Article 9(1) of the Fair Trade Act of Taiwan (“FTA”) provides that a dominant enterpriser shall not directly or indirectly engage in any acts unfairly interfering with other enterprisers’ participation in competition. TFTC found that Qualcomm is a dominant enterpriser in each modem chipset market of CDMA, WCDMA and LTE standards; that Qualcomm refused to license to competing modem chipset manufacturers within each modem chipset market for its own CDMA, WCDMA and LTE standards and demanded licensees to enter into license agreements with unfair terms requiring them to provide sensitive business information such as modem chipset price, or customer information and the like; that Qualcomm did not sell modem chipsets to the handset manufacturers who did not enter into the patent license agreement with Qualcomm; and that Qualcomm provided a certain company with rebates as a consideration for exclusive trade of modem chipsets, all of which harmed the competition in the modem chipset markets for CDMA, WCDMA and LTE standards as well as directly or indirectly restricted unfairly other enterprisers’ participation in competition; and thus, Qualcomm violated Article 9(1) of the FTA. On October 20, 2017, TFTC took administrative measures to order Qualcomm to stop the violation; to notify competing modem chipset manufacturers and handset manufacturers that they may offer to amend the existing license agreement or to enter into a new license agreement with Qualcomm; to renegotiate the licensing terms in good faith and in accordance with the principle of reciprocity when the other party offers to amend the agreement or to enter into a new agreement; and fined TWD 23.4 billion ("TFTC Decision"; DA 180).

In response on December 22, 2017, Qualcomm filed a claim to seek revocation of TFTC Decision with Taiwan Intellectual Property Court. On August 9, 2018, the said court declared that TFTC and Qualcomm reached a settlement to the effect that TFTC Decision shall be deemed to be revoked from the day following the date when the settlement agreement is entered into by and between Qualcomm and TFTC; and Qualcomm will comply with the Behavioral Commitments from the date of settlement agreement as summarized in [Table 28] below (P 191, 192).

[Table 28] <u>Behavioral Commitments Submitted by Qualcomm to TFTC</u>

Commitments Regarding Handset Manufacturers 1. Upon a Licensed Manufacturer's request, Qualcomm will engage in good faith renegotiations over terms in such Licensed Manufacturer's patent license agreement granting rights to Qualcomm's Taiwanese SEPs for Handsets that such Licensed Manufacturer alleges were coerced and are unreasonable. If, after six (6) months, the parties have not reached agreement on such renegotiated terms, either party may invoke the dispute resolution procedures of their existing patent license agreement to resolve such matters. For clarification, the parties may also agree to other neutral dispute resolution procedures such as court or arbitration to resolve such renegotiated terms. If the Licensed Manufacturer also purchases cellular modem chips from Qualcomm pursuant to a chip supply agreement (a "Chip Customer"), Qualcomm will not terminate or threaten to terminate the supply of cellular modem chips to such Licensed Manufacturer during the renegotiation or dispute resolution process, as applicable so long as the Licensed Manufacturer continues to perform its obligations under its existing supply and licensing agreements and acts in good faith in the renegotiations. 2. Qualcomm commits to treat Taiwanese Manufacturers m a non-discriminatory manner as compared to similarly situated non-Taiwanese Handsel manufacturers with respect to

Qualcomm’s SEP licensing program. For example, with respect to branded Handsets, Qualcomm will offer the same SEP branded Handset license terms to Taiwanese Manufacturers and non-Taiwanese manufacturers; with respect to non- branded Handsets, Qualcomm will offer the same SEP non-branded Handset license terms to Taiwanese Manufacturers and non-Taiwanese manufacturers.

Commitments Regarding Chip Suppliers and Chip Supply Agreements

Chip Suppliers

3. Upon a Chip Supplier's request, Qualcomm will send to such Chip Supplier a Cellular Modem Component Patent Commitment Agreement In the form attached lo these Commitments as Attachment. This agreement provides that Qualcomm will not assert any SEP claim against such Chip Supplier without first offering them a license to such claim on fair, reasonable and non-discriminatory (“FRAND”) terms and conditions; and that if Qualcomm enters into an exhaustive license or grants a covenant not to assert with respect to Qualcomm SEPs at the cellular modem chip level to a third party, Qualcomm will offer the same terms to such Chip Supplier.

Chip Supply Agreements

4. In its chip supply agreements with a Chip Customer:
    a. Qualcomm will not enter any agreements that provide for it to rebate royalties in exchange for the customer agreeing to use Qualcomm's cellular modem chips exclusively; and
    b. Qualcomm will not condition any contractual license discount or royalty rebate based on such Chip Customer buying a specific ratio of its total chip puttees from Qualcomm.

5) The U.S. Fair Trade Commission (“FTC”)

Section 5 of the Fair Trade Commission Act of the U.S. (“FTC Act”) prohibits “unfair methods of competition in or affecting commerce”, and the “unfair methods” under the FTC Act includes violation of the Sherman Act.

On January 17, 2017, FTC filed a petition with the United States District Court Northern District of California for a permanent injunction against Qualcomm to undo and prevent its unfair methods of competition in or affecting commerce, claiming that Qualcomm coerced a licensee to accept above-FRAND royalty terms by conditioning the supply of modem chipsets on the license agreement on Qualcomm's preferred terms; that Qualcomm refused to grant exhaustive license for its cellular SEPs to the competing modem chipset manufacturers; that Qualcomm offered rebate agreement to make a handset manufacturer to accept the license terms preferred by Qualcomm; and that Qualcomm entered into exclusive dealing agreements with Apple Inc., which constitutes violation of Sections 1 and 2 of the Sherman Act and Article 5 of the FTC Act, and at least an unfair method of competition in violation of Section 5 of the FTC Act, even if it does not constitute violation of Sections 1 and 2 of the Sherman Act (DA 181).

On May 21, 2019, the U.S. District Court Northern District of California rendered the judgment to grant the injunctive relief as summarized in [Table 29] below, finding that each of Qualcomm's foregoing conducts constitutes violation of Section 5 of the FTC Act in violation of Sections 1 and 2 of the Sherman Act (DA 232, DF 11; this case and the decision are referred to as the "1st Trial in the U.S. FTC Case" and the "judgment of the first instance in the U.S. FTC Case", respectively).

[Table 29] Injunctive Relief against Qualcomm in the judgment of the first instance in the U.S. FTC Case

1. Qualcomm must not condition the supply of modem chips on a customer’s patent license status and Qualcomm must negotiate ore renegotiate license terms with customers in good faith under conditions free from the threat of lack of access to or discriminatory provision of modem chip supply or associated technical support or access to software. 2. Qualcomm must make exhaustive SEP licenses available to modem-chip suppliers on fair, reasonable, and non-discriminatory (“FRAND”) terms and to submit, as necessary, to arbitral or judicial dispute resolution to determine such terms. 3. Qualcomm may not enter express or de facto exclusive dealing agreements for the supply of modem chips. 4. Qualcomm may not interfere with the ability of any customer to communicate with a government agency about a potential law enforcement or regulatory matter. 5. In order to ensure Qualcomm’s compliance with the above remedies, the Court orders Qualcomm to submit to compliance and monitoring procedures for a period of seven (7) years. Specifically, Qualcomm shall report to the FTC on an annual basis Qualcomm’s compliance with the above remedies ordered by the Court.

In response on May 31, 2019, Qualcomm lodged an appeal against the judgment of the first instance in the U.S. FTC Case, which is pending before the United States Court of Appeals for the Ninth Circuit.

2. Applicable Laws

The applicable laws are as set forth in Attachment 2 Applicable Laws.

3. Definition of Relevant Markets and Qualcomm's Market-Dominant Position

A. Relevant Market for Cellular SEP Licensing

1) KFTC's Definition of Market

Assuming that the respective Conducts are organically connected to create a feedback loop, KFTC defined the relevant market in which market-dominant position is created as the market for licenses to all of the SEPs owned by Qualcomm which are included in each standard of CDMA, WCDMA and LTE technologies (the "SEP Licensing Market"), and defined the relevant geographic market as the global market, taking into consideration the features that members from all over the world participate in SSOs, and SEP users enter into license agreements without regard to geographical location (P 1-2).

2) The Gist of Qualcomm's Arguments

In defining the relevant product markets, the KFTC defined them vaguely as above without presenting the results of detailed review and analysis such as 'Small but Significant and Non-transitory Increase in Price ("SSNIP Test"). The KFTC also defined the relevant markets without proving whether other cellular SEP licenses could perfectly substitute for Qualcomm's CDMA SEP license. In addition, a market-dominant enterpriser under the MRFTA means a company which has the position to decide transaction terms including price on its own or together with other companies. However, Qualcomm is not able to independently decide royalties for its own cellular SEPs on account of existence of other SEP holders for the same cellular standard, restrictions under FRAND commitments, and dynamic of cellular standards. Therefore, Qualcomm cannot be deemed to be a market-dominant enterpriser in the markets defined by the KFTC. Qualcomm has increased the value of its own patent portfolio by investing funds equivalent to approximately 20% of its annual revenues in R&D. If Qualcomm were a market-dominant company in the SEP Licensing Market, it needs not to invest a large sum of money in R&D in this way.

3) Judgment on Legality of Definition of the Cellular SEP License Market

To determine whether or not a certain company has market dominance, the ‘market for the relevant product’, which is the object of transaction, and the ‘market for the relevant region’, which is the geographic range of transaction, should be first defined with regard to a certain transaction field where competition may be an issue, and then, a possibility of dominance in the market should be acknowledged. The ‘market for the relevant product’ here generally means the scope of products competitive that can restrain a market-dominant enterprise from exercising its market dominance. Specifically, it means a group of other products that if the price of a product traded is significantly increased or decreased for a considerable period of time, in response, a representative buyer or seller of the product can buy or sell instead of the product. The scope of the market should be determined, taking all elements into account: price, similarity in function and efficiency of the products related to the transaction, buyers’ awareness of substitutability and their related purchasing behaviors, sellers’ awareness of substitutability and their related management decision-making behaviors, homogeneity and similarity of the kind of business accepted socially and economically. In addition, other various elements should be considered: speed of technological development, other products necessary to manufacture the product and market condition of the other products manufactured based on the product, and availability for substitute in terms of time as well as economical and legal aspects (Supreme Court en banc Decision 2002Du8626 dated Nov. 22, 2007 and Supreme Court Decision 2009Du20366 dated Nov. 13, 2014).

To review the following circumstances, which we can find from the facts acknowledged above and the whole purport of pleadings, in light of the foregoing legal principles, it is lawful that KFTC defined the relevant product market of each Conduct as the SEP Licensing Market.

i. By nature of the concept of SEP, the communication standards of CDMA, WCDMA and LTE cannot be fully implemented without using the SEP technologies owned by Qualcomm, and different communication standards are not compatible. Significant levels of technical skills are required to manufacture modem chipsets or handsets conforming to a certain cellular technology. It is not easy for a modem chipset or handset manufacturer, who has already invested huge amounts of money and manpower to find a market for modem chipsets or handsets conforming to a certain communication standard, to abandon the market where it can manufacture and sell the products conforming to the standard and instead, to substitute it with another product conforming to another method, for the royalty for the standard technology goes up to a degree. In addition, since every patented technology for a cellular standard performs its own function, it is not easy to accept substitutability among the individual SEPs within each cellular standard.

ii. In licensing its patents to willing licensees, Qualcomm has entered into license agreements for all of the patents they own but not by each individual cellular SEP. Licensees of cellular SEPs also needed all of Qualcomm's cellular SEPs complementarily due to such features as backward compatibility, new technology advanced on the basis of the old technologies, and technical lock-in. It was impossible to replace it with technologies of other competitors. Practically, the license for all SEPs owned by Qualcomm among the patents included in each cellular standard was sold as a bundle product.

iii. Qualcomm argues that this definition of market is illegal since it is not proved whether the license for other cellular SEP can perfectly substitute the CDMA SEP license. However, given that there is no compatibility between different communication standards and they function complimentarily and are sold as a bundle product, the KFTC defined the SEP Licensing Market, but not individual patent licensing, as a single relevant market; and thus, CDMA SEP license and other cellular SEPs became to be within the same relevant market. Therefore, the definition of market cannot be deemed to be illegal according to only Qualcomm's arguments.

iv. SSNIP Test is no more than an analyzing instrument that can be used to define the relevant market. We can make judgment on substitutability by considering the characteristics of cellular SEP license, backward compatibility, and transaction structure, etc. Therefore, it is hard to say that quantitative analysis such as SSNIP Test is always required to define the relevant market in this Case.

4) Judgment on Whether Qualcomm is a Market-Dominant Enterprise in the Relevant Product Market

Article 7, Sub-paragraph 7 of the MRFTA defines "market-dominant business entity" as a business entity which is a supplier or customer in a particular business area in a position to determine, maintain, or change the price, quantity, quality, or other terms and conditions of transactions of specific goods or services either alone or together with other business entities. It furthermore provides that in deciding whether a business entity is a market-dominant business entity, its market share, whether and to what extent any barriers to enter a market exist, and the relative scale of competitors shall be comprehensively taken into account. Under Article 4, Sub-paragraph 1 of the MRFTA, a business entity whose market share is at least '50% in a particular business area' is presumed a market-dominant business entity.

To review the following circumstances, which we can find from the facts acknowledged above, the statements in DA 75 and the whole purport of pleadings, in light of the foregoing laws and legal principles, we can acknowledge that Qualcomm is the market-dominant business entity in the SEP Licensing Market.

i. Since Qualcomm has 100% market share in the SEP Licensing Market, it is presumed to be a market-dominant business entity in accordance with Article 4, Sub-paragraph 1 of the MRFTA.

ii. Because such communication standards cannot be fully implemented without using Qualcomm's own SEP technologies in nature of the cellular SEP concept, and there are no other substitutable technologies used to circumvent or bypass, the users of such SEP technologies must get the SEP licenses from Qualcomm in order not to infringe its patent rights.

iii. Even though there exists another SEP of other patentee in a certain cellular standard other than the SEPs owned by Qualcomm, the individual SEPs within each cellular standard are not substitutable because both of them perform their respective independent function. Notwithstanding that there exist other SEP holders within the same cellular standard and this imposes restrictions on negotiation for Qualcomm's cellular SEP licensing terms, the royalty Apple pays to non-Qualcomm cellular SEP holders is usually $0.01-2 per handset whereas the royalty Apple pays to Qualcomm is approximately $7.5 per handset (DA 75). Given this fact, it is hard to deny Qualcomm's market-dominant position in deciding the royalties for SEP license even though there exist other SEP holders within the same cellular standard.

iv. While FRAND commitments are required by SSOs in order to prevent a SEP holder's abuse of dominance artificially strengthened through standardization of a technology, the existence of FRAND commitments itself is not enough to deny Qualcomm's market dominance. Even after taking into account the dynamic features of cellular standards, quality competition through investment in R&D and the scale of Qualcomm's investments, handset manufacturers' bulk buying power, etc., we can hardly say that the legal presumption that Qualcomm is a market dominant enterpriser having 100% market share can be reversed and annihilated.

B. Relevant Market for Modem Chipsets

1) The KFTC's Definition of Market

Assuming that the respective Conducts are organically connected to create a feedback loop, the KFTC defined the relevant product market, which is the base in determining whether Qualcomm has the market-dominant position with regard to Conducts 2 and 3, by categorizing (i) CDMA standard modem chipset market; (ii) WCDMA standard modem chipset market; and (iii) LTE standard modem chipset market (collectively the "Modem Chipset by Standard Market"), and defined the relevant geographic market as the global market, taking into consideration the physical features of modem chipset, availability of transportation, tendency toward a worldwide single standard, demand and supply of modem chipset and the like. The LTE modem chipsets here include not only the one conforming to LTE standard but also the multimode one supporting both the old generation CDMA or WCDMA simultaneously, and the WCDMA modem chipsets include the old generation standards, too (P 1-2).

2) The Gist of Qualcomm's Arguments

○ [Illegality in Defining the Relevant Market]

On December 30, 2009, the KFTC took an administrative measure against Qualcomm defining the relevant market for CDMA standard modem chipset as 'domestic market' (the "1st Qualcomm Case"). To compare the 1st Qualcomm Case with the Disposition, the KFTC defined the relevant geographic market for CDMA standard modem chipset as 'global market' despite the fact that there are no differences in the features of CDMA modem chips, transaction structure, and substitutability in demand and supply.

○ [Non-existence of Market Dominance in the Relevant Market (Modem Chipset by Standard Market)]

[CDMA Modem Chipset Market]

As the CDMA modem chipset market itself has been reduced, the percentage of CDMA modem chipset in the total modem chipsets globally sold in 2016 is only approximately 0.4%. If Qualcomm unilaterally fixes the price of CDMA modem chipset high, the handset manufacturers are in a position to negotiate with a bargaining chip to change their supplier of WCDMA or LTE modem chipsets whose trading quantities are heavier. Therefore, Qualcomm is not in a position to decide trading terms such as price, etc., on its own in the market.

[WCDMA Modem Chipset Market]

Qualcomm showed its market share exceeding slightly 50% only from 2011 to 2013 during the violation period, and thereafter, its market share rapidly declined to be approximately 10% in 2016 and 5% in 2018. It is unreasonable to assess the market dominance based on the market share at a particular point in time in such dynamical market as technologies change so fast, and Qualcomm cannot be said to be market dominant in the WCDMA modem chipset market during the violation period.

[LTE Modem Chipset Market]

Qualcomm's market share temporarily kept high after 2012 when LTE modem chipsets started to sell in high gear but has continued to decline since a sharp drop in 2014 as competing modem chipset manufacturers entered the market. Given the features of dynamic and innovative cellular communication industry, it is not reasonable to acknowledge the market dominance based only on the fact that Qualcomm as a front-runner in technology was temporarily leading the market.

Furthermore, the area in the world where the 2G CDMA mobile service is provided is very limited and the percentage of CDMA-LTE multimode modem chipset in the whole LTE modem chipset market is low. Therefore, Qualcomm cannot be said to be market-dominant in the whole LTE modem chipset markets only on the grounds that Qualcomm has a high market share in the CDMA-LTE multimode modem chipset as claimed by the KFTC. The concept of 'premium LTE modem chipset' was not expressly defined. Even if the scope of premium LTE modem chipset is defined to an extent, it is hard to acknowledge that Qualcomm has dominant power in the whole LTE modem chipset market based on the share of ‘premium LTE modem chipset’, which is only part of the whole LTE modem chipsets, as argued by the KFTC, given that according to the KFTC’s definition of the relevant market, ‘premium LTE modem chipset’ is competitive with so-called ‘medium and low-priced modem chipsets’ and that the percentage of premium LTE modem chipset in the whole LTE modem chipset market is relatively low. Defining the relevant market, the KFTC included both the modem chipsets that Samsung and Huawei themselves supply for manufacture and sale of their own handsets (the “Self-Supply Modem Chipset”) and other modem chipsets in the LTE Standard Modem Chipset Market, which means that the Self-Supply Modem Chipset is also competitive with other LTE modem chipsets; and thus, the KFTC’s argument based on the market shares excluding the Self-Supply Modem Chipset is contradictory.

Therefore, Qualcomm’s market dominant position in the LTE modem chipset market is not admitted.

[Contradiction between the KFTC’s market definition and the arguments of Yi Sang-Seung, the Economics Expert for the KFTC]

Based on the fact that 3G modem chipset without LTE function was actually exited from the market, Yi Sang-Seung, a witness for the KFTC, assessed Qualcomm’s position in the markets based on its market shares in (i) the market for 3G CDMA modem chipset (composed of the 3G CDMA-only modem chipset and the CDMA-LTE multimode modem chipset), (ii) the market for 3G WCDMA modem chipset (composed of the WCDMA-only modem chipset and the WCDMA-LTE multimode modem chipset); and he claimed that (iii) the medium and low-priced modem chipsets of MediaTek and SpreadTrum do not operate as competition pressure against Qualcomm’s modem chipsets.

However, the definition of relevant markets under the foregoing arguments is inconsistent with the relevant markets defined by the KFTC in the Disposition. In addition, according to his arguments, to exclude the CDMA-LTE and WCDMA-LTE multimode modem chipsets, Qualcomm cannot be said to be in a market-dominant position to use the CDMA and WCDMA-LTE modem chipsets as leverage, respectively, in negotiating license at the handset level. The Disposition based on such illegal definition of the relevant markets should be cancelled.

3) Judgment on Legality of Definition of the Relevant Markets

The relevant geographic market typically means a geographical territory where competing business entities are located. Specifically, it means the whole geographical territory where the representative buyer or seller in an area can buy or sell in response if the price of a product traded in the area significantly increases or decreases for a considerable period of time whereas the price in other all areas is constant. The scope of the market should be determined, taking all elements into account: price and function of the product related to the transaction, seller's production quantity, business capability, transportation cost, buyer's awareness of substitutability and their related purchasing behaviors in changing the territory, sellers' awareness of substitutability and the related management decision-making behaviors, availability in changing the territory in terms of time/economics/law. In addition, other various elements should be considered: speed of technological development, other products necessary to manufacture the relevant product and market condition of the other products manufactured based on the relevant product, and availability for substitute in terms of time as well as economical and legal aspects (Supreme Court en banc Decision 2002 Du 8626 dated Nov. 22, 2007 and Supreme Court Decision 2013 Du14726 dated Jan. 31, 2019).

To review the following circumstances, which we can find from the facts acknowledged above; the statements in in the following Exhibits: P 73, 75-78, 155, 264-1~264-3, DA 32 and 80, and DG 1; and the whole purport of pleadings, in light of the foregoing laws and legal principles, it is reasonable to conclude that the KFTC defined the relevant geographic market as the global market for the following reason:

If the price of each modem chipset for CDMA, WCDMA and LTE in all overseas territories is constant but the price only in domestic territory significantly increases for a considerable period of time or if the modem chipset price in domestic territory is constant but the price only in all overseas territories significantly increases, the Korean handset manufacturers or overseas handset manufacturers, in response, seem to be able to change their supplier to overseas modem chipset manufacturers or Korean modem chipset manufacturers; and therefore, it is reasonable that the KFTC defined the relevant geographic market as the global market.

i. [Features of the Relevant Product]

Modem chipset is a semiconductor product that is small in volume and light. Transportation and storage for a long time is easy because of inexpensive transportation cost and low possibility of corruption and deterioration or fragility.

ii. [Buyer's Awareness of Substitutability for Territory and Actual Behaviors]

Modem chipset manufacturers sell modem chipsets in the global market and compete with each other irrespective of their nationality or location. Korean handset manufacturers such as Samsung and LGE have considered purchase or actually purchased the modem chipsets from SpreadTrum, Broadcom, VIA and MediaTek, all of which are rivals of Qualcomm and are located overseas, as an alternative for the modem chipset sold by Qualcomm (P 73, 75, 76, 78, 155, and 264-1~264-3, DA 80).

iii. [Seller's Awareness of Substitutability and Management Decision-Making Behaviors]

Qualcomm established countermeasures to respond to the handset manufacturers' changing the supplier (P 77). The modem chipset manufacturers who compete with Qualcomm are establishing business strategies toward the global market, locating their business places everywhere in the world whether at home or abroad.

iv. [Market Condition of the Other Products Manufactured Based on the Relevant Product]

The handset manufacturers in the domestic market also manufacture and sell handsets in the domestic market as well as the global market (DG 1). During the investigation by the KFTC, Qualcomm answered: 'Some customers of Qualcomm, who operate factories in one or more countries, request Qualcomm to ship modem chipsets to the factory' (DA 32).

v. [Characteristics of Each of the Conducts]

Qualcomm has established each of the Conducts as its own business model and has maintained the same business policy toward all modem chipset manufacturers and handset manufacturers in the world.

vi. [Differences from the 1st Qualcomm Case]

In the 1st Qualcomm Case, the KFTC issued the corrective order and an order for payment of penalty surcharge to Qualcomm under its full commission Decision No. 2009-281 dated December 30, 2009, finding that royalty debate granted by Qualcomm to Korean handset manufacturers (LGE, Samsung and Pantech), grant of rebates conditioning supply of modem chipsets, and grant of rebates conditioning supply of RF chipsets constituted the abuse of market dominant position in violation of Article 3-2 of the MRFTA. In the foregoing Decision, the KFTC defined the relevant geographic market for Qualcomm's modem chipsets as the domestic market. However, the counterparties to Qualcomm's conducts at issue in the 1st Qualcomm Case were Korean handset manufacturers such as LGE, Samsung and Pantech, whereas the Disposition assumes that the counterparties of Qualcomm are not limited to Korean handset manufacturers but include all modem chipset manufacturers and handset manufacturers from all over the world; therefore, we cannot say that the definition of the relevant geographic market in the 1st Qualcomm Case is contradictory to the definition of the relevant market assumed in the Disposition.

vii. [Qualcomm's Original Statements]

During the KFTC's investigation for the Disposition, Qualcomm itself stated: 'Given that Qualcomm customers are multi-national corporations and that all handset manufacturers are actually supplied modem chipsets from all over the world, Korean local market does not exist from the first in selling cellular modem chipset and/or the related modem chipsets' (DA 32).

4) Judgment on Whether Qualcomm is a Market-Dominant Enterprise in the Relevant Product Market (Modem Chipset by Standard Market)

To review the following circumstances, which we can find from the facts acknowledged above; the statements in in the following Exhibits: DA 160 and 235, and DG 98-2; and the whole purport of pleadings, in light of the foregoing laws and legal principles, it is reasonable to conclude that Qualcomm is a market-dominant enterprise in the Modem Chipset by Standard Market.

i. [Market Shares]

The market shares of Qualcomm calculated on the basis of revenues in the Modem Chipset by Standard Market are set forth in the following [Table 30]. Put it together with [Table 17] and [Table 18], Qualcomm is legally presumed to be a market-dominant enterprise in accordance with Article 4, Sub-paragraphs 1 and 2 of the MRFTA, for its market share in the Modem Chipset by Standard Market from 2008 to 2016 is over 50% (MRFTA, Article 4, Subparagraph 1), and the sum of market shares of top three enterprises including Qualcomm is 75% or more and its own market share is 10% or more (MRFTA, Article 4, Subparagraph 2).

[Table 30] Market Shares of Qualcomm in the Modem Chipset by Standard Market

Standard	2008	2009	2010	2011	2012	2013	2014	2015	2016
CDMA	98.4%	97.6%	96.4%	94.3%	92.4%	93.1%	91.6%	83.1%	70.2%
WCDMA	38.8%	47.4%	45.7%	55.0%	50.4%	53.9%	48.8%	32.3%	12.4%
LTE	-	-	34.2%	58.8%	94.5%	96.0%	84.8%	69.4%	56.4%

Qualcomm denies its market dominant position based on the market shares calculated on the basis of sold quantities. However, modem chipsets are differently priced by product because different products are sold depending on the quality even though they support the same standard. The prices of Qualcomm modem chipsets installed in Samsung LTE and WCDMA smartphones from 2012 to 2013 vary from at least $8.45 (MSM7225-0 1G, Low & Entry group) to at the maximum

$49.95 (Fusion III, Premium group) (P 77). The prices of modem chipsets installed in Samsung LTE and WCDMA smartphones that were sold by competing modem chipset manufacturers vary from $8.20 to $40. It is reasonable to calculate the market shares based on revenues rather than quantities when there are significant differences in prices in this way (DA 238).

Article 4(2) of the Enforcement Decree of MRFTA also provides that in determining whether a particular enterprise is market-dominant in Subparagraph 7 of Article 2 of the MRFTA, the market share shall be, in principle, calculated on the basis of the amount of goods or services supplied or purchased; provided that where it is impracticable to calculate the market share in terms of amount, it may be calculated in terms of quantity or production capacity. It is reasonable that the market share of each business entity in the Modem Chipset by Standard Market is based on the amount of revenues.

ii. [CDMA Modem Chipset Market]

Since the cellular standards develop through generations, it seems to be a natural phenomenon from the characteristics of modem chipset industry that as time goes by, the percentage of next generation modem chipsets in the total sales of modem chipsets increases but the market for modem chipsets conforming to only the old generation standard declines. [Table 19] shows the fact that the percentage of CDMA standard modem chipset in the global modem chipset market was 0.3% in 2016 immediately before the Disposition was issued. It is hard, however, to say that Qualcomm can deny the market–dominant position to decide the trading terms such as price even though its customers who buy CDMA modem chipsets are said to be able to use it as negotiation leverage to change the supplier of WCDMA modem chipset or LTE modem chipset as Qualcomm argues, given that Qualcomm is presumed to be a market-dominant enterprise for it has still maintained the market share over 50% in CDMA market (DA 235, DG 98-2); that Qualcomm is recognized to be market dominant both in the WCDMA Modem Chipset Market and the LTE Modem Chipset Market as reviewed in Sections iii and iv; and the technical lock-in to the standards and such risks and costs required to change the supplier to another one conforming to other standard in reality.

iii. [WCDMA Modem Chipset Market]

As reviewed in Section i above, Qualcomm had the market shares based on which it is presumed to be a market-dominant enterprise in the WCDMA modem chipset market from 2008 to 2015; as shown in [Table 19], Qualcomm had always been the first runner in the WCDMA modem chipset market since 2010 until 2013 when the WCDMA modem chipset had the largest percentage of the whole modem chipset market; and Qualcomm has still maintained 32.3% market shares as of 2015, even though it is the second runner-up following MediaTek (35.9%). Based on the market share in 2016, its market share is 12.4% but the sum of top three enterprises is over 75%; and thus, Qualcomm is presumed to be a market-dominant enterprise. Qualcomm has not released new models of WCDMA modem chipset since 2013 after the LTE standard cellular service was commenced. For this, its market share thereafter seems to show a slight decline, and the percentage of WCDMA modem chipset revenue among Qualcomm's total modem chipset revenues was 42.8% in 2009 but went down to 1.5% in the first half of 2017 (DA 160). Even given the decline of Qualcomm's market share since 2013 and any other circumstances claimed by it, we can hardly say that the legal presumption that Qualcomm is a market dominant business entity in the WCDMA modem chipset market can be reversed and annihilated .

iv. [LTE Modem Chipset Market]

Qualcomm's market share in the LTE modem chipset market has declined since 2013. But, given the Self-Supply Modem Chipset, Qualcomm has still held overwhelmingly the first rank since 2011, maintaining noticeable gap from the second ranking enterprise.

Also, since Samsung (the third ranking enterprise with 7.9% market share in 2015) and HiSilicon (the fourth ranking enterprise with 3.7% market share in 2015) may not sell modem chipsets to others in accordance with the agreements with Qualcomm, it is hard to say that their Self-Supply Modem Chipsets are effectively competitive in the Modem Chipset by Standard Market in regard to modem chipset buyers other than Samsung and Huawei. Even if it were true that the KFTC stressed this fact, it is nothing but emphasizing the characteristics of the LTE modem chipset market; and thus, we cannot conclude that it is contradictory to the KFTC's definition of market.

In addition, even if it were true that the KFTC stressed that Qualcomm's position in the CDMA-LTE multimode modem chipset and the premium LTE modem chipset is stronger, it just emphasized Qualcomm's dominance on certain modem chipsets in the LTE modem chipset market; and thus, it is not inconsistent with the KFTC's definition of market.

Moreover, even if it were true that unlike the KFTC's definition of the Modem Chipset by Standard Market, Yi Sang-Seung, the witness for the KFTC, categorized the CDMA-LTE multimode modem chipset into the CDMA modem chipset market and the WCDMA-LTE multimode modem chipset into the WCDMA modem chipset market, and made an analysis based on the whole modem chipset being assumed, it stressed that Qualcomm's dominance is acknowledged despite such different categorization of LTE modem chipset; and therefore, it is not contradictory to the categorization of Modem Chipset by Standard Market assumed by the Disposition and the acknowledgement of Qualcomm's market dominance therein.

v. [Qualcomm's Share in the Total Revenues of Modem Chipsets and Entry Barriers]

In the nature of mobile telecommunications industry requiring backward-compatibility, the market position formed in the modem chipset market of the previous generation cellular standard has an effect on the modem chipset market of the next generation cellular standard. Despite the growth and decline in the Modem Chipset by Standard Market as the generations of cellular standard evolve, Qualcomm has continued to maintain the first rank based on the revenues in the whole modem chipset market as shown in [Table 15]. In addition, even if an enterprise which did not participate in the modem chipset market of previous generation cellular standard successfully enters the modem chipset market of new generation cellular standard, it has to implement the previous generation standard, thereby forming entry barriers.

vi. [Qualcomm's Position as a Vertically-Integrated Enterprise]

Qualcomm is the market-dominant enterprise having 100% market share in the SEP Licensing Market, which is the upstream market of the Modem Chipset by Standard Market, and a vertically-integrated enterprise which directly participates in the Modem Chipset by Standard Market using the market dominance in the cellular SEP Licensing Market. Qualcomm is the only one that has the market dominance in both the cellular SEP licensing market and the modem chipset market during the violation period. Adopting the handset-only level licensing business model in such a position, Qualcomm could influence the handset manufacturers, i.e., the buyers in the Modem Chipset by Standard Market, by requiring the handset manufacturers who buy its modem chipsets as well as the handset manufacturers who buy modem chipsets from competing modem chipset manufacturers to enter into the patent license agreement with Qualcomm.

4. Conduct 1: Whether There Exists Otherwise Interference with Business Activities among the Abuse of Market Dominant Position

A. Findings of Fact Related to Conduct 1

[Grounds for Findings of Fact] Statements in each of the following Exhibits: P 88-1, 88-2, 89-2, 92, 94-1, 94-2, 96-98; DA 2-8, 11-13, 26, 32, 33, 40-44, 49, 59, 60-65, 79, 80, 81, 90, 98, 111-113, 115, 117, 118, 238; DC 5; and DG 83; and the whole purport of pleadings

1) Overview of Conduct 1 as an Established Fact for the Disposition

○ Before 2008: Qualcomm entered into a patent license agreement with modem chipset manufacturers on terms of royalty based on modem chipset price, granting the license excluding the right to use modem chipset with regard to its own patents including cellular SEPs. These patent license agreements imposed the terms that (i) Qualcomm restricts the modem chipset customers only to those handset manufacturers who executed the patent license agreement with Qualcomm (the "Sales Restriction"); (ii) the modem chipset manufacturers shall report their respective business information, including the number of modem chipsets sold, buyers, date and time of purchase, product model, price and the like (the "Reporting Obligation"); and (iii) Qualcomm requires the counterparty[26] to license its own patent to Qualcomm and its customers who buy Qualcomm modem chipsets or not to claim patent infringement against them (the "Cross-grant").

○ After 2008: In general, license including the right to use the manufactured product and the method is exhaustively granted. Once the licensee lawfully sells the product substantially conforming to the patent, the patent holder's right to restrict use of the product is exhausted and the user or buyer of the product needs not to enter into a separate license agreement for the patent with the patentee. Since 2006 through 2008, not entering into a patent license agreement with modem chipset manufacturers and refusing to enter into a license agreement for its cellular SEPs with modem chipset manufacturers despite their request, Qualcomm has entered into (i) covenant-not-to-sue (in which the patent holder contractually agrees not to claim its rights in patents against the licensee); (ii) covenant to exhaust remedies (in which the patent holder would first claim patent infringement against a third party before it exercises the patent right against the licensee. If the patent holder exercised the patent right against the third party using the product manufactured/sold by the licensee but failed to obtain relieves, it may claim the patent right against the licensee); and (iii) or standstill agreements (in which the parties contractually agree that for a certain period, they will not make a certain type of claim such as patent infringement claim against the other party), in order to prevent the patent exhaustion at the modem chipset level.

[26] In Conduct 1, it means the competing modem chipset manufacturers. Meanwhile, Qualcomm imposed even in the patent license agreement with handset manufacturers the term that the handset manufacturer shall license its patent to Qualcomm and its customers who buy Qualcomm's modem chipset or would not claim patent infringement against them (part of Conduct 3). It is hereinafter referred to 'cross-grant' without distinction; provided that it refers to the cross-grant with modem chipset manufacturers in Conduct 1, and the cross-grant with handset manufacturers in Conduct 3.

2) Details of Patent License Agreements Entered with Modem Chipset Manufacturers before 2008 and the Key Terms and Conditions

[Table 31] shows the modem chipset manufacturers with whom Qualcomm entered into the patent license agreements before 2008 and the key terms and conditions thereof.

[Table 31] Patent License Agreements with Modem Chipset Manufacturers and the Key Terms and Conditions

Modem Chipset Manufacturer	Agreement Name and Effective Date	Terms and Conditions
VIA (DG 83, P 96)	○ ASIC Patent License Agreement ○ Effective Date: Jun. 27, 1997 ○ Entered into the Amendment to delete the royalty clause as of Sep. 27, 2006	- Restrict the right to use modem chipset - Restrict buyers to licenses of Qualcomm - Demand business information on price, sales volume, buyers and the like[27] - Demand cross-license for VIA's patent (not including the right to use modem chipset), and covenant not to assert VIA's SEP against Qualcomm and its licensees
Texas Instruments (DA 90)[28]	○ Patent Portfolio Agreement ○ Effective Date: Dec. 11, 2000	- Restrict the right to use modem chipset
NEC (DA 7)	○ ASIC Patent License Agreement ○ Effective Date: July 8, 2002	- Restrict the right to use modem chipset - Restrict buyers to licenses of Qualcomm - Demand business information on price, sales volume, buyers and the like - Option that NEC will provide the cross-grant upon Qualcomm's request
Fujitsu (DA 6)	○ ASIC Patent License Agreement ○ Effective Date: Jan. 11, 2005 ○ Entered into the Amendment to release the royalty burden as of Sep. 2, 2010	- Restrict the right to use modem chipset - Restrict buyers to licenses of Qualcomm - Demand business information on price, sales volume, buyers and the like - Cross-grant
Renesas	○ ASIC Patent License	- Restrict the right to use modem chipset

[27] See Section 12.1. Qualcomm demanded the report in the form of EXHIBIT C.

[28] This agreement was not produced but DA 90 (the statement submitted by Texas Instruments to the KFTC) confirms the name of the agreement, the fact that it was entered into in December 2000, and the terms of restriction on the right to use modem chipset.

(DA 5)	Agreement ○ Effective Date: Oct. 1, 2004 ○ Entered into the Amendment to release the royalty burden as of Mar. 25, 2010	- Restrict buyers to licenses of Qualcomm - Demand business information on price, sales volume, buyers and the like - Demand cross-license for Renesas' patent (including the right to use modem chipset), and covenant not to assert Renesas' SEP against Qualcomm's licensees
Infineon Technologies (DA 4, DC 5)	○ ASIC Patent License Agreement[29] ○ Effective Date: Aug. 22, 2002	- Qualcomm's covenant not to assert against Infineon Technologies: not including covenant regarding use of modem chipset - Exclude the application of the covenant not to assert in a certain case with regard to the modem chipsets of Infineon Technologies sold to other company which is not a licensee of Qualcomm[30] - Infineon Technologies' covenant not to assert against Qualcomm: not including covenant regarding use of modem chipset

3) Refusing to Enter into the Patent License Agreement with Modem Chipset Manufacturers after 2008

◆ MediaTek

[Non-Exhaustive CDMA ASIC[31] Agreement in 2009]

In April 2008, in order to expand its business into 3G WCDMA modem chipsets, MediaTek requested Qualcomm to offer the terms and conditions for WCDMA patent licensing. In response, on May 2, 2008, Qualcomm replied they would provide a draft WCDMA patent license agreement once a non-disclosure agreement is signed by and between MediaTek and Qualcomm (DA 41). However, despite MediaTek's continued request, Qualcomm did not offer any proposal for licensing negotiation for about four months. [Table 32] shows part of the emails exchanged between Qualcomm and MediaTek during this course.

[29] Unlike the usual patent license agreement, it primarily covers covenants not to assert, and Infineon Technologies supplied modem chipsets to Apple under this agreement from 2007 to 2011.

[30] Unlike the patent license agreements with Fujitsu, Renesas, etc., it does not include a provision directly restricting buyers, but Article 4.2 provides that if Infineon Technologies sells modem chipsets to any company which is not a licensee of Qualcomm, Qualcomm will first negotiate for the license agreement with the company in good faith, and if Qualcomm fails to enter into the license agreement within six months, it shall give notice of the fact to Infineon Technologies, and the covenant not to assert shall not be applied to sales of modem chipsets to the company after 90 days of the notice (DA 4).

[31] It is an acronym of application specific integrated circuit and means a modem chipset. The same applies hereinafter.

[Table 32] Emails (Partial) Exchanged between Qualcomm and MediaTek

Qualcomm's email dated May 2, 2008 (from Gerald Skiver)
David, Thank you for the information. Qualcomm's legal group processes their own NDA's with companies, but I will forward MediaTek's Mutual NDA to them. Once we execute the NDA, then I will provide MediaTek with a draft WCDMA ASIC License Agreement. Best regards… Jerry
MediaTek's email dated August 10, 2008 (from David Chang)
Dear Jerry, As you know that both Qualcomm and MediaTek signed mutual NDA in May. Would you please advise me the progress of MediaTek WCDMA ASIC License inquiry? Thanks! (omitted)
Qualcomm's email dated August 14, 2008 (from Gerald Skiver)
David, Thank you for your inquiry. I will status the ASIC license agreement with our legal group. I am currently on business travel and will get back to you soon. Regards… Jerry
MediaTek's email dated August 22, 2008 (from David Chang)
Dear Jerry, Hopefully you had a nice and fruitful business trip. Please advise the status of MediaTek WCDMA ASIC License Inquiry. I am a little bit surprise regarding to EFFICENCY of this progress. (omitted)
Qualcomm's email dated August 25, 2008 (from Gerald Skiver)
David, We hope to get you the draft ASIC license by next week. I will be out of the office all week, but Yunhui Chae-Banks in our legal group will response. Thanks again for the remainder [*sic*].[32] Regards… Jerry
MediaTek's email dated September 1, 2008 (from David Chang)
Dear Yunhui, Time flies it has been close to FOUR MONTHS since Qualcomm and MediaTek exchanged NDA. I am really CURIOUS about the SLOWINESS of your licensing proposal. Doesn't Qualcomm have a "STANDARD FORMAT" of WCDMA ASIC Licensing? Thanks for your help. I am looking forward to hearing from you. (omitted)
Qualcomm's email dated September 2, 2008 (from Yunhui Chae-Banks)
Dear David, I did not realize that you were waiting for my reply since I did not get your email below. In addition, I saw Jerry's recent email to you regarding the status of the draft agreement.

[32] It seems to be a typo of reminder.

With respect to the latest status of the draft agreement, it is currently going through internal review. We will have a draft agreement for your review as soon as we contemplate our internal review, which id delayed a bit due to unanticipated business travels by key members of our team that need to review the draft agreement. (omitted)
MediaTek's email dated September 7, 2008 (from David Chang)
Dear Jerry and Yunhui, I have been paid HIGH RESPECT to Qualcomm for its significant contributions in CDMA/WCDMA, ; and its leading position and excellent organization in fabless design. However, now I may have another thought for the following reasons. 1. Could not keep its PROMISE On 8/25, Jerry wrote "We hope to get you the draft ASIC license by nest week". After two weeks, I am still in waiting. 2. Lack of good INTERNAL COMMUNICATION On 8/25, Jerry wrote " I will be out of the office all week, but Yunhui Chae-Baks in our legal group will response", and I could see Yunhui is in cc: list for that e-mail. On 9/2, Yunhui replied to my e-mail, and wrote "I did not realize that you were waiting for my reply." What's going on here? Did Yunhui not receive the e-mail sent by Jerry (in cc: list) on 8/25? Anyway, please tell me that YOUR SCHEDULE that WHEN I can receive[33] the WCDMA ASIC Licensing proposal, so that I can REBUILD my TRUST and RESPECT to Qualcomm. (omitted)

But, on September 8, 2008, unlike the initial proposal, Qualcomm proposed MediaTek to enter into the covenant not to sue with terms such as Sales Restriction, the Reporting Obligation and Cross-Grant attached (DA 42). In this regard, MediaTek inquired Qualcomm why they proposed the covenant not to sue in lieu of patent license agreement and whether it is consistent with FRAND commitments Qualcomm declared to SSOs to enter into only the covenant not to sue without licensing for WCDMA SEPs (DA 44, 98), but finally, MediaTek entered into the Non-Exhaustive CDMA ASIC Agreement dated November 19, 2009 with Qualcomm, with the terms of Sales Restriction, Reporting Obligation, and not

[33] It is written "recive" in the original text but it is corrected in the same way as written in the KFTC Decision since it is clearly a typo.

claiming MediaTek's own CDMA [34]cellular SEP against Qualcomm and its suppliers and distributors (DA 2).

According to the foregoing covenant, MediaTek may sell modem chipsets only to the Authorized Purchasers (who mean those who are licensed for at least Qualcomm's CDMA SEPs under the definition clause), Non-Authorized Purchasers who obtain prior approval from Qualcomm and the Authorized Distributor [4.1(a)(i)]; and shall report its business information to Qualcomm in the following form on a quarterly basis (10.1); and MediaTek shall not claim its own CDMA SEP against Qualcomm and its suppliers and distributors [5.1(a)].

[Table 33] Form of Report of Business Information under the Non-Exhaustive CDMA ASIC Agreement between Qualcomm and MediaTek dated November 19, 2009

EXHIBIT B

CERTIFICATE

The undersigned official of ______________ ("MediaTek") is providing the following information to QUALCOMM pursuant to that certain NON-EXHAUSTIVE CDMA ASIC Agreement entered into between MediaTek and QUALCOMM (the "Agreement"). All capitalized terms used in this Certificate have the definitions ascribed to them in the Agreement.

Applicable Calendar Quarter	Identity of Authorized Purchaser/Non-Authorized Purchaser/Authorized Distributor	CDMA Standard (e.g., IS-95, CDMA2000 1xRTT, 1xEVDO, 1xEVDO-Rev A, 1XEVDO-Rev. B, UMTS Rel. 99, UMTS Rel 4., UMTS Rel 5 (HSDPA), UMTS Rel. 6 (HSDPA, or UMTS Rel.7 (HSPA+)	Model Number and Lot Code of MediaTek CDMA ASICs (each model number/lot code on a separate line)	Number of MediaTek CDMA ASICs Sold	Country of Sale of MediaTek CDMA ASICs (by shipment destination and each country on a separate line)

The undersigned hereby certifies that the foregoing represents an accurate and complete record of the sale of MediaTek CDMA ASICs by MediaTek and its Authorized Affiliates for the calendar quarter specified above.

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[34] The CDMA standard mentioned in the Non-Exhaustive CDMA ASIC Agreement dated November 19, 2009 includes CDMAone, CDMA2000 and WCDMA (DA 2). "For the purpose of clarification, but without limitation, the term "CDMA Standard" includes UMTS/WCDMA, HSDPA, HSUPA, HSPA+, cdmaOne (IS-95), cdma2000 (IS-2000), IxRTT MC, 3xRTT MC, IxEV-DO (IS-856, including, without limitation, Rev. A, Rev. B and any revisions or updates thereto) or IxEV-DV or any revisions or updates thereto, but excludes the TD-SCDMA Standard and the OFDMA Standards."

[Amendment and Suspension Agreement in 2013]

On September 12, 2012, MediaTek requested Qualcomm to let them know as to whether it is possible to enter into a license agreement without the terms of Sales Restriction and the Reporting Obligation in lieu of the foregoing 2009 covenant and the FRAND royalty rates and licensing terms for the cellular SEPs declared by Qualcomm (DA 43).

[Table 34] MediaTek's Letter to Qualcomm dated September 12, 2012

Dear Mr. Aberle:

I am writing to you on behalf of my company with regards to certain topics of interest relating to the "Non-Exhaustive CDMA ASIC Agreement" entered by our companies on November 19, 2009 (the "Agreement") that we hope to discuss with you. In particular, we hope to achieve a better understanding of your licensing structure and discuss with you possible alternatives to the current structure.

First, we would like to gain further understanding regarding two of the current requirements under the Agreement. The first is the reporting obligation which requires us to report customer names and sales quantities, and the second is the sales restriction which requires us to sell only to Authorized Purchasers (as defined in the Agreement). While we assume that all chip suppliers as well as all other component suppliers, including Qualcomm CDMA Technologies ("QCT"), Broadcom Corporation, Marvell Technology Group Ltd., Advanced Micro Devices, Inc., Renesas Electronics Corporation and amongst others, have entered into similar agreements with you and therefore are subject to these same two requirements, please let us know if that is not the case and if you are open to also providing MediaTek with such alternative licensing arrangements that do not impose these requirements. On a related note, in furtherance of exploring alternative arrangements, we would also like to understand whether all Qualcomm-authorized handset manufacturers are required to purchase chips from only licensed component or chip suppliers, such as MediaTek and the other presumably licensed companies mentioned above.

One alternative we would like to discuss is for MediaTek to pay the fair, reasonable, and non-discriminatory ("FRAND") royalties for patents that Qualcomm has declared as "essential" for wireless-communication standards, in lieu of providing your Qualcomm Technology Licensing division ("QTL") with MediaTek sales information. Although we do not concede such a license is necessary, please provide us with your proposed FRAND royalty rates and license terms for MediaTek chipsets so that we could begin the discussion.

Finally, we understand that Qualcomm recently implemented a new corporate structure where a new subsidiary, Qualcomm Technologies, Inc. (QTI), will be formed and be responsible for most of Qualcomm's research and development activities, as well as product and services businesses, including semiconductor businesses of QCT. We would like to understand what impact this restructuring may have on the operation of the Agreement signed between us. At a minimum, it will be greatly appreciated if you could please confirm that, after this restructuring, Qualcomm will not disclose to third parties (or internally within Qualcomm beyond QTL) the confidential customer information it receives from MediaTek pursuant to the Agreement. Also, please confirm that Qualcomm has to date been complying with its obligations with respect to such confidential customer information.

In order to start the conversation as soon as possible, we would appreciate your prompt attention and hope to receive your written reply in three weeks. Thank you very much for your consideration.

In response, on February 12, 2013, Qualcomm replied: 'MediaTek and Qualcomm did not agree to a license, but instead agreed to non-exhaustive covenants between the parties which expressly are not licenses' (DA 43).

[Table 35] MediaTek's Qualcomm's Reply to MediaTek dated February 12, 2013

Dear Mr. Ju,

I write in response to your letter to Derek Aberle of September 12, 2012.

First, let me apologize for the delayed response. We prepared a response to your letter several months ago and thought it had been sent. We just recently realized it never went out.

We did not expect that MediaTek would wish to reconsider its agreements with Qualcomm. As you may recall, when MediaTek approached Qualcomm several years ago to negotiate an agreement, we informed MediaTek that we did not believe it was necessary for our companies to have an agreement at that time. MediaTek nevertheless indicated a strong preference for entering into an agreement with Qualcomm and we accommodated that preference by negotiating and ultimately reaching agreement on the "Non-Exhaustive CDMA ASIC Agreement" referenced in your letter (the "Agreement"). The Agreement includes a heavily negotiated set of terms that taken together reflect an agreed upon exchange of value between our companies.

(중략)

I need to avoid any possible confusion that might result from the wording of your letter where you refer to MediaTek as a "licensed" component or chip supplier. Of course, as you are aware, MediaTek and Qualcomm did not agree to a license, but instead agreed to non-exhaustive covenants between the parties which expressly are not licenses.

(이하 생략)

In response, requesting again Qualcomm to offer the licensing terms and FRAND royalty rates on March 4 and March 19, 2013, MediaTek pointed out that Qualcomm had the obligation to comply with the commitments that it would enter into the license agreement with a willing licensee for the SEPs declared by Qualcomm on FRAND terms. However, on March 14 and April 3, 2013, refusing to enter into the license agreement, Qualcomm stated that they were willing to terminate the existing patent license agreement and to replace it with a new agreement and requested MediaTek to let them know what additional rights MediaTek wishes to get in addition to the existing agreement (DA 43). [Table 36] shows the letters exchanged between Qualcomm and MediaTek during this discussion.

[Table 36] Letters Exchanged between Qualcomm and MediaTek from March 2013 to April 2013

MediaTek's letter dated March 4, 2013
Dear Mr. Gonell, I write in response to your letter dated February 12, 2013, which in turn responded to my letter of September 12, 2012. (중략) Given your focus on this distinction, we think one course is for Qualcomm to grant MediaTek a license, which would replace the Non-Exhaustive CDMA ASIC Agreement. However, you have not proposed any royalty rates or license terms in your response. In order to meaningfully assess MediaTek's licensing options (if it has any), we would like to better understand Qualcomm's positions, including with regard to FRAND licensing. I therefore ask again: please make a proposal with respect to the royalty rates and license terms that might apply for MediaTek. If this is inapplicable because Qualcomm is not prepared to discuss the possibility of providing a license (as opposed to the non-assert covenant we already have) to MediaTek, please let us know. (이하 생략)
Qualcomm's letter dated March 14, 2013
Dear Mr. Ju, Thank you for your letter of March 4, 2013. In that letter, you asked three questions, each of which I will address in turn. (중략) Third, you asked whether we are willing to discuss a direct license with MediaTek. We are willing to discuss any mutually beneficial business arrangement with MediaTek, including the possibility of replacing the Non-Exhaustive CDMA ASIC Agreement and the Non-Exhaustive Patent Non-Assertion Agreement (collectively, the "Patent Agreements"). We are also willing to discuss modifications to those agreements. Having said that, we don't understand why MediaTek now wishes to discuss a license with Qualcomm. What has changed since our companies negotiated and entered into the comprehensive and long-term Patent Agreements at Mediatek's request? Your letter includes statements about Qualcomm's FRAND obligations. While we don't believe it is productive to engage in a written debate on those points, we do feel compelled to point out that we disagree with several of those statements. We would be happy to discuss that further (if necessary) when we meet. (이하 생략)
MediaTek's letter dated March 19, 2013
Dear Mr. Gonell: **I write in response to your letter dated March 14, 2013. I appreciate your timely reply to my last letter, and agree that it could be productive to meet in person. The MediaTek team is available to meet at our offices in Taiwan on the morning of April 3, 2013.** **In particular, MediaTek would like to take you up on your invitation to "discuss . . . the possibility of replacing the Non-Exhaustive CDMA ASIC Agreement."**

We note your statement that you "disagree with several of [MediaTek's] statements" regarding the import of Qualcomm's FRAND commitments. Whatever those disagreements, we hope and assume you agree with the basic premise that Qualcomm is obligated by its commitments to standard-setting organizations to enter into license agreements with parties willing to agree to FRAND terms as to Qualcomm's declared-essential patents. You have previously stated that the Non-Exhaustive CDMA ASIC Agreement is not a license. We are now asking for a license—and in particular, a FRAND license. In order to make a meeting productive, we ask you to provide by Tuesday, March 26, 2013, the terms on which you would be willing to provide a FRAND license, so that we can be prepared to discuss those terms at our meeting.
Qualcomm's letter dated April 3, 2013
Dear Mr. Ju, Thank you for your letter of March 19, 2013 and email of March 27. I am pleased to confirm the meeting at your offices on April 12. We do not believe that Qualcomm is under any obligation to offer MediaTek a license with respect to the manufacture or sale of Components in response to MediaTek's request to replace the existing patent agreements between our companies with such a license. As we have said, however, we are open to any and all discussions with MediaTek, including discussions regarding the termination of MediaTek's existing two patent agreements with Qualcomm (which were negotiated and signed at the same time as part of one overall deal between the companies) and the replacement of those agreements with a new agreement. If MediaTek wishes to discuss a license agreement of some sort, we will be happy to do so, but we will need to know much more about what rights MediaTek is seeking to obtain from Qualcomm beyond the rights already provided to MediaTek in the existing patent agreements before we can attempt to formulate any proposed terms. We can discuss this in more detail during our upcoming meeting. During our meeting, we would also like MediaTek to be prepared to respond to our request to explain to us what circumstances MediaTek believes have changed since MediaTek proposed, and our companies negotiated and entered into, the existing patent agreements such that MediaTek now wishes to negotiate a new agreement (or perhaps renegotiate portions of those agreements) with Qualcomm.

Thereafter, the Amendment and Suspension Agreement dated July 1, 2013 was entered into by and between Qualcomm and MediaTek to modify the key terms and conditions of the existing agreement (DA 3). The Amendment and Suspension Agreement includes agreements that both parties agree not to sue the other party for patent infringement, complaint for anti-monopoly, or breach of contract, for three years (standstill); that Qualcomm will terminate the Sales Restriction and relax the Reporting Obligation. The recitals of the Amendment and Suspension Agreement states the background of entering into the Agreement including the facts that MediaTek requested

Qualcomm to offer MediaTek a FRAND license; and that Qualcomm contended that it is not required to offer such license to MediaTek.[35]

[Table 37] Key Term and Conditions of the Amendment and Suspension Agreement between Qualcomm and MediaTek dated July 1, 2013

<table>
<tr><td>Recitals</td></tr>
<tr><td>
Recitals
WHEREAS, MediaTek and QUALCOMM are parties to that certain Non-Exhaustive CDMA ASIC Agreement (the "CDMA Agreement") and that certain Non-Exhaustive Patent Non-Assertion Agreement (the "Non-Essential Agreement"), each dated November 19, 2009 (collectively, the "ASIC Agreements");
WHEREAS, MediaTek has requested that QUALCOMM offer MediaTek a fair, reasonable and non-discriminatory (FRAND) license to make, use, sell, offer to sell, import, or otherwise distribute Components under QUALCOMM's declared standards-essential patents with respect to CDMA technology;
WHEREAS, QUALCOMM contends that QUALCOMM is not required to offer such license to MediaTek under the circumstances;
WHEREAS, QUALCOMM and MediaTek wish to avoid Litigation at this time but nevertheless intend to preserve their respective positions; and
WHEREAS, QUALCOMM and MediaTek wish to amend the CDMA Agreement and suspend the ASIC Agreements, subject to and in accordance with the terms of this ASA.
</td></tr>
<tr><td>Business Information Report Form</td></tr>
<tr><td>
EXHIBIT B
(Report Form)
CERTIFICATE
The undersigned official of MediaTek, Inc. ("MediaTek") is providing the following information to QUALCOMM pursuant to the Amendment and Suspension Agreement entered into between MediaTek and QUALCOMM. All capitalized terms used in this Certificate have the definitions ascribed to them in the Non-Exhaustive CDMA ASIC Agreement entered into between MediaTek and QUALCOMM dated November 19, 2009.
________ Applicable semi-annual period (e.g., 1H2013, 2H2013)
________ (i) the aggregate volume of all MediaTek CDMA ASICs sold to all customers
________ (ii) the aggregate volume of all MediaTek CDMA ASICs sold to Authorized Purchasers directly or through distributors
________ (iii) the aggregate volume of all MediaTek CDMA ASICs sold to "small customers" (i.e., customers that purchase fewer than one million MediaTek CDMA ASICs per quarter) directly or through distributors
________ (iv) the number of "small customers"
The undersigned hereby certifies that the foregoing represents an accurate and complete record of the sales of MediaTek CDMA ASICs by MediaTek and its Authorized Affiliates during the applicable semi-annual period specified above.
Signature: ________
Title: ________
Date: ________
</td></tr>
</table>

[35] Qualcomm argues that MediaTek could successfully carry out the modem chips business without the patent license, based on the grounds that MediaTek did not seek another agreement to substitute despite expiration of the 2013 Amendment and Suspension Agreement in 2016 [Qualcomm's general brief dated July 19, 2019, p. 93 (based on the page number of electronic record; the same applies hereinafter; and Qualcomm's final brief dated July 19, 2019, p. 61]. Since Section 1 of the 2013 Amendment and Suspension Agreement designates the Standstill Period to be until July 30, 2016, Qualcomm may claim patent infringement against MediaTek after July 30, 2016; on the other hand, however, Section 6.1 of said Agreement provides that the Agreement exists until CDMA (including WCDMA) SEPs of Qualcomm and MediaTek expire; therefore, the Reporting Obligation under the said Agreement seems to still remain in effect, and there is no evidence to say that the said Agreement expired otherwise.

◆ VIA

LSI Logic, a modem chipset manufacturer, entered into the ASIC Patent License Agreement for manufacture and sale of CDMA modem chipset dated June 27, 1997 with Qualcomm (DG 83). As VIA acquired CDMA2000 design business from LSI Logic thereafter, the patent license agreement was transferred to VIA. Entering into the amendment dated September 27, 2006 with Qualcomm to get the license for OFDMA standard patent, VIA obtained the license to manufacture, sell and distribute modem chipsets for CDMA2000 and OFDMA SEPs owned by Qualcomm at that time.

On October 3, 2006, VIA requested Qualcomm to expand the scope of patent license agreement for manufacture and sale of modem chipsets to include TD-SCDMA and WCDMA (P 97), and on November 29, 2006, Qualcomm sent VIA a draft amendment to include TD-SCDMA and WCDMA but the negotiation does not seem to go further (P 98).

In early 2012, VIA requested Qualcomm that the existing CDMA2000 licensing agreement be modified or redrafted, for VIA to obtain a license to WCDMA technologies. However, Qualcomm proposed instead that the CDMA2000 licensing agreement be terminated and replaced by supplemental covenants containing licenses to CDMA2000 and WCDMA. In response, VIA requested Qualcomm to offer the license terms available under its FRAND obligation, but Qualcomm refused to license other than the covenant to exhaust remedies. After all, Qualcomm and VIA failed to reach an agreement for WCDMA license. [Table 38] shows VIA's email to Qualcomm dated August 15, 2012 (DA 40). VIA did not enter the WCDMA modem chipset market thereafter.

[Table 38] VIA's Email to Qualcomm dated August 15, 2012

(omitted) When your draft arrived, we were surprised to learn that your proposal is not to grant us any patent license at all. Before considering options, we wanted to take a moment to clarify what options are and are not available. Qualcomm has committed in standards committees to license patents under FRAND terms. So we want to know if your Position is: A. that you consider this agreement to be an embodiment of that obligation even though it is not a license, or; B. that you believe a patent license is not required for a chip vendor, or; C. that a patent license is required and we are entitled to ask for a license proposal, but you are proposing this "non-license" as a voluntary alternative, or; D. Something other than A-C. If you do believe a patent license is required to sell ships, then before considering agreeing to a "non-license," we would want to know what license terms are available under your FRAND obligation. (omitted)

◆ Broadcom

While disputes regarding the license agreements executed by and between Qualcomm and a third party and between Broadcom and a third party, respectively, and the intellectual property rights thereunder, have been continuing since 2004, Broadcom stated that they were interested in license to manufacture modem chipset during the negotiation for settlement. On April 26, 2009, Qualcomm and Broadcom entered into the Settlement and Patent License and Non-Assert Agreement including the covenant not to assert against Broadcom's or its subsidiaries' manufacture and sale of modem chipsets (DA 8, 32).

◆ Samsung[36]

In accordance with the Infrastructure and Subscriber Unit License and Technical Assistance Agreement between Qualcomm and Samsung dated August 31, 1993, and the respective Amendments to said Agreement in 2004 and 2009, Samsung may manufacture, sell and use handsets using Qualcomm's own CDMA SEP but is permitted only to manufacture the modem chipsets for the purpose of using in the handsets to be sold by Samsung but is not granted the right to sell the modem chipsets manufactured by Samsung to other companies (DA 11~13, 111~113). Section 5.1.1 of the 1993 Infrastructure and Subscriber Unit License and Technical Assistance Agreement (as subsequently amended by Section 3.1 of the Amendment to the Infrastructure and Subscriber Unit License and Technical Assistance Agreement in 2009) provides as follows:

[Table 39] Part of the Infrastructure and Subscriber Unit License and Technical Assistance Agreement between Qualcomm and Samsung dated August 31, 1993

5.1 Grant of License by QUALCOMM.

5.1.1 Subscriber Unit and Cordless Base Station License. Subject to the terms and conditions of this Agreement, including but not limited to timely payment of the license fees and royalties set forth herein, QUALCOMM, on behalf of itself and its Affiliates, hereby grants to LICENSEE a personal, nontransferable, worldwide and non-exclusive license (without the right to sublicense, except to Affiliates of LICENSEE as permitted in Section 5.3) to use QUALCOMM's Intellectual Property solely for Wireless Applications to (a) make (and have made) and use, sell, lease or otherwise dispose of Subscriber Units and/or Cordless Base Stations and (b) to make (and have made) Components that have been exclusively designed by LICENSEE (which design is owned exclusively by LICENSEE) and use, sell, lease or otherwise dispose of Components; provided, however that if such Components incorporate any of QUALCOMM's CDMA Intellectual Property (e.g., CDMA ASICs, vocoder DSP, vocoder ASIC, etc.) then such Components may only be used, sold, leased or otherwise disposed by LICENSEE if they are included and used, sold, leased or otherwise disposed of by LICENSEE as part of and within complete Subscriber Units and/or Cordless Base Stations Sold by LICENSEE (or as replacement parts for Subscriber Units previously sold by LICENSEE). No other, further or different license is hereby granted or implied.

[36] See DA 32, 62, 115 for the overall background of negotiation.

System LSI is an internal wireless communication chipset business unit of Samsung and has manufactured AP to be used in handsets and the like. In 2011, System LSI contacted handset manufacturers promoting the sales business of modem chipset to the outside. Raising concerns that the handset manufacturers may be under patent attacks from Qualcomm for purchase of Samsung modem chipsets, they requested Samsung to provide an indemnification agreement to indemnify damage caused by Qualcomm's patent attacks or warrant that they and Samsung would not be under patent attacks from Qualcomm. In response, Samsung, in July 2011, requested Qualcomm to enter into the patent license agreement for manufacture and sale of modem chipset. However, refusing such request, Qualcomm sent a draft agreement primarily covering the covenant to exhaust remedies on September 29, 2011, which included the terms of Sales Restriction, Reporting Obligation and Cross-Grant, etc. (DA 62, 63). Internally preparing negotiation strategies to remove the terms of Sales Restriction, Reporting Obligation and Cross-Grant, etc. as much as possible, Samsung negotiated with Qualcomm subject to the covenant to exhaust remedies (DA 59, 64).

However, on June 20, 2013 during the negotiation subject to the covenant to exhaust remedies, Qualcomm offered to Samsung a negotiation proposal to replace the covenant to exhaust remedies with a standstill agreement to the effect: 'if the handset manufacturer who buys Samsung modem chipset breaches the patent license agreement with Qualcomm, Qualcomm will withhold claiming patent infringement against Samsung only for a period of 90 days and may claim patent infringement at any time after the period' (DA 65); and on July 29, 2013, Qualcomm stated once again that if Samsung does not accept the standstill agreement, it would be difficult for them to enter into the license agreement for sales of modem chipset to others, and thereafter, there was no further discussion between Qualcomm and Samsung to enter into the agreement for sales of modem chipset to others (DA 62).

◆ Dragonfly Project

In November 2010, Samsung received a proposal of Dragonfly Project for a joint venture to develop and sell modem chipsets from NTT DoCoMo, Fujitsu, NEC and Panasonic, and in December, entered into the Joint Venture Agreement. The Joint Venture Agreement provided the license agreement with Qualcomm as a condition precedent to the incorporation of a new joint venture company ("NEWCO"), and NTT DoCoMo had the obligation to provide reasonable assistance in order to negotiate such licensing agreement (DA 117). NTT DoCoMo negotiated with Qualcomm to obtain the license, and on November 22, 2011, Qualcomm sent NTT DoCoMo a draft patent license agreement primarily covering the covenant to exhaust remedies with regard to manufacture and sale of CDMA modem chipset (P 89-2). However, NTT DoCoMo determined that the terms and conditions suggested by Qualcomm were too severe and thus, the business risk would be lower not to enter into the agreement rather than to accept such terms (P 88-1, DA 117). In the end, NTT DoCoMo failed to get the modem chipset license from Qualcomm, resulting in the failure of incorporation of NEWCO finally on March 27, 2012. The internal document prepared by Samsung in March 2012 (S. LSI Strategic Growth Development Weekly Highlight) mentions as one of the reasons for failure of Dragonfly Project that DoCoMo failed to achieve the modem chipset license agreement from Qualcomm and offered no remedy; and as a result, it is possible that NEWCO may fail because it cannot sell effectively in the market due to Qualcomm's threat (P 88-2, DA 118).

[Table 40] Reasons for Failure of Dragonfly Project Stated in Samsung's Internal Document Prepared in March 2012

S. LSI Strategic Growth Development (SGD) Weekly Highlights

Yiwan Wong

Strategic Planning Team

Week 12, ending March 24, 2012

(omitted)

Here is a quick summary of the main issues causing the deal to break:

(a) **Failure to secure a QCOM ASIC license**: Securing a QCOM ASIC license was contractually a pre-requisite for First Closing to happen, but NEWCO & DoCoMo failed to achieve that and offered no remedy. As a result, it is possible that NEWCO may fail because it cannot sell effectively in the market due to QCOM's threat, and hence risking Samsung's $20M equity investment in NEWCO;

(b) **Inadequate indemnification to Samsung as a distributor**: Samsung is obligated to be a distributor of NEWCO's products to serve selected Tier-1 customers, but NEWCO was unwilling to provide a reasonable $S cap on its indemnification to Samsung, Together with NEWCO's failure to secure a QCOM ASIC license, this puts Samsung into a risk exposure level disproportional to the business benefits we expected as a distributor (normally, a distributor should be fully indemnified by the product owner);

(omitted)

In August 2012 thereafter, NTT DoCoMo, Fujitsu and NEC organized again a joint venture company to manufacture and sell modem chipsets (P 92), and in March 2014, gave up development of modem chipset and dissolved the joint venture company (DA 238).

◆ Intel

In 2009, Intel requested Qualcomm to license its own patents including the cellular SEPs but in September 2009, Qualcomm offered the terms and conditions of agreement primarily covering the royalty free and non-exhaustive covenant not to sue for the wireless wide area network ("WWAN") integrated circuit and module whereas granting the royalty-free and exhaustive license for the software and non-WWAN integrated circuit and module sold for the use in computer and handset (P 94-1, 94-2). During the two negotiation meetings held in October 2009 thereafter, Qualcomm insisted that it could not grant exhaustive license for modem chipsets used for handset, and as a result, there was no further negotiation (DA 79). In 2011 thereafter, Intel entered the modem chipset business by acquiring Infineon Technologies.

◆ HT mMobile

In 2010, HT mMobile requested Qualcomm to grant the license for CDMA standard modem chipset but failed to enter into the agreement (DA 33).

◆ Alphean

In 2011, Alphean requested Qualcomm to grant the license for modem chipsets of LTE, WCDMA and GSM standards but failed to enter into the agreement (DA 33).

B. Applicable Laws and Regulations and Legal Principles Related to Conduct 1

1) Applicable Laws and Regulations

▣ **The Monopoly Regulation and Fair Trade Act ("MRFTA" or the "Act")**
Article 3-2 (Prohibition of Abuse of Market-Dominant Position):
① No market-dominating enterprise shall commit any act falling under any of the following subparagraphs (hereinafter referred to as "abusive acts"): [1 - 2 omitted]
3. Unreasonably obstructing the business activities of other enterprises.

▣ **The Enforcement Decree of Monopoly Regulation and Fair Trade Act ("Enforcement Decree")**
Article 5 (Type of or Standards for Abusive Acts)
③ The unfair obstruction of business activities carried out by other enterprises referred to in Article 3-2 (1) 3 of the [Monopoly Regulation and Fair Trade] Act shall be cases where business activities are made difficult to be carried out by other enterprises by performing directly or indirectly an act falling under any of the following subparagraphs: [1 - 2 Omitted]
4. Making it difficult for other enterprises to carry out their business activities through unfair means, other than those referred to in subparagraphs 1 through 3, which is publicly announced by the Fair Trade Commission.

▣ **The Guidelines on Examination of Abuse of Market Dominating Position (the "Examination Guidelines")**
IV. Types and Criteria for Abuse of Market-Dominant Position
3. Unreasonably obstructing the business activities of other enterprises (Article 3-2.1.3 of the Act): The cases where business activities are made difficult to be carried by other enterprises by performing directly or indirectly an act falling under any of the following subparagraphs (Article 5.3 of the Enforcement Decree): [A - C Omitted]
D. Making it difficult for other enterprises to carry out their business activities through unfair means, other than those referred to in subparagraphs 1 through 3 (Article 5.3.4 of the Enforcement Decree):
(2) Offering the other transacting party terms that are unreasonable in light of the ordinary practice in transaction or discriminatory with regard to price or transaction terms without justifiable grounds.

2) Applicable Legal Principles

For the act of "making it difficult for other enterprises to carry out their business activities" specified in Article 5(3)4 of the MRFTA (the "Interference with Business Activities") to constitute the abuse of market-dominant position in Article 3-2(1)3 of the MRFTA, it could be deemed to be an act that unfairly makes it difficult for other enterprises to carry out their business activities.

"Unfairness" here is the unfair trade practice in Article 23(1)5 of the MRFTA, which shall be independently assessed and interpreted in accordance with the legislative purpose of 'promotion of competition in the monopolistic market' separately from the unfairness of the Conduct 1 that obstructs other enterprises' business activities.

Accordingly, it is not sufficient to acknowledge the unfairness only by reason that an enterprise suffered a disadvantage such as the case where a market-dominant enterprise interfered with business activities of a certain enterprise as the counterparty to an individual transaction with unfair intent or purpose or where a certain an enterprise suffered or would likely suffer difficulties in its business activities due to the act of interfering with business activities. Inter alia, the unfairness can be recognized when the market-dominant enterprise interferes with business activities, which is of nature as an act that can be objectively deemed to be an act that would likely have such anti-competitive effect, with intent or purpose to maintain/strengthen the monopoly in the market, that is, with intent or purpose to artificially influence the market order by restricting free competition in the market.

Therefore, to claim that the market-dominant enterprise's Interference with Business Activities constitutes the abuse of position, it should be proved that the Interference with Business Activities will likely cause anti-competitive effect such as price increase of the product, output decrease, impediment to innovation, decrease of the number of strong competitors, and decrease of diversity, etc., and also that the market-dominant enterprise had such intent and purpose. If the Interference with Business Activities has been proved to have had such effect practically, we could, in fact, presume that the market-dominant enterprise's Interference with Business Activities was likely to cause anti-competitive effect at that time and the enterprise had such intent or purpose. Otherwise, whether the Interference with Business Activities is an act that would likely cause anti-competitive effect as reviewed above and whether the enterprise had such intent or purpose should be determined, taking into consideration all circumstances such as the background and motivation, forms and appearance of Interference with Business Activities, characteristics of the relevant market, the degree of disadvantages suffered by the counterparty due to the Interference with Business Activities, whether there were changes in the price and output, or whether there was impediment to innovation and decrease of diversity. And, the relevant market where the anti-competitive effect is an issue may include not only the market to which the market-dominant enterprise or its competitors belong but also the market that supplies raw materials or parts and half-finished products necessary to manufacture the products of the market or the market that manufactures new products with the products manufactured in the former market (Supreme Court en banc decision 2002Du8626 dated November 22, 2007).

C. Judgment on Whether Qualcomm 'Offered Terms that are Unreasonable in Light of the Ordinary Practice in Transaction'

1) The Gist of the Parties' Arguments

[Qualcomm]

The exhaustive license at the handset single level is a reasonable and efficient practice that has been widely conducted since before Qualcomm entered the mobile telecommunications industry; and there exists no licensing practice at the modem chipset level as claimed by the KFTC. The modem chipset manufacturers can manufacture and sell modem chipsets without cellular SEP license, and have no risk of patent attacks by Qualcomm. In response to change of the patent exhaustion doctrine, Qualcomm has consistently granted non-exhaustive patent license to competing modem chipset manufacturers, which removed the risk of patent attacks.

[KFTC, Intel, MediaTek, Huawei]

The ordinary practice in transaction under the MRFTA mean common practices of transaction consistent with desirable competition order. Thus, the Conduct 1 cannot be said to be a fair practice because Qualcomm, through Conduct 1, violated FRAND commitments it submitted to SSOs. In addition, there exists licensing practice at the modem chipset level. Other participants in the mobile telecommunications industry excluding Qualcomm grant the component-level license, and Qualcomm also granted the license to competing modem chipset manufacturers in the past, and the component-level licenses are granted in the adjacent market of modem chipset. Qualcomm refused to license at the component level only in the Modem Chipset by Standard Market where it has market-dominance. Modem chipset manufacturers need the license for Qualcomm's cellular SEPs to manufacture and sell modem chipsets, because there is a risk of patent attacks by the patent holder if they do not obtain the license.

2) Findings of Fact related to 'Offering of Unreasonable Terms'

[Grounds for findings of fact] Statements in each of the following Exhibits: P 11, 36, 140, 271; DA 32, 37, 38, 47, 57, 62, 80, 81, 84, 86, 87, 122, 124, 151, 152, 170, 186, 238; DB 3-1-3-8, 5-2, 37-1, 37-2; DC 5-16, 20, 24, 27, 35, 37, 39, 41, 52, 69, 126, 130, 156; DE, 1, 4; DF 1, 2; DG 96; part of each testimony of Witnesses Lee Hwang Soo and Friedhelm Rodermund; and the whole purport of pleadings

a) At Which Level Qualcomm's Cellular SEPs are Embodied?

◆ Matthew C. Valenti randomly selected and reviewed 100 patents declared by Qualcomm to ETSI as being SEP. As a result, he concluded that 56.51% of the 3,523 claims of the 100 patents are embodied either entirely or substantially an the modem chipset level, and only 34 patents, which is less than 1% of the claims, appear to be entirely or substantially embodied at the handset level (DA 124, DB 37-1, 37-2).

◆ Thomson Reuters reviewed and classified 12,299 US issued patents owned by Qualcomm and over 90% of its cellular SEPs are mostly implemented at the modem chipset level (DA 152).

◆ The Summary of Third Party IP Rights Benefiting Customers of QUALCOMM'S MSMs and Software that Qualcomm sends to its licensees every year includes a statement: 'There are a wide variety of QULACOMM component products that fall into the category of QUALCOMM's chipsets including components implementing the CDMA2000 family of standards, the WCDMA family of standards and/or OFDM/OFDMA family of standards' (DA 38).[37]

b) Cases of Component-Level Licenses Granted by Enterprises other than Qualcomm

◆ VIA Licensing provides LTE patent pool program under which licenses for LTE SEPs owned by 35 companies including Samsung, LGE, Microsoft, AT&T Intellectual Property II, Hewlett-Packard, ZTE, Google, Sony and the like. The brochure of the program states: 'Parties manufacturing or selling LTE devices or components and other implementers of the LTE standard should contract Via Licensing to obtain more information about the LTE patent pool and to request an LTE Patent License Agreement' (DA 87).[38]

◆ Richard L. Donaldson, who worked at Texas Instruments, a modem chipset manufacturer, from the mid- to late-1970s to 2000, operated separate licensing programs by classifying the patent portfolios owned by Texas Instruments into two groups, i.e., system patent and chipset patent, and for this, evaluated at which level the patents are substantially embodied by analyzing claims of each patent (DC 27, DG 96).

[37] 'There are a wide variety of QULACOMM component products that fall into the category of QUALCOMM's chipsets including components implementing the CDMA2000 family of standards, the WCDMA family of standards and/or OFDM/OFDMA family of standards.'

[38] 'Parties manufacturing or selling LTE devices or components and other implementers of the LTE standard should contract Via Licensing to obtain more information about the LTE patent pool and to request an LTE Patent License Agreement.'

◆ In the First Trial of US. FTC Case, Kim Yooseok of Samsung made a deposition to the effect that in his time at the IP Center, Samsung entered into a cross-license agreement to grant its cellular patents to Intel and Google for the manufacturing and sale of modem chipsets (DC 156).

◆ During the KFTC's investigation, MediaTek and Broadcom, modem chipset manufacturers, submitted statements that they did not enter into license agreement for cellular SEPs with any SEP holder other than Qualcomm (DA 80, 81).

◆ Qualcomm is granted cellular SEP licenses from 297 companies as of May 2015.

c) Cases of Modem Chipset Level Licenses Granted by Qualcomm

Qualcomm disclosed that it granted license to competing modem chipset manufacturers, in the following documents prepared or announced by it:

◆ Email dated Oct. 21, 1999 from Steve Altman of Qualcomm to Louis M. Lupin, Qualcomm's legal counsel, and Marvin Blecker, Senior Vice-president (DC 130): 'Other ASIC Licensees pay royalties to QUALCOMM at 3% with no minimum dollar account.'[39]

◆ Press release dated Oct. 28, 2005 (DB 3-1): 'Contrary to the reported allegation that Qualcomm is seeking to exclude chip competitors, Qualcomm has licensed major chip manufacturers,

[39] 'Other ASIC Licensees pay royalties to QUALCOMM at 3% with no minimum dollar account.'

including Texas Instruments, NEC, Infineon, Philips, Agere, Motorola, VIA and Fujitsu.'[40]

◆ Conference materials dated Nov. 2, 2005 (Q4 and Fiscal 2005 QUALCOMM Earnings Conference Call, DB 3-5): 'We have never refused to license our essential patent to any company to supply chips, handsets, infrastructure or test equipment. The number of companies licensed by QUALCOMM that are actively marketing WCDMA chips demonstrates that QUALCOMM has not attempted to exclude any chip set manufacturer. It is beyond dispute that QUALCOMM does not have anything remotely resembling a monopoly or dominant position on the sale of WCDMA chip sets. To the contrary, competition for sales of CDMA chips is quite intense.'[41]

◆ 2005 London Analyst Meeting dated Nov. 8, 2005 (DB 3-3): 'We've licensed TI, We've licensed NEC, Infineon, Philips, and the list goes on. We've never refused to license our WCDMA essential patents to any company.'[42]

◆ Licensing/IPR Overview Conference Call & Webcast dated June 21, 2006 (DB 3-2): 'Who are our licenses? (omitted) …. includes … both …. and other chip manufacturers that do compete with QUALCOMM in the chip market for wireless telephones.'[43]

◆ 10-K Report for 2006 and 2007 (DA 37, 38, DB 3-4, DF 1): 'As part of our strategy to generate

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[40] 'Contrary to the reported allegation that Qualcomm is seeking to exclude chip competitors, Qualcomm has licensed major chip manufacturers, including Texas Instruments, NEC, Infineon, Philips, Agere, Motorola, VIA and Fujitsu.'

[41] 'We have never refused to license our essential patent to any company to supply chips, handsets, infrastructure or test equipment. The number of companies licensed by QUALCOMM that are actively marketing WCDMA chips demonstrates that QUALCOMM has not attempted to exclude any chip set manufacturer. It is beyond dispute that QUALCOMM does not have anything remotely resembling a monopoly or dominant position on the sale of WCDMA chip sets. To the contrary, competition for sales of CDMA chips is quite intense.'

[42] 'We've licensed TI, We've licensed NEC, Infineon, Philips, and the list goes on. We've never refused to license our WCDMA essential patents to any company.'

[43] 'Who are our licenses? Primarily our licensees are the equipment manufacturers. Four or five typical categories that we discuss are the infrastructure manufacturers, the subscriber equipment manufacturers, which includes both handsets and modem devices and fixed wireless terminals, test equipment manufacturers and other chip manufacturers that do compete with QUALCOMM in the chip market for wireless telephones.'

licensing revenues and support worldwide adoption of our CDMA technology, we license to other companies, including the competitors of our QCT segment, the rights to design, manufacture and sell products utilizing certain portions of our CDMA intellectual property.'[44]

◆ Jefferies Technology Conference dated Oct. 2, 2007 (DC 24, DE 4): 'Our licensing program is separate from the chipset, so just in general anybody who wants to ship chips into CDMA-based, whether it is 3G or UMTS or CDMA, they have to have a license. So that is - there is no exception there. (omitted) But at the end the day any of those guys who want to ship products, they have to take out a license from QUALCOMM. We have been pretty consistent in that model.'[45]

◆ Brief of Qualcomm as Amicus Curiae submitted to the Supreme Court of the United States as of Dec. 10, 2007 in Quanta Computer, Inc. v. LG Electronics, Inc., 533 U.S. 617 (2008) case ("Quanta Case", the decision is referred to as "Quanta Decision") (DA 122, DB 3-8): 'Qualcomm's primary sources of revenues are (1) sales of chips (called Application Specific Integrated Circuits or ASICs) used in cellular telephones, through its chip division, Qualcomm CDMA Technologies ("QCT")[3] ; (w) licensing its intellectual property to entities that produce (non-Qualcomm) chips, through its licensing division, Qualcomm Technology Licensing ("QCT"); and (3) licensing its intellectual property, through QTL, to entities that produce "Subscriber Units", a term that refers to, inter alia, wireless handsets.' [46] (omitted) Qualcomm has provided chipmakers nontransferable, worldwide, nonexclusive, restricted licenses to its portfolio of technically necessary patents through licensing

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[44] 'As part of our strategy to generate licensing revenues and support worldwide adoption of our CDMA technology, we license to other companies, including the competitors of our QCT segment, the rights to design, manufacture and sell products utilizing certain portions of our CDMA intellectual property.

[45] 'BEHRO OZ ABDI: Some of those guys, our licensing program is separate from the chipset, so just in general anybody who wants to ship chips into CDMA-based, whether it is 3G or UMTS or CDMA, they have to have a license. So that is-there is no exception there. So Broadcom unfortunately not agreeing with that and they are taking a different path so far. But at the end the day any of those guys who want to ship products, they have to take out a license from QUALCOMM. We have been pretty consistent in that model.'

[46] 'Qualcomm's primary sources of revenues are (1) sales of chips (called Application Specific Integrated Circuits or ASICs) used in cellular telephones, through its chip division, Qualcomm CDMA Technologies ("QCT")[3] ; (w) licensing its intellectual property to entities that produce (non-Qualcomm) chips, through its licensing division, Qualcomm Technology Licensing ("QCT"); and (3) licensing its intellectual property, through QTL, to entities that produce "Subscriber Units", a term that refers to, inter alia, wireless handsets.'

agreements called ASIC Patent License Agreements (“APLAs”).’ [47]

◆ Conference dated June 3, 2008 (DB 3-6): ’We will license anyone who wants to go and have a license in CDMA. And that has been the hallmark of licensing program, and hence the competition that came about as a result of that.’ [48]

◆ 10-K Report for 2014 (DB 5-2): ‘The mobile communications industry generally recognizes that a company seeking to develop, manufacture and/or sell products that use CDMA technology will require a patent license from us.’[49]

d) Cases that Qualcomm Claimed its Cellular SEP against the Competing Modem Chipset Manufacturers and the Handset Manufacturers who Used the Modem Chipsets of the Competing Modem Chipset Manufacturers[50]

◆ On October 14, 2005, Qualcomm filed a lawsuit against Broadcom, a modem chipset manufacturer, for infringement of Qualcomm’s own GSM SEP (US Patent No. 5,452,104 and 5,576,767). On August 6, 2007, the United States District Court Southern District of California, after the jury trial, issued a decision that Qualcomm shall not exert coercive power on the two patents at issue in the lawsuit (DA 32).[51]

◆ On June 17, 2011, Derek Aberle, President of QTL, sent Lee Hee-Jeong of Qualcomm an

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[47] ‘Qualcomm has provided chipmakers nontransferable, worldwide, nonexclusive, restricted licenses to its portfolio of technically necessary patents through licensing agreements called ASIC Patent License Agreements (“APLAs”).’

[48] ’We will license anyone who wants to go and have a license in CDMA. And that has been the hallmark of licensing program, and hence the competition that came about as a result of that.’

[49] ‘The mobile communications industry generally recognizes that a company seeking to develop, manufacture and/or sell products that use CDMA technology will require a patent license from us.’

[50] Among the cases claimed by the KFTC, we exclude the litigation with Texas Instruments and the patent infringement claim with Apple because the cause for claim in the former is based on breach of the contractual confidentiality obligation and the latter involves non-SEP.

[51] Qualcomm Inc. v. Broadcom Corp. 539 F. Supp. 2d 1214 (S.D. Cal. 2007).

email stating: 'We have done nothing to give LGE permission to develop and sell chips to third parties. If they do so, we could assert our patents against LGE or LGE's customers.' [52](DA 47).

◆ In 2016, Qualcomm filed an infringement claim for cellular SEP against Meizu, a Chinese handset manufacturer who buys and uses MediaTek modem chipsets, and in December 2016, Meizu entered into the license agreement with Qualcomm (DA 238).

e) Indemnification Agreements entered into by Competing Modem Chipset Manufacturers and Handset Manufacturers

◆ On December 11, 2009, Spreadtrum, a modem chipset manufacturer, provided Samsung with the Letter of Warranty and Representation that Spreadtrum shall defend, hold harmless, and indemnify Samsung from and against any liability, cost or expenses resulting from any claim, suit or other proceeding in which it is alleged that any deliverable(s) supplied by Spreadtrum and use thereof infringes a third party's intellectual property right (DA 57).[53]

◆ In 2011, Samsung (System LSI) contacted handset manufacturers in order to enter the modem chipset market. Raising concerns that the handset manufacturers may be under patent attack from Qualcomm for purchase of Samsung modem chipsets, they requested Samsung to provide an indemnification agreement to indemnify damage caused by Qualcomm's patent attacks or warrant that they and Samsung would not be under patent attacks from Qualcomm. (DA 62).

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[52] 'We have done nothing to give LGE permission to develop and sell chips to third parties. If they do so, we could assert our patents against LGE or LGE's customers.'

[53] The KFTC produced DA 58 as evidence regarding the indemnification agreement with Ericsson as a modem chipset manufacturer and Samsung as a handset manufacturer and cited it in the KFTC Decision. However, since Section 7.4 of Appendix 3 provides that Supplier (Ericsson) shall not be liable for Claims where infringement is related to any essential patents concerning any standards for wireless telecommunications, it could be a direct proof of Ericsson's bearing the indemnification cost caused by the Conduct 1; and thus, is excluded from the admitted facts.

f) SSOs' Intellectual Property Right Policies and FRAND Commitments

◆ ETSI

[Table 41] shows the key provisions of ETSI Intellectual Property Rights Policy dated November 19, 2014, which are related to this Case (DA 84, DC 2). On November 3, 2014, Qualcomm submitted to ETSI the IPR Information Statement and Licensing Declaration stating that in accordance with Clause 6.1 of the ETSI IPR Policy, the Declarant (Qualcomm) and/or its AFFILATES are prepared to grant irrevocable licenses in respect of the ETSI SEP, and will comply with Clause 6.1 bis of the ETSI IPR Policy, and the undertaking is made subject to the condition that those who seek licenses agree to reciprocate (P 140).

[Table 41] Key Provisions of ETSI IPR Policy

ETSI Rules of Procedures Annex 6: ETSI Intellectual Property Rights Policy **3 Policy Objectives** 3.1 It is ETSI's objective to create STANDARDS and TECHNICAL SPECIFICATIONS that are based on solutions which best meet the technical objectives of the European telecommunications sector, as defined by the General Assembly. In order to further this objective the ETSI IPR POLICY seeks to reduce the risk to ETSI, MEMBERS, and others applying ETSI STANDARDS and TECHNICAL SPECIFICATIONS, that investment in the preparation, adoption and application of STANDARDS could be wasted as a result of an ESSENTIAL IPR for a STANDARD or TECHNICAL SPECIFICATION being unavailable. In achieving this objective, the ETSI IPR POLICY seeks a balance between the needs of standardization for public use in the field of telecommunications and the rights of the owners of IPRs.

3.3 ETSI shall take reasonable measures to ensure, as far as possible, that its activities which relate to the preparation, adoption and application of STANDARDS and TECHNICAL SPECIFICATIONS, enable STANDARDS and TECHNICAL SPECIFICATIONS to be available to potential users in accordance with the general principles of standardization.

6 Availability of Licences

6.1 When an ESSENTIAL IPR relating to a particular STANDARD or TECHNICAL SPECIFICATION is brought to the attention of ETSI, the Director-General of ETSI shall immediately request the owner to give within three months an irrevocable undertaking in writing that it is prepared to grant irrevocable licences on fair, reasonable and non-discriminatory ("FRAND") terms and conditions under such IPR to at least the following extent:

- MANUFACTURE, including the right to make or have made customized components and sub-systems to the licensee's own design for use in MANUFACTURE;
- sell, lease, or otherwise dispose of EQUIPMENT so MANUFACTURED;
- repair, use, or operate EQUIPMENT; and
- use METHODS.

The above undertaking may be made subject to the condition that those who seek licences agree to reciprocate.

12 Law and Regulation

The POLICY shall be governed by the laws of France. (중략)

15 Definitions

4 **"EQUIPMENT"** shall mean any system, or device fully conforming to a STANDARD.

5 **"METHODS"** shall mean any method or operation fully conforming to a STANDARD.

8 **"MANUFACTURE"**, shall mean production of EQUIPMENT.

In 2012, some participants in ETSI suggested that the modem chipset price, that is, the "smallest salable patent-practicing unit ("SSPPU)" should be as common and exclusive base for the calculation of FRAND royalties. In October 2015 thereafter, some ETSI members submitted a proposal to the ETSI IPR Special Committee, for more definitional specificity, to introduce SSPPU as one of the considerations in calculating the value of essential intellectual property right. The proposal, however, did not reach consensus within the ETSI IPR Special Committee (P 36, 271).

◆ Alliance for Telecommunications Industry Solution ("ATIS")

Sub-Section 10.4.2 of Section 10 (Intellectual Property Rights Policy) of the Operating Procedures for ATIS Forums and Committees dated March 1, 2015 provides as set forth below (DC 37). Qualcomm as a member of ATIS declared FRAND commitments consistent with the following provisions to ATIS (DA 32, DC 35).

[Table 42] ATIS IPR Policy

10.4.2 American National Standards (중략) *Statement from patent holder* Prior to approval of such a proposed ANS, ATIS shall receive from the identified party or a party authorized to make assurances on its behalf, in written or electronic form, either: (a) assurance in the form of a general disclaimer that such party does not hold and does not currently intend holding any essential patent claim(s);or (b) assurance that a license to such essential patent claim(s) will be made available to applicants desiring to utilize the license for the purpose of implementing the standard either: (i) under reasonable terms and conditions that are demonstrably free of any unfair discrimination; or (ii) without compensation and under reasonable terms and conditions that are demonstrably free of any unfair discrimination. (이하 생략)

◆ TIA (Telecommunication Industry Association)

In accordance with Annex H of the 4th Edition of the Engineering Manual of TIA dated March 2005, the patent holder must submit to TIA a statement that a license under any Essential Patent(s) will be made available to all applicants under terms and conditions that are reasonable and non-discriminatory, and only to the extent necessary for the practice of any or all of the Normative portions of the Standards (DC 41). Qualcomm as a member of TAI submitted the following FRAND commitments to TIA (DA 32, DC 39).

[Table 43] Annex H of TIA Engineering Manual

ANNEX H - PATENT HOLDER STATEMENT-SPECIFIC

(중략)

(mark those Paragraphs below with an "X" that are applicable)

(1) The undersigned Patent Holder states:

___ It does not hold the rights to license any Essential Patent(s) necessary for the practice of any or all of the Normative portions of the above Reference Document.

(2) The undersigned Patent Holder states one of the following:

___ a) A license under any Essential Patent(s), the license rights to which are held by the undersigned Patent Holder, will be made available to all applicants under terms and conditions that are reasonable and non-discriminatory, without monetary compensation, and only to the extent necessary for the practice of any or all of the Normative portions of the above Reference Document for the field of use of practice of the Standard;

OR

___ b) A license under any Essential Patent(s), the license rights to which are held by the undersigned Patent Holder, will be made available to all applicants under terms and conditions that are reasonable and non-discriminatory, which may include monetary compensation, and only to the extent necessary for the practice of any or all of the Normative portions of the above Reference Document for the field of use of practice of the Standard.

(중략)

The statements contained in Paragraphs (2a) or (2b), if marked, along with any modifications selected above are irrevocable and shall be binding upon the undersigned. In the event the rights of the undersigned in and to the Essential Patent(s) subject to such commitments are assigned or transferred, the undersigned shall notify the assignee or transferee of the existence of such commitments.

If none of the above Paragraphs are marked, the undersigned Patent Holder states that it declines to make any commitments to license on the terms set forth in Paragraphs (1), (2a) or (2b) above.

◆ IEEE

In March 2015, IEEE, which developed and released WiMAX, the first 4G standard, updated its internal bylaw, IEEE-SA STANDARD BOARD BYLAWS (“2015 Update”), of which the part related to this Case is as set forth in [Table 44] below (P 169, DC 52, DE 1, DF 2).

[Table 44] IEE-SA STANDARD BOARD BYLAWS (Partial)

6. Patents

6.1 Definitions

"Compliant Implementation" shall mean any product (e.g., component, sub-assembly, or end-product) or service that conforms to any mandatory or optional portion of a normative clause of an IEEE Standard.

"Reasonable Rate" shall mean appropriate compensation to the patent holder for the practice of an Essential Patent Claim excluding the value, if any, resulting from the inclusion of that Essential Patent Claim's technology in the IEEE standard. In addition, determination of Reasonable Rate should include, but need not be limited to, the consideration of:

- The value that the functionality of the claimed invention or inventive feature within the Essential Patent Claim contributes to the value of the relevant functionality of the smallest saleable Compliant Implementation that practices the Essential Patent Claim.

In February 2, 2015, the U.S. Department of Justice gave its comment to IEEE: 'The Update obligates patent holders band by the IEEE RAND commitment to license their patents for 'any compliant implementation' meaning that a patent holder making an IEEE RAND Commitment cannot refuse to license its patents for use in IEEE SA standards at certain levels of production.'[54] (DA 86).

Meanwhile, in the ETSI General Assembly Meeting held in March 2015, Christian Loyau, Legal Director of ETSI, said that the 2015 Update introducing SSPPU is not consistent with ETSI IPR Policy (P 36).

[54] 'The Update obligates patent holders band by the IEEE RAND commitment to license their patents for 'any compliant implementation' meaning that a patent holder making an IEEE RAND Commitment cannot refuse to license its patents for use in IEEE SA standards at certain levels of production.'

g) Usages of 'Device' in the Mobile Telecommunications Industry

◆ In its 10-K Report for 1992, Qualcomm referred to various semiconductor chips it sells ('VLSI', 'Gallium arsenide', 'monolithic integrated circuits', etc.) as 'devices' repeatedly (DC 7).

◆ In its 10-K Report for 1993, Motorola stated that it designs, manufactures and sells 'cellular mobile and portable telephones and systems' and 'semiconductors, including integrated circuits, discrete devices and microprocessor units' (DC 12).

◆ In its 10-K Report for 1996, Qualcomm enumerated a list of 'FEC devices' under the heading of 'ASIC Products' (DC 8).

◆ The ASIC Patent Portfolio Agreement between Qualcomm and Infineon Technologies dated August 22, 2002 defines 'Wireless Integrated Circuit', one of modem chipsets, as 'an integrated circuit device for use in a Wireless Product', and 'Semiconductor Memory Device' as a memory chip providing the function of data storage (DC 5).

◆ In the press release dated November 6, 2003, Qualcomm announced a new product of RF chipset supporting WCDMA standard and called it as 'device' (DC 9).[55]

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[55] 'SAN DIEGO — November 6, 2003 — Qualcomm Incorporated (Nasdaq: QCOM), pioneer and world leader of Code Division Multiple Access(CDMA) digital wireless technology, today announced the highly integrated radioOne™ Zero Intermediate Frequency(ZIF) RFR6250™ device, a complete dual-band WCDMA(UMTS) and Global Positioning System (GPS) receiver chip.'

◆ Section 1 Headings and Definitions of the Subscriber Unit License Agreement between Qualcomm and UTStarcom dated Jan. 30, 2004 provides that "Components" means application specific integrated circuits (ASICs), electronic devices, integrated circuits, including firm ware thereon and accompanying or associated software, and/or 'families of devices' for use in wireless telecommunications equipment. (DC 6).[56]

◆ Texas Instruments, in the product bulletin for TCS4105 UMTS chipset solutions, which is a modem chipset conforming to WCDMA sold in 2003, and a wideband receiver AFEDRI8201 in 2006 on its website, referred to each modem chipset as 'baseband device' (DC 13, 14).

◆ In "WGR7640 GNSS RF Receiver IC Device Speciation" published by Qualcomm in July 2015, it referred to the modem chipsets as 'baseband device' and WGR7640 GNSS RF receiver as 'IC device' (DC 10).

◆ In ETSI TR 101 728 published in 2000 and ETSI White Paper No. 15 mm Wave Semiconductor Industry Technologies: Status and Evolution published in July 2016, ETSI used the term of 'semiconductor devices' (DC 15, 16).

◆ In the Citi 2017 Global Technology Conference held on September 8, 2017, Qualcomm's CEO Steve Mollenkopf called modem chipset as 'semiconductor device' and Qualcomm's Snapdragon integrated chipset as 'Snapdragon device' (DC 11).

[56] '"Components" means application specific integrated circuits (ASICs), electronic devices, integrated circuits, including firm ware thereon and accompanying or associated software, and/or 'families of devices' for use in wireless telecommunications equipment.'

h) Testing and Embodiments of Cellular Standards

◆ 3GPP cellular standards define the movement and communication methods of user equipment and infrastructure equipment but not otherwise modem chipset (P 11, Testimony of Witness Lee Hwang Soo).

◆ Objects to be tested for conformance of cellular standards are mobile terminals such as handset. Protocol conformance testing by utilizing simulator during development of modem chipset confirms whether the modem chipset works normally. Global Certification Forum provides platform certification program to confirm whether a modem chipset perfectly conforms to cellular standard, and the testing is done by integrating the modem chipset into device equipment or module for testing (DA 186, Testimony of Witness Friedhelm Rodermund).

◆ ASIC Patent Portfolio Agreement between Qualcomm and Infineon Technologies dated August 22, 2008 defines 'CDMA module' as 'a complete CDMA or Multi-Mode CDMA module which uses, implements or otherwise incorporates one or more claims of QUALCOMM's Patents, complies with any of the CDMA Standard(but does not comply with or implement any of the Non-Option CDMA Standards'[57], and states that 'CDMA Module shall not be capable of initiating and receiving Wireless communications without being incorporated into or attached to the Communication Device, except in the case of testing or verification of a CDMA Module by a Party or a Party's manufacturing agent'[58] (DC 5).

i) Qualcomm's Understanding of FRAND Commitments

[57] 'A complete CDMA or Multi-Mode CDMA module which uses, implements or otherwise incorporates one or more claims of QUALCOMM's Patents, complies with any of the CDMA Standard(but does not comply with or implement any of the Non-Option CDMA Standards'

[58] 'CDMA Module shall not be capable of initiating and receiving Wireless communications without being incorporated into or attached to the Communication Device, except in the case of testing or verification of a CDMA Module by a Party or a Party's manufacturing agent.'

◆ Bringing an end to the continued dispute with Ericsson regarding CDMA technology, in the press release dated March 25, 1993, Qualcomm announced that Qualcomm and Ericsson would each commit to the ITU and to other SSOs to license their SEP for the CDMA standard to all of the rest of the industry on FRAND basis (DA 170).

◆ In 1999, Intel requested Qualcomm to grant license. In this regard, Steve Altman of Qualcomm sent an email to its legal counsel Louis M. Lupin and Senior Vice-president Marvin Blecker, stating: 'That combined with our commitment to the industry to license on fair and reasonable terms free from unfair discrimination would make it difficult to argue that we have the right to refuse to license them' (DC 130).[59]

◆ In an email to Steve Altman of Qualcomm dated Jan. 31, 2000, Motorola said, 'Motorola declines to offer Qualcomm the license encompassing Qualcomm's intended GSM chipset business, and Motorola has elected to offer licenses to any manufacturer of GSM equipment (as opposed to components) on FRAND terms', and in this regard, Steve Altman complained, 'Motorola's response is …. that if it elects to later change its position and assert its patents against chipset suppliers, including Qualcomm and such chipset suppliers will not know what Motorola's terms are until after they have invested substantial amounts of money and are supplying products.' (DC 126).

[Table 45] <u>Emails exchanged between Motorola and Qualcomm</u>

Motorola's Email dated Jan. 31, 2000 (from Jon Meyer)
This communication is provided to Qualcomm pursuant to the parties' mutual agreement that all of our communications are not to be discoverable or admissible in any litigation involving either of the parties.

[59] 'That combined with our commitment to the industry to license on fair and reasonable terms free from unfair discrimination would make it difficult to argue that we have the right to refuse to license them.'

We have discussed Qualcomm's request for a license proposal from Motorola encompassing Qualcomm's intended GSM chipset business. Motorola has decided that, for the moment, we do not wish to alter our long-standing GSM licensing practices. As a result, Motorola declines to offer Qualcomm the license that it has requested. Motorola's offer of a GSM license to Qualcomm under Motorola's standard terms and conditions remains open to Qualcomm.

Motorola has elected to offer licenses to any manufacturer of GSM equipment (as opposed to components) on fair, reasonable and non-discriminatory terms. We believe that our licensing program fulfills our commitment to make licenses under our essential patents available. Motorola has not asserted and does not presently intend to assert its essential patents against suppliers of GSM chipsets or software stacks. Rather, Motorola intends to pursue license negotiations directly with the end equipment manufacturers.

Qualcomm's Email dated Feb. 23, 2000 (from Steve Altman)

I was very surprised by your response. We spoke not to long ago about our concern that your investor relations representative had contacted our stock analysts asserting that the large chip market was multi-mode (GSM/CDMA), that Motorola holds the largest number of essential patents for GSM and that QUALCOMM will not be able to participate in that market without entering into a GSM license with Motorola. Now when we inquire about the license and Motorola's commitment to the industry to license its essential patents, Motorola's response is that it doesn't grant such licenses, that its refusal to grant such licenses fulfills its commitment to the industry, that Motorola does not presently intend to assert its essential patents against suppliers of GSM chipsets or software stacks and that if it elects to later offer such licenses to others, it will make such an offer to QUALCOMM. What that suggests is that Motorola can later change its position and assert its patents against chipset suppliers, including QUALCOMM, and such chipset suppliers will not know what Motorola's terms are until after they have invested substantial amounts of money and are supplying products. I frankly don't understand this logic. Will Motorola assert or not assert its essential GSM patents against chipset suppliers, including QUALCOMM, now or in the future or can QUALCOMM enter that market and rely (short term and long term) on Motorola's position that it will not assert its essential patents against chipset suppliers?

◆ In the FBR (Friedman Billings Ramsey) Capital Markets Investor Conference on December 1, 2009, Qualcomm's CFO Bill Davidson said, 'We don't make a decision that we're going to license you and not license you because that would be discriminatory. We'll license anyone who willing to enter into the terms of our agreement.'[60] (DB 3-7).

[60] 'We don't make a decision that we're going to license you and not license you because that would be discriminatory. We'll license anyone who willing to enter into the terms of our agreement.'

◆ In the Comments of Qualcomm submitted in the FTC Patent Standards Workshop on June 13, 2011, Qualcomm stated, 'the fundamental goal of SSO RAND policies is availability of licenses necessary to practice standards'[61], 'a patent-holder who gives a RAND commitment gives up the right to refuse to license'[62], and 'there is little doubt that terms that do not make licenses meaningfully available to efficient implementers of the standard are not 'reasonable' within the meaning of RAND'[63] (DC 20).

◆ In the meeting with the U.S. Internal Revenue Service on July 27, 2012, Eric Reifschneider, Senior Vice-president and General Manager of QTL, explained, 'When you contribute your technology to the standard, as part of that you often have to make commitments that you will, you know, make that technology available to people who want to make products that practice the standard. And so to, you know, and, you know, we would take the position that that doesn't mean you have to grant a license, you know, to everybody at every step in the supply chain. But, you know, to tell somebody no, we're sorry, we won't enter any kind of agreement with you at all, and, yes, in theory, you know, you have to just live with this risk that we could sue you for patent infringement, it's not a great, you know, position to be in in terms of defending yourself against, you know, claims that you've broken those promises to make the technology available'[64] (DC 69).

3) Judgment on Whether Qualcomm 'Offered Unreasonable Terms'

To take into consideration all of the facts found earlier and the following circumstances that we can find from the exhibits cited earlier and the statements in: P 8, 11, 14, 19, 20, 21-2, 22, 74, 80, 136, 206-1, 206-2, 209, 210, 211, 245, 271, 272; DA 151, 153, 165, 171, 185, 186, 239; and DC 27, 30, 40,

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61 'The fundamental goal of SSO RAND policies is availability of licenses necessary to practice standards.'

62 'A patent-holder who gives a RAND commitment gives up the right to refuse to license.'

63 'There is little doubt that terms that do not make licenses meaningfully available to efficient implementers of the standard are not 'reasonable' within the meaning of RAND.'

64 'And for various reasons, you know, including the fact that when you participate in a standard setting process, as I explained earlier, and you contribute your technology to the standard, as part of that you often have to make commitments that you will, you know, make that technology available to people who want to make products that practice the standard. And so to, you know, and, you know, we would take the position that that doesn't mean you have to grant a license, you know, to everybody at every step in the supply chain. But, you know, to tell somebody no, we're sorry, we won't enter any kind of agreement with you at all, and, yes, in theory, you know, you have to just live with this risk that we could sue you for patent infringement, it's not a great, you know, position to be in in terms of defending yourself against, you know, claims that you've broken those promises to make the technology available.'

68, 119, 133; some of the testimonies of Witnesses Eric Stasik, John M. Whealan, Bertrand Fages, Aviv Nevo, Kim Jeong Jung and Yi Sang-Seung, and the whole purport of pleadings, it is reasonable to declare that it is consistent with the ordinary practice in transaction for a cellular SEP holder to grant a license available for access and use to any modem chipset manufacturer who requests the license for the patent embodied in a modem chipset, without restrictions on FRAND terms; and that the Conduct 1 constitutes an act of offering unreasonable terms to the competing modem chipset manufacturers in contradiction to the ordinary practice in transaction.

i. [Refusal to License at Modem Chipset Level and Breach of FRAND Commitments]

A SSO's selection of a certain technology as standard results that the remaining technologies not selected as standard are inevitably eliminated out of the market artificially by agreement of the participants in the SSO and only the technology selected as standard is used. In order to prevent abuse of the SEP holder's market dominance strengthened as the result of standardization, the SSO requires the SEP holder to declare FRAND commitments that it will negotiate to enter into patent license agreement with any willing licensee on FRAND terms before its technology is selected as standard.

At that time when CDMA, WCDMA and LTE technologies of Qualcomm were designated as each cellular standard, Qualcomm also declared FRAND commitments to SSOs such as ETSI, ATIS and TIA that it would negotiate cellular SEP license with all willing licensees on FRAND terms, and since cellular technologies including Qualcomm's patented technologies were selected as standard on the basis of such FRAND commitments, Qualcomm is obligated to negotiate SEP license with willing licensees on FRAND terms.

[Interpretation of ETSI IPR Policy]

Qualcomm argues that: 'Under the interpretation of the wording of ETSI IPR Policy, which is the most specific and elaborative among SSOs, it does not expressly require a SEP holder to license at the component level, and the cellular industry practice and the proceedings of negotiation regarding the ETSI IPR Policy also support this interpretation; and thus, the Conduct 1 is not contradictory to the FRAND commitments of ETSI, and other SSOs' IPR policies are consistent with ETSI IPR Policy, either.'

The governing law of ETSI IPR Policy is French law (Section 12), and ETSI IPR Policy and the IPR Information Statement and Licensing Declaration submitted by a patent holder thereunder have the nature of contract. Under the French Code Civil, a contract is interpreted in accordance with common intention of the parties rather than is bound by literary meaning of the words; however, when the common intention cannot be discerned, the contract is interpreted according to the meaning that a reasonable person placed in the same situation as the parties would have given to it (Article 1188)[65]; and all the terms of a contract are to be interpreted in relation to each other, giving to each the meaning which respects the consistency of the contract as a whole (Article 1189)[66]; if a contract provision can be interpreted to have two meanings, effect is to be preferred to the one which makes it produce no effect (Article 1191)[67]; and clear and unambiguous terms are not subject to interpretation as doing so risks their distortion (Article 1192[68], P 206-2). These principles of contract interpretation under the French Code Civil are not far different from the principles of interpretation on expression of one's intention under the Korean Civil Act that regards the intention of the parties and literal description. In accordance with these principles, FRAND commitments under ETSI IPR Policy are interpreted as follows:

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65 'Le contrat s'interpretés la commune intention des parties plutô qu'en s'arrêtant au send littéal de ses termes. Lorsque cette intention ne peut être décelée, le contrat s'interpréte selon le sens que lui donnerait une personne raisonnable placée dans la méme situation.'

66 'Toutes les clauses d'un contrat s'interpretés les unes par rapport aux autres, en donnant â chacune le sens qui respecte la coherence de l'acte tout entire.'

67 'Lorsqu'une clause est susceptible de deux sens, celui qui lui confère un effect l'emporte sur celui qui ne lui en fait produire aucun.'

68 'On ne peut interpréter les clauses claires et précises â oeube de denaturation.'

First, modem chipset falls under ‘device’. ‘MANUFACTURE’, which is one of the objects to be licensed by the SEP holder in accordance with Clause 6.1 of ETSI IPR Policy, means ‘production of EQUIPMENT’ (Clause 15.8); ‘EQUIPMENT’ means ‘any system, or device fully conforming to a STANDARD’ (Clause 15.4) but ETSI IPR Policy does not separately define ‘device'. ETSI IPR Policy uses the terms ‘device’ and ‘component’ differently. But, if it does not have the express definitions, the device and component should be interpreted according to the meaning that a reasonable person placed in the same situation in the course and system of manufacturing products would have given to them. All the players in the mobile telecommunications industry, including modem chipset manufacturers such as Qualcomm, Infineon Technologies and Texas Instruments, handset manufacturers such as Motorola, UTStarcom, as well as ETSI use the term ‘device’ when referring to modem chipset or RF chip. Given the foregoing, under ETSI IPR Policy, the term ‘device' includes modem chipset, and it is hard to say that the concept of ‘device’ is limited to the end user terminal or specifically excludes products such as modem chipset. In addition, modem chipset is a component in the relation with handset but can be a device as a unit of salable product in the relation with sub-components that consist of a modem chipset. Thus, even if Clause 6.1 of ETSI IPR Policy uses the terms ‘component’ and ‘device’ differentially, it does not prevent us from interpreting that modem chipset can fall under a ‘device’.

Second, modem chipset is a ‘device fully conforming to a STANDARD.’ Rather than to understand that the phrases of ‘fully conforming to a STANDARD’ mean to comply with all detailed specifications of the standard, it is more consistent with the intention of the parties to interpret in terms of function that it is the case if the device is consistent with the standard and compatible and use of the device has no problem in compatibility. Even if it were true that the cellular standard does not define the specification or conformance testing process in regard to modem chipset, we can hardly say that modem chipset is not a 'device fully conforming to a STANDARD' based on such circumstances only. In the ASIC Patent Portfolio Agreement with Infineon Technologies, Qualcomm also stated that the modem chipsets they sell conform to the standard. Even if we have a different view and interpret that modem chipset itself is not a device fully conforming to the standard, Clause 6.1 of ETSI IPR Policy provides that 'MANUFACTURE', the right to be licensed, 'includes the right to make or have made customized and sub-systems to the licensee's own design for use in MANUFACTURE.'[69] It illustrates examples included in 'MANUFACTURE' after 'including'; and therefore, we cannot deem that the objects of 'MANUFACTURE' include only customized components and exclude other components (DA 151).

Thus, under the interpretation of ETSI IPR Policy, we cannot judge that manufacture of modem chipset is excluded from the objects to be licensed on FRAND terms by the SEP shareholder, who submitted the IPR Information Statement and Licensing Declaration to ETSI; and therefore, Qualcomm, who submitted the IPR Information Statement and Licensing Declaration to ETSI, is required to grant license on FRAND terms to those modem chipset manufacturers who are willing to take out the license for Qualcomm's SEPs to manufacture and sell modem chipsets conforming to each standard of CDMA, WCDMA and LTE.

In addition, Clause of 6.1 of ETSI IPR Policy defines that the objects to be licensed 'include at least[70] the right to make or have made customized and sub-systems to the licensee's own design for use in MANUFACTURE; sell, lease, or otherwise dispose of EQUIPMENT so MANUFACTURED; repair,

[69] 'including the right to make or have made customized and sub-systems to the licensee's own design for use in MANUFACTURE'

[70] 'under such IPR to at least the following extent:'

use, or operate EQUIPMENT; and use METHODS'; and to review the definition of 'practice' in Article 2 of the Patent Act of Korea[71], we can conclude that the phrases of 'grant license' for SEP mean to 'include at least all of the rights to make equipment and to sell, lease, or otherwise dispose of EQUIPMENT so MANUFACTURED; repair, use, or operate EQUIPMENT; and use METHODS'; since each act of manufacturing, selling, leasing, disposing of, repairing, using and operating constitutes patent infringement, respectively, the true license agreement should be a contract authorizing to freely do all of the acts listed above. It is hard to say that only grant of limited rights is consistent with the meaning of the foregoing.

In this regard, Qualcomm argues that 'in accordance with the practice in the mobile telecommunications industry (i.e., the handset-single level license) and the proceedings of negotiations within ETSI for the amendment to ETSI IPR Policy, rather the handset-level license is consistent with Clause 6.1 of ETSI IPR Policy.

As reviewed further in Section ii, iii and iv below, we cannot say that the industry practice is the handset-single level license, which Qualcomm argues is a unique practice for modem chipset only among the components of handset.[72] However, in interpreting the provisions of IPR Policy of ETSI, which takes part in standard-setting of other IT technologies such as wire standard, security, machine to machine, digital signature, satellite communication, other than cellular communication, we cannot think that it is the ordinary practice in transaction to grant the handset-level license only for the modem chipset among lots of components for cellular communication.

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[71] Patent Act, Article 2 (Definitions)

3. The term "practice" means any of the following acts:

(a) An invention of a product: Manufacturing, using, assigning, leasing, or importing the product or offering to assign or lease the product (including displaying the product for the purpose of assigning or leasing; hereinafter the same shall apply);

(b) An invention of a process: Using the process;

(c) An invention of a process of manufacturing a product: Using, assigning, leasing, or importing the product manufactured by the process or offering to assign or lease the product, other than the acts specified in item (b).

[72] Qualcomm stated that for other standards such as Wi-Fi, NFC, etc., where component-level license is granted, the relevant industry has its own history and for the modem chipset of 3GPP cellular communication, the handset-level licensing practice had been already established at the time when Qualcomm entered the market (at the 16th hearing meeting held on August 12, 2019).

Furthermore, notwithstanding that we should take into consideration that some members of ETSI proposed to update the IPR Policy in order to introduce SSPPU as a base for calculation of FRAND royalties but failed to update it; and that when the legal director of ETSI said with regard to the proposed 2015 Update to specify SSPPU as one of the considerations in determining reasonable royalty rates in the general assembly of ETSI, he stated the SSPPU Test was not consistent with ETSI IPR Policy, we can hardly say that to enter into a patent license agreement in the phase of manufacturing/selling each product must be tied up with the base of calculation of royalties under the license agreement. It is hard to interpret ETSI IPR Policy otherwise only based on the foregoing circumstances, for such an act could be deemed an attempt to update the IPR Policy to clearly express a vague concept.

[FRAND Commitments Submitted to other SSOs Except for ETSI]

Also, TIA, a major SSO in the cellular communication field to which Qualcomm submitted FRAND commitments, requires a SEP holder to undertake that it will grant license on FRAND terms to the extent necessary to implement the normative elements of standard in whole or in part.

Through the statement from patent holder, ATIS also requires a patent holder to assure that a license to such essential patent claims will be made available to applicants desiring to utilize the license under reasonable terms and conditions that are demonstrably free of any unfair discrimination. Qualcomm's refusal to grant license to modem chipset manufacturers desiring the license is contradictory to each IPR Policy of TIA and ATIS.

[Purpose of FRAND Commitments]

First above all, Qualcomm's interpretation of ETSI IPR Policy is expressly contradictory to the purpose of ETSI IPR Policy, and furthermore, the purpose of SSOs requiring SEP holders to declare FRAND commitments before selection of standards. The ETSI IPR Policy seeks to reduce the risk to that investment in the preparation, adoption and application of STANDARDS could be wasted as a result of an ESSENTIAL IPR for a STANDARD or TECHNICAL SPECIFICAITON being unavailable (Clause 3.1); and ETSI shall ensure that its STANDARDS are available to potential users (Clause 3.3). Explaining 'nondiscriminatory' requirements of FRAND terms, TIA IPR Policy guideline holds up 'a willingness to license all applicants except for competitors of the licensor' as an example of discrimination[73] (DC 40).

Outside this Case, Qualcomm has also interpreted that FRAND commitments mean a promise to license on FRAND terms to all willing licensees without restriction. Qualcomm announced in a press release that it would license its SEP license to all of the rest of the industry (DC 130); and announced that it would grant license to anyone who desires to enter into the agreement (DB 3-7); and it said even that a patent holder who gives a FRAND commitment gives up the right to refuse to license (DC 20).

ii. [Existence of Modem Chipset-Level Licensing Practice – Non-Qualcomm Companies]

Most cellular patent holders other than Qualcomm grant license at component level including modem chipset. 35 companies including Samsung, LGE, Microsoft, AT&T Intellectual Property II, Hewlett-Packard, ZTE, Google, and Sony participate in VIA Licensing patent pool program under which their own patents including LTE cellular SEP are licensed at all levels including the modem chipset (DA 87). The brochure of VIA Licensing patent pool program specifies LTE component manufacturers in the scope of licenses. Any LTE component manufacturer who desires to practice the

[73] 'a willingness to license all applicants except for competitors of the licensor'

patent may request license at any time, and there was no document submitted, from which we can consider that LTE component manufacturer was rejected a request for license of a patented technology. Intel and Google entered into cross-license agreements with Samsung to exchange exhaustive license for manufacture and sale of modem chipset (DA 238, DC 156). Texas Instruments, a modem chipset manufacturer, analyzed at which level the claims of its own patents are substantially embodied, classified its patent portfolio into two groups, i.e., system patent and chip patent and operated separate licensing programs (DC 27, DG 96).

Meanwhile, Ericsson, Nokia and ZTE stated that they license the cellular SEPs only at handset level, and such licensing model is consistent with the industry practice (P 20, 21-2, 74, 209, 210, 271). Panasonic stated that it is a cellular SEP holder and handset manufacturer, and entered into a cross-license agreement with Samsung, LGE, Sony, etc., handset manufacturers who have SEPs (P 136). In the First Trial of the U.S. FTC Case, Ranae McElvaine of InterDigital, confirmed that 'InterDigital follows industry practice and conducts its licensing business at the handset or other terminal unit level, and that has been InterDigital's practice for more than 20 years'[74] (P 211).[75]

However, Samsung, LGE and Huawei, another cellular SEP holders in the cellular SEP licensing market, entered into the license agreement with Qualcomm for the cellular SEPs necessary to manufacture and sell modem chipset, and Samsung entered into the cross-license agreement with Intel and Google for manufacture and sale of modem chipset. In addition, for Nokia, ZTE and Ericsson which manufacture handset or communication equipment, the percentage of cellular SEPs embodied

[74] 'InterDigital follows industry practice and conducts its licensing business at the handset or other terminal unit level, and that has been InterDigital's practice for more than 20 years.'

[75] However, DA 39 (p. 3) describes that in Qualcomm's PR materials of third party's patent to modem chipset customers, if they buy modem chipsets from Qualcomm, they will get the right to InterDigital's CDMA2000 and WCDMA SEPs without payment of separate royalties. According to this, InterDigital seems to have granted exhaustive license to Qualcomm.

only at the handset level may be different from that of Qualcomm which focuses on manufacture of modem chipset and licensing business. Therefore, even though some cellular SEP holders in the cellular SEP licensing market license at the handset-only level, we cannot conclude right away that there did not exist the practice of licensing at the modem chipset level in the same market. InterDigital granted license to Qualcomm at the modem chipset level in 1994, and thereafter, Philips, Ericsson, Alcatel and Huawei did so in 1998, 1999, 20002 and 2003, respectively. Also, notwithstanding it was true that Huawei filed an injunctive relief for infringement on its LTE SEP against Samsung on May 24, 2016, claiming damages equivalent to the royalties calculated on the basis of an end product (P 19); and that in 2011, Microsoft entered into the patent license agreement with Samsung on the terms of payment of royalties based on the handset unit (P 22), it just shows that the patent license agreement can be entered into at the handset unit if there is a patent embodied at the handset level. It is not sufficient to admit that like the SEP licenses in this Case, there was the practice of licensing only at the handset-only level even for the patents mostly embodied in the modem chipset level.

iii. [Existence of Modem Chipset-Level Licensing Practice - Qualcomm]

Until and before 2008, Qualcomm, as a cellular SEP holder, also entered into license agreements with modem chipset manufacturers and actively announced in press releases or 10-K reports or at investors' meetings that they enter into license agreements with other modem chipset manufacturers competing in the modem chipset market, and stated that anybody who wants to ship CDMA or WCDMA-based modem chipsets, they have to take out a license from Qualcomm (DC 24). In February 2000, Qualcomm as a licensee requested Motorola to grant the license under FRAND commitments (DC 126), and entered into the cross-license agreement for cellular SEP at the modem chipset level.

In this regard, Qualcomm argues that ‘the inbound cross-license to obtain the license from the licensee is entered into to prevent the licensee’s opportunistic patent claims and the cross-license with modem chipset manufacturers is just a defensive act to prevent patent attacks against each other; and thus, these two types of transactions are in substance different from the ‘modem chipset license’ as a transaction for active monetization, and they cannot be a basis to claim that there exists a practice of licensing at the modem chipset level in the mobile telecommunications industry.’

However, irrespective of whether the cross-license for cellular SEP is granted (outbound) or obtained (inbound) or whether royalties are paid or not, Qualcomm engages in asymmetric licensing practice in which it obtains the exhaustive license at the modem chipset level whereas it refuses to grant the exhaustive license for its own SEPs to the other parties; and therefore, the nature of Conduct 1, that is, refusal to enter into license agreement or refusal to grant exhaustive license, cannot vary.

[Changes in Qualcomm’s Practice of Licensing to Modem Chipset Manufacturers]

Qualcomm argues that ‘it had entered into non-exhaustive license agreements with modem chipset manufacturers until and before 2008, and thereafter, entered into agreements in the form preventing patent exhaustion in accordance with changes in the patent exhaustion doctrine; and therefore, the modem chipset-level licensing practice as claimed by the KFTC cannot be admitted only on the grounds that Qualcomm entered into the non-exhaustive license agreements with modem chipset manufacturers before 2008.’

On June 9, 2008 in the Quanta Case, the Supreme Court of the United States ruled that ‘the authorized sale of an article that substantially embodies a patent exhausts the patent holder’s rights and prevents the patent holder from invoking patent law to control post sale use of the article,'[76] and the sale of patented product under license increased the risk of patent exhaustion, accordingly, even though the scope of license is limited by the patent license agreement. In order to prevent patent exhaustion after the Quanta Decision, Qualcomm did not enter into patent license agreement with modem chipset manufacturers and entered into only covenants-not-to-sue but not the patent license agreement even despite the modem chipset manufacturers' request.

Thereafter, the United States Court of Appeals for the Federal Circuit issued a decision dated April 9, 2009 that the covenant-not-to-sue without terms or restrictions grants the right to sell the product conforming to patent[77]; and a decision dated May 23, 2011 that whether the sale is authorized is decided on the basis of time of sale and the authorized sale is not changed to be unauthorized even though there are some post sale conditions unsatisfied or breached.[78] These sequent rulings increased the risk of patent exhaustion despite the covenant-not-to-sue, and in response, Qualcomm proposed the modem chipset manufacturers seeking patent license 'covenant to exhaust remedies' with a suspension clause that the covenant would become void in the event occurrence of patent exhaustion was recognized due to such a covenant.

On May 2, 2013, the International Trade Commission decided that the suspension clause in the covenant-not-to-sue between Nokia and Qualcomm that was designed to render the covenant void from its inception in the event the covenant was found exhaustive was unenforceable.[79] Ever since the foregoing decision, Qualcomm began to propose a 'standstill agreement' if any modem chip manufacturer requested for a written agreement. In this way, Qualcomm has changed the forms of agreement with modem chipset manufacturers to respond to the development and changes of legal doctrines regarding patent exhaustion as summarized in [Table 46] below:

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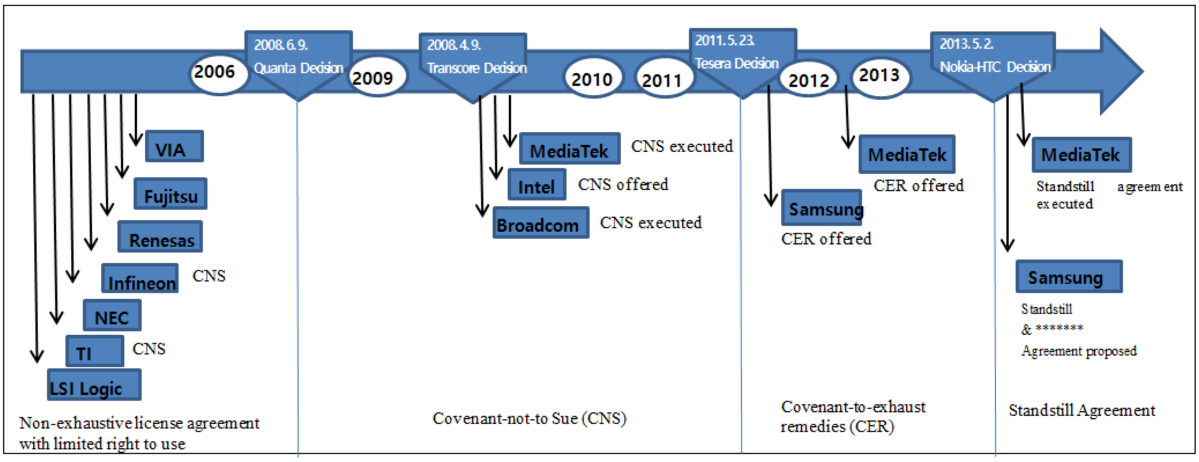
[76] 'the authorized sale of an article that substantially embodies a patent exhausts the patent holder's rights and prevents the patent holder from invoking patent law to control post sale use of the article'

[77] TransCore, LP v. Electronic Transaction Consultants Corp., 563 F.3d 1271 (Fed. Cir. 2009)

[78] Tessera, Inc. v. ITC, 646 F.3d 1357 (Fed. Cir. 2011)

[79] In the matter of Certain Electronic Devices, including Mobile Phones and Tablet Computers, and Components Thereof, USITC Inv. No. 337-TA-847, 2013 WL 3049144, Order No. 13 (May 2, 2013)

[Table 46] <u>Change of the Form of Qualcomm's Patent License Agreements with Modem Chipset Manufacturers</u>



Qualcomm had entered into patent license agreements with modem chipset manufacturers as well as handset manufacturers and collected royalties from them until the Quanta Decision in 2008. However, since the Quanta Decision in 2008, Qualcomm has changed the licensing policy to refuse license to modem chipset manufacturers, for the authorized sale of modem chipsets by the competing modem chipset manufacturer licensed by Qualcomm would exhaust Qualcomm's patent rights in the sold modem chipsets under the patent law even though Qualcomm enters into non-exhaustive license agreement with the modem chipset manufacturer. The Quanta Decision never restricts/prohibits the license at the level of components such as modem chipset.

[Table 47] <u>Excerpt of Statements by Qualcomm's Executives at the Meeting with the Internal Revenue Service of the U.S. dated July 27, 2012</u>

Eric Reifschneider
But the concern all along has been that, you know, if we license somebody to make a chip, and that chip contains the inventions in our patents, when they sell that chip to somebody who's going to put the chip in a cell phone, okay, the licensee's sale of that chip will exhaust our rights in our

patents and then we won't be able to collect a royalty on that patent from the guy who makes the cell phone. And that would be a very bad thing, because we collect a royalty on a cell phone that's based on the price of the cell phone, and that's a lot higher than the price of a chip. So given a choice, you're always going to want to collect a royalty on the cell phone, not on the chip.

Fabian Gonell

But having — having to choose between one or the other then you're right, obviously the handset is humongously more lucrative for a bunch of -- a bunch of reasons.

Rather, according to the transcript of the U.S. Internal Revenue Service's meeting dated July 27, 2012, Qualcomm seems to have stopped licensing to modem chipset manufacturers after Qualcomm decided that it would not be able to collect royalties from both the modem chipset manufacturers and handset manufacturers in accordance with the established doctrine of patent exhaustion, because the royalty based on the handset price is a lot higher than that based on the modem chipset price (DC 68).

iv. [Existence of Modem Chipset-Level Licensing Practice - Licensing Practice for Other Components of Handset]

Among the wireless components installed in a handset, Wi-Fi and NFC chipsets are licensed at the component level, and neither license nor royalty for Bluetooth standard technology is required (the respective testimonies of Witnesses Kim Jeong-Jung and Eric Stasik). Qualcomm is also selling components other than the modem chipset without a separate license agreement. The presentation materials attached to the email sent by Qualcomm to Apple in February 2008 states that Qualcomm categorizes their products into WAN product and non-WAN product, and the non-WAN products are exhaustively sold without a separate patent license agreement (DC 133). Arguing that the handset-single level license is reasonable and efficient, Qualcomm fails to give a rational explanation for the reason why such inefficient component-level license as alleged by Qualcomm is granted in the market for other components to which it does not hold the market-dominant position.

v. [Practical Necessity of Modem Chipset-Level License]

Among the cellular SEPs owned by Qualcomm, there exist claims that are embodied substantially at the level of modem chipset or only in the modem chipset (P 11, DA 152, DB 37-1); and according to the concept of SEP, therefore, a modem chipset manufacturer's manufacture/sale of modem chipsets without license from Qualcomm necessarily infringes its own cellular SEPs that are embodied substantially at the level of modem chipset or only in the modem chipset. Thus, if a modem chipset manufacturer who wishes to practice a SEP does not take license for the SEP from Qualcomm, it has always a risk of patent infringement suit.

Qualcomm argues that the handset-single level license is efficient and reasonable because the end product reflects most efficiently the value of cellular SEPs. Even through the price of a patent license is finally decided depending on the value enjoyed by the users (end users) of the relevant technology (P 14, 80); and it is advantageous to calculate the royalty at the level of end product, including that for all patents embodied at the previous interim levels, the patent embodied in the modem chipset may be infringed by unlicensed manufacture/sale of the modem chipset, irrespective of whether it is valuable, and a reasonable price of the infringed patent is more precisely reflected according to the result of free negotiation between the customer (a willing licensee) and the supplier (a licensor) at the level of calculating the royalty for the object in which the patent value is substantially embodied; and therefore, the refusal to license the cellular SEP embodied in modem chipset at the previous level cannot be justified.

[Judgment on the Argument regarding Non-existence of the Risk of Patent Attacks]

Qualcomm argues that: 'if Qualcomm commits patent attacks against the modem chipset manufacturers, it could give rise to the collapse of the exhaustive licensing business model at the handset-single level; and therefore, Qualcomm has a strong incentive not to commit patent attacks; and that there is no example case where Qualcomm committed patent attacks against modem chipset manufacturers under a so-called 'forbearance policy; and that there does not exist any risk of patent attacks against modem chipset manufacturers since it is removed by only the non-exhaustive patents agreement (covenant-not-to-sue, covenant to exhaust remedies and standstill agreement) granted by Qualcomm.' In addition, Qualcomm argues that: 'Since the overwhelming majority of the handset manufacturers are licensees of Qualcomm, there exists no situation itself where a modem chip manufacturer has to pay indemnification costs to a handset manufacturer with regard to Qualcomm patents; and a modem chipset manufacturer's sale of modem chipset to a handset manufacturer not licensed by Qualcomm aids and abets infringement on Qualcomm's SEPs, which is not worth protection by law; and that there is no example case where a modem chipset manufacturer paid indemnification costs with regard to Qualcomm's SEPs; and thus, there is no concern that Qualcomm would commit patent attacks against handset manufacturers who purchased modem chipsets from the competing modem chipset manufacturers.'

However, the competing modem chipset manufacturers' sale of modem chipsets may be discontinued at any time by Qualcomm's claim of patent infringement unless they obtain SEP license from Qualcomm. Actually, in October 2005, Qualcomm filed a patent infringement lawsuit involving 2G cellular standard GSM against Broadcom, a competing modem chipset manufacturer but lost the case (DA 32); and Qualcomm filed an infringement lawsuit for cellular SEPs against Meizu, a Chinese handset manufacturer, who did not buy modem chipsets from Qualcomm, before the courts in the U.S., China, Germany and France (DA 238). Qualcomm could have the same effects as if it had substantially filed a suit against the competing modem chipset manufacturers by selectively claiming the patent infringement only against the handset manufacturers who used the modem chipsets supplied by its competitor (DA 238).

Qualcomm argues that it has no incentive to claim the patent infringement against modem chipset manufacturers, which is, however, limited only to the event where the total of the royalty incomes collected from handset manufacturers and the incomes generated from the sale of modem chipsets under Qualcomm's licensing business model is maintained superior. If the total profits of Qualcomm are reduced or threatened to reduce due to increase of the market shares and sales of the competing modem chipset manufacturer, Qualcomm has a sufficient incentive to bring an infringement suit against the competing modem chipset manufacturer at any time.

In this way, the competing modem chipset would be put under limitations so that it could not help doing modem chipset business only to the extent it does not threat the profitable system of Qualcomm unless it is licensed by Qualcomm. The modem chipset manufacturer always has to be responsible for payment of such risk cost or has no choice but to submit to these limitations to stand to such possible claim of Qualcomm on patent infringement, irrespective of whether Qualcomm actually claims the infringement on its cellular SEPs against the competing modem chipset manufacturer or the handset manufacturer who buys modem chipsets from it. Even though Qualcomm 's licensing business model has a lot of profits, Qualcomm may at any time claim the patent infringement against the modem chipset manufacturer if the competitor encroaches or threats substantially Qualcomm's profits. Actually, Qualcomm had a position that if LGE sells modem chipsets to a third party, Qualcomm might claim its own patent against LGE or its customer (DA 47). Also, to Motorola, who said, 'Motorola, as a modem chipset manufacturer, will not claim the SEP against the GSM standard modem chipset manufacturer, refusing to license,' Qualcomm complained to Motorola, pointing out that: 'Motorola can at any time change its position and claim patent rights against modem chipset suppliers including Qualcomm' (DC 126).

The covenant-not-to-sue, the covenant to exhaust remedies and the standstill agreement executed by Qualcomm instead of the patent license agreement under FRAND terms do not apply when the modem chipset manufacturer sells modem chipsets to a handset manufacturer not licensed by Qualcomm. If the possibility of patent lawsuit by Qualcomm varies depending on to whom handset manufacturer the modem chipset manufacturer will supply modem chipsets, the modem chipset manufacturer's freedom of business in establishing its own management plan is excessively limited by such uncertainty itself. Therefore, it is hard to think that only the non-exhaustive license between Qualcomm and a modem chipset manufacturer removes the risk of patent attacks.

In sum, because the Conduct 1 causes the risk of patent attacks to the competing modem chipset manufacturers, they need to substantially take the license at the modem chipset level.

vi. [Practicality of Modem Chipset-Level License]

Before 2008, Qualcomm itself entered into patent license agreements and collected royalties at each level of modem chipset and handset, and took license for cellular SEPS necessary to manufacture and sell its own modem chipsets about the time of the date of Disposition.

It is sufficiently possible to enter into the license agreement at the level of modem chipset in light of the general patent licensing practice. After finishing review of features of a patent or the scope of technical application, a patent holder files an application for patent or declares the patent to be potentially essential for a standard, and most companies which have a considerable amount of patent portfolio subsequently accumulate a considerable amount of information on their own patent; and thus, if such information is used, classification of SEPs by level of implementation does not seem to cost high as claimed by Qualcomm (DA 171, 186, 239, DC 27).

Texas Instruments also classified its own patents by level of implementation and operated two separate patent portfolio programs at the system level and chipset levels (DC 27, DG 96). In October 2016, filing the M&A notification with the European Commission to acquire NXP who holds NFC-related patents and manufactures NFC chips, Qualcomm presented separate lists of NFC chip-level patents[80] and NFC system-level patents[81], and submitted a commitment not to acquire NFC system-level patents upon the M&A (DC 30).

Of course, there are cellular SEPs owned by Qualcomm that are embodied only at the level of handset but not the modem chipset; and thus, even the handset manufacturer who bought modem chipsets from the modem chipset manufacturer licensed by Qualcomm has to still take the license for the patent embodied at the handset level from Qualcomm, thereby resulting in the case where the license agreement at the modem chipset/handset multilevel is to be entered into. In such a case, a risk of dispute may increase due to conflict of interests of the parties at each level (P 8, 245, Testimony of Witness Aviv Nevo). However, we cannot help but consider such cost increase as a necessary process that may inevitably occurs while a cellular SEP holder is negotiating with a willing licensee at the multilevel in good faith in accordance with FRAND commitments. Qualcomm and handset manufacturers have already entered into license agreements for patents with many patent claims to be analyzed and high technological complexity. If execution of the license agreements with handset manufacturers did not incur extremely inefficient transaction costs as claimed by Qualcomm, we cannot say that it is impossible to enter into the license agreement with modem chipset manufacturers in an efficient way. If it were said to be true that execution of the license agreement with modem chipset manufacturers causes extreme inefficiency whereas it was efficient only to enter into the license agreement with handset manufacturers, there is, in reverse, a possibility that

[80] 'so-called NFC "chip-level" patents, which cover inventions fully embodied on an NFC chip'

[81] 'NXP patents that have been declared or represented as essential to the NFC standard and patents that do not read on NXP's NFC chips and therefore are not necessarily included in these components (so-called "system-level patents")'

the procedures of calculating fair royalties such as analysis and valuation of SEPs embodied in handset were not properly performed in the course of entering into the agreement with handset manufacturers. Notwithstanding that the modem chipset/handset multilevel license inevitably increases the initial transaction cost as claimed by Qualcomm, if the agreement is entered into through sincere and reasonable negotiations in good faith and on fair terms as reviewed by an independent third institution, it would subsequently decrease the risks of dynamic change in transactional environment or unnecessary dispute and rather would reduce the transaction costs in the long term.

On the other hand, the modem chipset/handset multilevel license may cut costs rather than handset-single level license. In the presentation materials titled ‘FY17 Strategic Plan Review’ prepared in October 2017, Qualcomm gave concern about the fact that 458 handset manufacturers who did not enter into the patent license agreement with Qualcomm were supplied by hundreds of Chinese original development manufacturing (“ODM”) companies, some of which did not enter into or were highly non-compliant, with the patent license agreement with Qualcomm (DC 119). By the way, if Qualcomm collects royalties from the top ten major modem chipset manufacturers in the Modem Chipset by Standard Market by licensing at the modem chipset level, it might be more simple and more efficient than to collect royalties individually from a myriad of companies nameless in the handset market (DA 238, Testimony of Witness Yi Sang-Seung).

Therefore, it is hard to say that it is incalculably inefficient and impossible to license at the modem chipset level than the handset level.

vii. [Sales Restriction and Reporting Obligation Imposed in the Non-exhaustive Agreement Are Unreasonable in Light of the Practice in Transaction]

The Sales Restriction clause imposed by Qualcomm entering into the license agreement or non-exhaustive patent agreement with limited rights with competing modem chipset manufacturers restricts the scope of the counterparties who buy modem chipsets from the competing modem chipset manufacturers to Qualcomm's licensees. In addition, under the Reporting Obligation clause, Qualcomm can obtain sensitive business information on each rival in the Modem Chipset by Standard Market, such as customers, sales price, sales quantities, etc. In this regard, Qualcomm argues that: 'Qualcomm needs the Sales Restriction and Reporting Obligation clauses in order to prevent patent infringement by handset manufacturers unlicensed by Qualcomm and to verify the correct amounts of royalties payable by handset manufacturers to Qualcomm.' However, if Qualcomm licenses the SEPs to the competing modem chipset manufacturers, there would no possibility that their manufacture/sale of the modem chipsets would infringe Qualcomm's cellular SEPs, and the collection of royalties from handset manufacturers is an issue to be resolved under a separate agreement between Qualcomm and the handset manufacturers. Because Qualcomm is actually reported of detailed information on sales quantity of handset, country to which handsets are sold, and the like, under the patent license agreement with handset manufacturers, it is hard to say that these terms may be fairly required by Qualcomm to competing modem chipset manufacturers only for necessity. In addition, we can hardly look for example cases where except for Qualcomm, any other patent holders have imposed the Sales Restriction and Reporting Obligation on modem chipset manufacturers.

D. Judgment on Unfairness (Anti-Competiveness) of the Conduct 1

1) The Gist of the Plaintiffs' Assertion

The part pertaining to the Conduct 1 among the Disposition theoretically assumed the risk of the Plaintiffs' patent attacks against competing modem chipset manufacturers in concluding there was anti-competitive effect or possibility. However, there is no such risk of patent attacks or indemnification cost. Even if such theoretical risk of patent attacks were assumed to be existent, it is merely a theoretical possibility that one might have to bear the royalties in the future, which would cost less than conclusively paying royalties through execution of license agreements, and thus the anti-competitive effect cannot be acknowledged.

In addition, the establishment of so-called ‘patent umbrella’ through cross-grant is an example of competition on the merits based on the value of the Plaintiffs’ cellular SEPs, and the competing modem chipset manufacturers could also secure patents through R&D and obtain cross-grant, thereby providing benefits to their own modem chipset customers, with which the cross-grant obtained by the Plaintiffs would not interfere.

According to the market indices such as market share in the modem chipset market by each standard, price of modem chipsets, and sales volume, the modem chipset manufacturers successfully engaged in the modem chipset business even without the Plaintiffs’ licenses.

The Plaintiffs merely followed the handset-single level exhaustive license policy, which was the cellular SEP licensing method widely adopted already in the industry at the beginning of the licensing business, and which is reasonable, efficient and best able to realize the value of the Plaintiffs’ patents, and there was no intention or purpose to restrict competition in the modem chipset market by each standard.

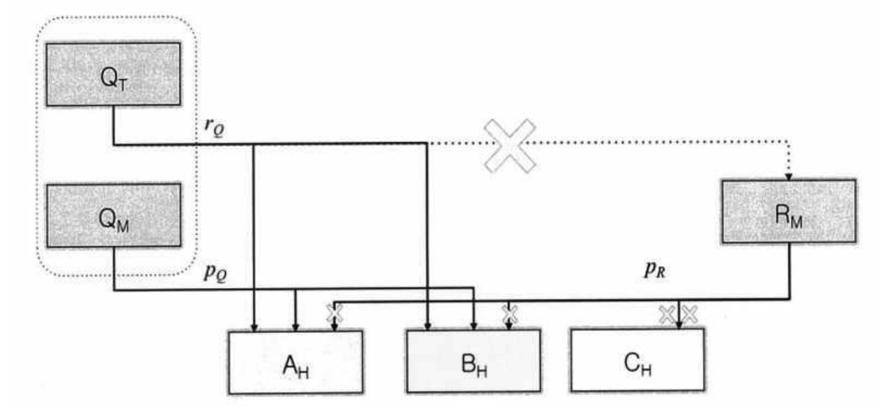
2) Anti-Competitive Effect or Possibility of the Conduct 1

To review the following circumstances, which we can find from the facts acknowledged above; the statements in each of the following Exhibits: P 8, 30, 84, 85, 134, 135, 235-5, 260-1-260-2, 261, 277-1, 281, 285, 318-321, 323-1; DA 39, 54, 63, 65, 66, 226, 227, 235, 238; DC 137; testimony of the witness Yi Sang-Seung; and the whole purport of pleadings, in light of the legal principles discussed above, it is reasonable to conclude that the Conduct 1 did restrict competition or is liable to result in restriction on competition in the modem chipset market by each standard where new goods are produced from the services produced in the SEP Licensing Market, in which the Plaintiffs are dominant.

i. [Increase in the Cost of Competing Modem Chipset Manufacturers due to Risk of Patent attacks]

The Conduct 1 is liable to incur the risk of patent attacks upon competing modem chipset manufacturers, and such risk of patent attacks is connected to cost increase on the part of the competing modem chipset manufacturers. The relevant details are as illustrated in [Table 48] below.

[Table 48] <u>Increase in the Cost of Competing Modem Chipset Manufacturers due to Risk of Patent attacks arising from the Conduct 1</u>

<table>
<tr><td>Cellular SEP holders
* Q_T: QTL</td><td rowspan="3">
</td></tr>
<tr><td>Modem chipset manufacturers
* Q_M: QCT
* R_M: Competing modem chipset manufacturers</td></tr>
<tr><td>Handset manufacturers</td></tr>
<tr><td colspan="2">* A_H/B_H: Handset manufacturers licensed by the Plaintiffs
* C_H: Handset manufacturers not licensed by the Plaintiffs
* r_Q: Royalties between the Plaintiffs and handset manufacturers under patent license agreements
* p_Q: Cost of purchasing modem chipsets from the Plaintiffs
* p_R: Cost of purchasing modem chipsets from competing modem chipset manufacturers</td></tr>
</table>

The court will now consider the case where a competing modem chipset manufacturer R_M sells its modem chipsets to the handset manufacturer C_H which has not entered into a patent license agreement with the Plaintiffs. Neither C_H nor R_M obtained from the Plaintiffs licenses on the cellular SEPs which are substantially embodied in modem chipsets, and even if R_M entered into a non-exhaustive patent agreement with the Plaintiffs such as covenant not to sue, covenant to exhaust remedies, and standstill agreements, the effects of such a patent agreement would not extend to the sale to C_H which has not executed a patent license agreement with the Plaintiffs because of the restriction on vendors, and R_M would be exposed immediately to the Plaintiffs' risk of patent attacks. If R_M sold modem chipsets to C_H notwithstanding such risks, C_H would be susceptible to patent infringement actions raised by the Plaintiffs due to its use of modem chipsets purchased from R_M, so it could demand an indemnification agreement whereby the competing modem chipset manufacturer agrees to bear such risk or cost, or increase in the price of modem chipsets at the level corresponding to such a burden. The ensuing cost for R_M would increase in proportion to the risks assumed by C_H such as the indemnification cost. If the Plaintiffs provided exhaustive licenses without refusing or restricting licenses to R_M, there would be no risk of patent dispute for handset manufacturers A_H, B_H which purchase modem chipsets from R_M, as well as the handset manufacturer C_H which did not execute a patent license agreement with the Plaintiffs, therefore, there would be no need to demand R_M to bear the risks such as the indemnification cost. In fact, Samsung was requested by handset manufacturers, which it contacted in promoting the external sale of modem chipsets in 2011, to provide indemnification, etc. for protection against the Plaintiffs' patent attacks (DA 62), and Spreadtrum also provided Samsung in 2009 with guarantee for indemnification against infringement on third party's intellectual property rights (DA 57).

The cost increase arising from the risk of patent attacks is not removed completely even when the competing modem chipset manufacturer R_M sells modem chipsets to the handset manufacturers A_H, B_H which have entered into patent license agreements with the Plaintiffs. If any dispute arises between the Plaintiffs and A_H, B_H on account of breach of patent license agreement, etc., it would be possible to assert patent rights against R_M which has sold modem chipsets without license from the Plaintiffs. The draft covenant to exhaust remedies which the Plaintiffs sent to Samsung in or around 2011 provides that the Plaintiffs are entitled to assert patent rights against the counterparty even when the counterparty sells to the Plaintiffs' licensee, subject to satisfaction of certain conditions such as that the relevant licensee fails to pay the royalties under the relevant patent license agreement (DA 63). The standstill agreement which the Plaintiffs presented to Samsung in 2013 also provides that the Plaintiffs are entitled to raise a patent infringement claim against the counterparty Samsung if the Plaintiffs' licensee fails to pay the royalties within a certain (standstill) period (DA 65).

In this regard, the Plaintiffs argue that since the ‘modem chipset manufacturer’s cost arising from payment of conclusive royalties through execution of a license agreement with the Plaintiffs are larger than the cost of risk which may be borne in the form of damages proportionate to the royalties in case of the Plaintiffs’ possible patent assertion in the future (i.e. anticipated cost of possibility of patent attacks multiplied by the FRAND royalties), the Conduct 1 can hardly be deemed to increase the cost of competing modem chipset manufacturers’. However, the cost of risk transferred by the Plaintiffs to the modem chipset manufacturers by filing patent infringement actions against the handset manufacturers cannot be deemed to the same or less than the royalties payable by modem chipset manufacturers to the Plaintiffs for modem chipset-level license.[82] On the contrary, at the time of executing patent license agreements with all modem chipset manufacturers and handset manufacturers before 2008, the Plaintiffs had been normally collecting 3% of the modem chipset price from modem chipset manufacturers, and 4-5% of the NSP of handsets from handset manufacturers, and as the Plaintiffs continued to maintain the royalty rates at the similar level notwithstanding the discrepancy between the price of modem chipsets and handsets which increased to a considerable level with the lapse of time, it created considerable difference in the amount of final royalties. Therefore, even upon due consideration for the uncertainty of risks transferred to the modem chipset manufacturers, it cannot be deemed to be less than the royalties payable by the modem chipset manufacturers.

In addition, the increase in the cost of competing modem chipset manufacturers does not in fact result from fixed amounts such as damages from actual patent actions or indemnification cost.

[82] P 281, which is an analysis report by QC’s expert, presumes the amount to be the same.

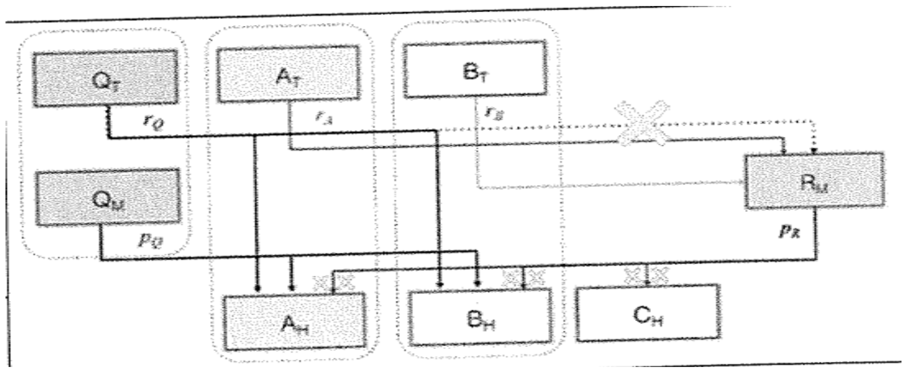
The competing modem chipset manufacturers will not be able to secure SEP licenses from the Plaintiffs and consequently be exposed to the risk that their modem chipset business might be suspended altogether all at once at any time due to the Plaintiffs' patent infringement claim. Under such circumstances, the competing modem chipset manufacturers will not be able to secure the freedom of long-term design, and such uncertainty in business would considerably restrict large scale R&D or facility expansion required in the modem chipset market by each standard. Such difficulties are the risks which the competing modem chipset manufacturers cannot but face under such licensing structure as the Conduct 1, and such possibility cannot be denied even if there has been no actual demand for indemnification cost from the handset manufacturer.

ii. [Increase in the Cost of Competing Modem Chipset Manufacturers due to Asymmetric Cross-Grant]

Through the Conduct 1, the Plaintiffs coerced cross-grant terms with the competing modem chipset manufacturers, and cross-grant terms[83] with the handset manufacturers, and prevented the competing modem chipset manufacturers and handset manufacturers which have entered into such contracts with the Plaintiffs from raising patent infringement claims even against entities which purchased the Plaintiffs' modem chipsets, as well as the Plaintiffs. It would increase the handset manufacturers' cost of purchasing modem chipsets from competing modem chipset manufacturers when compared to purchasing from the Plaintiffs. The relevant details are as illustrated in [Table 49] below.

[83] The Conduct 1 also acts as a leverage to induce cross-grant terms with the handset manufacturers (a part of the Conduct 3), hence the cross-grant with the handset manufacturers is described as a consequence of the Conduct 1. Whether the cross-grant with the handset manufacturers itself can be found to be an independent abuse of market-dominant position will be discussed later.

[Table 49] Increase in the Cost of Competing Modem Chipset Manufacturers due to Asymmetric Cross-Grant arising from the Conduct 1

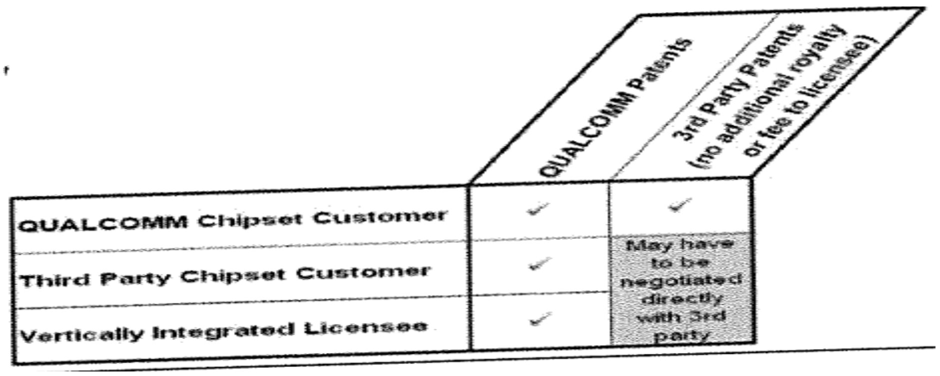
Cellular SEP holders * Q_T: QTL	
Modem chipset manufacturers * Q_M: QCT * R_M: Competing modem chipset manufacturers	
Handset manufacturers	
* A, B: Handset manufacturers which are cellular SEP holders all of which entered into patent license agreements with the Plaintiffs with cross-grant terms. The status of cellular SEP holders are indicated as A_T, B_T, while the status of handset manufacturers are indicated as A_H, B_H. * C_H: Handset manufacturers not licensed by the Plaintiffs * r_Q: Royalties between the Plaintiffs and handset manufacturers under patent license agreements * r_A, r_B: Royalties imposed by AT and AB, respectively on their patents * p_Q: Cost of purchasing modem chipsets from the Plaintiffs * p_R: Cost of purchasing modem chipsets from competing modem chipset manufacturers	

When A_H, and B_H purchase modem chipsets from the Plaintiffs, they pay $p_Q + r_Q$ as the total cost including the price of modem chipsets and royalties. A_H and B_H do not have to pay r_B (in case of A_H), and rA (in case of B_H) because of the cross-grant terms under which the rights to the patents of the counterparty under the patent license agreements they executed respectively with the Plaintiffs are passed through even to the customers which purchased modem chipsets from the Plaintiffs. However, if A_H purchases modem chipsets from the competing modem chipset manufacturer R_M, it has to pay $p_R + r_Q + r_B$ which is the sum of the modem chipset price and royalties, and if B_H purchases modem chipsets from the competing modem chipset manufacturer R_M, it has to pay $p_R + r_Q + r_A$ which is the sum of the modem chipset price and royalties. Therefore, if A_H and B_H purchase modem chipsets from R_M, they have to additionally pay r_B and r_A, respectively, than when purchasing from the Plaintiffs, which would be recognized as the all-in cost of purchasing modem chipsets from R_M.

Such anti-competitive effect is attributable to the asymmetry wherein the Plaintiffs themselves have been securing exhaustive rights to the patented technologies of handset manufacturers or modem chipset manufacturers through cross-grant terms, while not providing exhaustive licenses on their own SEPs to the competing modem chipset manufacturers. The Plaintiffs even actively promote such increase in the cost of competing modem chipset manufacturers to the modem chipset customers. The Plaintiffs have been widely distributing explanation on its business model to the handset manufacturers since 2004, and in the explanation for 2006, it is stated, as illustrated in [Table 50], that the 'modem chipset customers are classified into the Plaintiffs' customers, competing modem chipset customers (third party chipset customers), and manufacturers which produce their own modem chipsets as vertically-integrated entities (vertically integrated licensee), and they can use third party patents without additional royalty only when they purchase modem chipsets from the Plaintiffs, and if they purchase and use modem chipsets from any other source, they have to pay royalties through direct negotiations with the relevant third party patent holder' (DA 54).

[Table 50] <u>Illustration of the Plaintiffs' Business Model in 2006</u>

Options for QUALCOMM Licensees



	QUALCOMM Patents	3rd Party Patents (no additional royalty or fee to licensee)
QUALCOMM Chipset Customer	✓	✓
Third Party Chipset Customer	✓	May have to be negotiated directly with 3rd party
Vertically Integrated Licensee	✓	

The 'Third Party Patent Rights Benefiting QUALCOMM'S Subscriber Chipset and Software Customers' which the Plaintiffs send every year to modem chipset and software customers, also explains the benefit of using third party patent rights which would not require separate patent negotiations in case the Plaintiffs modem chipsets are purchased (DA 39). The handset manufacturers also consider provision of third party patent licenses when they purchase modem chipsets. In or around 2008, LGE sent an internal e-mail to its employees that they should consider securing of third party licenses, guarantees related to third party patents, and provision of third party patent analysis, from the perspective of intellectual property rights when they select modem chipsets, and that they shall also take into consideration that the Plaintiffs offer considerable advantages in all aspects with respect to WCDMA modem chipsets (DA 66).

The Plaintiffs argues that 'since the modem chipset manufacturers which hold valuable patent rights related to modem chipsets are free to delete the cross-grant terms, or to negotiate cross-grant terms such as excluding the relevant patents or goods from the subject of cross-grant, or providing only non-exhaustive cross-grant which does not affect the Plaintiffs' customers, there is no unfairness issue, unlike the KFTC's assertion'. However, since the fact that the Plaintiffs are the only entities that consistently maintain the policy of not providing exhaustive licenses to competing modem chipset manufacturers as entities dominant both in the SEP Licensing Market and the modem chipset market by each standard is the key to the asymmetric licensing structure, the fact that the Plaintiffs obtain non-exhaustive cross-grant or do not obtain cross-grant from modem chipset manufacturers cannot be deemed to deny the anti-competitive effect or possibility arising from the refusal to grant cellular SEP licenses to modem chipset manufacturers.

iii. [Market Foreclosure and Interference with Rivals' Business Activities through Combination of Unfair Terms]

The Plaintiffs are able to foreclose the expansion of business by competing modem chipset manufacturers by restricting the counterparty of competing modem chipset manufacturers to those which have executed license agreements with the Plaintiffs through the restriction on vendors. In addition, the Plaintiffs are also capable of securing an advantageous position than the rivals in competition through the obligation to report sales information whereby they require important sales information such as vendors or major customers of competing modem chipset manufacturer to be reported every quarter. Such restriction on vendors, and obligation to report sales information can hardly be deemed to be contract terms normally executed between competitors in the SEP licensing market.

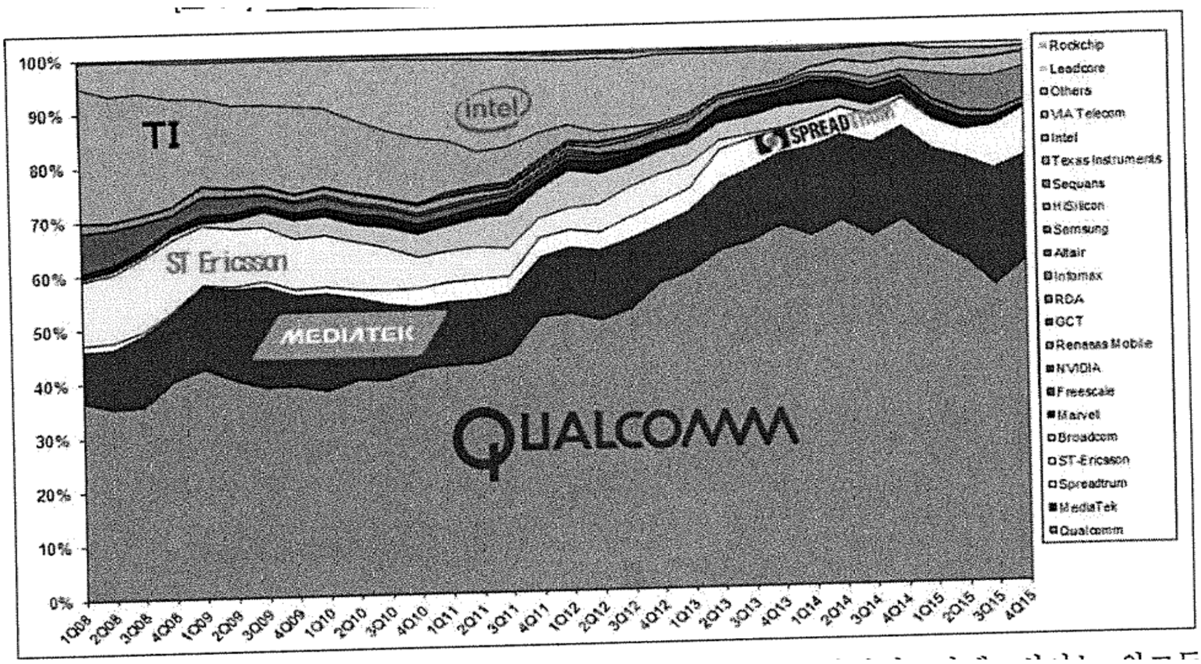
iv. [Reduction in Diversity Caused by Entry Barrier against and Market Withdrawal of Competing Modem Chipset Manufacturers]

The Plaintiffs, as the market-dominant and vertically-integrated entities both in the SEP Licensing Market and the modem chipset market by each standard, breached the FRAND commitments which were introduced to strengthen the advantages of standardization and prevent abuse by SEP holders, through restriction on market entry of potential competitors by refusing to provide cellular SEP licenses on modem chipsets or imposing unfair terms to the modem chipset manufacturers which are downstream entities in the SEP Licensing Market and rivals in the modem chipset market by each standard, which resulted in reduction of diversity in modem chipsets due to existing modem chipset manufacturers' failure in new businesses or projects, and reduction of opportunity to select for handset manufacturers and consequently that of the consumers.

Due to the Plaintiffs' refusal to provide the SEP License necessary for the manufacture/sale of modem chipsets or its announcement of handset-single level license policy, the modem chipset manufacturers which desire to enter the modem chipset market by each standard have to determine whether to enter the market with due consideration for additional cost which may arise from inability to execute a patent license agreement before commencing the business. In such a case, the aforementioned cost increase and uncertainty in business operate as entry barriers to the modem chipset market by each standard. In fact, the joint venture under the Dragonfly Project, Via (WCDMA modem chipset market) and Intel failed to enter or suffered considerable difficulties in entering the modem chipset market by each standard due to the Conduct 1.

In addition, from 2008 until 2016, major modem chipset manufacturers such as NXP (2008), Freescale (Oct. 2008), Icera (2011), STMicroelectronics (Dec. 2012), Texas Instruments (Nov. 2012), Broadcom (July 2014), Ericsson Mobile Platform (Sept. 2014), and Marvell (Sept. 2015) were forced out of the modem chipset market by each standard (DA 235, 238, DC 137). While the competing modem chipset manufacturers were forced out of or suffered difficulties in the market, the Plaintiffs' share in the global modem chipset market increased from 36.8% in 2008 to 59.4% in 2015. the Plaintiffs' Herfindahl-Hirschman Index (HHI),[84] which is the criteria for judgment of market concentration, increased gradually from 2,021 in 2002, to 2,224 in 2008, 4,670 in 2014, and 3,289 in 2016 (DA 226).[85]

[Table 51] Changes in the World Modem Chipset Market Share since 2008 by Modem Chipset Manufacturer



The Plaintiffs argues that 'MediaTek, Samsung, Intel, and Via which the KFTC mentioned as examples of the Conduct 1, did not suffer any disadvantages or suffer difficulties in the modem chipset business activities on account of absence of license from the Plaintiffs, but were rather successful in the modem chipset business, and Spreadtrum has also entered the WCDMA and LTE modem chipset markets and is operating the modem chipset business even without the Plaintiffs' license'. However, the market-dominant entity's abuse does not necessarily require actual withdrawal of rivals from the market, and since there is constant risk of patent attacks against competing modem chipset manufacturers and entry barrier to the market due to restriction on

84 Measure of market concentration calculated by squaring the market share of each market participant and then summing the resulting numbers. The higher the HHI, the higher the market concentration.

85 The KFTC's 'Examination Standards for Business Combination' provides that 'there is possibility that the competition might be substantially restricted due to the business combination if the 'HHI is 2,500 or more and the HHI increment is less than 150'.

business expansion, etc. caused by burden of additional cost because of the Conduct 1, the fact that some competing modem chipset manufacturers took such risks in engaging in business activities alone is not sufficient to conclude that the business activities in the modem chipset market by each standard were not interfered with.

In addition, the Plaintiffs argues that 'based on Linley Gwennap's expert report (P 30, 277-1), and articles and reports on shutdown of modem chipset business of each modem chipset manufacturer (P 84, 85, 260-1 ~ 260-6, 261, 262, 285, 318 ~ 321), the competing modem chipset manufacturers decided to shut down the business through selection and concentration, and managerial decision, etc. for maximization of profits with due consideration for their respective competitiveness, and that there is no correlation between the business shutdown and the Conduct 1'. However, in determining whether the Conduct 1 is liable to cause the anti-competitive effect, the withdrawal of competing modem chipset manufacturers does not have to be demonstrated to the extent the correlation with the Conduct 1 is acknowledged, and as discussed in the above legal principles, the possibility of anti-competitive effect can be examined based on comprehensive consideration of various factors such as form of the Conduct 1, characteristics of the relevant market, degree of disadvantages to the competing modem chipset manufacturers, whether there are changes in the price and output in the relevant market, impediment to innovation, and reduction in diversity.[86] Based on comprehensive consideration of the factors such as risk of patent attacks, entry barrier for competing modem chipset manufacturers, and status of market withdrawal, the Conduct 1 can sufficiently be acknowledged as a conduct liable to create the anti-competitive effect.

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[86] QC argues that 'just like the anti-competitive effect or possibility was not acknowledged because the correlation between transaction on exclusivity terms and market withdrawal of rivals was not acknowledged in the Supreme Court Decision 2008Du16322 dated June 10, 2011, the correlation between the Conduct 1 and market withdrawal of competing modem chipset manufacturers is likewise denied'. However, the unfairness of the transaction on exclusivity terms which is a type of abuse of market-dominant position, shall be determined based on comprehensive consideration of various factors such as purpose and form of the transaction, market share of the market-dominant entity, degree of foreclosure of market entry or expansion opportunity of rivals, and whether there has been cost increase, term of transaction, whether there are changes in the price and output in the relevant market, existence of similar goods and adjacent markets, impediment to innovation and reduction in diversity, which can hardly be deemed to require demonstration to the extent that direct or considerable correlation exists between the transaction on exclusivity terms and market withdrawal of rivals.

v. [Modem Chipset Price, Output]

As asserted by the Plaintiffs, the global modem chipset shipments, and the aggregated shipments of CDMA, WCDMA, LTE modem chipsets have been increasing since 2008 until 2016, and the price indices for CDMA, WCDMA, and LTE modem chipsets are declining (P 134, 235-5, 238-1 ~ 238-4). However, the demand for modem chipsets is affected by the demand for handsets and cellular services which are the goods in its downstream market, and phenomena such as price decline, increase in output, and improvement in performance are commonly observed in the cellular market. On the contrary, while the price of modem chipsets increased by an annual average of 1.3% from 2008 until 2015, the price of integrated AP chipsets decreased by an annual average of 5.2%, price of NFC chipsets by an annual average of 13.2%, and price of DRAM by an annual average of 17.2% (DA 238; testimony of the witness Yi Sang-Seung). Phenomena such as improvement in telecommunication speed/quality, increase in usage/speed of cellular data, reduction in data fees, decline in quality-adjusted price of handsets, and increase in the number of cellular subscribers are observed even in the handset market and cellular service market, which are the downstream market of the modem chipset market by each standard (P 8, 134, 135, 252-1 ~ 252-3, 253, 323-1), and thus innovation or completion in the modem chipset market can hardly be deemed to have been more brisk relatively when compared thereto. Moreover, in the modem chipset market, unlike the handset market, despite the dynamic changes such as entry/withdrawal of other competing modem chipset manufacturers, only the Plaintiffs have continued to maintain dominance in the modem chipset market by each standard. Given all of the above, the decline in price and increase in output of modem chipsets as asserted by the Plaintiffs can hardly be taken as the basis to not acknowledge the anti-competitive effect or possibility recognized above.

vi. [Transfer of Anti-Competitive Effect]

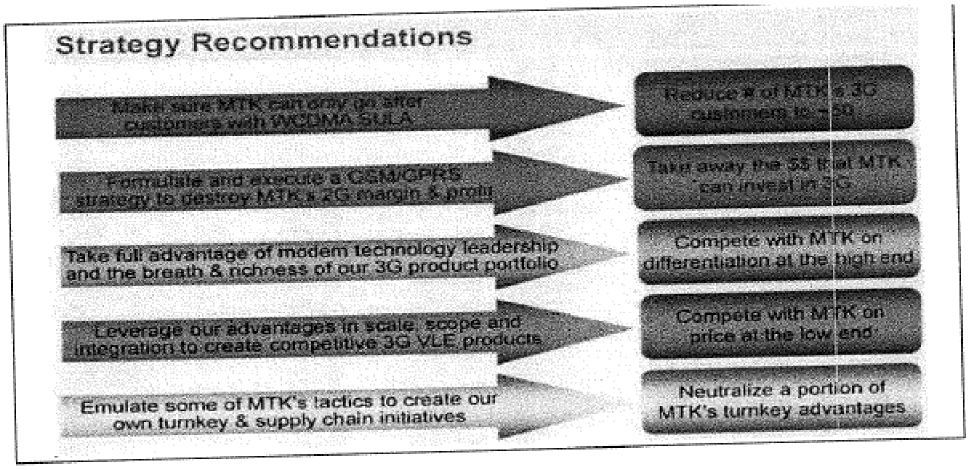
Since 'one-chip (system on chip)' in which the modem chipsets and AP are integrated and embodied in one chipset is gradually expanding in the handset component market, it is highly possible that the anti-competitive effect in the modem chipset market by each standard would be passed onto the adjacent AP market. In fact, the Plaintiffs' share in the AP market increased gradually from 24% in 2008 to over 50% since 2013. An adjacent market, without definition of the relevant market, could also be considered in determining the anti-competitive effect.

3) Anti-Competitive Intention or Purpose in the Conduct 1

To review the following circumstances, which we can find form the facts acknowledged above; statements in each of the following Exhibits: DA 49; DC 105, 107, 122, 138; DG 61; and the whole purport of pleadings, in light of the legal principles discussed above, it can be acknowledged that the Plaintiffs engaged in the Conduct 1 with the intention or purpose of artificially affecting the market order through restriction of free competition in the modem chipset market by each standard.

i. [Anti-Competitive Intention Revealed from the Plaintiffs' Internal Documents]

[Table 52] <u>The Plaintiffs' Anti-Competitive Intention</u>



The Plaintiffs refused licenses to competing modem chipset manufacturers and imposed restriction on vendors in order to weaken the position of competing modem chipset manufacturers in the modem chipset market by each standard. In November 2009, after executing a non-exhaustive modem chipset agreement (Non-Exhaustive CDMA ASIC Agreement) with MediaTek which was a strong rival, the Plaintiffs established a plan to reduce the number of MediaTek's 3G customers to less than 50 and to reduce the basis of sale which would enable MediaTek to continue its business, by allowing MediaTek to deal only with customers who have entered into WCDMA patent license agreements with the Plaintiffs, as illustrated in [Table 52] above, during the process of planning the strategy for competition with MediaTek (DC 105).

ii. [Incentive to Restrict Competition]

The Plaintiffs, as the dominant entity in the SEP Licensing Market and the modem chipset market by each standard, has the incentive to strengthen its dominance by restricting free competition in the modem chipset market by each standard through increasing the cost of competing modem chipset manufacturers by refusing cellular SEP licenses to rivals, and to exclude competing modem chipset manufacturers from the market in order to collect enormous royalties from handset manufacturers by coercing them into executing license agreements on the Plaintiffs' patents before purchasing modem chipsets from the Plaintiffs, based on their dominance in the modem chipset market by each standard secured as above.

The Plaintiffs argue that 'it is difficult to conclude that there is incentive to strengthen dominance in the modem chipset market by each standard because QTL would be able to collect far more royalties at the handset level, the more the chipsets are sold as a component for handsets'. However, the Plaintiffs' internal documents show that they recognized dominance in the chipset market by each standard in the field of QCT as an important element in maintaining the profits from the licensing business with the handset manufacturers (DC 107, 122, 138; DG 61).

iii. [Recognition of the FRAND Commitments]

According to the Plaintiffs' internal documents, e-mails, and nature of the FRAND commitments made before the SSOs, as acknowledged above, it seems that the Plaintiffs were aware of the significance of the FRAND commitments to provide FRAND licenses to any willing SEP licensees, and of the fact that refusal to grant the SEP License to the modem chipset manufacturers was in breach of the FRAND commitments made before numerous SSOs. However, the Plaintiffs established the business modem of not licensing the competing modem chipset manufacturers since it was far more lucrative to execute license agreements only with the handset manufacturers and to collect royalties from them.

iv. [Ambivalent Attitude toward Modem Chipset-Level Licensing]

Under the recognition that it was very important to secure cellular SEP licenses in order to protect their modem chipsets against the patent holders' patent attacks, and to secure design freedom, etc., the Plaintiffs refused to license the competing modem chipset manufacturers, while they obtained cross-grant on the cellular patents which were necessary for their manufacture and sale of modem chipsets. In their presentation material in February 2013, the Plaintiffs promoted that they stably secured design freedom through cross-grant, unlike the other modem chipset manufacturers (DA 49).[87]

E. Sub-conclusion

In sum, the Conduct 1 falls under 'abuse of market dominant position through unjust hindrance to the business activity of other undertaking through offering unreasonable conditions compared to the normal trading practice' under Article 3-2 (1) 3 of the MRFTA, Article 5 (3) 4 of its Enforcement Decree, and Article IV. 3. D. (2) of the Examination Guidelines. Therefore, the Plaintiffs' assertion in this regard is without merit.

87 "Provides long-term design freedom to Qualcomm."

5. Conduct 1: Abuse of Market Dominance through Denying/Interrupting/Limiting Use of or Access to Indispensable Elements

A. The Gist of the Parties' Assertion

1) The Plaintiffs

The modem chipset manufacturers are free to access the SEP License even without any license agreement with the Plaintiffs, and the SEP License does not constitute an 'indispensable element' under Article 5 (3) 3 of the MRFTA in connection with the manufacture of modem chipsets.

2) The KFTC, MediaTek

It is difficult to secure an alternative technology because the mobile communications industry is locked in each of the Plaintiffs' SEPs, and it is virtually impossible to manufacture/sell modem chipsets without licenses on the Plaintiffs' SEPs. Consequently, the cellular SEPs in question fall under indispensable elements, and the Plaintiffs, which are dominant in the SEP Licensing Market, unjustly hindered the activities of modem chipset manufacturers by refusing or restricting use of indispensable elements to modem chipset manufacturers through the Conduct 1.

B. Laws and Legal Principles Applicable to Restriction on Indispensable Elements

1) Applicable Laws

> ▣ **The MRFTA**
> **Article 3-2 (Prohibition on Abuse of market dominance)**
> (1) No market-dominant business entity shall engage in any of the following practices (hereinafter referred to as "abusive practices"):
> 3. Unfairly interfering with the business activities of any other business entity;
> (2) Types of and criteria for the abusive practices may be prescribed by Presidential Decree.
>
> ▣ **Enforcement Decree of the MRFTA**
> **Article 5 (Types of and Criteria for Abusive Practices)**
> (3) "Unfairly interfering with the business activities of any other business entity" in Article 3-2 (1) 3 of the Act means hindering the business activities of any other business entity by doing directly or indirectly any of the following acts:
> 3. Denying, interrupting, or limiting use of or access to elements indispensable for other business entity to produce, supply, and sell its goods or services without just cause;

2) Applicable Legal Principles

In principle, the unfairness of hindering the business activities can be acknowledged, unless there is reasonable cause, if the act of interrupting or limiting use of or access to indispensable elements under Article 5 (3) 3 of the Enforcement Decree of the MRFTA can be deemed to fall under the type of conduct prohibited under sub-paragraph 3, unlike subparagraph 4.

An indispensable element is an element (i) without which it is virtually impossible to produce, supply or market goods or services, or to participate in a certain field of transactions, or which causes to maintain the status of unavoidable material competitive disadvantage in the relevant field (indispensability), (ii) which is owned or controlled exclusively by a certain enterprise (controllability), and (iii) which is virtually, legally or economically impossible for any person intending to use or access such an element to reproduce or replace them with another element (non-substitutability).[88] Article 5 (3) 3 of the Enforcement Decree of the MRFTA provides for 'indispensable elements', without restricting them to tangible 'indispensable facilities' such as network or key facilities, therefore, the intellectual property rights such as the SEPs could constitute an indispensable element.

C. Judgment on the Denying, Interrupting, or Limiting Use of or Access to Indispensable Elements

1) Whether the Plaintiffs' Cellular SEPs are Indispensable Elements

According to the aforementioned laws and legal principles, the cellular SEPs held by the Plaintiffs constitute indispensable elements.

[88] Article IV. 3. D. (1) of the Examination Guidelines, and Seoul High Court decision 2001Nu5851 dated April 17, 2003.

i. [Indispensability]

The SEPs are patents which must be used when an entity technically embodies his product in accordance with the standard specifications provided by an SSO; therefore, the use of or access to the Plaintiffs' cellular SEPs are indispensable for the modem chipset manufacturers' manufacture/sale of modem chipsets which embody mobile communication functions.

ii. [Controllability]

The SEPs owned by the Plaintiffs for each communication standard, including CDMA, WCDMA and LTE, etc. have been duly applied for or registered with the patent authorities of each country, and the Plaintiffs have the authority to exclusively own or control such SEPs. Such controllability cannot be denied even in the SEPs limited by the FRAND terms and conditions.

iii. [Non-Substitutability]

Technically, the SEPs are patents that cannot but be infringed because it is impossible to design around or avoid the same technically or economically when implementing certain technical standards. Therefore, it would be impossible for any entity which wishes to use or access the Plaintiffs' CDMA, WCDMA, LTE SEPs to find any alternative technology. Even if it were assumed that such an alternative technology could be found, the downstream markets including the modem chipset, handset and base station equipment markets have already become locked in to the Plaintiffs' cellular SEPs to a considerable level, which would make it virtually or economically impossible to find a replacement.

2) Whether Use of or Access to Indispensable Elements were Denied, Interrupted or Limited

The denying, interrupting or limiting the indispensable elements could include conducts which induce substantially the same result as denying, interruption or limitation through offering of prices or terms that make it substantially or economically impossible to access the indispensable elements, or offering terms that are conspicuously discriminatory or unfair compared to other users which use the indispensable elements, such as exclusivity terms or tying.[89]

According to the facts acknowledged above, most modem chipset manufacturers such as MediaTek and Intel manufacture or sell modem chipsets by using or accessing the Plaintiffs' cellular SEPs. In granting licenses to the modem chipset manufacturers before 2008 which allowed them to only manufacture/sell modem chipsets but restricted the authority to use modem chipsets, the Plaintiffs demanded terms that restricted the scope of licenses such as restriction on vendors, provision of sales information and cross-grant terms; however, such conducts cannot be deemed to have made it substantially or economically difficult to use or access the cellular SEPs which are indispensable elements. Even if the Plaintiffs refused to license cellular SEPs since 2008 to the modem chipset manufacturers who were willing licensees, the modem chipset manufacturers are still manufacturing/selling modem chipsets by using the Plaintiffs' cellular SEPs, without entering into any license agreement with the Plaintiffs, thanks to the Plaintiffs' handset-single level licensing policy. Despite the constant risk of patent infringement action at the unilateral decision of the Plaintiffs, there were modem chipset manufacturers which took such risks and engaged in the manufacture, supply or sale of modem chipsets, and the Plaintiffs proactively maintained such business model. After all, given the nature of the Plaintiffs' conducts both before and after 2008, the Conduct 1 alone is not sufficient to conclude that it constitutes denying/interrupting use of or access to the cellular SEPs which are the indispensable elements.

[89] Article IV. 3. D. (3) of the Examination Guidelines.

Even if the Plaintiffs denied cellular SEP licenses or exhaustive licenses to the competing modem chipset manufacturers, a license separated from the SEPs or an exhaustive license itself cannot be equated with indispensable elements. As discussed above, it may be possible to argue that the Plaintiffs' refusal to license cellular SEPs or grant exhaustive licenses to the competing modem chipset manufacturers results or could result in restriction on competition such as exclusion of competing modem chipset manufacturers; however, such effect on the modem chipset manufacturers can hardly be deemed to make it 'substantially or economically impossible to use or access the indispensable elements' or 'restriction to the degree that competition is substantially impossible due to conspicuous discrimination compared to the existing users who use the indispensable elements'.

3) Sub-conclusion

The Conduct 1 cannot be deemed to constitute 'denying, interruption or limitation on use of or access to indispensable elements' proscribed under Article 5 (3) 3 of the MRFTA. Therefore, the part of the Disposition which is based on the assumption that the Conduct 1 constitutes such an act is unlawful. Therefore, the Plaintiffs' assertion in this regard has merit.

D. Judgment on Simultaneous Application of Articles 5 (3) 3 and 5 (3) 4 of the Enforcement Decree of the MRFTA

1) The Gist of the Plaintiffs' Assertion

The KFTC issued the Disposition on the ground that the Conduct 1 falls under 'denying, interrupting, or limiting use of or access to indispensable elements' under Article 3-2 (1) 3 of the MRFTA, and Article 5 (3) 3 of its Enforcement Decree, and 'offering unreasonable conditions compared to the normal trading practice' under Article 5 (3) 4 of its Enforcement Decree. However, since Article 5 (3) 4 of the Enforcement Decree provides 'hindering the business activities of other business entities in any unfair manner other than those provided for in subparagraphs 1 through 3, which is publicly notified by the KFTC', the KFTC's simultaneous application of the two sub-paragraphs to the Conduct 1 in unlawful.

2) Applicable Laws

▣ **Enforcement Decree of the MRFTA** **Article 5 (Types of and Criteria for Abusive Practices)** (3) "Unfairly interfering with the business activities of any other business entity" in Article 3-2 (1) 3 of the Act means hindering the business activities of any other business entity by doing directly or indirectly any of the following acts: 1. Interfering with the purchase of raw materials by other business entity for its production activities without just cause; 2. Hiring an employee essential for the business activities of other business entity by providing or promising to provide the employee with excessive economic benefits in the light of normal practices; 3. Denying, interrupting, or limiting use of or access to elements indispensable for other business entity to produce, supply, and sell its goods or services without just cause; 4. Hindering the business activities of other business entities in any unfair manner other than those provided for in subparagraphs 1 through 3, which is publicly notified by the Fair Trade Commission.

3) Judgment

Article 5 (3) 3 of the Enforcement Decree of the MRFTA specifies in sub-paragraphs 1 through 3 the types of 'market-dominant entity's hindering the business activities of other business entities in any unfair manner' under Article 3-2 (1) 3 of the MRFTA, and further enables to specify in sub-paragraph 4 the types of unfair hindering of business activities not embraced in sub-paragraphs 1 through 3, through public notification of the KFTC. In principle, if the conduct of a certain market-dominant entity satisfies the requirements under Article 5 (3) of the Enforcement Decree of the MRFTA, they may apply cumulatively, subject to satisfaction of the relevant requirements. The Conduct 1 may fall under sub-paragraph 4 if it constitutes any conduct publicly notified by the KFTC, as hindering the business activities of other business entities in any unfair manner other than those provided for in subparagraphs 1 through 3. However, even if sub-paragraph 4 were in nature a general provision intended to supplement the limitations in enumeration, sub-paragraph 4 provides hindering the business activities of other business entities in any unfair manner 'other than those provided for in subparagraphs 1 through 3'; therefore, the simultaneous application of sub-paragraphs 3 and 4 may be deemed contradict the language of sub-paragraph 4.

In the meantime, as discussed above, the court finds that the Conduct 1 does not fall under Article 5 (3) 3 of the MRFTA; therefore, the simultaneous application of sub-paragraphs 3 and 4 under Article 5 (3) of the Enforcement Decree of the MRFTA is not an issue, unlike the Plaintiffs' assertion. Even if the KFTC applied both sub-paragraphs 3 and 4 to the Conduct 1 at the time of issuance of the Disposition, as long as the court finds only sub-paragraph 4 applicable, the part of the Disposition pertaining to the Conduct 1 cannot be deemed to be unlawful. Therefore, the Plaintiffs' assertion in this regard is not accepted.

6. Conduct 2: Abuse of Market Dominance through Coercion of Disadvantages

A. Findings of Fact regarding the Conduct 2

[Grounds for Findings of Fact] statements in each of the following Exhibits: DA 26~32, 34, 35; DG 16-1; and the whole purport of pleadings

1) The Plaintiffs maintain the policy of not supplying modem chipsets to handset manufacturers which have not entered into patent license agreements with themselves, while executing patent license agreements with handset manufacturers separate from the sale of modem chipsets, by separating the modem chipsets from the patents (DA 32, 34).

The following provisions are included in the component supply agreement which the Plaintiffs enter into with the handset manufacturers: (i) the sale of modem chipsets does not entail any patent rights; the handset manufacturers cannot use modem chipsets purchased without patent license, or sell them in combination with other components; the purchased modem chipsets can be used or sold only in accordance with the patent license agreement; and the fact that the modem chipsets have been installed in handsets does not exempt the obligation to pay royalties under the patent license agreement; (ii) the purchased modem chipsets can be used only for development/sale of handsets, and any sale and use of handsets shall be subject to the terms and conditions of the patent license agreement; (iii) if the handset manufacturer breaches the modem chipset supply agreement or the patent license agreement, and fails to remedy the same within a prescribed period, the Plaintiffs may terminate the modem chipset supply agreement, or cut off or withhold modem chipset supply.

The ASICS Supply Agreement which the Plaintiffs entered into with LGE as of September 1, 2000 contains the same provisions as in (i) through (iii) above, as can be seen from the following excerpt (DA 27; DG 16-1).

[Table 53] ASICS Supply Agreement Entered into between the Plaintiffs and LGE (Sept. 1, 2000)

11. INTELLECTUAL PROPERTY The sale of Products to Buyer does not convey the Buyer (or its Affiliates) any intellectual property rights in such Products, including but not limited to any rights under any patent, trademark, copyright or trade secret. Except as expressly provided in Paragraph 8 of this Agreement, Buyer (and its Affiliates) may not use or sell any Product, alone or in combination with other software or components, without a separate license from QUALCOMM Incorporated under all applicable patents, copyrights and trademarks. Buyer's (and its Affiliates) use and sale of any Product shall be solely in accordance with the terms and conditions of the License, and the incorporation of Products purchased from QUALCOMM into Buyer's (and its Affiliates') products shall not relieve Buyer of any obligation under the License to pay royalties. This Agreement shall not modify or abrogate any obligations under the License, including but not limited to the obligation to pay all royalties specified thereunder, and shall not expand or alter any rights thereunder. Neither the sale of any Product nor any provision of this Agreement shall be construed to grant to Buyer (or any of its Affiliates), either expressly, by implication or by way of estoppel, any license under any patents or other intellectual property rights of QUALCOMM or its affiliates covering or relating to any other product or invention or any combination of Products with any other product. *(Omitted)*

12. REPRESENTATION REGARDING USE

Buyer hereby represents and warrants to QUALCOMM that any Product being purchased by Buyer hereunder will be used by Buyer (and its Affiliates) solely to develop and manufacture subscriber equipment for communications systems for sale subject to and in accordance with the License, including the payment of the royalty contained therein. Buyer and its Affiliates shall not resell any ASIC or Chipset other than as part of and included within the complete subscriber equipment sold by Buyer (or its Affiliates) in accordance with the terms and conditions of the License.

13. TERM AND TERMINATION

(Omitted) Each party shall have the right to terminate this Agreement and/or to cancel or hold any and/or all orders placed by Buyer and any and/or all shipments of Products, regardless of any prior confirmation or acceptance by QUALCOMM, and without liability of any kind if: *((a) through (c) omitted)* or (d) the other party fails to timely perform any of its obligations under the Agreement and such failure is not cured within sixty (60) days after written notice of such failure. In addition, QUALCOMM may terminate this Agreement if Buyer is in default under the License and such default is not cured within the cure period specified therein.

2) Substantially the same provisions are included in the modem chipset supply agreements which the Plaintiffs entered into with the handset manufacturers such as Pantech, Samsung, HTC, Huawei, and Foxconn (DA 26, 28-31). The relevant provisions under the component supply agreements which the Plaintiffs entered into from 2002 until 2013 provide in general that the Plaintiffs are entitled to terminate the agreement if the purchaser fails to perform the obligations thereunder and to rectify such default within the period prescribed in the agreement, and substantially all component supply agreements entered into since 2013 provide that the 'purchaser's failure to perform the obligations under the patent license agreement, and to rectify the same within the period prescribed in the agreement' is one of the grounds for the Plaintiffs' termination of the component supply agreement (DA 34).

3) Due to the Plaintiffs' such business policy, the handset manufacturers which desire to purchase modem chipsets from the Plaintiffs have to first enter into patent license agreements with the Plaintiffs. The initial effective dates under the patent license agreements and the modem chipset supply agreements entered into between the Plaintiffs and major handset manufacturers are as follows (DA 26-31, 35):

[Table 54] Initial Effective Dates under Patent License Agreements and Modem Chipset Supply Agreements between the Plaintiffs and Major Handset Manufacturers

Handset Manufacturers	Initial Effective Date under Patent License Agreement	Initial Effective Date under Modem Chipset Supply Agreement
LGE	1993. 8. 31.	1994. 3. 13.
Pantech	1997. 8. 12.	1997. 9. 29.
Samsung	1993. 8. 31	1996. 2. 13.
HTC	2000. 12. 20.	2001. 6. 11.
Huawei	2001. 9. 22.	2001. 11. 13.
Foxconn	2003. 8. 21.	2003. 8. 28.

B. Laws and Legal Principles Applicable to the Conduct 2

1) Applicable Laws

▣ **The MRFTA**
Article 3-2 (Prohibition on Abuse of market dominance)
(1) No market-dominant business entity shall engage in any of the following practices:
3. Unfairly interfering with the business activities of any other business entity;

▣ **Enforcement Decree of the MRFTA**
Article 5 (Types of and Criteria for Abusive Practices)
(3) "Unfairly interfering with the business activities of any other business entity" in Article 3-2 (1) 3 of the Act means hindering the business activities of any other business entity by doing directly or indirectly any of the following acts:
4. Hindering the business activities of other business entities in any unfair manner other than those provided for in subparagraphs 1 through 3, which is publicly notified by the Fair Trade Commission.

▣ **Examination Guidelines**
IV. Types and Criteria of Abuse of Market Dominant Position

3. Unjust hindrance to the business activity of other undertaking (Article 3-2 (1) 3 of the Act) Making other undertaking's business activity difficult by doing directly or indirectly any of the following (Article 5 (3) of the Decree): D. Other conducts that make other undertaking's business activity difficult as follows (Article 5 (3) 4 of the Decree): (3) Unjustly forcing the trading party to make a deal or do a conduct that is disadvantageous to a counterpart

2) Applicable Legal Principles

If the coercion of disadvantages were to fall under abuse of position by the market-dominant entity under Article 3-2 (1) 3 of the MRFTA, it shall be found to be unfairly making the business activities of other entities difficult, where 'unfairness' shall be assessed/construed independently in line with the legislative purpose of 'promotion of competition in the monopolistic/oligopolistic market', apart from the unfairness of imposition of disadvantages as one of the unfair trade practices under Article 23 (1) 4 of the MRFTA. It is insufficient to acknowledge unfairness based only on circumstances such as that a certain entity would be subjected to disadvantages such as in all cases where the market-dominant entity coerced disadvantages with the unfair intention or purpose against certain entities which are counterparties to individual transactions, or that a certain entity suffered or is liable to suffer difficulties in business activities due to such coercion of disadvantages. Such unfairness can be acknowledged only when there is the intention or purpose of maintaining/strengthening monopoly in the market, i.e. intention or purpose to arbitrarily affect the market order by restricting free competition in the market, and when such entity has engaged in coercion of disadvantages which can also be objectively assessed to be a conduct liable to result in restriction on competition. Therefore, in order to argue that the coercion of disadvantages by the market-dominant entity constitute abuse of its position, it shall be demonstrated that such coercion of disadvantages is liable to result in, and had the intention and purpose of, restriction on competition such as raising the price of goods, decline in the output, impediment to innovation, decline in the number of key rivals, and reduction in diversity; and when it has been demonstrated that such effects have actually resulted from coercion of disadvantages, it can be substantially presumed that it was liable to result in restriction on competition and there was such intention or purpose at the time of the conduct, but otherwise, whether the coercion of disadvantages was liable to result in such restriction on competition, and had such intention or purpose shall be determined based on comprehensive consideration of various factors such as details of and motive in coercion of disadvantages, aspects of coercion of disadvantages, characteristics of the relevant market, degree of disadvantages sustained by the counterparty due to coercion of disadvantages, fluctuation in price and output in the relevant market, impediment to innovation, and reduction in diversity. And such relevant market where the restriction on competition becomes the issue could include not only the market to which the market-dominant entity or its rivals belong, but also the market which supplies the raw materials, components or semi-finished products necessary for production of goods in the market, or the market which produces new goods with the goods supplied from such a market (Supreme Court Judgment 2002Du8626 dated November 22, 2007).

C. Coercion of Disadvantages to the Counterparties

1) The Gist of the Plaintiffs' Assertion

The Plaintiffs did not use modem chipset supply as leverage to coerce the execution and performance of patent license agreements. It was impossible for the Plaintiffs to use modem chipset supply as leverage to coerce execution and performance of patent license agreements because there were viable substitutes for modem chipsets, and even according to empirical analysis, there is no correlation between the terms and conditions of the Plaintiffs' patent license agreements, and the Plaintiffs' position in the modem chipset market by each standard. The Plaintiffs' policy of not selling modem chipsets to handset manufacturers which do not intend to obtain licenses on the Plaintiffs' patents was not intended to exclude competition of other entities, but legitimate means for protection of the Plaintiffs' patent rights.

2) Ruling on the Coercion of Disadvantages

To review the following circumstances, which we can find from the facts acknowledged above; statements in each of the following Exhibits: P 8, 45, 49, 52, 106-108, 165, 170, 245, 246, 268, 279-1, 287, 290; DA 13-15, 27, 50, 70-72, 98, 238; DC 78, 112, 113, 127; DG 3-1, 4, 5-1, 28, 36, 38, 53, 59, 63, 67-72, 76; DF 8-1, 8-2; part of the testimonies of the witnesses Kim Sang-Pyo, Kim Jeong Jung, Aviv Nevo, and Yi Sang-Seung; and the whole purport of pleadings, in light of the legal principles discussed above, it is reasonable to conclude that the Plaintiffs coerced disadvantageous transactions by forcing the counterparty handset manufacturers to execute and perform the patent license agreements, abusing their dominance in the modem chipset market by each standard.

① [Coerced Execution of Patent License Agreements through Tying with Modem Chipset Supply Agreements]

Under the patent exhaustion doctrine, when a patent holder, etc. lawfully transfers a product substantially embodying a patent invention, the relevant patent rights are exhausted as their purpose have been achieved, and the patent rights do not have any effect on the transferee's implementation of the process invention through use of such a product. Therefore, even if a handset manufacturer used the modem chipsets purchased from the Plaintiffs to manufacture and sell handsets, the Plaintiffs' patent rights pertaining to the patents substantially embodied in the relevant modem chipset would not have any effect thereon, and thus it would not constitute infringement upon the Plaintiffs' patent rights, and it would not be necessary to obtain separate licenses on manufacture/sale of handsets from the Plaintiffs.

Nevertheless, the Plaintiffs maintained the policy of requiring the handset manufacturers to execute license agreements on the Plaintiffs' patent portfolios, including those substantially embodied in modem chipsets, if they wanted to purchase the Plaintiffs' modem chipsets, where it was expressly provided that breach of the patent license agreement could be a ground for termination of the modem chipset supply agreement, and that modem chipset supply could be cut off/withheld upon breach of the patent license agreement, thereby using their modem chipset supply as leverage to coerce the handset manufacturers to enter into license agreements on patents substantially embodied in the modem chipsets. Not only such coerced execution of patent license agreements can be acknowledged from the language of the modem chipset supply agreements themselves, but the Plaintiffs threatened to or actually cut off modem chipset supply during the process of executing patent license agreements with handset manufacturers, as follows:

- LGE (2004 Amendment Agreement)

On August 31, 1993, the Plaintiffs entered into the Infrastructure and Subscriber Unit License and Technical Assistance Agreement (the "**1993 LGE Agreement**") with Goldstar Information & Communications Ltd., which was later merged into LGE, and then entered into the patent license agreement (Subscriber Unit License and Intelligent Personal Communicator and Technical Assistance Agreement; the "**1996 LGE Agreement**") as of December 24, 1996, and the ASICS Supply Agreement as of September 1, 2000 with LGE. Key terms and conditions of the latter were as discussed above (DA 14, 27; DG 3-1, 4).

On October 7, 2003, the Plaintiffs notified that LGE's failure to report the relevant sales to the Plaintiffs in manufacturing and selling WCDMA-related products and to pay the royalties thereon constituted a material breach of the 1993 LGE Agreement and the 1996 LGE Agreement, and that it would forthwith terminate the license agreement and resort to various legal measures, unless they were rectified (DG 28). In this regard, LGE responded to the Plaintiffs on October 20, 2003 that LGE was not obligated to pay royalties to, or to accommodate the Plaintiffs with audit regarding the WCDMA sales, and thus not in breach thereof, since none of the above license agreement included WCDMA patents (P 106).

On December 11, 2003, the Plaintiffs filed the request for arbitration against LGE before the International Chamber of Commerce International Court of Arbitration on the ground that LGE failed to comply with the obligations vis-à-vis the Plaintiffs to report the product sales, to provide royalty certification, to accommodate with the audit, and to pay royalties under the 1993 LGE Agreement in connection with the sale of WCDMA products, and informed LGE of the arbitration via e-mail on December 16, 2003, stating that they 'will continue [their] efforts to meet all of [LGE's] ASIC supply needs during the course of the arbitration'[90] (P 45, 107).

However, on May 6, 2004, the Plaintiffs notified LGE that that they were terminating the MOU[91] with LGE on account of LGE's substantial breach of Article 12 of the supply agreement since LGE failed to report or to pay royalties to the Plaintiffs on the sales generated from the WCDMA handsets manufactured with the WCDMA modem chipsets supplied by the Plaintiffs (DA 70; DG 36).

In response to the Plaintiffs' assertion of breach of the modem chipset supply agreement, LGE responded on May 12, 2004 to the effect that it was inappropriate to 'claim breach of the modem chipset supply agreement based on breach of the patent license agreement with respect to which an arbitration was pending, and the Plaintiffs' sale of the modem chipsets legally constituted an implicit license with respect to the WCDMA technology in question' (P 52; DA 71). However, the Plaintiffs sent a letter to LGE on May 26, 2004, informing them of the fact that so far the Plaintiffs have terminated only the MOU and are still entitled to terminate the supply agreements[92] (DA 72; DG 38), and subsequently notified on June 16, 2004 that they would cut off the WCDMA modem chipset supply and technical assistance (P 49; DG 59). The key substance of the letter dated June 16, 2004 is as follows:

[90] "We will continue our efforts to meet all of your ASIC supply needs during the course of the arbitration."

[91] An MOU executed incidental to the ASICS Supply Agreement dated September 1, 2000, under which the Plaintiffs agreed to pay rebates to LGE in proportion to the quantity and ratio of modem chipsets purchased from the Plaintiffs.

[92] "Please be advised that QUALCOMM, at this time, has terminated only the MOU but reserves the right to terminate the Supply Agreement as well."

[Table 55] The Plaintiffs' Notice to LGE dated June 16 2004 re Suspension of WCDMA Modem Chipset Supply

I therefore request that LGE promptly (i) retract and waive Mr. Ham's claim that QUALCOMM has waived its rights under our existing Supply Agreement or that LGE has received or somehow receives any implied royalty free license to use our WCDMA ASICs and (ii) without prejudice to either party's position in the present arbitration, agree to report and pay royalties on all of its sales of past and future WCDMA subscriber units and infrastructure equipment in accordance with the terms of the license agreement. Otherwise, QUALCOMM is left with no choice but to take the following steps:

1) QUALCOMM will stop accepting LGE purchase orders for WCDMA ASICs;

2) QUALCOMM will cease all shipments of WCDMA ASICs to LGE, beginning with the next-scheduled shipment of 500 units of the MSM 6250 for June 30, and 6000 units of the MSM 6200 scheduled to ship during the first week in July;

3) QUALCOMM will withdraw all of its substantial WCDMA engineering resources currently providing technical support to LGE and reassign those resources to our strategic ASIC customers, all of whom are honoring their supply contracts and licensing obligations; and

4) QUALCOMM will require that LGE return to QUALCOMM all versions and derivations of our WCDMA ASIC software (AMSS versions for the MSM5200, MSM6200 and MSM6250).

After sending the above notice, the Plaintiffs actually did not ship the items indicated in the notice: 500 units of the MSM 6250, and 6,000 units of the MSM 6200' 6,000 (DG 53). Thereafter, on July 11, 2004, the Plaintiffs and LGE entered into the 'Amendment to Infrastructure and Subscriber Unit License and Technical Assistance Agreement' which included WCDMA-related patents (DA 15, DG 5-1).

In this regard, the Plaintiffs argues that they could not be deemed to have coerced disadvantages in executing the above agreement since (i) it was because LGE raised the implicit license claim based on the Plaintiffs' supply of WCDMA modem chipsets that they were forced to notify that it would be unavoidable to cut off WCDMA modem chipset supply unless LGE withdrew the implicit license claim, in order to protect the Plaintiffs' WCDMA patent rights; (ii) in fact, LGE had been using the modem chipsets of Ericsson Mobile Platform ("**EMP**") rather than those of the Plaintiffs in the WCDMA handsets sold at the time, and the Plaintiffs' WCDMA modem chipsets were used for research purpose only, so the Plaintiffs' cut off of modem chipset supply could never be used as leverage in the execution of patent license agreement; and (iii) many provisions were revised in favor of LGE during the negotiations for the above agreement, and LGE itself was internally satisfied with the execution of the amended agreement.

However, the Plaintiffs directly threatened and actually cut off modem chipset supply, without waiting for the result of such dispute resolution procedure, although they could have resolved the dispute through such a procedure, as they had filed a request for arbitration on whether LGE's sale of the WCDMA products was included in the scope of license under the 1993 LGE Agreement, which was still pending. The Plaintiffs' letter dated June 16, 2004 shows that the Plaintiffs did not only demand withdrawal of the implicit license claim, but also notified suspension of modem chipset supply unless LGE reported and paid the royalties under the exiting patent license agreement with respect to all past and future sales volumes pertaining to the WCDMA subscriber handsets and infrastructure equipment. After all, the Plaintiffs used suspension of modem chipset supply as leverage in order to coerce LGE into accepting their interpretation of the patent license agreement.

Although LGE had been using EMP modem chipsets in the WCDMA handsets sold externally at the time of such suspension of modem chipset supply (P 108), as it have been engaged in the R&D on release of handsets using the Plaintiffs' WCDMA modem chipsets, the suspension of supply of modem chipsets for research purposes alone would have operated as a significant threat for LGE's business. LGE released handsets incorporating WCDMA modem chipsets sold by the Plaintiffs in 2005, the year after the WCDMA modem chipset supply was cut off. The witness Kim Jeong Jung, who was working at LGE then, testified that LGE had been using EMP modem chipsets with respect to one model embodying the WCDMA standards, but upon being threatened by the Plaintiffs that they would terminate the license agreement and also cut off supply of CDMA modem chipsets if LGE continued to use EMP modem chipsets, LGE could no longer use EMP modem chipsets in any model other than the one mentioned above (Testimony of Kim Jeong Jung).

Moreover, the issue in question with the Conduct 2 is the coercing of execution and performance of patent license agreements to the handset manufacturers, and whether the individual/specific terms and conditions of the ensuing patent license agreements are disadvantages to the handset manufacturers will be determined in the Conduct 3 part among the Disposition; thus, whether the individual terms and conditions under the amended patent license agreements are advantageous or not is not subject to consideration in determining coercion of disadvantages in the Conduct 2. The Plaintiffs raised the same assertion with respect to the 2009 Amendment Agreement with Samsung, but it is not accepted under the same reasoning.

♦ Samsung[93]

In or around 200, Samsung began the data modem business for computers with the modem chipsets supplied by the Plaintiffs. Mr. Kim Sang-Pyo, who was working at Qualcomm CDMA Technologies Korea, a subsidiary wholly-owned indirectly by QI (“**QCT Korea**”), sent an e-mail to Kim Seong-Hyun of Samsung on October 29, 2009 that the Plaintiffs were going to cut off modem chipset supply soon (DA 98). An excerpt of the above e-mail is shown below:

[Table 56] <u>QCT Korea Kim Sang-Pyo’s E-mail dated October 29, 2009</u>

Dear Samsung, Samsung mobile division and computer division are manufacturing data dongle and embedded data modem. But Samsung Electronics has only handset SULA agreement so far. Therefore, it is very close to ask ship-hold of chipset for data dongle and embedded data modem that Samsung is shipping out. In order to avoid critical situation, we need Samsung to sign data modem SULA working with QTL. (Hereinafter omitted)

On the same day, Kim Sang-Pyo reported the above to QTL, and asked whether they should cut off supply of the entire modem chipsets to Samsung, or only the modem chipsets for the computer division (DA 98). The Plaintiffs’ modem chipsets (MSM6290) which Samsung used to manufacture data dongles and embedded data modems at the time were also used as modem chipsets for handsets (Testimony of Kim Sang-Pyo). Thereafter, on November 4, 2009, Samsung and the Plaintiffs entered into the ‘Amendment to Infrastructure and Subscriber Unit License and Technical Assistance Agreement’ which included a license on modem cards (DA 13).

93 On pp. 152, 153 of the KFTC Decision, the license agreement negotiation with Samsung in 2004 is also mentioned as a case of coercion of conclusion/performance of patent license agreements, however, the KFTC did not include the same in its final brief dated July 19 2019, and as asserted by the Plaintiffs, Exhibit DA 61 (testimony of Park Seung-Geon) is not sufficient to demonstrate that the Plaintiffs specifically threatened or actually cut off modem chipset supply to Samsung at the time of patent license negotiations in 2004; therefore, it is not mentioned as a relevant incident.

The Plaintiffs argues that the author of the above e-mail, Mr. Kim Sang-Pyo of QCT Korea, did not have any authority to participate in the patent license agreements or to determine whether to cut off modem chipset supply, and the above license negotiations had begun on January 25, 2008 and the key contract terms were agreed by the time Mr. Kim Sang-Pyo sent the above e-mail, and thus, Mr. Kim Sang-Pyo's e-mail had nothing to do with the patent license negotiations between the Plaintiffs and Samsung'. However, apart from the fact whether the above e-mail had any effect on the actual contract terms, it was the Plaintiffs' policy that any entity which wished to purchase and use modem chipsets from the Plaintiffs must execute a patent license agreement with the Plaintiffs, which after all demonstrates the existence of the Conduct 2.

- ♦ Sony

When the joint venture between Sony and Ericsson, i.e. Sony Ericsson Mobile Communication ("**SEMC**"), was dissolved in early 2012, the Plaintiffs believed Sony to be without a license (P 287; DG 63). In the e-mail dated February 22, 2012 addressed to the Plaintiff' executives including Cristiano Amon (co-president of QCT), Steve Mollenkopf (president of QI) and Fabian Gonell (QTL legal counsel), Derek Aberle (QTL president) stated that "To my knowledge, we have never shipped commercial quantities of chips to accompany without a license. We can't do that here either".[94] Carol Blubaugh at QCT Legal sent an e-mail on February 23, 2012 to Lee Hill (Sony U.S.A. vice president) that "Our operations team has been advised to hold all component shipments to SEMC/Sony Mobile due to unresolved license and supply term issues"[95] (P 287; DG 63).

[94] "To my knowledge, we have never shipped commercial quantities of chips to accompany without a license. We can't do that here either."

[95] "Our operations team has been advised to hold all component shipments to SEMC/Sony Mobile due to unresolved license and supply term issues."

In response to such a threat to cut off supply, Bob Ishida (Sony CEO) immediately informed Steve Mollenkopf (QI president) of the above on the same day as the instruction to hold modem chipset shipment under the title 'urgent' and requested for intervention (P 290; DC 127). On February 23, 2012 after the resumption of modem chipset supply, Steve Mollenkopf instructed Derek Aberle (QTL president) and Cristiano Amon (co-president of QCT) to 'make sure we have a process to make sure Jim L or I have visibility before a stop-ship goes out'[96] (P 287; DG 63). Subsequently, the Plaintiffs entered into an interim license agreement with Sony expiring in September 2012.[97]

When the Plaintiffs failed to enter into a long-term agreement with Sony by September 2012 upon expiration of the interim agreement, they threatened Sony that they would cut off modem chipset supply again in October 2012. On October 20, 2012, Marvin Blecker (QTL SVP) sent an-email to Derek Aberle, Fabian Gonell, and Eric Reifschneider, recommending them to postpone approval on the final modem chipset shipment until Tuesday. Eric Reifschneider agreed, saying "At a minimum, we need to be prepared to stop all chip shipments after Tuesday if they don't sign on Tuesday"[98] (DG 67), and further stated in a connected e-mail on the same day that "The relevant question are (1) are they more or less likely to sign on Tuesday if we hold the shipments"[99] (DG 68). In the e-mail dated October 25, 2012 addressed to the Plaintiffs' executives/officers including Fabian Gonell, which had an attachment on detailed modem chipset shipment schedule for Sony, he confirmed that there were shipments scheduled on October 24 and October 25, and if Sony has not signed the license agreement yet, they should seriously consider cutting off modem chipset supply until they sign the agreement (DG 69).

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96 "Let's make sure we have a process to make sure Jim L or I have visibility before a stop-ship goes out."

97 The Plaintiffs' brief (result of the evidence examination) dated July 19, 2019, p. 128/155.

98 "At a minimum, we need to be prepared to stop all chip shipments after Tuesday if they don't sign on Tuesday."

99 "The relevant question are (1) are they more or less likely to sign on Tuesday if we hold the shipments."

On October 27, 2012, Steve Mollenkopf (QI president) sent an e-mail to Bob Ishida (Sony CEO), saying “Despite the fact that the interim license agreement expired a couple weeks ago. QCT has continued to ship chips to you based on our relationship …. It is not tenable, …. I would appreciate you pushing your team to reengage and have the license agreement signed without further delay”,[100] which suggested that they could cut off modem chipset supply if conclusion of the patent license agreement were delayed (DG 70).

In November 2012, at the end of the Plaintiffs’ such threat to cut off modem chipset supply, the Plaintiffs and Sony entered into a WCDMA patent license agreement.

- ♦ Huawei

After signing the CDMA patent license agreement with the Plaintiffs in 2003, Huawei expressed the intention to re-negotiate the license terms with the Plaintiffs in April 2013. In this regard, Eric Reifschneider (QTL SVP and General Manager) sent an e-mail to Huawei on May 1, 2013 that “If the C2K[101] SULA expires and has not been replaced by a new patent license agreement covering C2K products, there will be issues with Huawei's ability to continue to use C2K chipsets or QMCi's software”,[102] and another e-mail to Huawei on May 8, 2013 that ”Ways to avoid any disruption in chipset supply at the end of this month without creating undue risk for either party (the simplest being for Huawei to exercise its right to renew the C2K license agreement under which it has been operating successfully for the last ten years”,[103] coercing renewal of the CDMA patent license agreement (DC 78, DF 8-1, 8-2). Consequently, on May 27, 2013, the Plaintiffs and Huawei entered into the CDMA patent license agreement.

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[100] “Despite the fact that the interim license agreement expired a couple weeks ago. QCT has continued to ship chips to you based on our relationship and your team's commitments that we will conclude the new license agreement this week. It is not tenable, and creates unacceptable risk, for us to remain in that position. I would appreciate you pushing your team to reengage and have the license agreement signed without further delay.”

[101] Referring to CDMA2000.

[102] “If the C2K SULA expires and has not been replaced by a new patent license agreement covering C2K products, there will be issues with Huawei's ability to continue to use C2K chipsets or QMCi's software.”

[103] “Ways to avoid any disruption in chipset supply at the end of this month without creating undue risk for either party (the simplest being for Huawei to exercise its right to renew the C2K license agreement under which it has been operating successfully for the last ten years.”

- ZTE

The Plaintiffs planned to use modem chipset supply as leverage when negotiating a patent license agreement with ZTE. In connection with the execution of subscriber handset agreement, strategic subsidy agreement, and infrastructure facility agreement with ZTE, Derek Aberle (QTL president) instructed Jing Wang, one of their employees, through an e-mail dated April 14, 2011, to engage in negotiations, while reminding ZTE of the effect upon ZTE's business in the U.S. in case of the Plaintiffs' patent infringement action against ZTE, and of the Plaintiffs' business method of not selling modem chipsets to unlicensed companies; and thereafter reported to Steve Altman on April 16, 2011 that they should consider suspending the assistance in various aspects until the infrastructure facility agreement is concluded (DC 113).

- Lenovo

During the patent license agreement negotiations with Lenovo in 2013, the Plaintiffs planned to use modem chipset supply cut off as leverage in executing the patent license agreement, and actually threatened Lenovo with it. The draft agreement between the Plaintiffs and Lenovo had been dispatched on January 29, 2013, but according to the Plaintiffs' internal document titled 'Lenovo 4G Strategy' dated March 14, 2013, the Plaintiffs planned to cut off modem chipset supply to Lenovo as the carrot in the 'carrot and stick' approach, confirming that there were 378,500 units scheduled to be shipped by April 9, 2013 (DG 71).

During the preliminary meeting with the Plaintiffs in 2013, Ira Blumberg, VP of intellectual property rights at Lenovo, said that he was considering termination of the license, to which Eric Reifschneider (QTL SVP and General Manager) said that once they terminated the license, they would not only no longer be able to purchase modem chipsets from the Plaintiffs, but also the Plaintiffs' modem chipset licensees such as MediaTek would not sell modem chipsets to Lenovo (DG 76).

- Motorola

In proceeding with the patent license negotiations with Motorola in 2015, the Plaintiffs threatened to cut off modem chipset supply. In the memo written by Cristiano Amon (QI president) under the title 'Rick[104] & Team-Motorola' dated December 9, 2015, it is stated that "Eric[105] constantly threatening to cut off chip supply, still off the deal".[106] (DG 72).

[Ruling on the Plaintiffs' Assertion on Cases Other than LGE, Samsung]

The Plaintiffs argue that since the KFTC did not specify in the KFTC Decision whether the Plaintiffs used modem chip supply as leverage to coerce execution and performance of patent license agreements to the handset manufacturers other than the two entities (LGE, Samsung), with which modem chipset supply was allegedly used as leverage, no legal violation can be acknowledged with the Plaintiffs with respect to the patent license agreements with the other handset manufacturers.

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104 Rick Osterloh, president of Motorola.

105 Eric Reifschneider.

106 "Licensing ⇨ Eric constantly threatening to cut off chip supply, still off the deal."

However, the lawfulness of an administrative order shall be determined based on the applicable laws and underlying facts at the time of the administrative order, and the court may ascertain the objective facts which existed at the time of the order, and determine lawfulness thereof based on such facts by comprehensively reviewing all materials submitted until the close of the trial court proceedings, as well as the facts known to the administrative authority at the time of issuance of the administrative order (Supreme Court Judgment 2009Du11843 dated January 14, 2000; and Supreme Court Judgment 2017Du55077 dated July 25, 2019). The Plaintiffs' conduct which was the ground for the KFTC's disposition related to the Conduct 2 is the 'coercion of conclusion and performance of patent license agreements to the handset manufacturers through tying modem chipset supply agreement with patent license agreement, by demanding the handset manufacturers which wished to purchase the Plaintiffs' modem chipsets to first execute the patent license agreement, and by making breach of the patent license agreement as a ground for termination of the modem chipset supply agreement, thereby enabling the Plaintiffs to cut off, suspend or limit supply of modem chipsets if any handset manufacturer failed to conclude or perform the patent license agreement with them', and the fact that the Plaintiffs have threatened to or actually cut off modem chipset supply to the handset manufacturers demonstrate the existence of such conducts. Moreover, it is as acknowledged above that it is the Plaintiffs' established business policy to not sell modem chipsets to any handset manufacturer which did not execute a patent license agreement with the Plaintiffs, and that the Plaintiffs included breach of the patent license agreement as a ground for termination of the modem chipset supply agreement in all modem chipset supply agreements entered into with the handset manufacturers since 2008 until the Disposition. Therefore even if the threatening or actually cutting off modem chipset supply to handset manufacturers other than LGE and Samsung were not actually included in the KFTC Decision at the time of the Disposition, as asserted by the Plaintiffs, as long as they are backed by the evidences submitted and duly investigated until the close of hearing for this case, the court may judge lawfulness of the part of the Disposition pertaining to the Conduct 2 based on such facts. Therefore, the Plaintiffs' assertion is not accepted.

② [Coerced Conclusion of Patent License Agreements in Combination with the Conduct 1 – Ruling on the Plaintiffs' Assertion of Existence of Substitute]

The Plaintiffs argue that the handset manufacturers could fight against the Plaintiffs' suspension of modem chipset supply with the countervailing power from the buyer power, or normally engage in the handset business by purchasing modem chipsets from other modem chipset manufacturers, and that it is not possible for the Plaintiffs to use modem chipset supply as leverage to coerce conclusion and performance of patent license agreements. However, the Plaintiffs blocked the handset manufacturers from evading the Conduct 2 through purchasing modem chipsets from a manufacturer other than the Plaintiffs by not granting licenses on their patents to the competing modem chipset manufacturers (Conduct 1). If the Plaintiffs granted licenses on their cellular SEPs to the competing modem chipset manufacturers, the handset manufacturers would be able to purchase modem chipsets from the competing modem chipset manufacturers, and if the Plaintiffs asserted the cellular SEP rights, they could plead patent exhaustion or use such possibility of shift purchase in negotiations, instead of entering into a license agreement with a view to purchasing modem chipsets from the Plaintiffs. However, as the Conduct 1 makes it impossible for competing modem chipset manufacturers to transfer the Plaintiffs' patent rights to the handset manufacturers with the sale of modem chipsets, if any handset manufacturer purchases and uses modem chipsets from a competing modem chipset manufacturer without entering into a patent license agreement with the Plaintiffs, it would end up inevitably infringing on the Plaintiffs' patent rights, and the handset manufacturer would be forced to enter into a patent license agreement with the Plaintiffs, irrespective of from whom they purchase modem chipsets. In addition, the Plaintiffs entered into with any modem chipset manufacturer, which demanded execution of patent license agreement with the Plaintiffs, a non-exhaustive patent agreement with restriction on vendors and obligation to report sales information, through the Conduct 1, thereby preventing the competing modem chipset manufacturers from selling modem chipsets to any handset manufacturer unlicensed by the Plaintiffs, or if they were sold, requiring the relevant information to be reported so that a patent license agreement may be concluded with the Plaintiffs.

After conclusion in 2013 of the Amendment and Suspension Agreement with MediaTek, which abolished the restriction on vendors and alleviated the obligation to report sales information under the 2009 Non-Exhaustive CDMA ASIC Agreement, the Plaintiffs were internally concerned that such abolishment of restriction on vendors may cause the customers which entered into patent license agreements with the Plaintiffs at the time of purchasing modem chipsets from MediaTek to purchase the modem chipsets from a secondary market or to establish a non-licensee to cooperate with MediaTek (DA 50).

That is, the Conduct 1 and the Conduct 2 are the two axes which support the Plaintiffs' so-called 'handset-single level license policy', which individually or in combination, coerce the handset manufacturers into executing patent license agreements with the Plaintiffs and accordingly pay royalties thereunder to the Plaintiffs, no matter from whom they source the modem chipsets.

[Ruling on the Alleged Non-Existence of Correlation between the Royalty Terms under the Plaintiffs' Patent License Agreements and the Plaintiffs' Market Dominance]

Aviv Nevo, witness for the Plaintiffs, stated that according to the KFTC's reasoning, the Plaintiffs' royalty rates should have increased during the period when the Plaintiffs had market dominance or in negotiations where the handset manufacturers had more need for the Plaintiffs' modem chipsets, and analyzed under such premises (i) fluctuation in the royalty rates with the lapse of time, and (ii) correlation between the effective royalty rates and demand during the adjacent period (2 years from the conclusion of license agreement)[107] with respect to the WCDMA and CDMA standards.

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[107] Market share of modem chipsets purchased from the Plaintiffs during the two years after the conclusion of license agreement.

Aviv Nevo presented the result of analysis that (a) even after the period during which there was alleged change in the Plaintiffs' market dominance, there was no economically significant increase in the effective royalty rates, but the typical royalty rates of the Plaintiffs' CDMA license remained at the 5% level, and (b) there was no economically significant relationship between the effective royalty rates and the demand during the adjacent period, and concluded in light of such analysis that it does not demonstrate that the Plaintiffs did not use market dominance as leverage to secure excessive royalty rates (P 8, 245, 246, 268, 279-1; and testimony of witness Aviv Nevo). The Plaintiffs argue that 'since no causal relationship is acknowledged 'between the Plaintiffs' royalty rates and the Plaintiffs' position in the modem chipset market according to such analysis, the Plaintiffs cannot be deemed to have used modem chipset supply as leverage to coerce conclusion and performance of patent license agreements'.

However, when the following circumstances are also considered in addition to the facts acknowledged above, the Plaintiffs' above assertion based on Aviv Nevo's analysis is hardly acceptable as it is.

It seems that the economists generally agree that the royalty rates under the patent license agreements concluded before inclusion of the Plaintiffs' patented technologies in the standards can be considered to be fair, reasonable and non-discriminatory [so-called 'ex-ante approach', P 165, DA 238]. The Plaintiffs and Aviv Nevo emphasize, based on the above premise, that the royalty rates in the modem chipset market are maintained substantially at the same level. However, the circumstances of the mobile communications market when the cellular technologies invented by the Plaintiffs were incorporated into the cellular standards cannot be deemed to be the same as those of today. The assumption that the royalty rates should also increase in accordance with the increase in the Plaintiffs' market dominance cannot be deemed to be true since the share and degree of contribution of the Plaintiffs' SEPs have rather decreased with the advancement in the standards by cellular standard, from CDMA to WCMDA and LTE.

Since the Plaintiffs calculate the royalties based on the selling price of handsets in entering into the patent license agreements with handset manufacturers, they collect a certain percentage of the overall value of the handsets as consideration for the patent license. However, since CDMA was adopted as the cellular standard in 1993, the handsets have come to incorporate various functions other than mobile communications, including but not limited to camera, music player, touch screen, and larger storage volume. Despite lack of evidence to suggest that the Plaintiffs contributed to non-cellular technologies to the same degree as their contribution to the cellular standards, the Plaintiffs still maintain the similar level of royalty rates as in 1993, when the CDMA was first adopted as the cellular standard. In this regard, the Plaintiffs argue that 'many functions generally available in smartphones of today have been realized as high-speed, high-capacity telecommunications became possible thanks to development in the cellular technology', however, since the various functions of smartphones, which have improved to the degree almost replacing considerable part of the functions embodied in PCs, cameras and tablet PCs, can hardly be deemed be still reliant on cellular connectivity on the same level as in the past, the above assertion is hardly acceptable as it is.

Moreover, the Plaintiffs maintained the same royalty rates as in CDMA standards also in WCDMA and LTE standards, irrespective of the degree of their contribution to each standard. The share of the Plaintiffs' SEPs among the entire SEPS, based on the number of SEPs declared before the ETSI, was reduced from CDMA 90%, to WCDMA 27% and LTE 16% with the evolution of generations. In this regard, the Plaintiffs argues that the 'value of patents shall be assessed based on the actual contribution, rather than arithmetic criteria such as number of patents; the handset manufacturers assess the Plaintiffs' patent portfolios as the most valuable; and it is rather more advantageous for the handset manufacturers since the same royalty rates apply even to the handsets which embody new cellular standards although they also embody the previous generation cellular standards'. However, the Plaintiffs are also internally aware that their share and degree of contribution to cellular SEPs are declining as they move on to subsequent standards. In the Plaintiffs' presentation material 'Long Term China Strategy 'Big Moves'' dated July 29, 2015, the Plaintiffs mentioned that their SEP market share is declining gradually from CDMA (2G) 65%, to CDMA2000 32%, and LTE 24% (DC 112).

③ [Compulsory Measure Far Stronger than an Injunction Claim]

An injunction claim by the SEP holder is able to exclude the relevant products from the market, and any license negotiations carried out under such a threat would distort the negotiation process and make it possible to adopt unreasonable license terms which would otherwise have not been accepted but for such an injunction claim. In the meantime, since the Conduct 2 is liable to burden the business of the counterparty handset manufacturer altogether through supply cut off resulting from termination of contract at the unilateral decision of either party under the patent license agreement, i.e. the Plaintiffs, it could be far more compelling than an injunction claim by the SEP holder.

In general, an injunction claim is raised by the patent holder to seek the judgment of an independent third party such as by filing a lawsuit before the competent court or filing for arbitration, where the court, etc. determine whether to accept the claim by considering the applicable laws and the information, etc. submitted by both parties, during which process both parties can have sufficient opportunity to assert respective positions. On the other hand, the Conduct 2 would allow the Plaintiffs to adopt the self-help method through application of virtual pressure by refusing or threatening to cut off modem chipset supply after determining whether a handset manufacturer has breached the patent license agreement, which would allow the handset manufacturers to hardly have an opportunity to sufficiently assert their position or to have fair, arm's length negotiations.

In addition, while the filing of an injunction action itself would not have much effect on the counterparty even if the injunction claim were ultimately accepted because it does not take effect until a decision is issued, the Conduct 2 would enable the Plaintiffs to unilaterally cut off the modem chip supply to the counterparty immediately and completely.

Even by the scope of effects, while the effect of an injunction order issued by the court, etc. would in general be limited to the extent of jurisdiction of the relevant country or the court, the Conduct 2 is not limited to certain countries or territories and thus could cut off supply to the relevant entity altogether.

In general, handsets are developed in five stages, i.e. concept planning, project planning, design verification, product verification and mass production. Sometimes, the handset manufacturers design and install multiple modem chipsets in a model until they reach the mass production stage with respect to some handset models, but since the ability to supply the optimum, profitable quantity at the opportune time is one of the most important considerations in selecting modem chipsets for handset manufacturers (P 170), if the Plaintiffs threatened to cut off modem chipset as above after the handset manufacturer have decided to use the Plaintiffs' modem chipsets and were in the development or production stage, it would be a significant business threat that could lead to abandoning or suspension of production of the relevant product; therefore, it could be said that the execution of a patent license agreement is coerced more powerfully than an injunction claim.

④ [Unfairness of the Means]

The Plaintiffs argue that the Conduct 2 is a legitimate means for protection of the Plaintiffs' patent rights because the Plaintiffs are not prohibited under the patent law from separating modem chipsets and patents in selling the modem chipsets to handset manufacturers and separately entering into license agreements with the handset manufacturers, and since if even handset manufacturers which have no intention of obtaining licenses on the Plaintiffs' cellular patents were coerced into purchasing the Plaintiffs' modem chipsets, it would lead to the unfair result of coercing the Plaintiffs into actively cooperating in the infringement on their own patents.

Apart from patent exhaustion, in principle, the conclusion of an agreement between the patent holder and the purchaser, which purchases and uses the product which substantially embodies the relevant patent from the relevant patent holder, on the patent already embodied in the relevant product in consideration for royalties, etc., shall be deemed to be permitted under the principle of freedom of contract, as long as such conclusion is the result of free and normal bargaining which reflect the unique needs of the parties to the transaction, and the patent law does not prohibit the conclusion of such contracts nor denies their effect. In 2017, even the U.S. Federal Supreme Court found that the relevant patent rights were exhausted with the approved sale of the patent holder, notwithstanding any contractual clause on restriction of sale between the patent holder and the purchasers[108] ("In sum, patent exhaustion is uniform and automatic. Once a patentee decides to sell … that sale exhausts its patent rights, regardless of any post-sale restrictions the patentee purports to impose, either directly or through a license.")[109] On the other hand, the court also affirmed that the patent exhaustion does not have any effect on contractual rights. That is, the court found that a "patentee is free to set the price and negotiate contracts with purchasers, but may not, 'by virtue of his patent, control the use or disposition' of the product after ownership passes to the purchaser",[110] and "purchasers might not comply with the restriction, but the only recourse for the licensee is contract law"[111] (P 227, DA 120).

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[108] *Impression Prod., Inc. v, Lexmark Int'l, Inc*., 137 S. Ct, 1523 (2017).

[109] "In sum, patent exhaustion is uniform and automatic. Once a patentee decides to sell—whether on its own or through a licensee—that sale exhausts its patent rights, regardless of any post-sale restrictions the patentee purports to impose, either directly or through a license."

[110] "A patentee is free to set the price and negotiate contracts with purchasers, but may not, 'by virtue of his patent, control the use or disposition' of the product after ownership passes to the purchaser."

[111] "The purchasers might not comply with the restriction, but the only recourse for the licensee is through contract law, just as if the patentee itself sold the item with a restriction."

As such, although the Plaintiffs and handset manufacturers are free to enter into contracts, irrespective of the patent exhaustion doctrine, if the Plaintiffs coerced disadvantages to the handset manufacturers 'by using as leverage the supply of modem chipsets which are the goods in the modem chipset market by each standard where they are dominant, in entering into patent license agreements with the handset manufacturers, it may constitute 'hindering the business activities of other business entities in any unfair manner' proscribed under Article 3-2 (1) 3 of the MRFTA.

Moreover, since if the Plaintiffs sold the modem chipsets to the handset manufacturers, the patent rights substantially embodied therein would all be exhausted in accordance with the patent exhaustion doctrine, the handset manufacturer could not be deemed to have infringed the Plaintiffs' 'patent rights', and since the Plaintiffs' supply of modem chipsets would not have any effect on whether the relevant patent rights are infringed, with respect to patents which are not substantially embodied at the modem chipset level but only at the handset level, the Plaintiffs' assertion that they supply modem chipsets only to handset manufacturers which have entered into the patent license agreements in order to protect their patent rights is hardly acceptable as it is.

D. Ruling on the Unfairness (Anti-Competiveness) of the Conduct 2

1) The Gist of the Plaintiffs' Assertion

The KFTC argues that the Conduct 2 falls under 'exclusionary abuse' as a type of abuse of market dominance, but has yet to demonstrate the independent anti-competitive effect of the Conduct 2. Further, the KFTC is merely making the typical 'exploitative abuse' argument, and failed to demonstrate the intention, purpose and anti-competitive effect, which are the requirements for exclusionary abuse.

Although the KFTC claims breach of the FRAND commitments as one of the anti-competitive effects from the Conduct 2, not only is the Plaintiffs' modem chipset supply policy not subject to the FRAND commitments, nor can it be compared with the injunction claim of any cellular SEP holder. In addition, there is no intention or purpose of restriction on competition.

2) Anti-Competitive Effect or Possibility from the Conduct 2

To review the following circumstances, which we can find from facts acknowledged above, statements in each of the following Exhibits: P 8; DA 238; part of the testimony of the witnesses Aviv Nevo, Lee In Ho, and Yi Sang-Seung; and the whole purport of pleadings, in light of the legal principles discussed above, it is reasonable to conclude that the Conduct 2 restricted or is liable to restrict competition in the modem chipset market by each standard in which the Plaintiffs are dominant.

① [Coerced Conclusion of Patent License Agreements in Evasion of Good Faith Negotiations under the FRAND Commitments]

The Plaintiffs which are the CDMA, WCDMA, and LTE SEP holders, are obligated to negotiate in good faith with the counterparties for licensing under fair, reasonable and non-discriminatory terms when entering into patent license agreements in accordance with the FRAND commitments made before the SSOs. However, the Plaintiffs tied the patent license agreements with the modem chipset supply agreements by including breach of such license agreement as a ground for termination of the modem chipset supply agreement, and distorted the normal negotiation procedure by threatening to cut off or actually cutting off modem chipset supply during the patent license negotiations, thereby subjecting the handset manufacturers to accept license terms which they would otherwise not have accepted but for the Plaintiffs' such policy. The handset manufacturers need to have the patent license agreements in place in order to ensure normal supply of the Plaintiffs' modem chipsets, irrespective of when the patent license agreements are entered into; therefore, it remains the same that the conclusion of patent license agreements is coerced even before the modem chipset supply. The 'coercion' in abuse of market dominance is sufficient if it interferes with the freedom of decision-making or implementation of the counterparty, but not to the degree fully excluding such intention.

② [Risk of Excluding Competing Modem Chipset Manufacturers through Refusal to Supply or Injunction Claim against Handset Manufacturers which Receive Modem Chipset Supply from Competing Modem Chipset Manufacturers]

The fact that the Conduct 2, in combination with the Conduct 1, forms the Plaintiffs' 'handset-single level licensing' policy has been already discussed in coercion of disadvantages in the Conduct 2 above. If the Plaintiffs' competing modem chipset manufacturers fail to obtain SEP licenses due to the Plaintiffs' 'handset-single level licensing' policy, the handset manufacturers which have not entered into patent license agreements with the Plaintiffs would be fully exposed to the Plaintiffs' patent infringement claim when they purchase and use the modem chipsets of competing modem chipset manufacturers. The Plaintiffs' selective filing or mere possibility of infringement actions such as an infringement claim against the handset manufacturers who have installed the competing modem chipsets would have the substantial effect of limiting their manufacture/sale. It has been already noted above that such a risk is liable to increase the cost and possibility of business interruption of competing modem chipset manufacturers. It has been already noted above that the Plaintiffs filed a cellular SEP infringement action against the Chinese handset manufacturer Meizu which did not enter into a patent license agreement with them nor used their modem chipsets, and thereafter entered into a patent license agreement with Meizu (DA 238).

③ [Structural Disadvantage of Competing Modem Chipset Manufacturers]

The Plaintiffs coerced the handset manufacturers who needed to purchase the Plaintiffs' modem chipsets into entering into patent license agreements through the Conduct 2, and even handset manufacturers who did not purchase the Plaintiffs' modem chipsets into concluding patent license agreements with the Plaintiffs with respect to the patents embodied in the modem chipsets through the Conduct 1. Such combination of the Conducts 1 and 2 caused the handset manufacturers to incur costs related to the modem chipsets, such as royalties on the patents substantially embodied in the modem chipsets, in addition to the cost of purchasing the modem chipsets, consequently increasing the total costs to be borne by the handset manufacturers. On the other hand, the royalty income is vested directly in the Plaintiffs, subjecting the competing modem chipset manufacturers to comparative disadvantage than the Plaintiffs in the scheme of making profits, and further increasing the profit for the Plaintiffs even when there is increase in turnover on the part of competing modem chipset manufacturers through increase in the sale of modem chipsets.

Since it is inevitable for modem chipset manufacturers who seek profit to secure certain amount of revenue, if the cost of modem chipsets is larger than the price, the competing modem chipset manufacturers would be pressured into increasing the price of modem chipsets. If the Plaintiffs raised the royalties for the handset manufacturers which use rival modem chipsets through license agreements with the handset manufacturers, it could prevent the price of competing modem chipsets from dropping below that of the Plaintiffs' modem chipsets. As such, the Plaintiffs, as a vertically-integrated entity in the SEP Licensing Market and the modem chipset market by each standard, could maintain the total costs payable by the handset manufacturers by increasing the royalties as much instead of reducing the price of modem chipsets, and would benefit from the royalty increase on the overall handset sales volume, irrespective of which modem chipsets the handset manufacturers use, thus established a business structure where it was difficult for competing modem chipset manufacturers to compete with the Plaintiffs on the merits of modem chipsets such as price, production volume, quality or diversity, through adjustment of the ratio of their modem chipset price to royalties depending on the market condition. Even if the competing modem chipset manufacturers were to increase the sales consequently by cutting price through efficient production method or by increasing the sales volume through quality improvement, the Plaintiffs would collect from the handset manufacturers royalties proportionate to the increase in the competing modem chipset manufacturers' sales volume based on the handset sales volume, which would be far higher than the modem chipset. If the competing modem chipset manufacturers' competitiveness reached the level of encroaching the Plaintiffs' profit model, the Plaintiffs could suppress the handset manufacturers' purchase of competing modem chipsets and foreclose their entry into the modem chipset market, by increasing the royalties of the handset manufacturers which purchase competing modem chipsets. Such anti-competitive structure was established through the 'handset-single level licensing' policy which the Plaintiffs created by combining the Conducts 1 and 2, and does not necessarily require the Plaintiffs' royalties to be excessive or the Plaintiffs' modem chipset price to be underestimated.

The Plaintiffs argue based on the testimony and report of their witnesses, Aviv Nevo and Lee In Ho, that under the one-monopoly-rent theory, there is finite amount of general excess profit attainable by the market-dominant entity, and it is simpler for the Plaintiffs to increase the price of modem chipsets which is not restricted by the FRAND commitments, rather than the royalties with such restriction, and that thus there is no incentive to raise the royalties (P 8; testimony of the witnesses Aviv Nevo and Lee In Ho). However, while the SEP Licensing Market is a single-supplier market, there are competing entities in the modem chipset market by each standard, and thus raising the price of modem chipsets could be new competitive pressure. On the contrary, if they raised the royalties, it would be more profitable for the Plaintiffs since they would be able to impose increased royalties even on the handsets where competing modem chipsets are installed, and the Plaintiffs were obviously aware that the 'handset-single level licensing' policy was humongously more lucrative and were actually implementing the same. Therefore, the Plaintiffs' above assertion is hardly acceptable as it is.

④ [Decline in the Number of Rivals]

As already discussed in the judgment on unfairness (anti-competiveness) of the Conduct 1, most of the Plaintiffs' competing modem chipset manufacturers, except for MediaTek, were forced out of the market while the Plaintiffs implemented the 'handset-single level license policy', which combined the Conducts 1 and 2.

⑤ [Effect on the SEP Licensing Market]

We have already established above that the Plaintiffs are able to determine, maintain or change the price, quantity, quality and other terms of the cellular SEP licenses as dominant entities in the SEP Licensing Market. The Plaintiffs are also dominant in the modem chipset market by each standard, which is a downstream market of the above market, and were able to determine, maintain or change the terms of the license agreements more favorably to themselves by coercing the handset manufacturers into concluding patent license agreements by taking advantage of such position and tying them with modem chipset supply agreements. Accordingly, the Plaintiffs' dominant position in the SEP Licensing Market has become reinforced.

The Plaintiffs argue that 'under the market dominance transfer or monopoly leveraging theory, there shall be anti-competitive effect in the relevant market in order for the transfer of dominance to be acknowledged, but there is no competition to be excluded since the Plaintiffs are the only supplier in the SEP Licensing Market'. However, even in the single supplier market, it shall be found to be unlawful if the supplier abused such position and gave rise to restriction on competition or such possibility, such as increase in the price of goods, decline in the output, and impediment to innovation. The restriction on competition or such possibility cannot be deemed to have occurred only when there are rivals in the market and such rivals are excluded. Therefore, the Plaintiffs' above assertion is hardly acceptable as it is.

3) Anti-Competitive Intention or Purpose of the Conduct 2

To review the following circumstances, which we can find from the findings of fact abovementioned; statements in each of the following Exhibits: DB 14; DC 30, 86, 93, 107, 111, 122, 138; DG 60, 61, 65; and the whole purport of pleadings, in light of the legal principles discussed above, it is reasonable to conclude that the Plaintiffs engaged in the Conduct 2 with the intention or purpose of arbitrarily affecting the market order through restriction of free competition in the modem chipset market by each standard.

① [Anti-Competitive Intention Revealed in the Plaintiffs' Internal Documents]

The Plaintiff were internally aware that their license policy was being maintained through their dominance in the modem chipset market by each standard rather than the value of their own SEPs, and accordingly decided not to separate QTL in charge of licensing from QCT in charge of modem chipset sale in order to continue to enjoy such effects.

The Plaintiffs considered whether to separate QCT from QTL through the 'Project Berlin' in 2007. On May 5, 2007, Marvin Blecker (QTL president) sent an e-mail to Paul Jacobs (QI CEO), in which he listed the pros and cons of the separation, and expressed the concern that without the modem chipset business, far more licensees and potential licensees might fight QTL's license demands[112] (DG 60). In the Plaintiffs' presentation material 'Strategic Committee Discussion' prepared in July 2007, they mentioned that the separation of QCT from QTL may "hurt QTL's leverage to negotiate 3G renewals and 4G licensing deals",[113] quoting LGE case as an example, and also pointed out that if their unique business model was separated, there would be "less ability to fund and distribute innovations and attract top technology talent w/o cash flow from QTL to QCT"[114] (DC 122).

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[112] "Without chip business, more licensees/potential licensees might fight QTL license demands."

[113] "Can hurt QTL's leverage to negotiate 3G renewals and 4G (OFDMA) licensing deals (i.e. LG)."

[114] "Less ability to fund and distribute innovations and attract top technology talent w/o cash flow from QTL to QCT."

In his e-mail to Paul Jacobs (QI CEO) dated February 27, 2008, Steve Altman (QI chairman) suggested that if QCT were separated from QTL, the handset manufacturers would end up relying wholly on QCT, and there would be no reason not to attack QTL, stating that the 'combination of QCT and QTL would largely guarantee QTL's success, given the fact that the companies which attacked the Plaintiffs were those who purchased only minimum amount of modem chipsets or none at all from the Plaintiffs' (DG 61).

The Plaintiffs further considered the separation of QCT and QTL through the 'Project Phoenix' in 2015. In his e-mail to Neil Martin (Plaintiffs) dated October 29, 2015, David Wise (QI SVP and treasurer) wrote that there was high correlation between the Plaintiffs' modem chipset market share and the sustainability of royalty rates, and it would be important to maintain high modem chipset market share in order to maintain licensing. It was likewise stated in the 'Phoenix Strategy Perspective' presentation dated November 16, 2015, which was attached to the e-mail dated December 15, 2015 to the Plaintiffs' executives/employees including Alex Rogers (DC 107, 138). Upon being retained to provide consulting, Boston Consulting Group also reached the same conclusion as the Plaintiffs' executives that the separation of QCT and QTL could weaken QTL's position. Boston Consulting Group's presentation dated November 9, 2015 stated that the 'Separation could weaken Tulane (i.e. QTL)[115] in rate negotiations with major customers - similar to other commercial precedent[116] (DC 86).

[115] In the context of DC 86, CalTech seems to refer to QCT, and Tulane to QTL, with which the U.S. Federal District Court agreed the judgment of the first instance by the U.S. District Court.

[116] "Separation could weaken Tulane in rate negotiations with major customers - similar to other commercial precedent."

Ultimately, the Plaintiffs decided not to separate QTL from QCT, aware that their licensing business was being maintained through their dominance in the modem chipset market by each standard, and the profit from their licensing business thus maintained could be used further as necessary resources for the modem chipset business.

② [Recognition of the MRFTA Violation]

The Plaintiffs were aware that the handset manufacturers could raise anti-trust claims such as violation of the MRFTA with respect to the Conduct 2. The presentation material prepared in May 2012 by Fabian Gonell, an attorney at QTL Legal, states, with respect to whether to maintain the policy of denying modem chipset supply to entities which did not execute patent license agreements, that selling modem chipsets to such entities may incur the risk of patent exhaustion in the event of any royalty dispute, and that customers with patent license agreements about to expire or terminate may raise anti-trust claims with respect to such a policy (DC 111). QI's BOD presentation dated July 9, 2012 states that 'sales of chipsets to unlicensed entities, licensed entities not paying royalties under their agreements, or those claiming exhaustion despite the terms of our supply and license agreements present significant risks to the licensing program',[117] and that 'if we cease supply of chips to customers they may assert antitrust claims seeking damages and continued supply',[118] but yet suggested a strategy to 'develop a plan of communication/action that maximizes our ability to defend against the above claims while ceasing supply when necessary'[119] (DG 65). In sum, the Plaintiffs continued to maintain the Conduct 2 through the BOD discussions although they were aware that such denying of modem chipset supply or threatening thereof for conclusion of patent license agreements could invoke violation of the MRFTA issue.

[117] Issue: Sales of chipsets to unlicensed entities, licensed entities not paying royalties under their agreements, or those claiming exhaustion despite the terms of our supply and license agreements present significant risks to the licensing program.

[118] "If we cease supply of chips to customers they may assert antitrust claims seeking damages and continued supply."

[119] "Develop a plan of communication/action that maximizes our ability to defend against the above claims while ceasing supply when necessary."

③ [Exceptional Business Method]

Although the Plaintiffs argued that the handset-single level license policy combining the Conducts 1 and 2 was efficient and justifiable means for the Plaintiffs' patent rights, they failed to enforce such business method in the market where they were not dominant.

♦ NFC Chips

In October 2015, in reporting a business combination to the European Commission for acquisition of NXP which held NFC-related patents and produced NFC chips, the Plaintiffs made the commitments that the corporation merged after the acquisition would continue to sell the NFC chips exhaustively, also to entities which have not entered into license agreements with the merged corporation (DC 30).

♦ Wi-Fi Chips

Following acquisition in 2011 of Atheros which used to sell Wi-Fi chips exhaustively, the Plaintiffs revealed that the Wi-Fi chips for iPhones and iPads would not be provided under license, during the negotiations with Apple for sale of Wi-Fi chips in October 2016 (DB 14). However, Atheros was not substantially dominant in the Wi-Fi chip market at the time, and Apple subsequently purchased Wi-Fi chips from another supplier rather than Atheros. The Plaintiffs failed to enforce such a policy as the Conduct 2.

④ [Utilization as Direct Means to Exclude Rivals]

The Plaintiffs threatened to cut off modem chipset supply not only as the means to coerce the handset manufacturers into concluding the license agreements, but also directly as means to exclude competing modem chipset manufacturers.

In his e-mail dated December 23, 2015 to Derek Aberle, Cristiano Amon, and Eric Reifschneider, Sanjay Metha (Plaintiffs) wrote that if QTL could ascertain that QCT would continue to supply modem chipsets as long as Vivo engaged in good faith negotiations with QTL, Vivo would undertake not to officially and perpetually release handsets incorporating MediaTek's 6755/6750 modem chipsets (DC 93). Accordingly, the Plaintiffs used modem chipset supply as leverage to prevent Vivo from purchasing modem chipsets from their rival MediaTek, thereby excluding MediaTek from the modem chipset market by each standard.

⑤ [Inducement to Restrict Competition]

As already discussed above in connection with the Conduct 1, the Plaintiffs are vertically-integrated entities which are dominant both in the SEP Licensing Market and its downstream market, the modem chipset market by each standard, and have the incentive to use their dominance in the modem chipset market by each standard as leverage to coerce the handset manufacturers into concluding and performing patent license agreements, thereby further exclude the competing modem chipset manufacturers from the modem chipset market by each standard.

E. Ruling on the Alleged Excess/Abuse of Discretion in Application of Laws

The Plaintiffs argue that the 'KFTC's application of interference with business activities under Article 3-2 (1) 3 of the MRFTA in order to avoid burden of proof, while raising the typical exploitative abuse claim that the interests of the counterparty handset manufacturers were infringed because of the Conduct 2 constitutes excess/abuse of discretion with respect to the application of laws'.

However, as already discussed with respect to the unfairness (anti-competiveness) of the Conduct 2, the Conduct 2 is liable to restrict free competition in the modem chipset market by each standard, by subjecting the counterparty handset manufacturers to disadvantageous transactions; the Plaintiffs are acknowledged to have such purpose or intention; and since the KFTC not only asserted infringement upon interests of the handset manufacturers due to the Conduct 2, but has demonstrated unfairness (anti-competiveness) to the competing modem chipset manufacturers as above, the application of 'interference with business activities' under Article 3-2 (1) 3 of the MRFTA with respect to the Conduct 2 does not constitute excess/abuse of discretion in the application of laws.

F. Sub-conclusion

Therefore, the Conduct 2 constitutes abuse of market dominance through 'coercion of disadvantages' under Article 3-2 (1) 3 of the MRFTA, Article 5 (3) 4 of its Enforcement Decree, and Article IV. 3. D. (3) of the Examination Guidelines. Therefore, the Plaintiffs' assertion in this regard is without merit.

7. Conduct 3: Abuse of Market Dominance through Coercion of Disadvantages

A. Findings of Fact regarding the Conduct 3

[Grounds for Findings of Fact] Undisputed facts; statements in each of the following Exhibits: DA 9~23, 32, DG 3~9, and the whole purport of pleadings

1) Overview of the Conduct 3

In entering into patent license agreements with the handset manufacturers, the Plaintiffs proposed and included (i) provisions defining the scope of license as all patents held by the Plaintiffs, without specifying or classifying them (the "**portfolio license terms**"), (ii) provisions calculating the consideration for patent license as running royalties at a fixed proportion of the NSP (wholesale price of handsets, minus certain deductions; the "**handset price**") of handsets (the "**royalty rates based on handset price**", and (iii) provisions under which the modem chipset-related patents among the patents held by the counterparty handset manufacturers are to be licensed to the Plaintiffs and their modem chipset customers, or against which no infringement claim can be made, as part of the consideration for the patent license (the "**cross-grant terms**"[120]) (DA 32).[121]

2) Portfolio License Terms

The Plaintiffs' patents can be classified into cellular SEPs, non-cellular SEPs, and cellular non-SEPs. The Plaintiffs specified the scope of license as 'all their patents' in the standard patent license agreements and the patent license agreements actually entered into with the handset manufacturers,[122] defining that they refer to all of the Plaintiffs' intellectual property rights (DA 9, 10).[123] The Plaintiffs adopted the policy of proposing and concluding portfolio license agreements with the handset manufacturers on all of their patents, without distinguishing between cellular SEPs, non-cellular SEPs, and cellular non-SEPs, or between patents by cellular standard such as CDMA, WCDMA, LTE, except where required by the NDRC decision, etc.

[120] Hereinafter, the cross-grant terms shall mean the cross-grant between the Plaintiffs and the handset manufacturers in relation to the Conduct 3.

[121] The Plaintiffs answered during the KFTC investigation that the structure and terms of most of hundreds of license agreements which the Plaintiffs executed with the handset manufacturers throughout the world are substantially the similar; and that there are usually three types of consideration which the licensees provide to Qualcomm in return for extensive licenses on valuable patented technologies from Qualcomm: advance royalties; running royalties calculated at a certain proportion of the NSP of licensed handsets; and cross-license or covenant not to sue where the licensee covenants not to assert its patents in connection with Qualcomm's components (DA 32).

[122] The Plaintiffs used the terms 'QUALCOMM'S Licensed Patent Claims' in the standard agreements, and 'QUALCOMM'S Intellectual Property' in individual agreements.

[123] The Plaintiffs' standard agreements: "QUALCOMM's Licensed Patent Claims' means QUALCOMM'S Technically Necessary IPR and QUALCOMM'S Included Other IPR".

3) Royalty Rates Based on Handset Price

The Plaintiffs' Subscriber Unit License Agreement (the "**SULA**") provides that the royalties shall be calculated at a certain percentage of the handset price. In fact, the Plaintiffs calculated the royalties at 5-6% of the handset price in case of CDMA, WCDMA; 4% in case of LTE; and 5% in case of LTE (multi-mode) (DA 9, 10).[124] Since the KFTC investigation, the Plaintiffs have stated that the 'imposition of royalties based on the wholesale price of finished (fully-assembled) products is the standard method widely acknowledged in the cellular industry, which was adopted in the 1990s when the first license agreement was entered into' (DA 32).

The royalty terms under the patent license agreements which the Plaintiffs entered into with major handset manufacturers are as follows, and other handset manufacturers such as HTC and BlackBerry traded under the same royalty terms as Foxconn in general (DA 11~23; DG 3~9).

[Table 57] Royalty Calculation Method under the Plaintiffs' Patent License Agreements

Handset Manufacturer	Basis of Calculation	Advance Royalties	Ratio of Running Royalties	Royalty Limit
Samsung	Wholesale price of handsets (up to USD 500 since Jan. 2009)	• USD 8.5 million • USD 1.3 billion added in the 2009 Amendment Agreement	• 1993: export 5.75%, domestic 5.25% • 2004: export 5%, domestic 5.25% • 2009: NSP multiplied by rate fixed at the end of each year (2.65% from 2009 to 2011; 2.5% from 2012 to 2014; 2.35% from 2015 to 2023, with ceiling rate of 6.5%)	
LGE	Wholesale price of handsets (ceiling of USD 500 since Oct. 2010)	USD 8.5 million	• 1993: export 5.75%, domestic 5.25% • 2004: CDMA, WCDMA, LTE (multi-mode) export 5%, domestic 5.25% • 2007: LTE (single-mode): 4%	LTE (single-mode): USD 25 in 2007, USD 20 for those sold after Oct. 1, 2010
Pantech	Wholesale price of handsets	USD 1.5 million	• 2002, 2009: CDMA, WCDMA, LTE (multi-mode): 5-6.5%	USD 25

124 The Plaintiffs' standard agreement 5.2 provides royalties rates at 6.5% for handset sales of up to 33,000 units; 6.0% for sales of 33,000 - 66,000; 5.5% for sales of 66,000 - 100,001; and 5.0% for sales of 100,000 or more (DA 9).

			LTE (single-mode): 3.25%	
Huawei	Wholesale price of handsets	• USD 1 million • Additional USD 1 million for every USD 2.5 million sold	• 2003: CDMA: export 5-7%, domestic 2.65% WCDMA: 5-7%[125]	
Foxconn	Handset transfer price supplied to Apple[126]	CDMA2000: USD 4.5 million CDMA, TDSCDMA: USD 5 million	5-6.5%	

4) Cross-Grant Terms

In concluding agreements with the handset manufacturers, in addition to collecting royalties as consideration for licensing their patent portfolios, the Plaintiffs requested the handset manufacturers to provide cellular SEPs, non-cellular SEPs, and cellular non-SEPs, whereby the handset manufacturers granted exhaustive licenses to the Plaintiffs or provided covenant-not-to-sue[127] to the Plaintiffs and their modem chipset customers (DA 32). The cross-grant terms among the agreements which the Plaintiffs entered into with the major handset manufacturers are as follows (DA 11~23, DG 3~9):h

[125] The royalty rates under the 2003 agreement with Huawei were 2.65% per handset manufactured and sold only in China; 7.0% for handsets sold in other territories, during the first three years from the effective date; and 6.5% thereafter (gradually reduced to 6.0%, 5.5%, 5.0% depending on the sales volume). However, 2.65% was applicable only when Huawei purchased CDMA modem chipsets 100% from the Plaintiffs, otherwise the high royalty rate applicable to handsets sold overseas were applied with respect to all handsets sold by Huawei (Article 5 of 2003 Agreement). Under the WCDMA MOU executed in July 2004, the royalties payable by Huawei were 7% per handset sold until May 29, 2006 in territories other than China; and 6.5% in case of handsets sold after May 29, 2006 (gradually reduced to 6.0%, 5.5%, 5.0% depending on the sales volume) (Article 4 of the 2004 WCDMA MOU).

[126] The handset transfer price payable to Apple by its consigned manufacturer Foxconn included the price of components and royalties payable by Foxconn, and fees for services provided by Foxconn.

[127] The 'covenant not to sue' is a contractual agreement in which the patentee covenants not to assert patent rights against the licensee. If the covenant not to sue is made also vis-à-vis the Plaintiffs' customers, it is called 'second level covenant not to sue'. Once the 'second level covenant not to sue' is executed, the Plaintiffs' customers are also indemnified from patent infringement claims by the handset manufacturers, etc.

[Table 58] Cross-Grant or Covenant Not to Sue under Patent License Agreements

Handset Manufacturer	Cross-Grant Terms	Effective Date
Samsung	Exhaustive license [revised to covenant not to sue for Qualcomm (including affiliates) and its customers in the 2004 Amendment Agreement]	Aug. 1993
LGE	Exhaustive license [revised to covenant not to sue for Qualcomm (including affiliates) and its customers in the 2004 Amendment Agreement]	Aug. 1993
Pantech	License to Qualcomm (including affiliates) and covenant not to sue for Qualcomm licensees	Jan. 2002
BlackBerry	License to Qualcomm (including affiliates) and covenant not to sue for Qualcomm licensees [revised to covenant not to sue for Qualcomm and its customers in the 2010 Amendment Agreement]	Mar. 2000
HTC	License to Qualcomm (including affiliates) and covenant not to sue for Qualcomm licensees	Dec. 2000
Foxconn[128]	Covenant not to sue for Qualcomm (including affiliates) and its customers [2012 Amendment Agreement expressly provided that the licenses granted to Qualcomm are exhaustive rights granted to Qualcomm customers.]	Oct. 2005
Huawei	CDMA license agreement: exhaustive license	May 2003
	WCDMA MOU: covenant not to sue for Qualcomm (including affiliates) and its customers	July 2004

Section 6.1 of the Plaintiffs' SULA provides as follows, with respect to the cross-grant provided to the Plaintiffs, that it is 'fully-paid and royalty-free' license to the handset manufacturers (DA 9, 10).

[Table 59] Section 6.1 of the Plaintiffs' SULA

6. **LICENSEE'S LICENSE.**

6.1 Grant of License from LICENSEE. Subject to the terms and conditions of this Agreement, LICENSEE hereby grants a personal, nontransferable, worldwide, nonexclusive, fully-paid and royalty-free license, without the right to sublicense except as set forth in Section 6.2, under LICENSEE's Licensed Patent Claims, to (a) QUALCOMM to make (and have made), import, use, offer to sell, sell, lease, and otherwise dispose of Subscriber Units, and (b) QUALCOMM and a Successor to make (and have made), import, use, offer to sell, sell, lease, and otherwise dispose of Components. The licenses

In fact, the cross-grant is described as 'royalty free' also in the 2004 agreement with LGE,

128 The Plaintiffs executed with Apple an incentive agreement based on the sales volume of handsets (Business Cooperation and Patent Agreement (BCPA)) and separately obtained covenant not to sue from Apple (DA 25).

2003 CDMA license agreement with Huawei,[129] and the 2004 WCDMA MOU with Huawei concluded by the Plaintiffs. As such, the Plaintiffs did not pay any separate royalties as consideration for obtaining the cross-grant on the handset manufacturers' patents as above.

B. Laws and Legal Principles Applicable to the Conduct 3

The laws and legal principles applicable to the abuse of market dominance through coercion of disadvantages among the Conduct 3 are the same as the laws and legal principles applicable to the Conduct 2 under '6.B' above.

C. Coercion of Disadvantages to the Counterparties

1) Premise of the Conduct 3 Disposition and the Gist of the Plaintiffs' Assertion

The KFTC issued the Corrective Orders 5 and 6 and the Payment Order of Penalty Surcharge on the ground that the 'Plaintiffs which are dominant in the SEP Licensing Market and the modem chipset market by each standard, (i) first established the structure whereby the handset manufacturers were coerced into concluding licenses at the handset level, by refusing to license their SEPs at the modem chipset level to the competing modem chipset manufacturers (Conduct 1); (ii) used their dominance in the modem chipset market as leverage to tie modem chipset supply with license agreements, coercing the handset manufacturers into first concluding patent license agreements with the Plaintiffs (Conduct 2); and (iii) coerced the handset manufacturers into accepting transactions or conducts which were advantageous to the Plaintiffs, and which the handset manufacturers would otherwise not have accepted if they went through fair negotiations under the FRAND terms, by excluding the opportunity for FRAND negotiations on the SEPs for the handset manufacturers through proposal of portfolio license terms, without sufficiently providing appropriate and necessary information for patent license negotiation such as the patent list and claim chart; by coercing them into accepting the unilateral term of royalty rates based on handset prices, without allowing them to choose by distinguishing the licenses by standard or on other patents; and by coercing the handset manufacturers into granting cross-grant their own patents free-of-charge' (Conduct 3).

[129] The CDMA license agreement with Huawei were amended in 2004, 2008, and 2013, but the cross-grant was maintained.

In this regard, the Plaintiffs argue that the ‘KFTC failed to specify the counterparty to and details of the disadvantages other than a number of fragmentary cases; the handset manufacturers were never coerced into the disadvantages alleged by the KFTC (including LGE, Huawei and Apple cases mentioned by the KFTC); there was no unfairness (anti-competitive intention or purpose, anti-competitive effect or possibility); and the FRAND negotiation procedure alleged by the KFTC does not even exist, and the Plaintiffs never breached the FRAND commitments’.

2) Ruling on Portfolio License Terms to the Handset Manufacturers

To review the following circumstances, which we can find from the findings of fact abovementioned; statements in each of the following Exhibits: P 14, 32, 46, 51, 54-1, 54-2, 55, 56-1-56-4, 61-1, 61-2, 66-1, 70, 116-1, 116-2, 117-1-117-4, 118, 120-122, 129-1-129-3, 161, 196; DA 24, 59, 67, 75, 77, 126; DB 61; DG 42; part of the testimony of the witnesses Kim Jeong Jung and Eric Stasik; and the whole purport of pleadings, in light of the applicable laws and legal principles discussed above, it is reasonable to conclude that the Plaintiffs did not provide their patent list and claim chart in entering into some patent license agreements with the handset manufacturers, and that the portfolio license terms included in such patent license agreements can hardly be acknowledged as coercion of disadvantageous transactions or conducts to the counterparty handset manufacturers.

① [Provision of Patent List, Claim Chart]

Huawei revealed that the ‘Plaintiffs did not provide the patent list, not even once, during the license negotiations, it never had any detailed discussions on patent infringement with the Plaintiffs, and it was forced into concluding agreements including non-SEPs although it did not need them' during the process of entering into CDMA, WCDMA SEP license agreements with the Plaintiffs in 2003-2004 (DA 77). LGE also revealed that the 'Plaintiffs did not even provide clear criteria for calculation of royalties, not to mention the list of claims which would clearly show the nature of patents, despite the licensee LGE's repeated demands' during the process of entering into WCDMA SEP license agreement with the Plaintiffs in 2004 (DA 67; testimony of the witness Kim Jeong Jung). Even Apple, which had been negotiating with the Plaintiffs for conclusion of license agreements since 2005, revealed that 'although they wanted the Plaintiffs to provide the patent list in order to assess the true value of the Plaintiffs' patents and to identify unnecessary patents which they wanted to exclude from the license, the Plaintiffs not only failed to provide the patent list, but also did not allow Apple to do so' (DA 75). Providing the claim chart during the SEP license negotiations would allow the potential licensee to compare the elements of patent claims with the technical specifications of the relevant standards, which would enable reasonable and fair procedure for license negotiations.

However, since it requires considerable time and cost to engage in in-depth analysis necessary for preparation of the claim chart (P 118; testimony of the witness Eric Stasik), the provision of all patent list or claim chart pertaining to the patent portfolio to the licensee handset manufacturers could hardly be generalized as required in the license negotiations, even when the patentee holds enormous patent portfolios such as the Plaintiffs. In order for an SEP holder, which has made the FRAND commitments, to file an injunction action based on alleged infringement on such SEP, it shall have warned against patent infringement by informing the counterparty in advance of details of alleged infringement, and should have proposed the detailed license terms in writing, including the desired royalties and calculation method thereof (DA 126).[130] While it would be very desirable if such preliminary procedures were complied with even during the SEP license negotiations, unlike the injunction action, the handset manufacturer's products are sometimes not even specified during the license negotiations, and even when the patent portfolios subject to the license negotiations are far more extensive than the patents subject to the injunction action, it could not be generalized that the same level of procedures are required as the SEP holders' preliminary procedures for an injunction claim.

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130 CJEU, Case C-170/13, Huawei Technology Co. Ltd v. ZTE Corp., ZTE Deutschland GmbH.

In addition, even if the Plaintiffs did not provide the information which could be used immediately in license negotiations such as the patent list or claim chart, the handset manufacturers could always check the Plaintiffs' SEPs from the website of any SSO such as the ETSI[131] (P 116-1, 116-2), and also check the non-SEPs from the website of patent offices of each country,[132] such as the Korea Institute of Patent Information (KIPRIS) or any general search engine[133] (P 54-1, 54-2, 55, 116-1, 116-2, 117-1 ~ 117-4). Therefore, the Plaintiffs' failure to provide the patent list and claim chart for the licensed patents could not immediately lead to the conclusion that the handset manufacturers were not even aware of the basic information necessary for patent license negotiations such as the list, number, validity and contributory value of patents, or that they were forced to accept the portfolio license terms, against their will, without being allowed to check whether the non-SEPs or other SEPs were necessary.

Moreover, the Plaintiffs have provided information necessary for assessment of patent value to the extent practicable when it was necessary for the license negotiations with handset manufacturers or if requested by the handset manufacturers. In March 2008, Samsung remarked during the patent license re-negotiation with the Plaintiffs that 'considering the time and cost

131 ipr.etsi.org.

132 www.uspto.gov; worldwide.espacenet.com, etc.

133 Google Patent Search, etc.

required to assess the patent value, assessment of representative patents related to WCDMA and CDMA2000 would be the practicable means to fairly assess the value of intellectual property rights of both companies' (P 51, 161), and at the end of such discussion, the Plaintiffs and Samsung exchanged the claim chart on 15 CDMA2000 patents and 15 WCDMA patents, respectively (P 46, 51, 61-1, 61-2, 196). On March 14, 2006, LGE also proposed the Plaintiffs exchange of claim chart on total 30 representative patents by technology on the ground that it was necessary to re-assess the patents owned by both companies (DG 42). The Plaintiffs replied on April 13, 2006 that they could present the claim chart at a later meeting, if LGE deemed it necessary, while being pessimistic about such a proposal (P 70). On May 31, 2006, the Plaintiffs provided the list of CDMA SEPs and the list of additional patents applicable to LGE products (P 66-1), followed by a partial claim chart later.[134] In addition, the Plaintiffs also provided Huawei with the list of TD-SCDMA SEP applications in China held by the Plaintiffs and the claim chart on 10 representative patents among them during the patent license negotiations on the TD-SCDMA standards in 2009 (P 129-1 ~ 129-3).

② [Licenses Limited to Cellular SEPs]

When requested by the handset manufacturers, the Plaintiffs entered into license agreements limited to cellular SEPs or certain cellular SEPs, as follows (P 120-122; DA 24):

[Table 60] License Agreements between the Plaintiffs and Handset Manufacturers Limited to Cellular SEPs

Handset Manufacturer	Contract Conclusion	Scope of Licensed Patent Portfolios
Kyocera	Dec. 2013	Limited to some OFDMA SEPs
Motorola	Mar. 2000	Limited to SEPs
Huawei	Dec. 2014	Limited to WCDMA, LTE SEPs in China (effective in July 2014)
Quanta	June 2015	Limited to SEPs for OFDMA handsets to be sold outside China; excluding Chinese patents

134 LGE's brief dated December 10, 2018, p. 46/49.

③ [Disadvantages to Handset Manufacturers]

It cannot be generalized that the portfolio license terms are disadvantageous to the licensee handset manufacturers altogether because they can sometimes be advantageous to the counterparty handset manufacturers (P 32; DB 61). Handset manufacturers which have obtained licenses on the Plaintiffs' entire patent portfolios can manufacture goods without the possibility of infringing the Plaintiffs' extensive patents or being required to pay additional royalties, and could also avoid the cost of examining the Plaintiffs' patents which are substantially embodied in the products during the development/production stage.

HTC initially obtained licenses only on the SEPs from Nokia, but then concluded a portfolio license agreement on Nokia's patent portfolios in February 2014 upon being sued by Nokia in April 2012 for infringement on the non-SEPs (P 14, 56-1 ~ 56-4). Since most of the portfolio licenses also include the Plaintiffs' future SEPs in the scope of licenses, the handset manufacturers do not need, during the term thereof, to engage in separate negotiations on the new patents applied by the Plaintiffs. During the negotiations with the Plaintiffs on the external sale of Samsung modem chipsets in 2011, when the Plaintiffs proposed granting covenant not to sue only with respect to the SEPs and excluding commercial patents for Samsung modem chipsets, Samsung (System LSI) expressed concern that the product competitiveness may be restricted since it would become possible to attack Samsung modem chipsets even with patents other than the SEPs (DA 59).[135]

[135] However, it was not a license for a handset manufacturer, but a patent agreement for a modem chipset manufacturer.

In fact, portfolio licensing by a patent holder with many patents is hardly exceptional. In 1995, Ericsson granted to NEC licenses on all Ericsson patents, and companies such as Motorola and Nokia also granted portfolio licenses including both the SEPs and non-SEPs (P 14; testimony of the witness Eric Stasik).

④ [Relationship between Portfolio License Terms and the Conducts 1 and 2]

Even though the Plaintiffs are dominant both in the SEP Licensing Market and the modem chipset market by each standard, and the Plaintiffs and the handset manufacturers entered into agreements containing portfolio license terms through the Conducts 1 and 2, the portfolio license terms themselves cannot be deemed to be a transaction disadvantageous to the handset manufacturers. Although the KFTC also found the 'conduct of not classifying the patents by cellular standard such as CDMA, WCDMA, LTE' to be disadvantageous, as stated in the Corrective Order 5.A, just as the CDMA, WCDMA, LTE standards in their entirety were deemed to be one relevant market and defined as the SEP Licensing Market, the distinction between CDMA, WCDMA, LTE licenses could not be deemed to be an important element in judging the appropriateness of scope of negotiations in actual license negotiations.

In addition, although the Defendant *[sic]* ensured through the Conducts 1 and 2 that the handset manufacturers are coerced into concluding license agreements including the Plaintiffs' cellular SEPs that would be exhausted upon the sale of modem chipsets, the unfairness of such licensing structure had already been confirmed in connection with the Conduct 2, therefore, the issue with the Conduct 3 would be the terms and conditions of license agreements concluded in accordance with the Conduct 2. It is the same with the royalty rates based on handset price and cross-grant terms, which will be discussed below.[136]

In connection with the Conduct 3, the KFTC issued the Corrective Order 5.A based on the assumption that the SEPs, non-SEPs and other patents were not classified or that the patents were

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[136] The royalty rates based on handset price, and cross-grant terms will also be discussed below, only to the extent of relevant contracts. However, it will not be explained separately since such characteristics of the Conduct 3 are redundant.

not classified by cellular standard among the Plaintiffs' portfolios; or that the claim chart has not been provided, but issued the Corrective Orders 5.A and 5.B without assuming distinguishing between the patents embodied in the modem chipsets and exhausted with the sale of modem chipsets, and those embodied only at the handset level. Accordingly, the Corrective Orders 5.A and 6 alone would not secure conclusion of license agreements, which exclude the cellular SEPs which would have been exhausted with the sale of modem chipsets in accordance with the Corrective Orders 1 and 2. Such a consequence may conflict with the situation anticipated by the Corrective Orders 1 and 2.

Moreover, as already discussed with the Conduct 2, even if the handset manufacturers executed the license agreements with the Plaintiffs unavoidably, there is nothing to suggest that the portfolio license terms themselves were coerced, unlike other contract terms.

3) Ruling on the Royalty Rates Based on Handset Price

To review the following circumstances, which we can find from the findings of fact abovementioned; statements in each of the following Exhibits: P 11, 16, 17, 19, 20, 21-2, 58, 133, 168, 233, 279-1, 279-5, 279-6, 281, 325; DA 13, 238; testimony of the witnesses Yi Sang-Seung and Jeon Seonghoon; and the whole purport of pleadings, in light of the legal principles discussed above, it is reasonable to conclude that even if the Plaintiffs included the royalty rates based on handset price in the patent license agreements with the handset manufacturers, it could hardly be acknowledged as coercing of disadvantageous transactions or conducts to the counterparty handset manufacturers, and the royalty rate based on handset price themselves are insufficient to be found as conduct liable to result in anti-competitive effect or possibility, which exclude competing modem chipset manufacturers.

① [Differentiation of Royalty Rates]

While the Plaintiffs establish the royalty rates at a certain ratio of handset price under the SULA with the handset manufacturers (CDMA·WCDMA 5%, LTE single 4%, LTE multi-mode 5%), other major handset manufacturers sometimes changed them under individual terms through negotiations with the Plaintiffs as shown in [Table 57] or the following cases, therefore, it is difficult to conclude that the Plaintiffs unilaterally determined the royalty rates of the handset manufacturers (P 279-1).

◆ Nokia: While the dispute with the Plaintiffs was pending in September 2008, Nokia transferred some of its patent portfolios to the Plaintiffs, paid advance royalties of USD 2.5 billion, provided covenant not to sue that Nokia would not assert its standard patents by cellular generation and other patents against the Plaintiffs, and entered into a patent license agreement with respect to the CDMA, WCDMA, LTE standards where it was agreed that the royalty rates based on the handset price shall be CDMA 5%, WCDMA 5%, OFDMA 3%, with a cap on the total amount of quarterly and yearly royalties with respect to WCDMA and OFDMA (P 133).

◆ BlackBerry: In October 2010, BlackBerry entered into a patent license agreement with the Plaintiffs where it was agreed that BlackBerry would pay advance royalties of USD 2.5 billion for up to 200 million units of CDMA or WCDMA compatible handsets sold until April 1, 2013, and additional royalties of USD 1,930,000 after the 200 million units. Accordingly, BlackBerry paid three dollars per handset until the additional royalties reached 1/3 of the USD 1,930,000 with respect to the additional handsets sold since July 1, 2011, and four dollars per handset until the total amount of additional royalties were reached with respect to those sold additionally after July 1, 2012 (P 279-5).

◆ Samsung: In concluding with the Plaintiffs a patent license agreement on all of the Plaintiffs' cellular SEPs, non-cellular SEPs, and non-SEPs in November 2009, Samsung agreed to pay a fixed royalty of USD 1.3 billion, to transfer ownership to a total 57 patent groups, and to pay royalties at minimum 2.65% from 2009, and at minimum 2.35% thereafter based on certain formula depending on the performance of Samsung (DA 13).

◆ Sony: The royalty rates for the CDMA technologies under the license agreement, which Sony Ericsson Mobile Communications (joint venture between Sony and Ericsson) entered into with the Plaintiffs, were 4% until January 1, 2004, and 2.5% thereafter (P 279-6).

② [Whether the Royalty Rates were Excessive]

Although the ratio of the Plaintiffs' SEPs based on those registered with the ETSI was reduced gradually to CDMA 90%, WCDMA 27.3%, LTE 16%, they continued to maintain the royalty rates at 4~6% of the handset price. The KFTC argues that the Plaintiffs thus unfairly gained advantages by free-riding on the increase in value achieved through the handset manufacturers' technical innovations.

However, the Plaintiffs' patents licensed to the handset manufacturers under the patent license agreements include patents which are embodied only at the handset level, rather than the modem chipset level (P 11). If a handset manufacturer were to work patents embodied at the handset level, it has to obtain the relevant license from the Plaintiffs, and if it is appropriate to calculate the royalties based on the SSPPU, the handset price has to be the basis of royalty calculation for patents embodied at the handset level. The patents subject to the portfolio license include non-SEPs as well as cellular SEPs, and the portfolios under the Plaintiffs' patent license agreements include such SEPs and non-SEPs not embodied at the modem chipset level, therefore, the fact that the royalties was determined at a certain ratio of the handset price can hardly be the basis of conclusion that it is disadvantageous to the handset manufacturers.

Even handset manufacturers such as Samsung, Ericsson, Nokia, Huawei, and HTC sometimes calculated the royalties or damages based on the handset price depending on their interests, although it may not be under the SULA with the Plaintiffs (P 16, 17, 19, 20, 21-2, 58, 325). In the patent infringement action which the Plaintiffs filed against Apple, the jury reached a verdict on March 15, 2019 that Apple should pay $1.41 per handset to the Plaintiffs for their three non-SEPs which Apple infringed (P 233). The royalties on the SEPs are rather low due to the FRAND commitments, and sometimes commercial non-SEPs have higher royalties than the SEPs (testimony of the witness Jeon Seonghoon).

The KFTC argues that 'just like the difference in price depending on the size of handset memory,[137] the Plaintiffs are making profit proportionately by taking advantage of the increase in the value of handsets, which is irrelevant with the value or function of the SEPs in question'. It is undeniable that the Plaintiffs are in fact taking advantage of the increase in value which is irrelevant with the mobile communication functions, as asserted by the KFTC. However, in order for the royalty rates based on handset price to be deemed unfair for the handset manufacturers, it shall be demonstrated the Plaintiffs' royalty rates are excessive beyond the reasonable level upon comprehensive consideration of the value and proportion of patents embodied at the handset level among the Plaintiffs' patent portfolio, and degree of increase in value through innovation in the handset itself, as distinguished from the cellular SEPs. However, besides the assertion that it is altogether unfair for the Plaintiffs to calculate the royalties at a certain ratio of the handset price through the Conducts 1 and 2,[138] or that to maintain the royalty rates at a constant level despite the development from the voice-only handset to multi-function smartphones, the KFTC has failed to present any reason or evidence to support that such royalty rates exceeded the reasonable level beyond the cost burden to the handset manufacturers or the cost transferred to the modem chipset manufacturers. The Disposition in the KFTC Decision pertaining to the Conduct 3 is also based on the assumption that the collection of royalties at a certain ratio of the handset price is altogether unfair. If the royalty rates based on handset price are unfair, it would naturally follow that the royalties at an extremely low ratio such as 0.01% is unfair; therefore, it is hardly acceptable as it is.

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137 The KFTC gives the example that there is 200-dollar difference in the prices between iPhone 7 with 32GB memory and iPhone 7 with 256GB, and that while 16GB iPhone SE is sold at $399, 16GB Kyocera 4G LTE is sold at less than $100 (The KFTC's brief dated July 19, 2019, p. 111).

138 In answer to the court's question whether it is also unfair to collect royalties at an extremely low rate, the KFTC responded that it was altogether unfair to collect royalties at a certain ratio of the handset price through the Conducts 1 and 2 (16th hearing date on August 12, 2019).

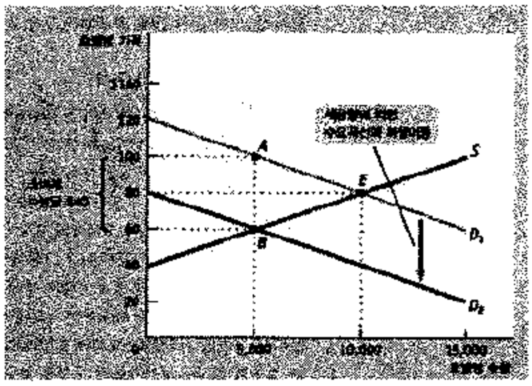
③ [FRAND Royalty Rates and Transfer to the Modem Chipset Manufacturers]

The KFTC issued the Corrective Orders 5 and 6 based on the assumption that the royalties the Plaintiffs collected from the handset manufacturers exceeded the FRAND royalties. However, the KFTC merely argues, as the basis for the Conduct 3 disposition, that it is unfair since the Plaintiffs took advantage of the position created through the Conducts 1 and 2 to coerce conclusion of contracts, and has failed to demonstrate how the royalty rates collected from the handset manufacturers exceed the FRAND rates. Mr. Jeon Seonghoon, a witness for Apple, also testified that the FRAND royalties were not quantified.

The KFTC and Intel argue that 'once the Plaintiffs collected excessive royalties from the handset manufacturers in accordance with the royalty rates based on handset price, the part exceeding the fair royalties would be shared between the competing modem chipset manufacturers and handset manufacturers in accordance with the tax incidence theory and the bargaining theory, as shown in the diagram below,[139] resulting in restriction on competition which would increase of cost of competing modem chipset manufacturers'.

139 The graph on the left on tax incidence theory is from p. 209 of Economics (2nd Ed.) by Paul Krugman-Robin Wells (translated by Kim Jae-young, Park Dae-geun and Jeon Byeong-heon), Sigma Press (2011).

[Table 61] Cost Increase Structure of the Competing Modem Chipset Manufacturers as asserted by the KFTC and Intel



<Cost Sharing based on Tax Incidence Theory>

<No Qualcomm Tax>

<In case Qualcomm Tax is Imposed>

However, such a theory is applicable even when the Plaintiffs collected FRAND royalties which were calculated in accordance with fair, reasonable and non-discriminatory bargaining procedure, and passing on of such costs cannot be deemed unfair. Yi Sang-Seung, witness for the KFTC, is of the opinion that it does not matter at which level the royalties are collected as long as the same FRAND royalties are collected for the same patents (DA 238), and Jeon Seonghoon, witness for Apple, also stated that even by so-called ‘Qualcomm tax’ theory which is based on the tax incidence theory, Qualcomm tax is the part exceeding the FRAND royalties, and if the Plaintiffs’ royalties correspond to or are lower than the FRAND terms, such a theory cannot apply (testimony of the witness Jeon Seonghoon). After all, legitimacy under the ‘Qualcomm tax theory’ depends on whether the royalties adopted by the Plaintiffs exceed the FRAND level or not.

However, the disposition pertaining to the royalty rates based on handset price among the Conduct 3 is being asserted as unfair because they took advantage of the Conducts 1 and 2 to skip the fair bargaining procedure, but is not actually based on the assumption the rate or amount of such royalties exceed the FRAND level.

④ [Limitations of Tax Incidence Theory and Exclusionary Abuse]

If the royalties collected by the Plaintiffs are excessive beyond the FRAND level, the royalties in excess of the FRAND level would have to be borne between the handset manufacturers and competing modem chipset manufacturers in accordance with the tax incidence theory, which could lead to cost increase and market foreclosure on the part of the competing modem chipset manufacturers. Even if decrease in the handset manufacturers' demand for competing modem chipsets resulting from the Plaintiffs' royalty increase can be explained with the tax incidence theory (testimony of the witness Yi Sang-Seung), it shall also be considered that excessive increase in royalties could rather cause the handset manufacturers to shift their purchase to other modem chipsets rather than from the Plaintiffs. If the royalties payable to the Plaintiffs by the handset manufacturers which purchase the Plaintiffs' modem chipsets are excessive, the handset manufacturers may be prone to purchase modem chipsets from other modem chipset manufacturers in order to save the overall costs related to modem chipsets (= patent royalties + cost of purchasing modem chipsets). In addition, since various elements such as components, equipment and licenses are required to manufacture handsets, in addition to modem chipsets, if 4~6% of handset price as collected by the Plaintiffs were excessive, other factors should also be considered, such as the extent and effect of such royalties on the handset manufacturers (e.g. whether the handset manufacturer would increase the handset price, or other costs), extent of ensuing effect on the suppliers of other elements (e.g. at which ratio the cost borne by the handset manufacturers is transferred, and effect of transferred cost increase on the suppliers of other elements).

As such, the imbalance in the amount of royalties between the Plaintiffs and the handset manufacturers, or the disadvantages to the handset manufacturers is not sufficient to draw the conclusion that they result in the anti-competitive effects of exclusionary abuse, such as increase in the cost of competing modem chipset manufacturers in the modem chipset market by each standard, and market foreclosure against new modem chipset manufacturers.

While the Plaintiffs are vertically-integrated entities dominant in the SEP Licensing Market and the modem chipset market by each standard, the purpose of Article 3-2 (1) 3 of the MRFTA and Article 5(3) 4 of its Enforcement Decree can hardly be deemed to be regulation of abuse through exploitative pricing against the counterparty handset manufacturers; and the relevant product market where the anti-competitive effect of the Conduct 3 would reach is the modem chipset market by each standard, as emphasized and asserted by the KFTC, where the handset manufacturers do not compete with the Plaintiffs. Even if the royalties which the Plaintiffs collected from the handset manufacturers were presumed to be excessive, if they reached the exploitative level, let alone the fact that they shall be regulated by another provision pertaining to abuse of market dominance, the anti-competitive effect or possibility on the Plaintiffs and competing modem chipset manufacturers could hardly be acknowledged immediately. Just as the Corrective Orders 5.B and 6 do not directly order the handset manufacturers to reduce the royalties, and since excessive royalties are merely the product of abuse of market dominance such as the Conducts 1 and 2, it does not conform with the system of the fair trade laws applied to the Conduct 3 to subject the pricing and profit-taking involving counterparties which are not competitors in the relevant market as the target of direct corrective orders.

⑤ [Reasonableness of the Fixed Rate Method]

If the patent holder imposed fixed amount of royalties on the handset manufacturers, they would not be induced to reduce the price of handsets because even if the sales volume increased by reducing the handset price, the handset manufacturers would have to pay certain amount of royalties for each additional unit sold. However, if the patent holder imposed royalties at a fixed rate, and if the sales volume and turnover increased through the handset manufacturers' reduction of the handset price, the royalties would be reduced in proportion to the reduced handset price, and the handset manufacturers would be able to keep more from the increase in sales (P 281). In addition, it would be easy to establish and maintain mutually cooperative relationship since both the patent holders and licensees would proportionately share the profit from the increase in the licensees' sales. As such, while the interests of the Plaintiffs and handset manufacturers may be opposed as to the specific ratio, the fixed rate method itself can hardly be concluded as a deal structure entailing collection of excessive royalties which are disadvantageous to the handset manufacturers.[140]

4) Ruling on the Cross-Grant Terms

To review the following circumstances, which we can find from the findings of fact abovementioned; statements in each of the following Exhibits: P 133, 228, 239; and the whole purport of pleadings, in light of the legal principles discussed above, it is reasonable to conclude that even if the Plaintiffs included the cross-grant terms in the patent license agreements entered into with the handset manufacturers, this could not be acknowledged as coercing of disadvantageous conducts or deals to the counterparty handset manufacturers by not providing any consideration or forfeiting the opportunity to receive fair consideration.

① [Interpretation of the SULA]

Section 6.1 of the Plaintiffs' SULA provides with respect to the cross-grant provided to the Plaintiffs that they are 'fully-paid and royalty-free' licenses to handset manufacturers, and accordingly, even if the Plaintiffs did not pay any separate royalties after entering into agreements with the handset manufacturers, it would be tantamount to the Plaintiffs not paying any royalty because of the netting method where the consideration has been 'fully-paid', which cannot be deemed to be licenses without any assessment of value or payment of consideration with respect to the handset manufacturers' patents.

140 In the meantime, if the licensed technologies contribute substantially to the product value, the broad measure of revenues would provide a good approximate value of 'bargaining surplus' based on which the royalties can be calculated, and if the licensed technologies affect only a small portion of the products, it would be reasonable to change to a smaller basis of calculation (Damien Neven, P 168). Therefore, apart from the reasonableness of the fixed rate method, in terms of reasonableness of the Plaintiffs' collection of royalties based on the handsets, the best proxy for bargaining surplus would be determined based on the degree of contribution by the Plaintiffs' patents to handsets.

② [No Demonstration of Considerable Imbalance in Consideration or Non-Existence thereof]

In order for the Plaintiffs to be deemed to have not paid fair consideration for the handset manufacturers' licenses on the basis of considerable imbalance in consideration for the licenses exchanged between the Plaintiffs and the handset manufacturers, the value or price, etc. of the licenses subject to the cross-grant terms exchanged between the Plaintiffs and the handset manufacturers shall be compared to ascertain the nature and degree of disadvantages sustained by the handset manufacturers. However, in light of overall consideration exchanged under the license agreements concluded between the Plaintiffs and the handset manufacturers, there is no evidence to suggest that no consideration was paid for the cross-grant terms or that there was considerable imbalance in the consideration. The KFTC argues that the cross-grant terms themselves are disadvantageous merely on the ground that the Plaintiffs entered into the agreements through the Conducts 1 and 2 or determined them unilaterally, and the KFTC Decision is also based on such an assertion, but the cross-grant terms themselves, which is merely a part of the SULA, cannot be the basis of conclusion that they are disadvantageous to the handset manufacturers, without comparing them with the value of licenses provided by the Plaintiffs.

③ [Payment after Netting]

There is reasonable basis to enter into mutual license agreements since if the patent holder which is a manufacturer, unilaterally grants the patent license, there is risk that the licensee might raise a patent infringement claim against the patent holder afterwards on the basis of the licensee's patents. In such a case, it is also possible to assess the value of respective patents and then have the difference thereof paid (P 228). Under the patent license agreements between the Plaintiffs and the handset manufacturers, the Plaintiffs could grant portfolio licenses on their patents to the handset manufacturers, which in turn could pay to the Plaintiffs advance royalties and running royalties calculated at a certain ratio of the handset price, and also license or provide covenant-not-to-sue on their patents to the Plaintiffs and their modem chipset customers. Given that the cross-grant terms are provided as benefit in return for the licenses on the Plaintiffs' patents, the handset manufacturers cannot be deemed to have received no consideration for their patents, and the phrase 'royalty-free' in the SULA can be interpreted as meaning that there is no amount separately payable by the Plaintiffs to the handset manufacturers after the netting.[141]

④ [Correlation with the Royalty Rates]

The KFTC, LGE, and Huawei argue that if the Plaintiffs had properly reflected the value of the handset manufacturers' patents subject to the cross-grant, the royalty rates applicable to each handset manufacturer would have been different, but since they are the same, the Plaintiffs did not properly calculate the consideration therefor. However, as already discussed above, royalty rates were differentiated to a certain extent among the handset manufacturers.

The KFTC revealed in the KFTC Decision that there was no difference in the royalty rates even among handset manufacturers with considerable differences in the value of respective patents, based on the fact that while the royalty rates were Huawei 5~7%, LGE 5-5.75%, SK Telesys 5~6.5%, the share of cellular SEPs held by each company were Huawei WCDMA 6%, LTE 4.2%; and LGE WCDMA 7.5%, LTE 8.5%, with no SEP whatsoever for SK Telesys. However, such figures are not sufficient to conclude that there are considerable differences in the value of patents held by the handset manufacturers; even if there were not much difference in the royalty rates for the handset manufacturers, it could not be concluded readily that the value of patents provided by the handset manufacturers to the Plaintiffs, together with the royalties, was not calculated; and the cross-grant terms provided by the handset manufacturers could not be deemed to be direct consideration for the licenses provided by the Plaintiffs. Therefore, the correlation between the cross-grant terms and royalty rates are not sufficient to find the cross-grant terms themselves disadvantageous.

141 In this regard, the KFTC mentioned in the KFTC Decision the decision of the JFTC dated September 28, 2009 to the effect that the 'Contract provisions to the effect that domestic handset manufacturer/distributor shall provide free license to Qualcomm with respect to the IPRs held or to be held by the domestic handset manufacturer/distributor for manufacture/distribution of CDMA chips, that [the licensee] shall not claim its rights against Qualcomm or Qualcomm's customers, and that [the licensee] shall not claim its rights against Qualcomm's licensees should be made void' (2009, No. 22). However, on March 13, 2012, the JFTC revoked the above decision dated September 28, 2009 on the ground that they shall not be deemed to be 'royalty-free' in the sense that no consideration whatsoever was paid since the cross-grant was incorporated in the agreement as result of negotiations between the Plaintiffs and the Japanese handset manufacturers (P 239).

⑤ [Nokia Case]

The KFTC argues that 'since the Plaintiffs failed to secure unilateral royalty terms or obtain cross-grant on Nokia patents with respect to Nokia which did not rely on the Plaintiffs' modem chipsets, the cross-grant terms included in the license agreements with the other handset manufacturers are disadvantageous and can be deemed to have been coerced'. However, in concluding a license agreement with the Plaintiffs on July 22, 2008, Nokia, which used to be the key manufacturer of GSM SEPs and 2G handsets, transferred some of its patent portfolios to the Plaintiffs, paid advance royalties of USD 2.5 billion, and provided covenant not to sue (P 133). Nokia's covenant not to sue was substantially the same as cross-grant which is a type of non-exhaustive patent agreement, and even if any other terms which were different from those with other handset manufacturers were included in the agreement with Nokia, they shall be deemed to be reflection of the business models and interests of two companies which seek profits from the SEP licenses at the handset level.

5) Ruling on the Long/Perpetual Contract Terms

The KFTC argues that 'where the Plaintiffs have established perpetual or long term license of more than 15 years, they maintain the same royalty level even when the relevant patents have become invalidated, expired or the obligation to pay royalties has been exempted during the contract term; therefore, the long contract term has been coerced against the will of handset manufacturers'.

However, (i) the handset manufacturers as licensees of the Plaintiffs' patents are free to choose a long contract term with due consideration for their own interests, such as securing stability in business, guarantee of predictability, and reduction of unnecessary risk of dispute, and (ii) there are cases where the obligation to re-negotiate the license terms were included in the contract, irrespective of the contract term (DA 17)[142] or where an amendment agreement was concluded through negotiations during the contract term at the request of the handset manufacturer (2003-2004 and 2009 negotiations with Samsung, 2003-2004 and 2007 negotiations with LGE). (iii) In addition, the KFTC has failed to present any case in which the handset manufacturer wanted a short contract term, but was coerced into accepting a long contract term at the Plaintiffs' insistence, and even Nokia, which the KFTC mentioned as a case of arm's length bargaining power, entered into an agreement with 15-year contract term with the Plaintiffs on July 22, 2009 (P 133). Consequently, the fact that the license agreements which the Plaintiffs entered into with the handset manufacturers have a long contract term cannot be the basis for concluding that the handset manufacturers were coerced into disadvantages.

D. Ruling on the Unfairness (Anti-Competiveness) of the Conduct 3

1) Distinction between the Conduct 3 and the Conduct 2

In the Conduct 2, together with the Conduct 1, the Plaintiffs, which are vertically-integrated entities dominant both in the SEP Licensing Market and the modem chipset market by each standard, coerced the handset manufacturers into first concluding or performing patent license agreements with the Plaintiffs as a condition for purchasing and using modem chipsets in entering into modem chipset supply agreements with the handset manufacturers. The Conduct 3 is limited to the portfolio license terms, the royalty rate based on handset price, and the cross-grant terms among the license agreements concluded between the Plaintiffs and the handset manufacturers through the Conducts 1 and 2. As such, the Conduct 2 concerns the conclusion of agreements by tying the license and modem chipset supply under the modem chipset supply agreements between the Plaintiffs and the handset manufacturers, and the Conduct 3 concerns only a part of the patent license agreements concluded between the Plaintiffs and the handset manufacturers. They shall be distinguished if the

[142] The second sentence in article 5.1 of the OFDM patent license agreement which LGE executed with QI in 2007 provides for obligation to re-negotiate at the request of either party.

independent anti-competitive effect or possibility of the Conduct 3 were to be reviewed.[143]

2) Anti-Competitive Effect or Possibility to the Handset Manufacturers: Denied

The unfairness (anti-competitive effect or possibility) of the Conduct 3 can be acknowledged only when it constitutes 'hindering the business activities of other entities' as 'coercion of disadvantageous transactions or conducts to the counterparty'. It has been already established above that the terms of contracts between the Plaintiffs and the handset manufacturers, such as the portfolio license terms, the royalty rates based on handset price, and the cross-grant terms, are not sufficient to be concluded as coercing of disadvantageous transactions or conducts to the counterparty handset manufacturers; therefore, the anti-competitive effect or possibility upon the handset manufacturers can hardly be acknowledged on the ground that they fall under such types of conducts.

The KFTC claims the anti-competitive effect of impediment to the consumer welfare, such as cost increase for handset manufacturers, and increase in the price of handsets, based on the assumption that the Conduct 3 constitutes transactions or conducts disadvantageous to the handset manufacturers. However, increase in the sales of the handset manufacturers would also proportionally increase the Plaintiffs' royalty revenue and proceeds from modem chipset sales; thus, the handset manufacturers can hardly be deemed to be the Plaintiffs' rivals subjected to exclusionary abuse in the SEP Licensing Market and the modem chipset market by each standard. In addition, according to the KFTC, the Plaintiffs are not dominant in the product market in question related to handsets (handset-related manufacturing/sales/licensing markets; hereinafter, the "**handset market**") and the relevant regional market, where the alleged anti-competitive effect of the Conduct 3 occurs. If, on account of the Conduct 3, the anti-competitive effect in the SEP Licensing Market and the modem chipset market by each standard is acknowledged to be passed on to the handset market, which was not even separately defined as its downstream market, leading to the acknowledgement of anti-competitive effect or possibility in the handset market even without further demonstration, or if the disadvantages suffered by the handset manufacturers which are not rivals or consumers in the relevant product market, although not substantial, are deemed to fall under 'unfairly interfering

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[143] The KFTC also emphasizes the anti-competitive effect resulting from the tied circulating structure of the Conducts 1, 2 and 3 based on the independent anti-competitive effect of the Conduct 3. They shall be distinguished and determined otherwise if the independent anti-competitive effect of the Conduct 3 cannot be acknowledged.

with the business activities of any other business entity' under Article 3-2 (1) 3 of the MRFTA, it would not conform with the legal system which separately provided for Article 3-2 (1), subparagraphs 1 and 2 of the MRFTA, Article 5, paragraphs (1) and (2) of its Enforcement Decree (causing sharp change in the price or supply volume beyond the ordinary level), Article 3-2 (1) 5 of the MRFTA (substantially undermining consumer interests). However, the KFTC Decision does not assume, in connection with the Conduct 3, that the disadvantages sustained by the handset manufacturers which are the Plaintiffs' counterparties are substantial or excessive beyond the FRAND level, or that such disadvantages to the handset manufacturers alone are enough to constitute the anti-competitive effect or possibility in the SEP Licensing Market and the modem chipset market by each standard.

3) Anti-Competitive Effect or Possibility to the Competing Modem Chipset Manufacturers: Denied

The KFTC takes the exclusion of rivals such as cost increase in the modem chipset market by each standard as one of the grounds for anti-competiveness of the Conduct 3. However, it has been already established above that the portfolio license terms, the royalty rates based on handset price, and the cross-grant terms do not fall under the types of coercion of disadvantages which is the basis for anti-competitive effect, and that the anti-competitive effect or possibility of the royalty rates based on handset price can hardly be acknowledged. Even if a patent umbrella can be deemed to have been established under the cross-grant terms entered into with the handset manufacturers, it was achieved through the Conducts 1 and 2, and the cross-grant terms themselves, which are hardly disadvantageous to the handset manufacturers, can hardly be deemed to have the independent effect of excluding the competing modem chipset manufacturers.

4) Whether the Corrective Orders 5 and 6 are Necessary

If the Plaintiffs distinguished between cellular SEPs and other patents, and the patents by cellular standard including CDMA, WCDMA, LTE, provided the claim chart, and went through fair calculation procedure in determining the licenses and royalties with the handset manufacturers, reflecting the intention of handset manufacturers, as per the Corrective Orders 5 and 6, the handset manufacturers would be able to enter into agreements maintaining the SULA structure, although the royalty rates based on the handset price may have to be lowered considerably depending on the negotiations with the Plaintiffs, and the Corrective Orders 5 and 6 can hardly be deemed to be prohibiting the same. In fact, while the effects of the Corrective Orders 5 and 6 were substantially maintained, the Plaintiffs and Samsung, Apple made considerable amendments to the previous agreements, but the structure such as the royalty rates based on handset price remained the same (DA 236-1, 236-2, 237-1 ~ 237-3). As such, even in case of agreements amended as per the Corrective Orders 5 and 6, the license agreements which include the patents exhausted with the Plaintiffs' sale of modem chipsets to the handset manufacturers are permitted.

In the meantime, the Corrective Orders 1 and 2 assume that the Plaintiffs refused to license the SEPs in question to the modem chipset manufacturers and that the Plaintiffs and the modem chipset manufacturers have entered into license agreements related thereto. If the Plaintiffs entered into license agreements with the modem chipset manufacturers in accordance with the Corrective Orders 1 and 2, and did not tie the modem chipset supply and conclusion of license agreements in accordance with the Corrective Orders 3 and 4, the handset manufacturers would be able to purchase the other manufacturers' modem chipsets, without the risk of patent attacks related to the Plaintiffs' modem chipsets, irrespective of the contract provisions on patent exhaustion between the Plaintiffs and the modem chipset manufacturers, and more freely engage in license negotiations on handsets with the Plaintiffs, such as by excluding licenses or royalties on exhausted patents from the modem chipsets purchased as above. Amendment of the royalty level or license agreements between the Plaintiffs and the handset manufacturers through more emphasis on the Corrective Orders 5 and 6 is hardly the state anticipated by the Corrective Orders.

The key to the Corrective Orders is rectifying the Conducts 1 and 2 through the Corrective Orders 1 through 4 pertaining to the Conducts 1 and 2, and the Conduct 3 is merely the details of the agreements reflecting the consequences of the Conducts 1 and 2.

Even if the royalties had been determined in accordance with the Corrective Orders 5 and 6 pertaining to the Conduct 3, according to the tenor of the Corrective Orders 1 and 2, those exhausted through the Plaintiffs' or competing modem chipset manufacturers' sale of modem chipsets to the handset manufacturers shall not be included in the calculation as the royalty base. While it is understandable that the Corrective Orders are correlated, the Corrective Orders 5 and 6 literally target merely the portfolio license terms, the royalty rates based on handset price, and the cross-grant terms under the SULA, and are not construed to essentially excluding the licenses pertaining to those exhausted with the sale of modem chipsets in accordance with the Corrective Orders 1 and 2.

In addition, since the level of information known to the competition authorities with respect to the market, price and interests at stake as at the time of contract conclusion are different from those known to the parties concerned, they shall exercise caution in intervening to revise the details of the contracts agreed between the parties, especially, those limited to a part thereof. Particularly, the competition authorities' ex post regulation of abuse of market dominance shall focus on the structure of restricting competition on the merits with respect to the price, production volume, quality and diversity, etc. in the relevant market, and shall intervene desirably through rectification of such structure.

Therefore, even upon sufficient consideration of the effects of the Conduct 3 tied to the Conducts 1 and 2 and strengthening of the Conducts 1 and 2 based on such consequences as the Conduct 3, not only can the Conduct 3 itself be deemed to be a disadvantageous conduct, but also there is not much need to acknowledge the anti-competitive effect or possibility unique to the Conduct 3, and even in light of the relationship with the Corrective Orders 1 through 4, the Corrective Orders 5 and 6 can hardly be deemed appropriate.

E. Sub-conclusion

In sum, the Conduct 3 cannot be deemed to fall under abuse of market dominance under Article 3-2 (1) 3 of the MRFTA, and Article 5 (3) 4 of its Enforcement Decree. Therefore, the Plaintiffs' assertion in this regard has merit.

8. Conducts 2 and 3: Unfair Trade Practice through Abuse of Position in Trade

A. Applicable Laws and Legal Principles

1) Applicable Laws

▣ **The MRFTA**
Article 23 (Prohibition of Unfair Trade Practices)
(1) No enterpriser shall commit any act which falls under any of the following subparagraphs, and which is likely to impede fair trade (hereinafter referred to as "unfair trade practices"), or make an affiliated company or other enterprisers perform such act:
4. Trading with a certain transacting partner by unfairly taking advantage of his/her position in trade;

▣ **Enforcement Decree of the MRFTA**
Article 36 (Designation of Unfair Trade Practices)
(1) Types of and criteria for the unfair trade practices referred to in Article 23 (3) of the Act are as specified in attached Table 1-2.

[Table 1-2]
Types of and Criteria for the Unfair Trade Practices (Article 36 (1))
6. Abuse of position in trade
"Trading with a certain transacting partner by unfairly taking advantage of his/her position in trade" under Article 23 (1) 4 of the MRFTA refers to any of the following acts:

A. Coercion into purchasing

   Coercing the counterparty into purchasing goods or services for which he/she does not have the intention to purchase

B. Coercion into provision of advantages

   Coercing the counterparty into providing money, goods, services and/or other economic benefits for oneself

C. Coercion of sales target

   Presenting the sales target in connection with the goods or services provided by oneself, and coercing the counterparty into achieving the same

D. Imposition of disadvantages

▣ Establishing or changing the terms of transaction to the disadvantage of the counterparty through any means other than those provided under A through C above, or imposing disadvantages during such implementation process

2) Applicable Legal Principles

The purpose of the provision 'trading with a certain transacting partner by unfairly taking advantage of his/her position in trade' as a type of unfair trade practices under Article 23, paragraphs (1) 4 and (2) of the MRFTA, and Article 36 (1) of its Enforcement Decree, 6.D in [Table 1-2] is to prevent any entity which is in comparatively prominent position or at least in the position to exercise considerable influence on the business activities of the counterparty from abusing its position to impose disadvantages in transactions to the counterparty, in order to ensure fair transactions guaranteed under the law on an arm's length basis even between parties with disparity in economic power in actual transactional relationship. Whether one's position in trade was unfairly taken advantage of shall be determined based on whether such a conduct is liable to undermine fair transactions beyond the normal trade practices based on such factors as circumstances of the market and transaction related to the parties; disparity in the overall business capabilities between the parties; characteristics of the goods or services subject to the transaction; intention, purpose, effect, influence and detailed aspects of the relevant conduct; degree of superiority of the relevant entity in the market; and nature and degree of the disadvantages imposed on the counterparty (Supreme Court Judgment 97Nu19427 dated June 9, 2000; Supreme Court Judgment 2000Du9359 dated

January 25, 2002).

3) Characteristics of Abusing Market Dominance and Position in Trade

If any conduct satisfied all of the requirements of abuse of market dominance and unfair trade practice, even one conduct could fall under both conducts. Even when abuse of market dominance does not stand, unfair trade practice could stand. However, if the court allowed application of the laws on abuse of market-dominance to be denied and easily replaced with abuse of position in trade on the ground that it is harder to demonstrate than abuse of position in trade because abuse of market dominance assumes definition of the relevant market and has strict position requirements, and the scope of anti-competitive effect or possibility is extensive, it would not suit the original purpose and system of the fair trade laws which aim to distinguish between abuse of market dominance and unfair trade practice, and to establish fair and free competition order. The relationship between abuse of market dominance and unfair trade practice cannot be defined as special law and general law because each can be characterized by various types of conducts. Given the legal principles applied to abuse of market dominance, legal principles pertaining to abuse of position in trade, and the factors considered in applying both legal principles, as discussed above, the characteristics of elements used to assess coercion of disadvantages (abuse of market dominance) and imposition of disadvantages (abuse of position in trade) which are the types of conducts applied to the Conducts 2 and 3 can be summarized as follows:

[Table 62] Coercion of Disadvantages and Imposition of Disadvantages

Category	**Coercion of Disadvantages**	**Imposition of Disadvantages**
Type of Conduct	Abuse of market dominance	Abuse of position in trade
Subject	Market-dominant entity	Position in trade
Anti-Competitive Effect	Relevant market	Counterparty and trade order
Target of Correction	Structure and method of coercing of disadvantages	Disadvantages to the counterparties themselves
Nature and Degree of Disadvantages	Could include abstract risks or possibilities	Need to be more clear than abuse of market dominance (amount of damages must be ascertained in case of monetary damage)
Customary Practice	The practice established by the market-dominant entity is not largely considered	More unfair the more it goes against the trade practices
Advantages to the Entity	Not deemed to be unfair unless it is exploitative abuse (conspicuousness)	Unfair if excessive in light of the trade practices

B. Position in Trade

1) The Gist of the Plaintiffs' Assertion

The Plaintiffs' position in trade vis-à-vis the handset manufacturers is not acknowledged since the handset manufacturers have a substitute for modem chipsets and thus are not reliant on the Plaintiffs for supply, and since the counterparty handset manufacturers including Apple, Samsung, LGE, and Huawei are global companies superior than the Plaintiffs in terms of size of business and sales, and have strong bargaining power such as purchase shift and price cutting with enormous modem chipset purchasing power.

2) Ruling

The 'position in trade' can be acknowledged when a party has a relatively superior position or at least a position through which it can exercise considerable influence on the transaction with the counterparty, and shall be determined by comprehensively considering the circumstances of the market to which they belong, disparity in the overall business capabilities between the parties, and characteristics of good or services being traded or the trade relationship (Supreme Court Judgment 2009Du24108 dated May 13, 2011).

To review the following circumstances, which we can find from the statements in each of the following Exhibits: P 159-1-159-4, 160, 255; evidences referred to above; and the whole purport of pleadings, in light of the legal principles discussed above, the Plaintiffs' position in trade vis-à-vis the handset manufacturers can be acknowledged.

① [Market Circumstances, Disparity in Business Capabilities]

Although the Plaintiffs' scale of business and sales are smaller than the major handset manufacturers such as Apple, Samsung, Huawei, and LGE (P 159-1 ~ 159-4, 160, 255), the Plaintiffs, as vertically-integrated entities dominant both in the SEP Licensing Market and the modem chipset market by each standard, can have considerable influence on the major handset manufacturers, which can be made to rely on the Plaintiffs for substantial part of the modem chipset supply through modem chipset supply policy or cellular SEP licenses, or which have become locked in through continued trade relationship. Further, when compared to other 200 or so small or medium handset manufacturers, other than the above major handset manufacturers, the Plaintiffs are superior than most in terms of scale of business and turnover.

② Characteristics of Goods Traded and Trade Relationship]

Before releasing a new product, the handset manufacturers determine the modem chipset to be used in the relevant handset through technical verification and customer approval on performance of modem chipsets and compatibility with other components, and then develop and release the handsets; thus, once the modem chipset to be used in a certain handset model is determined, it is considerably difficult to replace it with another modem chipset. Accordingly, if the Plaintiffs did not timely supply the modem chipsets, it would be difficult for the handset manufacturers to replace them with another modem chipset in time for the scheduled release, subjecting the important handset business such as release of a new product to risk of suspension. Apple resorted to using Intel modem chipsets, Samsung used its own modem chipsets, and Huawei used HiSilicon modem chipsets, but that was after they took over considerable restrictions and risks under the Plaintiffs' SEP or license agreements, therefore, it is not an option which can be chosen readily by most other handset manufacturers, nor is it a viable substitute.

C. Whether There was Imposition of Unfair Disadvantages

1) The Gist of the Plaintiffs' Assertion

The Conducts 2 and 3 did not specify the subject, scope and substance of the disadvantages sustained by the handset manufacturers, therefore the disadvantages were not also clearly defined. The Conducts 2 and 3 were not coerced but agreed with the handset manufacturers through good-faith negotiations, and do not constitute terms and conditions disadvantageous to the handset manufacturers; thus, do not undermine fair trade.

2) Applicable Legal Principles

In order to issue a disposition on account of 'unfairly taking advantage of his/her position in trade to establish or change the terms of transaction to the disadvantage of the counterparty, or imposing disadvantages during such implementation process' under Article 23, paragraphs (1) 4 and (2) of the MRFTA, and Article 36 (1) of its Enforcement Decree, 6.D in [Table 1-2], the nature of 'disadvantages' sustained by the counterparty shall be clearly defined objectively, and if the 'disadvantages' are monetary damages, the existence of legally liable damage as well as the scope (amount) shall be clearly defined (Supreme Court Judgment 2000Du6213 dated May 31, 2002).

Given the regulative system of Article 23, paragraphs (1) 4 and (2) of the MRFTA, and Article 36 (1) of its Enforcement Decree, 6.D in [Table 1-2], in order to fall under 'imposition of disadvantages' under 6.D, it is insufficient to demonstrate that the nature of such a conduct is somewhat disadvantageous to the counterparty, but it shall be acknowledged that a party unfairly took advantage of his/her position in trade to establish or change the terms of transaction, or imposed disadvantages during such implementation process, to the degree equatable with coercion into purchasing, coercion into provision of advantages, or coercion of sales target provided under sub-paragraphs A through C; there shall be possibility of undermining fair trade through imposition of unfair disadvantages to the counterparty in light of the normal trade practices; and whether unfair disadvantages have been imposed on the counterparty shall be determined by comprehensively considering various factors such as intention and purpose of the relevant conduct at the time it was carried out, circumstances leading to such a conduct, nature and degree of possible disadvantages to the counterparty due to the relevant conduct, degree of competitive restriction upon the trade process between the parties due to the relevant conduct, trade practice in the relevant industry, effect on the general competition order, and applicable laws and regulations (Supreme Court Judgment 2000Du6213 dated May 31, 2002).

3) Ruling on the Conduct 2

To review the following circumstances, which we can find from the evidences referred to above; and the whole purport of pleadings, in light of the legal principles discussed above, it is reasonable to conclude that the Conduct 2 is liable to undermine fair trade by imposing unfair disadvantages on the counterparty handset manufacturers, in light of the normal trade practice.

① [Intention and Purpose]

The Plaintiffs intentionally designed the business policy so that their dominance in the modem chipset market by each standard can be passed on to the SEP Licensing Market to ensure contract terms advantageous to themselves, and used the same in the patent license negotiations with handset manufacturers.

② [Practice of the Relevant Industry]

There is no modem chipset manufacturer other than the Plaintiffs which requires conclusion of patent license agreements before selling modem chipsets to the handset manufacturers, or which refuse to sell modem chipsets on the ground that the agreement have not been concluded. Unlike the competing modem chipset manufacturers, the Plaintiffs ensured that the handset manufacturers execute the license agreements before purchasing the modem chipsets by separating the patents from their modem chipsets, and by tying the modem chipsets with patent license agreements.

③ [Nature and Degree of Disadvantages]

Under the modem chipset supply agreements between the Plaintiffs and the handset manufacturers, the Plaintiffs are entitled to cut off modem chipset supply to the handset manufacturer unilaterally if any of them is found to have violated the license agreement. The disadvantages to the handset manufacturers are that they have to conclude, maintain and perform valid license agreements with the Plaintiffs in order to obtain modem chipset supply from the Plaintiffs, and such disadvantages are clearly defined in the modem chipset supply agreements. Moreover, since the handset manufacturers are reliant on the Plaintiffs' modem chipset supply, the risk of modem chipset supply cut-off, tied with the license agreements, is linked to the risk of interruption of handset business.

④ [Effect on the Competition Order]

The tying of the Plaintiffs' modem chipset supply and the license agreements does not target certain handset manufacturers, but is a consistent policy applied to all 200 or so handset manufacturers. The Conduct 2 functions as an important leverage in ensuring that the handset manufacturers enter into license agreements as desired by the Plaintiffs.

4) Ruling on the Conduct 3

To review the following circumstances, which we can find from the evidences referred to above; and the whole purport of pleadings, in light of the legal principles discussed above, the Conduct 3 assumed in the KFTC Decision is not sufficient to conclude that the disadvantages to the counterparties are unfair in light of the ordinary trade practice.

① [Nature of Disadvantages]

The KFTC issued the disposition related to the Conduct 3 on the ground that the portfolio license terms which did not distinguish between the SEPs and other patents, the license terms unilaterally proposed without providing any basic data for fair assessment of the patent value, the royalty rates based on handset price, and the cross-grant terms without fair consideration altogether constituted unfair disadvantages. However, as already discussed in connection with 'conducts disadvantages to the counterparty' as abuse of market dominance in the Conduct 3, the portfolio license terms, the royalty rates based on handset price, and the cross-grant terms are not in themselves disadvantages to the handset manufacturers. Moreover, since the relationship with the counterparty is emphasized far more in case of disadvantages in the abuse of position in trade than the disadvantages in the abuse of market dominance, the nature and degree of such disadvantages shall be defined more clearly. Since agreements with the portfolio license terms, the royalty rates based on handset price, the and cross-grant terms can also be executed between entities without position in trade, the types of agreements listed in connection with the Conduct 3 in the KFTC Decision are not clear enough definition of the details of the disadvantages.

② [Degree of Disadvantages]

In order for the Conduct 3 to be found disadvantageous to the handset manufacturers, the facts based on which the imbalance in the values exchanged between the Plaintiffs and the handset manufacturers, such as how excessive the handset manufacturers' royalties and the cross-grant terms are when compared to the patent value transferred to the handset manufacturers through portfolio licensing, how excessive are the royalty rates based on handset price when compared to the Plaintiffs' patent portfolios, and how excessive the handset manufacturers' patent rights granted to the Plaintiffs under the cross-grant terms are when compared to the portfolio licenses granted by the Plaintiffs, shall be established first, and then the imbalance in the benefits shall be weighed based on the above. However, the KFTC Decision merely supposed that each part or all of the Conduct 3 were in itself disadvantages, and failed to present any fact which may be the basis for acknowledging individual or overall disadvantages.

③ [Degree of Coercion or Imposition]

According to the structure and language of Article 36 (1) of its Enforcement Decree, 6.D in [Table 1-2], the unfair disadvantages under 6.D shall be equatable with coercion into purchasing, coercion into provision of advantages, or coercion of sales target. The fact that a license agreement including the portfolio license terms, the royalty rates based on handset price, and the cross-grant terms, which comprise the Conduct 3, was concluded is not sufficient to acknowledge that they have reached the level of coercion or imposition. The handset manufacturers were coerced into concluding the license agreements through the Conduct 2, i.e. the risk of the Plaintiffs' cutting off modem chipset supply, but such a circumstance was already considered when the Conduct 2 was found to be abuse of market dominance and abuse of position in trade. The Conduct 3, which is the substance of the agreements under or the result of the Conduct 2, should not be sorted further and be acknowledged as have been separately coerced or imposed. If any agreement concluded through the Conducts 1 and 2 are to be acknowledged to have been realized through abuse of position in trade, it would lead to the unfair conclusion that all of the license agreements concluded between the Plaintiffs and the handset manufacturers are disadvantages as a whole. If the Conducts 2 and 3 cannot be distinguished, all of the license agreements concluded between the Plaintiffs and the handset manufacturers through the Conduct 2 shall be deemed to be disadvantages and thus unfair.

④ [Characteristics of Abuse of Position in Trade]

As asserted by the Plaintiffs,[144] given the purpose of regulation on abuse of position in trade, the abuse of position in trade provision cannot be wholly excluded on account of being transactions between foreign entities, however, the Plaintiffs' abuse of position in trade vis-à-vis the handset manufacturers shall in principle be judged individually depending on the counterparty handset manufacturers. Since, as already discussed above, the nature and scope of the license agreements concluded between the Plaintiffs and the handset manufacturers in connection with the Conduct 3 can be confirmed, such as scope of portfolio licenses, royalty payment terms, and scope of cross-grant, there shall be facts based on which the abuse of position in trade can be acknowledged between the Plaintiffs and the handset manufacturers. However, in issuing the disposition pertaining to the abuse of position in trade related to the Conduct 3, the KFTC just quoted the facts, based on which the disposition pertaining to the abuse of market dominance was issued, and assumed that

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[144] The Plaintiffs' brief dated July 19, 2019, p. 270, FN 487.

the types of contracts themselves were disadvantages.

D. Sub-conclusion

In sum, while the Conduct 2 falls under unfair trade practice under Article 23 (1) 4 of the MRTFTA, the Conduct 3 cannot be deemed to be so. Therefore, the part of the Disposition finding the Conduct 3 to be a type of unfair trade practice is unlawful, and the Plaintiffs' above assertion pertaining to the Conduct 3 has merit.

9. Ruling on the Procedural Unlawfulness of the Disposition

A. The Gist of the Plaintiffs' Assertion

The Plaintiffs are entitled under Article 52-2 of the MRFTA to demand access to and copying of the materials prepared and collected by the KFTC during the investigation, and such materials are not limited to the attachments to the examination report, but also include documents prepared or submitted during the investigation for the Disposition. Article 16.3(3) in the section on the Competition-Related Matters under the Free Trade Agreement between the Republic of Korea and the United States (effective as of Nov. 22, 2011; the "**ROK-US FTA**") affords each Party a reasonable opportunity to review and rebut the evidence and any other collected information on which the determination may be based. However, during the deliberation for the Disposition, the KFTC (i) either refused the Plaintiffs' demand to access or copy the following attachments to the Examination Report, or provided the same after deleting important information (the parts refused to be accessed/copied or deleted, hereinafter, the "**unprovided part**"), and (ii) stashed away and did not provide to the Plaintiffs and the examiners the materials collected during the investigation for the Disposition, such as the preliminary reports of Kim Jeong Jung and Jeon Seonghoon, and the handset manufacturer' response to the request for information (RFI). The KFTC's such conducts infringed the Plaintiffs' right to demand access/copying and the right to defense, and violated Article 16.1(3) of the ROK-US FTA, which constitute serious procedural defects in the Disposition.

[Table 63] Unprovided Part among the Attachments to the Examination Report

List of Attachments which the KFTC Refused Access/Copying
Spreadtrum's provision of indemnification for patent disputes (DA 57); Ericsson's provision of indemnification for patent disputes (DA 58); LGE's internal report on 2003-2004 negotiation status (DA 69); LGE's internal report on 2006 negotiation status (DA 74)
List of Attachments Provided after Deleting All Important Information
Samsung's report on Qualcomm contract negotiations for sale of modem chipsets (DA 59); LGE's internal document on considerations for selection of chipsets from IPR perspective (DA 66); LGE's opinion (first, DA 67); LGE's explanation on 2003-2004 negotiations (DA 68); Apple's opinion (DA 75); Huawei's response to the RFI (DA 77); Intel's response to the RFI (DA 79); MediaTek's response to the RFI (DA 80); Broadcom's response to the RFI (DA 81); Huawei's second response (DA 94); and GTE's response to the RFI (DA 95)

B. Applicable Legal Principles

Article 52-2 of the MRFTA provides that any party concerned or interested person may request the KFTC to have access to or make a copy of data relating to the measures taken under this Act, and in this case, the KFTC shall comply with such request, if it deems it necessary for the public interest or a consent is granted by the person providing such data. Article 55-2 of the MRFTA further provides that matters necessary for procedures in dealing with cases in violation of this Act shall be determined and notified by the KFTC. According to the language and substance of Article 29, paragraphs (1), (10) and (12), and Article 29-2, paragraphs (1) and (2) of the KFTC Rules on Management of Meetings and Case Procedures (the "**Procedural Rule**"), which was established based on the above provisions, the access to or copying of the attachments may be denied if the information requested by the interested person constituted trade secrets, matters of privacy or other confidential information provided under the applicable laws, or contained information related to a voluntary report, which contains personal information such as identity of the person making the voluntary report. Even in such a case, they cannot be refused uniformly, but shall be determined prudently by weighing and balancing the interests protected by refusing access to/copying of the attachments, and the nature and degree of the respondent's right to defense prejudiced thereby.

In this regard, if the respondent requested for access to/copying of the attachments to the examination report which was necessary for exercise of right to defense during the deliberation/decision procedure, but the KFTC did not accede thereto although it did not fall under any of the grounds for refusal under Article 29 (12) of the Procedural Rule, the procedural justification of the KFTC's deliberation/decision is lost, and the KFTC's disposition shall be revoked, in principle, on account of procedural defect.

However, in exceptional cases where such procedural defect cannot be deemed to have substantially undermined the respondent's exercise of the right to defense, even if the KFTC refused to provide the attachments or denied access thereto/copying thereof, the disposition shall not be revoked since the KFTC's deliberation/decision cannot be deemed to lack procedural justification. Further, whether the respondent's right to defense has been prejudiced substantially due to refusal to provide the attachments or denying of access to/copying shall be determined after comprehensively reviewing the nature, scope and extent of materials which the KFTC refused to deliver or denied access/copying; degree of relevance between the substance of the materials and requirements for disposition; details of refusal and appropriateness of the grounds for refusal; content of the examination report; and whether the respondent had sufficient opportunity to defend during the deliberation/decision procedures, such as provide statement or make defense (Supreme Court Judgment 2015Du44028 dated December 27, 2018).

C. Ruling

1) Ruling on the Unprovided Part

First, we will first review the denial of access to/copying of the unprovided part. When we review the statements in each of the following Exhibits: P 181, 237; DA 57~59, 66-69, 74, 75, 77, 79-81, 94, 95 together with the whole purport of pleadings, it is acknowledged that after the KFTC examiners submitted the examination report on this case on November 13, 2015 (P 181, 237), the Plaintiffs' legal counsel attended the full-commission hearings held on August 27, 2016, September 5, 2016, September 28, 2016, November 30, 2016, December 14, 2016, December 21, 2016 and February 8, 2017, and had opportunities to defend, including pleading and stating opinion on and each of the Conducts in question;[145] that the unprovided part consists of the contracts, internal reports of entities other than the Plaintiffs, and the responses/opinions submitted by such entities as per the KFTC's RFI; that most of such entities refused to provide or disclose such materials on account of being trade secrets with respect to the unprovided part; that among the 102 documents[146] attached to the Examination Report by the examiners, the KFTC refused access to/copying of only four documents, and the number of documents provided after redaction were only eleven, which were also very few; and that the key issues at the deliberation stage involved mainly evaluation of the Plaintiffs' business model which is comprised of the Conducts 1, 2 and 3. Since the Disposition was after all based on the Plaintiffs' such business model, the KFTC's refusal of access to/copying of the unprovided part does not seem to have substantially undermined the Plaintiffs' exercise of right to defense to the degree forfeiting the procedural justification in the KFTC's deliberation/decision.

[145] References 1~7 presented through the KFTC's motion for document production order to the Plaintiffs dated January 9, 2019; and transcript of proceedings of the KFTC's 24th, 27th, 30th, 38th, 42nd, 43rd, and 44th full-commission hearings.

[146] The KFTC's Reference 21-1 (list of records) dated April 23, 2019.

Therefore, the Plaintiffs' assertion in this regard is without merit.

2) Ruling on the Materials Collected during the Investigation for the Disposition

Next, we will review the materials collected by the KFTC during the investigation, which were subsequently not attached to the Examination Report. Even if a report other than DA 171 (DB 35) among Kim Jeong Jung's reports was submitted to the KFTC, as alleged by the Plaintiffs, the said report was submitted merely as an interim deliverable, but was not the final report (testimony of the witness Kim Jeong Jung; opinion on the KFTC's motion for document production order dated May 10, 2019), and even if Jeon Seonghoon had indeed prepared an economic analysis report for Samsung before November 13, 2015, the content thereof seems to be merely a part of Jeon Seonghoon's economic analysis report (DB 27) which was prepared for Apple and submitted to the KFTC on July 18, 2016 (testimony of the witness Jeon Seonghoon). It seems that the KFTC is hardly obligated to attach such reports to the Examination Report or provide to the Plaintiffs separately. Moreover, since Kim Jeong Jung's report (DA 171, DB 35), and Jeon Seonghoon's economic analysis report (DB 27) are about the issues which were sufficiently disputed by the experts for both sides during the KFTC hearings, even if Kim Jeong Jung's and Jeon Seonghoon's preliminary reports were not submitted to the Plaintiffs during the investigation for the Disposition, they cannot have substantially undermined the Plaintiffs' exercise of the right to defense.[147]

In addition, as for the parts not provided to the Plaintiffs and the examiners among the materials, e.g. the handset manufacturers' response to the RFI, they were documents submitted by third parties other than the Plaintiffs or the KFTC, for which the persons submitting them did not consent to access/copying, thereby not exempting the KFTC officials' obligation to maintain confidentiality vis-à-vis the submitters, as found in the court's decision dated April 9, 2019 in response to the Plaintiffs' motion for document production order dated August 10, 2018,[148] and the court's decision dated May 24, 2019 in response to the Plaintiffs' motion for document production order dated May 7, 2019.[149] Even when the interests protected by refusing the Plaintiffs' access/copying are weighed

147 Supreme Court Judgment 2019Mu728 dated October 1, 2019 (The Plaintiffs sought to have the reports of Kim Jeong Jung and Jeon Seonghoon submitted through the motion for document production order dated April 26, 2019, but the court rejected through the decision dated May 24, 2019, upon which the Plaintiffs filed a re-appeal, which was also rejected).

148 Supreme Court Judgment 2019Mu673 dated August 20, 2019 (finalized upon rejection of the re-appeal).

149 Supreme Court Judgment 2019Mu728 dated October 1, 2019 (The Plaintiffs sought to have the response to the RFI submitted by other handset manufacturers other than Huawei and ZTE through the motion for document

and balanced against the nature and degree of the right to defense prejudiced thereby, there is no material that had not been attached to the record of examination in question and the record of deliberation in question that were not considered or based in the Disposition; therefore, the Plaintiffs' exercise of the right to defense does not seem to have been substantially undermined.

Article 16.1(3) of the ROK-US FTA provides that "In particular, each Party shall ensure that the respondent has a reasonable opportunity to cross-examine any witnesses or other persons who testify in the hearing and to review and rebut the evidence and any other collected information on which the determination may be base."[150] Literally, it provides for the obligation to ensure an opportunity to review and rebut 'any other collected information on which the determination may be based', but not the obligation to provide all collected information, or to ensure 'unlimited' opportunity, rather than 'reasonable opportunity'. On the contrary, the Plaintiffs were granted, over the course of the KFTC's deliberation which took place on seven occasions, opportunities to submit extensive opinions and evidences on each of the Conduct, and to state the opinion of experts who had the same position as the Plaintiffs.

Even if the European Court of Justice had indeed found on October 25, 2011 in an EU competition law case, as alleged by the Plaintiffs, that the respondent shall be allowed to access even responses prepared by third parties which were collected during the investigation, and that included even unofficial documents,[151] and issued a decision[152] on September 6, 2017 vis-à-vis the European Commission that even documents collected unofficially shall be kept as record, acknowledging the obligation to provide the content thereof to the respondent,[153] they are different from the laws and legal principles applicable to the respondent's right to demand access/copying, and as long as the legal principle of determining whether the Plaintiffs' right to defense was substantially undermined by weighing and balancing the interests protected by refusing access/copying against the nature and degree of the respondent's right to defense prejudiced thereby is adopted, there is no reason to conclude otherwise.

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production order dated May 7, 2019, but the court dismissed the same with the decision dated May 24, 2019, upon which the Plaintiffs filed the re-appeal, which was also reject).

[150] "In particular, each Party shall ensure that the respondent has a reasonable opportunity to cross-examine any witnesses or other persons who testify in the hearing and to review and rebut the evidence and any other collected information on which the determination may be based,"

[151] C-109/10 P, Solvay v. Commission.

[152] C-413/14 P, Intel v. Commission.

[153] References 2, 3 attached to the opinion on the Plaintiffs' motion for document production order dated March 29, 2019.

Therefore, the Plaintiffs' assertion in this regard is not accepted.

10. Ruling on the Unlawfulness of the Corrective Orders

A. The Corrective Orders 1 and 2

1) The Gist of the Plaintiffs' Assertion

The Corrective Order 1.A violated the principle of proportion beyond the minimum measures necessary by coercing exhaustive licenses at the modem chipset level, although the risk of patent attacks against the modem chipset manufacturers, which is the anti-competitive effect of the Conduct 1, could be resolved only with non-exhaustive patent agreements with the modem chipset manufacturers. The phrases 'if necessary for accurate calculation of royalties' and 'fair consideration' under the Corrective Orders 1.B and 1.C are indefinite concepts which can be interpreted arbitrarily, therefore, it goes against the 'void for vagueness' doctrine. The Corrective Order 2 violated the principle of proportion by excessively infringing the Plaintiffs' principle of freedom of contract since the patent license agreements with the modem chipset manufacturers would be concluded and be binding at the arbitrary decision of the counterparty.

2) Ruling

Since it has been already established above that the Conduct 1 falls under abuse of market dominance under Article 3-2 (1) 3 of the MRFTA and Article 5 (3) 4 of its Enforcement Decree, the underlying facts of the Corrective Orders 1 and 2 are acknowledged. Since the anti-competiveness in the modem chipset market by each standard is acknowledged through the Plaintiffs' non-conclusion of patent license agreements with the competing modem chipset manufacturers or conclusion of non-exhaustive patent license agreements at the modem chipset level, the Corrective Order 1.A, which orders compliance with the FRAND commitments, cannot be deemed to have violated the principle of proportion beyond the necessary scope.[154]

In addition to the language of Article 5 of the MRFTA which provides 'where there exists any act of violating the provisions of Article 3-2, the KFTC may order the market-dominating enterpriser concerned to reduce the price, discontinue the act of violation, publish the fact that the latter is ordered to make the correction thereof, and to take other measures necessary for correction', if any corrective order under the MRFTA were excessively specific, it would reduce responsiveness to the countless transactions carried out every day with modifications to a greater or less degree, thereby become a meaningless corrective order. Thus the corrective orders by nature cannot but be more or less comprehensive and abstract (Supreme Court Judgment 2008Du549 dated May 28, 2009). The Corrective Orders 1.B and 1.C mandate that the Plaintiffs shall negotiate in good faith under the FRAND terms in concluding cellular SEP license agreements with the competing modem chipset manufacturers; that the Plaintiffs shall not demand business information of modem chipset manufacturers beyond the scope necessary for protection of the Plaintiffs' lawful rights; and in the event they obtain patent licenses or enter into covenant not to sue with respect to patents owned by modem chipset manufacturers as part of the consideration for the cellular SEP licenses, the Plaintiffs shall determine the consideration through reasonable and fair negotiations. Therefore, if there is ultimately discrepancy in opinion with respect to the phrases 'if necessary for accurate calculation of royalties' and 'fair consideration', they can ultimately be predicted to be royalties or consideration of reasonable level that can be determined in accordance with the procedure set forth under the Corrective Order 2.

[154] The U.S. Federal District Court ordered QI to grant exhaustive cellular SEP licenses to modem chipset manufacturers through the injunction order in the judgment of the first instance by the U.S. District Court (DA 232, DF 11).

The Corrective Order 2 requires that in the event the Plaintiffs and modem chipset manufacturers fail to reach an agreement, they shall accept the contract terms determined by an independent third party agreed between them, but does not require them to execute agreement according to the procedure and terms and conditions unilaterally determined by the modem chipset manufacturers, as alleged by the Plaintiffs; therefore, the Plaintiffs' freedom of contract is not excessively prejudiced.

Therefore, the Plaintiffs' assertion in this regard is without merit.

B. The Corrective Orders 3 and 4

1) The Gist of the Plaintiffs' Assertion

It is unlawful to coerce the Plaintiffs into supplying the modem chipsets without restriction and to not exclude the handset manufacturers which do not wish to obtain licenses (unwilling licensees) from the scope thereof; although it would have been sufficient to prohibit cutting off modem chipset supply only during the license negotiations, they were coerced into supplying modem chipsets without any restriction on period; and although it would be sufficient to resolve the possibility of restriction on competition just by prohibiting unfair license terms as in the Corrective Order 5, the KFTC violated the principle of proportion by imposing the Corrective Orders 3 and 4.

2) Ruling

While the Corrective Orders 3 and 4 prohibit the Plaintiffs from requiring the handset manufacturers to first conclude or perform the patent license agreements before entering into modem chipset supply agreements with them, and impose the obligation to amend/delete the terms of the agreements accordingly, the proviso to the Corrective Order 3 provides an exception in case the handset manufacturer has received a final injunction order from the court, etc. due to failure to engage in good faith negotiations on patent license agreements with the Plaintiffs. Therefore, the Plaintiffs are not required to supply modem chipsets by standard even to handset manufacturers which are unwilling licensees. Since the underlying facts of the Conduct 2 where the Plaintiffs tied the modem chipset supply with conclusion of license agreements are acknowledged; the Plaintiffs' ongoing Conduct 2 is found to fall under abuse of market dominance; and the Plaintiffs' refusal/delay/restriction with respect to modem chipset supply by standard substantially have more swift and unilateral effect than the court's injunction order, the prohibition on refusal/delay/restriction of supply until the court's final injunction order is acknowledged to be reasonable and balanced. If the obligation were ordered only until the negotiation period, as alleged by the Plaintiffs, it would increase instability with respect to duration of the relevant obligation, and there would be no effective means of sanction should the Plaintiffs decide the negotiation period unilaterally. In addition, the Plaintiffs have failed to specifically demonstrate any circumstance where the Corrective Orders 3 and 4 could be deemed to possibly violate the principle of proportion through an actual case or the ratio of such handset manufacturers, besides the general possibility of handset manufacturers which are unwilling licensees among those related to the Conduct 2. Besides, as long as the Corrective Orders 5 and 6 which are based on the Conduct 3, are found to be unlawful, the Corrective Orders 5 and 6 could hardly remove the anti-competitiveness of the Conduct 2, nor can the Corrective Orders 3 and 4 related thereto be deemed to have violated the principle of proportion.

Therefore, the Plaintiffs' assertion in this regard is without merit.

C. The Corrective Orders 5 and 6

1) The Gist of the Plaintiffs' Assertion

The Corrective Order 5 goes against the principle of clarity as the meaning of the phrases 'against the will of the handset manufacturers' and 'procedure for calculation of fair consideration' are uncertain, and also goes against the principle of proportion as it blocks freedom of contract by unilaterally coercing regulative and perfunctory consideration calculation procedure, although it would have sufficed to guarantee good faith negotiations.

Since the Corrective Order 6 would enable conclusion of contracts at the arbitrary decision of the counterparty, which would be binding, it would excessively infringe the Plaintiffs' freedom of contract, and would also go against the principle of proportion since it would apply indiscriminately, without distinguishing whether the license agreements, which might have been entered into validly with the handset manufacturers, were coerced through the Conduct 2.

2) Ruling

Since the Conduct 3 cannot be deemed to fall under abuse of market dominance by 'unfairly interfering with the business activities of any other business entity' under Article 3-2 (1) 3 of the MRFTA, Article 5 (3) 4 of its Enforcement Decree; or the unfair trade practice of 'imposing disadvantages through abuse of position in trade' under Article 23 (1) 4 of the MRTFTA, Article 36 (1) of its Enforcement Decree, 6.D in [Table 1-2], the Corrective Orders 5 and 6 are unlawful, even without the need to further examine the Plaintiffs' above assertion.

D. The Corrective Orders 7 and 8

The Corrective Order 7 requires the Plaintiffs to notify the counterparties that the Corrective Orders have been issued, and to submit the result thereof to the KFTC within 14 days, and the Corrective Order 8 requires the Plaintiffs to submit to the KFTC information related to modem chipset license agreements, patent license agreements or modem chipset supply agreements entered into with modem chipset or handset manufacturers within 14 days if the Plaintiffs newly enter into or amend them in accordance with the Corrective Orders. As already established above, since the Corrective Orders 5 and 6 are unlawful, the part of the Corrective Orders 7 and 8 related to the Corrective Orders 5 and 6 are also unlawful.

However, since (i) the part pertaining to notification on issuance and substance of the Corrective Orders 5 and 6 among the order to notify and submit under the Corrective Order 7, and (ii) the part among the Corrective Order 8 which orders the Plaintiffs to submit the content of the contracts and related information in the event they newly execute or amend the patent license agreements with the handset manufacturers in accordance with the Corrective Orders 5 and 6[155] can be separated, they shall be revoked.

E. The Corrective Orders 9 and 10 and Extraterritorial Application, Principle of Comity

1) The Gist of the Plaintiffs' Assertion

If they fall under modem chipset manufacturers or handset manufacturers defined under the Corrective Order 9, all of the Corrective Orders would apply irrespective of whether each Conduct had direct, considerable and reasonably predictable effect on the domestic market, as well as to goods manufactured and sold overseas; therefore, the Corrective Orders are unlawful since they exceed the scope of extraterritorial application under Article 2-2 of the MRFTA.

Even if they did not violate Article 2-2 of the MRFTA, given the facts that the Plaintiffs' conducts towards handsets sold overseas and in which only foreign patents are implemented, and foreign patents, do not have any effect on the domestic market; that the Corrective Orders conflict with the conclusion of law by foreign competition authorities such as the NDRC, the European Commission, the JFTC, and the TFTC; and that the Corrective Orders would not permit to be carried out in the relevant country even conducts which the foreign competition authorities have found to be lawful under the applicable foreign laws, the Corrective Orders targeting even the Conducts carried out overseas conflicts with the principle of international comity since there is overwhelmingly predominant need to uphold foreign law, etc. when compared to the need to regulate through application of the MRFTA, and there is the risk of infringing foreign sovereignty.

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[155] They are lawful where the Plaintiffs newly execute or amend modem chipset license agreements with modem chipset manufacturers (Conduct 1: Corrective Orders 1 and 2), and where the Plaintiffs newly execute or amend modem chipset supply agreements with handset manufacturers (Conduct 2: Corrective Orders 3 and 4), which are different from the case where the Plaintiffs newly execute or amend patent license agreements with handset manufacturers (Conduct 3: Corrective Orders 5 and 6).

Even if it were possible under the Corrective Order 10 to request to revisit the issue when it is impossible to comply with them both due to conflict with conclusion of foreign law, the Plaintiffs' disadvantages would still not be resolved since the scope of such conflict is narrow and it would still not resolve substantial conflicts.

2) Applicable Legal Principles

Although Article 2-2 of the MRFTA provides 'where any act affects the domestic market' as the requirement for applying the MRFTA with respect to acts conducted overseas, given the facts that in the modern society where there is brisk trade between countries, even an act carried out overseas would somehow affect the domestic market to a certain degree as long as there is direct/indirect trade with the country where such an act was carried out; and that if the MRFTA were construed to be applicable to all such acts carried out overseas on the ground that an act carried out overseas could affect the domestic market, it could lead to unfair consequences by excessively expanding the scope of application of the MRFTA with respect to acts carried out overseas; the phrase 'where any act affects the domestic market' under Article 2-2 of the MRFTA shall be interpreted restrictively to cases where the conduct carried out overseas has direct, considerable and reasonably predictable effect on the domestic market, and whether such is the case shall be determined specifically/individually by comprehensively considering the nature and purpose of the conduct in question, characteristics of the goods or services in question, transaction structure, and the nature and degree of effect on the domestic market arising therefrom (Supreme Court Judgment 2012Du13665 dated May 16, 2014).

Since it would satisfy the requirement under Article 2-2 of the MRFTA if any act of a foreign entity carried out overseas fell under the case 'where any act affects the domestic market', if any foreign law or policy of the foreign government applicable to the relevant act is different from the domestic law and such an act were permitted under the foreign law, such a circumstance could not automatically limit the application of the MRFTA. However, if there is conflict between the domestic law and foreign law applicable to the same act to the degree that the relevant entity is unable to choose the lawful act, the application of domestic law only could not be enforced, and if the need to uphold the foreign law, etc. is overwhelmingly predominant when compared to the need to regulate through application of the MRFTA, the application of the MRFTA can be limited. Whether such is the case shall be determined by comprehensively considering the effect of the relevant market on the domestic market, degree of involvement of the foreign government with respect to the relevant act, degree of conflict between the domestic law and the foreign law, and disadvantages to foreign entities and the degree of prejudice to the foreign government's legitimate interests in case the domestic law is applied to the relevant act (Supreme Court Judgment 2012Du13689 dated May 16, 2014; and Supreme Court Judgment 2012Du13665 dated May 16, 2014).

3) Ruling on the Effect on the Domestic Market

As already discussed above, the geographical scope of the SEP Licensing Market and the modem chipset market by each standard which are the markets relevant to the Conducts 1 and 2 is the global market, and the Conducts 1 and 2 would have anti-competitive effect on the global market and the domestic market included therein, irrespective of the *loci actus* of the Plaintiffs, which can be reasonably predicted to have effect on the domestic market. Moreover, the Corrective Order 9 limited the scope of application to cases where it has direct and considerable effect on the domestic market, specifically, modem chipset manufacturers and handset manufacturers manufacturing, supplying or selling after the Corrective Orders were issued, as well as (i) handset manufacturers headquartered in South Korea (including affiliates; hereinafter, the same), or entities selling handsets in or into South Korea (including affiliates; hereinafter, the same) and entities supplying handsets to such entities, and (ii) modem chipset manufacturers headquartered in South Korea or modem chipset manufacturers supplying modem chipsets to the handset manufacturers/entities in (i) above. The modem chipsets and handsets would be excluded from the scope of the Corrective Orders if they were manufactured and sold entirely overseas, but if they were still excluded from the Corrective Orders even when they were sometimes sold or supplied in the domestic market, it would rather hinder from achieving the original purpose of the Corrective Orders which is effective rectification of legal violations. Therefore, the Plaintiffs’ assertion in this regard is without merit.

4) Whether there is Overwhelmingly Predominant Need to Uphold Foreign Law, etc.

To review the evidence referred to above; and the following decisions of foreign courts and enforcement authorities which are acknowledged based on the acknowledged facts, in light of the legal principles discussed above, the Corrective Orders other than the Corrective Orders 5 and 6 are not sufficient to acknowledge that there is overwhelmingly predominant need to uphold the foreign law, etc. when compared to the need to regulate through application of the MRFTA. Moreover, by ruling that ‘if the final decisions, measures or orders made by the foreign courts or competition authorities are in conflict with these orders so that the Plaintiffs are unable to comply with both decisions, the Plaintiffs may ask the KFTC to revisit these orders’, the Corrective Order 10 sought to harmonize with the foreign laws by providing the procedure whereby any conflict between the Disposition and enforcement of foreign laws can be resolved. If there were any discrepancy as to whether there is a conflict and the scope thereof, as alleged by the Plaintiffs, it could still be resolved through the procedure under the Corrective Order 10. Therefore, the Plaintiffs’ assertion in this regard is not accepted.

① [U.S.A.]

In the judgment of the first instance regarding the FTC Case, the Conducts 1 and 2 were found to be anti-competitive acts under the Sherman Act, and QI was ordered to grant exhaustive SEP licenses under the FRAND terms to the modem chipset manufacturers, and prohibited from using handset manufacturer's patent license position as leverage in modem chipset supply (DA 232, DF 11). In connection with the Conducts 1 and 2, while the facts, applicable laws and legal principles acknowledged in the judgment of the first instance regarding the FTC Case are different from those of the Disposition, the Plaintiffs' license business model in the global market was found to be anti-competitive act in the same context as abuse of market dominance, and the injunction order in the judgment of the first instance regarding the FTC Case also mostly share the same conclusion as the Corrective Orders 1 through 4, despite some discrepancy in expression and differences in regulation. Further, the judgment of the first instance regarding the FTC Case also ordered provision of SEP exhaustive licenses to modem chipset manufacturers more explicitly than the Corrective Order 1.A.

Although the judgment of the first instance regarding the FTC Case includes, as asserted by the Plaintiffs, anti-competiveness through exclusivity terms such as rebate for the Plaintiffs' handset manufacturers, unlike the Disposition, the anti-competiveness of QI's provision of conditional rebate was found to be abuse of market dominance also in South Korea, as falling under 'unfairly making a transaction with a transaction partner on the condition that the transaction partner does not make any transaction with a competitor business entity' (Article 5 (5) 2 of the Enforcement Decree of the MRFTA) among the act of 'making an unfair transaction to exclude a competitor' (Article 3-2 (1) 5 of the MRFTA) (Supreme Court Judgment 2013Du14726 dated January 31, 2019), and even if the relevant regional market is defined as the global market, the Plaintiffs' market-dominant position is still acknowledged; therefore, the judgment on anti-competiveness would not differ. The independent anti-competiveness can be acknowledged only based on the Conducts 1 and 2, even without the conditional rebate agreement, which also the judgment of the first instance of the FTC Case distinguished in the order.

The Plaintiffs emphasize that the judgment of the first instance of the FTC Case merely found that the Plaintiffs shall grant exhaustive licenses to the modem chipset manufacturers based on the policies of the American SSOs such as ATIS and TIA, but not based on the ETSI policy, which is the most important policy in mobile communications industry, however, the finding that the Conducts 1 and 2 are in breach of the FRAND terms of the ETSI would conform more with the judgment of the first instance of the FTC Case, given the similarity with the FRAND policy of the SSO.

The judgment of the first instance by the U.S. Federal District Court did not separately ban portfolio licensing, royalty calculation based on the handset price, and cross-grant as in the Conduct 3, and as the Corrective Orders 5 and 6, which were based on the Conduct 3, were also to be unlawful, there is no possibility of conflict with the judgment of the first instance regarding the FTC Case.

② [European Union]

The European Commission commenced investigation on QI's WCDMA SEP license terms on October 1, 2007 and subsequently closed the investigation on November 24, 2009, which mainly due to the complainant's withdrawal of the complaint, and was not the express statement of opinion of the European Commission (P 24, 25). In addition, the European Commission's penalty and corrective order issued against Apple on January 24, 2018 in connection with the exclusivity payment, and the penalty imposed on July 19, 2019 on predatory pricing policy involving Icera cannot be deemed to conflict with the Corrective Orders.

③ [China]

The Plaintiffs argues that 'they conflict with the Corrective Orders since (i) although the NDRC's administrative order dated February 9, 2015 limited the scope to licenses on Chinese patents and sale of modem chipsets in China (P 64), the Corrective Orders included them again in the ruling, (ii) the unlawfulness of exhaustive licensing at the handset level and modem chipset supply policy was never acknowledged, and (iii) the above administrative order requires more than 150 Chinese patent license agreements to be entered into in China, and to re-negotiate in accordance with the Corrective Orders, despite the NDRC's approval'.

However, the NDRC also found, under the assumption that the Plaintiffs are dominant in the CDMA, WCDMA, and LTE SEP licensing market, the Plaintiffs' collection of unreasonably excessive royalties by refusing to provide the patent list, demanding cross-grant free-of-charge, and tying the SEPs with other patents; imposition of high royalties based on the total selling price of handsets; tying of the SEPs with other patents without reasonable cause; and imposition of unreasonable terms in connection with sale of modem chipsets constituted abuse of market dominance, therefore, they are not different from the underlying facts of the Conducts 2 and 3 (P 177, 178, 184, DA 176, 178). Since the NDRC issued the administrative order on account of excessive pricing and unreasonable contract terms vis-à-vis the handset manufacturers, even if it did not issue the order on the Conduct 1 which targeted the modem chipset manufacturers, it cannot be deemed to have approved the lawfulness of the Conduct 1. In addition, the NDRC's prohibition on imposition of unreasonable terms to the licensees in selling the modem chipsets can conform to the Corrective Orders 3 and 4 which is based on the Conduct 2. Since the Corrective Orders 3 and 4 prohibited the coercion into first concluding or performing patent license agreements, and imposed the obligation to amend or delete such provisions, if the Chinese patent license agreements approved by the NDRC were amended to the same effect, the Corrective Orders 3 and 4 shall have been performed, and thus, there is no conflict. Even if the Chinese patent license agreements were not amended in accordance with the Corrective Orders 3 and 4, it would be attributable to the difference in the subject and scope of the NDRC decision, therefore, cannot be deemed to be contradictory with the Corrective Orders 3 and 4.

④ [Japan]

On March 13, 2019, the JFTC revoked the exclusion order dated September 28, 2009 on the ground that since the cross-grant which QI received in entering into patent license agreements with the Japanese licensees were not too broad or royalty-free, it does not fall under unfair trade practice in the manner of transactions under restrictive conditions under the Japanese anti-trust law (P 239). However, since we have already established above that the Conduct 3 does not fall under abuse of market dominance or unfair trade practice, unlike the Disposition, there would be no possibility of conflict with the JFTC's decision dated March 13, 2019, as asserted by the Plaintiffs.

⑤ [Taiwan]

QI is obligated to perform the matters set forth in the reconciliation protocol of the Taiwan Intellectual Property Court dated August 9, 2018. The reconciliation protocol provides for QI's obligation to undertake that it would not assert cellular SEP infringement against modem chipset manufacturers without first offering an agreement under the FRAND terms to them; and obligation not to cut off or threaten to cut off modem chipset supply during re-negotiations or dispute resolution procedure, as long as the licensed manufacturer performs all obligations under the previous license agreement and supply agreement, and engages in good faith re-negotiations when purchasing modem chipsets from QI. Such obligations are in effect the same as the Corrective Orders 1 through 4 which are based on the Conducts 1 and 2, despite some differences in substance and expression. Although it is uncertain whether the reconciliation protocol includes the obligation to provide exhaustive licenses to modem chipset manufacturers, if the FRAND terms include provision of licenses without any restriction on the rights such as sale and usage, it would be in effect the same as the Corrective Order 1 which assumes provision of exhaustive licenses to the modem chipset manufacturers, therefore, there is no conflict. Even if it were assumed that provision of exhaustive licenses were not included in Taiwan, the extent of conflict is not significant, and given the decision of the Taiwanese Control Yuan dated May 22, 2019 opposing the above reconciliation protocol (DA 234), the TFTC's previous decision dated October 20, 2017, and the advantages and disadvantages to the Taiwanese entities and the Plaintiffs, it cannot be said there is overwhelmingly predominant need to uphold foreign law, etc.

F. Sub-conclusion

The part of the Corrective Orders 5 and 6, and the Corrective Orders 7 and 8 pertaining to the Corrective Orders 5 and 6 are unlawful since the grounds for disposition are not acknowledged. Therefore, the Plaintiffs' assertion has merit, only with respect to those pertaining to the above.

11. Whether the Payment Order of Penalty Surcharge is Lawful

A. Calculation of the Relevant Sales

1) The Gist of the Plaintiffs' Assertion

Given Article 2-2 of the MRFTA and the principle of comity, it is unlawful to include in the relevant sales, which is the basis for calculation of the penalty surcharge, the sales from modem chipsets installed in handsets sold overseas and license revenue from handsets sold overseas since it infringes the sovereignty of another country, and would have the absurd result of duplicate penalty surcharge being imposed on the sale sales (e.g. Korean handset manufacturer's handsets sold in China).

In addition, since the KFTC issued the Disposition under the assumption that the patent license terms with the handset manufacturers had been coerced, the sales from handset manufacturers which did not purchase modem chipsets from the Plaintiffs, thus impossible for the Plaintiffs to coerce the license terms, and royalty revenue from handset manufacturers, against whom it is objectively clear that the license terms were not coerced as in the case of Samsung since the conclusion of the 2009 Amendment Agreement, shall be excluded from the calculation of relevant sales.

The royalty revenue under patent license agreements concluded before November 19, 2009, which the KFTC specified as the date of commencement of violation, shall also be not included in the calculation of relevant sales.

2) Ruling

According to Articles 6 and 55-3 (1) the MRFTA, and Article 61 (1) of its Enforcement Decree, 2.A in [Table 2], if any market-dominant entity engaged in abusive act, the KFTC has to calculate the penalty surcharge based on the nature and degree of violation, duration and frequency of violation, amount of profit obtained from the violation, and other matters affecting the same. The penalty surcharge shall be imposed based on the base penalty surcharge calculated by multiplying the sales from relevant goods (including services) sold by the violating entity during the violation period or amount equivalent thereto (the "relevant sales"), by the ratio imposed in proportion to the degree of gravity. The scope of relevant goods related to the calculation of relevant sales shall be determined individually/specifically by type, by considering the type and nature, territory, counterparty, and transaction stage, etc. of the goods directly or indirectly affected by such violation (Supreme Court Judgment 2008Du7465 dated March 25, 2010). In the meantime, even if some of the grounds for disposition is found to be unlawful, if the disposition can be justified based on other grounds for disposition, such disposition cannot be deemed to be unlawful (Supreme Court Judgment 2003Du1264 dated March 25, 2004).

Although we have established above that the Disposition pertaining to the Conduct 3 is unlawful, since the Conducts 1 and 2 fall under abuse of market dominance whereby the Plaintiffs coerced the handset manufacturers into concluding patent license agreements, while refusing cellular SEP licenses to the competing modem chipset manufacturers, both the SEP License which is directly targeted by the violation, and the modem chipsets by standard in question, which are relevant goods in the market affected by the anti-competitive effect of the violation, fall under the relevant goods related to calculation of the relevant sales. The criteria applied to calculation of penalty surcharge, such as the relevant sales for the Payment Order of Penalty Surcharge, can hardly be deemed to differ in the present case where the Conduct 3 is merely a detail in the license agreements to which the consequences of the Conducts 1 and 2 were reflected, and where the Conducts 1 and 2 are acknowledged to be violation of the MRFTA; therefore, even if the Conduct 3 were not acknowledged to be violation of the MRFTA, it would not affect the ruling on lawfulness of the Payment Order of Penalty Surcharge, which was calculated substantially based on the Conducts 1 and 2.

As was acknowledged above with respect to the Corrective Order 9, since this is not a case where the application of the MRFTA to the Conducts 1 and 2 has to be limited, it seems that with respect to CDMA, WCDMA, LTE standards during the period of violation, the KFTC reasonably limited the scope of the relevant sales, which is the basis for calculation of the penalty surcharge, to (i) sales from modem chipsets installed in handsets sold in South Korea among the sales for modem chipsets sold by QCTAP to the Korean and foreign handset manufacturers, and (ii) patent license revenue from those sold in South Korea among the patent license revenue from those sold by QI to Korean and foreign handset manufacturers. Since the Plaintiffs' license policy does not differ depending on whether the Korean handset manufacturers sell the handsets domestically or overseas, both the revenue from the Korean handset manufacturers' sale of handsets and the Plaintiffs' modem chipset royalty revenue therefrom fall under goods affected by the violation, i.e. the Conducts 1 and 2. In addition, although the NDRC imposed penalty corresponding to 8% of QI's 2003 annual sales in China in issuing the administrative order to QI on February 9, 2015, and it is possible that QI's such 2003 annual sales in China partially overlap with the Plaintiffs' sales, which was taken as the basis for calculation of penalty surcharge in the Payment Order of Penalty Surcharge,[156] the KFTC's Payment Order of Penalty Surcharge and the NDRC's administrative order dated February 9, 2015 are based

[156] However, no definite data have been submitted on whether the '2003 annual sales in China' which the NDRC took as the basis for penalty calculation, includes sales from the Plaintiffs' modem chipsets installed in handsets which the Korean handset manufacturers sold in China, and royalty revenue pertaining to such handsets.

on exercise of administrative authority which is a part of respective national sovereignty, and thus cannot be deemed to fall under double sanctions. The relevant sales under the MRFTA is merely the basis for calculation of penalty surcharge, which is determined finally by considering the gravity of the violation, specifically, nature and degree of violation, duration and frequency of violation, and amount of profit obtained from the violation; therefore, the penalty surcharge cannot be deemed to have been imposed in duplicate.

Further, since it has been already established above that the handset manufacturers were coerced into concluding patent license agreements with the Plaintiffs through the Conducts 1 and 2, it would be reasonable to conclude that the relevant sales from the handset manufacturers which did not purchase modem chipsets from the Plaintiffs and from Samsung which entered into the 2009 Amendment Agreement shall also be included in the relevant sales, which shall be the basis for calculation of the Payment Order of Penalty Surcharge.

Although the KFTC issued the Disposition based on the assumption that the Conducts 1 and 2 which violated the MRFTA were maintained during the Plaintiffs' business period, the KFTC considered November 19, 2009 as the period for 'calculation of penalty surcharge', which was after the violation was commenced, and the day on which the Plaintiffs entered into with MediaTek a covenant-not-to-sue, including restriction on vendors, obligation to report sales information, and cross-grant terms, after refusing to enter into patent license agreements. However, according to the KFTC Decision, the KFTC did not take November 19, 2009 as the date on which the Plaintiffs' violation of the MRFTA began, but merely used it restrictively as the starting point of reckoning for calculation of the relevant sales for the purpose of imposition of the penalty surcharge, and such determination of period for calculation of the penalty surcharge cannot be deemed to be disadvantageous to the Plaintiffs. Accordingly, even royalties under patent license agreements concluded before November 19, 2009 may be included in the relevant sales which is the basis for calculation of the penalty surcharge, as long as they were generated on or after November 19, 2009.

At the same time, the Plaintiffs also argue that ‘since November 19, 2009 is the date on which the violation began, the Plaintiffs’ conducts before November 19, 2009 shall not be included in the violation of the MRFTA which is the basis of the Disposition’. However, as acknowledged above, the Conducts 1 and 2 continued even after the Plaintiffs began their business, and the KFTC merely took November 19, 2009 as the reckoning date for calculation of the relevant sales for the purpose of issuing the Payment Order of Penalty Surcharge; therefore, the Plaintiffs’ above assertion is hardly acceptable.

Therefore, the Plaintiffs’ assertion in this regard is without merit.

B. Non-Application of Reduction for Cooperation in Investigation

1) The Gist of the Plaintiffs’ Assertion

The Plaintiffs fully cooperated in good faith during the KFTC investigation, and the KFTC examiners also proposed in the examination report reduction of penalty surcharge on the ground of cooperation in investigation, thus, the KFTC deviated/abused discretion by not reducing the penalty surcharge on the ground of cooperation in investigation, although it could be reduced by up to 30% in accordance with Article IV. 3. D. (3) (A) of the Penalty Surcharge Notification.

2) Ruling

The KFTC has the discretion to determine whether to impose penalty surcharge on violation of the MRFTA, and if so, to determine the specific amount of penalty surcharge within the scope set forth under the MRFTA and its Enforcement Decree. In the meantime, if the KFTC, in exercising such discretion, misrecognized the facts underlying the imposition of penalty surcharge, or violated the principle of proportion/equality, it would constitute deviation/abuse of discretion, and thus be unlawful (Supreme Court Judgment 2009Du15005 dated September 8, 2011). The reduction on the ground of cooperation in investigation under Article IV. 3. D. (3) (A) of the Guidelines for Imposition of Penalty Surcharges, which was prepared as criteria for calculation of penalty surcharge and exercise of discretion in imposition, requires the person subjected to payment of penalty surcharge to admit the relevant conduct. However, according to the Plaintiffs' assertions made during the deliberation stage, including the KFTC full-commission hearings, the Plaintiffs can hardly be deemed to have admitted to the Conducts 1 and 2.

Therefore, the KFTC cannot be deemed to have deviated/abuse discretion even though it did not apply reduction on the ground of cooperation in investigation in issuing the Payment Order of Penalty Surcharge. Therefore, the Plaintiffs' above assertion is hardly acceptable.

12. Linkage of Each Conduct in this Case and Anti-Competiveness and the Effects of the Corrective Order

A. The Gist of the Parties' Assertion

The Plaintiffs argue that 'since each Conduct is connected systematically, if a single link is severed, it would extinguish altogether the anti-competitive effect arising from the systematic connection'. In this regard, the KFTC argues that 'since each Conduct is connected systematically, if any part of the Corrective Orders is revoked, the Plaintiffs would still be able to abuse their position and continue with restriction on competition'.

B. Ruling

For Conduct 3, i.e., coercion of disadvantages to the handset manufacturers by restricting competition in the modem chipset markets by each standard using Conducts 1 and 2 as leverage, to constitute abuse, it should be proved that the Plaintiffs collected excessive monopolistic profits to constitute exploitative abuse or to be at least unfair beyond the FRAND level. The KFTC concluded that the terms and conditions of the agreements between the Plaintiffs and handset manufacturers were disadvantageous and forced to the handset manufacturers only by reason that the agreement was entered into through Conducts 1 and 2 or its terms were determined by the Plaintiffs unilaterally or uniformly or the Plaintiffs did not go through due process for calculation of consideration, based on which the KFTC argues that the effect of exclusion of competing modem chipset manufacturers is acknowledged. However, we cannot deem that Conduct 3 constitutes an independent abuse of a market dominant position or abuse of position in transaction, as already established above. Even though the Plaintiffs are said to get enormous profits by realizing the royalty rates based on handset price in the Conduct 3 through Conducts 1 and 2, and in turn, to hold a dominant position in price/production volumes/quality, etc. over other modem chipset manufacturers by investing in R&D of SEPs and modem chipsets by standard with such enormous profits, if Conduct 3 itself may be a means to promote competition on the merits but not artificial means aimed at market foreclosure or exclusion of competitors (Conducts 1 and 2), and if Conduct 3 cannot be deemed to be any of the types of conducts that the KFTC made a prerequisite for its disposition, that is, unfair practice by coercion or provision of disadvantages, we cannot conclude that a business operator’s realization of a considerable amount of profits just constitutes abuse or should be subject to the corrective order.

But for Conduct 2, the Plaintiffs may require the handset manufacturer, who buys modem chipsets from the competing modem chipset manufacturer in accordance with Conduct 1, to enter into the patent license agreement or file an injunctive claim against the handset manufacturer but shall not force the handset manufacturer who buys modem chipsets from the Plaintiffs to enter into and perform the patent license agreement. But for Conduct 1, even if the Plaintiffs try to force the handset manufacturer, who buys modem chipsets from the Plaintiffs in accordance with Conduct 2, to enter into and perform the patent license agreement, the handset manufacturer may avoid the burden to pay the Plaintiffs the royalty for the patent substantially implemented in the modem chipset, by buying the modem chipset from the competing modem chipset manufacturer, who has already obtained the license for the Plaintiffs’ own cellular SEP. In the end, Conducts 1 and 2 constitute a ‘handset-single level licensing policy’, under which the Plaintiffs increases the cost of competing modem chipset manufacturer and forecloses the market by limiting the trading counterparties, thereby solidifying its market-dominant position in the modem chipset markets by each standard.

If the Plaintiffs grants the license consistent with FRAND terms to the modem chipset manufacturers in accordance with the Corrective Orders 1 and 2 for Conduct 1, the competing modem chipset manufacturer can engage in competition on the merits without risk of business interruption due to the license. If the competition in the modem chipset markets by standard gets back in a normal way, the risk of discontinued supply of modem chipset, which requires the handset manufacturer to enter into the license agreement, will be reduced, which in turn, will operate as an effect of deterring Conduct 2. Even if the effect of deterring Conduct 2 through the Corrective Orders 1 and 2 is weak and the Plaintiffs can still engage in Conduct 2, if the Plaintiffs does not force the handset manufacturer to enter into or perform the license agreement linked with the supply of modem chipsets in accordance with the Corrective Orders 3 and 4 for Conduct 2, it could deter conclusion of license agreement against the handset manufacturer’s intention as claimed by the KFTC. If the Corrective Orders 1 through 4 are performed in this way, the Plaintiffs’ position that enables it to coerce disadvantageous practices or deals against the handset manufacturer through Conducts 1 and 2 will cease to exist. Even if the Corrective Order 5 and 6 are cancelled, once the Corrective Order 1 through 4 are complied with, it can remove the prerequisite under the Corrective Orders 5 and 6, that is, such circumstance where the license agreement is entered into against the handset manufacturer’s intention, even though the license agreement between the Plaintiffs and the handset manufacturer includes the terms of portfolio license, royalty based on handset price, and cross-grant.

Moreover, the relevant product market where the Plaintiffs are abusing its market dominance is the SEP Licensing Market and the modem chipset markets by standard but not the handset market; the Plaintiffs' competitors in the relevant product market are modem chipset manufacturers but not the handset manufacturers; it is most consistent with the purpose of the MRFTA applicable to the Disposition to remedy the circumstance where the competing modem chipset manufacturers are abusively excluded through Conducts 1 and 2; and we do not think that the market order the KFTC intends to rectify through the Corrective Orders 5 and 6 is for the KFTC to directly correct the Plaintiffs' exploitative or unfair profits receivable from the handset manufacturers.

C. Sub-conclusion

Therefore, even if the Corrective Orders 1 through 4 were maintained, and the Corrective Orders 5 and 6 were revoked, it would not cause the Plaintiffs' restriction on competition to be continued, nor are the Corrective Orders 1 through 6 combined inseparably so that they have to be accepted or revoked in their entirety.

13. Conclusion

A. Summary of Findings

The findings of the court as discussed above can be summarized as follows:

[Table 64] Summary of Conclusion

Conduct	Applicable Laws and Conducts	Type	Ruling on Conduct	Ruling on Disposi-tion
Conduct 1	Article 3-2 (1) 3 of the MRFTA, Article 5 (3) 4 of its Enforcement Decree (Unfairly interfering with the business activities of any other business entity by offering terms that are not feasible in light of normal trade practices)	Abuse of market dominance	Unlawful	Lawful
	Article 3-2 (1) 3 of the MRFTA, Article 5 (3) 3 of its Enforcement Decree (Unfairly interfering with the business activities of any other business entity through denying of indispensable elements, etc.)		Lawful	Unlawful
Conduct 2	Article 3-2 (1) 3 of the MRFTA, Article 5 (3) 4 of its Enforcement Decree (Unfairly interfering with the business activities of any other business entity by coercing transactions or conducts disadvantageous to the counterparty)	Abuse of market dominance	Unlawful	Lawful
	Article 23 (1) 4 of the MRFTA, Article 36 (1) of its Enforcement Decree, 6.D in [Table 1-2] (Abuse of position in trade through imposition of disadvantages to the counterparty)	Unfair trade practice	Unlawful	Lawful
Conduct 3	Article 3-2 (1) 3 of the MRFTA, Article 5 (3) 4 of its Enforcement Decree (Unfairly interfering with the business activities of any other business entity by coercing transactions or conducts disadvantageous to the counterparty)	Abuse of market dominance	Lawful	Unlawful
	Article 23 (1) 4 of the MRFTA, Article 5 (3) 4 of its Enforcement Decree (Abuse of position in trade through imposition of disadvantages to the counterparty)	Unfair trade practice	Lawful	Unlawful

Judgment the Corrective Orders and the Payment Order of Penalty Surcharge				
	Category	Substance	Corrective Order	Judgment
Corrective Orders	Orders **1**, 2	Conduct 1	Lawful	Plaintiffs' claim denied (while the disposition based on denying of indispensable elements is unlawful, abuse of market dominance through offering of unreasonable terms is acknowledged, therefore, Corrective Orders 1, 2 are lawful)
	Orders 3, 4	Conduct 2	Lawful	Plaintiffs' claim denied
	Orders 5, 6	Conduct 3	Unlawful	Plaintiffs' claim accepted
	Orders 7, 8	Notification order and production order related to Conducts 1~6	Partially Unlawful	Plaintiffs' claim partially accepted (only the parts pertaining to the Corrective Orders 5 and 6 are revoked to exclude from notification order and production order)
	Order 9	Definition	Lawful	Plaintiffs' claim denied
	Order 10	Adjustment of conflicts	Lawful	Plaintiffs' claim denied

Payment Order of Penalty Surcharge	Order 11	Plaintiffs' claim denied (as long as the disposition pertaining to the Conducts 1 and 2 is legitimate, the relevant sales from modem chipsets and license revenue shall all constitute the relevant sales)

B. Conclusion on Purport of Claim and Cost of Lawsuit

In sum, as the Corrective Orders 5 and 6, and part of the Corrective Orders 7 and 8 pertaining to the Corrective Orders 5 and 6 among the Disposition shall be revoked since they are unlawful, and the rest are lawful, the Plaintiffs' claims are accepted since they have merit within the scope acknowledged above, and the rest are rejected as they are without merit. In addition, it seems reasonable that the part of the cost of litigation arising from intervention shall be borne respectively by each party in accordance with Article 8 (2) of the Administrative Litigation Act, Articles 98, 101, 102, and 103 of the Civil Procedure Act, considering the judgment on the purport of claim, progress of the lawsuit, substance and timing of defense as submitted, and difficulty in calculating the accurate ratio of success/failure of lawsuit. It is therefore decided as per the Order.

Noh Taek-Ak, Presiding Judge *[Official seal]*

Lee Jung-Hwan, Judge *[Official seal]*

Jin Sang-Hoon, Judge *[Official seal]*