



TEST REPORT

No. 2014EMC0008

For

Client : Haier Telecom(Qingdao) Co.,Ltd.

Production : WCDMA/GSM Dual-Mode Digital

Mobile Phone

Model Name : W867

Hardware Version: W83_MB_B

Software Version: Haier_W867_W83B_M00_S09_131114

FCC ID: SG71401W867

Issued date: 2014-02-18



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

Add: 7F, G Area, No.668, Beijing East Road, Huangpu District, Shanghai, P. R. China

Tel: (+86)-021-63843300, E-Mail: welcome@ecit.org.cn



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: 86-21-63843300
Fax: 86-21-63843301
FCC registration No: 489729

1.2. Testing Environment

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

1.3. Project data

Project Leader: Gong Yujuan
Testing Start Date: 01-16, 2014
Testing End Date: 02-13, 2013

1.4. Signature

Zhang Yijing

(Prepared this test report)

You Jinjun

(Reviewed this test report)



Zheng Zhongbin

Director of the laboratory

(Approved this test report)



2. Client Information

2.1. Applicant Information

Company Name: Haier Telecom(Qingdao) Co.,Ltd.
Address /Post: No.1,Haier Road,Haier information Property Zone,Qingdao,P.R.China
Tel: (+86)0532-88936599-226
City: Qingdao
Country: China

2.2. Manufacturer Information

Company Name: Haier Telecom(Qingdao) Co.,Ltd.
Address /Post: No.1,Haier Road,Haier information Property Zone,Qingdao,P.R.China
Tel: (+86)0532-88936599-226
City: Qingdao
Country: China

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

3.1. About EUT

EUT Description	WCDMA/GSM Dual-Mode Digital Mobile Phone
Model name	W867
Serial Number or IMEI	863098020002481
GSM Frequency Band	GSM850/900/1800/1900MHz
UMTS Frequency Band	WCDMA band II/WCDMA band V
HW Version	W83_MB_B
SW Version	Haier_W867_W83B_M00_S09_131114

3.2. Internal Identification of AE used during the test

AE ID*	Description	Model	SN
AE1	Adapter	A31-3762-501000	NA
AE2	Battery	H15287	EB09F000000E0000375T
AE3	Earphone	NA	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, Subpart B	Radio frequency devices	10-1-10 Edition
ANSI C63.4	Method of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the 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 W867 supporting GSM850/1900 and WCDMA band II/IV, manufactured by Haier Telecom(Qingdao) Co.,Ltd. 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

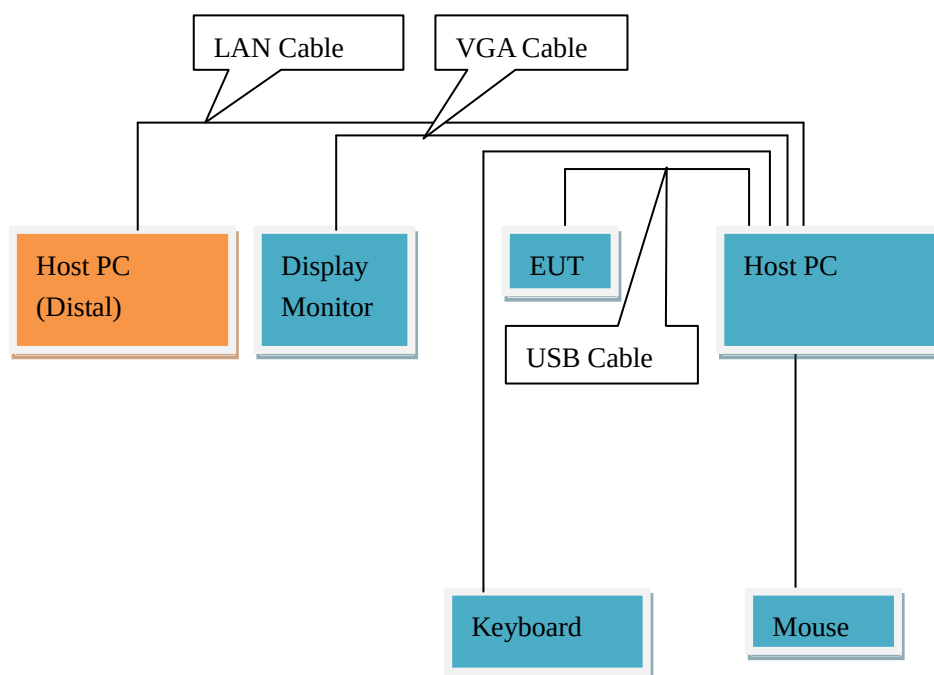
No.	Name	Type	Series Number	Producer	Cal. Due Date
1	Universal Radio Communication Tester	CMU200	123124	R&S	2014-08-30
2	Test Receiver	ESCI	101235	R&S	2014-08-30
3	2-Line V-Network	ENV216	101380	R&S	2014-10-30

7. System Configuration during Test

7.1 Test Mode

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

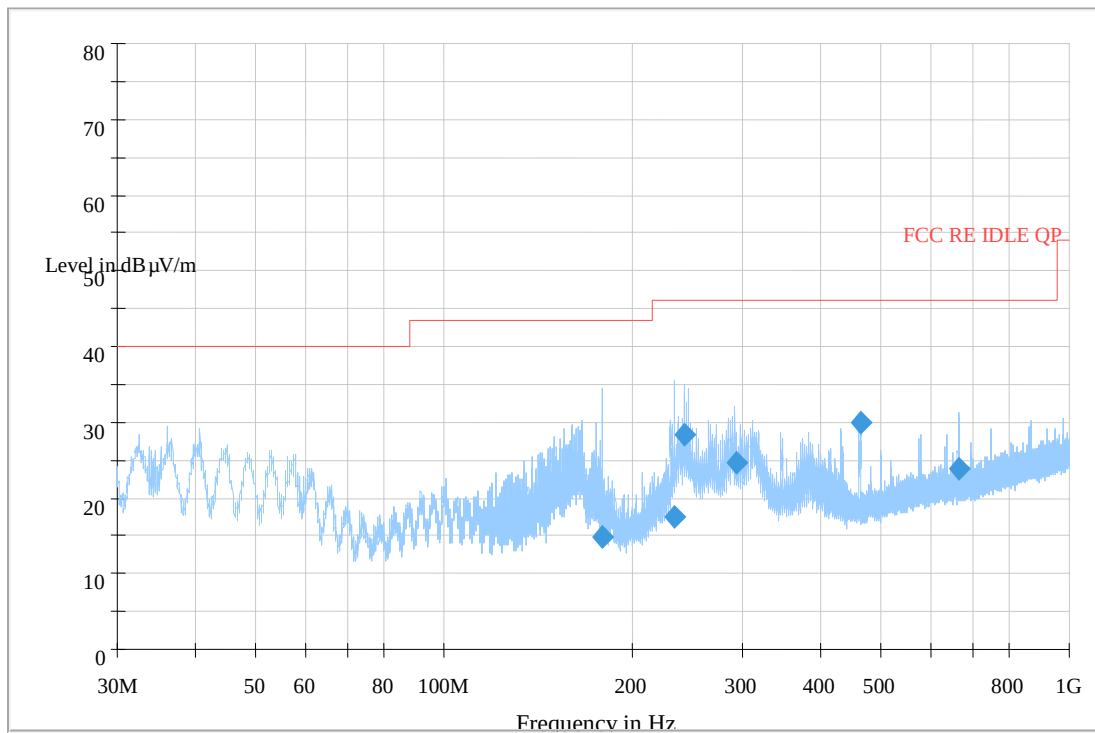
Uncertainty Measurement

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

Test Results

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

Frequency Range: 30MHz – 1GHz



Frequency (MHz)	QuasiPeak (dBμV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
179.226000	14.8	1000.0	120.000	100.0	H	60.0	-25.4	25.2	40.0
233.321333	17.5	1000.0	120.000	100.0	H	282.0	-22.5	29.5	47.0
242.002000	28.2	1000.0	120.000	100.0	H	198.0	-22.1	18.8	47.0
292.594333	24.6	1000.0	120.000	100.0	V	129.0	-20.3	22.4	47.0
462.692333	29.8	1000.0	120.000	100.0	V	16.0	-15.6	17.2	47.0
666.449333	24.0	1000.0	120.000	100.0	H	152.0	-11.6	23.0	47.0

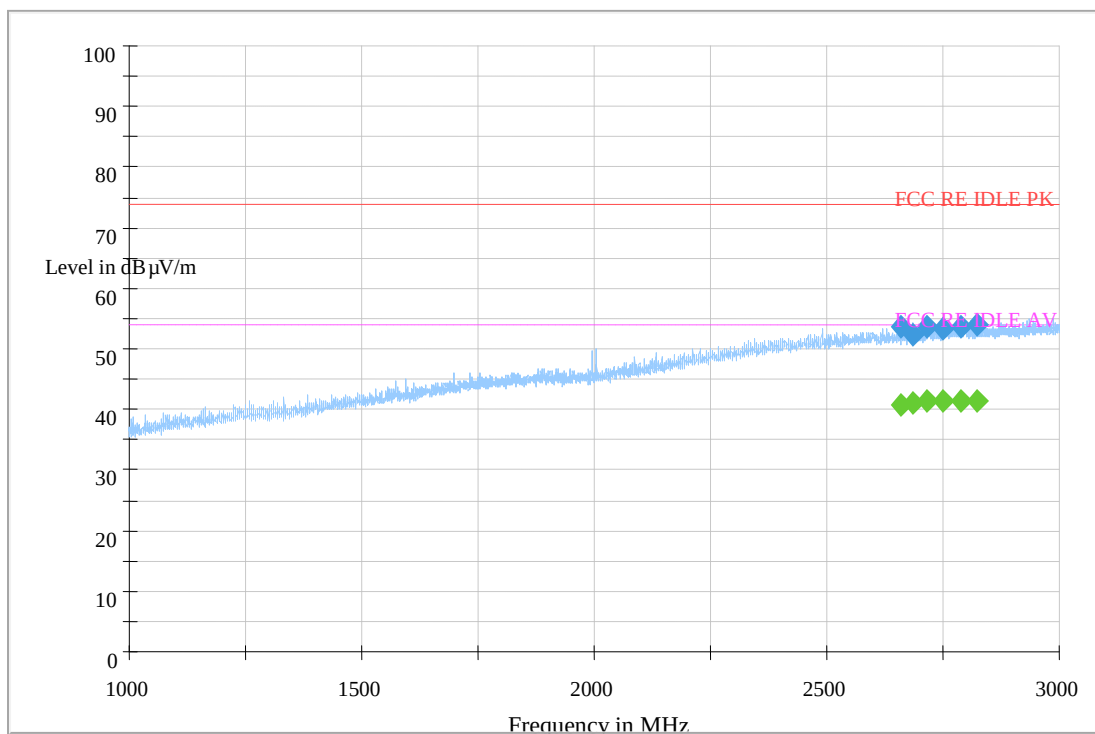
Note:

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 + Earphone + Camera on + USB cable (Data Link with PC)

Frequency Range:

1GHz –12.75GHz



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)
2660.787600	53.7	50.0	1000.000	155.0	H	82.0	9.4	20.3	74.0
2684.976800	52.4	50.0	1000.000	155.0	V	132.0	9.5	21.6	74.0
2716.708400	53.7	50.0	1000.000	155.0	V	159.0	9.7	20.3	74.0
2750.522000	53.5	50.0	1000.000	155.0	V	230.0	9.9	20.5	74.0
2789.788400	53.6	50.0	1000.000	155.0	V	45.0	10.1	20.4	74.0
2823.334000	53.8	50.0	1000.000	155.0	V	186.0	10.2	20.2	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)
2660.787600	40.8	50.0	1000.000	155.0	H	82.0	9.4	13.2	54.0
2684.976800	41.1	50.0	1000.000	155.0	V	132.0	9.5	12.9	54.0
2716.708400	41.3	50.0	1000.000	155.0	V	159.0	9.7	12.7	54.0
2750.522000	41.3	50.0	1000.000	155.0	V	230.0	9.9	12.7	54.0
2789.788400	41.5	50.0	1000.000	155.0	V	45.0	10.1	12.5	54.0
2823.334000	41.5	50.0	1000.000	155.0	V	186.0	10.2	12.5	54.0

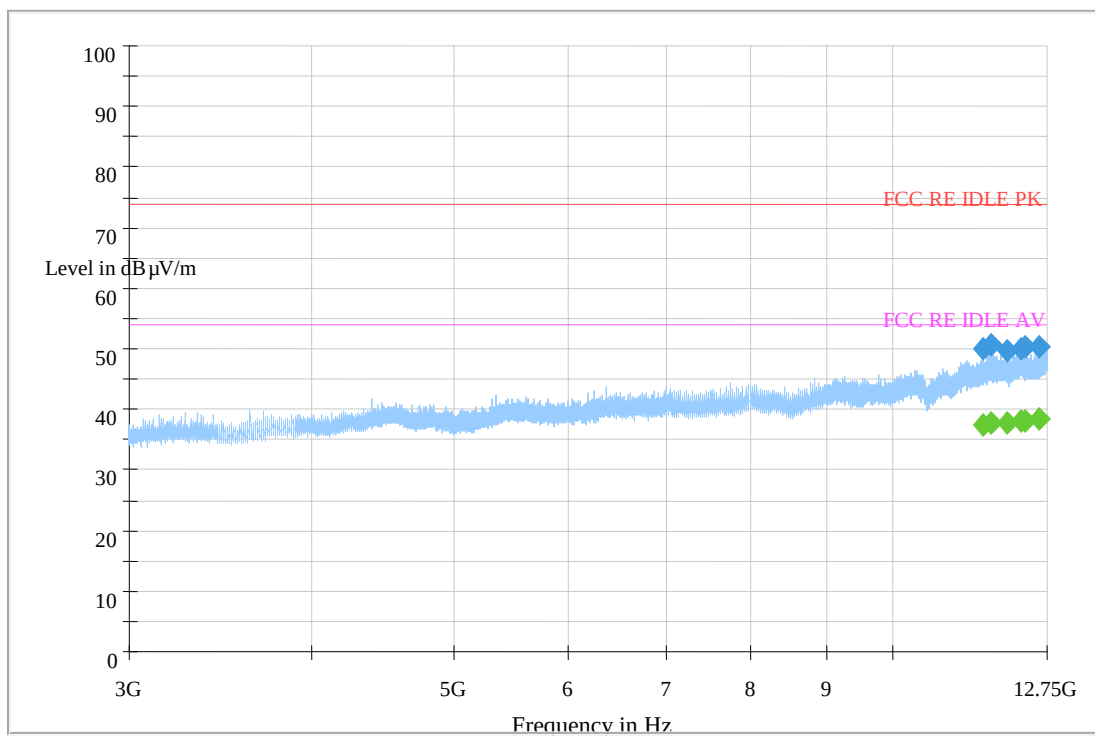
Note:

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)
11532.549100	49.9	50.0	1000.000	155.0	H	120.0	9.5	24.1	74.0
11663.732700	50.5	50.0	1000.000	155.0	V	-34.0	9.5	23.5	74.0
11973.085400	49.6	50.0	1000.000	155.0	H	331.0	9.6	24.4	74.0
12220.573800	50.1	50.0	1000.000	155.0	V	217.0	9.9	23.9	74.0
12316.078900	50.2	50.0	1000.000	155.0	V	38.0	9.9	23.8	74.0
12584.699200	50.3	50.0	1000.000	155.0	H	238.0	10.2	23.7	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)
11532.549100	37.6	50.0	1000.000	155.0	H	120.0	9.5	16.4	54.0
11663.732700	37.8	50.0	1000.000	155.0	V	-34.0	9.5	16.2	54.0
11973.085400	37.7	50.0	1000.000	155.0	H	331.0	9.6	16.3	54.0
12220.573800	38.2	50.0	1000.000	155.0	V	217.0	9.9	15.8	54.0
12316.078900	38.2	50.0	1000.000	155.0	V	38.0	9.9	15.8	54.0
12584.699200	38.4	50.0	1000.000	155.0	H	238.0	10.2	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

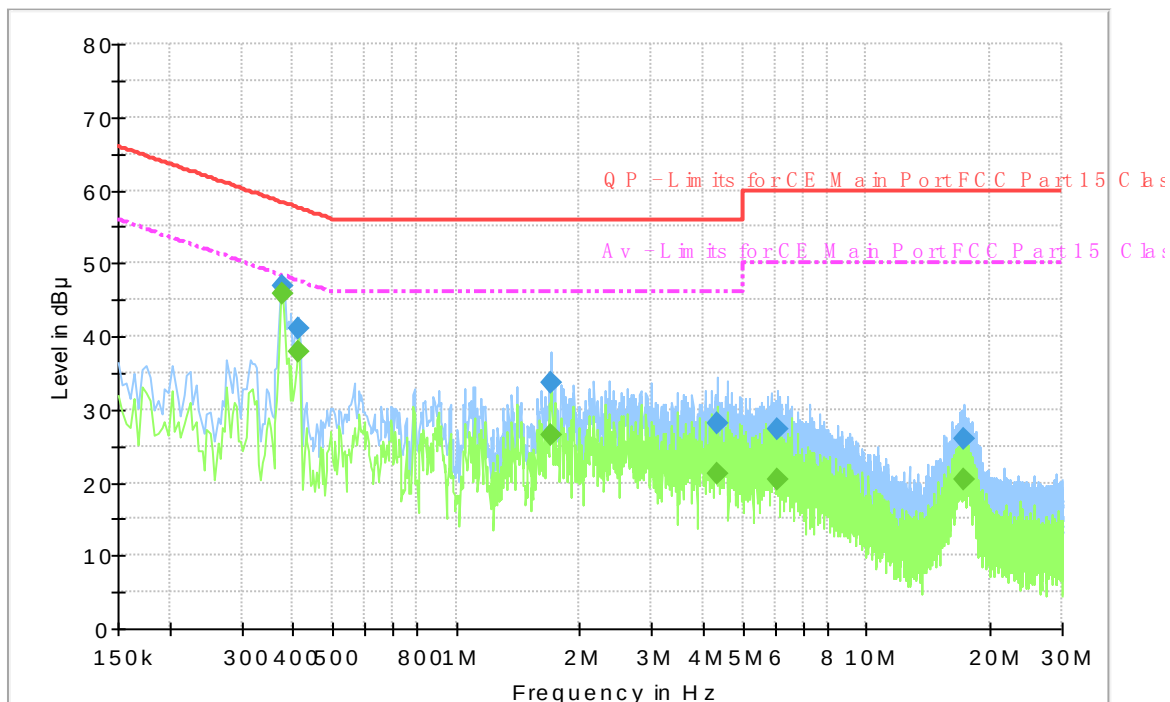
The measurement uncertainty is 2.69dB (k=1.96).

Test Results

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

Frequency Range:

150kHz – 30MHz



Frequency (MHz)	QuasiPeak (dB μV)	Meas. Time	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dB μV)
0.377606	46.9	1000.0	9.000	On	L1	10.1	11.4	58.3
0.411188	41.1	1000.0	9.000	On	N	10.1	16.5	57.6
1.705931	33.7	1000.0	9.000	On	N	9.9	22.3	56.0
4.343925	28.0	1000.0	9.000	On	N	9.8	28.0	56.0
6.064031	27.3	1000.0	9.000	On	N	9.8	32.7	60.0
17.384644	26.0	1000.0	9.000	On	N	10.0	34.0	60.0

Frequency (MHz)	Average (dB μV)	Meas. Time	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dB μV)
0.377606	45.9	1000.0	9.000	On	L1	10.1	2.4	48.3
0.411188	37.9	1000.0	9.000	On	N	10.1	9.7	47.6
1.705931	26.5	1000.0	9.000	On	N	9.9	19.5	46.0
4.343925	21.1	1000.0	9.000	On	N	9.8	24.9	46.0
6.064031	20.4	1000.0	9.000	On	N	9.8	29.6	50.0
17.384644	20.5	1000.0	9.000	On	N	10.0	29.5	50.0

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.

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