

FCC

RF

TEST REPORT

ISSUED BY
Shenzhen BALUN Technology Co., Ltd.



FOR
Notebook Computer

ISSUED TO
Samsung Electronics Co., Ltd.

19 Chapin Road, Building D, Pine Brook, New Jersey, United States,
07058



Tested by:

Ye Hongji

Ye Hongji

Date

Oct. 21, 2020

Approved by:

Liao Jianming

Liao Jianming
(Technical Director)

Date

Oct. 29, 2020

Report No.: BL-SZ2090237-601

EUT Name: Notebook Computer

Model Name: NT550XDA (refer section 2.4)

Brand Name: Samsung

Test Standard: 47 CFR Part 15 Subpart C

FCC ID: ZCANP550XDAC

Test Conclusion: Pass

Test Date: Sep. 10, 2020 ~ Oct. 22, 2020

Date of Issue: Oct. 29, 2020

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Revision History

Version	Issue Date	Revisions Content
<u>Rev. 01</u>	<u>Oct. 29, 2020</u>	<u>Initial Issue</u>

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1 ADMINISTRATIVE DATA (GENERAL INFORMATION)

1.1 Identification of the Testing Laboratory

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

1.2 Identification of the Responsible Testing Location

Test Location	Shenzhen BALUN Technology Co., Ltd.
Address	Block B, 1st FL, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China
Accreditation Certificate	The laboratory has been listed by Industry Canada to perform electromagnetic emission measurements. The recognition numbers of test site are 11524A-1. The laboratory is a testing organization accredited by FCC as a accredited testing laboratory. The designation number is CN1196. The laboratory is a testing organization accredited by American Association for Laboratory Accreditation(A2LA) according to ISO/IEC 17025.The accreditation certificate is 4344.01. The laboratory is a testing organization accredited by China National Accreditation Service for Conformity Assessment (CNAS) according to ISO/IEC 17025. The accreditation certificate number is L6791.
Description	All measurement facilities used to collect the measurement data are located at Block B, FL 1, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China 518055

1.3 Laboratory Condition

Ambient Temperature	20°C to 25°C
Ambient Relative Humidity	45% to 55%
Ambient Pressure	100 kPa to 102 kPa

1.4 Announce

- (1) The test report reference to the report template version v5.7.
- (2) The test report is invalid if not marked with the signatures of the persons responsible for preparing and approving the test report.
- (3) The test report is invalid if there is any evidence and/or falsification.
- (4) The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein.
- (5) This document may not be altered or revised in any way unless done so by BALUN and all revisions are duly noted in the revisions section.
- (6) Content of the test report, in part or in full, cannot be used for publicity and/or promotional purposes without prior written approval from the laboratory.
- (7) The laboratory is only responsible for the data released by the laboratory, except for the part provided by the applicant.

2 PRODUCT INFORMATION

2.1 Applicant Information

Applicant	Samsung Electronics Co., Ltd.
Address	19 Chapin Road, Building D, Pine Brook, New Jersey, United States, 07058

2.2 Manufacturer Information

Manufacturer	Nanchang Huaqin Electronic Technology Co Ltd
Address	No.2999, Tianxiang Avenue, High-tech Development Zone, Nanchang City, Jiangxi Province, P.R. China

2.3 Factory Information

Factory	N/A
Address	N/A

2.4 General Description for Equipment under Test (EUT)

EUT Name	Notebook Computer
Model Name Under Test	NT550XDA
Series Model Name	550XDA, NT550XDZ, 550XDZ, NT551XDA, NP550XDA, NT550XDA
Description of Model name differentiation	Only differences are model names for trading purpose.
Hardware Version	N/A
Software Version	N/A
Dimensions (Approx.)	359.26 x 241.3 x18.85mm
Weight (Approx.)	1.89Kg

Antenna Information:

Antenna Port	Model Name	Antenna Manufacturer	Antenna Type	Antenna Gain (dBi)			
				2.4 GHz	5.15-5.35 GHz	5.47-5.725 GHz	5.725-5.85 GHz
Main Antenna	F-0G-XZ-0236-000-00	Speed	PIFA	0.85	2.90	2.05	1.59
Auxiliary Antenna	F-0G-XZ-0237-000-00		PIFA	1.71	-1.00	0.29	0.26
Main Antenna	N12-7050-R0A	South Star	PIFA	0.29	2.47	2.41	2.51
Auxiliary Antenna	N12-7051-R0A		PIFA	1.80	1.82	1.49	1.44

2.5 Technical Information

Network and Wireless connectivity	Bluetooth (BR+EDR+BLE) WIFI 802.11a, 802.11b, 802.11g, 802.11n and 802.11ac U-NII-1/2A/2C/3
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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, 8-DPSK				
Product Type	☐ Mobile ☒ Portable ☐ Fix Location				
Transfer Rate	DH5: 1 Mbps 2DH5: 2 Mbps 3DH5: 3 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	<table border="1"> <tr> <td>Main Antenna</td><td rowspan="2">PIFA Antenna</td></tr> <tr> <td>Aux. Antenna</td></tr> </table>	Main Antenna	PIFA Antenna	Aux. Antenna	
Main Antenna	PIFA Antenna				
Aux. Antenna					
Antenna Gain	<table border="1"> <tr> <td>Main Antenna</td><td> Speed: 0.85 dBi South Star: 0.29 dBi (In test items related to antenna gain, the final results reflect this figure. This value is provided by the applicant.) </td></tr> <tr> <td>Aux. Antenna</td><td> Speed: 1.71 dBi South Star: 1.80 dBi (In test items related to antenna gain, the final results reflect this figure. This value is provided by the applicant.) </td></tr> </table>	Main Antenna	Speed: 0.85 dBi South Star: 0.29 dBi (In test items related to antenna gain, the final results reflect this figure. This value is provided by the applicant.)	Aux. Antenna	Speed: 1.71 dBi South Star: 1.80 dBi (In test items related to antenna gain, the final results reflect this figure. This value is provided by the applicant.)
Main Antenna	Speed: 0.85 dBi South Star: 0.29 dBi (In test items related to antenna gain, the final results reflect this figure. This value is provided by the applicant.)				
Aux. Antenna	Speed: 1.71 dBi South Star: 1.80 dBi (In test items related to antenna gain, the final results reflect this figure. This value is provided by the applicant.)				
Antenna Impedance	50Ω				
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	-	-

2.6 Additional Instructions

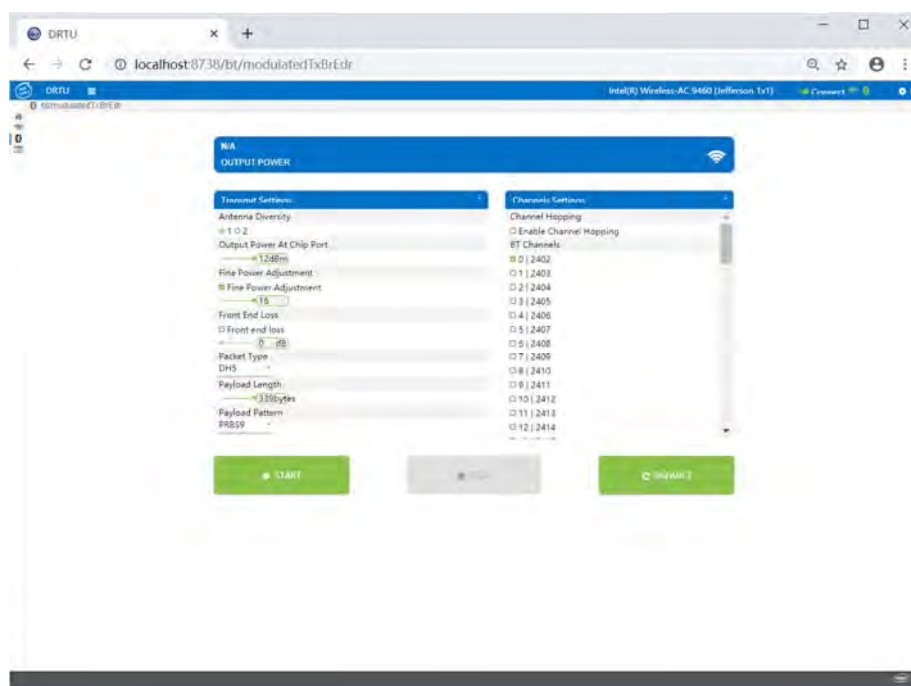
EUT Software Settings:

Mode	☒ Special software is used. The software provided by client to enable the EUT under transmission condition continuously at specific channel frequencies individually.
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During testing, Channel and Power Controlling Software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product.

Power level setup in software				
Test Software Version	DTRU			
Mode	Channel	Frequency (MHz)	Soft Set	
			Main Antenna	Aux. Antenna
DH5	CH0	2402	8	8
	CH39	2441	8	8
	CH78	2480	8	8
2DH5	CH0	2402	7	7
	CH39	2441	7	7
	CH78	2480	7	7
3DH5	CH0	2402	7	7
	CH39	2441	7	7
	CH78	2480	7	7

Run Software:



3 SUMMARY OF TEST RESULTS

3.1 Test Standards

No.	Identity	Document Title
1	47 CFR Part 15, Subpart C (10-1-17 Edition)	Miscellaneous Wireless Communications Services
2	ANSI C63.10-2013	American National Standard for Testing Unlicensed Wireless Devices
3	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 Verdict

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

Note ¹: Please refer to section 5.1

Note ²: $\Pi/4$ -DQPSK is the EDR 2M rate mode, 8-DPSK is the EDR 3M rate mode. The consistency of test results in $\Pi/4$ -DQPSK and 8-DPSK is very high. So we chose 8-DPSK as a typical representative to appear on the report. Another we will show all the modes on the RF output power test item.

Note ³: 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	45% to 55%	
Atmospheric Pressure	100 kPa to 102 kPa	
Temperature	NT (Normal Temperature)	+22°C to +25°C
Working Voltage of the EUT	NV (Normal Voltage)	11.4 V

4.2 Test Equipment List

Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
Spectrum Analyzer	ROHDE&SCHWARZ	FSV-30	103118	2020.06.08	2021.06.07
Switch Unit with OSP-B157	ROHDE&SCHWARZ	OSP120	101270	2020.06.08	2021.06.07
EMI Receiver	KEYSIGHT	N9038A	MY53220118	2020.06.09	2021.06.08
EMI Receiver	ROHDE&SCHWARZ	ESRP	101036	2020.06.09	2021.06.08
LISN	SCHWARZBECK	NSLK 8127	8127-687	2020.06.09	2021.06.08
Bluetooth Tester	ROHDE&SCHWARZ	CBT	101005	2020.06.08	2021.06.07
Bluetooth Signaling Unit	ROHDE&SCHWARZ	CMW270	100607	2020.06.08	2021.06.07
Bluetooth Signaling Unit	ROHDE&SCHWARZ	CMW500	142028	2020.06.08	2021.06.07
DC Power Supply	ROHDE&SCHWARZ	HMP2020	018141664	2020.06.08	2021.06.07
Power Splitter	KMW	DCPD-LDC	1305003215	--	--
Power Sensor	ROHDE&SCHWARZ	NRP-Z21	103971	2020.06.08	2021.06.07
Attenuator (20 dB)	KMW	ZA-S1-201	110617091	--	--
Attenuator (6 dB)	KMW	ZA-S1-61	1305003189	--	--
Temperature Chamber	AHK	SP20	1412	2020.06.10	2021.06.09
Test Antenna-Loop(9 kHz-30 MHz)	SCHWARZBECK	FMZB 1519	1519-037	2019.10.29	2021.10.28
Test Antenna-Bi-Log(30 MHz-3 GHz)	SCHWARZBECK	VULB 9163	9163-624	2019.07.02	2021.07.01
Test Antenna-Horn(1-18 GHz)	SCHWARZBECK	BBHA 9120D	9120D-1917	2019.07.02	2021.07.01
Test Antenna-Horn (18-40 GHz)	A-INFO	LB-180400KF	J211060273	2019.01.06	2021.01.05
Anechoic Chamber	RAINFORD	9m*6m*6m	N/A	2017.02.21	2022.02.20
Anechoic Chamber	EMC Electronic Co., Ltd	20.10*11.60*7.35m	N/A	2018.08.08	2021.08.07
Shielded Enclosure	ChangNing	CN-130701	130703	--	--
Signal Generator	ROHDE&SCHWARZ	SMB100A	177746	2020.06.08	2021.06.07
Power Amplifier	OPHIR RF	5225F	1037	2020.02.19	2021.02.18
Power Amplifier	OPHIR RF	5273F	1016	2020.02.19	2021.02.18
Directional Coupler	Werlantone	C5982-10	109275	N/A	N/A
Directional Coupler	Werlantone	CHP-273E	S00801z-01	N/A	N/A
Sound Level Meter	B&K	NL-20	00844023	2019.11.12	2020.11.11
Ear Simulator	B&K	4185	2409449	2019.11.12	2020.11.11

Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
Ear Simulator	B&K	4195	2418189	2019.11.12	2020.11.11
Audio analyzer	B&K	UPL 16	100129	2019.11.12	2020.11.11

4.3 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.

Measurement	Value
Occupied Channel Bandwidth	±4%
RF output power, conducted	±1.4 dB
Power Spectral Density, conducted	±2.5 dB
Unwanted Emissions, conducted	±2.8 dB
All emissions, radiated	±5.4 dB
Temperature	±1°C
Humidity	±4%

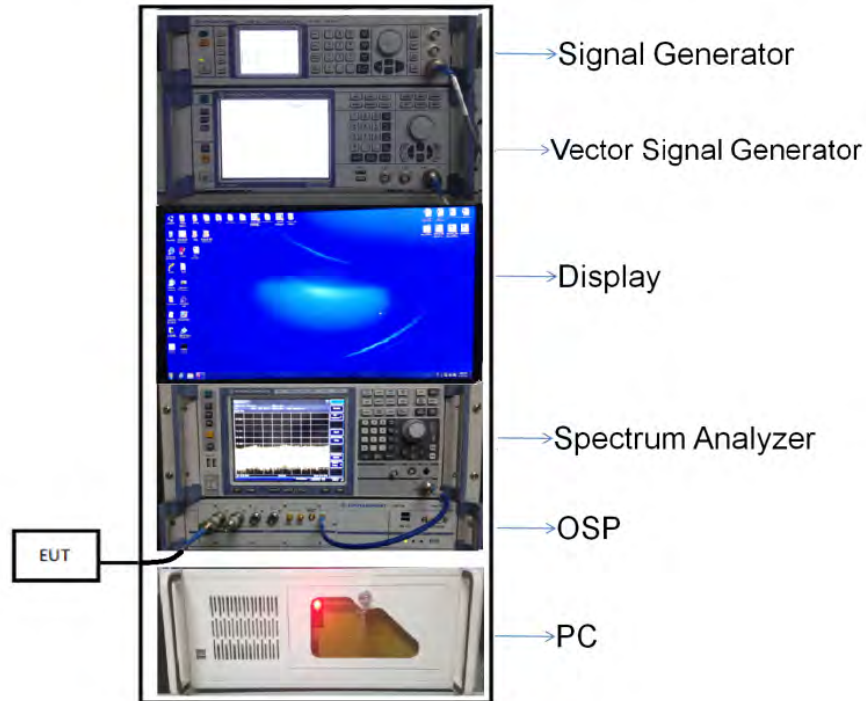
4.4 Description of Test Setup

4.4.1 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



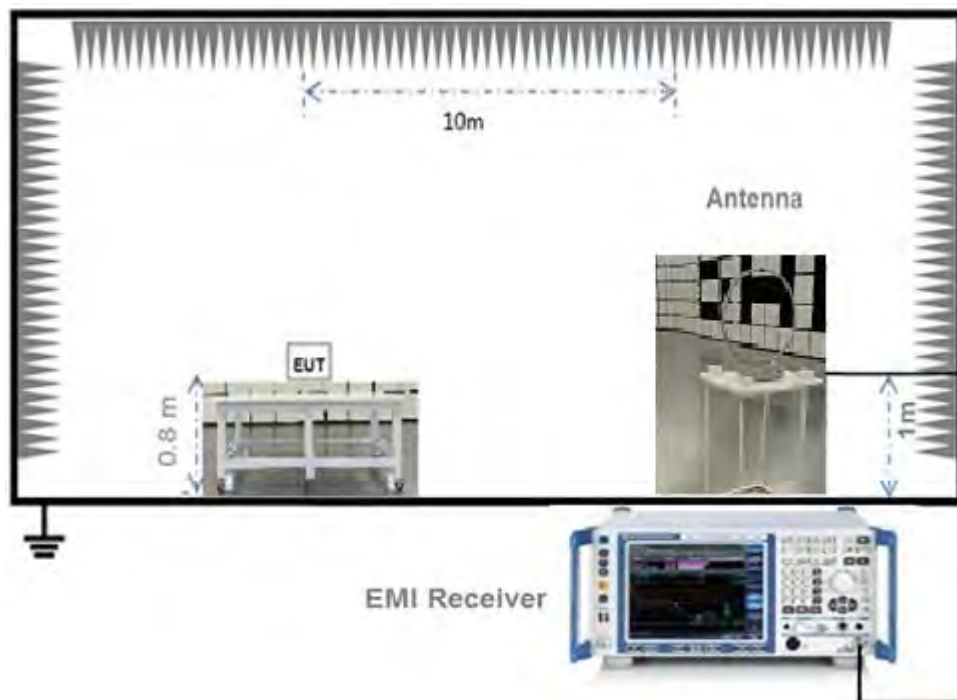
(Diagram 1)

4.4.2 For AC Power Supply Port Test



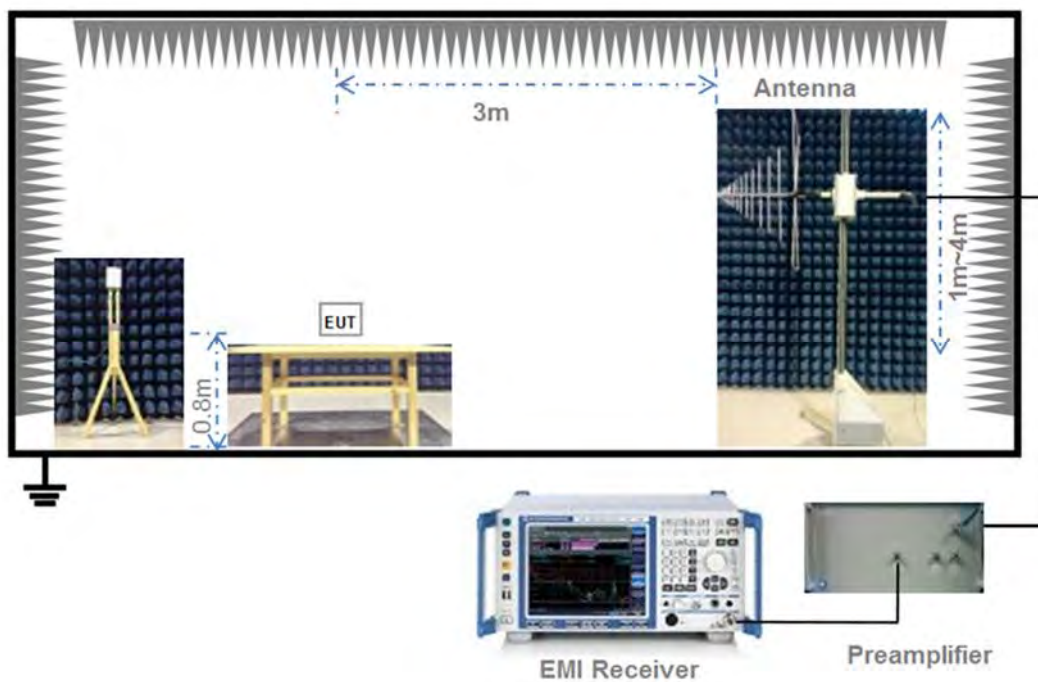
(Diagram 2)

4.4.3 For Radiated Test (Below 30 MHz)



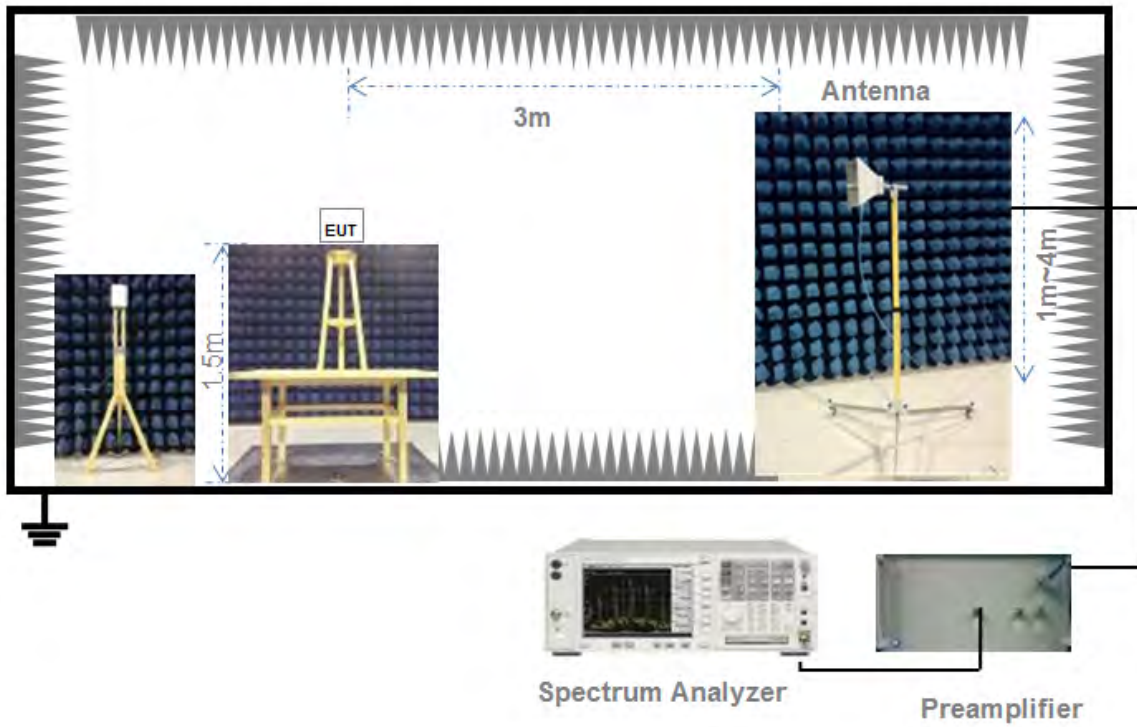
(Diagram 3)

4.4.4 For Radiated Test (30 MHz-1 GHz)



(Diagram 4)

4.4.5 For Radiated Test (Above 1 GHz)



(Diagram 5)

4.5 Measurement Results Explanation Example

4.5.1 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.

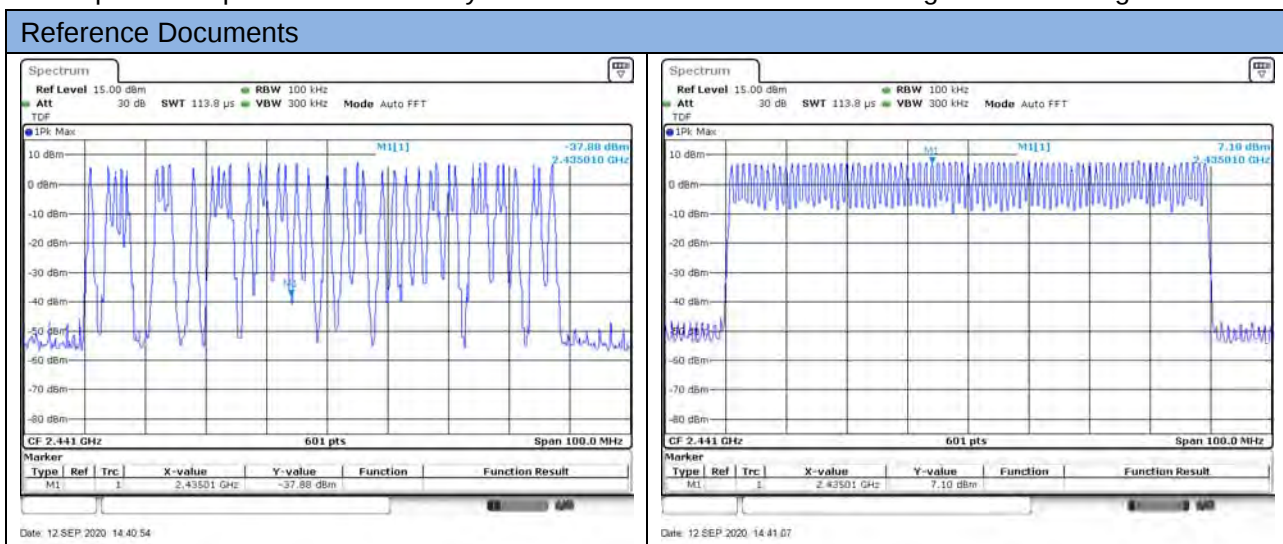
Describe how the associated receiver(s) has the ability to shift frequencies in synchronization with the transmitted signals.

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.



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 4.4.1 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

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 4.4.1 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 4.4.1 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 4.4.1 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 4.4.1 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

$$\begin{aligned}\{\text{Total of Dwell}\} &= \{\text{Pulse Time}\} * (1600 / 2) / \{\text{Number of Hopping Frequency}\} * \{\text{Period}\} \\ \{\text{Period}\} &= 0.4 \text{ s} * \{\text{Number of Hopping Frequency}\}\end{aligned}$$

For DH3 package type

$$\begin{aligned}\{\text{Total of Dwell}\} &= \{\text{Pulse Time}\} * (1600 / 4) / \{\text{Number of Hopping Frequency}\} * \{\text{Period}\} \\ \{\text{Period}\} &= 0.4 \text{ s} * \{\text{Number of Hopping Frequency}\}\end{aligned}$$

For DH5 package type

$$\begin{aligned}\{\text{Total of Dwell}\} &= \{\text{Pulse Time}\} * (1600 / 6) / \{\text{Number of Hopping Frequency}\} * \{\text{Period}\} \\ \{\text{Period}\} &= 0.4 \text{ s} * \{\text{Number of Hopping Frequency}\}\end{aligned}$$

For AFH Mode:

For DH1 package type

$$\begin{aligned}\{\text{Total of Dwell}\} &= \{\text{Pulse Time}\} * (800 / 2) / \{\text{Number of Hopping Frequency}\} * \{\text{Period}\} \\ \{\text{Period}\} &= 0.4 \text{ s} * \{\text{Number of Hopping Frequency}\}\end{aligned}$$

For DH3 package type

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

For DH5 package type

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

{Period} = 0.4 s * {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 4.4.1 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 4.4.2 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 ($\mu\text{V/m}$)	Measurement Distance (m)
0.009 - 0.490	$2400/F(\text{kHz})$	300
0.490 - 1.705	$24000/F(\text{kHz})$	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 ($\text{dB}\mu\text{V/m}$) = $20 \cdot \log[\text{Field Strength } (\mu\text{V/m})]$.
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: $54\text{dB}\mu\text{V/m}@3\text{m}$ (AV) and $74\text{dB}\mu\text{V/m}@3\text{m}$ (PK).

5.10.2 Test Setup

See section 4.4.3 to 4.4.5 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 $f \geq 1 \text{ GHz}$, 100 kHz for $f < 1 \text{ GHz}$

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 4.4.3 to 4.4.5 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

Test Data

Main Antenna

Test Mode	Frequency Block (MHz)	Measured Channel Numbers	Min. Limit	Verdict
GFSK	2400 - 2483.5	79	15	Pass
8-DPSK	2400 - 2483.5	79	15	Pass

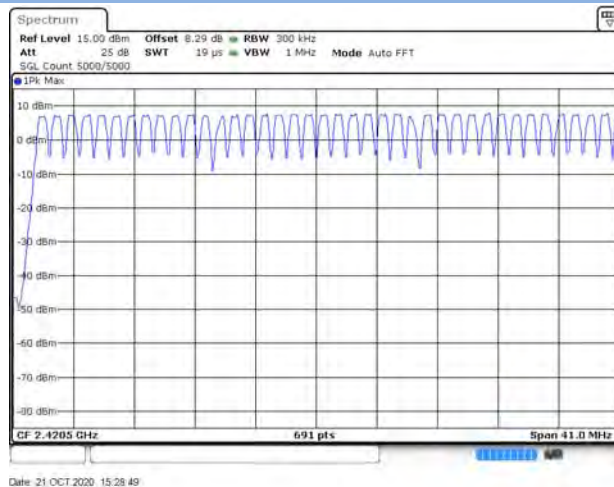
Aux. Antenna

Test Mode	Frequency Block (MHz)	Measured Channel Numbers	Min. Limit	Verdict
GFSK	2400 - 2483.5	79	15	Pass
8-DPSK	2400 - 2483.5	79	15	Pass

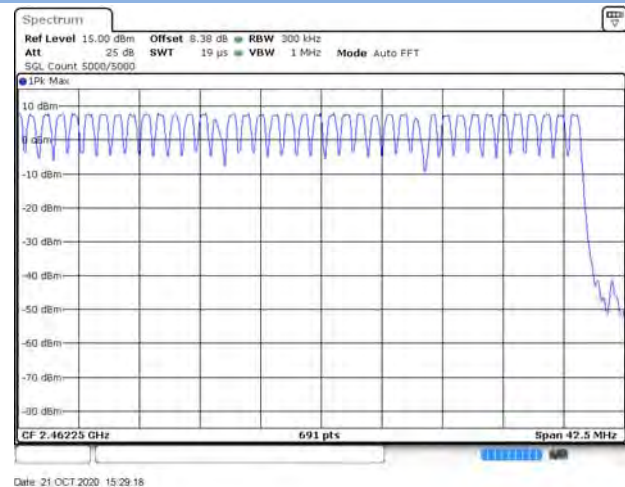
Test plots

Main Antenna

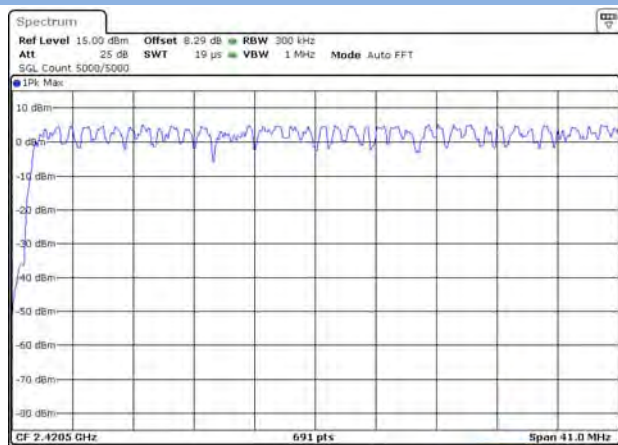
GFSK 2.4 GHz ~ 2.4415 GHz



GFSK 2.4415 GHz ~ 2.4835 GHz

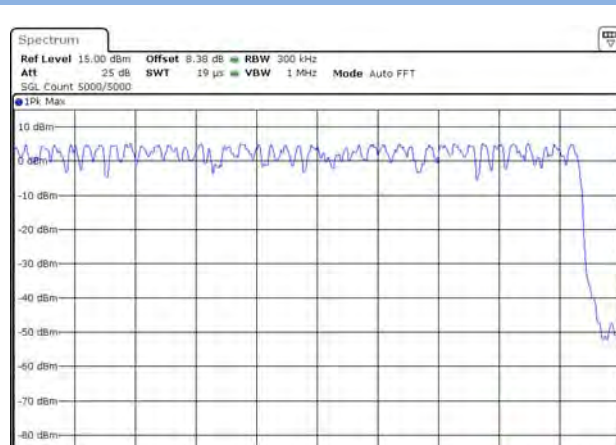


8-DPSK 2.4 GHz ~ 2.4415 GHz



Date: 21 OCT 2020 15:47:29

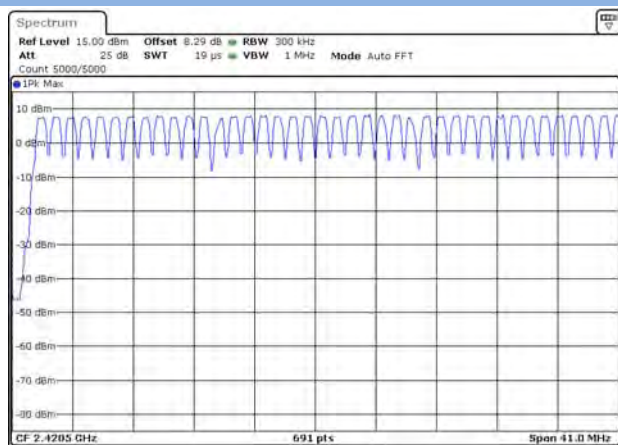
8-DPSK 2.4415 GHz ~ 2.4835 GHz



Date: 21 OCT 2020 15:47:59

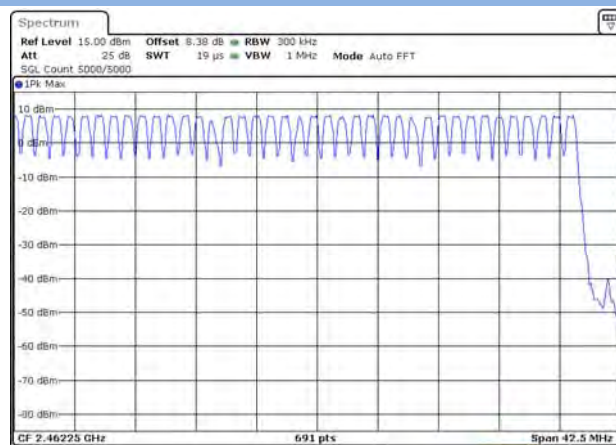
Aux. Antenna

GFSK 2.4 GHz ~ 2.4415 GHz



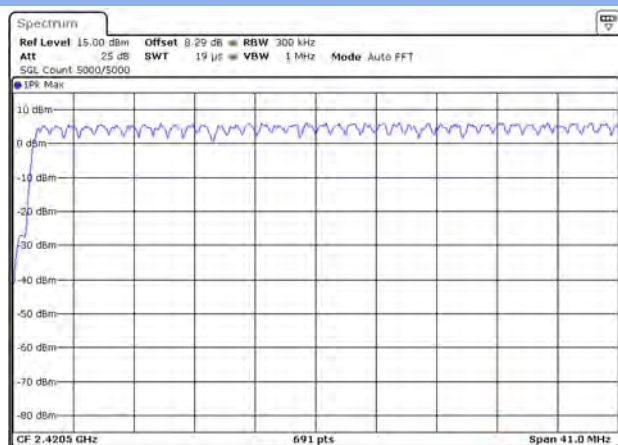
Date: 9 OCT 2020 10:39:24

GFSK 2.4415 GHz ~ 2.4835 GHz



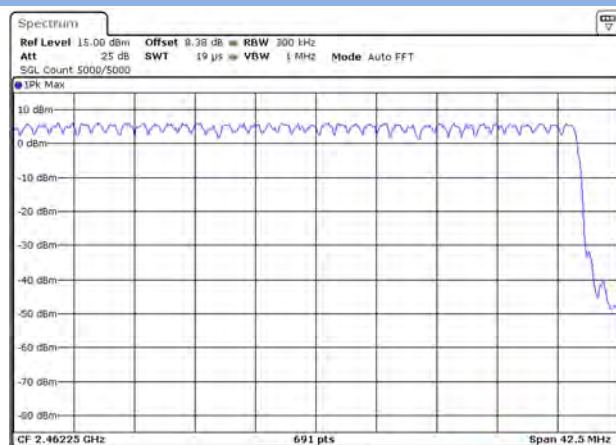
Date: 9 OCT 2020 10:39:54

8-DPSK 2.4 GHz ~ 2.4415 GHz



Date: 9 OCT 2020 10:50:41

8-DPSK 2.4415 GHz ~ 2.4835 GHz



Date: 9 OCT 2020 10:51:10

A.2 Peak Output Power

Peak Power Test Data

Main Antenna

Channel	Measured Output Peak Power		Limit		Verdict
	GFSK		dBm	mW	
	dBm	mW			
Low	7.82	6.05	21	125	Pass
Middle	7.70	5.89			Pass
High	7.64	5.81			Pass

Channel	Measured Output Peak Power				Limit		Verdict
	π/4-DQPSK		8-DPSK		dBm	mW	
	dBm	mW	dBm	mW			
Low	7.91	6.18	7.81	6.04	21	125	Pass
Middle	7.76	5.97	7.71	5.90			Pass
High	7.73	5.93	7.63	5.79			Pass

Aux. Antenna

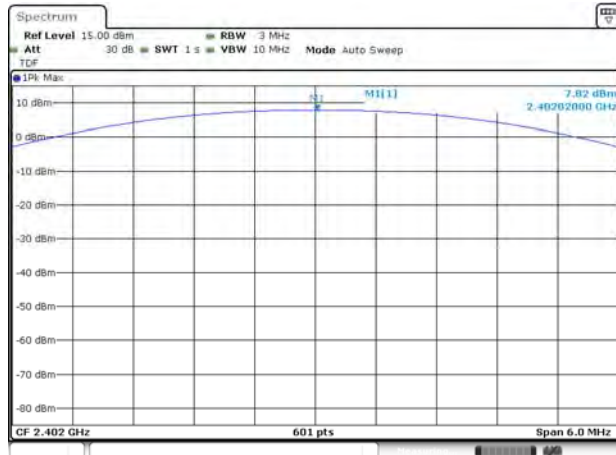
Channel	Measured Output Peak Power		Limit		Verdict
	GFSK		dBm	mW	
	dBm	mW			
Low	7.98	6.28	21	125	Pass
Middle	7.79	6.01			Pass
High	7.64	5.81			Pass

Channel	Measured Output Peak Power				Limit		Verdict
	π/4-DQPSK		8-DPSK		dBm	mW	
	dBm	mW	dBm	mW			
Low	7.95	6.24	7.86	6.11	21	125	Pass
Middle	7.80	6.03	7.77	5.98			Pass
High	7.77	5.98	7.67	5.85			Pass

Test plots

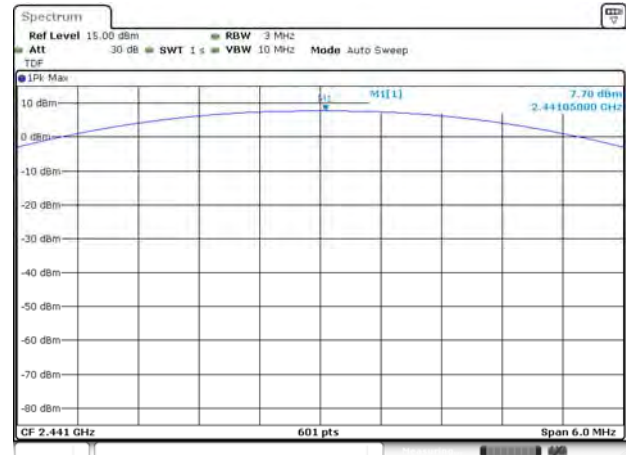
Main Antenna

GFSK LOW CHANNEL



Date: 12 OCT.2020 14:32:00

GFSK MIDDLE CHANNEL



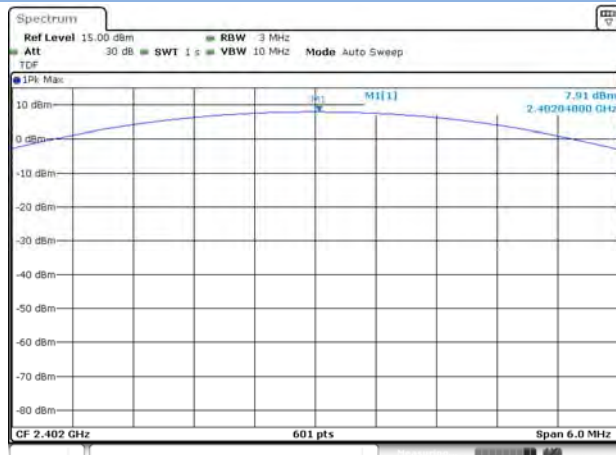
Date: 12 OCT.2020 14:36:12

GFSK HIGH CHANNEL



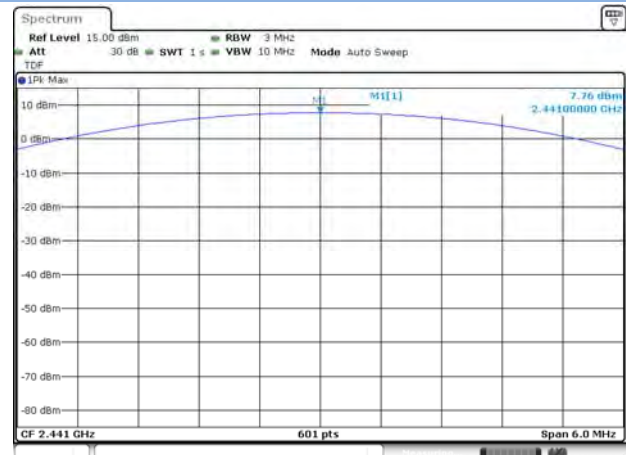
Date: 28 SEP.2020 08:24:22

II/4-DQPSK LOW CHANNEL



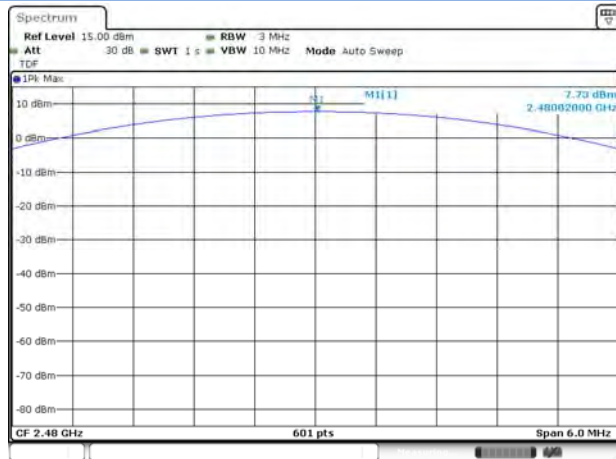
Date: 28 SEP.2020 08:30:06

II/4-DQPSK MIDDLE CHANNEL



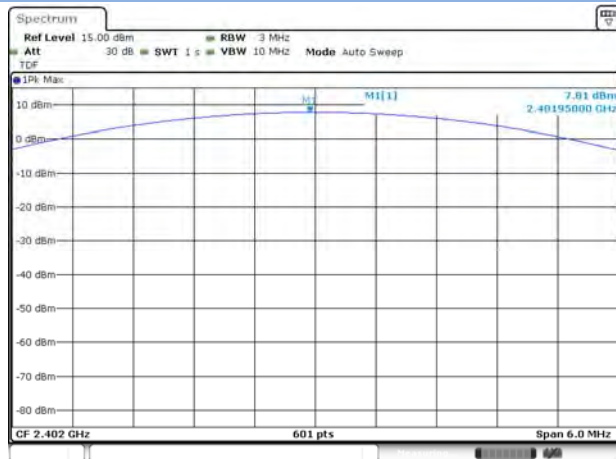
Date: 28 SEP.2020 08:35:21

Π/4-DQPSK HIGH CHANNEL



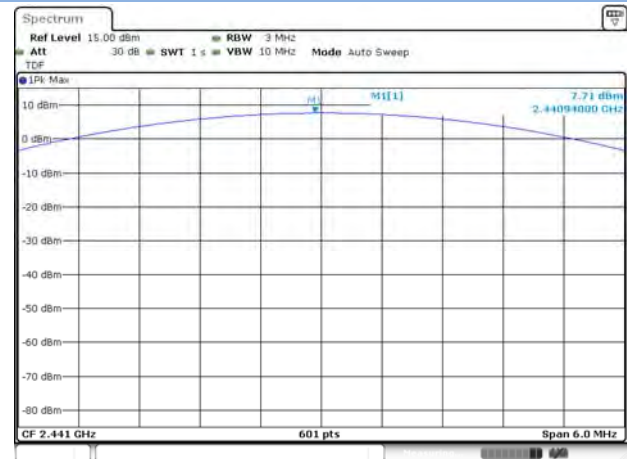
Date: 28 SEP 2020 08:37:45

8-DPSK LOW CHANNEL



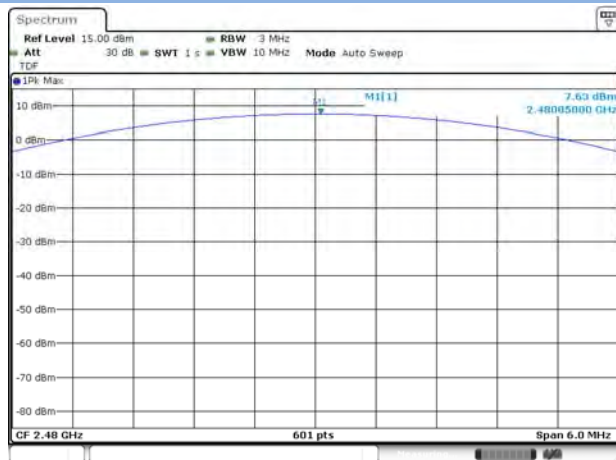
Date: 28 SEP 2020 08:42:53

8-DPSK MIDDLE CHANNEL



Date: 28 SEP 2020 08:47:04

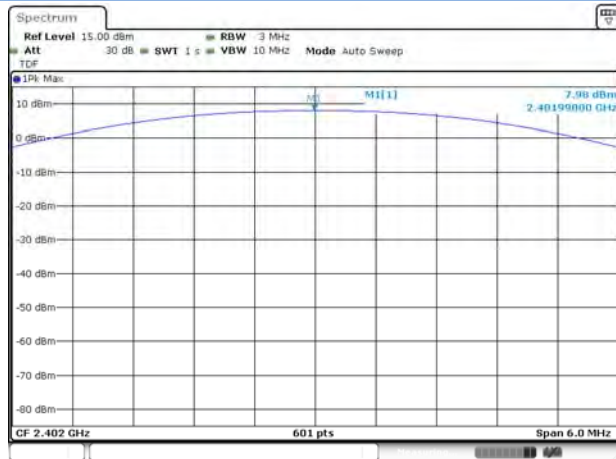
8-DPSK HIGH CHANNEL



Date: 28 SEP 2020 08:49:47

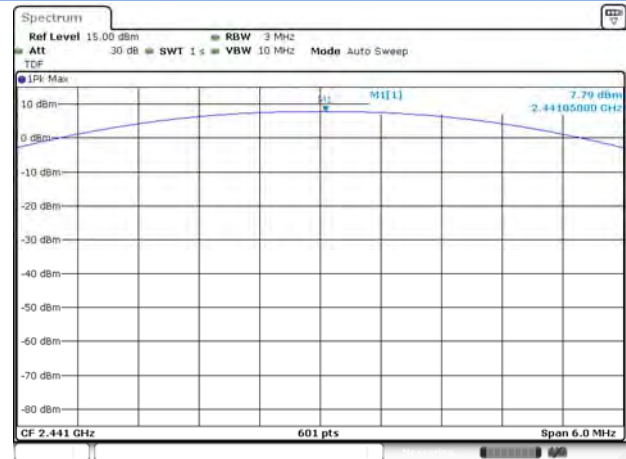
Aux. Antenna

GFSK LOW CHANNEL



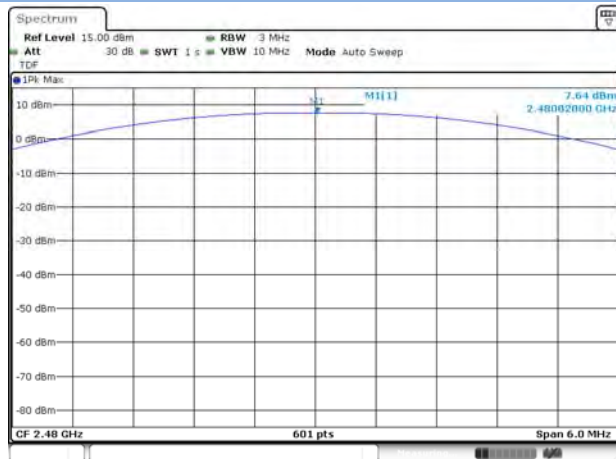
Date: 9 OCT 2020 10:00:30

GFSK MIDDLE CHANNEL



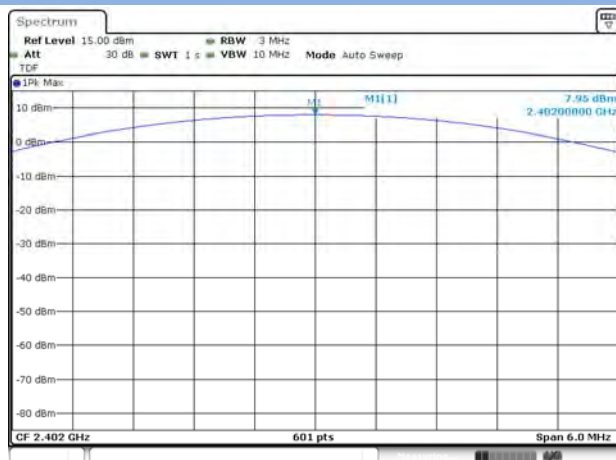
Date: 9 OCT 2020 10:06:12

GFSK HIGH CHANNEL



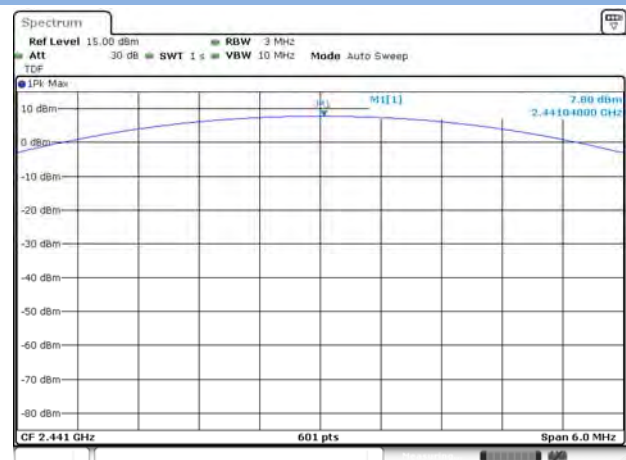
Date: 9 OCT 2020 10:09:47

II/4-DQPSK LOW CHANNEL



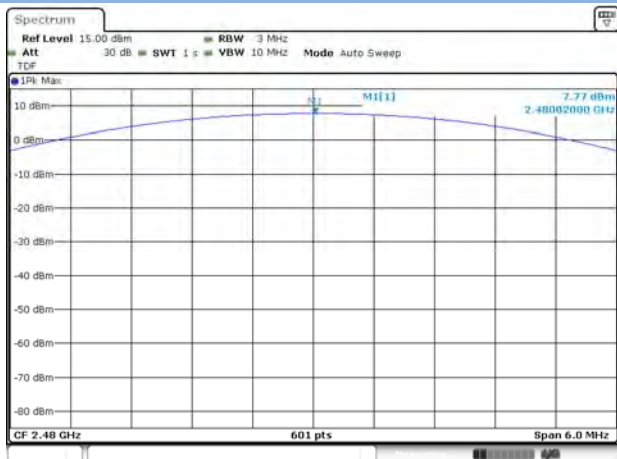
Date: 9 OCT 2020 10:17:47

II/4-DQPSK MIDDLE CHANNEL



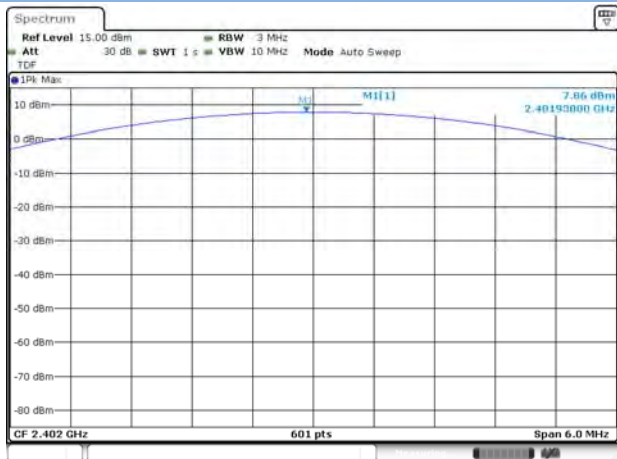
Date: 9 OCT 2020 10:20:27

II/4-DQPSK HIGH CHANNEL



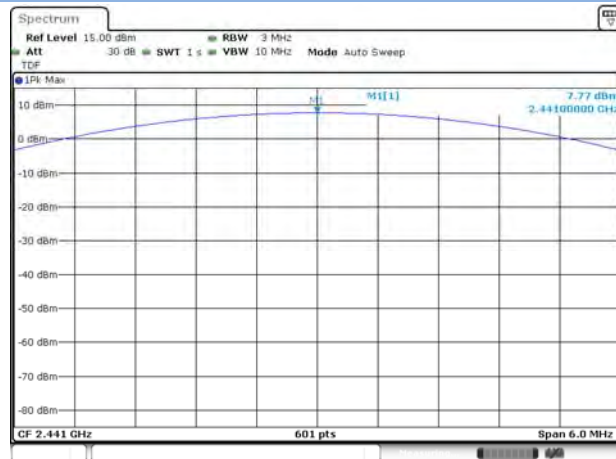
Date: 9 OCT 2020 10:23:20

8-DPSK LOW CHANNEL



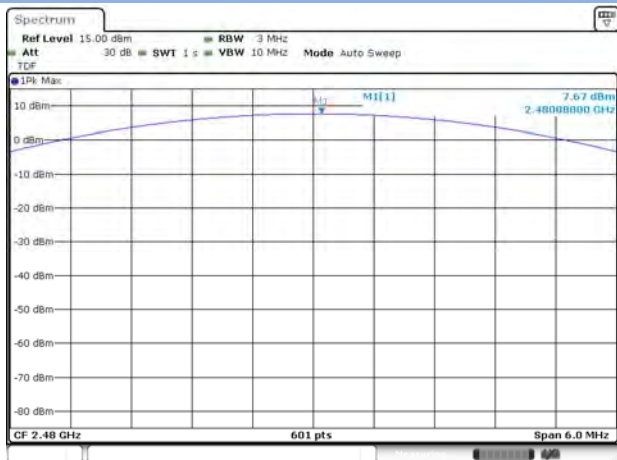
Date: 9 OCT 2020 10:27:15

8-DPSK MIDDLE CHANNEL



Date: 9 OCT 2020 10:30:36

8-DPSK HIGH CHANNEL



Date: 9 OCT 2020 10:33:15

A.3 20 dB and 99% bandwidth

Test Data

Main Antenna

GFSK		
Channel	20 dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	0.969482	0.872648
Middle	0.969482	0.881331
High	0.969482	0.876990
π/4-DQPSK		
Channel	20 dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	1.469727	1.354559
Middle	1.469727	1.354559
High	1.473877	1.354559
8-DPSK		
Channel	20 dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	1.456543	1.345876
Middle	1.456299	1.345876
High	1.456543	1.345876

Aux. Antenna

GFSK		
Channel	20 dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	0.969482	0.876990
Middle	0.969482	0.881331
High	0.969482	0.872648
π/4-DQPSK		
Channel	20 dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	1.469727	1.350217
Middle	1.473877	1.350217
High	1.469482	1.354559
8-DPSK		
Channel	20 dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	1.456543	1.345876
Middle	1.456299	1.341534
High	1.460693	1.345876

Test plots

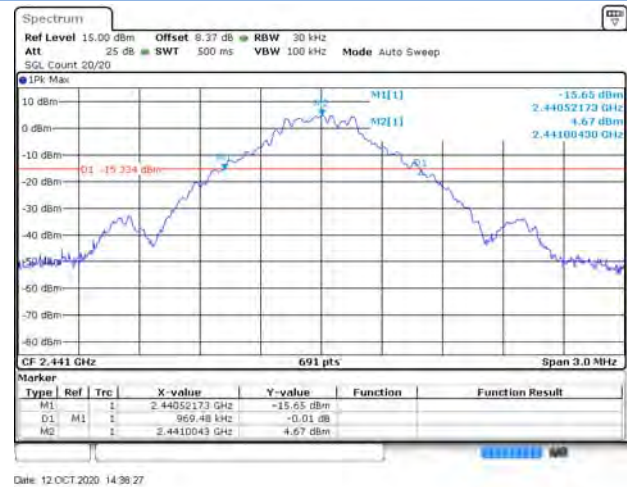
Main Antenna

20 dB Bandwidth

GFSK LOW CHANNEL



GFSK MIDDLE CHANNEL



GFSK HIGH CHANNEL



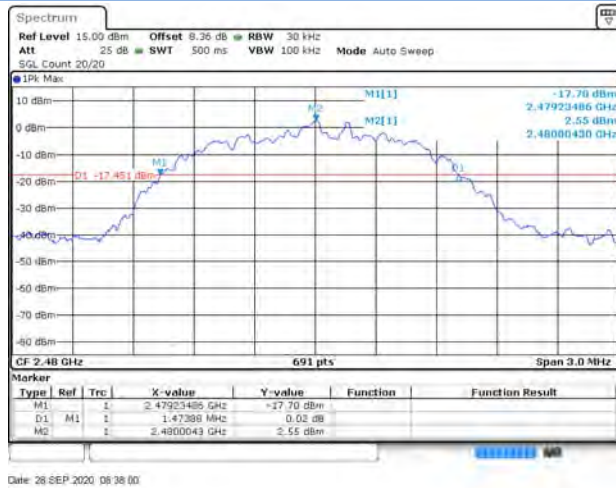
II/4-DQPSK LOW CHANNEL



II/4-DQPSK MIDDLE CHANNEL



II/4-DQPSK HIGH CHANNEL



8-DPSK LOW CHANNEL



8-DPSK MIDDLE CHANNEL



8-DPSK HIGH CHANNEL



99% Bandwidth

GFSK LOW CHANNEL



GFSK MIDDLE CHANNEL



GFSK HIGH CHANNEL



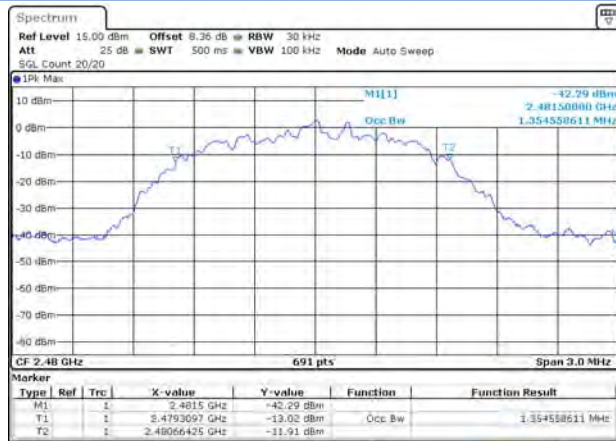
II/4-DQPSK LOW CHANNEL



II/4-DQPSK MIDDLE CHANNEL



$\pi/4$ -DQPSK HIGH CHANNEL



Date: 28 SEP 2020 08:38:16

8-DPSK LOW CHANNEL



Date: 28 SEP 2020 08:43:25

8-DPSK MIDDLE CHANNEL



Date: 28 SEP 2020 08:47:35

8-DPSK HIGH CHANNEL



Date: 28 SEP 2020 08:50:18

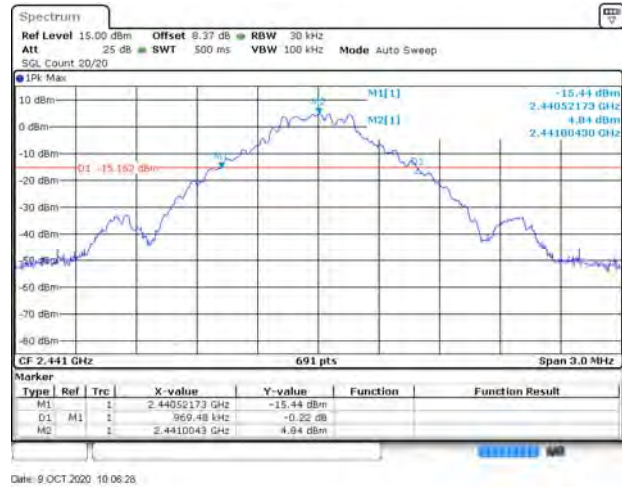
Aux. Antenna

20 dB Bandwidth

GFSK LOW CHANNEL



GFSK MIDDLE CHANNEL



GFSK HIGH CHANNEL



II/4-DQPSK LOW CHANNEL



II/4-DQPSK MIDDLE CHANNEL



II/4-DQPSK HIGH CHANNEL



8-DPSK LOW CHANNEL



8-DPSK MIDDLE CHANNEL



8-DPSK HIGH CHANNEL



99% Bandwidth

GFSK LOW CHANNEL



Date: 9 OCT 2020 19:01:01

GFSK MIDDLE CHANNEL



Date: 9 OCT 2020 19:06:44

GFSK HIGH CHANNEL



Date: 9 OCT 2020 19:10:18

II/4-DQPSK LOW CHANNEL



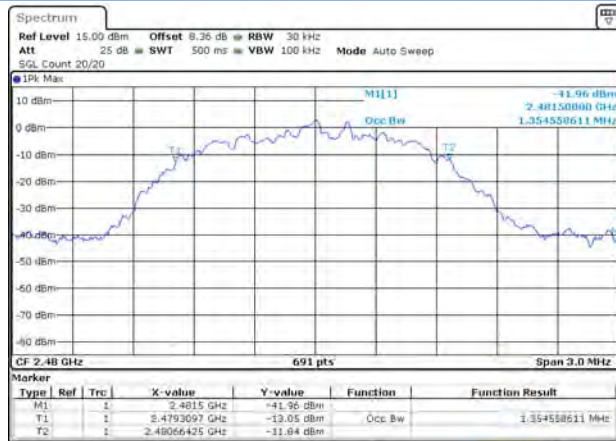
Date: 9 OCT 2020 19:18:19

II/4-DQPSK MIDDLE CHANNEL



Date: 9 OCT 2020 19:20:59

II/4-DQPSK HIGH CHANNEL



Date: 9 OCT 2020 10:23:51

8-DPSK LOW CHANNEL



Date: 9 OCT 2020 10:27:46

8-DPSK MIDDLE CHANNEL



Date: 9 OCT 2020 10:31:07

8-DPSK HIGH CHANNEL



Date: 9 OCT 2020 10:23:47

A.4 Hopping Frequency Separation

Test Data

Main Antenna

Mode	Frequency separation (MHz)	Max 2/3 of the 20 dB Bandwidth (MHz)	Verdict
GFSK	1.0033	0.646321	Pass
8-DPSK	1.0033	0.971029	Pass

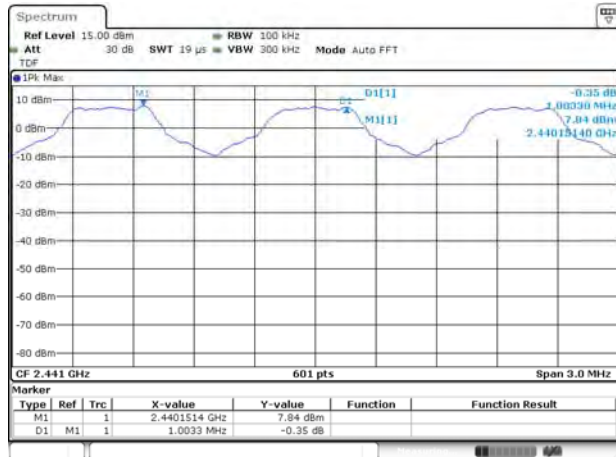
Aux. Antenna

Mode	Frequency separation (MHz)	Max 2/3 of the 20 dB Bandwidth (MHz)	Verdict
GFSK	1.0033	0.646321	Pass
8-DPSK	1.0033	0.973795	Pass

Test Plots

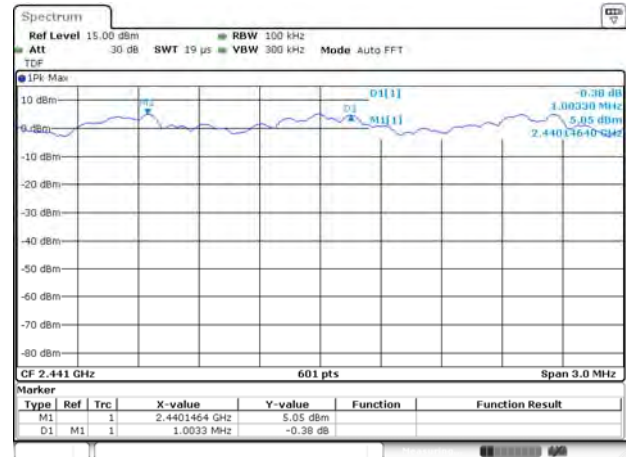
Main Antenna

GFSK



Date: 21.OCT.2020 15:32:24

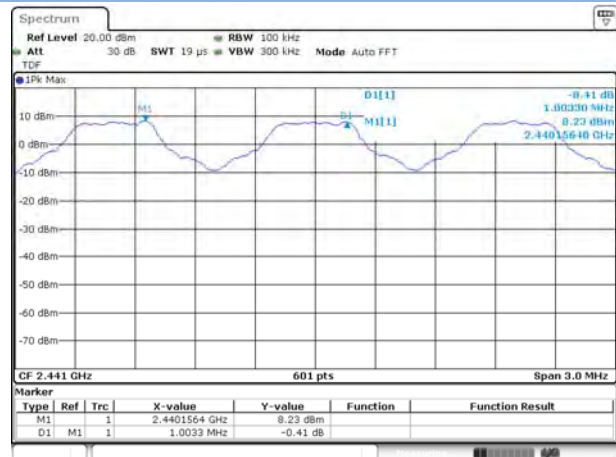
8-DPSK



Date: 21.OCT.2020 15:48:30

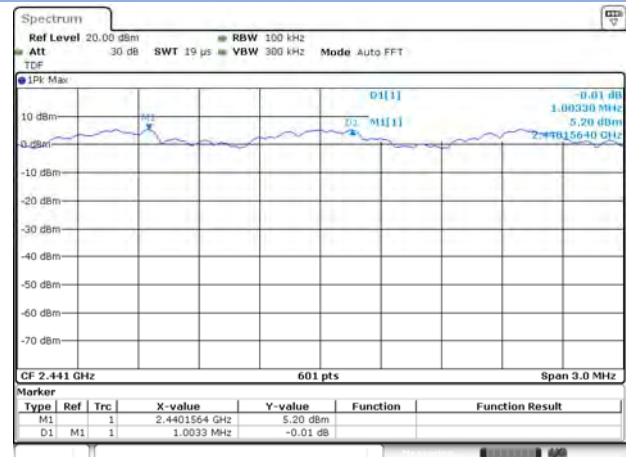
Aux. Antenna

GFSK



Date: 9.OCT.2020 10:40:36

8-DPSK



Date: 9.OCT.2020 10:52:19

A.5 Average Time of Occupancy

Test Data

Main Antenna

GFSK				
DH Packet	Pulse Width (ms)	Total of Dwell (ms)	Limit (sec)	Verdict
DH 1	0.37767	120.854	0.4	Pass
DH 3	1.62900	260.640	0.4	Pass
DH 5	2.89400	308.693	0.4	Pass
8-DPSK				
DH Packet	Pulse Width (ms)	Total of Dwell (ms)	Limit (sec)	Verdict
DH 1	0.38625	123.600	0.4	Pass
DH 3	1.62792	260.467	0.4	Pass
DH 5	2.88500	307.733	0.4	Pass
AFH Mode				
DH Packet	Pulse Width (ms)	Total of Dwell (ms)	Limit (sec)	Verdict
DH 1	0.37833	60.533	0.4	Pass
DH 3	1.62500	130.000	0.4	Pass
DH 5	2.87720	153.451	0.4	Pass

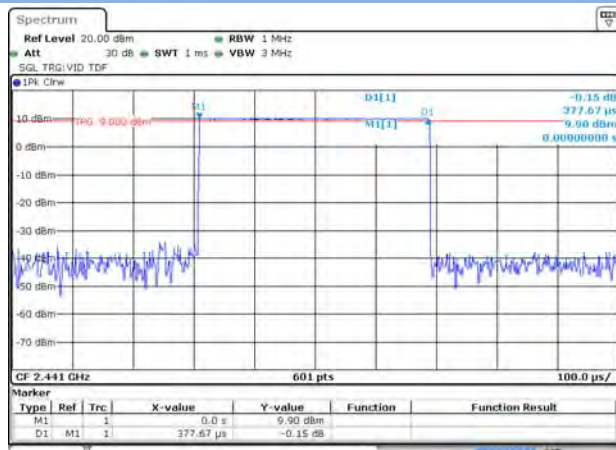
Aux. Antenna

GFSK				
DH Packet	Pulse Width (ms)	Total of Dwell (ms)	Limit (sec)	Verdict
DH 1	0.37767	120.854	0.4	Pass
DH 3	1.63533	261.653	0.4	Pass
DH 5	2.89270	308.555	0.4	Pass
8-DPSK				
DH Packet	Pulse Width (ms)	Total of Dwell (ms)	Limit (sec)	Verdict
DH 1	0.38700	123.840	0.4	Pass
DH 3	1.62717	260.347	0.4	Pass
DH 5	2.90700	310.080	0.4	Pass
AFH Mode				
DH Packet	Pulse Width (ms)	Total of Dwell (ms)	Limit (sec)	Verdict
DH 1	0.37883	60.613	0.4	Pass
DH 3	1.63267	130.614	0.4	Pass
DH 5	2.87780	153.483	0.4	Pass

Test Plots

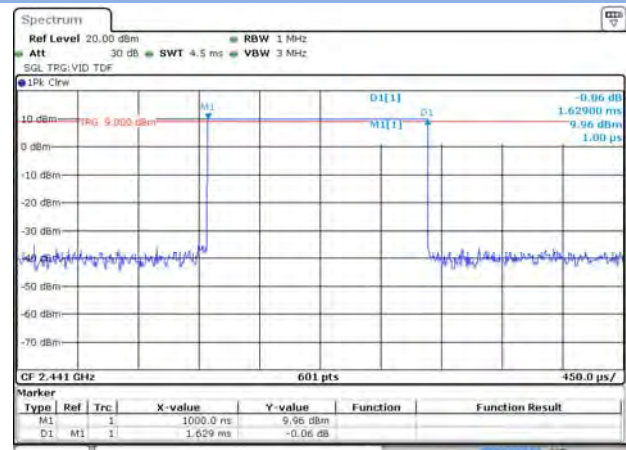
Main Antenna

GFSK DH1



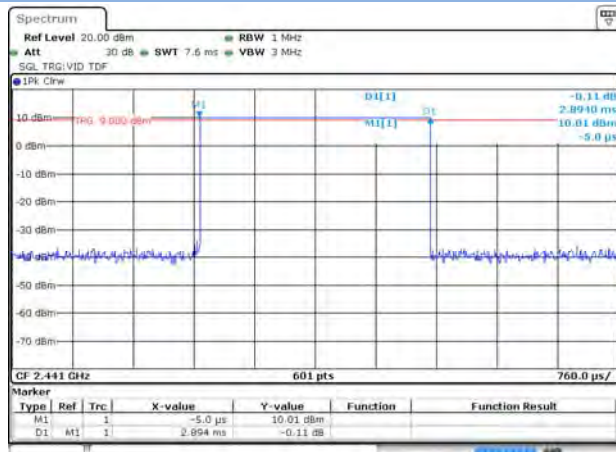
Date: 21 OCT 2020 18:17:51

GFSK DH3



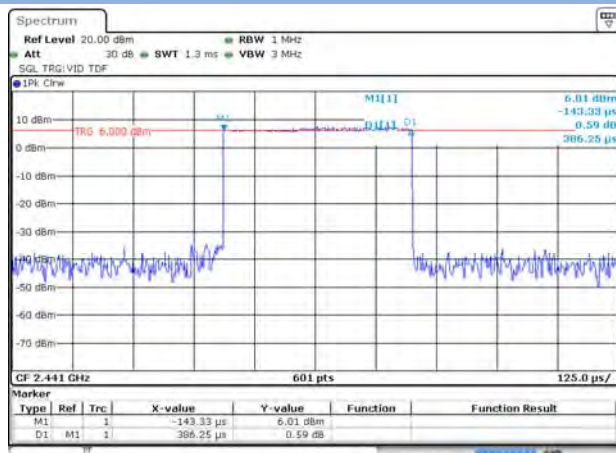
Date: 21 OCT 2020 18:18:38

GFSK DH5



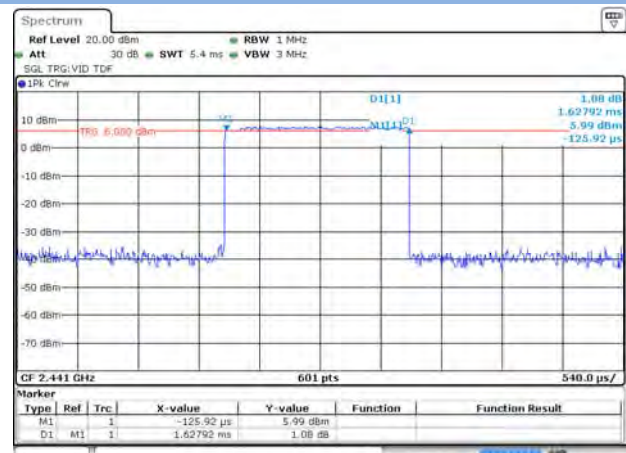
Date: 21 OCT 2020 18:19:52

8-DPSK DH1



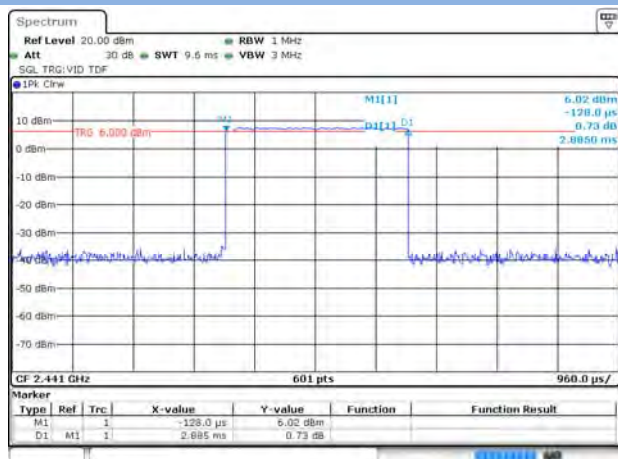
Date: 21 OCT 2020 18:27:29

8-DPSK DH3



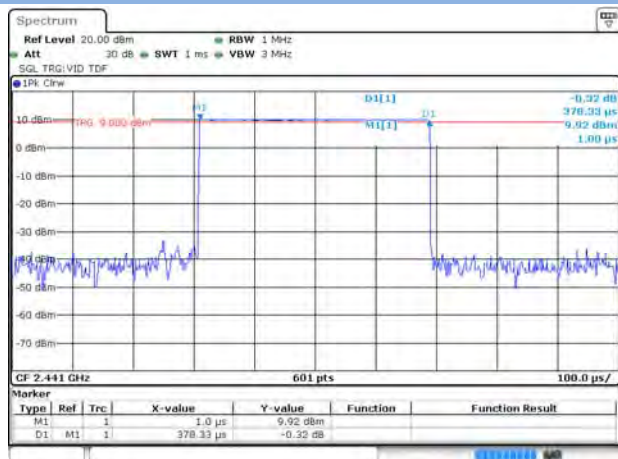
Date: 21 OCT 2020 18:28:34

8-DPSK DH5



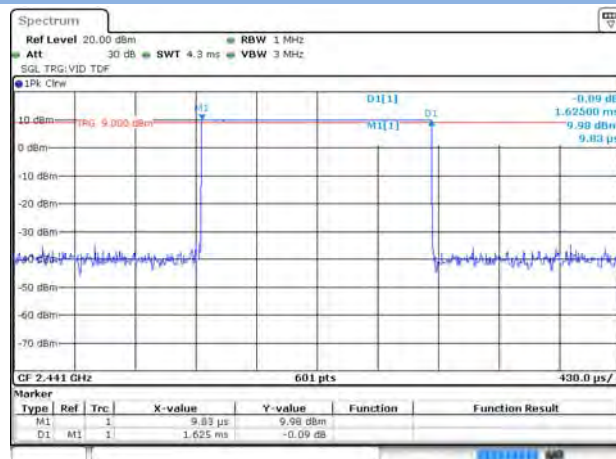
Date: 21 OCT 2020 18:30:07

AFH Mode DH1



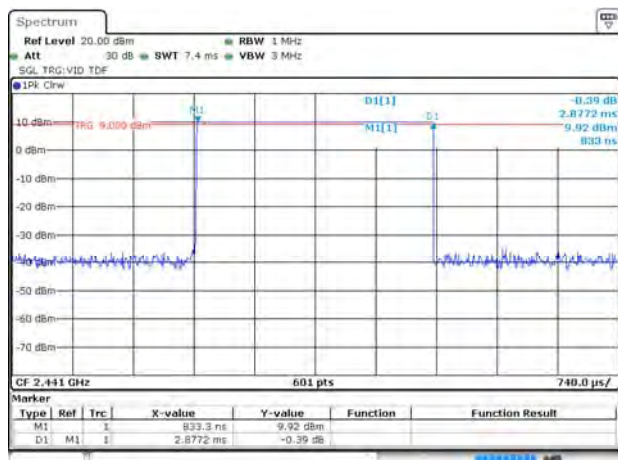
Date: 21 OCT 2020 18:20:57

AFH Mode DH3



Date: 21 OCT 2020 18:21:51

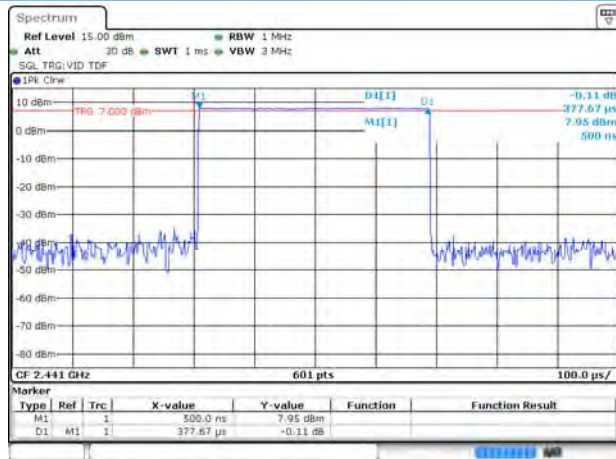
AFH Mode DH5



Date: 21 OCT 2020 18:22:33

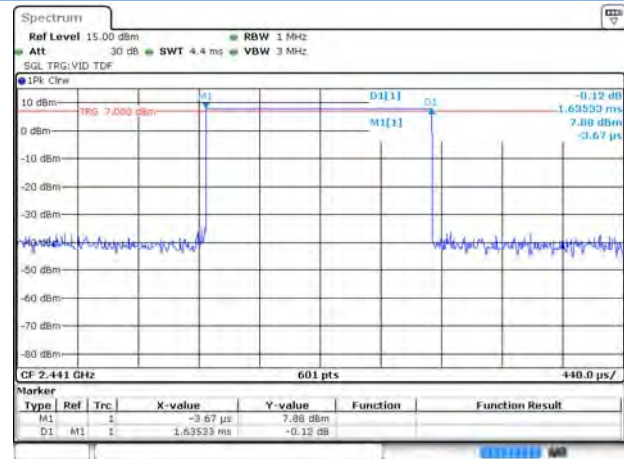
Aux. Antenna

GFSK DH1



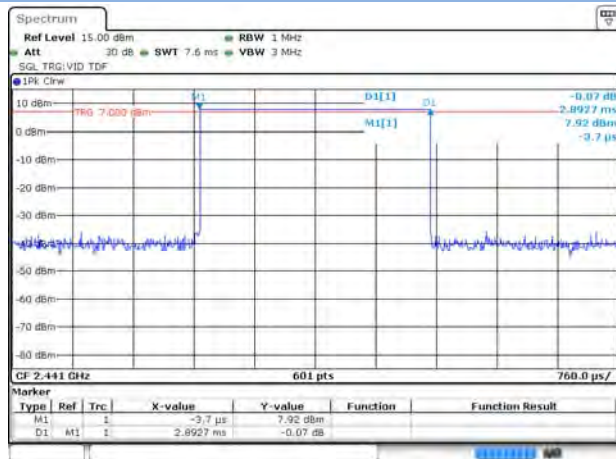
Date: 12 SEP 2020, 14:56:59

GFSK DH3



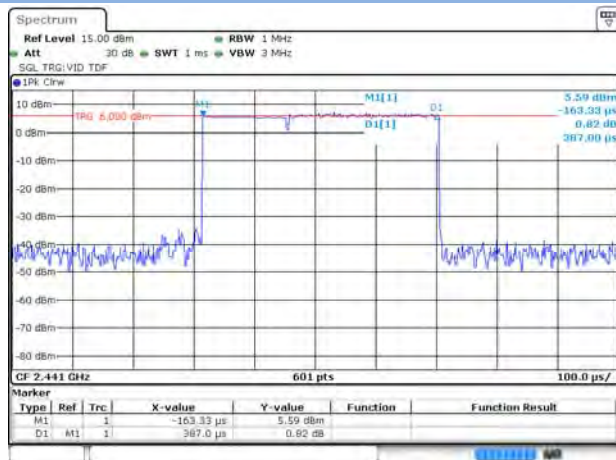
Date: 12 SEP 2020, 14:59:09

GFSK DH5



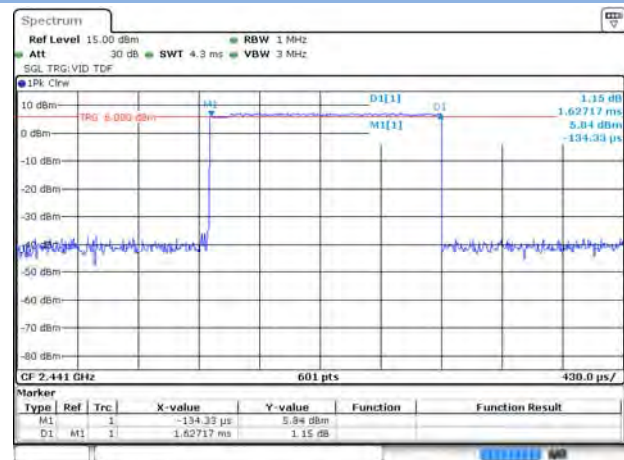
Date: 12 SEP 2020, 15:00:08

8-DPSK DH1



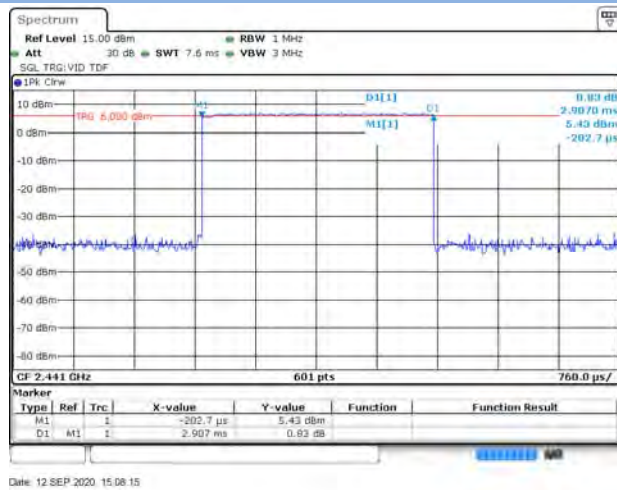
Date: 12 SEP 2020, 15:06:21

8-DPSK DH3

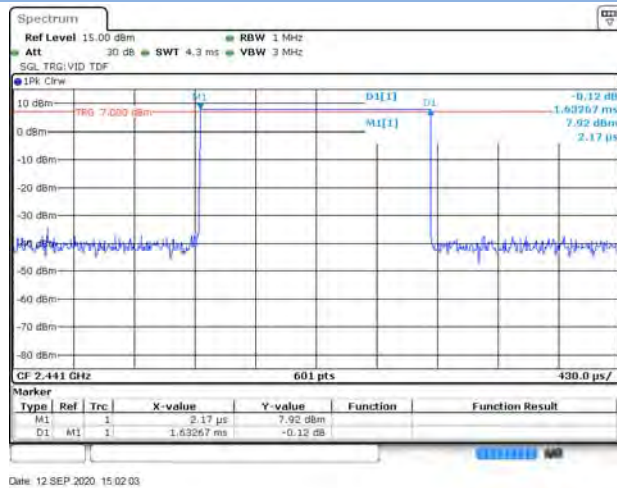


Date: 12 SEP 2020, 15:07:21

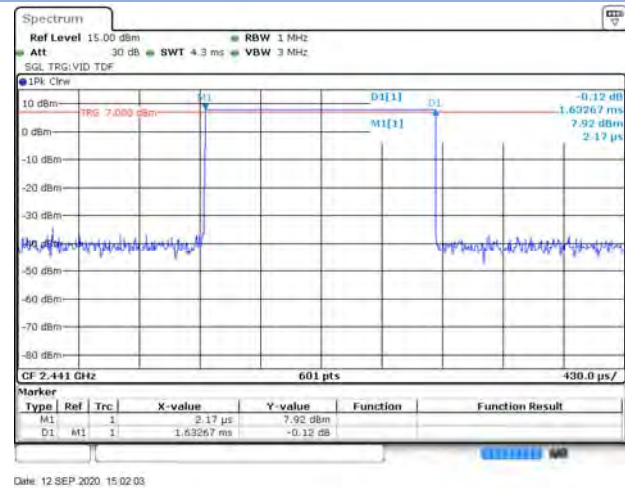
8-DPSK DH5



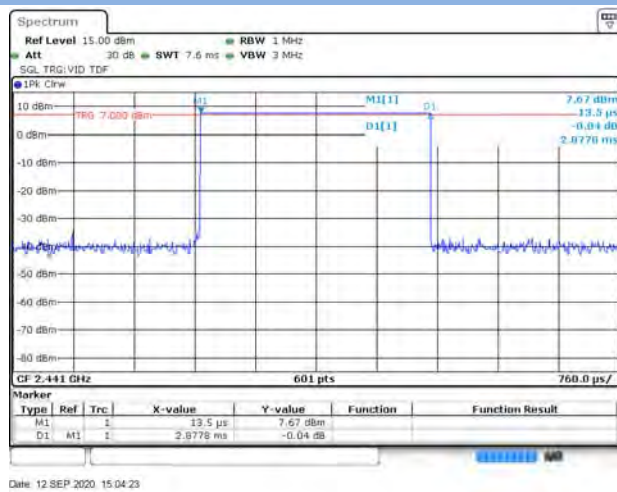
AFH Mode DH1



AFH Mode DH3



AFH Mode DH5



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

Test Data

Main Antenna

GFSK				
Channel	Measured Max. Out of Band Emission (dBm)	Limit (dBm)		Verdict
		Carrier Level	Calculated 20 dBc Limit	
Low	-32.83	7.70	-12.30	Pass
Middle	-31.79	7.60	-12.40	Pass
High	-32.06	7.53	-12.47	Pass
8-DPSK				
Channel	Measured Max. Out of Band Emission (dBm)	Limit (dBm)		Verdict
		Carrier Level	Calculated 20 dBc Limit	
Low	-32.62	5.30	-14.70	Pass
Middle	-32.70	5.15	-14.85	Pass
High	-32.50	5.08	-14.92	Pass
Hopping Mode				
Mode	Measured Max. Out of Band Emission (dBm)	Limit (dBm)		Verdict
		Carrier Level	Calculated 20 dBc Limit	
GFSK	-32.11	7.79	-12.21	Pass
8-DPSK	-32.11	7.79	-12.21	Pass

Aux. Antenna

GFSK				
Channel	Measured Max. Out of Band Emission (dBm)	Limit (dBm)		Verdict
		Carrier Level	Calculated 20 dBc Limit	
Low	-33.01	7.86	-12.14	Pass
Middle	-32.96	7.71	-12.29	Pass
High	-33.73	7.54	-12.46	Pass
8-DPSK				
Channel	Measured Max. Out of Band Emission (dBm)	Limit (dBm)		Verdict
		Carrier Level	Calculated 20 dBc Limit	
Low	-32.62	5.35	-14.65	Pass
Middle	-33.34	5.19	-14.81	Pass
High	-33.81	5.13	-14.87	Pass

Hopping Mode				
Mode	Measured Max. Out of Band Emission (dBm)	Limit (dBm)		Verdict
		Carrier Level	Calculated 20 dBc Limit	
GFSK	-32.52	7.92	-12.08	Pass
8-DPSK	-32.51	5.42	-14.58	Pass

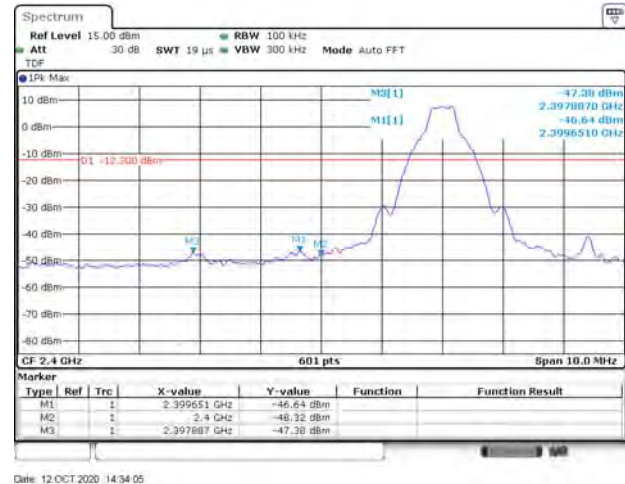
Test Plots

Main Antenna

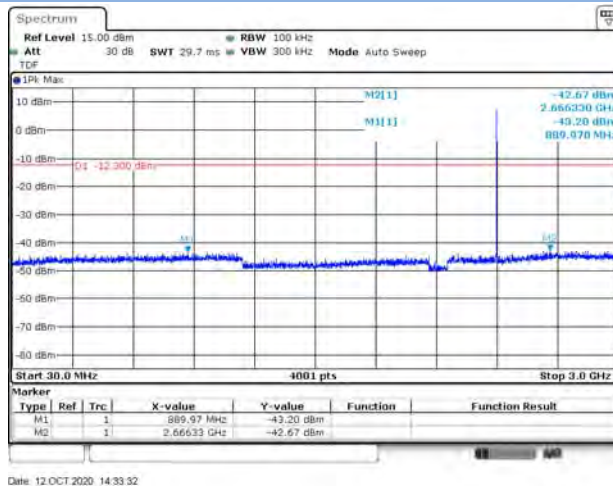
GFSK LOW CHANNEL, CARRIER LEVEL



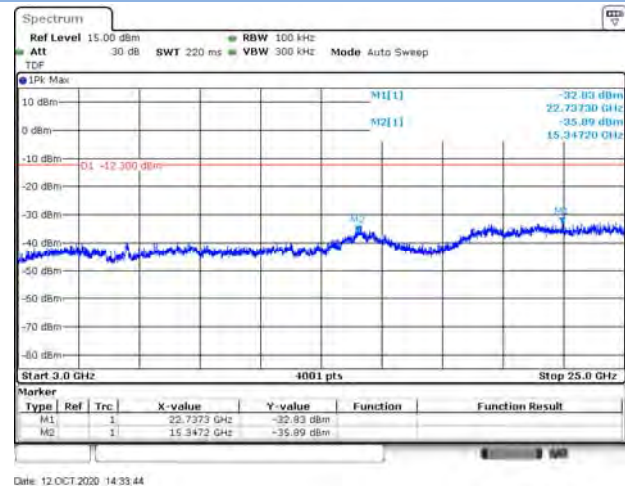
GFSK LOW CHANNEL, BAND EDGE



GFSK LOW CHANNEL, SPURIOUS 30 MHz ~ 3 GHz



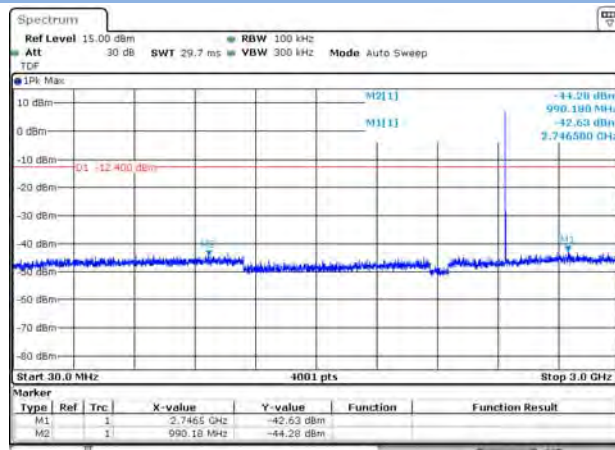
GFSK LOW CHANNEL, SPURIOUS 3 GHz ~ 25 GHz



GFSK MIDDLE CHANNEL, CARRIER LEVEL

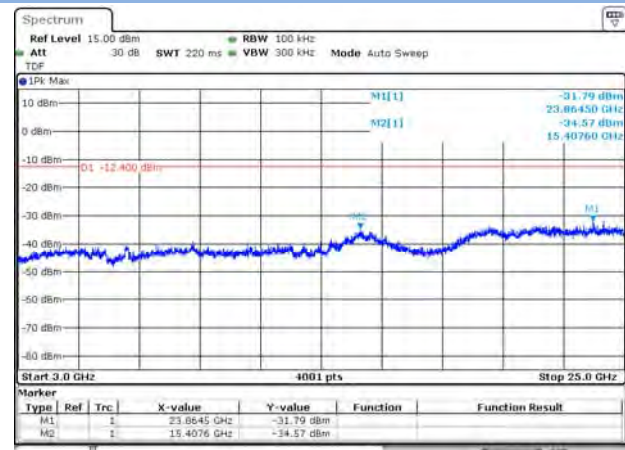


GFSK MIDDLE CHANNEL, SPURIOUS 30 MHz ~ 3 GHz



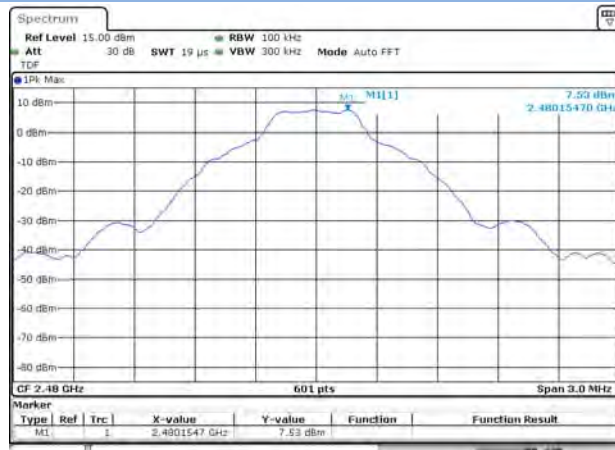
Date: 12 OCT 2020 14:37:23

GFSK MIDDLE CHANNEL, SPURIOUS 3 GHz ~ 25 GHz



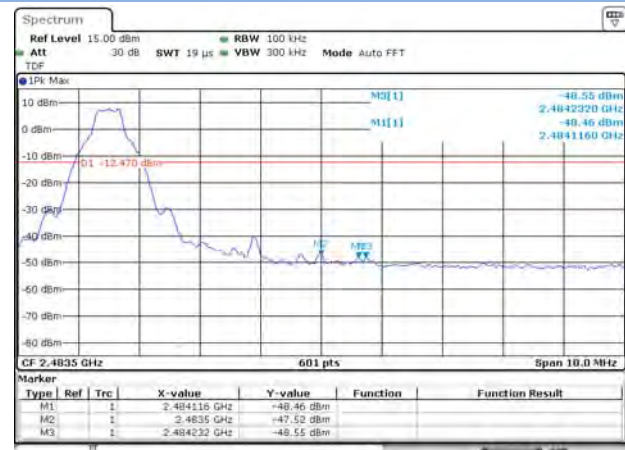
Date: 12 OCT 2020 14:37:35

GFSK HIGH CHANNEL, CARRIER LEVEL



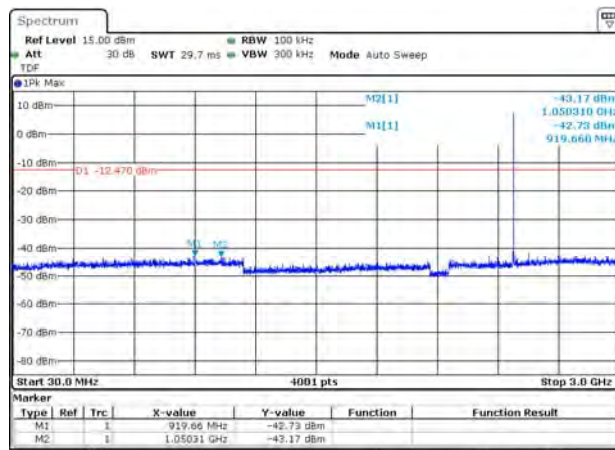
Date: 28 SEP 2020 08:25:13

GFSK HIGH CHANNEL, BAND EDGE



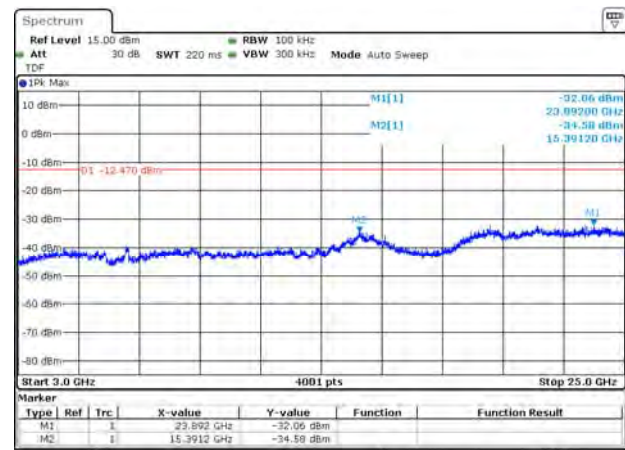
Date: 28 SEP 2020 08:27:34

GFSK HIGH CHANNEL, SPURIOUS 30 MHz ~ 3 GHz



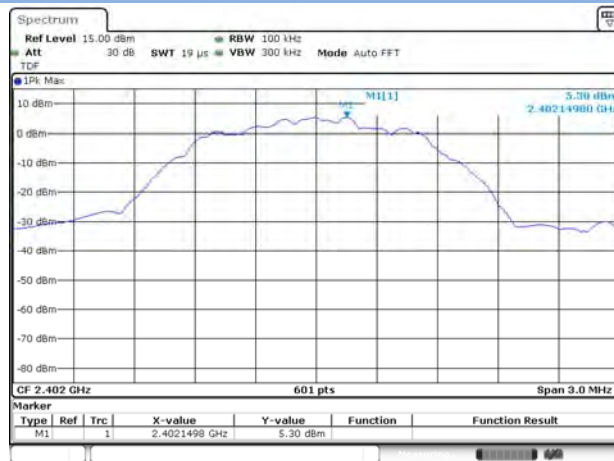
Date: 28 SEP 2020 08:26:21

GFSK HIGH CHANNEL, SPURIOUS 3 GHz ~ 25 GHz



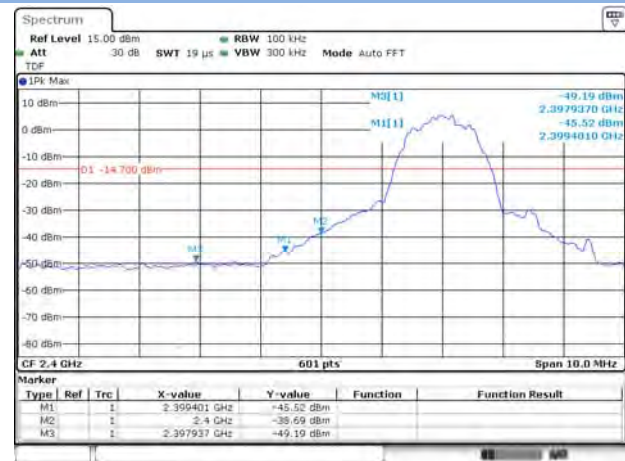
Date: 28 SEP 2020 08:26:50

8-DPSK LOW CHANNEL, CARRIER LEVEL



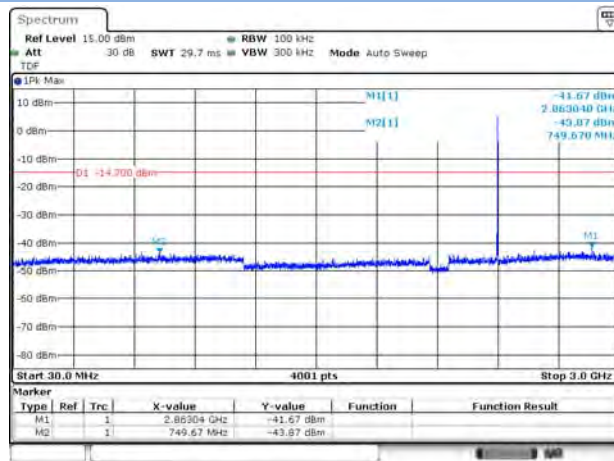
Date: 28 SEP 2020 08:44:36

8-DPSK LOW CHANNEL, BAND EDGE



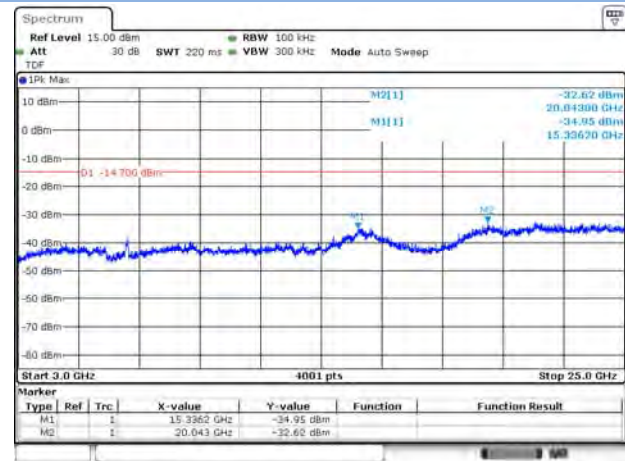
Date: 28 SEP 2020 08:46:12

8-DPSK LOW CHANNEL, SPURIOUS 30 MHz ~ 3 GHz



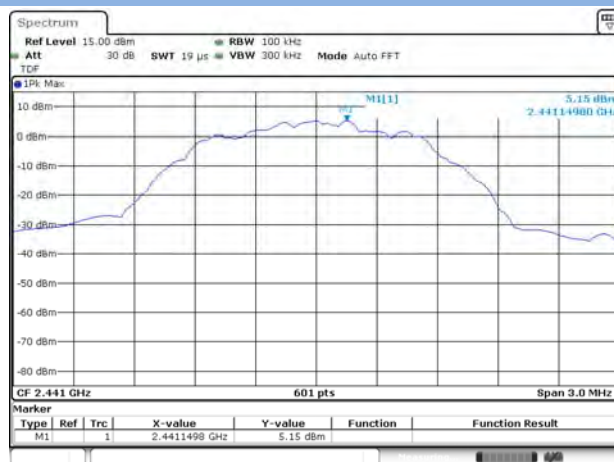
Date: 28 SEP 2020 08:45:28

8-DPSK LOW CHANNEL, SPURIOUS 3 GHz ~ 25 GHz



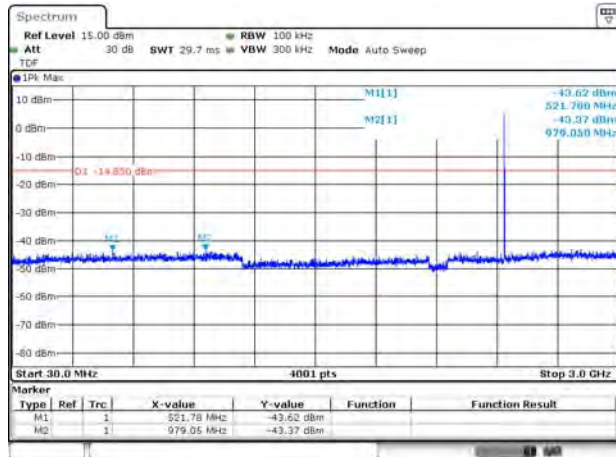
Date: 28 SEP 2020 08:45:48

8-DPSK MIDDLE CHANNEL, CARRIER LEVEL



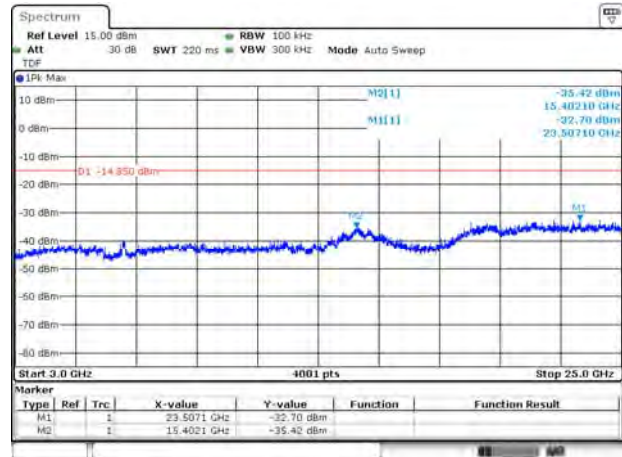
Date: 28 SEP 2020 08:47:48

8-DPSK MIDDLE CHANNEL, SPURIOUS 30 MHz ~ 3 GHz



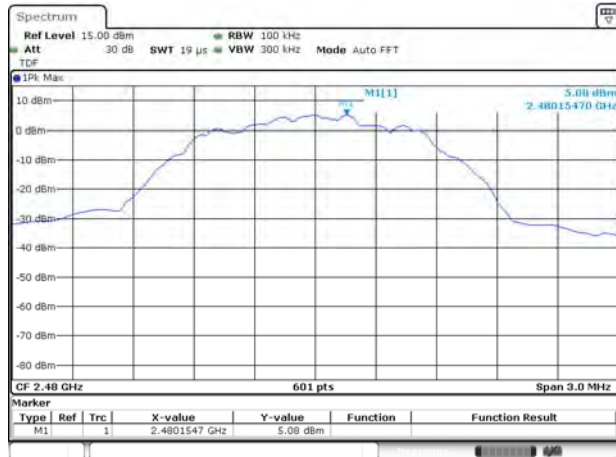
Date: 28.SEP.2020 08:48:27

8-DPSK MIDDLE CHANNEL, SPURIOUS 3 GHz ~ 25 GHz



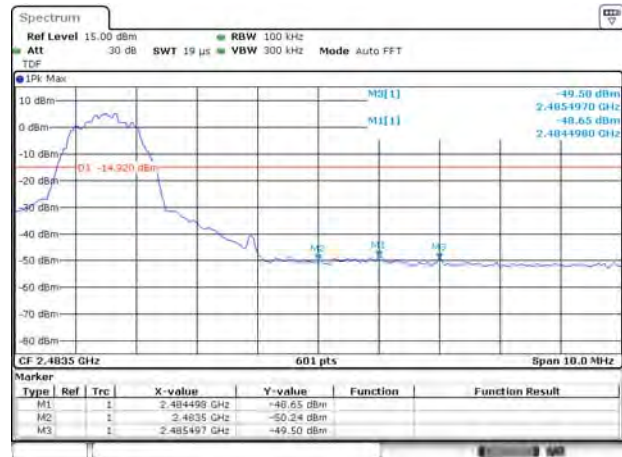
Date: 28.SEP.2020 08:48:43

8-DPSK HIGH CHANNEL, CARRIER LEVEL



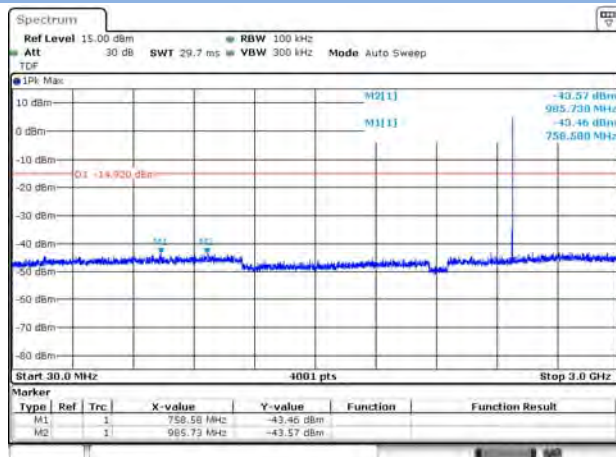
Date: 28.SEP.2020 08:50:40

8-DPSK HIGH CHANNEL, BAND EDGE



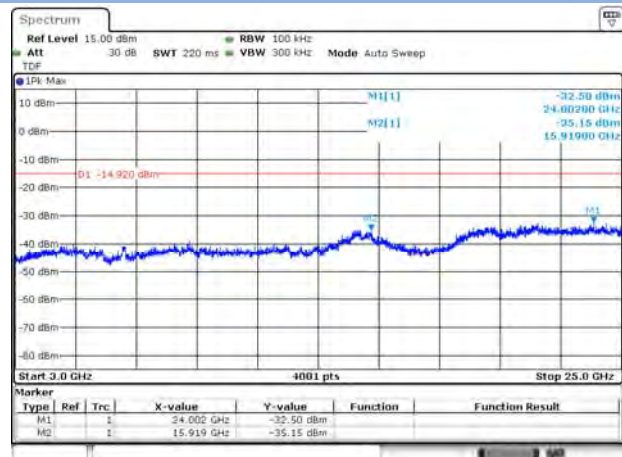
Date: 28.SEP.2020 08:52:20

8-DPSK HIGH CHANNEL, SPURIOUS 30 MHz ~ 3 GHz



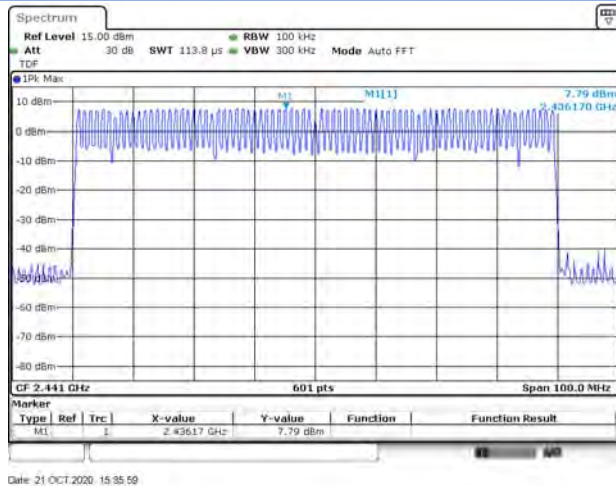
Date: 28.SEP.2020 08:51:30

8-DPSK HIGH CHANNEL, SPURIOUS 3 GHz ~ 25 GHz

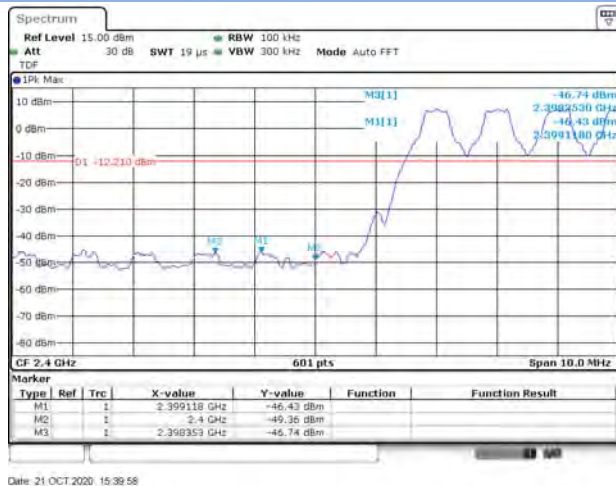


Date: 28.SEP.2020 08:51:47

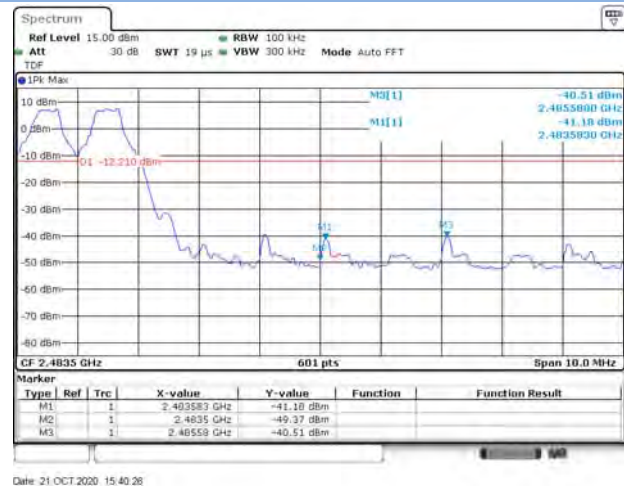
GFSK HOPPING, CARRIER LEVEL



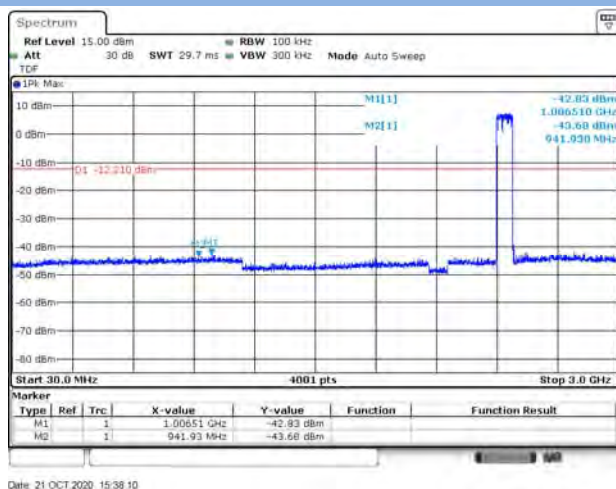
GFSK HOPPING BAND EDGE (LOW)



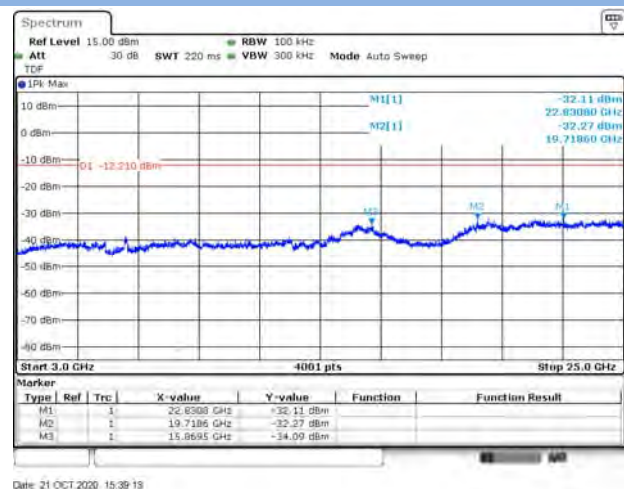
GFSK HOPPING BAND EDGE (HIGH)



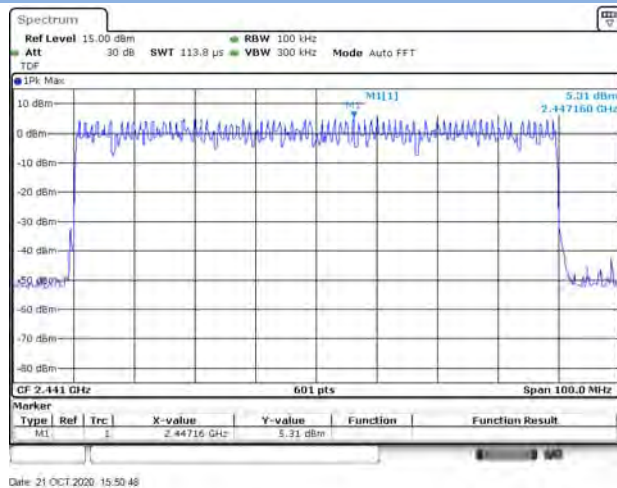
GFSK Hopping Mode, SPURIOUS 30 MHz ~ 3 GHz



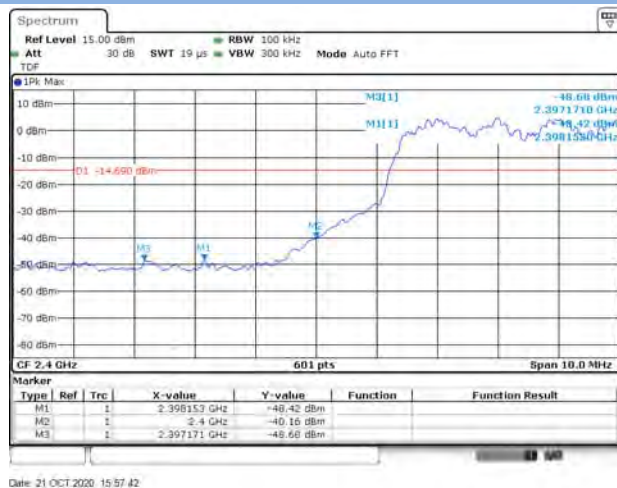
GFSK Hopping Mode, SPURIOUS 30 3GHz ~ 25 GHz



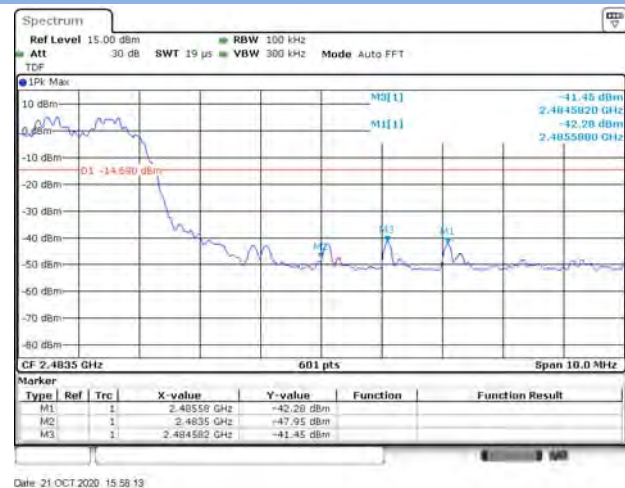
8-DPSK HOPPING, CARRIER LEVEL



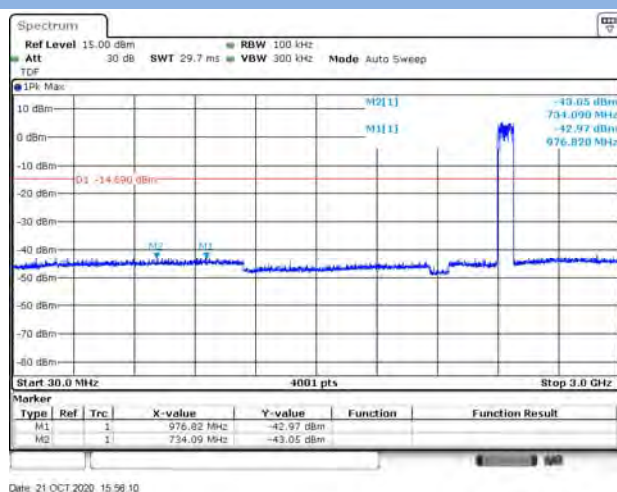
8-DPSK Hopping BAND EDGE (LOW)



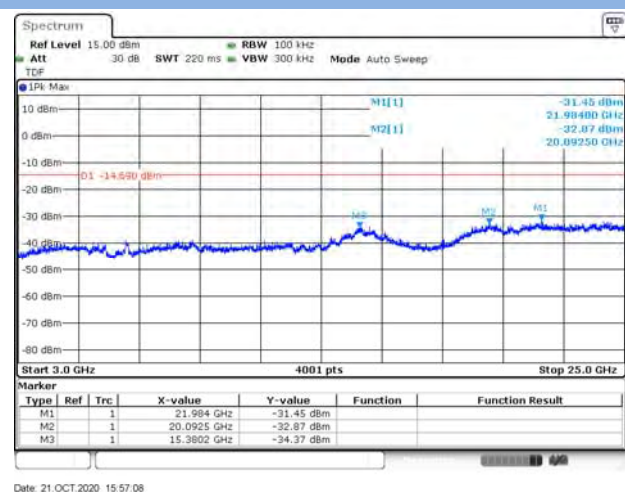
8-DPSK Hopping BAND EDGE (HIGH)



8-DPSK Hopping Mode, SPURIOUS 30 MHz ~ 3 GHz



8-DPSK Hopping Mode, SPURIOUS 30 3GHz ~ 25 GHz

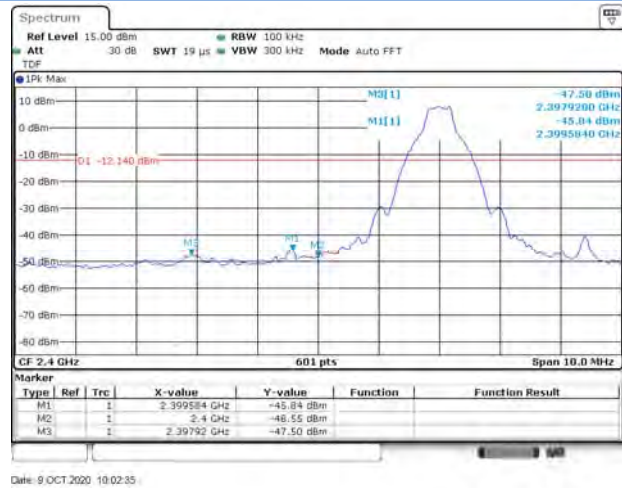


Aux. Antenna

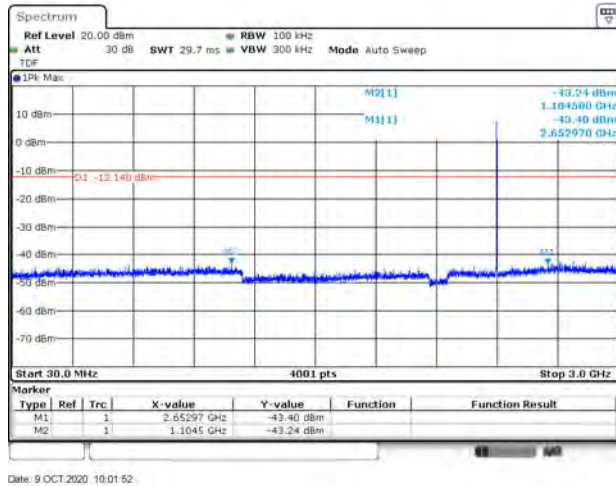
GFSK LOW CHANNEL, CARRIER LEVEL



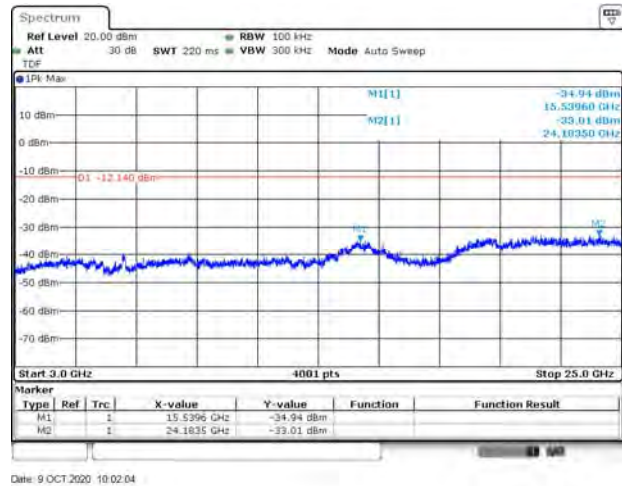
GFSK LOW CHANNEL, BAND EDGE



GFSK LOW CHANNEL, SPURIOUS 30 MHz ~ 3 GHz



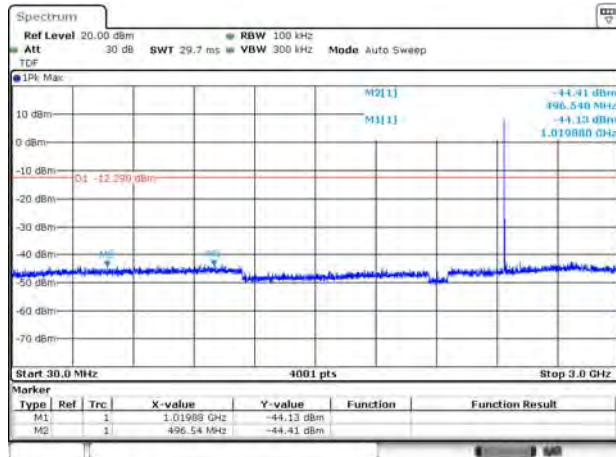
GFSK LOW CHANNEL, SPURIOUS 3 GHz ~ 25 GHz



GFSK MIDDLE CHANNEL, CARRIER LEVEL

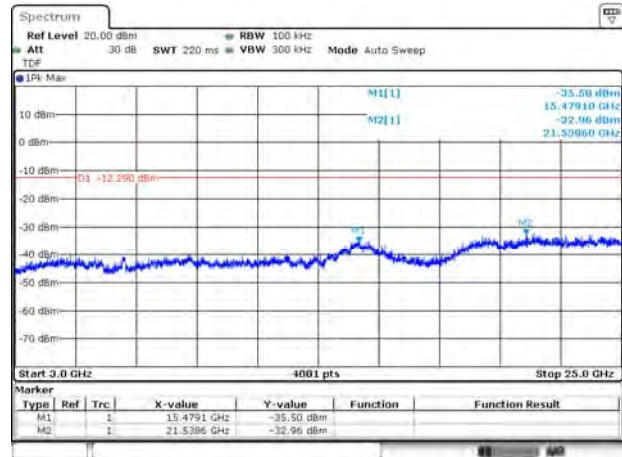


GFSK MIDDLE CHANNEL, SPURIOUS 30 MHz ~ 3 GHz



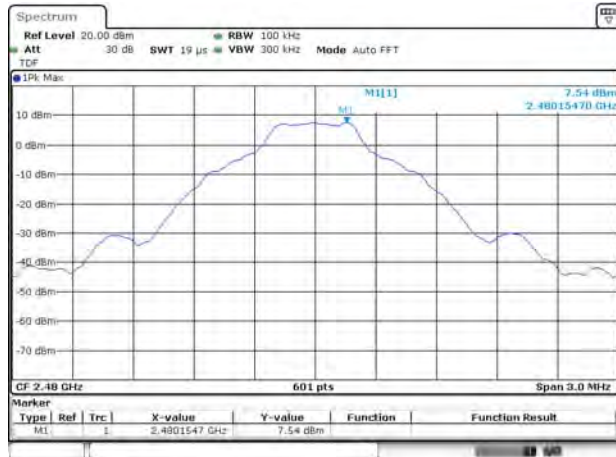
Date: 9 OCT 2020 10:08:09

GFSK MIDDLE CHANNEL, SPURIOUS 3 GHz ~ 25 GHz



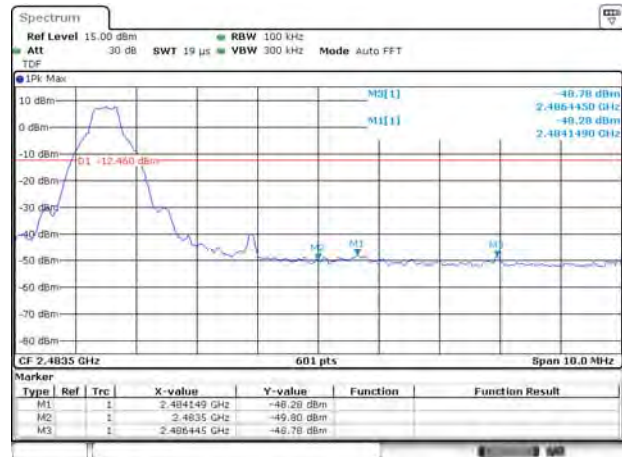
Date: 9 OCT 2020 10:08:24

GFSK HIGH CHANNEL, CARRIER LEVEL



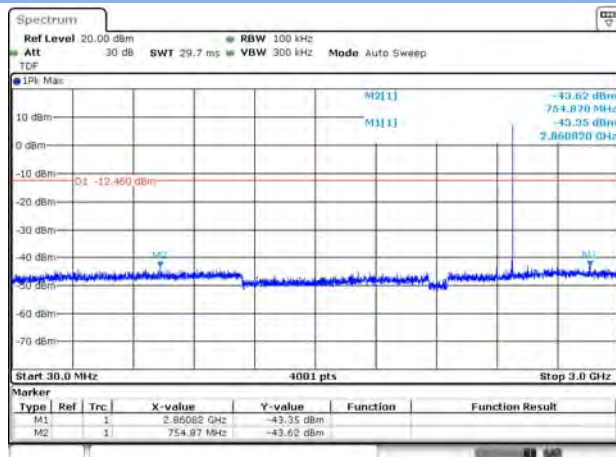
Date: 9 OCT 2020 10:10:33

GFSK HIGH CHANNEL, BAND EDGE



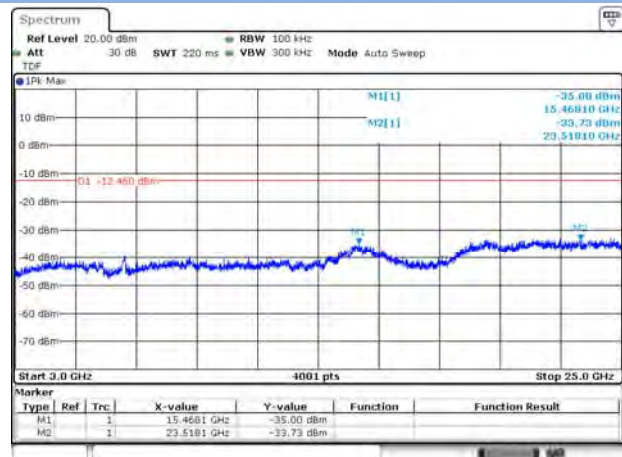
Date: 9 OCT 2020 10:11:43

GFSK HIGH CHANNEL, SPURIOUS 30 MHz ~ 3 GHz



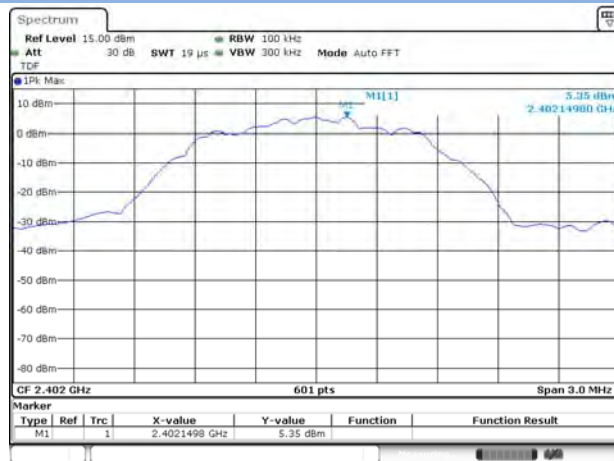
Date: 9 OCT 2020 10:10:58

GFSK HIGH CHANNEL, SPURIOUS 3 GHz ~ 25 GHz



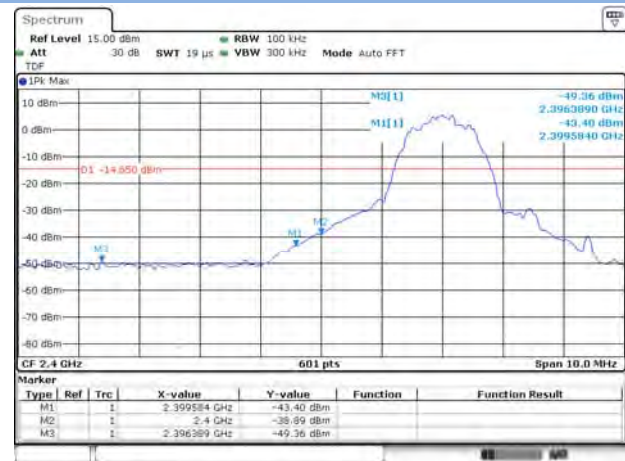
Date: 9 OCT 2020 10:11:12

8-DPSK LOW CHANNEL, CARRIER LEVEL



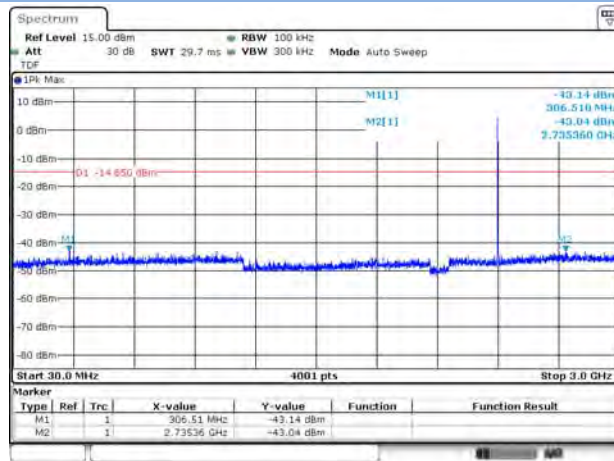
Date: 9 OCT 2020 10:28:24

8-DPSK LOW CHANNEL, BAND EDGE



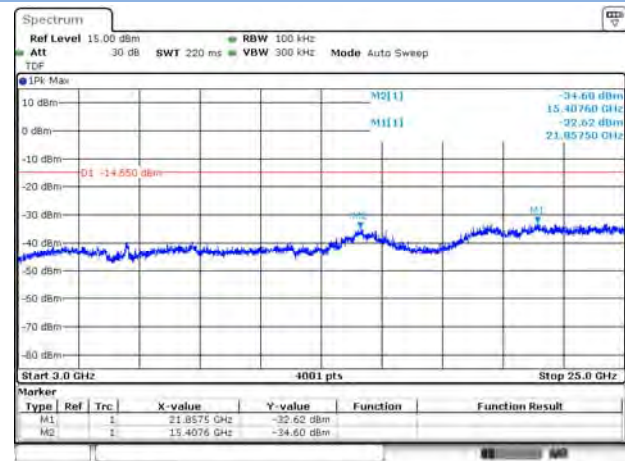
Date: 9 OCT 2020 10:29:51

8-DPSK LOW CHANNEL, SPURIOUS 30 MHz ~ 3 GHz



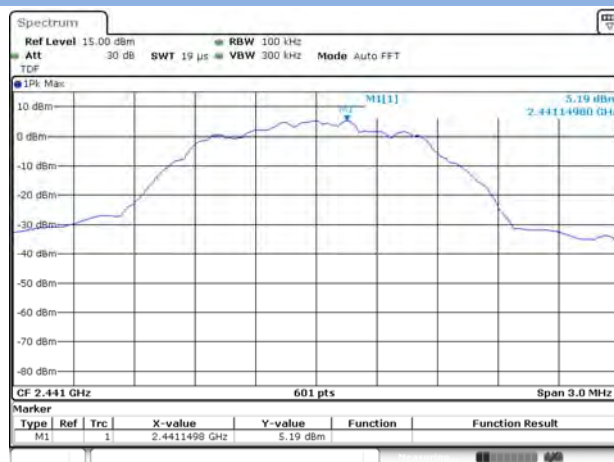
Date: 9 OCT 2020 10:29:06

8-DPSK LOW CHANNEL, SPURIOUS 3 GHz ~ 25 GHz



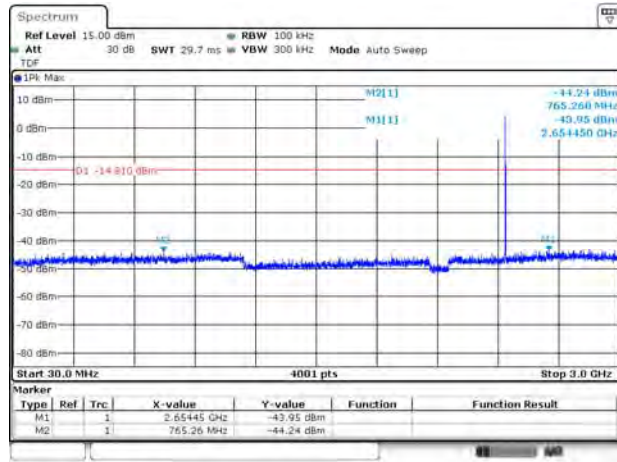
Date: 9 OCT 2020 10:29:20

8-DPSK MIDDLE CHANNEL, CARRIER LEVEL



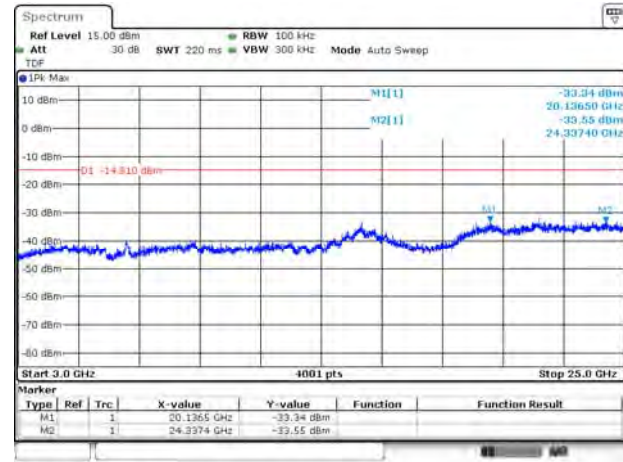
Date: 9 OCT 2020 10:31:40

8-DPSK MIDDLE CHANNEL, SPURIOUS 30 MHz ~ 3 GHz



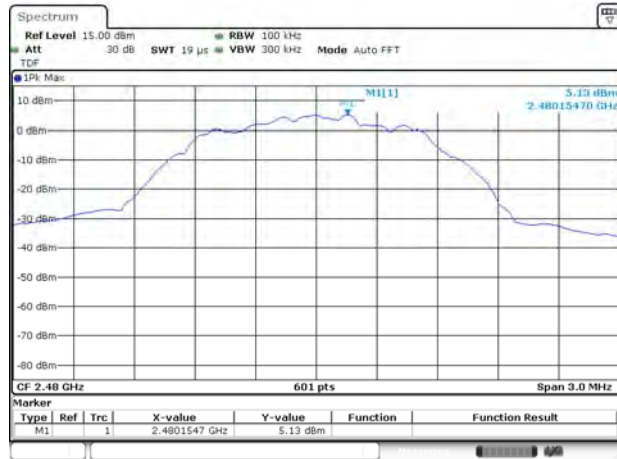
Date: 9 OCT 2020 10:32:07

8-DPSK MIDDLE CHANNEL, SPURIOUS 3 GHz ~ 25 GHz



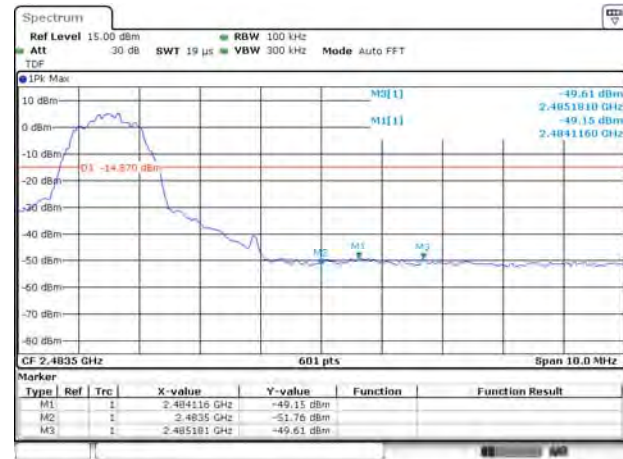
Date: 9 OCT 2020 10:32:22

8-DPSK HIGH CHANNEL, CARRIER LEVEL



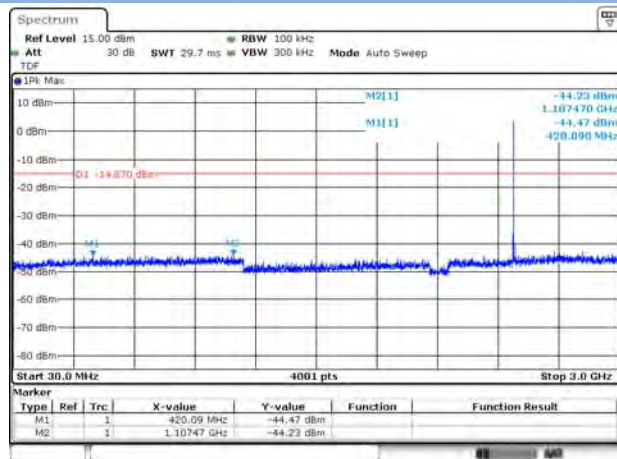
Date: 9 OCT 2020 10:34:01

8-DPSK HIGH CHANNEL, BAND EDGE



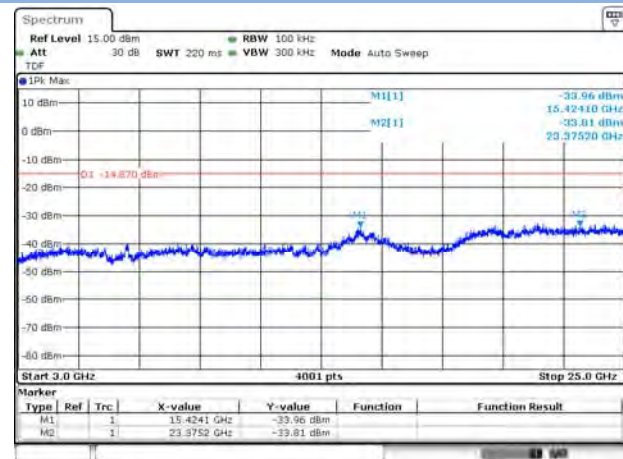
Date: 9 OCT 2020 10:35:04

8-DPSK HIGH CHANNEL, SPURIOUS 30 MHz ~ 3 GHz



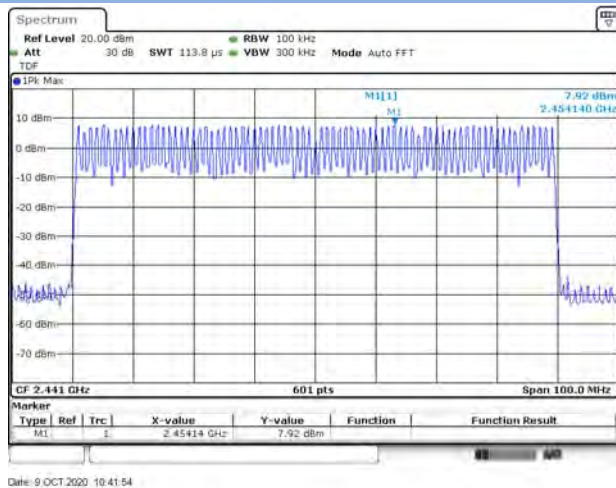
Date: 9 OCT 2020 10:34:23

8-DPSK HIGH CHANNEL, SPURIOUS 3 GHz ~ 25 GHz

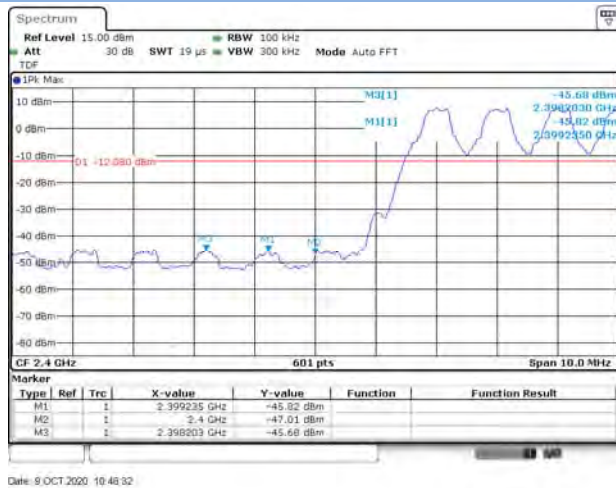


Date: 9 OCT 2020 10:34:35

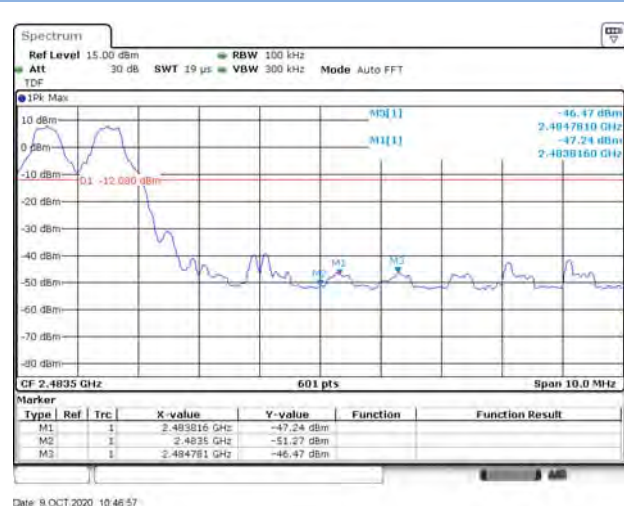
GFSK HOPPING, CARRIER LEVEL



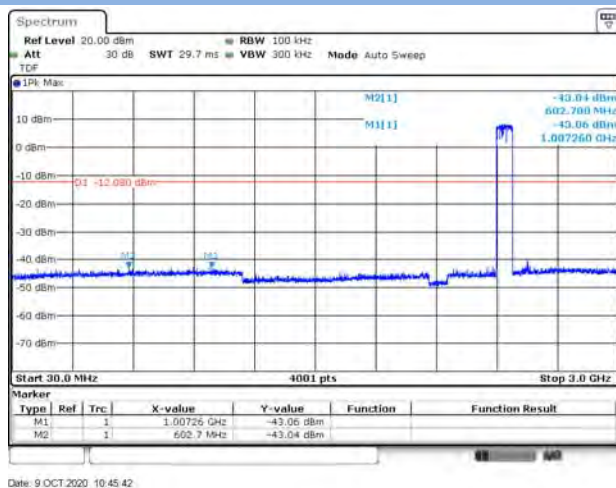
GFSK HOPPING BAND EDGE (LOW)



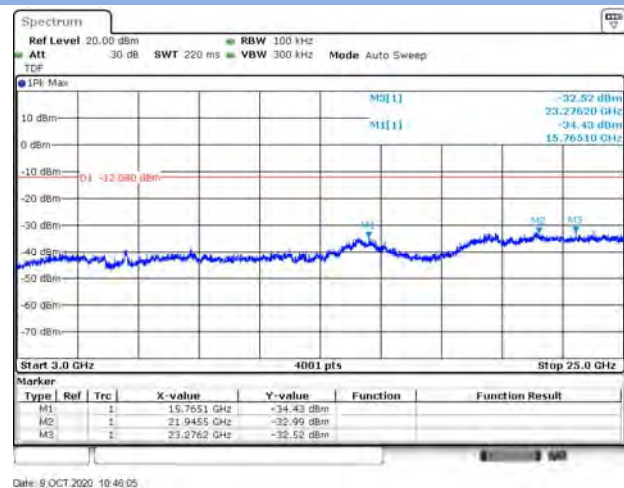
GFSK HOPPING BAND EDGE (HIGH)



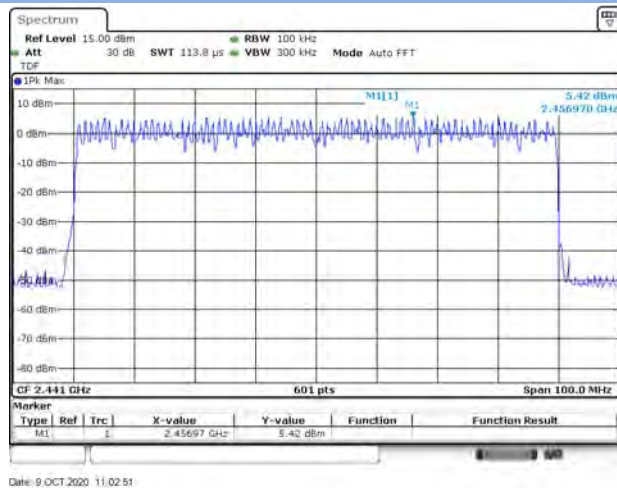
GFSK Hopping Mode, SPURIOUS 30 MHz ~ 3 GHz



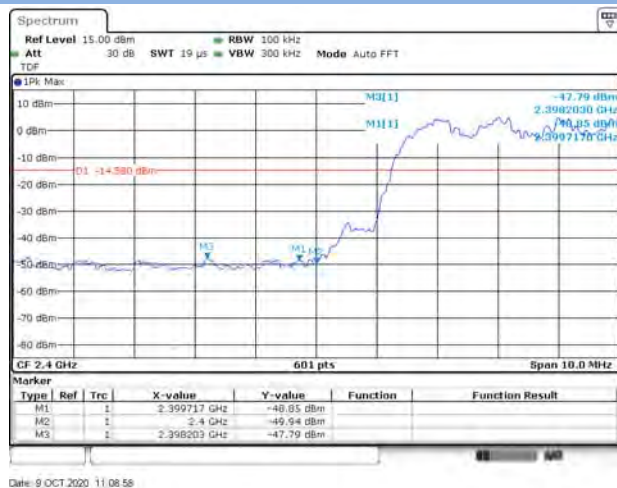
GFSK Hopping Mode, SPURIOUS 30 3GHz ~ 25 GHz



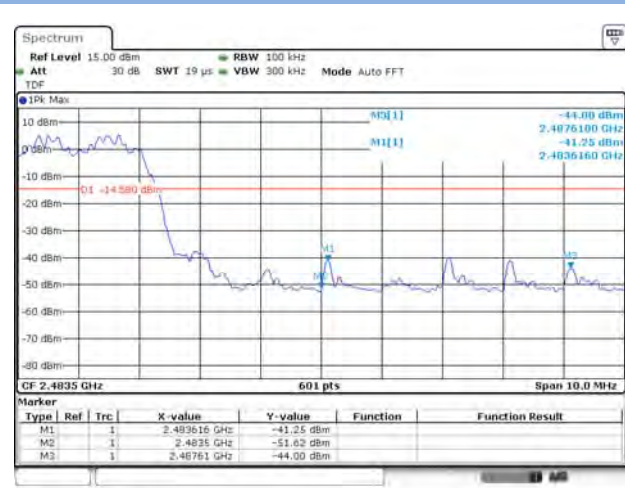
8-DPSK HOPPING, CARRIER LEVEL



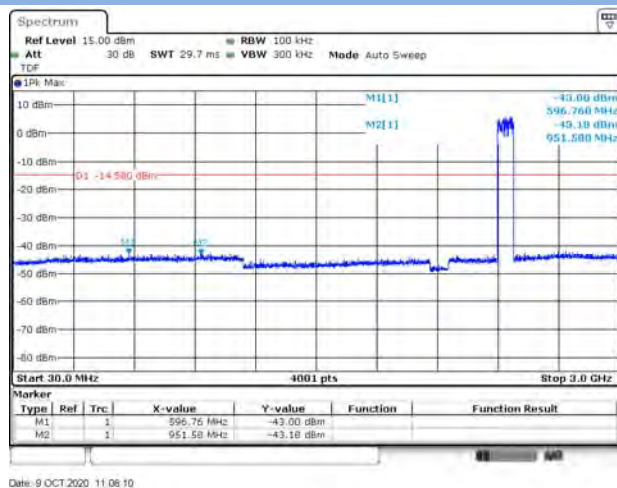
8-DPSK Hopping BAND EDGE (LOW)



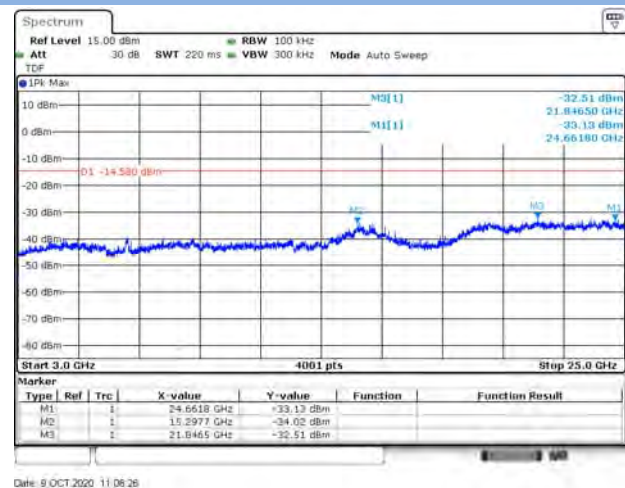
8-DPSK Hopping BAND EDGE (HIGH)



8-DPSK Hopping Mode, SPURIOUS 30 MHz ~ 3 GHz



8-DPSK Hopping Mode, SPURIOUS 30 3GHz ~ 25 GHz



A.7 Conducted Emissions

Note¹: The EUT is working in the Normal link mode. All modes have been tested and normal link mode is worst.
 Note²: 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 (240 VAC, 50 Hz) shown here.

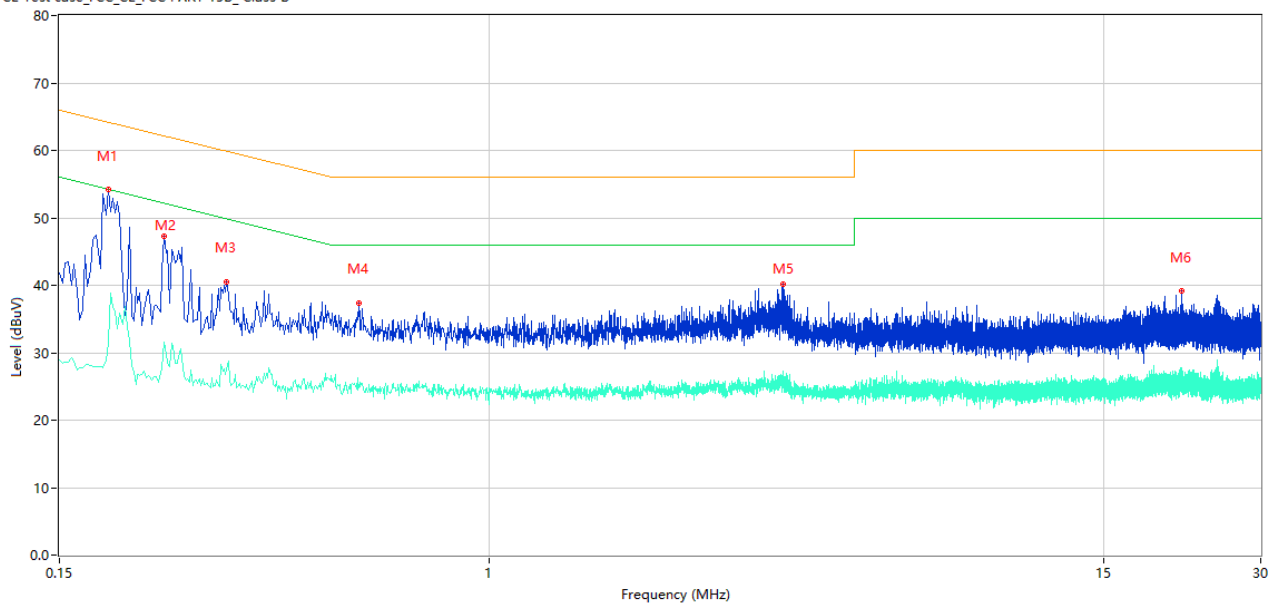
Note³: Results (dBuV) = Original reading level of Spectrum Analyzer (dBuV) + Factor (dB)

Test Data and Plots

Speed

PHASE L

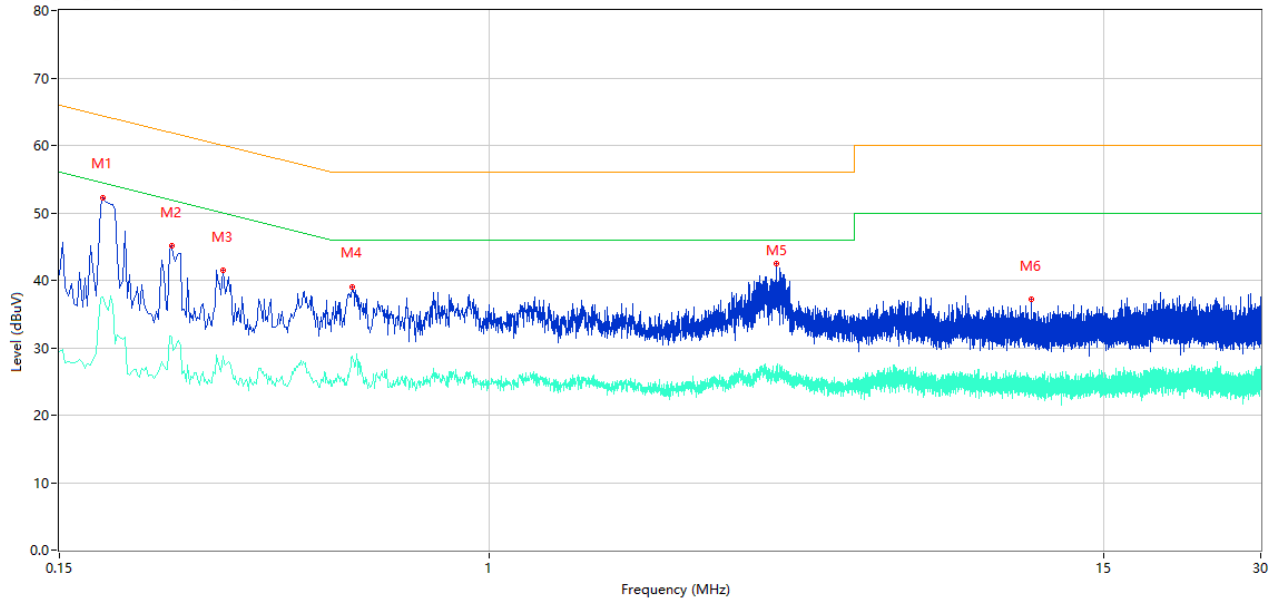
CE Test case_FCC_CE_FCC PART 15B_Class B



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Over Limit (dB)	Detector	Line	Verdict
1	0.186	54.24	10.39	64.21	-9.97	Peak	L	Pass
1**	0.186	31.62	10.39	54.21	-22.59	AV	L	Pass
2	0.238	47.22	10.35	62.17	-14.95	Peak	L	Pass
2**	0.238	31.57	10.35	52.17	-20.60	AV	L	Pass
3	0.314	40.55	10.33	59.86	-19.31	Peak	L	Pass
3**	0.314	27.68	10.33	49.86	-22.18	AV	L	Pass
4	0.562	37.37	10.28	56.00	-18.63	Peak	L	Pass
4**	0.562	24.90	10.28	46.00	-21.10	AV	L	Pass
5	3.642	40.10	10.30	56.00	-15.90	Peak	L	Pass
5**	3.642	26.24	10.30	46.00	-19.76	AV	L	Pass
6	21.176	39.23	10.57	60.00	-20.77	Peak	L	Pass
6**	21.176	26.37	10.57	50.00	-23.63	AV	L	Pass

PHASE N

CE Test case_FCC_CE_FCC PART 15B_ Class B

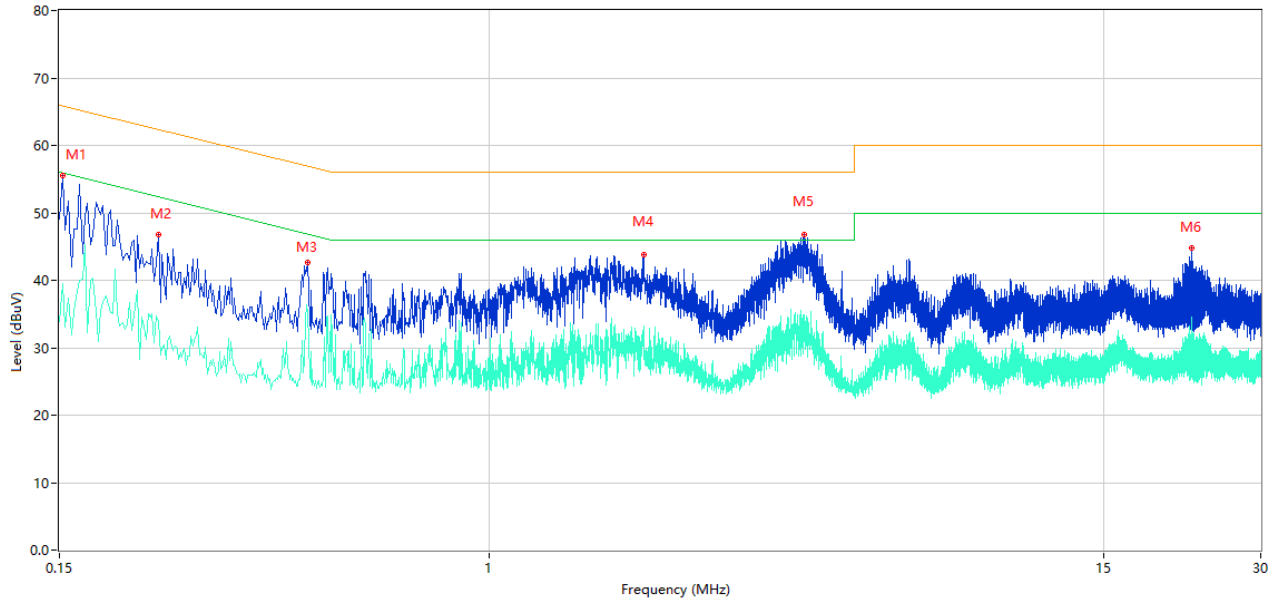


No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Over Limit (dB)	Detector	Line	Verdict
1	0.182	52.30	10.39	64.39	-12.09	Peak	N	Pass
1**	0.182	37.50	10.39	54.39	-16.89	AV	N	Pass
2	0.246	45.07	10.34	61.89	-16.82	Peak	N	Pass
2**	0.246	31.56	10.34	51.89	-20.33	AV	N	Pass
3	0.308	41.51	10.33	60.02	-18.51	Peak	N	Pass
3**	0.308	28.79	10.33	50.02	-21.23	AV	N	Pass
4	0.546	39.04	10.29	56.00	-16.96	Peak	N	Pass
4**	0.546	28.72	10.29	46.00	-17.28	AV	N	Pass
5	3.540	42.55	10.30	56.00	-13.45	Peak	N	Pass
5**	3.540	26.70	10.30	46.00	-19.30	AV	N	Pass
6	10.934	37.25	10.37	60.00	-22.75	Peak	N	Pass
6**	10.934	25.30	10.37	50.00	-24.70	AV	N	Pass

South Star

PHASE L

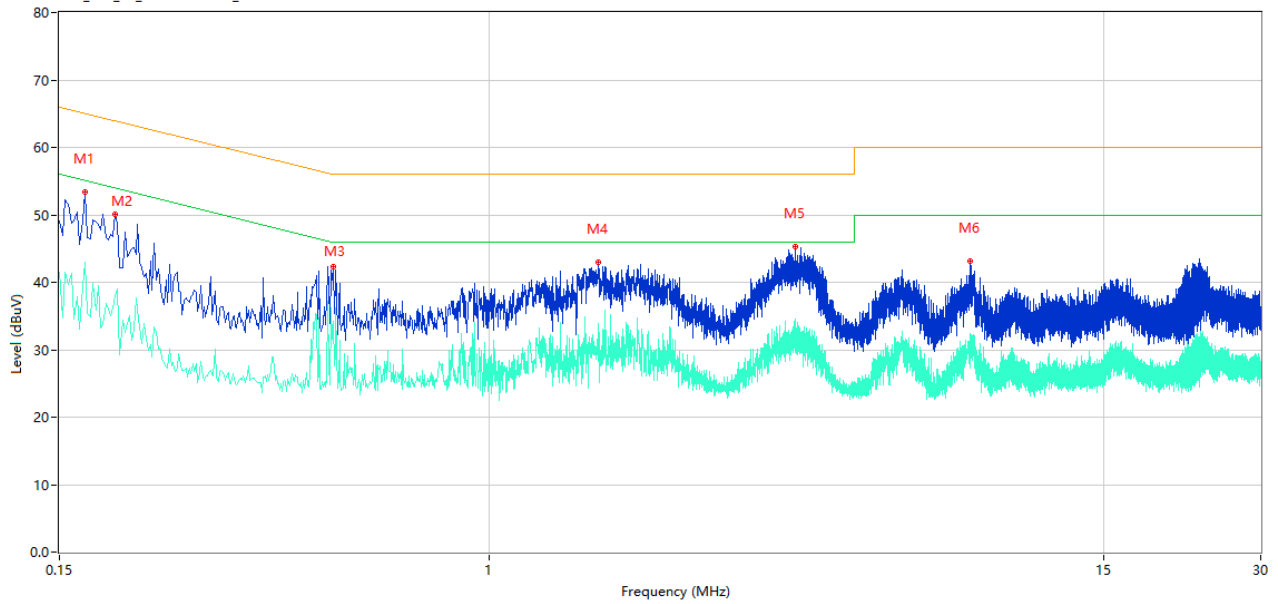
CE Test case_FCC_CE_FCC PART 15B_ Class B



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Over Limit (dB)	Detector	Line	Verdict
1	0.152	55.60	10.41	65.89	-10.29	Peak	L	Pass
1**	0.152	39.48	10.41	55.89	-16.41	AV	L	Pass
2	0.232	46.80	10.36	62.38	-15.58	Peak	L	Pass
2**	0.232	33.87	10.36	52.38	-18.51	AV	L	Pass
3	0.448	42.65	10.30	56.91	-14.26	Peak	L	Pass
3**	0.448	35.42	10.30	46.91	-11.49	AV	L	Pass
4	1.972	43.78	10.26	56.00	-12.22	Peak	L	Pass
4**	1.972	33.30	10.26	46.00	-12.70	AV	L	Pass
5	4.014	46.81	10.29	56.00	-9.19	Peak	L	Pass
5**	4.014	34.88	10.29	46.00	-11.12	AV	L	Pass
6	22.084	44.75	10.59	60.00	-15.25	Peak	L	Pass
6**	22.084	32.34	10.59	50.00	-17.66	AV	L	Pass

PHASE N

CE Test case_FCC_CE FCC PART 15B_ Class B



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Over Limit (dB)	Detector	Line	Verdict
1	0.168	53.42	10.40	65.06	-11.64	Peak	N	Pass
1**	0.168	42.97	10.40	55.06	-12.09	AV	N	Pass
2	0.192	50.08	10.38	63.95	-13.87	Peak	N	Pass
2**	0.192	38.09	10.38	53.95	-15.86	AV	N	Pass
3	0.502	42.31	10.30	56.00	-13.69	Peak	N	Pass
3**	0.502	34.20	10.30	46.00	-11.80	AV	N	Pass
4	1.618	42.92	10.26	56.00	-13.08	Peak	N	Pass
4**	1.618	33.90	10.26	46.00	-12.10	AV	N	Pass
5	3.846	45.26	10.29	56.00	-10.74	Peak	N	Pass
5**	3.846	34.50	10.29	46.00	-11.50	AV	N	Pass
6	8.326	43.07	10.34	60.00	-16.93	Peak	N	Pass
6**	8.326	32.40	10.34	50.00	-17.60	AV	N	Pass

A.8 Radiated Spurious Emission

Test Data and Plots

Note¹: The symbol of "--" in the table which means not application.

Note²: 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.

Note³: The EUT is working in the Normal link mode below 1 GHz. All modes have been tested and DH5-Hopping mode is the worst.

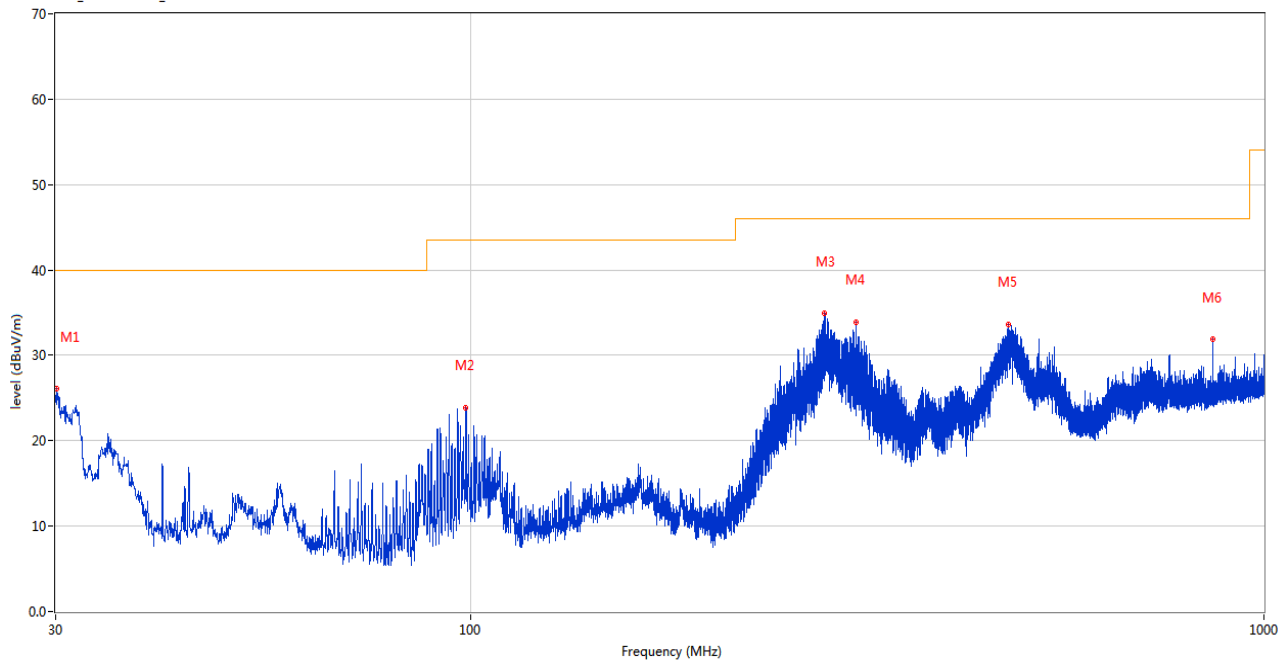
Note⁴: Results (dBuV/m) = Original reading level of Spectrum Analyzer (dBuV/m) + Factor (dB)

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.

Speed

30 MHz to 1 GHz, ANT H

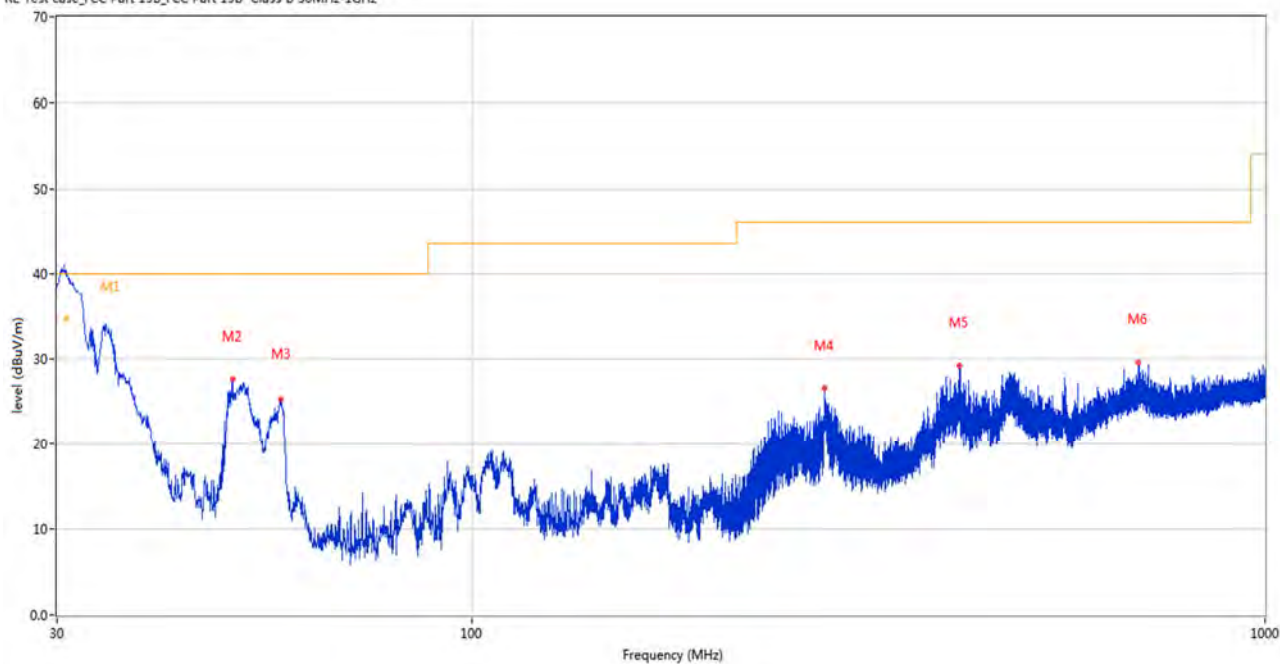
RE Test case_FCC Part 15B_FCC Part 15B Class B 30MHz-1GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	30.049	26.06	-27.19	40.0	-13.94	Peak	339.00	200	Horizontal	Pass
2	98.676	23.85	-29.39	43.5	-19.65	Peak	143.00	200	Horizontal	Pass
3	279.581	34.90	-24.98	46.0	-11.10	Peak	234.00	100	Horizontal	Pass
4	306.110	33.81	-24.02	46.0	-12.19	Peak	98.00	100	Horizontal	Pass
5	475.861	33.56	-19.39	46.0	-12.44	Peak	131.00	200	Horizontal	Pass
6	862.503	31.89	-12.21	46.0	-14.11	Peak	127.00	100	Horizontal	Pass

30 MHz to 1 GHz, ANT V

RE Test case_FCC Part 15B_FCC Part 15B Class B 30MHz-1GHz

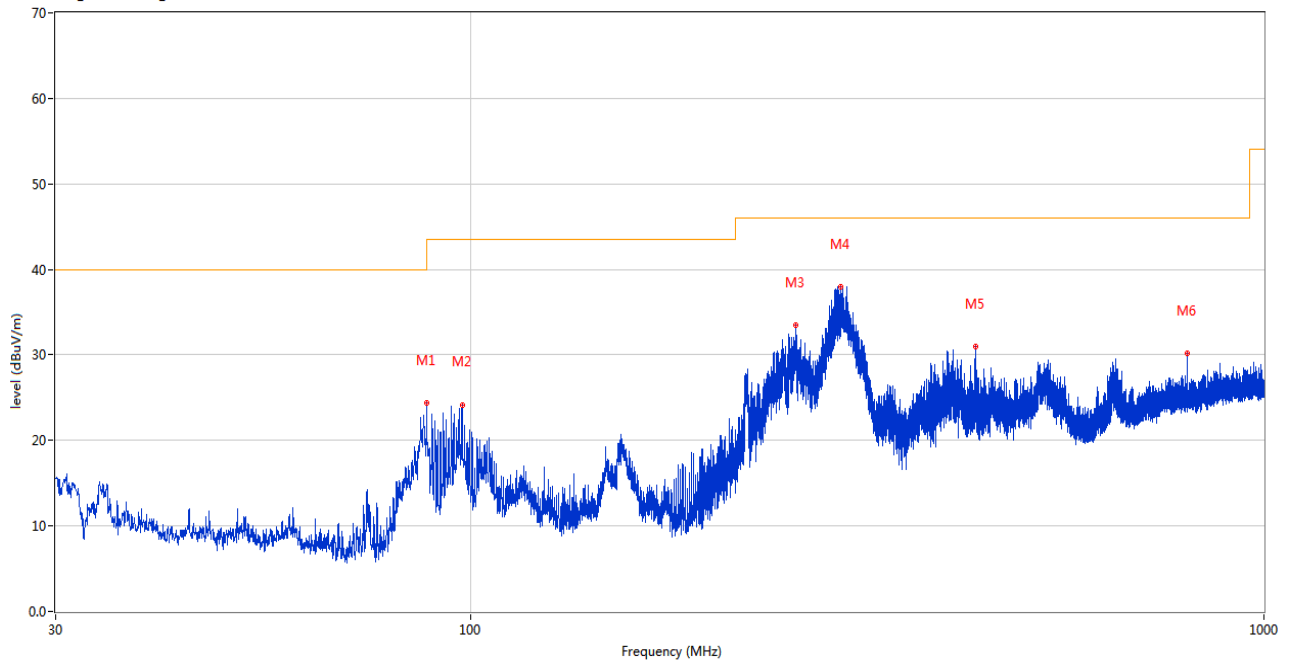


No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	30.793	40.22	-27.13	40.0	0.22	Peak	293.00	121	Vertical	N/A
1*	30.793	33.91	-27.13	40.0	-6.09	QP	293.00	121	Vertical	Pass
2	49.934	27.70	-26.62	40.0	-12.30	Peak	190.00	100	Vertical	Pass
3	57.499	25.34	-26.95	40.0	-14.66	Peak	253.00	100	Vertical	Pass
4	278.611	26.63	-24.97	46.0	-19.37	Peak	178.00	200	Vertical	Pass
5	411.404	29.28	-20.86	46.0	-16.72	Peak	185.00	100	Vertical	Pass
6	693.238	29.70	-14.48	46.0	-16.30	Peak	121.00	200	Vertical	Pass

South Star

30 MHz to 1 GHz, ANT H

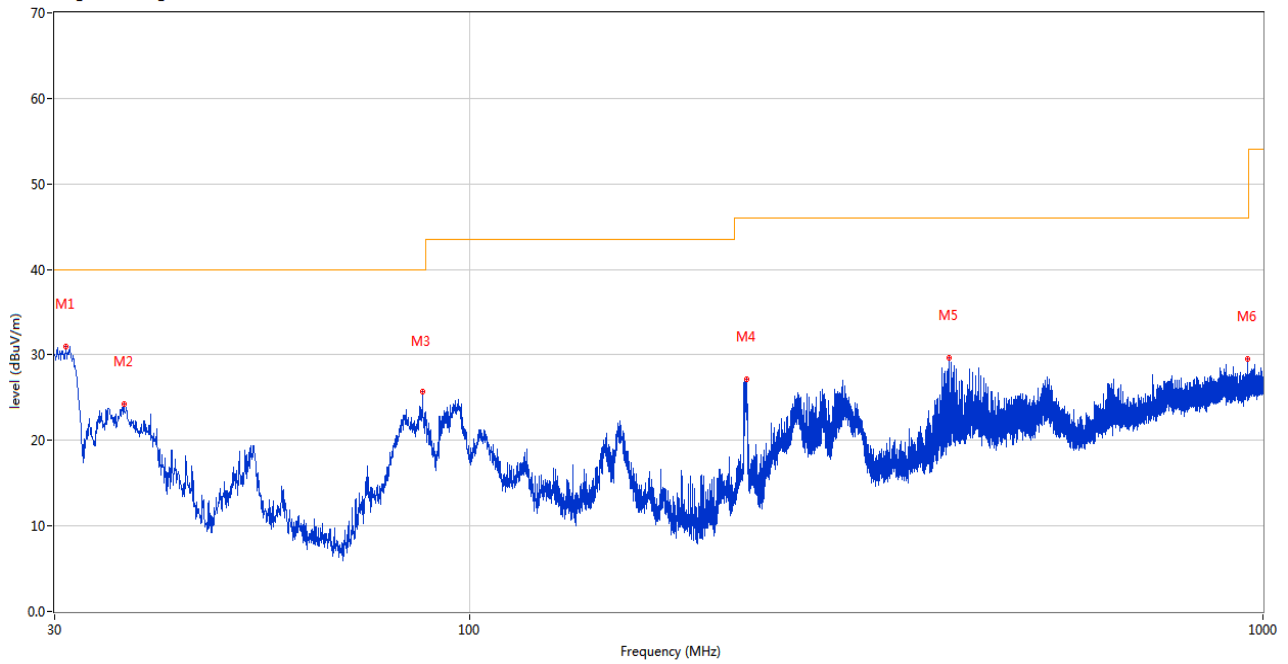
RE Test case_FCC Part 15B_FCC Part 15B Class B 30MHz-1GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	88.054	24.38	-30.29	43.5	-19.12	Peak	157.00	200	Horizontal	Pass
2	97.561	24.11	-29.54	43.5	-19.39	Peak	157.00	200	Horizontal	Pass
3	257.125	33.45	-26.13	46.0	-12.55	Peak	154.00	100	Horizontal	Pass
4	292.579	37.96	-24.45	46.0	-8.04	Peak	240.00	100	Horizontal	Pass
5	433.423	30.96	-20.17	46.0	-15.04	Peak	0.00	200	Horizontal	Pass
6	799.986	30.14	-12.68	46.0	-15.86	Peak	120.00	100	Horizontal	Pass

30 MHz to 1 GHz, ANT V

RE Test case_FCC Part 15B_FCC Part 15B Class B 30MHz-1GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	30.970	30.99	-27.11	40.0	-9.01	Peak	254.00	100	Vertical	Pass
2	36.693	24.25	-26.55	40.0	-15.75	Peak	56.00	100	Vertical	Pass
3	87.230	25.70	-30.34	40.0	-14.30	Peak	128.00	100	Vertical	Pass
4	223.661	27.19	-27.19	46.0	-18.81	Peak	155.00	200	Vertical	Pass
5	401.995	29.70	-21.18	46.0	-16.30	Peak	155.00	200	Vertical	Pass
6	955.234	29.54	-10.76	46.0	-16.46	Peak	0.00	200	Vertical	Pass

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

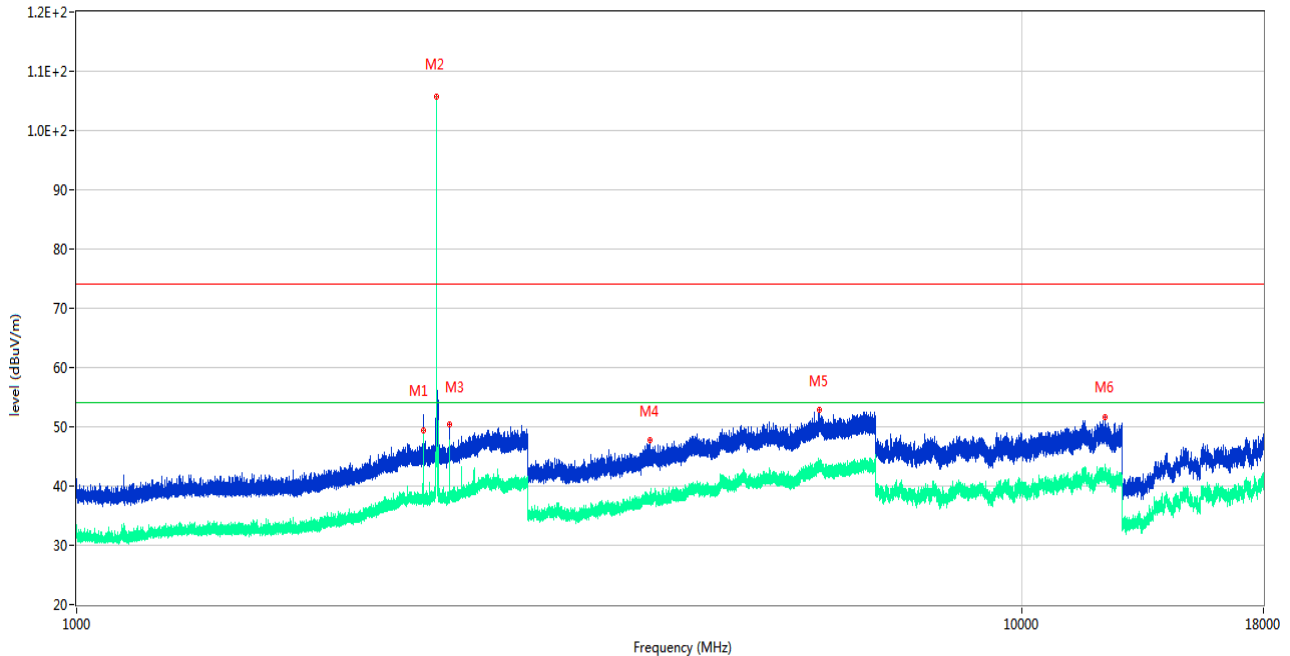
Note 2: The spurious from 18GHz-25GHz is noise only, do not show on the report.

Speed

Main Antenna

GFSK LOW CHANNEL 1 GHz to 18 GHz, ANT H

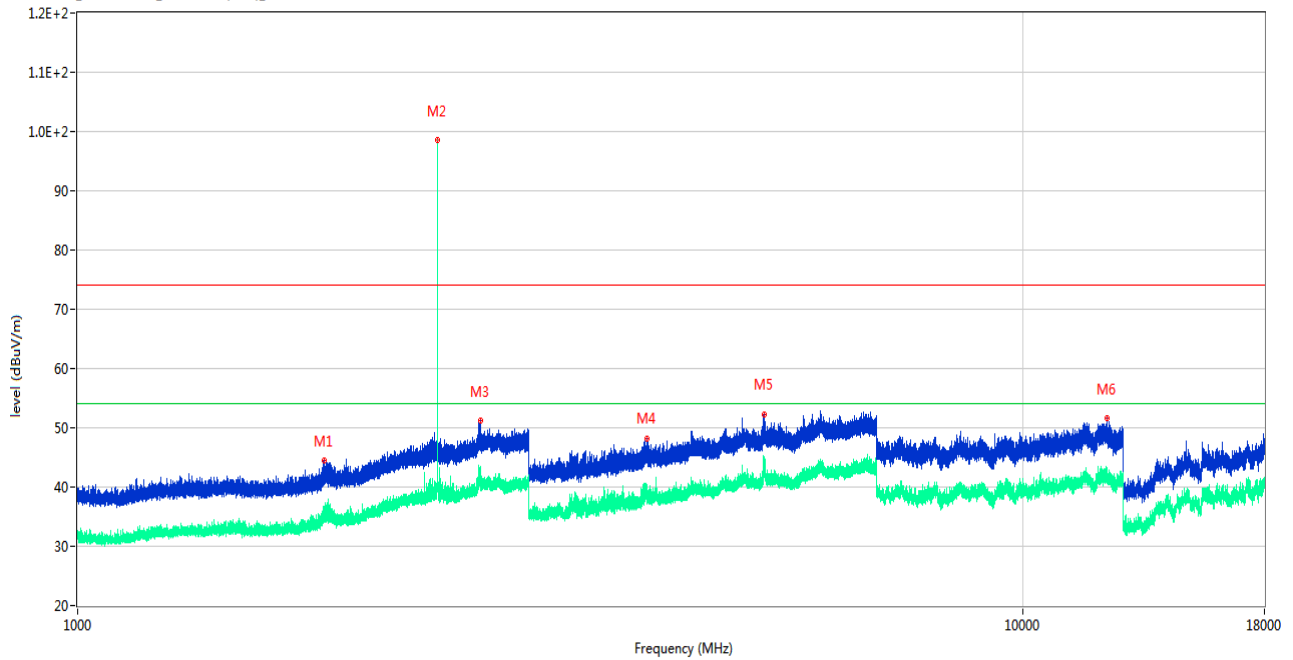
RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2324.700	50.24	-13.76	74.0	-23.76	Peak	336.00	150	Horizontal	Pass
1**	2324.700	44.29	-13.76	54.0	-9.71	AV	336.00	150	Horizontal	Pass
2	2402.100	105.83	-13.32	74.0	31.83	Peak	249.00	150	Horizontal	N/A
2**	2402.100	105.51	-13.32	54.0	51.51	AV	249.00	150	Horizontal	N/A
3	2478.600	50.40	-13.34	74.0	-23.60	Peak	336.00	150	Horizontal	Pass
3**	2478.600	46.98	-13.34	54.0	-7.02	AV	336.00	150	Horizontal	Pass
4	4045.400	47.78	-5.65	74.0	-26.22	Peak	42.00	150	Horizontal	Pass
4**	4045.400	37.41	-5.65	54.0	-16.59	AV	42.00	150	Horizontal	Pass
5	6106.200	52.79	-1.17	74.0	-21.21	Peak	187.00	150	Horizontal	Pass
5**	6106.200	44.19	-1.17	54.0	-9.81	AV	187.00	150	Horizontal	Pass
6	12237.388	51.65	-0.32	74.0	-22.35	Peak	93.00	150	Horizontal	Pass
6**	12237.388	42.27	-0.32	54.0	-11.73	AV	93.00	150	Horizontal	Pass

GFSK LOW CHANNEL 1 GHz to 18 GHz, ANT V

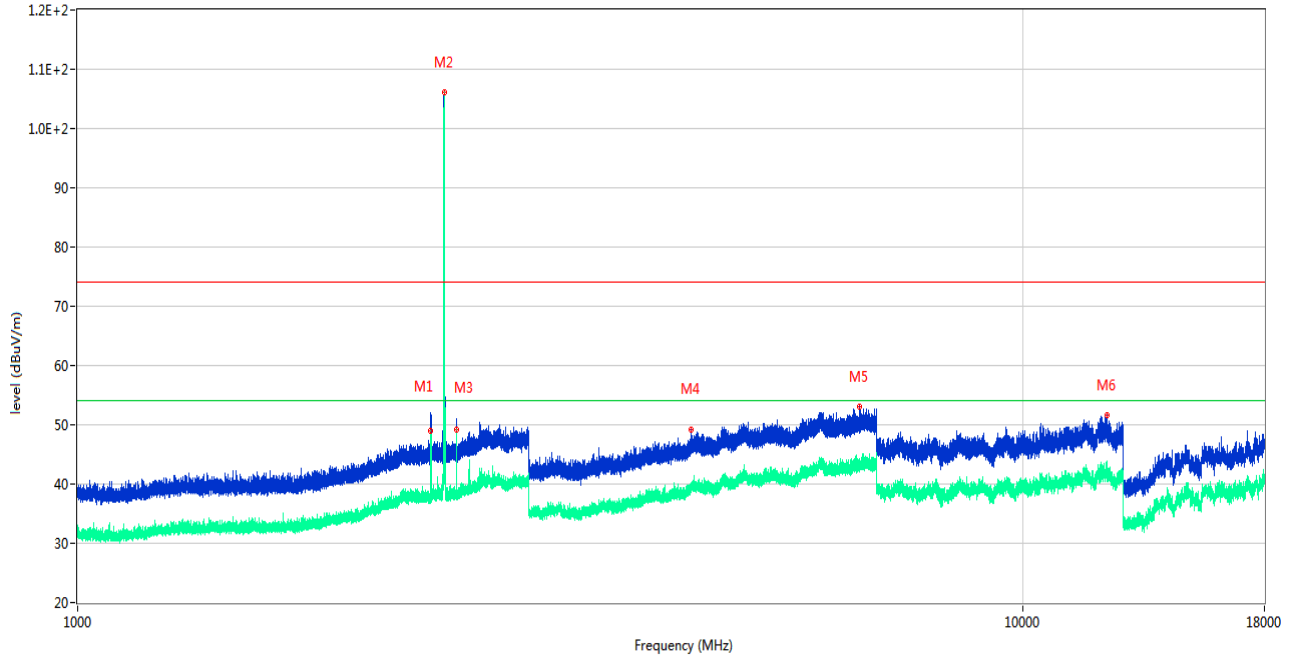
RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1825.200	44.56	-17.12	74.0	-29.44	Peak	6.00	150	Vertical	Pass
1**	1825.200	35.79	-17.12	54.0	-18.21	AV	6.00	150	Vertical	Pass
2	2401.800	98.70	-13.33	74.0	24.70	Peak	196.00	150	Vertical	N/A
2**	2401.800	97.87	-13.33	54.0	43.87	AV	196.00	150	Vertical	N/A
3	2665.900	51.15	-12.33	74.0	-22.85	Peak	265.00	150	Vertical	Pass
3**	2665.900	41.66	-12.33	54.0	-12.34	AV	265.00	150	Vertical	Pass
4	3997.600	48.17	-6.17	74.0	-25.83	Peak	272.00	150	Vertical	Pass
4**	3997.600	38.64	-6.17	54.0	-15.36	AV	272.00	150	Vertical	Pass
5	5327.200	52.30	-3.84	74.0	-21.70	Peak	115.00	150	Vertical	Pass
5**	5327.200	43.14	-3.84	54.0	-10.86	AV	115.00	150	Vertical	Pass
6	12272.750	51.68	0.07	74.0	-22.32	Peak	71.00	150	Vertical	Pass
6**	12272.750	42.54	0.07	54.0	-11.46	AV	71.00	150	Vertical	Pass

GFSK MIDDLE CHANNEL 1 GHz to 18 GHz, ANT H

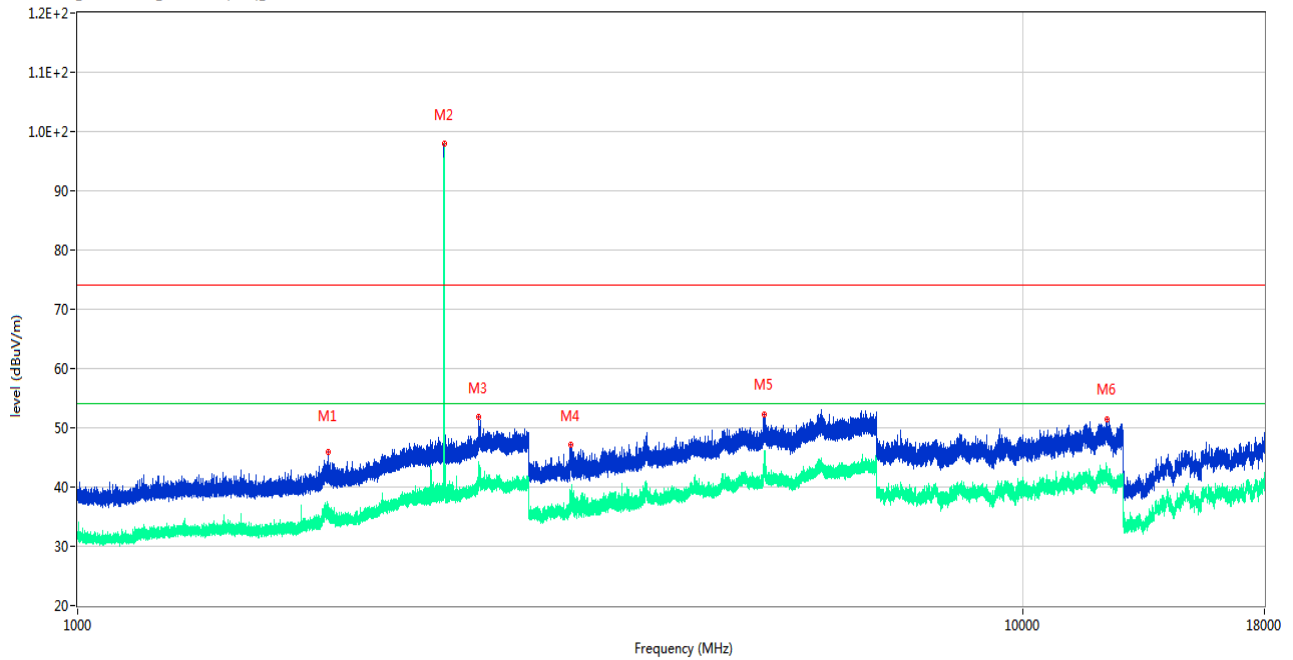
RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2364.200	51.38	-13.80	74.0	-22.62	Peak	262.00	150	Horizontal	Pass
1**	2364.200	48.98	-13.80	54.0	-5.02	AV	262.00	150	Horizontal	Pass
2	2441.000	106.22	-13.43	74.0	32.22	Peak	248.00	150	Horizontal	N/A
2**	2441.000	105.66	-13.43	54.0	51.66	AV	248.00	150	Horizontal	N/A
3	2517.700	51.00	-13.60	74.0	-23.00	Peak	325.00	150	Horizontal	Pass
3**	2517.700	49.11	-13.60	54.0	-4.89	AV	325.00	150	Horizontal	Pass
4	4459.600	49.13	-4.67	74.0	-24.87	Peak	0.00	150	Horizontal	Pass
4**	4459.600	39.32	-4.67	54.0	-14.68	AV	0.00	150	Horizontal	Pass
5	6712.000	53.11	-2.54	74.0	-20.89	Peak	0.00	150	Horizontal	Pass
5**	6712.000	42.56	-2.54	54.0	-11.44	AV	0.00	150	Horizontal	Pass
6	12255.500	51.71	-0.02	74.0	-22.29	Peak	0.00	150	Horizontal	Pass
6**	12255.500	41.52	-0.02	54.0	-12.48	AV	0.00	150	Horizontal	Pass

GFSK MIDDLE CHANNEL 1 GHz to 18 GHz, ANT V

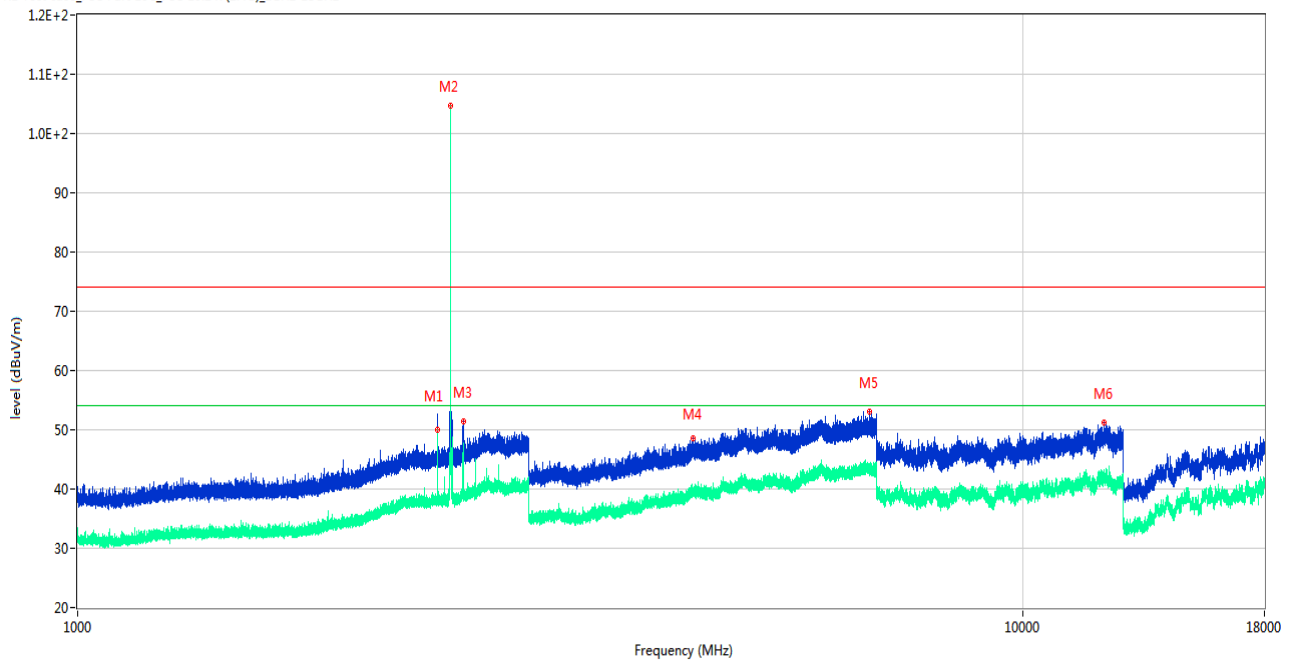
RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1840.400	45.95	-17.05	74.0	-28.05	Peak	229.00	150	Vertical	Pass
1**	1840.400	36.27	-17.05	54.0	-17.73	AV	229.00	150	Vertical	Pass
2	2440.800	98.10	-13.43	74.0	24.10	Peak	187.00	150	Vertical	N/A
2**	2440.800	97.49	-13.43	54.0	43.49	AV	187.00	150	Vertical	N/A
3	2657.200	51.83	-12.48	74.0	-22.17	Peak	134.00	150	Vertical	Pass
3**	2657.200	41.79	-12.48	54.0	-12.21	AV	134.00	150	Vertical	Pass
4	3323.800	47.20	-9.73	74.0	-26.80	Peak	197.00	150	Vertical	Pass
4**	3323.800	37.24	-9.73	54.0	-16.76	AV	197.00	150	Vertical	Pass
5	5328.800	52.26	-3.75	74.0	-21.74	Peak	224.00	150	Vertical	Pass
5**	5328.800	44.06	-3.75	54.0	-9.94	AV	224.00	150	Vertical	Pass
6	12255.787	51.49	-0.02	74.0	-22.51	Peak	143.00	150	Vertical	Pass
6**	12255.787	41.63	-0.02	54.0	-12.37	AV	143.00	150	Vertical	Pass

GFSK HIGH CHANNEL 1 GHz to 18 GHz, ANT H

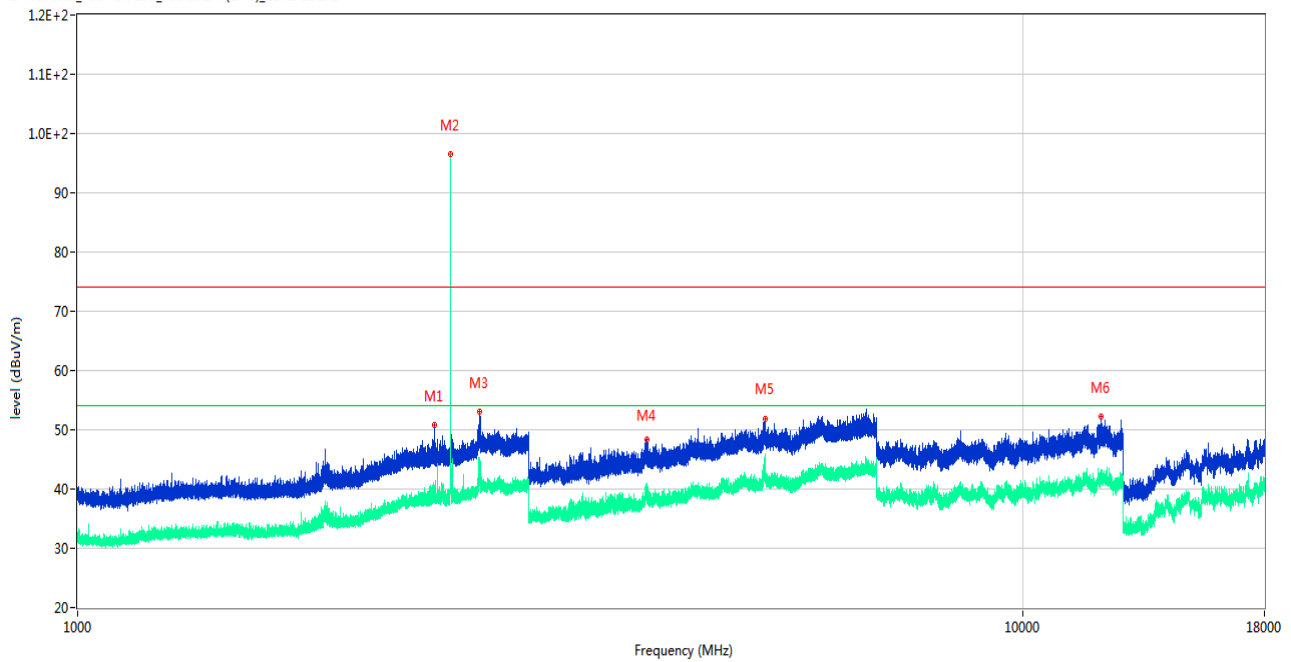
RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2403.100	51.39	-13.31	74.0	-22.61	Peak	225.00	150	Horizontal	Pass
1**	2403.100	49.93	-13.31	54.0	-4.07	AV	225.00	150	Horizontal	Pass
2	2479.700	104.81	-13.21	74.0	30.81	Peak	328.00	150	Horizontal	N/A
2**	2479.700	103.11	-13.21	54.0	49.11	AV	328.00	150	Horizontal	N/A
3	2556.800	51.36	-12.62	74.0	-22.64	Peak	328.00	150	Horizontal	Pass
3**	2556.800	47.84	-12.62	54.0	-6.16	AV	328.00	150	Horizontal	Pass
4	4481.000	48.59	-5.08	74.0	-25.41	Peak	284.00	150	Horizontal	Pass
4**	4481.000	39.63	-5.08	54.0	-14.37	AV	284.00	150	Horizontal	Pass
5	6887.200	53.09	-1.96	74.0	-20.91	Peak	0.00	150	Horizontal	Pass
5**	6887.200	42.85	-1.96	54.0	-11.15	AV	0.00	150	Horizontal	Pass
6	12191.100	51.17	-0.85	74.0	-22.83	Peak	343.00	150	Horizontal	Pass
6**	12191.100	41.50	-0.85	54.0	-12.50	AV	343.00	150	Horizontal	Pass

GFSK HIGH CHANNEL 1 GHz to 18 GHz, ANT V

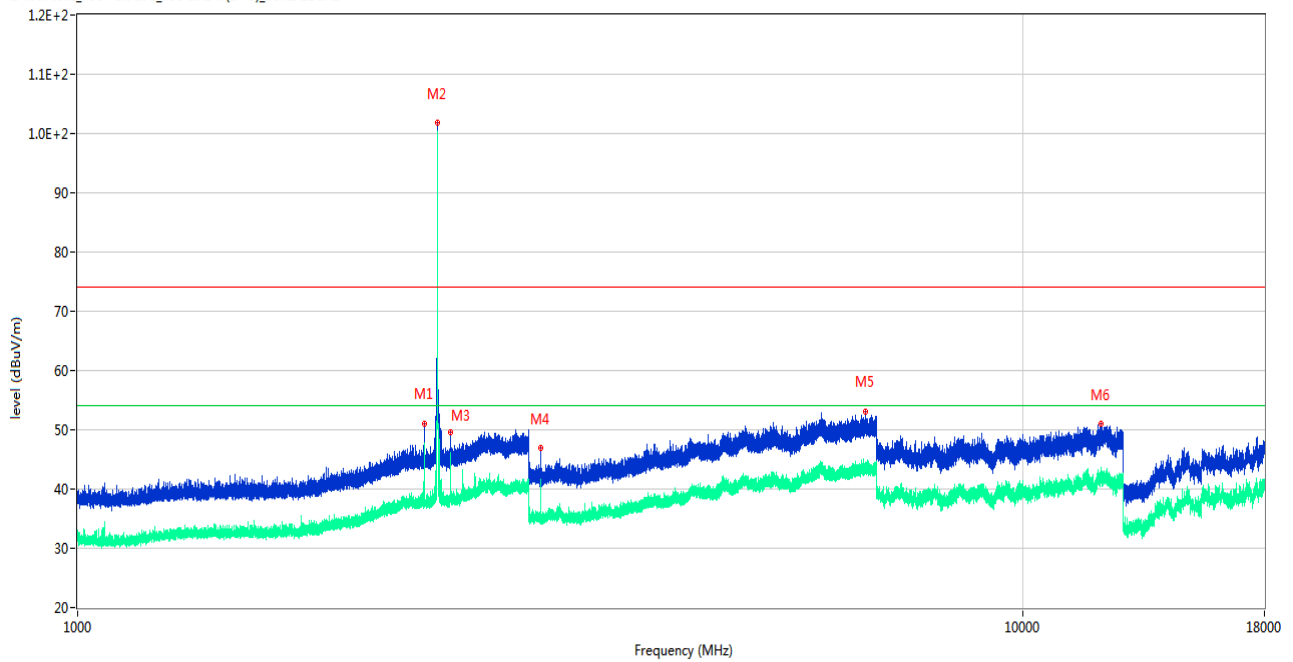
RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2387.500	50.82	-13.29	74.0	-23.18	Peak	104.00	150	Vertical	Pass
1**	2387.500	38.43	-13.29	54.0	-15.57	AV	104.00	150	Vertical	Pass
2	2479.800	96.86	-13.20	74.0	22.86	Peak	197.00	150	Vertical	N/A
2**	2479.800	96.37	-13.20	54.0	42.37	AV	197.00	150	Vertical	N/A
3	2661.300	52.97	-12.46	74.0	-21.03	Peak	251.00	150	Vertical	Pass
3**	2661.300	43.11	-12.46	54.0	-10.89	AV	251.00	150	Vertical	Pass
4	4002.000	48.47	-6.35	74.0	-25.53	Peak	238.00	150	Vertical	Pass
4**	4002.000	39.95	-6.35	54.0	-14.05	AV	238.00	150	Vertical	Pass
5	5332.200	51.75	-3.69	74.0	-22.25	Peak	147.00	150	Vertical	Pass
5**	5332.200	43.06	-3.69	54.0	-10.94	AV	147.00	150	Vertical	Pass
6	12104.849	52.16	-0.94	74.0	-21.84	Peak	321.00	150	Vertical	Pass
6**	12104.849	42.09	-0.94	54.0	-11.91	AV	321.00	150	Vertical	Pass

8-DPSK LOW CHANNEL 1 GHz to 18 GHz, ANT H

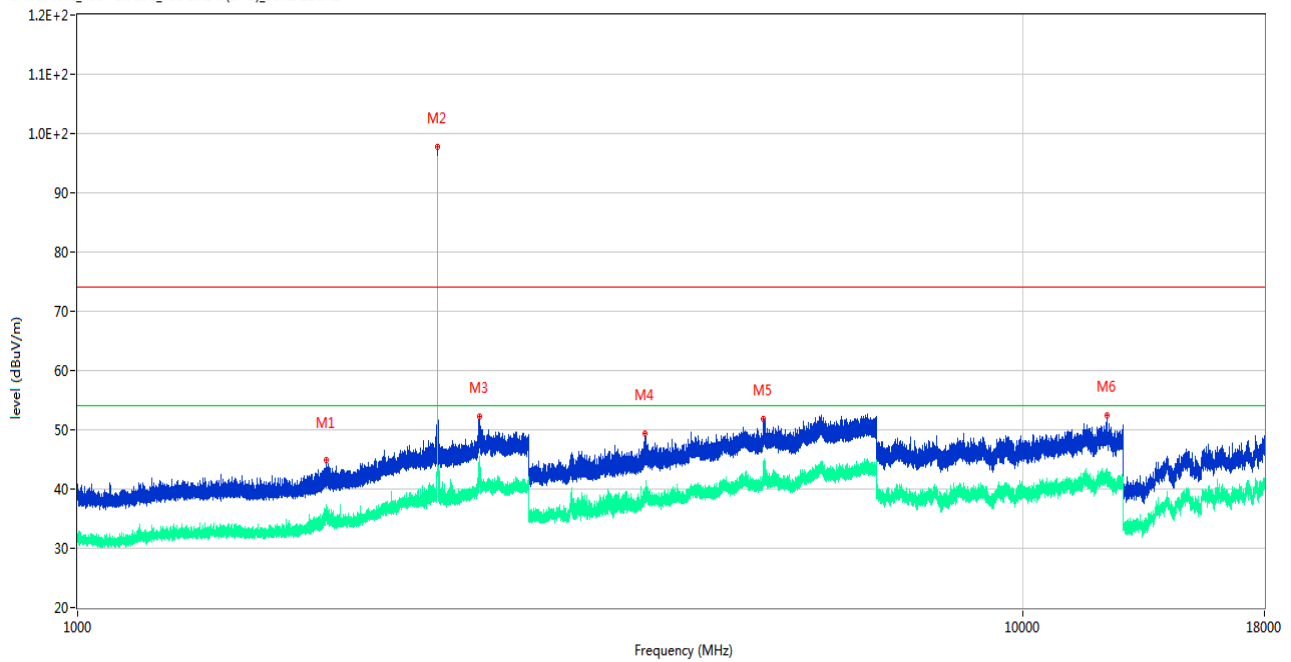
RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2324.800	51.04	-13.76	74.0	-22.96	Peak	332.00	150	Horizontal	Pass
1**	2324.800	46.03	-13.76	54.0	-7.97	AV	332.00	150	Horizontal	Pass
2	2402.200	101.77	-13.32	74.0	27.77	Peak	263.00	150	Horizontal	N/A
2**	2402.200	99.85	-13.32	54.0	45.85	AV	263.00	150	Horizontal	N/A
3	2478.200	49.58	-13.39	74.0	-24.42	Peak	274.00	150	Horizontal	Pass
3**	2478.200	41.97	-13.39	54.0	-12.03	AV	274.00	150	Horizontal	Pass
4	3088.200	46.89	-9.11	74.0	-27.11	Peak	300.00	150	Horizontal	Pass
4**	3088.200	41.29	-9.11	54.0	-12.71	AV	300.00	150	Horizontal	Pass
5	6815.200	53.02	-1.33	74.0	-20.98	Peak	63.00	150	Horizontal	Pass
5**	6815.200	43.01	-1.33	54.0	-10.99	AV	63.00	150	Horizontal	Pass
6	12104.563	50.98	-0.95	74.0	-23.02	Peak	0.00	150	Horizontal	Pass
6**	12104.563	42.63	-0.95	54.0	-11.37	AV	0.00	150	Horizontal	Pass

8-DPSK LOW CHANNEL 1 GHz to 18 GHz, ANT V

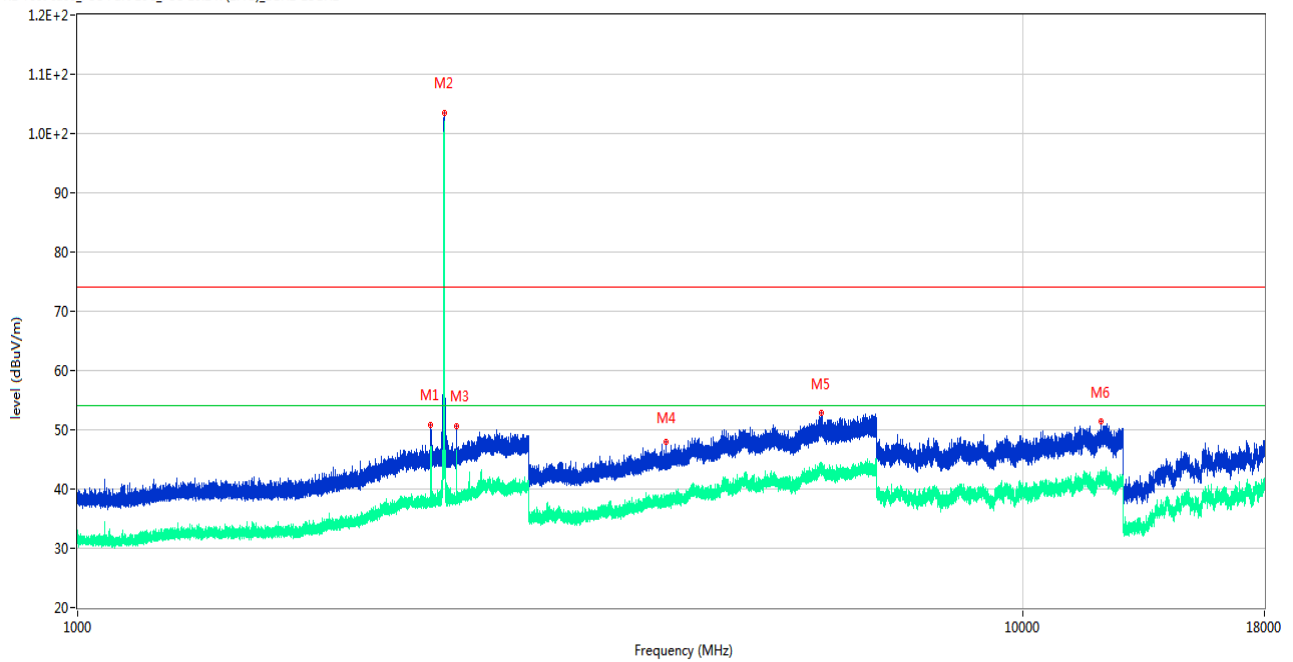
RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1829.900	44.95	-17.07	74.0	-29.05	Peak	52.00	150	Vertical	Pass
1**	1829.900	35.57	-17.07	54.0	-18.43	AV	52.00	150	Vertical	Pass
2	2402.000	97.73	-13.32	74.0	23.73	Peak	208.00	150	Vertical	N/A
2**	2402.000	96.06	-13.32	54.0	42.06	AV	208.00	150	Vertical	N/A
3	2662.800	52.23	-12.44	74.0	-21.77	Peak	253.00	150	Vertical	Pass
3**	2662.800	42.12	-12.44	54.0	-11.88	AV	253.00	150	Vertical	Pass
4	3986.200	49.44	-6.37	74.0	-24.56	Peak	223.00	150	Vertical	Pass
4**	3986.200	38.77	-6.37	54.0	-15.23	AV	223.00	150	Vertical	Pass
5	5314.000	51.80	-3.97	74.0	-22.20	Peak	223.00	150	Vertical	Pass
5**	5314.000	43.32	-3.97	54.0	-10.68	AV	223.00	150	Vertical	Pass
6	12263.550	52.48	0.05	74.0	-21.52	Peak	218.00	150	Vertical	Pass
6**	12263.550	42.55	0.05	54.0	-11.45	AV	218.00	150	Vertical	Pass

8-DPSK MIDDLE CHANNEL 1 GHz to 18 GHz, ANT H

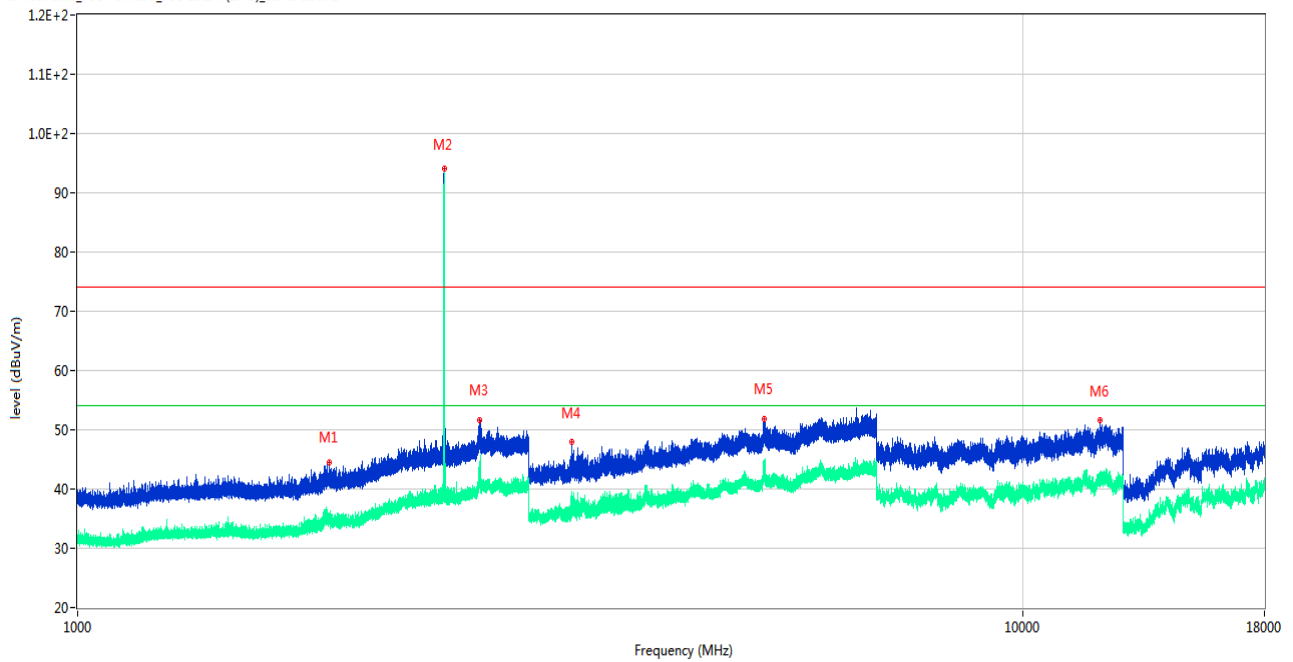
RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2363.900	50.80	-13.84	74.0	-23.20	Peak	337.00	150	Horizontal	Pass
1**	2363.900	45.50	-13.84	54.0	-8.50	AV	337.00	150	Horizontal	Pass
2	2440.900	103.49	-13.43	74.0	29.49	Peak	337.00	150	Horizontal	N/A
2**	2440.900	100.84	-13.43	54.0	46.84	AV	337.00	150	Horizontal	N/A
3	2517.700	50.64	-13.60	74.0	-23.36	Peak	337.00	150	Horizontal	Pass
3**	2517.700	44.32	-13.60	54.0	-9.68	AV	337.00	150	Horizontal	Pass
4	4187.800	48.03	-5.82	74.0	-25.97	Peak	98.00	150	Horizontal	Pass
4**	4187.800	36.95	-5.82	54.0	-17.05	AV	98.00	150	Horizontal	Pass
5	6117.000	52.82	-1.30	74.0	-21.18	Peak	246.00	150	Horizontal	Pass
5**	6117.000	42.65	-1.30	54.0	-11.35	AV	246.00	150	Horizontal	Pass
6	12097.950	51.44	-1.06	74.0	-22.56	Peak	207.00	150	Horizontal	Pass
6**	12097.950	42.57	-1.06	54.0	-11.43	AV	207.00	150	Horizontal	Pass

8-DPSK MIDDLE CHANNEL 1 GHz to 18 GHz, ANT V

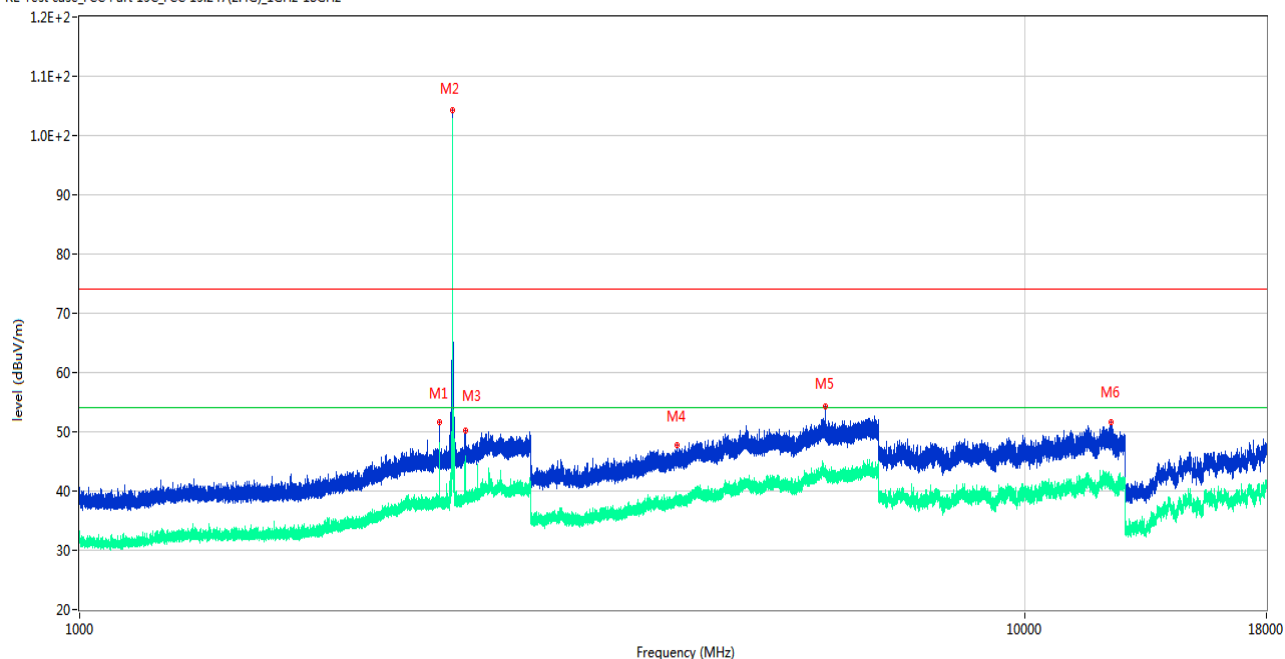
RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1846.600	44.39	-16.95	74.0	-29.61	Peak	47.00	150	Vertical	Pass
1**	1846.600	34.45	-16.95	54.0	-19.55	AV	47.00	150	Vertical	Pass
2	2440.900	93.99	-13.43	74.0	19.99	Peak	215.00	150	Vertical	N/A
2**	2440.900	92.73	-13.43	54.0	38.73	AV	215.00	150	Vertical	N/A
3	2659.300	51.72	-12.41	74.0	-22.28	Peak	74.00	150	Vertical	Pass
3**	2659.300	41.52	-12.41	54.0	-12.48	AV	74.00	150	Vertical	Pass
4	3327.800	47.92	-9.81	74.0	-26.08	Peak	202.00	150	Vertical	Pass
4**	3327.800	38.70	-9.81	54.0	-15.30	AV	202.00	150	Vertical	Pass
5	5318.600	51.93	-3.94	74.0	-22.07	Peak	163.00	150	Vertical	Pass
5**	5318.600	44.23	-3.94	54.0	-9.77	AV	163.00	150	Vertical	Pass
6	12073.513	51.57	-1.38	74.0	-22.43	Peak	15.00	150	Vertical	Pass
6**	12073.513	42.53	-1.38	54.0	-11.47	AV	15.00	150	Vertical	Pass

8-DPSK HIGH CHANNEL 1 GHz to 18 GHz, ANT H

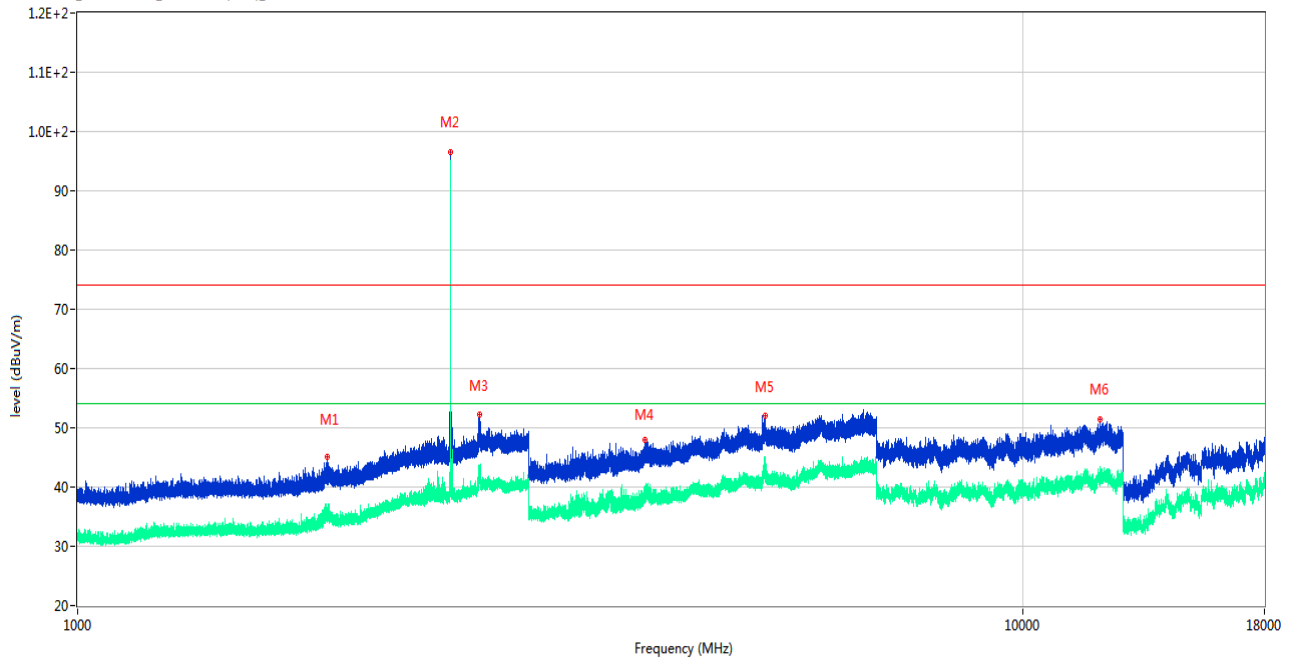
RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2403.600	51.54	-13.31	74.0	-22.46	Peak	236.00	150	Horizontal	Pass
1**	2403.600	47.00	-13.31	54.0	-7.00	AV	236.00	150	Horizontal	Pass
2	2479.900	104.19	-13.19	74.0	30.19	Peak	329.00	150	Horizontal	N/A
2**	2479.900	101.90	-13.19	54.0	47.90	AV	329.00	150	Horizontal	N/A
3	2556.800	50.29	-12.62	74.0	-23.71	Peak	329.00	150	Horizontal	Pass
3**	2556.800	45.86	-12.62	54.0	-8.14	AV	329.00	150	Horizontal	Pass
4	4279.400	47.70	-5.13	74.0	-26.30	Peak	209.00	150	Horizontal	Pass
4**	4279.400	37.63	-5.13	54.0	-16.37	AV	209.00	150	Horizontal	Pass
5	6145.800	54.26	-1.90	74.0	-19.74	Peak	278.00	150	Horizontal	Pass
5**	6145.800	44.32	-1.90	54.0	-9.68	AV	278.00	150	Horizontal	Pass
6	12327.375	51.69	-0.60	74.0	-22.31	Peak	219.00	150	Horizontal	Pass
6**	12327.375	42.57	-0.60	54.0	-11.43	AV	219.00	150	Horizontal	Pass

8-DPSK HIGH CHANNEL 1 GHz to 18 GHz, ANT V

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

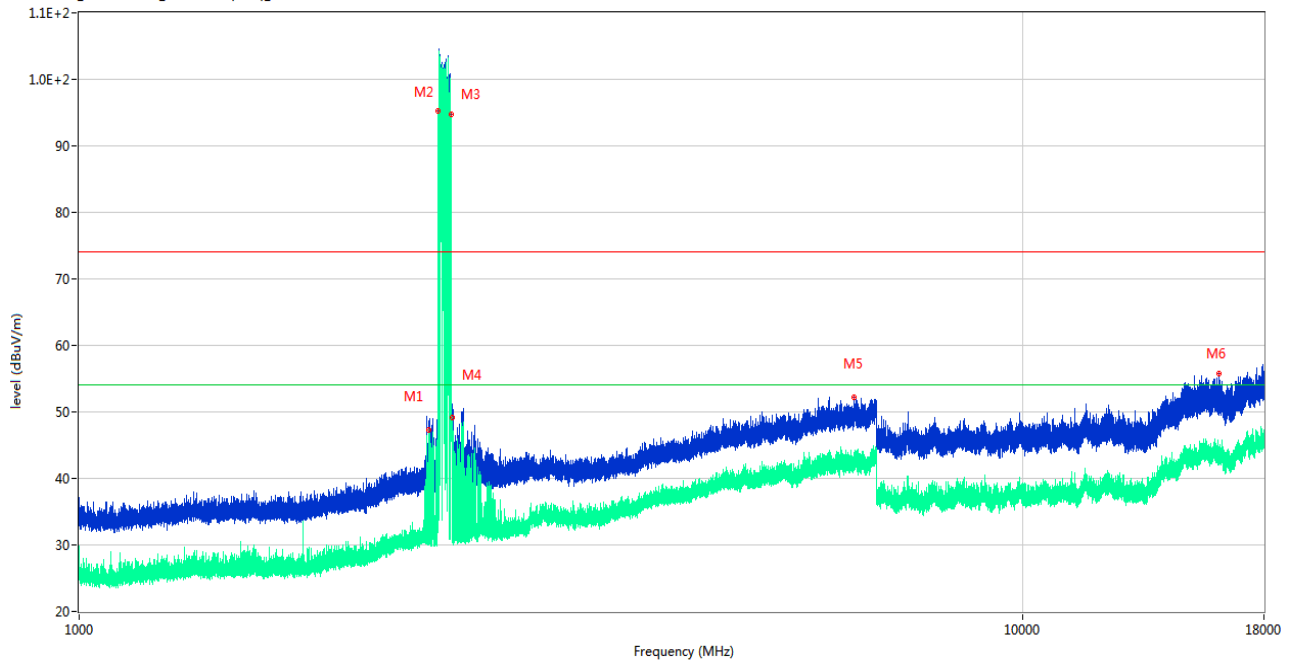


No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1838.100	45.18	-17.02	74.0	-28.82	Peak	360.00	150	Vertical	Pass
1**	1838.100	36.46	-17.02	54.0	-17.54	AV	360.00	150	Vertical	Pass
2	2480.100	96.60	-13.17	74.0	22.60	Peak	190.00	150	Vertical	N/A
2**	2480.100	95.02	-13.17	54.0	41.02	AV	190.00	150	Vertical	N/A
3	2658.600	52.19	-12.39	74.0	-21.81	Peak	79.00	150	Vertical	Pass
3**	2658.600	42.33	-12.39	54.0	-11.67	AV	79.00	150	Vertical	Pass
4	3982.000	48.01	-6.47	74.0	-25.99	Peak	292.00	150	Vertical	Pass
4**	3982.000	38.43	-6.47	54.0	-15.57	AV	292.00	150	Vertical	Pass
5	5335.800	52.05	-3.50	74.0	-21.95	Peak	162.00	150	Vertical	Pass
5**	5335.800	42.52	-3.50	54.0	-11.48	AV	162.00	150	Vertical	Pass
6	12070.062	51.48	-1.41	74.0	-22.52	Peak	214.00	150	Vertical	Pass
6**	12070.062	42.04	-1.41	54.0	-11.96	AV	214.00	150	Vertical	Pass

Hopping Mode:

GFSK MODE 1 GHz to 18 GHz, ANT H

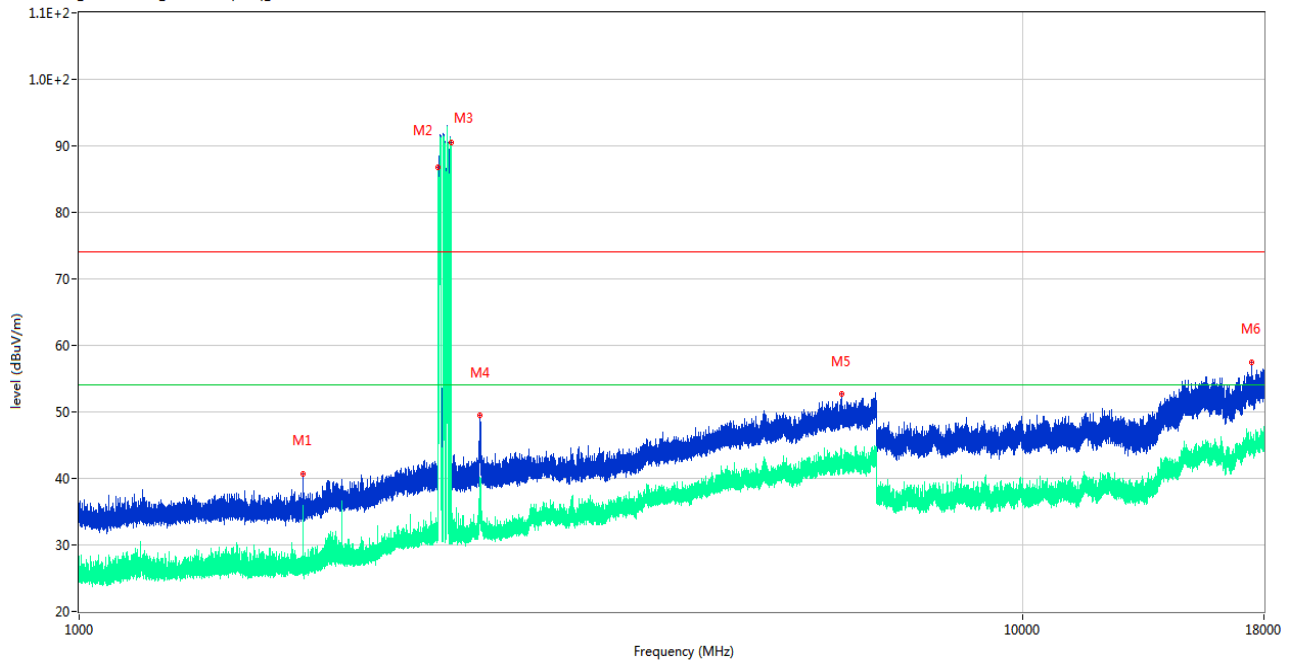
RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2344.300	48.10	-10.20	74.0	-25.90	Peak	245.00	150	Horizontal	Pass
1**	2344.300	47.37	-10.20	54.0	-6.63	AV	245.00	150	Horizontal	Pass
2	2401.800	95.33	-10.61	74.0	21.33	Peak	356.00	150	Horizontal	N/A
2**	2401.800	92.49	-10.61	54.0	38.49	AV	356.00	150	Horizontal	N/A
3	2479.800	94.74	-10.26	74.0	20.74	Peak	0.00	150	Horizontal	N/A
3**	2479.800	93.01	-10.26	54.0	39.01	AV	0.00	150	Horizontal	N/A
4	2483.400	50.50	-10.08	74.0	-23.50	Peak	127.00	150	Horizontal	Pass
4**	2483.400	49.12	-10.08	54.0	-4.88	AV	127.00	150	Horizontal	Pass
5	6620.000	52.24	3.66	74.0	-21.76	Peak	239.00	150	Horizontal	Pass
5**	6620.000	42.34	3.66	54.0	-11.66	AV	239.00	150	Horizontal	Pass
6	16133.100	55.77	24.09	74.0	-18.23	Peak	134.00	150	Horizontal	Pass
6**	16133.100	43.47	24.09	54.0	-10.53	AV	134.00	150	Horizontal	Pass

GFSK MODE 1 GHz to 18 GHz, ANT V

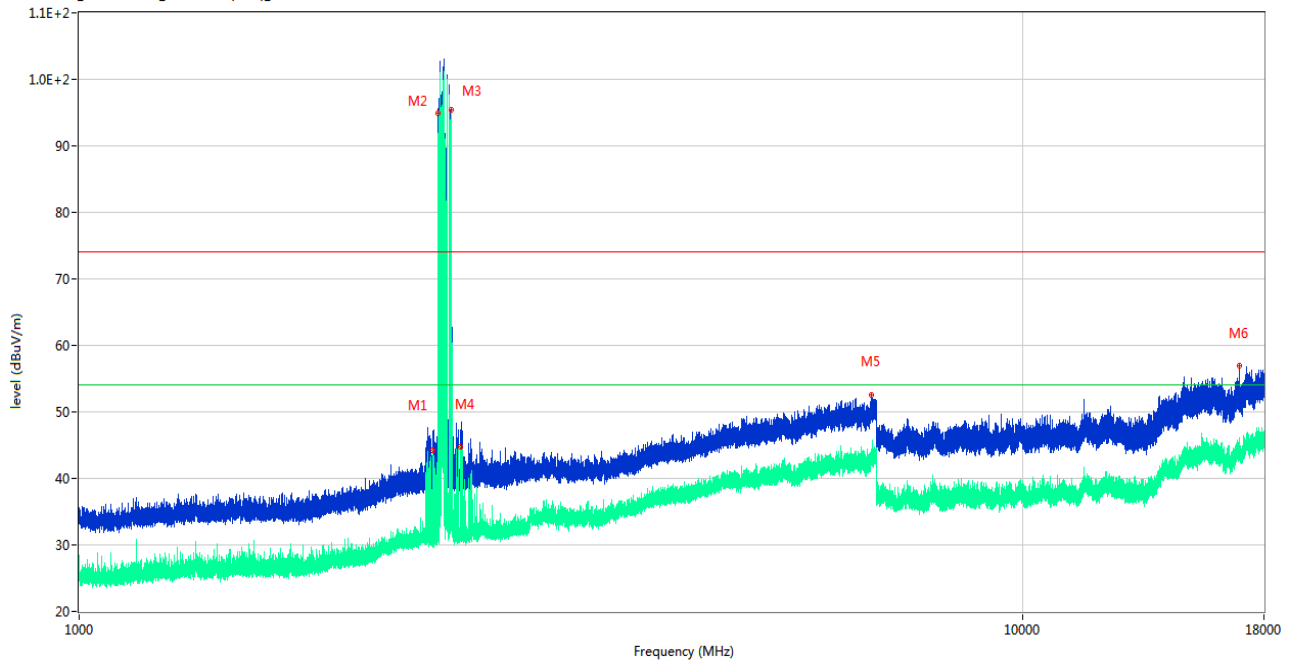
RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1725.000	40.68	-14.87	74.0	-33.32	Peak	300.00	150	Vertical	Pass
1**	1725.000	35.62	-14.87	54.0	-18.38	AV	300.00	150	Vertical	Pass
2	2401.800	86.79	-10.61	74.0	12.79	Peak	81.00	150	Vertical	N/A
2**	2401.800	81.97	-10.61	54.0	27.97	AV	81.00	150	Vertical	N/A
3	2479.800	90.54	-10.26	74.0	16.54	Peak	0.00	150	Vertical	N/A
3**	2479.800	88.13	-10.26	54.0	34.13	AV	0.00	150	Vertical	N/A
4	2655.200	49.46	-9.46	74.0	-24.54	Peak	55.00	150	Vertical	Pass
4**	2655.200	36.32	-9.46	54.0	-17.68	AV	55.00	150	Vertical	Pass
5	6422.000	52.76	3.85	74.0	-21.24	Peak	116.00	150	Vertical	Pass
5**	6422.000	42.38	3.85	54.0	-11.62	AV	116.00	150	Vertical	Pass
6	17478.676	57.38	23.95	74.0	-16.62	Peak	172.00	150	Vertical	Pass
6**	17478.676	45.53	23.95	54.0	-8.47	AV	172.00	150	Vertical	Pass

8-DPSK MODE 1 GHz to 18 GHz, ANT H

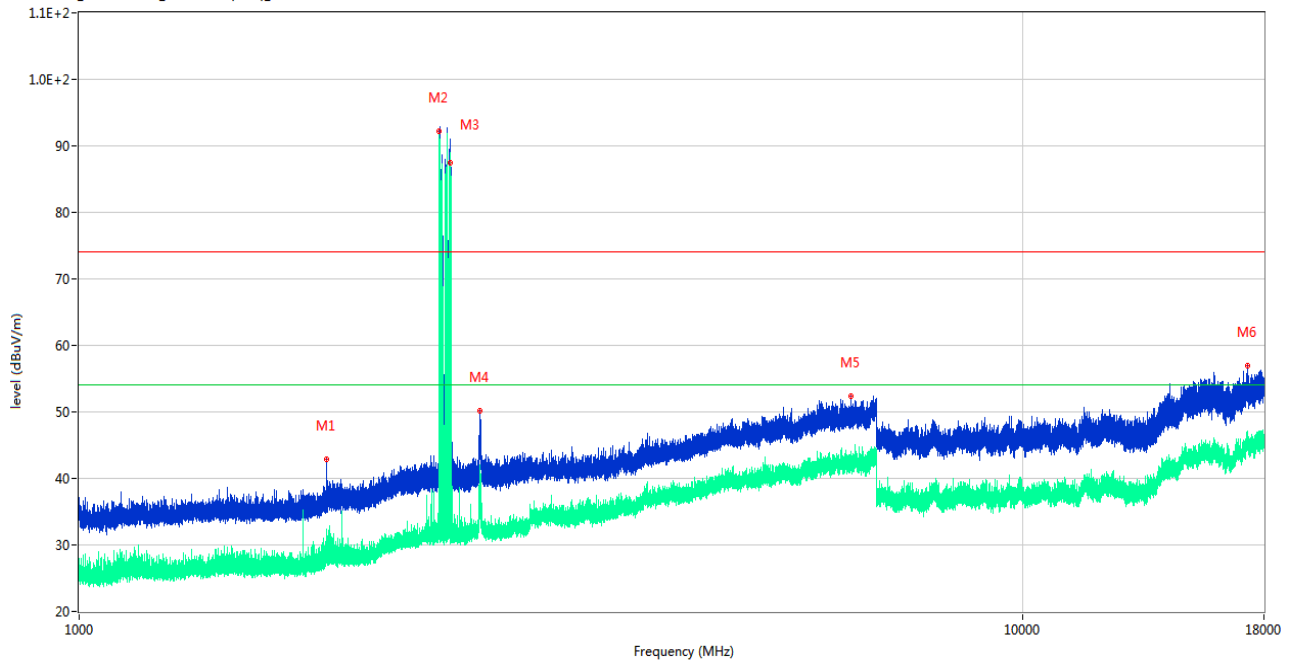
RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2371.600	46.99	-10.52	74.0	-27.01	Peak	332.00	150	Horizontal	Pass
1**	2371.600	44.21	-10.52	54.0	-9.79	AV	332.00	150	Horizontal	Pass
2	2402.600	94.88	-10.51	74.0	20.88	Peak	360.00	150	Horizontal	N/A
2**	2402.600	91.29	-10.51	54.0	37.29	AV	360.00	150	Horizontal	N/A
3	2479.900	95.43	-10.26	74.0	21.43	Peak	163.00	150	Horizontal	N/A
3**	2479.900	93.96	-10.26	54.0	39.96	AV	163.00	150	Horizontal	N/A
4	2534.900	45.47	-9.89	74.0	-28.53	Peak	332.00	150	Horizontal	Pass
4**	2534.900	44.67	-9.89	54.0	-9.33	AV	332.00	150	Horizontal	Pass
5	6912.000	52.52	4.69	74.0	-21.48	Peak	186.00	150	Horizontal	Pass
5**	6912.000	43.48	4.69	54.0	-10.52	AV	186.00	150	Horizontal	Pass
6	16938.713	56.91	23.78	74.0	-17.09	Peak	-3.00	150	Horizontal	Pass
6**	16938.713	43.75	23.78	54.0	-10.25	AV	-3.00	150	Horizontal	Pass

8-DPSK MODE 1 GHz to 18 GHz, ANT V

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



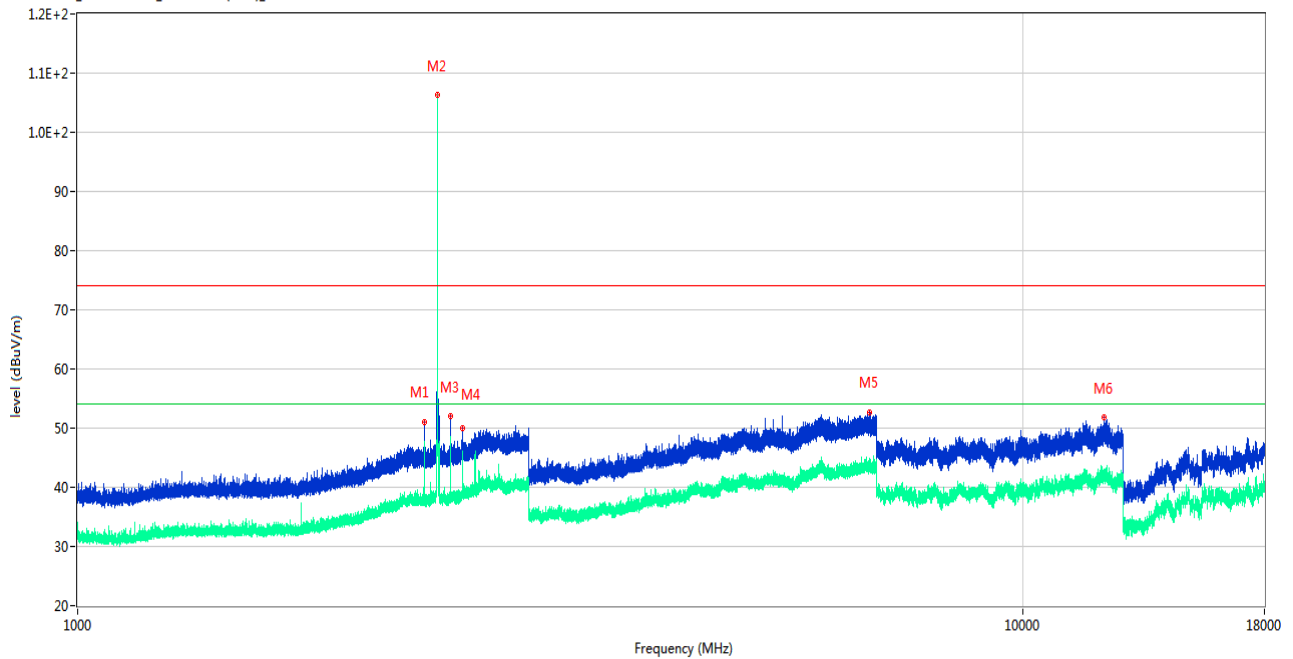
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1829.000	42.94	-14.54	74.0	-31.06	Peak	44.00	150	Vertical	Pass
1**	1829.000	28.89	-14.54	54.0	-25.11	AV	44.00	150	Vertical	Pass
2	2408.100	92.12	-10.34	74.0	18.12	Peak	359.00	150	Vertical	N/A
2**	2408.100	91.74	-10.34	54.0	37.74	AV	359.00	150	Vertical	N/A
3	2474.800	90.41	-10.62	74.0	16.41	Peak	333.00	150	Vertical	N/A
3**	2474.800	87.51	-10.62	54.0	33.51	AV	333.00	150	Vertical	N/A
4	2656.200	50.09	-9.39	74.0	-23.91	Peak	307.00	150	Vertical	Pass
4**	2656.200	37.09	-9.39	54.0	-16.91	AV	307.00	150	Vertical	Pass
5	6569.000	52.45	3.09	74.0	-21.55	Peak	190.00	150	Vertical	Pass
5**	6569.000	42.18	3.09	54.0	-11.82	AV	190.00	150	Vertical	Pass
6	17281.800	57.00	24.51	74.0	-17.00	Peak	0.00	150	Vertical	Pass
6**	17281.800	46.33	24.51	54.0	-7.67	AV	0.00	150	Vertical	Pass

Speed

Aux. Antenna

GFSK LOW CHANNEL 1 GHz to 18 GHz, ANT H

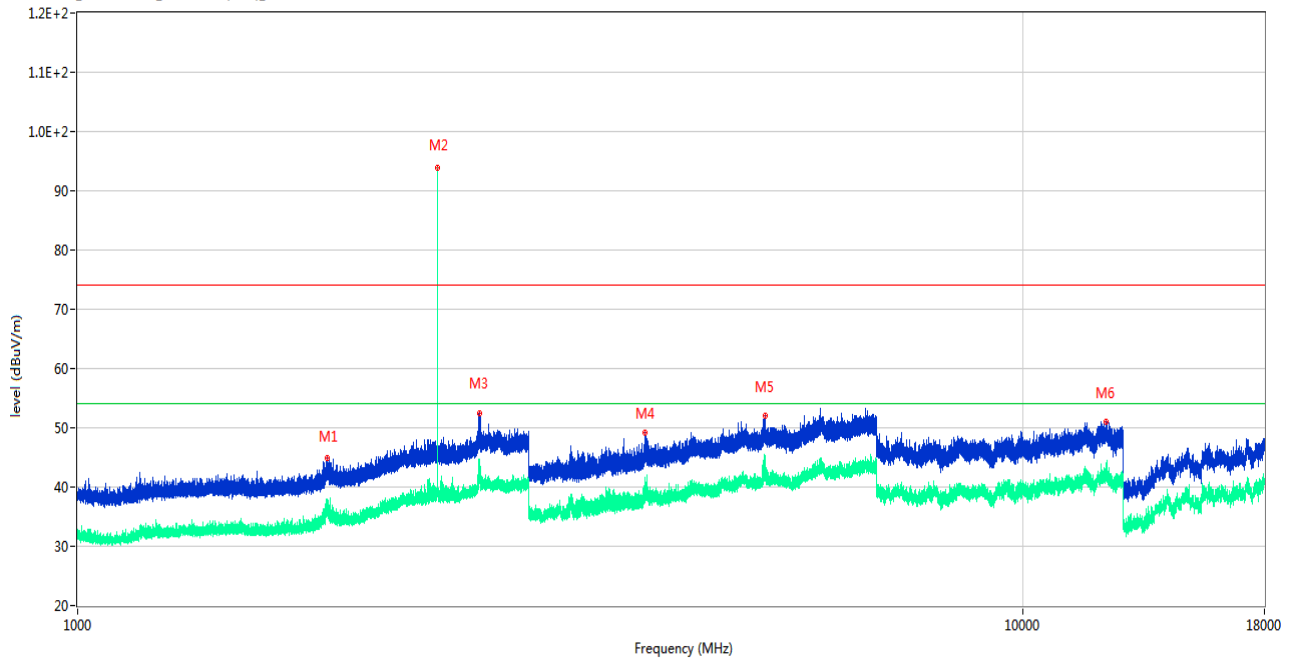
RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2324.800	50.99	-13.76	74.0	-23.01	Peak	300.00	150	Horizontal	Pass
1**	2324.800	45.72	-13.76	54.0	-8.28	AV	300.00	150	Horizontal	Pass
2	2402.100	106.44	-13.32	74.0	32.44	Peak	267.00	150	Horizontal	N/A
2**	2402.100	106.22	-13.32	54.0	52.22	AV	267.00	150	Horizontal	N/A
3	2478.800	51.96	-13.32	74.0	-22.04	Peak	222.00	150	Horizontal	Pass
3**	2478.800	48.18	-13.32	54.0	-5.82	AV	222.00	150	Horizontal	Pass
4	2555.800	49.96	-12.62	74.0	-24.04	Peak	135.00	150	Horizontal	Pass
4**	2555.800	45.65	-12.62	54.0	-8.35	AV	135.00	150	Horizontal	Pass
5	6887.200	52.62	-1.96	74.0	-21.38	Peak	42.00	150	Horizontal	Pass
5**	6887.200	43.63	-1.96	54.0	-10.37	AV	42.00	150	Horizontal	Pass
6	12183.912	51.84	-0.94	74.0	-22.16	Peak	358.00	150	Horizontal	Pass
6**	12183.912	41.80	-0.94	54.0	-12.20	AV	358.00	150	Horizontal	Pass

GFSK LOW CHANNEL 1 GHz to 18 GHz, ANT V

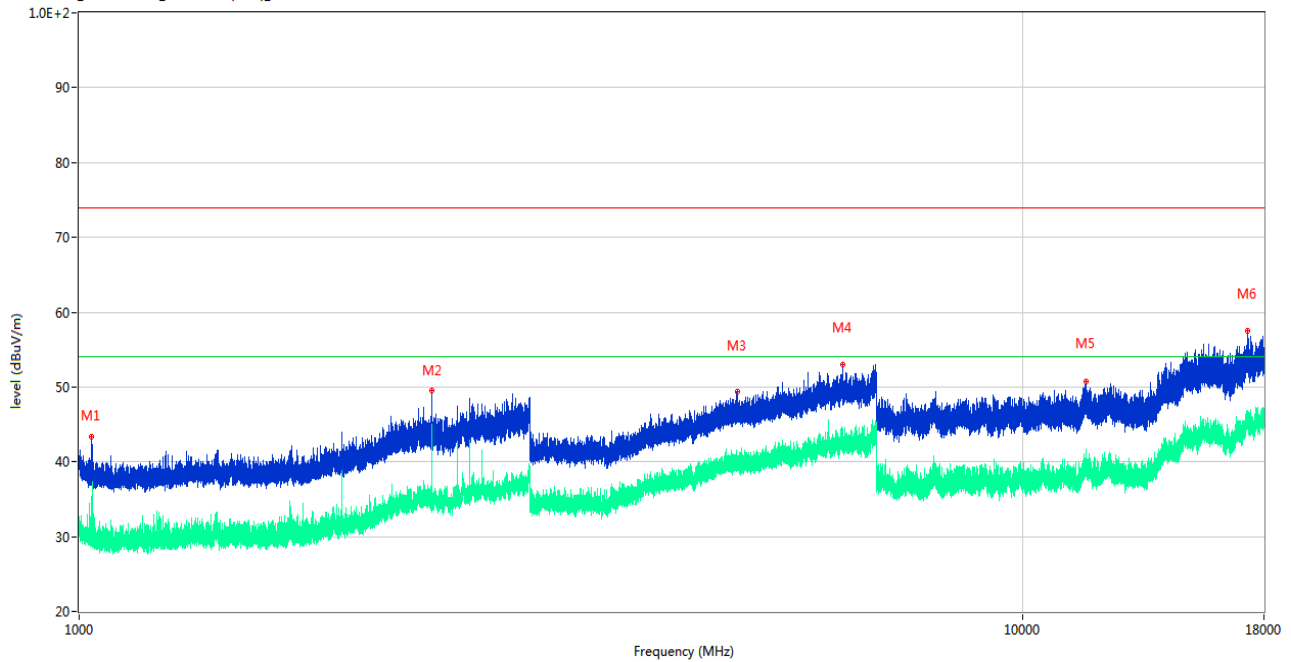
RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1834.600	44.81	-17.11	74.0	-29.19	Peak	164.00	150	Vertical	Pass
1**	1834.600	36.87	-17.11	54.0	-17.13	AV	164.00	150	Vertical	Pass
2	2401.800	94.06	-13.33	74.0	20.06	Peak	133.00	150	Vertical	N/A
2**	2401.800	93.19	-13.33	54.0	39.19	AV	133.00	150	Vertical	N/A
3	2658.400	52.46	-12.40	74.0	-21.54	Peak	77.00	150	Vertical	Pass
3**	2658.400	41.50	-12.40	54.0	-12.50	AV	77.00	150	Vertical	Pass
4	3984.000	49.28	-6.36	74.0	-24.72	Peak	255.00	150	Vertical	Pass
4**	3984.000	39.38	-6.36	54.0	-14.62	AV	255.00	150	Vertical	Pass
5	5331.800	51.97	-3.71	74.0	-22.03	Peak	230.00	150	Vertical	Pass
5**	5331.800	42.23	-3.71	54.0	-11.77	AV	230.00	150	Vertical	Pass
6	12253.776	50.93	-0.04	74.0	-23.07	Peak	122.00	150	Vertical	Pass
6**	12253.776	42.84	-0.04	54.0	-11.16	AV	122.00	150	Vertical	Pass

GFSK MIDDLE CHANNEL 1 GHz to 18 GHz, ANT H

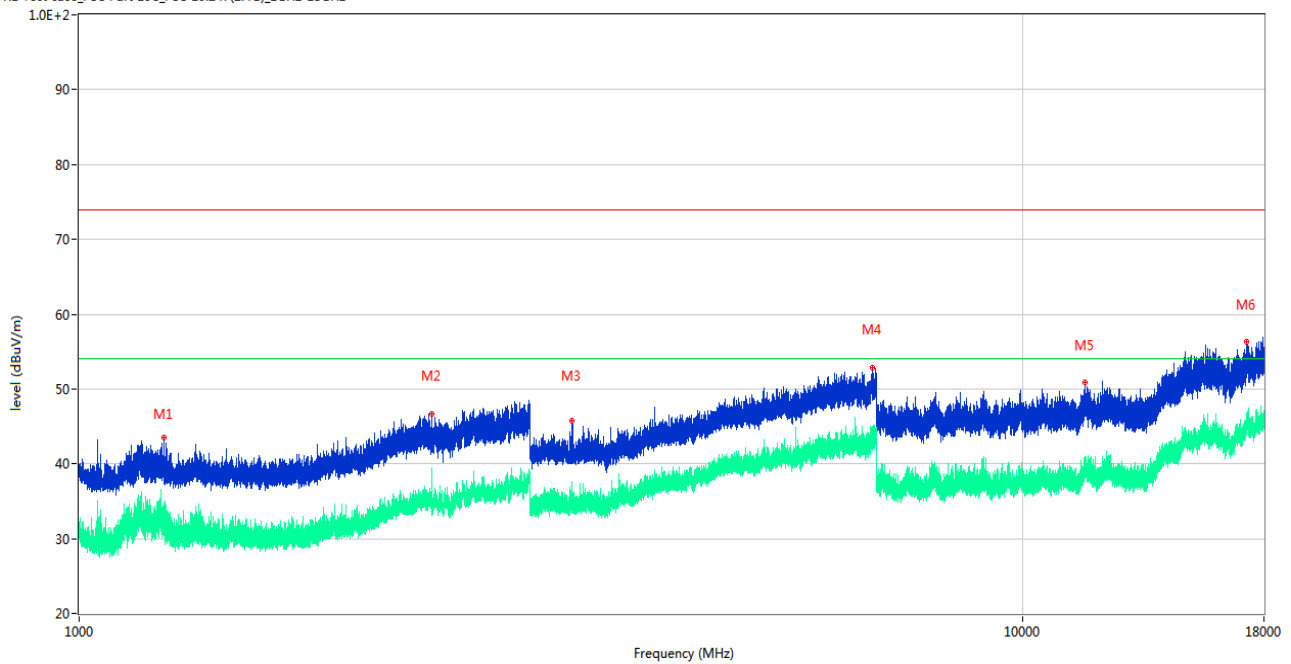
RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1029.700	43.41	-10.64	74.0	-30.59	Peak	289.00	150	Horizontal	Pass
1**	1029.700	34.66	-10.64	54.0	-19.34	AV	289.00	150	Horizontal	Pass
2	2364.300	49.49	-6.97	74.0	-24.51	Peak	200.00	150	Horizontal	Pass
2**	2364.300	44.36	-6.97	54.0	-9.64	AV	200.00	150	Horizontal	Pass
3	4988.400	49.45	-1.16	74.0	-24.55	Peak	160.00	150	Horizontal	Pass
3**	4988.400	39.68	-1.16	54.0	-14.32	AV	160.00	150	Horizontal	Pass
4	6446.200	52.99	3.01	74.0	-21.01	Peak	87.00	150	Horizontal	Pass
4**	6446.200	42.12	3.01	54.0	-11.88	AV	87.00	150	Horizontal	Pass
5	11651.174	50.68	20.38	74.0	-23.32	Peak	180.00	150	Horizontal	Pass
5**	11651.174	39.00	20.38	54.0	-15.00	AV	180.00	150	Horizontal	Pass
6	17286.787	57.47	24.53	74.0	-16.53	Peak	230.00	150	Horizontal	Pass
6**	17286.787	44.89	24.53	54.0	-9.11	AV	230.00	150	Horizontal	Pass

GFSK MIDDLE CHANNEL 1 GHz to 18 GHz, ANT V

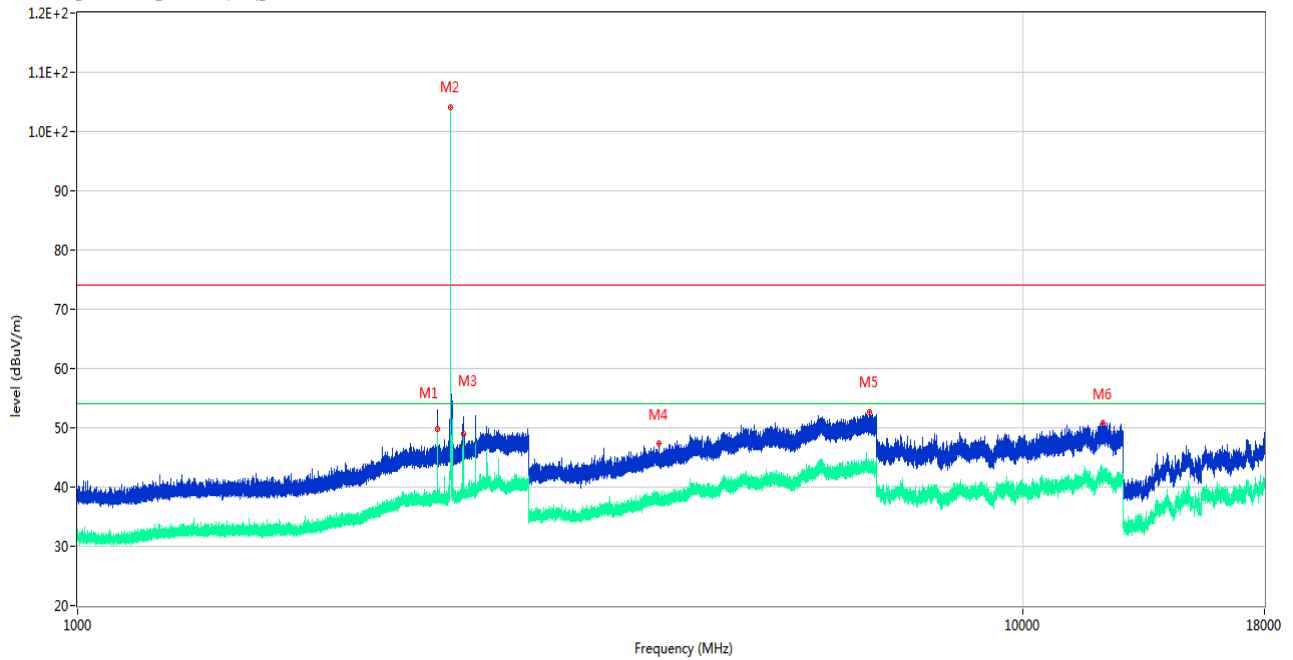
RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1231.200	43.55	-11.43	74.0	-30.45	Peak	81.00	150	Vertical	Pass
1**	1231.200	32.37	-11.43	54.0	-21.63	AV	81.00	150	Vertical	Pass
2	2364.500	46.69	-6.99	74.0	-27.31	Peak	175.00	150	Vertical	Pass
2**	2364.500	36.01	-6.99	54.0	-17.99	AV	175.00	150	Vertical	Pass
3	3330.000	45.74	-7.11	74.0	-28.26	Peak	249.00	150	Vertical	Pass
3**	3330.000	35.05	-7.11	54.0	-18.95	AV	249.00	150	Vertical	Pass
4	6919.400	52.80	4.51	74.0	-21.20	Peak	291.00	150	Vertical	Pass
4**	6919.400	43.99	4.51	54.0	-10.01	AV	291.00	150	Vertical	Pass
5	11621.850	50.90	20.25	74.0	-23.10	Peak	101.00	150	Vertical	Pass
5**	11621.850	39.15	20.25	54.0	-14.85	AV	101.00	150	Vertical	Pass
6	17257.650	56.25	24.23	74.0	-17.75	Peak	0.00	150	Vertical	Pass
6**	17257.650	45.01	24.23	54.0	-8.99	AV	0.00	150	Vertical	Pass

GFSK HIGH CHANNEL 1 GHz to 18 GHz, ANT H

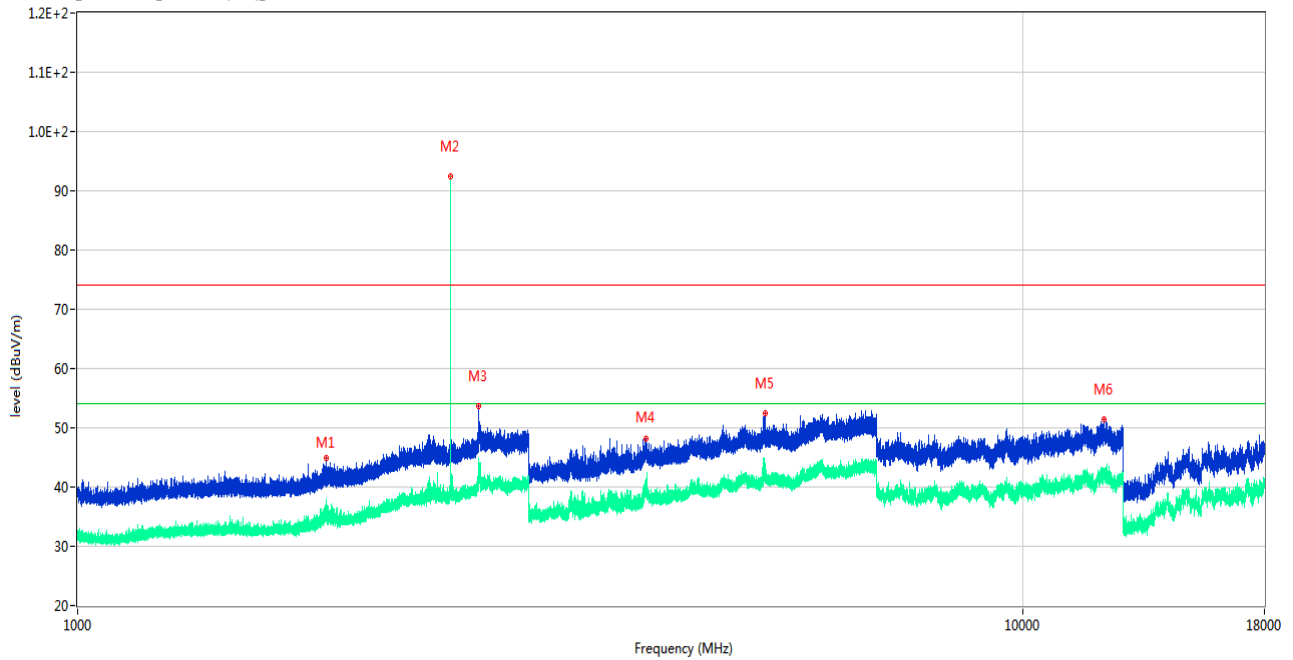
RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2403.100	51.92	-13.31	74.0	-22.08	Peak	279.00	150	Horizontal	Pass
1**	2403.100	49.82	-13.31	54.0	-4.18	AV	279.00	150	Horizontal	Pass
2	2479.800	104.26	-13.20	74.0	30.26	Peak	135.00	150	Horizontal	N/A
2**	2479.800	103.67	-13.20	54.0	49.67	AV	135.00	150	Horizontal	N/A
3	2556.900	50.39	-12.62	74.0	-23.61	Peak	135.00	150	Horizontal	Pass
3**	2556.900	48.93	-12.62	54.0	-5.07	AV	135.00	150	Horizontal	Pass
4	4115.600	47.34	-5.61	74.0	-26.66	Peak	352.00	150	Horizontal	Pass
4**	4115.600	38.54	-5.61	54.0	-15.46	AV	352.00	150	Horizontal	Pass
5	6873.800	52.69	-1.95	74.0	-21.31	Peak	57.00	150	Horizontal	Pass
5**	6873.800	43.00	-1.95	54.0	-11.00	AV	57.00	150	Horizontal	Pass
6	12147.112	50.78	-0.77	74.0	-23.22	Peak	337.00	150	Horizontal	Pass
6**	12147.112	41.50	-0.77	54.0	-12.50	AV	337.00	150	Horizontal	Pass

GFSK HIGH CHANNEL 1 GHz to 18 GHz, ANT V

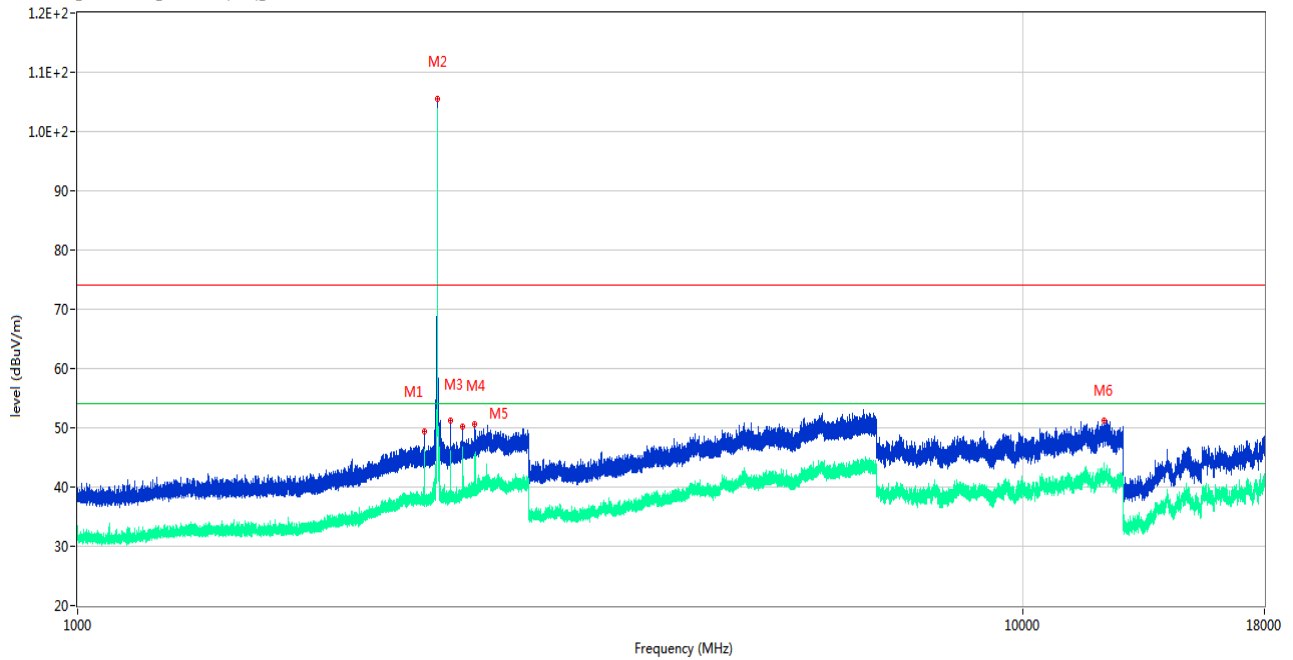
RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1833.500	44.89	-17.16	74.0	-29.11	Peak	180.00	150	Vertical	Pass
1**	1833.500	34.72	-17.16	54.0	-19.28	AV	180.00	150	Vertical	Pass
2	2479.500	92.66	-13.24	74.0	18.66	Peak	188.00	150	Vertical	N/A
2**	2479.500	90.12	-13.24	54.0	36.12	AV	188.00	150	Vertical	N/A
3	2657.400	53.64	-12.47	74.0	-20.36	Peak	302.00	150	Vertical	Pass
3**	2657.400	43.12	-12.47	54.0	-10.88	AV	302.00	150	Vertical	Pass
4	3990.000	48.19	-6.30	74.0	-25.81	Peak	77.00	150	Vertical	Pass
4**	3990.000	40.36	-6.30	54.0	-13.64	AV	77.00	150	Vertical	Pass
5	5334.000	52.55	-3.63	74.0	-21.45	Peak	113.00	150	Vertical	Pass
5**	5334.000	43.38	-3.63	54.0	-10.62	AV	113.00	150	Vertical	Pass
6	12166.375	51.46	-0.92	74.0	-22.54	Peak	85.00	150	Vertical	Pass
6**	12166.375	42.83	-0.92	54.0	-11.17	AV	85.00	150	Vertical	Pass

8-DPSK LOW CHANNEL 1 GHz to 18 GHz, ANT H

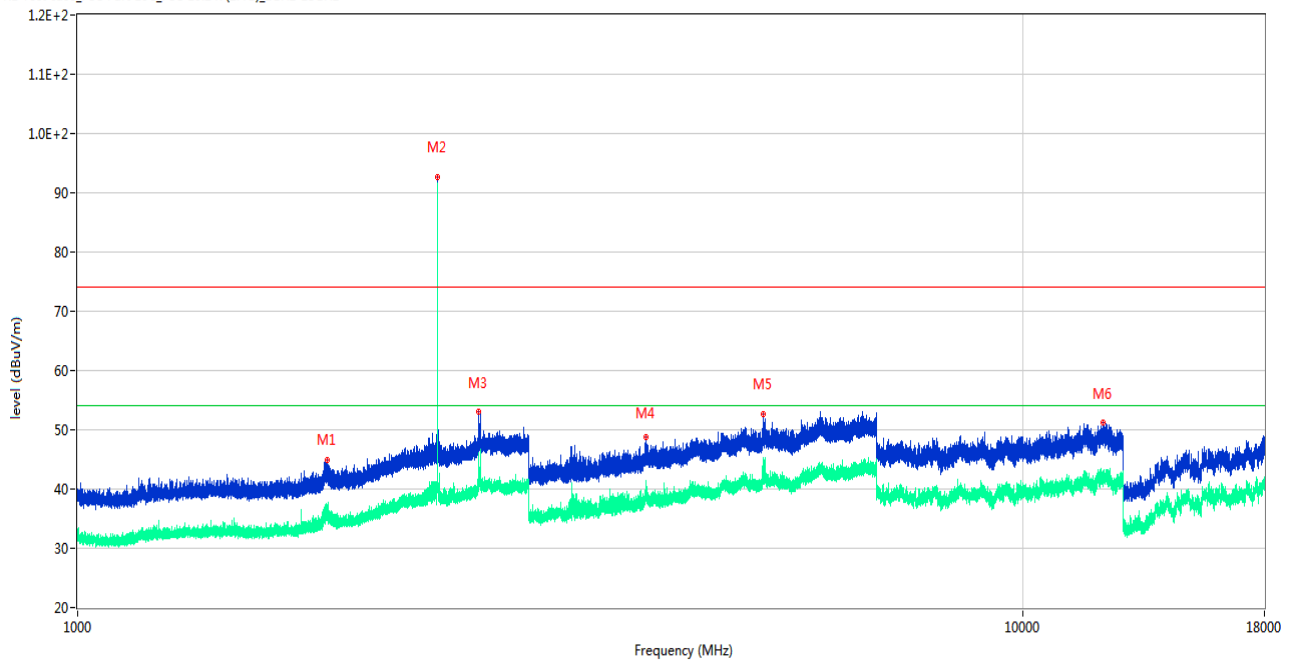
RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2325.300	49.48	-13.76	74.0	-24.52	Peak	254.00	150	Horizontal	Pass
1**	2325.300	45.17	-13.76	54.0	-8.83	AV	254.00	150	Horizontal	Pass
2	2401.900	105.53	-13.33	74.0	31.53	Peak	254.00	150	Horizontal	N/A
2**	2401.900	103.56	-13.33	54.0	49.56	AV	254.00	150	Horizontal	N/A
3	2478.600	51.13	-13.34	74.0	-22.87	Peak	254.00	150	Horizontal	Pass
3**	2478.600	46.06	-13.34	54.0	-7.94	AV	254.00	150	Horizontal	Pass
4	2555.900	50.14	-12.62	74.0	-23.86	Peak	209.00	150	Horizontal	Pass
4**	2555.900	45.96	-12.62	54.0	-8.04	AV	209.00	150	Horizontal	Pass
5	2632.300	50.62	-12.68	74.0	-23.38	Peak	209.00	150	Horizontal	Pass
5**	2632.300	45.37	-12.68	54.0	-8.63	AV	209.00	150	Horizontal	Pass
6	12185.349	51.17	-0.92	74.0	-22.83	Peak	0.00	150	Horizontal	Pass
6**	12185.349	41.72	-0.92	54.0	-12.28	AV	0.00	150	Horizontal	Pass

8-DPSK LOW CHANNEL 1 GHz to 18 GHz, ANT V

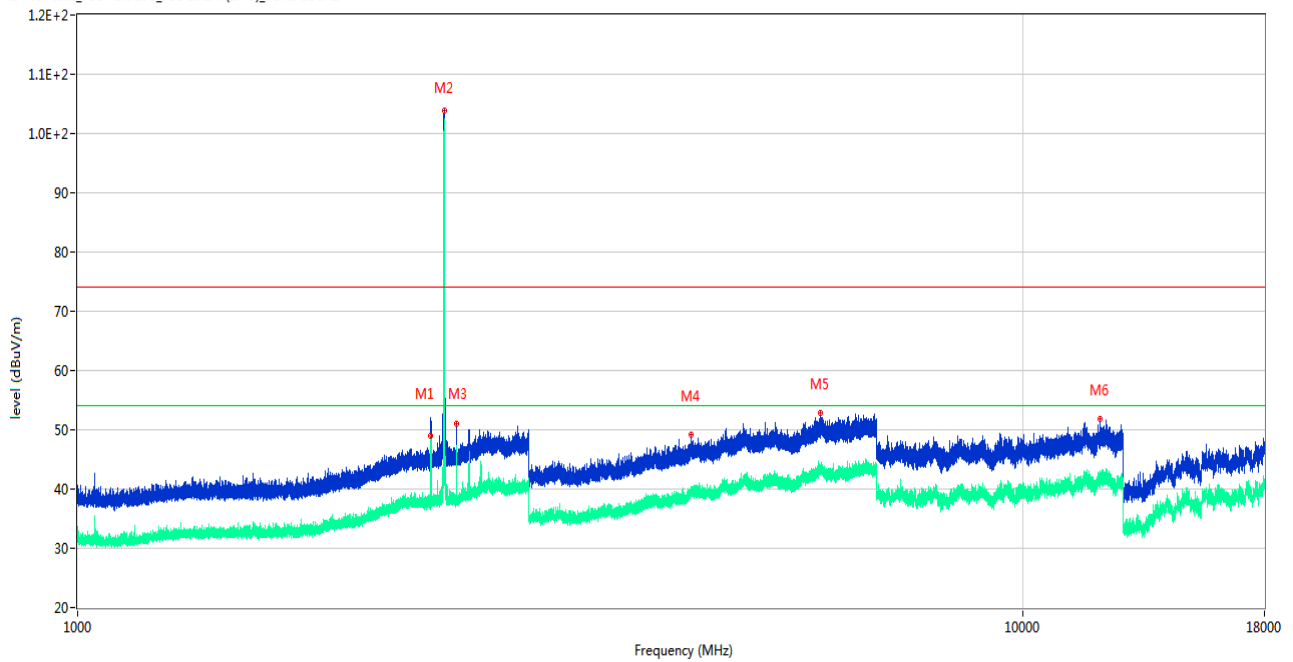
RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1837.000	44.81	-17.05	74.0	-29.19	Peak	194.00	150	Vertical	Pass
1**	1837.000	36.02	-17.05	54.0	-17.98	AV	194.00	150	Vertical	Pass
2	2401.900	92.67	-13.33	74.0	18.67	Peak	360.00	150	Vertical	N/A
2**	2401.900	91.37	-13.33	54.0	37.37	AV	360.00	150	Vertical	N/A
3	2654.800	52.97	-12.50	74.0	-21.03	Peak	97.00	150	Vertical	Pass
3**	2654.800	43.19	-12.50	54.0	-10.81	AV	97.00	150	Vertical	Pass
4	3987.800	48.74	-6.41	74.0	-25.26	Peak	309.00	150	Vertical	Pass
4**	3987.800	40.28	-6.41	54.0	-13.72	AV	309.00	150	Vertical	Pass
5	5314.800	52.69	-3.93	74.0	-21.31	Peak	251.00	150	Vertical	Pass
5**	5314.800	41.88	-3.93	54.0	-12.12	AV	251.00	150	Vertical	Pass
6	12163.787	51.22	-0.90	74.0	-22.78	Peak	27.00	150	Vertical	Pass
6**	12163.787	42.19	-0.90	54.0	-11.81	AV	27.00	150	Vertical	Pass

8-DPSK MIDDLE CHANNEL 1 GHz to 18 GHz, ANT H

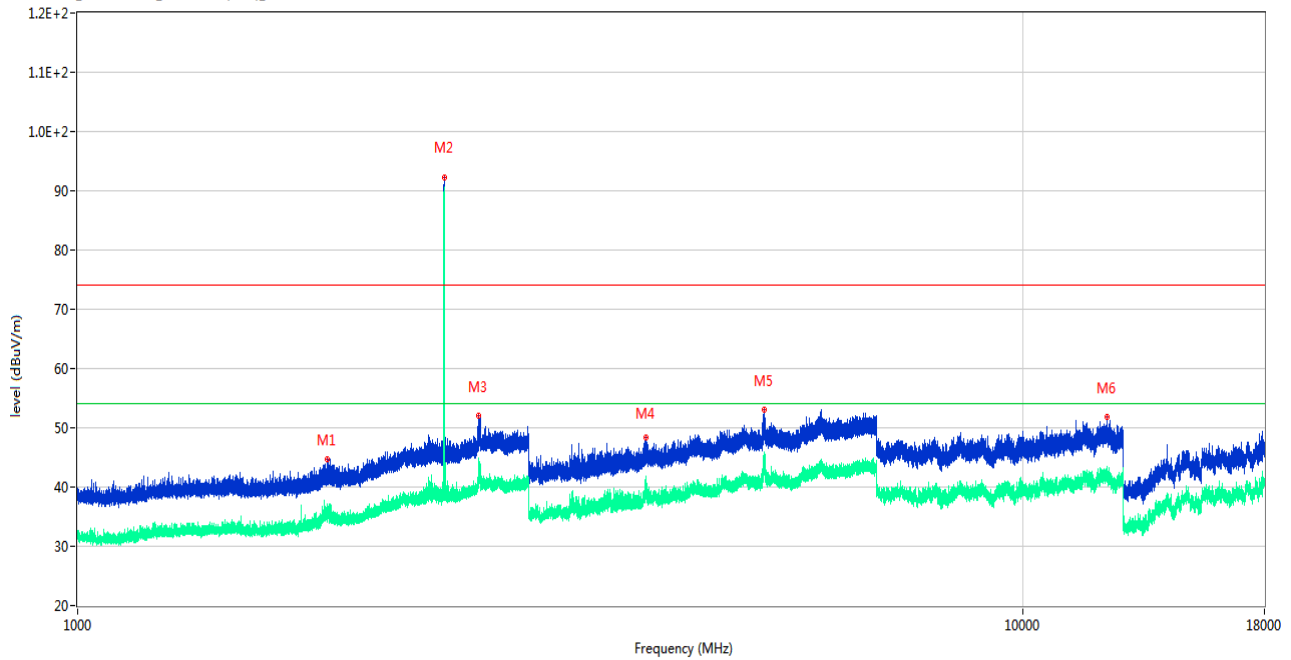
RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2364.300	51.74	-13.79	74.0	-22.26	Peak	241.00	150	Horizontal	Pass
1**	2364.300	48.92	-13.79	54.0	-5.08	AV	241.00	150	Horizontal	Pass
2	2440.700	103.91	-13.42	74.0	29.91	Peak	256.00	150	Horizontal	N/A
2**	2440.700	100.63	-13.42	54.0	46.63	AV	256.00	150	Horizontal	N/A
3	2517.500	51.11	-13.60	74.0	-22.89	Peak	215.00	150	Horizontal	Pass
3**	2517.500	46.98	-13.60	54.0	-7.02	AV	215.00	150	Horizontal	Pass
4	4451.800	49.21	-4.51	74.0	-24.79	Peak	304.00	150	Horizontal	Pass
4**	4451.800	39.30	-4.51	54.0	-14.70	AV	304.00	150	Horizontal	Pass
5	6099.400	52.77	-1.32	74.0	-21.23	Peak	304.00	150	Horizontal	Pass
5**	6099.400	43.78	-1.32	54.0	-10.22	AV	304.00	150	Horizontal	Pass
6	12074.087	51.90	-1.38	74.0	-22.10	Peak	0.00	150	Horizontal	Pass
6**	12074.087	42.01	-1.38	54.0	-11.99	AV	0.00	150	Horizontal	Pass

8-DPSK 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)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1838.700	44.72	-17.01	74.0	-29.28	Peak	40.00	150	Vertical	Pass
1**	1838.700	35.30	-17.01	54.0	-18.70	AV	40.00	150	Vertical	Pass
2	2441.000	92.26	-13.43	74.0	18.26	Peak	118.00	150	Vertical	N/A
2**	2441.000	90.25	-13.43	54.0	36.25	AV	118.00	150	Vertical	N/A
3	2656.800	52.10	-12.51	74.0	-21.90	Peak	65.00	150	Vertical	Pass
3**	2656.800	40.66	-12.51	54.0	-13.34	AV	65.00	150	Vertical	Pass
4	3990.800	48.29	-6.22	74.0	-25.71	Peak	147.00	150	Vertical	Pass
4**	3990.800	38.74	-6.22	54.0	-15.26	AV	147.00	150	Vertical	Pass
5	5328.400	53.08	-3.78	74.0	-20.92	Peak	173.00	150	Vertical	Pass
5**	5328.400	43.01	-3.78	54.0	-10.99	AV	173.00	150	Vertical	Pass
6	12265.275	51.76	0.05	74.0	-22.24	Peak	192.00	150	Vertical	Pass
6**	12265.275	42.89	0.05	54.0	-11.11	AV	192.00	150	Vertical	Pass

8-DPSK HIGH CHANNEL 1 GHz to 18 GHz, ANT H

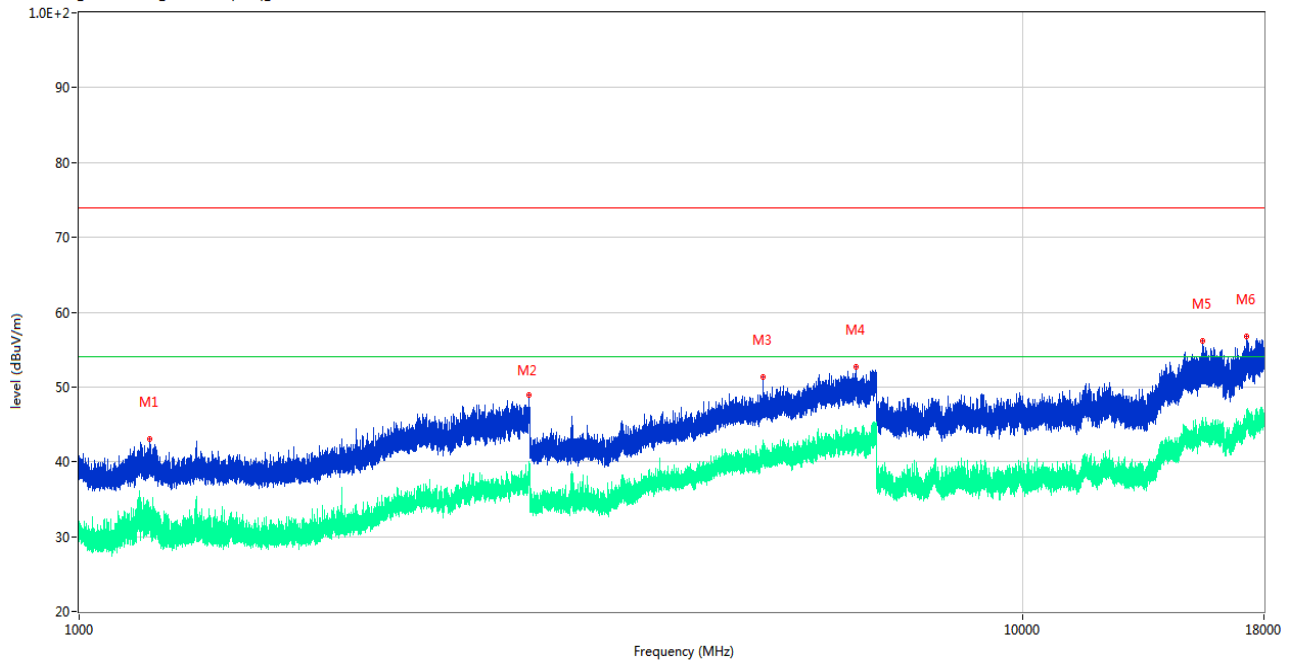
RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1668.300	42.20	-11.84	74.0	-31.80	Peak	266.00	150	Horizontal	Pass
1**	1668.300	34.32	-11.84	54.0	-19.68	AV	266.00	150	Horizontal	Pass
2	2489.700	49.27	-6.34	74.0	-24.73	Peak	272.00	150	Horizontal	Pass
2**	2489.700	34.06	-6.34	54.0	-19.94	AV	272.00	150	Horizontal	Pass
3	2997.200	50.18	-2.48	74.0	-23.82	Peak	0.00	150	Horizontal	Pass
3**	2997.200	38.08	-2.48	54.0	-15.92	AV	0.00	150	Horizontal	Pass
4	6393.400	52.45	2.62	74.0	-21.55	Peak	117.00	150	Horizontal	Pass
4**	6393.400	41.33	2.62	54.0	-12.67	AV	117.00	150	Horizontal	Pass
5	14788.838	54.91	23.16	74.0	-19.09	Peak	115.00	150	Horizontal	Pass
5**	14788.838	42.89	23.16	54.0	-11.11	AV	115.00	150	Horizontal	Pass
6	17881.350	57.27	24.44	74.0	-16.73	Peak	36.00	150	Horizontal	Pass
6**	17881.350	45.06	24.44	54.0	-8.94	AV	36.00	150	Horizontal	Pass

8-DPSK HIGH CHANNEL 1 GHz to 18 GHz, ANT V

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

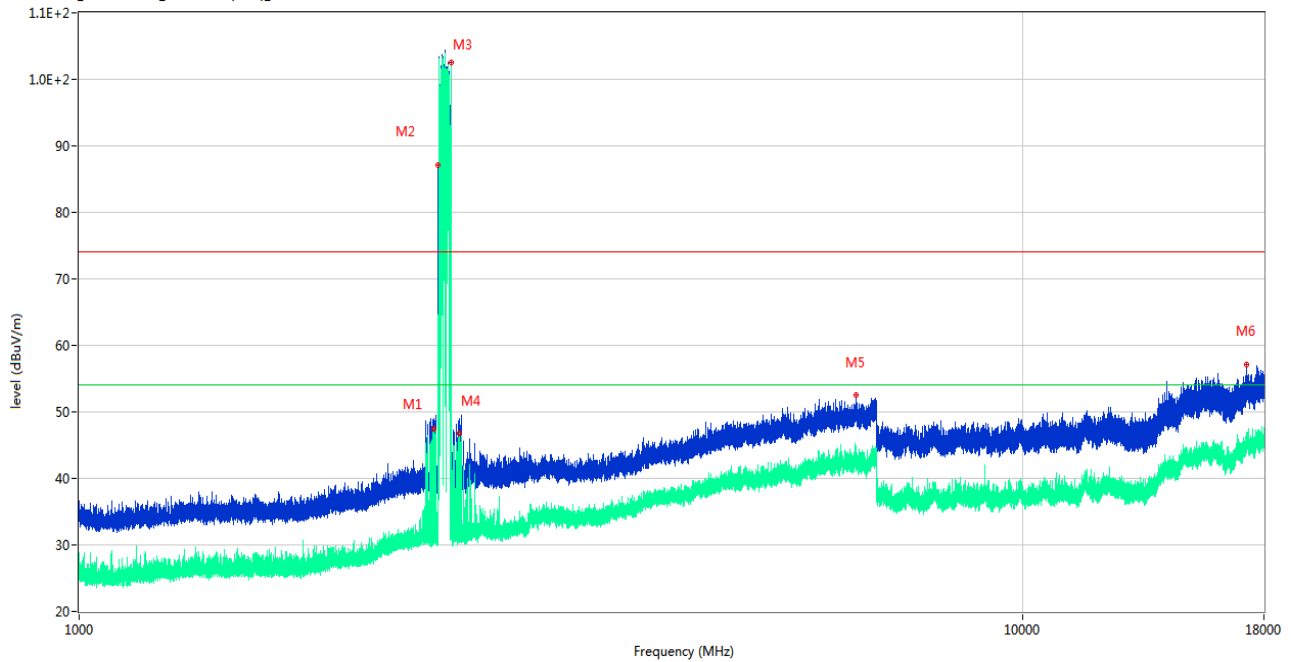


No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1189.200	43.11	-11.65	74.0	-30.89	Peak	3.00	150	Vertical	Pass
1**	1189.200	33.55	-11.65	54.0	-20.45	AV	3.00	150	Vertical	Pass
2	2996.400	48.96	-2.48	74.0	-25.04	Peak	48.00	150	Vertical	Pass
2**	2996.400	38.32	-2.48	54.0	-15.68	AV	48.00	150	Vertical	Pass
3	5299.600	51.31	0.27	74.0	-22.69	Peak	102.00	150	Vertical	Pass
3**	5299.600	40.72	0.27	54.0	-13.28	AV	102.00	150	Vertical	Pass
4	6654.200	52.62	4.66	74.0	-21.38	Peak	293.00	150	Vertical	Pass
4**	6654.200	43.73	4.66	54.0	-10.27	AV	293.00	150	Vertical	Pass
5	15499.162	56.17	23.96	74.0	-17.83	Peak	224.00	150	Vertical	Pass
5**	15499.162	43.99	23.96	54.0	-10.01	AV	224.00	150	Vertical	Pass
6	17265.787	56.72	24.32	74.0	-17.28	Peak	75.00	150	Vertical	Pass
6**	17265.787	45.09	24.32	54.0	-8.91	AV	75.00	150	Vertical	Pass

Hopping Mode:

GFSK MODE 1 GHz to 18 GHz, ANT H

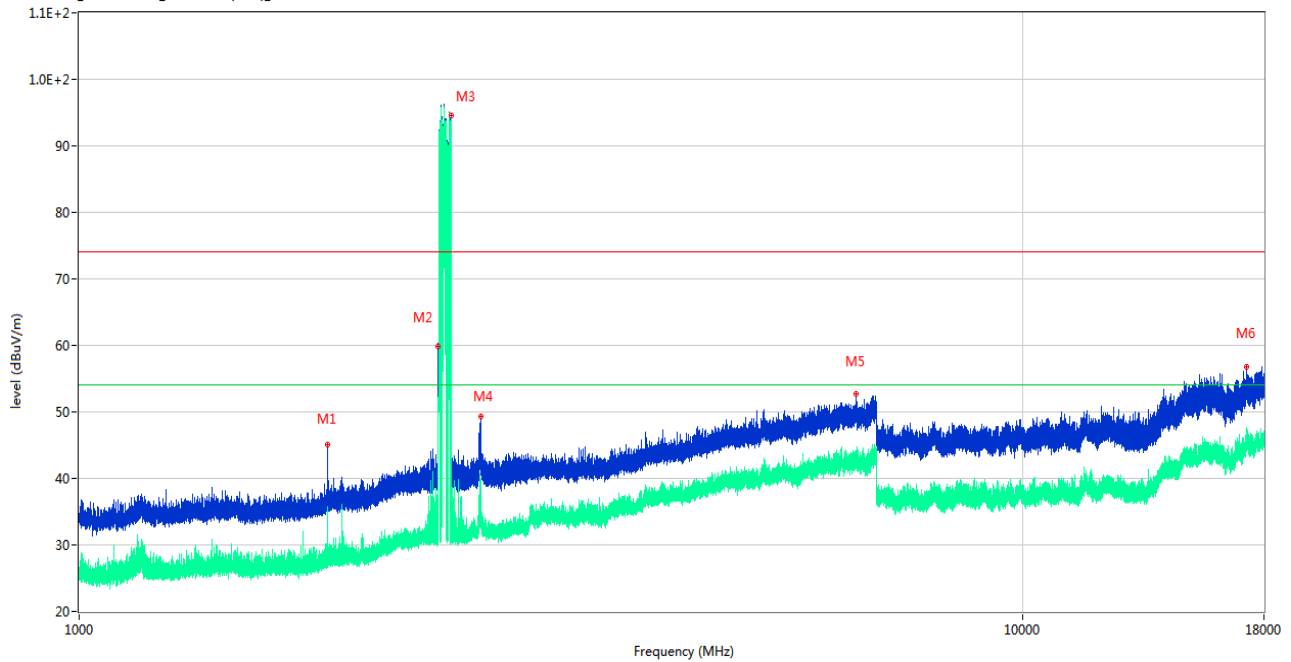
RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2376.200	48.49	-10.36	74.0	-25.51	Peak	335.00	150	Horizontal	Pass
1**	2376.200	47.50	-10.36	54.0	-6.50	AV	335.00	150	Horizontal	Pass
2	2402.600	87.13	-10.51	74.0	13.13	Peak	301.00	150	Horizontal	N/A
2**	2402.600	44.70	-10.51	54.0	-9.30	AV	301.00	150	Horizontal	N/A
3	2477.900	102.49	-10.41	74.0	28.49	Peak	252.00	150	Horizontal	N/A
3**	2477.900	100.55	-10.41	54.0	46.55	AV	252.00	150	Horizontal	N/A
4	2527.700	47.46	-9.79	74.0	-26.54	Peak	259.00	150	Horizontal	Pass
4**	2527.700	46.74	-9.79	54.0	-7.26	AV	259.00	150	Horizontal	Pass
5	6656.400	52.58	4.44	74.0	-21.42	Peak	170.00	150	Horizontal	Pass
5**	6656.400	42.45	4.44	54.0	-11.55	AV	170.00	150	Horizontal	Pass
6	17257.386	57.14	24.23	74.0	-16.86	Peak	-3.00	150	Horizontal	Pass
6**	17257.386	45.62	24.23	54.0	-8.38	AV	-3.00	150	Horizontal	Pass

GFSK MODE 1 GHz to 18 GHz, ANT V

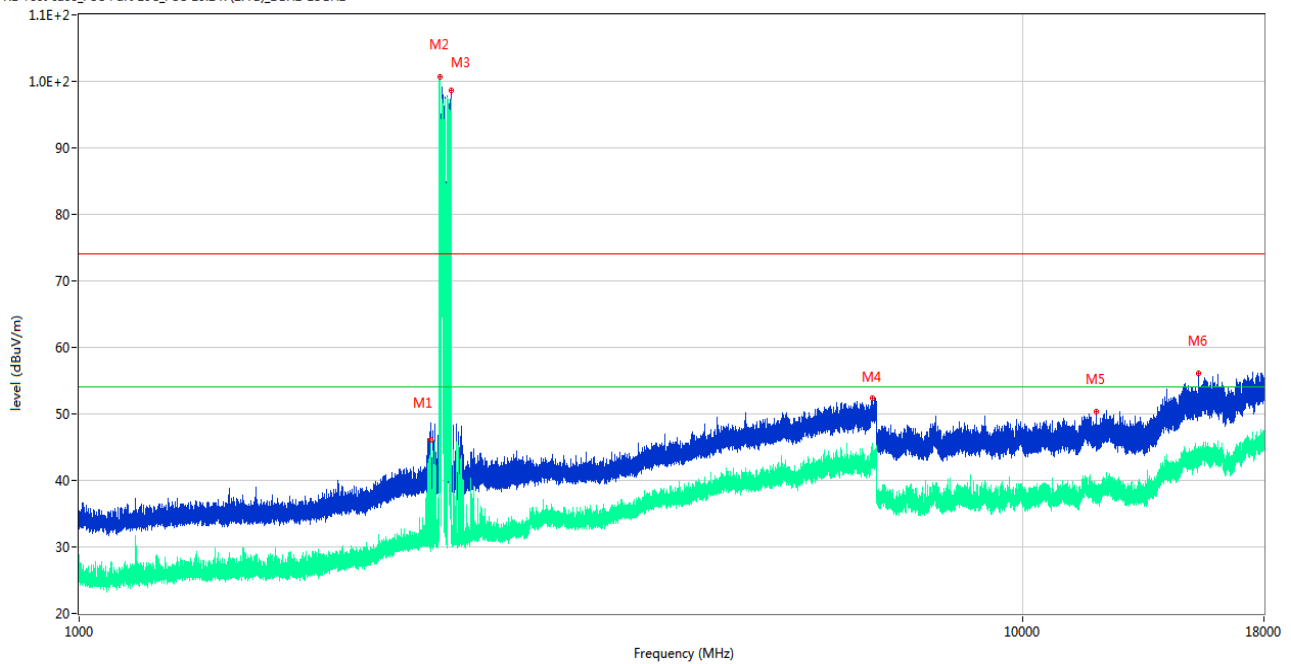
RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1831.800	45.01	-14.51	74.0	-28.99	Peak	202.00	150	Vertical	Pass
1**	1831.800	27.45	-14.51	54.0	-26.55	AV	202.00	150	Vertical	Pass
2	2402.600	59.76	-10.51	74.0	-14.24	Peak	293.00	150	Vertical	N/A
2**	2402.600	49.77	-10.51	54.0	-4.23	AV	293.00	150	Vertical	N/A
3	2478.800	94.51	-10.34	74.0	20.51	Peak	0.00	150	Vertical	N/A
3**	2478.800	90.84	-10.34	54.0	36.84	AV	0.00	150	Vertical	N/A
4	2666.900	49.25	-9.06	74.0	-24.75	Peak	300.00	150	Vertical	Pass
4**	2666.900	34.33	-9.06	54.0	-19.67	AV	300.00	150	Vertical	Pass
5	6656.000	52.63	4.51	74.0	-21.37	Peak	290.00	150	Vertical	Pass
5**	6656.000	42.80	4.51	54.0	-11.20	AV	290.00	150	Vertical	Pass
6	17271.300	56.76	24.39	74.0	-17.24	Peak	262.00	150	Vertical	Pass
6**	17271.300	45.55	24.39	54.0	-8.45	AV	262.00	150	Vertical	Pass

8-DPSK MODE 1 GHz to 18 GHz, ANT H

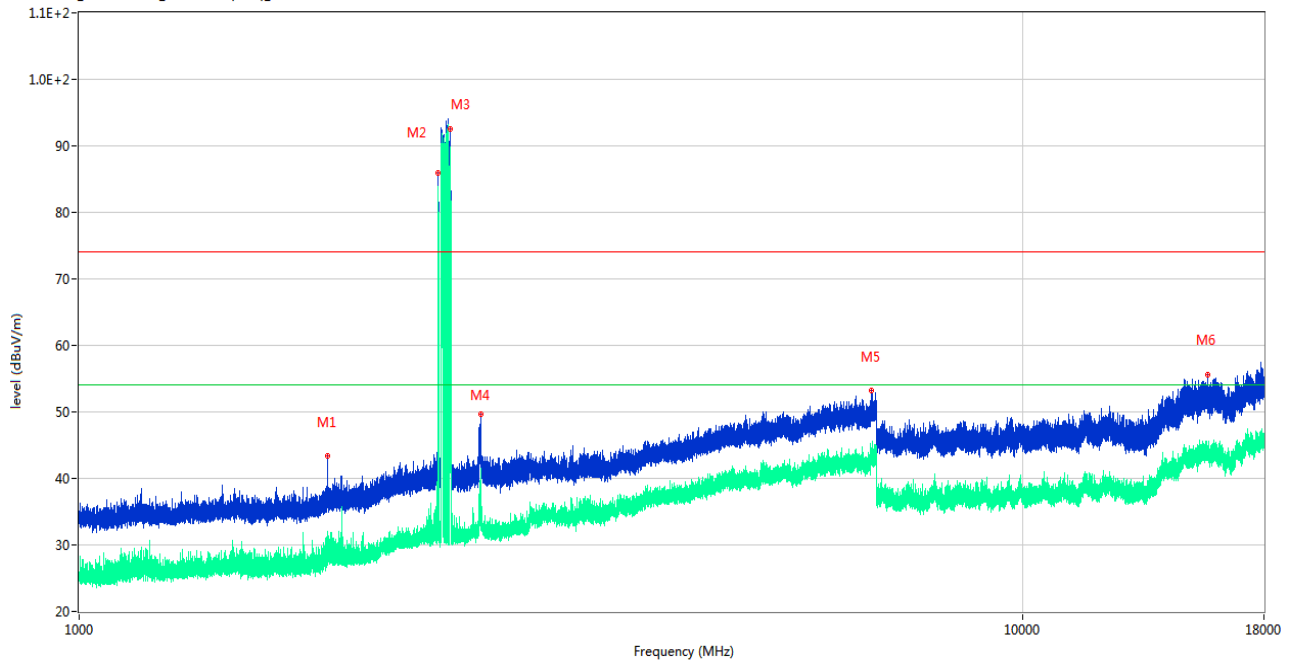
RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2359.200	48.67	-10.52	74.0	-25.33	Peak	325.00	150	Horizontal	Pass
1**	2359.200	46.14	-10.52	54.0	-7.86	AV	325.00	150	Horizontal	Pass
2	2411.000	100.65	-10.37	74.0	26.65	Peak	311.00	150	Horizontal	N/A
2**	2411.000	52.41	-10.37	54.0	-1.59	AV	311.00	150	Horizontal	N/A
3	2479.900	98.60	-10.26	74.0	24.60	Peak	360.00	150	Horizontal	N/A
3**	2479.900	94.76	-10.26	54.0	40.76	AV	360.00	150	Horizontal	N/A
4	6918.600	52.36	4.55	74.0	-21.64	Peak	138.00	150	Horizontal	Pass
4**	6918.600	42.63	4.55	54.0	-11.37	AV	138.00	150	Horizontal	Pass
5	11954.487	50.33	18.20	74.0	-23.67	Peak	168.00	150	Horizontal	Pass
5**	11954.487	37.40	18.20	54.0	-16.60	AV	168.00	150	Horizontal	Pass
6	15357.938	56.03	22.51	74.0	-17.97	Peak	116.00	150	Horizontal	Pass
6**	15357.938	44.07	22.51	54.0	-9.93	AV	116.00	150	Horizontal	Pass

8-DPSK MODE 1 GHz to 18 GHz, ANT V

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



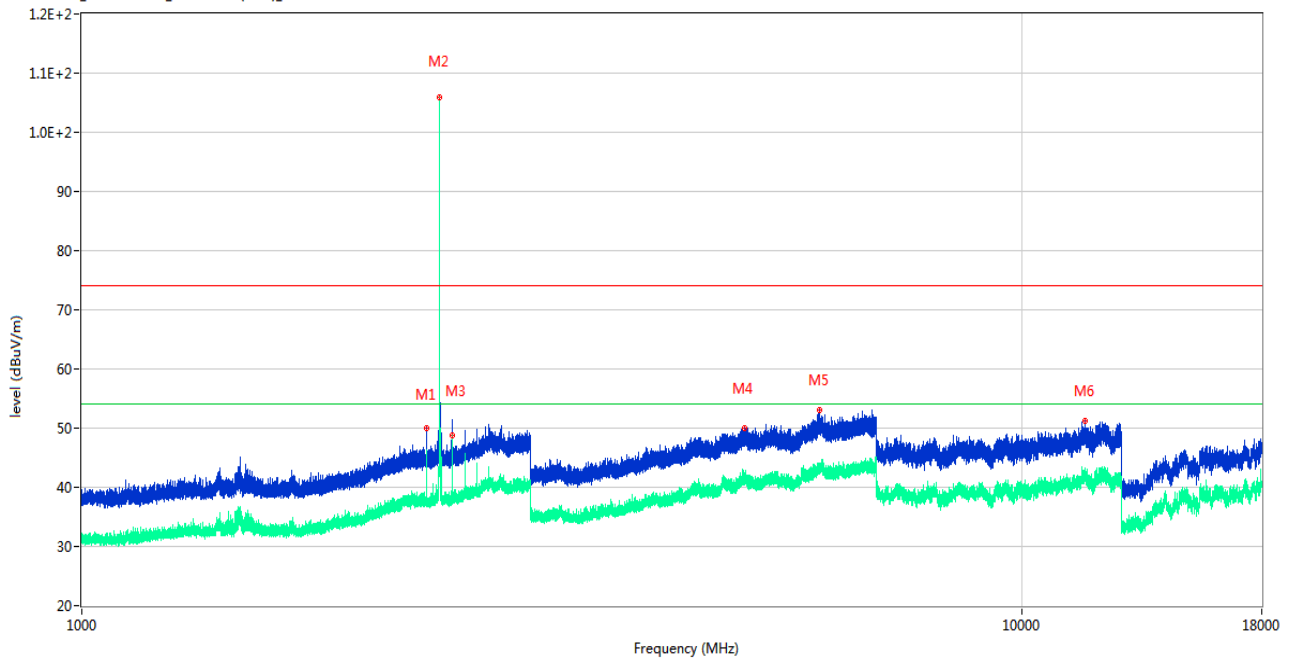
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1832.200	43.47	-14.51	74.0	-30.53	Peak	360.00	150	Vertical	Pass
1**	1832.200	30.39	-14.51	54.0	-23.61	AV	360.00	150	Vertical	Pass
2	2402.000	85.93	-10.59	74.0	11.93	Peak	251.00	150	Vertical	N/A
2**	2402.000	83.93	-10.59	54.0	29.93	AV	251.00	150	Vertical	N/A
3	2474.800	92.59	-10.62	74.0	18.59	Peak	10.00	150	Vertical	N/A
3**	2474.800	89.81	-10.62	54.0	35.81	AV	10.00	150	Vertical	N/A
4	2661.400	49.74	-9.24	74.0	-24.26	Peak	258.00	150	Vertical	Pass
4**	2661.400	34.27	-9.24	54.0	-19.73	AV	258.00	150	Vertical	Pass
5	6916.800	53.16	4.70	74.0	-20.84	Peak	180.00	150	Vertical	Pass
5**	6916.800	43.33	4.70	54.0	-10.67	AV	180.00	150	Vertical	Pass
6	15678.713	55.62	23.58	74.0	-18.38	Peak	244.00	150	Vertical	Pass
6**	15678.713	43.94	23.58	54.0	-10.06	AV	244.00	150	Vertical	Pass

South Star

Main Antenna

GFSK LOW CHANNEL 1 GHz to 18 GHz, ANT H

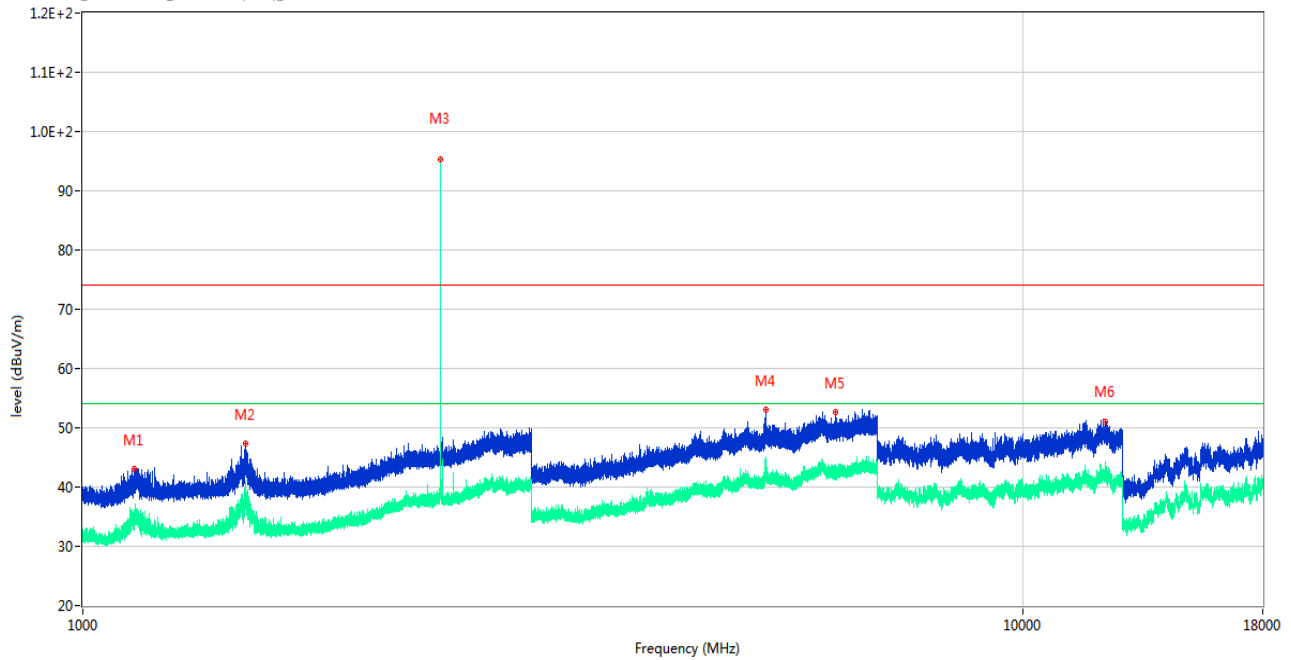
RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2325.300	49.92	-13.76	74.0	-24.08	Peak	252.00	150	Horizontal	Pass
1**	2325.300	46.14	-13.76	54.0	-7.86	AV	252.00	150	Horizontal	Pass
2	2402.100	106.14	-13.32	74.0	32.14	Peak	252.00	150	Horizontal	N/A
2**	2402.100	105.93	-13.32	54.0	51.93	AV	252.00	150	Horizontal	N/A
3	2478.800	50.12	-13.32	74.0	-23.88	Peak	252.00	150	Horizontal	Pass
3**	2478.800	48.78	-13.32	54.0	-5.22	AV	252.00	150	Horizontal	Pass
4	5074.800	50.05	-3.55	74.0	-23.95	Peak	10.00	150	Horizontal	Pass
4**	5074.800	40.84	-3.55	54.0	-13.16	AV	10.00	150	Horizontal	Pass
5	6092.400	53.14	-1.56	74.0	-20.86	Peak	339.00	150	Horizontal	Pass
5**	6092.400	42.73	-1.56	54.0	-11.27	AV	339.00	150	Horizontal	Pass
6	11663.537	51.28	-0.56	74.0	-22.72	Peak	14.00	150	Horizontal	Pass
6**	11663.537	41.48	-0.56	54.0	-12.52	AV	14.00	150	Horizontal	Pass

GFSK LOW CHANNEL 1 GHz to 18 GHz, ANT V

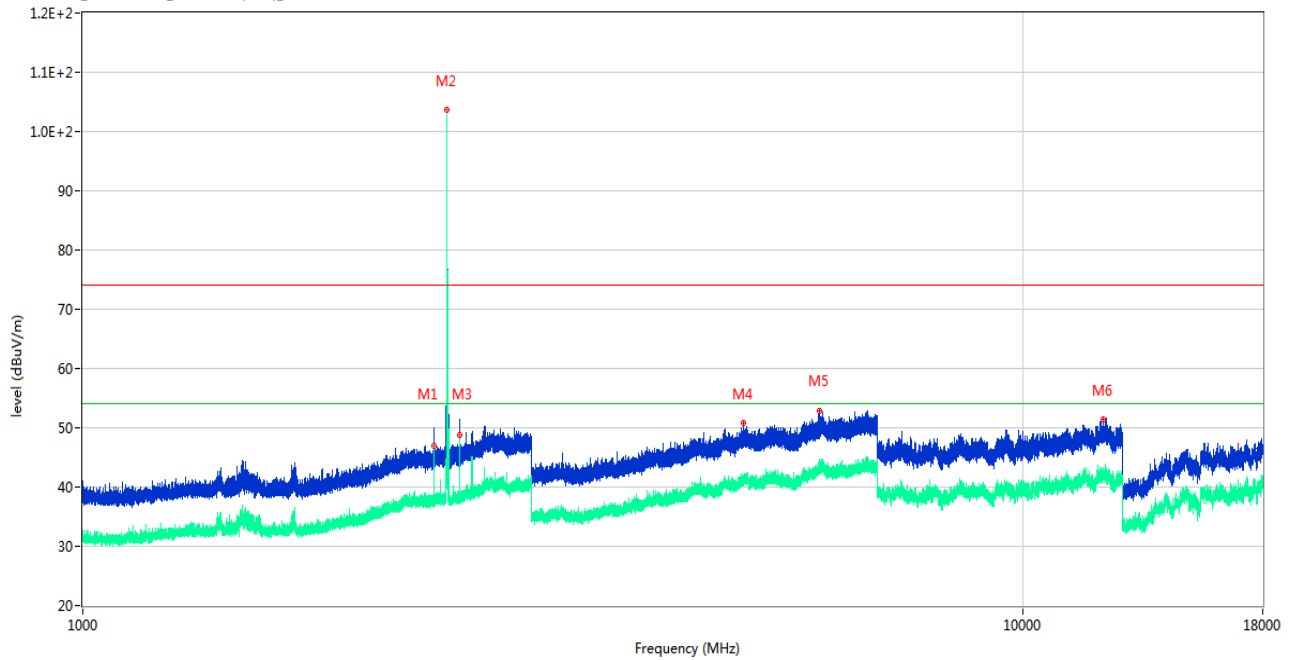
RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1134.600	43.02	-18.54	74.0	-30.98	Peak	142.00	150	Vertical	Pass
1**	1134.600	33.80	-18.54	54.0	-20.20	AV	142.00	150	Vertical	Pass
2	1489.000	47.33	-18.00	74.0	-26.67	Peak	281.00	150	Vertical	Pass
2**	1489.000	37.92	-18.00	54.0	-16.08	AV	281.00	150	Vertical	Pass
3	2402.200	95.43	-13.32	74.0	21.43	Peak	177.00	150	Vertical	N/A
3**	2402.200	94.98	-13.32	54.0	40.98	AV	177.00	150	Vertical	N/A
4	5331.600	53.04	-3.71	74.0	-20.96	Peak	97.00	150	Vertical	Pass
4**	5331.600	44.09	-3.71	54.0	-9.91	AV	97.00	150	Vertical	Pass
5	6315.600	52.59	-2.39	74.0	-21.41	Peak	41.00	150	Vertical	Pass
5**	6315.600	43.11	-2.39	54.0	-10.89	AV	41.00	150	Vertical	Pass
6	12239.688	50.94	-0.32	74.0	-23.06	Peak	87.00	150	Vertical	Pass
6**	12239.688	42.37	-0.32	54.0	-11.63	AV	87.00	150	Vertical	Pass

GFSK MIDDLE CHANNEL 1 GHz to 18 GHz, ANT H

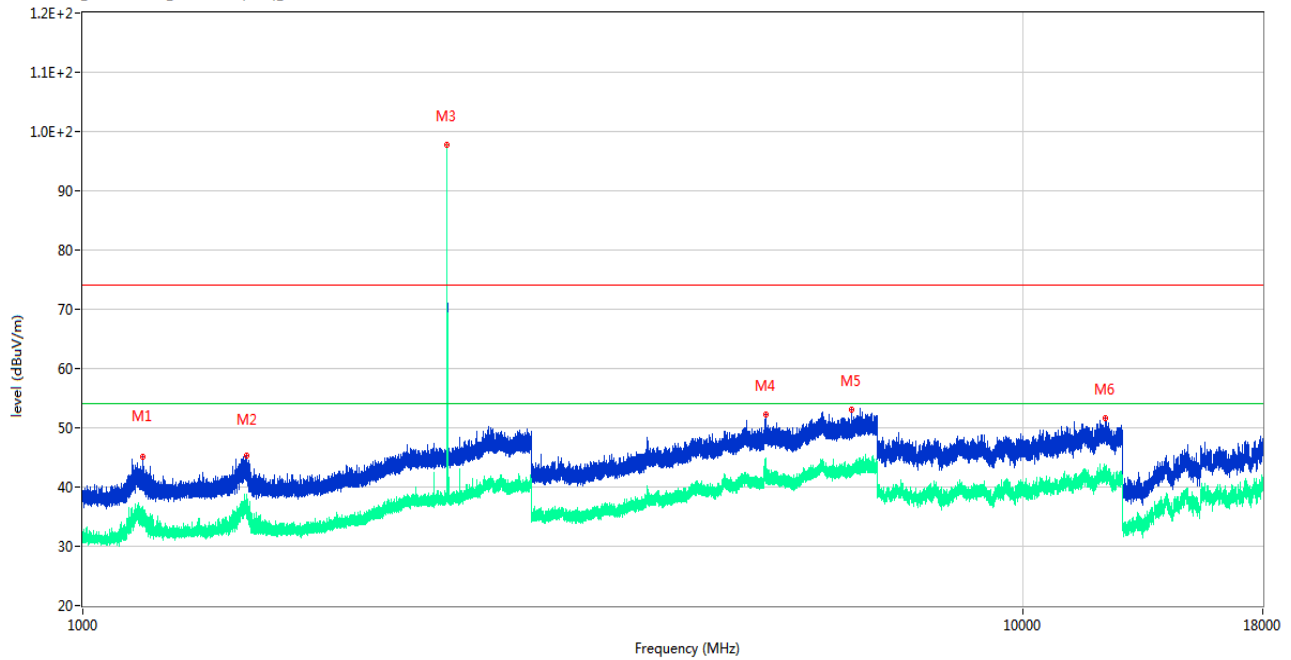
RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2364.200	49.91	-13.80	74.0	-24.09	Peak	0.00	150	Horizontal	Pass
1**	2364.200	46.93	-13.80	54.0	-7.07	AV	0.00	150	Horizontal	Pass
2	2441.100	103.87	-13.43	74.0	29.87	Peak	223.00	150	Horizontal	N/A
2**	2441.100	103.70	-13.43	54.0	49.70	AV	223.00	150	Horizontal	N/A
3	2517.900	51.50	-13.61	74.0	-22.50	Peak	232.00	150	Horizontal	Pass
3**	2517.900	48.76	-13.61	54.0	-5.24	AV	232.00	150	Horizontal	Pass
4	5038.400	50.79	-3.94	74.0	-23.21	Peak	90.00	150	Horizontal	Pass
4**	5038.400	41.05	-3.94	54.0	-12.95	AV	90.00	150	Horizontal	Pass
5	6080.800	52.87	-2.24	74.0	-21.13	Peak	77.00	150	Horizontal	Pass
5**	6080.800	42.72	-2.24	54.0	-11.28	AV	77.00	150	Horizontal	Pass
6	12175.575	51.38	-0.96	74.0	-22.62	Peak	298.00	150	Horizontal	Pass
6**	12175.575	41.77	-0.96	54.0	-12.23	AV	298.00	150	Horizontal	Pass

GFSK MIDDLE CHANNEL 1 GHz to 18 GHz, ANT V

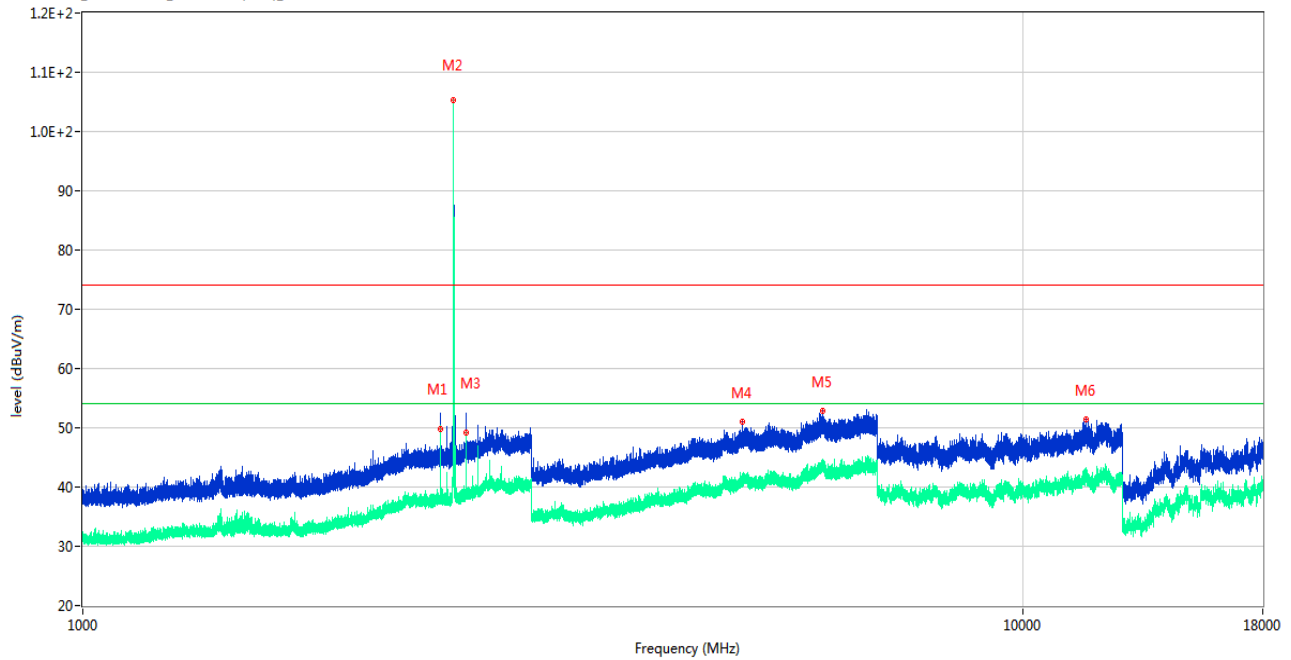
RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1159.400	45.15	-18.62	74.0	-28.85	Peak	120.00	150	Vertical	Pass
1**	1159.400	36.80	-18.62	54.0	-17.20	AV	120.00	150	Vertical	Pass
2	1493.500	45.27	-17.98	74.0	-28.73	Peak	145.00	150	Vertical	Pass
2**	1493.500	37.17	-17.98	54.0	-16.83	AV	145.00	150	Vertical	Pass
3	2441.100	97.94	-13.43	74.0	23.94	Peak	185.00	150	Vertical	N/A
3**	2441.100	97.72	-13.43	54.0	43.72	AV	185.00	150	Vertical	N/A
4	5327.800	52.27	-3.81	74.0	-21.73	Peak	99.00	150	Vertical	Pass
4**	5327.800	41.86	-3.81	54.0	-12.14	AV	99.00	150	Vertical	Pass
5	6580.400	53.06	-2.55	74.0	-20.94	Peak	99.00	150	Vertical	Pass
5**	6580.400	42.41	-2.55	54.0	-11.59	AV	99.00	150	Vertical	Pass
6	12235.662	51.60	-0.31	74.0	-22.40	Peak	86.00	150	Vertical	Pass
6**	12235.662	41.95	-0.31	54.0	-12.05	AV	86.00	150	Vertical	Pass

GFSK HIGH CHANNEL 1 GHz to 18 GHz, ANT H

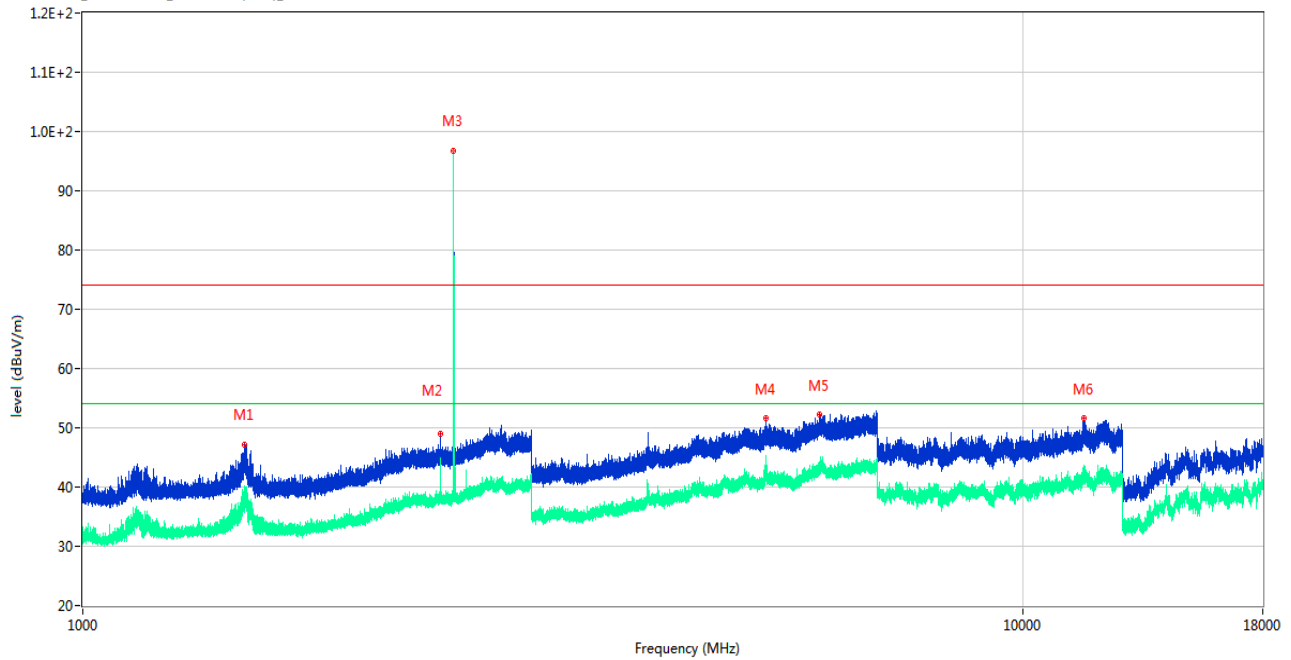
RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2403.200	52.39	-13.31	74.0	-21.61	Peak	248.00	150	Horizontal	Pass
1**	2403.200	49.78	-13.31	54.0	-4.22	AV	248.00	150	Horizontal	Pass
2	2480.000	105.31	-13.18	74.0	31.31	Peak	240.00	150	Horizontal	N/A
2**	2480.000	105.22	-13.18	54.0	51.22	AV	240.00	150	Horizontal	N/A
3	2556.700	51.65	-12.62	74.0	-22.35	Peak	224.00	150	Horizontal	Pass
3**	2556.700	49.27	-12.62	54.0	-4.73	AV	224.00	150	Horizontal	Pass
4	5036.400	50.98	-3.96	74.0	-23.02	Peak	33.00	150	Horizontal	Pass
4**	5036.400	40.83	-3.96	54.0	-13.17	AV	33.00	150	Horizontal	Pass
5	6120.400	52.79	-1.29	74.0	-21.21	Peak	187.00	150	Horizontal	Pass
5**	6120.400	42.61	-1.29	54.0	-11.39	AV	187.00	150	Horizontal	Pass
6	11680.213	51.40	-0.96	74.0	-22.60	Peak	68.00	150	Horizontal	Pass
6**	11680.213	42.24	-0.96	54.0	-11.76	AV	68.00	150	Horizontal	Pass

GFSK HIGH CHANNEL 1 GHz to 18 GHz, ANT V

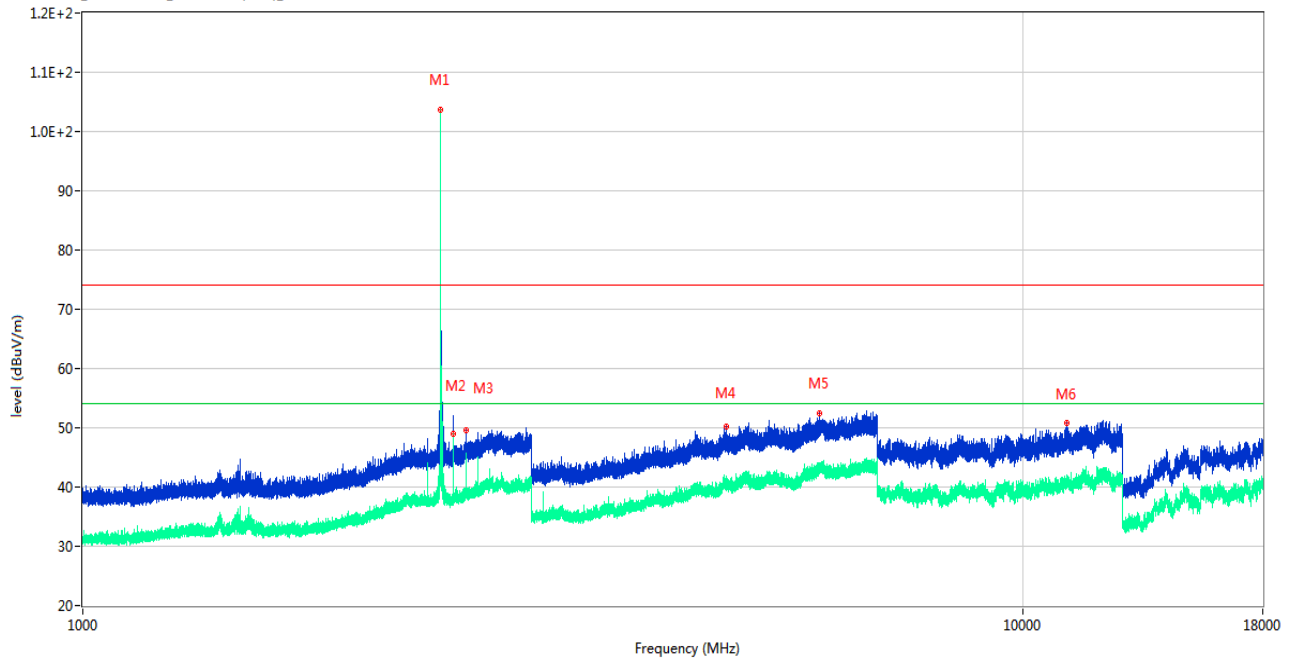
RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1487.300	47.17	-17.99	74.0	-26.83	Peak	257.00	150	Vertical	Pass
1**	1487.300	37.04	-17.99	54.0	-16.96	AV	257.00	150	Vertical	Pass
2	2403.000	49.04	-13.31	74.0	-24.96	Peak	290.00	150	Vertical	Pass
2**	2403.000	42.49	-13.31	54.0	-11.51	AV	290.00	150	Vertical	Pass
3	2480.100	97.00	-13.17	74.0	23.00	Peak	188.00	150	Vertical	N/A
3**	2480.100	96.80	-13.17	54.0	42.80	AV	188.00	150	Vertical	N/A
4	5323.400	51.66	-3.83	74.0	-22.34	Peak	211.00	150	Vertical	Pass
4**	5323.400	41.92	-3.83	54.0	-12.08	AV	211.00	150	Vertical	Pass
5	6083.800	52.25	-2.06	74.0	-21.75	Peak	351.00	150	Vertical	Pass
5**	6083.800	43.44	-2.06	54.0	-10.56	AV	351.00	150	Vertical	Pass
6	11622.425	51.55	-0.19	74.0	-22.45	Peak	210.00	150	Vertical	Pass
6**	11622.425	42.50	-0.19	54.0	-11.50	AV	210.00	150	Vertical	Pass

8-DPSK LOW CHANNEL 1 GHz to 18 GHz, ANT H

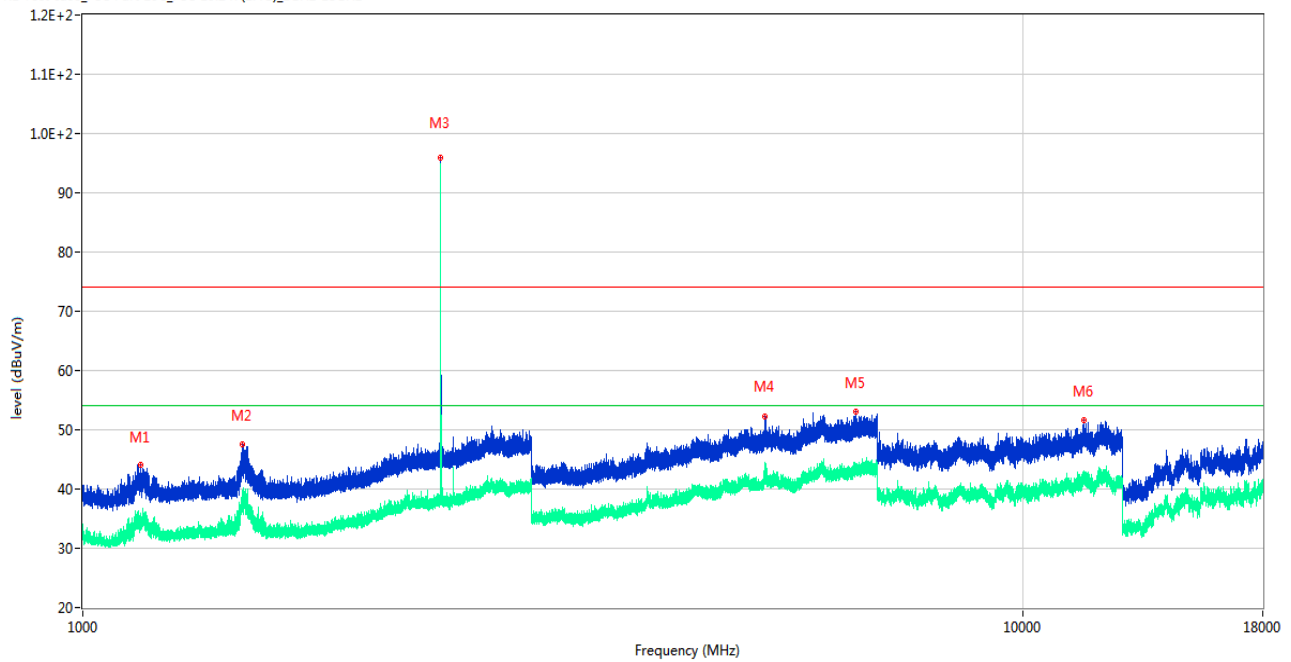
RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2402.400	104.17	-13.32	74.0	30.17	Peak	242.00	150	Horizontal	N/A
1**	2402.400	101.86	-13.32	54.0	47.86	AV	242.00	150	Horizontal	N/A
2	2478.900	50.58	-13.31	74.0	-23.42	Peak	242.00	150	Horizontal	Pass
2**	2478.900	49.03	-13.31	54.0	-4.97	AV	242.00	150	Horizontal	Pass
3	2555.500	49.67	-12.62	74.0	-24.33	Peak	227.00	150	Horizontal	Pass
3**	2555.500	43.49	-12.62	54.0	-10.51	AV	227.00	150	Horizontal	Pass
4	4835.200	50.17	-4.10	74.0	-23.83	Peak	334.00	150	Horizontal	Pass
4**	4835.200	40.37	-4.10	54.0	-13.63	AV	334.00	150	Horizontal	Pass
5	6076.600	52.53	-2.30	74.0	-21.47	Peak	0.00	150	Horizontal	Pass
5**	6076.600	43.31	-2.30	54.0	-10.69	AV	0.00	150	Horizontal	Pass
6	11149.200	50.77	-1.78	74.0	-23.23	Peak	33.00	150	Horizontal	Pass
6**	11149.200	40.58	-1.78	54.0	-13.42	AV	33.00	150	Horizontal	Pass

8-DPSK LOW CHANNEL 1 GHz to 18 GHz, ANT V

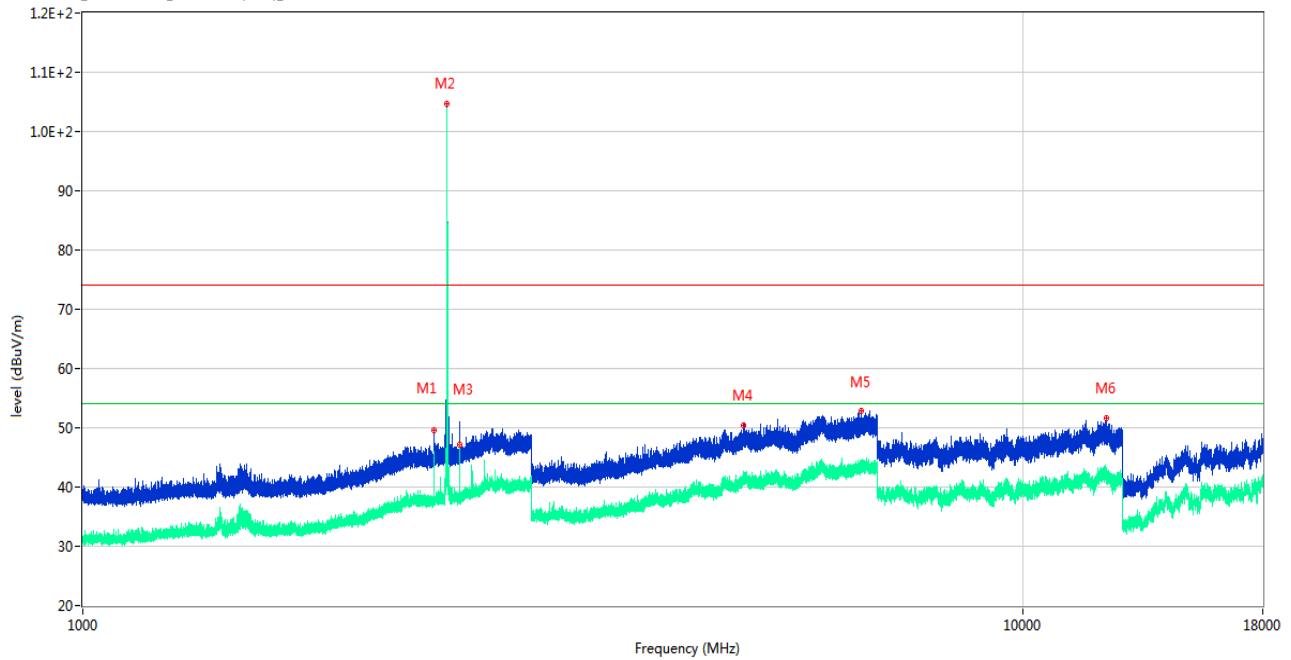
RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1150.900	44.01	-18.60	74.0	-29.99	Peak	118.00	150	Vertical	Pass
1**	1150.900	33.83	-18.60	54.0	-20.17	AV	118.00	150	Vertical	Pass
2	1478.900	47.47	-18.00	74.0	-26.53	Peak	281.00	150	Vertical	Pass
2**	1478.900	36.66	-18.00	54.0	-17.34	AV	281.00	150	Vertical	Pass
3	2401.900	96.01	-13.33	74.0	22.01	Peak	295.00	150	Vertical	N/A
3**	2401.900	94.90	-13.33	54.0	40.90	AV	295.00	150	Vertical	N/A
4	5318.200	52.30	-3.96	74.0	-21.70	Peak	289.00	150	Vertical	Pass
4**	5318.200	43.95	-3.96	54.0	-10.05	AV	289.00	150	Vertical	Pass
5	6642.600	53.04	-0.99	74.0	-20.96	Peak	73.00	150	Vertical	Pass
5**	6642.600	43.24	-0.99	54.0	-10.76	AV	73.00	150	Vertical	Pass
6	11620.125	51.60	-0.16	74.0	-22.40	Peak	86.00	150	Vertical	Pass
6**	11620.125	41.85	-0.16	54.0	-12.15	AV	86.00	150	Vertical	Pass

8-DPSK MIDDLE CHANNEL 1 GHz to 18 GHz, ANT H

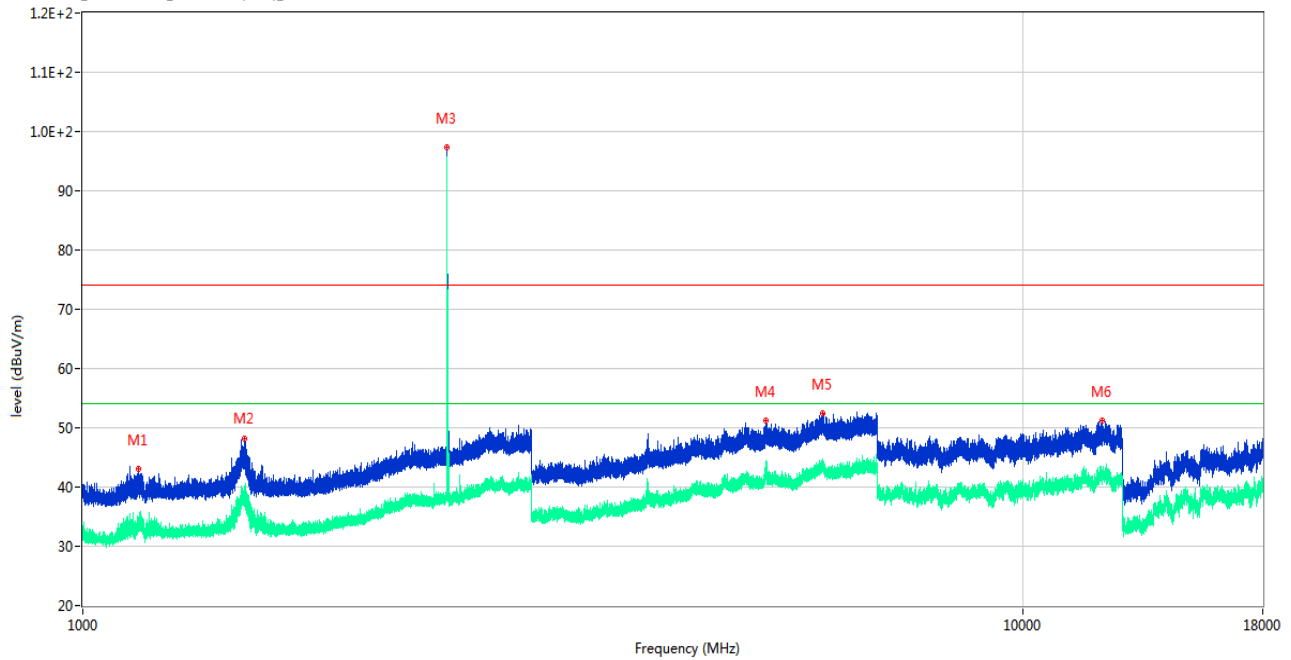
RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2364.300	49.67	-13.79	74.0	-24.33	Peak	235.00	150	Horizontal	Pass
1**	2364.300	44.69	-13.79	54.0	-9.31	AV	235.00	150	Horizontal	Pass
2	2441.200	104.63	-13.43	74.0	30.63	Peak	251.00	150	Horizontal	N/A
2**	2441.200	102.53	-13.43	54.0	48.53	AV	251.00	150	Horizontal	N/A
3	2517.700	51.11	-13.60	74.0	-22.89	Peak	345.00	150	Horizontal	Pass
3**	2517.700	47.15	-13.60	54.0	-6.85	AV	345.00	150	Horizontal	Pass
4	5048.000	50.46	-3.75	74.0	-23.54	Peak	108.00	150	Horizontal	Pass
4**	5048.000	40.70	-3.75	54.0	-13.30	AV	108.00	150	Horizontal	Pass
5	6739.800	52.79	-1.95	74.0	-21.21	Peak	181.00	150	Horizontal	Pass
5**	6739.800	44.10	-1.95	54.0	-9.90	AV	181.00	150	Horizontal	Pass
6	12270.162	51.61	0.06	74.0	-22.39	Peak	89.00	150	Horizontal	Pass
6**	12270.162	42.65	0.06	54.0	-11.35	AV	89.00	150	Horizontal	Pass

8-DPSK MIDDLE CHANNEL 1 GHz to 18 GHz, ANT V

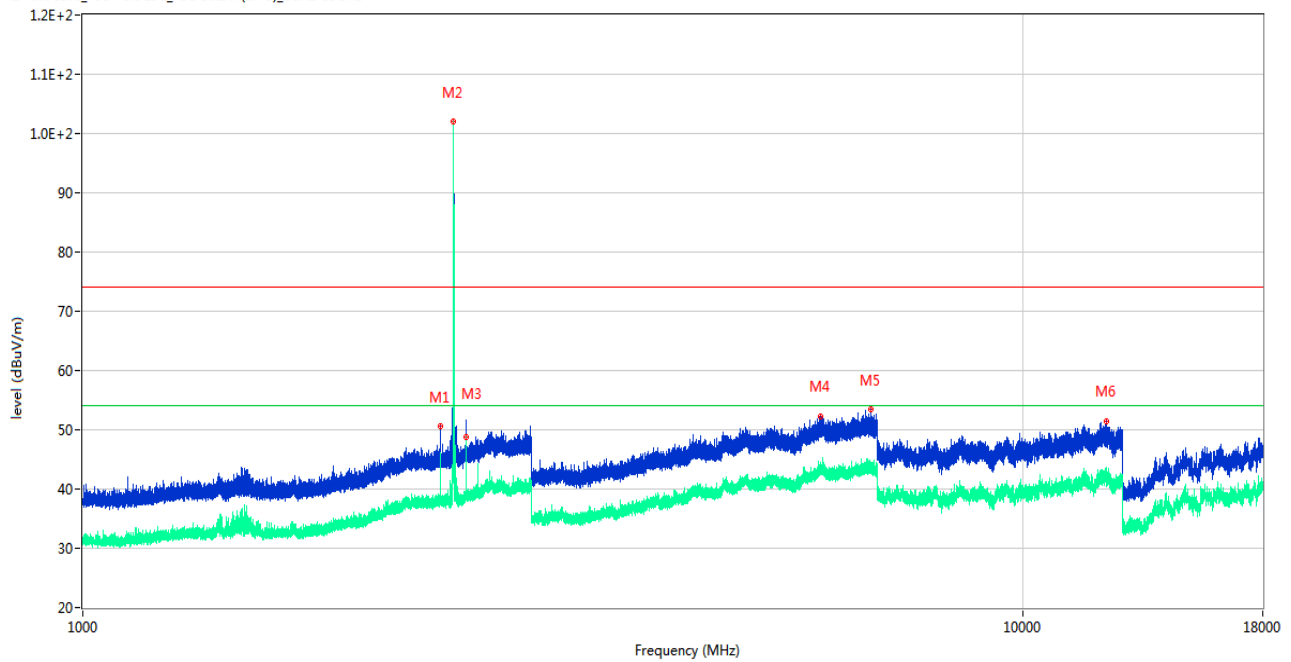
RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1146.000	43.02	-18.68	74.0	-30.98	Peak	113.00	150	Vertical	Pass
1**	1146.000	33.28	-18.68	54.0	-20.72	AV	113.00	150	Vertical	Pass
2	1485.900	48.08	-18.06	74.0	-25.92	Peak	291.00	150	Vertical	Pass
2**	1485.900	38.19	-18.06	54.0	-15.81	AV	291.00	150	Vertical	Pass
3	2440.800	97.35	-13.43	74.0	23.35	Peak	291.00	150	Vertical	N/A
3**	2440.800	94.44	-13.43	54.0	40.44	AV	291.00	150	Vertical	N/A
4	5336.200	51.14	-3.48	74.0	-22.86	Peak	284.00	150	Vertical	Pass
4**	5336.200	42.00	-3.48	54.0	-12.00	AV	284.00	150	Vertical	Pass
5	6122.200	52.41	-1.33	74.0	-21.59	Peak	318.00	150	Vertical	Pass
5**	6122.200	43.71	-1.33	54.0	-10.29	AV	318.00	150	Vertical	Pass
6	12160.912	51.14	-0.89	74.0	-22.86	Peak	345.00	150	Vertical	Pass
6**	12160.912	41.58	-0.89	54.0	-12.42	AV	345.00	150	Vertical	Pass

8-DPSK HIGH CHANNEL 1 GHz to 18 GHz, ANT H

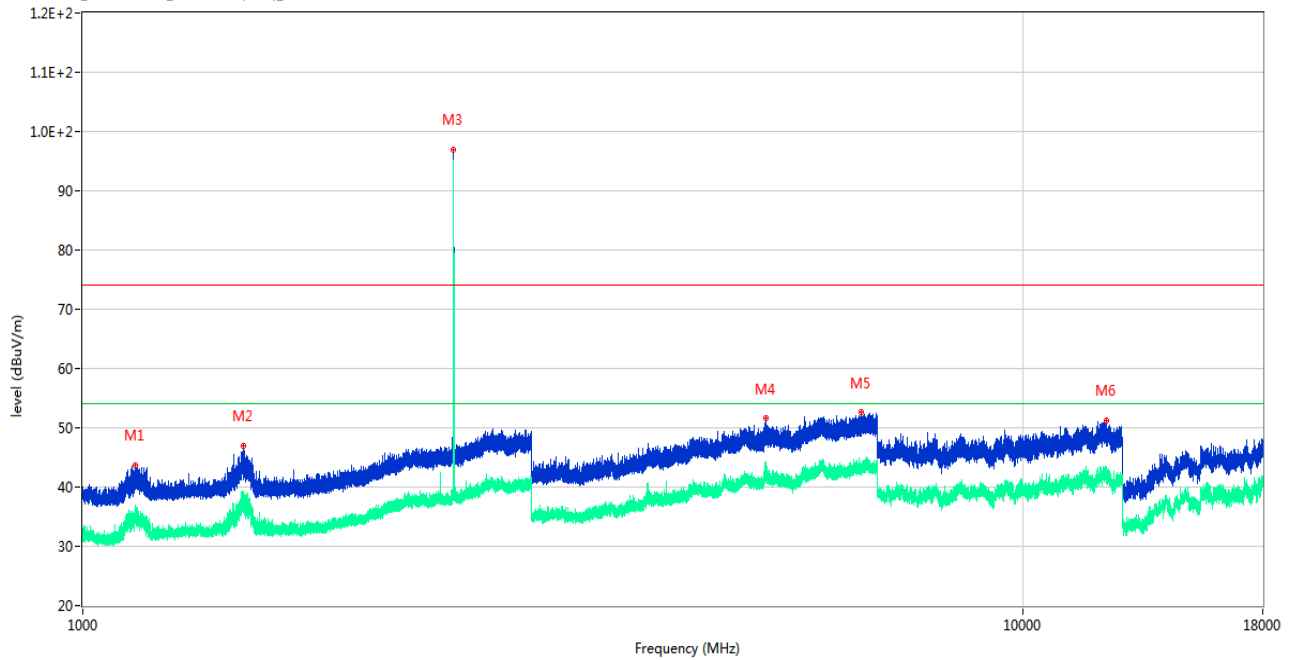
RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2403.200	50.53	-13.31	74.0	-23.47	Peak	228.00	150	Horizontal	Pass
1**	2403.200	45.41	-13.31	54.0	-8.59	AV	228.00	150	Horizontal	Pass
2	2480.100	102.17	-13.17	74.0	28.17	Peak	245.00	150	Horizontal	N/A
2**	2480.100	101.90	-13.17	54.0	47.90	AV	245.00	150	Horizontal	N/A
3	2556.700	50.50	-12.62	74.0	-23.50	Peak	245.00	150	Horizontal	Pass
3**	2556.700	48.74	-12.62	54.0	-5.26	AV	245.00	150	Horizontal	Pass
4	6099.000	52.30	-1.35	74.0	-21.70	Peak	277.00	150	Horizontal	Pass
4**	6099.000	43.22	-1.35	54.0	-10.78	AV	277.00	150	Horizontal	Pass
5	6883.800	53.41	-1.89	74.0	-20.59	Peak	236.00	150	Horizontal	Pass
5**	6883.800	43.38	-1.89	54.0	-10.62	AV	236.00	150	Horizontal	Pass
6	12269.013	51.51	0.06	74.0	-22.49	Peak	51.00	150	Horizontal	Pass
6**	12269.013	42.46	0.06	54.0	-11.54	AV	51.00	150	Horizontal	Pass

8-DPSK HIGH CHANNEL 1 GHz to 18 GHz, ANT V

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

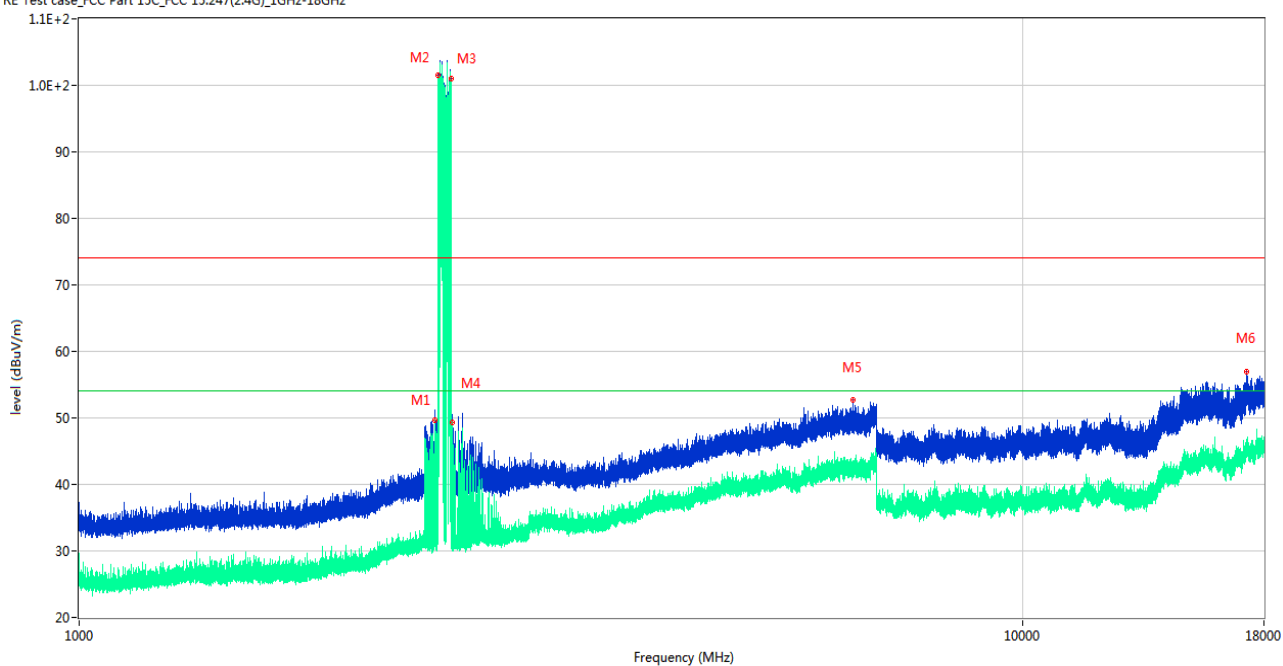


No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1138.400	43.70	-18.57	74.0	-30.30	Peak	102.00	150	Vertical	Pass
1**	1138.400	34.56	-18.57	54.0	-19.44	AV	102.00	150	Vertical	Pass
2	1482.600	46.98	-17.90	74.0	-27.02	Peak	271.00	150	Vertical	Pass
2**	1482.600	37.35	-17.90	54.0	-16.65	AV	271.00	150	Vertical	Pass
3	2480.000	96.95	-13.18	74.0	22.95	Peak	222.00	150	Vertical	N/A
3**	2480.000	95.00	-13.18	54.0	41.00	AV	222.00	150	Vertical	N/A
4	5324.400	51.56	-3.84	74.0	-22.44	Peak	59.00	150	Vertical	Pass
4**	5324.400	43.08	-3.84	54.0	-10.92	AV	59.00	150	Vertical	Pass
5	6735.400	52.69	-2.12	74.0	-21.31	Peak	331.00	150	Vertical	Pass
5**	6735.400	42.42	-2.12	54.0	-11.58	AV	331.00	150	Vertical	Pass
6	12275.049	51.28	0.08	74.0	-22.72	Peak	65.00	150	Vertical	Pass
6**	12275.049	42.69	0.08	54.0	-11.31	AV	65.00	150	Vertical	Pass

Hopping Mode:

GFSK MODE 1 GHz to 18 GHz, ANT H

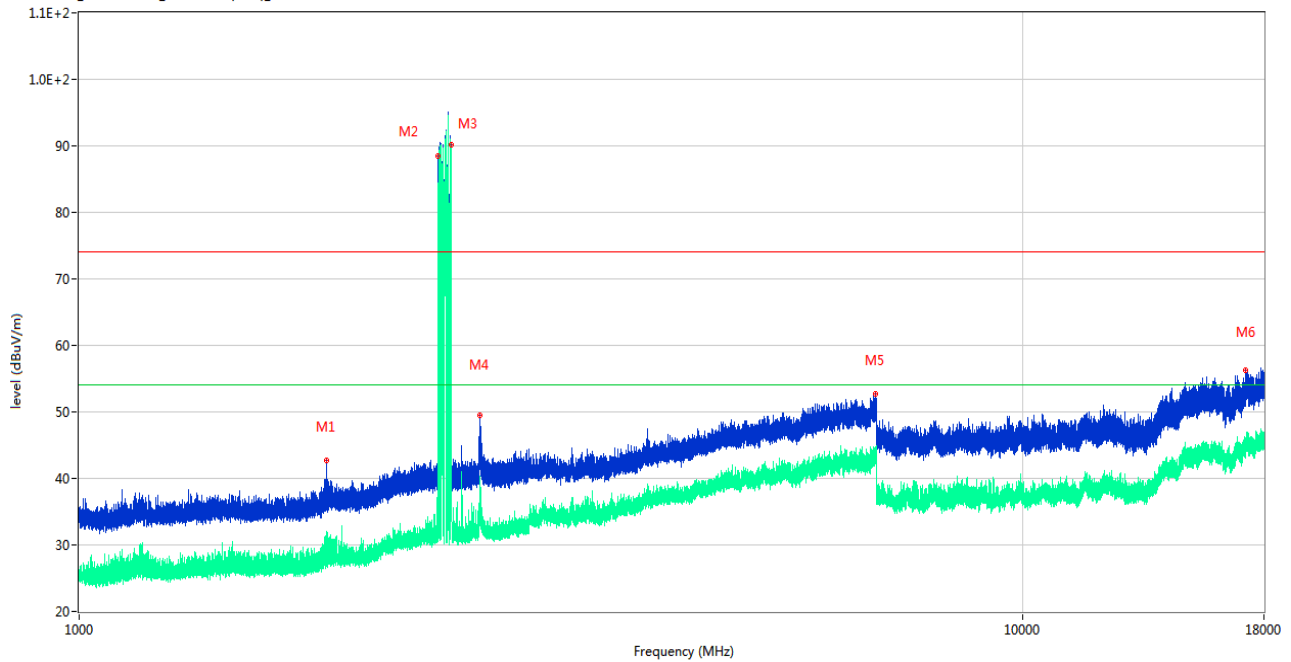
RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2381.300	50.65	-10.39	74.0	-23.35	Peak	262.00	150	Horizontal	Pass
1**	2381.300	49.66	-10.39	54.0	-4.34	AV	262.00	150	Horizontal	Pass
2	2401.800	101.48	-10.61	74.0	27.48	Peak	323.00	150	Horizontal	N/A
2**	2401.800	98.52	-10.61	54.0	44.52	AV	323.00	150	Horizontal	N/A
3	2478.100	100.95	-10.39	74.0	26.95	Peak	303.00	150	Horizontal	N/A
3**	2478.100	100.35	-10.39	54.0	46.35	AV	303.00	150	Horizontal	N/A
4	2486.000	49.19	-9.87	74.0	-24.81	Peak	262.00	150	Horizontal	Pass
4**	2486.000	49.34	-9.87	54.0	-4.66	AV	262.00	150	Horizontal	Pass
5	6604.000	52.63	3.23	74.0	-21.37	Peak	315.00	150	Horizontal	Pass
5**	6604.000	42.16	3.23	54.0	-11.84	AV	315.00	150	Horizontal	Pass
6	17267.100	57.02	24.33	74.0	-16.98	Peak	169.00	150	Horizontal	Pass
6**	17267.100	45.30	24.33	54.0	-8.70	AV	169.00	150	Horizontal	Pass

GFSK MODE 1 GHz to 18 GHz, ANT V

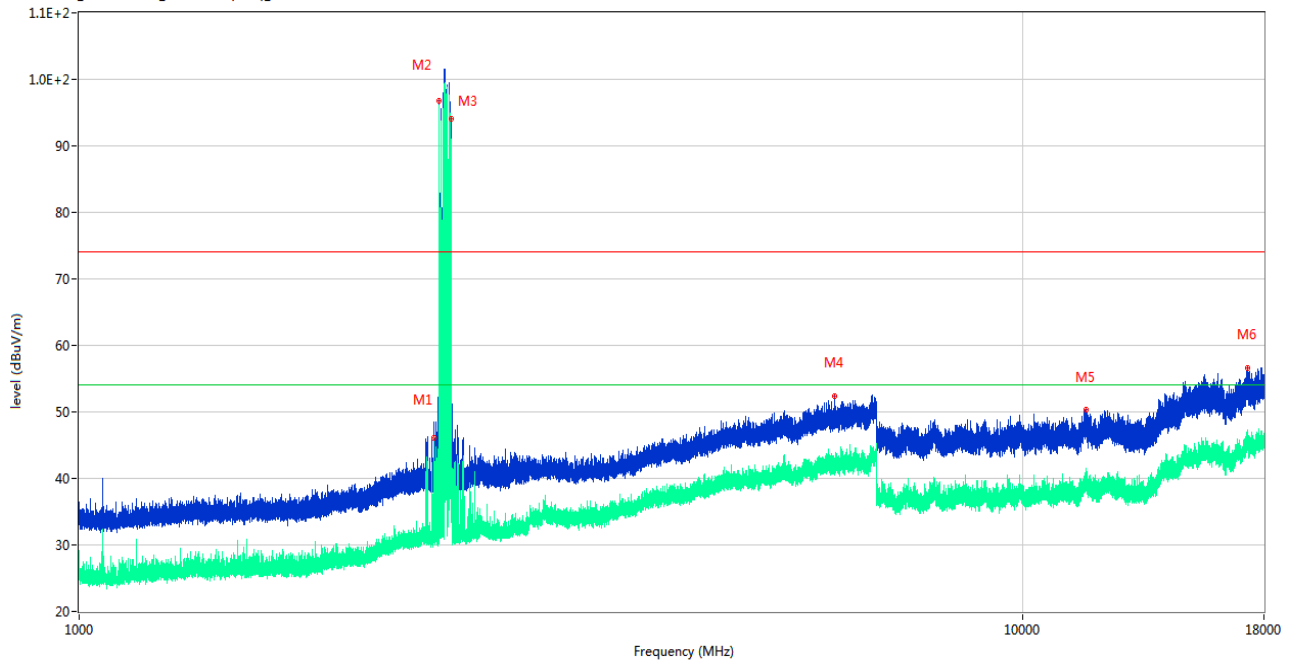
RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1829.200	42.76	-14.55	74.0	-31.24	Peak	14.00	150	Vertical	Pass
1**	1829.200	30.11	-14.55	54.0	-23.89	AV	14.00	150	Vertical	Pass
2	2402.600	88.45	-10.51	74.0	14.45	Peak	0.00	150	Vertical	N/A
2**	2402.600	84.24	-10.51	54.0	30.24	AV	0.00	150	Vertical	N/A
3	2479.800	90.09	-10.26	74.0	16.09	Peak	0.00	150	Vertical	N/A
3**	2479.800	87.99	-10.26	54.0	33.99	AV	0.00	150	Vertical	N/A
4	2656.600	49.56	-9.36	74.0	-24.44	Peak	313.00	150	Vertical	Pass
4**	2656.600	35.11	-9.36	54.0	-18.89	AV	313.00	150	Vertical	Pass
5	6985.200	52.79	4.65	74.0	-21.21	Peak	155.00	150	Vertical	Pass
5**	6985.200	43.09	4.65	54.0	-10.91	AV	155.00	150	Vertical	Pass
6	17204.363	56.21	23.83	74.0	-17.79	Peak	201.00	150	Vertical	Pass
6**	17204.363	44.18	23.83	54.0	-9.82	AV	201.00	150	Vertical	Pass

8-DPSK MODE 1 GHz to 18 GHz, ANT H

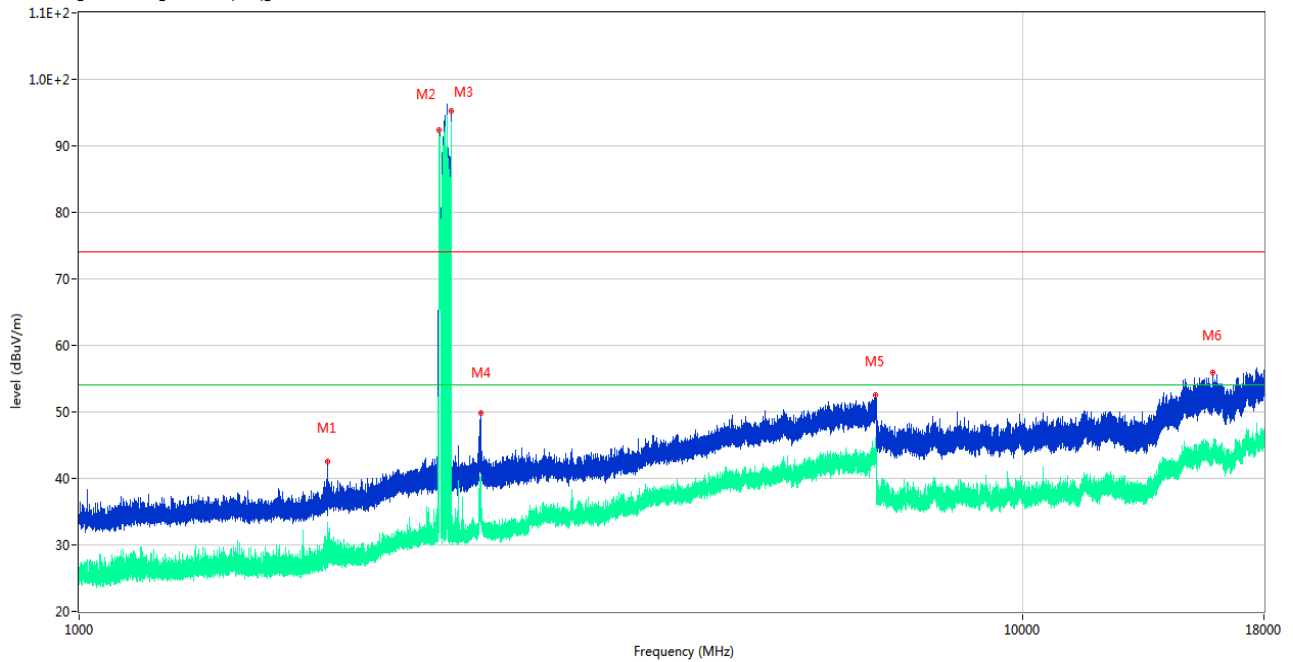
RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2377.300	48.47	-10.39	74.0	-25.53	Peak	328.00	150	Horizontal	Pass
1**	2377.300	46.14	-10.39	54.0	-7.86	AV	328.00	150	Horizontal	Pass
2	2405.200	96.72	-10.45	74.0	22.72	Peak	0.00	150	Horizontal	N/A
2**	2405.200	92.52	-10.45	54.0	38.52	AV	0.00	150	Horizontal	N/A
3	2476.700	94.14	-10.53	74.0	20.14	Peak	289.00	150	Horizontal	N/A
3**	2476.700	90.37	-10.53	54.0	36.37	AV	289.00	150	Horizontal	N/A
4	6319.400	52.32	2.16	74.0	-21.68	Peak	329.00	150	Horizontal	Pass
4**	6319.400	41.73	2.16	54.0	-12.27	AV	329.00	150	Horizontal	Pass
5	11667.849	50.41	20.19	74.0	-23.59	Peak	360.00	150	Horizontal	Pass
5**	11667.849	39.34	20.19	54.0	-14.66	AV	360.00	150	Horizontal	Pass
6	17309.100	56.54	24.47	74.0	-17.46	Peak	248.00	150	Horizontal	Pass
6**	17309.100	44.99	24.47	54.0	-9.01	AV	248.00	150	Horizontal	Pass

8-DPSK MODE 1 GHz to 18 GHz, ANT V

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



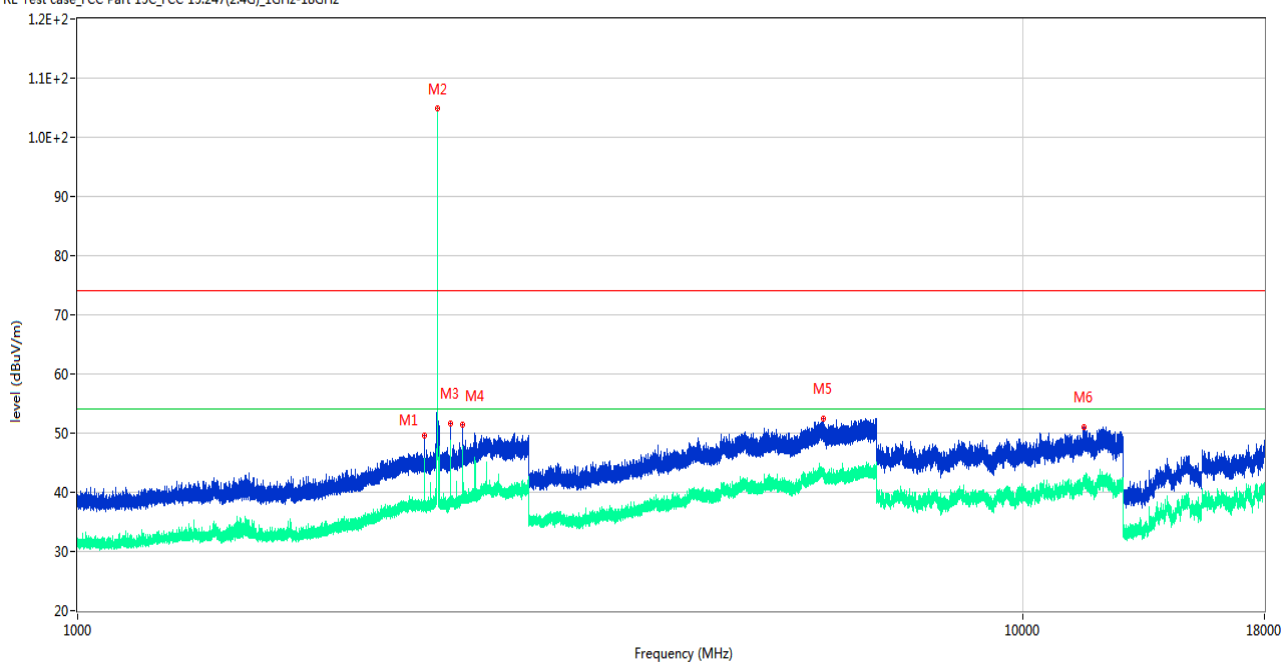
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1833.600	42.52	-14.54	74.0	-31.48	Peak	207.00	150	Vertical	Pass
1**	1833.600	29.16	-14.54	54.0	-24.84	AV	207.00	150	Vertical	Pass
2	2403.800	92.35	-10.40	74.0	18.35	Peak	0.00	150	Vertical	N/A
2**	2403.800	89.86	-10.40	54.0	35.86	AV	0.00	150	Vertical	N/A
3	2480.000	95.27	-10.25	74.0	21.27	Peak	194.00	150	Vertical	N/A
3**	2480.000	92.94	-10.25	54.0	38.94	AV	194.00	150	Vertical	N/A
4	2664.600	49.84	-9.01	74.0	-24.16	Peak	312.00	150	Vertical	Pass
4**	2664.600	39.89	-9.01	54.0	-14.11	AV	312.00	150	Vertical	Pass
5	6980.600	52.47	4.86	74.0	-21.53	Peak	312.00	150	Vertical	Pass
5**	6980.600	43.50	4.86	54.0	-10.50	AV	312.00	150	Vertical	Pass
6	15892.912	55.92	23.30	74.0	-18.08	Peak	271.00	150	Vertical	Pass
6**	15892.912	43.45	23.30	54.0	-10.55	AV	271.00	150	Vertical	Pass

South Star

Aux. Antenna

GFSK LOW CHANNEL 1 GHz to 18 GHz, ANT H

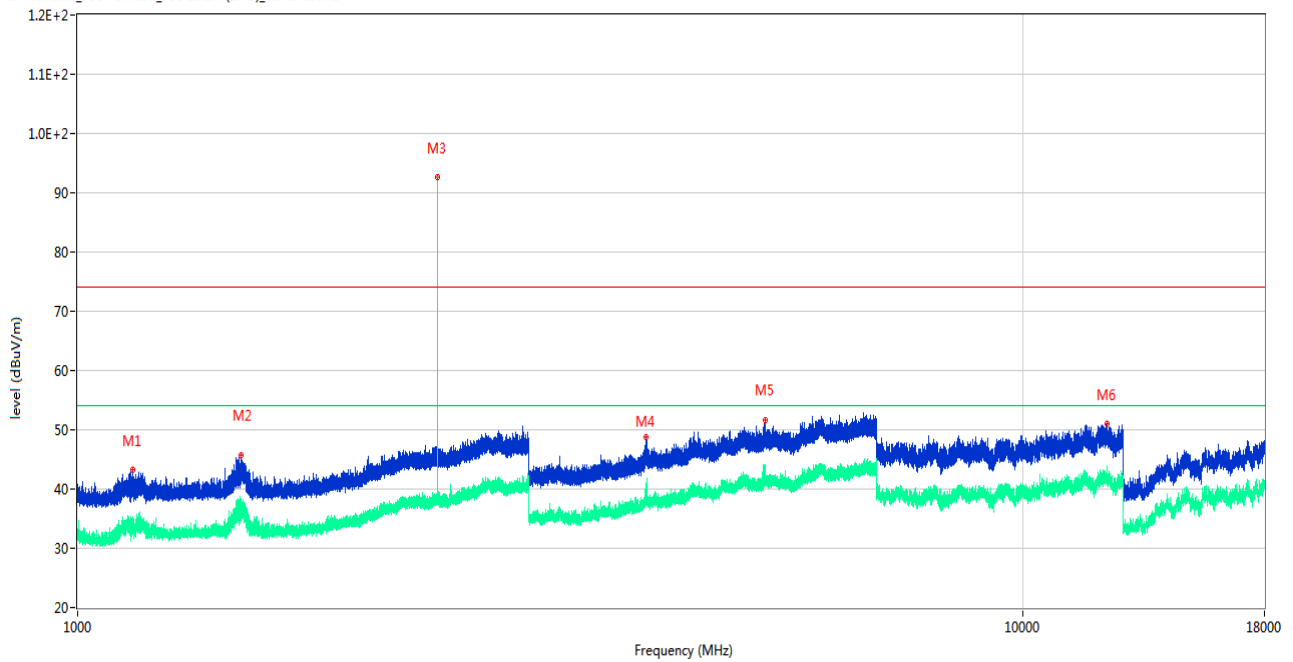
RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2325.000	49.54	-13.76	74.0	-24.46	Peak	259.00	150	Horizontal	Pass
1**	2325.000	44.85	-13.76	54.0	-9.15	AV	259.00	150	Horizontal	Pass
2	2401.700	105.18	-13.33	74.0	31.18	Peak	259.00	150	Horizontal	N/A
2**	2401.700	103.35	-13.33	54.0	49.35	AV	259.00	150	Horizontal	N/A
3	2478.800	51.64	-13.32	74.0	-22.36	Peak	267.00	150	Horizontal	Pass
3**	2478.800	48.46	-13.32	54.0	-5.54	AV	267.00	150	Horizontal	Pass
4	2555.500	51.39	-12.62	74.0	-22.61	Peak	131.00	150	Horizontal	Pass
4**	2555.500	47.73	-12.62	54.0	-6.27	AV	131.00	150	Horizontal	Pass
5	6142.400	52.55	-1.90	74.0	-21.45	Peak	171.00	150	Horizontal	Pass
5**	6142.400	42.48	-1.90	54.0	-11.52	AV	171.00	150	Horizontal	Pass
6	11589.075	51.09	-0.06	74.0	-22.91	Peak	161.00	150	Horizontal	Pass
6**	11589.075	41.92	-0.06	54.0	-12.08	AV	161.00	150	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)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1142.600	43.34	-18.51	74.0	-30.66	Peak	173.00	150	Vertical	Pass
1**	1142.600	34.13	-18.51	54.0	-19.87	AV	173.00	150	Vertical	Pass
2	1490.100	45.63	-18.04	74.0	-28.37	Peak	304.00	150	Vertical	Pass
2**	1490.100	35.97	-18.04	54.0	-18.03	AV	304.00	150	Vertical	Pass
3	2401.700	92.79	-13.33	74.0	18.79	Peak	207.00	150	Vertical	N/A
3**	2401.700	91.12	-13.33	54.0	37.12	AV	207.00	150	Vertical	N/A
4	3993.800	48.70	-6.30	74.0	-25.30	Peak	164.00	150	Vertical	Pass
4**	3993.800	37.77	-6.30	54.0	-16.23	AV	164.00	150	Vertical	Pass
5	5333.600	51.71	-3.65	74.0	-22.29	Peak	77.00	150	Vertical	Pass
5**	5333.600	41.36	-3.65	54.0	-12.64	AV	77.00	150	Vertical	Pass
6	12267.288	50.97	0.06	74.0	-23.03	Peak	87.00	150	Vertical	Pass
6**	12267.288	43.22	0.06	54.0	-10.78	AV	87.00	150	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)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2364.200	51.13	-6.96	74.0	-22.87	Peak	246.00	150	Horizontal	Pass
1**	2364.200	49.06	-6.96	54.0	-4.94	AV	246.00	150	Horizontal	Pass
2	2943.800	49.35	-3.80	74.0	-24.65	Peak	213.00	150	Horizontal	Pass
2**	2943.800	36.82	-3.80	54.0	-17.18	AV	213.00	150	Horizontal	Pass
3	4670.800	48.44	-2.02	74.0	-25.56	Peak	100.00	150	Horizontal	Pass
3**	4670.800	37.72	-2.02	54.0	-16.28	AV	100.00	150	Horizontal	Pass
4	6475.600	52.12	3.21	74.0	-21.88	Peak	127.00	150	Horizontal	Pass
4**	6475.600	42.01	3.21	54.0	-11.99	AV	127.00	150	Horizontal	Pass
5	15546.937	55.89	23.64	74.0	-18.11	Peak	158.00	150	Horizontal	Pass
5**	15546.937	44.76	23.64	54.0	-9.24	AV	158.00	150	Horizontal	Pass
6	17281.800	56.37	24.51	74.0	-17.63	Peak	263.00	150	Horizontal	Pass
6**	17281.800	46.40	24.51	54.0	-7.60	AV	263.00	150	Horizontal	Pass

GFSK MIDDLE CHANNEL 1 GHz to 18 GHz, ANT V

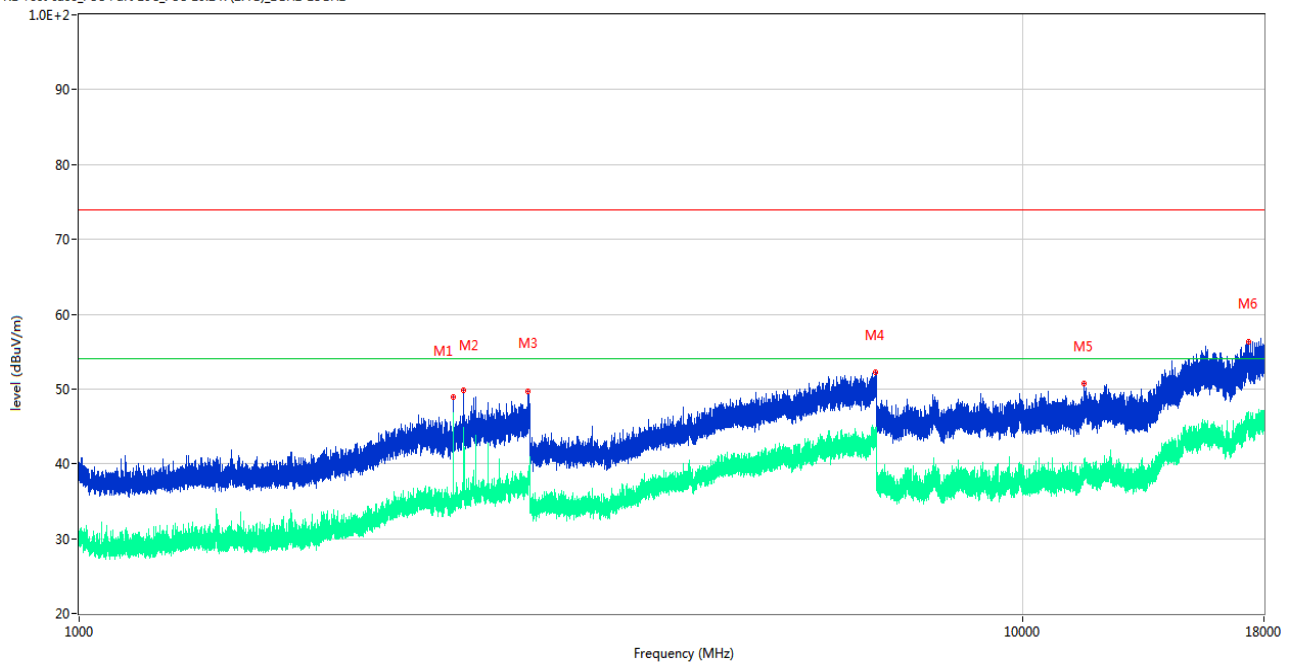
RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1331.600	43.32	-11.37	74.0	-30.68	Peak	78.00	150	Vertical	Pass
1**	1331.600	31.03	-11.37	54.0	-22.97	AV	78.00	150	Vertical	Pass
2	2994.900	48.82	-2.66	74.0	-25.18	Peak	97.00	150	Vertical	Pass
2**	2994.900	37.92	-2.66	54.0	-16.08	AV	97.00	150	Vertical	Pass
3	4257.400	47.09	-3.25	74.0	-26.91	Peak	187.00	150	Vertical	Pass
3**	4257.400	40.28	-3.25	54.0	-13.72	AV	187.00	150	Vertical	Pass
4	6650.600	52.87	4.58	74.0	-21.13	Peak	59.00	150	Vertical	Pass
4**	6650.600	43.05	4.58	54.0	-10.95	AV	59.00	150	Vertical	Pass
5	15060.787	55.64	21.90	74.0	-18.36	Peak	303.00	150	Vertical	Pass
5**	15060.787	45.03	21.90	54.0	-8.97	AV	303.00	150	Vertical	Pass
6	17902.088	56.92	24.55	74.0	-17.08	Peak	342.00	150	Vertical	Pass
6**	17902.088	45.94	24.55	54.0	-8.06	AV	342.00	150	Vertical	Pass

GFSK HIGH CHANNEL 1 GHz to 18 GHz, ANT H

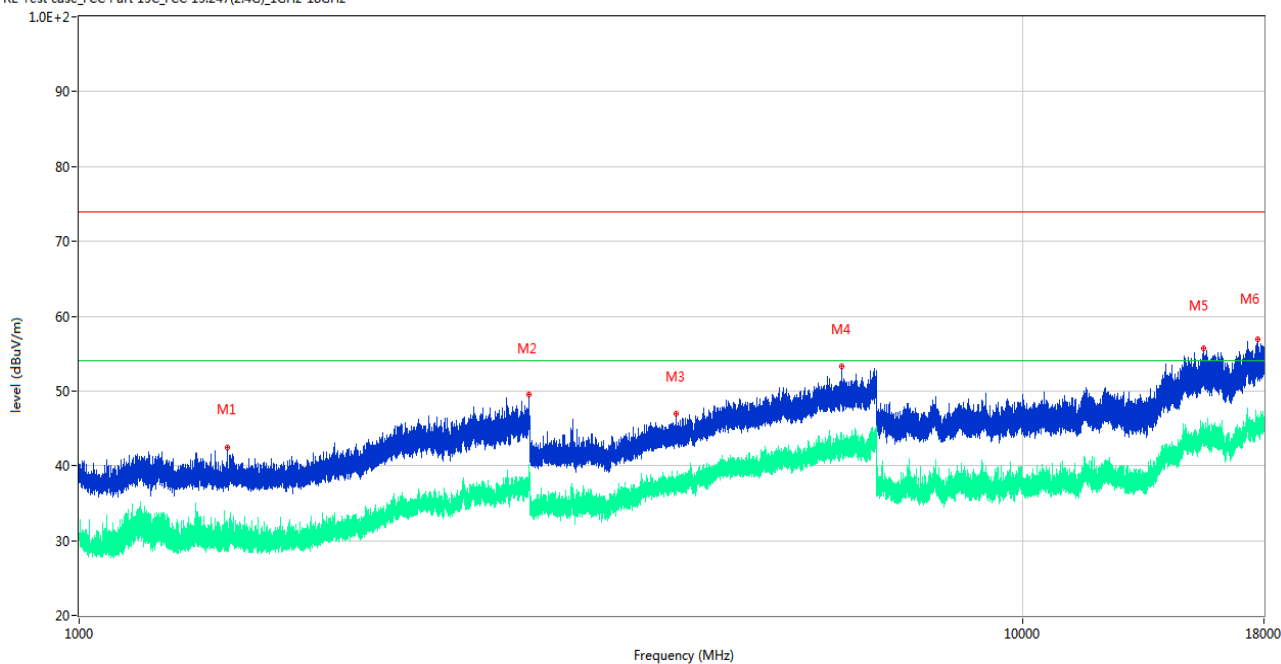
RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2489.500	48.99	-6.35	74.0	-25.01	Peak	114.00	150	Horizontal	Pass
1**	2489.500	46.83	-6.35	54.0	-7.17	AV	114.00	150	Horizontal	Pass
2	2556.700	49.86	-5.14	74.0	-24.14	Peak	106.00	150	Horizontal	Pass
2**	2556.700	43.95	-5.14	54.0	-10.05	AV	106.00	150	Horizontal	Pass
3	2986.200	49.70	-4.08	74.0	-24.30	Peak	32.00	150	Horizontal	Pass
3**	2986.200	36.33	-4.08	54.0	-17.67	AV	32.00	150	Horizontal	Pass
4	6976.600	52.26	5.15	74.0	-21.74	Peak	139.00	150	Horizontal	Pass
4**	6976.600	43.64	5.15	54.0	-10.36	AV	139.00	150	Horizontal	Pass
5	11606.901	50.68	20.17	74.0	-23.32	Peak	153.00	150	Horizontal	Pass
5**	11606.901	38.58	20.17	54.0	-15.42	AV	153.00	150	Horizontal	Pass
6	17329.312	56.25	24.15	74.0	-17.75	Peak	305.00	150	Horizontal	Pass
6**	17329.312	44.91	24.15	54.0	-9.09	AV	305.00	150	Horizontal	Pass

GFSK HIGH CHANNEL 1 GHz to 18 GHz, ANT V

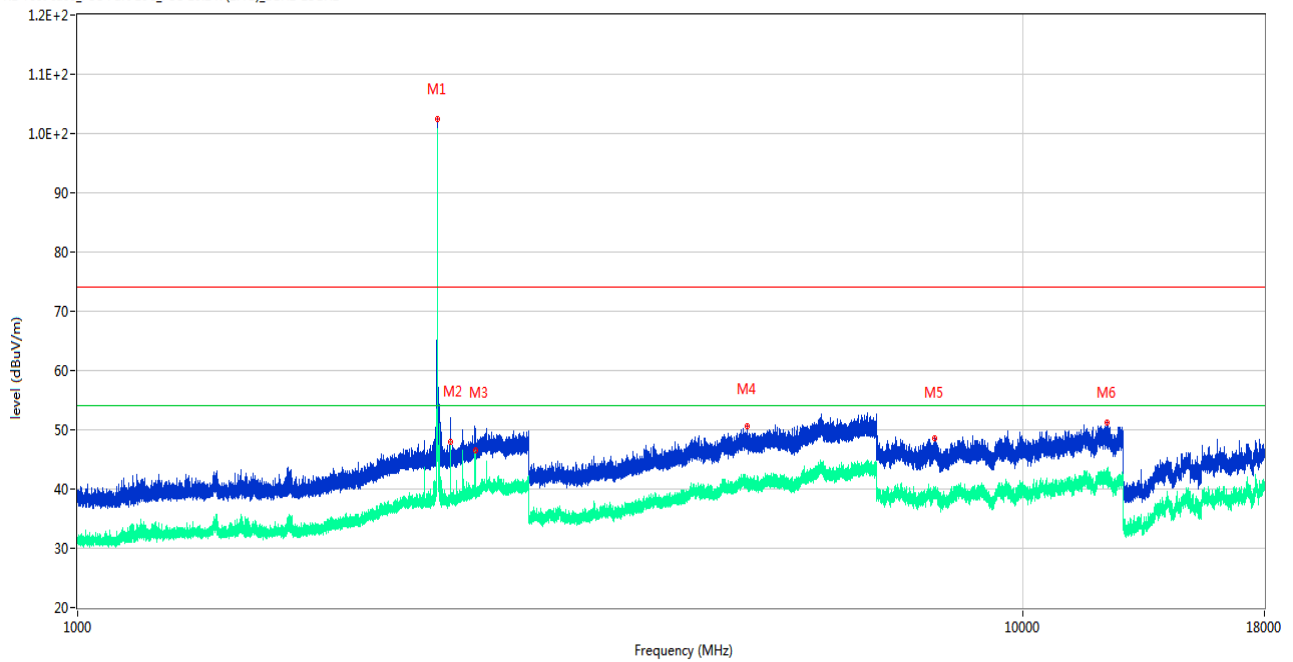
RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1437.300	42.43	-11.53	74.0	-31.57	Peak	287.00	150	Vertical	Pass
1**	1437.300	32.57	-11.53	54.0	-21.43	AV	287.00	150	Vertical	Pass
2	2998.000	49.50	-2.48	74.0	-24.50	Peak	35.00	150	Vertical	Pass
2**	2998.000	38.06	-2.48	54.0	-15.94	AV	35.00	150	Vertical	Pass
3	4292.200	46.96	-3.79	74.0	-27.04	Peak	241.00	150	Vertical	Pass
3**	4292.200	37.48	-3.79	54.0	-16.52	AV	241.00	150	Vertical	Pass
4	6420.600	53.22	3.96	74.0	-20.78	Peak	0.00	150	Vertical	Pass
4**	6420.600	44.08	3.96	54.0	-9.92	AV	0.00	150	Vertical	Pass
5	15534.075	55.72	23.72	74.0	-18.28	Peak	335.00	150	Vertical	Pass
5**	15534.075	43.14	23.72	54.0	-10.86	AV	335.00	150	Vertical	Pass
6	17740.124	56.95	23.95	74.0	-17.05	Peak	277.00	150	Vertical	Pass
6**	17740.124	44.39	23.95	54.0	-9.61	AV	277.00	150	Vertical	Pass

8-DPSK LOW CHANNEL 1 GHz to 18 GHz, ANT H

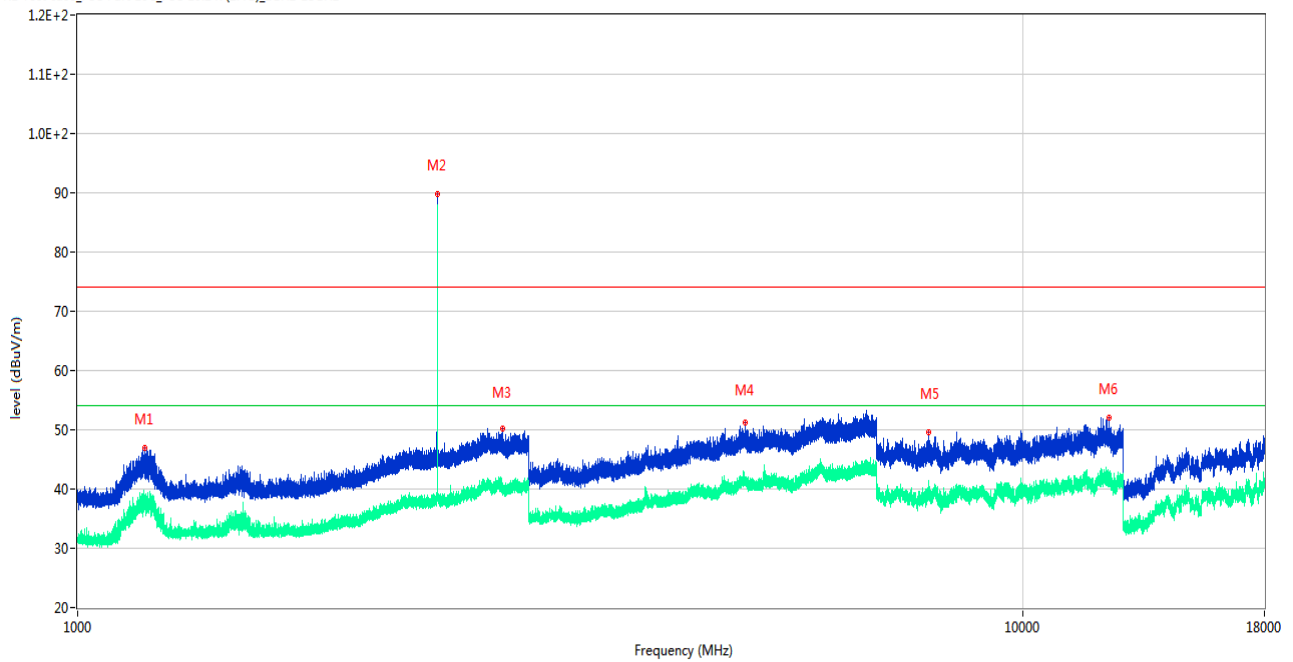
RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2402.000	102.36	-13.32	74.0	28.36	Peak	268.00	150	Horizontal	N/A
1**	2402.000	100.74	-13.32	54.0	46.74	AV	268.00	150	Horizontal	N/A
2	2478.600	51.99	-13.34	74.0	-22.01	Peak	268.00	150	Horizontal	Pass
2**	2478.600	47.88	-13.34	54.0	-6.12	AV	268.00	150	Horizontal	Pass
3	2632.500	50.16	-12.68	74.0	-23.84	Peak	212.00	150	Horizontal	Pass
3**	2632.500	46.47	-12.68	54.0	-7.53	AV	212.00	150	Horizontal	Pass
4	5112.600	50.64	-3.81	74.0	-23.36	Peak	168.00	150	Horizontal	Pass
4**	5112.600	40.44	-3.81	54.0	-13.56	AV	168.00	150	Horizontal	Pass
5	8066.050	48.65	-3.27	74.0	-25.35	Peak	208.00	150	Horizontal	Pass
5**	8066.050	39.55	-3.27	54.0	-14.45	AV	208.00	150	Horizontal	Pass
6	12271.600	51.20	0.07	74.0	-22.80	Peak	278.00	150	Horizontal	Pass
6**	12271.600	42.51	0.07	54.0	-11.49	AV	278.00	150	Horizontal	Pass

8-DPSK LOW CHANNEL 1 GHz to 18 GHz, ANT V

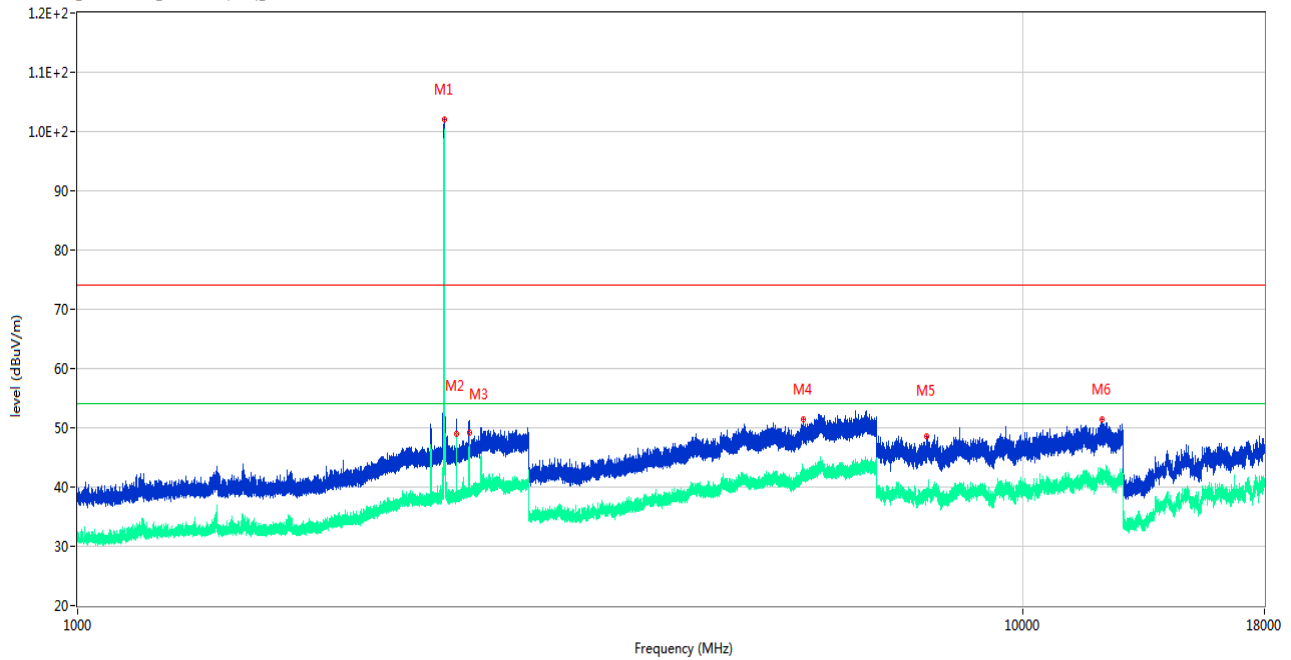
RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1176.900	46.92	-18.51	74.0	-27.08	Peak	238.00	150	Vertical	Pass
1**	1176.900	38.09	-18.51	54.0	-15.91	AV	238.00	150	Vertical	Pass
2	2402.000	89.77	-13.32	74.0	15.77	Peak	360.00	150	Vertical	N/A
2**	2402.000	88.02	-13.32	54.0	34.02	AV	360.00	150	Vertical	N/A
3	2812.400	50.21	-11.62	74.0	-23.79	Peak	96.00	150	Vertical	Pass
3**	2812.400	40.46	-11.62	54.0	-13.54	AV	96.00	150	Vertical	Pass
4	5084.400	51.13	-3.51	74.0	-22.87	Peak	251.00	150	Vertical	Pass
4**	5084.400	41.44	-3.51	54.0	-12.56	AV	251.00	150	Vertical	Pass
5	7943.575	49.50	-4.29	74.0	-24.50	Peak	120.00	150	Vertical	Pass
5**	7943.575	39.69	-4.29	54.0	-14.31	AV	120.00	150	Vertical	Pass
6	12330.250	52.07	-0.68	74.0	-21.93	Peak	155.00	150	Vertical	Pass
6**	12330.250	41.83	-0.68	54.0	-12.17	AV	155.00	150	Vertical	Pass

8-DPSK MIDDLE CHANNEL 1 GHz to 18 GHz, ANT H

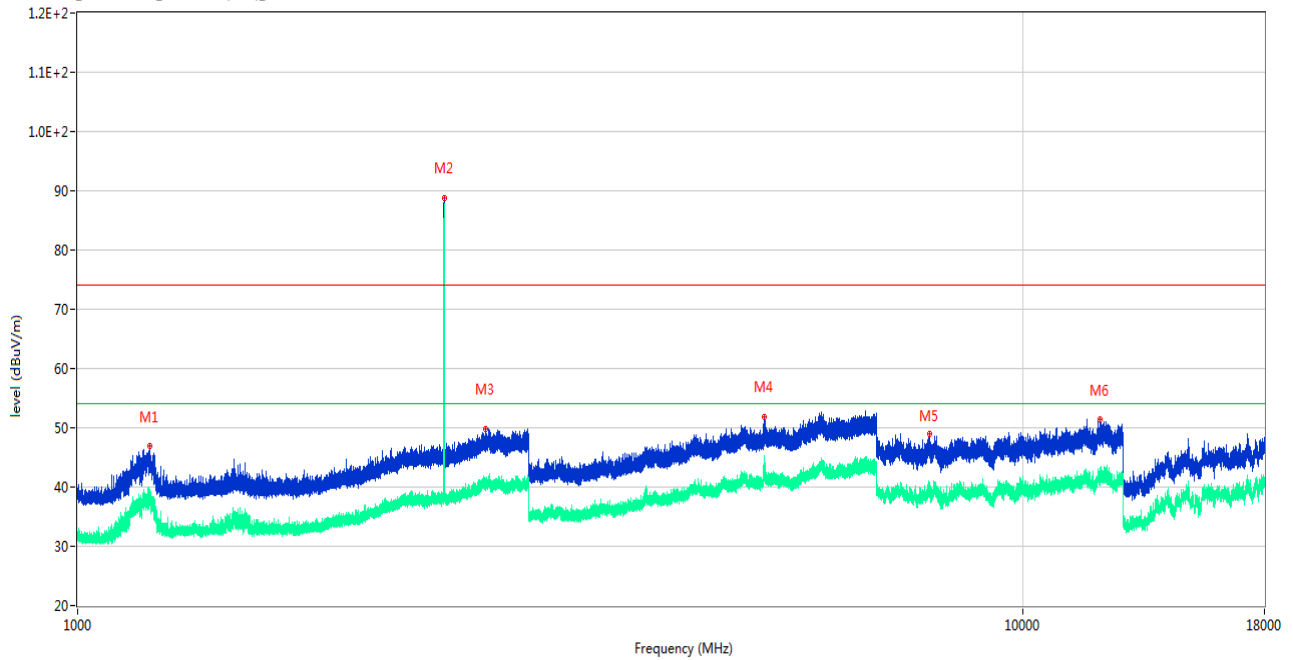
RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2440.900	102.14	-13.43	74.0	28.14	Peak	273.00	150	Horizontal	N/A
1**	2440.900	99.52	-13.43	54.0	45.52	AV	273.00	150	Horizontal	N/A
2	2517.800	51.01	-13.61	74.0	-22.99	Peak	136.00	150	Horizontal	Pass
2**	2517.800	49.02	-13.61	54.0	-4.98	AV	136.00	150	Horizontal	Pass
3	2594.600	50.15	-12.67	74.0	-23.85	Peak	121.00	150	Horizontal	Pass
3**	2594.600	49.12	-12.67	54.0	-4.88	AV	121.00	150	Horizontal	Pass
4	5855.800	51.44	-2.86	74.0	-22.56	Peak	18.00	150	Horizontal	Pass
4**	5855.800	41.55	-2.86	54.0	-12.45	AV	18.00	150	Horizontal	Pass
5	7913.388	48.64	-4.22	74.0	-25.36	Peak	334.00	150	Horizontal	Pass
5**	7913.388	38.20	-4.22	54.0	-15.80	AV	334.00	150	Horizontal	Pass
6	12106.575	51.40	-0.91	74.0	-22.60	Peak	121.00	150	Horizontal	Pass
6**	12106.575	42.07	-0.91	54.0	-11.93	AV	121.00	150	Horizontal	Pass

8-DPSK MIDDLE CHANNEL 1 GHz to 18 GHz, ANT V

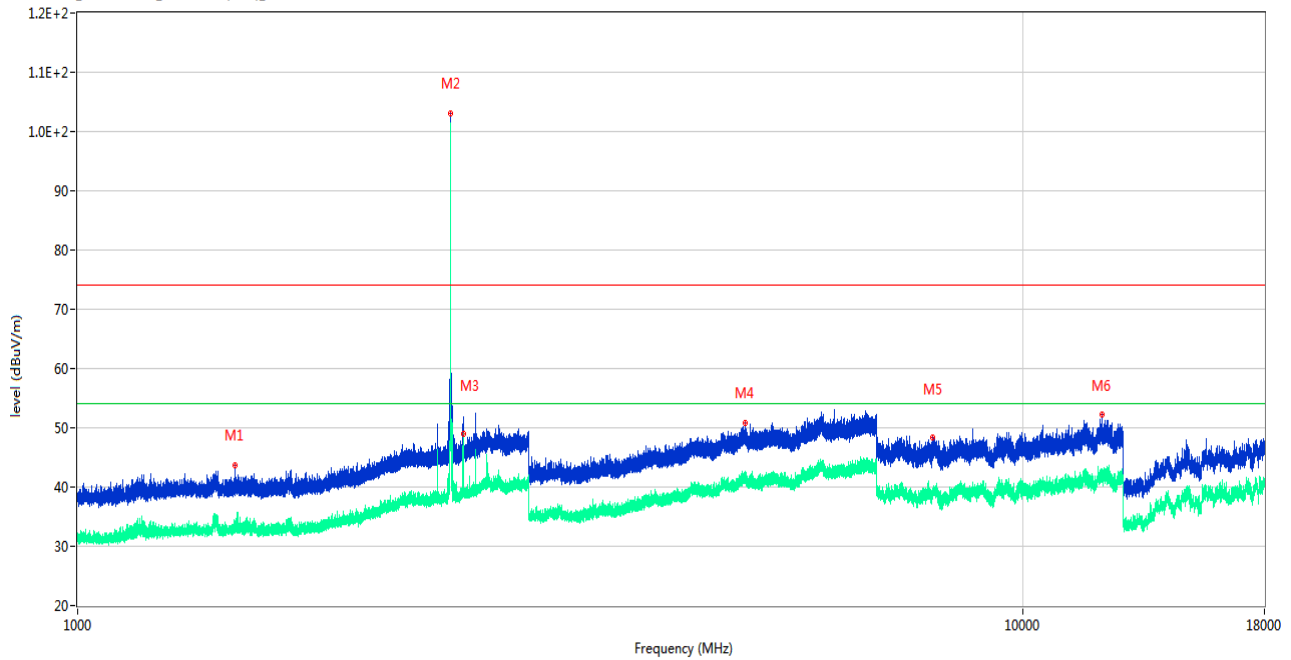
RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1192.500	46.91	-18.32	74.0	-27.09	Peak	48.00	150	Vertical	Pass
1**	1192.500	36.92	-18.32	54.0	-17.08	AV	48.00	150	Vertical	Pass
2	2441.000	88.84	-13.43	74.0	14.84	Peak	360.00	150	Vertical	N/A
2**	2441.000	87.82	-13.43	54.0	33.82	AV	360.00	150	Vertical	N/A
3	2698.600	49.83	-11.57	74.0	-24.17	Peak	258.00	150	Vertical	Pass
3**	2698.600	41.49	-11.57	54.0	-12.51	AV	258.00	150	Vertical	Pass
4	5323.400	51.92	-3.83	74.0	-22.08	Peak	163.00	150	Vertical	Pass
4**	5323.400	44.53	-3.83	54.0	-9.47	AV	163.00	150	Vertical	Pass
5	7957.950	48.94	-4.29	74.0	-25.06	Peak	107.00	150	Vertical	Pass
5**	7957.950	38.86	-4.29	54.0	-15.14	AV	107.00	150	Vertical	Pass
6	12070.062	51.37	-1.41	74.0	-22.63	Peak	14.00	150	Vertical	Pass
6**	12070.062	42.08	-1.41	54.0	-11.92	AV	14.00	150	Vertical	Pass

8-DPSK HIGH CHANNEL 1 GHz to 18 GHz, ANT H

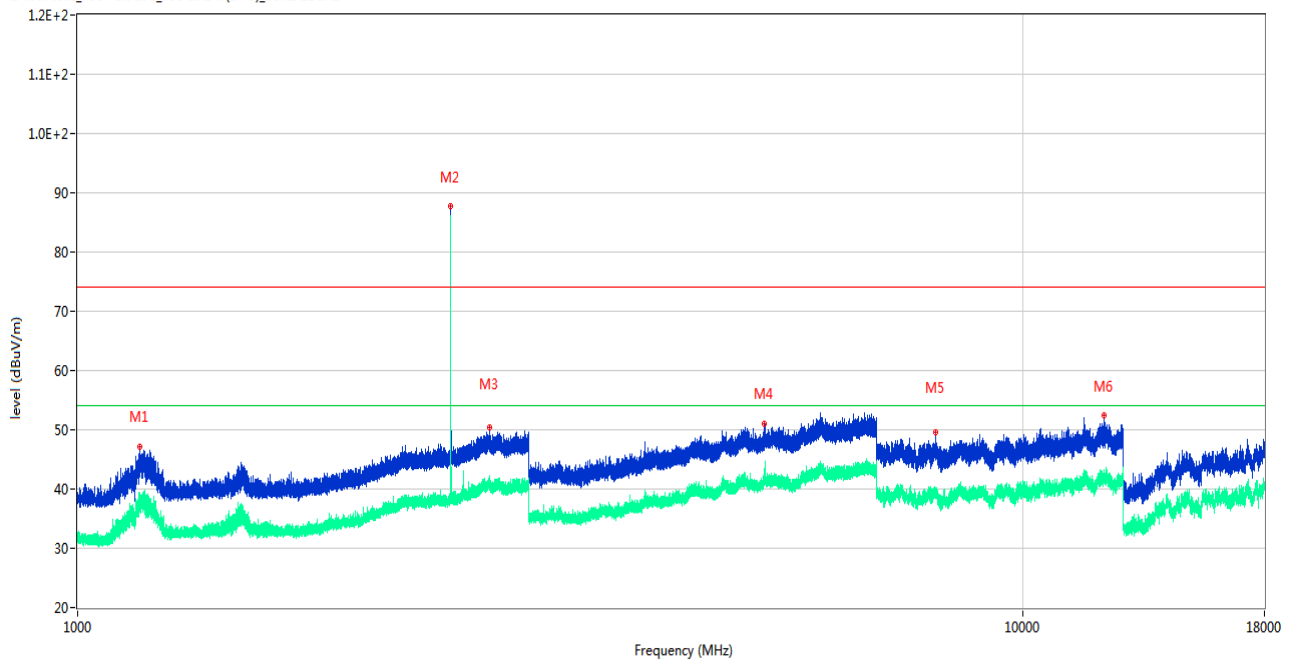
RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1466.300	43.63	-18.01	74.0	-30.37	Peak	251.00	150	Horizontal	Pass
1**	1466.300	34.30	-18.01	54.0	-19.70	AV	251.00	150	Horizontal	Pass
2	2480.100	103.13	-13.17	74.0	29.13	Peak	124.00	150	Horizontal	N/A
2**	2480.100	101.08	-13.17	54.0	47.08	AV	124.00	150	Horizontal	N/A
3	2557.000	52.08	-12.62	74.0	-21.92	Peak	124.00	150	Horizontal	Pass
3**	2557.000	48.90	-12.62	54.0	-5.10	AV	124.00	150	Horizontal	Pass
4	5078.200	50.79	-3.51	74.0	-23.21	Peak	171.00	150	Horizontal	Pass
4**	5078.200	40.84	-3.51	54.0	-13.16	AV	171.00	150	Horizontal	Pass
5	8014.013	48.39	-3.46	74.0	-25.61	Peak	4.00	150	Horizontal	Pass
5**	8014.013	38.26	-3.46	54.0	-15.74	AV	4.00	150	Horizontal	Pass
6	12114.625	52.26	-0.76	74.0	-21.74	Peak	0.00	150	Horizontal	Pass
6**	12114.625	41.36	-0.76	54.0	-12.64	AV	0.00	150	Horizontal	Pass

8-DPSK HIGH CHANNEL 1 GHz to 18 GHz, ANT V

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

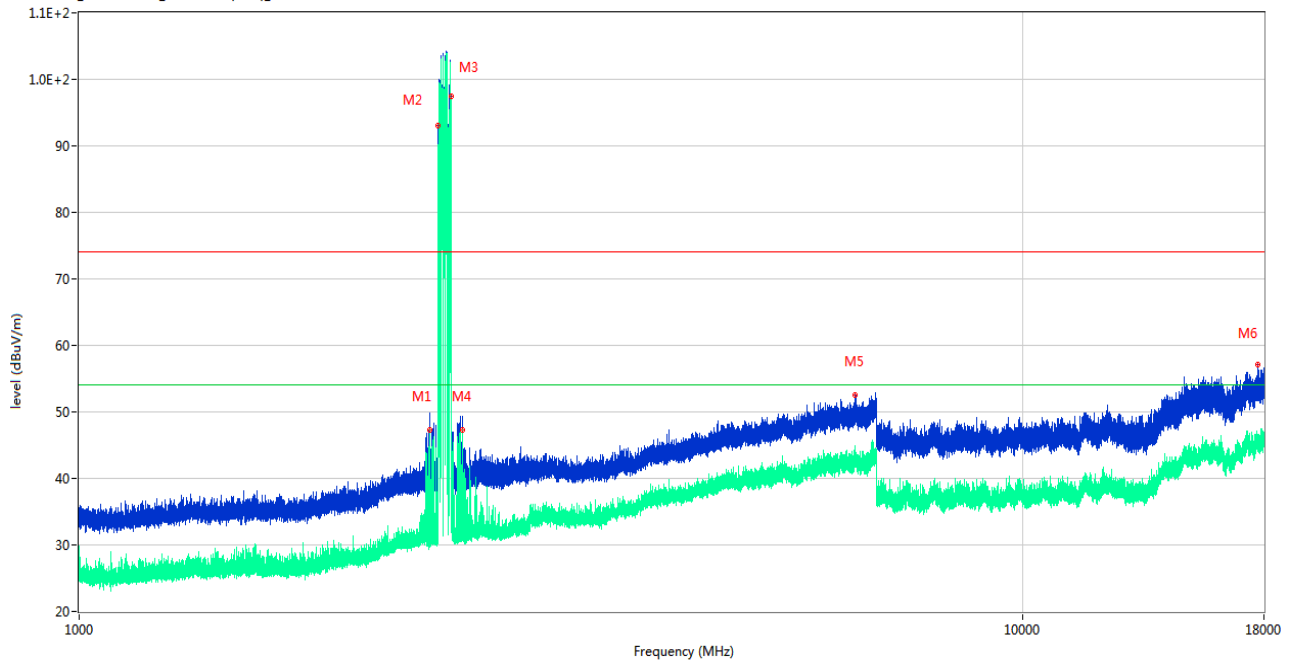


No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1164.500	47.23	-18.46	74.0	-26.77	Peak	231.00	150	Vertical	Pass
1**	1164.500	37.83	-18.46	54.0	-16.17	AV	231.00	150	Vertical	Pass
2	2480.000	87.74	-13.18	74.0	13.74	Peak	146.00	150	Vertical	N/A
2**	2480.000	86.00	-13.18	54.0	32.00	AV	146.00	150	Vertical	N/A
3	2726.100	50.50	-10.69	74.0	-23.50	Peak	100.00	150	Vertical	Pass
3**	2726.100	40.60	-10.69	54.0	-13.40	AV	100.00	150	Vertical	Pass
4	5329.600	50.97	-3.70	74.0	-23.03	Peak	158.00	150	Vertical	Pass
4**	5329.600	41.68	-3.70	54.0	-12.32	AV	158.00	150	Vertical	Pass
5	8090.200	49.52	-3.56	74.0	-24.48	Peak	292.00	150	Vertical	Pass
5**	8090.200	39.64	-3.56	54.0	-14.36	AV	292.00	150	Vertical	Pass
6	12186.787	52.42	-0.90	74.0	-21.58	Peak	166.00	150	Vertical	Pass
6**	12186.787	42.46	-0.90	54.0	-11.54	AV	166.00	150	Vertical	Pass

Hopping Mode:

GFSK MODE 1 GHz to 18 GHz, ANT H

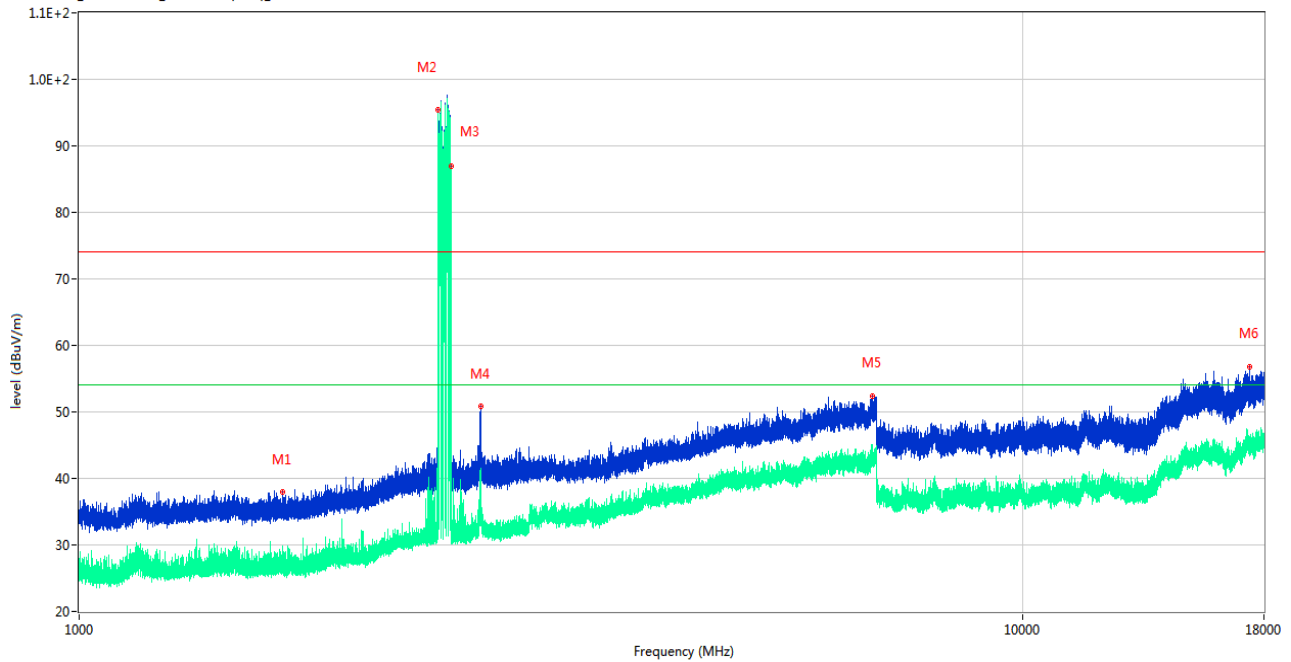
RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2353.200	48.85	-10.53	74.0	-25.15	Peak	332.00	150	Horizontal	Pass
1**	2353.200	47.23	-10.53	54.0	-6.77	AV	332.00	150	Horizontal	Pass
2	2402.300	93.10	-10.55	74.0	19.10	Peak	212.00	150	Horizontal	N/A
2**	2402.300	85.76	-10.55	54.0	31.76	AV	212.00	150	Horizontal	N/A
3	2477.800	97.46	-10.42	74.0	23.46	Peak	205.00	150	Horizontal	N/A
3**	2477.800	96.47	-10.42	54.0	42.47	AV	205.00	150	Horizontal	N/A
4	2549.900	48.15	-9.92	74.0	-25.85	Peak	253.00	150	Horizontal	Pass
4**	2549.900	47.33	-9.92	54.0	-6.67	AV	253.00	150	Horizontal	Pass
5	6633.800	52.52	3.73	74.0	-21.48	Peak	38.00	150	Horizontal	Pass
5**	6633.800	44.83	3.73	54.0	-9.17	AV	38.00	150	Horizontal	Pass
6	17726.738	57.10	24.07	74.0	-16.90	Peak	0.00	150	Horizontal	Pass
6**	17726.738	44.92	24.07	54.0	-9.08	AV	0.00	150	Horizontal	Pass

GFSK MODE 1 GHz to 18 GHz, ANT V

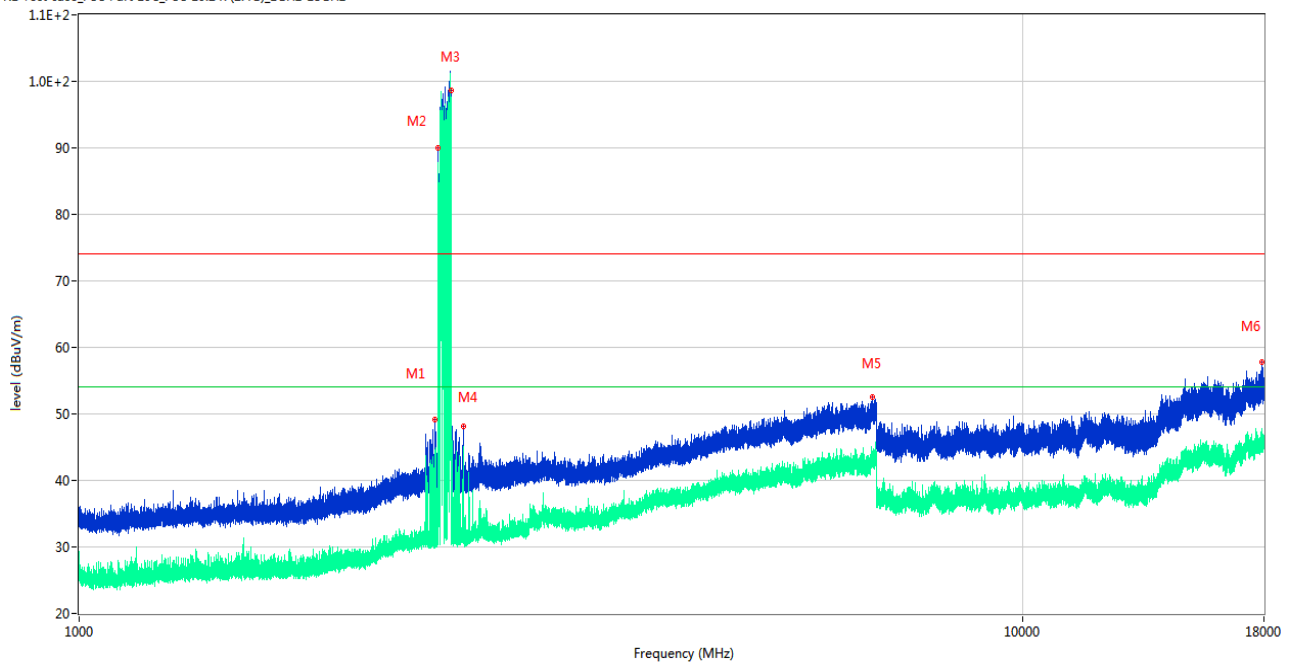
RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1641.000	37.88	-15.00	74.0	-36.12	Peak	289.00	150	Vertical	Pass
1**	1641.000	26.85	-15.00	54.0	-27.15	AV	289.00	150	Vertical	Pass
2	2401.900	95.47	-10.60	74.0	21.47	Peak	147.00	150	Vertical	N/A
2**	2401.900	94.39	-10.60	54.0	40.39	AV	147.00	150	Vertical	N/A
3	2476.800	86.89	-10.52	74.0	12.89	Peak	72.00	150	Vertical	N/A
3**	2476.800	84.53	-10.52	54.0	30.53	AV	72.00	150	Vertical	N/A
4	2665.100	50.93	-9.00	74.0	-23.07	Peak	302.00	150	Vertical	Pass
4**	2665.100	36.67	-9.00	54.0	-17.33	AV	302.00	150	Vertical	Pass
5	6927.600	52.29	4.36	74.0	-21.71	Peak	100.00	150	Vertical	Pass
5**	6927.600	43.66	4.36	54.0	-10.34	AV	100.00	150	Vertical	Pass
6	17402.026	56.71	23.64	74.0	-17.29	Peak	31.00	150	Vertical	Pass
6**	17402.026	44.25	23.64	54.0	-9.75	AV	31.00	150	Vertical	Pass

8-DPSK MODE 1 GHz to 18 GHz, ANT H

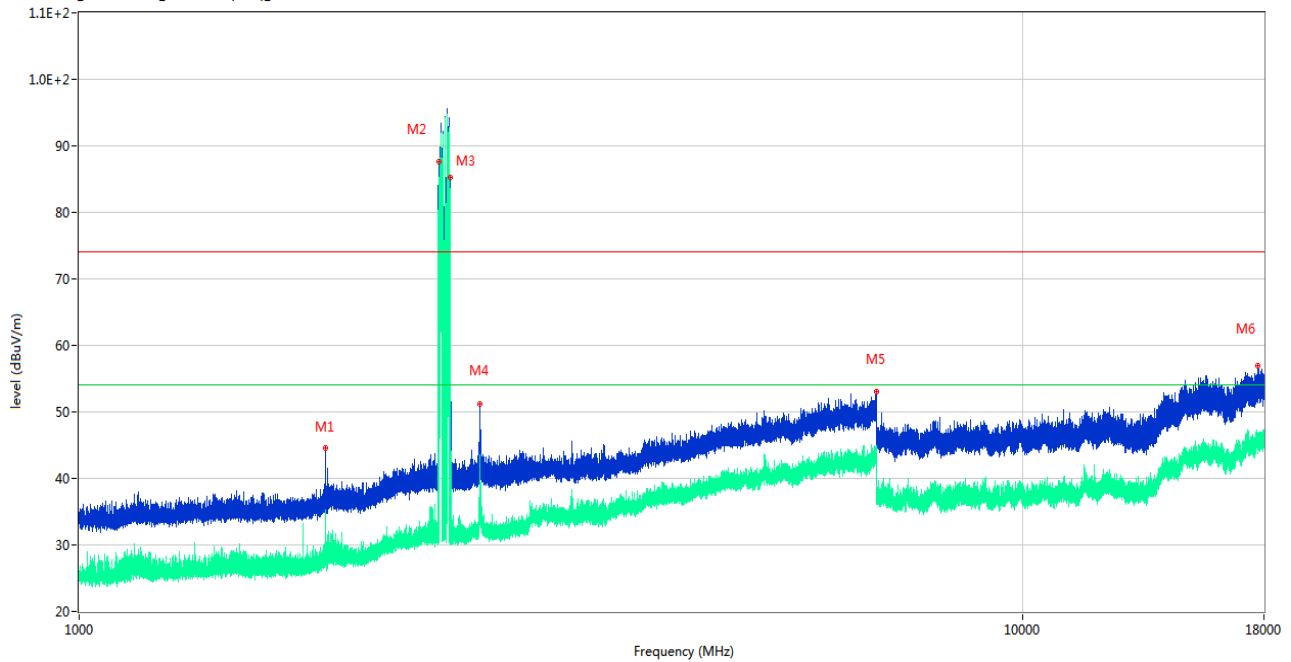
RE Test case_FCC Part 15C_FCC 15.247(2.4G)_1GHz-18GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2380.300	49.21	-10.33	74.0	-24.79	Peak	247.00	150	Horizontal	Pass
1**	2380.300	44.00	-10.33	54.0	-10.00	AV	247.00	150	Horizontal	Pass
2	2402.000	90.04	-10.59	74.0	16.04	Peak	59.00	150	Horizontal	N/A
2**	2402.000	87.83	-10.59	54.0	33.83	AV	59.00	150	Horizontal	N/A
3	2476.000	98.58	-10.60	74.0	24.58	Peak	360.00	150	Horizontal	N/A
3**	2476.000	96.53	-10.60	54.0	42.53	AV	360.00	150	Horizontal	N/A
4	2554.900	48.15	-10.22	74.0	-25.85	Peak	320.00	150	Horizontal	Pass
4**	2554.900	44.05	-10.22	54.0	-9.95	AV	320.00	150	Horizontal	Pass
5	6920.000	52.46	4.51	74.0	-21.54	Peak	344.00	150	Horizontal	Pass
5**	6920.000	43.25	4.51	54.0	-10.75	AV	344.00	150	Horizontal	Pass
6	17902.350	57.71	24.55	74.0	-16.29	Peak	136.00	150	Horizontal	Pass
6**	17902.350	45.38	24.55	54.0	-8.62	AV	136.00	150	Horizontal	Pass

8-DPSK MODE 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)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1825.800	44.64	-14.60	74.0	-29.36	Peak	228.00	150	Vertical	Pass
1**	1825.800	28.37	-14.60	54.0	-25.63	AV	228.00	150	Vertical	Pass
2	2408.600	87.54	-10.33	74.0	13.54	Peak	287.00	150	Vertical	N/A
2**	2408.600	85.17	-10.33	54.0	31.17	AV	287.00	150	Vertical	N/A
3	2470.000	85.26	-10.61	74.0	11.26	Peak	71.00	150	Vertical	N/A
3**	2470.000	81.32	-10.61	54.0	27.32	AV	71.00	150	Vertical	N/A
4	2656.000	51.14	-9.40	74.0	-22.86	Peak	301.00	150	Vertical	Pass
4**	2656.000	36.94	-9.40	54.0	-17.06	AV	301.00	150	Vertical	Pass
5	6989.000	53.09	4.63	74.0	-20.91	Peak	298.00	150	Vertical	Pass
5**	6989.000	44.95	4.63	54.0	-9.05	AV	298.00	150	Vertical	Pass
6	17711.776	56.90	24.26	74.0	-17.10	Peak	160.00	150	Vertical	Pass
6**	17711.776	45.39	24.26	54.0	-8.61	AV	160.00	150	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

Speed

Main Antenna

Test Mode	Test Channel	Frequency (MHz)	Level (dBuV/m)	Factor (dB)	Limit Line (dBuV/m)	Margin (dB)	Remark	Verdict
GFSK	Low	2390.00	52.612	32.61	74	21.388	PEAK	Pass
		2390.00	N/A	N/A	54	N/A	AVERAGE	Pass
GFSK	HIGH	2483.50	58.971	32.54	74	15.029	PEAK	Pass
		2483.50	44.670	32.54	54	9.330	AVERAGE	Pass
8-DPSK	Low	2390.00	52.486	32.61	74	21.514	PEAK	Pass
		2390.00	N/A	N/A	54	N/A	AVERAGE	Pass
8-DPSK	HIGH	2483.50	58.521	32.54	74	15.479	PEAK	Pass
		2483.50	44.597	32.54	54	9.403	AVERAGE	Pass
GFSK(Hopping)	Low	2390.00	54.634	31.47	74	19.366	PEAK	Pass
		2390.00	43.743	31.47	54	10.257	AVERAGE	Pass
GFSK(Hopping)	HIGH	2483.50	54.138	31.40	74	19.862	PEAK	Pass
		2483.50	43.624	31.40	54	10.376	AVERAGE	Pass
8-DPSK (Hopping)	Low	2390.00	55.050	31.47	74	18.950	PEAK	Pass
		2390.00	43.569	31.47	54	10.431	AVERAGE	Pass
8-DPSK (Hopping)	HIGH	2483.50	56.905	31.40	74	17.095	PEAK	Pass
		2483.50	43.469	31.40	54	10.531	AVERAGE	Pass

Aux. Antenna

Test Mode	Test Channel	Frequency (MHz)	Level (dBuV/m)	Factor (dB)	Limit Line (dBuV/m)	Margin (dB)	Remark	Verdict
GFSK	Low	2390.00	53.653	32.61	74	20.347	PEAK	Pass
		2390.00	N/A	N/A	54	N/A	AVERAGE	Pass
GFSK	HIGH	2483.50	58.285	32.54	74	15.715	PEAK	Pass
		2483.50	44.370	32.54	54	9.630	AVERAGE	Pass
8-DPSK	Low	2390.00	55.530	32.61	74	18.470	PEAK	Pass
		2390.00	44.372	32.61	54	9.628	AVERAGE	Pass
8-DPSK	HIGH	2483.50	55.980	32.54	74	18.020	PEAK	Pass
		2483.50	43.628	32.54	54	10.372	AVERAGE	Pass
GFSK(Hopping)	Low	2390.00	54.747	31.47	74	19.253	PEAK	Pass
		2390.00	43.979	31.47	54	10.021	AVERAGE	Pass
GFSK(Hopping)	HIGH	2483.50	55.082	31.4	74	18.918	PEAK	Pass
		2483.50	43.513	31.4	54	10.487	AVERAGE	Pass
8-DPSK (Hopping)	Low	2390.00	54.403	31.47	74	19.597	PEAK	Pass
		2390.00	43.626	31.47	54	10.374	AVERAGE	Pass
8-DPSK (Hopping)	HIGH	2483.50	57.161	31.4	74	16.839	PEAK	Pass
		2483.50	43.593	31.4	54	10.407	AVERAGE	Pass

South Star

Main Antenna

Test Mode	Test Channel	Frequency (MHz)	Level (dBuV/m)	Factor (dB)	Limit Line (dBuV/m)	Margin (dB)	Remark	Verdict
GFSK	Low	2390.00	53.431	32.61	74	20.569	PEAK	Pass
		2390.00	N/A	N/A	54	N/A	AVERAGE	Pass
GFSK	HIGH	2483.50	56.946	32.54	74	17.054	PEAK	Pass
		2483.50	43.603	32.54	54	10.397	AVERAGE	Pass
8-DPSK	Low	2390.00	53.580	32.61	74	20.420	PEAK	Pass
		2390.00	N/A	N/A	54	N/A	AVERAGE	Pass
8-DPSK	HIGH	2483.50	57.481	32.54	74	16.519	PEAK	Pass
		2483.50	44.147	32.54	54	9.853	AVERAGE	Pass
GFSK(Hopping)	Low	2390.00	54.590	31.47	74	19.410	PEAK	Pass
		2390.00	43.791	31.47	54	10.209	AVERAGE	Pass
GFSK(Hopping)	HIGH	2483.50	54.281	31.40	74	19.719	PEAK	Pass
		2483.50	43.644	31.40	54	10.356	AVERAGE	Pass
8-DPSK (Hopping)	Low	2390.00	54.554	31.47	74	19.446	PEAK	Pass
		2390.00	43.565	31.47	54	10.435	AVERAGE	Pass
8-DPSK (Hopping)	HIGH	2483.50	56.964	31.40	74	17.036	PEAK	Pass
		2483.50	43.465	31.40	54	10.535	AVERAGE	Pass

Aux. Antenna

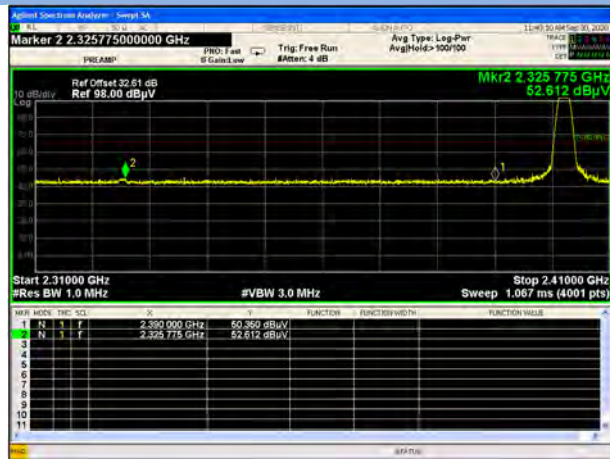
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GFSK	Low	2390.00	53.755	32.61	74	20.245	PEAK	Pass
		2390.00	N/A	N/A	54	N/A	AVERAGE	Pass
GFSK	HIGH	2483.50	58.397	32.54	74	15.603	PEAK	Pass
		2483.50	44.395	32.54	54	9.605	AVERAGE	Pass
8-DPSK	Low	2390.00	53.519	32.61	74	20.481	PEAK	Pass
		2390.00	N/A	N/A	54	N/A	AVERAGE	Pass
8-DPSK	HIGH	2483.50	55.042	32.54	74	18.958	PEAK	Pass
		2483.50	43.583	32.54	54	10.417	AVERAGE	Pass
GFSK(Hopping)	Low	2390.00	55.498	31.47	74	18.502	PEAK	Pass
		2390.00	43.723	31.47	54	10.277	AVERAGE	Pass
GFSK(Hopping)	HIGH	2483.50	54.770	31.40	74	19.230	PEAK	Pass
		2483.50	43.551	31.40	54	10.449	AVERAGE	Pass
8-DPSK (Hopping)	Low	2390.00	54.551	31.47	74	19.449	PEAK	Pass
		2390.00	43.525	31.47	54	10.475	AVERAGE	Pass
8-DPSK (Hopping)	HIGH	2483.50	55.915	31.40	74	18.085	PEAK	Pass
		2483.50	43.479	31.40	54	10.521	AVERAGE	Pass

Test Plots

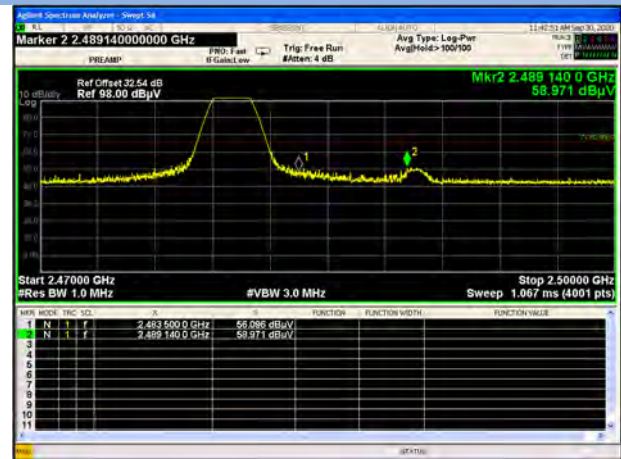
Speed

Main Antenna

GFSK LOW CHANNEL, PEAK



GFSK HIGH CHANNEL, PEAK



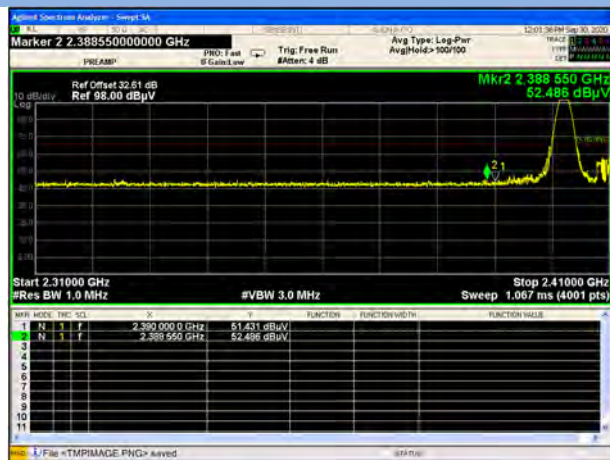
GFSK HIGH CHANNEL, AV1



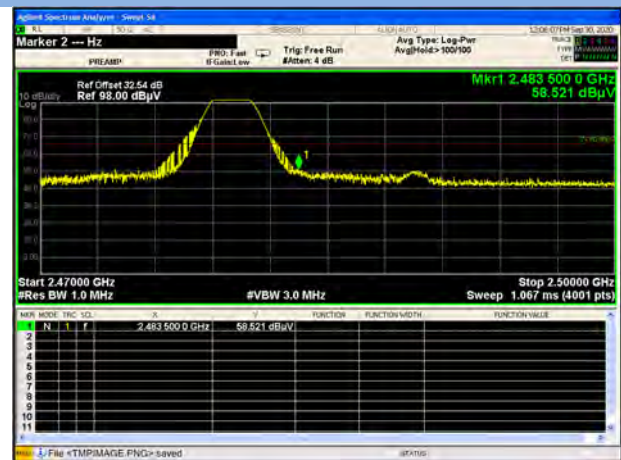
GFSK HIGH CHANNEL, AV2



8-DPSK LOW CHANNEL, PEAK



8-DPSK HIGH CHANNEL, PEAK

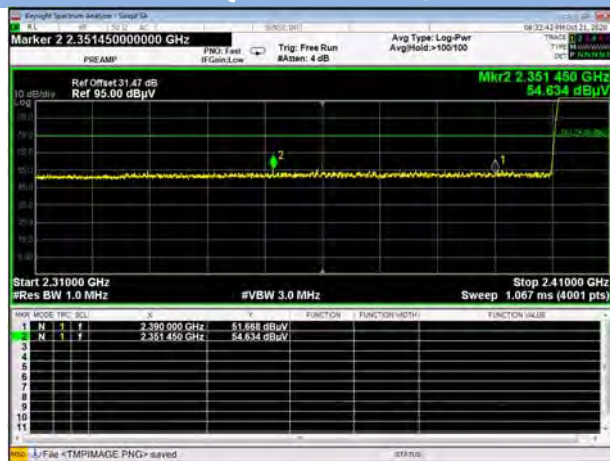


8-DPSK HIGH CHANNE, AV



Hopping Mode:

GFSK LOW FREQUENCY BAND, PEAK



GFSK HIGH FREQUENCY BAND, PEAK



GFSK LOW FREQUENCY BAND, AV



GFSK HIGH FREQUENCY BAND, AV



8-DPSK LOW FREQUENCY BAND, PEAK



8-DPSK HIGH FREQUENCY BAND, PEAK



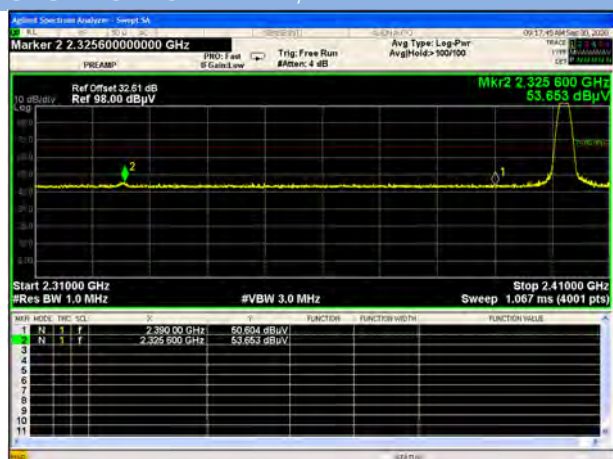
8-DPSK LOW FREQUENCY BAND, AV



8-DPSK HIGH FREQUENCY BAND, AV


Aux. Antenna

GFSK LOW CHANNEL, PEAK



GFSK HIGH CHANNEL, PEAK



GFSK HIGH CHANNEL, AV1



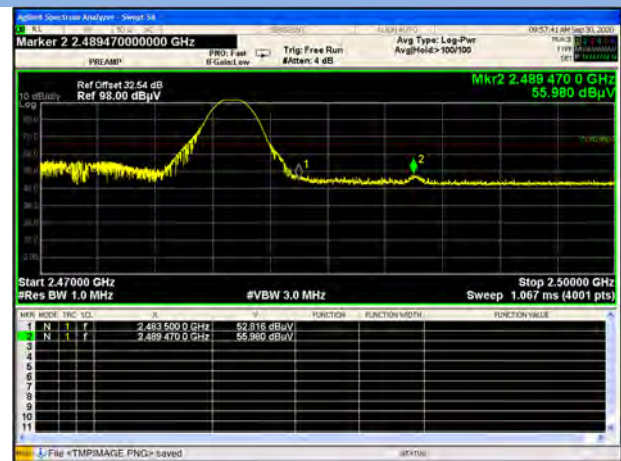
GFSK HIGH CHANNEL, AV2



8-DPSK LOW CHANNEL, PEAK



8-DPSK HIGH CHANNEL, PEAK



8-DPSK LOW CHANNEL, AV1



8-DPSK LOW CHANNEL, AV2

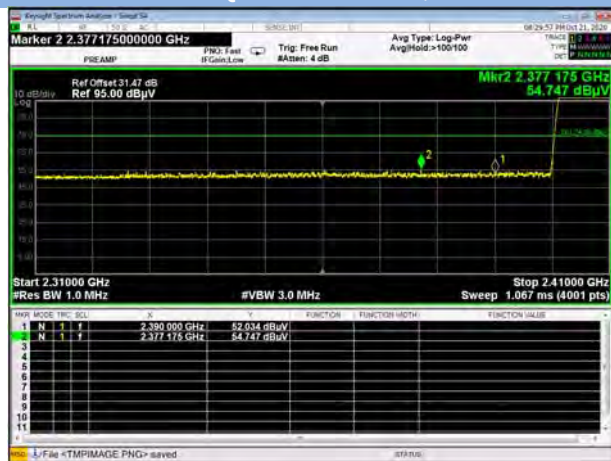


8-DPSK HIGH CHANNE, AV



Hopping Mode:

GFSK LOW FREQUENCY BAND, PEAK



GFSK HIGH FREQUENCY BAND, PEAK



GFSK LOW FREQUENCY BAND, AV



GFSK HIGH FREQUENCY BAND, AV



8-DPSK LOW FREQUENCY BAND, PEAK



8-DPSK HIGH FREQUENCY BAND, PEAK



8-DPSK LOW FREQUENCY BAND, AV



8-DPSK HIGH FREQUENCY BAND, AV1



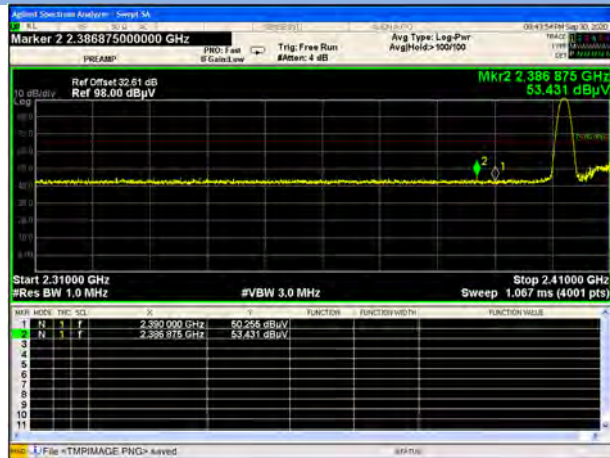
8-DPSK HIGH FREQUENCY BAND, AV2



South Star

Main Antenna

GFSK LOW CHANNEL, PEAK



GFSK HIGH CHANNEL, PEAK



GFSK HIGH CHANNEL, AV



8-DPSK LOW CHANNEL, PEAK



8-DPSK HIGH CHANNEL, PEAK



8-DPSK HIGH CHANNEL, AV2



Hopping Mode:

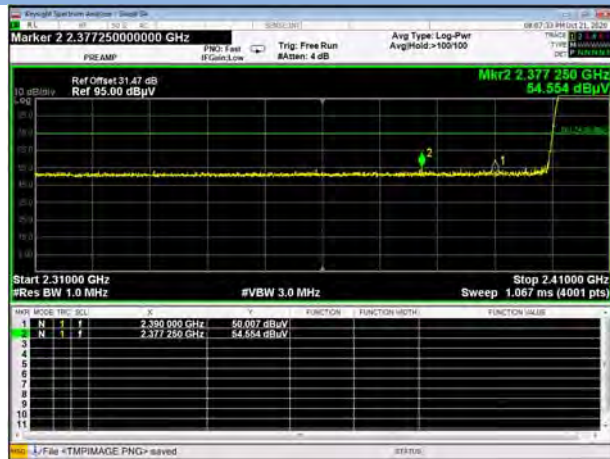
GFSK HIGH FREQUENCY BAND, PEAK



GFSK HIGH FREQUENCY BAND, AV



8-DPSK LOW FREQUENCY BAND, PEAK



8-DPSK HIGH FREQUENCY BAND, PEAK



8-DPSK LOW FREQUENCY BAND, AV

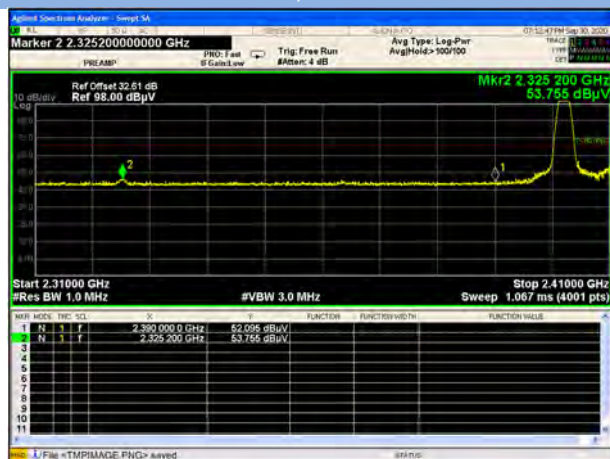


8-DPSK HIGH FREQUENCY BAND, AV

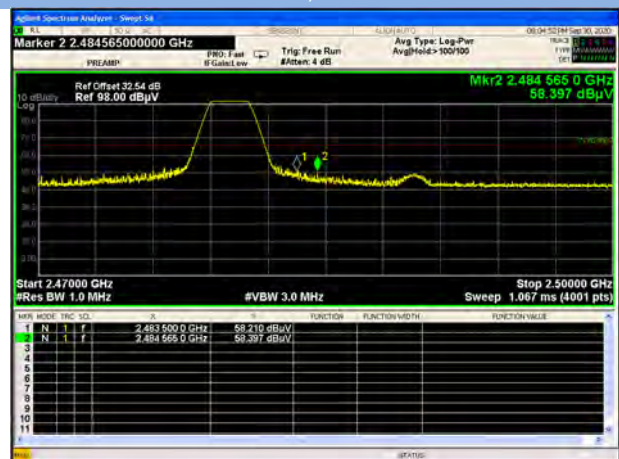


Aux. Antenna

GFSK LOW CHANNEL, PEAK



GFSK HIGH CHANNEL, PEAK



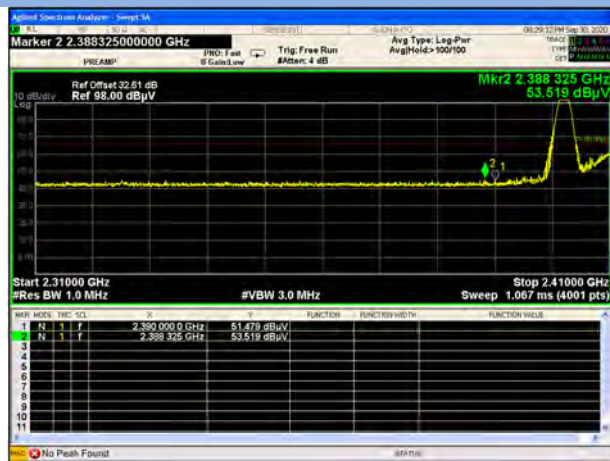
GFSK HIGH CHANNEL, AV1



GFSK HIGH CHANNEL, AV2



8-DPSK LOW CHANNEL, PEAK



8-DPSK HIGH CHANNEL, PEAK

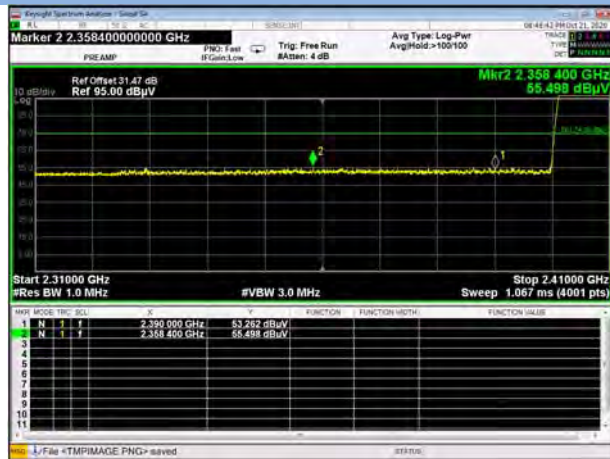


8-DPSK HIGH CHANNEL, AV



Hopping Mode:

GFSK LOW FREQUENCY BAND, PEAK



GFSK HIGH FREQUENCY BAND, PEAK



GFSK LOW FREQUENCY BAND, AV



GFSK HIGH FREQUENCY BAND, AV



8-DPSK LOW FREQUENCY BAND, PEAK



8-DPSK HIGH FREQUENCY BAND, PEAK



8-DPSK LOW FREQUENCY BAND, AV



8-DPSK HIGH FREQUENCY BAND, AV



ANNEX B TEST SETUP PHOTOS

Please refer the document "BL-SZ2090237-AR-1.PDF".

ANNEX C EUT EXTERNAL PHOTOS

Please refer the document "BL-SZ2090237-AW.PDF".

ANNEX D EUT INTERNAL PHOTOS

Please refer the document "BL-SZ2090237-AI-1.PDF".

--END OF REPORT--