



FCC Test Report

Report No: FCS202311334W01

Issued for

Applicant:	Haizhiqiao Technology Co., Ltd.
Address:	Room 326-1, Huateng Business Center, Huachang Road, Dalang Street, Longhua Dist., Shenzhen, China.
Product Name:	Wireless mouse
Brand Name:	LuLabboard
Model Name:	JS280
Series Model:	JS666, JS888, JS006, JS008, JS066, JS088, JS028, JS068, JS086, JS082, JS806, JS608
FCC ID:	2BDUN-JS280
Issued By: Flux Compliance Service Laboratory Add: Room 105 Floor Bao hao Technology Building 1 NO.15 Gong ye West Road Hi-Tech Industrial, Song shan lake Dongguan Tel: 769-27280901 Fax:769-27280901 http://www.fcs-lab.com	

TEST RESULT CERTIFICATION

Applicant's Name: Haizhiqiao Technology Co., Ltd.
Address.....: Room 326-1, Huateng Business Center, Huachang Road, Dalang Street, Longhua Dist., Shenzhen, China.
Manufacture's Name: Guanshi Huayinchuang Electronic Technology Co., Ltd.
Address.....: No. 88, Luxi Road, Liaobu Town, Dongguan, China.

Product Description

Product Name: Wireless mouse
Brand Name: LuLabboard
Model Name: JS280
Series Model.....: JS666, JS888, JS006, JS008, JS066, JS088, JS028, JS068, JS086, JS082, JS806, JS608
Test Standards.....: FCC Rules and Regulations Part 15 Subpart C, Section 249
Test Procedure.....: ANSI C63.10:2013

This device described above has been tested FCS, the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

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Date of Test:

Date (s) of performance of tests : 27 Nov., 2023 ~ 30 Nov., 2023

Date of Issue: 30 Nov., 2023

Test Result: Pass

Tested by : 
(Scott Shen)

Reviewed by : 
(Duke Qian)

Approved by : 
(Jack Wang)



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Revision History

Rev.	Issue Date	Effect Page	Contents
00	30 Nov., 2023	N/A	Initial Issue

1. SUMMARY OF TEST RESULTS

FCC Part 15.249, Subpart C			
Standard Section	Test Item	Judgment	Remark
15.207	Conducted Emission	PASS	--
15.205(a), 15.209(a), 15.249(a), 15.249(c)	Radiated Spurious Emission	PASS	--
15.209	Field strength of fundamental	PASS	
15.249(d)	Band Edge Emission	PASS	--
15.215(c)	20dB Bandwidth	PASS	--
15.203	Antenna Requirement	PASS	--

NOTE:

- (1)" N/A" denotes test is not applicable in this Test Report
- (2) All tests are according to ANSI C63.10-2013

1.1 TEST FACTORY

Company Name:	Flux Compliance Service Laboratory
Address:	Room 105 Floor Bao hao Technology Building 1 NO.15 Gong ye West Road Hi-Tech Industrial, Song shan lake Dongguan
Telephone:	+86-769-27280901
Fax:	+86-769-27280901
FCC Test Firm Registration Number: 514908 Designation number: CN0127 A2LA accreditation number: 5545.01 CNAS: L15566	

1.2 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement $y \pm U$, where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately **95 %**.

No.	Item	Uncertainty
1	RF output power, conducted	$\pm 0.71\text{dB}$
2	Unwanted Emissions, conducted	$\pm 2.98\text{ dB}$
3	Conducted Emission (9KHz-150KHz)	$\pm 4.13\text{ dB}$
4	Conducted Emission (150KHz-30MHz)	$\pm 4.74\text{ dB}$
5	All emissions, radiated(<1G) 30MHz-1000MHz	$\pm 3.2\text{ dB}$
6	All emissions, radiated (1GHz -18GHz)	$\pm 3.66\text{ dB}$
7	All emissions, radiated (18GHz -40GHz)	$\pm 4.31\text{ dB}$
8	Occupied Channel Bandwidth	$\pm 3.5\%$

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF THE EUT

Product Name	Wireless mouse
Trade Name	LuLabboard
Model Name	JS280
Series Model	JS666, JS888, JS006, JS008, JS066, JS088, JS028, JS068, JS086, JS082, JS806, JS608
Model Difference	Only different of colour and model name.
Channel	2402 MHz
Wireless function	Frequency:2402 MHz Modulation: GFSK Data rate: 1Mbps Channel number: 1CH
Power Supply	Input: DC 5V
Battery	Rated Voltage: DC 3.7V Capacity: 500mAh
Hardware version number	V1.0
Software version number	V68
Connecting I/O Port(s)	Please refer to the User's Manual

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.

2. Table for Filed Antenna

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	NOTE
1	LuLabboard	JS280	PCB Antenna	N/A	-4.75	SRD Antenna

2.2 DESCRIPTION OF THE TEST MODES

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

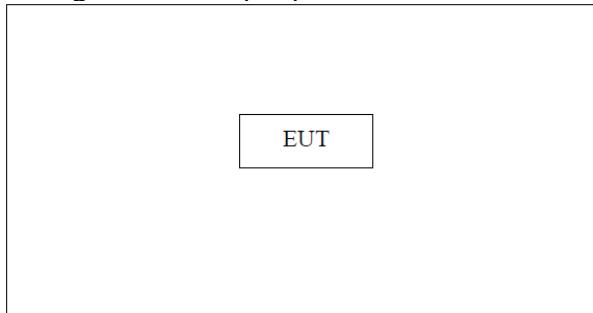
Test software: Press the button to transmit after power-on

No.	Test model descrption
1	2402 MHz GFSK

Note:

1. All the test modes can be supply by battery, only the result of the worst case recorded in the report. GFSK mode is worst mode.
2. For radiated emission, 3 axis were chosen for testing for each applicable mode.
3. The EUT used fully charge battery when tested.
4. During the test, the dutycycle>98%, the test voltage was tuned from 85% to 115% of the Nominal rate supply votage, and found that the worst case was the nominal rated supply condition, So the report just shows that condition's data

Configuration and peripherals



2.3 DESCRIPTION OF NECESSARY ACCESSORIES AND SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Necessary accessories

Item	Equipment	Mfr/Brand	Model/Type No.	Serial No.	Note
1	Adapter	HUAWEI	050KU	N/A	This adapter is for testing only in report
2	Notebook	Lenovo	Tink PadE495	N/A	Test using

Support units

Item	Equipment	Mfr/Brand	Model/Type No.	Serial No.	Note
1	USB dongle	LuLabboard	JS280	N/A	N/A

Note:

- (1) The support equipment was authorized by Declaration of Confirmation.
- (2) For detachable type I/O cable should be specified the length in cm in 『Length』 column.
- (3) "YES" is means "shielded" "with core"; "NO" is means "unshielded" "without core".

2.4 EQUIPMENTS LIST

Radiation Test equipment

Kind of Equipment	Manufacturer	Type No.	Company No.	Last calibration	Calibrated until
EMI Test Receiver	R&S	ESRP 3	FCS-E001	2023.02.09	2024.02.08
Signal Analyzer	R&S	FSV40-N	FCS-E012	2023.02.09	2024.02.08
Active loop Antenna	ZHINAN	ZN30900C	FCS-E013	2023.02.09	2024.02.08
Bilog Antenna	SCHWARZBECK	VULB 9168	FCS-E002	2023.02.09	2024.02.08
Horn Antenna	SCHWARZBECK	BBHA 9120D	FCS-E003	2023.02.09	2024.02.08
SHF-EHF Horn Antenna (18G-40GHz)	A-INFO	LB-180400-KF	FCS-E018	2023.02.09	2024.02.08
Pre-Amplifier(0.1M-3G Hz)	EMCI	EM330N	FCS-E004	2023.02.09	2024.02.08
Pre-Amplifier (1G-18GHz)	N/A	TSAMP-0518SE	FCS-E014	2023.02.09	2024.02.08
Pre-Amplifier (18G-40GHz)	TERA-MW	TRLA-0400	FCS-E019	2023.02.09	2024.02.08
Temperature & Humidity	HTC-1	victor	FCS-E005	2023.02.09	2024.02.08

Conduction Test equipment

Kind of Equipment	Manufacturer	Type No.	Company No.	Last calibration	Calibrated until
EMI Test Receiver	R&S	ESPI	FCS-E020	2023.02.09	2024.02.08
LISN	R&S	ENV216	FCS-E007	2023.02.09	2024.02.08
LISN	ETS	3810/2NM	FCS-E009	2023.02.09	2024.02.08
Temperature & Humidity	HTC-1	victor	FCS-E008	2023.02.09	2024.02.08

RF Connected Test

Kind of Equipment	Manufacturer	Type No.	Company No.	Last calibration	Calibrated until
Spectrum Analyzer	Keysight	N9020A	FCS-E015	2023.02.09	2024.02.08
Spectrum Analyzer	Agilent	E4447A	MY50180039	2023.02.09	2024.02.08
Spectrum Analyzer	R&S	FSV-40	101499	2023.02.09	2024.02.08

3. CONDUCTED EMISSION MEASUREMENT

3.1 LIMIT

Operating frequency band. In case the emission fall within the restricted band specified on Part 207(a) limit in the table below has to be followed.

FREQUENCY (MHz)	Conducted Emissionlimit (dBuV)	
	Quasi-peak	Average
0.15 -0.5	66 - 56 *	56 - 46 *
0.50 -5.0	56.00	46.00
5.0 -30.0	60.00	50.00

Note:

- (1) The tighter limit applies at the band edges.
- (2) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

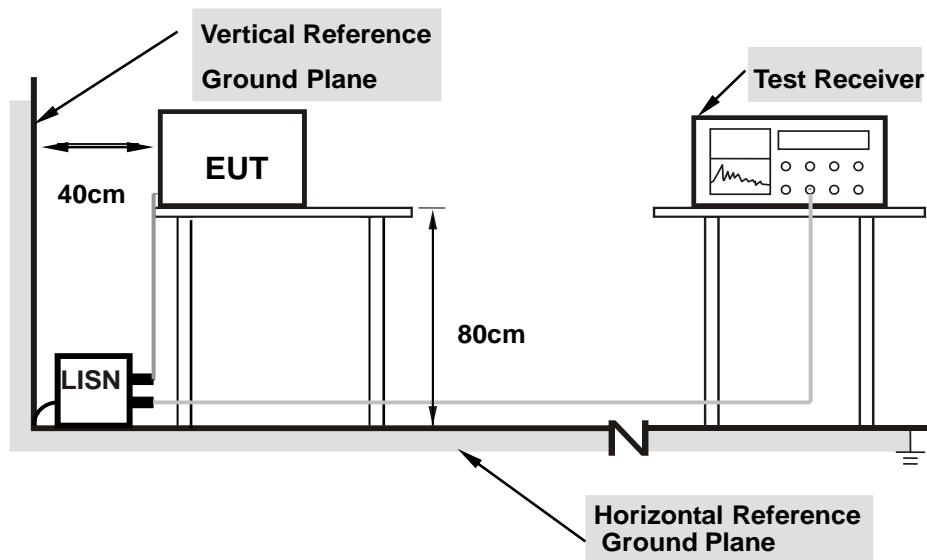
3.2 TEST PROCEDURE

The following table is the setting of the receiver

Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz

- a. The EUT was 0.8 meters from the horizontal ground plane and 0.4 meters from the vertical ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
- c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
- d. LISN at least 80 cm from nearest part of EUT chassis.
- e. For the actual test configuration, please refer to the related Item –EUT Test Photos.

3.3 TEST SETUP



Note:

1. Support units were connected to second LISN.
2. Both of LISNs (AMN) are 80 cm from EUT and at least 80 cm from other units and other metal planes

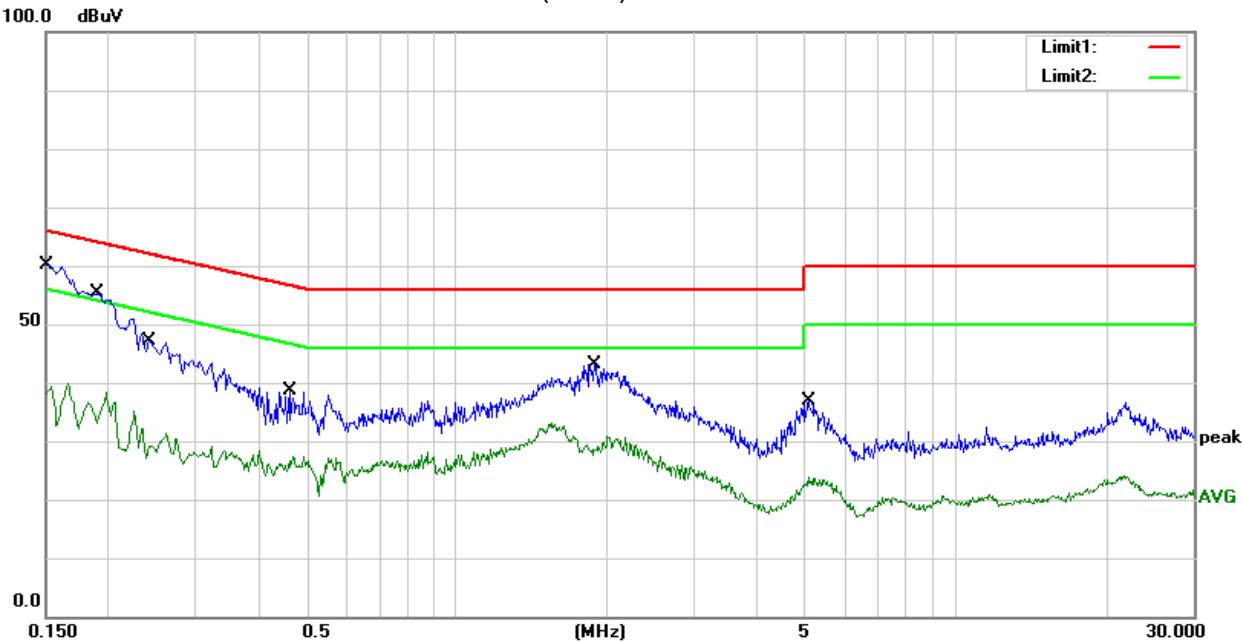
3.4 TEST RESULTS

Temperature:	25°C	Relative Humidity:	50%
Test Mode:	GFSK	Test Voltage:	AC 120V/50Hz
Phase:	L	Result:	Pass

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1500	39.80	20.33	60.13	66.00	-5.87	QP
2	0.1500	19.15	20.33	39.48	56.00	-16.52	AVG
3	0.1900	34.95	20.31	55.26	64.04	-8.78	QP
4	0.1900	15.71	20.31	36.02	54.04	-18.02	AVG
5	0.2420	26.60	20.50	47.10	62.03	-14.93	QP
6	0.2420	8.71	20.50	29.21	52.03	-22.82	AVG
7	0.4620	18.20	20.54	38.74	56.66	-17.92	QP
8	0.4620	6.80	20.54	27.34	46.66	-19.32	AVG
9	1.8940	22.81	20.30	43.11	56.00	-12.89	QP
10	1.8940	9.05	20.30	29.35	46.00	-16.65	AVG
11	5.0820	16.40	20.46	36.86	60.00	-23.14	QP
12	5.0820	3.44	20.46	23.90	50.00	-26.10	AVG

Remark:

1. All readings are Quasi-Peak and Average values
2. Margin = Result (Result =Reading + Factor)–Limit
3. Factor=LISN factor+Cable loss+Limiter (10dB)

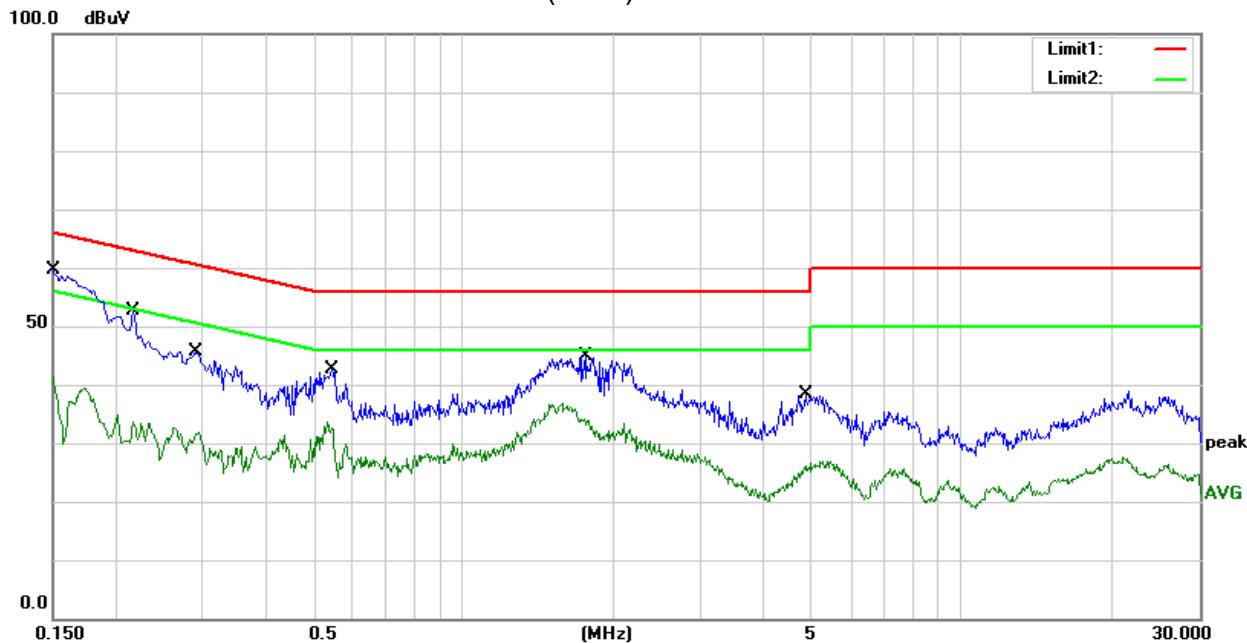


Temperature:	25°C	Relative Humidity:	50%
Test Mode:	GFSK	Test Voltage:	AC 120V/50Hz
Phase:	N	Result:	Pass

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1500	39.35	20.33	59.68	66.00	-6.32	QP
2	0.1500	21.12	20.33	41.45	56.00	-14.55	AVG
3	0.2180	32.17	20.39	52.56	62.89	-10.33	QP
4	0.2180	13.18	20.39	33.57	52.89	-19.32	AVG
5	0.2900	24.83	20.70	45.53	60.52	-14.99	QP
6	0.2900	11.09	20.70	31.79	50.52	-18.73	AVG
7	0.5460	22.00	20.50	42.50	56.00	-13.50	QP
8	0.5460	12.04	20.50	32.54	46.00	-13.46	AVG
9	1.7580	24.45	20.30	44.75	56.00	-11.25	QP
10	1.7580	13.79	20.30	34.09	46.00	-11.91	AVG
11	4.8700	17.81	20.45	38.26	56.00	-17.74	QP
12	4.8700	5.62	20.45	26.07	46.00	-19.93	AVG

Remark:

1. All readings are Quasi-Peak and Average values
2. Margin = Result (Result =Reading + Factor)–Limit
3. Factor=LISN factor+Cable loss+Limiter (10dB)



Remark: All readings are Quasi-Peak and Average values.

4. RADIATED EMISSION MEASUREMENT

4.1 LIMIT

In any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the Restricted band specified on Part15.205(a)&209(a) limit in the table and according to ANSI C63.10-2013 below has to be followed

LIMITS OF RADIATED EMISSION MEASUREMENT (0.009mhz - 1000mhz)

Frequencies (MHz)	Field Strength (micorvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

LIMITS OF RADIATED EMISSION MEASUREMENT (1GHz-25 GHz)

FREQUENCY (MHz)	(dBuV/m) (at 3M)	
	PEAK	AVERAGE
Above 1000	74	54

LIMITS OF FIELD STRENGTH OF THE FUNDAMENTAL SIGNAL

FREQUENCY (MHz)	(dBuV/m) (at 3M)	
	PEAK	AVERAGE
2400-2483.5	114	94

Notes:

- (1) The limit for radiated test was performed according to FCC PART 15C.
- (2) The tighter limit applies at the band edges.
- (3) Emission level (dBuV/m)=20log Emission level (uV/m).

4.2 TEST PROCEDURE

Spectrum Parameter	Setting
Attenuation	Auto
Detector	Peak/AV
Start Frequency	1000 MHz(Peak/AV)
Stop Frequency	10th carrier harmonic(Peak/AV)
RB / VB (emission in restricted band)	PK=1MHz / 1MHz, AV=1 MHz /10 Hz (Peak detector is for Both)

- a. The measuring distance of at 3 m shall be used for measurements at frequency 0.009MHz up to 1GHz, and above 1GHz.
- b. The EUT was placed on the top of a rotating table 0.8 meters (above 1GHz is 1.5 m) above the ground at a 3 meter anechoic chamber test site. The table was rotated 360 degrees to determine the position of the highest radiation.
- c. The height of the equipment shall be 0.8 m (above 1GHz is 1.5 m); the height of the test antenna shall vary between 1 m to 4 m. horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then QuasiPeak detector mode re-measured.
- e. If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.
- f. For the actual test configuration, please refer to the related Item –EUT Test Photos.

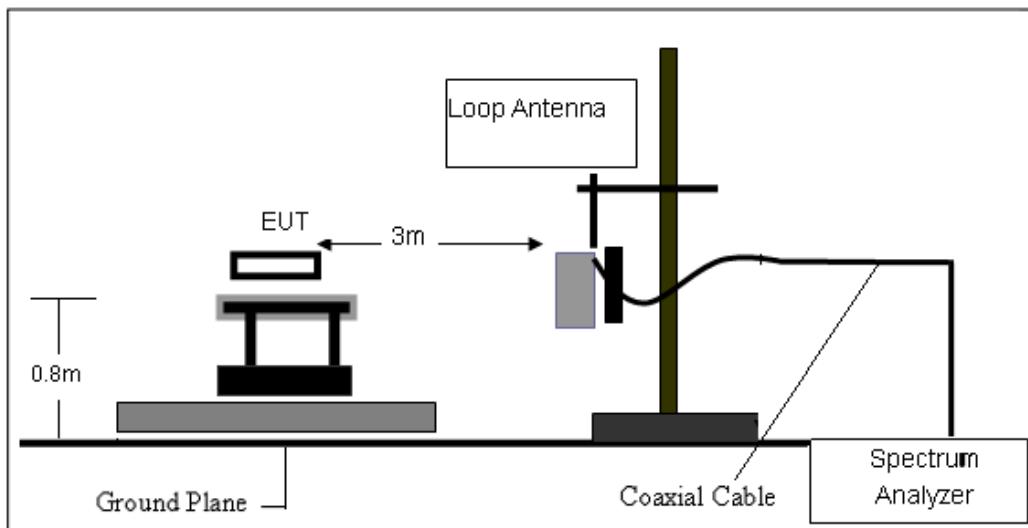
Note:

Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported

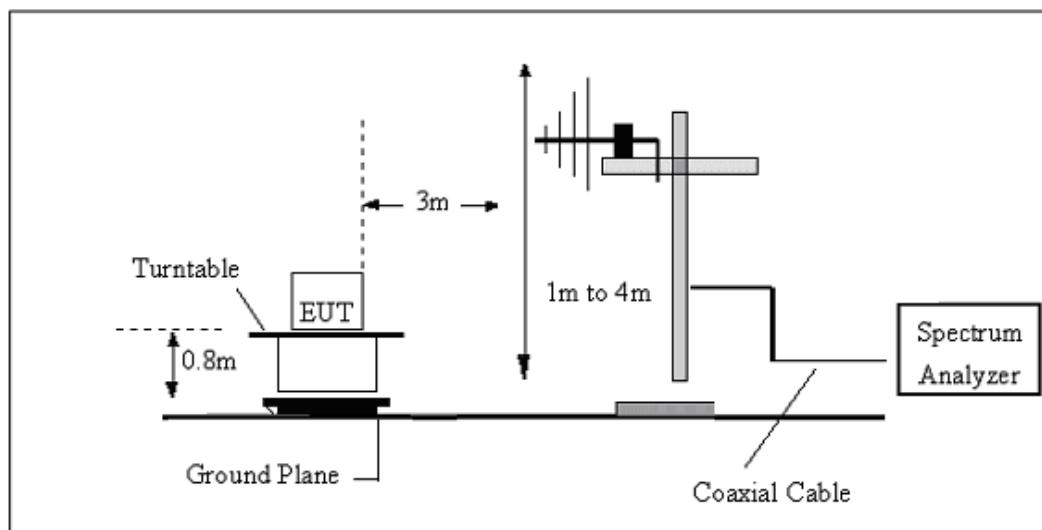
For fundamental frequency ,RBW>20dB BW ,VBW>RBW,PK detector for PK value, RMS detector for AV value.

4.3 TEST SETUP

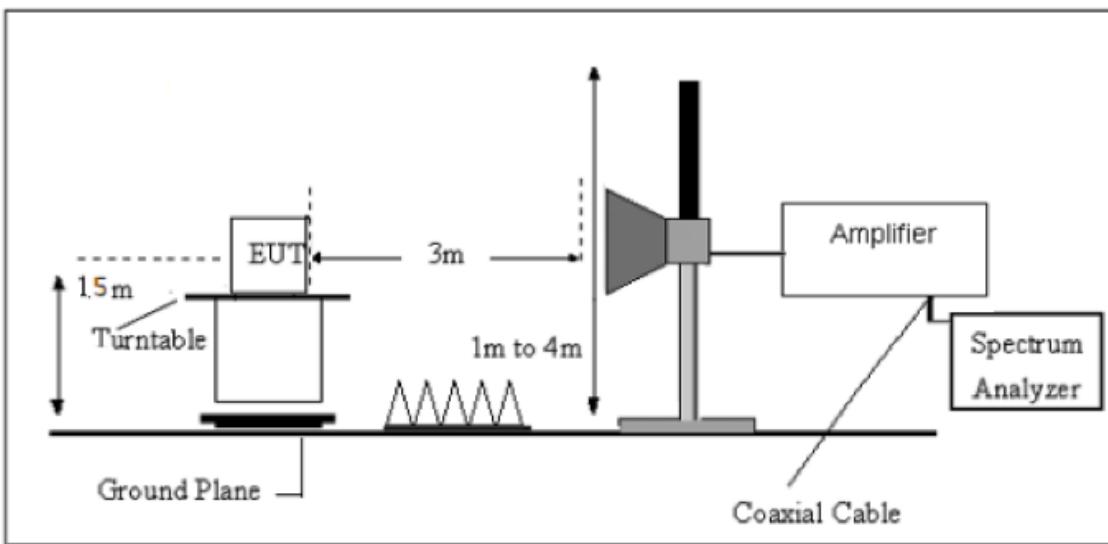
(A) Radiated Emission Test-Up Frequency Below 30MHz



(B) Radiated Emission Test-Up Frequency 30MHz~1GHz



(C) Radiated Emission Test-Up Frequency Above 1GHz



4.4 TEST RESULTS

For spurious emission

(9KHz-30MHz)

Freq. (MHz)	Reading (dBuV/m)	Limit (dBuV/m)	Margin (dB)	State P/F	Test Result
--	--	--	--	--	PASS
--	--	--	--	--	PASS

Note:

The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

Distance extrapolation factor = $40 \log (\text{specific distance}/\text{test distance})$ (dB);

Limit line = specific limits (dBuv) + distance extrapolation factor.

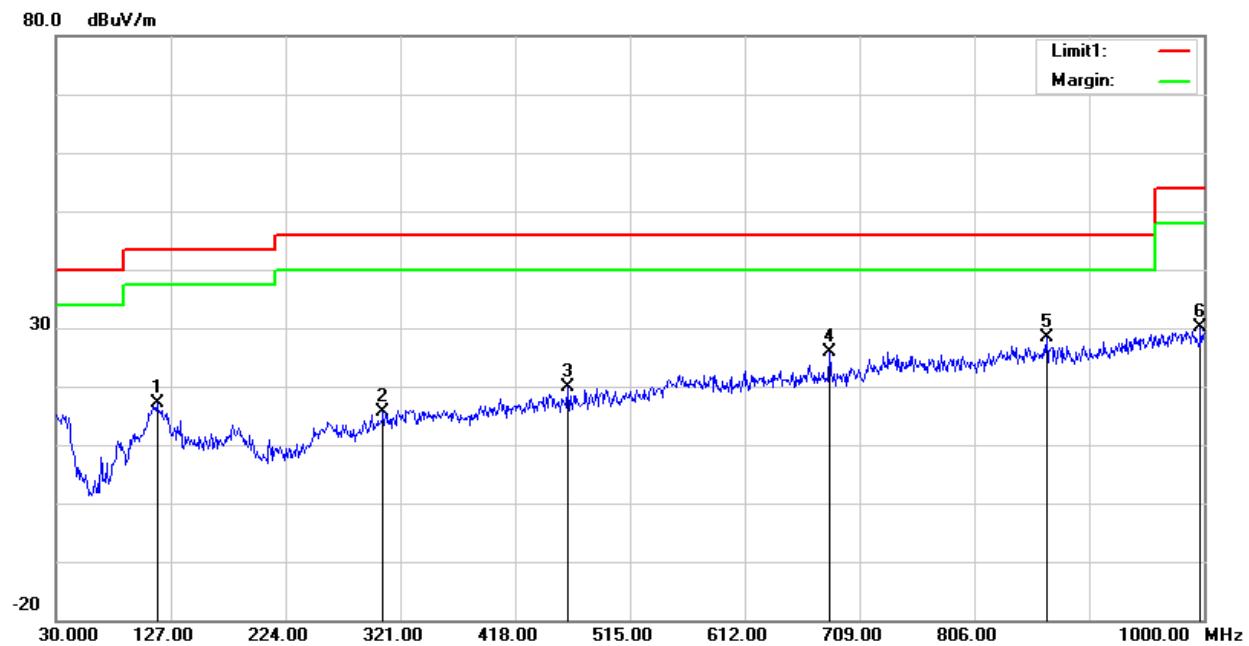
Between 30MHz – 1000 MHz Radiation Spurious

Temperature:	23.1(C)	Relative Humidity:	60%RH
Test Voltage:	DC 3.7V	Phase:	Horizontal
Test Mode:	Mode 1		

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	115.3600	35.78	-18.55	17.23	43.50	-26.27	QP
2	306.4500	30.28	-14.58	15.70	46.00	-30.30	QP
3	462.6200	29.25	-9.34	19.91	46.00	-26.09	QP
4	683.7800	30.26	-4.31	25.95	46.00	-20.05	QP
5	867.1100	28.93	-0.50	28.43	46.00	-17.57	QP
6	997.0900	28.05	2.04	30.09	54.00	-23.91	QP

Remark:

1. Margin = Result (Result =Reading + Factor)–Limit
2. Factor= Antenna factor+Cable attenuation factor(cable loss)-Amplifier gain



Temperature:	23.1(C)	Relative Humidity:	60%RH
Test Voltage:	DC 3.7V	Phase:	Vertical
Test Mode:	Mode 1		

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	38.7300	47.40	-17.36	30.04	40.00	-9.96	QP
2	277.3500	31.55	-15.52	16.03	46.00	-29.97	QP
3	404.4200	28.20	-10.88	17.32	46.00	-28.68	QP
4	657.5900	27.81	-4.83	22.98	46.00	-23.02	QP
5	838.0100	28.52	-0.42	28.10	46.00	-17.90	QP
6	984.4800	28.21	2.40	30.61	54.00	-23.39	QP

Remark:

1. Margin = Result (Result =Reading + Factor)–Limit
2. Factor= Antenna factor+Cable attenuation factor(cable loss)-Amplifier gain



Above 1G Radiation Spurious

PK

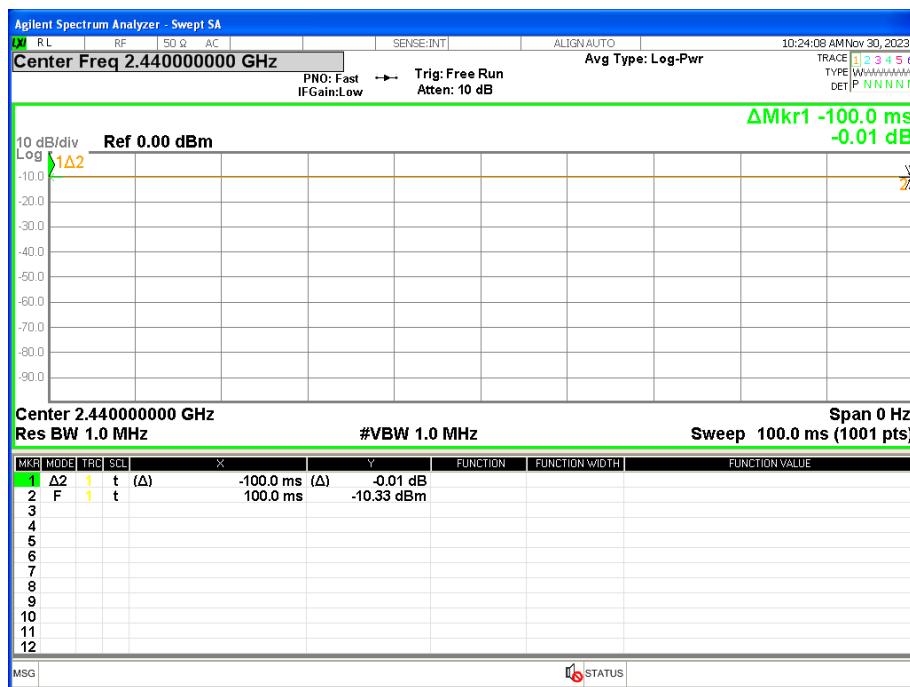
Frequency	Meter Reading	Detector	Amplifier	Loss	Antenna Factor	Orrected Factor	Corrected Amplitude	FCC Part 15.249/15.209/205		RX Antenna Polar
								Limit	Margin	
(MHz)	(dB μ V/m)	(PK/QP/AV)	(dB)	(dB)	(dB/m)	(dB)	(dB μ V/m)	(dB μ V/m)	(dB)	(H/V)
4804.01	56.29	PK	50.33	8.84	31.22	-10.27	46.02	74	-27.98	H
4804.01	55.25	PK	50.33	8.84	31.22	-10.27	44.98	74	-29.02	V
7206.24	53.46	PK	55.48	9.31	34.05	-12.12	41.34	74	-32.66	H
7206.24	51.55	PK	55.48	9.31	34.05	-12.12	39.43	74	-34.57	V
9608.14	56.51	PK	59.13	9.89	36.99	-12.25	44.26	74	-29.74	H
9608.14	55.12	PK	59.13	9.89	36.99	-12.25	42.87	74	-31.13	V

AV

Frequency	PK Reading	Duty cycle factor	AV Reading	Orrected Factor	Corrected Amplitude	FCC Part 15.249/15.209/205		RX Antenna
						Limit	Margin	
(MHz)	(dB μ V/m)	(dB)	(dB μ V/m)	(dB)	(dB μ V/m)	(dB μ V/m)	(dB)	(H/V)
4804.01	56.29	0	56.29	-10.27	46.02	54.00	-7.98	H
4804.01	55.25	0	55.25	-10.27	44.98	54.00	-9.02	V
7206.24	53.46	0	53.46	-12.12	41.34	54.00	-12.66	H
7206.24	51.55	0	51.55	-12.12	39.43	54.00	-14.57	V
9608.14	56.51	0	56.51	-12.25	44.26	54.00	-9.74	H
9608.14	55.12	0	55.12	-12.25	42.87	54.00	-11.13	V

AV = Peak +20Log10(duty cycle factor) =Peak+0

Duty cycle



Ton	Tp	Duty cycle(%)	Duty factor(dB)
100.000	100.000	100.00%	0.00

Note: Duty Factor=20*LOG10(1/(Ton/Tp))

5. BAND EDGE TEST

5.1 LIMIT

According to §15.249(d), 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 §15.209, whichever is the lesser attenuation.

5.2 TEST PROCEDURE

- a. The EUT is placed on a turntable, which is 1.5m above ground plane.
- b. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emissions.
Use the following spectrum analyzer settings:
c. Span = wide enough to fully capture the emission being measured, RBW = 1 MHz, VBW \geq RBW, Sweep = auto, Detector function = peak, Trace = max hold
Follow the guidelines in ANSI C63.4 with respect to maximizing the emission by rotating the EUT, adjusting the measurement antenna height and polarization, etc.
- d. The peak reading of the emission, after being corrected by the antenna factor, cable loss, pre-amp gain, etc., is the peak field strength, submit this data. Each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. Set the VBW to 10 Hz, while maintaining all of the other instrument settings. This peak level, once corrected, must comply with the limit specified in Section 15.209. If the duty cycle per channel of the hopping signal is less than 100 ms, then the reading obtained with
e. the 10 Hz VBW may be further adjusted by a “duty cycle correction factor”, derived from $20\log(\text{duty cycle}/100 \text{ ms})$, in an effort to demonstrate compliance with the 15.209 limit.

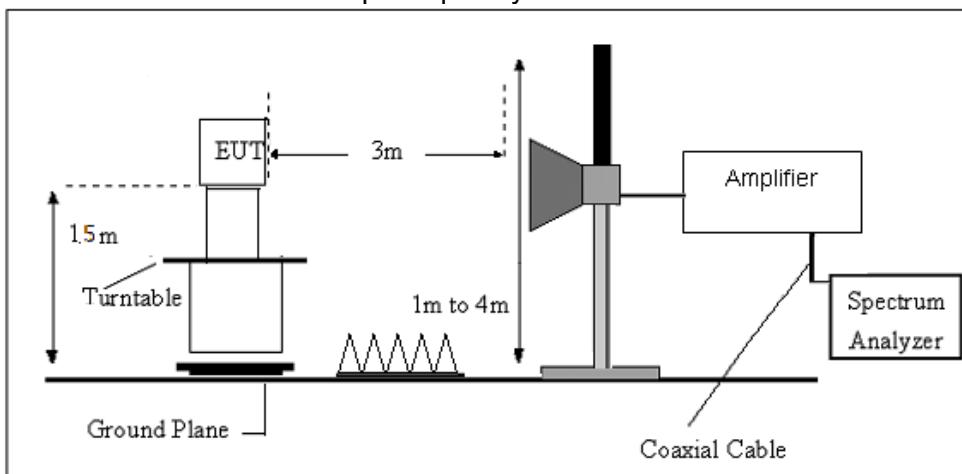
Submit this data.

Note:

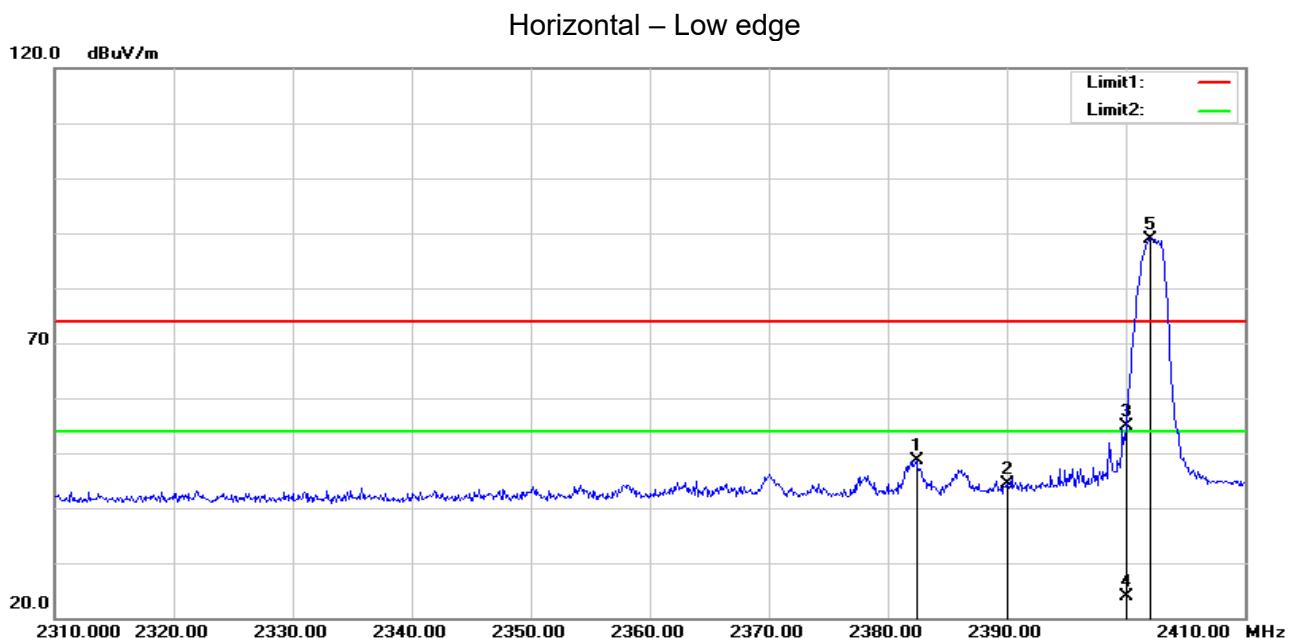
For fundamental frequency ,RBW>20dB BW ,VBW>RBW,PK detector for PK value, RMS detector for AV value.

5.3 TEST SETUP

Radiated Emission Test-Up Frequency Above 1GHz



5.4 TEST RESULTS

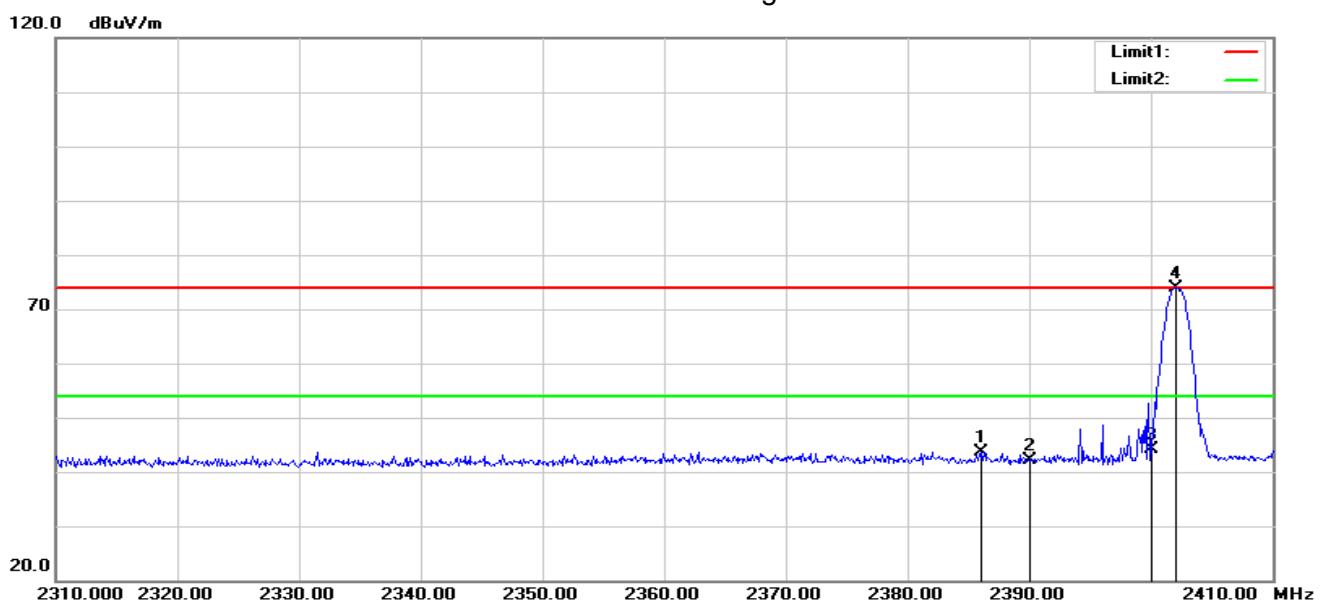


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2382.400	44.42	4.23	48.65	74.00	-25.35	peak
2	2390.000	40.06	4.34	44.40	74.00	-29.60	peak
3	2400.000	50.49	4.49	54.98	74.00	-19.02	peak
4	2400.000	19.51	4.49	24.00	54.00	-30.00	AVG

Fundamental Frequency

No.	Frequency	Reading	Correct	Duty cycle	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
5	2402.000	84.34	4.49	-	88.83	114.00	-25.17	peak

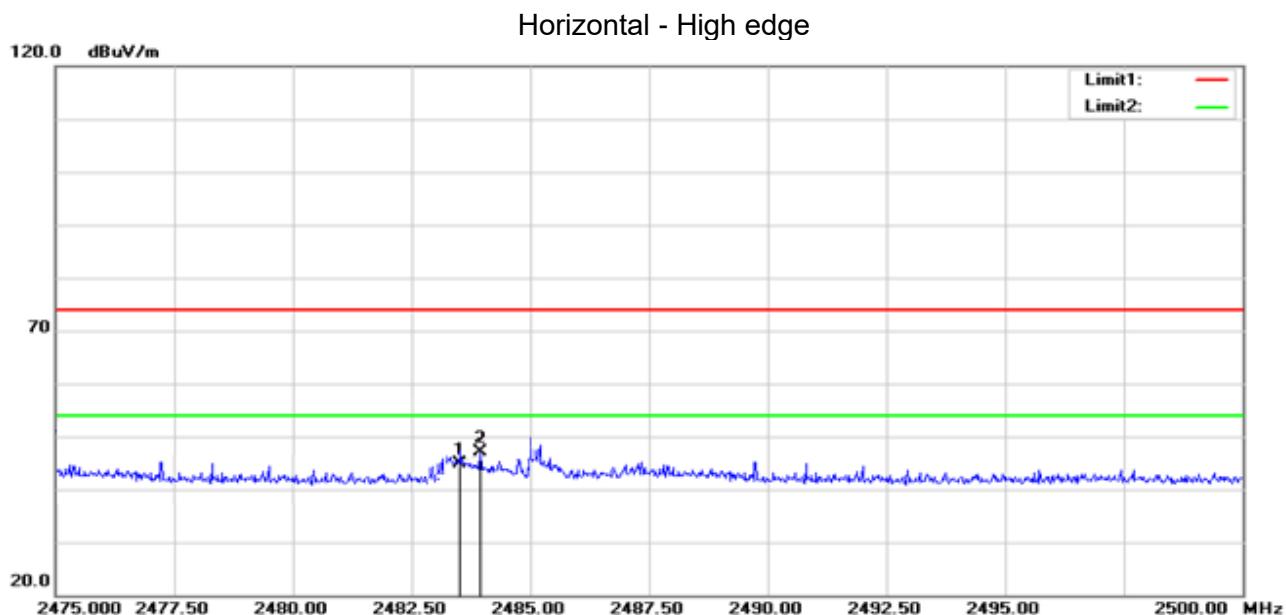
Vertical I- Low edge



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2386.000	39.40	4.28	43.68	74.00	-30.32	peak
2	2390.000	37.81	4.34	42.15	74.00	-31.85	peak
3	2400.000	39.53	4.49	44.02	74.00	-29.98	peak

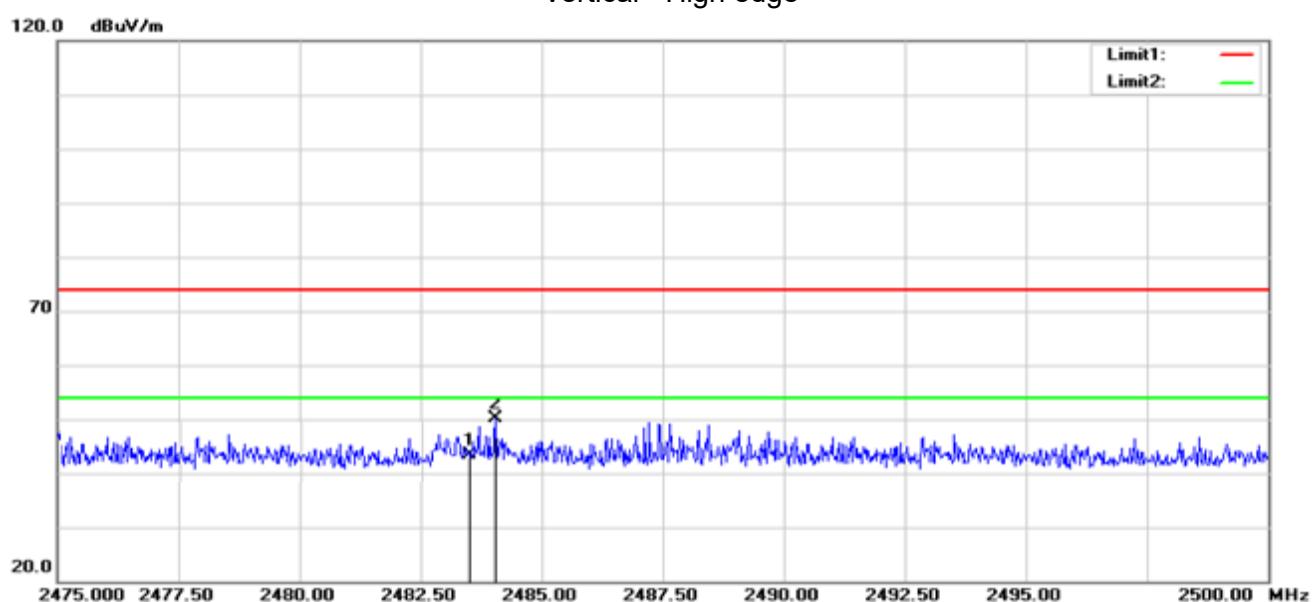
Fundamental Frequency

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Duty cycle Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4	2402.000	69.32	4.49	-	73.81	114.00	-40.19	peak



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	40.35	4.60	44.95	74.00	-25.05	peak
2	2483.950	41.58	4.61	46.19	74.00	-22.81	peak

Vertical - High edge



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	38.77	4.60	43.37	74.00	-30.63	peak
2	2484.050	45.56	4.61	50.17	74.00	-23.83	peak

Note: The AV value is not required when the peak value is smaller than the AV limit.

6. 20 DB BANDWIDTH TEST

6.1 LIMIT

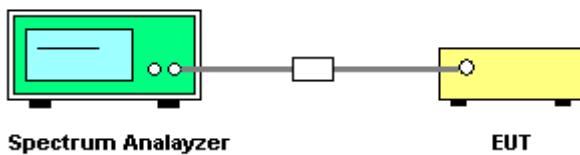
According to 15.215 (c) Intentional radiators operating under the alternative provisions to the general emission limits, as contained in § 15.217 through 15.257 and in Subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated. The requirement to contain the designated bandwidth of the emission within the specified frequency band includes the effects from frequency sweeping, frequency hopping and other modulation techniques that may be employed as well as the frequency stability of the transmitter over expected variations in temperature and supply voltage. If a frequency stability is not specified in the regulations, it is recommended that the fundamental emission be kept within at least the central 80% of the permitted band in order to minimize the possibility of out-of-band operation

6.2 TEST PROCEDURE

Check the calibration of the measuring instrument using either an internal calibrator or a

- known signal from an external generator
- Position the EUT without connection to measurement instrument. Turn on the EUT and connect it to measurement instrument. Then set it to any one convenient frequency within its operating range. Set a reference level on the measuring instrument equal to the highest peak value.
- Measure the frequency difference of two frequencies that were attenuated 20 dB from the reference level. Record the frequency difference as the emission bandwidth.

6.3 TEST SETUP

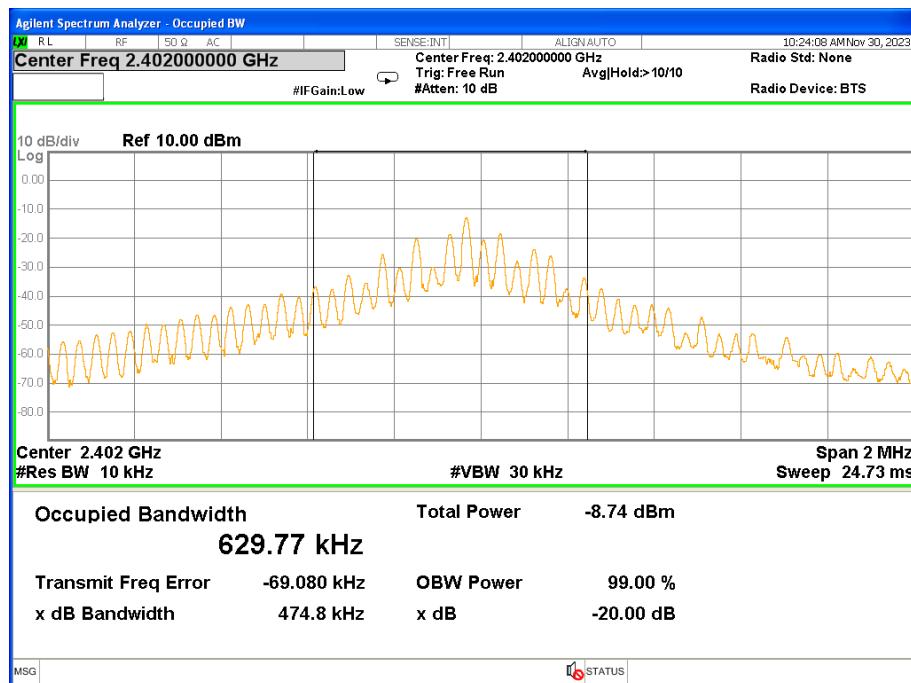


6.4 TEST RESULTS

Temperature:	25°C	Relative Humidity:	50%
Test Mode:	GFSK	Test Voltage:	DC 3.7V

Test Channel	Frequency(MHz)	20 dB Bandwidth(KHz)	99% Bandwidth(KHz)
CH01	2402	474.8	629.77

2402 MHz



7. ANTENNA REQUIREMENT

7.1 STANDARD REQUIREMENT

15.203 requirement: For intentional device, according to 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.

7.2 EUT ANTENNA

The antennas used for this product are PCB antenna and other than that furnished by the responsible party shall be used with the device, the maximum peak gain of the transmit antenna is -4.75dBi.

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