

TEST REPORT

Applicant: JinXuan Electronics (Hong Kong) Company Limited
Address: ROOM 07 7/F PROSPER COMM BLDG 9 YIN
CHONG STREET KL
Equipment Type: WIRELESS EARBUDS
Model Name: AUT208 (refer to section 2.3)
Brand Name: 1HORA, , 
FCC ID: 2A9HV-AUT208
ISED Number: 31612-AUT208
Test Standard: 47 CFR Part 15 Subpart C
RSS-Gen Issue 5
RSS-247 Issue 3
(refer to section 3.1)
Sample Arrival Date: Apr. 15, 2024
Test Date: Apr. 23, 2024 - May 13, 2024
Date of Issue: Jun. 12, 2024

ISSUED BY:

Shenzhen BALUN Technology Co., Ltd.

Tested by: Si Xiao**Checked by:** Ye Hongji**Approved by:** Liao Jianming
(Technical Director)

Revision History

Version	Issue Date	Revisions
<u>Rev. 01</u>	<u>May 29, 2024</u>	<u>Initial Issue</u>
<u>Rev. 02</u>	<u>Jun. 12, 2024</u>	<u>Changed the Series Model Name.</u>

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1 GENERAL INFORMATION

1.1 Test Laboratory

Name	Shenzhen BALUN Technology Co., Ltd.
Address	Block B, 1/F, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China
Phone Number	+86 755 6685 0100

1.2 Test Location

Name	Shenzhen BALUN Technology Co., Ltd.
Location	☒ Block B, 1/F, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China
	☐ 1/F, Building B, Ganghongji High-tech Intelligent Industrial Park, No. 1008, Songbai Road, Yangguang Community, Xili Sub-district, Nanshan District, Shenzhen, Guangdong Province, P. R. China
Accreditation Certificate	The laboratory is a testing organization accredited by FCC as a accredited testing laboratory. The designation number is CN1196. The laboratory has been listed by Industry Canada to perform electromagnetic emission measurements. The recognition numbers of test site are 11524A.

2 PRODUCT INFORMATION

2.1 Applicant Information

Applicant	JinXuan Electronics (Hong Kong) Company Limited
Address	ROOM 07 7/F PROSPER COMM BLDG 9 YIN CHONG STREET KL

2.2 Manufacturer Information

Manufacturer	Jinxuan Electronics (Shenzhen) Co., Ltd.
Address	Room 901, Block A, Phase I , Galaxy World, Longgang District, Shenzhen City, Guangdong Province, China

2.3 General Description for Equipment under Test (EUT)

EUT Name	WIRELESS EARBUDS
Model Name Under Test	AUT208
Series Model Name	AUT208N, AUT208B, AUT208AP
Description of Model name differentiation	All models are same with electrical parameters and internal circuit structure, but only differ in model name and colour. (this information provided by the applicant)
Serial Number	AUT208
Hardware Version	1.5
Software Version	V6
Dimensions (Approx.)	N/A
Weight (Approx.)	N/A

2.4 Technical Information

Network and Wireless connectivity	Bluetooth (BR+EDR+BLE)
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The requirement for the following technical information of the EUT was tested in this report:

Modulation Technology		FHSS
Modulation Type		GFSK, $\pi/4$ -DQPSK
Product Type		☐ Mobile ☒ Portable ☐ Fix Location
Transfer Rate		DH5: 1 Mbps 2DH5: 2 Mbps
Frequency Range		The frequency range used is 2400 MHz to 2483.5 MHz.
Number of Channel		79 (at intervals of 1 MHz)
Tested Channel		0 (2402 MHz), 39 (2441 MHz), 78 (2480 MHz)
Antenna Type	Left Ear	Ceramic Antenna
	Right Ear	
Antenna Gain	Left Ear	2.7 dBi
	Right Ear	
Antenna Impedance		50 Ω
Antenna System (MIMO Smart Antenna)		N/A

All channel was listed on the following table:

Channel number	Freq. (MHz)	Channel number	Freq. (MHz)	Channel number	Freq. (MHz)	Channel number	Freq. (MHz)
0	2402	21	2423	42	2444	63	2465
1	2403	22	2424	43	2445	64	2466
2	2404	23	2425	44	2446	65	2467
3	2405	24	2426	45	2447	66	2468
4	2406	25	2427	46	2448	67	2469
5	2407	26	2428	47	2449	68	2470
6	2408	27	2429	48	2450	69	2471
7	2409	28	2430	49	2451	70	2472
8	2410	29	2431	50	2452	71	2473
9	2411	30	2432	51	2453	72	2474
10	2412	31	2433	52	2454	73	2475
11	2413	32	2434	53	2455	74	2476
12	2414	33	2435	54	2456	75	2477
13	2415	34	2436	55	2457	76	2478
14	2416	35	2437	56	2458	77	2479
15	2417	36	2438	57	2459	78	2480
16	2418	37	2439	58	2460	-	-
17	2419	38	2440	59	2461	-	-
18	2420	39	2441	60	2462	-	-
19	2421	40	2442	61	2463	-	-
20	2422	41	2443	62	2464	-	-

3 SUMMARY OF TEST RESULTS

3.1 Test Standards

No.	Identity	Document Title
1	47 CFR Part 15, Subpart C	Intentional radiators of radio frequency equipment
2	RSS-Gen Issue 5	General Requirements for Compliance of Radio Apparatus
3	RSS-247 Issue 3	Digital Transmission Systems (DTSS), Frequency Hopping Systems(FHSS) and Licence-Exemp Local Area Network (LE-LAN) Devices
4	ANSI C63.10-2013	American National Standard for Testing Unlicensed Wireless Devices
5	KDB 558074 D01 15.247 Meas Guidance v05r02	Guidance for compliance measurements on digital transmission system, frequency hopping spread spectrum system, and hybrid system devices operating under section 15.247 of the FCC rules

3.2 Test Verdict

No.	Description	FCC Part No.	ISED Part No.	Channel	Test Result	Verdict	Remark
1	Antenna Requirement	15.203	RSS-247, 5.4 (f)	N/A	--	Pass	Note ¹
2	Number of Hopping Frequencies	15.247(a)	RSS-247, 5.1 (d)	Hopping Mode	ANNEX A.1	Pass	--
3	Peak Output Power and E.I.R.P	15.247(b)	RSS-247, 5.4 (b)	Low/Middle/High	ANNEX A.2	Pass	--
4	Occupied Bandwidth	15.247(a)	RSS-247, 5.1 (a)	Low/Middle/High	ANNEX A.3	Pass	--
5	Carrier Frequency Separation	15.247(a)	RSS-247, 5.1 (b)	Hopping Mode	ANNEX A.4	Pass	--
6	Time of Occupancy (Dwell time)	15.247(a)	RSS-247, 5.1 (d)	Hopping Mode	ANNEX A.5	Pass	--
7	Conducted Spurious Emission & Authorized-band band-edge	15.247(d)	RSS-247, 5.5	Hopping Mode; Low/Middle/High	ANNEX A.6	Pass	--
8	Conducted Emission	15.207	RSS-GEN, 8.8	Low/Middle/High	ANNEX A.7	Pass	--
9	Radiated Spurious Emission	15.209 15.247(d)	RSS-247, 5.5	Low/Middle/High	ANNEX A.8	Pass	--
10	Band Edge(Restricted-band band-edge)	15.209 15.247(d)	RSS-247, 5.5	Low/High	ANNEX A.9	Pass	--
11	Receiver Spurious Emissions	--	RSS-Gen, 7.3	--	--	N/A	Note ²

Note ¹: The EUT has a permanently and irreplaceable attached antenna, which complies with the requirement FCC 15.203.

Note ²: Only radio communication receivers operating in stand-alone mode within the band 30-960 MHz, as well as scanner receivers, are subject to Industry Canada requirements, so this test is not applicable.

4 GENERAL TEST CONFIGURATIONS

4.1 Test Environments

During the measurement, the normal environmental conditions were within the listed ranges:

Relative Humidity	49% to 69%	
Atmospheric Pressure	100 kPa to 102 kPa	
Temperature	NT (Normal Temperature)	+20.8°C to +25.4°C
Working Voltage of the EUT	NV (Normal Voltage)	4.2 V

4.2 Test Equipment List

Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
Spectrum Analyzer	KEYSIGHT	N9020A	MY46471071	2023.07.25	2024.07.24
Spectrum Analyzer	KEYSIGHT	N9020A	MY52510065	2023.09.05	2024.09.04
Signaling Unit	ROHDE&SCHWARZ	CMW500	171150	2023.06.19	2024.06.18
Test Antenna-Horn	SCHWARZBECK	BBHA 9120D	01631	2022.02.23	2025.02.22
Test Antenna-Horn	A-INFO	LB-180400KF	J211060273	2021.07.02	2024.07.01
Anechoic Chamber	RAINFORD	9m*6m*6m	144	2022.02.19	2024.09.03
Amplifier	COM-MV	LSCX_LNA1-12G-01	180602	2023.09.05	2024.09.04
Amplifier	COM-MV	XKu_LNA7-18G-01	180601	2023.09.05	2024.09.04
Amplifier	COM-MV	KA LNA18 40G-01	18050001	2023.12.06	2024.12.05
EMI Receiver	ROHDE&SCHWARZ	ESRP	101036	2023.09.05	2024.09.04
Test Antenna-Bi-Log	SCHWARZBECK	VULB 9168	9168-01162	2023.08.04	2024.08.03
Test Antenna-Loop	SCHWARZBECK	FMZB 1519	1519-037	2024.01.23	2025.01.22
Amplifier	COM-MV	ZT30-1000M	B2018054558	2023.12.05	2024.12.04
Anechoic Chamber	EMC Electronic Co., Ltd	20.10*11.60*7.35m	130	2021.08.15	2024.08.14
EMI Receiver	KEYSIGHT	N9010B	MY57110309	2023.09.05	2024.09.04
LISN	SCHWARZBECK	NSLK 8127	8127-687	2023.05.16	2024.05.15
Shielded Enclosure	YiHeng Electronic Co., Ltd	3.5m*3.1m*2.8m	112	2022.02.19	2025.02.18

4.3 Test Software List

Description	Manufacturer	Software Version	Serial No.	Applicable test Setup
BL410R	BALUN	V2.1.1.488	N/A	The section 4.5.1
BL410E	BALUN	V22.930	N/A	The section 4.5.2&4.5.3&4.5.4&4.5.5

4.4 Measurement Uncertainty

The following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2.

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

Parameters	Uncertainty
Occupied Channel Bandwidth	2.8%
RF output power, conducted	1.28 dB
Power Spectral Density, conducted	1.30 dB
Unwanted Emissions, conducted	1.84 dB
All emissions, radiated	5.36 dB
Temperature	0.8°C
Humidity	4%

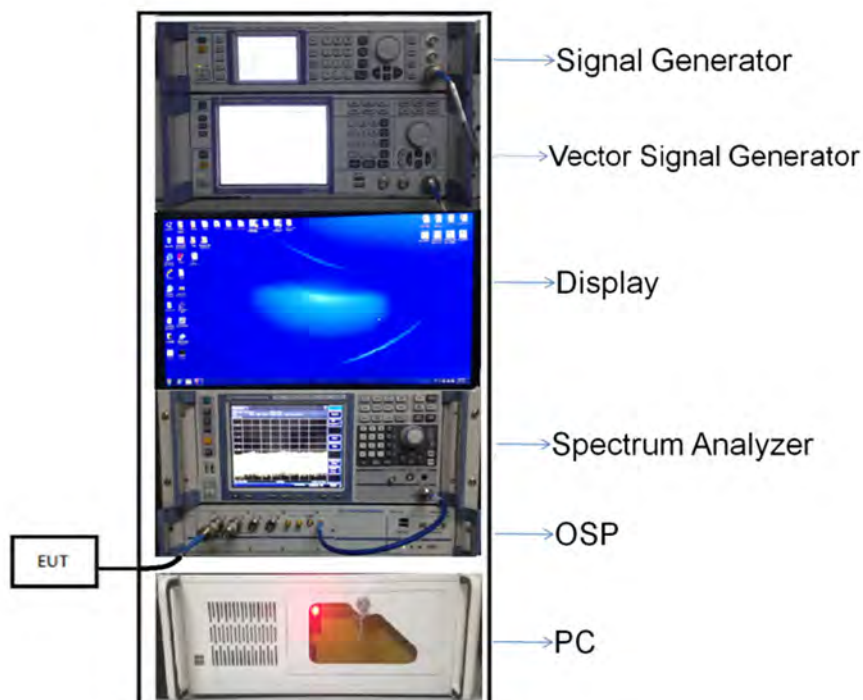
4.5 Description of Test Setup

4.5.1 For Antenna Port Test

Conducted value (dBm) = Measurement value (dBm) + cable loss (dB)

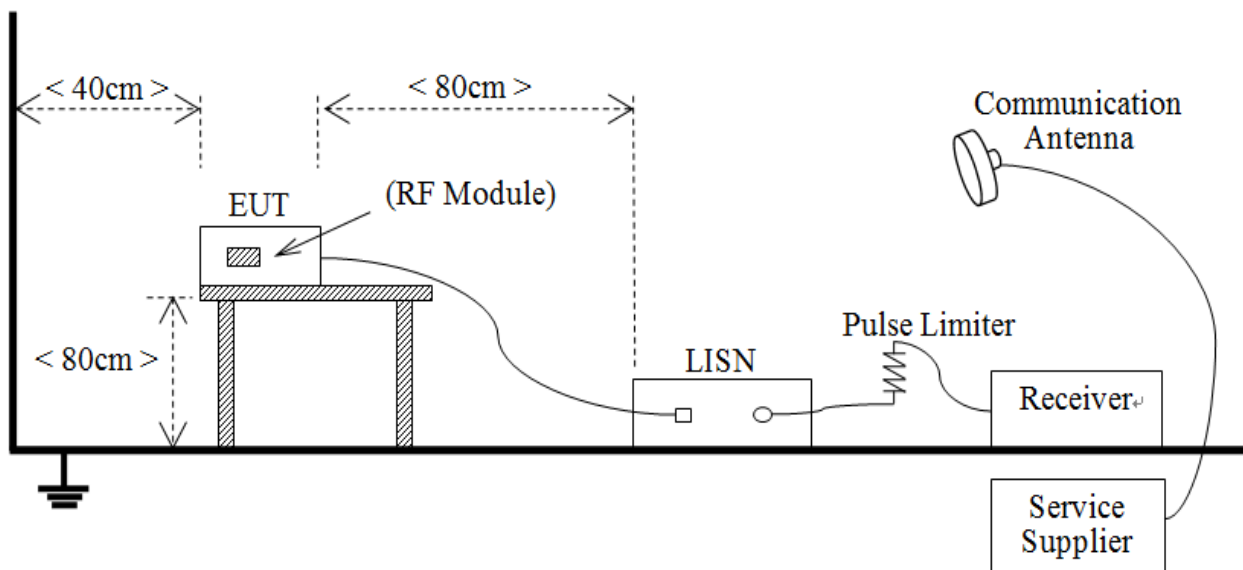
For example: the measurement value is 10 dBm and the cable 0.5dBm used, then the final result of EUT:

Conducted value (dBm) = 10 dBm + 0.5 dB = 10.5 dBm



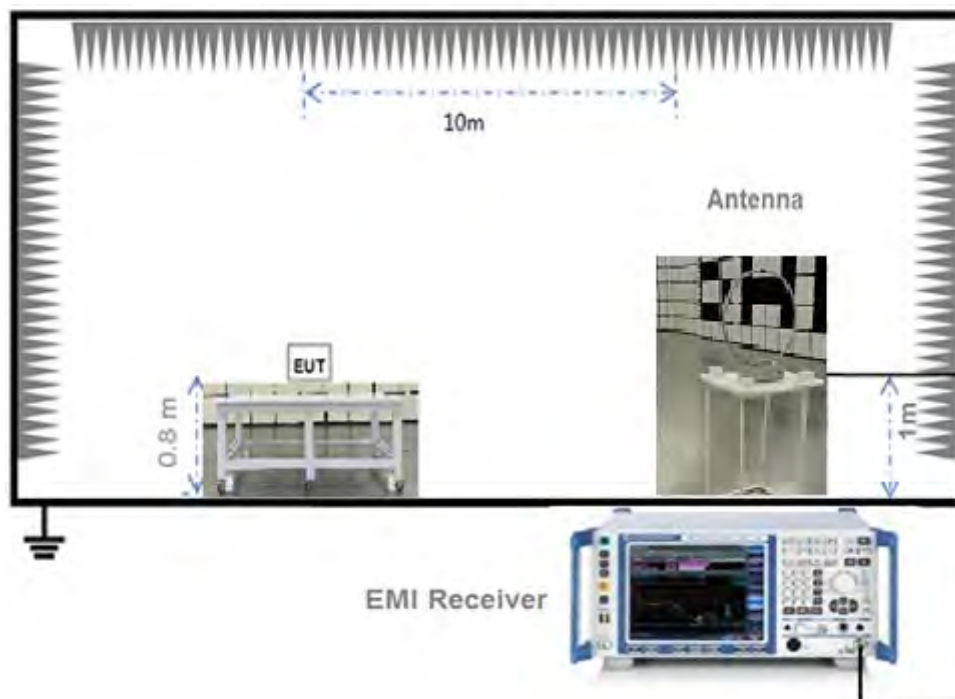
(Diagram 1)

4.5.2 For AC Power Supply Port Test



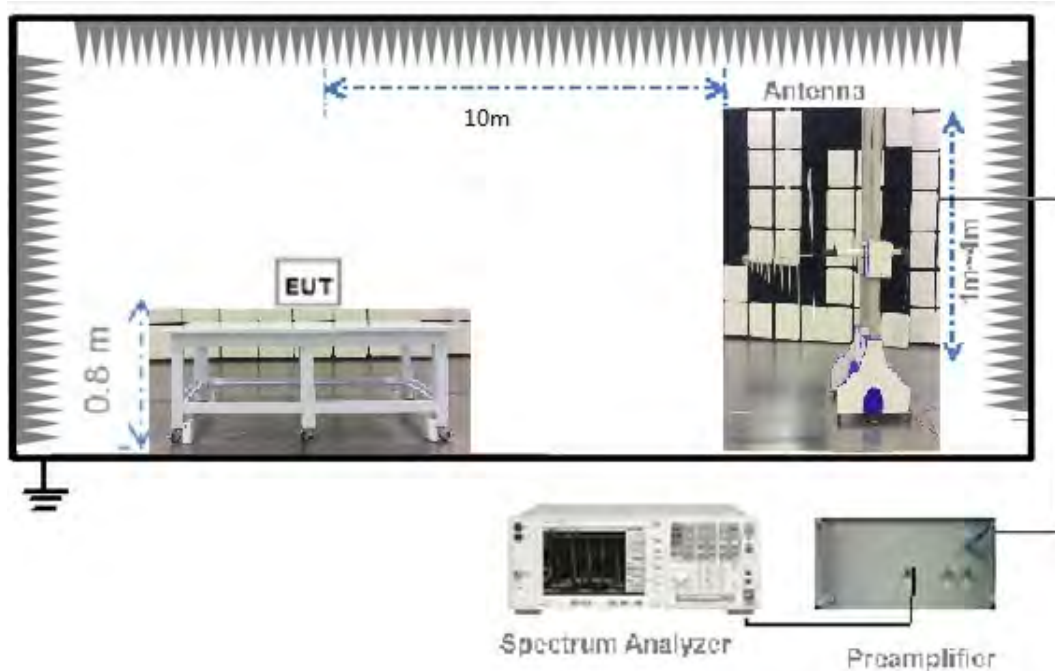
(Diagram 2)

4.5.3 For Radiated Test (Below 30 MHz)



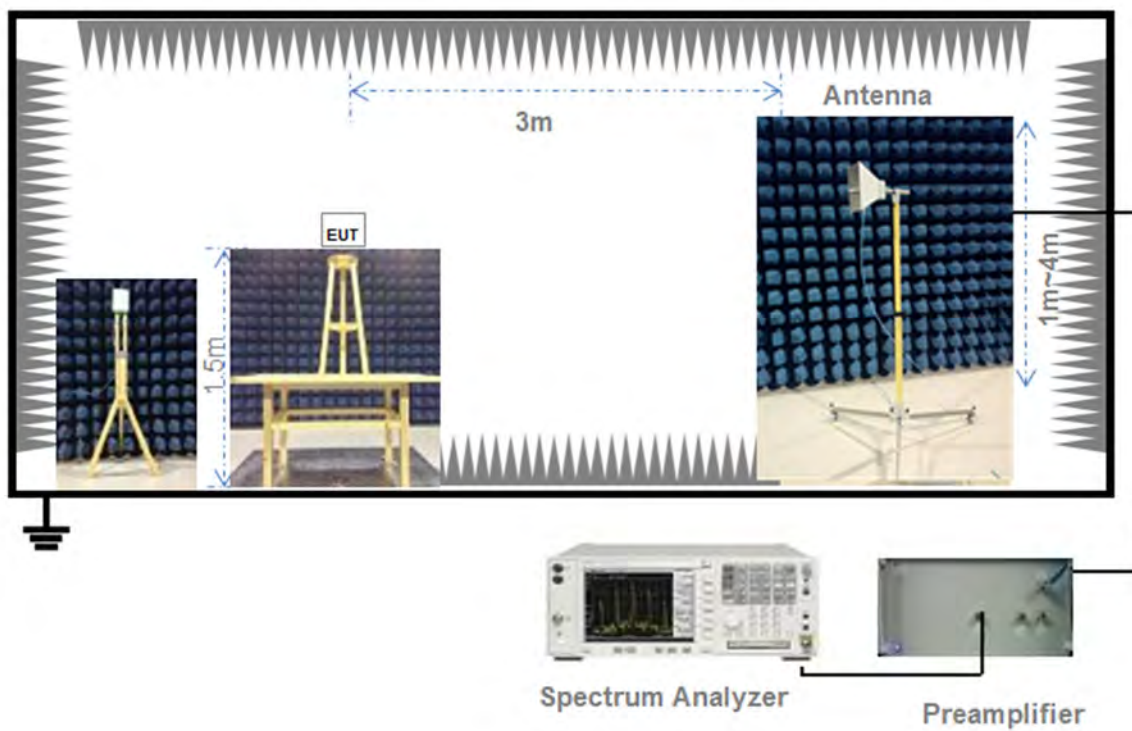
(Diagram 3)

4.5.4 For Radiated Test (30 MHz-1 GHz)



(Diagram 4)

4.5.5 For Radiated Test (Above 1 GHz)



(Diagram 5)

4.6 Measurement Results Explanation Example

4.6.1 For conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss and attenuator between EUT conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly the EUT RF output level.

The spectrum analyzer offset is derived from RF cable loss and attenuator factor.

Offset = RF cable loss + attenuator factor.

5 TEST ITEMS

5.1 Antenna Requirements

5.1.1 Relevant Standards

FCC §15.203 & 15.247(b); RSS-247, 5.4 (f)

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 shall be considered sufficient to comply with the provisions of this section. 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. This requirement does not apply to carrier current devices or to devices operated under the provisions of § 15.211, § 15.213, § 15.217, § 15.219, or § 15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with § 15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.

If directional gain of transmitting antennas is greater than 6 dBi, the power shall be reduced by the same level in dB comparing to gain minus 6 dBi. For the fixed point-to-point operation, the power shall be reduced by one dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the FCC rule.

5.1.2 Antenna Anti-Replacement Construction

The Antenna Anti-Replacement as following method:

Protected Method	Description
The antenna is embedded in the product.	An embedded-in antenna design is used.

Reference Documents	Item
Photo	Please refer to the EUT Photo documents.

5.1.3 Antenna Gain

The antenna peak gain of EUT is less than 6 dBi. Therefore, it is not necessary to reduce maximum peak output power limit.

5.2 Frequency Hopping Systems

5.2.1 Relevant Standards

FCC §15.247(a) (1) (i) (ii) (iii) (iv); FCC §15.247(g); FCC §15.247(h)

Describe how the hopping sequence is generated. Provide an example of the hopping sequence channels, to demonstrate that the sequence meets the requirement specified in the definition of an FHSS system. Per the definition in Section 2.1(c), the hop set shall appear as random in the near term, shall appear as evenly distributed in the long term, and sequential hops shall be randomly distributed in both direction and magnitude of change.

Describe how each individual EUT meets the requirement that each of its hopping channels is used equally on average (e.g., that each new transmission event begins on the next channel in the hopping sequence after the final channel used in the previous transmission event).

Describe how the associated receiver(s) complies with the requirement that the input bandwidth (either RF or IF) matches the bandwidth of the transmitted signal.

Describe how the associated receiver(s) has the ability to shift frequencies in synchronization with the transmitted signals.

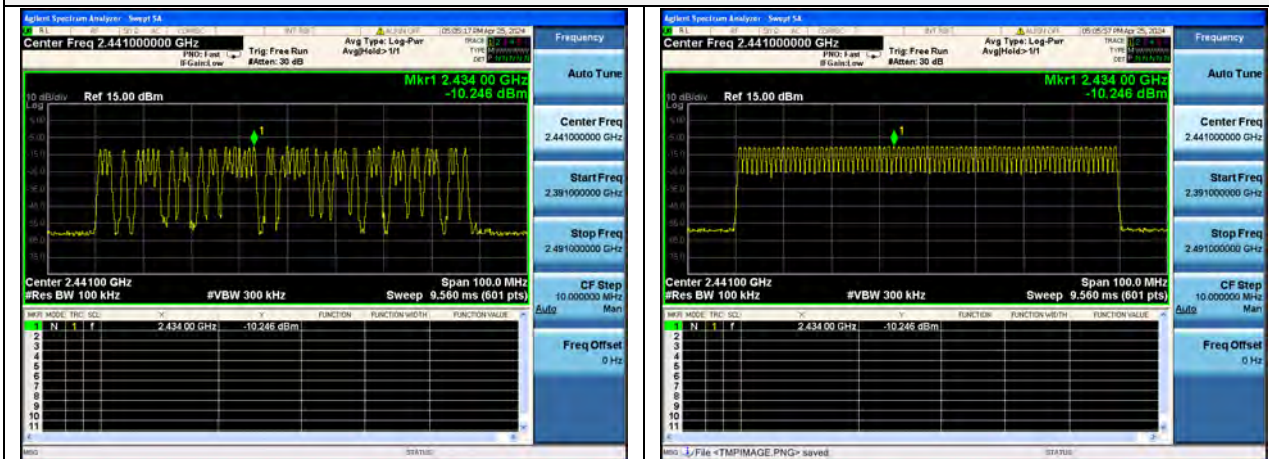
For short burst systems, describe how the EUT complies with the requirement that it be designed to be capable of operating as a true frequency hopping system. Specifically, the device shall comply with the equal frequency use and pseudorandom hopping sequence requirement when transmitting in short bursts, and shall be designed to comply when presented with continuous data (or information) stream.

Describe how the EUT complies with the requirement that it not have the ability to be coordinated with other FHSS systems in an effort to avoid the simultaneous occupancy of individual hopping frequencies by multiple transmitters.

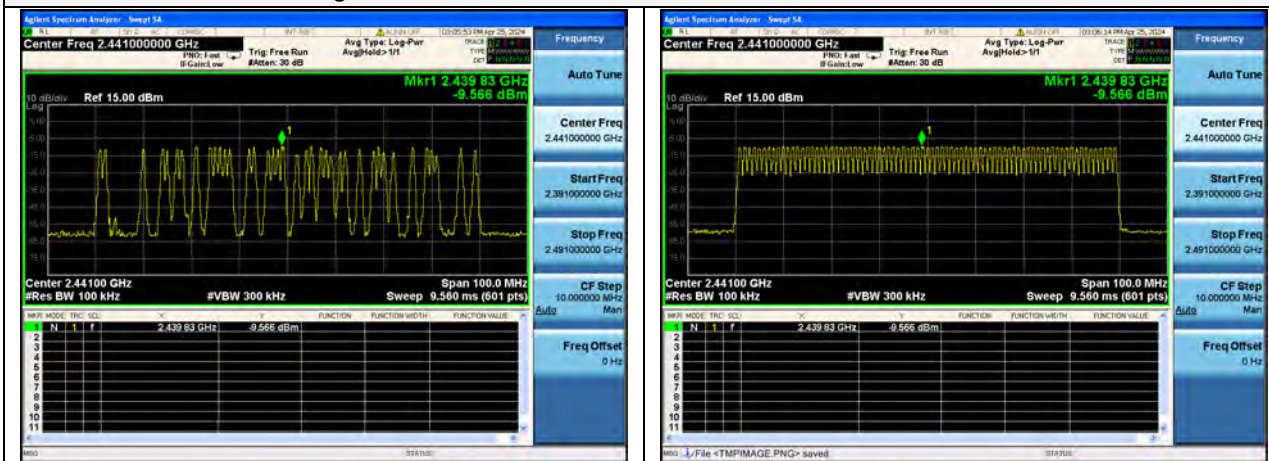
5.2.2 Description of the systems

1. According to the preset procedure of the whole network, all the stations in the automatic control network synchronously change the frequency multiple times within one second, and temporarily stay on each frequency hopping channel. Periodic synchronization signaling is sent from the primary station, instructing all slaves to simultaneously change the operating frequency, then the hopping sequence is generated.
2. The hop set shall appear as random in the near term, shall appear as evenly distributed in the long term, and sequential hops shall be randomly distributed in both direction and magnitude of change.

Reference Documents-Left Ear



Reference Documents-Right Ear



3. Channels are classified into two categories, used and unused, where used channels are part of the hopping sequence and unused channels are replaced in the hopping sequence by used channels in a pseudo-random way. Make each individual EUT meets the requirement that each of its hopping channels is used equally on average.
4. The input bandwidth and transmitted bandwidth are both 1MHz, the associated receiver(s) complies with the requirement that the input bandwidth matches the bandwidth of the transmitted signal.
5. Connected devices communicate on the same physical channel by synchronizing with a common clock and hopping sequence.
6. EUT isn't short burst systems.
7. EUT can't have the ability to be coordinated with other FHSS systems in an effort.

5.3 Number of Hopping Frequencies

5.3.1 Limit

FCC §15.247(a) (1) (iii); RSS-247, 5.1 (d)

Frequency hopping systems operating in the 2400 MHz to 2483.5 MHz bands shall use at least 15 hopping frequencies.

5.3.2 Test Setup

See section 4.5.1 for test setup description for the antenna port. The photo of test setup please refer to ANNEX B.

5.3.3 Test Procedure

The EUT must have its hopping function enabled. Use the following spectrum analyzer settings:

Span = The frequency band of operation

RBW = To identify clearly the individual channels, set the RBW to less than 30% of the channel spacing or the 20 dB bandwidth, whichever is smaller.

VBW $\geq$ RBW

Sweep = auto

Detector function = peak

Trace = max hold

Allow the trace to stabilize

5.3.4 Test Result

Please refer to ANNEX A.1.

5.4 Peak Output Power and E.I.R.P

5.4.1 Test Limit

FCC § 15.247(b)

For frequency hopping systems operating in the 2400-2483.5 MHz band employing at least 75 non-overlapping hopping channels band: 1 watt. For all other frequency hopping systems in the 2400-2483.5 MHz band: 0.125 watts.

RSS-247, 5.4 (b)

For FHSs operating in the band 2400-2483.5 MHz, the maximum peak conducted output power shall not exceed 1.0 W and the e.i.r.p. shall not exceed 4 W if the hopset uses 75 or more hopping channels; the maximum peak conducted output power shall not exceed 0.125 W and the e.i.r.p. shall not exceed 0.5 W if the hopset uses less than 75 hopping channels (see Section 5.4(5) for exceptions).

5.4.2 Test Setup

See section 4.5.1 for test setup description for the antenna port. The photo of test setup please refer to ANNEX B.

5.4.3 Test Procedure

The Module operates at hopping-off test mode. The lowest, middle and highest channels are selected to perform testing to verify the conducted RF output peak power of the Module.

Use the following spectrum analyzer settings:

Span = approximately 5 times the 20 dB bandwidth, centered on a hopping channel

RBW > the 20 dB bandwidth of the emission being measured

VBW $\geq$ RBW

Sweep = auto

Detector function = peak

Trace = max hold

Allow the trace to stabilize.

5.4.4 Test Result

Please refer to ANNEX A.2.

5.5 Occupied Bandwidth

5.5.1 Limit

FCC §15.247(a); RSS-247, 5.1 (a)

Measurement of the 20dB bandwidth of the modulated signal.

5.5.2 Test Setup

See section 4.5.1 for test setup description for the antenna port. The photo of test setup please refer to ANNEX B.

5.5.3 Test Procedure

Use the following spectrum analyzer settings:

Span = approximately 2 to 5 times the 20 dB bandwidth, centered on a hopping channel

RBW = in the range of 1% to 5% of the OBW

VBW $\geq$ RBW

Sweep = auto

Detector function = peak

Trace = max hold

The EUT should be transmitting at its maximum data rate, Allow the trace to stabilize.

5.5.4 Test Result

Please refer to ANNEX A.3.

5.6 Carrier Frequency Separation

5.6.1 Limit

FCC §15.247(a); RSS-247, 5.1 (b)

Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 2/3 of the 20 dB bandwidth of the hopping channel, whichever is greater.

5.6.2 Test Setup

See section 4.5.1 for test setup description for the antenna port. The photo of test setup please refer to ANNEX B.

5.6.3 Test Procedure

The EUT must have its hopping function enabled. Use the following spectrum analyzer settings:

Span = wide enough to capture the peaks of two adjacent channels

Resolution (or IF) Bandwidth (RBW) $\geq 1\%$ of the span

Video (or Average) Bandwidth (VBW) $\geq$ RBW

Sweep = auto

Detector function = peak

Trace = max hold

Allow the trace to stabilize. Use the marker-delta function to determine the separation between the peaks of the adjacent channels.

5.6.4 Test Result

Please refer to ANNEX A.4.

5.7 Time of Occupancy (Dwell time)

5.7.1 Limit

FCC §15.247(a); RSS-247, 5.1 (d)

Frequency hopping systems in the 2400 MHz - 2483.5 MHz band shall use at least 15 non-overlapping channels. The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed. Frequency hopping systems may avoid or suppress transmissions on a particular hopping frequency provided that a minimum of 15 channels are used.

5.7.2 Test Setup

See section 4.5.1 for test setup description for the antenna port. The photo of test setup please refer to ANNEX B.

5.7.3 Test Procedure

The EUT shall have its hopping function enabled. Use the following spectrum analyzer settings:

Span: Zero span, centered on a hopping channel

RBW shall be $\leq$ channel spacing and where possible RBW should be set $\gg 1/T$, where T is the expected dwell time per channel

Sweep: As necessary to capture the entire dwell time per hopping channel; where possible use a video trigger and trigger delay so that the transmitted signal starts a little to the right of the start of the plot. The trigger level might need slight adjustment to prevent triggering when the system hops on an adjacent channel; a second plot might be needed with a longer sweep time to show two successive hops on a channel

Detector function: Peak

Trace: Max hold

Use the marker-delta function to determine the transmit time per hop. If this value varies with different modes of operation (data rate, modulation format, number of hopping channels, etc.), then repeat this test for each variation in transmit time.

The average time of occupancy on any channel within the Period can be calculated with formulas:

For GFSK and 8-DPSK:

For DH1 package type

$$\{\text{Total of Dwell}\} = \{\text{Pulse Time}\} * (1600 / 2) / \{\text{Number of Hopping Frequency}\} * \{\text{Period}\}$$

$$\{\text{Period}\} = 0.4 \text{ s} * \{\text{Number of Hopping Frequency}\}$$

For DH3 package type

$$\{\text{Total of Dwell}\} = \{\text{Pulse Time}\} * (1600 / 4) / \{\text{Number of Hopping Frequency}\} * \{\text{Period}\}$$

$$\{\text{Period}\} = 0.4 \text{ s} * \{\text{Number of Hopping Frequency}\}$$

For DH5 package type

$$\{\text{Total of Dwell}\} = \{\text{Pulse Time}\} * (1600 / 6) / \{\text{Number of Hopping Frequency}\} * \{\text{Period}\}$$

$$\{\text{Period}\} = 0.4 \text{ s} * \{\text{Number of Hopping Frequency}\}$$

For AFH Mode:

For DH1 package type

$$\{\text{Total of Dwell}\} = \{\text{Pulse Time}\} * (800 / 2) / \{\text{Number of Hopping Frequency}\} * \{\text{Period}\}$$

$$\{\text{Period}\} = 0.4 \text{ s} * \{\text{Number of Hopping Frequency}\}$$

For DH3 package type

$$\{\text{Total of Dwell}\} = \{\text{Pulse Time}\} * (800 / 4) / \{\text{Number of Hopping Frequency}\} * \{\text{Period}\}$$
$$\{\text{Period}\} = 0.4 \text{ s} * \{\text{Number of Hopping Frequency}\}$$

For DH5 package type

$$\{\text{Total of Dwell}\} = \{\text{Pulse Time}\} * (800 / 6) / \{\text{Number of Hopping Frequency}\} * \{\text{Period}\}$$
$$\{\text{Period}\} = 0.4 \text{ s} * \{\text{Number of Hopping Frequency}\}$$

The lowest, middle and highest channels are selected to perform testing to record the dwell time of each occupation measured in this channel, which is called Pulse Time here.

5.7.4 Test Result

Please refer to ANNEX A.5.

5.8 Conducted Spurious Emission & Authorized-band band-edge

5.8.1 Limit

FCC §15.247(d); RSS-247, 5.5

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.

5.8.2 Test Setup

See section 4.5.1 for test setup description for the antenna port. The photo of test setup please refer to ANNEX B.

5.8.3 Test Procedure

Use the following spectrum analyzer settings:

Span = wide enough to capture the peak level of the in-band emission and all spurious emissions (e.g., harmonics) from the lowest frequency generated in the EUT up through the 10th harmonic. Typically, several plots are required to cover this entire span.

RBW = 100 kHz

VBW = 300 kHz

Sweep = auto

Detector function = peak

Trace = max hold

Allow the trace to stabilize

5.8.4 Test Result

Please refer to ANNEX A.6.

5.9 Conducted Emission

5.9.1 Limit

FCC §15.207; RSS-GEN, 8.8

For an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency within the band 150 kHz to 30 MHz shall not exceed the limits in the following table, as measured using a 50 μ H/50 Ω line impedance stabilization network (LISN).

Frequency range (MHz)	Conducted Limit (dB μ V)	
	Quai-peak	Average
0.15 - 0.50	66 to 56	56 to 46
0.50 - 5	56	46
0.50 - 30	60	50

5.9.2 Test Setup

See section 4.5.2 for test setup description for the AC power supply port. The photo of test setup please refer to ANNEX B.

5.9.3 Test Procedure

The maximum conducted interference is searched using Peak (PK), if the emission levels more than the AV and QP limits, and that have narrow margins from the AV and QP limits will be re-measured with AV and QP detectors. Tests for both L phase and N phase lines of the power mains connected to the EUT are performed. Refer to recorded points and plots below.

Devices subject to Part 15 must be tested for all available U.S. voltages and frequencies (such as a nominal 120 VAC, 50/60 Hz and 240 VAC, 50/60 Hz) for which the device is capable of operation. A device rated for 50/60 Hz operation need not be tested at both frequencies provided the radiated and line conducted emissions are the same at both frequencies.

5.9.4 Test Result

Please refer to ANNEX A.7.

5.10 Radiated Spurious Emission

5.10.1 Limit

FCC §15.209&15.247(d); RSS-247, 5.5

Radiated emission outside the frequency band attenuation below the general limits specified in FCC section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in FCC section 15.205(a), must also comply with the radiated emission limits specified in FCC section 15.209(a).

According to FCC section 15.209 (a), except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field Strength (μV/m)	Measurement Distance (m)
0.009 - 0.490	2400/F(kHz)	300
0.490 - 1.705	24000/F(kHz)	30
1.705 - 30.0	30	30
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
Above 960	500	3

Note:

1. Field Strength (dBμV/m) = $20 \times \log[\text{Field Strength } (\mu\text{V/m})]$.
2. In the emission tables above, the tighter limit applies at the band edges.
3. For Above 1000 MHz, the emission limit in this paragraph is based on measurement instrumentation employing an average detector, measurement using instrumentation with a peak detector function, corresponding to 20dB above the maximum permitted average limit.
4. For above 1000 MHz, limit field strength of harmonics: 54dBuV/m@3m (AV) and 74dBuV/m@3m (PK).

5.10.2 Test Setup

See section 4.5.3 to 4.5.5 for test setup description for the antenna port. The photo of test setup please refer to ANNEX B.

5.10.3 Test Procedure

The measurement frequency range is from 9 kHz to the 10th harmonic of the fundamental frequency. The Turn Table is actuated to turn from 0° to 360°, and both horizontal and vertical polarizations of the Test Antenna are used to find the maximum radiated power. Mid channels on all channel bandwidth verified. Only the worst RB size/offset presented.

The power of the EUT transmitting frequency should be ignored.

All Spurious Emission tests were performed in X, Y, Z axis direction. And only the worst axis test condition was recorded in this test report.

Use the following spectrum analyzer settings:

Span = wide enough to fully capture the emission being measured

RBW = 1 MHz for $f \geq 1$ GHz, 100 kHz for $f < 1$ GHz

VBW $\geq$ RBW

Sweep = auto

Detector function = peak

Trace = max hold

For measurement below 1GHz, If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported, Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.

5.10.4 Test Result

Please refer to ANNEX A.8.

5.11 Band Edge (Restricted-band band-edge)

5.11.1 Limit

FCC §15.209&15.247(d)

Radiated emission outside the frequency band attenuation below the general limits specified in FCC section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in FCC section 15.205(a), must also comply with the radiated emission limits specified in FCC section 15.209(a).

5.11.2 Test Setup

See section 4.5.3 to 4.5.5 for test setup description for the antenna port. The photo of test setup please refer to ANNEX B.

5.11.3 Test Procedure

The measurement frequency range is from 9 kHz to the 10th harmonic of the fundamental frequency. The Turn Table is actuated to turn from 0° to 360°, and both horizontal and vertical polarizations of the Test Antenna are used to find the maximum radiated power. Mid channels on all channel bandwidth verified. Only the worst RB size/offset presented.

The power of the EUT transmitting frequency should be ignored.

All Spurious Emission tests were performed in X, Y, Z axis direction. And only the worst axis test condition was recorded in this test report.

Use the following spectrum analyzer settings:

Span = wide enough to fully capture the emission being measured

RBW = 1 MHz for $f \geq 1$ GHz, 100 kHz for $f < 1$ GHz

VBW $\geq$ RBW

Sweep = auto

Detector function = peak

Trace = max hold

For measurement below 1GHz, If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported, Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.

5.11.4 Test Result

Please refer to ANNEX A.9.

ANNEX A TEST RESULT

A.1 Number of Hopping Frequency

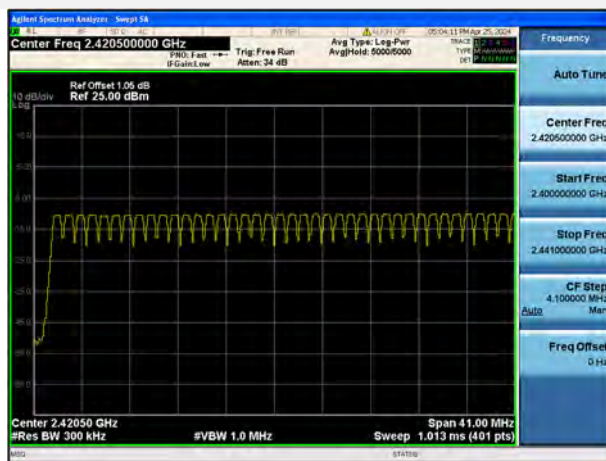
Left Ear

Test Data

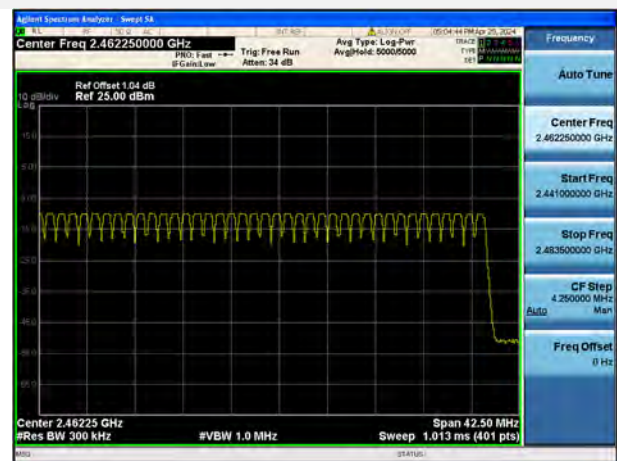
Test Mode	Frequency Block (MHz)	Measured Channel Numbers	Min. Limit	Verdict
GFSK	2400 - 2483.5	79	15	Pass
$\pi/4$ -DQPSK	2400 - 2483.5	79	15	Pass

Test Plots

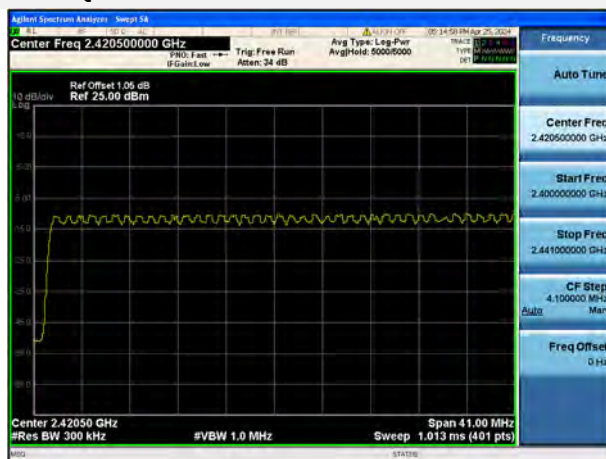
GFSK 2.4 GHz ~ 2.4415 GHz



GFSK 2.4415 GHz ~ 2.4835 GHz



$\pi/4$ -DQPSK 2.4 GHz ~ 2.4415 GHz



$\pi/4$ -DQPSK 2.4415 GHz ~ 2.4835 GHz



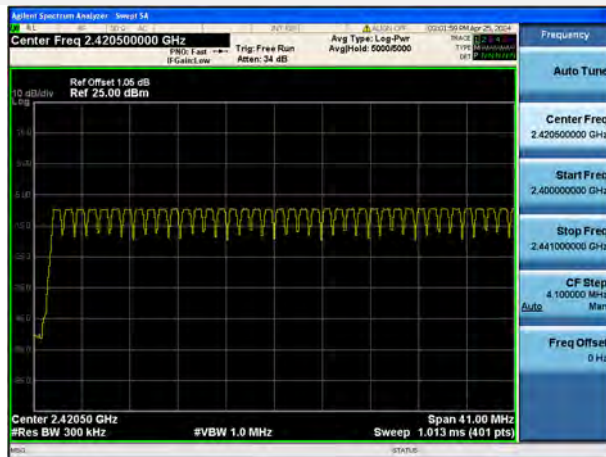
Right Ear

Test Data

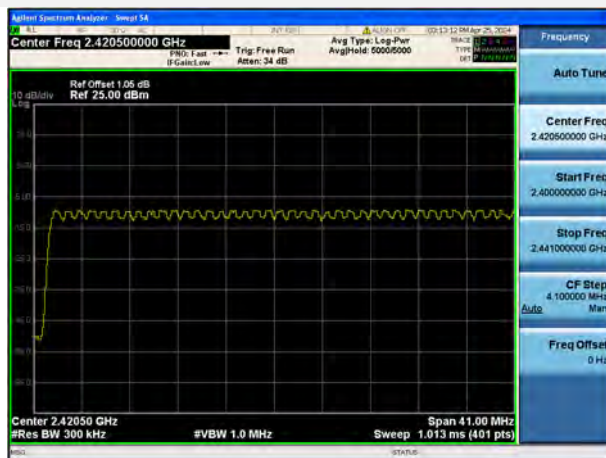
Test Mode	Frequency Block (MHz)	Measured Channel Numbers	Min. Limit	Verdict
GFSK	2400 - 2483.5	79	15	Pass
$\pi/4$ -DQPSK	2400 - 2483.5	79	15	Pass

Test Plots

GFSK 2.4 GHz ~ 2.4415 GHz



GFSK 2.4415 GHz ~ 2.4835 GHz

 $\pi/4$ -DQPSK 2.4 GHz ~ 2.4415 GHz $\pi/4$ -DQPSK 2.4415 GHz ~ 2.4835 GHz

A.2 Peak Output Power and E.I.R.P

Left Ear

Peak Power Test Data

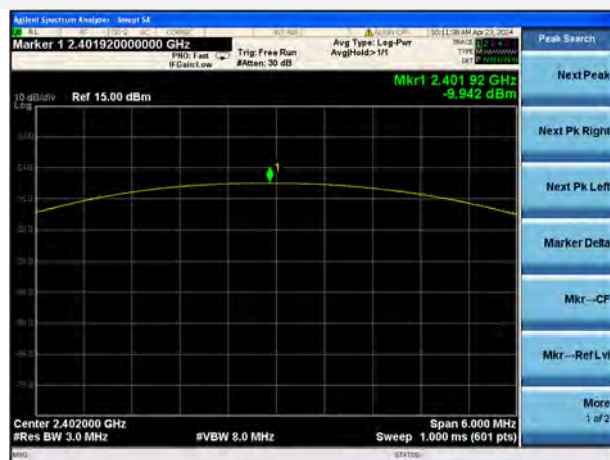
Channel	Measured Output Peak Power				Limit		Verdict
	GFSK		$\pi/4$ -DQPSK		dBm	mW	
	dBm	mW	dBm	mW			
Low	-9.94	0.10	-9.18	0.12	21	125	Pass
Middle	-9.72	0.11	-8.96	0.13			Pass
High	-9.40	0.11	-8.72	0.13			Pass

E.I.R.P Test Data (For ISCED)

Channel	E.I.R.P				Limit		Verdict
	GFSK		$\pi/4$ -DQPSK		dBm	mW	
	dBm	mW	dBm	mW			
Low	-7.24	0.19	-6.48	0.22	36	4000	Pass
Middle	-7.02	0.20	-6.26	0.24			Pass
High	-6.70	0.21	-6.02	0.25			Pass

Test Plots

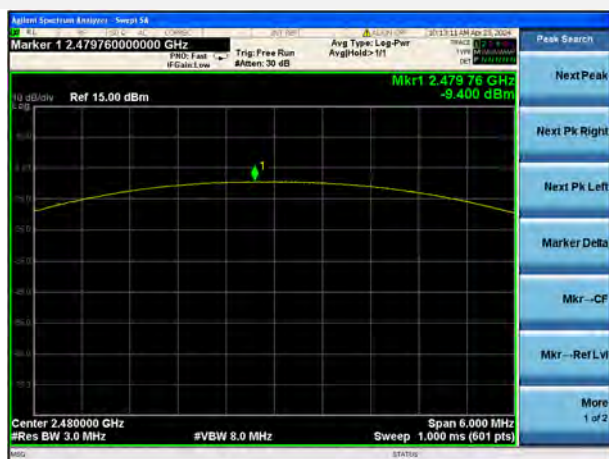
GFSK LOW CHANNEL



GFSK MIDDLE CHANNEL



GFSK HIGH CHANNEL

 $\pi/4$ -DQPSK LOW CHANNEL $\pi/4$ -DQPSK MIDDLE CHANNEL $\pi/4$ -DQPSK HIGH CHANNEL

Right Ear

Peak Power Test Data

Channel	Measured Output Peak Power				Limit		Verdict
	GFSK		$\pi/4$ -DQPSK		dBm	mW	
	dBm	mW	dBm	mW			
Low	-9.41	0.11	-8.30	0.15	21	125	Pass
Middle	-8.90	0.13	-8.22	0.15			Pass
High	-9.09	0.12	-8.39	0.15			Pass

E.I.R.P Test Data (For ISSED)

Channel	E.I.R.P				Limit		Verdict
	GFSK		$\pi/4$ -DQPSK		dBm	mW	
	dBm	mW	dBm	mW			
Low	-6.71	0.21	-5.60	0.28	36	4000	Pass
Middle	-6.20	0.24	-5.52	0.28			Pass
High	-6.39	0.23	-5.69	0.27			Pass

Test Plots

GFSK LOW CHANNEL



GFSK MIDDLE CHANNEL



GFSK HIGH CHANNEL

 $\pi/4$ -DQPSK LOW CHANNEL $\pi/4$ -DQPSK MIDDLE CHANNEL $\pi/4$ -DQPSK HIGH CHANNEL

A.3 20 dB and 99% bandwidth

Left Ear

Test Data

GFSK		
Channel	20 dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	0.967500	0.869380
Middle	0.960000	0.870870
High	0.960000	0.872030
$\pi/4$ -DQPSK		
Channel	20 dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	1.297600	1.173400
Middle	1.297600	1.175200
High	1.297600	1.175900

Test Plots

20 dB Bandwidth

GFSK LOW CHANNEL



GFSK MIDDLE CHANNEL



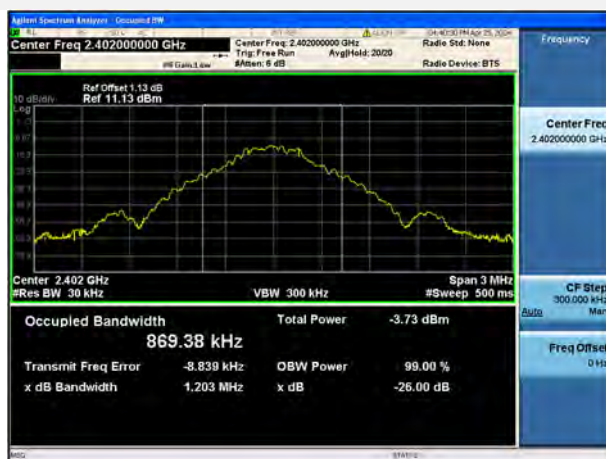
GFSK HIGH CHANNEL



$\pi/4$ -DQPSK LOW CHANNEL $\pi/4$ -DQPSK MIDDLE CHANNEL $\pi/4$ -DQPSK HIGH CHANNEL

99% Bandwidth

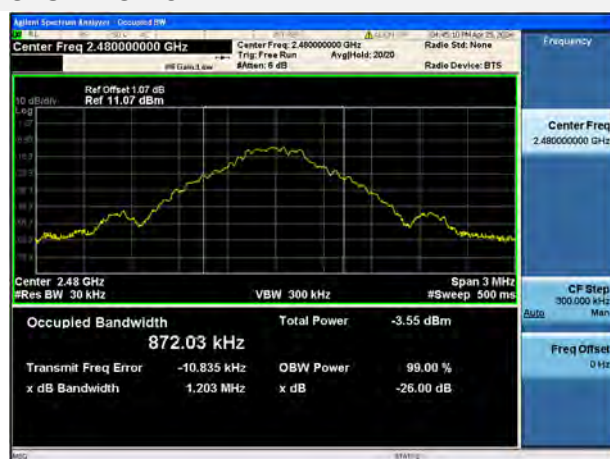
GFSK LOW CHANNEL



GFSK MIDDLE CHANNEL



GFSK HIGH CHANNEL

 $\pi/4$ -DQPSK LOW CHANNEL $\pi/4$ -DQPSK MIDDLE CHANNEL $\pi/4$ -DQPSK HIGH CHANNEL

Right Ear

Test Data

GFSK		
Channel	20 dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	0.967500	0.869710
Middle	0.960000	0.872410
High	0.960000	0.873570
$\pi/4$ -DQPSK		
Channel	20 dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	1.297600	1.173500
Middle	1.297600	1.174500
High	1.297600	1.174800

Test Plots

20 dB Bandwidth

GFSK LOW CHANNEL



GFSK MIDDLE CHANNEL



GFSK HIGH CHANNEL



$\pi/4$ -DQPSK LOW CHANNEL $\pi/4$ -DQPSK MIDDLE CHANNEL $\pi/4$ -DQPSK HIGH CHANNEL

99% Bandwidth

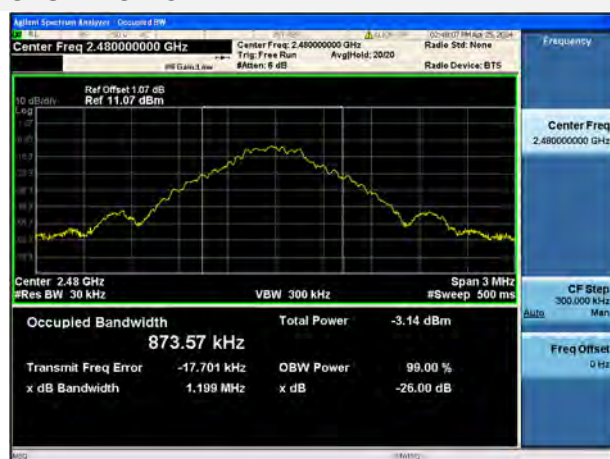
GFSK LOW CHANNEL



GFSK MIDDLE CHANNEL



GFSK HIGH CHANNEL

 $\pi/4$ -DQPSK LOW CHANNEL $\pi/4$ -DQPSK MIDDLE CHANNEL $\pi/4$ -DQPSK HIGH CHANNEL

A.4 Hopping Frequency Separation

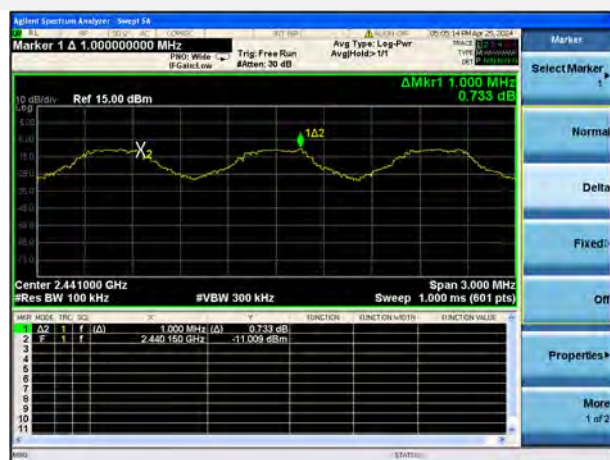
Left Ear

Test Data

Mode	Frequency separation (MHz)	2/3 of the 20 dB Bandwidth (MHz)	Verdict
GFSK	1.000	0.645	Pass
$\pi/4$ -DQPSK	1.000	0.865	Pass

Test Plots

GFSK



$\pi/4$ -DQPSK



Right Ear

Test Data

Mode	Frequency separation (MHz)	2/3 of the 20 dB Bandwidth (MHz)	Verdict
GFSK	1.000	0.645	Pass
$\pi/4$ -DQPSK	1.000	0.865	Pass

Test Plots

GFSK

 $\pi/4$ -DQPSK

A.5 Average Time of Occupancy

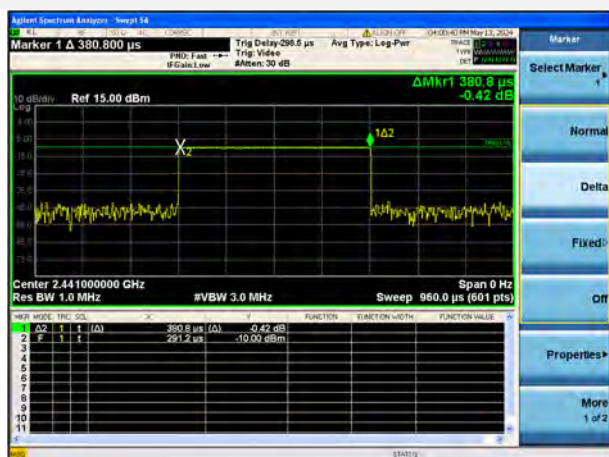
Left Ear

Test Data

GFSK				
DH Packet	Pulse Width (ms)	Total of Dwell (ms)	Limit (sec)	Verdict
DH 1	0.38080	121.856	0.4	Pass
DH 3	1.63400	261.440	0.4	Pass
DH 5	2.88800	308.053	0.4	Pass
$\pi/4$ -DQPSK				
DH Packet	Pulse Width (ms)	Total of Dwell (ms)	Limit (sec)	Verdict
2DH 1	0.39040	124.928	0.4	Pass
2DH 3	1.64100	262.560	0.4	Pass
2DH 5	2.88800	308.053	0.4	Pass
AFH Mode				
DH Packet	Pulse Width (ms)	Total of Dwell (ms)	Limit (sec)	Verdict
DH 1	0.38240	61.184	0.4	Pass
DH 3	1.63400	130.720	0.4	Pass
DH 5	2.88800	154.027	0.4	Pass

Test Plots

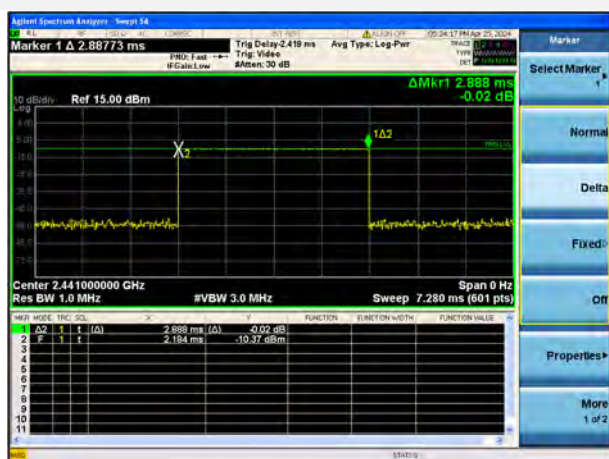
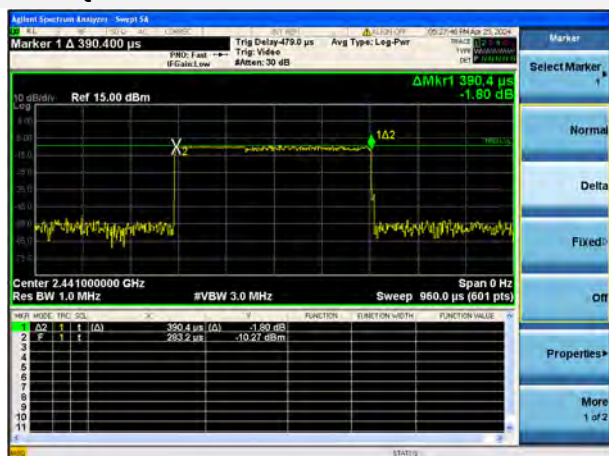
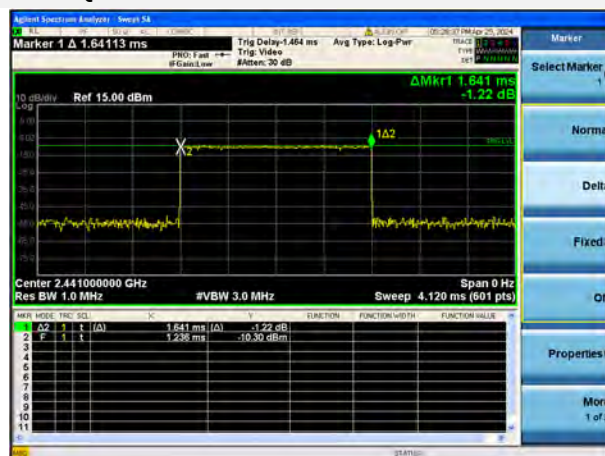
GFSK DH1



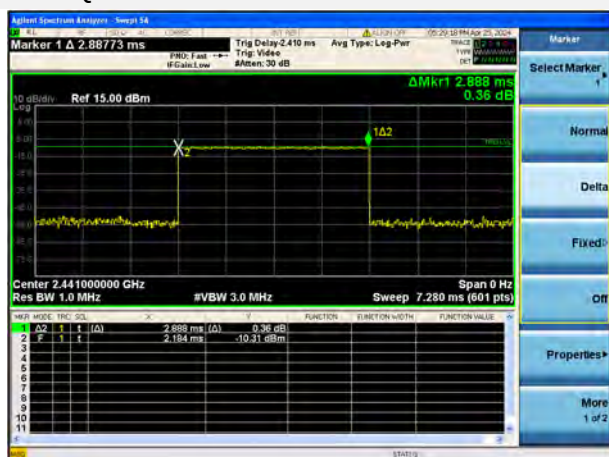
GFSK DH3



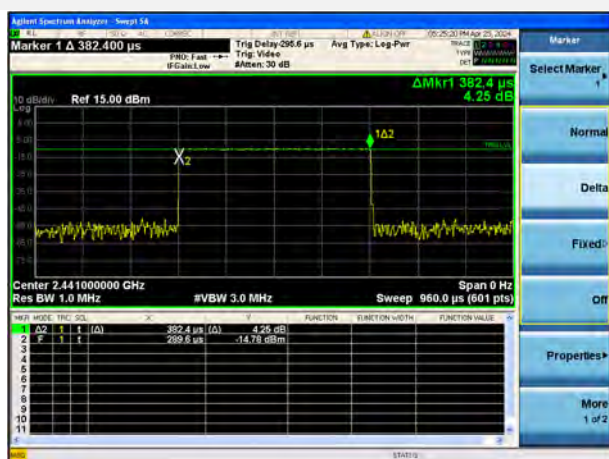
GFSK DH5

 $\pi/4$ -DQPSK 2DH1 $\pi/4$ -DQPSK 2DH3

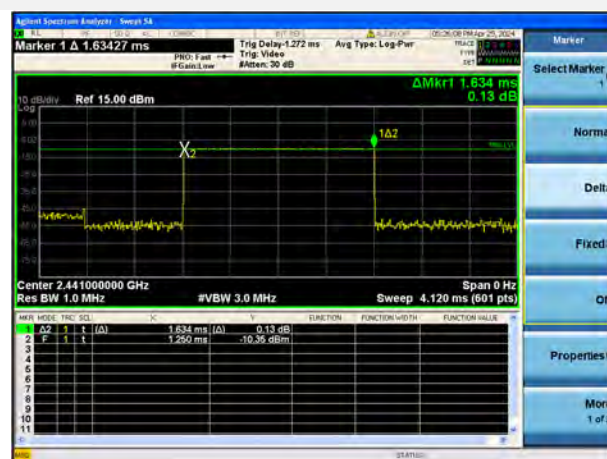
$\pi/4$ -DQPSK 2DH5



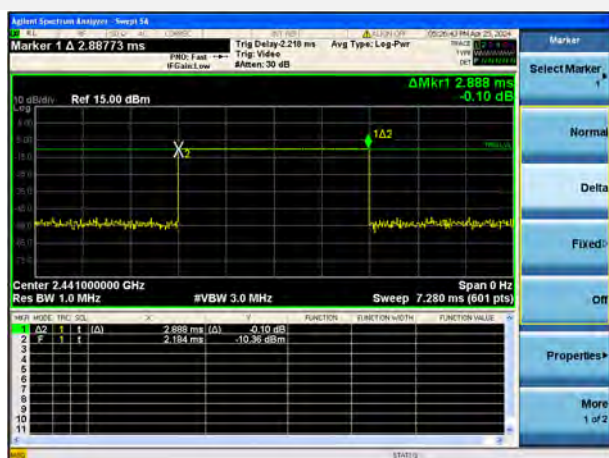
AFH Mode DH1



AFH Mode DH3



AFH Mode DH5

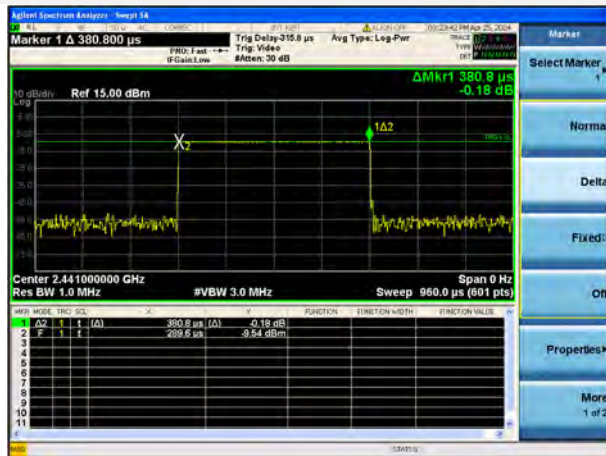


Right EarTest Data

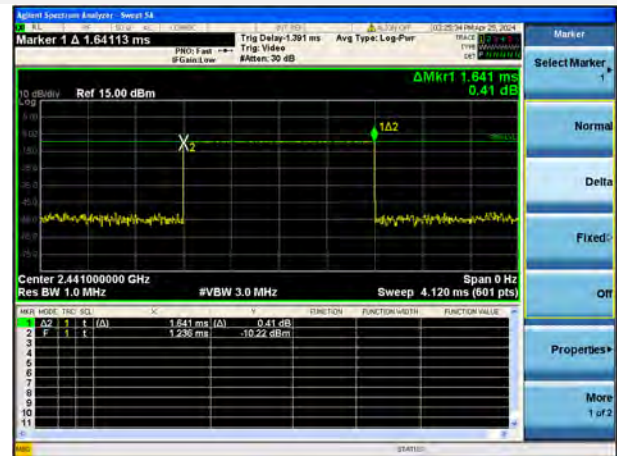
GFSK				
DH Packet	Pulse Width (ms)	Total of Dwell (ms)	Limit (sec)	Verdict
DH 1	0.38080	121.856	0.4	Pass
DH 3	1.64100	262.560	0.4	Pass
DH 5	2.88800	308.053	0.4	Pass
$\pi/4$ -DQPSK				
DH Packet	Pulse Width (ms)	Total of Dwell (ms)	Limit (sec)	Verdict
2DH 1	0.39040	124.928	0.4	Pass
2DH 3	1.64100	262.560	0.4	Pass
2DH 5	2.88800	308.053	0.4	Pass
AFH Mode				
DH Packet	Pulse Width (ms)	Total of Dwell (ms)	Limit (sec)	Verdict
DH 1	0.38240	61.184	0.4	Pass
DH 3	1.63400	130.720	0.4	Pass
DH 5	2.87600	153.387	0.4	Pass

Test Plots

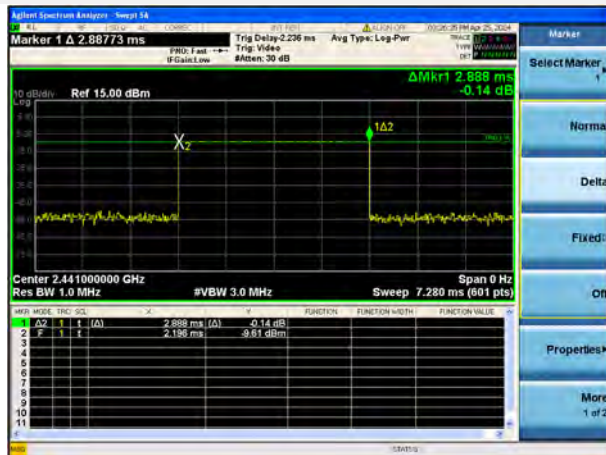
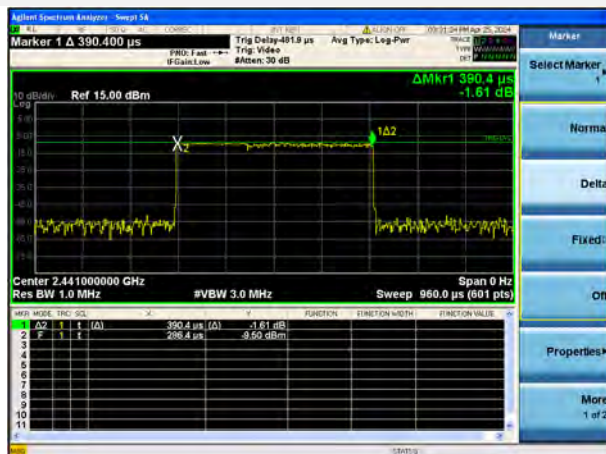
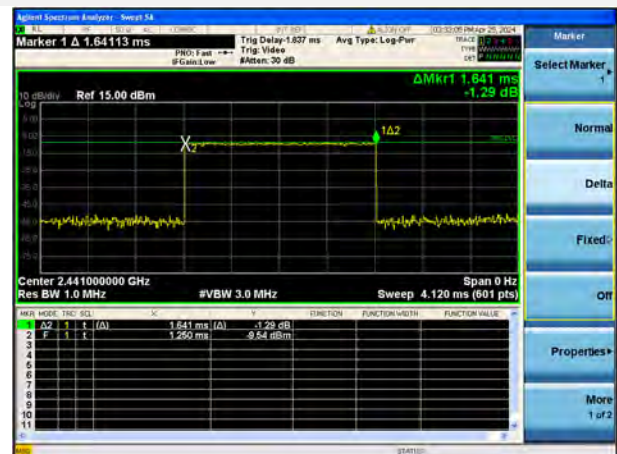
GFSK DH1



GFSK DH3



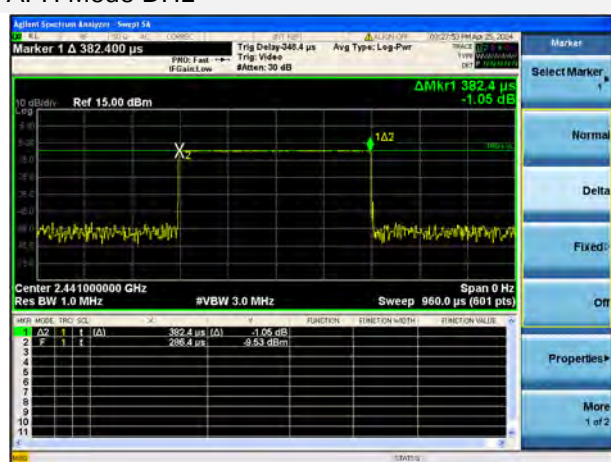
GFSK DH5

 $\pi/4$ -DQPSK 2DH1 $\pi/4$ -DQPSK 2DH3

$\pi/4$ -DQPSK 2DH5



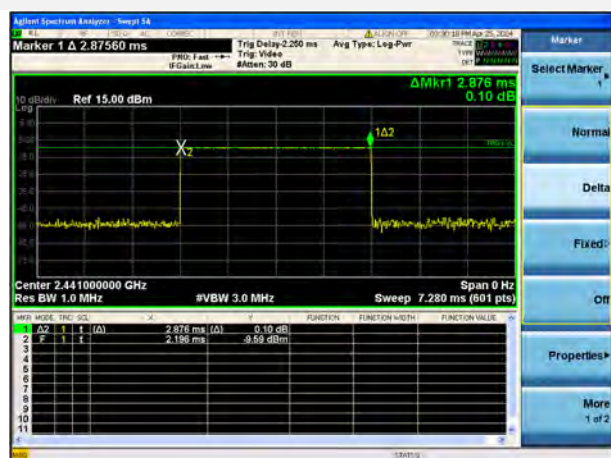
AFH Mode DH1



AFH Mode DH3



AFH Mode DH5



A.6 Conducted Spurious Emissions & Authorized-band band-edge

Left Ear

Test Data

GFSK				
Channel	Measured Max. Out of Band Emission (dBm)	Limit (dBm)		Verdict
		Carrier Level	Calculated 20 dBc Limit	
Low	-44.35	-10.59	-30.59	Pass
Middle	-45.25	-10.25	-30.25	Pass
High	-45.82	-10.41	-30.41	Pass
$\pi/4$ -DQPSK				
Channel	Measured Max. Out of Band Emission (dBm)	Limit (dBm)		Verdict
		Carrier Level	Calculated 20 dBc Limit	
Low	-44.89	-10.73	-30.73	Pass
Middle	-45.10	-10.32	-30.32	Pass
High	-45.72	-10.47	-30.47	Pass

Hopping Mode				
Mode	Measured Max. Out of Band Emission (dBm)	Limit (dBm)		Verdict
		Carrier Level	Calculated 20 dBc Limit	
GFSK	-45.64	-10.15	-30.15	Pass
$\pi/4$ -DQPSK	-45.22	-10.37	-30.37	Pass

Test Plots

GFSK LOW CHANNEL, CARRIER LEVEL

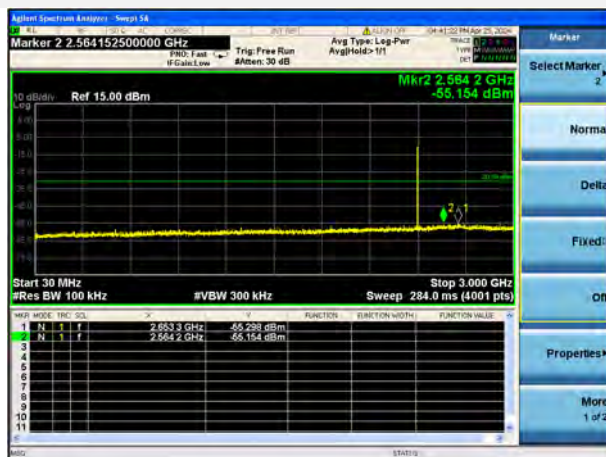


GFSK LOW CHANNEL, BAND EDGE



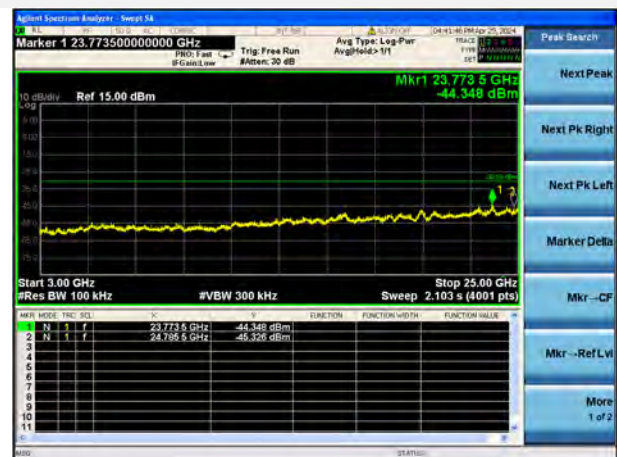
GFSK LOW CHANNEL, SPURIOUS

30 MHz ~ 3 GHz

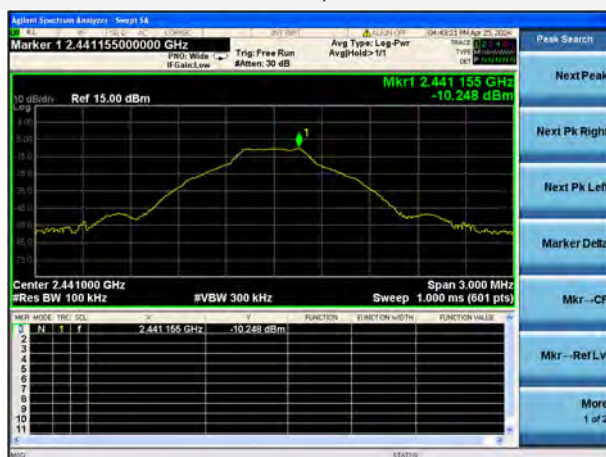


GFSK LOW CHANNEL, SPURIOUS

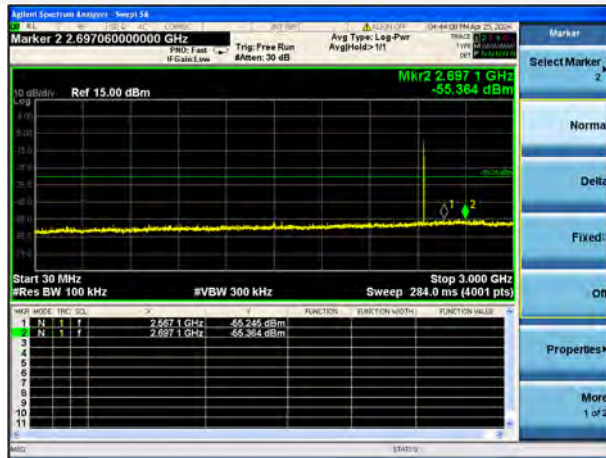
3 GHz ~ 25 GHz



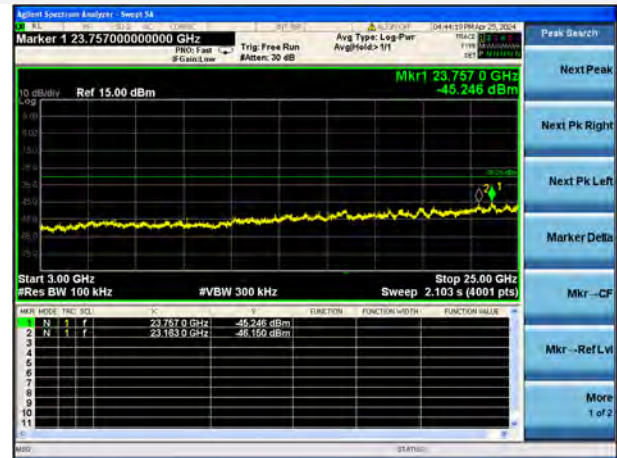
GFSK MIDDLE CHANNEL, CARRIER LEVEL



GFSK MIDDLE CHANNEL, SPURIOUS 30 MHz ~ 3 GHz



GFSK MIDDLE CHANNEL, SPURIOUS 3 GHz ~ 25 GHz



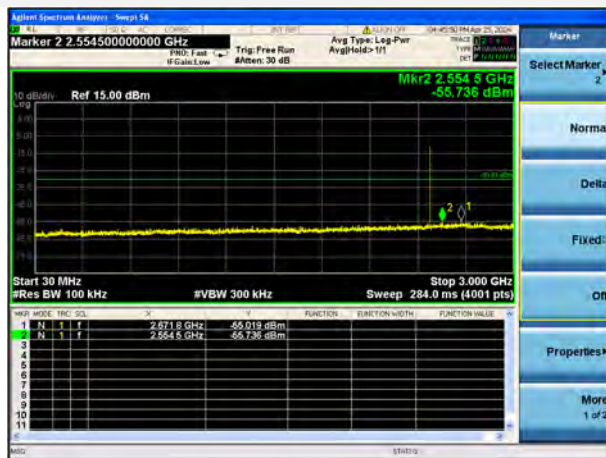
GFSK HIGH CHANNEL, CARRIER LEVEL



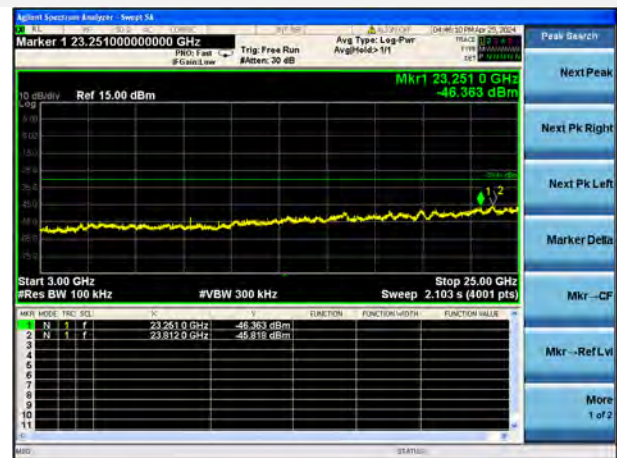
GFSK HIGH CHANNEL, BAND EDGE

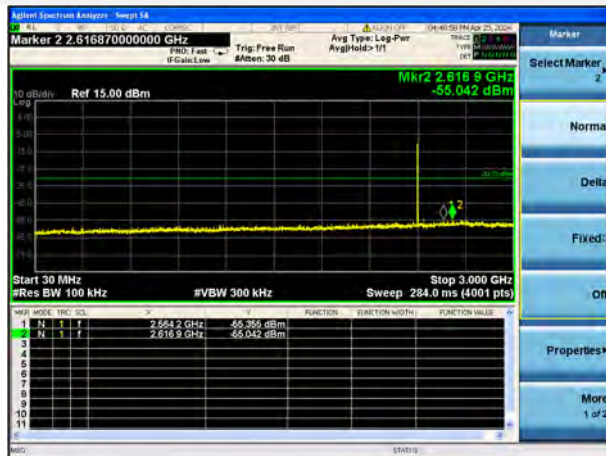
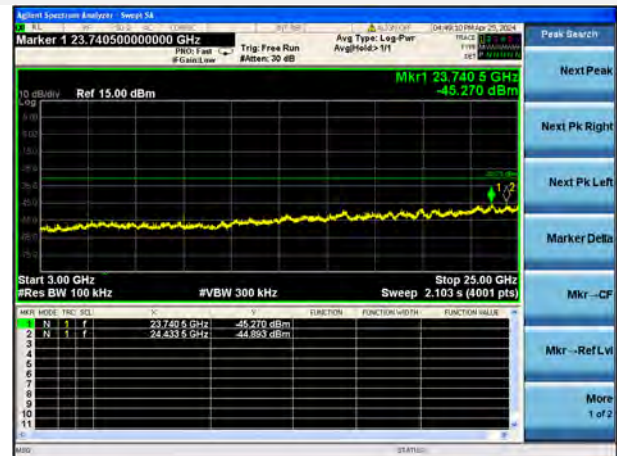
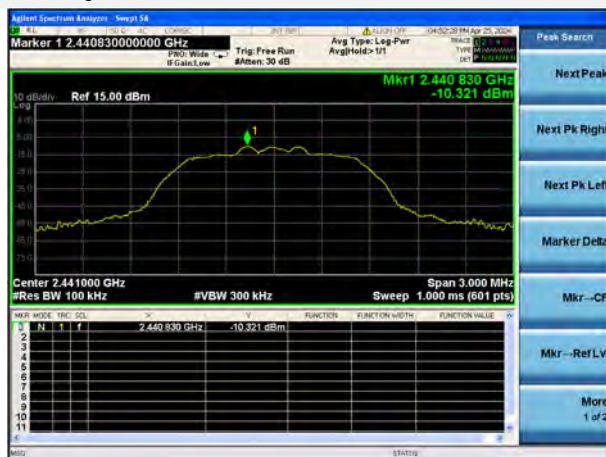


GFSK HIGH CHANNEL, SPURIOUS 30 MHz ~ 3 GHz

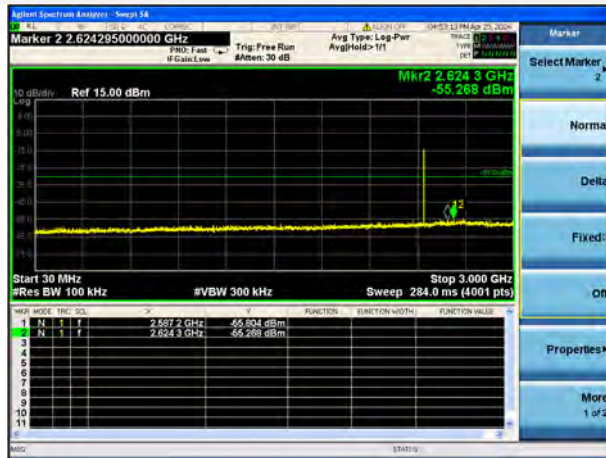


GFSK HIGH CHANNEL, SPURIOUS 3 GHz ~ 25 GHz

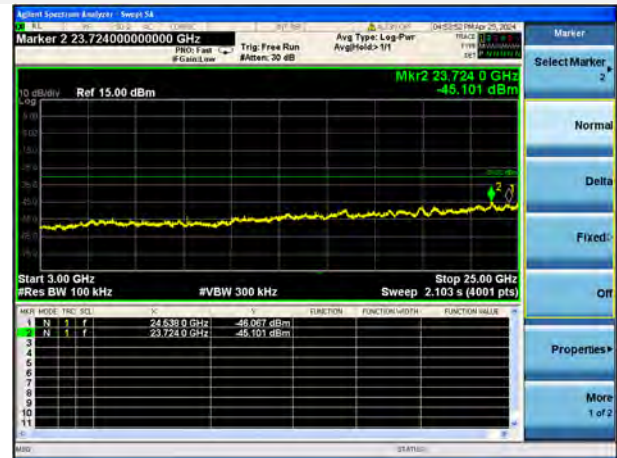


$\pi/4$ -DQPSK LOW CHANNEL, CARRIER LEVEL $\pi/4$ -DQPSK LOW CHANNEL, BAND EDGE $\pi/4$ -DQPSK LOW CHANNEL, SPURIOUS
30 MHz ~ 3 GHz $\pi/4$ -DQPSK LOW CHANNEL, SPURIOUS
3 GHz ~ 25 GHz $\pi/4$ -DQPSK MIDDLE CHANNEL, CARRIER LEVEL

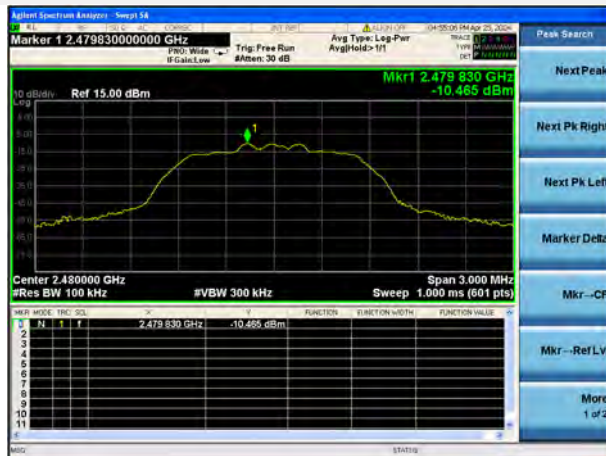
$\pi/4$ -DQPSK MIDDLE CHANNEL, SPURIOUS 30 MHz ~ 3 GHz



$\pi/4$ -DQPSK MIDDLE CHANNEL, SPURIOUS 3 GHz ~ 25 GHz



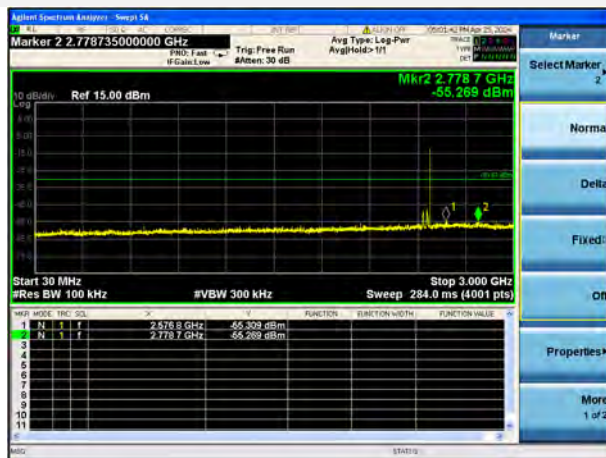
$\pi/4$ -DQPSK HIGH CHANNEL, CARRIER LEVEL



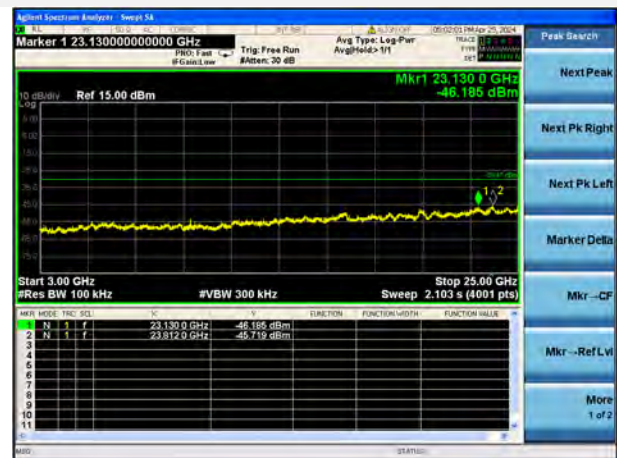
$\pi/4$ -DQPSK HIGH CHANNEL, BAND EDGE



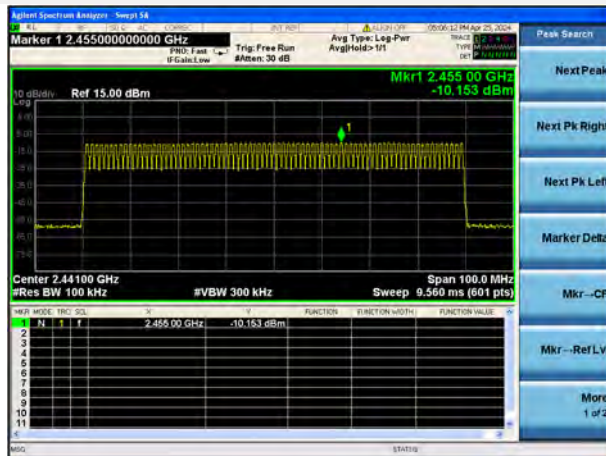
$\pi/4$ -DQPSK HIGH CHANNEL, SPURIOUS 30 MHz ~ 3 GHz



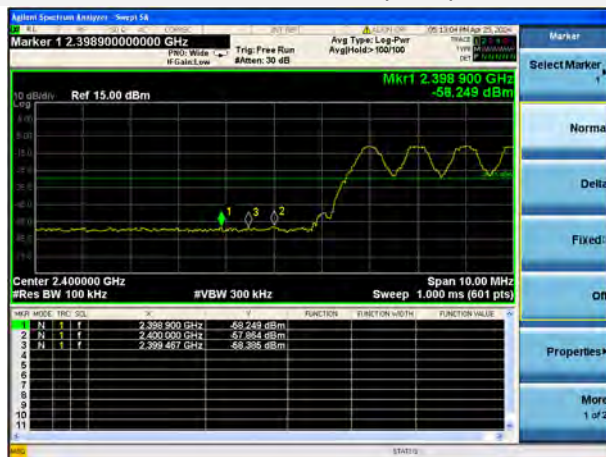
$\pi/4$ -DQPSK HIGH CHANNEL, SPURIOUS 3 GHz ~ 25 GHz



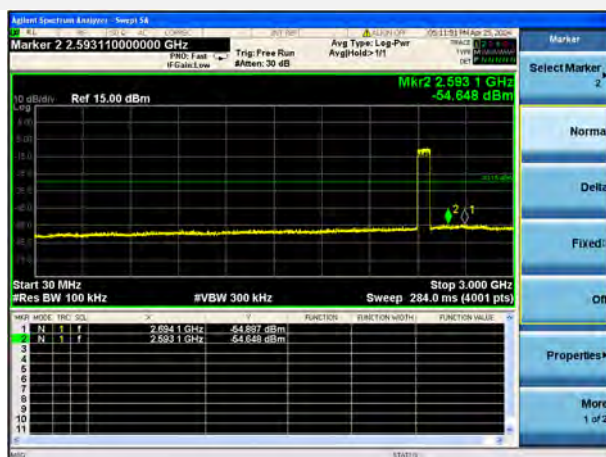
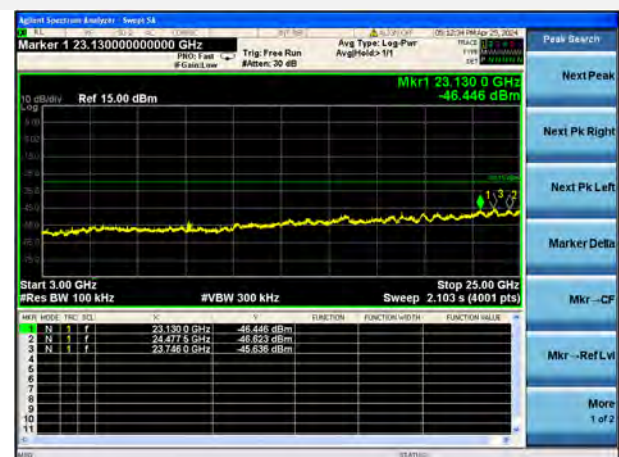
GFSK HOPPING, CARRIER LEVEL



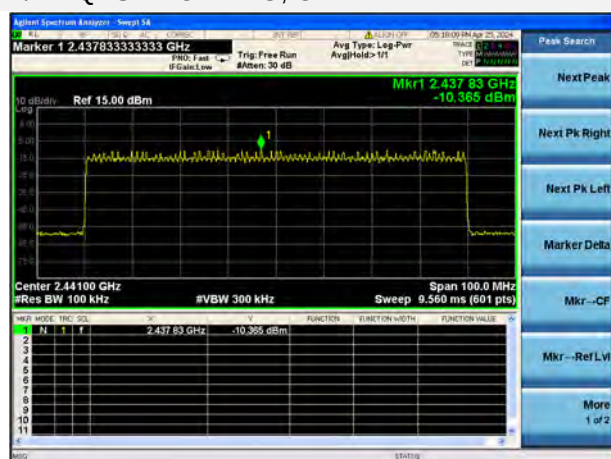
GFSK HOPPING BAND EDGE (LOW)



GFSK HOPPING BAND EDGE (HIGH)

GFSK Hopping Mode, SPURIOUS
30 MHz ~ 3 GHzGFSK Hopping Mode, SPURIOUS
3GHz ~ 25 GHz

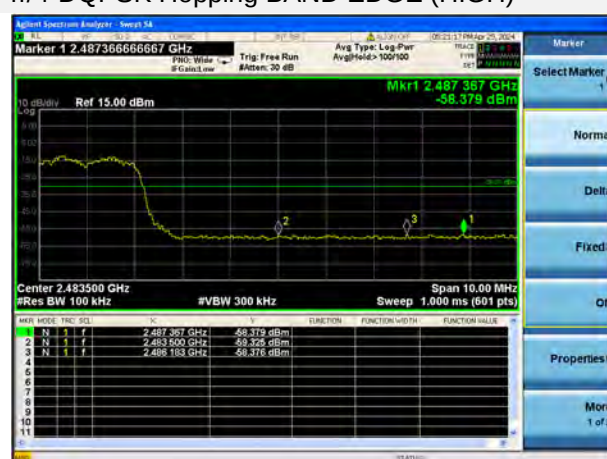
$\pi/4$ -DQPSK HOPPING, CARRIER LEVEL



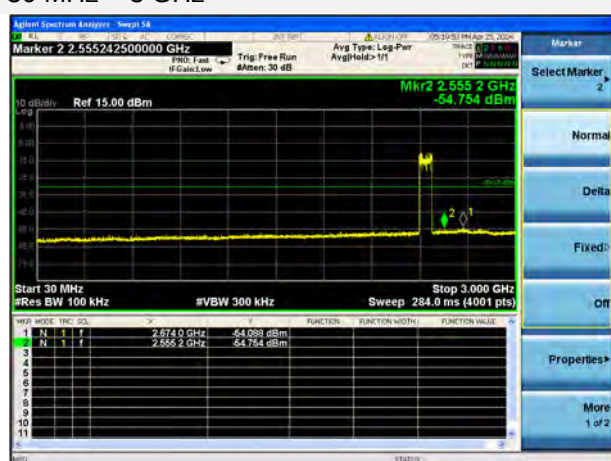
$\pi/4$ -DQPSK Hopping BAND EDGE (LOW)



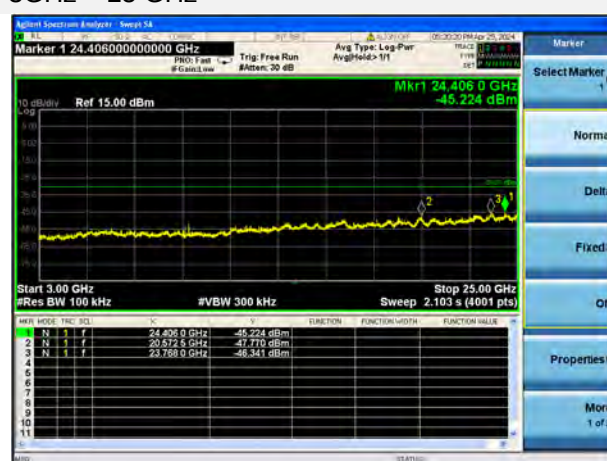
$\pi/4$ -DQPSK Hopping BAND EDGE (HIGH)



$\pi/4$ -DQPSK Hopping Mode, SPURIOUS 30 MHz ~ 3 GHz



$\pi/4$ -DQPSK Hopping Mode, SPURIOUS 3GHz ~ 25 GHz



Right EarTest Data

GFSK				
Channel	Measured Max. Out of Band Emission (dBm)	Limit (dBm)		Verdict
		Carrier Level	Calculated 20 dBc Limit	
Low	-45.96	-9.80	-29.80	Pass
Middle	-44.24	-9.77	-29.77	Pass
High	-45.90	-9.95	-29.95	Pass
$\pi/4$ -DQPSK				
Channel	Measured Max. Out of Band Emission (dBm)	Limit (dBm)		Verdict
		Carrier Level	Calculated 20 dBc Limit	
Low	-45.14	-9.67	-29.67	Pass
Middle	-45.39	-9.54	-29.54	Pass
High	-45.10	-10.00	-30.00	Pass

Hopping Mode				
Mode	Measured Max. Out of Band Emission (dBm)	Limit (dBm)		Verdict
		Carrier Level	Calculated 20 dBc Limit	
GFSK	-45.28	-9.57	-29.57	Pass
$\pi/4$ -DQPSK	-44.22	-9.51	-29.51	Pass

Test Plots

GFSK LOW CHANNEL, CARRIER LEVEL

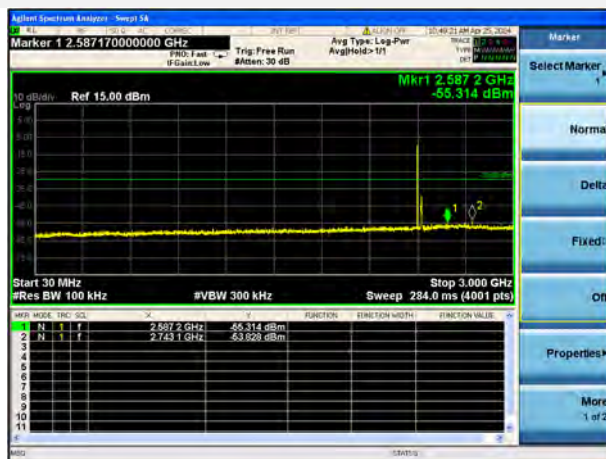


GFSK LOW CHANNEL, BAND EDGE



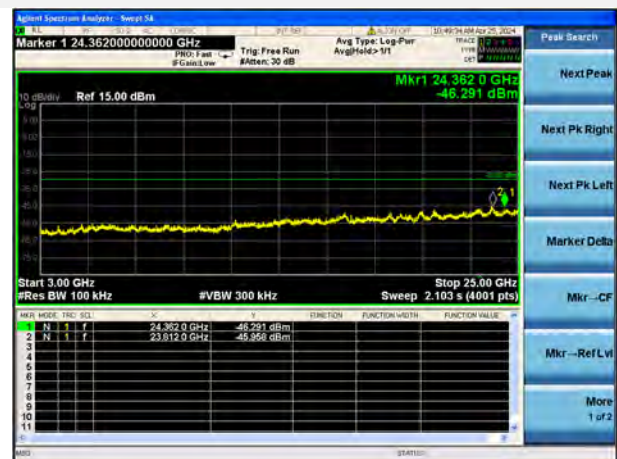
GFSK LOW CHANNEL, SPURIOUS

30 MHz ~ 3 GHz



GFSK LOW CHANNEL, SPURIOUS

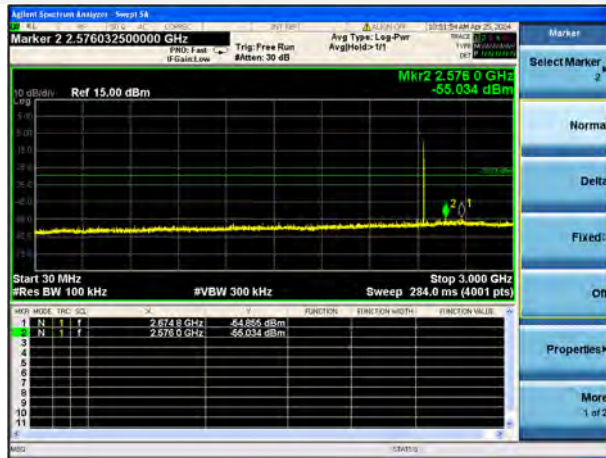
3 GHz ~ 25 GHz



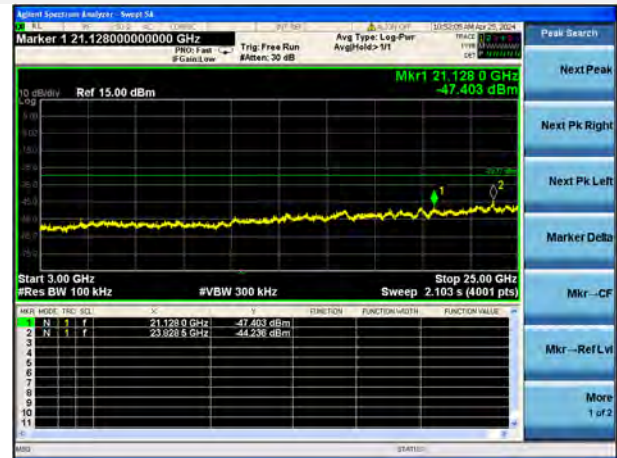
GFSK MIDDLE CHANNEL, CARRIER LEVEL



GFSK MIDDLE CHANNEL, SPURIOUS 30 MHz ~ 3 GHz



GFSK MIDDLE CHANNEL, SPURIOUS 3 GHz ~ 25 GHz



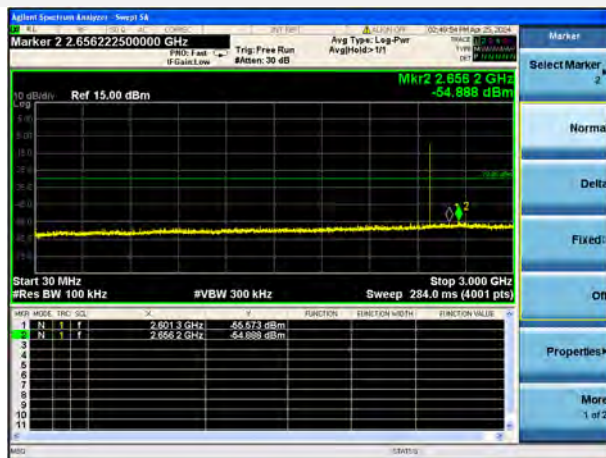
GFSK HIGH CHANNEL, CARRIER LEVEL



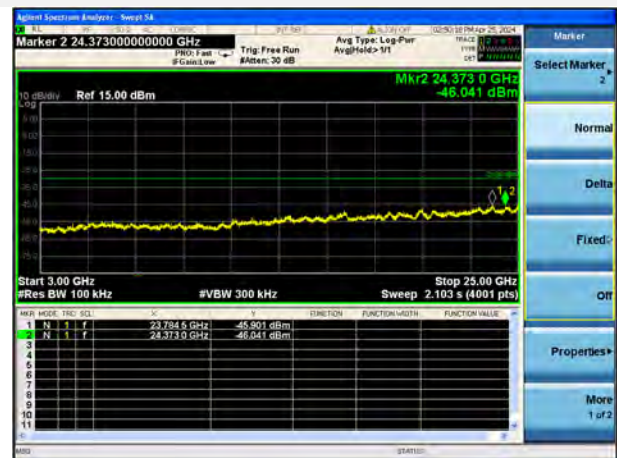
GFSK HIGH CHANNEL, BAND EDGE

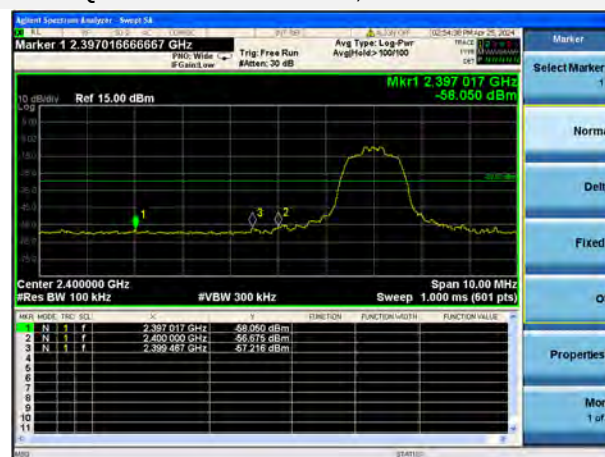
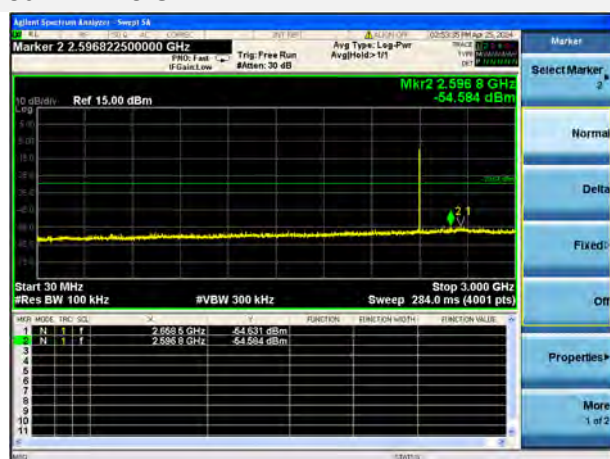
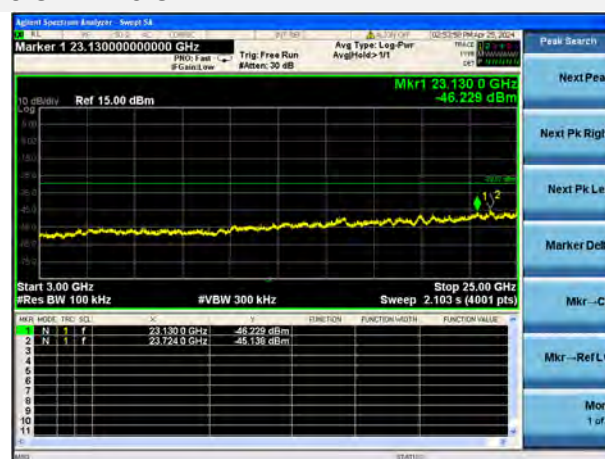


GFSK HIGH CHANNEL, SPURIOUS 30 MHz ~ 3 GHz

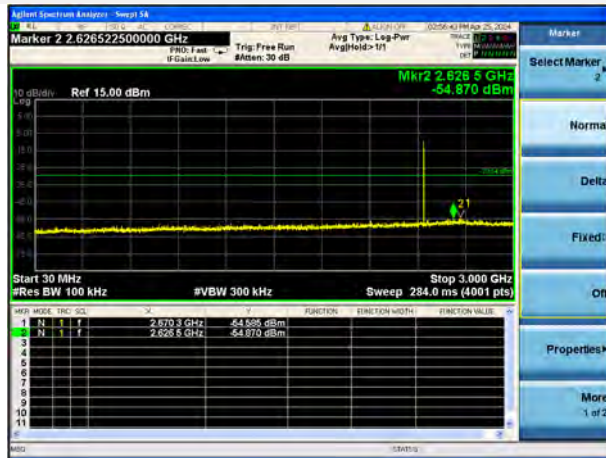


GFSK HIGH CHANNEL, SPURIOUS 3 GHz ~ 25 GHz

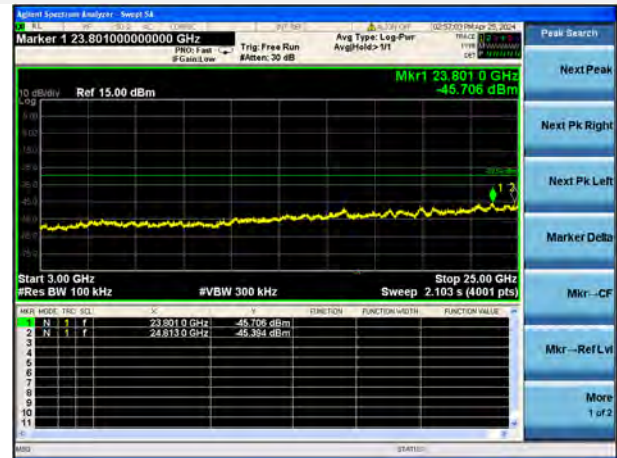


$\pi/4$ -DQPSK LOW CHANNEL, CARRIER LEVEL $\pi/4$ -DQPSK LOW CHANNEL, BAND EDGE $\pi/4$ -DQPSK LOW CHANNEL, SPURIOUS
30 MHz ~ 3 GHz $\pi/4$ -DQPSK LOW CHANNEL, SPURIOUS
3 GHz ~ 25 GHz $\pi/4$ -DQPSK MIDDLE CHANNEL, CARRIER LEVEL

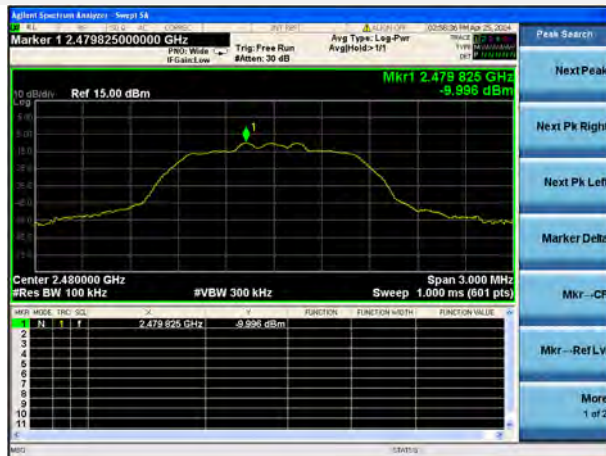
$\pi/4$ -DQPSK MIDDLE CHANNEL, SPURIOUS 30 MHz ~ 3 GHz



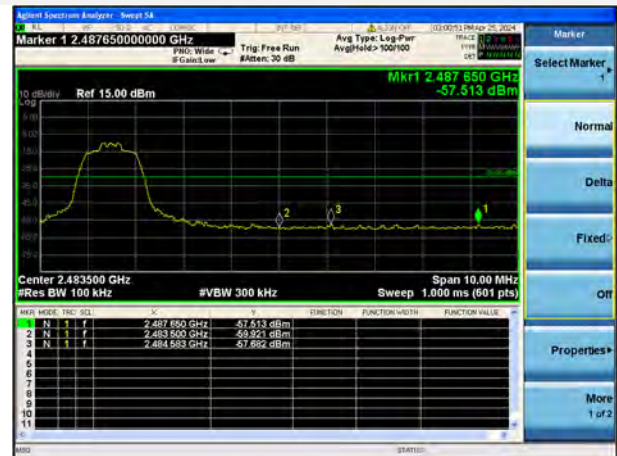
$\pi/4$ -DQPSK MIDDLE CHANNEL, SPURIOUS 3 GHz ~ 25 GHz



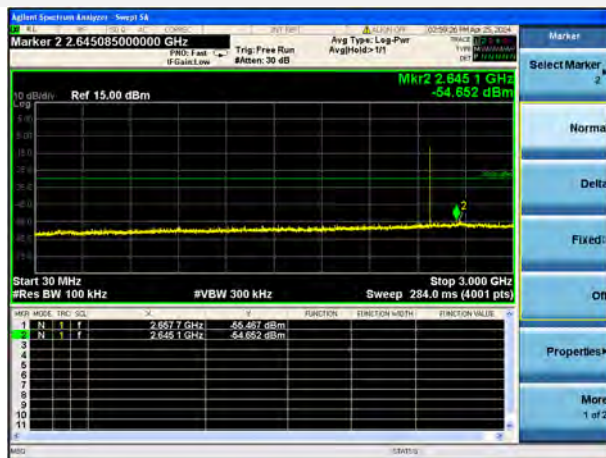
$\pi/4$ -DQPSK HIGH CHANNEL, CARRIER LEVEL



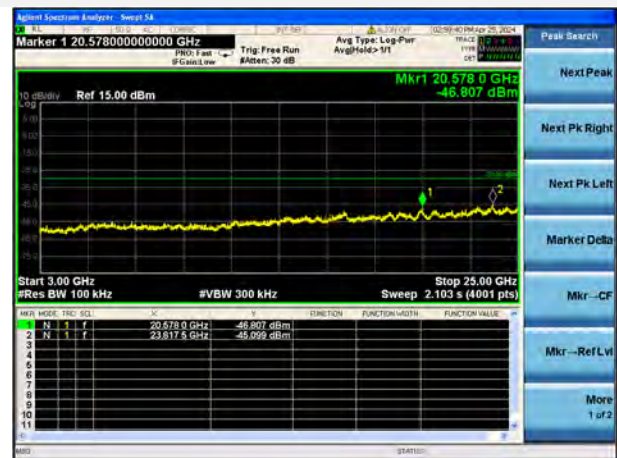
$\pi/4$ -DQPSK HIGH CHANNEL, BAND EDGE



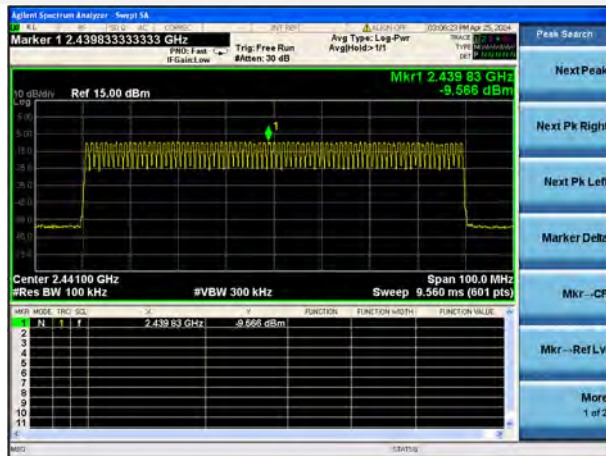
$\pi/4$ -DQPSK HIGH CHANNEL, SPURIOUS 30 MHz ~ 3 GHz



$\pi/4$ -DQPSK HIGH CHANNEL, SPURIOUS 3 GHz ~ 25 GHz



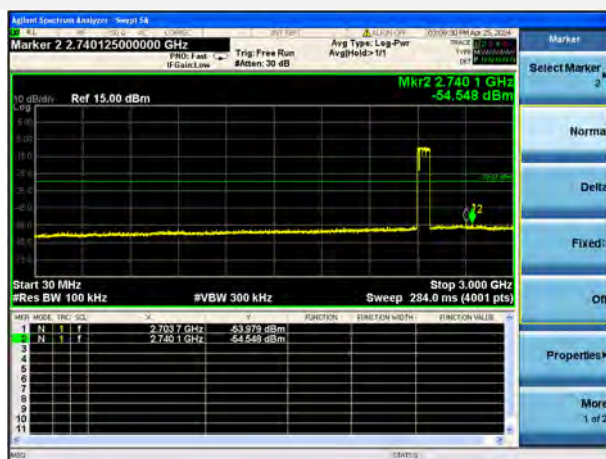
GFSK HOPPING, CARRIER LEVEL

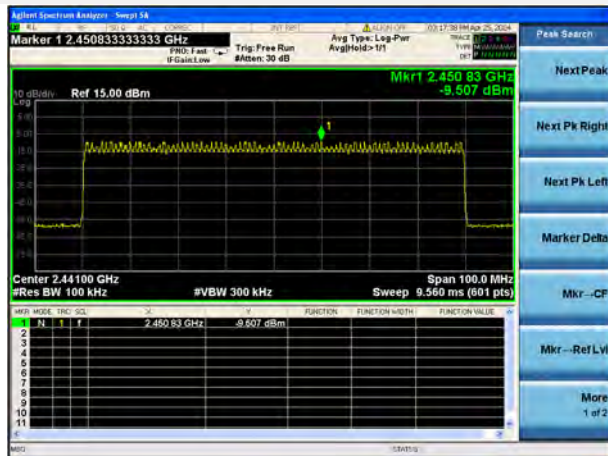
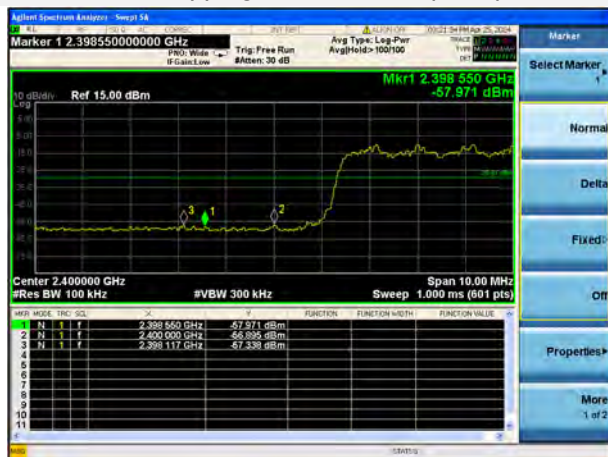
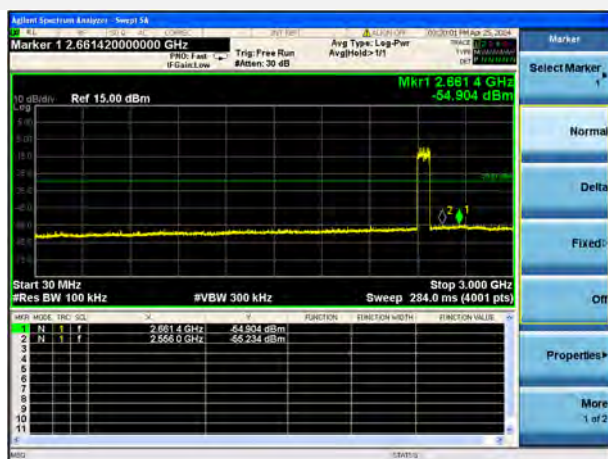


GFSK HOPPING BAND EDGE (LOW)



GFSK HOPPING BAND EDGE (HIGH)

GFSK Hopping Mode, SPURIOUS
30 MHz ~ 3 GHzGFSK Hopping Mode, SPURIOUS
3GHz ~ 25 GHz

$\pi/4$ -DQPSK HOPPING, CARRIER LEVEL $\pi/4$ -DQPSK Hopping BAND EDGE (LOW) $\pi/4$ -DQPSK Hopping BAND EDGE (HIGH) $\pi/4$ -DQPSK Hopping Mode, SPURIOUS
30 MHz ~ 3 GHz $\pi/4$ -DQPSK Hopping Mode, SPURIOUS
3GHz ~ 25 GHz

A.7 Conducted Emissions

Note ¹: The EUT is working in the Normal link mode. All modes have been tested and normal link mode is worst.

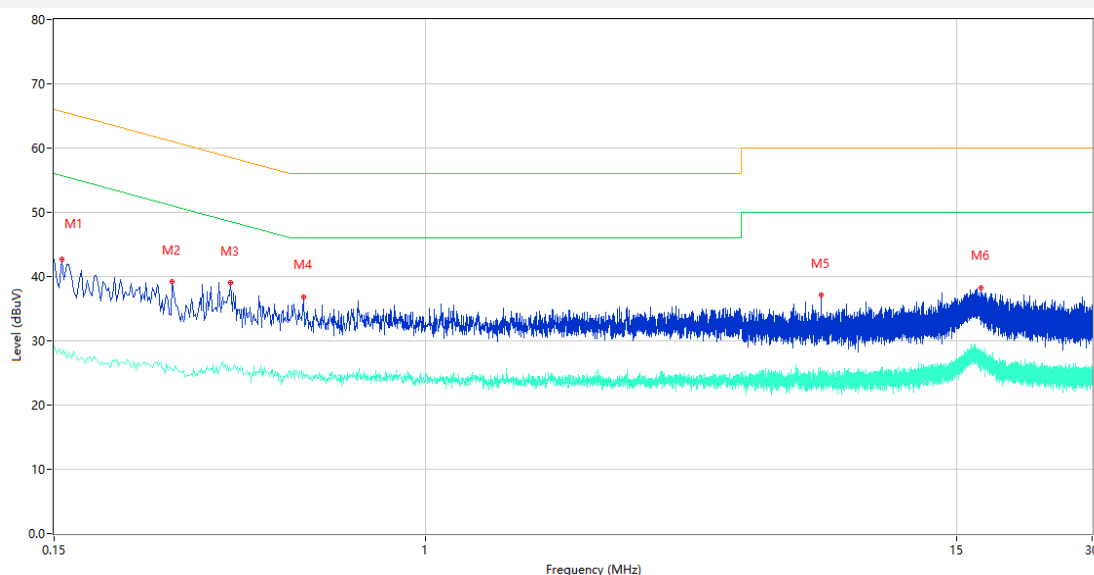
Note ²: Devices subject to Part 15 must be tested for all available U.S. voltages and frequencies (such as a nominal 120 VAC, 60 Hz and 240 VAC, 50 Hz) for which the device is capable of operation. So, The configuration 120 VAC, 60 Hz and 240 VAC, 50 Hz were tested respectively, but only the worst configuration (120 VAC, 60 Hz) shown here.

Note ³: Results (dBuV) = Original reading level of Spectrum Analyzer (dBuV) + Factor (dB)

Test Data and Plots

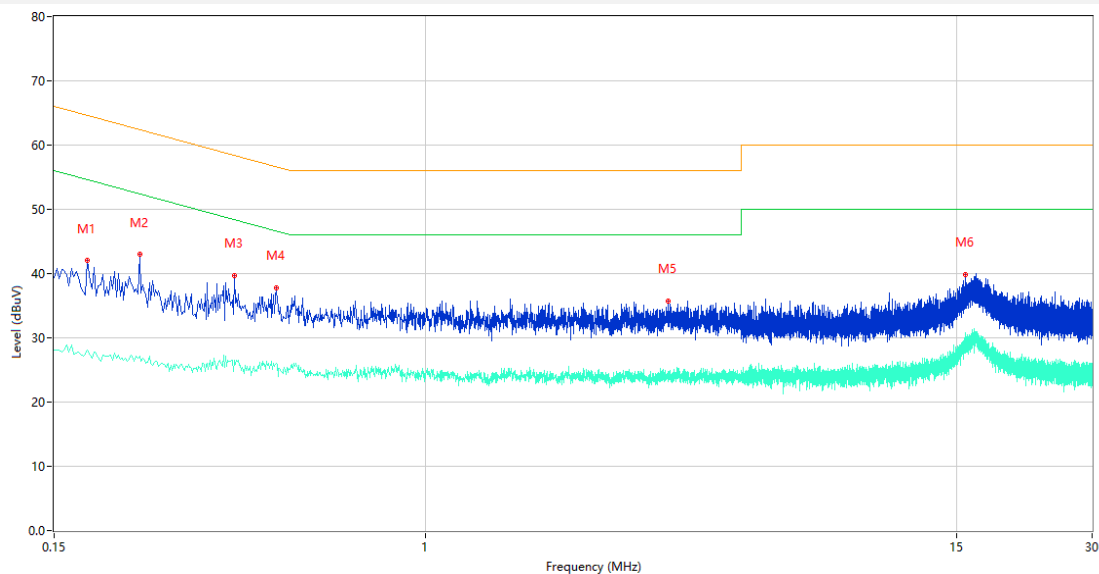
Left Ear

PHASE L



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.156	42.71	9.78	65.67	22.96	Peak	L	Pass
1**	0.156	27.98	9.78	55.67	27.69	AV	L	Pass
2	0.274	39.20	9.76	61.00	21.80	Peak	L	Pass
2**	0.274	25.63	9.76	51.00	25.37	AV	L	Pass
3	0.370	39.04	10.68	58.50	19.46	Peak	L	Pass
3**	0.370	25.41	10.68	48.50	23.09	AV	L	Pass
4	0.536	36.83	10.01	56.00	19.17	Peak	L	Pass
4**	0.536	25.01	10.01	46.00	20.99	AV	L	Pass
5	7.520	37.07	10.34	60.00	22.93	Peak	L	Pass
5**	7.520	25.34	10.34	50.00	24.66	AV	L	Pass
6	16.994	38.29	10.65	60.00	21.71	Peak	L	Pass
6**	16.994	28.08	10.65	50.00	21.92	AV	L	Pass

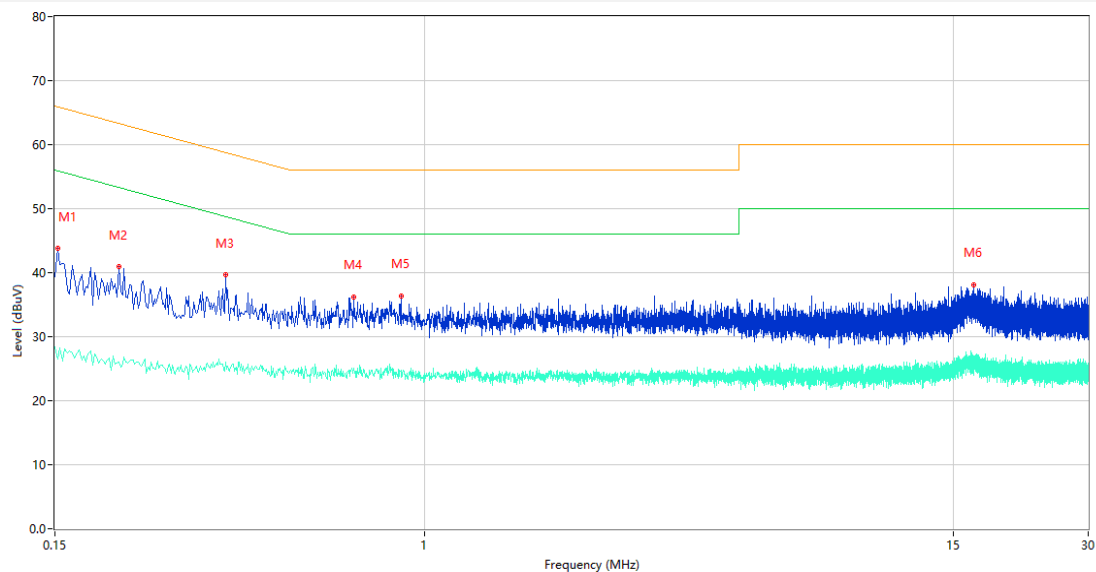
PHASE N



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.178	42.06	9.78	64.58	22.52	Peak	N	Pass
1**	0.178	28.04	9.78	54.58	26.54	AV	N	Pass
2	0.232	42.94	9.77	62.38	19.44	Peak	N	Pass
2**	0.232	27.16	9.77	52.38	25.22	AV	N	Pass
3	0.376	39.71	10.65	58.37	18.66	Peak	N	Pass
3**	0.376	26.50	10.65	48.37	21.87	AV	N	Pass
4	0.466	37.79	10.01	56.58	18.79	Peak	N	Pass
4**	0.466	25.96	10.01	46.58	20.62	AV	N	Pass
5	3.446	35.78	10.31	56.00	20.22	Peak	N	Pass
5**	3.446	24.70	10.31	46.00	21.30	AV	N	Pass
6	15.694	39.90	10.61	60.00	20.10	Peak	N	Pass
6**	15.694	29.04	10.61	50.00	20.96	AV	N	Pass

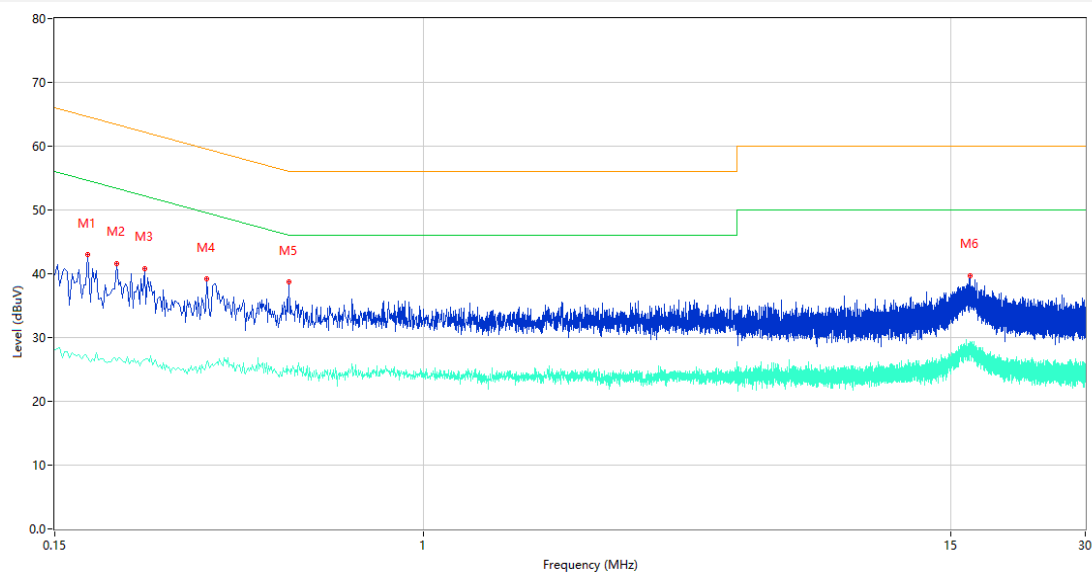
Right Ear

PHASE L



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.152	43.87	9.78	65.89	22.02	Peak	L	Pass
1**	0.152	26.48	9.78	55.89	29.41	AV	L	Pass
2	0.208	40.95	9.77	63.28	22.33	Peak	L	Pass
2**	0.208	26.00	9.77	53.28	27.28	AV	L	Pass
3	0.360	39.61	10.72	58.73	19.12	Peak	L	Pass
3**	0.360	26.07	10.72	48.73	22.66	AV	L	Pass
4	0.696	36.24	10.63	56.00	19.76	Peak	L	Pass
4**	0.696	25.09	10.63	46.00	20.91	AV	L	Pass
5	0.884	36.37	10.31	56.00	19.63	Peak	L	Pass
5**	0.884	24.71	10.31	46.00	21.29	AV	L	Pass
6	16.708	38.11	10.71	60.00	21.89	Peak	L	Pass
6**	16.708	26.19	10.71	50.00	23.81	AV	L	Pass

PHASE N



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.178	42.99	9.78	64.58	21.59	Peak	N	Pass
1**	0.178	26.86	9.78	54.58	27.72	AV	N	Pass
2	0.206	41.59	9.77	63.37	21.78	Peak	N	Pass
2**	0.206	26.28	9.77	53.37	27.09	AV	N	Pass
3	0.238	40.83	9.77	62.17	21.34	Peak	N	Pass
3**	0.238	26.53	9.77	52.17	25.64	AV	N	Pass
4	0.328	39.18	10.32	59.50	20.32	Peak	N	Pass
4**	0.328	26.13	10.32	49.50	23.37	AV	N	Pass
5	0.500	38.72	9.98	56.00	17.28	Peak	N	Pass
5**	0.500	24.99	9.98	46.00	21.01	AV	N	Pass
6	16.622	39.71	11.02	60.00	20.29	Peak	N	Pass
6**	16.622	29.39	11.02	50.00	20.61	AV	N	Pass

A.8 Radiated Spurious Emission

Note ¹: The symbol of "--" in the table which means not application.

Note ²: For the test data above 1 GHz, according the ANSI C63.10-2013, where limits are specified for both average and peak (or quasi-peak) detector functions, if the peak (or quasi-peak) measured value complies with the average limit, it is unnecessary to perform an average measurement.

Note ³: The EUT is working in the Normal link mode below 1 GHz. All modes have been tested and DH5-Hopping mode is the worst.

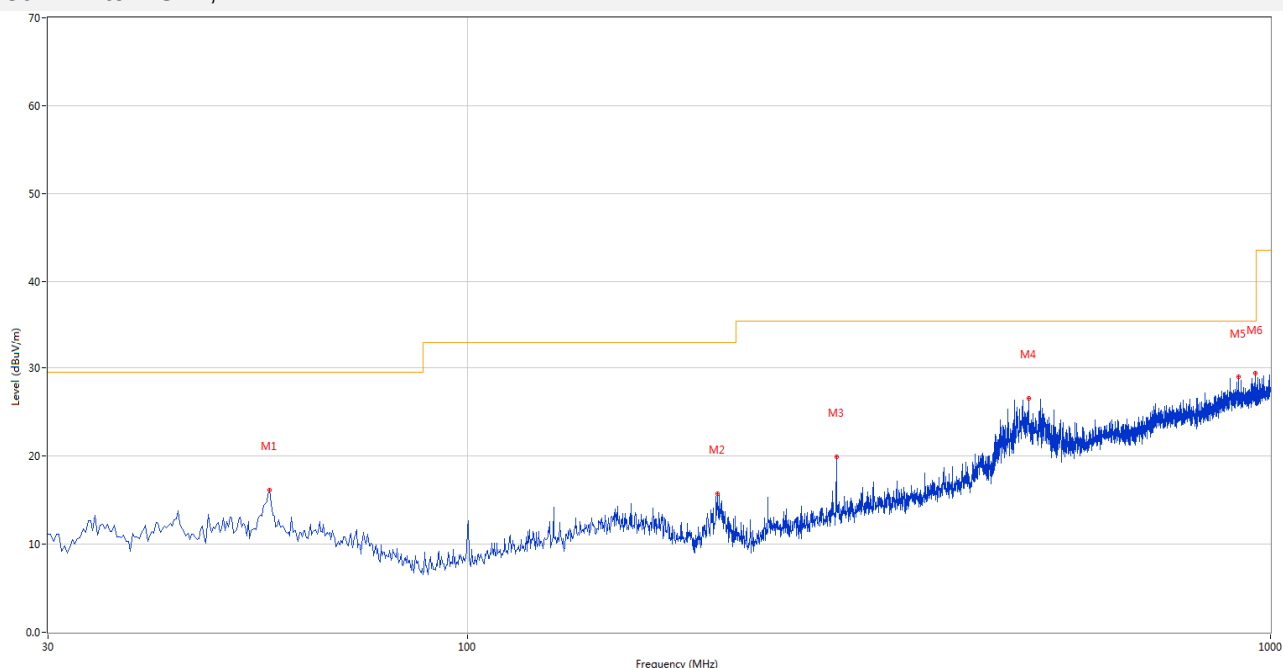
Note ⁴: Results (dBuV/m) = Original reading level of Spectrum Analyzer (dBuV/m) + Factor (dB)

The low frequency, which started from 9 kHz to 30 MHz, was pre-scanned and the result which was 20 dB lower than the limit line per 15.31(o) was not reported.

Test Data and Plots

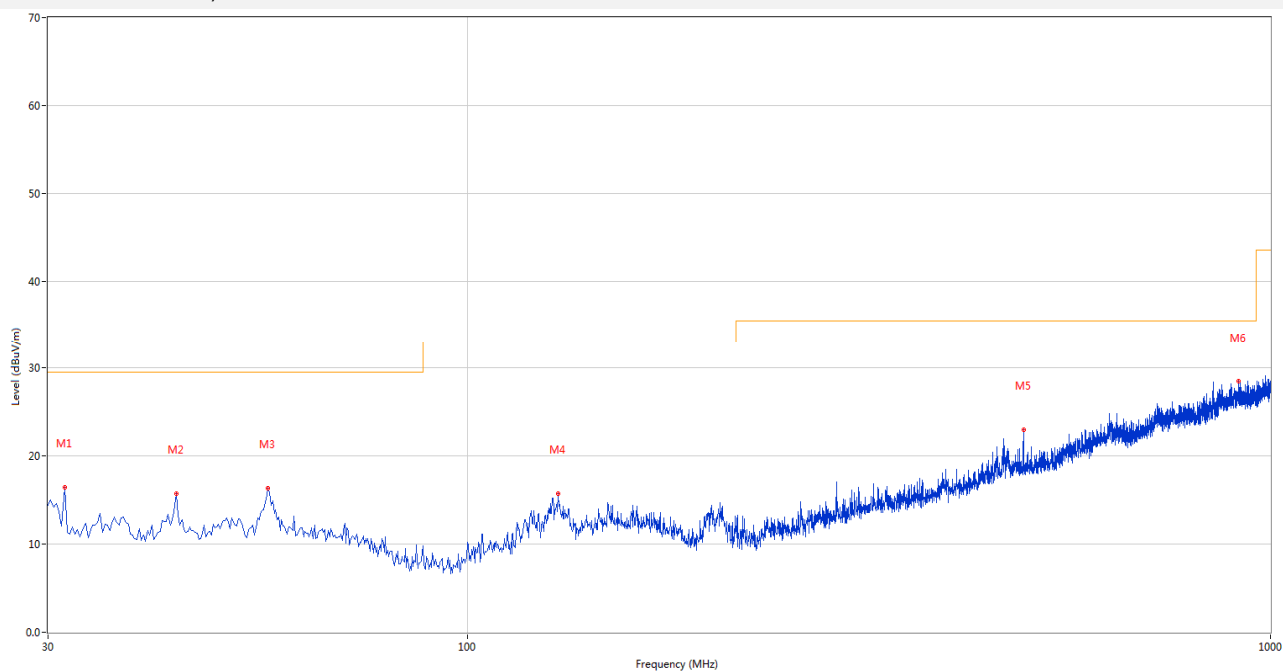
Left Ear

30 MHz to 1 GHz, ANT H



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	56.668	16.18	-26.22	29.5	13.32	Peak	167.00	200	Horizontal	Pass
2	204.556	15.76	-28.98	33.0	17.24	Peak	232.00	200	Horizontal	Pass
3	287.956	19.91	-25.01	35.5	15.59	Peak	253.00	200	Horizontal	Pass
4	499.848	26.60	-19.32	35.5	8.90	Peak	264.00	200	Horizontal	Pass
5	912.237	28.99	-10.42	35.5	6.51	Peak	270.00	100	Horizontal	Pass
6	958.300	29.40	-10.75	35.5	6.10	Peak	360.00	200	Horizontal	Pass

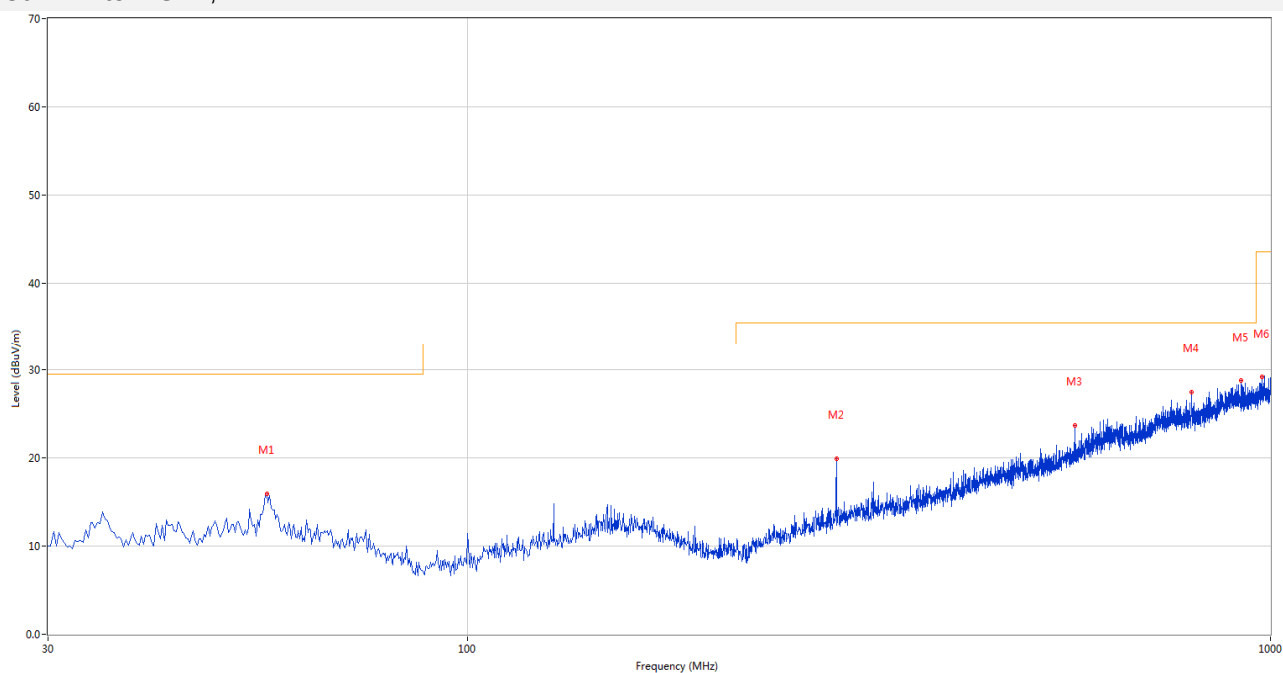
30 MHz to 1 GHz, ANT V



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	31.455	16.42	-27.79	29.5	13.08	Peak	360.00	200	Vertical	Pass
2	43.334	15.70	-26.13	29.5	13.80	Peak	360.00	200	Vertical	Pass
3	56.426	16.33	-26.21	29.5	13.17	Peak	204.00	200	Vertical	Pass
4	129.643	15.78	-27.23	33.0	17.22	Peak	226.00	100	Vertical	Pass
5	492.332	23.02	-19.74	35.5	12.48	Peak	155.00	100	Vertical	Pass
6	911.995	28.51	-10.39	35.5	6.99	Peak	69.00	100	Vertical	Pass

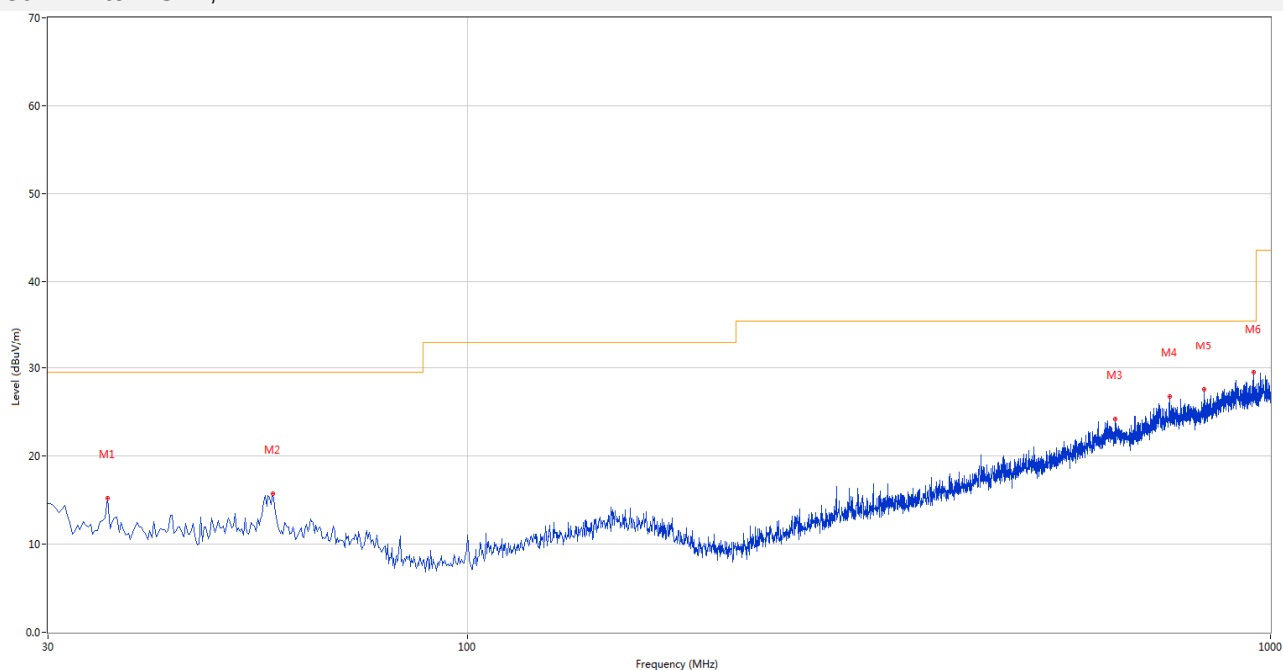
Right Ear

30 MHz to 1 GHz, ANT H



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	56.183	15.91	-26.19	29.5	13.59	Peak	285.00	100	Horizontal	Pass
2	287.956	19.91	-25.01	35.5	15.59	Peak	335.00	200	Horizontal	Pass
3	570.155	23.67	-17.82	35.5	11.83	Peak	96.00	100	Horizontal	Pass
4	797.806	27.51	-12.90	35.5	7.99	Peak	134.00	100	Horizontal	Pass
5	919.753	28.86	-10.53	35.5	6.64	Peak	296.00	100	Horizontal	Pass
6	975.756	29.23	-9.83	43.5	14.27	Peak	167.00	200	Horizontal	Pass

30 MHz to 1 GHz, ANT V



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	35.576	15.20	-26.70	29.5	14.30	Peak	215.00	100	Vertical	Pass
2	57.153	15.73	-26.26	29.5	13.77	Peak	356.00	200	Vertical	Pass
3	640.947	24.25	-15.89	35.5	11.25	Peak	360.00	200	Vertical	Pass
4	748.348	26.82	-13.13	35.5	8.68	Peak	325.00	100	Vertical	Pass
5	827.383	27.61	-12.76	35.5	7.89	Peak	2.00	100	Vertical	Pass
6	952.482	29.49	-10.47	35.5	6.01	Peak	58.00	100	Vertical	Pass

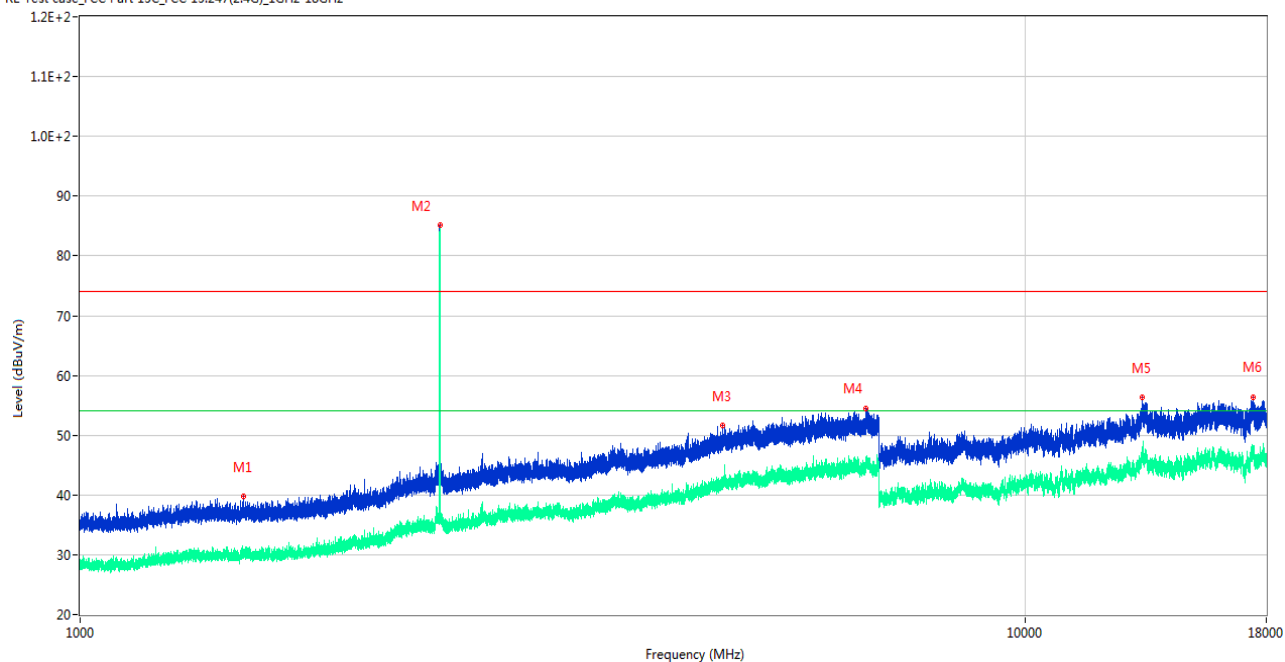
Note 1: The marked spikes near 2400 MHz with circle should be ignored because they are Fundamental signal.

Note 2: The spurious from 18GHz-25GHz is noise only, do not show on the report.

Left Ear

FSK LOW CHANNEL 1 GHz to 18 GHz, ANT H

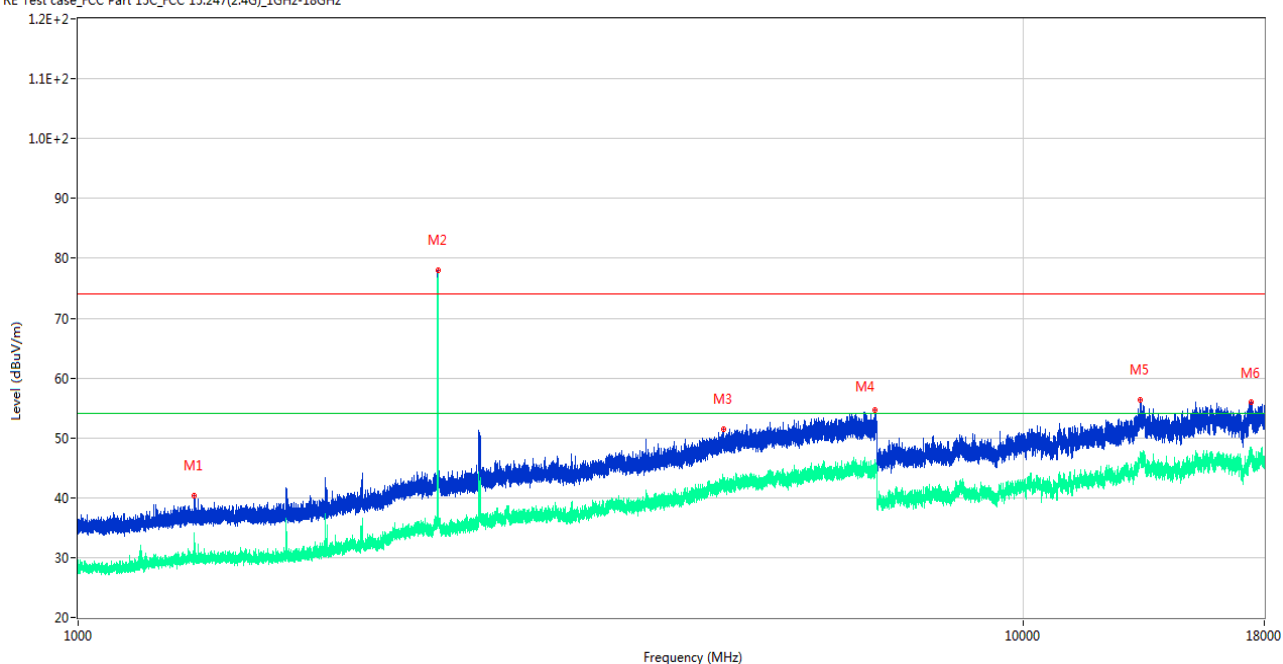
RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1489.800	39.71	-16.72	74.0	34.29	Peak	270.00	100	Horizontal	Pass
1**	1489.800	30.50	-16.72	54.0	23.50	AV	270.00	100	Horizontal	Pass
2	2402.100	85.22	-9.74	74.0	-11.22	Peak	47.00	150	Horizontal	N/A
2**	2402.100	85.00	-9.74	54.0	-31.00	AV	47.00	150	Horizontal	N/A
3	4788.600	51.61	-3.14	74.0	22.39	Peak	178.00	200	Horizontal	Pass
3**	4788.600	42.01	-3.14	54.0	11.99	AV	178.00	200	Horizontal	Pass
4	6791.200	54.49	0.84	74.0	19.51	Peak	296.00	100	Horizontal	Pass
4**	6791.200	45.27	0.84	54.0	8.73	AV	296.00	100	Horizontal	Pass
5	13317.000	56.31	0.89	74.0	17.69	Peak	118.00	150	Horizontal	Pass
5**	13317.000	47.06	0.89	54.0	6.94	AV	118.00	150	Horizontal	Pass
6	17437.725	56.38	3.13	74.0	17.62	Peak	98.00	400	Horizontal	Pass
6**	17437.725	47.13	3.13	54.0	6.87	AV	98.00	400	Horizontal	Pass

GFSK LOW CHANNEL 1 GHz to 18 GHz, ANT V

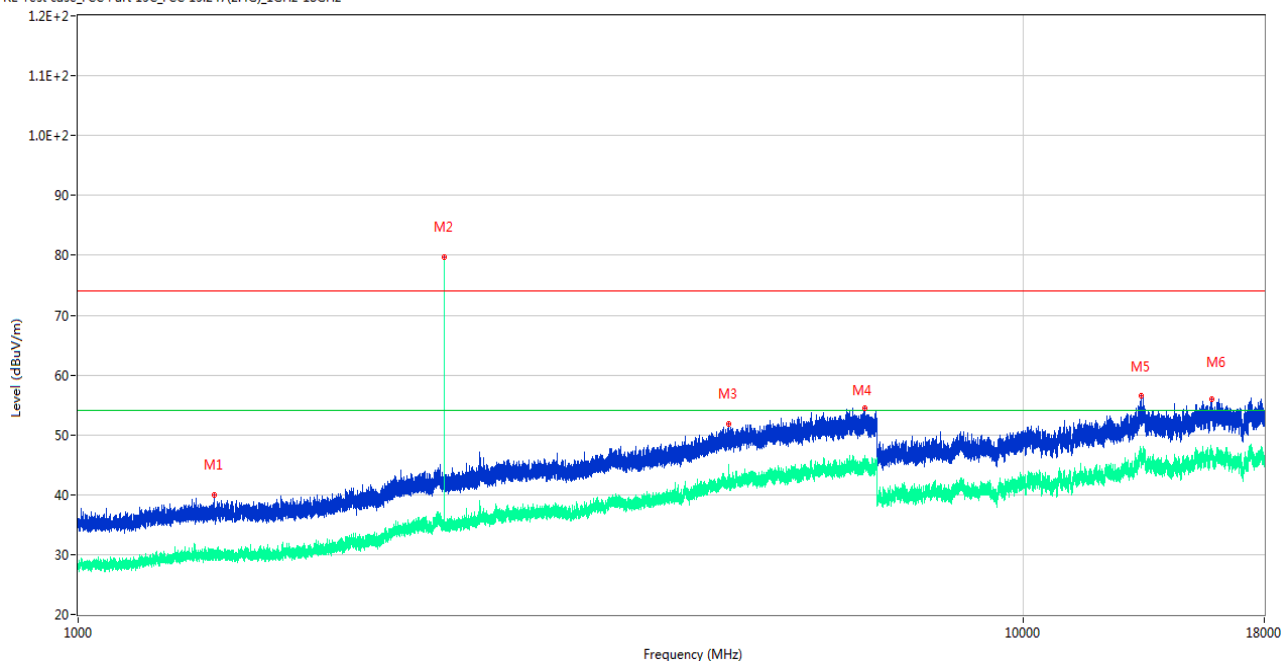
RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1327.100	40.35	-17.07	74.0	33.65	Peak	31.00	300	Vertical	Pass
1**	1327.100	29.77	-17.07	54.0	24.23	AV	31.00	300	Vertical	Pass
2	2402.100	78.07	-9.74	74.0	-4.07	Peak	167.00	150	Vertical	N/A
2**	2402.100	77.82	-9.74	54.0	-23.82	AV	167.00	150	Vertical	N/A
3	4819.000	51.54	-2.08	74.0	22.46	Peak	126.00	200	Vertical	Pass
3**	4819.000	41.78	-2.08	54.0	12.22	AV	126.00	200	Vertical	Pass
4	6978.400	54.66	1.83	74.0	19.34	Peak	360.00	200	Vertical	Pass
4**	6978.400	45.29	1.83	54.0	8.71	AV	360.00	200	Vertical	Pass
5	13309.125	56.44	0.86	74.0	17.56	Peak	298.00	150	Vertical	Pass
5**	13309.125	46.87	0.86	54.0	7.13	AV	298.00	150	Vertical	Pass
6	17450.324	55.93	2.82	74.0	18.07	Peak	76.00	200	Vertical	Pass
6**	17450.324	46.06	2.82	54.0	7.94	AV	76.00	200	Vertical	Pass

GFSK MIDDLE CHANNEL 1 GHz to 18 GHz, ANT H

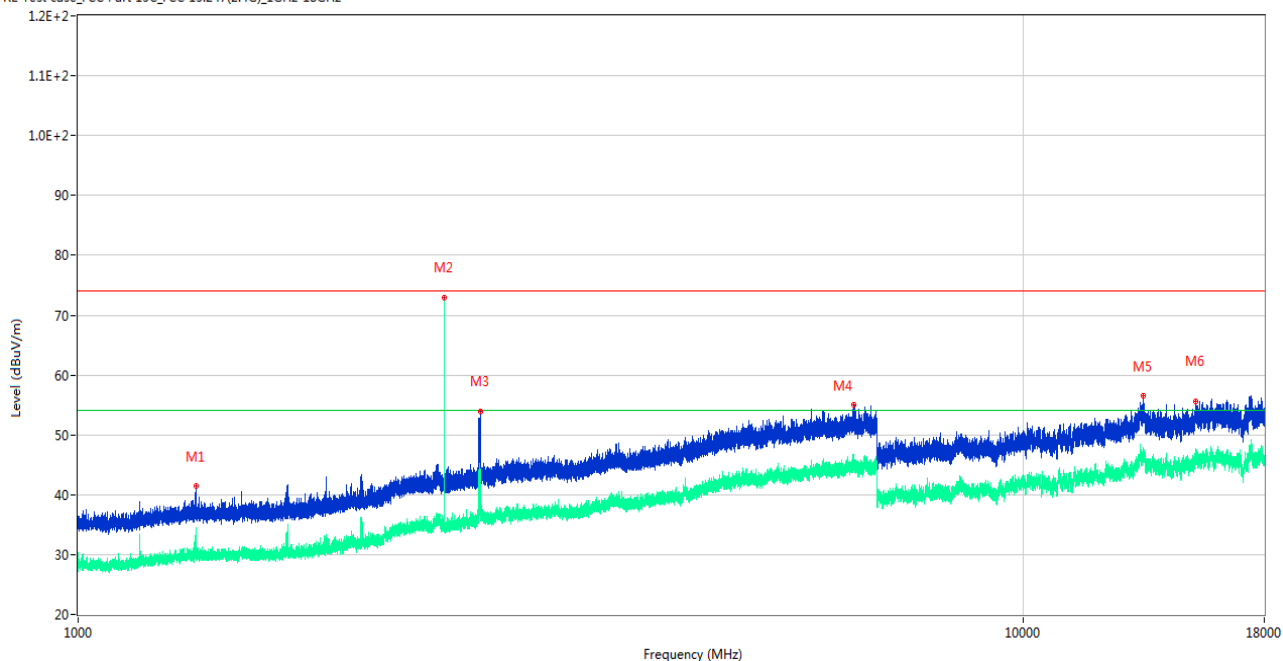
RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1394.200	40.00	-16.99	74.0	34.00	Peak	192.00	100	Horizontal	Pass
1**	1394.200	29.37	-16.99	54.0	24.63	AV	192.00	100	Horizontal	Pass
2	2440.800	79.77	-12.38	74.0	-5.77	Peak	55.00	200	Horizontal	N/A
2**	2440.800	78.50	-12.38	54.0	-24.50	AV	55.00	200	Horizontal	N/A
3	4882.000	51.82	-2.61	74.0	22.18	Peak	110.00	200	Horizontal	Pass
3**	4882.000	45.09	-2.61	54.0	8.91	AV	110.00	200	Horizontal	Pass
4	6806.200	54.47	2.26	74.0	19.53	Peak	21.00	400	Horizontal	Pass
4**	6806.200	46.50	2.26	54.0	7.50	AV	21.00	400	Horizontal	Pass
5	13323.825	56.49	0.92	74.0	17.51	Peak	270.00	400	Horizontal	Pass
5**	13323.825	46.80	0.92	54.0	7.20	AV	270.00	400	Horizontal	Pass
6	15843.562	55.95	1.39	74.0	18.05	Peak	349.00	150	Horizontal	Pass
6**	15843.562	46.77	1.39	54.0	7.23	AV	349.00	150	Horizontal	Pass

GFSK MIDDLE CHANNEL 1 GHz to 18 GHz, ANT V

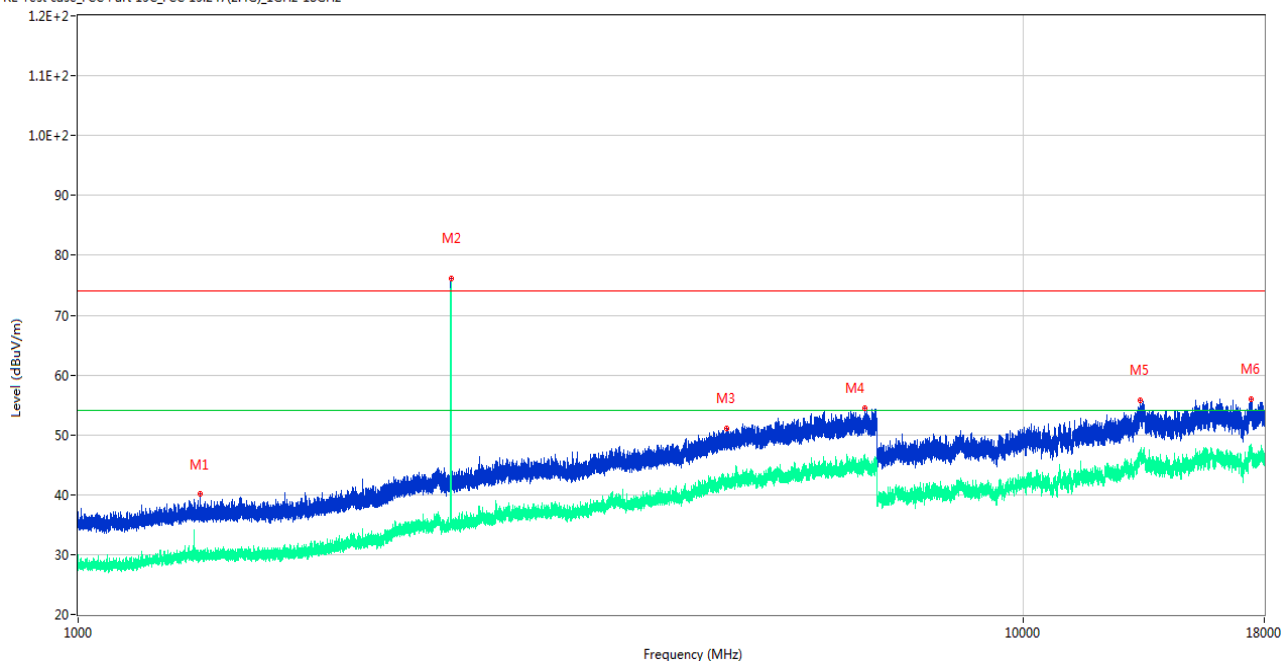
RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1333.000	41.43	-17.12	74.0	32.57	Peak	18.00	200	Vertical	Pass
1**	1333.000	30.63	-17.12	54.0	23.37	AV	18.00	200	Vertical	Pass
2	2441.100	72.98	-12.38	74.0	1.02	Peak	194.00	200	Vertical	N/A
2**	2441.100	72.61	-12.38	54.0	-18.61	AV	194.00	200	Vertical	N/A
3	2664.200	53.94	-10.86	74.0	20.06	Peak	103.00	200	Vertical	Pass
3**	2664.200	36.07	-10.86	54.0	17.93	AV	103.00	200	Vertical	Pass
4	6626.600	55.06	0.24	74.0	18.94	Peak	54.00	200	Vertical	Pass
4**	6626.600	45.28	0.24	54.0	8.72	AV	54.00	200	Vertical	Pass
5	13415.963	56.48	0.41	74.0	17.52	Peak	131.00	200	Vertical	Pass
5**	13415.963	46.90	0.41	54.0	7.10	AV	131.00	200	Vertical	Pass
6	15247.950	55.50	0.82	74.0	18.50	Peak	324.00	150	Vertical	Pass
6**	15247.950	46.55	0.82	54.0	7.45	AV	324.00	150	Vertical	Pass

GFSK HIGH CHANNEL 1 GHz to 18 GHz, ANT H

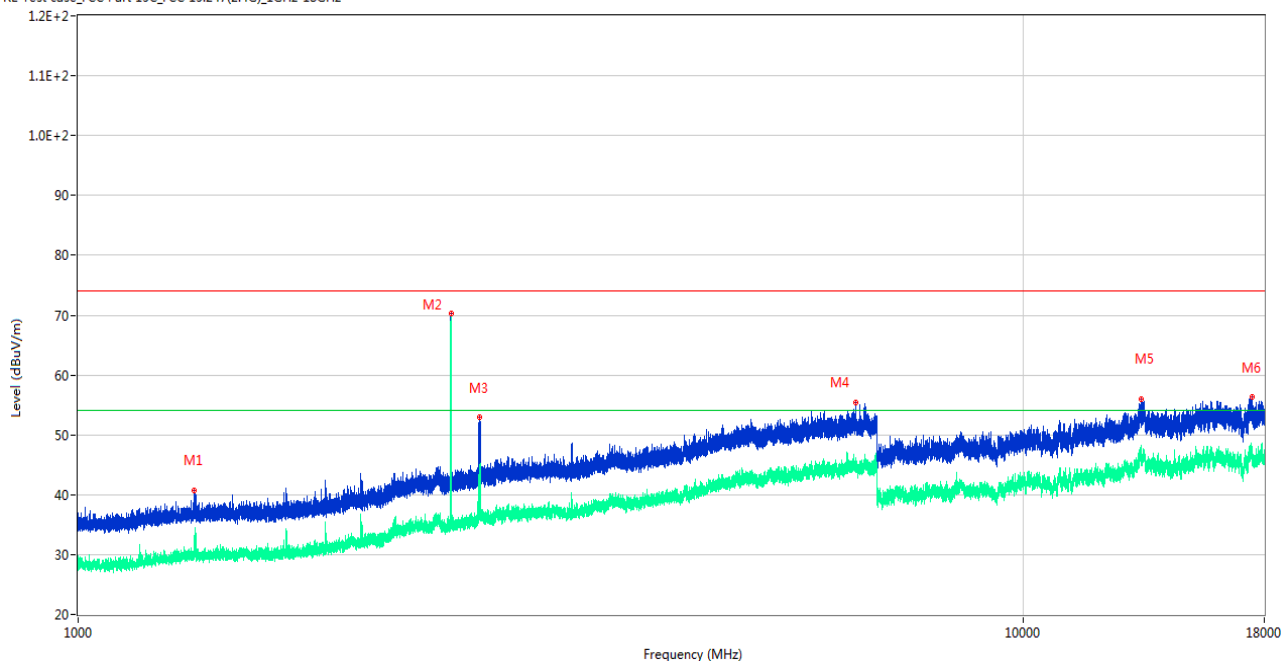
RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1347.900	40.14	-16.85	74.0	33.86	Peak	350.00	300	Horizontal	Pass
1**	1347.900	29.71	-16.85	54.0	24.29	AV	350.00	300	Horizontal	Pass
2	2480.000	76.12	-11.30	74.0	-2.12	Peak	58.00	200	Horizontal	N/A
2**	2480.000	75.88	-11.30	54.0	-21.88	AV	58.00	200	Horizontal	N/A
3	4858.600	51.11	-2.86	74.0	22.89	Peak	256.00	200	Horizontal	Pass
3**	4858.600	41.89	-2.86	54.0	12.11	AV	256.00	200	Horizontal	Pass
4	6806.000	54.47	2.20	74.0	19.53	Peak	20.00	200	Horizontal	Pass
4**	6806.000	46.16	2.20	54.0	7.84	AV	20.00	200	Horizontal	Pass
5	13312.275	55.74	0.87	74.0	18.26	Peak	0.00	150	Horizontal	Pass
5**	13312.275	46.81	0.87	54.0	7.19	AV	0.00	150	Horizontal	Pass
6	17418.824	55.98	3.73	74.0	18.02	Peak	162.00	400	Horizontal	Pass
6**	17418.824	46.99	3.73	54.0	7.01	AV	162.00	400	Horizontal	Pass

GFSK HIGH CHANNEL 1 GHz to 18 GHz, ANT V

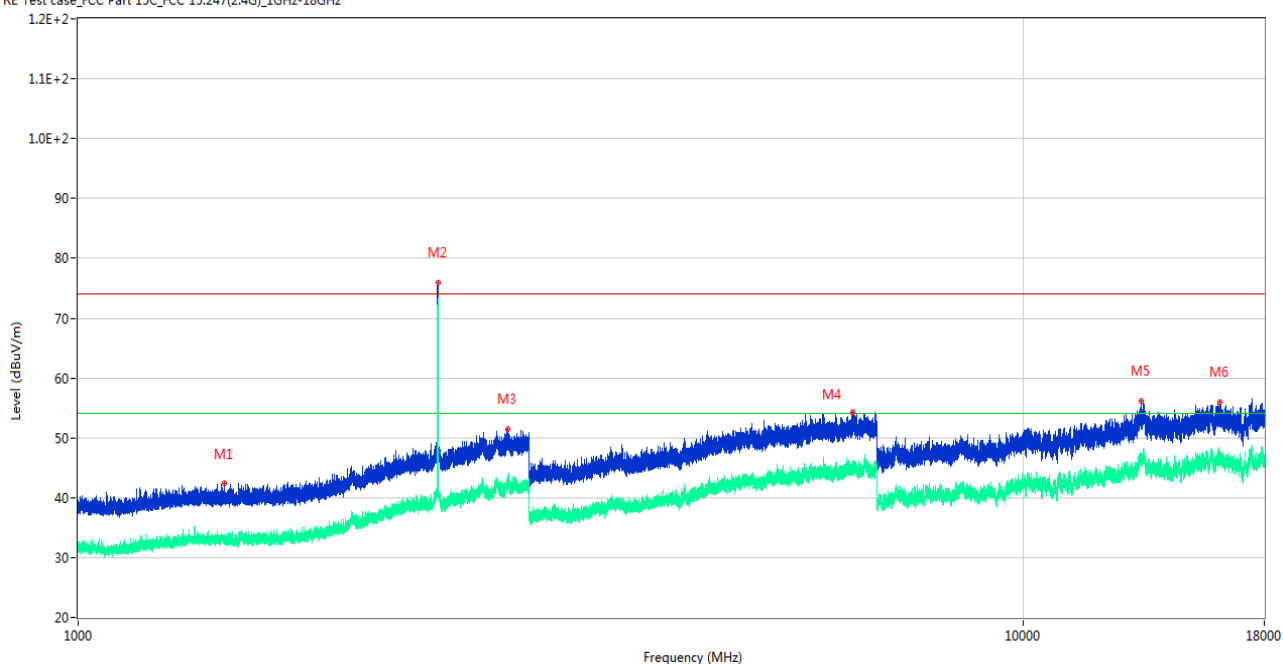
RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1327.100	40.76	-17.07	74.0	33.24	Peak	333.00	400	Vertical	Pass
1**	1327.100	29.30	-17.07	54.0	24.70	AV	333.00	400	Vertical	Pass
2	2479.900	70.27	-11.32	74.0	3.73	Peak	171.00	150	Vertical	N/A
2**	2479.900	69.70	-11.32	54.0	-15.70	AV	171.00	150	Vertical	N/A
3	2659.600	52.89	-11.12	74.0	21.11	Peak	109.00	150	Vertical	Pass
3**	2659.600	41.65	-11.12	54.0	12.35	AV	109.00	150	Vertical	Pass
4	6655.600	55.33	-0.15	74.0	18.67	Peak	31.00	100	Vertical	Pass
4**	6655.600	44.36	-0.15	54.0	9.64	AV	31.00	100	Vertical	Pass
5	13329.599	55.94	0.93	74.0	18.06	Peak	82.00	150	Vertical	Pass
5**	13329.599	45.80	0.93	54.0	8.20	AV	82.00	150	Vertical	Pass
6	17469.749	56.27	2.91	74.0	17.73	Peak	103.00	400	Vertical	Pass
6**	17469.749	48.07	2.91	54.0	5.93	AV	103.00	400	Vertical	Pass

$\pi/4$ -DQPSK LOW CHANNEL 1 GHz to 18 GHz, ANT H

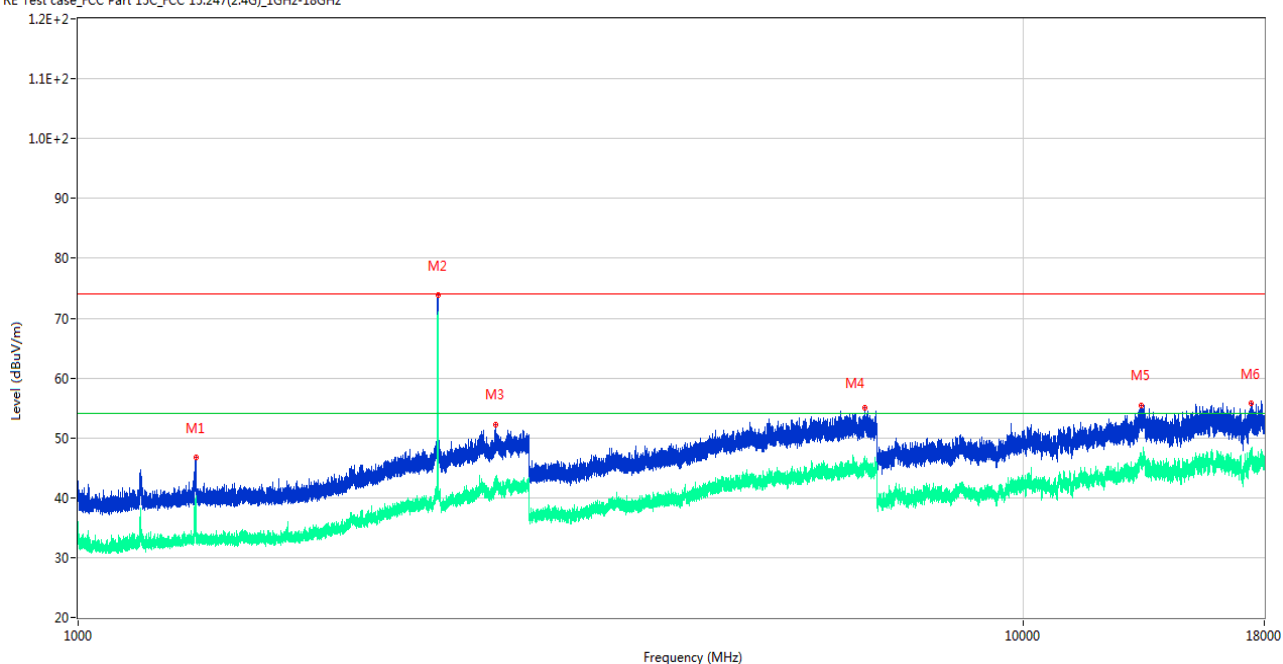
RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1429.500	42.37	-17.03	74.0	31.63	Peak	154.00	200	Horizontal	Pass
1**	1429.500	32.82	-17.03	54.0	21.18	AV	154.00	200	Horizontal	Pass
2	2402.200	76.02	-9.74	74.0	-2.02	Peak	143.00	200	Horizontal	N/A
2**	2402.200	73.15	-9.74	54.0	-19.15	AV	143.00	200	Horizontal	N/A
3	2850.300	51.46	-8.31	74.0	22.54	Peak	112.00	150	Horizontal	Pass
3**	2850.300	42.75	-8.31	54.0	11.25	AV	112.00	150	Horizontal	Pass
4	6606.400	54.28	-0.04	74.0	19.72	Peak	211.00	200	Horizontal	Pass
4**	6606.400	45.21	-0.04	54.0	8.79	AV	211.00	200	Horizontal	Pass
5	13321.201	56.24	0.91	74.0	17.76	Peak	201.00	100	Horizontal	Pass
5**	13321.201	45.93	0.91	54.0	8.07	AV	201.00	100	Horizontal	Pass
6	16143.337	56.01	1.03	74.0	17.99	Peak	33.00	150	Horizontal	Pass
6**	16143.337	45.52	1.03	54.0	8.48	AV	33.00	150	Horizontal	Pass

$\pi/4$ -DQPSK LOW CHANNEL 1 GHz to 18 GHz, ANT V

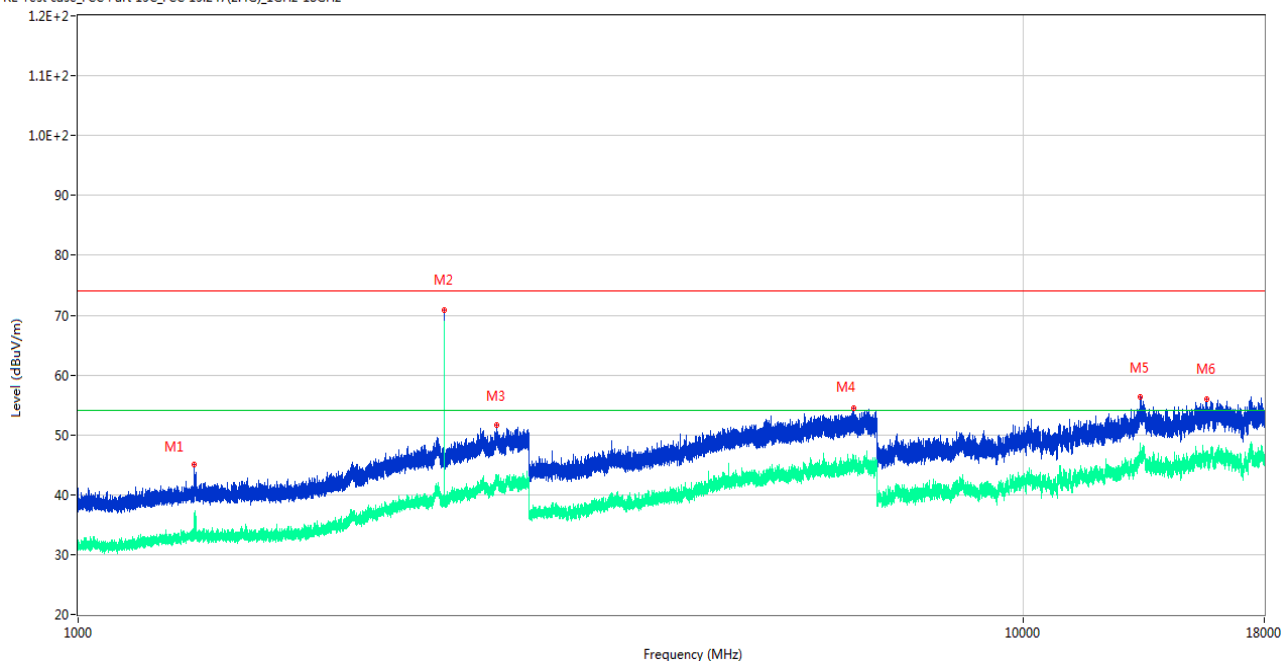
RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1332.800	46.72	-17.13	74.0	27.28	Peak	114.00	300	Vertical	Pass
1**	1332.800	36.51	-17.13	54.0	17.49	AV	114.00	300	Vertical	Pass
2	2401.800	73.78	-9.75	74.0	0.22	Peak	174.00	200	Vertical	N/A
2**	2401.800	70.21	-9.75	54.0	-16.21	AV	174.00	200	Vertical	N/A
3	2769.600	52.20	-8.63	74.0	21.80	Peak	360.00	150	Vertical	Pass
3**	2769.600	42.94	-8.63	54.0	11.06	AV	360.00	150	Vertical	Pass
4	6805.800	55.12	2.13	74.0	18.88	Peak	205.00	200	Vertical	Pass
4**	6805.800	46.36	2.13	54.0	7.64	AV	205.00	200	Vertical	Pass
5	13336.162	55.45	1.02	74.0	18.55	Peak	90.00	150	Vertical	Pass
5**	13336.162	45.62	1.02	54.0	8.38	AV	90.00	150	Vertical	Pass
6	17454.787	55.76	2.84	74.0	18.24	Peak	53.00	200	Vertical	Pass
6**	17454.787	46.00	2.84	54.0	8.00	AV	53.00	200	Vertical	Pass

$\pi/4$ -DQPSK MIDDLE CHANNEL 1 GHz to 18 GHz, ANT H

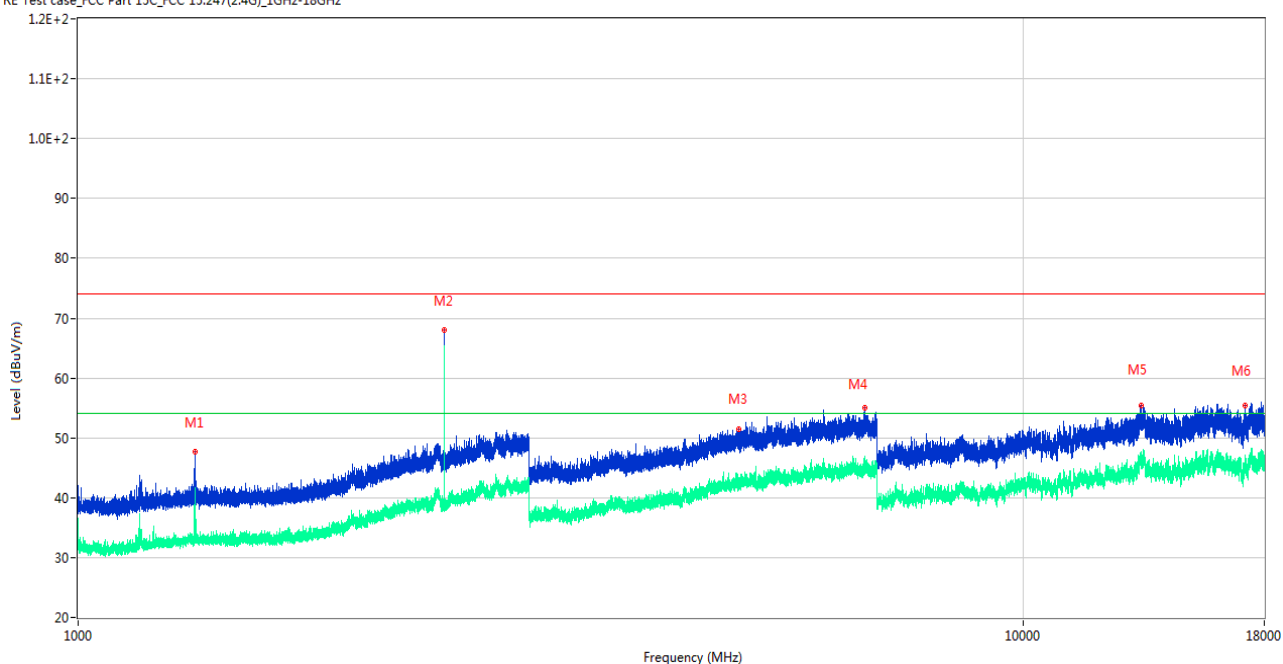
RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1328.200	45.07	-17.09	74.0	28.93	Peak	19.00	300	Horizontal	Pass
1**	1328.200	32.84	-17.09	54.0	21.16	AV	19.00	300	Horizontal	Pass
2	2441.100	70.89	-12.38	74.0	3.11	Peak	291.00	150	Horizontal	N/A
2**	2441.100	68.93	-12.38	54.0	-14.93	AV	291.00	150	Horizontal	N/A
3	2770.700	51.56	-8.49	74.0	22.44	Peak	360.00	200	Horizontal	Pass
3**	2770.700	42.55	-8.49	54.0	11.45	AV	360.00	200	Horizontal	Pass
4	6611.600	54.43	0.64	74.0	19.57	Peak	360.00	300	Horizontal	Pass
4**	6611.600	45.75	0.64	54.0	8.25	AV	360.00	300	Horizontal	Pass
5	13315.687	56.31	0.89	74.0	17.69	Peak	109.00	100	Horizontal	Pass
5**	13315.687	47.22	0.89	54.0	6.78	AV	109.00	100	Horizontal	Pass
6	15627.787	55.88	1.71	74.0	18.12	Peak	89.00	150	Horizontal	Pass
6**	15627.787	46.16	1.71	54.0	7.84	AV	89.00	150	Horizontal	Pass

$\pi/4$ -DQPSK MIDDLE CHANNEL 1 GHz to 18 GHz, ANT V

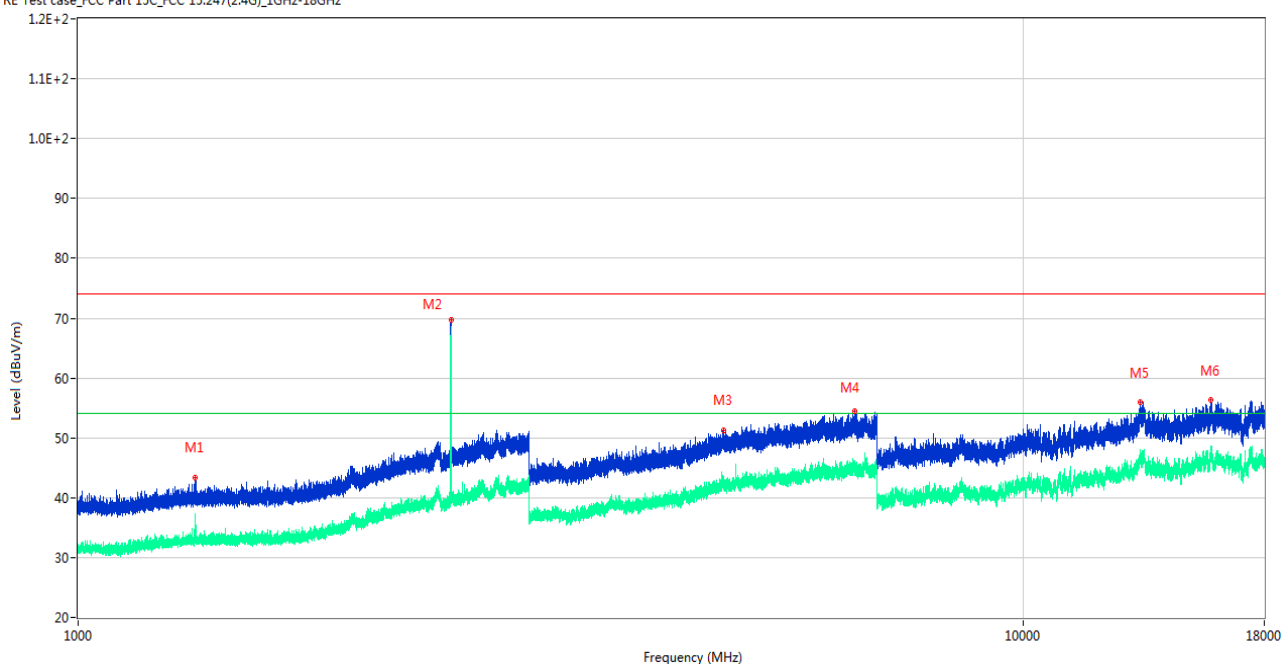
RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1329.100	47.61	-17.06	74.0	26.39	Peak	101.00	100	Vertical	Pass
1**	1329.100	41.60	-17.06	54.0	12.40	AV	101.00	100	Vertical	Pass
2	2440.800	67.95	-12.38	74.0	6.05	Peak	169.00	200	Vertical	N/A
2**	2440.800	64.94	-12.38	54.0	-10.94	AV	169.00	200	Vertical	N/A
3	4999.600	51.47	-2.39	74.0	22.53	Peak	360.00	100	Vertical	Pass
3**	4999.600	42.35	-2.39	54.0	11.65	AV	360.00	100	Vertical	Pass
4	6805.800	54.97	2.13	74.0	19.03	Peak	139.00	400	Vertical	Pass
4**	6805.800	46.15	2.13	54.0	7.85	AV	139.00	400	Vertical	Pass
5	13320.674	55.41	0.91	74.0	18.59	Peak	15.00	150	Vertical	Pass
5**	13320.674	46.06	0.91	54.0	7.94	AV	15.00	150	Vertical	Pass
6	17172.338	55.35	0.44	74.0	18.65	Peak	36.00	150	Vertical	Pass
6**	17172.338	45.64	0.44	54.0	8.36	AV	36.00	150	Vertical	Pass

$\pi/4$ -DQPSK HIGH CHANNEL 1 GHz to 18 GHz, ANT H

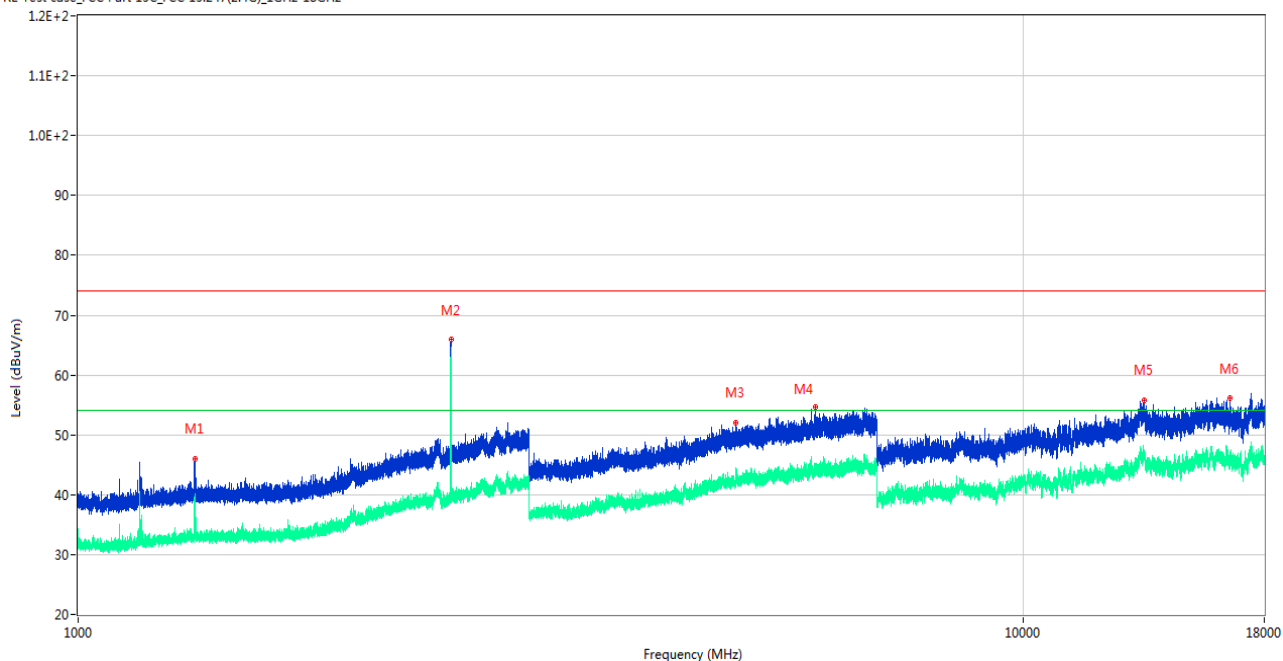
RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1328.500	43.35	-17.09	74.0	30.65	Peak	5.00	200	Horizontal	Pass
1**	1328.500	33.52	-17.09	54.0	20.48	AV	5.00	200	Horizontal	Pass
2	2479.800	69.73	-11.33	74.0	4.27	Peak	76.00	150	Horizontal	N/A
2**	2479.800	67.66	-11.33	54.0	-13.66	AV	76.00	150	Horizontal	N/A
3	4817.000	51.32	-2.22	74.0	22.68	Peak	323.00	100	Horizontal	Pass
3**	4817.000	43.63	-2.22	54.0	10.37	AV	323.00	100	Horizontal	Pass
4	6639.200	54.44	-0.93	74.0	19.56	Peak	0.00	100	Horizontal	Pass
4**	6639.200	44.34	-0.93	54.0	9.66	AV	0.00	100	Horizontal	Pass
5	13313.849	55.88	0.88	74.0	18.12	Peak	137.00	150	Horizontal	Pass
5**	13313.849	46.24	0.88	54.0	7.76	AV	137.00	150	Horizontal	Pass
6	15801.825	56.25	2.31	74.0	17.75	Peak	218.00	300	Horizontal	Pass
6**	15801.825	46.65	2.31	54.0	7.35	AV	218.00	300	Horizontal	Pass

$\pi/4$ -DQPSK HIGH CHANNEL 1 GHz to 18 GHz, ANT V

RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz

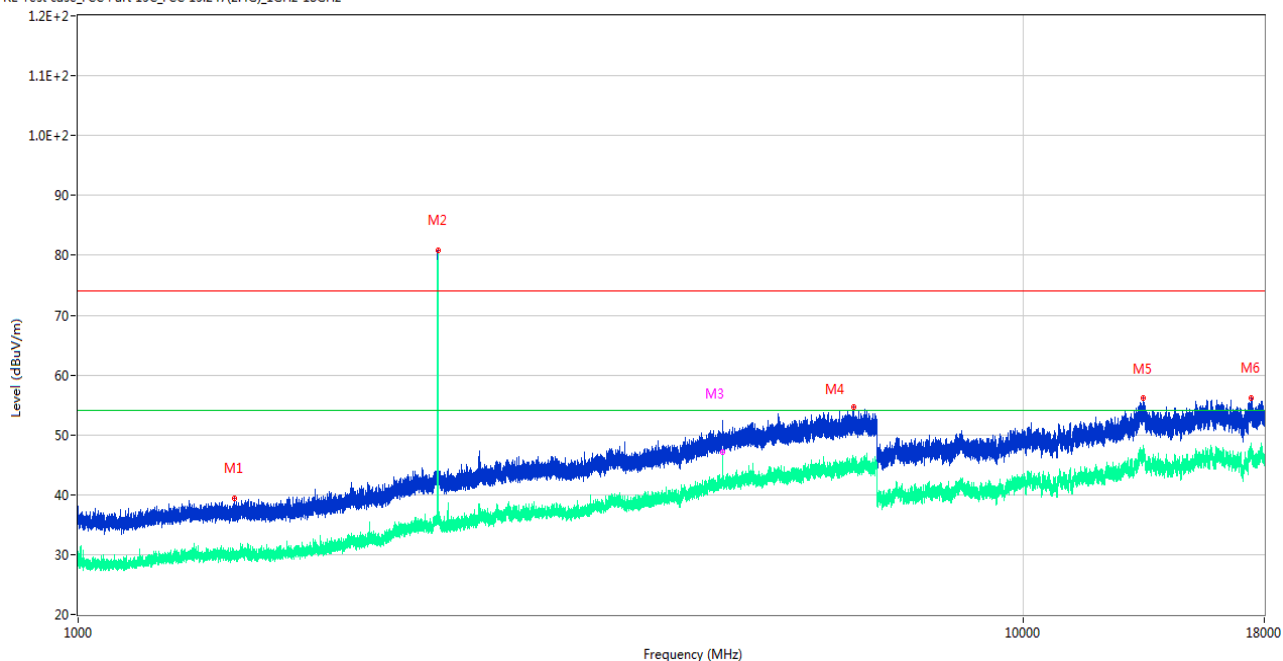


No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1330.700	45.98	-16.99	74.0	28.02	Peak	117.00	300	Vertical	Pass
1**	1330.700	33.46	-16.99	54.0	20.54	AV	117.00	300	Vertical	Pass
2	2480.100	65.90	-11.29	74.0	8.10	Peak	163.00	150	Vertical	N/A
2**	2480.100	64.54	-11.29	54.0	-10.54	AV	163.00	150	Vertical	N/A
3	4959.800	52.07	-2.22	74.0	21.93	Peak	90.00	150	Vertical	Pass
3**	4959.800	42.43	-2.22	54.0	11.57	AV	90.00	150	Vertical	Pass
4	6036.000	54.64	-1.66	74.0	19.36	Peak	357.00	100	Vertical	Pass
4**	6036.000	43.87	-1.66	54.0	10.13	AV	357.00	100	Vertical	Pass
5	13438.012	55.84	0.45	74.0	18.16	Peak	312.00	150	Vertical	Pass
5**	13438.012	46.87	0.45	54.0	7.13	AV	312.00	150	Vertical	Pass
6	16567.801	56.10	0.93	74.0	17.90	Peak	144.00	200	Vertical	Pass
6**	16567.801	45.78	0.93	54.0	8.22	AV	144.00	200	Vertical	Pass

Right Ear

GFSK LOW CHANNEL 1 GHz to 18 GHz, ANT H

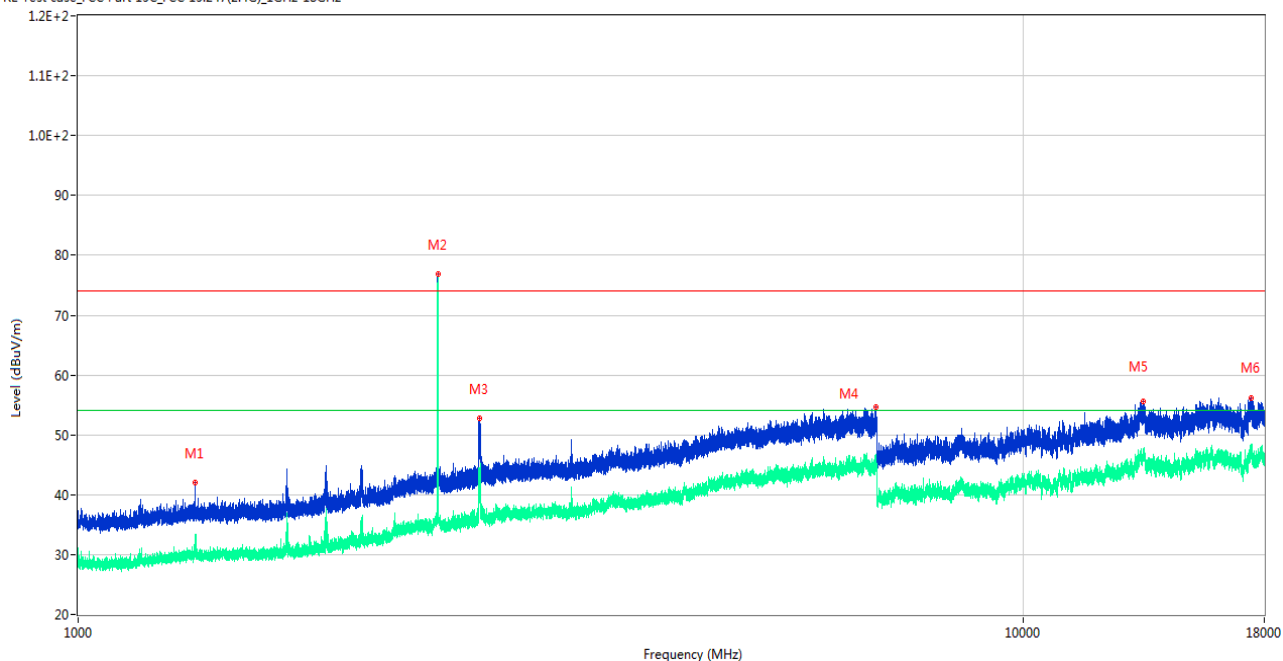
RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1462.100	39.44	-17.33	74.0	34.56	Peak	323.00	200	Horizontal	Pass
1**	1462.100	29.78	-17.33	54.0	24.22	AV	323.00	200	Horizontal	Pass
2	2402.100	80.84	-9.74	74.0	-6.84	Peak	339.00	150	Horizontal	N/A
2**	2402.100	80.49	-9.74	54.0	-26.49	AV	339.00	150	Horizontal	N/A
3	4804.200	51.79	-2.83	74.0	22.21	Peak	0.00	150	Horizontal	Pass
3**	4804.200	47.05	-2.83	54.0	6.95	AV	0.00	150	Horizontal	Pass
4	6611.600	54.57	0.64	74.0	19.43	Peak	62.00	100	Horizontal	Pass
4**	6611.600	45.24	0.64	54.0	8.76	AV	62.00	100	Horizontal	Pass
5	13414.912	56.22	0.42	74.0	17.78	Peak	360.00	150	Horizontal	Pass
5**	13414.912	47.36	0.42	54.0	6.64	AV	360.00	150	Horizontal	Pass
6	17419.350	56.24	3.74	74.0	17.76	Peak	15.00	400	Horizontal	Pass
6**	17419.350	47.47	3.74	54.0	6.53	AV	15.00	400	Horizontal	Pass

GFSK LOW CHANNEL 1 GHz to 18 GHz, ANT V

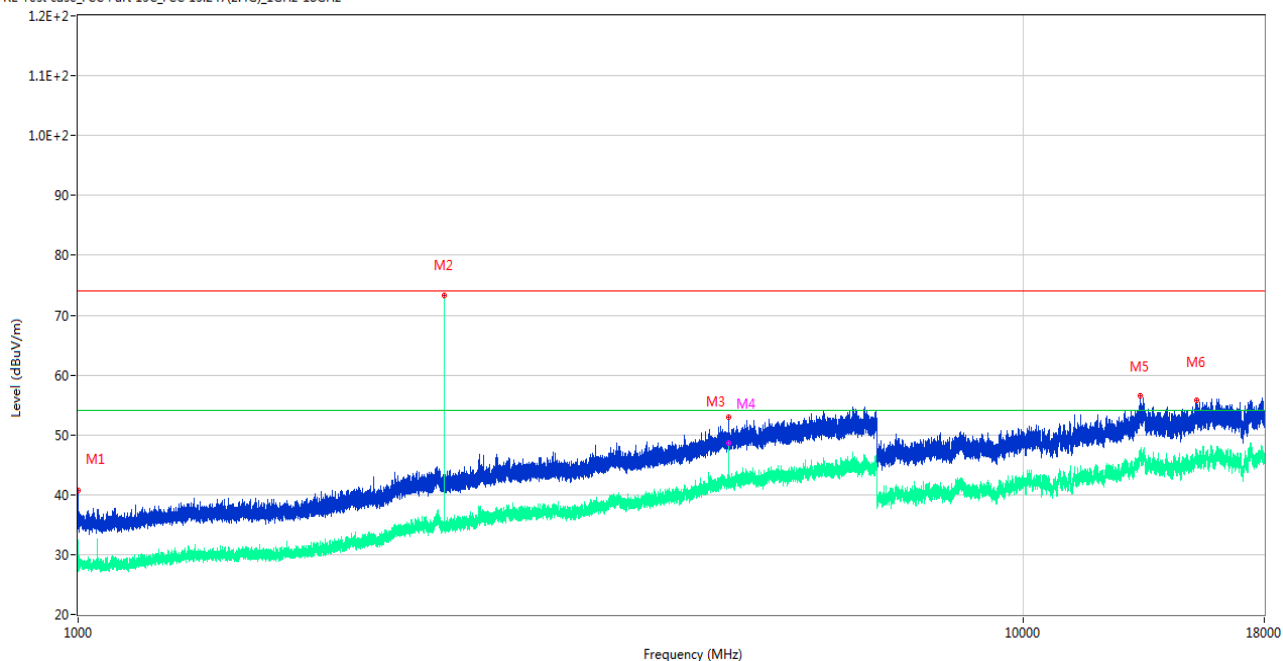
RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1330.400	41.99	-16.98	74.0	32.01	Peak	18.00	300	Vertical	Pass
1**	1330.400	32.01	-16.98	54.0	21.99	AV	18.00	300	Vertical	Pass
2	2401.900	76.80	-9.75	74.0	-2.80	Peak	268.00	150	Vertical	N/A
2**	2401.900	76.41	-9.75	54.0	-22.41	AV	268.00	150	Vertical	N/A
3	2658.200	52.71	-11.07	74.0	21.29	Peak	111.00	100	Vertical	Pass
3**	2658.200	38.84	-11.07	54.0	15.16	AV	111.00	100	Vertical	Pass
4	6979.000	54.73	1.81	74.0	19.27	Peak	179.00	400	Vertical	Pass
4**	6979.000	45.10	1.81	54.0	8.90	AV	179.00	400	Vertical	Pass
5	13418.588	55.57	0.40	74.0	18.43	Peak	256.00	150	Vertical	Pass
5**	13418.588	47.08	0.40	54.0	6.92	AV	256.00	150	Vertical	Pass
6	17437.725	56.18	3.13	74.0	17.82	Peak	33.00	400	Vertical	Pass
6**	17437.725	46.97	3.13	54.0	7.03	AV	33.00	400	Vertical	Pass

GFSK MIDDLE CHANNEL 1 GHz to 18 GHz, ANT H

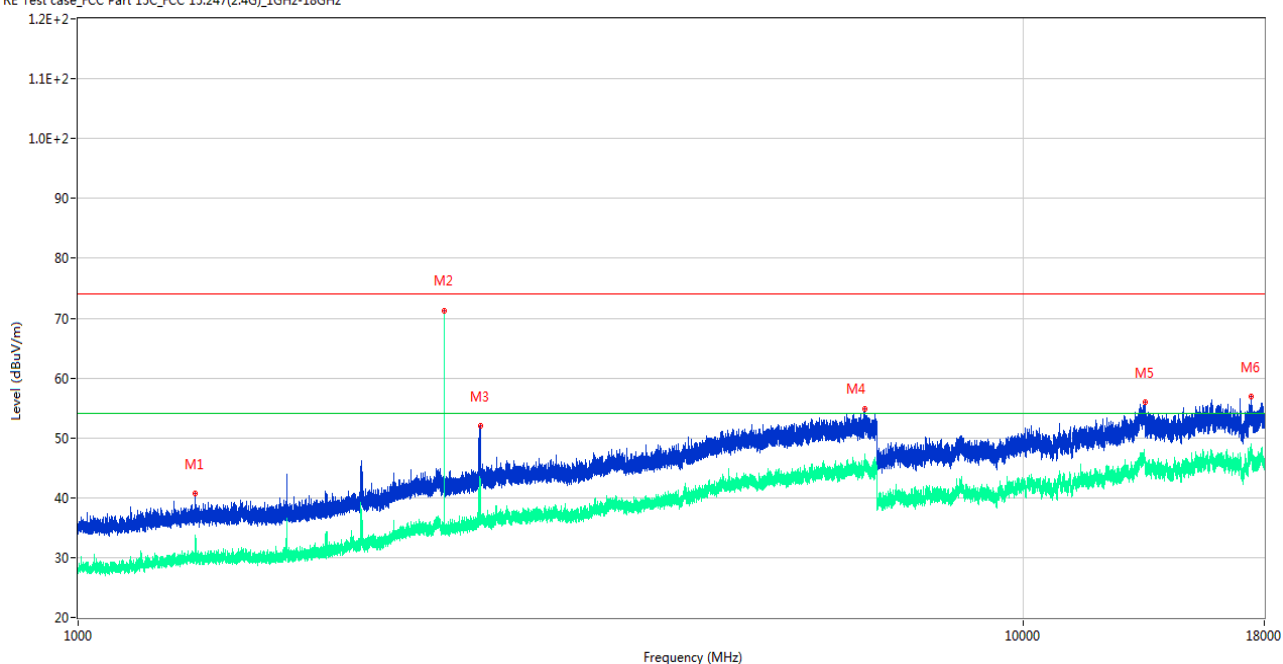
RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1000.000	40.75	-18.00	74.0	33.25	Peak	321.00	300	Horizontal	Pass
1**	1000.000	31.04	-18.00	54.0	22.96	AV	321.00	300	Horizontal	Pass
2	2441.100	73.35	-12.38	74.0	0.65	Peak	333.00	200	Horizontal	N/A
2**	2441.100	72.96	-12.38	54.0	-18.96	AV	333.00	200	Horizontal	N/A
3	4882.000	53.00	-2.61	74.0	21.00	Peak	356.00	200	Horizontal	Pass
3**	4882.000	48.27	-2.61	54.0	5.73	AV	356.00	200	Horizontal	Pass
4	4882.200	52.12	-2.60	74.0	21.88	Peak	356.00	150	Horizontal	Pass
4**	4882.200	48.68	-2.60	54.0	5.32	AV	356.00	150	Horizontal	Pass
5	13312.800	56.46	0.87	74.0	17.54	Peak	240.00	200	Horizontal	Pass
5**	13312.800	46.75	0.87	54.0	7.25	AV	240.00	200	Horizontal	Pass
6	15282.338	55.75	0.67	74.0	18.25	Peak	202.00	150	Horizontal	Pass
6**	15282.338	46.13	0.67	54.0	7.87	AV	202.00	150	Horizontal	Pass

GFSK MIDDLE CHANNEL 1 GHz to 18 GHz, ANT V

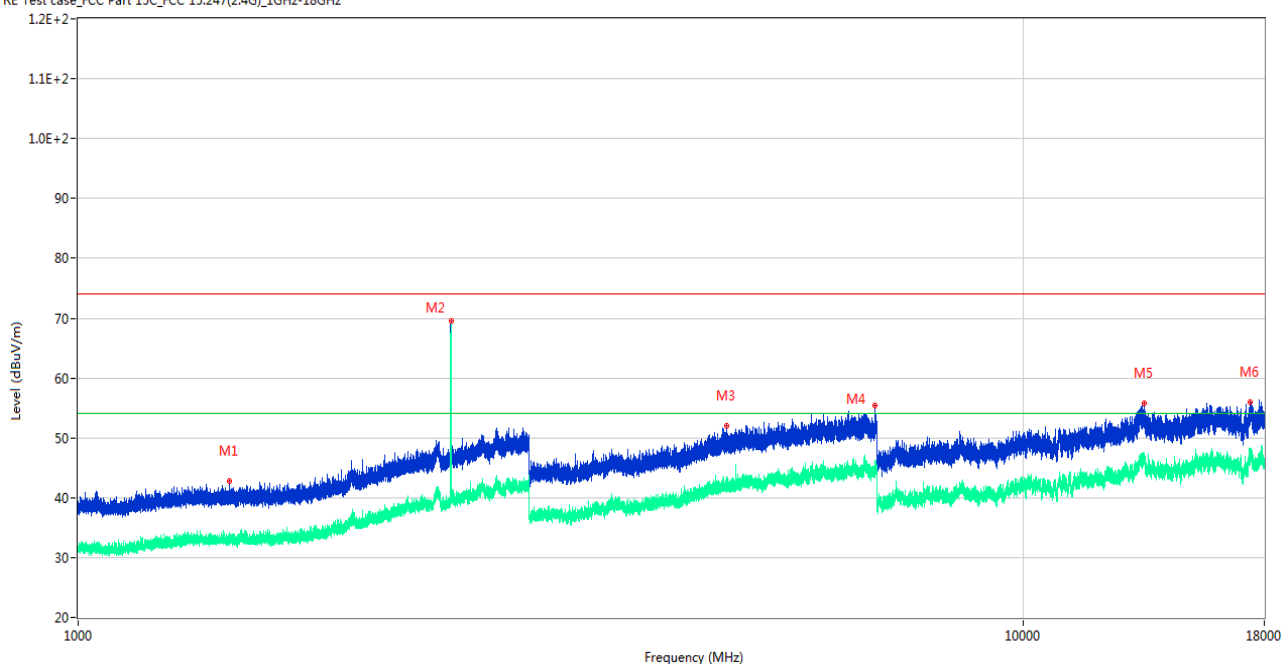
RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1330.900	40.68	-17.00	74.0	33.32	Peak	25.00	300	Vertical	Pass
1**	1330.900	31.10	-17.00	54.0	22.90	AV	25.00	300	Vertical	Pass
2	2441.000	71.26	-12.38	74.0	2.74	Peak	134.00	200	Vertical	N/A
2**	2441.000	70.81	-12.38	54.0	-16.81	AV	134.00	200	Vertical	N/A
3	2665.100	51.95	-10.89	74.0	22.05	Peak	92.00	150	Vertical	Pass
3**	2665.100	40.46	-10.89	54.0	13.54	AV	92.00	150	Vertical	Pass
4	6802.400	54.76	1.54	74.0	19.24	Peak	125.00	200	Vertical	Pass
4**	6802.400	44.97	1.54	54.0	9.03	AV	125.00	200	Vertical	Pass
5	13452.713	55.88	0.62	74.0	18.12	Peak	322.00	150	Vertical	Pass
5**	13452.713	45.85	0.62	54.0	8.15	AV	322.00	150	Vertical	Pass
6	17420.925	56.88	3.73	74.0	17.12	Peak	182.00	200	Vertical	Pass
6**	17420.925	47.75	3.73	54.0	6.25	AV	182.00	200	Vertical	Pass

GFSK HIGH CHANNEL 1 GHz to 18 GHz, ANT H

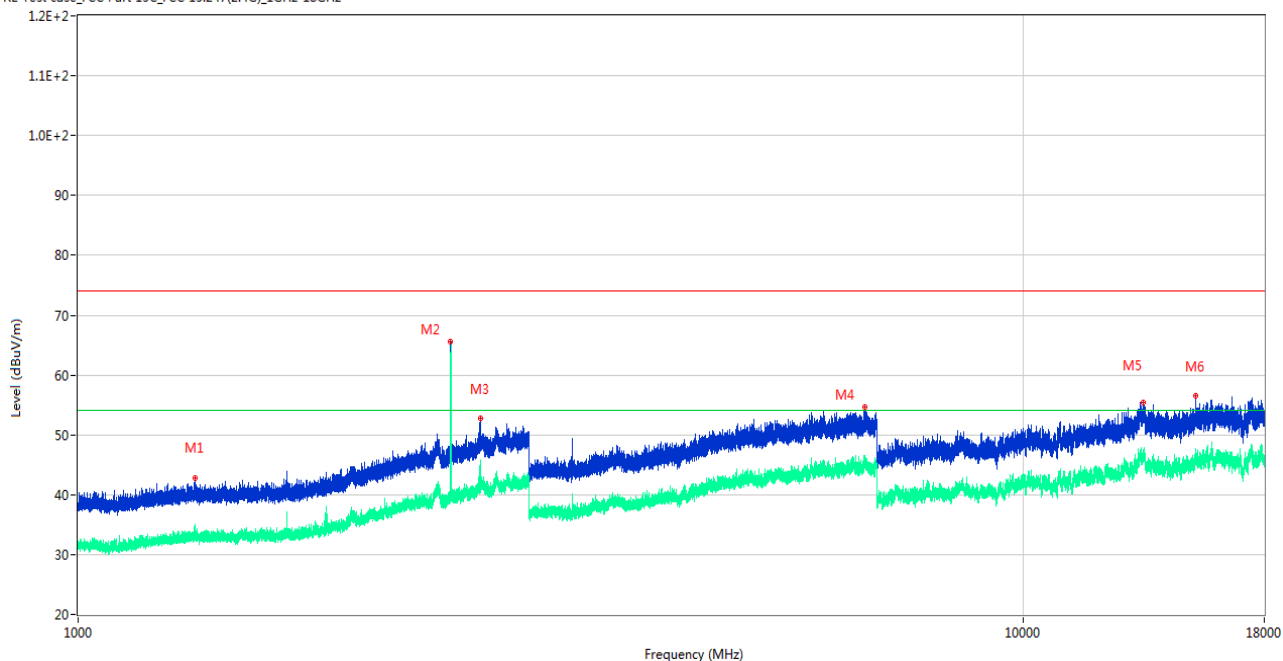
RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1444.100	42.81	-17.11	74.0	31.19	Peak	3.00	100	Horizontal	Pass
1**	1444.100	32.59	-17.11	54.0	21.41	AV	3.00	100	Horizontal	Pass
2	2480.100	69.48	-11.29	74.0	4.52	Peak	86.00	200	Horizontal	N/A
2**	2480.100	69.06	-11.29	54.0	-15.06	AV	86.00	200	Horizontal	N/A
3	4858.000	52.06	-2.73	74.0	21.94	Peak	360.00	200	Horizontal	Pass
3**	4858.000	41.50	-2.73	54.0	12.50	AV	360.00	200	Horizontal	Pass
4	6975.200	55.48	1.44	74.0	18.52	Peak	359.00	400	Horizontal	Pass
4**	6975.200	44.79	1.44	54.0	9.21	AV	359.00	400	Horizontal	Pass
5	13433.287	55.82	0.41	74.0	18.18	Peak	165.00	150	Horizontal	Pass
5**	13433.287	47.05	0.41	54.0	6.95	AV	165.00	150	Horizontal	Pass
6	17410.687	55.99	3.47	74.0	18.01	Peak	324.00	100	Horizontal	Pass
6**	17410.687	47.02	3.47	54.0	6.98	AV	324.00	100	Horizontal	Pass

GFSK HIGH CHANNEL 1 GHz to 18 GHz, ANT V

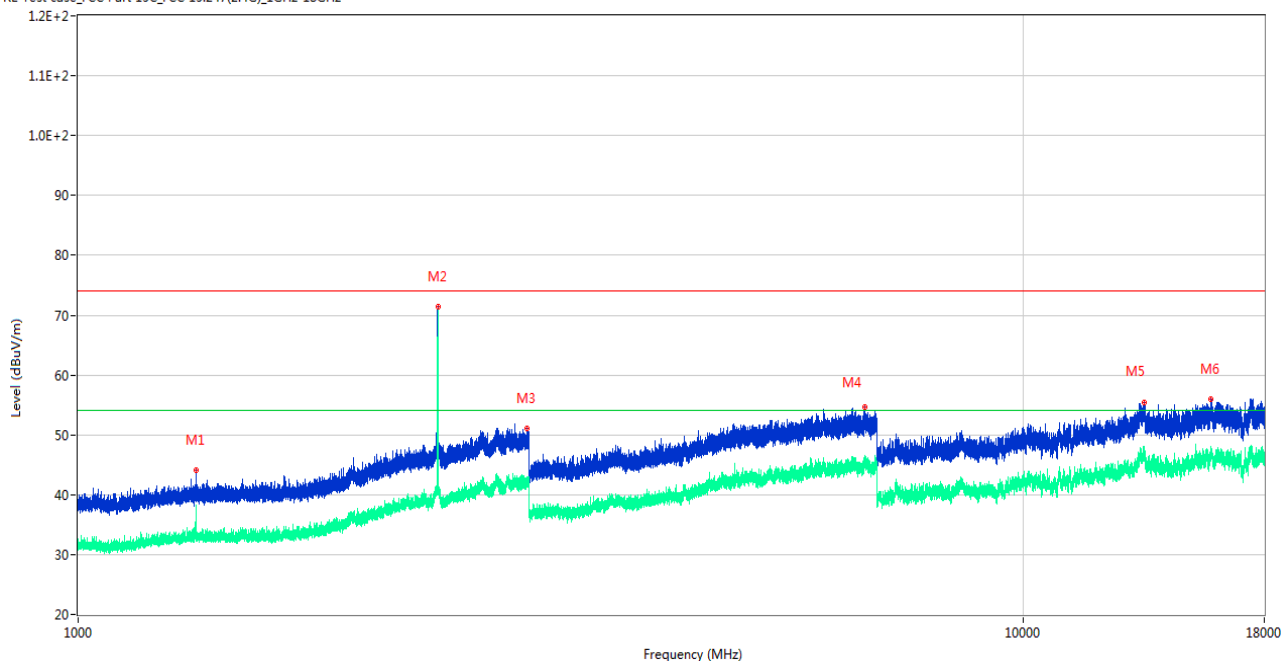
RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1328.700	42.87	-17.08	74.0	31.13	Peak	0.00	300	Vertical	Pass
1**	1328.700	33.16	-17.08	54.0	20.84	AV	0.00	300	Vertical	Pass
2	2479.700	65.56	-11.35	74.0	8.44	Peak	246.00	150	Vertical	N/A
2**	2479.700	63.54	-11.35	54.0	-9.54	AV	246.00	150	Vertical	N/A
3	2665.800	52.72	-10.77	74.0	21.28	Peak	270.00	150	Vertical	Pass
3**	2665.800	41.74	-10.77	54.0	12.26	AV	270.00	150	Vertical	Pass
4	6807.400	54.58	2.02	74.0	19.42	Peak	227.00	200	Vertical	Pass
4**	6807.400	46.05	2.02	54.0	7.95	AV	227.00	200	Vertical	Pass
5	13393.125	55.33	0.65	74.0	18.67	Peak	262.00	150	Vertical	Pass
5**	13393.125	45.87	0.65	54.0	8.13	AV	262.00	150	Vertical	Pass
6	15229.575	56.45	0.88	74.0	17.55	Peak	58.00	100	Vertical	Pass
6**	15229.575	46.73	0.88	54.0	7.27	AV	58.00	100	Vertical	Pass

$\pi/4$ -DQPSK LOW CHANNEL 1 GHz to 18 GHz, ANT H

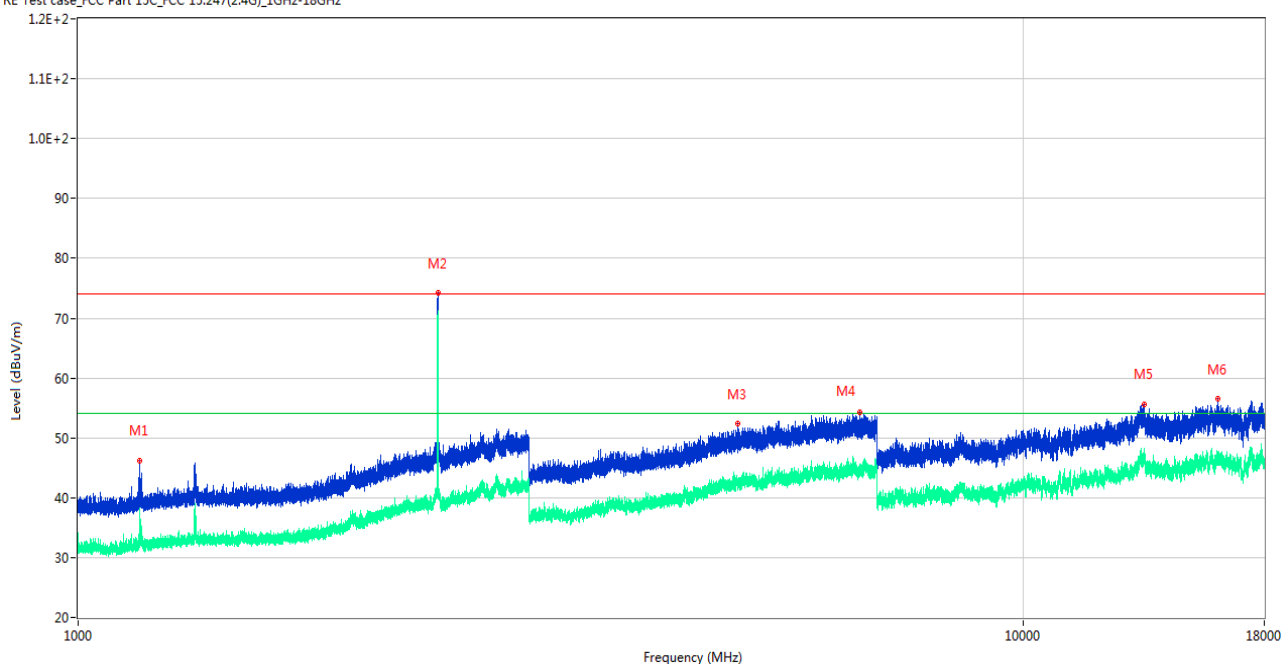
RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1331.800	44.13	-17.07	74.0	29.87	Peak	158.00	200	Horizontal	Pass
1**	1331.800	32.95	-17.07	54.0	21.05	AV	158.00	200	Horizontal	Pass
2	2402.000	71.42	-9.74	74.0	2.58	Peak	169.00	150	Horizontal	N/A
2**	2402.000	70.72	-9.74	54.0	-16.72	AV	169.00	150	Horizontal	N/A
3	2985.000	51.00	-9.08	74.0	23.00	Peak	64.00	150	Horizontal	Pass
3**	2985.000	41.76	-9.08	54.0	12.24	AV	64.00	150	Horizontal	Pass
4	6805.200	54.66	1.94	74.0	19.34	Peak	296.00	200	Horizontal	Pass
4**	6805.200	45.58	1.94	54.0	8.42	AV	296.00	200	Horizontal	Pass
5	13443.526	55.37	0.54	74.0	18.63	Peak	137.00	150	Horizontal	Pass
5**	13443.526	46.22	0.54	54.0	7.78	AV	137.00	150	Horizontal	Pass
6	15820.463	56.05	1.85	74.0	17.95	Peak	284.00	200	Horizontal	Pass
6**	15820.463	46.51	1.85	54.0	7.49	AV	284.00	200	Horizontal	Pass

$\pi/4$ -DQPSK LOW CHANNEL 1 GHz to 18 GHz, ANT V

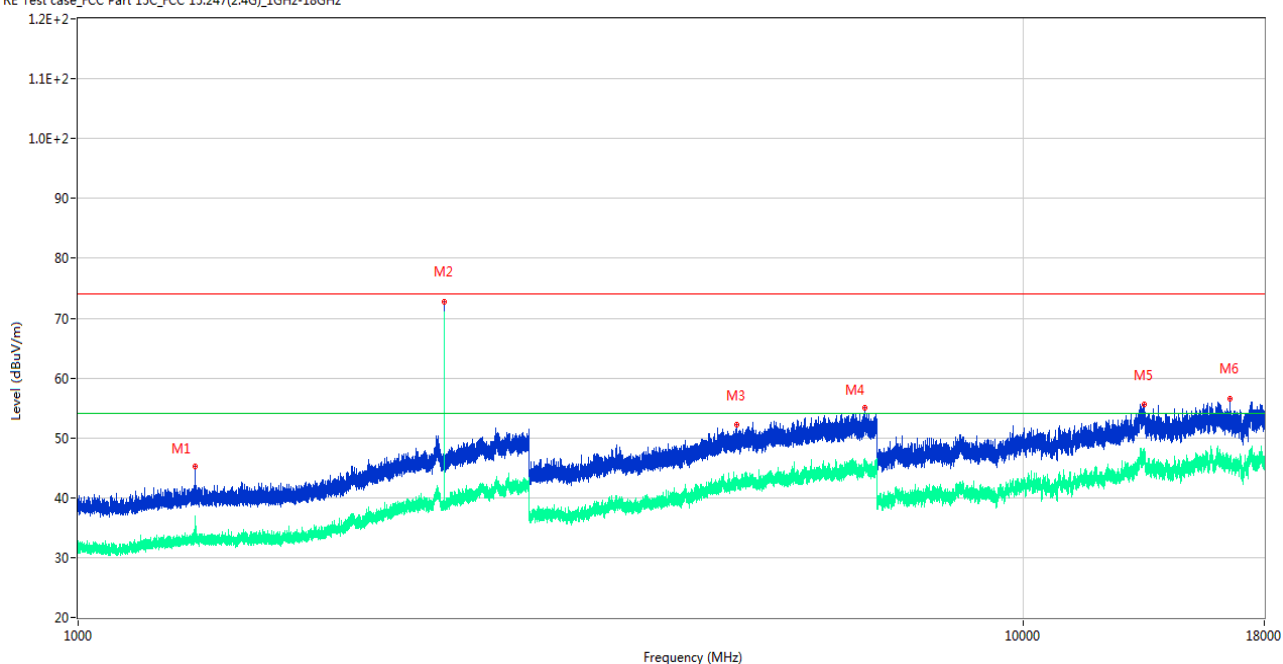
RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1161.900	46.25	-17.64	74.0	27.75	Peak	228.00	300	Vertical	Pass
1**	1161.900	33.30	-17.64	54.0	20.70	AV	228.00	300	Vertical	Pass
2	2401.900	74.18	-9.75	74.0	-0.18	Peak	169.00	200	Vertical	N/A
2**	2401.900	70.95	-9.75	54.0	-16.95	AV	169.00	200	Vertical	N/A
3	4985.400	52.30	-2.02	74.0	21.70	Peak	94.00	100	Vertical	Pass
3**	4985.400	42.93	-2.02	54.0	11.07	AV	94.00	100	Vertical	Pass
4	6720.000	54.34	-0.78	74.0	19.66	Peak	94.00	300	Vertical	Pass
4**	6720.000	44.39	-0.78	54.0	9.61	AV	94.00	300	Vertical	Pass
5	13435.388	55.61	0.42	74.0	18.39	Peak	203.00	150	Vertical	Pass
5**	13435.388	46.49	0.42	54.0	7.51	AV	203.00	150	Vertical	Pass
6	16085.588	56.45	1.52	74.0	17.55	Peak	163.00	300	Vertical	Pass
6**	16085.588	46.48	1.52	54.0	7.52	AV	163.00	300	Vertical	Pass

$\pi/4$ -DQPSK MIDDLE CHANNEL 1 GHz to 18 GHz, ANT H

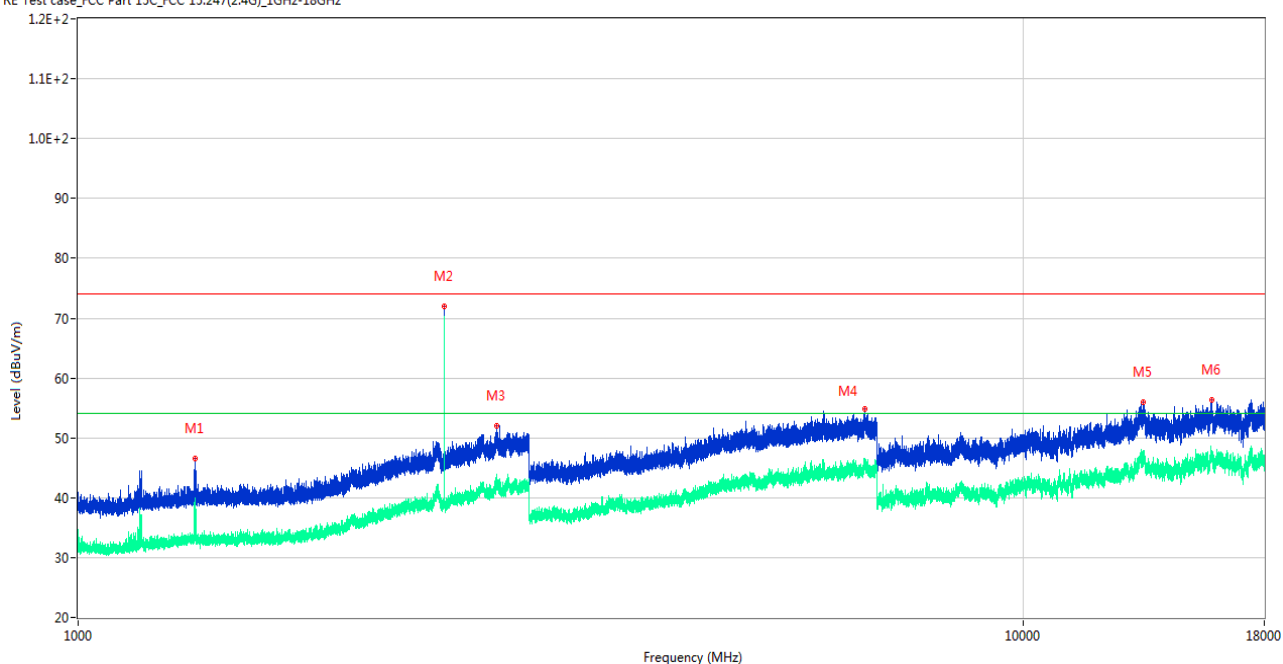
RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1329.300	45.20	-17.04	74.0	28.80	Peak	163.00	100	Horizontal	Pass
1**	1329.300	36.26	-17.04	54.0	17.74	AV	163.00	100	Horizontal	Pass
2	2441.100	72.80	-12.38	74.0	1.20	Peak	150.00	100	Horizontal	N/A
2**	2441.100	70.55	-12.38	54.0	-16.55	AV	150.00	100	Horizontal	N/A
3	4972.200	52.14	-1.60	74.0	21.86	Peak	208.00	100	Horizontal	Pass
3**	4972.200	42.66	-1.60	54.0	11.34	AV	208.00	100	Horizontal	Pass
4	6807.200	55.05	2.09	74.0	18.95	Peak	197.00	300	Horizontal	Pass
4**	6807.200	45.91	2.09	54.0	8.09	AV	197.00	300	Horizontal	Pass
5	13444.575	55.58	0.56	74.0	18.42	Peak	72.00	150	Horizontal	Pass
5**	13444.575	46.67	0.56	54.0	7.33	AV	72.00	150	Horizontal	Pass
6	16575.412	56.56	0.93	74.0	17.44	Peak	189.00	100	Horizontal	Pass
6**	16575.412	46.22	0.93	54.0	7.78	AV	189.00	100	Horizontal	Pass

$\pi/4$ -DQPSK MIDDLE CHANNEL 1 GHz to 18 GHz, ANT V

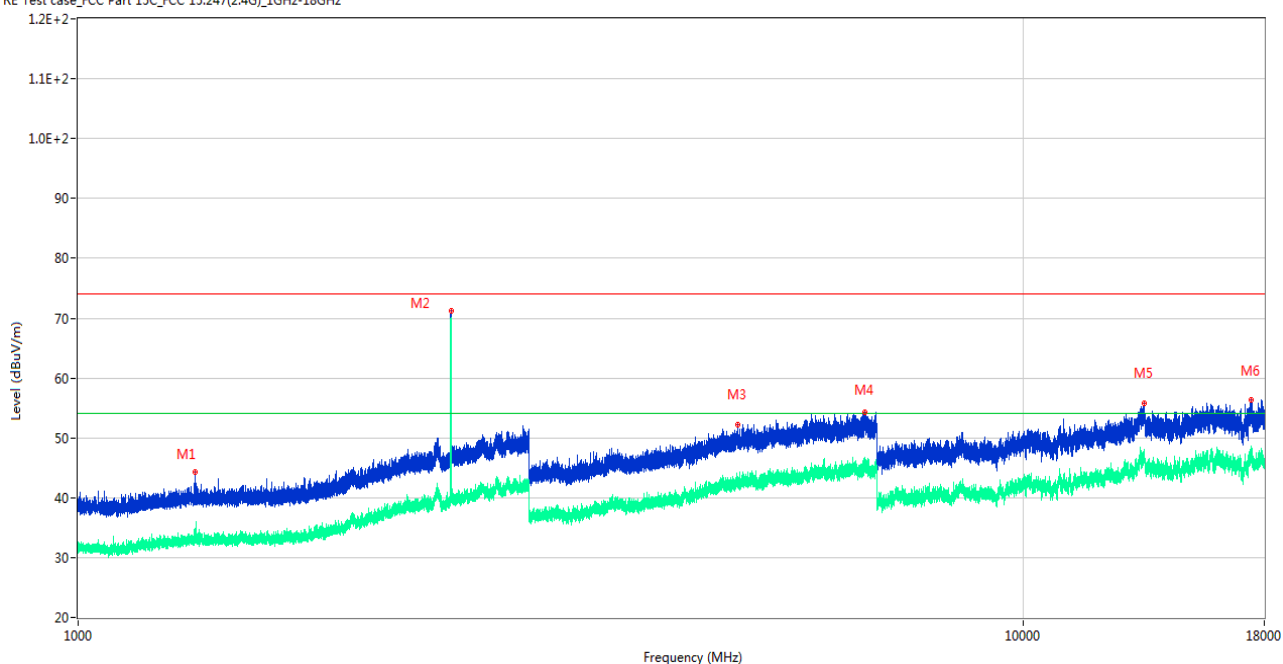
RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1331.400	46.63	-17.04	74.0	27.37	Peak	246.00	100	Vertical	Pass
1**	1331.400	33.99	-17.04	54.0	20.01	AV	246.00	100	Vertical	Pass
2	2441.100	72.02	-12.38	74.0	1.98	Peak	163.00	150	Vertical	N/A
2**	2441.100	69.83	-12.38	54.0	-15.83	AV	163.00	150	Vertical	N/A
3	2770.100	52.01	-8.56	74.0	21.99	Peak	163.00	100	Vertical	Pass
3**	2770.100	42.55	-8.56	54.0	11.45	AV	163.00	100	Vertical	Pass
4	6806.600	54.76	2.28	74.0	19.24	Peak	8.00	400	Vertical	Pass
4**	6806.600	46.22	2.28	54.0	7.78	AV	8.00	400	Vertical	Pass
5	13414.125	55.99	0.43	74.0	18.01	Peak	132.00	150	Vertical	Pass
5**	13414.125	46.74	0.43	54.0	7.26	AV	132.00	150	Vertical	Pass
6	15859.838	56.41	0.93	74.0	17.59	Peak	273.00	100	Vertical	Pass
6**	15859.838	46.29	0.93	54.0	7.71	AV	273.00	100	Vertical	Pass

$\pi/4$ -DQPSK HIGH CHANNEL 1 GHz to 18 GHz, ANT H

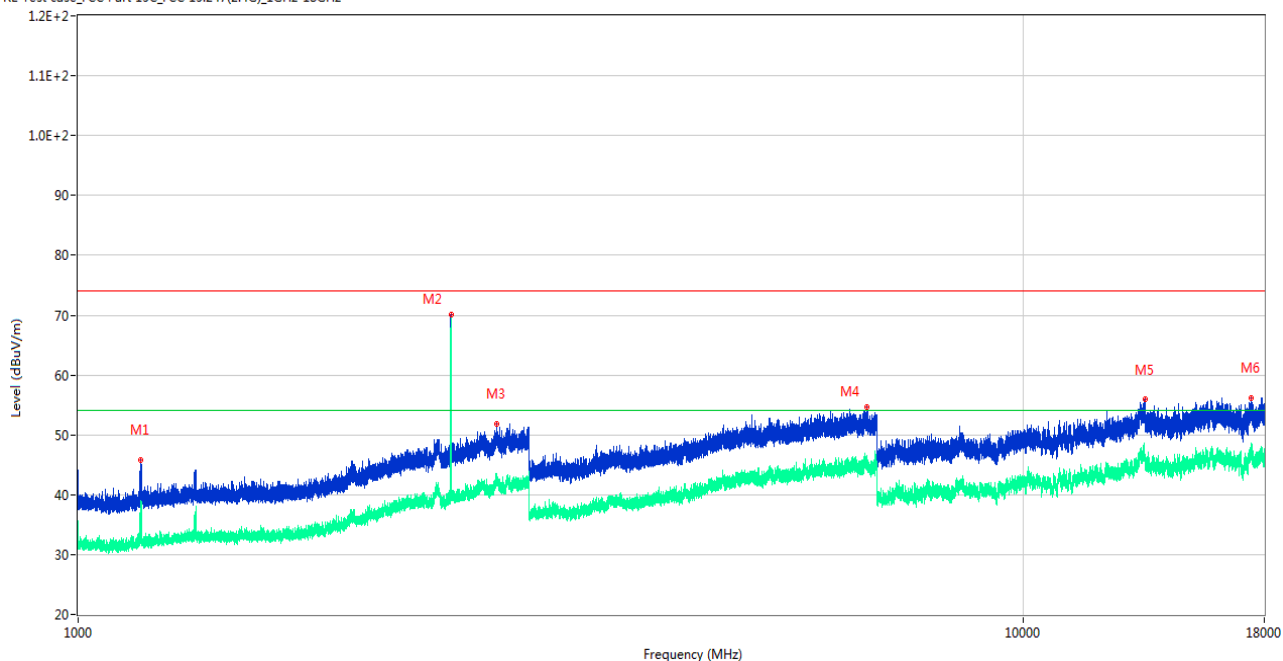
RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1329.300	44.34	-17.04	74.0	29.66	Peak	158.00	200	Horizontal	Pass
1**	1329.300	34.92	-17.04	54.0	19.08	AV	158.00	200	Horizontal	Pass
2	2480.000	71.23	-11.30	74.0	2.77	Peak	1.00	100	Horizontal	N/A
2**	2480.000	69.25	-11.30	54.0	-15.25	AV	1.00	100	Horizontal	N/A
3	4987.800	52.25	-2.25	74.0	21.75	Peak	291.00	100	Horizontal	Pass
3**	4987.800	42.42	-2.25	54.0	11.58	AV	291.00	100	Horizontal	Pass
4	6807.600	54.36	1.96	74.0	19.64	Peak	313.00	200	Horizontal	Pass
4**	6807.600	45.72	1.96	54.0	8.28	AV	313.00	200	Horizontal	Pass
5	13432.500	55.76	0.41	74.0	18.24	Peak	95.00	150	Horizontal	Pass
5**	13432.500	47.38	0.41	54.0	6.62	AV	95.00	150	Horizontal	Pass
6	17438.251	56.27	3.10	74.0	17.73	Peak	55.00	100	Horizontal	Pass
6**	17438.251	47.26	3.10	54.0	6.74	AV	55.00	100	Horizontal	Pass

$\pi/4$ -DQPSK HIGH CHANNEL 1 GHz to 18 GHz, ANT V

RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1165.200	45.80	-17.59	74.0	28.20	Peak	60.00	200	Vertical	Pass
1**	1165.200	33.04	-17.59	54.0	20.96	AV	60.00	200	Vertical	Pass
2	2479.900	70.17	-11.32	74.0	3.83	Peak	169.00	100	Vertical	N/A
2**	2479.900	69.46	-11.32	54.0	-15.46	AV	169.00	100	Vertical	N/A
3	2771.600	51.92	-8.52	74.0	22.08	Peak	208.00	100	Vertical	Pass
3**	2771.600	42.96	-8.52	54.0	11.04	AV	208.00	100	Vertical	Pass
4	6840.000	54.64	0.83	74.0	19.36	Peak	150.00	300	Vertical	Pass
4**	6840.000	44.47	0.83	54.0	9.53	AV	150.00	300	Vertical	Pass
5	13455.337	55.92	0.65	74.0	18.08	Peak	37.00	150	Vertical	Pass
5**	13455.337	46.72	0.65	54.0	7.28	AV	37.00	150	Vertical	Pass
6	17427.489	56.22	3.54	74.0	17.78	Peak	58.00	300	Vertical	Pass
6**	17427.489	47.22	3.54	54.0	6.78	AV	58.00	300	Vertical	Pass

A.9 Band Edge (Restricted-band band-edge)

Note ¹: The lowest and highest channels are tested to verify the band edge emissions. Please refer to the following the plots for emissions values.

Note ²: The test data all are tested in the vertical and horizontal antenna which the trace is max hold. So these plots have shown the worst case.

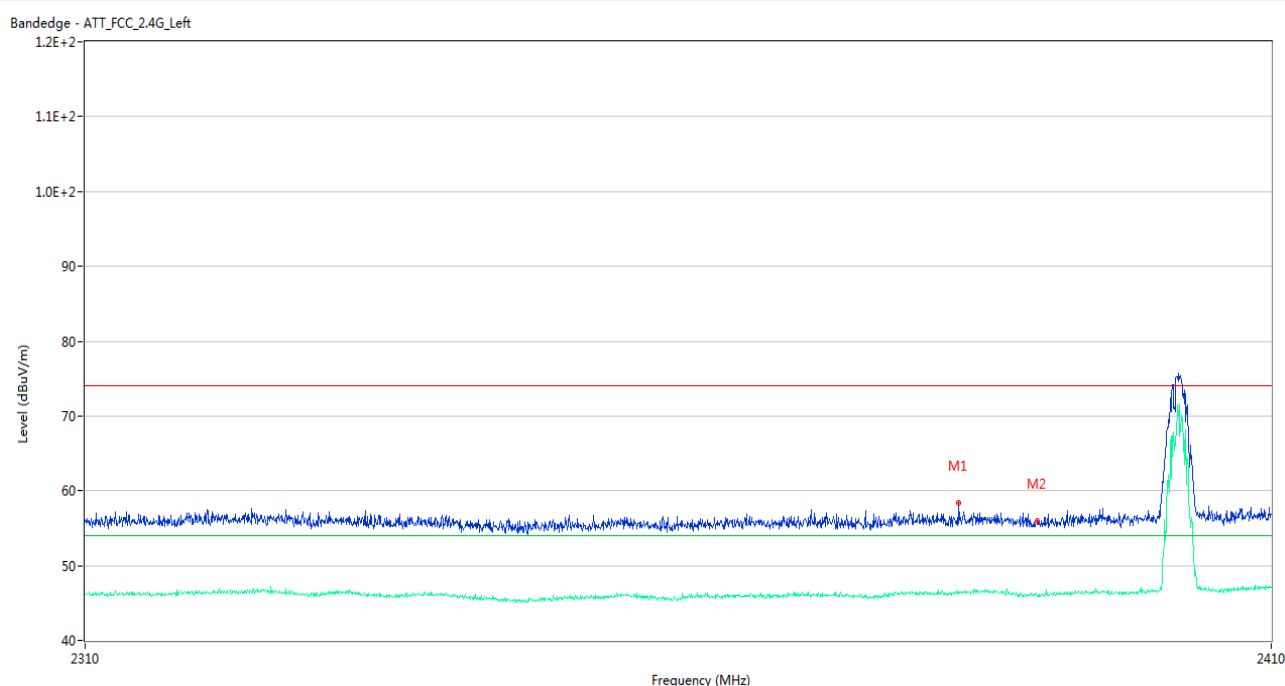
Note ³: According the ANSI C63.10-2013, where limits are specified for both average and peak (or quasi-peak) detector functions, if the peak (or quasi-peak) measured value complies with the average limit, it is unnecessary to perform an average measurement.

Note ⁴: The Level (dBuV/m) has been corrected by factor.

Test Data and Plots

Left Ear

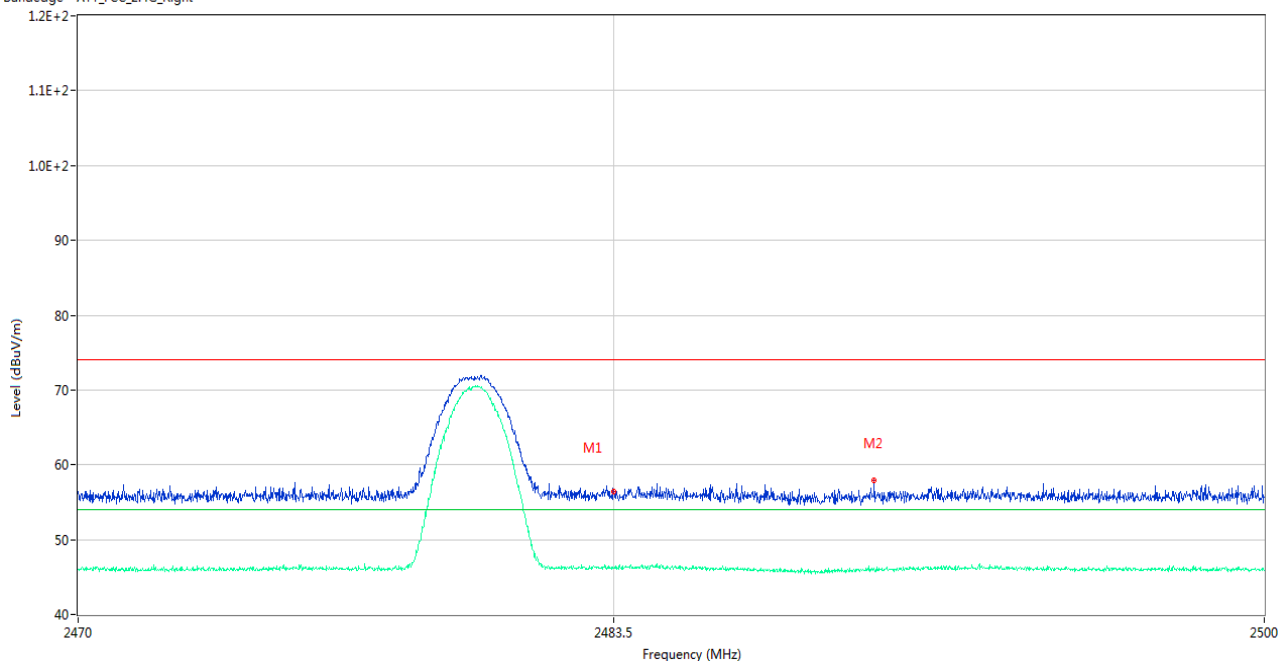
GFSK LOW CHANNEL



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2383.250	58.35	2.27	74.0	15.65	Peak	116.00	150	Horizontal	Pass
1**	2383.250	46.30	2.27	54.0	7.70	AV	116.00	150	Horizontal	Pass
2	2389.950	55.96	1.92	74.0	18.04	Peak	27.00	200	Horizontal	Pass
2**	2389.950	45.87	1.92	54.0	8.13	AV	27.00	200	Horizontal	Pass

GFSK HIGH CHANNEL

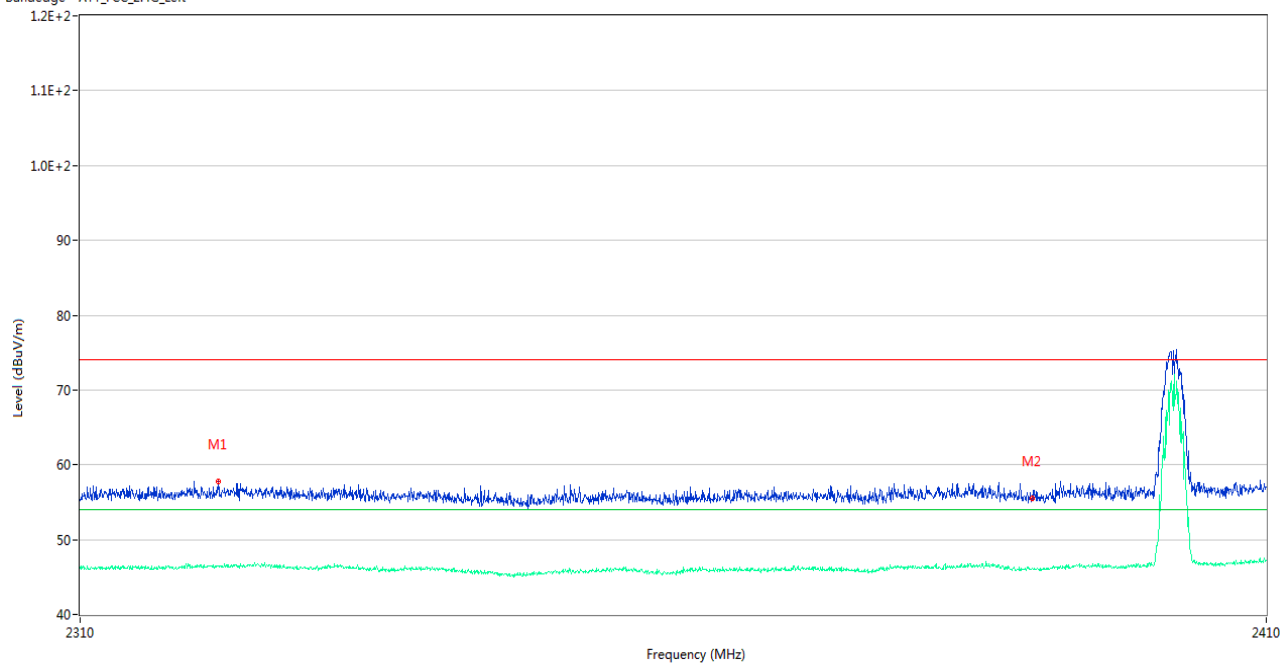
Bandedge - ATT_FCC_2.4G_Right



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2483.500	56.43	2.11	74.0	17.57	Peak	114.00	150	Horizontal	Pass
1**	2483.500	46.18	2.11	54.0	7.82	AV	114.00	150	Horizontal	Pass
2	2490.100	57.90	1.72	74.0	16.10	Peak	246.00	200	Horizontal	Pass
2**	2490.100	46.15	1.72	54.0	7.85	AV	246.00	200	Horizontal	Pass

$\pi/4$ -DQPSK LOW CHANNEL

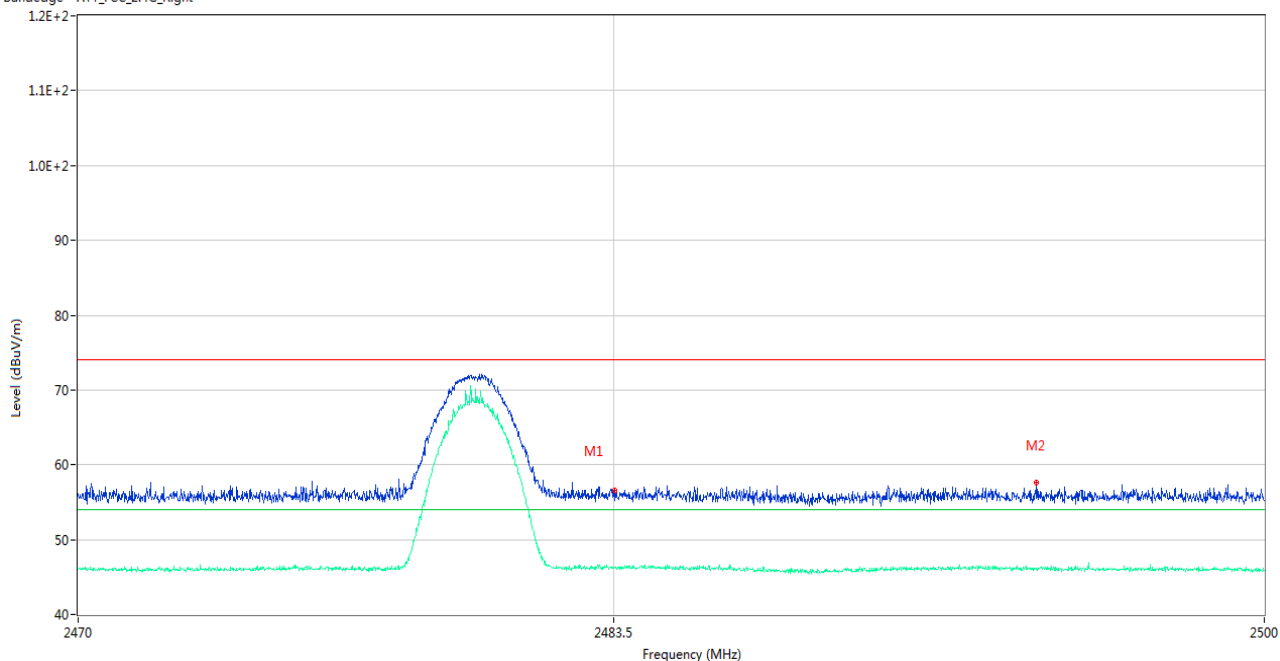
Bandedge - ATT_FCC_2.4G_Left



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2321.400	57.74	1.62	74.0	16.26	Peak	24.00	200	Horizontal	Pass
1**	2321.400	46.49	1.62	54.0	7.51	AV	24.00	200	Horizontal	Pass
2	2389.950	55.48	1.92	74.0	18.52	Peak	42.00	150	Horizontal	Pass
2**	2389.950	46.18	1.92	54.0	7.82	AV	42.00	150	Horizontal	Pass

$\pi/4$ -DQPSK HIGH CHANNEL

Bandedge - ATT_FCC_2.4G_Right

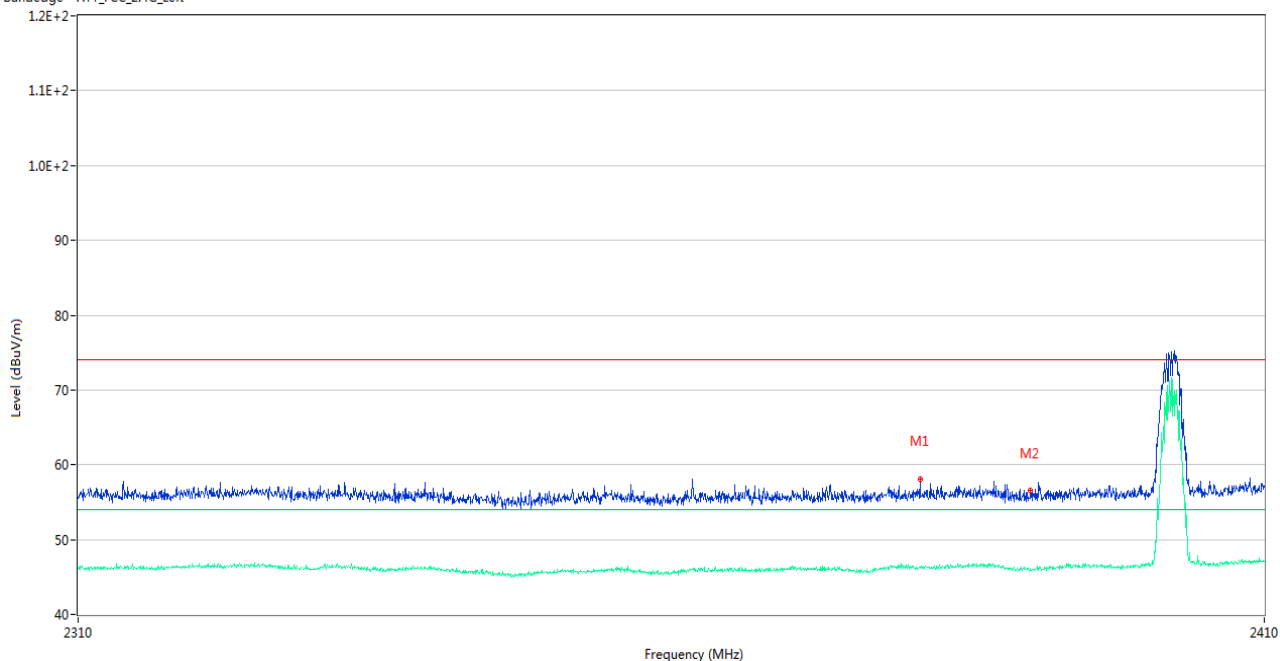


No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2483.530	56.50	2.11	74.0	17.50	Peak	183.00	150	Horizontal	Pass
1**	2483.530	46.30	2.11	54.0	7.70	AV	183.00	150	Horizontal	Pass
2	2494.210	57.66	1.80	74.0	16.34	Peak	220.00	150	Horizontal	Pass
2**	2494.210	46.19	1.80	54.0	7.81	AV	220.00	150	Horizontal	Pass

Right Ear

GFSK LOW CHANNEL

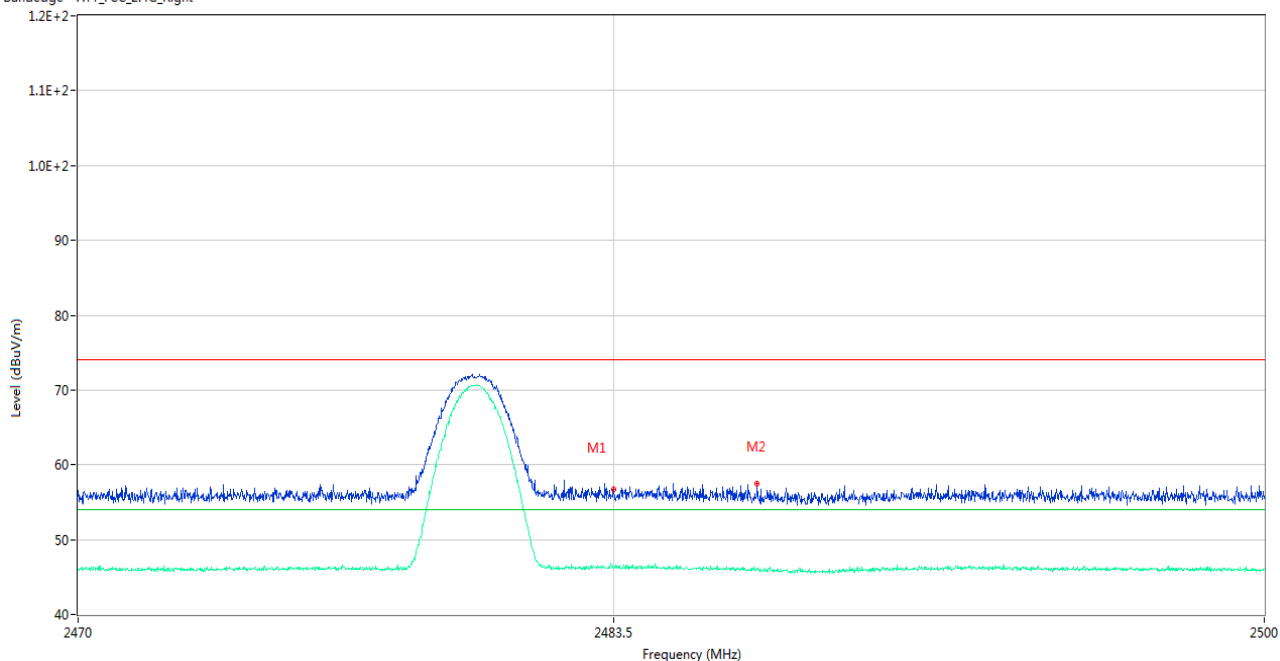
Bandedge - ATT_FCC_2.4G_Left



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2380.550	58.13	2.23	74.0	15.87	Peak	285.00	150	Horizontal	Pass
1**	2380.550	46.20	2.23	54.0	7.80	AV	285.00	150	Horizontal	Pass
2	2389.950	56.60	1.92	74.0	17.40	Peak	335.00	150	Horizontal	Pass
2**	2389.950	46.16	1.92	54.0	7.84	AV	335.00	150	Horizontal	Pass

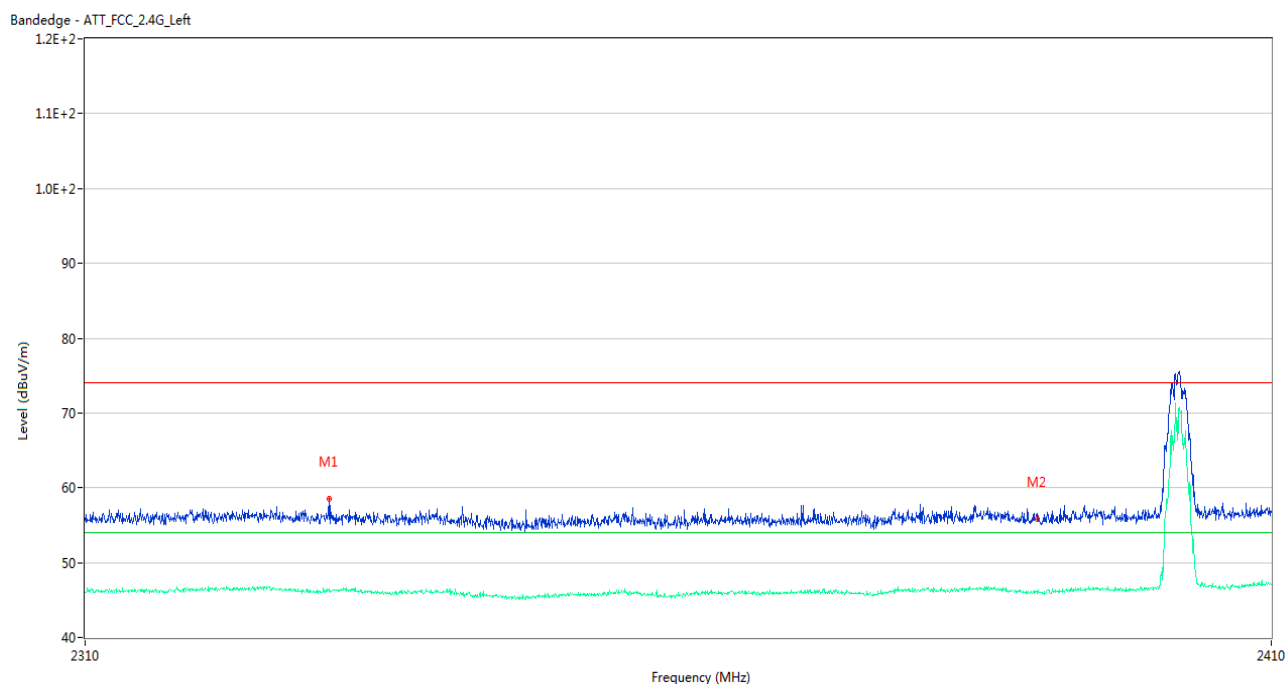
GFSK HIGH CHANNEL

Bandedge - ATT_FCC_2.4G_Right



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2483.500	56.78	2.11	74.0	17.22	Peak	244.00	150	Horizontal	Pass
1**	2483.500	46.24	2.11	54.0	7.76	AV	244.00	150	Horizontal	Pass
2	2487.130	57.45	1.75	74.0	16.55	Peak	158.00	150	Horizontal	Pass
2**	2487.130	46.12	1.75	54.0	7.88	AV	158.00	150	Horizontal	Pass

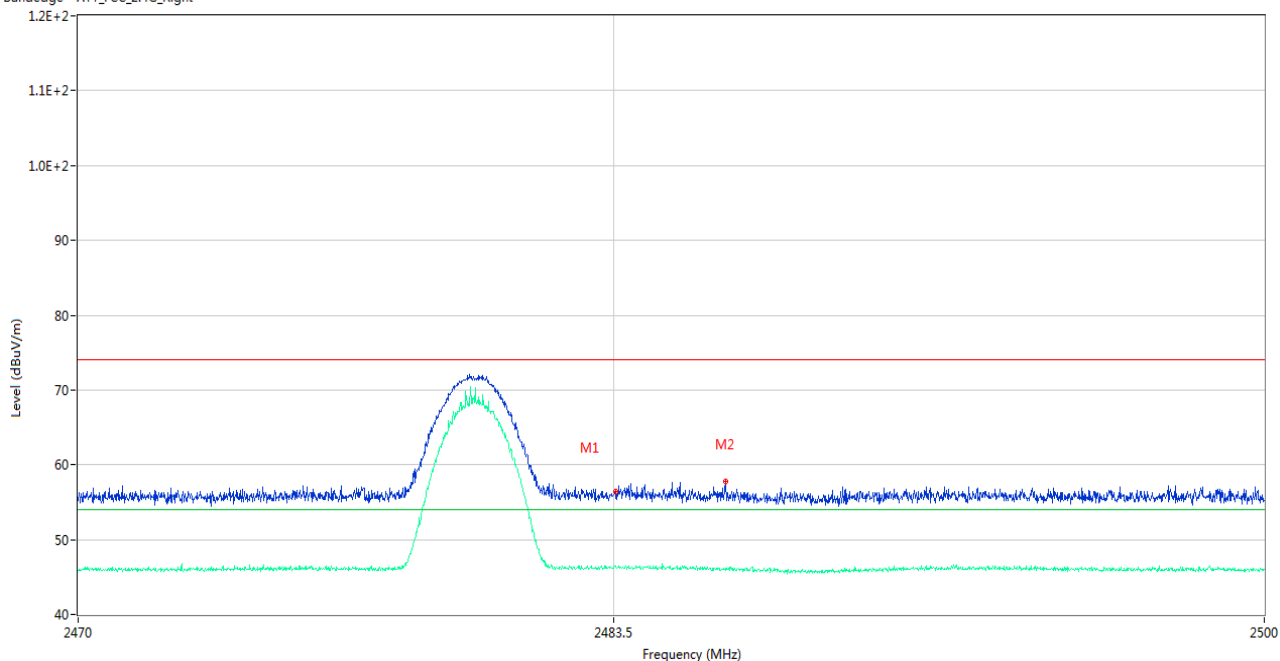
$\pi/4$ -DQPSK LOW CHANNEL



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2330.200	58.55	1.37	74.0	15.45	Peak	65.00	150	Horizontal	Pass
1**	2330.200	46.22	1.37	54.0	7.78	AV	65.00	150	Horizontal	Pass
2	2389.950	55.85	1.92	74.0	18.15	Peak	199.00	150	Horizontal	Pass
2**	2389.950	45.90	1.92	54.0	8.10	AV	199.00	150	Horizontal	Pass

$\pi/4$ -DQPSK HIGH CHANNEL

Bandedge - ATT_FCC_2.4G_Right



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2483.545	56.38	2.11	74.0	17.62	Peak	44.00	150	Horizontal	Pass
1**	2483.545	46.29	2.11	54.0	7.71	AV	44.00	150	Horizontal	Pass
2	2486.320	57.71	1.90	74.0	16.29	Peak	297.00	150	Horizontal	Pass
2**	2486.320	46.12	1.90	54.0	7.88	AV	297.00	150	Horizontal	Pass

ANNEX B TEST SETUP PHOTOS

Please refer the document “BL-SZ2440692-AR.PDF”.

ANNEX C EUT EXTERNAL PHOTOS

Please refer the document “BL-SZ2440692-AW.PDF”.

ANNEX D EUT INTERNAL PHOTOS

Please refer the document “BL-SZ2440692-AI.PDF”.

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--END OF REPORT--