



Full
TEST REPORT

No. 2013EM0200

For

Client : ZTE Corporation

Production : GSM Digital Mobile Phone

Model Name : ZTE R621J

FCC ID: SRQ-ZTER621J

Hardware Version: W62M11A1-1

Software Version: ZTE_R621J_01

Issued date: 2014-01-13



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

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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: 2013-12-02
Testing End Date: 2014-01-08

1.4. Signature



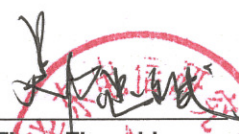
You Jinjun

(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	GSM Digital Mobile Phone
Model name	ZTE R621J
Serial Number or IMEI	865459015200316
TX Frequency	GSM1900: 1850MHz to 1910MHz; Bluetooth: 2402MHz to 2480MHz;
RX Frequency	GSM1900: 1930MHz to 1990MHz; Bluetooth: 2402MHz to 2480MHz;
HW Version	W62M11A1-1
SW Version	ZTE_R621J_01

3.2. Internal Identification of AE used during the test

AE ID*	Description	Model	SN
AE1	Adapter	STC-A22O501200M5-C	101212091899621
AE2	Battery	Li3706T42P3h463548	10091310169014893
AE3	Earphone	NLD-EM127E-035S	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 ZTE R621J supporting GSM850/1900, 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

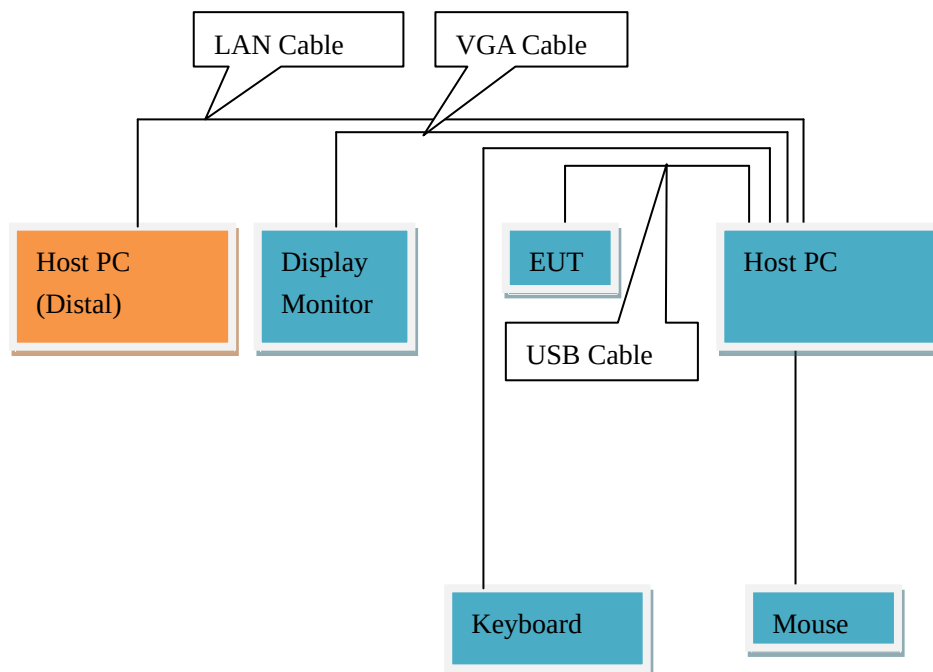
No.	Name	Type	Series Number	Producer	Cal. Due Date
1	Universal Radio Communication Tester	CMU200	123124	R&S	2014-08-30
2	Test Receiver	ESCI	101235	R&S	2014-08-30
3	2-Line V-Network	ENV216	101380	R&S	2014-10-30

7. System Configuration during Test

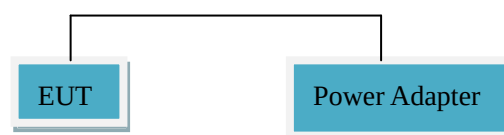
7.1 Test Mode

Test Item	Function Type
AC Conducted Emission	Mode 1: Idle + Camera on + USB cable (Data Link with PC) <Figure 1> Mode 2: Idle + MP4 + Adapter charging <Figure 2>
Radiated Emission	Mode 1: Idle + Camera on + USB cable (Data Link with PC) <Figure 1> Mode 2: Idle + 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

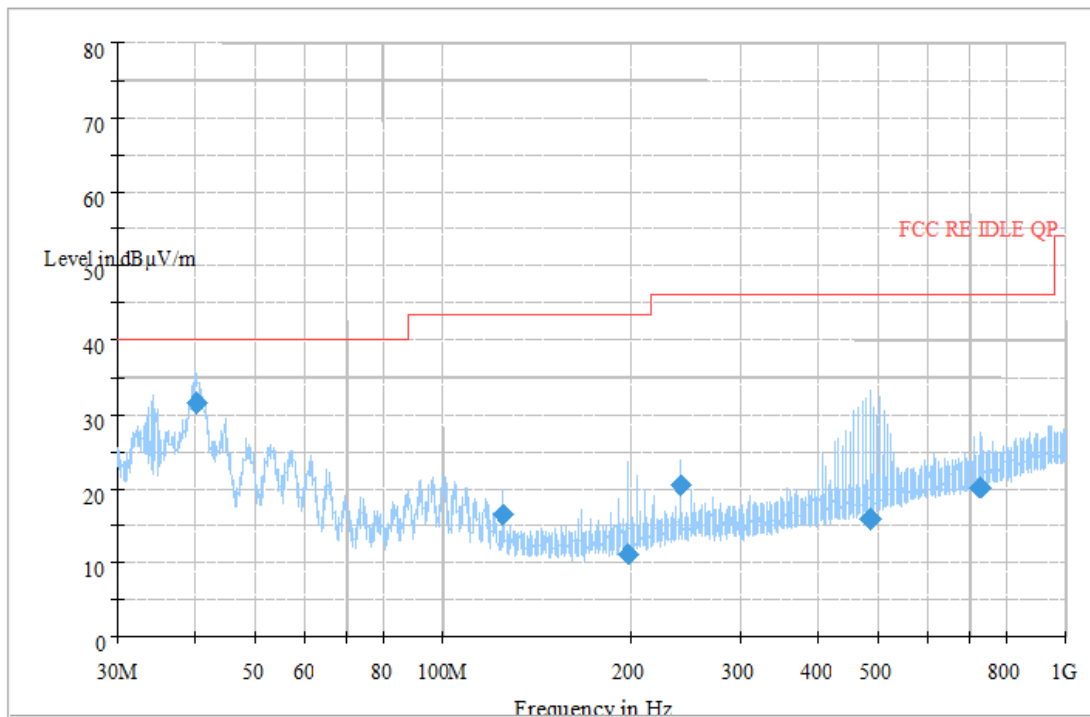
Uncertainty Measurement

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

Test Results

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

Frequency Range: 30MHz – 1GHz



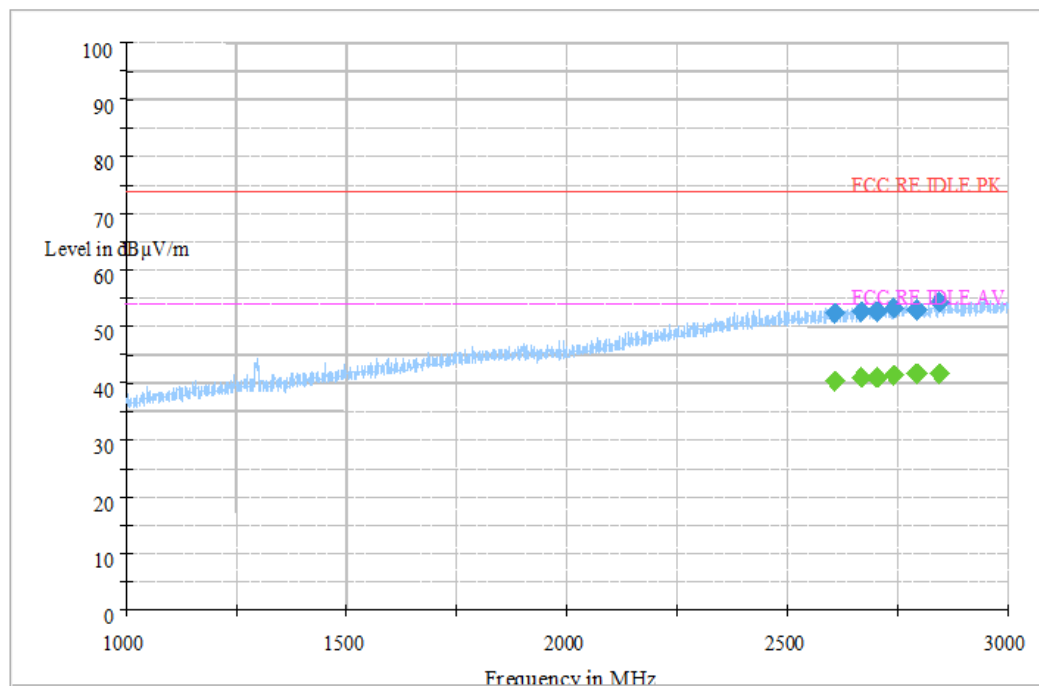
Frequency (MHz)	QuasiPeak (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBuV/m)
40.192667	31.6	1000.0	120.000	100.0	V	217.0	-24.0	8.4	40.0
124.995333	16.4	1000.0	120.000	200.0	H	280.0	-26.5	27.1	43.5
198.262667	11.1	1000.0	120.000	100.0	V	6.0	-24.3	32.4	43.5
240.012667	20.3	1000.0	120.000	100.0	H	219.0	-22.2	25.7	46.0
484.331000	15.8	1000.0	120.000	100.0	V	6.0	-15.2	30.2	46.0
728.012000	20.2	1000.0	120.000	200.0	V	188.0	-10.8	25.8	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)

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)
2609.702400	52.4	50.0	1000.000	155.0	V	71.0	9.1	21.6	74.0
2667.113200	52.5	50.0	1000.000	155.0	V	216.0	9.4	21.5	74.0
2703.668000	52.5	50.0	1000.000	155.0	H	252.0	9.6	21.5	74.0
2740.172000	53.3	50.0	1000.000	155.0	V	312.0	9.8	20.7	74.0
2793.598400	53.1	50.0	1000.000	155.0	H	231.0	10.1	20.9	74.0
2846.708800	54.2	50.0	1000.000	155.0	V	163.0	10.3	19.8	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)
2609.702400	40.5	50.0	1000.000	155.0	V	71.0	9.1	13.5	54.0
2667.113200	40.9	50.0	1000.000	155.0	V	216.0	9.4	13.1	54.0
2703.668000	41.1	50.0	1000.000	155.0	H	252.0	9.6	12.9	54.0
2740.172000	41.2	50.0	1000.000	155.0	V	312.0	9.8	12.8	54.0
2793.598400	41.6	50.0	1000.000	155.0	H	231.0	10.1	12.4	54.0
2846.708800	41.6	50.0	1000.000	155.0	V	163.0	10.3	12.4	54.0

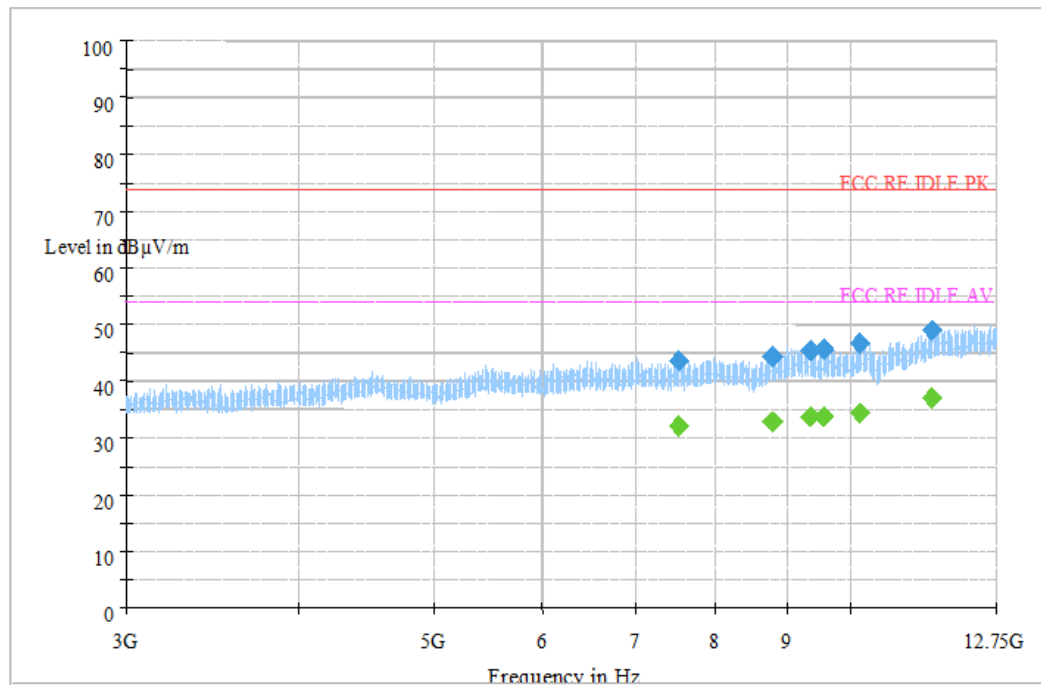
Note:

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)
7530.963200	43.6	50.0	1000.000	155.0	H	216.0	2.8	30.4	7530.963200
8786.529800	44.4	50.0	1000.000	155.0	H	163.0	3.7	29.6	8786.529800
9369.013000	45.4	50.0	1000.000	155.0	H	141.0	5.3	28.6	9369.013000
9567.363800	45.9	50.0	1000.000	155.0	H	175.0	5.1	28.1	9567.363800
10142.291800	46.8	50.0	1000.000	155.0	V	2.0	6.0	27.2	10142.291800
11465.510400	48.9	50.0	1000.000	155.0	V	151.0	9.2	25.1	11465.510400

Final Result 2

Frequency (MHz)	Average (dBuV/m)	Meas. Time	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBuV/m)
7530.963200	32.1	50.0	1000.000	155.0	H	216.0	2.8	21.9	7530.963200
8786.529800	32.8	50.0	1000.000	155.0	H	163.0	3.7	21.2	8786.529800
9369.013000	33.9	50.0	1000.000	155.0	H	141.0	5.3	20.1	9369.013000
9567.363800	33.8	50.0	1000.000	155.0	H	175.0	5.1	20.2	9567.363800
10142.291800	34.4	50.0	1000.000	155.0	V	2.0	6.0	19.6	10142.291800
11465.510400	37.2	50.0	1000.000	155.0	V	151.0	9.2	16.8	11465.510400

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

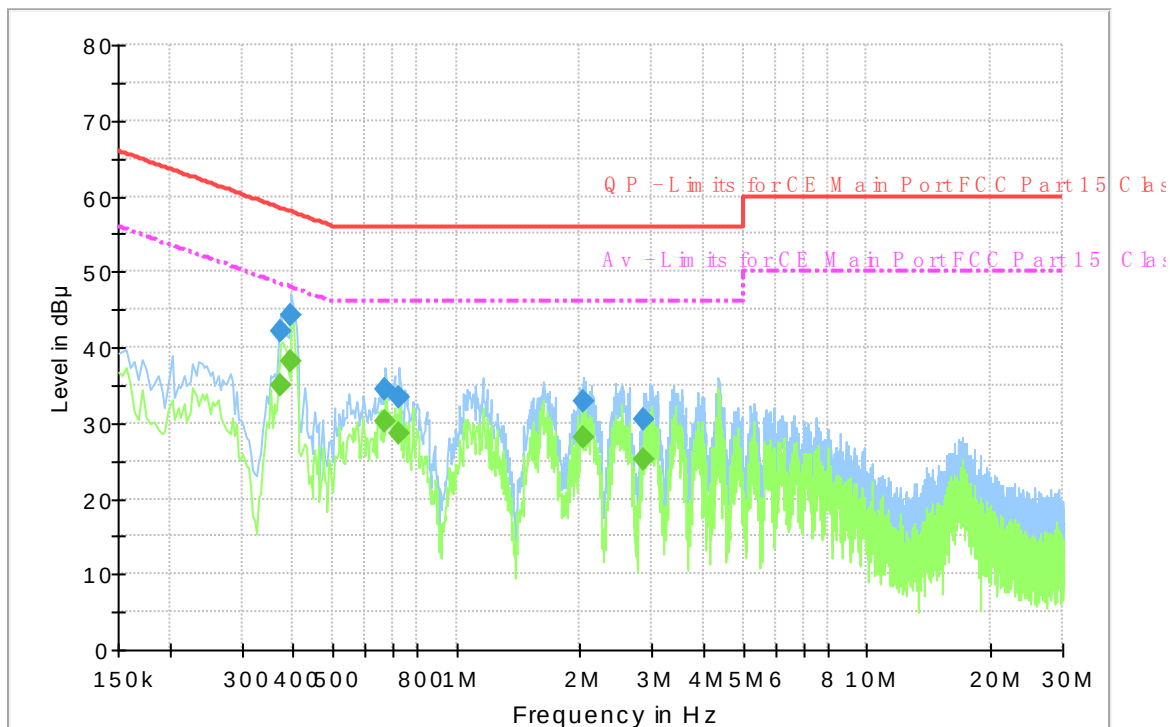
Uncertainty Measurement

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	42.2	1000.0	9.000	On	N	10.1	16.2	58.4	
0.396262	44.1	1000.0	9.000	On	N	10.1	13.8	57.9	
0.672375	34.6	1000.0	9.000	On	L1	10.1	21.4	56.0	
0.724612	33.5	1000.0	9.000	On	L1	10.0	22.5	56.0	
2.041744	32.9	1000.0	9.000	On	N	9.9	23.1	56.0	
2.862619	30.4	1000.0	9.000	On	N	9.8	25.6	56.0	

Frequency (MHz)	Average (dBμ V)	Meas. Time	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμ V)	Comment
0.373875	35.1	1000.0	9.000	On	N	10.1	13.3	48.4	
0.396262	38.0	1000.0	9.000	On	N	10.1	9.9	47.9	
0.672375	30.1	1000.0	9.000	On	L1	10.1	15.9	46.0	
0.724612	28.5	1000.0	9.000	On	L1	10.0	17.5	46.0	
2.041744	28.1	1000.0	9.000	On	N	9.9	17.9	46.0	
2.862619	25.2	1000.0	9.000	On	N	9.8	20.8	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.

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