

1. Order No. : G-45-2015-01115

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 and NFC  
(Model : LG-H635(Alt. LGH635, H635))

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 °C , Maximum 24.4 °C)

Humidity (Minimum 23.0% , Maximum 25.0%)

Atmospheric Pressure ( Minimum 101.8 kPa, Maximum 101.8 kPa)

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 24, 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                    | Technical Manager            |
|             | Name : Emily Lee (Signature) | 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](mailto:paul.kang@sgs.com)

### 1.3 General Information of E.U.T.

|                            |                                                           |
|----------------------------|-----------------------------------------------------------|
| Product Name               | Cellular/PCS GSM/WCDMA Phone with WLAN, Bluetooth and NFC |
| Model Name                 | LG-H635                                                   |
| Alt Model Name             | LGH635, H635                                              |
| Model different            | Only model name is difference                             |
| FCC ID                     | ZNFH635                                                   |
| HW Version                 | Rev.1.0                                                   |
| SW Version                 | H63508e                                                   |
| 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      |

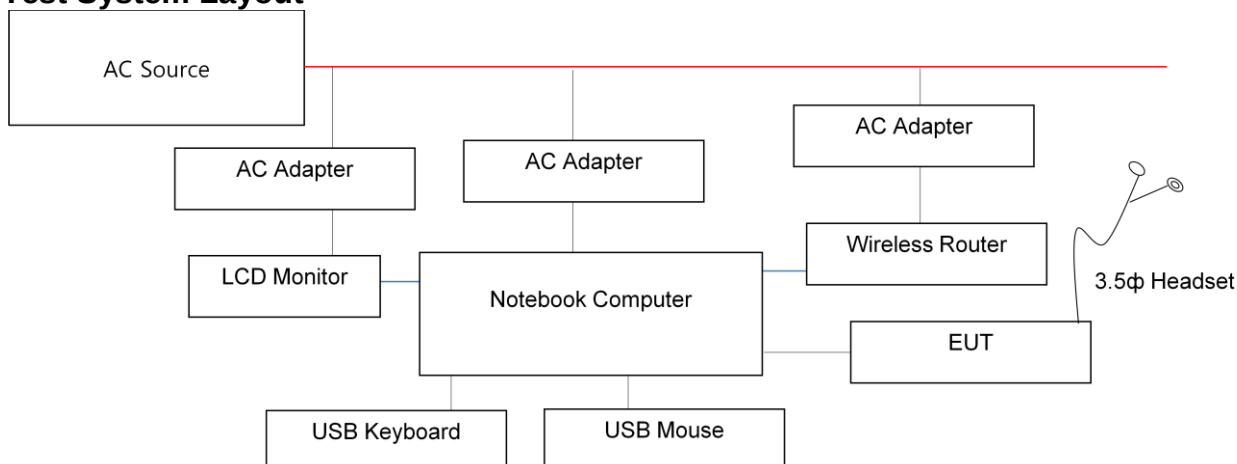
## 1.6 Cable List

| Start             |                    | END               |           | Cable Spec. |          | User Core  |
|-------------------|--------------------|-------------------|-----------|-------------|----------|------------|
| Name              | I/O Port           | Name              | I/O Port  | Length      | Shield   |            |
| EUT               | Micro USB          | Notebook Computer | USB       | 1.2         | Shield   | Not used   |
|                   | 3.5 $\phi$ Headset | Headset           | -         | 1.2         | Shield   |            |
| Notebook Computer | USB                | USB Mouse         | -         | 1.8         | Shield   |            |
|                   | USB                | USB Keyboard      | -         | 1.5         | Shield   | Molded*1ea |
|                   | 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   | Not used   |
|                   | LAN                | Wireless Router   | LAN       | 3.0         | Unshield |            |
| AC Adapter        | AC IN              | AC Source         | -         | 1.5         | Unshield | Molded*1ea |
| LCD Monitor       | DC OUT             | AC Adapter        | DC IN     | 1.5         | Unshield |            |
| 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,<br>ANSI C63.4 : 2009 | Complied |
| Radiated Emission  | FCC Part 15 Subpart B,<br>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<br>FCC Part 15 Subpart B | <b>Complied</b> |
| Radiated Emission  | ANSI C63.4 : 2009<br>FCC Part 15 Subpart B | <b>Complied</b> |

## 2.2 Test Method and Limits

## 2.2.1 Test Method

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

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

## 2.2.2 Test Limits

## -Conducted Emission Limits

| Frequency Range    | Limits( dB( $\mu$ V) ) |          | Class          |
|--------------------|------------------------|----------|----------------|
|                    | Quasi-peak             | Average  |                |
| 0.15 MHz ~ 0.5 MHz | 79                     | 66       | <b>Class A</b> |
| 0.5 MHz ~ 30 MHz   | 73                     | 60       |                |
| 0.15 MHz ~ 0.5 MHz | 66 to 56               | 56 to 46 | <b>Class B</b> |
| 0.5 MHz ~ 5 MHz    | 56                     | 46       |                |
| 5 MHz ~ 30 MHz     | 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 MHz to 0.5 MHz.

**-Radiated Emission Limits below 1 GHz**

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

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

| Frequency Range | Limits( dB( $\mu$ V/m) ) |      | Class   |
|-----------------|--------------------------|------|---------|
|                 | Average                  | Peak |         |
| Above 1 GHz     | 59.5                     | 79.5 | Class A |
| Above 1 GHz     | 54                       | 74   | Class B |

**2.3 Conducted Emission**

The initial preliminary exploratory scans were performed over the measuring frequency range(0.15 MHz to 30 MHz) 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 (RRA)       | 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.<br>( MHz ) | Line<br>( H/N ) | Level ( dB $\mu$ V ) |      | CL<br>( dB ) | LISN<br>( dB ) | Result ( dB $\mu$ V ) |      | Limit ( dB $\mu$ V ) |      | Margin ( dB ) |      |
|------------------|-----------------|----------------------|------|--------------|----------------|-----------------------|------|----------------------|------|---------------|------|
|                  |                 | Q/P                  | A/V  |              |                | Q/P                   | A/V  | Q/P                  | A/V  | Q/P           | A/V  |
| 0.20             | N               | 33.1                 | 19.1 | 0.0          | 9.7            | 42.8                  | 28.8 | 63.8                 | 53.8 | 21.0          | 25.0 |
| 0.22             | H               | 36.3                 | 21.0 | 0.0          | 9.6            | 45.9                  | 30.6 | 63.0                 | 53.0 | 17.1          | 22.4 |
| 0.43             | H               | 25.6                 | 11.7 | 0.0          | 9.6            | 35.2                  | 21.3 | 57.3                 | 47.3 | 22.1          | 26.0 |
| 0.53             | N               | 18.2                 | 8.6  | 0.0          | 9.7            | 27.9                  | 18.3 | 56.0                 | 46.0 | 28.1          | 27.7 |
| 11.89            | H               | 26.7                 | 21.3 | 0.1          | 9.7            | 36.5                  | 31.1 | 60.0                 | 50.0 | 23.5          | 18.9 |
| 15.65            | N               | 28.9                 | 22.5 | 0.2          | 9.9            | 39.0                  | 32.6 | 60.0                 | 50.0 | 21.0          | 17.4 |

Measurement Uncertainty :  $\pm 3.21$  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 m distance over the measuring frequency range(30 MHz to 6 GHz) 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 GHz at 3 m distance. and a Peak and Average detector above 1 GHz at 3 m 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<br>MESS-<br>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 GHz (3 m method)

Temperature: 23.8 °C ~ 24.4 °C

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

Atmospheric Pressure: 100.8 kPa

Test Date : April 23, 2015

| Freq.<br>( MHz ) | Level<br>( dB $\mu$ V ) | Pol.<br>( H/V ) | A<br>( ° ) | H<br>( cm ) | AF<br>( dB ) | CL<br>( dB ) | Amp.<br>( dB ) | F/S<br>( dB $\mu$ V/m ) | Limit<br>( dB $\mu$ V/m ) | Margin<br>( dB ) |
|------------------|-------------------------|-----------------|------------|-------------|--------------|--------------|----------------|-------------------------|---------------------------|------------------|
| 32.51            | 48.1                    | V               | 239        | 100         | 12.1         | 0.8          | 27.8           | 33.2                    | 40.0                      | 6.8              |
| 34.37            | 46.5                    | V               | 279        | 100         | 12.5         | 0.8          | 27.8           | 32.0                    | 40.0                      | 8.0              |
| 43.18            | 41.1                    | V               | 238        | 200         | 14.2         | 0.9          | 27.7           | 28.5                    | 40.0                      | 11.5             |
| 56.76            | 44.8                    | V               | 313        | 100         | 13.1         | 1.0          | 27.8           | 31.1                    | 40.0                      | 8.9              |
| 71.99            | 53.3                    | V               | 242        | 200         | 8.0          | 1.1          | 27.8           | 34.6                    | 40.0                      | 5.4              |
| 97.46            | 48.6                    | V               | 112        | 100         | 11.0         | 1.3          | 27.8           | 33.1                    | 43.5                      | 10.4             |

Measurement Uncertainty (Horizontal) :  $\pm 5.31$  dB (The confidential level is about 95%,  $k=2$ )Measurement Uncertainty (Vertical) :  $\pm 5.73$  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 GHz (3 m method)**

Temperature : 23.5 °C ~ 23.9 °C

Humidity : 24.0 %R.H. ~ 25.0 %R.H.

Atmospheric Pressure : 101.8 kPa

**Test Date** : April 23, 2015

| Freq.<br>( MHz ) | Level<br>( dB $\mu$ V ) | Pol.<br>(H/V) | A<br>( ° ) | H<br>( cm ) | AF<br>( dB ) | CL<br>( dB ) | Amp.<br>( dB ) | F/S<br>( dB $\mu$ V/m ) | Limit<br>( dB $\mu$ V/m ) | Margin<br>( dB ) |
|------------------|-------------------------|---------------|------------|-------------|--------------|--------------|----------------|-------------------------|---------------------------|------------------|
| Peak Detector    |                         |               |            |             |              |              |                |                         |                           |                  |
| 1419.79          | 57.7                    | V             | 177        | 100         | 24.6         | 4.9          | 42.6           | 44.6                    | 74.0                      | 29.4             |
| 1993.75          | 51.5                    | V             | 1          | 200         | 27.7         | 11.2         | 42.5           | 47.8                    | 74.0                      | 26.2             |
| Average Detector |                         |               |            |             |              |              |                |                         |                           |                  |
| 1419.79          | 34.4                    | V             | 177        | 100         | 24.6         | 4.9          | 42.6           | 21.3                    | 54.0                      | 32.7             |
| 1993.75          | 31.4                    | V             | 1          | 200         | 27.7         | 11.2         | 42.5           | 27.7                    | 54.0                      | 26.3             |

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

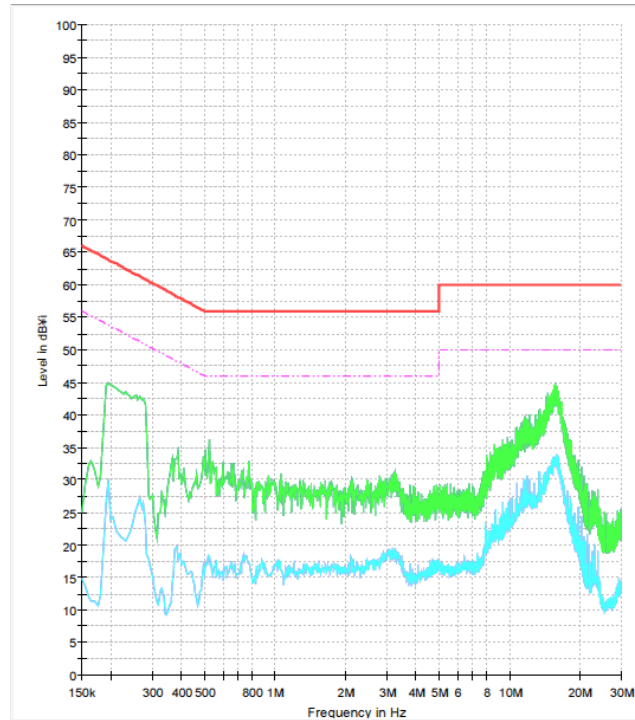
• A : Angle

• H : Height

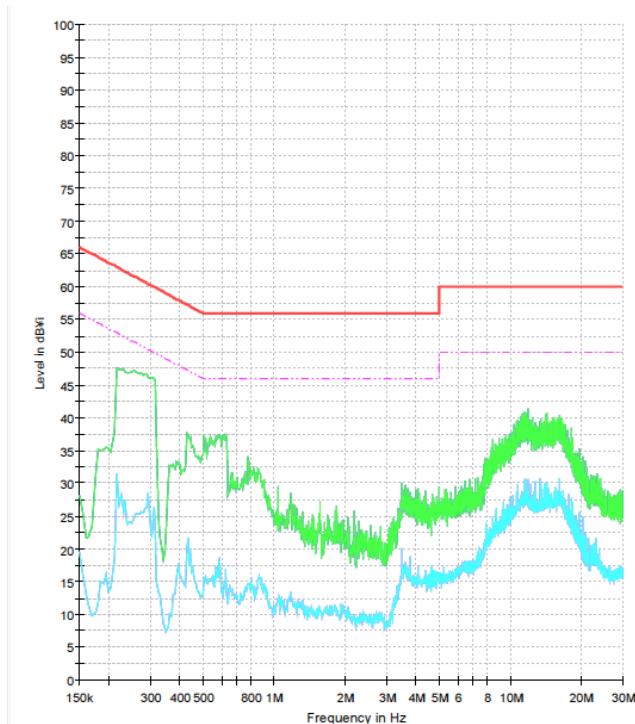
**See Appendix B (Radiated Emission)**

## Appendix A : Conducted Emission

### Neutral

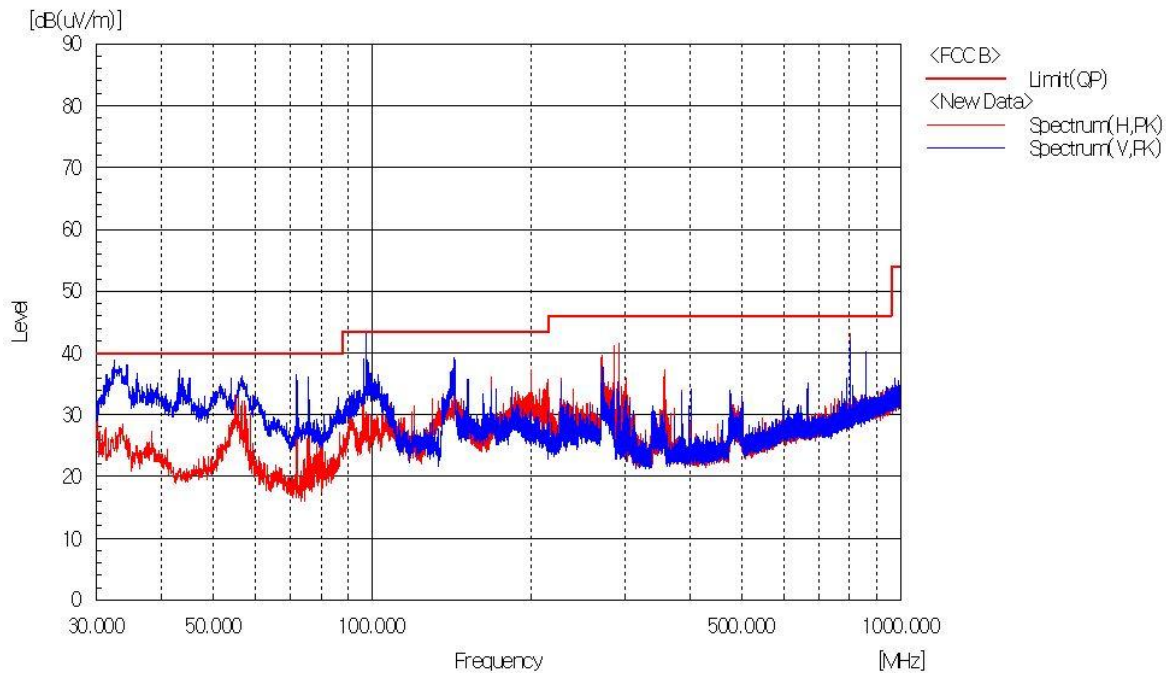


### Hot



## Appendix B : Radiated Emission (3 m Scan Data)

### Below 1 GHz



### Above 1 GHz

