RF TEST REPORT

Applicant	TP-LINK TECHNOLOGIES CO., LTD.
FCC ID	TE7C5MAXV1
Brand	TP-LINK
Product	NEFFOS C5 MAX FDD-LTE SMART PHONE
Model	TP702C
Report No.	RXA1602-0019RF04R1
Issue Date	May 18, 2016

TA Technology (Shanghai) Co., Ltd. tested the above equipment in accordance with the requirements in **FCC CFR47 Part 15C (2015)**. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Lingling Kang

Reviewed by: lingling Kang/Manager

Kai Xu

Approved by: Kai Xu/Director

TA Technology (Shanghai) Co., Ltd.

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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: February 15, 2016~ March 23, 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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E-mail:	xukai@ta-shanghai.com

2 General Description of Equipment under Test

Client Information

Applicant	TP-LINK TECHNOLOGIES CO., LTD.
Applicant address	Building 24 (floors 1,3,4,5) and 28 (floors1-4) Central Science and Technology Park, Shennan Rd, Nanshan, Shenzhen, China
Manufacturer	TP-LINK TECHNOLOGIES CO., LTD.
Manufacturer address	Building 24 (floors 1,3,4,5) and 28 (floors1-4) Central Science and Technology Park, Shennan Rd, Nanshan, Shenzhen, China

General information

Model:	TP702C
IMEI:	SIM 1: 868983020043343 SIM 2: 868983020044358
HW Version:	AL1520_MB_PCB_V2.0
SW Version:	H10S100D03B20160128R1004
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)
	DH5(GFSK); 2DH5(π/4 DQPSK); 3DH5(8DQPSK)
Packet Type: (Maximum Payload)	DH5; 2DH5; 3DH5
Max. Conducted Power	6.6dBm
Tested Frequency Range(s):	2400 MHz ~ 2483.5 MHz
EUT Accessory	
Battery	Manufacturer: DongGuan Amperex Technology Co., Ltd Model: NBL-44A3045 Power Rating: DC 3.8V, 3045mAh, Li-ion
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 (2015) Radio Frequency Devices

ANSI C63.10 (2013)
DA00-705 Filing and Frequency Measurement Guidelines For Frequency Hopping Spread Spectrum System.(2000)

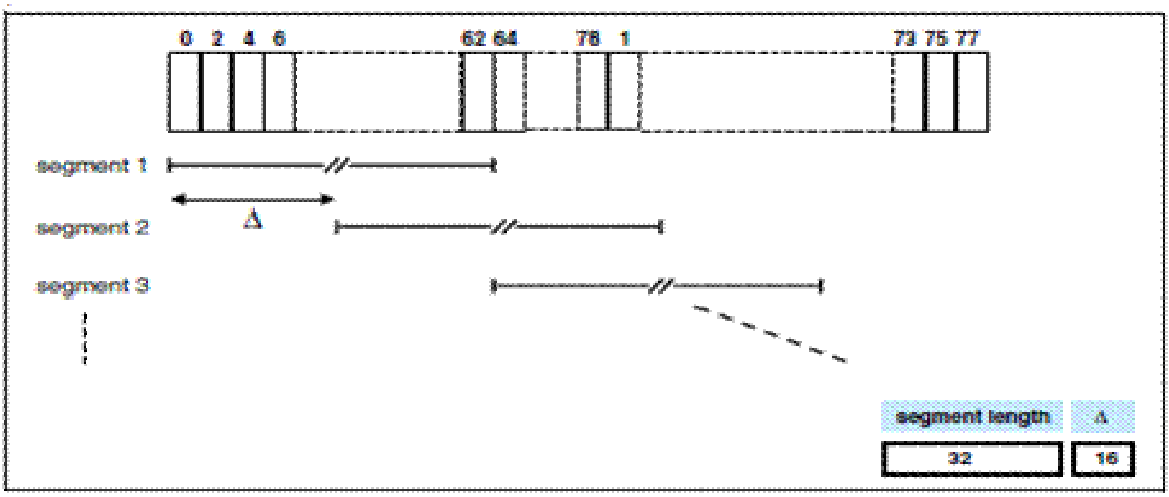
3 Information about the FHSS characteristics

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 has 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 π/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

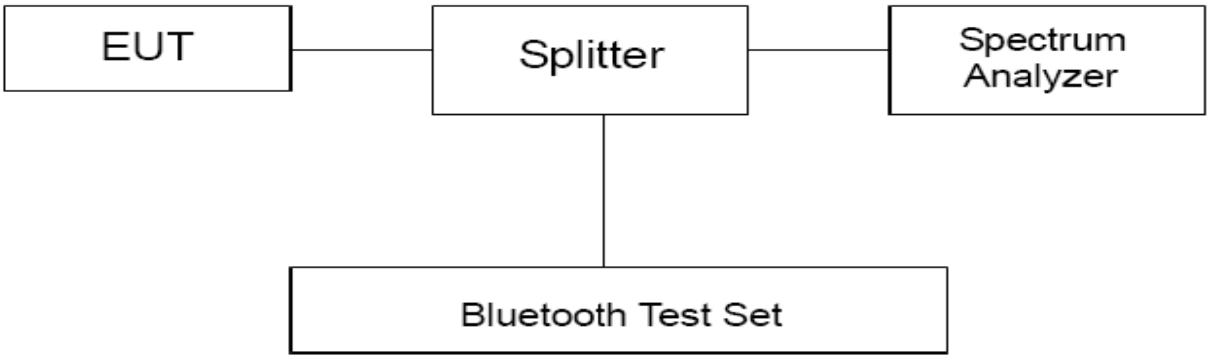
Ambient condition

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; all other frequency hopping systems in the 2400–2483.5 MHz band: 0.125 watts."

Peak Output Power	≤ 0.125W (21dBm)

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	2.5	-0.8	-0.8	PASS
39	2441	5.9	2.9	2.9	PASS
78	2480	6.6	3.7	3.7	PASS

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

4.3 Occupied Bandwidth (20dB)

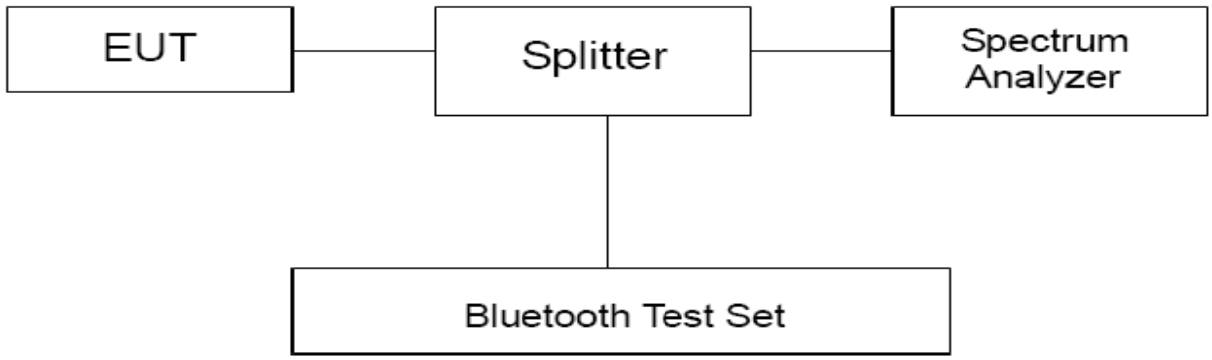
Ambient condition

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 30kHz and VBW is set to 100kHz 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(MHz)
DH5	0	2402	1.036
DH5	39	2441	0.953
DH5	78	2480	1.037
2DH5	0	2402	1.282
2DH5	39	2441	1.282
2DH5	78	2480	1.285
3DH5	0	2402	1.288
3DH5	39	2441	1.278
3DH5	78	2480	1.292

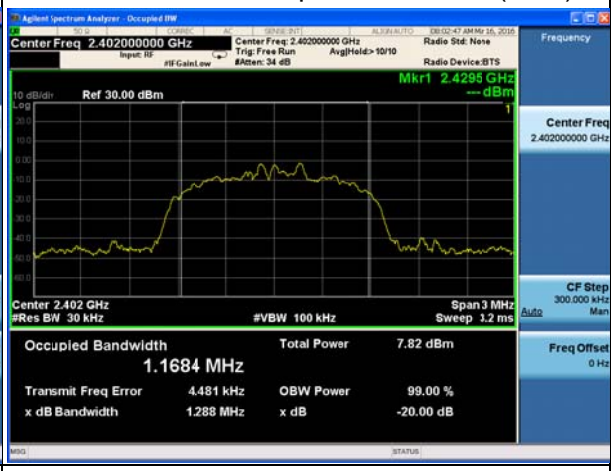
BT DH5 CH 0 Occupied Bandwidth (MHz)

BT DH5 CH 39 Occupied Bandwidth (MHz)

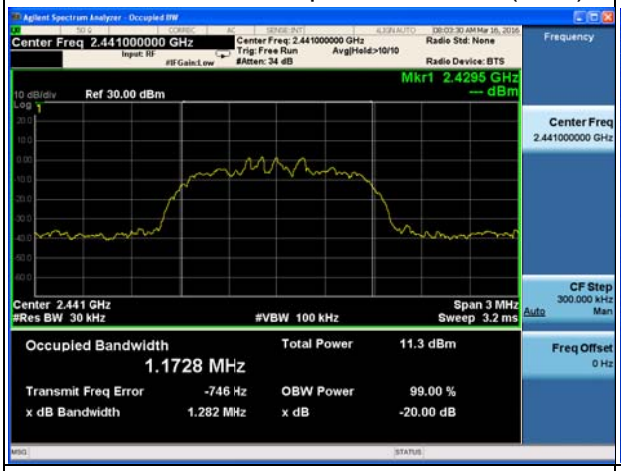
BT DH5 CH 78 Occupied Bandwidth (MHz)

BT 2DH5 CH 0 Occupied Bandwidth (MHz)

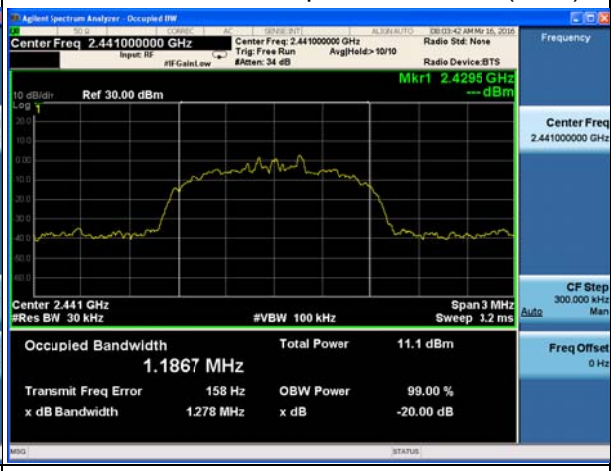
BT 3DH5 CH 0 Occupied Bandwidth (MHz)



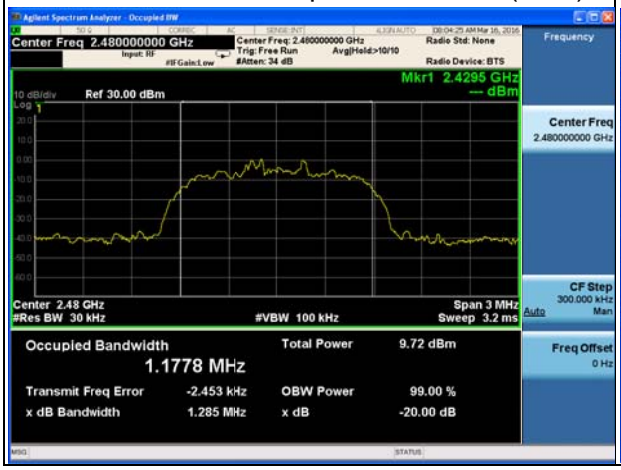
BT 2DH5 CH 39 Occupied Bandwidth (MHz)



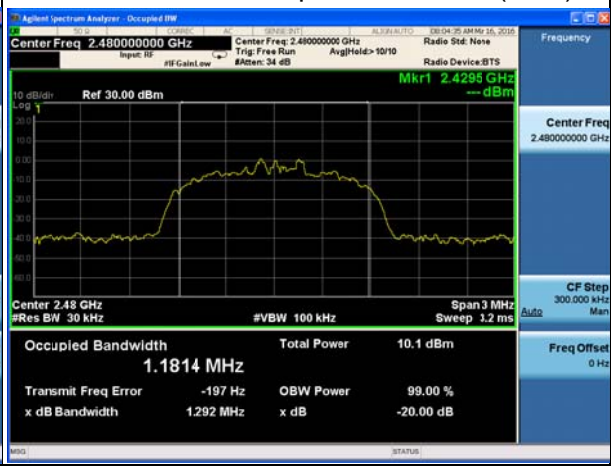
BT 3DH5 CH 39 Occupied Bandwidth (MHz)



BT 2DH5 CH 78 Occupied Bandwidth (MHz)



BT 3DH5 CH 0 Occupied Bandwidth (MHz)



4.4 Frequency Separation

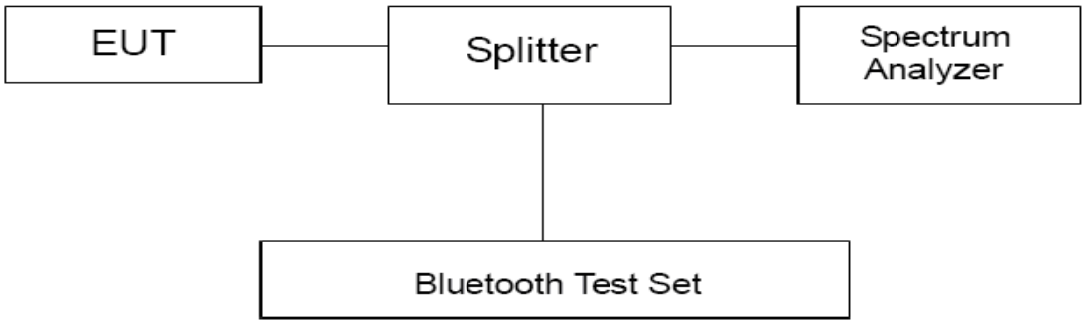
Ambient condition

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 100kHz 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

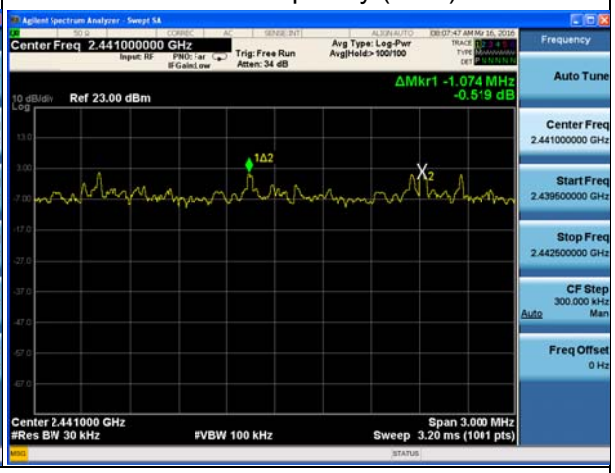
The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 2, U=936 Hz.

Test Results:

Packet type	Carrier frequency (MHz)	Carrier frequency separation(kHz)	20dB Bandwidth(kHz)	Limit (kHz)	Conclusion
DH5	2441	954	953.3	635.53	PASS
2DH5	2441	1074	1282	854.67	PASS
3DH5	2441	990	1278	852.00	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)

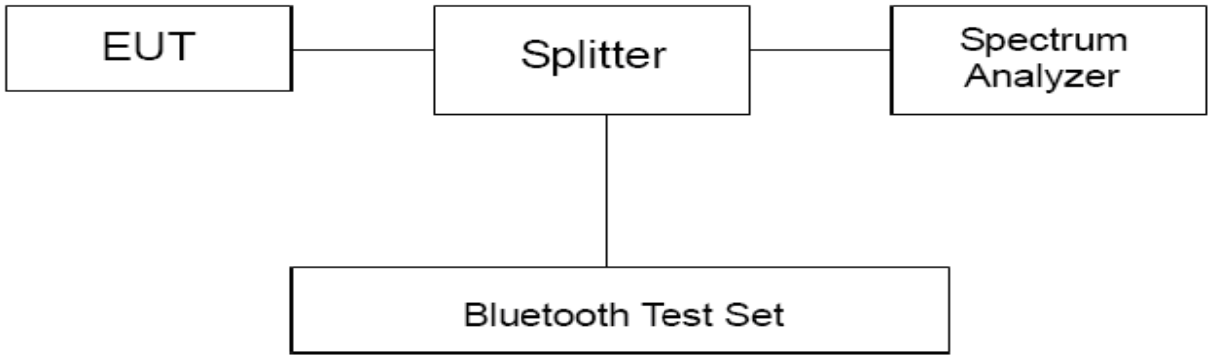
Ambient condition

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 1MHz on spectrum analyzer .The time slot length is measured of three different packet types, which are available in the Bluetooth technology. Those are DH1, DH3 and DH5 packets. The dwell time is calculated by:
Dwell time = time slot length * hop rate * 0.4s with:
- hop rate=1600 * 1/s for DH1 packet =1600
- hop rate=1600/3 * 1/s for DH3 packet =533.33
- hop rate=1600/5 * 1/s for DH5 packet =320

Test Setup



Limits

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

Dwell time	≤ 400ms

Measurement Uncertainty

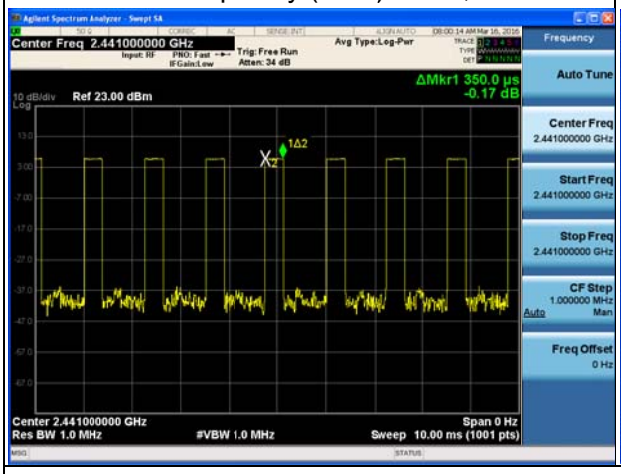
The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor *k* = 2.

Requirements	Uncertainty	
Dwell Time	DH1	*U*=0.64ms
	DH3	*U*=0.80ms
	DH5	*U*=0.70ms
	2DH1	*U*=0.64ms
	2DH3	*U*=0.80ms
	2DH5	*U*=0.70ms
	3DH1	*U*=0.64ms
	3DH3	*U*=0.80ms
	3DH5	*U*=0.70ms

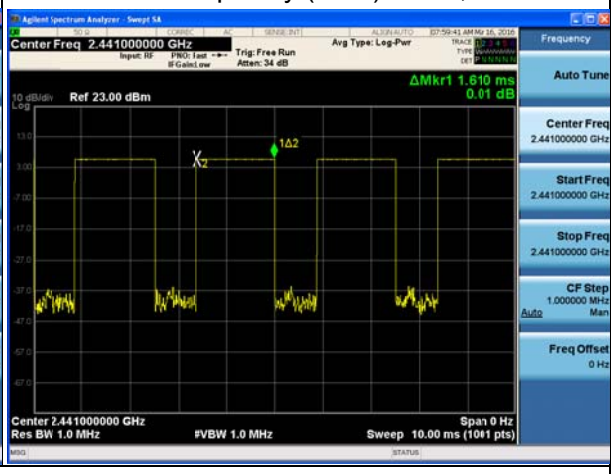
Test Results:

Channel 39					
Packet type	**hop rate (1/s)**	**Time slot length(ms)**	**Dwell time (ms)**	**Limit (ms)**	**Conclusion**
DH1	1600	0.35	224	400	PASS
DH3	533.33	1.61	343.46	400	PASS
DH5	320	2.87	367.36	400	PASS
2DH1	1600	0.36	230.4	400	PASS
2DH3	533.33	1.62	345.60	400	PASS
2DH5	320	2.85	364.8	400	PASS
3DH1	1600	0.38	243.2	400	PASS
3DH3	533.33	1.63	347.73	400	PASS
3DH5	320	2.86	366.08	400	PASS
Note: Dwell time = time slot length * hop rate * 0.4s					

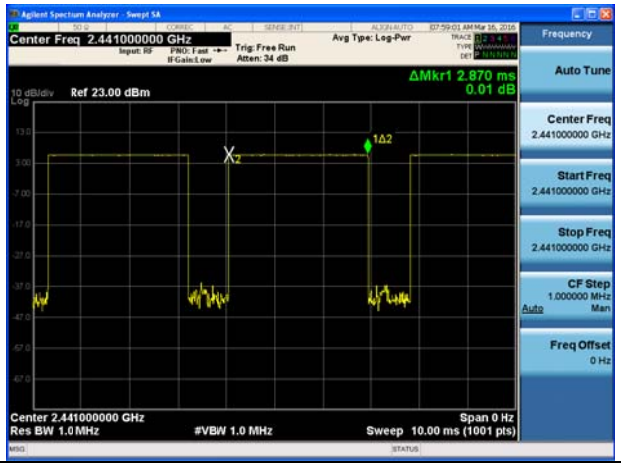
Carrier frequency (MHz): 2441, DH1



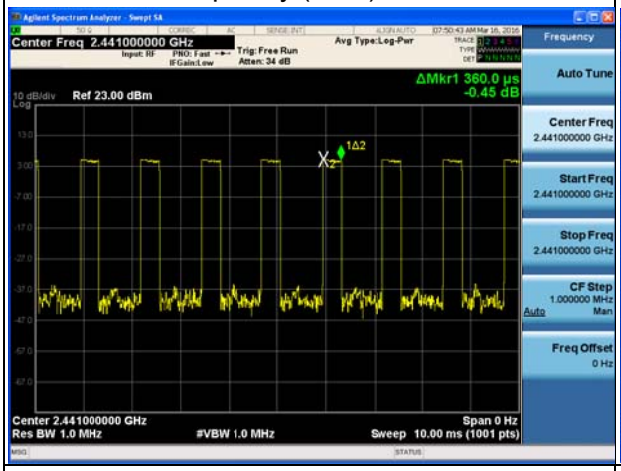
Carrier frequency (MHz): 2441, DH3



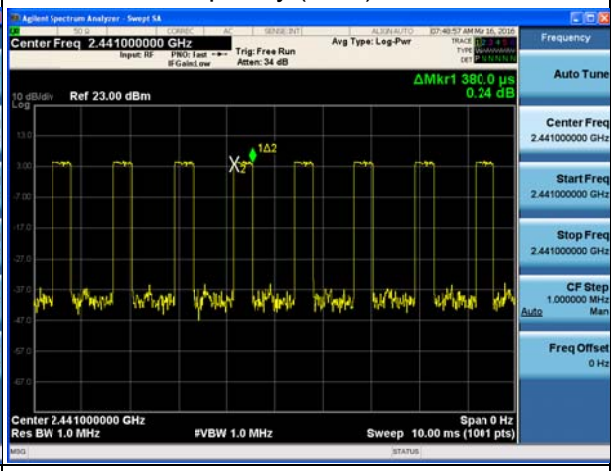
Carrier frequency (MHz): 2441, DH5



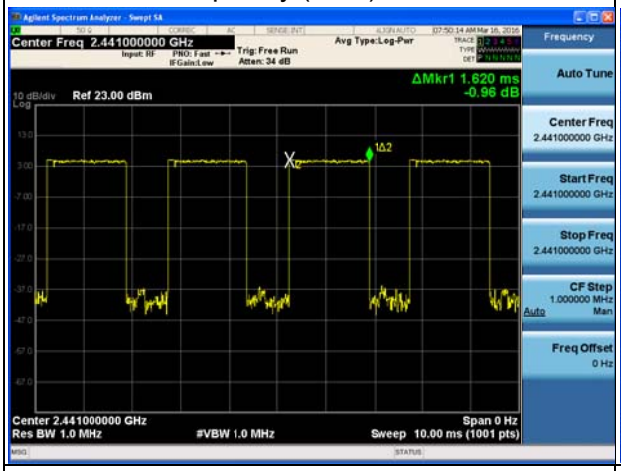
Carrier frequency (MHz): 2441, 2DH1



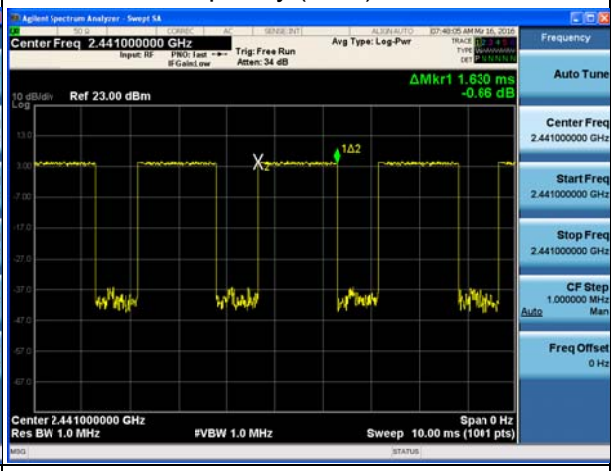
Carrier frequency (MHz): 2441, 2DH1



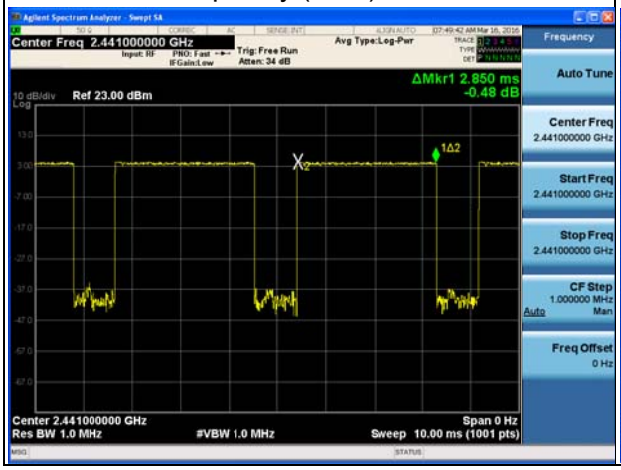
Carrier frequency (MHz): 2441, 2DH3



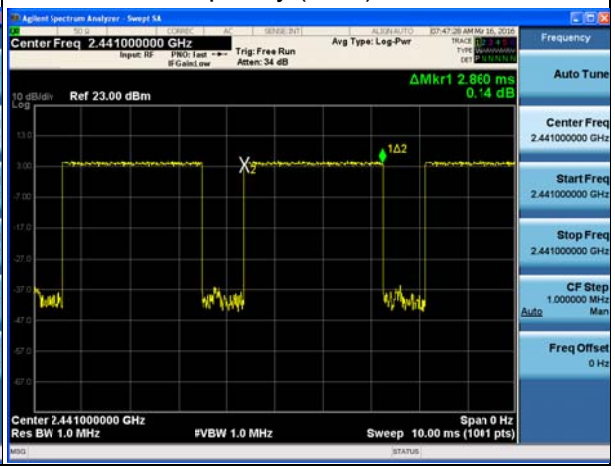
Carrier frequency (MHz): 2441, 2DH3



Carrier frequency (MHz): 2441, 2DH5



Carrier frequency (MHz): 2441, 2DH5



4.6 Band Edge Compliance

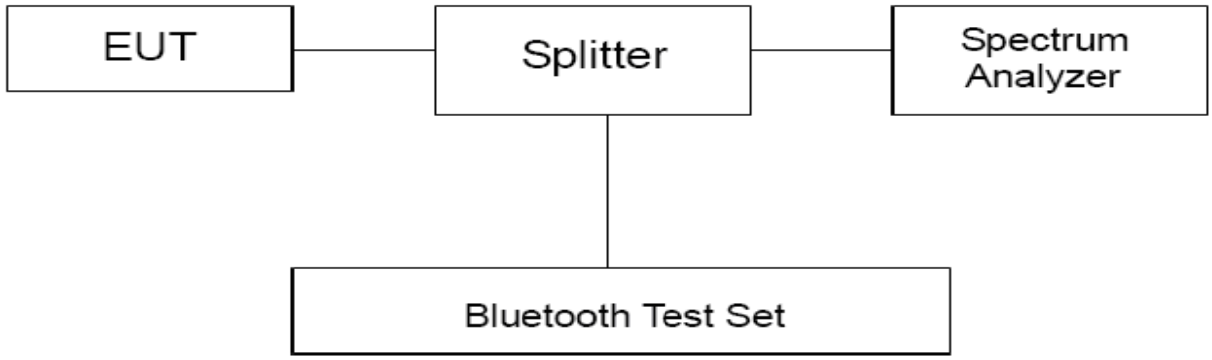
Ambient condition

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.”

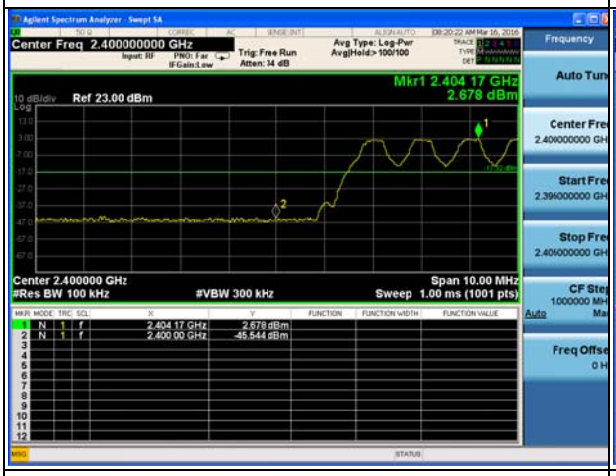
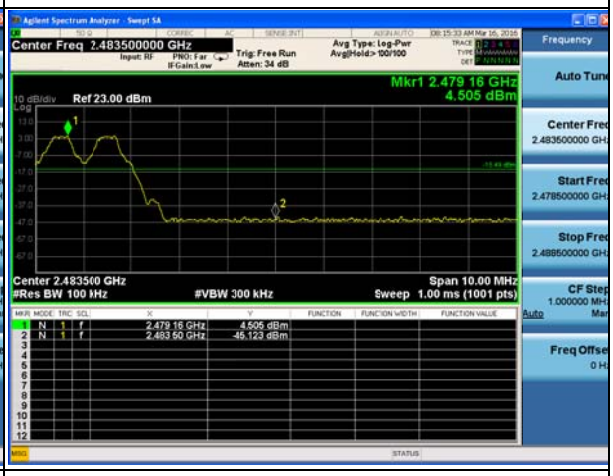
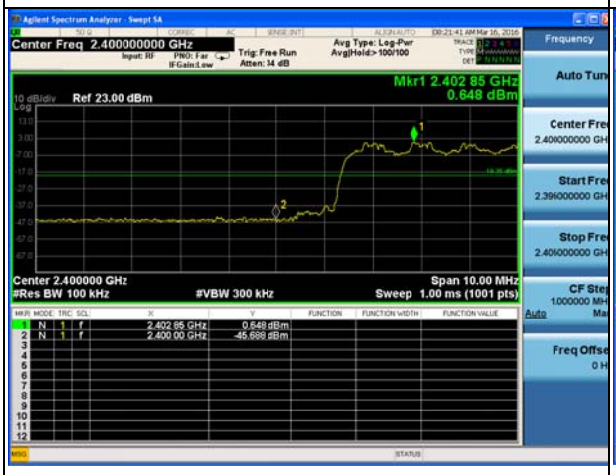
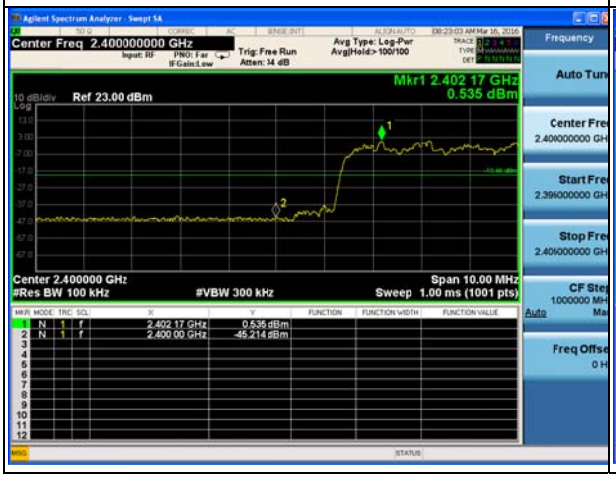
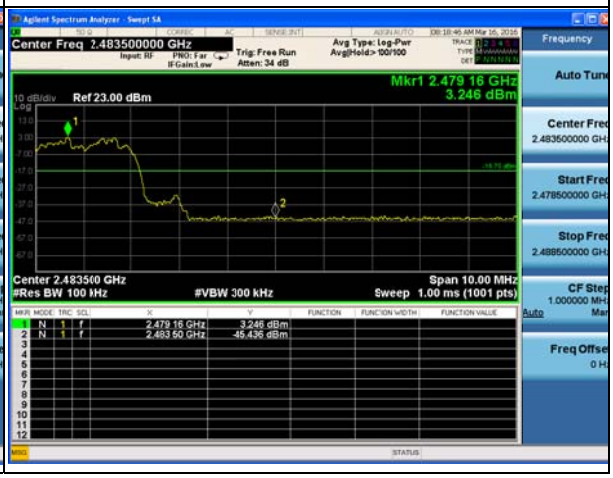
Measurement Uncertainty

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

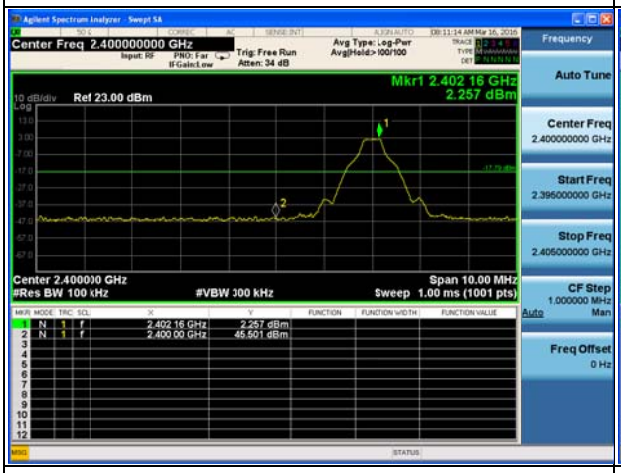
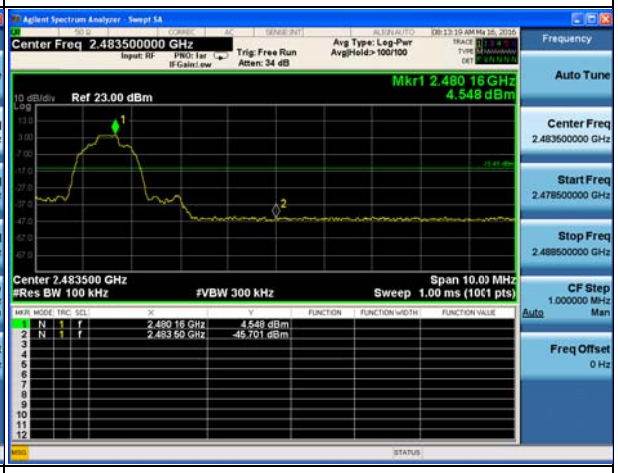
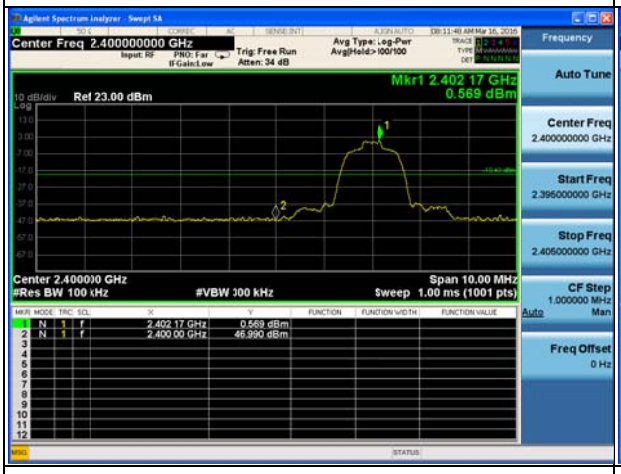
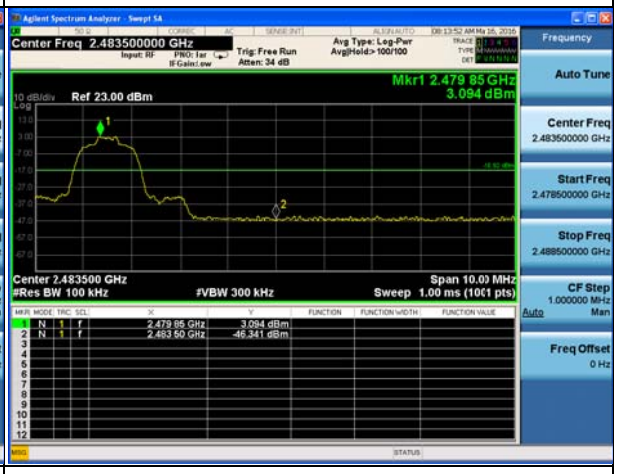
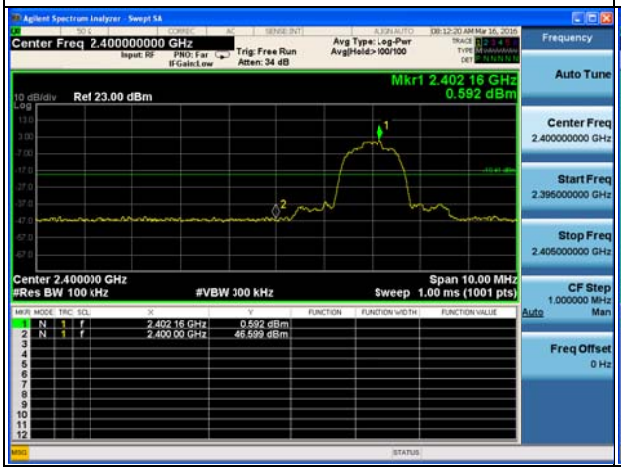
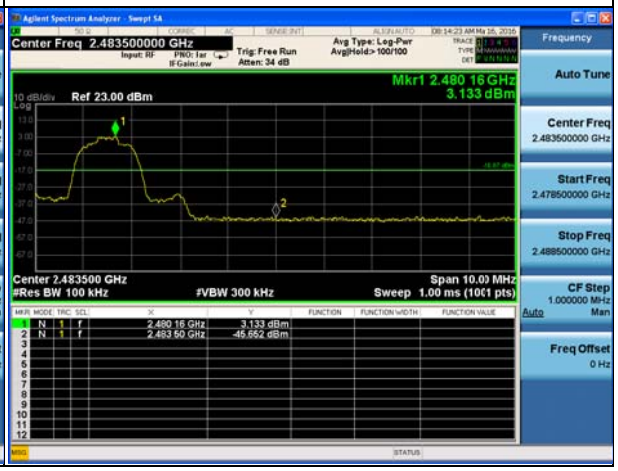
Frequency	Uncertainty
2GHz-3GHz	1.407 dB

Test Results

Hopping On

BT DH5 CH 0 Carrier frequency (MHz): 2402	BT DH5 CH 78 Carrier frequency (MHz): 2480
	
BT 2DH5 CH 0 Carrier frequency (MHz): 2402	BT 2DH5 CH 78 Carrier frequency (MHz): 2480
	
BT 3DH5 CH 0 Carrier frequency (MHz): 2402	BT 3DH5 CH 0 Carrier frequency (MHz): 2480
	

Hopping Off

BT DH5 CH 0 Carrier frequency (MHz): 2402	BT DH5 CH 78 Carrier frequency (MHz): 2480
	
BT 2DH5 CH 0 Carrier frequency (MHz): 2402	BT 2DH5 CH 78 Carrier frequency (MHz): 2480
	
BT 3DH5 CH 0 Carrier frequency (MHz): 2402	BT 3DH5 CH 0 Carrier frequency (MHz): 2480
	

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:

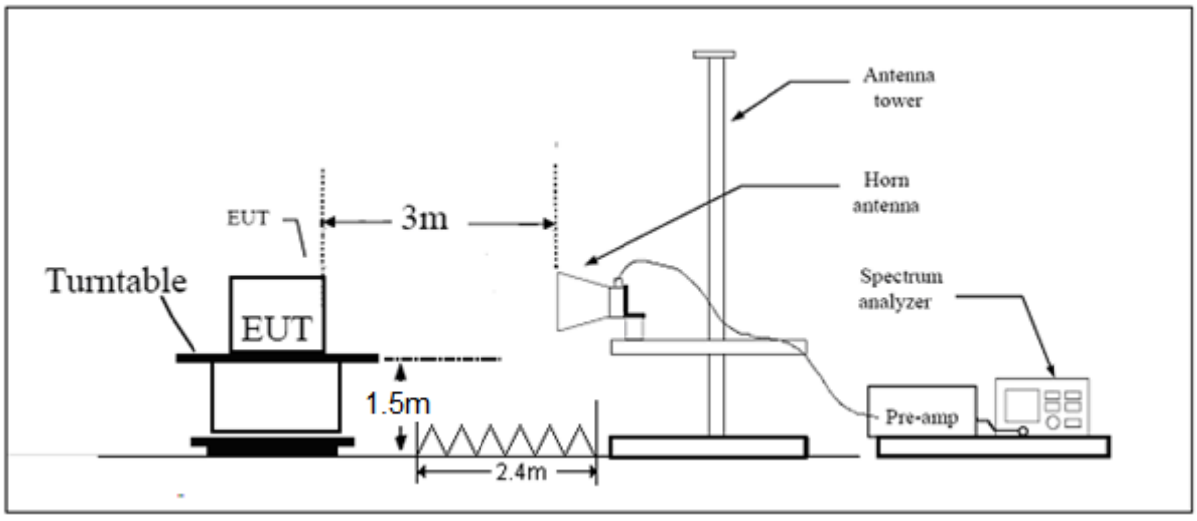
(a) PEAK: RBW=VBW=1MHz / Sweep=AUTO

(b) 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 20log(dwell time/100 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 form 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
[1]0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2690 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	[2]
13.36 - 13.41			

Limit in restricted band

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

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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

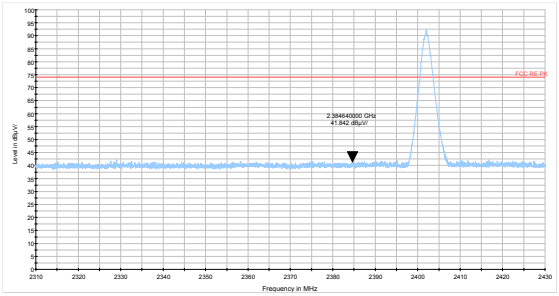
Average Limit=54dBuV/m

Measurement Uncertainty

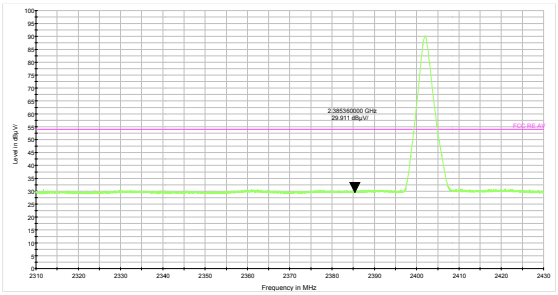
The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 1.96, U= 3.55 dB.

Test Results:

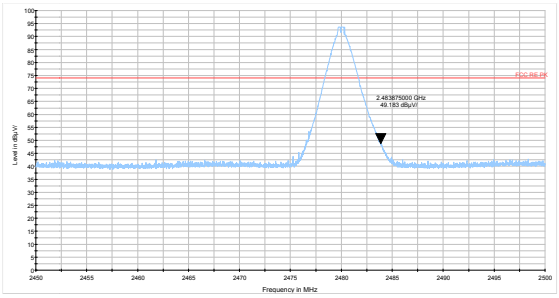
GFSK CH 0 Lower band edge Peak



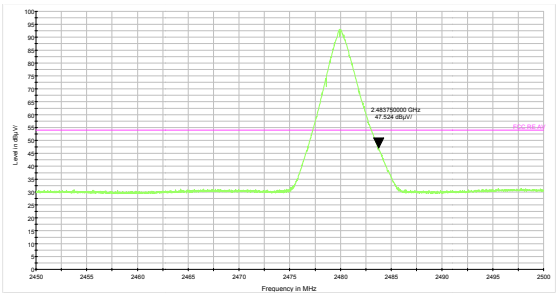
GFSK CH 0 Lower band edge average



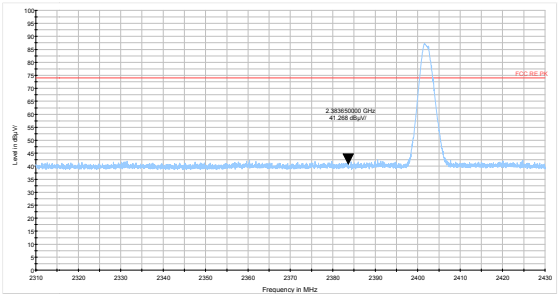
GFSK CH 78 Higher band edge Peak



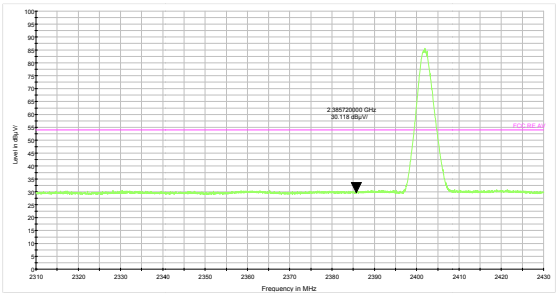
GFSK CH 78 Higher band edge average



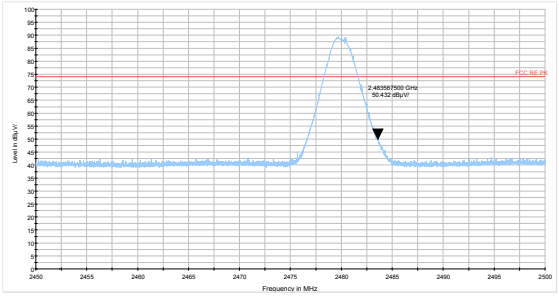
EDR CH 0 Lower band edge Peak



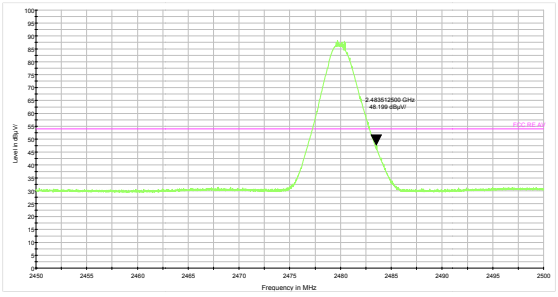
EDR CH 0 Lower band edge average



EDR CH 78 Higher band edge Peak



EDR CH 78 Higher band edge average



4.8 Number of hopping Frequency

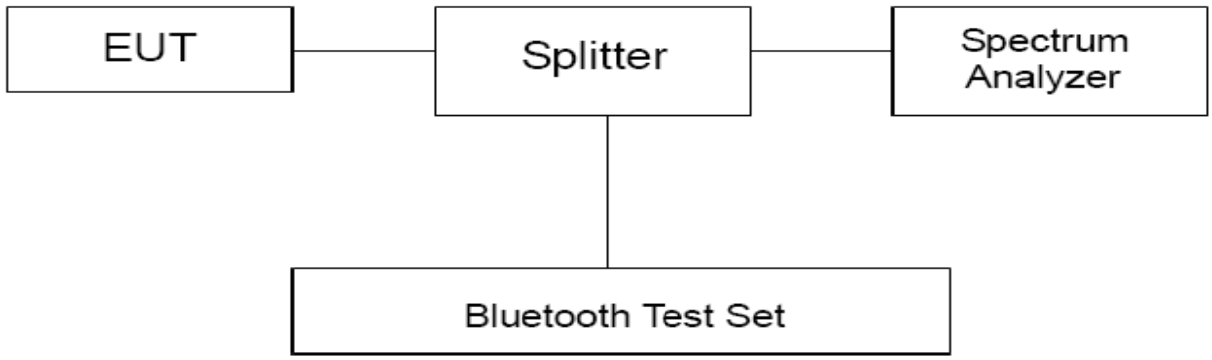
Ambient condition

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 1 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

Test Results:

DH5 Number of hopping channels = 79 2400 MHz – 2483.5 MHz	2DH5 Number of hopping channels = 79 2400 MHz – 2483.5 MHz
	
DH5 Number of hopping channels = 79 2400 MHz – 2483.5 MHz	
	

4.9 Spurious RF Conducted Emissions

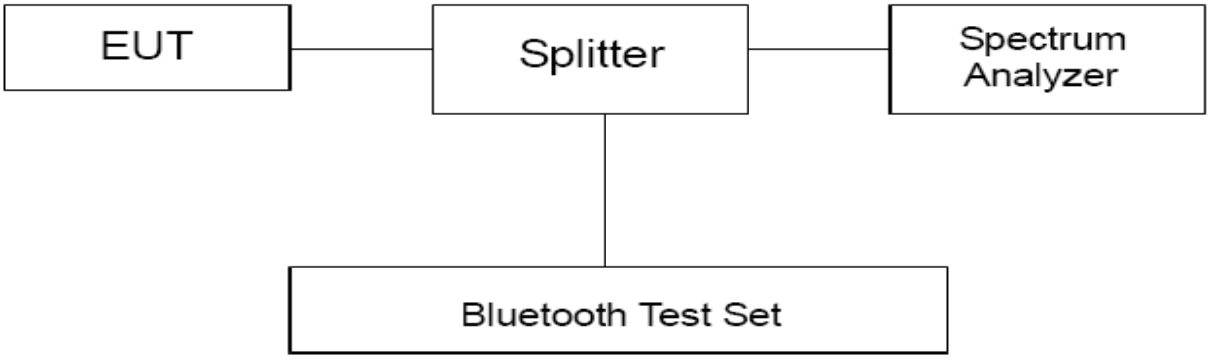
Ambient condition

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	2.029	-17.971
	2441	3.063	-16.937
	2480	-4.199	-24.199
EDR (3DH5)	2402	-16.839	-36.839
	2441	-3.796	-23.796
	2480	-2.643	-22.643

Measurement Uncertainty

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

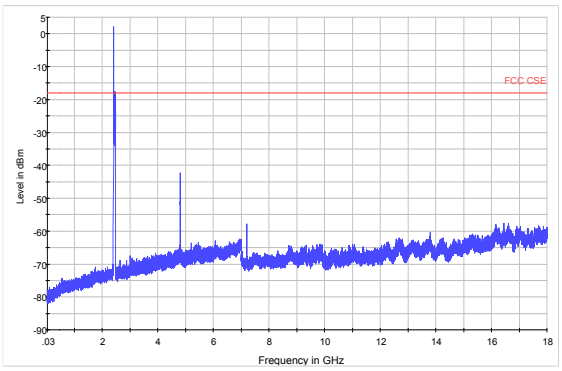
Frequency	Uncertainty
100kHz-2GHz	0.684 dB
2GHz-26GHz	1.407 dB

Test Results:

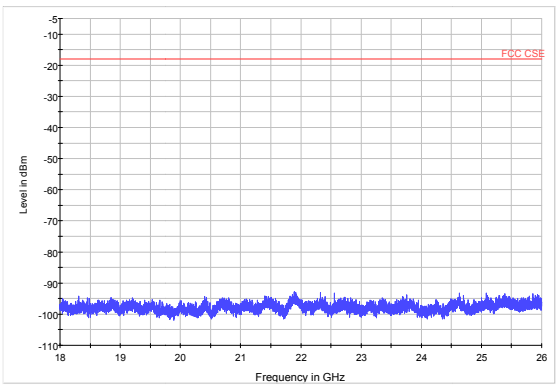
Note: The signal beyond the limit is carrier.

Mode	Frequency	Peak (dBm)	Limit (dBm)	Margin (dB)
CSE_EDR_CH0_0.03-18GHz	4804.1	-52.29	-36.839	15.45

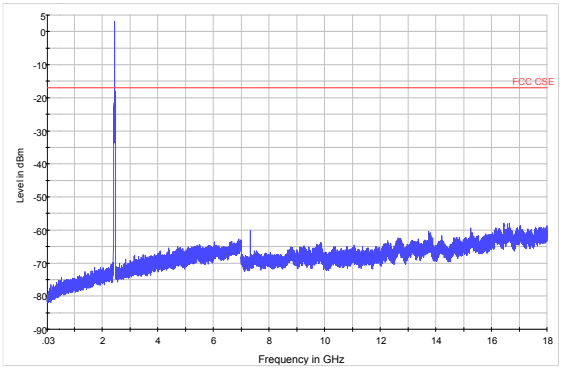
GFSK CH 0 30MHz to 18GHz



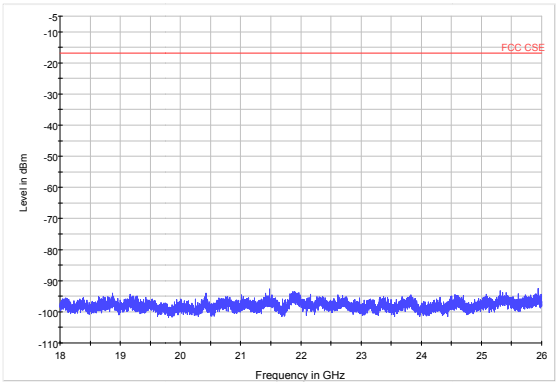
GFSK-CH0 18GHz to 26.5GHz



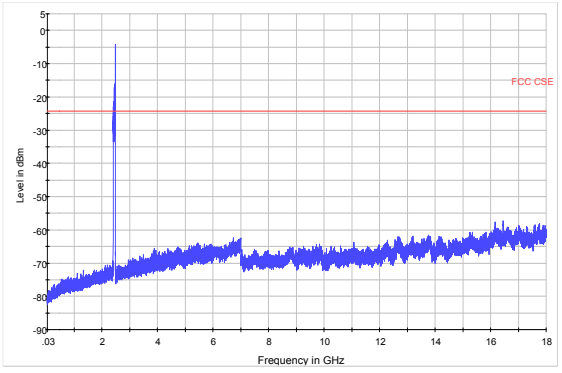
GFSK CH 39 30MHz to 18GHz



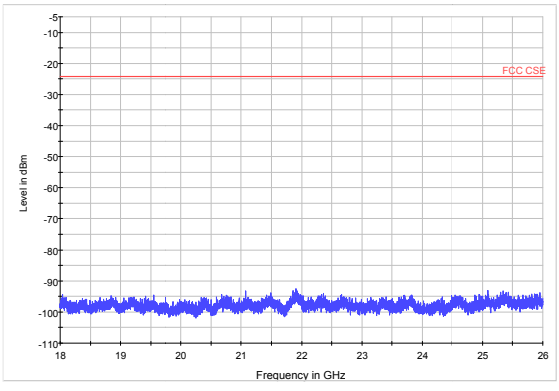
GFSK CH 39 18GHz to 26.5GHz



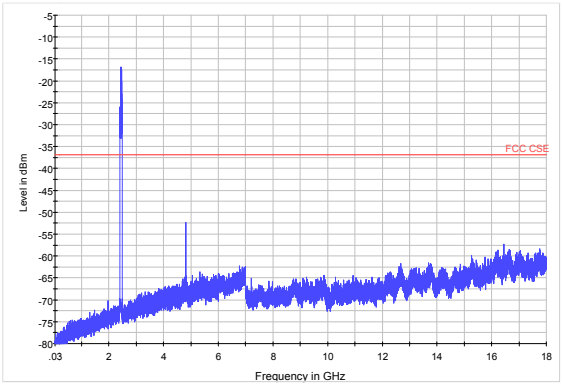
GFSK CH 78 30MHz to 18GHz



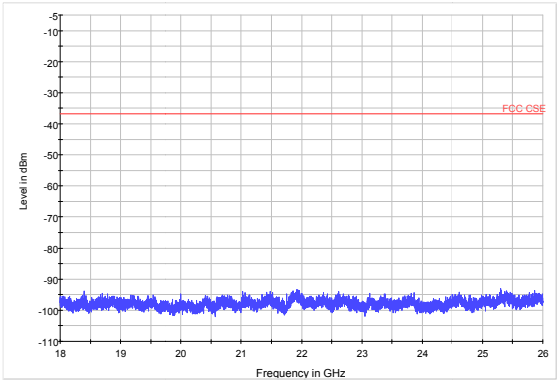
GFSK CH 78 18GHz to 26.5GHz



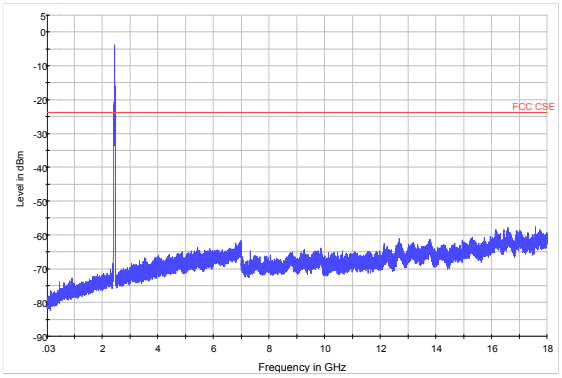
EDR CH 0 30MHz to 18GHz



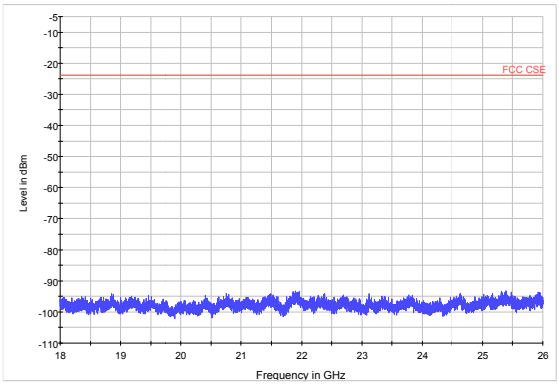
EDR CH0 18GHz to 26.5GHz



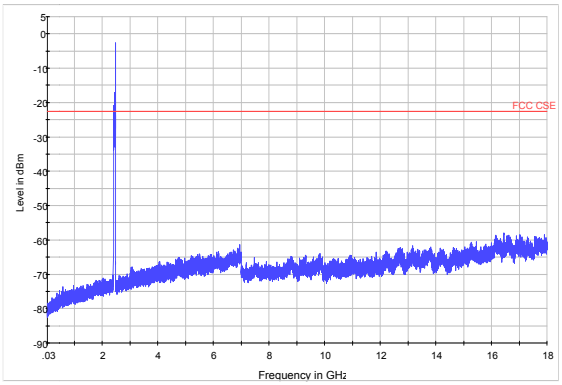
EDR CH 39 30MHz to 18GHz



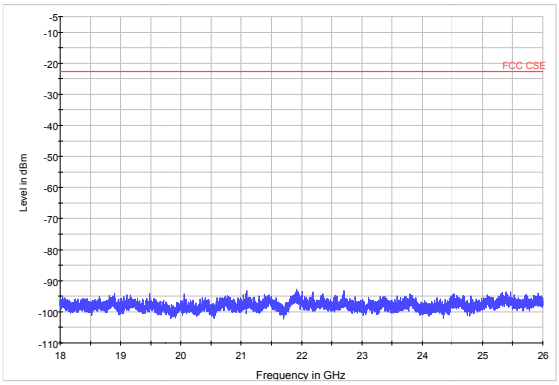
EDR CH 39 18GHz to 26.5GHz



EDR CH 78 30MHz to 18GHz



EDR CH 78 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

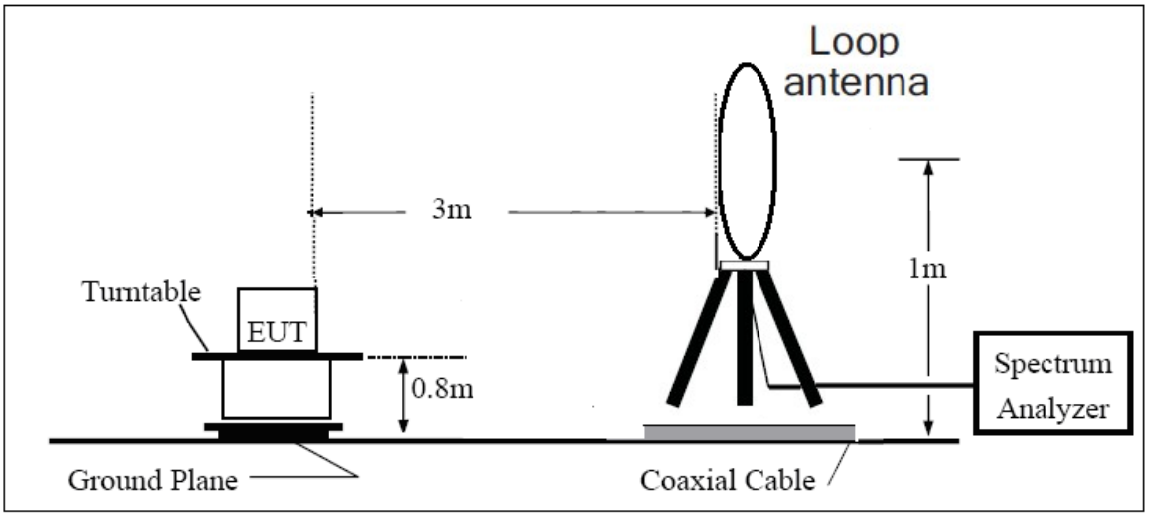
The test set-up was made in accordance to the general provisions of ANSI C63.10-2013.The Equipment Under Test (EUT) was set up on a non-conductive table in the semi-anechoic chamber. The test was performed at the distance of 3 m between the EUT and the receiving antenna. The radiated emissions measurements 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.

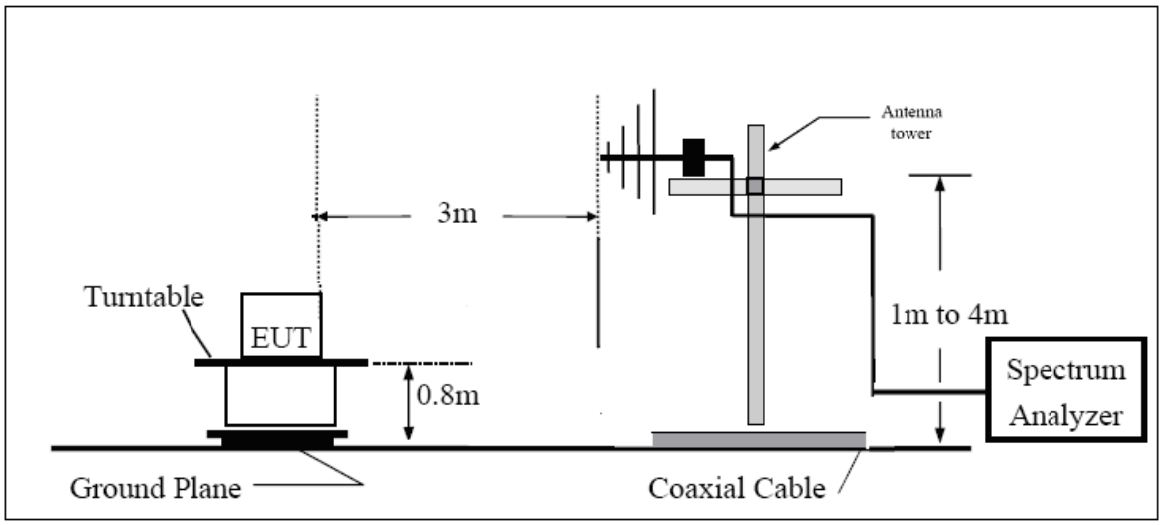
The test is in transmitting mode.

Test setup

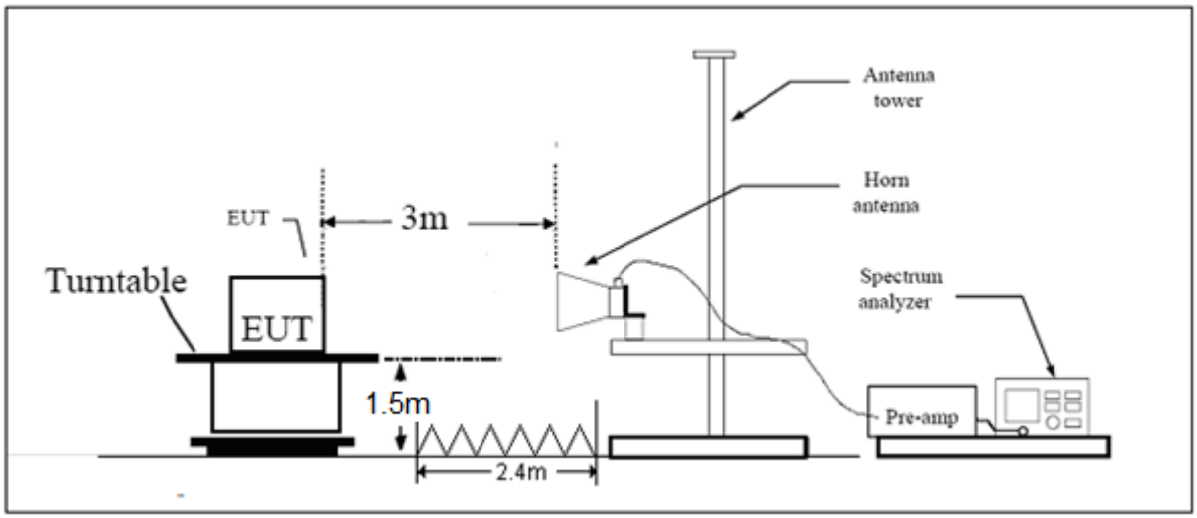
9KHz~~~ 30MHz



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

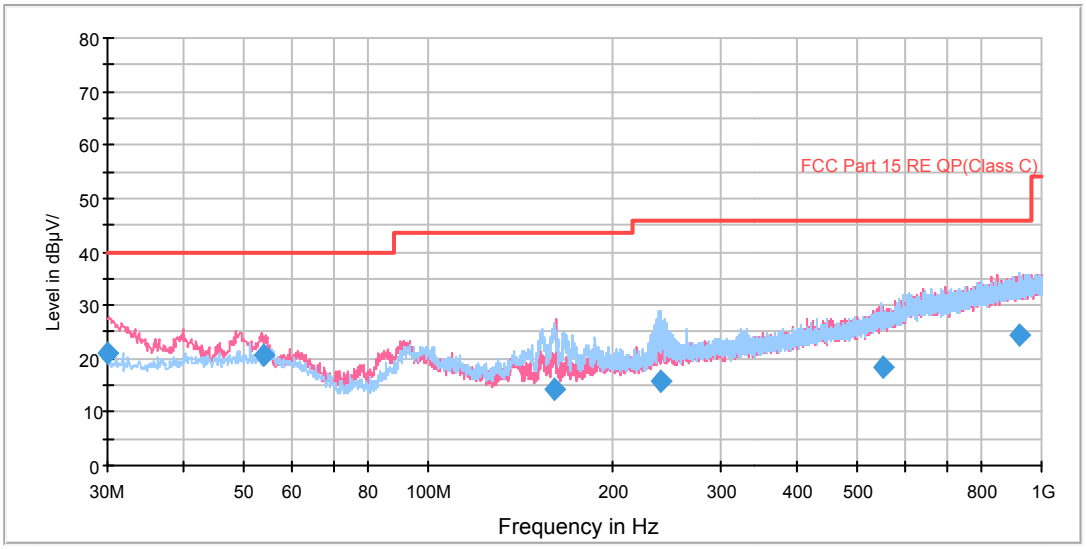
Sweep from 9 kHz to 30MHz, and the emissions more than 20 dB below the permissible value are not reported.

The 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

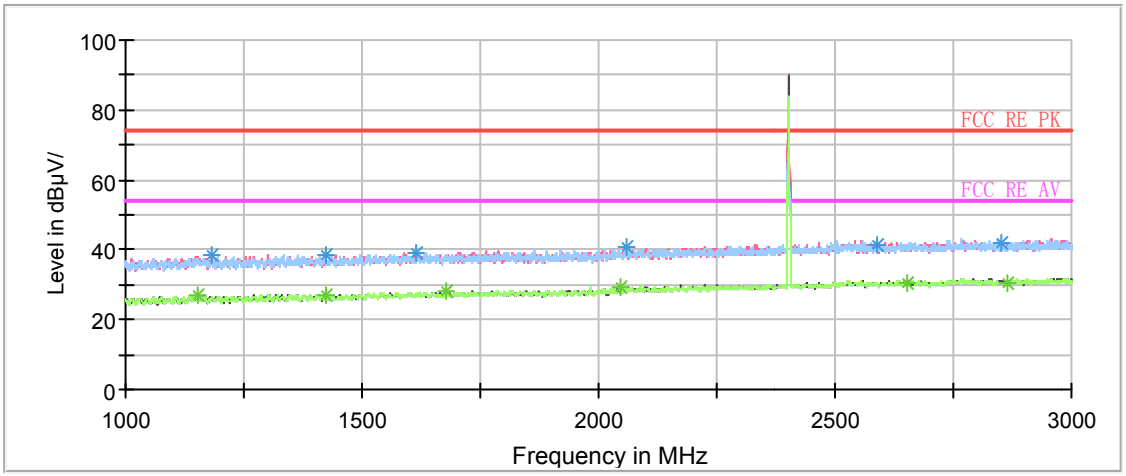
FCC RE 0.03-1GHz QP Class C



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)
30.000000	21.1	100.0	V	295.0	33.0	11.9	18.9	40.0
53.810000	20.5	100.0	V	275.0	33.3	12.8	19.5	40.0
161.197500	14.1	100.0	V	213.0	23.9	9.8	29.4	43.5
240.086250	15.8	100.0	H	283.0	29.5	13.7	30.2	46.0
549.877500	18.4	125.0	H	26.0	39.4	21.0	27.6	46.0
919.572500	24.6	100.0	H	125.0	50.4	25.8	21.4	46.0



Radiates Emission from 1GHz to 3GHz

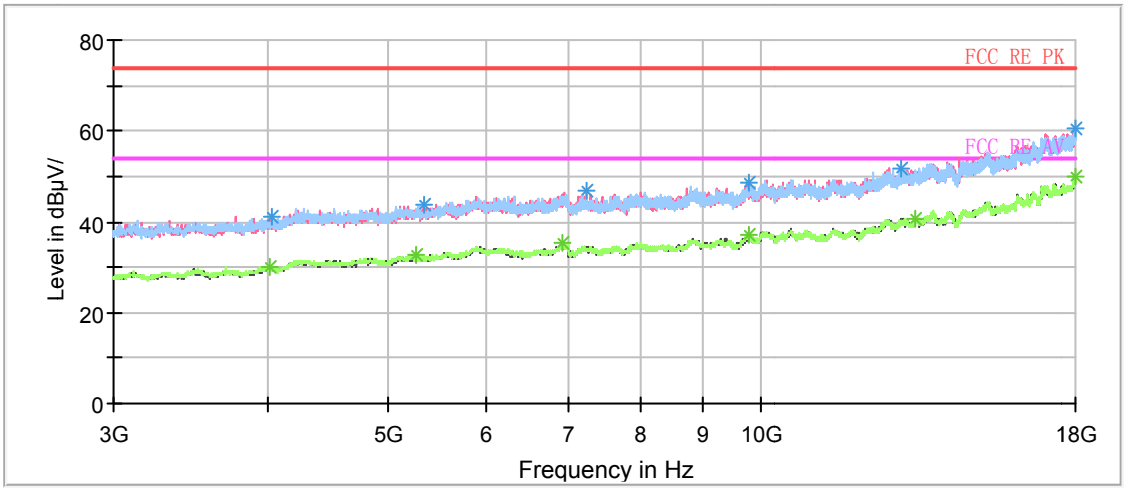
Note: The signal beyond the limit is carrier.

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1181.500000	38.3	100.0	V	253.0	49.0	-10.7	35.7	74
1422.000000	38.6	100.0	H	14.0	48.4	-9.8	35.4	74
1612.500000	39.3	100.0	V	278.0	48.2	-8.9	34.7	74
2059.000000	40.6	100.0	V	0.0	48.0	-7.4	33.4	74
2587.500000	41.5	100.0	V	0.0	46.2	-4.7	32.5	74
2852.000000	41.9	100.0	H	134.0	46.1	-4.2	32.1	74

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1151.000000	27.0	100.0	H	300.0	37.8	-10.8	27.0	54
1423.000000	27.2	100.0	H	6.0	37.0	-9.8	26.8	54
1676.500000	27.9	100.0	V	356.0	36.7	-8.8	26.1	54
2044.500000	29.1	100.0	V	299.0	36.6	-7.5	24.9	54
2654.000000	30.5	100.0	V	356.0	35.1	-4.6	23.5	54
2864.000000	30.6	100.0	V	0.0	34.8	-4.2	23.4	54

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

RE 3-18GHz PK+AV



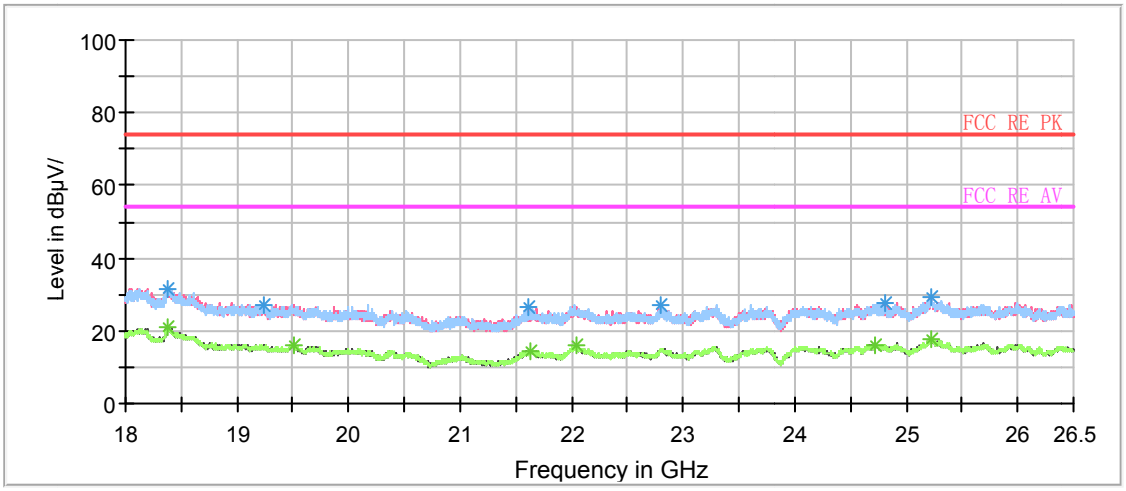
Radiates Emission from 3GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
4025.625000	41.1	101.0	V	0.0	41.7	-0.6	32.9	74
5341.875000	43.7	101.0	V	151.0	47.5	-3.8	30.3	74
7228.125000	46.9	101.0	H	225.0	55.6	-8.7	27.1	74
9798.750000	48.8	101.0	H	194.0	61.1	-12.3	25.2	74
13006.875000	51.7	101.0	H	136.0	67.9	-16.2	22.3	74
17971.875000	60.7	101.0	V	0.0	85.8	-25.1	13.3	74

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
4012.500000	30.1	101.0	H	106.0	30.6	-0.5	23.9	54
5266.875000	32.7	101.0	H	4.0	36.4	-3.7	21.3	54
6911.250000	35.3	101.0	V	0.0	42.2	-6.9	18.7	54
9798.750000	37.2	101.0	V	284.0	49.5	-12.3	16.8	54
13346.250000	40.7	101.0	H	315.0	56.5	-15.8	13.3	54
17994.375000	49.8	101.0	H	136.0	75.1	-25.3	4.2	54

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

RE 18-26.5GHz PK+AV



Radiates Emission from 18GHz to 26.5GHz

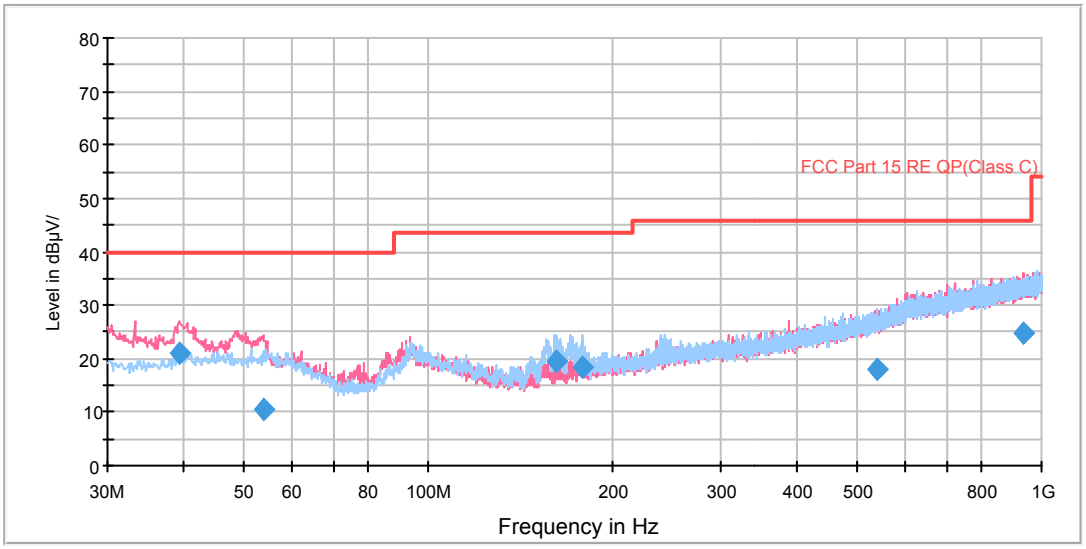
Frequency (MHz)	Peak (dBuV/m)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
18384.625000	31.7	V	350.0	36.5	-4.8	42.3	74
19238.875000	27.3	H	139.0	34.1	-6.8	46.7	74
21612.500000	26.5	V	283.0	35.4	-8.9	47.5	74
22796.125000	27.2	H	182.0	34.6	-7.4	46.8	74
24802.125000	27.4	V	300.0	34.0	-6.6	46.6	74
25223.937500	29.2	H	30.0	35.1	-5.9	44.8	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	V	123.0	25.8	-4.8	33.0	54
19501.312500	16.2	H	87.0	23.7	-7.5	37.8	54
21625.250000	14.4	V	341.0	23.5	-9.1	39.6	54
22042.812500	15.9	V	267.0	23.9	-8.0	38.1	54
24728.812500	16.2	V	316.0	22.4	-6.2	37.8	54
25229.250000	17.9	V	131.0	23.8	-5.9	36.1	54

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

GFSK-Channel 39

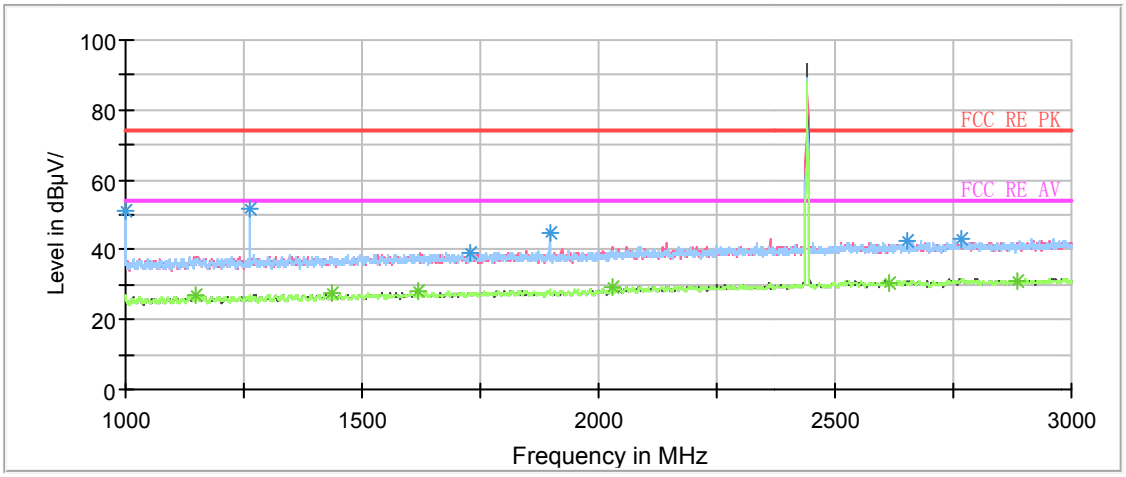
FCC RE 0.03-1GHz QP Class C



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)
39.455000	20.9	100.0	V	39.0	34.0	-13.1	19.1	40.0
54.086250	10.5	100.0	V	270.0	23.3	-12.8	29.5	40.0
161.925000	19.6	125.0	H	283.0	29.4	-9.8	23.9	43.5
178.646250	18.2	125.0	H	286.0	29.0	-10.8	25.3	43.5
538.848750	18.1	100.0	H	37.0	38.9	-20.8	27.9	46.0
937.390000	24.9	100.0	V	241.0	50.8	-25.9	21.1	46.0



Radiates Emission from 1GHz to 3GHz

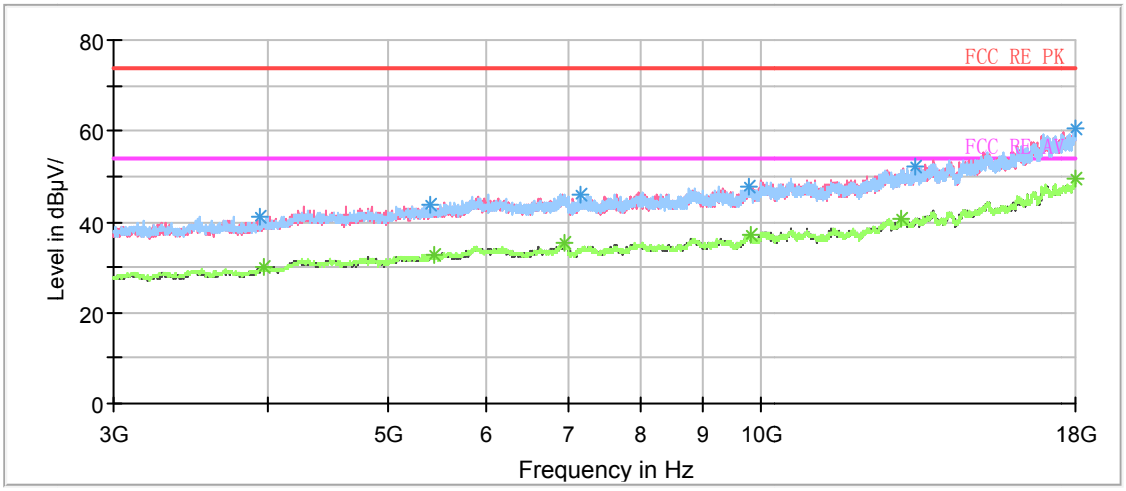
Note: The signal beyond the limit is carrier.

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1001.500000	37.4	100.0	H	4.0	48.8	-11.4	36.6	74
1263.000000	37.3	100.0	H	4.0	47.6	-10.3	36.7	74
1729.500000	37.5	100.0	H	242.0	46.1	-8.6	36.5	74
1896.500000	39.2	100.0	H	4.0	47.3	-8.1	34.8	74
2651.500000	40.7	100.0	H	242.0	45.3	-4.6	33.3	74
2767.000000	40.3	100.0	H	177.0	44.6	-4.3	33.7	74

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1150.000000	27.3	100.0	H	135.0	38.1	-10.8	26.7	54
1436.000000	27.4	100.0	H	10.0	37.1	-9.7	26.6	54
1619.500000	28.1	100.0	V	200.0	37.0	-8.9	25.9	54
2029.000000	29.4	100.0	H	81.0	37.0	-7.6	24.6	54
2614.500000	30.5	100.0	H	60.0	35.1	-4.6	23.5	54
2886.000000	31.2	100.0	H	0.0	35.4	-4.2	22.8	54

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

RE 3-18GHz PK+AV



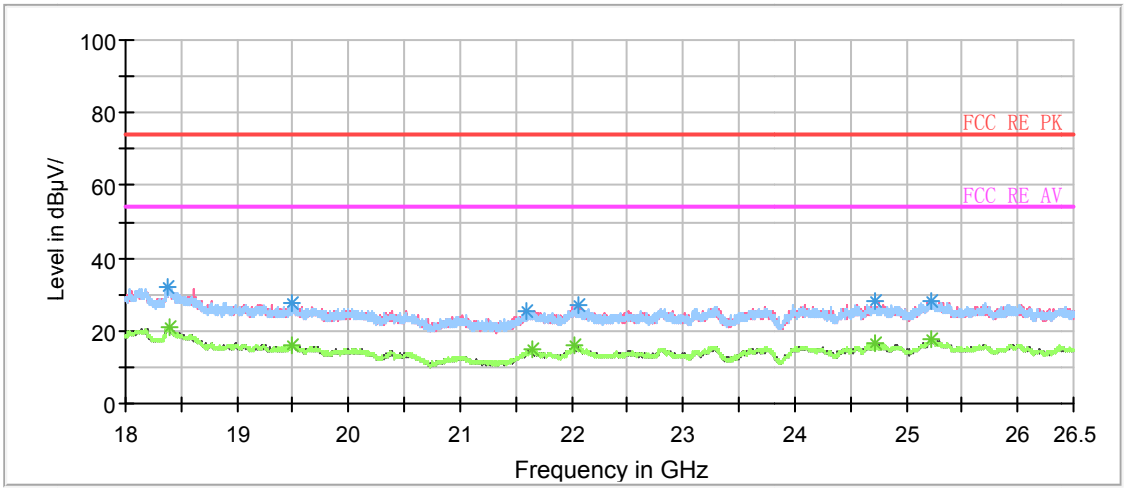
Radiates Emission from 3GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
3941.250000	41.2	101.0	H	38.0	41.3	-0.1	32.8	74
5415.000000	43.7	101.0	V	265.0	47.4	-3.7	30.3	74
7151.250000	45.9	101.0	H	0.0	54.3	-8.4	28.1	74
9798.750000	47.8	101.0	H	193.0	60.1	-12.3	26.2	74
13336.875000	52.0	101.0	H	179.0	67.7	-15.7	22.0	74
17988.750000	60.5	101.0	V	0.0	85.8	-25.3	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)
3971.250000	30.2	101.0	H	298.0	30.5	-0.3	23.8	54
5448.750000	32.8	101.0	V	0.0	36.6	-3.8	21.2	54
6958.125000	35.3	101.0	H	179.0	41.9	-6.6	18.7	54
9817.500000	37.2	101.0	V	0.0	49.3	-12.1	16.8	54
12999.375000	40.8	101.0	H	8.0	57.0	-16.2	13.2	54
17998.125000	49.6	101.0	V	177.0	75.0	-25.4	4.4	54

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

RE 18-26.5GHz PK+AV



Radiates Emission from 18GHz to 26.5GHz

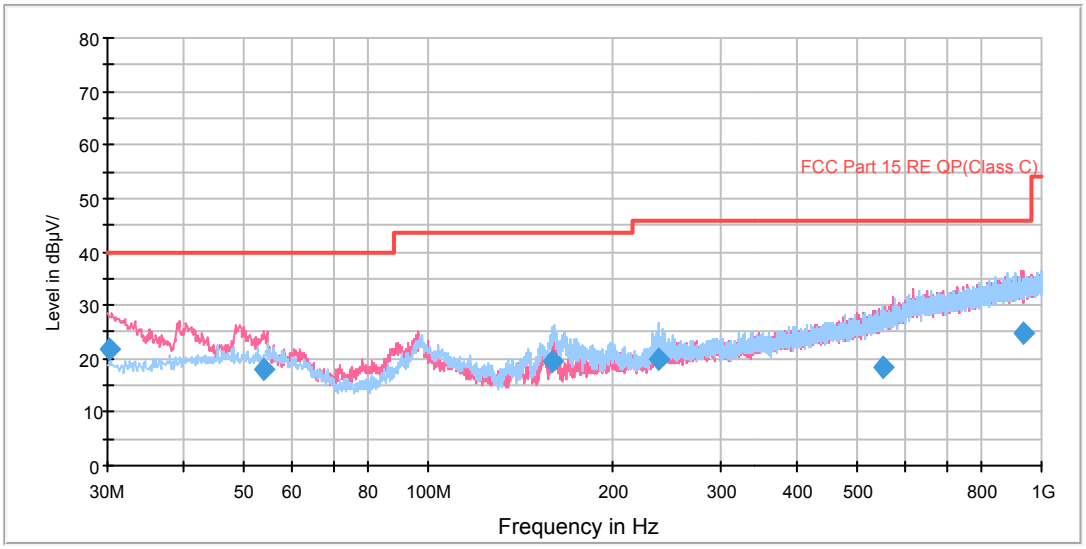
Frequency (MHz)	Peak (dBuV/m)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
18370.812500	32.2	V	136.0	37.0	-4.8	41.8	74
19488.562500	27.9	H	0.0	35.6	-7.7	46.1	74
21597.625000	25.4	V	321.0	34.1	-8.7	48.6	74
22067.250000	27.0	V	136.0	35.1	-8.1	47.0	74
24722.437500	28.1	V	203.0	34.3	-6.2	45.9	74
25219.687500	28.3	H	45.0	34.3	-6.0	45.7	74

Frequency (MHz)	Average (dBuV/m)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
18393.125000	21.1	H	96.0	26.0	-4.9	32.9	54
19489.625000	16.0	V	0.0	23.6	-7.6	38.0	54
21650.750000	14.7	H	45.0	23.9	-9.2	39.3	54
22026.875000	16.0	V	0.0	23.9	-7.9	38.0	54
24725.625000	16.5	H	0.0	22.7	-6.2	37.5	54
25232.437500	17.9	H	36.0	23.8	-5.9	36.1	54

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

GFSK-Channel 78

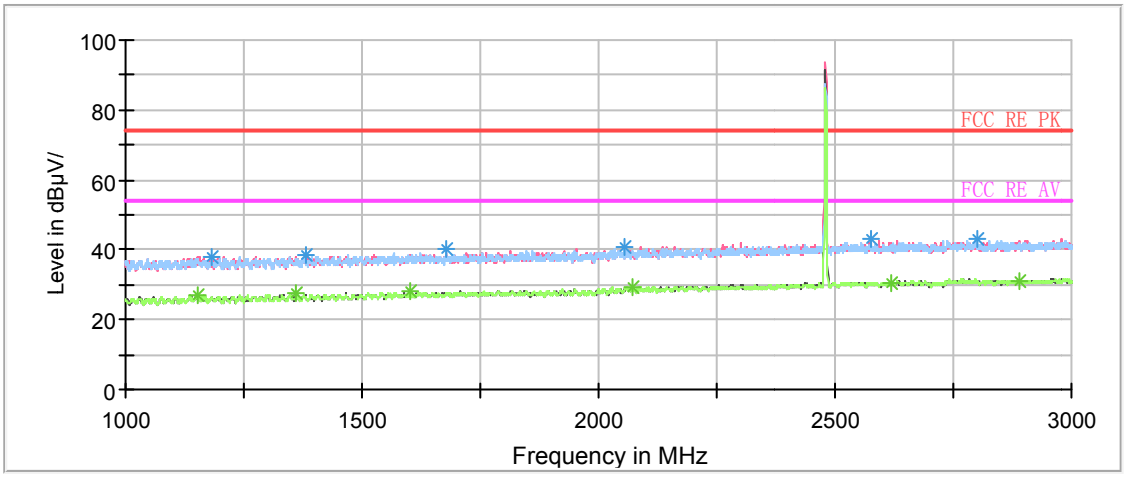
FCC RE 0.03-1GHz QP Class C



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)
30.280000	21.8	100.0	V	263.0	33.7	-11.9	18.2	40.0
54.053750	18.0	100.0	V	284.0	30.8	-12.8	22.0	40.0
159.865000	19.6	125.0	H	293.0	29.3	-9.7	23.9	43.5
238.422500	20.0	125.0	H	87.0	33.7	-13.7	26.0	46.0
550.078750	18.3	125.0	H	120.0	39.3	-21.0	27.7	46.0
937.146250	25.0	100.0	V	22.0	50.9	-25.9	21.0	46.0



Radiates Emission from 1GHz to 3GHz

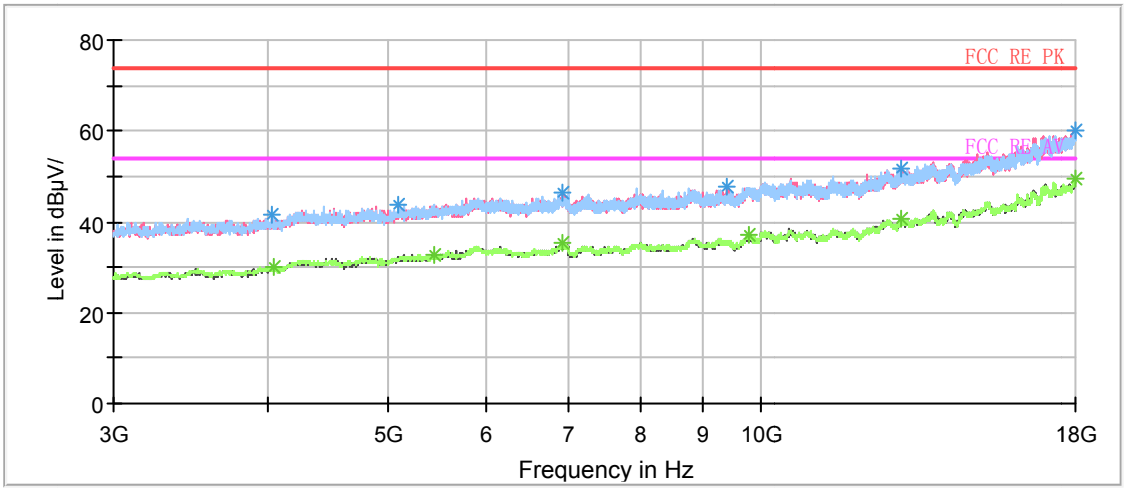
Note: The signal beyond the limit is carrier.

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1181.500000	37.9	100.0	H	106.0	48.6	-10.7	36.1	74
1379.500000	38.3	100.0	V	357.0	48.2	-9.9	35.7	74
1677.500000	40.1	100.0	H	23.0	48.9	-8.8	33.9	74
2054.000000	40.7	100.0	H	180.0	48.1	-7.4	33.3	74
2575.500000	43.0	100.0	V	352.0	47.7	-4.7	31.0	74
2799.000000	43.0	100.0	H	85.0	47.1	-4.1	31.0	74

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1153.500000	27.2	100.0	V	273.0	38.0	-10.8	26.8	54
1360.500000	27.3	100.0	H	11.0	37.3	-10.0	26.7	54
1602.000000	27.9	100.0	V	357.0	36.9	-9.0	26.1	54
2071.500000	29.2	100.0	H	0.0	36.5	-7.3	24.8	54
2617.000000	30.6	100.0	H	95.0	35.2	-4.6	23.4	54
2891.500000	31.0	100.0	V	295.0	35.2	-4.2	23.0	54

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

RE 3-18GHz PK+AV



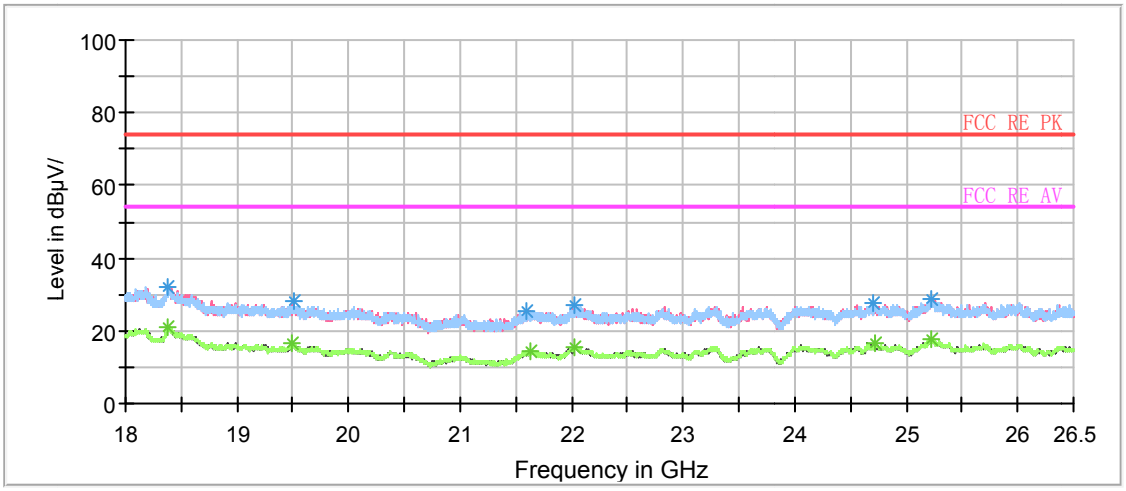
Radiates Emission from 3GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
4033.125000	41.3	101.0	H	225.0	41.9	-0.6	32.7	74
5090.625000	43.7	101.0	V	319.0	47.2	-3.5	30.3	74
6928.125000	46.3	101.0	V	161.0	53.1	-6.8	27.7	74
9388.125000	47.5	101.0	V	305.0	58.5	-11.0	26.5	74
12995.625000	51.6	101.0	H	0.0	67.8	-16.2	22.4	74
17998.125000	60.3	101.0	V	72.0	85.7	-25.4	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)
4040.625000	30.1	101.0	V	0.0	30.7	-0.6	23.9	54
5443.125000	32.7	101.0	V	0.0	36.5	-3.8	21.3	54
6928.125000	35.2	101.0	H	80.0	42.0	-6.8	18.8	54
9802.500000	37.1	101.0	H	138.0	49.4	-12.3	16.9	54
13003.125000	40.6	101.0	V	347.0	56.8	-16.2	13.4	54
17998.125000	49.7	101.0	H	0.0	75.1	-25.4	4.3	54

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

RE 18-26.5GHz PK+AV



Radiates Emission from 18GHz to 26.5GHz

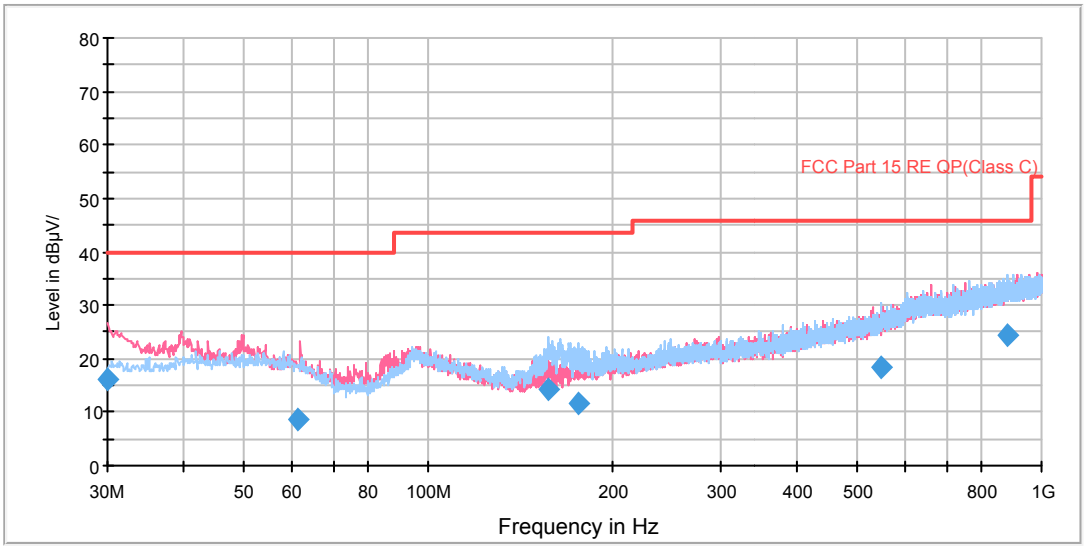
Frequency (MHz)	Peak (dBuV/m)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
18379.312500	32.2	H	110.0	37.0	-4.8	41.8	74
19504.500000	28.0	V	234.0	35.5	-7.5	46.0	74
21594.437500	25.5	H	253.0	34.2	-8.7	48.5	74
22029.000000	27.0	V	0.0	35.0	-8.0	47.0	74
24706.500000	27.6	H	52.0	34.3	-6.7	46.4	74
25230.312500	28.8	V	225.0	34.7	-5.9	45.2	74

Frequency (MHz)	Average (dBuV/m)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
18381.437500	20.9	V	184.0	25.7	-4.8	33.1	54
19489.625000	16.7	V	357.0	24.3	-7.6	37.3	54
21632.687500	14.6	H	60.0	23.7	-9.1	39.4	54
22025.812500	15.7	H	2.0	23.6	-7.9	38.3	54
24728.812500	16.6	V	241.0	22.8	-6.2	37.4	54
25232.437500	17.9	V	300.0	23.8	-5.9	36.1	54

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

EDR-Channel 0

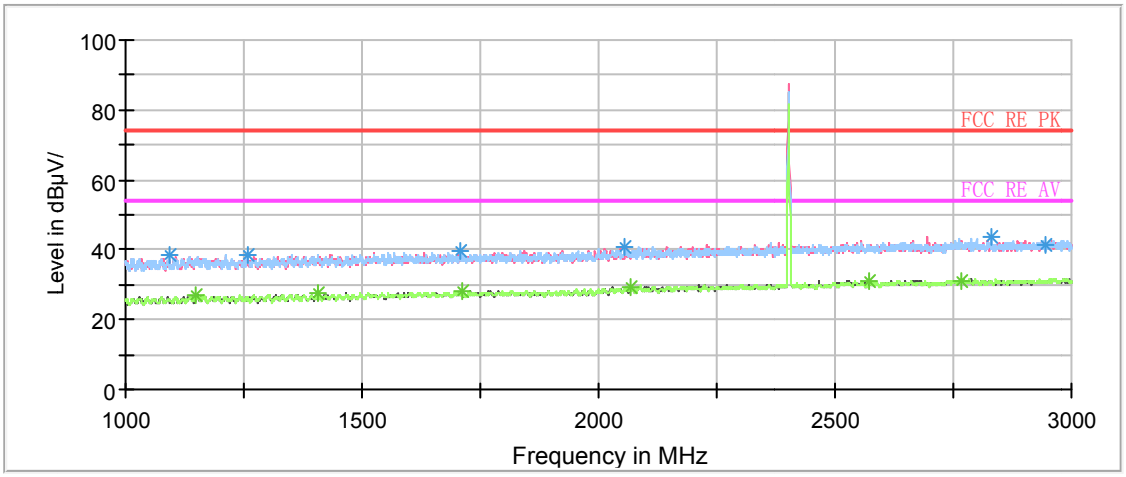
FCC RE 0.03-1GHz QP Class C



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)
30.000000	16.3	100.0	V	295.0	28.2	-11.9	23.7	40.0
61.410000	8.6	100.0	V	233.0	20.5	-11.9	31.4	40.0
157.027500	14.3	125.0	H	284.0	23.8	-9.5	29.2	43.5
176.188750	11.6	125.0	H	284.0	22.2	-10.6	31.9	43.5
546.935000	18.2	100.0	H	319.0	39.1	-20.9	27.8	46.0
882.022500	24.4	125.0	H	287.0	49.8	-25.4	21.6	46.0



Radiates Emission from 1GHz to 3GHz

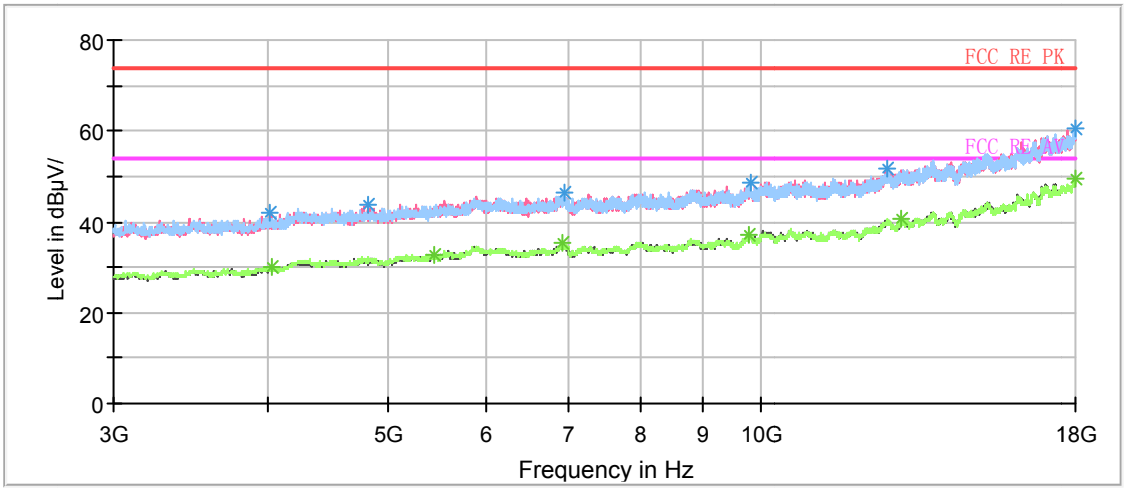
Note: The signal beyond the limit is carrier.

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1150.000000	37.0	100.0	V	239.0	47.8	-10.8	37.0	74
1406.000000	38.4	100.0	H	0.0	48.2	-9.8	35.6	74
1710.500000	37.7	100.0	V	354.0	46.4	-8.7	36.3	74
2069.500000	39.2	100.0	V	354.0	46.5	-7.3	34.8	74
2573.000000	40.9	100.0	V	239.0	45.6	-4.7	33.1	74
2767.500000	42.0	100.0	H	3.0	46.3	-4.3	32.0	74

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1150.000000	27.1	100.0	V	239.0	37.9	-10.8	26.9	54
1406.000000	27.5	100.0	H	0.0	37.3	-9.8	26.5	54
1710.500000	28.0	100.0	V	354.0	36.7	-8.7	26.0	54
2069.500000	29.4	100.0	V	354.0	36.7	-7.3	24.6	54
2573.000000	30.9	100.0	V	239.0	35.6	-4.7	23.1	54
2767.500000	31.0	100.0	H	3.0	35.3	-4.3	23.0	54

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

RE 3-18GHz PK+AV



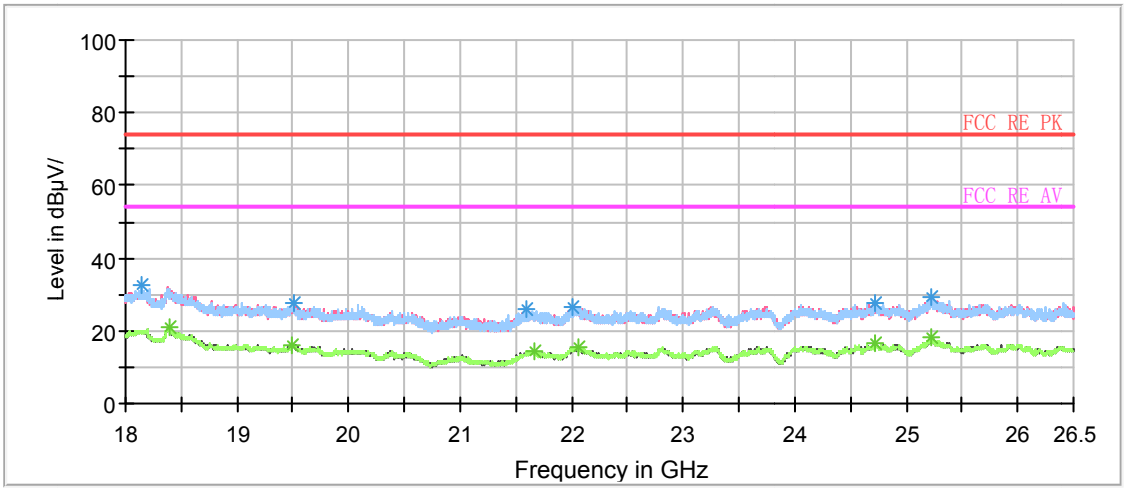
Radiates Emission from 3GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
4020.000000	41.8	101.0	V	191.0	42.3	-0.5	32.2	74
4826.250000	43.8	101.0	V	0.0	46.6	-2.8	30.2	74
6946.875000	46.5	101.0	H	112.0	53.2	-6.7	27.5	74
9845.625000	48.4	101.0	H	5.0	60.2	-11.8	25.6	74
12675.000000	51.7	101.0	V	148.0	66.7	-15.0	22.3	74
17977.500000	60.5	101.0	H	266.0	85.6	-25.1	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)
4029.375000	30.3	101.0	H	46.0	30.9	-0.6	23.7	54
5448.750000	32.8	101.0	H	19.0	36.6	-3.8	21.2	54
6911.250000	35.2	101.0	V	0.0	42.1	-6.9	18.8	54
9810.000000	37.1	101.0	H	312.0	49.3	-12.2	16.9	54
12999.375000	40.6	101.0	H	166.0	56.8	-16.2	13.4	54
17994.375000	49.7	101.0	V	275.0	75.0	-25.3	4.3	54

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

RE 18-26.5GHz PK+AV



Radiates Emission from 18GHz to 26.5GHz

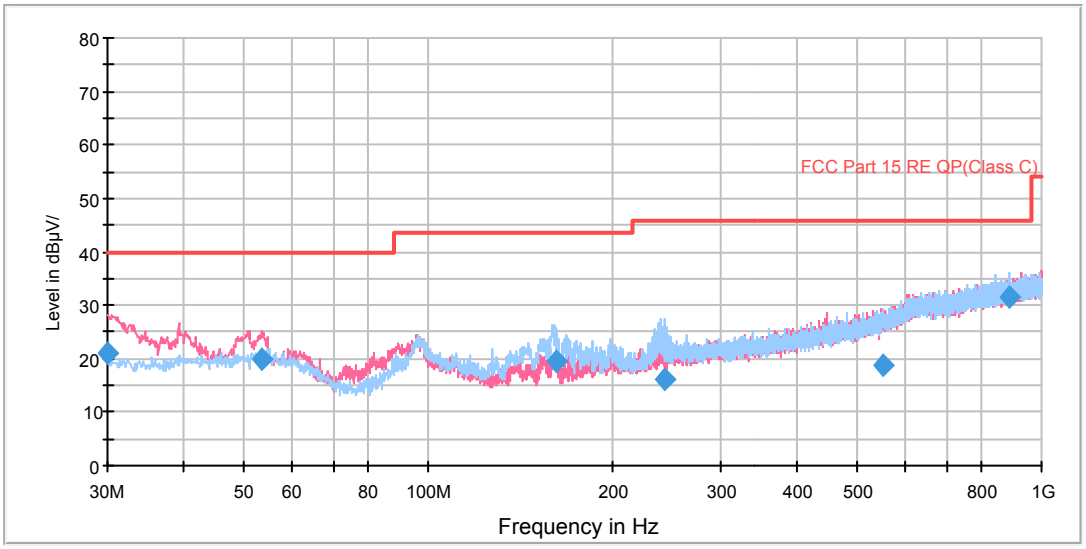
Frequency (MHz)	Peak (dBuV/m)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
18136.000000	32.7	H	168.0	37.6	-4.9	41.3	74
19507.687500	27.3	H	62.0	34.8	-7.5	46.7	74
21601.875000	25.8	H	27.0	34.6	-8.8	48.2	74
22006.687500	26.7	V	353.0	34.9	-8.2	47.3	74
24717.125000	27.7	V	269.0	34.1	-6.4	46.3	74
25228.187500	29.2	V	320.0	35.1	-5.9	44.8	74

Frequency (MHz)	Average (dBuV/m)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
18391.000000	20.8	H	3.0	25.7	-4.9	33.2	54
19493.875000	16.1	H	27.0	23.7	-7.6	37.9	54
21657.125000	14.4	V	227.0	23.6	-9.2	39.6	54
22057.687500	15.6	H	45.0	23.7	-8.1	38.4	54
24724.562500	16.4	H	290.0	22.6	-6.2	37.6	54
25231.375000	18.0	H	264.0	23.9	-5.9	36.0	54

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

EDR-Channel 39

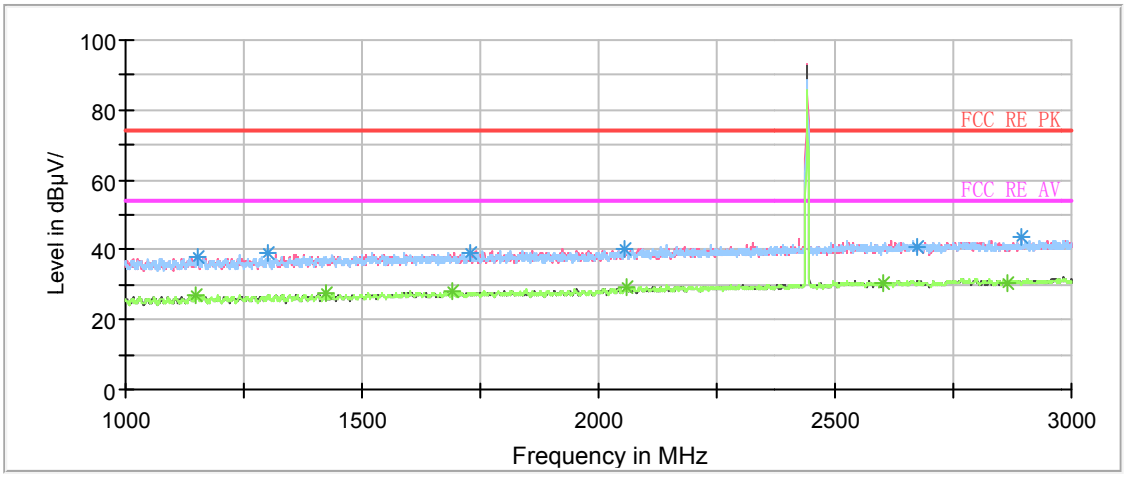
FCC RE 0.03-1GHz QP Class C



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)
30.080000	21.2	100.0	V	295.0	33.1	-11.9	18.8	40.0
53.687500	20.1	100.0	V	296.0	32.9	-12.8	19.9	40.0
161.792500	19.7	100.0	H	298.0	29.5	-9.8	23.8	43.5
242.552500	16.2	125.0	H	98.0	30.0	-13.8	29.8	46.0
551.976250	18.9	125.0	H	39.0	40.0	-21.1	27.1	46.0
888.006250	31.5	100.0	H	154.0	57.0	-25.5	14.5	46.0



Radiates Emission from 1GHz to 3GHz

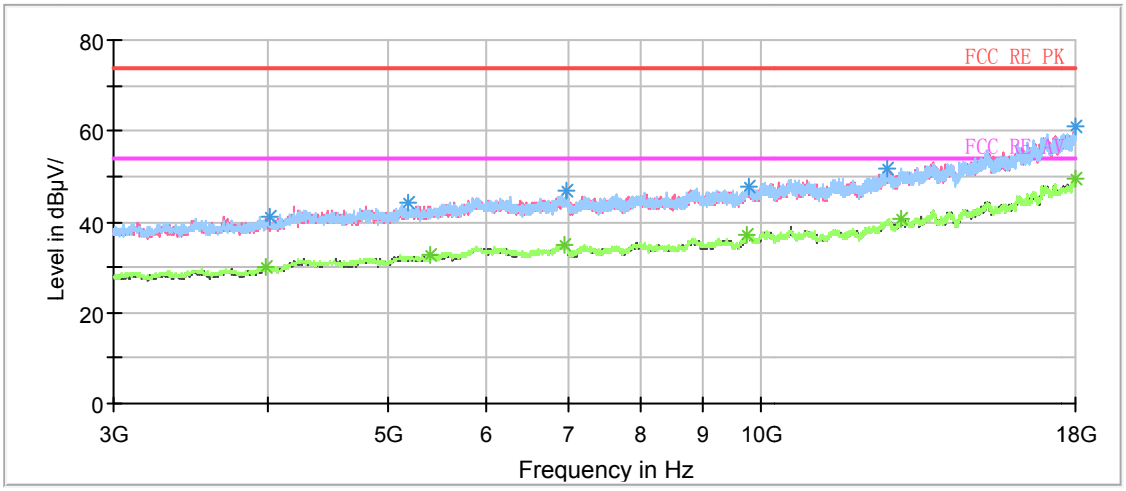
Note: The signal beyond the limit is carrier.

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1150.000000	36.6	100.0	V	236.0	47.4	-10.8	37.4	74
1422.500000	37.1	100.0	V	359.0	46.9	-9.8	36.9	74
1692.500000	36.6	100.0	V	345.0	45.3	-8.7	37.4	74
2058.000000	39.5	100.0	V	356.0	46.9	-7.4	34.5	74
2600.500000	41.6	100.0	V	310.0	46.2	-4.6	32.4	74
2866.500000	40.4	100.0	V	358.0	44.6	-4.2	33.6	74

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1150.000000	26.5	100.0	V	236.0	37.3	-10.8	27.5	54
1422.500000	26.3	100.0	V	359.0	36.4	-10.1	27.7	54
1692.500000	27.2	100.0	V	345.0	35.8	-8.6	26.8	54
2058.000000	28.7	100.0	V	356.0	36.1	-7.4	25.3	54
2600.500000	30.3	100.0	V	310.0	34.9	-4.6	23.7	54
2866.500000	30.3	100.0	V	358.0	34.5	-4.2	23.7	54

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

RE 3-18GHz PK+AV



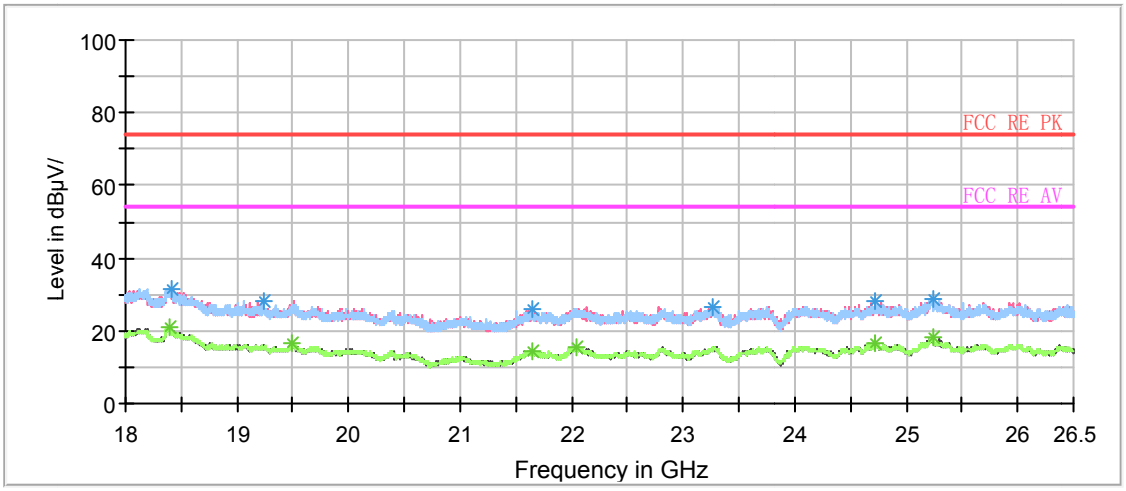
Radiates Emission from 3GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
4018.125000	41.2	101.0	V	0.0	41.7	-0.5	32.8	74
5193.750000	44.1	101.0	H	81.0	47.7	-3.6	29.9	74
6978.750000	46.6	101.0	V	261.0	53.1	-6.5	27.4	74
9783.750000	47.7	101.0	H	38.0	59.8	-12.1	26.3	74
12682.500000	51.6	101.0	H	239.0	66.6	-15.0	22.4	74
17992.500000	61.0	101.0	V	319.0	86.3	-25.3	13.0	74

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
3988.125000	30.0	101.0	V	333.0	30.4	-0.4	24.0	54
5416.875000	32.8	101.0	V	148.0	36.6	-3.8	21.2	54
6935.625000	35.0	101.0	V	0.0	41.8	-6.8	19.0	54
9751.875000	37.1	101.0	V	0.0	48.8	-11.7	16.9	54
13012.500000	40.6	101.0	H	52.0	56.8	-16.2	13.4	54
17988.750000	49.6	101.0	H	110.0	74.9	-25.3	4.4	54

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

RE 18-26.5GHz PK+AV



Radiates Emission from 18GHz to 26.5GHz

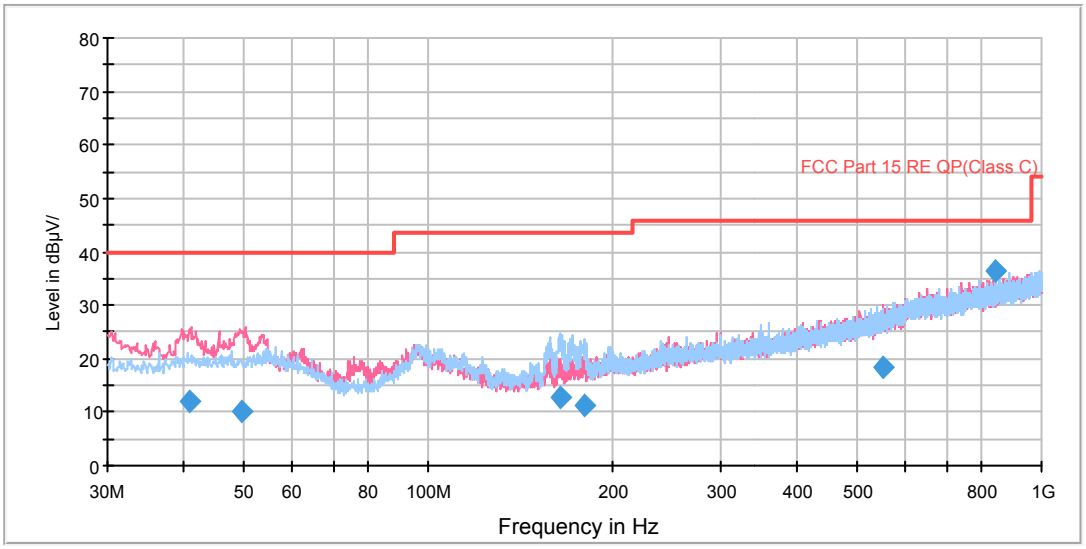
Frequency (MHz)	Peak (dBuV/m)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
18405.875000	31.8	H	62.0	36.8	-5.0	42.2	74
19243.125000	28.1	H	12.0	34.9	-6.8	45.9	74
21650.750000	26.2	V	191.0	35.4	-9.2	47.8	74
23264.687500	26.7	V	275.0	34.0	-7.3	47.3	74
24724.562500	27.9	V	242.0	34.1	-6.2	46.1	74
25240.937500	28.7	H	205.0	35.0	-6.3	45.3	74

Frequency (MHz)	Average (dBuV/m)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
18403.750000	20.8	V	106.0	25.7	-4.9	33.2	54
19497.062500	16.3	V	122.0	23.8	-7.5	37.7	54
21648.625000	14.4	V	258.0	23.6	-9.2	39.6	54
22051.312500	15.6	H	87.0	23.7	-8.1	38.4	54
24724.562500	16.6	V	242.0	22.8	-6.2	37.4	54
25243.062500	18.1	H	45.0	24.5	-6.4	35.9	54

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

EDR-Channel 78

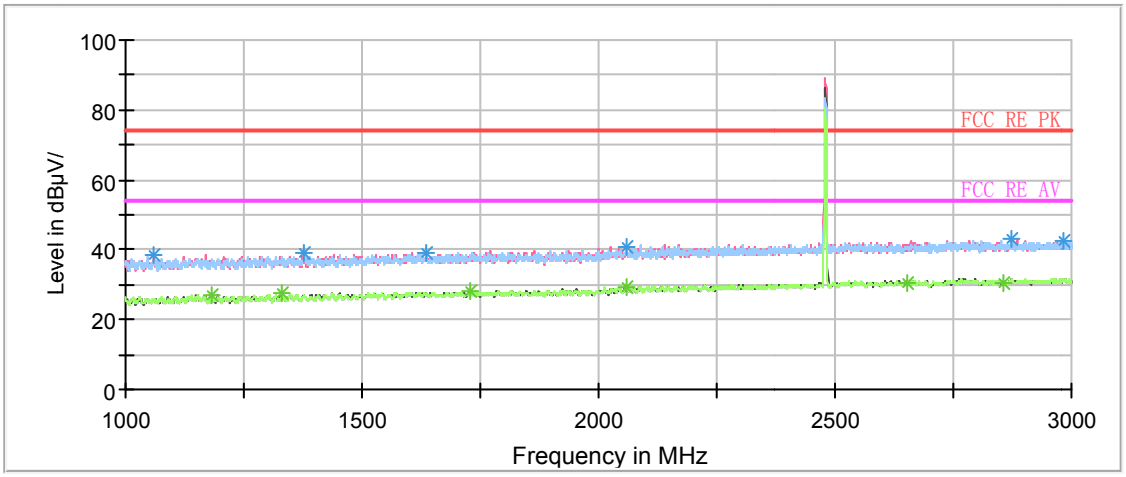
FCC RE 0.03-1GHz QP Class C



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)
40.753750	12.1	100.0	V	320.0	25.3	-13.2	27.9	40.0
49.688750	10.0	100.0	V	17.0	23.0	-13.0	30.0	40.0
164.018750	12.7	125.0	H	297.0	22.6	-9.9	30.8	43.5
179.507500	11.1	125.0	H	272.0	21.9	-10.8	32.4	43.5
550.846250	18.4	125.0	V	22.0	39.4	-21.0	27.6	46.0
839.991250	36.2	100.0	H	28.0	61.0	-24.8	9.8	46.0



Radiates Emission from 1GHz to 3GHz

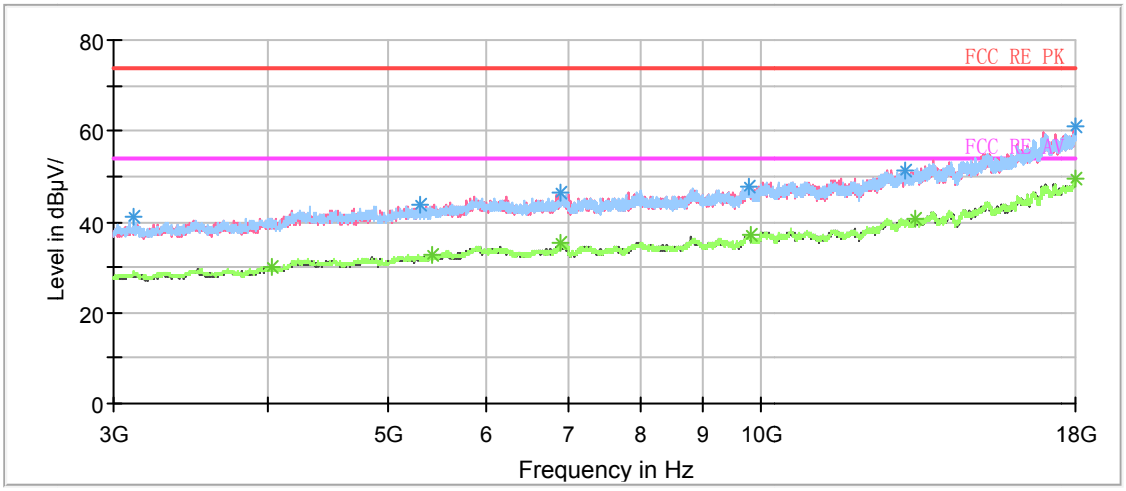
Note: The signal beyond the limit is carrier.

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1181.500000	36.0	100.0	H	1.0	46.7	-10.7	38.0	74
1332.000000	37.5	100.0	V	274.0	47.5	-10.0	36.5	74
1730.500000	37.8	100.0	H	2.0	46.4	-8.6	36.2	74
2058.500000	38.8	100.0	H	92.0	46.2	-7.4	35.2	74
2652.000000	39.8	100.0	V	0.0	44.4	-4.6	34.2	74
2856.500000	40.6	100.0	V	242.0	44.8	-4.2	33.4	74

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1181.500000	25.6	100.0	V	350.0	36.7	-11.1	28.4	54
1332.000000	26.5	100.0	H	278.0	36.4	-9.9	27.5	54
1730.500000	27.5	100.0	H	49.0	36.4	-8.9	26.5	54
2058.500000	28.7	100.0	H	1.0	36.1	-7.4	25.3	54
2652.000000	30.8	100.0	V	0.0	35.0	-4.2	23.2	54
2856.500000	31.4	100.0	V	200.0	35.4	-4.0	22.6	54

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

RE 3-18GHz PK+AV



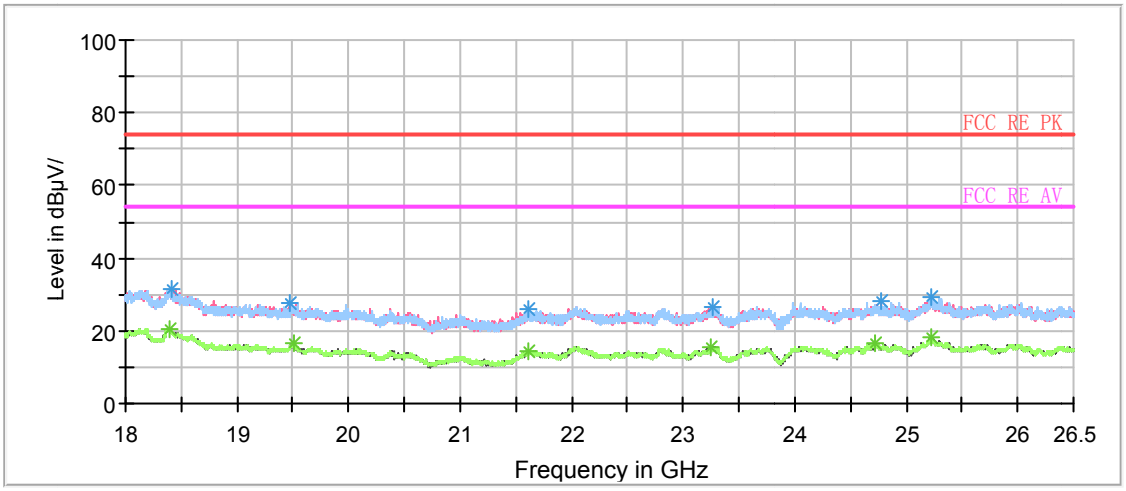
Radiates Emission from 3GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
3118.125000	41.0	101.0	H	40.0	42.5	-1.5	33.0	74
5315.625000	43.7	101.0	H	0.0	47.5	-3.8	30.3	74
6898.125000	46.2	101.0	V	194.0	53.2	-7.0	27.8	74
9800.625000	47.8	101.0	H	111.0	60.1	-12.3	26.2	74
13093.125000	51.4	101.0	H	0.0	67.6	-16.2	22.6	74
17990.625000	60.9	101.0	H	55.0	86.2	-25.3	13.1	74

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
4025.625000	30.0	101.0	V	0.0	30.6	0.6	24.0	54
5439.375000	32.6	101.0	V	305.0	36.4	3.8	21.4	54
6905.625000	35.2	101.0	V	235.0	42.1	6.9	18.8	54
9845.625000	37.1	101.0	H	0.0	48.9	11.8	16.9	54
13350.000000	40.8	101.0	H	125.0	56.6	15.8	13.2	54
17986.875000	49.5	101.0	H	139.0	74.7	25.2	4.5	54

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

RE 18-26.5GHz PK+AV



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)
18410.125000	31.4	H	24.0	36.4	-5.0	42.6	74
19472.625000	27.6	V	304.0	35.5	-7.9	46.4	74
21612.500000	25.8	H	203.0	34.7	-8.9	48.2	74
23257.250000	26.7	V	312.0	34.1	-7.4	47.3	74
24772.375000	28.0	V	272.0	34.8	-6.8	46.0	74
25229.250000	29.1	V	312.0	35.0	-5.9	44.9	74

Frequency (MHz)	Average (dBuV/m)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
18399.500000	20.7	H	24.0	25.6	-4.9	33.3	54
19508.750000	16.3	V	114.0	23.8	-7.5	37.7	54
21608.250000	14.5	V	272.0	23.3	-8.8	39.5	54
23253.000000	15.5	V	0.0	23.0	-7.5	38.5	54
24729.875000	16.4	V	0.0	22.6	-6.2	37.6	54
25225.000000	18.1	H	130.0	24.0	-5.9	35.9	54

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

4.11 Conducted Emission

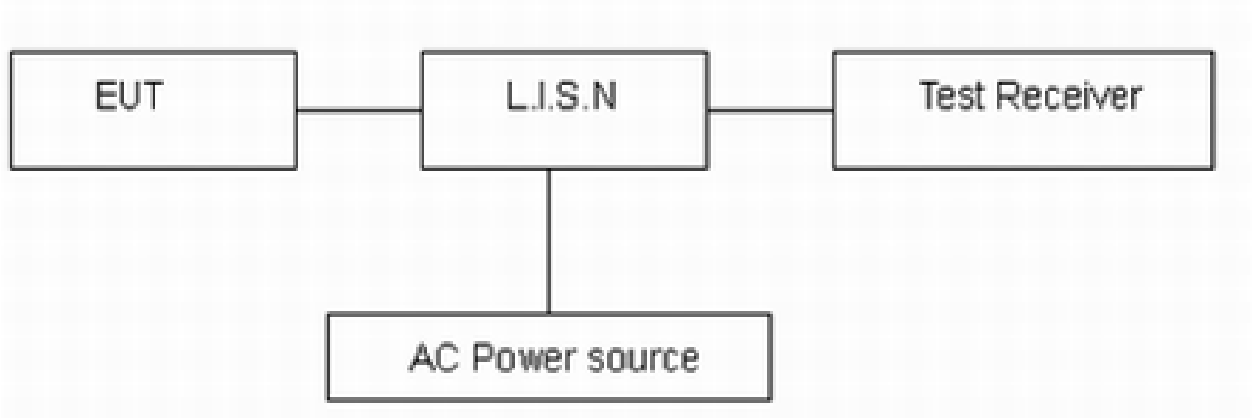
Ambient condition

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.		

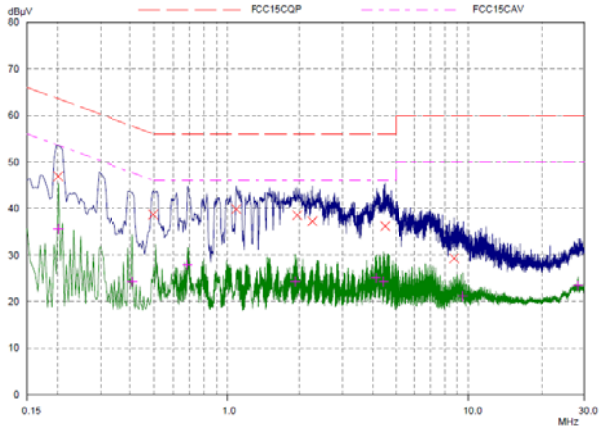
Measurement Uncertainty

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: L Line

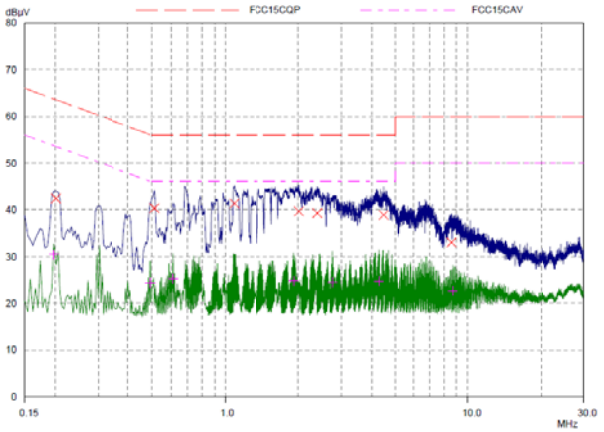


Final Measurement Results

Frequency MHz	QP Level dBµV	QP Limit dBµV	QP Delta dB	Phase -	PE -
0.20078	46.90	63.58	16.68	L1	gnd
0.49765	38.70	56.04	17.34	L1	gnd
1.08359	39.88	56.00	16.12	L1	gnd
1.95859	38.59	56.00	17.41	L1	gnd
2.25937	37.24	56.00	18.76	L1	gnd
4.49375	36.21	56.00	19.79	L1	gnd
8.74765	29.28	60.00	30.72	L1	gnd

Frequency MHz	AV Level dBµV	AV Limit dBµV	AV Delta dB	Phase -	PE -
0.20078	35.61	53.58	17.97	L1	gnd
0.40781	24.27	47.69	23.42	L1	gnd
0.68515	27.92	46.00	18.08	L1	gnd
1.92343	24.32	46.00	21.68	L1	gnd
4.11092	25.13	46.00	20.87	L1	gnd
4.42343	24.30	46.00	21.70	L1	gnd
9.49375	21.20	50.00	28.80	L1	gnd
28.40781	23.45	50.00	26.55	L1	gnd

Basic Rate CH0: N Line

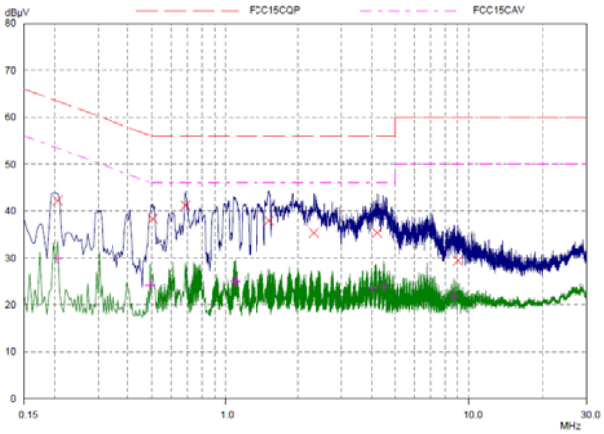


Final Measurement Results

Frequency MHz	QP Level dBµV	QP Limit dBµV	QP Delta dB	Phase -	PE -
0.20078	42.46	63.58	21.12	N	gnd
0.51327	40.38	56.00	15.62	N	gnd
1.08359	41.36	56.00	14.64	N	gnd
2.01328	39.69	56.00	16.31	N	gnd
2.39609	39.30	56.00	16.70	N	gnd
4.4625	38.89	56.00	17.11	N	gnd
8.5914	33.06	60.00	26.94	N	gnd

Frequency MHz	AV Level dBµV	AV Limit dBµV	AV Delta dB	Phase -	PE -
0.19687	30.43	53.74	23.31	N	gnd
0.49375	24.33	46.10	21.77	N	gnd
0.61093	25.16	46.00	20.84	N	gnd
1.91562	24.78	46.00	21.22	N	gnd
2.75937	24.50	46.00	21.50	N	gnd
4.27109	24.77	46.00	21.23	N	gnd
8.68515	22.68	50.00	27.32	N	gnd

Basic Rate CH39: L Line

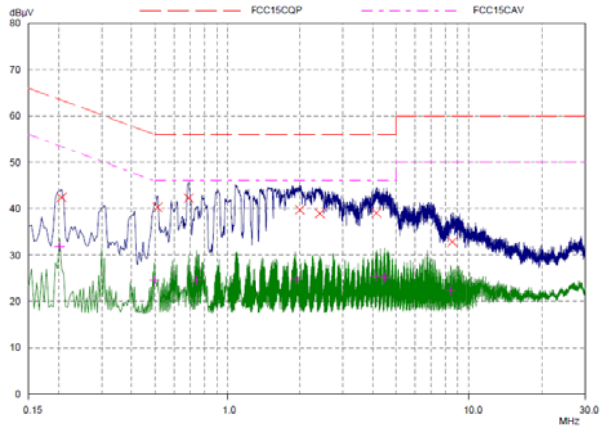


Final Measurement Results

Frequency MHz	QP Level dBµV	QP Limit dBµV	QP Delta dB	Phase -	PE -
0.20468	42.26	63.42	21.16	L1	gnd
0.50546	38.34	56.00	17.66	L1	gnd
0.68515	41.21	56.00	14.79	L1	gnd
1.52109	37.97	56.00	18.03	L1	gnd
2.32187	35.36	56.00	20.64	L1	gnd
4.20468	35.38	56.00	20.62	L1	gnd
9.025	29.43	60.00	30.57	L1	gnd

Frequency MHz	AV Level dBµV	AV Limit dBµV	AV Delta dB	Phase -	PE -
0.20468	29.77	53.42	23.65	L1	gnd
0.49375	24.25	46.10	21.85	L1	gnd
1.0875	25.00	46.00	21.00	L1	gnd
1.09531	25.07	46.00	20.93	L1	gnd
3.99375	23.62	46.00	22.38	L1	gnd
4.47421	23.80	46.00	22.20	L1	gnd
8.68906	21.96	50.00	28.04	L1	gnd

Basic Rate CH39: N Line

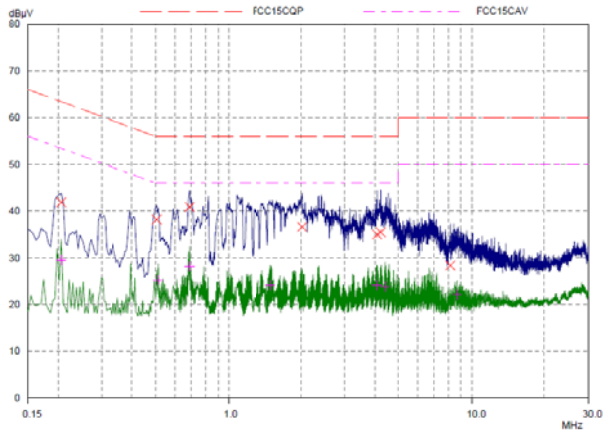


Final Measurement Results

Frequency MHz	QP Level dBµV	QP Limit dBµV	QP Delta dB	Phase -	PE -
0.20468	42.40	63.42	21.02	N	gnd
0.51327	40.30	56.00	15.70	N	gnd
0.68906	42.29	56.00	13.71	N	gnd
1.99765	39.77	56.00	16.23	N	gnd
2.41562	38.98	56.00	17.02	N	gnd
4.13436	39.10	56.00	16.90	N	gnd
8.55234	32.84	60.00	27.16	N	gnd

Frequency MHz	AV Level dBµV	AV Limit dBµV	AV Delta dB	Phase -	PE -
0.20078	31.89	53.58	21.69	N	gnd
0.49765	24.49	46.04	21.55	N	gnd
0.74375	24.63	46.00	21.37	N	gnd
1.91562	24.78	46.00	21.22	N	gnd
4.11092	25.28	46.00	20.72	N	gnd
4.47031	25.21	46.00	20.79	N	gnd
8.42343	22.37	50.00	27.63	N	gnd

Basic Rate CH78: L Line

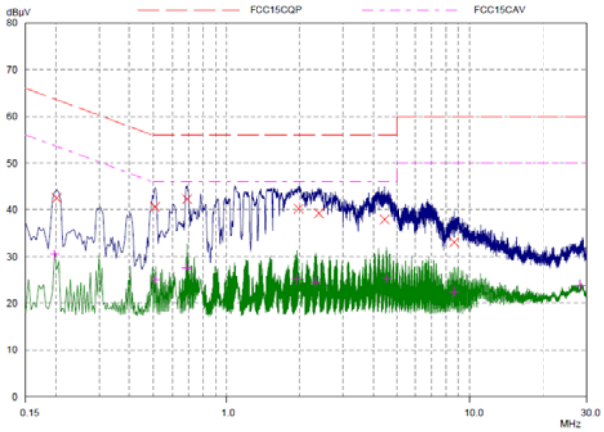


Final Measurement Results

Frequency MHz	QP Level dBµV	QP Limit dBµV	QP Delta dB	Phase -	PE -
0.20468	41.88	63.42	21.54	L1	gnd
0.50546	38.18	56.00	17.82	L1	gnd
0.68906	40.89	56.00	15.11	L1	gnd
2.01718	36.63	56.00	19.37	L1	gnd
4.08359	35.00	56.00	21.00	L1	gnd
4.22031	35.44	56.00	20.56	L1	gnd
8.1617	28.39	60.00	31.61	L1	gnd

Frequency MHz	AV Level dBµV	AV Limit dBµV	AV Delta dB	Phase -	PE -
0.20468	29.46	53.42	23.96	L1	gnd
0.51327	25.24	46.00	20.76	L1	gnd
0.68906	28.08	46.00	17.92	L1	gnd
1.49375	24.16	46.00	21.84	L1	gnd
4.06405	24.13	46.00	21.87	L1	gnd
4.4	23.80	46.00	22.20	L1	gnd
8.68906	22.12	50.00	27.88	L1	gnd

Basic Rate CH78: N Line

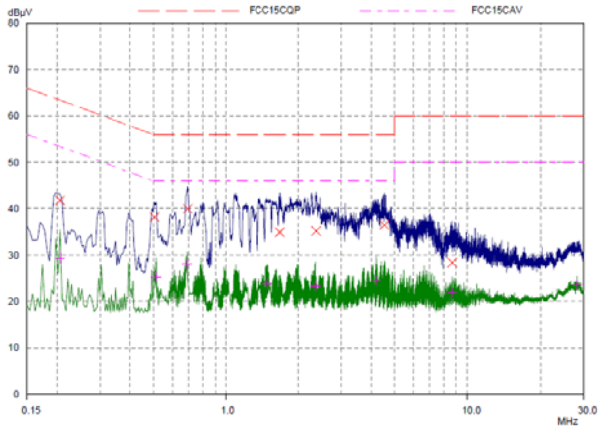


Final Measurement Results

Frequency MHz	QP Level dBµV	QP Limit dBµV	QP Delta dB	Phase -	PE -
0.20078	42.48	63.58	21.10	N	gnd
0.50937	40.66	56.00	15.34	N	gnd
0.68906	42.31	56.00	13.69	N	gnd
1.98203	40.25	56.00	15.75	N	gnd
2.39609	39.26	56.00	16.74	N	gnd
4.43515	37.97	56.00	18.03	N	gnd
8.6539	33.06	60.00	26.94	N	gnd

Frequency MHz	AV Level dBµV	AV Limit dBµV	AV Delta dB	Phase -	PE -
0.19687	30.43	53.74	23.31	N	gnd
0.51327	25.09	46.00	20.91	N	gnd
0.68906	27.65	46.00	18.35	N	gnd
1.95078	25.23	46.00	20.77	N	gnd
2.32968	24.56	46.00	21.44	N	gnd
4.52109	25.29	46.00	20.71	N	gnd
8.65	22.48	50.00	27.52	N	gnd
28.26718	23.79	50.00	26.21	N	gnd

EDR CH0: L Line

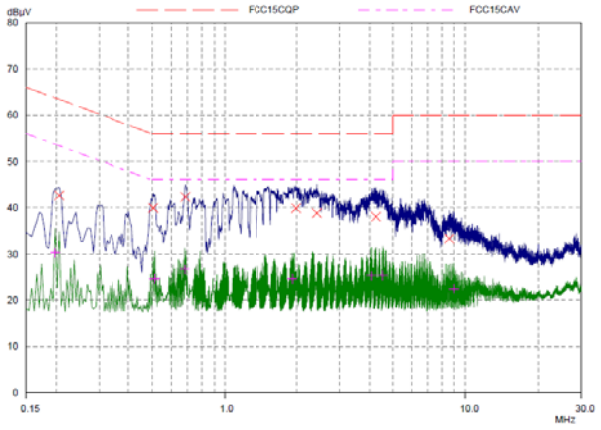


Final Measurement Results

Frequency MHz	QP Level dBµV	QP Limit dBµV	QP Delta dB	Phase -	PE -
0.20468	41.78	63.42	21.64	L1	gnd
0.50546	38.18	56.00	17.82	L1	gnd
0.69296	39.97	56.00	16.03	L1	gnd
1.67734	34.93	56.00	21.07	L1	gnd
2.36875	35.22	56.00	20.78	L1	gnd
4.5289	36.49	56.00	19.51	L1	gnd
8.67734	28.38	60.00	31.62	L1	gnd

Frequency MHz	AV Level dBµV	AV Limit dBµV	AV Delta dB	Phase -	PE -
0.20468	29.33	53.42	24.09	L1	gnd
0.51327	25.16	46.00	20.84	L1	gnd
0.68906	28.08	46.00	17.92	L1	gnd
1.48593	23.91	46.00	22.09	L1	gnd
2.35312	23.27	46.00	22.73	L1	gnd
4.19296	24.53	46.00	21.47	L1	gnd
8.65781	21.96	50.00	28.04	L1	gnd
28.26328	23.58	50.00	26.42	L1	gnd

EDR CH0: N Line

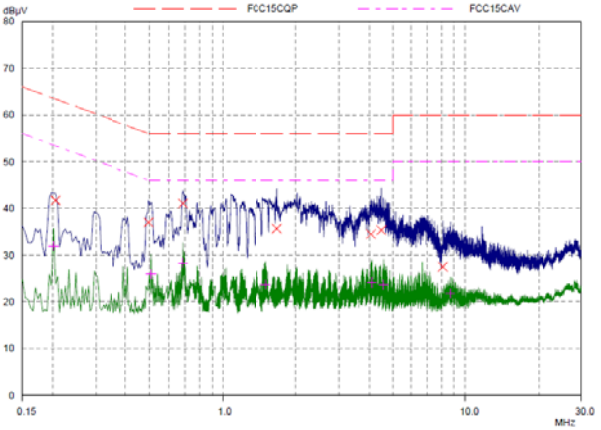


Final Measurement Results

Frequency MHz	QP Level dBµV	QP Limit dBµV	QP Delta dB	Phase -	PE -
0.20468	42.66	63.42	20.76	N	gnd
0.50546	40.00	56.00	16.00	N	gnd
0.68515	42.33	56.00	13.67	N	gnd
1.98593	39.93	56.00	16.07	N	gnd
2.41953	38.82	56.00	17.18	N	gnd
4.23984	38.05	56.00	17.95	N	gnd
8.59531	33.32	60.00	26.68	N	gnd

Frequency MHz	AV Level dBµV	AV Limit dBµV	AV Delta dB	Phase -	PE -
0.19687	30.27	53.74	23.47	N	gnd
0.51327	24.72	46.00	21.28	N	gnd
0.68125	26.68	46.00	19.32	N	gnd
1.91953	24.71	46.00	21.29	N	gnd
4.06405	25.28	46.00	20.72	N	gnd
4.5289	25.36	46.00	20.64	N	gnd
8.97031	22.54	50.00	27.46	N	gnd

EDR CH39: L Line

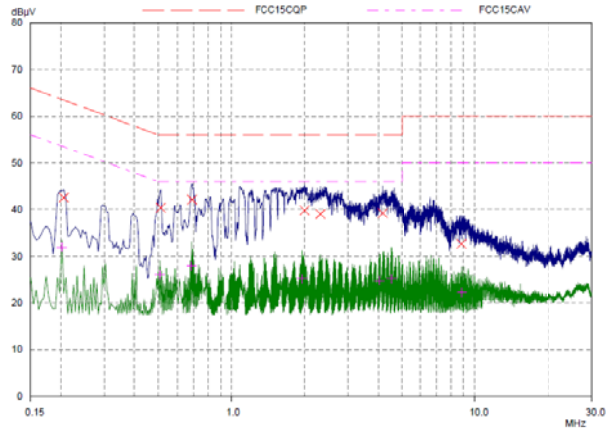


Final Measurement Results

Frequency MHz	QP Level dBµV	QP Limit dBµV	QP Delta dB	Phase -	PE -
0.20468	41.70	63.42	21.72	L1	gnd
0.49765	37.06	56.04	18.98	L1	gnd
0.68515	41.09	56.00	14.91	L1	gnd
1.67343	35.71	56.00	20.29	L1	gnd
4.05234	34.50	56.00	21.50	L1	gnd
4.4664	35.35	56.00	20.65	L1	gnd
8.10312	27.54	60.00	32.46	L1	gnd

Frequency MHz	AV Level dBµV	AV Limit dBµV	AV Delta dB	Phase -	PE -
0.20078	31.96	53.58	21.62	L1	gnd
0.50937	25.99	46.00	20.01	L1	gnd
0.68515	28.33	46.00	17.67	L1	gnd
1.50546	23.74	46.00	22.26	L1	gnd
4.08359	24.13	46.00	21.87	L1	gnd
4.56406	23.63	46.00	22.37	L1	gnd
8.68515	21.86	50.00	28.14	L1	gnd

EDR CH39: N Line

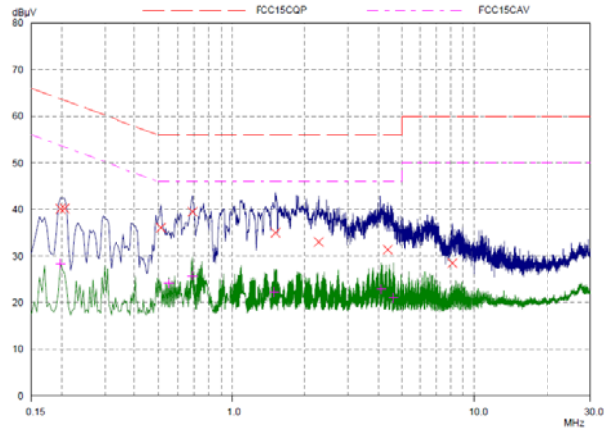


Final Measurement Results

Frequency MHz	QP Level dBµV	QP Limit dBµV	QP Delta dB	Phase -	PE -
0.20468	42.54	63.42	20.88	N	gnd
0.51327	40.42	56.00	15.58	N	gnd
0.68906	42.11	56.00	13.89	N	gnd
1.99765	39.79	56.00	16.21	N	gnd
2.31796	39.02	56.00	16.98	N	gnd
4.16171	39.22	56.00	16.78	N	gnd
8.82968	32.64	60.00	27.36	N	gnd

Frequency MHz	AV Level dBµV	AV Limit dBµV	AV Delta dB	Phase -	PE -
0.20078	31.96	53.58	21.62	N	gnd
0.50937	25.99	46.00	20.01	N	gnd
0.68515	27.87	46.00	18.13	N	gnd
1.95078	25.15	46.00	20.85	N	gnd
4.03671	24.76	46.00	21.24	N	gnd
4.51718	25.14	46.00	20.86	N	gnd
8.86875	22.24	50.00	27.76	N	gnd

EDR CH78: L Line

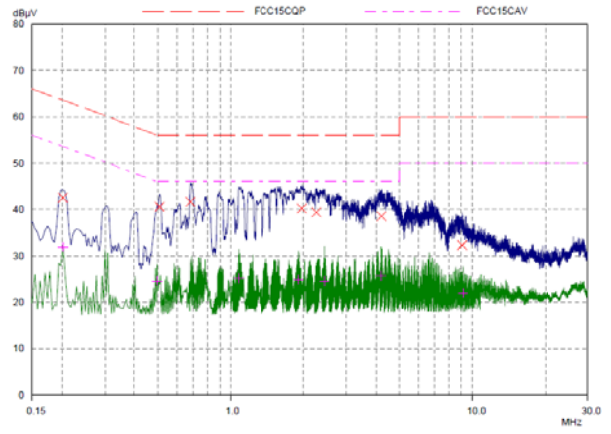


Final Measurement Results

Frequency MHz	QP Level dBµV	QP Limit dBµV	QP Delta dB	Phase -	PE -
0.19687	40.16	63.74	23.58	L1	gnd
0.20468	40.22	63.42	23.20	L1	gnd
0.51327	36.10	56.00	19.90	L1	gnd
0.68906	39.51	56.00	16.49	L1	gnd
1.52109	35.01	56.00	20.99	L1	gnd
2.28281	33.04	56.00	22.96	L1	gnd
4.36484	31.37	56.00	24.63	L1	gnd
8.14608	28.51	60.00	31.49	L1	gnd

Frequency MHz	AV Level dBµV	AV Limit dBµV	AV Delta dB	Phase -	PE -
0.19687	28.27	53.74	25.47	L1	gnd
0.55234	24.09	46.00	21.91	L1	gnd
0.68906	25.78	46.00	20.22	L1	gnd
1.50156	22.31	46.00	23.69	L1	gnd
4.10311	22.90	46.00	23.10	L1	gnd
4.59921	21.07	46.00	24.93	L1	gnd

EDR CH78: N Line



Final Measurement Results

Frequency MHz	QP Level dBµV	QP Limit dBµV	QP Delta dB	Phase -	PE -
0.20078	42.52	63.58	21.06	N	gnd
0.50937	40.60	56.00	15.40	N	gnd
0.68125	41.63	56.00	14.37	N	gnd
1.97031	40.23	56.00	15.77	N	gnd
2.26328	39.40	56.00	16.60	N	gnd
4.20078	38.56	56.00	17.44	N	gnd
9.0875	32.31	60.00	27.69	N	gnd

Frequency MHz	AV Level dBµV	AV Limit dBµV	AV Delta dB	Phase -	PE -
0.20078	31.96	53.58	21.62	N	gnd
0.49765	24.56	46.04	21.48	N	gnd
1.07578	25.22	46.00	20.78	N	gnd
1.91171	24.93	46.00	21.07	N	gnd
2.44296	24.49	46.00	21.51	N	gnd
4.18905	25.70	46.00	20.30	N	gnd
9.1539	22.03	50.00	27.97	N	gnd

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	2016-02-08	2016-04-07

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

ANNEX A: EUT Appearance and Test Setup

A.1 EUT Appearance

Front Side

Back Side

a: EUT

Picture 1 EUT

A.2 Test Setup

Below 1GHz

Above 1GHz

Picture 2 Radiated Emission Test Setup

Picture 3 Conducted Emission Test Setup