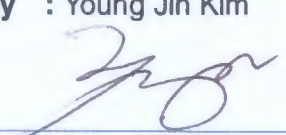
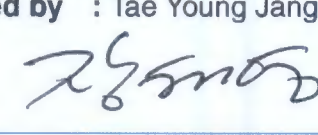
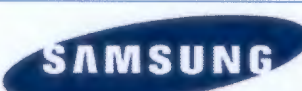


# EMC TEST REPORT

|                                                                                                                                                                               |                                        |                                                                                                                                               |   |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|---|
| <b>Project No.</b>                                                                                                                                                            | LBE20154999                            | <b>Issue No.</b>                                                                                                                              | 0 |
| <b>Applicant</b>                                                                                                                                                              | <b>Name of organization</b>            | Samsung Electronics Co., Ltd.                                                                                                                 |   |
|                                                                                                                                                                               | <b>Address</b>                         | 19 Chapin Rd., Building D, Pine Brook, New Jersey, United States 07058                                                                        |   |
|                                                                                                                                                                               | <b>Date of application</b>             | August 28, 2015                                                                                                                               |   |
| <b>EUT</b>                                                                                                                                                                    | <b>Kind of product</b>                 | Multi Function Printer                                                                                                                        |   |
|                                                                                                                                                                               | <b>Type of device</b>                  | Class B personal computers and peripherals                                                                                                    |   |
|                                                                                                                                                                               | <b>Equipment authorization</b>         | <input type="checkbox"/> Declaration of Conformity <input checked="" type="checkbox"/> Certification<br><input type="checkbox"/> Verification |   |
|                                                                                                                                                                               | <b>FCC ID</b>                          | A3LSLM3065FW                                                                                                                                  |   |
|                                                                                                                                                                               | <b>Model No.</b>                       | Xpress M3065FW                                                                                                                                |   |
|                                                                                                                                                                               | <b>Variant Model No.</b>               | Xpress M3065ND, SL-M3065FW, SL-M3065ND                                                                                                        |   |
|                                                                                                                                                                               | <b>Manufacturer</b>                    | Samsung Electronics Co., Ltd.<br>(Maetan-dong) 129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Korea                             |   |
| <b>Applied Standards</b>                                                                                                                                                      |                                        | 47 CFR Part 15, Subpart B / ANSI C63.4-2009                                                                                                   |   |
|                                                                                                                                                                               |                                        | ICES-003 Issue 5                                                                                                                              |   |
| <b>Test Period</b>                                                                                                                                                            | September 4, 2015 ~ September 11, 2015 |                                                                                                                                               |   |
| <b>Issue date</b>                                                                                                                                                             | September 17, 2015                     |                                                                                                                                               |   |
| <b>Test result : Complied</b><br>The equipment under test has found to be compliant with the applied standards.<br>(Refer to the attached test result for more detail.)       |                                        |                                                                                                                                               |   |
| <b>Tested by</b> : Young Jin Kim<br>                                                       |                                        | <b>Reviewed by</b> : Tae Young Jang<br>                   |   |
| The test results in this report only apply to the tested sample. This report must not be reproduced, except in full, without written permission from CS & Environment Centre. |                                        |                                                                                                                                               |   |
|                                                                                            |                                        |                                                                                                                                               |   |
| <b>Samsung Electronics Co Ltd, CS &amp; Environment Center</b><br>(Maetan dong) 129, Samsung-ro, Yeongtong-Gu, Suwon-Si, Gyeonggi-Do 443-742, Korea                           |                                        |                                                                                                                                               |   |

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|-----------------------------------|-----------|

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# 1. Report information

## 1.1 Revision history

| No.     | Revised detailed information                                  |
|---------|---------------------------------------------------------------|
| Issue 0 | There are no revisions and this version is basic test report. |

## 1.2 Sample calculation

### 1.2.1 Conducted disturbance (at 10 MHz)

- Limit = 60 dB $\mu$ V (Quasi-peak limit)
- Level (50 dB $\mu$ V) = Meter Reading (40.2 dB $\mu$ V) + Factor (9.8 dB = AMN factor 9.7 dB + Cable loss 0.1 dB)
- Margin (10 dB) = Limit (60 dB $\mu$ V) - Level (50 dB $\mu$ V) = 10 dB below limit

### 1.2.2 Radiated disturbance (at 100 MHz)

- Limit = 30 dB $\mu$ V/m at 10 m
- Level (20 dB $\mu$ V/m)  
= Meter Reading (40 dB $\mu$ V) + Factor (- 20 dB (1/m) = antenna factor + cable loss – amplifier gain)
- Margin (10 dB) = Limit (30 dB $\mu$ V/m) - Level (20 dB $\mu$ V/m) = 10 dB below limit

# 2. Summary of test results

## 2.1 Emission

The EUT has been tested according to the following specifications:

| Applied                             | Test type                             | Applied standard                                                                                                                     | Result   |
|-------------------------------------|---------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|----------|
| <input checked="" type="checkbox"/> | Conducted Disturbance<br>(Mains Port) | 47 CFR Part 15<br>Subpart B<br>/ ANSI C63.4-2009<br>( <input type="checkbox"/> Class A, <input checked="" type="checkbox"/> Class B) | Complied |
| <input checked="" type="checkbox"/> | Radiated Disturbance                  |                                                                                                                                      | Complied |

- Note : These results are deemed satisfactory evidence of compliance with ICES-003 of the Canadian Interference – Causing Equipment Regulations

### 3. General Information

#### 3.1 Test facility

The CS & Environment center is located on Samsung Electronics Co., Ltd. at (Maetan dong) 129, Samsung-ro, Yeongtong-Gu, Suwon-Si, Gyeonggi-Do 443-742 Korea. All testing are performed in Semi-anechoic chambers conforming to the site attenuation Characteristics defined by ANSI C63.4, CISPR 22, 16-1 and 16-2. and Shielded rooms.

The CS & Environment center is operated as testing laboratory in accordance with the requirements of ISO/IEC 17025:2005.

### 4. Test Setup configuration

#### 4.1 Test configuration

##### 4.1.1 Test Peripherals

The cables used for these peripherals are either permanently attached by the peripheral manufacturer or coupled with an assigned cable as defined below.

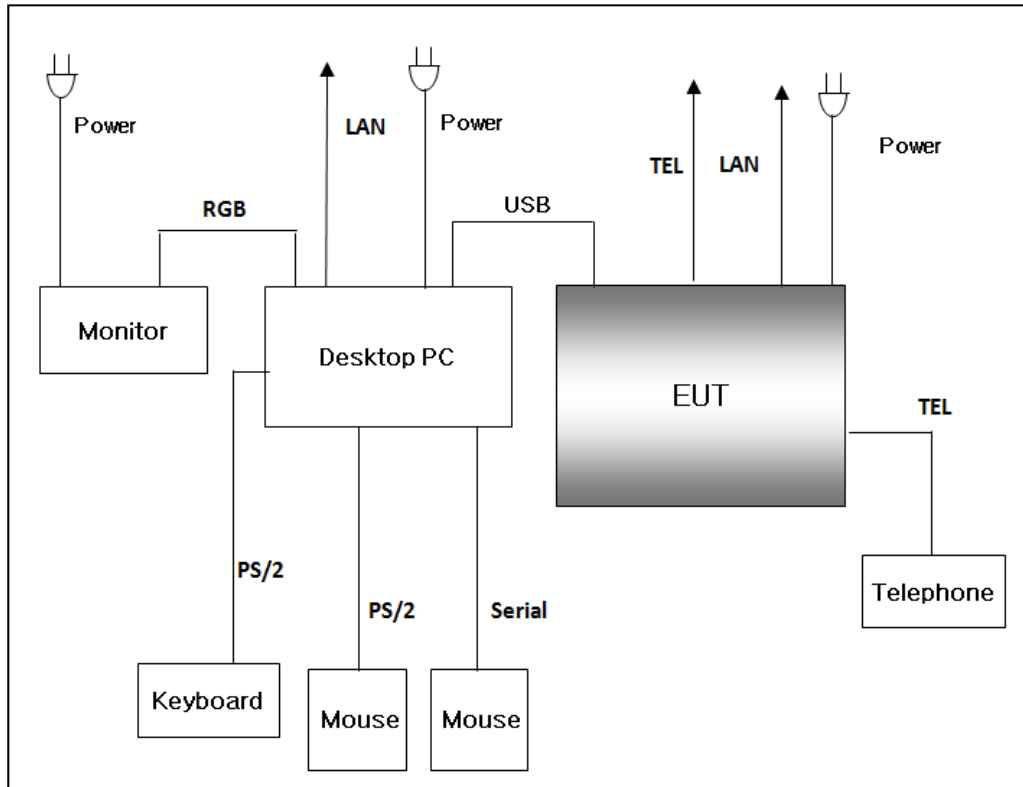
The following is a listing of the EUT and peripherals utilized during the performance of EMC test:

| Description            | Model No.      | Serial No.                | Manufacturer | Fcc ID / DoC |
|------------------------|----------------|---------------------------|--------------|--------------|
| Multi Function Printer | Xpress M3065FW | -                         | SAMSUNG      | A3LSLM3065W  |
| D/T PC                 | ZCP30          | Z41698DY700026X           | SAMSUNG      | DoC          |
| LCD Monitor            | UE19D4000      | PV421101103020F           | SAMSUNG      | DoC          |
| PS/2 Keyboard          | K6723          | CN13BA5903224AGP53DCK0596 | MONTEREY     | DoC          |
| PS/2 Mouse             | M-S48a         | LZA00153189               | Logitech     | DoC          |
| Serial Mouse           | -              | -                         | RadioShack   | DoC          |
| Telephone              | SP-F209K       | KKAY413543T               | SAMSUNG      | -            |

#### 4.1.2 Test cables

| Connected cable | Length [m] | Shielded [Y/N] | Number of Ferrite Core | Note                           |
|-----------------|------------|----------------|------------------------|--------------------------------|
| Power           | 1.8        | No             | -                      | For EUT                        |
| Power           | 1.8        | No             | -                      | For PC                         |
| Power           | 1.8        | No             | -                      | For Monitor                    |
| RGB             | 1.8        | Yes            | -                      | From PC to Monitor             |
| USB             | 1.8        | Yes            | -                      | From EUT to PC                 |
| Serial          | 1.8        | Yes            | -                      | From PC to Mouse               |
| PS/2            | 1.8        | Yes            | -                      | From PC to Keyboard            |
| PS/2            | 1.8        | Yes            | -                      | From PC to Mouse               |
| LAN             | 2.0        | No             | -                      | From EUT to Local Area Network |
| LAN             | 2.0        | No             | -                      | From PC to Local Area Network  |
| TEL             | 3.0        | No             | -                      | From EUT to telephones         |
| TEL             | 2.0        | No             | -                      | From EUT to keyphone system    |

### 4.1.3 Test arrangement



### 4.2 EUT operating mode

To achieve compliance applied standard specification, the following mode(s) were made during compliance testing:

|                              |              |
|------------------------------|--------------|
| Operating Mode 1 (Test mode) | Standby      |
| Operating Mode 2 (Test mode) | USB Printing |
| Operating Mode 3 (Test mode) | ADF Copy     |
| Operating Mode 4 (Test mode) | FAX Tx       |

### 4.3 Details of Sampling

Customer selected, single unit.

### 4.4 Clock Frequencies

| Kind of Clocks | Frequency[MHz] | Kind of Clocks  | Frequency[MHz] |
|----------------|----------------|-----------------|----------------|
| Main CPU       | 600            | UI CPU Internal | 25             |
| ETHERNET       | 12             | DDR3            | 384            |

## 4.5 EUT Description

The following features describe EUT represented by this report:

| Item                   | Specification and Description                                     |
|------------------------|-------------------------------------------------------------------|
| Processor              | 600MHz CPU                                                        |
| Standard System memory | 128MHz                                                            |
| Resolution             | True 1 200 x 1 200 dpi (Addressible 1200dpi support)              |
| Speed                  | A4 Mono 30ppm                                                     |
| Power Rating           | 110VAC ~ 120AC, 5.7A, , 50/60 Hz                                  |
| Power Consumption      | Power Save : 2.4Watts<br>Standby : 50Watts<br>Printing : 450Watts |
| Interfaces             | Hi-Speed USB 2.0, 10/100 Ethernet, Wi-Fi, Wi-Fi Direct, NFC       |
| Modes of Operation     | Standby, USB Printing, Network Printing, Wi-Fi, Scan, FAX         |

## 4.6 Test configuration and condition

The system was configured for testing in typical fashion use. Cables were attached to each of the available I/O Ports. Where applicable, peripherals were attached to the I/O cables.

The mode of operation utilized for testing was selected to best simulate typical EUT use.

The EUT was connected to a remote PC through the Ethernet port with Unshielded Twisted Pair Ethernet cable.

Power source for the EUT operating was supplied by CVCF made by the Pacific Corp.

**- Test Voltage : AC 120 V, 60 Hz**

## 4.7 Measurement uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus: (According to CISPR 16-4 and UKAS Lab 34.)

### 4.7.1 Emission

| Test type                             |                        | Measurement uncertainty<br>(C.L. 95 %, k = 2) |
|---------------------------------------|------------------------|-----------------------------------------------|
| Conducted disturbance                 | Main terminal (ENV216) | $\pm 3.16$ dB                                 |
| Radiated Disturbance<br>(Below 1 GHz) | Horizontal             | $\pm 4.90$ dB                                 |
|                                       | Vertical               | $\pm 4.66$ dB                                 |
| Radiated Disturbance<br>(Above 1 GHz) | Horizontal             | $\pm 5.45$ dB                                 |
|                                       | Vertical               | $\pm 5.43$ dB                                 |

## 5. Results of individual test

### 5.1 Conducted disturbance

Both conducted lines are measured in Quasi-Peak and Average mode, including the worst-case data points for each tested configuration. The EUT measured in accordance with the methods described in standards.

#### Limits for conducted disturbance at the mains ports

| Frequency range<br>Limits(MHz)                                                                                     | Resolution<br>Bandwidth(kHz) | Limits of Class A, dB(μV) |         | Limits of Class B, dB(μV) |         |
|--------------------------------------------------------------------------------------------------------------------|------------------------------|---------------------------|---------|---------------------------|---------|
|                                                                                                                    |                              | Quasi-peak                | Average | Quasi-peak                | Average |
| 0.15 ~ 0.50                                                                                                        | 9                            | 79                        | 66      | 66 ~ 56                   | 56 ~ 46 |
| 0.50 ~ 5                                                                                                           | 9                            | 73                        | 60      | 56                        | 46      |
| 5 ~ 30                                                                                                             | 9                            |                           |         | 60                        | 50      |
| NOTE 1 The lower limit shall apply at the transition frequency                                                     |                              |                           |         |                           |         |
| NOTE 2 The Class B limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz. |                              |                           |         |                           |         |

If the reading on the measuring receiver shows fluctuations close to the limit, the reading shall be observed for at least 15 seconds at each measurement frequency, the highest reading shall be recorded, with the exception of any brief isolated high reading (which shall be ignored).

### 5.1.1 Test instrumentation

| Test instrumentation | Model name | Manufacturer | Serial or Firmware (No./Ver.) | Calibration |                  |
|----------------------|------------|--------------|-------------------------------|-------------|------------------|
|                      |            |              |                               | Date        | Interval (Month) |
| EMI Test Receiver    | ESIB-26    | R&S          | 100291                        | 2014-12-08  | 12               |
| Two-Line V-Network   | ENV216     | R&S          | 101369                        | 2014-11-17  | 12               |
| Two-Line V-Network   | ESH3-Z5    | R&S          | 100260                        | 2015-01-12  | 12               |
| Test Software        | EMC32      | R&S          | Ver 8.53.0                    | -           | -                |

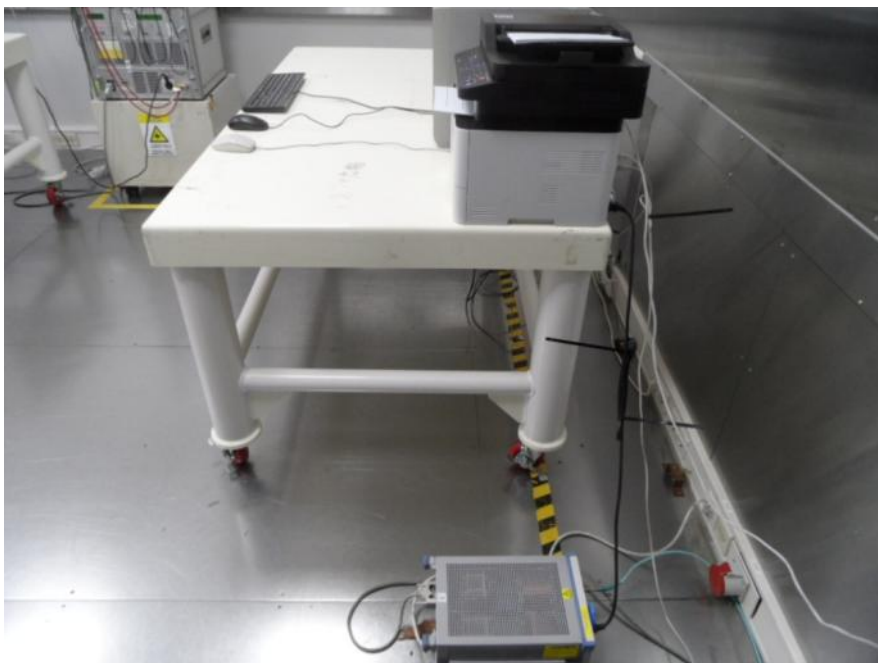
### 5.1.2 Temperature and humidity condition

|                   |                      |               |                   |               |      |
|-------------------|----------------------|---------------|-------------------|---------------|------|
| Test date         | September 11, 2015   | Test engineer |                   | Young Jin Kim |      |
| Climate condition | Ambient temperature  | 23.5 ℃        | Relative humidity |               | 38 % |
|                   | Atmospheric pressure | 101.1 kPa     |                   |               |      |
| Test place        | Shielded Room #8     |               |                   |               |      |

### 5.1.3 Photograph of Test Setup



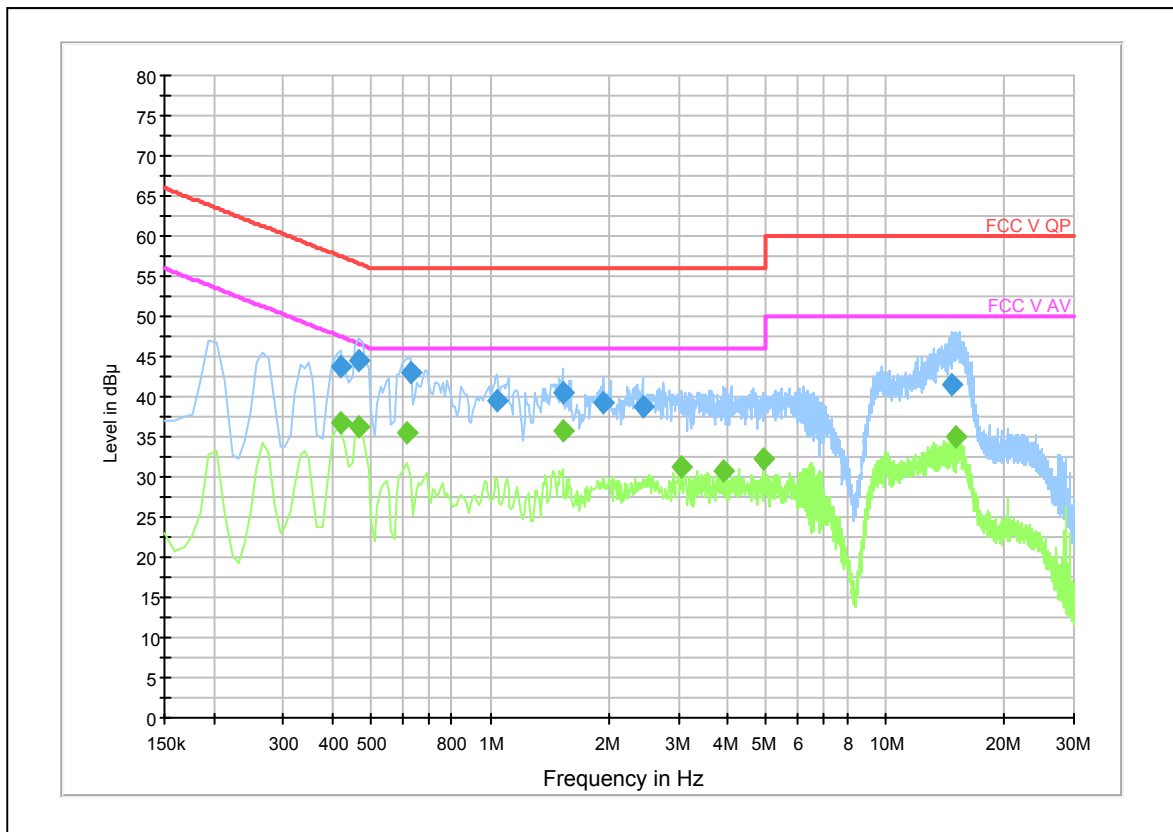
**Front**



**Rear**

## 5.1.4 Test results (mains port)

### - Operating Mode : 1



Note1) Two graphs measured for both Live(L1) and Neutral(N) of the LISN are combined into one graph.

**Test Results (Quasi-Peak and C/Average)**

Quasi-peak final measurement results table

| Frequency (MHz) | Level <sup>1)</sup> Quasi-Peak (dBμV) | Line <sup>2)</sup> | Factor <sup>3)</sup> (dB) | Margin <sup>4)</sup> (dB) | Limit (dBμV) |
|-----------------|---------------------------------------|--------------------|---------------------------|---------------------------|--------------|
| 0.420           | 43.6                                  | N                  | 9.9                       | 13.80                     | 57.40        |
| 0.465           | 44.5                                  | N                  | 9.9                       | 12.10                     | 56.60        |
| 0.627           | 43.0                                  | N                  | 9.9                       | 13.00                     | 56.00        |
| 1.041           | 39.5                                  | L1                 | 9.8                       | 16.50                     | 56.00        |
| 1.527           | 40.6                                  | N                  | 9.8                       | 15.40                     | 56.00        |
| 1.941           | 39.4                                  | N                  | 9.7                       | 16.60                     | 56.00        |
| 2.427           | 38.7                                  | L1                 | 9.7                       | 17.30                     | 56.00        |
| 14.703          | 41.6                                  | L1                 | 9.9                       | 18.40                     | 60.00        |

C/Average final measurement results table

| Frequency (MHz) | Level <sup>1)</sup> C/Average (dBμV) | Line <sup>2)</sup> | Factor <sup>3)</sup> (dB) | Margin <sup>4)</sup> (dB) | Limit (dBμV) |
|-----------------|--------------------------------------|--------------------|---------------------------|---------------------------|--------------|
| 0.420           | 36.7                                 | L1                 | 9.9                       | 10.70                     | 47.40        |
| 0.465           | 36.3                                 | N                  | 9.9                       | 10.30                     | 46.60        |
| 0.618           | 35.4                                 | N                  | 9.9                       | 10.60                     | 46.00        |
| 1.527           | 35.7                                 | L1                 | 9.8                       | 10.30                     | 46.00        |
| 3.057           | 31.2                                 | L1                 | 9.7                       | 14.80                     | 46.00        |
| 3.876           | 30.9                                 | L1                 | 9.8                       | 15.10                     | 46.00        |
| 4.920           | 32.3                                 | N                  | 9.8                       | 13.70                     | 46.00        |
| 15.018          | 34.9                                 | N                  | 9.9                       | 15.10                     | 50.00        |

Note1) Level (Quasi-Peak and/or C/Average) = Meter Reading + Factor

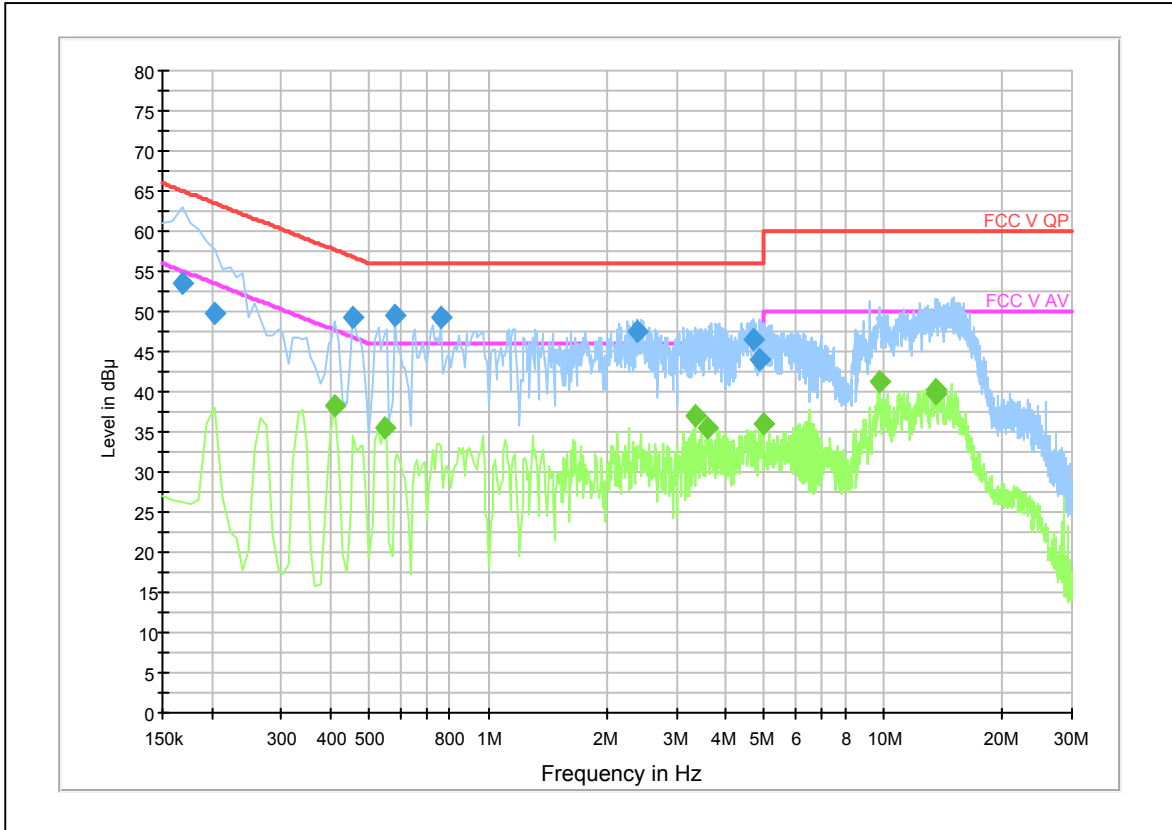
Note2) Line = Polarity of input power (Live or Neutral)

N : Abbreviation of Neutral Polarity, L1 : Abbreviation of Live Polarity,

Note3) Factor = LISN Insertion Loss + Cable Loss

Note4) Margin = Limit – Level (Quasi-Peak and/or C/Average)

Note5) C/Average = CISPR-Average

**- Operating Mode : 2**

Note1) Two graphs measured for both Live(L1) and Neutral(N) of the LISN are combined into one graph.

**Test Results (Quasi-Peak and C/Average)**

Quasi-peak final measurement results table

| Frequency (MHz) | Level <sup>1)</sup><br>Quasi-Peak (dBμV) | Line <sup>2)</sup> | Factor <sup>3)</sup><br>(dB) | Margin <sup>4)</sup><br>(dB) | Limit (dBμV) |
|-----------------|------------------------------------------|--------------------|------------------------------|------------------------------|--------------|
| 0.168           | 53.5                                     | N                  | 9.9                          | 11.50                        | 65.10        |
| 0.204           | 49.8                                     | N                  | 10.0                         | 13.70                        | 63.40        |
| 0.456           | 49.2                                     | L1                 | 9.9                          | 7.60                         | 56.80        |
| 0.582           | 49.4                                     | N                  | 9.9                          | 6.60                         | 56.00        |
| 0.762           | 49.2                                     | L1                 | 9.9                          | 6.80                         | 56.00        |
| 2.382           | 47.6                                     | N                  | 9.7                          | 8.40                         | 56.00        |
| 4.695           | 46.5                                     | N                  | 9.8                          | 9.50                         | 56.00        |
| 4.857           | 44.0                                     | N                  | 9.8                          | 12.00                        | 56.00        |

C/Average final measurement results table

| Frequency (MHz) | Level <sup>1)</sup><br>C/Average (dBμV) | Line <sup>2)</sup> | Factor <sup>3)</sup><br>(dB) | Margin <sup>4)</sup><br>(dB) | Limit (dBμV) |
|-----------------|-----------------------------------------|--------------------|------------------------------|------------------------------|--------------|
| 0.411           | 38.3                                    | L1                 | 9.9                          | 9.30                         | 47.60        |
| 0.546           | 35.4                                    | N                  | 9.9                          | 10.60                        | 46.00        |
| 3.327           | 36.9                                    | N                  | 9.7                          | 9.10                         | 46.00        |
| 3.606           | 35.6                                    | L1                 | 9.8                          | 10.40                        | 46.00        |
| 4.992           | 36.0                                    | N                  | 9.8                          | 10.00                        | 46.00        |
| 9.771           | 41.2                                    | N                  | 9.8                          | 8.80                         | 50.00        |
| 13.533          | 40.2                                    | L1                 | 9.9                          | 9.80                         | 50.00        |
| 13.569          | 39.9                                    | L1                 | 9.9                          | 10.10                        | 50.00        |

Note1) Level (Quasi-Peak and/or C/Average) = Meter Reading + Factor

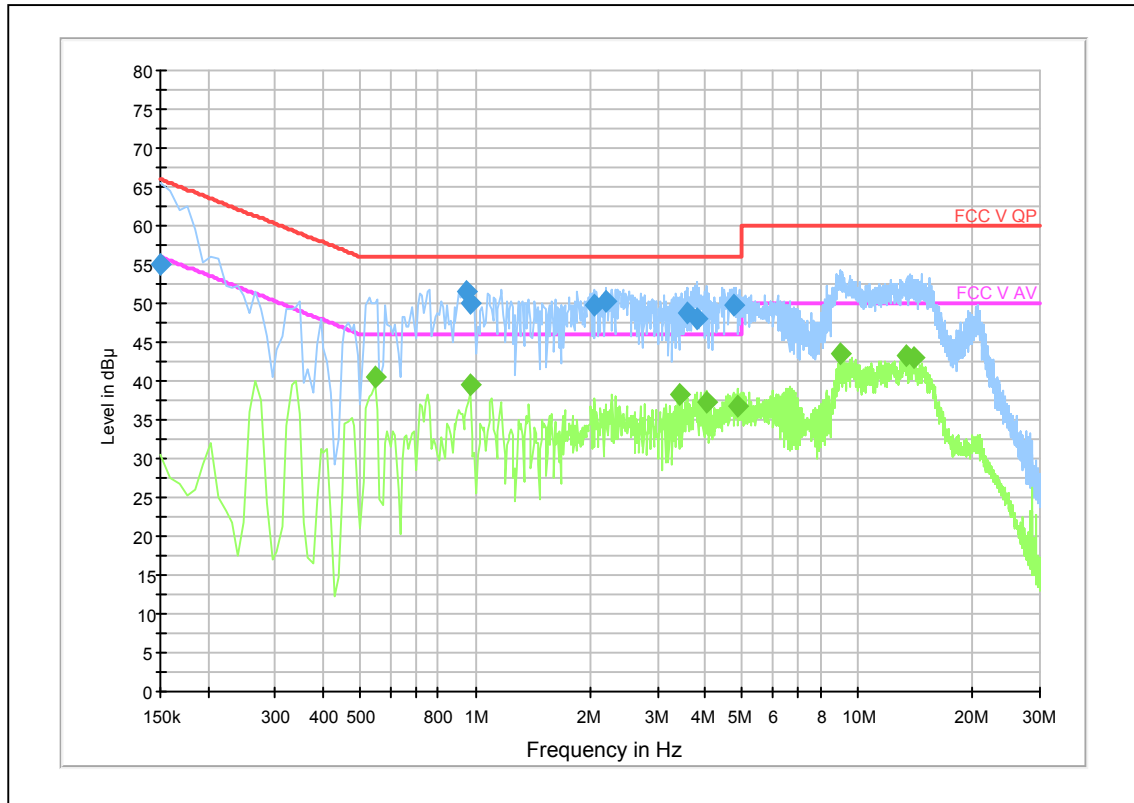
Note2) Line = Polarity of input power (Live or Neutral)

N : Abbreviation of Neutral Polarity, L1 : Abbreviation of Live Polarity,

Note3) Factor = LISN Insertion Loss + Cable Loss

Note4) Margin = Limit – Level (Quasi-Peak and/or C/Average)

Note5) C/Average = CISPR-Average

**- Operating Mode : 3**

Note1) Two graphs measured for both Live(L1) and Neutral(N) of the LISN are combined into one graph.

**Test Results (Quasi-Peak and C/Average)**

Quasi-peak final measurement results table

| Frequency (MHz) | Level <sup>1)</sup><br>Quasi-Peak (dBμV) | Line <sup>2)</sup> | Factor <sup>3)</sup><br>(dB) | Margin <sup>4)</sup><br>(dB) | Limit (dBμV) |
|-----------------|------------------------------------------|--------------------|------------------------------|------------------------------|--------------|
| 0.150           | 54.9                                     | L1                 | 9.9                          | 11.10                        | 66.00        |
| 0.951           | 51.5                                     | N                  | 9.8                          | 4.50                         | 56.00        |
| 0.969           | 50.1                                     | N                  | 9.8                          | 5.90                         | 56.00        |
| 2.058           | 49.8                                     | N                  | 9.7                          | 6.20                         | 56.00        |
| 2.193           | 50.2                                     | N                  | 9.7                          | 5.80                         | 56.00        |
| 3.597           | 48.7                                     | N                  | 9.8                          | 7.30                         | 56.00        |
| 3.804           | 47.9                                     | N                  | 9.8                          | 8.10                         | 56.00        |
| 4.731           | 49.7                                     | N                  | 9.8                          | 6.30                         | 56.00        |

C/Average final measurement results table

| Frequency (MHz) | Level <sup>1)</sup><br>C/Average (dBμV) | Line <sup>2)</sup> | Factor <sup>3)</sup><br>(dB) | Margin <sup>4)</sup><br>(dB) | Limit (dBμV) |
|-----------------|-----------------------------------------|--------------------|------------------------------|------------------------------|--------------|
| 0.546           | 40.4                                    | N                  | 9.9                          | 5.60                         | 46.00        |
| 0.969           | 39.5                                    | N                  | 9.8                          | 6.50                         | 46.00        |
| 3.426           | 38.3                                    | N                  | 9.7                          | 7.70                         | 46.00        |
| 4.011           | 37.2                                    | N                  | 9.8                          | 8.80                         | 46.00        |
| 4.848           | 36.7                                    | N                  | 9.8                          | 9.30                         | 46.00        |
| 9.033           | 43.5                                    | N                  | 9.8                          | 6.50                         | 50.00        |
| 13.353          | 43.1                                    | N                  | 9.9                          | 6.90                         | 50.00        |
| 14.019          | 43.0                                    | L1                 | 9.9                          | 7.00                         | 50.00        |

Note1) Level (Quasi-Peak and/or C/Average) = Meter Reading + Factor

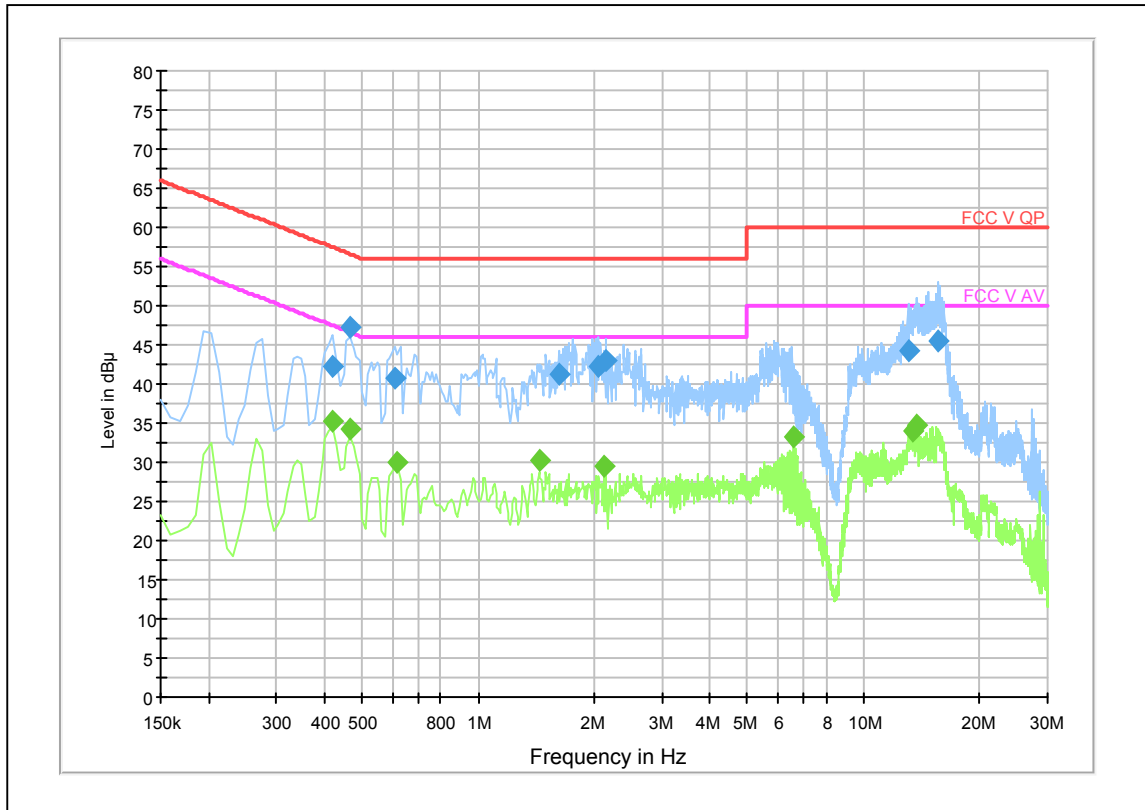
Note2) Line = Polarity of input power (Live or Neutral)

N : Abbreviation of Neutral Polarity, L1 : Abbreviation of Live Polarity,

Note3) Factor = LISN Insertion Loss + Cable Loss

Note4) Margin = Limit – Level (Quasi-Peak and/or C/Average)

Note5) C/Average = CISPR-Average

**- Operating Mode : 4**

Note1) Two graphs measured for both Live(L1) and Neutral(N) of the LISN are combined into one graph.

**Test Results (Quasi-Peak and C/Average)**

Quasi-peak final measurement results table

| Frequency (MHz) | Level <sup>1)</sup> Quasi-Peak (dBμV) | Line <sup>2)</sup> | Factor <sup>3)</sup> (dB) | Margin <sup>4)</sup> (dB) | Limit (dBμV) |
|-----------------|---------------------------------------|--------------------|---------------------------|---------------------------|--------------|
| 0.420           | 42.3                                  | N                  | 9.9                       | 15.10                     | 57.40        |
| 0.465           | 47.1                                  | L1                 | 9.9                       | 9.50                      | 56.60        |
| 0.609           | 40.8                                  | N                  | 9.9                       | 15.20                     | 56.00        |
| 1.617           | 41.3                                  | L1                 | 9.8                       | 14.70                     | 56.00        |
| 2.040           | 42.2                                  | N                  | 9.7                       | 13.80                     | 56.00        |
| 2.148           | 43.1                                  | L1                 | 9.7                       | 12.90                     | 56.00        |
| 13.029          | 44.3                                  | L1                 | 9.9                       | 15.70                     | 60.00        |
| 15.639          | 45.4                                  | N                  | 9.9                       | 14.60                     | 60.00        |

C/Average final measurement results table

| Frequency (MHz) | Level <sup>1)</sup> C/Average (dBμV) | Line <sup>2)</sup> | Factor <sup>3)</sup> (dB) | Margin <sup>4)</sup> (dB) | Limit (dBμV) |
|-----------------|--------------------------------------|--------------------|---------------------------|---------------------------|--------------|
| 0.420           | 35.1                                 | N                  | 9.9                       | 12.30                     | 47.40        |
| 0.465           | 34.2                                 | L1                 | 9.9                       | 12.40                     | 46.60        |
| 0.618           | 30.0                                 | N                  | 9.9                       | 16.00                     | 46.00        |
| 1.437           | 30.1                                 | L1                 | 9.8                       | 15.90                     | 46.00        |
| 2.130           | 29.6                                 | N                  | 9.7                       | 16.40                     | 46.00        |
| 6.594           | 33.3                                 | N                  | 9.8                       | 16.70                     | 50.00        |
| 13.335          | 34.0                                 | L1                 | 9.9                       | 16.00                     | 50.00        |
| 13.659          | 34.7                                 | L1                 | 9.9                       | 15.30                     | 50.00        |

Note1) Level (Quasi-Peak and/or C/Average) = Meter Reading + Factor

Note2) Line = Polarity of input power (Live or Neutral)

N : Abbreviation of Neutral Polarity, L1 : Abbreviation of Live Polarity,

Note3) Factor = LISN Insertion Loss + Cable Loss

Note4) Margin = Limit – Level (Quasi-Peak and/or C/Average)

Note5) C/Average = CISPR-Average

## 5.2 Radiated disturbance

Of those disturbances above ( $L - 20$  dB), where  $L$  is the limit level in logarithmic units, record at least the disturbance levels and the frequencies of the six highest disturbances.

The following data lists the significant emission frequencies, measured levels, correction factors (for antenna and cables), orientation of table, polarization and height of antenna, the corrected reading, the limit, and the amount of margin. All measurements were taken utilizing quasi-peak detection unless stated otherwise.

Measurements were performed at an antenna to EUT distance of 10 meters and elevated between 1 and 4 meters. Both vertical and horizontal antenna polarizations were measured.

Below 1 GHz, peak detector function mode for prescan was used with resolution bandwidth of 120 kHz and a video bandwidth of 300 kHz and sweep method.

The sweep time for prescan set below 200 ms up and final measurement with quasi-peak detector evaluated for suspected frequencies points, which are detected from prescan measurement.

Final measurements consisted of 3 steps.

First step, frequency fine tuning to find exact disturbance frequency.

Second step, rechecking to search for maximum height and azimuth for interference from EUT

In final step, there are conducted measuring with quasi-peak detector for points which are detected from 1<sup>st</sup> step & 2<sup>nd</sup> step.

### Limits of Radiated Emission

| Frequency range Limits<br>MHz | Resolution Bandwidth | Limit values<br>dB( $\mu$ V/m)          |                                        |
|-------------------------------|----------------------|-----------------------------------------|----------------------------------------|
|                               |                      | Class A<br>(a distance of<br>10 meters) | Class B<br>(a distance of<br>3 meters) |
| 30 to 88                      | 120 kHz              | 39                                      | 40                                     |
| 88 to 216                     | 120 kHz              | 43.5                                    | 43.5                                   |
| 216 to 960                    | 120 kHz              | 46                                      | 46                                     |
| Above 960                     | 120 kHz              | 49.5                                    | 54                                     |

Peak measurements were made over the changeable frequency range 1 GHz to 6 GHz in accordance with internal maximum operating frequency at a measurement distance of 3 m for the following antenna and turntable arrangements:

| Antenna Height(m) | Antenna Polarisation | Turntable position (degrees) |
|-------------------|----------------------|------------------------------|
| 1.0 ~ 4.0         | Horizontal, Vertical | Continuous                   |

**Limits above 1 GHz at a measurement distance of 3 m**

| Frequency range Limits (GHz)                                 | Resolution Bandwidth (MHz) | Limits of Class A, dB( $\mu$ V/m) |         | Limits of Class B, dB( $\mu$ V/m) |         |
|--------------------------------------------------------------|----------------------------|-----------------------------------|---------|-----------------------------------|---------|
|                                                              |                            | Peak                              | Average | Peak                              | Average |
| 1 ~ 5                                                        | 1                          | 80                                | 60      | 74                                | 54      |
| NOTE The lower limit shall apply at the transition frequency |                            |                                   |         |                                   |         |

Measurements within 20 dB of the limit were then maximized by adjusting turntable position. Final measurements were made using an average detector.

Results checked manually and points close to the limit line were re-measured.

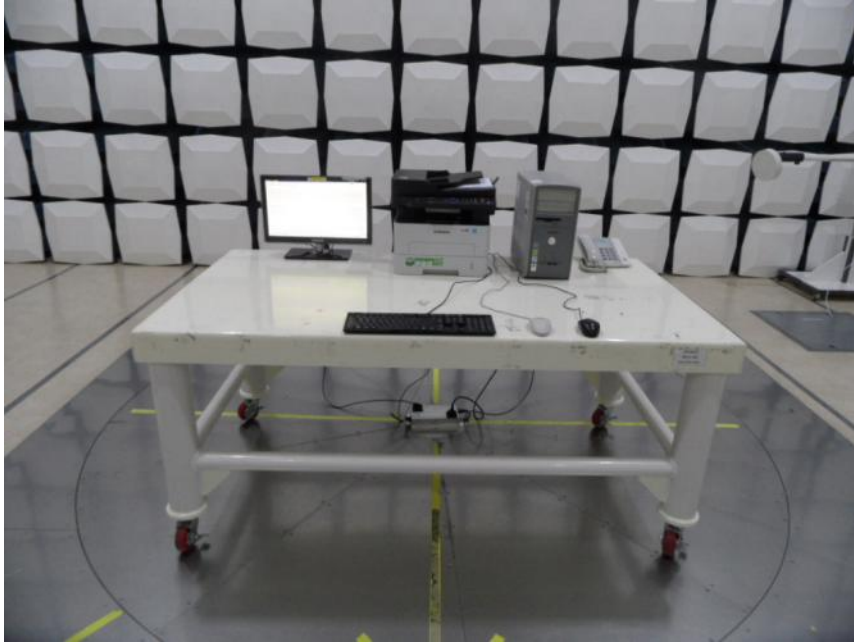
## 5.2.1 Test instrumentation

| Test instrumentation                 | Model name | Manufacturer | Serial or Firmware (No./Ver.) | Calibration |                  |
|--------------------------------------|------------|--------------|-------------------------------|-------------|------------------|
|                                      |            |              |                               | Date        | Interval (Month) |
| Antenna Mast                         | AM 4.0     | Maturo       | AM4.0/061/2410908             | -           | -                |
| Antenna Mast                         | AM 4.0     | Maturo       | AM4.0/060/2410908             | -           | -                |
| Controller                           | MCU        | Maturo       | MCU/100/2410908               | -           | -                |
| Controller                           | HD100      | HD           | 100/723                       | -           | -                |
| Preamplifier                         | 317        | SONOMA       | 282424                        | 2014-11-10  | 12               |
| Preamplifier                         | 317        | SONOMA       | 282425                        | 2014-11-10  | 12               |
| Preamplifier                         | ESV-Z3     | R&S          | 815111                        | 2015-04-16  | 12               |
| BILOG Antenna                        | CBL6112D   | TESEQ        | 25513                         | 2014-10-21  | 24               |
| BILOG Antenna                        | CBL6112B   | Schaffner    | 2804                          | 2014-05-14  | 24               |
| Double-Ridged Waveguide Horn Antenna | HF906      | R&S          | 100028                        | 2014-10-20  | 24               |
| EMI Test Receiver                    | ESU-26     | R&S          | 100364                        | 2015-03-31  | 12               |
| EMI Test Receiver                    | ESU-08     | R&S          | 100481                        | 2015-05-13  | 12               |
| EMI Test Receiver                    | ESIB-26    | R&S          | 100010                        | 2014-09-29  | 12               |
| Test Software                        | EP5/RE     | TOYO         | Ver 5.70.10                   | -           | -                |

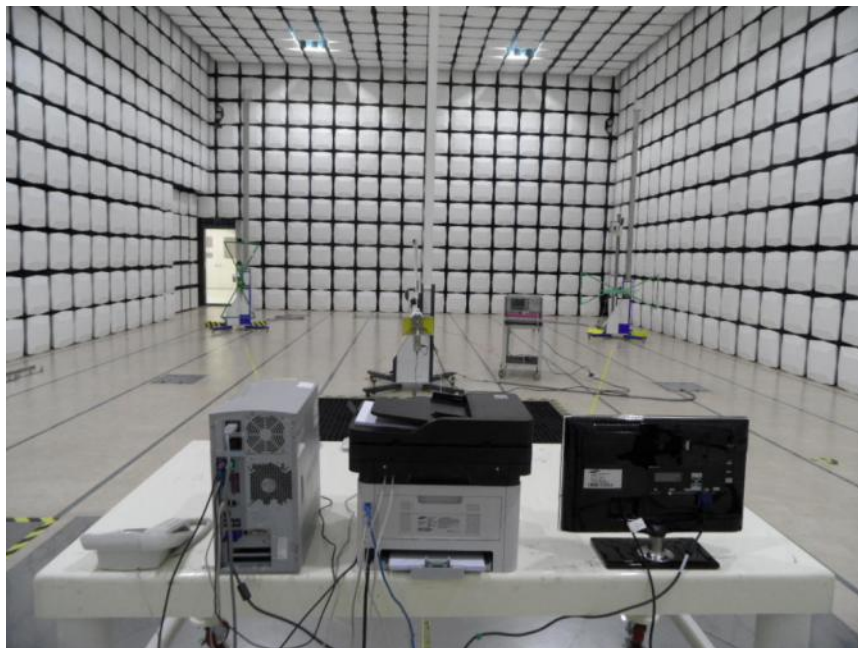
## 5.2.2 Temperature and humidity condition

|                   |                              |               |                   |               |      |
|-------------------|------------------------------|---------------|-------------------|---------------|------|
| Test date         | September 4, 2015            | Test engineer |                   | Young Jin Kim |      |
| Climate condition | Ambient temperature          | 23.2 °C       | Relative humidity |               | 35 % |
|                   | Atmospheric pressure         | 100.4 kPa     |                   |               |      |
| Test place        | Semi-Anechoic Chamber (SAC4) |               |                   |               |      |

### 5.2.3.1 Photograph of Test Setup (30 MHz ~ 1 000 MHz)

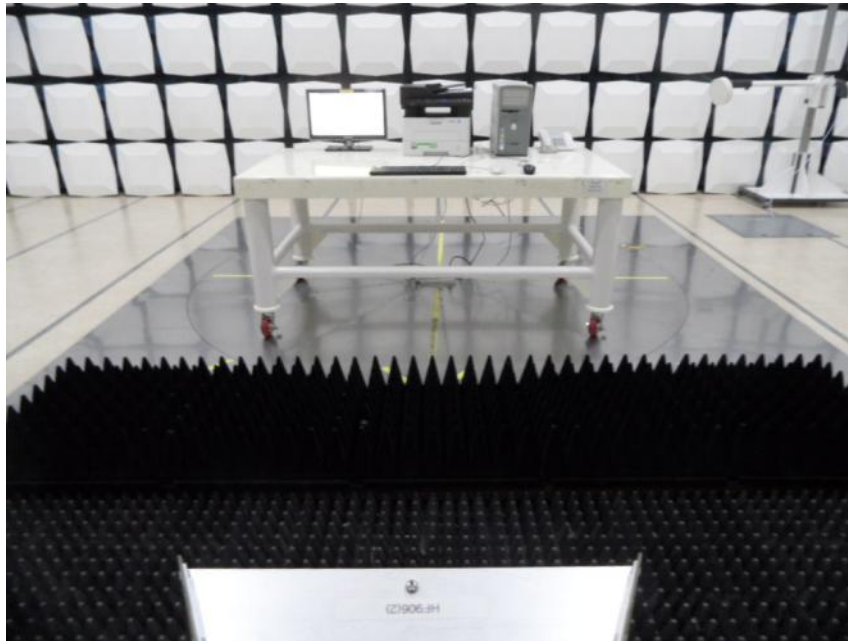


**Front**

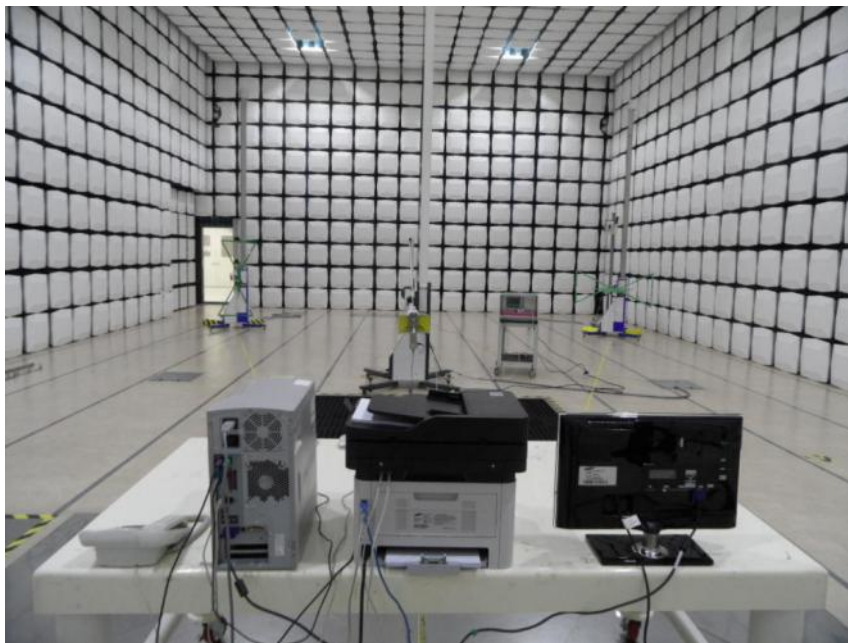


**Rear**

### 5.2.3.2 Photograph of Test Setup (Above 1 GHz)



**Front**

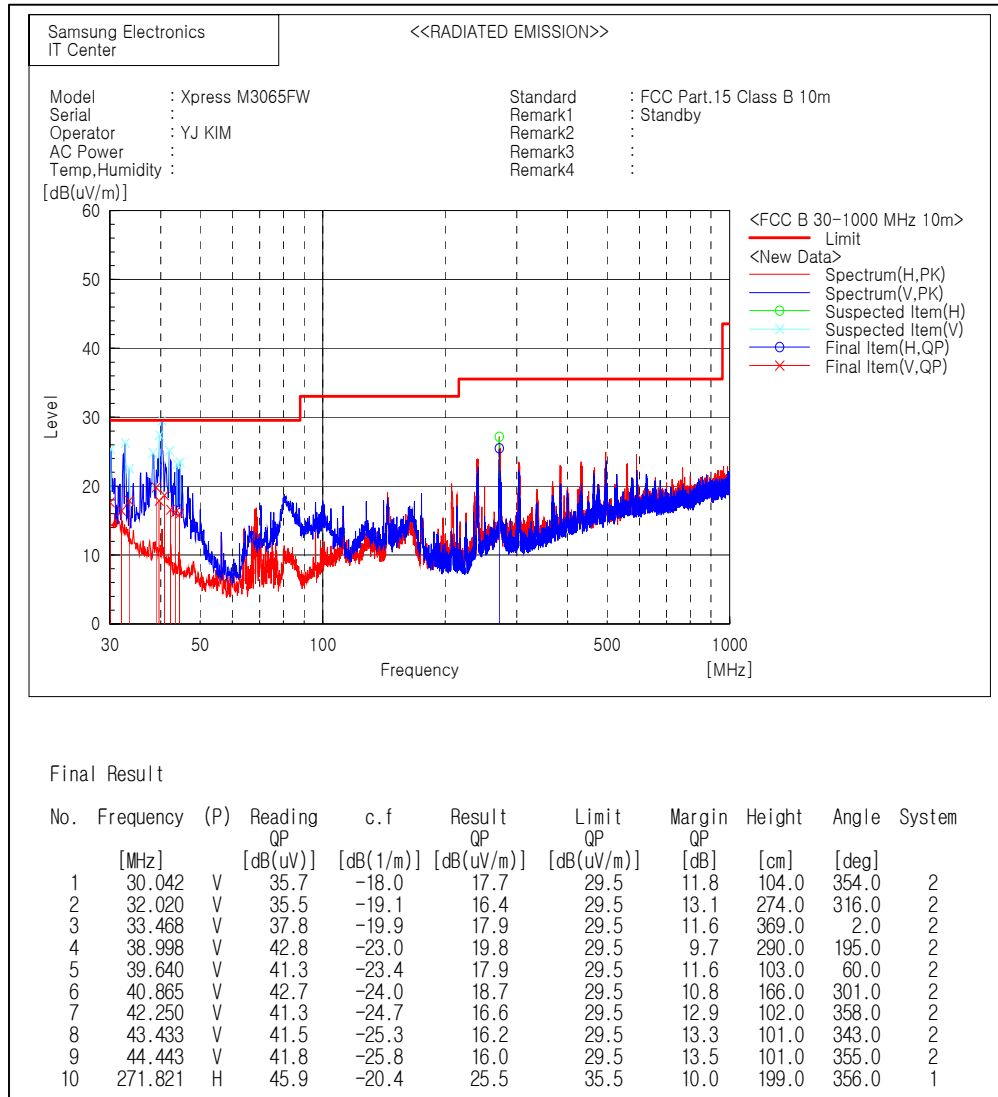


**Rear**

## 5.2.4 Test results

### 5.2.4.1 30 MHz ~ 1 000 MHz results

- Operating Mode : 1



Note1) (P) : Abbreviation of Antenna Polarity

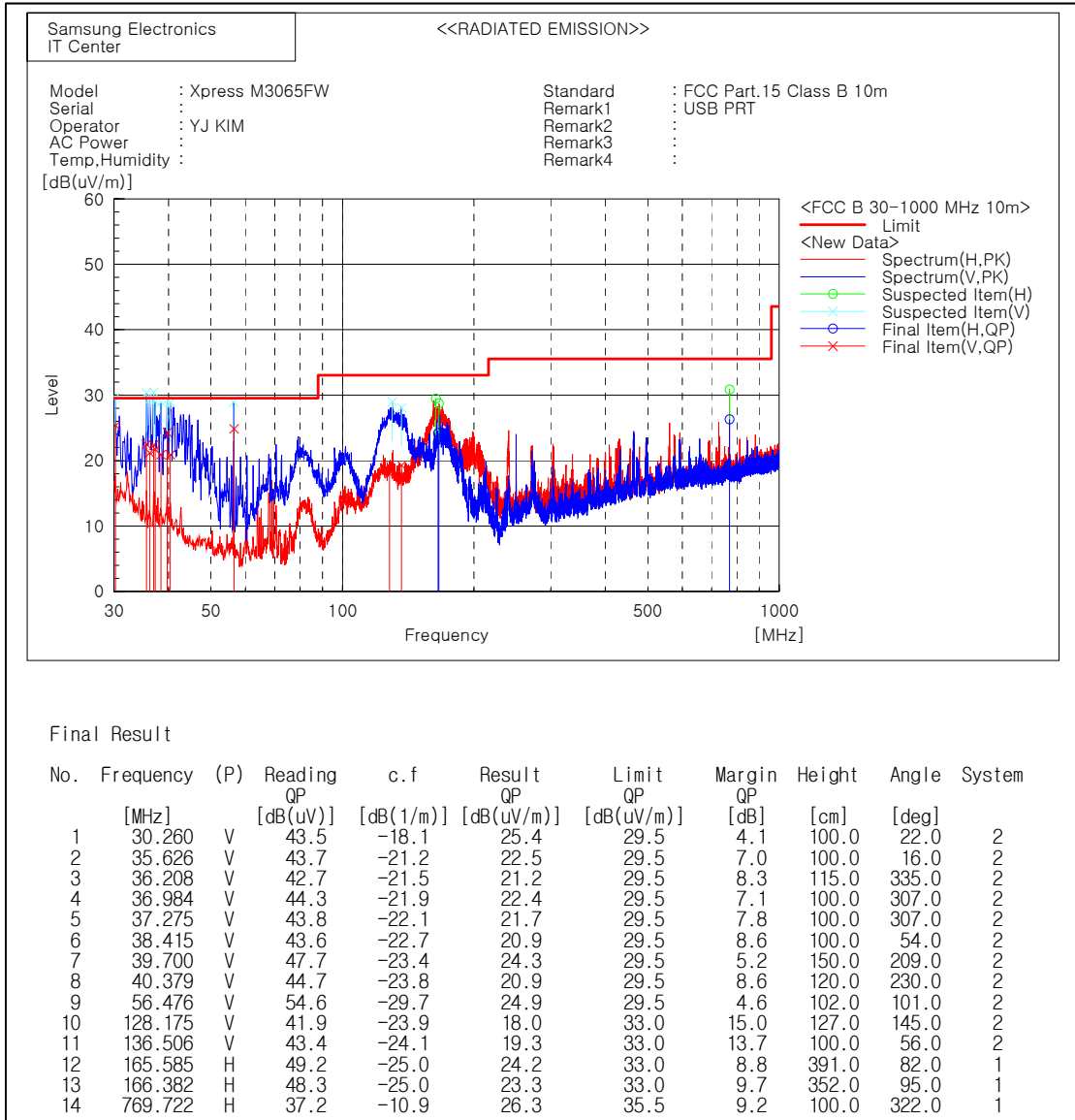
Note2) Reading QP : Received raw Quasi-peak signal

Note3) c.f = Factor = Antenna factor + Cable loss – Amplifier gain

Note4) Result QP = Level QP = Reading QP + Factor, Real signal Quasi-peak level

Note5) Margin QP = Limit – Level QP

QP : Abbreviation of Quasi-peak

**- Operating Mode : 2**

Note1) (P) : Abbreviation of Antenna Polarity

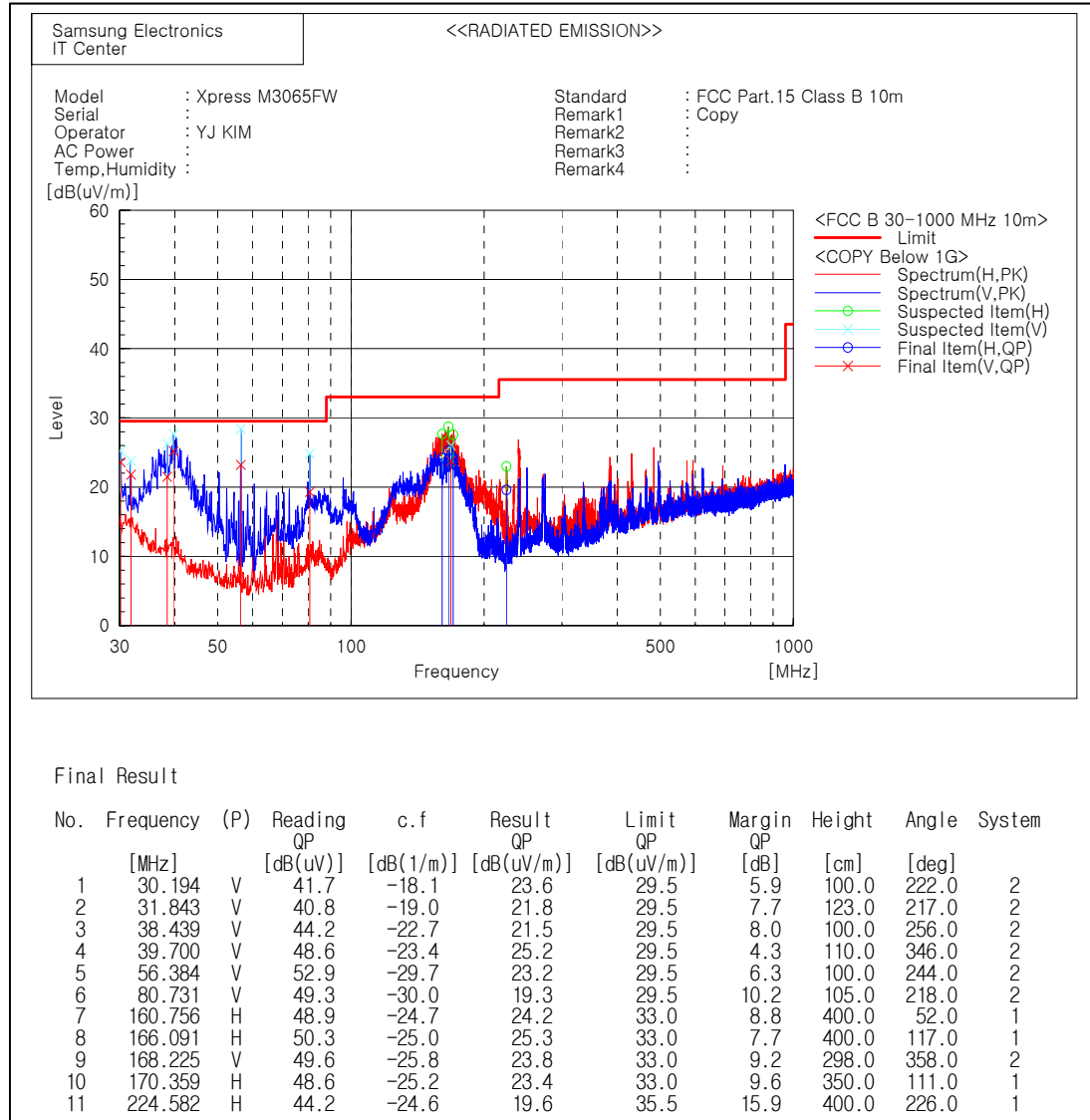
Note2) Reading QP : Received raw Quasi-peak signal

Note3) c.f = Factor = Antenna factor + Cable loss – Amplifier gain

Note4) Result QP = Level QP = Reading QP + Factor, Real signal Quasi-peak level

Note5) Margin QP = Limit – Level QP

QP : Abbreviation of Quasi-peak

**- Operating Mode : 3**

Note1) (P) : Abbreviation of Antenna Polarity

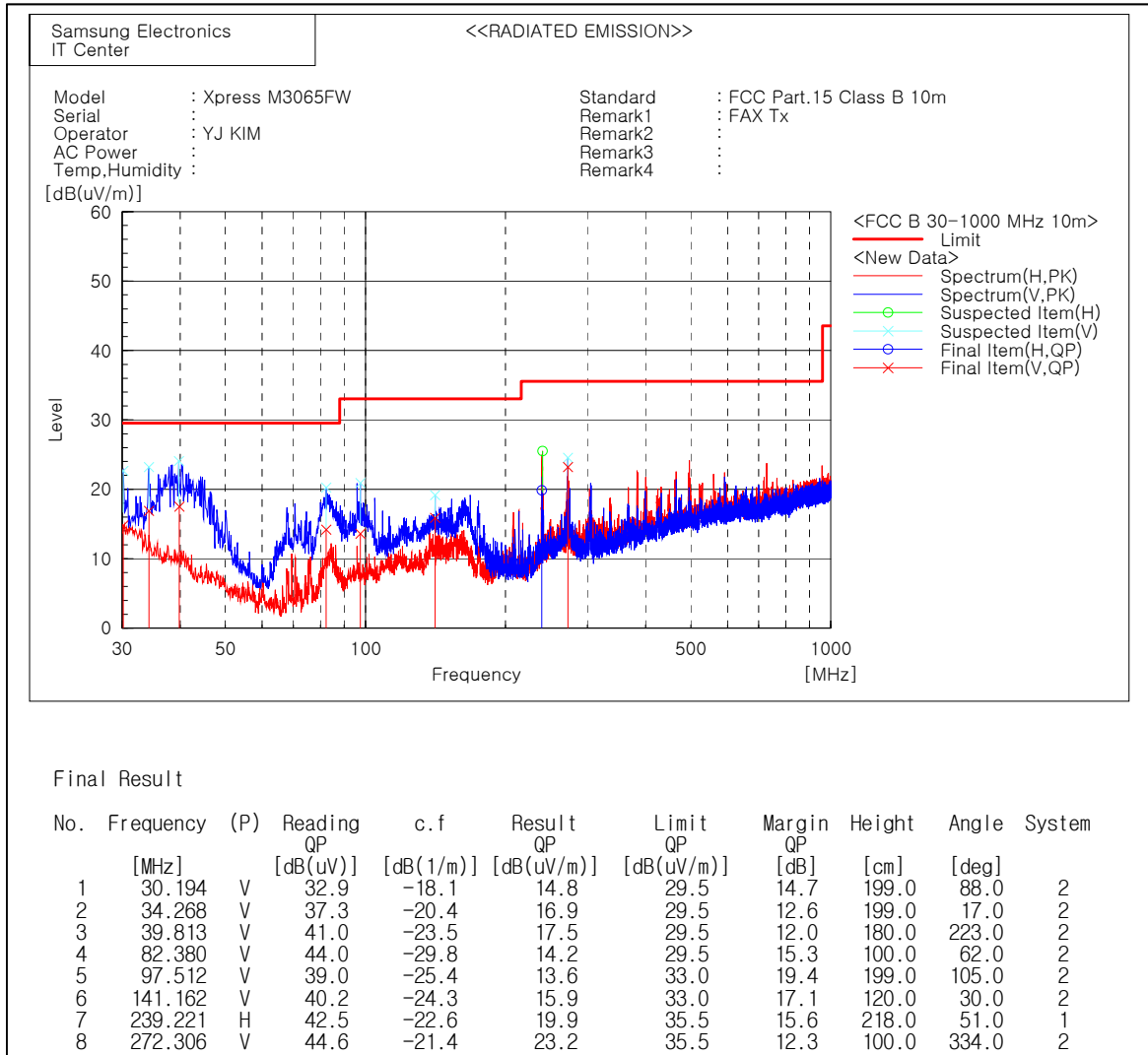
Note2) Reading QP : Received raw Quasi-peak signal

Note3) c.f = Factor = Antenna factor + Cable loss – Amplifier gain

Note4) Result QP = Level QP = Reading QP + Factor, Real signal Quasi-peak level

Note5) Margin QP = Limit – Level QP

QP : Abbreviation of Quasi-peak

**- Operating Mode : 4**

Note1) (P) : Abbreviation of Antenna Polarity

Note2) Reading QP : Received raw Quasi-peak signal

Note3) c.f = Factor = Antenna factor + Cable loss – Amplifier gain

Note4) Result QP = Level QP = Reading QP + Factor, Real signal Quasi-peak level

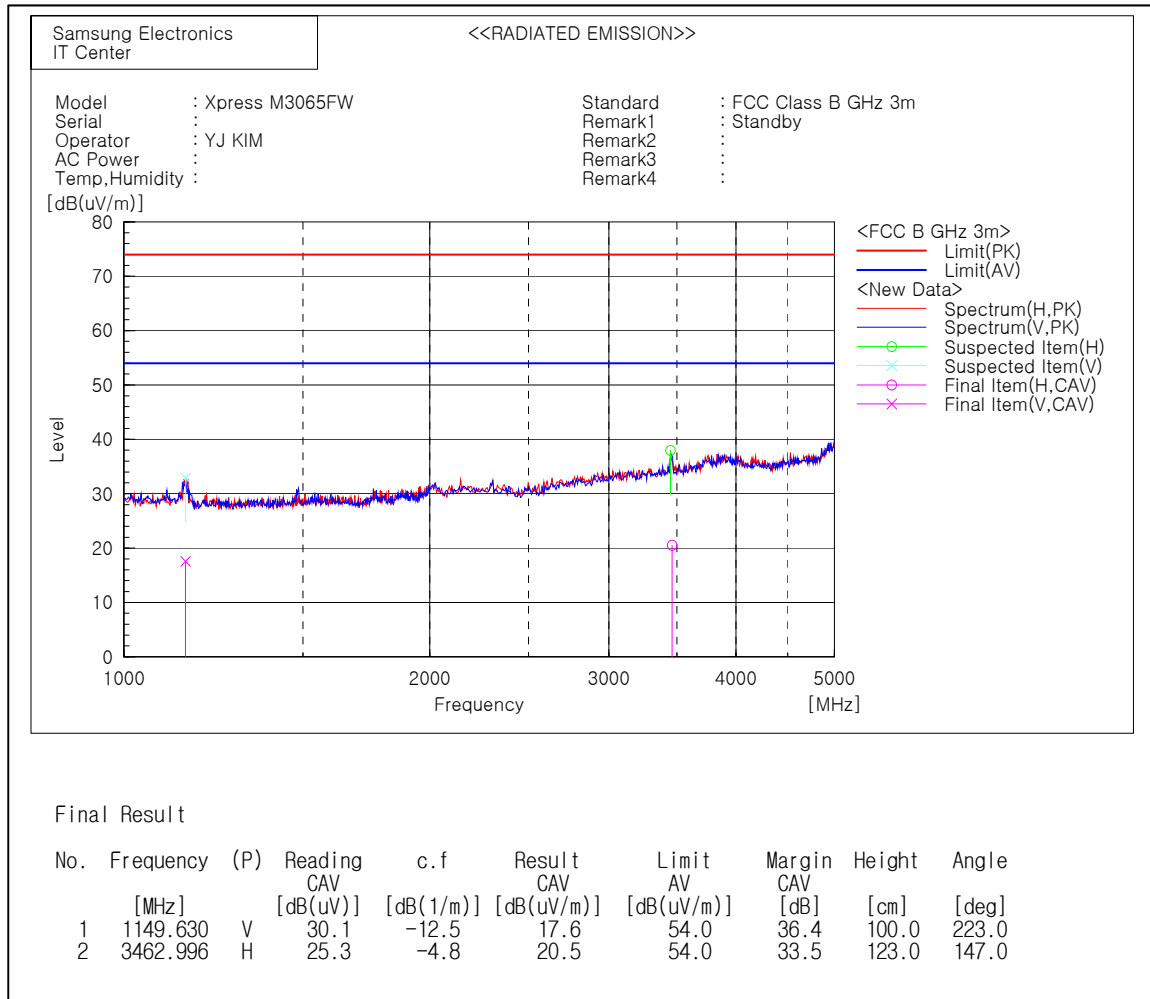
Note5) Margin QP = Limit – Level QP

QP : Abbreviation of Quasi-peak

## 5.2.4.2 Above 1 GHz results

## - Operating Mode : 1

## Test Graph and Results



Note1) Receiving antenna polarization : Horizontal and Vertical

Result PK(Peak) = Reading PK(Peak) + c.f(Antenna Factor + Cable Loss - Amp. Gain)

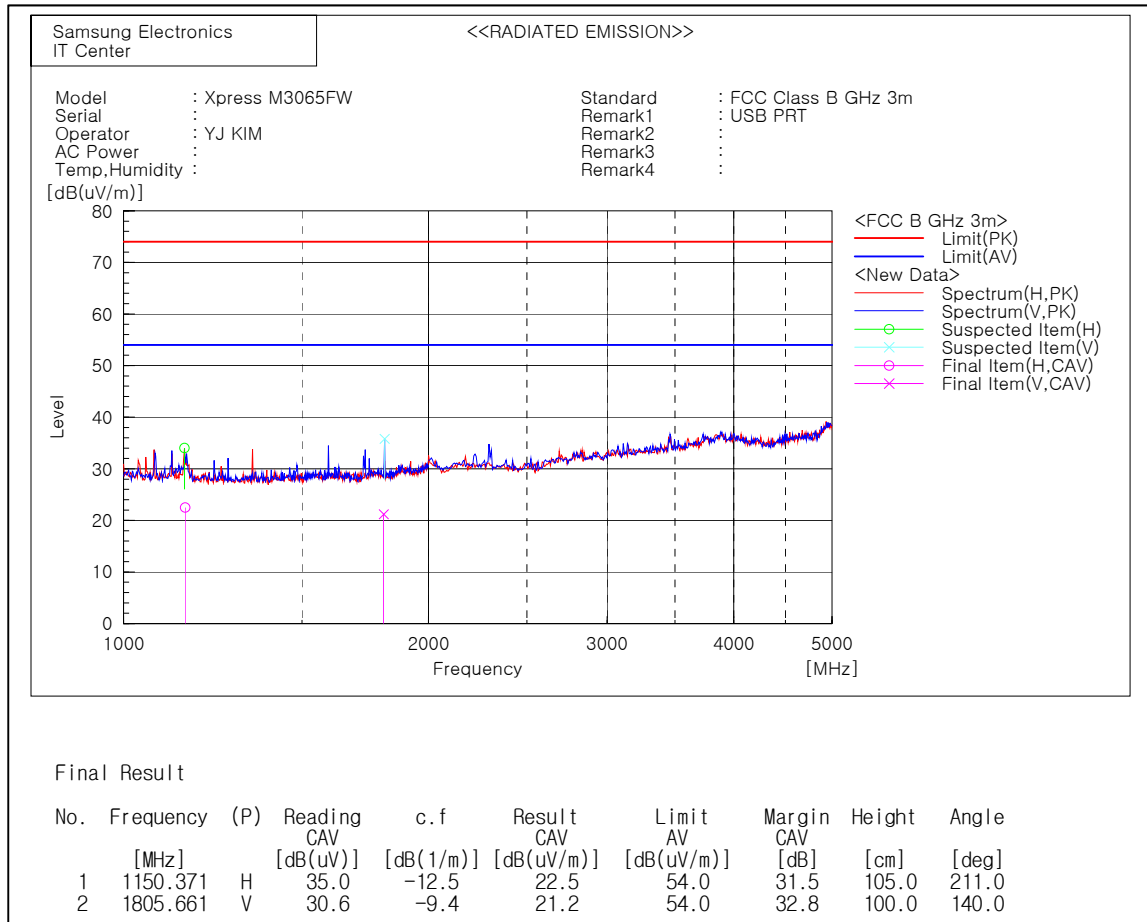
Result AV (C/Average) = Reading AV (C/Average) + c.f(Antenna Factor + Cable Loss - Amp. Gain)

Margin PK (Peak) = Limit - Result PK (Peak)

Margin AV (C/Average) = Limit - Result AV (C/Average)

Note2) c.f = Factor = Antenna factor + Cable loss - Amplifier gain

Note3) C/Average = CISPR-Average

**- Operating Mode : 2****Test Graph and Results**

Note1) Receiving antenna polarization : Horizontal and Vertical

Result PK(Peak) = Reading PK(Peak) + c.f(Antenna Factor + Cable Loss - Amp. Gain)

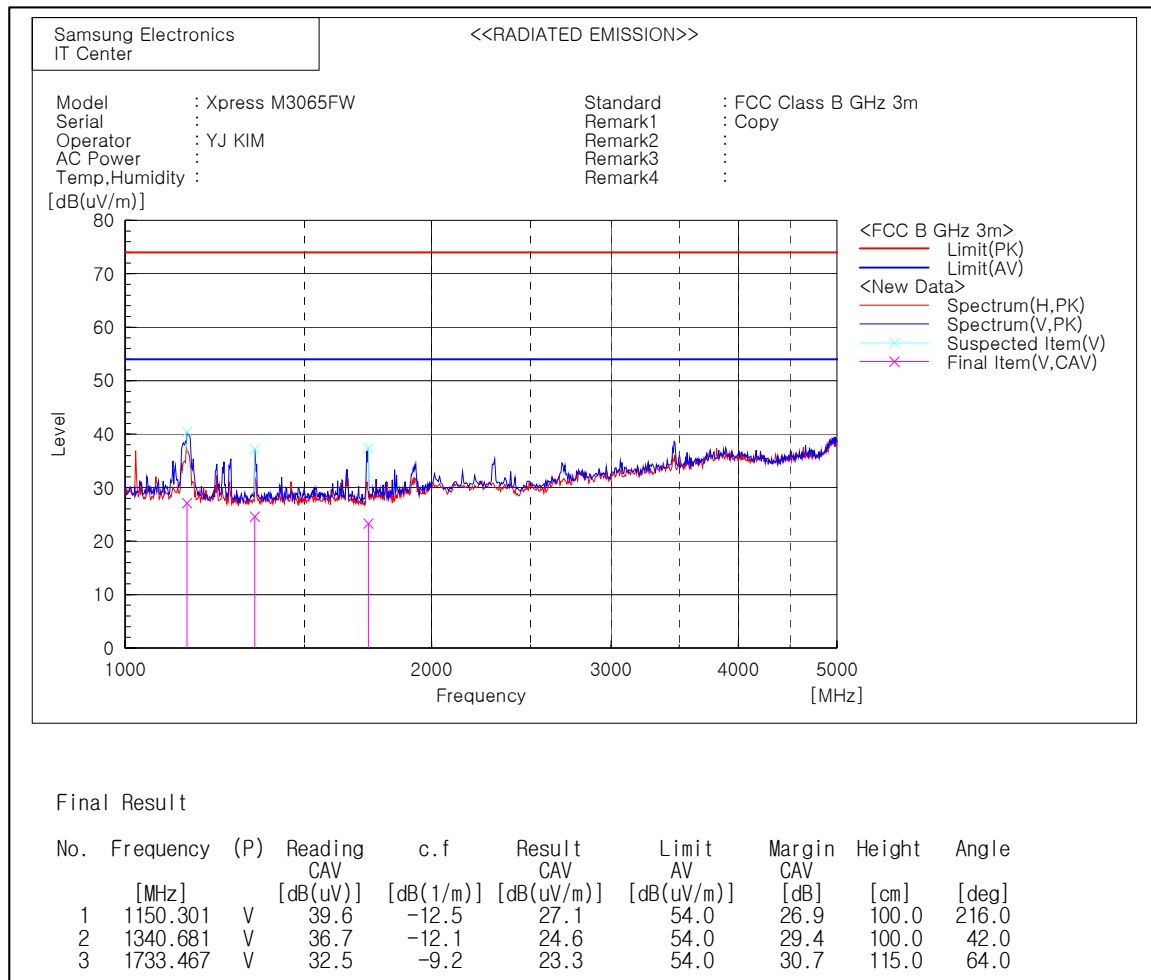
Result AV (C/Average) = Reading AV (C/Average) + c.f(Antenna Factor + Cable Loss - Amp. Gain)

Margin PK (Peak) = Limit – Result PK (Peak)

Margin AV (C/Average) = Limit – Result AV (C/Average)

Note2) c.f = Factor = Antenna factor + Cable loss – Amplifier gain

Note3) C/Average = CISPR-Average

**- Operating Mode : 3****Test Graph and Results**

Note1) Receiving antenna polarization : Horizontal and Vertical

Result PK(Peak) = Reading PK(Peak) + c.f(Antenna Factor + Cable Loss - Amp. Gain)

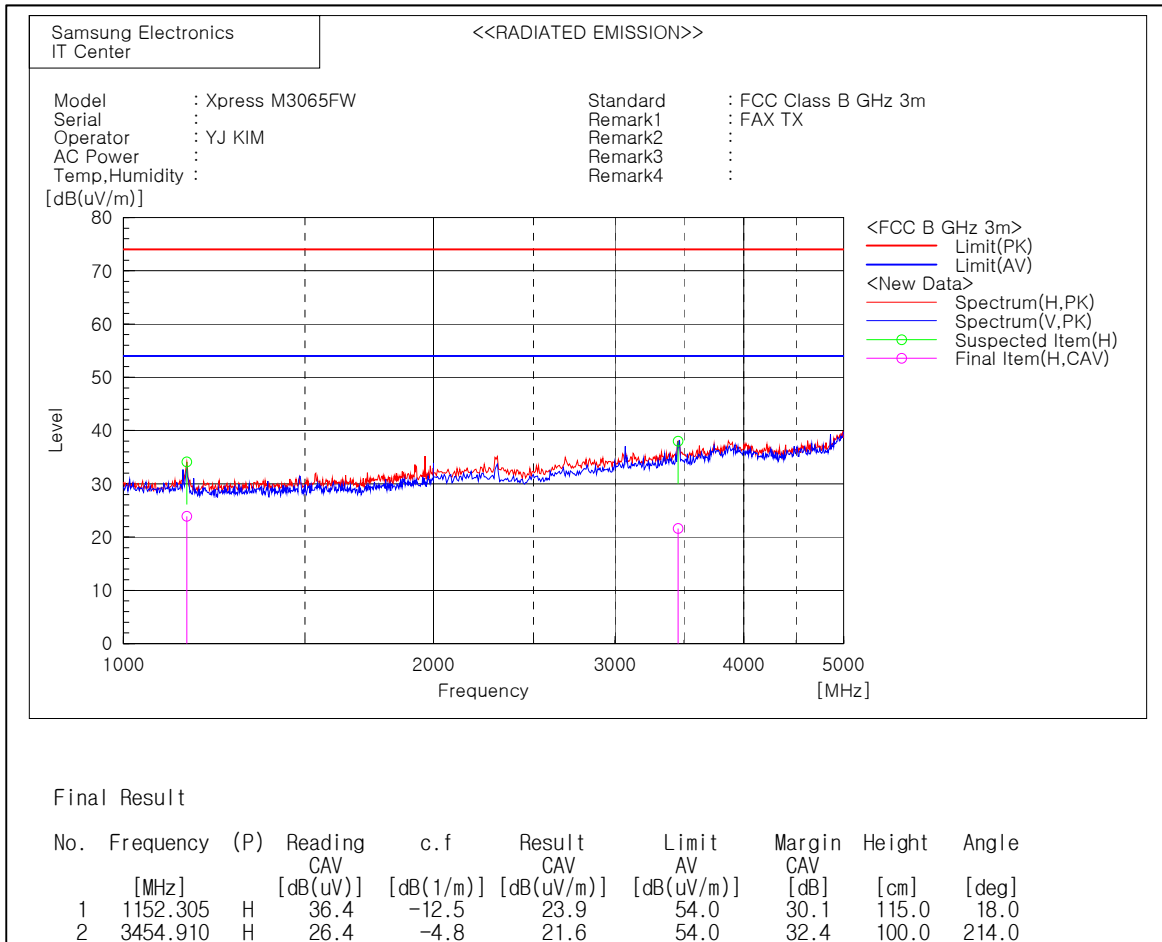
Result AV (C/Average) = Reading AV (C/Average) + c.f(Antenna Factor + Cable Loss - Amp. Gain)

Margin PK (Peak) = Limit - Result PK (Peak)

Margin AV (C/Average) = Limit - Result AV (C/Average)

Note2) c.f = Factor = Antenna factor + Cable loss - Amplifier gain

Note3) C/Average = CISPR-Average

**- Operating Mode : 4****Test Graph and Results**

Note1) Receiving antenna polarization : Horizontal and Vertical

Result PK(Peak) = Reading PK(Peak) + c.f(Antenna Factor + Cable Loss - Amp. Gain)

Result AV (C/Average) = Reading AV (C/Average) + c.f(Antenna Factor + Cable Loss - Amp. Gain)

Margin PK (Peak) = Limit - Result PK (Peak)

Margin AV (C/Average) = Limit - Result AV (C/Average)

Note2) c.f = Factor = Antenna factor + Cable loss - Amplifier gain

Note3) C/Average = CISPR-Average

## Appendix – EUT photography



Front View



Rear View & Label Location



Right View (Inside View)

|                                                                                     |                                                                                                 |                                                                                                                                                                                                                                                                                          |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>SAMSUNG</b>                                                                      | Model: <b>Xpress M3065FW</b>                                                                    | FCC ID : <b>A3LSLM3065FW</b>                                                                                                                                                                                                                                                             |
|                                                                                     | Volts: AC 110-127 V                                                                             | Contains FCC ID : <b>A3LSPWB4319S</b>                                                                                                                                                                                                                                                    |
| USOC Jack Type: <b>RJ11C</b>                                                        | Hertz: <b>50/60 Hz</b>                                                                          | This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:<br>i) This device may not cause harmful interference, and<br>ii) This device must accept any interference received, including interference that may cause undesired operation. |
|                                                                                     | Amps: <b>5.7 A</b>                                                                              |                                                                                                                                                                                                                                                                                          |
| Samsung Electronics Co., Ltd.                                                       | Ringer Equivalence: <b>0.08</b>                                                                 | Complies with Part 68, FCC Rules.                                                                                                                                                                                                                                                        |
| Suwon, Korea, 443-742                                                               | Manufactured:                                                                                   |                                                                                                                                                                                                                                                                                          |
| Place: <b>M264</b>                                                                  |  <b>3UU7</b> | <b>CAN ICES-3 (B)/NMB-3(B)</b>                                                                                                                                                                                                                                                           |
|                                                                                     | <b>US E337632</b>                                                                               | This product complies with 21 CFR Chapter 1, subchapter J.                                                                                                                                                                                                                               |
|                                                                                     | <b>LISTED I.T.E.</b>                                                                            | Contains IC : <b>649E-SPWB4319S</b>                                                                                                                                                                                                                                                      |
| M/C : <b>SL-M3065FW/XAA</b>                                                         |                                                                                                 | IC:                                                                                                                                                                                                                                                                                      |
|  |                                                                                                 |                                                                                                                                                                                                                                                                                          |
| S/N : <b>ZD2ZBJZG800001Z</b>                                                        |                                                                                                 | Made in China                                                                                                                                                                                                                                                                            |
|                                                                                     |                                                                                                 | Fabriqu  en Chine <b>REV.00</b>                                                                                                                                                                                                                                                          |

Label