Shenzhen Most Technology Service Co., Ltd.
No.5, 2nd Langshan Road, North District, Hi-tech Industrial Park, Nanshan, Shenzhen, Guangdong, China.

TEST REPORT

FCC Rules Part 15.249

Report Reference No..... :	**MTEB24120310-R**
FCC ID..... :	**2A9BL-K02BT**
Compiled by (position+printed name+signature).. :	File administrators Alisa Luo
Supervised by (position+printed name+signature).. :	Test Engineer Sunny Deng
Approved by (position+printed name+signature).. :	Manager Yvette Zhou
Date of issue.....:	**Dec. 24,2024**
Representative Laboratory Name. :	**Shenzhen Most Technology Service Co., Ltd.**
Address..... :	No.5, 2nd Langshan Road, North District, Hi-tech Industrial Park, Nanshan, Shenzhen, Guangdong, China.
Applicant's name.....:	**TIETI INC**
Address..... :	244 MADISON AVENUE, SUITE 1666 NEW YORK, NY, 10016, USA
Test specification/ Standard.....**:**	**FCC Part15 Subpart C, Section 15.249**
TRF Originator.....:	Shenzhen Most Technology Service Co., Ltd.

Test item description.....:	Multi-mode wireless keyboard
Trade Mark.....:	TITIE
Model/Type reference..... :	K02BT
Listed Models ..... :	N/A
Modulation Type..... :	GFSK
Operation Frequency..... :	From 2402MHz to 2480MHz
Hardware Version.....	1.0
Software Version.....	1.0
Rating.....	DC 3.7V by Battery DC 5V
Result.....:	**PASS**

T E S T R E P O R T

Equipment under Test	:	Multi-mode wireless keyboard
Model /Type	:	K02BT
Listed Models	:	N/A
Remark		N/A
Applicant	:	TIETI INC
Address	:	244 MADISON AVENUE, SUITE 1666 NEW YORK, NY, 10016, USA
Manufacturer	:	TIETI INC
Address	:	244 MADISON AVENUE, SUITE 1666 NEW YORK, NY, 10016, USA

Test Result:	**PASS**

Contents

1. Revision History

Revision	Issue Date	Revisions	Revised By
00	2024.12.24	Initial Issue	Alisa Luo

2. TEST STANDARDS

The tests were performed according to following standards:

The tests were performed according to following standards:
FCC Rules Part 15.249: Operation within the bands 902-928 MHz, 2400-2483.5 MHz, 5725-5875 MHz, and 24.0-24.25 GHz.

RSS-210: Licence-Exempt Radio Apparatus: Category I Equipment
ANSI C63.10-2013: American National Standard for Testing Unlicensed Wireless Devices.

3. SUMMARY

3.1. General Remarks

Date of receipt of test sample	:	2024.12.02
Testing commenced on	:	2024.12.03
Testing concluded on	:	2024.12.24

3.2. Product Description

Product Name:	Multi-mode wireless keyboard
Model/Type reference:	K02BT
Power Supply：	DC 3.7V by Battery DC 5V
Testing sample ID：	MTYP07646
FCC Test :	
Modulation:	GFSK
Operation frequency:	2402MHz to 2480MHz
Channel number:	40
Antenna type:	PCB antenna
Antenna gain:	-0.43dBi

3.3. Equipment Under Test

Power supply system utilised

Power supply voltage	:	○	230V / 50 Hz	○	120V / 60Hz
		○	12 V DC	○	24 V DC
		●	Other (specified in blank below)		

DC 3.7V by Battery
DC 5V

3.4. Short description of the Equipment under Test (EUT)

This is a Multi-mode wireless keyboard For more details, refer to the user's manual of the EUT.

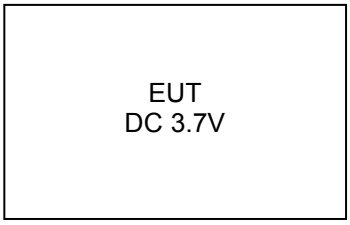
3.5. EUT operation mode

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

Note:
1:In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

Channel	Frequency
LOW	2402MHz
MIDDLE	2440MHz
HIGH	2480MHz

3.6. Block Diagram of Test Setup



3.7. Test Item (Equipment Under Test) Description*

Short designation	EUT Name	EUT Description	Serial number	Hardware status	Software status
EUT A	/	/	/	/	/
EUT B	/	/	/	/	/

3.8. Auxiliary Equipment (AE) Description

AE short designation	EUT Name (if available)	EUT Description	Serial number (if available)	Software (if used)
AE 1	Adapter	UP0512	/	/
AE 2	/	/	/	/

3.9. Antenna Information*

Short designation	Antenna Name	Antenna Type	Frequency Range	Serial number	Antenna Peak Gain
Antenna 1	---	PCB antenna	2.4–2.5 GHz	---	-0.43dBi
Antenna 2	/	/	/	/	/

*: declared by the applicant.

3.10. EUT configuration

The following peripheral devices and interface cables were connected during the measurement:

○ - supplied by the manufacturer

● - Supplied by the lab

○	ADAPTER	M/N:	UP0512
		Manufacturer:	Salcomp (Shenzhen) Co., Ltd.

3.11. Modifications

No modifications were implemented to meet testing criteria.

4. TEST ENVIRONMENT

4.1. Address of the test laboratory

Shenzhen Most Technology Service Co., Ltd.
No.5, 2nd Langshan Road, North District, Hi-tech Industrial Park, Nanshan, Shenzhen, Guangdong, China.
The 3m-Semi anechoic test site fulfils CISPR 16-1-4 according to ANSI C63.4:2014 and CISPR 16-1-4:2010 SVSWR requirement for radiated emission above 1GHz.

Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

FCC-Registration No.: 0031192610

Shenzhen Most Technology Service Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files.

A2LA-Lab Cert. No.: 6343.01

Shenzhen Most Technology Service Co., Ltd. EMC Laboratory has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025: 2005 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing.

4.2. Environmental conditions

Radiated Emission:

Temperature:	23 ° C
Humidity:	48 %
Atmospheric pressure:	950-1050mbar

Conducted testing：

Temperature:	24 ° C
Humidity:	45 %
Atmospheric pressure:	950-1050mbar

4.3. Test Description

FCC and IC Requirements		
FCC Part 15.203	Antenna Requirement	PASS
FCC Part 15.207	AC Power Conducted Emission	PASS
FCC Part 15. 15.249(a)	Field strength of the Fundamental signal	PASS
FCC Part 15.209/15.249(a)	Spurious Emissions	PASS
FCC Part 15.205/15.249(d)	Band edge Emissions	PASS
FCC Part 15.215/15.249	20dB Occupied Bandwidth	PASS

Remark:
1. The measurement uncertainty is not included in the test result.
2. NA = Not Applicable; NP = Not Performed

4.4. Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. to CISPR 16 - 4 „Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainty in EMC Measurements“ and is documented in the Shenzhen Most Technology Service Co., Ltd. quality system acc. to DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

Hereafter the best measurement capability for Shenzhen Most Technology Service Co., Ltd. is reported:

Test	Range	Measurement Uncertainty	Notes
Radiated Emission	30~1000MHz	4.10 dB	(1)
Radiated Emission	1~18GHz	4.32 dB	(1)
Radiated Emission	18-40GHz	5.54 dB	(1)
Conducted Disturbance	0.15~30MHz	3.12 dB	(1)

(1) This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

4.5. Equipments Used during the Test

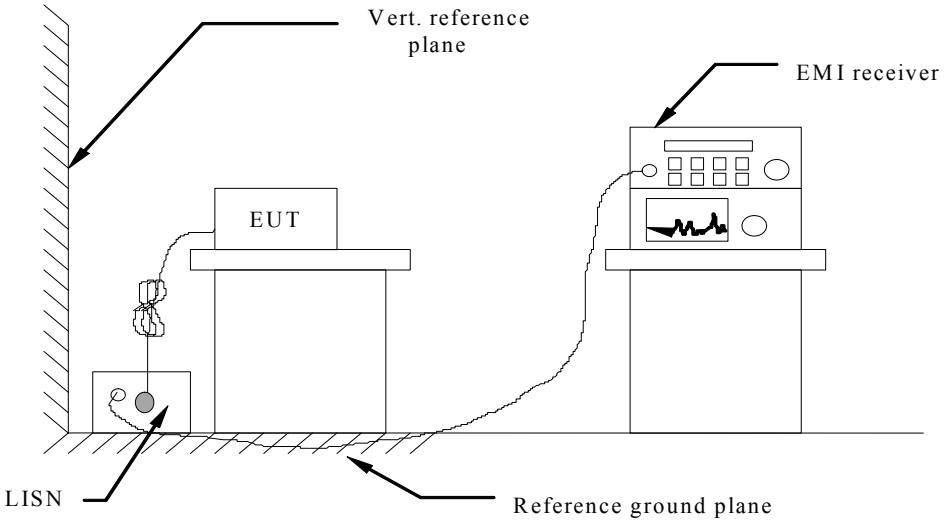
Item	Equipment	Manufacturer	Model No.	Serial No.	Firmware versions	Last Cal.
1.	L.I.S.N.	R&S	ENV216	100093	/	2024/03/15
2	Three-phase artificial power network	Schwarzback Mess	NNLK8129	8129178	/	2024/03/15
3.	Receiver	R&S	ESCI	100492	V3.0-10-2	2024/03/15
4	Receiver	R&S	ESPI	101202	V3.0-10-2	2024/03/15
5	Spectrum analyzer	Agilent	9020A	MT-E306	A14.16	2024/03/15
6	Bilong Antenna	Sunol Sciences	JB3	A121206	/	2024/08/15
7	Horn antenna	HF Antenna	HF Antenna	MT-E158	/	2024/03/15
8	Loop antenna	Beijing Daze	ZN30900B	/	/	2024/03/15
9	Horn antenna	R&S	OBH100400	26999002	/	2024/03/15
10	Wireless Communication Test Set	R&S	CMW500	/	CMW-BASE-3.7.21	2024/03/15
11	Spectrum analyzer	R&S	FSP	100019	V4.40 SP2	2024/03/15
12	High gain antenna	Schwarzbeck	LB-180400KF	MT-E389	/	2024/03/15
13	Preamplifier	Schwarzbeck	BBV 9743	MT-E390	/	2024/03/15
14	Pre-amplifier	EMCI	EMC051845SE	MT-E391	/	2024/03/15
15	Pre-amplifier	Agilent	83051A	MT-E392	/	2024/03/15
16	High pass filter unit	Tonscend	JS0806-F	MT-E393	/	2024/03/15
17	RF Cable(below1GHz)	Times	9kHz-1GHz	MT-E394	/	2024/03/15
18	RF Cable(above 1GHz)	Times	1-40G	MT-E395	/	2024/03/15
19	RF Cable (9KHz-40GHz)	Tonscend	170660	N/A	/	2024/03/15
20	Power meter	R&S	NRVS	100444	/	2024/03/15

Note: 1. The Cal.Interval was one year.

5. TEST CONDITIONS AND RESULTS

5.1. AC Power Conducted Emission

TEST CONFIGURATION



TEST PROCEDURE

1 The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. The EUT is a tabletop system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.10-2013.
2 Support equipment, if needed, was placed as per ANSI C63.10-2013
3 All I/O cables were positioned to simulate typical actual usage as per ANSI C63.10-2013
4 The EUT received DC5V power, the adapter received AC120V/60Hz power through a Line Impedance Stabilization Network (LISN) which supplied power source and was grounded to the ground plane.
5 All support equipments received AC power from a second LISN, if any.
6 The EUT test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
7 Analyzer / Receiver scanned from 150 KHz to 30MHz for emissions in each of the test modes.
8 During the above scans, the emissions were maximized by cable manipulation.

AC Power Conducted Emission Limit

For unintentional device, according to RSS Gen 8.8 and § 15.207(a) Line Conducted Emission Limits is as following:

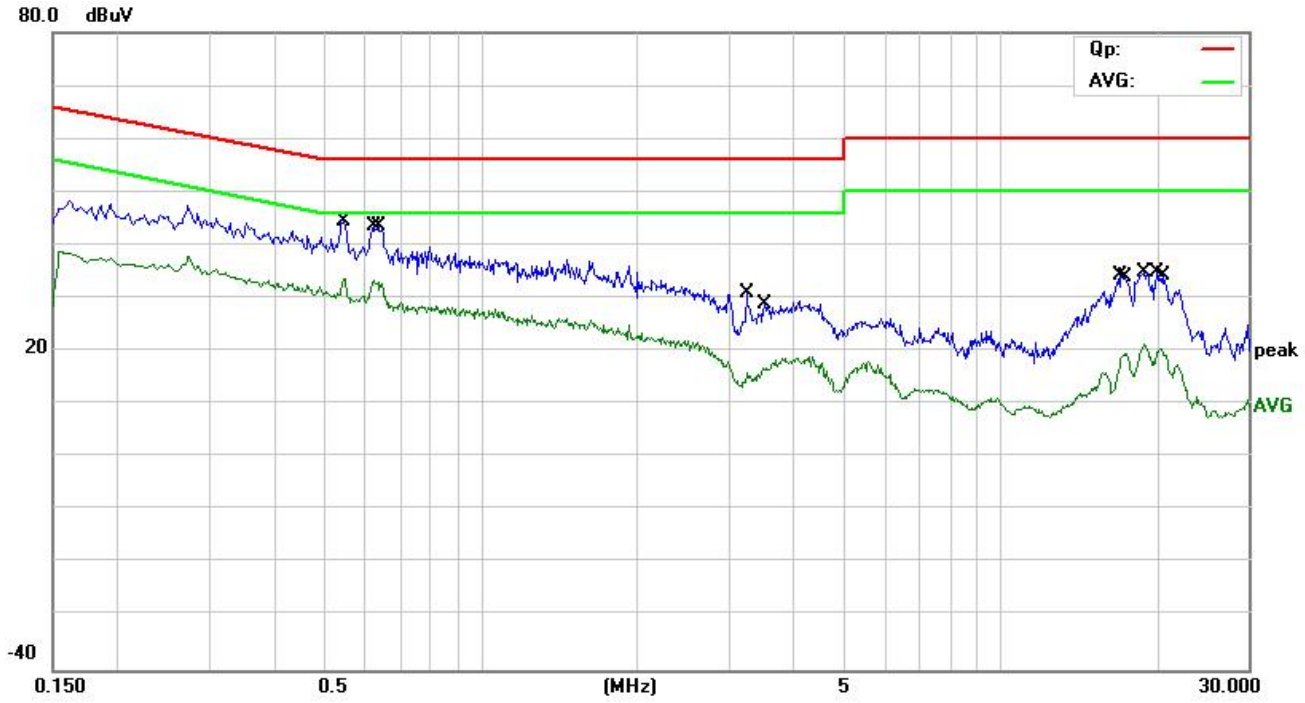
Frequency range (MHz)	Limit (dBuV)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50
* Decreases with the logarithm of the frequency.		

TEST RESULTS
PASS

Remark:

1. GFSK modes were test at Low, Middle, and High channel; only the worst result of GFSK Middle Channel was reported as below:

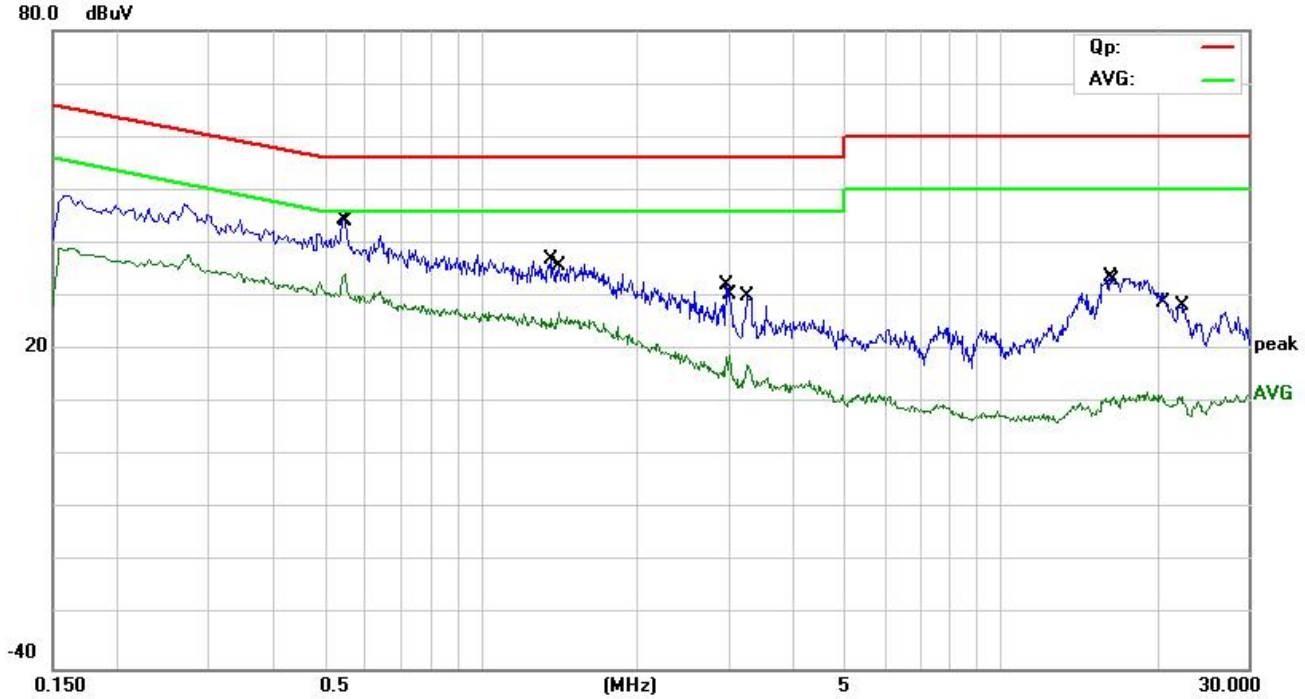
Power supply:	DC 5V	Polarization	L



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	*	0.5460	34.86	9.59	44.45	56.00	-11.55	QP	
2		0.5460	24.15	9.59	33.74	46.00	-12.26	AVG	
3		0.6220	23.65	9.59	33.24	46.00	-12.76	AVG	
4		0.6340	33.95	9.59	43.54	56.00	-12.46	QP	
5		3.2580	21.37	9.61	30.98	56.00	-25.02	QP	
6		3.5020	7.11	9.62	16.73	46.00	-29.27	AVG	
7		17.0820	24.56	9.71	34.27	60.00	-25.73	QP	
8		17.4780	9.80	9.71	19.51	50.00	-30.49	AVG	
9		18.8620	25.26	9.72	34.98	60.00	-25.02	QP	
10		18.9660	11.49	9.72	21.21	50.00	-28.79	AVG	
11		20.0500	25.07	9.73	34.80	60.00	-25.20	QP	
12		20.4180	10.82	9.73	20.55	50.00	-29.45	AVG	

*:Maximum data x:Over limit !:over margin

Power supply:	DC 5V	Polarization	N



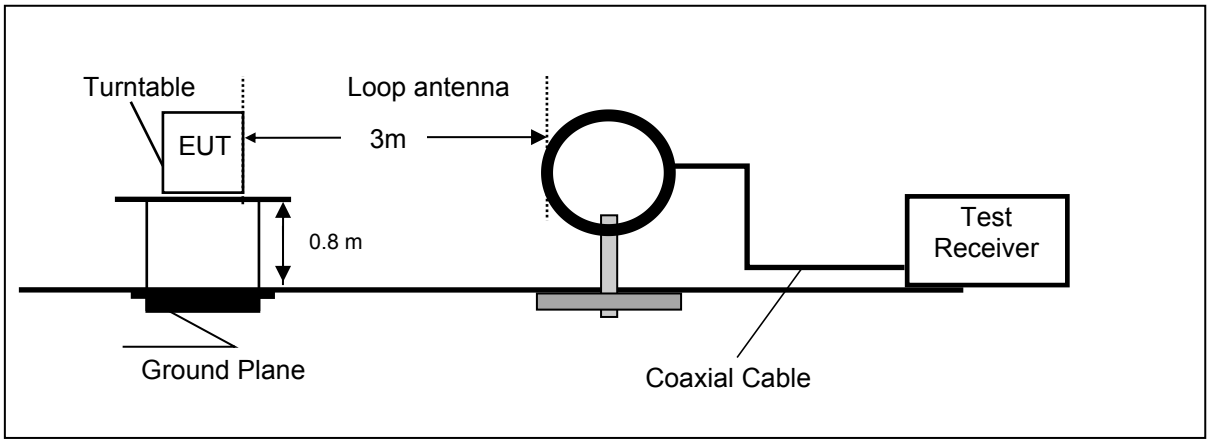
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	*	0.5460	34.88	9.59	44.47	56.00	-11.53	QP	
2		0.5500	24.63	9.59	34.22	46.00	-11.78	AVG	
3		1.3660	27.31	9.60	36.91	56.00	-19.09	QP	
4		1.4180	17.59	9.60	27.19	46.00	-18.81	AVG	
5		2.9660	22.47	9.61	32.08	56.00	-23.92	QP	
6		3.0220	9.33	9.61	18.94	46.00	-27.06	AVG	
7		3.2540	20.36	9.61	29.97	56.00	-26.03	QP	
8		3.2540	7.64	9.61	17.25	46.00	-28.75	AVG	
9		16.2260	23.83	9.71	33.54	60.00	-26.46	QP	
10		16.5100	1.30	9.71	11.01	50.00	-38.99	AVG	
11		20.8420	18.87	9.73	28.60	60.00	-31.40	QP	
12		22.3220	1.35	9.74	11.09	50.00	-38.91	AVG	

*:Maximum data x:Over limit !:over margin

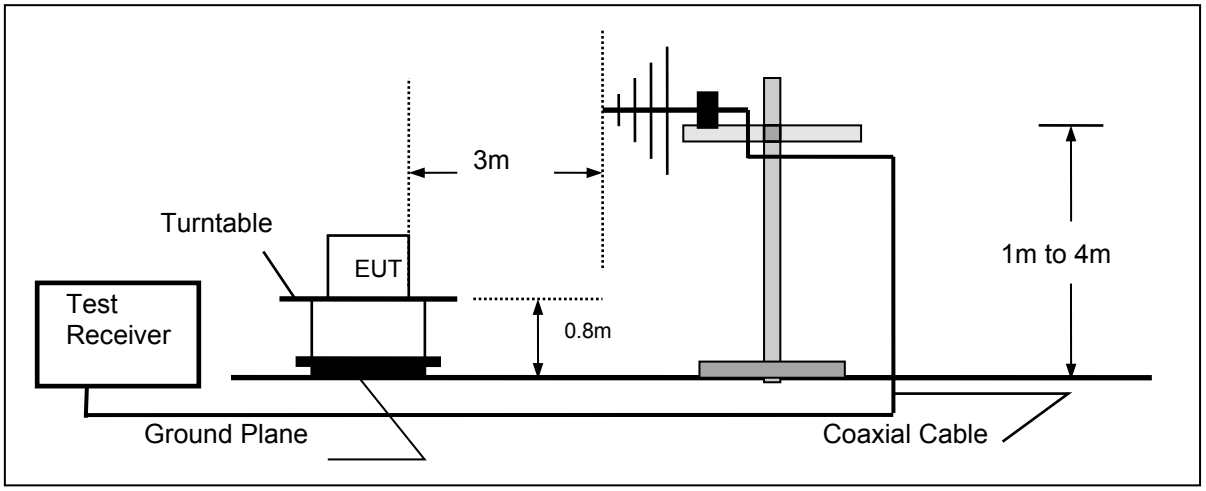
5.2. Radiated Spurious Emissions and Bandedge Emission

TEST CONFIGURATION

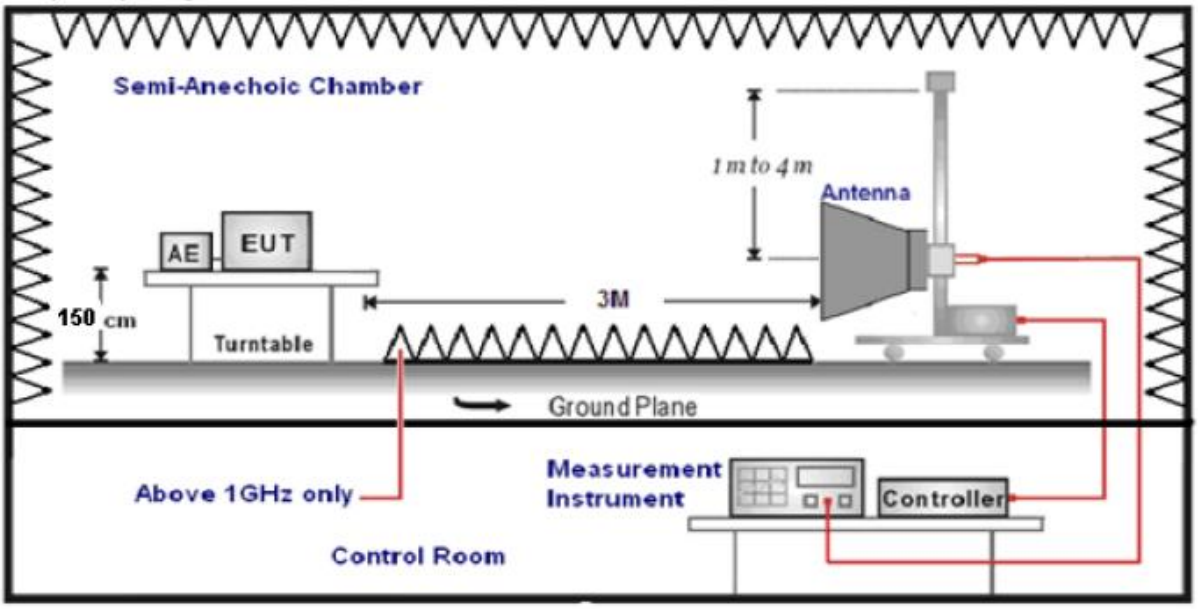
Frequency range 9 KHz – 30MHz



Frequency range 30MHz – 1000MHz



Frequency range above 1GHz-25GHz



TEST PROCEDURE

a. 1) Below 1G: The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic camber. The table was rotated 360 degrees to determine the position of the highest radiation.
2) Above 1G: The EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter semi-anechoic camber. The table was rotated 360 degrees to determine the position of the highest radiation.
Note: For the radiated emission test above 1GHz:
Place the measurement antenna away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response. The measurement antenna may have to be higher or lower than the EUT, depending on the radiation pattern of the emission and staying aimed at the emission source for receiving the maximum signal. The final measurement antenna elevation shall be that which maximizes the emissions. The measurement antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane.

b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table

e. was turned from 0 degrees to 360 degrees to find the maximum reading.

e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

g. Test the EUT in the lowest channel,the middle channel,the Highest channel

h. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode,And found the X axis positioning which it is worse case.

Repeat above procedures until all frequencies measured was complete.

RADIATION LIMIT

Limit:(Spurious Emissions and band edge)

Frequency	Field strength (microvolt/meter)	Limit (dBuV/m)	Remark	Measurement distance (m)
0.009MHz-0.490MHz	2400/F(kHz)	-	-	300
0.490MHz-1.705MHz	24000/F(kHz)	-	-	30
1.705MHz-30MHz	30	-	-	30
30MHz-88MHz	100	40.0	Quasi-peak	3
88MHz-216MHz	150	43.5	Quasi-peak	3
216MHz-960MHz	200	46.0	Quasi-peak	3
960MHz-1GHz	500	54.0	Quasi-peak	3
Above 1GHz	500	54.0	Average	3

Note: 1) 15.35(b), Unless otherwise specified, the limit on peak radio frequency emissions is 20dB above the maximum permitted average emission limit applicable to the equipment under test. This peak limit applies to the total peak emission level radiated by the device.
2) Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in Section 15.209, whichever is the lesser attenuation.

Limit:(Field strength of the fundamental signal)

Frequency	Limit (dBuV/m @3m)	Remark
2420MHz	114	PEAK
	94	AVG

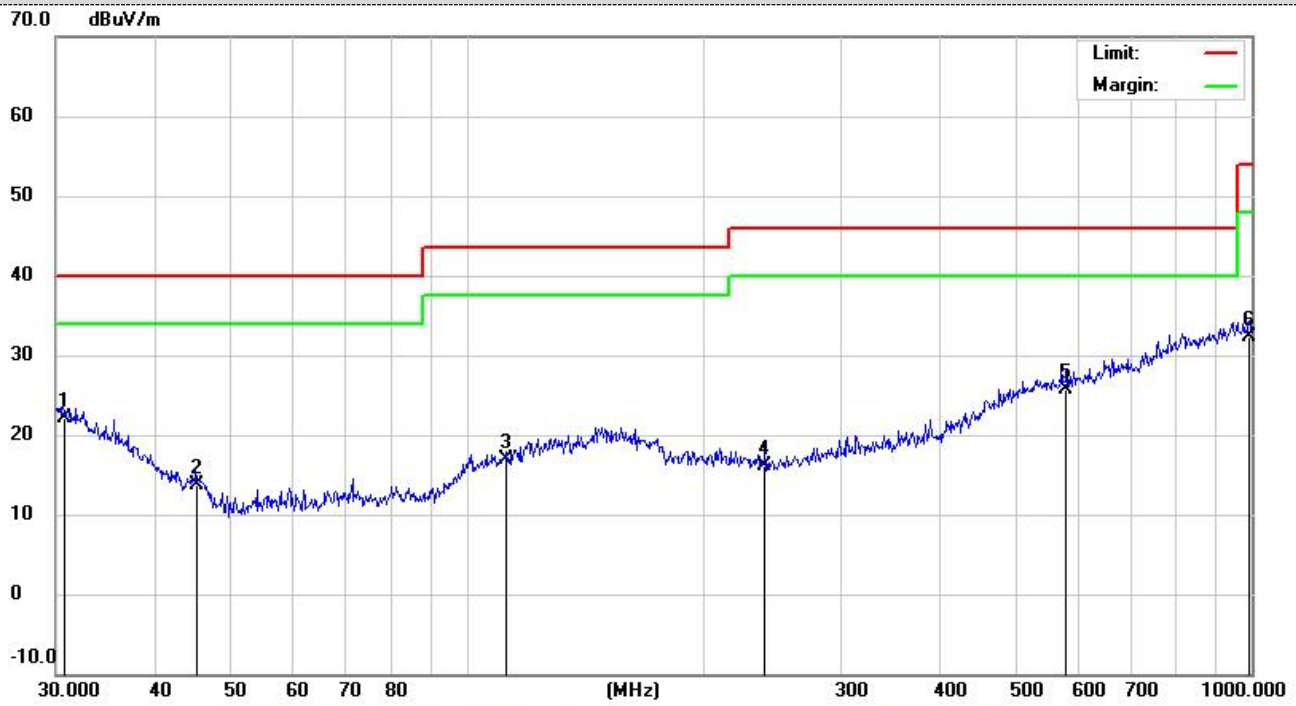
Test Results

Radiated Spurious Emissions

Notes:
1). Measuring frequencies from 9 KHz - 10th harmonic (ex. 26.5GHz), No emission found between lowest internal used/generated frequency to 30 MHz.
2). Radiated emissions measured in frequency range from 9 KHz - 10th harmonic (ex. 26.5GHz) were made with an instrument using Peak detector mode.
3). 18~25 GHz at least have 20dB margin. No recording in the test report.

For 30MHz-1GHz

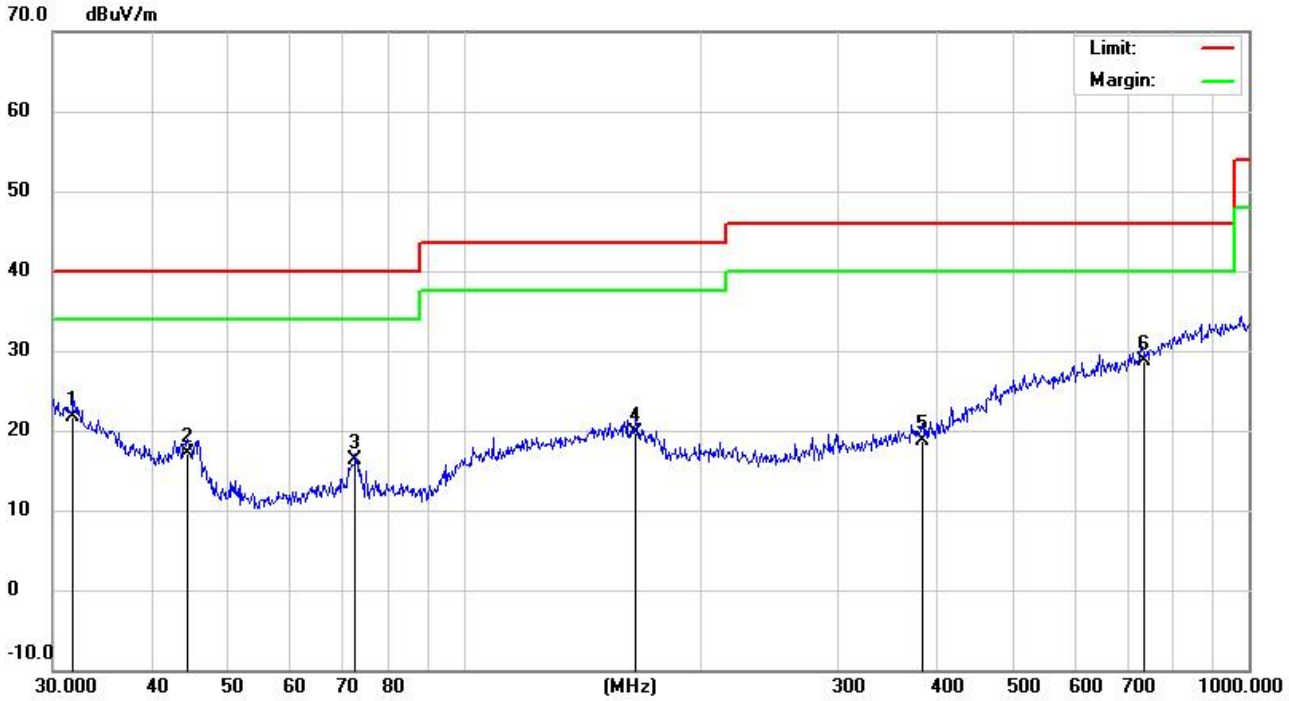
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1	*	30.6379	1.57	20.47	22.04	40.00	-17.96	QP	200	54	
2		45.2166	3.26	10.40	13.66	40.00	-26.34	QP	200	103	
3		112.1305	1.95	14.93	16.88	43.50	-26.62	QP	200	185	
4		239.9873	2.01	14.08	16.09	46.00	-29.91	QP	200	241	
5		580.7026	2.20	23.59	25.79	46.00	-20.21	QP	200	286	
6		993.0114	2.34	29.93	32.27	54.00	-21.73	QP	200	325	

*:Maximum data x:Over limit !:over margin

Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		31.8427	2.05	19.65	21.70	40.00	-18.30	QP	100	37	
2		44.4308	6.32	10.88	17.20	40.00	-22.80	QP	100	96	
3		72.8466	6.80	9.53	16.33	40.00	-23.67	QP	100	158	
4		165.4866	2.51	17.12	19.63	43.50	-23.87	QP	100	241	
5		383.9318	1.68	17.09	18.77	46.00	-27.23	QP	100	286	
6	*	731.9203	2.65	25.99	28.64	46.00	-17.36	QP	100	346	

*:Maximum data x:Over limit !:over margin

Frequency	Antenna	Reading	Cable Loss	Ant Factor	Amplifier	Results	Limits	Det.
(MHz)	Pol.	(dBuV/m)	(dB)	(dB)	(dB)	(dBuV/m)	(dBuV/m)	Mode
2402	H	96.8	2.03	11.03	29.85	80.01	114	Peak
2402	H	76.2	2.03	11.03	29.85	59.41	94	AVG
2402	V	97.2	2.03	11.03	29.85	80.41	114	Peak
2402	V	77.9	2.03	11.03	29.85	61.11	94	AVG
2440	H	96.9	2.03	11.03	29.85	80.11	114	Peak
2440	H	76.3	2.03	11.03	29.85	59.51	94	AVG
2440	V	96.1	2.03	11.03	29.85	79.31	114	Peak
2440	V	77.8	2.03	11.03	29.85	61.01	94	AVG
2480	H	86.1	2.03	11.03	29.85	69.31	114	Peak
2480	H	77.7	2.03	11.03	29.85	60.91	94	AVG
2480	V	96	2.03	11.03	29.85	79.21	114	Peak
2480	V	76.4	2.03	11.03	29.85	59.61	94	AVG

For Above 1 GHz

Frequency	Antenna	Reading	Cable Loss	Ant Factor	Amplifier	Results	Limits	Det.
(MHz)	Pol.	(dBuV/m)	(dB)	(dB)	(dB)	(dBuV/m)	(dBuV/m)	Mode
4804	H	77.9	2.03	12.71	31.45	61.19	74	PK
4804	H	56.8	2.03	12.71	31.45	40.09	54	AV
4804	V	76.4	2.03	12.71	31.45	59.69	74	PK
4804	V	57.3	2.03	12.71	31.45	40.59	54	AV
4880	H	76.1	2.03	12.71	31.45	59.39	74	PK
4880	H	57.9	2.03	12.71	31.45	41.19	54	AV
4880	V	77.9	2.03	12.71	31.45	61.19	74	PK
4880	V	57.1	2.03	12.71	31.45	40.39	54	AV
4960	H	77.1	2.03	12.71	31.45	60.39	74	PK
4960	H	57.7	2.03	12.71	31.45	40.99	54	AV
4960	V	77.1	2.03	12.71	31.45	60.39	74	PK
4960	V	56.9	2.03	12.71	31.45	40.19	54	AV

REMARKS:

1. 1:Result = Reading + Cable Loss +Ant Factor –Amplifier
2. -- Mean the PK detector measured value is below average limit.
3. The other emission levels were very low against the limit.

Bandedge Emission

GFSK

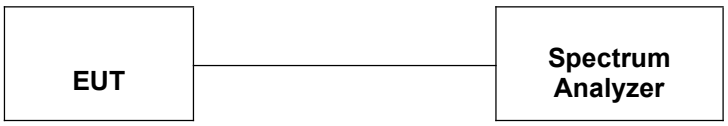
Frequency(MHz):			2402		Polarity:		HORIZONTAL		
Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
2400.00	55.53	PK	74	18.47	60.94	27.49	3.32	36.22	-5.41
2400.00	38.82	AV	54	15.18	44.23	27.49	3.32	36.22	-5.41
Frequency(MHz):			**2402**		**Polarity:**		**VERTICAL**		
Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
2400.00	56.11	PK	74	17.89	61.52	27.49	3.32	36.22	-5.41
2400.00	42.39	AV	54	11.61	47.8	27.49	3.32	36.22	-5.41
Frequency(MHz):			**2480**		**Polarity:**		**HORIZONTAL**		
Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
2483.50	54.83	PK	74	19.17	60.34	27.45	3.38	36.34	-5.51
2483.50	42.09	AV	54	11.91	47.6	27.45	3.38	36.34	-5.51
Frequency(MHz):			**2480**		**Polarity:**		**VERTICAL**		
Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
2483.50	56.97	PK	74	17.03	62.48	27.45	3.38	36.34	-5.51
2483.50	40.82	AV	54	13.18	46.33	27.45	3.38	36.34	-5.51

REMARKS:

1. Emission level (dBuV/m) =Raw Value (dBuV)+Correction Factor (dB/m)
2. Correction Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)- Pre-amplifier
3. Margin value = Limit value- Emission level.
4. -- Mean the PK detector measured value is below average limit.

5.3. 20dB Bandwidth

TEST CONFIGURATION



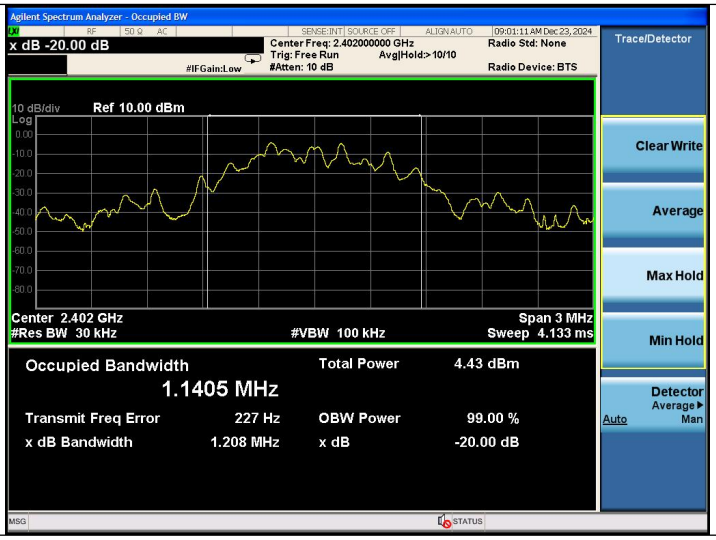
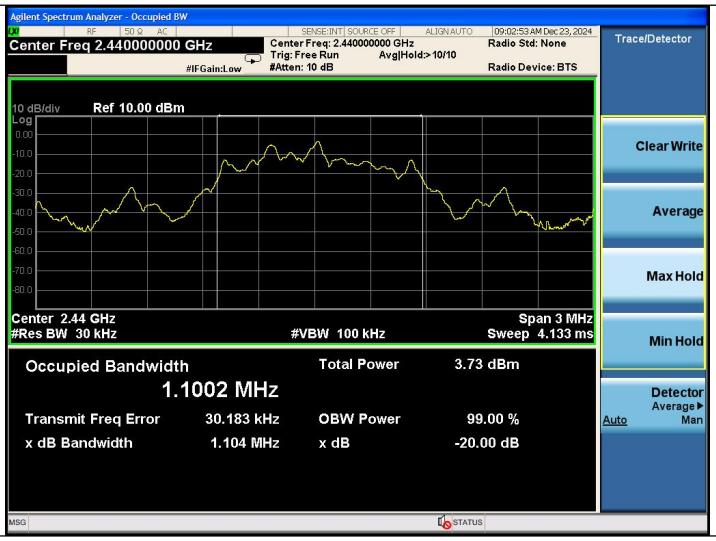
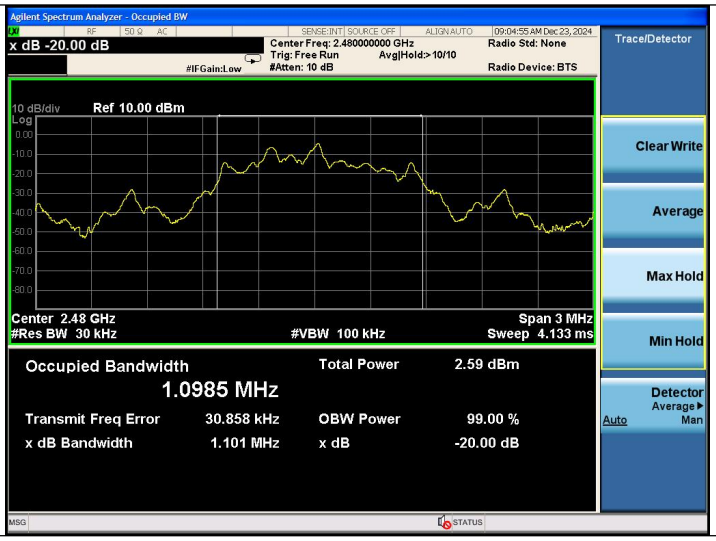
TEST PROCEDURE

1:The transmitter output was connected to the spectrum analyzer through an attenuator, the path loss was compensated to the results for each measurement.
2:Set to the maximum power setting and enable the EUT transmit continuously.
3:Use the following spectrum analyzer settings:
Span = approximately 2 to 3 times the 20 dB bandwidth, centered on a test channel RBW ⩾ 1% of the 20 dB bandwidth, VBW ⩾ RBW
Sweep = auto, Detector function = peak, Trace = max hold
4:Measure and record the results in the test report.

TEST RESULTS

Modulation	Channel Frequency (MHz)	99% OBW (MHz)	20dB bandwidth (MHz)	Result
GFSK	2402	1.1405	1.208	Pass
GFSK	2440	1.1002	1.104	Pass
GFSK	2480	1.0985	1.101	Pass

Test plot as follows:

GFSK Modulation

2402

2440

2480

5.4. Antenna Requirement

Standard Applicable

For intentional device, according to FCC 47 CFR Section 15.203, 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.

Refer to statement below for compliance

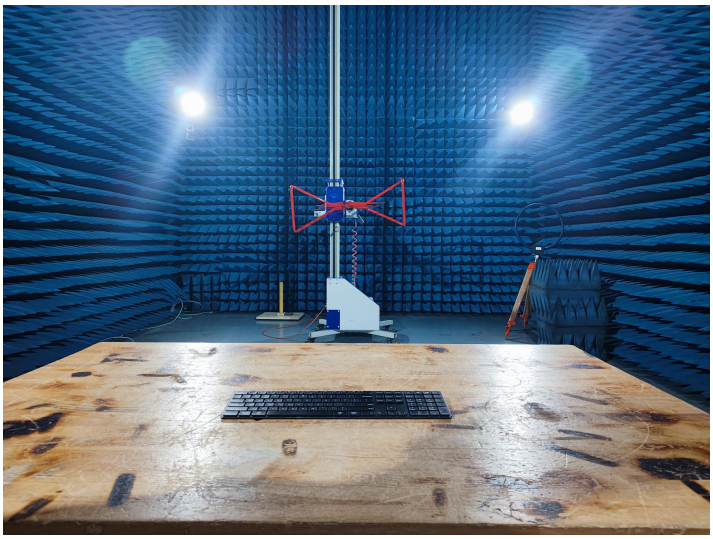
The manufacturer may design the unit so that the user can replace a broken antenna, but the use of a standard antenna jack or electrical connector is prohibited. Further, this requirement does not apply to intentional radiators that must be professionally installed.

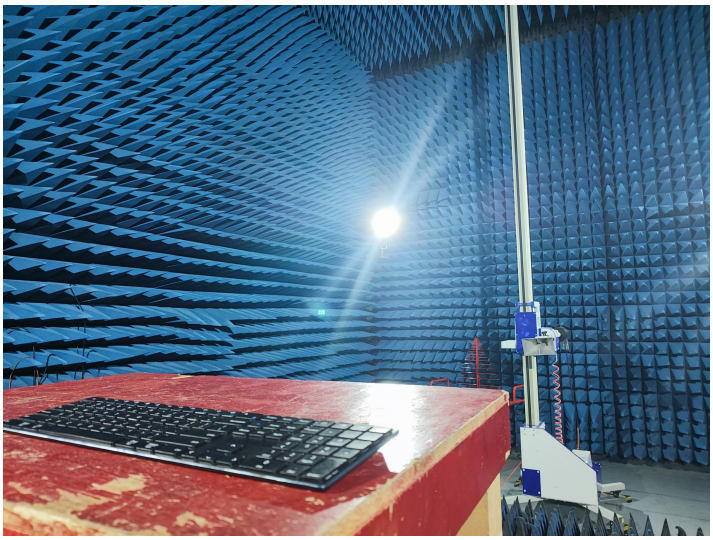
Antenna Connected Construction

The directional gains of antenna used for transmitting is -0.43dBi, and the antenna is a PCB antenna connect to PCB board and no consideration of replacement. Please see EUT photo for details.

Results: Compliance.

6. Test Setup Photos of the EUT





7. External and Internal Photos of the EUT

See related photo report.

.....End of Report.....