FCC Test Report

Test Report

On Behalf of

Shenzhen Silver Home Innovation Tech Co.,Ltd.

For

Robotic Pool Cleaner

Model No.: Y5T, series models see page 7

FCC ID: 2BURL-Y5T

Prepared For:	**Shenzhen Silver Home Innovation Tech Co.,Ltd.** **6th Floor, Building 1, Area 67, Liuxian 2nd Road, Bao'an District, Shenzhen, Guangdong, China**
Prepared By:	**Shenzhen HUAK Testing Technology Co., Ltd.** **1-2/F., Building B2, Junfeng Zhongcheng Zhizao Innovation Park, Heping, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China**
Date of Test:	**Dec. 17, 2025 ~ Jan. 13, 2026**
Date of Report:	**Jan. 13, 2026**
Report Number:	**HK2512176562-E**

Test Result Certification

Applicant's Name	:	Shenzhen Silver Home Innovation Tech Co.,Ltd.
Address	:	6th Floor, Building 1, Area 67, Liuxian 2nd Road, Bao'an District, Shenzhen, Guangdong, China
Manufacturer's Name	:	Shenzhen Silver Home Innovation Tech Co.,Ltd.
Address	:	6th Floor, Building 1, Area 67, Liuxian 2nd Road, Bao'an District, Shenzhen, Guangdong, China
Product Description		
Trade Mark	:	N/A
Product Name	:	Robotic Pool Cleaner
Model and/or Type Reference	:	Y5T, series models see page 7
Standards	:	**47 CFR FCC Part 15 Subpart C 15.247** **KDB 558074 D01 15.247 Meas Guidance v05r02** **ANSI C63.10: 2020**

Date of Test	:	
Date (s) of Performance of Tests	:	**Dec. 17, 2025 ~ Jan. 13, 2026**
Date of Issue	:	**Jan. 13, 2026**
Test Result	:	**Pass**

Testing Engineer Len Liao

Len Liao

Technical Manager Sliver Wan

Sliver Wan

Authorized Signatory Jason Zhou

Jason Zhou

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** Issued History **

Revision	Description	Issued Date	Remark
Revision 1.0	Initial Test Report Release	Jan. 13, 2026	Jason Zhou

1 Test Summary

1.1 Test Description

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	MU
1	Conducted Emission 0.15~30MHz	±2.71dB
2	All Emissions, Radiated(<1G)	±3.90dB
3	All Emissions, Radiated(>1G)	±4.28dB
4	Transmitter Power Conducted	±0.37dB
5	Conducted Spurious Emission	±2.20dB
6	Occupied Bandwidth	±1.5%
7	Temperature	±0.1°C
8	Humidity	±1.0%

1.3 Information of the Test Laboratory

Shenzhen HUAK Testing Technology Co., Ltd.
Add.: 1-2/F., Building B2, Junfeng Zhongcheng Zhizao Innovation Park, Heping, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China

2 General Information

2.1 General Description of EUT

EUT Name:	Robotic Pool Cleaner
Model No:	Y5T
Series Model:	Y5, Y5 SE, Y5 Pro, Y5 Plus, Y5A, Y5B, Y5C, Y5D, Y50, Y50 Plus, Y50 Pro, Y50A, Y50B, Y50C, Y50P, Y50S, Y50T, Y50S Pro, Y5T SE, Y5T Pro, Y5T Ultra, Y5T Lite, Y5T Smart, H2, H2A, H2B, H2C, H2S, H2T, H2 Pro, W10, W10 Pro, W10S, W10T, U8A, U8B, U8C, U8P, U8S, U8T, U8S Pro, U8T Pro, C5, T5, X5, P5, K5
Model Difference:	All model's the function, software and electric circuit are the same, only with product model named different. Test sample model: Y5T.
Trade Mark:	N/A
Operation Frequency:	2402 MHz to 2480 MHz
Channel Separation:	2MHz
Number of Channel:	40
Modulation Technology:	GFSK
Hardware Version:	V3.0
Software Version:	V3.0
Antenna Type:	PCB Antenna
Antenna Gain:	2.5dBi
Power Supply:	DC 29.4V, 1A from adapter with AC100-240V, 50/60Hz 0.8A or DC 25.2V from battery
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 button battery, 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.

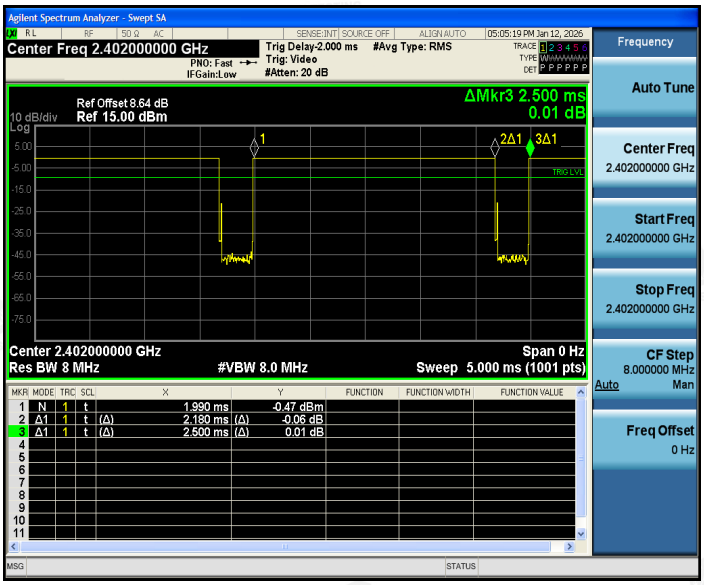
(2) Frequency range of radiated measurements:
The test range will be up to the tenth harmonic of the highest fundamental frequency.

(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.

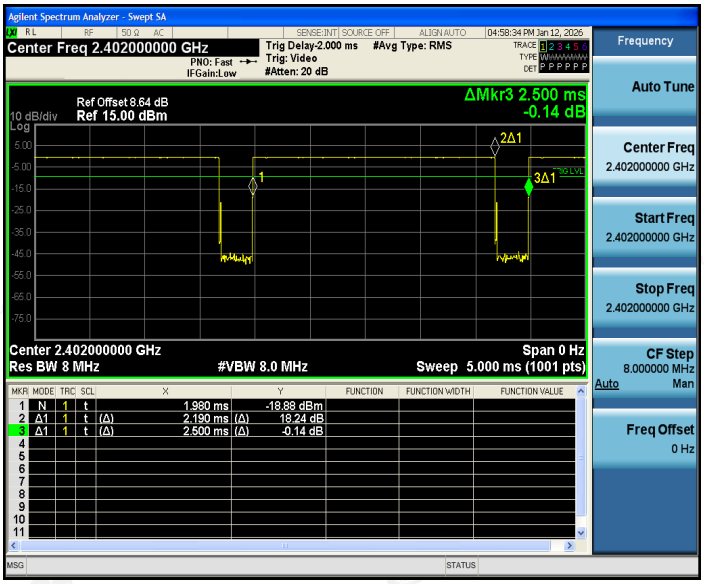
(4) Mode Test Duty Cycle

Mode	Duty Cycle
BT-LE(1Mbps)	0.872
BT-LE(2Mbps)	0.876

1M

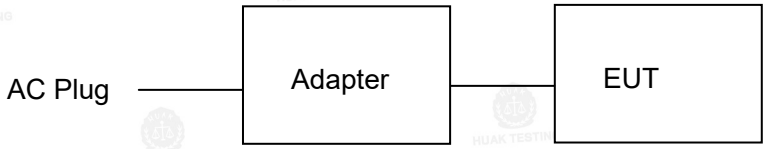


2M



2.3 Description of Test Setup

Operation of EUT during AC Conducted testing and below 1GHz Radiation testing:



Operation of EUT during above1GHz 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 emissions worst-case are shown in Test Results of the following pages. 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	Robotic Pool Cleaner	N/A	Y5T	N/A	EUT
3	Adapter	N/A	SC24H-294100U	Input: AC100-240V, 50/60Hz, 0.8A Output: DC29.4V/1A	

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.

3 Equipments List for All Test Items

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	L.I.S.N.	R&S	ENV216	HKE-002	2025/02/19	1 Year
2	L.I.S.N.	R&S	ENV216	HKE-059	2025/02/19	1 Year
3	EMI Test Receiver	R&S	ESR	HKE-005	2025/02/19	1 Year
4	Spectrum analyzer	Agilent	N9020A	HKE-025	2025/02/19	1 Year
5	Spectrum analyzer	Agilent	N9020A	HKE-117	2025/02/19	1 Year
6	Spectrum analyzer	R&S	FSV3044	HKE-126	2025/02/19	1 Year
7	Preamplifier	EMCI	EMC051845S	HKE-006	2025/02/19	1 Year
8	Preamplifier	Schwarzbeck	BBV 9743	HKE-016	2025/02/19	1 Year
9	Preamplifier	A.H. Systems	SAS-574	HKE-182	2025/02/19	1 Year
10	6dB Attenuator	Pasternack	6db	HKE-184	2025/02/19	1 Year
11	EMI Test Receiver	Rohde&Schwarz	ESR-7	HKE-010	2025/02/19	1 Year
12	Broadband Antenna	Schwarzbeck	VULB9168	HKE-167	2024/02/21	2 Year
13	Loop Antenna	COM-POWER	AL-130R	HKE-014	2024/02/21	2 Year
14	Horn Antenna	Schwarzbeck	9120D	HKE-013	2024/02/21	2 Year
15	EMI Test Software	Tonscend	JS32-CE 2.5.0.6	HKE-081	/	/
16	EMI Test Software	Tonscend	JS32-RE 5.0.0	HKE-082	/	/
17	RF Automatic control unit	Tonscend	JS0806-2	HKE-060	2025/02/19	1 Year
18	High pass filter unit	Tonscend	JS0806-F	HKE-055	2025/02/19	1 Year
19	Wireless Communication Test Set	R&S	CMU200	HKE-026	2025/02/19	1 Year
20	Wireless Communication Test Set	R&S	CMW500	HKE-027	2025/02/19	1 Year
21	High-low temperature chamber	Guangke	HT-80L	HKE-118	2025/06/09	1 Year
22	Temperature and humidity meter	Boyang	HTC-1	HKE-075	2025/06/09	1 Year
23	RF Test Software	Tonscend	JS1120-3 Version 3.5.39	HKE-083	/	/
24	10dB Attenuator	Schwarzbeck	VTSD9561F	HKE-153	2025/02/19	1 Year
25	RSE Test Software	Tonscend	JS36-RSE 5.0.0	HKE-184	/	/

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.

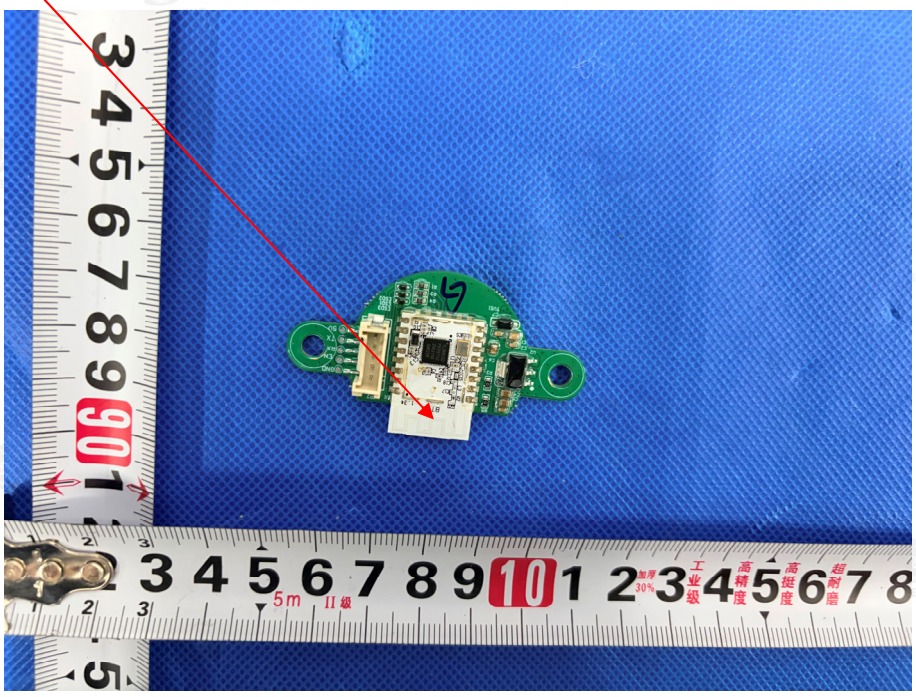
Refer to statement below for compliance.

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 a PCB Antenna, is a permanently attached antenna on the PCB. It conforms to the standard requirements. The directional gains of antenna used for transmitting is 2.5dBi.

4.1.2 EUT Antenna



4.2 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:

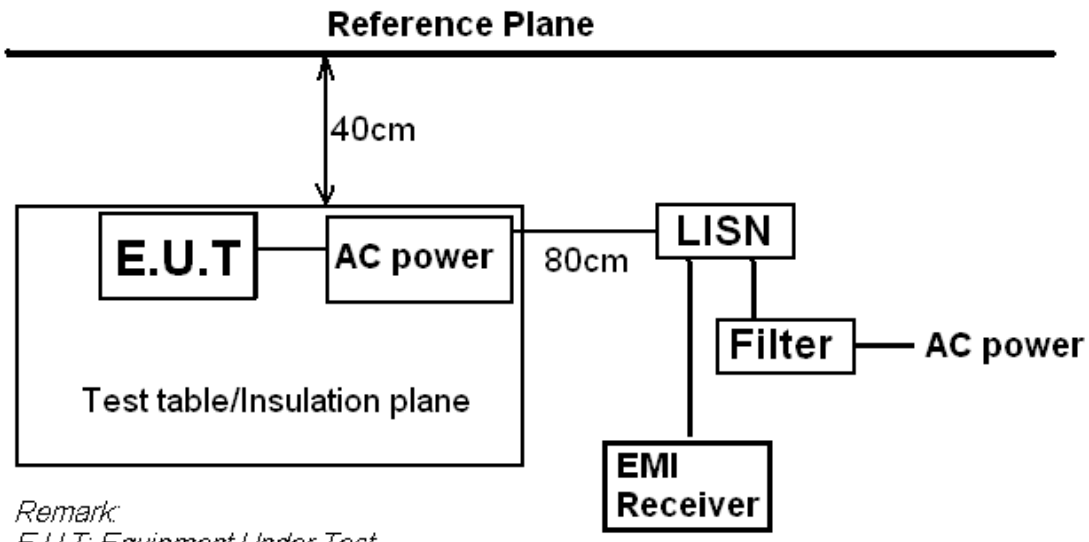
Frequency range (MHz)	Limit (dBuV)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

* 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: 2020.
2. Support equipment, if needed, was placed as per ANSI C63.10: 2020.
3. All I/O cables were positioned to simulate typical actual usage as per ANSI C63.10: 2020.
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

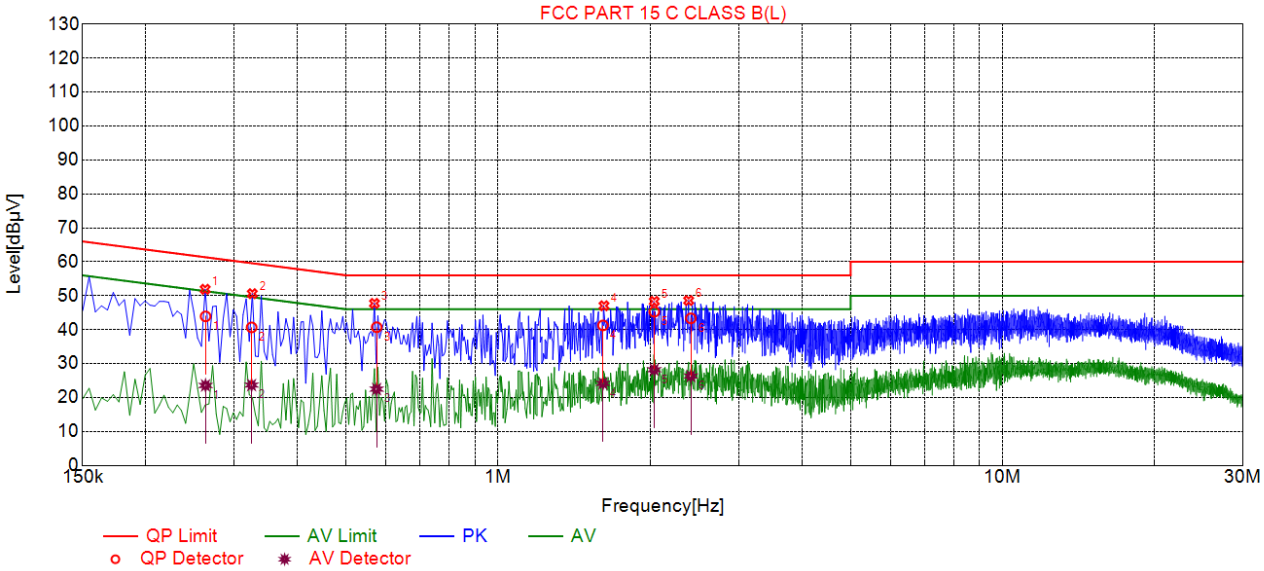


Remark:
E.U.T: Equipment Under Test
LISN: Line Impedence Stabilization Network
Test table height=0.8m

4.2.4 Test Results

All modes have been tested, 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	0.2625	51.90	19.83	61.35	9.45	32.07	PK	L
2	0.3255	50.61	19.85	59.57	8.96	30.76	PK	L
3	0.5685	47.75	19.79	56.00	8.25	27.96	PK	L
4	1.6215	47.04	20.00	56.00	8.96	27.04	PK	L
5	2.0400	48.34	20.15	56.00	7.66	28.19	PK	L
6	2.3865	48.58	20.20	56.00	7.42	28.38	PK	L

Final Data List

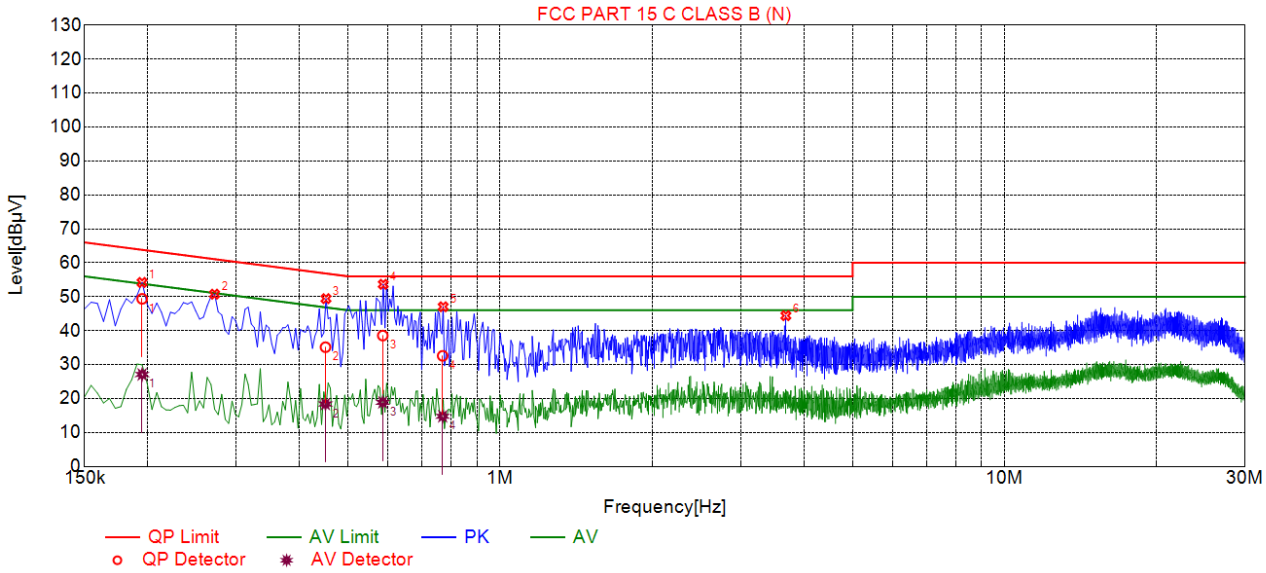
NO.	Freq. [MHz]	Correction factor[dB]	QP Value [dBµV]	QP Limit [dBµV]	QP Margin [dB]	QP Reading [dBµV]	AV Value [dBµV]	AV Limit [dBµV]	AV Margin [dB]	AV Reading [dBµV]	Type
1	0.2629	19.83	43.92	61.34	17.42	24.09	23.56	51.34	27.78	3.73	L
2	0.3244	19.85	40.67	59.59	18.92	20.82	23.68	49.59	25.91	3.83	L
3	0.5742	19.78	40.73	56.00	15.27	20.95	22.49	46.00	23.51	2.71	L
4	1.6138	19.99	41.27	56.00	14.73	21.28	24.18	46.00	21.82	4.19	L
5	2.0397	20.15	45.28	56.00	10.72	25.13	28.19	46.00	17.81	8.04	L
6	2.4103	20.20	43.35	56.00	12.65	23.15	26.33	46.00	19.67	6.13	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	0.1950	54.20	19.63	63.82	9.62	34.57	PK	N
2	0.2715	50.76	19.66	61.07	10.31	31.10	PK	N
3	0.4515	49.44	19.72	56.85	7.41	29.72	PK	N
4	0.5865	53.67	19.75	56.00	2.33	33.92	PK	N
5	0.7710	47.04	19.75	56.00	8.96	27.29	PK	N
6	3.6870	44.42	20.13	56.00	11.58	24.29	PK	N

Final Data List

NO.	Freq. [MHz]	Correction factor[dB]	QP Value [dBµV]	QP Limit [dBµV]	QP Margin [dB]	QP Reading [dBµV]	AV Value [dBµV]	AV Limit [dBµV]	AV Margin [dB]	AV Reading [dBµV]	Type
1	0.1950	19.63	49.39	63.82	14.43	29.76	27.10	53.82	26.72	7.47	N
2	0.4504	19.72	35.14	56.87	21.73	15.42	18.39	46.87	28.48	-1.33	N
3	0.5850	19.75	38.56	56.00	17.44	18.81	18.88	46.00	27.12	-0.87	N
4	0.7691	19.75	32.59	56.00	23.41	12.84	14.77	46.00	31.23	-4.98	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.

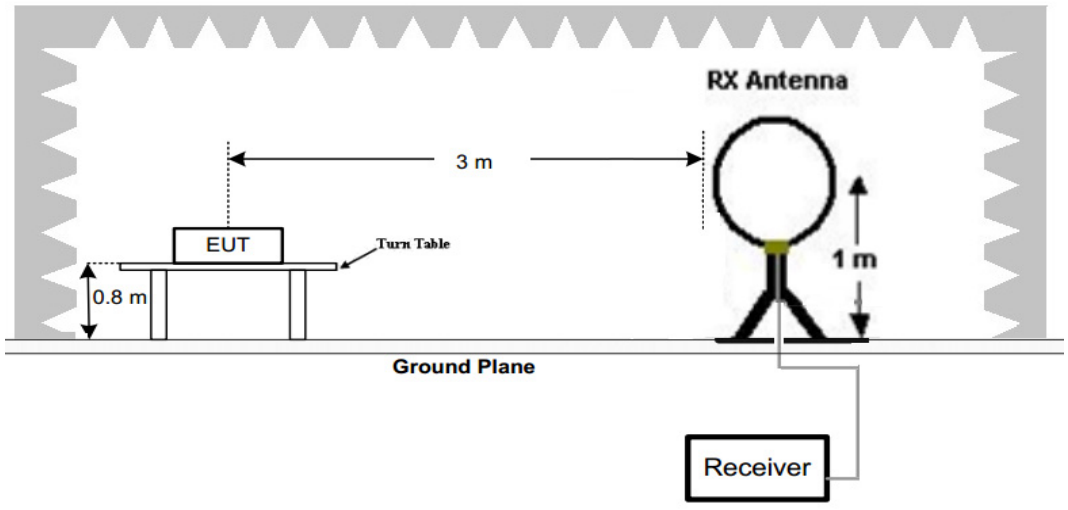
Radiated emission limits

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

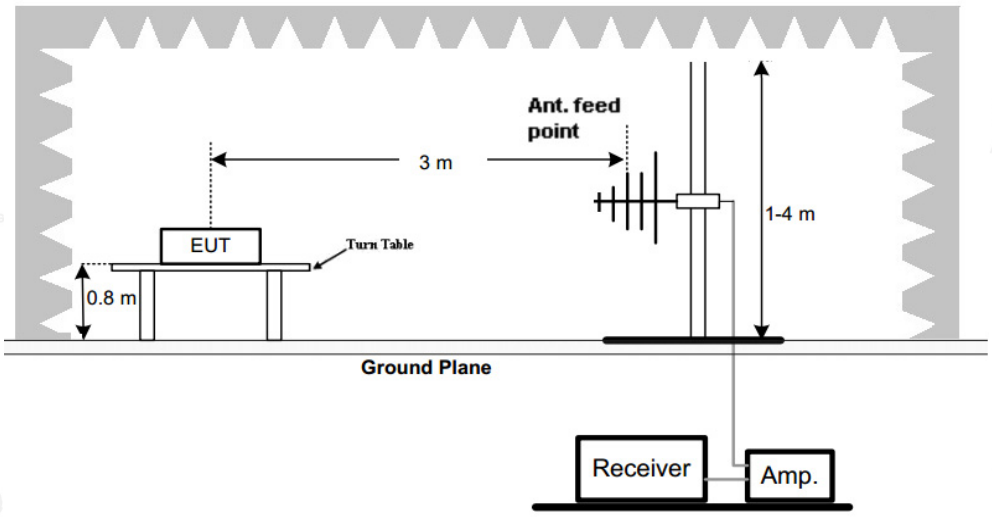
4.3.2 Test Setup

Test Configuration:

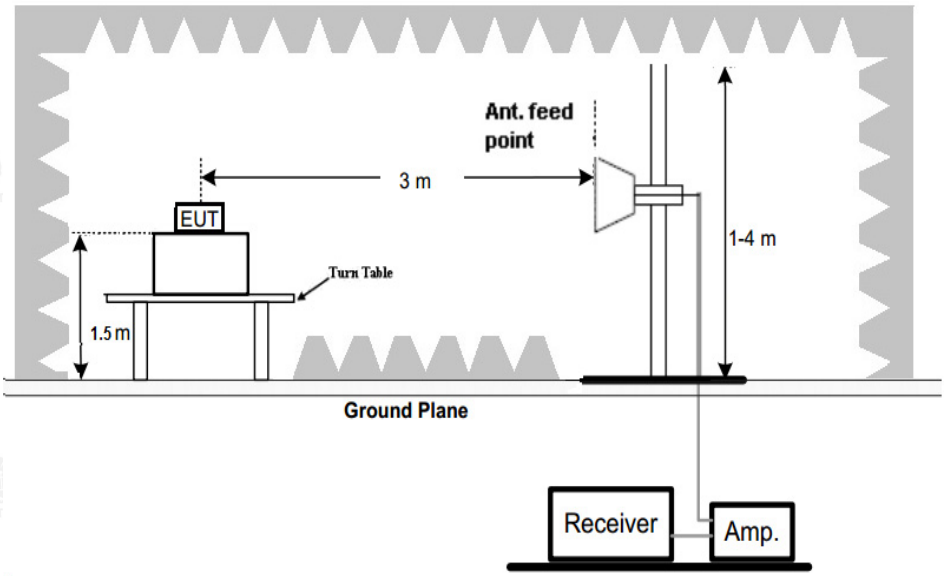
1) 9 kHz to 30 MHz emissions:



2) 30 MHz to 1 GHz emissions:



3) 1 GHz to 26 GHz emissions:



Test Procedure

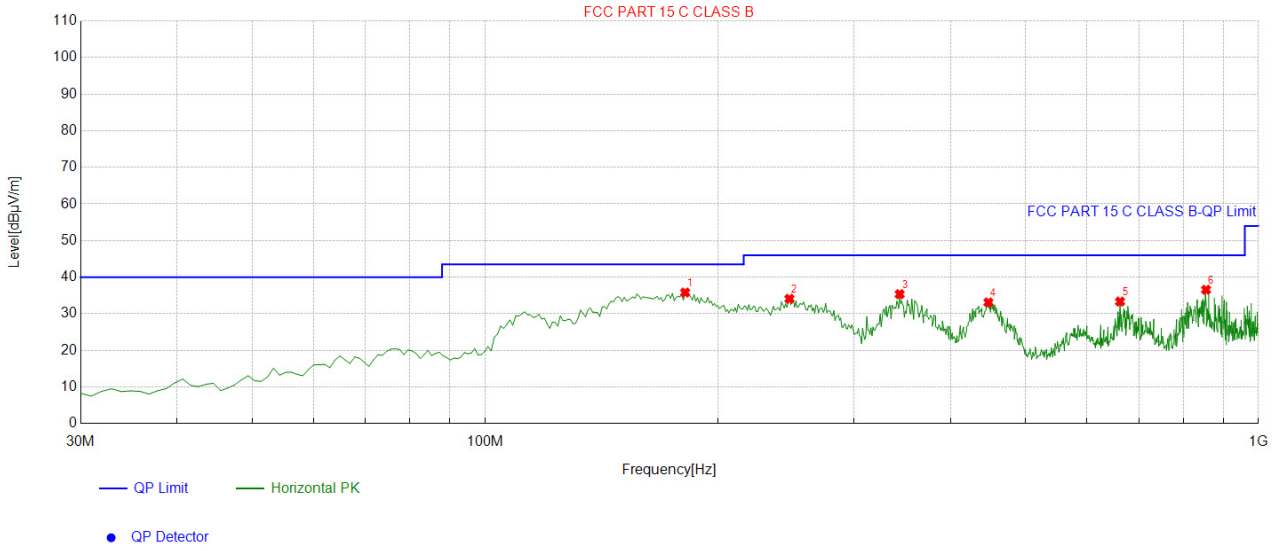
1. The EUT was placed on turn table which is 0.8m above ground plane for below 1GHz test, and on a low permittivity and low loss tangent turn table which is 1.5m above ground plane for above 1GHz test.
2. Maximum procedure was performed by raising the receiving antenna from 1m to 4m and rotating the 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.

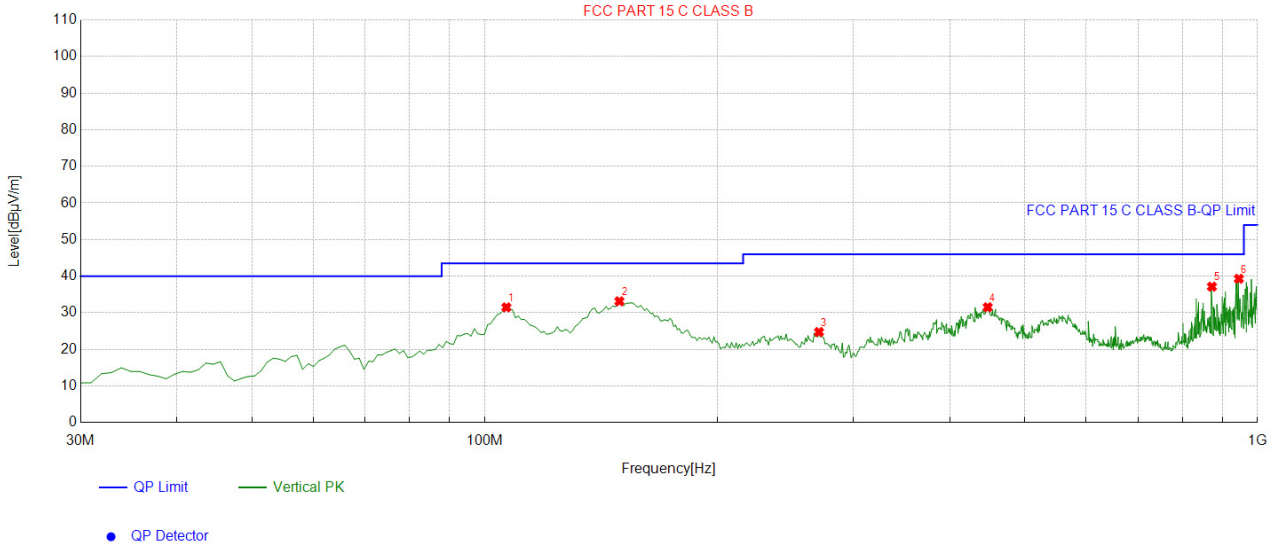
Antenna polarity: H



Suspected List									
NO.	Freq. [MHz]	Factor [dB]	Reading [dBµV/m]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	181.4715	-16.13	51.94	35.81	43.50	7.69	100	92	Horizontal
2	247.4975	-13.31	47.40	34.09	46.00	11.91	100	96	Horizontal
3	343.6236	-10.19	45.55	35.36	46.00	10.64	100	275	Horizontal
4	447.5175	-8.72	41.83	33.11	46.00	12.89	100	254	Horizontal
5	662.1021	-4.77	38.10	33.33	46.00	12.67	100	214	Horizontal
6	855.3253	-1.80	38.36	36.56	46.00	9.44	100	52	Horizontal

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

Antenna polarity: V



Suspected List									
NO.	Freq. [MHz]	Factor [dB]	Reading [dBµV/m]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	106.7067	-14.49	45.97	31.48	43.50	12.02	100	41	Vertical
2	149.4294	-18.08	51.22	33.14	43.50	10.36	100	279	Vertical
3	270.8008	-12.52	37.26	24.74	46.00	21.26	100	95	Vertical
4	447.5175	-8.72	40.25	31.53	46.00	14.47	100	150	Vertical
5	872.8028	-1.71	38.85	37.14	46.00	8.86	100	268	Vertical
6	945.6256	-0.53	39.83	39.30	46.00	6.70	100	44	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.*

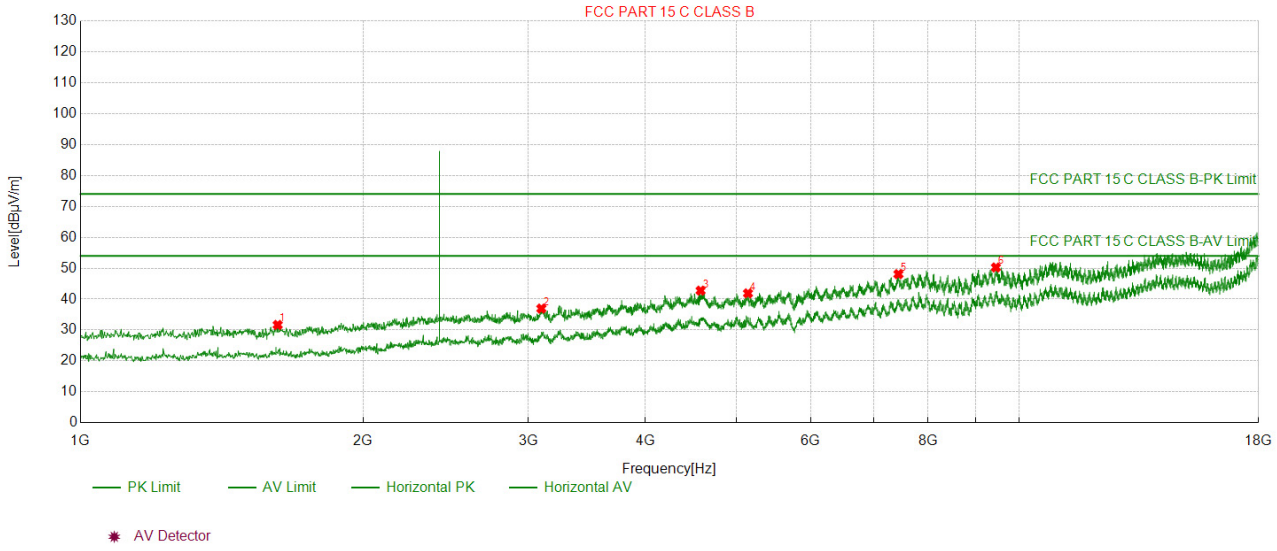
2. The emission levels are 20 dB below the limit value, which are not reported. It is deemed to comply with the requirement.

Above 1GHz Test Results

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

For 1GHz to 18GHz

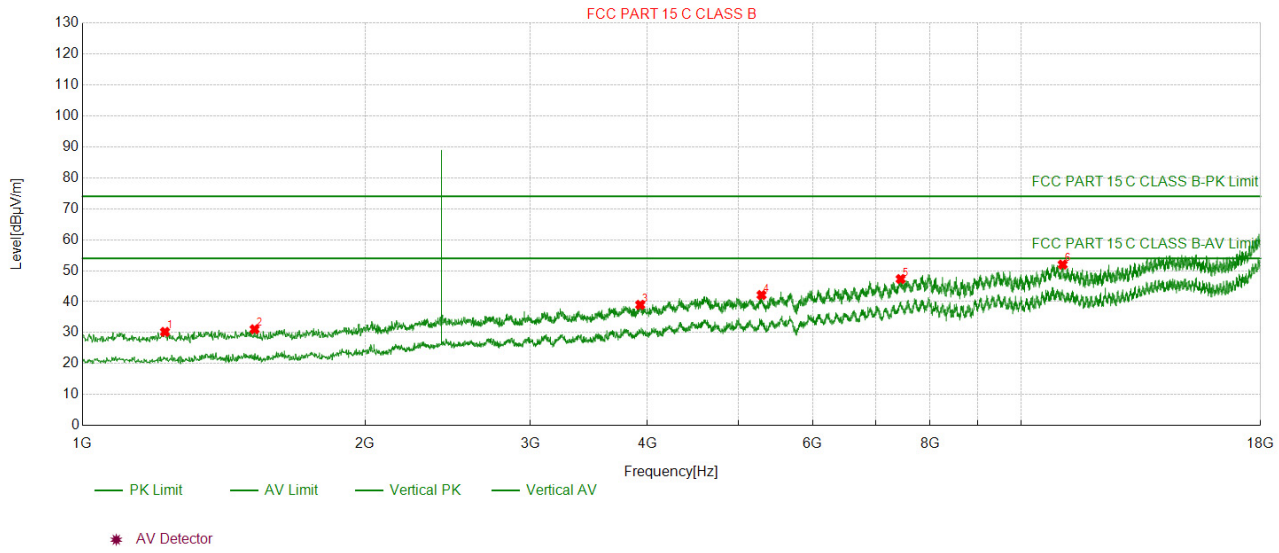
Antenna polarity: Horizontal



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	1622.262	51.84	31.67	-20.17	74.00	42.33	150	180	Horizontal
2	3098.009	51.83	36.96	-14.87	74.00	37.04	150	150	Horizontal
3	4578.857	52.30	42.76	-9.54	74.00	31.24	150	90	Horizontal
4	5143.314	51.27	41.88	-9.39	74.00	32.12	150	210	Horizontal
5	7440.244	51.94	48.08	-3.86	74.00	25.92	150	30	Horizontal
6	9449.845	50.97	50.26	-0.71	74.00	23.74	150	40	Horizontal

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

Antenna polarity: Vertical

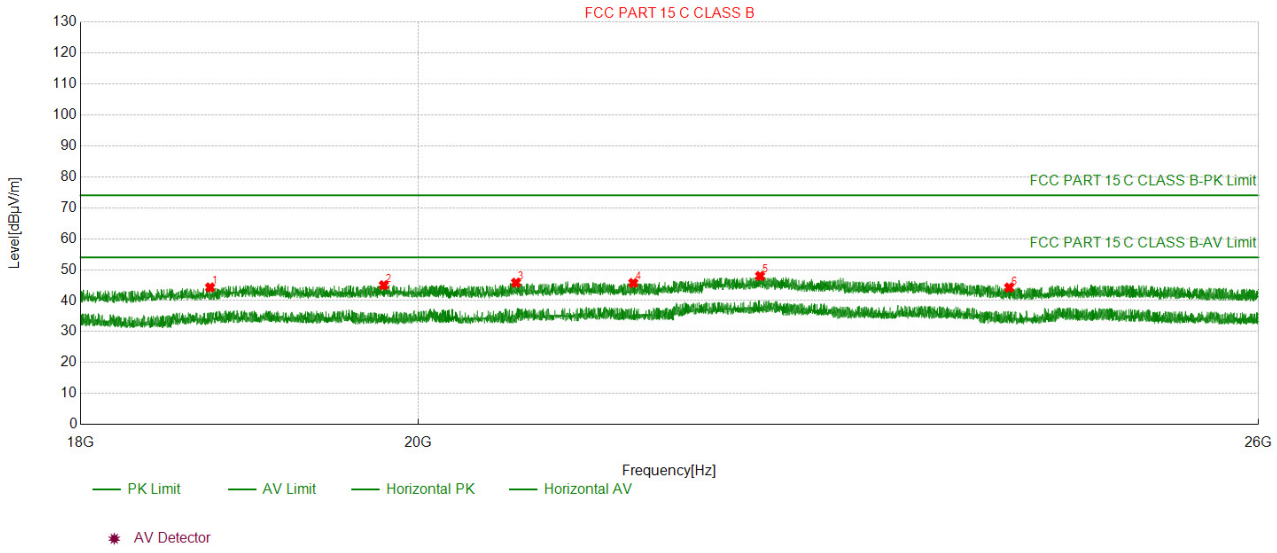


Suspected Data List									
NO.	Freq. [MHz]	Reading [dBµV/m]	PK Level [dBµV/m]	Factor [dB]	PK Limit [dBµV/m]	PK Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1224.422	51.35	30.25	-21.10	74.00	43.75	150	110	Vertical
2	1525.352	51.43	31.10	-20.33	74.00	42.90	150	180	Vertical
3	3929.392	51.00	38.98	-12.02	74.00	35.02	150	70	Vertical
4	5291.229	51.52	42.15	-9.37	74.00	31.85	150	100	Vertical
5	7443.644	51.17	47.31	-3.86	74.00	26.69	150	240	Vertical
6	11076.90	50.31	51.98	1.67	74.00	22.02	150	140	Vertical

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

For 18GHz to 26GHz

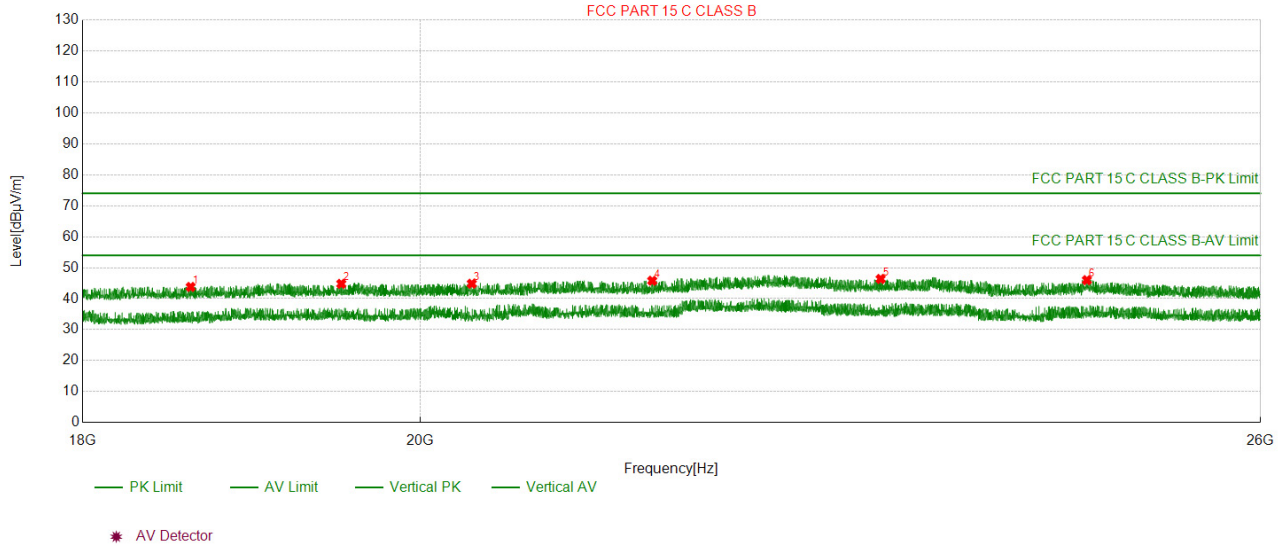
Antenna polarity: Horizontal



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	18743.27	38.77	44.27	5.50	74.00	29.73	150	100	Horizontal
2	19787.37	38.88	45.00	6.12	74.00	29.00	150	360	Horizontal
3	20621.06	39.95	45.80	5.85	74.00	28.20	150	220	Horizontal
4	21389.93	40.42	45.71	5.29	74.00	28.29	150	350	Horizontal
5	22253.22	42.22	47.96	5.74	74.00	26.04	150	290	Horizontal
6	24052.60	38.86	44.22	5.36	74.00	29.78	150	180	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	18618.46	38.39	43.80	5.41	74.00	30.20	150	350	Vertical
2	19514.55	38.72	44.81	6.09	74.00	29.19	150	90	Vertical
3	20325.83	38.82	44.84	6.02	74.00	29.16	150	120	Vertical
4	21503.55	40.50	45.79	5.29	74.00	28.21	150	90	Vertical
5	23092.50	40.78	46.37	5.59	74.00	27.63	150	0	Vertical
6	24627.86	40.10	46.00	5.90	74.00	28.00	150	40	Vertical

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

4.4 Maximum Output Power Measurement

4.4.1 Limit

The Maximum Peak Output Power Measurement is 30dBm.

4.4.2 Test Procedure

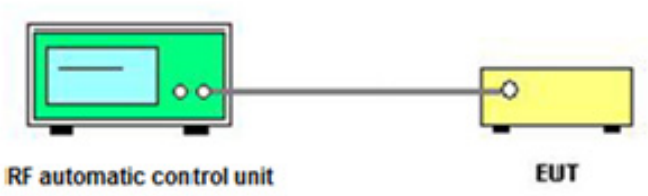
The maximum peak conducted output power may be measured using a broadband peak RF automatic control unit. The RF automatic control unit shall have a video bandwidth that is greater than or equal to the DTS bandwidth and shall utilize a fast-responding diode detector.

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

1M

Channel	Channel Frequency (Mhz)	Maximum Peak Conducted Output Power (dBm)	Limit (dBm)	Result
Low	2402	-0.08	30.00	Pass
Middle	2440	0.55		Pass
High	2480	1.41		Pass

2M

Channel	Channel Frequency (Mhz)	Maximum Peak Conducted Output Power (dBm)	Limit (dBm)	Result
Low	2402	-0.08	30.00	Pass
Middle	2440	0.60		Pass
High	2480	1.41		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 8 dBm.

4.5.3 Deviation from Standard

No deviation.

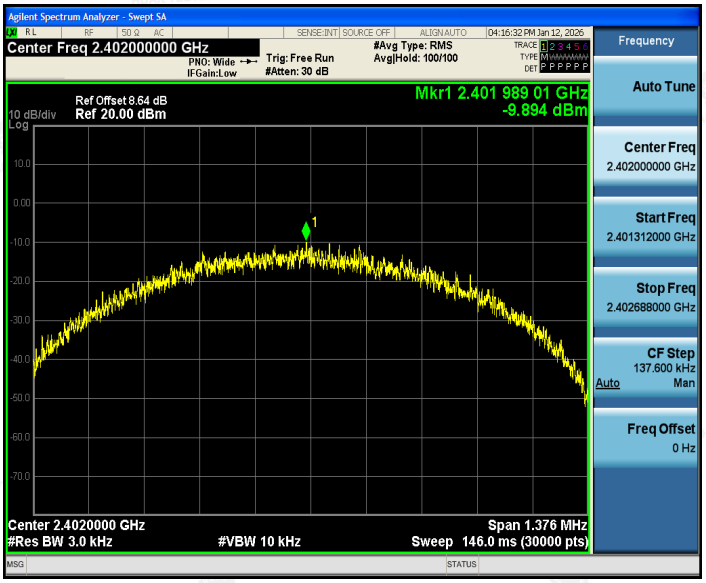
4.5.4 Test Setup

4.5.5 Test Results

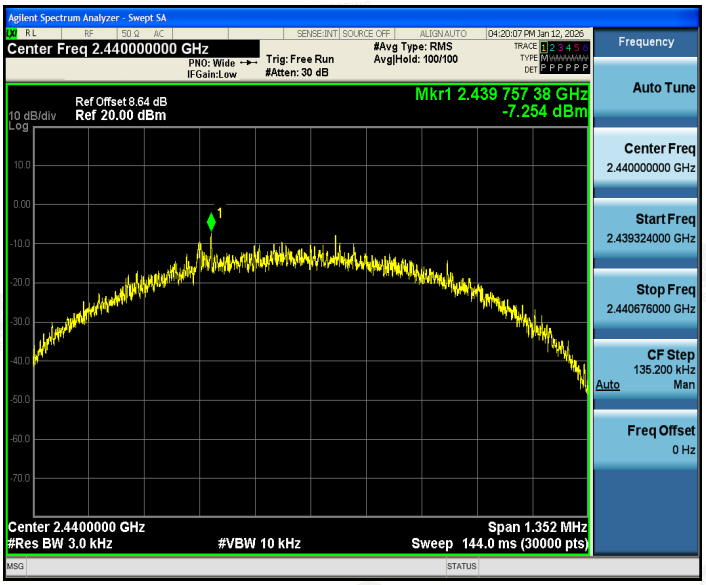
1M

Channel	Channel frequency (MHz)	Test Result (dBm/3kHz)
Low	2402	-9.89
Middle	2440	-7.25
High	2480	-7.81
Limit : 8dBm/3KHz		
Test Result	PASS	

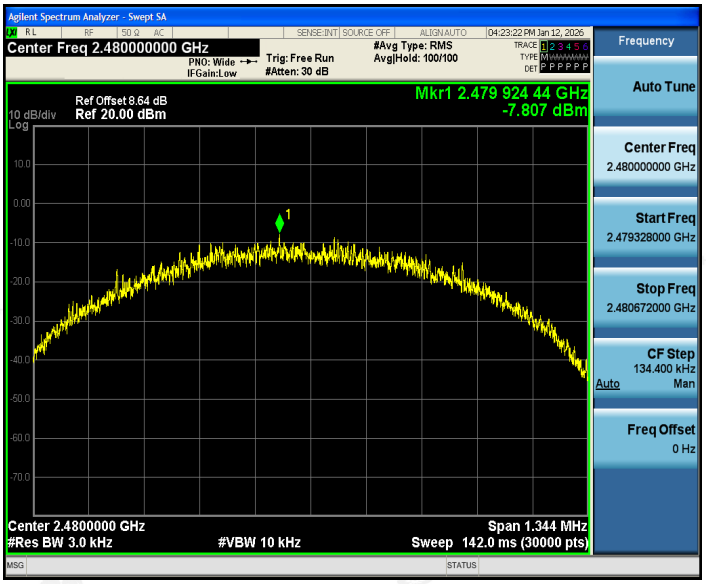
CH 00



CH 19



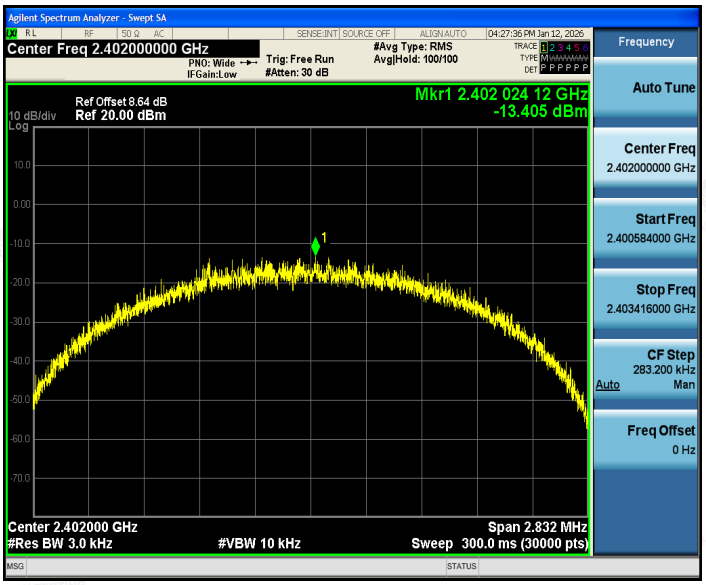
CH 39



2M

Channel	Channel frequency (MHz)	Test Result (dBm/3kHz)
Low	2402	-13.41
Middle	2440	-12.44
High	2480	-11.46
Limit : 8dBm/3KHz		
Test Result	PASS	

CH 00



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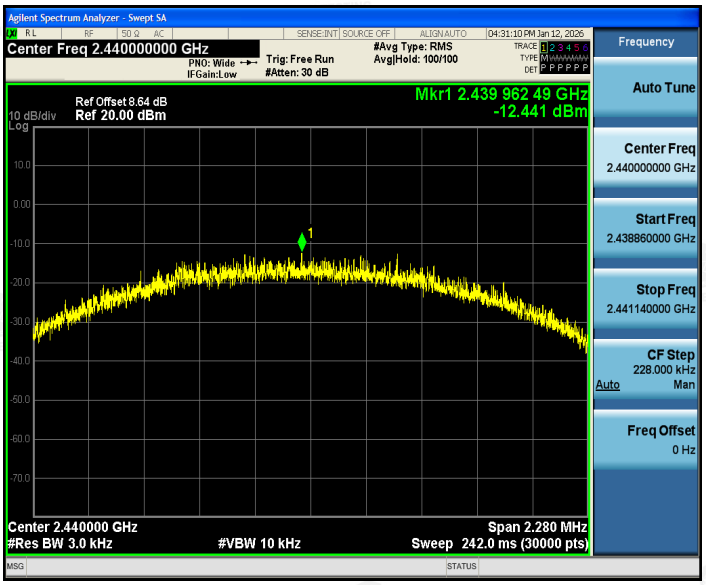

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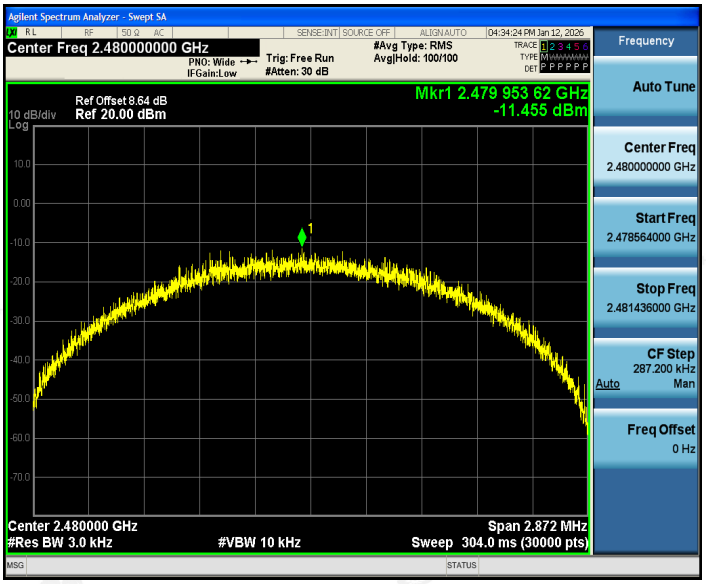


4.6 6dB Bandwidth

4.6.1 Limit

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

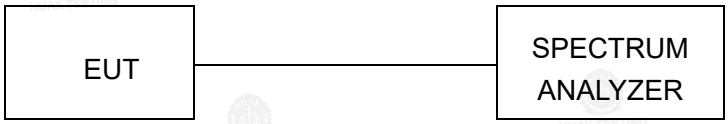
4.6.2 Test Procedure

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

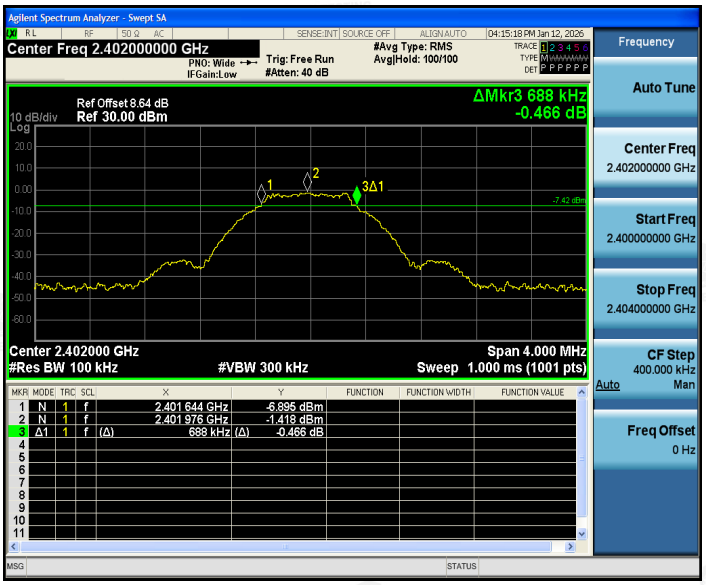


4.6.5 Test Result

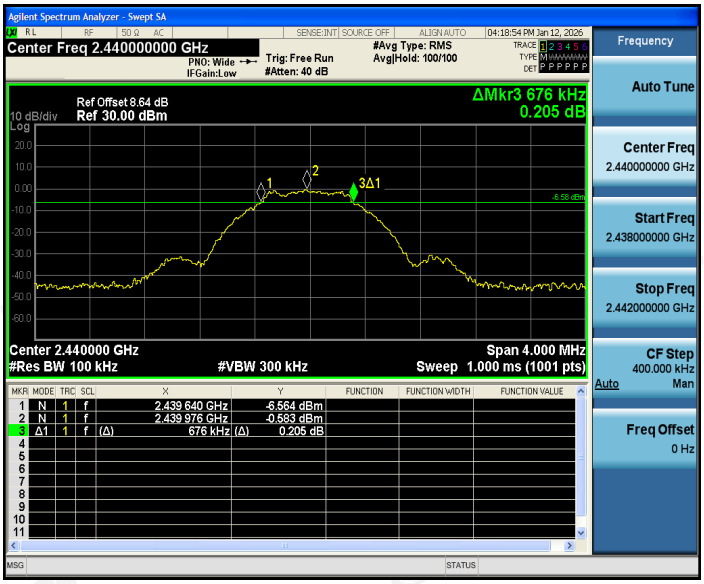
1M

Channel	Channel frequency (MHz)	6dB Bandwidth (MHz)	Limit (KHz)	Result
Low	2402	0.688	≥500	Pass
Middle	2440	0.676		Pass
High	2480	0.672		Pass

CH 00



CH 19



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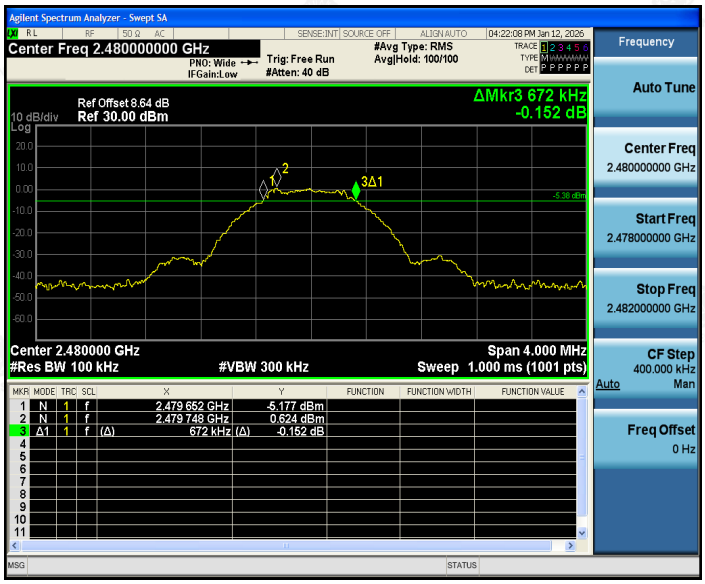
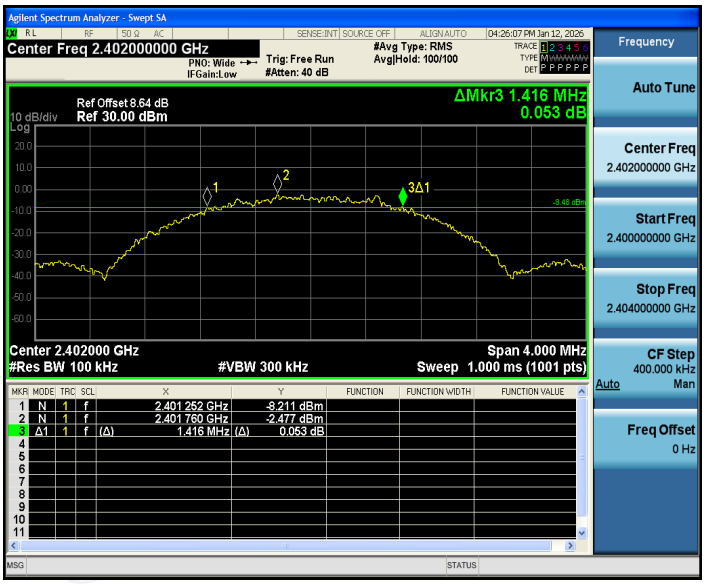


2M

Channel	Channel frequency (MHz)	6dB Bandwidth (MHz)	Limit (KHz)	Result
Low	2402	1.416	≥500	Pass
Middle	2440	1.140		Pass
High	2480	1.436		Pass

CH 00



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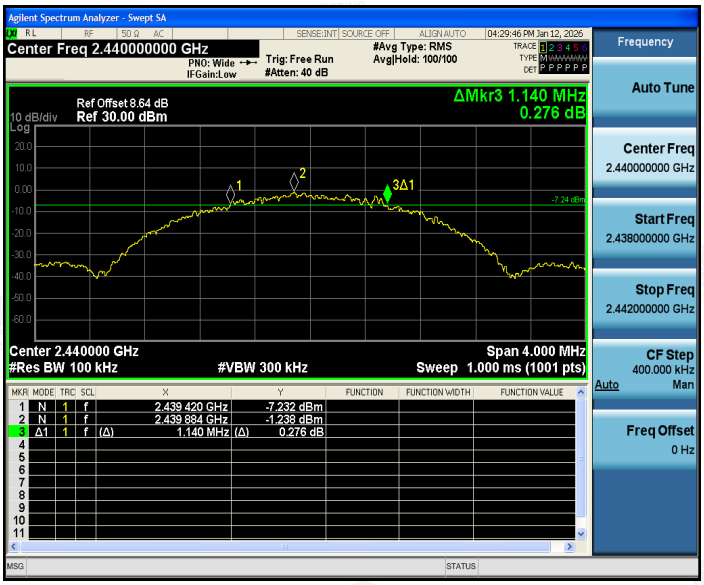

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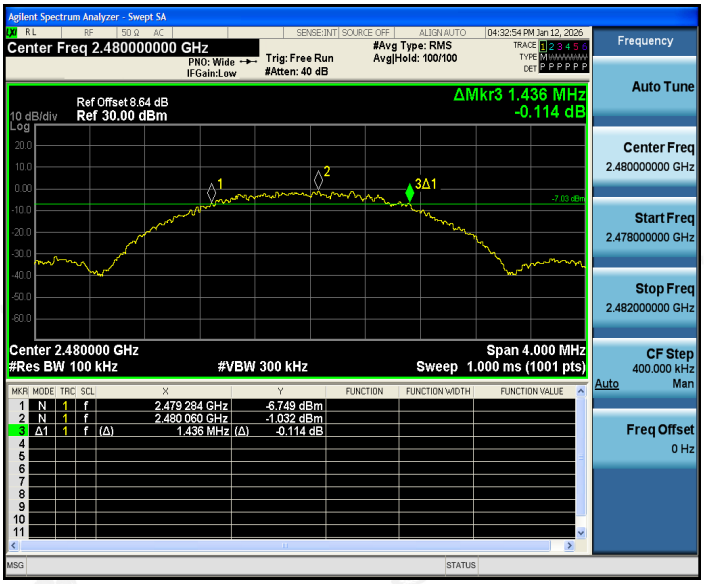


4.7 Occupied Bandwidth

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.

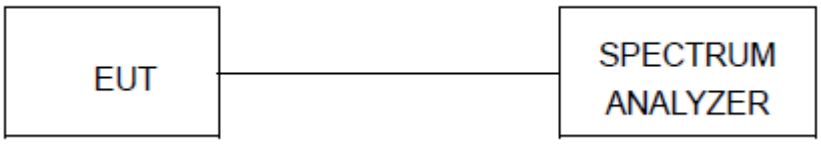
4.8.2 Test Procedure

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.

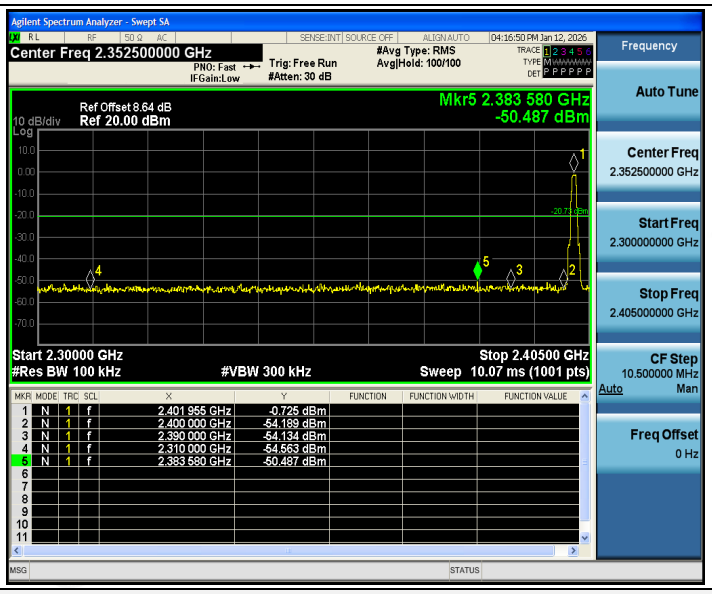
4.8.4 Test Setup



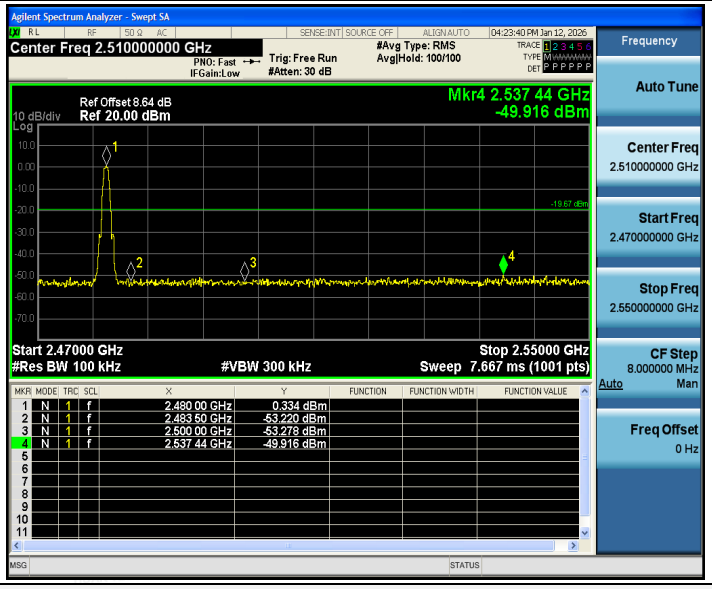
4.8.5 Test Results

PASS

1M

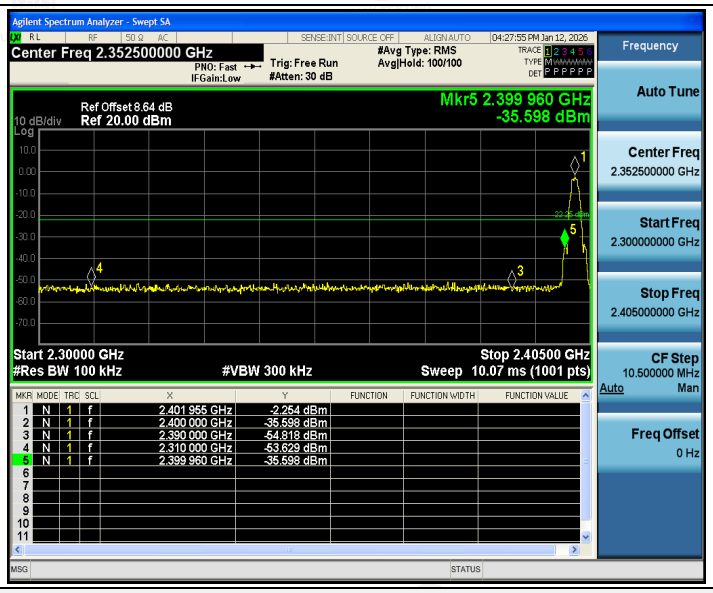


2402

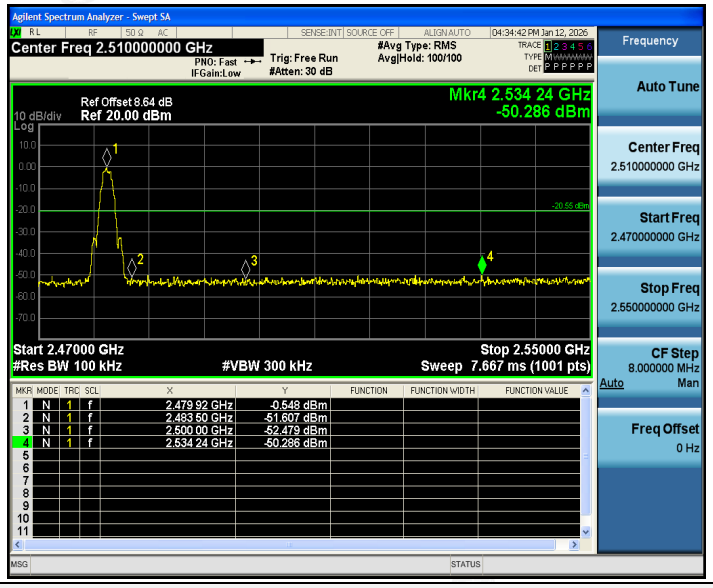


2480

2M



2402



2480

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 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 Section (b)(3) of RSS 5.4(4), the attenuation required 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 For9KHz-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