



Report No.: RZA2009-1264_15C-BT



Part 15C

TEST REPORT

Product Name GSM/GPRS Mobile Phone

Model W001

FCC ID XUT-W001

Client Shenzhen Hongjiayuan Communication Technology CO.,LTD.

TA Technology (Shanghai) Co., Ltd.



GENERAL SUMMARY

Product Name	GSM/GPRS Mobile Phone	Model	W001
FCC ID	XUT-W001	Report No.	RZA2009-1264_15C-BT
Client	Shenzhen Hongjiayuan Communication Technology CO.,LTD.		
Manufacturer	Shenzhen Hongjiayuan Communication Technology CO.,LTD.		
Reference Standard(s)	<p>FCC Part 15 Subpart C: (2008) 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 Filing and Frequency Measurement Guidelines For Frequency Hopping Spread Spectrum System.(2000)</p>		
Conclusion	<p>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.</p> <p>General Judgment: Pass</p> <p>(Stamp) Date of issue: December 11th, 2009</p>		
Comment	The test result only responds to the measured sample.		

Approved by

杨伟中

Revised

by

宋明

Performed by

刘伟

Weizhong Yang

Song Ming

Liu Wei

TABLE OF CONTENT

1. General Information	4
1.1. Notes of the test report.....	4
1.2. Testing laboratory	4
1.3. Applicant Information	5
1.4. Manufacturer Information	5
1.5. Information of EUT	6
1.6. Test Date	7
2. Test Information.....	8
2.1. Summary of test results	8
2.2. Peak power output –conducted.....	9
2.3. Occupied Bandwidth (20dB)	11
2.4. Frequency Separation.....	15
2.5. Time of Occupancy (Dwell Time)	19
2.6. Band Edge Compliance	23
2.7. Spurious Radiated Emissions in the restricted band	26
2.8. Number of hopping Frequency.....	34
2.9. Spurious RF Conducted Emissions.....	37
2.10. Radiates Emission.....	47
2.11. Conducted Emission.....	58
3. Main Test Instruments	65
ANNEX A: EUT Appearance and Test Setup.....	66
A.1 EUT Appearance.....	66
A.2 Test Setup	67

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: 201210
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

TA Technology (Shanghai) Co., Ltd.
Test Report

Registration Num:428261

Report No.: RZA2009-1264_15C-BT

Page 5 of 67

1.3. Applicant Information

Company: Shenzhen Hongjiayuan Communication Technology CO.,LTD.
Address: Room 2406,Block A of Electronic Science and Technology Building,No.2070,Shennan
Zhong Road,Futian District,Shenzhen City,Guangdong Province,China
City: Shenzhen
Postal Code: /
Country: P.R. China
Contact: Cong Chen
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Fax: +86 755 33366565

1.4. Manufacturer Information

Company: Shenzhen Hongjiayuan Communication Technology CO.,LTD.
Address: Room 2406,Block A of Electronic Science and Technology Building,No.2070,Shennan
Zhong Road,Futian District,Shenzhen City,Guangdong Province,China
City: Shenzhen
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Country: P.R. China
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Fax: +86 755 33366565

TA Technology (Shanghai) Co., Ltd.
Test Report

Registration Num:428261

Report No.: RZA2009-1264_15C-BT

Page 6 of 67

1.5. Information of EUT

General information

Device type:	Portable device
Name of EUT:	GSM/GPRS Mobile Phone
SN or IMEI:	350019800031946
Device operating configurations:	
Modulation	GFSK
Max Conducted Power	-2.63dBm
Antenna type:	internal antenna
Power supply:	Battery or Charger
Rated Power Supply Voltage:	3.7V
Extreme Voltage:	Minimum: 3.5V Maximum: 4.2V
Extreme Temperature:	Lowest: -10°C Highest: +55°C
Operating frequency range(s)	2400 ~ 2483.5 MHz
Hardware version:	E706_V1.2
Software version:	E706_JJF2IPH18.01.0

TA Technology (Shanghai) Co., Ltd.

Test Report

Registration Num:428261

Report No.: RZA2009-1264_15C-BT

Page 7 of 67

Auxiliary equipment details

AE1: Battery

Model:	W001
Manufacture:	Shenzhen Hongjiayuan Communication Technology CO.,LTD
IMEI or SN:	/

AE2: Travel Adaptor

Model:	HY-SW0500500X
Manufacture:	Shenzhen HanYuXun Electronics CO.,LTD
IMEI or SN:	/

Equipment Under Test (EUT) is GSM/GPRS Mobile Phone with integrated antenna. It consists of mobile phone, battery and adaptor (see ANNEX A.1) and the detail about these is in chapter 1.5 in this report. The EUT supports Bluetooth.

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 24, 2009 to December 11, 2009.

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

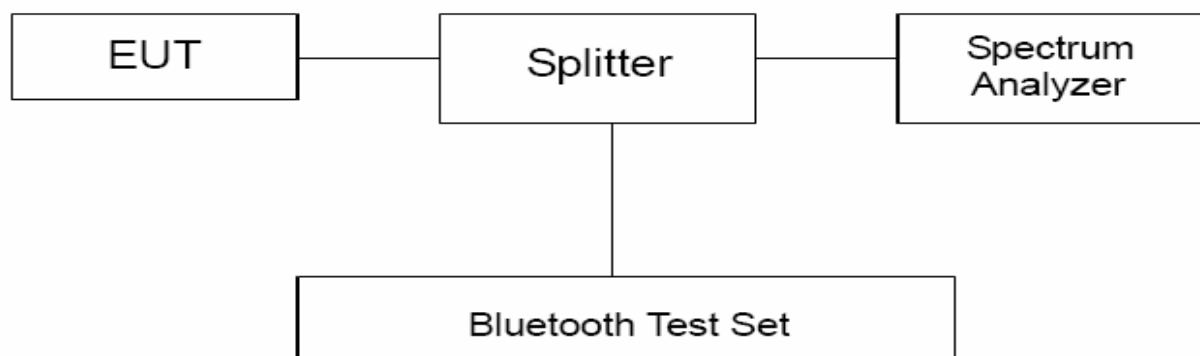
Ambient condition

Temperature	Relative humidity	Pressure
24°C	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. 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	$\leq 1\text{W}$ (30dBm)
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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.

TA Technology (Shanghai) Co., Ltd.
Test Report

Registration Num:428261

Report No.: RZA2009-1264_15C-BT

Page 10 of 67

Test Results

Channel	Frequency (MHz)	Peak Output Power (dBm)	Conclusion
0	2402	-2.63	PASS
39	2441	-3.06	PASS
78	2480	-3.26	PASS

2.3. Occupied Bandwidth (20dB)

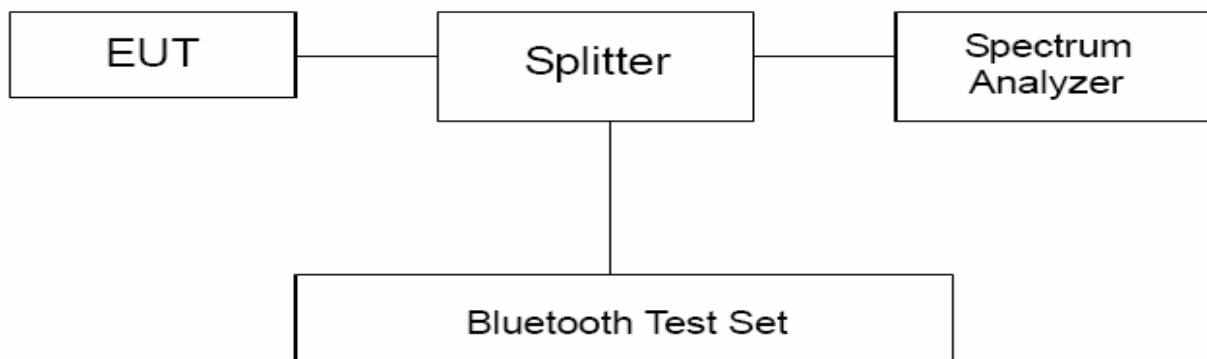
Ambient condition

Temperature	Relative humidity	Pressure
24°C	55%	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 10 kHz on spectrum analyzer. -20dB occupied bandwidths are recorded.

Test Setup



Limits

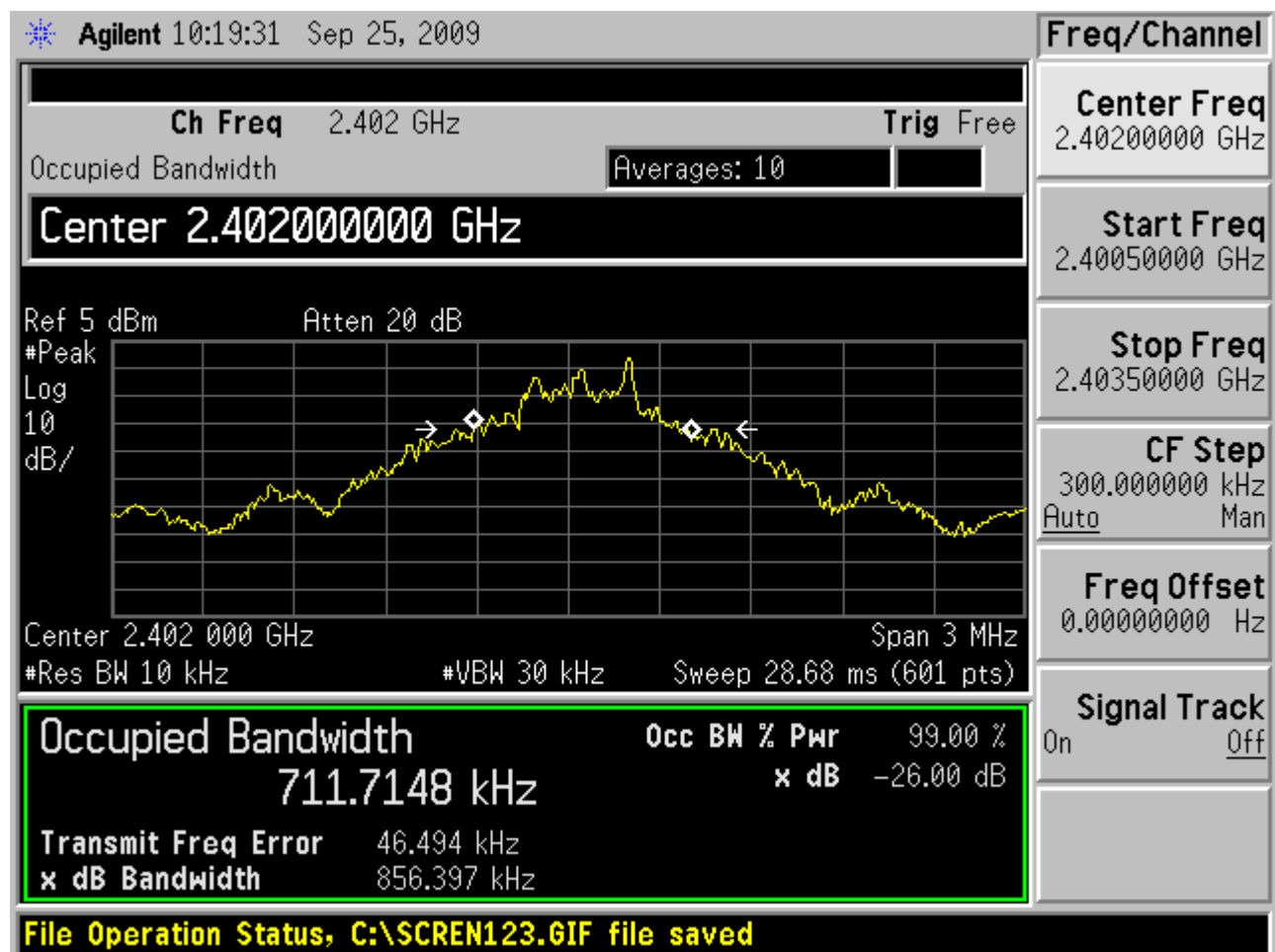
No specific occupied bandwidth requirements in part 15.247(a) (1).

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.

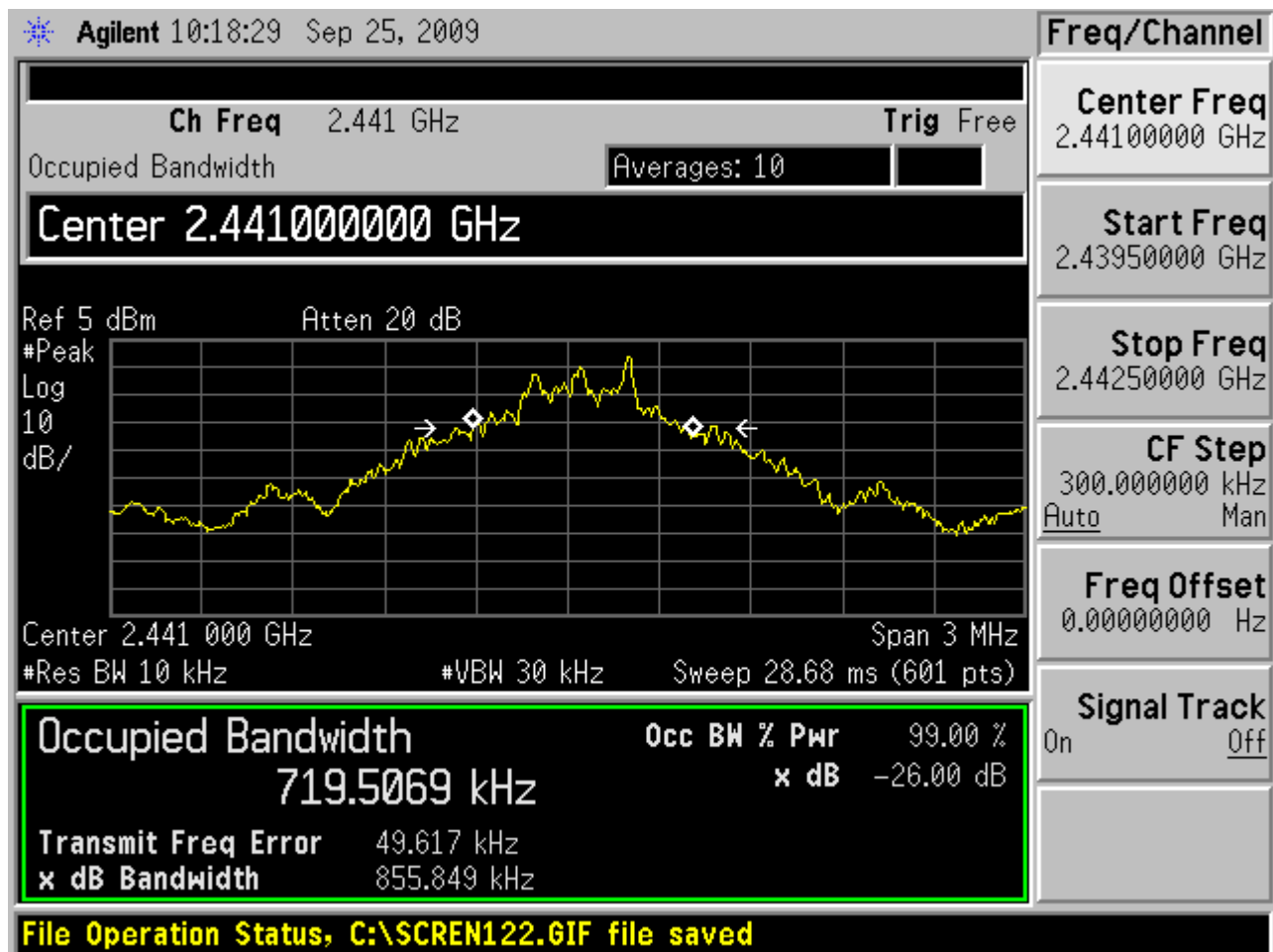
Test Results

Channel	Frequency (MHz)	20dB Bandwidth (kHz)
0	2402	711.7148
39	2441	719.5069
78	2480	712.1434



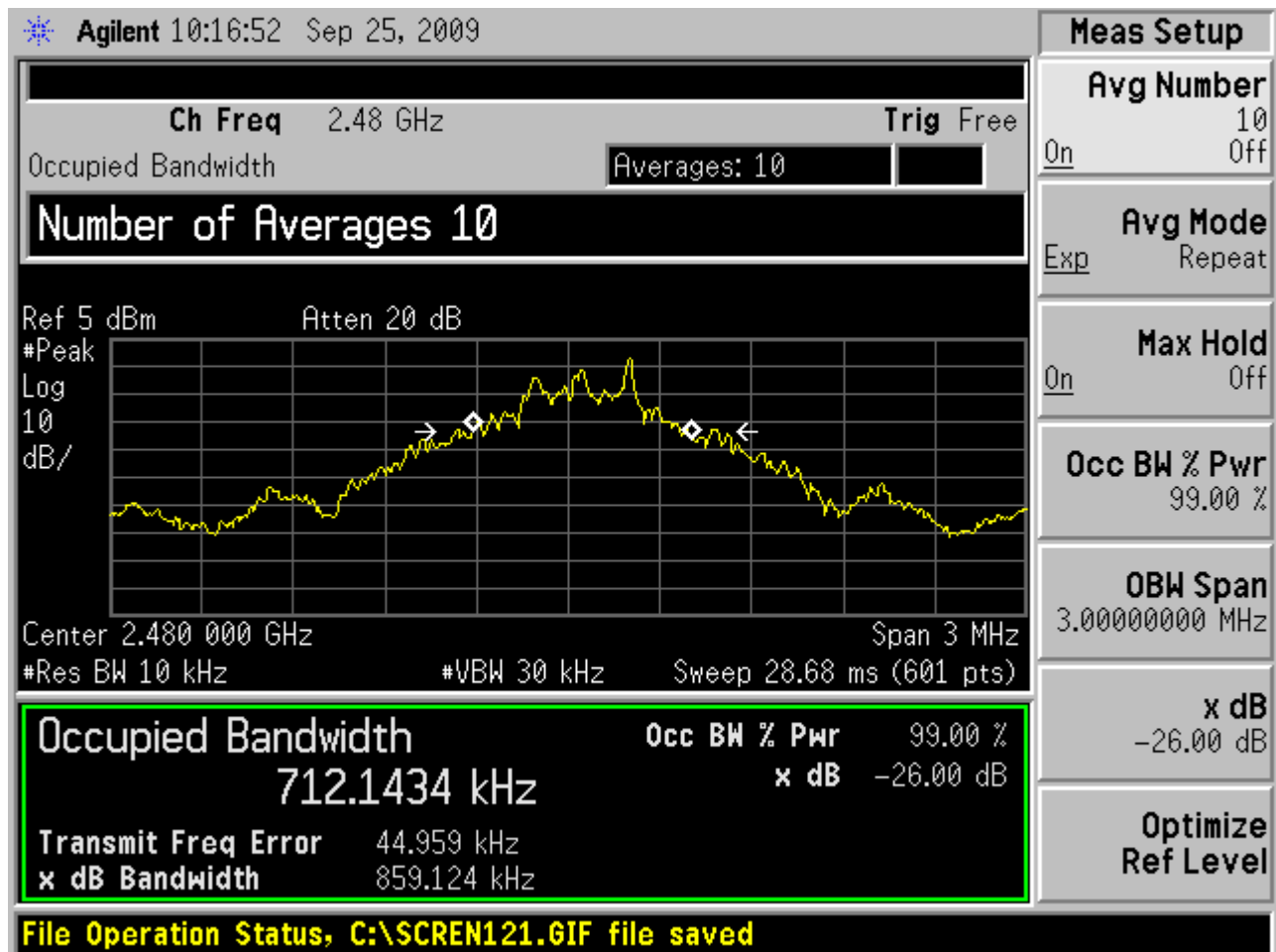
Carrier frequency (MHz): 2402

Channel No.:0



Carrier frequency (MHz): 2441

Channel No.:39



Carrier frequency (MHz): 2480

Channel No.:78

2.4. Frequency Separation

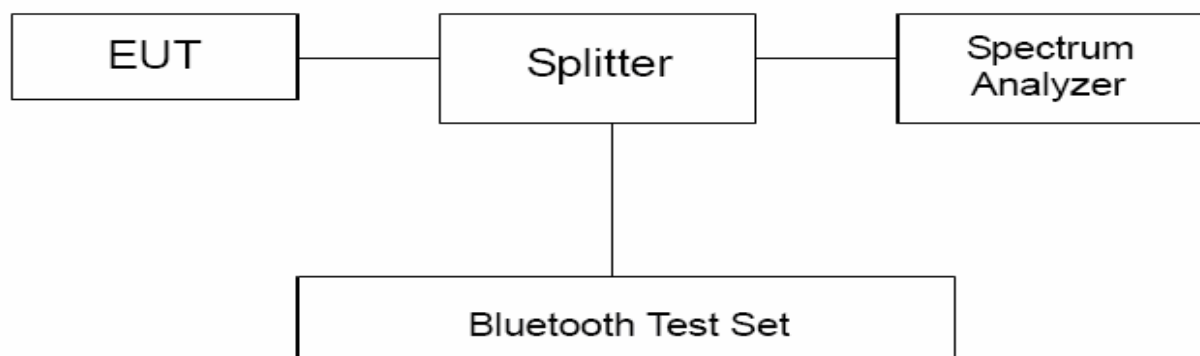
Ambient condition

Temperature	Relative humidity	Pressure
24°C	55%	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. Set EUT ON Hopping on mode.

Test setup



Limits

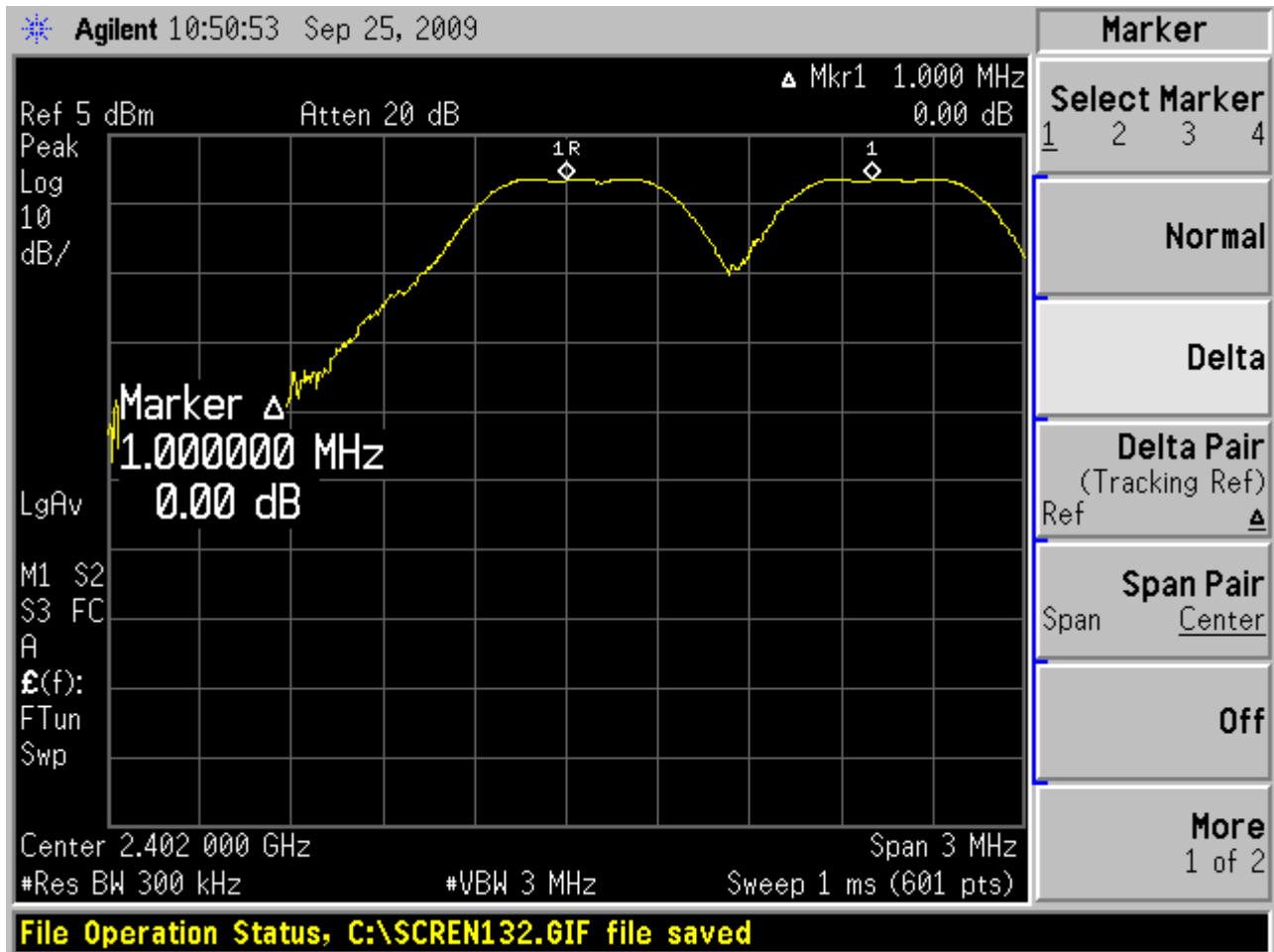
Rule Part 15.247(a)(1) specifies that “Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater. Alternatively, frequency hopping systems operating in the 2400–2483.5 MHz band may have 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. ”

Note: The value of two-thirds of 20 dB bandwidth is always greater than 25 kHz.

Measurement Uncertainty

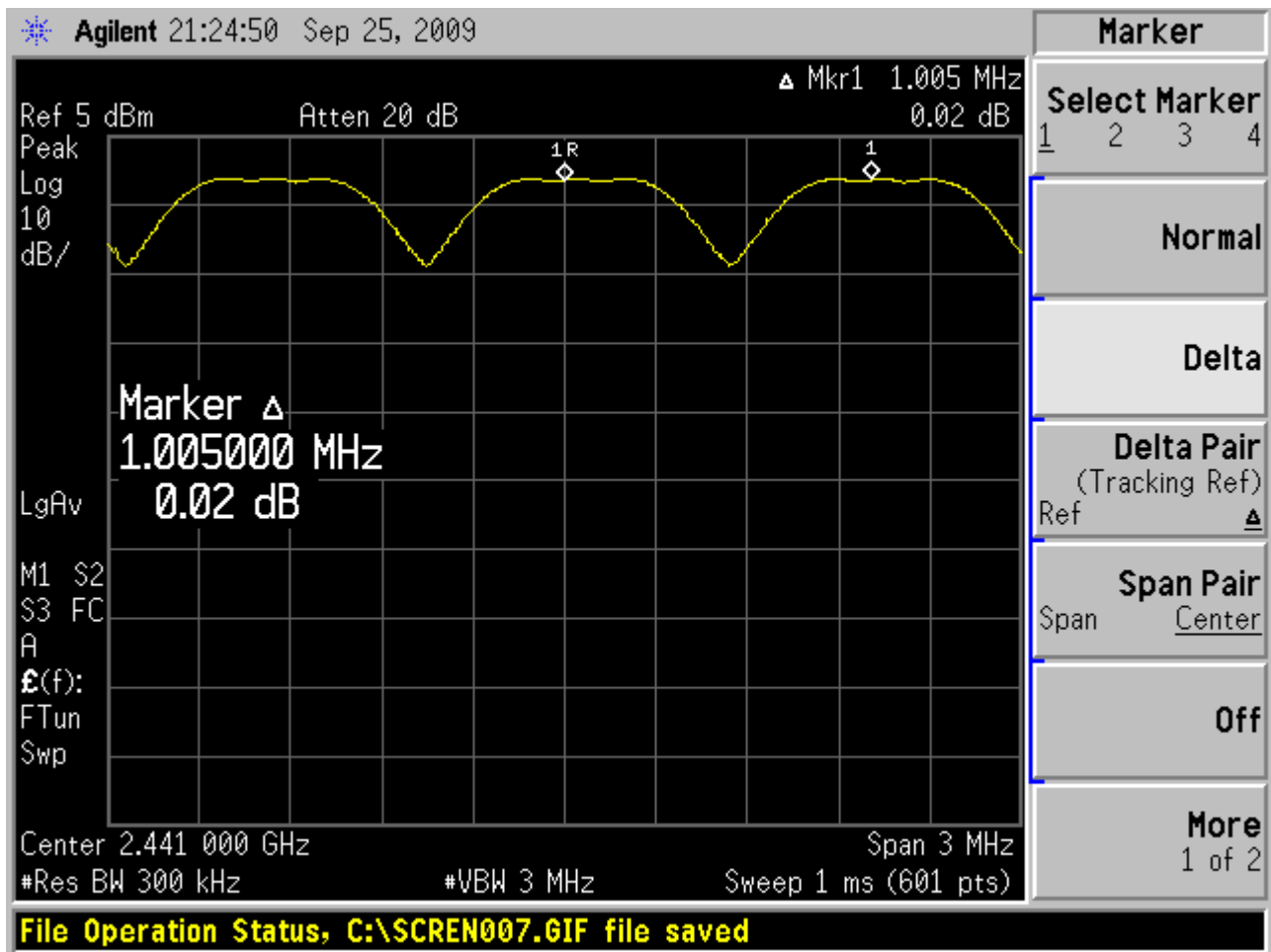
The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = 2$. $U = 936$ Hz.

Test Results:



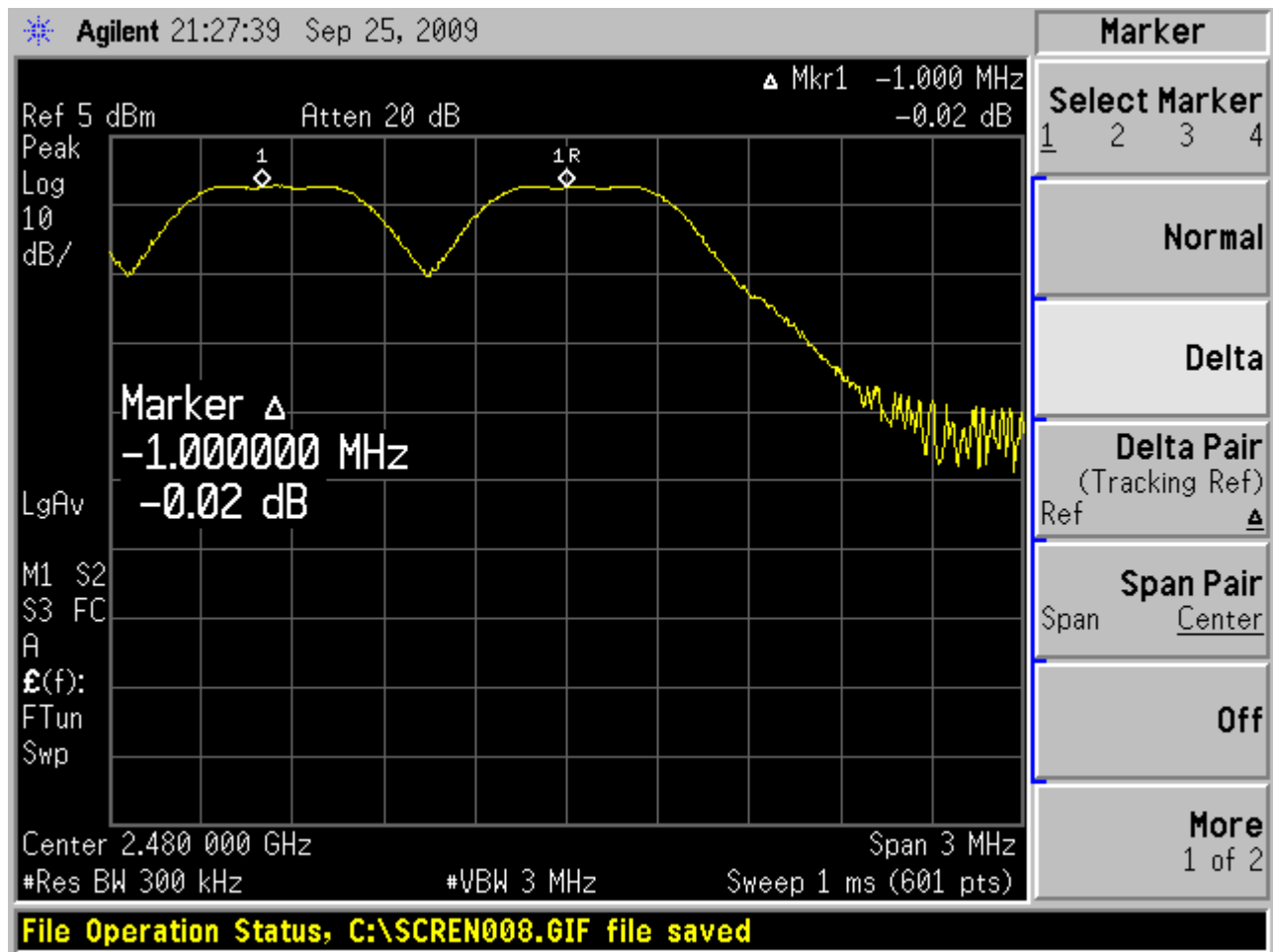
Carrier frequency (MHz): 2402

Channel No.:0



Carrier frequency (MHz): 2441

Channel No.:39



Carrier frequency (MHz): 2480

Channel No.:78

Carrier frequency (MHz)	Carrier frequency separation(kHz)	Limit(kHz)	Conclusion
2402	1000	474.48	PASS
2441	1005	479.67	PASS
2480	1000	474.76	PASS

2.5. Time of Occupancy (Dwell Time)

Ambient condition

Temperature	Relative humidity	Pressure
24°C	56%	101.5kPa

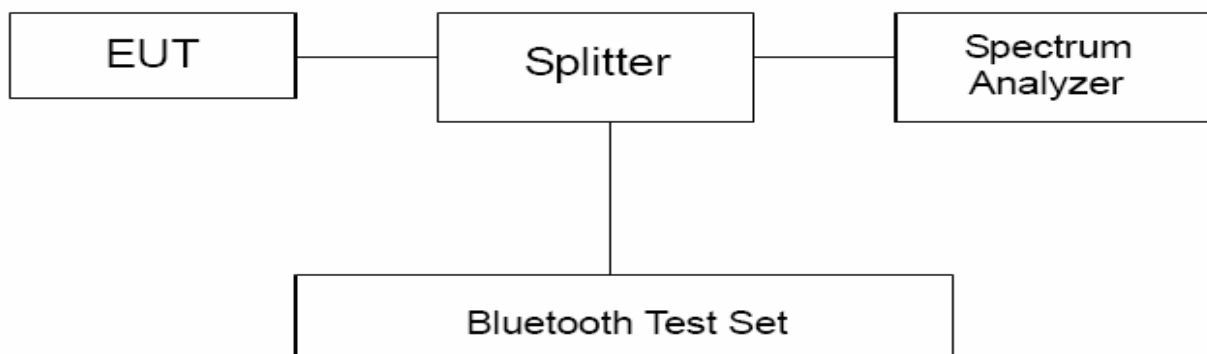
Methods of Measurement

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. 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 = $1600 \times 1/s$ for DH1 packets = 1600
- hop rate = $1600/3 \times 1/s$ for DH3 packets = 533.33
- hop rate = $1600/5 \times 1/s$ for DH5 packets = 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	$\leq 400\text{ms}$
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Measurement Uncertainty

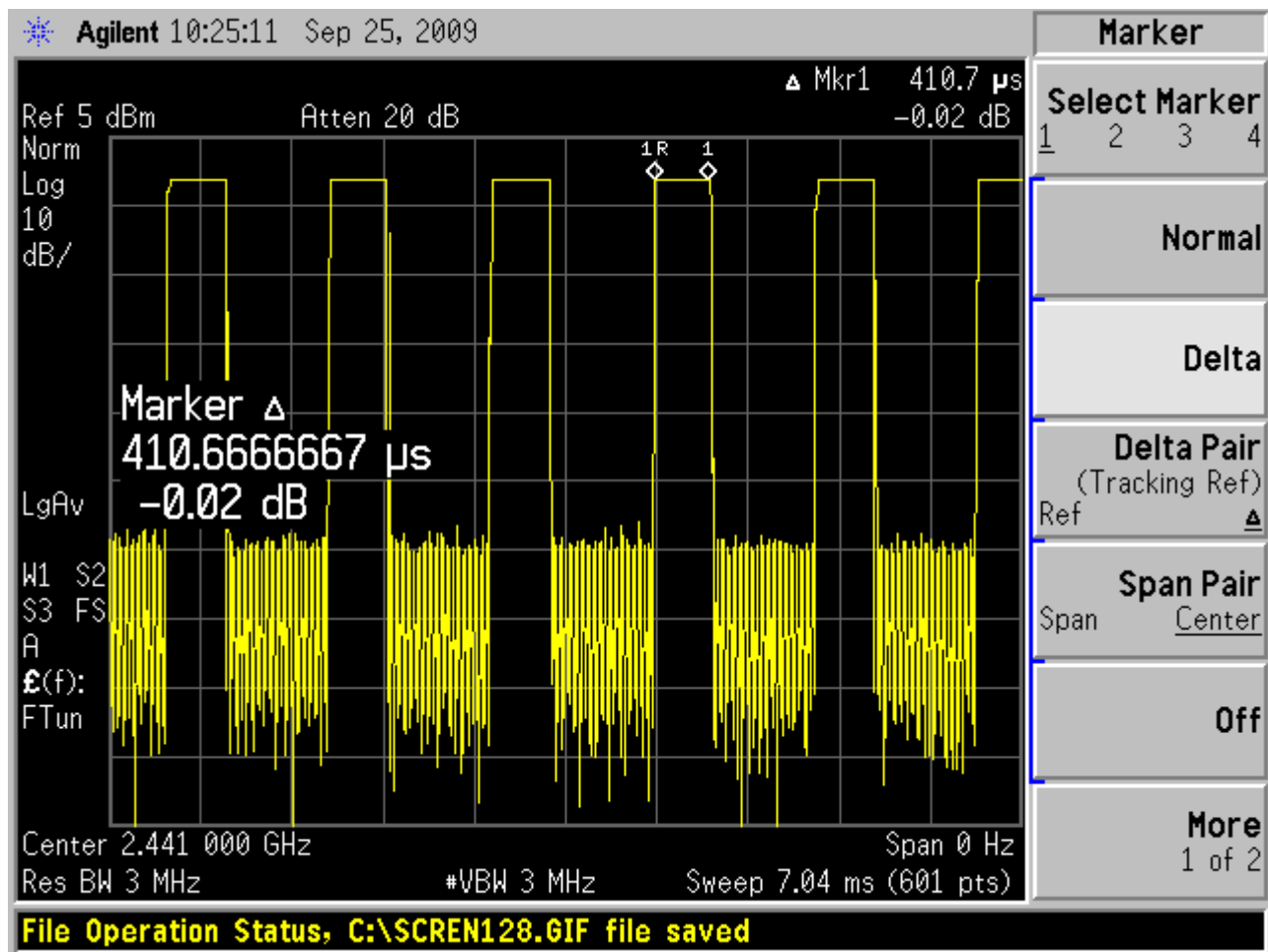
The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = 2$. $U_{DH1} = 0.64\text{ms}$, $U_{DH3} = 0.80\text{ms}$, $U_{DH5} = 0.70\text{ms}$.

Test Results:

CH 39

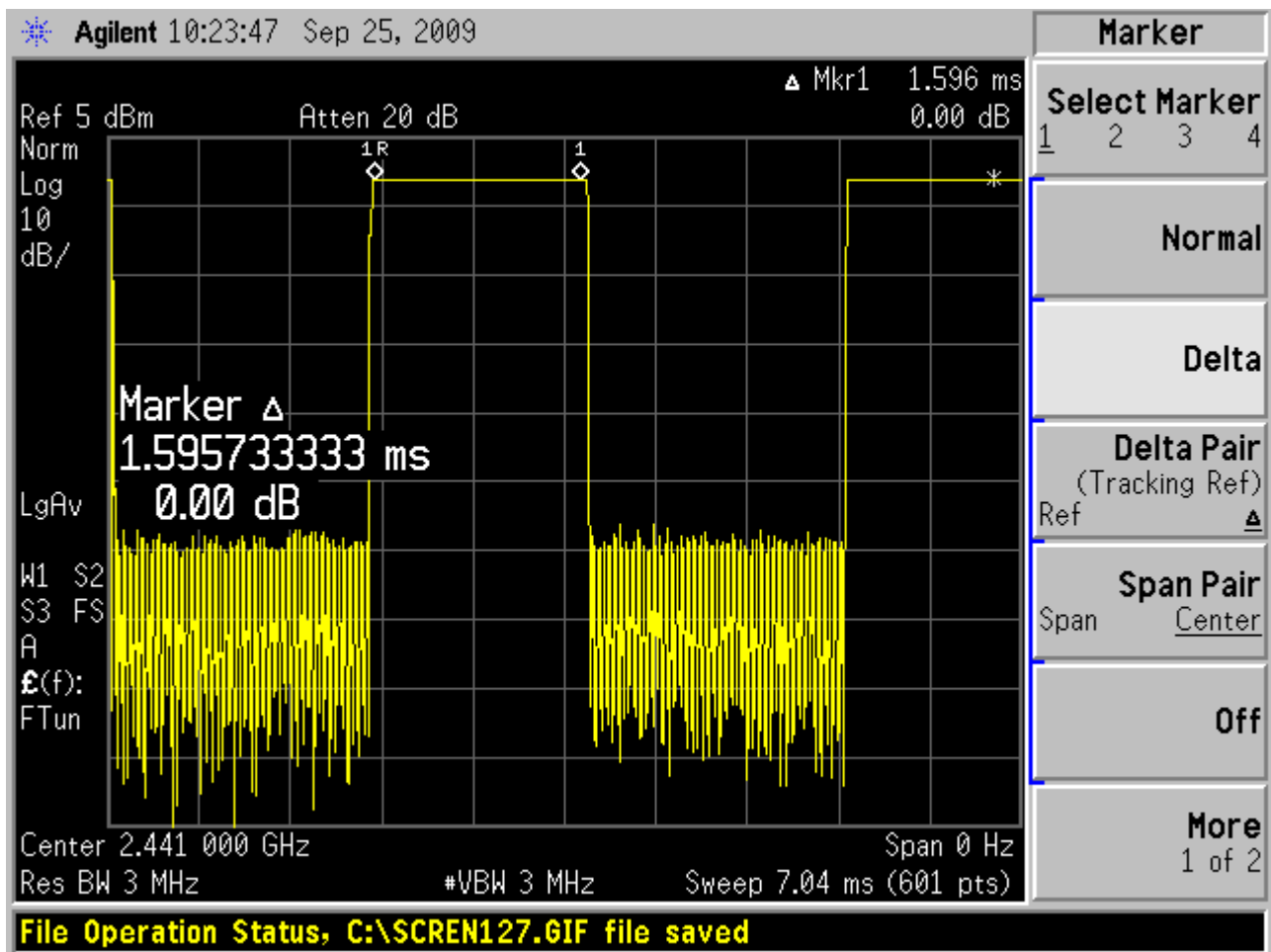
Packet type	hop rate (1/s)	Time slot length(ms)	Dwell time	Limit	Conclusion
DH1	1600	0.4107	262.848	400ms	PASS
DH3	533.33	1.596	340.478	400ms	PASS
DH5	320	2.916	373.248	400ms	PASS

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



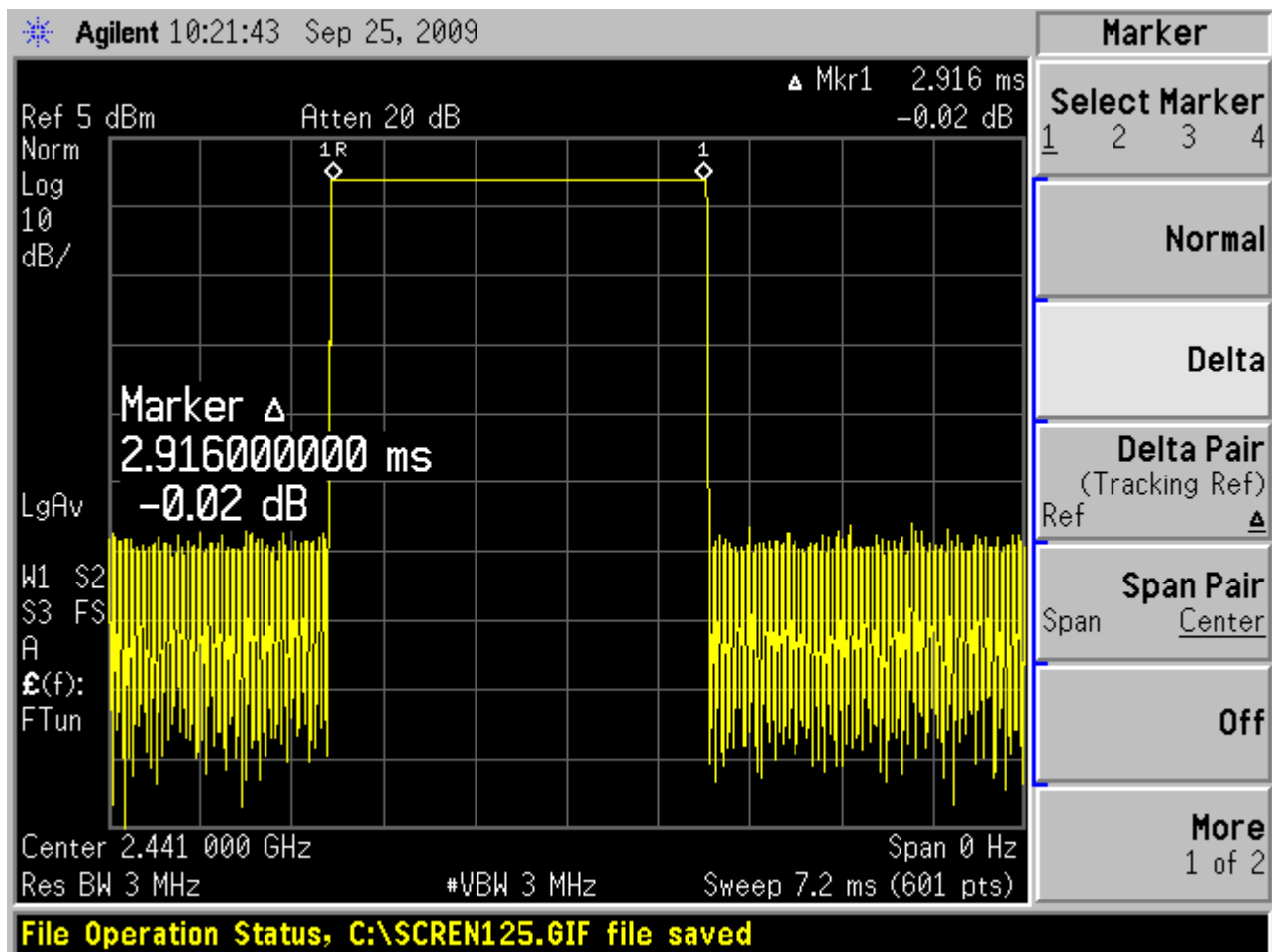
Carrier frequency (MHz): 2441

Packet type: DH1



Carrier frequency (MHz): 2441

Packet type: DH3



Carrier frequency (MHz): 2441

Packet type: DH5

2.6. Band Edge Compliance

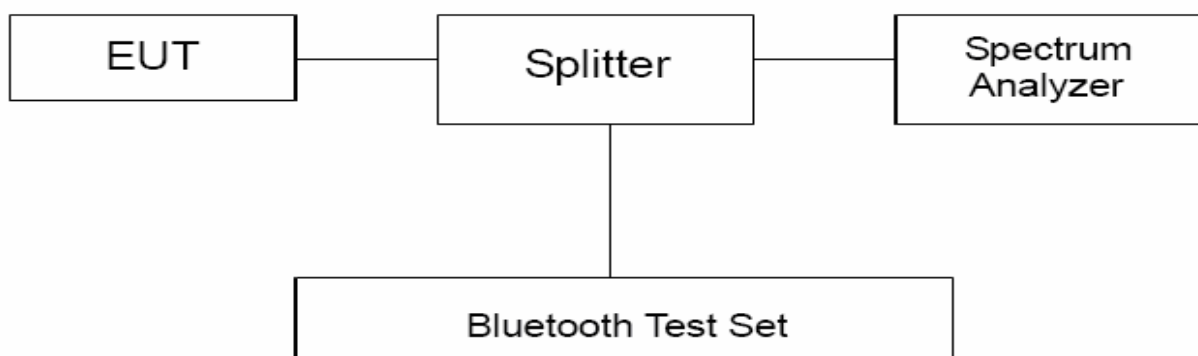
Ambient condition

Temperature	Relative humidity	Pressure
24°C	55%	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 and RBW is set to 100k on spectrum analyzer. Spectrum analyzer plots are included on the following pages. Set EUT on Hopping on 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.”

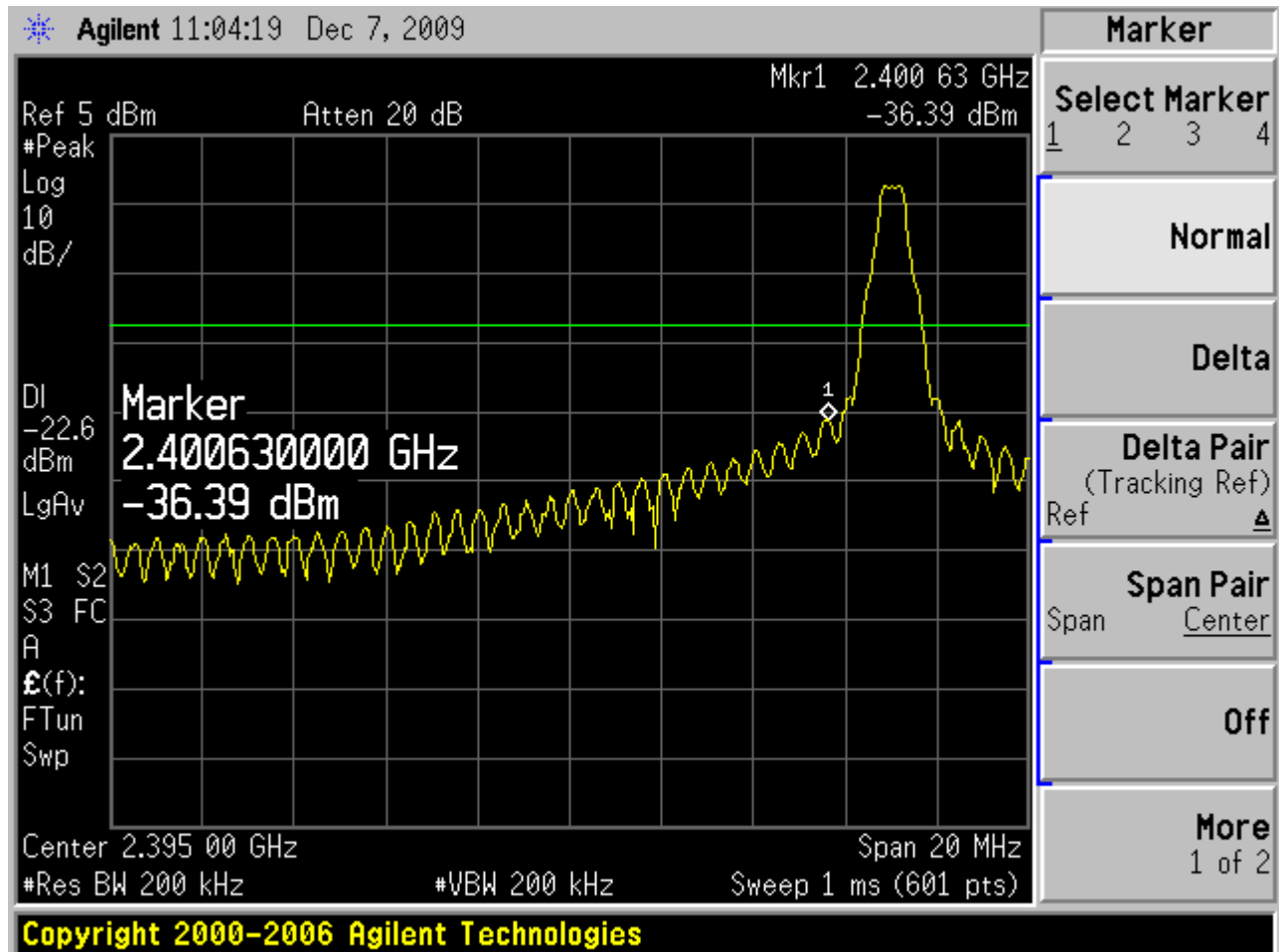
Limit	≥ 20 dB
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Measurement Uncertainty

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

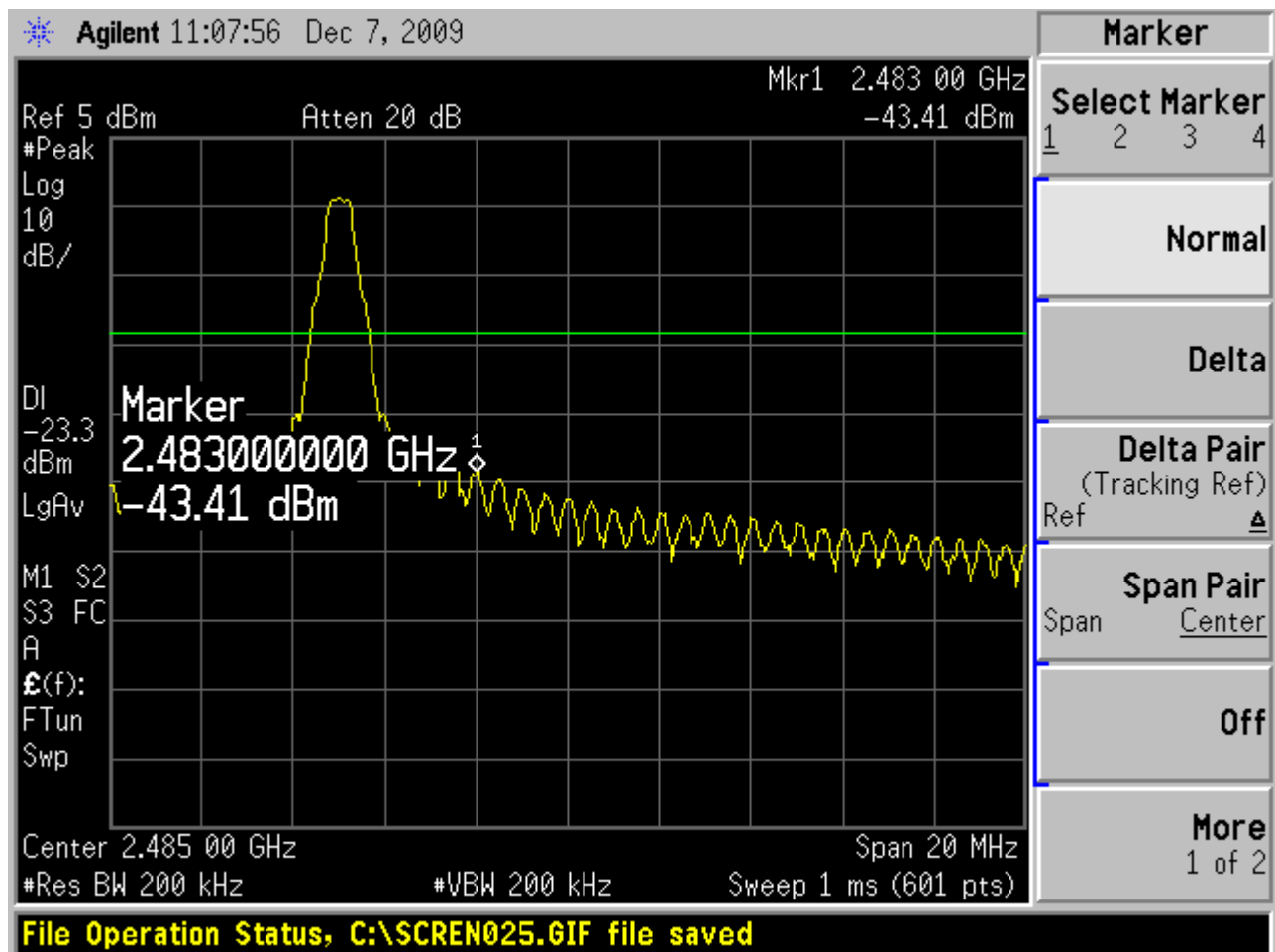
Frequency	Uncertainty
2GHz-3GHz	1.407 dB

Test Results: PASS



Carrier frequency (MHz): 2402

Channel No.:0



Carrier frequency (MHz): 2480

Channel No.:78

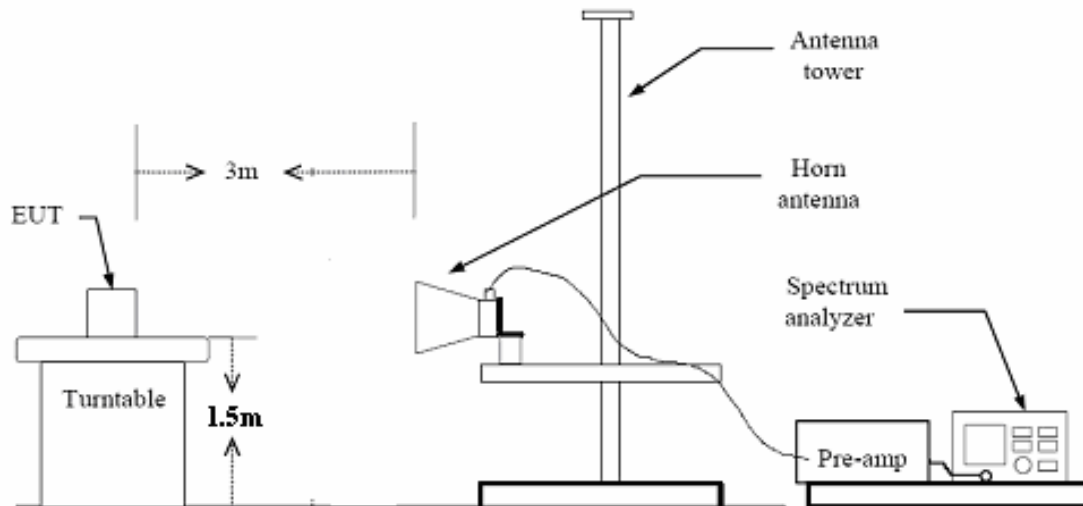
2.7. Spurious Radiated Emissions in the restricted band

Ambient condition

Temperature	Relative humidity	Pressure
24°C	55%	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.

Test setup



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
Above960	500	54

§15.35(b)

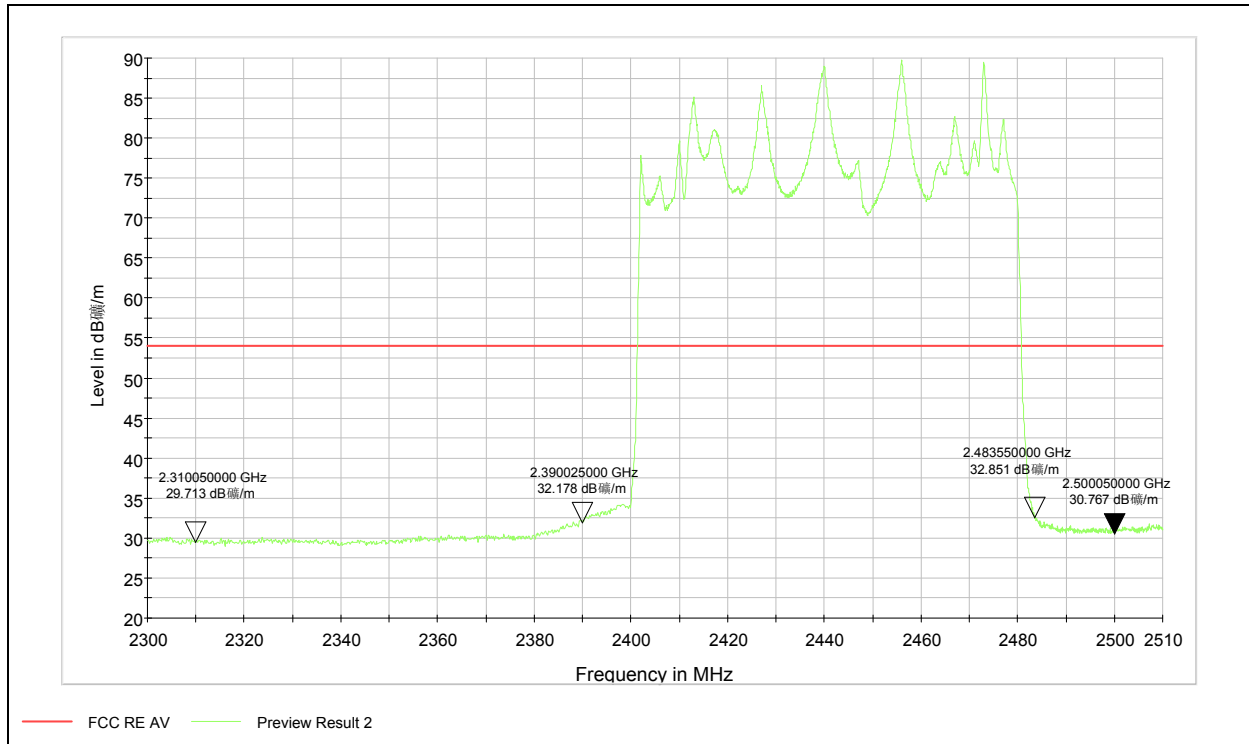
There is also a limit on the radio frequency emissions, as measured using instrumentation with a peak detector function, corresponding to 20 dB above the maximum permitted average limit.

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.

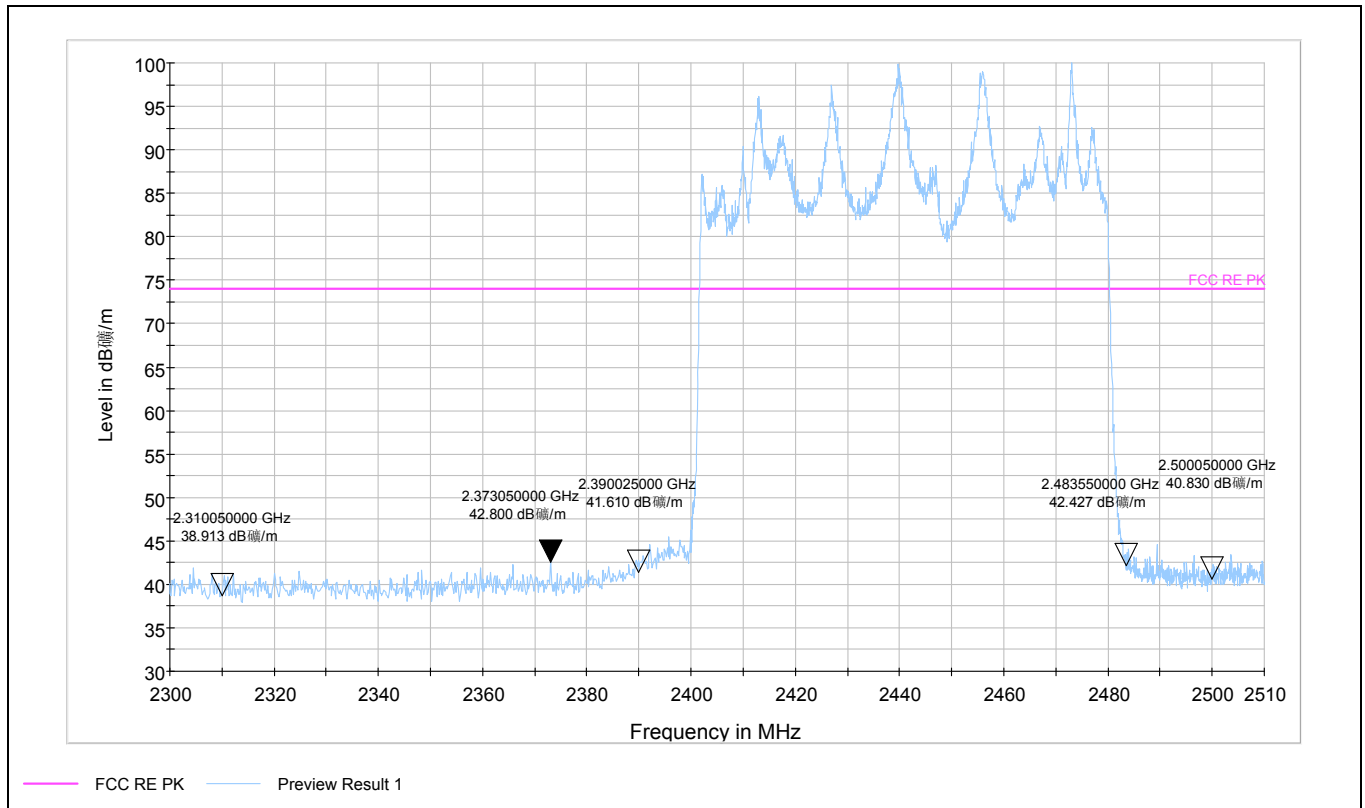
Test Results:

Channel 0



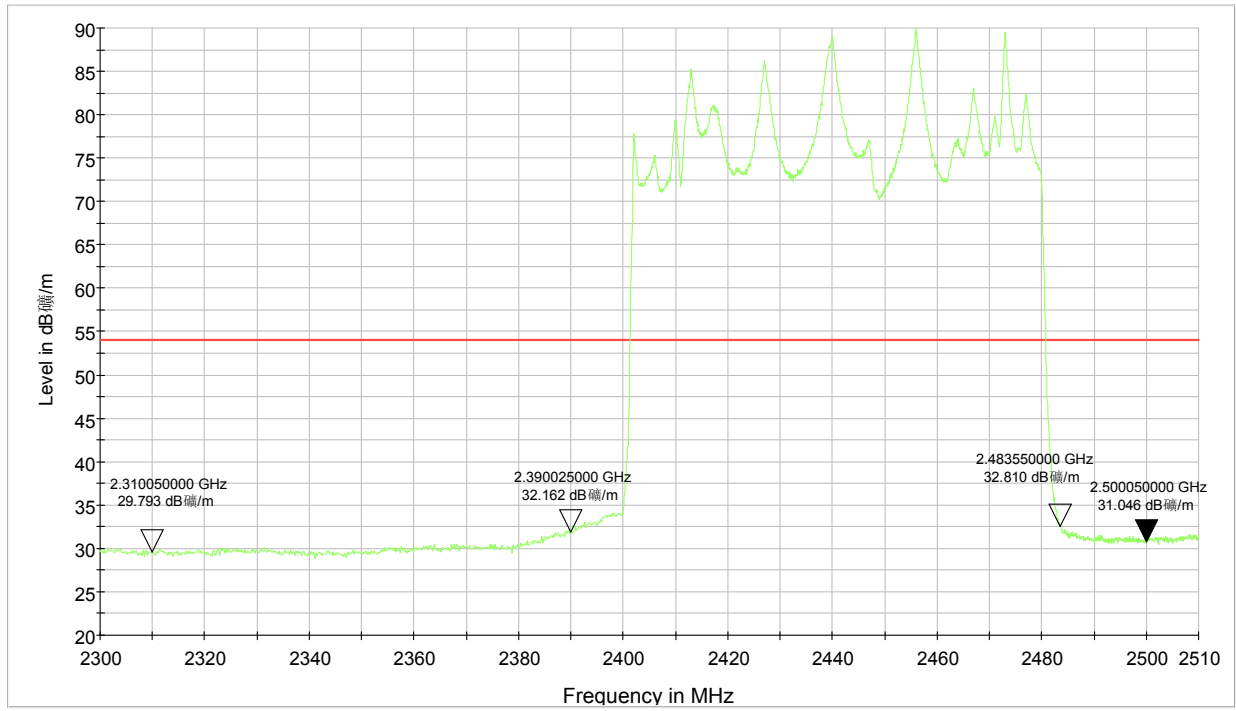
Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Margin (dB)	Limit (dBuV/m)
2310.050000	29.7	150.0	Vertical	45.0	24.3	54
2390.025000	32.2	150.0	Vertical	180.0	21.8	54
2483.550000	32.9	150.0	Vertical	135.0	21.1	54
2500.050000	30.8	150.0	Vertical	90.0	23.2	54

Channel 0



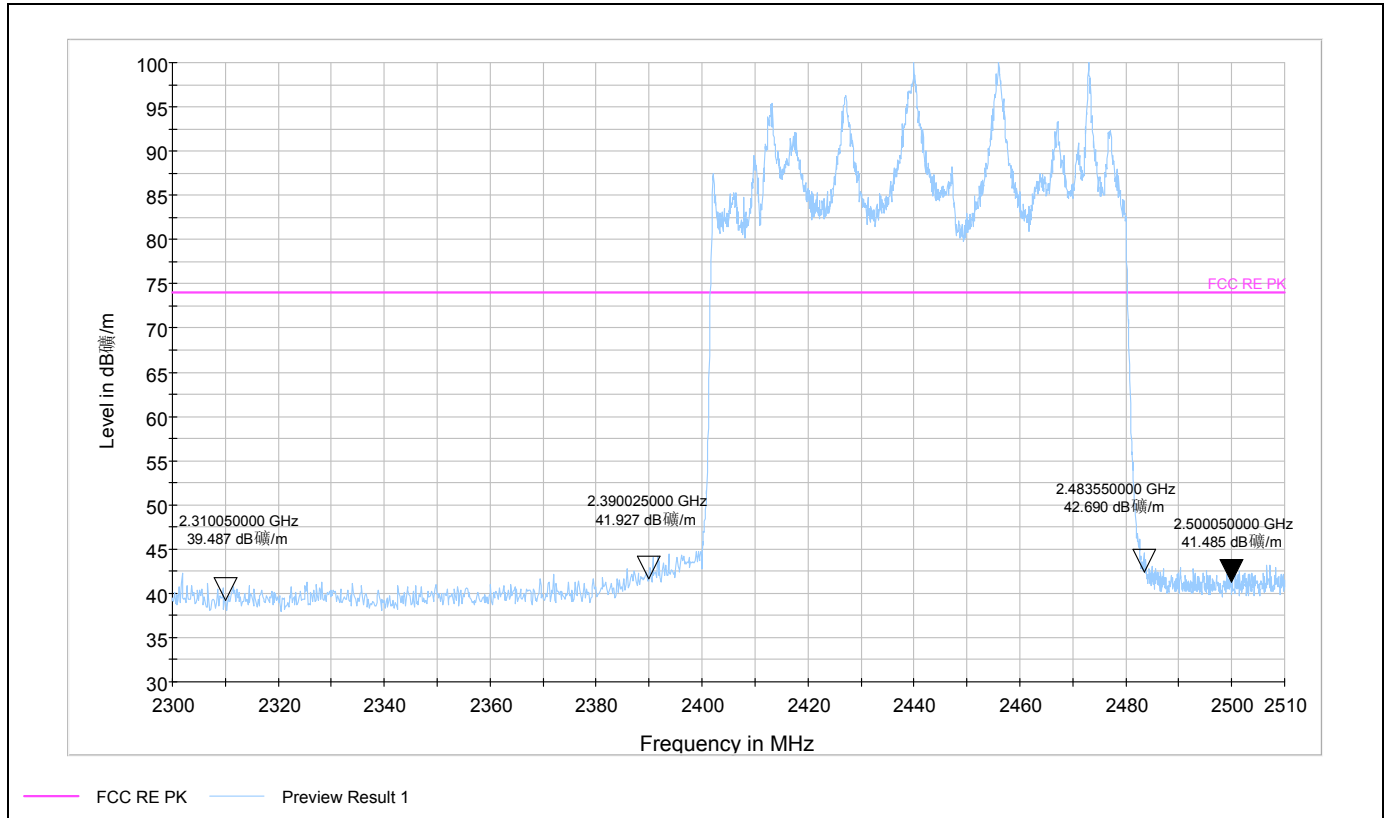
Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Margin (dB)	Limit (dBuV/m)
2310.050000	38.9	150.0	Vertical	0.0	35.1	74
2373.050000	42.8	150.0	Vertical	90.0	31.2	74
2390.025000	41.6	150.0	Vertical	180.0	32.4	74
2483.550000	42.4	150.0	Vertical	135.0	31.6	74
2500.050000	40.8	150.0	Vertical	270.0	33.2	74

Channel 39



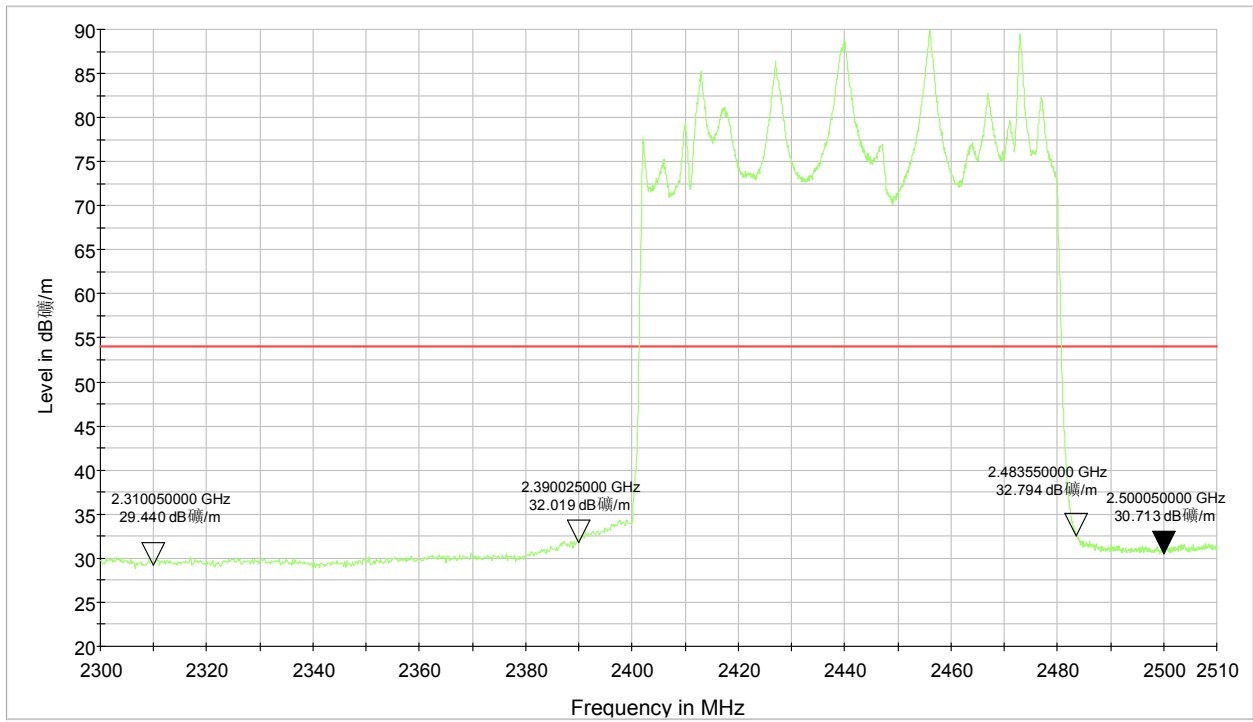
Frequency (MHz)	Average (dB μ V/m)	Height (cm)	Polarization	Azimuth (deg)	Margin (dB)	Limit (dB μ V/m)
2310.050000	39.5	150.0	Vertical	90.0	14.5	54
2390.025000	41.9	150.0	Vertical	180.0	12.1	54
2483.550000	42.7	150.0	Vertical	225.0	11.3	54
2500.050000	41.5	150.0	Vertical	90.0	12.5	54

Channel 39



Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Margin (dB)	Limit (dBuV/m)
2310.050000	39.5	150.0	Vertical	90.0	34.5	74
2390.025000	41.9	150.0	Vertical	180.0	32.1	74
2483.550000	42.7	150.0	Vertical	135.0	31.3	74
2500.050000	41.5	150.0	Vertical	0.0	32.5	74
2310.050000	39.5	150.0	Vertical	90.0	34.5	74

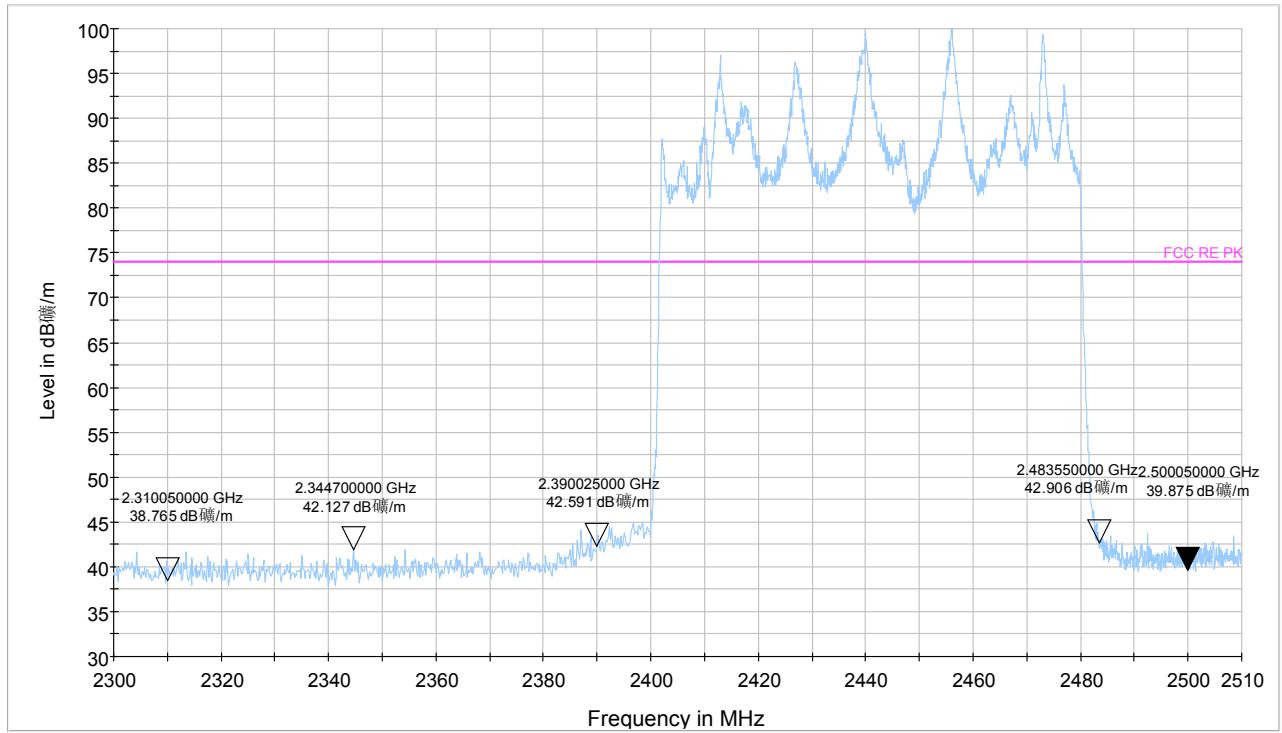
Channel 78



FCC RE AV Preview Result 2

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Margin (dB)	Limit (dBuV/m)
2310.050000	29.4	150.0	Vertical	90.0	24.6	54
2390.025000	32.0	150.0	Vertical	135.0	22.0	54
2483.550000	32.8	150.0	Vertical	180.0	21.2	54
2500.050000	30.7	150.0	Vertical	225.0	23.3	54

Channel 78



Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Margin (dB)	Limit (dBuV/m)
2310.050000	38.8	150.0	Vertical	45.0	35.2	74
2344.700000	42.1	150.0	Vertical	135.0	31.9	74
2390.025000	42.6	150.0	Vertical	0.0	31.4	74
2483.550000	42.9	150.0	Vertical	180.0	31.1	74
2500.050000	39.9	150.0	Vertical	135.0	34.1	74

2.8. Number of hopping Frequency

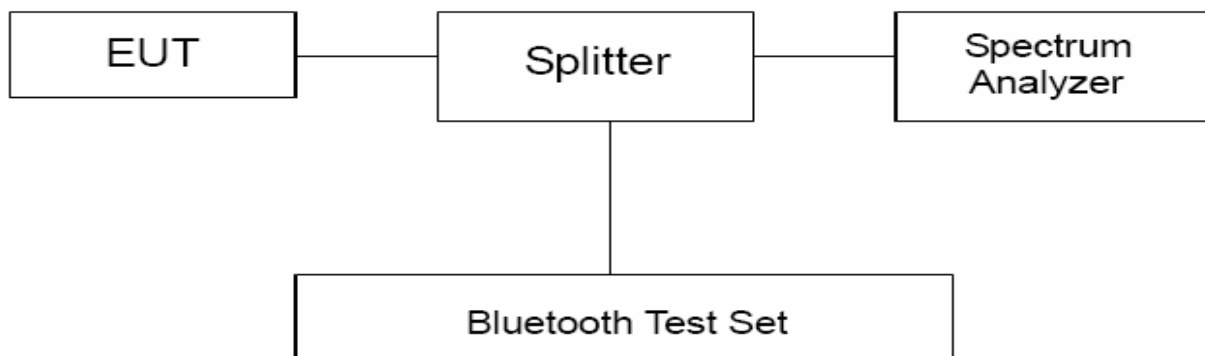
Ambient condition

Temperature	Relative humidity	Pressure
24°C	55%	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. Set EUT ON Hopping on mode.

Test setup



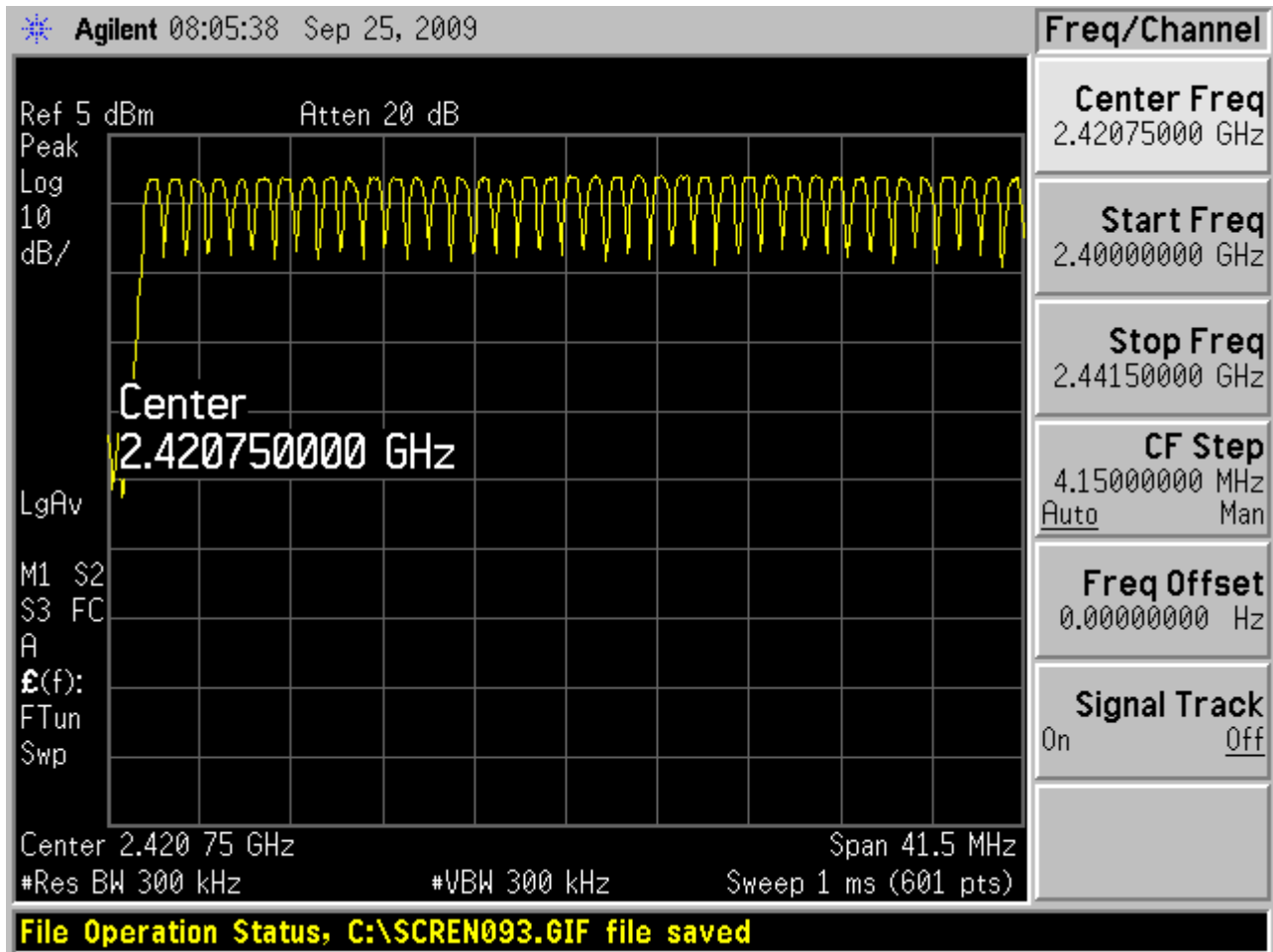
Limits

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..".

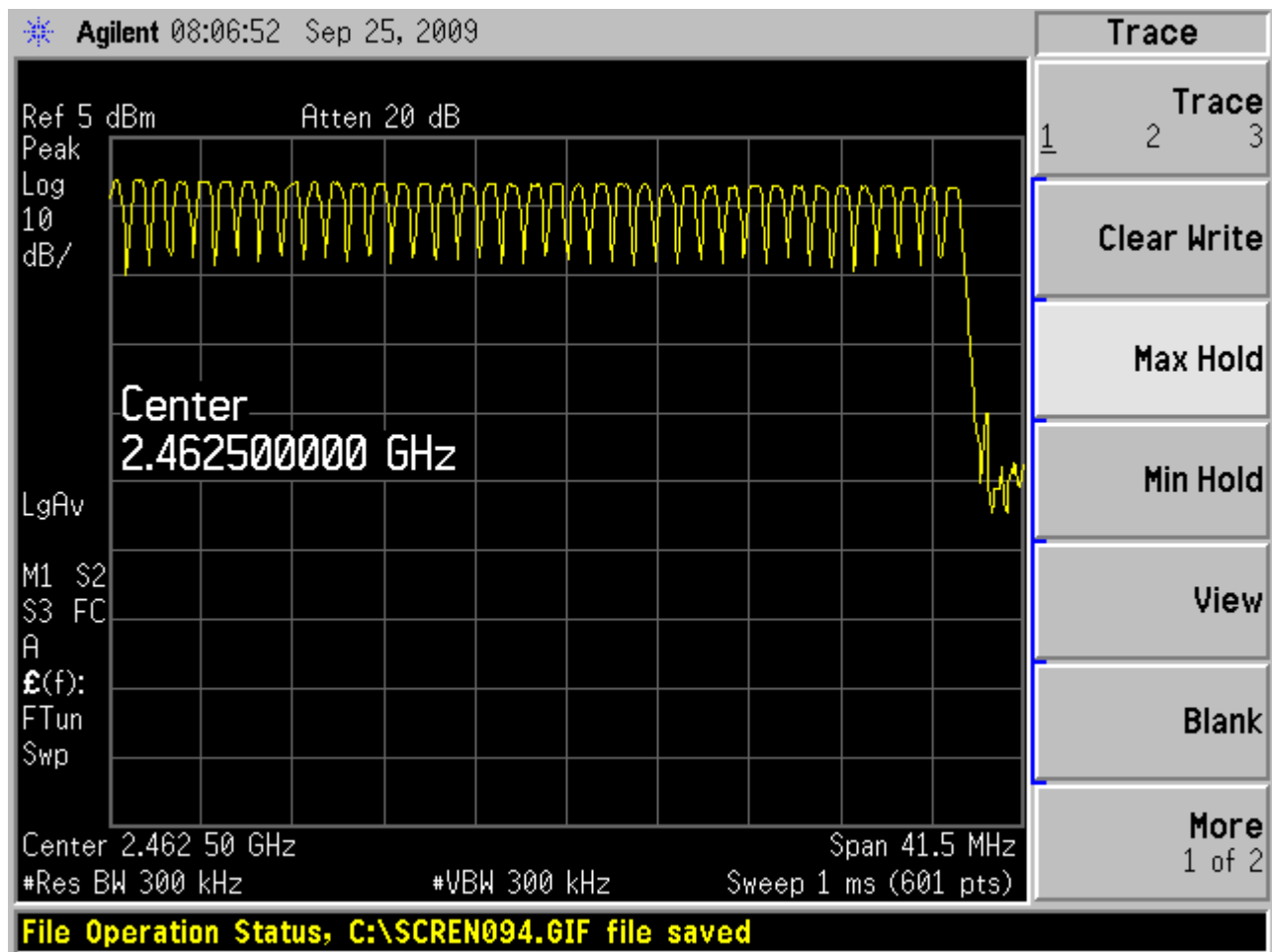
Limits	≥ 75 channels
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Test Results:

Carrier frequency MHz	Number of hopping channels	conclusion
2441	79	PASS



2400 MHz – 2441 MHz



2441 MHz – 2483.5 MHz

2.9. Spurious RF Conducted Emissions

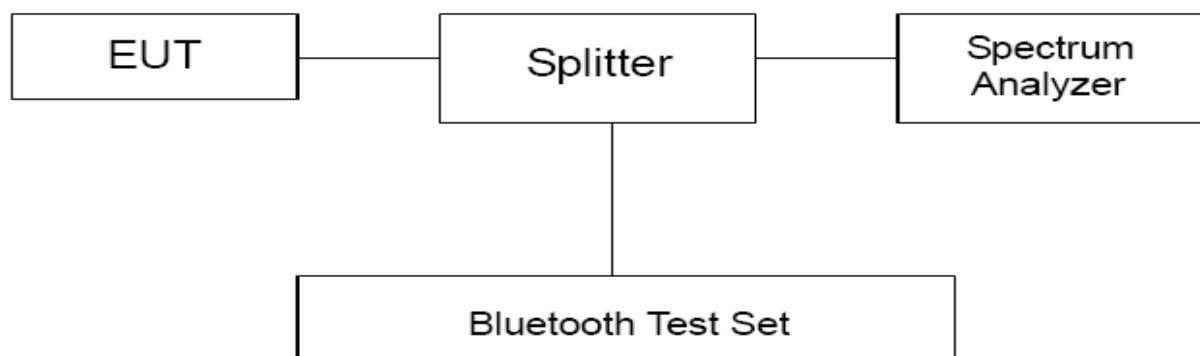
Ambient condition

Temperature	Relative humidity	Pressure
24°C	55%	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 and RBW is set to 100 kHz on spectrum analyzer.

Test setup



Limits

Rule Part 15.247(d) specifies 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	-1.45	≤ -21.45
2441	-1.32	≤ -21.32
2480	-2.31	≤ -22.31

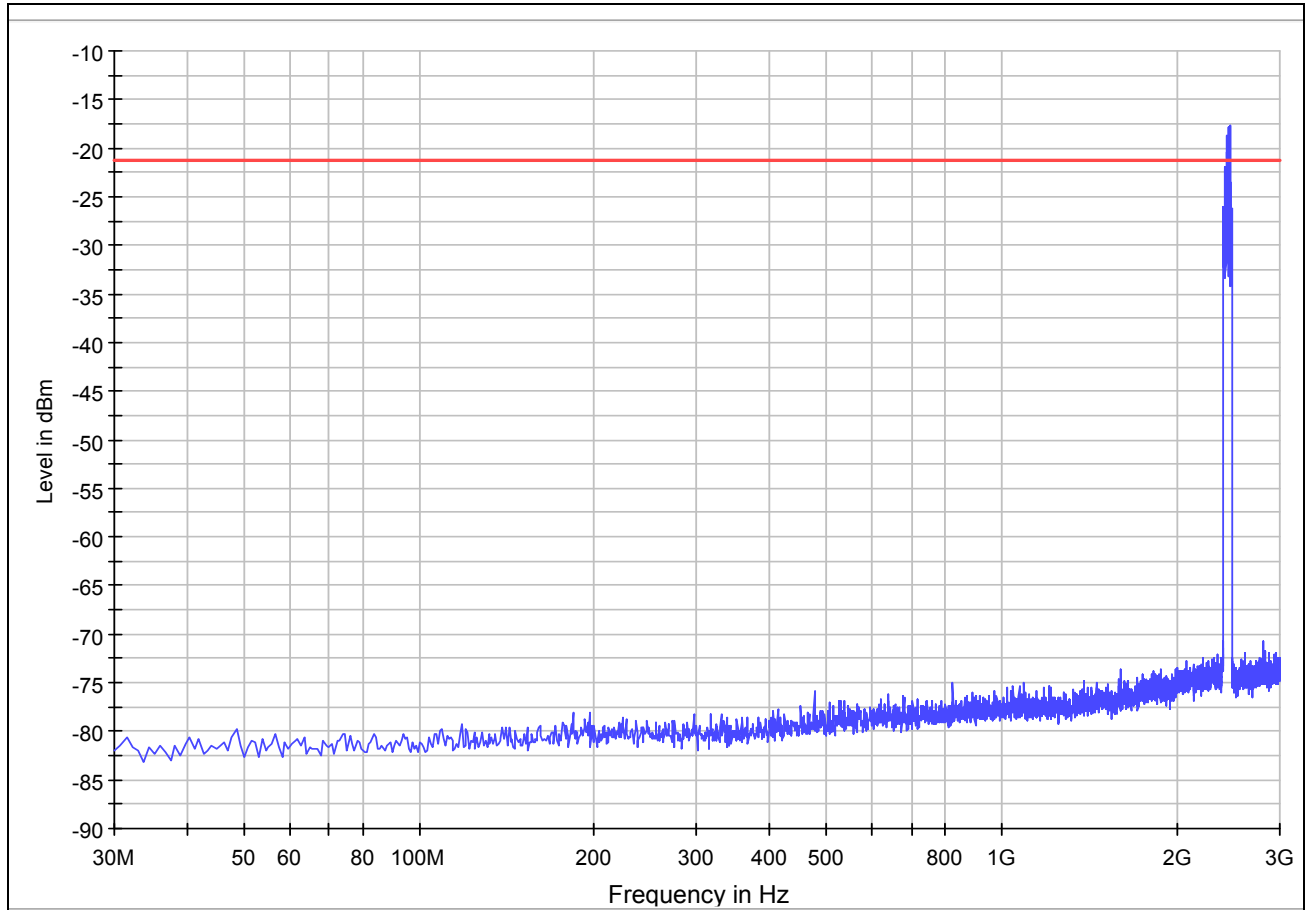
Measurement Uncertainty

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

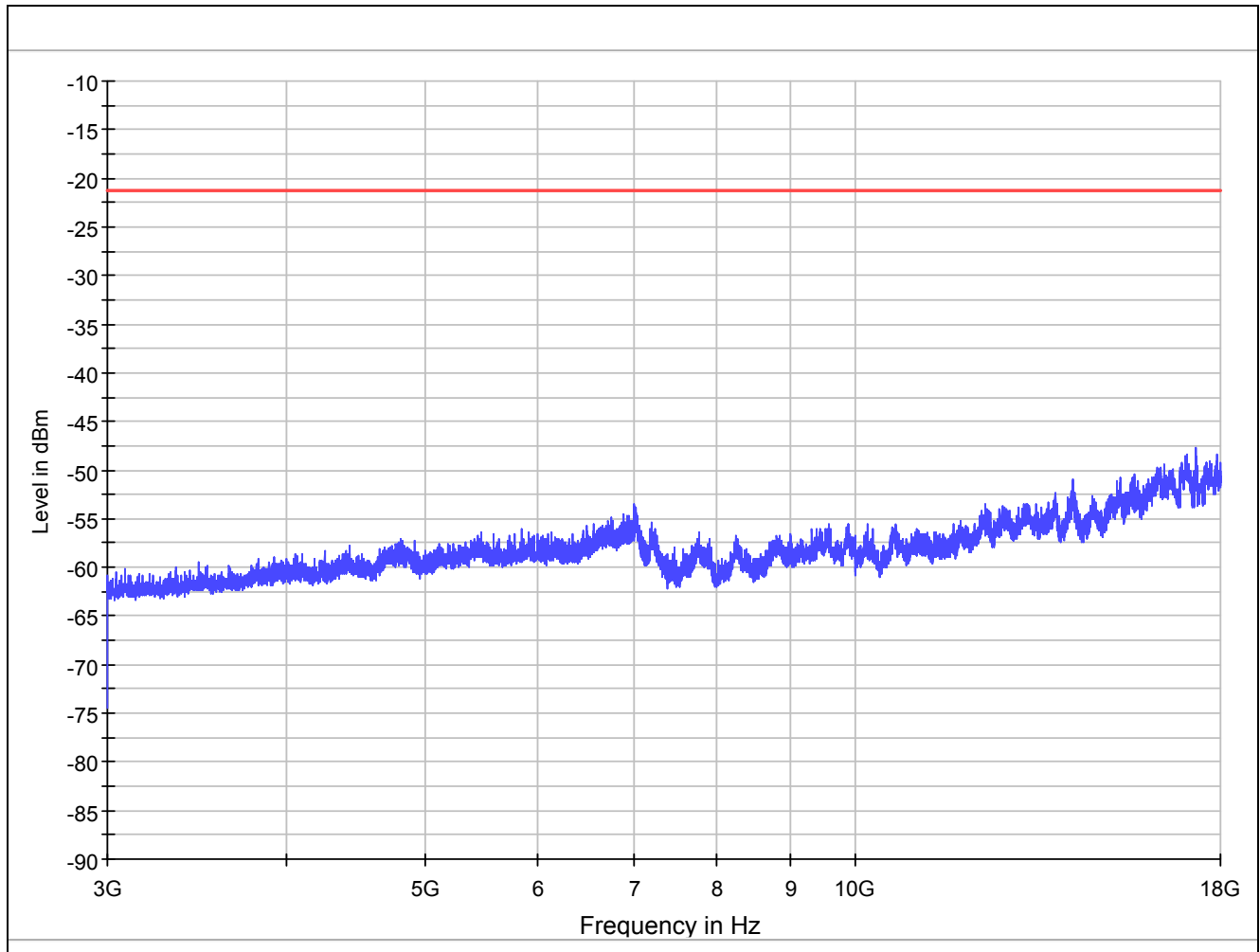
Test Results:

CH0:

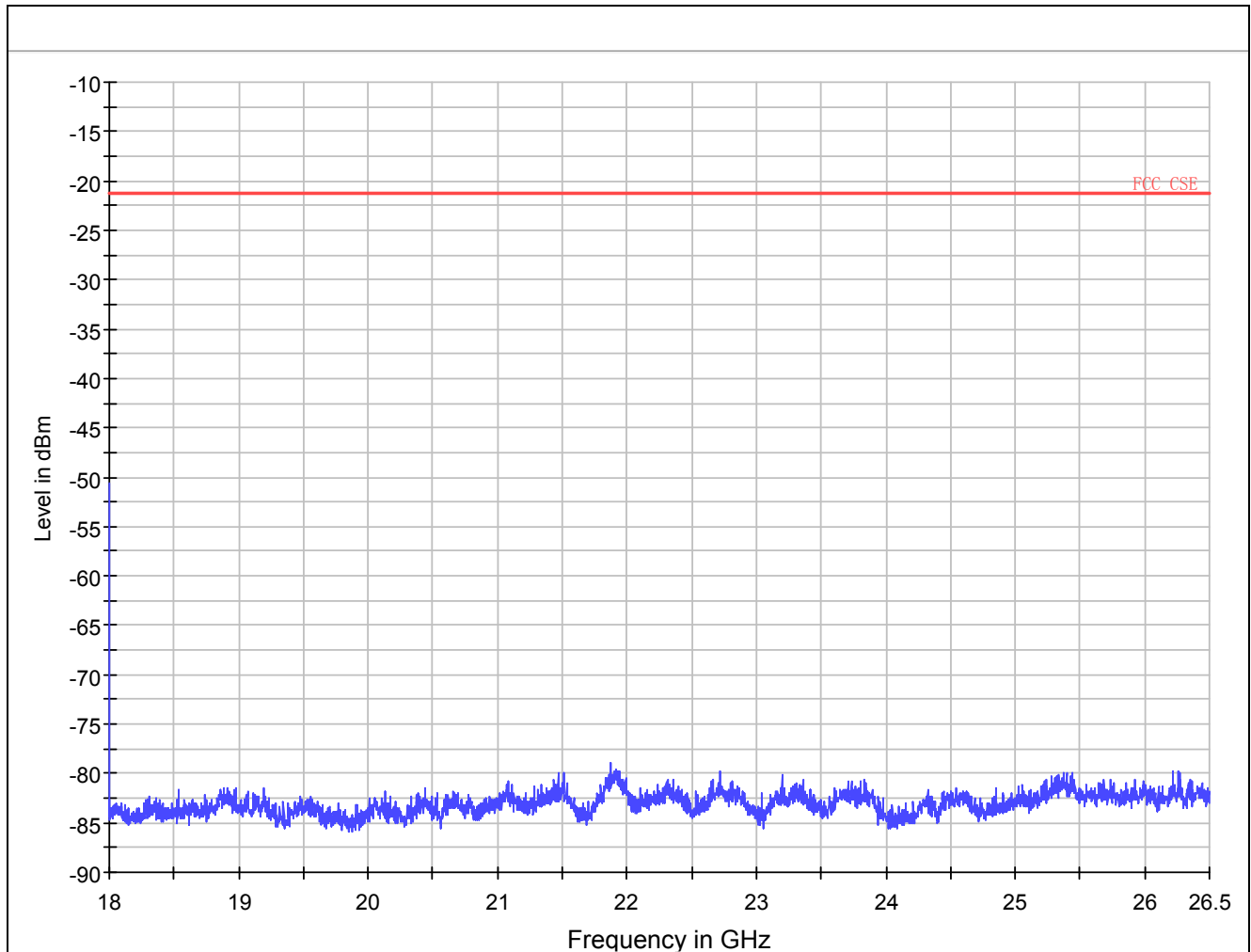


Note: The signal beyond the limit is carrier. Carrier frequency (MHz): 2402

Spurious RF conducted emissions from 30MHz to 3GHz



Spurious RF conducted emissions from 3GHz to 18GHz

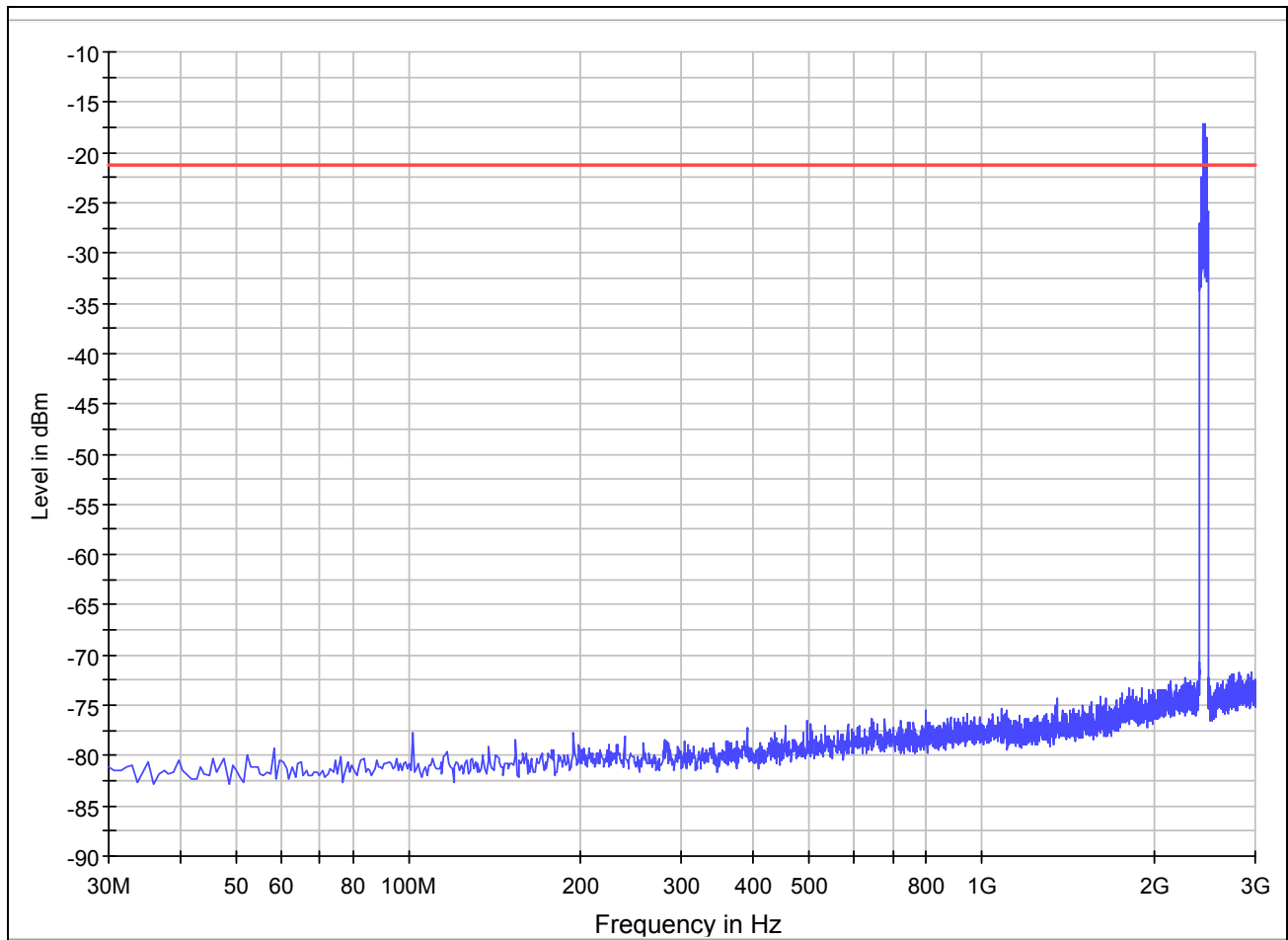


Spurious RF conducted emissions from 18GHz to 26.5GHz

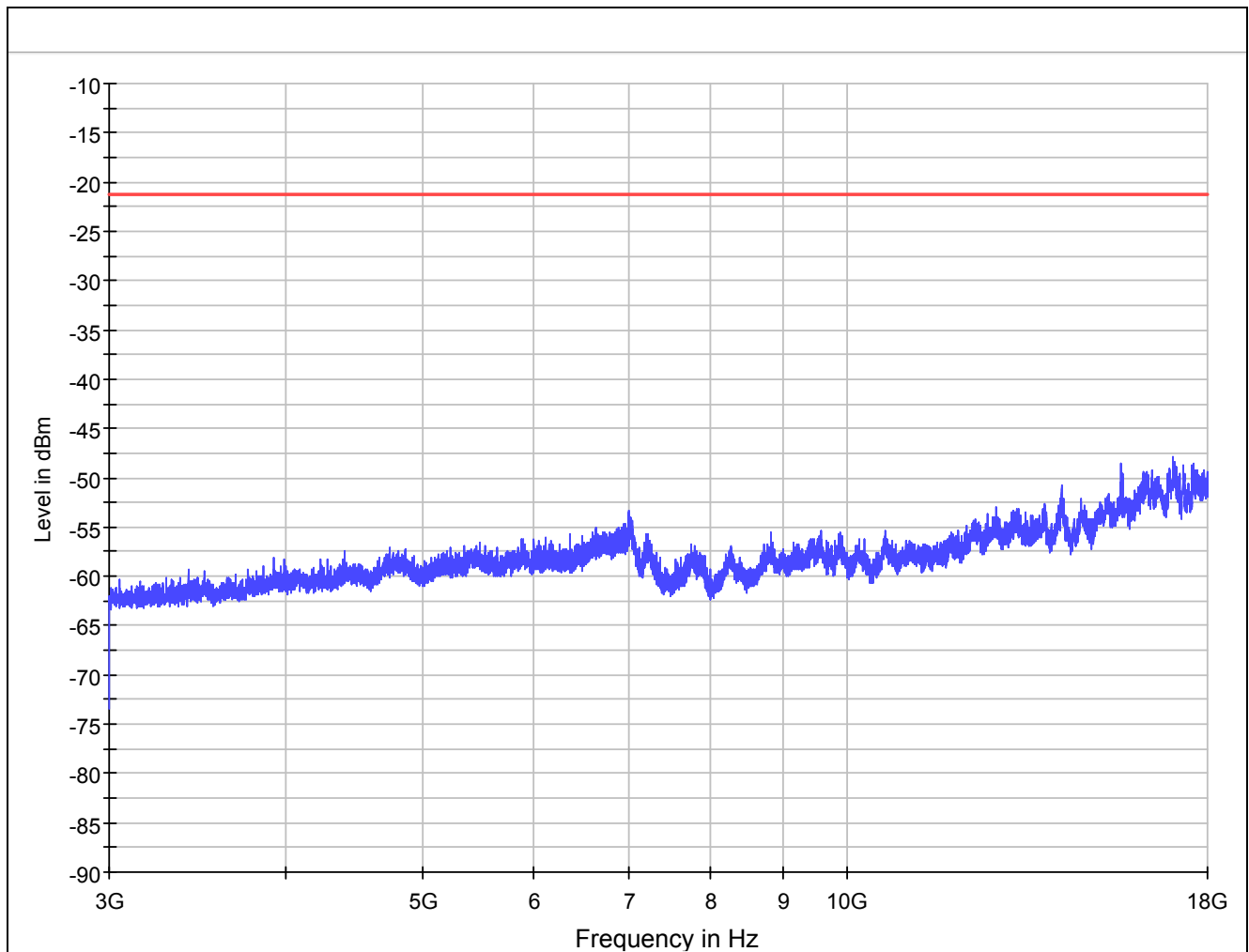
Harmonic	TX ch.0 Frequency (MHz)	Level (dBm)	Limit (dBm)
2	4804	Nf	-21.45
3	7206	Nf	-21.45
4	9608	Nf	-21.45
5	12010	Nf	-21.45
6	14412	Nf	-21.45
7	16814	Nf	-21.45
8	19216	Nf	-21.45
9	21618	Nf	-21.45
10	24020	Nf	-21.45
Nf: noise floor			

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

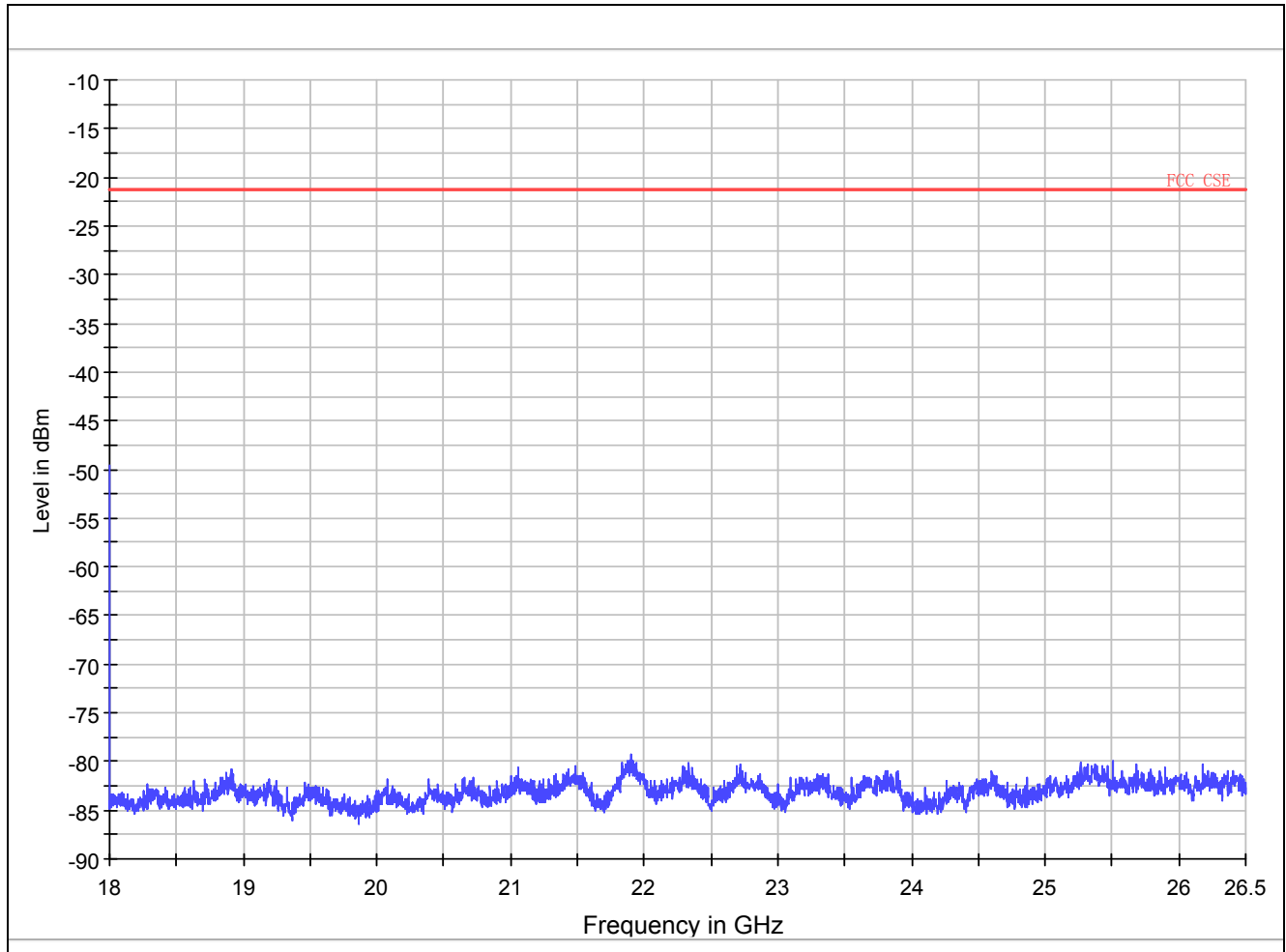
CH39:



Note: The signal beyond the limit is carrier. Carrier frequency (MHz): 2441
Spurious RF conducted emissions from 30MHz to 3GHz



Spurious RF conducted emissions from 3GHz to 18GHz

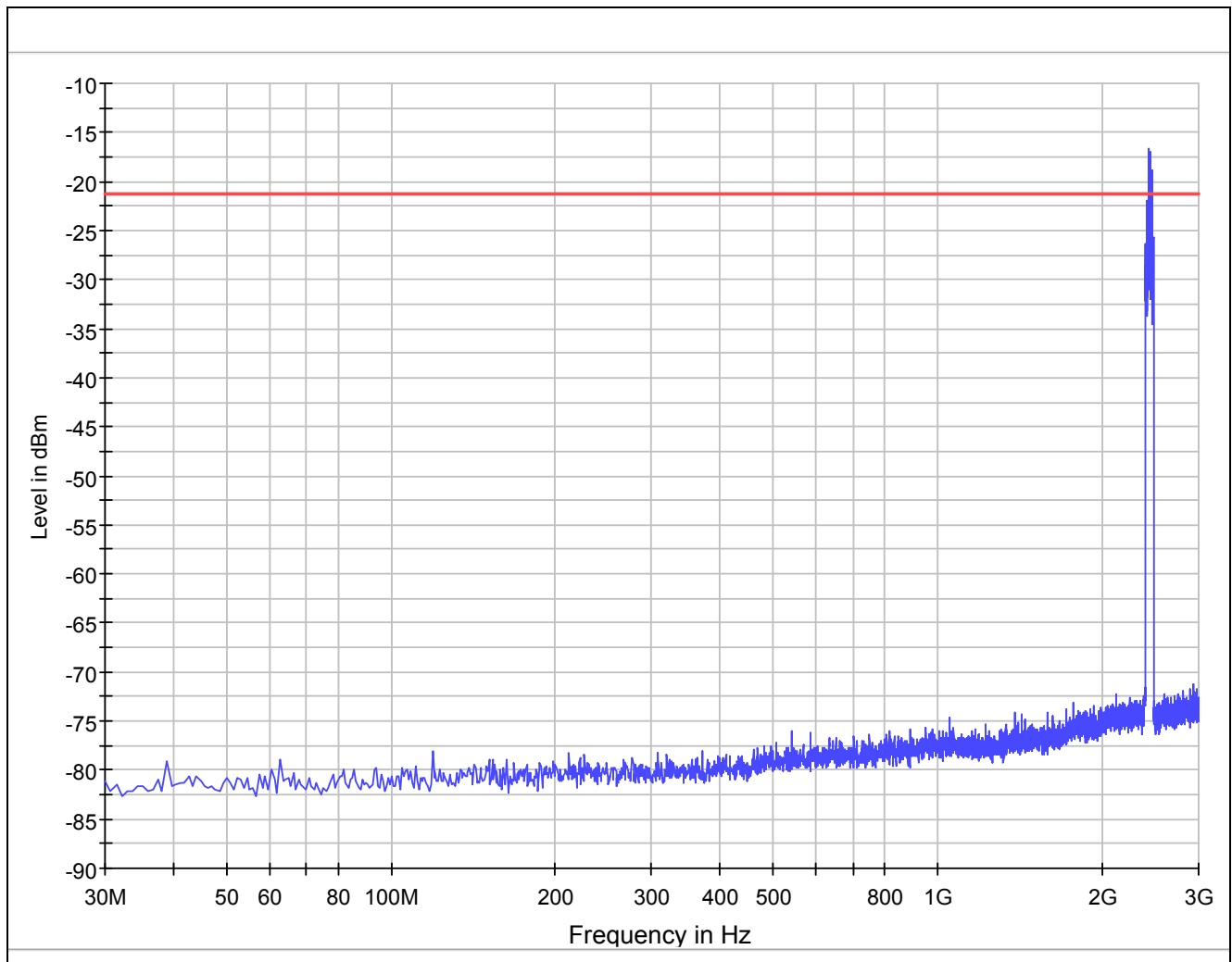


Spurious RF conducted emissions from 18GHz to 26.5GHz

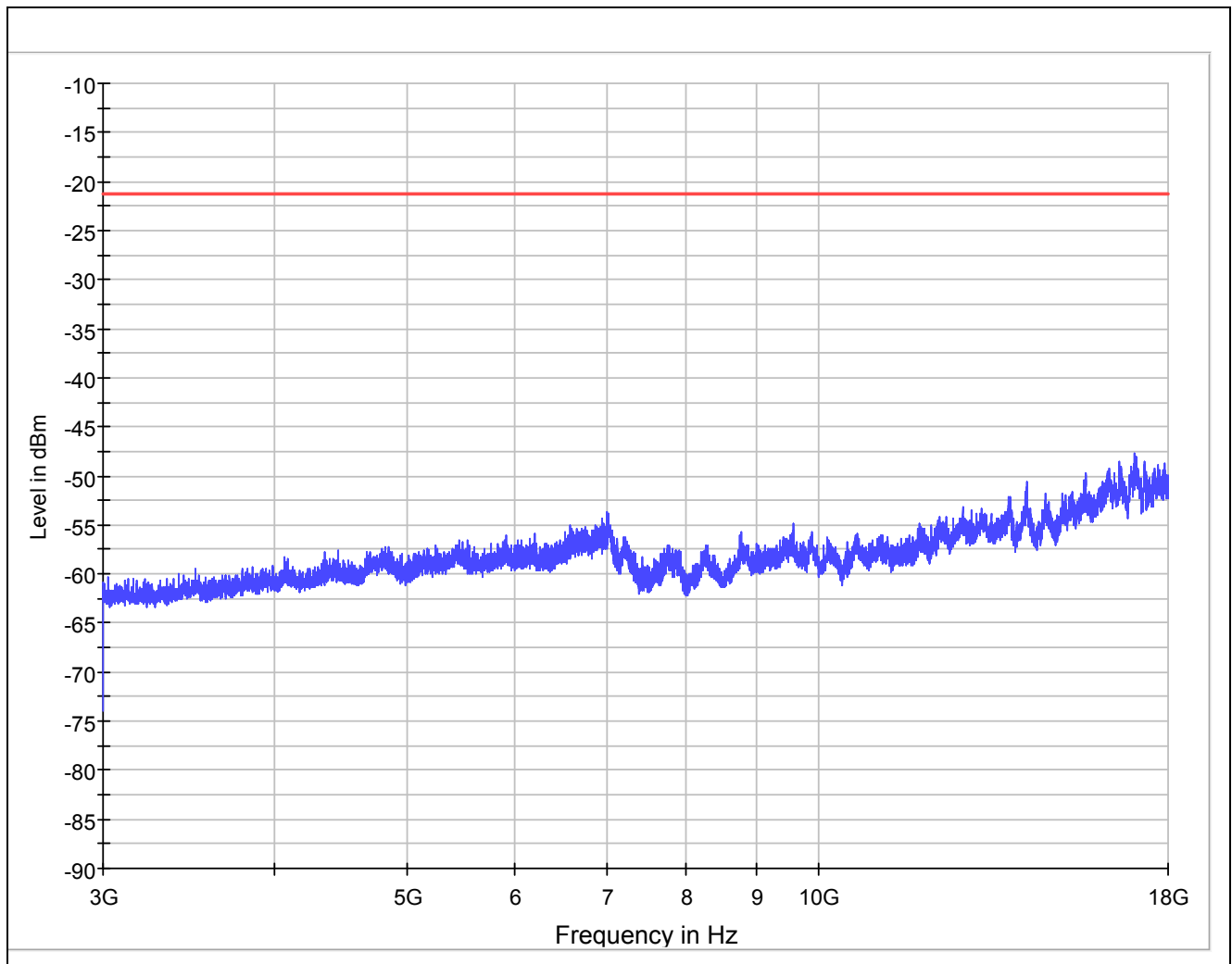
Harmonic	TX ch.39 Frequency (MHz)	Level (dBm)	Limit (dBm)
2	4882	Nf	-21.32
3	7323	Nf	-21.32
4	9764	Nf	-21.32
5	12205	Nf	-21.32
6	14646	Nf	-21.32
7	17087	Nf	-21.32
8	19528	Nf	-21.32
9	21969	Nf	-21.32
10	24410	Nf	-21.32
Nf: noise floor			

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

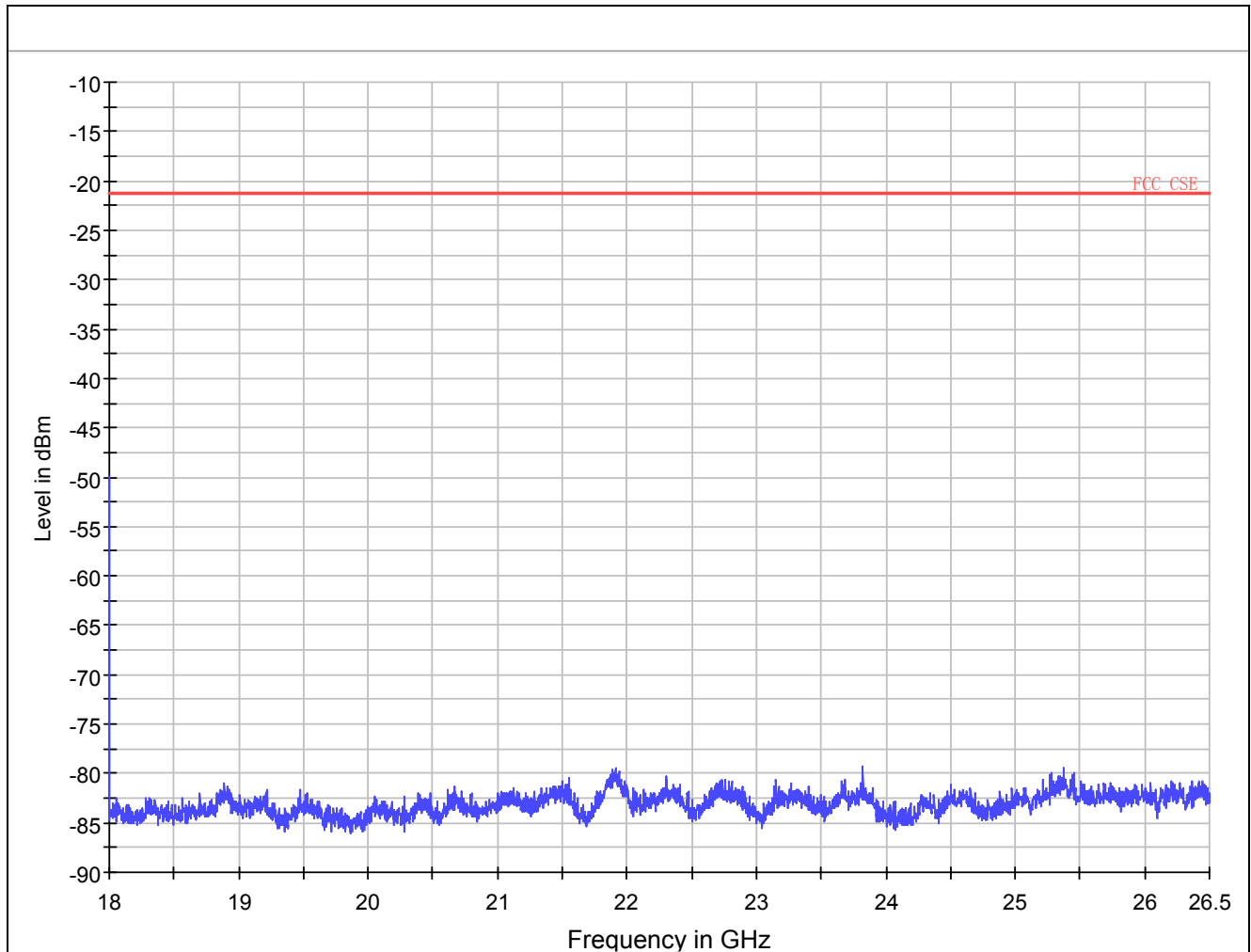
CH78



Note: The signal beyond the limit is carrier. Carrier frequency (MHz): 2480
Spurious RF conducted emissions from 30MHz to 3GHz



Spurious RF conducted emissions from 3GHz to 18GHz



Spurious RF conducted emissions from 18GHz to 26.5GHz

Harmonic	TX ch.78 Frequency (MHz)	Level (dBm)	Limit (dBm)
2	4960	Nf	-22.31
3	7440	Nf	-22.31
4	9920	Nf	-22.31
5	12400	Nf	-22.31
6	14880	Nf	-22.31
7	17360	Nf	-22.31
8	19840	Nf	-22.31
9	22320	Nf	-22.31
10	24800	Nf	-22.31
Nf: noise floor			

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

2.10. Radiates Emission

Ambient condition

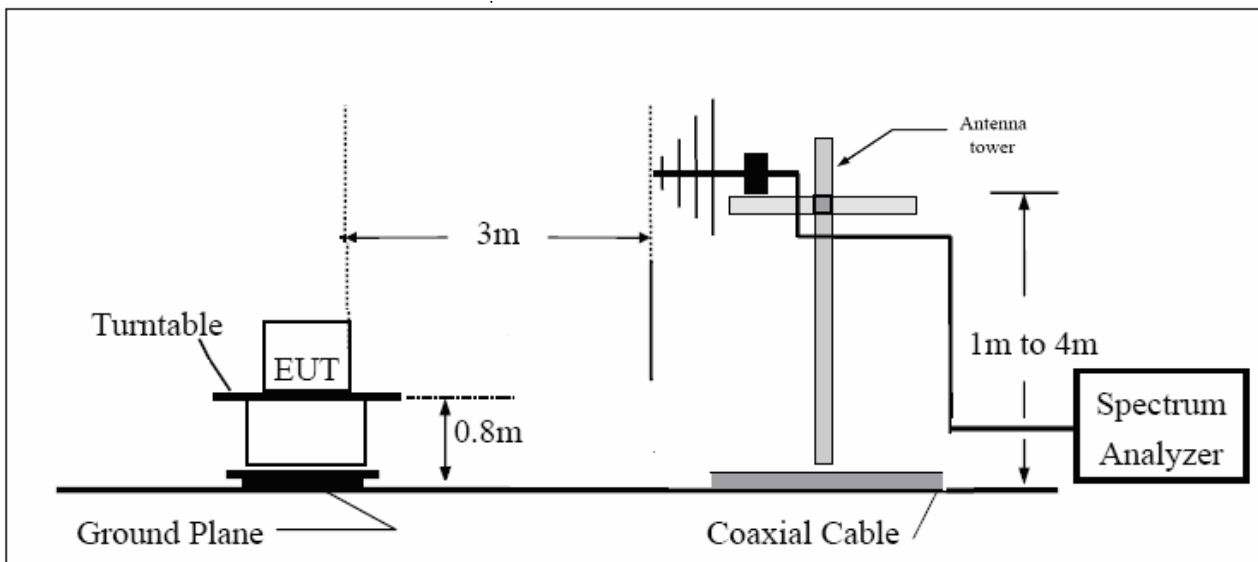
Temperature	Relative humidity	Pressure
24°C	50%	102.5kPa

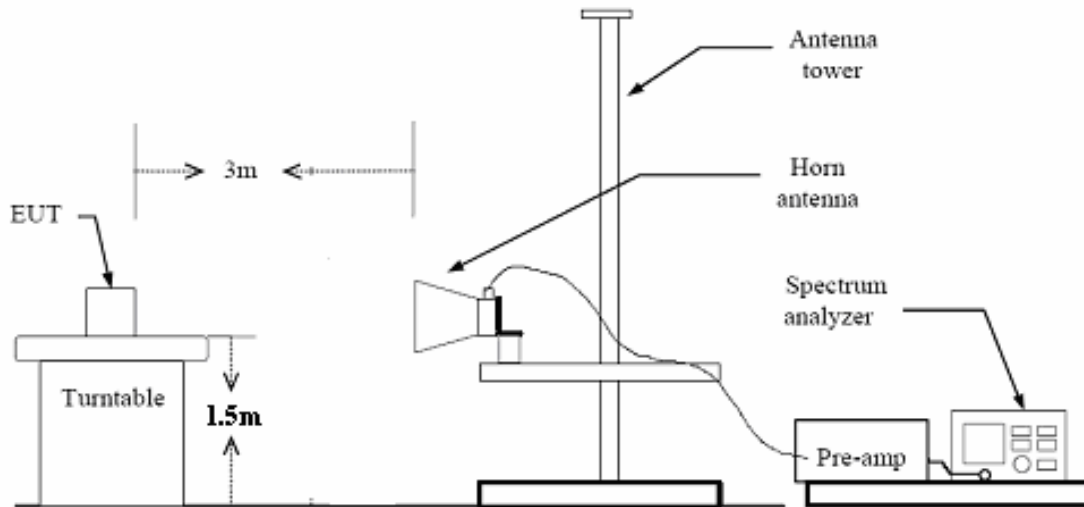
Method of Measurement

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 to 26GHz 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.

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)

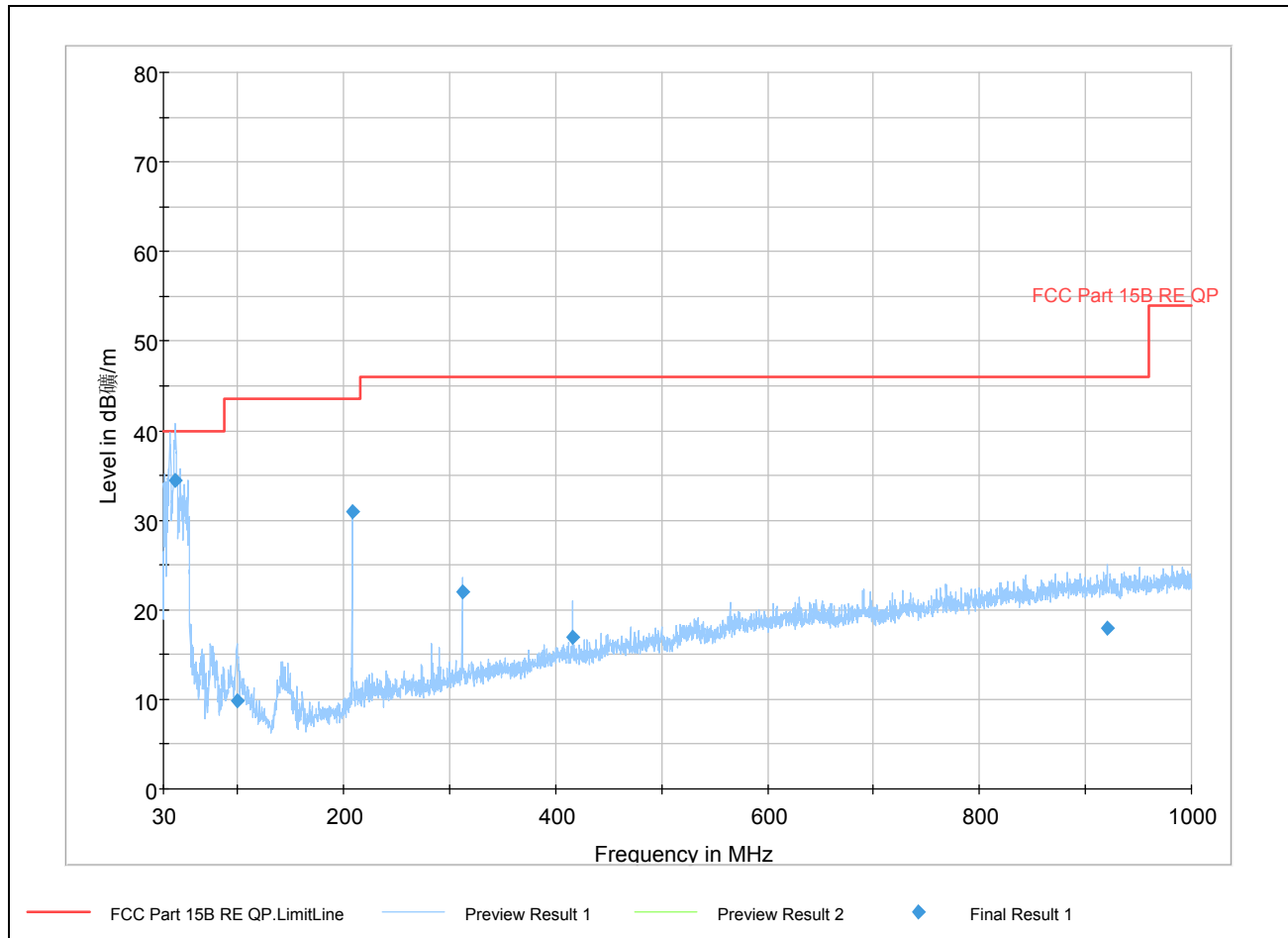
There is also a limit on the radio frequency emissions, as measured using instrumentation with a peak detector function, corresponding to 20 dB above the maximum permitted average limit.

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

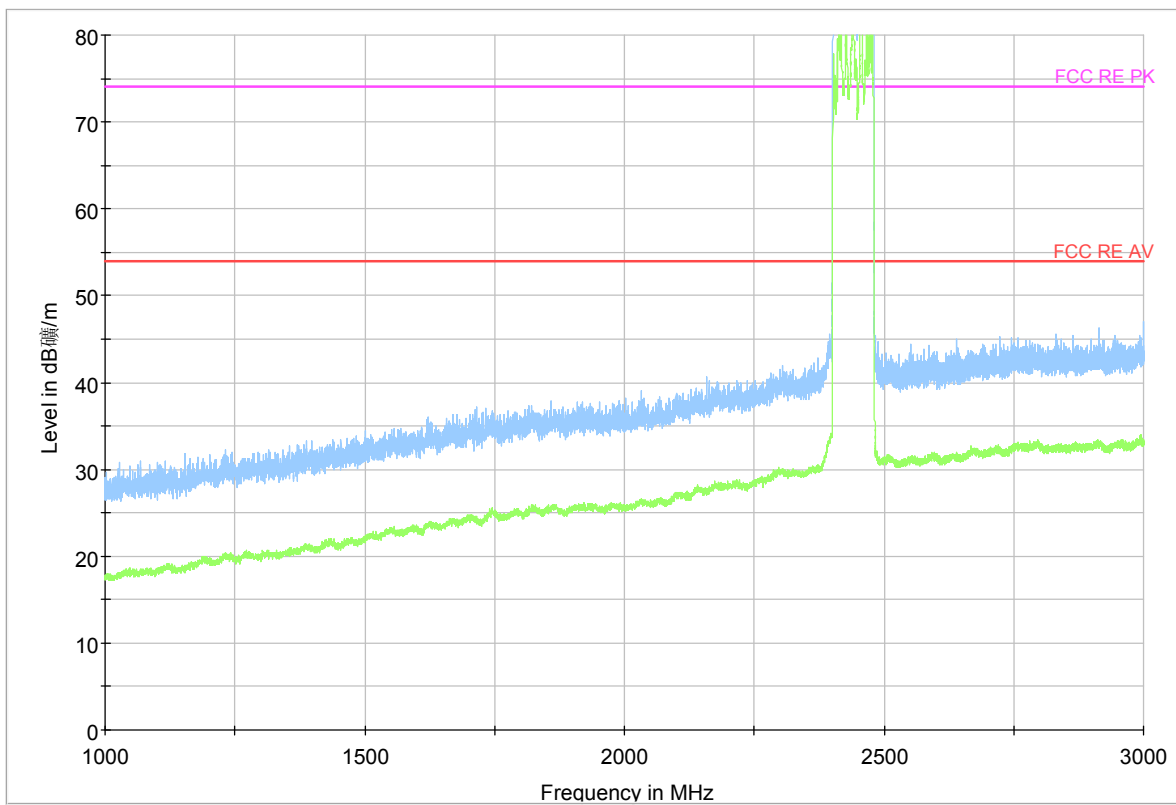
Channel 0



Radiates Emission from 30MHz to 1GHz

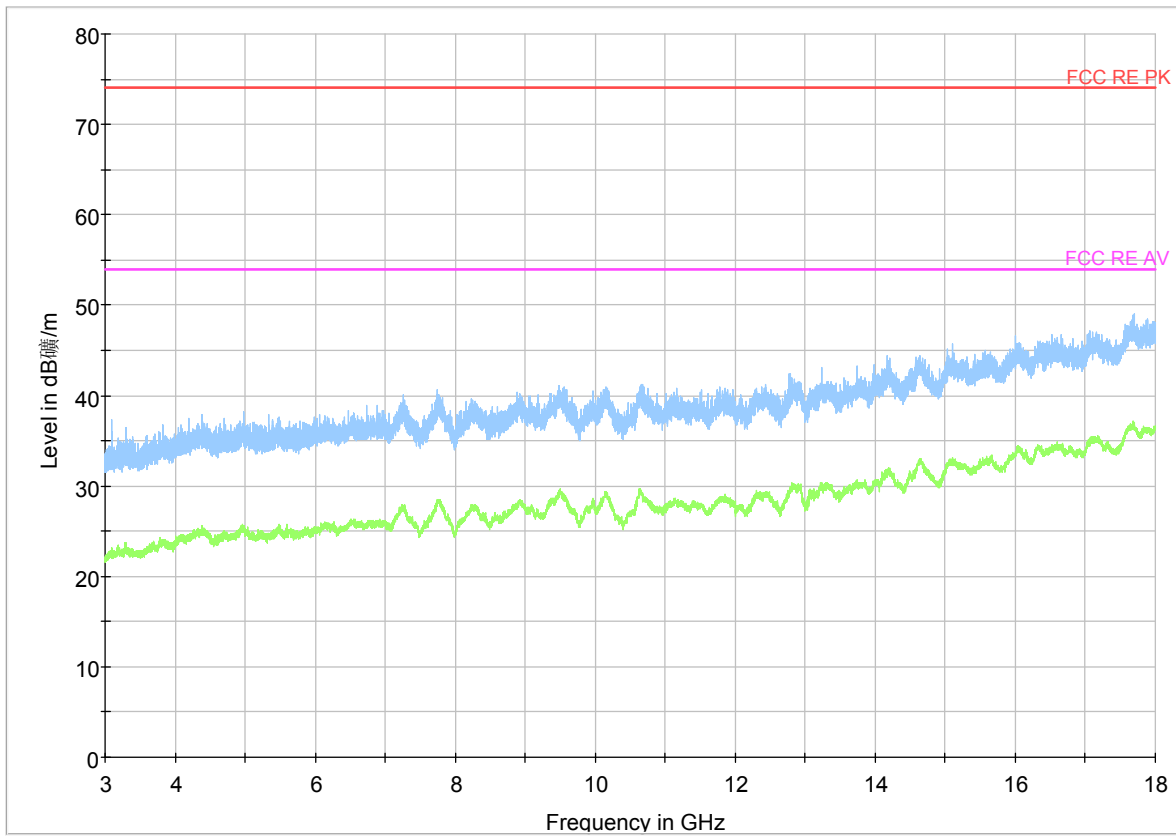
Frequency (MHz)	Quasi-Peak (dB μ V/m)	Height (cm)	Polarization	Azimuth (deg)	Margin (dB)	Limit (dB μ V/m)
41.397500	34.5	100.0	Vertical	129.0	5.5	40.0
99.112500	9.8	100.0	Vertical	108.0	33.7	43.5
207.995000	31.0	100.0	Vertical	66.0	12.5	43.5
312.027500	22.0	100.0	Vertical	22.0	24.0	46.0
416.060000	16.9	123.0	Vertical	161.0	29.1	46.0
920.460000	17.9	123.0	Vertical	266.0	28.1	46.0

Note: All emissions level measured above 1GHz was more than 10dB below the limit

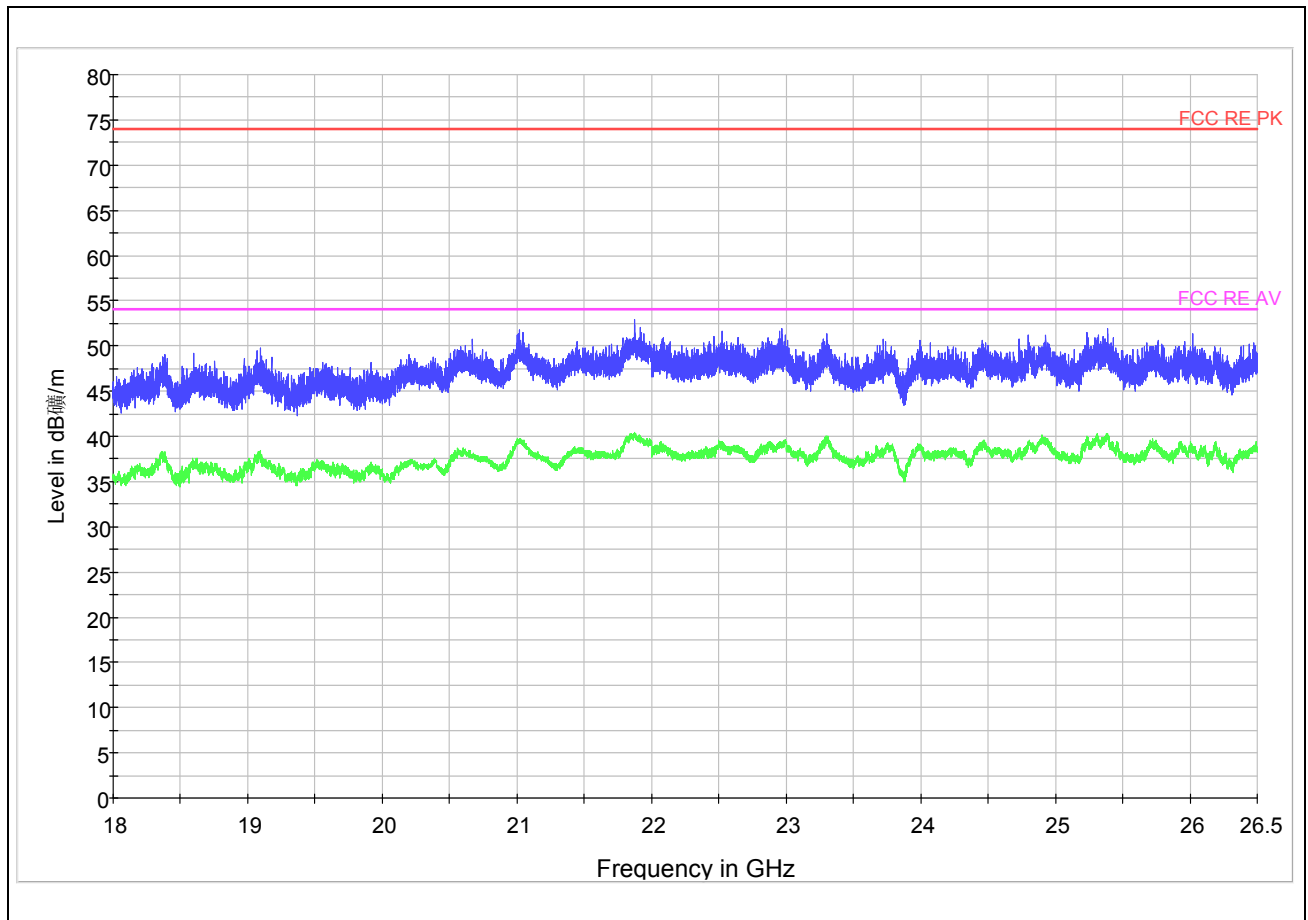


Note: The signal beyond the limit is carrier.

Radiates Emission from 1GHz to 3GHz

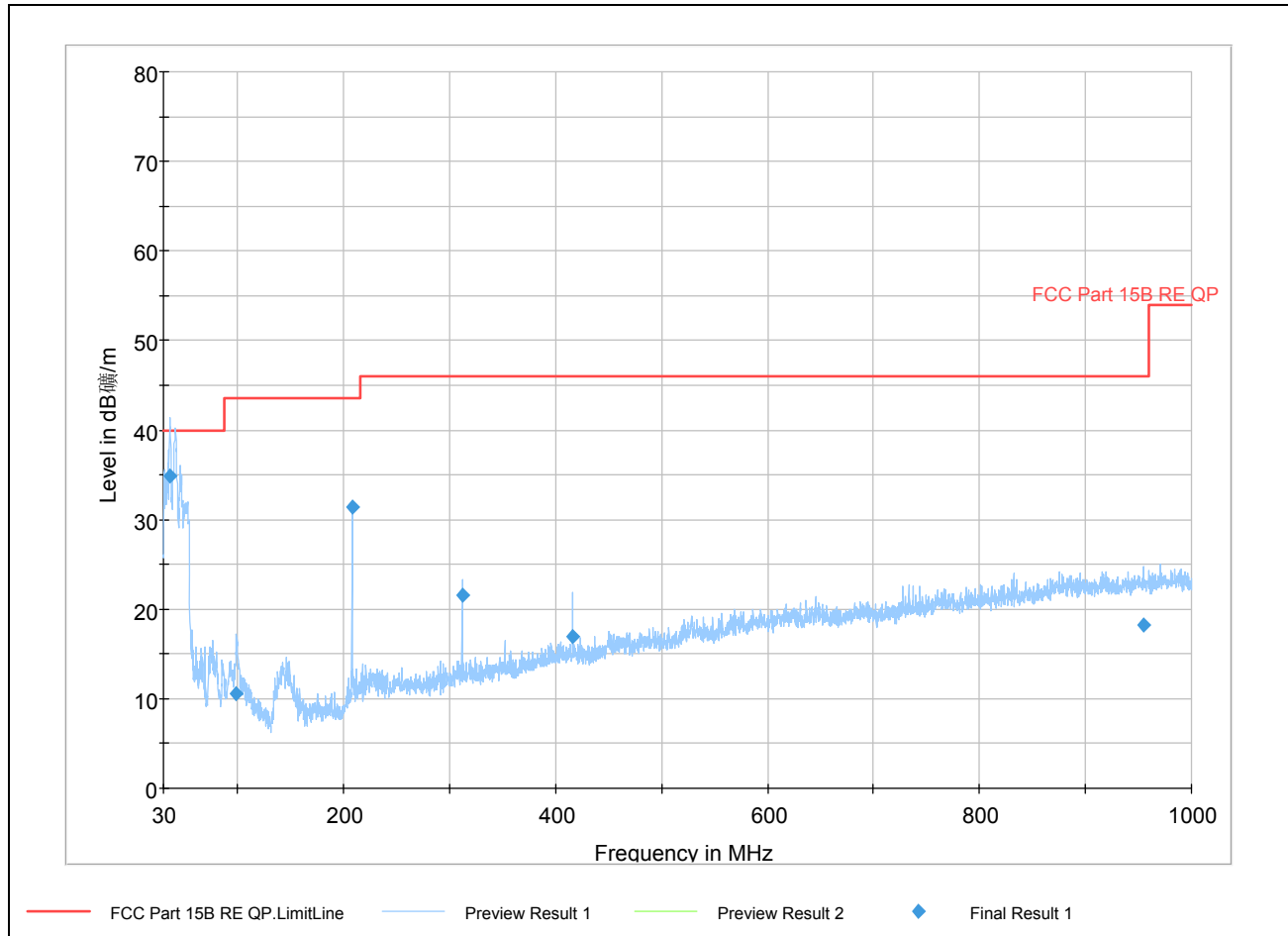


Radiates Emission from 3GHz to 18GHz



Radiates Emission from 18GHz to 26.5GHz

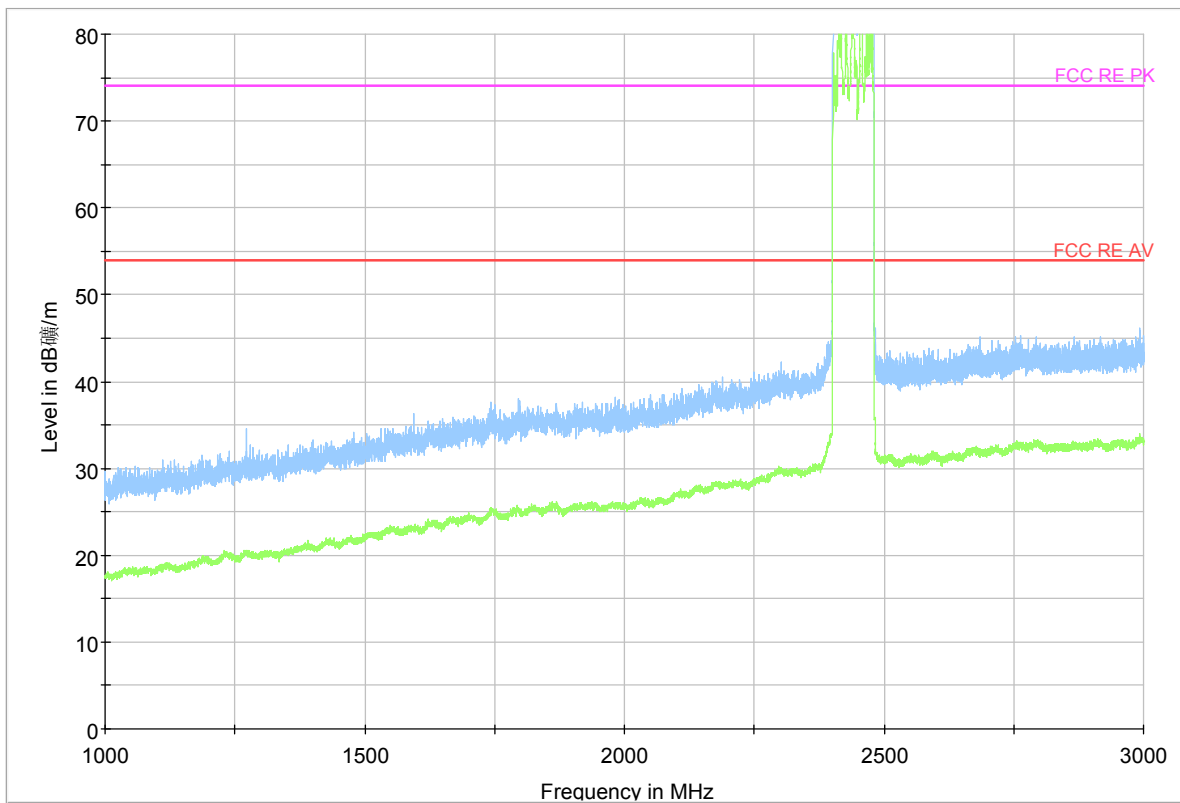
Channel 39



Radiates Emission from 30MHz to 1GHz

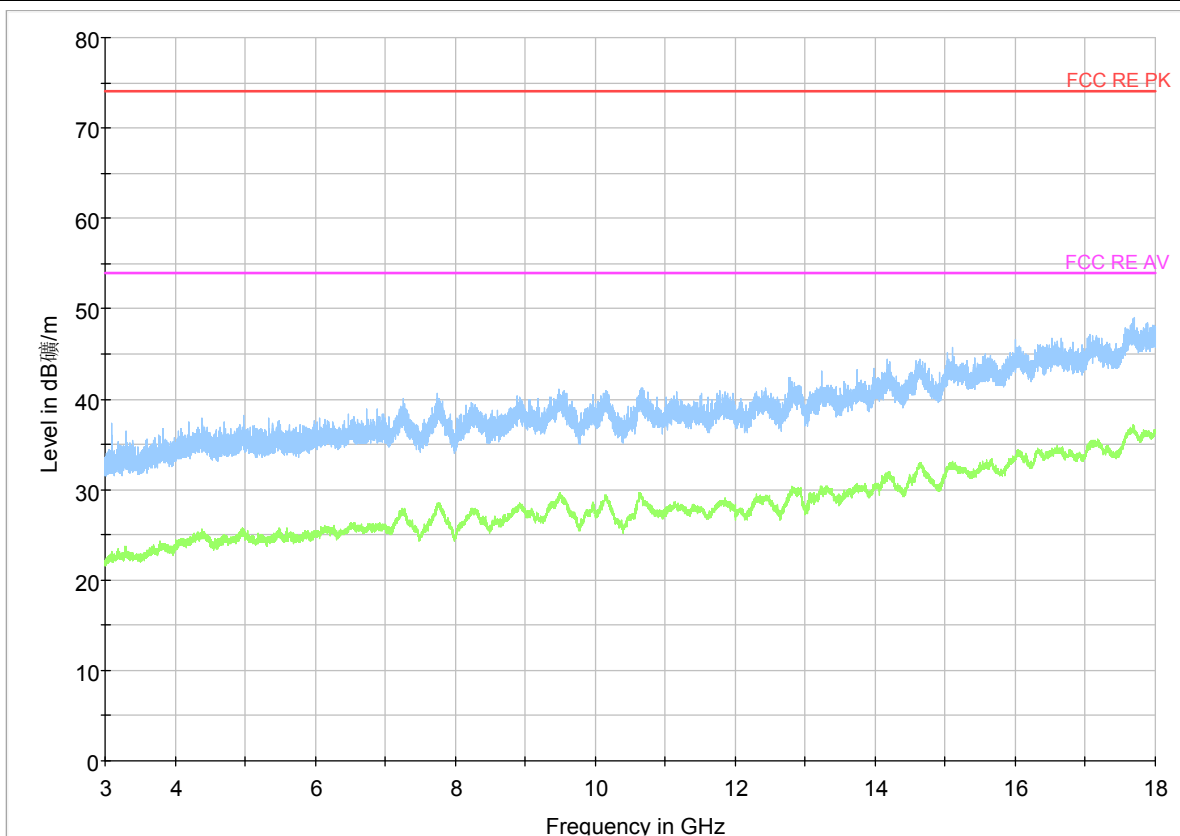
Frequency (MHz)	Quasi-Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Margin (dB)	Limit (dBuV/m)
36.305000	34.8	100.0	Vertical	180.0	5.2	40.0
98.870000	10.6	100.0	Vertical	105.0	32.9	43.5
207.995000	31.4	116.0	Vertical	60.0	12.1	43.5
312.027500	21.6	100.0	Vertical	0.0	24.4	46.0
416.060000	16.9	123.0	Vertical	162.0	29.1	46.0
954.652500	18.2	100.0	Vertical	12.0	27.8	46.0

Note: All emissions level measured above 1GHz was more than 10dB below the limit

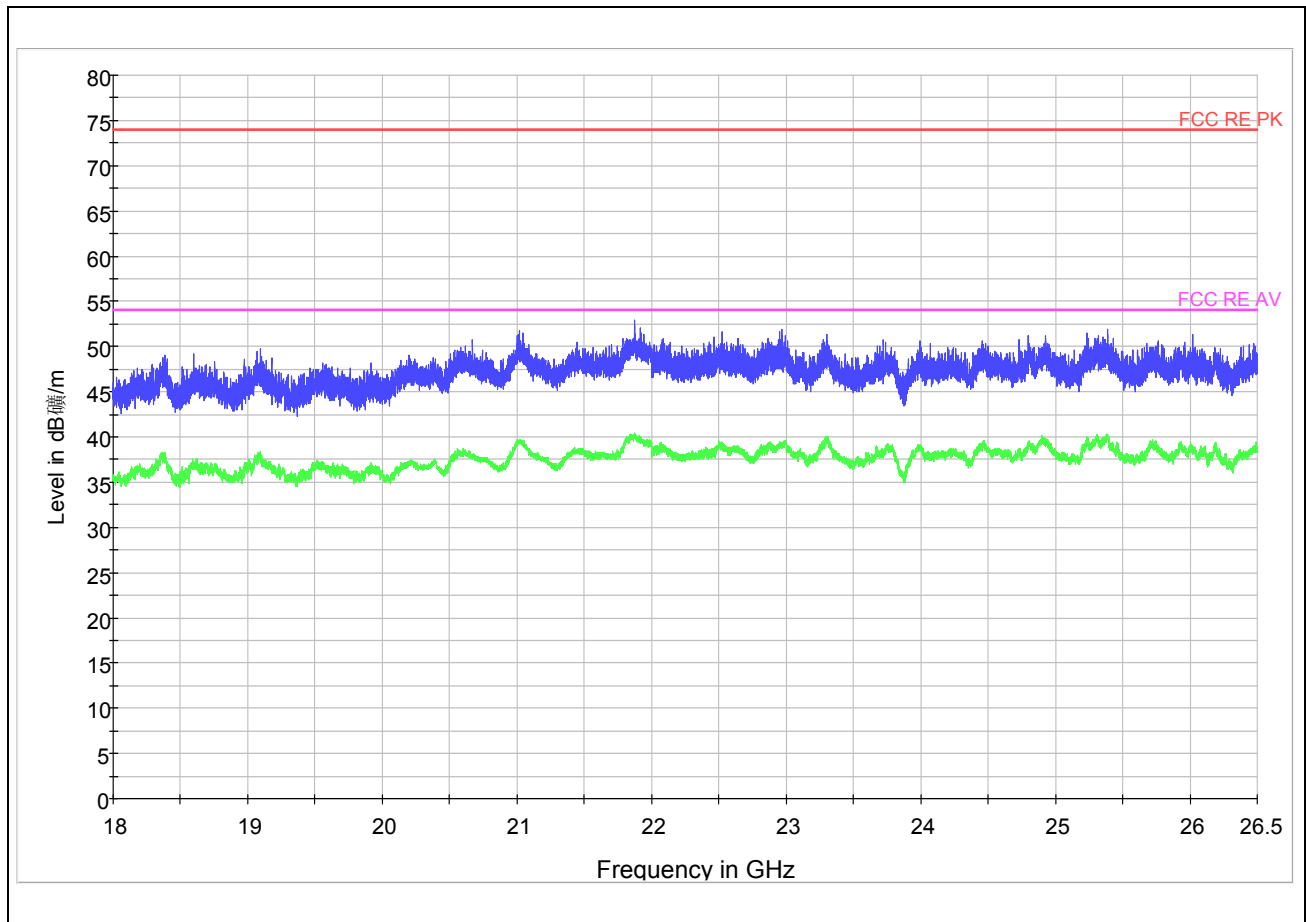


Note: The signal beyond the limit is carrier.

Radiates Emission from 1GHz to 3GHz

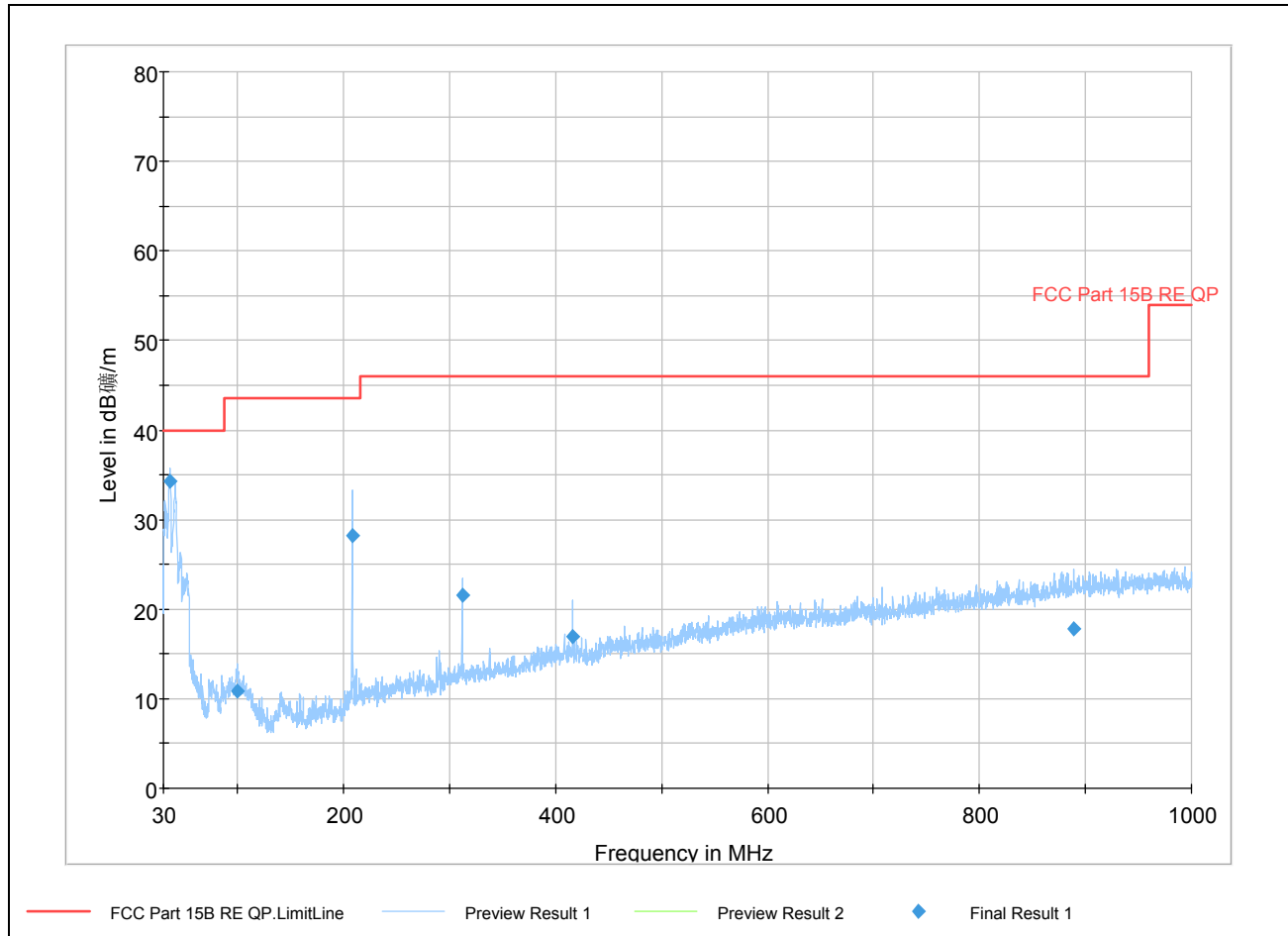


Radiates Emission from 3GHz to 18GHz



Radiates Emission from 18GHz to 26.5GHz

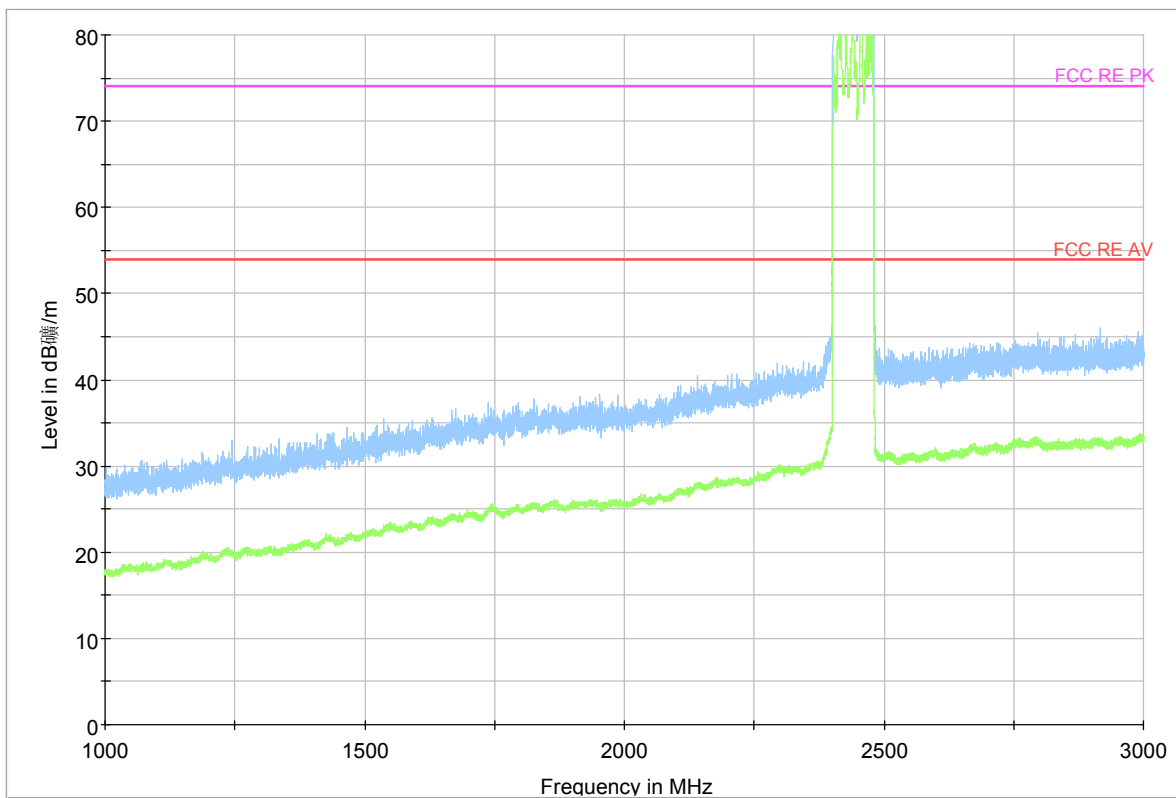
Channel 78



Radiates Emission from 30MHz to 1GHz

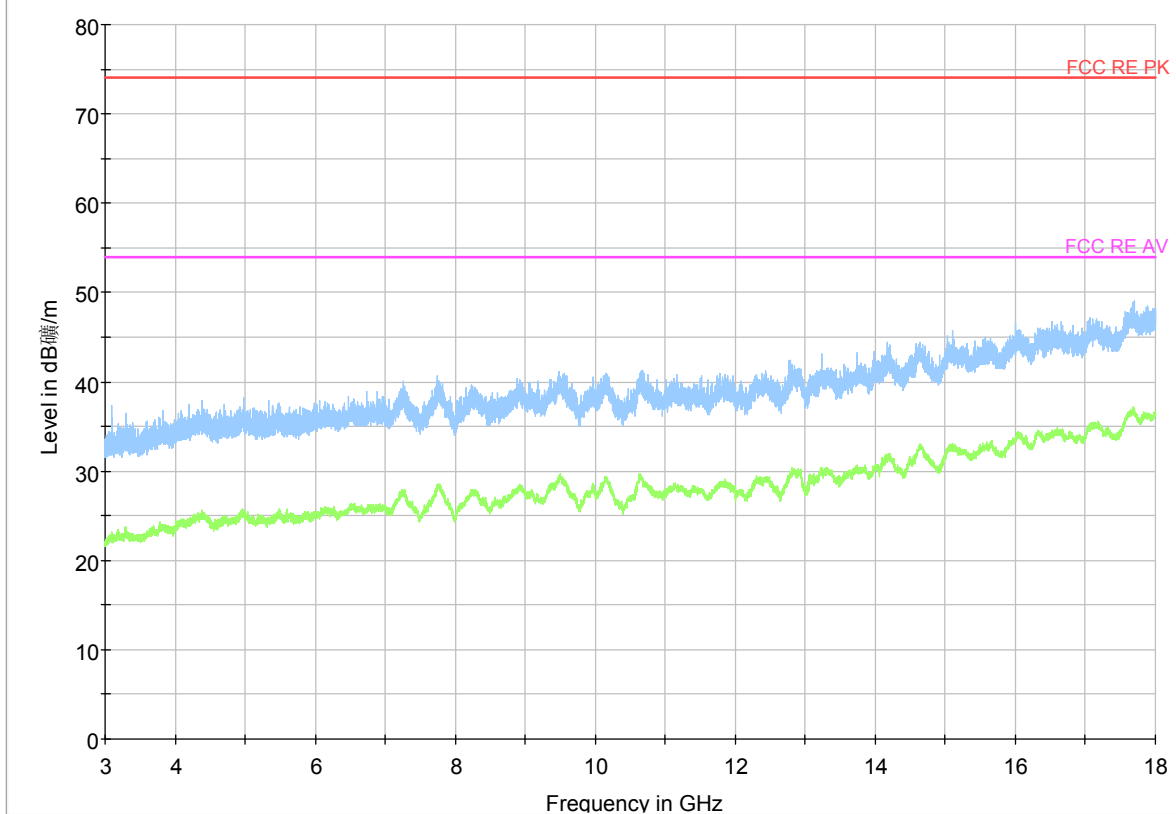
Frequency (MHz)	Quasi-Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Margin (dB)	Limit (dBuV/m)
35.820000	34.3	100.0	Vertical	180.0	5.7	40.0
99.355000	10.9	100.0	Vertical	104.0	32.6	43.5
207.995000	28.3	100.0	Vertical	176.0	15.2	43.5
312.027500	21.5	100.0	Vertical	1.0	24.5	46.0
416.060000	16.9	122.0	Vertical	162.0	29.1	46.0
888.935000	17.7	116.0	Vertical	41.0	28.3	46.0

Note: All emissions level measured above 1GHz was more than 10dB below the limit

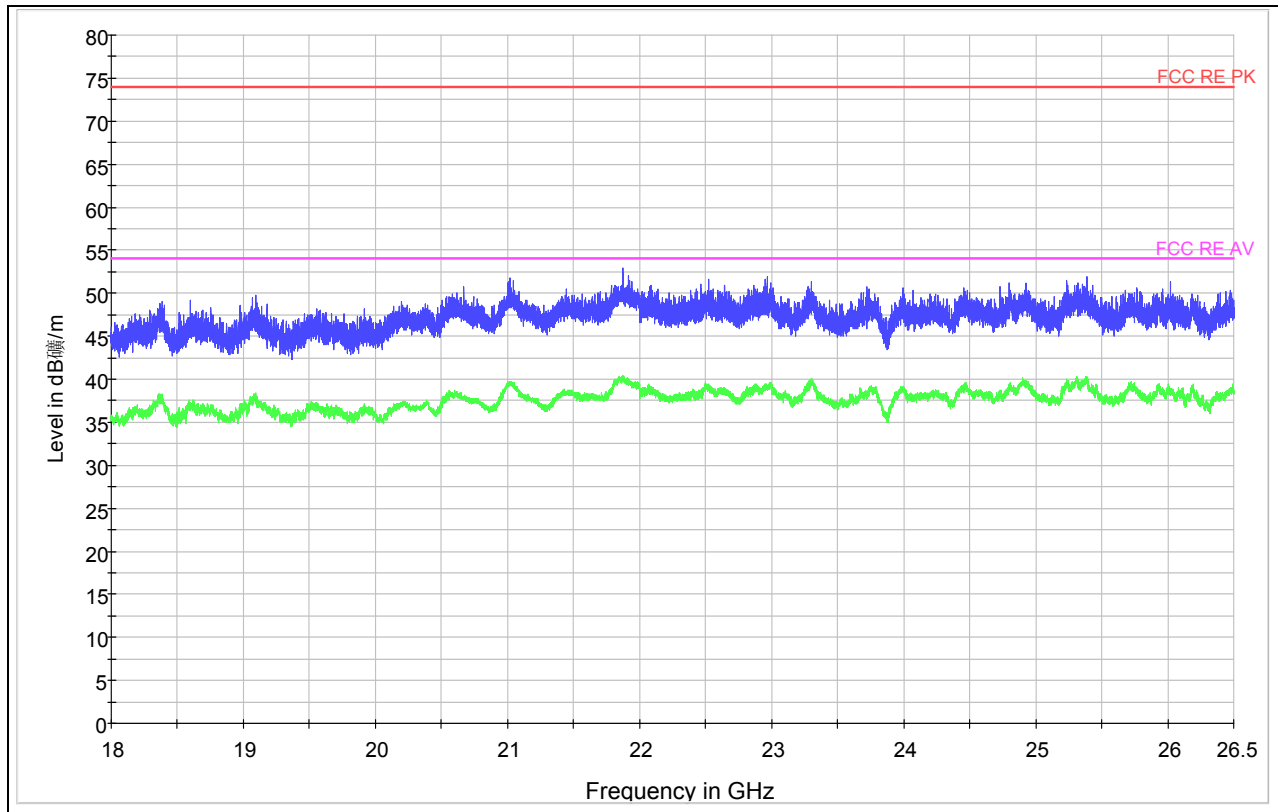


Note: The signal beyond the limit is carrier.

Radiates Emission from 1GHz to 3GHz



Radiates Emission from 3GHz to 18GHz



Radiates Emission from 18GHz to 26.5GHz

2.11. Conducted Emission

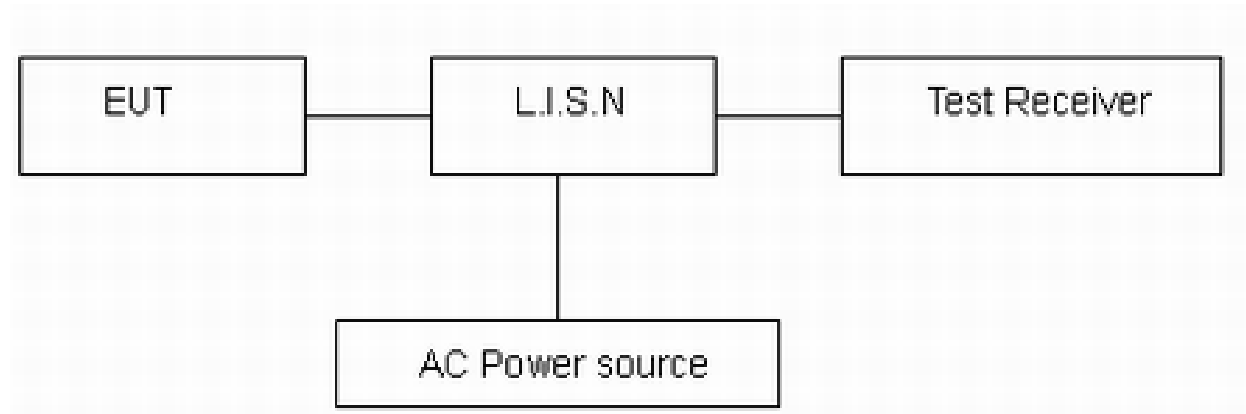
Ambient condition

Temperature	Relative humidity	Pressure
25°C	58%	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. The measurement result should include both L line and N line.

Test Setup



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

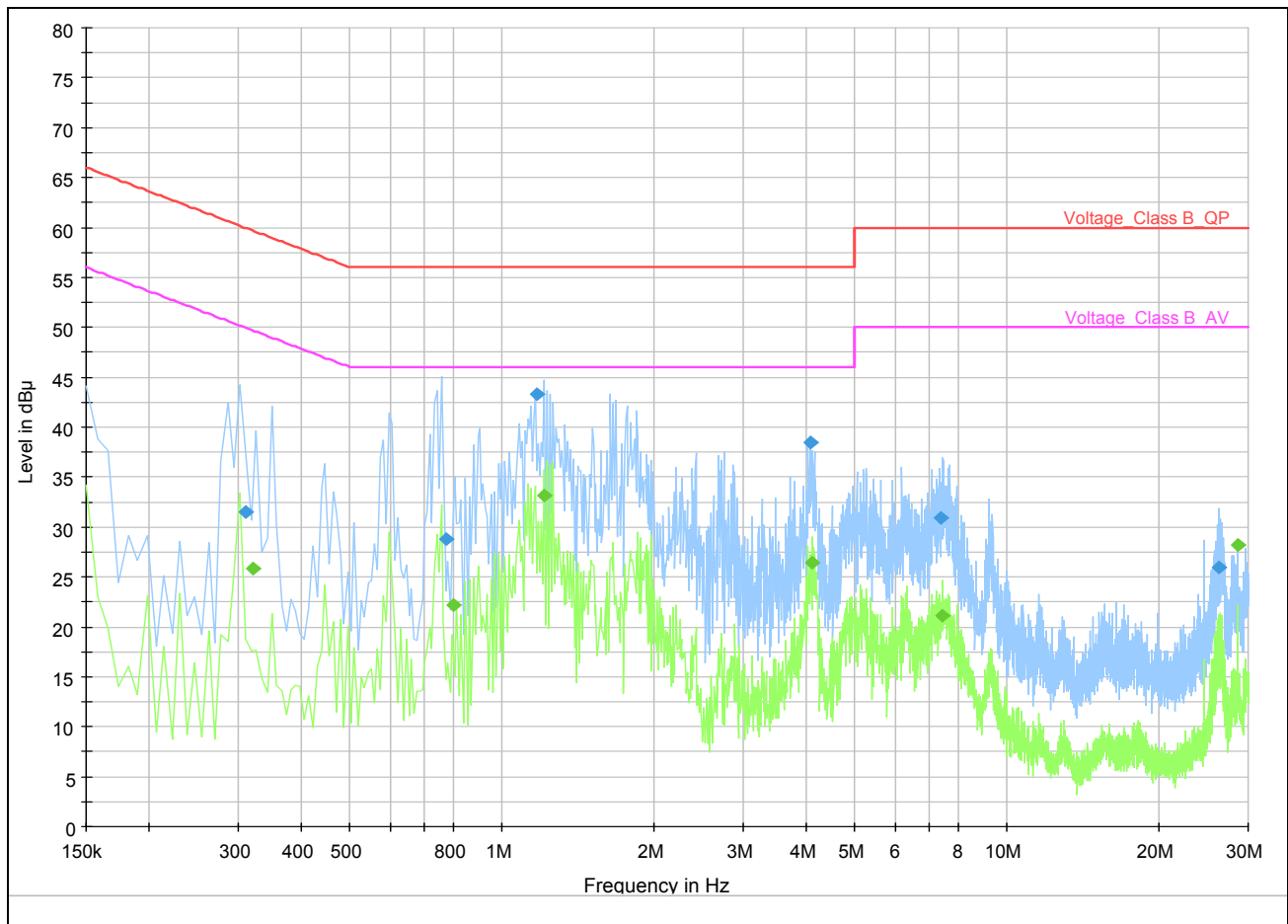
Limits

Frequency (MHz)	Conducted Limits(dB μ V)	
	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.		

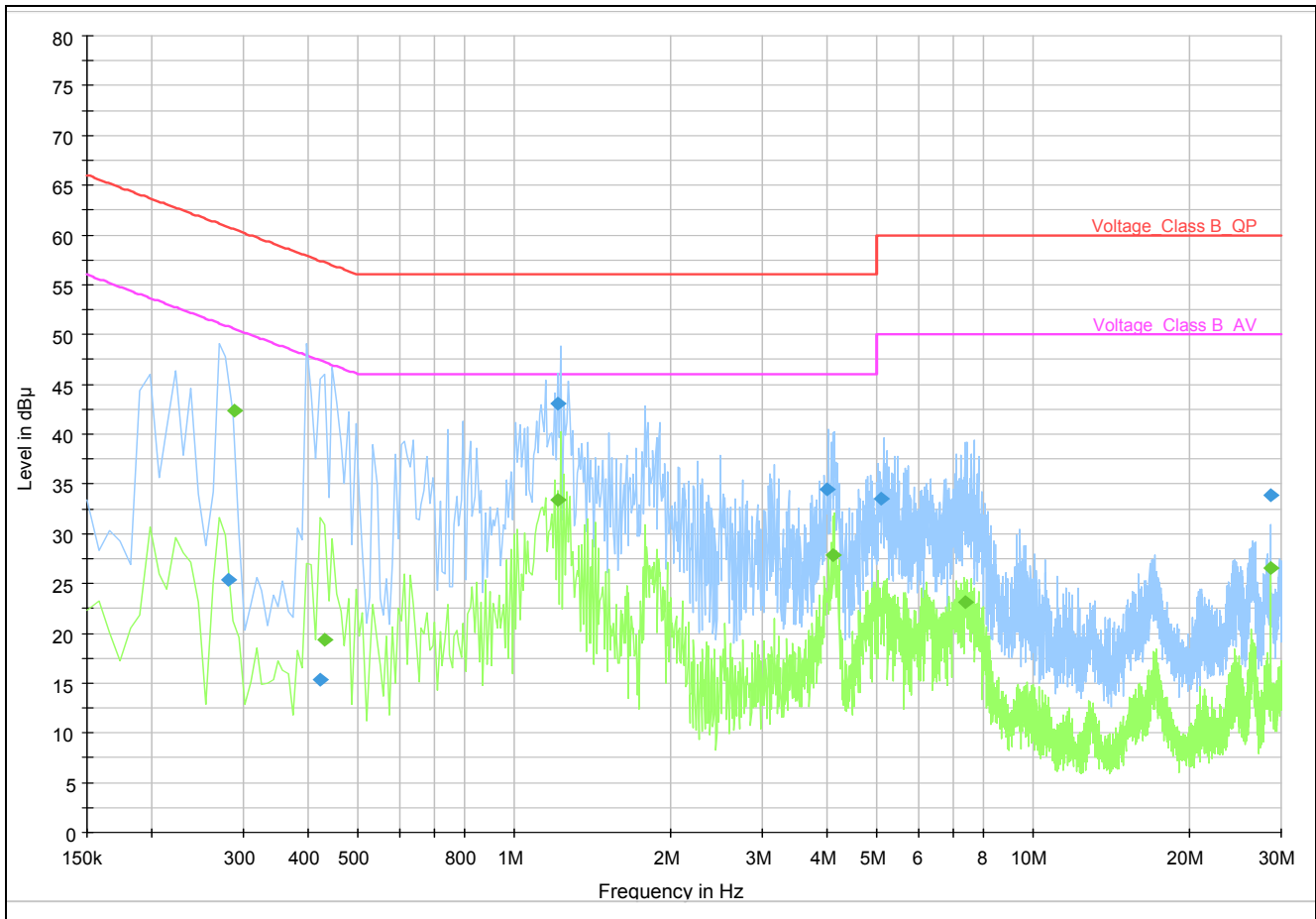
Measurement Uncertainty

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:



L Line

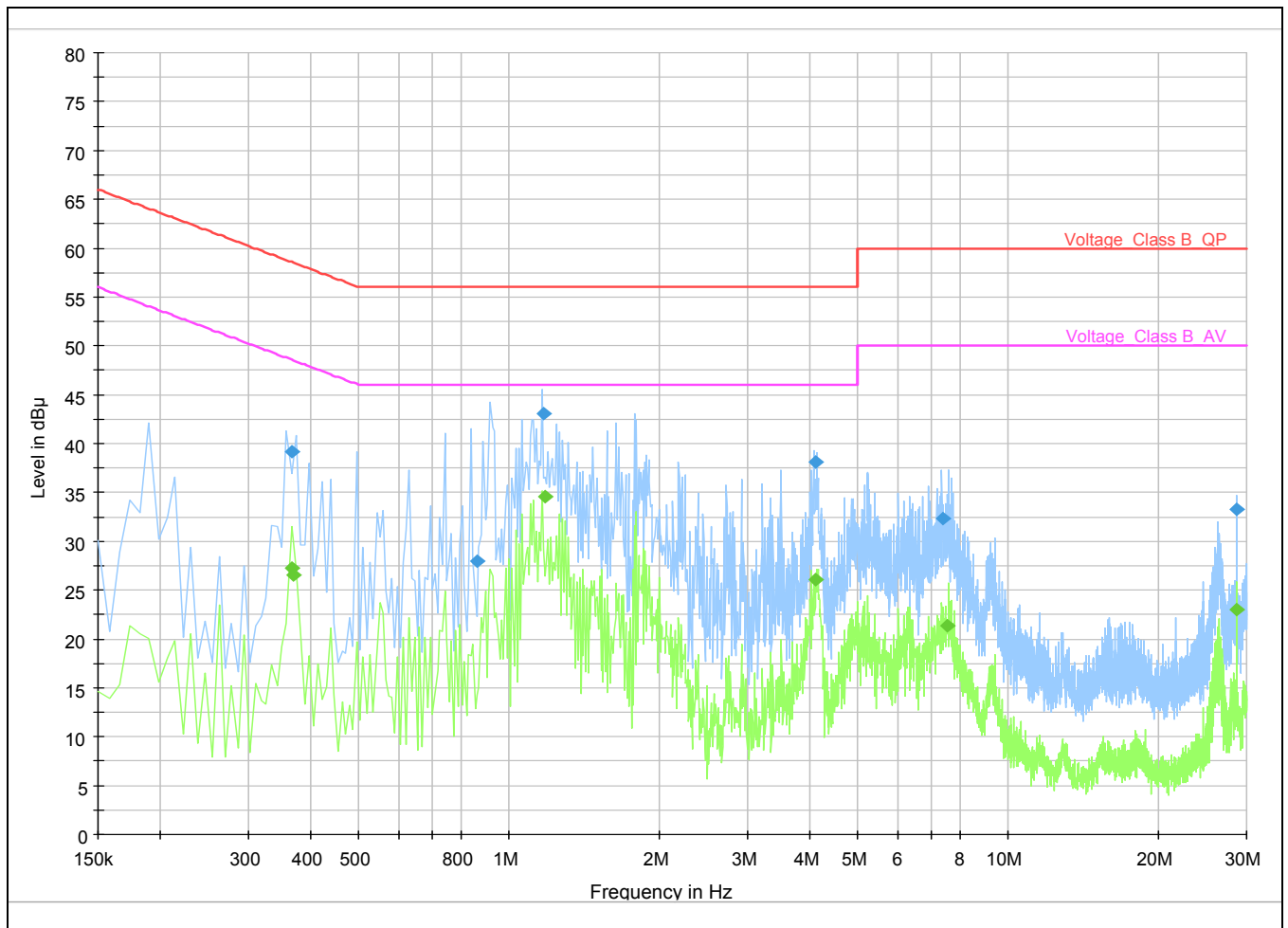


N Line

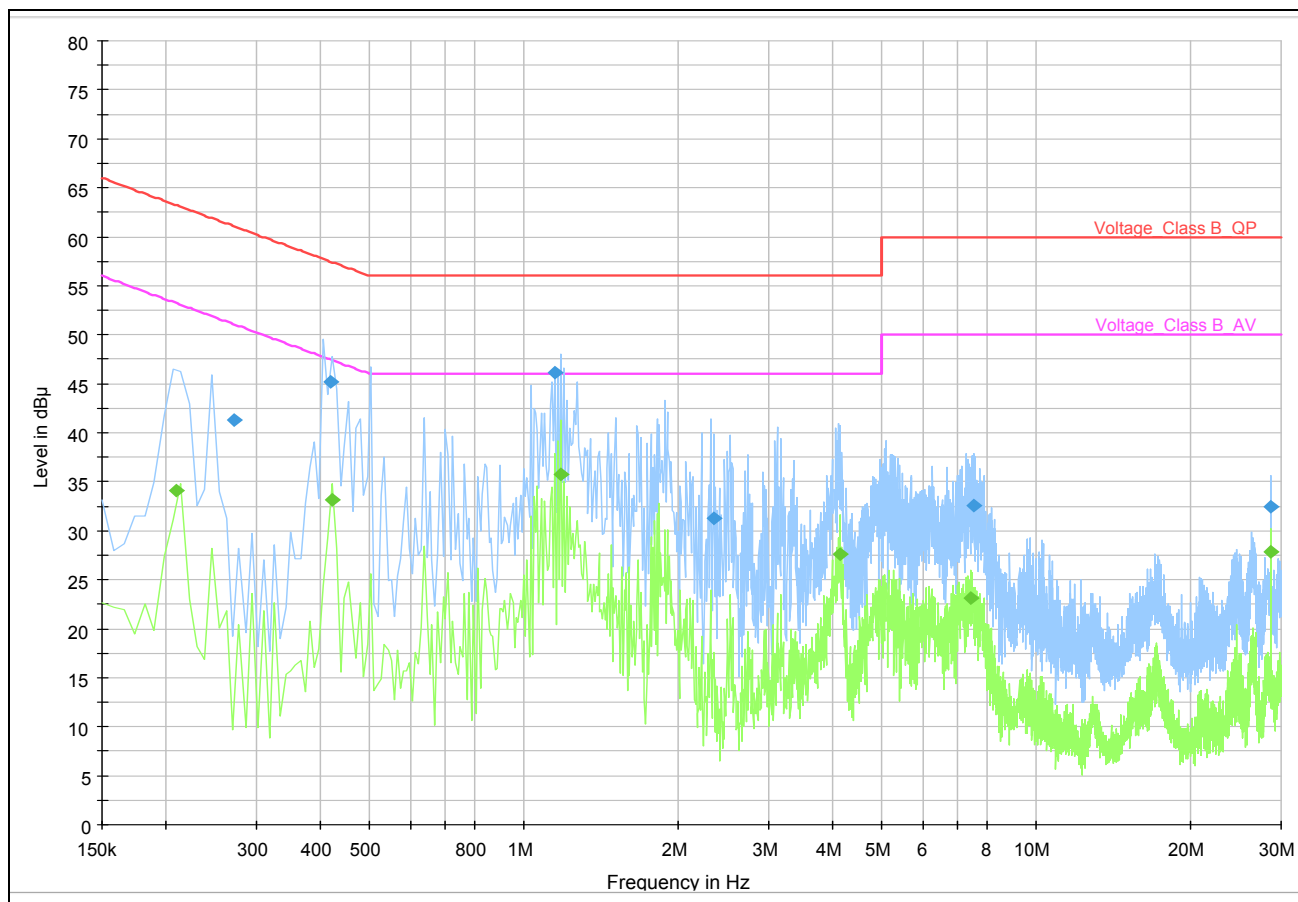
Conducted Emission from 150 KHz to 30 MHz

Channel No.:0

Frequency (MHz)	Detector	Line	Level (dBμV)	Limit (dBμV)	Margin (dB)
0.289000	Average	N	42.4	50.6	8.2
1.213000	Average	L	33.2	46.0	12.8
1.215000	Average	N	33.4	46.0	12.6
4.099000	Average	N	27.8	46.0	18.2
4.117000	Average	L	26.4	46.0	19.6
28.673000	Average	L	28.2	50.0	21.8
1.215000	Quasi-peak	N	43.1	56.0	12.9
1.169000	Quasi-peak	L	43.3	56.0	12.7
4.009000	Quasi-peak	N	34.5	56.0	21.5
4.085000	Quasi-peak	L	38.4	56.0	17.6
5.101000	Quasi-peak	N	33.5	60.0	26.5
28.673000	Quasi-peak	N	33.8	60.0	26.2



L Line

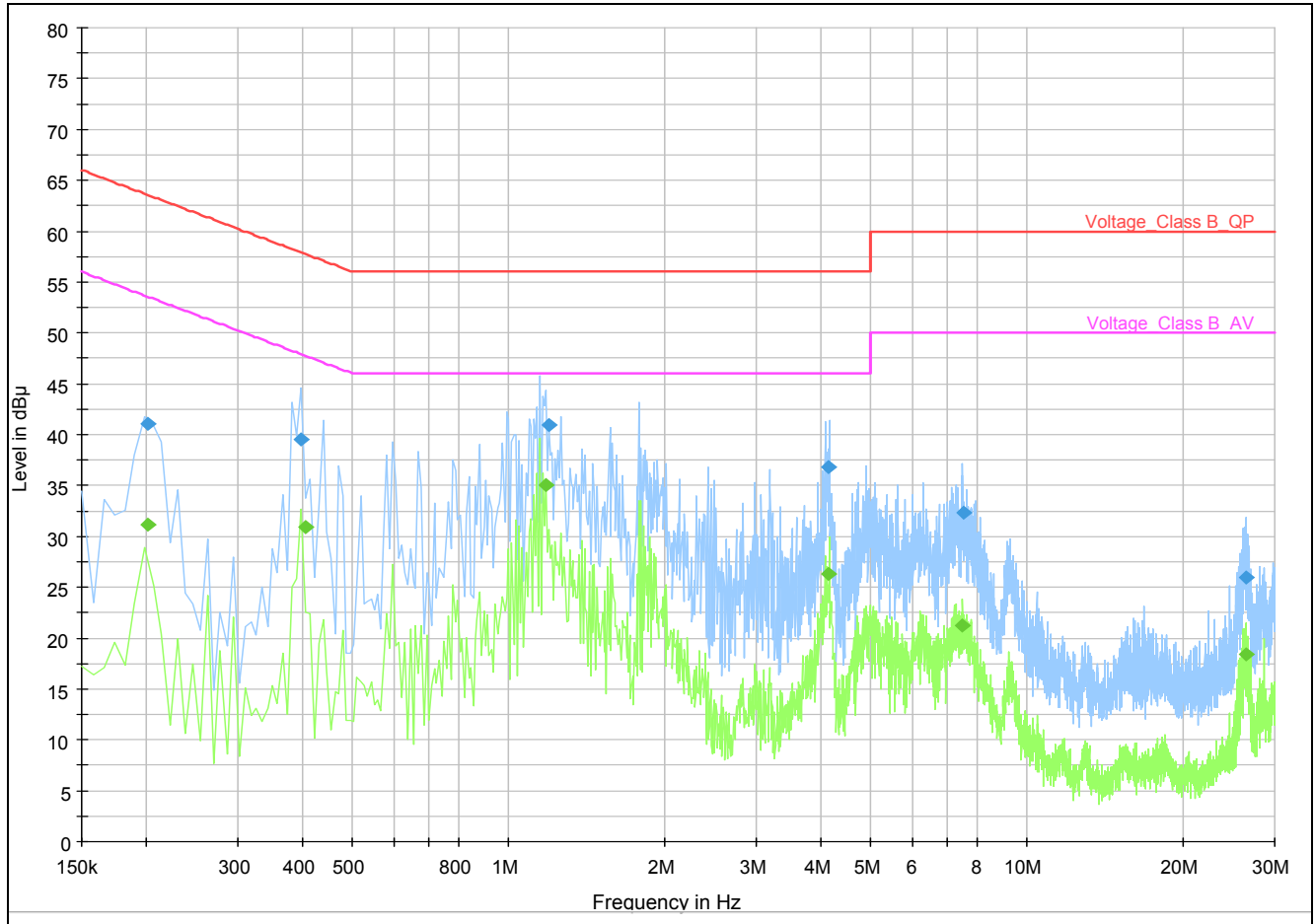


N Line

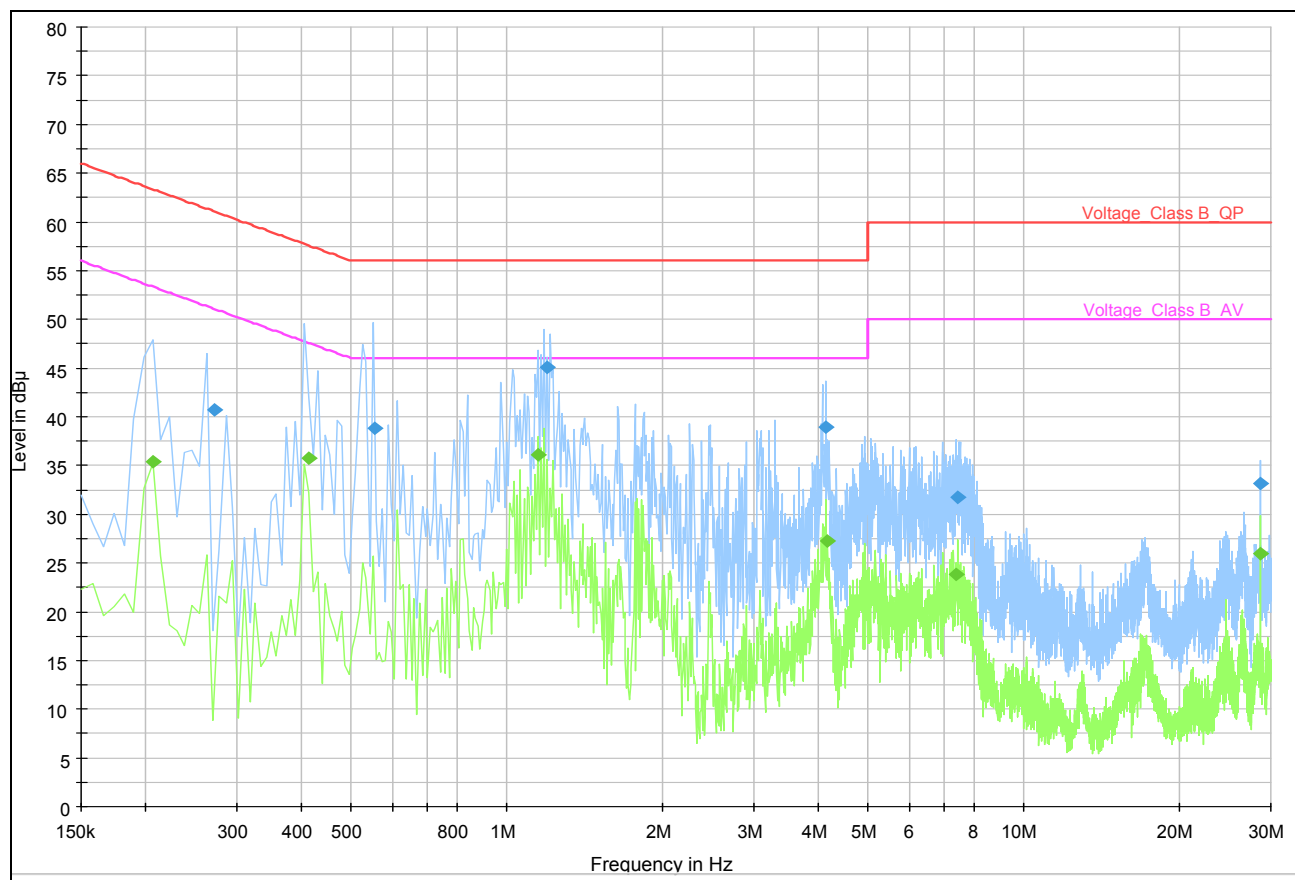
Conducted Emission from 150 KHz to 30 MHz

Channel No.:39

Frequency (MHz)	Detector	Line	Level (dBμV)	Limit (dBμV)	Margin (dB)
0.209000	Average	N	34.1	53.2	19.1
0.421000	Average	N	33.1	47.4	14.3
1.183000	Average	N	35.8	46.0	10.2
1.183000	Average	L	34.5	46.0	11.5
4.101000	Average	L	26.1	46.0	19.9
4.147000	Average	N	27.6	46.0	18.4
0.271000	Quasi-peak	N	41.2	61.1	19.9
0.367000	Quasi-peak	L	39.2	58.6	19.4
0.419000	Quasi-peak	N	45.2	57.5	12.3
1.151000	Quasi-peak	N	46.1	56.0	9.9
1.169000	Quasi-peak	L	43.1	56.0	12.9
4.101000	Quasi-peak	L	38.2	56.0	17.8



L Line



N Line

Conducted Emission from 150 KHz to 30 MHz

Channel No.:78

Frequency (MHz)	Detector	Line	Level (dBμV)	Limit (dBμV)	Margin (dB)
0.207000	Average	N	35.4	53.3	17.9
0.405000	Average	L	31.0	47.8	16.8
0.413000	Average	N	35.7	47.6	11.9
1.151000	Average	N	36.1	46.0	9.9
1.183000	Average	L	35.0	46.0	11.0
4.163000	Average	N	27.2	46.0	18.8
0.397000	Quasi-peak	L	39.6	57.9	18.3
0.553000	Quasi-peak	N	38.9	56.0	17.1
1.195000	Quasi-peak	L	40.9	56.0	15.1
1.199000	Quasi-peak	N	45.0	56.0	11.0
4.131000	Quasi-peak	N	38.9	56.0	17.1
4.147000	Quasi-peak	L	36.8	56.0	19.2

3. Main Test Instruments

No.	Name	Type	Manufacturer	Serial Number	Calibration Date	Valid Period
01	BT Base Station Simulator	CBT	R&S	1153.9000.35	2009-04-08	One year
02	Signal Analyzer	FSV	R&S	100815	2009-06-29	One year
03	Signal generator	SMR27	R&S	1606.6000.02	2009-06-29	One year
04	Spectrum Analyzer	E4445A	Agilent	MY46181146	2009-06-08	One year
05	EMI Test Receiver	ESCI	R&S	100948	2009-07-02	One year
06	Trilog Antenna	VULB 9163	SCHWARZBECK	9163-391	2009-05-14	One year
07	Horn Antenna	HF907	R&S	100125	2009-07-20	One year
08	AC Power Source	AFC-11005G	APC	F309040118	2009-07-25	One year
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



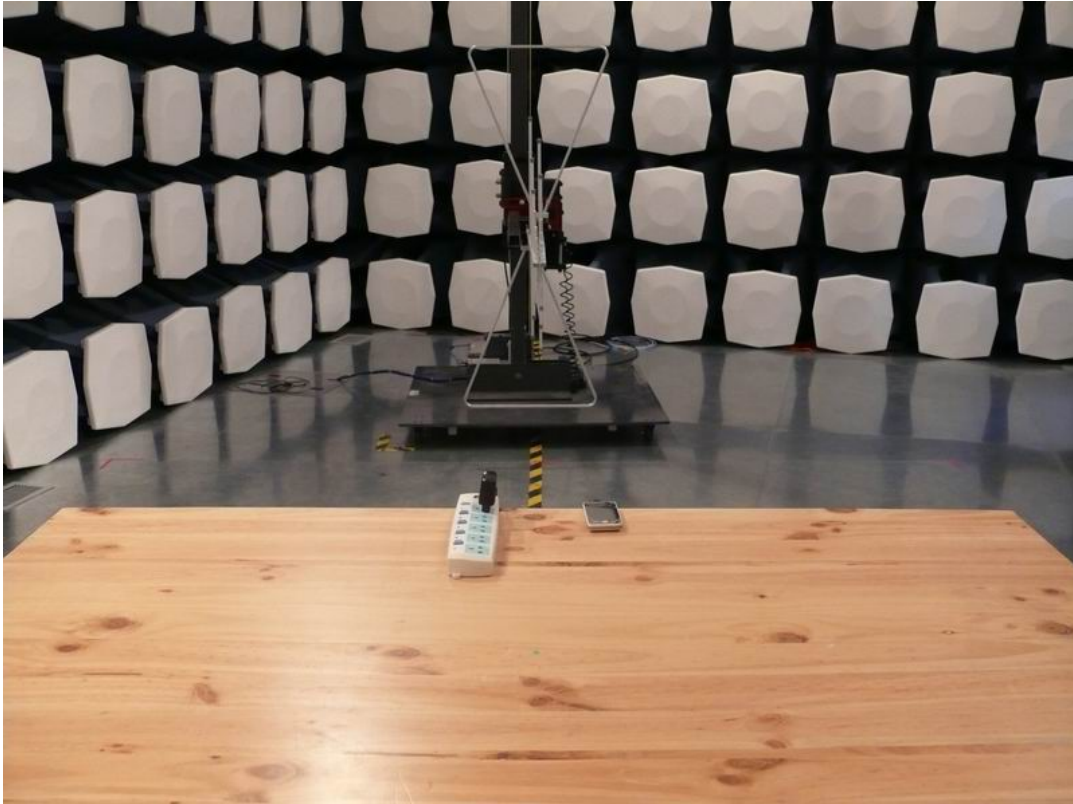
Picture 1-1 EUT



Picture 1-2 EUT

Picture 1 EUT

A.2 Test Setup



Picture 2 Radiated Emission Test Setup