

TEST REPORT

Applicant : SHENSHENSHI MUYU TECHNOLOGY CO LTD

Address : 2043-NO3 C315D,BIXIN ROAD(LONGGANG DUAN),NANLIAN COMMUNITY, LONGGANG STREET, LONGGANG, SHENZHEN

Manufacturer : SHENSHENSHI MUYU TECHNOLOGY CO LTD

Address : 2043-NO3 C315D,BIXIN ROAD(LONGGANG DUAN),NANLIAN COMMUNITY, LONGGANG STREET, LONGGANG, SHENZHEN

Product Name : bluetooth speakers

Model Number : R168, R160, R161, R162, R163, R164, R165, R167, R169, R178, R180, R186

Trademark : N/A

FCC ID : 2BXCL-R168

Test Date : Jul. 13, 2026 to Jul. 21, 2026

Date of Report : Jul. 21, 2026

Test Result : This device described above has been tested by BKC, and the test results show that the equipment under test (EUT) is in compliance with the Standard requirements. And it is applicable only to the tested sample identified in the report.

Test Procedure Used:

Standards : FCC CFR Title 47 Part 15 Subpart C Section 15.249
ANSI C63.10-2020+Cor.1-2023

Prepared by(Test Engineer):
Sten Huang

Sten Huang
Casey Wang

Approved(Manager):
Casey Wang

Approved(Manager):
Jerry Liao



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Revision History of This Test Report

[illegible]

1. General Information

1.1. Description of Device (EUT)

EUT Name : bluetooth speakers

Model No. : R168, R160, R161, R162, R163, R164, R165, R167, R169, R178, R180, R186

Model Difference : The product is different for model name .The mains test model is R168

Power supply : Rating(s): 5V===3A
Battery:3.7V===

Operation frequency : 2402-2480MHz

Max. Field Strength : 102.96 dBuV/m

Modulation : GFSK, Pi/4 DQPSK, 8DPSK

Antenna Type : PCB antenna, Maximum Gain is 1.7dBi

Hardware Version : 1.0

Software Version : 1.0.2.2

Intend use environment : Residential, commercial and light industrial environment

1.2. Channel List

No. of Channel	Frequency (MHz)	No. of Channel	Frequency (MHz)	No. of Channel	Frequency (MHz)	No. of Channel	Frequency (MHz)
01	2402	21	2422	41	2442	61	2462
02	2403	22	2423	42	2443	62	2463
03	2404	23	2424	43	2444	63	2464
04	2405	24	2425	44	2445	64	2465
05	2406	25	2426	45	2446	65	2466
~	~	~	~	~	~	~	~
16	2417	36	2437	56	2457	76	2477
17	2418	37	2438	57	2458	77	2478
18	2419	38	2439	58	2459	78	2479
19	2420	39	2440	59	2460	79	2480
20	2421	40	2441	60	2461		

1.3.Summary of test result

RF PART		
Test Items	Test Requirement	Result
Antenna requirement	FCC part 15.203	PASS
AC Power Line Conducted Emission	FCC part 15.207	PASS
Field strength of the fundamental signal	FCC part 15.249 (a)	PASS
Spurious emissions	FCC part 15.249 (a) (d)/15.209	PASS
Band edge	FCC part 15.249 (d)/15.205	PASS
20dB Occupied Bandwidth	FCC part 15.215 (c)	PASS
Remark: N/A is an abbreviation for Not Applicable. Measurement Uncertainty is not taken into account for conformity statement		

1.4.Special Accessories and Auxiliary Equipment

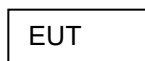
Description	Manufacturer	Model No.	Hardware Version	Software Version
ADAPTER	VOOC	VC54HBCH	H1192832A1500455	-
Serial port board	Shenzhen Youxin Electronic Technology Co., Ltd	USB-TTL-01	-	-
FCC Assist(Limit:Default)	/	/	/	1.0.2.2

1.5.Block Diagram

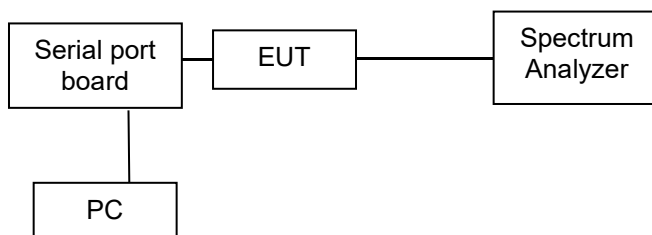
Conducted Emission



Radiated Emission



RF Conducted Test



1.6. Test mode

The special RF test software was used to control EUT work in Continuous BT TX mode, and select test channel, wireless mode.

Test Software	FCC Assist(Limit:Default)		
Test mode	Low channel	Middle channel	High channel
GFSK	2402MHz	2441MHz	2480MHz
Pi/4 DQPSK	2402MHz	2441MHz	2480MHz
8DPSK	2402MHz	2441MHz	2480MHz
Note: N/A			

1.7. Test Conditions

Category	Normal Conditions	Extreme Conditions
Temperature range	15-35°C	N/A
Humidity range	20-75%	N/A
Pressure range	86-106kPa	N/A
Power supply	AC 120V/60Hz or DC 3.7V	N/A
Note: N/A is an abbreviation for Not Applicable.		

1.8. Measurement Uncertainty (95% confidence levels, k=2)

Item	MU	Remark
Uncertainty for radio frequency	$\pm 7 \times 10^{-8}$	
Conducted Emissions (150kHz~30MHz)	$\pm 2.54\text{dB}$	
Radiated Emission(9KHz~30MHz)	$\pm 1.6\text{ dB}$	
Radiated Emission(30MHz~1GHz)	Vertical: $\pm 4.14\text{dB}$ Horizontal: $\pm 4.25\text{dB}$	
Radiated Emission(1GHz~6GHz)	$\pm 3.9\text{dB}$	
Radiated Emission(6GHz~18GHz)	$\pm 4.3\text{dB}$	
Radiated Emission(18GHz~40GHz)	$\pm 3.38\text{dB}$	
Uncertainty for conducted RF Power	$\pm 0.20\text{dB}$	
Conducted spurious emissions	$\pm 0.24\text{dB}$	
Uncertainty for temperature	0.6°C	
Uncertainty for humidity	1%	
Bandwidth	$\pm 1.5 \times 10^{-6}$	
Time	$\pm 2\%$	
Duty Cycle	$\pm 2\%$	
Remark: The coverage Factor (k=2), and measurement Uncertainty for a level of Confidence of 95%		

1.9. Test Facility

Site Description		
Name of Firm	:	Shenzhen BKC Testing Co., Ltd.
Site Location	:	Room 103, 1/F, Huaya Building, Huaya Industrial Park, Longhua Community, Longhua District, Shenzhen, Guangdong, China.
ISED CAB identifier	:	CN0188
ISED Company Number	:	34333
FCC Designation Number	:	CN1416
FCC Test Firm Registration Number	:	701543

1.10. Test Equipment

Conducted Test Site

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
1	LISN	R&S	ENV216	102762	Mar. 11. 2026	Mar. 10. 2027
2	EMI Test Receiver	R&S	ESCI	101424	Mar. 11. 2026	Mar. 10. 2027
3	Rf cables	HTEC	HCE 2M-CE	N/A	Mar. 11. 2026	Mar. 10. 2027
4	Coupling/Decoupling Network	Diamond	CX210	N/A	Mar. 11. 2026	Mar. 10. 2027
5	CE Testing software	EZ	EZ-EMC	/	/	/

Radiated Test Site(Below 1G and Above 1G)

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
1	Antenna	Schwarzbeck	VULB 9168	01321	Mar. 20. 2025	Mar. 19. 2028
2	EMI Test Receiver	R&S	ESRP	101478	Mar. 11. 2026	Mar. 10. 2027
3	Preamplifier	HP	8447D	2727A05345	Mar. 11. 2026	Mar. 10. 2027
4	Double Ridged Broadband	SCHWARZBECK	BBHA 9120D	02621	Mar. 11. 2026	Mar. 19. 2028
5	Preamplifier	Schwarzbeck	BBV 9718D	00041	Mar. 11. 2026	Mar. 10. 2027
6	Rf cables	HUBER+SUHNER	8M-RE	N/A	Mar. 11. 2026	Mar. 10. 2027
7	Rf cables	HUBER+SUHNER	1.5M-RE	N/A	Mar. 11. 2026	Mar. 10. 2027
8	Rf cables	HUBER+SUHNER	1.5M-AP-RE	N/A	Mar. 11. 2026	Mar. 10. 2027
9	Loop antenna	ANRF	ANRF-6603	091802	Mar. 09. 2025	Mar. 10. 2027
10	Spectrum analyzer	R&S	FSP40	200061	Mar. 11. 2026	Mar. 10. 2027
11	Double Ridged Broadband Horn	COM-POWER	AH-1840	10100009	Mar. 11. 2026	Mar. 10. 2027

	Antenna					
12	Spectrum	Agilent	N9020A	MY50510311	Mar. 11. 2026	Mar. 10. 2027
13	Band Stop Filter	Bafang	BSF5G	2024052610	Mar. 11. 2026	Mar. 10. 2027
14	RE Testing software	EZ	EZ-EMC	/		/

RF Test Site

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
1	Spectrum	Agilent	N9020A	MY50510311	Mar. 11. 2026	Mar. 10. 2027
2	Vector source	Agilent	N5182A	MY47420223	Mar. 11. 2026	Mar. 10. 2027
3	All instrument	Rohde & Schwarz	CMW 500	101131	Mar. 11. 2026	Mar. 10. 2027
4	control unit	MW	MW100-RFCB	MW200411B K-34	/	Mar. 10. 2027
5	RF Testing software	MW	MTS 8310	/	/	/
6	Spectrum analyzer	R&S	FSP40	200061	Mar. 11. 2026	Mar. 10. 2027

Test software

Software name	RF Testing software
Software version	2.0.0.0
Software name	RE Testing software
Software version	EMEC-03A2 RE+
Software name	CE Testing software
Software version	EMEC-3A1+

2. Conducted emission at the mains terminals test

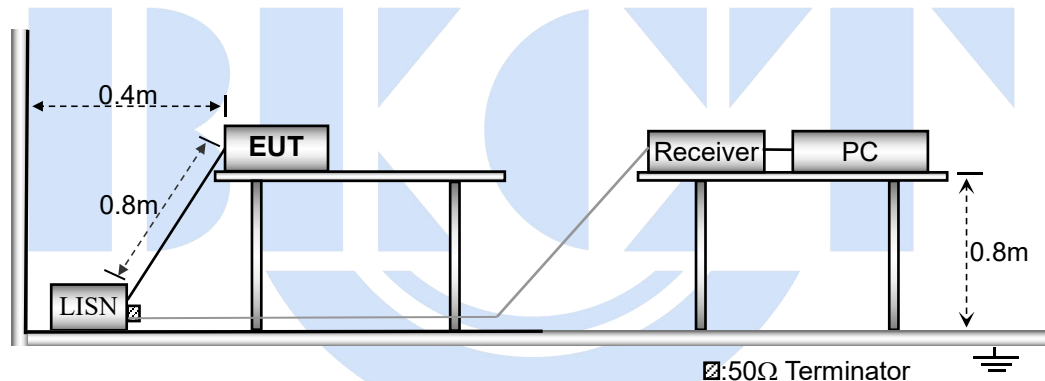
2.1.Limit

Test Requirement:	FCC Part15 C Section 15.207
Test Method:	ANSI C63.10-2020+Cor.1-2023
Test Frequency Range:	150KHz to 30MHz
Receiver setup:	RBW=9KHz, VBW=30KHz, Sweep time=auto

Frequency MHz	Limits dB(μ V)	
	Quasi-peak Level	Average Level
0.15 ~ 0.50	66 ~ 56*	56 ~ 46*
0.50 ~ 5.00	56	46
5.00 ~ 30.00	60	50

Notes: 1. *Decreasing linearly with logarithm of frequency.
2. The lower limit shall apply at the transition frequencies.

2.2.Test Setup

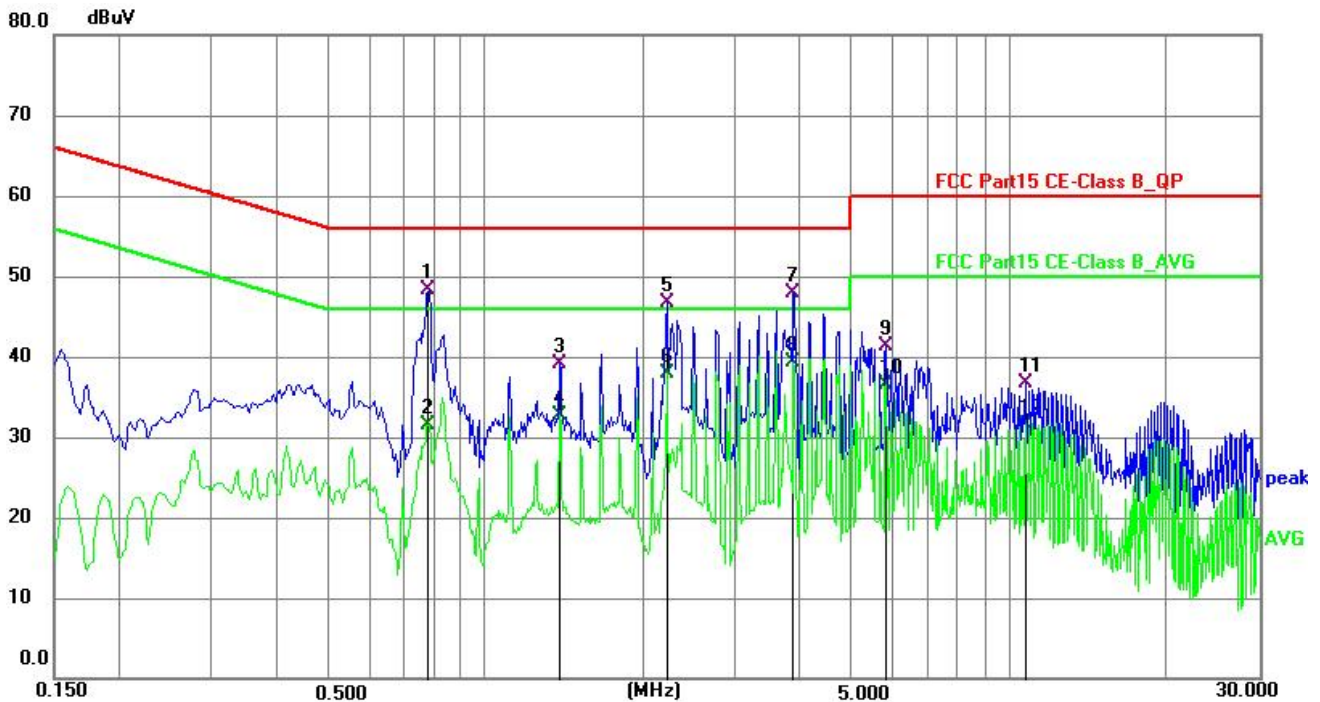


2.3.Test Procedure

1. 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.
2. 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.
3. 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.
4. LISN at least 80 cm from nearest part of EUT chassis.
5. For the actual test configuration, please refer to the related Item - EUT Test Photos.

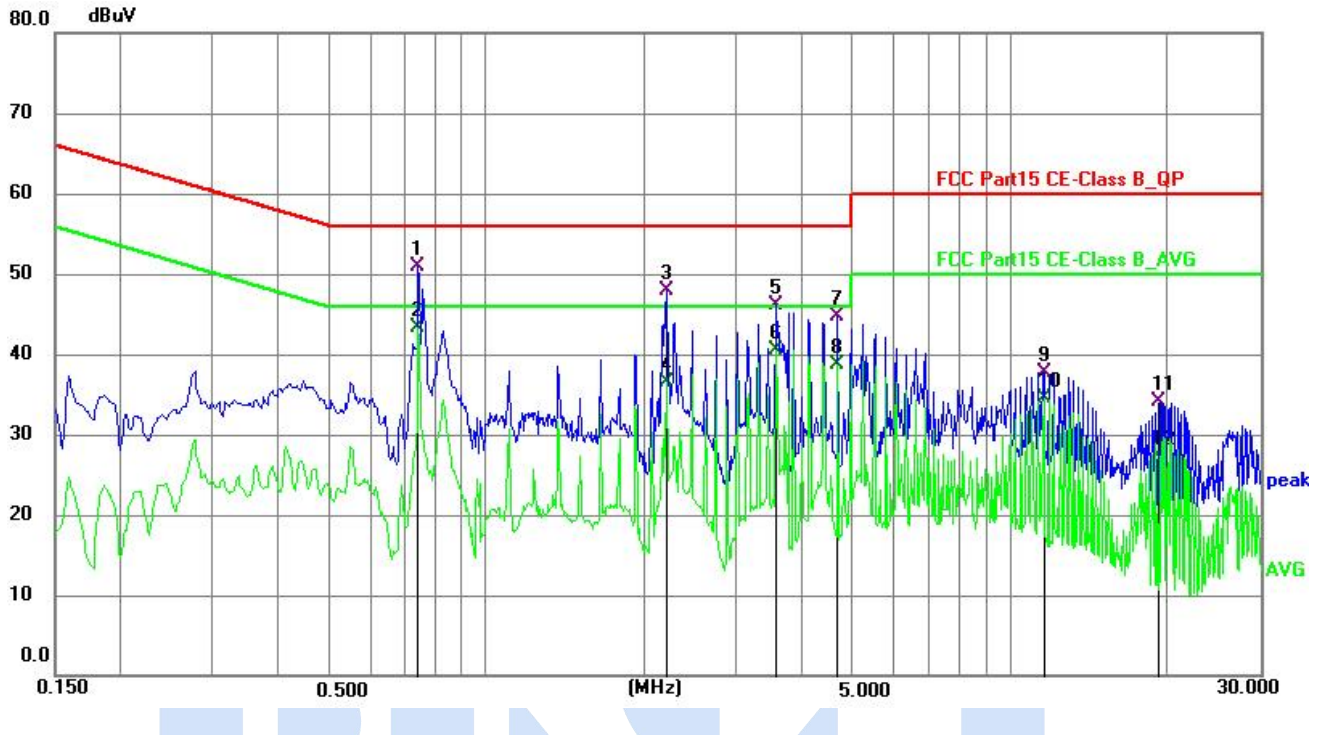
2.4.Test Result

Conducted Emission At The Mains Terminals Test Data			
Temperature:	25.1℃	Relative Humidity:	56%
Pressure:	1008hPa	Phase :	Line
Test Voltage :	AC 120V/60Hz	Test Mode:	Transmitting



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.7799	38.54	9.76	48.30	56.00	-7.70	QP	P	
2	0.7799	21.68	9.76	31.44	46.00	-14.56	AVG	P	
3	1.3875	29.28	9.75	39.03	56.00	-16.97	QP	P	
4	1.3875	22.86	9.75	32.61	46.00	-13.39	AVG	P	
5	2.2244	36.98	9.76	46.74	56.00	-9.26	QP	P	
6	2.2244	28.14	9.76	37.90	46.00	-8.10	AVG	P	
7	3.8670	38.04	9.81	47.85	56.00	-8.15	QP	P	
8 *	3.8670	29.58	9.81	39.39	46.00	-6.61	AVG	P	
9	5.8335	31.60	9.80	41.40	60.00	-18.60	QP	P	
10	5.8335	26.71	9.80	36.51	50.00	-13.49	AVG	P	
11	10.7745	26.88	9.73	36.61	60.00	-23.39	QP	P	
12	10.7745	21.84	9.73	31.57	50.00	-18.43	AVG	P	

Conducted Emission At The Mains Terminals Test Data			
Temperature:	25.1℃	Relative Humidity:	56%
Pressure:	1008hPa	Phase :	Neutral
Test Voltage :	AC 120V/60Hz	Test Mode:	Transmitting



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.7395	41.26	9.69	50.95	56.00	-5.05	QP	P	
2 *	0.7395	33.64	9.69	43.33	46.00	-2.67	AVG	P	
3	2.2065	38.20	9.69	47.89	56.00	-8.11	QP	P	
4	2.2065	26.73	9.69	36.42	46.00	-9.58	AVG	P	
5	3.5835	36.41	9.73	46.14	56.00	-9.86	QP	P	
6	3.5835	30.85	9.73	40.58	46.00	-5.42	AVG	P	
7	4.6815	35.07	9.72	44.79	56.00	-11.21	QP	P	
8	4.6815	29.07	9.72	38.79	46.00	-7.21	AVG	P	
9	11.5620	28.06	9.71	37.77	60.00	-22.23	QP	P	
10	11.5620	24.81	9.71	34.52	50.00	-15.48	AVG	P	
11	19.2569	24.35	9.72	34.07	60.00	-25.93	QP	P	
12	19.2569	17.58	9.72	27.30	50.00	-22.70	AVG	P	

Notes:

1. An initial pre-scan was performed on the line and neutral lines with peak detector.
2. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
3. Measurement Level = Reading level + Correct Factor, Margin= Emission Level - Limit
4. Only the worst Data GFSK(2402MHz) mode Record in the report

3. Radiated Spurious Emissions

3.1.Limit

Test Requirement: FCC CFR47 Part 15 Section 15.209 & 15.249

Test Result: PASS

Measurement Distance: 3m

Frequency	Detector	RBW	VBW	Value
9KHz-150KHz	Quasi-peak	200Hz	600Hz	Quasi-peak
150KHz-30MHz	Quasi-peak	9KHz	30KHz	Quasi-peak
30MHz-1GHz	Quasi-peak	120KHz	360KHz	Quasi-peak
Above 1GHz	Peak	1MHz	3MHz	Peak
	Peak	1MHz	10Hz	Average

Limit:

Frequency (MHz)	Field Strength		Field Strength Limit at 3m Measurement Dist	
	uV/m	Distance (m)	uV/m	dBuV/m
0.009 ~ 0.490	2400/F(kHz)	300	10000 * 2400/F(kHz)	20log(2400/F(kHz)) + 80
0.490 ~ 1.705	24000/F(kHz)	30	100 * 24000/F(kHz)	20log(24000/F(kHz)) + 40
1.705 ~ 30	30	30	100 * 30	20log(30) + 40
30 ~ 88	100	3	100	20log(100)
88 ~ 216	150	3	150	20log(150)
216 ~ 960	200	3	200	20log(200)
Above 960	500	3	500	20log(500)

Except as provided in paragraph (b) of this section, the field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following:

Fundamental frequency	Field strength of fundamental (millivolts/meter)	Field strength of harmonics (microvolts/meter)
902-928 MHz	50	500
2400-2483.5 MHz	50	500
5725-5875 MHz	50	500
24.0-24.25 GHz	250	2500

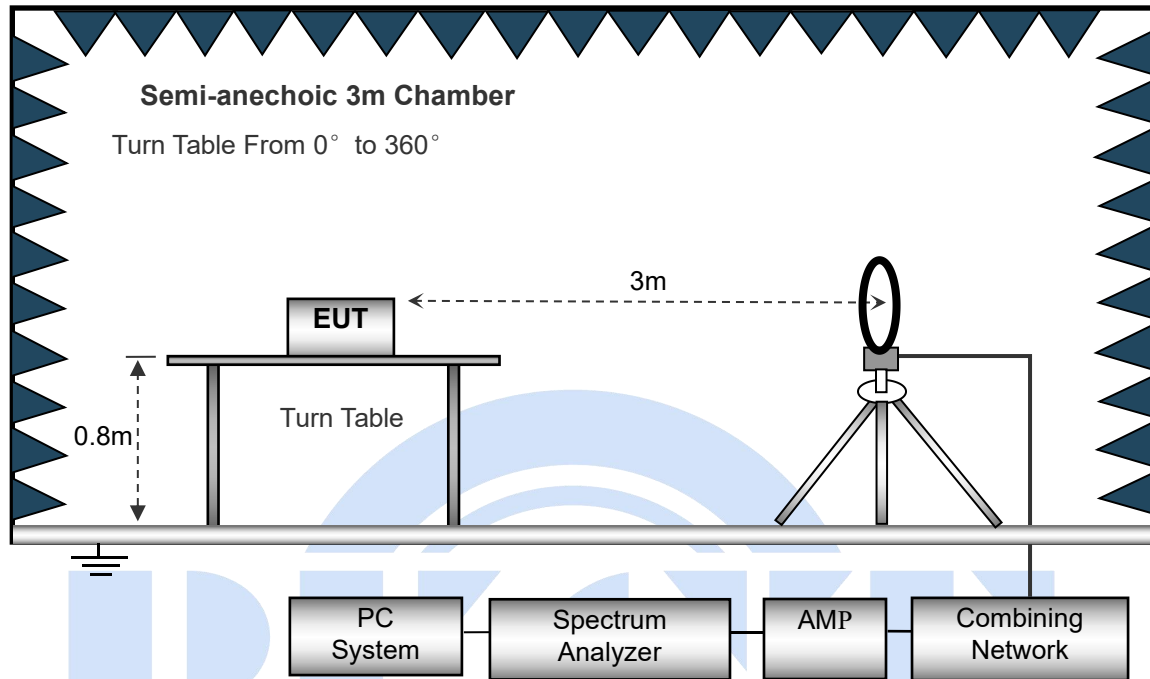
Limit 2:

§ 15.249(d) Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in § 15.209, whichever is the lesser attenuation.

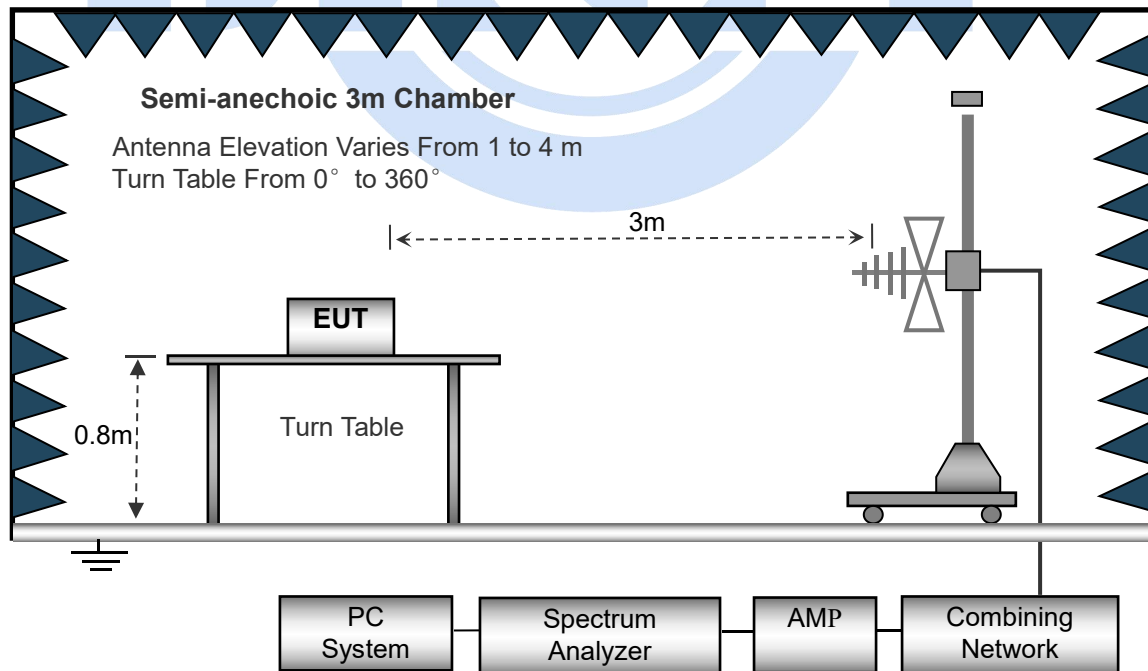
3.2. Test Setup

The radiated emission tests were performed in the 3m Semi- Anechoic Chamber test site, using the setup accordance with the ANSI C63.10.

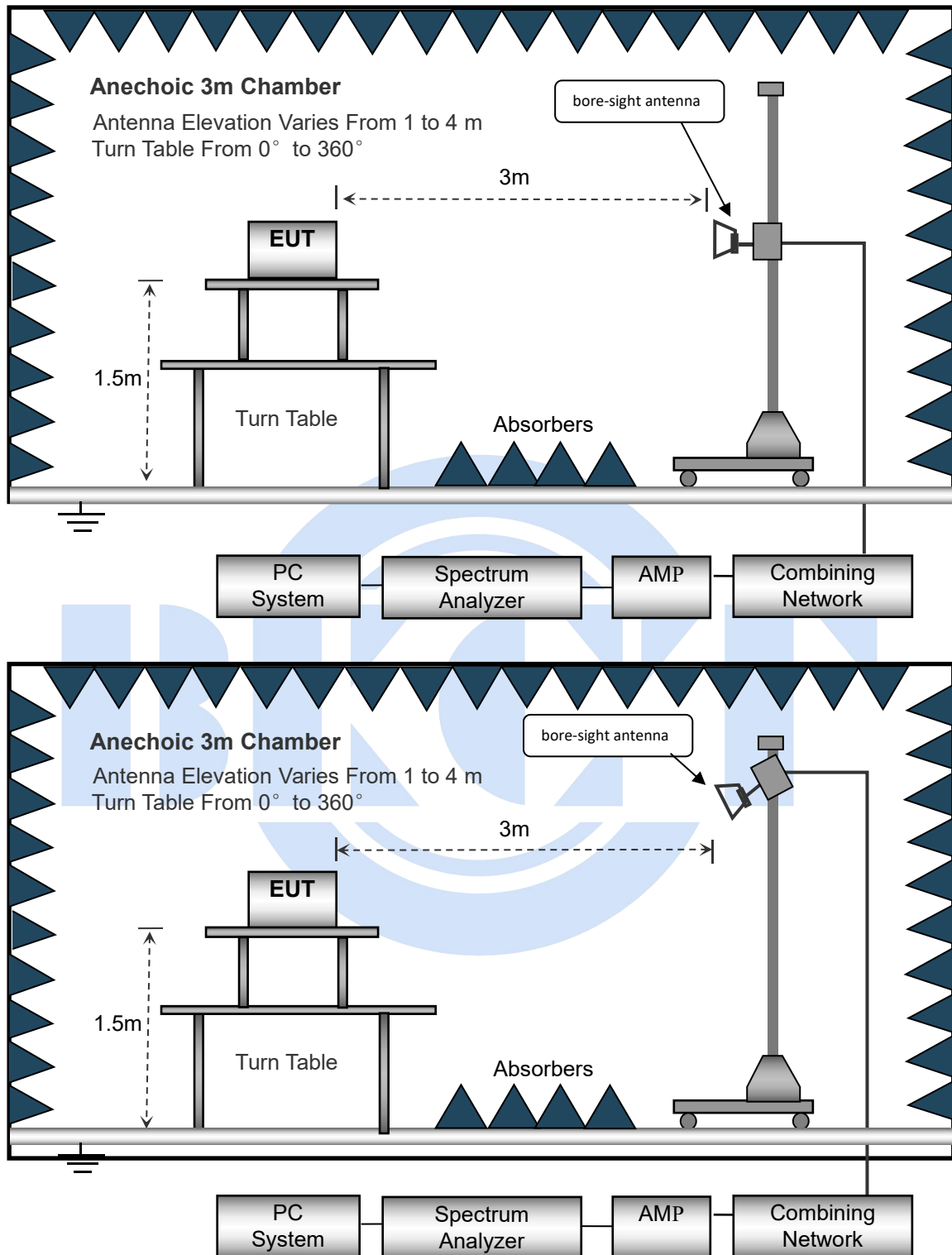
The test setup for emission measurement below 30MHz.



The test setup for emission measurement from 30 MHz to 1 GHz.



The test setup for emission measurement above 1 GHz.



3.3. Test Procedure

1. The EUT is placed on a turntable, which is 0.8m above ground plane for below 1GHz and 1.5m for above 1GHz.
2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 3m away from the receiving antenna, which is moved from 1m to 4m to find out the maximum emissions.
4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
6. Repeat above procedures until the measurements for all frequencies are complete.
7. The radiation measurements are performed in X,Y and Z axis positioning(X denotes lying on the table, Y denotes side stand and Z denotes vertical stand),the worst condition was tested putting the eut in Z axis,so the worst data were shown as follow.
8. A 2.4GHz high - pass filter is used during radiated emissions above 1GHz measurement.



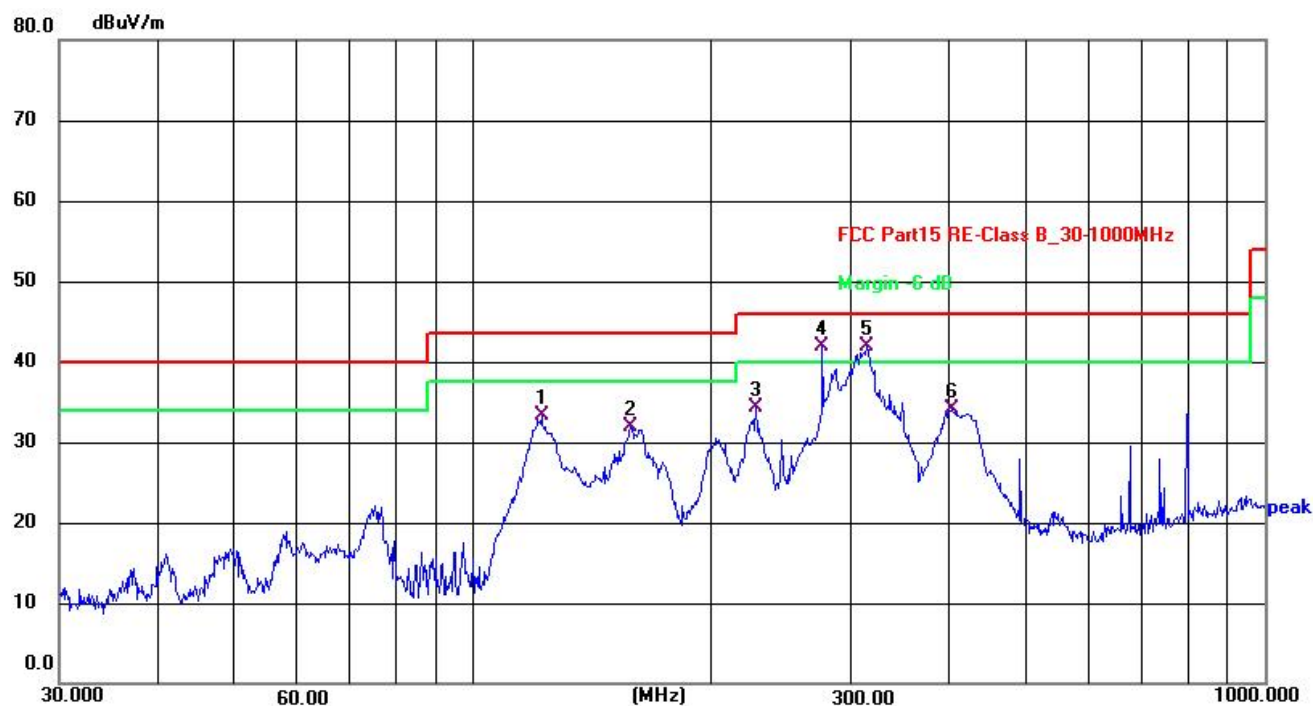
3.4. Test Result

Test Frequency: 9KHz~30MHz

The measurements were more than 20 dB below the limit and not reported.

Test Frequency : 30MHz ~ 1GHz

Radiation Emission Test Data			
Temperature:	25.1℃	Relative Humidity:	56%
Pressure:	1008hPa	Phase :	Horizontal
Test Voltage :	AC 120V/60Hz	Test Mode	Transmitting



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	121.9755	50.39	-17.05	33.34	43.50	-10.16	QP
2	158.1123	46.94	-15.07	31.87	43.50	-11.63	QP
3	227.6906	51.93	-17.72	34.21	46.00	-11.79	QP
4 !	276.1235	57.88	-16.01	41.87	46.00	-4.13	QP
5 *	314.3765	57.01	-15.12	41.89	46.00	-4.11	QP
6	401.8385	47.61	-13.43	34.18	46.00	-11.82	QP

Radiation Emission Test Data			
Temperature:	25.1℃	Relative Humidity:	56%
Pressure:	1008hPa	Phase :	Vertical
Test Voltage :	AC 120V/60Hz	Test Mode	Transmitting



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 !	40.9880	50.59	-16.16	34.43	40.00	-5.57	QP
2 !	49.7066	51.93	-16.51	35.42	40.00	-4.58	QP
3 !	57.7962	52.83	-17.11	35.72	40.00	-4.28	QP
4 !	122.8340	55.10	-17.00	38.10	43.50	-5.40	QP
5 !	158.0014	53.97	-15.07	38.90	43.50	-4.60	QP
6 *	307.8312	57.89	-15.25	42.64	46.00	-3.36	QP

Note:

- Only the worst Data GFSK mod Record in the report
- Emission Level = Meter Reading + Antenna Factor + Cable Loss – Pre-amplifier,
Margin= Emission Level - Limit
- Worst case channel: GFSK 2402MHz



Test Frequency 1GHz-25GHz:

Polar (H/V)	Frequency	Meter Reading	Pre-ampli fier	Cable Loss	Antenna Factor	Emission Level	Limits	Margin	Detector Type
	(MHz)	(dBuV)	(dB)	(dB)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Low Channel:2402MHz									
V	4804.00	54.54	30.55	5.77	24.66	54.42	74.00	-19.58	Pk
V	4804.00	43.52	30.55	5.77	24.66	43.40	54.00	-10.60	AV
V	7206.00	51.18	30.33	6.32	24.55	51.72	74.00	-22.28	Pk
V	7206.00	43.92	30.33	6.32	24.55	44.46	54.00	-9.54	AV
V	9608.00	53.64	30.85	7.45	24.69	54.93	74.00	-19.07	Pk
V	9608.00	43.42	30.85	7.45	24.69	44.71	54.00	-9.29	AV
V	12010.00	52.16	31.02	8.99	25.57	55.70	74.00	-18.30	Pk
V	12010.00	43.89	31.02	8.99	25.57	47.43	54.00	-6.57	AV
H	4804.00	54.70	30.55	5.77	24.66	54.58	74.00	-19.42	Pk
H	4804.00	43.51	30.55	5.77	24.66	43.39	54.00	-10.61	AV
H	7206.00	50.78	30.33	6.32	24.55	51.32	74.00	-22.68	Pk
H	7206.00	43.86	30.33	6.32	24.55	44.40	54.00	-9.60	AV
H	9608.00	53.86	30.85	7.45	24.69	55.15	74.00	-18.85	Pk
H	9608.00	43.97	30.85	7.45	24.69	45.26	54.00	-8.74	AV
H	12010.00	50.06	31.02	8.99	25.57	53.60	74.00	-20.40	Pk
H	12010.00	43.44	31.02	8.99	25.57	46.98	54.00	-7.02	AV

Polar (H/V)	Frequency	Meter Reading	Pre-ampli fier	Cable Loss	Antenna Factor	Emission Level	Limits	Margin	Detector Type
	(MHz)	(dBuV)	(dB)	(dB)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Middle Channel:2441MHz									
V	4880.00	52.62	30.55	5.77	24.66	52.50	74.00	-21.50	Pk
V	4880.00	43.17	30.55	5.77	24.66	43.05	54.00	-10.95	AV
V	7320.00	52.16	30.33	6.32	24.55	52.70	74.00	-21.30	Pk
V	7320.00	43.98	30.33	6.32	24.55	44.52	54.00	-9.48	AV
V	9760.00	52.85	30.85	7.45	24.69	54.14	74.00	-19.86	Pk
V	9760.00	43.33	30.85	7.45	24.69	44.62	54.00	-9.38	AV
V	12200.00	54.47	31.02	8.99	25.57	58.01	74.00	-15.99	Pk
V	12200.00	43.11	31.02	8.99	25.57	46.65	54.00	-7.35	AV
H	4880.00	51.32	30.55	5.77	24.66	51.20	74.00	-22.80	Pk
H	4880.00	43.59	30.55	5.77	24.66	43.47	54.00	-10.53	AV
H	7320.00	53.08	30.33	6.32	24.55	53.62	74.00	-20.38	Pk
H	7320.00	43.39	30.33	6.32	24.55	43.93	54.00	-10.07	AV
H	9760.00	53.55	30.85	7.45	24.69	54.84	74.00	-19.16	Pk
H	9760.00	43.58	30.85	7.45	24.69	44.87	54.00	-9.13	AV
H	12200.00	53.56	31.02	8.99	25.57	57.10	74.00	-16.90	Pk
H	12200.00	43.59	31.02	8.99	25.57	47.13	54.00	-6.87	AV



Polar (H/V)	Frequency	Meter Reading	Pre-ampli fier	Cable Loss	Antenna Factor	Emission Level	Limits	Margin	Detector Type
	(MHz)	(dBuV)	(dB)	(dB)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
High Channel:2480MHz									
V	4960.00	54.35	30.55	5.77	24.66	54.23	74.00	-19.77	Pk
V	4960.00	43.45	30.55	5.77	24.66	43.33	54.00	-10.67	AV
V	7440.00	51.50	30.33	6.32	24.55	52.04	74.00	-21.96	Pk
V	7440.00	43.91	30.33	6.32	24.55	44.45	54.00	-9.55	AV
V	9920.00	52.02	30.85	7.45	24.69	53.31	74.00	-20.69	Pk
V	9920.00	43.60	30.85	7.45	24.69	44.89	54.00	-9.11	AV
V	12400.00	54.16	31.02	8.99	25.57	57.70	74.00	-16.30	Pk
V	12400.00	43.90	31.02	8.99	25.57	47.44	54.00	-6.56	AV
H	4960.00	50.52	30.55	5.77	24.66	50.40	74.00	-23.60	Pk
H	4960.00	43.42	30.55	5.77	24.66	43.30	54.00	-10.70	AV
H	7440.00	54.24	30.33	6.32	24.55	54.78	74.00	-19.22	Pk
H	7440.00	43.48	30.33	6.32	24.55	44.02	54.00	-9.98	AV
H	9920.00	50.59	30.85	7.45	24.69	51.88	74.00	-22.12	Pk
H	9920.00	43.23	30.85	7.45	24.69	44.52	54.00	-9.48	AV
H	12400.00	53.30	31.02	8.99	25.57	56.84	74.00	-17.16	Pk
H	12400.00	43.35	31.02	8.99	25.57	46.89	54.00	-7.11	AV

Note: 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.

4. Only the worst Data GFSK mod Record in the report



Band Edge:

	Polar (H/V)	Frequenc y (MHz)	Meter Reading (dBuV)	Pre- amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB/m)	Emission level (dBuV/m)	Limit (dBuV /m)	Detec tor Type	Result
GFSK	Low Channel: 2402MHz									
	H	2310.00	53.85	30.22	4.85	23.98	52.46	74.00	Pk	PASS
	H	2310.00	44.04	30.22	4.85	23.98	42.65	54.00	AV	PASS
	H	2390.00	54.51	30.22	4.85	23.98	53.12	74.00	Pk	PASS
	H	2390.00	44.14	30.22	4.85	23.98	42.75	54.00	AV	PASS
	H	2400.00	54.49	30.22	4.85	23.98	53.10	74.00	PK	PASS
	H	2400.00	44.83	30.22	4.85	23.98	43.44	54.00	AV	PASS
	V	2310.00	54.90	30.22	4.85	23.98	53.51	74.00	PK	PASS
	V	2310.00	44.31	30.22	4.85	23.98	42.92	54.00	AV	PASS
	V	2390.00	54.02	30.22	4.85	23.98	52.63	74.00	PK	PASS
	V	2390.00	44.02	30.22	4.85	23.98	42.63	54.00	AV	PASS
	V	2400.00	53.72	30.22	4.85	23.98	52.33	74.00	PK	PASS
	V	2400.00	44.80	30.22	4.85	23.98	43.41	54.00	AV	PASS
	High Channel: 2480MHz									
	H	2483.50	53.23	30.22	4.85	23.98	51.84	74.00	PK	PASS
	H	2483.50	44.85	30.22	4.85	23.98	43.46	54.00	AV	PASS
	H	2500.00	53.26	30.22	4.85	23.98	51.87	74.00	PK	PASS
	H	2500.00	44.28	30.22	4.85	23.98	42.89	54.00	AV	PASS
	V	2483.50	54.90	30.22	4.85	23.98	53.51	74.00	PK	PASS
	V	2483.50	44.11	30.22	4.85	23.98	42.72	54.00	AV	PASS
	V	2500.00	54.70	30.22	4.85	23.98	53.31	74.00	PK	PASS
	V	2500.00	44.21	30.22	4.85	23.98	42.82	54.00	AV	PASS
Remark:										
1. Emission Level = Meter Reading + Antenna Factor + Cable Loss – Pre-amplifier, Margin= Emission Level - Limit										
2. Only the worst Data GFSK mod Record in the report										



Field Strength of The Fundamental Signal Data

GFSK

Frequency	Receiver Reading	Detector	Turn table Angle	RX Antenna		Corrected Factor	Corrected Amplitude	Limit	Margin
				Height	Polar				
(MHz)	(dBμV)	(PK/QP/Ave)	Degree	(m)	(H/V)	(dB)	(dBμV/m)	(dBμV/m)	(dB)
Low Channel: 2402MHz									
2402	104.02	PK	314	1.1	H	-1.06	102.96	114	-11.04
2402	87.54	Ave	333	1.7	V	-1.06	86.48	94	-7.52
2402	103.49	PK	351	2.0	H	-1.06	102.43	114	-11.57
2402	88.7	Ave	296	1.3	V	-1.06	87.64	94	-6.36

Mid CH

Frequency	Receiver Reading	Detector	Turn table Angle	RX Antenna		Corrected Factor	Corrected Amplitude	Limit	Margin
				Height	Polar				
(MHz)	(dBμV)	(PK/QP/Ave)	Degree	(m)	(H/V)	(dB)	(dBμV/m)	(dBμV/m)	(dB)
Middle Channel:2441MHz									
2441	103.88	PK	85	1.7	H	-1.32	102.56	114	-11.44
2441	84.37	Ave	96	1.2	V	-1.32	83.05	94	-10.95
2441	102.21	PK	214	1.8	H	-1.32	100.89	114	-13.11
2441	84.2	Ave	259	1.8	V	-1.32	82.88	94	-11.12

High CH

Frequency	Receiver Reading	Detector	Turn table Angle	RX Antenna		Corrected Factor	Corrected Amplitude	Limit	Margin
				Height	Polar				
(MHz)	(dBμV)	(PK/QP/Ave)	Degree	(m)	(H/V)	(dB)	(dBμV/m)	(dBμV/m)	(dB)
High Channel: 2480MHz									
2480	103.94	PK	2	1.7	H	-1.78	102.16	114	-11.84
2480	86.48	Ave	216	1.2	V	-1.78	84.70	94	-9.30
2480	102.56	PK	148	1.3	H	-1.78	100.78	114	-13.22
2480	87.83	Ave	226	2.0	V	-1.78	86.05	94	-7.95



PI/4 DQPSK

Frequency	Receiver Reading	Detector	Turn table Angle	RX Antenna		Corrected Factor	Corrected Amplitude	Limit	Margin
				Height	Polar				
(MHz)	(dBμV)	(PK/QP/Ave)	Degree	(m)	(H/V)	(dB)	(dBμV/m)	(dBμV/m)	(dB)
Low Channel: 2402MHz									
2402	104	PK	183	2.0	H	-1.06	102.94	114	-11.06
2402	87.39	Ave	286	1.5	V	-1.06	86.33	94	-7.67
2402	103.31	PK	211	1.5	H	-1.06	102.25	114	-11.75
2402	88.92	Ave	99	1.6	V	-1.06	87.86	94	-6.14

Mid CH

Frequency	Receiver Reading	Detector	Turn table Angle	RX Antenna		Corrected Factor	Corrected Amplitude	Limit	Margin
				Height	Polar				
(MHz)	(dBμV)	(PK/QP/Ave)	Degree	(m)	(H/V)	(dB)	(dBμV/m)	(dBμV/m)	(dB)
Middle Channel:2441MHz									
2441	103.81	PK	56	1.9	H	-1.32	102.49	114	-11.51
2441	84.69	Ave	7	1.1	V	-1.32	83.37	94	-10.63
2441	102.3	PK	87	1.0	H	-1.32	100.98	114	-13.02
2441	84.46	Ave	38	1.8	V	-1.32	83.14	94	-10.86

High CH

Frequency	Receiver Reading	Detector	Turn table Angle	RX Antenna		Corrected Factor	Corrected Amplitude	Limit	Margin
				Height	Polar				
(MHz)	(dBμV)	(PK/QP/Ave)	Degree	(m)	(H/V)	(dB)	(dBμV/m)	(dBμV/m)	(dB)
High Channel: 2480MHz									
2480	103.97	PK	40	1.2	H	-1.78	102.19	114	-11.81
2480	86.39	Ave	334	1.2	V	-1.78	84.61	94	-9.39
2480	102.91	PK	237	1.6	H	-1.78	101.13	114	-12.87
2480	87.3	Ave	91	1.8	V	-1.78	85.52	94	-8.48



8DPSK

Frequency	Receiver Reading	Detector	Turn table Angle	RX Antenna		Corrected Factor	Corrected Amplitude	Limit	Margin
				Height	Polar				
(MHz)	(dBμV)	(PK/QP/Ave)	Degree	(m)	(H/V)	(dB)	(dBμV/m)	(dBμV/m)	(dB)
Low Channel: 2402MHz									
2402	103.96	PK	1	1.2	H	-1.06	102.90	114	-11.10
2402	87.86	Ave	148	1.9	V	-1.06	86.80	94	-7.20
2402	103.31	PK	128	1.9	H	-1.06	102.25	114	-11.75
2402	88.89	Ave	59	1.3	V	-1.06	87.83	94	-6.17

Mid CH

Frequency	Receiver Reading	Detector	Turn table Angle	RX Antenna		Corrected Factor	Corrected Amplitude	Limit	Margin
				Height	Polar				
(MHz)	(dBμV)	(PK/QP/Ave)	Degree	(m)	(H/V)	(dB)	(dBμV/m)	(dBμV/m)	(dB)
Middle Channel:2441MHz									
2441	103.9	PK	15	1.8	H	-1.32	102.58	114	-11.42
2441	84.59	Ave	214	1.2	V	-1.32	83.27	94	-10.73
2441	102.93	PK	197	1.5	H	-1.32	101.61	114	-12.39
2441	84.5	Ave	53	1.7	V	-1.32	83.18	94	-10.82

High CH

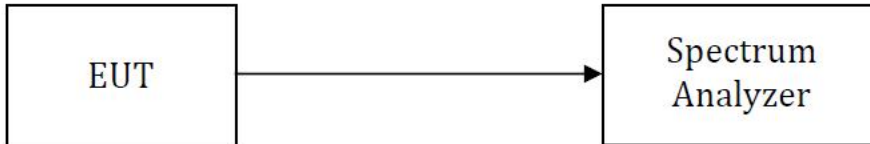
Frequency	Receiver Reading	Detector	Turn table Angle	RX Antenna		Corrected Factor	Corrected Amplitude	Limit	Margin
				Height	Polar				
(MHz)	(dBμV)	(PK/QP/Ave)	Degree	(m)	(H/V)	(dB)	(dBμV/m)	(dBμV/m)	(dB)
High Channel: 2480MHz									
2480	103.91	PK	177	1.5	H	-1.78	102.13	114	-11.87
2480	86.29	Ave	329	1.7	V	-1.78	84.51	94	-9.49
2480	102.25	PK	356	1.3	H	-1.78	100.47	114	-13.53
2480	87.59	Ave	196	1.8	V	-1.78	85.81	94	-8.19

4. -20 dB Bandwidth Measurement

4.1.Limit

Test Requirement: FCC CFR47 Part 15 Section 15.215

4.2.Test Setup



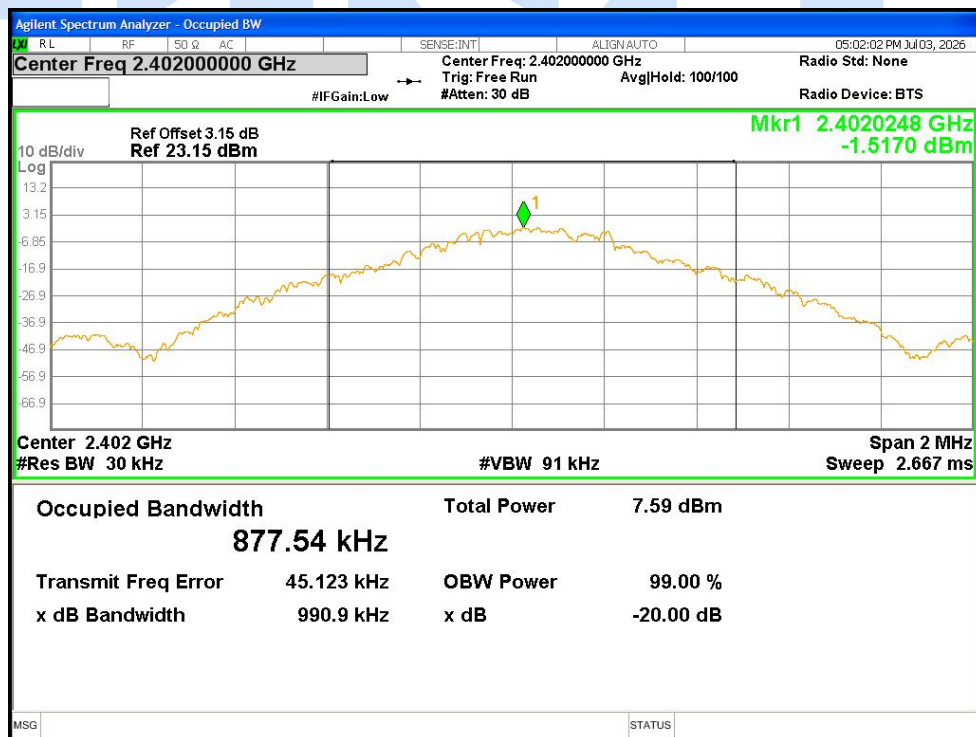
4.3.Test Procedure

1. Set the spectrum analyzer: RBW = 1%-5% OBW
2. Set the video bandwidth (VBW) $\geq 3 \times$ 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

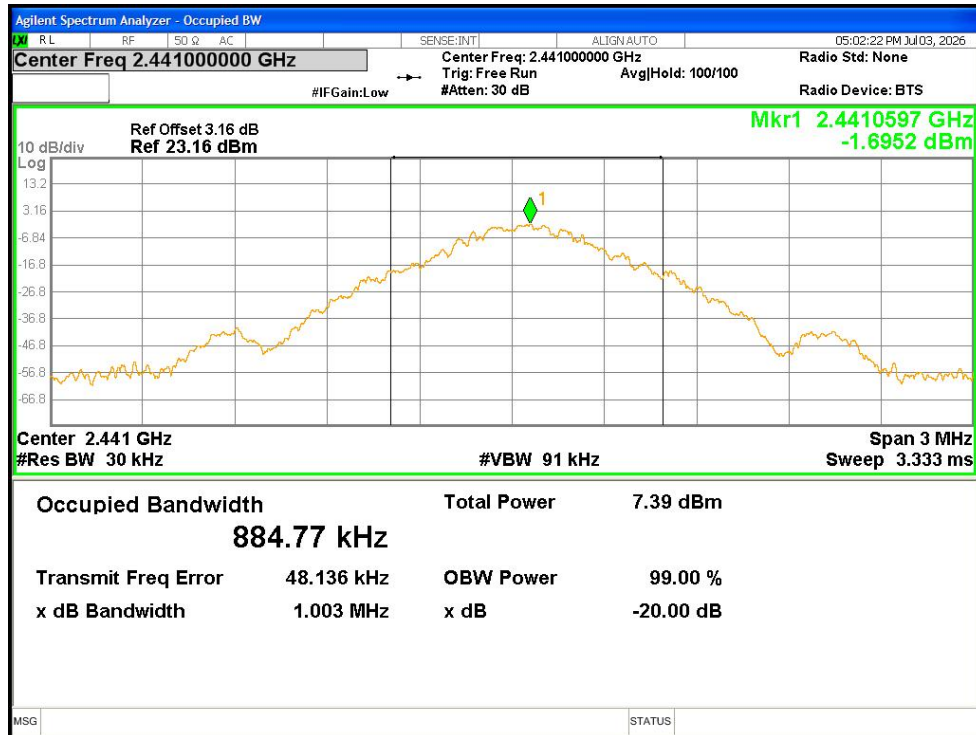
4.4.Test Result

GFSK:

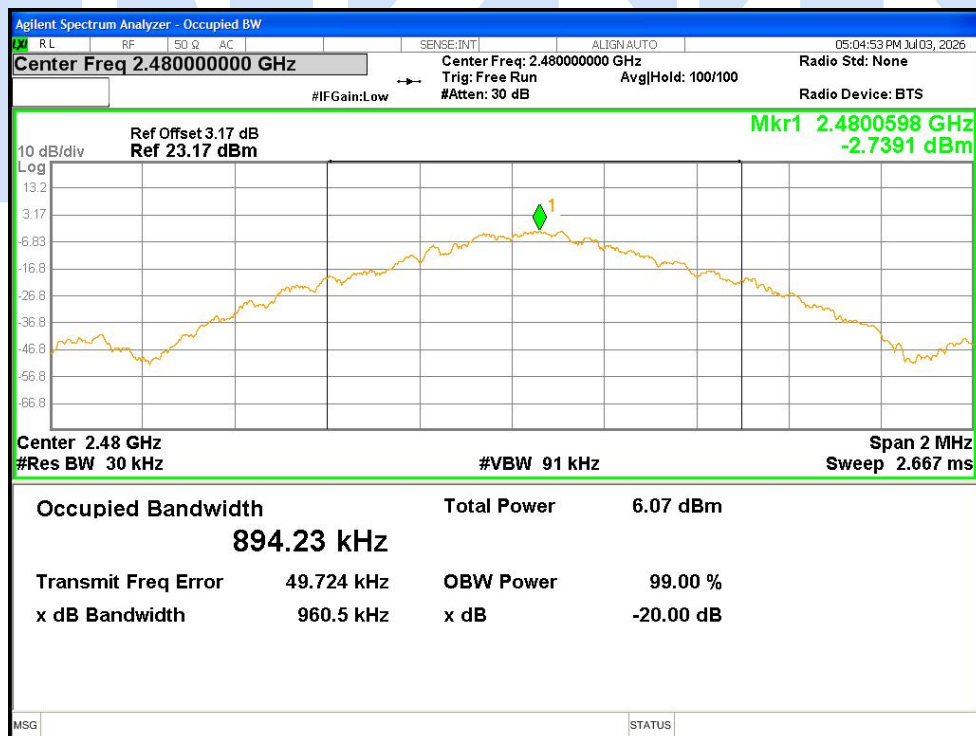
Frequency (MHz)	Antenna	99% OBW (MHz)	-20dB OBW (MHz)
2402	Ant1	0.878	0.991
2441	Ant1	0.885	1.003
2480	Ant1	0.894	0.961



OBW NVNT 2402MHz Ant1



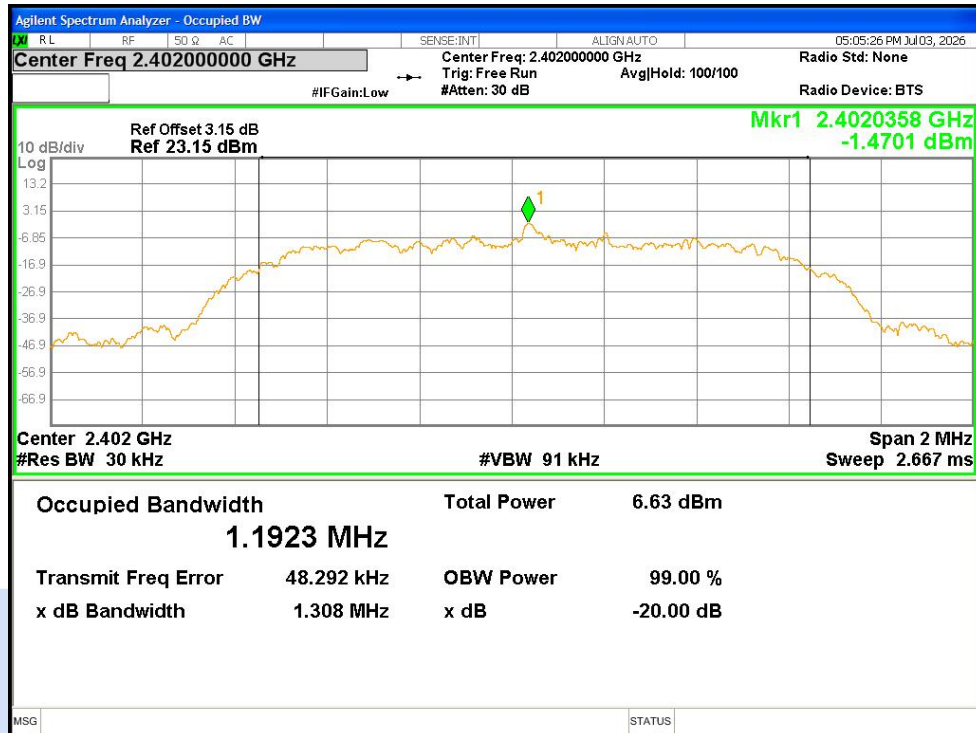
OBW NVNT 2441MHz Ant1



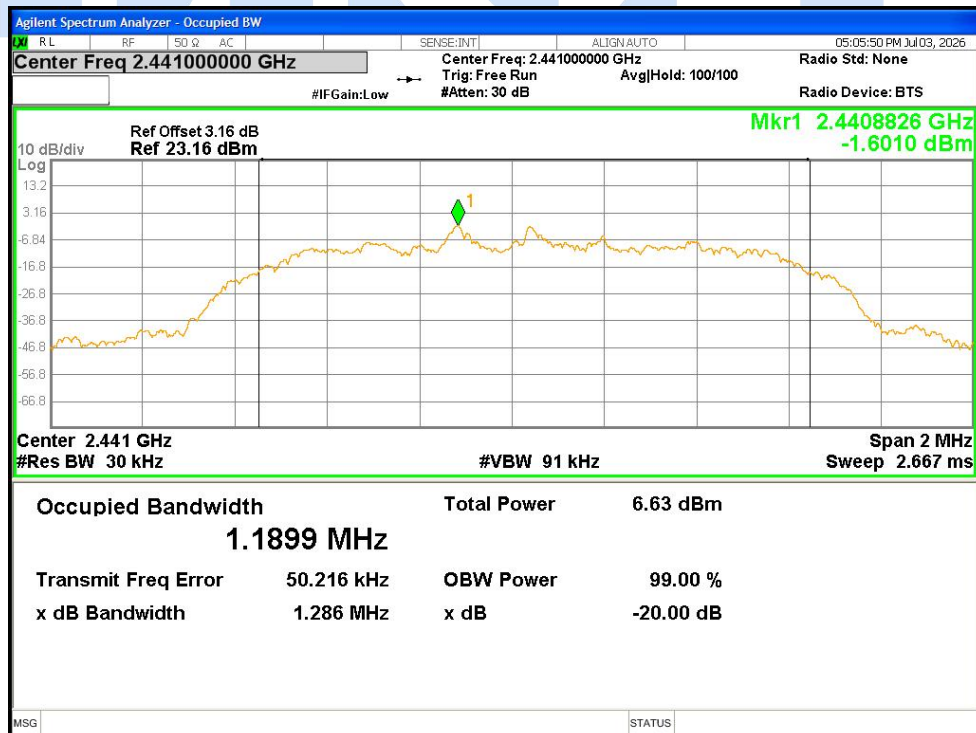
OBW NVNT 2480MHz Ant1

Pi/4 DQPSK:

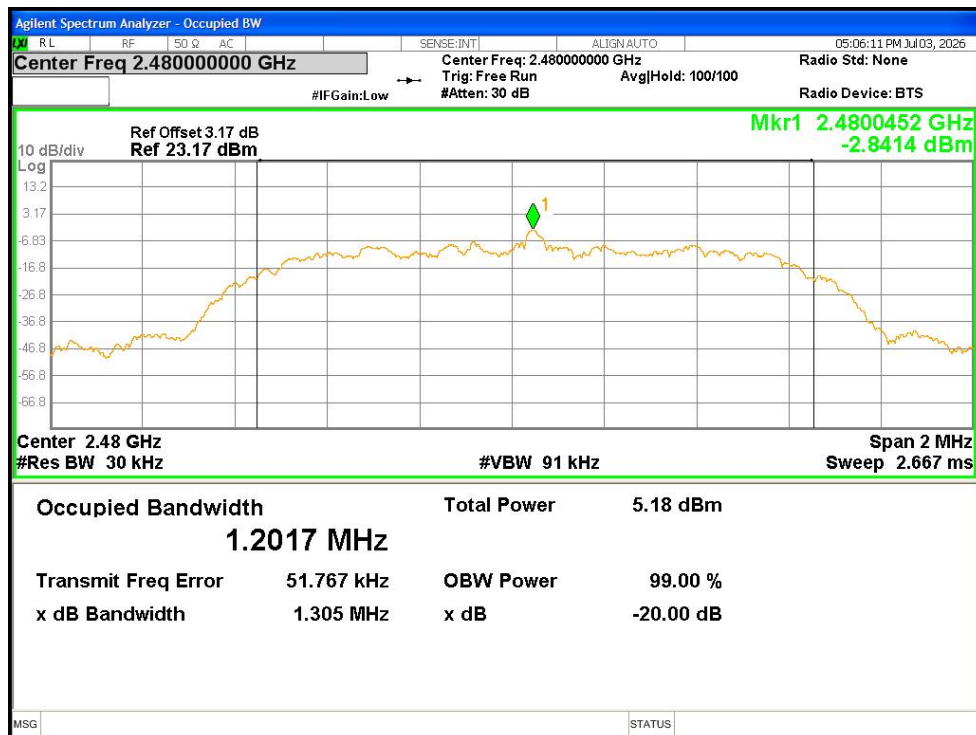
Frequency (MHz)	Antenna	99% OBW (MHz)	-20dB OBW (MHz)
2402	Ant1	1.192	1.308
2441	Ant1	1.19	1.286
2480	Ant1	1.202	1.305



OBW NVNT 2402MHz Ant1



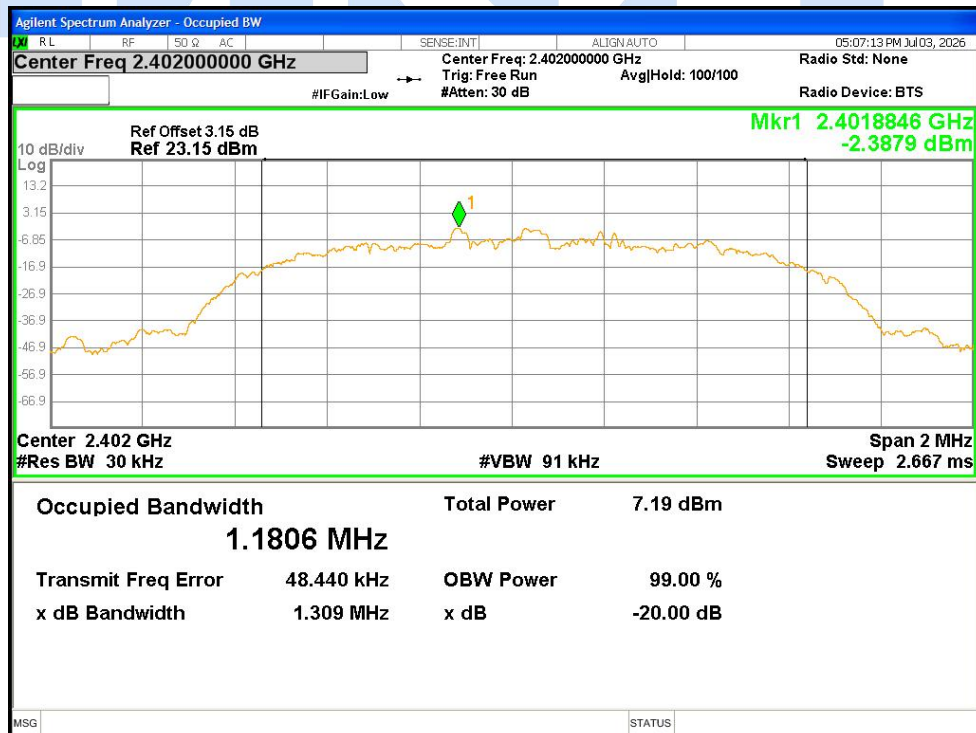
OBW NVNT 2441MHz Ant1



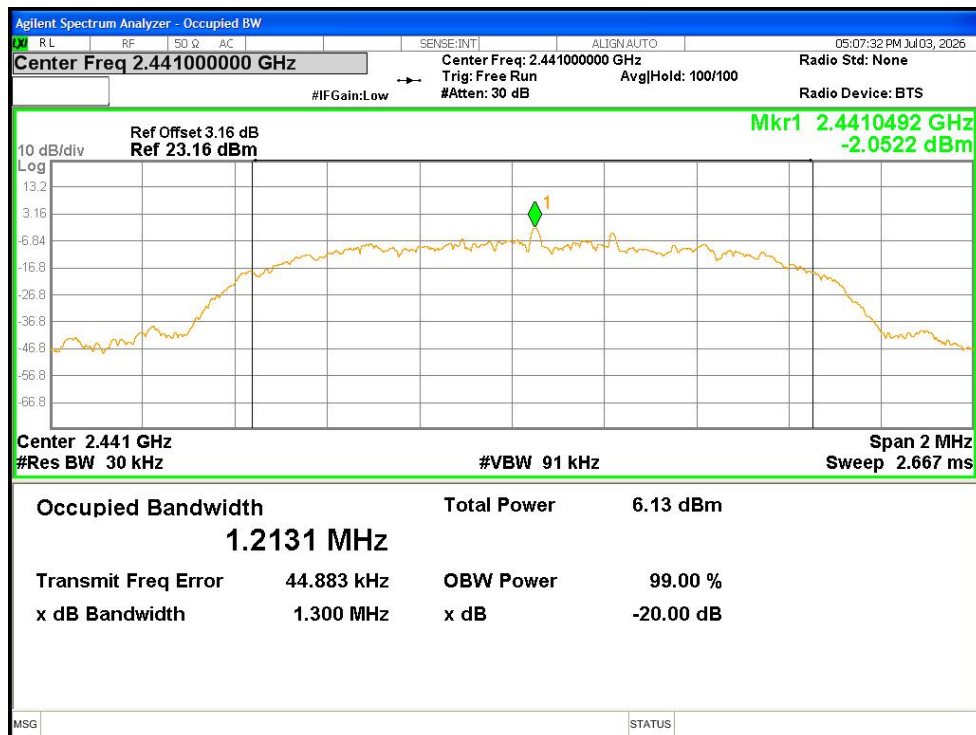
OBW NVNT 2480MHz Ant1

8DPSK:

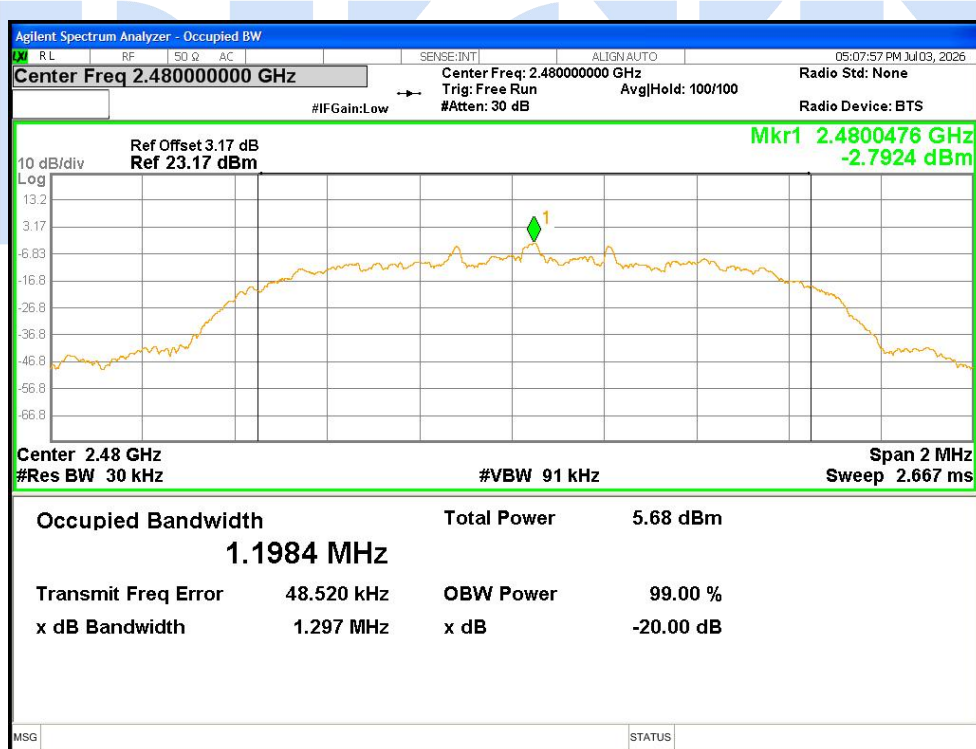
Frequency (MHz)	Antenna	99% OBW (MHz)	-20dB OBW (MHz)
2402	Ant1	1.181	1.309
2441	Ant1	1.213	1.300
2480	Ant1	1.198	1.297



OBW NVNT 2402MHz Ant1



OBW NVNT 2441MHz Ant1



OBW NVNT 2480MHz Ant1

5. Antenna Requirement

According to the FCC Part 15 Paragraph 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. This product has an PCB antenna fulfill the requirement of this section.



6. Test Photographs

Please see Attachment BKC26073994GE-3.

7. Appendix I: Photos of the EUT

Please see Attachment BKC26073994GE-4 and BKC26073994GE-5.

