FCC Part 15C Test Report
FCC ID: 2A6FX-PFA600BU

Applicant:	Sound Around INC.
Address:	1600, 63rd Street, 1st Floor, Brooklyn, NY New York, 11219, United States
Manufacturer:	Guangzhou Huaqi Electronics Co., Ltd
Address:	101, No. 1, wenshengzhuang Xindong Road,Dongping village, Yongping street, Baiyun District, Guangzhou, Guangdong, China
Product Name:	Amplifier
Trade Mark:	PYLE
Model Number:	PFA600BU
Date of Receipt:	Jun 15, 2026
Test Date:	Jun 15, 2026 ~ July 17, 2026
Date of Report:	July 17, 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:	47 CFR FCC Part 15 Subpart C 15.247 KDB 558074 D01 15.247 Meas Guidance v05r02 ANSI C63.10: 2020
Test Result:	Pass
Report Number:	DLE-260717007R

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.

Contents **Page**

1 Summary 4
1.1 Test Procedures and Results 4
1.2 Measurement Uncertainty 5
1.3 Information of the Test Laboratory 5
2 General Information 6
2.1 General Description of EUT 6
2.2 Description of Test Conditions 8
2.3 Description of Test Setup 9
2.4 Description of Support Units 10
2.5 The Worse Case Power Setting Parameter 10
3 Equipments List for All Test Items 11
4 Test Result 12
4.1 Antenna Requirement 12
4.2 AC Conduction Emissions Measurement 13
4.3 Radiated Emissions Measurement 17
4.4 Maximum Peak Output Power Measurement 25
4.5 Power Spectral Density 26
4.6 6dB Bandwidth 29
4.7 Occupied Bandwidth 32
4.8 Band Edge 33
4.9 Conducted Spurious Emissions 35
5 Test Setup Photos of the EUT 39
6 Photos of the EUT 41

** Issued History **

Revision	Description	Issued Date	Remark
Revision 1.0	Initial Test Report Release	July 17, 2026	

1 Summary

1.1 Test Procedures and Results

Test Item	Test Requirement	Result
Antenna Requirement	§15.203/§15.247(b)(4)	PASS
AC Conducted Emission	FCC Part 15.207	PASS
Radiated Emissions	FCC Part 15.205/15.209	PASS
Maximum Peak Output Power	FCC Part 15.247(b)	PASS
Power Spectral Density	FCC Part 15.247(e)	PASS
6dB Bandwidth & 99% Bandwidth	FCC Part 15.247(a)(2)	PASS
Spurious RF Conducted Emission	FCC Part 15.247(d)	PASS
Band Edge	FCC Part 15.247(d)	PASS

Note:

1. PASS: Test item meets the requirement.
2. Fail: Test item does not meet the requirement.
3. N/A: Test case does not apply to the test object.
4. The test result judgment is decided by the limit of test standard.

1.2 Measurement Uncertainty

The reported uncertainty of measurement y ± 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	Conducted Emission Test	±2.56dB
2	RF power, conducted	±0.42dB
3	Spurious emissions, conducted	±2.76dB
4	All emissions, radiated(<1G)	±3.65dB
5	All emissions, radiated(>1G)	±4.89dB
6	Temperature	±0.5°C
7	Humidity	±2%
8	6dB Bandwidth	±0.2MHz
9	Power Spectral Density	±0.3dBm

1.3 Information of the Test Laboratory

Shenzhen DL Testing Technology Co., Ltd.
Add: 101-201, Comprehensive Building, Tongzhou Electronics Longgang Factory Area, No.1 Baolong Fifth Road, Baolong Community, Baolong Street, Longgang District, Shenzhen, China

2 General Information

2.1 General Description of EUT

EUT Name:	Amplifier
Model No:	PFA600BU
Series Model(s):	N/A
Model Difference:	N/A
Operation Frequency:	2402 MHz to 2480 MHz
Channel Separation:	2MHz
Number of Channel:	40
Modulation Technology:	GFSK
Hardware Version:	V1.0
Firmware Version:	V1.0
Antenna Type:	External Antenna
Antenna Gain:	2dBi
Power Supply:	AC100-240V, 50/60Hz
Note: 1. For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual. 2. Antenna gain Refer to the antenna specifications. 3. The cable loss data is obtained from the supplier. 4. The test results in the report only apply to the tested sample.	

Description of Channel					
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
0	2402	14	2430	28	2458
1	2404	15	2432	29	2460
2	2406	16	2434	30	2462
3	2408	17	2436	31	2464
4	2410	18	2438	32	2466
5	2412	19	2440	33	2468
6	2414	20	2442	34	2470
7	2416	21	2444	35	2472
8	2418	22	2446	36	2474
9	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		

The EUT has been operated in modulations: GFSK independently.

No.	Test Mode Description
1	Low channel TX
2	Middle channel TX
3	High channel TX

Note:
1. All the test modes can be supply by serial port, only the result of the worst case was recorded in the report if no any records.
2. For Radiated Emission, 3axis were chosen for testing for each applicable mode.

2.2 Description of Test Conditions

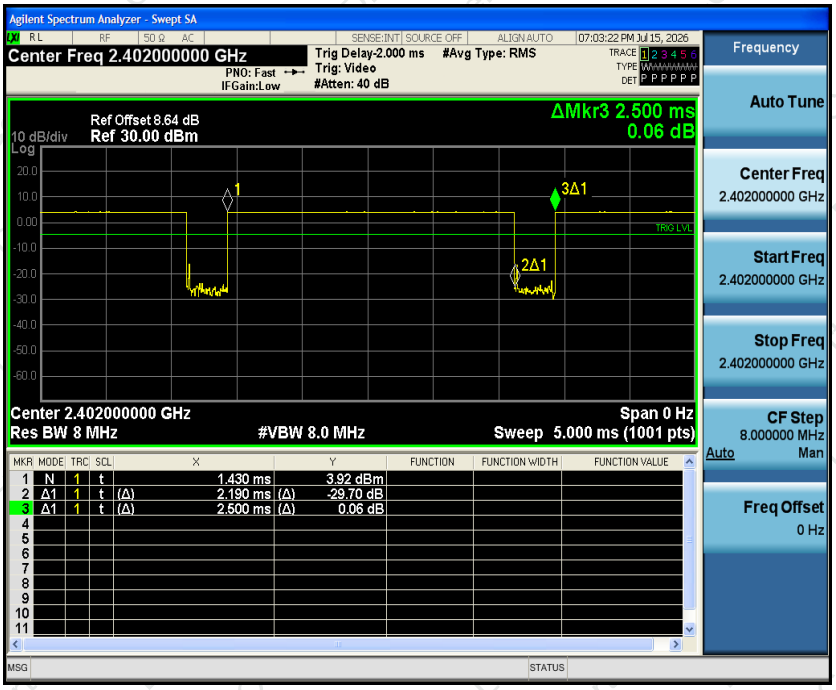
(1) E.U.T. test conditions:
For intentional radiators, measurements of the variation of the input power or the radiated signal level of the fundamental frequency component of the emission, as appropriate, shall be performed with the supply voltage varied between 85% and 115% of the nominal rated supply voltage. For battery operated equipment, the equipment tests shall be performed using a new battery.

(2) Frequency range of radiated measurements:
The test range will be up to the tenth harmonic of the highest fundamental frequency.

(3) Pre-test the EUT in all transmitting mode at the lowest (2402 MHz), middle (2440 MHz) and highest (2480 MHz) channel with different data packet and conducted to determine the worst-case mode, only the worst-case results are recorded in this report.

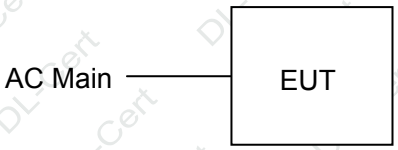
(4) Mode Test Duty Cycle

Mode	Duty Cycle
BT-LE(1Mbps)	0.8760

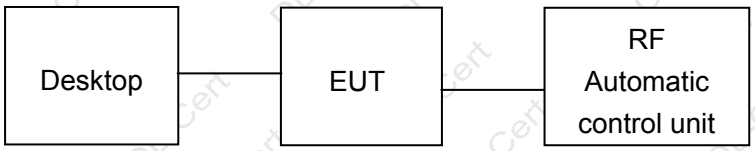


2.3 Description of Test Setup

Operation of EUT during AC Conducted and Radiation testing:



Operation of EUT during RF Conducted testing:



The sample was placed (0.8m below 1GHz, 1.5m above 1GHz) above the ground plane of 3m chamber. Measurements in both horizontal and vertical polarities were performed. During the test, each emission was maximized by: having the EUT continuously working, investigated all operating modes, rotated about all 3 axis (X, Y & Z) and considered typical configuration to obtain worst position, manipulating interconnecting cables, rotating the turntable, varying antenna height from 1m to 4m in both horizontal and vertical polarizations. The report only reflects the worst emission test results. The worst case is X position.

2.4 Description of 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.

Item	Equipment	Trade Mark	Model/Type No.	Specification	Note
1	Amplifier	PYLE	PFA600BU	N/A	EUT

Note:

1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test

2. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.

3. For conducted measurements (Output Power, 6dB Emission Bandwidth, Power Spectral Density, Spurious Emissions), the antenna of EUT is connected to the test equipment via temporary antenna connector, the antenna connector is soldered on the antenna port of EUT, and the temporary antenna connector is listed in the Test Instruments.

2.5 The Worse Case Power Setting Parameter

During testing, channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the end product.

Test Software Version	bt_tool_v1.1.4
Modulation Type	GFSK
Transmit Antenna Number	1
Test Software setting value	7

3 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
17	Filter	COM-MW	K6-2400-2500-100S455-007	6DS2302367	Oct. 25, 2025	Oct. 24, 2026
18	Attenuator	COM-MW	5W 6DB 6G	DC-6GHz	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_EMC	EMC-CON 3A1.1
2	EMC radiation test system	FALA	EZ_EMC	FA-03A2
3	RF test system	MAIWEI	MTS8310	2.0.0.0
4	RF communication test system	MAIWEI	MTS8200	2.0.0.0

4 Test Result

4.1 Antenna Requirement

4.1.1 Standard Requirement

Standard Applicable

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. And according to FCC 47 CFR Section 15.247, if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

Refer to statement below for compliance.

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

Antenna Connected Construction

The antenna used in this product is an External Antenna, not easy to remove. It conforms to the standard requirements. The gain of antenna used for transmitting is 2dBi.

4.1.2 EUT Antenna

4.2 AC Conduction Emissions Measurement

4.2.1 Applied Procedures / Limit

According to FCC CFR Title 47 Part 15 Subpart C Section 15.207, AC Power Line Conducted Emissions Limits for Licence-Exempt Radio Apparatus as below:

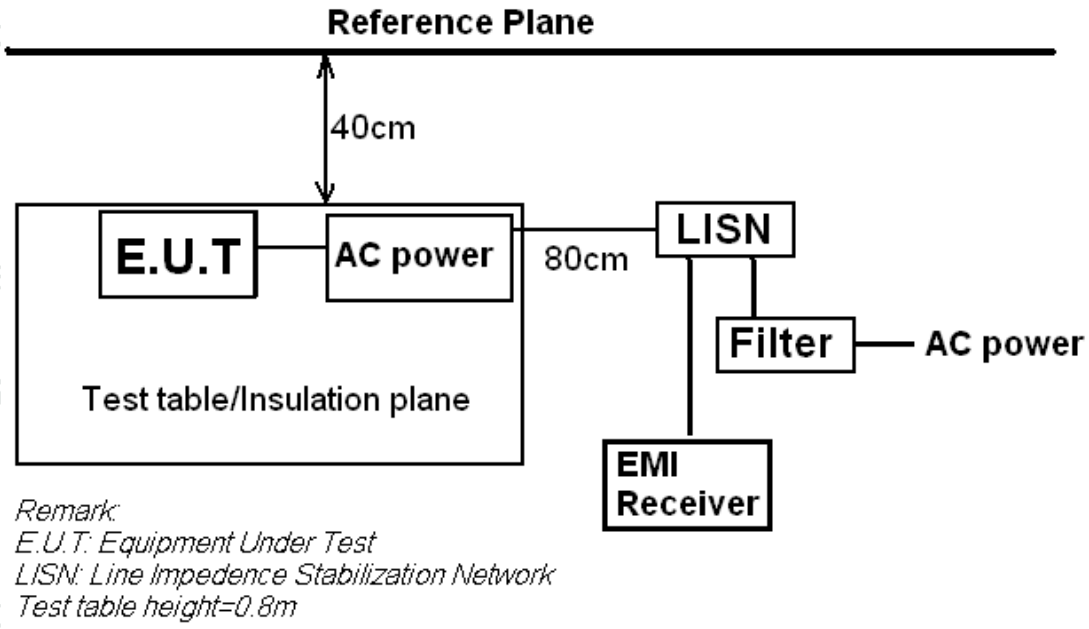
Frequency range (MHz)	Limit (dBuV)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

* Decreases with the logarithm of the frequency.

4.2.2 Test Procedure

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

4.2.3 Test Setup

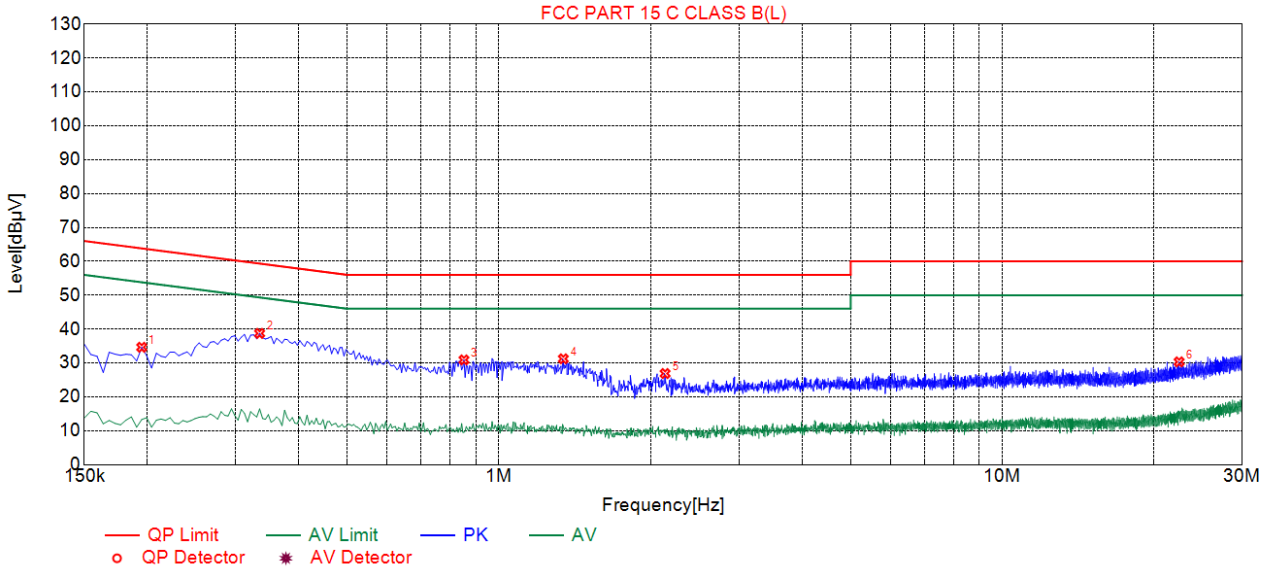


Remark:
E.U.T: Equipment Under Test
LISN: Line Impedence Stabilization Network
Test table height=0.8m

4.2.4 Test Results

All the test modes completed for test. Only the worst result was reported as below:

Test Specification: Line



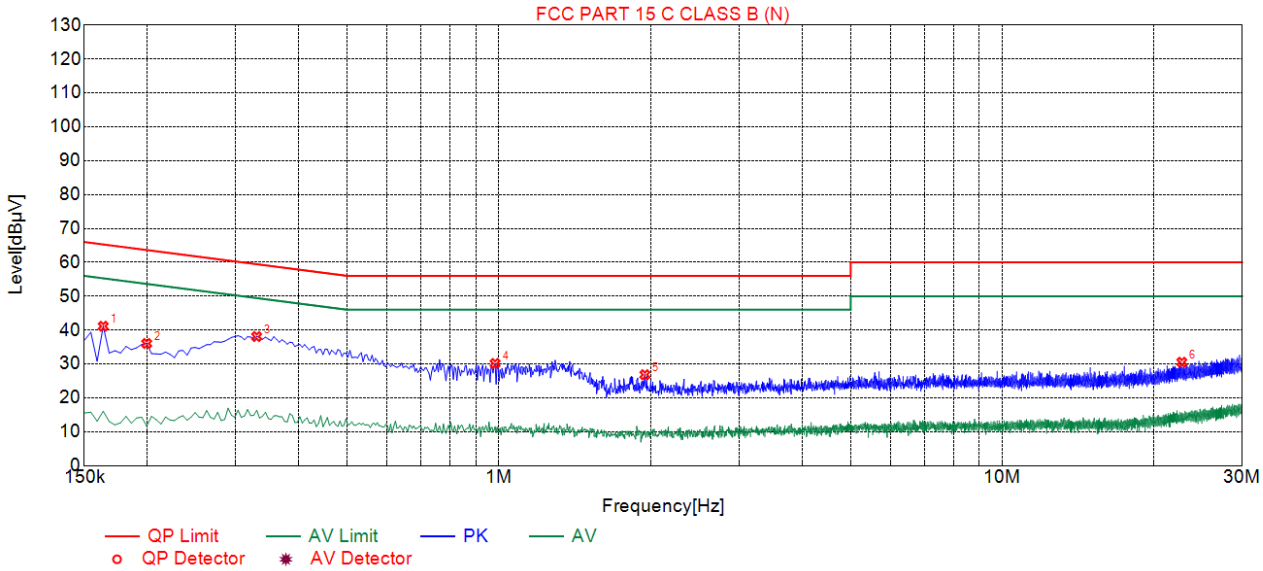
Suspected List								
NO.	Freq. [MHz]	Level [dBµV]	Factor [dB]	Limit [dBµV]	Margin [dB]	Reading [dBµV]	Detector	Type
1	0.1950	34.64	19.76	63.82	29.18	14.88	PK	L
2	0.3345	38.73	19.79	59.34	20.61	18.94	PK	L
3	0.8520	30.91	19.91	56.00	25.09	11.00	PK	L
4	1.3425	31.23	19.94	56.00	24.77	11.29	PK	L
5	2.1390	26.89	20.08	56.00	29.11	6.81	PK	L
6	22.4790	30.33	23.66	60.00	29.67	6.67	PK	L

Remark: Margin = Limit – Level

Correction factor = Cable lose + LISN insertion loss

Level=Test receiver reading + correction factor

Test Specification: Neutral



Suspected List								
NO.	Freq. [MHz]	Level [dBµV]	Factor [dB]	Limit [dBµV]	Margin [dB]	Reading [dBµV]	Detector	Type
1	0.1635	41.14	19.90	65.28	24.14	21.24	PK	N
2	0.1995	36.04	19.75	63.63	27.59	16.29	PK	N
3	0.3300	38.10	19.84	59.45	21.35	18.26	PK	N
4	0.9825	30.16	19.97	56.00	25.84	10.19	PK	N
5	1.9500	26.83	20.16	56.00	29.17	6.67	PK	N
6	22.7580	30.52	23.67	60.00	29.48	6.85	PK	N

Remark: Margin = Limit – Level

Correction factor = Cable lose + LISN insertion loss

Level=Test receiver reading + correction factor

4.3 Radiated Emissions Measurement

4.3.1 Applied Procedures / Limit

For intentional device, according to § 15.209(a), the general requirement of field strength of radiated emission out of authorized band shall not exceed the following table at a 3 meters measurement distance. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a).

Except when the requirements applicable to a given device state otherwise, emissions from license-exempt transmitters shall comply with the field strength limits shown in table below. Additionally, the level of any transmitter emission shall not exceed the level of the transmitter's fundamental emission.

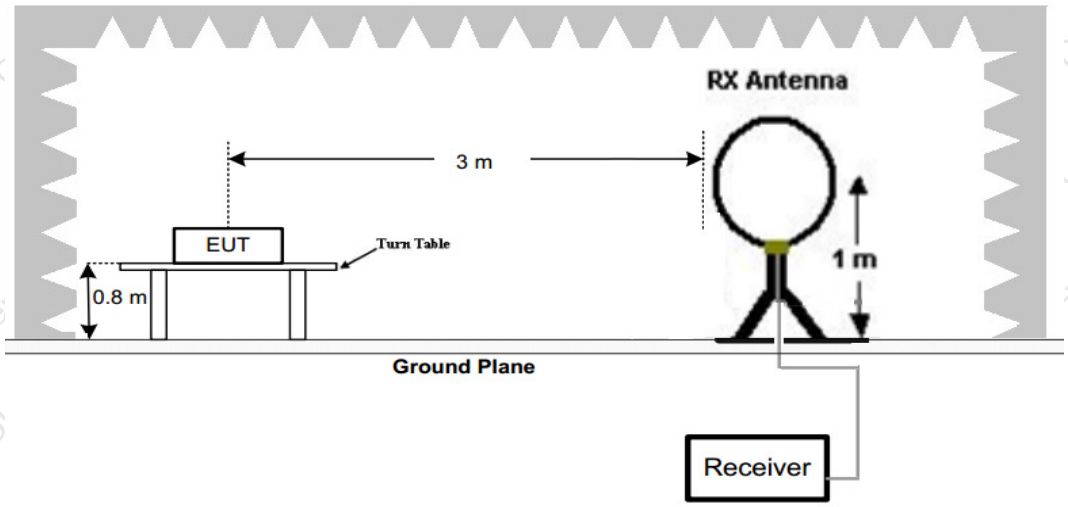
Radiated Emission Limits

Frequency (MHz)	Distance (Meters)	Radiated (dBμV/m)	Radiated (μV/m)
0.009-0.49	3	20log(2400/F(KHz))+40log(300/3)	2400/F(KHz)
0.49-1.705	3	20log(24000/F(KHz))+ 40log(30/3)	24000/F(KHz)
1.705-30	3	20log(30)+ 40log(30/3)	30
30-88	3	40.0	100
88-216	3	43.5	150
216-960	3	46.0	200
Above 960	3	54.0	500

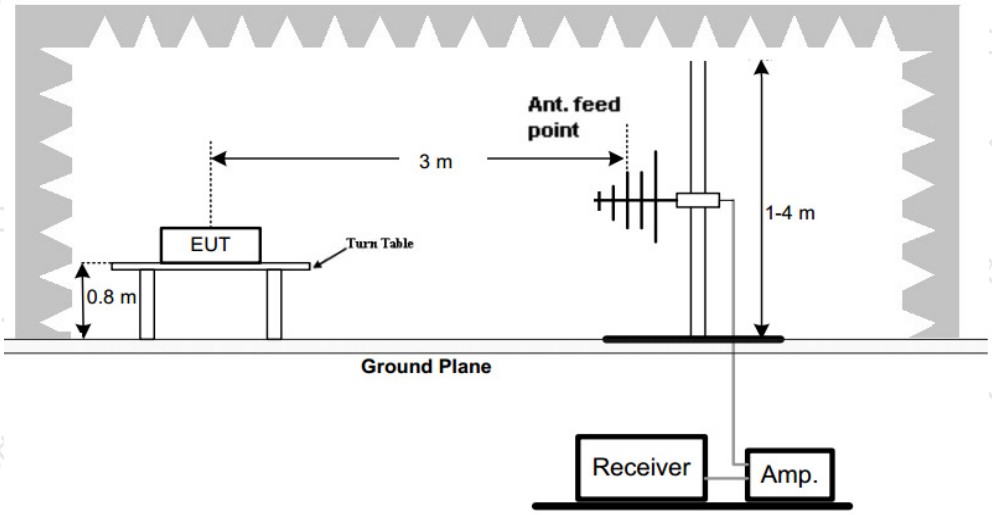
4.3.2 Test Setup

Test Configuration:

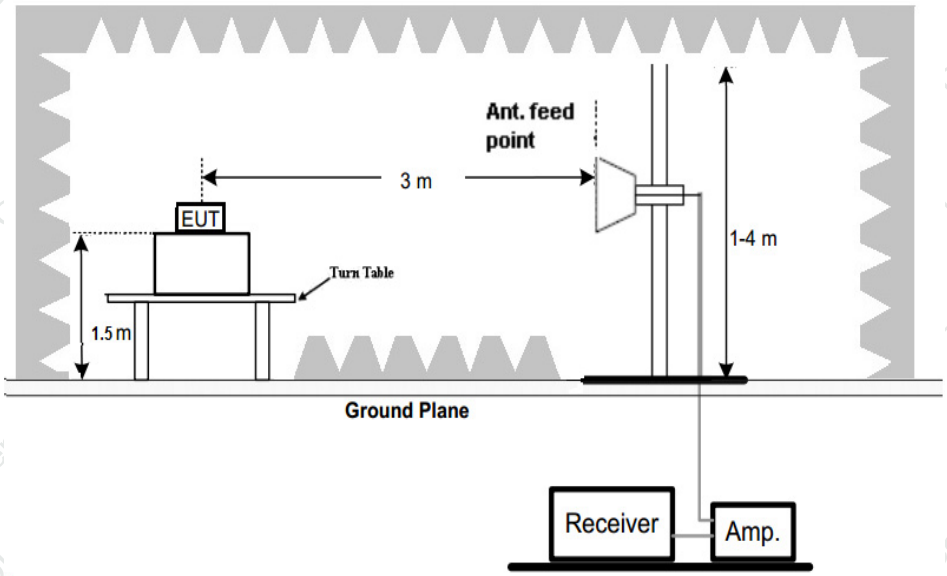
1) 9 kHz to 30 MHz emissions:



2) 30 MHz to 1 GHz emissions:



3) 1 GHz to 26 GHz emissions:



Test Procedure

1. The EUT was placed on turn table which is 0.8m above ground plane for below 1GHz test, and on a low permittivity and low loss tangent turn table which is 1.5m above ground plane for above 1GHz test.
2. Maximum procedure was performed by raising the receiving antenna from 1m to 4m and rotating the turn table from 0 degrees to 360 degrees to acquire the highest emissions from EUT.
3. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
4. Repeat above procedures until all frequency measurements have been completed.

4.3.3 Test Result

Below 1GHz Test Results

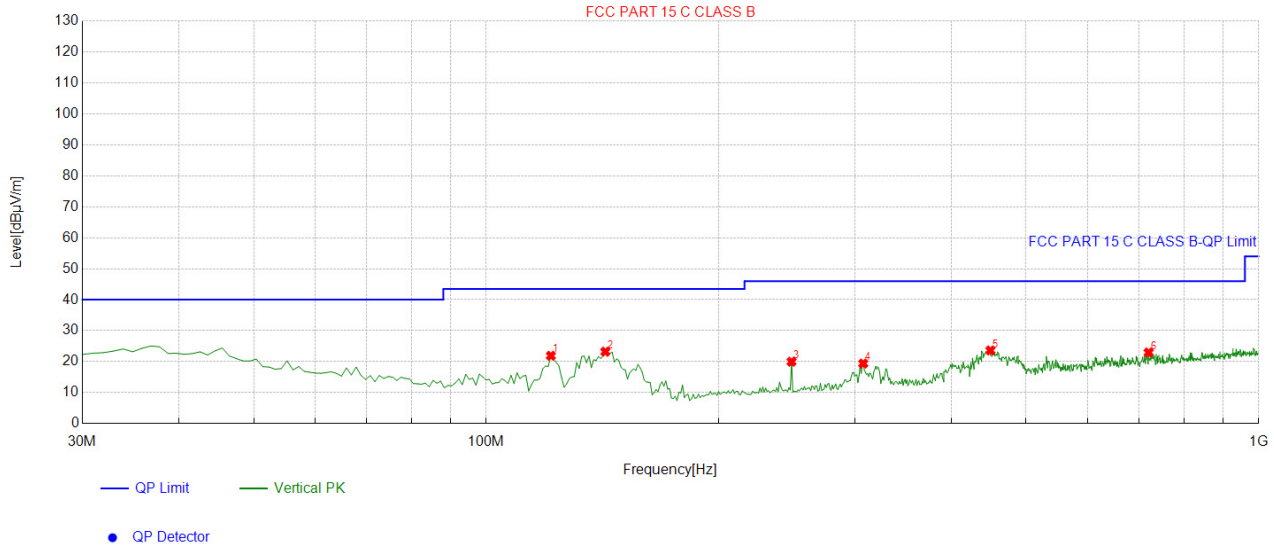
All modes have been tested, only the worst mode of GFSK Low channel TX is reflected.

Antenna polarity: Horizontal

Suspected List									
NO.	Freq. [MHz]	Factor [dB]	Reading [dBµV/m]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	124.184	-17.12	31.86	14.74	43.50	28.76	100	291	Horizontal
2	141.662	-18.38	33.79	15.41	43.50	28.09	100	301	Horizontal
3	248.468	-13.18	35.81	22.63	46.00	23.37	100	9	Horizontal
4	319.349	-11.62	30.90	19.28	46.00	26.72	100	111	Horizontal
5	453.343	-8.82	34.93	26.11	46.00	19.89	100	139	Horizontal
6	756.286	-3.13	27.56	24.43	46.00	21.57	100	322	Horizontal

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Limit – Level

Antenna polarity: Vertical



Suspected List									
NO.	Freq. [MHz]	Factor [dB]	Reading [dBµV/m]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	121.271	-16.49	38.41	21.92	43.50	21.58	100	44	Vertical
2	142.633	-18.41	41.63	23.22	43.50	20.28	100	175	Vertical
3	248.468	-13.18	33.18	20.00	46.00	26.00	100	125	Vertical
4	307.698	-11.88	31.27	19.39	46.00	26.61	100	341	Vertical
5	449.459	-8.80	32.42	23.62	46.00	22.38	100	203	Vertical
6	720.360	-3.96	26.91	22.95	46.00	23.05	100	316	Vertical

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Limit – Level

Harmonics and Spurious Emissions

Frequency Range (9kHz-30MHz)

Frequency (MHz)	Level@3m (dBµV/m)	Limit@3m (dBµV/m)
--	--	--
--	--	--
--	--	--
--	--	--

Note: *1. Emission Level=Reading+ Cable loss+ Antenna factor-Amp factor.*

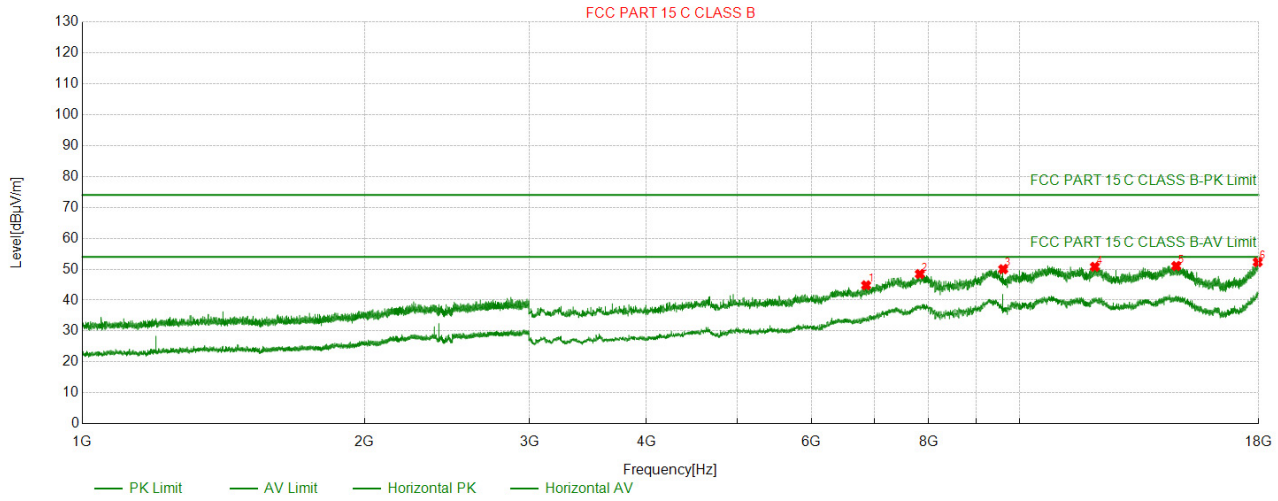
2. The emission levels are 20 dB below the limit value, which are not reported. It is deemed to comply with the requirement.

Above 1GHz Test Results

All modes have been tested, only the worst mode of GFSK Low channel TX is reflected.

For 1GHz to 18GHz

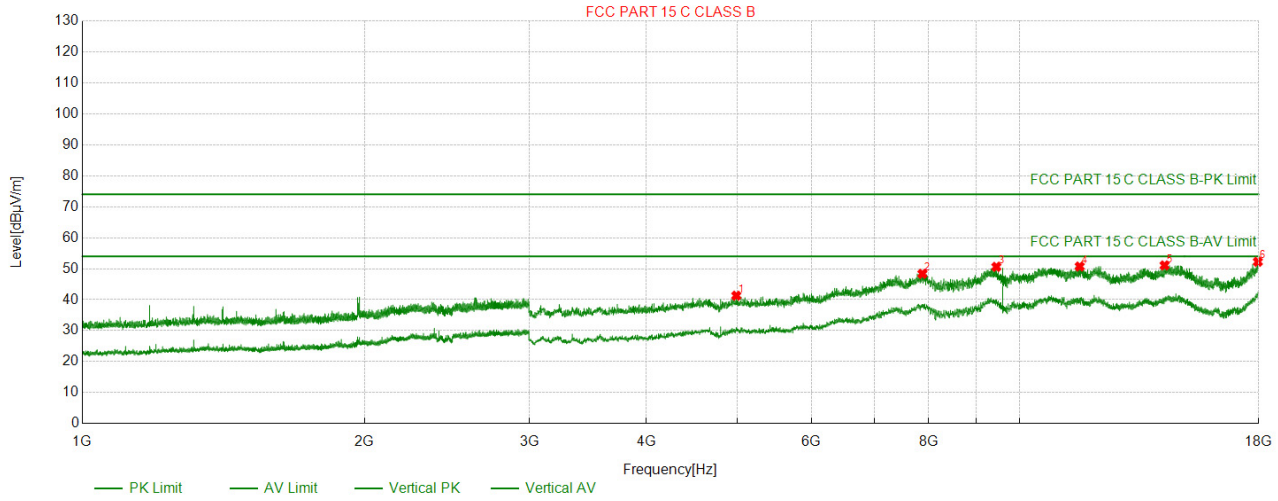
Antenna polarity: Horizontal



Suspected Data List									
NO.	Freq. [MHz]	Reading [dBµV/m]	PK Level [dBµV/m]	Factor [dB]	PK Limit [dBµV/m]	PK Margin [dB]	Height [cm]	Angle [°]	Polarity
1	6861.386	50.77	44.81	-5.96	74.00	29.19	150	60	Horizontal
2	7828.983	51.20	48.44	-2.76	74.00	25.56	150	54	Horizontal
3	9608.161	50.37	50.02	-0.35	74.00	23.98	150	292	Horizontal
4	12035.404	47.79	50.80	3.01	74.00	23.20	150	240	Horizontal
5	14699.670	47.29	51.05	3.76	74.00	22.95	150	184	Horizontal
6	17957.996	45.40	52.28	6.88	74.00	21.72	150	162	Horizontal

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Limit – Level

Antenna polarity: Vertical

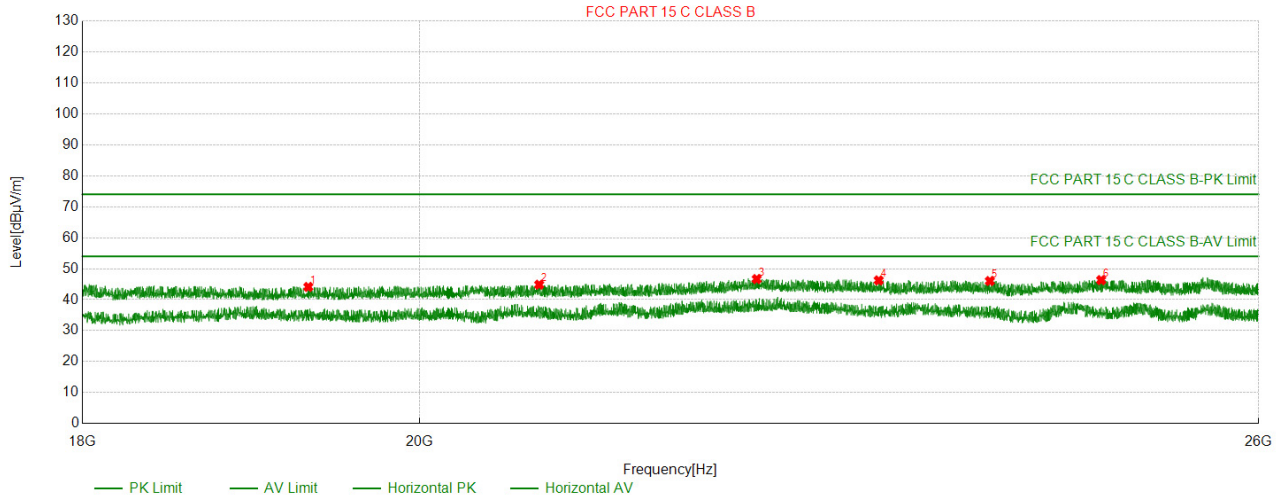


Suspected Data List									
NO.	Freq. [MHz]	Reading [dBµV/m]	PK Level [dBµV/m]	Factor [dB]	PK Limit [dBµV/m]	PK Margin [dB]	Height [cm]	Angle [°]	Polarity
1	4987.699	51.54	41.30	-10.24	74.00	32.70	150	316	Vertical
2	7878.488	50.96	48.36	-2.60	74.00	25.64	150	33	Vertical
3	9449.145	51.30	50.61	-0.69	74.00	23.39	150	351	Vertical
4	11595.860	48.08	50.73	2.65	74.00	23.27	150	240	Vertical
5	14284.128	47.99	51.08	3.09	74.00	22.92	150	27	Vertical
6	17963.996	45.28	52.24	6.96	74.00	21.76	150	85	Vertical

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Limit – Level

For 18GHz to 26GHz

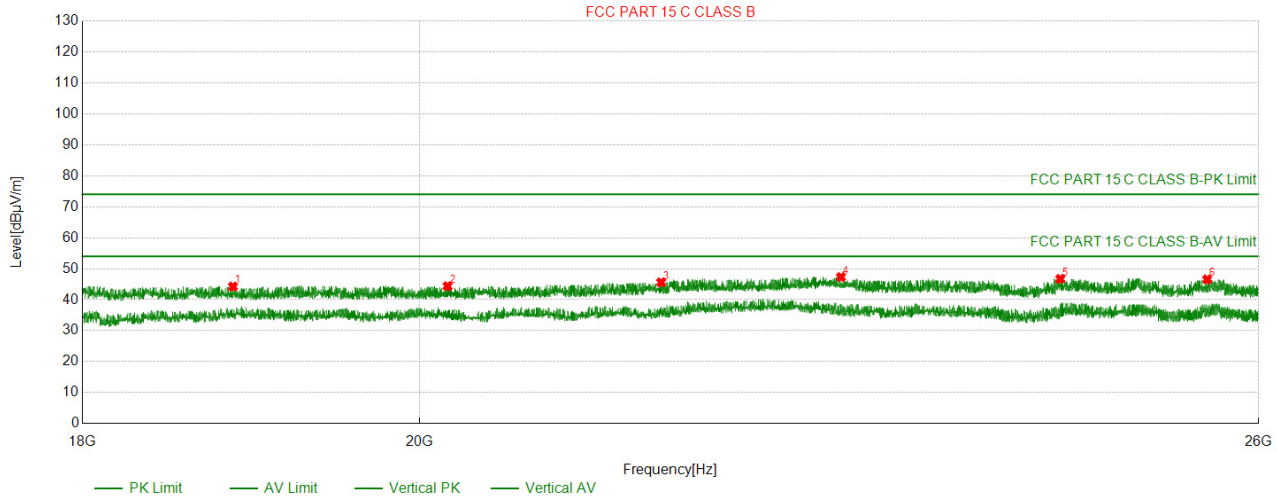
Antenna polarity: Horizontal



Suspected Data List									
NO.	Freq. [MHz]	Reading [dBµV/m]	PK Level [dBµV/m]	Factor [dB]	PK Limit [dBµV/m]	PK Margin [dB]	Height [cm]	Angle [°]	Polarity
1	19317.732	38.11	44.13	6.02	74.00	29.87	150	180	Horizontal
2	20763.476	39.16	44.86	5.70	74.00	29.14	150	100	Horizontal
3	22224.422	40.92	46.66	5.74	74.00	27.34	150	90	Horizontal
4	23088.509	40.65	46.24	5.59	74.00	27.76	150	130	Horizontal
5	23904.590	40.63	46.03	5.40	74.00	27.97	150	190	Horizontal
6	24751.075	40.26	46.33	6.07	74.00	27.67	150	330	Horizontal

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Limit – Level

Antenna polarity: Vertical



Suspected Data List									
NO.	Freq. [MHz]	Reading [dBµV/m]	PK Level [dBµV/m]	Factor [dB]	PK Limit [dBµV/m]	PK Margin [dB]	Height [cm]	Angle [°]	Polarity
1	18868.087	38.66	44.24	5.58	74.00	29.76	150	260	Vertical
2	20177.018	38.27	44.36	6.09	74.00	29.64	150	280	Vertical
3	21569.957	40.24	45.59	5.35	74.00	28.41	150	30	Vertical
4	22817.282	41.77	47.31	5.54	74.00	26.69	150	260	Vertical
5	24436.644	41.05	46.71	5.66	74.00	27.29	150	210	Vertical
6	25584.758	40.31	46.54	6.23	74.00	27.46	150	60	Vertical

Remark: Factor = Cable loss + Antenna factor + Attenuator – Preamplifier; Level = Reading + Factor; Margin = Limit – Level

4.4 Maximum Peak Output Power Measurement

4.4.1 Limit

The Maximum Peak Output Power Measurement is 30dBm.

4.4.2 Test Procedure

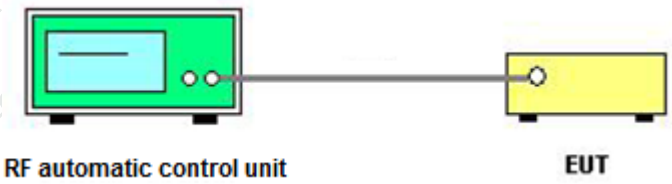
The maximum peak conducted output power may be measured using a broadband peak RF automatic control unit. The RF automatic control unit shall have a video bandwidth that is greater than or equal to the DTS bandwidth and shall utilize a fast-responding diode detector.

The maximum Average conducted output power may be measured using a wideband RF automatic control unit with a thermocouple detector or equivalent. The RF automatic control unit shall have a video bandwidth that is greater than or equal to the DTS bandwidth and shall utilize a fast-responding diode detector.

4.4.3 Deviation from Standard

No deviation.

4.4.4 Test Setup



4.4.5 Test Results

Channel	Channel Frequency (MHz)	Maximum Peak Conducted Output Power (dBm)	Limit (dBm)	Result
CH00	2402	-7.21	30.00	Pass
CH19	2440	-7.84		Pass
CH39	2480	-7.32		Pass

Note: The test results including the cable loss.

4.5 Power Spectral Density

4.5.1 Limit

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8dBm in any 3 kHz band during any time interval of continuous transmission.

4.5.2 Test Procedure

Use this procedure when the maximum peak conducted output power in the fundamental emission is used to demonstrate compliance.

Set the RBW =3 kHz.
Set the VBW =10 KHz.
Set the span to 1.5 times the DTS channel bandwidth.
Detector = peak.
Sweep time = auto couple.
Trace mode = max hold.
Allow trace to fully stabilize.
Use the peak marker function to determine the maximum power level.
If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.
The resulting peak PSD level must be 8dBm.

4.5.3 Deviation from Standard

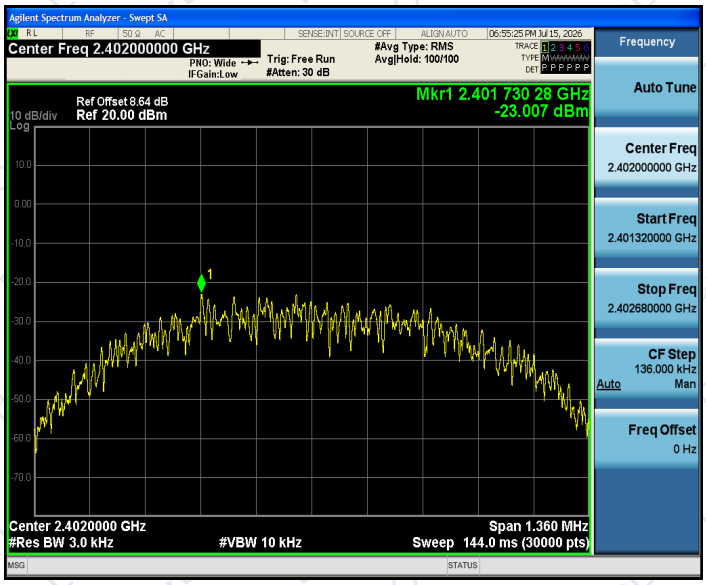
No deviation.

4.5.4 Test Setup

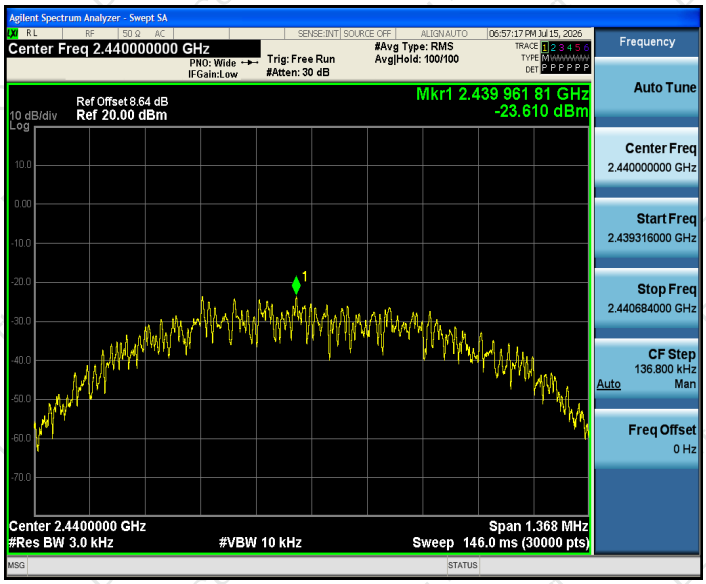
4.5.5 Test Results

Channel	Channel Frequency (MHz)	Test Result (dBm/3kHz)
CH00	2402	-23.01
CH19	2440	-23.61
CH39	2480	-23.00
Limit : 8dBm/3KHz		
Test Result	PASS	

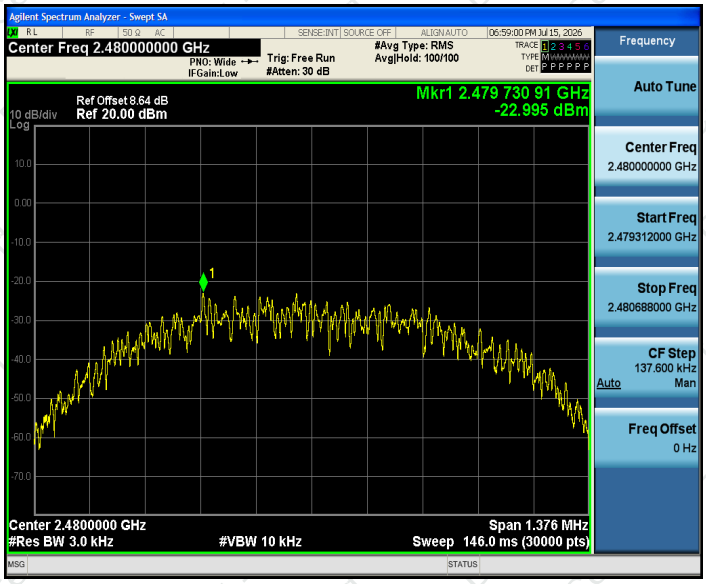
CH00



CH19


Agilent Spectrum Analyzer - Swept SA
Center Freq 2.440000000 GHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 30 dB
#Avg Type: RMS
Avg|Hold: 100/100
06:57:17 PM Jul 15, 2026
Frequency
Ref Offset 8.64 dB
10 dB/div
Ref 20.00 dBm
Log
Mkr1 2.439 961 81 GHz
-23.610 dBm
Auto Tune
Center Freq
2.440000000 GHz
Start Freq
2.439316000 GHz
Stop Freq
2.440684000 GHz
CF Step
136.800 kHz
Auto
Man
Freq Offset
0 Hz
Center 2.4400000 GHz
#Res BW 3.0 kHz
#VBW 10 kHz
Span 1.368 MHz
Sweep 146.0 ms (30000 pts)
MSG
STATUS

CH39


Agilent Spectrum Analyzer - Swept SA
Center Freq 2.480000000 GHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 30 dB
#Avg Type: RMS
Avg|Hold: 100/100
06:59:00 PM Jul 15, 2026
Frequency
Ref Offset 8.64 dB
10 dB/div
Ref 20.00 dBm
Log
Mkr1 2.479 730 91 GHz
-22.995 dBm
Auto Tune
Center Freq
2.480000000 GHz
Start Freq
2.479312000 GHz
Stop Freq
2.480688000 GHz
CF Step
137.600 kHz
Auto
Man
Freq Offset
0 Hz
Center 2.4800000 GHz
#Res BW 3.0 kHz
#VBW 10 kHz
Span 1.376 MHz
Sweep 146.0 ms (30000 pts)
MSG
STATUS

4.6 6dB Bandwidth

4.6.1 Limit

For digital modulation systems, the minimum 6 dB bandwidth shall be at least 500 kHz.

4.6.2 Test Procedure

The transmitter output was connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with RBW=100 KHz and VBW=300 KHz. The 6dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 6dB.

1. Set RBW = 100 kHz.
2. Set the video bandwidth (VBW) ≥ 3 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 6 dB relative to the maximum level measured in the fundamental emission.

4.6.3 Deviation from Standard

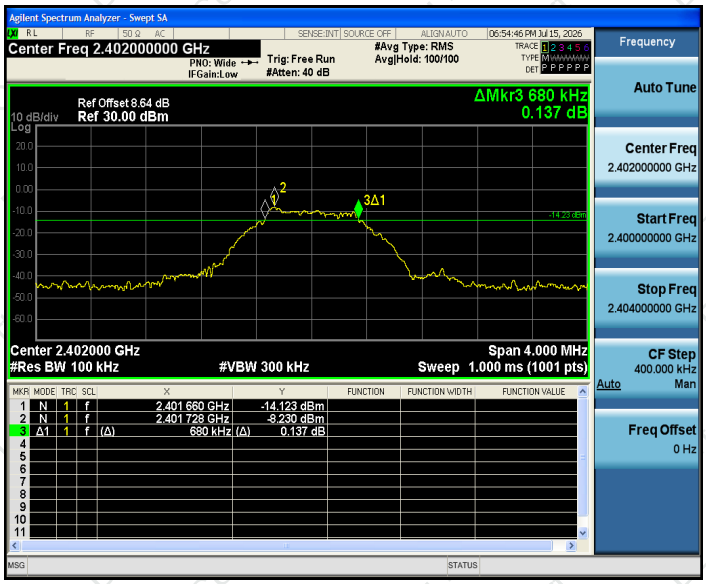
No deviation.

4.6.4 Test Setup

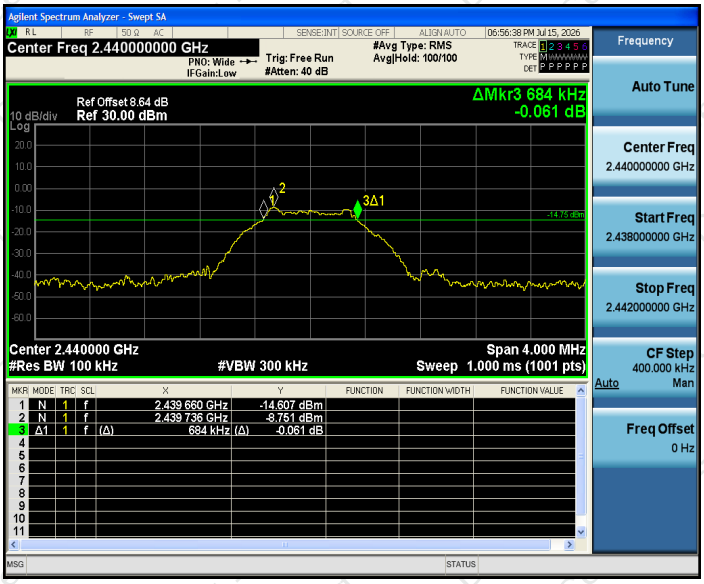
4.6.5 Test Result

Channel	Channel Frequency (MHz)	6dB Bandwidth (MHz)	Limit (KHz)	Result
CH00	2402	0.680	≥500	Pass
CH19	2440	0.684		Pass
CH39	2480	0.688		Pass

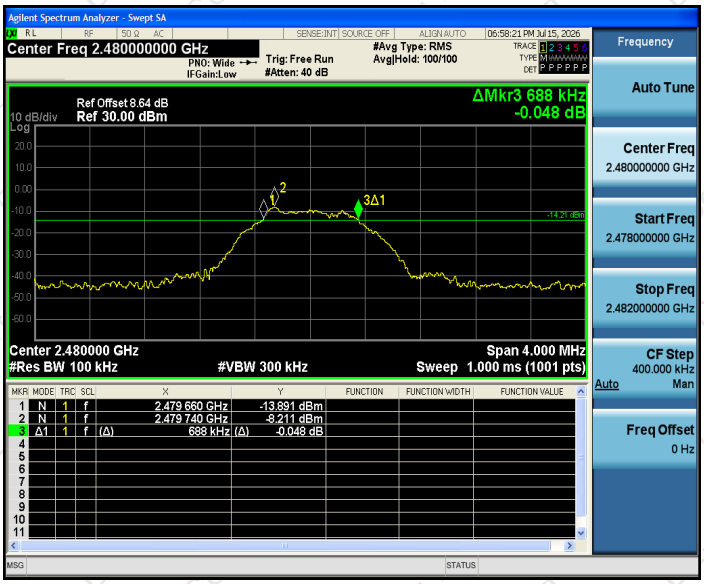
CH00


Agilent Spectrum Analyzer - Swept SA
Center Freq 2.402000000 GHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 40 dB
#Avg Type: RMS
Avg|Hold: 100/100
06:54:46 PM Jul 15, 2026
Frequency
Auto Tune
Ref Offset 8.64 dB
10 dB/div
Ref 30.00 dBm
ΔMkr3 680 kHz
0.137 dB
Center Freq
2.402000000 GHz
Start Freq
2.400000000 GHz
Stop Freq
2.404000000 GHz
CF Step
400.000 kHz
Auto
Man
Freq Offset
0 Hz
Center 2.402000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Span 4.000 MHz
Sweep 1.000 ms (1001 pts)
1 N 1 f 2.401 660 GHz -14.123 dBm
2 N 1 f 2.401 728 GHz -8.230 dBm
3 Δ1 1 f (Δ) 680 kHz (Δ) 0.137 dB
MSG
STATUS

CH19


Agilent Spectrum Analyzer - Swept SA
Center Freq 2.440000000 GHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 40 dB
#Avg Type: RMS
Avg|Hold: 100/100
06:56:38 PM Jul 15, 2026
Frequency
Auto Tune
Ref Offset 8.64 dB
10 dB/div
Ref 30.00 dBm
ΔMkr3 684 kHz
-0.061 dB
Center Freq
2.440000000 GHz
Start Freq
2.438000000 GHz
Stop Freq
2.442000000 GHz
CF Step
400.000 kHz
Auto
Man
Freq Offset
0 Hz
Center 2.440000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Span 4.000 MHz
Sweep 1.000 ms (1001 pts)
1 N 1 f 2.439 660 GHz -14.607 dBm
2 N 1 f 2.439 736 GHz -8.751 dBm
3 Δ1 1 f (Δ) 684 kHz (Δ) -0.061 dB
MSG
STATUS

CH39


Agilent Spectrum Analyzer - Swept SA
Center Freq 2.480000000 GHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 40 dB
#Avg Type: RMS
Avg|Hold: 100/100
06:58:21 PM Jul 15, 2026
Frequency
Ref Offset 8.64 dB
10 dB/div
Log
Ref 30.00 dBm
ΔMkr3 688 kHz
-0.048 dB
Center 2.480000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Span 4.000 MHz
Sweep 1.000 ms (1001 pts)
1 N 1 f 2.479 660 GHz -13.891 dBm
2 N 1 f 2.479 740 GHz -8.211 dBm
3 Δ1 1 f (Δ) 688 kHz (Δ) -0.048 dB
Auto Tune
Center Freq
2.480000000 GHz
Start Freq
2.478000000 GHz
Stop Freq
2.482000000 GHz
CF Step
400.000 kHz
Auto
Man
Freq Offset
0 Hz
MSG
STATUS

4.7 Occupied Bandwidth

4.7.1 Test Procedure

The occupied bandwidth is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers are each equal to 0.5% of the total mean power of the given emission. The following procedure shall be used for measuring 99% power bandwidth:

RBW=1% to 5% of the OBW

VBW=approximately 3 X RBW

Detector=Peak

Trace Mode: Max Hold

Use the 99% power bandwidth function of the instrument to measure the Occupied Bandwidth and recorded.

4.7.2 Deviation from Standard

No deviation.

4.7.3 Test Setup

4.7.4 Test Result

N/A

4.8 Band Edge

4.8.1 Limit

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated device is operating, the RF power that is produced 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, provided that the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of root-mean-square averaging over a time interval, as permitted under FCC rules in section 5.8.1, the attenuation required shall be 30 dB instead of 20 dB.

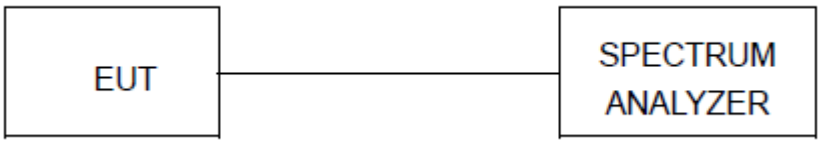
4.8.2 Test Procedure

a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
b. Span = wide enough to capture the peak level of the emission operating on the channel closest to the band edge, as well as any modulation products which fall outside of the authorized band of operation, RBW ≥ 1% of the span, VBW ≥ RBW, Sweep = auto, Detector function = peak, Trace = max hold.

4.8.3 Deviation from Standard

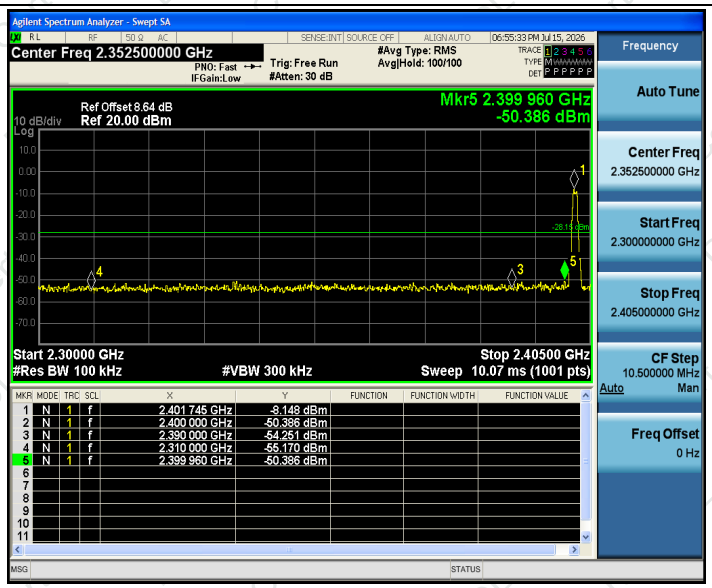
No deviation.

4.8.4 Test Setup

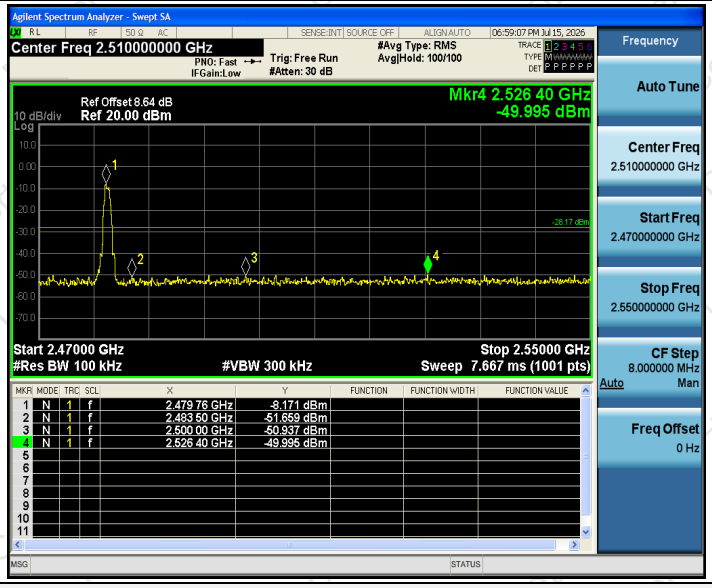


4.8.5 Test Results

PASS



CH00



CH39

4.9 Conducted Spurious Emissions

4.9.1 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, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.

For below 30MHz, For 9KHz-150kHz,150K-10MHz, We use the RBW 1KHz,10KHz, So the limit need to calculated by “10lg(BW1/BW2)“. For example For 9KHz-150kHz, RBW 1KHz, The Limit = the highest emission level-20-10log(100/1) = the highest emission level-40.

4.9.2 Test Procedure

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

b. Span = wide enough to capture the peak level of the emission operating on the channel closest to the band edge, as well as any modulation products which fall outside of the authorized band of operation, RBW ≥ 1% of the span, VBW ≥ RBW, Sweep = auto, Detector function = peak, Trace = max hold.

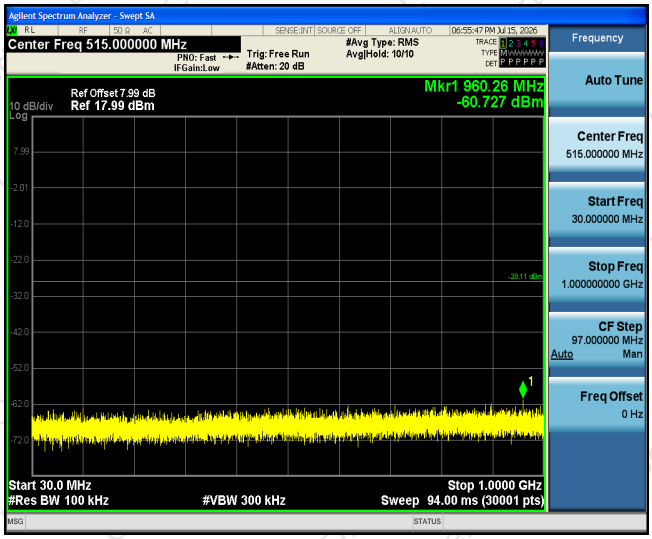
4.9.3 Deviation from Standard

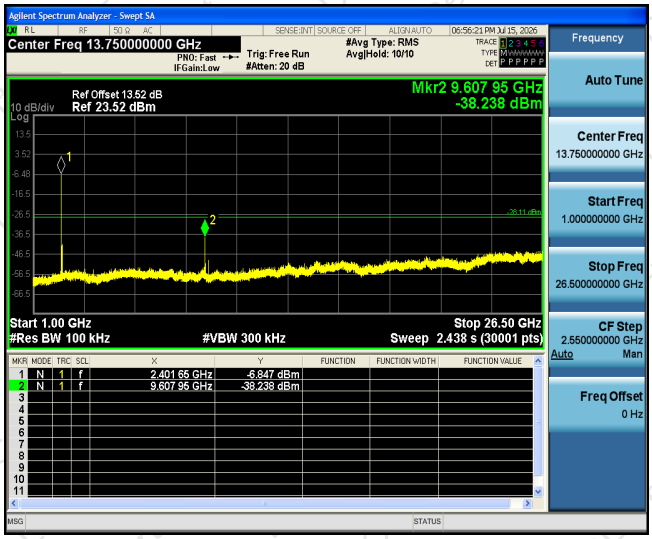
No deviation.

4.9.4 Test Setup

4.9.5 Test Results

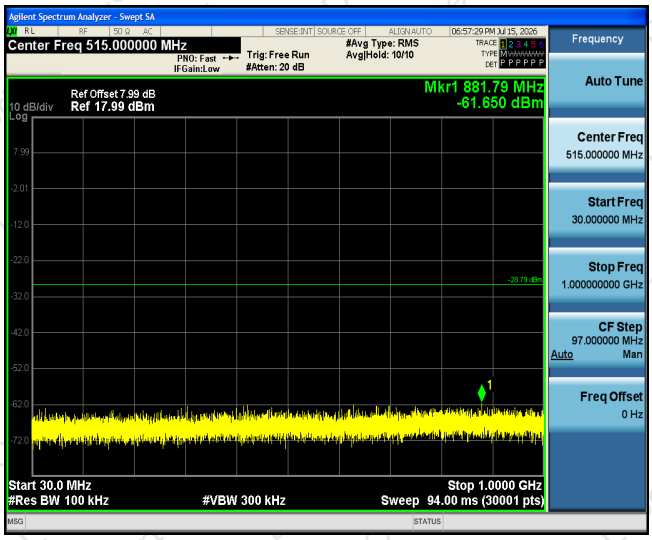
CH00

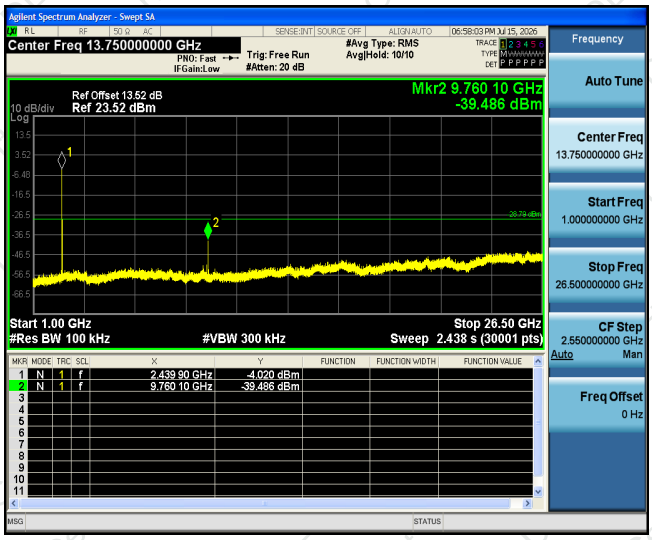




CH19

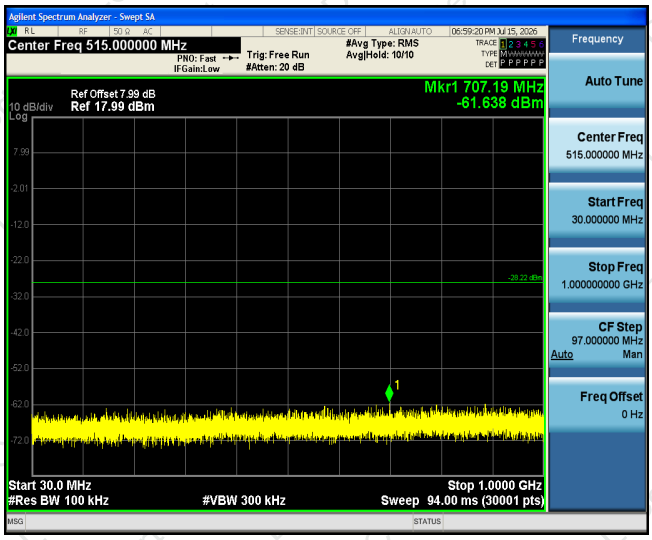
Agilent Spectrum Analyzer - Swept SA
Center Freq 2.440000000 GHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 30 dB
#Avg Type: RMS
Avg|Hold: 100/100
Ref Offset 8.64 dB
10 dB/div
Ref 28.64 dBm
Mkr1 2.439 736 GHz
-8.794 dBm
Center 2.440000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Span 3.000 MHz
Sweep 1.000 ms (1001 pts)
Frequency
Auto Tune
Center Freq
2.440000000 GHz
Start Freq
2.438500000 GHz
Stop Freq
2.441500000 GHz
CF Step
300.000 kHz
Auto
Man
Freq Offset
0 Hz

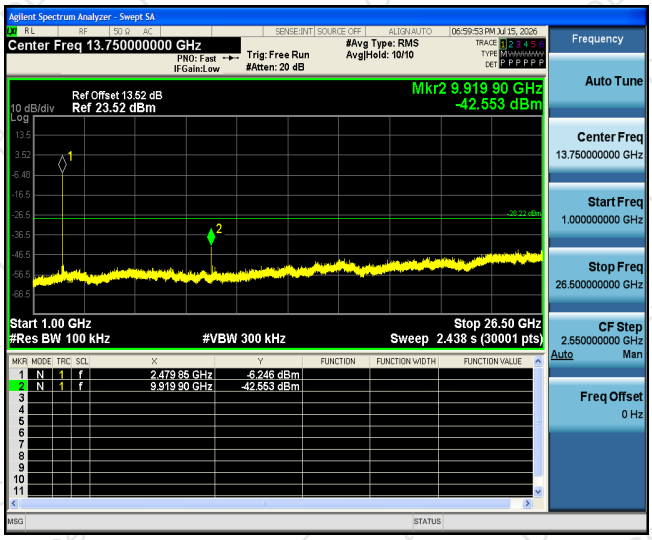

Agilent Spectrum Analyzer - Swept SA
Center Freq 515.000000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 20 dB
#Avg Type: RMS
Avg|Hold: 10/10
Ref Offset 7.99 dB
10 dB/div
Ref 17.99 dBm
Mkr1 881.79 MHz
-61.650 dBm
Start 30.0 MHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 1.0000 GHz
Sweep 94.00 ms (30001 pts)
Frequency
Auto Tune
Center Freq
515.000000 MHz
Start Freq
30.000000 MHz
Stop Freq
1.000000000 GHz
CF Step
97.000000 MHz
Auto
Man
Freq Offset
0 Hz


Agilent Spectrum Analyzer - Swept SA
Center Freq 13.750000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 20 dB
#Avg Type: RMS
Avg|Hold: 10/10
Ref Offset 13.52 dB
10 dB/div
Ref 23.52 dBm
Mkr2 9.760 10 GHz
-39.486 dBm
Start 1.00 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 26.50 GHz
Sweep 2.438 s (30001 pts)
1 N 1 f 2.439 90 GHz -4.020 dBm
2 N 1 f 9.760 10 GHz -39.486 dBm
Frequency
Auto Tune
Center Freq
13.750000000 GHz
Start Freq
1.000000000 GHz
Stop Freq
26.500000000 GHz
CF Step
2.550000000 GHz
Auto
Man
Freq Offset
0 Hz

CH39

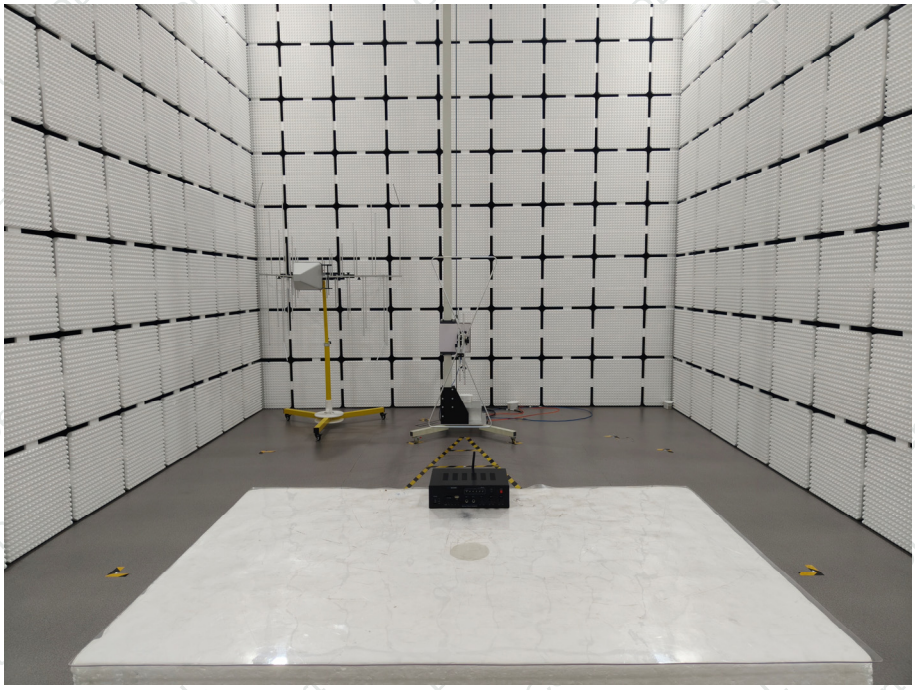
Agilent Spectrum Analyzer - Swept SA
Center Freq 2.480000000 GHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 30 dB
#Avg Type: RMS
Avg|Hold: 100/100
06:59:13 PM Jul 15, 2026
Frequency
Ref Offset 8.64 dB
10 dB/div
Ref 28.64 dBm
Log
Mkr1 2.479 736 GHz
-8.216 dBm
Auto Tune
Center Freq
2.480000000 GHz
Start Freq
2.478500000 GHz
Stop Freq
2.481500000 GHz
CF Step
300.000 kHz
Auto
Man
Freq Offset
0 Hz
Center 2.480000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Span 3.000 MHz
Sweep 1.000 ms (1001 pts)
MSG
STATUS


Agilent Spectrum Analyzer - Swept SA
Center Freq 515.000000 MHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 20 dB
#Avg Type: RMS
Avg|Hold: 10/10
06:59:20 PM Jul 15, 2026
Frequency
Ref Offset 7.99 dB
10 dB/div
Ref 17.99 dBm
Log
Mkr1 707.19 MHz
-61.638 dBm
Auto Tune
Center Freq
515.000000 MHz
Start Freq
30.000000 MHz
Stop Freq
1.000000000 GHz
CF Step
97.000000 MHz
Auto
Man
Freq Offset
0 Hz
Start 30.0 MHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 1.0000 GHz
Sweep 94.00 ms (30001 pts)
MSG
STATUS


Agilent Spectrum Analyzer - Swept SA
Center Freq 13.750000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 20 dB
#Avg Type: RMS
Avg|Hold: 10/10
06:59:53 PM Jul 15, 2026
Frequency
Ref Offset 13.52 dB
10 dB/div
Ref 23.52 dBm
Log
Mkr2 9.919 90 GHz
-42.553 dBm
Auto Tune
Center Freq
13.750000000 GHz
Start Freq
1.000000000 GHz
Stop Freq
26.500000000 GHz
CF Step
2.550000000 GHz
Auto
Man
Freq Offset
0 Hz
Start 1.00 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 26.50 GHz
Sweep 2.438 s (30001 pts)
1 N 1 f 2.479 85 GHz -6.246 dBm
2 N 1 f 9.919 90 GHz -42.553 dBm
MSG
STATUS

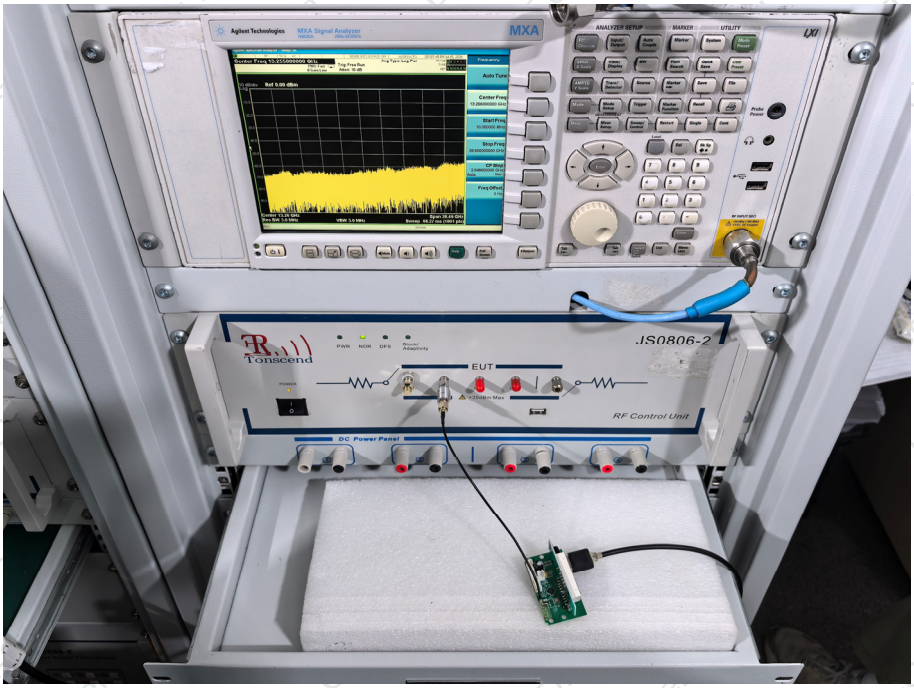
5 Test Setup Photos of the EUT

Radiated Emission



AC Conducted Emission

RF Conducted Emission



6 Photos of the EUT

Reference to the report: ANNEX A of external photos and ANNEX B of internal photos.

---------End of test report---------