1. Order No. : G-45-2015-01119
2. Client
   - 2.1 Name : LG Electronics MobileComm U.S.A., Inc.
   - 2.2 Address : 1000 Sylvan Avenue, Englewood Cliffs, NJ07632
   - 2.3 Date of Receipt : 2015.04.07
3. Use of Report : Validation
4. Test Sample : Cellular/PCS GSM/WCDMA Phone with WLAN, Bluetooth
   Model : LG-H540T(Alternative Model. Refer to Page 3)
5. Date of Test : April 21, 2015 ~ April 23, 2015
6. Test Method Used : FCC Part 15 Subpart B
7. Testing Environment : Temp. (Minimum 23.5℃ , Maximum 24.4 ℃)
   Humidity (Minimum 23.0% , Maximum 25.0%)
   Atmospheric Pressure (Minimum 100.6 ㎪, Maximum 101.8 ㎪)
8. Test Results : Refer to page 8
9. Measurement Uncertainty : Refer to attachment
   The confidence level is about 95 %, k = 2
10. Issued Date : April 28, 2015

The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This Test Report cannot be reproduced, except in full.

Affirmation	Tested by Name : Emily Lee (Signature)	Technical Manager Name : Paul Kang (Signature)

The above test report is the accredited test result by Korea Laboratory Accreditation Scheme, which signed the ILAC-MRA

Accredited by KOLAS Republic of KOREA

SGS Korea Co., Ltd. Gunpo Laboratory

4, LS-ro 182beon-gil, Gunpo-si, Gyeonggi-do, 435-040, KOREA

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1. General Information

1.1 Client Information

Applicant	: LG Electronics MobileComm U.S.A., Inc.
Address of Applicant	: 1000 Sylvan Avenue, Englewood Cliffs, NJ07632
Manufacturer	: LG Electronics MobileComm U.S.A., Inc.
Address of Manufacturer	: 1000 Sylvan Avenue, Englewood Cliffs, NJ07632

1.2 Test Laboratory

Name and Address	: SGS Korea Co., Ltd.
Giheung 1 Laboratory	: 35, Giheungdanji-ro 121beon-gil, Giheung-gu, Yongin-si, Gyeonggi-do, Republic of Korea
Giheung 2 Laboratory	: 23, Giheungdanji-ro 24beon-gil, Giheung-gu,Yongin-si, Gyeonggi-do, Republic of Korea
Gunpo Laboratory	: 4, LS-ro 182beon-gil, Gunpo-si, Gyeonggi-do, 435-040, Republic of Korea
Phone	: + 82 31 428 5700
Fax	: + 82 31 427 2370
e-mail	: paul.kang@sgs.com

1.3 General Information of E.U.T.

Product Name	Cellular/PCS GSM/WCDMA Phone with WLAN, Bluetooth
Model Name	LG-H540T
Alt. Model Name	LGH540T, H540T, LG-H540t, LGH540t, H540t, LG-H540, H540, LGH540, LG-H542, H542, LGH542
Model different	Only model name is difference
FCC ID	ZNFH540T
HW Version	Rev.B
SW Version	H54008b
EMI Classification	Class B
Test Voltage	120 V, 60 Hz
Highest Internal Frequency	1.2 GHz

1.4 Operating Modes and Conditions

Operating mode	Operating condition
USB data Communication	PC Link USB Communication

1.5 Auxiliary Equipments

Description	Model	Serial No.	Manufacturer
LCD Monitor	S2740Lb	CN-DP7D0G-74261-352-05CL	DELL Inc.
USB Mouse	MO28UOL	-	lenovo
Multimedia Keyboard	K-300B	D11D0100665	PLEOMAX
Notebook Computer	7665-AH6	L3-E5323	Lenovo
Wireless Router	WG602v4	-	NETGEAR

Note : Auxiliary equipments are declared according to FCC procedure.

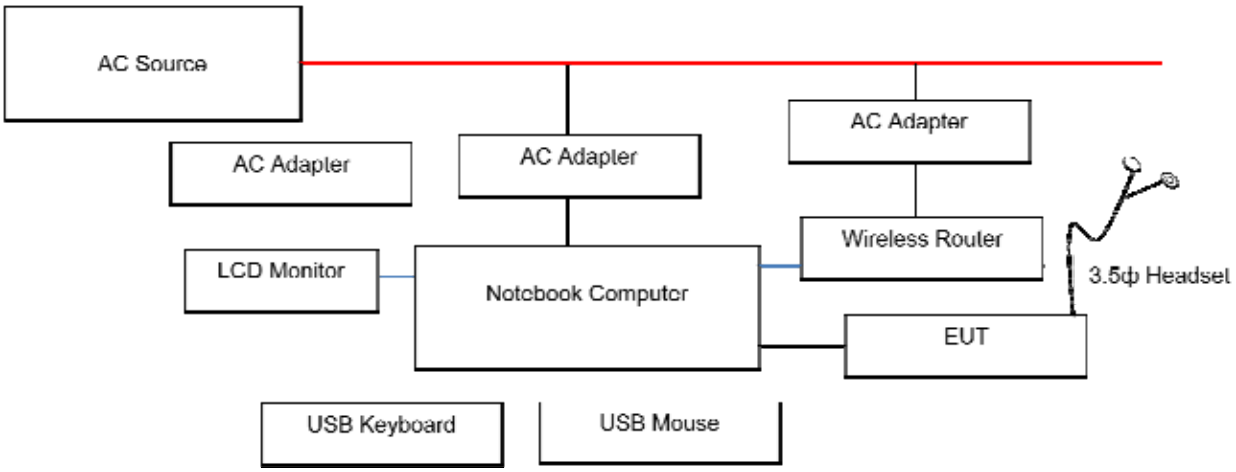
1.6 Cable List

Start		END		Cable Spec.		User Core
Name	I/O Port	Name	I/O Port	Length	Shield	
EUT	Micro USB	Notebook Computer	USB	1.0	Shield	Not used
	3.5ϕ Headset	Headset	-	1.2	Shield	
Notebook Computer	USB	USB Mouse	-	1.8	Shield	
	USB	USB Keyboard	-	1.5	Shield	
	USB	EUT	Micro USB	1.2	Shield	
	DC IN	AC Adapter	DC OUT	1.8	Unshield	Molded*1ea
	RGB	LCD Monitor	RGB	1.5	Shield	Molded*1ea
	LAN	Wireless Router	LAN	3.0	Unshield	Not used
AC Adapter	AC IN	AC Source	-	1.5	Unshield	
LCD Monitor	DC OUT	AC Adapter	DC IN	1.5	Unshield	Molded*1ea
AC Adapter	AC IN	AC Source	-	1.0	Unshield	Not used
Wireless Router	DC IN	AC Adapter	DC OUT	1.0	Unshield	Not used
AC Adapter	AC IN	AC Source	-	-	Unshield	Not used

1.7 System Configurations

Description	Model	Serial No.	Manufacturer
USB Cable	BROAD	EAD62150405	-
Headset	I-SOUND	EAB62209201	-
Li-ion Battery	BL-51YF	EAC62818401 LLL	LG

1.8 Test System Layout



1.9 Modifications

- There was no modified item during the test.

1.10 Applicable Standards for Testing

Standards	Status	Deviation
FCC Part 15 Subpart B	Applicable	No Deviation

1.11 Summary of Test Results

Test Item	Basic Standards	Results
Conducted Emission	FCC Part 15 Subpart B, ANSI C63.4 : 2009	Complied
Radiated Emission	FCC Part 15 Subpart B, ANSI C63.4 : 2009	Complied

Note : Test methods of all test items are performed according to the basic standards in this table.

EMISSION

2.1 Test Results

Test Items	Basic Standards	Test Results
Conducted Emission	ANSI C63.4 : 2009 FCC Part 15 Subpart B	**Complied**
Radiated Emission	ANSI C63.4 : 2009 FCC Part 15 Subpart B	**Complied**

2.2 Test Method and Limits

2.2.1 Test Method

Test Items	Measuring Frequency Range	RBW	Measuring Distance
Conducted Emission	0.15 ㎒ ~ 30 ㎒	9 ㎑	-
Radiated Emission	30 ㎒ ~ 1 ㎓	120 ㎑	10 ㎙ & 3 ㎙
	Above 1 ㎓	1 ㎒	3 ㎙

Note : 10 m method of radiated emission measurement is only applied to Class A equipment over the frequency range of 30 ㎒ ~ 1 ㎓. Except this, 3 m method is applied to Class B equipment over the frequency range of 30 ㎒ ~ 1 ㎓ and Class A and Class B equipment above 1 ㎓.

2.2.2 Test Limits

-Conducted Emission Limits

Frequency Range	Limits(dB(μV))		Class
	Quasi-peak	Average	
0.15 ㎒ ~ 0.5 ㎒	79	66	**Class A**
0.5 ㎒ ~ 30 ㎒	73	60	
0.15 ㎒ ~ 0.5 ㎒	66 to 56	56 to 46	**Class B**
0.5 ㎒ ~ 5 ㎒	56	46	
5 ㎒ ~ 30 ㎒	60	50	

Note : The lower limit shall apply at the transition frequencies. The limit decreases linearly with the logarithm of the frequency in the range 0.15 ㎒ to 0.5 ㎒.

-Radiated Emission Limits below 1 ㎓

Frequency Range	Limits(dB(μV/m))	Class
	Quasi-peak	
30 ㎒ ~ 88 ㎒	39.1	**Class A**
88 ㎒ ~ 216 ㎒	43.5	
216 ㎒ ~ 960 ㎒	46.4	
960 ㎒ ~ 1 ㎓	49.5	
30 ㎒ ~ 88 ㎒	40	**Class B**
88 ㎒ ~ 216 ㎒	43.5	
216 ㎒ ~ 960 ㎒	46	
960 ㎒ ~ 1 ㎓	54	

-Radiated Emission Limits above 1 ㎓ (3m method)

Frequency Range	Limits(dB(μV/m))		Class
	Average	Peak	
Above 1 ㎓	59.5	79.5	**Class A**
Above 1 ㎓	54	74	**Class B**

2.3 Conducted Emission

The initial preliminary exploratory scans were performed over the measuring frequency range(0.15 ㎒ to 30 ㎒) using a max hold mode incorporating a Peak detector and Average detector and using the software of EMC32(Version V9.12.00 from R&S). The final test data was measured using a Quasi-Peak detector and Average detector.

2.3.1 Test Equipments

Description	Model No.	Manufacturer	S/N	Last Cal. Date
Two-Line V-Network	ENV216	R & S	100190	2014.12.25
Artificial Mains Networks	ESH2-Z5	R & S	100280	2015.04.03
Test Receiver	ESCI 7	R & S	100911	2014.12.24

Note : The calibration period of every equipment is 1 year.

2.3.2 Test Site

Shield Room in Gunpo Laboratory

2.3.3 Environment Conditions

Temperature: 24.1°C ~ 24.3°C
Humidity: 23.0 %R.H.~ 24.0 %R.H.
Atmospheric Pressure: 100.6 kPa

Test Date: April 21, 2015

Freq.	Line	Level (dBµV)		CL	LISN	Result (dBµV)		Limit (dBµV)		Margin (dB)	
(MHz)	(H/N)	Q/P	A/V	(dB)	(dB)	Q/P	A/V	Q/P	A/V	Q/P	A/V
0.19	N	32.4	16.6	0.0	9.7	42.1	26.3	64.0	54.0	21.9	27.7
0.20	H	36.8	22.4	0.0	9.6	46.4	32.0	63.4	53.4	17.0	21.4
0.41	N	19.5	10.6	0.0	9.7	29.2	20.3	57.8	47.8	28.6	27.5
0.53	H	24.0	9.5	0.0	9.6	33.6	19.1	56.0	46.0	22.4	26.9
11.59	H	26.8	21.6	0.1	9.7	36.6	31.4	60.0	50.0	23.4	18.6
11.65	N	24.2	18.9	0.1	9.8	34.2	28.9	60.0	50.0	25.8	21.1
15.65	N	29.3	23.2	0.2	9.9	39.4	33.3	60.0	50.0	20.6	16.7

Measurement Uncertainty : ± 3.21 dB (The confidential level is about 95%, *k*=2)

Note : • Line (H) : Hot • Line (N) : Neutral
• CL: Cable Loss • LISN : LISN Factor
• Result = Level + CL + LISN • Margin = Limit – Result

See Appendix A (Conducted Emission)

2.4 Radiated Emission

The initial preliminary exploratory scans were performed at 3 ㎙ distance over the measuring frequency range(30 ㎒ to 6 ㎓) using a max hold mode incorporating a Peak detector and using the software of EP5RE(Version Ver3.10.20 from TOYO). The final test data was measured using a Quasi-Peak detector below 1 ㎓ at 3 ㎙ distance. and a Peak and Average detector above 1 ㎓ at 3 ㎙ distance. Measurements were made with the antenna positioned in both the horizontal and vertical planes of polarization. The antenna height was varied from 1 m to 4 m and the EUT was rotated 360° to find the maximum emitting point for each frequency.

2.4.1 Test Equipments

Description	Model No.	Manufacturer	S/N	Last Cal. Date
Horn Antenna	HF906	R & S	100326	2015.04.16
Signal Conditioning Unit	SCU 18	R & S	10117	2015.04.10
Bilog Antenna	VULB9163	SCHWARZBECK MESS-ELEKTRONIK	396	2014.06.16
Test Receiver	ESU26	R & S	100109	2014.06.16
Amplifier	8447F	HP	2944A03909	2014.08.27

Note : Only the calibration period of Antennas is 2 years but the period of every equipment is 1 year.

2.4.2 Test Site

3m Semi Anechoic chamber in Gunpo Laboratory

2.4.3 Environment Conditions

Below 1 ㎓ (3 m method)

Temperature: 23.8 ℃ ~ 24.4℃

Humidity: 23.0 %R.H. ~ 24.0 %R.H

Atmospheric Pressure: 100.8 ㎪

Test Date : April 23, 2015

Freq. (㎒)	Level (dBμV)	Pol. (H/V)	A (°)	H (m)	AF (dB)	CL (dB)	Amp. (dB)	F/S (dBμV/m)	Limit (dBμV/m)	Margin (dB)
32.71	49.0	V	209	100	12.2	0.8	27.8	34.2	40.0	5.8
43.66	40.9	V	258	200	14.1	0.9	27.7	28.3	40.0	11.7
55.83	43.1	V	336	100	13.2	1.0	27.8	29.5	40.0	10.5
71.99	54.1	V	275	200	8.0	1.1	27.8	35.4	40.0	4.6
97.70	49.3	V	193	100	11.0	1.3	27.8	33.8	43.5	9.7
801.07	43.1	H	158	100	22.2	3.8	28.0	41.1	46.0	4.9

Measurement Uncertainty (Horizontal) : ± 5.31 dB (The confidential level is about 95%, *k*=2)

Measurement Uncertainty (Vertical) : ± 5.73 dB (The confidential level is about 95%, *k*=2)

Note: • AF = Antenna Factor • CL = Cable Loss • F/S = Field Strength
• Pol.(H) = Horizontal • Pol.(V) = Vertical • Amp. = Amplifier Gain
• Margin = Limit – F/S • F/S = Level + AF + CL – Amp.
• A : Angle • H : Height

Above 1 ㎓ (3 m method)

Temperature : 23.5 ℃ ~ 23.9 ℃
Humidity : 24.0 %R.H. ~ 25.0 %R.H.
Atmospheric Pressure : 101.8 ㎪

Test Date : April 23, 2015

Freq. (㎒)	Level (dBμV)	Pol. (H/V)	A (°)	H (cm)	AF (dB)	CL (dB)	Amp. (dB)	F/S (dBμV/m)	Limit (dBμV/m)	Margin (dB)
Peak Detector										
1420.00	58.2	V	170	100	24.6	4.9	42.6	45.1	74.0	28.9
2010.00	47.9	V	198	100	27.7	11.0	42.5	44.1	74.0	29.9
Average Detector										
1420.00	34.4	V	170	100	24.6	4.9	42.6	21.3	54.0	32.7
2010.00	29.9	V	198	100	27.7	11.0	42.5	26.1	54.0	27.9

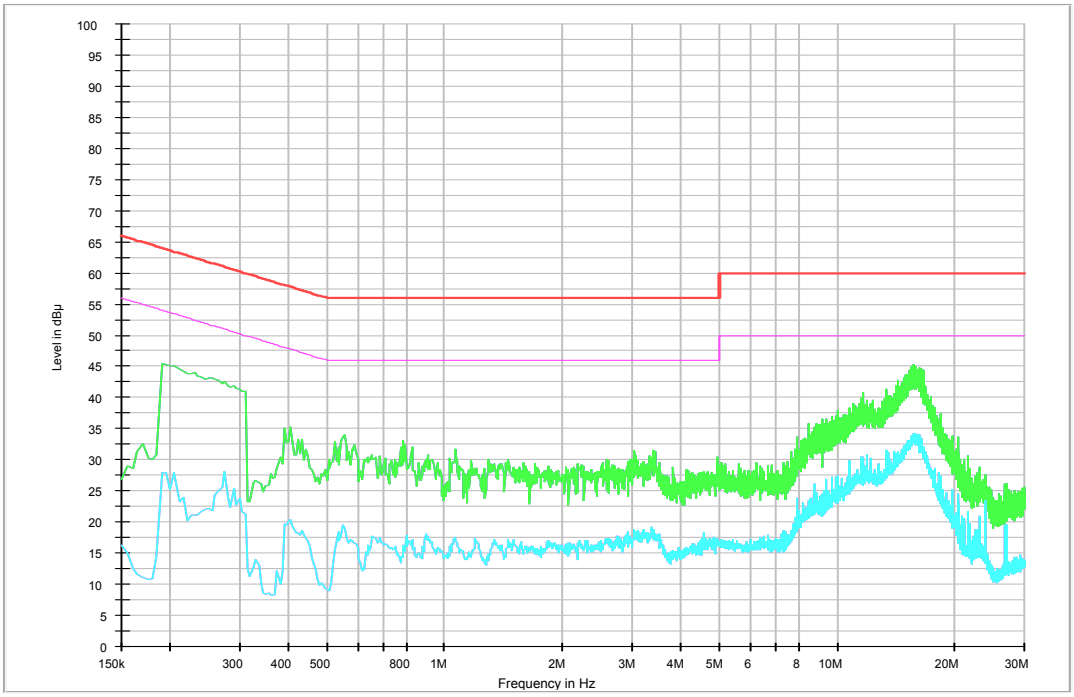
Measurement Uncertainty (Horizontal) : ± 5.73 dB (The confidential level is about 95%, K=2)
Measurement Uncertainty (Vertical) : ± 5.85 dB (The confidential level is about 95%, K=2)

Note: • AF = Antenna Factor • CL = Cable Loss • F/S = Field Strength
• Pol.(H) = Horizontal • Pol.(V) = Vertical • Amp. = Amplifier Gain
• Margin = Limit – F/S • F/S = Level + AF + CL – Amp.
• A : Angle • H : Height

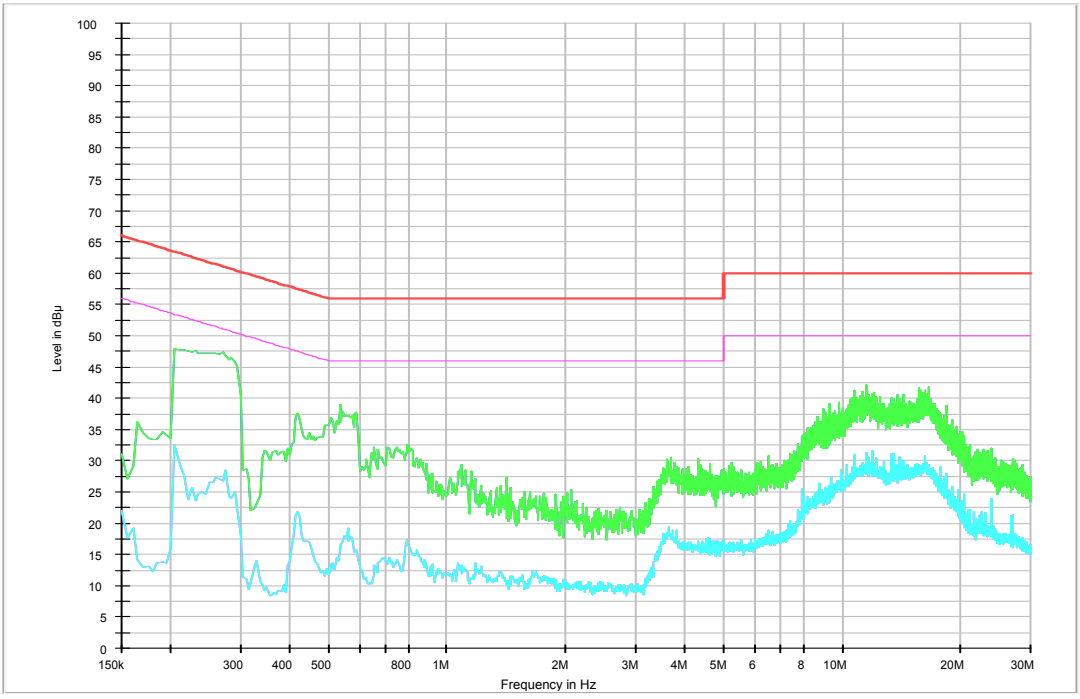
See Appendix B (Radiated Emission)

Appendix A : Conducted Emission

Neutral

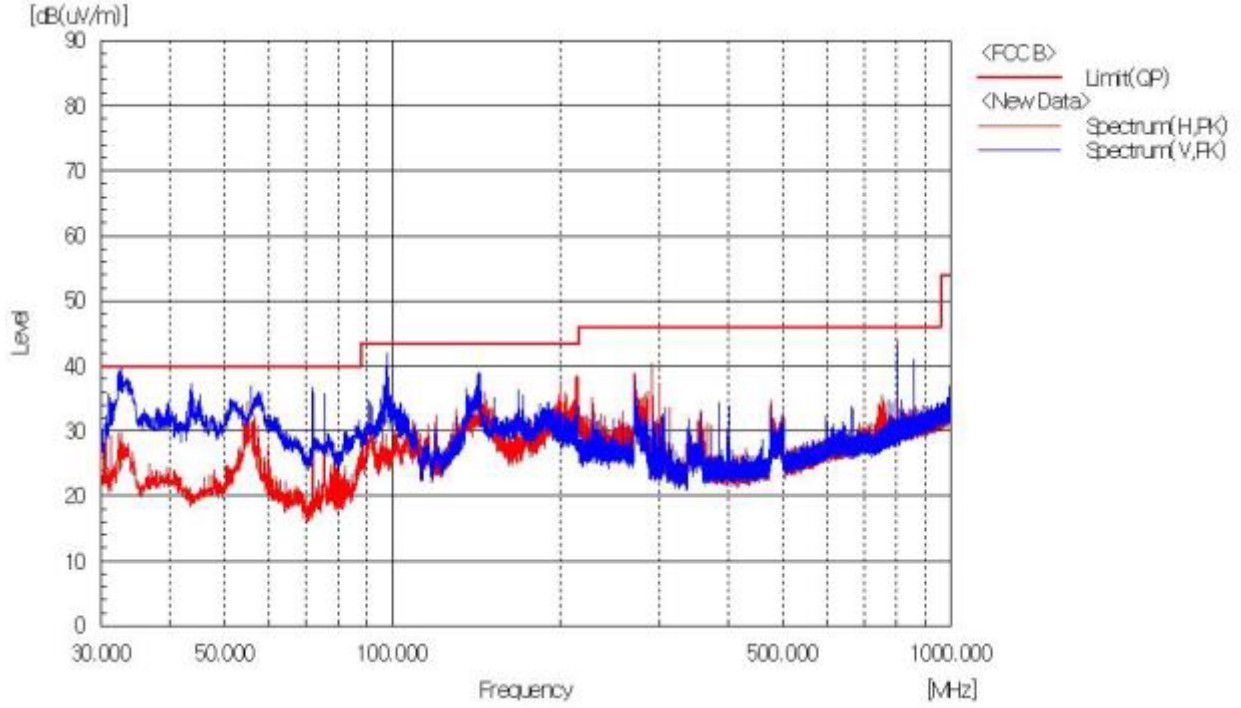
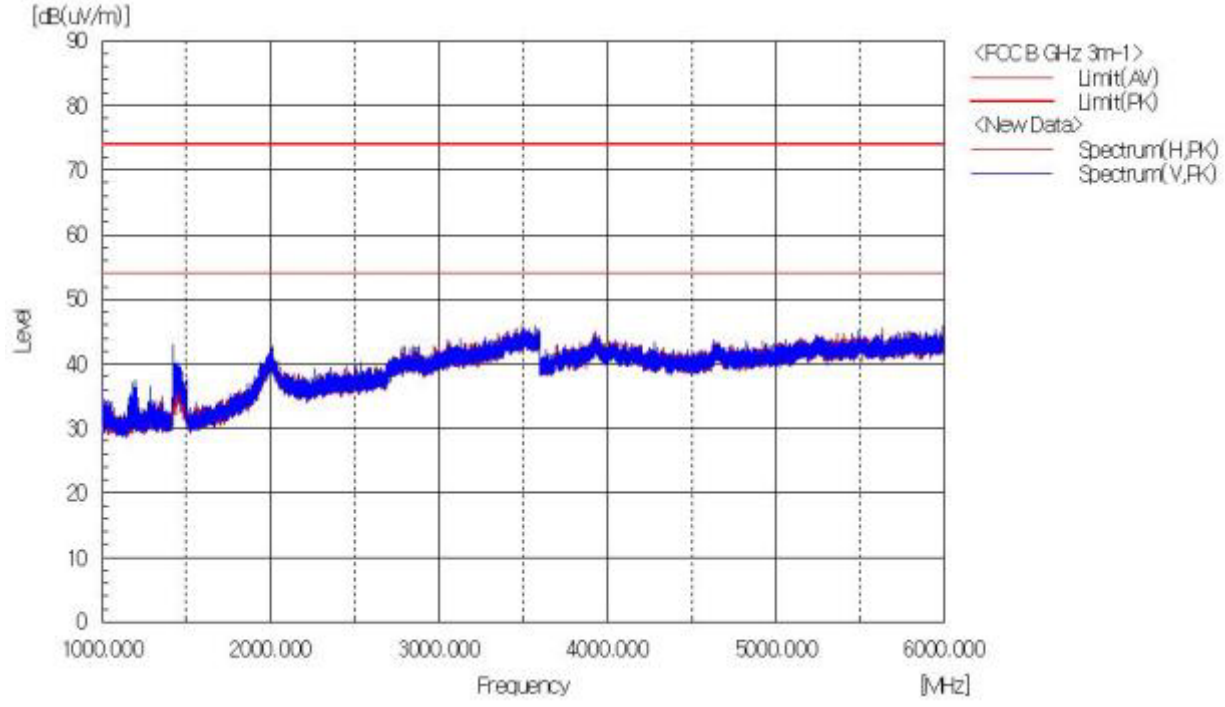


Hot



Appendix B : Radiated Emission (3 ㎜ Scan Data)

Below 1 ㎓



Above 1 ㎓