



RF TEST REPORT

Applicant ZTE Corporation
FCC ID SRQ-ZTEN9519
Product LTE/CDMA/WCDMA/GSM(GPRS)
Multi-Mode Digital Mobile Phone
Model N9519
Report No. RXA1601-0005RF04R2
Issue Date March 29, 2016

TA Technology (Shanghai) Co., Ltd. tested the above equipment in accordance with the requirements in **FCC CFR47 Part 15C (2014)**. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

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Performed by: Changxu Wan

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Summary of Measurement 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
Date of Testing: January 4, 2016~ Frequency 4, 2016			



1 Test Laboratory

1.1 Notes of the Test Report

This report shall not be reproduced in full or partial, without the written approval of TA technology (shanghai) co., Ltd. The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. Measurement Uncertainties were not taken into account and are published for informational purposes only. This report is written to support regulatory compliance of the applicable standards stated above. This report must not be used by the client to claim product certification, approval, or endorsement by CNAS or any government agencies.

1.2 Test facility

CNAS (accreditation number: L2264)

TA Technology (Shanghai) Co., Ltd. has obtained the accreditation of China National Accreditation Service for Conformity Assessment (CNAS).

FCC (recognition number is 428261)

TA Technology (Shanghai) Co., Ltd. has been listed on the US Federal Communications Commission list of test facilities recognized to perform electromagnetic emissions measurements.

IC (recognition number is 8510A)

TA Technology (Shanghai) Co., Ltd. has been listed by industry Canada to perform electromagnetic emission measurement.

A2LA(Certificate Number: 3857.01)

TA Technology (Shanghai) Co., Ltd. has been listed by American Association for Laboratory Accreditation to perform electromagnetic emission measurement.



1.3 Testing Location

Company: TA Technology (Shanghai) Co., Ltd.
Address: No.145, Jintang Rd, Tangzhen Industry Park, Pudong Shanghai, China
City: Shanghai
Post code: 201201
Country: P. R. China
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Website: <http://www.ta-shanghai.com>
E-mail: xukai@ta-shanghai.com

2 General Description of Equipment under Test

Client Information

Applicant	ZTE Corporation
Applicant address	ZTE Plaza, #55 Keji Road South, Hi-Tech, Industrial Park, Nanshan District
Manufacturer	ZTE Corporation
Manufacturer address	ZTE Plaza, #55 Keji Road South, Hi-Tech, Industrial Park, Nanshan District

General information

Model:	N9519		
MEID:	99000677000310		
HW Version:	cuhA		
SW Version:	N9519V1.0.0B01		
Power Supply:	Battery/AC adapter		
Antenna Type:	Internal Antenna		
Test Mode(s):	Basic Rate	Enhanced Data Rate(EDR)	
Modulation Type:	Frequency Hopping Spread Spectrum (FHSS)		
	GFSK	π/4 DQPSK	8DQPSK
Packet Type: (Maximum Payload)	DH5	2DH5	3DH5
Max. Conducted Power	8.29 dBm		
Tested Frequency Range(s):	2400 ~ 2483.5 MHz		
EUT Accessory			
Battery	Manufacturer: SCUD(FUJIAN)ELECTRONICS Model: Li3831T43P4h826247 Power Rating: DC 3.8V, Li-ion		
Adapter	Manufacturer: Salcomp Model: STC-A515A-Z		
Note: 1. The information of the EUT is declared by the manufacturer. Please refer to the specifications or user manual for details.			



2.1 Applied Standards

According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

Test standards

FCC CFR47 Part 15C (2014) Radio Frequency Devices

ANSI C63.10 (2013)

DA00-705 Filing and Frequency Measurement Guidelines For Frequency Hopping Spread Spectrum System.(2000)

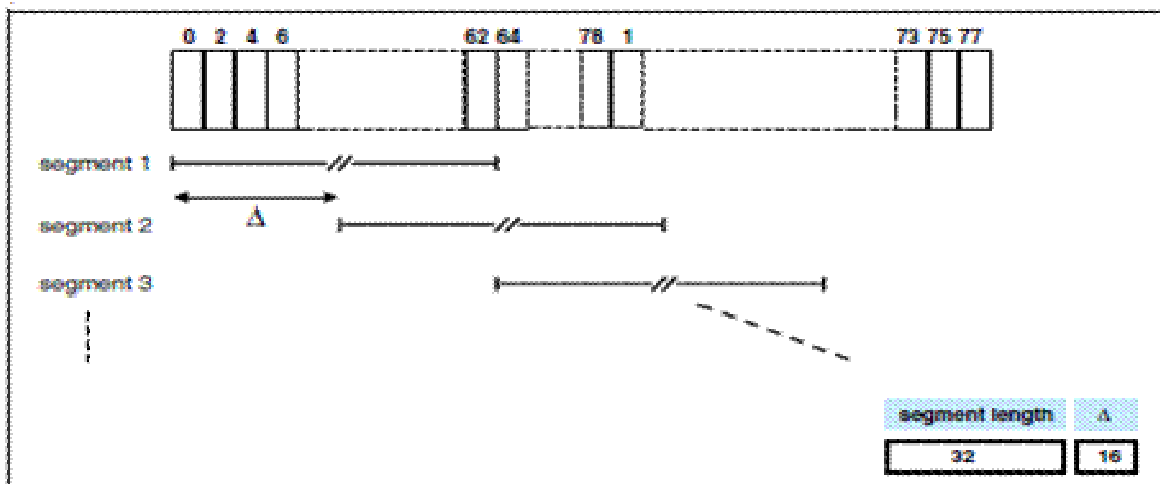
3 Information about the FHSS characteristics

3.1 Pseudorandom Frequency Hopping Sequence

Frequency Hopping Systems. A spread spectrum system in which the carrier is modulated with the coded information in a conventional manner causing a conventional spreading of the RF energy about the frequency carrier. The frequency of the carrier is not fixed but changes at fixed intervals under the direction of a coded sequence. The wide RF bandwidth needed by such a system is not required by spreading of the RF energy about the carrier but rather to accommodate the range of frequencies to which the carrier frequency can hop. The test of a frequency hopping system is that the near term distribution of hops appears random, the long term distribution appears evenly distributed over the hop set, and sequential hops are randomly distributed in both direction and magnitude of change in the hop set.

The selection scheme chooses a segment of 32 hop frequencies spanning about 64 MHz and visits these hops in a pseudo-random order. Next, a different 32-hop segment is chosen, etc. In the page, master page response, slave page response, page scan, inquiry, inquiry response and inquiry scan hopping sequences, the same 32-hop segment is used all the time (the segment is selected by the address; different devices will have different paging segments).

When the basic channel hopping sequence is selected, the output constitutes a pseudo-random sequence that slides through the 79 hops. The principle is depicted in the figure below.



Hop selection scheme in CONNECTION state.

Pseudorandom Frequency Hopping Sequence Table as below:

Channel: 08, 24, 40, 56, 40, 56, 72, 09, 01, 09, 33, 41, 33, 41, 65, 73, 53, 69, 06, 22, 04, 20, 36, 52, 38, 46, 70, 78, 68, 76, 21, 29, 10, 26, 42, 58, 44, 60, 76, 13, 03, 11, 35, 43, 37, 45, 69, 77, 55, 71, 08, 24, 08, 24, 40, 56, 40, 48, 72, 01, 72, 01, 25, 33, 12, 28, 44, 60, 42, 58, 74, 11, 05, 13, 37, 45, etc.

Each frequency used equally on the average by each transmitter.

The system receiver have input bandwidths that match the hopping channel bandwidths of their corresponding transmitters and shift frequencies in synchronization with the transmitted signals.

3.2 Equal Hopping Frequency Use

All Bluetooth units participating in the Pico net are time and hop-synchronized to the channel. Each new transmission event begins on the next channel in the hopping sequence after the final channel used in the previous transmission event.

3.3 System Receiver Input Bandwidth

Each channel bandwidth is 1MHz. The system receivers have input bandwidths that match the hopping channel bandwidths of their corresponding transmitters and shift frequencies in synchronization with the transmitted signals.

4 Test Information

4.1 Test Mode

The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application.

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

Test Modes		
Band	Radiated Test Cases	Conducted Test Cases
BT	3DH5 8DQPSK (Channel 0/39/78)	DH5 GFSK(Channel 0/39/78) 2DH5 $\pi/4$ -DQPSK(Channel 0/39/78) 3DH5 8DQPSK(Channel 0/39/78)

Note: The maximum RF output power levels are 3DH5 for 8DQPSK modulation, For RSE and CSE, only the maximum RF output power is chosen.

4.2 Peak Power Output –Conducted

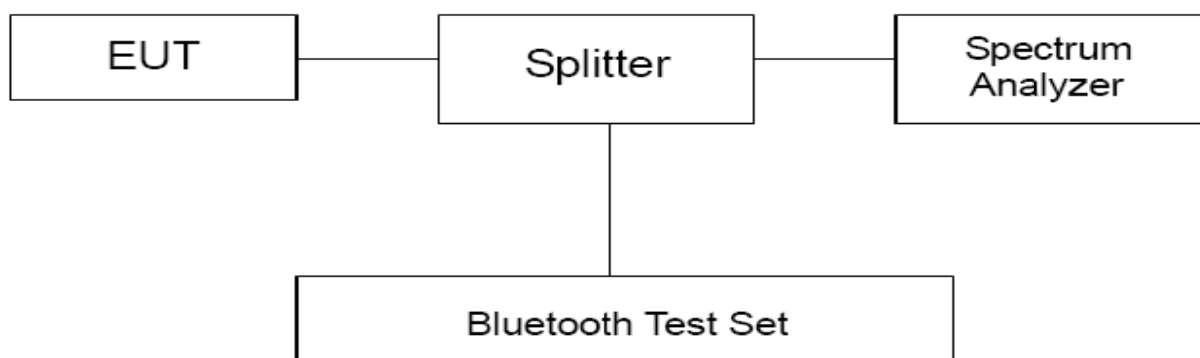
Ambient condition

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 2 MHz; VBW is set to 6 MHz. 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	≤ 0.125W (21dBm)
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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.

**Test Results**

Channel	Frequency (MHz)	Peak Output Power (dBm)			Conclusion
		DH5	2DH5	3DH5	
0	2402	6.86	8.29	7.35	PASS
39	2441	6.35	7.86	6.87	PASS
78	2480	6.38	7.93	6.89	PASS

Note: The measured power density (dBm) has the offset with cable loss already.

4.3 Occupied Bandwidth (20dB)

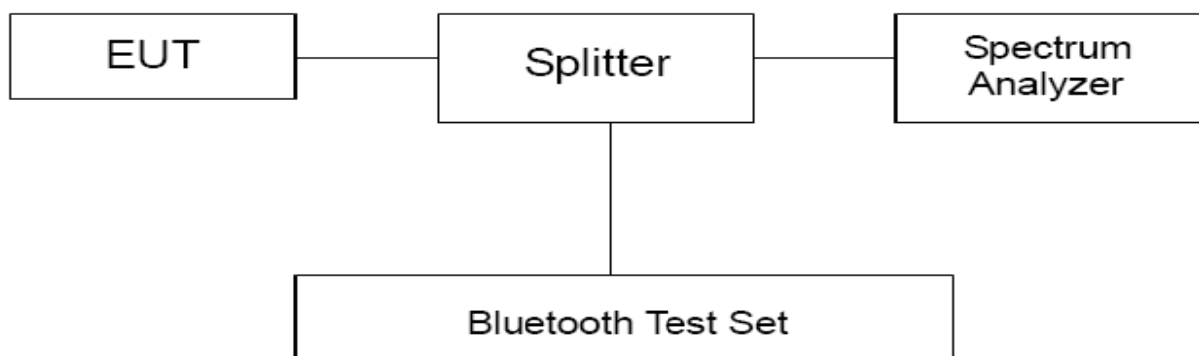
Ambient condition

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 20kHz and VBW is set to 62kHz on spectrum analyzer. -20dB occupied bandwidths are recorded.

Test Setup



Limits

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

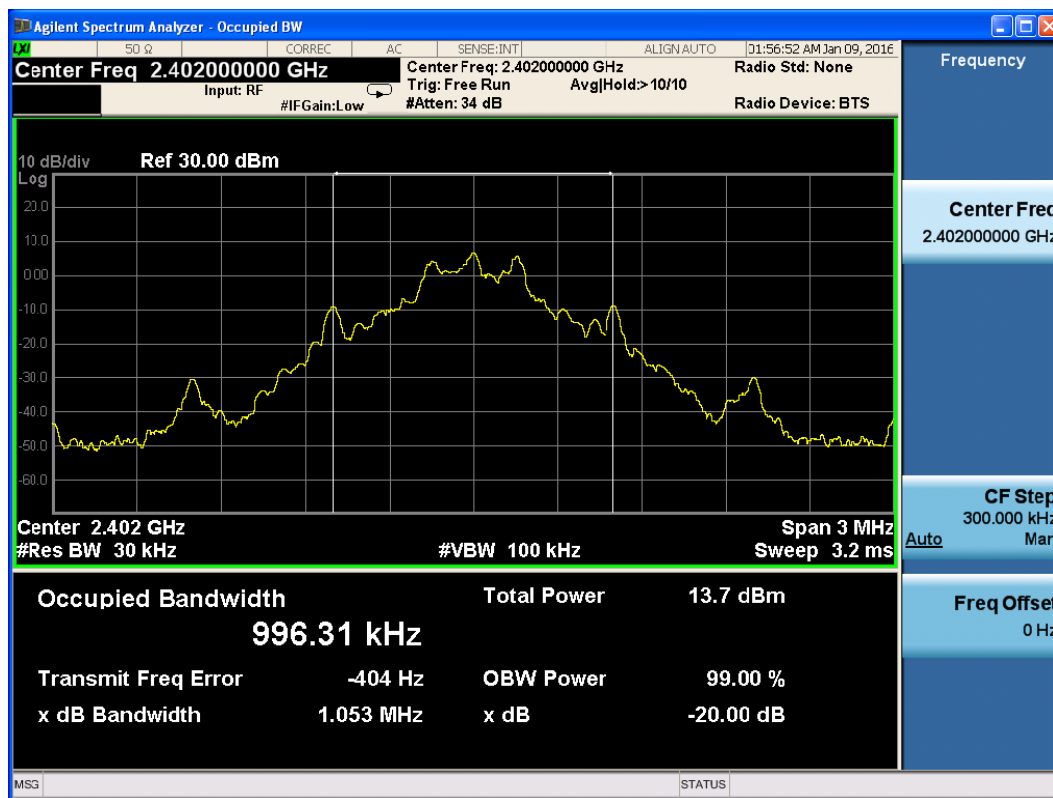
Measurement Uncertainty

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



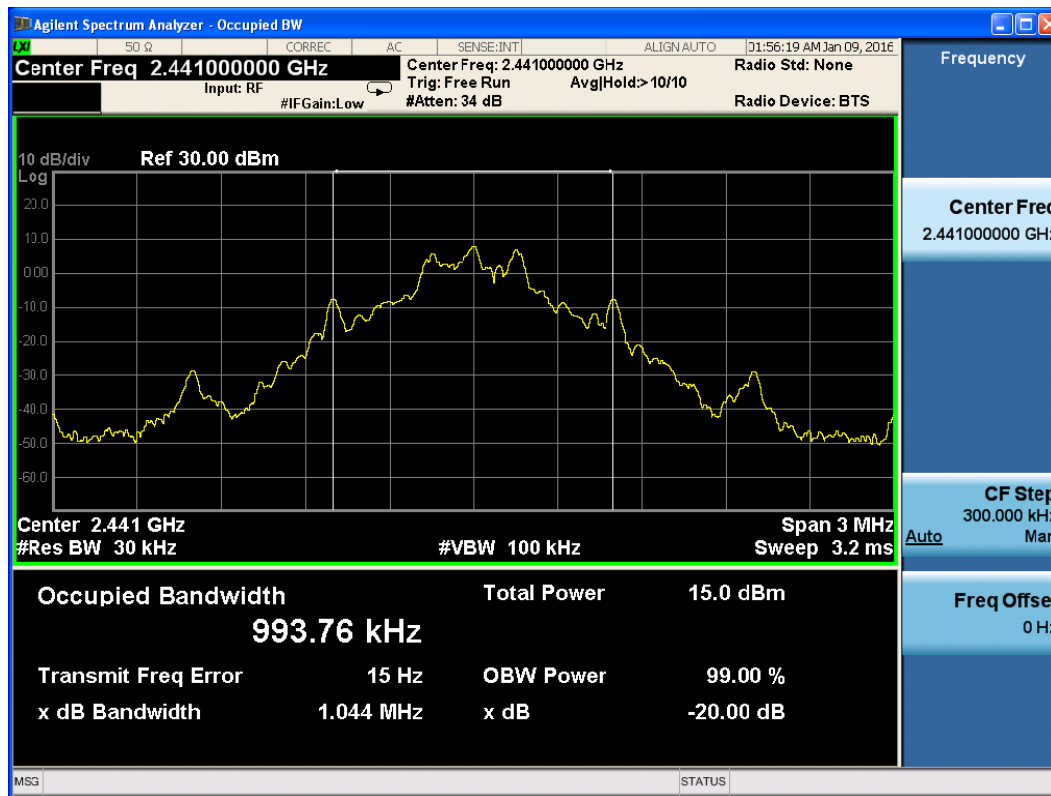
Test Results

Mode	Channel	Frequency (MHz)	20dB Bandwidth(kHz)
DH5	0	2402	1053
DH5	39	2441	1044
DH5	78	2480	1045
2DH5	0	2402	1133
2DH5	39	2441	1129
2DH5	78	2480	1129
3DH5	0	2402	1198
3DH5	39	2441	1185
3DH5	78	2480	1185



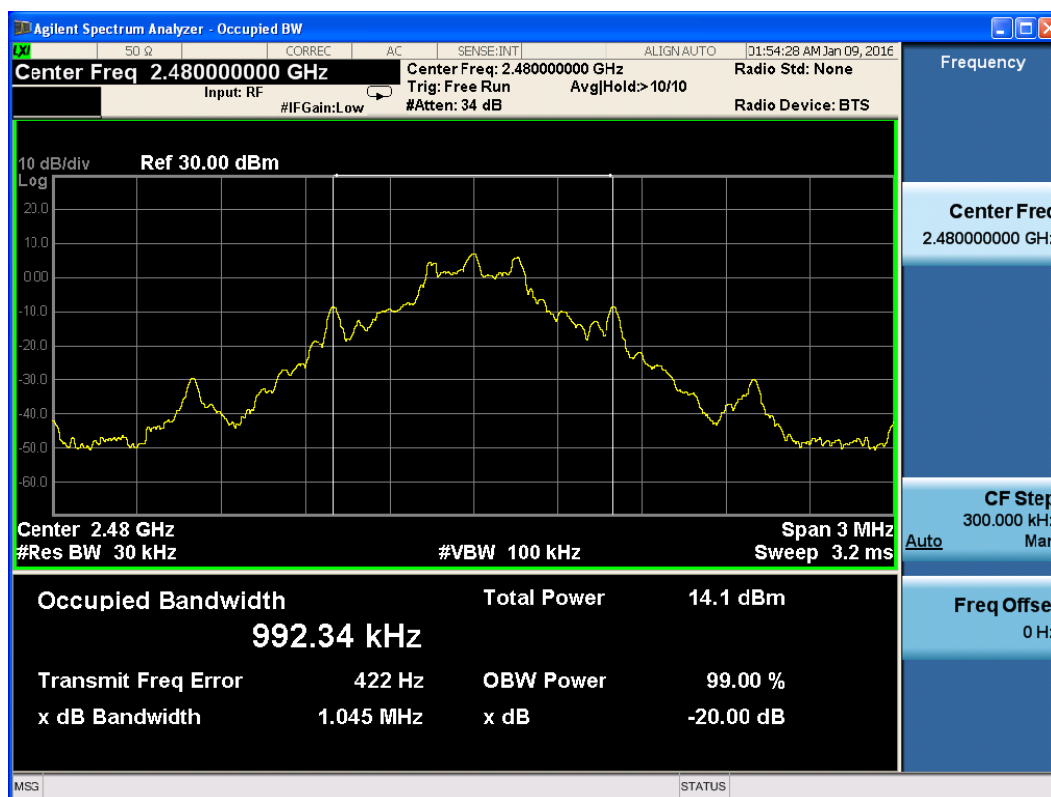
Carrier frequency (MHz): 2402

Channel No.:0



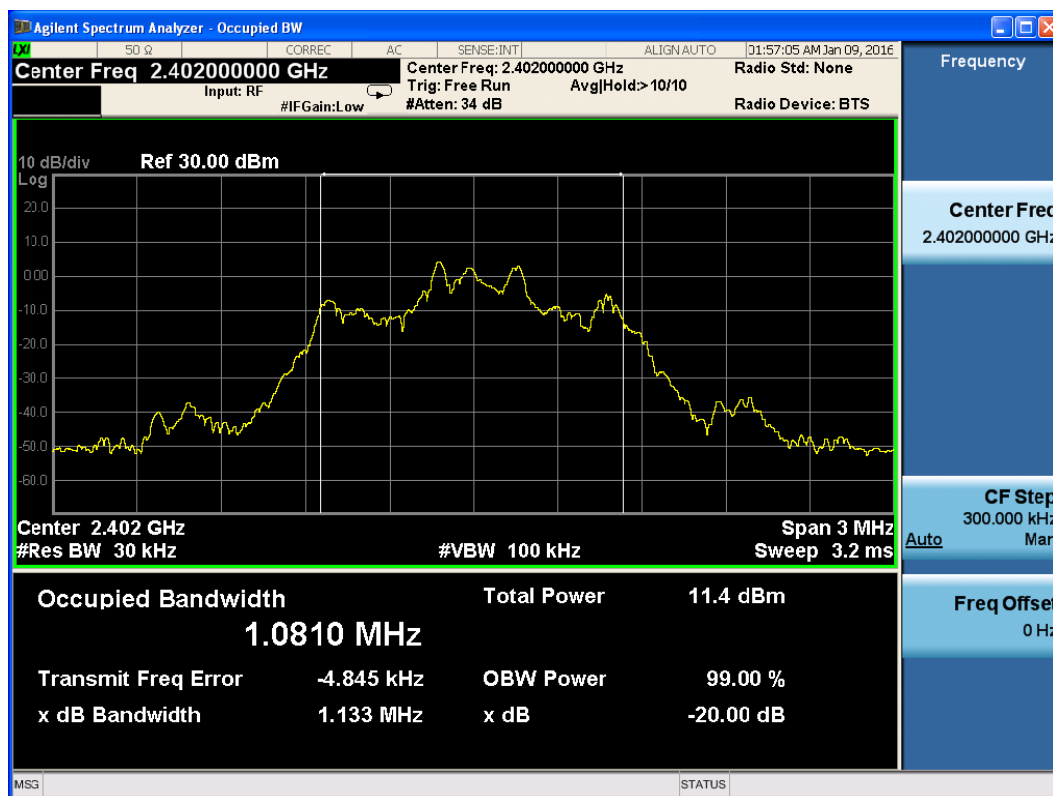
Carrier frequency (MHz): 2441

Channel No.:39

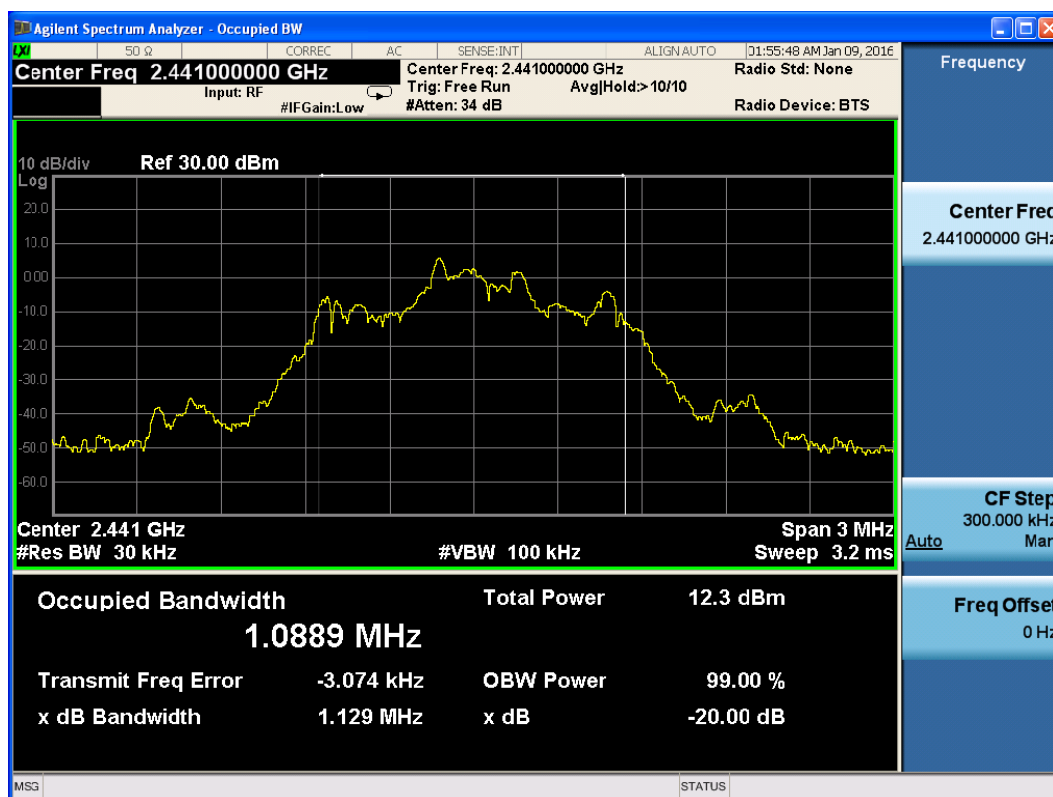


Carrier frequency (MHz): 2480

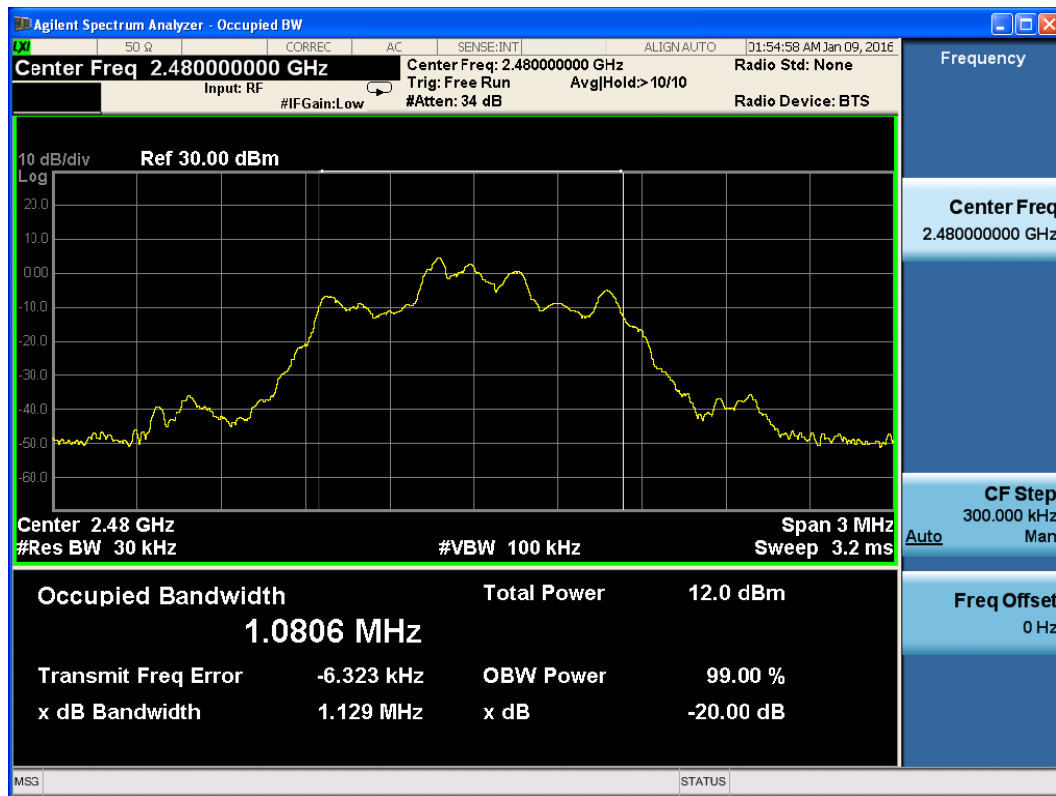
Channel No.:78



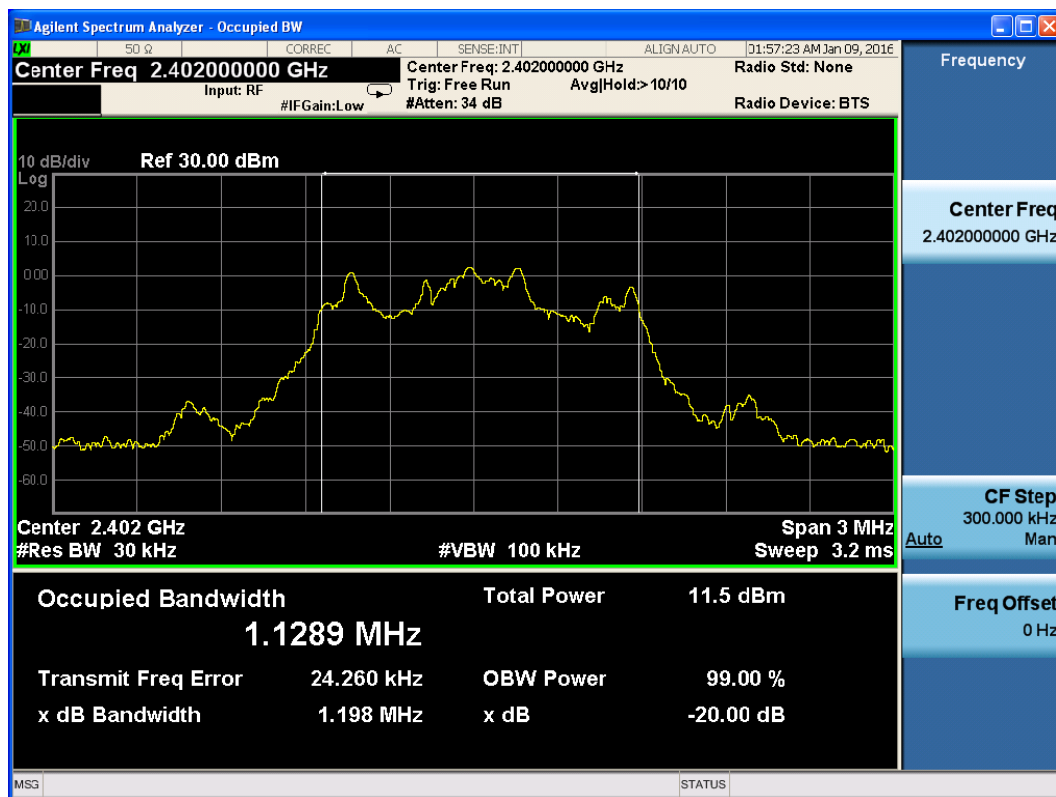
Carrier frequency (MHz): 2402
 Channel No.:0



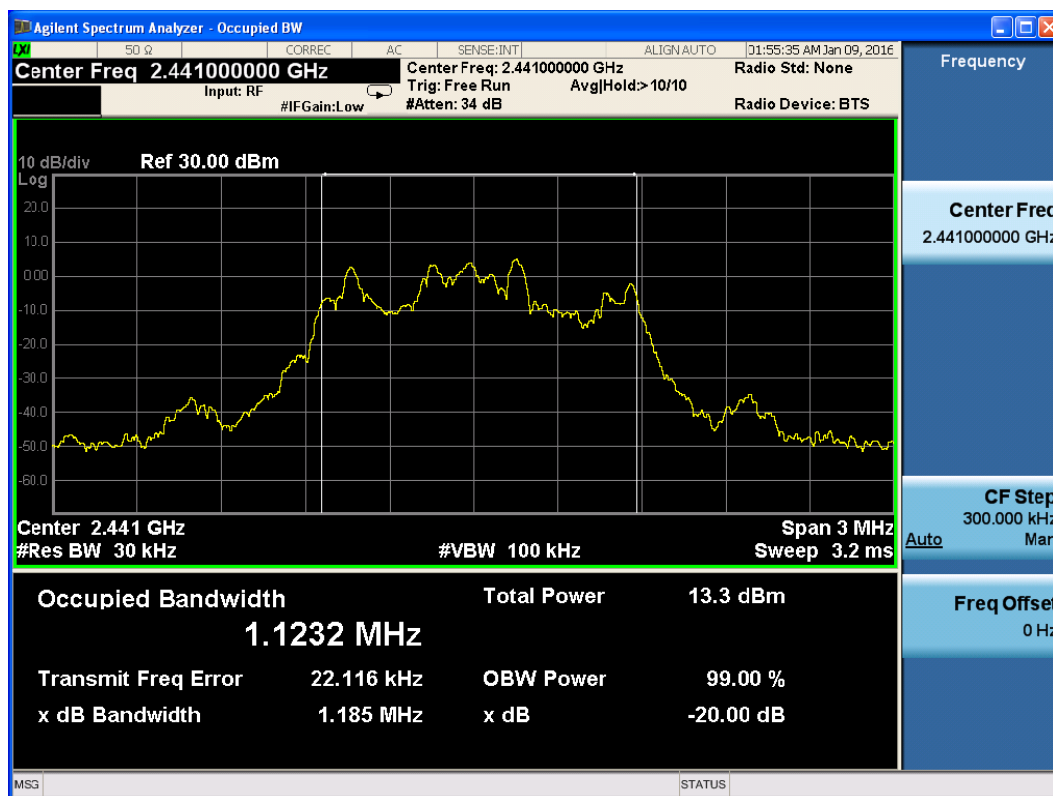
Carrier frequency (MHz): 2441
 Channel No.:39



Carrier frequency (MHz): 2480
Channel No.:78

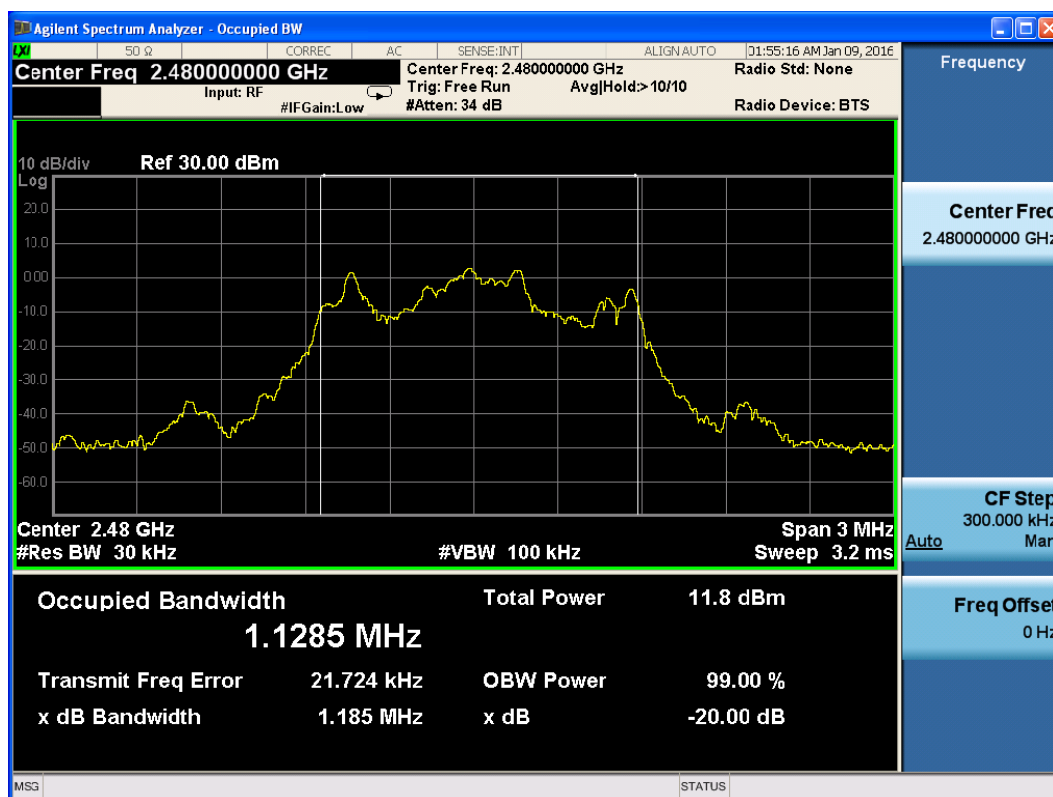


Carrier frequency (MHz): 2402
Channel No.:0



Carrier frequency (MHz): 2441

Channel No.:39



Carrier frequency (MHz): 2480

Channel No.:78

4.4 Frequency Separation

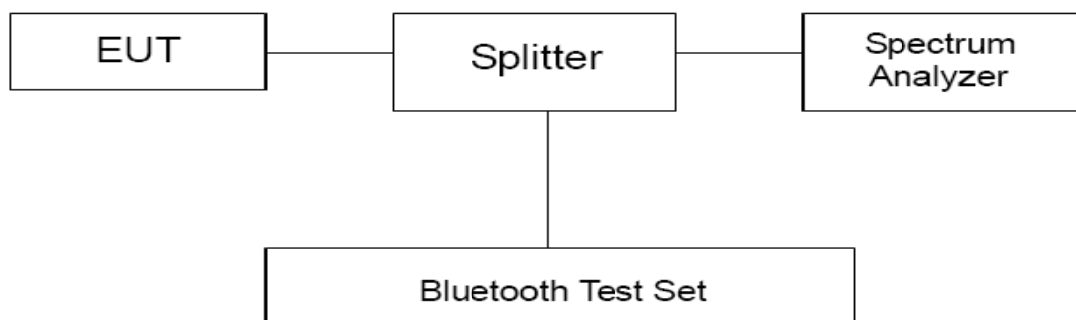
Ambient condition

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. RBW is set to 30 kHz 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. ”

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:

Packet type	Carrier frequency (MHz)	Carrier frequency separation(kHz)	20dB Bandwidth(kHz)	Limit (kHz)	Conclusion
DH5	2441	999	1053	702	PASS
2DH5	2441	999	1133	755	PASS
3DH5	2441	1008	1198	799	PASS

Note: The limit is two-thirds of 20 dB bandwidth.



DH5 Carrier frequency (MHz): 2441



2DH5 Carrier frequency (MHz): 2441



3DH5 Carrier frequency (MHz): 2441

4.5 Time of Occupancy (Dwell Time)

Ambient condition

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

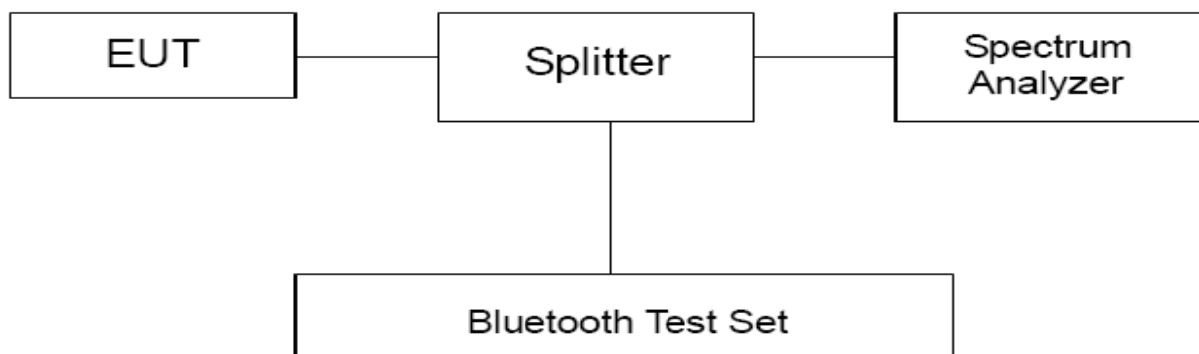
Methods of Measurement

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
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Measurement Uncertainty

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

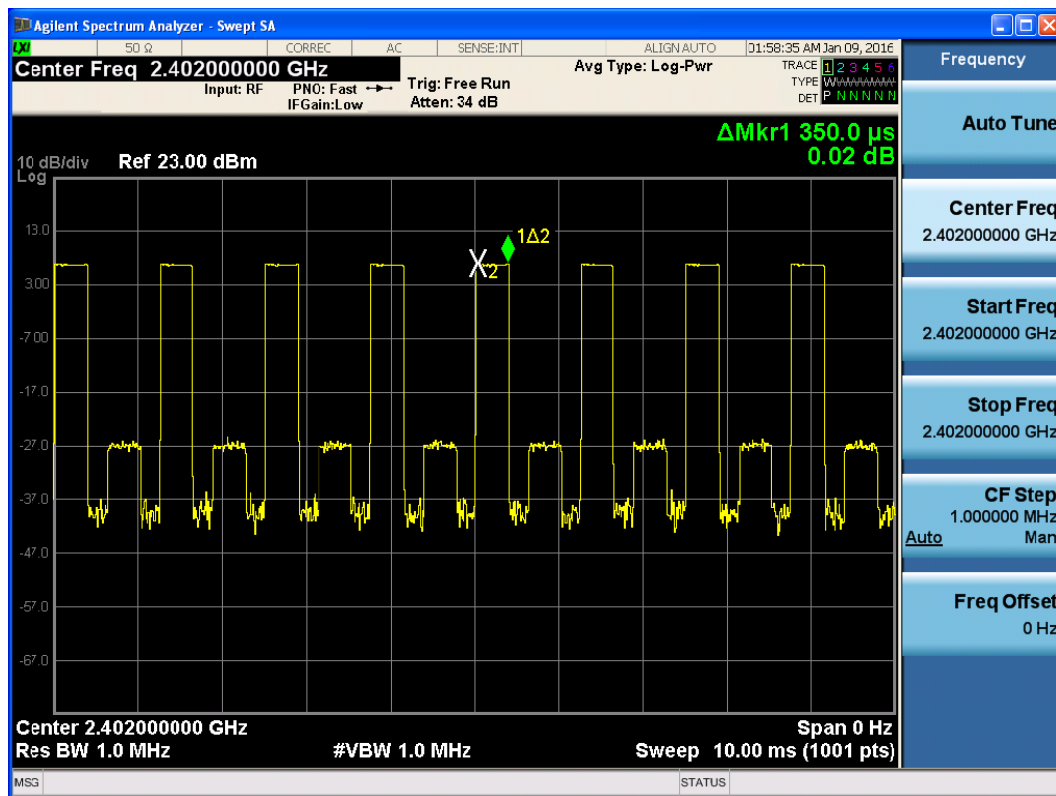
Requirements	Uncertainty	
Dwell Time	DH1	$U=0.64\text{ms}$
	DH3	$U=0.80\text{ms}$
	DH5	$U=0.70\text{ms}$
	2DH1	$U=0.64\text{ms}$
	2DH3	$U=0.80\text{ms}$
	2DH5	$U=0.70\text{ms}$
	3DH1	$U=0.64\text{ms}$
	3DH3	$U=0.80\text{ms}$
	3DH5	$U=0.70\text{ms}$



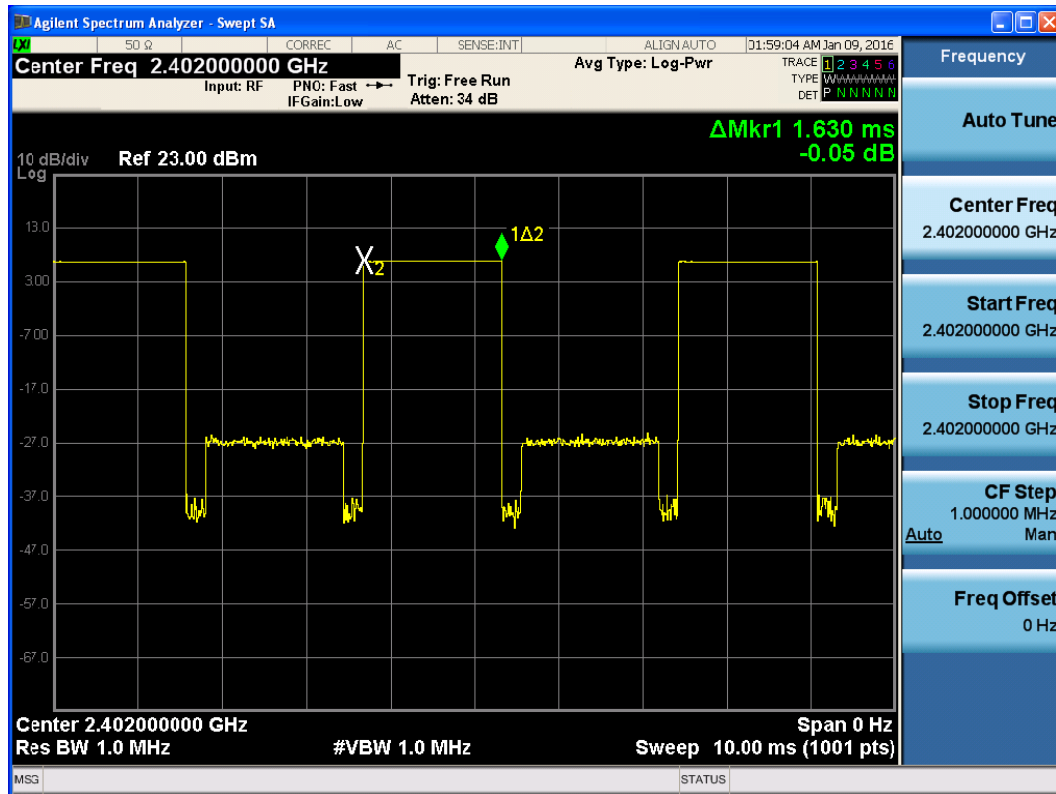
Test Results:

Channel 39					
Packet type	hop rate (1/s)	Time slot length(ms)	Dwell time (ms)	Limit (ms)	Conclusion
DH1	1600	0.350	224.000	400	PASS
DH3	533.33	1.630	347.731	400	PASS
DH5	320	2.870	367.360	400	PASS
2DH1	1600	0.380	243.200	400	PASS
2DH3	533.33	1.640	349.864	400	PASS
2DH5	320	2.880	368.640	400	PASS
3DH1	1600	0.390	249.600	400	PASS
3DH3	533.33	1.620	345.598	400	PASS
3DH5	320	2.890	369.920	400	PASS

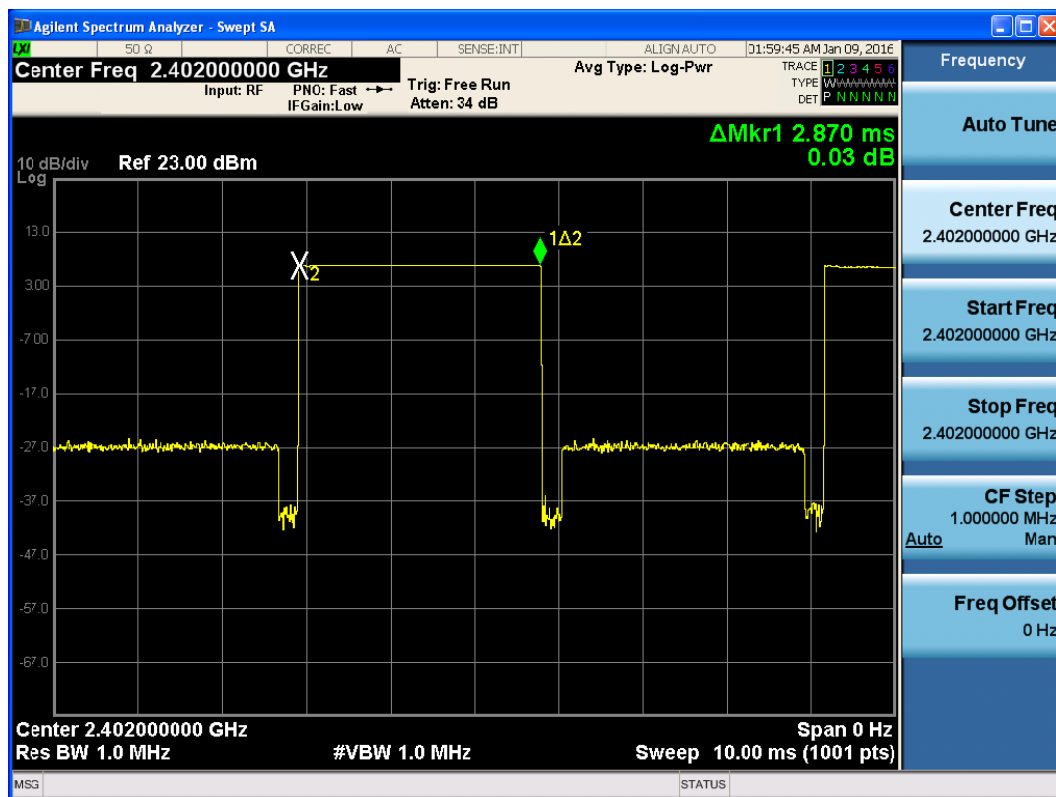
Note: Dwell time = time slot length * hop rate * 0.4s



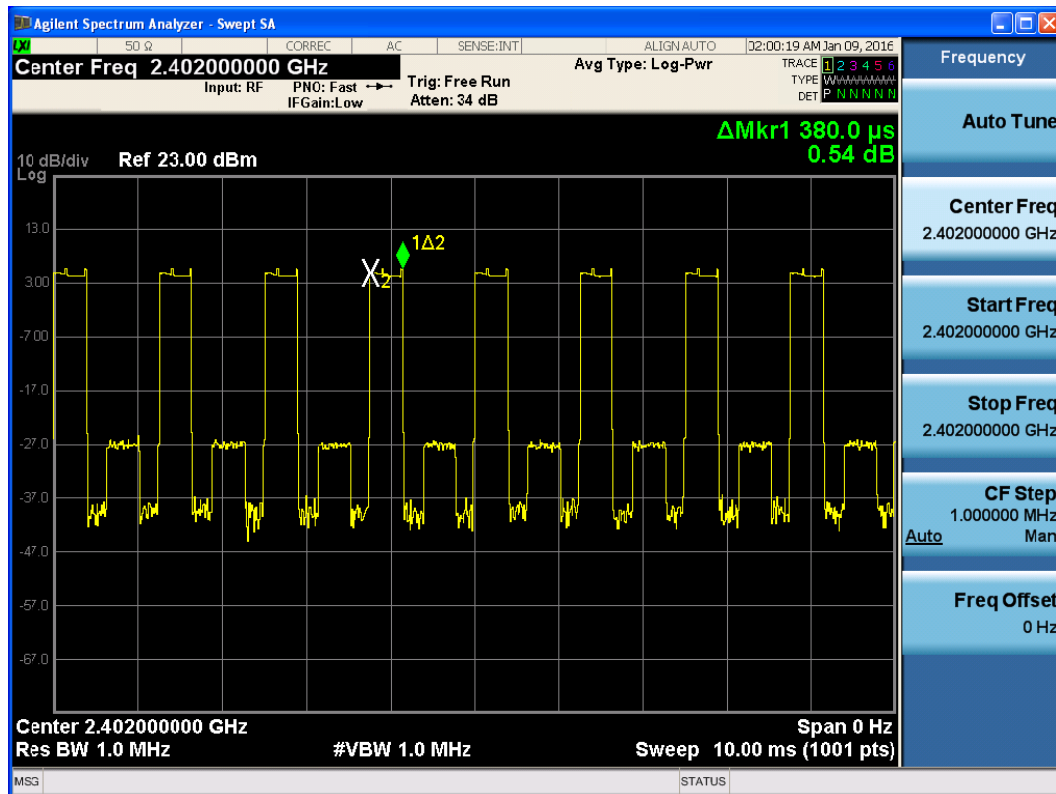
Carrier frequency (MHz): 2441, DH1



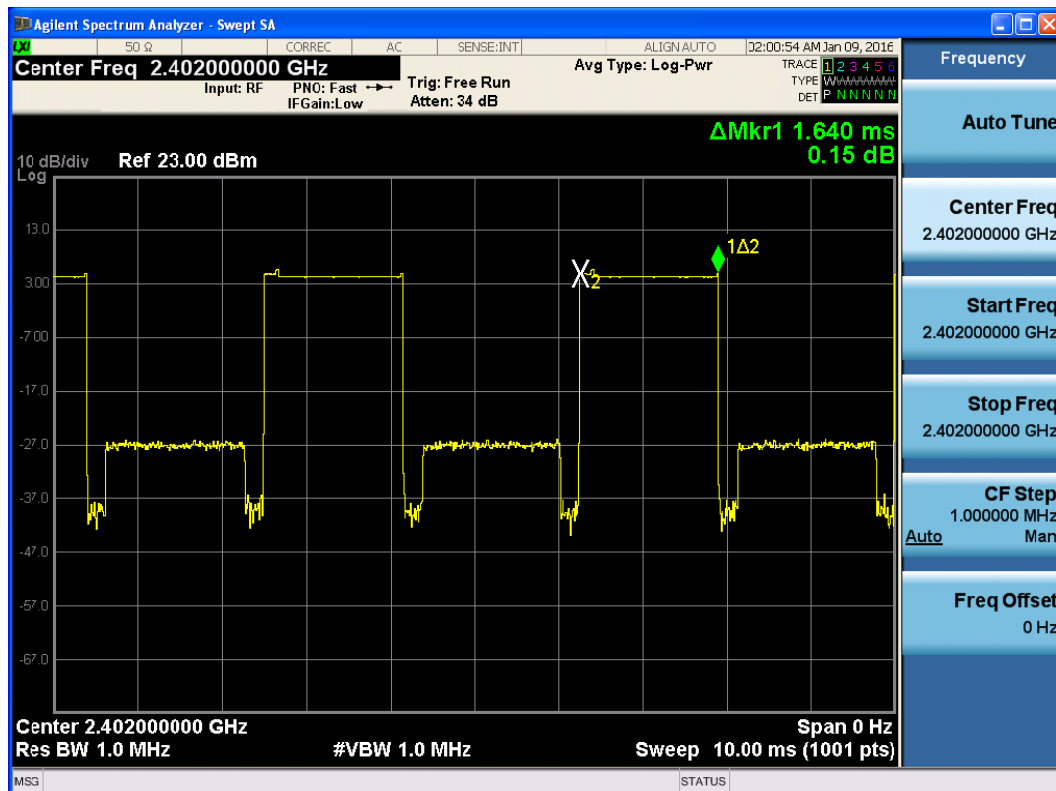
Carrier frequency (MHz): 2441, DH3



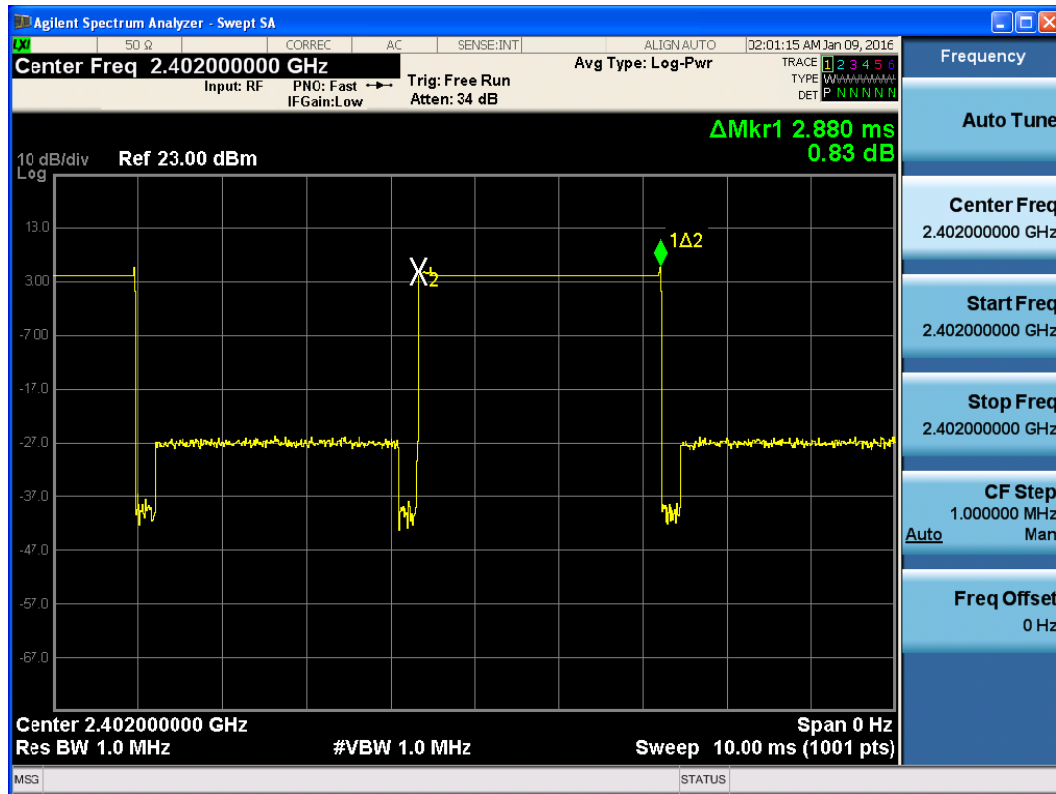
Carrier frequency (MHz): 2441, DH5



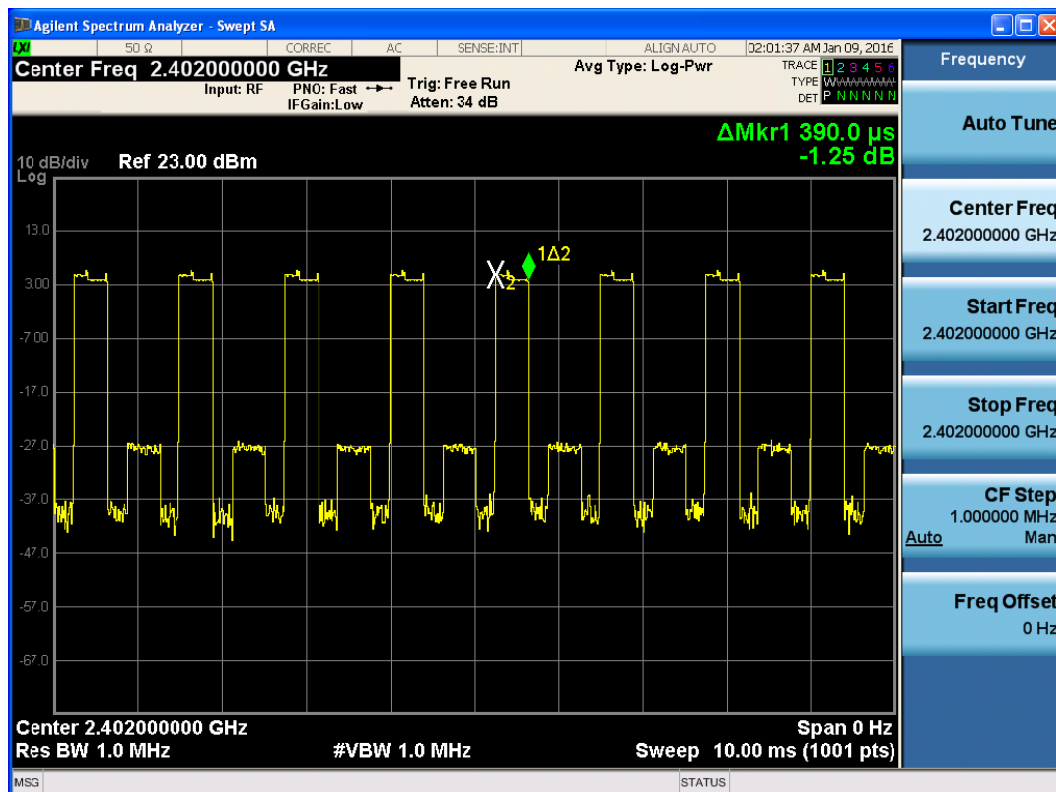
Carrier frequency (MHz): 2441, 2DH1



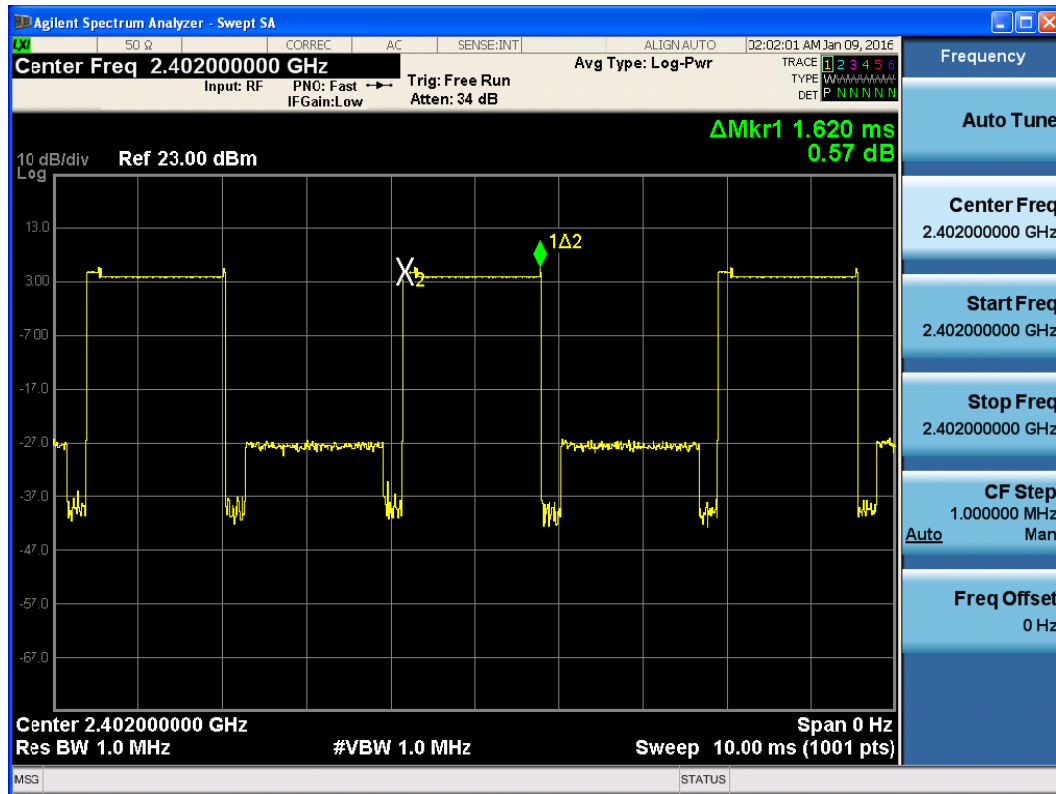
Carrier frequency (MHz): 2441, 2DH3



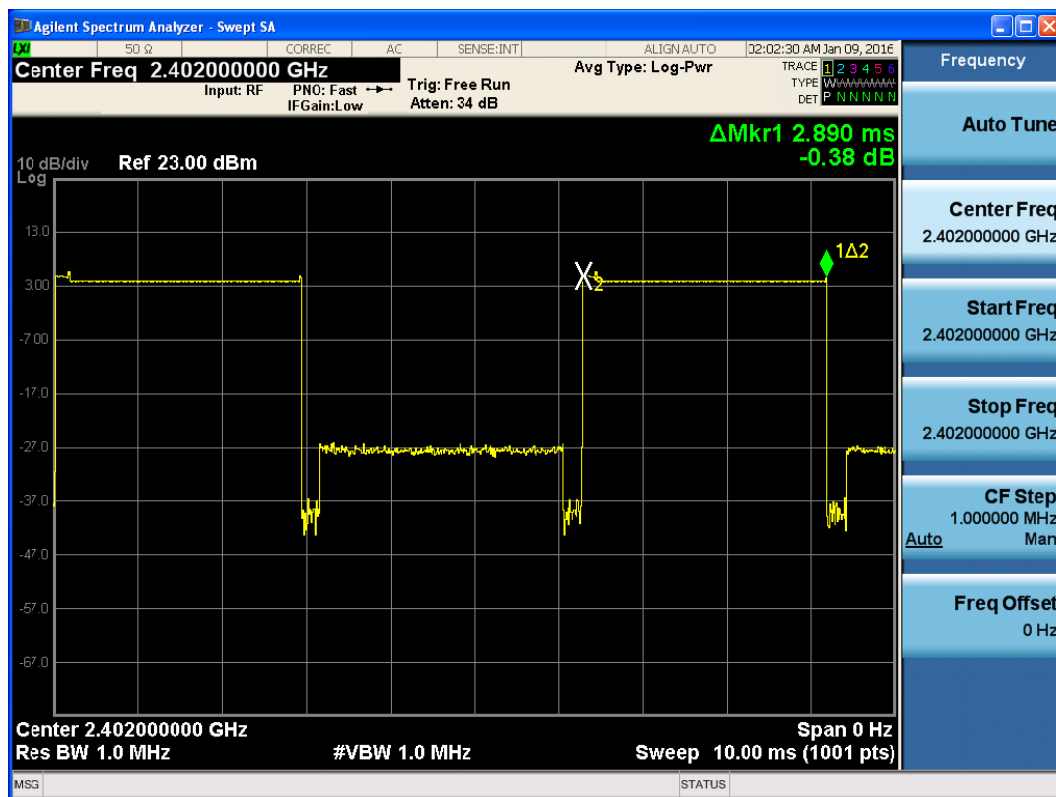
Carrier frequency (MHz): 2441, 2DH5



Carrier frequency (MHz): 2441, 3DH1



Carrier frequency (MHz): 2441, 3DH3



Carrier frequency (MHz): 2441, 3DH5

4.6 Band Edge Compliance

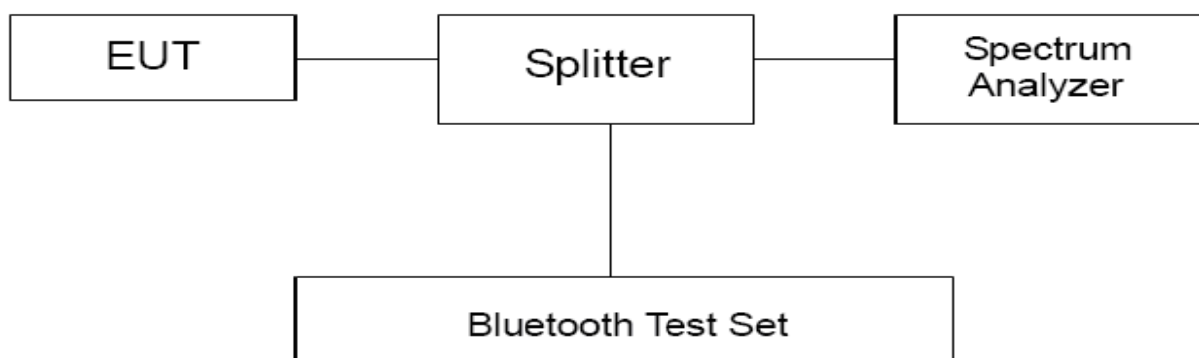
Ambient condition

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 lowest and highest channels were measured. The peak detector is used. RBW is set to 100 kHz and VBW is set to 300 kHz on spectrum analyzer. 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

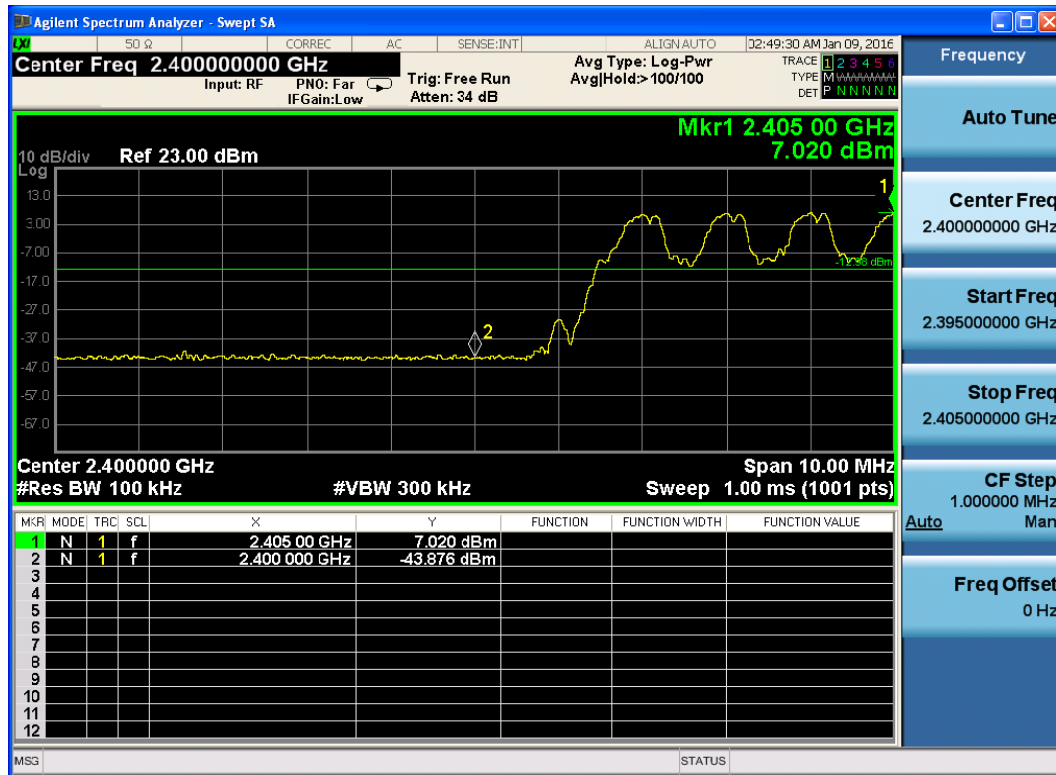
The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = 1.96$.

Frequency	Uncertainty
2GHz-3GHz	1.407 dB



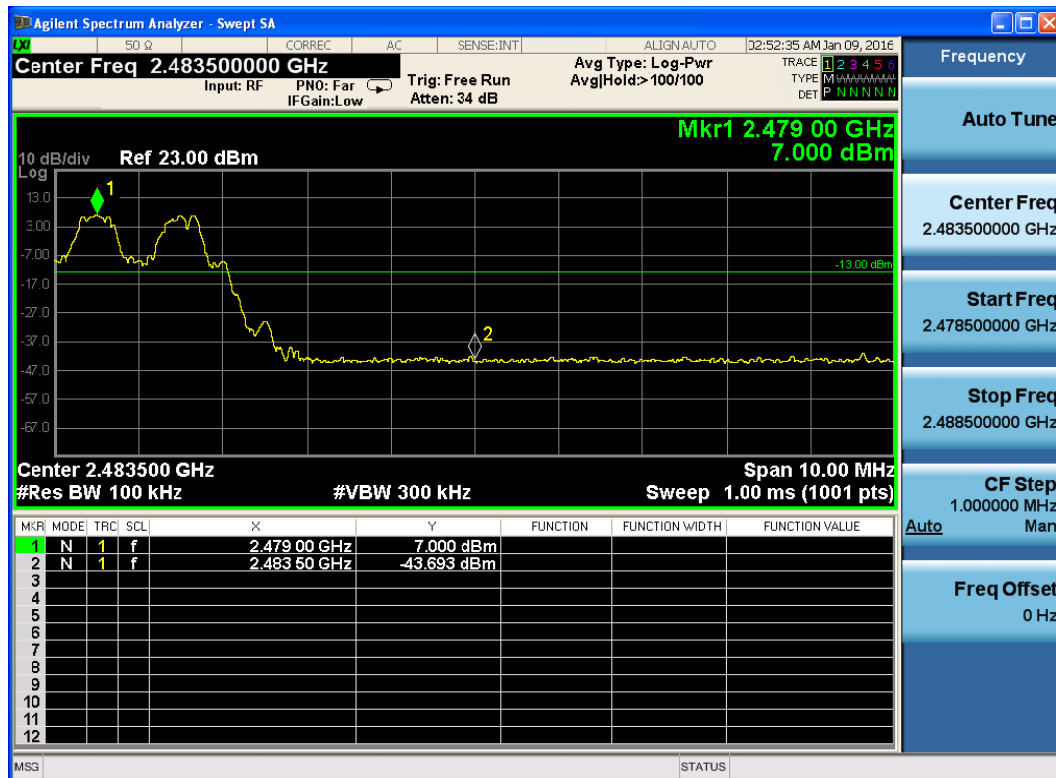
Test Results

Hopping On-DH5



Carrier frequency (MHz): 2402

Channel No.:0

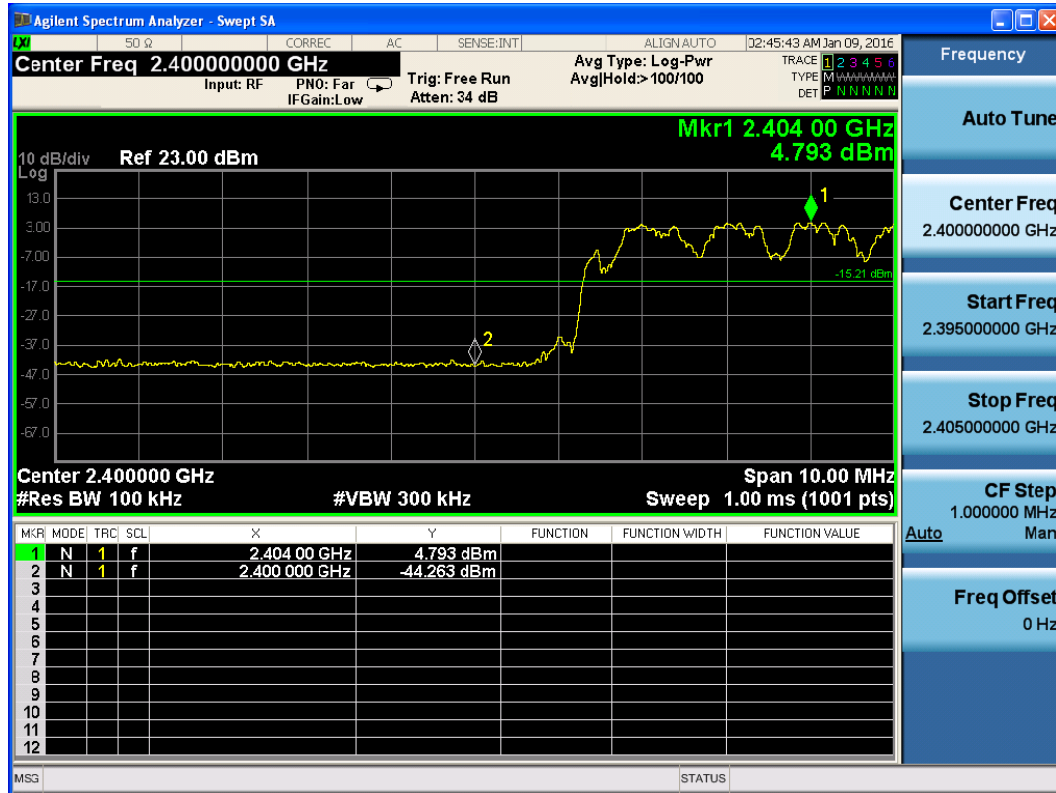


Carrier frequency (MHz): 2480

Channel No.:78

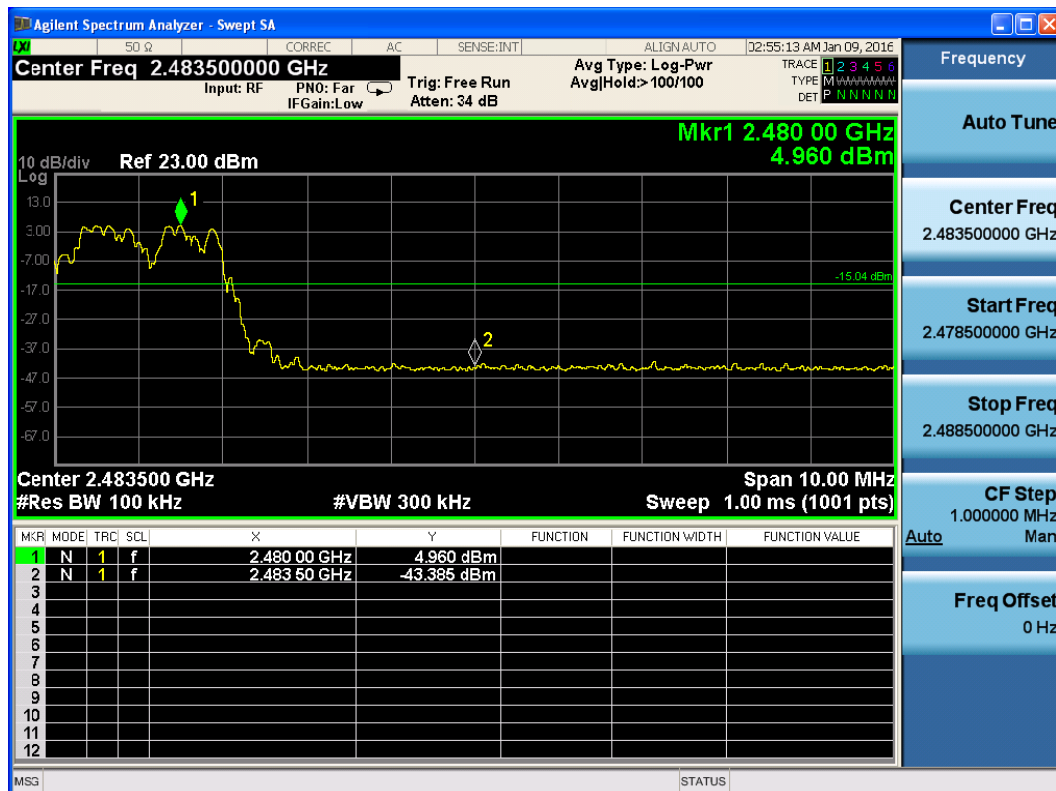


Hopping On-2DH5



Carrier frequency (MHz): 2402

Channel No.:0

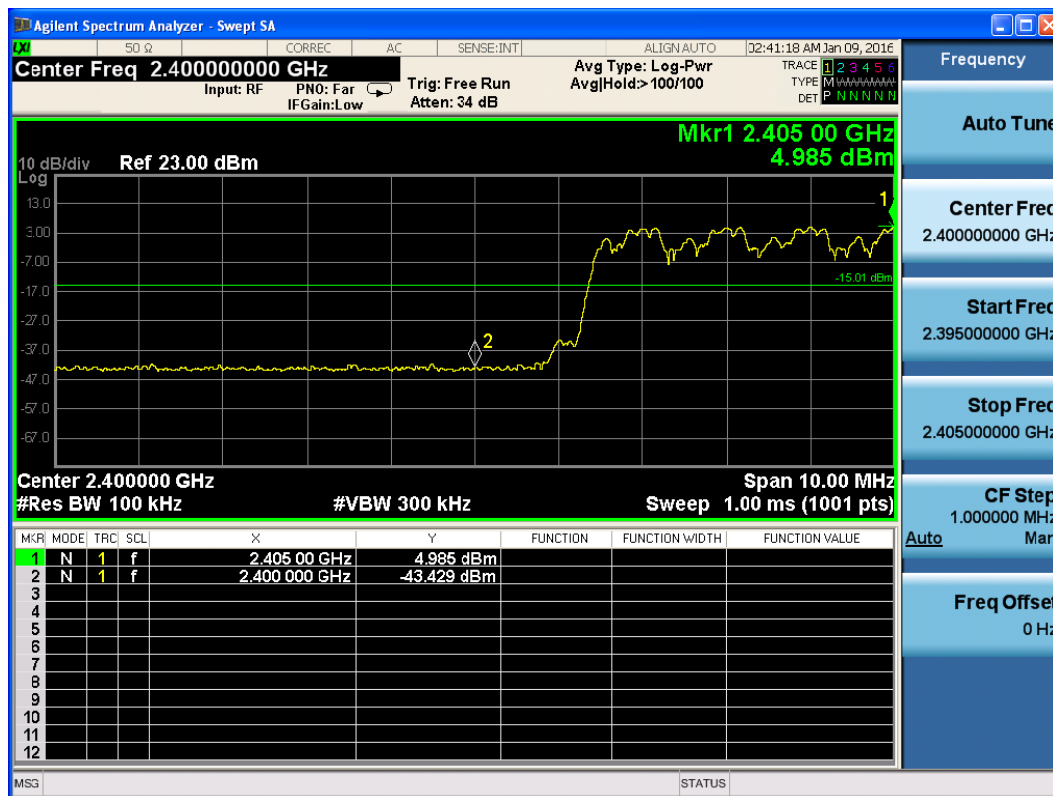


Carrier frequency (MHz): 2480

Channel No.:78

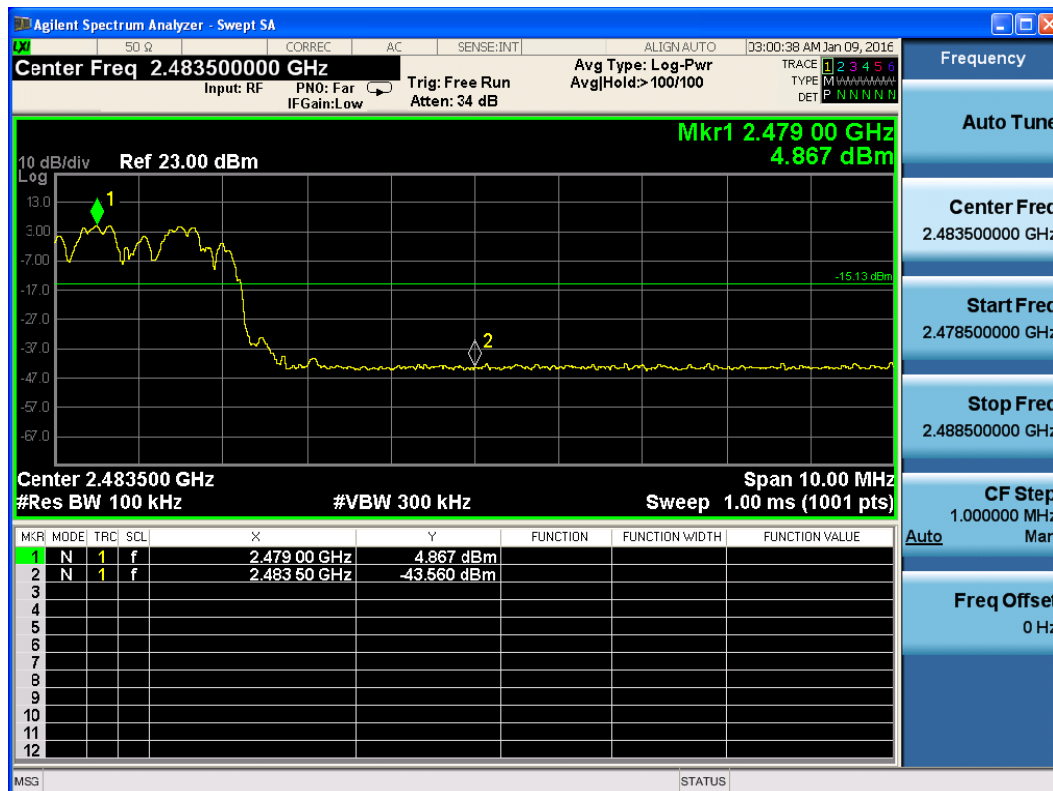


Hopping On-3DH5



Carrier frequency (MHz): 2402

Channel No.:0

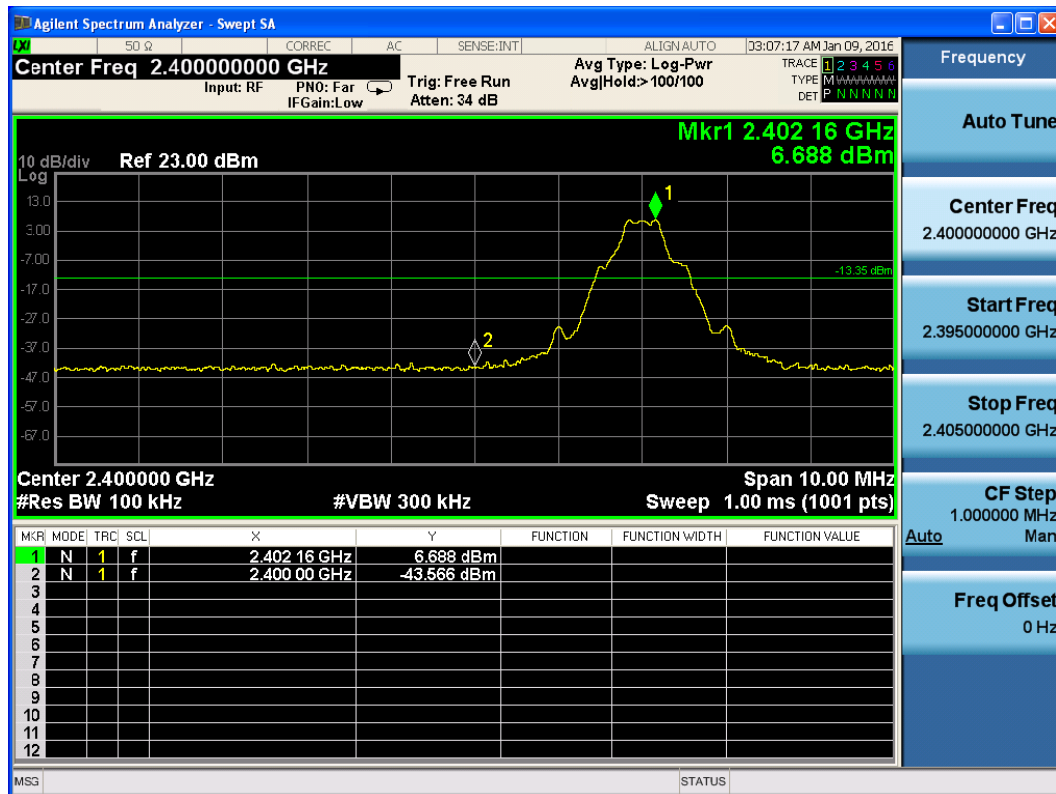


Carrier frequency (MHz): 2480

Channel No.:78

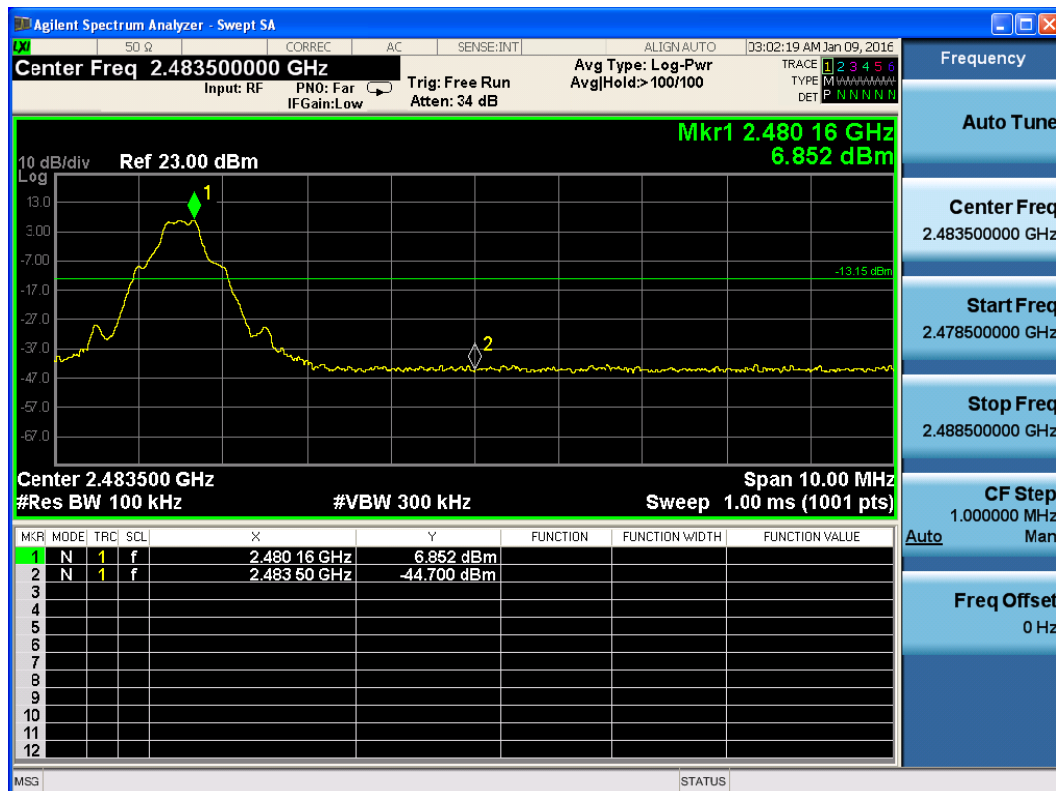


Hopping Off-DH5



Carrier frequency (MHz): 2402

Channel No.:0

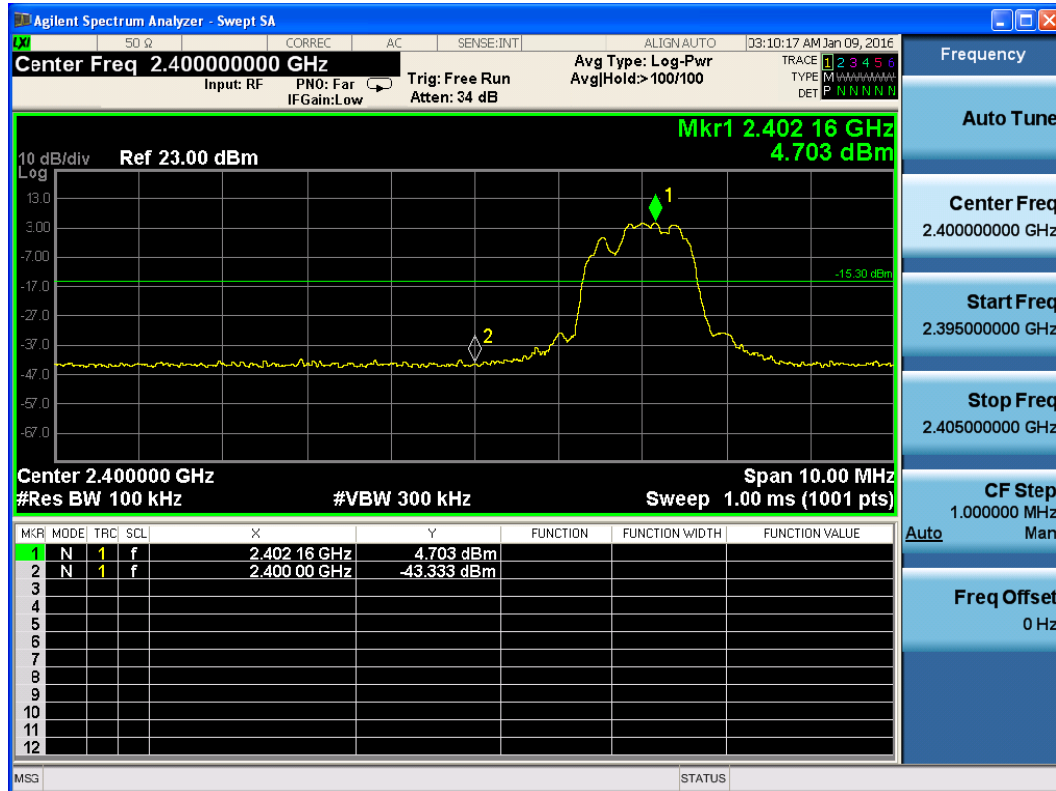


Carrier frequency (MHz): 2480

Channel No.:78

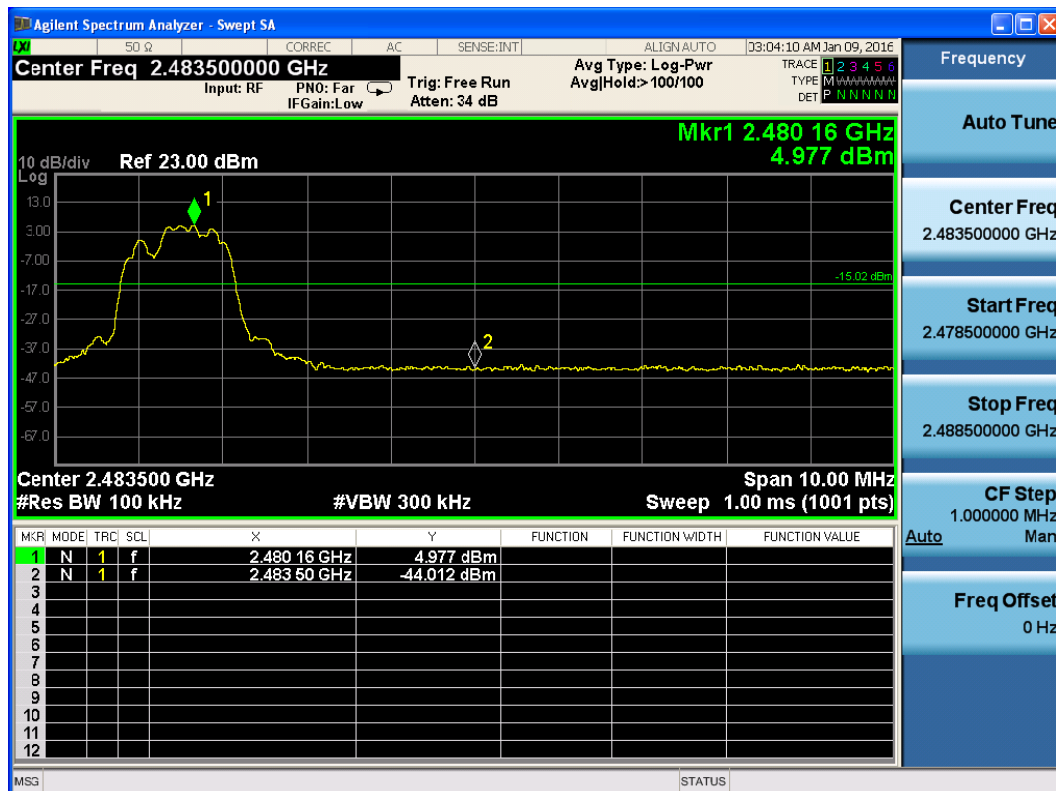


Hopping Off-2DH5



Carrier frequency (MHz): 2402

Channel No.:0

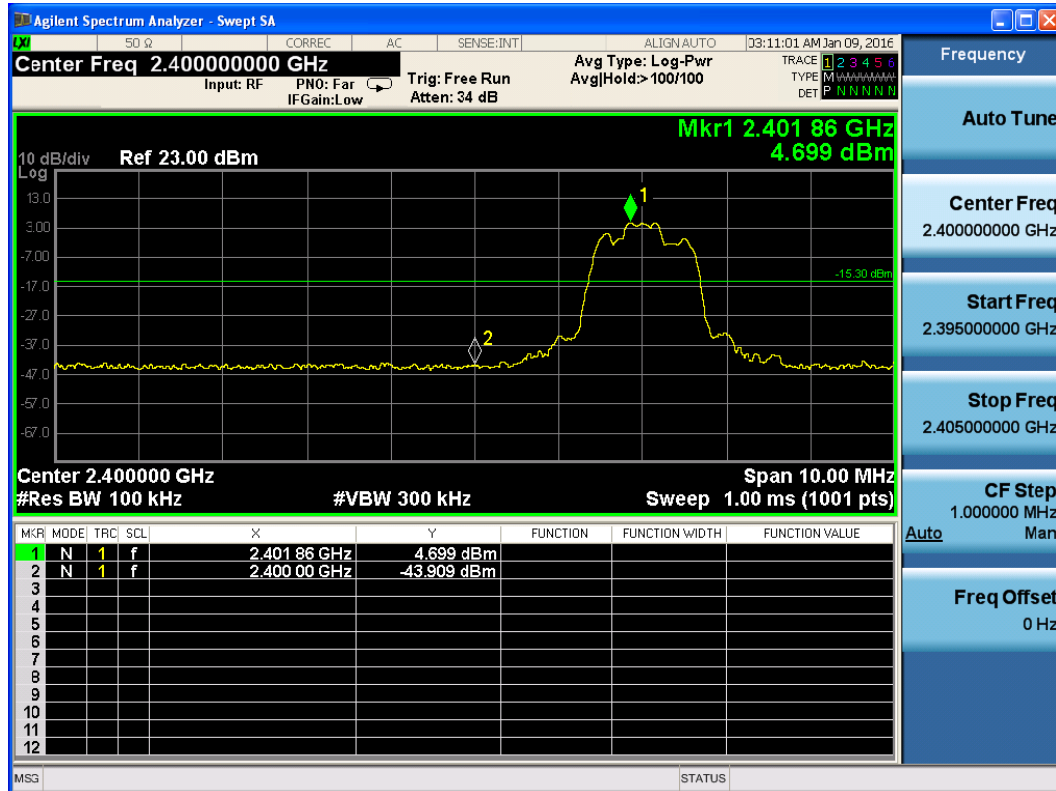


Carrier frequency (MHz): 2480

Channel No.:78

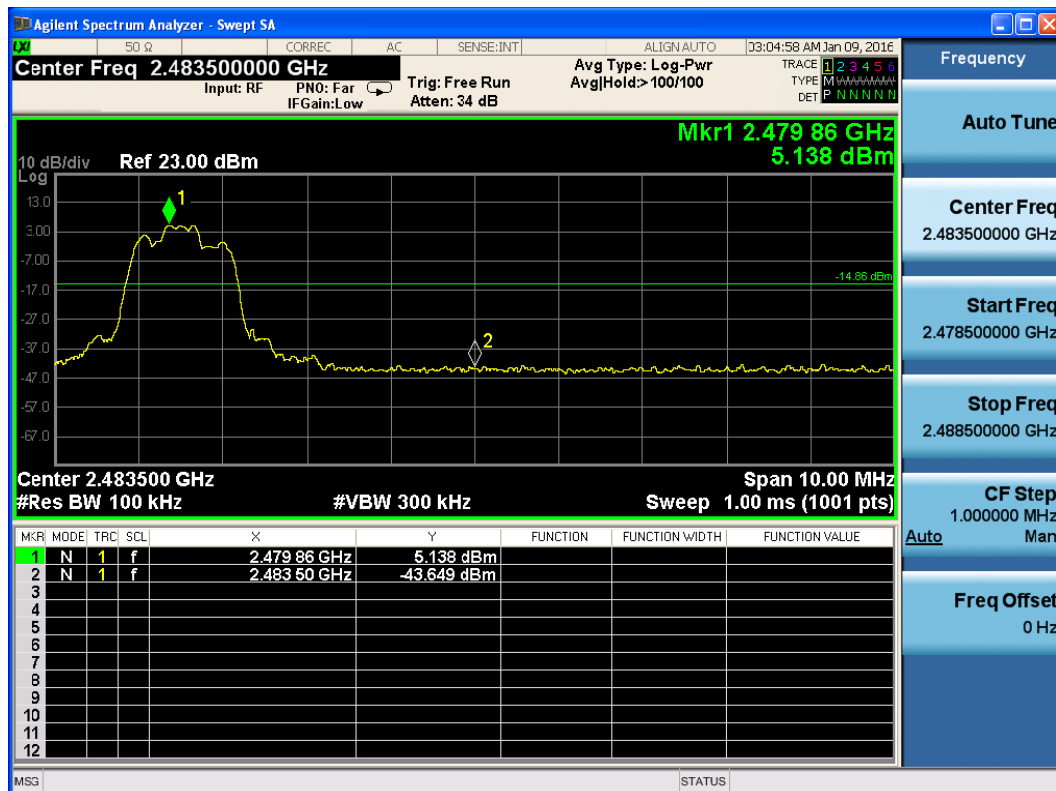


Hopping Off-3DH5



Carrier frequency (MHz): 2402

Channel No.:0



Carrier frequency (MHz): 2480

Channel No.:78

4.7 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.

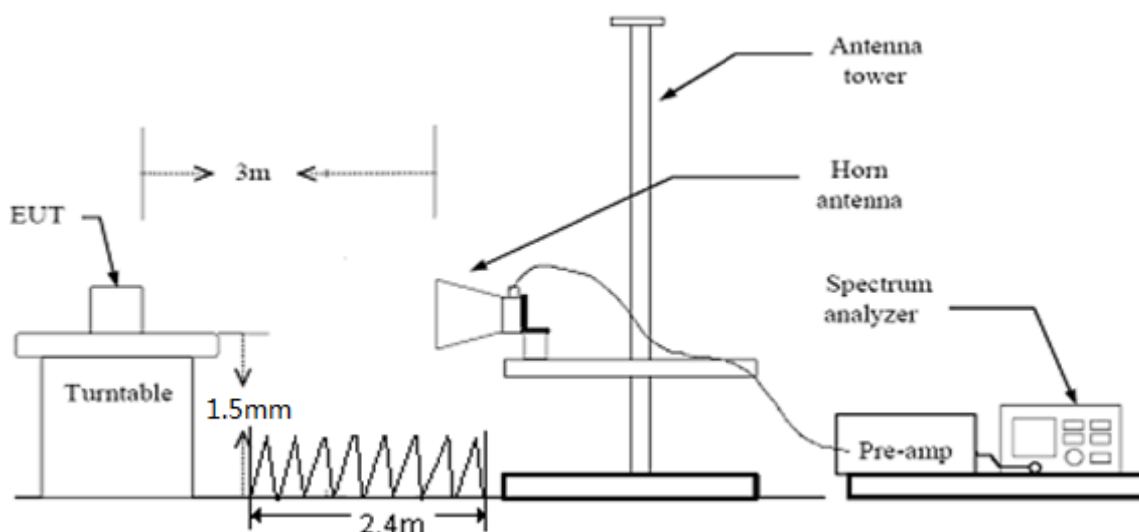
Set the spectrum analyzer in the following:

- PEAK: RBW=VBW=1MHz / Sweep=AUTO
- The dwell time per channel of the hopping signal is less than 100 ms, then the reading obtained with the 10 Hz VBW may be further adjusted by a “duty cycle correction factor”, derived from $20\log(\text{dwell time}/100 \text{ ms})$, in an effort to demonstrate compliance with the 15.209 limit.
If the emission is pulsed, modify the unit for continuous operation; use the settings shown above, then correct the reading by subtracting the peak- average correction factor, derived from the appropriate duty cycle calculation.

This setting method can refer to **DA00-705**.

The test is in transmitting mode. 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 (Y axis) and the worst case was recorded.

Test setup



Note: Area side: 2.4mX3.6m

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
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)
0.009–0.490	2400/F(kHz)	/
0.490–1.705	24000/F(kHz)	/
1.705–30.0	30	/
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=74dBuV/m

Average Limit=54dBuV/m

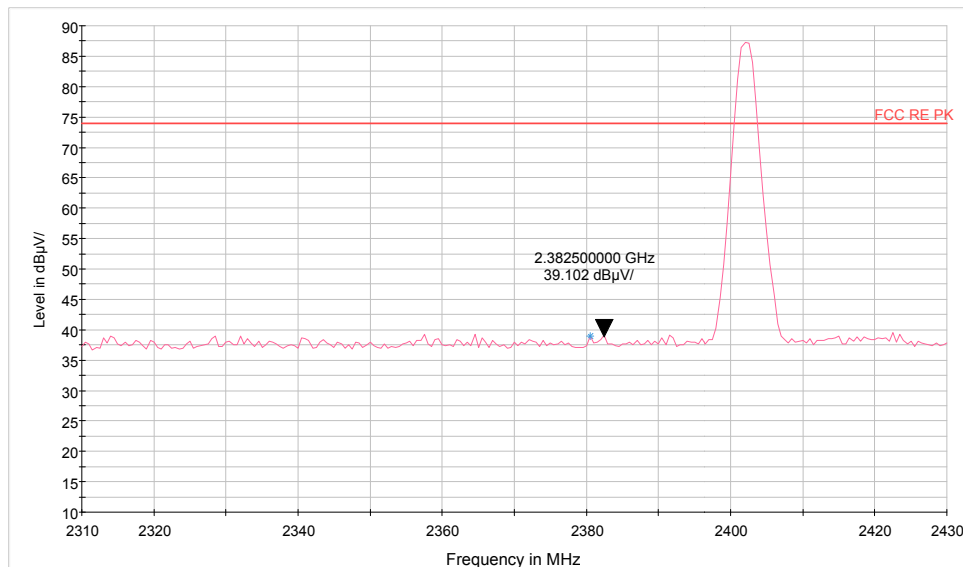
Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = 1.96$, $U = 3.55$ dB.

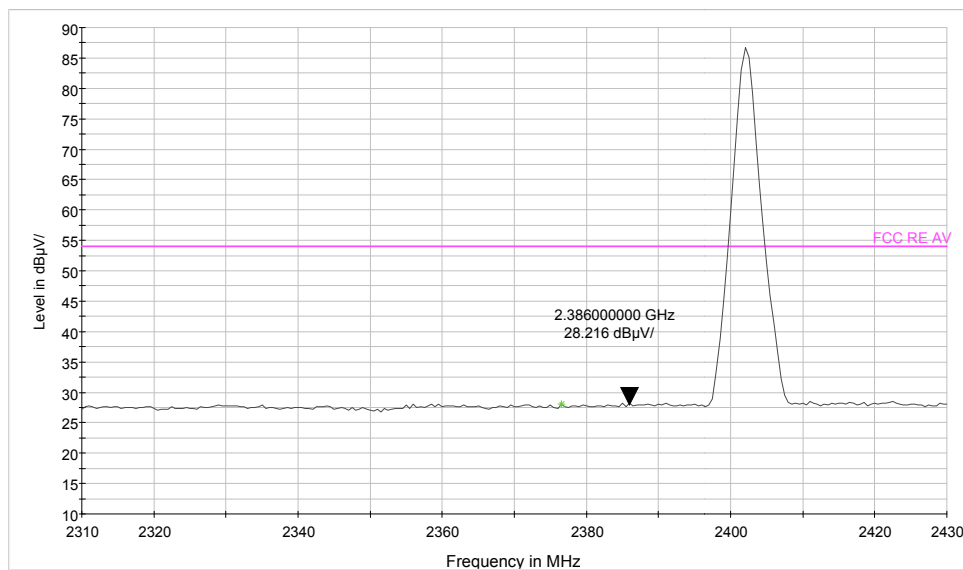
Test Results:

Themessy code(dB μ V/m) including in the following plots mean dB μ V/m.

DH5- Channel 0



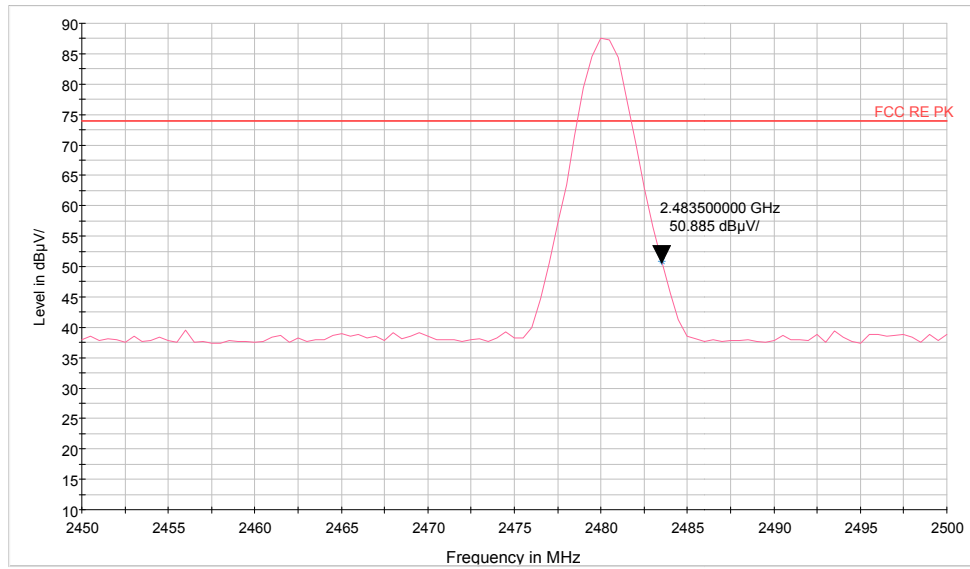
Lower band edge Peak-CH 0



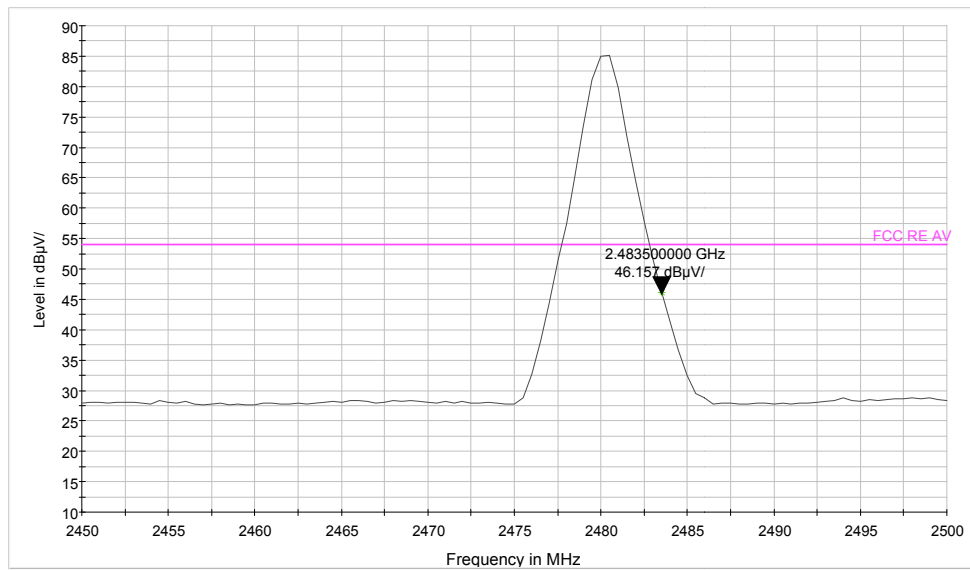
Lower band edge average-CH 0



DH5- Channel 78



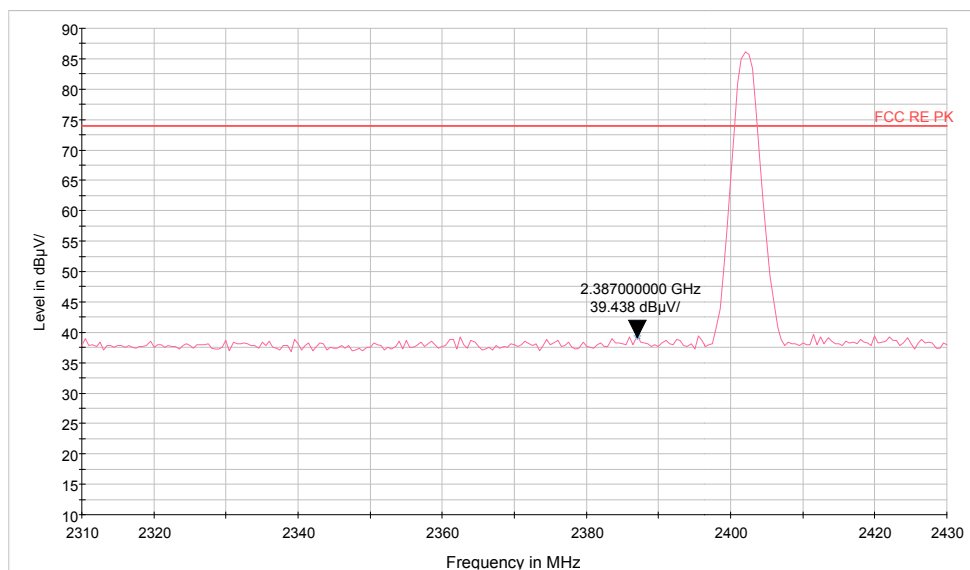
Higher band edge Peak-CH 78



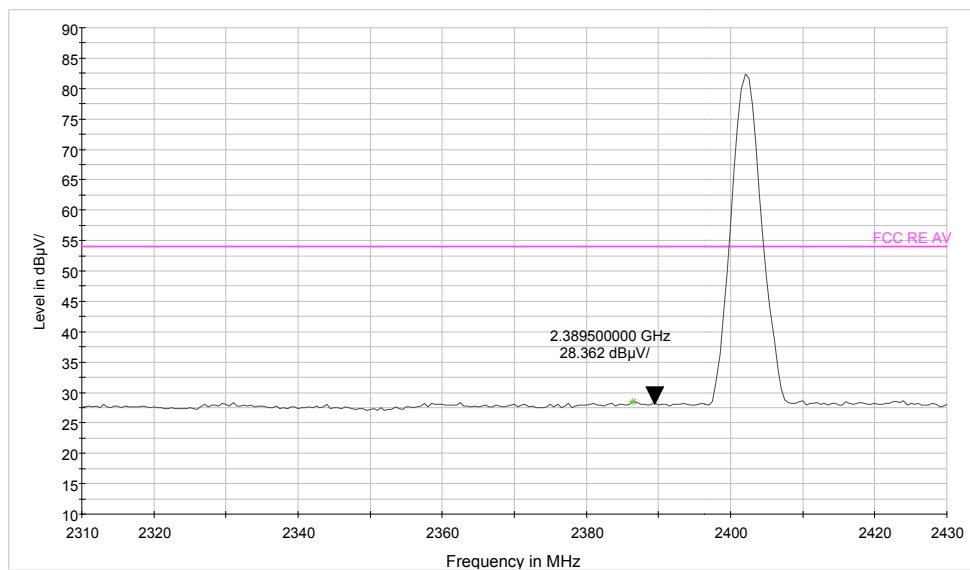
Higher band edge average-CH 78



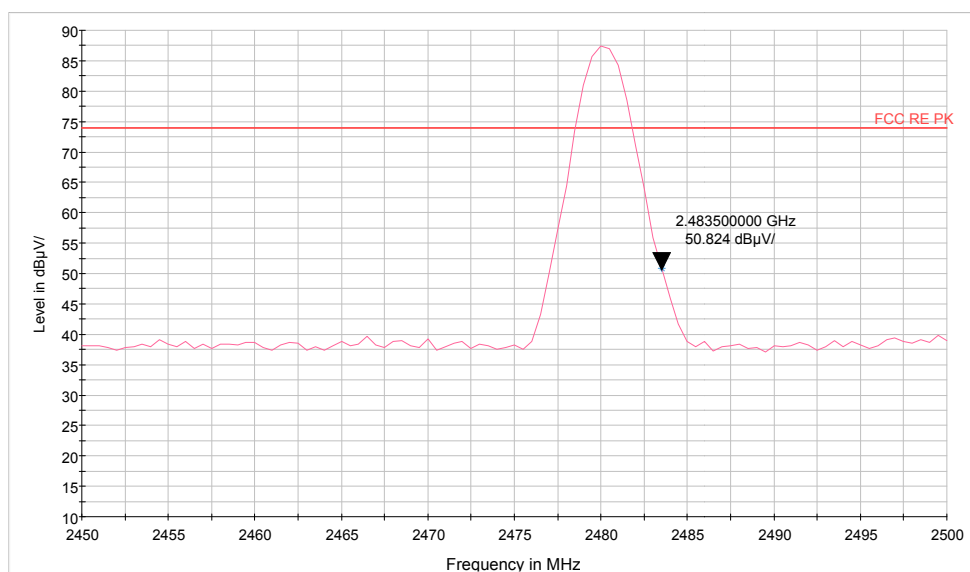
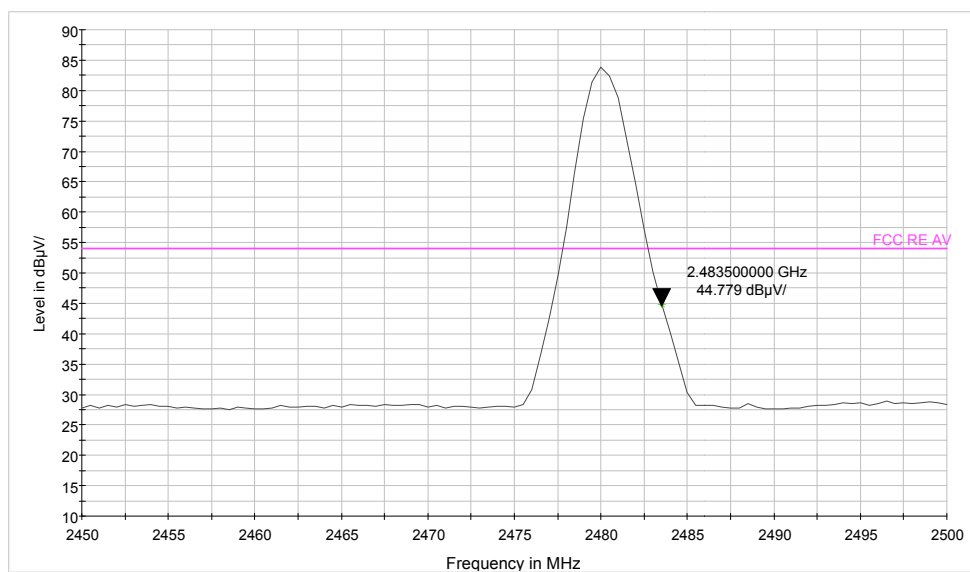
3DH5- Channel 0



Lower band edge Peak-CH 0



Lower band edge average-CH 0

**3DH5- Channel 78****Higher band edge Peak-CH 78****Higher band edge average-CH 78**

4.8 Number of hopping Frequency

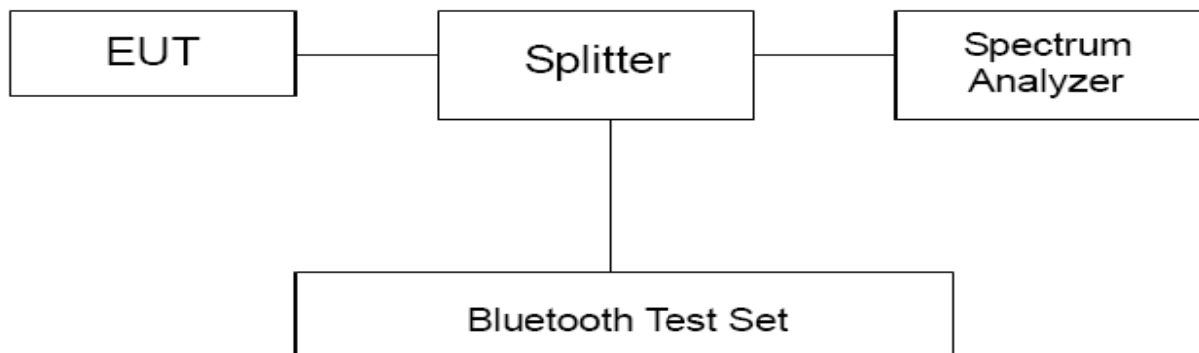
Ambient condition

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. RBW is set to 1MHz and VBW is set to 3 MHz on spectrum analyzer. Set EUT on Hopping on mode.

Test setup



Limits

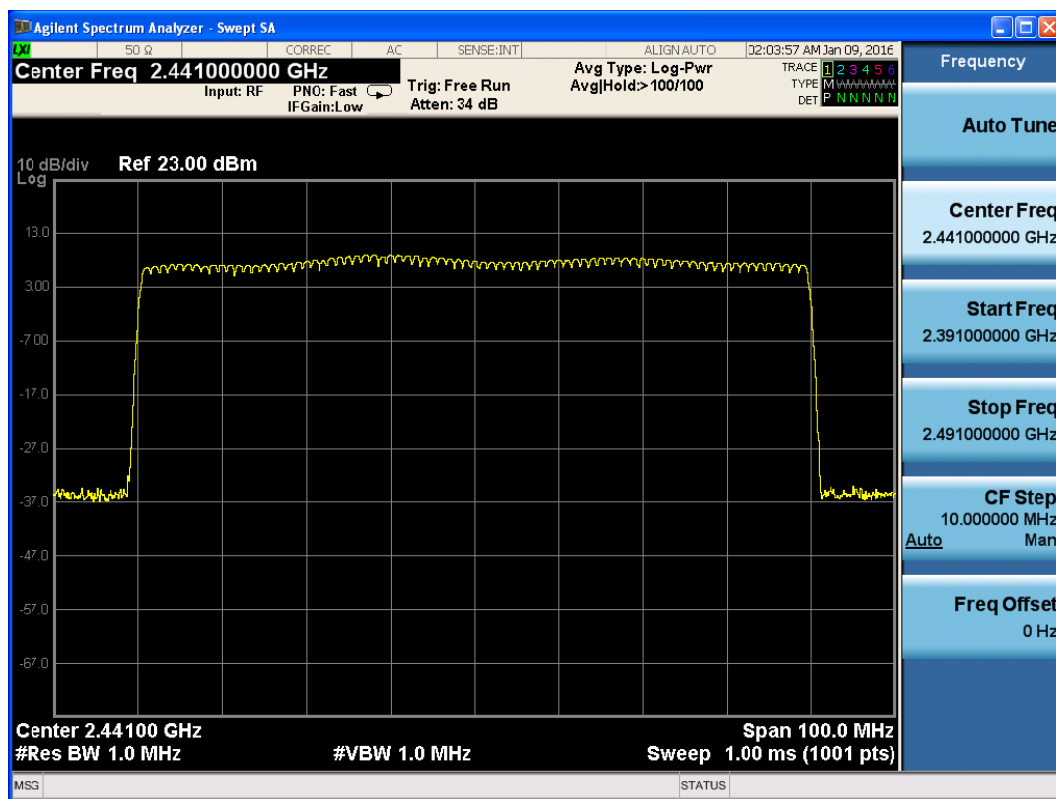
Rule Part 15.247(a) (1) (iii) specifies that” Frequency hopping systems in the 2400–2483.5 MHz band shall use at least 15 channels.”

Limits	≥ 15 channels
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Test Results:

DH5

Number of hopping channels	conclusion
79	PASS

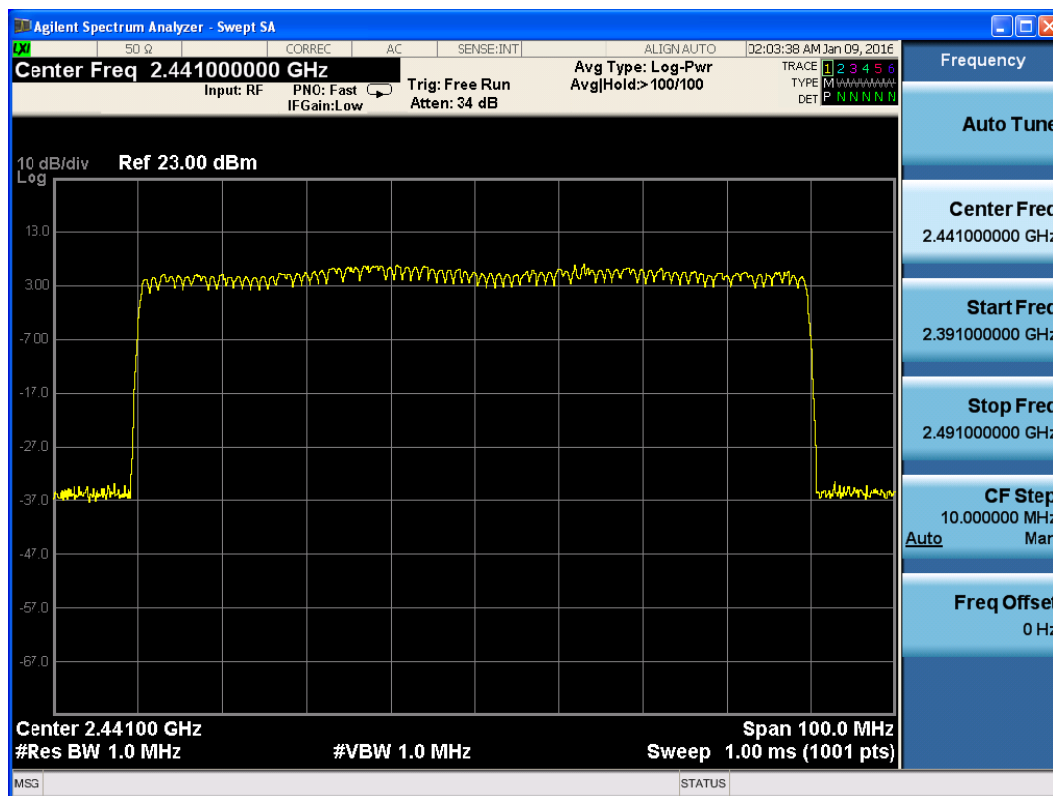


2400 MHz – 2483.5 MHz



2DH5

Number of hopping channels	conclusion
79	PASS

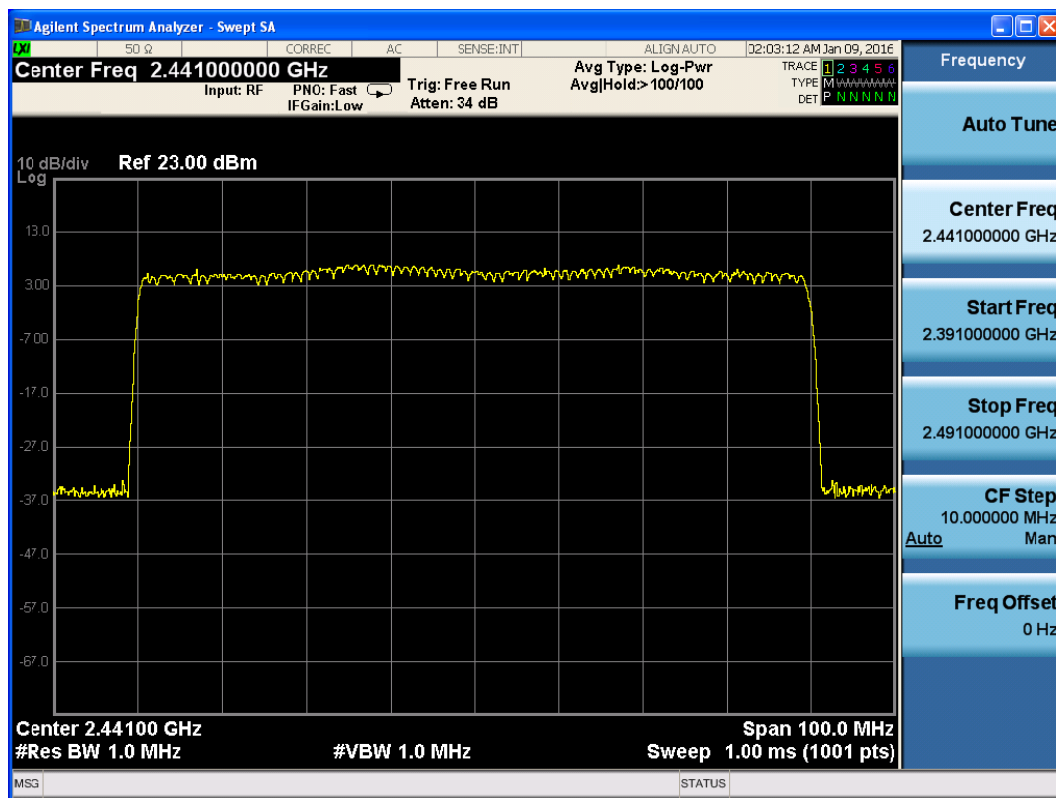


2400 MHz – 2483.5 MHz



3DH5

Number of hopping channels	conclusion
79	PASS



2400 MHz – 2483.5 MHz

4.9 Spurious RF Conducted Emissions

Ambient condition

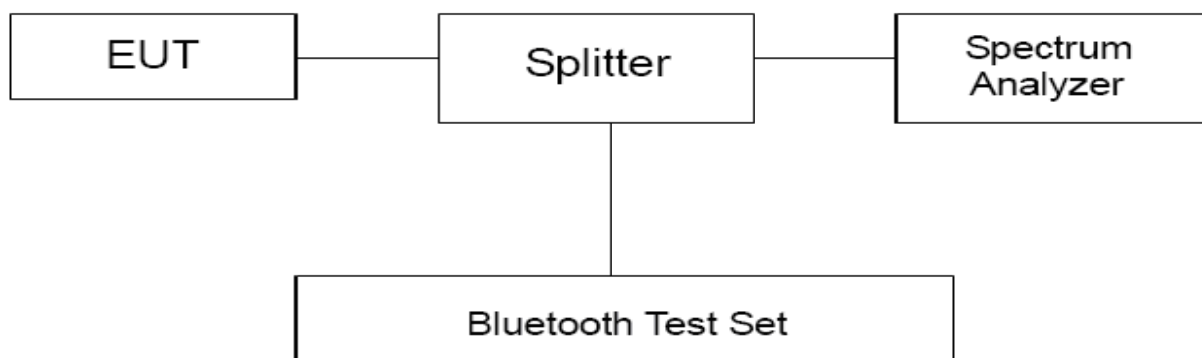
Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

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 the 10th harmonic of the carrier. The peak detector is used. RBW and VBW are set to 100 kHz, Sweep is set to ATUO.

The test is in transmitting 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.”

Mode	Carrier frequency (MHz)	Reference value (dBm)	Limit
DH5	2402	4.747	-15.139
	2441	1.776	-14.343
	2480	1.468	-20.054
EDR (3DH5)	2402	5.827	-11.381
	2441	6.825	-19.84
	2480	1.779	-18.662

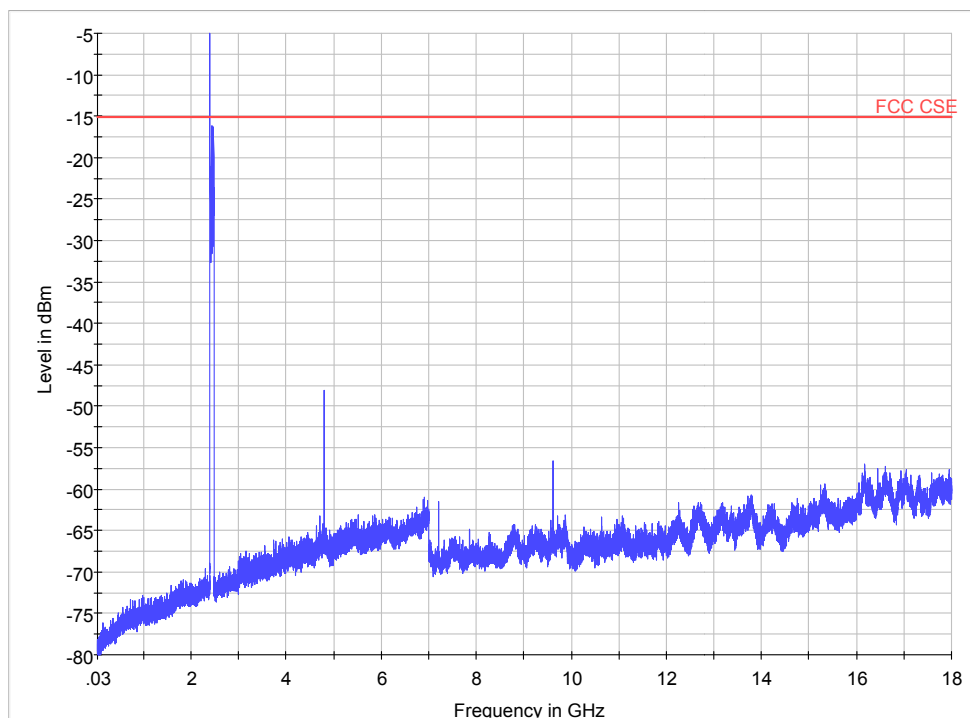
Measurement Uncertainty

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

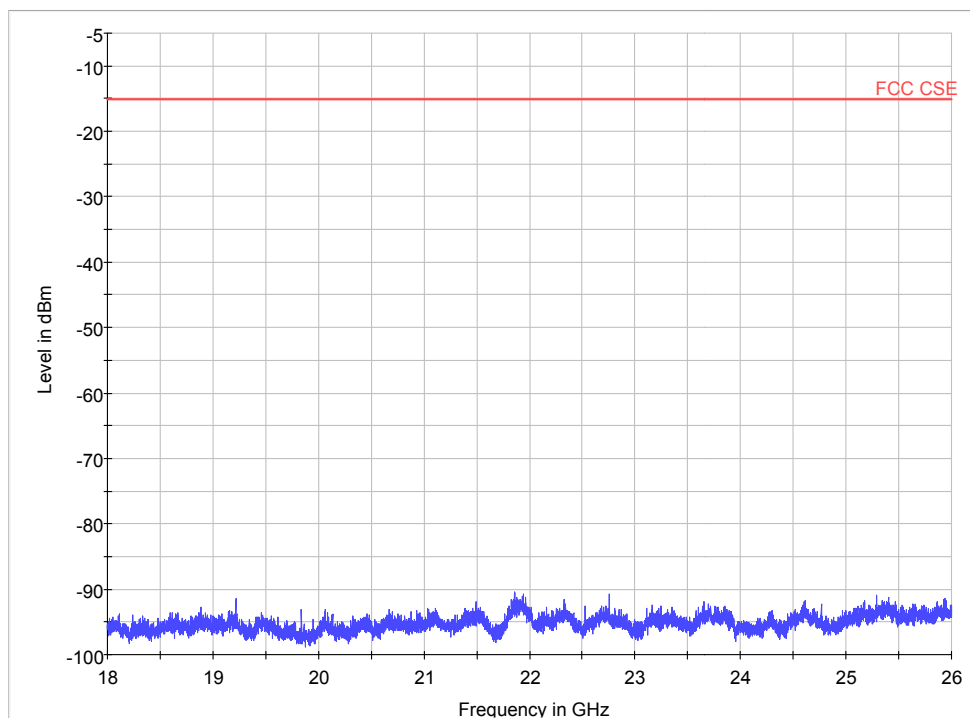
Frequency	Uncertainty
100kHz-2GHz	0.684 dB
2GHz-26GHz	1.407 dB

Test Results:

GFSK-CH0:

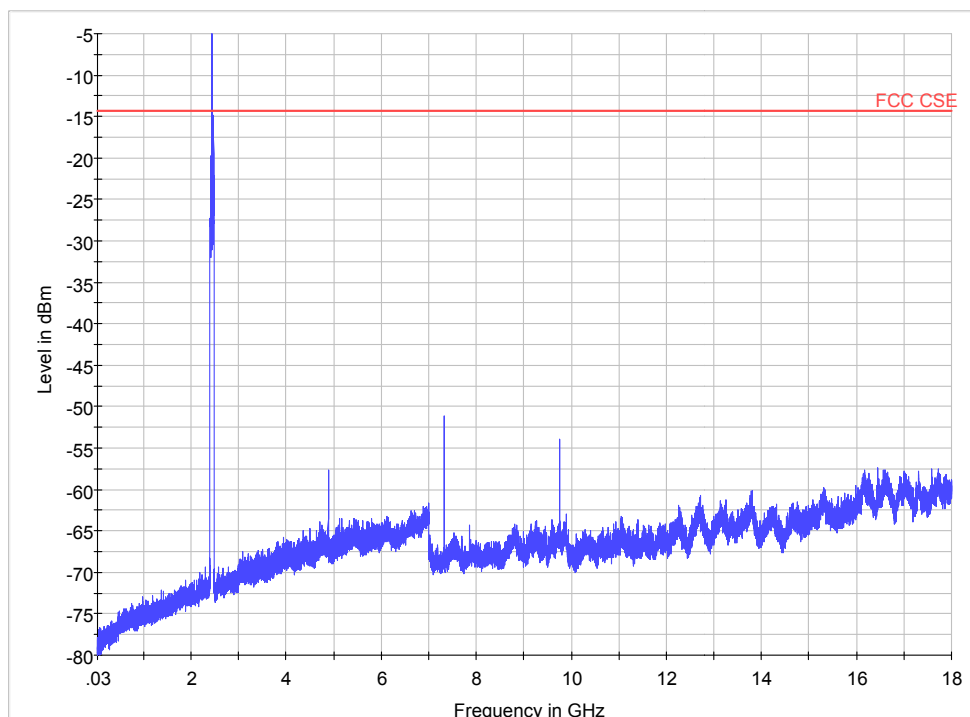


Note: The signal beyond the limit is carrier. Carrier frequency (MHz): 2402
Spurious RF conducted emissions from 30MHz to 18GHz

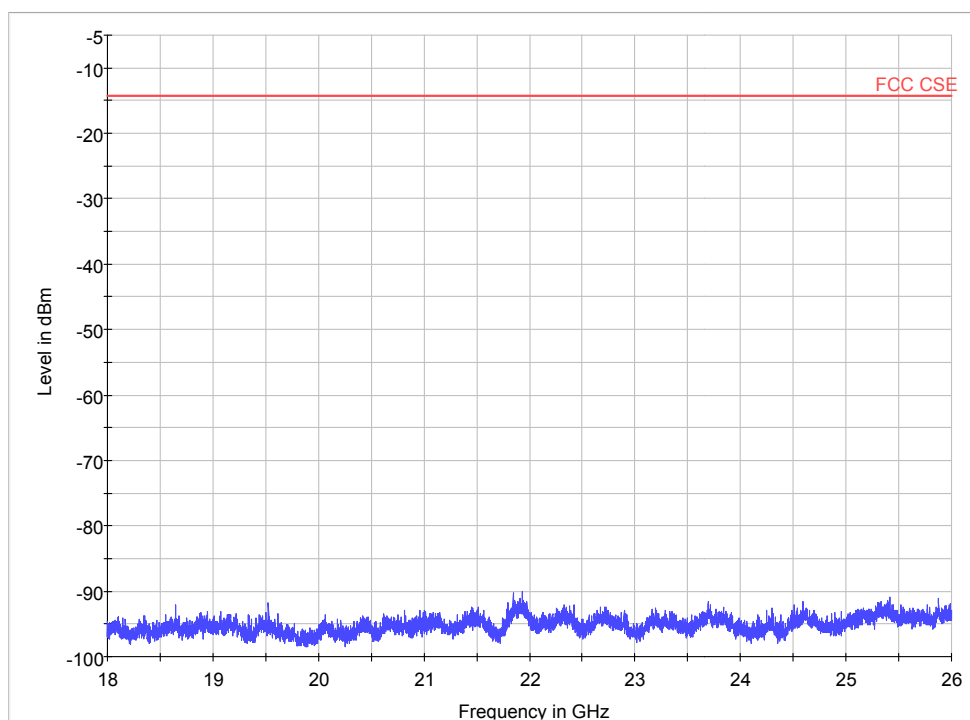


Spurious RF conducted emissions from 18GHz to 26.5GHz

GFSK-CH39:

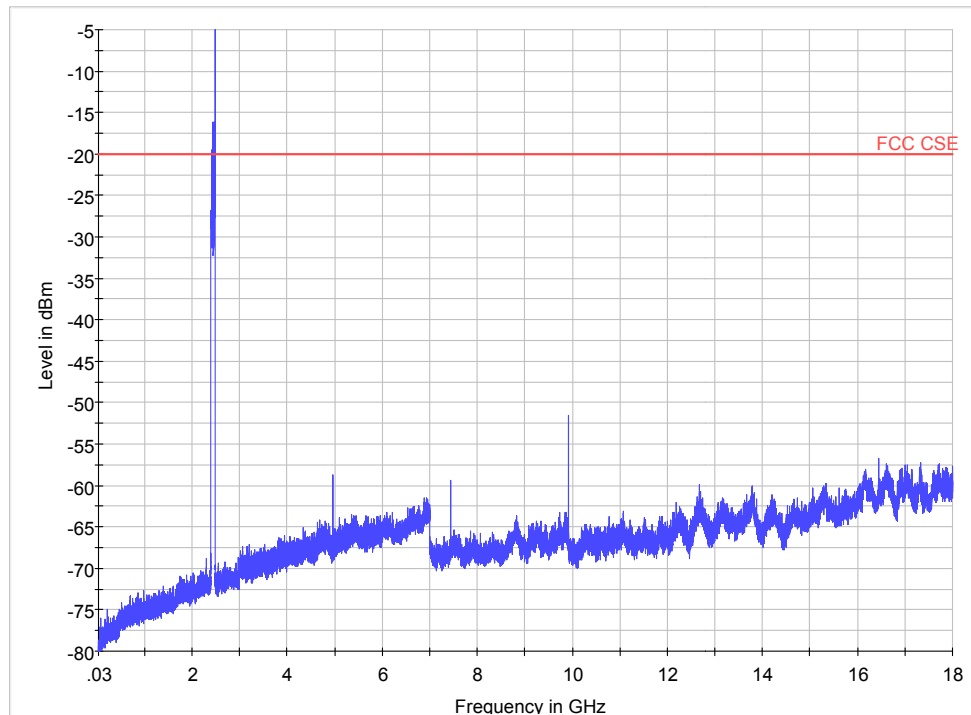


Note: The signal beyond the limit is carrier. Carrier frequency (MHz): 2441
Spurious RF conducted emissions from 30MHz to 18GHz

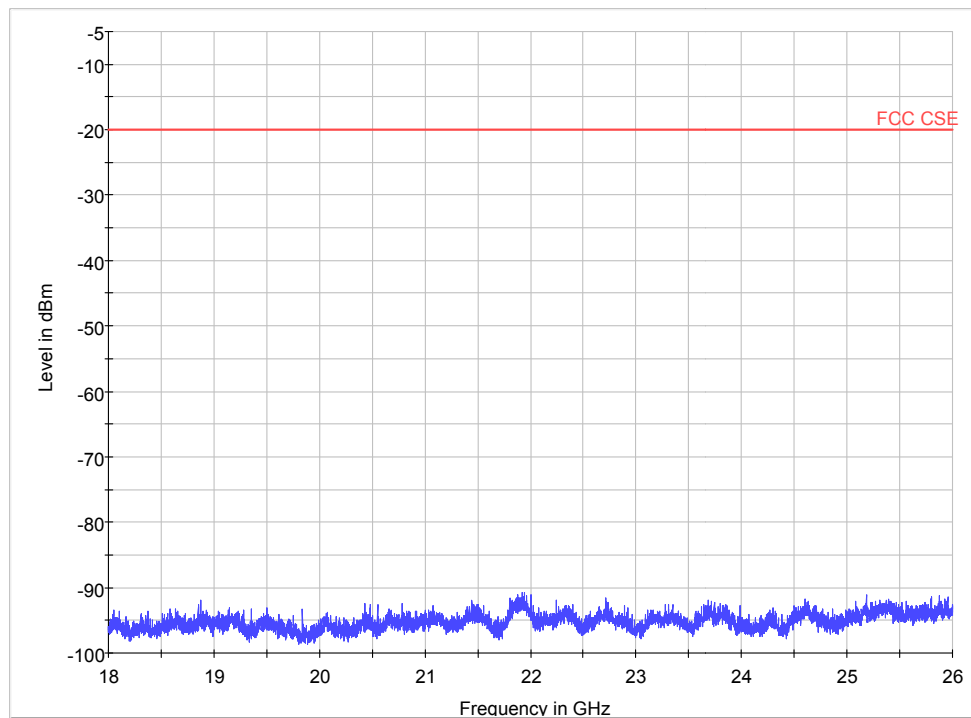


Spurious RF conducted emissions from 18GHz to 26.5GHz

GFSK-CH78:

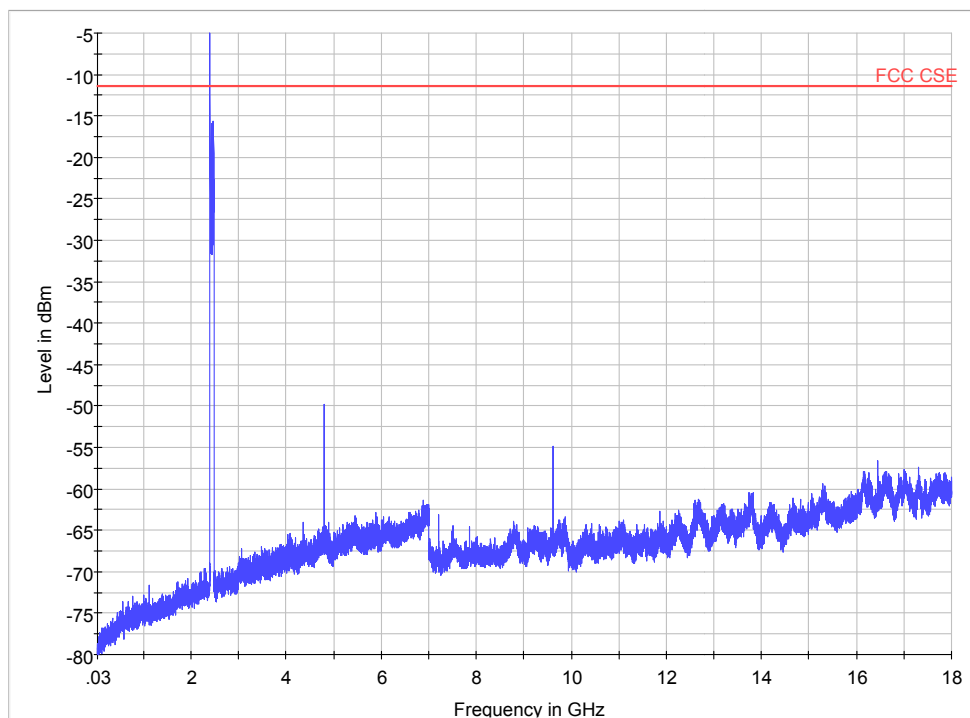


Note: The signal beyond the limit is carrier. Carrier frequency (MHz): 2480
Spurious RF conducted emissions from 30MHz to 18GHz

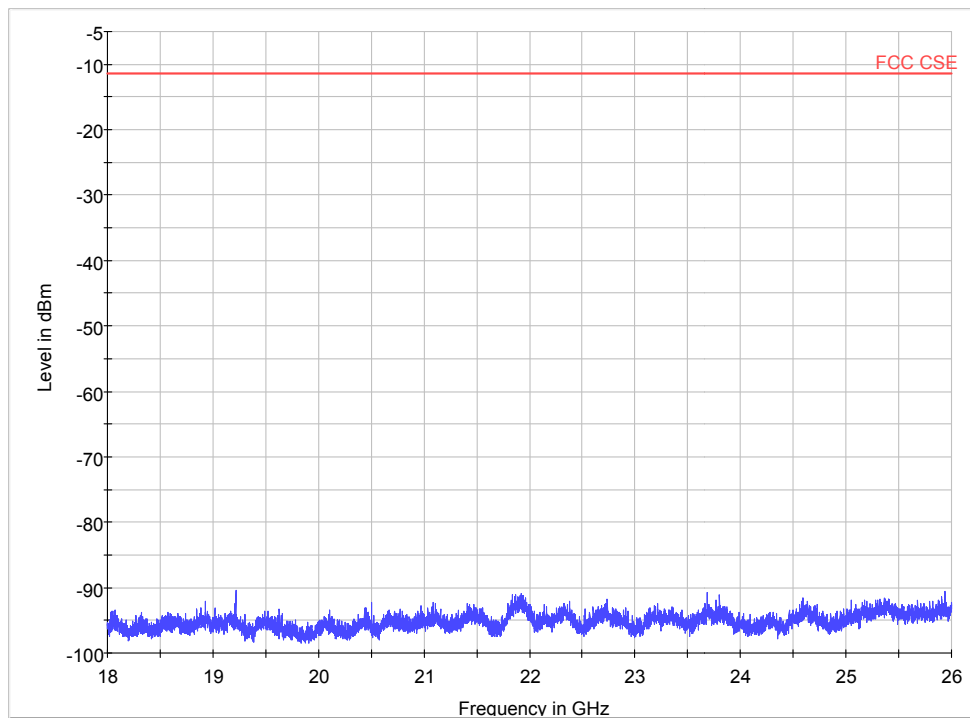


Spurious RF conducted emissions from 18GHz to 26.5GHz

EDR-CH0:



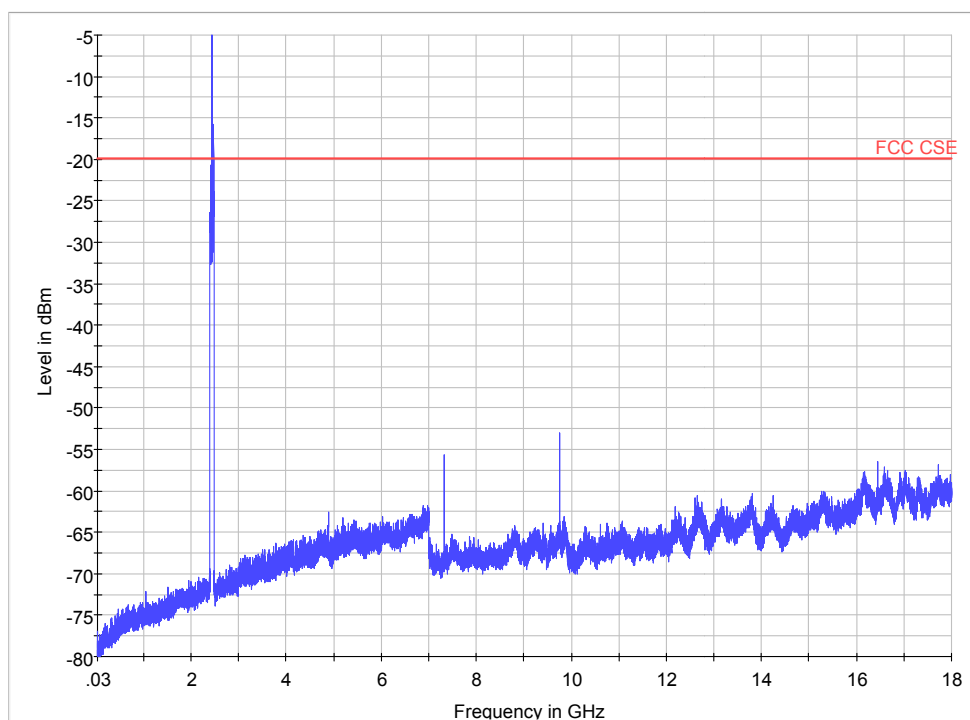
Note: The signal beyond the limit is carrier. Carrier frequency (MHz): 2402
Spurious RF conducted emissions from 30MHz to 18GHz



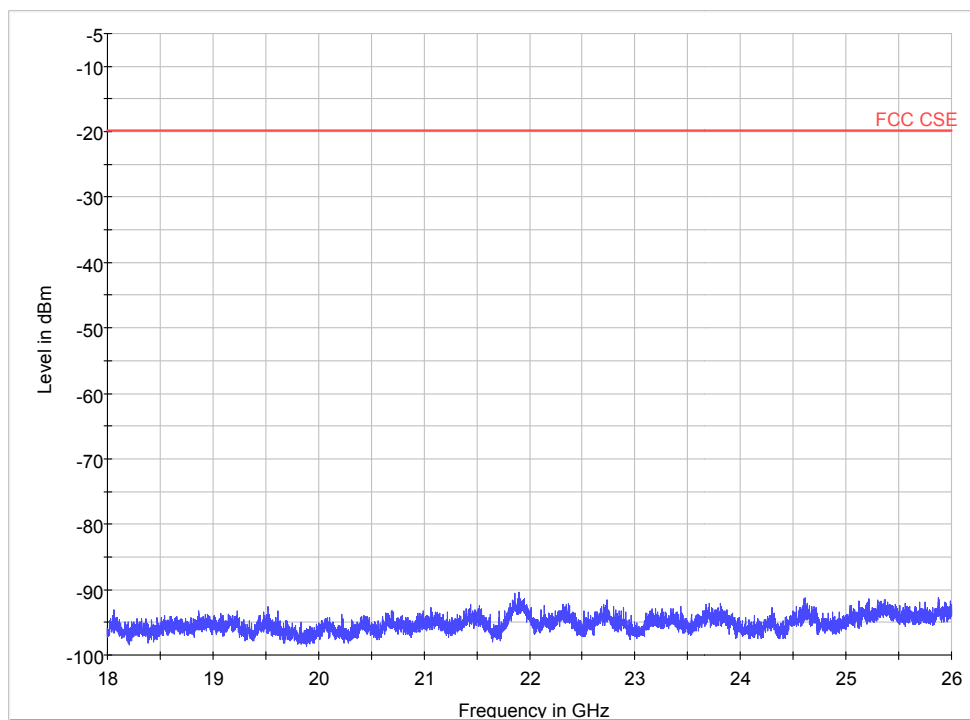
Spurious RF conducted emissions from 18GHz to 26.5GHz



EDR -CH39:

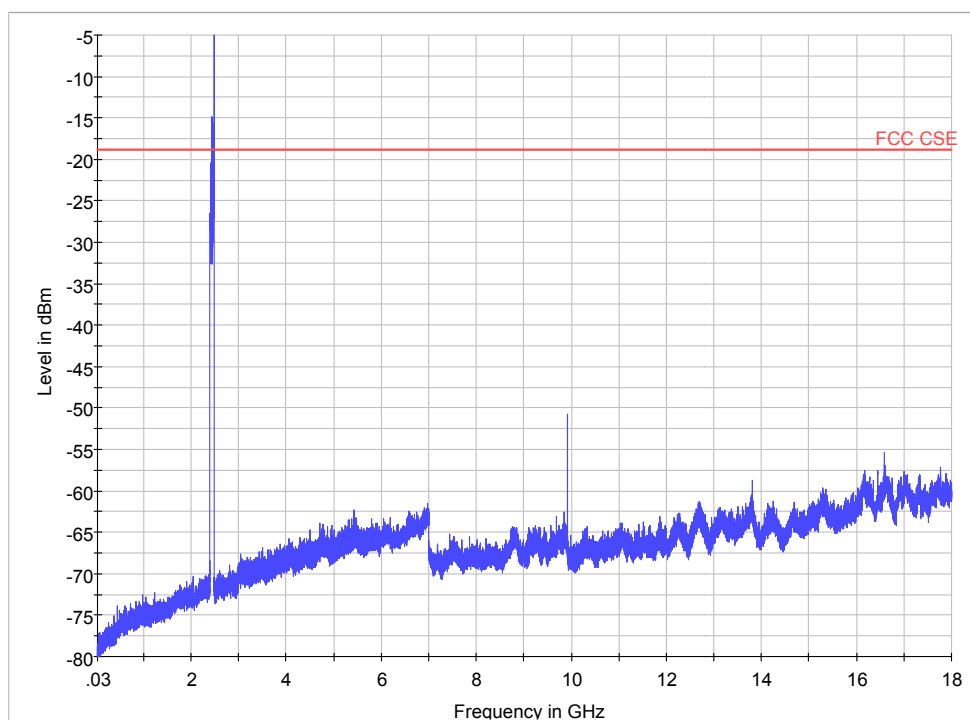


Note: The signal beyond the limit is carrier. Carrier frequency (MHz): 2441
Spurious RF conducted emissions from 30MHz to 18GHz

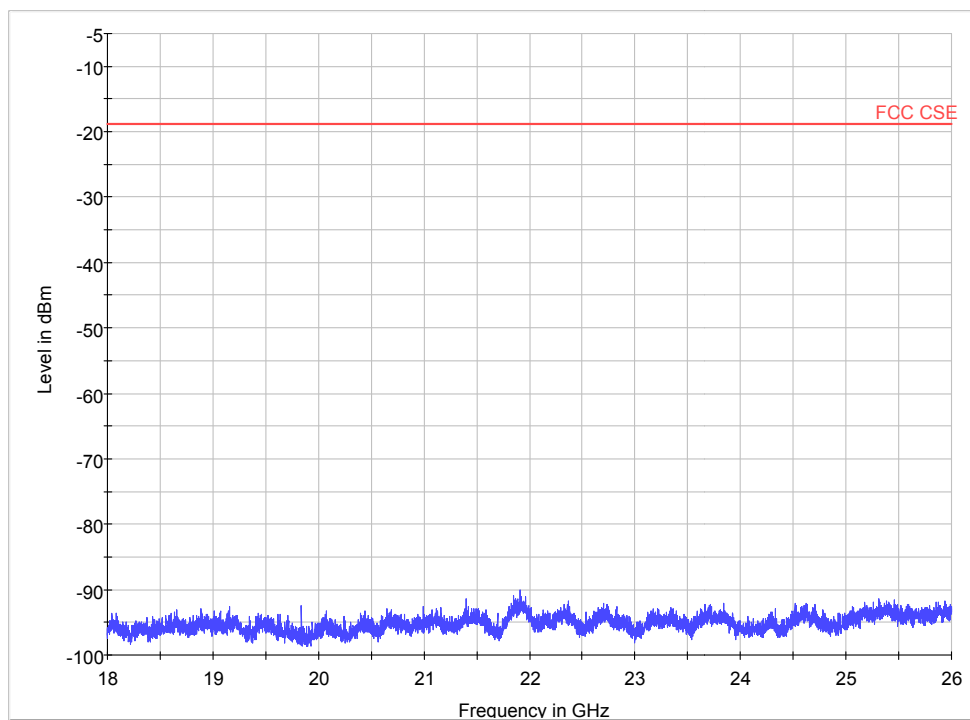


Spurious RF conducted emissions from 18GHz to 26.5GHz

EDR -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

4.10 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 C63.10-2013. 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 9 kHz to the 10th harmonic of the carrier, and the emissions less than 20 dB below the permissible value are reported.

During the test, below 30MHz, the center of the loop shall be 1 meters; above 30MHz, 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 (detector: Peak and Quasi-Peak)

RBW=100kHz / VBW=300kHz / Sweep=AUTO

Above 1GHz(detector: Peak):

(a) PEAK: RBW=1MHz VBW=3MHz/ Sweep=AUTO

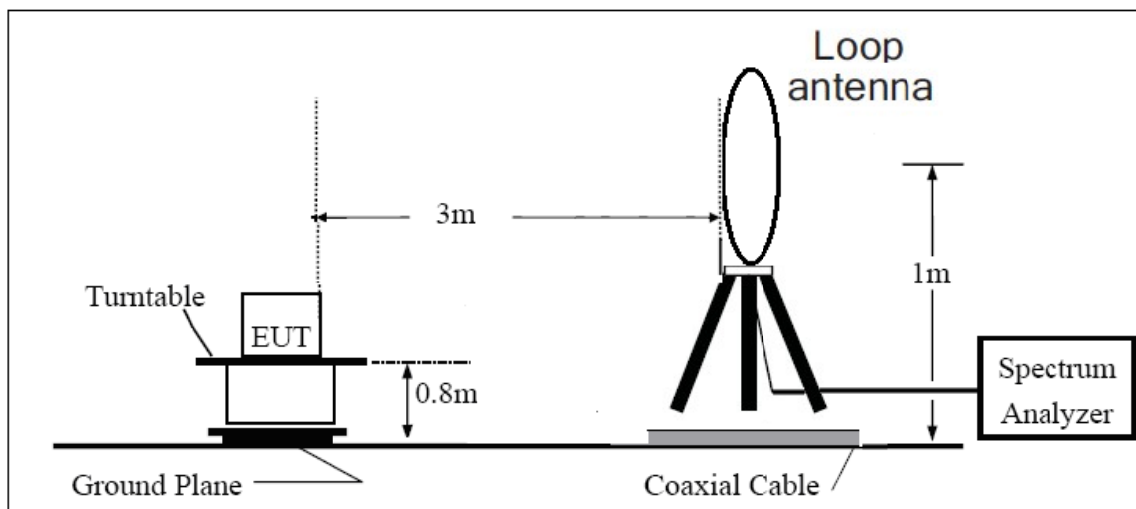
(b) AVERAGE: RBW=1MHz / VBW=10Hz / Sweep=AUTO

The radiated emission was measured in the following position: EUT stand-up position (Z axis), lie-down position (X, Y axis). The worst emission was found in stand-up position (Z axis) and the worst case was recorded. Then this mode was measured in the following mode: EUT with cradle and EUT without cradle. The worst emission was found in EUT with cradle mode and the worst case was recorded.

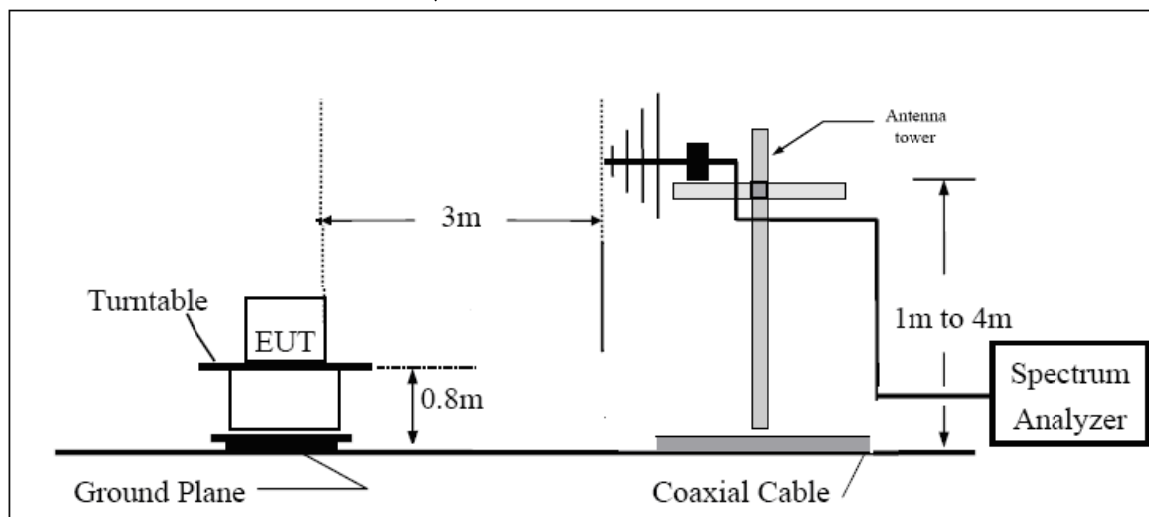
The test is in transmitting mode.

Test setup

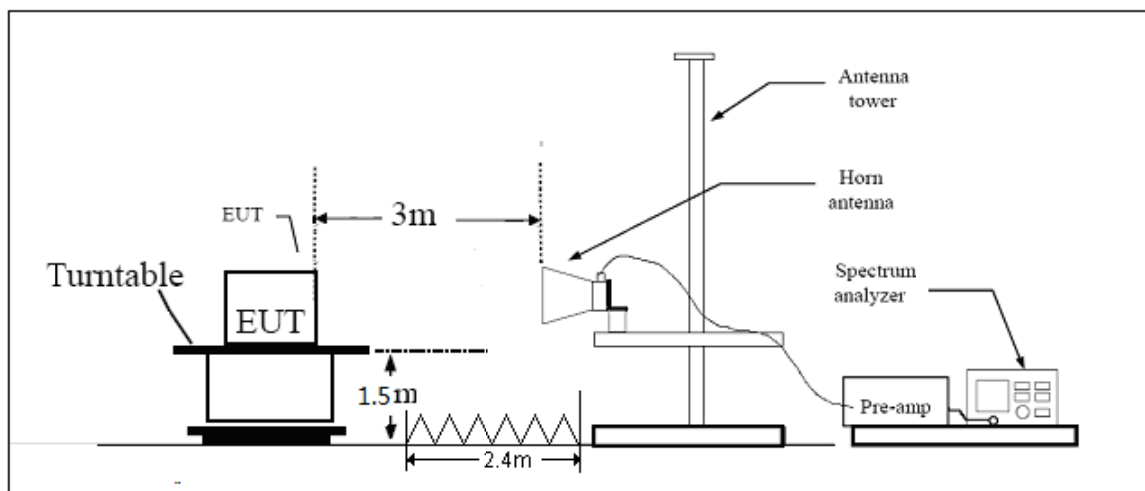
9KHz~~~ 30MHz



30MHz~~~ 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)
0.009–0.490	2400/F(kHz)	/
0.490–1.705	24000/F(kHz)	/
1.705–30.0	30	/
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 $k = 1.96$.

Frequency	Uncertainty
9KHz-30MHz	3.55 dB
30MHz-200MHz	4.19 dB
200MHz-1GHz	3.63 dB
Above 1GHz	3.68 dB

Test result

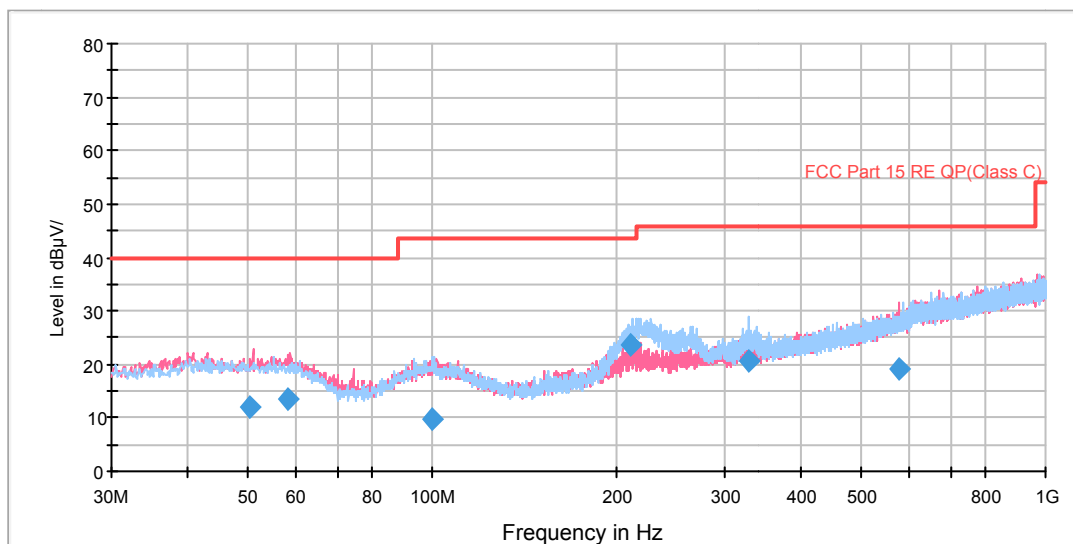
Sweep from 9 kHz to 30MHz, and the emissions more than 20 dB below the permissible value are not reported.

The messy code(dBuV/m) including in the following plots mean dBuV/m.

The following graphs display the maximum values of horizontal and vertical by software.

For above 1GHz, Blue trace uses the peak detection, Green trace uses the average detection.

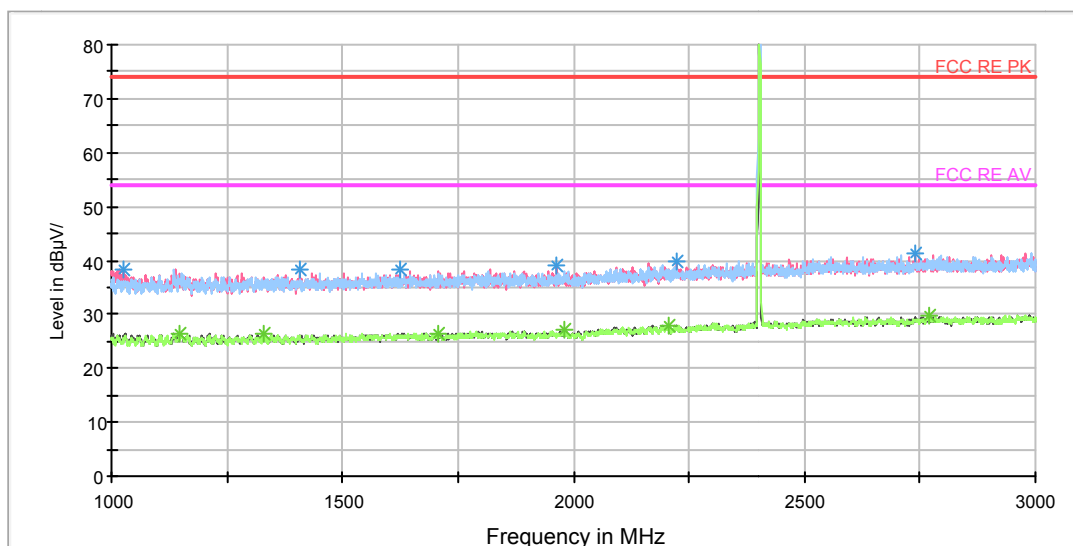
GFSK-Channel 0



Radiates Emission from 30MHz to 1GHz

Note: This graph displays the maximum values of horizontal and vertical by software

Frequency (MHz)	Quasi-Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
50.537500	11.8	100.0	V	34.0	24.8	13.0	28.2	40.0
58.376250	13.3	100.0	V	37.0	25.9	12.6	26.7	40.0
99.965000	9.7	125.0	H	314.0	22.9	13.2	33.8	43.5
211.353750	23.5	125.0	H	100.0	36.0	12.5	20.0	43.5
327.430000	20.8	100.0	H	230.0	37.0	16.2	25.2	46.0
579.218750	19.2	125.0	V	140.0	40.9	21.7	26.8	46.0

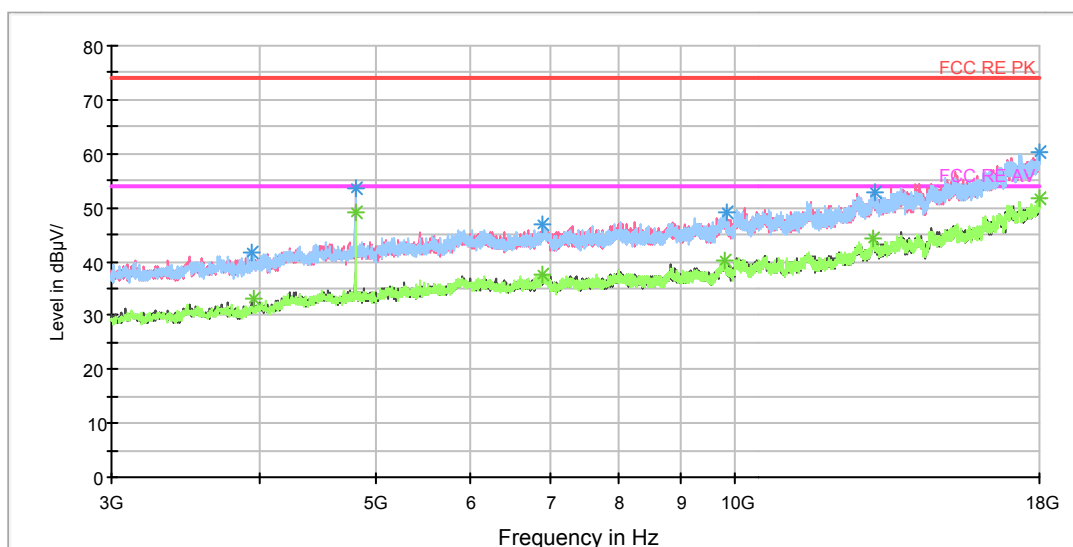


Radiates Emission from 1GHz to 3GHz
Note: The signal beyond the limit is carrier.

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1025.000000	38.3	100.0	V	359.0	49.6	-11.3	35.7	74
1407.000000	38.2	100.0	V	298.0	48.0	-9.8	35.8	74
1623.500000	38.3	100.0	H	72.0	47.2	-8.9	35.7	74
1965.000000	38.9	100.0	V	287.0	46.8	-7.9	35.1	74
2224.000000	39.7	100.0	V	338.0	46.2	-6.5	34.3	74
2738.500000	41.3	100.0	V	355.0	45.7	-4.4	32.7	74

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1148.000000	26.5	100.0	H	0.0	37.3	-10.8	27.5	54
1329.000000	26.4	100.0	V	93.0	36.4	-10.0	27.6	54
1707.000000	26.6	100.0	V	287.0	35.3	-8.7	27.4	54
1981.500000	27.3	100.0	V	179.0	35.2	-7.9	26.7	54
2206.000000	27.8	100.0	H	244.0	34.4	-6.6	26.2	54
2769.500000	29.9	100.0	V	254.0	34.2	-4.3	24.1	54

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

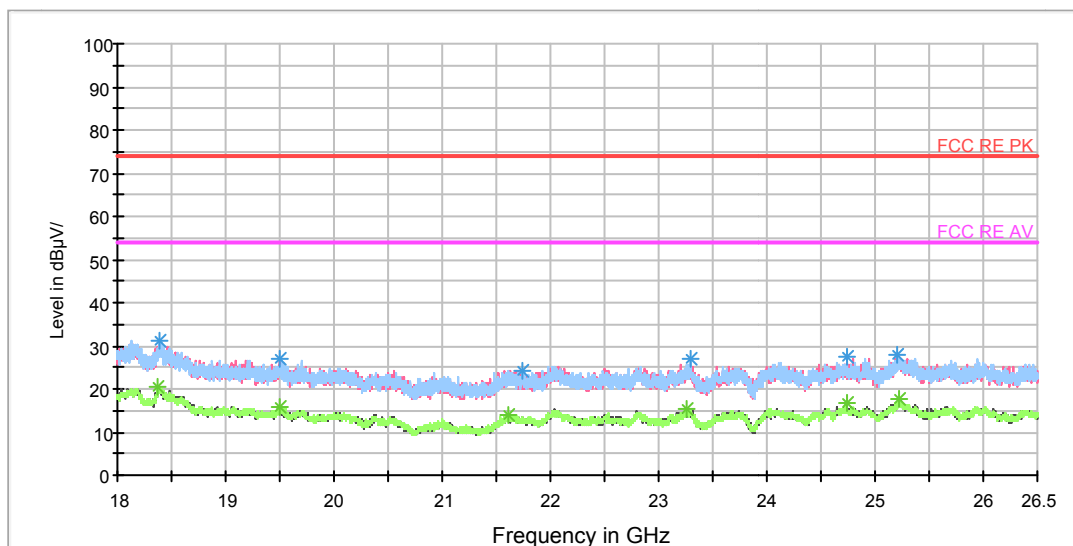


Radiates Emission from 3GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
3935.625000	41.6	101.0	H	104.0	41.6	0.0	32.4	74
4803.750000	53.8	101.0	V	0.0	56.5	2.7	20.2	74
6900.000000	46.8	101.0	H	104.0	53.8	7.0	27.2	74
9825.000000	49.0	101.0	V	329.0	61.0	12.0	25.0	74
13081.875000	52.9	101.0	V	0.0	69.1	16.2	21.1	74
17970.000000	60.3	101.0	V	316.0	85.4	25.1	13.7	74

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
3952.500000	33.3	101.0	V	266.0	33.5	0.2	20.7	54
4803.750000	49.3	101.0	V	0.0	52.0	2.7	4.7	54
6900.000000	37.6	101.0	H	104.0	44.6	7.0	16.4	54
9795.000000	40.1	101.0	H	129.0	52.3	12.2	13.9	54
13063.125000	44.2	101.0	V	150.0	60.4	16.2	9.8	54
17988.750000	51.8	101.0	H	67.0	77.1	25.3	2.2	54

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)



Radiates Emission from 18GHz to 26.5GHz

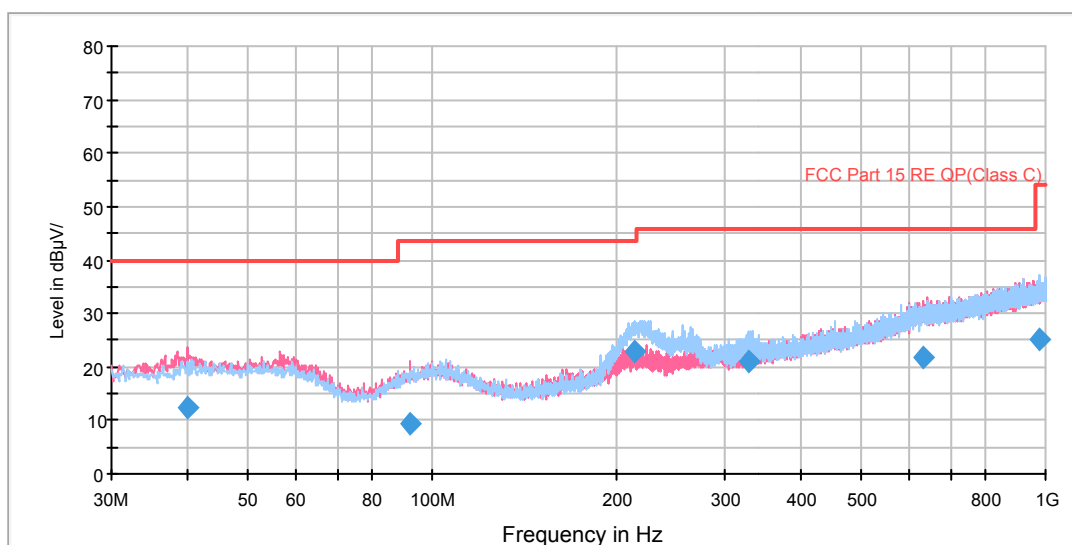
Frequency (MHz)	Peak (dBuV/m)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
18391.000000	31.1	H	0.0	36.0	-4.9	42.9	74
19497.062500	27.0	V	0.0	34.5	-7.5	47.0	74
21742.125000	24.4	H	0.0	33.8	-9.4	49.6	74
23294.437500	26.8	H	0.0	33.8	-7.0	47.2	74
24741.562500	27.5	H	0.0	34.0	-6.5	46.5	74
25206.937500	27.9	V	0.0	34.2	-6.3	46.1	74

Frequency (MHz)	Average (dBuV/m)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
18370.812500	20.5	H	0.0	25.3	-4.8	33.5	54
19499.187500	15.7	V	0.0	23.2	-7.5	38.3	54
21613.562500	14.1	H	0.0	23.0	-8.9	39.9	54
23267.875000	15.2	H	0.0	22.5	-7.3	38.8	54
24732.000000	16.6	V	0.0	22.9	-6.3	37.4	54
25227.125000	17.5	V	0.0	23.4	-5.9	36.5	54

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

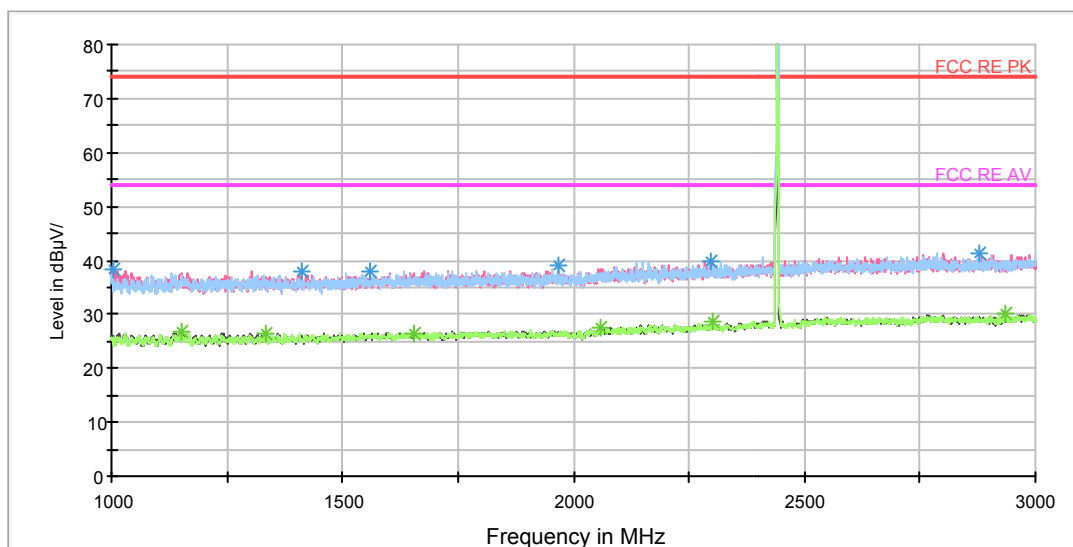


GFSK-Channel 39



Radiates Emission from 30MHz to 1GHz

Frequency (MHz)	Quasi-Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
39.822500	12.3	125.0	V	193.0	25.5	13.2	27.7	40.0
91.838750	9.4	118.0	V	253.0	21.6	12.2	34.1	43.5
213.130000	22.7	100.0	H	116.0	35.3	12.6	20.8	43.5
327.383750	21.2	100.0	H	127.0	37.4	16.2	24.8	46.0
633.586250	21.9	125.0	V	27.0	44.2	22.3	24.1	46.0
974.745000	25.2	125.0	H	115.0	51.4	26.2	28.8	54.0

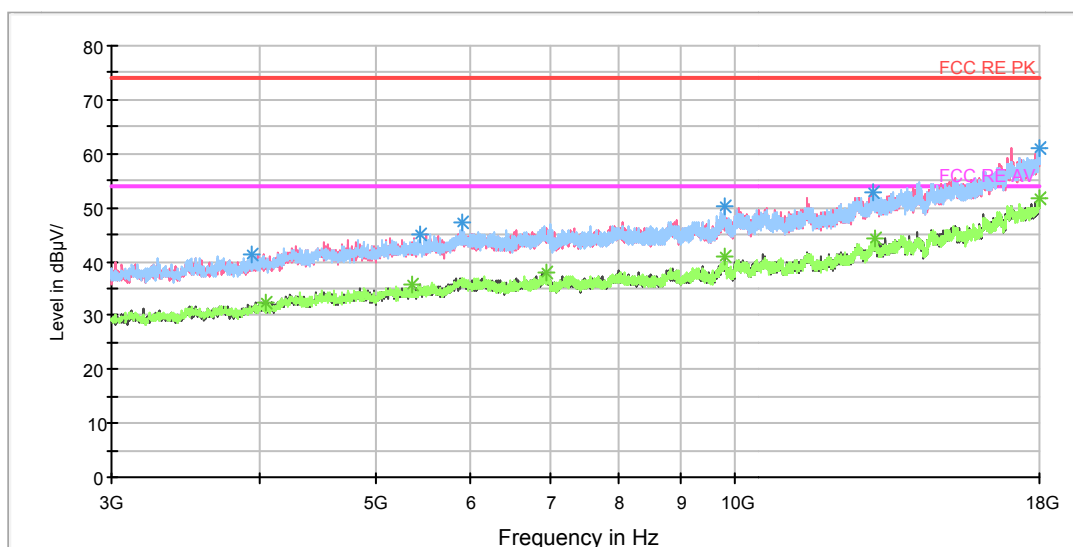


Radiates Emission from 1GHz to 3GHz
Note: The signal beyond the limit is carrier.

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1003.000000	38.3	100.0	V	0.0	49.7	-11.4	35.7	74
1412.500000	38.0	100.0	H	42.0	47.8	-9.8	36.0	74
1561.000000	38.1	100.0	H	11.0	47.3	-9.2	35.9	74
1968.500000	39.1	100.0	H	73.0	47.0	-7.9	34.9	74
2298.500000	40.0	100.0	V	178.0	46.0	-6.0	34.0	74
2879.000000	41.4	100.0	H	137.0	45.6	-4.2	32.6	74

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1151.500000	26.7	100.0	V	344.0	37.5	-10.8	27.3	54
1332.500000	26.5	100.0	V	355.0	36.5	-10.0	27.5	54
1655.000000	26.6	100.0	V	178.0	35.4	-8.8	27.4	54
2058.000000	27.4	100.0	V	254.0	34.8	-7.4	26.6	54
2303.500000	28.5	100.0	H	5.0	34.5	-6.0	25.5	54
2934.000000	30.2	100.0	H	278.0	34.3	-4.1	23.8	54

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

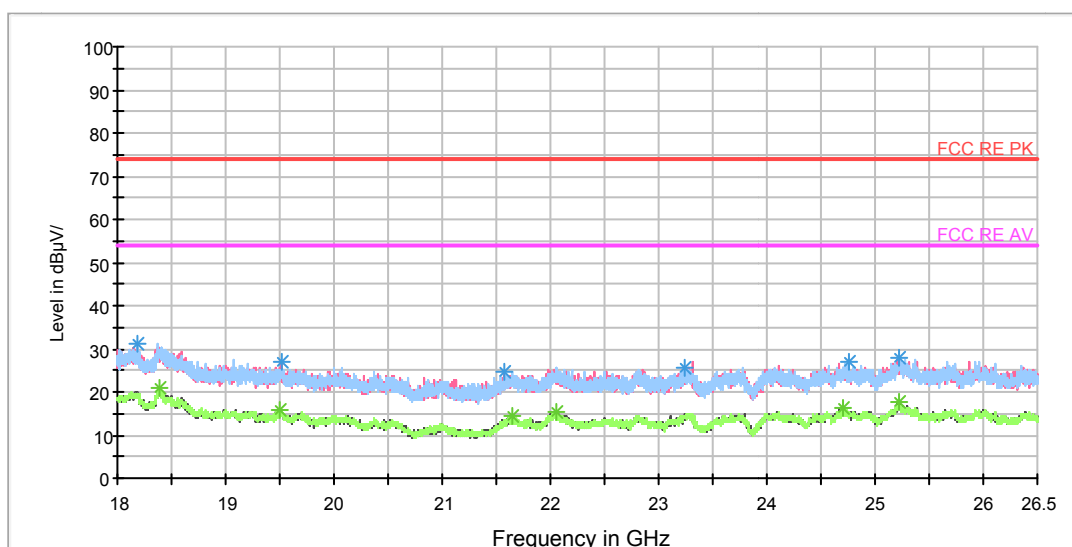


Radiates Emission from 3GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
3933.750000	41.3	101.0	V	203.0	41.3	0.0	32.7	74
5448.750000	45.2	101.0	H	81.0	49.0	3.8	28.8	74
5904.375000	47.3	101.0	H	0.0	53.5	6.2	26.7	74
9798.750000	50.3	101.0	V	203.0	62.6	12.3	23.7	74
13066.875000	52.7	101.0	H	94.0	68.9	16.2	21.3	74
17996.250000	61.1	101.0	V	307.0	86.5	25.4	12.9	74

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
4038.750000	32.3	101.0	V	60.0	32.9	0.6	21.7	54
5356.875000	35.7	101.0	V	113.0	39.4	3.7	18.3	54
6946.875000	37.9	101.0	H	107.0	44.6	6.7	16.1	54
9813.750000	41.0	101.0	V	151.0	53.1	12.1	13.0	54
13102.500000	44.2	101.0	V	241.0	60.3	16.1	9.8	54
17985.000000	51.8	101.0	V	331.0	77.0	25.2	2.2	54

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

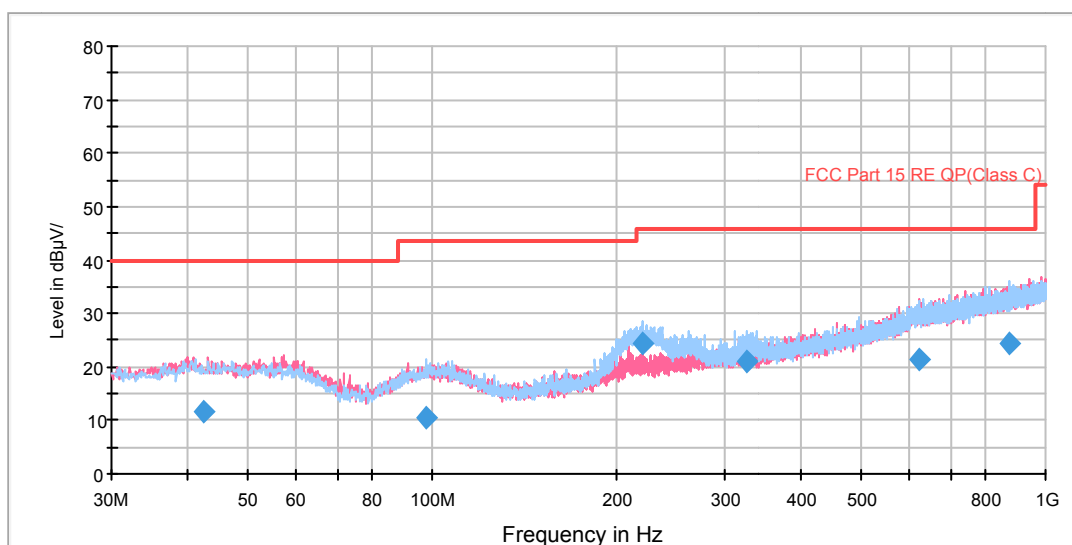


Radiates Emission from 18GHz to 26.5GHz

Frequency (MHz)	Peak (dBuV/m)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
18193.375000	31.2	H	0.0	36.2	-5.0	42.8	74
19509.812500	26.8	V	0.0	34.3	-7.5	47.2	74
21578.500000	24.5	V	0.0	33.2	-8.7	49.5	74
23244.500000	25.7	H	0.0	33.4	-7.7	48.3	74
24764.937500	27.0	H	0.0	33.7	-6.7	47.0	74
25214.375000	27.8	V	0.0	33.9	-6.1	46.2	74

Frequency (MHz)	Average (dBuV/m)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
18387.812500	20.9	V	0.0	25.8	-4.9	33.1	54
19493.875000	15.8	V	0.0	23.4	-7.6	38.2	54
21648.625000	14.4	V	0.0	23.6	-9.2	39.6	54
22051.312500	15.3	H	0.0	23.4	-8.1	38.7	54
24709.687500	16.2	H	0.0	22.8	-6.6	37.8	54
25221.812500	17.5	H	0.0	23.4	-5.9	36.5	54

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)



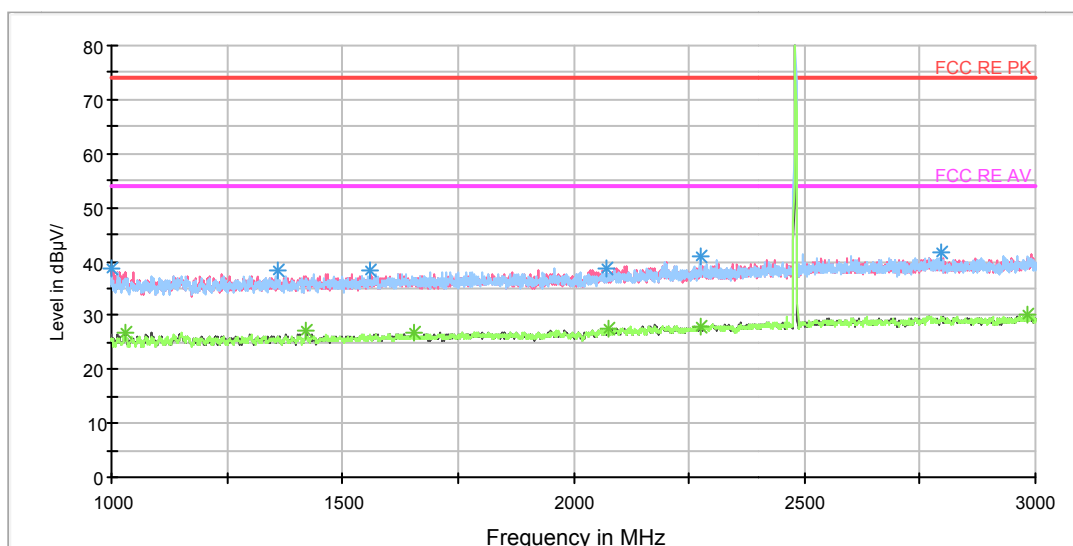
Radiates Emission from 30MHz to 1GHz

Frequency (MHz)	Quasi-Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
42.495000	11.6	100.0	V	263.0	24.7	13.1	28.4	40.0
97.418750	10.4	125.0	H	166.0	23.3	12.9	33.1	43.5
219.918750	24.5	125.0	H	101.0	37.4	12.9	21.5	46.0
325.927500	21.0	100.0	H	119.0	37.1	16.1	25.0	46.0
622.223750	21.3	125.0	V	324.0	43.5	22.2	24.7	46.0
872.490000	24.4	100.0	H	251.0	49.7	25.3	21.6	46.0

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

2. Correction Factor = Antenna factor+ Insertion loss(cable loss+amplifier gain)

3. Margin = Limit – Quasi-Peak

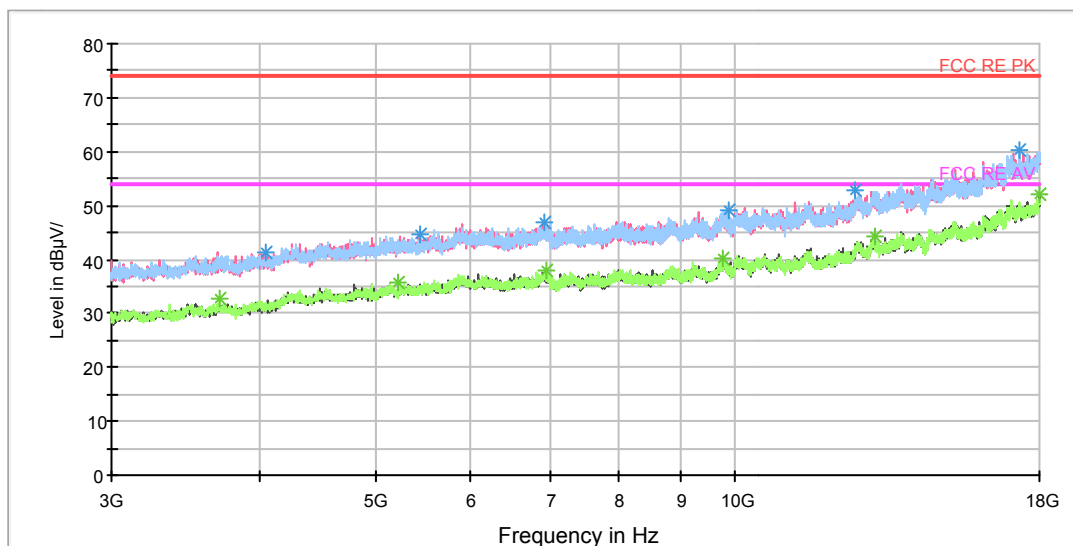


Radiates Emission from 1GHz to 3GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1000.000000	38.8	100.0	V	329.0	50.2	-11.4	35.2	74
1360.500000	38.3	100.0	H	10.0	48.3	-10.0	35.7	74
1561.500000	38.5	100.0	V	308.0	47.7	-9.2	35.5	74
2070.000000	38.7	100.0	H	51.0	46.0	-7.3	35.3	74
2273.500000	40.8	100.0	H	1.0	47.0	-6.2	33.2	74
2795.500000	41.6	100.0	H	245.0	45.8	-4.2	32.4	74

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1030.500000	26.7	100.0	V	0.0	38.0	-11.3	27.3	54
1422.000000	27.3	100.0	V	48.0	37.1	-9.8	26.7	54
1654.000000	26.7	100.0	H	22.0	35.5	-8.8	27.3	54
2075.000000	27.4	100.0	H	0.0	34.7	-7.3	26.6	54
2274.500000	28.0	100.0	V	318.0	34.2	-6.2	26.0	54
2984.000000	30.0	100.0	H	51.0	34.0	-4.0	24.0	54

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

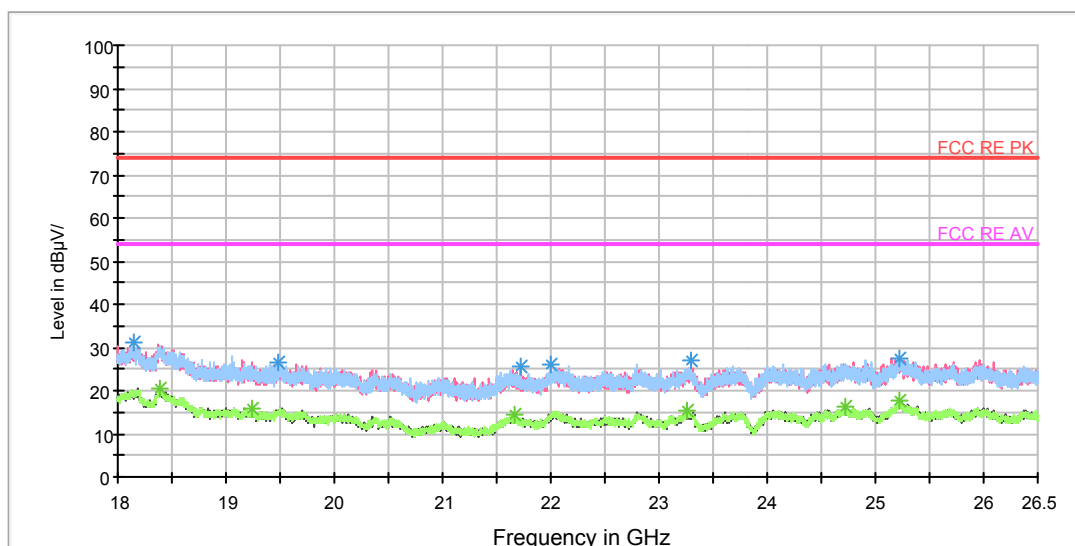


Radiates Emission from 3GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
4042.500000	41.2	101.0	H	337.0	41.8	0.6	32.8	74
5439.375000	44.5	101.0	H	266.0	48.3	3.8	29.5	74
6930.000000	47.0	101.0	H	138.0	53.8	6.8	27.0	74
9866.250000	49.1	101.0	V	251.0	60.7	11.6	24.9	74
12615.000000	52.9	101.0	V	165.0	67.6	14.7	21.1	74
17325.000000	60.1	101.0	H	0.0	83.8	23.7	13.9	74

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
3697.500000	32.7	101.0	H	4.0	33.0	-0.3	21.3	54
5227.500000	35.7	101.0	V	326.0	39.4	3.7	18.3	54
6945.000000	38.1	101.0	H	29.0	44.8	6.7	15.9	54
9772.500000	40.1	101.0	H	0.0	52.0	11.9	13.9	54
13119.375000	44.2	101.0	V	326.0	60.1	15.9	9.8	54
18000.000000	52.0	101.0	V	139.0	77.4	25.4	2.0	54

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

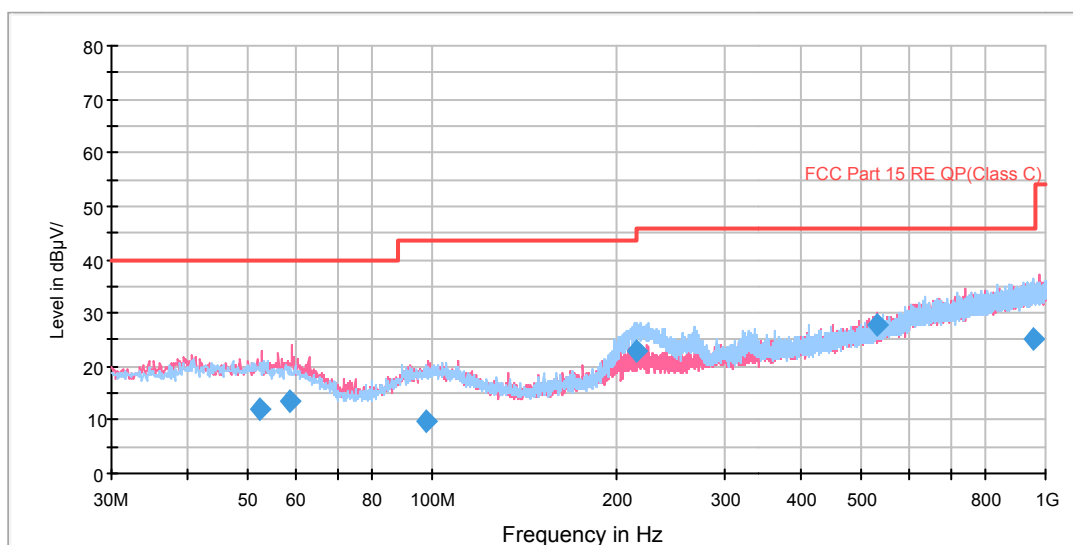


Radiates Emission from 18GHz to 26.5GHz

Frequency (MHz)	Peak (dBuV/m)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
18155.125000	31.0	H	0.0	36.1	-5.1	43.0	74
19484.312500	26.4	H	0.0	34.1	-7.7	47.6	74
21716.625000	25.6	V	0.0	35.1	-9.5	48.4	74
21996.062500	25.9	H	0.0	34.2	-8.3	48.1	74
23295.500000	27.0	H	0.0	34.0	-7.0	47.0	74
25228.187500	27.4	H	0.0	33.3	-5.9	46.6	74

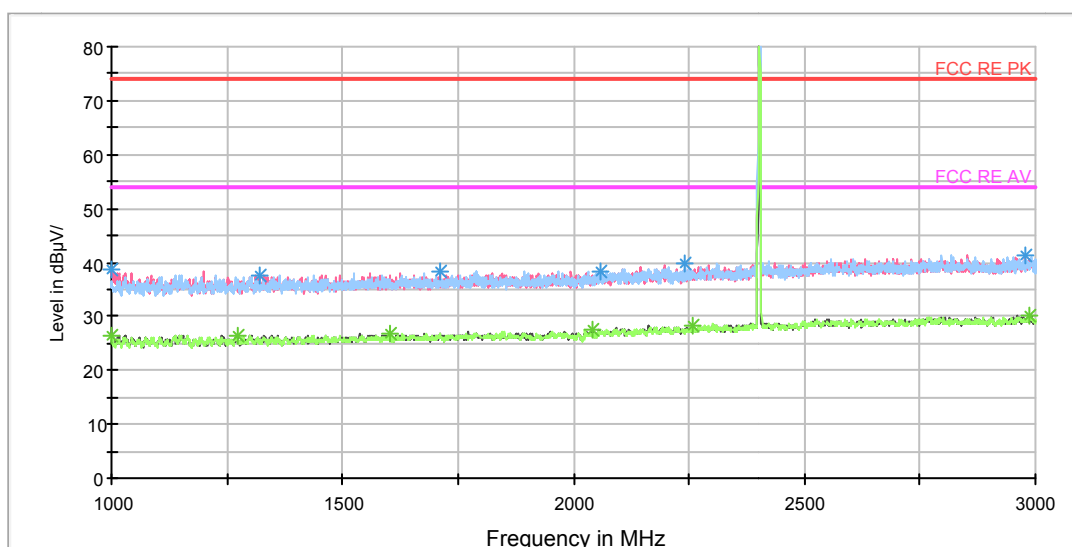
Frequency (MHz)	Average (dBuV/m)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
18381.437500	20.5	V	0.0	25.3	-4.8	33.5	54
19243.125000	15.8	H	0.0	22.6	-6.8	38.2	54
21673.062500	14.3	H	0.0	23.6	-9.3	39.7	54
23259.375000	15.1	H	0.0	22.5	-7.4	38.9	54
24718.187500	16.2	V	0.0	22.6	-6.4	37.8	54
25217.562500	17.7	H	0.0	23.8	-6.1	36.3	54

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)



Radiates Emission from 30MHz to 1GHz

Frequency (MHz)	Quasi-Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
52.435000	11.9	100.0	V	37.0	24.8	12.9	28.1	40.0
58.700000	13.7	125.0	V	342.0	26.3	12.6	26.3	40.0
97.785000	9.6	125.0	V	121.0	22.5	12.9	33.9	43.5
214.662500	22.7	100.0	H	286.0	35.3	12.6	20.8	43.5
533.348750	28.0	125.0	V	121.0	48.7	20.7	18.0	46.0
956.877500	25.2	125.0	H	75.0	51.3	26.1	20.8	46.0

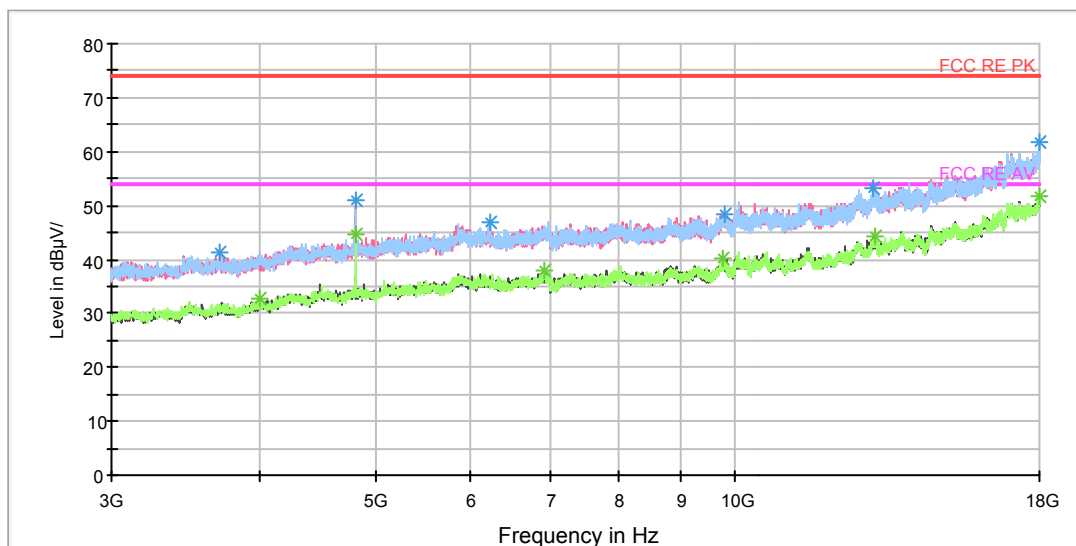


Radiates Emission from 1GHz to 3GHz
Note: The signal beyond the limit is carrier.

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1000.000000	38.8	100.0	V	38.0	50.2	-11.4	35.2	74
1319.000000	37.8	100.0	V	276.0	47.9	-10.1	36.2	74
1712.500000	38.3	100.0	V	137.0	47.0	-8.7	35.7	74
2056.500000	38.5	100.0	H	52.0	45.9	-7.4	35.5	74
2242.500000	39.9	100.0	H	233.0	46.3	-6.4	34.1	74
2976.500000	41.5	100.0	V	234.0	45.5	-4.0	32.5	74

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1001.000000	26.6	100.0	V	0.0	38.0	-11.4	27.4	54
1272.000000	26.5	100.0	V	0.0	36.8	-10.3	27.5	54
1601.000000	26.8	100.0	H	125.0	35.8	-9.0	27.2	54
2040.000000	27.5	100.0	V	319.0	35.0	-7.5	26.5	54
2257.500000	28.2	100.0	H	0.0	34.5	-6.3	25.8	54
2988.000000	30.2	100.0	H	83.0	34.2	-4.0	23.8	54

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

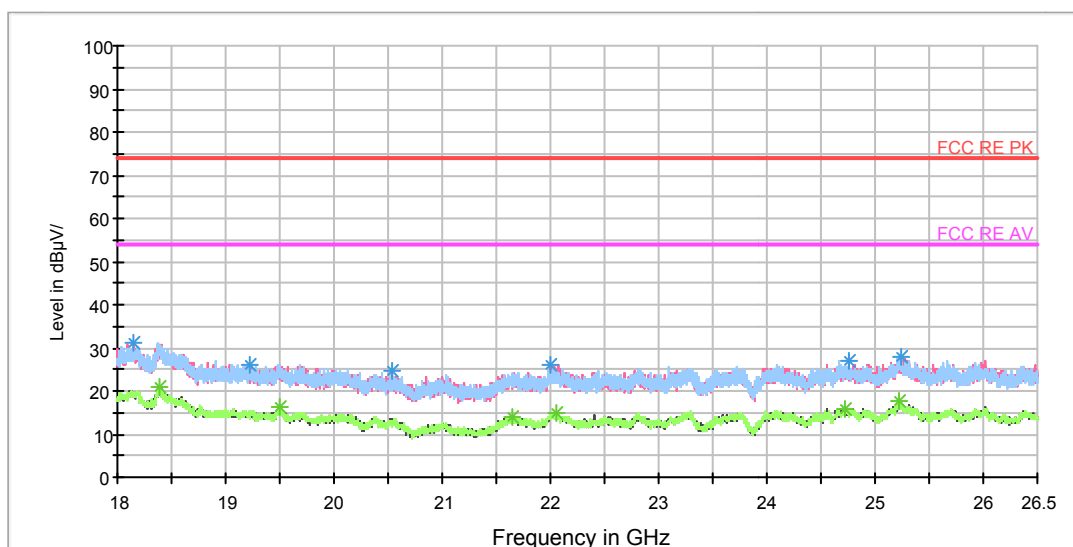


Radiates Emission from 3GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
3703.125000	41.3	101.0	V	322.0	41.6	-0.3	32.7	74
4801.875000	50.8	101.0	V	358.0	53.4	2.6	23.2	74
6232.500000	47.0	101.0	H	0.0	53.1	6.1	27.0	74
9821.250000	48.5	101.0	V	105.0	60.6	12.1	25.5	74
13040.625000	53.2	101.0	H	74.0	69.4	16.2	20.8	74
17973.750000	61.6	101.0	H	36.0	86.7	25.1	12.4	74

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
3997.500000	32.8	101.0	H	50.0	33.3	0.5	21.2	54
4803.750000	44.7	101.0	V	346.0	47.4	2.7	9.3	54
6920.625000	37.9	101.0	H	135.0	44.8	6.9	16.1	54
9759.375000	40.0	101.0	H	300.0	51.8	11.8	14.0	54
13091.250000	44.2	101.0	H	0.0	60.4	16.2	9.8	54
17996.250000	51.6	101.0	V	170.0	77.0	25.4	2.4	54

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

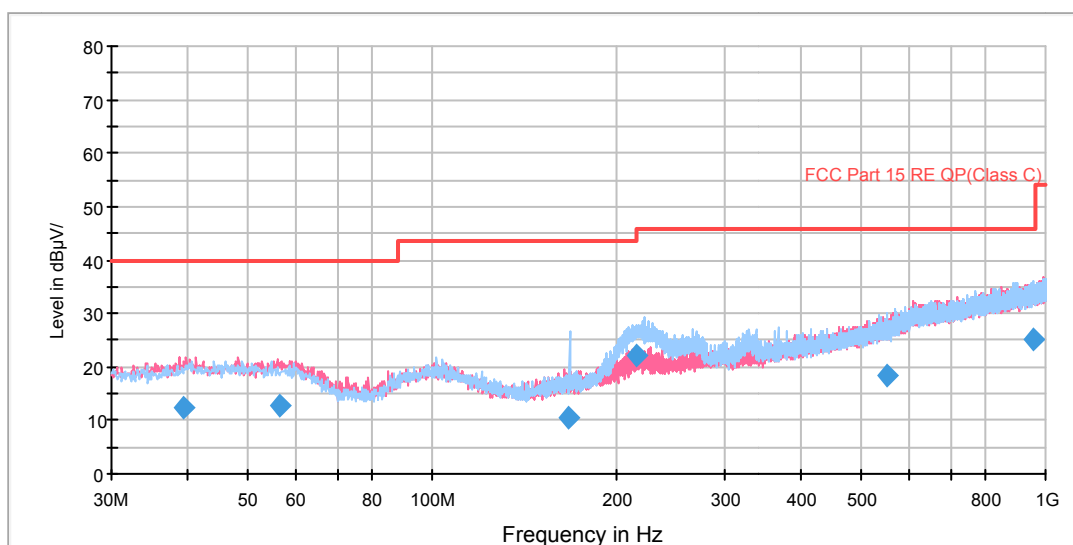


Radiates Emission from 18GHz to 26.5GHz

Frequency (MHz)	Peak (dBuV/m)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
18157.250000	31.1	V	0.0	36.2	-5.1	42.9	74
19217.625000	26.1	H	0.0	33.0	-6.9	47.9	74
20544.687500	24.5	V	0.0	32.6	-8.1	49.5	74
22004.562500	26.0	V	0.0	34.3	-8.3	48.0	74
24760.687500	26.9	H	0.0	33.6	-6.7	47.1	74
25246.250000	27.8	H	0.0	34.3	-6.5	46.2	74

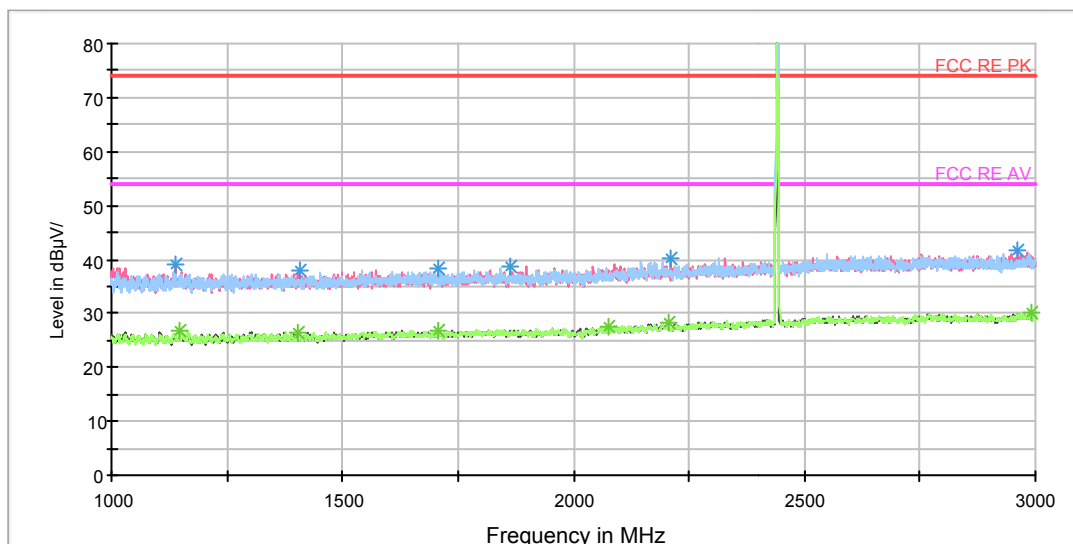
Frequency (MHz)	Average (dBuV/m)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
18385.687500	21.0	H	0.0	25.8	-4.8	33.0	54
19499.187500	16.2	V	0.0	23.7	-7.5	37.8	54
21642.250000	14.1	H	0.0	23.2	-9.1	39.9	54
22048.125000	15.1	V	0.0	23.2	-8.1	38.9	54
24726.687500	15.9	H	0.0	22.1	-6.2	38.1	54
25228.187500	17.9	V	0.0	23.8	-5.9	36.1	54

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)



Radiates Emission from 30MHz to 1GHz

Frequency (MHz)	Quasi-Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
39.330000	12.4	100.0	V	6.0	25.4	13.0	27.6	40.0
56.467500	12.9	100.0	V	22.0	25.6	12.7	27.1	40.0
167.017500	10.4	100.0	H	84.0	20.5	10.1	33.1	43.5
215.477500	22.3	125.0	H	281.0	35.0	12.7	21.2	43.5
552.583750	18.4	100.0	H	75.0	39.5	21.1	27.6	46.0
956.351250	25.2	100.0	H	292.0	51.3	26.1	20.8	46.0

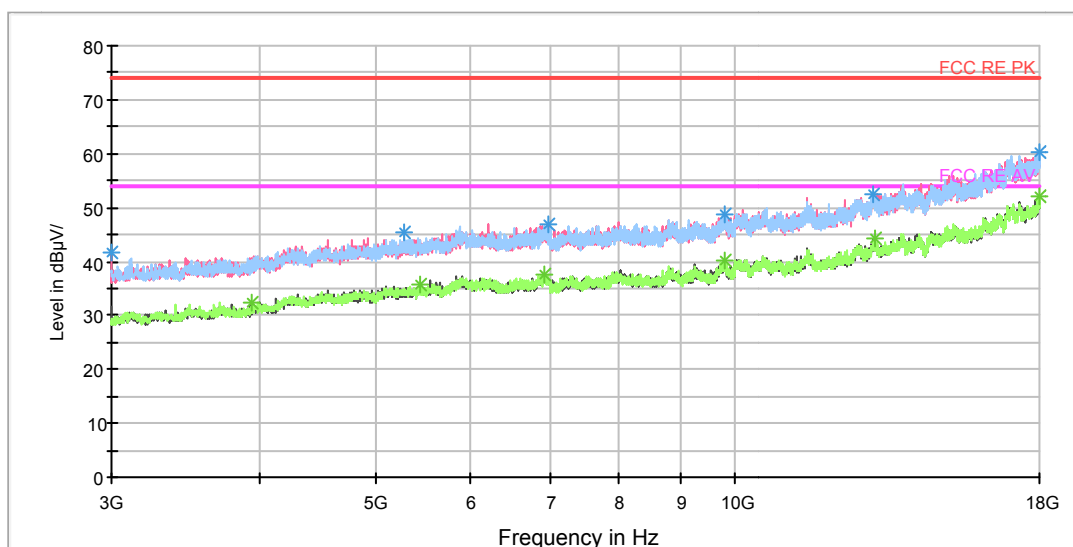


Radiates Emission from 1GHz to 3GHz
Note: The signal beyond the limit is carrier.

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1138.000000	38.9	100.0	V	184.0	49.8	-10.9	35.1	74
1406.000000	37.9	100.0	V	325.0	47.7	-9.8	36.1	74
1707.000000	38.3	100.0	V	325.0	47.0	-8.7	35.7	74
1863.500000	38.7	100.0	V	358.0	46.9	-8.2	35.3	74
2209.500000	40.1	100.0	V	29.0	46.7	-6.6	33.9	74
2963.000000	41.6	100.0	V	260.0	45.7	-4.1	32.4	74

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1148.000000	26.8	100.0	V	356.0	37.6	-10.8	27.2	54
1404.500000	26.6	100.0	V	226.0	36.4	-9.8	27.4	54
1708.000000	26.7	100.0	H	40.0	35.4	-8.7	27.3	54
2077.500000	27.7	100.0	V	355.0	35.0	-7.3	26.3	54
2204.500000	28.2	100.0	H	255.0	34.8	-6.6	25.8	54
2990.000000	30.0	100.0	V	282.0	34.0	-4.0	24.0	54

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

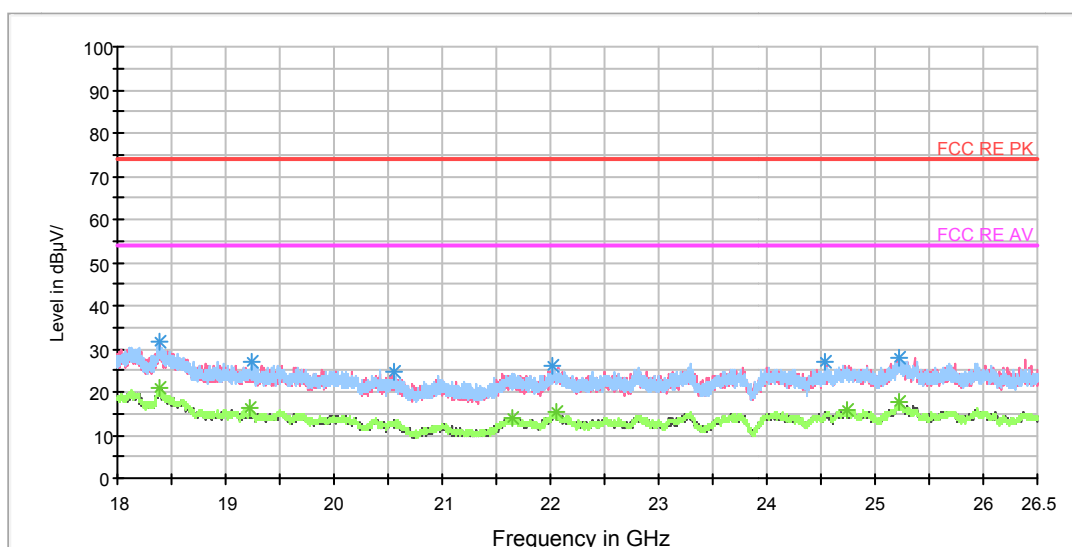


Radiates Emission from 3GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
3000.000000	41.6	101.0	V	113.0	43.6	-2.0	32.4	74
5281.875000	45.4	101.0	H	158.0	49.2	3.8	28.6	74
6984.375000	46.9	101.0	V	315.0	53.4	6.5	27.1	74
9815.625000	48.9	101.0	V	164.0	61.0	12.1	25.1	74
13057.500000	52.6	101.0	V	188.0	68.8	16.2	21.4	74
17979.375000	60.5	101.0	V	100.0	85.7	25.2	13.5	74

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
3937.500000	32.5	101.0	V	242.0	32.6	0.1	21.5	54
5441.250000	35.6	101.0	V	255.0	39.4	3.8	18.4	54
6918.750000	37.8	101.0	H	65.0	44.7	6.9	16.2	54
9802.500000	40.2	101.0	H	0.0	52.5	12.3	13.8	54
13091.250000	44.2	101.0	V	200.0	60.4	16.2	9.8	54
17985.000000	52.2	101.0	V	87.0	77.4	25.2	1.8	54

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

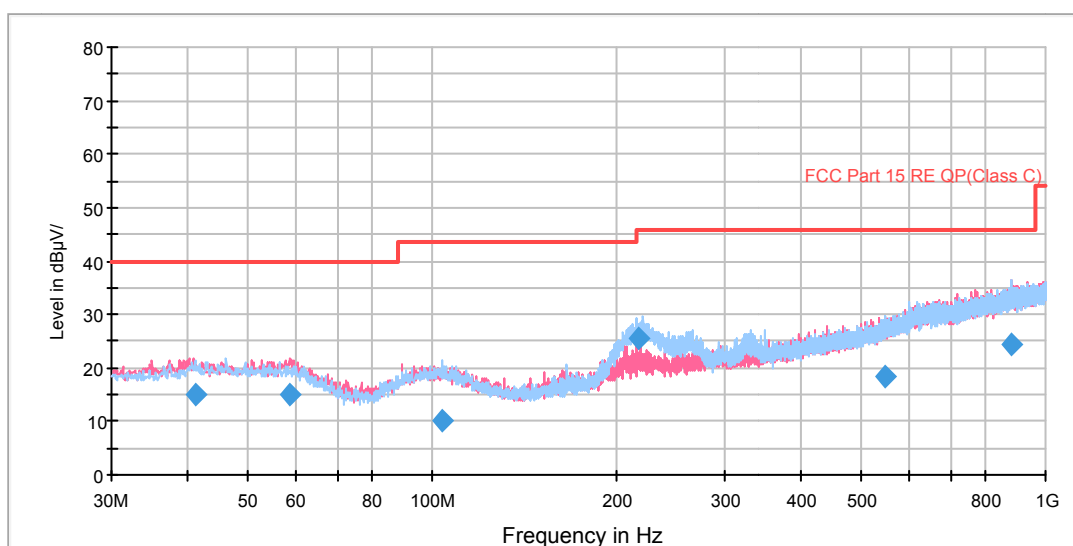


Radiates Emission from 18GHz to 26.5GHz

Frequency (MHz)	Peak (dBuV/m)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
18389.937500	31.7	V	0.0	36.6	-4.9	42.3	74
19234.625000	26.8	H	0.0	33.6	-6.8	47.2	74
20554.250000	24.6	H	0.0	32.7	-8.1	49.4	74
22015.187500	26.2	H	0.0	34.3	-8.1	47.8	74
24543.937500	27.1	H	0.0	34.9	-7.8	46.9	74
25230.312500	27.8	H	0.0	33.7	-5.9	46.2	74

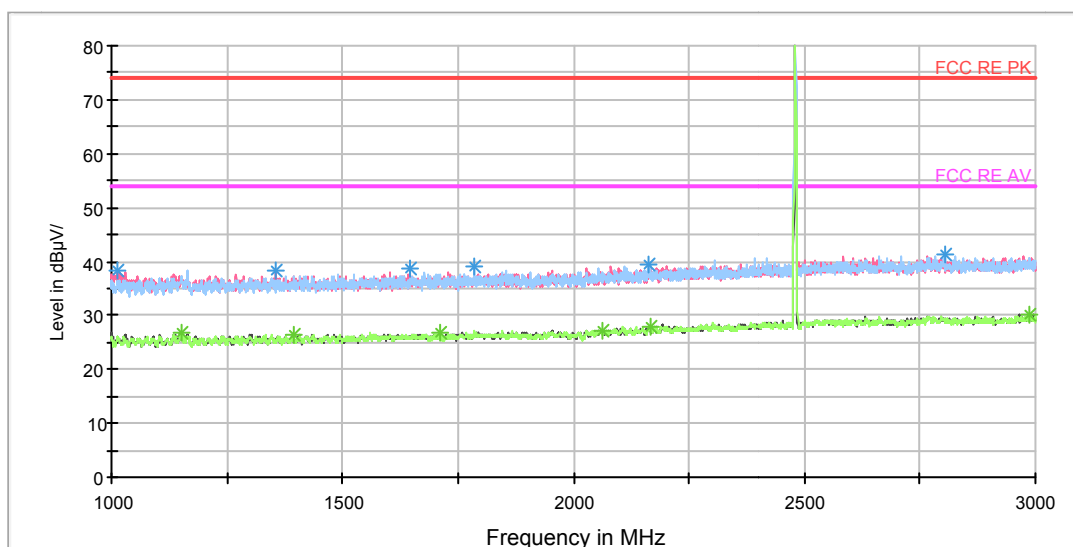
Frequency (MHz)	Average (dBuV/m)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
18389.937500	21.0	V	0.0	25.9	-4.9	33.0	54
19227.187500	16.1	H	0.0	22.9	-6.8	37.9	54
21655.000000	14.1	V	0.0	23.3	-9.2	39.9	54
22048.125000	15.3	V	0.0	23.4	-8.1	38.7	54
24740.500000	15.9	H	0.0	22.4	-6.5	38.1	54
25230.312500	17.6	V	0.0	23.5	-5.9	36.4	54

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)



Radiates Emission from 30MHz to 1GHz

Frequency (MHz)	Quasi-Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
41.191250	15.1	100.0	V	4.0	28.3	13.2	24.9	40.0
58.456250	14.9	100.0	V	22.0	27.5	12.6	25.1	40.0
103.563750	10.2	125.0	H	182.0	23.1	12.9	33.3	43.5
216.355000	25.4	125.0	H	93.0	38.1	12.7	20.6	46.0
548.580000	18.3	100.0	H	256.0	39.3	21.0	27.7	46.0
880.610000	24.4	100.0	H	61.0	49.8	25.4	21.6	46.0

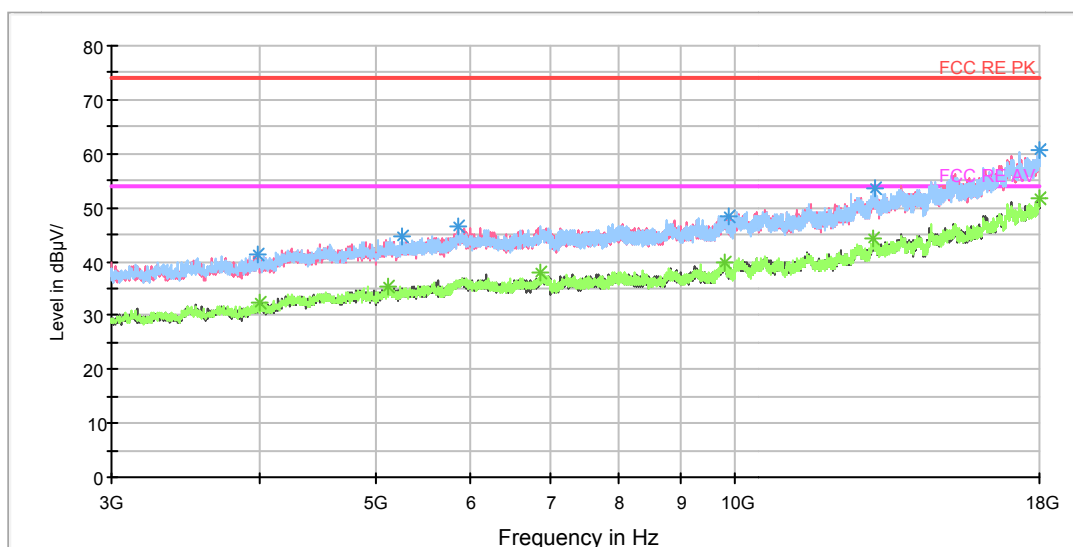


Radiates Emission from 1GHz to 3GHz
Note: The signal beyond the limit is carrier.

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1011.500000	38.3	100.0	V	278.0	49.7	-11.4	35.7	74
1357.000000	38.4	100.0	V	311.0	48.4	-10.0	35.6	74
1645.000000	38.5	100.0	V	192.0	47.3	-8.8	35.5	74
1785.000000	38.9	100.0	H	24.0	47.2	-8.3	35.1	74
2164.000000	39.4	100.0	V	339.0	46.2	-6.8	34.6	74
2804.000000	41.4	100.0	H	5.0	45.5	-4.1	32.6	74

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1151.500000	26.8	100.0	H	5.0	37.6	-10.8	27.2	54
1393.500000	26.5	100.0	H	0.0	36.4	-9.9	27.5	54
1712.000000	26.6	100.0	V	300.0	35.3	-8.7	27.4	54
2063.500000	27.3	100.0	H	12.0	34.7	-7.4	26.7	54
2168.500000	28.0	100.0	H	44.0	34.8	-6.8	26.0	54
2986.000000	30.0	100.0	H	24.0	34.0	-4.0	24.0	54

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

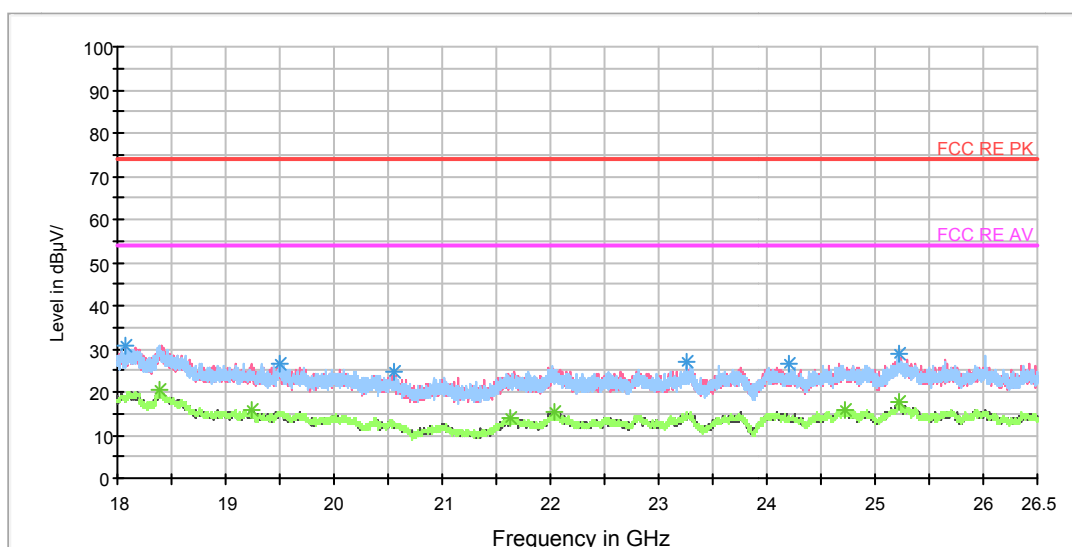


Radiates Emission from 3GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
3984.375000	41.1	101.0	V	0.0	41.5	0.4	32.9	74
5257.500000	44.6	101.0	V	324.0	48.3	3.7	29.4	74
5861.250000	46.4	101.0	H	0.0	52.1	5.7	27.6	74
9866.250000	48.5	101.0	H	9.0	60.1	11.6	25.5	74
13128.750000	53.7	101.0	V	224.0	69.5	15.8	20.3	74
17998.125000	60.8	101.0	H	9.0	86.2	25.4	13.2	74

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
3995.625000	32.3	101.0	H	197.0	32.8	0.5	21.7	54
5124.375000	35.5	101.0	H	121.0	39.1	3.6	18.5	54
6862.500000	37.9	101.0	H	83.0	44.6	6.7	16.1	54
9804.375000	39.9	101.0	V	174.0	52.1	12.2	14.1	54
13038.750000	44.2	101.0	V	286.0	60.4	16.2	9.8	54
17983.125000	51.8	101.0	H	121.0	77.0	25.2	2.2	54

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)



Radiates Emission from 18GHz to 26.5GHz

Frequency (MHz)	Peak (dBuV/m)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
18080.750000	30.7	V	0.0	36.1	-5.4	43.3	74
19505.562500	26.6	H	0.0	34.1	-7.5	47.4	74
20558.500000	24.7	H	0.0	32.8	-8.1	49.3	74
23265.750000	27.2	H	0.0	34.5	-7.3	46.8	74
24211.375000	26.4	H	0.0	34.0	-7.6	47.6	74
25214.375000	28.8	V	0.0	34.9	-6.1	45.2	74

Frequency (MHz)	Average (dBuV/m)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
18383.562500	20.6	V	0.0	25.4	-4.8	33.4	54
19243.125000	15.8	H	0.0	22.6	-6.8	38.2	54
21622.062500	14.1	H	0.0	23.1	-9.0	39.9	54
22027.937500	15.2	V	0.0	23.1	-7.9	38.8	54
24729.875000	16.0	V	0.0	22.2	-6.2	38.0	54
25220.750000	17.4	H	0.0	23.4	-6.0	36.6	54

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

4.11 Conducted Emission

Ambient condition

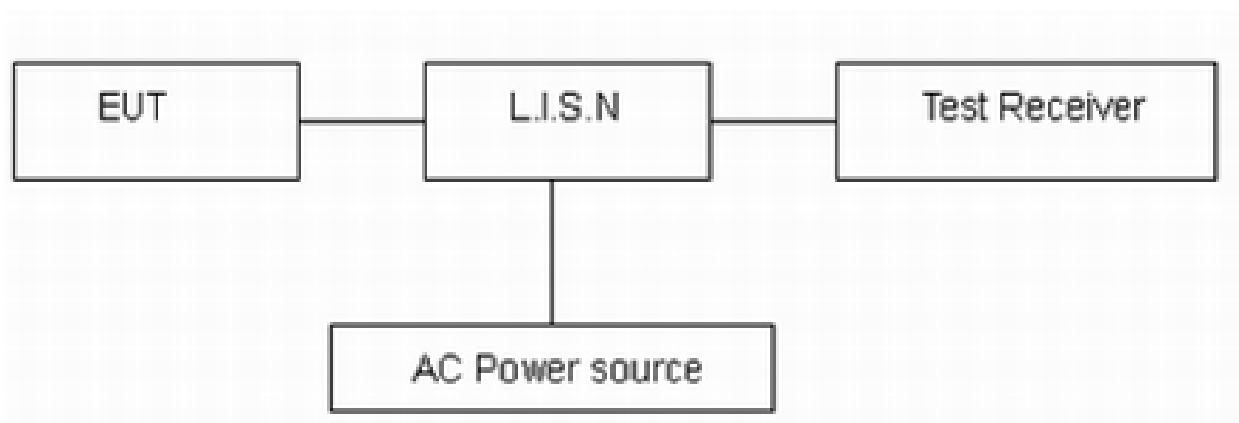
Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

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 C63.10-2013. 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 9 kHz, VBW is set to 30kHz. The measurement result should include both L line and N line.

The test is in transmitting mode.

Test Setup



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

Limits

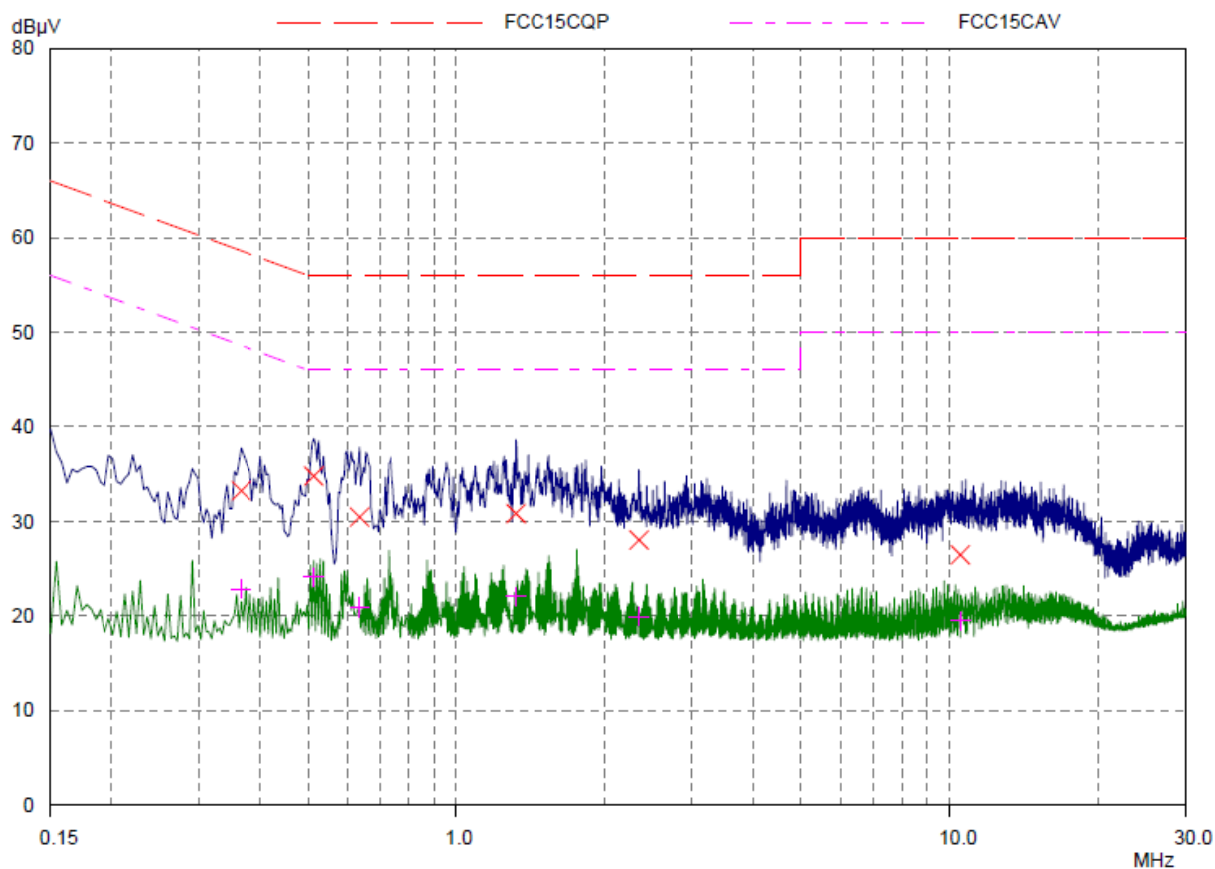
Frequency (MHz)	Conducted Limits(dBμV)	
	Quasi-peak	Average
0.15 - 0.5	66 to 56 *	56 to 46 *
0.5 - 5	56	46
5 - 30	60	50
*: Decreases with the logarithm of the frequency.		

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:**

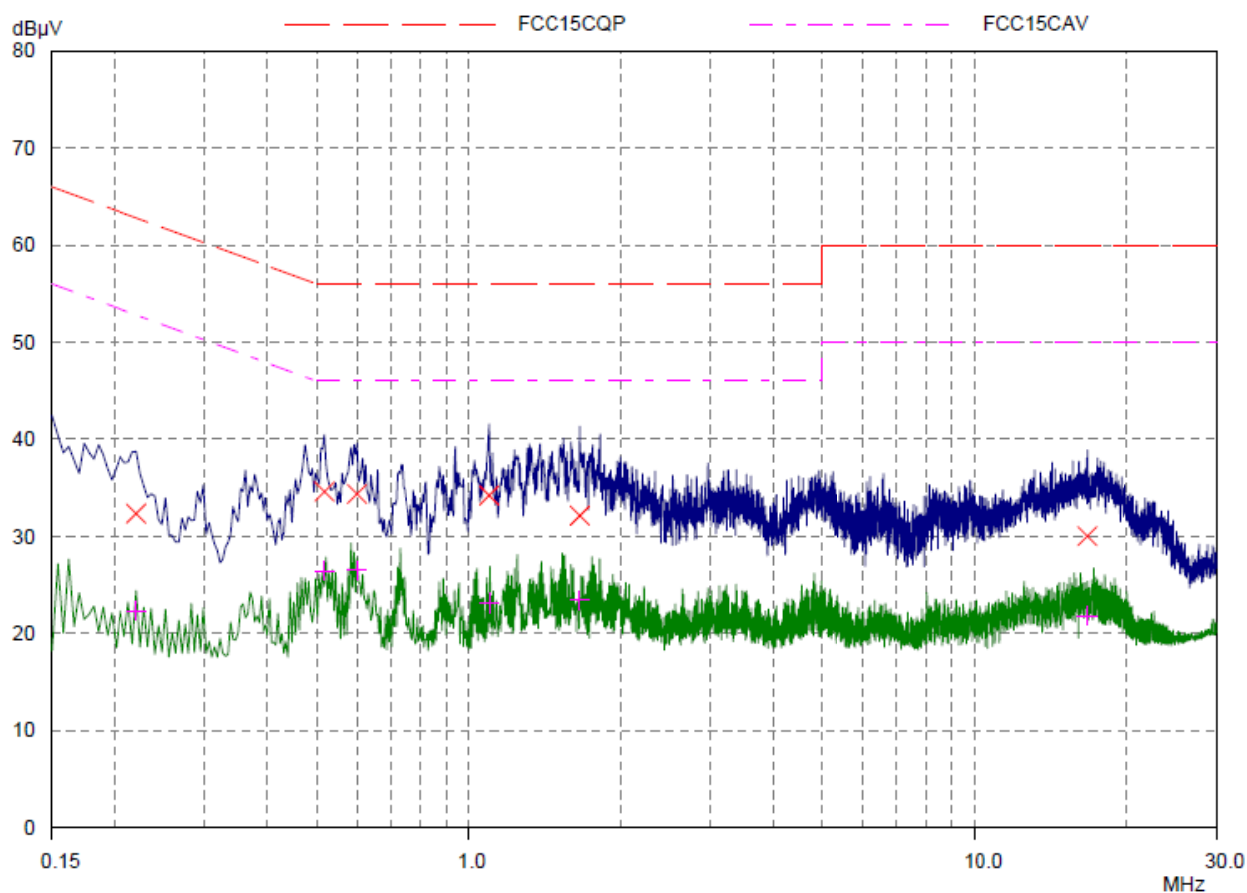
Following plots, Blue trace uses the peak detection, Green trace uses the average detection.

Basic Rate-CH0**Final Measurement Results**

Frequency MHz	QP Level dBμV	QP Limit dBμV	QP Delta dB	Phase -	PE -
0.36484	33.24	58.62	25.38	L1	gnd
0.51327	34.78	56.00	21.22	L1	gnd
0.63437	30.47	56.00	25.53	L1	gnd
1.31796	30.84	56.00	25.16	L1	gnd
2.3414	28.04	56.00	27.96	L1	gnd
10.50546	26.47	60.00	33.53	L1	gnd

Frequency MHz	AV Level dBμV	AV Limit dBμV	AV Delta dB	Phase -	PE -
0.36484	22.88	48.62	25.74	L1	gnd
0.51327	24.09	46.00	21.91	L1	gnd
0.63437	20.90	46.00	25.10	L1	gnd
1.31796	22.05	46.00	23.95	L1	gnd
2.3414	19.97	46.00	26.03	L1	gnd
10.50546	19.50	50.00	30.50	L1	gnd

L Line



Final Measurement Results

Frequency MHz	QP Level dBμV	QP Limit dBμV	QP Delta dB	Phase -	PE -
0.22031	32.35	62.81	30.46	N	gnd
0.51718	34.62	56.00	21.38	N	gnd
0.59921	34.38	56.00	21.62	N	gnd
1.09531	34.22	56.00	21.78	N	gnd
1.65781	32.13	56.00	23.87	N	gnd
16.7164	30.03	60.00	29.97	N	gnd

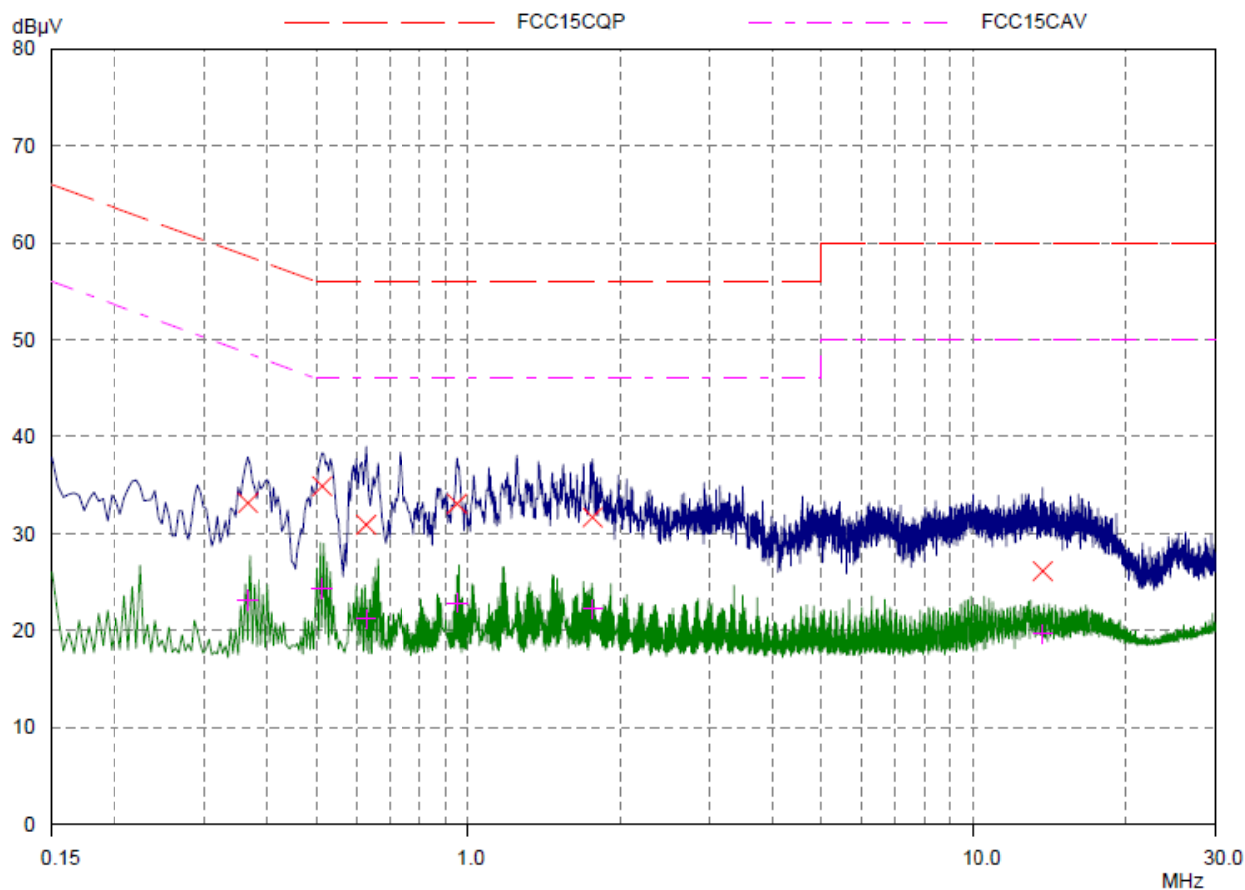
Frequency MHz	AV Level dBμV	AV Limit dBμV	AV Delta dB	Phase -	PE -
0.22031	22.34	52.81	30.47	N	gnd
0.51718	26.44	46.00	19.56	N	gnd
0.59921	26.50	46.00	19.50	N	gnd
1.09531	23.16	46.00	22.84	N	gnd
1.65781	23.40	46.00	22.60	N	gnd
16.7164	21.86	50.00	28.14	N	gnd

N Line

Conducted Emission from 150 KHz to 30 MHz



Basic Rate-CH39

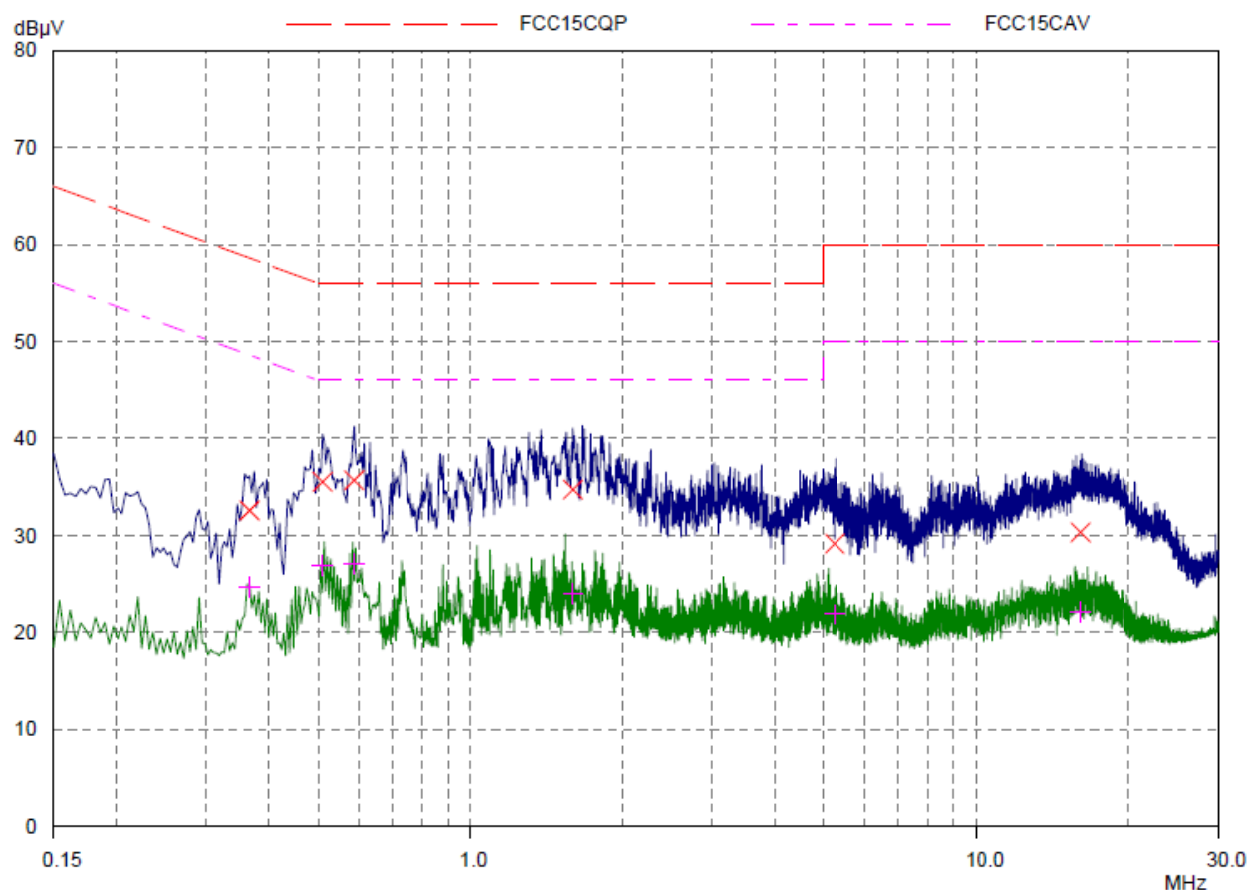


Final Measurement Results

Frequency MHz	QP Level dBμV	QP Limit dBμV	QP Delta dB	Phase -	PE -
0.36484	33.18	58.62	25.44	L1	gnd
0.51327	34.90	56.00	21.10	L1	gnd
0.62656	30.93	56.00	25.07	L1	gnd
0.95078	33.07	56.00	22.93	L1	gnd
1.75937	31.69	56.00	24.31	L1	gnd
13.73984	26.13	60.00	33.87	L1	gnd

Frequency MHz	AV Level dBμV	AV Limit dBμV	AV Delta dB	Phase -	PE -
0.36484	23.16	48.62	25.46	L1	gnd
0.51327	24.33	46.00	21.67	L1	gnd
0.62656	21.19	46.00	24.81	L1	gnd
0.95078	22.85	46.00	23.15	L1	gnd
1.75937	22.21	46.00	23.79	L1	gnd
13.73984	19.69	50.00	30.31	L1	gnd

L Line



Final Measurement Results

Frequency MHz	QP Level dBμV	QP Limit dBμV	QP Delta dB	Phase -	PE -
0.36484	32.58	58.62	26.04	N	gnd
0.50937	35.52	56.00	20.48	N	gnd
0.5875	35.70	56.00	20.30	N	gnd
1.59531	34.73	56.00	21.27	N	gnd
5.25156	29.15	60.00	30.85	N	gnd
16.07187	30.33	60.00	29.67	N	gnd

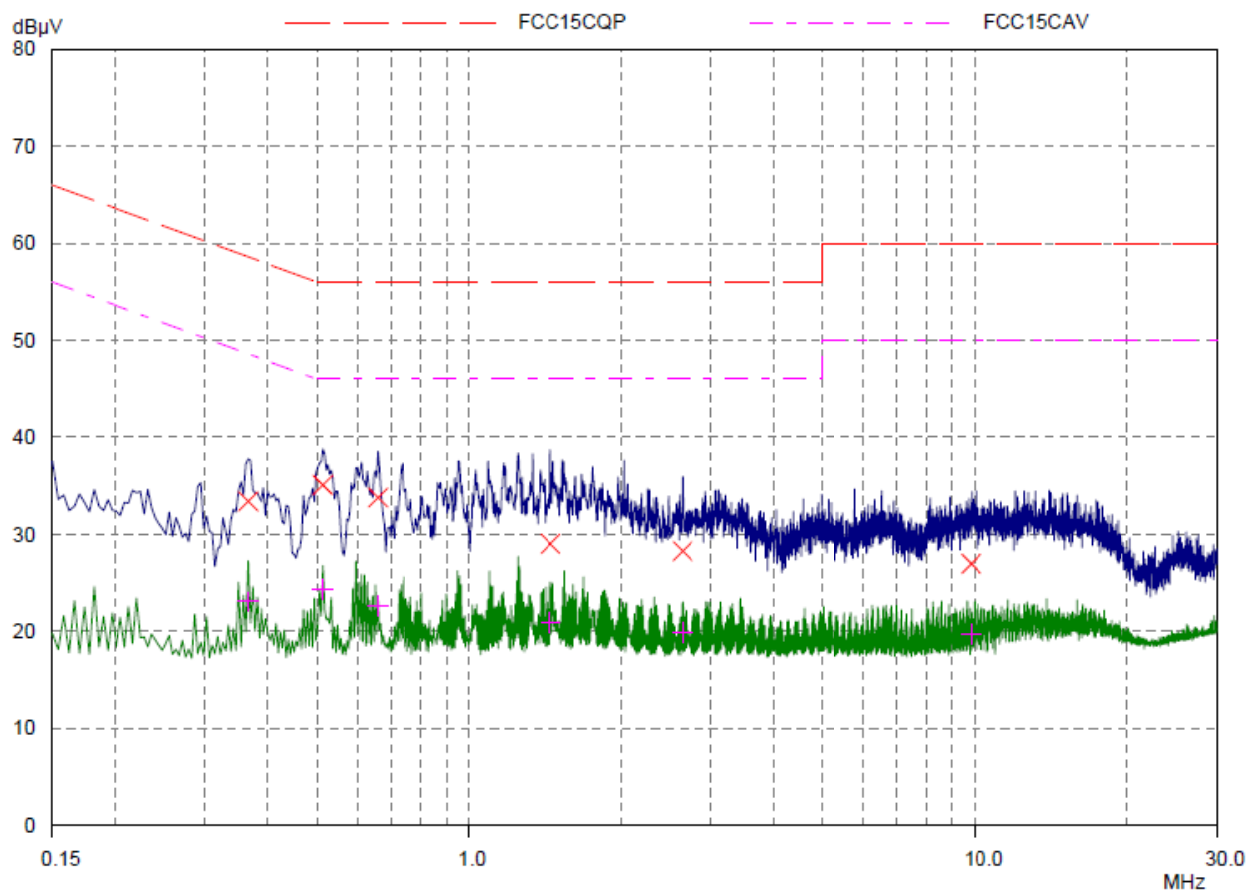
Frequency MHz	AV Level dBμV	AV Limit dBμV	AV Delta dB	Phase -	PE -
0.36484	24.66	48.62	23.96	N	gnd
0.50937	26.87	46.00	19.13	N	gnd
0.5875	27.10	46.00	18.90	N	gnd
1.59531	23.99	46.00	22.01	N	gnd
5.25156	21.87	50.00	28.13	N	gnd
16.07187	22.15	50.00	27.85	N	gnd

N Line

Conducted Emission from 150 KHz to 30 MHz



Basic Rate-CH78

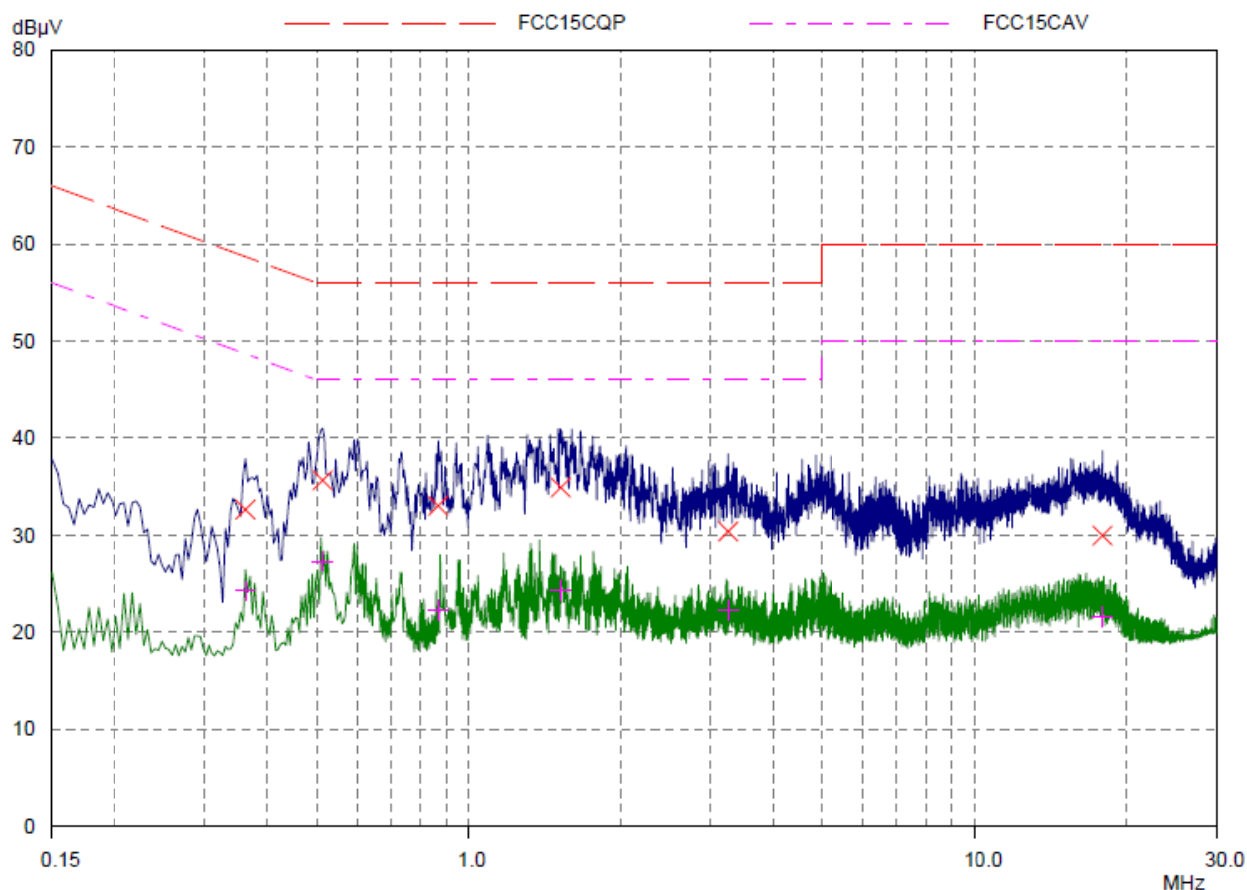


Final Measurement Results

Frequency MHz	QP Level dBμV	QP Limit dBμV	QP Delta dB	Phase -	PE -
0.36484	33.40	58.62	25.22	L1	gnd
0.51327	35.08	56.00	20.92	L1	gnd
0.65781	33.81	56.00	22.19	L1	gnd
1.44687	29.03	56.00	26.97	L1	gnd
2.63828	28.27	56.00	27.73	L1	gnd
9.81796	26.97	60.00	33.03	L1	gnd

Frequency MHz	AV Level dBμV	AV Limit dBμV	AV Delta dB	Phase -	PE -
0.36484	23.06	48.62	25.56	L1	gnd
0.51327	24.33	46.00	21.67	L1	gnd
0.65781	22.61	46.00	23.39	L1	gnd
1.44687	20.96	46.00	25.04	L1	gnd
2.63828	19.92	46.00	26.08	L1	gnd
9.81796	19.76	50.00	30.24	L1	gnd

L Line



Final Measurement Results

Frequency MHz	QP Level dBμV	QP Limit dBμV	QP Delta dB	Phase -	PE -
0.36093	32.66	58.71	26.05	N	gnd
0.51327	35.66	56.00	20.34	N	gnd
0.86875	33.03	56.00	22.97	N	gnd
1.52109	34.91	56.00	21.09	N	gnd
3.25546	30.38	56.00	25.62	N	gnd
17.87265	29.97	60.00	30.03	N	gnd

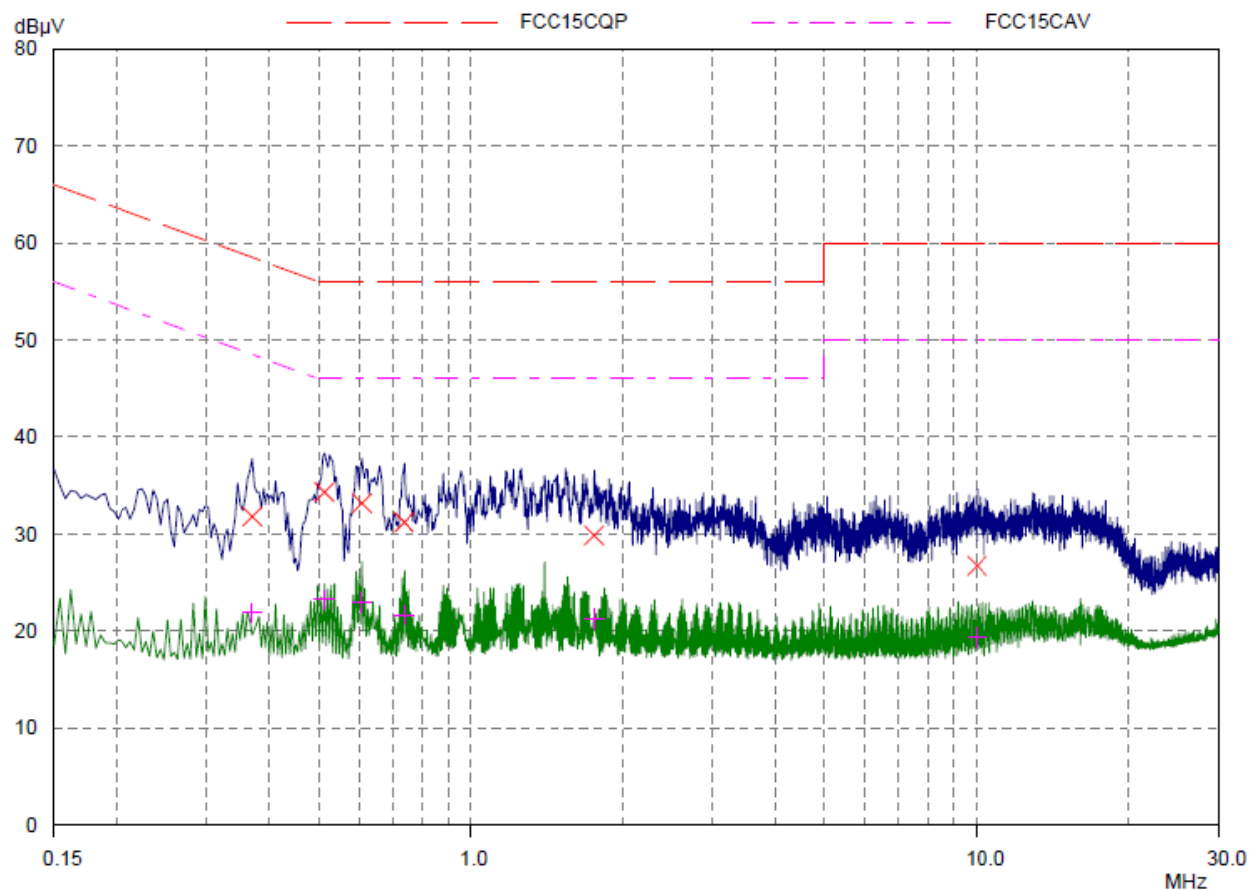
Frequency MHz	AV Level dBμV	AV Limit dBμV	AV Delta dB	Phase -	PE -
0.36093	24.27	48.71	24.44	N	gnd
0.51327	27.33	46.00	18.67	N	gnd
0.86875	22.31	46.00	23.69	N	gnd
1.52109	24.32	46.00	21.68	N	gnd
3.25546	22.29	46.00	23.71	N	gnd
17.87265	21.59	50.00	28.41	N	gnd

N Line

Conducted Emission from 150 KHz to 30 MHz



EDR-CH0

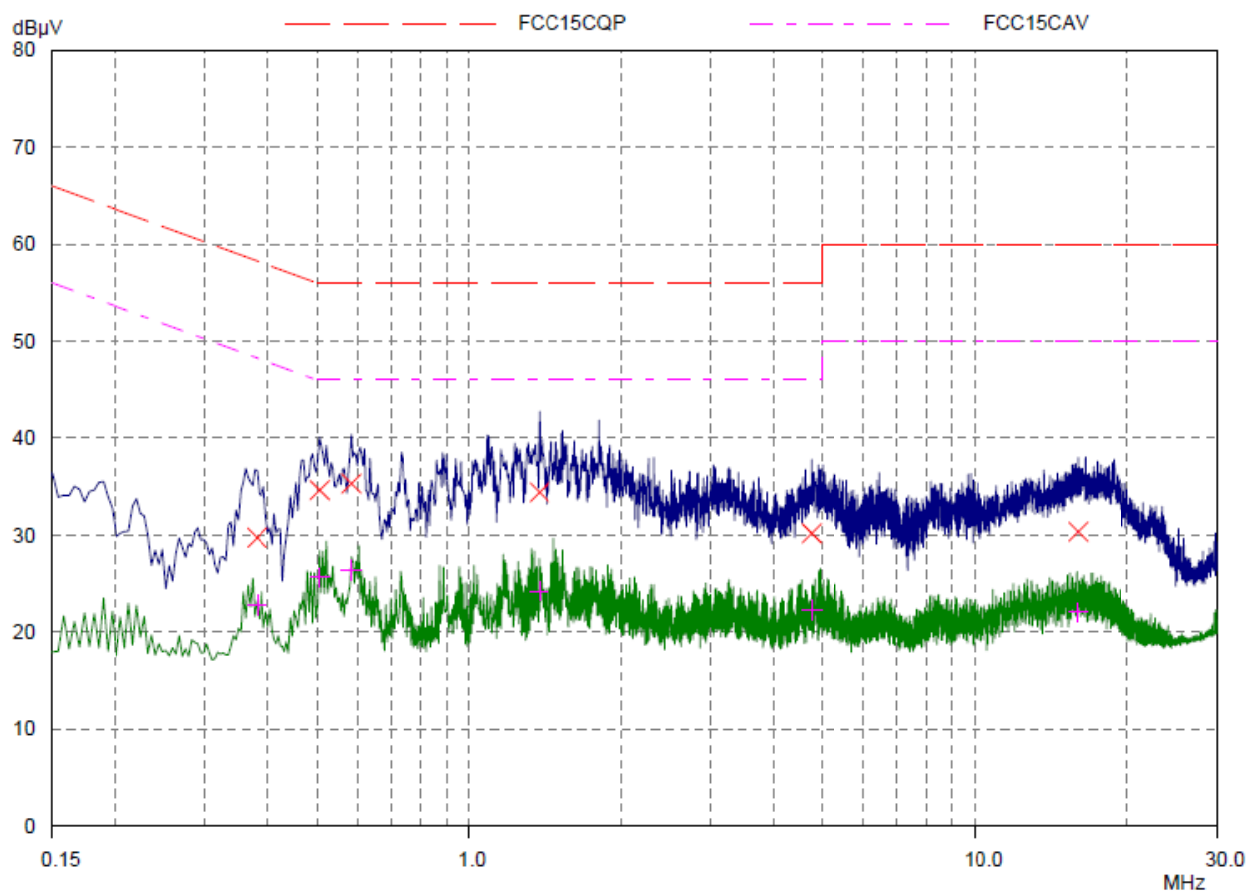


Final Measurement Results

Frequency MHz	QP Level dBμV	QP Limit dBμV	QP Delta dB	Phase -	PE -
0.36875	31.82	58.53	26.71	L1	gnd
0.51327	34.32	56.00	21.68	L1	gnd
0.60703	33.18	56.00	22.82	L1	gnd
0.73593	31.21	56.00	24.79	L1	gnd
1.75546	29.85	56.00	26.15	L1	gnd
10.00937	26.72	60.00	33.28	L1	gnd

Frequency MHz	AV Level dBμV	AV Limit dBμV	AV Delta dB	Phase -	PE -
0.36875	21.88	48.53	26.65	L1	gnd
0.51327	23.27	46.00	22.73	L1	gnd
0.60703	22.95	46.00	23.05	L1	gnd
0.73593	21.69	46.00	24.31	L1	gnd
1.75546	21.24	46.00	24.76	L1	gnd
10.00937	19.34	50.00	30.66	L1	gnd

L Line



Final Measurement Results

Frequency MHz	QP Level dBμV	QP Limit dBμV	QP Delta dB	Phase -	PE -
0.38046	29.74	58.27	28.53	N	gnd
0.50546	34.64	56.00	21.36	N	gnd
0.58359	35.32	56.00	20.68	N	gnd
1.37656	34.43	56.00	21.57	N	gnd
4.75156	30.20	56.00	25.80	N	gnd
15.99765	30.35	60.00	29.65	N	gnd

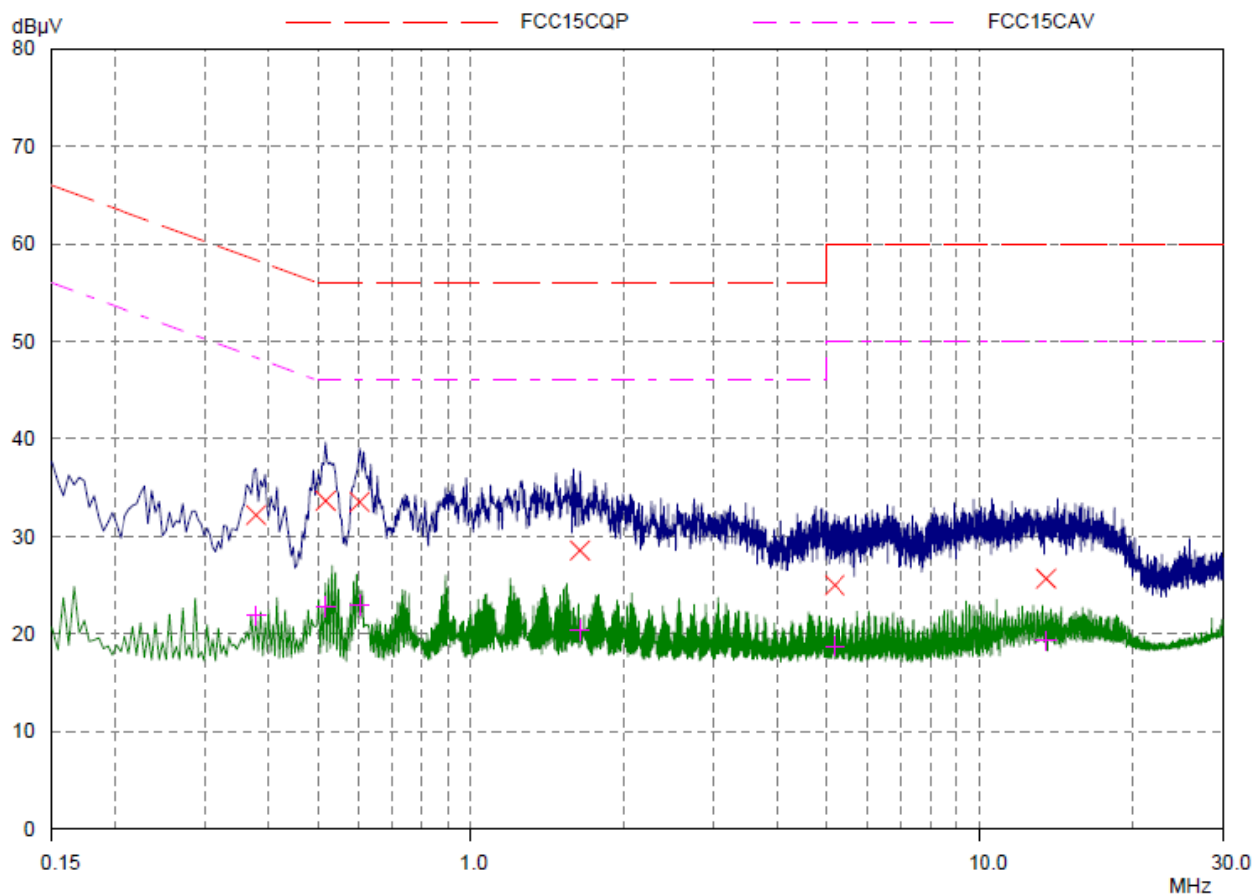
Frequency MHz	AV Level dBμV	AV Limit dBμV	AV Delta dB	Phase -	PE -
0.38046	22.78	48.27	25.49	N	gnd
0.50546	25.66	46.00	20.34	N	gnd
0.58359	26.38	46.00	19.62	N	gnd
1.37656	24.24	46.00	21.76	N	gnd
4.75156	22.28	46.00	23.72	N	gnd
15.99765	22.04	50.00	27.96	N	gnd

N Line

Conducted Emission from 150 KHz to 30 MHz



EDR-CH39

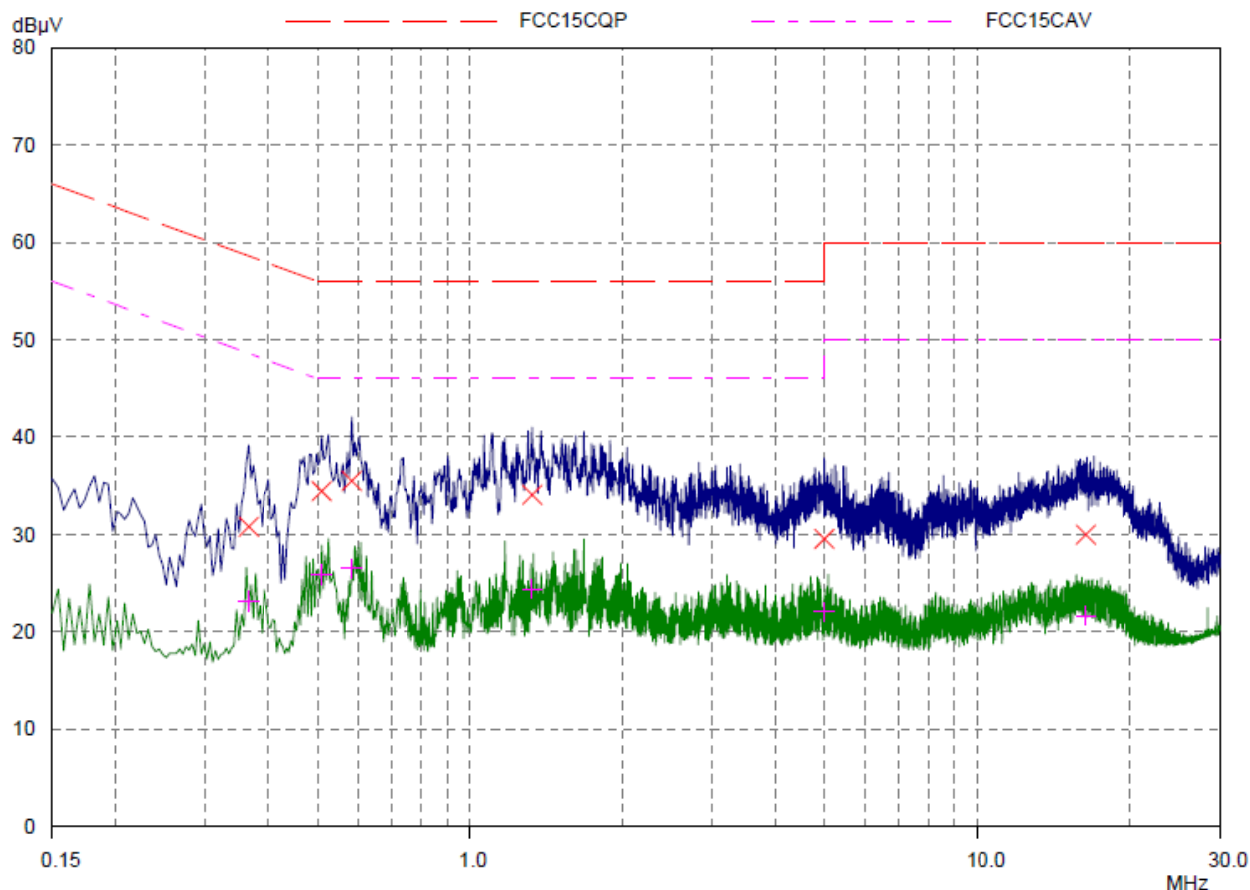


Final Measurement Results

Frequency MHz	QP Level dBμV	QP Limit dBμV	QP Delta dB	Phase -	PE -
0.37656	32.18	58.35	26.17	L1	gnd
0.51718	33.66	56.00	22.34	L1	gnd
0.60312	33.54	56.00	22.46	L1	gnd
1.63828	28.57	56.00	27.43	L1	gnd
5.18125	24.99	60.00	35.01	L1	gnd
13.50937	25.68	60.00	34.32	L1	gnd

Frequency MHz	AV Level dBμV	AV Limit dBμV	AV Delta dB	Phase -	PE -
0.37656	21.88	48.35	26.47	L1	gnd
0.51718	22.81	46.00	23.19	L1	gnd
0.60312	22.95	46.00	23.05	L1	gnd
1.63828	20.41	46.00	25.59	L1	gnd
5.18125	18.77	50.00	31.23	L1	gnd
13.50937	19.32	50.00	30.68	L1	gnd

L Line



Final Measurement Results

Frequency MHz	QP Level dBμV	QP Limit dBμV	QP Delta dB	Phase -	PE -
0.36484	30.80	58.62	27.82	N	gnd
0.50937	34.44	56.00	21.56	N	gnd
0.58359	35.50	56.00	20.50	N	gnd
1.32187	34.08	56.00	21.92	N	gnd
4.98593	29.54	56.00	26.46	N	gnd
16.34921	29.99	60.00	30.01	N	gnd

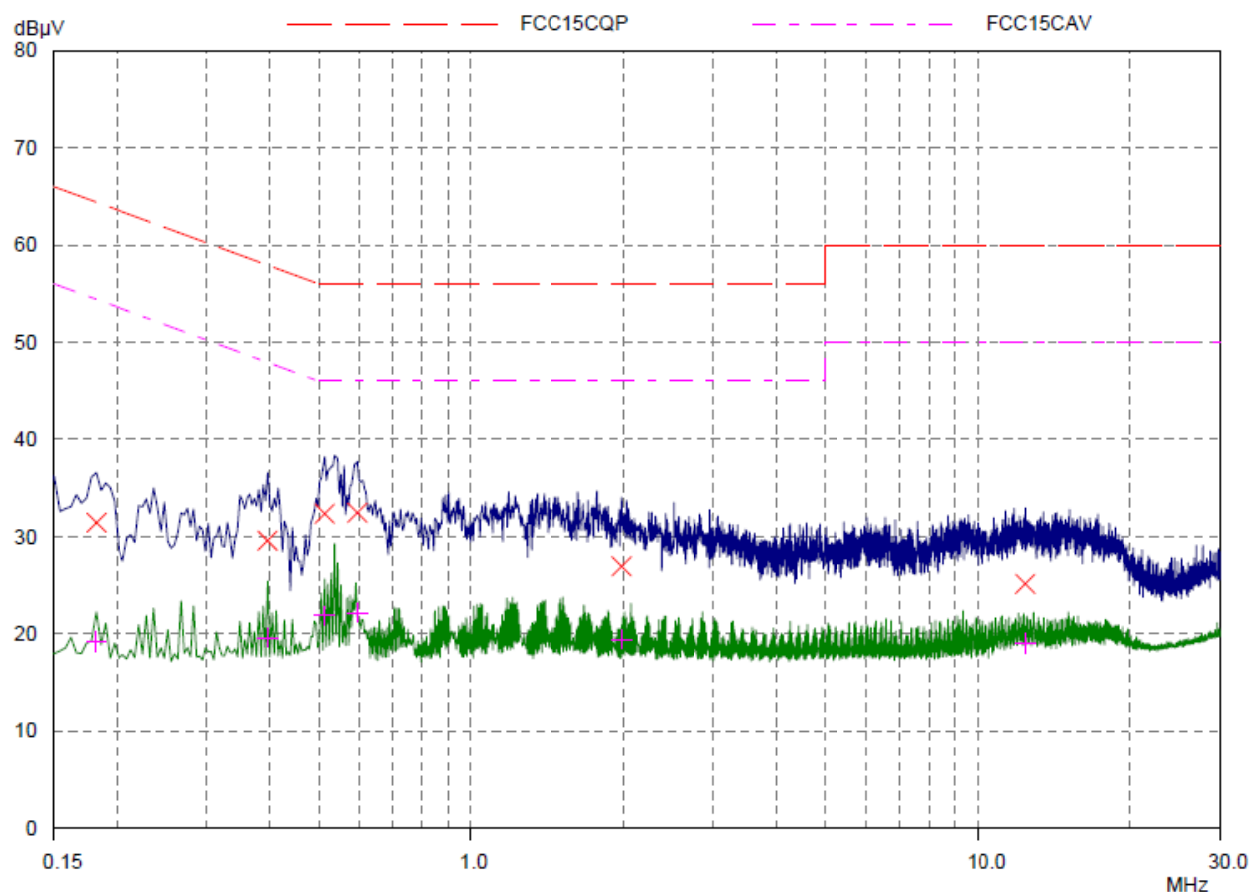
Frequency MHz	AV Level dBμV	AV Limit dBμV	AV Delta dB	Phase -	PE -
0.36484	23.16	48.62	25.46	N	gnd
0.50937	25.86	46.00	20.14	N	gnd
0.58359	26.50	46.00	19.50	N	gnd
1.32187	24.39	46.00	21.61	N	gnd
4.98593	22.07	46.00	23.93	N	gnd
16.34921	21.67	50.00	28.33	N	gnd

N Line

Conducted Emission from 150 KHz to 30 MHz



EDR-CH78

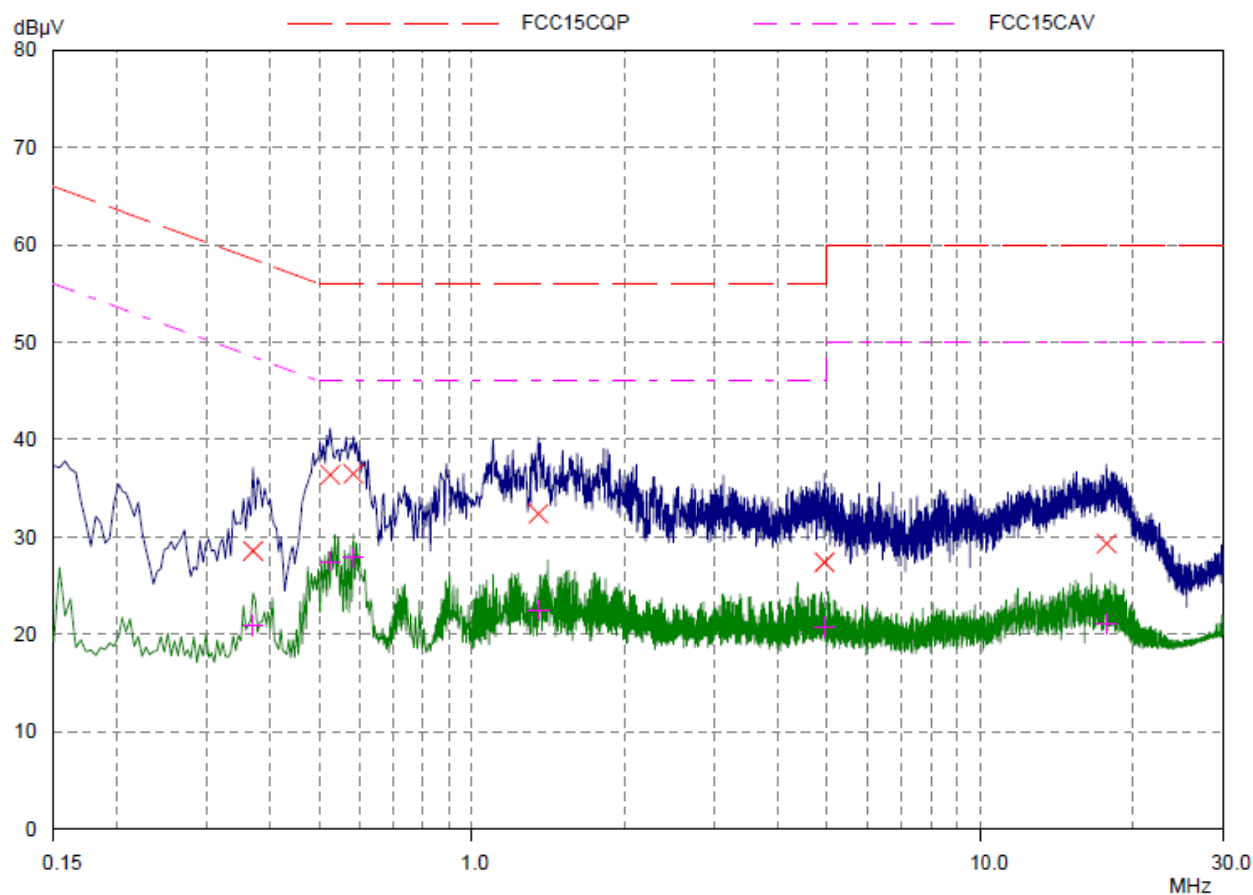


Final Measurement Results

Frequency MHz	QP Level dBμV	QP Limit dBμV	QP Delta dB	Phase -	PE -
0.18125	31.44	64.43	32.99	L1	gnd
0.39609	29.60	57.93	28.33	L1	gnd
0.51327	32.36	56.00	23.64	L1	gnd
0.59531	32.46	56.00	23.54	L1	gnd
1.97812	26.95	56.00	29.05	L1	gnd
12.41562	25.15	60.00	34.85	L1	gnd

Frequency MHz	AV Level dBμV	AV Limit dBμV	AV Delta dB	Phase -	PE -
0.18125	19.24	54.43	35.19	L1	gnd
0.39609	19.59	47.93	28.34	L1	gnd
0.51327	21.91	46.00	24.09	L1	gnd
0.59531	22.17	46.00	23.83	L1	gnd
1.97812	19.42	46.00	26.58	L1	gnd
12.41562	19.04	50.00	30.96	L1	gnd

L Line



Final Measurement Results

Frequency MHz	QP Level dBμV	QP Limit dBμV	QP Delta dB	Phase -	PE -
0.36875	28.58	58.53	29.95	N	gnd
0.525	36.38	56.00	19.62	N	gnd
0.58359	36.50	56.00	19.50	N	gnd
1.34531	32.39	56.00	23.61	N	gnd
4.93515	27.40	56.00	28.60	N	gnd
17.70468	29.32	60.00	30.68	N	gnd

Frequency MHz	AV Level dBμV	AV Limit dBμV	AV Delta dB	Phase -	PE -
0.36875	20.93	48.53	27.60	N	gnd
0.525	27.50	46.00	18.50	N	gnd
0.58359	27.88	46.00	18.12	N	gnd
1.34531	22.51	46.00	23.49	N	gnd
4.93515	20.79	46.00	25.21	N	gnd
17.70468	21.10	50.00	28.90	N	gnd

N Line

Conducted Emission from 150 KHz to 30 MHz

5 Main Test Instruments

Name	Type	Manufacturer	Serial Number	Calibration Date	Expiration Time
BT Base Station Simulator	CBT	R&S	100271	2015-05-25	2016-05-24
Loop Antenna	FMZB1519	SCHWARZBECK	1519-047	2014-02-29	2017-02-28
EMI Test Receiver	ESCS30	R&S	100138	2015-12-17	2016-12-16
LISN	ENV216	R&S	101171	2015-12-18	2016-12-17
EMI Test Receiver	ESCI	R&S	100948	2015-05-25	2016-05-24
TRILOG Broadband Antenna	VULB 9163	Schwarzbeck	9163-201	2013-11-25	2016-11-24
Double Ridged Waveguide Horn Antenna	HF907	R&S	100126	2015-07-01	2018-06-30
Power Splitter	SHX-GF2-2-13	Hua Xiang	10120101	NA	NA
Spectrum Analyzer	FSV30	R&S	100815	2015-12-17	2016-12-16
Spectrum Analyzer	N9010A	Agilent	MY47191109	2015-05-22	2016-05-21
Standard Gain Horn	3160-09	ETS-Lindgren	00102644	2015-05-19	2018-05-18
RF Cable	SMA 15cm	Agilent	0001	2015-12-09	2016-02-08

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