



FCC Part 15C Test Report

FCC ID: 2AZD4-BOOST

Applicant: Loewe Technology GmbH

Address: Industriestrasse 11, 96317 Kronach Germany

Manufacturer: Loewe Technology GmbH

Address: Industriestrasse 11, 96317 Kronach Germany

Product Name: 4.1.2 Channel True-Wireless Home Theater System

Trade Mark: LOEWE.

Model Number: We.BOOST

Date of Receipt: Mar. 04, 2026

Test Date: Mar. 05, 2026 - Mar. 15, 2026

Date of Report: Mar. 15, 2026

Prepared By: Shenzhen DL Testing Technology Co., Ltd.

Address: 101-201, Comprehensive Building, Tongzhou Electronics Longgang Factory Area, No.1 Baolong Fifth Road, Baolong Community, Baolong Street, Longgang District, Shenzhen, China

Applicable Standards: FCC PART 15 C 15.247
ANSI C63.10:2020

Test Result: Pass

Report Number: DLE-260509012R

Prepared by(Engineer): Ken Tan

Reviewer(Supervisor): Jack Bu

Approved(Manager): Jade Yang



This test report is based on a single evaluation of one sample of above mentioned products. It is not permitted to be duplicated in extracts without written approval of Shenzhen DL Testing Technology Co., Ltd.



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1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

FCC Part15 (15.247) , Subpart C			
Standard Section	Test Item	Judgment	Remark
15.207	Conducted Emission	PASS	
15.209 15.205	Radiated Spurious Emission	PASS	
15.205 15.247(d)	Band Edge Emission	PASS	
15.247(b)(3)	Peak Output Power	PASS	
15.247(a)(2)	6dB Bandwidth	PASS	
15.247(e)	Power Spectral Density	PASS	
15.203	Antenna Requirement	PASS	

NOTE:

(1)" N/A" denotes test is not applicable in this Test Report

Test lab: Shenzhen DL Testing Technology Co., Ltd.

101-201, Comprehensive Building, Tongzhou Electronics Longgang Factory Area, No.1

Address: Baolong Fifth Road, Baolong Community, Baolong Street, Longgang District, Shenzhen, China

FCC Test Firm Registration Number: 854456

Designation Number: CN1307

IC Registered No.: 27485

CAB ID.: CN0118



1.1 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement $y \pm U$, where expanded 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	3m chamber Radiated spurious emission (9KHz-30MHz)	U=4.5dB
2	3m chamber Radiated spurious emission (30MHz-1GHz)	U=4.8dB
3	3m chamber Radiated spurious emission (1GHz-6GHz)	U=4.9dB
4	3m chamber Radiated spurious emission (6GHz-40GHz)	U=5.0dB
5	Conducted Disturbance	U=3.2dB
6	RF Band Edge	U=1.68dB
7	RF Power Conducted	U=1.86dB
8	RF Conducted Spurious Emission	U=2.2dB
9	RF Occupied Bandwidth	U=1.8MHz
10	RF Power Spectral Density	U=1.75dB
11	Humidity Uncertainty	U=5.3%
12	Temperature Uncertainty	U=0.59°C
13	RF Dwell Time	U=0.02ms



2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Product Name:	4.1.2 Channel True-Wireless Home Theater System
Trade Mark:	LOEWE.
Model Number:	We.BOOST
Model Difference	N/A
BT Version:	Bluetooth 5.3
Operation Frequency:	2402~2480MHz
Channel numbers:	40 Channels
Channel separation:	2MHz
Data Rates:	1Mbps
Modulation technology:	GFSK
Antenna Type:	Internal Antenna
Antenna gain:	2.25dBi
Power supply:	USB input: 5.0Vd.c. 1.0A

Note:

- 1.For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.
- 2.The EUT's all information provided by client.

2. Channel List

Channel List					
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
00	2402	14	2430	28	2458
01	2404	15	2432	29	2460
02	2406	16	2434	30	2462
03	2408	17	2436	31	2464
04	2410	18	2438	32	2466
05	2412	19	2440	33	2468
06	2414	20	2442	34	2470
07	2416	21	2444	35	2472
08	2418	22	2446	36	2474
09	2420	23	2448	37	2476
10	2422	24	2450	38	2478
11	2424	25	2452	39	2480
12	2426	26	2454		
13	2428	27	2456		



2.2 DESCRIPTION OF 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.

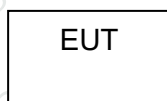
Pretest Mode	Modulation	Channel
Mode 1	GFSK 1Mbps	CH00
Mode 2		CH19
Mode 3		CH39

Note: (1) The measurements are performed at the highest, middle, lowest available channels.

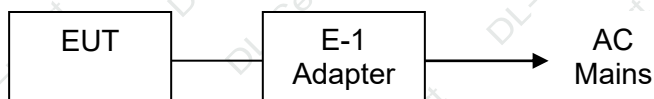
(2) For the two items of conducted disturbance at the power supply end and space radiation below 1GHz, all modes have undergone pre-tests. The report only shows the worst test results of mode 3.

2.3 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

Radiated Spurious Emission Test



Power Line Conducted Emission Test





2.4 DESCRIPTION OF SUPPORT UNITS(CONDUCTED MODE)

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.

Item	Equipment	Model/Type No.	Series No.	Note
E-1	Notebook	310S-14AST	N/A	LENOVO

Item	Shielded Type	Ferrite Core	Length	Note

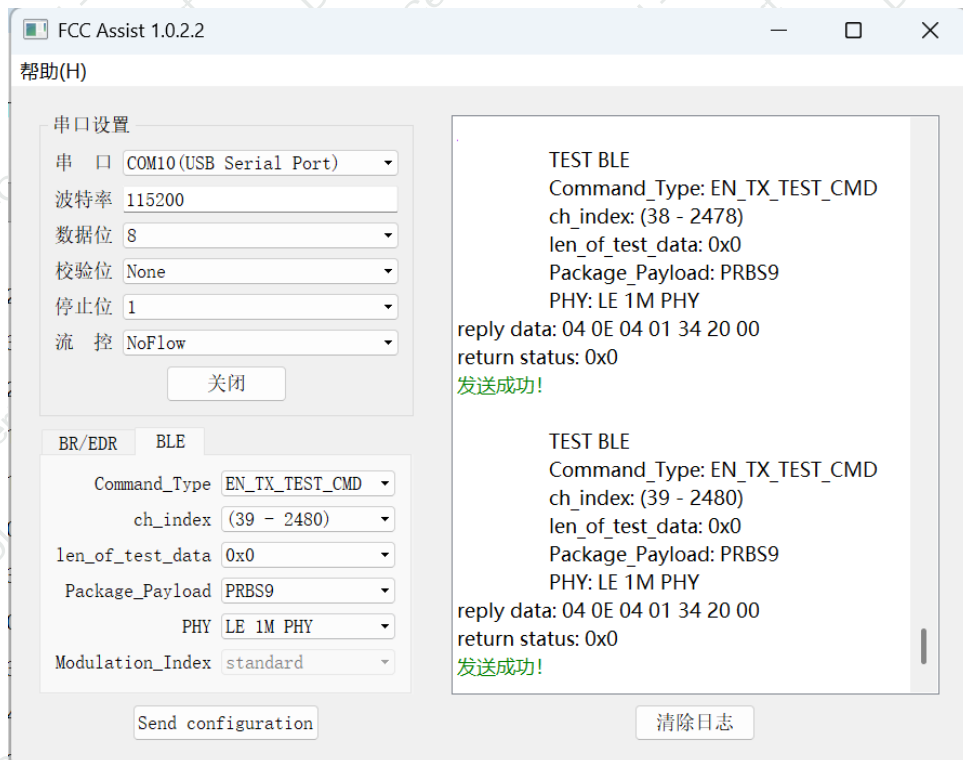
Note:

- (1) For detachable type I/O cable should be specified the length in cm in 『Length』 column.

2.5 TABLE OF PARAMETERS OF TEST SOFTWARE SETTING

The device was realized by test software.

The specific power setting is the default RF power level





2.6 EQUIPMENTS LIST FOR ALL TEST ITEMS

Radiation test, Band-edge test and 6db bandwidth test equipment

Item	Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
1	Spectrum Analyzer (9kHz-26.5GHz)	Agilent	E4408B	MY50140780	Oct. 25, 2025	Oct. 24, 2026
2	Test Receiver (9kHz-7GHz)	R&S	ESRP7	101393	Oct. 25, 2025	Oct. 24, 2026
3	Bilog Antenna (30MHz-1GHz)	R&S	VULB9162	00306	Oct. 25, 2025	Oct. 24, 2026
4	Horn Antenna (1GHz-18GHz)	Schwarzbeck	BBHA9120D	02139	Oct. 25, 2025	Oct. 24, 2026
5	Horn Antenna (18GHz-40GHz)	A.H. Systems	SAS-574	588	Oct. 25, 2025	Oct. 24, 2026
6	Amplifier (9KHz-6GHz)	Schwarzbeck	BBV9743B	00153	Oct. 25, 2025	Oct. 24, 2026
7	Amplifier (1GHz-18GHz)	EMEC	EM01G8GA	00270	Oct. 25, 2025	Oct. 24, 2026
8	Amplifier (18GHz-40GHz)	Quanjuda	DLE-161	97	Oct. 25, 2025	Oct. 24, 2026
9	Loop Antenna (9KHz-30MHz)	Schwarzbeck	FMZB1519B	00014	Oct. 25, 2025	Oct. 24, 2026
10	RF cables1 (9kHz-1GHz)	ChengYu	966	004	Oct. 25, 2025	Oct. 24, 2026
11	RF cables2 (1GHz-40GHz)	ChengYu	966	003	Oct. 25, 2025	Oct. 24, 2026
12	Antenna connector	Florida RF Labs	N/A	RF 01#	Oct. 25, 2025	Oct. 24, 2026
13	Power probe	KEYSIGHT	U2021XA	MY55210018	Oct. 25, 2025	Oct. 24, 2026
14	Signal Analyzer 9kHz-26.5GHz	Agilent	N9020A	MY55370280	Oct. 25, 2025	Oct. 24, 2026
15	Test Receiver 20kHz-40GHz	R&S	ESU 40	100376	Oct. 25, 2025	Oct. 24, 2026
16	D.C. Power Supply	LongWei	PS-305D	010964729	Oct. 25, 2025	Oct. 24, 2026

Conduction Test equipment

Item	Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
1	843 Shielded Room	ChengYu	843 Room	843	Nov. 05, 2023	Nov. 04, 2026
2	EMI Receiver	R&S	ESR	101421	Oct. 25, 2025	Oct. 24, 2026
3	LISN	R&S	ENV216	102417	Oct. 25, 2025	Oct. 24, 2026
4	843 Cable 1#	ChengYu	CE Cable	001	Oct. 25, 2025	Oct. 24, 2026

Other

Item	Name	Manufacturer	Model	Software version
1	EMC Conduction Test System	FALA	EZ_EMCC	EMC-CON 3A1.1
2	EMC radiation test system	FALA	EZ_EMCC	FA-03A2
3	RF test system	MAIWEI	MTS8310	2.0.0.0
4	RF communication test system	MAIWEI	MTS8200	2.0.0.0



3. EMC EMISSION TEST

3.1 CONDUCTED EMISSION MEASUREMENT

3.1.1 POWER LINE CONDUCTED EMISSION Limits (Frequency Range 150KHz-30MHz)

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

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.

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

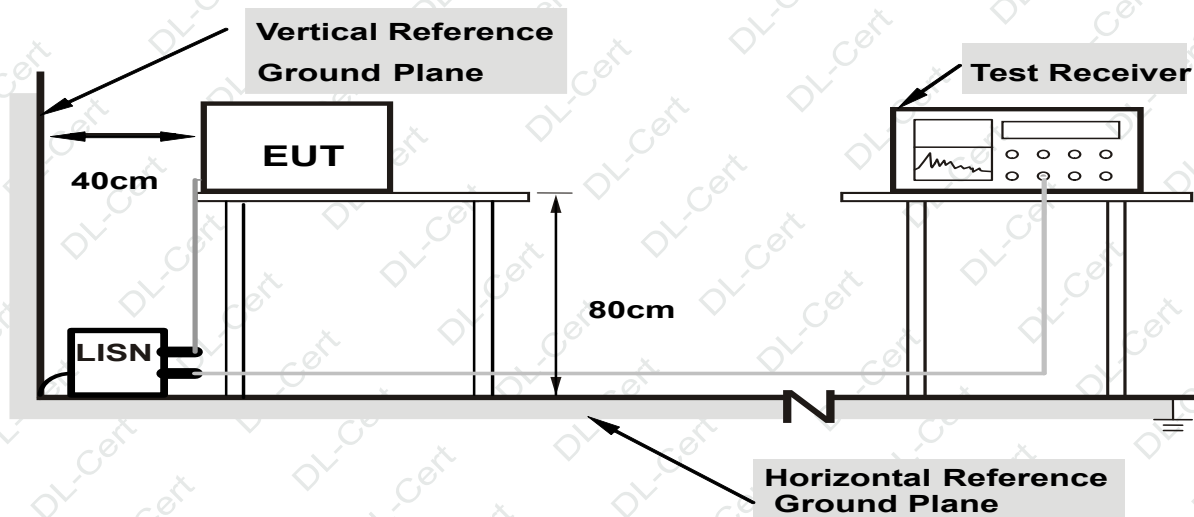
3.1.2 TEST PROCEDURE

- a. The EUT was placed 0.8 meters from the horizontal 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.

3.1.3 DEVIATION FROM TEST STANDARD

No deviation

3.1.4 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

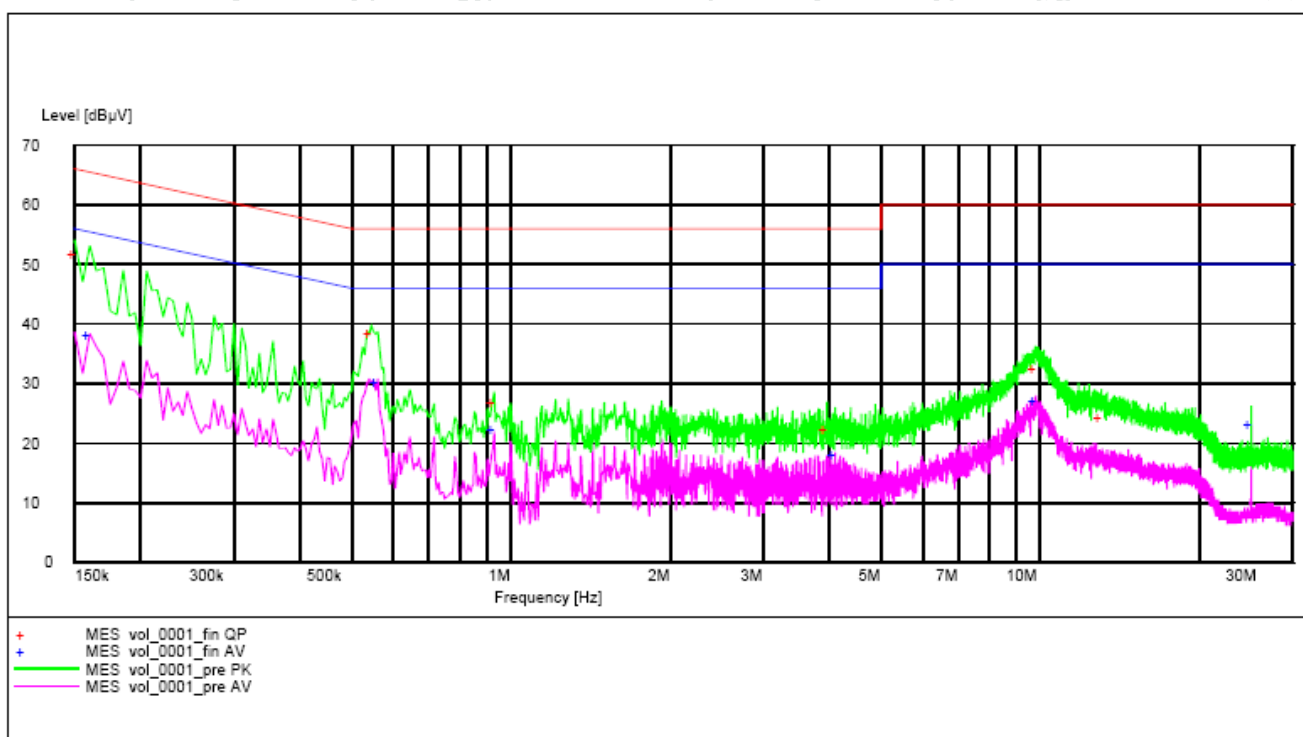
3.1.5 EUT OPERATING CONDITIONS

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

**3.1.6 TEST RESULTS**

Temperature:	25 °C	Relative Humidity:	54%
Pressure:	1010 hPa	Phase :	L
Test Voltage :	AC 120V/60Hz	Test Mode:	Mode 1 (GFSK 1Mbps)

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**MEASUREMENT RESULT: "vol_0001_fin QP"**

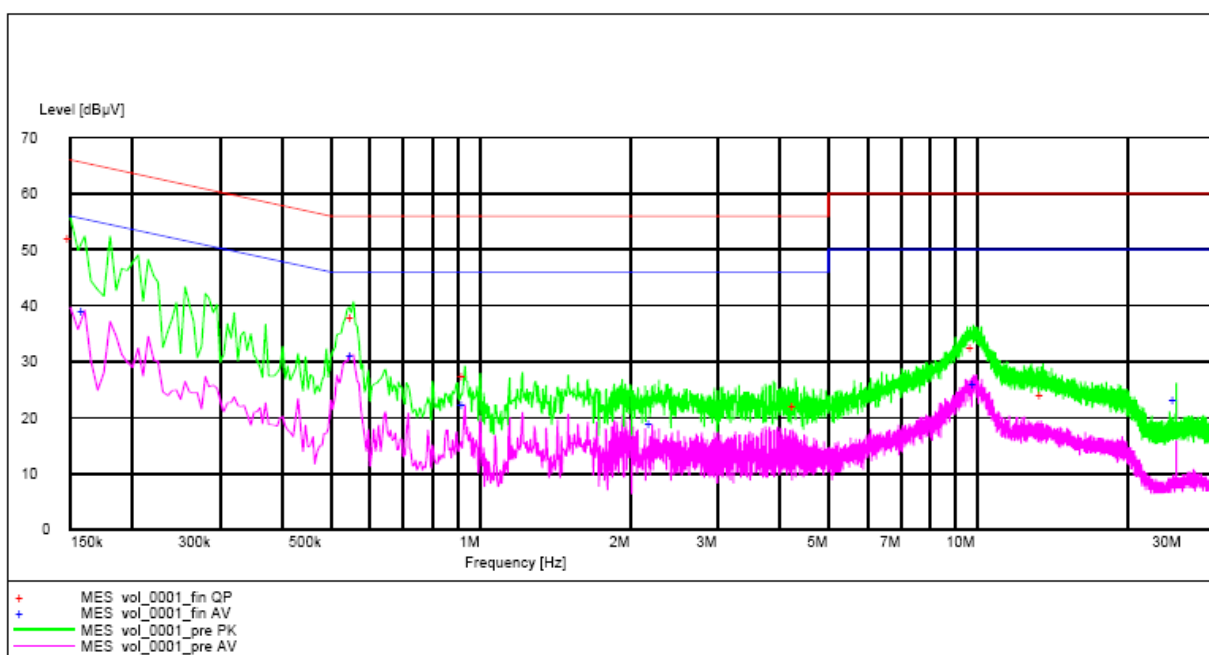
Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Line	PE
0.150000	51.80	9.7	66.00	14.20	L1	GND
0.545000	38.60	9.7	56.00	17.40	L1	GND
0.930000	27.10	9.7	56.00	28.90	L1	GND
3.955000	22.40	9.8	56.00	33.60	L1	GND
9.795000	32.70	10.0	60.00	27.30	L1	GND
13.070000	24.50	10.1	60.00	35.50	L1	GND

MEASUREMENT RESULT: "vol_0001_fin AV"

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Line	PE
0.160000	38.30	9.7	55.50	17.20	L1	GND
0.560000	30.40	9.7	46.00	15.60	L1	GND
0.930000	22.40	9.7	46.00	23.60	L1	GND
4.095000	18.20	9.8	46.00	27.80	L1	GND
9.815000	27.20	10.0	50.00	22.80	L1	GND
25.060000	23.30	10.7	50.00	26.70	L1	GND



Temperature:	25 °C	Relative Humidity:	54%
Pressure:	1010 hPa	Phase :	N
Test Voltage :	AC 120V/60Hz	Test Mode:	Mode 1 (GFSK 1Mbps)

**MEASUREMENT RESULT: "vol_0001_fin QP"**

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Line	PE
0.150000	52.20	9.7	66.00	13.80	N	GND
0.555000	38.00	9.7	56.00	18.00	N	GND
0.930000	27.50	9.7	56.00	28.50	N	GND
4.310000	22.30	9.8	56.00	33.70	N	GND
9.810000	32.50	10.0	60.00	27.50	N	GND
13.515000	24.20	10.2	60.00	35.80	N	GND

MEASUREMENT RESULT: "vol_0001_fin AV"

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Line	PE
0.160000	39.10	9.7	55.50	16.40	N	GND
0.555000	31.20	9.7	46.00	14.80	N	GND
0.930000	22.60	9.7	46.00	23.40	N	GND
2.215000	19.20	9.8	46.00	26.80	N	GND
9.900000	26.20	10.0	50.00	23.80	N	GND
25.060000	23.20	10.7	50.00	26.80	N	GND



3.2 RADIATED EMISSION MEASUREMENT

3.2.1 RADIATED EMISSION LIMITS (Frequency Range 9kHz-1000MHz)

In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

Frequencies (MHz)	Field Strength (microvolt/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 (Above 1000MHz)

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

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).

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	25GHz
RB / VB (emission in restricted band)	1 MHz / 1 MHz for Peak, 1 MHz / 10Hz for Average

Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RB 200Hz for QP
Start ~ Stop Frequency	150kHz~30MHz / RB 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RB 120kHz for QP



3.2.2 TEST PROCEDURE

Below 1GHz test procedure as below:

- The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- 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.
- 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 was turned from 0 degrees to 360 degrees to find the maximum reading.
- The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- 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.

Above 1GHz test procedure as below:

- Different between above is the test site, change from Semi- Anechoic Chamber to fully Anechoic Chamber and change form table 0.8 metre to 1.5 metre.
- Test the EUT in the lowest channel, the middle channel, the Highest channel

Note:

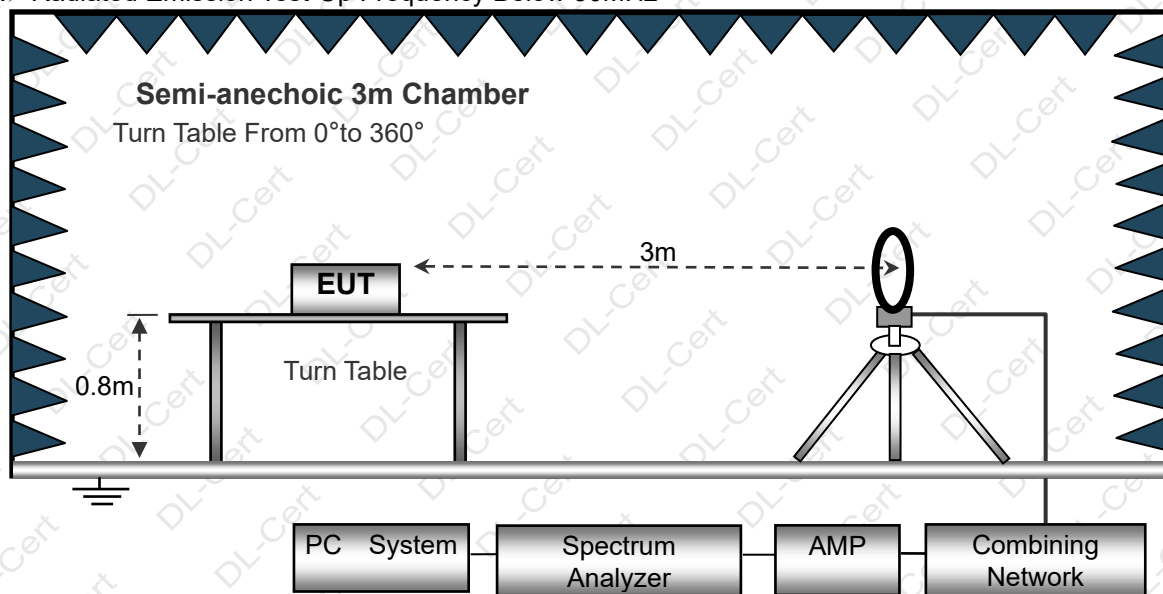
The horizontal and vertical polarities of the antenna were tested, and a pre-test was conducted on the EUT placement as three orthogonal axes X,Y,Z. The worst display of the test results was the Y-axis. The worst case emissions were reported.

3.2.3 DEVIATION FROM TEST STANDARD

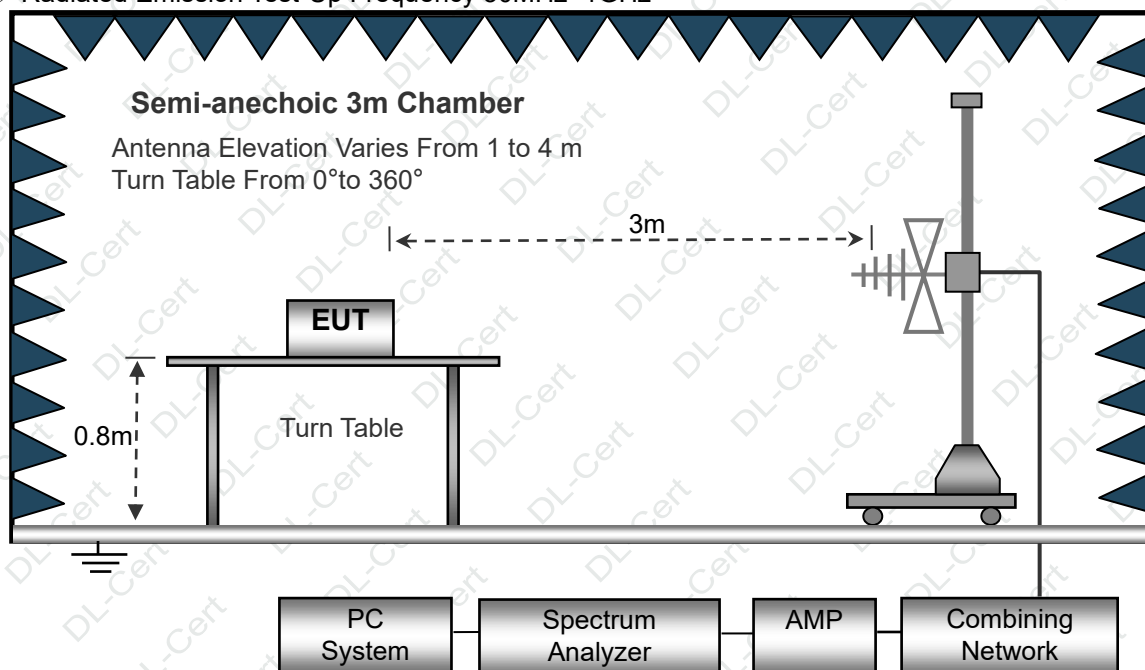
No deviation

3.2.4 TEST SETUP

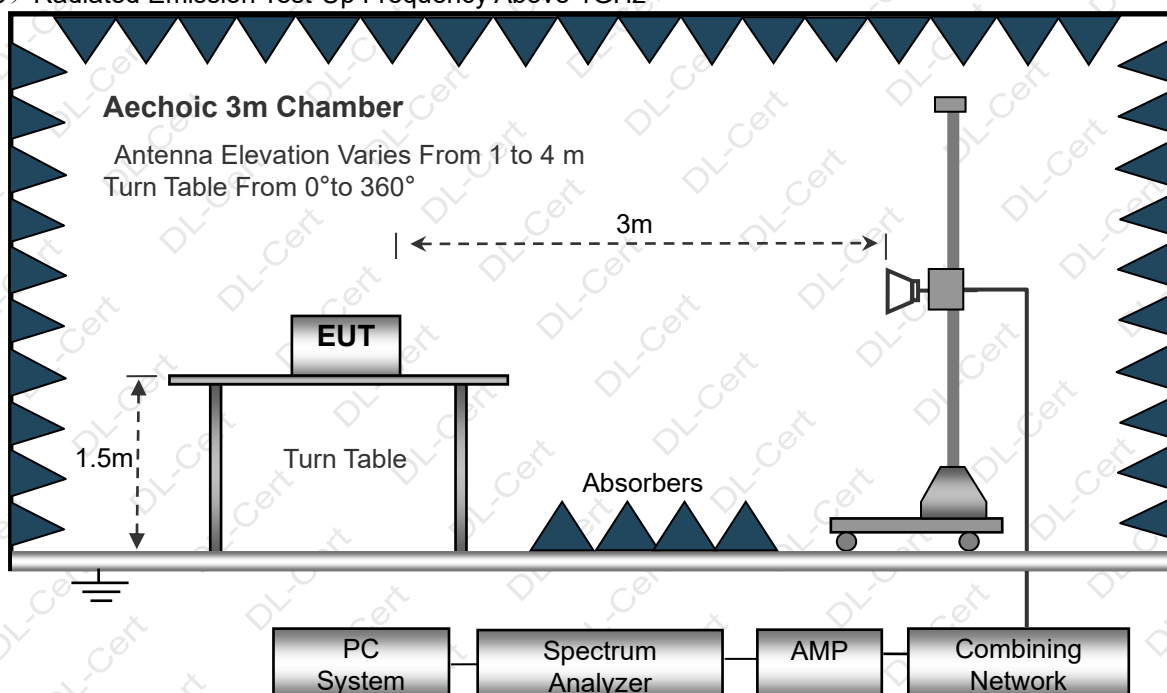
(A) Radiated Emission Test-Up Frequency Below 30MHz



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



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



3.2.5 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of 2.3 Unless otherwise a special operating condition is specified in the follows during the testing.

**3.2.6 TEST RESULTS (BETWEEN 9KHZ – 30 MHZ)**

Temperature:	20°C	Relative Humidity:	48%
Pressure:	1010 hPa	Test Voltage :	DC 3.7V
Test Mode :	Mode 3	Polarization :	--

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

NOTE:

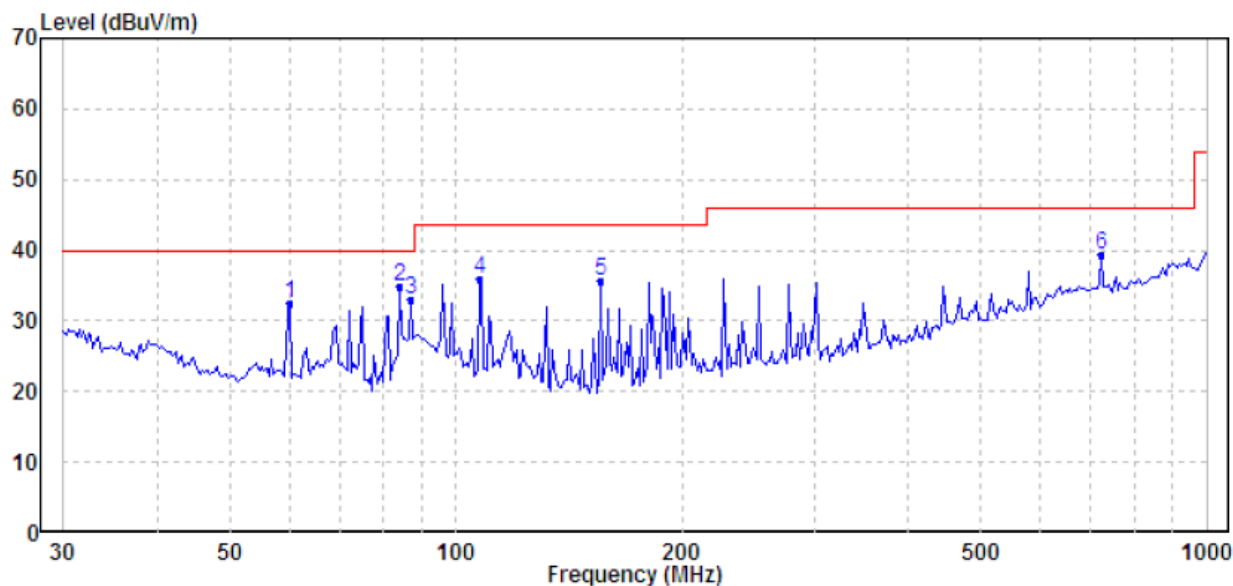
The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

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

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

**3.2.7 TEST RESULTS (BETWEEN 30MHZ – 1GHZ)**

Temperature:	26°C	Relative Humidity:	54%
Pressure:	1010 hPa	Polarization :	Horizontal
Test Voltage :	DC 3.7V		
Test Mode :	Mode 1 (GFSK 1Mbps)		



	Freq	Level	Limit	Over	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB		
1	60.069	32.51	40.00	-7.49	QP	Horizontal
2	84.110	34.97	40.00	-5.03	QP	Horizontal
3	87.112	33.00	40.00	-7.00	QP	Horizontal
4	107.510	35.85	43.50	-7.65	QP	Horizontal
5	155.910	35.64	43.50	-7.86	QP	Horizontal
6	724.261	39.41	46.00	-6.59	QP	Horizontal

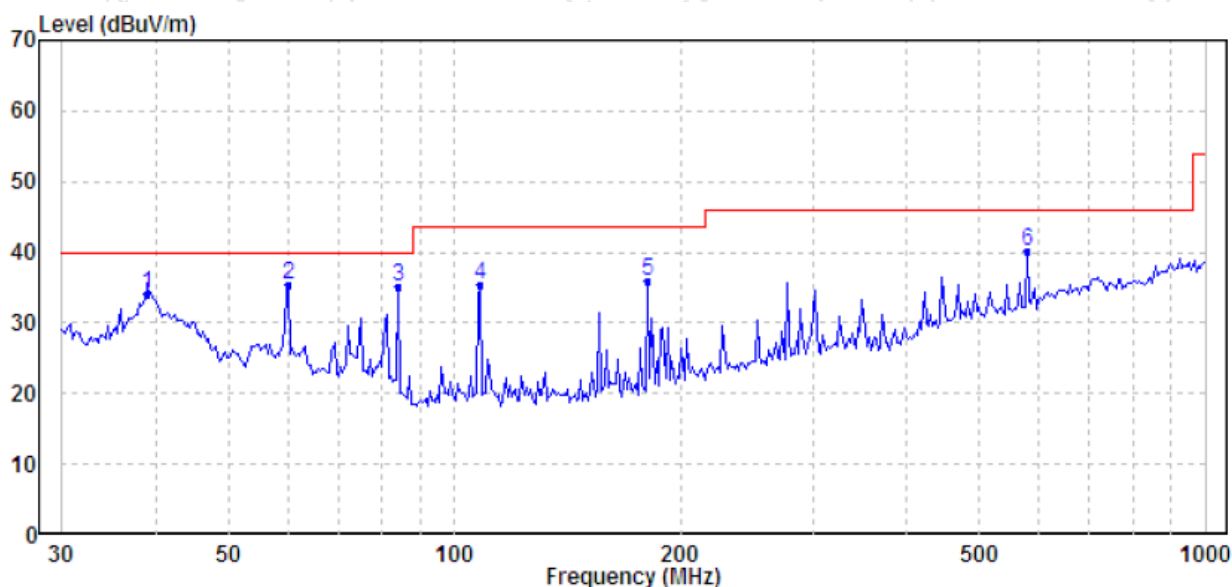
Note 1: The data level is final level,

Note 2: The results have calculate antenna Factor, power amplifier Factor, and Cable Loss.

Note 3: Level = Reading Level+ Antenna Factor + Cable Loss – Pre-amplifier



Temperature:	26°C	Relative Humidity:	54%
Pressure:	1010 hPa	Polarization :	Vertical
Test Voltage :	DC 3.7V		
Test Mode :	Mode 1 (GFSK 1Mbps)		



	Freq	Level	Limit	Over	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB		
1	38.888	34.13	40.00	-5.87	QP	Vertical
2	60.069	35.35	40.00	-4.65	QP	Vertical
3	84.110	35.25	40.00	-4.75	QP	Vertical
4	108.267	35.50	43.50	-8.00	QP	Vertical
5	180.649	35.94	43.50	-7.56	QP	Vertical
6	578.670	40.03	46.00	-5.97	QP	Vertical

Note 1: The data level is final level,

Note 2: The results have calculate antenna Factor, power amplifier Factor, and Cable Loss.

Note 3: Level = Reading+ Level Antenna Factor + Cable Loss – Pre-amplifier

**3.2.8 TEST RESULTS (1GHZ~25GHZ)**

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre- amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB/m)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
Operation frequency:2402 GFSK 1Mbps									
V	4804.00	73.35	50.67	6.88	31.38	60.94	74	-13.06	PK
V	4804.00	57.52	50.67	6.88	31.38	45.11	54	-8.89	AV
V	7206.00	63.36	50.02	7.16	36.65	57.15	74	-16.85	PK
V	7206.00	50.04	50.02	7.16	36.65	43.83	54	-10.17	AV
V	9608.00	55.32	51.53	11.34	41.57	56.7	74	-17.3	PK
V	9608.00	40.14	51.53	11.34	41.57	41.52	54	-12.48	AV
V	12010.00	52.29	52.34	12.89	43.31	56.15	74	-17.85	PK
V	12010.00	38.69	52.34	12.89	43.31	42.55	54	-11.45	AV
H	4804.00	73.25	50.67	6.88	31.38	60.84	74	-13.16	PK
H	4804.00	56.9	50.67	6.88	31.38	44.49	54	-9.51	AV
H	7236.00	63.05	50.02	7.16	36.7	56.89	74	-17.11	PK
H	7236.00	48.24	50.02	7.16	36.7	42.08	54	-11.92	AV
H	9608.00	55.14	51.53	11.34	41.64	56.59	74	-17.41	PK
H	9608.00	41.16	51.53	11.34	41.64	42.61	54	-11.39	AV
H	12010.00	52.41	52.34	12.89	43.26	56.22	74	-17.78	PK
H	12010.00	38.32	52.34	12.89	43.26	42.13	54	-11.87	AV
Operation frequency:2440 GFSK 1Mbps									
V	4880.00	72.69	50.67	6.88	31.38	60.28	74	-13.72	PK
V	4880.00	57.11	50.67	6.88	31.38	44.7	54	-9.3	AV
V	7320.00	62.87	50.02	7.16	36.65	56.66	74	-17.34	PK
V	7320.00	49.98	50.02	7.16	36.65	43.77	54	-10.23	AV
V	9760.00	55.34	51.53	11.34	41.57	56.72	74	-17.28	PK
V	9760.00	40.06	51.53	11.34	41.57	41.44	54	-12.56	AV
V	12200.00	52.16	52.34	12.89	43.31	56.02	74	-17.98	PK
V	12200.00	38.91	52.34	12.89	43.31	42.77	54	-11.23	AV
H	4880.00	72.94	50.67	6.88	31.38	60.53	74	-13.47	PK
H	4880.00	56.65	50.67	6.88	31.38	44.24	54	-9.76	AV
H	7311.00	62.17	50.02	7.16	36.7	56.01	74	-17.99	PK
H	7311.00	48.05	50.02	7.16	36.7	41.89	54	-12.11	AV
H	9760.00	55.31	51.53	11.34	41.64	56.76	74	-17.24	PK
H	9760.00	41.25	51.53	11.34	41.64	42.7	54	-11.3	AV
H	12200.00	52.06	52.34	12.89	43.26	55.87	74	-18.13	PK
H	12200.00	38.11	52.34	12.89	43.26	41.92	54	-12.08	AV
Operation frequency:2480 GFSK 1Mbps									
V	4960.00	71.92	50.67	6.88	31.38	59.51	74	-14.49	PK
V	4960.00	56.87	50.67	6.88	31.38	44.46	54	-9.54	AV
V	7440.00	62.34	50.02	7.16	36.65	56.13	74	-17.87	PK
V	7440.00	49.58	50.02	7.16	36.65	43.37	54	-10.63	AV
V	9760.00	55.11	51.53	11.34	41.57	56.49	74	-17.51	PK
V	9760.00	39.96	51.53	11.34	41.57	41.34	54	-12.66	AV



V	12200.00	52.04	52.34	12.89	43.31	55.9	74	-18.1	PK
V	12200.00	38.85	52.34	12.89	43.31	42.71	54	-11.29	AV
H	4960.00	72.59	50.67	6.88	31.38	60.18	74	-13.82	PK
H	4960.00	56.34	50.67	6.88	31.38	43.93	54	-10.07	AV
H	7440.00	62.63	50.02	7.16	36.7	56.47	74	-17.53	PK
H	7440.00	47.92	50.02	7.16	36.7	41.76	54	-12.24	AV
H	9760.00	54.99	51.53	11.34	41.64	56.44	74	-17.56	PK
H	9760.00	41.06	51.53	11.34	41.64	42.51	54	-11.49	AV
H	12200.00	51.94	52.34	12.89	43.26	55.75	74	-18.25	PK
H	12200.00	37.67	52.34	12.89	43.26	41.48	54	-12.52	AV

Remark:

1. Emission Level = Meter Reading + Antenna Factor + Cable Loss – Pre-amplifier,
Margin= Emission Level - Limit
2. If peak below the average limit, the average emission was no test.
3. The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.



3.3 RADIATED BAND EMISSION MEASUREMENT

3.3.1 TEST REQUIREMENT:

FCC Part15 C Section 15.209 and 15.205

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000MHz)

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

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).

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	2300MHz
Stop Frequency	2520
RB / VB (emission in restricted band)	1 MHz / 1 MHz for Peak, 1 MHz / 10Hz for Average

3.3.2 TEST PROCEDURE

Above 1GHz test procedure as below:

1. The EUT was placed on the top of a rotating table 0.1 meters above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation.
2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
3. 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.
4. 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 and the rota table was turned from 0 degrees to 360 degrees to find the maximum reading.
5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
6. 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.
7. Test the EUT in the lowest channel,the Highest channel

Note:

The horizontal and vertical polarities of the antenna were tested, and a pre-test was conducted on the EUT placement as three orthogonal axes X,Y,Z. The worst display of the test results was the Y-axis. The worst case emissions were reported.

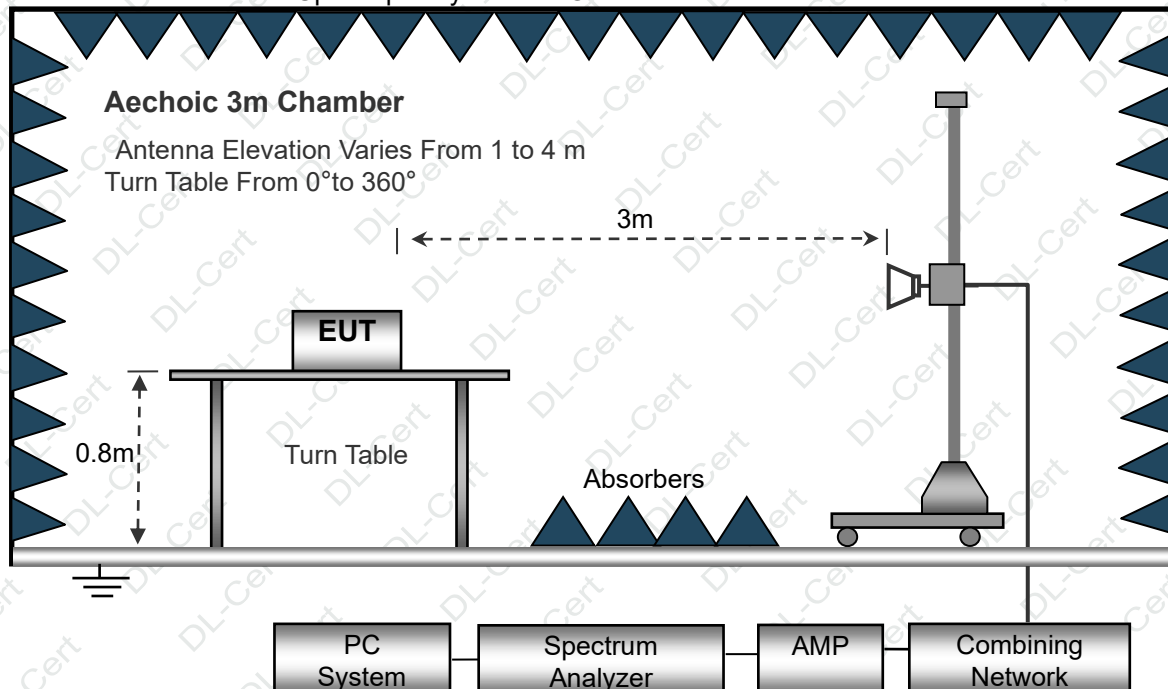
3.3.3 DEVIATION FROM TEST STANDARD

No deviation



3.3.4 TEST SETUP

Radiated Emission Test-Up Frequency Above 1GHz



3.3.5 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of 2.3 Unless otherwise a special operating condition is specified in the follows during the testing.

**3.3.6 TEST RESULT**

Polar (H/V)	Frequency	Meter Reading	Pre- amplifier	Cable Loss	Antenna Factor	Emission Level	Limits	Margin	Detector Type
	(MHz)	(dBuV)	(dB)	(dB)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
Operation frequency:2402 GFSK 1Mbps									
V	2390.00	66.36	52.13	2.52	27.46	44.21	74	-29.79	PK
V	2390.00	61.11	52.13	2.52	27.46	38.96	54	-15.04	AV
H	2390.00	67.11	52.13	2.52	27.46	44.96	74	-29.04	PK
H	2390.00	60.29	52.13	2.52	27.46	38.14	54	-15.86	AV

Polar (H/V)	Frequency	Meter Reading	Pre- amplifier	Cable Loss	Antenna Factor	Emission Level	Limits	Margin	Detector Type
	(MHz)	(dBuV)	(dB)	(dB)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
Operation frequency:2480 GFSK 1Mbps									
V	2483.50	87.24	52.13	2.86	27.46	65.43	74	-8.57	PK
V	2483.50	66.94	52.13	2.86	27.46	45.13	54	-8.87	AV
H	2483.50	86.36	52.13	2.86	27.46	64.55	74	-9.45	PK
H	2483.50	65.97	52.13	2.86	27.46	44.16	54	-9.84	AV

Remark:

1. Emission Level = Meter Reading + Factor, Margin= Emission Level - Limit
2. If peak below the average limit, the average emission was no test.
3. The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.



4. PEAK OUTPUT POWER

4.1 APPLIED PROCEDURES / LIMIT

FCC Part15 (15.247) , Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247 (b)(3)	Peak Output Power	1 watt or 30dBm	2400-2483.5	PASS

4.1.1 TEST PROCEDURE

The testing follows Subclause 11.9.1.1 of ANSI C63.10

The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator.

The path loss was compensated to the results for each measurement.

Set to the maximum power setting and enable the EUT transmit continuously.

The EUT was operating in controlled its channel.

Use the following spectrum analyzer settings:

Set the RBW $\geq$ DTS bandwidth.

Set VBW=3*RBW.

Set the span $\geq$ 3*RBW

Set Sweep time = auto couple.

Set Detector = peak.

Set Trace mode = max hold.

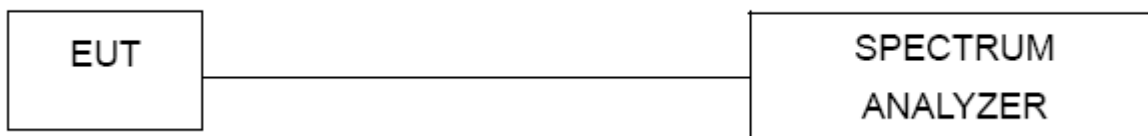
Allow trace to fully stabilize.

Use peak marker function to determine the peak amplitude level.

4.1.2 DEVIATION FROM STANDARD

No deviation.

4.1.3 TEST SETUP

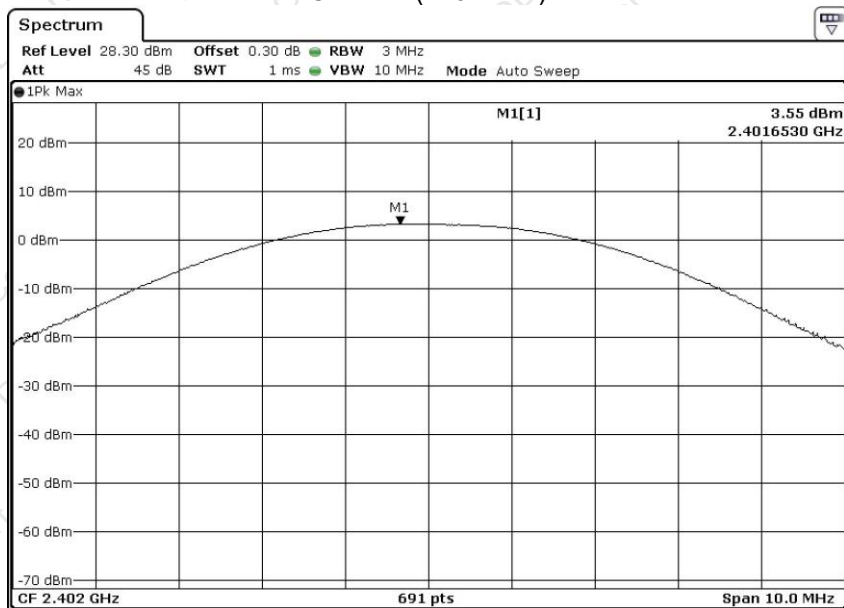
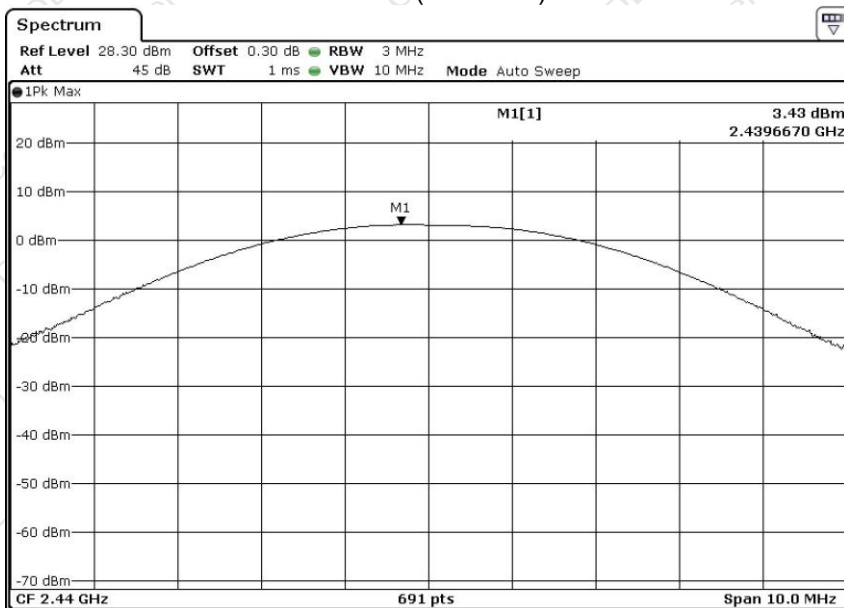


4.1.4 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

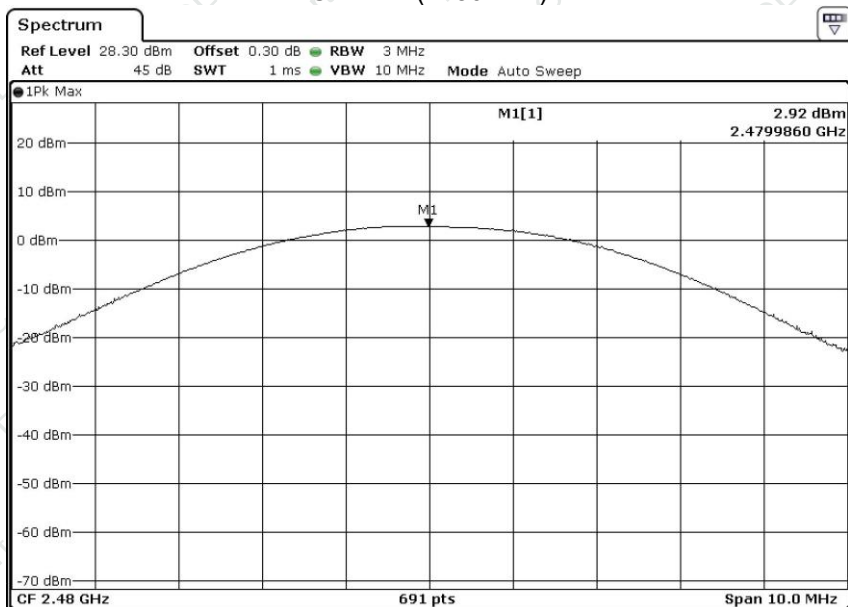
4.1.5 TEST RESULTS

Modulation	Test channel	Peak output power (dBm)	Limit (dBm)	Result
GFSK	Lowest	3.55	30.00	Pass
	Middle	3.43		
	Highest	2.92		

Test plot Low
Channel (2402MHz)Test plot Middle
Channel (2440MHz)



Test plot High
Channel (2480MHz)





5. POWER SPECTRAL DENSITY TEST

5.1 APPLIED PROCEDURES / LIMIT

FCC Part15 (15.247) , Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247	Power Spectral Density	8 dBm (in any 3KHz)	2400-2483.5	PASS

Spectrum Parameters	Setting
Attenuation	Auto
Span Frequency	= the frequency band of operation
RB	RBW $\geq$ 3kHz
VB	VBW $\geq$ 3RBW
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

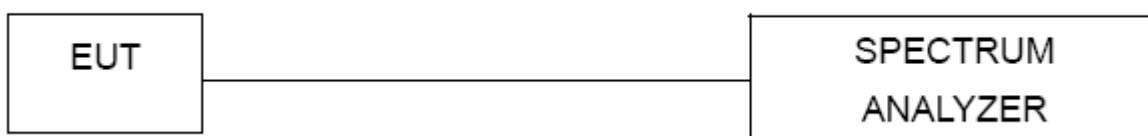
5.1.1 TEST PROCEDURE

- a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,

5.1.2 DEVIATION FROM STANDARD

No deviation.

5.1.3 TEST SETUP

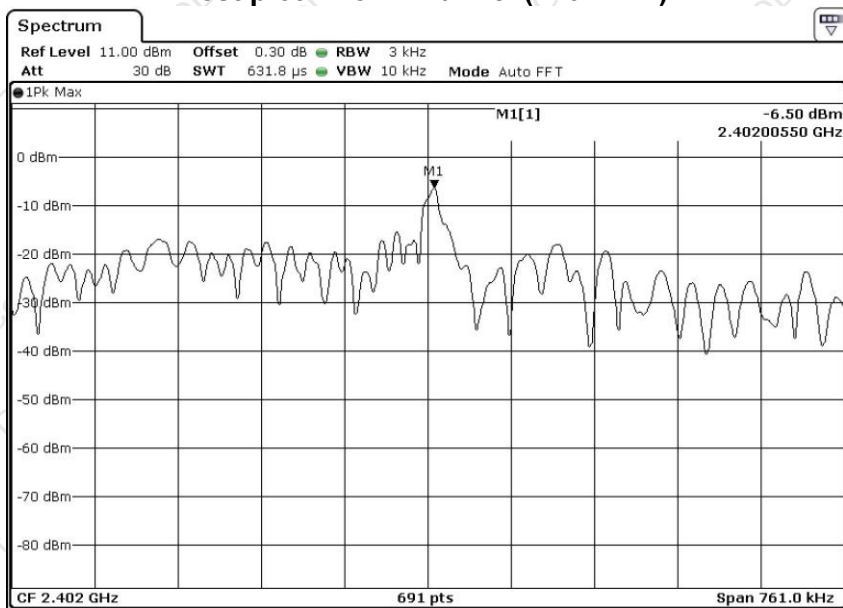
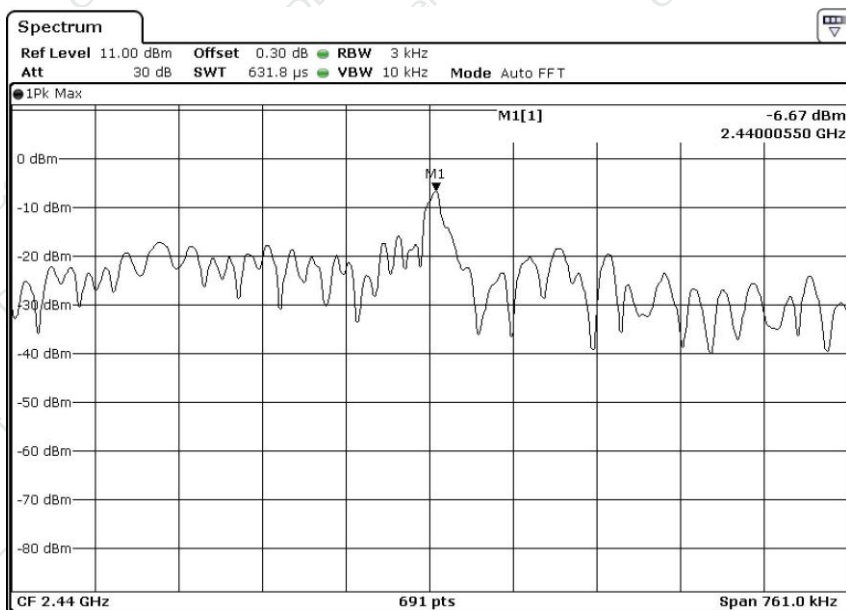


5.1.4 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

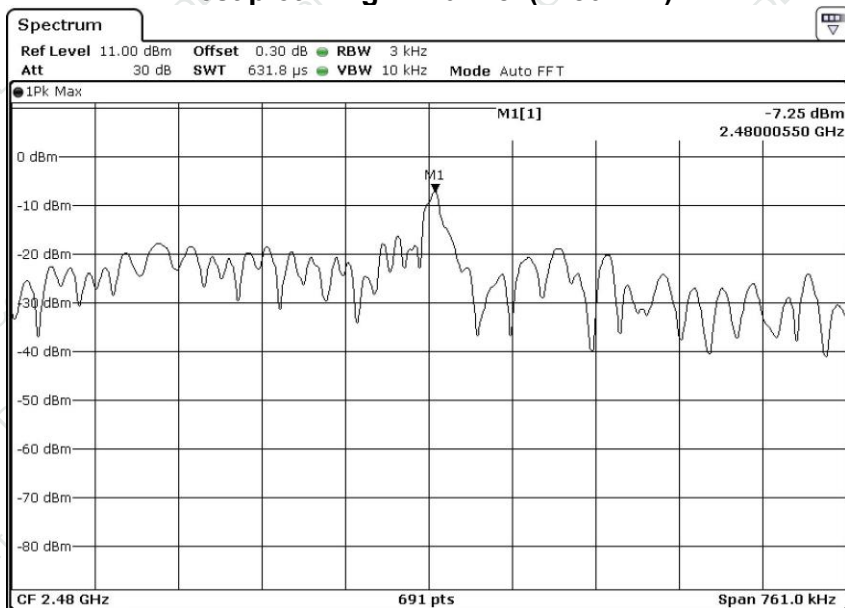
5.1.5 TEST RESULTS

Transmitter Frequency (MHz)	Maximum Power spectral density level / 3kHz band (dBm)	Maximum Power spectral density / 3kHz band limit
2402.0	-6.50	8dBm
2440.0	-6.67	8dBm
2480.0	-7.25	8dBm

**Test plot Low Channel (2402MHz)****Test plot Middle Channel (2440MHz)**



Test plot High Channel (2480MHz)





6. 6DB BANDWIDTH TEST

6.1 APPLIED PROCEDURES / LIMIT

FCC Part15 (15.247) , Subpart C				
Section	Test Item	Limit	Frequency Range(MHz)	Result
15.247(a)(2)	Bandwidth	$\geq 500\text{KHz}$ (6dB bandwidth)	2400-2483.5	PASS

6.1.1 TEST PROCEDURE

1. Set RBW = 100 kHz.
2. Set the video bandwidth (VBW) $\geq 3\text{RBW}$.
3. Detector = Peak.
4. Trace mode = max hold.
5. Sweep = auto couple.
6. Allow the trace to stabilize.
7. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 20 dB relative to the maximum level measured in the fundamental emission.

6.1.2 DEVIATION FROM STANDARD

No deviation.

6.1.3 TEST SETUP



6.1.4 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.3 Unless otherwise a special operating condition is specified in the follows during the testing.

6.1.5 TEST RESULTS

Frequency Range [MHz]	6dB Bandwidth [KHz]	FCC Limits [kHz]
2402.0	503.9	> 500

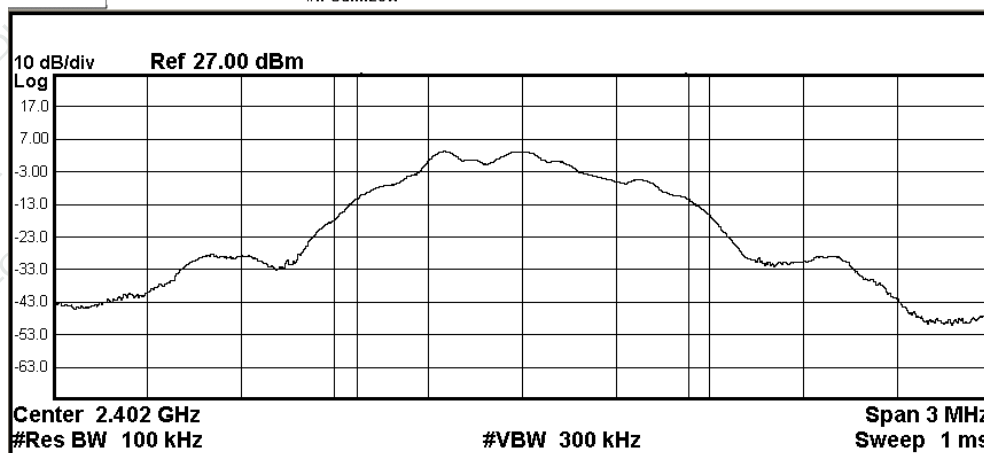


Ref Value 27.00 dBm

Center Freq: 2.402000000 GHz
Trig: Free Run Avg|Hold:> 10/10
#IFGain:Low #Atten: 28 dB

Radio Std: None

Radio Device: BTS



Occupied Bandwidth

Total Power

8.91 dBm

1.0613 MHz

Transmit Freq Error

2.442 kHz

OBW Power

99.00 %

x dB Bandwidth

503.9 kHz

x dB

-6.00 dB

Frequency Range

6dB Bandwidth

FCC Limits

[MHz]

[KHz]

[kHz]

2440.0

507.3

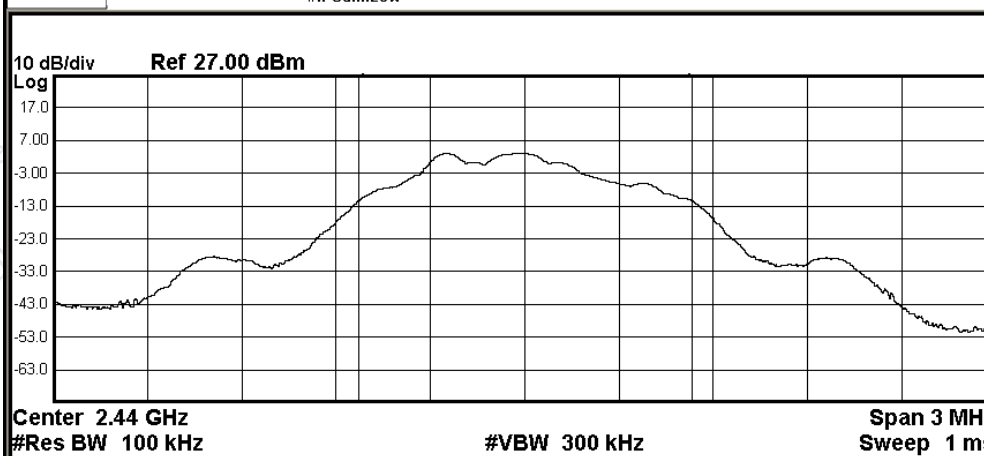
> 500

Center Freq 2.440000000 GHz

Center Freq: 2.440000000 GHz
Trig: Free Run Avg|Hold:> 10/10
#IFGain:Low #Atten: 28 dB

Radio Std: None

Radio Device: BTS



Occupied Bandwidth

Total Power

8.94 dBm

1.0555 MHz

Transmit Freq Error

4.540 kHz

OBW Power

99.00 %

x dB Bandwidth

507.3 kHz

x dB

-6.00 dB



Frequency Range [MHz]	6dB Bandwidth [KHz]	FCC Limits [kHz]
2480.0	507.3	> 500

Center Freq 2.480000000 GHz

Center Freq: 2.480000000 GHz

Radio Std: None

Trig: Free Run

Avg|Hold:>10/10

Radio Device: BTS

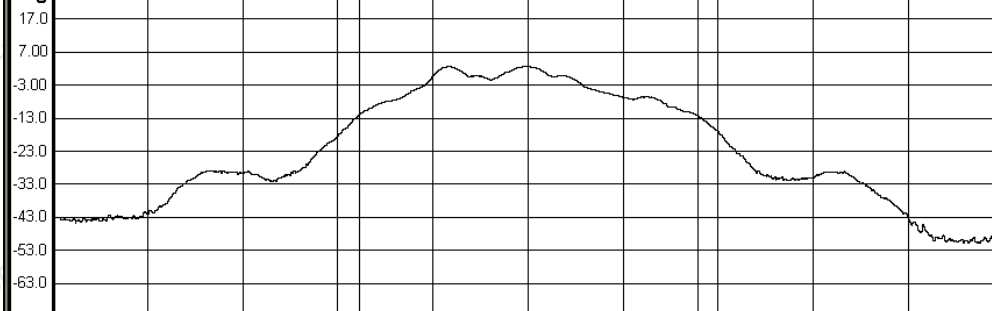
#IFGain:Low

#Atten: 28 dB

10 dB/div

Ref 27.00 dBm

Log



Center 2.48 GHz

#Res BW 100 kHz

#VBW 300 kHz

Span 3 MHz

Sweep 1 ms

Occupied Bandwidth

Total Power

8.29 dBm

1.0622 MHz

Transmit Freq Error

3.115 kHz

OBW Power

99.00 %

x dB Bandwidth

507.3 kHz

x dB

-6.00 dB



7. CONDUCTED BAND EMISSION MEASUREMENT

7.1 APPLIED PROCEDURES / LIMIT

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in Section 15.209(a) is not required.

Remark: Emissions under the fixed frequency mode and hopping mode have been investigated, the worst-case measurement results were recorded in the test report

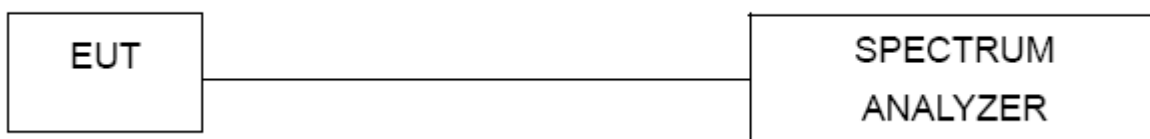
7.1.1 TEST PROCEDURE

1. Set RBW = 100 kHz.
2. Set the video bandwidth (VBW) $\geq$ RBW.
3. Detector = Peak.
4. Trace mode = max hold.
5. Sweep = auto couple.
6. Allow the trace to stabilize.

7.1.2 DEVIATION FROM STANDARD

No deviation.

7.1.3 TEST SETUP



7.1.4 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.3 Unless otherwise a special operating condition is specified in the follows during the testing.

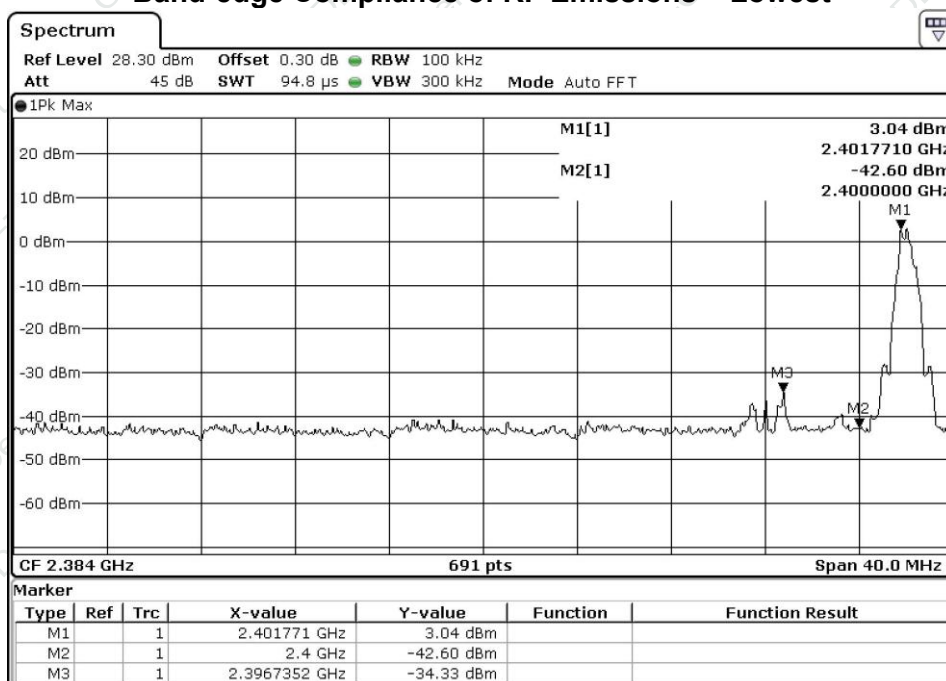


7.1.5 TEST RESULTS

BAND-EDGE COMPLIANCE OF RF CONDUCTED EMISSIONS MEASUREMENT:

Frequency Range	Reference level	Limit	The highest conducted band edge emission	Result
[MHz]	[dBm]	[dBm]	[dBm]	
2400 – Lowest Fundamental (2402)	3.04	-16.96	-42.60	PASS

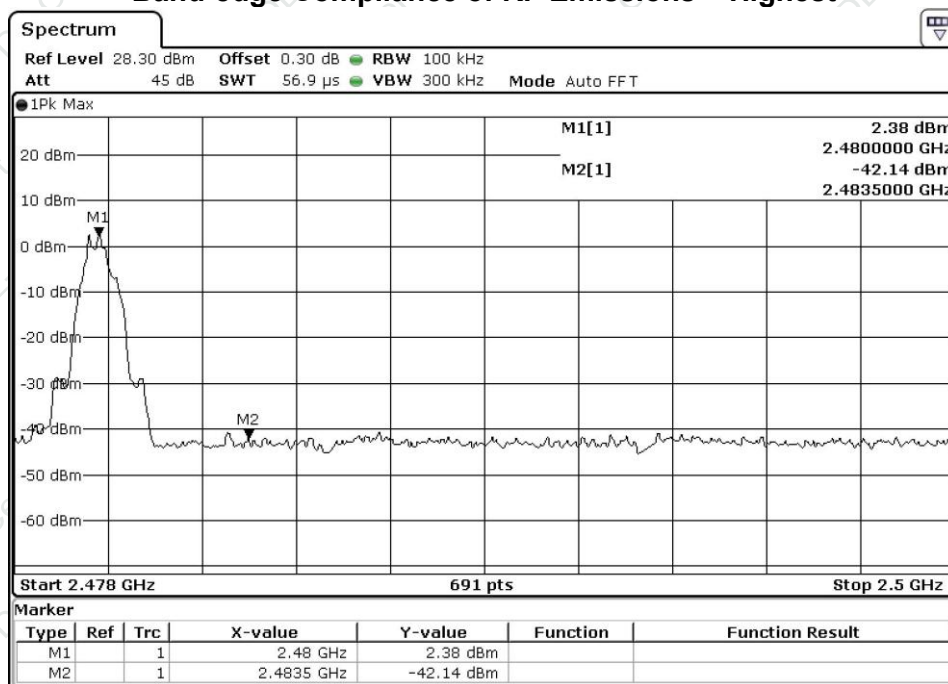
Band-edge Compliance of RF Emissions – Lowest



In restricted bands 2310-2390MHz, Emissions detected are more than 20 dB below the Limits.

**BAND-EDGE COMPLIANCE OF RF CONDUCTED EMISSIONS MEASUREMENT:**

Frequency Range [MHz]	Reference level [dBm]	Limit [dBm]	The highest conducted band edge emission [dBm]	Result
2483.5 - Highest Fundamental (2480)	2.38	-17.62	-42.14	PASS

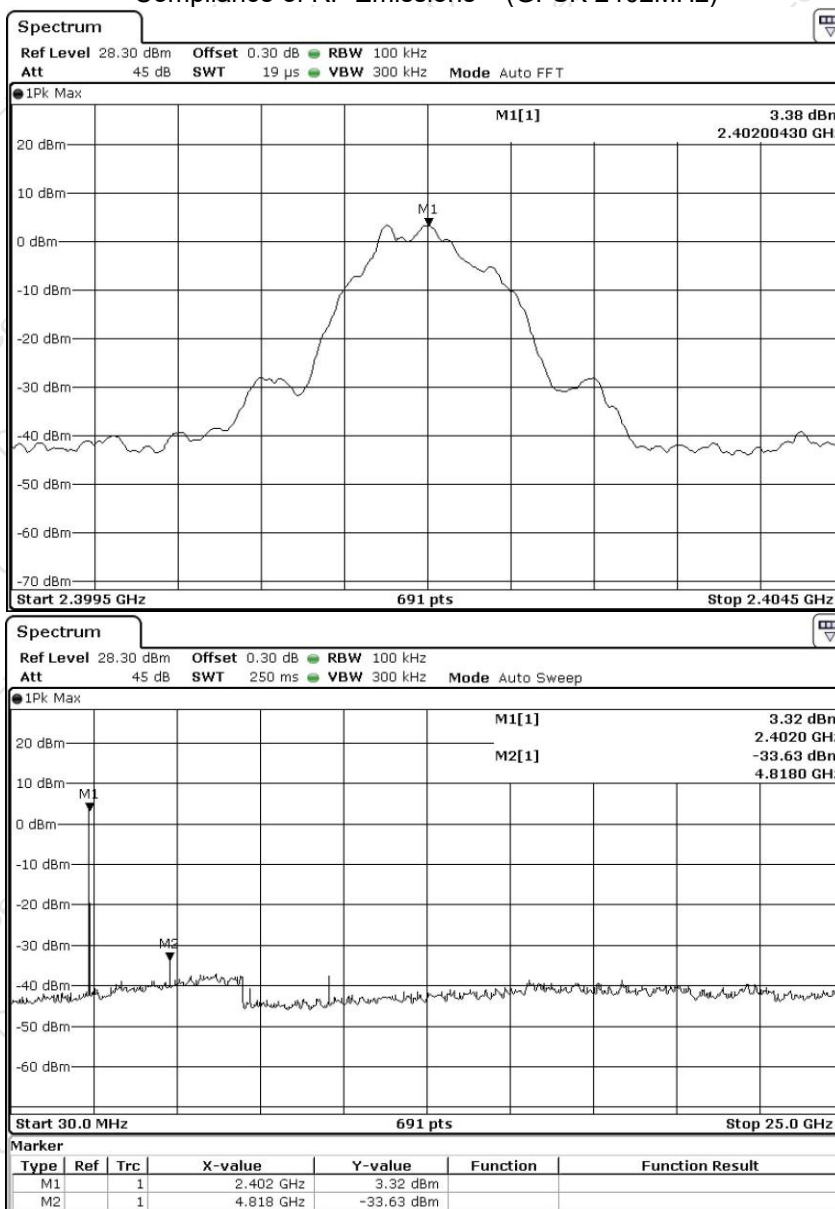
Band-edge Compliance of RF Emissions – Highest

**COMPLIANCE OF RF EMISSIONS MEASUREMENT (30MHZ-25GHZ) :****Limit :**

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in Section 15.209(a) is not required.

Frequency Range	Reference level	Limit	The highest conducted band edge emission	Result
[MHz]	[dBm]	[dBm]	[dBm]	
30MHz-25GHz	3.38	-16.62	-33.63	PASS

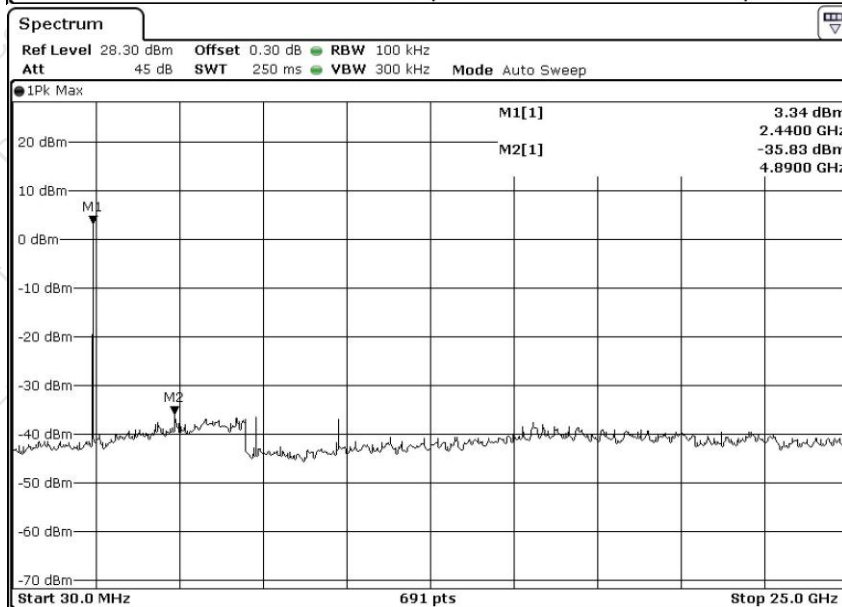
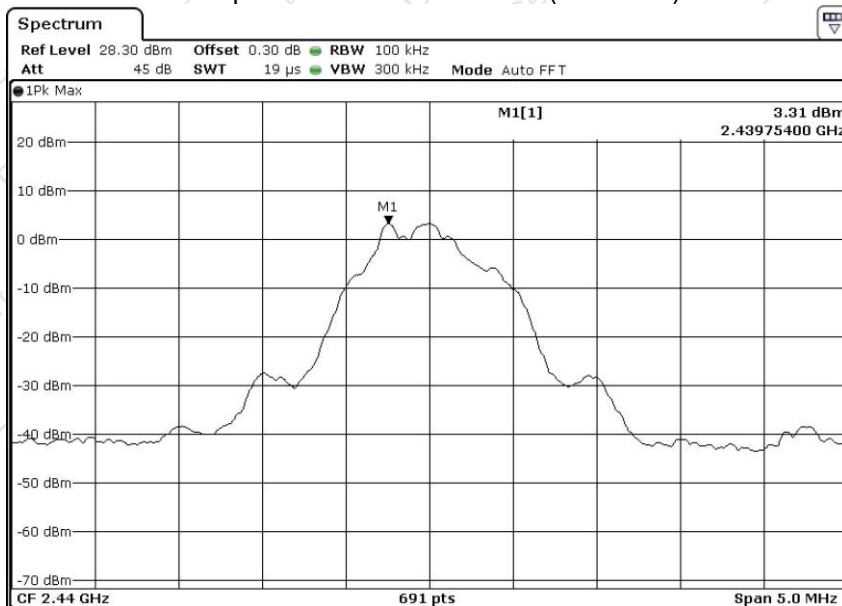
Compliance of RF Emissions – (GFSK 2402MHz)





Frequency Range	Reference level	Limit	The highest conducted band edge emission	Result
[MHz]	[dBm]	[dBm]	[dBm]	
30MHz-25GHz	3.31	-16.69	-35.83	PASS

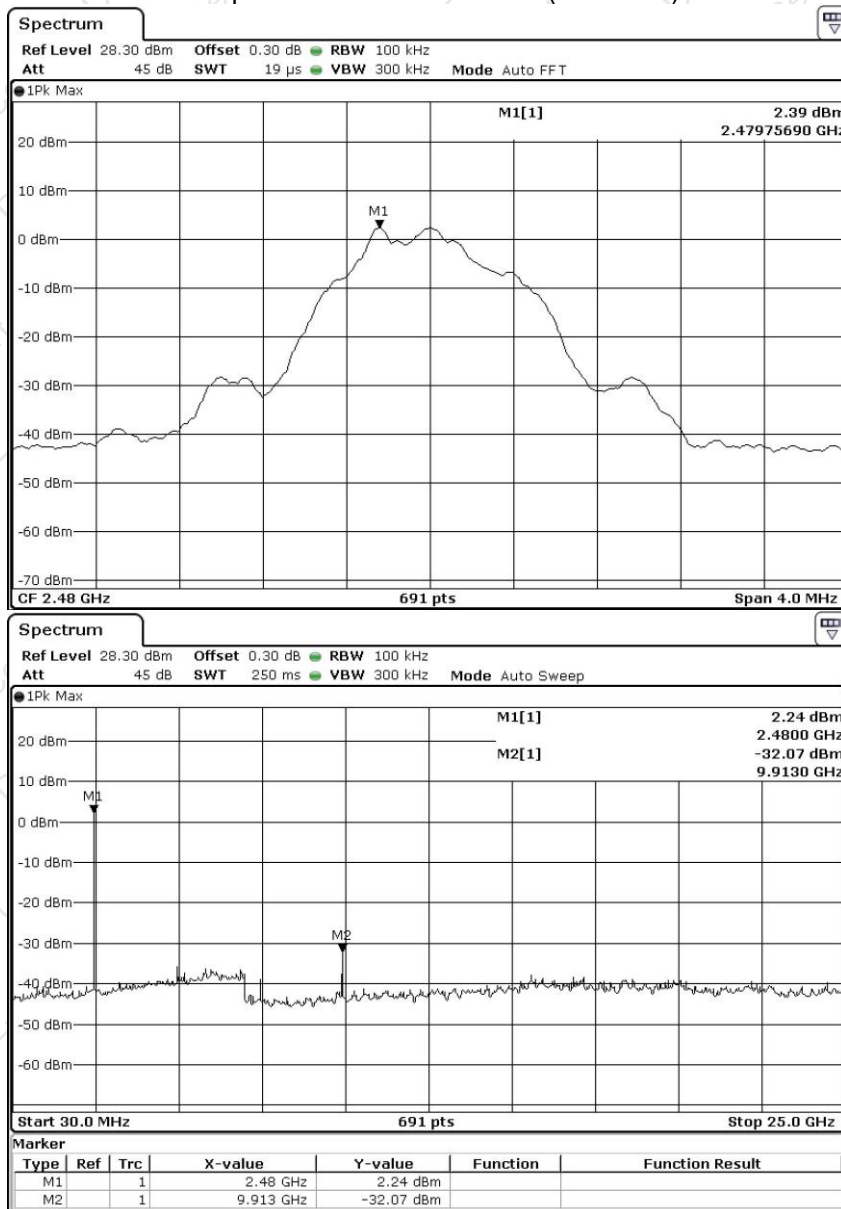
Compliance of RF Emissions – (2440MHz)





Frequency Range	Reference level	Limit	The highest conducted band edge emission	Result
[MHz]	[dBm]	[dBm]	[dBm]	
30MHz-25GHz	2.39	-17.61	-32.07	PASS

Compliance of RF Emissions – (2480MHz)





8. ANTENNA REQUIREMENT

8.1 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.

8.2 EUT ANTENNA

The EUT antenna is Internal Antenna, It comply with the standard requirement.



9. TEST SETUP PHOTO

Reference to the appendix I for details.

10. EUT PHOTO

Reference to the appendix II for details.

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