



FCC PART 15 SUBPART C FCC PART 15.249 TEST REPORT

FCC ID:2BUS8-MY-20

Report No: CTSL2620230032ER

Product Name: white Noise Sleeping Machine With Diffuser

Main Test Model: MY-20

Series Models: N/A

Applicant: ShenZhen Maya Lighting Technology Limited

EXECUTIVE SUMMARY

A sample of this product was tested and found to be in compliance with
FCC PART 15 SUBPART C (15.249).

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be reproduced without permission from CTSL; All Test Data Presented in this report is only
applicable to presented Test sample.

CTSL Testing (Dongguan) Co., Ltd.

Main company address: Building1, Houjie Road Houjie Town, Guangdong Province,
Dongguan City P.R.C.

Test Report

FCC ID:2BUS8-MY-20

Applicant Name	ShenZhen Maya Lighting Technology Limited				
Applicant Address	315 Room,B Building, 8 ShiLong Avenue, DaLang street,GaoFeng Community,LongHua District, ShenZhen City, Guangdong Province,China				
Manufacturer Name	ShenZhen Maya Lighting Technology Limited				
Manufacturer Address	315 Room,B Building, 8 ShiLong Avenue, DaLang street,GaoFeng Community,LongHua District, ShenZhen City, Guangdong Province,China				
Trade Mark	N/A				
Product name	white Noise Sleeping Machine With Diffuser				
Main Test Model	MY-20				
Series Models	N/A				
Standard	FCC Part 15 Subpart C (15.249) ANSI C63.10:2020				
Test Location	ISO/IEC 17025 by ILAC-MRA is A2LA 7556.01 CTSL Testing (Dongguan) Co., Ltd. Room 112, Building 1, No. 15, Jiaoyuansongshan Hetian Village, Houjie Town Dongguan City, Guangdong, People's Republic of China				
Receipt Date	2026.1.21	Test period	2026.1.21-2026.1.29	Issue Date	2026.1.29
Conclusion	The equipment under test was found to be compliance with the requirements of the standards applied.				
Performs Testing:	Ethan Zhao	(Special seal)			
Test Report Reviewer:	Steve Qin				
Test Report Authorizer:	Alan Li				

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Rev.	Issue Date	Effect Page	Contents
00	Jan 29, 2026	All	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 C63.10-2020

1.1 TEST FACTORY

EMC Lab :

A2LA Certificate Number: 7556.01;

CTSL Testing (Dongguan) Co., Ltd. has been listed by American

Association for Laboratory Accreditation to perform electromagnetic emission measurement.

The 3m-Semi anechoic test site fulfils CISPR 16-1-4 according to ANSI C63.10 and CISPR 16-1-4:2010.

FCC-Registration No.: 0037614732;

Test Firm Registration Number:750639;

CTSL Testing (Dongguan) Co., Ltd. has been listed on the US Federal Communications Commission list of test facilities recognized to perform electromagnetic emissions measurements.

Industry Canada Registration Number. Is: 34801;

CAB identifier: CN0192;

CTSL Testing (Dongguan) Co., Ltd. The Laboratory has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing.

Name of Firm:CTSL Testing (Dongguan) Co.,ltd.

EMC test location/satellite location:

Room 112, Building 1, No. 15, Jiaoyuansongshan Hetian Village, Houjie Town Dongguan City, Guangdong, People's Republic of China City, Guangdong, China

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	± 0.71 dB
2	Unwanted Emissions, conducted	± 2.98 dB
3	Conducted Emission (9KHz-150KHz)	± 4.13 dB
4	Conducted Emission (150KHz-30MHz)	± 4.74 dB
5	All emissions,radiated(<1G) 9KHz-30MHz	± 3.1 dB
6	All emissions,radiated(<1G) 30MHz-1000MHz	± 3.2 dB
7	All emissions,radiated (1GHz -18GHz)	± 3.66 dB
8	All emissions,radiated (18GHz -40GHz)	± 4.31 dB
9	Occupied bandwidth	4(%)

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF THE EUT

Product Name	white Noise Sleeping Machine With Diffuser
Trade Name	N/A
Model Name	MY-20
Series Model	N/A
Model Difference	The above product with same circuit, PCB layout, electronic parts, materials and wiring structures, Appearance shape, the materials of decorative accessories is same, the only difference is the model name.
Channel List	Please refer to the Note 2.
BT	Frequency:2402-2480MHz Modulation: GFSK Data rate: 1Mbps Channel number: 79CH
Power Supply	DC 5V
Battery	N/A
Hardware version number	V1.0
Software version number	V1.0
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.

Operation Frequency each of channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
1	2402MHz	21	2422MHz	41	2442MHz	61	2462MHz
2	2403MHz	22	2423MHz	42	2443MHz	62	2463MHz
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮
19	2420MHz	39	2440MHz	59	2460MHz	79	2480MHz
20	2421MHz	40	2441MHz	60	2461MHz		

3. Table for Filed Antenna

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	NOTE
1	N/A	N/A	PCB Antenna	N/A	1.2	Antenna

2.2 DESCRIPTION OF THE TEST MODES

To investigate the maximum EMI emission characteristics generated from EUT, the test system was pre-scanning tested based on the consideration of following EUT operation mode or test configuration mode which possibly 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: FCC tool

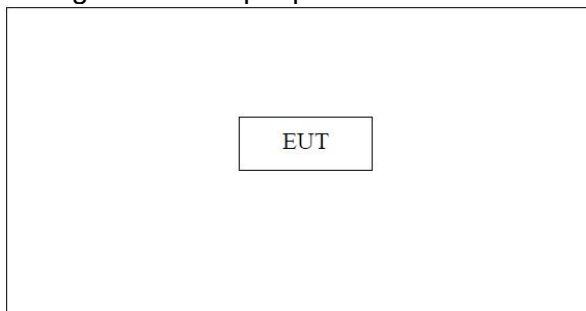
The test software was used to control EUT work in continuous TX mode, and select test channel, Wireless mode as below table

No.	Test model description
1	Low channel GFSK
2	Middle channel GFSK
3	High channel GFSK

Note:

1. All the test modes can be supplied by battery, only the result of the worst case recorded in the report. GFSK mode is worst mode.
2. For radiated emission, 3 axes were chosen for testing for each applicable mode.
3. The EUT used fully charged battery when tested.
4. During the test, the duty cycle > 98%, the test voltage was tuned from 85% to 115% of the Nominal rated supply voltage, 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	Xiaomi	AD652G	N/A	This adapter is for testing only in report.

Support units

Item	Equipment	Mfr/Brand	Model/Type No.	Serial No.	Note

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

For Conducted Emission Test						
Equipment	Manufacturer	Model No.	Serial No.	Calibration Body	Last Cal.	Next Cal.
EMI Test Receiver	Rohde & Schwarz	ESCI 3	AT005	GUANGZHOU NEM	May 16,25	May 15,26
LISN	Rohde & Schwarz	ENV216	AT006	LISAI	July 31,25	July 30,26
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	AT007	CCIC (Shenzhen)	July 10,25	July 09,26
CE Cable	Times Microwave	LMR195UF-N MNM-1.50M	AT041	GUANGZHOU NEM	May 16,25	May 15,26
Test Software	FARAD	EZ-EMC Ver.3A1.1+	N/A	N/A	N/A	N/A

For Radiated Emission Test (9kHz-30MHz)						
Equipment	Manufacturer	Model No.	Serial No.	Calibration Body	Last Cal.	Next Cal.
EMI TestReceiver	Rohde& Schwarz	ESCI 7	AT001	Ti Group	July 31,24	July 30,26
Active Loop Antenna	ZHINAN	ZN30900C	AT063	LISAI	Aug 03,24	Aug 02,26
Test Software	FARAD	EZ-EMC Ver.3A1.1+	N/A	N/A	N/A	N/A
9kHz-30MHz Cable	Times Microwave	LMR195UF-N MNM-9M	AT045	GUANGZHOU NEM	May 16,25	May 15,26

For Radiated Emissions Test (30MHz-1000MHz)						
Equipment	Manufacturer	Model No.	Serial No.	Calibration Body	Last Cal.	Next Cal.
EMI Test Receiver	Rohde& Schwarz	ESCI 7	AT001	Ti Group	Jun 12,25	Jun 11,26
Trilog-Broadband Antenna	SCHWARZBECK	VULB 9168	AT002	LISAI	Aug 03,24	Aug 02,26
Test Software	FARAD	EZ-EMC Ver.3A1.1+	N/A	N/A	May 16,25	May 15,26
30-1000MHz Cable	Times Microwave Systems	LMR195UF-N MRNMR-3.00M+ LMR400UF-N MNM-3.00M+ LMR400UF-N MNM-3.00M	AT042+AT043+AT044	GUANGZHOU NEM	May 16,25	May 15,26

For Radiated Emission test (Above 1000MHz)						
Equipment	Manufacturer	Model No.	Serial No.	Calibration Body	Last Cal.	Next Cal.
Horn Antenna 1-18G	SCHWARZBEC K	BBHA 9120 D	AT003	Shenzhen Academy of Metrology & Quality Inspection	Sep 23,24	Sep 22,26
Horn Antenna 18-40GHz	XIBAO	XB-WDB18-40K	AT064	LISAI	Feb 25,25	Feb 24,26
Broadband Preamplifier	SCHWARZBEC K	BBV 9718 D	AT004	CCIC (Shenzhen)	July 10,25	July 9,26
Low Noise Amplifier	MWRFTest	DLA8-18-40G-2078	AT065	GUANGZHOU NEM	July 10,25	July 9,26
Spectrum Analyzer 40G	Keysight	N9020B	AT066	GUANGZHOU NEM	May 13,25	May 12,26
Spectrum Analyzer 26.5G	Keysight	N9020A	AT050	GUANGZHOU NEM	Jun 12,25	Jun 11,26
Radio switching unit	TiGroup	SU319	AT055	N/A	N/A	N/A
Filtering unit	TiGroup	SU319F	AT056	N/A	N/A	N/A
Test Software	BL	BL410-E V25.5 en	N/A	N/A	N/A	N/A
Above 1GHz Cable	Times Microwave Systems	SFT205-NMN M-7.0M+ SFT205-NMN M-2.0M	AT057+ AT058	N/A	N/A	N/A

For Connect EUT Antenna Terminal Test (RF Test system)						
Equipment	Manufacturer	Model No.	Serial No.	Calibration Body	Last Cal.	Next Cal.
Spectrum analyzer	Keysight	N9020A	AT050	GUANGZHOU NEM	Jun 12,25	Jun 11,26
Analog signal source	Keysight	N5173B	AT051	GUANGZHOU NEM	Jun 12,25	Jun 11,26
WIDEBAND RADIO COMMUNICATION TESTER	Rohde&Schwarz	CMW500	AT052	GUANGZHOU NEM	Jun 12,25	Jun 11,26
Power probe unit	Ti Group	SU319P	AT053	GUANGZHOU NEM	Jun 12,25	Jun 11,26
Switch unit	Ti Group	SU319S	AT054	N/A	N/A	N/A
Test Software	BL	BL410R 3.5.2.621	N/A	N/A	N/A	N/A

Remark: The power sensor is integrated into the Power Probe unit

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.

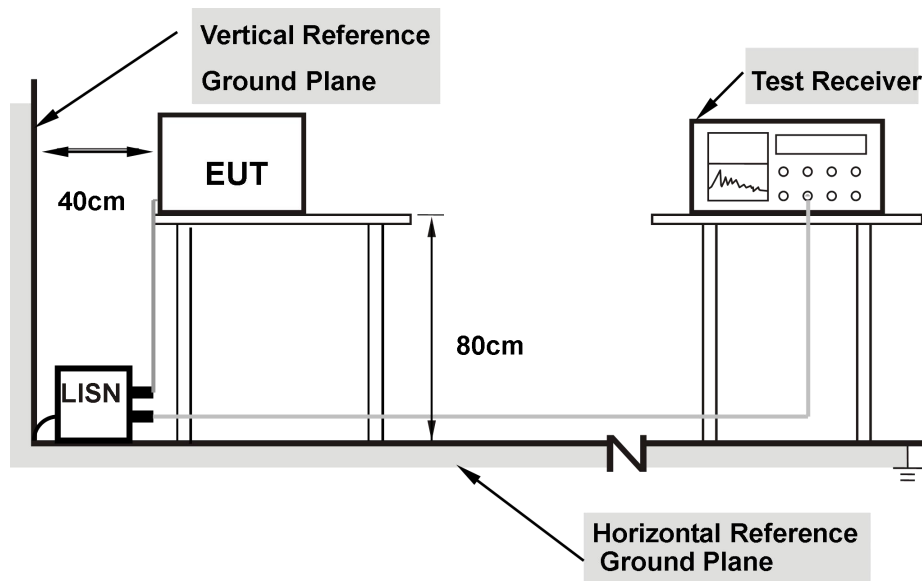
3.2 TEST PROCEDURE

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



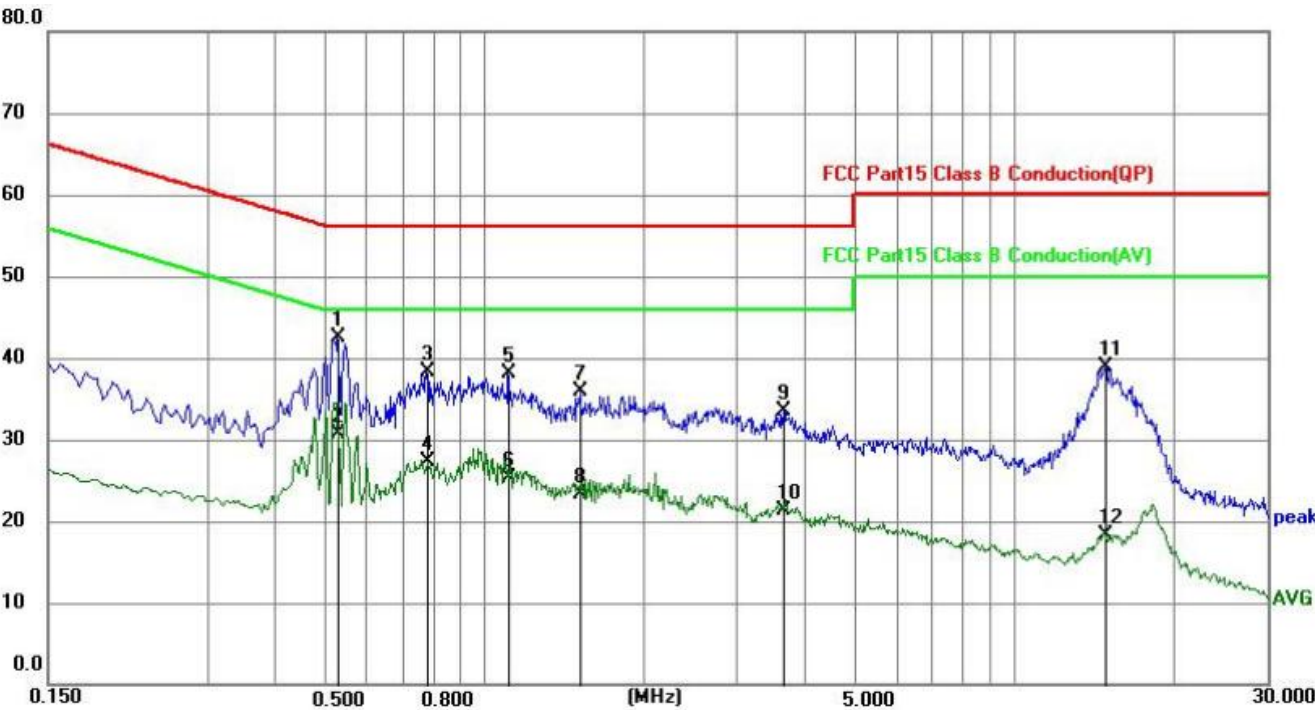
Note: 1.Support units were connected to second LISN.

2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

3.4 TEST RESULTS

Temperature:	25℃	Relative Humidity:	50%
Test Mode:	GFSK	Test Voltage:	DC 5V With AC120V/60Hz
Phase:	L	Result:	Pass

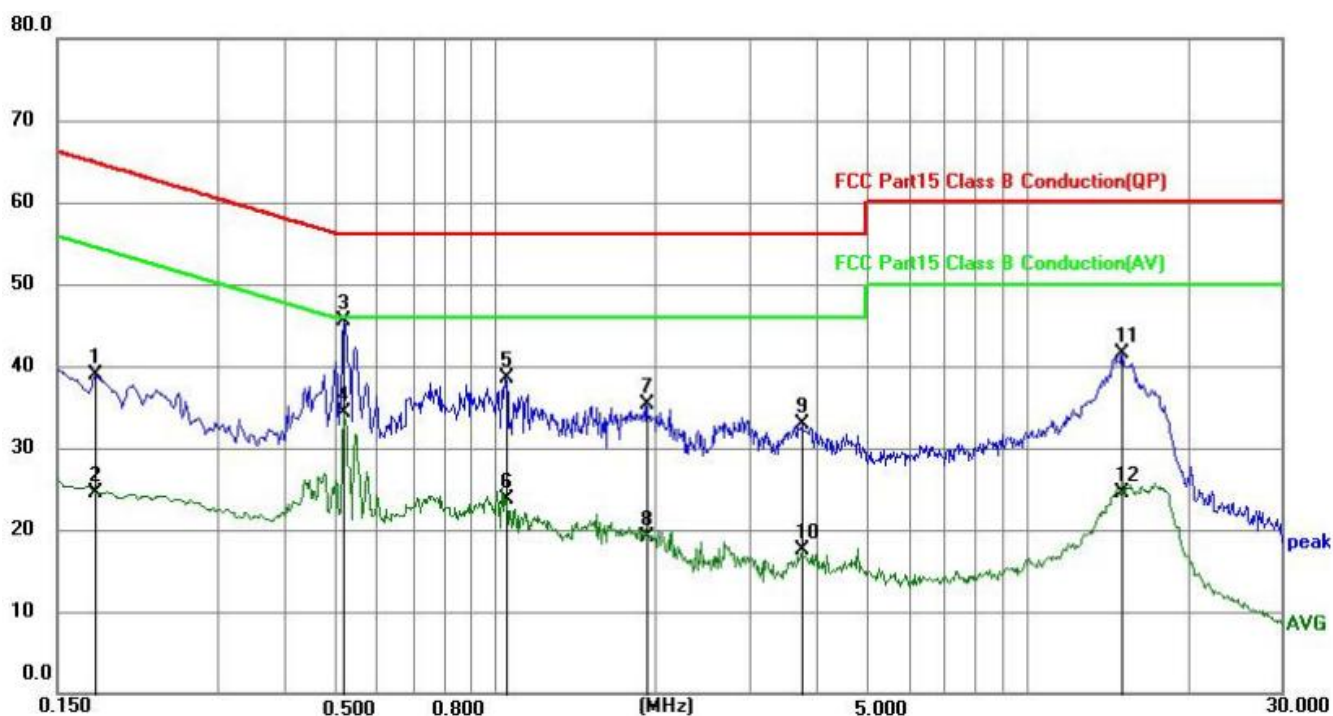
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.5280	32.56	9.87	42.43	56.00	13.57	QP
2	0.5280	20.86	9.87	30.73	46.00	15.27	AVG
3	0.7755	28.47	9.89	38.36	56.00	17.64	QP
4	0.7755	17.33	9.89	27.22	46.00	18.78	AVG
5	1.1085	28.17	9.92	38.09	56.00	17.91	QP
6	1.1085	15.35	9.92	25.27	46.00	20.73	AVG
7	1.5135	25.93	9.93	35.86	56.00	20.14	QP
8	1.5135	13.30	9.93	23.23	46.00	22.77	AVG
9	3.6735	23.52	9.95	33.47	56.00	22.53	QP
10	3.6735	11.45	9.95	21.40	46.00	24.60	AVG
11	14.8290	28.73	10.12	38.85	60.00	21.15	QP
12	14.8290	8.14	10.12	18.26	50.00	31.74	AVG



Temperature:	25℃	Relative Humidity:	50%
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Test Mode:	GFSK	Test Voltage:	DC 5V With AC120V/60Hz
Phase:	N	Result:	Pass

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.1770	29.09	9.78	38.87	64.63	25.76	QP
2	0.1770	14.67	9.78	24.45	54.63	30.18	AVG
3	0.5190	35.65	9.87	45.52	56.00	10.48	QP
4	0.5190	24.48	9.87	34.35	46.00	11.65	AVG
5	1.0455	28.59	9.92	38.51	56.00	17.49	QP
6	1.0455	13.71	9.92	23.63	46.00	22.37	AVG
7	1.9185	25.34	9.93	35.27	56.00	20.73	QP
8	1.9185	9.17	9.93	19.10	46.00	26.90	AVG
9	3.7725	22.86	9.98	32.84	56.00	23.16	QP
10	3.7725	7.58	9.98	17.56	46.00	28.44	AVG
11	15.1260	31.30	10.20	41.50	60.00	18.50	QP
12	15.1260	14.28	10.20	24.48	50.00	25.52	AVG



Remark:

1. 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 C63.10-2020 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 hamonic(Peak/AV)
RB / VB (emission in restricted band)	PK=1MHz / 1MHz, AV=1 MHz /10 Hz (Peak detector is for Both)

- The measuring distance of at 3 m shall be used for measurements at frequency 0.009MHz up to 1GHz,and above 1GHz.
- 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.
- 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.
- 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.
- 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.
- For the actual test configuration, please refer to the related Item –EUT Test Photos.

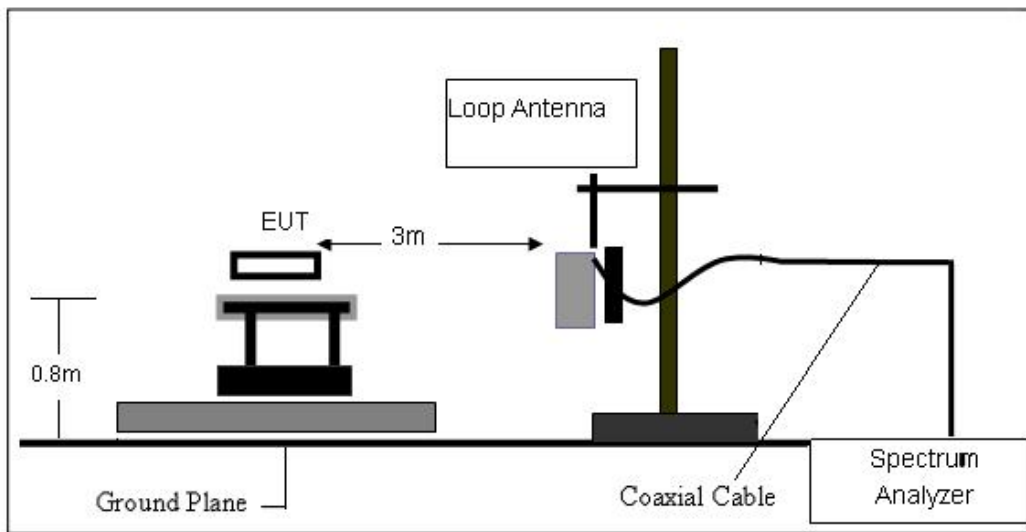
Note:

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

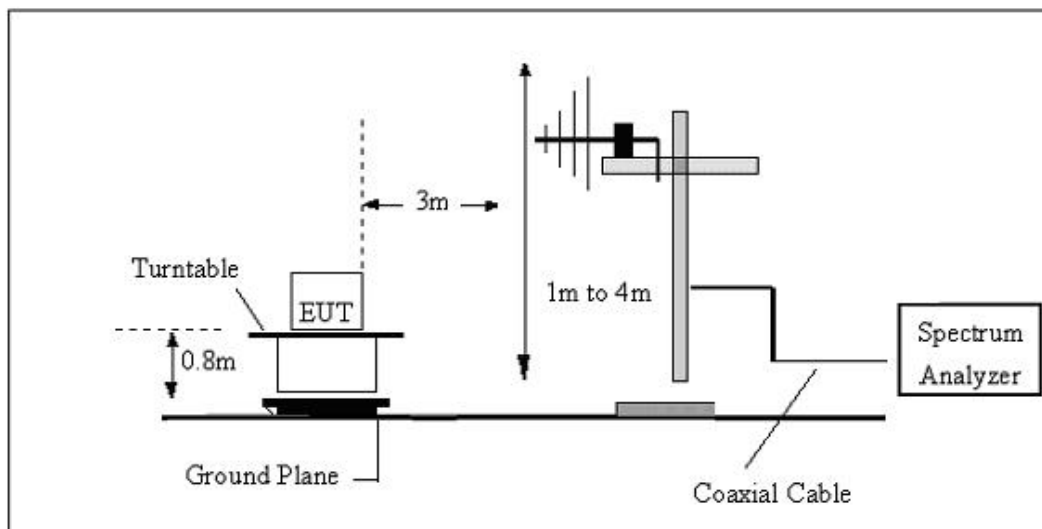
For fundamental frequency ,RBW>20dB BW ,VBW>RBW,PK detector for PK value, RMS detector for AV value.

4.3 TEST SETUP

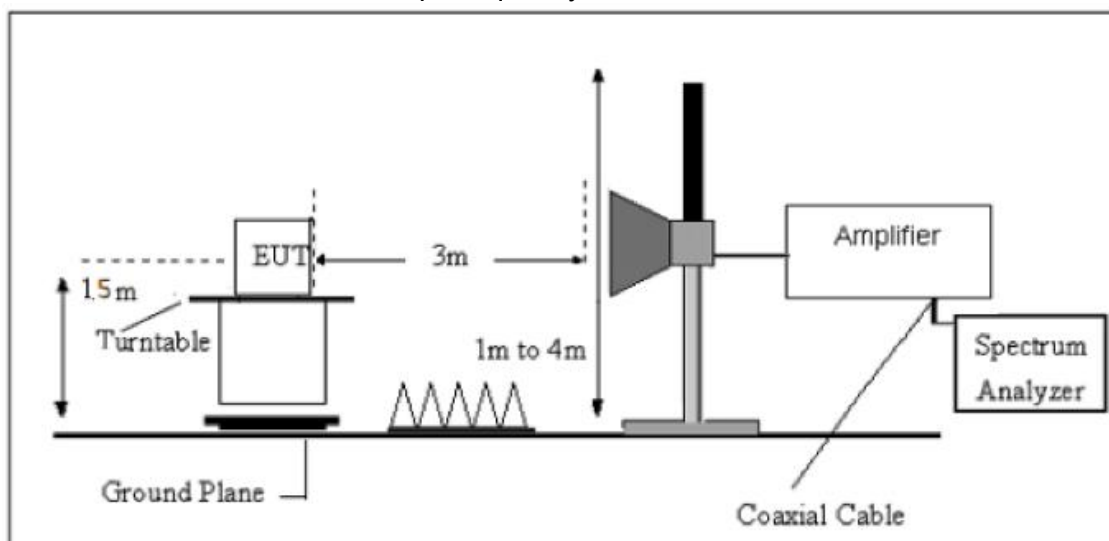
(A) Radiated Emission Test-Up Frequency Below 30MHz



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



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



4.4 TEST RESULTS

Temperature:	25℃	Relative Humidity:	60%
Test Mode:	GFSK Mode	Test Voltage:	DC 5V

For field strength of the fundamental signal

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
2402.00	89.91	27.58	5.39	30.18	92.70	114.00	-21.30	Vertical
2402.00	87.69	27.58	5.39	30.18	90.48	114.00	-23.52	Horizontal
2441.00	88.42	27.55	5.43	30.06	91.34	114.00	-22.66	Vertical
2441.00	86.74	27.55	5.43	30.06	89.66	114.00	-24.34	Horizontal
2480.00	90.90	27.52	5.47	29.93	93.96	114.00	-20.04	Vertical
2480.00	88.03	27.52	5.47	29.93	91.09	114.00	-22.91	Horizontal

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
2402.00	81.98	27.58	5.39	30.18	84.77	94.00	-9.23	Vertical
2402.00	79.32	27.58	5.39	30.18	82.11	94.00	-11.89	Horizontal
2441.00	80.05	27.55	5.43	30.06	82.97	94.00	-11.03	Vertical
2441.00	77.08	27.55	5.43	30.06	80.00	94.00	-14.00	Horizontal
2480.00	83.34	27.52	5.47	29.93	86.40	94.00	-7.60	Vertical
2480.00	79.95	27.52	5.47	29.93	83.01	94.00	-10.99	Horizontal

For spurious emission
(9KHz-30MHz)

Freq. (MHz)	Reading (dBuV/m)	Limit (dBuV/m)	Margin (dB)	State P/F	Test Result
--	--	--	--	--	
--	--	--	--	--	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 = $40 \log (\text{specific distance/test distance})$ (dB);

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

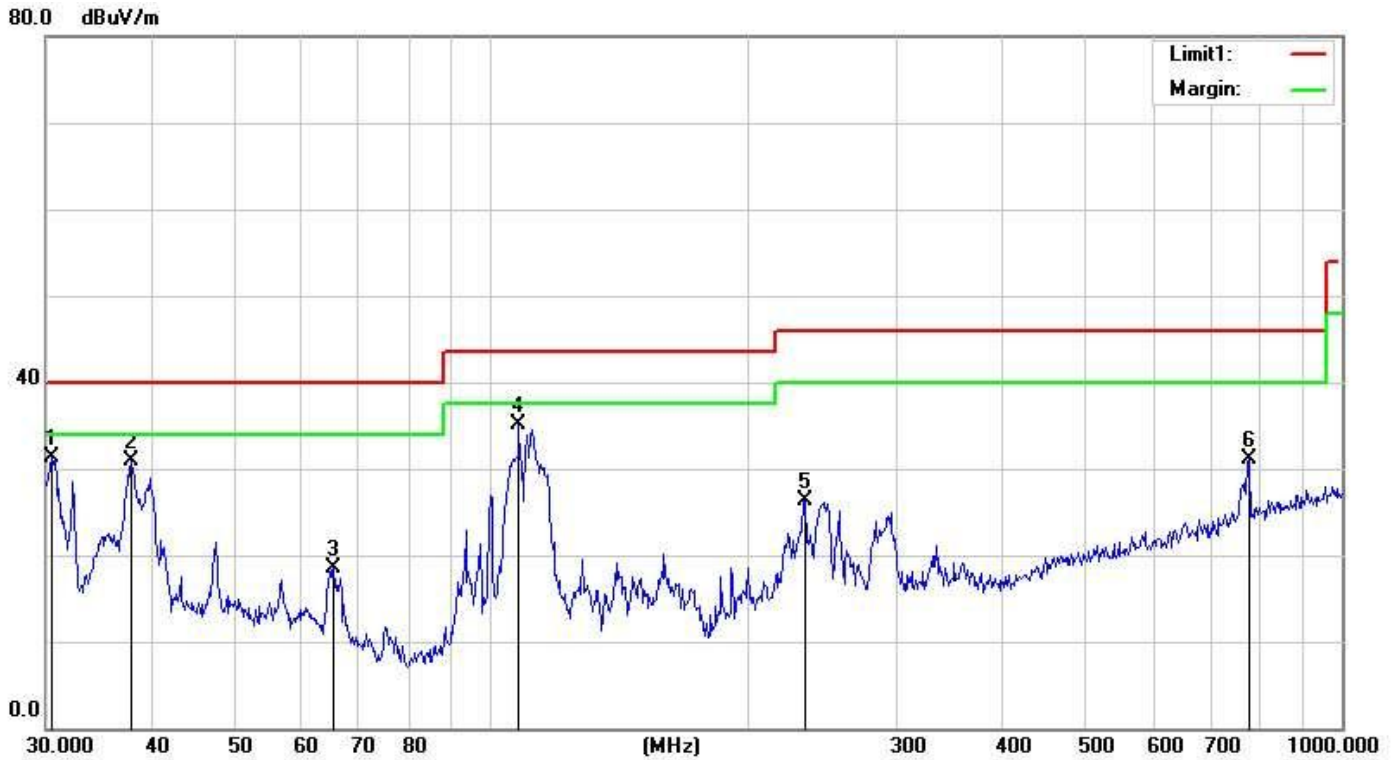
(30MHZ-1000MHZ)

Temperature:	23.7°C	Relative Humidity:	61%
Test Voltage:	DC 5V	Phase:	Horizontal
Test Mode:	GFSK(Worst)		



No.	Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	30.6380	42.38	-13.51	28.87	40.00	-11.13	QP
2	37.2855	36.47	-16.66	19.81	40.00	-20.19	QP
3	112.5244	32.36	-17.62	14.74	43.50	-28.76	QP
4	200.6881	31.13	-15.48	15.65	43.50	-27.85	QP
5	501.1790	30.74	-9.92	20.82	46.00	-25.18	QP
6	766.0571	33.98	-4.84	29.14	46.00	-16.86	QP

Temperature:	22.7°C	Relative Humidity:	61%
Test Voltage:	DC 5V	Phase:	Vertical
Test Mode:	GFSK(Worst)		



No.	Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	30.4238	44.66	-13.37	31.29	40.00	-8.71	QP
2	37.8121	47.70	-16.78	30.92	40.00	-9.08	QP
3	65.3432	37.95	-19.41	18.54	40.00	-21.46	QP
4	107.8877	52.13	-17.09	35.04	43.50	-8.46	QP
5	234.1684	41.63	-15.34	26.29	46.00	-19.71	QP
6	776.8778	35.99	-4.87	31.12	46.00	-14.88	QP

Remarks:

1. Margin = Result (Result = Reading + Factor) - Limit

(1GHZ~25GHZ)

LOW CH(GFSK)

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4804.00	37.74	31.78	8.60	32.09	46.03	74.00	-27.97	Vertical
7206.00	32.12	36.15	11.65	32.00	47.92	74.00	-26.08	Vertical
9608.00	31.73	37.95	14.14	31.62	52.20	74.00	-21.80	Vertical
12010.00	*					74.00		Vertical
14412.00	*					74.00		Vertical
4804.00	42.12	31.78	8.60	32.09	50.41	74.00	-23.59	Horizontal
7206.00	33.91	36.15	11.65	32.00	49.71	74.00	-24.29	Horizontal
9608.00	31.19	37.95	14.14	31.62	51.66	74.00	-22.34	Horizontal
12010.00	*					74.00		Horizontal
14412.00	*					74.00		Horizontal

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4804.00	26.47	31.78	8.60	32.09	34.76	54.00	-19.24	Vertical
7206.00	20.76	36.15	11.65	32.00	36.56	54.00	-17.44	Vertical
9608.00	19.81	37.95	14.14	31.62	40.28	54.00	-13.72	Vertical
12010.00	*					54.00		Vertical
14412.00	*					54.00		Vertical
4804.00	30.75	31.78	8.60	32.09	39.04	54.00	-14.96	Horizontal
7206.00	22.96	36.15	11.65	32.00	38.76	54.00	-15.24	Horizontal
9608.00	19.57	37.95	14.14	31.62	40.04	54.00	-13.96	Horizontal
12010.00	*					54.00		Horizontal
14412.00	*					54.00		Horizontal

Remark:

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor*
2. *“*”*, means this data is the too weak instrument of signal is unable to test.

MIDDLE CH(GFSK)

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4882.00	35.30	31.85	8.67	32.12	43.70	74.00	-30.30	Vertical
7323.00	30.50	36.37	11.72	31.89	46.70	74.00	-27.30	Vertical
9764.00	30.28	38.35	14.25	31.62	51.26	74.00	-22.74	Vertical
12205.00	*					74.00		Vertical
14646.00	*					74.00		Vertical
4882.00	39.18	31.85	8.67	32.12	47.58	74.00	-26.42	Horizontal
7323.00	32.08	36.37	11.72	31.89	48.28	74.00	-25.72	Horizontal
9764.00	29.52	38.35	14.25	31.62	50.50	74.00	-23.50	Horizontal
12205.00	*					74.00		Horizontal
14646.00	*					74.00		Horizontal

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4882.00	24.50	31.85	8.67	32.12	32.90	54.00	-21.10	Vertical
7323.00	19.42	36.37	11.72	31.89	35.62	54.00	-18.38	Vertical
9764.00	18.62	38.35	14.25	31.62	39.60	54.00	-14.40	Vertical
12205.00	*					54.00		Vertical
14646.00	*					54.00		Vertical
4882.00	28.50	31.85	8.67	32.12	36.90	54.00	-17.10	Horizontal
7323.00	21.46	36.37	11.72	31.89	37.66	54.00	-16.34	Horizontal
9764.00	18.18	38.35	14.25	31.62	39.16	54.00	-14.84	Horizontal
12205.00	*					54.00		Horizontal
14646.00	*					54.00		Horizontal

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2. The emission levels of other frequencies are very lower than the limit and not show in test report.
3. “*”, means this data is the too weak instrument of signal is unable to test.

HIGH CH(GFSK)

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4960.00	36.10	31.93	8.73	32.16	44.60	74.00	-29.40	Vertical
7440.00	31.03	36.59	11.79	31.78	47.63	74.00	-26.37	Vertical
9920.00	30.76	38.81	14.38	31.88	52.07	74.00	-21.93	Vertical
12400.00	*					74.00		Vertical
14880.00	*					74.00		Vertical
4960.00	40.14	31.93	8.73	32.16	48.64	74.00	-25.36	Horizontal
7440.00	32.68	36.59	11.79	31.78	49.28	74.00	-24.72	Horizontal
9920.00	30.07	38.81	14.38	31.88	51.38	74.00	-22.62	Horizontal
12400.00	*					74.00		Horizontal
14880.00	*					74.00		Horizontal

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4960.00	25.19	31.93	8.73	32.16	33.69	54.00	-20.31	Vertical
7440.00	19.89	36.59	11.79	31.78	36.49	54.00	-17.51	Vertical
9920.00	19.04	38.81	14.38	31.88	40.35	54.00	-13.65	Vertical
12400.00	*					54.00		Vertical
14880.00	*					54.00		Vertical
4960.00	29.30	31.93	8.73	32.16	37.80	54.00	-16.20	Horizontal
7440.00	21.99	36.59	11.79	31.78	38.59	54.00	-15.41	Horizontal
9920.00	18.67	38.81	14.38	31.88	39.98	54.00	-14.02	Horizontal
12400.00	*					54.00		Horizontal
14880.00	*					54.00		Horizontal

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2. “*”, means this data is the too weak instrument of signal is unable to test.
3. The emission levels of other frequencies are very lower than the limit and not show in test report.

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 C63.10 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.

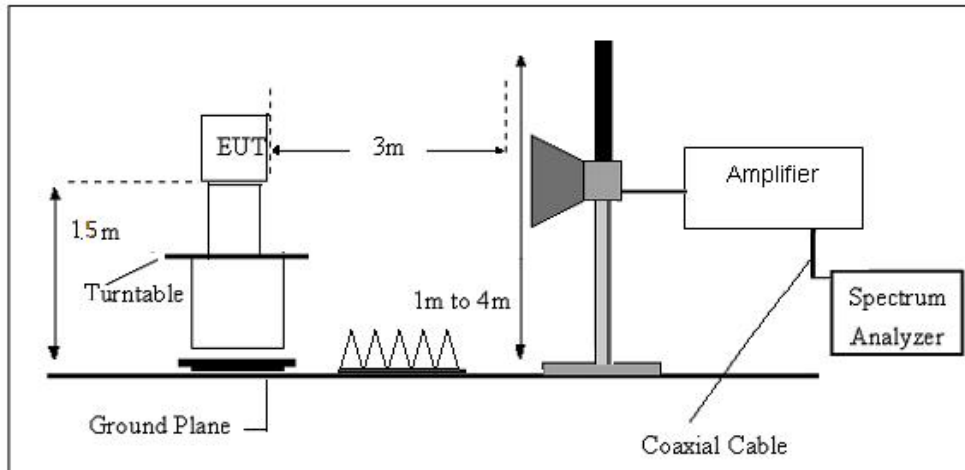
Submit this data.

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

Low CH (GFSK)

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2390.00	39.76	27.59	5.38	30.18	42.55	74.00	-31.45	Horizontal
2400.00	56.10	27.58	5.39	30.18	58.89	74.00	-15.11	Horizontal
2390.00	40.01	27.59	5.38	30.18	42.80	74.00	-31.20	Vertical
2400.00	57.80	27.58	5.39	30.18	60.59	74.00	-13.41	Vertical

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2390.00	31.01	27.59	5.38	30.18	33.80	54.00	-20.20	Horizontal
2400.00	42.06	27.58	5.39	30.18	44.85	54.00	-9.15	Horizontal
2390.00	30.73	27.59	5.38	30.18	33.52	54.00	-20.48	Vertical
2400.00	43.42	27.58	5.39	30.18	46.21	54.00	-7.79	Vertical

High CH(GFSK)

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2483.50	41.49	27.53	5.47	29.93	44.56	74.00	-29.44	Horizontal
2500.00	41.26	27.55	5.49	29.93	44.37	74.00	-29.63	Horizontal
2483.50	41.81	27.53	5.47	29.93	44.88	74.00	-29.12	Vertical
2500.00	41.96	27.55	5.49	29.93	45.07	74.00	-28.93	Vertical

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2483.50	33.80	27.53	5.47	29.93	36.87	54.00	-17.13	Horizontal
2500.00	32.25	27.55	5.49	29.93	35.36	54.00	-18.64	Horizontal
2483.50	34.75	27.53	5.47	29.93	37.82	54.00	-16.18	Vertical
2500.00	31.91	27.55	5.49	29.93	35.02	54.00	-18.98	Vertical

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor

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.

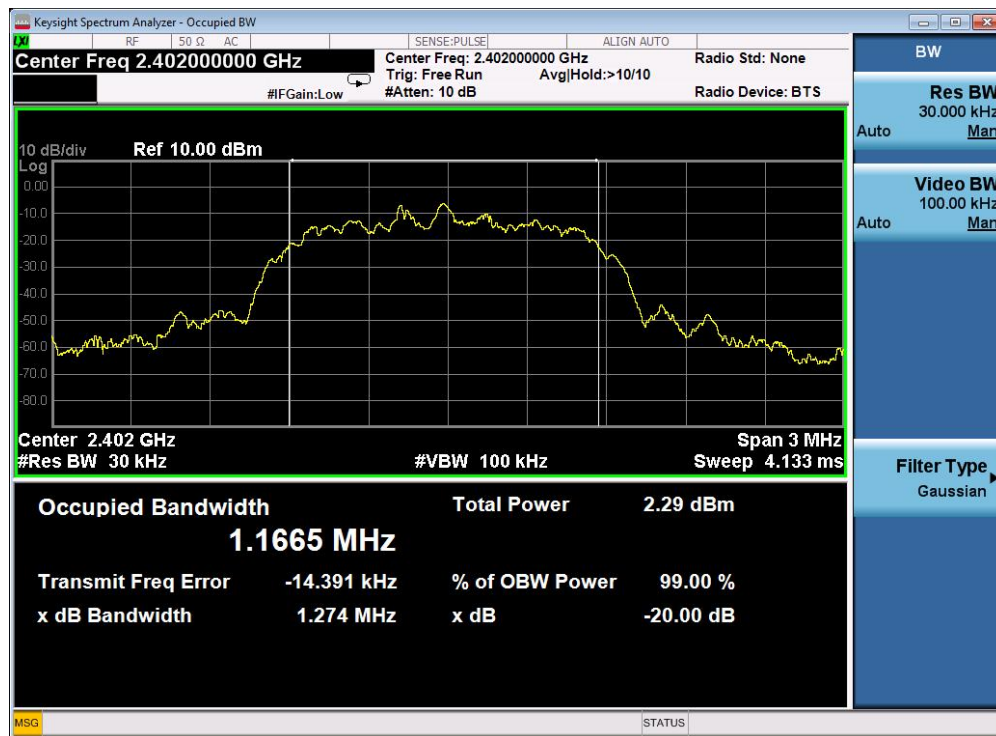
6.3 TEST SETUP

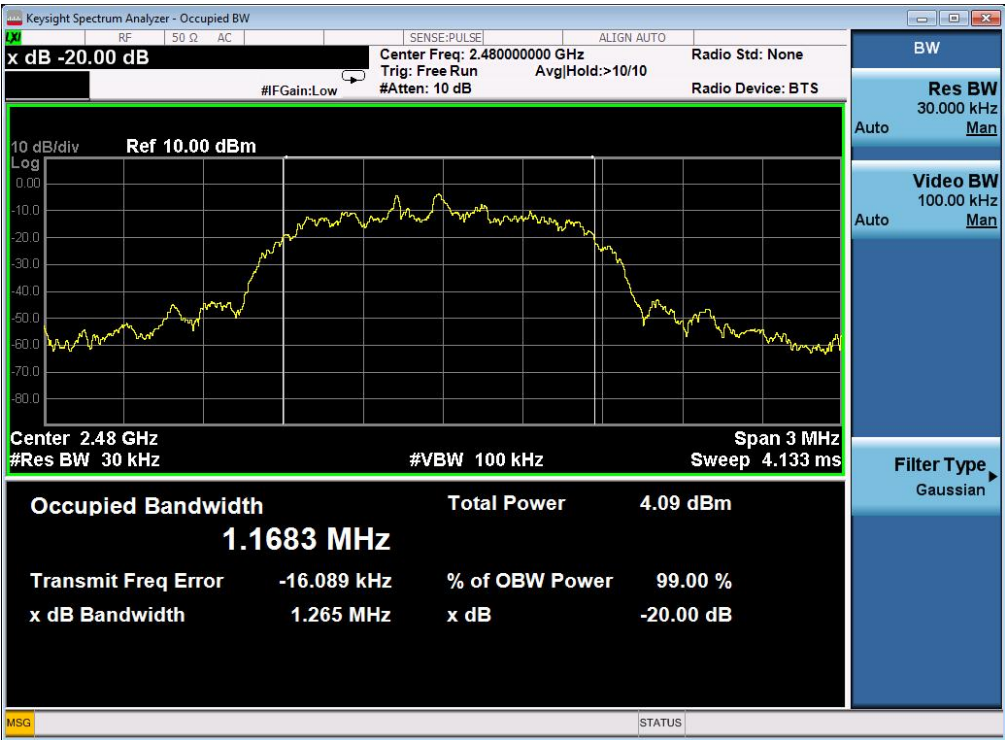


6.4 TEST RESULTS

Temperature:	25°C	Relative Humidity:	50%
Test Mode:	GFSK	Test Voltage:	DC 5V

Frequency	20dB Bandwidth (MHz)	Result
2402 MHz	1.274	PASS
2441 MHz	1.268	PASS
2480 MHz	1.265	PASS





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 1.2 dBi.

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