Shenzhen Huaxia Testing Technology Co., Ltd.

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Report Template Version: V05
Report Template Revision Date: 2021-11-03

Test Report

Report No. :	CQASZ20250200265E
Applicant:	Shenzhen Hollyland Technology Co.,Ltd.
Address of Applicant:	8F, Building 5D, Skyworth Innovation Valley, Tangtou Road, Shiyan Street, Baoan District, Shenzhen, 518055 China

Equipment Under Test (EUT):

Product:	Wireless Microphone
Model No.:	M18R2
Test Model No.:	M18R2
Brand Name:	HOLLYLAND
FCC ID:	2ADZC-M18R2
Standards:	47 CFR Part 15, Subpart C KDB558074 D01 15.247 Meas Guidance v05r02 ANSI C63.10:2013
Date of Receipt:	2025-02-14
Date of Test:	2025-02-14 to 2025-04-10
Date of Issue:	2025-04-10
Test Result :	**PASS***

***In the configuration tested, the EUT complied with the standards specified above.**

Tested By: lewis zhou
(Lewis Zhou)

Reviewed By: Timo Lei
(Timo Lei)

Approved By:
(Jack Ai)

1 Version

Revision History Of Report

Report No.	Version	Description	Issue Date
CQASZ20250200265E	Rev.01	Initial report	2025-04-10

2 Test Summary

Test Item	Test Requirement	Test method	Result
Antenna Requirement	47 CFR Part 15.203	/	PASS
AC Power Line Conducted Emission	47 CFR Part 15, Subpart C Section 15.207	ANSI C63.10-2013	PASS
Conducted Peak Output Power	47 CFR Part 15.247	ANSI C63.10-2013	PASS
20dB Occupied Bandwidth	47 CFR Part 15.247	ANSI C63.10-2013	PASS
Carrier Frequencies Separation	47 CFR Part 15.247	ANSI C63.10-2013	PASS
Hopping Channel Number	47 CFR Part 15.247	ANSI C63.10-2013	PASS
Dwell Time	47 CFR Part 15.247	ANSI C63.10-2013	PASS
Pseudorandom Frequency Hopping Sequence	47 CFR Part 15.247	ANSI C63.10-2013	PASS
Band-edge for RF Conducted Emissions	47 CFR Part 15.247	ANSI C63.10-2013	PASS
RF Conducted Spurious Emissions	47 CFR Part 15.247	ANSI C63.10-2013	PASS
Radiated Spurious emissions	47 CFR Part 15.209	ANSI C63.10-2013	PASS
Restricted bands around fundamental frequency (Radiated Emission)	47 CFR Part 15.205/15.209	ANSI C63.10-2013	PASS

Remark:

The tested sample(s) and the sample information are provided by the client.

Tx: In this whole report Tx (or tx) means Transmitter.

Rx: In this whole report Rx (or rx) means Receiver.

RF: In this whole report RF means Radiated Frequency.

CH: In this whole report CH means channel.

Volt: In this whole report Volt means Voltage.

Temp: In this whole report Temp means Temperature.

Humid: In this whole report Humid means humidity.

Press: In this whole report Press means Pressure.

N/A: In this whole report not application

3 Contents

4 General Information

4.1 Client Information

Applicant:	Shenzhen Hollyland Technology Co.,Ltd.
Address of Applicant:	8F, Building 5D, Skyworth Innovation Valley, Tangtou Road, Shiyan Street, Baoan District, Shenzhen, 518055 China
Manufacturer:	Shenzhen Hollyland Technology Co.,Ltd.
Address of Manufacturer:	8F, Building 5D, Skyworth Innovation Valley, Tangtou Road, Shiyan Street, Baoan District, Shenzhen, 518055 China
Factory:	Shenzhen Hollyland Technology Co.,Ltd.
Address of Factory:	8F, Building 5D, Skyworth Innovation Valley, Tangtou Road, Shiyan Street, Baoan District, Shenzhen, 518055 China

4.2 General Description of EUT

Product Name:	Wireless Microphone
Model No.:	M18R2
Test Model No.:	M18R2
Trade Mark:	HOLLYLAND
Software Version:	A6108_RX_V1.0.0.10.fw
Hardware Version:	A6108-RX-CAM_V08
Operation Frequency:	2402MHz~2480MHz
Modulation Technique:	Frequency Hopping Spread Spectrum(FHSS)
Modulation Type:	GFSK
Transfer Rate:	1Mbps/2Mbps
Number of Channel:	40
Hopping Channel Type:	Adaptive Frequency Hopping systems
Product Type:	☐ Mobile ☒ Portable
Test Software of EUT:	Telink BDT
Antenna Type:	Monopole antenna
Antenna Gain:	0.63dBi
Power Supply:	Power supply DC5V form adapter
Simultaneous Transmission	☐ Simultaneous TX is supported and evaluated in this report. ☒ Simultaneous TX is not supported.

Operation Frequency each of channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
0	2402MHz	10	2422MHz	20	2442MHz	30	2462MHz
1	2404MHz	11	2424MHz	21	2444MHz	31	2464MHz
2	2406MHz	12	2426MHz	22	2446MHz	32	2466MHz
3	2408MHz	13	2428MHz	23	2448MHz	33	2468MHz
4	2410MHz	14	2430MHz	24	2450MHz	34	2470MHz
5	2412MHz	15	2432MHz	25	2452MHz	35	2472MHz
6	2414MHz	16	2434MHz	26	2454MHz	36	2474MHz
7	2416MHz	17	2436MHz	27	2456MHz	37	2476MHz
8	2418MHz	18	2438MHz	28	2458MHz	38	2478MHz
9	2420MHz	19	2440MHz	29	2460MHz	39	2480MHz

Note:
In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

Channel	Frequency
The Lowest channel	2402MHz
The Middle channel	2440MHz
The Highest channel	2480MHz

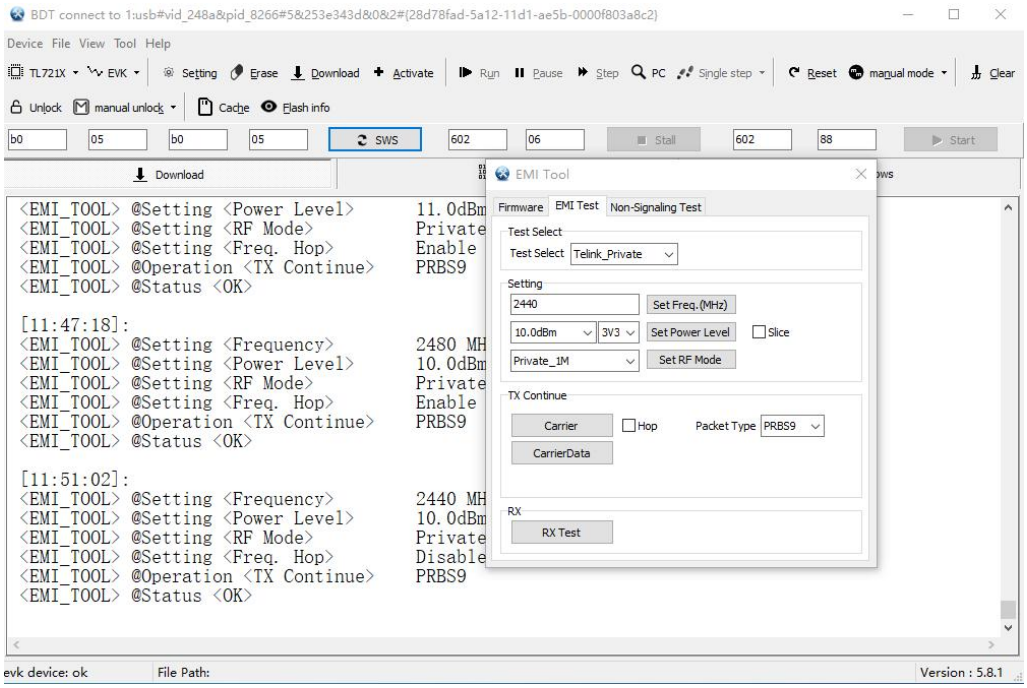
4.3 Additional Instructions

EUT Test Software Settings:	
Mode:	☒ Special software is used. ☐ Through engineering command into the engineering mode. engineering command: *#*#3646633#*#*
EUT Power level:	Class 10

Use test software to set the lowest frequency, the middle frequency and the highest frequency keep transmitting of the EUT.

Mode	Channel	Frequency(MHz)
GFSK	CH0	2402
	CH19	2440
	CH39	2480

Run Software:



4.4 Test Environment

Operating Environment:	
Temperature:	25 °C
Humidity:	54% RH
Atmospheric Pressure:	1009mbar
Test Mode:	Use test software to set the lowest frequency, the middle frequency and the highest frequency keep transmitting of the EUT.

4.5 Description of Support Units

The EUT has been tested with associated equipment below.

Description	Manufacturer	Model No.	Remark	Supplied
Adapter	MI	/	/	CQA
Phone	Apple	iphone13	/	CQA

4.6 Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate.

The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities.

The measurement uncertainty was calculated for all measurements listed in this test report acc. to CISPR 16 - 4 „Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainty in EMC Measurements“ and is documented in the **Shenzhen Huaxia Testing Technology Co., Ltd.** quality system acc. to DIN EN ISO/IEC 17025.

Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

Hereafter the best measurement capability for CQA laboratory is reported:

No.	Item	Uncertainty
1	Radiated Emission (Below 1GHz)	5.12dB
2	Radiated Emission (Above 1GHz)	4.60dB
3	Conducted Disturbance (0.15~30MHz)	3.34dB
4	Radio Frequency	3×10^{-8}
5	Duty cycle	0.6 %
6	Occupied Bandwidth	1.1%
7	RF conducted power	0.86dB
8	RF power density	0.74
9	Conducted Spurious emissions	0.86dB
10	Temperature test	0.8℃
11	Humidity test	2.0%
12	Supply voltages	0.5 %
13	Frequency Error	5.5 Hz

4.7 Test Location

All tests were performed at:

Shenzhen Huaxia Testing Technology Co., Ltd.

1F., Block A of Tongsheng Technology Building, Huahui Road, Dalang Street, Longhua District, Shenzhen, China

4.8 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:
IC Registration No.: 22984-1
The 3m Semi-anechoic chamber of Shenzhen Huaxia Testing Technology Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing

The test facility is recognized, certified, or accredited by the following organizations:

- **CNAS (No. CNAS L5785)**

CNAS has accredited Shenzhen Huaxia Testing Technology Co., Ltd. Shenzhen Branch EMC Lab to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing.

- **A2LA (Certificate No. 4742.01)**

Shenzhen Huaxia Testing Technology Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 4742.01.

- **FCC Registration No.: 522263**

Shenzhen Huaxia Testing Technology Co., Ltd., Shenzhen EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration No.:522263

4.9 Abnormalities from Standard Conditions

None.

4.10 Other Information Requested by the Customer

None.

4.11 Equipment List

Test Equipment	Manufacturer	Model No.	Instrument No.	Calibration Date	Calibration Due Date
EMI Test Receiver	R&S	ESR7	CQA-005	2024/9/2	2025/9/1
Spectrum analyzer	R&S	FSU26	CQA-038	2024/9/2	2025/9/1
Spectrum analyzer	R&S	FSU40	CQA-075	2024/9/2	2025/9/1
Preamplifier	MITEQ	AFS4-00010300-18-10P-4	CQA-035	2024/9/2	2025/9/1
Preamplifier	MITEQ	AMF-6D-02001800-29-20P	CQA-036	2024/9/2	2025/9/1
Preamplifier	EMCI	EMC184055SE	CQA-089	2024/9/2	2025/9/1
Loop antenna	Schwarzbeck	FMZB1516	CQA-060	2023/9/8	2026/9/7
Bilog Antenna	R&S	HL562	CQA-011	2023/11/01	2026/10/31
Horn Antenna	R&S	HF906	CQA-012	2023/11/01	2026/10/31
Horn Antenna	Schwarzbeck	BBHA 9170	CQA-088	2023/9/7	2026/9/6
Coaxial Cable (Above 1GHz)	CQA	N/A	C007	2024/9/2	2025/9/1
Coaxial Cable (Below 1GHz)	CQA	N/A	C013	2024/9/2	2025/9/1
Antenna Connector	CQA	RFC-01	CQA-080	2024/9/2	2025/9/1
RF cable(9KHz~40GHz)	CQA	RF-01	CQA-079	2024/9/2	2025/9/1
Power meter	R&S	NRVD	CQA-029	2024/9/2	2025/9/1
Power divider	MIDWEST	PWD-2533-02-SMA-79	CQA-067	2024/9/2	2025/9/1
EMI Test Receiver	R&S	ESR7	CQA-005	2024/9/2	2025/9/1
LISN	R&S	ENV216	CQA-003	2024/9/2	2025/9/1
Coaxial cable	CQA	N/A	CQA-C009	2024/9/2	2025/9/1
DC power	KEYSIGHT	E3631A	CQA-028	2024/9/2	2025/9/1

Test software:

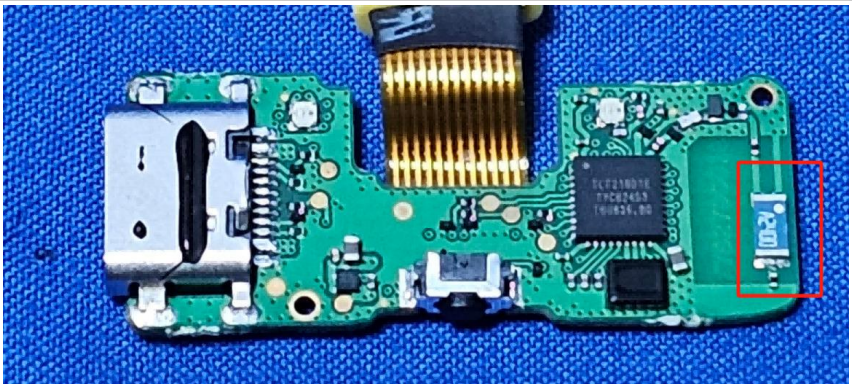
	Manufacturer	Software brand	Software version
Radiated Emissions test software	Tonscend	JS1120-3	Version:8
Conducted Emissions test software	Audix	e3	Version:9
RF Conducted test software	Audix	e3	V3.5.39

Note:

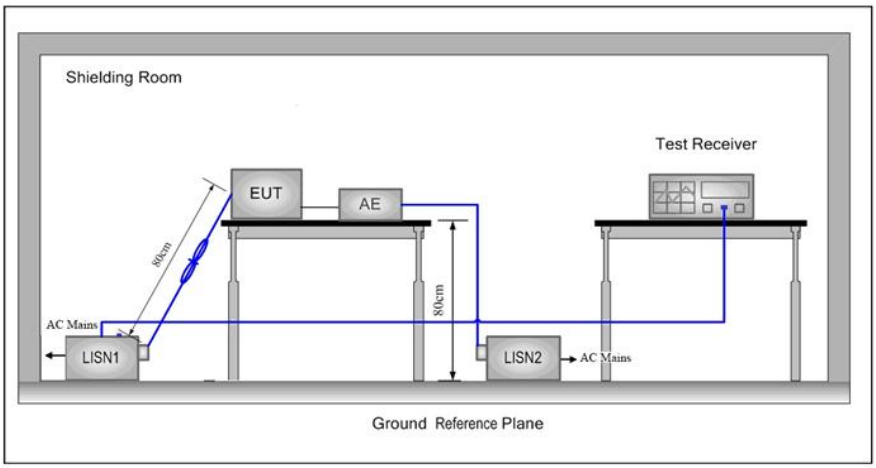
The temporary antenna connector is soldered on the PCB board in order to perform conducted tests and this temporary antenna connector is listed in the equipment list.

5 Test results and Measurement Data

5.1 Antenna Requirement

Standard requirement:	47 CFR Part 15C Section 15.203 /247(c)
15.203 requirement: 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. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. 15.247(b) (4) requirement: The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.	
EUT Antenna:	
The antenna is Monopole antenna. **The connection/connection type between the antenna to the EUT's antenna port is: This is either permanently attachment.**	

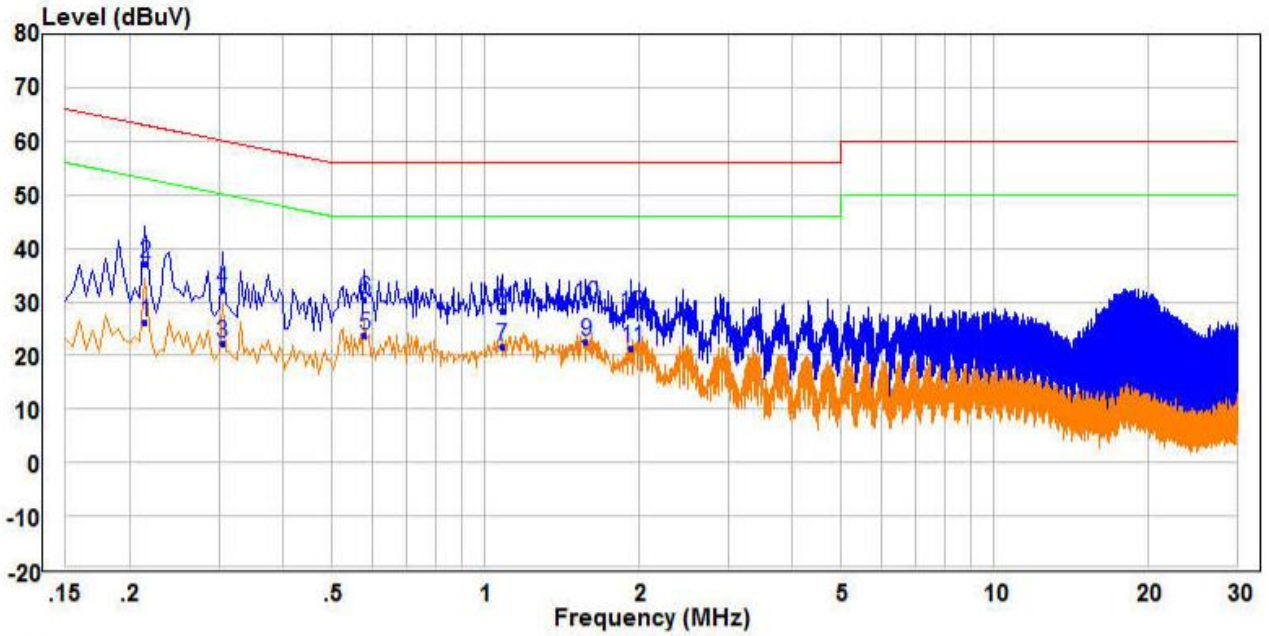
5.2 Conducted Emissions

Test Requirement:	47 CFR Part 15C Section 15.207
Test Method:	ANSI C63.10: 2013
Test Frequency Range:	150kHz to 30MHz
Limit:	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.
Test Procedure:	1) The mains terminal disturbance voltage test was conducted in a shielded room. 2) The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a 50Ω/50μH + 5Ω linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded. 3) The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane, 4) The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0.4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN 1 was placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distance was between the closest points of the LISN 1 and the EUT. All other units of the EUT and associated equipment was at least 0.8 m from the LISN 2. 5) In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10: 2013 on conducted measurement.
Test Setup:	

Test Mode:	Charge mode
Test Voltage:	AC 120V/60Hz
Test Results:	Pass

Measurement Data

Live line:



		Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark	Pol/Phase
		MHz	dBuV	dB	dBuV	dBuV	dB		
1		0.215	16.50	9.59	26.09	53.01	-26.92	Average	Line
2		0.215	27.69	9.59	37.28	63.01	-25.73	QP	Line
3		0.305	12.66	9.50	22.16	50.11	-27.95	Average	Line
4		0.305	22.70	9.50	32.20	60.11	-27.91	QP	Line
5	PP	0.580	14.12	9.78	23.90	46.00	-22.10	Average	Line
6	QP	0.580	20.81	9.78	30.59	56.00	-25.41	QP	Line
7		1.080	11.68	9.91	21.59	46.00	-24.41	Average	Line
8		1.080	18.37	9.91	28.28	56.00	-27.72	QP	Line
9		1.575	11.70	10.98	22.68	46.00	-23.32	Average	Line
10		1.575	18.48	10.98	29.46	56.00	-26.54	QP	Line
11		1.940	9.64	11.57	21.21	46.00	-24.79	Average	Line
12		1.940	16.10	11.57	27.67	56.00	-28.33	QP	Line

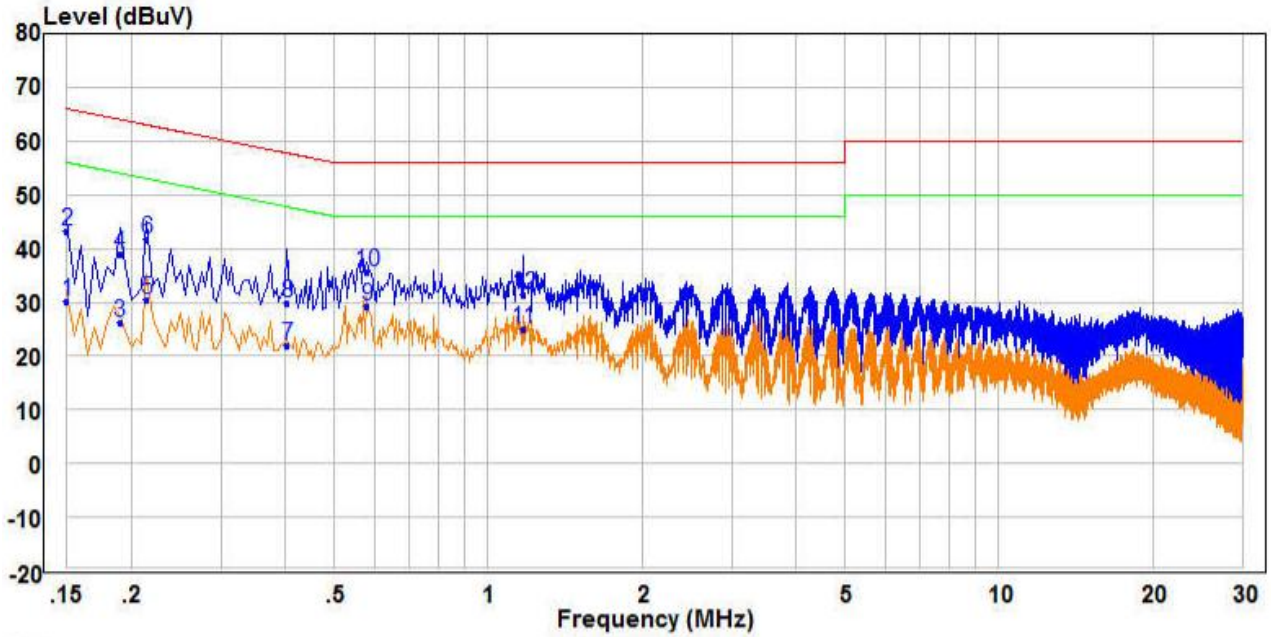
Remark:

1. The following Quasi-Peak and Average measurements were performed on the EUT:

2. Final Test Level =Receiver Reading + LISN Factor + Cable Loss.

3. If the Peak value under Average limit, the Average value is not recorded in the report.

Neutral line:

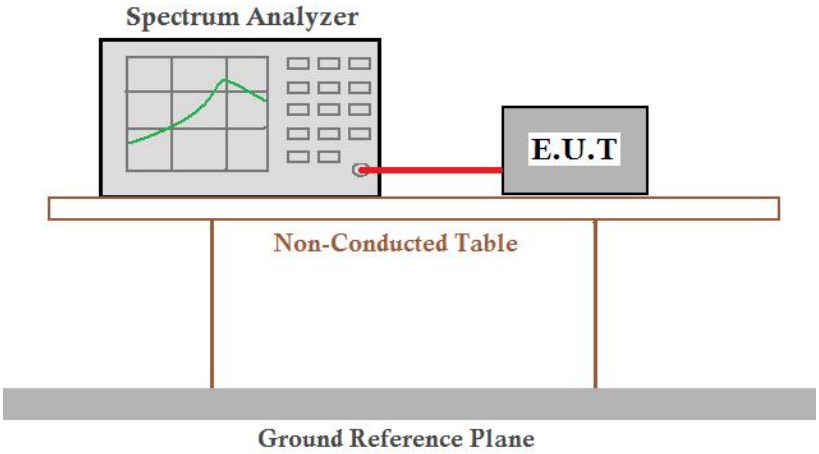


		Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark	Pol/Phase
		MHz	dBuV	dB	dBuV	dBuV	dB		
1		0.150	20.58	9.70	30.28	56.00	-25.72	Average	Neutral
2		0.150	33.64	9.70	43.34	66.00	-22.66	QP	Neutral
3		0.190	16.57	9.62	26.19	54.04	-27.85	Average	Neutral
4		0.190	29.39	9.62	39.01	64.04	-25.03	QP	Neutral
5		0.215	20.96	9.59	30.55	53.01	-22.46	Average	Neutral
6		0.215	32.24	9.59	41.83	63.01	-21.18	QP	Neutral
7		0.405	12.25	9.61	21.86	47.75	-25.89	Average	Neutral
8		0.405	20.13	9.61	29.74	57.75	-28.01	QP	Neutral
9	PP	0.580	19.55	9.78	29.33	46.00	-16.67	Average	Neutral
10	QP	0.580	25.82	9.78	35.60	56.00	-20.40	QP	Neutral
11		1.170	15.27	9.71	24.98	46.00	-21.02	Average	Neutral
12		1.170	21.66	9.71	31.37	56.00	-24.63	QP	Neutral

Remark:

1. The following Quasi-Peak and Average measurements were performed on the EUT:
2. Final Test Level =Receiver Reading + LISN Factor + Cable Loss.
3. If the Peak value under Average limit, the Average value is not recorded in the report.

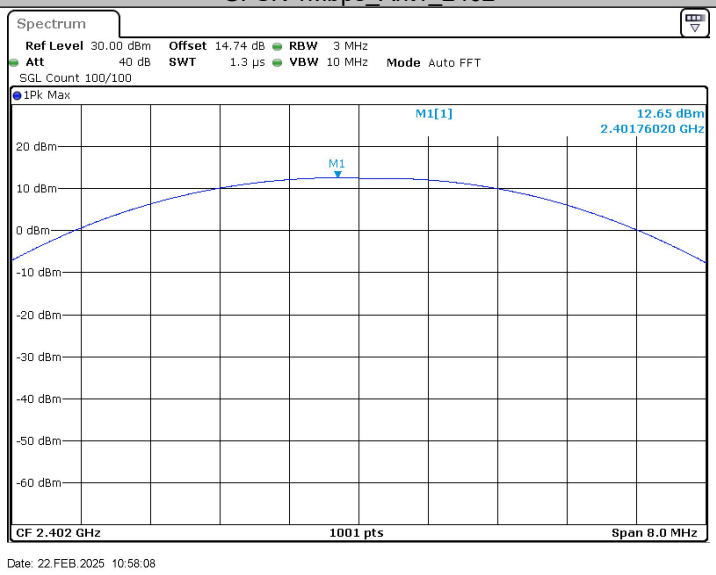
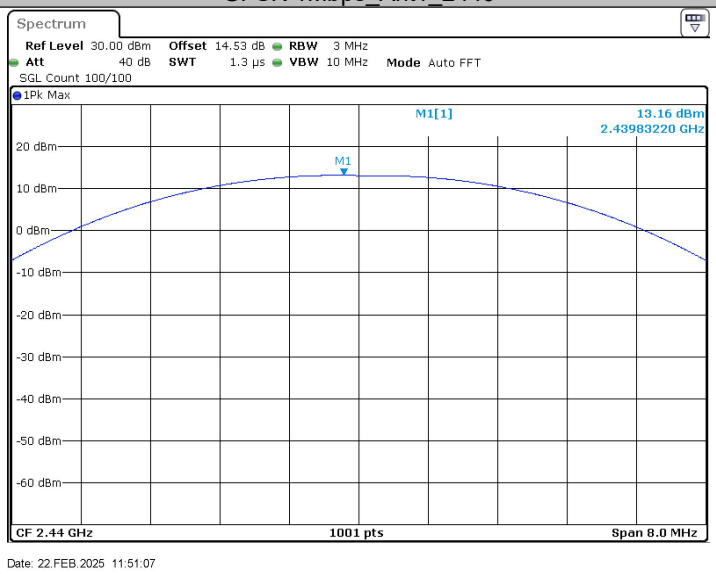
5.3 Conducted Peak Output Power

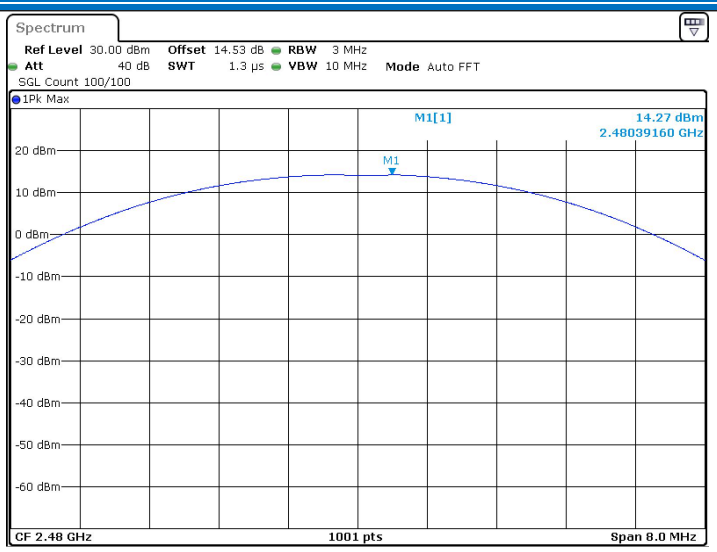
Test Requirement:	47 CFR Part 15C Section 15.247 (b)(1)
Test Method:	ANSI C63.10:2013
Test Setup:	***Setup for Power meter measurement method***  ***Setup for Spectrum analyser measurement method***  *Remark: Offset=Cable loss+ attenuation factor.*
Limit:	21dBm
Exploratory Test Mode:	Non-hopping transmitting with all kind of modulation and all kind of data type
Final Test Mode:	Only the worst case is recorded in the report.
Test Results:	Pass

Measurement Data

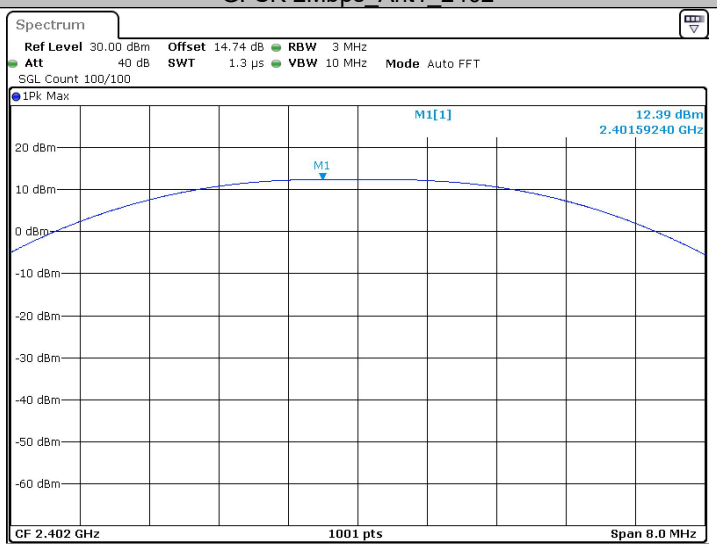
GFSK 1Mbps mode			
Test channel	Peak Output Power (dBm)	Limit (dBm)	Result
Lowest	12.65	21.00	Pass
Middle	13.16	21.00	Pass
Highest	14.27	21.00	Pass
GFSK 2Mbps mode			
Test channel	Peak Output Power (dBm)	Limit (dBm)	Result
Lowest	12.39	21.00	Pass
Middle	13.64	21.00	Pass
Highest	14.27	21.00	Pass

Test plot as follows:

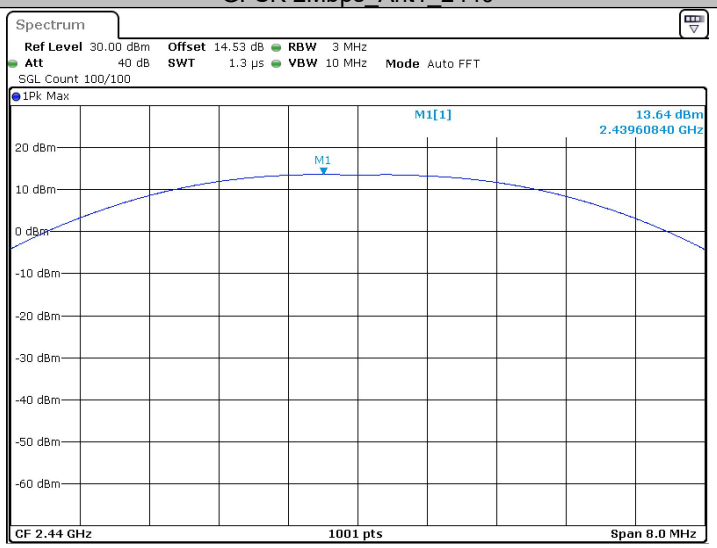
GFSK 1Mbps_Ant1_2402

GFSK 1Mbps_Ant1_2440

GFSK 1Mbps_Ant1_2480



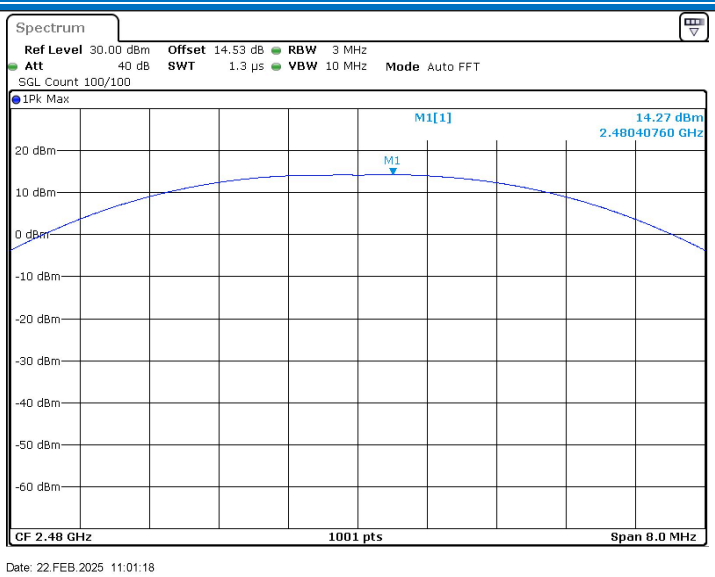
GFSK 2Mbps_Ant1_2402



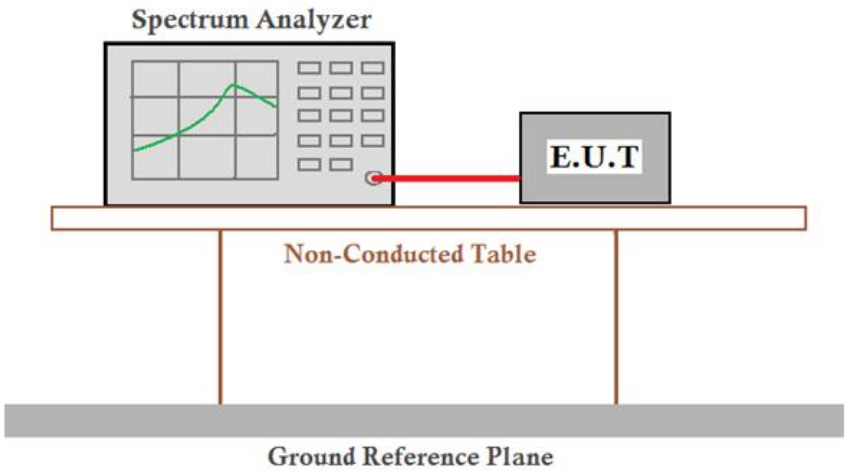
GFSK 2Mbps_Ant1_2440



GFSK 2Mbps_Ant1_2480


Spectrum
Ref Level 30.00 dBm Offset 14.53 dB RBW 3 MHz
Att 40 dB SWT 1.3 µs VBW 10 MHz Mode Auto FFT
SGL Count 100/100
1Pk Max
M1[1] 14.27 dBm
2.48040760 GHz
M1
20 dBm
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
CF 2.48 GHz
1001 pts
Span 8.0 MHz
Date: 22.FEB.2025 11:01:18

5.4 20dB Occupied Bandwidth

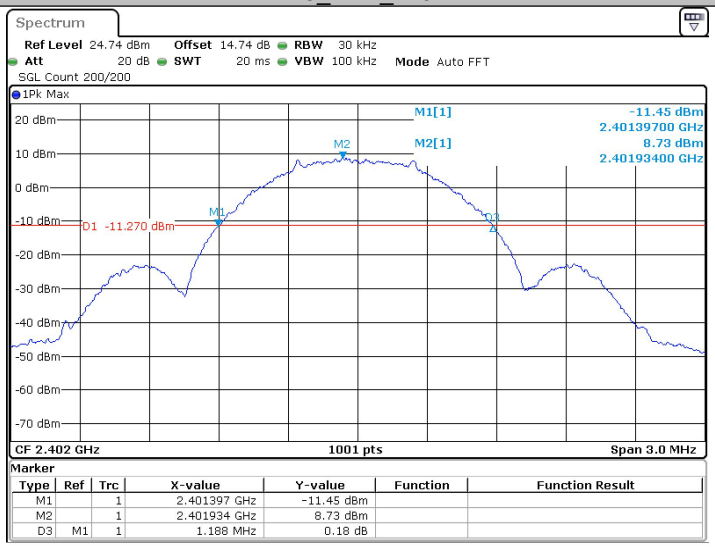
Test Requirement:	47 CFR Part 15C Section 15.247 (a)(1)
Test Method:	ANSI C63.10:2013
Test Setup:	 Remark: Offset=Cable loss+ attenuation factor.
Limit:	NA
Exploratory Test Mode:	Non-hopping transmitting with all kind of modulation and all kind of data type
Final Test Mode:	Only the worst case is recorded in the report.
Test Results:	Pass

Measurement Data

Test channel	20dB Occupy Bandwidth (MHz)	
	GFSK 1Mbps	GFSK 2Mbps
Lowest	1.19	2.30
Middle	1.20	2.41
Highest	1.21	2.31

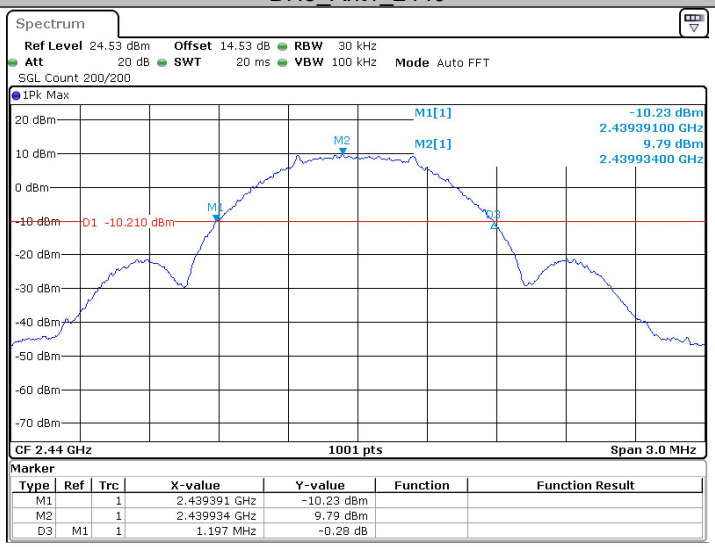
Test plot as follows:

DH5_Ant1_2402



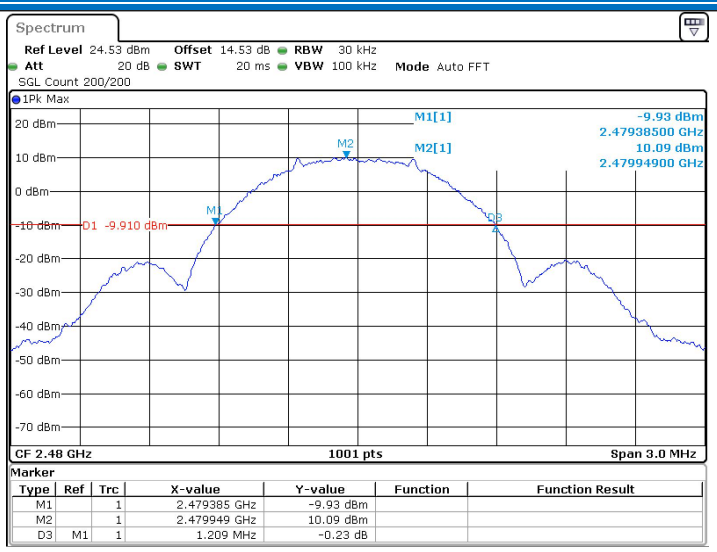
Date: 10.APR.2025 15:07:02

DH5_Ant1_2440



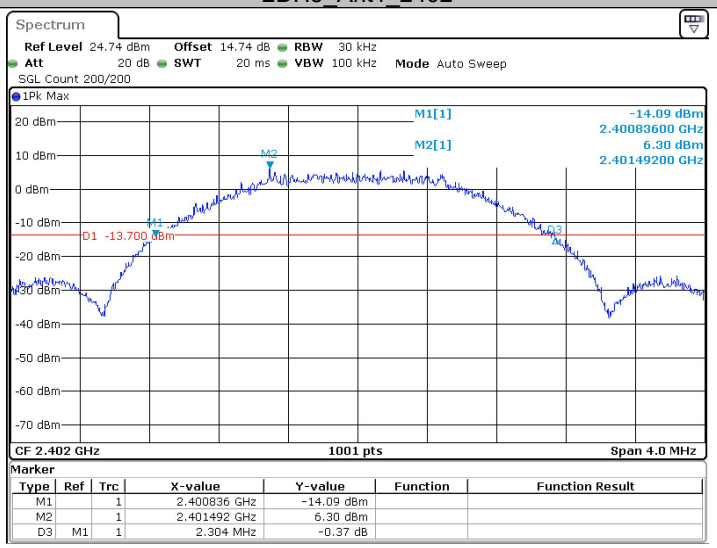
Date: 10.APR.2025 15:07:41

DH5_Ant1_2480



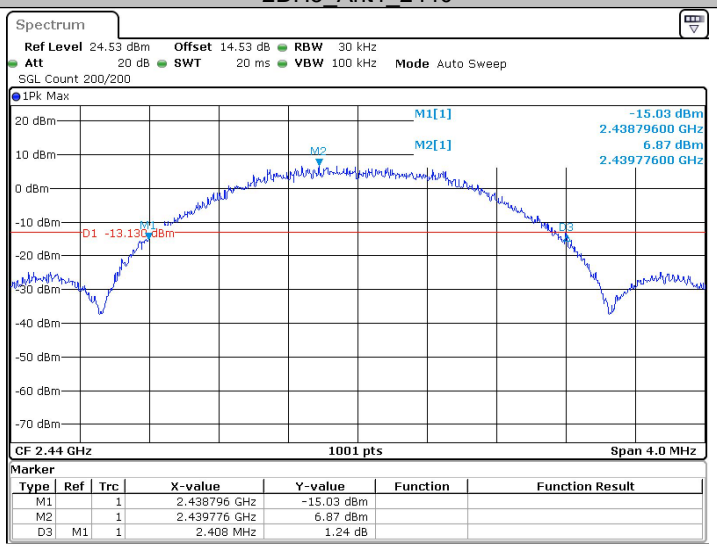
Date: 10.APR.2025 15:08:16

2DH5_Ant1_2402



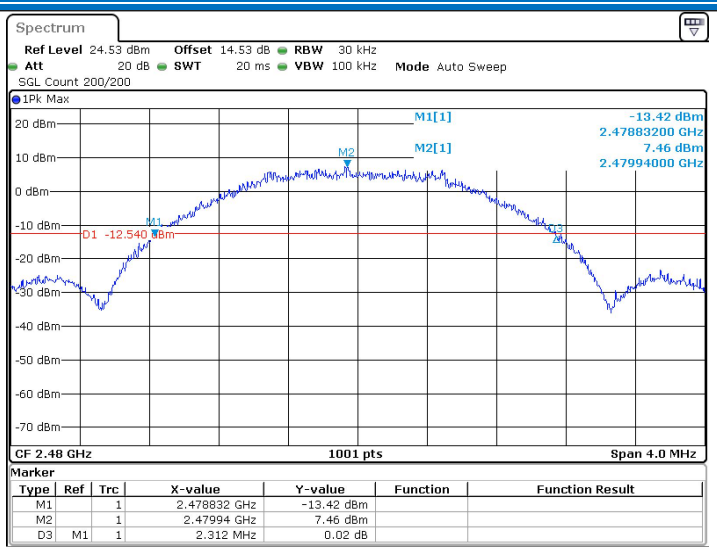
Date: 10.APR.2025 15:09:28

2DH5_Ant1_2440

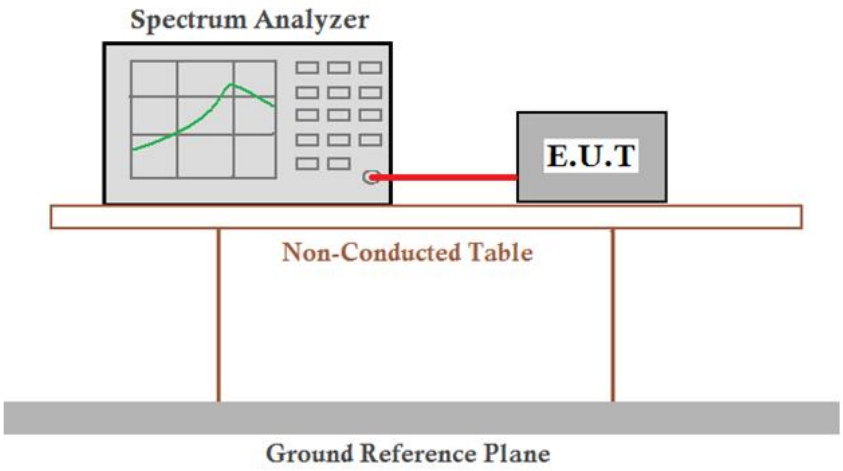


Date: 10.APR.2025 15:09:56

2DH5_Ant1_2480


Spectrum
Ref Level 24.53 dBm Offset 14.53 dB RBW 30 kHz
Att 20 dB SWT 20 ms VBW 100 kHz Mode Auto Sweep
SGL Count 200/200
1Pk Max
M1[1] -13.42 dBm
2.47883200 GHz
M2[1] 7.46 dBm
2.47994000 GHz
D1 -12.540 dBm
CF 2.48 GHz
1001 pts
Span 4.0 MHz
Marker
Type Ref Trc X-value Y-value Function Function Result
M1 1 2.478832 GHz -13.42 dBm
M2 1 2.47994 GHz 7.46 dBm
D3 M1 1 2.312 MHz 0.02 dB
Date: 10.APR.2025 15:10:22

5.5 Carrier Frequencies Separation

Test Requirement:	47 CFR Part 15C Section 15.247 (a)(1)
Test Method:	ANSI C63.10:2013
Test Setup:	 Remark: Offset=Cable loss+ attenuation factor.
Limit:	2/3 of the 20dB bandwidth
	Remark: the transmission power is less than 0.125W.
Exploratory Test Mode:	Hopping transmitting with all kind of modulation and all kind of data type
Final Test Mode:	Only the worst case is recorded in the report.
Test Results:	Pass

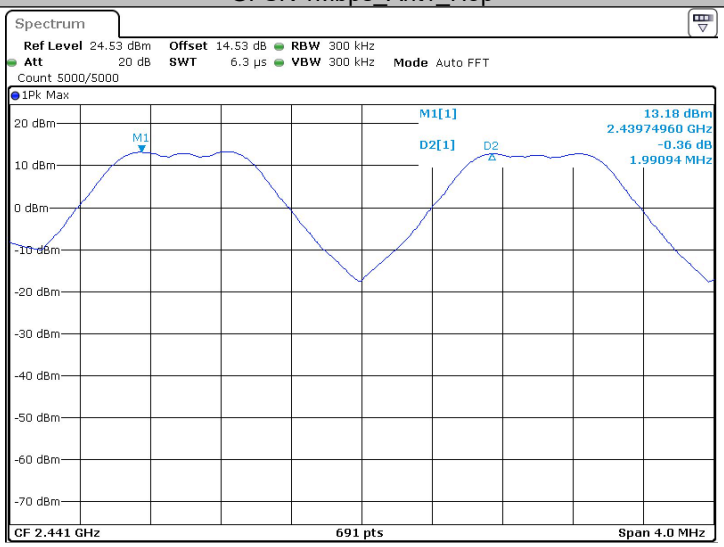
Measurement Data

TestMode	Freq(MHz)	Result[MHz]	Limit[MHz]	Verdict
GFSK 1Mbps	Hop	1.990	≥0.807	PASS
GFSK 2Mbps	Hop	1.983	≥1.607	PASS

Mode	20dB bandwidth (MHz) (worse case)	Limit (MHz) (Carrier Frequencies Separation)
GFSK 1Mbps	1.21	≥0.807
GFSK 2Mbps	2.41	≥1.607

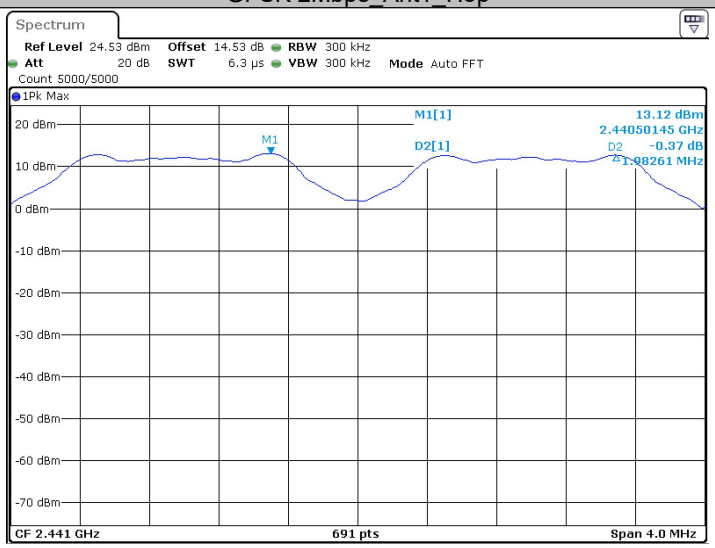
Test plot as follows:

GFSK 1Mbps_Ant1_Hop



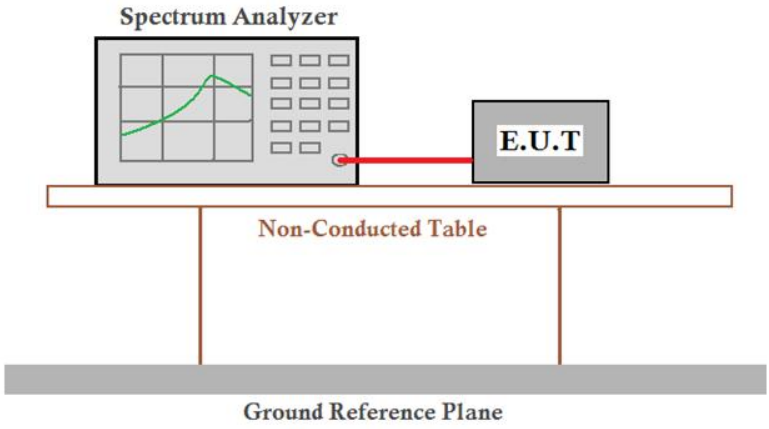
Date: 22.FEB.2025 11:39:41

GFSK 2Mbps_Ant1_Hop



Date: 22.FEB.2025 11:48:32

5.6 Hopping Channel Number

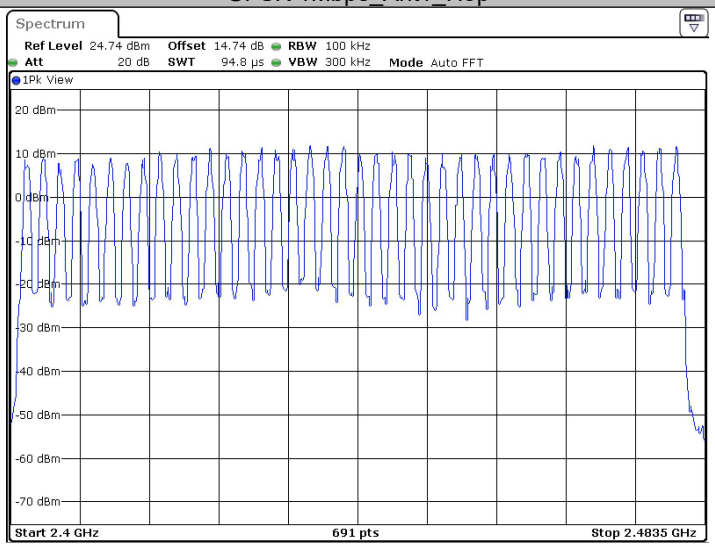
Test Requirement:	47 CFR Part 15C Section 15.247 (a)(1)
Test Method:	ANSI C63.10:2013
Test Setup:	 *Remark: Offset=Cable loss+ attenuation factor.*
Limit:	At least 15 channels
Exploratory Test Mode:	hopping transmitting with all kind of modulation and all kind of data type
Final Test Mode:	Only the worst case is recorded in the report.
Test Results:	Pass

Measurement Data

Mode	Hopping channel numbers	Limit
GFSK 1Mbps	40	≥15
GFSK 2Mbps	40	≥15

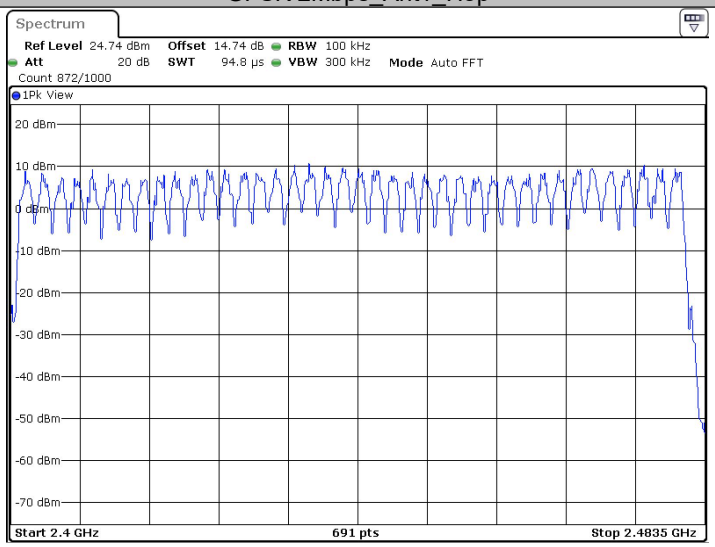
Test plot as follows:

GFSK 1Mbps_Ant1_Hop



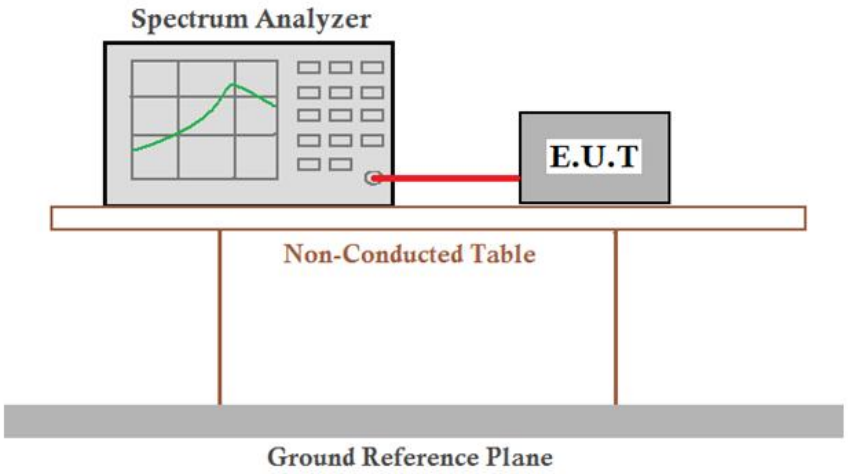
Date: 22.FEB.2025 11:40:46

GFSK 2Mbps_Ant1_Hop



Date: 22.FEB.2025 11:48:43

5.7 Dwell Time

Test Requirement:	47 CFR Part 15C Section 15.247 (a)(1)
Test Method:	ANSI C63.10:2013
Test Setup:	 *Remark: Offset=Cable loss+ attenuation factor.*
Test Mode:	Hopping transmitting with all kind of modulation and all kind of data type.
Limit:	0.4 Second
Test Results:	Pass

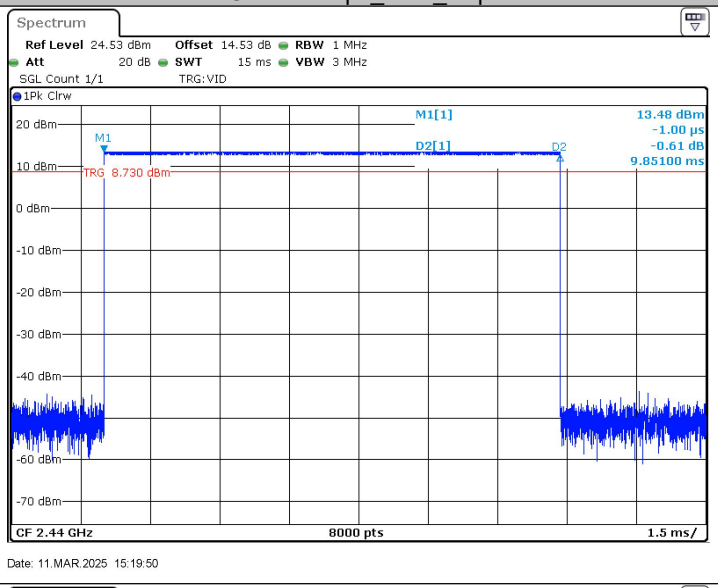
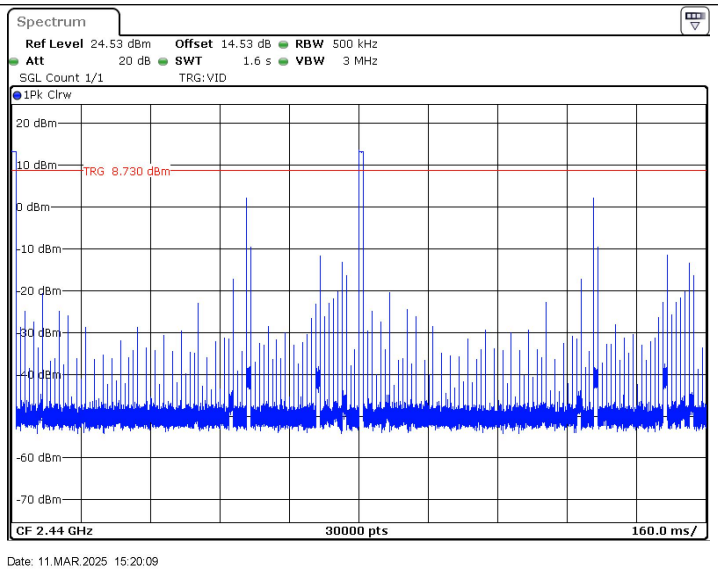
Measurement Data

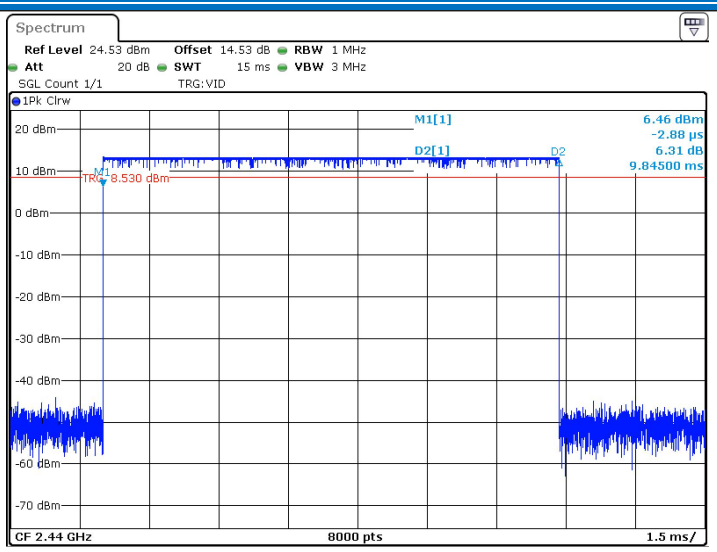
TestMode	Freq(MHz)	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
GFSK 1Mbps	Hop	9.854	20	0.197	≤0.4	PASS
GFSK 2Mbps	Hop	9.843	20	0.197	≤0.4	PASS

Remark:

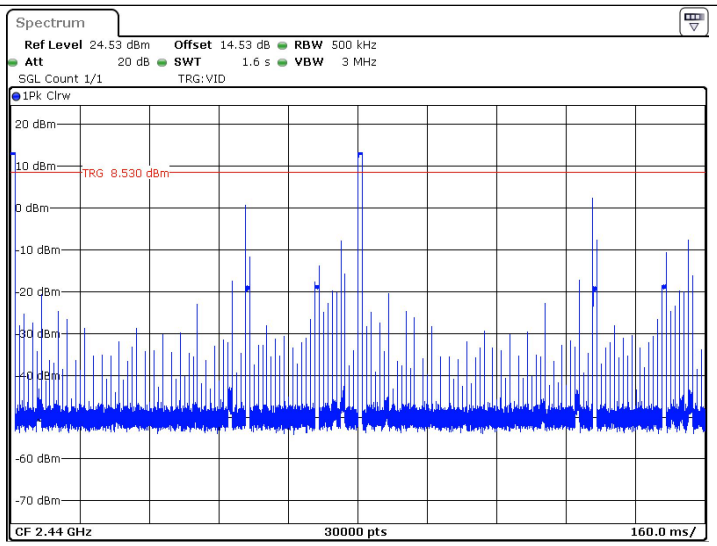
The test period: T= 0.4 Second/Channel x 40 Channel = 16 s

Test plot as follows:

GFSK 1Mbps_Ant1_Hop


GFSK 2Mbps_Ant1_Hop

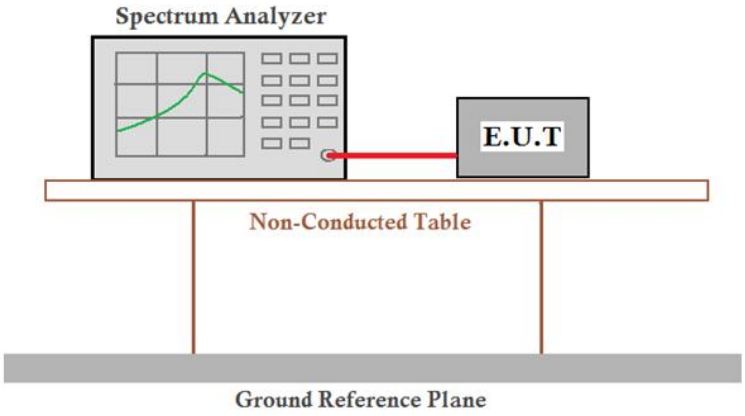


Date: 11.MAR.2025 15:21:01



Date: 11.MAR.2025 15:21:17

5.8 Band-edge for RF Conducted Emissions

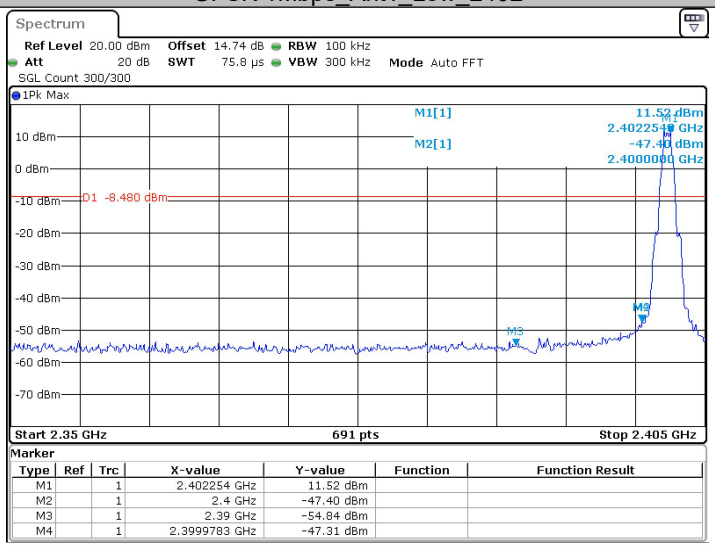
Test Requirement:	47 CFR Part 15C Section 15.247 (d)
Test Method:	ANSI C63.10:2013
Test Setup:	 *Remark: Offset=cable loss+ attenuation factor.*
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is 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.
Exploratory Test Mode:	Hopping and Non-hopping transmitting with all kind of modulation and all kind of data type
Final Test Mode:	Only the worst case is recorded in the report.
Test Results:	Pass

Measurement Data

TestMode	ChName	Freq(MHz)	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
GFSK 1Mbps	Low	2402	11.52	-47.31	≤-8.48	PASS
	High	2480	13.06	-50.69	≤-6.94	PASS
	Low	Hop_2402	9.56	-39.35	≤-10.44	PASS
	High	Hop_2480	12.87	-33.29	≤-7.13	PASS
GFSK 2Mbps	Low	2402	8.93	-25.43	≤-11.07	PASS
	High	2480	11.54	-50.69	≤-8.46	PASS
	Low	Hop_2402	8.39	-27.04	≤-11.61	PASS
	High	Hop_2480	11.10	-34.07	≤-8.9	PASS

Test plot as follows:

GFSK 1Mbps_Ant1_Low_2402

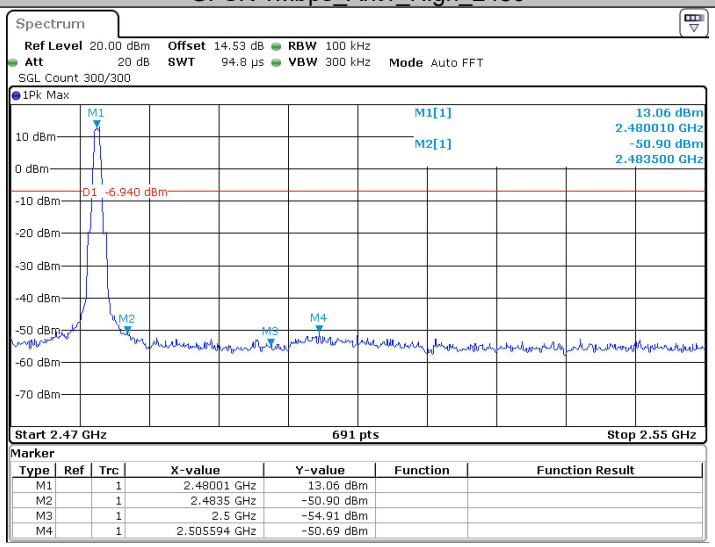


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.402254 GHz	11.52 dBm		
M2		1	2.4 GHz	-47.40 dBm		
M3		1	2.39 GHz	-54.84 dBm		
M4		1	2.3999783 GHz	-47.31 dBm		

Date: 22.FEB.2025 11:06:56

GFSK 1Mbps_Ant1_High_2480

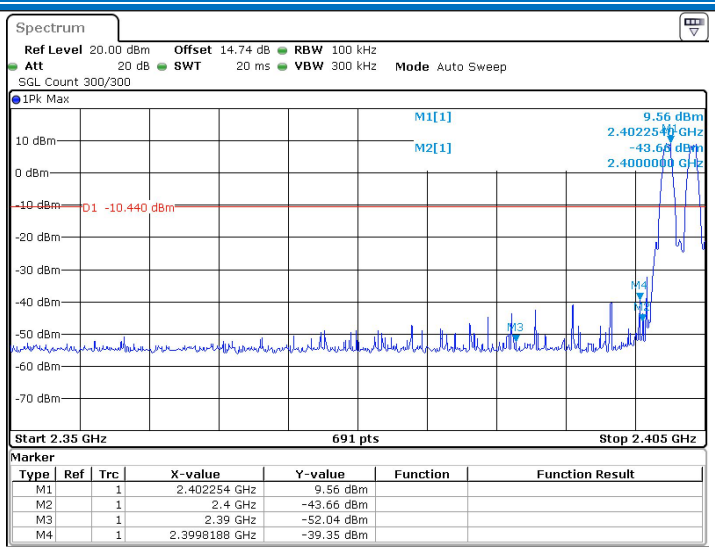


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.48001 GHz	13.06 dBm		
M2		1	2.4835 GHz	-50.90 dBm		
M3		1	2.5 GHz	-54.91 dBm		
M4		1	2.505594 GHz	-50.69 dBm		

Date: 22.FEB.2025 11:12:02

GFSK 1Mbps_Ant1_Low_Hop_2402

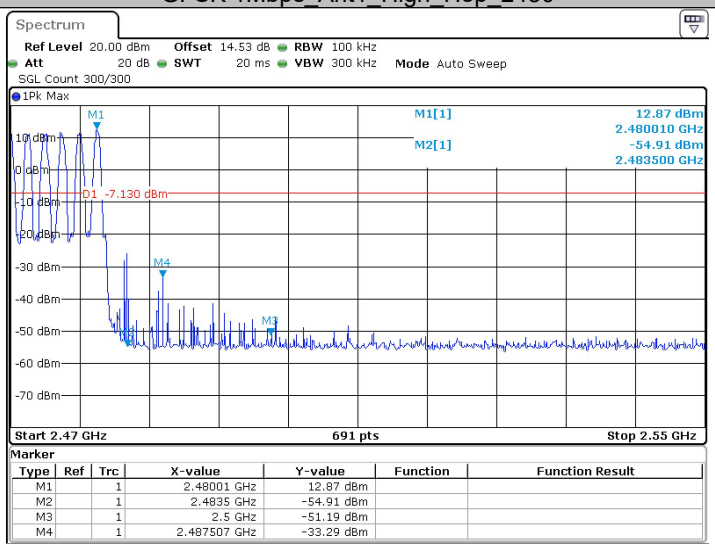


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.402254 GHz	9.56 dBm		
M2		1	2.4 GHz	-43.66 dBm		
M3		1	2.39 GHz	-52.04 dBm		
M4		1	2.3998188 GHz	-39.35 dBm		

Date: 22.FEB.2025 11:38:49

GFSK 1Mbps_Ant1_High_Hop_2480

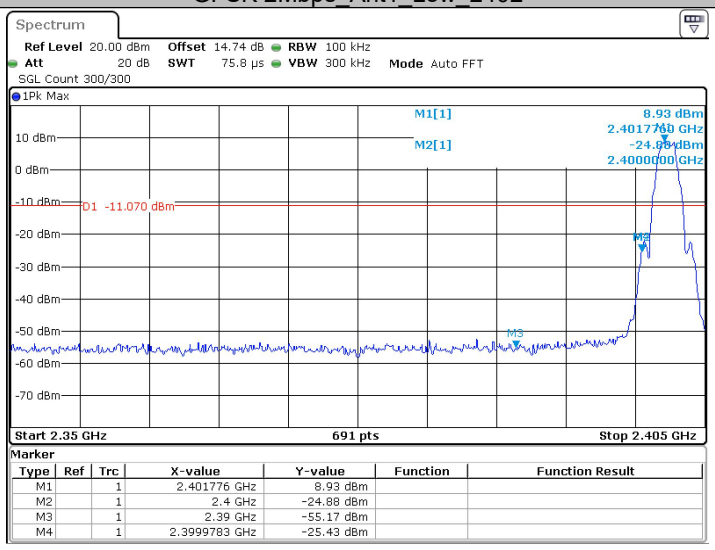


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.48001 GHz	12.87 dBm		
M2		1	2.4835 GHz	-54.91 dBm		
M3		1	2.5 GHz	-51.19 dBm		
M4		1	2.487507 GHz	-33.29 dBm		

Date: 22.FEB.2025 11:47:06

GFSK 2Mbps_Ant1_Low_2402



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.401776 GHz	8.93 dBm		
M2		1	2.4 GHz	-24.88 dBm		
M3		1	2.39 GHz	-55.17 dBm		
M4		1	2.3999783 GHz	-25.43 dBm		

Date: 22.FEB.2025 11:24:34

GFSK 2Mbps_Ant1_High_2480