RF TEST REPORT

Applicant	ZTE Coporation
FCC ID	SRQ-Z815
Product	LTE/WCDMA/GSM Multi-Mode Digital Mobile Phone
Model	Z815
Report No.	RXC1512-0230RF04R1
Issue Date	March 9, 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.

Lingling Kang

Reviewed by: lingling Kang

Kai Xu

Approved by: Kai Xu

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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 5, 2016~ Frequency 5, 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.
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Country:	P. R. China
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2 General Description of Equipment under Test

Client Information

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

General information

Model:	Z815		
MEID:	869278020003663		
HW Version:	u50A		
SW Version:	Z815V0.0.0B01		
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: Li3922T44P6h903546 Power Rating: DC 3.84V, Li-ion		
Adapter	Manufacturer: RUIDE Model: STC-A51A-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)

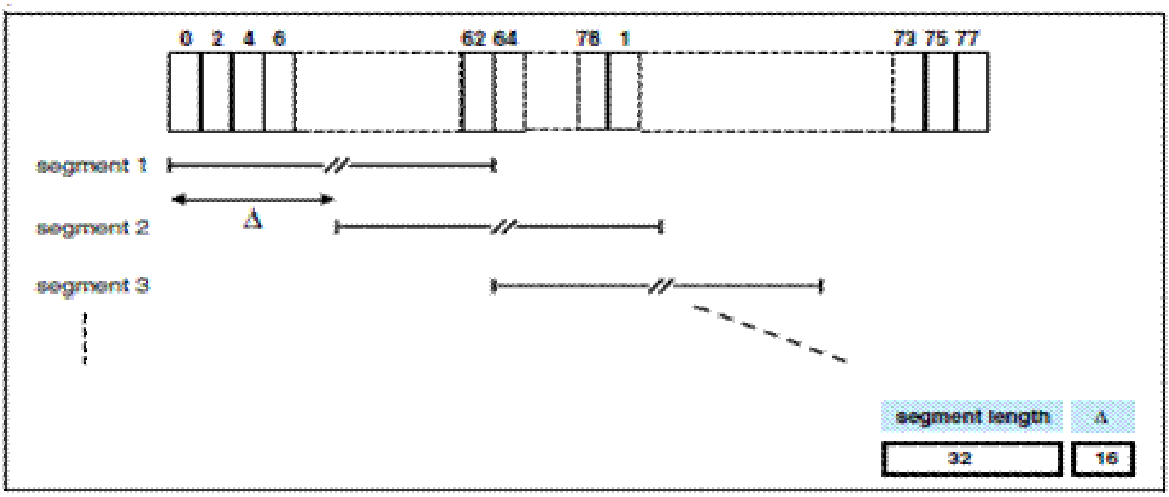
3 Information about the FHSS characteristics

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	DH5 GFSK (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 DH5 for GFSK modulation, For RSE and CSE, only the maximum RF output power is chosen.

4.2 Peak Power Output –Conducted

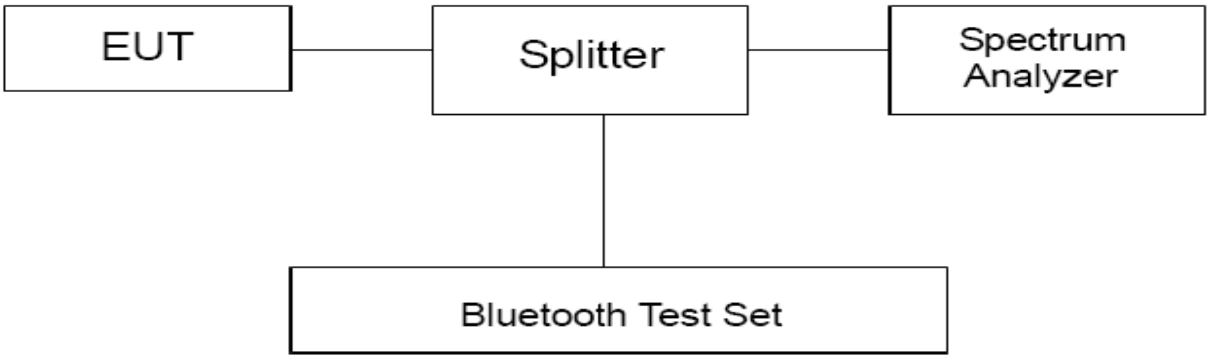
Ambient condition

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)

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	6.35	6.38	PASS
39	2441	8.29	7.86	7.93	PASS
78	2480	7.35	6.87	6.89	PASS

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

4.3 Occupied Bandwidth (20dB)

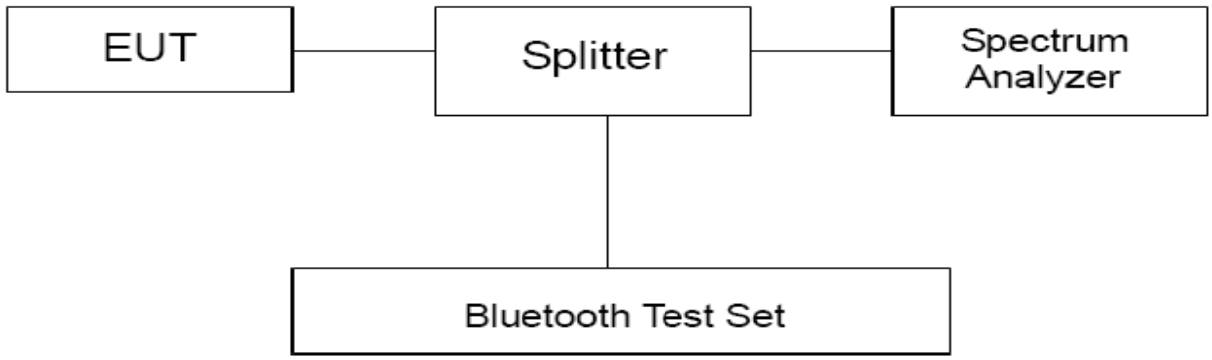
Ambient condition

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 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	1.045
DH5	39	2441	1.046
DH5	78	2480	1.045
2DH5	0	2402	1.138
2DH5	39	2441	1.121
2DH5	78	2480	1.135
3DH5	0	2402	1.189
3DH5	39	2441	1.192
3DH5	78	2480	1.186

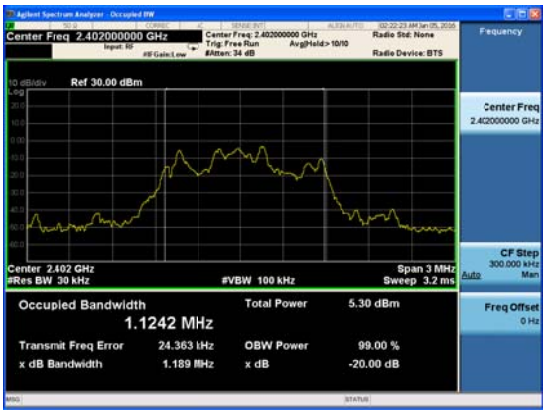
DH5 Channel 0

DH5 Channel 39

DH5 Channel 78

2DH5 Channel 0

3DH5 Channel 0



2DH5 Channel 39

3DH5 Channel 39

2DH5 Channel 78

3DH5 Channel 78

4.4 Frequency Separation

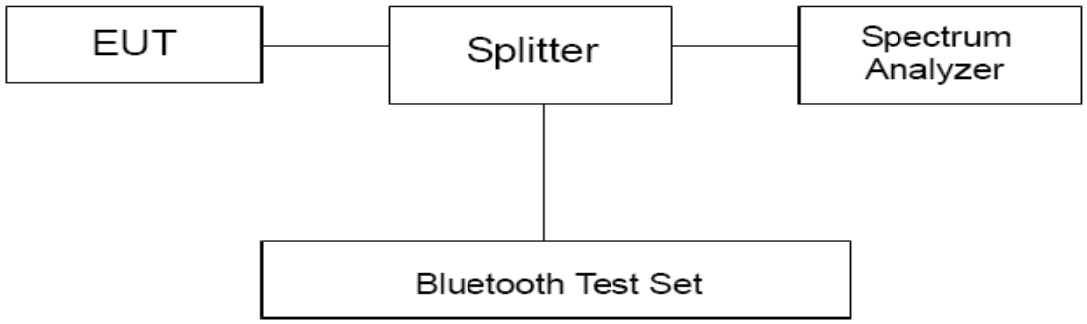
Ambient condition

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 100 kHz 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	1002	1046	697.33	PASS
2DH5	2441	999	1121	747.33	PASS
3DH5	2441	1002	1192	794.67	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)

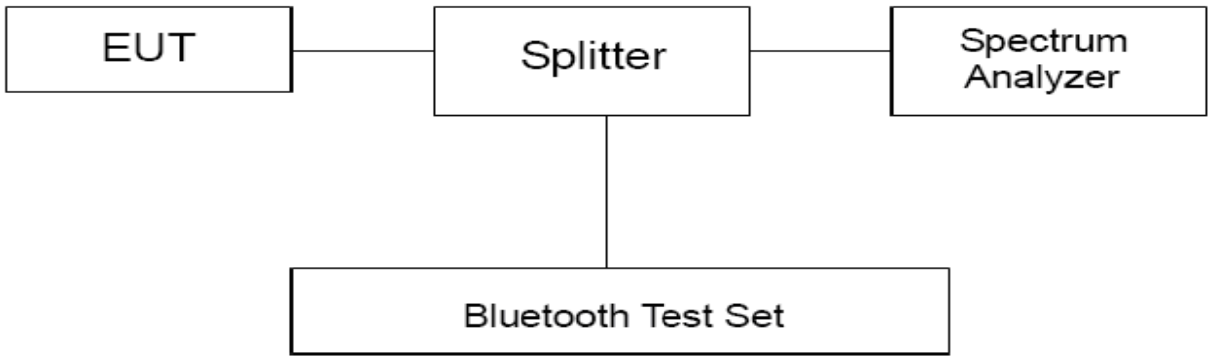
Ambient condition

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

Measurement Uncertainty

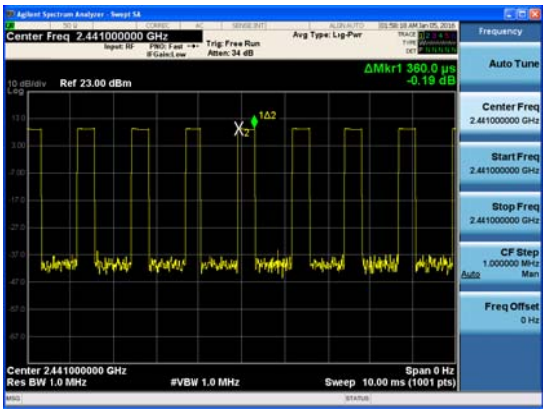
The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor *k* = 2.

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

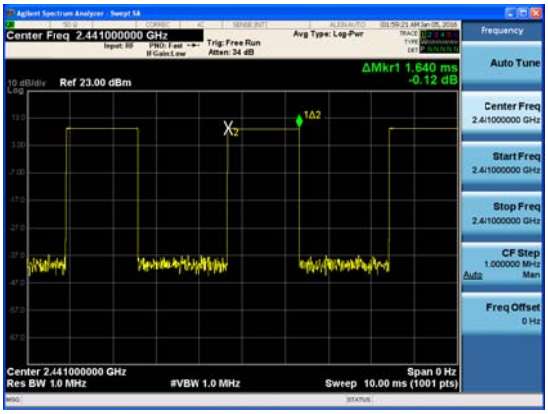
Test Results:

Channel 39					
Packet type	**hop rate (1/s)**	**Time slot length(ms)**	**Dwell time (ms)**	**Limit (ms)**	**Conclusion**
DH1	1600	0.36	230.40	400	PASS
DH3	533.33	1.64	349.86	400	PASS
DH5	320	2.86	366.08	400	PASS
2DH1	1600	0.37	236.80	400	PASS
2DH3	533.33	1.62	345.60	400	PASS
2DH5	320	2.88	368.64	400	PASS
3DH1	1600	0.39	249.60	400	PASS
3DH3	533.33	1.63	347.73	400	PASS
3DH5	320	2.88	368.64	400	PASS
Note: Dwell time = time slot length * hop rate * 0.4s					

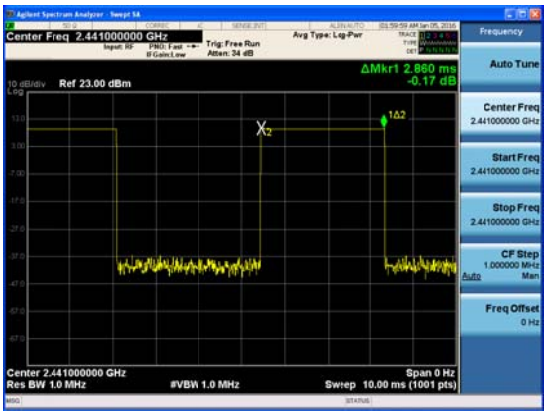
DH1, Carrier frequency (MHz): 2441



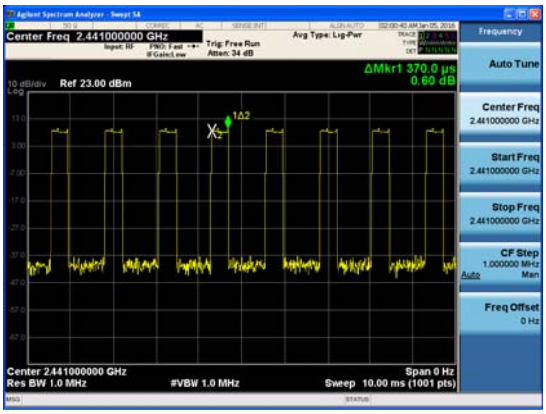
DH3, Carrier frequency (MHz): 2441



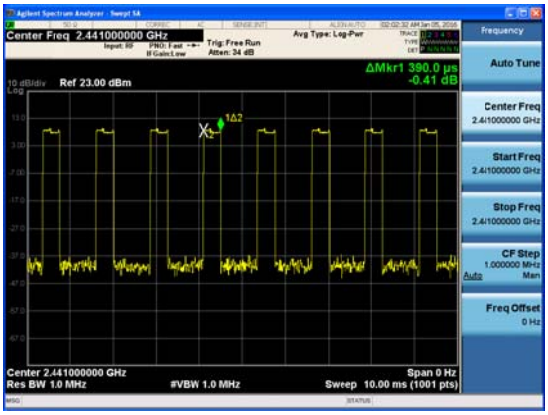
DH5, Carrier frequency (MHz): 2441



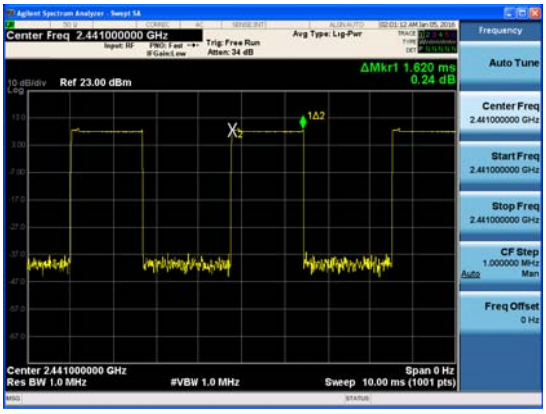
2DH1, Carrier frequency (MHz): 2441



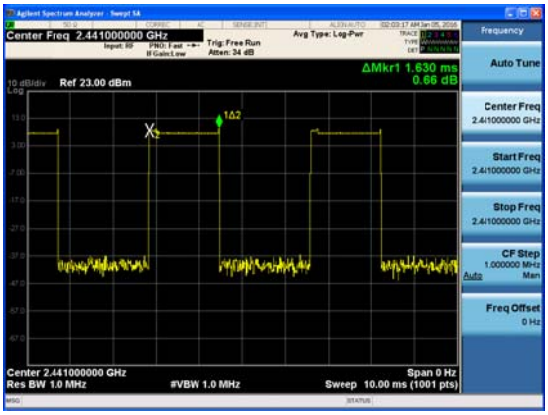
3DH1, Carrier frequency (MHz): 2441



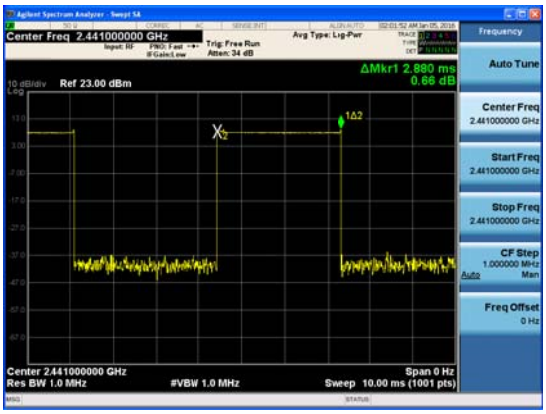
2DH3, Carrier frequency (MHz): 2441



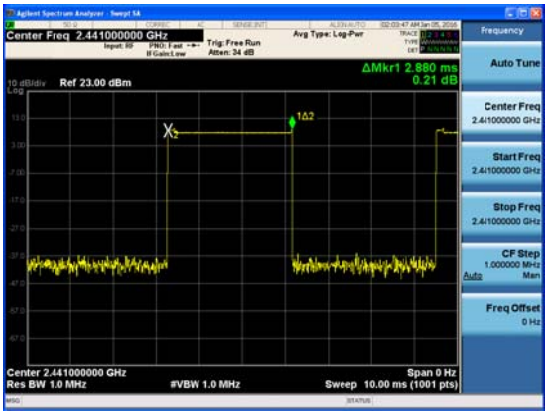
3DH3, Carrier frequency (MHz): 2441



2DH5, Carrier frequency (MHz): 2441,



3DH5, Carrier frequency (MHz): 2441



4.6 Band Edge Compliance

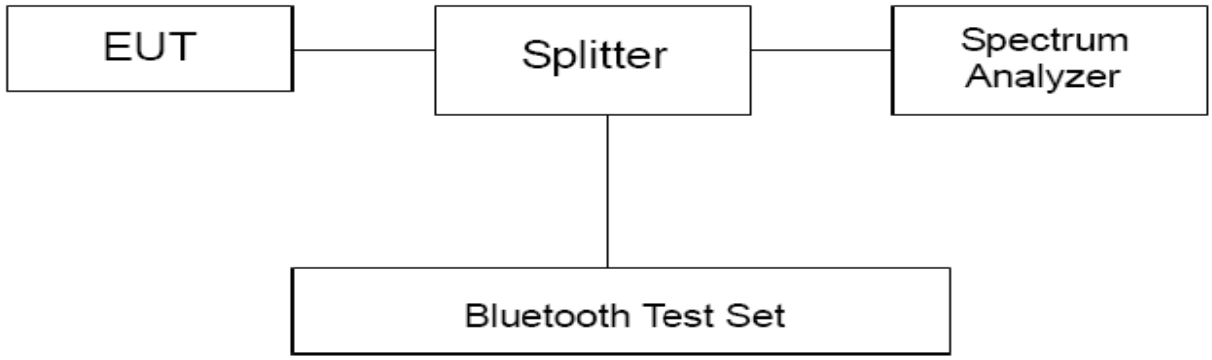
Ambient condition

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, Channel 0	DH5, Channel 78
	
2DH5, Channel 0	**2DH5, Channel 78**
	
3DH5, Channel 0	**3DH5, Channel 78**
	

Hopping Off

DH5, Channel 0

DH5, Channel 78

2DH5, Channel 0

2DH5, Channel 78

3DH5, Channel 0

3DH5, Channel 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:

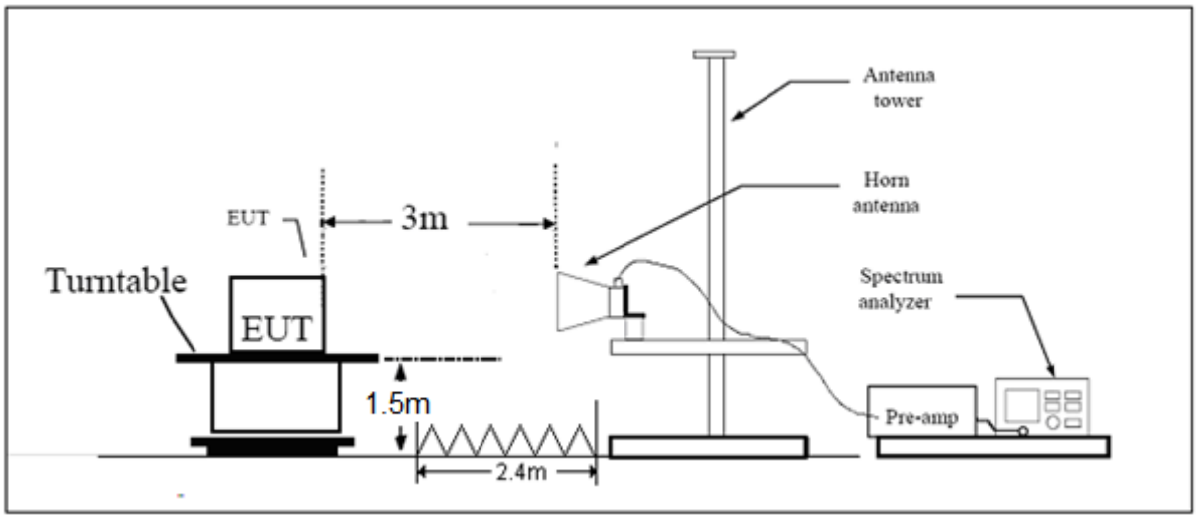
(a) PEAK: RBW=VBW=1MHz / Sweep=AUTO

(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

§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

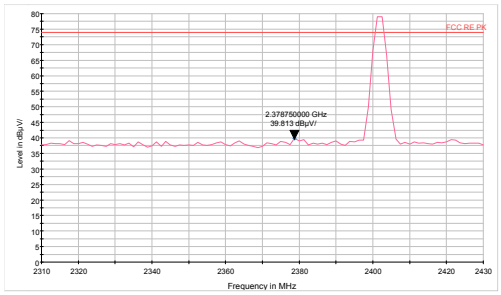
The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 1.96, U= 3.55 dB.

Test Results:

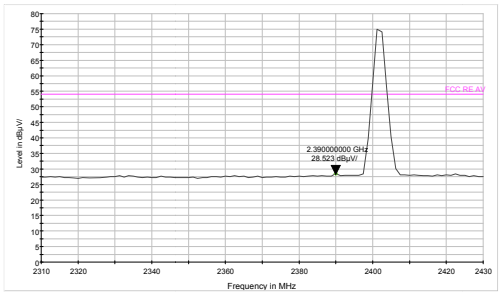
Themessy code(dB磅/m) including in the following plots mean dBuv/m.

DH5

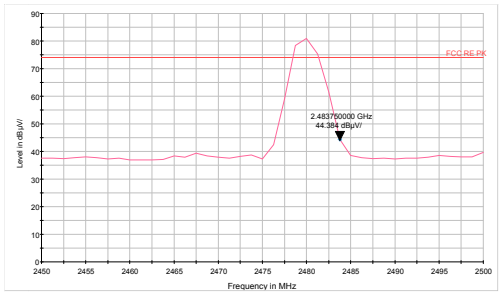
Lower band edge Peak-CH 0



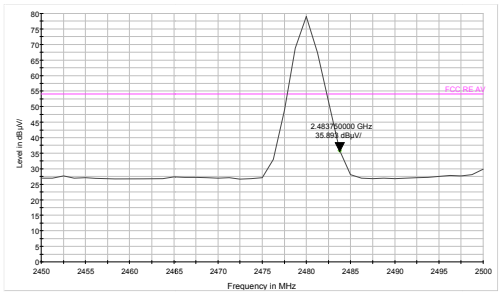
Lower band edge average-CH 0



Higher band edge Peak-CH 78

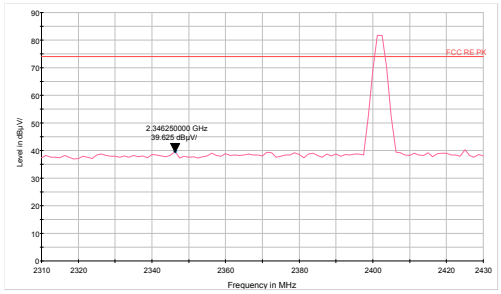


Higher band edge average-CH 78

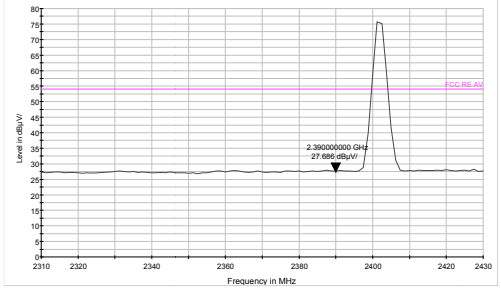


3DH5

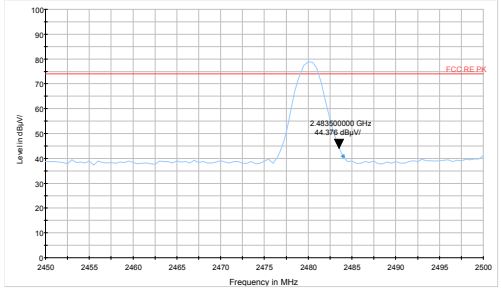
Lower band edge Peak-CH 0



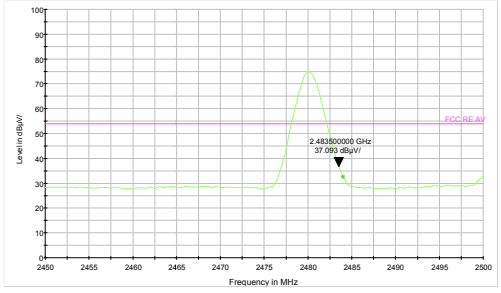
Lower band edge average-CH 0



Higher band edge Peak-CH 78



Higher band edge average-CH 78



4.8 Number of hopping Frequency

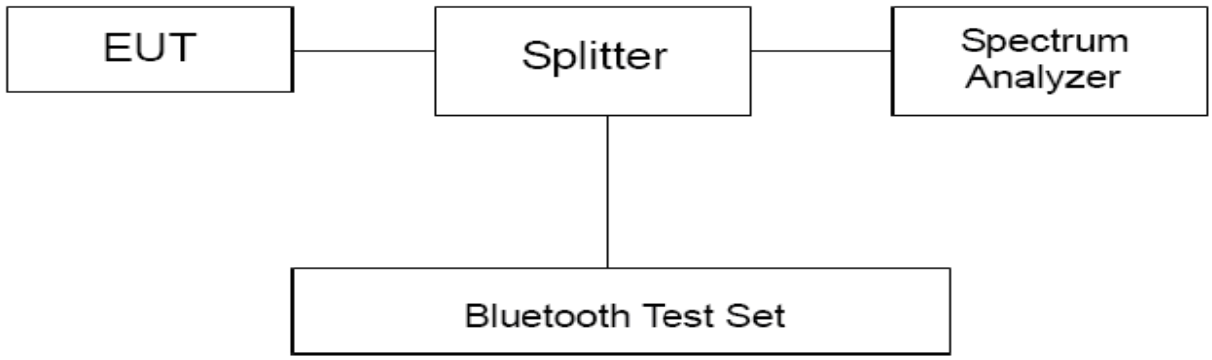
Ambient condition

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

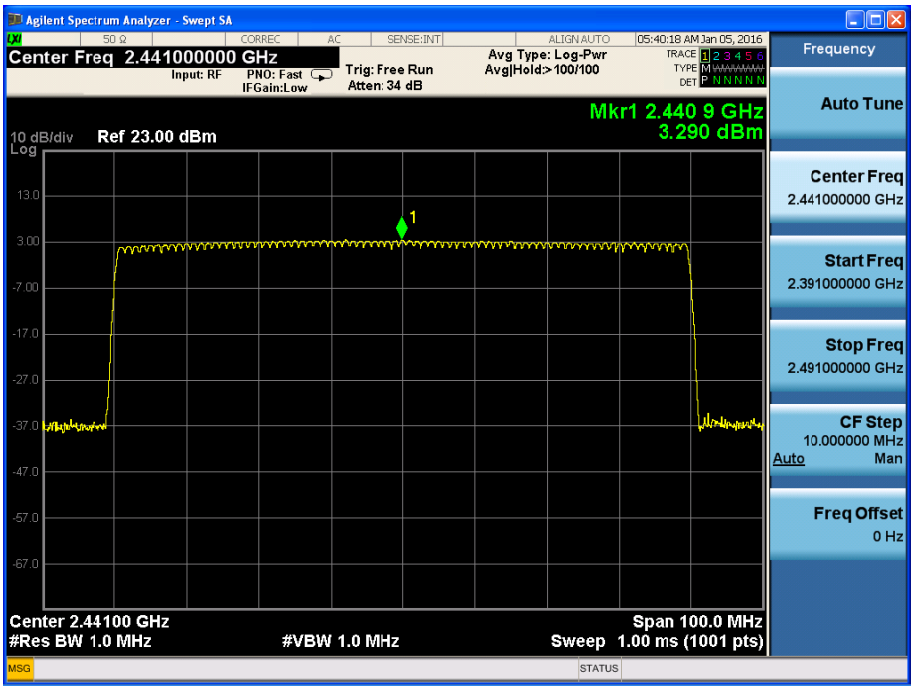
Rule Part 15.247(a) (1) (iii) specifies that" Frequency hopping systems in the 2400–2483.5 MHz band shall use at least 15 channels."

Limits	≥ 15 channels

Test Results:

DH5

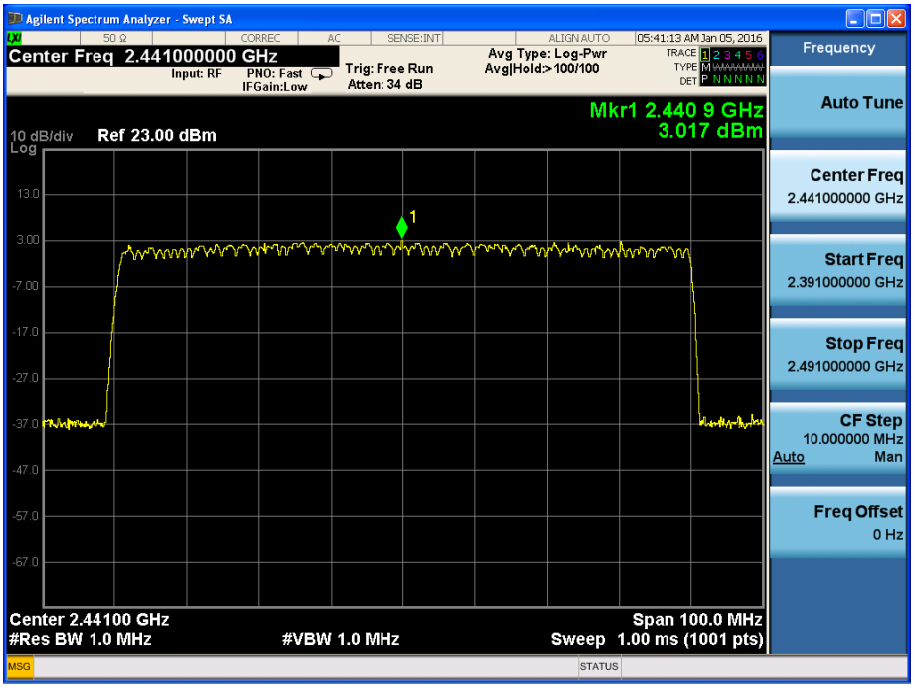
Number of hopping channels	conclusion
79	PASS



2400 MHz – 2483.5 MHz

2DH5

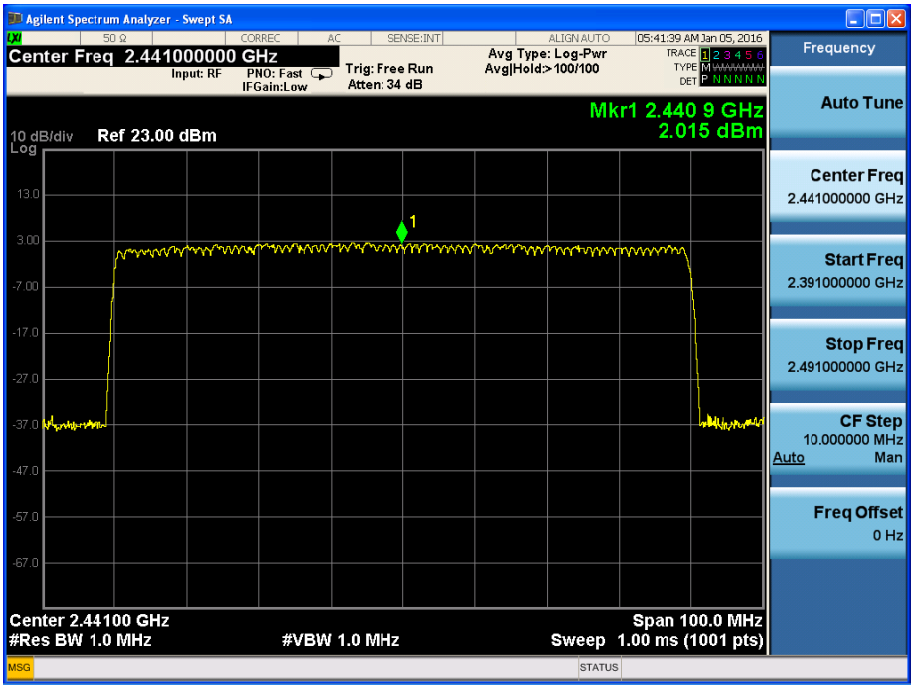
Number of hopping channels	conclusion
79	PASS



2400 MHz – 2483.5 MHz

3DH5

Number of hopping channels	conclusion
79	PASS



2400 MHz – 2483.5 MHz

4.9 Spurious RF Conducted Emissions

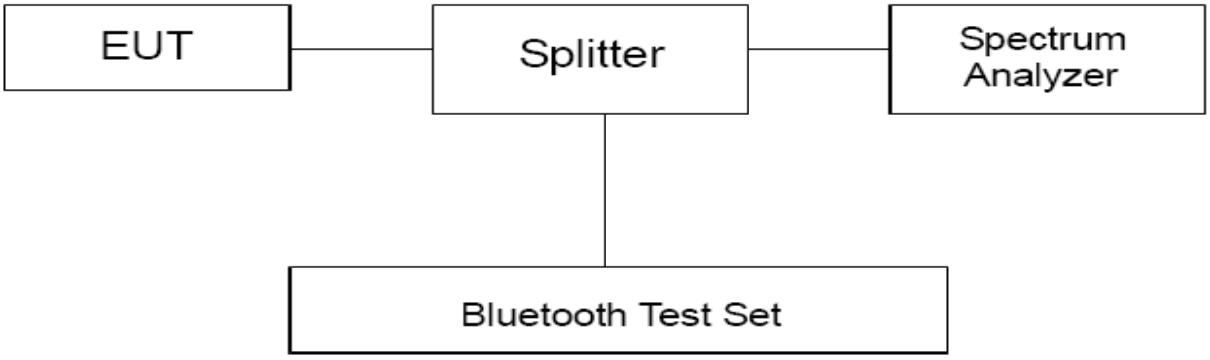
Ambient condition

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	10.09	-9.91
	2441	4.64	-15.36
	2480	-0.19	-20.19
EDR (3DH5)	2402	18.41	-1.59
	2441	2.25	-17.75
	2480	4.02	-15.98

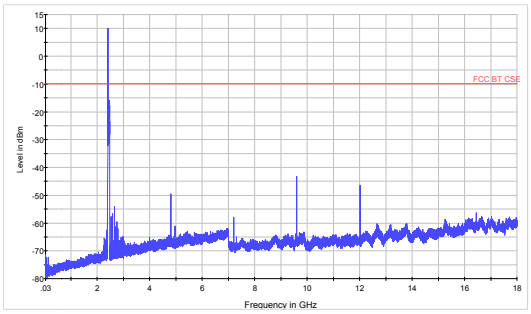
Measurement Uncertainty

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

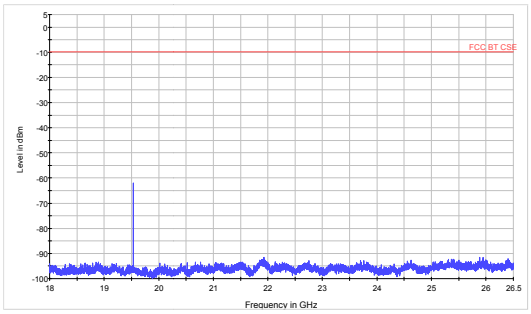
Frequency	Uncertainty
100kHz-2GHz	0.684 dB
2GHz-26GHz	1.407 dB

Test Results:

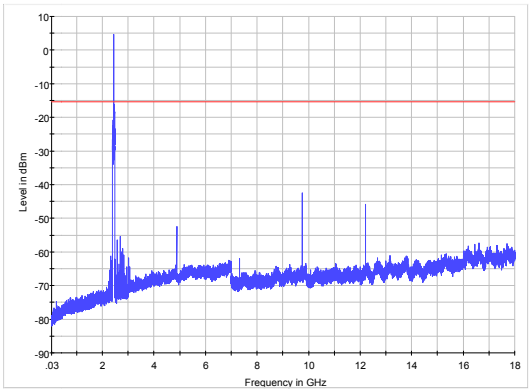
GFSK-CH0 30MHz~18GHz



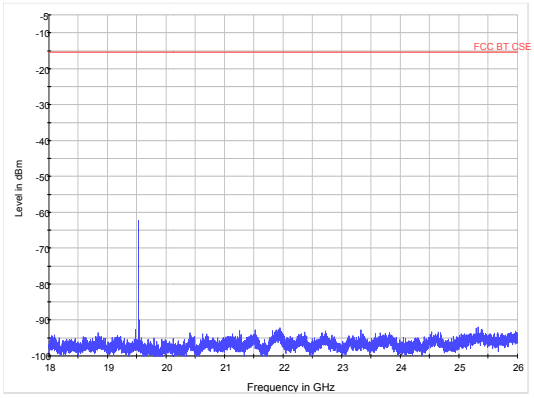
GFSK-CH0 18GHz~26.5GHz



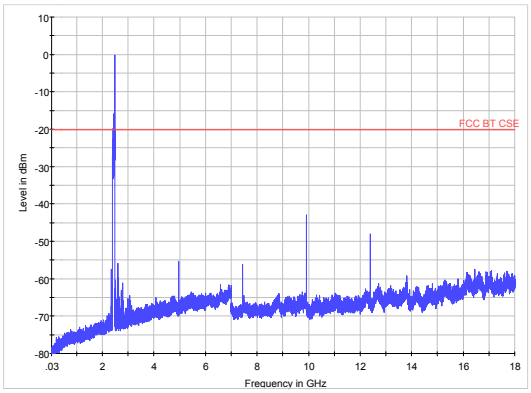
GFSK-CH39 30MHz~18GHz



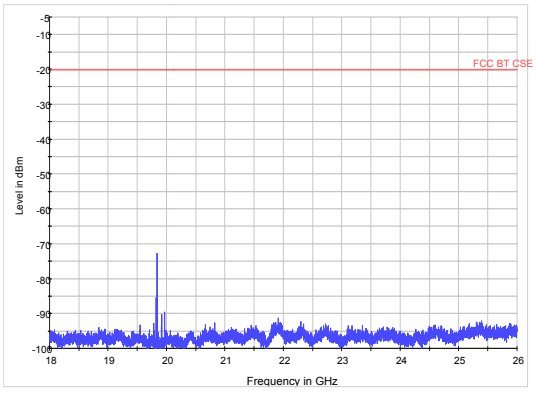
GFSK-CH39 18GHz~26.5GHz



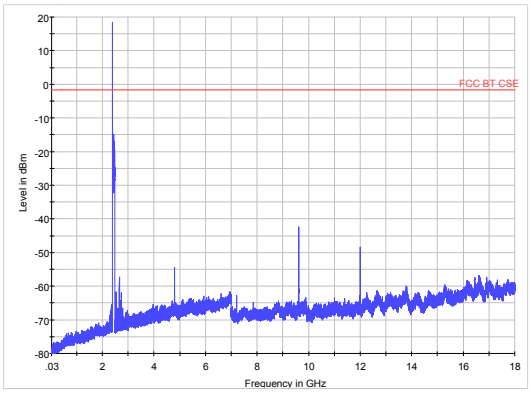
GFSK-CH78 30MHz~18GHz



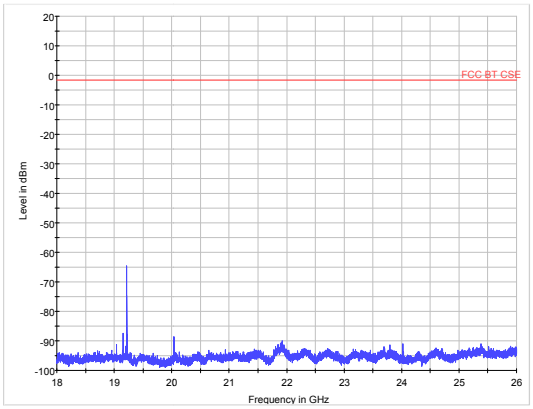
GFSK-CH78 18GHz~26.5GHz



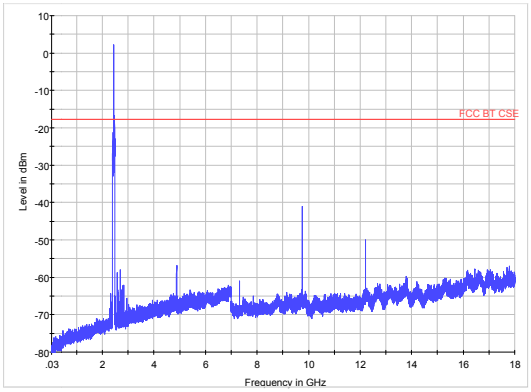
EDR-CH0 30MHz~18GHz



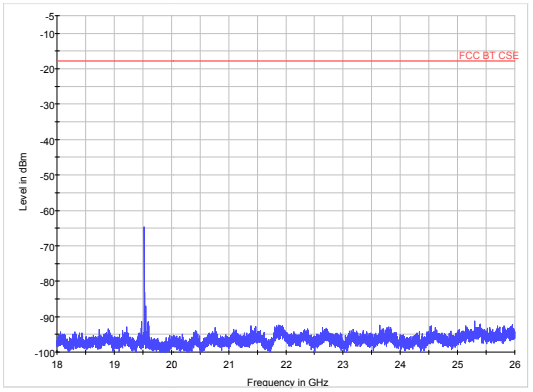
EDR-CH0 18GHz~26.5GHz



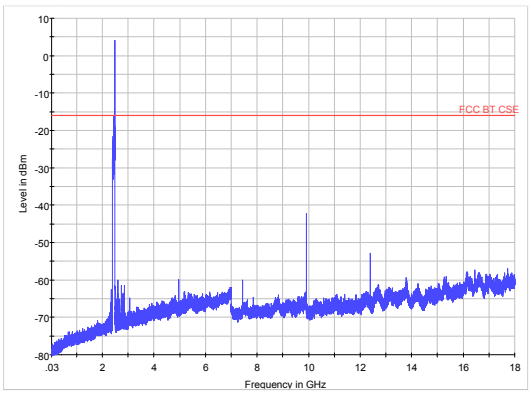
EDR-CH39 30MHz~18GHz



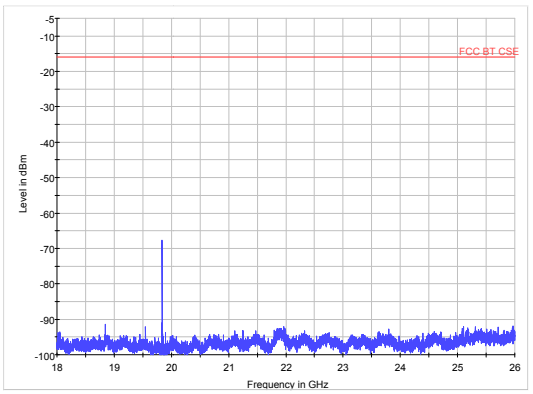
EDR-CH39 18GHz~26.5GHz



EDR-CH78 30MHz~18GHz



EDR-CH78 18GHz~26.5GHz



4.10 Radiates Emission

Ambient condition

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

Method of Measurement

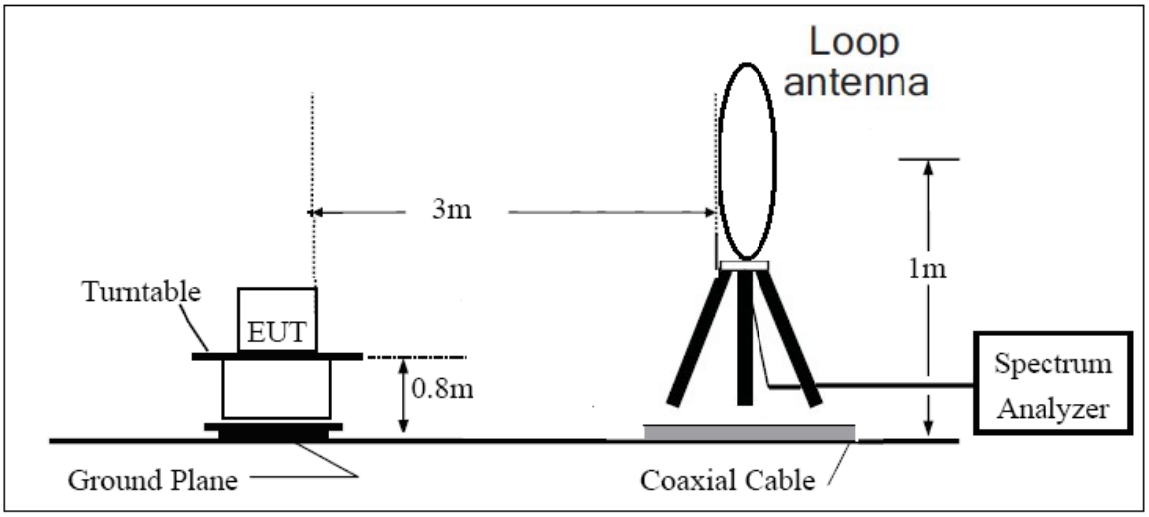
The test set-up was made in accordance to the general provisions of ANSI C63.10-2013.The Equipment Under Test (EUT) was set up on a non-conductive table in the semi-anechoic chamber. The test was performed at the distance of 3 m between the EUT and the receiving antenna. The radiated emissions measurements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

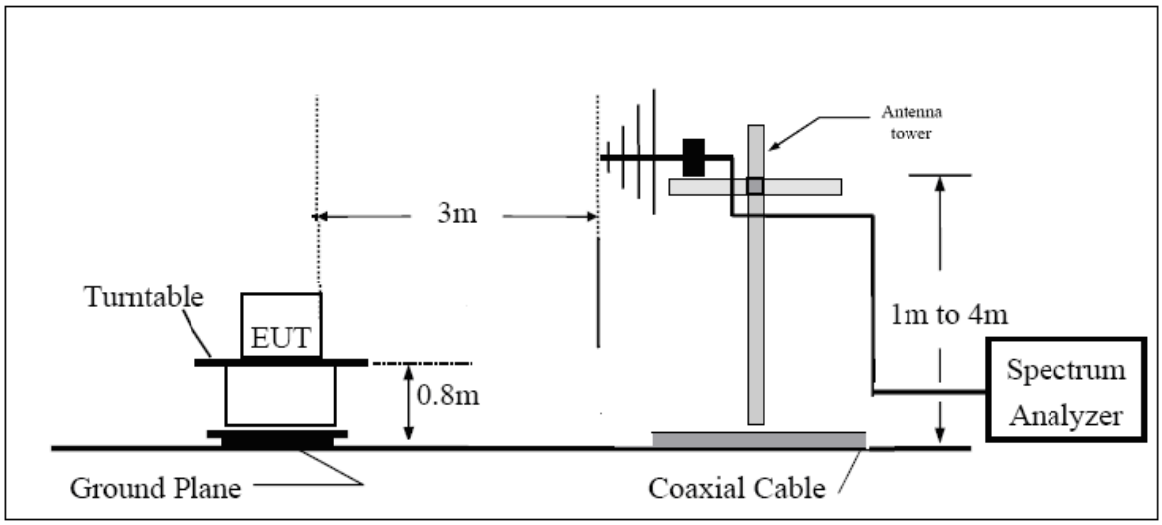
The test is in transmitting mode.

Test setup

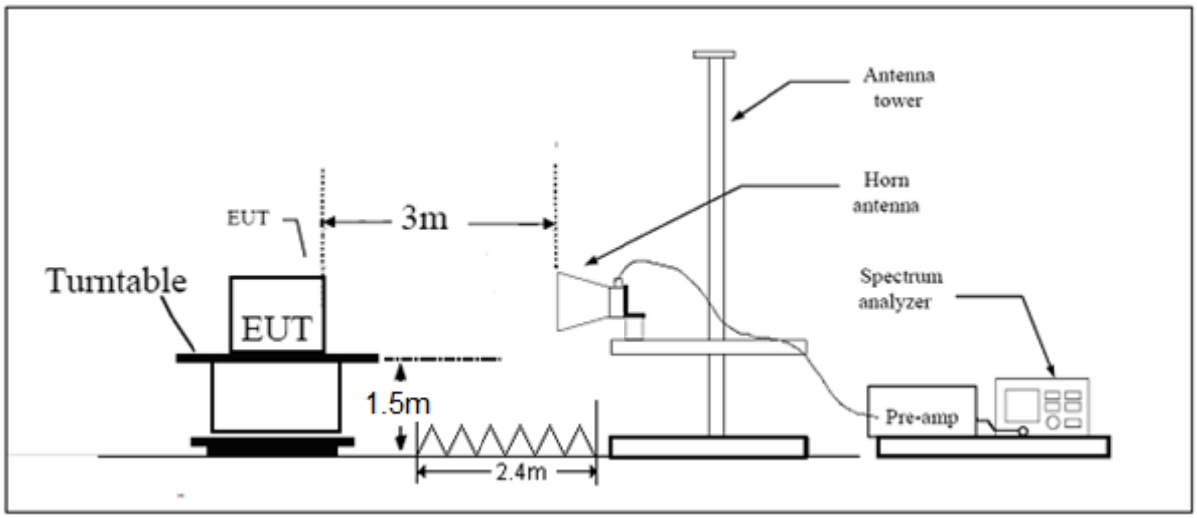
9KHz~~~ 30MHz



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

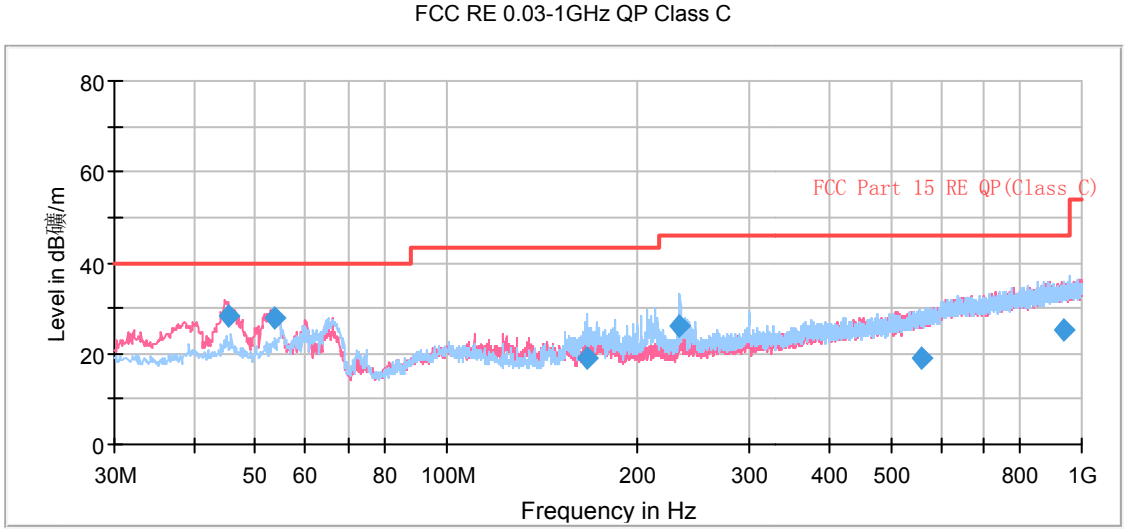
Sweep from 9 kHz to 30MHz, and the emissions more than 20 dB below the permissible value are not reported.

The messy code(dB磭/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.

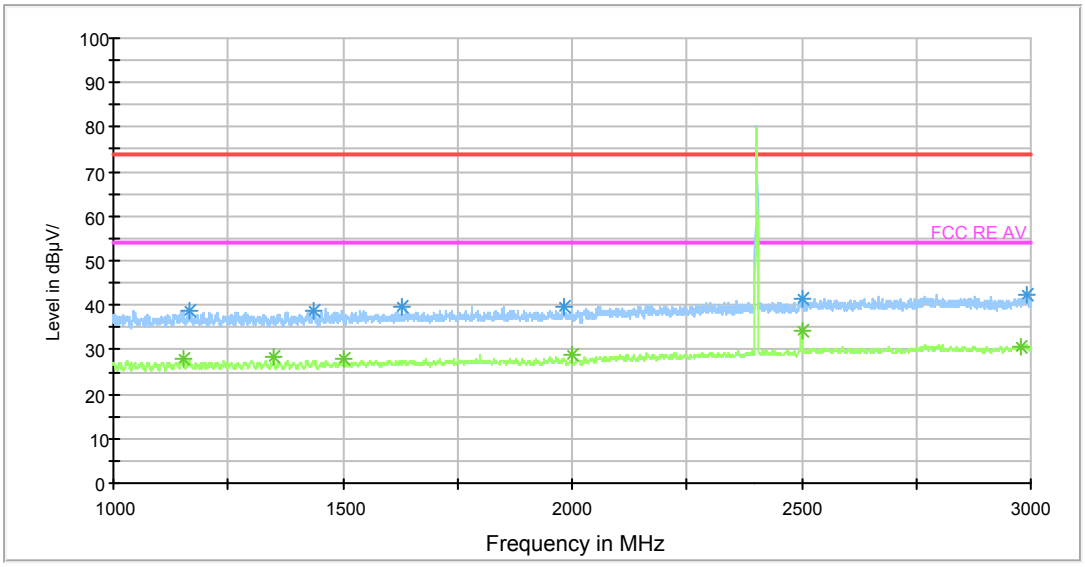
GFSK-Channel 0



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)
45.272500	28.2	101.0	V	273.0	41.3	-13.1	11.8	40.0
53.486250	28.0	101.0	V	236.0	40.8	-12.8	12.0	40.0
166.567500	18.9	126.0	V	317.0	29.0	-10.1	24.6	43.5
233.215000	26.2	126.0	V	322.0	39.6	-13.4	19.8	46.0
557.683750	18.9	101.0	V	342.0	40.1	-21.2	27.1	46.0
933.912500	25.1	114.0	V	0.0	51.0	-25.9	20.9	46.0



Radiates Emission from 1GHz to 3GHz

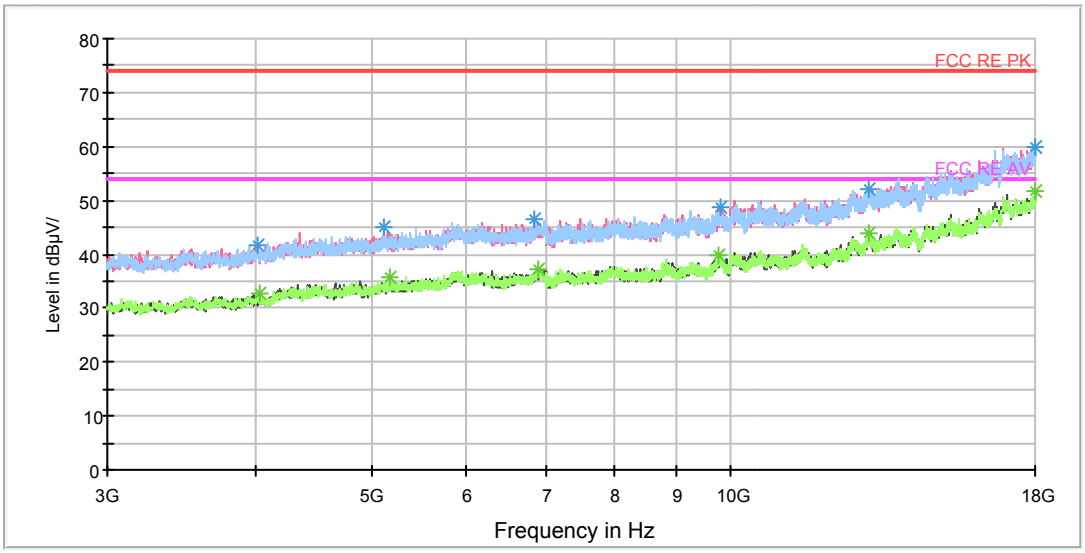
Note: The signal beyond the limit is carrier.

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1164.000000	38.6	100.0	H	0.0	49.4	-10.8	35.4	74
1436.500000	38.7	100.0	H	178.0	48.4	-9.7	35.3	74
1629.500000	39.4	100.0	V	133.0	48.3	-8.9	34.6	74
1981.000000	39.6	100.0	H	6.0	47.5	-7.9	34.4	74
2500.000000	41.5	100.0	V	23.0	46.5	-5.0	32.5	74
2992.000000	42.2	100.0	H	43.0	46.2	-4.0	31.8	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	27.8	100.0	H	87.0	38.6	-10.8	26.2	54
1350.000000	28.4	100.0	H	162.0	38.4	-10.0	25.6	54
1500.000000	28.1	100.0	V	357.0	37.6	-9.5	25.9	54
2000.000000	29.0	100.0	V	328.0	36.8	-7.8	25.0	54
2500.000000	34.4	100.0	V	23.0	39.4	-5.0	19.6	54
2976.000000	30.7	100.0	V	299.0	34.7	-4.0	23.3	54

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

RE 3-18GHz PK+AV



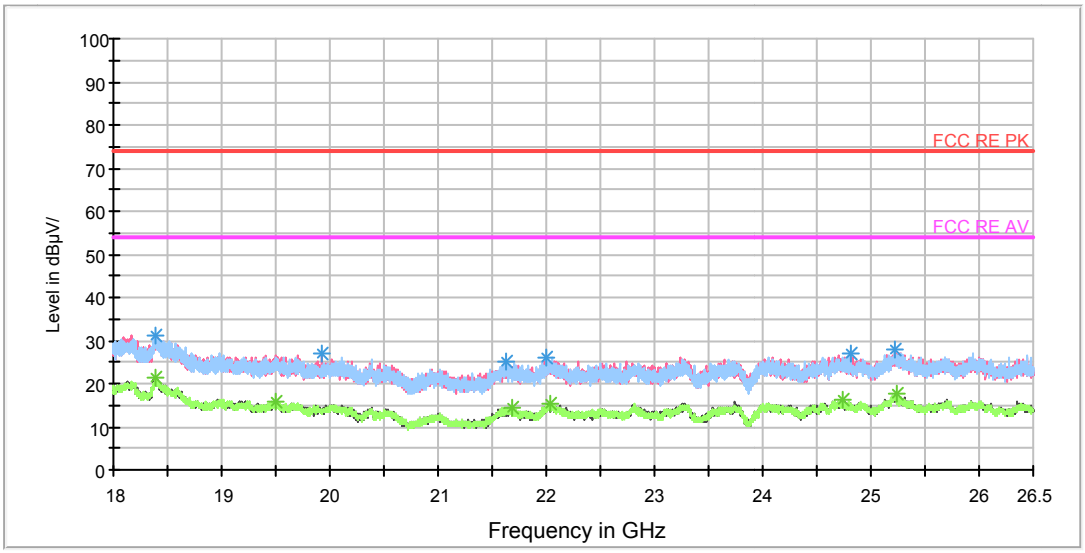
Radiates Emission from 3GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
4016.250000	41.6	101.0	V	0.0	42.1	-0.5	32.4	74
5118.750000	45.0	101.0	V	292.0	48.6	-3.6	29.0	74
6849.375000	46.4	101.0	V	0.0	53.0	-6.6	27.6	74
9791.250000	48.8	101.0	V	280.0	61.0	-12.2	25.2	74
13053.750000	52.1	101.0	V	317.0	68.3	-16.2	21.9	74
17994.375000	60.0	101.0	H	78.0	85.3	-25.3	14.0	74

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
4018.125000	32.8	101.0	V	0.0	33.3	-0.5	21.2	54
5182.500000	35.8	101.0	H	14.0	39.4	-3.6	18.2	54
6892.500000	37.2	101.0	H	191.0	44.1	-6.9	16.8	54
9755.625000	39.8	101.0	V	229.0	51.5	-11.7	14.2	54
13076.250000	43.9	101.0	H	178.0	60.1	-16.2	10.1	54
17983.125000	51.7	101.0	V	216.0	76.9	-25.2	2.3	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

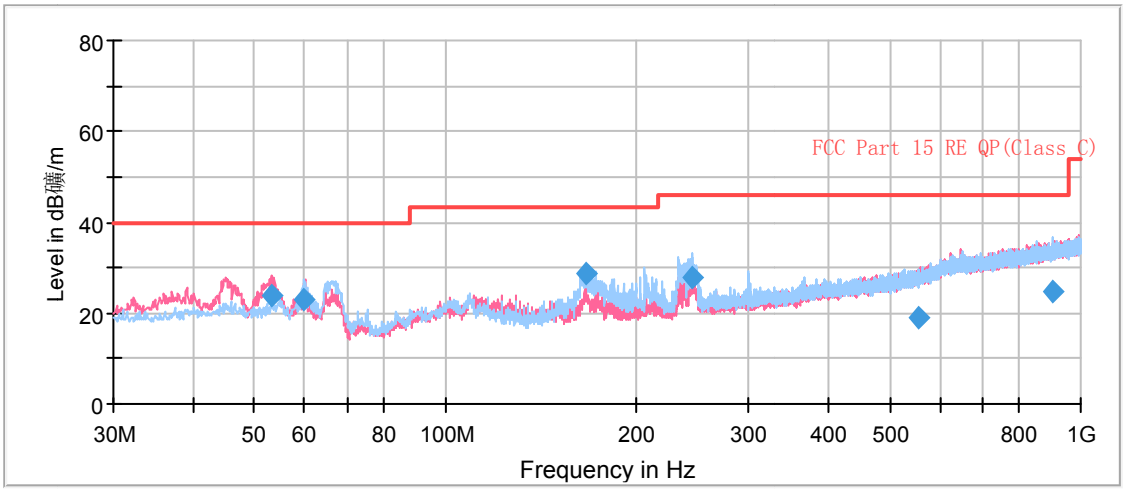
Frequency (MHz)	Peak (dBuV/m)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
18384.625000	31.3	V	0.0	36.1	-4.8	42.7	74
19929.500000	26.8	V	0.0	35.0	-8.2	47.2	74
21638.000000	25.1	H	0.0	34.2	-9.1	48.9	74
22001.375000	26.0	H	0.0	34.3	-8.3	48.0	74
24813.812500	27.0	H	0.0	33.9	-6.9	47.0	74
25227.125000	28.1	H	0.0	34.0	-5.9	45.9	74

Frequency (MHz)	Average (dBuV/m)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
18391.000000	21.2	V	0.0	26.1	-4.9	32.8	54
19502.375000	16.0	H	0.0	23.5	-7.5	38.0	54
21680.500000	14.4	V	0.0	23.8	-9.4	39.6	54
22031.125000	15.5	H	0.0	23.5	-8.0	38.5	54
24742.625000	16.1	H	0.0	22.6	-6.5	37.9	54
25234.562500	17.5	V	0.0	23.5	-6.0	36.5	54

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

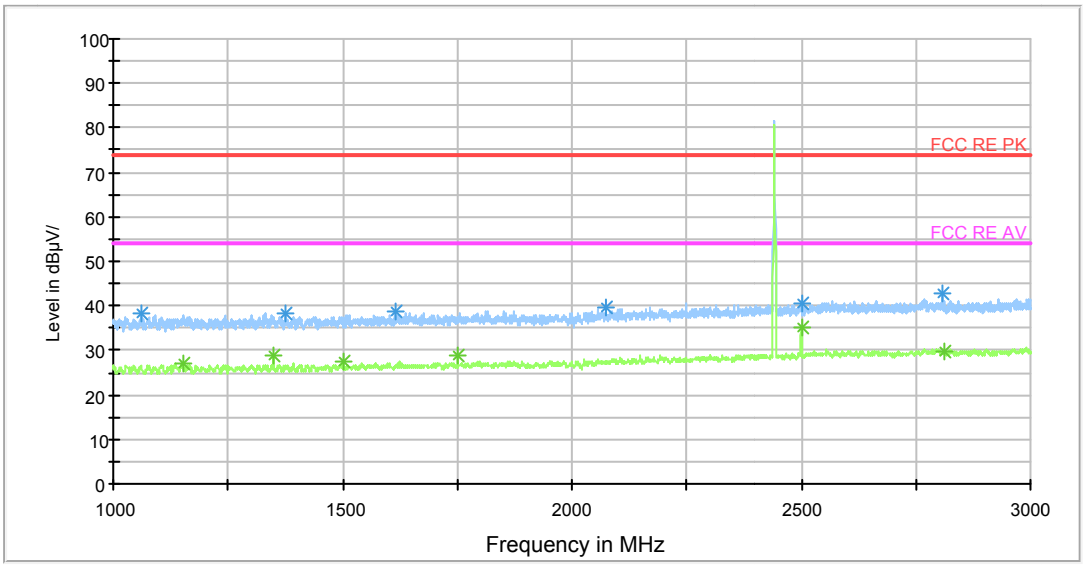
GFSK-Channel 39

FCC RE 0.03-1GHz QP Class C



Radiates Emission from 30MHz to 1GHz

Frequency (MHz)	Quasi-Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
53.238750	23.8	100.0	V	226.0	36.6	-12.8	16.2	40.0
59.990000	23.0	211.0	V	244.0	35.5	-12.5	17.0	40.0
165.882500	28.5	175.0	H	293.0	38.5	-10.0	15.0	43.5
244.127500	27.7	125.0	H	327.0	41.6	-13.9	18.3	46.0
553.845000	18.9	175.0	H	344.0	40.1	-21.2	27.1	46.0
905.510000	24.6	125.0	H	19.0	50.3	-25.7	21.4	46.0



Radiates Emission from 1GHz to 3GHz

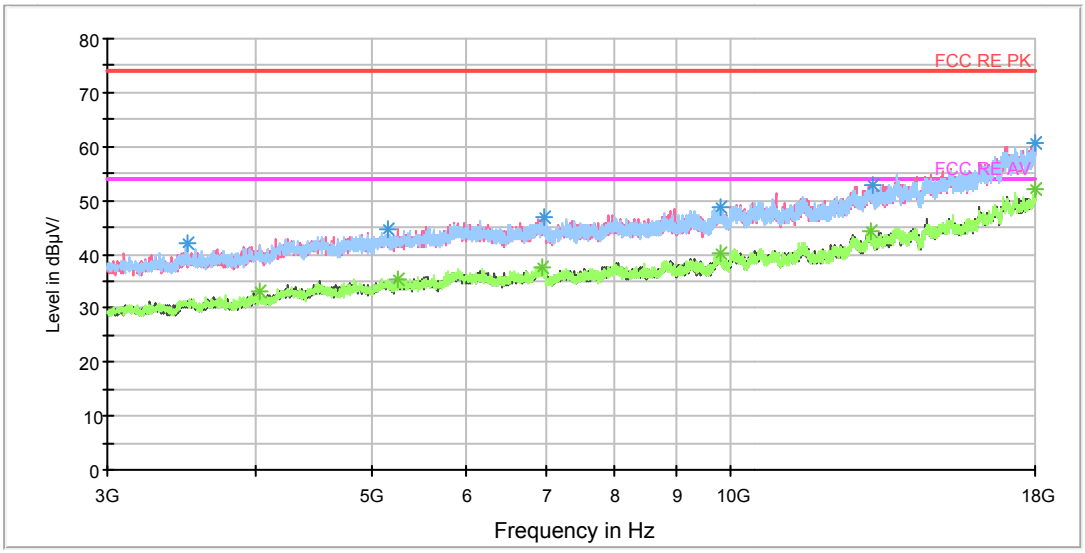
Note: The signal beyond the limit is carrier.

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1061.000000	38.2	100.0	V	269.0	49.3	-11.1	35.8	74
1376.000000	38.4	100.0	H	88.0	48.3	-9.9	35.6	74
1614.000000	38.6	100.0	H	18.0	47.5	-8.9	35.4	74
2075.000000	39.7	100.0	H	6.0	47.0	-7.3	34.3	74
2500.000000	40.7	100.0	V	24.0	45.7	-5.0	33.3	74
2809.500000	42.6	100.0	V	197.0	46.7	-4.1	31.4	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	27.0	100.0	H	73.0	37.8	-10.8	27.0	54
1350.000000	28.7	100.0	H	243.0	38.7	-10.0	25.3	54
1500.000000	27.7	100.0	V	0.0	37.2	-9.5	26.3	54
1750.000000	28.7	100.0	V	330.0	37.2	-8.5	25.3	54
2500.000000	35.1	100.0	V	24.0	40.1	-5.0	18.9	54
2812.000000	29.7	100.0	V	135.0	33.8	-4.1	24.3	54

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

RE 3-18GHz PK+AV



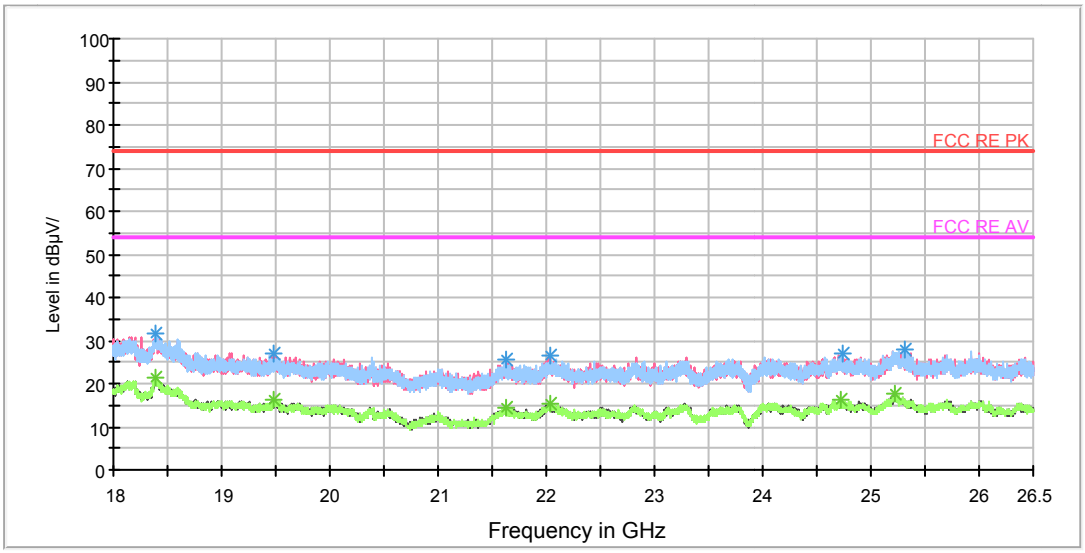
Radiates Emission from 3GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
3500.625000	41.9	101.0	H	119.0	42.4	-0.5	32.1	74
5156.250000	44.6	101.0	H	33.0	48.2	-3.6	29.4	74
6963.750000	47.1	101.0	V	291.0	53.7	-6.6	26.9	74
9810.000000	48.7	101.0	H	20.0	60.9	-12.2	25.3	74
13136.250000	53.0	101.0	H	247.0	68.7	-15.7	21.0	74
18000.000000	60.8	101.0	H	94.0	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)
4021.875000	33.1	101.0	H	94.0	33.6	-0.5	20.9	54
5255.625000	35.4	101.0	V	127.0	39.1	-3.7	18.6	54
6935.625000	37.7	101.0	V	242.0	44.5	-6.8	16.3	54
9796.875000	40.4	101.0	H	20.0	52.6	-12.2	13.6	54
13095.000000	44.4	101.0	V	86.0	60.6	-16.2	9.6	54
17992.500000	52.1	101.0	H	94.0	77.4	-25.3	1.9	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

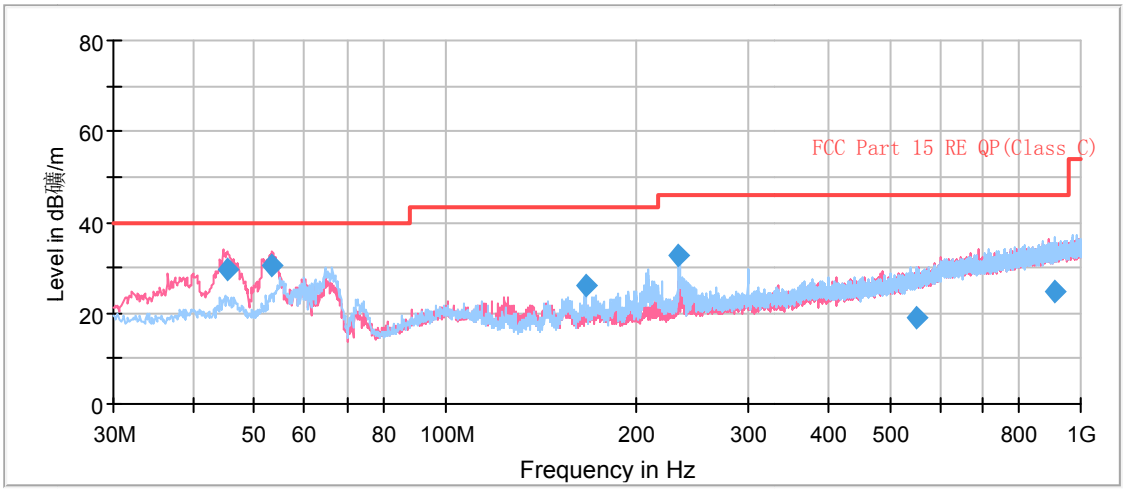
Frequency (MHz)	Peak (dBuV/m)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
18389.937500	31.5	H	0.0	36.4	-4.9	42.5	74
19484.312500	27.2	V	0.0	34.9	-7.7	46.8	74
21634.812500	25.5	H	0.0	34.6	-9.1	48.5	74
22035.375000	26.4	V	0.0	34.4	-8.0	47.6	74
24733.062500	26.9	H	0.0	33.2	-6.3	47.1	74
25313.187500	28.1	H	0.0	34.7	-6.6	45.9	74

Frequency (MHz)	Average (dBuV/m)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
18386.750000	21.2	H	0.0	26.0	-4.8	32.8	54
19484.312500	16.0	H	0.0	23.7	-7.7	38.0	54
21627.375000	14.5	H	0.0	23.6	-9.1	39.5	54
22038.562500	15.3	H	0.0	23.3	-8.0	38.7	54
24728.812500	16.4	V	0.0	22.6	-6.2	37.6	54
25225.000000	17.7	V	0.0	23.6	-5.9	36.3	54

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

GFSK-Channel 78

FCC RE 0.03-1GHz QP Class C



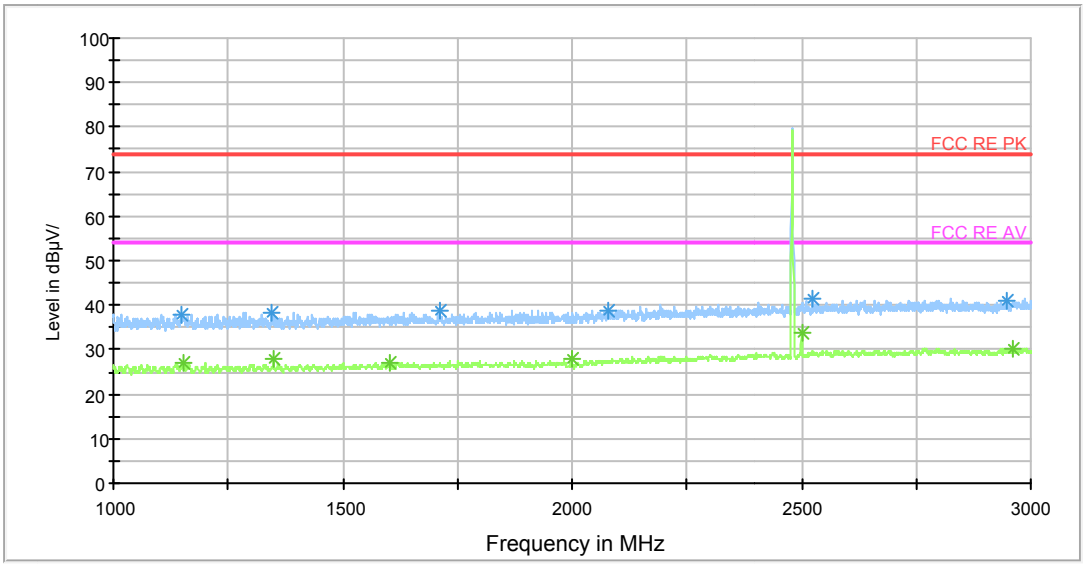
Radiates Emission from 30MHz to 1GHz

Frequency (MHz)	Quasi-Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
45.271250	29.5	100.0	V	230.0	42.6	-13.1	10.5	40.0
53.241250	30.3	100.0	V	227.0	43.1	-12.8	9.7	40.0
166.007500	25.9	125.0	H	60.0	35.9	-10.0	17.6	43.5
233.215000	32.8	125.0	H	280.0	46.2	-13.4	13.2	46.0
551.815000	18.9	113.0	H	283.0	40.0	-21.1	27.1	46.0
908.130000	24.6	100.0	H	223.0	50.3	-25.7	21.4	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



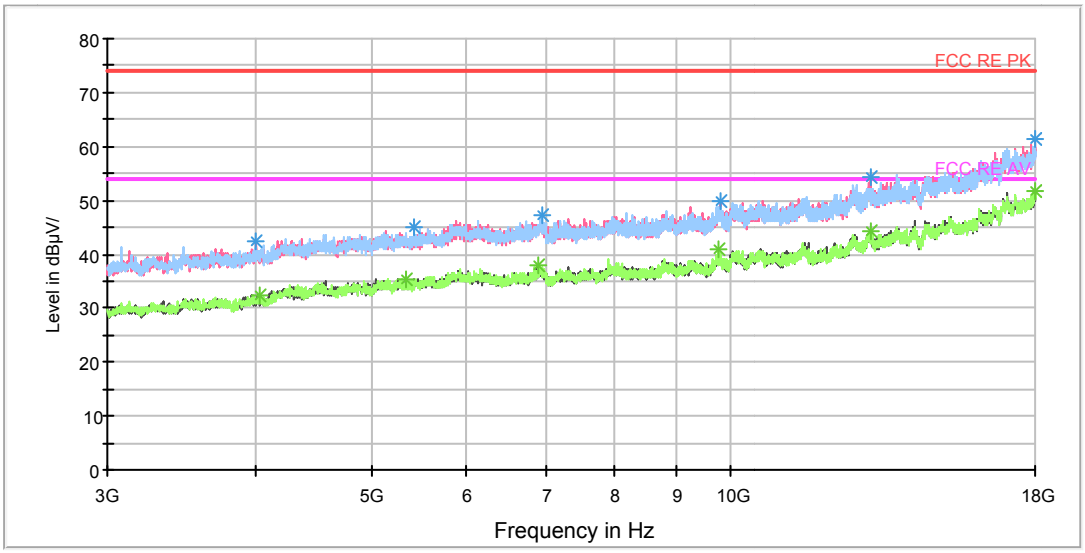
Radiates Emission from 1GHz to 3GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1150.000000	38.0	100.0	V	303.0	48.8	-10.8	36.0	74
1345.000000	38.3	100.0	V	357.0	48.3	-10.0	35.7	74
1711.500000	38.7	100.0	V	258.0	47.4	-8.7	35.3	74
2080.000000	38.9	100.0	V	359.0	46.1	-7.2	35.1	74
2523.500000	41.4	100.0	H	32.0	46.3	-4.9	32.6	74
2947.500000	40.8	100.0	V	167.0	44.9	-4.1	33.2	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	27.0	100.0	H	48.0	37.8	-10.8	27.0	54
1349.500000	27.8	100.0	H	232.0	37.8	-10.0	26.2	54
1603.000000	27.2	100.0	H	32.0	36.2	-9.0	26.8	54
2000.000000	27.7	100.0	V	44.0	35.5	-7.8	26.3	54
2500.000000	33.7	100.0	V	34.0	38.7	-5.0	20.3	54
2961.000000	30.1	100.0	V	0.0	34.2	-4.1	23.9	54

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

RE 3-18GHz PK+AV



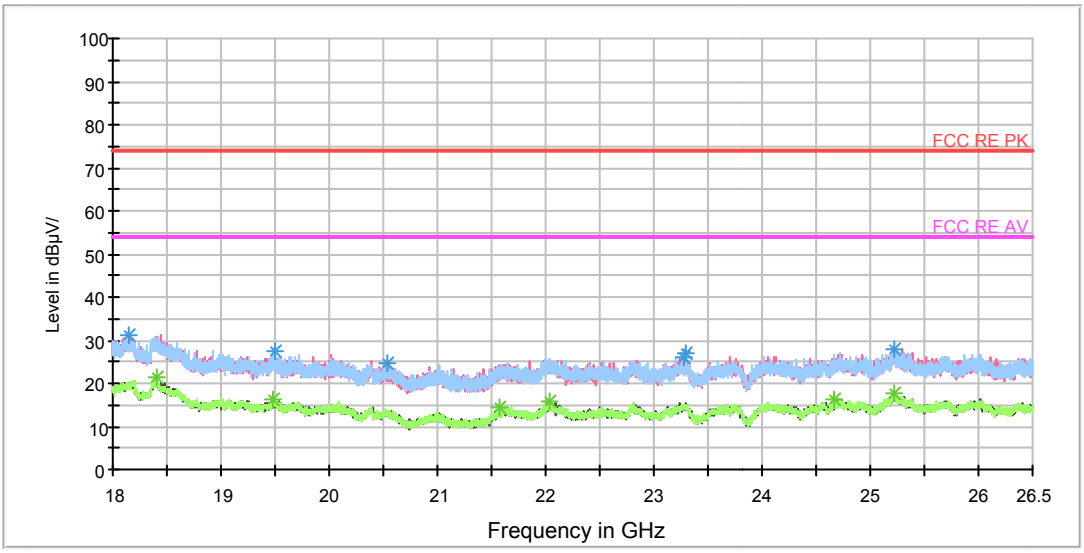
Radiates Emission from 3GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
4001.250000	42.4	101.0	V	251.0	42.9	-0.5	31.6	74
5428.125000	44.8	101.0	H	1.0	48.6	-3.8	29.2	74
6935.625000	47.4	101.0	H	99.0	54.2	-6.8	26.6	74
9795.000000	50.0	101.0	V	251.0	62.2	-12.2	24.0	74
13081.875000	54.2	101.0	V	0.0	70.4	-16.2	19.8	74
18000.000000	61.3	101.0	V	177.0	86.7	-25.4	12.7	74

Frequency (MHz)	Average (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
4031.250000	32.4	101.0	V	313.0	33.0	-0.6	21.6	54
5338.125000	35.5	101.0	H	62.0	39.3	-3.8	18.5	54
6894.375000	38.1	101.0	V	338.0	45.0	-6.9	15.9	54
9759.375000	40.8	101.0	H	0.0	52.6	-11.8	13.2	54
13089.375000	44.4	101.0	H	149.0	60.6	-16.2	9.6	54
17996.250000	51.6	101.0	V	13.0	77.0	-25.4	2.4	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

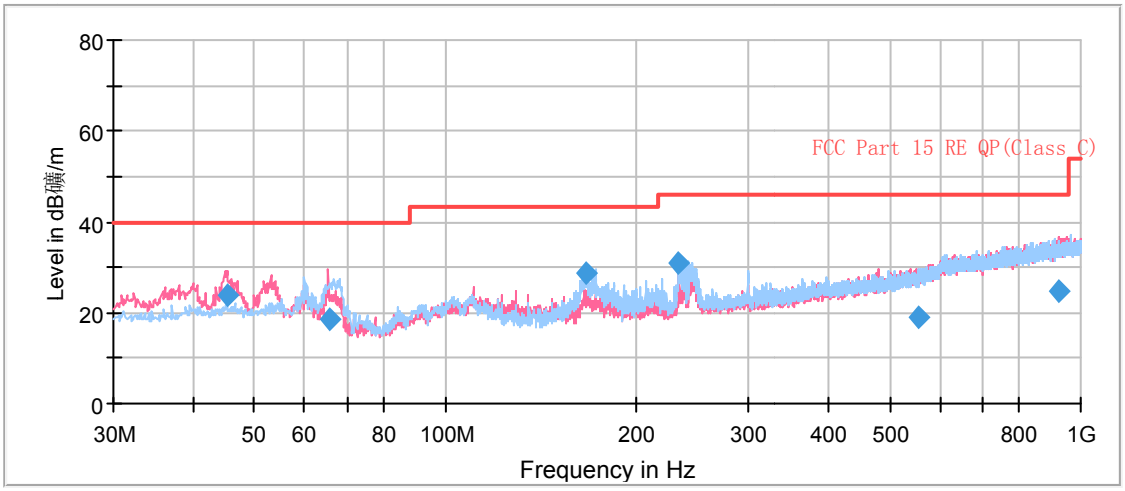
Frequency (MHz)	Peak (dBuV/m)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
18145.562500	31.4	H	0.0	36.4	-5.0	42.6	74
19507.687500	27.5	H	0.0	35.0	-7.5	46.5	74
20544.687500	24.8	H	0.0	32.9	-8.1	49.2	74
23281.687500	25.9	V	0.0	33.0	-7.1	48.1	74
23299.750000	26.9	H	0.0	33.8	-6.9	47.1	74
25231.375000	28.0	H	0.0	33.9	-5.9	46.0	74

Frequency (MHz)	Average (dBuV/m)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
18398.437500	21.3	H	0.0	26.2	-4.9	32.7	54
19486.437500	16.3	H	0.0	24.0	-7.7	37.7	54
21582.750000	14.4	H	0.0	23.1	-8.7	39.6	54
22042.812500	15.8	H	0.0	23.8	-8.0	38.2	54
24661.875000	16.2	H	0.0	23.2	-7.0	37.8	54
25229.250000	17.6	V	0.0	23.5	-5.9	36.4	54

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

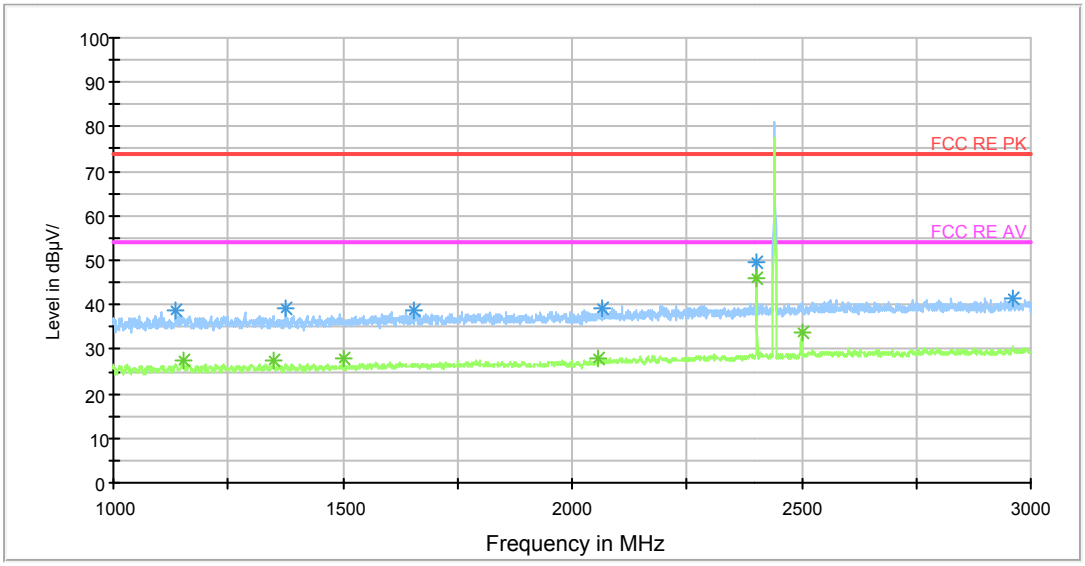
EDR-Channel 0

FCC RE 0.03-1GHz QP Class C



Radiates Emission from 30MHz to 1GHz

Frequency (MHz)	Quasi-Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
45.278750	23.9	100.0	V	277.0	37.0	-13.1	16.1	40.0
65.925000	18.4	100.0	V	226.0	28.6	-10.2	21.6	40.0
165.881250	28.7	225.0	H	286.0	38.7	-10.0	14.8	43.5
233.210000	30.9	125.0	H	265.0	44.3	-13.4	15.1	46.0
554.170000	18.9	175.0	H	277.0	40.1	-21.2	27.1	46.0
924.467500	24.8	200.0	V	134.0	50.6	-25.8	21.2	46.0



Radiates Emission from 1GHz to 3GHz

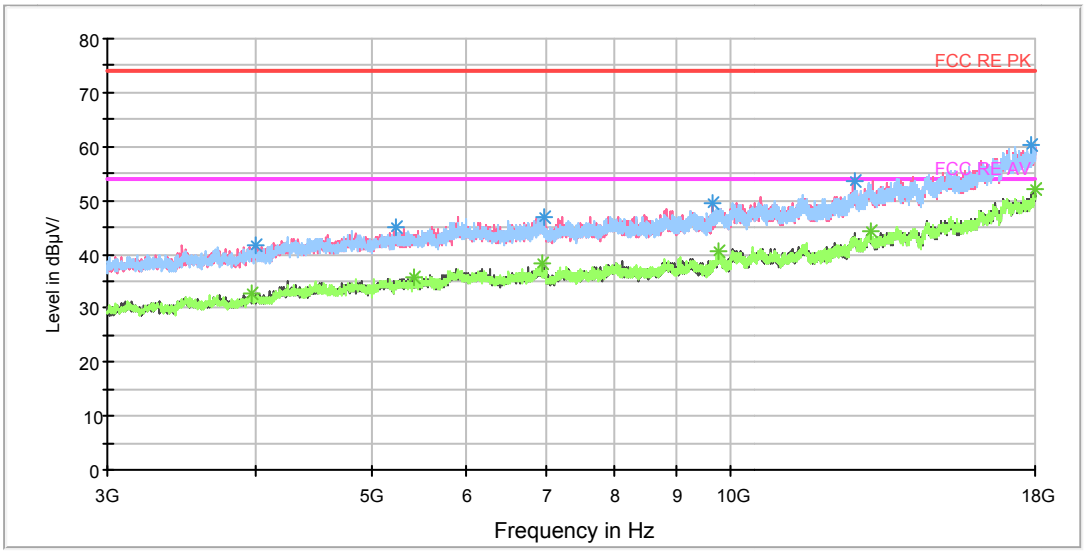
Note: The signal beyond the limit is carrier.

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1137.500000	38.8	100.0	H	230.0	49.7	-10.9	35.2	74
1377.000000	39.0	100.0	H	199.0	48.9	-9.9	35.0	74
1654.000000	38.6	100.0	V	316.0	47.4	-8.8	35.4	74
2067.500000	39.1	100.0	V	241.0	46.4	-7.3	34.9	74
2402.000000	49.5	100.0	H	45.0	55.1	-5.6	24.5	74
2960.000000	41.6	100.0	V	301.0	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)
1151.000000	27.3	100.0	V	53.0	38.1	-10.8	26.7	54
1350.000000	27.7	100.0	H	11.0	37.7	-10.0	26.3	54
1500.000000	27.7	100.0	V	357.0	37.2	-9.5	26.3	54
2057.000000	28.1	100.0	H	0.0	35.5	-7.4	25.9	54
2402.000000	45.9	100.0	H	45.0	51.5	-5.6	8.1	54
2500.000000	33.6	100.0	V	301.0	38.6	-5.0	20.4	54

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

RE 3-18GHz PK+AV



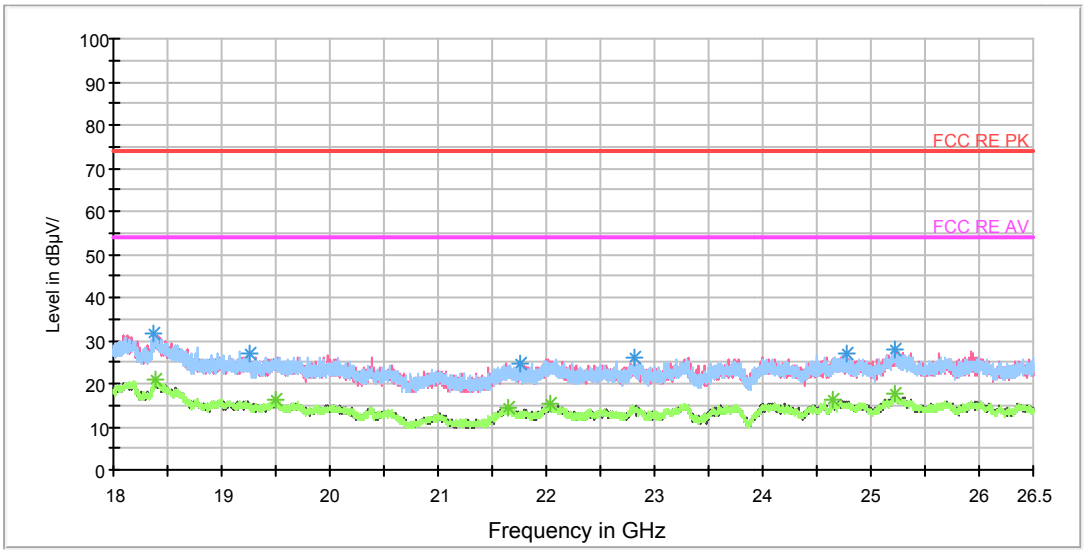
Radiates Emission from 3GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
3993.750000	41.8	101.0	V	283.0	42.3	-0.5	32.2	74
5238.750000	44.8	101.0	H	21.0	48.5	-3.7	29.2	74
6986.250000	47.0	101.0	V	333.0	53.5	-6.5	27.0	74
9652.500000	49.5	101.0	V	345.0	60.0	-10.5	24.5	74
12703.125000	53.8	101.0	H	9.0	68.9	-15.1	20.2	74
17866.875000	60.3	101.0	V	345.0	84.3	-24.0	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)
3960.000000	32.8	101.0	V	169.0	33.0	-0.2	21.2	54
5424.375000	35.5	101.0	V	182.0	39.3	-3.8	18.5	54
6937.500000	38.2	101.0	H	197.0	45.0	-6.8	15.8	54
9774.375000	40.4	101.0	H	314.0	52.4	-12.0	13.6	54
13104.375000	44.2	101.0	H	314.0	60.3	-16.1	9.8	54
18000.000000	52.0	101.0	V	283.0	77.4	-25.4	2.0	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

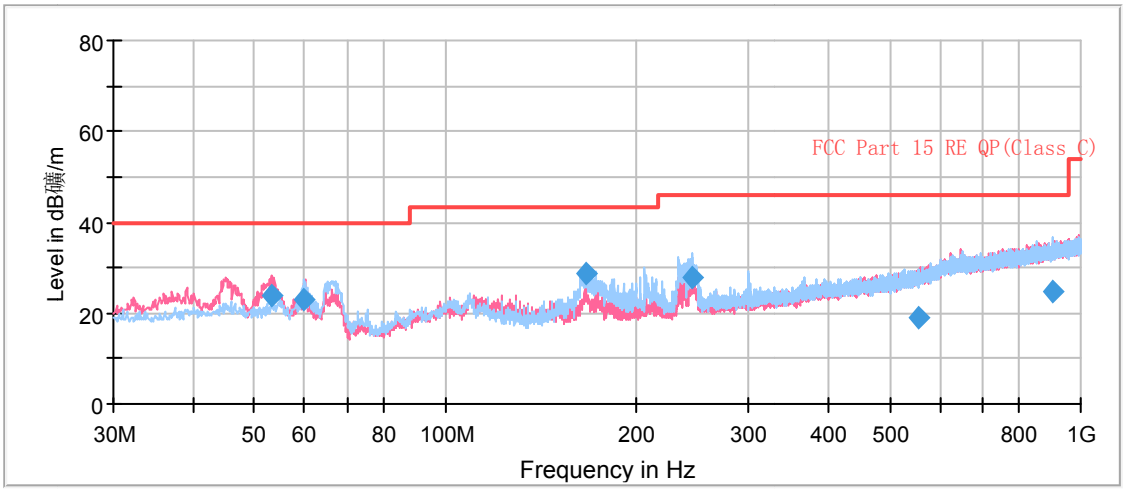
Frequency (MHz)	Peak (dBuV/m)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
18374.000000	31.5	V	0.0	36.2	-4.7	42.5	74
19260.125000	26.8	H	0.0	33.7	-6.9	47.2	74
21753.812500	24.8	V	0.0	34.2	-9.4	49.2	74
22806.750000	25.8	V	0.0	33.2	-7.4	48.2	74
24786.187500	26.8	H	0.0	33.6	-6.8	47.2	74
25217.562500	27.9	V	0.0	34.0	-6.1	46.1	74

Frequency (MHz)	Average (dBuV/m)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
18397.375000	21.1	V	0.0	26.0	-4.9	32.9	54
19493.875000	16.1	V	0.0	23.7	-7.6	37.9	54
21649.687500	14.4	V	0.0	23.6	-9.2	39.6	54
22032.187500	15.3	H	0.0	23.3	-8.0	38.7	54
24656.562500	16.4	H	0.0	23.4	-7.0	37.6	54
25220.750000	17.7	H	0.0	23.7	-6.0	36.3	54

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

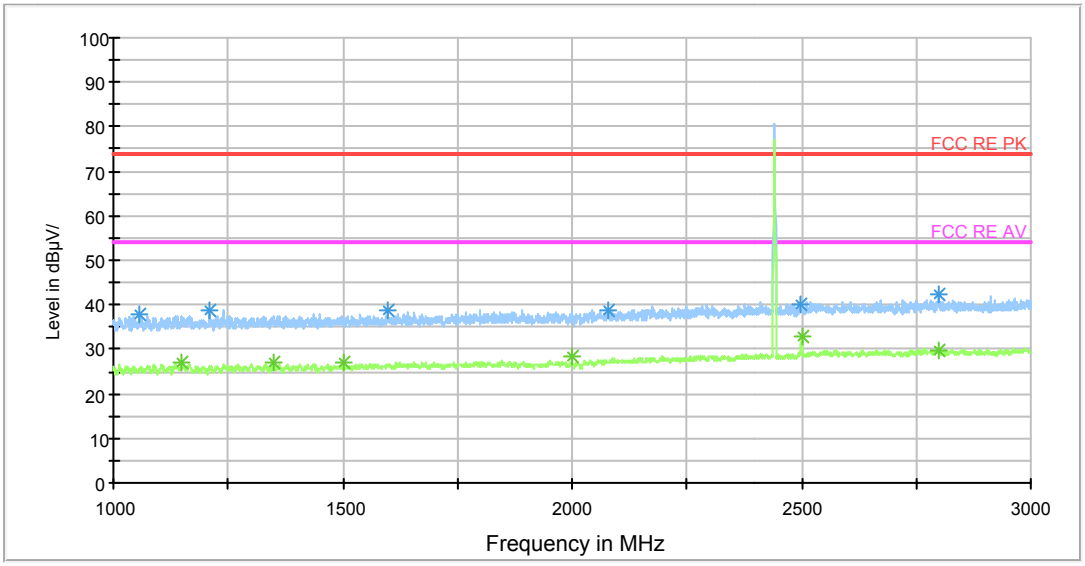
EDR-Channel 39

FCC RE 0.03-1GHz QP Class C



Radiates Emission from 30MHz to 1GHz

Frequency (MHz)	Quasi-Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
53.238750	23.8	100.0	V	226.0	36.6	-12.8	16.2	40.0
59.990000	23.0	211.0	V	244.0	35.5	-12.5	17.0	40.0
165.882500	28.5	175.0	H	293.0	38.5	-10.0	15.0	43.5
244.127500	27.7	125.0	H	327.0	41.6	-13.9	18.3	46.0
553.845000	18.9	175.0	H	344.0	40.1	-21.2	27.1	46.0
905.510000	24.6	125.0	H	19.0	50.3	-25.7	21.4	46.0



Radiates Emission from 1GHz to 3GHz

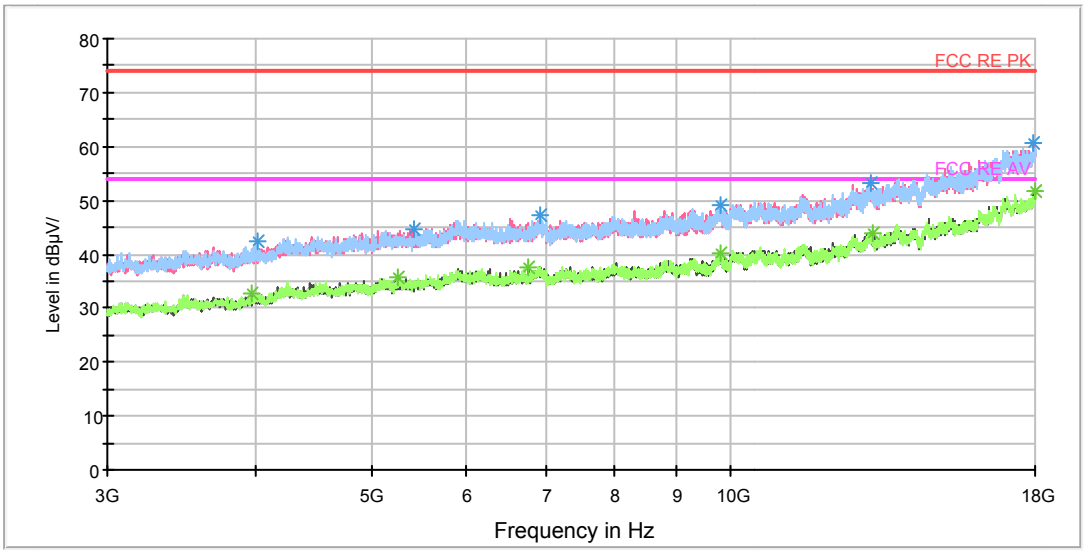
Note: The signal beyond the limit is carrier.

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1057.500000	37.9	100.0	V	183.0	49.1	-11.2	36.1	74
1210.500000	38.7	100.0	H	125.0	49.3	-10.6	35.3	74
1599.000000	38.6	100.0	V	183.0	47.6	-9.0	35.4	74
2079.000000	38.7	100.0	H	50.0	45.9	-7.2	35.3	74
2496.000000	40.3	100.0	H	184.0	45.3	-5.0	33.7	74
2799.000000	42.3	100.0	V	0.0	46.4	-4.1	31.7	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	27.1	100.0	V	352.0	37.9	-10.8	26.9	54
1350.000000	27.2	100.0	H	64.0	37.2	-10.0	26.8	54
1500.000000	27.1	100.0	V	356.0	36.6	-9.5	26.9	54
2000.000000	28.3	100.0	V	343.0	36.1	-7.8	25.7	54
2500.000000	32.9	100.0	V	273.0	37.9	-5.0	21.1	54
2798.500000	29.9	100.0	H	22.0	34.0	-4.1	24.1	54

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

RE 3-18GHz PK+AV



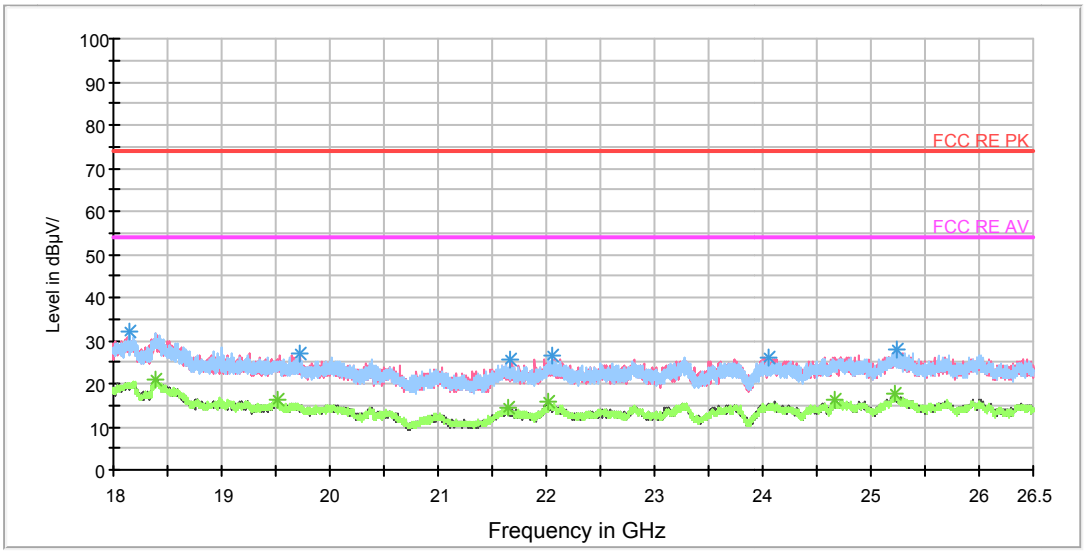
Radiates Emission from 3GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
4006.875000	42.4	101.0	H	171.0	42.9	-0.5	31.6	74
5426.250000	44.5	101.0	H	108.0	48.3	-3.8	29.5	74
6907.500000	47.1	101.0	H	171.0	54.0	-6.9	26.9	74
9813.750000	49.2	101.0	H	0.0	61.3	-12.1	24.8	74
13085.625000	53.2	101.0	H	19.0	69.4	-16.2	20.8	74
17906.250000	60.8	101.0	V	0.0	85.1	-24.3	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)
3965.625000	32.6	101.0	V	202.0	32.9	-0.3	21.4	54
5257.500000	35.6	101.0	H	195.0	39.3	-3.7	18.4	54
6774.375000	37.7	101.0	V	151.0	43.9	-6.2	16.3	54
9796.875000	40.2	101.0	H	32.0	52.4	-12.2	13.8	54
13145.625000	44.0	101.0	H	119.0	59.6	-15.6	10.0	54
17985.000000	51.6	101.0	V	277.0	76.8	-25.2	2.4	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

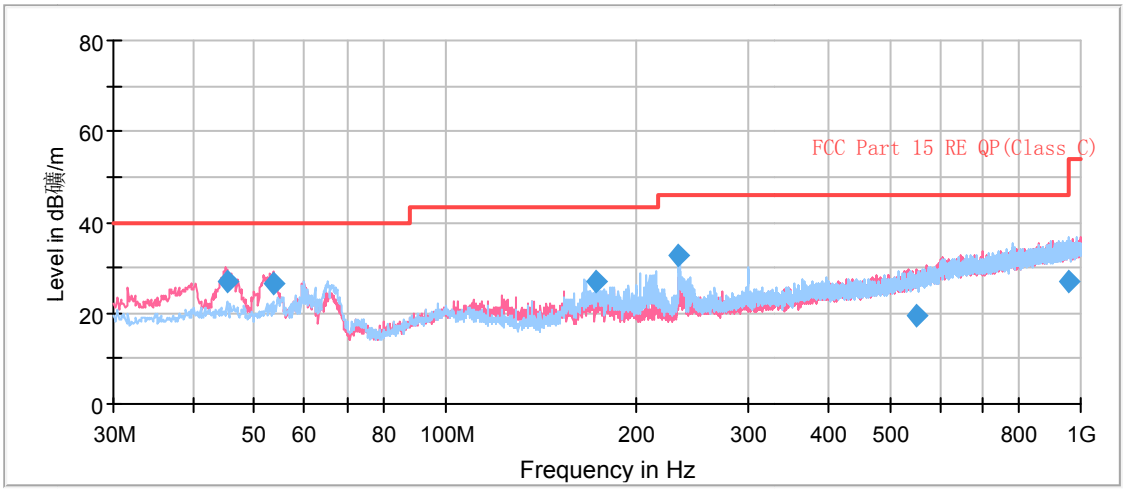
Frequency (MHz)	Peak (dBuV/m)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
18139.187500	32.1	H	0.0	37.1	-5.0	41.9	74
19730.812500	27.1	V	0.0	34.6	-7.5	46.9	74
21660.312500	25.7	V	0.0	34.9	-9.2	48.3	74
22051.312500	26.6	H	0.0	34.7	-8.1	47.4	74
24055.187500	26.2	H	0.0	34.0	-7.8	47.8	74
25233.500000	27.9	V	0.0	33.8	-5.9	46.1	74

Frequency (MHz)	Average (dBuV/m)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
18394.187500	21.0	V	0.0	25.9	-4.9	33.0	54
19517.250000	16.1	V	0.0	23.5	-7.4	37.9	54
21648.625000	14.2	H	0.0	23.4	-9.2	39.8	54
22017.312500	15.6	H	0.0	23.7	-8.1	38.4	54
24657.625000	16.1	H	0.0	23.1	-7.0	37.9	54
25229.250000	17.5	V	0.0	23.4	-5.9	36.5	54

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

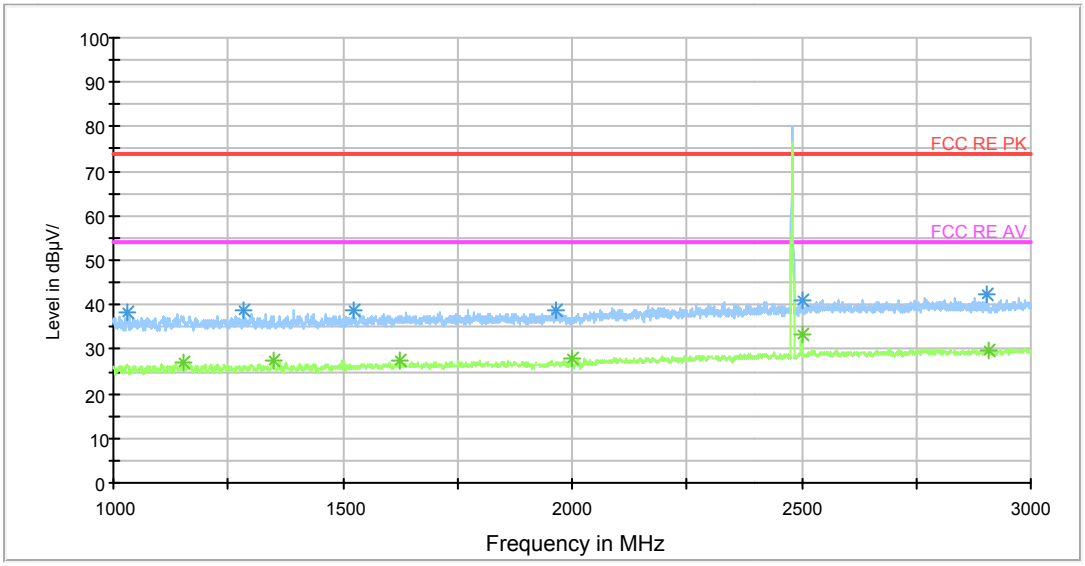
EDR-Channel 78

FCC RE 0.03-1GHz QP Class C



Radiates Emission from 30MHz to 1GHz

Frequency (MHz)	Quasi-Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
45.315000	27.0	101.0	V	262.0	40.1	-13.1	13.0	40.0
53.487500	26.7	101.0	V	258.0	39.5	-12.8	13.3	40.0
172.023750	26.9	126.0	H	284.0	37.3	-10.4	16.6	43.5
233.215000	32.7	126.0	H	284.0	46.1	-13.4	13.3	46.0
552.351250	19.4	126.0	V	0.0	40.5	-21.1	26.6	46.0
959.987500	26.9	101.0	H	22.0	53.0	-26.1	19.1	46.0



Radiates Emission from 1GHz to 3GHz

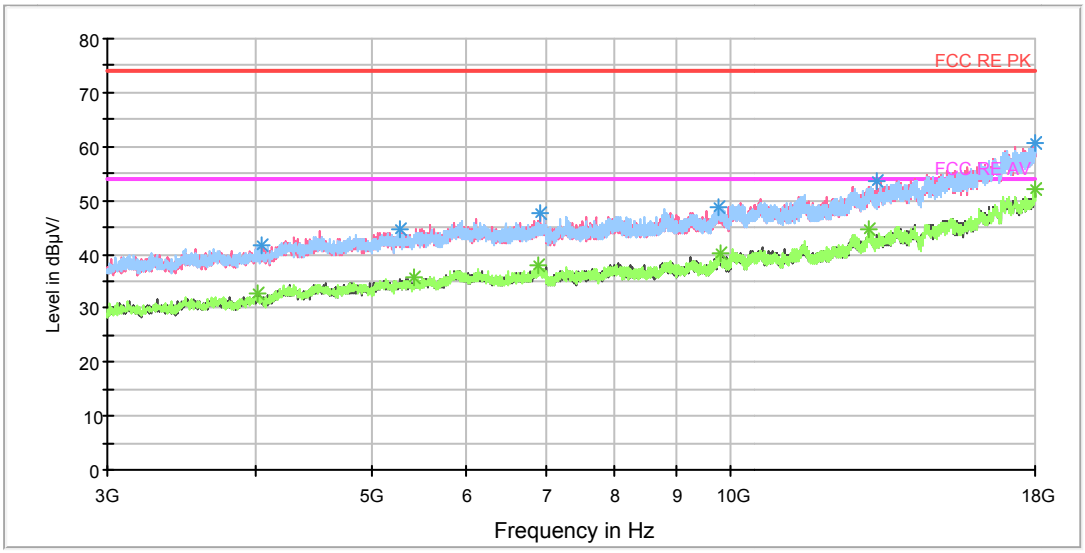
Note: The signal beyond the limit is carrier.

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1032.000000	38.1	100.0	H	0.0	49.4	-11.3	35.9	74
1284.000000	38.8	100.0	H	162.0	49.0	-10.2	35.2	74
1522.000000	38.6	100.0	H	51.0	48.0	-9.4	35.4	74
1965.500000	38.6	100.0	H	2.0	46.5	-7.9	35.4	74
2500.000000	41.0	100.0	V	24.0	46.0	-5.0	33.0	74
2902.500000	42.2	100.0	H	81.0	46.4	-4.2	31.8	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	8.0	37.8	-10.8	27.0	54
1350.000000	27.4	100.0	H	126.0	37.4	-10.0	26.6	54
1625.000000	27.3	100.0	V	0.0	36.2	-8.9	26.7	54
2000.000000	28.0	100.0	V	0.0	35.8	-7.8	26.0	54
2500.000000	33.4	100.0	V	24.0	38.4	-5.0	20.6	54
2909.000000	29.9	100.0	H	8.0	34.1	-4.2	24.1	54

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

RE 3-18GHz PK+AV



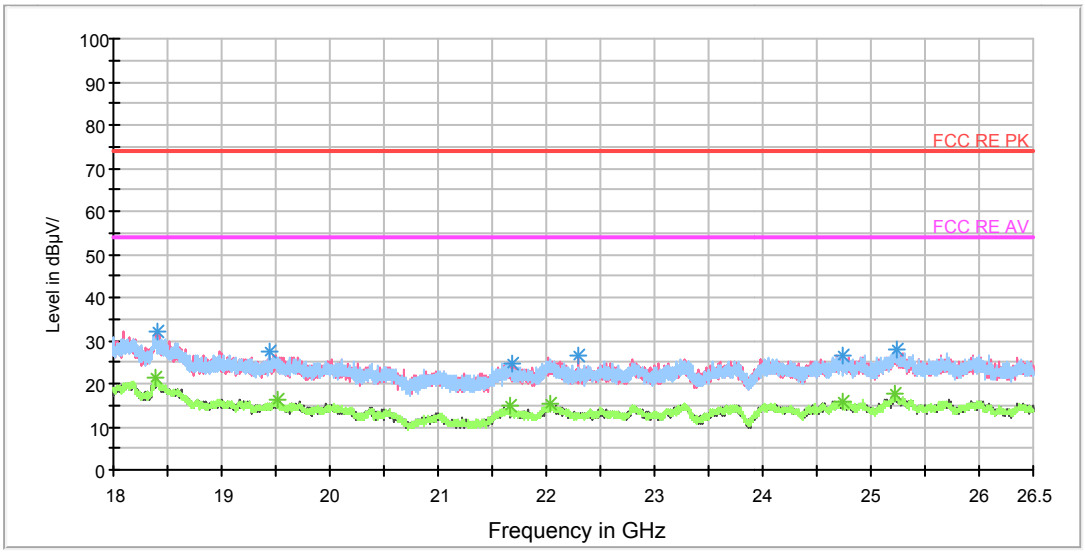
Radiates Emission from 3GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
4042.500000	41.8	101.0	V	191.0	42.4	-0.6	32.2	74
5276.250000	44.8	101.0	H	145.0	48.6	-3.8	29.2	74
6911.250000	47.7	101.0	V	264.0	54.6	-6.9	26.3	74
9774.375000	48.8	101.0	V	351.0	60.8	-12.0	25.2	74
13260.000000	53.5	101.0	V	0.0	68.7	-15.2	20.5	74
17998.125000	60.7	101.0	V	0.0	86.1	-25.4	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)
4014.375000	32.6	101.0	V	327.0	33.1	-0.5	21.4	54
5416.875000	35.5	101.0	H	0.0	39.3	-3.8	18.5	54
6881.250000	37.9	101.0	V	61.0	44.7	-6.8	16.1	54
9796.875000	40.2	101.0	H	301.0	52.4	-12.2	13.8	54
13072.500000	44.8	101.0	V	215.0	61.0	-16.2	9.2	54
17977.500000	52.2	101.0	V	165.0	77.3	-25.1	1.8	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)
18401.625000	32.2	V	0.0	37.1	-4.9	41.8	74
19435.437500	27.3	H	0.0	35.4	-8.1	46.7	74
21683.687500	24.8	V	0.0	34.2	-9.4	49.2	74
22304.187500	26.5	V	0.0	34.5	-8.0	47.5	74
24732.000000	26.6	H	0.0	32.9	-6.3	47.4	74
25246.250000	27.9	H	0.0	34.4	-6.5	46.1	74

Frequency (MHz)	Average (dBuV/m)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
18387.812500	21.4	V	0.0	26.3	-4.9	32.6	54
19511.937500	16.3	H	0.0	23.8	-7.5	37.7	54
21658.187500	14.7	H	0.0	23.9	-9.2	39.3	54
22033.250000	15.3	H	0.0	23.3	-8.0	38.7	54
24732.000000	16.0	H	0.0	22.3	-6.3	38.0	54
25225.000000	17.5	V	0.0	23.4	-5.9	36.5	54

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

4.11 Conducted Emission

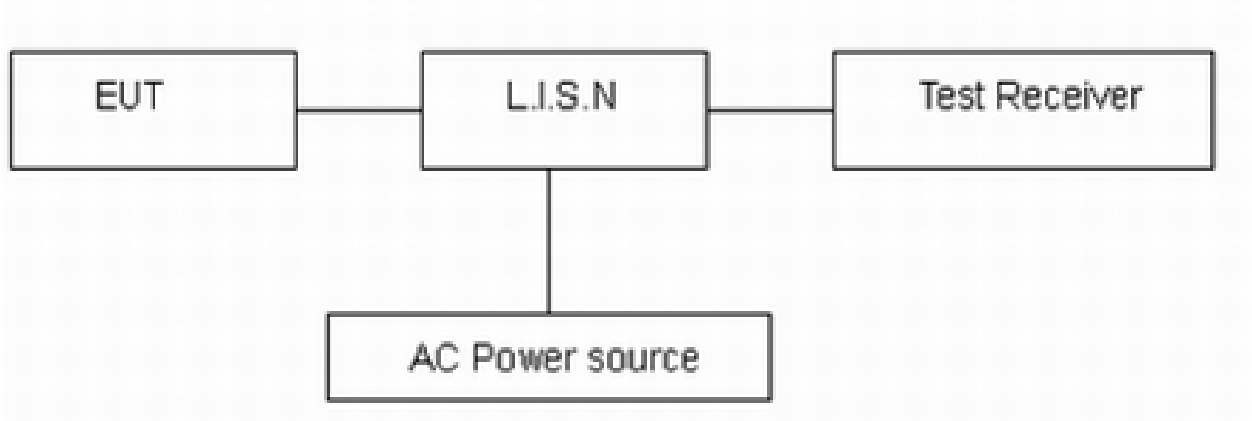
Ambient condition

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.		

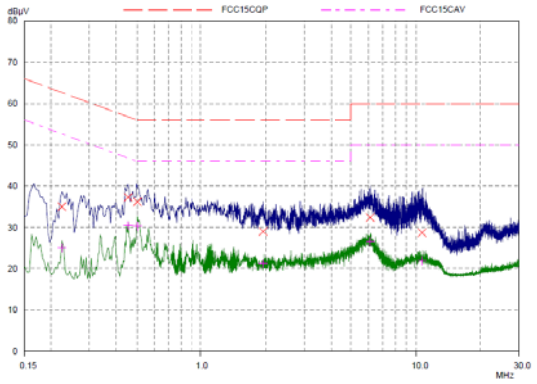
Measurement Uncertainty

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.

GFSK-CH0 L Line Conducted Emission from 150 KHz to 30 MHz

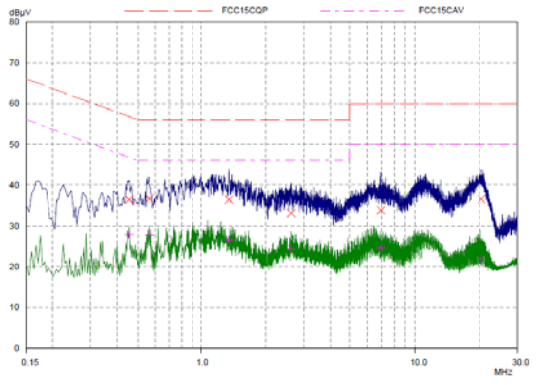


Final Measurement Results

Frequency MHz	QP Level dBµV	QP Limit dBµV	QP Delta dB	Phase -	PE -
0.22421	35.01	62.66	27.65	L1	gnd
0.45468	37.29	56.79	19.50	L1	gnd
0.50156	36.18	56.00	19.82	L1	gnd
1.93906	28.99	56.00	27.01	L1	gnd
6.12656	32.41	60.00	27.59	L1	gnd
10.62656	28.73	60.00	31.27	L1	gnd

Frequency MHz	AV Level dBµV	AV Limit dBµV	AV Delta dB	Phase -	PE -
0.22421	25.01	52.66	27.65	L1	gnd
0.45468	30.44	46.79	16.35	L1	gnd
0.50156	30.35	46.00	15.65	L1	gnd
1.93906	21.19	46.00	24.81	L1	gnd
6.12656	26.59	50.00	23.41	L1	gnd
10.62656	21.96	50.00	28.04	L1	gnd

GFSK-CH0 N Line Conducted Emission from 150 KHz to 30 MHz

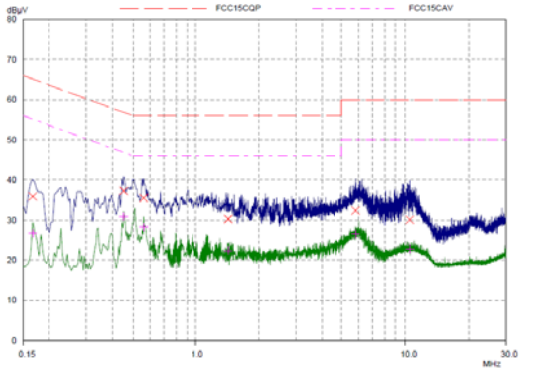


Final Measurement Results

Frequency MHz	QP Level dBµV	QP Limit dBµV	QP Delta dB	Phase -	PE -
0.45468	36.47	56.79	20.32	N	gnd
0.56406	36.70	56.00	19.30	N	gnd
1.34531	36.49	56.00	19.51	N	gnd
2.62265	33.13	56.00	22.87	N	gnd
6.95078	33.83	60.00	26.17	N	gnd
20.45468	36.58	60.00	23.42	N	gnd

Frequency MHz	AV Level dBµV	AV Limit dBµV	AV Delta dB	Phase -	PE -
0.45468	27.94	46.79	18.85	N	gnd
0.56406	27.82	46.00	18.18	N	gnd
1.34531	26.55	46.00	19.45	N	gnd
2.62265	24.42	46.00	21.58	N	gnd
6.95078	24.67	50.00	25.33	N	gnd
20.45468	21.73	50.00	28.27	N	gnd

GFSK-CH39 L Line Conducted Emission from 150 KHz to 30 MHz

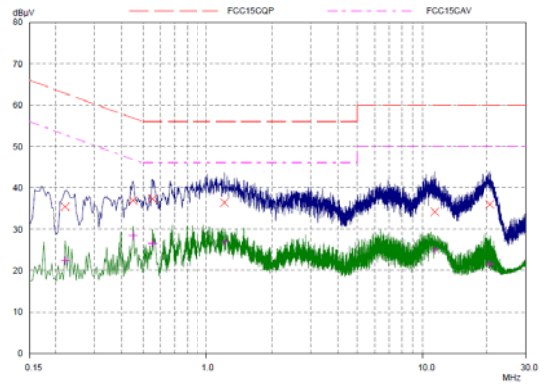


Final Measurement Results

Frequency MHz	QP Level dBµV	QP Limit dBµV	QP Delta dB	Phase -	PE -
0.16562	35.89	65.18	29.29	L1	gnd
0.45078	37.29	56.86	19.57	L1	gnd
0.56015	35.52	56.00	20.48	L1	gnd
1.42734	30.27	56.00	25.73	L1	gnd
5.82187	32.37	60.00	27.63	L1	gnd
10.51718	30.07	60.00	29.93	L1	gnd

Frequency MHz	AV Level dBµV	AV Limit dBµV	AV Delta dB	Phase -	PE -
0.16562	26.67	55.18	28.51	L1	gnd
0.45078	30.90	46.86	15.96	L1	gnd
0.56015	28.24	46.00	17.76	L1	gnd
1.42734	22.36	46.00	23.64	L1	gnd
5.82187	26.59	50.00	23.41	L1	gnd
10.51718	22.83	50.00	27.17	L1	gnd

GFSK-CH39 N Line Conducted Emission from 150 KHz to 30 MHz

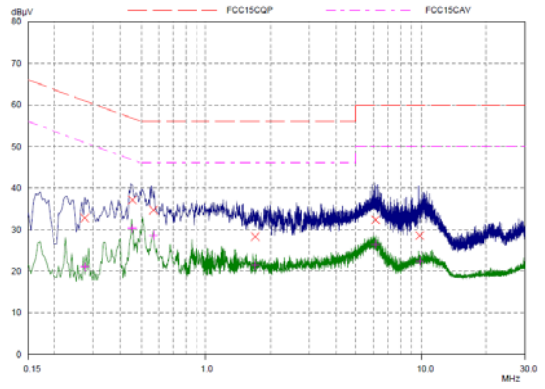


Final Measurement Results

Frequency MHz	QP Level dBµV	QP Limit dBµV	QP Delta dB	Phase -	PE -
0.22031	35.45	62.81	27.36	N	gnd
0.45078	36.93	56.86	19.93	N	gnd
0.55234	37.34	56.00	18.66	N	gnd
1.20859	36.44	56.00	19.56	N	gnd
11.36484	34.20	60.00	25.80	N	gnd
20.66953	35.98	60.00	24.02	N	gnd

Frequency MHz	AV Level dBµV	AV Limit dBµV	AV Delta dB	Phase -	PE -
0.22031	22.39	52.81	30.42	N	gnd
0.45078	28.45	46.86	18.41	N	gnd
0.55234	26.63	46.00	19.37	N	gnd
1.20859	26.85	46.00	19.15	N	gnd
11.36484	24.96	50.00	25.04	N	gnd
20.66953	21.57	50.00	28.43	N	gnd

GFSK-CH78 L Line Conducted Emission from 150 KHz to 30 MHz

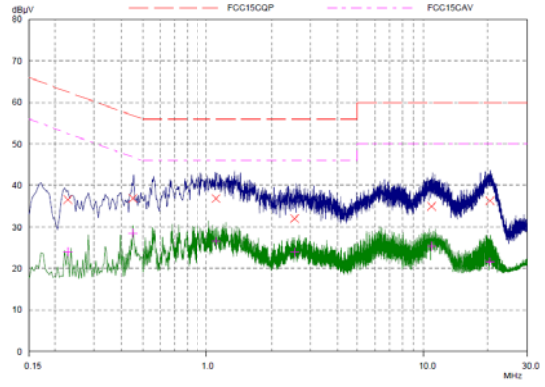


Final Measurement Results

Frequency MHz	QP Level dBµV	QP Limit dBµV	QP Delta dB	Phase -	PE -
0.275	32.83	60.97	28.14	L1	gnd
0.45468	37.15	56.79	19.64	L1	gnd
0.56796	34.72	56.00	21.28	L1	gnd
1.69296	28.29	56.00	27.71	L1	gnd
6.15781	32.37	60.00	27.63	L1	gnd
9.80234	28.55	60.00	31.45	L1	gnd

Frequency MHz	AV Level dBµV	AV Limit dBµV	AV Delta dB	Phase -	PE -
0.275	21.02	50.97	29.95	L1	gnd
0.45468	30.28	46.79	16.51	L1	gnd
0.56796	28.59	46.00	17.41	L1	gnd
1.69296	21.41	46.00	24.59	L1	gnd
6.15781	26.47	50.00	23.53	L1	gnd
9.80234	22.46	50.00	27.54	L1	gnd

GFSK-CH78 N Line Conducted Emission from 150 KHz to 30 MHz

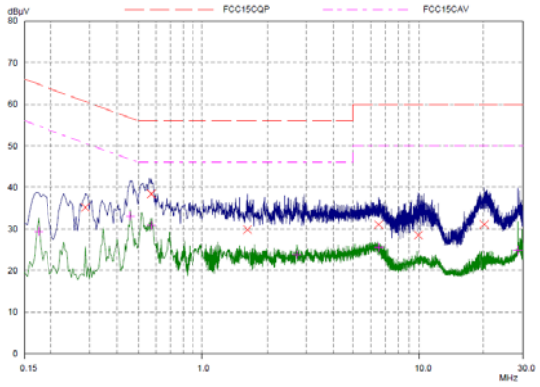


Final Measurement Results

Frequency MHz	QP Level dBµV	QP Limit dBµV	QP Delta dB	Phase -	PE -
0.22812	36.57	62.52	25.95	N	gnd
0.45078	36.87	56.86	19.99	N	gnd
1.10703	36.82	56.00	19.18	N	gnd
2.53671	32.01	56.00	23.99	N	gnd
10.86093	34.96	60.00	25.04	N	gnd
20.525	36.33	60.00	23.67	N	gnd

Frequency MHz	AV Level dBµV	AV Limit dBµV	AV Delta dB	Phase -	PE -
0.22812	24.07	52.52	28.45	N	gnd
0.45078	28.50	46.86	18.36	N	gnd
1.10703	26.61	46.00	19.39	N	gnd
2.53671	23.93	46.00	22.07	N	gnd
10.86093	25.38	50.00	24.62	N	gnd
20.525	21.68	50.00	28.32	N	gnd

EDR-CH0 L Line Conducted Emission from 150 KHz to 30 MHz

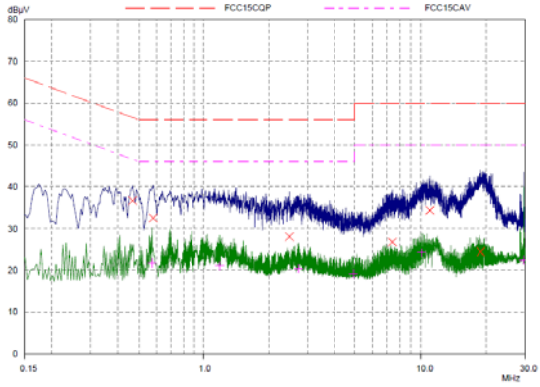


Final Measurement Results

Frequency MHz	QP Level dBµV	QP Limit dBµV	QP Delta dB	Phase -	PE -
0.28671	35.18	60.62	25.44	L1	gnd
0.57187	38.44	56.00	17.56	L1	gnd
1.61484	29.79	56.00	26.21	L1	gnd
6.5289	31.04	60.00	28.96	L1	gnd
9.91171	28.49	60.00	31.51	L1	gnd
20.2125	31.10	60.00	28.90	L1	gnd

Frequency MHz	AV Level dBµV	AV Limit dBµV	AV Delta dB	Phase -	PE -
0.17343	29.39	54.79	25.40	L1	gnd
0.45859	33.13	46.72	13.59	L1	gnd
0.57187	30.89	46.00	15.11	L1	gnd
2.72031	23.76	46.00	22.24	L1	gnd
6.5289	25.55	50.00	24.45	L1	gnd
28.53671	24.88	50.00	25.12	L1	gnd

EDR-CH0 N Line Conducted Emission from 150 KHz to 30 MHz

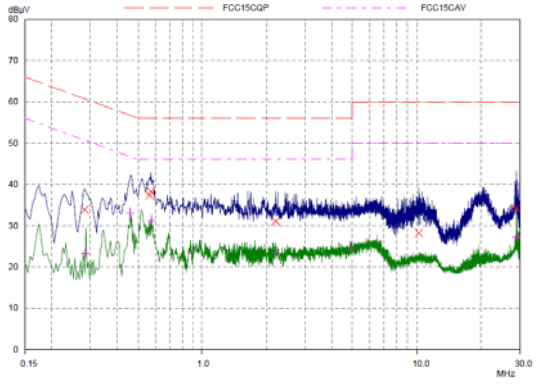


Final Measurement Results

Frequency MHz	QP Level dBµV	QP Limit dBµV	QP Delta dB	Phase -	PE -
0.4664	36.67	56.58	19.91	N	gnd
0.57968	32.50	56.00	23.50	N	gnd
2.47812	28.06	56.00	27.94	N	gnd
7.41171	26.77	60.00	33.23	N	gnd
10.97421	34.36	60.00	25.64	N	gnd
18.79843	24.44	60.00	35.56	N	gnd

Frequency MHz	AV Level dBµV	AV Limit dBµV	AV Delta dB	Phase -	PE -
0.57187	21.80	46.00	24.20	N	gnd
1.18515	21.12	46.00	24.88	N	gnd
2.72812	20.49	46.00	25.51	N	gnd
4.93125	19.20	46.00	26.80	N	gnd
10.02109	24.29	50.00	25.71	N	gnd
29.66171	22.48	50.00	27.52	N	gnd

EDR-CH39 L Line Conducted Emission from 150 KHz to 30 MHz

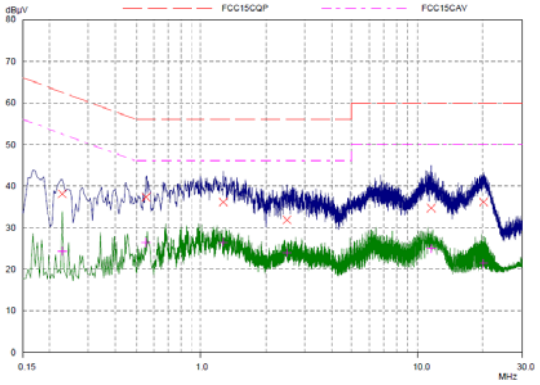


Final Measurement Results

Frequency MHz	QP Level dBµV	QP Limit dBµV	QP Delta dB	Phase -	PE -
0.28281	33.84	60.73	26.89	L1	gnd
0.56406	37.34	56.00	18.66	L1	gnd
0.57187	38.26	56.00	17.74	L1	gnd
2.19687	31.08	56.00	24.92	L1	gnd
10.15	28.20	60.00	31.80	L1	gnd
28.91171	34.23	60.00	25.77	L1	gnd

Frequency MHz	AV Level dBµV	AV Limit dBµV	AV Delta dB	Phase -	PE -
0.28671	23.31	50.62	27.31	L1	gnd
0.45859	33.13	46.72	13.59	L1	gnd
0.57578	31.11	46.00	14.89	L1	gnd
2.19687	23.27	46.00	22.73	L1	gnd
4.93125	24.39	46.00	21.61	L1	gnd
29.09921	27.27	50.00	22.73	L1	gnd

EDR-CH39 N Line Conducted Emission from 150 KHz to 30 MHz

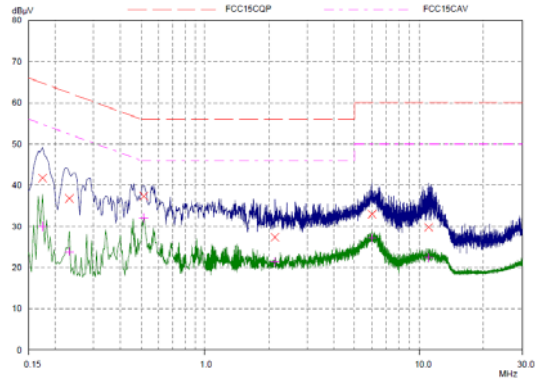


Final Measurement Results

Frequency MHz	QP Level dBµV	QP Limit dBµV	QP Delta dB	Phase -	PE -
0.22812	38.11	62.52	24.41	N	gnd
0.55234	37.36	56.00	18.64	N	gnd
1.27109	36.16	56.00	19.84	N	gnd
2.48984	31.86	56.00	24.14	N	gnd
11.51328	34.72	60.00	25.28	N	gnd
20.2125	36.16	60.00	23.84	N	gnd

Frequency MHz	AV Level dBµV	AV Limit dBµV	AV Delta dB	Phase -	PE -
0.22812	24.32	52.52	28.20	N	gnd
0.55234	26.38	46.00	19.62	N	gnd
1.27109	26.48	46.00	19.52	N	gnd
2.48984	23.92	46.00	22.08	N	gnd
11.51328	24.96	50.00	25.04	N	gnd
20.2125	21.47	50.00	28.53	N	gnd

EDR-CH78 L Line Conducted Emission from 150 KHz to 30 MHz

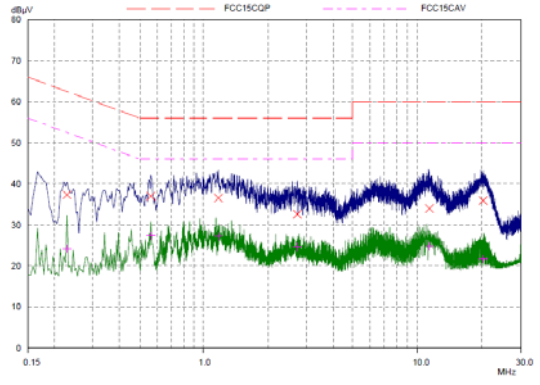


Final Measurement Results

Frequency MHz	QP Level dBµV	QP Limit dBµV	QP Delta dB	Phase -	PE -
0.17343	41.74	64.79	23.05	L1	gnd
0.23203	36.78	62.38	25.60	L1	gnd
0.51327	37.32	56.00	18.68	L1	gnd
2.12265	27.36	56.00	28.64	L1	gnd
6.025	32.95	60.00	27.05	L1	gnd
11.03281	29.79	60.00	30.21	L1	gnd

Frequency MHz	AV Level dBµV	AV Limit dBµV	AV Delta dB	Phase -	PE -
0.17343	29.96	54.79	24.83	L1	gnd
0.23203	23.90	52.38	28.48	L1	gnd
0.51327	32.01	46.00	13.99	L1	gnd
2.12265	21.37	46.00	24.63	L1	gnd
6.025	27.19	50.00	22.81	L1	gnd
11.03281	22.45	50.00	27.55	L1	gnd

EDR-CH78 N Line Conducted Emission from 150 KHz to 30 MHz



Final Measurement Results

Frequency MHz	QP Level dBµV	QP Limit dBµV	QP Delta dB	Phase -	PE -
0.22812	37.35	62.52	25.17	N	gnd
0.56015	37.02	56.00	18.98	N	gnd
1.17343	36.56	56.00	19.44	N	gnd
2.72421	32.61	56.00	23.39	N	gnd
11.37656	33.98	60.00	26.02	N	gnd
20.29843	35.91	60.00	24.09	N	gnd

Frequency MHz	AV Level dBµV	AV Limit dBµV	AV Delta dB	Phase -	PE -
0.22812	24.24	52.52	28.28	N	gnd
0.56015	27.39	46.00	18.61	N	gnd
1.17343	27.20	46.00	18.80	N	gnd
2.72421	24.65	46.00	21.35	N	gnd
11.37656	24.80	50.00	25.20	N	gnd
20.29843	21.72	50.00	28.28	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	2013-12-18	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 *******