Registration Num:428261

Report No.: RZA2010-1380RF03

TESTING
No. L2264

Part 15C

TEST REPORT

Product Name	GSM /WCDMA dual mode mobile phone
Model Name	IT385
FCC ID	WH7IT385
Client	Longcheer Technology (Shanghai) Co., Ltd.

TA Technology (Shanghai) Co., Ltd.

GENERAL SUMMARY

Product Name	GSM /WCDMA dual mode mobile phone	**Model Name**	IT385
FCC ID	WH7IT385		
Report No.	RZA2010-1380RF03		
Client	Longcheer Technology (Shanghai) Co., Ltd.		
Manufacturer	Longcheer Technology (Shanghai) Co., Ltd.		
Reference Standard(s)	**FCC CFR47 Part 15C (2009-12)** Radio Frequency Devices **15.205** Restricted bands of operation; **15.207** Conducted limits; **15.209** Radiated emission limits; general requirements; **15.247** Operation within the bands 902-928 MHz,2400-2483.5 MHz, and 5725-5850MHz. **ANSI C63.4** Methods of Measurement of Radio-Noise Emission from Low-Voltage Electrical and Electronic Equipment in the Range of 9 KHz to 40GHz. (2003) **DA00-705 (2000)** Filing and Frequency Measurement Guidelines For Frequency Hopping Spread Spectrum System.		
Conclusion	This portable wireless equipment has been measured in all cases requested by the relevant standards. Test results in Chapter 2 of this test report are below limits specified in the relevant standards. General Judgment: **Pass** (Stamp) **Date of issue: November 26th,2010**		
Comment	The test result only responds to the measured sample.		

Approved by Yang Weizhong **Revised by** Xu Kai **Performed by** Du Ruwei

TABLE OF CONTENT

1. General Information

1.1. Notes of the test report

TA Technology (Shanghai) Co., Ltd. guarantees the reliability of the data presented in this test report, which is the results of measurements and tests performed for the items under test on the date and under the conditions stated in this test report and is based on the knowledge and technical facilities available at TA Technology (Shanghai) Co., Ltd. at the time of execution of the test.

TA Technology (Shanghai) Co., Ltd. is liable to the client for the maintenance by its personnel of the confidentiality of all information related to the items under test and the results of the test. This report only refers to the item that has undergone the test.

This report standalone dose not constitute or imply by its own an approval of the product by the certification Bodies or competent Authorities. This report cannot be used partially or in full for publicity and/or promotional purposes without previous written approval of **TA Technology (Shanghai) Co., Ltd.** and the Accreditation Bodies, if it applies.

1.2. Testing laboratory

Company:	TA Technology (Shanghai) Co., Ltd.
Address:	No.145, Jintang Rd, Tangzhen Industry Park, Pudong
City:	Shanghai
Post code:	201201
Country:	P. R. China
Contact:	Yang Weizhong
Telephone:	+86-021-50791141/2/3
Fax:	+86-021-50791141/2/3-8000
Website:	http://www.ta-shanghai.com
E-mail:	yangweizhong@ta-shanghai.com

1.3. Applicant Information

Company:	Longcheer Technology (Shanghai) Co., Ltd.
Address:	Building 1,No.401,Caobao Rd, Xuhui District, Shanghai, P.R. China
City:	Shanghai
Postal Code:	201204
Country:	P.R. China
Contact:	Leo BAO
Telephone:	86-21-640888898-5108
Fax:	021-54970876

1.4. Manufacturer Information

Company:	Longcheer Technology (Shanghai) Co., Ltd.
Address:	Building 1,No.401,Caobao Rd, Xuhui District, Shanghai, P.R. China
City:	Shanghai
Postal Code:	201204
Country:	P.R. China
Telephone:	86-21-640888898-5108
Fax:	021-54970876

1.5. Information of EUT

General information

Name of EUT:	GSM /WCDMA dual mode mobile phone
IMEI:	358688000000158
Hardware Version:	LB6M111A2-1
Software Version:	LB6UN01.8.5.1.1T20G0714_M111
Antenna Type:	Internal Antenna
Device Operating Configurations:	
Support Bluetooth:	Yes
Mode:	Basic Rate
Modulation:	GFSK
Packet Type:(Maximum Payload)	DH5
Max Conducted Power	0.512dBm
Power Supply:	Battery or Adapter
Rated Power Supply Voltage:	3.8V
Extreme Voltage:	Minimum: 3.6V Maximum: 4.2V
Extreme Temperature:	Lowest: -20°C Highest: +55°C
Operating Frequency Range(s)	2400 ~ 2483.5 MHz

Auxiliary equipment details

AE1: Battery

Model:	BL-5C
Manufacturer:	/
S/N:	BAK08100827004089

AE2: Charger

Model:	53271159
Manufacturer:	Aquilstar precision industrial (shenzhen) Co.,LTD
S/N:	/

Equipment Under Test (EUT) is GSM /WCDMA dual mode mobile phone with internal antenna. The EUT is tested Bluetooth function in this report.

The sample under test was selected by the Client.

Components list please refer to documents of the manufacturer.

1.6. Test Date

The test is performed from September 6, 2010 to October 14, 2010.

2. Test Information

2.1. Summary of test results

Number	Summary of measurements of results	Clause in FCC rules	Verdict
1	Peak Power Output -Conducted	15.247(b)(1)	PASS
2	Occupied Bandwidth (20dB)	15.247(a)(1)	PASS
3	Frequency Separation	15.247(a)(1)	PASS
4	Time of Occupancy (Dwell Time)	15.247(a)(1)(iii)	PASS
5	Band Edge Compliance	15.247(d)	PASS
6	Spurious Radiated Emissions in the restricted band	15.247(d),15.205,15.209	PASS
7	Number of Hopping Frequency	15.247(a)(1)(iii)	PASS
8	Spurious RF Conducted Emissions	15.247(d)	PASS
9	Radiates Emission	15.247(d),15.205,15.209	PASS
10	AC Power Line Conducted Emission	15.207	PASS

2.2. Peak Power Output –Conducted

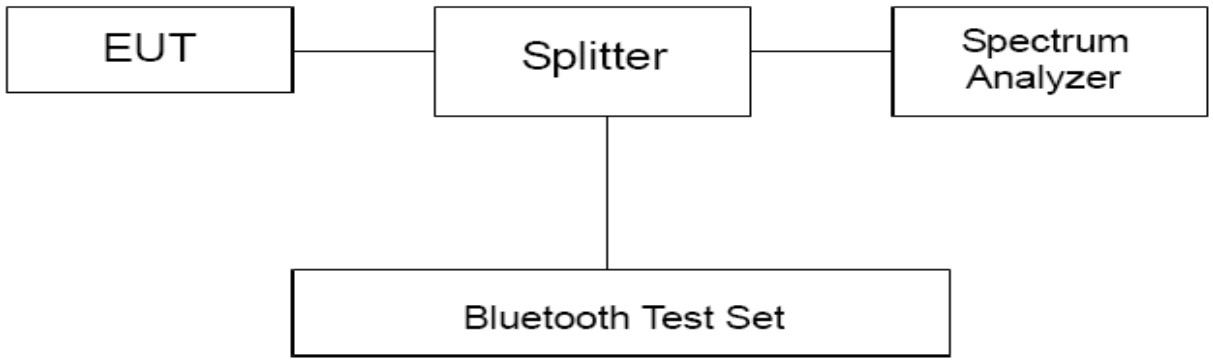
Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Methods of Measurement

During the process of the testing, The EUT was connected to the spectrum analyzer and Bluetooth test set via a power splitter with a known loss. The EUT is controlled by the Bluetooth test set to ensure max power transmission with proper modulation. The peak detector is used.RBW is set to 1MHz,VBW is set to 3MHz.These measurements have been tested at following channels: 0, 39, and 78.

Test Setup



Limits

Rule Part 15.247 (b) (1)specifies that " For frequency hopping systems operating in the 2400–2483.5 MHz band employing at least 75 non-overlapping hopping channels, and all frequency hopping systems in the 5725–5850 MHz band: 1 watt. For all other frequency hopping systems in the 2400–2483.5 MHz band: 0.125 watts."

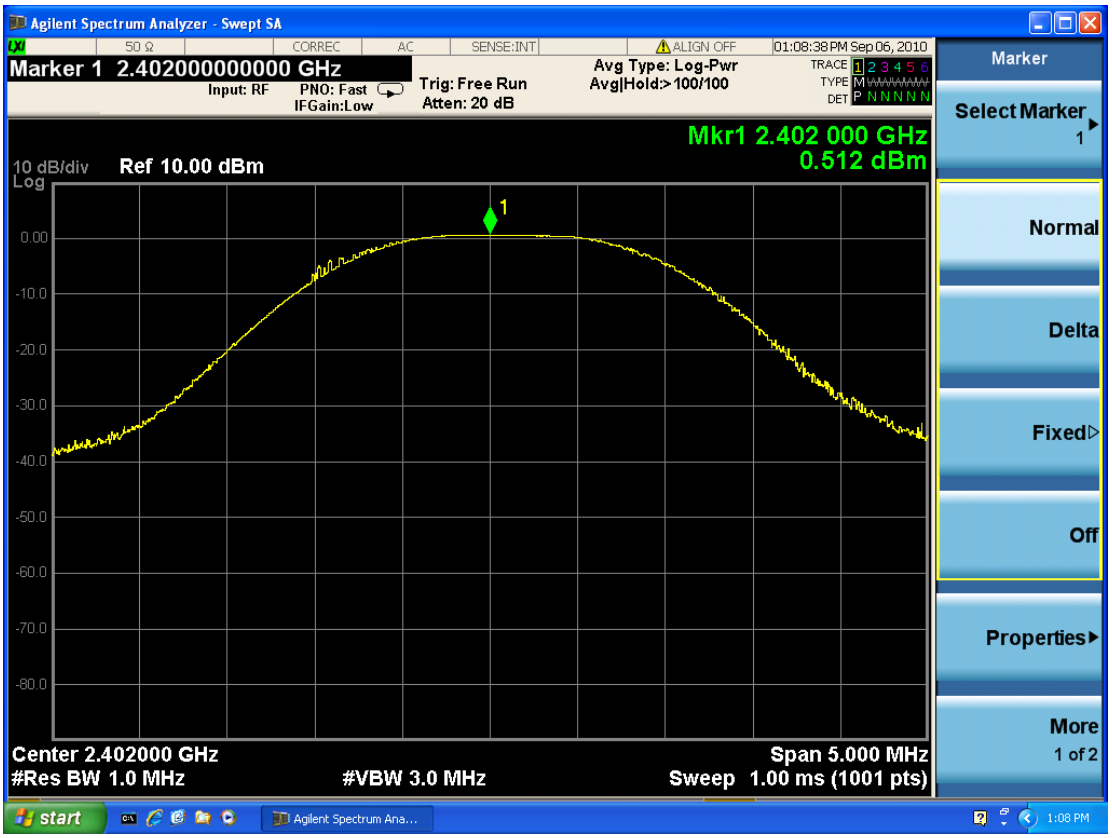
Peak Output Power	≤ 1W (30dBm)

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 2. U= 0.44 dB.

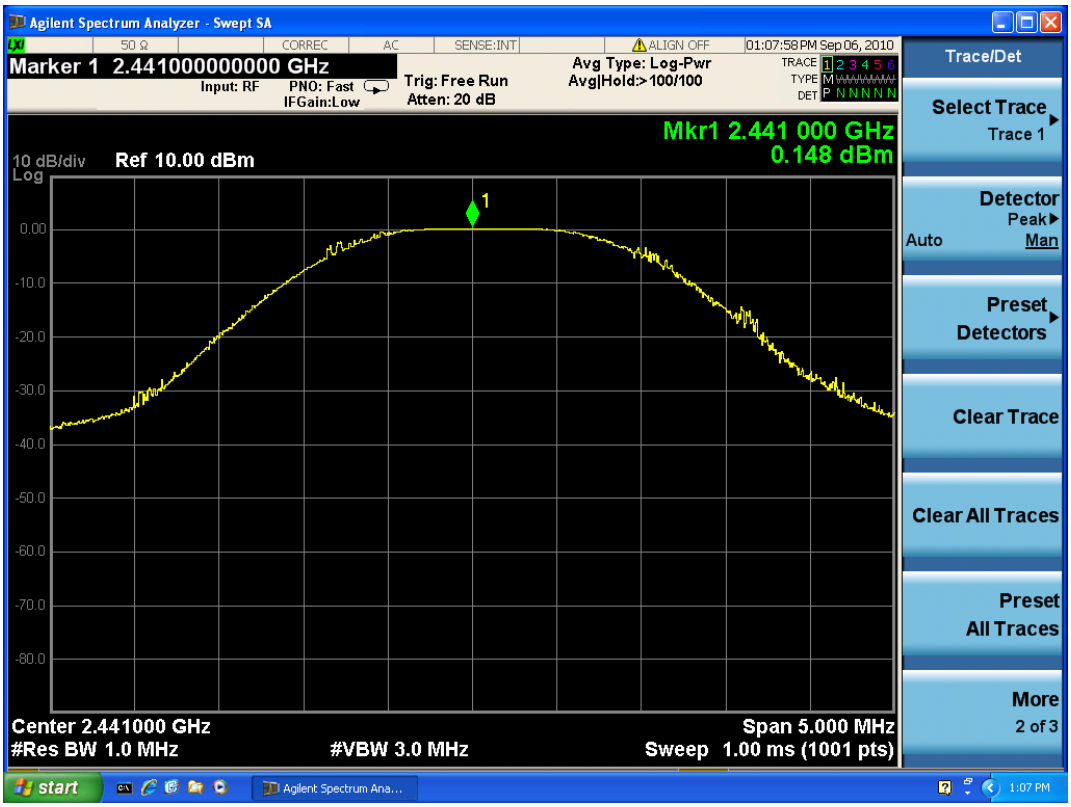
Test Results

Channel	Frequency (MHz)	Peak Output Power (dBm)	Conclusion
0	2402	0.512	PASS
39	2441	0.148	PASS
78	2480	-0.041	PASS



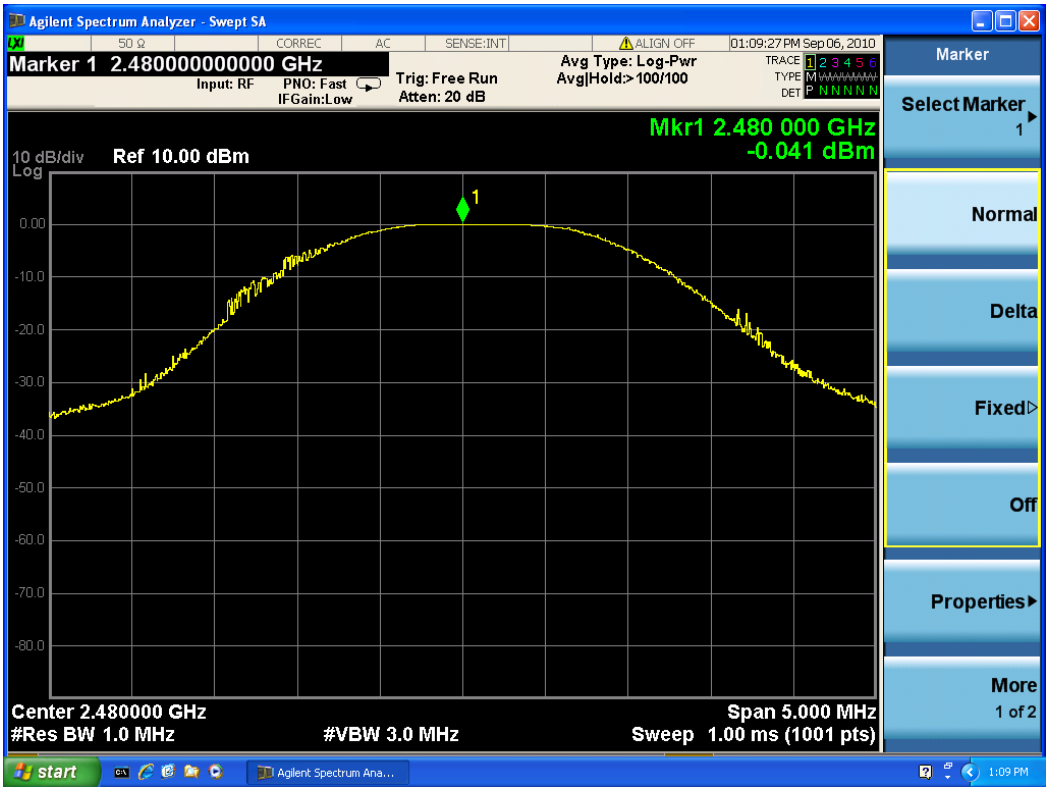
Carrier frequency (MHz): 2402

Channel No.:0



Carrier frequency (MHz): 2441

Channel No.:39



Carrier frequency (MHz): 2480

Channel No.:78

2.3. Occupied Bandwidth (20dB)

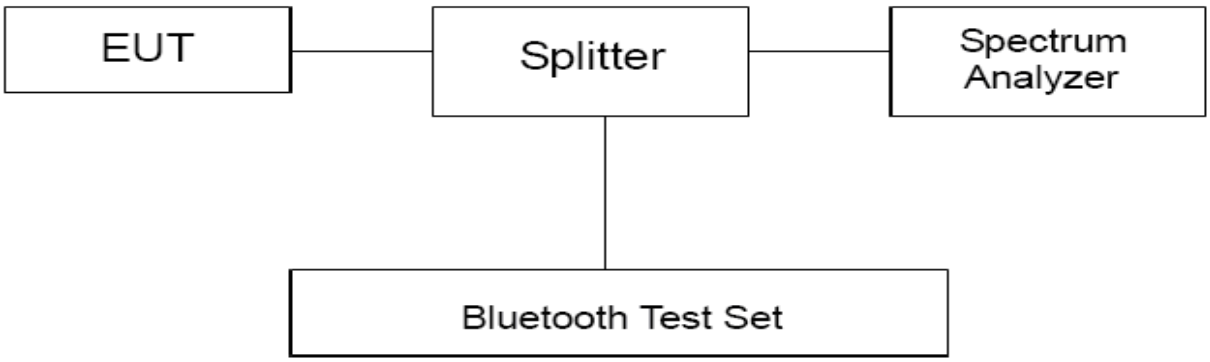
Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Method of Measurement

The EUT was connected to the spectrum analyzer and Bluetooth test set via a power splitter with a known loss. The occupied bandwidth is measured using spectrum analyzer. RBW is set to 10kHz and VBW is set to 30kHz on spectrum analyzer. -20dB occupied bandwidths are recorded.

Test Setup



Limits

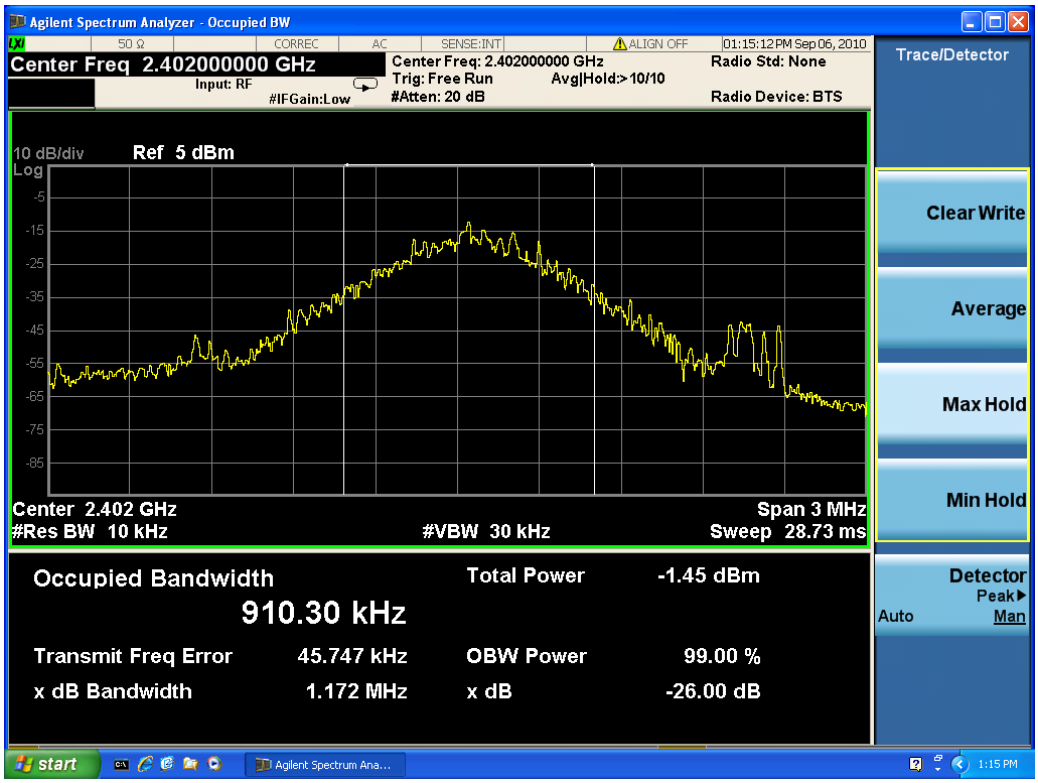
No specific occupied bandwidth requirements in part 15.247(a) (1).

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 2. U= 936 Hz.

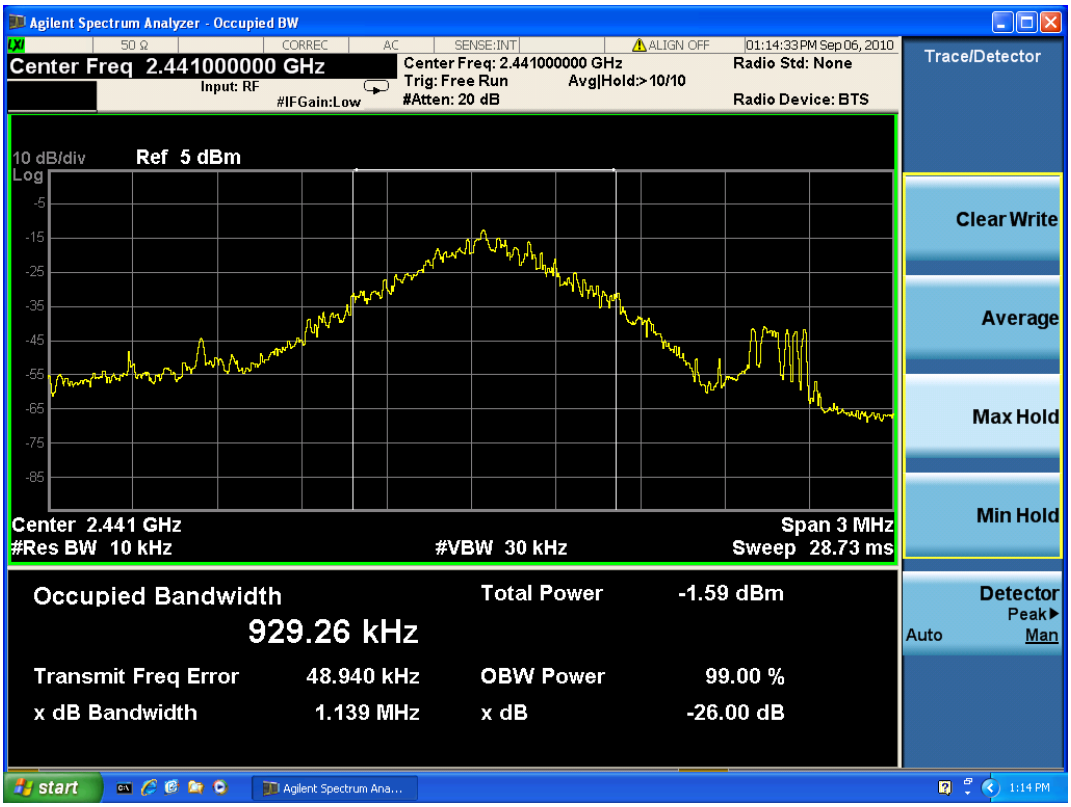
Test Results

Channel	Frequency (MHz)	20dB Bandwidth (kHz)
0	2402	910.30
39	2441	929.26
78	2480	953.08



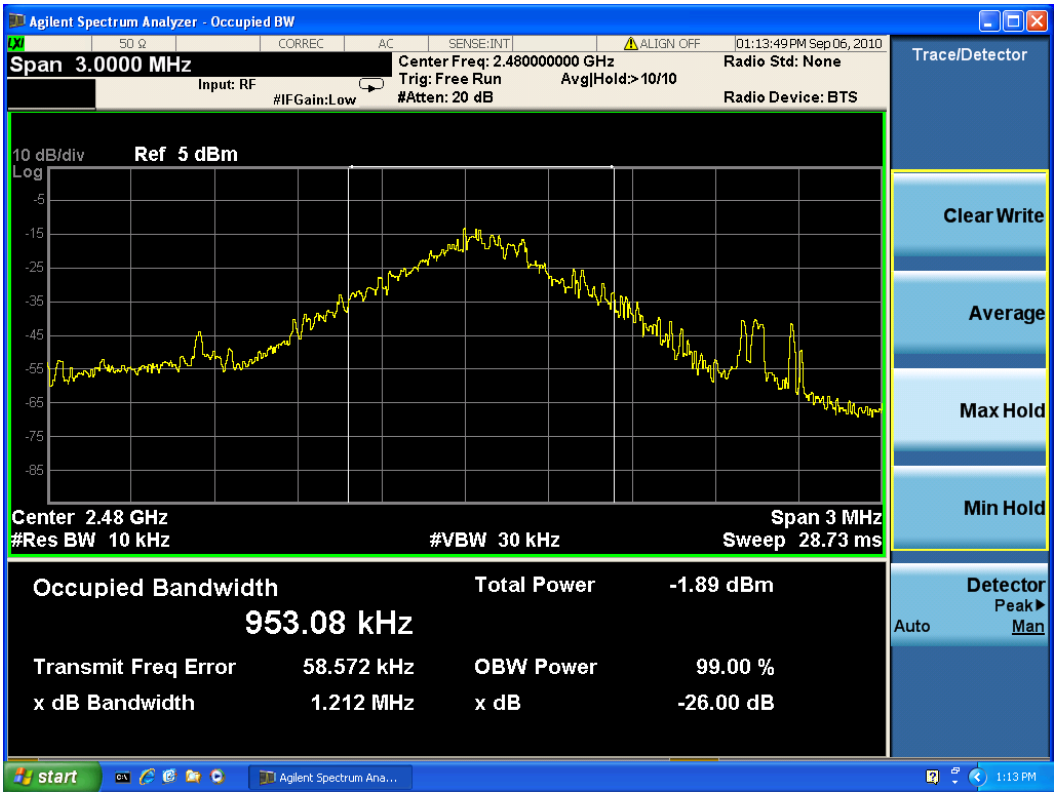
Carrier frequency (MHz): 2402

Channel No.:0



Carrier frequency (MHz): 2441

Channel No.:39



Carrier frequency (MHz): 2480

Channel No.:78

2.4. Frequency Separation

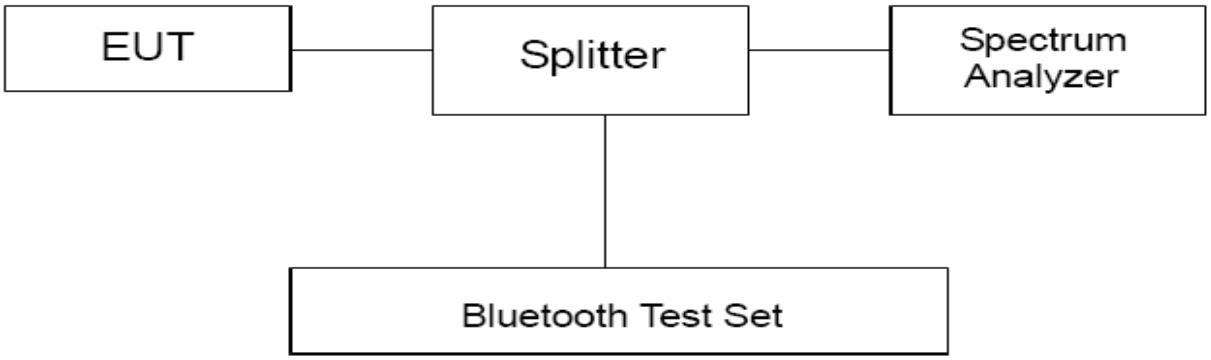
Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Method of Measurement

The Equipment Under Test (EUT) was set up in a shielded room to perform the spurious emissions measurements. The EUT was connected to the spectrum analyzer and Bluetooth test set via a power splitter with a known loss. RBW is set to 300kHz and VBW is set to 3MHz on spectrum analyzer. Set EUT on Hopping on mode.

Test setup



Limits

Rule Part 15.247(a)(1)specifies that “Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater. Alternatively, frequency hopping systems operating in the 2400–2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 mW. ”

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 2. U= 936 Hz.

Test Results:

Carrier frequency (MHz)	Carrier frequency separation(kHz)	Limit(kHz)	Conclusion
2402	1002	606.87	PASS
2441	1011	619.51	PASS
2480	1008	635.39	PASS

Note: Select the value of two-thirds of 20 dB bandwidth as the limit,since it is greater than 25 kHz.

Carrier frequency (MHz): 2402

Channel No.:0

Carrier frequency (MHz): 2441

Channel No.:39

Carrier frequency (MHz): 2480

Channel No.:78

2.5. Time of Occupancy (Dwell Time)

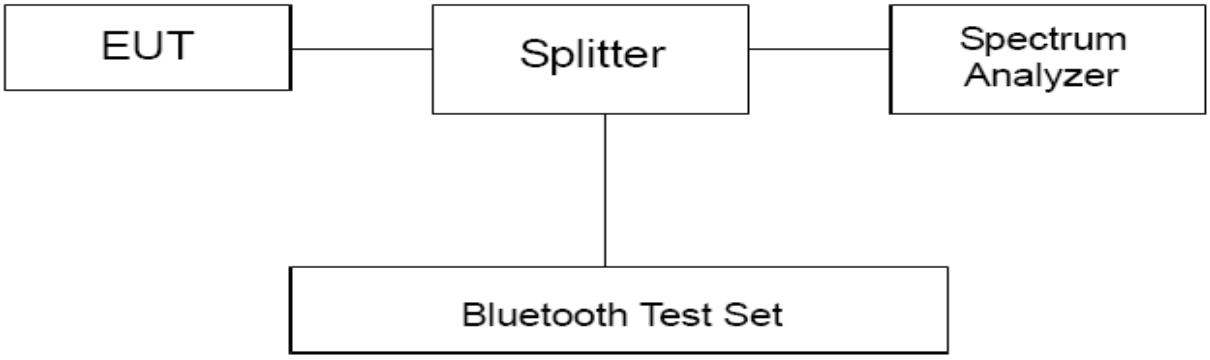
Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Methods of Measurement

The Equipment Under Test (EUT) was set up in a shielded room to perform the dwell time measurements. The EUT was connected to the spectrum analyzer and Bluetooth test set via a power splitter with a known loss. RBW is set to 1MHz and VBW is set to 3MHz on spectrum analyzer .The time slot length is measured of three different packet types, which are available in the Bluetooth technology. Those are DH1, DH3 and DH5 packets. The dwell time is calculated by:
Dwell time = time slot length * hop rate * 0.4s with:
- hop rate=1600 * 1/s for DH1 packet =1600
- hop rate=1600/3 * 1/s for DH3 packet =533.33
- hop rate=1600/5 * 1/s for DH5 packet =320

Test Setup



Limits

Rule Part 22.913(a) specifies that " Frequency hopping systems in the 2400–2483.5 MHz band shall use at least 15 channels. The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed..”

Dwell time	⩽ 400ms

Measurement Uncertainty

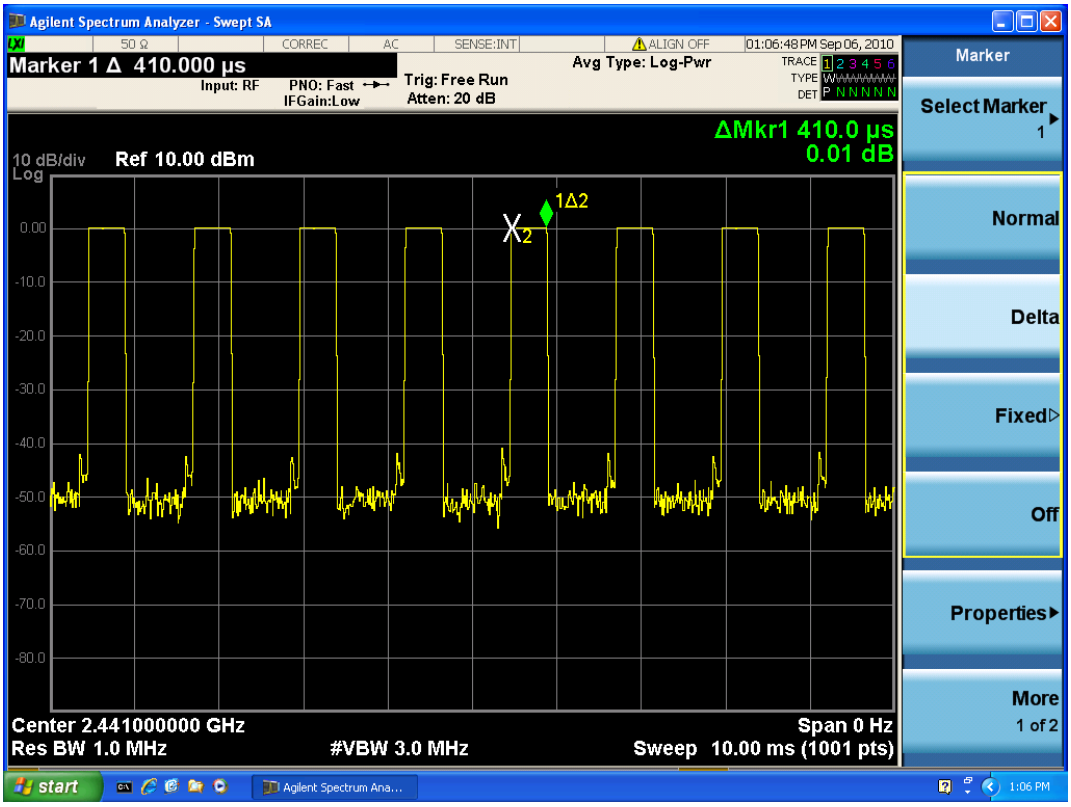
The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 2. U_{DH1}= 0.64ms, U_{DH3}= 0.80ms, U_{DH5}= 0.70ms.

Test Results:

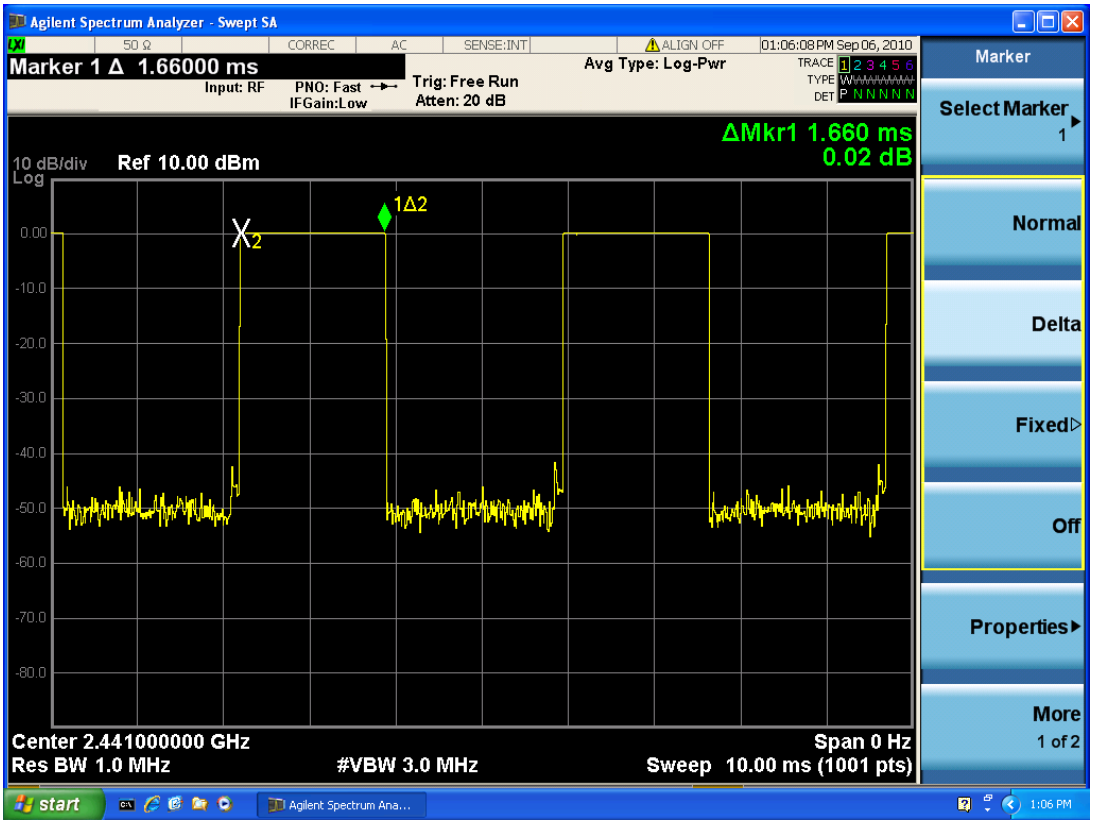
CH 39

Packet type	hop rate (1/s)	Time slot length(ms)	Dwell time (ms)	Limit (ms)	Conclusion
DH1	1600	0.41	262.40	400	PASS
DH3	533.33	1.66	354.13	400	PASS
DH5	320	2.91	372.48	400	PASS

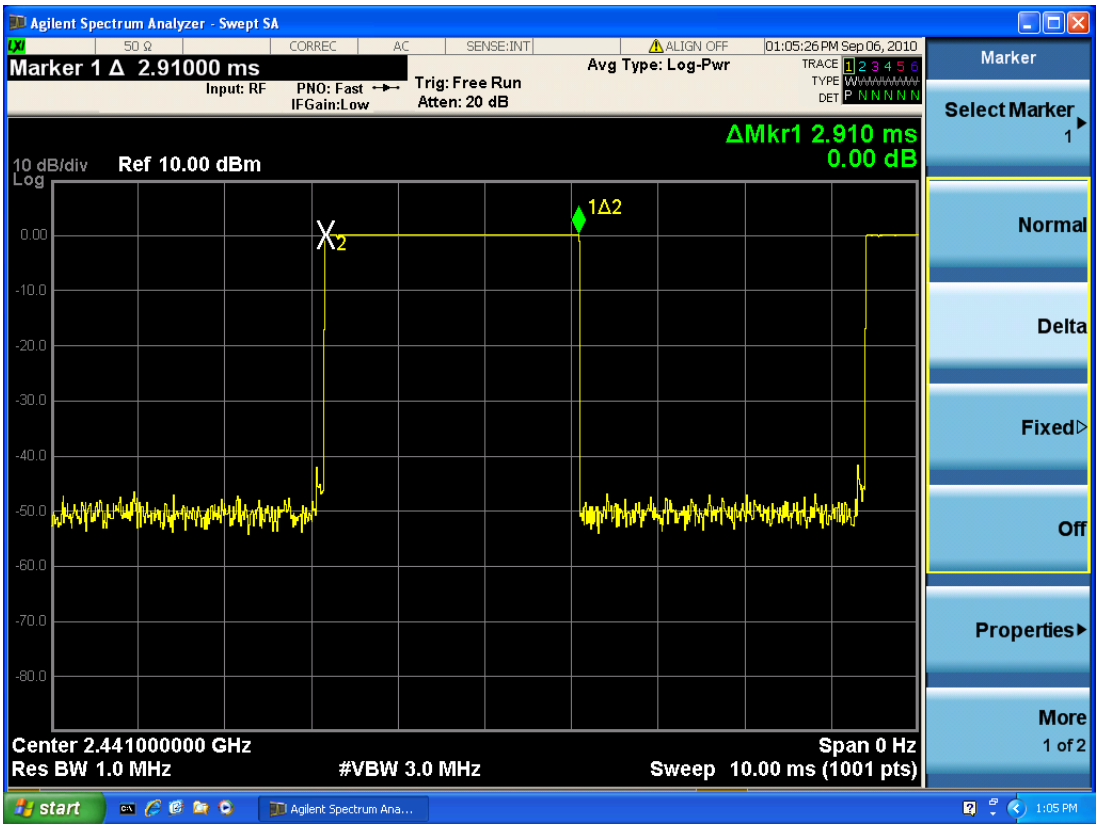
Note: Dwell time = time slot length * hop rate * 0.4s



Carrier frequency (MHz): 2441,DH1



Carrier frequency (MHz): 2441,DH3



Carrier frequency (MHz): 2441,DH5

2.6. Band Edge Compliance

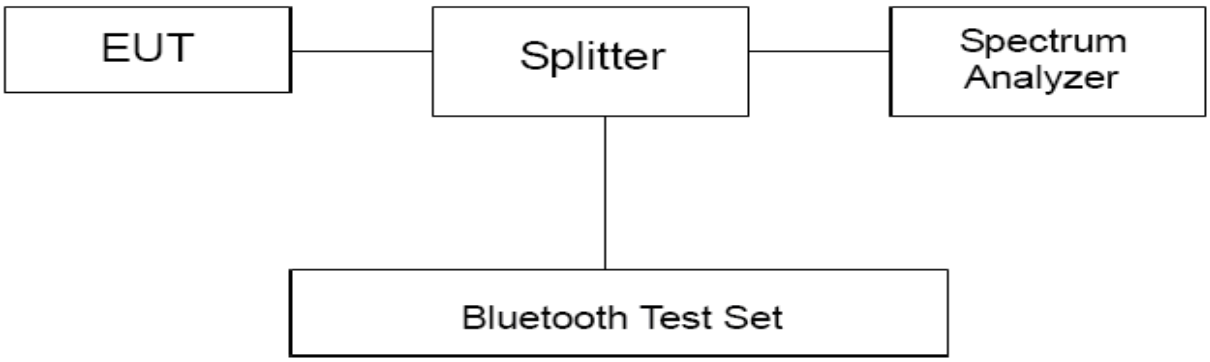
Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Method of Measurement

The Equipment Under Test (EUT) was set up in a shielded room to perform the spurious emissions measurements. The EUT was connected to the spectrum analyzer and Bluetooth test set via a power splitter with a known loss. The band edge of the lowest and highest channels were measured. The peak detector is used. RBW is set to 1MHz and VBW is set to 3MHz on spectrum analyzer.Spectrum analyzer plots are included on the following pages. EUT test for Hopping On mode and Hopping Off mode.

Test Setup



Limits

Rule Part 15.247(d) specifies that “In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits.”

Measurement Uncertainty

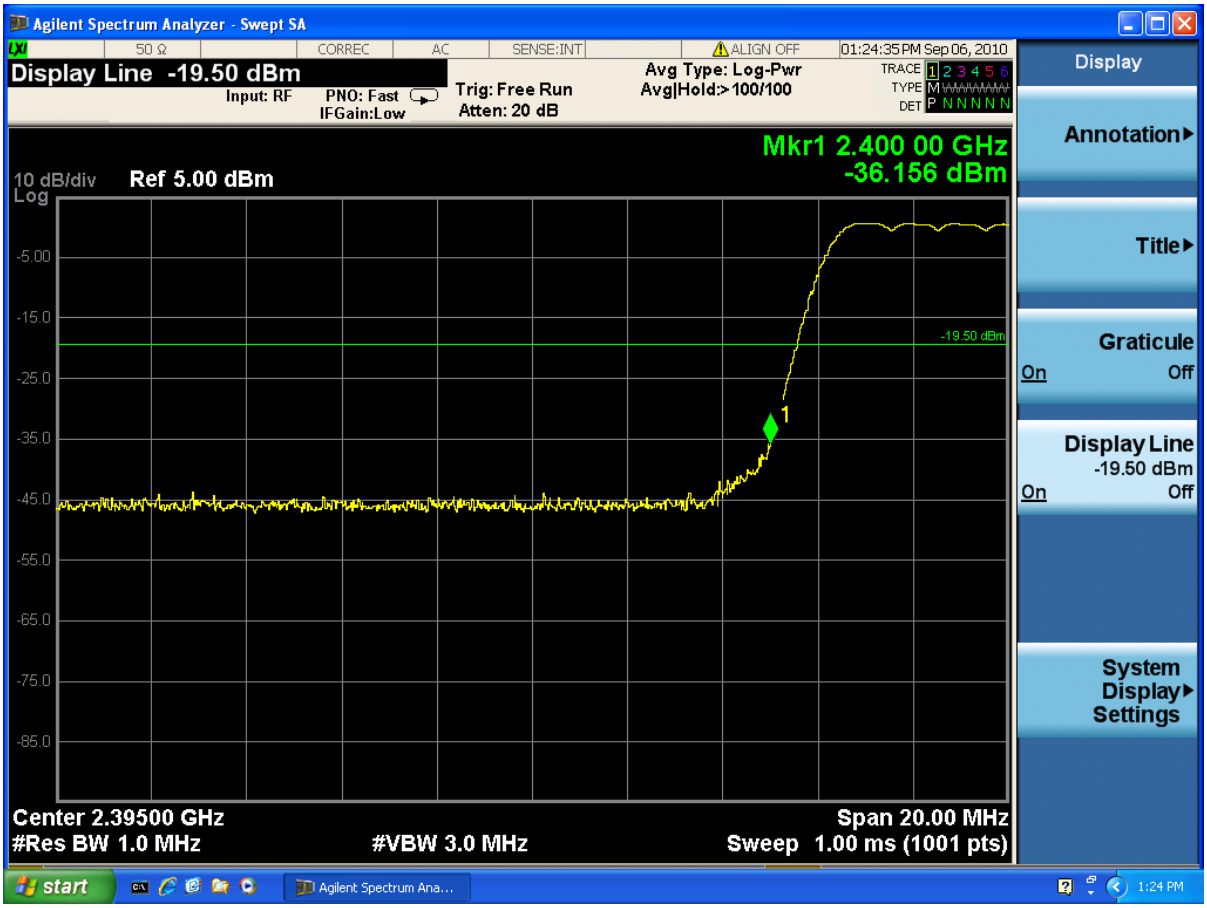
The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 1.96.

Frequency	Uncertainty
2GHz-3GHz	1.407 dB

Test Results:

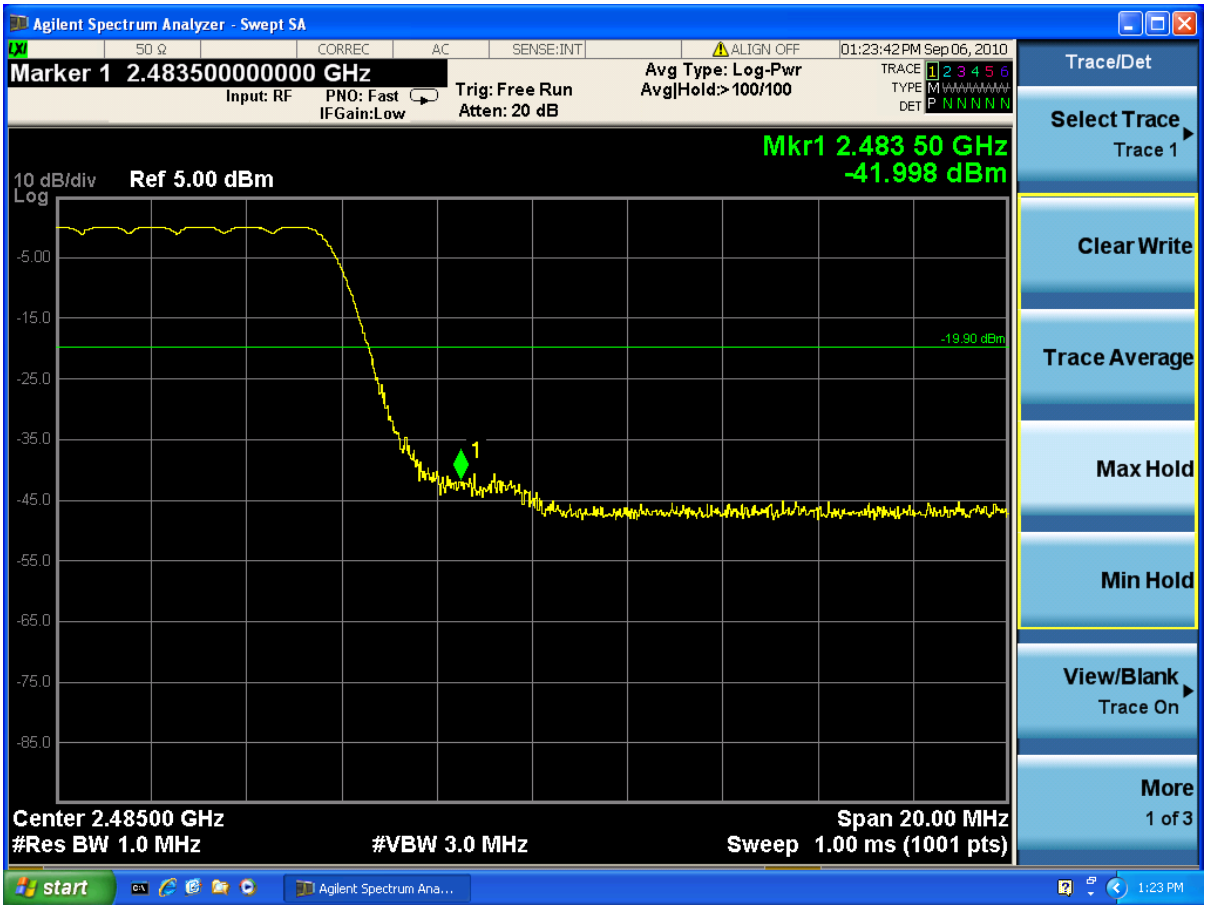
Hopping On

Carrier frequency (MHz)	Reference value (dBm)	Limit	Conclusion
2402	-36.156	-19.50	PASS
2480	-41.998	-19.90	PASS



Carrier frequency (MHz): 2402

Channel No.:0

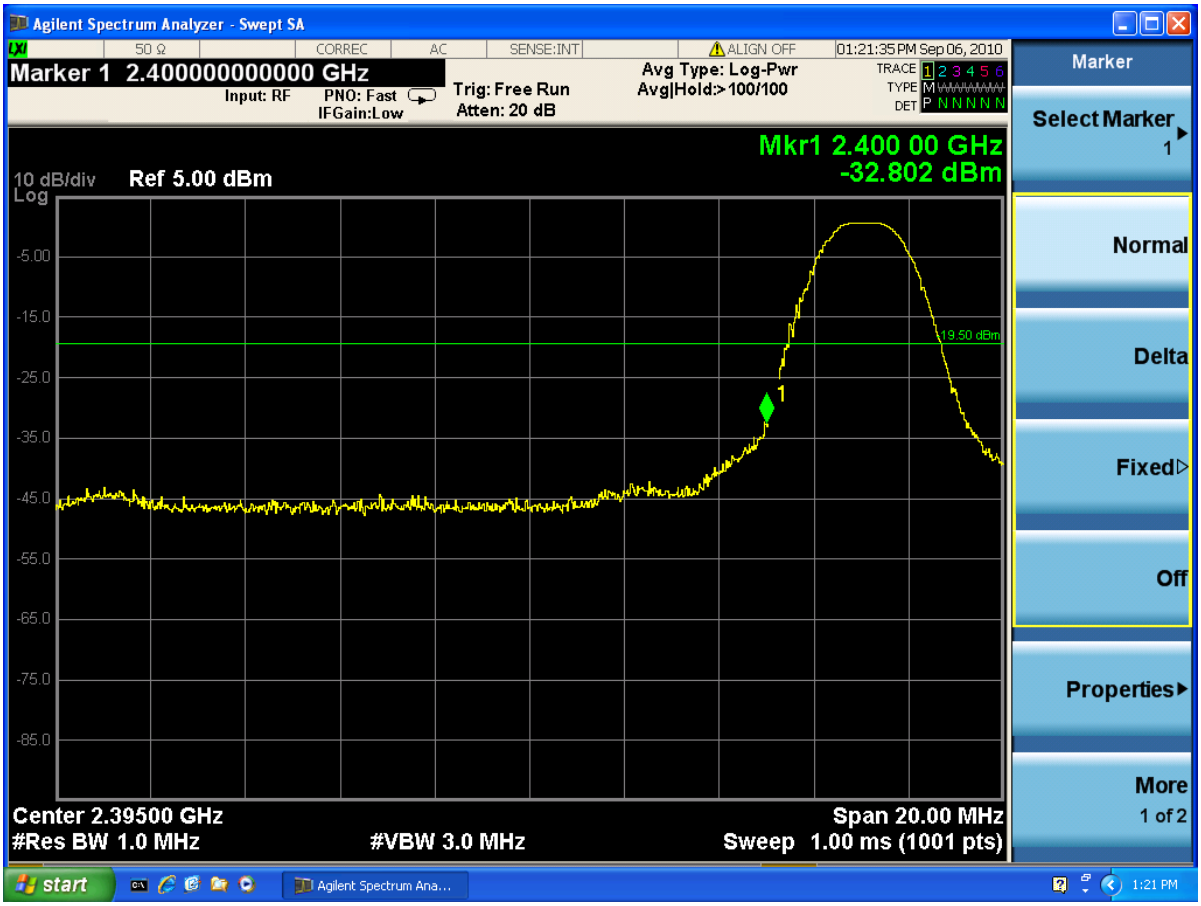


Carrier frequency (MHz): 2480

Channel No.:78

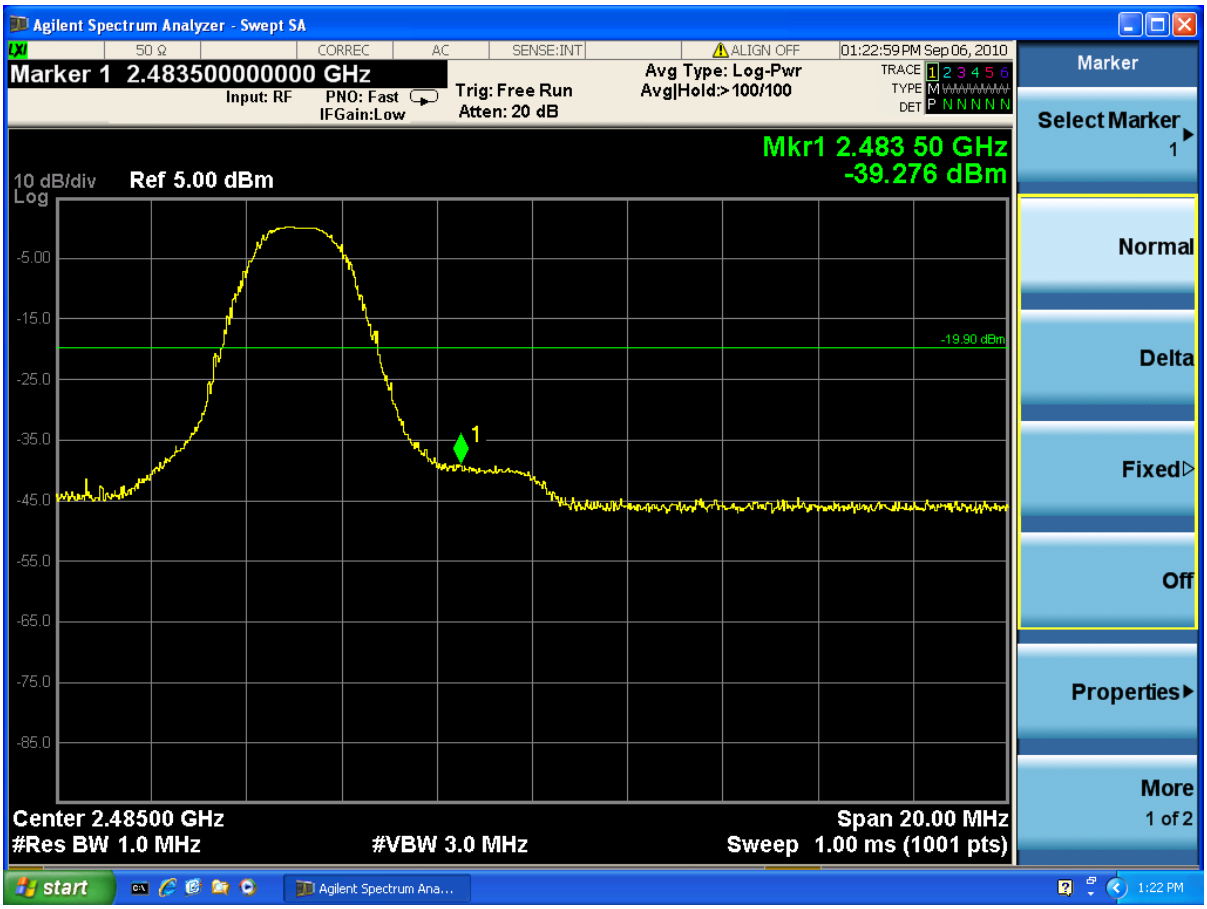
Hopping Off

Carrier frequency (MHz)	Reference value (dBm)	Limit	Conclusion
2402	-32.802	-19.50	PASS
2480	-39.276	-19.90	PASS



Carrier frequency (MHz): 2402

Channel No.:0



Carrier frequency (MHz): 2480

Channel No.:78

2.7. Spurious Radiated Emissions in the Restricted Band

Ambient condition

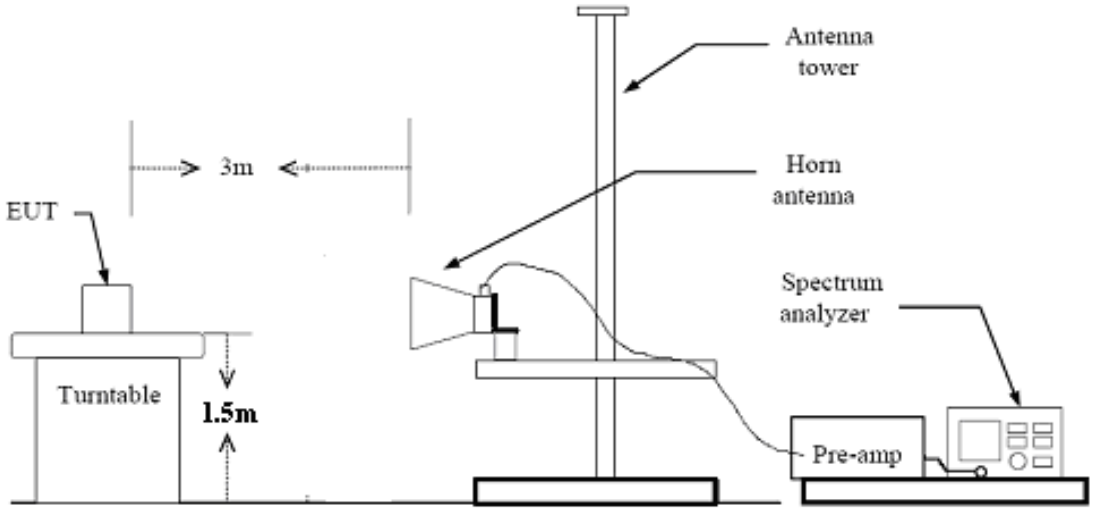
Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

The Equipment Under Test (EUT) was set up on a non-conductive table in the semi-anechoic chamber. The test was performed at the distance of 3 m between the EUT and the receiving antenna. The turntable shall be rotated from 0 to 360 degrees for detecting the maximum of radiated spurious signal level. The measurements shall be repeated with orthogonal polarization of the test antenna. The data of cable loss and antenna factor has been calibrated in full testing frequency range before the testing.
Set the spectrum analyzer in the following:
(a) PEAK: RBW=VBW=1MHz / Sweep=AUTO
(b) AVERAGE: RBW=1MHz / VBW=10Hz / Sweep=AUTO
This test method can refer to **DA00-705.**

The field strength of spurious emission was measured in the following position: EUT stand-up position (Z axis), lie-down position (X, Y axis) and docking mode. The worst emission was found in stand-up position (Z axis) and the worst case was recorded.

The test is in transmit mode.

Test setup



Limits

Spurious Radiated Emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
[1]0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2690 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	([2])
13.36 - 13.41			

Limit in restricted band

Frequency of emission (MHz)	Field strength(uV/m)	Field strength(dBuV/m)
30-88	100	40
88-216	150	43.5
216-960	200	46
Above960	500	54

§15.35(b)

There is also a limit on the radio frequency emissions, as measured using instrumentation with a peak detector function, corresponding to 20 dB above the maximum permitted average limit.

Peak Limit=74 dBuV/m

Average Limit=54 dBuV/m

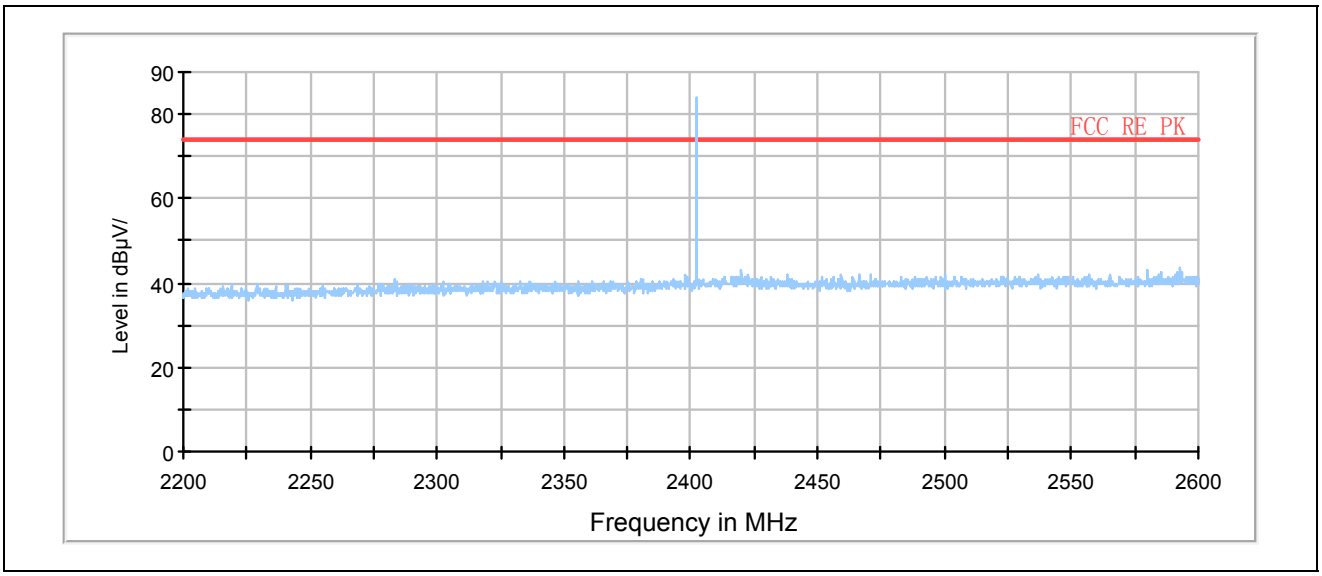
Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 1.96. U=3.92 dB.

Test Results:

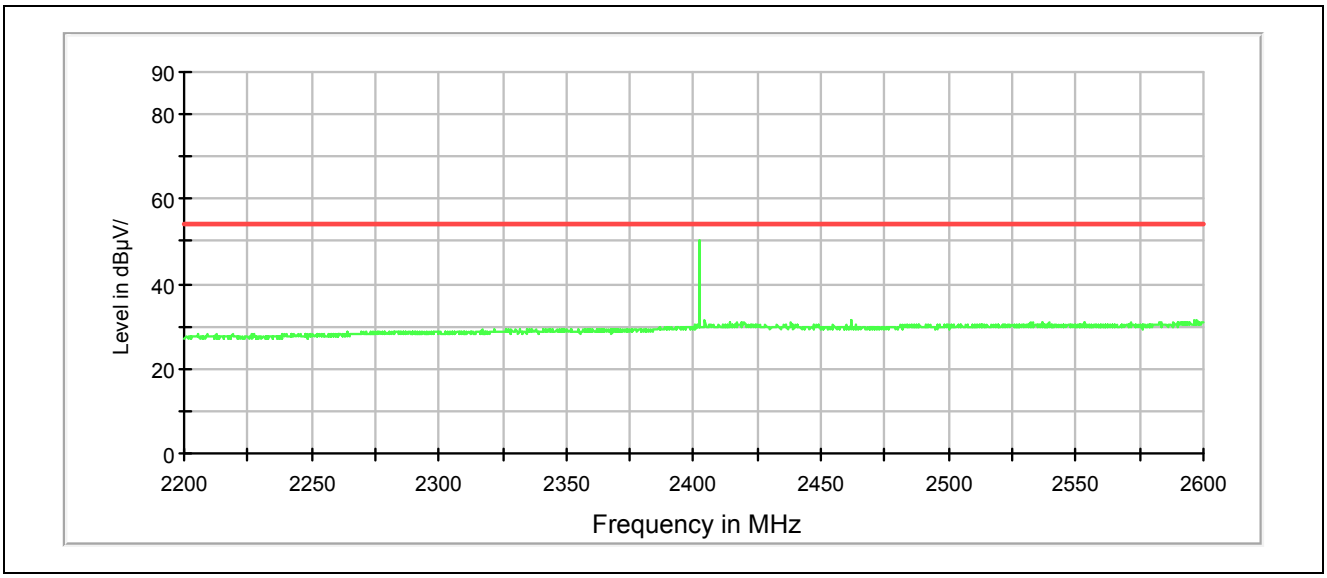
Channel 0

lower band edge Peak-CH 0



Note: The signal beyond the limit is carrier

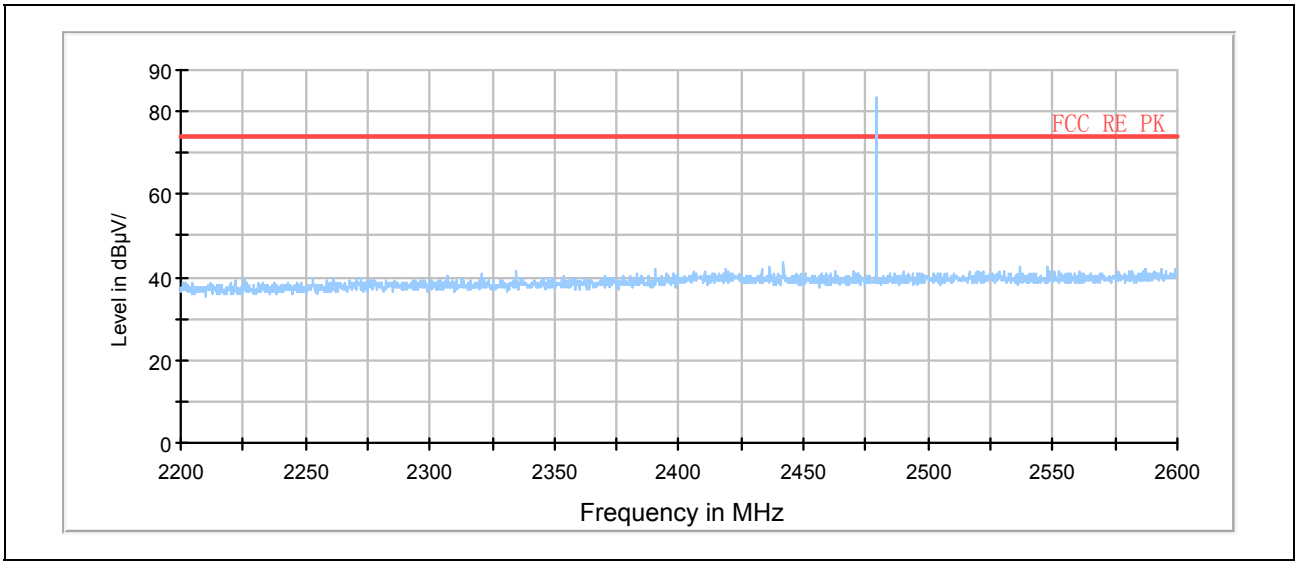
lower band edge average-CH 0



Note: The signal beyond the limit is carrier

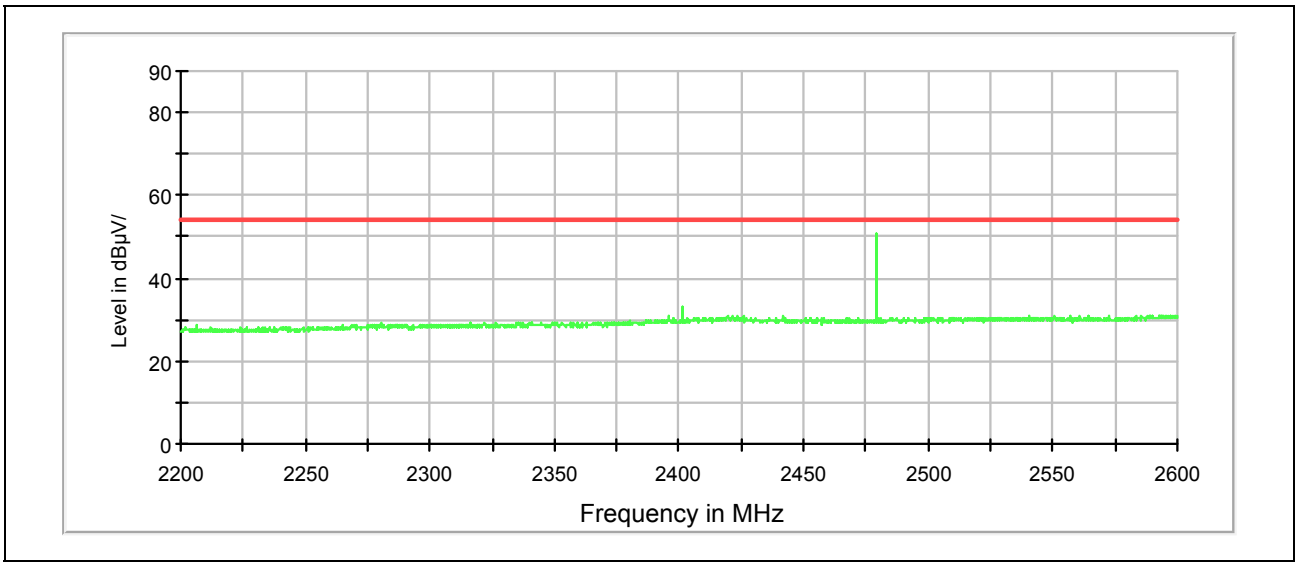
Channel 78

Higher band edge Peak-CH 78



Note: The signal beyond the limit is carrier

Higher band edge average-CH 78



Note: The signal beyond the limit is carrier

2.8. Number of hopping Frequency

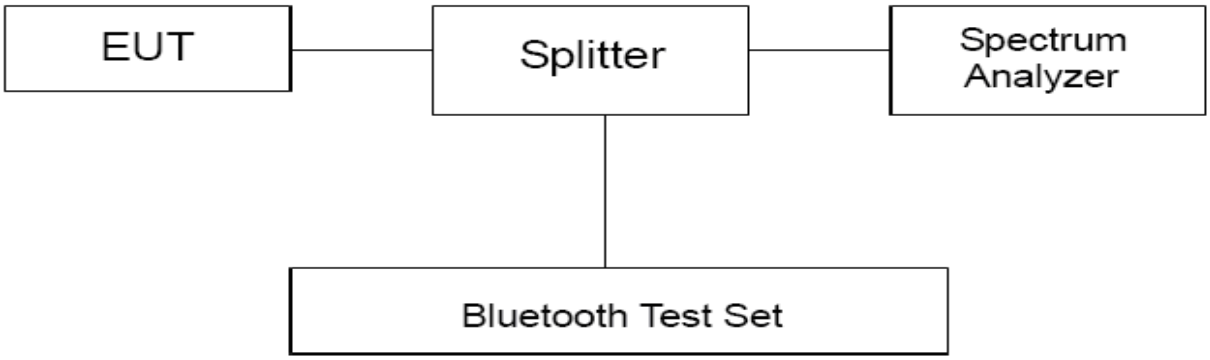
Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Method of Measurement

The Equipment Under Test (EUT) was set up in a shielded room to perform the spurious emissions measurements. The EUT was connected to the spectrum analyzer and Bluetooth test set via a power splitter with a known loss. RBW is set to 300kHz and VBW is set to 3MHz on spectrum analyzer. Set EUT on Hopping on mode.

Test setup



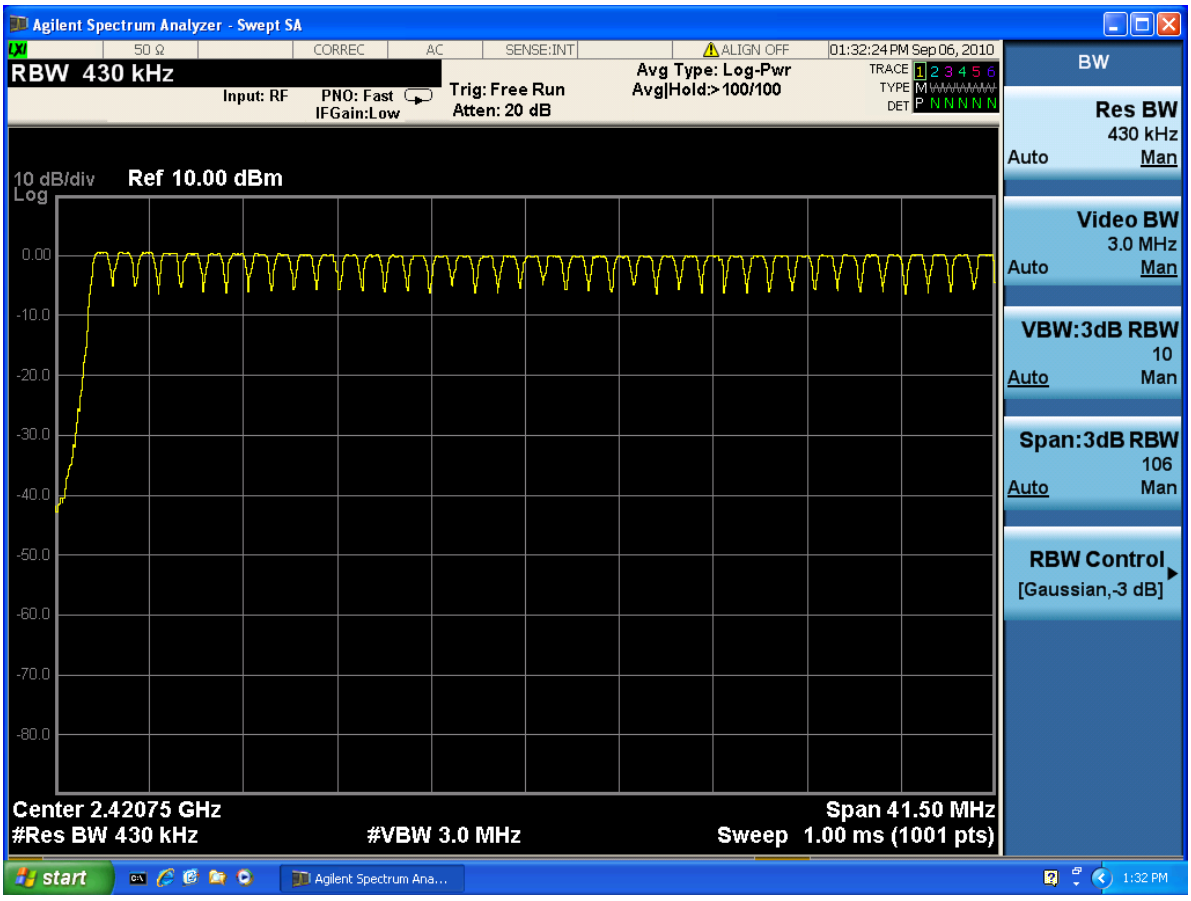
Limits

Rule Part 15.247(a) (1) (iii) specifies that" Frequency hopping systems in the 2400–2483.5 MHz band shall use at least 15 channels..".

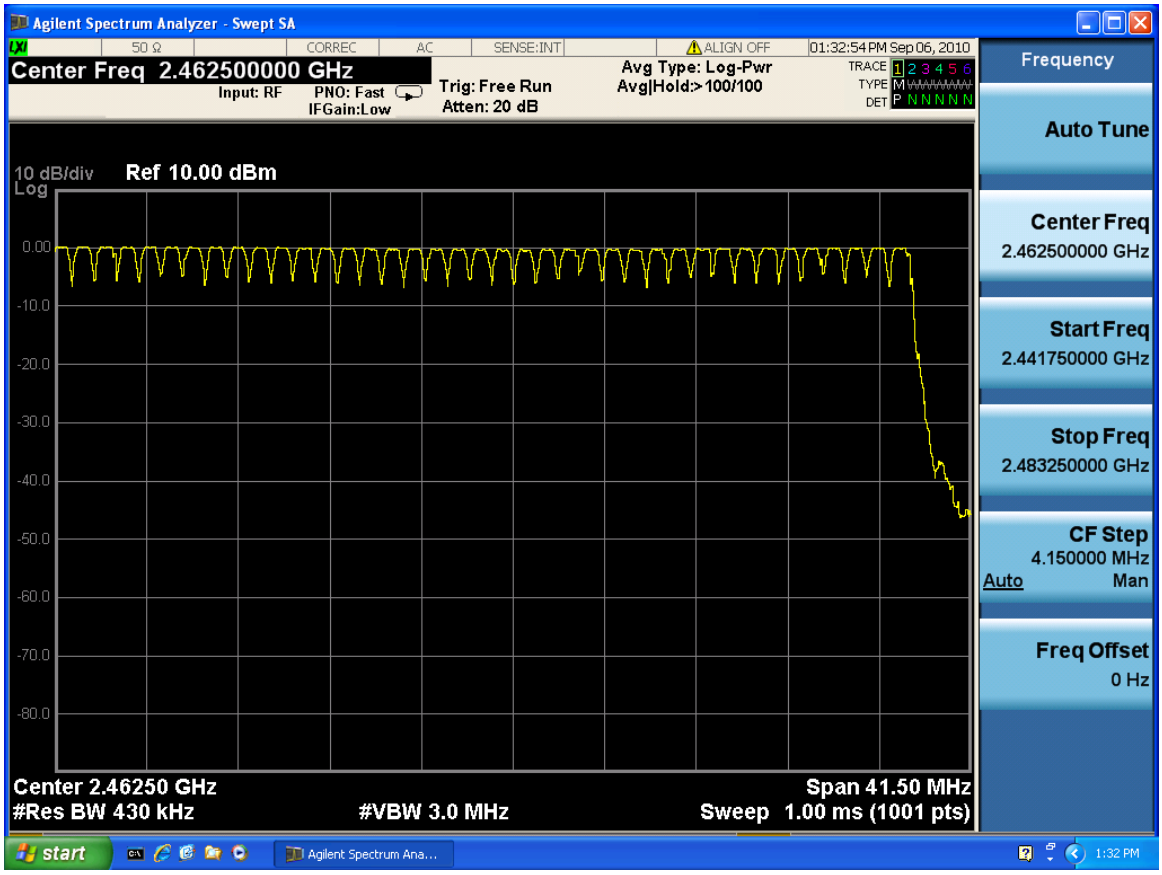
Limits	⩾ 15 channels

Test Results:

Number of hopping channels	conclusion
79	PASS



2400 MHz – 2441 MHz



2441 MHz – 2483.5 MHz

2.9. Spurious RF Conducted Emissions

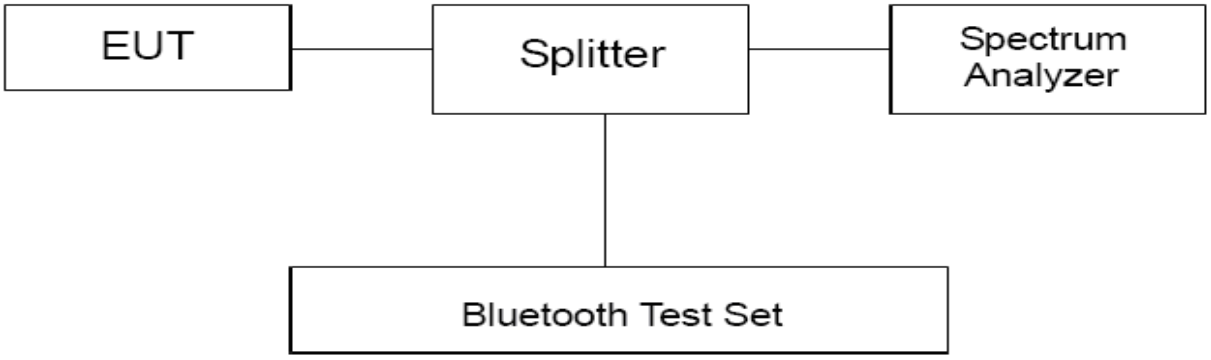
Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Method of Measurement

The EUT was connected to the spectrum analyzer and Bluetooth test set via a power splitter with a known loss. The spectrum analyzer scans from 30MHz to 26GHz. The peak detector is used. RBW and VBW are set to 100 kHz, Sweep is set to ATUO.
The test is in transmit mode.

Test setup



Limits

Rule Part 15.247(d) pacifies that “In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power.”

Carrier frequency (MHz)	Reference value (dBm)	Limit
2402	0.512	-19.488
2441	0.148	-19.852
2480	-0.041	-20.041

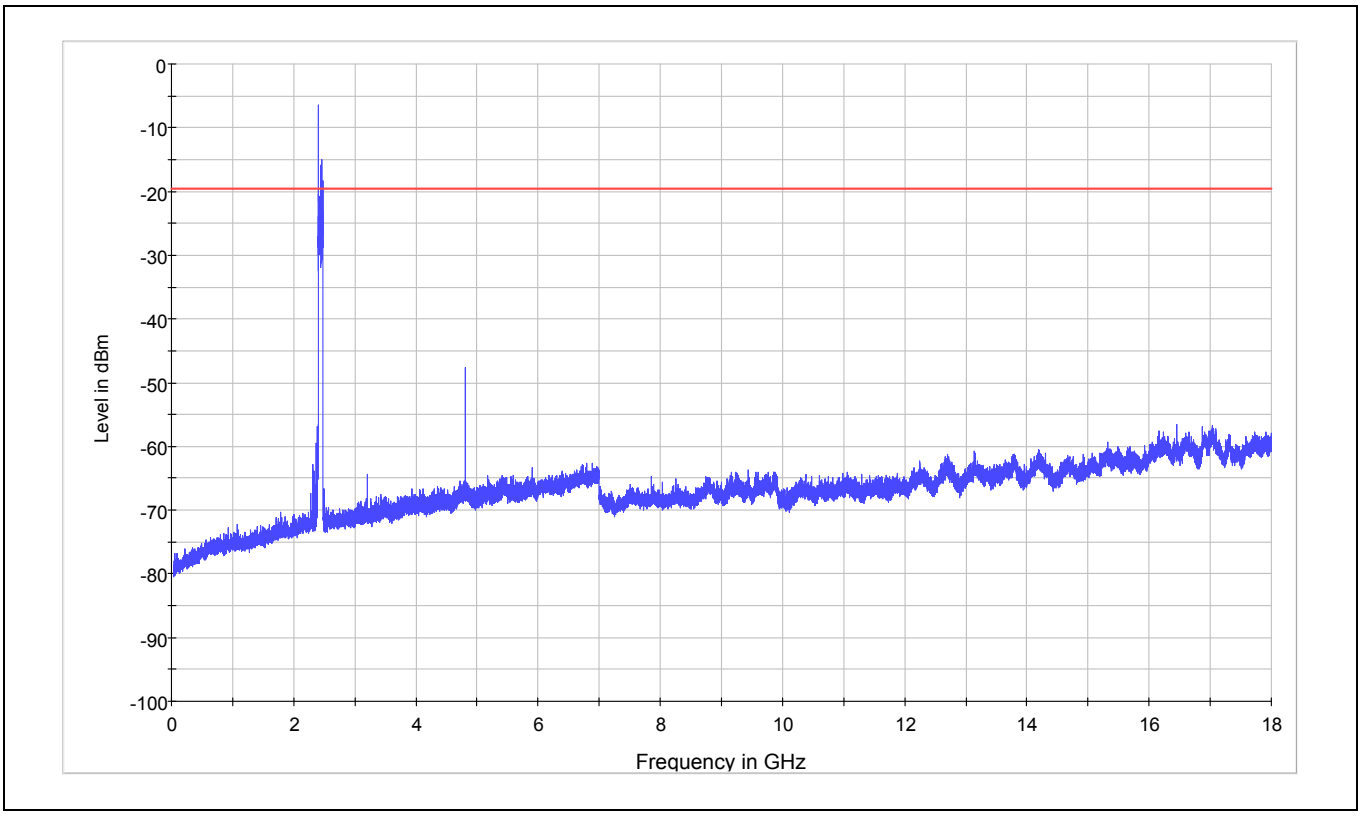
Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 1.96.

Frequency	Uncertainty
100kHz-2GHz	0.684 dB
2GHz-26GHz	1.407 dB

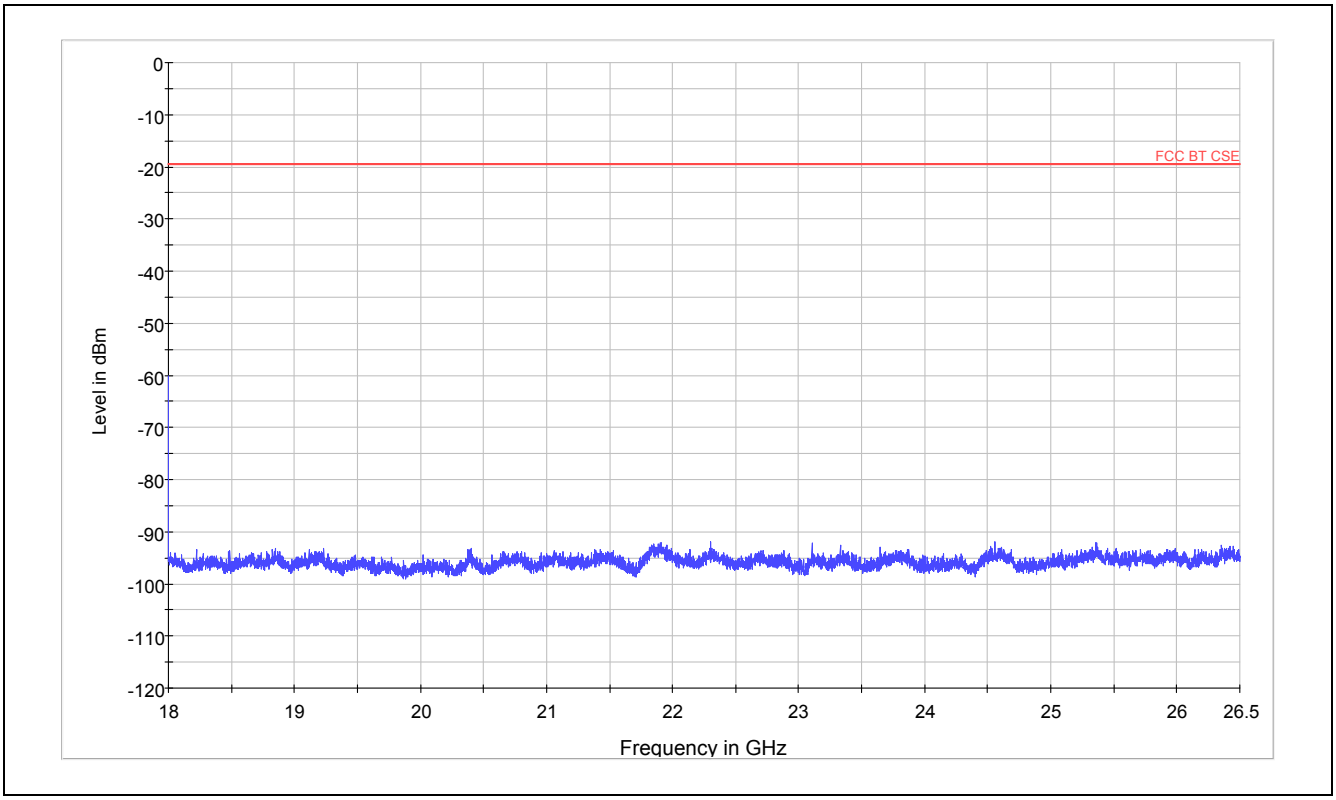
Test Results:

CH0：



Note: The signal beyond the limit is carrier. Carrier frequency (MHz): 2402

Spurious RF conducted emissions from 30MHz to 18GHz

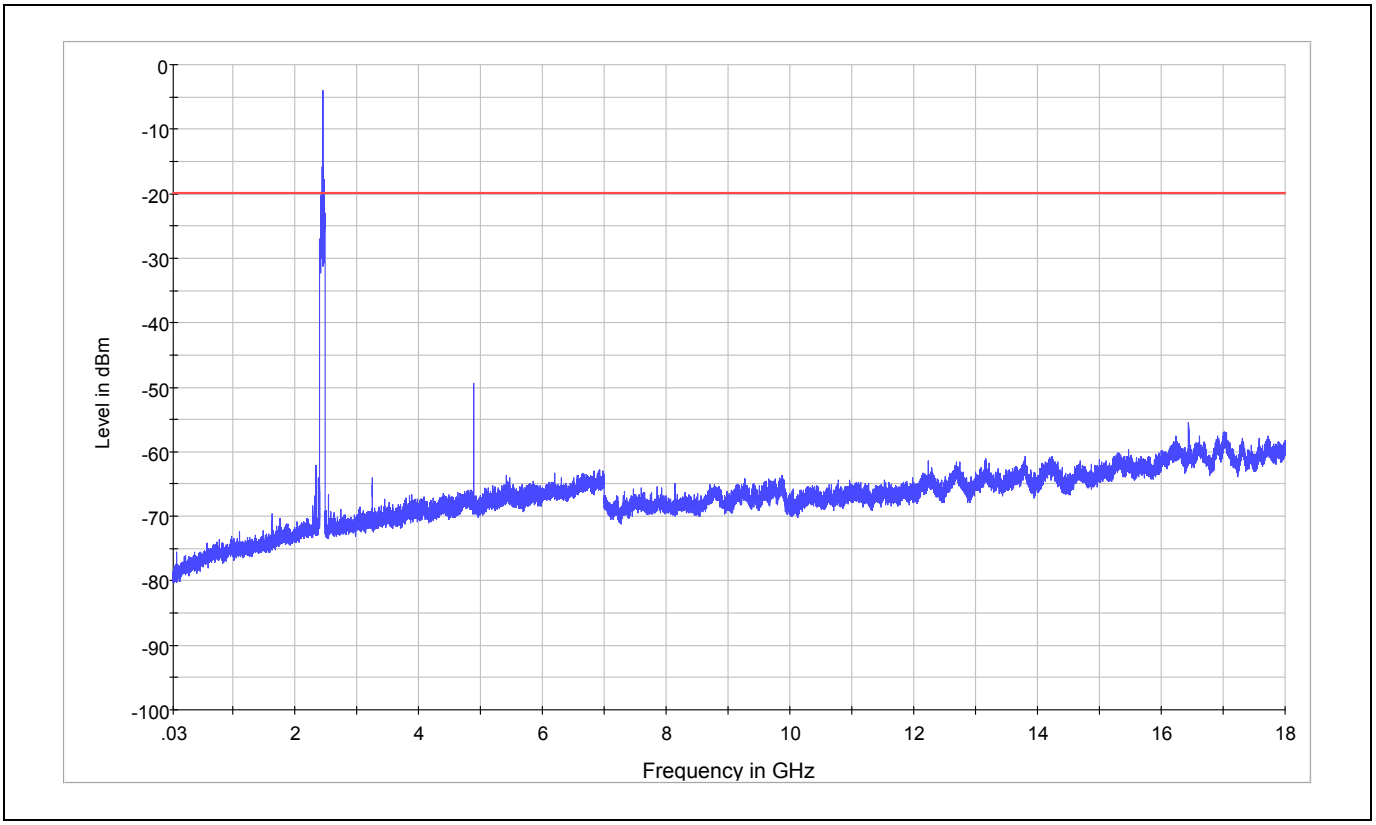


Spurious RF conducted emissions from 18GHz to 26.5GHz

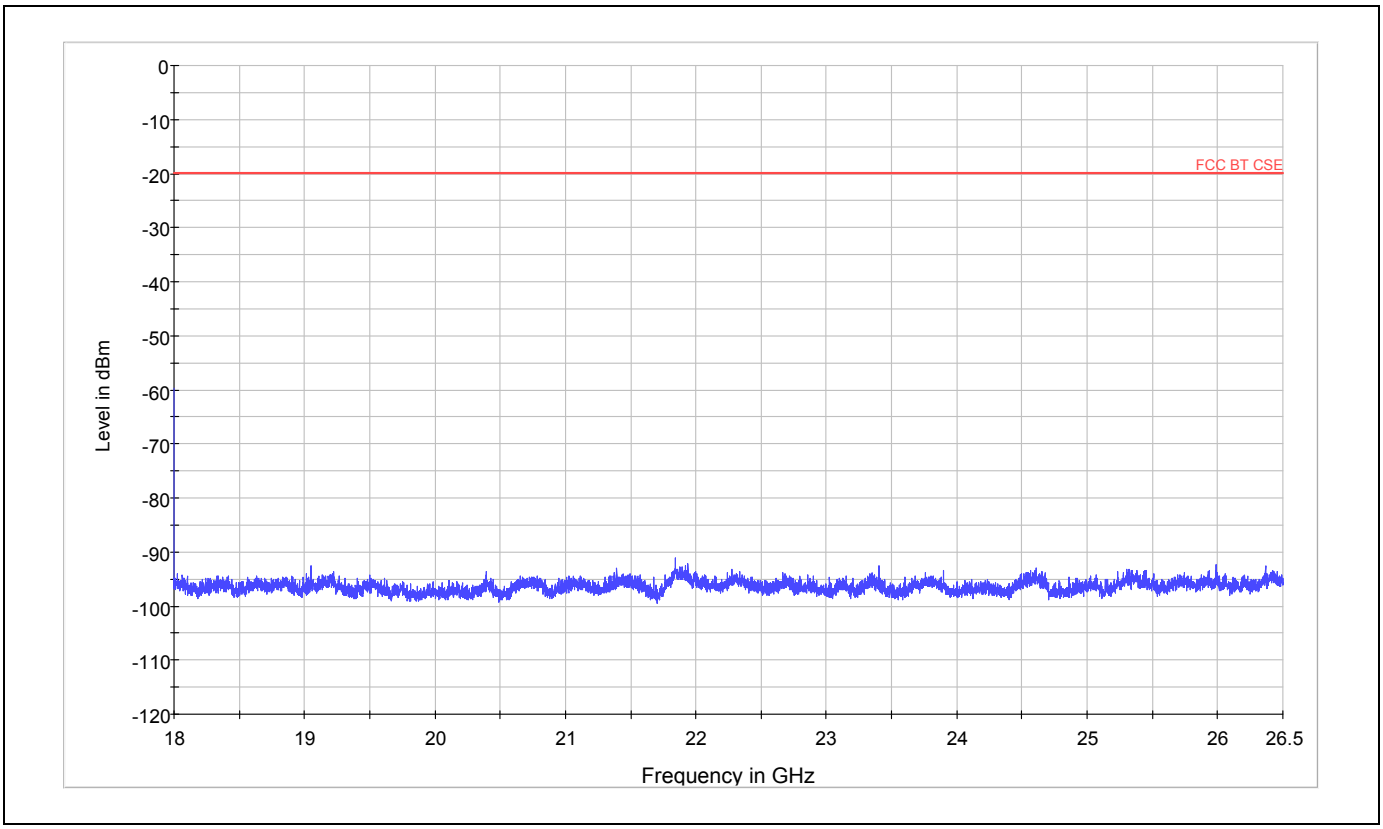
Harmonic	TX ch.0 Frequency (MHz)	Level (dBm)	Limit (dBm)
2	4804	/	-19.488
3	7206	Nf	-19.488
4	9608	Nf	-19.488
5	12010	Nf	-19.488
6	14412	Nf	-19.488
7	16814	Nf	-19.488
8	19216	Nf	-19.488
9	21618	Nf	-19.488
10	24020	Nf	-19.488
Nf: noise floor			

Note: The other Spurious RF conducted emissions level is no more than noise floor.

CH39：



Note: The signal beyond the limit is carrier. Carrier frequency (MHz): 2441
Spurious RF conducted emissions from 30MHz to 18GHz

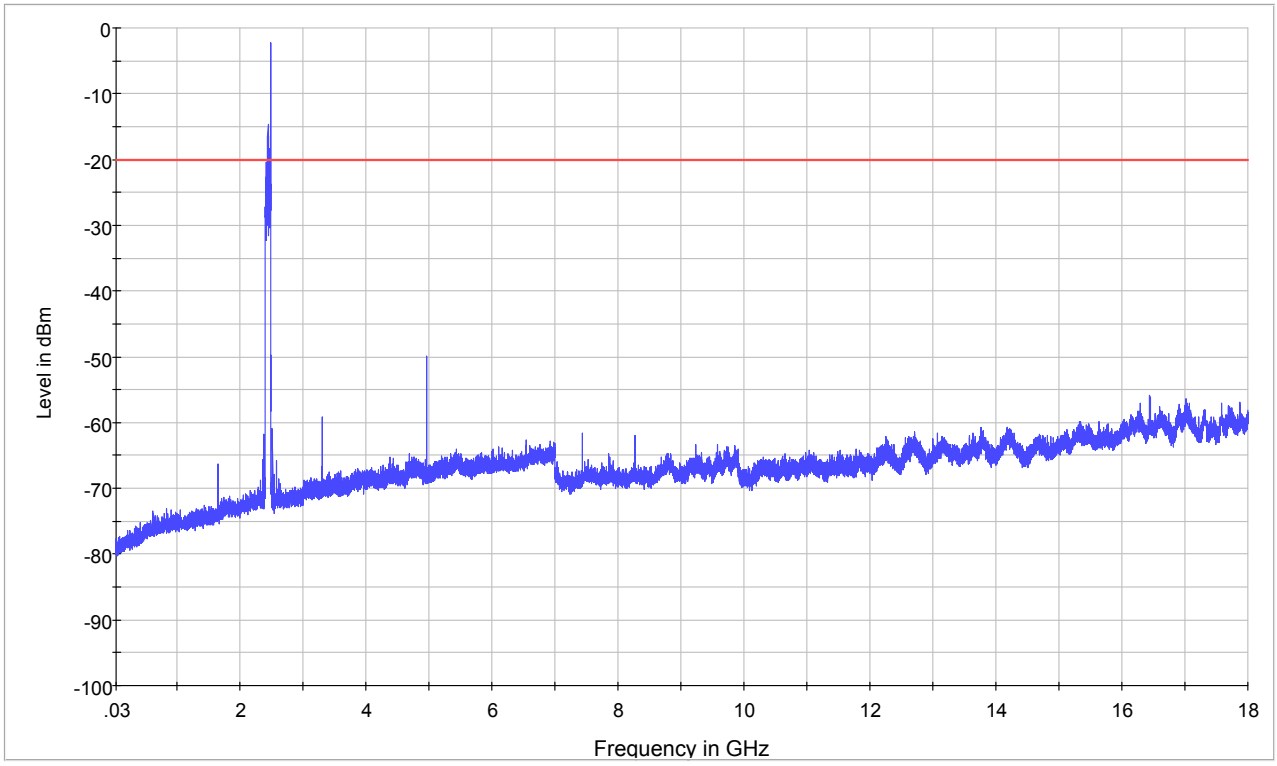


Spurious RF conducted emissions from 18GHz to 26.5GHz

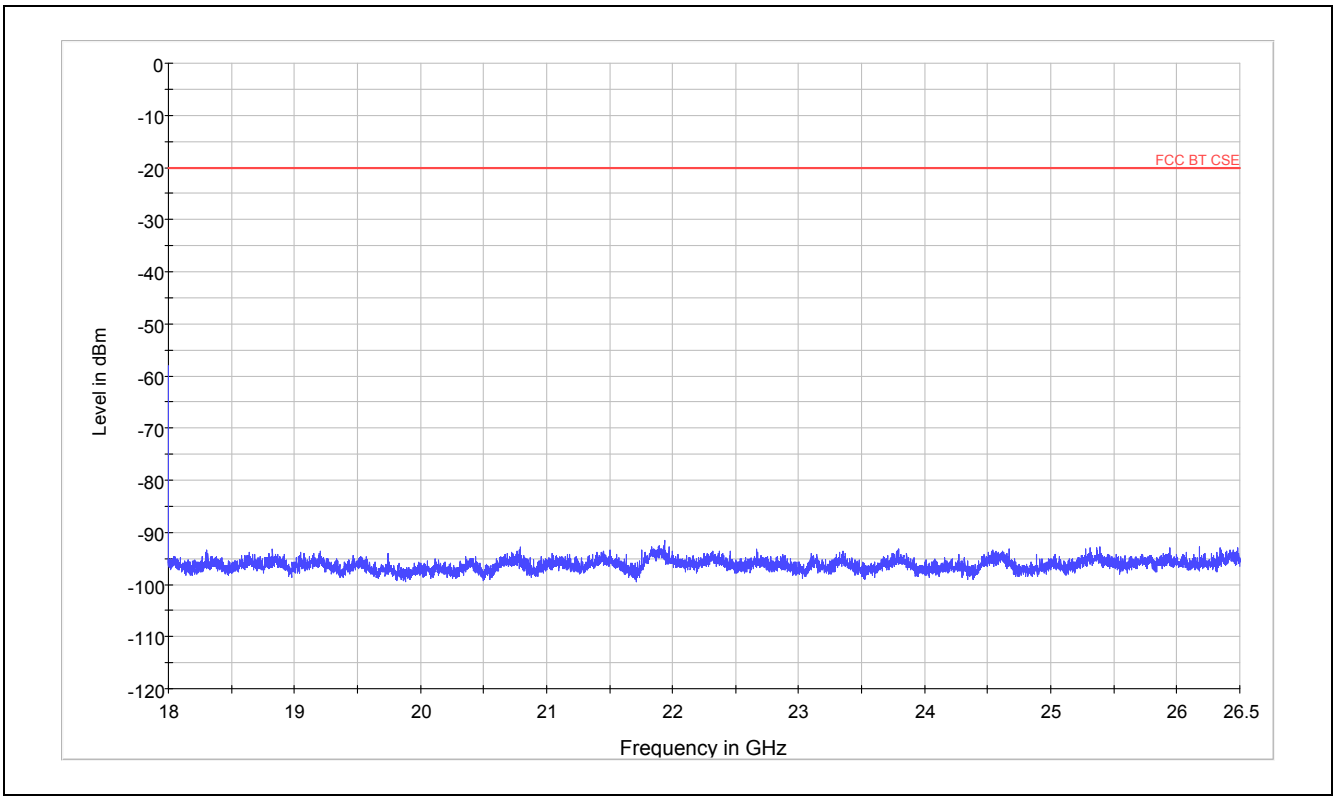
Harmonic	TX ch.39 Frequency (MHz)	Level (dBm)	Limit (dBm)
2	4882	/	-19.852
3	7323	Nf	-19.852
4	9764	Nf	-19.852
5	12205	Nf	-19.852
6	14646	Nf	-19.852
7	17087	Nf	-19.852
8	19528	Nf	-19.852
9	21969	Nf	-19.852
10	24410	Nf	-19.852
Nf: noise floor			

Note: The other Spurious RF conducted emissions level is no more than noise floor.

CH78：



Note: The signal beyond the limit is carrier. Carrier frequency (MHz): 2480
Spurious RF conducted emissions from 30MHz to 18GHz



Spurious RF conducted emissions from 18GHz to 26.5GHz

Harmonic	TX ch.78 Frequency (MHz)	Level (dBm)	Limit (dBm)
2	4960	/	-20.041
3	7440	/	-20.041
4	9920	Nf	-20.041
5	12400	Nf	-20.041
6	14880	Nf	-20.041
7	17360	Nf	-20.041
8	19840	Nf	-20.041
9	22320	Nf	-20.041
10	24800	Nf	-20.041
Nf: noise floor			

Note: The other Spurious RF conducted emissions level is no more than noise floor.

2.10. Radiates Emission

Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	102.5kPa

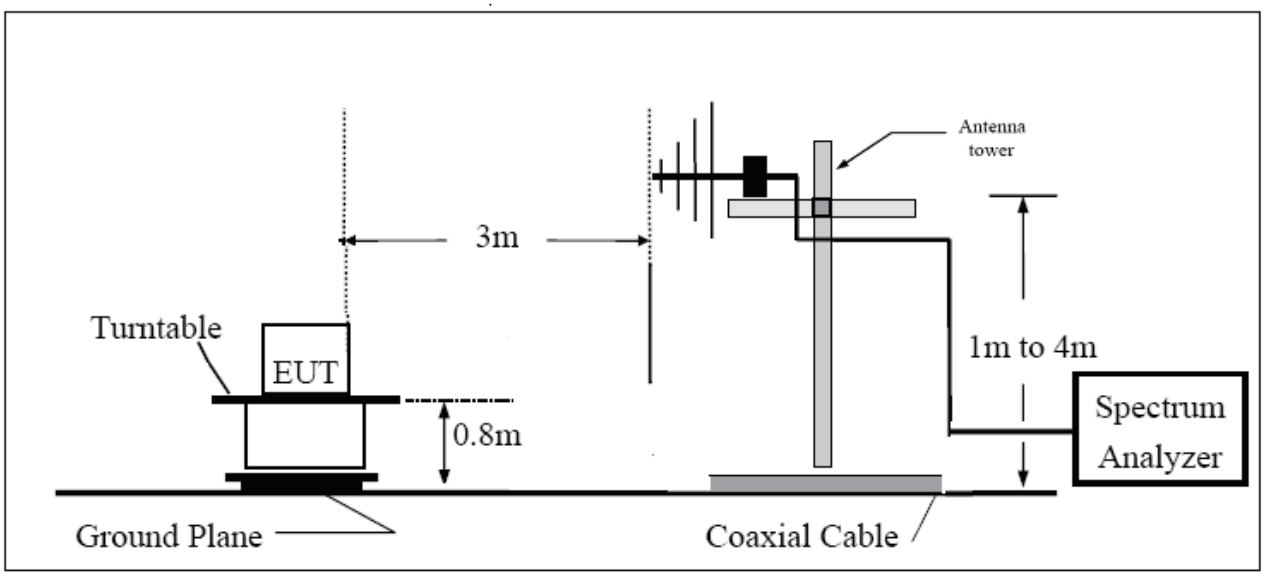
Method of Measurement

The test set-up was made in accordance to the general provisions of ANSI C63.4-2003.The Equipment Under Test (EUT) was set up on a non-conductive table in the semi-anechoic chamber. The test was performed at the distance of 3 m between the EUT and the receiving antenna. The radiated emissions measurements were made in a typical installation configuration. Sweep the whole frequency band through the range from 30MHz to26GHz during the test, the height of receive antenna shall be moved from 1 to 4 meters, and the antenna shall be performed under horizontal and vertical polarization. The turntable shall be rotated from 0 to 360 degrees for detecting the maximum of radiated spurious signal level. The measurements shall be repeated with orthogonal polarization of the test antenna. The data of cable loss and antenna factor has been calibrated in full testing frequency range before the testing.
Set the spectrum analyzer in the following:
Below 1GHz:
RBW=100kHz / VBW=300kHz / Sweep=AUTO
Above 1GHz:
(a) PEAK: RBW=1MHz VBW=3MHz/ Sweep=AUTO
(b) AVERAGE: RBW=1MHz / VBW=10Hz / Sweep=AUTO

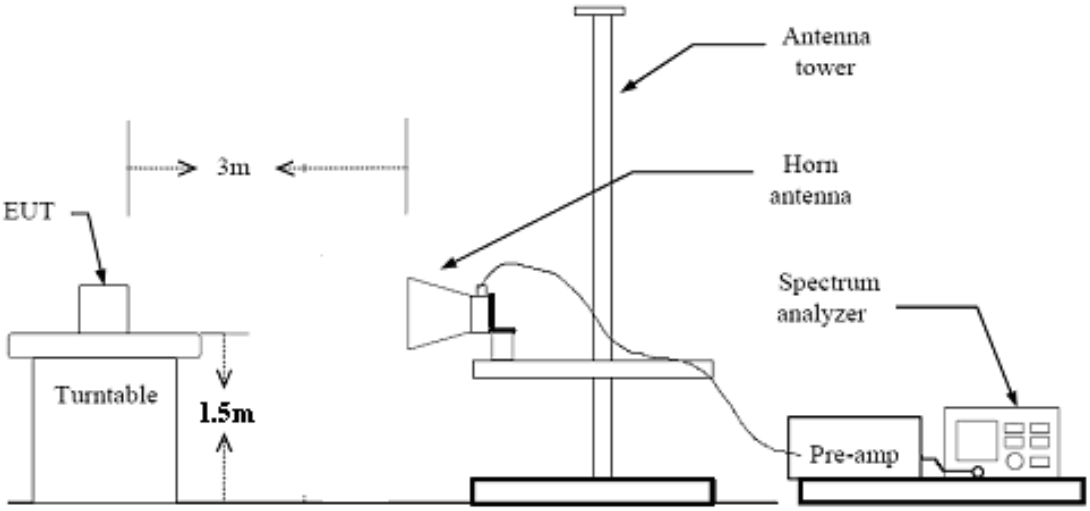
The test is in transmit mode.

Test setup

Below 1GHz



Above 1GHz



Limits

Rule Part 15.247(d) specifies that “In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a) (see § 15.205(c)).”

Limit in restricted band

Frequency of emission (MHz)	Field strength(uV/m)	Field strength(dBuV/m)
30-88	100	40
88-216	150	43.5
216-960	200	46
Above 960	500	54

§15.35(b)

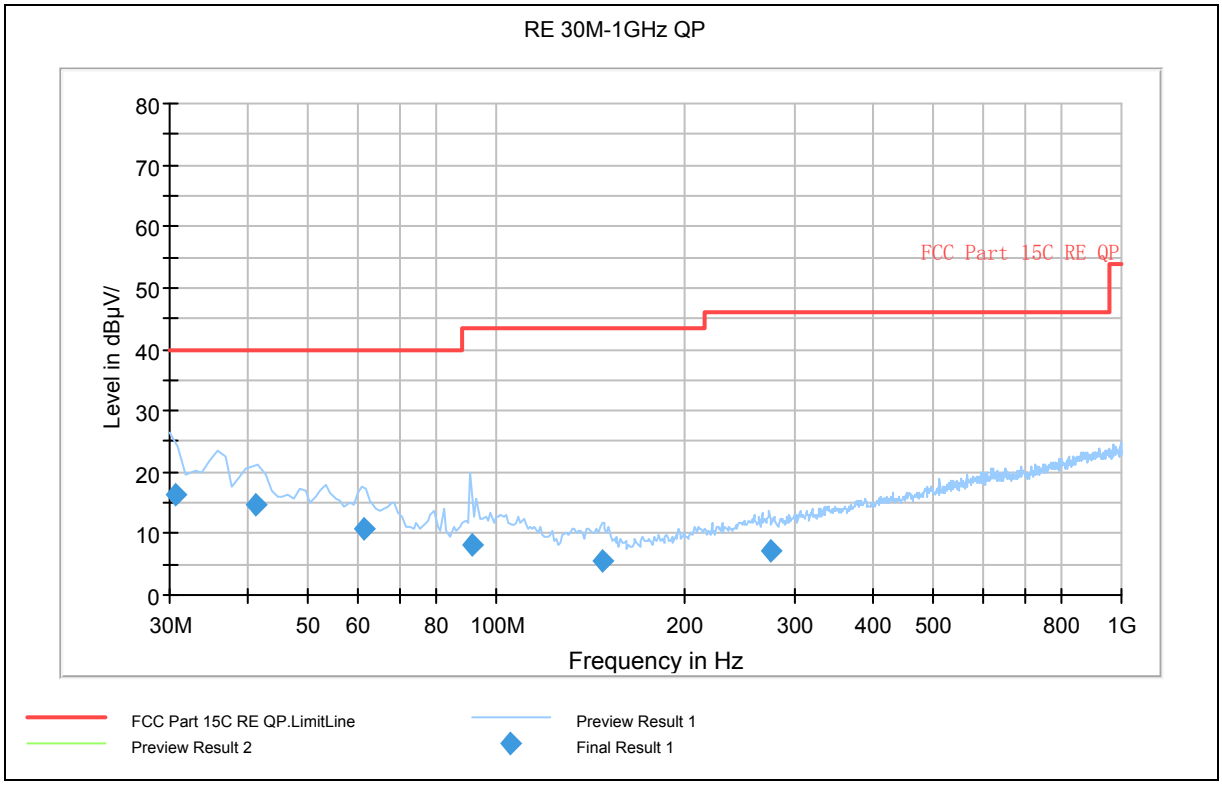
There is also a limit on the radio frequency emissions, as measured using instrumentation with a peak detector function, corresponding to 20 dB above the maximum permitted average limit.

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 1.96. U=3.92 dB.

Test result

Channel 0



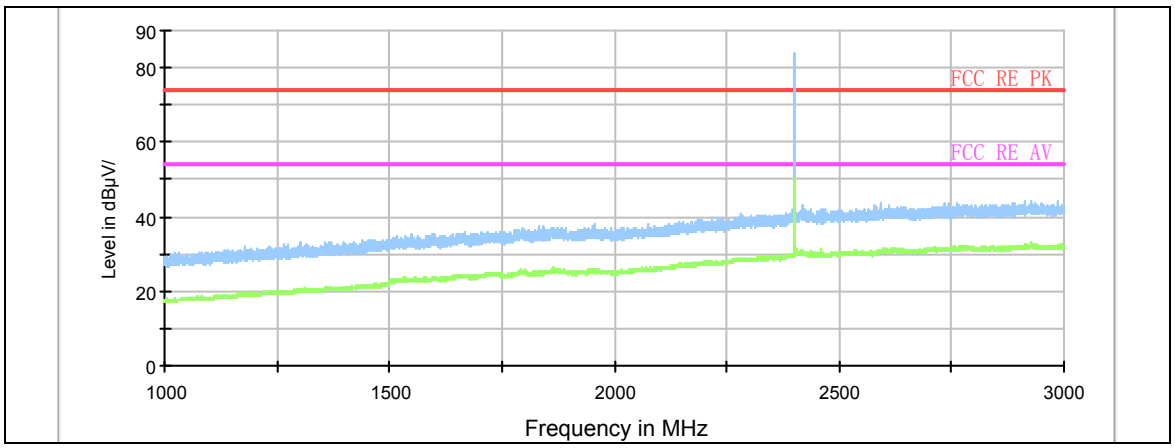
Radiates Emission from 30MHz to 1GHz

Frequency (MHz)	Quasi-Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Corr. Factor (dB)	Margin (dB)	Limit (dBuV/m)
30.600000	16.3	100.0	V	0.0	40.3	-24.0	23.7	40.0
41.160000	14.7	100.0	V	1.0	39.2	-24.5	25.3	40.0
61.600000	10.8	100.0	V	198.0	38.6	-27.8	29.2	40.0
91.390000	8.3	206.0	H	0.0	37.1	-28.8	35.2	43.5
147.970000	5.5	100.0	V	324.0	38.3	-32.8	38.0	43.5
273.870000	7.2	191.0	H	306.0	35.3	-28.1	38.8	46.0

Remark: 1. Quasi-Peak = Reading value + Correction factor

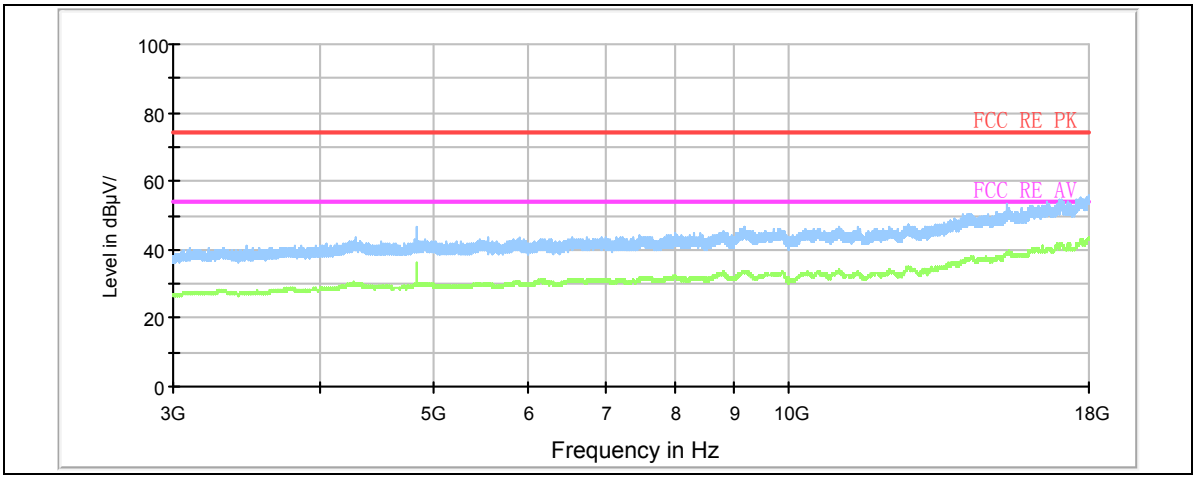
2. Correction Factor = Insertion loss + Cable loss

3. Margin = Limit – Quasi-Peak

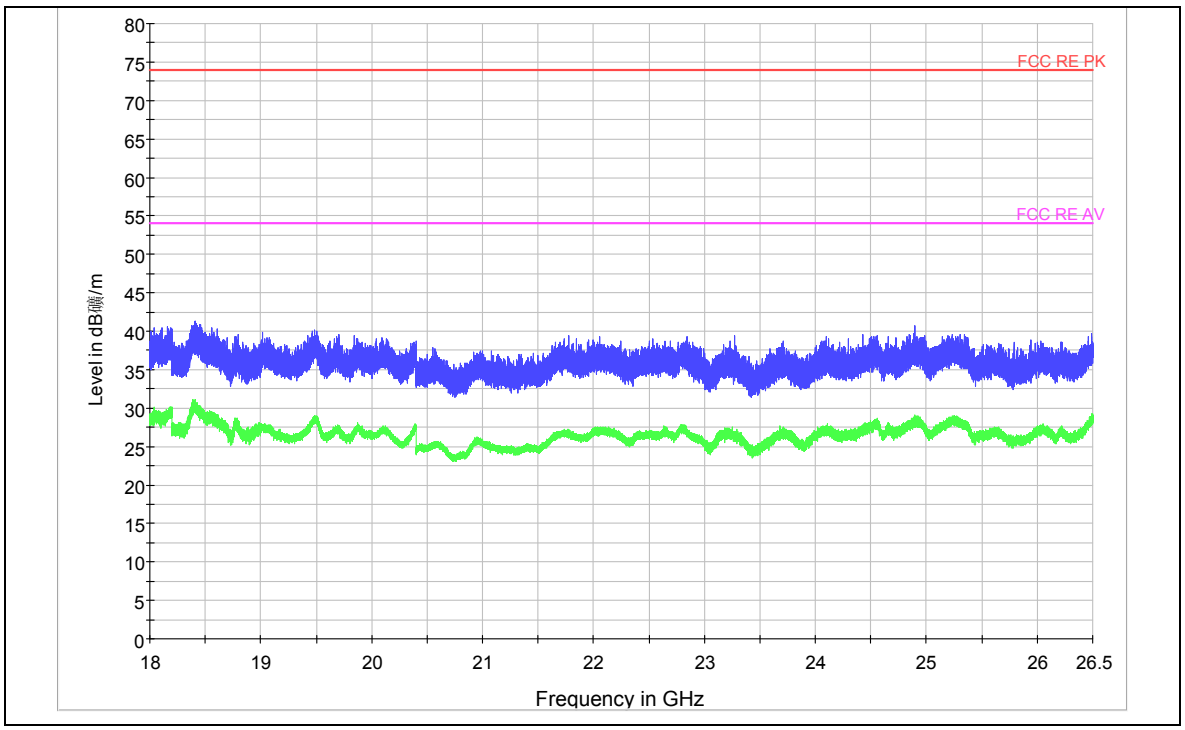


Note: The signal beyond the limit is carrier.

Radiates Emission from 1GHz to 3GHz

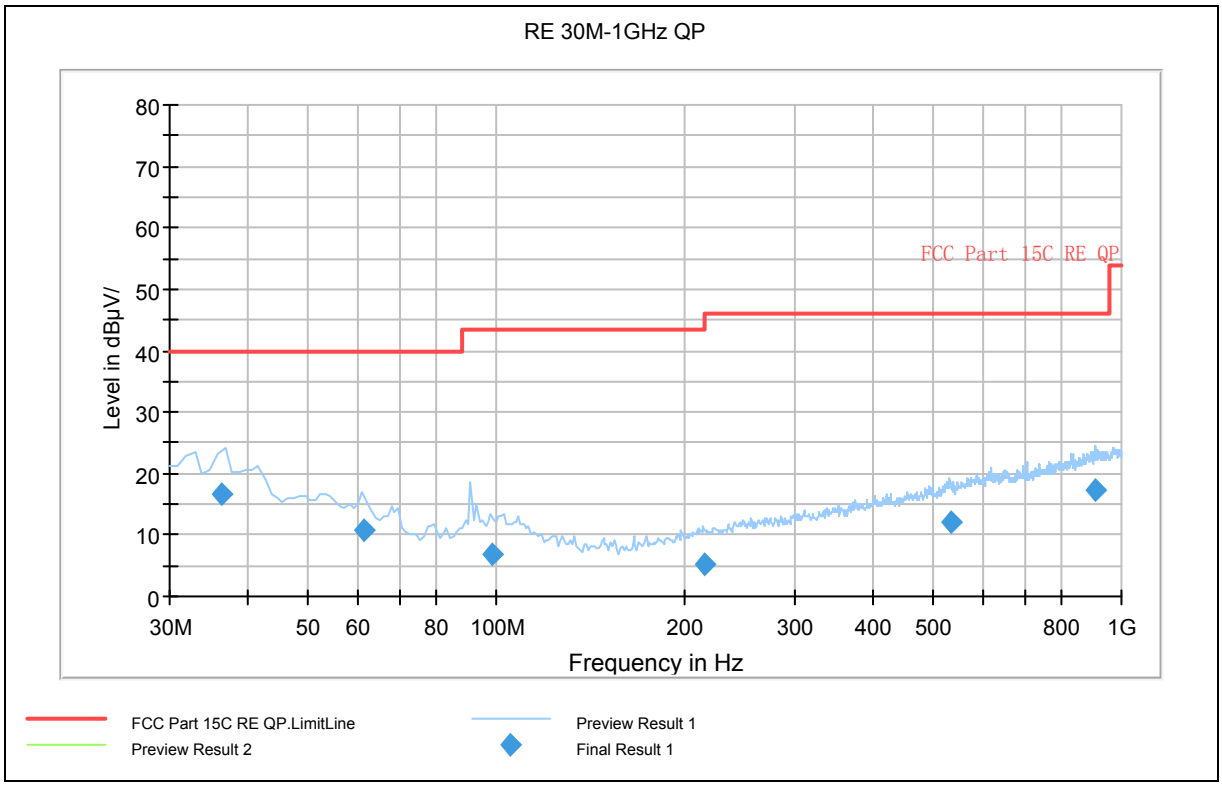


Radiates Emission from 3GHz to 18GHz



Radiates Emission from 18GHz to 26.5GHz

Channel 39



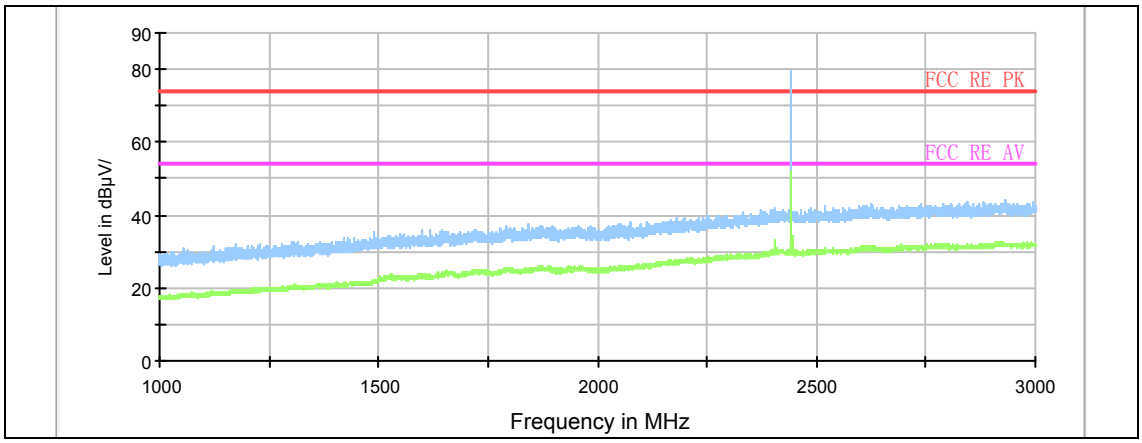
Radiates Emission from 30MHz to 1GHz

Frequency (MHz)	Quasi-Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Corr. Factor (dB)	Margin (dB)	Limit (dBuV/m)
36.270000	16.5	100.0	V	3.0	41.2	-24.7	23.5	40.0
61.560000	10.6	100.0	V	219.0	38.4	-27.8	29.4	40.0
98.180000	6.9	125.0	H	220.0	35.1	-28.2	36.6	43.5
214.780000	5.2	225.0	H	112.0	35.1	-29.9	38.3	43.5
532.050000	12.2	116.0	V	121.0	34.6	-22.4	33.8	46.0
907.400000	17.2	100.0	V	3.0	34.2	-17.0	28.8	46.0

Remark: 1. Quasi-Peak = Reading value + Correction factor

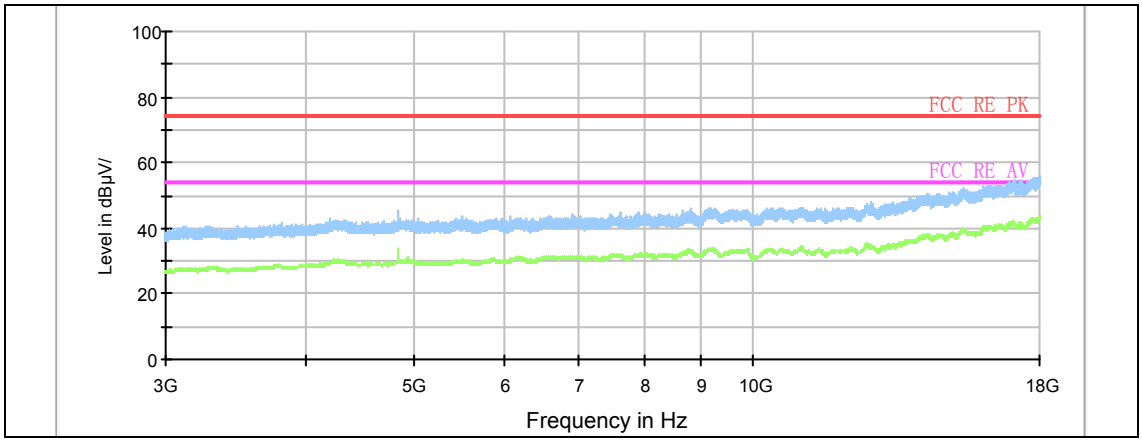
2. Correction Factor = Insertion loss + Cable loss

3. Margin = Limit – Quasi-Peak

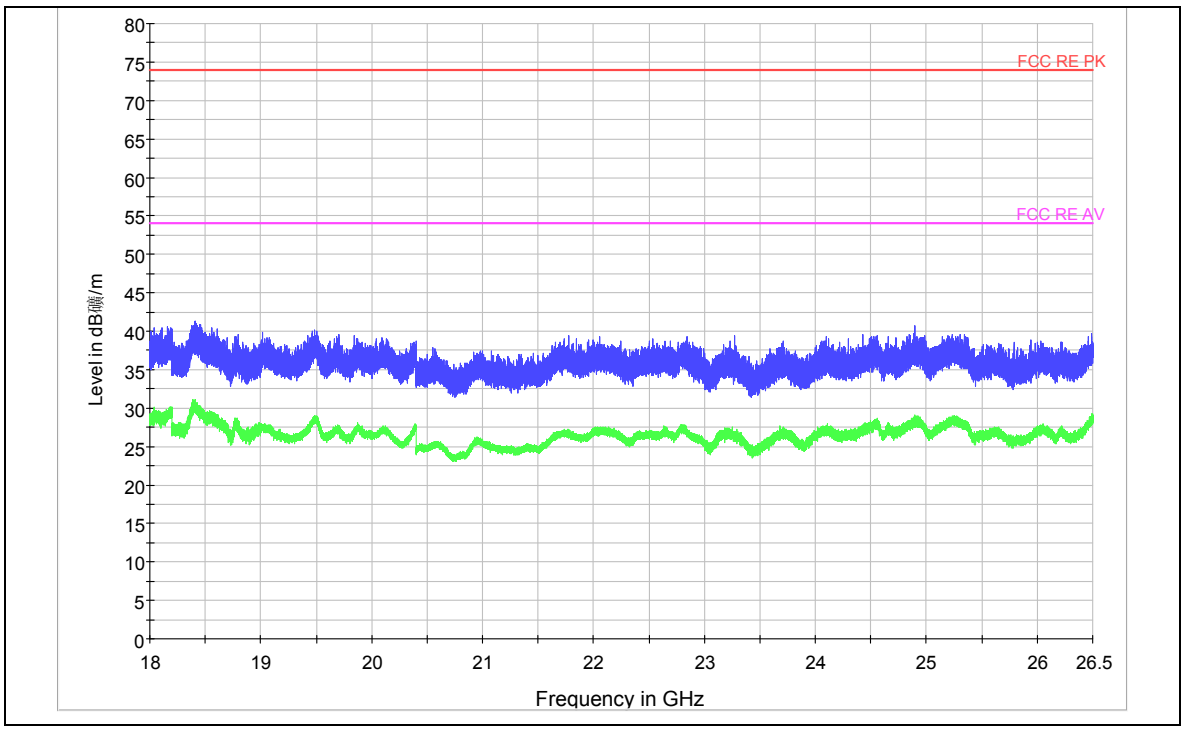


Note: The signal beyond the limit is carrier.

Radiates Emission from 1GHz to 3GHz

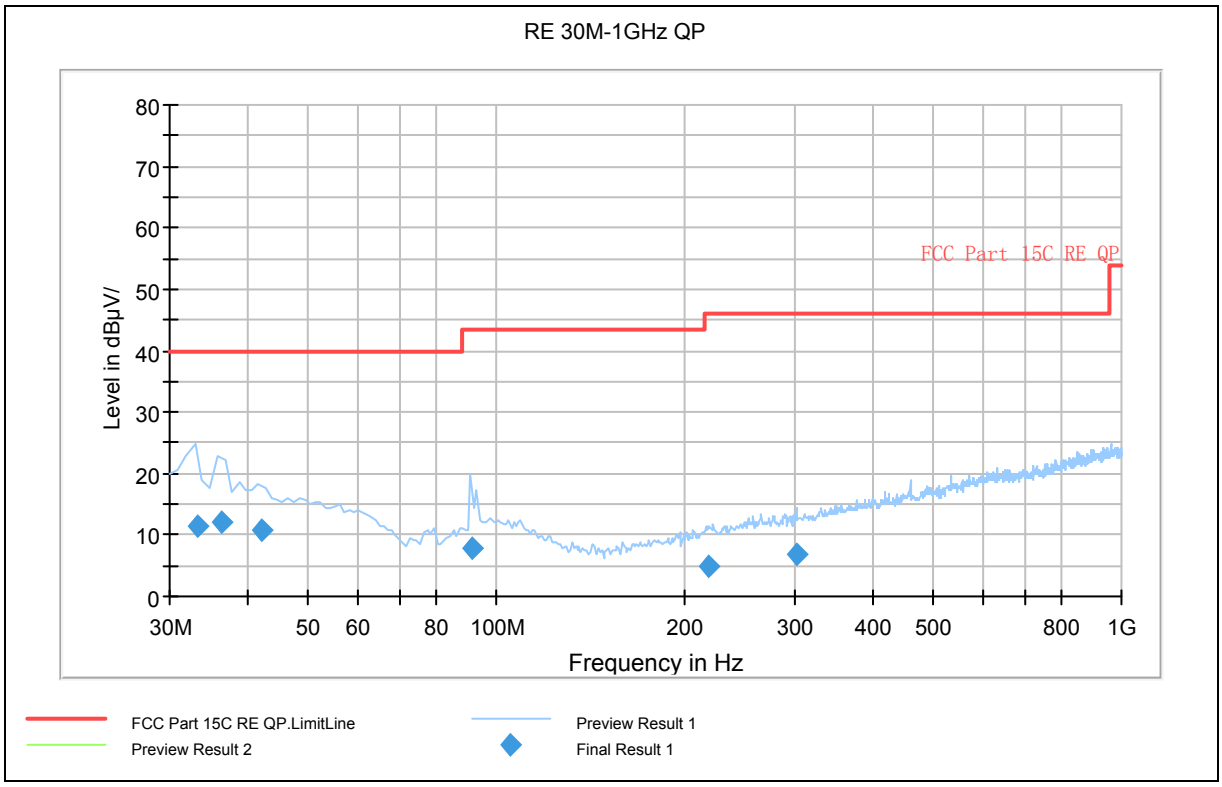


Radiates Emission from 3GHz to 18GHz



Radiates Emission from 18GHz to 26.5GHz

Channel 78



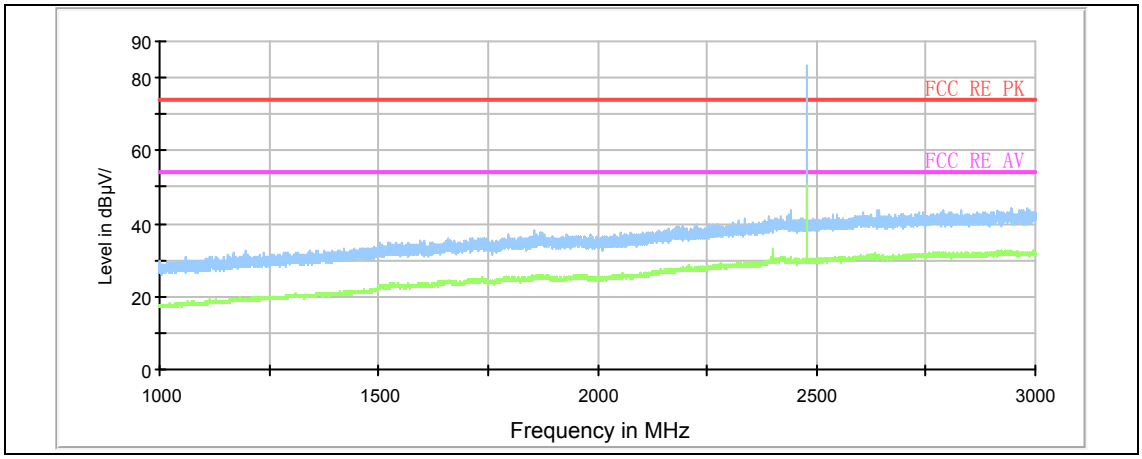
Radiates Emission from 30MHz to 1GHz

Frequency (MHz)	Quasi-Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Corr. Factor (dB)	Margin (dB)	Limit (dBuV/m)
33.230000	11.3	100.0	V	359.0	35.8	-24.5	28.7	40.0
36.260000	12.0	100.0	V	264.0	36.7	-24.7	28.0	40.0
42.240000	10.7	100.0	V	0.0	35.3	-24.6	29.3	40.0
91.390000	8.0	206.0	H	273.0	36.8	-28.8	35.5	43.5
218.870000	4.8	116.0	V	206.0	34.5	-29.7	41.2	46.0
302.210000	6.9	199.0	H	283.0	34.3	-27.4	39.1	46.0

Remark: 1. Quasi-Peak = Reading value + Correction factor

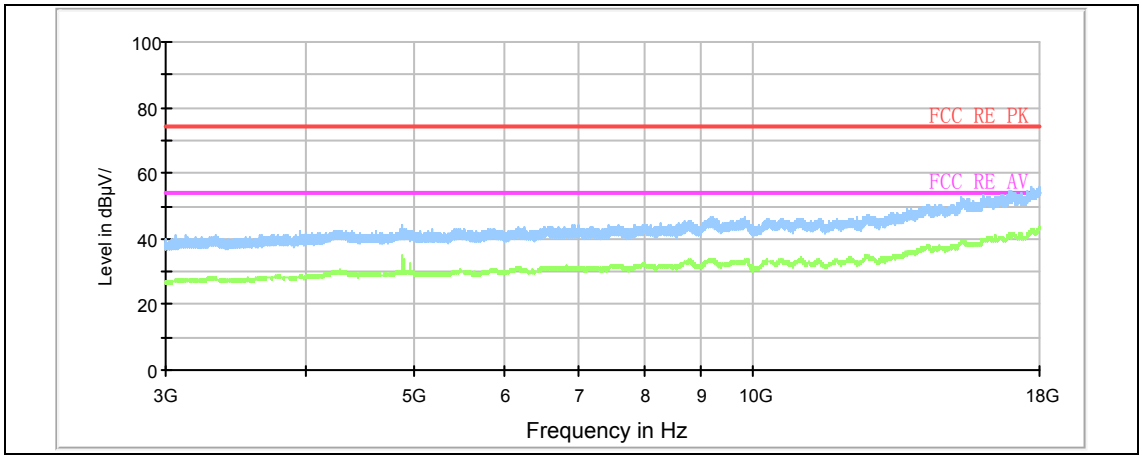
2. Correction Factor = Insertion loss + Cable loss

3. Margin = Limit – Quasi-Peak

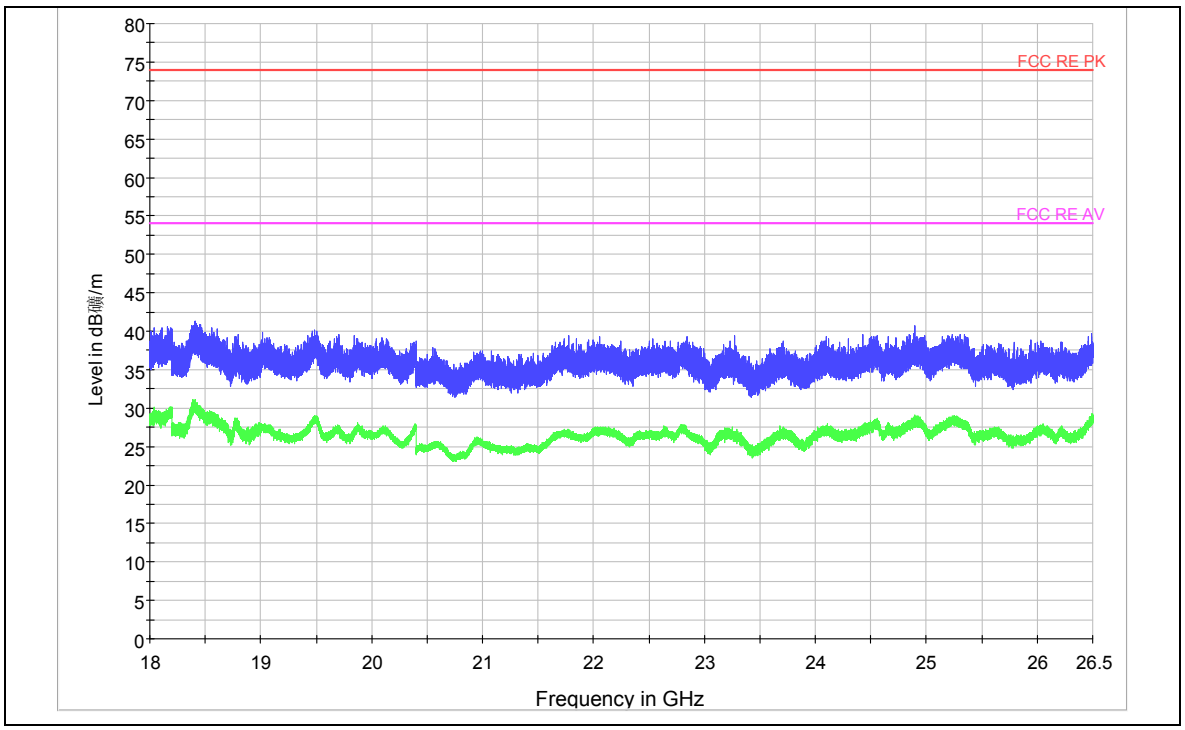


Note: The signal beyond the limit is carrier.

Radiates Emission from 1GHz to 3GHz



Radiates Emission from 3GHz to 18GHz



Radiates Emission from 18GHz to 26.5GHz

2.11. Conducted Emission

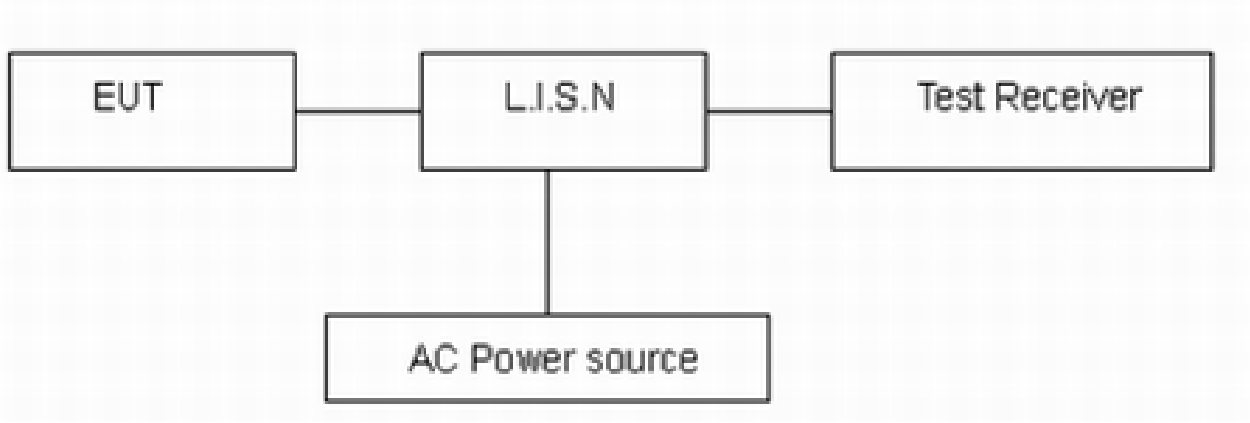
Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Methods of Measurement

The EUT is placed on a non-metallic table of 80cm height above the horizontal metal reference ground plane. During the test, the EUT was operating in its typical mode. The test method is according to ANSI C63.4-2003. Connect the AC power line of the EUT to the L.I.S.N. Use EMI receiver to detect the average and Quasi-peak value. RBW is set to 9kHz,VBW is set to 30kHz.The measurement result should include both L line and N line.
The test is in transmit mode.

Test Setup



Note: AC Power source is used to change the voltage from 220V/50Hz to 110V/60Hz.

Limits

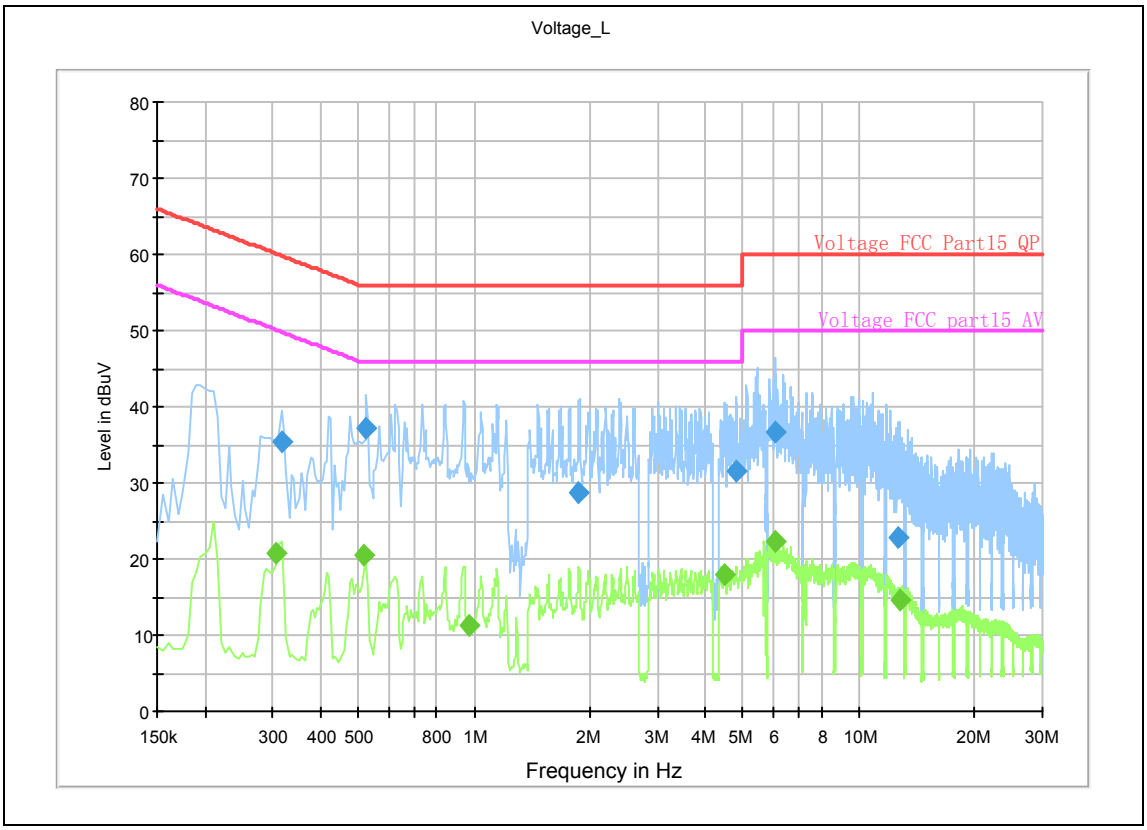
Frequency (MHz)	Conducted Limits(dBμV)	
	Quasi-peak	Average
0.15 - 0.5	66 to 56 *	56 to 46*
0.5 - 5	56	46
5 - 30	60	50
*: Decreases with the logarithm of the frequency.		

Measurement Uncertainty

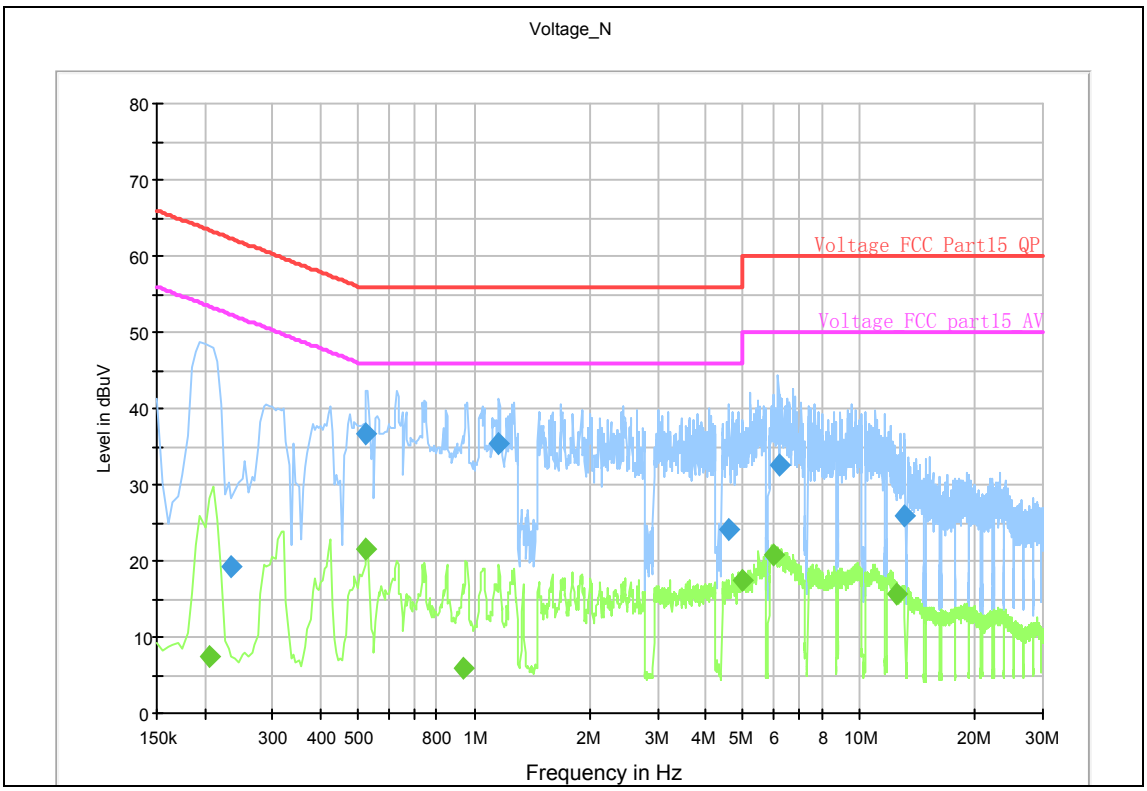
The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 1.96. U= 2.69 dB.

Test Results:

CH0



L Line



N Line

Conducted Emission from 150 KHz to 30 MHz

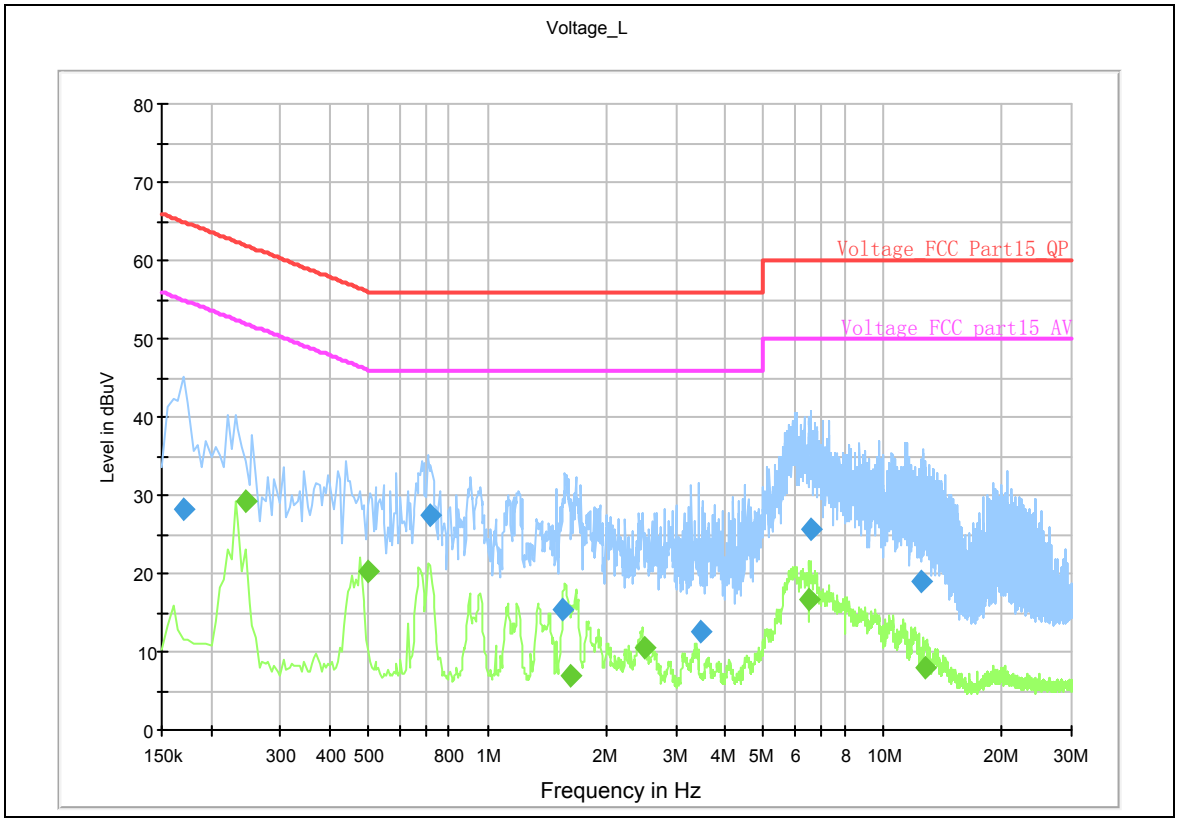
Frequency (MHz)	Detector	Line	Reading Value(dBμV)	Level (dBμV)	Limit (dBμV)	Margin (dB)	Corr. Factor (dB)
0.305	Average	L	10.6	20.7	50.1	29.4	10.1
0.515	Average	L	10.4	20.5	46	25.5	10.1
0.52	Average	N	11.5	21.6	46	24.4	10.1
4.475	Average	L	7.8	18	46	28	10.2
5.965	Average	N	10.8	20.9	50	29.1	10.1
6.04	Average	L	12.2	22.3	50	27.7	10.1
0.315	Quasi-peak	L	25.2	35.3	59.8	24.5	10.1
0.52	Quasi-peak	L	27	37.1	56	18.9	10.1
0.525	Quasi-peak	N	26.6	36.7	56	19.3	10.1
1.155	Quasi-peak	N	25.2	35.3	56	20.7	10.1
6.065	Quasi-peak	L	26.6	36.7	60	23.3	10.1
6.205	Quasi-peak	N	22.3	32.5	60	27.5	10.2

Remark: 1. Level = Reading value + Correction factor

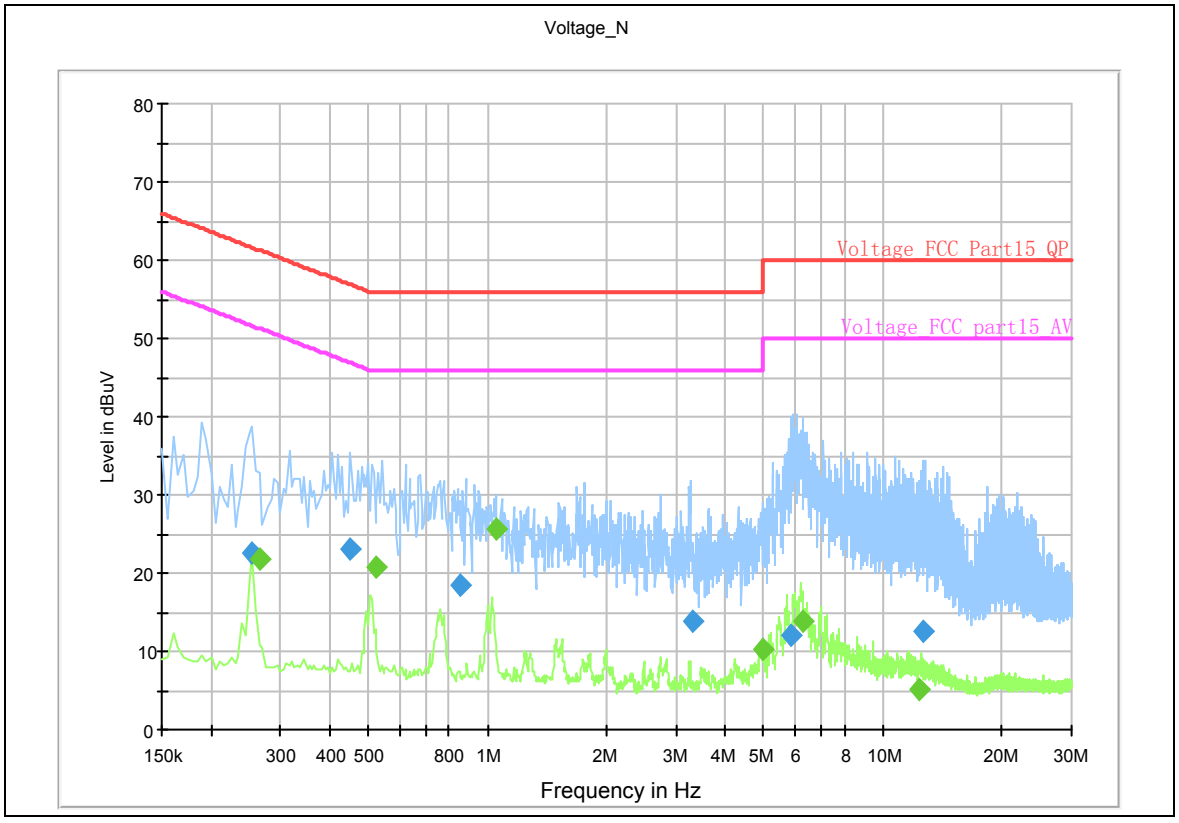
2. Correction Factor = Insertion loss + Cable loss

3. Margin = Limit – Level

CH39



L Line



N Line

Conducted Emission from 150 KHz to 30 MHz

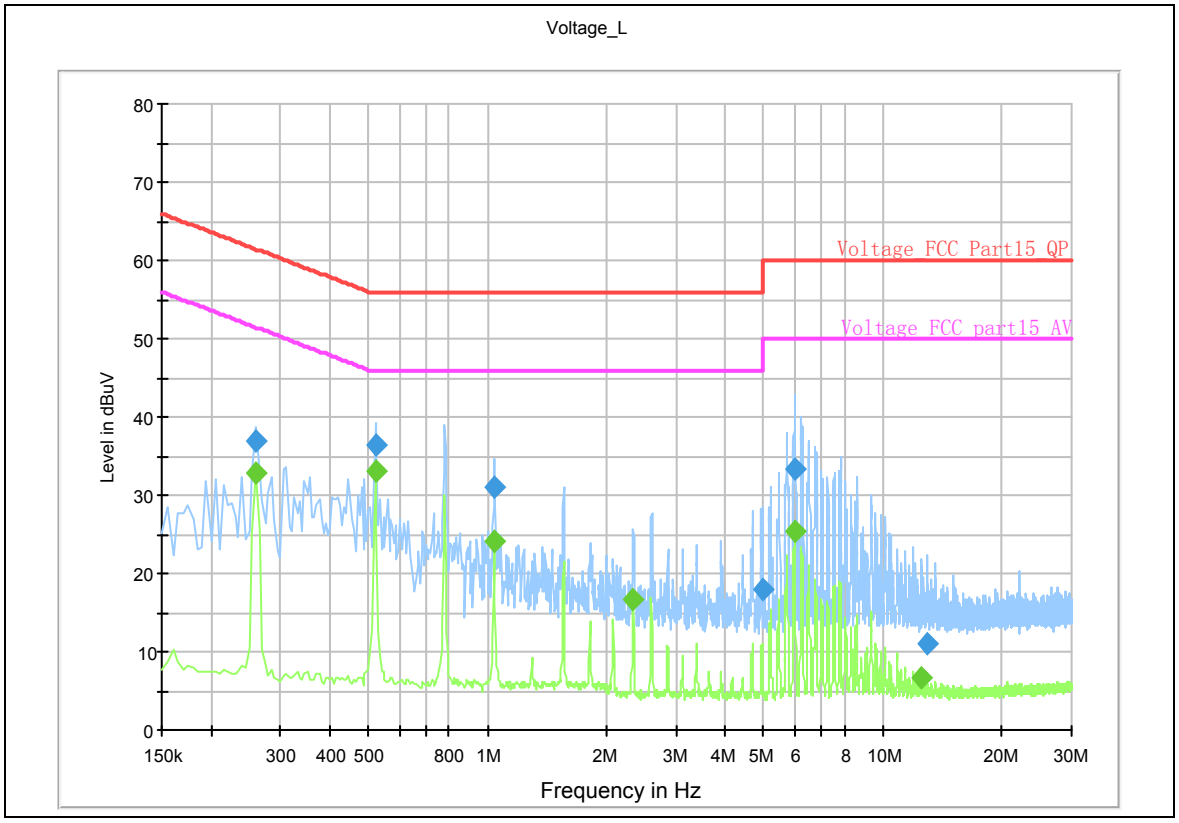
Frequency (MHz)	Detector	Line	Reading Value(dBμV)	Level (dBμV)	Limit (dBμV)	Margin (dB)	Corr. Factor (dB)
0.245	Average	L	19.1	29.2	51.9	22.7	10.1
0.265	Average	N	11.8	21.9	51.3	29.4	10.1
0.5	Average	L	10.1	20.2	46	25.8	10.1
0.525	Average	N	10.6	20.7	46	25.3	10.1
1.05	Average	N	15.5	25.6	46	20.4	10.1
6.51	Average	L	6.5	16.7	50	33.3	10.2
0.17	Quasi-peak	L	18.2	28.3	65	36.7	10.1
0.255	Quasi-peak	N	12.4	22.5	61.6	39.1	10.1
0.45	Quasi-peak	N	13.1	23.1	56.9	33.8	10.0
0.715	Quasi-peak	L	17.3	27.3	56	28.7	10.0
6.58	Quasi-peak	L	15.5	25.7	60	34.3	10.2
12.565	Quasi-peak	L	8.6	18.9	60	41.1	10.3

Remark: 1. Level = Reading value + Correction factor

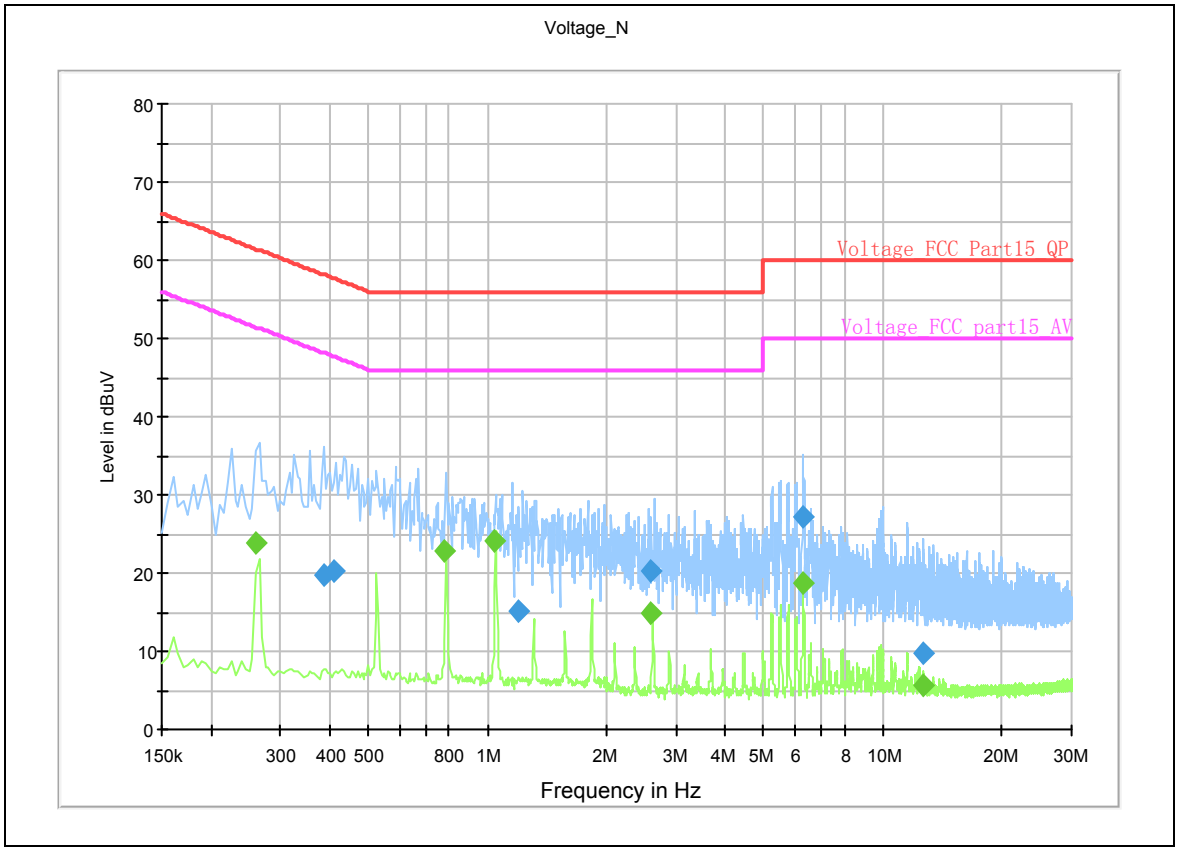
2. Correction Factor = Insertion loss + Cable loss

3. Margin = Limit – Level

CH78



L Line



N Line

Conducted Emission from 150 KHz to 30 MHz

Frequency (MHz)	Detector	Line	Reading Value(dBμV)	Level (dBμV)	Limit (dBμV)	Margin (dB)	Corr. Factor (dB)
0.26	Average	L	22.8	32.9	51.4	18.5	10.1
0.26	Average	N	13.7	23.8	51.4	27.6	10.1
0.52	Average	L	23	33.1	46	12.9	10.1
1.04	Average	L	14.1	24.2	46	21.8	10.1
1.04	Average	N	14.1	24.2	46	21.8	10.1
5.97	Average	L	15.3	25.4	50	24.6	10.1
0.26	Quasi-peak	L	26.8	36.9	61.4	24.5	10.1
0.41	Quasi-peak	N	10.4	20.4	57.6	37.2	10.0
0.52	Quasi-peak	L	26.4	36.5	56	19.5	10.1
1.04	Quasi-peak	L	20.8	30.9	56	25.1	10.1
5.98	Quasi-peak	L	23.3	33.4	60	26.6	10.1
6.265	Quasi-peak	N	17	27.2	60	32.8	10.2

Remark: 1. Level = Reading value + Correction factor

2. Correction Factor = Insertion loss + Cable loss

3. Margin = Limit – Level

3. Main Test Instruments

No.	Name	Type	Manufacturer	Serial Number	Calibration Date	Valid Period
01	BT Base Station Simulator	CBT	R&S	100271	2009-11-26	One year
02	Signal Analyzer	FSV	R&S	100815	2010-06-28	One year
03	Signal generator	SMR27	R&S	100365	2010-07-01	One year
04	Spectrum Analyzer	E4445A	Agilent	MY46181146	2010-06-07	One year
05	EMI Test Receiver	ESCI	R&S	100948	2010-07-01	One year
06	Trilog Antenna	VULB 9163	SCHWARZBECK	9163-201	2010-06-29	Two years
07	Horn Antenna	HF907	R&S	100126	2009-07-02	Two years
08	AC Power Source	AFC-11005G	APC	F309040118	2009-08-03	Three years
09	Power Splitter	11667A	Agilent	52960	NA	NA
10	Semi-Anechoic Chamber	9.6*6.7*6.6m	ETS-Lindgren	NA	NA	NA
11	EMI test software	ES-K1	R&S	NA	NA	NA

*******END OF REPORT BODY*******

ANNEX A: EUT Appearance and Test Setup

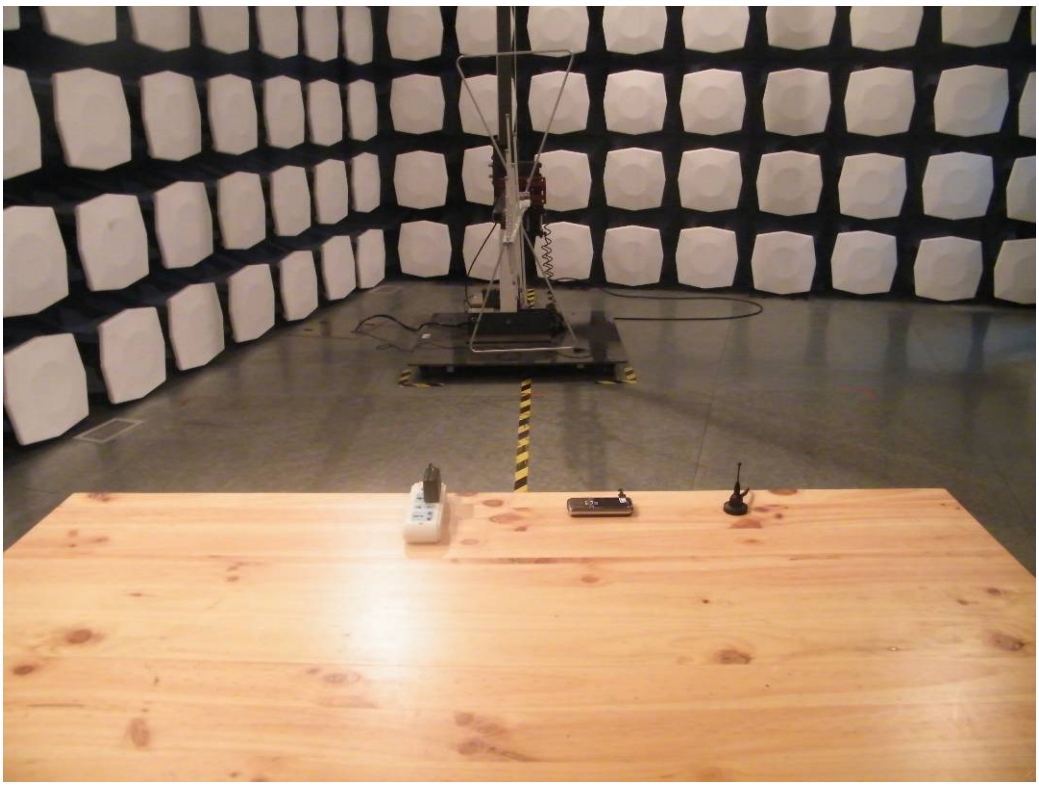
A.1 EUT Appearance

a: EUT

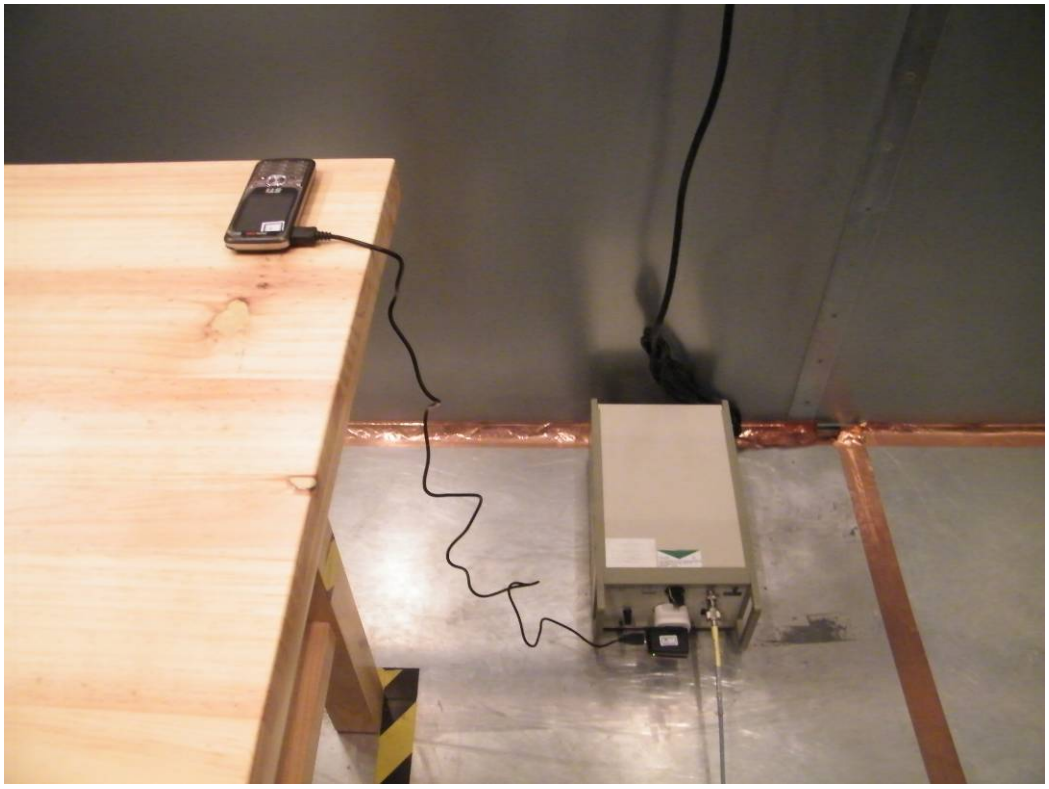
b: Battery

Picture 1 EUT and Auxiliary

A.2 Test Setup



Picture 2 Radiated Emission Test Setup



Picture 3 Conducted Emission Test Setup