



*Full*

# TEST REPORT

**No. 2014EM0010**

*For*

**Client : ZTE Corporation**

**Production : WCDMA/GSM (GPRS) Dual-Mode  
Digital Mobile Phone**

**Model Name : ZTE Blade L2**

**Hardware Version: WN1M35A2**

**Software Version: ZTE\_CN\_QB25SA\_P182A10V1.0.0**

**FCC ID: SRQ-ZTEL2**

**Issued date: 2014-02-12**

**Note:**

The test results in this test report relate only to the devices specified in this report. This report shall not be reproduced except in full without the written approval of ECIT Shanghai.

**Test Laboratory:**

ECIT Shanghai, East China Institute of Telecommunications

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## CONTENTS

|                                                                  |    |
|------------------------------------------------------------------|----|
| 1. TEST LABORATORY.....                                          | 3  |
| 1.1. TESTING LOCATION.....                                       | 3  |
| 1.2. TESTING ENVIRONMENT.....                                    | 3  |
| 1.3. PROJECT DATA .....                                          | 3  |
| 1.4. SIGNATURE.....                                              | 3  |
| 2. CLIENT INFORMATION.....                                       | 4  |
| 2.1. APPLICANT INFORMATION .....                                 | 4  |
| 2.2. MANUFACTURER INFORMATION .....                              | 4  |
| 3. EQUIPMENT UNDER TEST (EUT) AND ANCILLARY EQUIPMENT (AE) ..... | 5  |
| 3.1. ABOUT EUT.....                                              | 5  |
| 3.2. INTERNAL IDENTIFICATION OF AE USED DURING THE TEST .....    | 5  |
| 4. REFERENCE DOCUMENTS .....                                     | 6  |
| 4.1. REFERENCE DOCUMENTS FOR TESTING .....                       | 6  |
| 5. TEST RESULTS .....                                            | 7  |
| 5.1. SUMMARY OF TEST RESULTS.....                                | 7  |
| 5.2. STATEMENTS.....                                             | 7  |
| 6. TEST EQUIPMENTS UTILIZED.....                                 | 8  |
| 6.1 RADIATED EMISSION EQUIPMENTS LIST.....                       | 8  |
| 6.1 CE EQUIPMENTS LIST .....                                     | 8  |
| 7. SYSTEM CONFIGURATION DURING TEST.....                         | 9  |
| 7.1 TEST MODE.....                                               | 9  |
| 7.2 CONNECTION DIAGRAM OF TEST SYSTEM.....                       | 9  |
| 8. MEASUREMENT RESULTS .....                                     | 10 |
| 8.1 RADIATED EMISSION 30MHZ-12.75GHZ.....                        | 10 |
| 8.2 CONDUCTED EMISSION .....                                     | 14 |



## 1. Test Laboratory

### 1.1. Testing Location

Company Name: ECIT Shanghai, East China Institute of Telecommunications  
Address: 7F, G Area, No. 668, Beijing East Road, Huangpu District, Shanghai,  
P. R. China  
Postal Code: 200001  
Telephone: (+86)-021-63843300  
Fax: (+86)-021-63843301  
FCC registration No: 489729

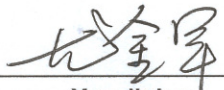
### 1.2. Testing Environment

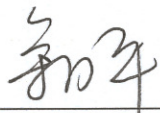
Normal Temperature: 15-35°C  
Relative Humidity: 30-60%

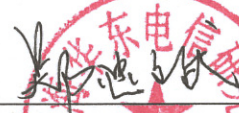
### 1.3. Project data

Project Leader: Wang Yaqiong  
Testing Start Date: 2014-01-22  
Testing End Date: 20-14-02-10,

### 1.4. Signature

  
You Jinjun  
(Prepared this test report)

  
Yu Naiping  
(Reviewed this test report)

  
Zheng Zhongbin  
Director of the laboratory  
(Approved this test report)



## 2. Client Information

### 2.1. Applicant Information

Company Name: ZTE Corporation  
Address /Post: ZTE Plaza, Keji Road South, Hi-Tech, Industrial Park,  
NanshanDistrict,Shenzhen, Guangdong, 518057, P.R.China  
Country: China  
Telephone: /

### 2.2. Manufacturer Information

Company Name: ZTE Corporation  
Address /Post: ZTE Plaza, Keji Road South, Hi-Tech, Industrial Park,  
NanshanDistrict,Shenzhen, Guangdong, 518057, P.R.China  
Country: China  
Telephone: /

### 3. Equipment under Test (EUT) and Ancillary Equipment (AE)

#### 3.1. About EUT

|                       |                                                 |
|-----------------------|-------------------------------------------------|
| EUT Description       | WCDMA/GSM (GPRS) Dual-Mode Digital Mobile Phone |
| Model name            | ZTE Blade L2                                    |
| Serial Number or IMEI | 32353600009D                                    |
| GSM Frequency Band    | GSM850/GSM1800 /GSM1900                         |
| UMTS Frequency Band   | WCDMA Band II / Band V                          |
| HW Version            | WN1M35A2                                        |
| SW Version            | ZTE_CN_QB25SA_P182A10V1.0.0                     |

#### 3.2. Internal Identification of AE used during the test

| AE ID* | Description | Model                | SN                           |
|--------|-------------|----------------------|------------------------------|
| AE1    | Adapter     | STC-A22O50I700USBA-Z | NA                           |
| AE2    | Battery     | Li3820T43P3h636338   | NA                           |
| AE3    | Earphone    | DC3.5_1428           | NA                           |
| AE4    | Data Cable  | NA                   | NA                           |
| AE5    | Desktop PC  | OptiPlex 790 DT      | X8RP1 A01 APCC               |
| AE6    | Notebook PC | ThinkPad T420i       | P1-5LEBD                     |
| AE7    | LAN Cable   | NA                   | NA                           |
| AE8    | VGA Cable   | NA                   | NA                           |
| AE9    | RS232 Cable | NA                   | NA                           |
| AE10   | Keyboard    | KB212-B              | CN-0Y88XT-65890-12I-005Q-A00 |
| AE11   | Mouse       | MS111-P              | CN-011D3V-71581-19J-1A64     |

\*AE ID: is used to identify the test sample in the lab internally.



## 4. Reference Documents

### 4.1. Reference Documents for testing

The following documents listed in this section are referred for testing.

| Reference                 | Title                                                                                                                                     | Version         |
|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| FCC Part 15,<br>Subpart B | Radio frequency devices                                                                                                                   | 10-1-10 Edition |
| ANSI C63.4                | Method of Measurement of Radio-Noise Emissions from<br>Low-Voltage Electrical and Electronic Equipment in the<br>Range of 9 kHz to 40 GHz | 2009            |

## 5. Test Results

### 5.1. Summary of Test Results

| Items | Test List          | Clause in FCC rules | Verdict |
|-------|--------------------|---------------------|---------|
| 1     | Radiated Emission  | 15.109(a)           | Pass    |
| 2     | Conducted Emission | 15.107(a)           | Pass    |

### 5.2. Statements

The ZTE Blade L2 supporting GSM850/1800/1900 and WCDMA band II/V, manufactured by ZTE Corporation is a new product for testing. ECIT only performed test cases which identified with Pass/Fail/Inc result in section 5.1.

ECIT has verified that the compliance of the tested device specified in section 3 of this test report is successfully evaluated according to the procedure and test methods as defined in type certification requirement listed in section 4 of this test report.

## 6. Test Equipments Utilized

### 6.1 Radiated Emission Equipments list

| No. | Name                                 | Type     | Series Number | Producer    | Cal. Due Date |
|-----|--------------------------------------|----------|---------------|-------------|---------------|
| 1   | Universal Radio Communication Tester | CMU200   | 123102        | R&S         | 2014-08-30    |
| 2   | Test Receiver                        | ESU40    | 100307        | R&S         | 2014-10-29    |
| 3   | Trilog Antenna                       | VULB9163 | 19-162515     | Schwarzbeck | 2014-11-11    |
| 4   | Double Ridged Guide Antenna          | ETS3117  | 135885        | ETS         | 2014-04-28    |

### 6.1 CE Equipments list

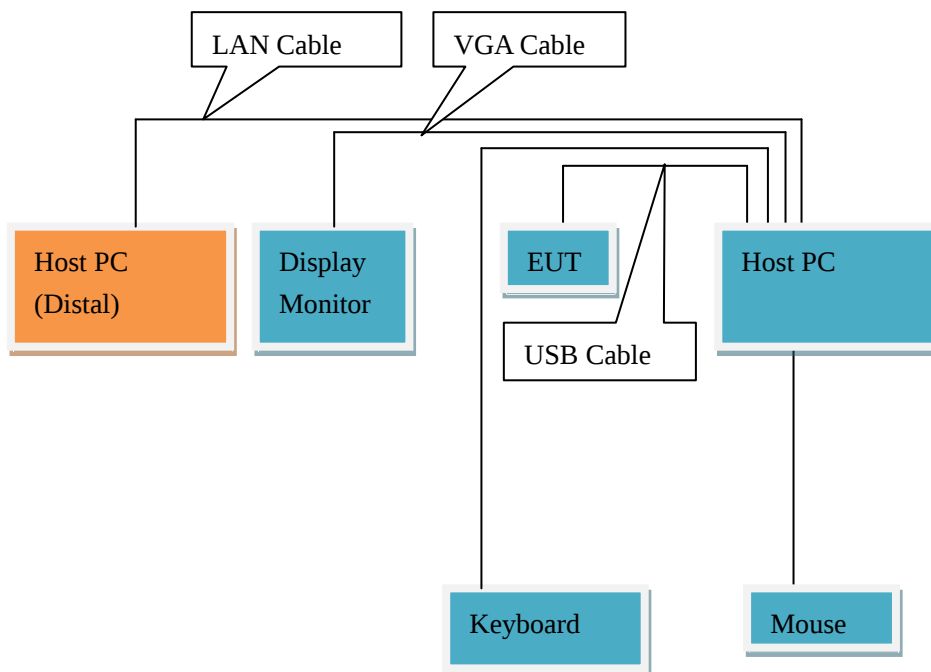
| No. | Name                                 | Type   | Series Number | Producer | Cal. Due Date |
|-----|--------------------------------------|--------|---------------|----------|---------------|
| 1   | Universal Radio Communication Tester | CMU200 | 123124        | R&S      | 2014-08-30    |
| 2   | Test Receiver                        | ESCI   | 101235        | R&S      | 2014-08-30    |
| 3   | 2-Line V-Network                     | ENV216 | 101380        | R&S      | 2014-10-30    |

## 7. System Configuration during Test

### 7.1 Test Mode

| Test Item                                                                                                                                                                                   | Function Type                                                                                                           |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
| AC Conducted Emission                                                                                                                                                                       | Mode 1: Idle + Camera on + USB cable (Data Link with PC) <Figure 1><br>Mode 2: Idle + MP4 + Adapter charging <Figure 2> |
| Radiated Emission                                                                                                                                                                           | Mode 1: Idle + Camera on + USB cable (Data Link with PC) <Figure 1><br>Mode 2: Idle + MP4 + Adapter charging <Figure 2> |
| Remark:<br>1. All test modes are performed, only the worst cases test data are recorded in this report.<br>2. Data Link with PC means data application transferred mode between EUT and PC. |                                                                                                                         |

### 7.2 Connection Diagram of Test System



<Figure 1>



<Figure 2>

## 8. Measurement Results

Only the worst test result was shown in this report.

### 8.1 Radiated Emission 30MHz-12.75GHz

#### Method of Measurement

For 30-1000MHz, the EUT was placed on the top of a rotating 0.8-m table above the ground at a semi-anechoic chamber. The distance between the EUT and the received antenna was 3 meters. The table was rotated 360 degree and the received antenna mounted on a variable-height antenna tower was varied from 1m to 4m to find the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna were set during the measurement. Tested in accordance with the procedures of ANSI C63.4-2009, section 8.3.

For 1000-12750MHz, The maximal emission value was acquired by adjusting the antenna height, The table was rotated 360 degree to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna were set during the measurement.

#### Limits for Radiated Emission at a measuring distance of 3m

| Frequency Range (MHz) | Quasi-Peak (dBuV/m) |
|-----------------------|---------------------|
| 30-88                 | 40                  |
| 88-216                | 43.5                |
| 216-960               | 46                  |
| Above 960             | 54                  |

| Frequency Range (MHz) | Peak (dBuV/m) | Average (dBuV/m) |
|-----------------------|---------------|------------------|
| Above 1000            | 74            | 54               |

#### Test conditions

| Frequency Range (MHz) | RBW/VBW       | Sweep Time (s) |
|-----------------------|---------------|----------------|
| 30-1000               | 120KHz/300KHz | 5              |
| 1000-12750            | 1MHz/1MHz     | 10             |

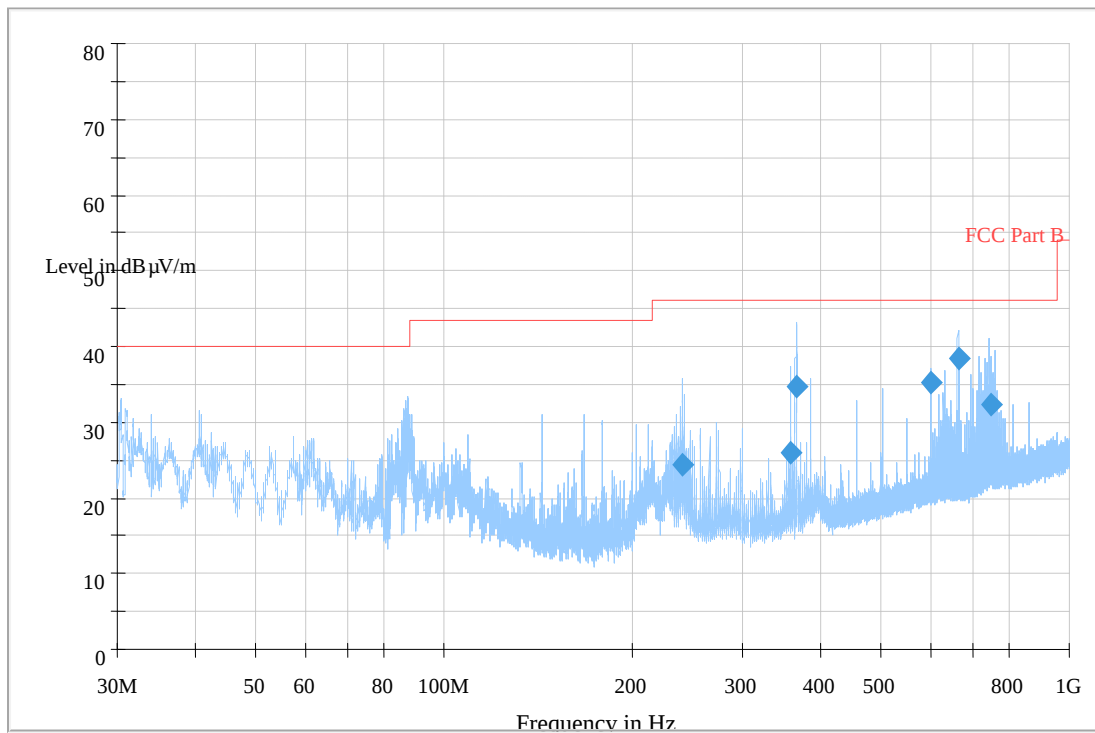
#### Uncertainty Measurement

The measurement uncertainty is 3.92dB (k=1.96).

## Test Results

Mode 1: Idle + Camera on + USB cable (Data Link with PC)

Frequency Range: 30MHz – 1GHz

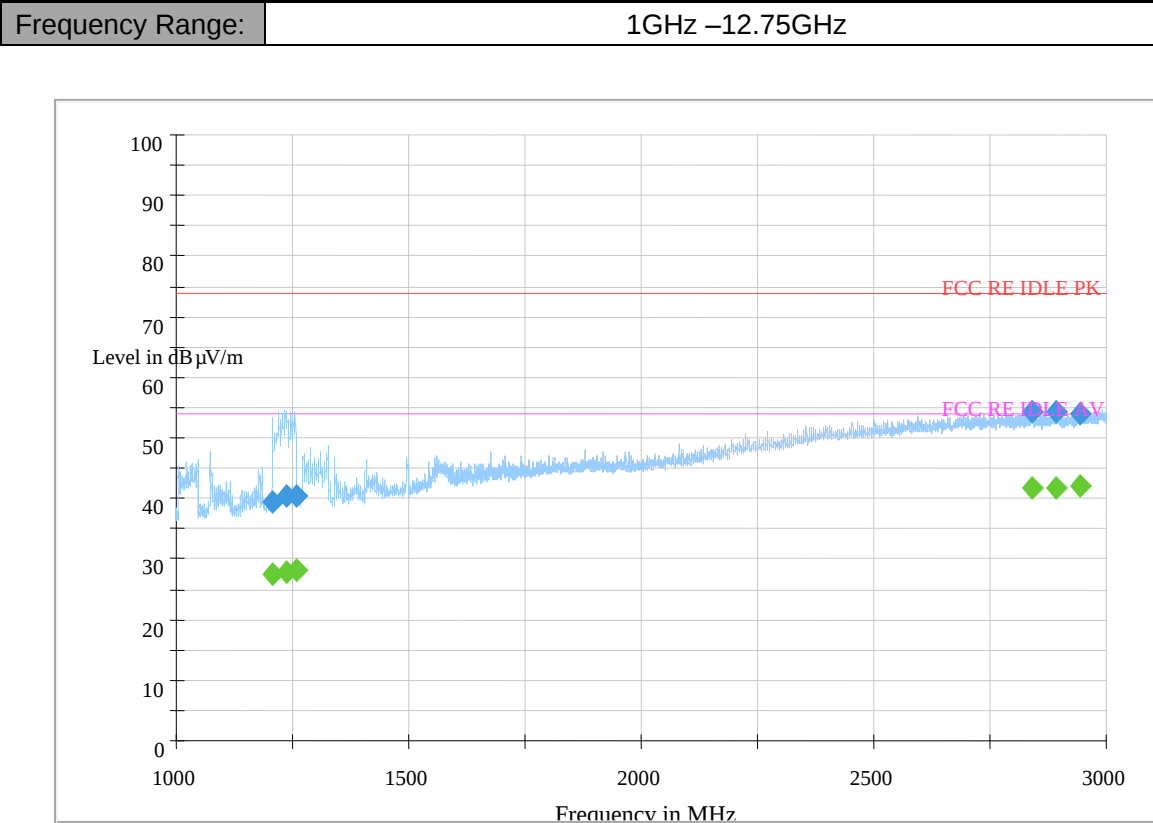


| Frequency (MHz) | QuasiPeak (dBuV/m) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Polarization | Azimuth (deg) | Corr. (dB) | Margin (dB) | Limit (dBuV/m) |
|-----------------|--------------------|-----------------|-----------------|-------------|--------------|---------------|------------|-------------|----------------|
| 239.892667      | 24.3               | 1000.0          | 120.000         | 125.0       | H            | 220.0         | -22.2      | 21.7        | 46.0           |
| 357.957000      | 26.1               | 1000.0          | 120.000         | 100.0       | H            | 194.0         | -18.2      | 19.9        | 46.0           |
| 366.485333      | 34.7               | 1000.0          | 120.000         | 100.0       | H            | 207.0         | -18.0      | 11.3        | 46.0           |
| 599.608667      | 35.3               | 1000.0          | 120.000         | 125.0       | V            | 329.0         | -12.3      | 10.7        | 46.0           |
| 663.862667      | 38.3               | 1000.0          | 120.000         | 100.0       | H            | 196.0         | -11.7      | 7.7         | 46.0           |
| 747.071667      | 32.2               | 1000.0          | 120.000         | 125.0       | V            | 328.0         | -10.4      | 13.8        | 46.0           |

Note:

1. Emission level(QP)=Raw value by receiver + Corr(Antenna factor + cable loss - preamplifier gain)
2. The raw value is used to calculate by software which is not shown in the sheet.
3. Margin=limit value – emission level.

Mode 1: Idle + Camera on + USB cable (Data Link with PC)



## Final Result 1

| Frequency (MHz) | MaxPeak (dBuV/m) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Polarization | Azimuth (deg) | Corr. (dB) | Margin (dB) | Limit (dBuV/m) |
|-----------------|------------------|-----------------|-----------------|-------------|--------------|---------------|------------|-------------|----------------|
| 1206.442800     | 39.6             | 50.0            | 1000.000        | 155.0       | H            | 241.0         | -4.4       | 34.4        | 74.0           |
| 1238.146400     | 40.5             | 50.0            | 1000.000        | 155.0       | H            | 170.0         | -4.1       | 33.5        | 74.0           |
| 1257.127600     | 40.3             | 50.0            | 1000.000        | 155.0       | H            | 165.0         | -4.0       | 33.7        | 74.0           |
| 2841.090800     | 54.2             | 50.0            | 1000.000        | 155.0       | V            | 14.0          | 10.3       | 19.8        | 74.0           |
| 2892.036400     | 54.2             | 50.0            | 1000.000        | 155.0       | V            | 127.0         | 10.4       | 19.8        | 74.0           |
| 2945.674400     | 54.1             | 50.0            | 1000.000        | 155.0       | V            | -30.0         | 10.6       | 19.9        | 74.0           |

## Final Result 2

| Frequency (MHz) | Average (dBuV/m) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Polarization | Azimuth (deg) | Corr. (dB) | Margin (dB) | Limit (dBuV/m) |
|-----------------|------------------|-----------------|-----------------|-------------|--------------|---------------|------------|-------------|----------------|
| 1206.442800     | 27.5             | 50.0            | 1000.000        | 155.0       | H            | 241.0         | -4.4       | 26.5        | 54.0           |
| 1238.146400     | 27.9             | 50.0            | 1000.000        | 155.0       | H            | 170.0         | -4.1       | 26.1        | 54.0           |
| 1257.127600     | 28.1             | 50.0            | 1000.000        | 155.0       | H            | 165.0         | -4.0       | 25.9        | 54.0           |
| 2841.090800     | 41.7             | 50.0            | 1000.000        | 155.0       | V            | 14.0          | 10.3       | 12.3        | 54.0           |
| 2892.036400     | 41.7             | 50.0            | 1000.000        | 155.0       | V            | 127.0         | 10.4       | 12.3        | 54.0           |
| 2945.674400     | 42.0             | 50.0            | 1000.000        | 155.0       | V            | -30.0         | 10.6       | 12.0        | 54.0           |

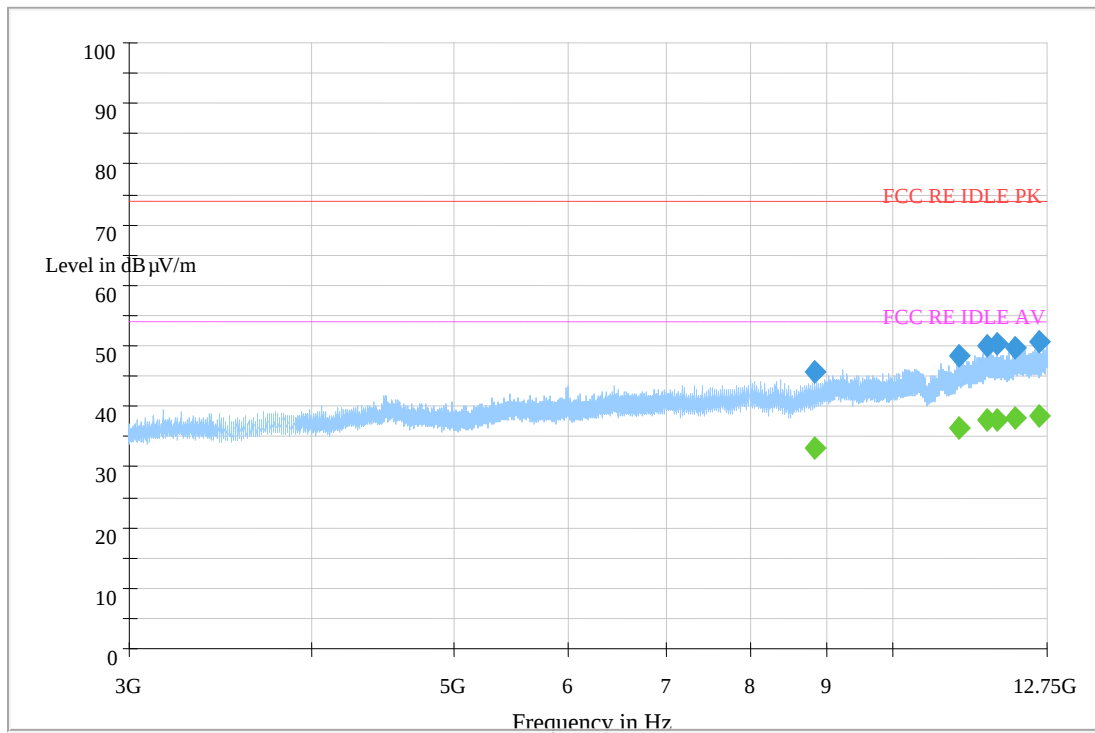
Note:

1. Emission level(peak or average)=Raw value by receiver + Corr(Antenna factor+ cable loss -

preamplifier gain)

2. The raw value is used to calculate by software which is not shown in the sheet.

Margin=limit value – emission level.



## Final Result 1

| Frequency (MHz) | MaxPeak (dBuV/m) | Meas. Time | Bandwidth (kHz) | Height (cm) | Polarization | Azimuth (deg) | Corr. (dB) | Margin (dB) | Limit (dBuV/m) |
|-----------------|------------------|------------|-----------------|-------------|--------------|---------------|------------|-------------|----------------|
| 8845.100300     | 45.7             | 50.0       | 1000.000        | 155.0       | V            | 192.0         | 4.0        | 28.3        | 74.0           |
| 11093.449300    | 48.2             | 50.0       | 1000.000        | 155.0       | H            | 1.0           | 8.4        | 25.8        | 74.0           |
| 11585.606100    | 49.8             | 50.0       | 1000.000        | 155.0       | V            | -33.0         | 9.7        | 24.2        | 74.0           |
| 11795.463400    | 50.2             | 50.0       | 1000.000        | 155.0       | V            | -10.0         | 9.6        | 23.8        | 74.0           |
| 12123.949500    | 49.7             | 50.0       | 1000.000        | 155.0       | H            | 173.0         | 9.9        | 24.3        | 74.0           |
| 12591.411200    | 50.8             | 50.0       | 1000.000        | 155.0       | H            | 15.0          | 10.3       | 23.2        | 74.0           |

## Final Result 2

| Frequency (MHz) | Average (dBuV/m) | Meas. Time | Bandwidth (kHz) | Height (cm) | Polarization | Azimuth (deg) | Corr. (dB) | Margin (dB) | Limit (dBuV/m) |
|-----------------|------------------|------------|-----------------|-------------|--------------|---------------|------------|-------------|----------------|
| 8845.100300     | 33.1             | 50.0       | 1000.000        | 155.0       | V            | 192.0         | 4.0        | 20.9        | 54.0           |
| 11093.449300    | 36.3             | 50.0       | 1000.000        | 155.0       | H            | 1.0           | 8.4        | 17.7        | 54.0           |
| 11585.606100    | 37.8             | 50.0       | 1000.000        | 155.0       | V            | -33.0         | 9.7        | 16.2        | 54.0           |
| 11795.463400    | 37.8             | 50.0       | 1000.000        | 155.0       | V            | -10.0         | 9.6        | 16.2        | 54.0           |
| 12123.949500    | 38.0             | 50.0       | 1000.000        | 155.0       | H            | 173.0         | 9.9        | 16.0        | 54.0           |
| 12591.411200    | 38.4             | 50.0       | 1000.000        | 155.0       | H            | 15.0          | 10.3       | 15.6        | 54.0           |

Note:

1. Emission level(peak or average)=Raw value by receiver + Corr(Antenna factor+ cable loss - preamplifier gain)
2. The raw value is used to calculate by software which is not shown in the sheet.  
Margin=limit value – emission level.

## 8.2 Conducted Emission

### Method of Measurement

For equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies with the band 150 kHz to 30MHz shall not exceed the limits. Both lines of the power mains connected to the EUT were checked for maximum conducted interference. Tested in accordance with the procedures of ANSI C63.4-2009, section 7.3

### Limit of Conducted Emission

| Frequency Range (MHz)                          | Conducted Limit (dBuV) |           |
|------------------------------------------------|------------------------|-----------|
|                                                | Quasi-peak             | Average   |
| 0.15-0.5                                       | 66 to 56*              | 56 to 46* |
| 0.5-5                                          | 56                     | 46        |
| 5-30                                           | 60                     | 50        |
| *Decreases with the logarithm of the frequency |                        |           |

### Test Condition in Charging Mode

| Voltage (V) | Frequency (Hz) | RBW   | Sweep Time (s) |
|-------------|----------------|-------|----------------|
| 120         | 60             | 9 KHz | 1              |

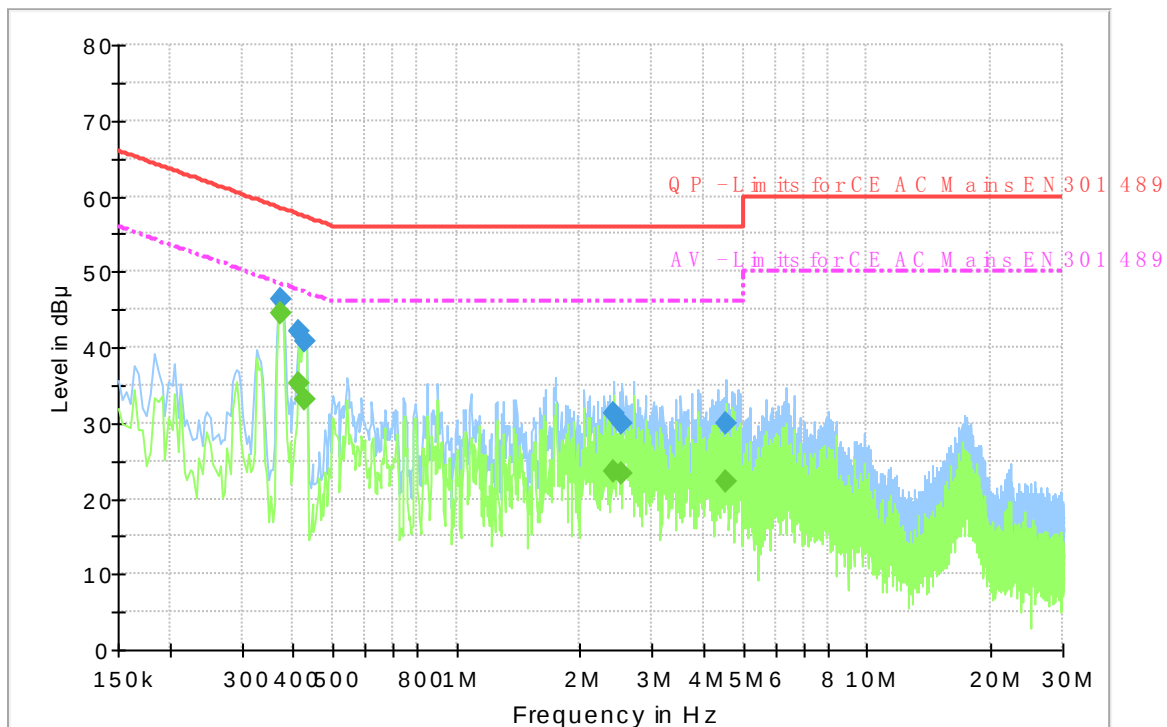
### Uncertainty Measurement

The measurement uncertainty is 2.69dB (k=1.96).

### Test Results

Mode 1: Idle + Camera on + USB cable (Data Link with PC)

Frequency Range: 150kHz – 30MHz



| Frequency (MHz) | QuasiPeak (dBμ V) | Meas. Time | Bandwidth (kHz) | Filter | Line | Corr. (dB) | Margin (dB) | Limit (dBμ V) | Comment |
|-----------------|-------------------|------------|-----------------|--------|------|------------|-------------|---------------|---------|
| 0.373875        | 46.3              | 1000.0     | 9.000           | On     | L1   | 10.1       | 12.1        | 58.4          |         |
| 0.414919        | 42.1              | 1000.0     | 9.000           | On     | L1   | 10.1       | 15.5        | 57.5          |         |
| 0.426112        | 40.7              | 1000.0     | 9.000           | On     | L1   | 10.1       | 16.6        | 57.3          |         |
| 2.411138        | 31.4              | 1000.0     | 9.000           | On     | L1   | 9.8        | 24.6        | 56.0          |         |
| 2.530538        | 30.0              | 1000.0     | 9.000           | On     | N    | 9.9        | 26.0        | 56.0          |         |
| 4.545412        | 29.9              | 1000.0     | 9.000           | On     | N    | 9.8        | 26.1        | 56.0          |         |

| Frequency (MHz) | Average (dBμ V) | Meas. Time | Bandwidth (kHz) | Filter | Line | Corr. (dB) | Margin (dB) | Limit (dBμ V) | Comment |
|-----------------|-----------------|------------|-----------------|--------|------|------------|-------------|---------------|---------|
| 0.373875        | 44.5            | 1000.0     | 9.000           | On     | L1   | 10.1       | 3.9         | 48.4          |         |
| 0.414919        | 35.3            | 1000.0     | 9.000           | On     | L1   | 10.1       | 12.2        | 47.5          |         |
| 0.426112        | 33.0            | 1000.0     | 9.000           | On     | L1   | 10.1       | 14.3        | 47.3          |         |
| 2.411138        | 23.7            | 1000.0     | 9.000           | On     | L1   | 9.8        | 22.3        | 46.0          |         |
| 2.530538        | 23.3            | 1000.0     | 9.000           | On     | N    | 9.9        | 22.7        | 46.0          |         |
| 4.545412        | 22.2            | 1000.0     | 9.000           | On     | N    | 9.8        | 23.8        | 46.0          |         |

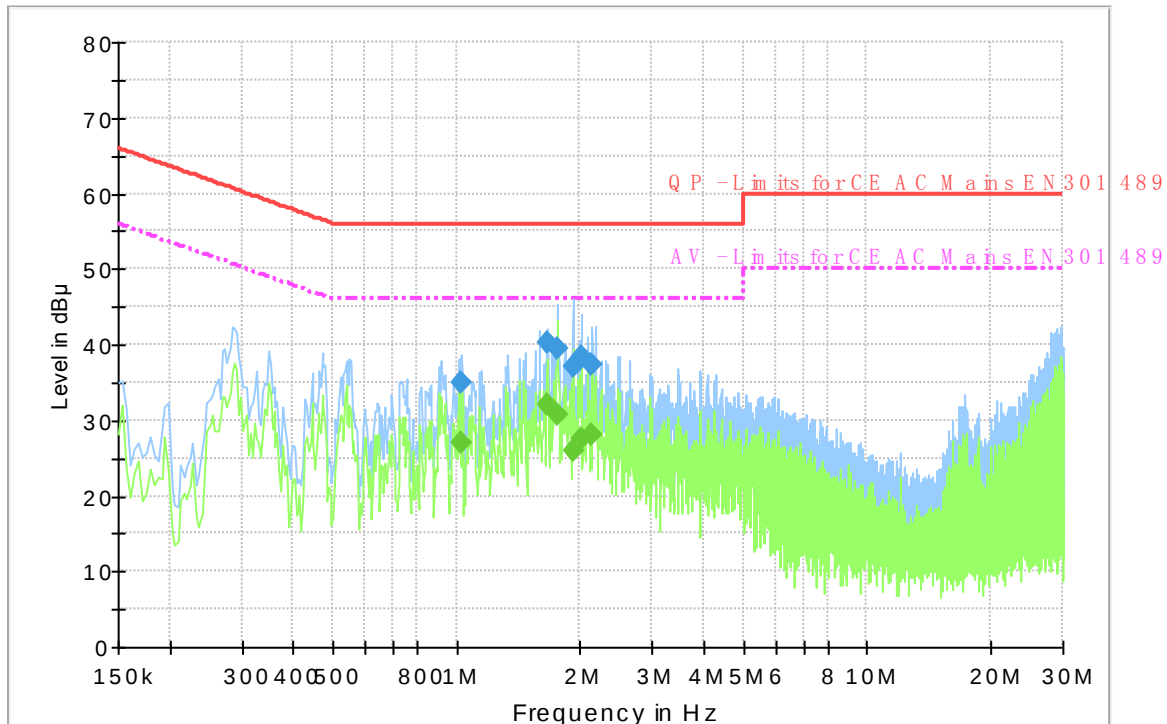
Note:

1. Emission level(quasi-peak or Average peak)=Raw value by receiver + Corr(Insertion loss+cable loss)
2. The raw value is used to calculate by software which is not shown in the sheet.
3. Margin=limit value – emission level.

Mode 2: Idle + MP4 + Adapter charging

Frequency Range:

150kHz – 30MHz



| Frequency (MHz) | QuasiPeak (dBμ V) | Meas. Time | Bandwidth (kHz) | Filter | Line | Corr. (dB) | Margin (dB) | Limit (dBμ V) | Comment |
|-----------------|-------------------|------------|-----------------|--------|------|------------|-------------|---------------|---------|
| 1.030575        | 35.0              | 1000.0     | 9.000           | On     | N    | 9.9        | 21.0        | 56.0          |         |
| 1.672350        | 40.2              | 1000.0     | 9.000           | On     | N    | 9.9        | 15.8        | 56.0          |         |
| 1.761900        | 39.6              | 1000.0     | 9.000           | On     | N    | 9.9        | 16.4        | 56.0          |         |
| 1.918612        | 37.0              | 1000.0     | 9.000           | On     | L1   | 9.9        | 19.0        | 56.0          |         |
| 2.011894        | 38.3              | 1000.0     | 9.000           | On     | L1   | 9.9        | 17.7        | 56.0          |         |
| 2.142488        | 37.3              | 1000.0     | 9.000           | On     | N    | 9.9        | 18.7        | 56.0          |         |

| Frequency (MHz) | Average (dBμ V) | Meas. Time | Bandwidth (kHz) | Filter | Line | Corr. (dB) | Margin (dB) | Limit (dBμ V) | Comment |
|-----------------|-----------------|------------|-----------------|--------|------|------------|-------------|---------------|---------|
| 1.030575        | 27.1            | 1000.0     | 9.000           | On     | N    | 9.9        | 18.9        | 46.0          |         |
| 1.672350        | 32.0            | 1000.0     | 9.000           | On     | N    | 9.9        | 14.0        | 46.0          |         |
| 1.761900        | 30.7            | 1000.0     | 9.000           | On     | N    | 9.9        | 15.3        | 46.0          |         |
| 1.918612        | 25.9            | 1000.0     | 9.000           | On     | L1   | 9.9        | 20.1        | 46.0          |         |
| 2.011894        | 27.5            | 1000.0     | 9.000           | On     | L1   | 9.9        | 18.5        | 46.0          |         |
| 2.142488        | 28.1            | 1000.0     | 9.000           | On     | N    | 9.9        | 17.9        | 46.0          |         |

\*\*\*\*\*End the Report\*\*\*\*\*