

TEST REPORT

Radio Frequency Devices-Intentional Radiators

for

Products Name: MIDI CONTROLLER

Model No.: STARRYPAD PRO, STARRYPAD, STARRYPAD MINI,
STARRYKEY-37 PLAY, POCKET FM

FCC ID: 2AV7N-STARRYPADLINE

Report No.: SST2606E146

Issued Date: Jun. 12, 2026

Issued for

GUANGZHOU RANTION TECHNOLOGY CO., LTD.

Room 7002 and 7003, 7th Floor, Digital Entertainment Industrial Park, Greater Bay Area, No.28 Huangpu Park
West Road, Huangpu District, Guangzhou, China

Issued by

Dongguan Qiyang Testing Technology Co., Ltd.

Room 101-1, Building 1, No.19, Tianxin Butterfly 1st Road, Huangjiang, Dongguan, Guangdong, China

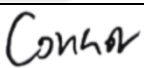
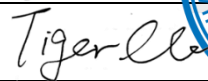
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1. Basic Introduction

Applicant's name..... :	GUANGZHOU RANTION TECHNOLOGY CO., LTD.	
Address	Room 7002 and 7003, 7th Floor, Digital Entertainment Industrial Park, Greater Bay Area, No.28 Huangpu Park West Road, Huangpu District, Guangzhou, China	
Manufacturer's name	GUANGZHOU RANTION TECHNOLOGY CO., LTD.	
Address	Room 7002 and 7003, 7th Floor, Digital Entertainment Industrial Park, Greater Bay Area, No.28 Huangpu Park West Road, Huangpu District, Guangzhou, China	
Products Name..... :	MIDI CONTROLLER	
Model No..... :	STARRYPAD PRO, STARRYPAD, STARRYPAD MINI, STARRYKEY-37 PLAY, POCKET FM	
Trade Mark	DONNER, MouKey, Eastar	
Rating(s)..... :	Rechargeable Li-ion Battery DC 3.7V	
Date of sample receipt..... :	Jun. 03, 2026	
Date of Test..... :	Jun. 03, 2026 ~ Jun. 12, 2026	
Standard(s)	FCC 47 CFR PART 15 Subpart C Section 15.247 ANSI C63.10-2020+COR 1-2023	
Tested by (+signature)..... :	Connor Ma	
Check by (+signature)..... :	Davis Zhou	
Approved by (+signature).... :	Tiger Chen	



2. General description

2.1. EUT description

Products Name	MIDI CONTROLLER	
Model No.	STARRYPAD PRO	
Rating(s)	Rechargeable Li-ion Battery DC 3.7V	
SN.....	SST2606E146-0101	
Operation frequency	2402MHz ~ 2480MHz	
Channel numbers	40	
Channel separation	2MHz	
Modulation technology	GFSK	
Antenna type	PCB antenna	
Antenna gain	0.67dBi	
Cable	Name	Description
	USB-C Line	☐ Shielded ☒ Unshielded ☒ Detachable ☐ Un-detachable ☐ No applicable ☒ Length: 1 m

2.2. Serial model(s) and model difference

Main model(s)	STARRYPAD PRO
Serial model(s)	STARRYPAD, STARRYPAD MINI, STARRYKEY-37 PLAY, POCKET FM
Model difference	STARRYPAD PRO is tested model, other models are derivative models. The models are identical in circuit and PCB layout, only different on the model names and trademarks. So the test data of STARRYPAD PRO can represent the remaining models.

2.3. Auxiliary equipment

Support equipment list			
Description	Manufacturer	Model No.	Serial No.
Notebook PC	HP	ZHAN 66P	66Y03PC#AB2
UART	Tengfei	USB TO TTL	/
Adapter	UGREEN	X763	E9C122810534
Support cable list			
Description	Specified length(m)	Shielded	Unshielded
/	/	/	/

2.4. Description of test modes

Prescan Operating Mode		
No.	Detailed description of the operating mode	Test voltage
1	continuously transmitting, with its lowest data rate which emit the max power level	DC 3.7V

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
0	2402MHz	10	2422MHz	20	2442MHz	30	2462MHz
1	2404MHz	11	2424MHz	21	2444MHz	31	2464MHz
2	2406MHz	12	2426MHz	22	2446MHz	32	2466MHz
3	2408MHz	13	2428MHz	23	2448MHz	33	2468MHz
4	2410MHz	14	2430MHz	24	2450MHz	34	2470MHz
5	2412MHz	15	2432MHz	25	2452MHz	35	2472MHz
6	2414MHz	16	2434MHz	26	2454MHz	36	2474MHz
7	2416MHz	17	2436MHz	27	2456MHz	37	2476MHz
8	2418MHz	18	2438MHz	28	2458MHz	38	2478MHz
9	2420MHz	19	2440MHz	29	2460MHz	39	2480MHz

2.5. Test environmental conditions

The climatic conditions during the tests are within the limits specified by the manufacturer for the operation of the EUT and the test equipment.

The climatic conditions during the tests were within the following limits:

Ambient temperature	Relative humidity	Atmospheric pressure
15 °C ~ 35 °C	30 % ~ 60 %	86 kPa ~ 106 kPa

If explicitly required in the basic standard or applied product standard the climatic values are recorded and documented separately in this test report.

2.6.Statement of Measurement Uncertainty

Test Item	Uncertainty
Uncertainty for Conducted emissions	3.31 dB
Uncertainty for Radiated emission (9 kHz to 30 MHz)	3.1 dB
Uncertainty for Radiated emission (30 MHz to 1 GHz)	4.53 dB
Uncertainty for Radiated emission (above 1 GHz)	4.80 dB
RF power, conducted	1.08 dB
Power Spectral Density, Conducted	1.46 dB
Spurious Emissions, Conducted	2.94 dB
Measurement Uncertainty Decision Rule Determination of conformity with the specification limits is based on the decision rule according to IEC Guide 115: 2023, clause 4.3.3 and 4.3.4.	

2.7.Report modification record

Report No.	Issue Date	Description
SST2606E146	2026-06-12	Original Report

2.8.Test Facility

The test facility is recognized, certified, or accredited by the following organizations:	
A2LA	Certificate No.:7057.01
FCC	Designation Number: CN1432
	Test Firm Registration Number: 640253
IC	Company Number: 30419
	CAB identifier: CN0154
CNAS	Registration No.: L17883
Location	Dongguan Qiyang Testing Technology Co., Ltd.
	Room 101-1, Building 1, No.19, Tianxin Butterfly 1st Road, Huangjiang, Dongguan, Guangdong, China

2.9. Other information

The laboratory responsible for all the information provided in the report, except those information provided by the applicant.

The applicant shall fully responsible for the information they provided.

The report would be invalid without a stamp of test laboratory and the signatures of compiler and approver.

The laboratory has not been responsible for the sampling stage; the test report merely corresponds to the test sample received.

Any objection to the test report shall submitted to the test laboratory within 15 days from the date of receipt of the report.

It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

2.10. Addition Instructions

Test Software	FCC_assist_1.0.2.2
Power level setup	Default

3. Verdict summary section

FCC 47 CFR PART 15 Subpart C		
Requirement – Test case	Basic standard	Verdict
Antenna requirement	FCC part 15.203	Pass
AC Power Line Conducted Emission	FCC part 15.207	Pass
Conducted Peak Output Power	FCC part 15.247 (b)(3)	Pass
Channel Bandwidth & 99% OCB	FCC part 15.247 (a)(2)	Pass
Power Spectral Density	FCC part 15.247 (e)	Pass
Band Edge	FCC part 15.247(d)	Pass
Spurious Emission	FCC part 15.205/15.209	Pass

Test case verdicts	
- Test case does not apply to the test object	N/A
- Test object does meet the requirement	P (Pass)
- Test object does not meet the requirement	F (Fail)

4. List of Test Equipment

Equipment	Manufacturer	Model No.	Serial No.	Date of Cal.	Cal. Due
Connected emissions					
EMI Test Receiver	R&S	ESR3	103057	2026/04/10	2027/04/09
LISN	R&S	ENV 216	102832	2026/04/10	2027/04/09
Test Software	Farad	EZ-EMC	3A1.6	/	/
Radiated emissions					
Loop Antenna	Schwarzbeck	FMZB 1513-60 B	00044	2026/04/11	2027/04/10
Broadband Antenna	Schwarzbeck	VULB 9162	00556	2026/04/11	2027/04/10
Horn Antenna	Schwarzbeck	BBHA 9120 D	02783	2026/04/11	2027/04/10
Horn Antenna	Schwarzbeck	BBHA9170	01306	2026/04/11	2027/04/10
EMI Test Receiver	R&S	ESU8	100372	2026/04/11	2027/04/10
Spectrum Analyzer	R&S	FSV40-N	101791	2026/04/11	2027/04/10
Amplifier	Schwarzbeck	BBV 9744	00327	2026/04/11	2027/04/10
Amplifier	TSTPASS	LNA10180G45	TS2215008	2026/04/14	2027/04/13
Amplifier	RF system	TRLA-180400G45B	23060801	2026/04/14	2027/04/13
3m Anechoic Chamber	BOST	CHC-966	/	2026/04/11	2029/04/10
Test Software	Farad	EZ-EMC	3A1.1+	/	/
RF conducted					
Spectrum Analyzer	keysight	N9020A	MY51280659	2026/04/10	2027/04/09
Signal Generator	Agilent	N5181A	MY48180054	2026/04/10	2027/04/09
Signal Generator	keysight	N5172B	MY57281610	2026/04/10	2027/04/09
Spectrum Analyzer	R&S	FSV40-N	101791	2026/04/10	2027/04/09
Wideband Radio Communication Tester	R&S	CMW500	123123	2026/04/10	2027/04/09
RF Switch Box	TST PASS	TST V2	/	2026/04/10	2027/04/09
Test Software	TST PASS	TST PASS	V2.0	/	/
Temperature and Humidity Meter	KTJ	TA218A	879033	2026/04/13	2027/04/12

5. Technical Requirement and Measurement Data

5.1. Generally requirement

Antenna requirement:

§15.203 requirement:

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

§15.247(b) (4) requirement:

(4) The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

EUT Antenna:

The antenna is PCB antenna which is permanently attached, Reference to the appendix for details

5.2. Connected emissions

5.2.1. Limits

Frequency (MHz)	Quasi-peak	Average
0.15 to 0.5	66 to 56	56 to 46
0.5 to 5	56	46
5 to 30	60	50

5.2.2. Test method

The measurement was performed in a shield room.

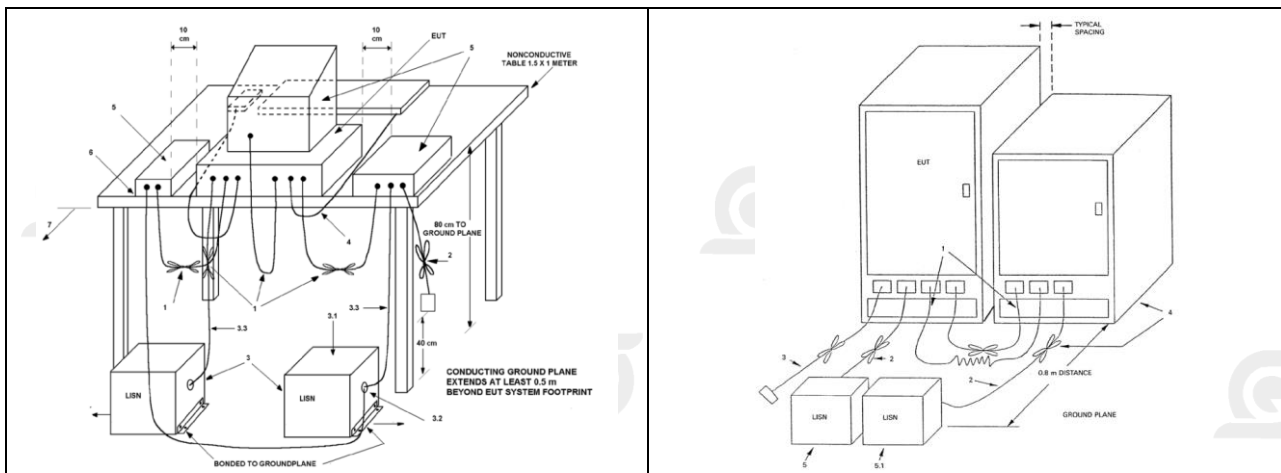
Measured levels of ac power-line conducted emission shall be the radio-noise voltage from the voltage probe, where permitted, or across the 50 Ω LISN port (to which the EUT is connected), as terminated into a 50 Ω EMI receiver or spectrum analyzer. All radio-noise voltage and current measurements shall be made on each current-carrying conductor at the plug end of the EUT power cord or calibrated extension cord by the use of mating plugs and receptacles on the EUT and LISN, if used. The manufacturer shall test equipment with power cords that are normally supplied or recommended by the manufacturer and that have electrical and shielding characteristics that are the same as those cords normally supplied or recommended. For measurements using a LISN, the 50 Ω measuring port is terminated into a 50 Ω EMI receiver or spectrum analyzer. All other ports are terminated into 50 Ω loads.

Table top devices shall be placed on a platform of nominal size 1 m by 1.5 m, raised 80 cm above the reference ground plane. The vertical conducting plane or wall of an RF-shielded (screened) room shall be located 40 cm to the rear of the EUT. Floor-standing devices shall be placed either directly on the reference ground-plane or on insulating material as described in ANSI C63.4. All other surfaces of tabletop or floor-standing EUTs shall be at least 80 cm from any other grounded conducting surface, including the case or cases of one or more LISNs.

The bandwidth of the test receiver is set at 9 kHz.

5.2.3. Block diagram of test setup

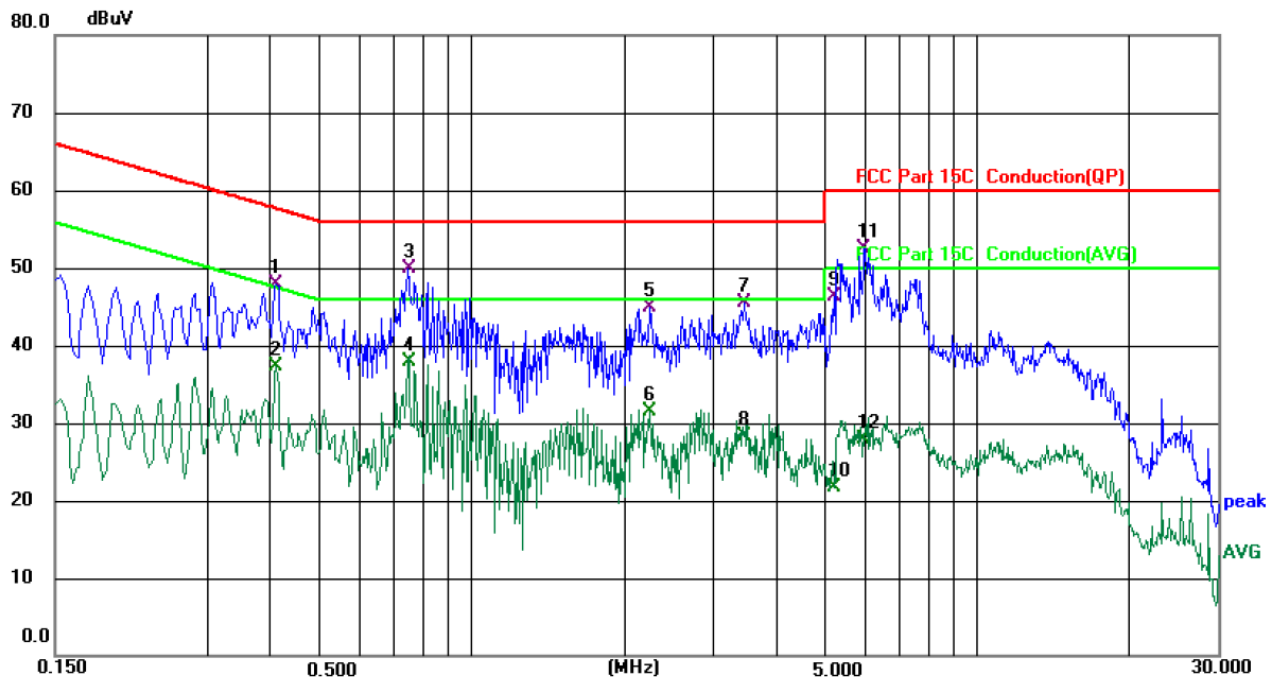
☒ For table-top equipment	☐ For floor standing equipment
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5.2.4. Test information

Ambient temperature:	22.8 °C
Relative humidity:	48 %
EUT operation mode:	Mode 1
Test Voltage:	DC 5V(Adapter Input AC 120V/60Hz)
Test results:	Pass
Remark:	Correct Factor Value = Attenuator Factor + Cable Loss + LISN Factor Measurement Value = Reading Level Value + Correct Factor Value Over Value = Measurement Value - Limit Value Only the worst case report (BLE_1M, 2440MHz)

Measurement data and Graphical presentation of the result



Site 844 Shielding Room

Phase: **L1**

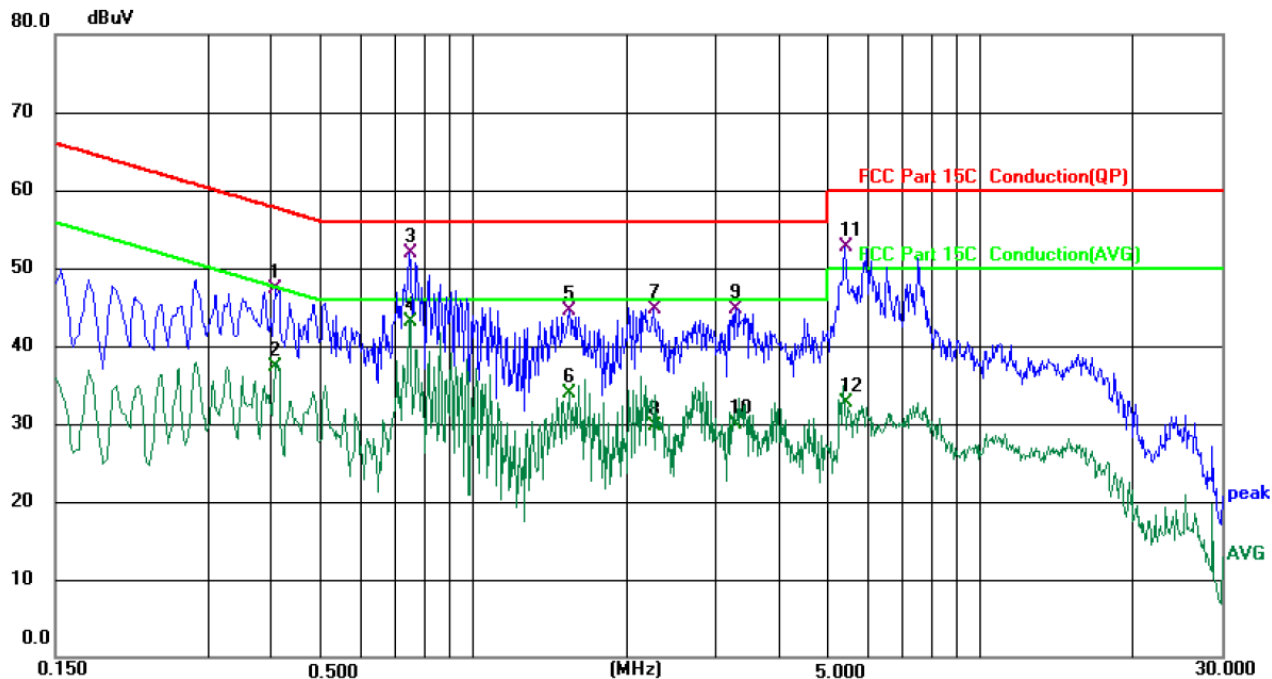
Temperature: 22.8 (°C)

Humidity: 48 %

Limit: FCC Part 15C Conduction(QP)

Power: DC 5 V(Adapter Input AC 120 V/60 Hz)

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.4100	37.83	10.14	47.97	57.65	-9.68	QP	
2		0.4100	27.20	10.14	37.34	47.65	-10.31	AVG	
3	*	0.7500	39.73	10.14	49.87	56.00	-6.13	QP	
4		0.7500	27.83	10.14	37.97	46.00	-8.03	AVG	
5		2.2500	34.66	10.19	44.85	56.00	-11.15	QP	
6		2.2500	21.39	10.19	31.58	46.00	-14.42	AVG	
7		3.4540	35.30	10.21	45.51	56.00	-10.49	QP	
8		3.4540	18.00	10.21	28.21	46.00	-17.79	AVG	
9		5.2100	36.09	10.26	46.35	60.00	-13.65	QP	
10		5.2100	11.54	10.26	21.80	50.00	-28.20	AVG	
11		5.9699	42.15	10.28	52.43	60.00	-7.57	QP	
12		5.9699	17.72	10.28	28.00	50.00	-22.00	AVG	



Site 844 Shielding Room

Phase: **N**

Temperature: 22.8 (°C)

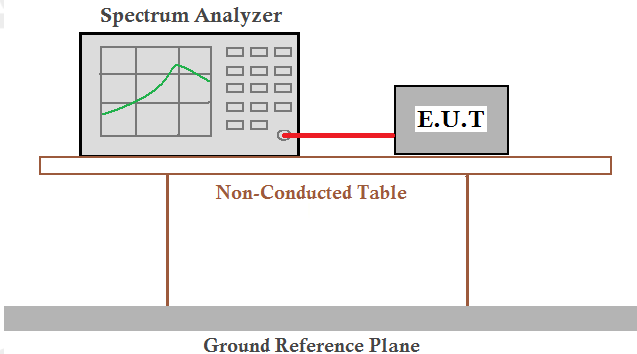
Humidity: 48 %

Limit: FCC Part 15C Conduction(QP)

Power: DC 5 V(Adapter Input AC 120 V/60 Hz)

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.4060	37.21	10.14	47.35	57.73	-10.38	QP	
2		0.4060	27.15	10.14	37.29	47.73	-10.44	AVG	
3		0.7500	41.78	10.14	51.92	56.00	-4.08	QP	
4	*	0.7500	33.05	10.14	43.19	46.00	-2.81	AVG	
5		1.5460	34.39	10.18	44.57	56.00	-11.43	QP	
6		1.5460	23.63	10.18	33.81	46.00	-12.19	AVG	
7		2.2700	34.55	10.19	44.74	56.00	-11.26	QP	
8		2.2700	19.59	10.19	29.78	46.00	-16.22	AVG	
9		3.2940	34.50	10.21	44.71	56.00	-11.29	QP	
10		3.2940	19.61	10.21	29.82	46.00	-16.18	AVG	
11		5.4100	42.35	10.26	52.61	60.00	-7.39	QP	
12		5.4100	22.35	10.26	32.61	50.00	-17.39	AVG	

5.3. Duty Cycle

Limit
Report for use
Block diagram of Test Setup
 The diagram shows a Spectrum Analyzer and an E.U.T (Equipment Under Test) connected by a red cable. They are both placed on a table labeled 'Non-Conducted Table'. This table is supported by a 'Ground Reference Plane'.
Test Instrument
Refer to section 4 for details
Test Procedures
The transmitter output connected to the Spectrum Analyzer. Test according to Procedure 6.0)b in KDB 558074 v05r02. 1.RBW=8 MHz(the largest available value) 2.VBW=8 MHz(>RBW) 3.SPAN = 0 Hz 4.Detector = Peak 5.Number of points in sweep: 30001 6.Trace mode: Clear write 7.Measure T_{total} and T_{on} 8.Calculate Duty Cycle = T_{on}/T_{total} and Duty Cycle Factor = $10\log(1/\text{Duty Cycle})$
Verdict
Pass

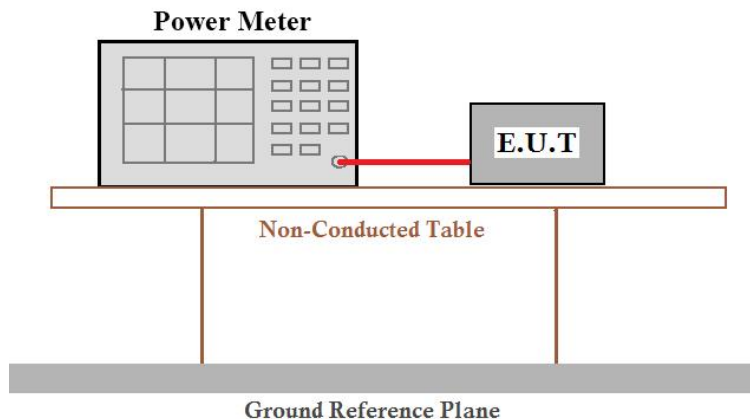
Measurement Data: The detailed test data see Appendix IV

5.4. Conducted Peak Output Power

Limit

1W(30dBm)

Block diagram of Test Setup



Test Instrument

Refer to section 4 for details

Test Procedures

Set spectrum analyzer as following:

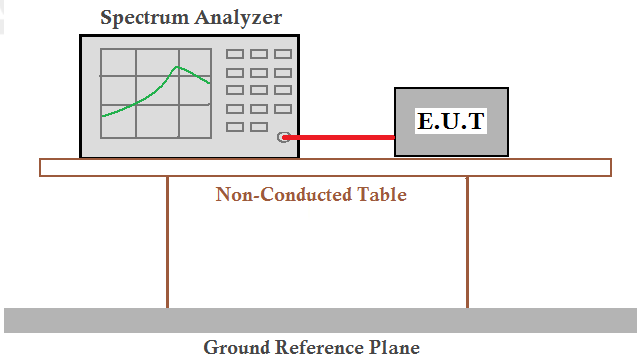
- Set the RBW $\geq$ DTS bandwidth.
- Set VBW $\geq 3 \times$ RBW.
- Set span $\geq 3 \times$ RBW
- Sweep time = auto couple.
- Detector = peak.
- Trace mode = max hold.
- Allow trace to fully stabilize.
- Use peak marker function to determine the peak amplitude level.

Verdict

Pass

Measurement Data: The detailed test data see Appendix IV

5.5. Channel Bandwidth

Limit
>500KHz
Block diagram of Test Setup
 The diagram shows a Spectrum Analyzer and an E.U.T. (Equipment Under Test) connected by a red cable. They are both sitting on a table labeled 'Non-Conducted Table'. Below the table is a thick grey bar labeled 'Ground Reference Plane'.
Test Instrument
Refer to section 4 for details
Test Procedures
The steps for the first option are as follows: - Set RBW = shall be in the range of 1% to 5% of the OBW but not less than 100 kHz. - Set the VBW $\geq [3 \times \text{RBW}]$. - Detector = peak. - Trace mode = max-hold. - Sweep = No faster than coupled (auto) time. - Allow the trace to stabilize. - Measure the maximum width of the emission by placing two markers, one at the lowest frequency and the other at the highest frequency of the envelope of the spectral display, such that each marker is at or slightly below the “-6 dB down amplitude”. If a marker is below this “-6 dB down amplitude” value, then it shall be as close as possible to this value.
Verdict
Pass

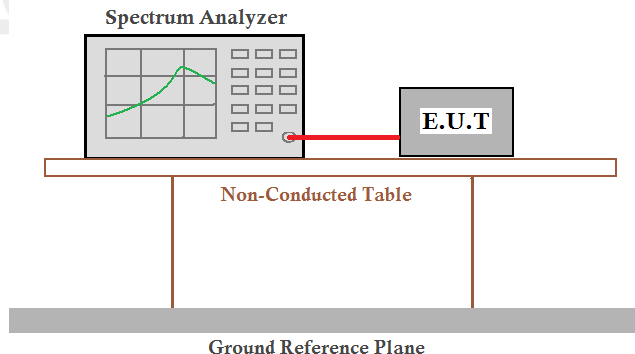
Measurement Data: The detailed test data see Appendix IV

5.6. Power Spectral Density

Limit

8dBm/3kHz

Block diagram of Test Setup



Test Instrument

Refer to section 4 for details

Test Procedures

- Set analyzer center frequency to DTS channel center frequency.
- Set the span >1.5 times the DTS bandwidth.
- Set the RBW to $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$.
- Set the VBW $\geq [3 \times \text{RBW}]$.
- Detector = peak.
- Sweep time = No faster than coupled (auto) time.
- Trace mode = max-hold.
- Allow trace to fully stabilize.
- Use the peak marker function to determine the maximum amplitude level within the RBW.

Verdict

Pass

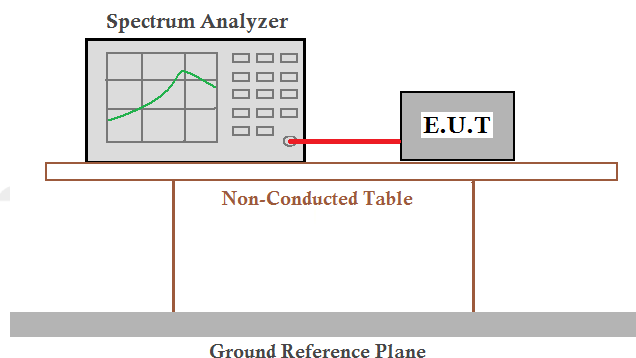
Measurement Data: The detailed test data see Appendix IV

5.7. Conducted Spurious Emission

Limit

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, based on either an RF conducted or a radiated measurement.

Block diagram of Test Setup



Test Instrument

Refer to section 4 for details

Test Procedures

Establish a reference level by using the following procedure:

- Set instrument center frequency to DTS channel center frequency.
- Set the span to ≥ 1.5 times the DTS bandwidth.
- Set the RBW = 100 kHz.
- Set the VBW $\geq [3 \times \text{RBW}]$.
- Detector = peak.
- Sweep time = No faster than coupled (auto) time.
- Trace mode = max-hold.
- Allow trace to fully stabilize.
- Use the peak marker function to determine the maximum PSD level.

Note that the channel found to contain the maximum PSD level can be used to establish the reference level

Establish an emission level by using the following procedure:

- Set the center frequency and span to encompass frequency range to be measured. Note that the frequency range might need to be divided into multiple frequency ranges to retain frequency resolution.

NOTE—the number of points can also be increased for large spans to retain frequency resolution

- Set the RBW = 100 kHz.
- Set the VBW $\geq [3 \times \text{RBW}]$.
- Detector = peak.
- Sweep time = No faster than coupled (auto) time.
- Trace mode = max-hold.
- Allow trace to fully stabilize.
- Use the peak marker function to determine the maximum amplitude level.

Verdict

Pass

Measurement Data: The detailed test data see Appendix IV

5.8. Radiated emissions

5.8.1. Limits

Frequency (MHz)	Field Strength(microvolts/meter)	Measurement distance(meters)
0.009~0.49	2400/F(kHz)	300
0.49~1.705	24000/F(kHz)	30
1.705~30	30	30
30~88	100**	3
88~216	150**	3
216~960	200**	3
Above 960	500	3

** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54–72 MHz, 76–88 MHz, 174–216 MHz or 470–806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241.

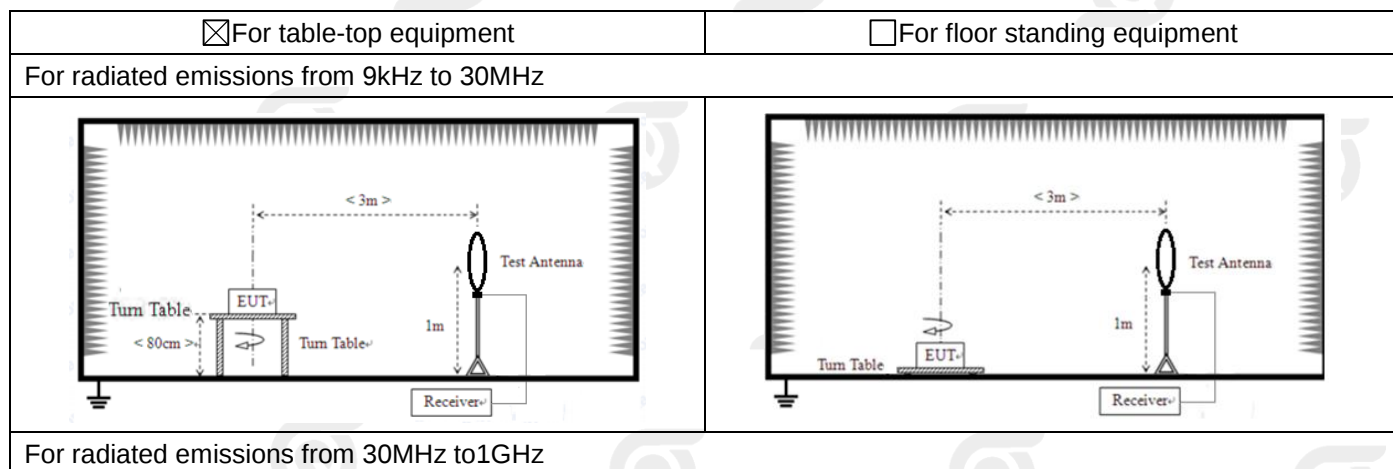
5.8.2. Test method

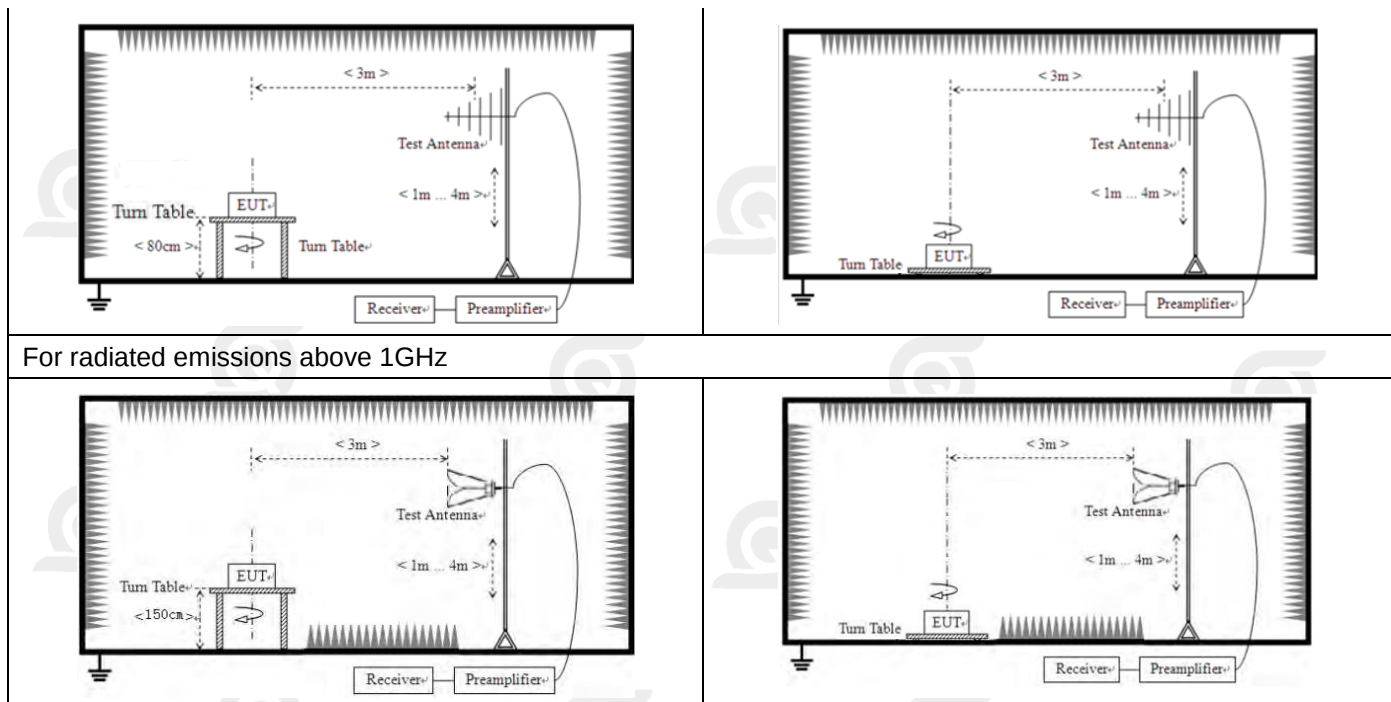
Measurements were made in semi-anechoic chamber or Open Area Test Site that complies to CISPR 16.

Preliminary (peak) measurements. The EUT was rotated 360° about its azimuth with the receive antenna located at various heights in horizontal and vertical polarities. Final measurements (quasi-peak detector below 1 GHz and average detector above 1 GHz) were then performed by rotating the EUT 360° and adjusting the receive antenna height from 1 to 4 m. All frequencies were investigated in both horizontal and vertical antenna polarity, where applicable.

Test applies to KDB558074 D01 15.247 Meas Guidance v05r02 & C63.10

5.8.3. Block diagram of test setup





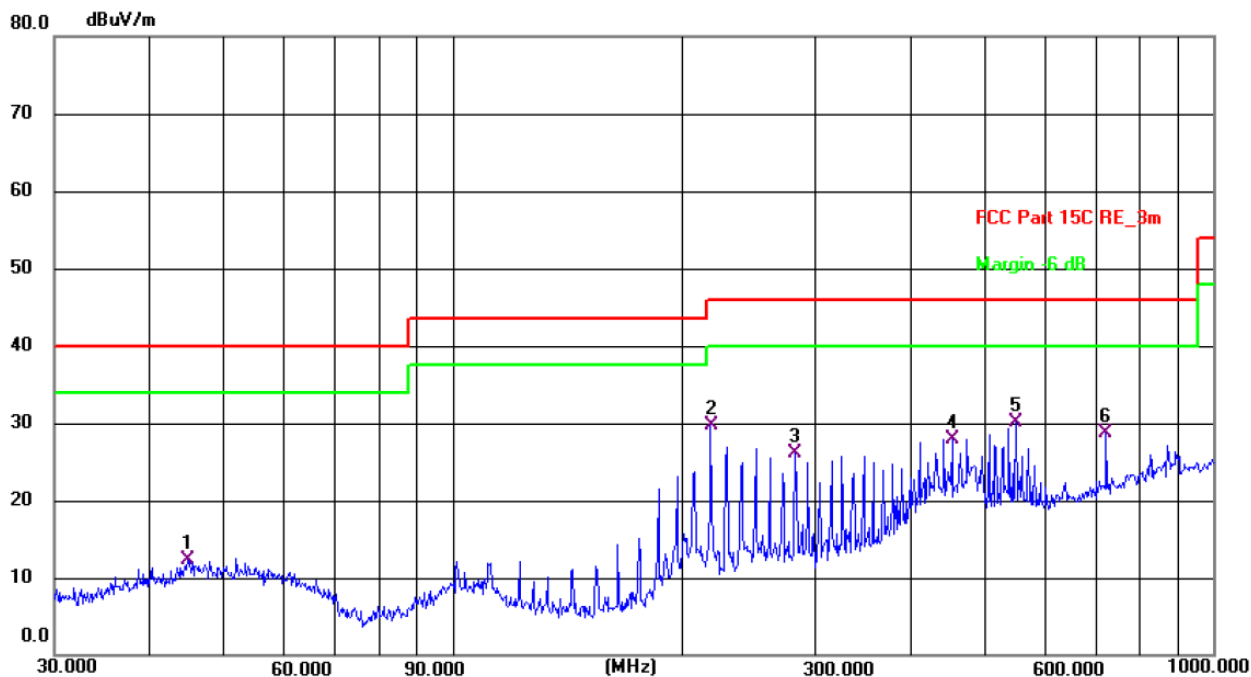
5.8.4. Test information

Ambient temperature:	25.7 °C
Relative humidity:	51 %
EUT operation mode:	Mode 1
Test results:	Pass
Remark:	Factor Value = Antenna Factor + Cable Loss - Preamplifier Factor Level Value = Reading Value + Factor Value Margin Value = Level Value - Limit Value Only the worst case report (BLE_1M, 2440MHz)

Note: The emission from 9 kHz to 30MHz was pre-tested and found the result was 20dB lower than the limit, and according to 15.31(o), the test result no need to reported.

Measurement data and Graphical presentation of the result

All condition were test and passed, only worst data report (BLE_1M, 2440MHz)



Site: 3m Anechoic Chamber1

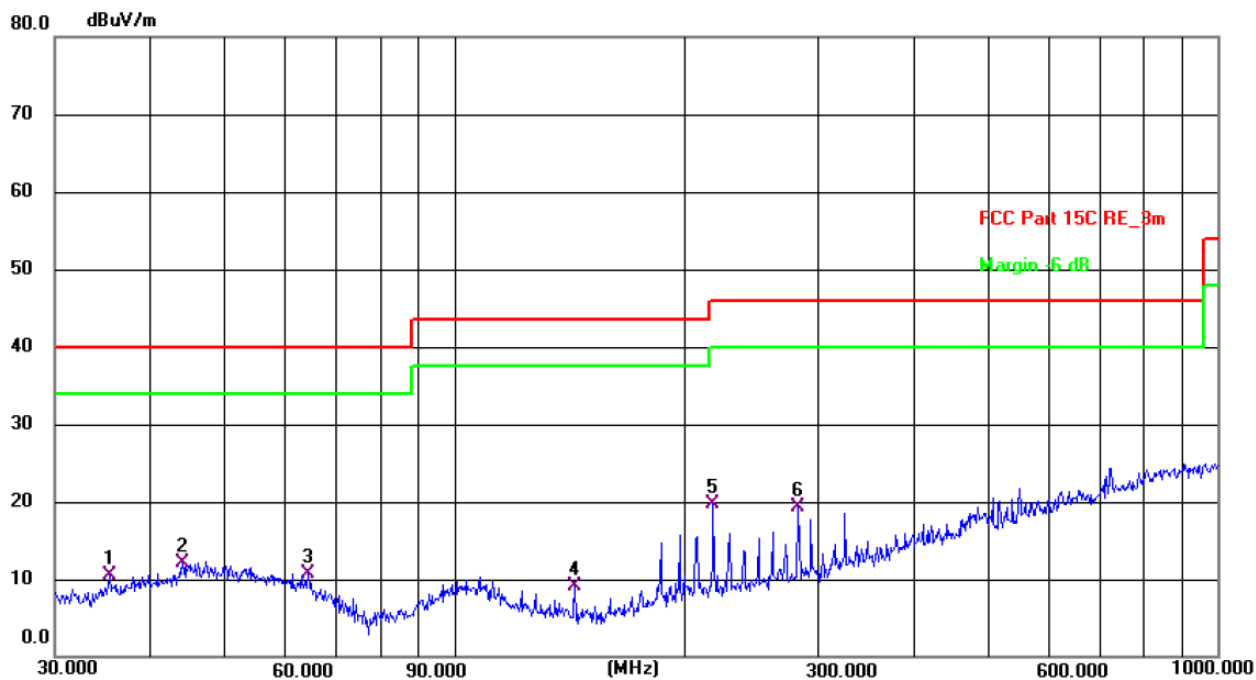
Polarization: **Horizontal**

Temperature: 25.7(C) Humidity: 51 %

Limit: FCC Part 15C RE_3m

Power: DC 3.7 V

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	44.9006	27.22	-14.95	12.27	40.00	-27.73	QP	P	
2	218.7874	46.16	-16.55	29.61	46.00	-16.39	QP	P	
3	281.9945	40.75	-14.63	26.12	46.00	-19.88	QP	P	
4	452.7197	38.33	-10.47	27.86	46.00	-18.14	QP	P	
5 *	549.0193	38.23	-8.21	30.02	46.00	-15.98	QP	P	
6	721.7258	33.76	-5.03	28.73	46.00	-17.27	QP	P	



Site: 3m Anechoic Chamber1

Polarization: **Vertical**

Temperature: 25.7(C) Humidity: 51 %

Limit: FCC Part 15C RE_3m

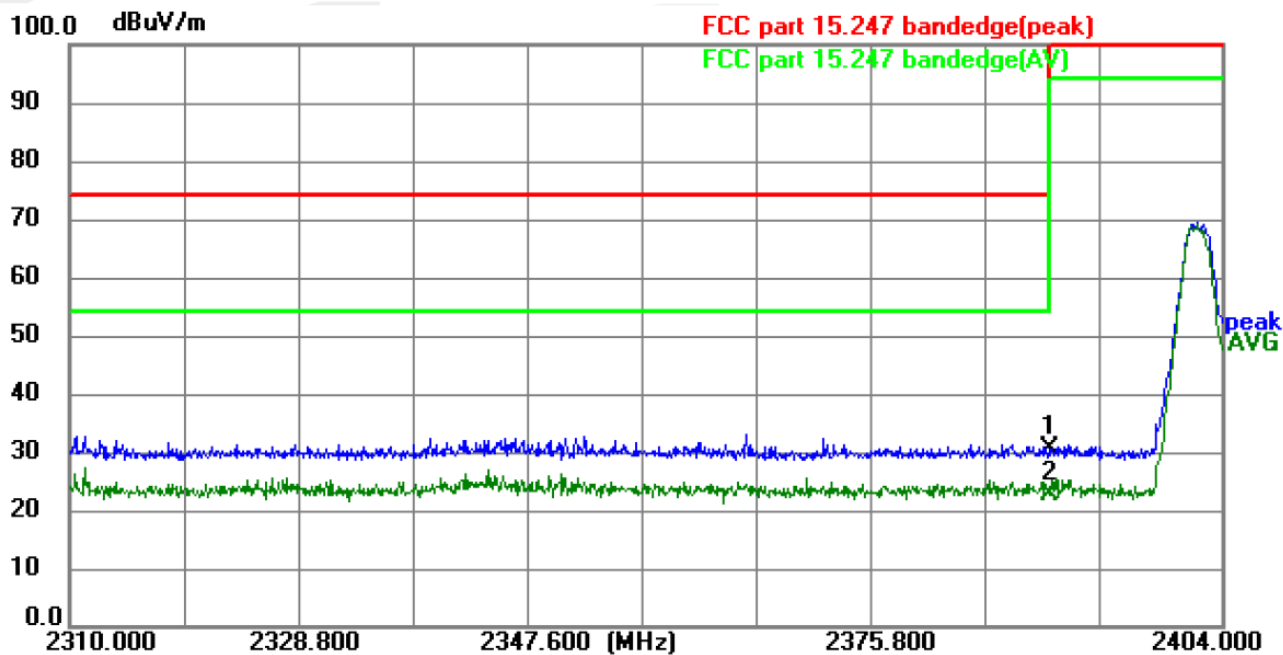
Power: DC 3.7 V

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	35.3750	27.70	-17.27	10.43	40.00	-29.57	QP	P	
2	44.1202	27.18	-15.13	12.05	40.00	-27.95	QP	P	
3	64.4331	27.30	-16.51	10.79	40.00	-29.21	QP	P	
4	143.8295	28.86	-19.80	9.06	43.50	-34.44	QP	P	
5 *	218.3085	36.30	-16.56	19.74	46.00	-26.26	QP	P	
6	281.9946	33.91	-14.63	19.28	46.00	-26.72	QP	P	

Band Edge:

All condition were test and passed, only worst data report (BLE_1M)

Lowest channel:



Site: 3m Anechoic Chamber

Polarization: **Horizontal**

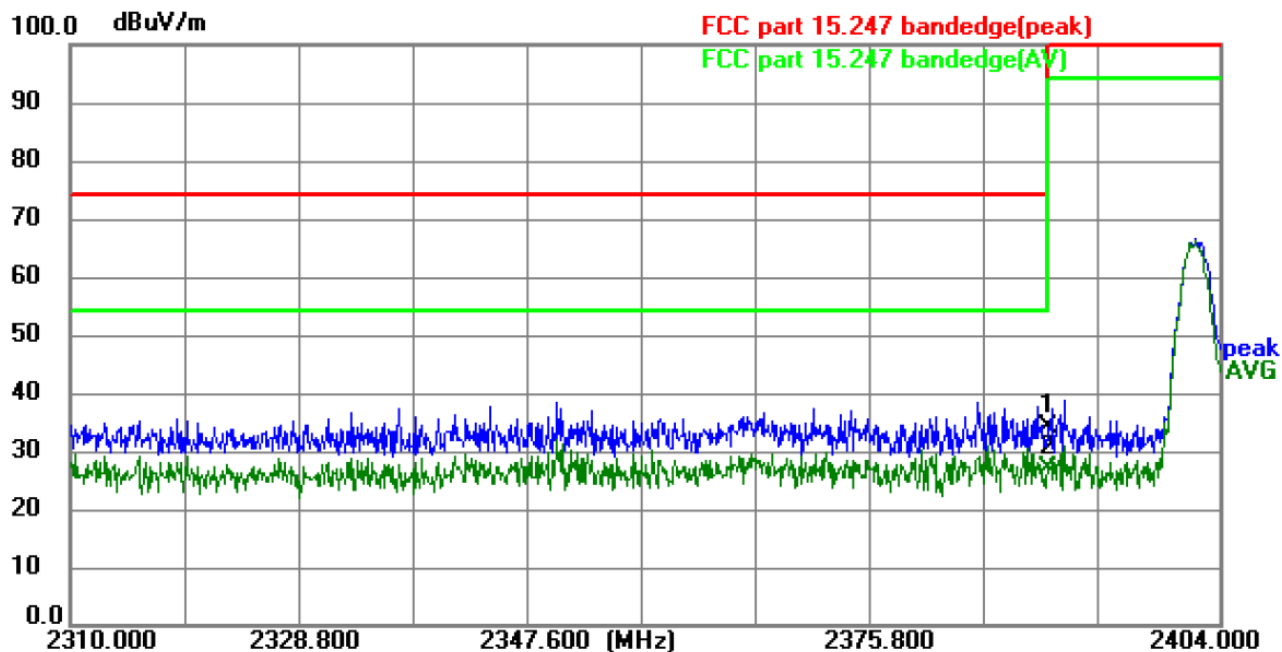
Temperature: 23.1 °C

Humidity: 49 %

Limit: FCC part 15.247 bandedge(peak)

Power:DC 3.7 V

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	2390.0000	51.54	-20.98	30.56	74.00	-43.44	peak	P	
2 *	2390.0000	43.72	-20.98	22.74	54.00	-31.26	AVG	P	



Site: 3m Anechoic Chamber

Polarization: **Vertical**

Temperature: 23.1 °C

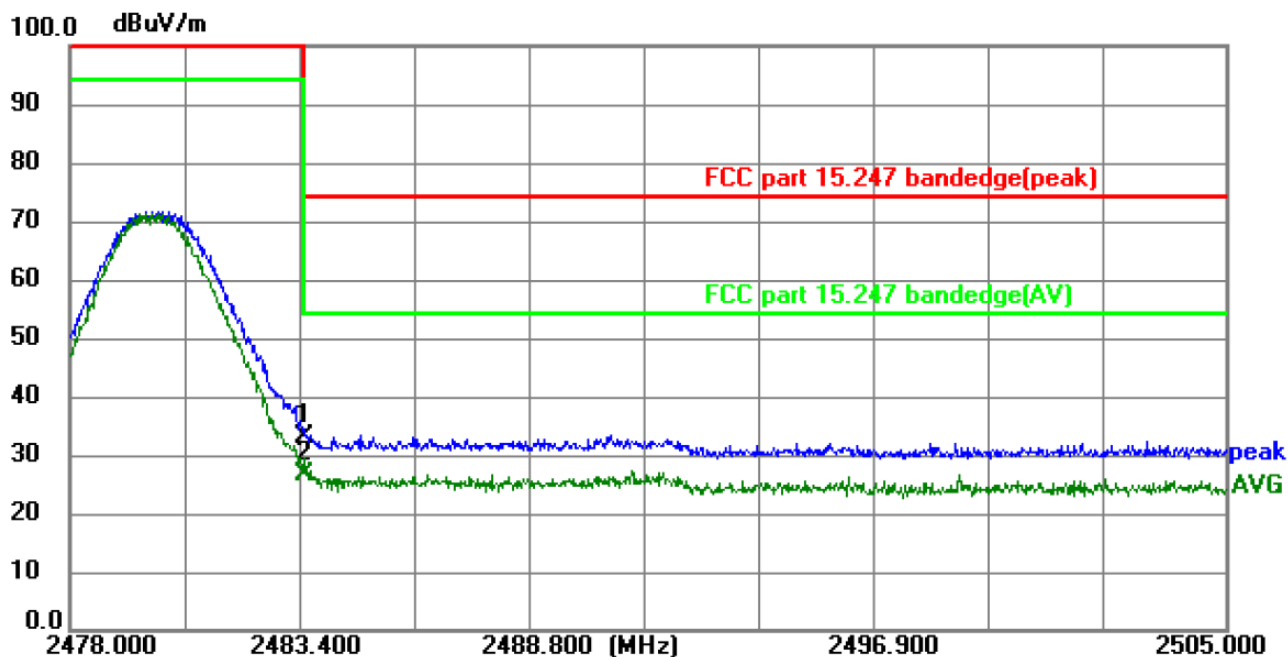
Humidity: 49 %

Limit: FCC part 15.247 bandedge(peak)

Power: DC 3.7 V

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	2390.0000	55.19	-20.98	34.21	74.00	-39.79	peak	P	
2 *	2390.0000	47.80	-20.98	26.82	54.00	-27.18	AVG	P	

Highest channel:



Site: 3m Anechoic Chamber

Polarization: **Horizontal**

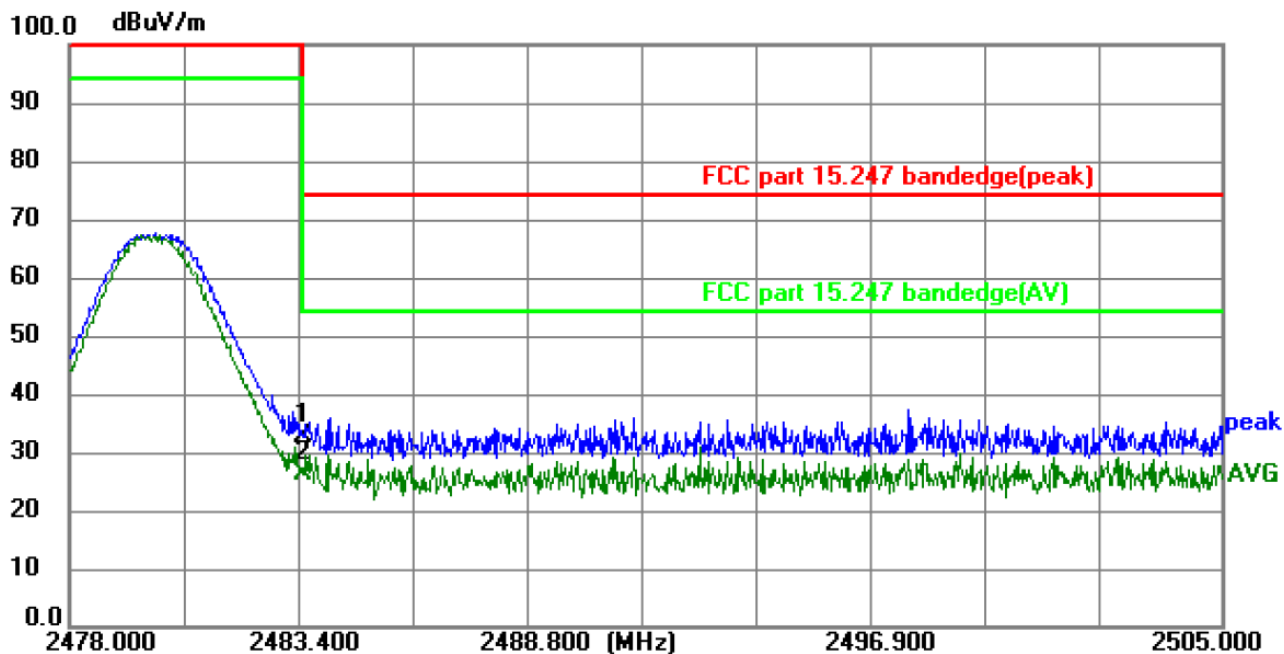
Temperature: 23.1 °C

Humidity: 49 %

Limit: FCC part 15.247 bandedge(peak)

Power: DC 3.7 V

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	2483.5000	53.72	-20.79	32.93	74.00	-41.07	peak	P	
2 *	2483.5000	47.26	-20.79	26.47	54.00	-27.53	AVG	P	



Site: 3m Anechoic Chamber

Polarization: **Vertical**

Temperature: 23.1 °C

Humidity: 49 %

Limit: FCC part 15.247 bandedge(peak)

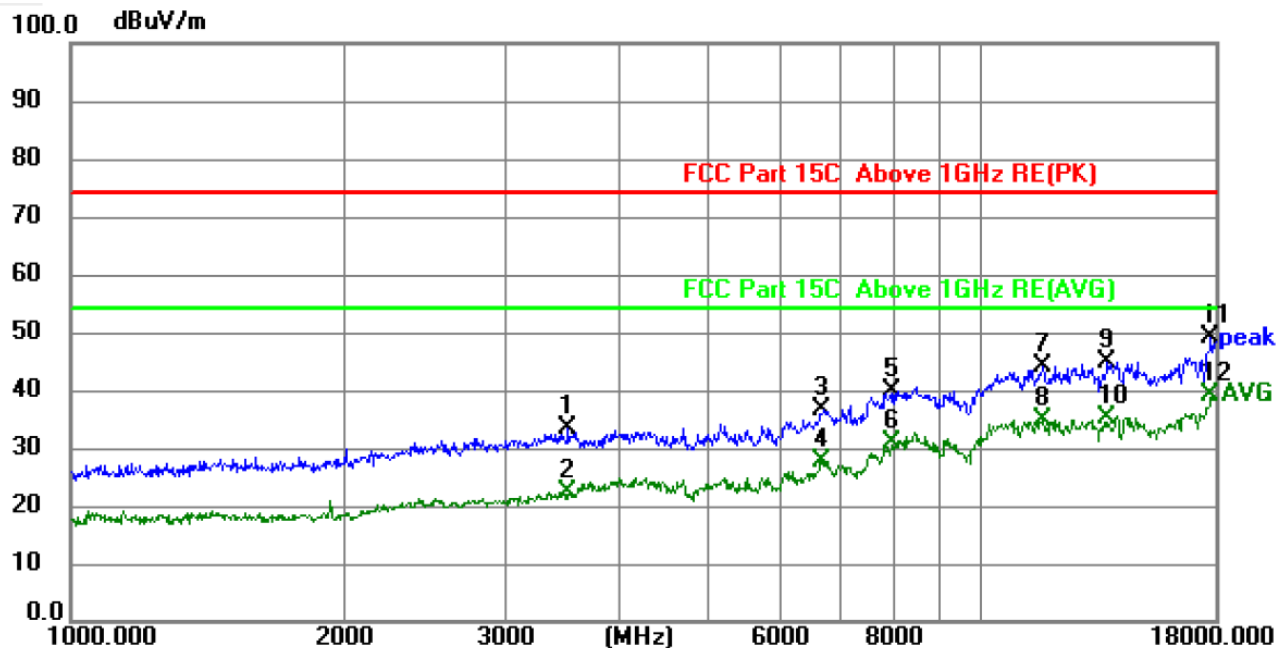
Power: DC 3.7 V

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	2483.5000	53.54	-20.79	32.75	74.00	-41.25	peak	P	
2 *	2483.5000	46.95	-20.79	26.16	54.00	-27.84	AVG	P	

Spurious Emissions:

All condition were test and passed, only worst data report (BLE_1M)

Lowest channel



Site: 3m Anechoic Chamber

Polarization: **Horizontal**

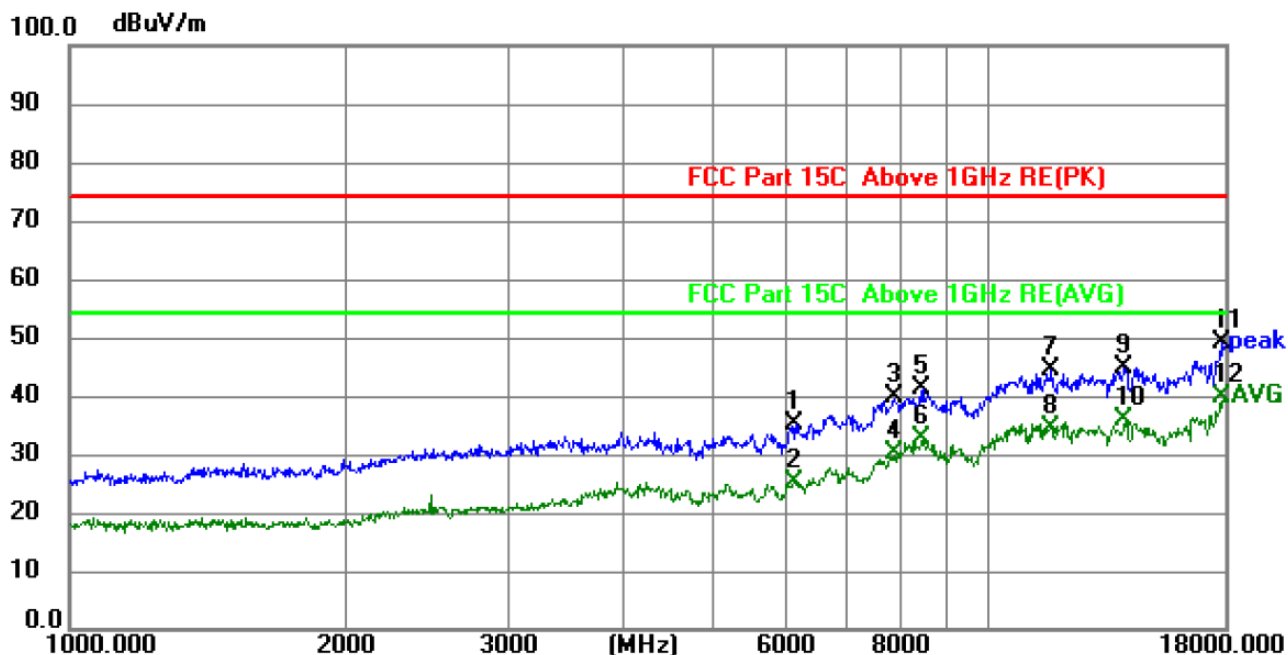
Temperature: 23.1 °C

Humidity: 48 %

Limit: FCC Part 15C Above 1GHz RE(PK)

Power: DC 3.7 V

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	3517.9899	50.98	-17.63	33.35	74.00	-40.65	peak	P	
2	3517.9899	40.11	-17.63	22.48	54.00	-31.52	AVG	P	
3	6686.7663	45.56	-8.92	36.64	74.00	-37.36	peak	P	
4	6686.7663	36.72	-8.92	27.80	54.00	-26.20	AVG	P	
5	7954.1771	46.24	-6.55	39.69	74.00	-34.31	peak	P	
6	7954.1771	37.28	-6.55	30.73	54.00	-23.27	AVG	P	
7	11654.1209	46.14	-1.87	44.27	74.00	-29.73	peak	P	
8	11654.1209	36.86	-1.87	34.99	54.00	-19.01	AVG	P	
9	13717.5607	45.34	-0.36	44.98	74.00	-29.02	peak	P	
10	13717.5607	35.66	-0.36	35.30	54.00	-18.70	AVG	P	
11	17769.9638	44.30	4.73	49.03	74.00	-24.97	peak	P	
12 *	17769.9638	34.43	4.73	39.16	54.00	-14.84	AVG	P	



Site: 3m Anechoic Chamber

Polarization: **Vertical**

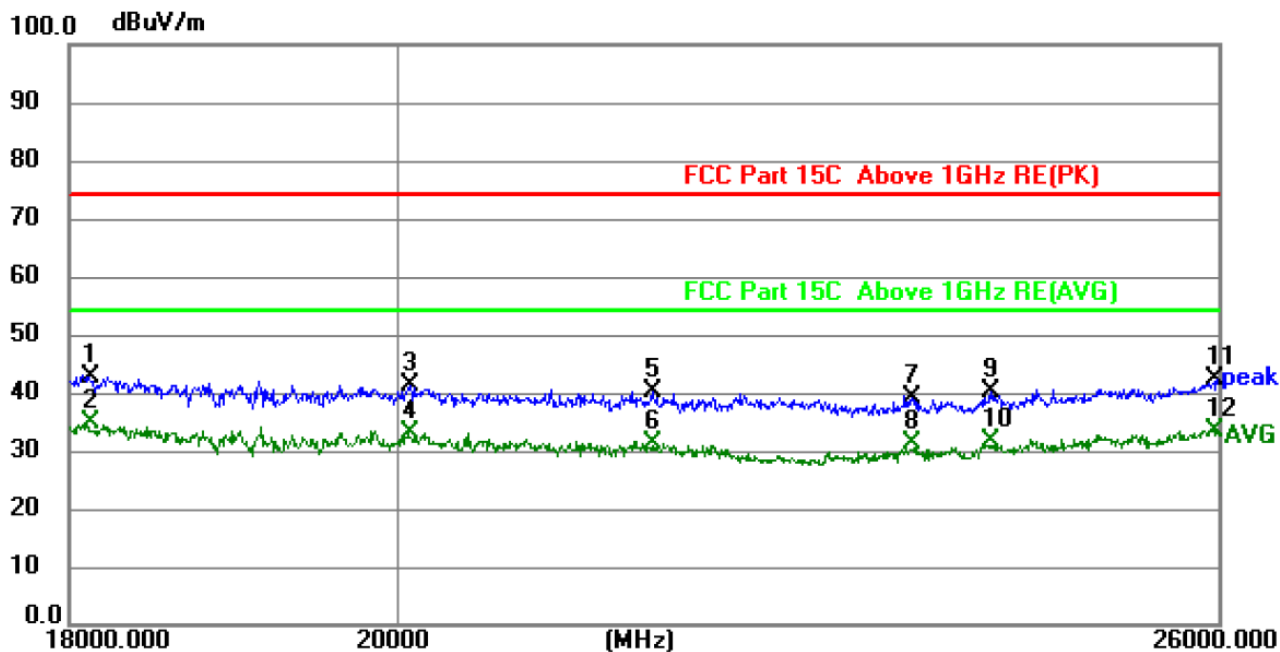
Temperature: 23.1 °C

Humidity: 48 %

Limit: FCC Part 15C Above 1GHz RE(PK)

Power: DC 3.7 V

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	6138.4692	45.77	-10.56	35.21	74.00	-38.79	peak	P	
2	6138.4692	35.80	-10.56	25.24	54.00	-28.76	AVG	P	
3	7877.5305	46.59	-6.89	39.70	74.00	-34.30	peak	P	
4	7877.5305	37.03	-6.89	30.14	54.00	-23.86	AVG	P	
5	8445.8266	46.33	-5.06	41.27	74.00	-32.73	peak	P	
6	8445.8266	37.88	-5.06	32.82	54.00	-21.18	AVG	P	
7	11637.2907	46.40	-1.86	44.54	74.00	-29.46	peak	P	
8	11637.2907	36.45	-1.86	34.59	54.00	-19.41	AVG	P	
9	14001.9759	44.24	0.70	44.94	74.00	-29.06	peak	P	
10	14001.9759	35.23	0.70	35.93	54.00	-18.07	AVG	P	
11	17878.1516	43.16	5.88	49.04	74.00	-24.96	peak	P	
12 *	17878.1516	33.81	5.88	39.69	54.00	-14.31	AVG	P	



Site: 3m Anechoic Chamber

Polarization: **Horizontal**

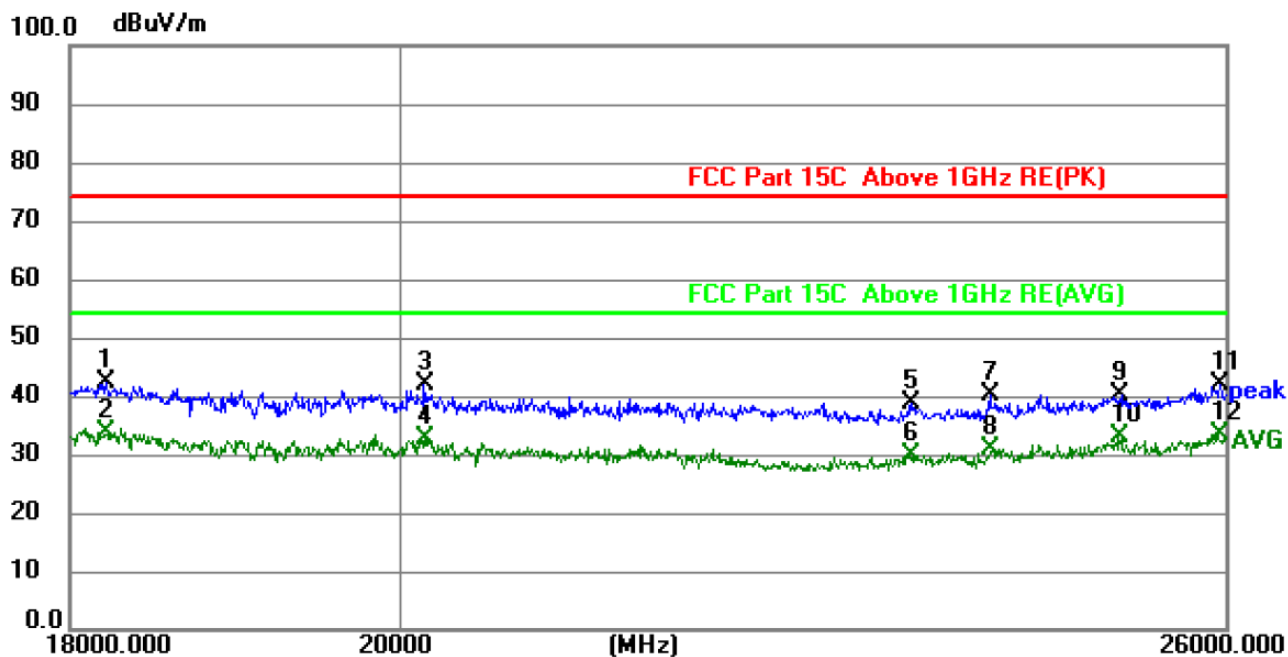
Temperature: 23.1 °C

Humidity: 48 %

Limit: FCC Part 15C Above 1GHz RE(PK)

Power: DC 3.7 V

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	18126.8687	44.14	-1.57	42.57	74.00	-31.43	peak	P	
2 *	18126.8687	36.56	-1.57	34.99	54.00	-19.01	AVG	P	
3	20077.5927	42.04	-0.70	41.34	74.00	-32.66	peak	P	
4	20077.5927	33.90	-0.70	33.20	54.00	-20.80	AVG	P	
5	21699.8348	41.80	-1.78	40.02	74.00	-33.98	peak	P	
6	21699.8348	32.87	-1.78	31.09	54.00	-22.91	AVG	P	
7	23576.3707	40.84	-1.89	38.95	74.00	-35.05	peak	P	
8	23576.3707	33.29	-1.89	31.40	54.00	-22.60	AVG	P	
9	24180.0050	41.77	-1.49	40.28	74.00	-33.72	peak	P	
10	24180.0050	33.24	-1.49	31.75	54.00	-22.25	AVG	P	
11	25984.2293	42.16	0.29	42.45	74.00	-31.55	peak	P	
12	25984.2293	33.25	0.29	33.54	54.00	-20.46	AVG	P	



Site: 3m Anechoic Chamber

Polarization: **Vertical**

Temperature: 23.1 °C

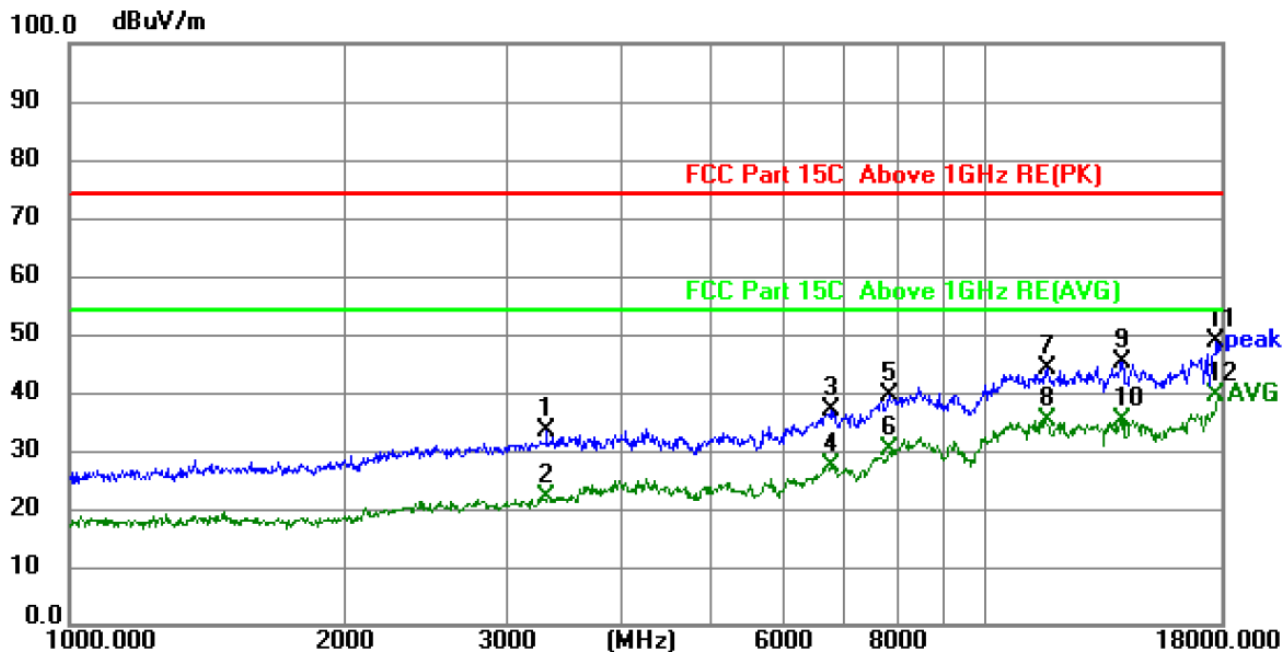
Humidity: 48 %

Limit: FCC Part 15C Above 1GHz RE(PK)

Power: DC 3.7 V

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	18210.3818	43.88	-1.55	42.33	74.00	-31.67	peak	P	
2 *	18210.3818	35.42	-1.55	33.87	54.00	-20.13	AVG	P	
3	20154.8938	42.64	-0.71	41.93	74.00	-32.07	peak	P	
4	20154.8938	33.41	-0.71	32.70	54.00	-21.30	AVG	P	
5	23532.6298	40.80	-1.97	38.83	74.00	-35.17	peak	P	
6	23532.6298	31.94	-1.97	29.97	54.00	-24.03	AVG	P	
7	24130.7070	41.83	-1.49	40.34	74.00	-33.66	peak	P	
8	24130.7070	32.46	-1.49	30.97	54.00	-23.03	AVG	P	
9	25148.9827	40.47	-0.41	40.06	74.00	-33.94	peak	P	
10	25148.9827	33.61	-0.41	33.20	54.00	-20.80	AVG	P	
11	25960.8301	41.70	0.26	41.96	74.00	-32.04	peak	P	
12	25960.8301	33.22	0.26	33.48	54.00	-20.52	AVG	P	

Middle channel:



Site: 3m Anechoic Chamber

Polarization: **Horizontal**

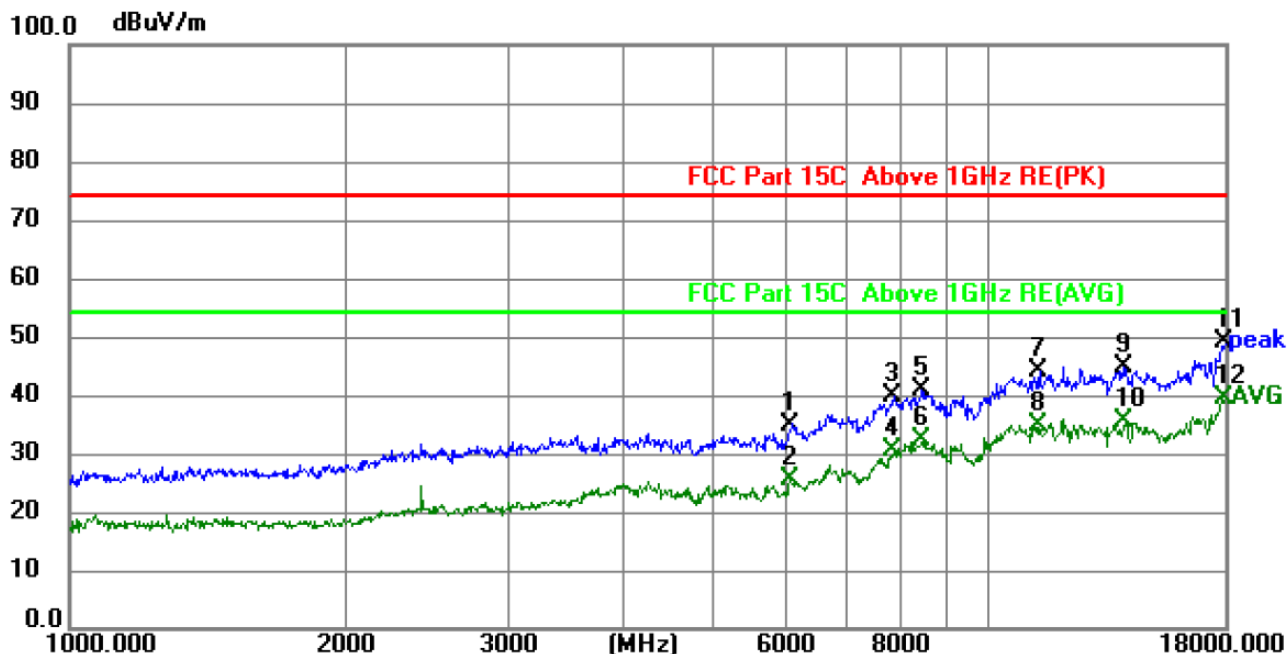
Temperature: 23.1 °C

Humidity: 48 %

Limit: FCC Part 15C Above 1GHz RE(PK)

Power: DC 3.7 V

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	3310.3286	51.72	-18.30	33.42	74.00	-40.58	peak	P	
2	3310.3286	40.37	-18.30	22.07	54.00	-31.93	AVG	P	
3	6771.3705	45.81	-8.81	37.00	74.00	-37.00	peak	P	
4	6771.3705	36.15	-8.81	27.34	54.00	-26.66	AVG	P	
5	7830.9921	46.52	-6.98	39.54	74.00	-34.46	peak	P	
6	7830.9921	37.21	-6.98	30.23	54.00	-23.77	AVG	P	
7	11633.9276	45.81	-1.84	43.97	74.00	-30.03	peak	P	
8	11633.9276	36.86	-1.84	35.02	54.00	-18.98	AVG	P	
9	14064.8465	44.73	0.48	45.21	74.00	-28.79	peak	P	
10	14064.8465	34.82	0.48	35.30	54.00	-18.70	AVG	P	
11	17808.5269	43.77	5.09	48.86	74.00	-25.14	peak	P	
12 *	17808.5269	34.31	5.09	39.40	54.00	-14.60	AVG	P	



Site: 3m Anechoic Chamber

Polarization: **Vertical**

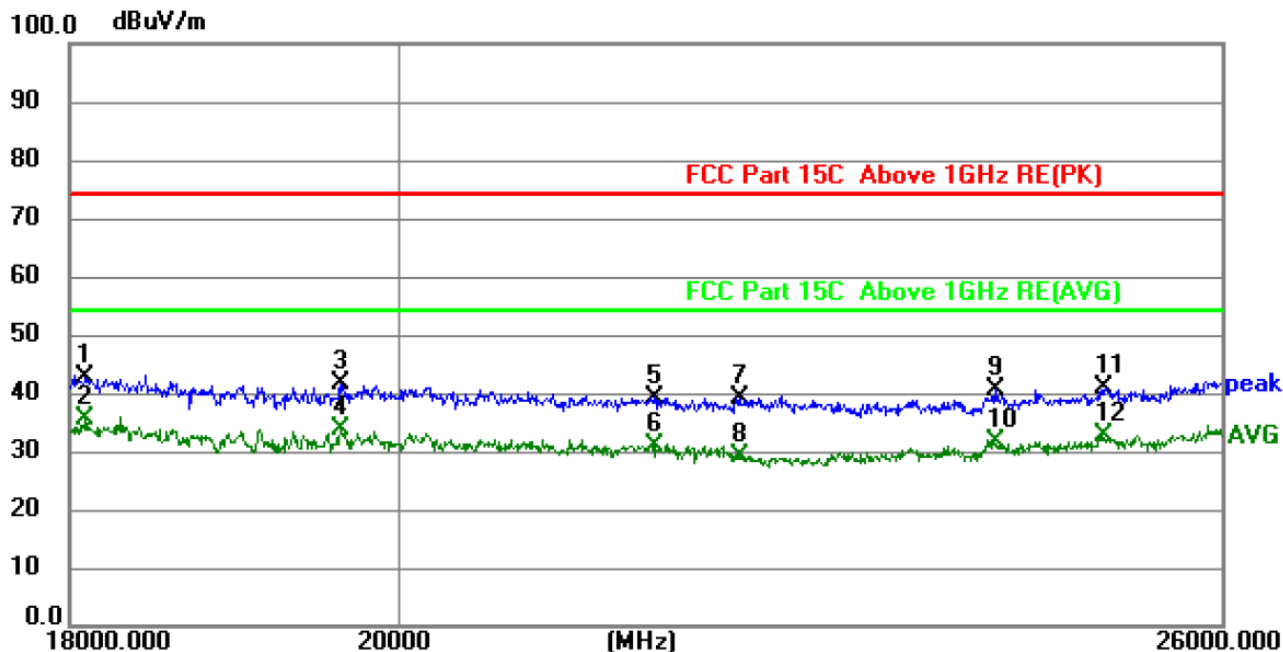
Temperature: 23.1 °C

Humidity: 48 %

Limit: FCC Part 15C Above 1GHz RE(PK)

Power: DC 3.7 V

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	6066.1544	45.87	-11.01	34.86	74.00	-39.14	peak	P	
2	6066.1544	36.48	-11.01	25.47	54.00	-28.53	AVG	P	
3	7868.4282	46.77	-6.95	39.82	74.00	-34.18	peak	P	
4	7868.4282	37.58	-6.95	30.63	54.00	-23.37	AVG	P	
5	8438.5063	46.03	-5.07	40.96	74.00	-33.04	peak	P	
6	8438.5063	37.27	-5.07	32.20	54.00	-21.80	AVG	P	
7	11310.6470	45.91	-1.86	44.05	74.00	-29.95	peak	P	
8	11310.6470	36.81	-1.86	34.95	54.00	-19.05	AVG	P	
9	13983.7758	44.21	0.66	44.87	74.00	-29.13	peak	P	
10	13983.7758	34.71	0.66	35.37	54.00	-18.63	AVG	P	
11	17997.3989	41.61	7.34	48.95	74.00	-25.05	peak	P	
12 *	17997.3989	31.98	7.34	39.32	54.00	-14.68	AVG	P	



Site: 3m Anechoic Chamber

Polarization: **Horizontal**

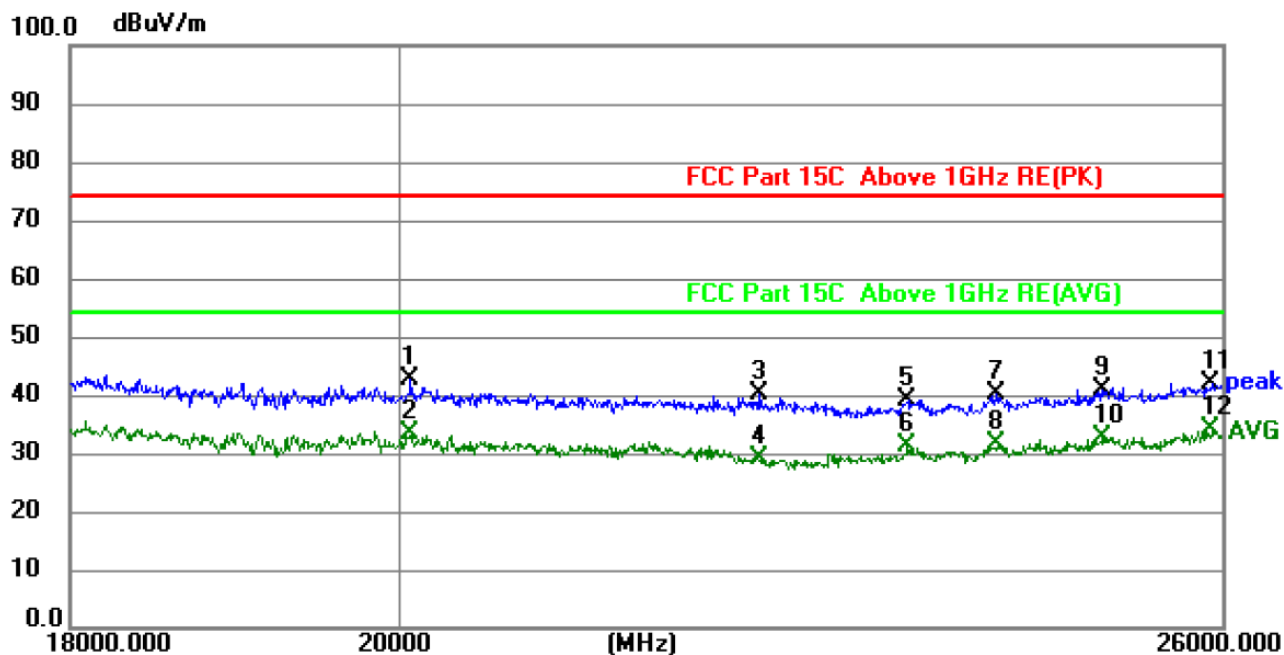
Temperature: 23.1 °C

Humidity: 48 %

Limit: FCC Part 15C Above 1GHz RE(PK)

Power: DC 3.7 V

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	18091.2424	44.13	-1.58	42.55	74.00	-31.45	peak	P	
2 *	18091.2424	37.20	-1.58	35.62	54.00	-18.38	AVG	P	
3	19635.1295	42.20	-0.53	41.67	74.00	-32.33	peak	P	
4	19635.1295	34.24	-0.53	33.71	54.00	-20.29	AVG	P	
5	21699.8348	41.06	-1.78	39.28	74.00	-34.72	peak	P	
6	21699.8348	32.71	-1.78	30.93	54.00	-23.07	AVG	P	
7	22293.5109	41.05	-1.77	39.28	74.00	-34.72	peak	P	
8	22293.5109	31.00	-1.77	29.23	54.00	-24.77	AVG	P	
9	24193.3461	42.15	-1.49	40.66	74.00	-33.34	peak	P	
10	24193.3461	33.05	-1.49	31.56	54.00	-22.44	AVG	P	
11	25058.5163	41.37	-0.62	40.75	74.00	-33.25	peak	P	
12	25058.5163	33.35	-0.62	32.73	54.00	-21.27	AVG	P	



Site: 3m Anechoic Chamber

Polarization: **Vertical**

Temperature: 23.1 °C

Humidity: 48 %

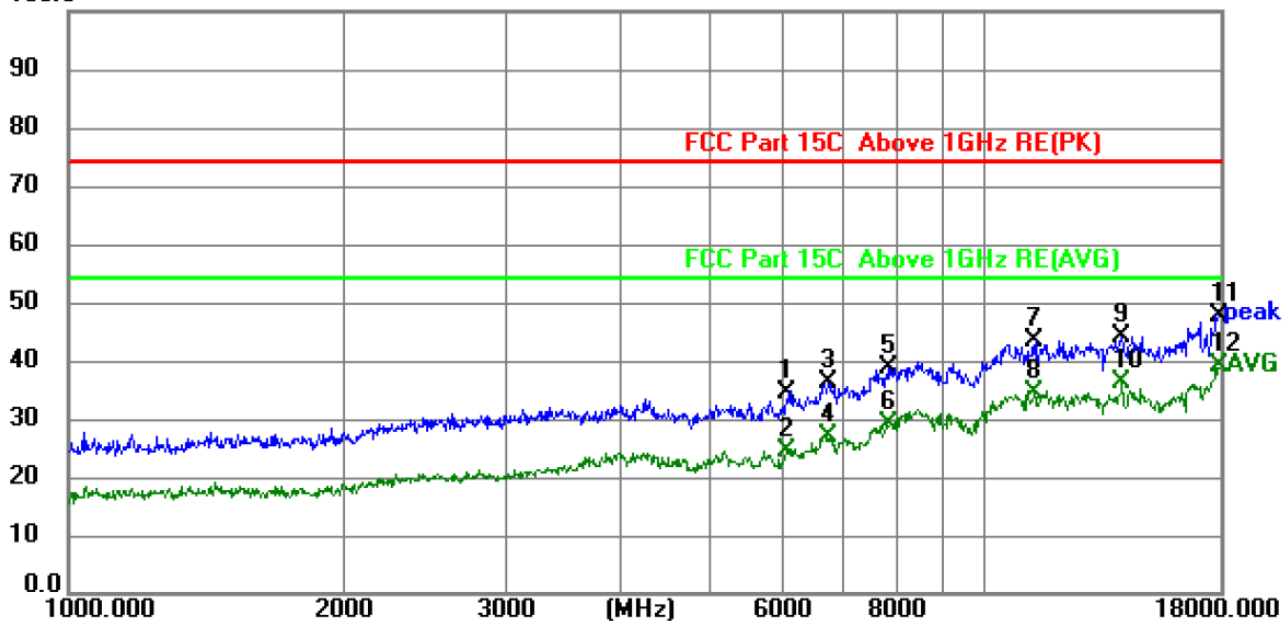
Limit: FCC Part 15C Above 1GHz RE(PK)

Power: DC 3.7 V

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	20070.2111	43.46	-0.70	42.76	74.00	-31.24	peak	P	
2	20070.2111	33.95	-0.70	33.25	54.00	-20.75	AVG	P	
3	22431.6616	42.10	-1.83	40.27	74.00	-33.73	peak	P	
4	22431.6616	30.86	-1.83	29.03	54.00	-24.97	AVG	P	
5	23521.8155	41.01	-1.99	39.02	74.00	-34.98	peak	P	
6	23521.8155	33.21	-1.99	31.22	54.00	-22.78	AVG	P	
7	24200.9093	41.83	-1.49	40.34	74.00	-33.66	peak	P	
8	24200.9093	33.09	-1.49	31.60	54.00	-22.40	AVG	P	
9	25035.0300	41.47	-0.67	40.80	74.00	-33.20	peak	P	
10	25035.0300	33.21	-0.67	32.54	54.00	-21.46	AVG	P	
11	25907.9014	41.68	0.21	41.89	74.00	-32.11	peak	P	
12 *	25907.9014	33.76	0.21	33.97	54.00	-20.03	AVG	P	

Highest channel:

100.0 dBuV/m



Site: 3m Anechoic Chamber

Polarization: **Horizontal**

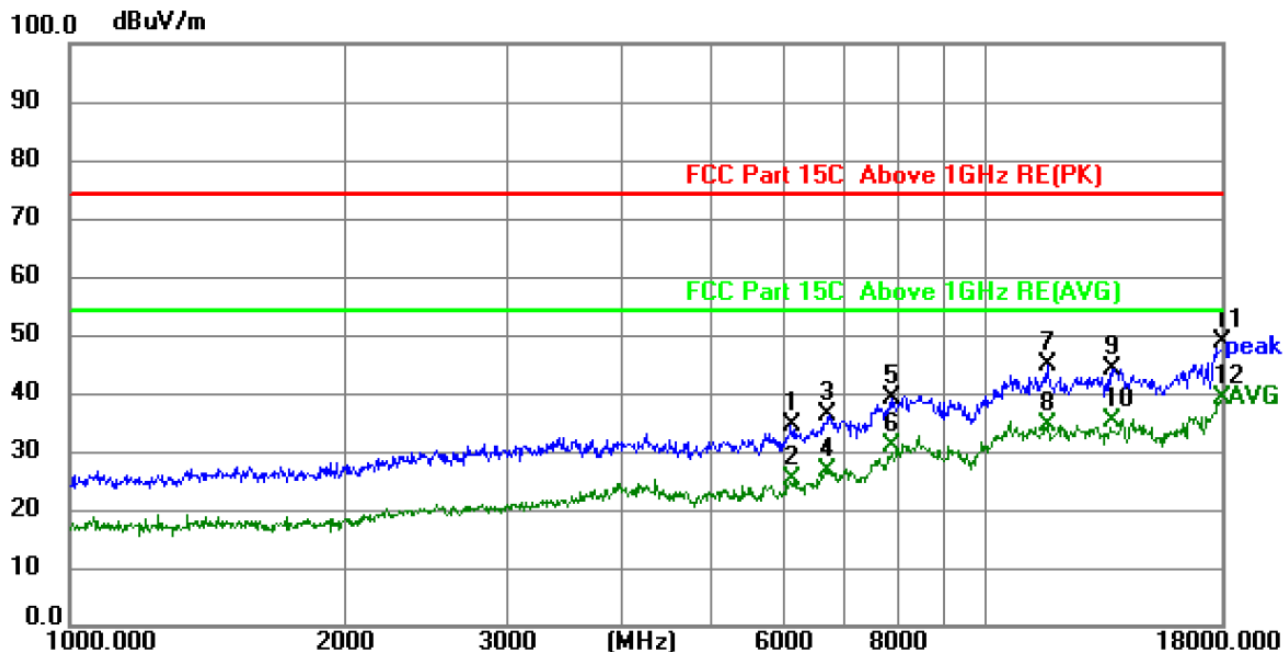
Temperature: 23.1 °C

Humidity: 48 %

Limit: FCC Part 15C Above 1GHz RE(PK)

Power:DC 3.7 V

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	6079.3188	45.37	-10.88	34.49	74.00	-39.51	peak	P	
2	6079.3188	35.51	-10.88	24.63	54.00	-29.37	AVG	P	
3	6736.2328	44.97	-8.85	36.12	74.00	-37.88	peak	P	
4	6736.2328	35.79	-8.85	26.94	54.00	-27.06	AVG	P	
5	7868.4282	45.75	-6.95	38.80	74.00	-35.20	peak	P	
6	7868.4282	36.03	-6.95	29.08	54.00	-24.92	AVG	P	
7	11317.1872	45.13	-1.86	43.27	74.00	-30.73	peak	P	
8	11317.1872	36.50	-1.86	34.64	54.00	-19.36	AVG	P	
9	14046.5647	43.60	0.54	44.14	74.00	-29.86	peak	P	
10	14046.5647	35.70	0.54	36.24	54.00	-17.76	AVG	P	
11	17984.3988	40.67	7.17	47.84	74.00	-26.16	peak	P	
12 *	17984.3988	31.90	7.17	39.07	54.00	-14.93	AVG	P	



Site: 3m Anechoic Chamber

Polarization: **Vertical**

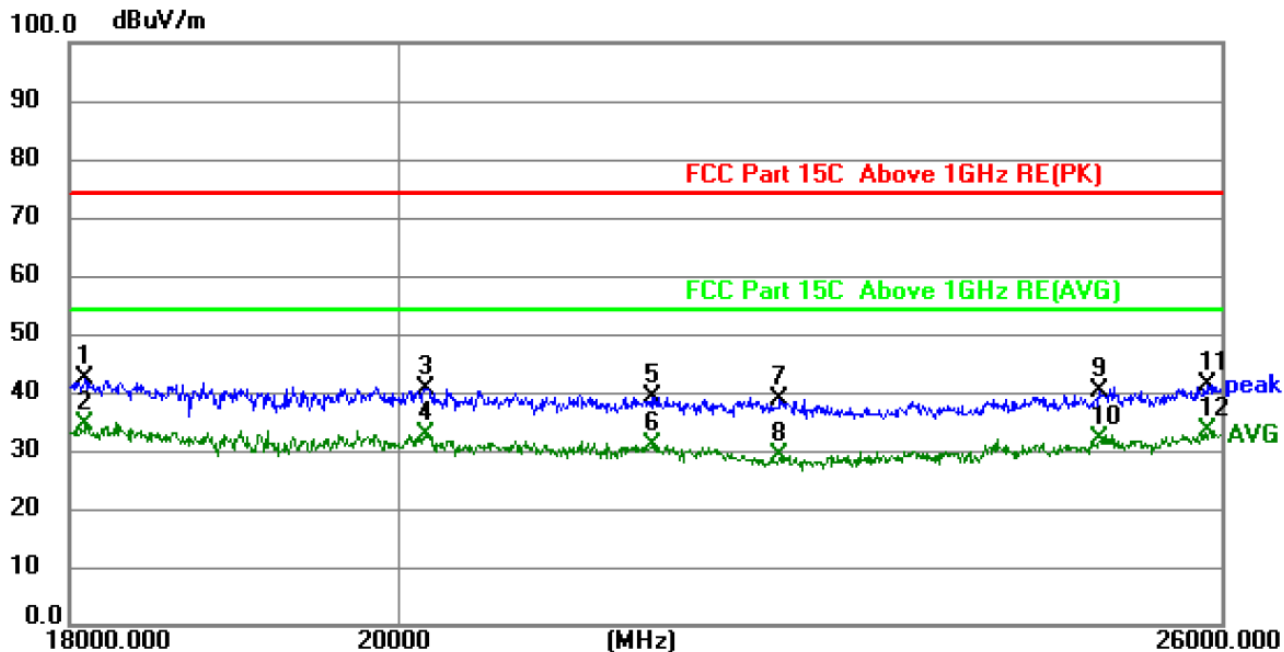
Temperature: 23.1 °C

Humidity: 48 %

Limit: FCC Part 15C Above 1GHz RE(PK)

Power: DC 3.7 V

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	6118.9835	44.99	-10.61	34.38	74.00	-39.62	peak	P	
2	6118.9835	35.69	-10.61	25.08	54.00	-28.92	AVG	P	
3	6730.3943	45.00	-8.88	36.12	74.00	-37.88	peak	P	
4	6730.3943	35.58	-8.88	26.70	54.00	-27.30	AVG	P	
5	7895.7668	45.86	-6.80	39.06	74.00	-34.94	peak	P	
6	7895.7668	37.66	-6.80	30.86	54.00	-23.14	AVG	P	
7	11632.2464	46.68	-1.84	44.84	74.00	-29.16	peak	P	
8	11632.2464	36.39	-1.84	34.55	54.00	-19.45	AVG	P	
9	13711.6146	44.49	-0.38	44.11	74.00	-29.89	peak	P	
10	13711.6146	35.66	-0.38	35.28	54.00	-18.72	AVG	P	
11	18000.0000	41.44	7.37	48.81	74.00	-25.19	peak	P	
12 *	18000.0000	31.79	7.37	39.16	54.00	-14.84	AVG	P	



Site: 3m Anechoic Chamber

Polarization: **Horizontal**

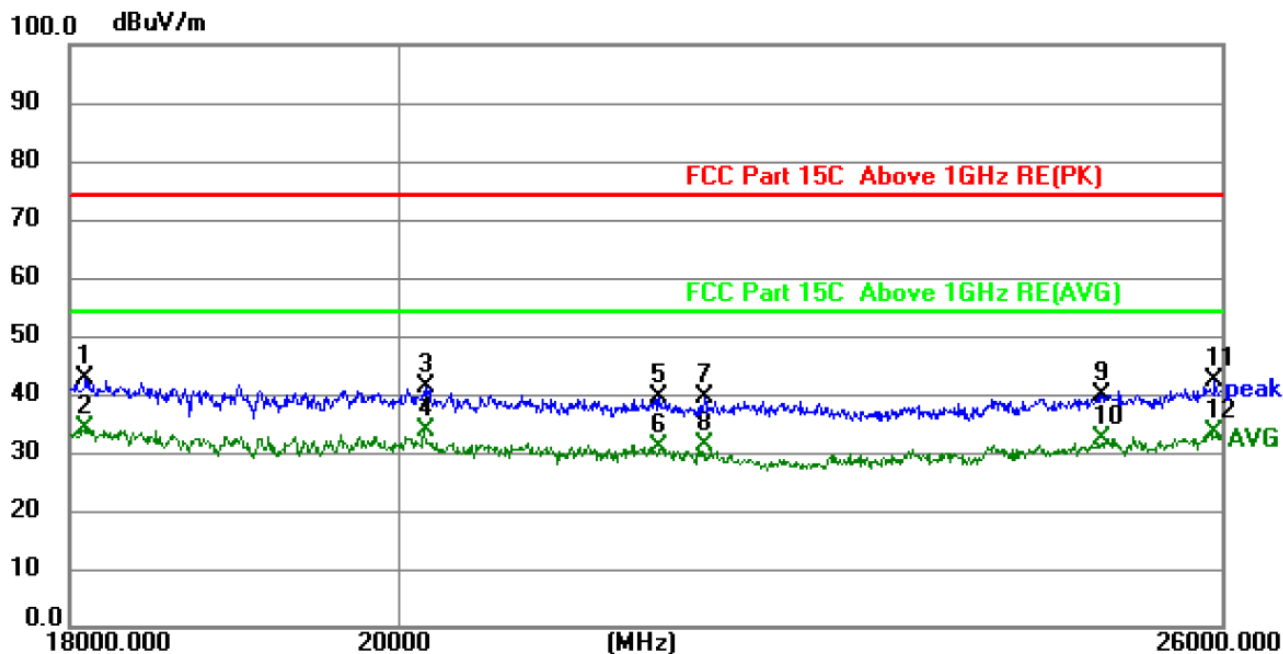
Temperature: 23.1 °C

Humidity: 48 %

Limit: FCC Part 15C Above 1GHz RE(PK)

Power: DC 3.7 V

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	18098.2289	44.02	-1.58	42.44	74.00	-31.56	peak	P	
2 *	18098.2289	35.96	-1.58	34.38	54.00	-19.62	AVG	P	
3	20170.0930	41.39	-0.71	40.68	74.00	-33.32	peak	P	
4	20170.0930	33.42	-0.71	32.71	54.00	-21.29	AVG	P	
5	21685.4764	41.00	-1.75	39.25	74.00	-34.75	peak	P	
6	21685.4764	32.59	-1.75	30.84	54.00	-23.16	AVG	P	
7	22586.4434	40.64	-1.91	38.73	74.00	-35.27	peak	P	
8	22586.4434	30.95	-1.91	29.04	54.00	-24.96	AVG	P	
9	25014.3251	41.01	-0.72	40.29	74.00	-33.71	peak	P	
10	25014.3251	32.83	-0.72	32.11	54.00	-21.89	AVG	P	
11	25896.4715	41.05	0.19	41.24	74.00	-32.76	peak	P	
12	25896.4715	33.34	0.19	33.53	54.00	-20.47	AVG	P	



Site: 3m Anechoic Chamber

Polarization: **Vertical**

Temperature: 23.1 °C

Humidity: 48 %

Limit: FCC Part 15C Above 1GHz RE(PK)

Power: DC 3.7 V

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	18096.2325	44.09	-1.58	42.51	74.00	-31.49	peak	P	
2 *	18096.2325	35.80	-1.58	34.22	54.00	-19.78	AVG	P	
3	20174.5437	41.93	-0.71	41.22	74.00	-32.78	peak	P	
4	20174.5437	34.52	-0.71	33.81	54.00	-20.19	AVG	P	
5	21734.5737	41.14	-1.84	39.30	74.00	-34.70	peak	P	
6	21734.5737	32.62	-1.84	30.78	54.00	-23.22	AVG	P	
7	22048.1155	41.07	-1.71	39.36	74.00	-34.64	peak	P	
8	22048.1155	32.80	-1.71	31.09	54.00	-22.91	AVG	P	
9	25037.3316	40.66	-0.67	39.99	74.00	-34.01	peak	P	
10	25037.3316	32.92	-0.67	32.25	54.00	-21.75	AVG	P	
11	25939.3595	42.13	0.23	42.36	74.00	-31.64	peak	P	
12	25939.3595	33.03	0.23	33.26	54.00	-20.74	AVG	P	

6. Test setup photo

Refer to appendix I for details

7. Photo of the EUT

Refer to appendix II & appendix III for details

*****End of report*****