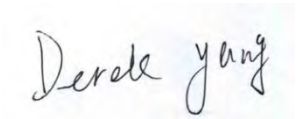
FCC TEST REPORT

Application No.:	AR/2020/C0010
Applicant:	Xiaomi Communications Co., Ltd.
Address of Applicant	#019, 9th Floor, Building 6, 33 Xi'erqi Middle Road, Haidian District, Beijing, China, 100085
Manufacturer:	Xiaomi Communications Co., Ltd.
Address of Manufacturer	#019, 9th Floor, Building 6, 33 Xi'erqi Middle Road, Haidian District, Beijing, China, 100085
EUT Description:	Mobile Phone
Model No.:	M2012K11G
Trade Mark:	Xiaomi
FCC ID:	2AFZZK11G
Standards:	47 CFR FCC Part 2, Subpart J 47 CFR Part 15, Subpart C
Date of Receipt:	2021/1/31
Date of Test:	2021/1/31 to 2021/2/22
Date of Issue:	2021/3/12
Test Result :	**PASS ***

* In the configuration tested, the EUT detailed in this report complied with the standards specified above.

Authorized Signature:



Derek Yang
Wireless Laboratory Manager

1 Version

Revision Record				
Version	**Chapter**	**Date**	**Modifier**	**Remark**
01		2021-03-12		Original

Authorized for issue by:				
Prepared By		Dee.Zheng (Dee Zheng) /Project Engineer		
Checked By		Daniel (Daniel Wang) /Reviewer		

2 Test Summary

Test Item	Test Requirement	Test Method	Test Result	Result	Test Lab*
AC Power Line Conducted Emission	15.207	ANSI C63.10 2013	Clause 4.2	PASS	B
Conducted Output Power	15.247 (b)(3)	ANSI C63.10 2013	Clause 4.3	PASS	A
DTS (6 dB) Bandwidth	15.247 (a)(2)	ANSI C63.10 2013	Clause 4.4	PASS	A
Power Spectral Density	15.247 (e)	ANSI C63.10 2013	Clause 4.5	PASS	A
Band-edge for RF Conducted Emissions	15.247(d)	ANSI C63.10 2013	Clause 4.6	PASS	A
RF Conducted Spurious Emissions	15.247(d)	ANSI C63.10 2013	Clause 4.7	PASS	A
Radiated Spurious Emissions	15.205/15.209	ANSI C63.10 2013	Clause 4.8	PASS	B
Restricted bands around fundamental frequency (Radiated Emission)	15.205/15.209	ANSI C63.10 2013	Clause 4.9	PASS	B

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3 General Information

3.1 Details of Client

Applicant:	Xiaomi Communications Co., Ltd.
Address of Applicant	#019, 9th Floor, Building 6, 33 Xi'erqi Middle Road, Haidian District, Beijing, China, 100085
Manufacturer:	Xiaomi Communications Co., Ltd.
Address of Manufacturer	#019, 9th Floor, Building 6, 33 Xi'erqi Middle Road, Haidian District, Beijing, China, 100085

3.2 Test Location

Lab A:

Company:	SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch
Address:	No. 1 Workshop, M-10, Middle section, Science & Technology Park, Shenzhen, Guangdong, China
Post code:	518057

Lab B:

Company:	SGS-CSTC STANDARDS TECHNICAL SERVICES (XI 'AN) CO., LTD.
Address:	1/F, Unit D, Building 1, Kanghong Orange Technology Park, No.137, Keyuan 3rd Road, Fengdong New City, Xi'an, Shaanxi China
Post code:	710086

3.1 Test Facility

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

Lab A:

• A2LA (Certificate No. 3816.01)

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 3816.01.

• VCCI

The 3m Fully-anechoic chamber for above 1GHz, 10m Semi-anechoic chamber for below 1GHz, Shielded Room for Mains Port Conducted Interference Measurement and Telecommunication Port Conducted Interference Measurement of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-20026, R-14188, C-12383 and T-11153 respectively.

• FCC –Designation Number: CN1178

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized as an accredited testing laboratory.

Designation Number: CN1178. Test Firm Registration Number: 406779.

• Innovation, Science and Economic Development Canada

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized by ISED as an accredited testing laboratory.

CAB identifier: CN0006.

IC#: 4620C.

Lab B:

A2LA (Certificate No. 4854.01)

SGS-CSTC STANDARDS TECHNICAL SERVICES (XI 'AN) CO., LTD. is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 4854.01.

Designation Number: CN1271.

3.2 General Description of EUT

EUT Description:	Mobile Phone
Model No.:	M2012K11G
Trade Mark:	Xiaomi
Hardware Version:	P2.1
Software Version:	MIUI12
Operation Frequency:	2400MHz~2483.5MHz fc = 2402 MHz + N * 2 MHz, where: -fc = “Operating Frequency” in MHz, -N = “Channel Number” with the range from 0 to 39.
Bluetooth version:	Bluetooth V5.2
Modulation Type:	GFSK
Number of Channel:	40
Sample Type:	☒ Portable Device, ☐Module
Antenna Type:	PIFA Antenna
Antenna Gain:	-3.1dBi(ANT1); -3.4dBi(ANT2);

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

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

Channel	Frequency
The Lowest channel(CH0)	2402MHz
The Middle channel(CH19)	2440MHz
The Highest channel(CH39)	2480MHz

3.3 Test Environment

Operating Environment:	
Temperature:	25.0 ˚C
Humidity:	50 % RH
Atmospheric Pressure:	101.30 KPa

3.4 Description of Support Units

The EUT has been tested independent unit.

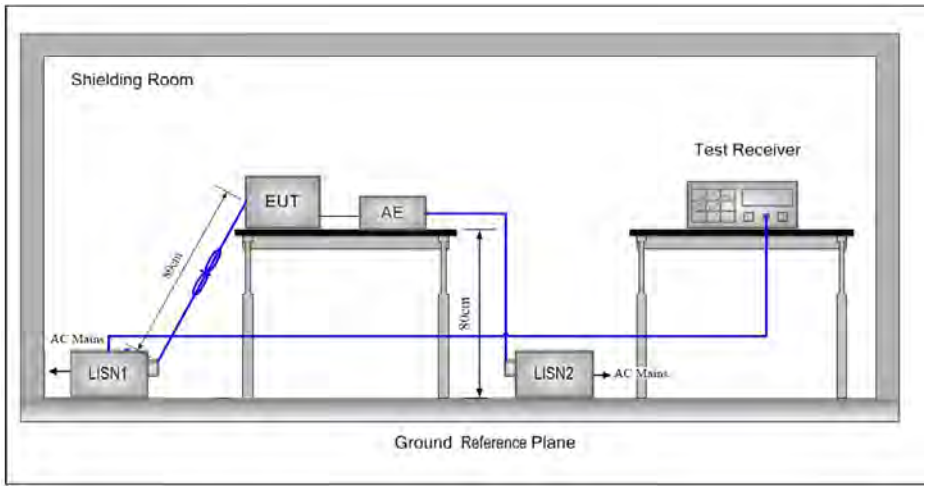
4 Test results and Measurement Data

4.1 Antenna Requirement

Standard requirement:	47 CFR Part 15C Section 15.203 /247(c)
15.203 requirement: An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. 15.247(b) (4) requirement: The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.	
The antenna is integrated on the main PCB and no consideration of replacement. The best case gain of the antenna is -3.1dBi(ANT1);-3.4(ANT2).	

4.2 AC Power Line Conducted Emissions

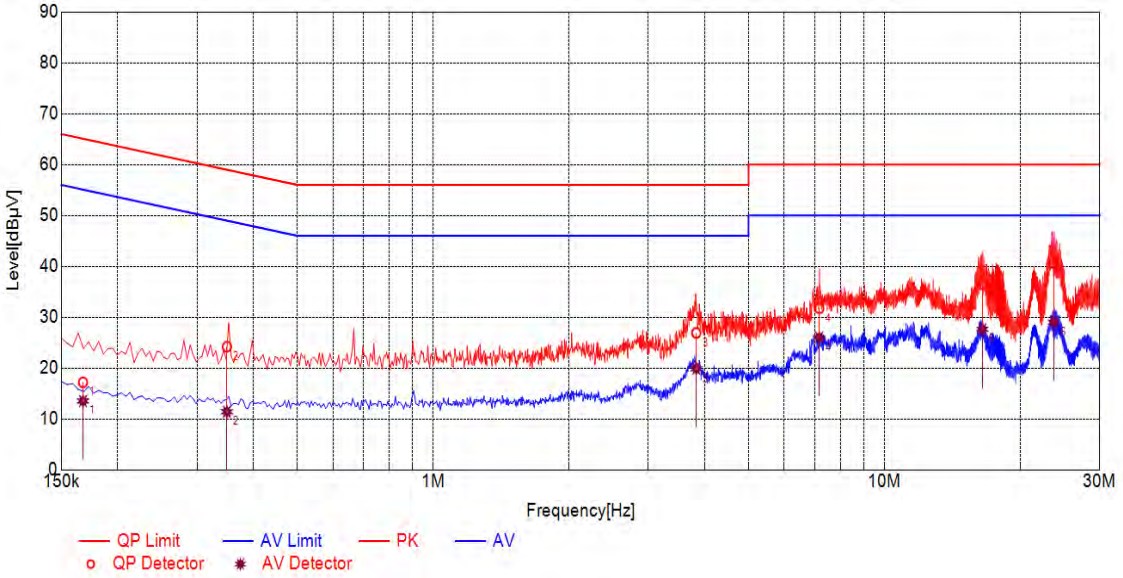
Test Requirement:	47 CFR Part 15C Section 15.207		
Test Method:	ANSI C63.10: 2013		
Test Frequency Range:	150kHz to 30MHz		
Limit:	Frequency range (MHz)	Limit (dBuV)	
		Quasi-peak	Average
	0.15-0.5	66 to 56*	56 to 46*
	0.5-5	56	46
	5-30	60	50
	* Decreases with the logarithm of the frequency.		
Test Procedure:	1) The mains terminal disturbance voltage test was conducted in a shielded room. 2) The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a 50Ω/50μH + 5Ω linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded. 3) The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane. 4) The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0.4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN 1 was placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distance was between the closest points of the LISN 1 and the EUT. All other units of the EUT and associated equipment was at least 0.8 m from the LISN 2. 5) In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10: 2013 on conducted measurement.		

Test Setup:	
Test Mode:	Transmitting with GFSK modulation. Charge +Transmitting mode.
Instruments Used:	Refer to section 6 for details.
Test Results:	Pass
Remark:	The Emission Test data were reused from the report no:XAR/2020/C001003

Measurement Data

An initial pre-scan was performed on the live and neutral lines with peak detector.
Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission were detected.

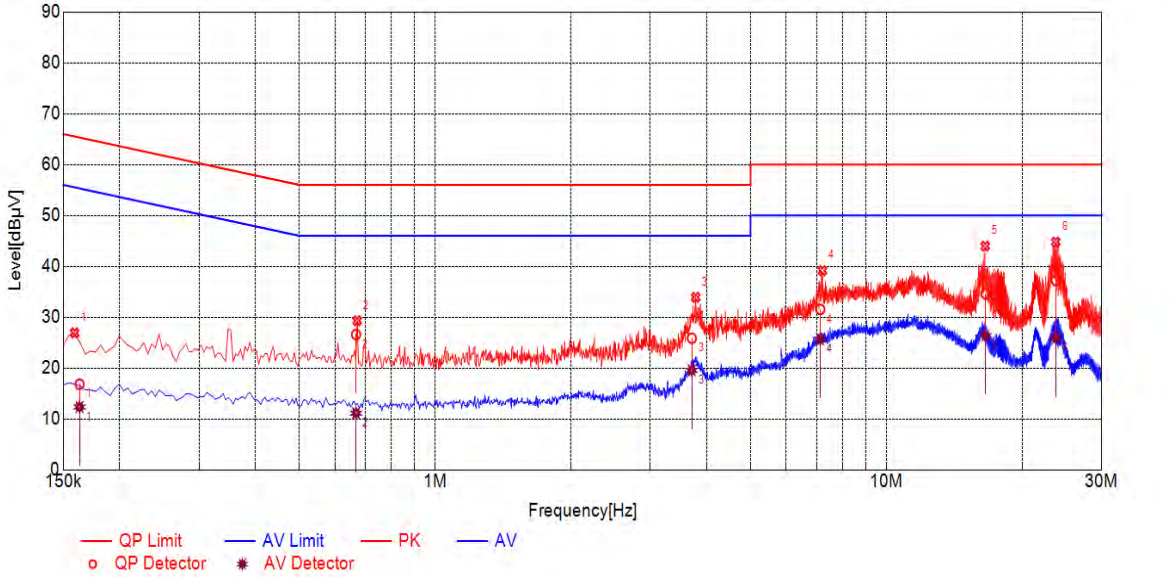
Live Line:



Test Graph

Final Data List									
NO.	Freq. [MHz]	Factor [dB]	QP Value [dBµV]	QP Limit [dBµV]	QP Margin [dB]	AV Value [dBµV]	AV Limit [dBµV]	AV Margin [dB]	Type
1	0.1676	10.10	17.20	65.08	47.88	13.53	55.08	41.55	L
2	0.3492	10.10	24.21	58.98	34.77	11.42	48.98	37.56	L
3	3.8293	10.10	26.91	56.00	29.09	19.87	46.00	26.13	L
4	7.1729	10.10	31.73	60.00	28.27	26.00	50.00	24.00	L
5	16.4917	10.11	36.48	60.00	23.52	27.63	50.00	22.37	L
6	23.7377	10.11	40.57	60.00	19.43	29.04	50.00	20.96	L

Neutral Line:



Test Graph

Suspected List							
NO.	Freq.[MHz]	Level[dBµV]	Factor[dB]	Limit[dBµV]	Margin[dB]	Detector	Type
1	0.1590	26.91	10.10	65.52	38.61	PK	N
2	0.6720	29.29	10.10	56.00	26.71	PK	N
3	3.7815	33.91	10.10	56.00	22.09	PK	N
4	7.2150	39.15	10.10	60.00	20.85	PK	N
5	16.5570	43.97	10.11	60.00	16.03	PK	N
6	23.7300	44.79	10.11	60.00	15.21	PK	N

Final Data List									
NO.	Freq. [MHz]	Factor [dB]	QP Value [dBµV]	QP Limit [dBµV]	QP Margin [dB]	AV Value [dBµV]	AV Limit [dBµV]	AV Margin [dB]	Type
1	0.1630	10.10	16.82	65.31	48.49	12.35	55.31	42.96	N
2	0.6681	10.10	26.60	56.00	29.40	11.14	46.00	34.86	N
3	3.7054	10.10	25.87	56.00	30.13	19.55	46.00	26.45	N
4	7.1346	10.10	31.55	60.00	28.45	25.65	50.00	24.35	N
5	16.5810	10.11	34.62	60.00	25.38	26.39	50.00	23.61	N
6	23.7438	10.11	37.20	60.00	22.80	25.88	50.00	24.12	N

Remarks:

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

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

4.3 Duty Cycle

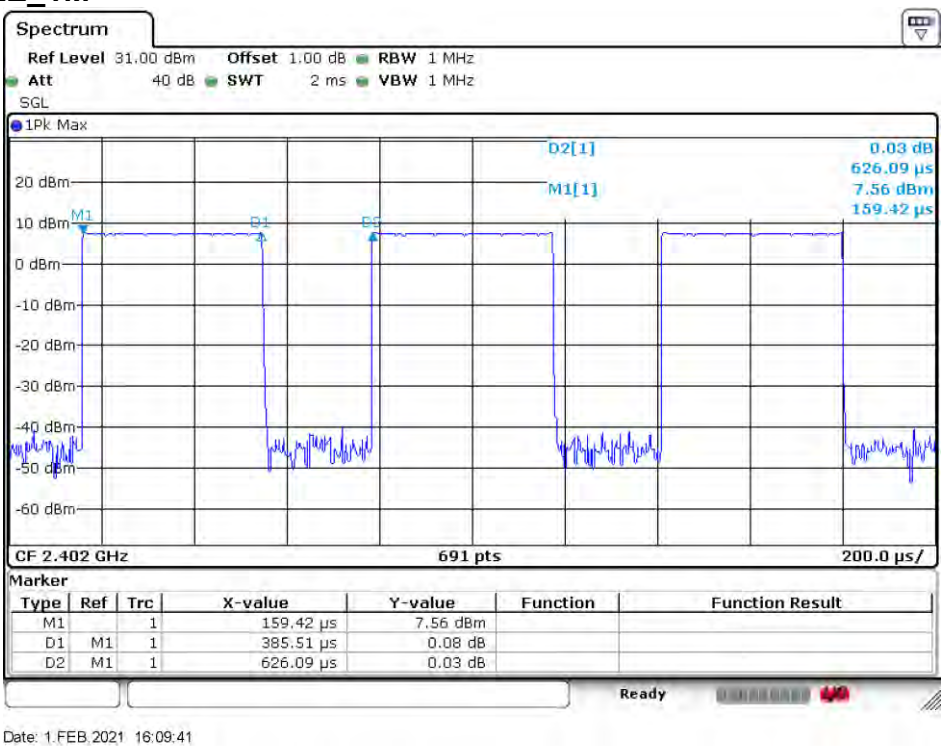
4.3.1 Test Results

Test Mode	TX Freq. [MHz]	Duty cycle [%]
BLE_1M	ANT1:CH0, CH19, CH39	61.57
BLE_2M	ANT1:CH0, CH19, CH39	32.41
BLE_1M	ANT2:CH0, CH19, CH39	61.57
BLE_2M	ANT2:CH0, CH19, CH39	32.41

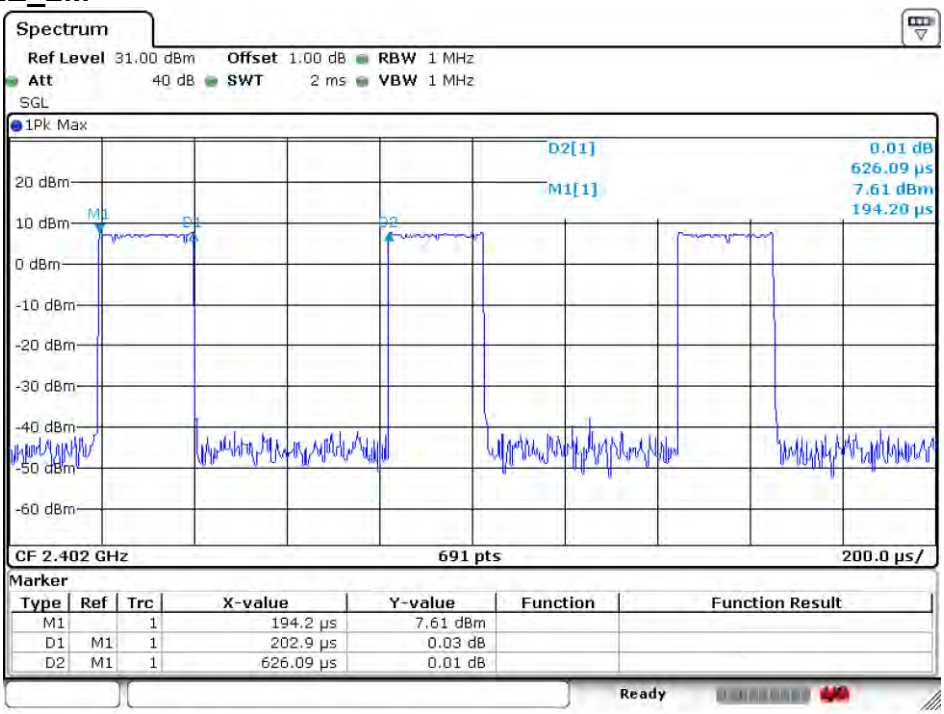
4.3.2 Test Plots

4.3.2.1 ANT1

4.3.2.1.1 BLE_1M

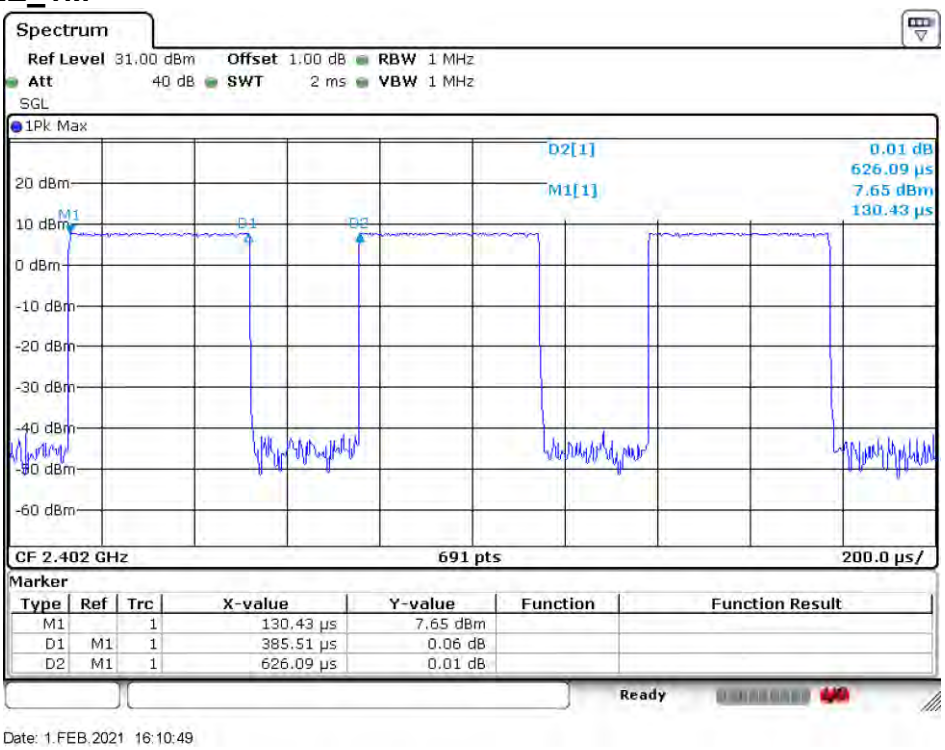


4.3.2.1.2 BLE_2M

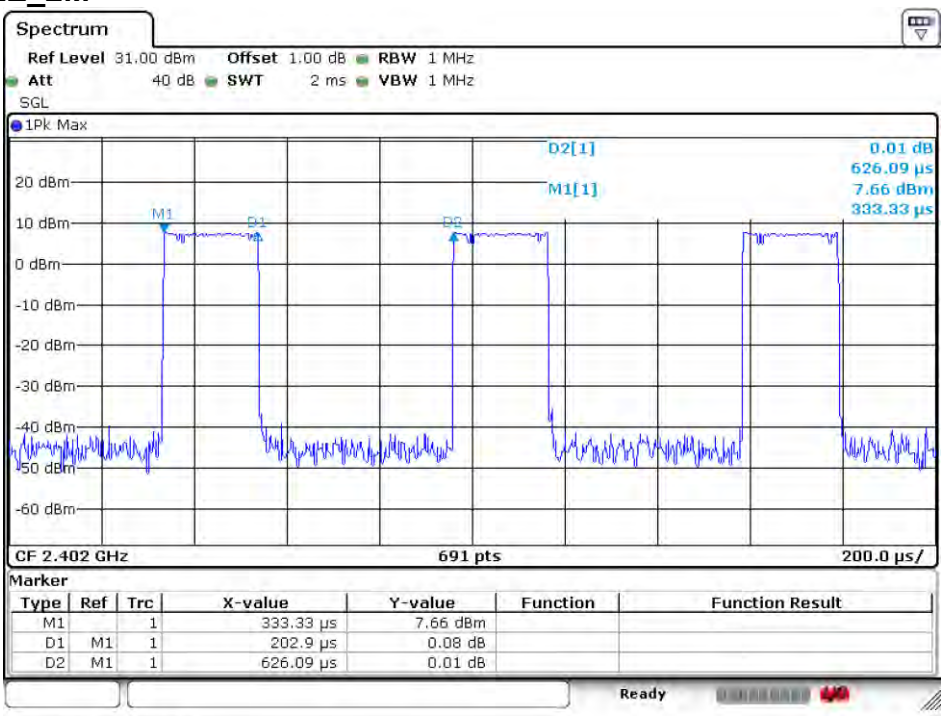


4.3.2.2 ANT2

4.3.2.2.1 BLE_1M

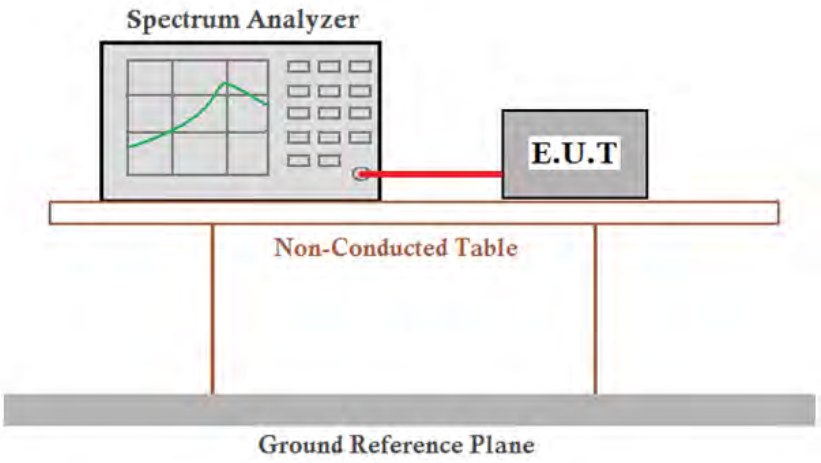


4.3.2.2.2 BLE_2M



Date: 1.FEB.2021 16:11:23

4.4 Conducted Output Power

Test Requirement:	47 CFR Part 15C Section 15.247 (b)(3)
Test Method:	ANSI C63.10 :2013 Section 11.9.1.1
Test Setup:	
Test Instruments:	Refer to section 6 for details
Test Mode:	Transmitting with GFSK modulation.
Limit:	30dBm
Test Results:	Pass

4.4.1 Test Results

Measurement Data of Peak Power:

ANT1:

GFSK_1M mode			
Test Channel	Peak Output Power (dBm)	Limit (dBm)	Result
Lowest	7.59	30.00	Pass
Middle	8.66	30.00	Pass
Highest	6.20	30.00	Pass

GFSK_2M mode			
Test Channel	Peak Output Power (dBm)	Limit (dBm)	Result
Lowest	7.64	30.00	Pass
Middle	8.70	30.00	Pass
Highest	6.26	30.00	Pass

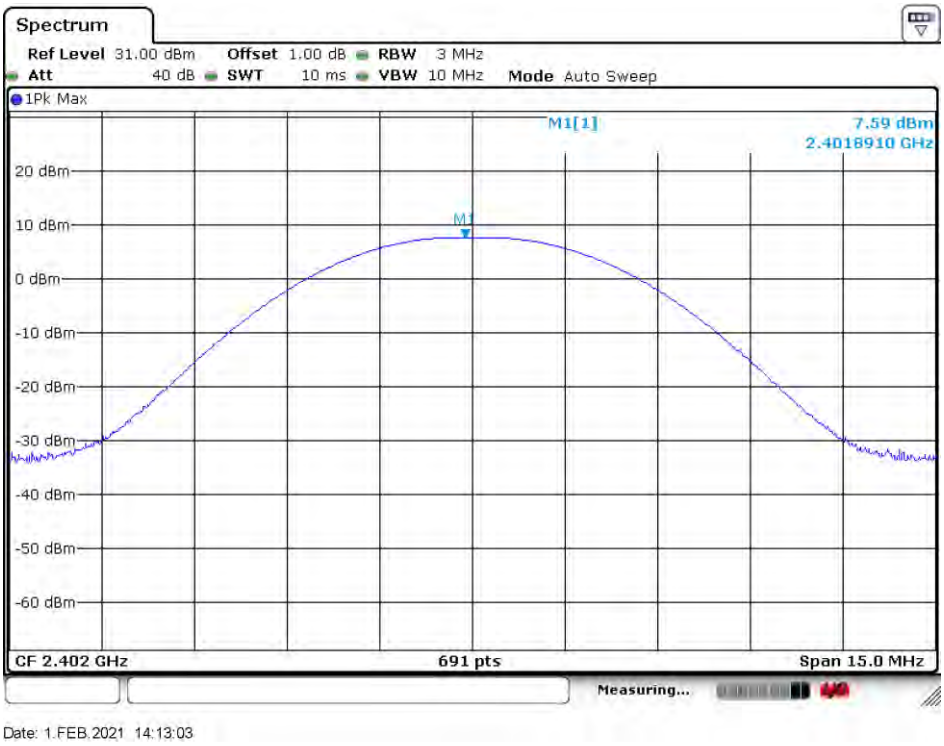
ANT2:

GFSK_1M mode			
Test Channel	Peak Output Power (dBm)	Limit (dBm)	Result
Lowest	7.83	30.00	Pass
Middle	9.14	30.00	Pass
Highest	6.82	30.00	Pass

GFSK_2M mode			
Test Channel	Peak Output Power (dBm)	Limit (dBm)	Result
Lowest	7.84	30.00	Pass
Middle	9.11	30.00	Pass
Highest	6.86	30.00	Pass

4.4.1 Test Plots

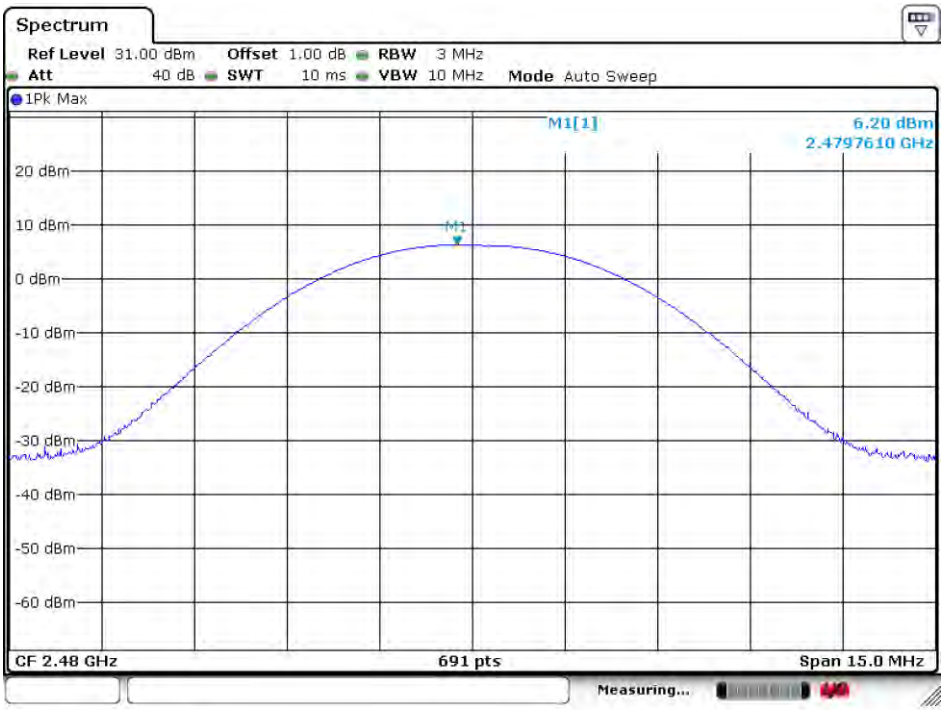
4.4.1.1 GFSK 1M_ANT1_Lowest Channel



4.4.1.2 GFSK 1M_ANT1_Middle Channel

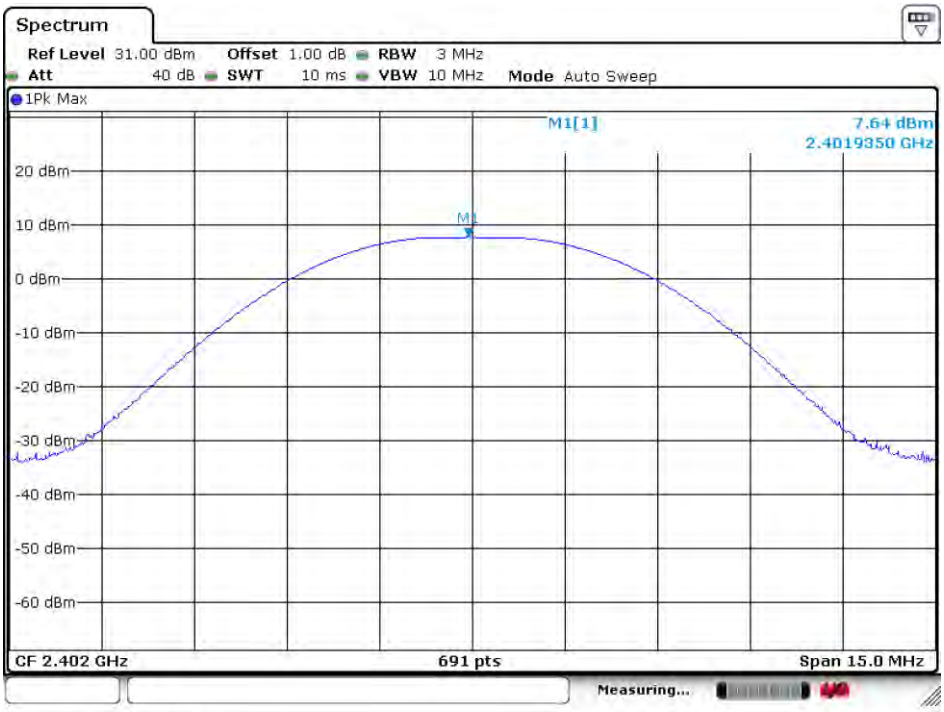
Date: 1.FEB.2021 14:13:55

4.4.1.3 GFSK 1M_ANT1_Highest Channel



Date: 1.FEB.2021 14:14:17

4.4.1.4 GFSK 2M_ANT1_Lowest Channel

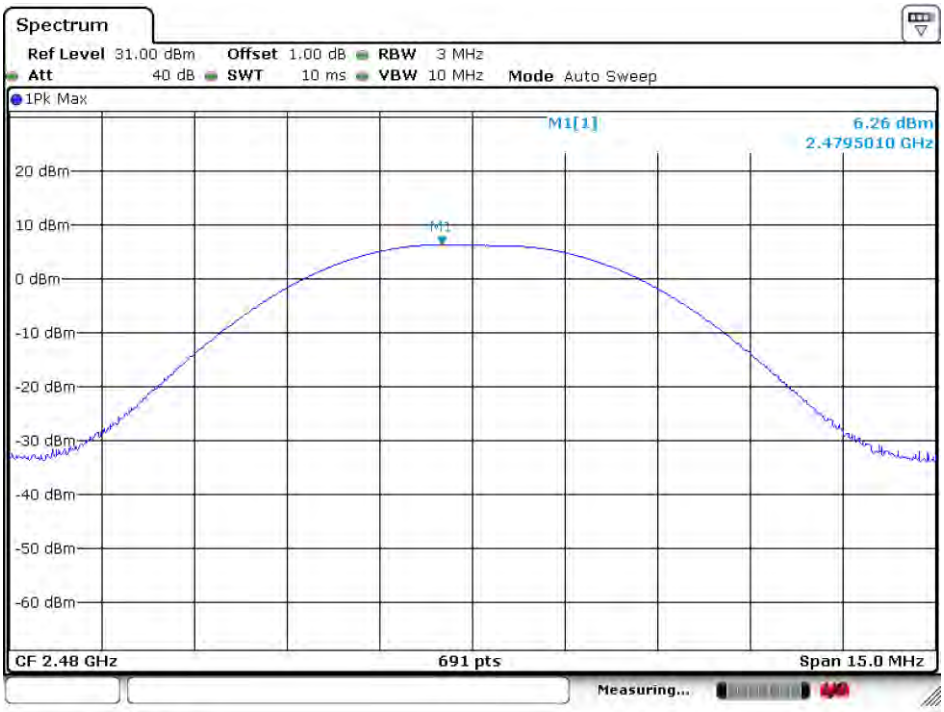


Date: 1.FEB.2021 14:14:36

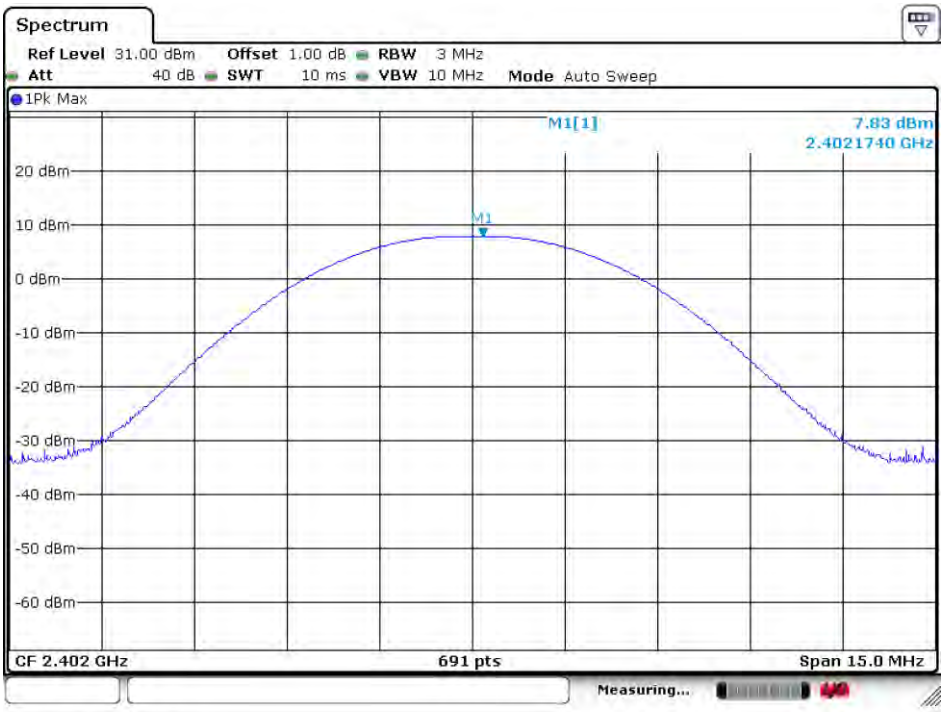
4.4.1.5 GFSK 2M_ANT1_Middle Channel

Date: 1.FEB.2021 14:14:49

4.4.1.6 GFSK 2M_ANT1_Highest Channel



4.4.1.7 GFSK 1M_ANT2_Lowest Channel



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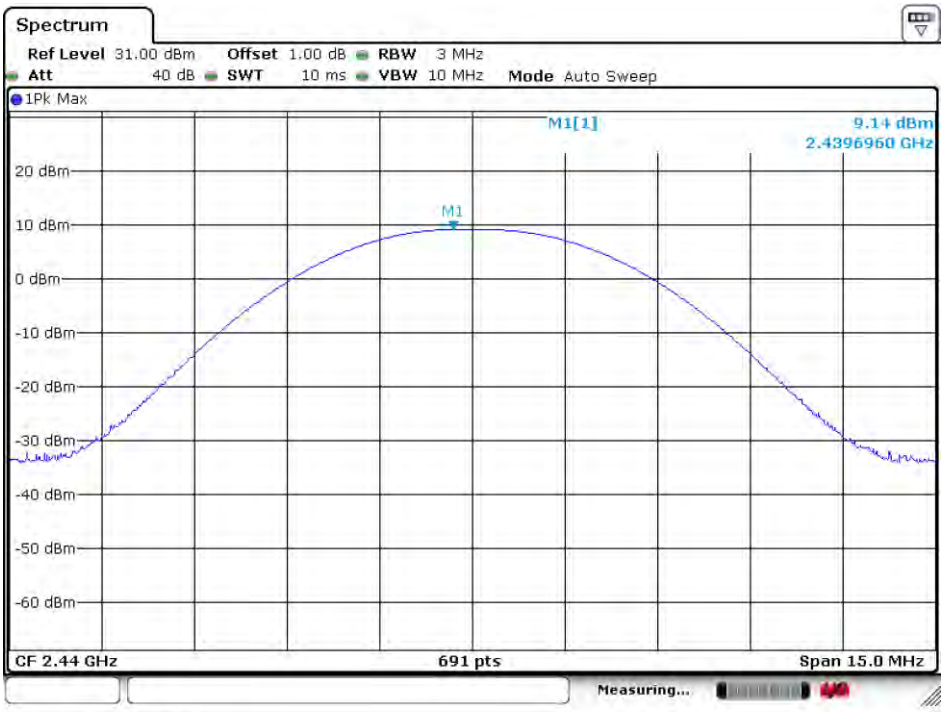
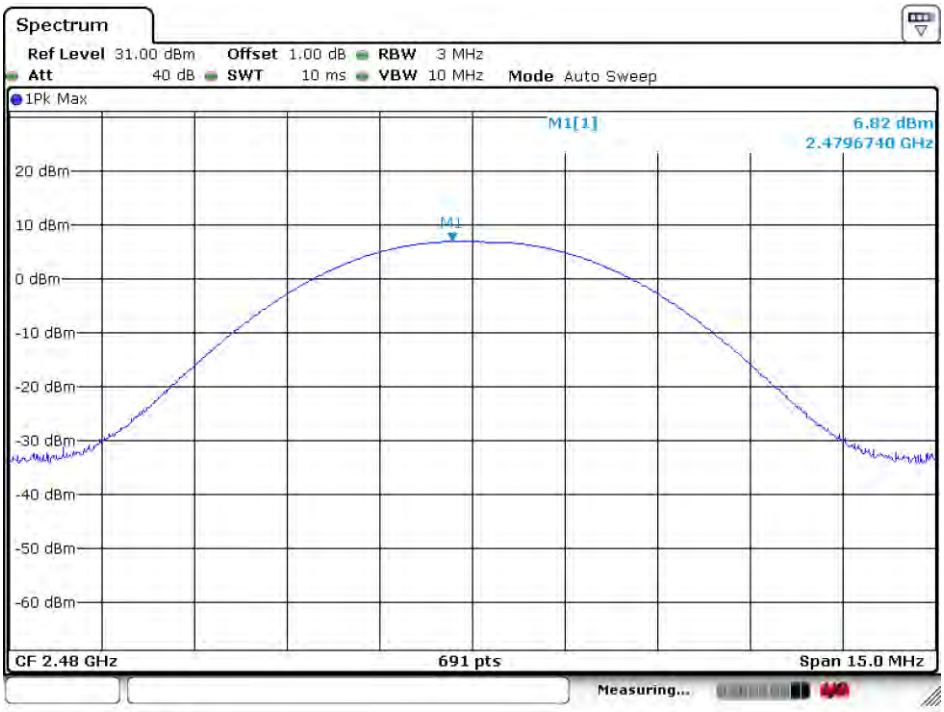
4.4.1.8 GFSK 1M_ANT2_Middle Channel



4.4.1.9 GFSK 1M_ANT2_Highest Channel



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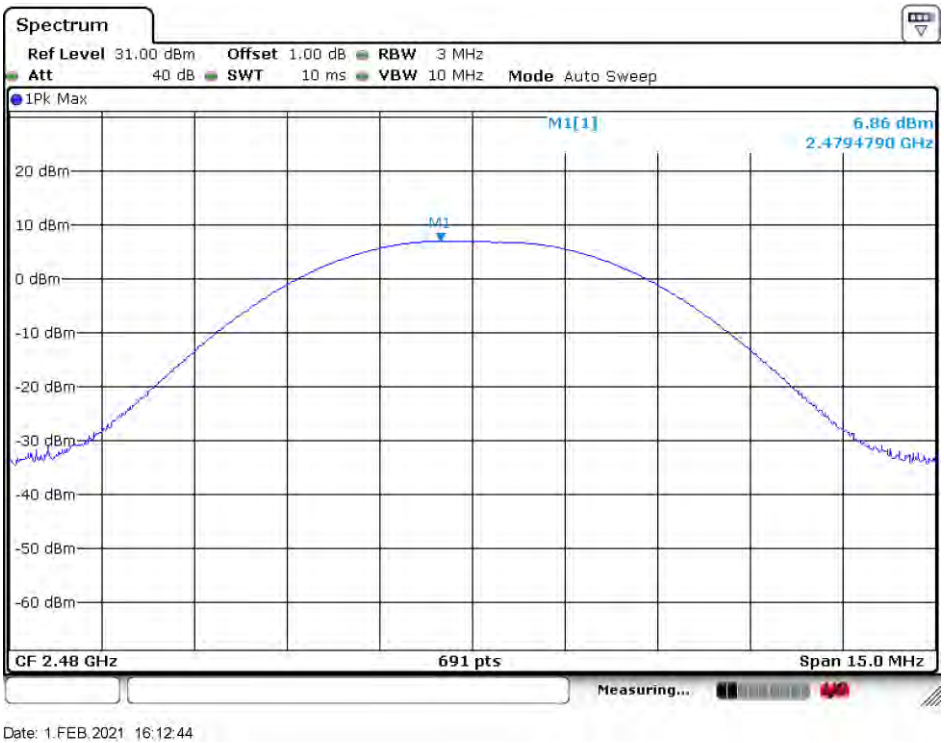
4.4.1.10 GFSK 2M_ANT2_Lowest Channel

Date: 1.FEB.2021 16:11:57

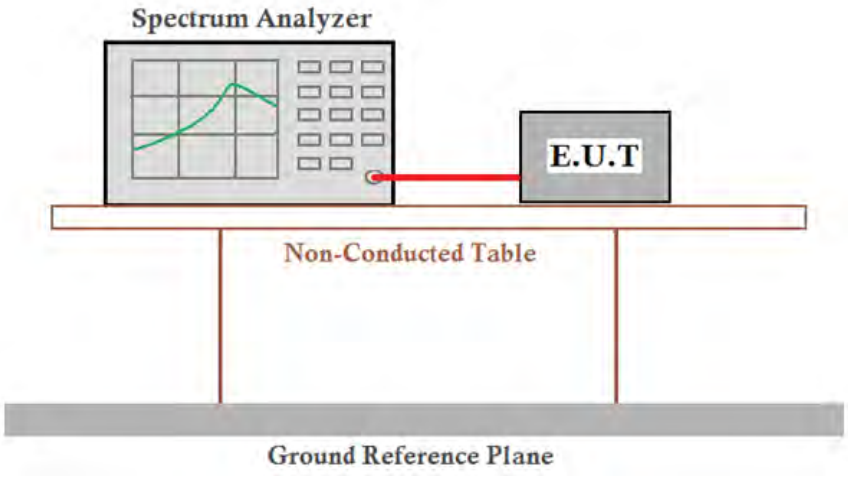
4.4.1.11 GFSK 2M_ANT2_Middle Channel

Date: 1.FEB.2021 16:12:29

4.4.1.12 GFSK 2M_ANT2_Highest Channel



4.5 DTS (6 dB) Bandwidth

Test Requirement:	47 CFR Part 15C Section 15.247 (a)(2)
Test Method:	ANSI C63.10: 2013 Section 11.8 Option 2
Test Setup:	
Instruments Used:	Refer to section 6 for details
Test Mode:	Transmitting with GFSK modulation.
Limit:	≥ 500 kHz
Test Results:	Pass

4.5.1 Test Results

ANT1:

Mode	Test Channel	6dB Emission Bandwidth (MHz)	Limit (kHz)	Result
GFSK_1M	Lowest	0.67	⩾500	Pass
	Middle	0.68	⩾500	Pass
	Highest	0.69	⩾500	Pass

Mode	Test Channel	6dB Emission Bandwidth (MHz)	Limit (kHz)	Result
GFSK_2M	Lowest	1.16	⩾500	Pass
	Middle	1.16	⩾500	Pass
	Highest	1.18	⩾500	Pass

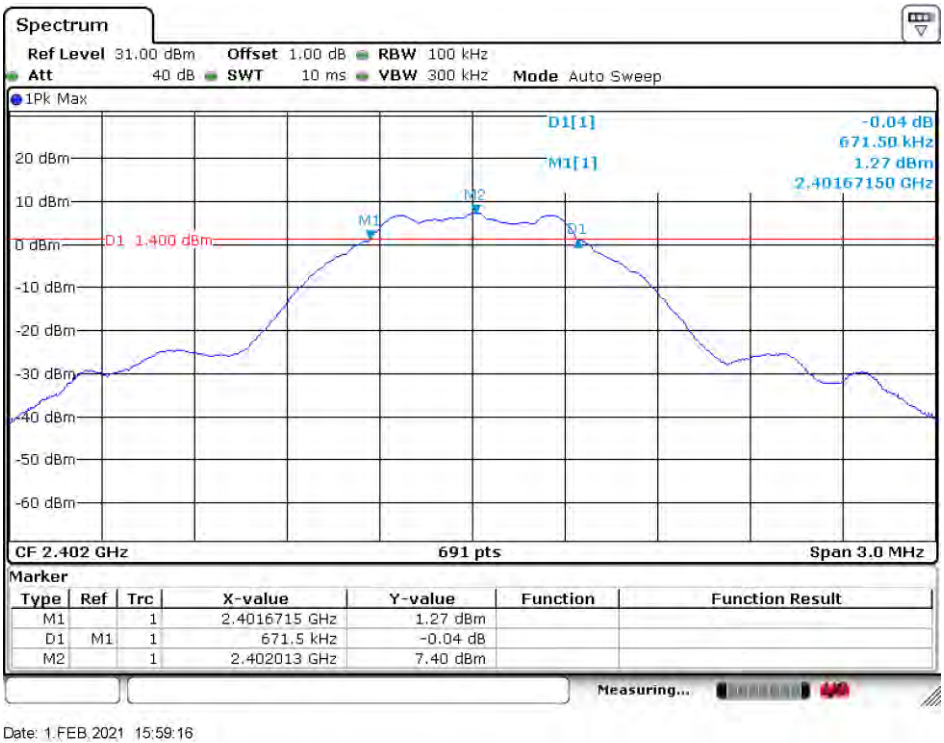
ANT2:

Mode	Test Channel	6dB Emission Bandwidth (MHz)	Limit (kHz)	Result
GFSK_1M	Lowest	0.66	⩾500	Pass
	Middle	0.68	⩾500	Pass
	Highest	0.71	⩾500	Pass

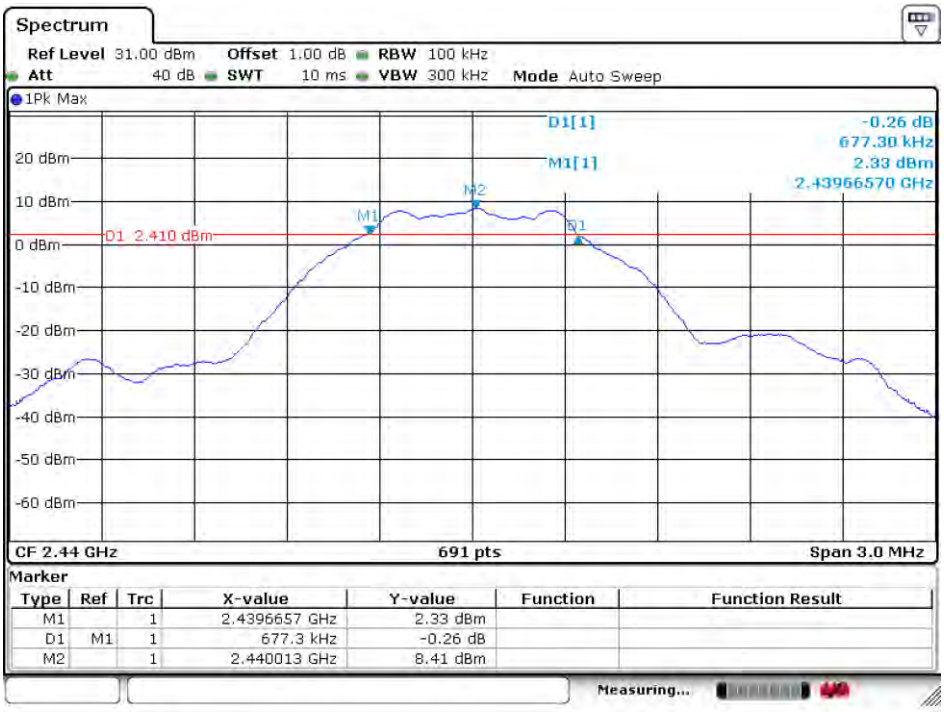
Mode	Test Channel	6dB Emission Bandwidth (MHz)	Limit (kHz)	Result
GFSK_2M	Lowest	1.15	⩾500	Pass
	Middle	1.17	⩾500	Pass
	Highest	1.18	⩾500	Pass

4.5.1 Test Plots

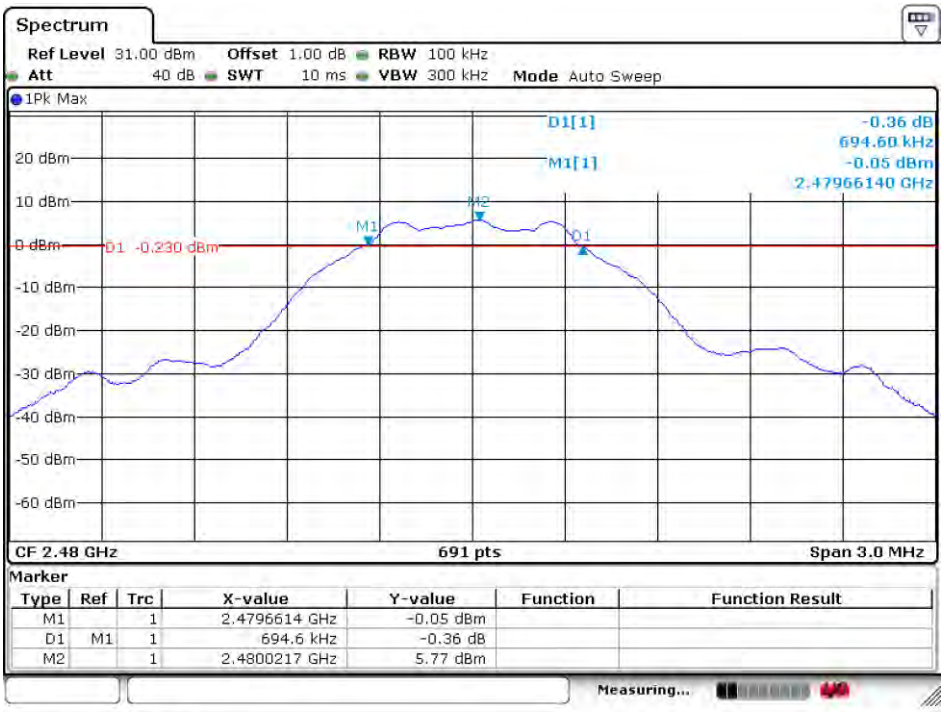
4.5.1.1 GFSK 1M_ANT1_Lowest Channel



4.5.1.2 GFSK 1M_ANT1_Middle Channel



4.5.1.3 GFSK 1M_ANT1_Highest Channel



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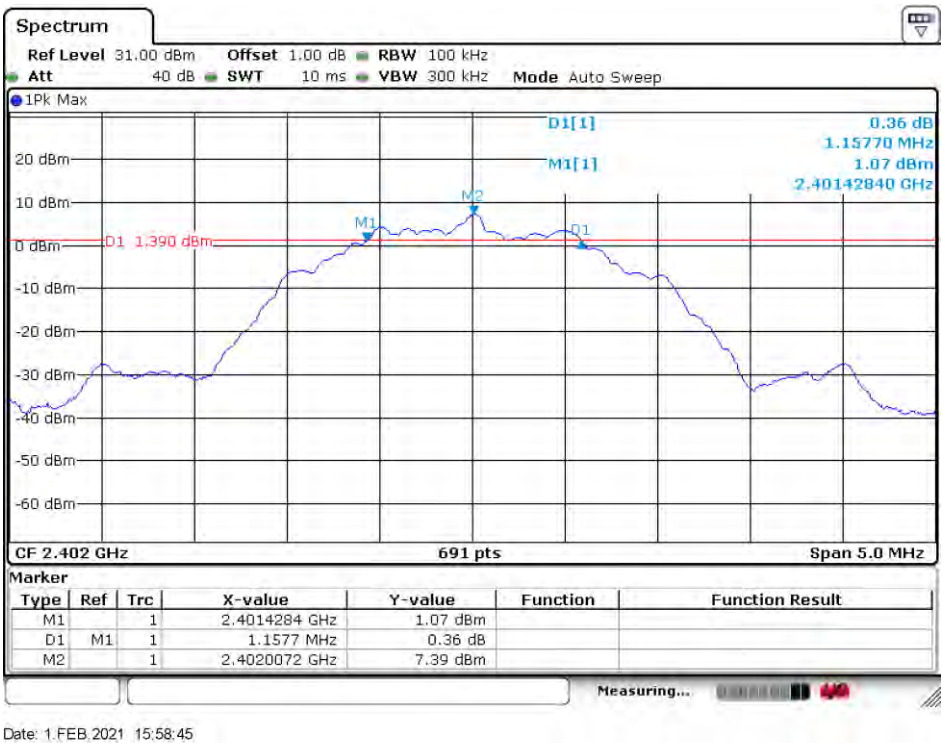
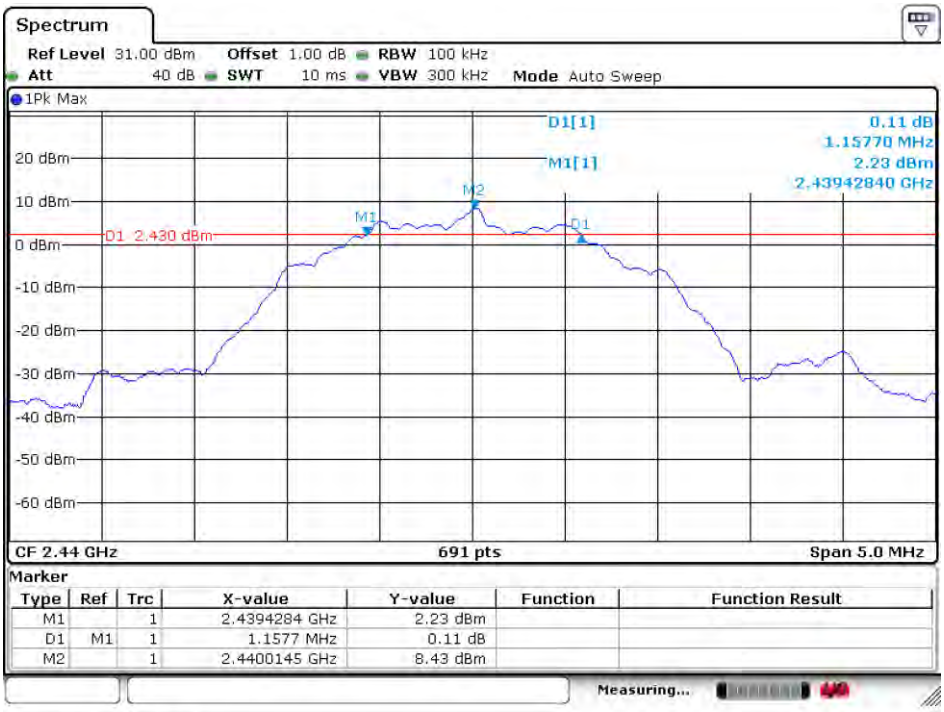
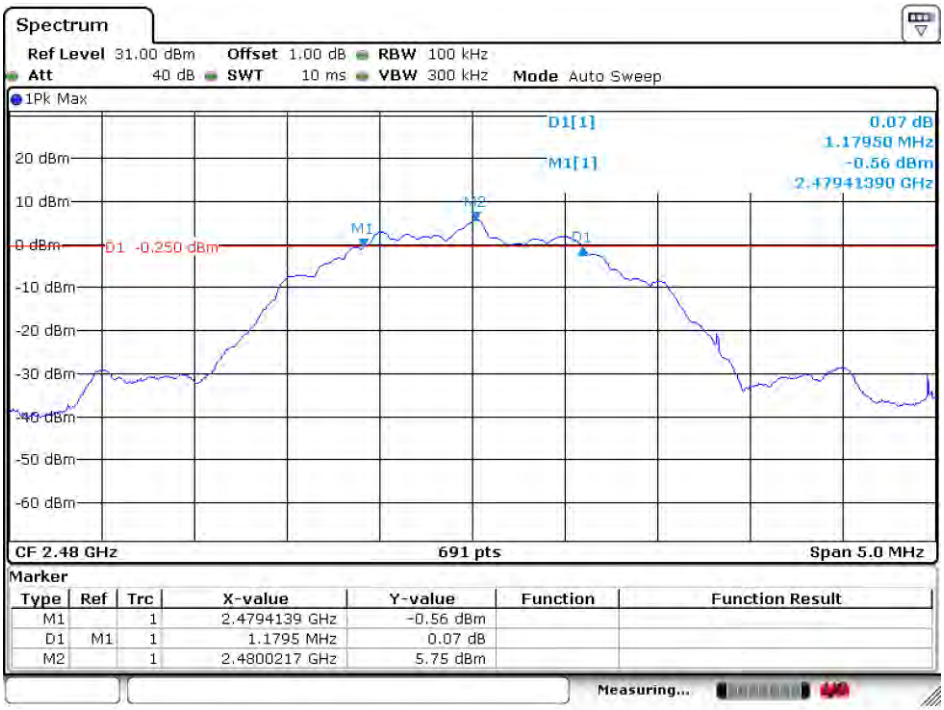
4.5.1.4 GFSK 2M_ANT1_Lowest Channel



4.5.1.5 GFSK 2M_ANT1_Middle Channel



4.5.1.6 GFSK 2M_ANT1_Highest Channel



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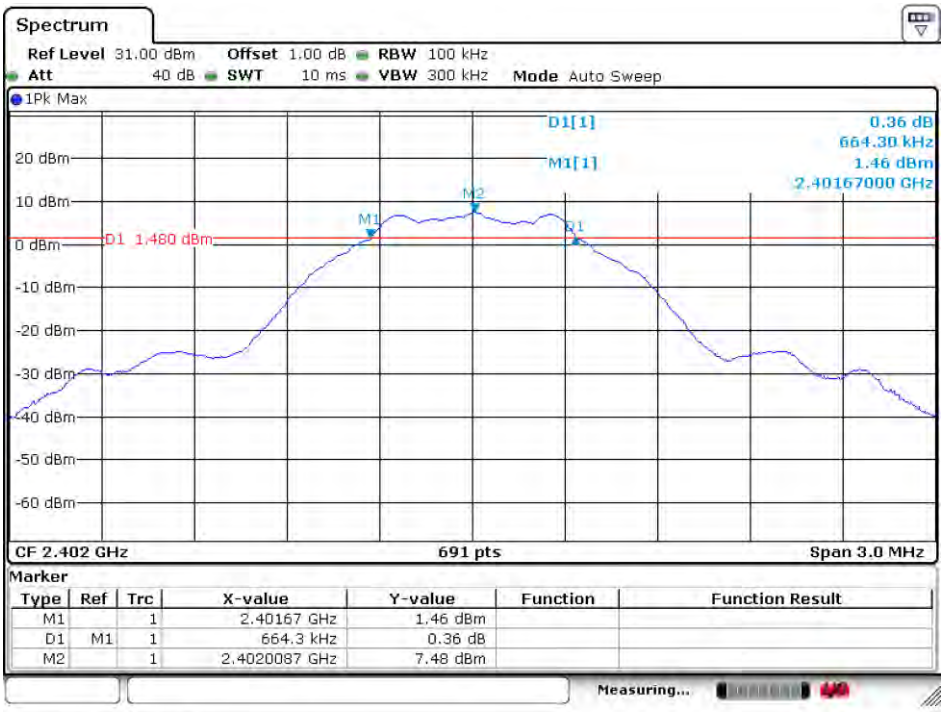
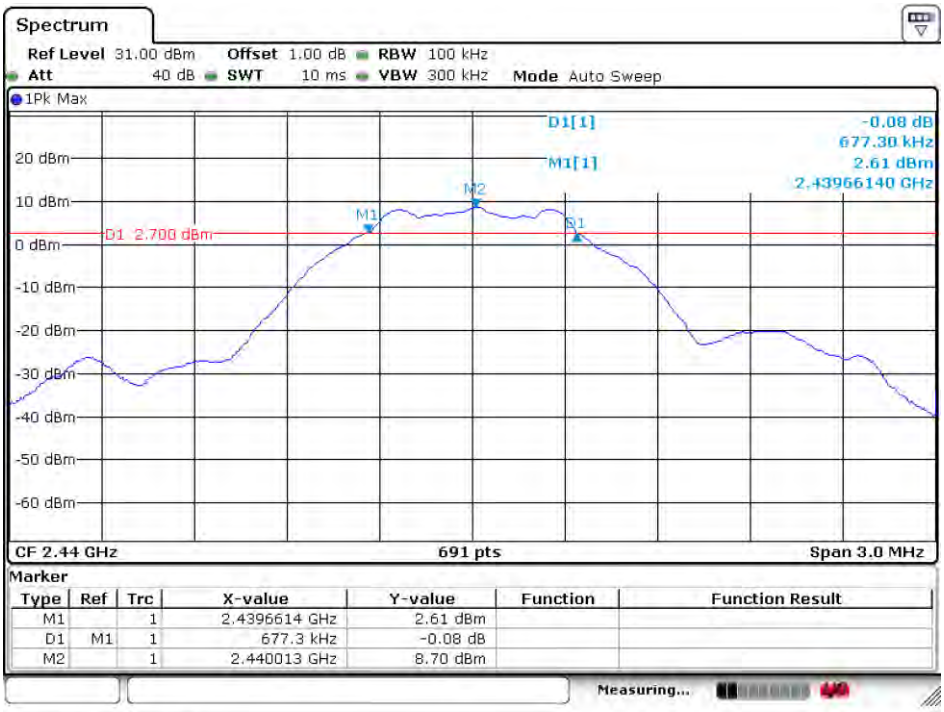
4.5.1.7 GFSK 1M_ANT2_Lowest Channel



4.5.1.8 GFSK 1M_ANT2_Middle Channel



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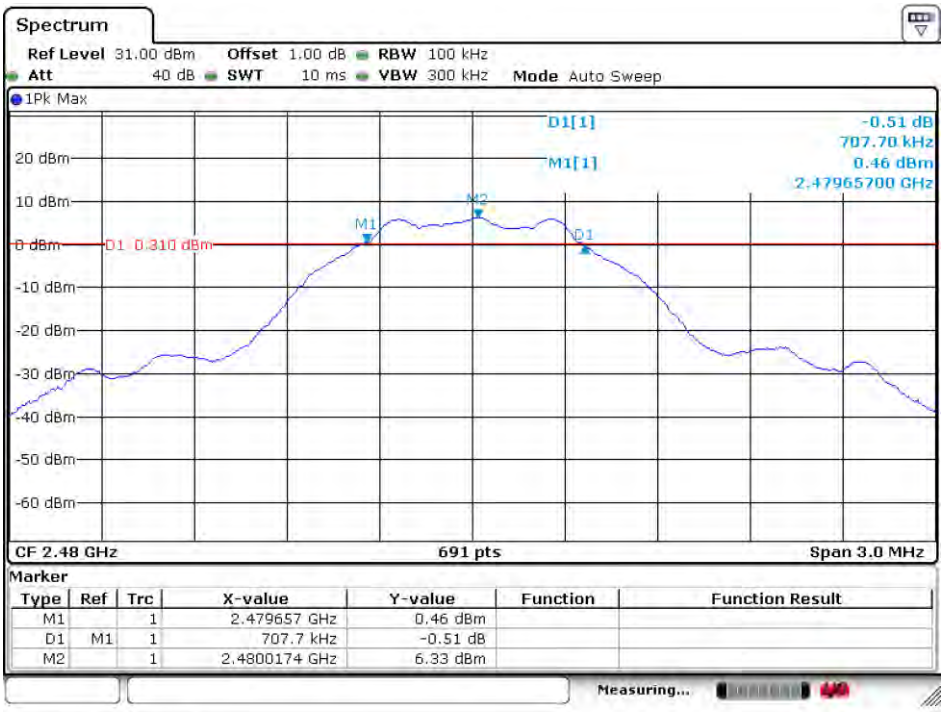
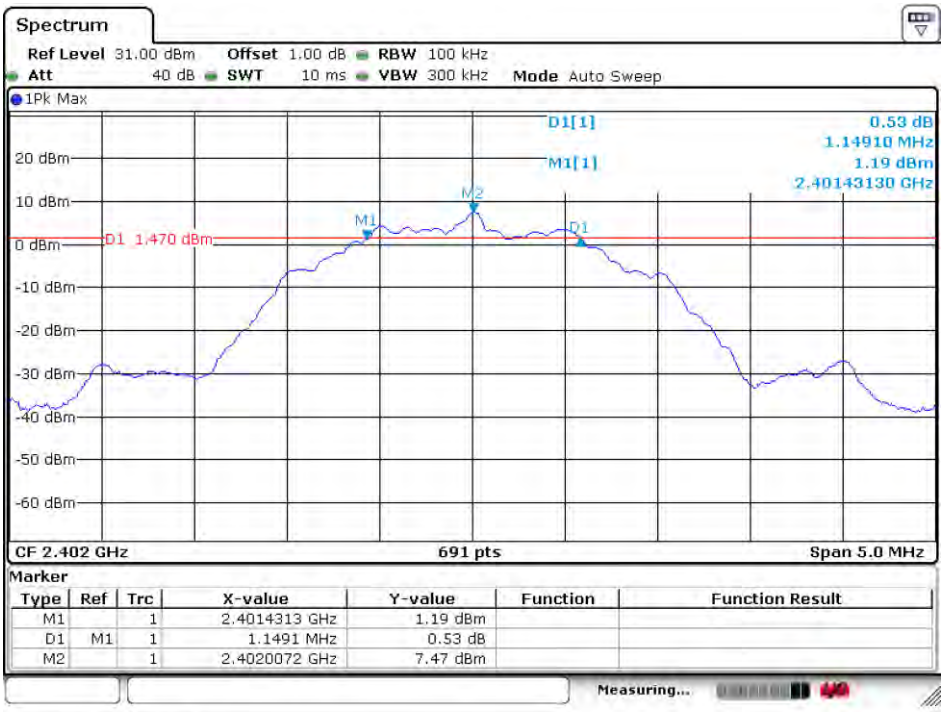
4.5.1.9 GFSK 1M_ANT2_Highest Channel



4.5.1.10 GFSK 2M_ANT2_Lowest Channel



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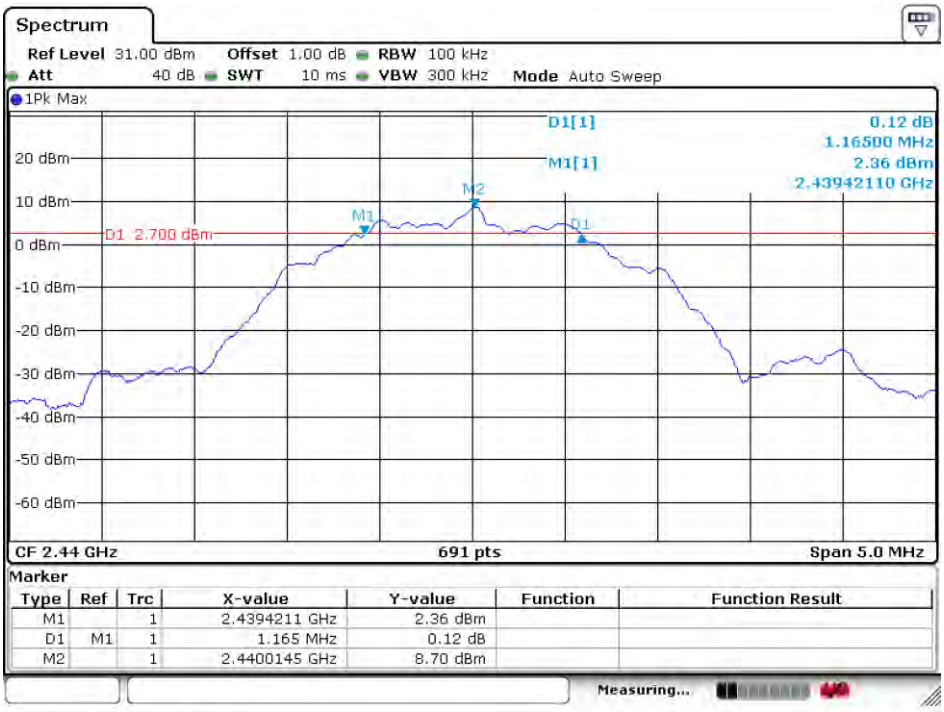
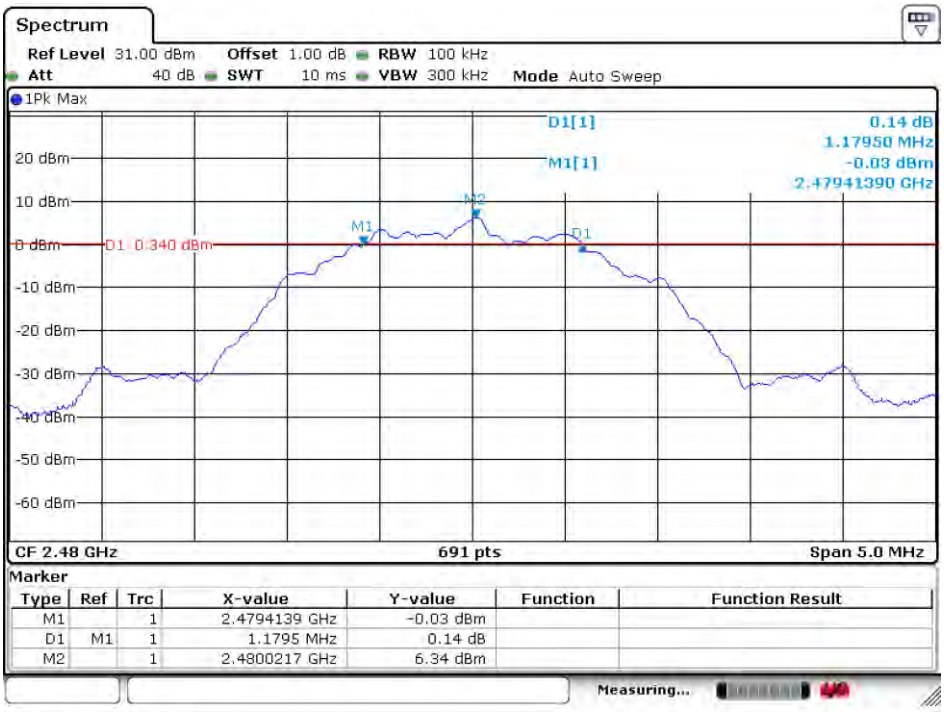
4.5.1.11 GFSK 2M_ANT2_Middle Channel



4.5.1.12 GFSK 2M_ANT2_Highest Channel



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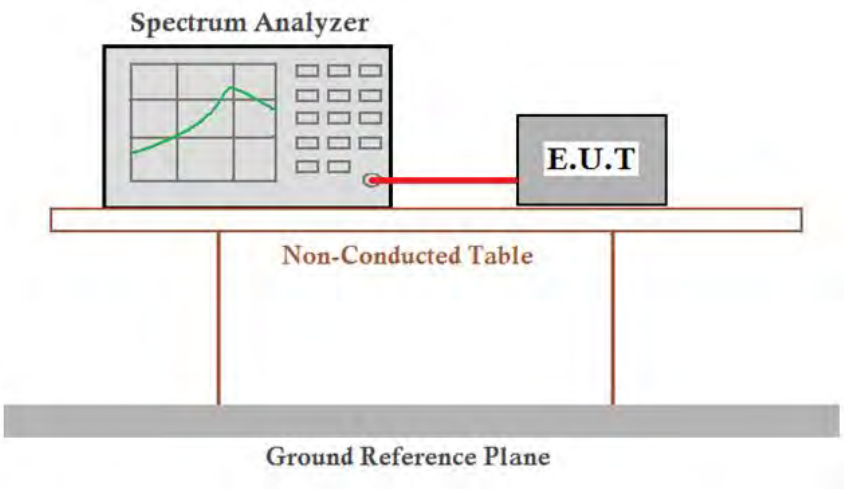
4.6 Power Spectral Density

Test Requirement:	47 CFR Part 15C Section 15.247 (e)
Test Method:	ANSI C63.10 :2013 Section 11.10.2
Test Setup:	
Test Instruments:	Refer to section 6 for details
Test Mode:	Transmitting with GFSK modulation.
Limit:	≤8.00dBm/3kHz
Test Results:	Pass

4.6.1 Test Results

ANT1:

Mode	Test Channel	Power Spectral Density (dBm/3kHz)	Limit (dBm/3kHz)	Result
GFSK_1M	Lowest	-7.14	≤8.00	Pass
	Middle	-6.23	≤8.00	Pass
	Highest	-8.99	≤8.00	Pass

Mode	Test Channel	Power Spectral Density (dBm/3kHz)	Limit (dBm/3kHz)	Result
GFSK_2M	Lowest	-9.97	≤8.00	Pass
	Middle	-9.09	≤8.00	Pass
	Highest	-11.90	≤8.00	Pass

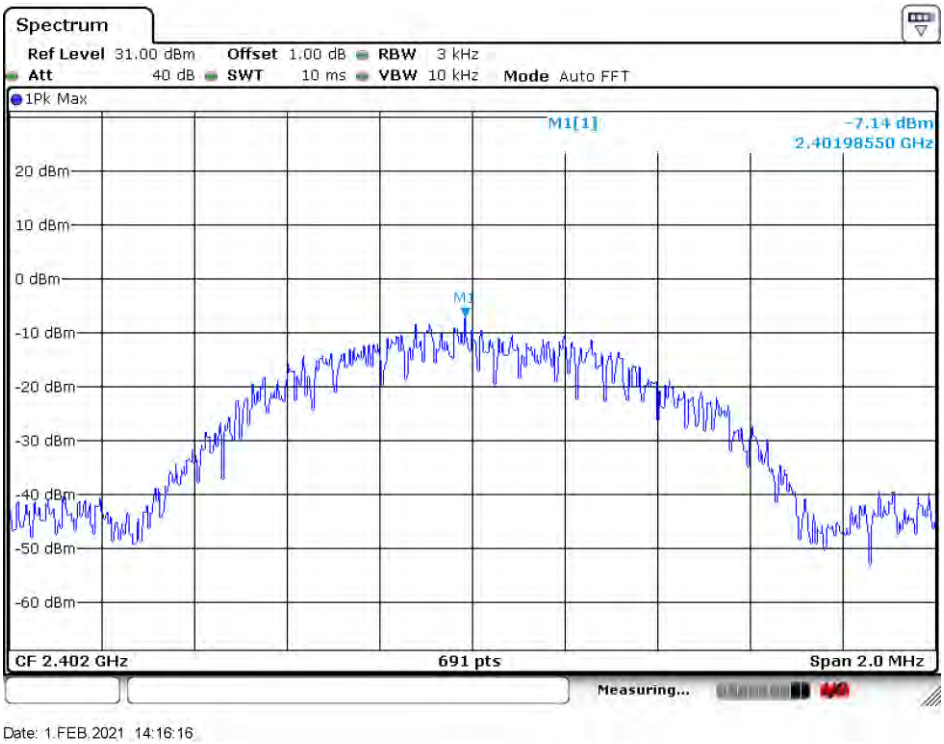
ANT2:

Mode	Test Channel	Power Spectral Density (dBm/3kHz)	Limit (dBm/3kHz)	Result
GFSK_1M	Lowest	-6.95	≤8.00	Pass
	Middle	-5.83	≤8.00	Pass
	Highest	-8.32	≤8.00	Pass

Mode	Test Channel	Power Spectral Density (dBm/3kHz)	Limit (dBm/3kHz)	Result
GFSK_2M	Lowest	-9.77	≤8.00	Pass
	Middle	-8.68	≤8.00	Pass
	Highest	-11.26	≤8.00	Pass

4.6.1 Test Plots

4.6.1.1 GFSK 1M_ANT1_Lowest Channel



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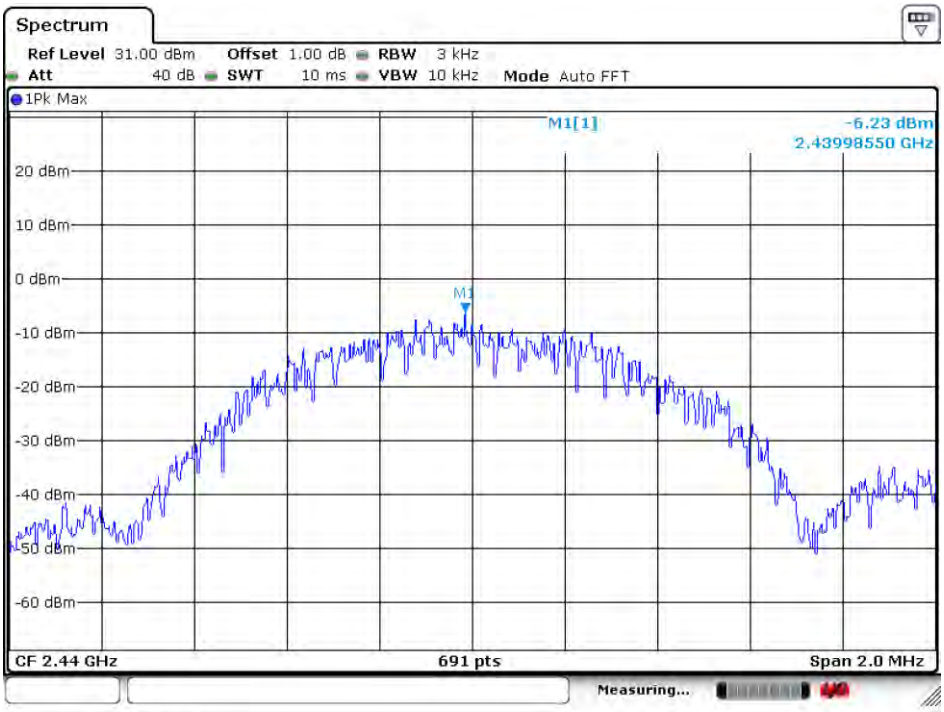
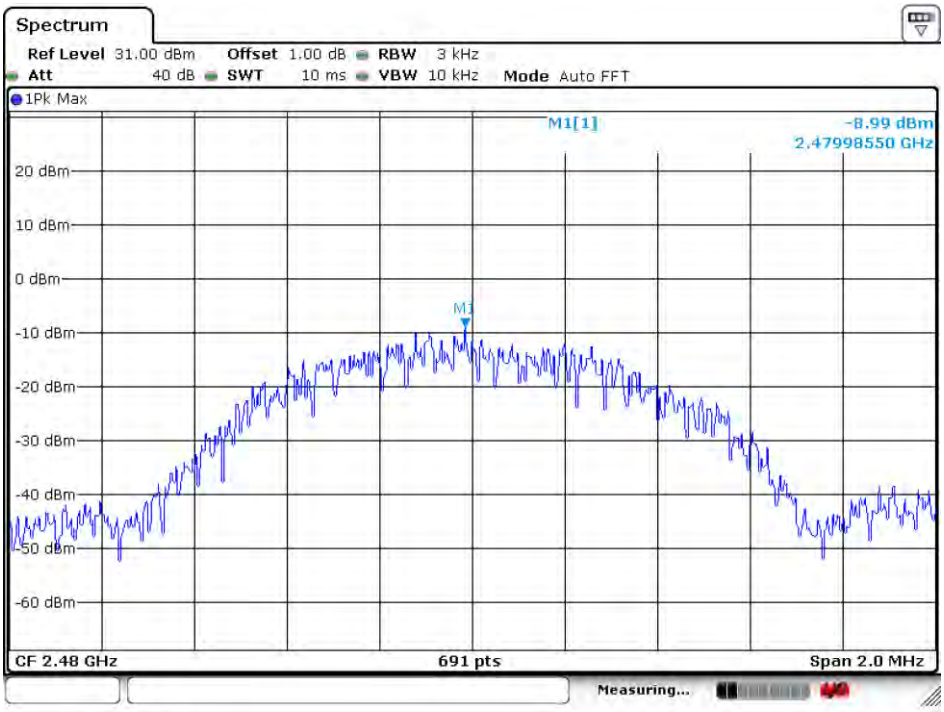
4.6.1.2 GFSK 1M_ANT1_Middle Channel



4.6.1.3 GFSK 1M_ANT1_Highest Channel



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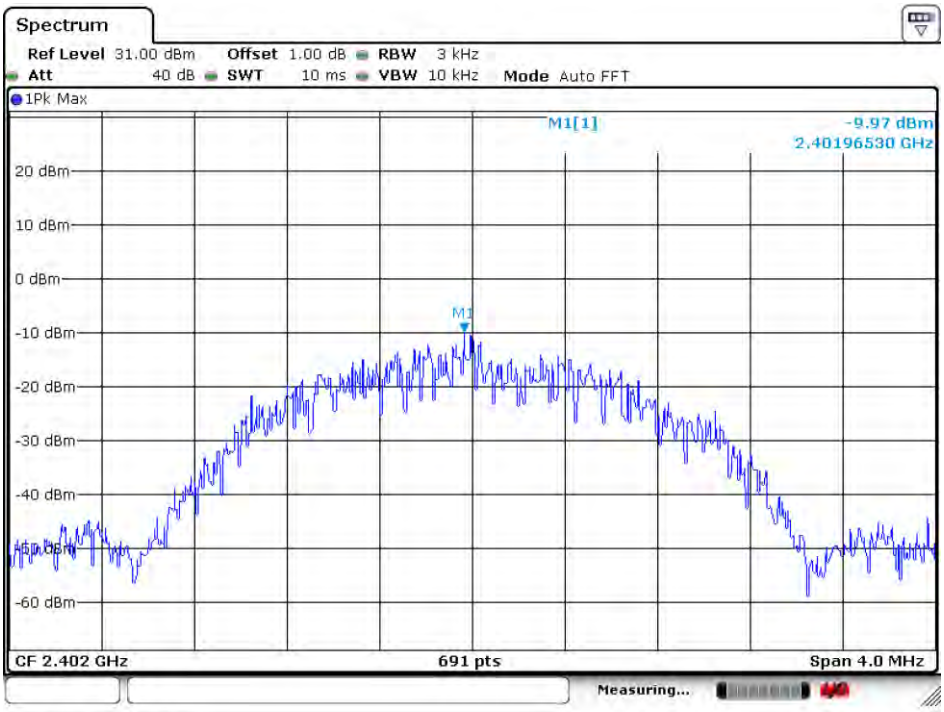
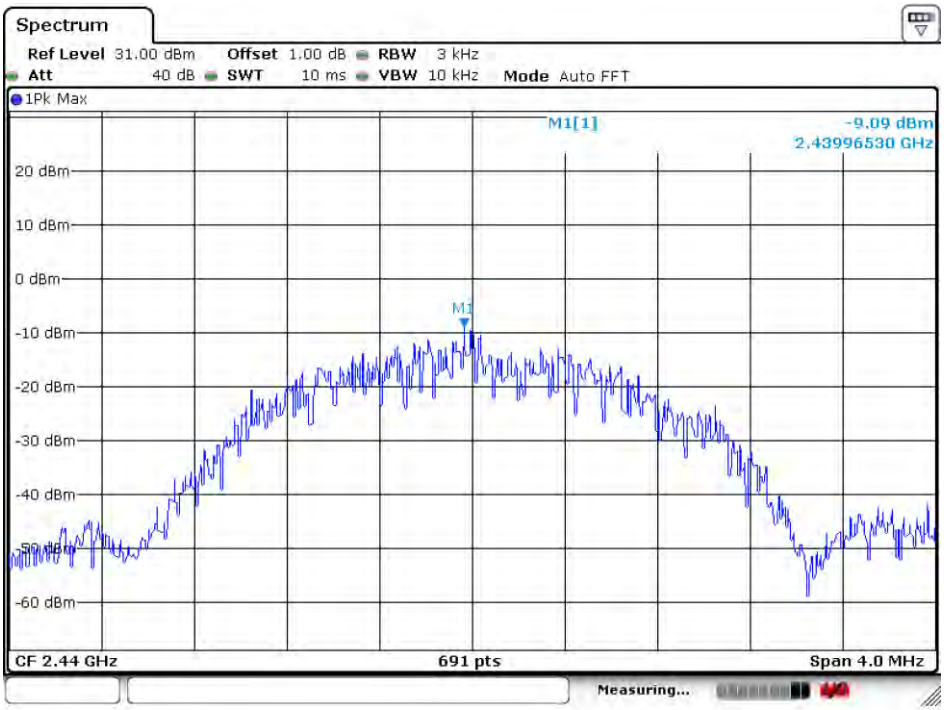
4.6.1.4 GFSK 2M_ANT1_Lowest Channel



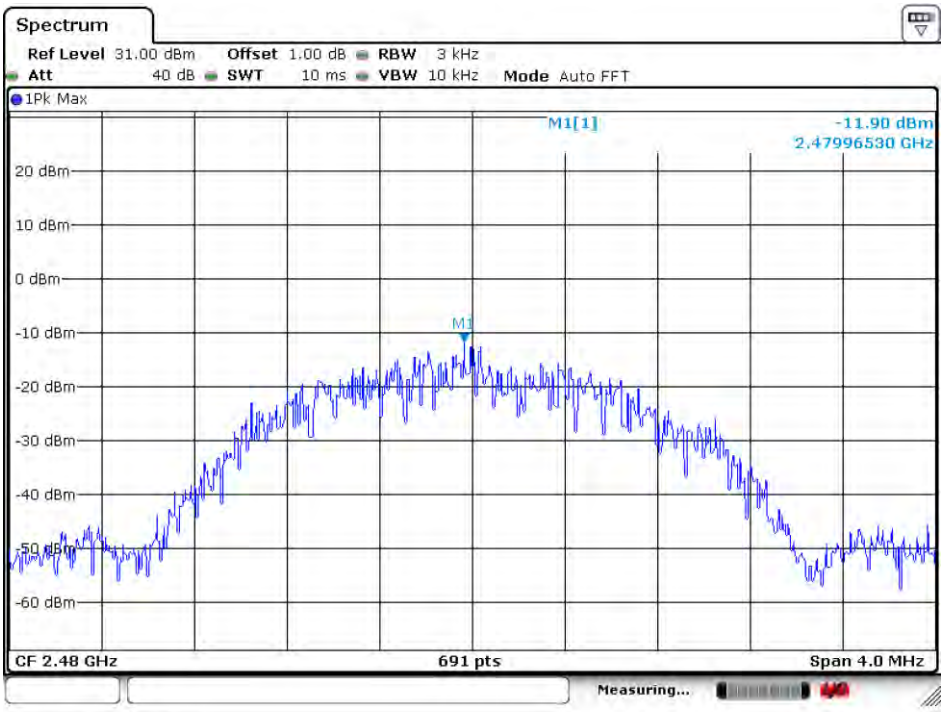
Date: 1.FEB.2021 14:15:37

4.6.1.5 GFSK 2M_ANT1_Middle Channel

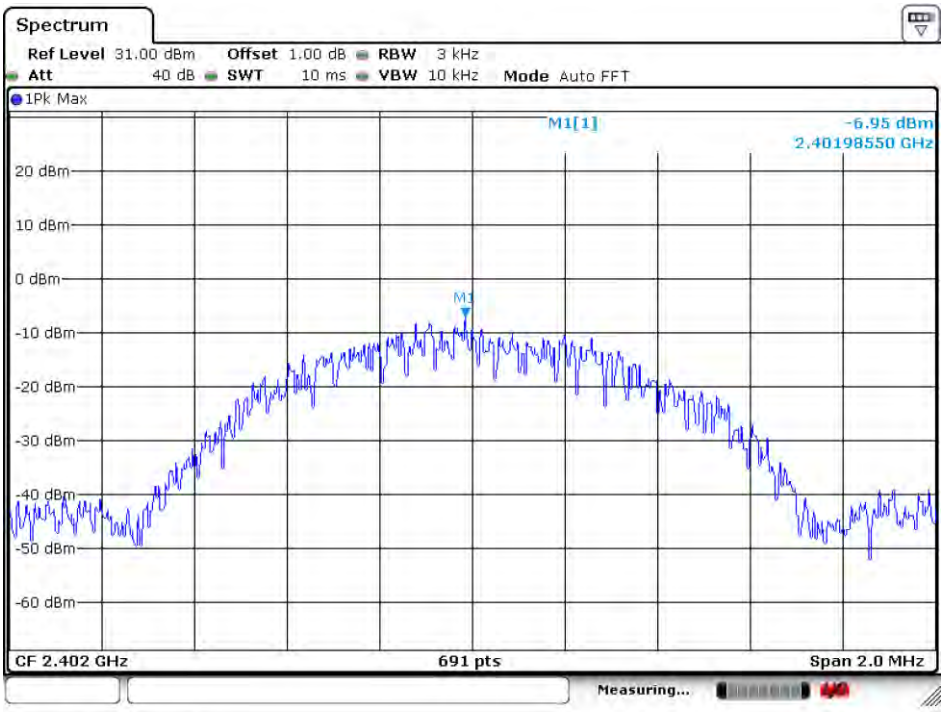


Date: 1.FEB.2021 14:15:27

4.6.1.6 GFSK 2M_ANT1_Highest Channel



4.6.1.7 GFSK 1M_ANT2_Lowest Channel



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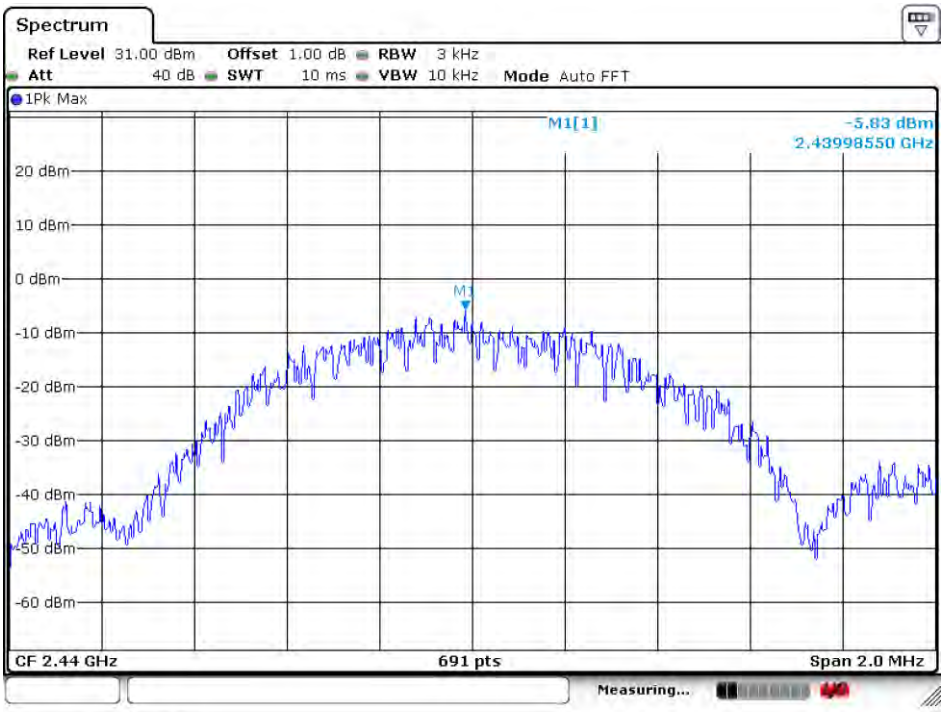
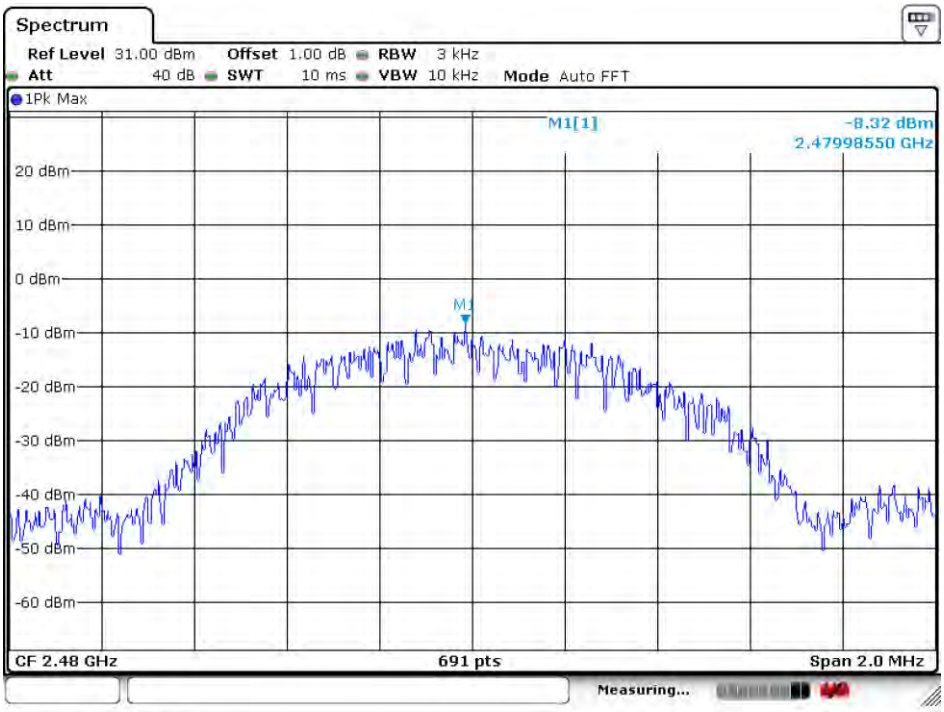
4.6.1.8 GFSK 1M_ANT2_Middle Channel



4.6.1.9 GFSK 1M_ANT2_Highest Channel



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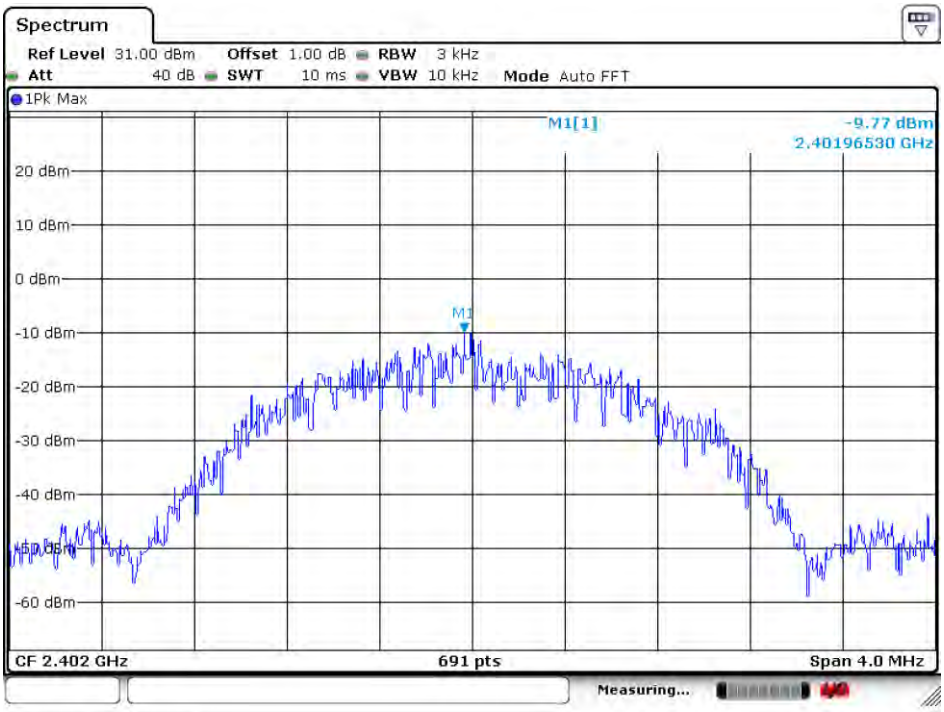
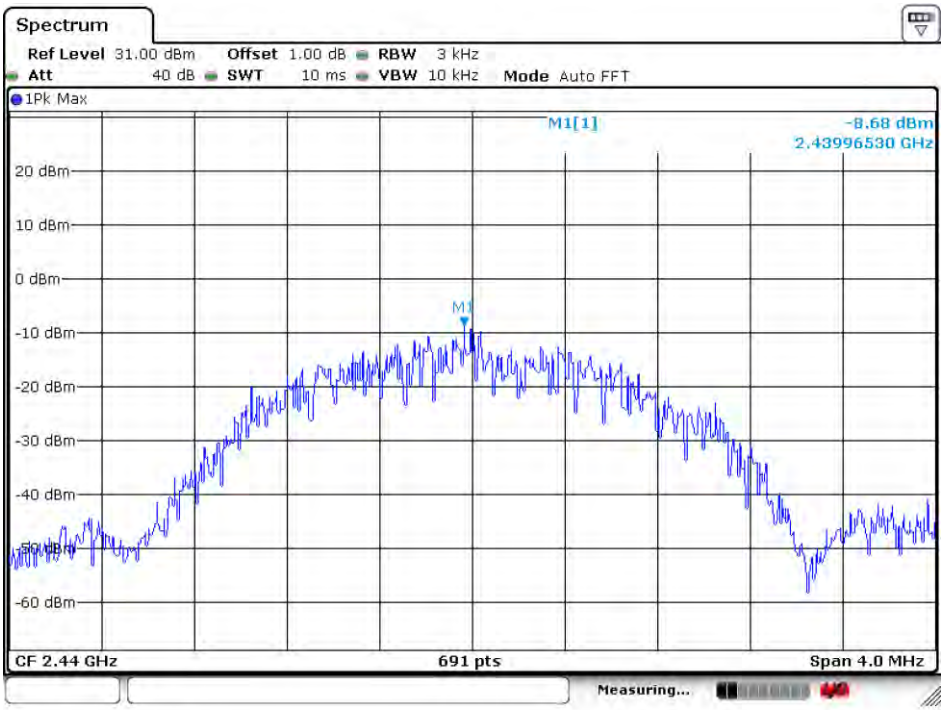
4.6.1.10 GFSK 2M_ANT2_Lowest Channel



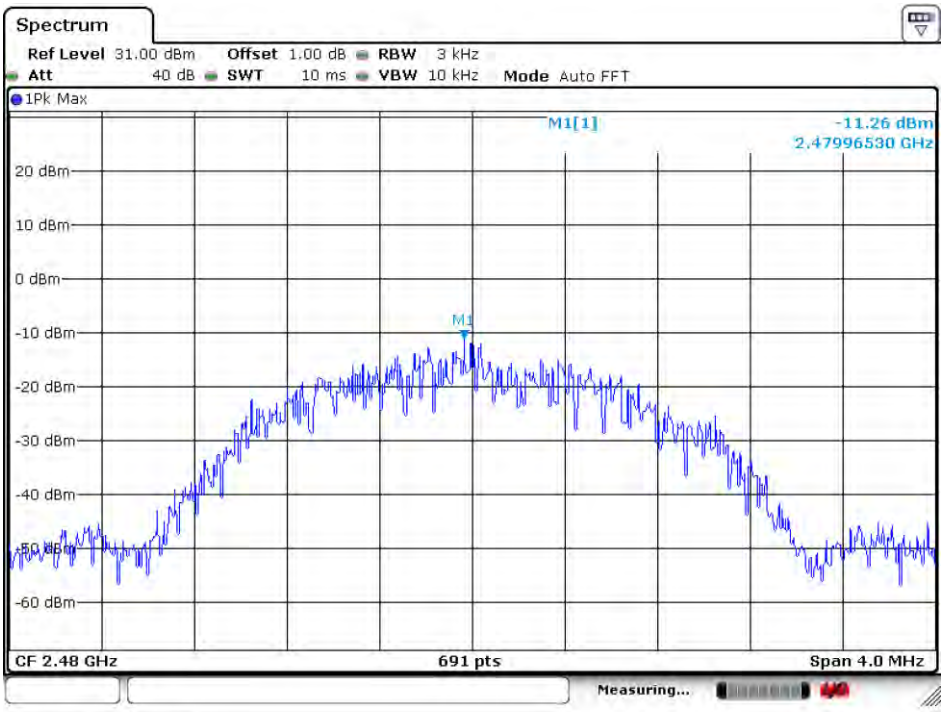
Date: 1.FEB.2021 16:14:58

4.6.1.11 GFSK 2M_ANT2_Middle Channel

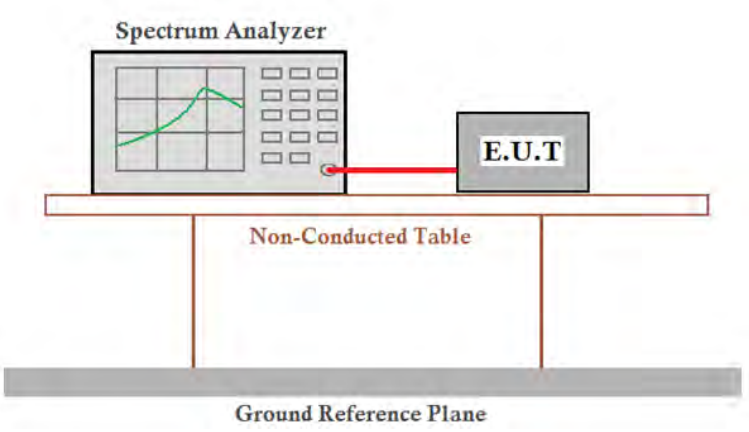


Date: 1.FEB.2021 16:14:43

4.6.1.12 GFSK 2M_ANT2_Highest Channel

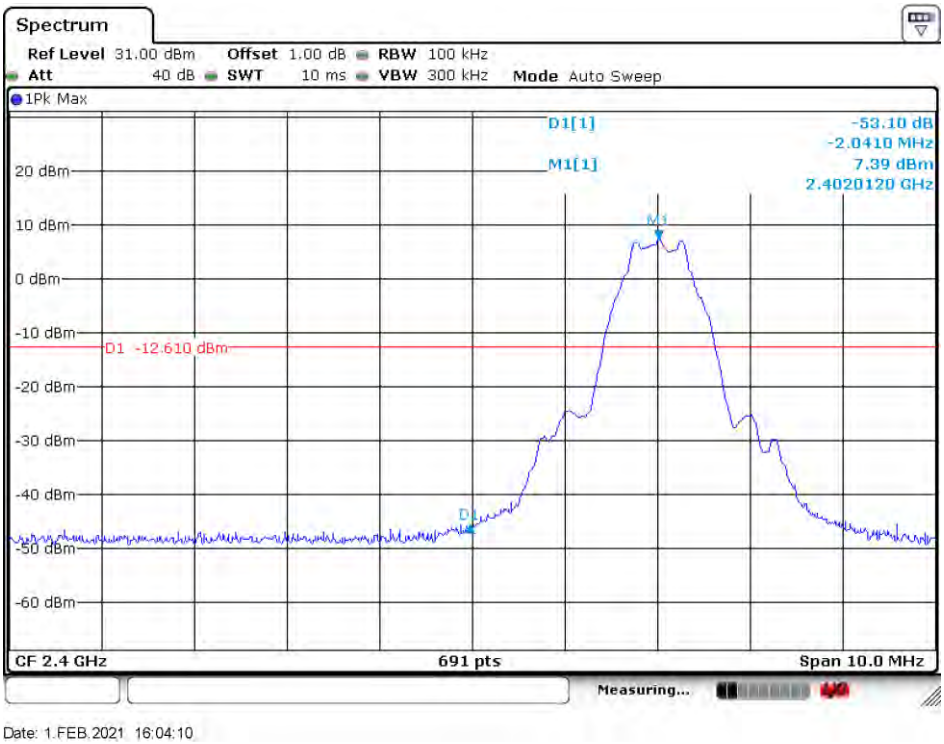


4.7 Band-edge for RF Conducted Emissions

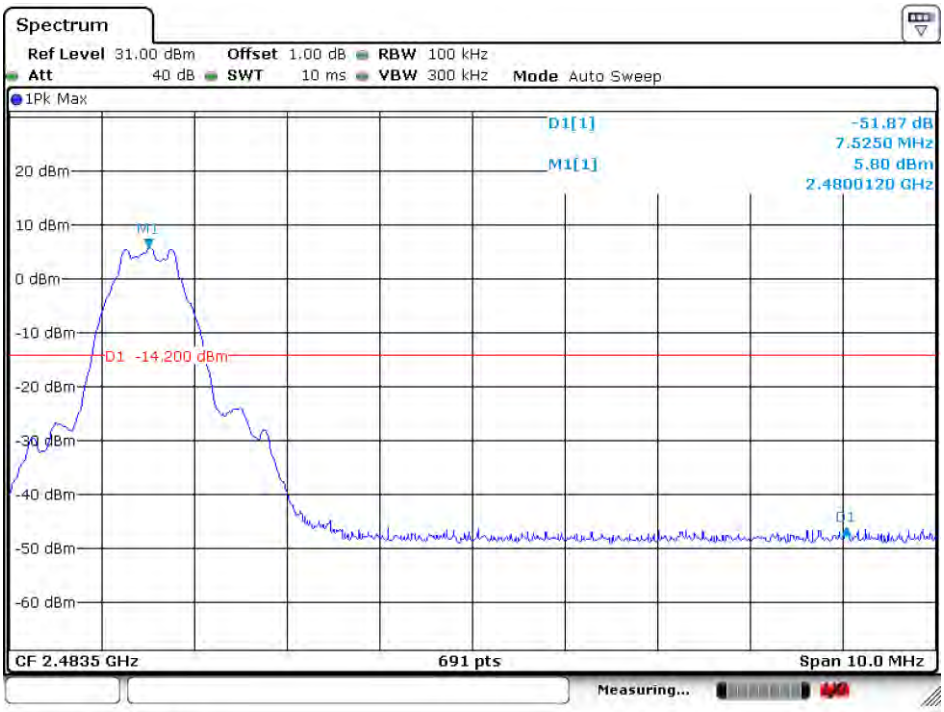
Test Requirement:	47 CFR Part 15C Section 15.247 (d)
Test Method:	ANSI C63.10: 2013 Section 11.13
Test Setup:	
Instruments Used:	Refer to section 6 for details
Test Mode:	Transmitting with GFSK modulation.
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.
Test Results:	Pass

4.7.1 Test Plots

4.7.1.1 GFSK 1M_ANT1_Lowest Channel

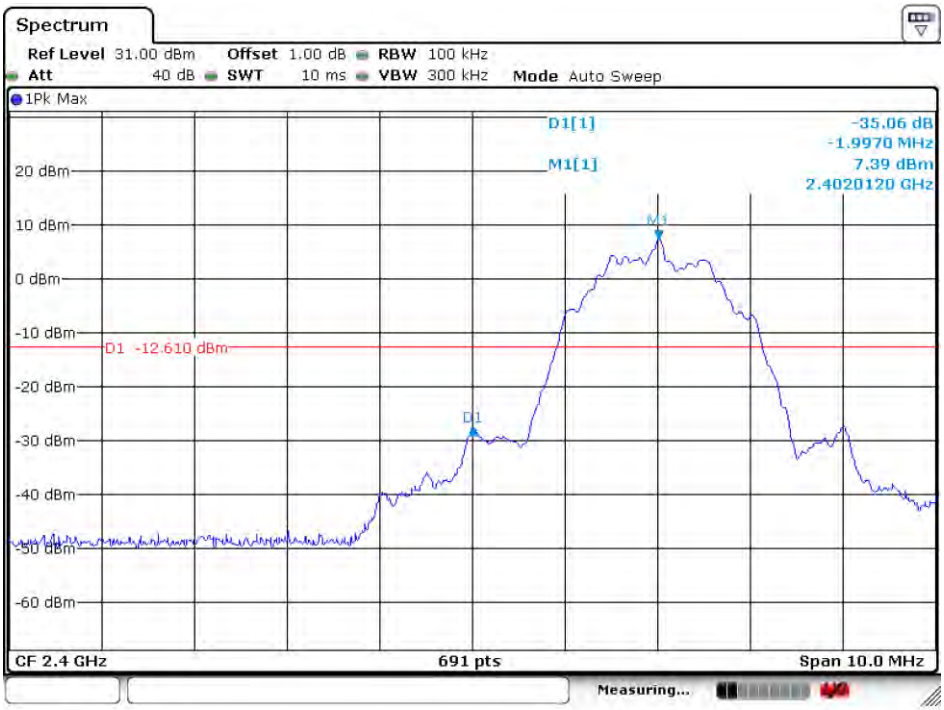


4.7.1.2 GFSK 1M_ANT1_Highest Channel



Date: 1.FEB.2021 16:03:04

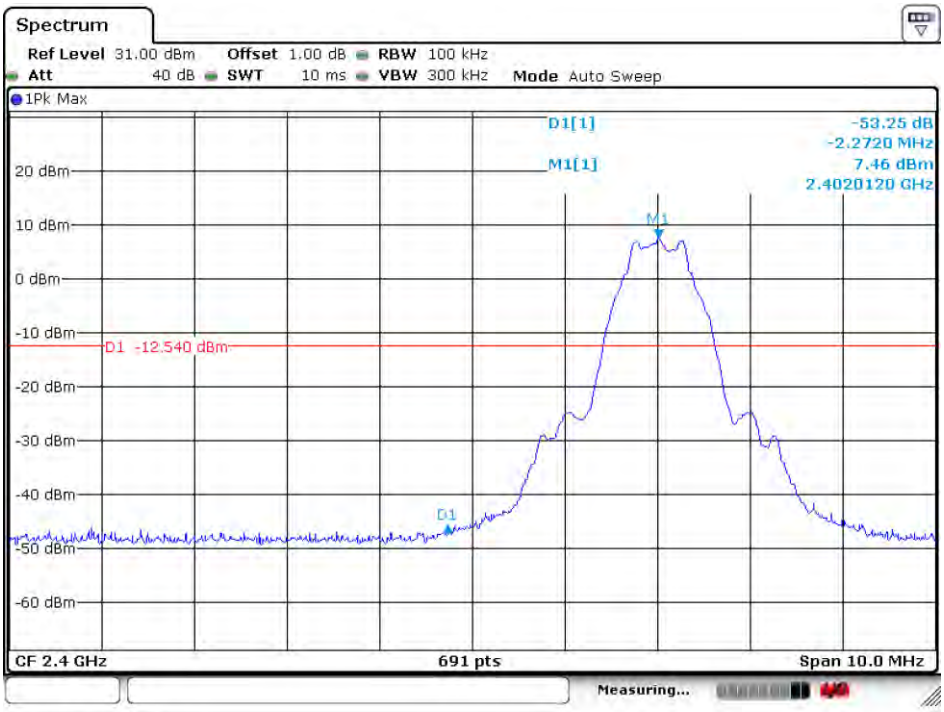
4.7.1.3 GFSK 2M_ANT1_Lowest Channel



Date: 1.FEB.2021 16:04:40

4.7.1.4 GFSK 2M_ANT1_Highest Channel

4.7.1.5 GFSK 1M_ANT2_Lowest Channel



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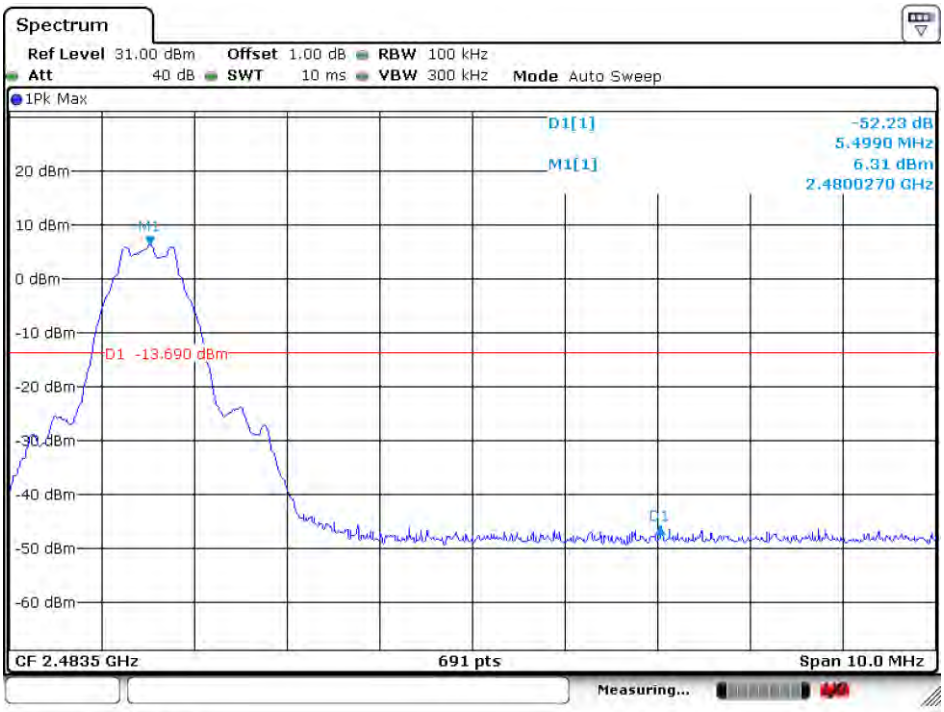
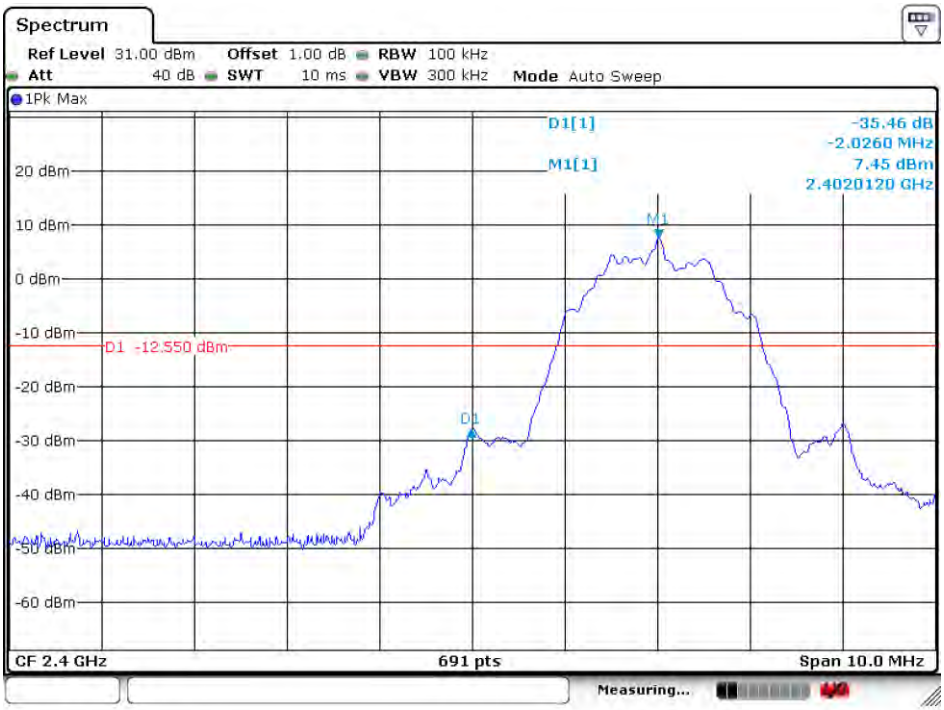
4.7.1.6 GFSK 1M_ANT2_Highest Channel



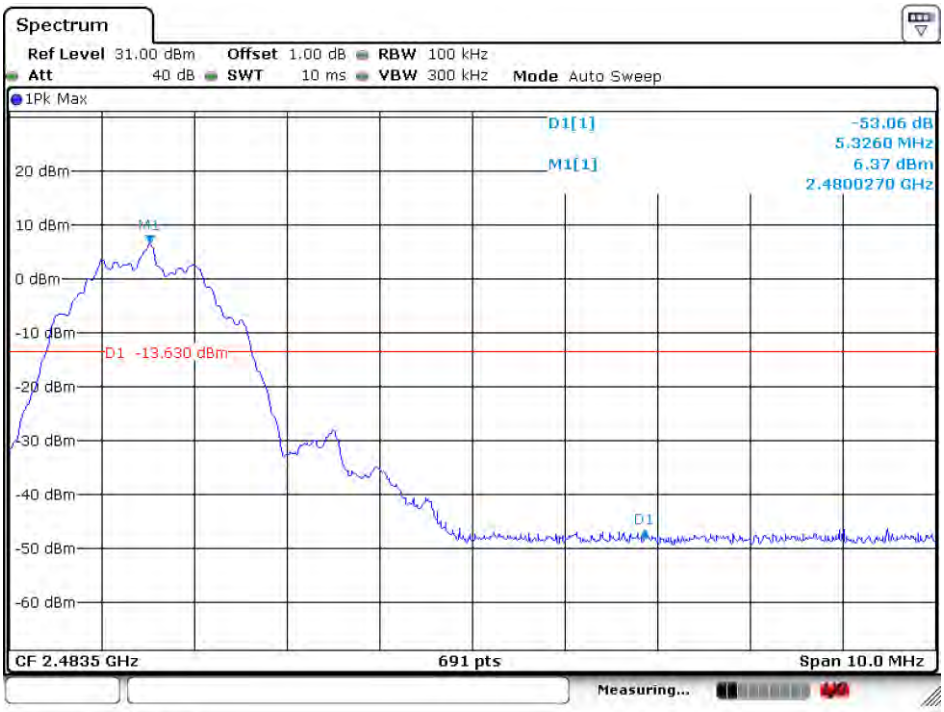
Date: 1.FEB.2021 16:30:40

4.7.1.7 GFSK 2M_ANT2_Lowest Channel

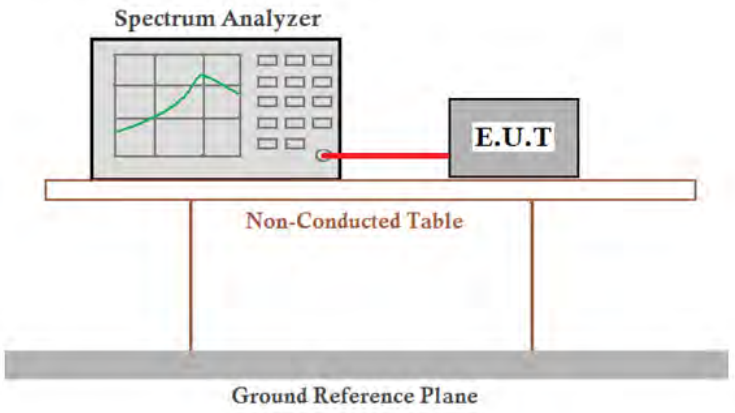


Date: 1.FEB.2021 16:28:40

4.7.1.8 GFSK 2M_ANT2_Highest Channel

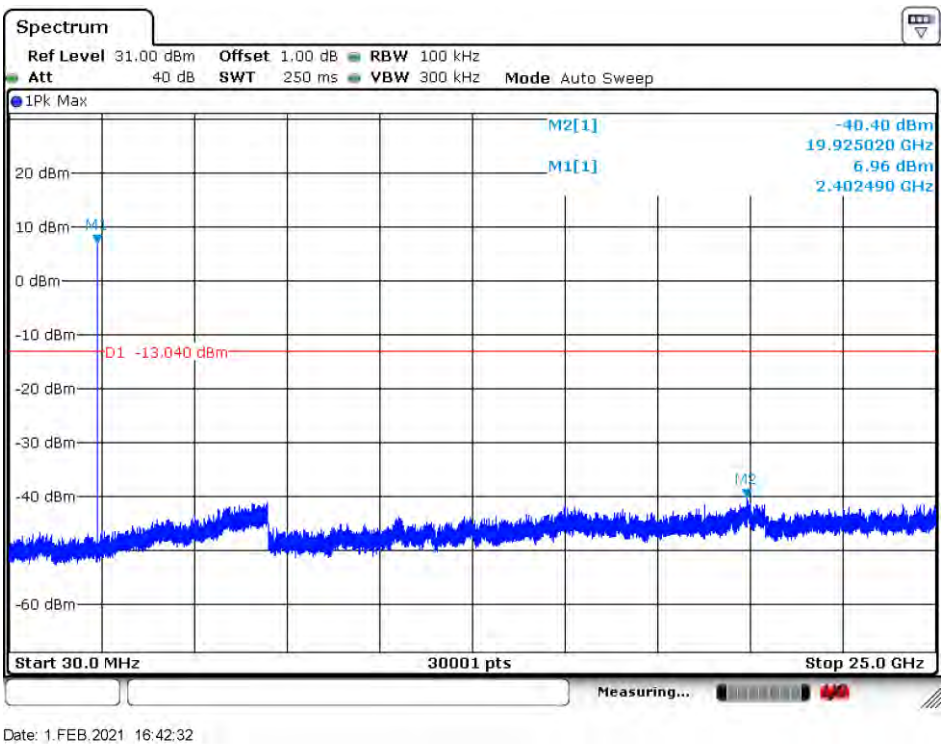


4.8 RF Conducted Spurious Emissions

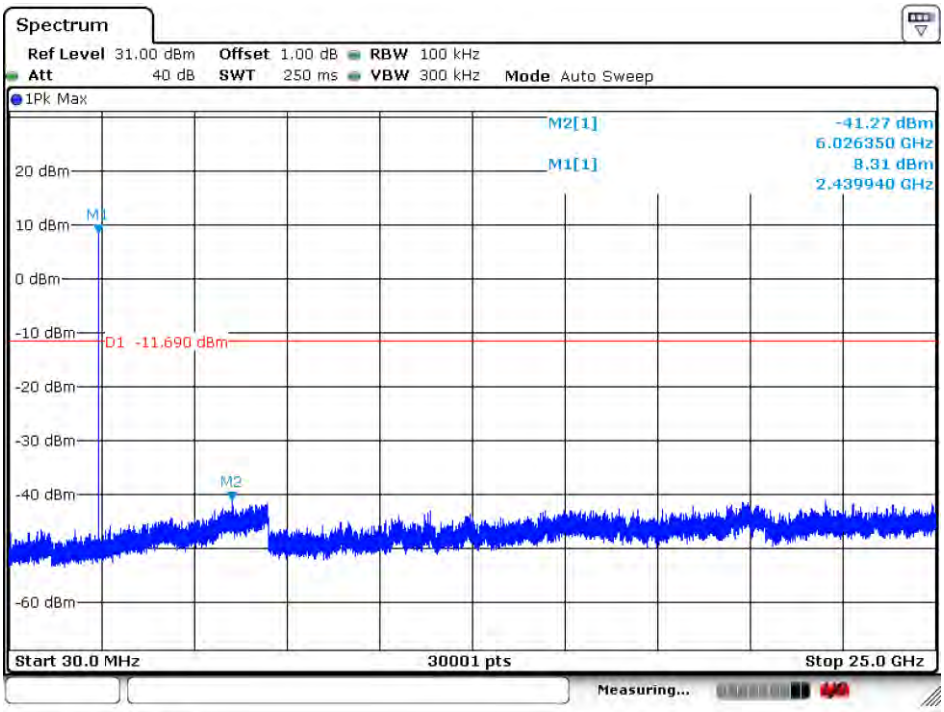
Test Requirement:	47 CFR Part 15C Section 15.247 (d)
Test Method:	ANSI C63.10: 2013 Section 11.11
Test Setup:	
Instruments Used:	Refer to section 6 for details
Test Mode:	Transmitting with GFSK modulation.
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.
Test Results:	Pass

4.8.1 Test Plots

4.8.1.1 GFSK 1M_ANT1_Lowest Channel

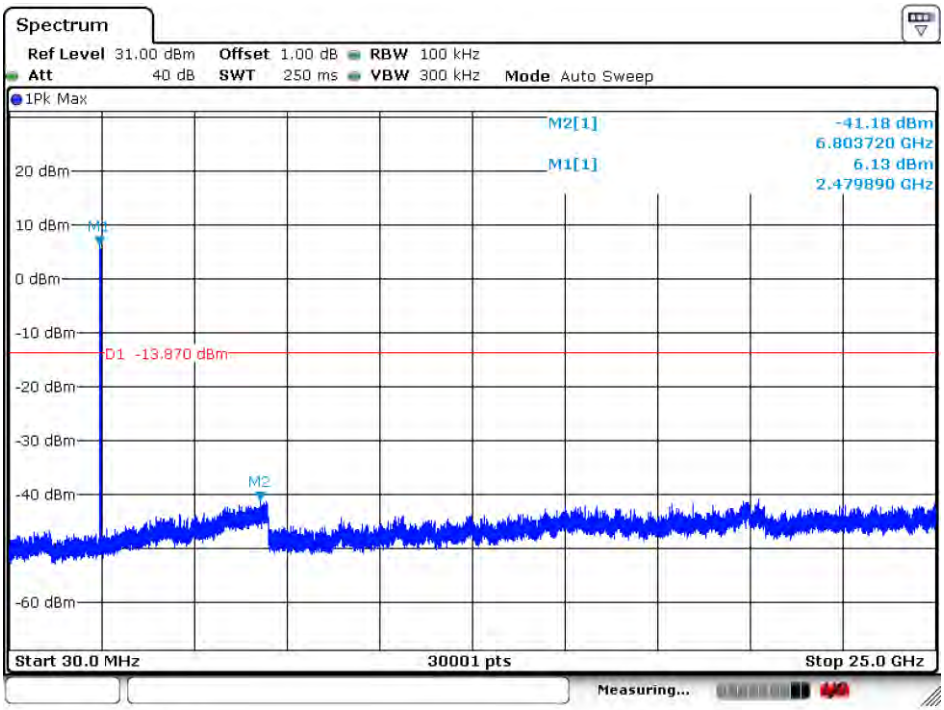


4.8.1.2 GFSK 1M_ANT1_Middle Channel



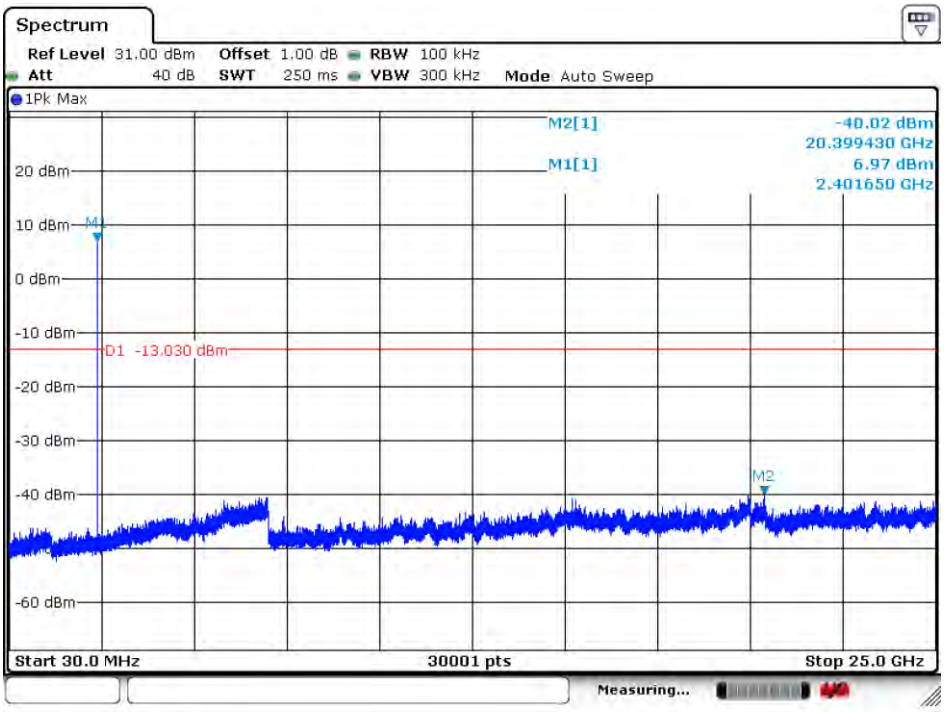
Date: 1.FEB.2021 16:41:45

4.8.1.3 GFSK 1M_ANT1_Highest Channel



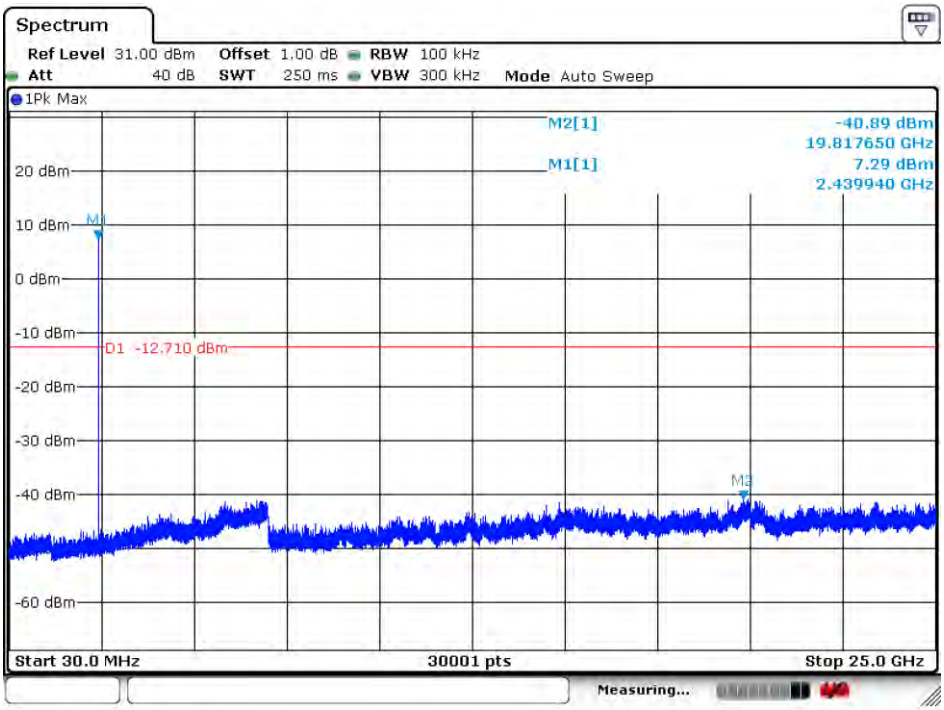
Date: 1.FEB.2021 16:41:01

4.8.1.4 GFSK 2M_ANT1_Lowest Channel



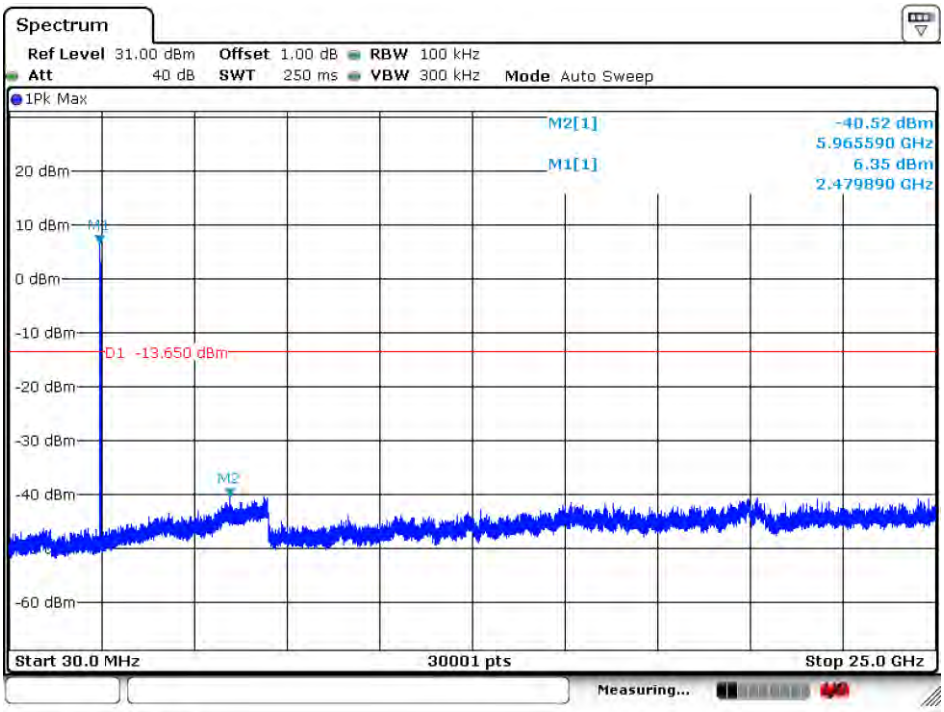
Date: 1.FEB.2021 16:43:59

4.8.1.5 GFSK 2M_ANT1_Middle Channel

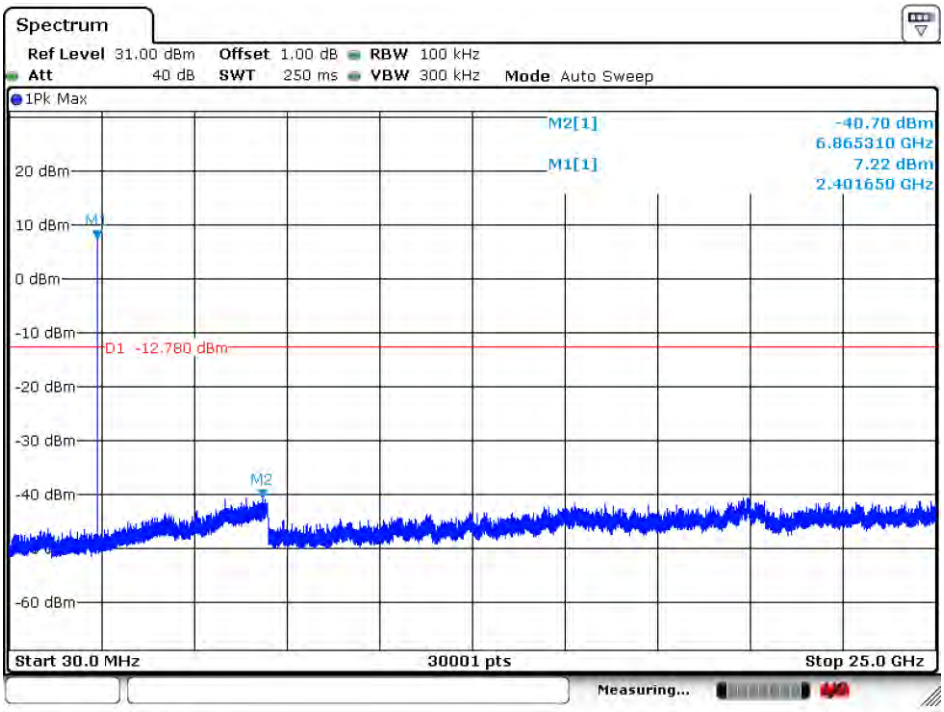


Date: 1.FEB.2021 16:44:51

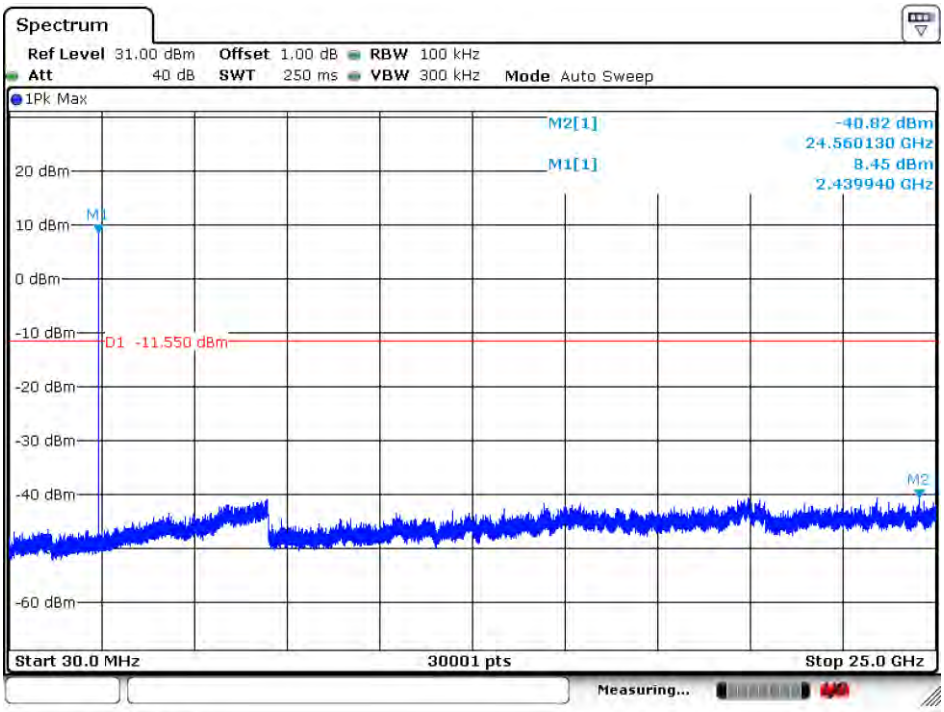
4.8.1.6 GFSK 2M_ANT1_Highest Channel



4.8.1.7 GFSK 1M_ANT2_Lowest Channel

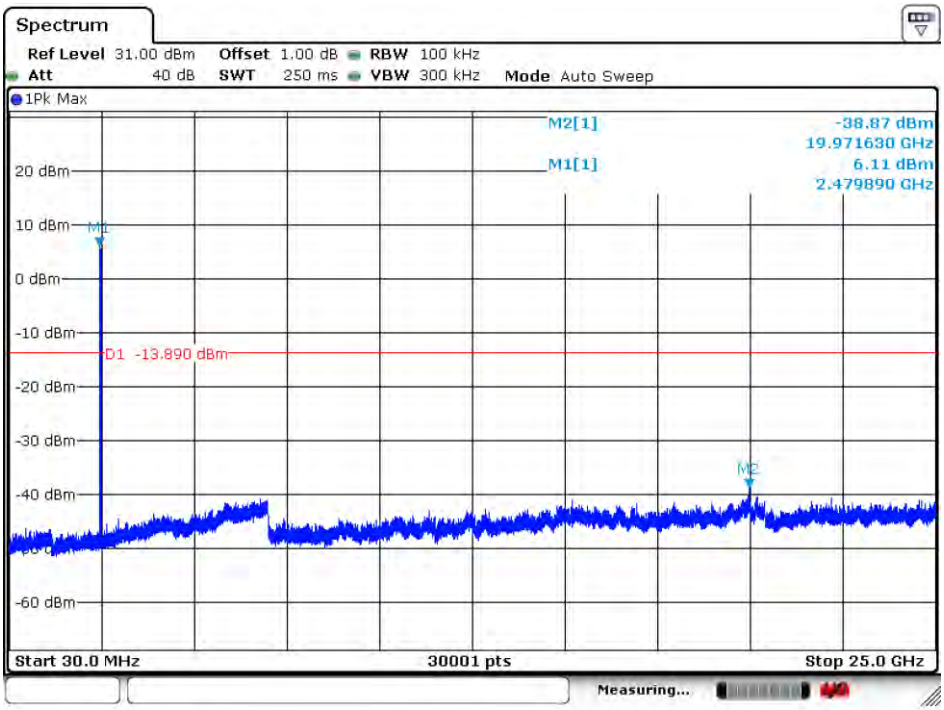


4.8.1.8 GFSK 1M_ANT2_Middle Channel



Date: 1.FEB.2021 16:36:43

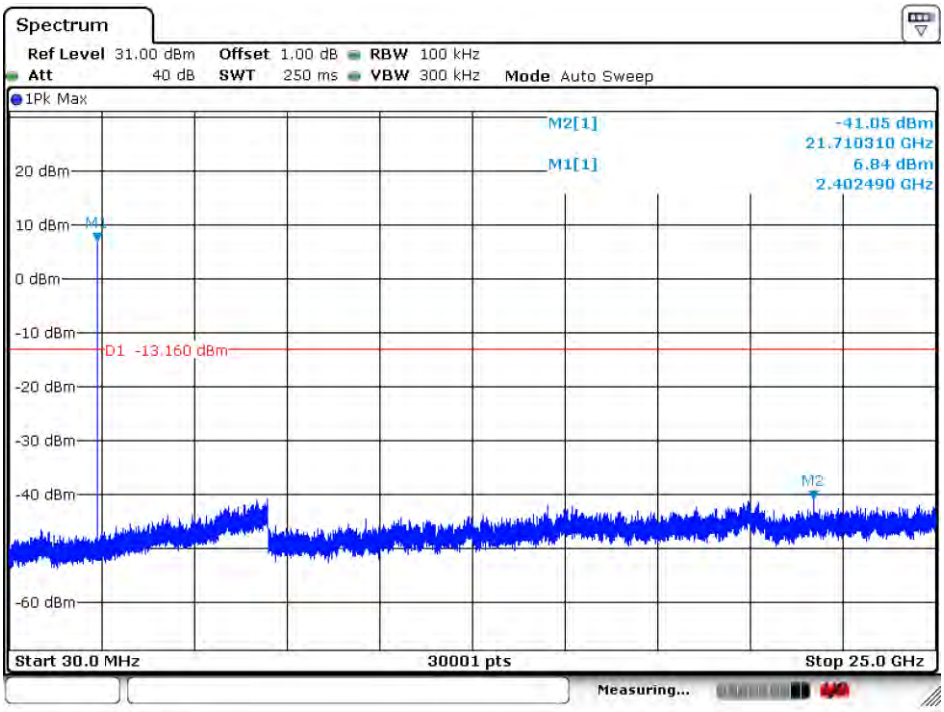
4.8.1.9 GFSK 1M_ANT2_Highest Channel



Date: 1.FEB.2021 16:39:41

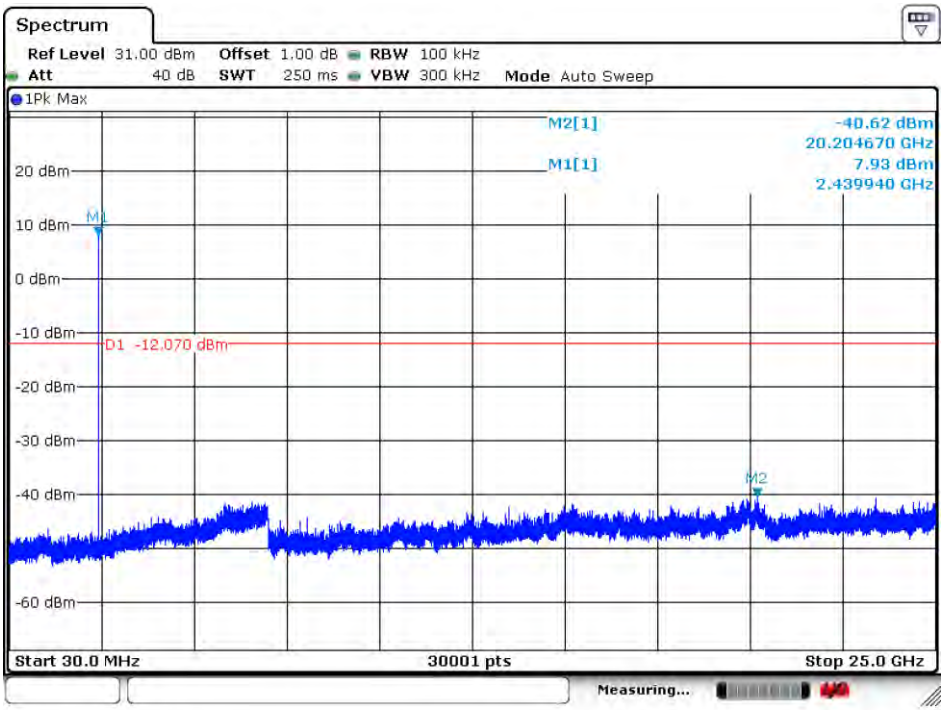
No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgsgroup.com.cn
中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com

4.8.1.10 GFSK 2M_ANT2_Lowest Channel



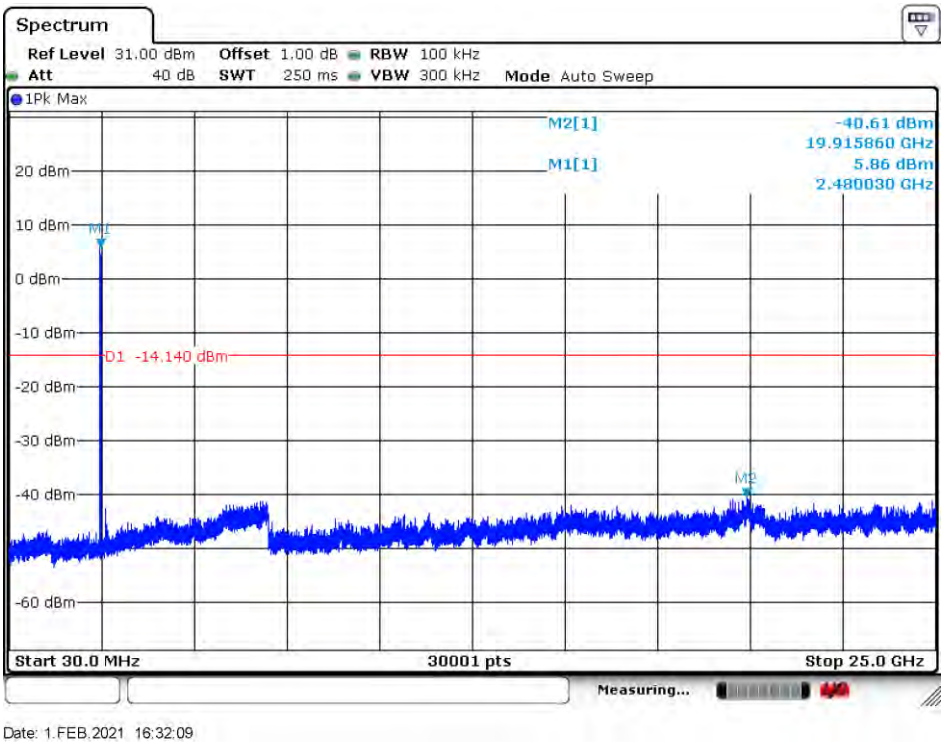
Date: 1.FEB.2021 16:33:33

4.8.1.11 GFSK 2M_ANT2_Middle Channel



Date: 1.FEB.2021 16:33:02

4.8.1.12 GFSK 2M_ANT2_Highest Channel



Remark:

Scan from 9kHz to 25GHz, the disturbance between 9KHz to 30MHz was very low, and the above harmonics were the highest point could be found when testing, The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.

4.9 Radiated Spurious Emissions

Test Requirement:	47 CFR Part 15C Section 15.209 and 15.205				
Test Method:	ANSI C63.10 :2013 Section 11.12				
Test Site:	Measurement Distance: 3m (Semi-Anechoic Chamber)				
Receiver Setup:	Frequency	Detector	RBW	VBW	Remark
	0.009MHz-0.090MHz	Peak	10kHz	30kHz	Peak
	0.009MHz-0.090MHz	Average	10kHz	30kHz	Average
	0.090MHz-0.110MHz	Quasi-peak	10kHz	30kHz	Quasi-peak
	0.110MHz-0.490MHz	Peak	10kHz	30kHz	Peak
	0.110MHz-0.490MHz	Average	10kHz	30kHz	Average
	0.490MHz -30MHz	Quasi-peak	10kHz	30kHz	Quasi-peak
	30MHz-1GHz	Quasi-peak	120kHz	300kHz	Quasi-peak
	Above 1GHz	Peak	1MHz	3MHz	Peak
		Peak	1MHz	10Hz	Average
Limit:	Frequency	Field strength (microvolt/meter)	Limit (dBuV/m)	Remark	Measurement distance (m)
	0.009MHz-0.490MHz	2400/F(kHz)	-	-	300
	0.490MHz-1.705MHz	24000/F(kHz)	-	-	30
	1.705MHz-30MHz	30	-	-	30
	30MHz-88MHz	100	40.0	Quasi-peak	3
	88MHz-216MHz	150	43.5	Quasi-peak	3
	216MHz-960MHz	200	46.0	Quasi-peak	3
	960MHz-1GHz	500	54.0	Quasi-peak	3
	Above 1GHz	500	54.0	Average	3
	Remark: 15.35(b),Unless otherwise specified, the limit on peak radio frequency emissions is 20dB above the maximum permitted average emission limit applicable to the equipment under test. This peak limit applies to the total peak emission level radiated by the device.				

Test Setup:	

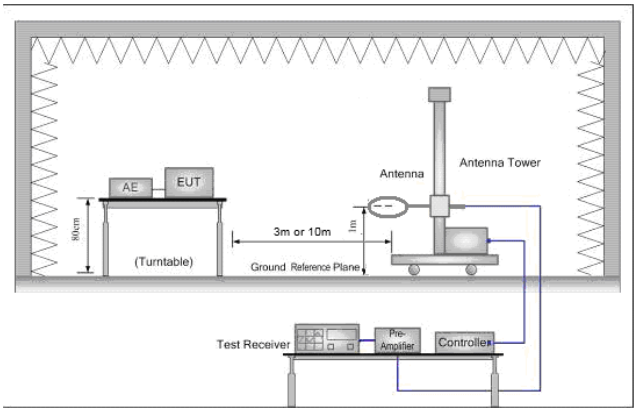


Figure 1. Below 30MHz

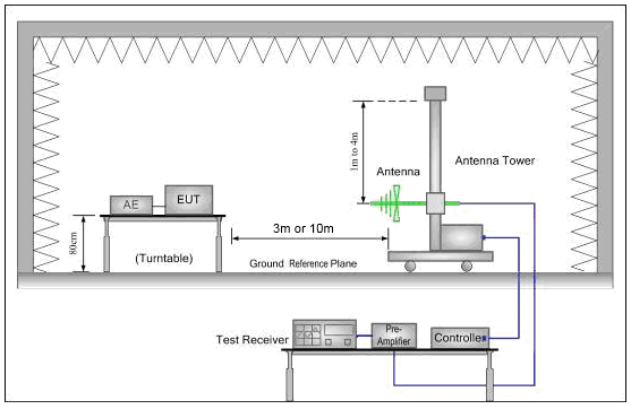


Figure 2. 30MHz to 1GHz

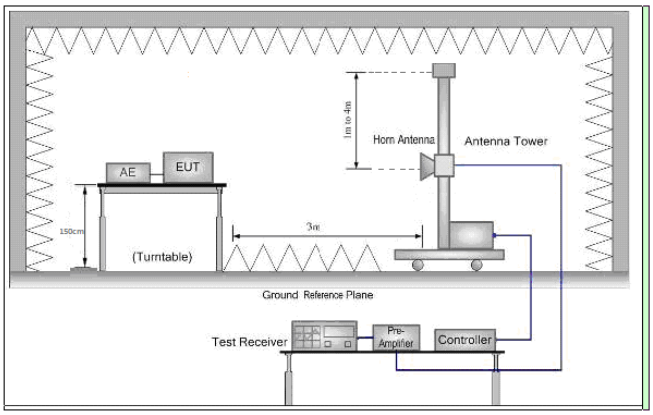


Figure 3. Above 1 GHz

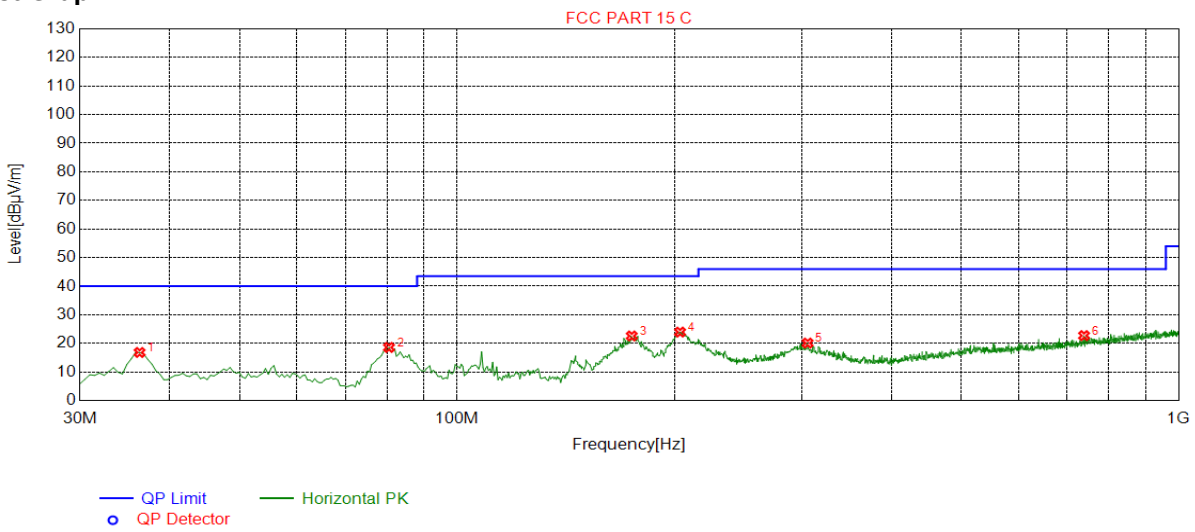
Test Procedure:	a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic camber. The table was rotated 360 degrees to determine the position of the highest radiation. b. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter semi-anechoic camber. The table was rotated 360 degrees to determine the position of the highest radiation c. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. d. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement. e. Use the following spectrum analyzer settings: (1) Span shall wide enough to fully capture the emission being measured; (2) Set RBW=100 kHz for f < 1 GHz, RBW=1MHz for f>1GHz ; VBW ≥ RBW; Sweep = auto; Detector function = peak; Trace = max hold for peak (3) For average measurement: use duty cycle correction factor method per 15.35(c).

	Duty cycle = On time/100 milliseconds On time = N 1 *L 1 +N 2 *L 2 +...+N n-1 *LN n-1 +N n *L n Where N 1 is number of type 1 pulses, L 1 is length of type 1 pulses, etc. Average Emission Level = Peak Emission Level + 20*log(Duty cycle) f. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters(for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading. g. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. h. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet. i. Test the EUT in the lowest channel, the middle channel ,the Highest channel. j. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, And found the X axis positioning which it is worse case. k. Repeat above procedures until all frequencies measured was complete.
Exploratory Test Mode:	Transmitting with GFSK modulation. Charge + Transmitting mode.
Final Test Mode:	Transmitting with GFSK modulation. Pretest the EUT at Charge + Transmitting mode, For below 1GHz part, through pre-scan, the worst case is the lowest channel. Only the worst case is recorded in the report.
Instruments Used:	Refer to section 6 for details
Test Results:	Pass
Remark:	The Emission Test data were reused from the report no:XAR/2020/C001003

4.9.1 Radiated Emission below 1GHz

4.9.1.1 Charge + Transmitting

Test Graph

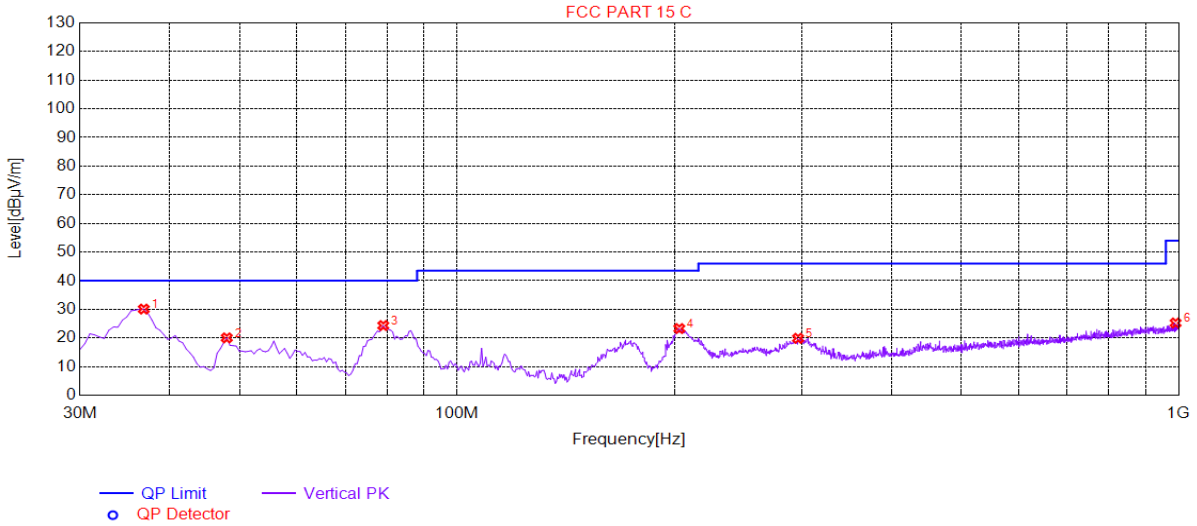


Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	36.3082	16.84	-32.34	40.00	23.16	100	227	Horizontal
2	80.4652	18.60	-35.76	40.00	21.40	200	90	Horizontal
3	174.602	22.62	-33.29	43.50	20.88	100	214	Horizontal
4	203.716	23.97	-30.74	43.50	19.53	100	19	Horizontal
5	306.103	20.13	-27.68	46.00	25.87	200	103	Horizontal
6	739.424	22.73	-17.71	46.00	23.27	100	90	Horizontal

Final Data List

Test Graph

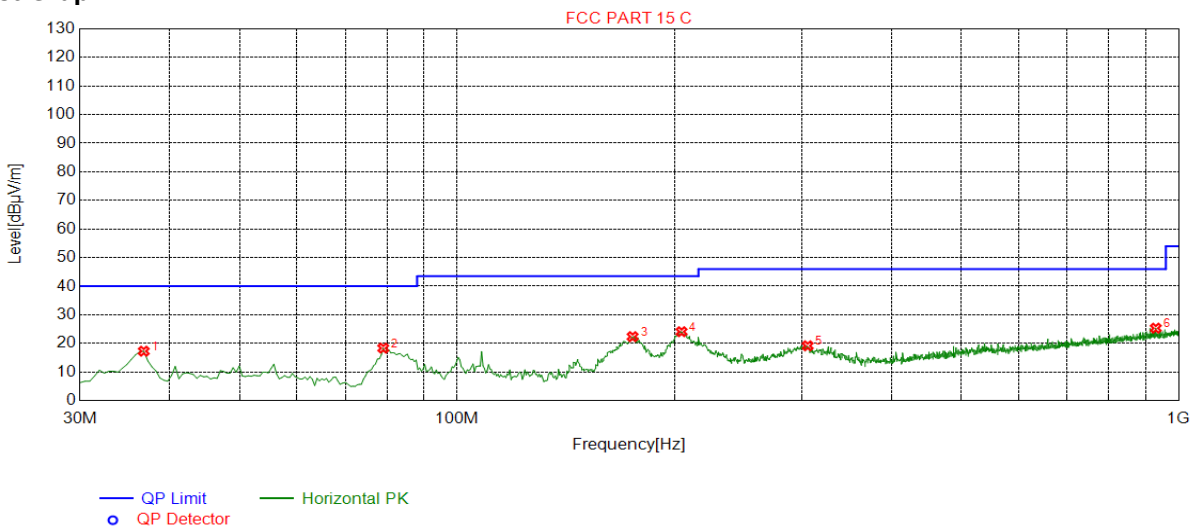


Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	36.7934	30.12	-32.19	40.00	9.88	200	336	Vertical
2	47.9540	20.07	-30.19	40.00	19.93	100	320	Vertical
3	79.0095	24.37	-35.71	40.00	15.63	200	255	Vertical
4	203.231	23.32	-30.75	43.50	20.18	100	314	Vertical
5	296.883	19.91	-27.95	46.00	26.09	100	358	Vertical
6	990.295	25.26	-13.99	54.00	28.74	200	16	Vertical

Final Data List

Test Graph

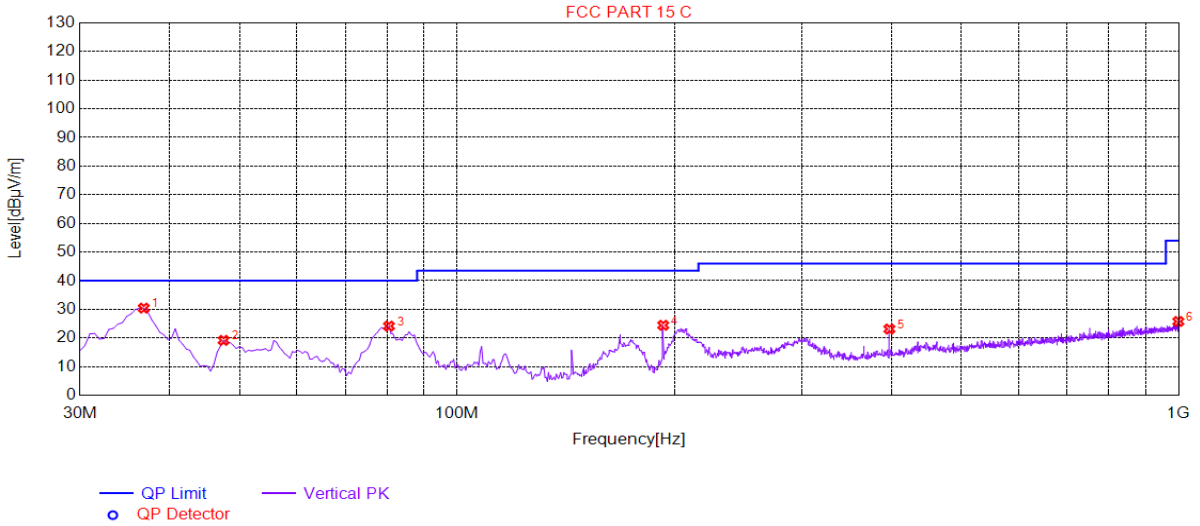


Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	36.7934	17.29	-32.19	40.00	22.71	100	242	Horizontal
2	79.0095	18.35	-35.71	40.00	21.65	100	106	Horizontal
3	175.087	22.37	-33.25	43.50	21.13	200	208	Horizontal
4	204.687	24.10	-30.72	43.50	19.40	200	10	Horizontal
5	306.103	19.16	-27.68	46.00	26.84	100	344	Horizontal
6	929.639	25.34	-14.78	46.00	20.66	100	7	Horizontal

Final Data List

Test Graph



Suspected List

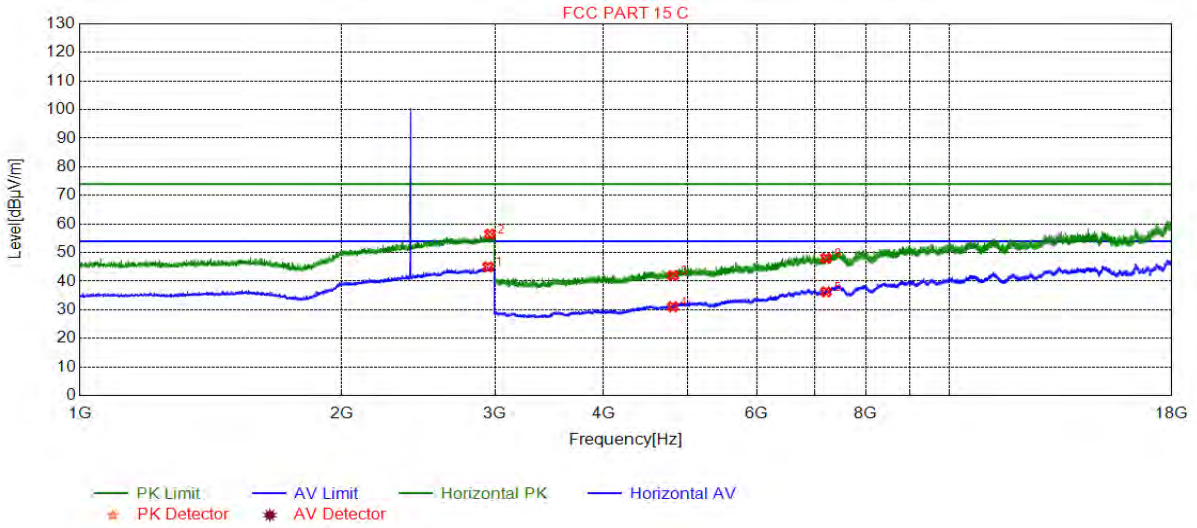
Suspected List								
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	36.7934	30.45	-32.19	40.00	9.55	100	290	Vertical
2	47.4687	19.20	-30.20	40.00	20.80	100	281	Vertical
3	80.4652	24.18	-35.76	40.00	15.82	200	247	Vertical
4	193.041	24.46	-31.55	43.50	19.04	100	247	Vertical
5	397.328	23.16	-25.02	46.00	22.84	200	247	Vertical
6	999.029	25.80	-13.88	54.00	28.20	100	333	Vertical

Final Data List

4.9.2 Transmitter Emission above 1GHz

4.9.2.1 BLE 1M_Channel 0 ANT 1

Test Graph



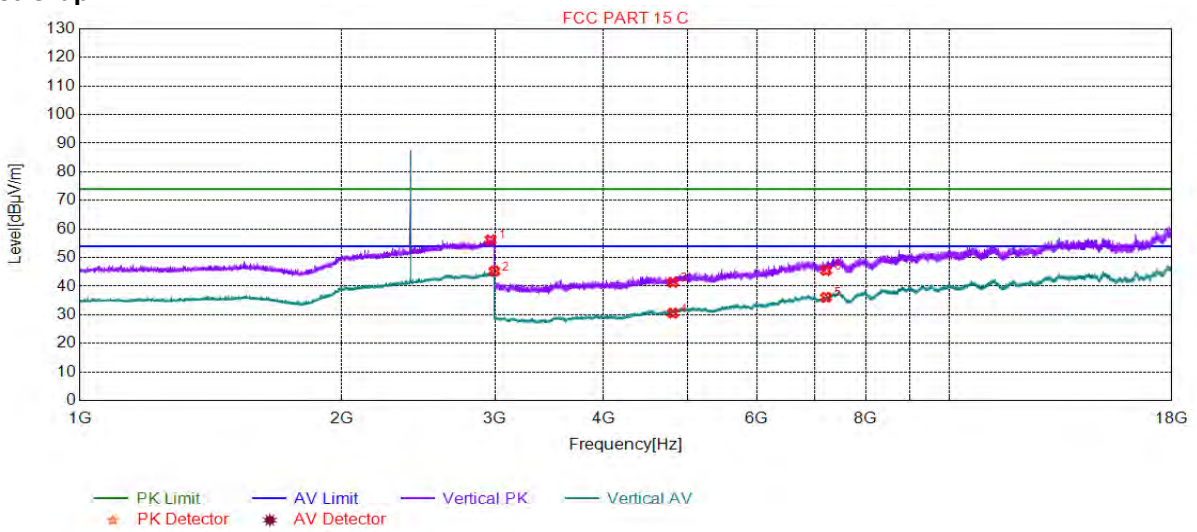
Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2946.48	45.02	10.65	54.00	8.98	146	106	Horizontal
2	2960.49	56.47	10.53	74.00	17.53	142	76	Horizontal
3	4804.00	41.93	-17.18	74.00	32.07	153	318	Horizontal
4	4804.00	31.08	-17.18	54.00	22.92	159	30	Horizontal
5	7206.00	36.28	-9.48	54.00	17.72	162	183	Horizontal
6	7206.00	48.04	-9.48	74.00	25.96	168	65	Horizontal

Final Data List

4.9.2.2 BLE 1M_Channel 0 ANT 1

Test Graph



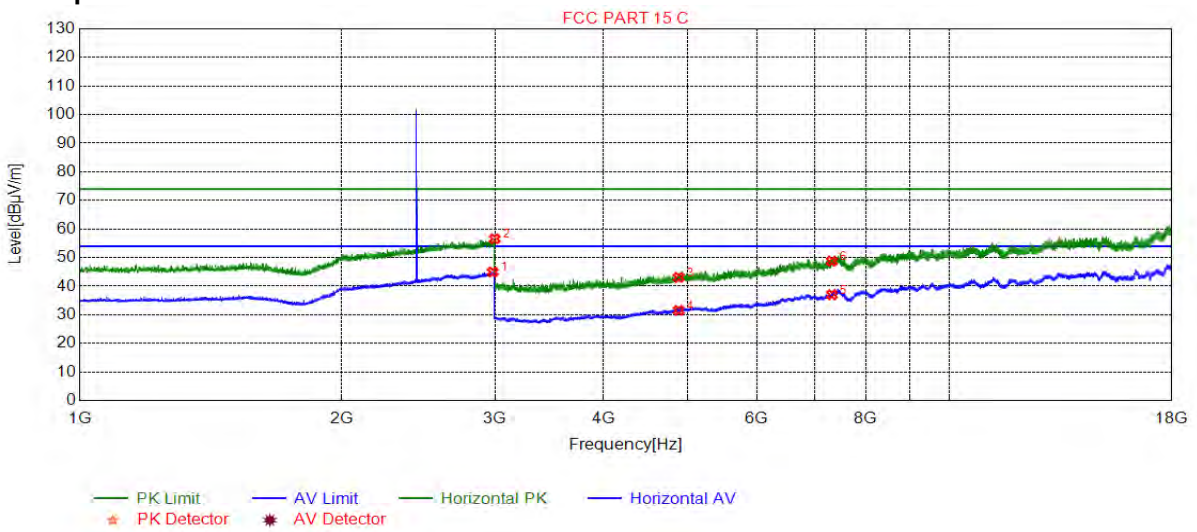
Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2965.99	56.18	10.55	74.00	17.82	201	26	Vertical
2	2995.49	45.27	10.70	54.00	8.73	211	57	Vertical
3	4804.00	41.34	-17.18	74.00	32.66	198	161	Vertical
4	4804.00	30.60	-17.18	54.00	23.40	185	346	Vertical
5	7206.00	36.12	-9.48	54.00	17.88	192	42	Vertical
6	7206.00	45.50	-9.48	74.00	28.50	181	110	Vertical

Final Data List

4.9.2.3 BLE 1M_Channel 19 ANT 1

Test Graph



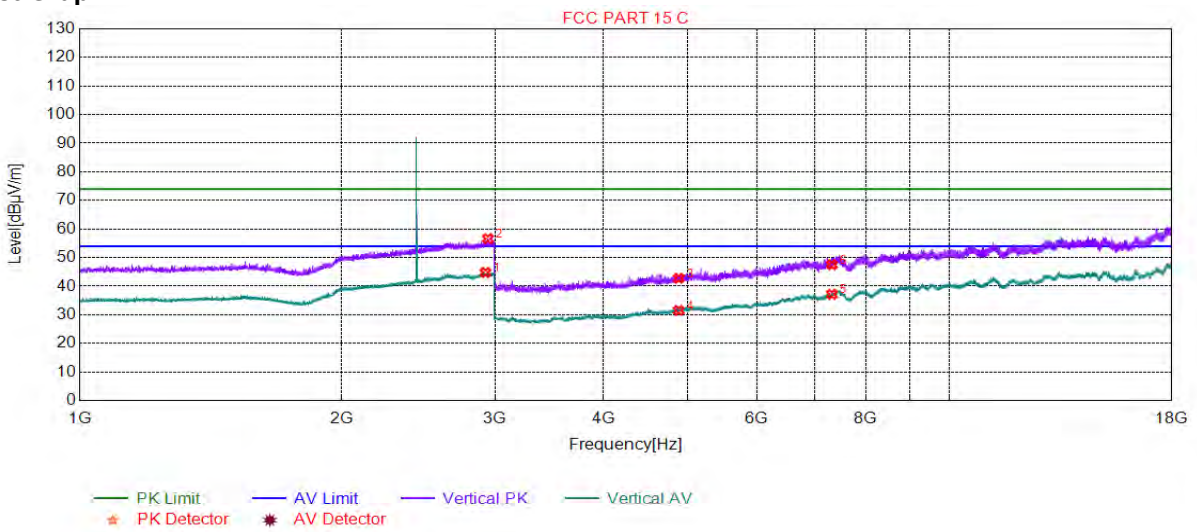
Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2982.99	44.96	10.61	54.00	9.04	149	91	Horizontal
2	2998.49	56.58	10.75	74.00	17.42	142	360	Horizontal
3	4880.00	43.08	-16.81	74.00	30.92	158	217	Horizontal
4	4880.00	31.57	-16.81	54.00	22.43	152	217	Horizontal
5	7320.00	37.03	-9.28	54.00	16.97	156	302	Horizontal
6	7320.00	48.77	-9.28	74.00	25.23	161	302	Horizontal

Final Data List

4.9.2.4 BLE 1M_Channel 19 ANT 1

Test Graph



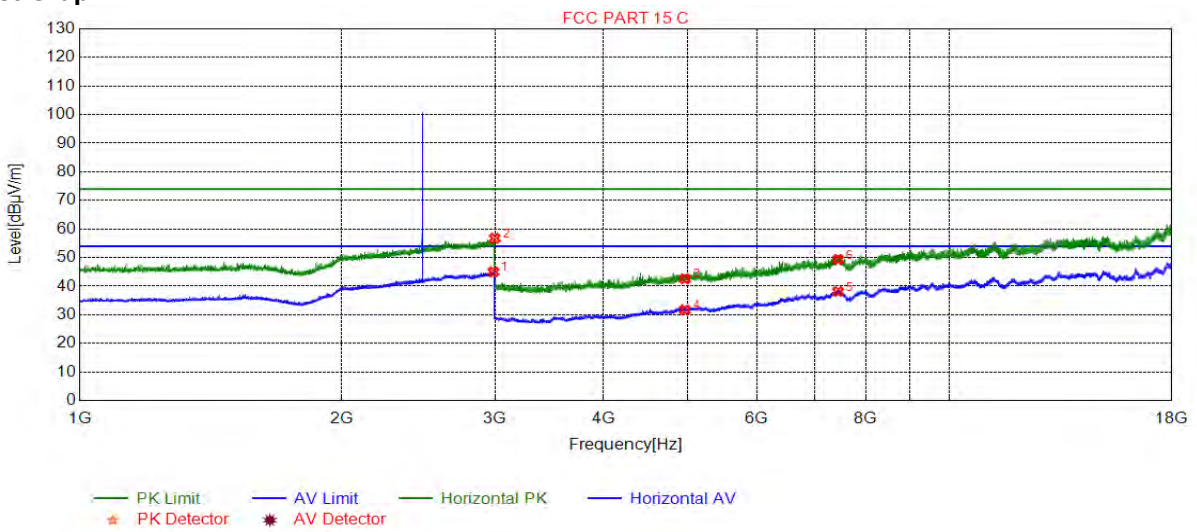
Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2925.98	44.80	10.67	54.00	9.20	203	160	Vertical
2	2945.48	56.64	10.64	74.00	17.36	198	300	Vertical
3	4880.00	42.79	-16.81	74.00	31.21	194	76	Vertical
4	4880.00	31.55	-16.81	54.00	22.45	186	245	Vertical
5	7320.00	37.17	-9.28	54.00	16.83	191	59	Vertical
6	7320.00	47.52	-9.28	74.00	26.48	208	25	Vertical

Final Data List

4.9.2.5 BLE 1M_Channel 39 ANT 1

Test Graph



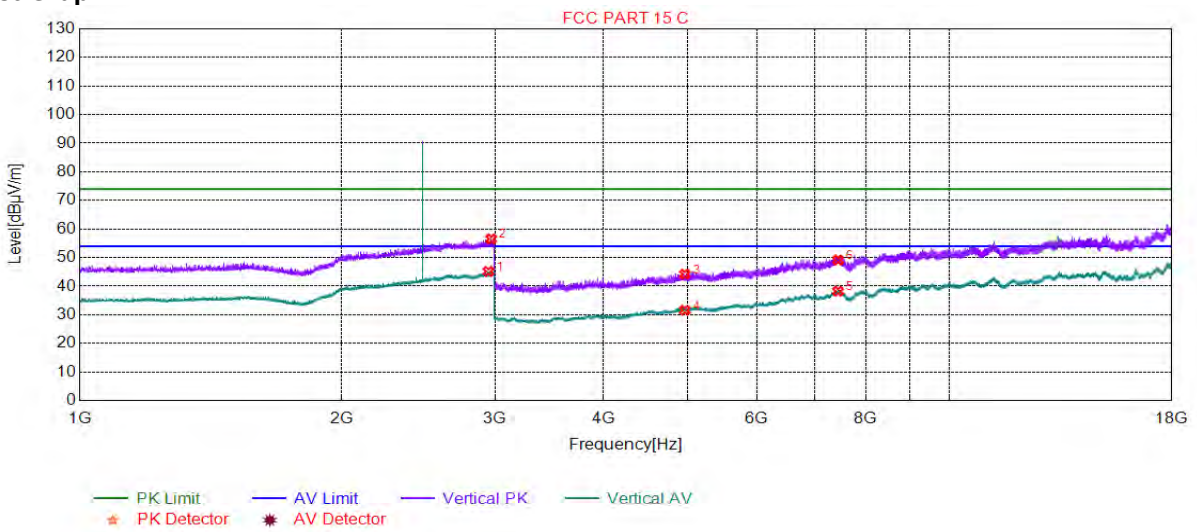
Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2988.99	45.02	10.58	54.00	8.98	146	251	Horizontal
2	2998.49	56.76	10.75	74.00	17.24	158	96	Horizontal
3	4960.00	42.59	-16.28	74.00	31.41	152	64	Horizontal
4	4960.00	31.70	-16.28	54.00	22.30	162	251	Horizontal
5	7440.00	38.11	-8.83	54.00	15.89	167	132	Horizontal
6	7440.00	49.35	-8.83	74.00	24.65	141	352	Horizontal

Final Data List

4.9.2.6 BLE 1M_Channel 39 ANT 1

Test Graph



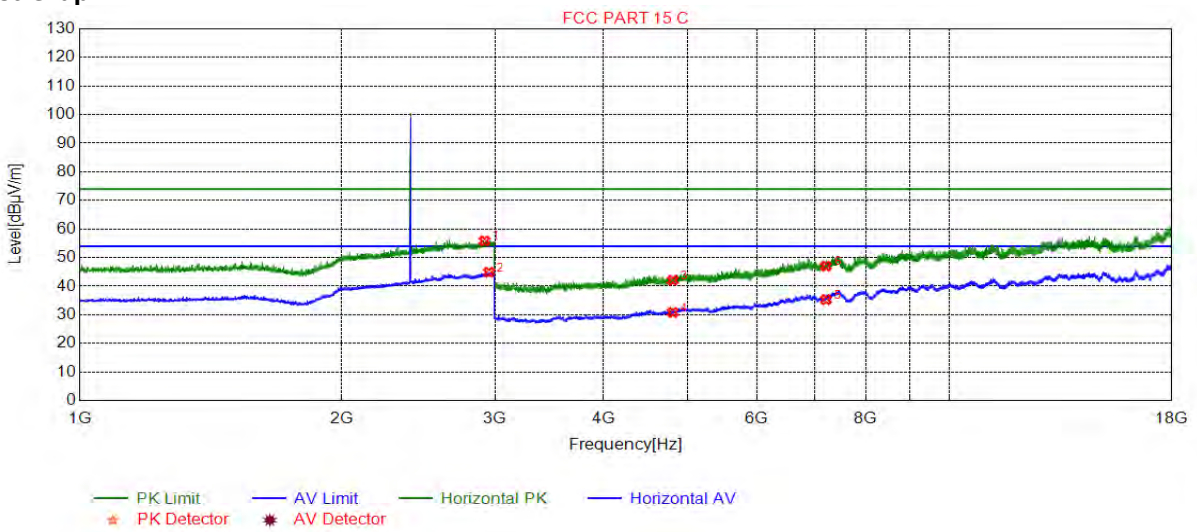
Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2948.98	45.18	10.66	54.00	8.82	208	341	Vertical
2	2970.99	56.54	10.63	74.00	17.46	192	264	Vertical
3	4960.00	44.21	-16.28	74.00	29.79	184	346	Vertical
4	4960.00	31.59	-16.28	54.00	22.41	196	279	Vertical
5	7440.00	38.25	-8.83	54.00	15.75	215	58	Vertical
6	7440.00	49.17	-8.83	74.00	24.83	206	24	Vertical

Final Data List

4.9.2.7 BLE 2M_Channel 0 ANT 1

Test Graph



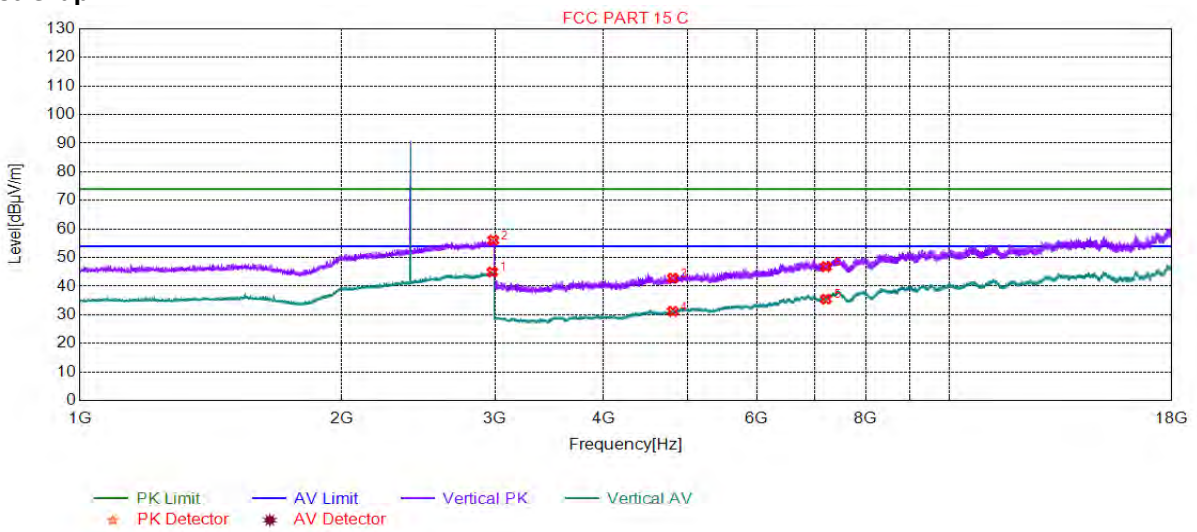
Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2918.47	55.85	10.45	74.00	18.15	152	96	Horizontal
2	2953.98	44.88	10.73	54.00	9.12	162	55	Horizontal
3	4804.00	42.08	-17.18	74.00	31.92	148	132	Horizontal
4	4804.00	30.85	-17.18	54.00	23.15	142	30	Horizontal
5	7206.00	35.30	-9.48	54.00	18.70	159	183	Horizontal
6	7206.00	47.03	-9.48	74.00	26.97	151	318	Horizontal

Final Data List

4.9.2.8 BLE 2M_Channel 0 ANT 1

Test Graph



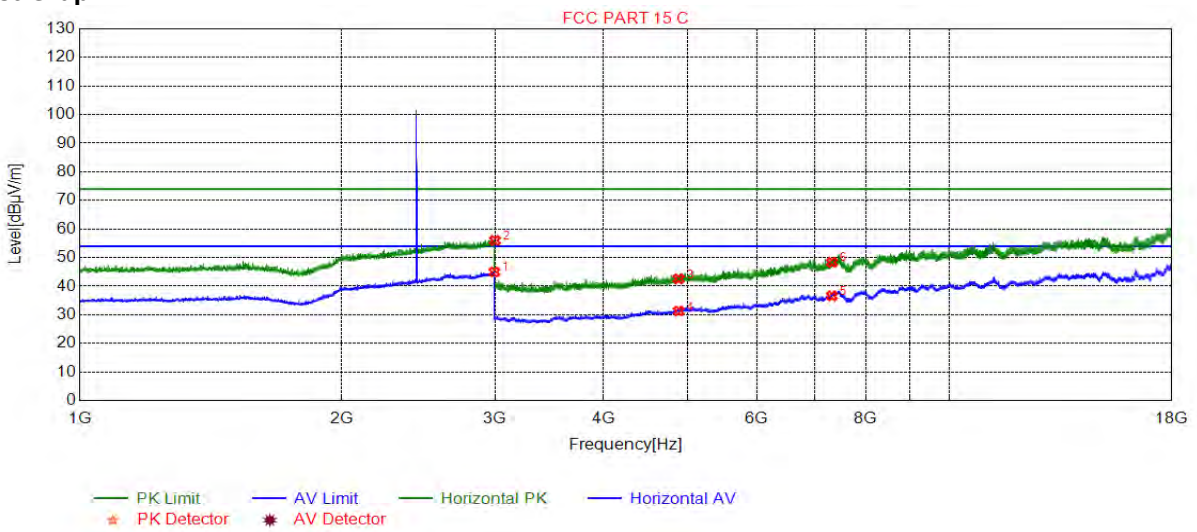
Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2979.49	44.98	10.62	54.00	9.02	198	253	Vertical
2	2987.49	56.11	10.59	74.00	17.89	187	186	Vertical
3	4804.00	42.81	-17.18	74.00	31.19	192	245	Vertical
4	4804.00	31.21	-17.18	54.00	22.79	205	143	Vertical
5	7206.00	35.48	-9.48	54.00	18.52	214	346	Vertical
6	7206.00	46.84	-9.48	74.00	27.16	208	245	Vertical

Final Data List

4.9.2.9 BLE 2M_Channel 19 ANT 1

Test Graph



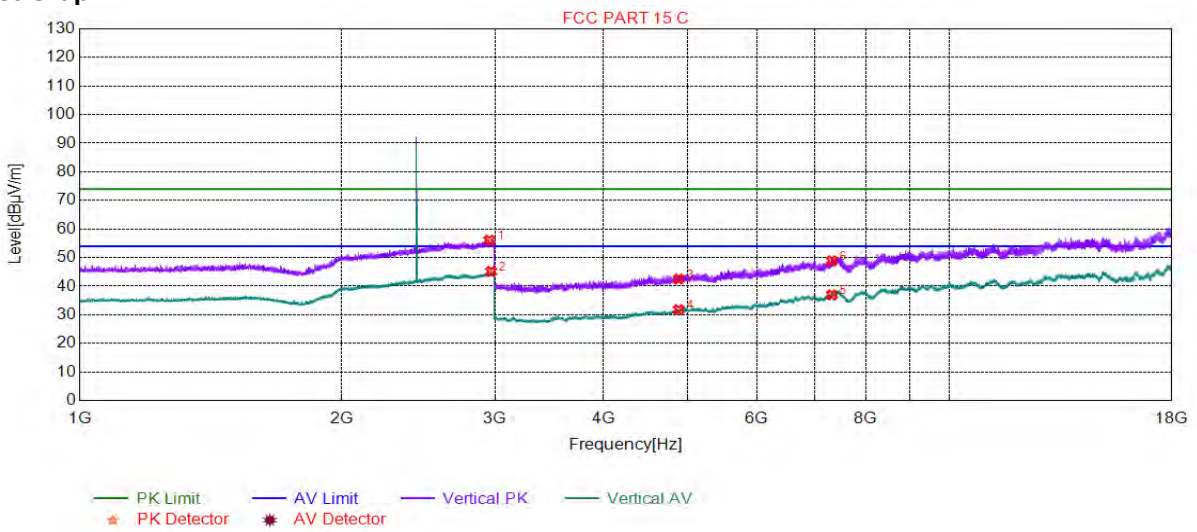
Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2995.99	44.98	10.71	54.00	9.02	147	314	Horizontal
2	3000.00	56.00	10.78	74.00	18.00	149	24	Horizontal
3	4880.00	42.55	-16.81	74.00	31.45	153	132	Horizontal
4	4880.00	31.33	-16.81	54.00	22.67	158	216	Horizontal
5	7320.00	36.62	-9.28	54.00	17.38	162	166	Horizontal
6	7320.00	48.37	-9.28	74.00	25.63	168	132	Horizontal

Final Data List

4.9.2.10 BLE 2M_Channel 19 ANT 1

Test Graph



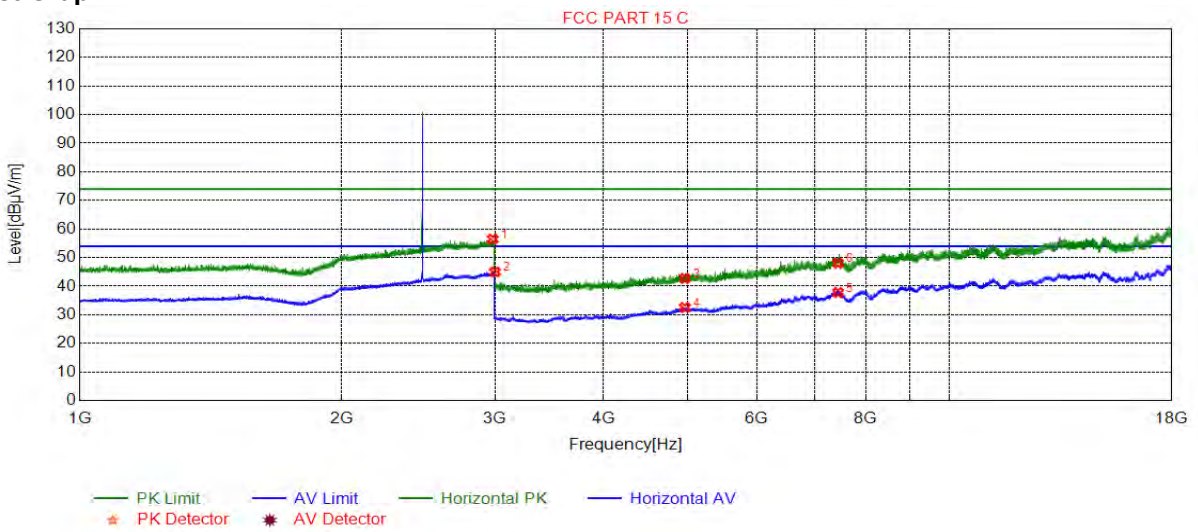
Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2956.48	56.11	10.68	74.00	17.89	205	42	Vertical
2	2969.99	45.17	10.65	54.00	8.83	198	11	Vertical
3	4880.00	42.51	-16.81	74.00	31.49	194	330	Vertical
4	4880.00	31.79	-16.81	54.00	22.21	187	346	Vertical
5	7320.00	36.94	-9.28	54.00	17.06	208	8	Vertical
6	7320.00	48.87	-9.28	74.00	25.13	214	279	Vertical

Final Data List

4.9.2.11 BLE 2M_Channel 39 ANT 1

Test Graph



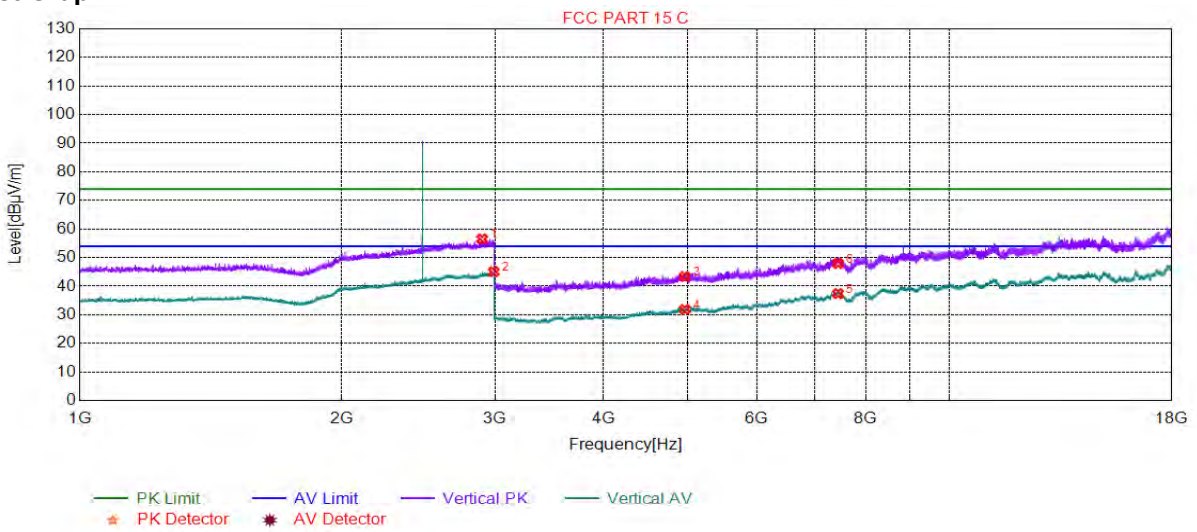
Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2982.99	56.48	10.61	74.00	17.52	158	269	Horizontal
2	3000.00	44.98	10.78	54.00	9.02	149	269	Horizontal
3	4960.00	42.74	-16.28	74.00	31.26	152	285	Horizontal
4	4960.00	32.55	-16.28	54.00	21.45	142	30	Horizontal
5	7440.00	37.78	-8.83	54.00	16.22	162	285	Horizontal
6	7440.00	48.05	-8.83	74.00	25.95	155	98	Horizontal

Final Data List

4.9.2.12 BLE 2M_Channel 39 ANT 1

Test Graph



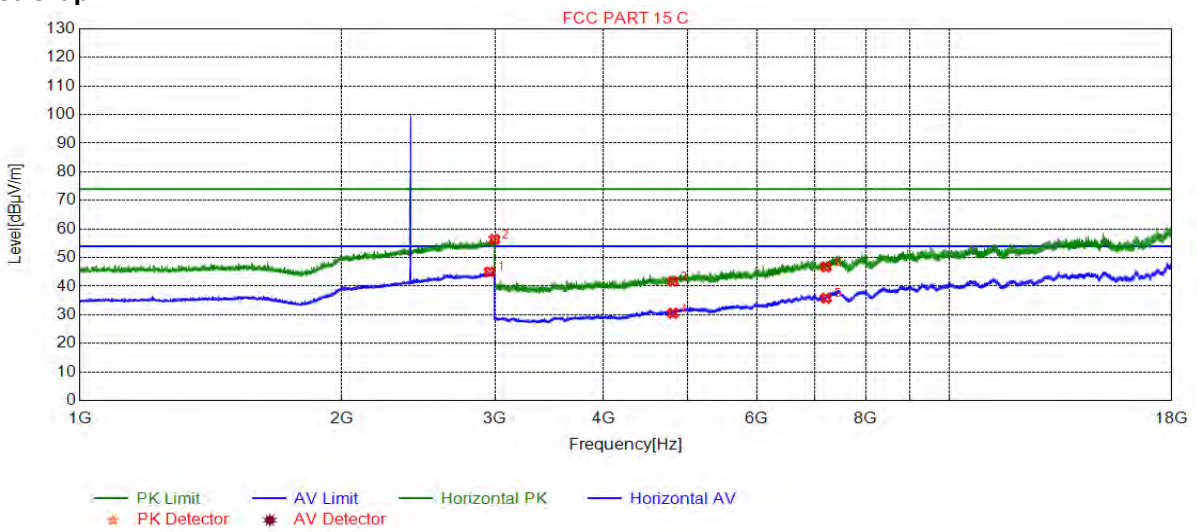
Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2899.97	56.53	10.42	74.00	17.47	201	179	Vertical
2	2990.99	45.05	10.59	54.00	8.95	218	174	Vertical
3	4960.00	43.40	-16.28	74.00	30.60	195	76	Vertical
4	4960.00	31.86	-16.28	54.00	22.14	186	329	Vertical
5	7440.00	37.40	-8.83	54.00	16.60	192	313	Vertical
6	7440.00	47.95	-8.83	74.00	26.05	184	127	Vertical

Final Data List

4.9.2.13 BLE 1M_Channel 0 ANT 2

Test Graph



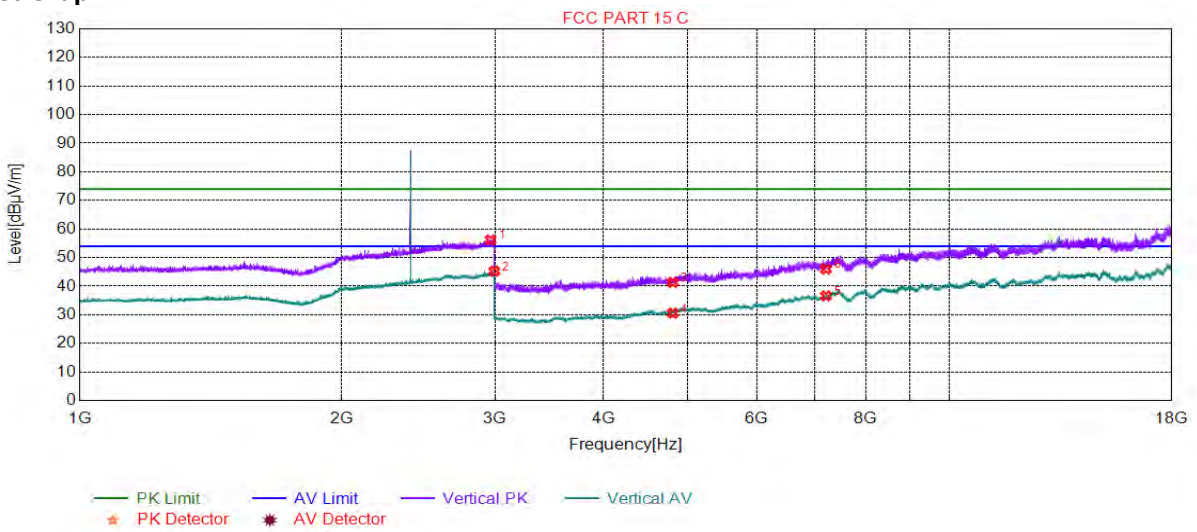
Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2956.48	45.02	10.68	54.00	8.98	148	344	Horizontal
2	2996.99	56.37	10.73	74.00	17.63	153	282	Horizontal
3	4804.00	41.70	-17.18	74.00	32.30	159	132	Horizontal
4	4804.00	30.56	-17.18	54.00	23.44	162	319	Horizontal
5	7206.00	35.84	-9.48	54.00	18.16	158	251	Horizontal
6	7206.00	46.76	-9.48	74.00	27.24	142	336	Horizontal

Final Data List

4.9.2.14 BLE 1M_Channel 0 ANT 2

Test Graph



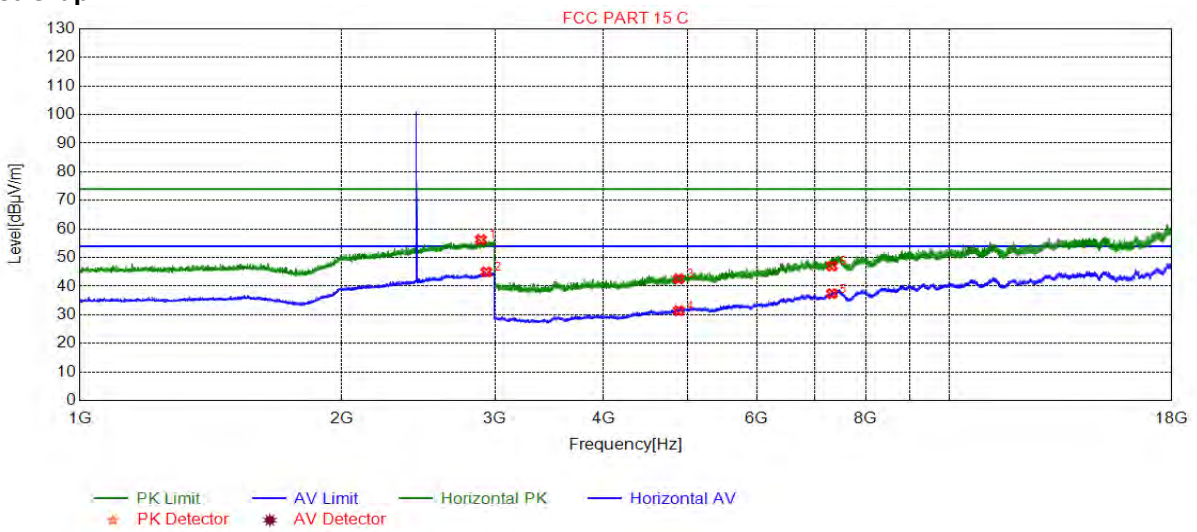
Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2965.99	56.18	10.55	74.00	17.82	215	26	Vertical
2	2995.49	45.27	10.70	54.00	8.73	203	57	Vertical
3	4804.00	41.34	-17.18	74.00	32.66	205	161	Vertical
4	4804.00	30.60	-17.18	54.00	23.40	195	346	Vertical
5	7206.00	36.62	-9.48	54.00	17.38	192	42	Vertical
6	7206.00	46.00	-9.48	74.00	28.00	187	110	Vertical

Final Data List

4.9.2.15 BLE 1M_Channel 19 ANT 2

Test Graph



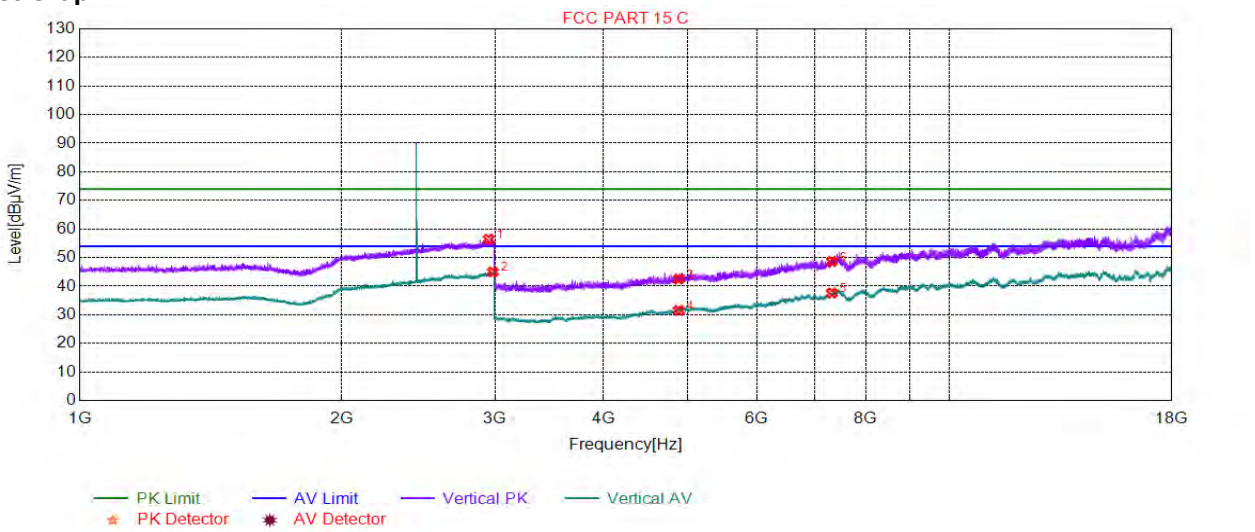
Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2890.47	56.24	10.41	74.00	17.76	142	278	Horizontal
2	2932.48	45.00	10.67	54.00	9.00	148	179	Horizontal
3	4880.00	42.59	-16.81	74.00	31.41	153	234	Horizontal
4	4880.00	31.43	-16.81	54.00	22.57	159	352	Horizontal
5	7320.00	37.39	-9.28	54.00	16.61	161	267	Horizontal
6	7320.00	47.04	-9.28	74.00	26.96	168	183	Horizontal

Final Data List

4.9.2.16 BLE 1M_Channel 19 ANT 2

Test Graph



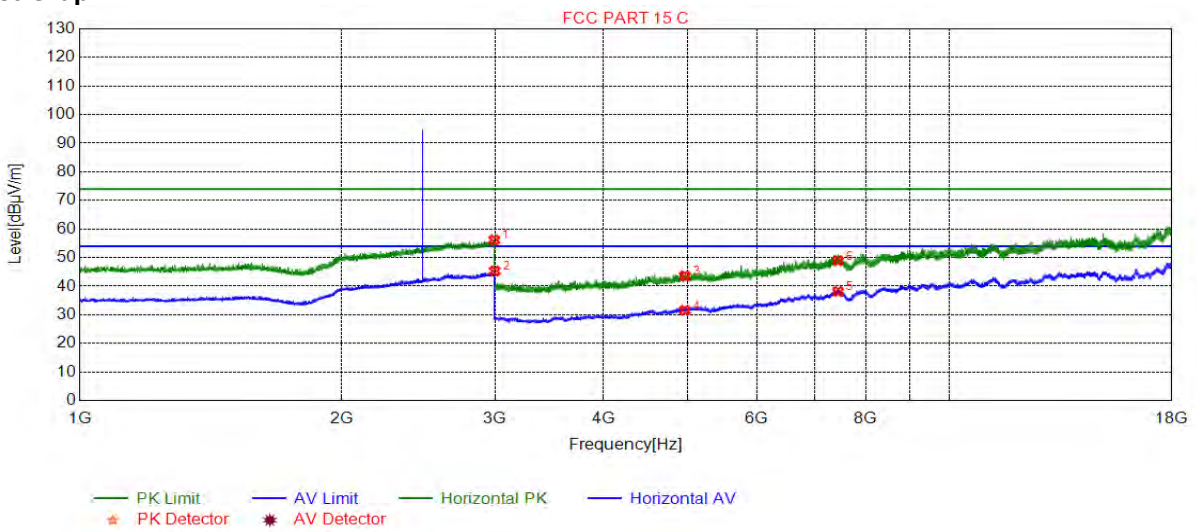
Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2950.98	56.44	10.68	74.00	17.56	204	26	Vertical
2	2984.49	44.99	10.61	54.00	9.01	214	218	Vertical
3	4880.00	42.53	-16.81	74.00	31.47	189	329	Vertical
4	4880.00	31.51	-16.81	54.00	22.49	198	42	Vertical
5	7320.00	37.64	-9.28	54.00	16.36	192	25	Vertical
6	7320.00	48.65	-9.28	74.00	25.35	186	25	Vertical

Final Data List

4.9.2.17 BLE 1M_Channel 39 ANT 2

Test Graph



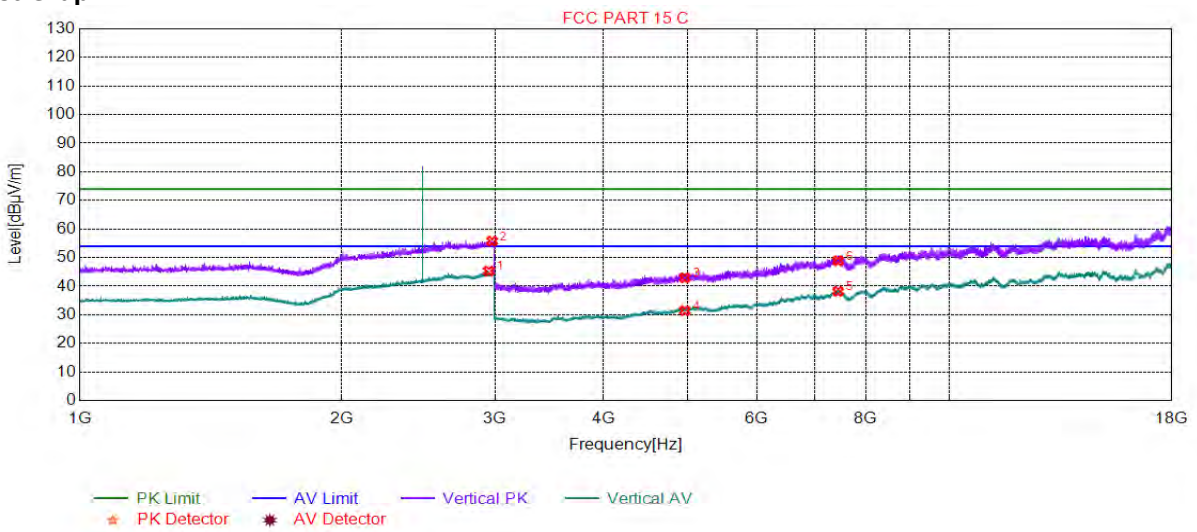
Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2995.49	56.17	10.70	74.00	17.83	147	329	Horizontal
2	2998.49	45.34	10.75	54.00	8.66	159	288	Horizontal
3	4960.00	43.61	-16.28	74.00	30.39	162	302	Horizontal
4	4960.00	31.55	-16.28	54.00	22.45	152	132	Horizontal
5	7440.00	38.15	-8.83	54.00	15.85	156	251	Horizontal
6	7440.00	48.92	-8.83	74.00	25.08	142	132	Horizontal

Final Data List

4.9.2.18 BLE 1M_Channel 39 ANT 2

Test Graph



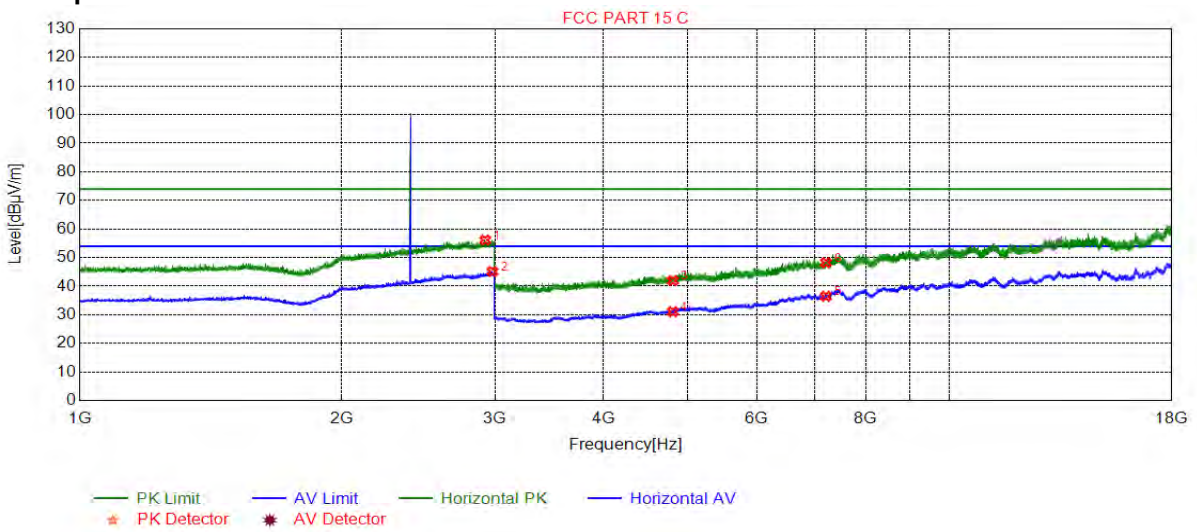
Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2952.48	45.30	10.70	54.00	8.70	205	238	Vertical
2	2978.49	55.76	10.61	74.00	18.24	198	145	Vertical
3	4960.00	42.95	-16.28	74.00	31.05	178	142	Vertical
4	4960.00	31.44	-16.28	54.00	22.56	186	58	Vertical
5	7440.00	38.19	-8.83	54.00	15.81	192	176	Vertical
6	7440.00	48.89	-8.83	74.00	25.11	208	92	Vertical

Final Data List

4.9.2.19 BLE 2M_Channel 0 ANT 2

Test Graph



Suspected List

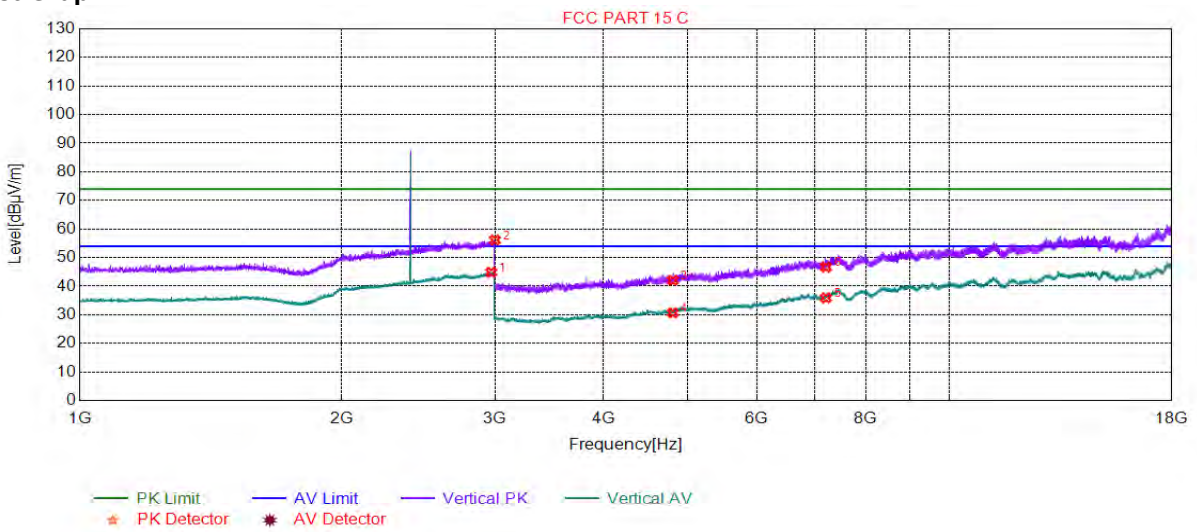
Suspected List								
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2923.98	56.13	10.61	74.00	17.87	152	76	Horizontal
2	2981.49	45.15	10.62	54.00	8.85	162	242	Horizontal
3	4804.00	41.93	-17.18	74.00	32.07	168	318	Horizontal
4	4804.00	31.08	-17.18	54.00	22.92	158	30	Horizontal
5	7206.00	36.48	-9.48	54.00	17.52	145	183	Horizontal
6	7206.00	48.24	-9.48	74.00	25.76	149	65	Horizontal

Final Data List

No.1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgsgroup.com.cn
中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com

4.9.2.20 BLE 2M_Channel 0 ANT 2

Test Graph



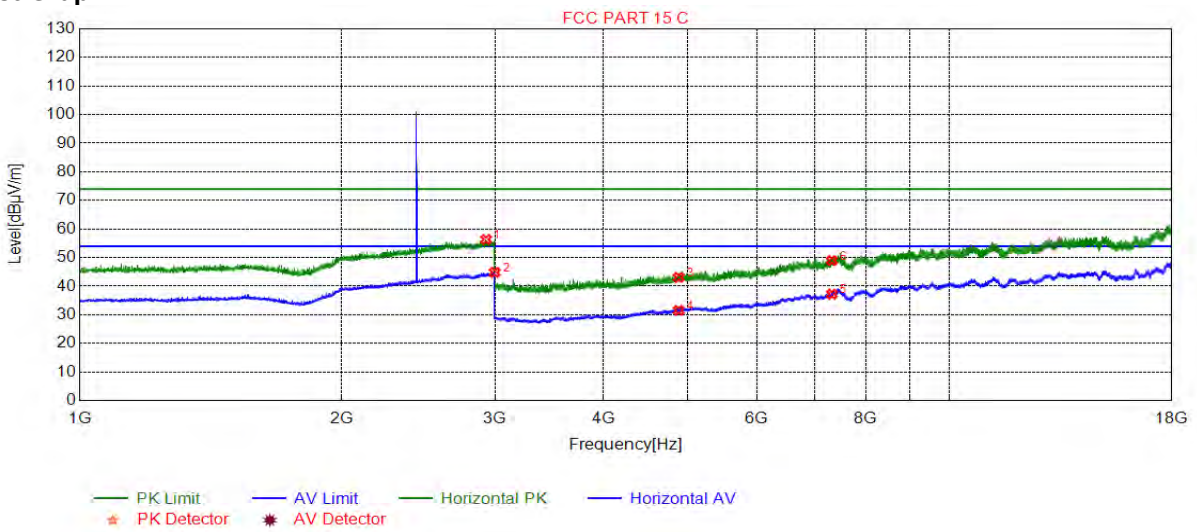
Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2970.99	44.86	10.63	54.00	9.14	198	134	Vertical
2	3000.00	56.16	10.78	74.00	17.84	185	287	Vertical
3	4804.00	42.04	-17.18	74.00	31.96	176	92	Vertical
4	4804.00	30.71	-17.18	54.00	23.29	195	228	Vertical
5	7206.00	35.91	-9.48	54.00	18.09	201	25	Vertical
6	7206.00	46.68	-9.48	74.00	27.32	208	25	Vertical

Final Data List

4.9.2.21 BLE 2M_Channel 19 ANT 2

Test Graph



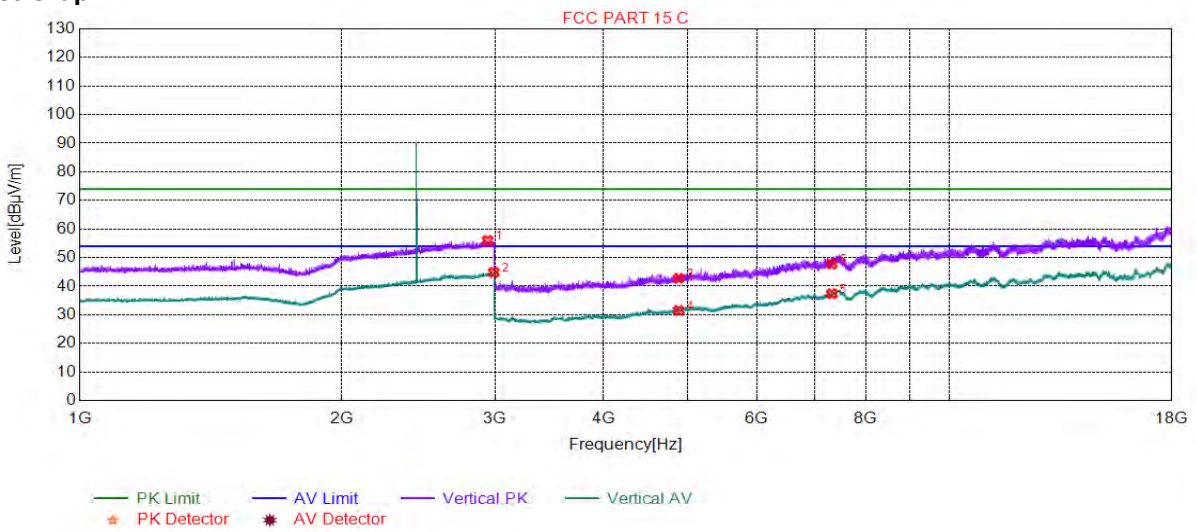
Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2930.98	56.33	10.70	74.00	17.67	148	132	Horizontal
2	2998.99	44.83	10.76	54.00	9.17	152	91	Horizontal
3	4880.00	43.08	-16.81	74.00	30.92	159	217	Horizontal
4	4880.00	31.57	-16.81	54.00	22.43	142	217	Horizontal
5	7320.00	37.23	-9.28	54.00	16.77	162	302	Horizontal
6	7320.00	48.97	-9.28	74.00	25.03	169	302	Horizontal

Final Data List

4.9.2.22 BLE 2M_Channel 19 ANT 2

Test Graph



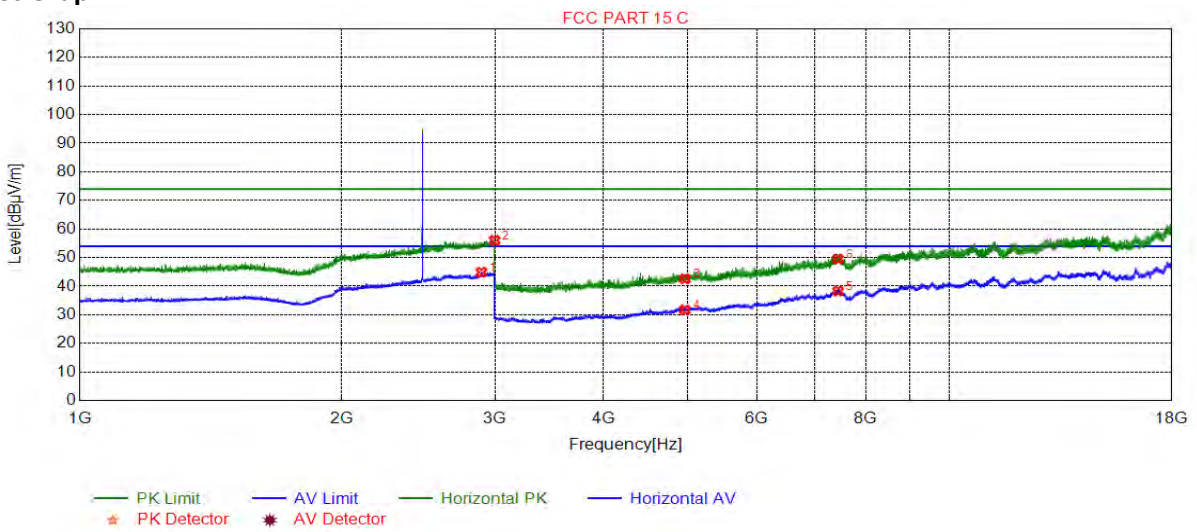
Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2942.48	56.00	10.57	74.00	18.00	194	316	Vertical
2	2991.99	44.81	10.62	54.00	9.19	185	2	Vertical
3	4880.00	42.79	-16.81	74.00	31.21	203	76	Vertical
4	4880.00	31.55	-16.81	54.00	22.45	208	245	Vertical
5	7320.00	37.37	-9.28	54.00	16.63	198	59	Vertical
6	7320.00	47.72	-9.28	74.00	26.28	189	25	Vertical

Final Data List

4.9.2.23 BLE 2M_Channel 39 ANT 2

Test Graph



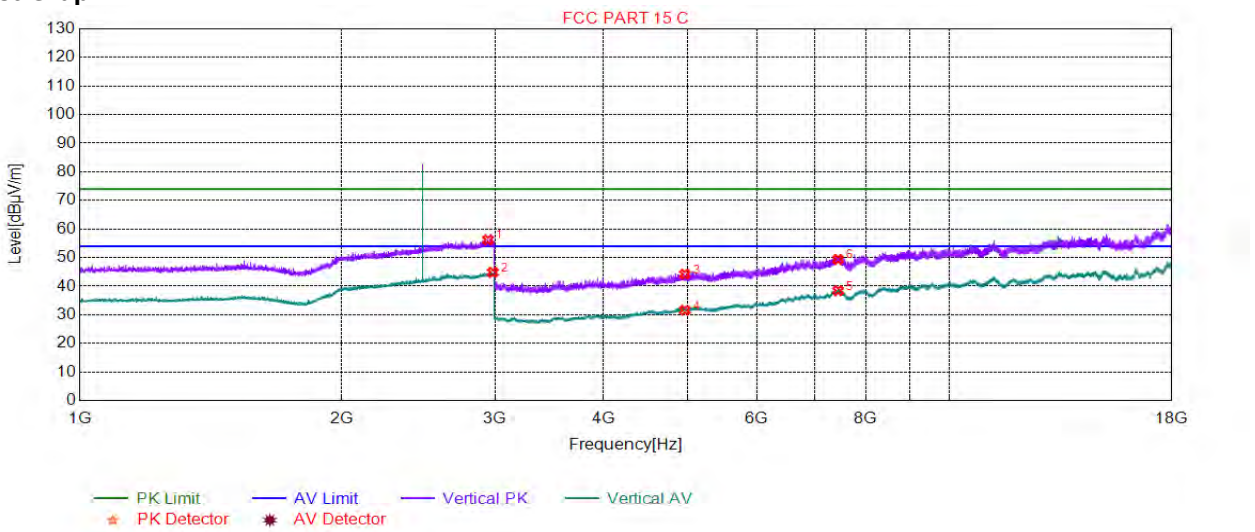
Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2894.47	44.92	10.42	54.00	9.08	156	117	Horizontal
2	2997.99	56.03	10.75	74.00	17.97	158	268	Horizontal
3	4960.00	42.59	-16.28	74.00	31.41	149	64	Horizontal
4	4960.00	31.70	-16.28	54.00	22.30	165	251	Horizontal
5	7440.00	38.31	-8.83	54.00	15.69	162	132	Horizontal
6	7440.00	49.55	-8.83	74.00	24.45	151	352	Horizontal

Final Data List

4.9.2.24 BLE 2M_Channel 39 ANT 2

Test Graph



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2945.98	56.22	10.64	74.00	17.78	208	65	Vertical
2	2983.99	44.83	10.61	54.00	9.17	199	226	Vertical
3	4960.00	44.21	-16.28	74.00	29.79	187	346	Vertical
4	4960.00	31.59	-16.28	54.00	22.41	182	279	Vertical
5	7440.00	38.45	-8.83	54.00	15.55	211	58	Vertical
6	7440.00	49.37	-8.83	74.00	24.63	216	24	Vertical

Final Data List

Remark:

1) The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

   Final Test Level =Receiver Reading + Antenna Factor + Cable Factor – Preamplifier Factor

2) Scan from 9kHz to 25GHz, the disturbance between 9KHz to 30MHz was very low, and the above harmonics were the highest point could be found when testing, The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.
3) As shown in this section, for frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. So, only the peak measurements were shown in the report.
4) All Modes have been tested, but only the worst case data displayed in this report.

4.10 Restricted bands around fundamental frequency

Test Requirement:	47 CFR Part 15C Section 15.209 and 15.205		
Test Method:	ANSI C63.10: 2013 Section 11.12		
Test Site:	Measurement Distance: 3m (Semi-Anechoic Chamber)		
Limit:	Frequency	Limit (dBuV/m)	Remark
	30MHz-88MHz	40.0	Quasi-peak
	88MHz-216MHz	43.5	Quasi-peak
	216MHz-960MHz	46.0	Quasi-peak
	960MHz-1GHz	54.0	Quasi-peak
	Above 1GHz	54.0	Average Value
		74.0	Peak Value
Test Setup:			

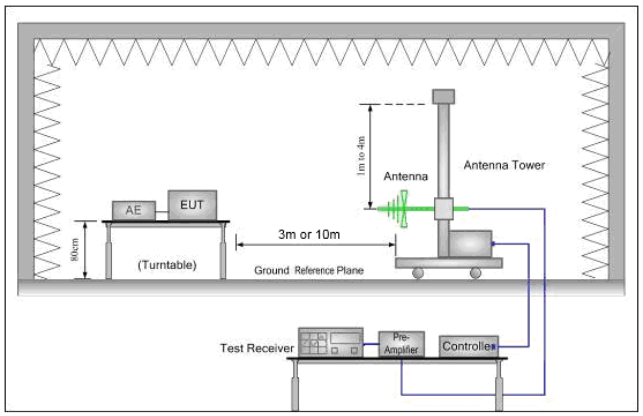


Figure 1. 30MHz to 1GHz

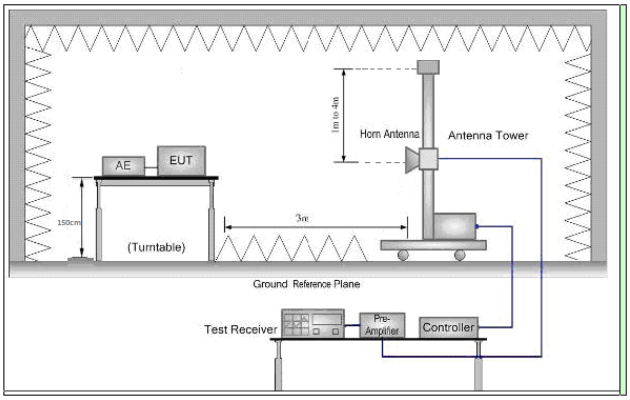


Figure 2. Above 1 GHz

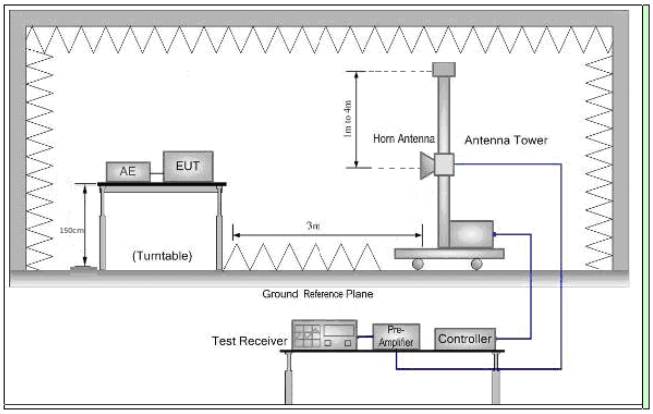


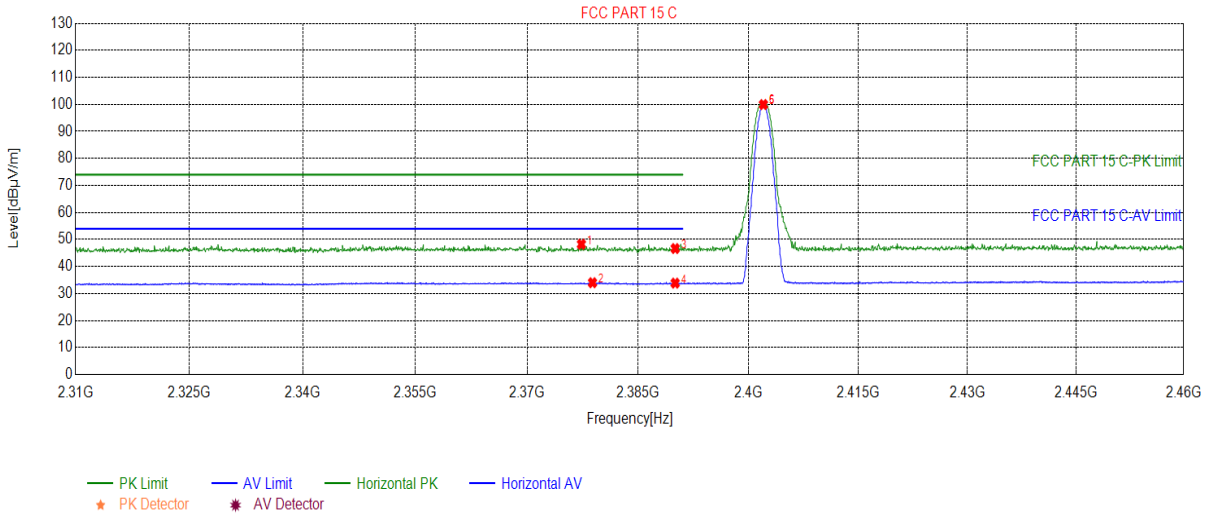
Figure 3. Above 1 GHz

Test Procedure:	a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic camber. The table was rotated 360 degrees to determine the position of the highest radiation. b. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter semi-anechoic camber. The table was rotated 360 degrees to determine the position of the highest radiation. c. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. d. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement. e. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading. f. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. g. Place a marker at the end of the restricted band closest to the transmit frequency to show compliance. Also measure any emissions in the restricted bands. Save the spectrum analyzer plot. Repeat for each power and modulation for lowest and highest channel h. Test the EUT in the lowest channel , the Highest channel i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode,And found the X axis positioning which it is worse case. j. Repeat above procedures until all frequencies measured was complete.
Exploratory Test Mode:	Transmitting with GFSK modulation. Charge + Transmitting mode.
Final Test Mode:	Transmitting with GFSK modulation. Pretest the EUT at Charge + Transmitting mode. Only the worst case is recorded in the report.
Instruments Used:	Refer to section 6 for details
Test Results:	Pass
Remark:	The Emission Test data were reused from the report no:XAR/2020/C001003

4.10.1 Test Plots

4.10.1.1 BLE 1M_Channel 0 ANT 1

Test Graph



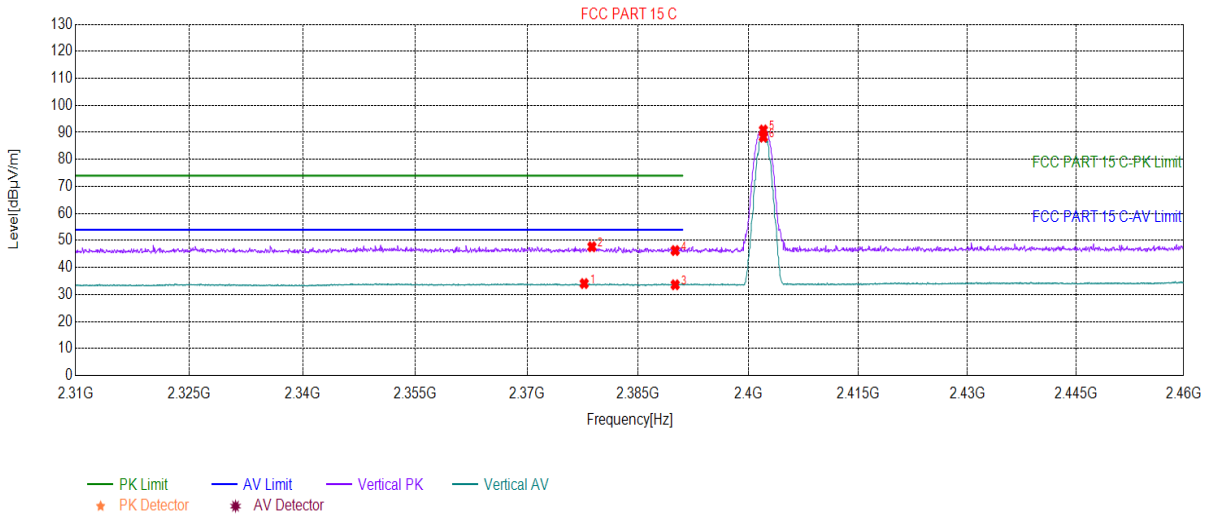
Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2377.30	48.24	7.97	74.00	25.76	157	335	Horizontal
2	2378.80	34.00	7.98	54.00	20.00	149	108	Horizontal
3	2390.00	46.65	7.98	74.00	27.35	153	153	Horizontal
4	2390.00	33.84	7.98	54.00	20.16	162	203	Horizontal
5	2402.00	99.94	8.06	0.00	-99.94	168	206	Horizontal
6	2402.00	100.42	8.06	0.00	-100.42	159	206	Horizontal

Final Data List

4.10.1.2 BLE 1M_Channel 0 ANT 1

Test Graph



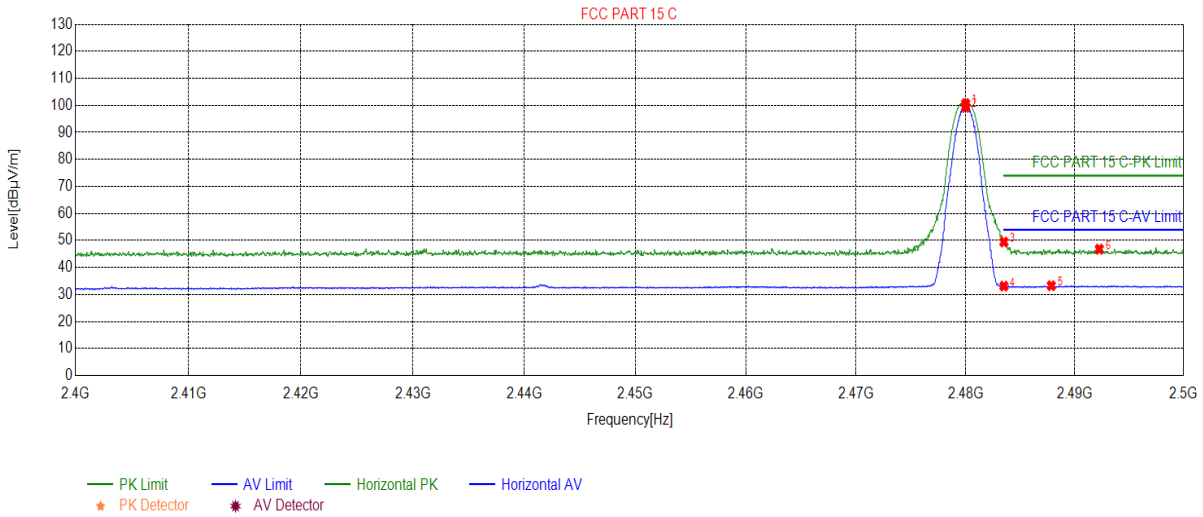
Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2377.68	34.06	7.97	54.00	19.94	211	244	Vertical
2	2378.73	47.68	7.98	74.00	26.32	198	320	Vertical
3	2390.00	33.60	7.98	54.00	20.40	196	316	Vertical
4	2390.00	46.27	7.98	74.00	27.73	187	282	Vertical
5	2402.00	90.88	8.06	0.00	-90.88	205	149	Vertical
6	2402.00	88.25	8.06	0.00	-88.25	209	236	Vertical

Final Data List

4.10.1.3 BLE 1M_Channel 39 ANT 1

Test Graph



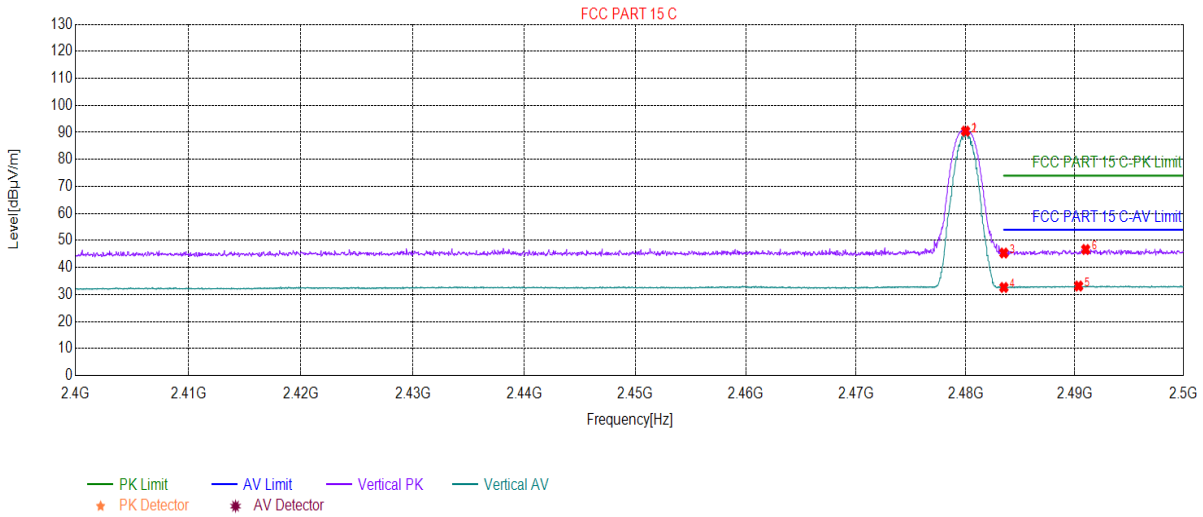
Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2480.00	100.66	8.54	0.00	-100.66	152	207	Horizontal
2	2480.00	99.34	8.54	0.00	-99.34	147	200	Horizontal
3	2483.50	49.44	8.50	74.00	24.56	153	211	Horizontal
4	2483.50	33.11	8.50	54.00	20.89	159	203	Horizontal
5	2487.84	33.26	8.56	54.00	20.74	168	330	Horizontal
6	2492.24	46.80	8.61	74.00	27.20	165	165	Horizontal

Final Data List

4.10.1.4 BLE 1M_Channel 39 ANT 1

Test Graph



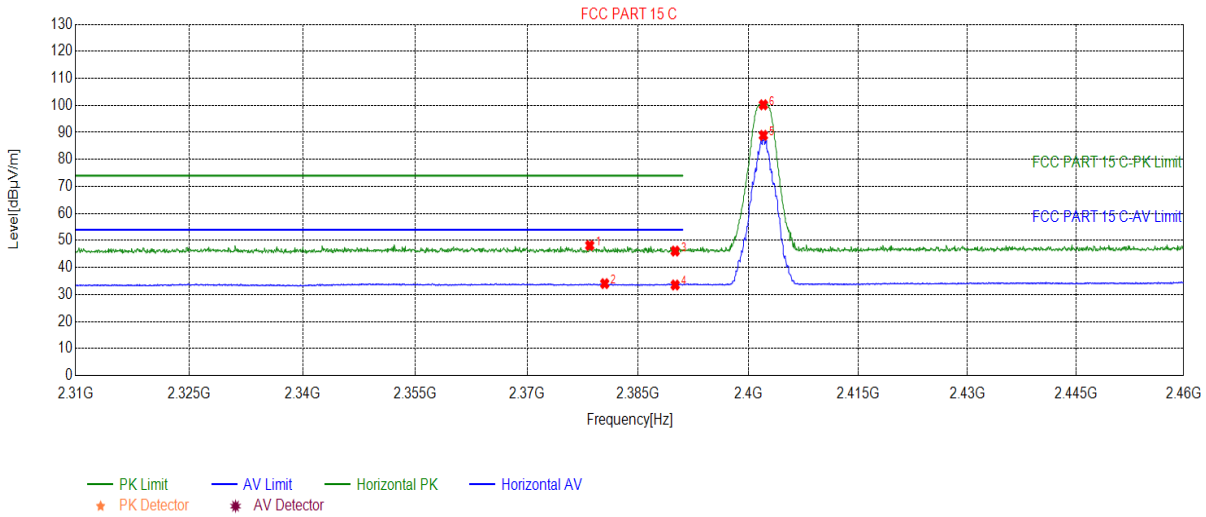
Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2480.00	90.46	8.54	0.00	-90.46	202	150	Vertical
2	2480.00	89.95	8.54	0.00	-89.95	187	153	Vertical
3	2483.50	45.35	8.50	74.00	28.65	185	29	Vertical
4	2483.50	32.61	8.50	54.00	21.39	195	346	Vertical
5	2490.34	33.13	8.62	54.00	20.87	198	161	Vertical
6	2490.99	46.66	8.62	74.00	27.34	208	100	Vertical

Final Data List

4.10.1.5 BLE 2M_Channel 0 ANT 1

Test Graph



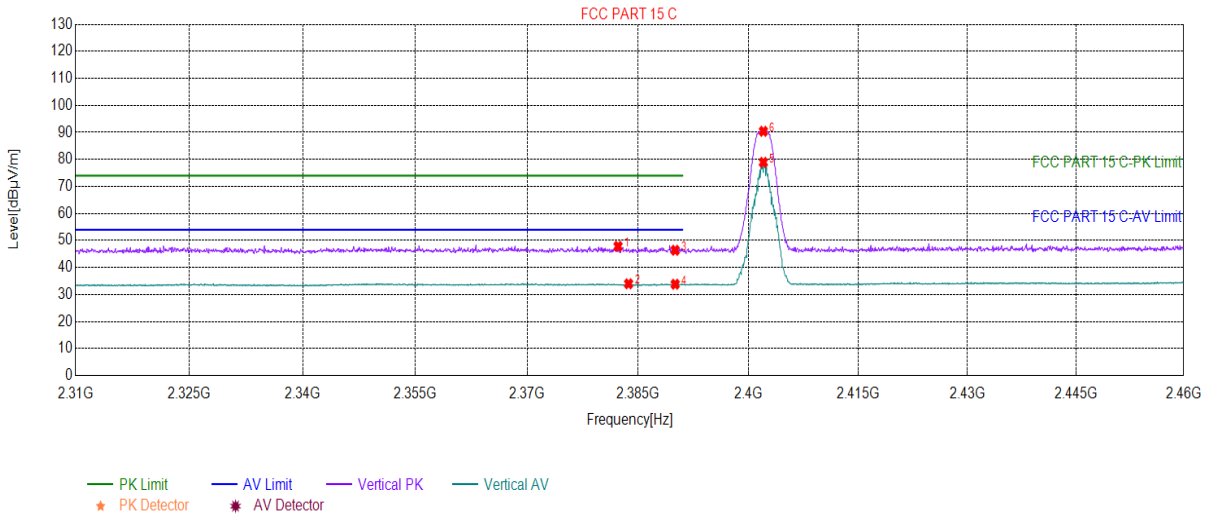
Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2378.43	48.15	7.98	74.00	25.85	157	251	Horizontal
2	2380.46	34.03	7.98	54.00	19.97	162	289	Horizontal
3	2390.00	46.07	7.98	74.00	27.93	148	322	Horizontal
4	2390.00	33.52	7.98	54.00	20.48	142	289	Horizontal
5	2402.00	88.88	8.06	0.00	-88.88	151	209	Horizontal
6	2402.00	100.22	8.06	0.00	-100.22	155	209	Horizontal

Final Data List

4.10.1.6 BLE 2M_Channel 0 ANT 1

Test Graph



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2382.26	47.84	7.92	74.00	26.16	203	35	Vertical
2	2383.68	33.97	7.87	54.00	20.03	196	176	Vertical
3	2390.00	46.38	7.98	74.00	27.62	187	343	Vertical
4	2390.00	33.81	7.98	54.00	20.19	181	164	Vertical
5	2402.00	78.92	8.06	0.00	-78.92	211	160	Vertical
6	2402.00	90.41	8.06	0.00	-90.41	216	149	Vertical

Final Data List

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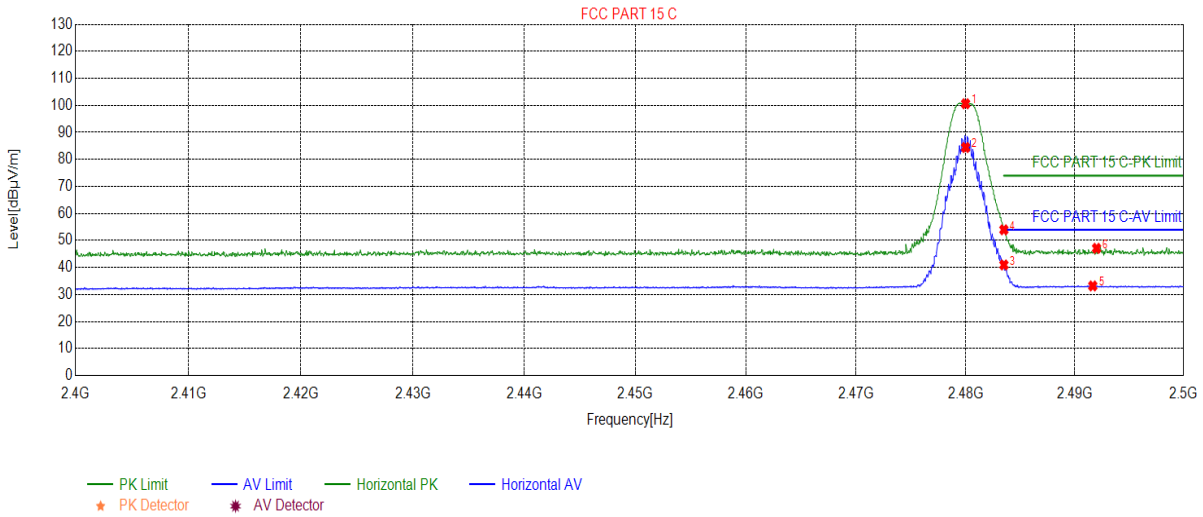
4.10.1.7 BLE 2M_Channel 39 ANT 1

Test Graph



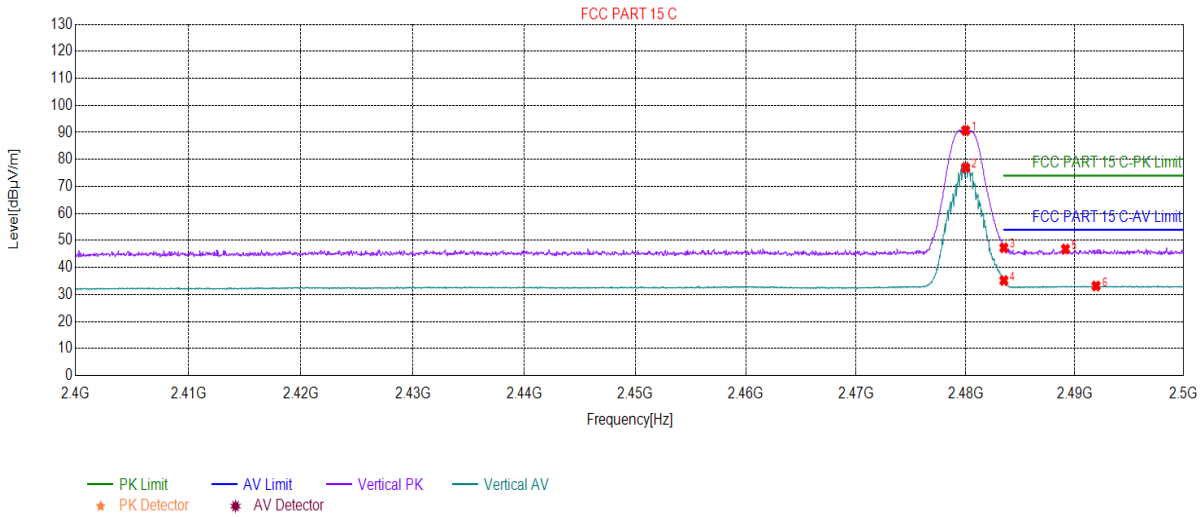
Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2480.00	100.60	8.54	0.00	-100.60	157	210	Horizontal
2	2480.00	84.42	8.54	0.00	-84.42	162	66	Horizontal
3	2483.50	40.95	8.50	54.00	13.05	148	202	Horizontal
4	2483.50	53.96	8.50	74.00	20.04	142	210	Horizontal
5	2491.64	33.18	8.61	54.00	20.82	152	25	Horizontal
6	2491.99	47.10	8.61	74.00	26.90	168	14	Horizontal

Final Data List

4.10.1.8 BLE 2M_Channel 39 ANT 1

Test Graph



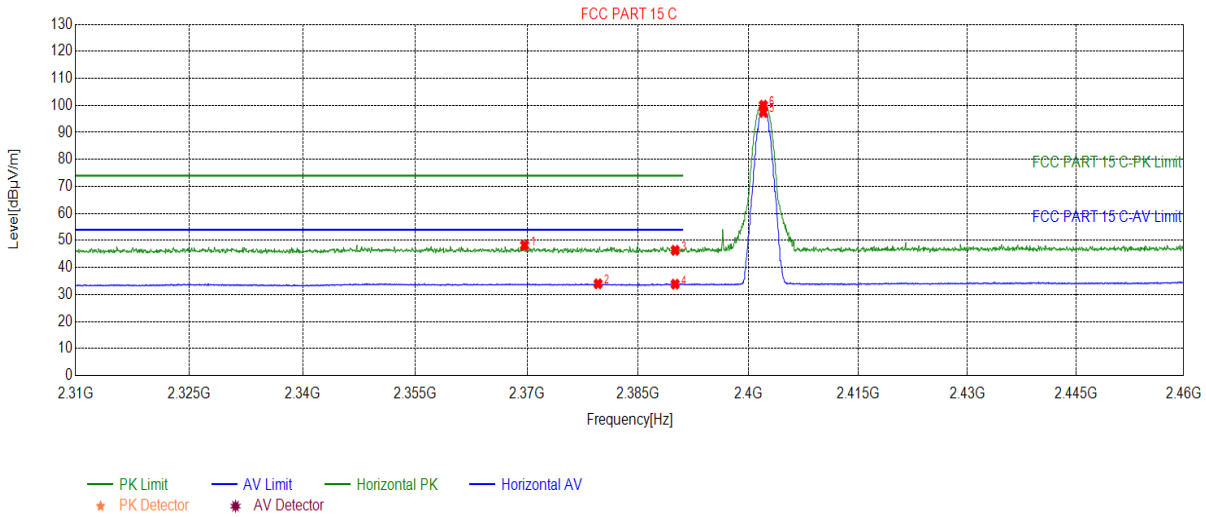
Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2480.00	90.69	8.54	0.00	-90.69	213	165	Vertical
2	2480.00	76.91	8.54	0.00	-76.91	196	59	Vertical
3	2483.50	47.29	8.50	74.00	26.71	206	173	Vertical
4	2483.50	35.18	8.50	54.00	18.82	186	169	Vertical
5	2489.14	46.82	8.60	74.00	27.18	195	184	Vertical
6	2491.94	33.14	8.61	54.00	20.86	204	22	Vertical

Final Data List

4.10.1.9 BLE 1M_Channel 0 ANT 2

Test Graph



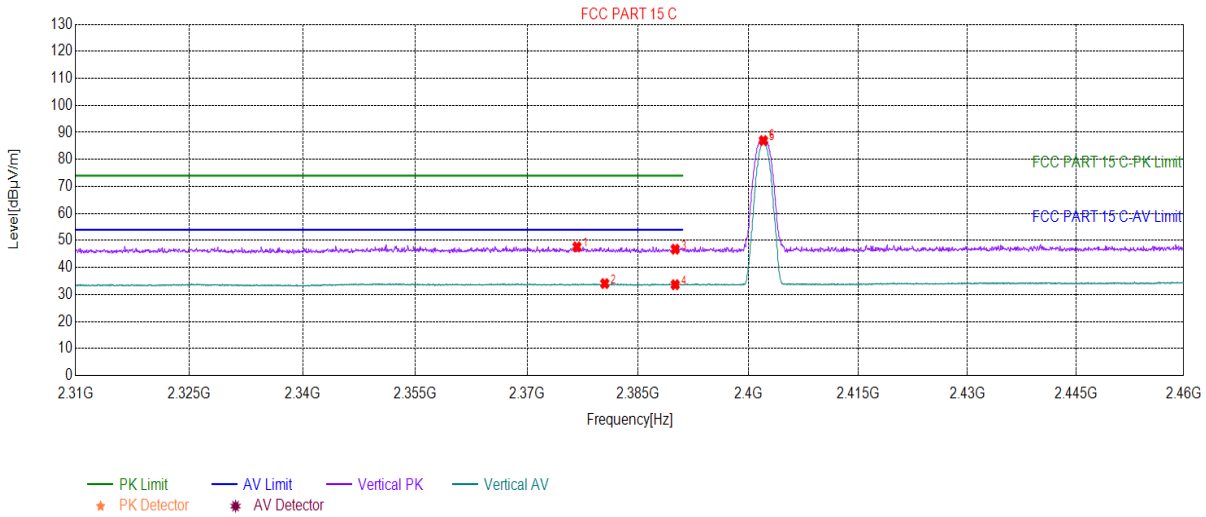
Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2369.65	48.25	8.09	74.00	25.75	148	241	Horizontal
2	2379.55	33.95	7.99	54.00	20.05	156	316	Horizontal
3	2390.00	46.36	7.98	74.00	27.64	142	241	Horizontal
4	2390.00	33.83	7.98	54.00	20.17	152	56	Horizontal
5	2402.00	97.46	8.06	0.00	-97.46	157	143	Horizontal
6	2402.00	100.06	8.06	0.00	-100.06	162	64	Horizontal

Final Data List

4.10.1.10 BLE 1M_Channel 0 ANT 2

Test Graph



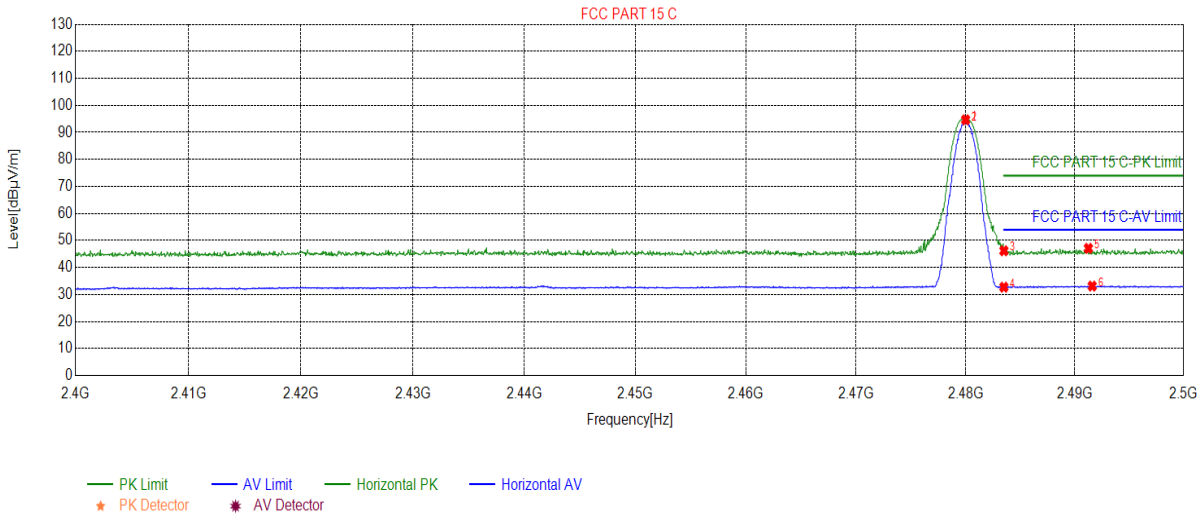
Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2376.70	47.65	7.96	74.00	26.35	204	90	Vertical
2	2380.46	34.05	7.98	54.00	19.95	201	113	Vertical
3	2390.00	46.77	7.98	74.00	27.23	194	1	Vertical
4	2390.00	33.63	7.98	54.00	20.37	191	0	Vertical
5	2402.00	86.97	8.06	0.00	-86.97	187	121	Vertical
6	2402.00	87.77	8.06	0.00	-87.77	189	166	Vertical

Final Data List

4.10.1.11 BLE 1M_Channel 39 ANT 2

Test Graph



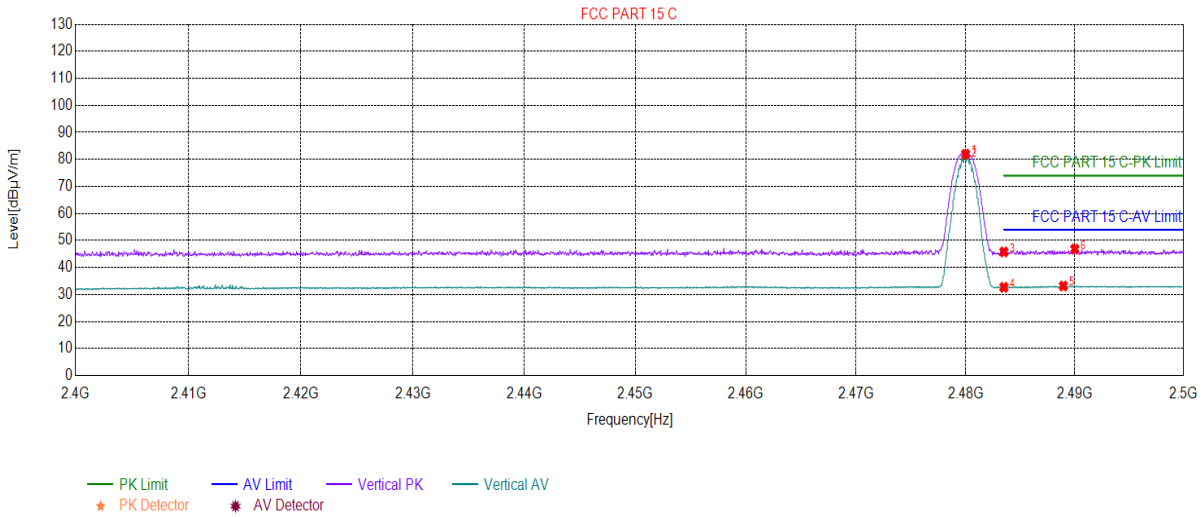
Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2480.00	94.67	8.54	0.00	-94.67	151	70	Horizontal
2	2480.00	94.18	8.54	0.00	-94.18	158	70	Horizontal
3	2483.50	46.19	8.50	74.00	27.81	145	66	Horizontal
4	2483.50	32.72	8.50	54.00	21.28	142	360	Horizontal
5	2491.24	47.09	8.61	74.00	26.91	149	158	Horizontal
6	2491.59	33.11	8.61	54.00	20.89	162	131	Horizontal

Final Data List

4.10.1.12 BLE 1M_Channel 39 ANT 2

Test Graph



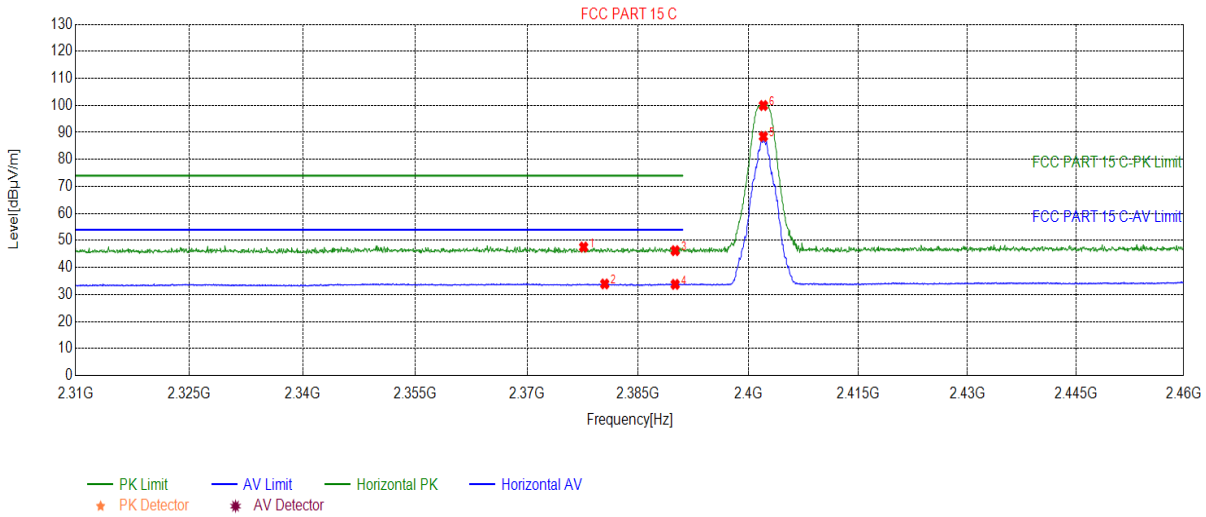
Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2480.00	81.95	8.54	0.00	-81.95	212	150	Vertical
2	2480.00	80.81	8.54	0.00	-80.81	201	146	Vertical
3	2483.50	45.76	8.50	74.00	28.24	198	123	Vertical
4	2483.50	32.67	8.50	54.00	21.33	178	104	Vertical
5	2488.94	33.16	8.59	54.00	20.84	182	188	Vertical
6	2489.99	46.82	8.62	74.00	27.18	186	343	Vertical

Final Data List

4.10.1.13 BLE 2M_Channel 0 ANT 2

Test Graph



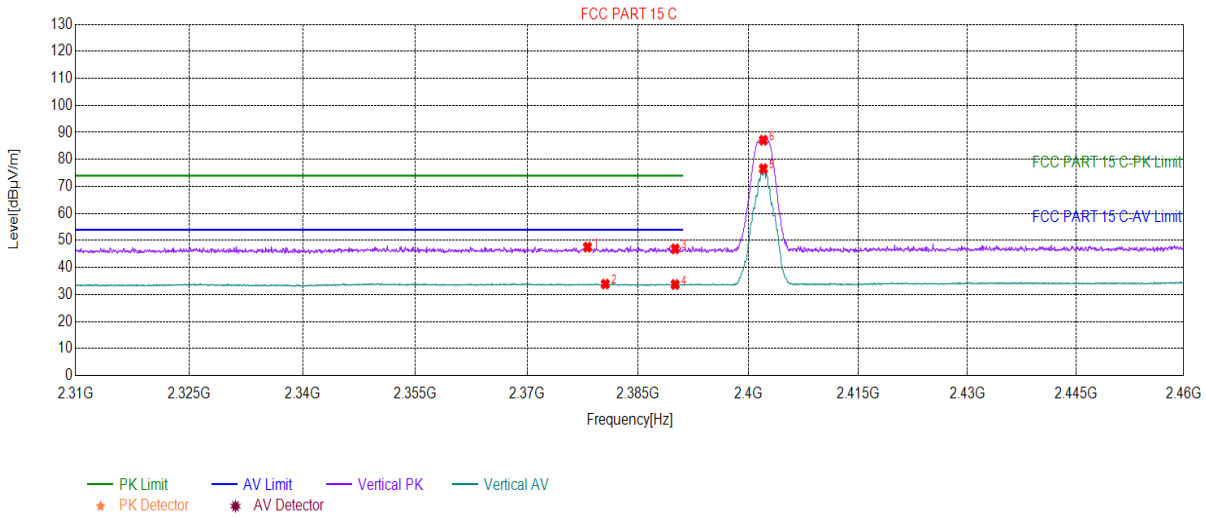
Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2377.60	47.56	7.97	74.00	26.44	148	47	Horizontal
2	2380.46	33.90	7.98	54.00	20.10	156	217	Horizontal
3	2390.00	46.22	7.98	74.00	27.78	152	47	Horizontal
4	2390.00	33.75	7.98	54.00	20.25	162	315	Horizontal
5	2402.00	88.48	8.06	0.00	-88.48	169	59	Horizontal
6	2402.00	99.95	8.06	0.00	-99.95	145	63	Horizontal

Final Data List

4.10.1.14 BLE 2M_Channel 0 ANT 2

Test Graph



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2378.13	47.55	7.98	74.00	26.45	203	97	Vertical
2	2380.53	33.87	7.98	54.00	20.13	211	7	Vertical
3	2390.00	46.89	7.98	74.00	27.11	198	90	Vertical
4	2390.00	33.70	7.98	54.00	20.30	189	252	Vertical
5	2402.00	76.53	8.06	0.00	-76.53	182	146	Vertical
6	2402.00	87.10	8.06	0.00	-87.10	208	154	Vertical

Final Data List

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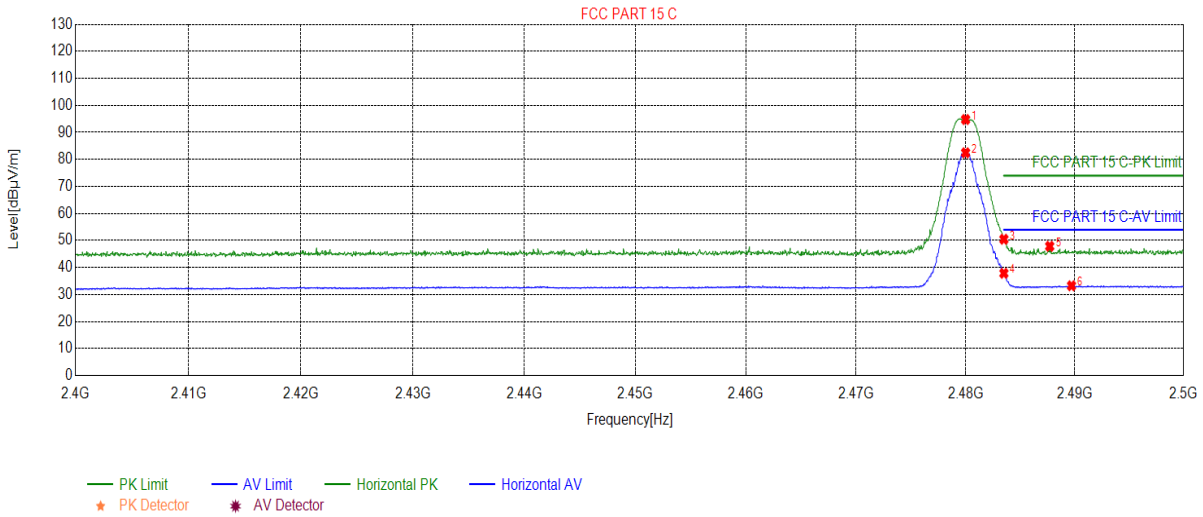
4.10.1.15 BLE 2M_Channel 39 ANT 2

Test Graph



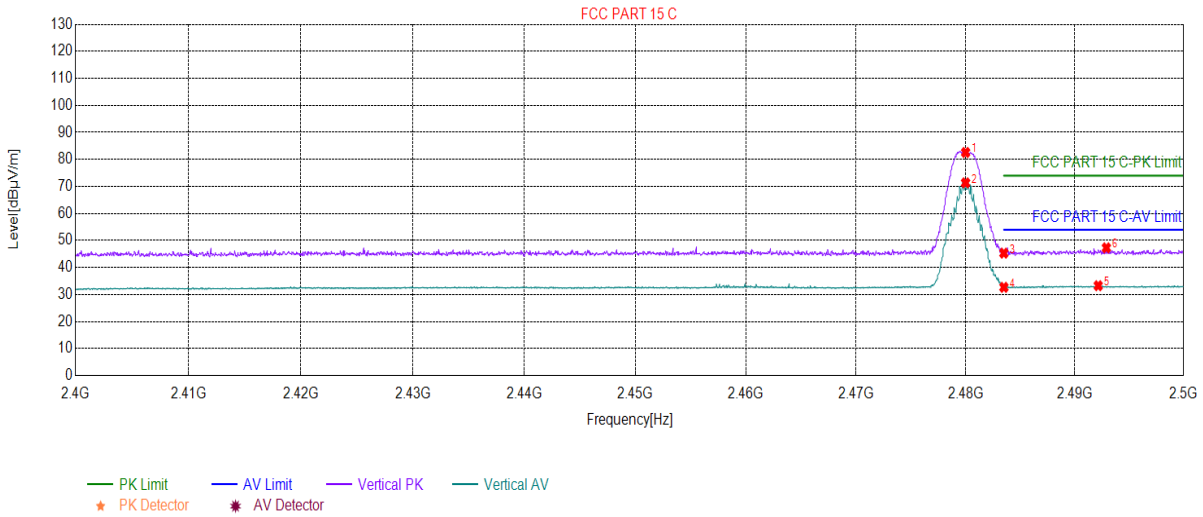
Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2480.00	94.77	8.54	0.00	-94.77	156	59	Horizontal
2	2480.00	82.47	8.54	0.00	-82.47	162	145	Horizontal
3	2483.50	50.45	8.50	74.00	23.55	149	67	Horizontal
4	2483.50	37.86	8.50	54.00	16.14	168	145	Horizontal
5	2487.69	47.85	8.56	74.00	26.15	158	14	Horizontal
6	2489.69	33.24	8.61	54.00	20.76	151	217	Horizontal

Final Data List

4.10.1.16 BLE 2M_Channel 39 ANT 2

Test Graph



Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2480.00	82.58	8.54	0.00	-82.58	204	149	Vertical
2	2480.00	71.33	8.54	0.00	-71.33	201	157	Vertical
3	2483.50	45.30	8.50	74.00	28.70	197	9	Vertical
4	2483.50	32.67	8.50	54.00	21.33	192	164	Vertical
5	2492.14	33.26	8.61	54.00	20.74	186	343	Vertical
6	2492.89	47.28	8.60	74.00	26.72	181	20	Vertical

Final Data List

Remark:
The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:
Final Test Level =Receiver Reading + Antenna Factor + Cable Factor – Preamplifier Factor
All Modes have been tested, but only the worst case data displayed in this report.

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

Lab A:

No.	Item	Measurement Uncertainty
1	Total RF power, conducted	±0.75dB
2	RF power density, conducted	±2.84dB
3	Spurious emissions, conducted	±0.75dB
4	Temperature test	±1°C
5	Humidity test	±3%
6	DC and low frequency voltages	±0.5%

Lab B:

No.	Item	Measurement Uncertainty
1	Radiated Spurious emission test	±4.8dB (30MHz-1GHz)
		±5.2dB (1GHz-6GHz)
		±5.5dB (6GHz-18GHz)
		±5.02dB (18GHz-40GHz)
2	Conduct emission test	±3.4 dB (9KHz- 30MHz)

6 Equipment List

RF conducted test					
Test Equipment	Manufacturer	Model No.	Inventory No	Cal. date (yyyy-mm-dd)	Cal.Duedate (yyyy-mm-dd)
DC Power Supply	Agilent Technologie Inc	66311B	W009-09	2020/7/15	2021/7/15
Signal Analyzer	Rohde & Schwarz	FSV	W025-05	2021/1/3	2022/1/2
				2020/1/4	2021/1/3
Coaxial Cable	SGS	N/A	SEM031-01	2020/6/12	2021/6/11
Attenuator	Weinschel Associates	WA41	SEM021-09	N/A	N/A
Signal Generator	KEYSIGHT	N5173B	SEM006-05	2020/7/14	2021/7/14
Temperature Chamber	GIANT FORCE	ICT-150-40-CP AR	W027-03	2020/10/27	2021/10/27
Power Meter	Rohde & Schwarz	NRVS	SEM014-02	2020/7/14	2021/7/14

RSE&RE&CE Test System					
Equipment	**Manufacturer**	**Model No.**	**Cal Date**	**Cal Due Date**	**Inventory No.**
Semi-Anechoic Chamber	Brilliant-emc	966	NCR	NCR	XAW03-35-01
MXA signal analyzer	Keysight	N9020A	2020-04-02	2021-04-02	XAW01-06-01
Radio communication analyzer	ROHDE&SCHWARZ	CMW 500	2020-04-02	2021-04-02	XAW01-03-02
Test receiver	ROHDE&SCHWARZ	ESR	2020-09-11	2021-09-10	XAW01-08-01
Receiving antenna	Rosenberger	VULB 9163	2019-10-13	2021-10-12	XAW01-09-01
Receiving antenna	Rosenberger	BBHA 9120D	2019-10-13	2021-10-12	XAW01-09-02
Receiving antenna	Rosenberger	BBHA 9170	2019-10-13	2021-10-12	XAW01-09-03
Directional antenna rack controller	Max-Full	MF-7802BS	NCR	NCR	XAW03-03-01
High-speed antenna rack controller	Max-Full	MF-7802	NCR	NCR	XAW03-04-01
Filter bank	Tonscend	JS0806-F	NCR	NCR	XAW03-05-01
Filter bank	Tonscend	JS0806s	NCR	NCR	XAW03-05-02
Amplifier	Tonscend	TAP00903040	2020-10-26	2021-10-25	XAW01-41-01
Amplifier	Tonscend	TAP01018048	2020-10-26	2021-10-25	XAW01-41-02
Amplifier	Tonscend	TAP18040048	2020-10-26	2021-10-25	XAW01-41-03
Amplifier	Shanghai Steed	YX28980930	2020-10-26	2021-10-25	XAW01-41-06
Artificial network	ROHDE&SCHWARZ	ENV216	2020-08-04	2021-08-03	XAW01-19-02
Temperature and humidity meter	MingGao	TH101B	2020-06-11	2021-05-11	XAW01-01-01
Measurement Software	Tonscend	TS+ RSE&RE	NCR	NCR	XAW02-05-01
Measurement Software	Tonscend	TS+ CE	NCR	NCR	XAW02-05-02

7 Photographs - EUT Constructional Details

Refer to DTS Setup Photos.

The End

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