

Test Report

Report No. : CQASZ20220100049E-01
Applicant: Lightcomm Technology Co., Ltd.
Address of Applicant: UNIT 1306 13/F ARION COMMERCIAL CENTRE, 2-12 QUEEN'S ROAD WEST, SHEUNG WAN HK
Manufacturer: Huizhou Hengdu Electronics Co., Ltd.
Address of Manufacturer: No.8 Huitai Road, Huinan High-tech Industrial Park, Huiao Avenue, Huizhou, Guangdong, China
Factory: Huizhou Hengdu Electronics Co., Ltd.
Address of Factory: No.8 Huitai Road, Huinan High-tech Industrial Park, Huiao Avenue, Huizhou, Guangdong, China
Equipment Under Test (EUT):
Product: Car Multimedia System
Model No.: CVD1506-SD
Brand Name: N/A
FCC ID: XMF-CVD1506
Standards: 47 CFR Part 15, Subpart C
Date of Test: 2021-12-28 to 2022-01-10
Date of Issue: 2022-01-19
Test Result : PASS*

Tested By:

Lewis Zhou

(Lewis Zhou)

Reviewed By:

Rock Huang

(Rock Huang)

Approved By:

Jack ai

(Jack ai)



1 Version

Revision History Of Report

Report No.	Version	Description	Issue Date
CQASZ20220100049E-01	Rev.01	Initial report	2022-01-19

2 Test Summary

Test Item	Test Requirement	Test method	Result
Antenna Requirement	47 CFR Part 15, Subpart C Section 15.203/15.247 (c)	ANSI C63.10 (2013)	PASS
AC Power Line Conducted Emission	47 CFR Part 15, Subpart C Section 15.207	ANSI C63.10 (2013)	N/A
Conducted Peak Output Power	47 CFR Part 15, Subpart C Section 15.247 (b)(1)	ANSI C63.10 (2013)	PASS
20dB Occupied Bandwidth	47 CFR Part 15, Subpart C Section 15.247 (a)(1)	ANSI C63.10 (2013)	PASS
Carrier Frequencies Separation	47 CFR Part 15, Subpart C Section 15.247 (a)(1)	ANSI C63.10 (2013)	PASS
Hopping Channel Number	47 CFR Part 15, Subpart C Section 15.247 (a)(1)	ANSI C63.10 (2013)	PASS
Dwell Time	47 CFR Part 15, Subpart C Section 15.247 (a)(1)	ANSI C63.10 (2013)	PASS
Band Edge Compliance	47 CFR Part 15, Subpart C Section 15.247(d)	ANSI C63.10 (2013)	PASS
Radiated Spurious emissions	47 CFR Part 15, Subpart C Section 15.205/15.209	ANSI C63.10 (2013)	PASS
Note: 15.207 only signals conducted onto the AC power lines are required to be measured. The equipment is only DC power supply, so "Power Line Conducted Emissions" is not required.			

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4 General Information

4.1 Client Information

Applicant:	Lightcomm Technology Co., Ltd.
Address of Applicant:	UNIT 1306 13/F ARION COMMERCIAL CENTRE,2-12 QUEEN'S ROAD WEST,SHEUNG WAN HK
Manufacturer:	Huizhou Hengdu Electronics Co.,Ltd.
Address of Manufacturer:	No.8 Huitai Road,Huinan High-tech Industrial Park,Huiao Avenue,Huizhou,Guangdong,China
Factory:	Huizhou Hengdu Electronics Co.,Ltd.
Address of Factory:	No.8 Huitai Road,Huinan High-tech Industrial Park,Huiao Avenue,Huizhou,Guangdong,China

4.2 General Description of EUT

Product Name:	Car Multimedia System
Model No.:	CVD1506-SD
Series Model:	BVCP9690A,BV900ACP,P9950CPA,P62CP,BE62CP,BCP62,DDCP62,DDCP62-R,BV800ACP, BVCP9685A,P9900CPA ,P9900CPAP,DD988ACP ,MRCP9685A,BE7ACP,P70CPA,P70CPAP, BVCP9700A-MR,BVCP9700A,DD7CPA,BE7ACP-FT,BE7ACP-SD,BVCP9700A-FL,P70CPA-F, P70CPA-PF,DD7CPA-S,BE8ACP,BCPA8,P80CPA,P80CPAP,SDML8ACP,BE9ACP,BCPA9, P90CPA,P90CPAP,SDML9ACP,BE10ACP,BCPA10,P100CPA,P100CPAP,SDML10ACP, BE11ACP,BCPA11,P110CPA,P110CPAP,SDML11ACP,BE13ACP,BCPA13,P130CPA, P130CPAP,SDML13ACP,BECA9W,PWCPA9P,DS9ACPW,BVCPA9W,PWCPA9, BECPA10W,PWCPA10P,DS10ACPW,BVCPA10W,PWCPA10,BE8ACPW,BCPA8W,P80CPAW, P80CPAWP,SDML8ACPW,BE920WCPA-FT,BVCP9800W-FL,PCPA650W-F,PCPA650W- FP,DD990ACPW-S,BE920WCPA,PCPA650W,PCPA650WP,BVCP9800W,DD990ACPW, BE945WCPA,BVCP9820W,PCPA660W,PCPA660WP,DD995ACPW,NA3625,NA3625X, NA3625-W6,NA3625X-W6,NA3625-WUX,NA3625X-WUX,CVD6481-SA,CVD6483D-SD, CVD6439-SD,CVD6483C-SD,CVD6483E-SD,CVD6472-SD,CVD6472A-SD,CVD7470-SD, CVD7361A-SD,CVD7361-SD,CVS7489-SD,CVS8488-SD,CVD9502-SD,CVD9502W-SD, CVD1506W-SD,CVS8488W-SD,CVS7489W-SD,CVD7470W-SD,CVD7361W-SD, CVD7361AW-SD,CVD6472AW-SD,CVD6472W-SD,CVD6490-SA,CVD6491-SD,CVS1507-SD, CVS1508-SD, CVS1509-SD (All these models are identical with each other except for Brand name and model number.)
Trade Mark:	N/A
Type of Modulation:	Bluetooth 4.1 (GFSK, $\pi/4$ -DQPSK 8DPSK)
Channel Spacing:	1MHz
Operation Frequency:	2402-2480MHz
Antenna Type:	PCB antenna
Antenna:	1.71 dBi gain
Power Supply:	DC 12V

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

Note:

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

Channel	Frequency
The Lowest channel	2402MHz
The Middle channel	2441MHz
The Highest channel	2480MHz

4.3 Additional Instructions

EUT Test Software Settings:		
Mode:	☒ Special software is used. ☐ Through engineering command into the engineering mode. engineering command: *##3646633##*	
Use test software to set the lowest frequency, the middle frequency and the highest frequency keep transmitting of the EUT.		
Mode	Channel	Frequency(MHz)
DH1/DH3/DH5	CH0	2402
	CH39	2441
	CH78	2480
2DH1/2DH3/2DH5	CH0	2402
	CH39	2441
	CH78	2480
3DH1/3DH3/3DH5	CH0	2402
	CH39	2441
	CH78	2480

Through Pre-scan the DH5 ,2DH5 & 3-DH5 of data type is the GFSK , $\pi/4$ -DQPSK and 8DPSK modulation type. find the DH5 of data type is the worst case of GFSK modulation type, 3-DH5 of data type is the worst case 8DPSK modulation type. Only the worst case is recorded in the report.

4.4 Test Environment

Operating Environment:	
Temperature:	21 °C
Humidity:	51% RH
Atmospheric Pressure:	1009mbar
Test Mode:	Use test software to set the lowest frequency, the middle frequency and the highest frequency keep transmitting of the EUT.
	In radiated measurement, the EUT had been pre-scan on the positioned of each 3 axis(X,Y,Z), the worst case was found when positioned on X-plane.

4.5 Description of Support Units

The EUT has been tested with associated equipment below.

Description	Manufacturer	Model No.	Remark	FCC certification
/	/	/	/	/

4.6 Statement of the measurement uncertainty

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

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

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

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

Hereafter the best measurement capability for CQA laboratory is reported:

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

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

4.7 Test Location

Shenzhen Huaxia Testing Technology Co., Ltd.

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

4.8 Test Facility

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

IC Registration No.: 22984-1

The 3m Semi-anechoic chamber of Shenzhen Huaxia Testing Technology Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing

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

• **CNAS (No. CNAS L5785)**

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

• **A2LA (Certificate No. 4742.01)**

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

• **FCC Registration No.: 522263**

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

4.9 Abnormalities from Standard Conditions

None.

4.10 Other Information Requested by the Customer

None.

4.11 Equipment List

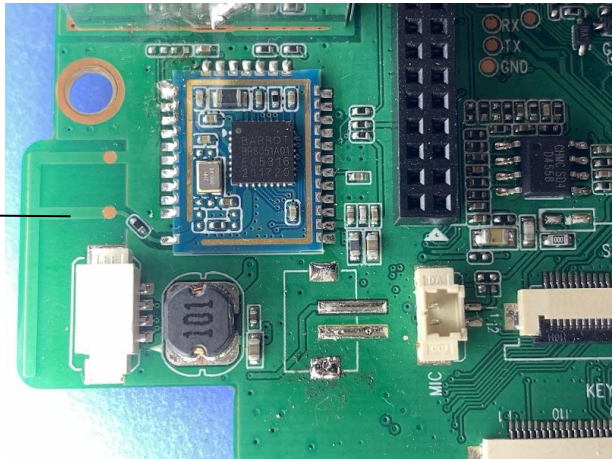
Test Equipment	Manufacturer	Model No.	Instrument No.	Calibration Date	Calibration Due Date
EMI Test Receiver	R&S	ESR7	CQA-005	2021/9/10	2022/9/9
Spectrum analyzer	R&S	FSU26	CQA-038	2021/9/10	2022/9/9
Preamplifier	MITEQ	AFS4-00010300-18-10P-4	CQA-035	2021/9/10	2022/9/9
Preamplifier	MITEQ	AMF-6D-02001800-29-20P	CQA-036	2021/9/10	2022/9/9
Loop antenna	Schwarzbeck	FMZB1516	CQA-087	2021/9/16	2024/9/15
Bilog Antenna	R&S	HL562	CQA-011	2021/9/16	2024/9/15
Horn Antenna	R&S	HF906	CQA-012	2021/9/16	2024/9/15
Horn Antenna	Schwarzbeck	BBHA 9170	CQA-088	2021/9/16	2024/9/15
Coaxial Cable (Above 1GHz)	CQA	N/A	C019	2021/9/10	2022/9/9
Coaxial Cable (Below 1GHz)	CQA	N/A	C020	2021/9/10	2022/9/9
Antenna Connector	CQA	RFC-01	CQA-080	2021/9/10	2022/9/9
RF cable(9KHz~40GHz)	CQA	RF-01	CQA-079	2021/9/10	2022/9/9
Power divider	MIDWEST	PWD-2533-02-SMA-79	CQA-067	2021/9/10	2022/9/9
EMI Test Receiver	R&S	ESPI3	CQA-013	2021/9/10	2022/9/9
LISN	R&S	ENV216	CQA-003	2021/9/10	2022/9/9
Coaxial cable	CQA	N/A	CQA-C009	2021/9/10	2022/9/9

Note:

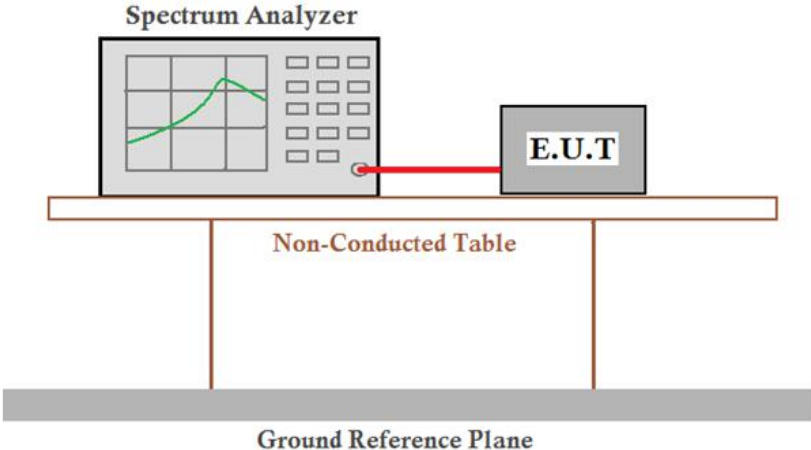
The temporary antenna connector is soldered on the PCB board in order to perform conducted tests and this temporary antenna connector is listed in the equipment list.

5 Test results and Measurement Data

5.1 Antenna Requirement

Standard requirement:	47 CFR Part 15C Section 15.203 /247(c)
15.203 requirement: An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. 15.247(b) (4) requirement: The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.	
EUT Antenna:	
The antenna is a PCB antenna. Antenna Gain : 1.71dBi	

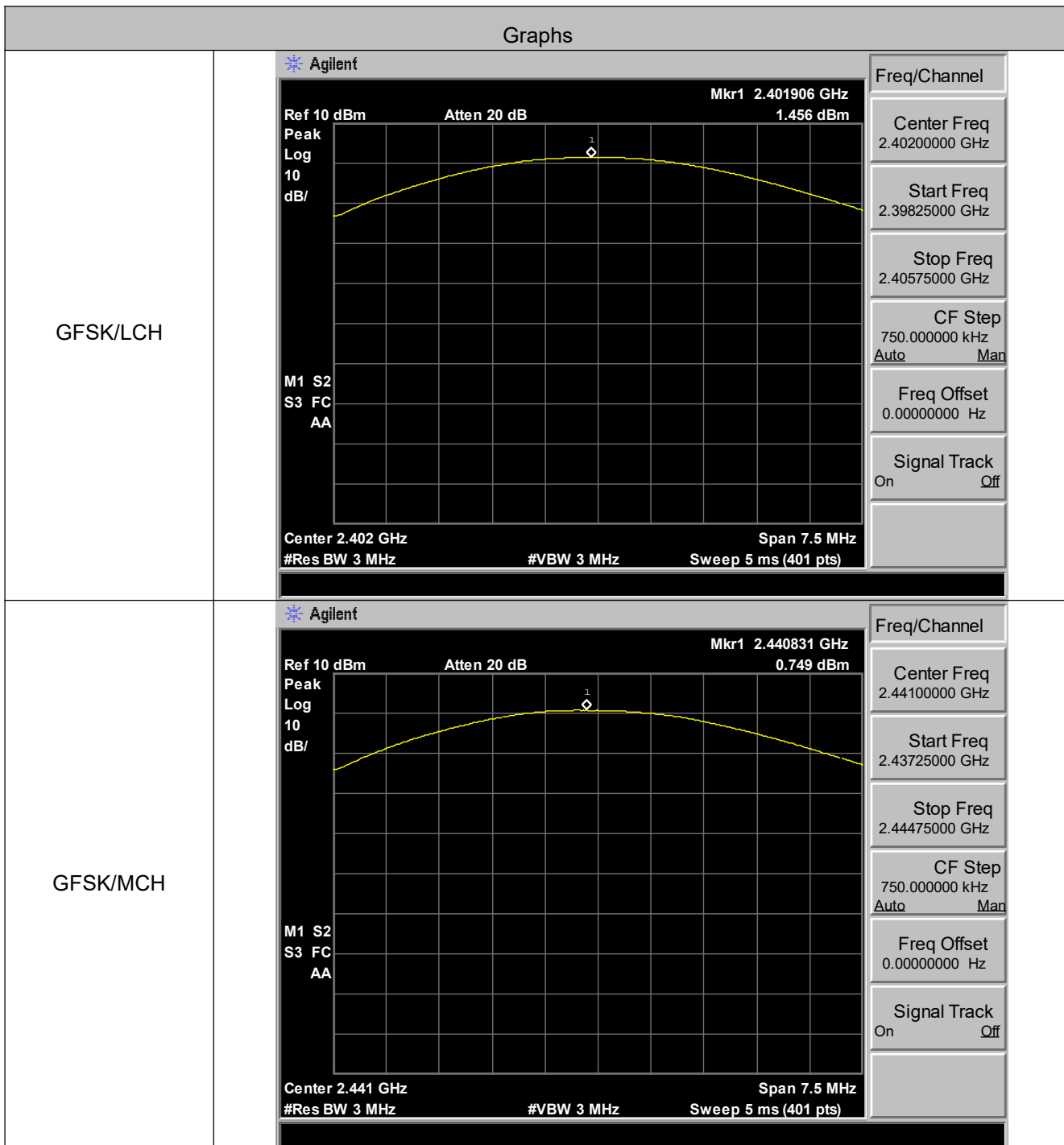
5.2 Conducted Peak Output Power

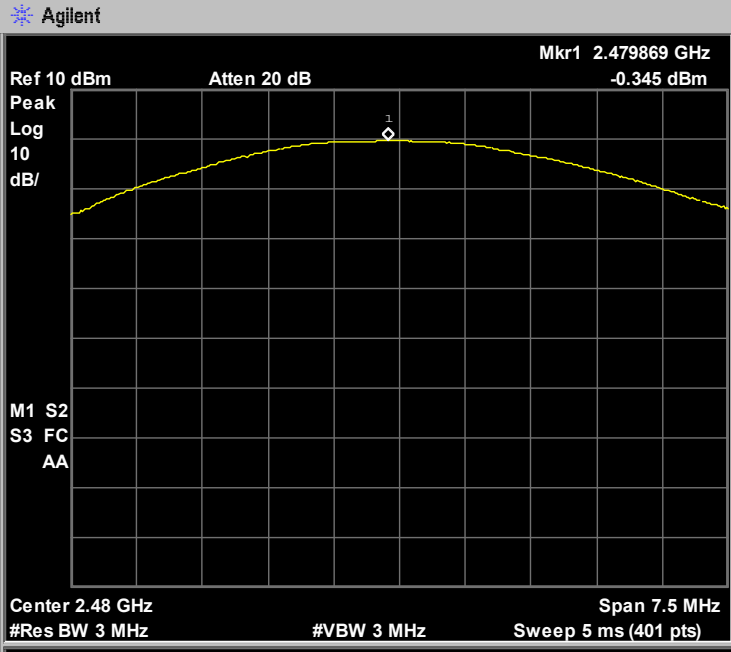
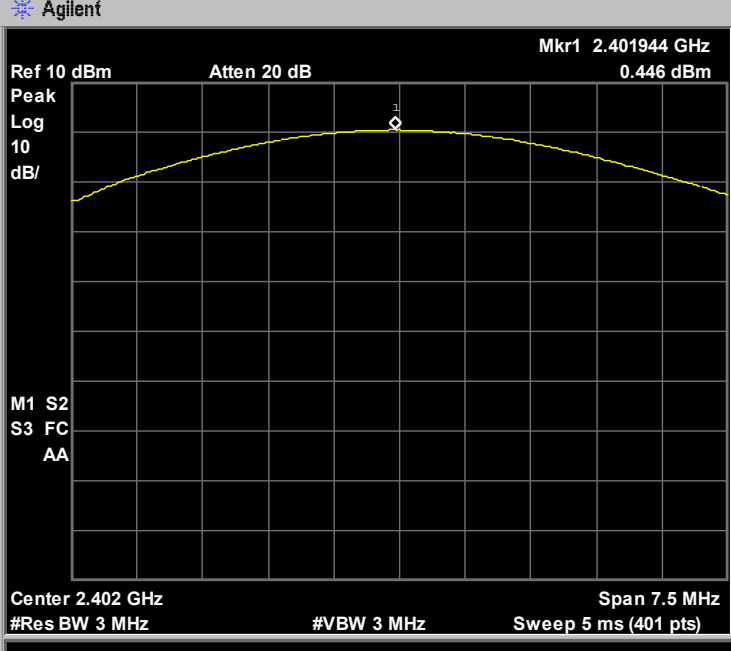
Test Requirement:	47 CFR Part 15C Section 15.247 (b)(1)
Test Method:	ANSI C63.10:2013
Test Setup:	 Remark: Offset=Cable loss+ attenuation factor.
Limit:	21dBm
Exploratory Test Mode:	Non-hopping transmitting with all kind of modulation and all kind of data type
Final Test Mode:	DH5 ,2DH5 & 3-DH5 of data type is the GFSK , $\pi/4$ -DQPSK and 8DPSK modulation type. Only the worst case is recorded in the report.
Test Results:	Pass

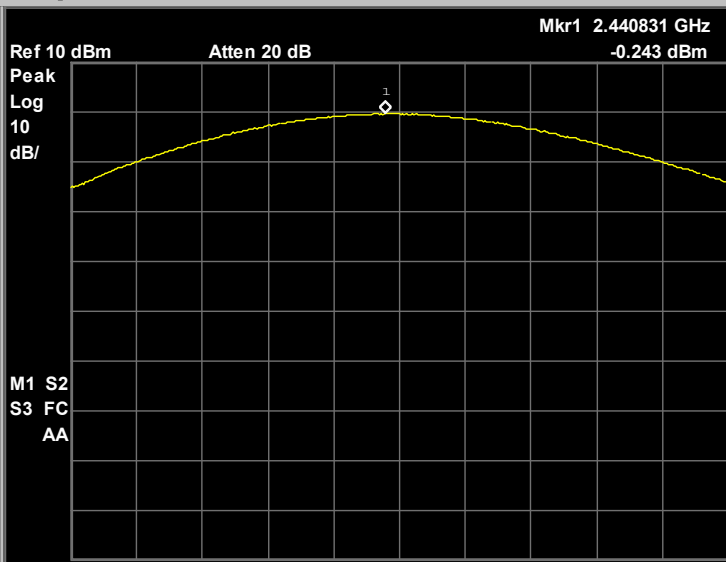
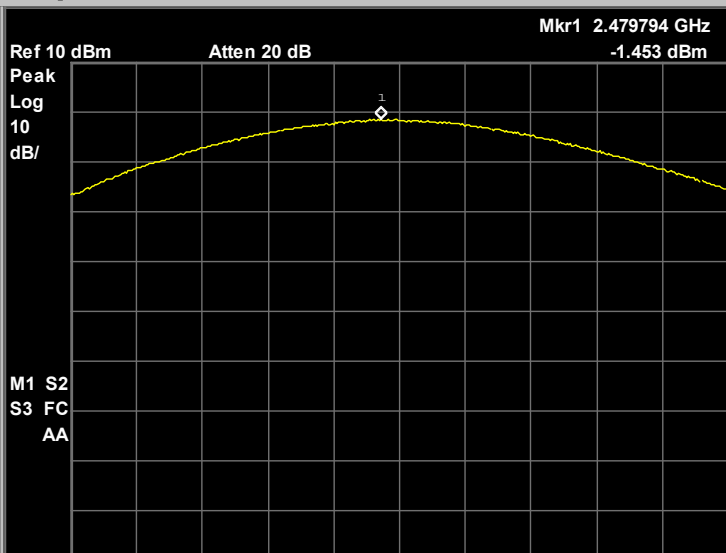
Measurement Data

GFSK mode			
Test channel	Peak Output Power (dBm)	Limit (dBm)	Result
Lowest	1.456	21.00	Pass
Middle	0.749	21.00	Pass
Highest	-0.345	21.00	Pass
8DPSK mode			
Test channel	Peak Output Power (dBm)	Limit (dBm)	Result
Lowest	0.446	21.00	Pass
Middle	-0.243	21.00	Pass
Highest	-1.453	21.00	Pass

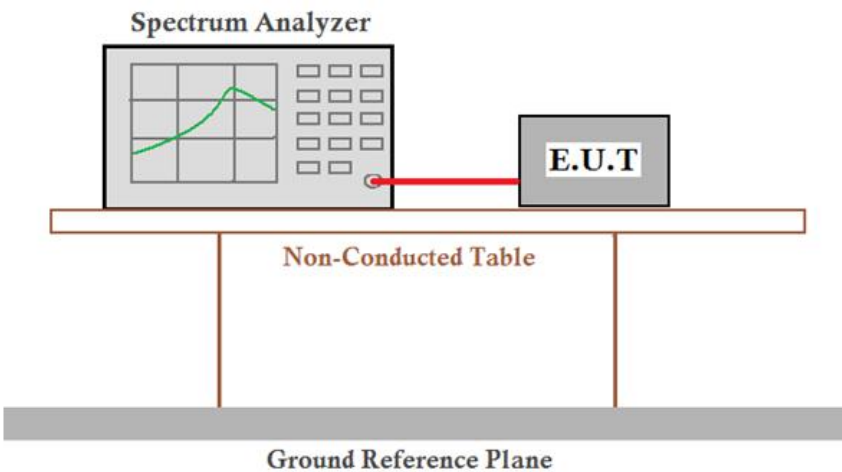
Test plot as follows:



GFSK/HCH	 Freq/Channel Center Freq 2.48000000 GHz Start Freq 2.47625000 GHz Stop Freq 2.48375000 GHz CF Step 750.000000 kHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off
8DPSK/LCH	 Freq/Channel Center Freq 2.40200000 GHz Start Freq 2.39825000 GHz Stop Freq 2.40575000 GHz CF Step 750.000000 kHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off

8DPSK /MCH	 Agilent Ref 10 dBm Atten 20 dB Mkr1 2.440831 GHz -0.243 dBm Center 2.441 GHz Span 7.5 MHz #Res BW 3 MHz #VBW 3 MHz Sweep 5 ms (401 pts) M1 S2 S3 FC AA Freq/Channel Center Freq 2.44100000 GHz Start Freq 2.43725000 GHz Stop Freq 2.44475000 GHz CF Step 750.000000 kHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off
8DPSK /HCH	 Agilent Ref 10 dBm Atten 20 dB Mkr1 2.479794 GHz -1.453 dBm Center 2.48 GHz Span 7.5 MHz #Res BW 3 MHz #VBW 3 MHz Sweep 5 ms (401 pts) M1 S2 S3 FC AA Freq/Channel Center Freq 2.48000000 GHz Start Freq 2.47625000 GHz Stop Freq 2.48375000 GHz CF Step 750.000000 kHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off

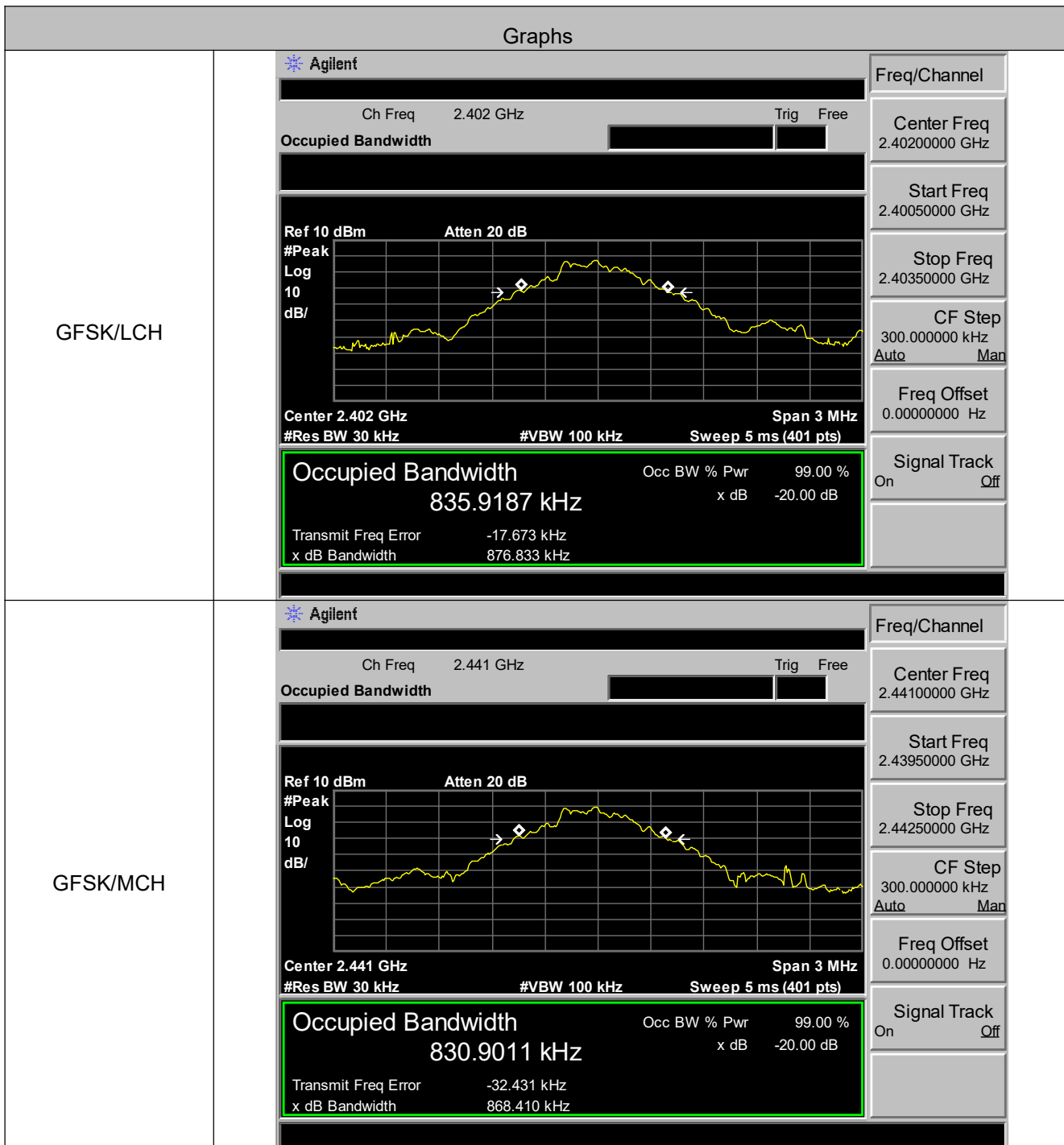
5.3 20dB Occupy Bandwidth

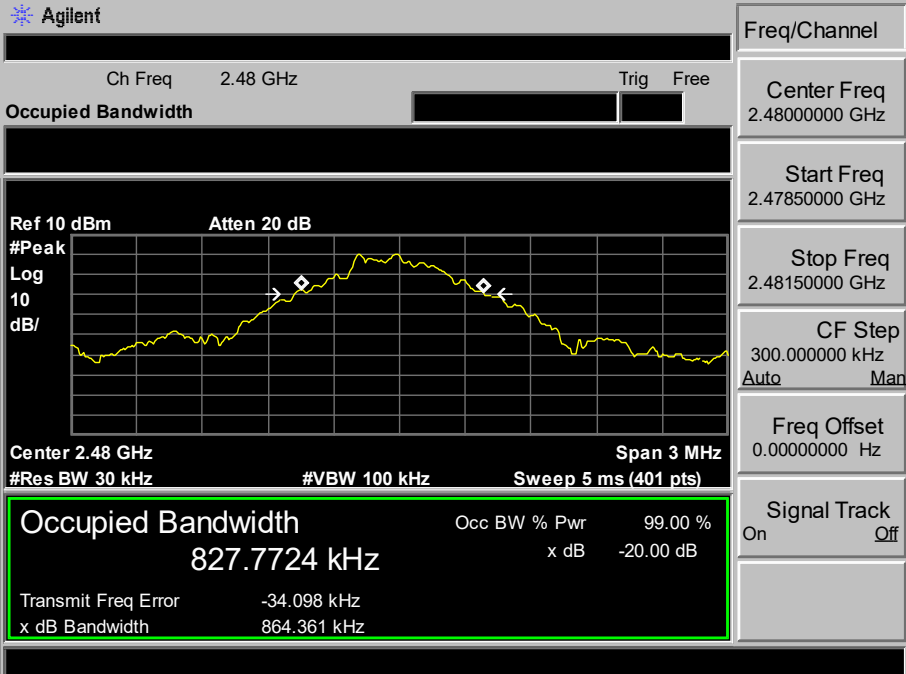
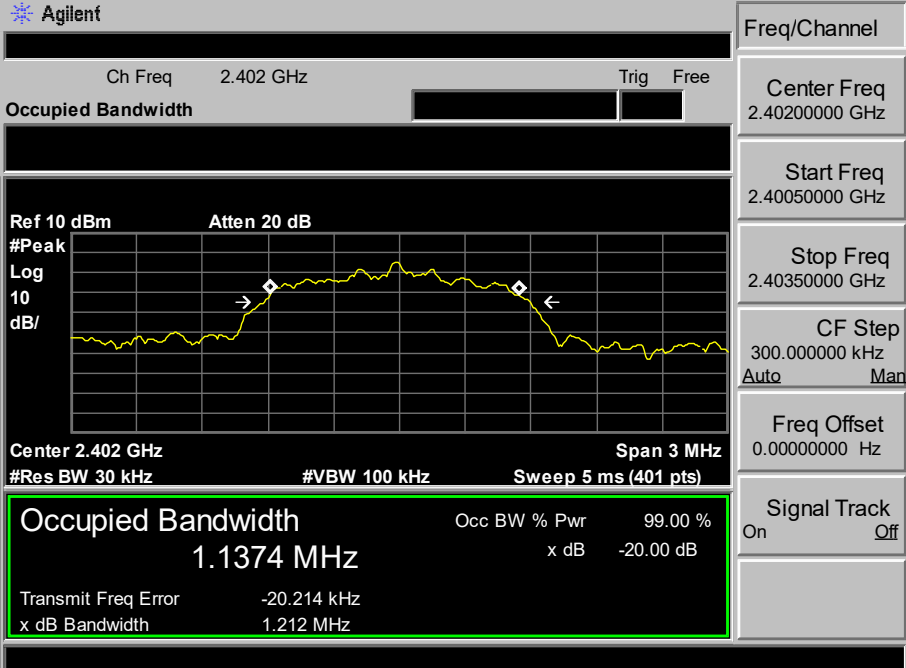
Test Requirement:	47 CFR Part 15C Section 15.247 (a)(1)
Test Method:	ANSI C63.10:2013
Test Setup:	 Remark: Offset=Cable loss+ attenuation factor.
Limit:	NA
Exploratory Test Mode:	Non-hopping transmitting with all kind of modulation and all kind of data type
Final Test Mode:	DH5 ,2DH5 & 3-DH5 of data type is the GFSK , $\pi/4$ -DQPSK and 8DPSK modulation type. Only the worst case is recorded in the report.
Test Results:	Pass

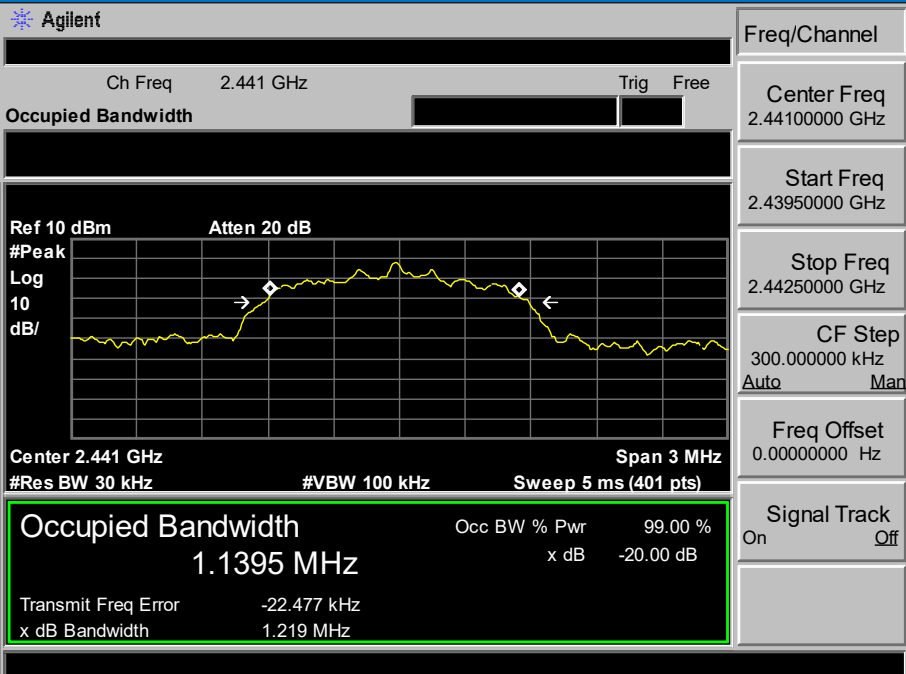
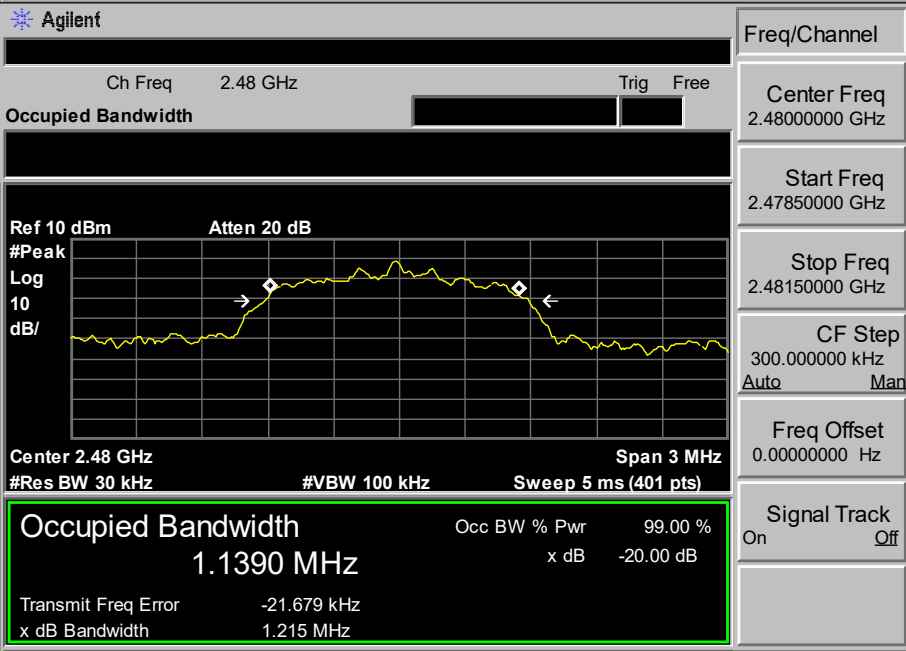
Measurement Data

Test channel	20dB Occupy Bandwidth (MHz)		
	GFSK	8DPSK	Conclusion
Lowest	0.877	1.212	PASS
Middle	0.868	1.219	PASS
Highest	0.864	1.215	PASS

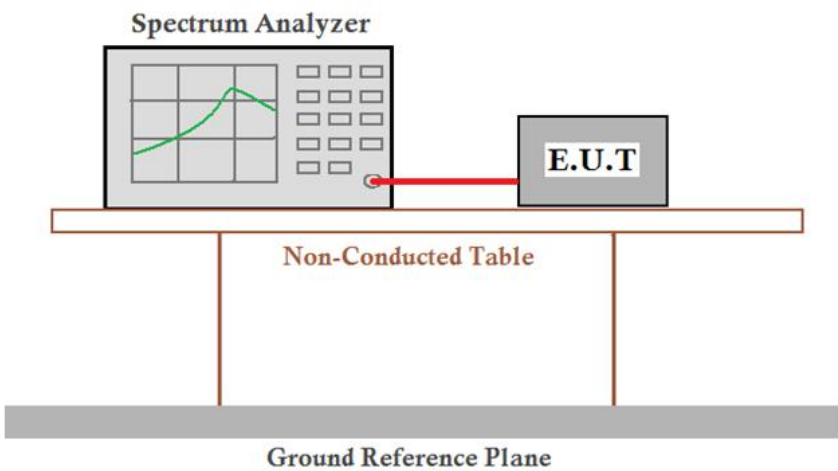
Test plot as follows:



GFSK/HCH	 Agilent Ch Freq 2.48 GHz Trig Free Occupied Bandwidth Ref 10 dBm Atten 20 dB #Peak Log 10 dB/ Center 2.48 GHz Span 3 MHz #Res BW 30 kHz #VBW 100 kHz Sweep 5 ms (401 pts) Occupied Bandwidth 827.7724 kHz Occ BW % Pwr 99.00 % x dB -20.00 dB Transmit Freq Error -34.098 kHz x dB Bandwidth 864.361 kHz Freq/Channel Center Freq 2.48000000 GHz Start Freq 2.47850000 GHz Stop Freq 2.48150000 GHz CF Step 300.000000 kHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off
8DPSK /LCH	 Agilent Ch Freq 2.402 GHz Trig Free Occupied Bandwidth Ref 10 dBm Atten 20 dB #Peak Log 10 dB/ Center 2.402 GHz Span 3 MHz #Res BW 30 kHz #VBW 100 kHz Sweep 5 ms (401 pts) Occupied Bandwidth 1.1374 MHz Occ BW % Pwr 99.00 % x dB -20.00 dB Transmit Freq Error -20.214 kHz x dB Bandwidth 1.212 MHz Freq/Channel Center Freq 2.40200000 GHz Start Freq 2.40050000 GHz Stop Freq 2.40350000 GHz CF Step 300.000000 kHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off

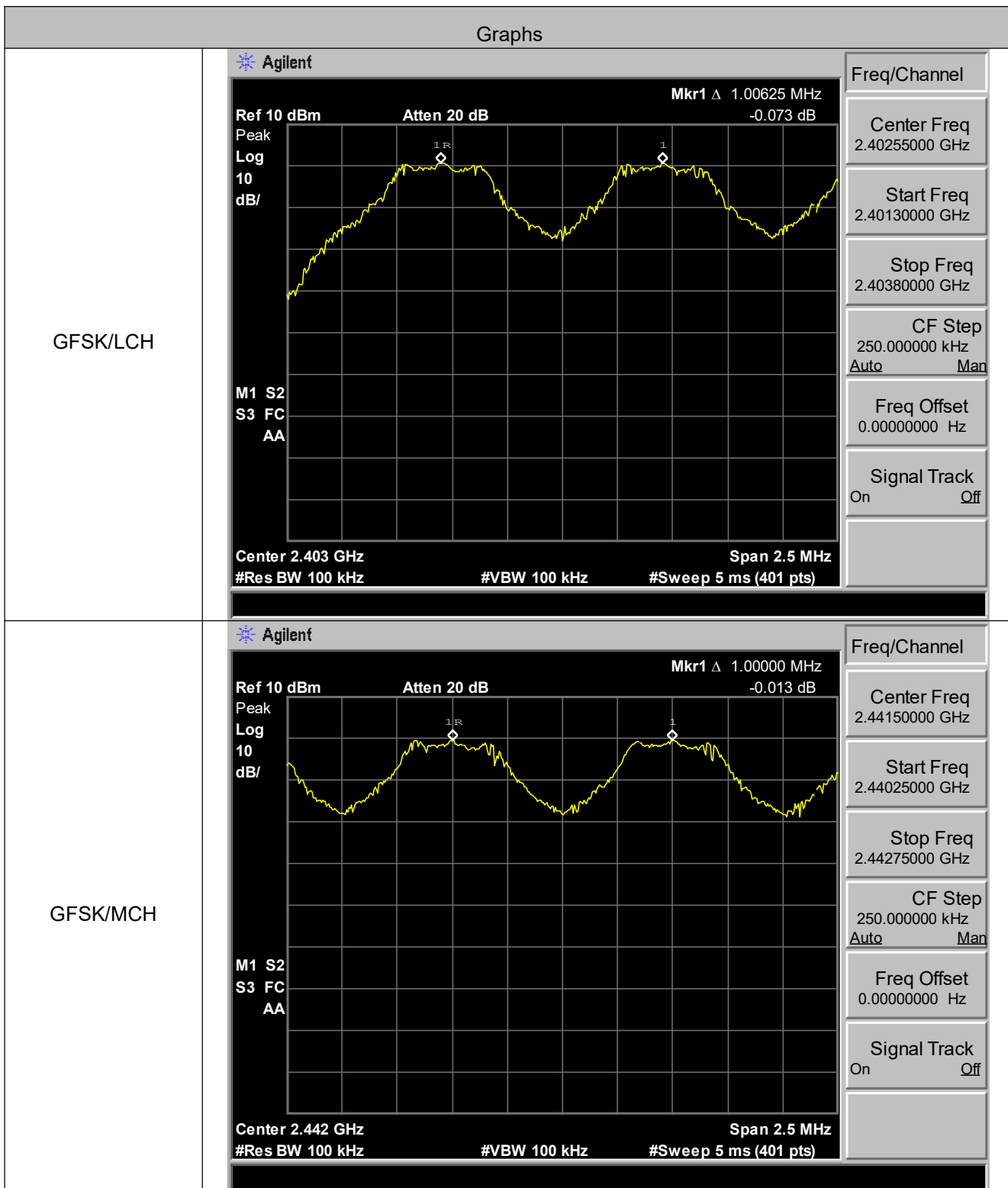
8DPSK /MCH	 Agilent Ch Freq 2.441 GHz Trig Free Occupied Bandwidth Ref 10 dBm Atten 20 dB #Peak Log 10 dB/ Center 2.441 GHz Span 3 MHz #Res BW 30 kHz #VBW 100 kHz Sweep 5 ms (401 pts) Occupied Bandwidth 1.1395 MHz Occ BW % Pwr 99.00 % x dB -20.00 dB Transmit Freq Error -22.477 kHz x dB Bandwidth 1.219 MHz Freq/Channel Center Freq 2.44100000 GHz Start Freq 2.43950000 GHz Stop Freq 2.44250000 GHz CF Step 300.000000 kHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off
8DPSK /HCH	 Agilent Ch Freq 2.48 GHz Trig Free Occupied Bandwidth Ref 10 dBm Atten 20 dB #Peak Log 10 dB/ Center 2.48 GHz Span 3 MHz #Res BW 30 kHz #VBW 100 kHz Sweep 5 ms (401 pts) Occupied Bandwidth 1.1390 MHz Occ BW % Pwr 99.00 % x dB -20.00 dB Transmit Freq Error -21.679 kHz x dB Bandwidth 1.215 MHz Freq/Channel Center Freq 2.48000000 GHz Start Freq 2.47850000 GHz Stop Freq 2.48150000 GHz CF Step 300.000000 kHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off

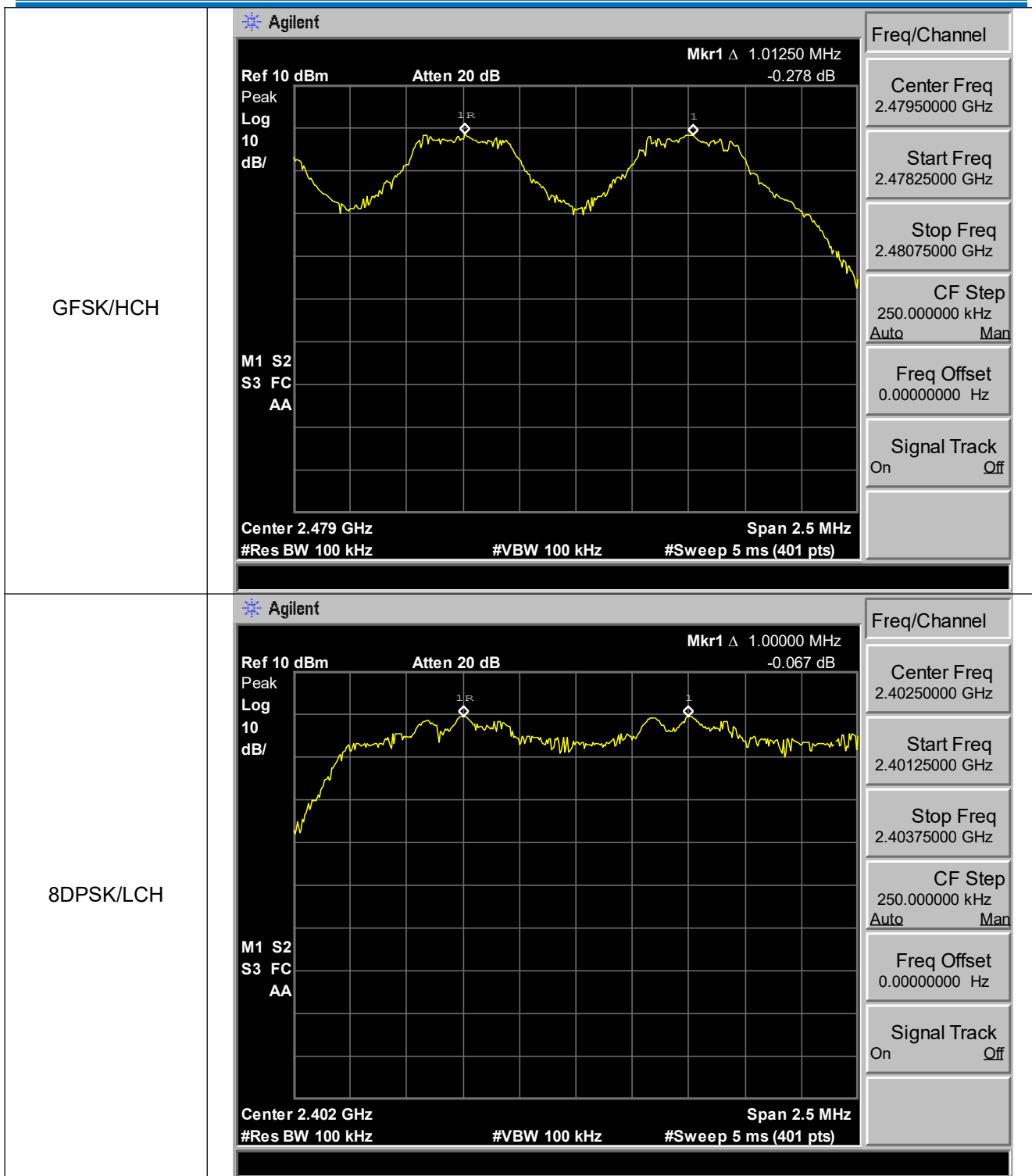
5.4 Carrier Frequencies Separation

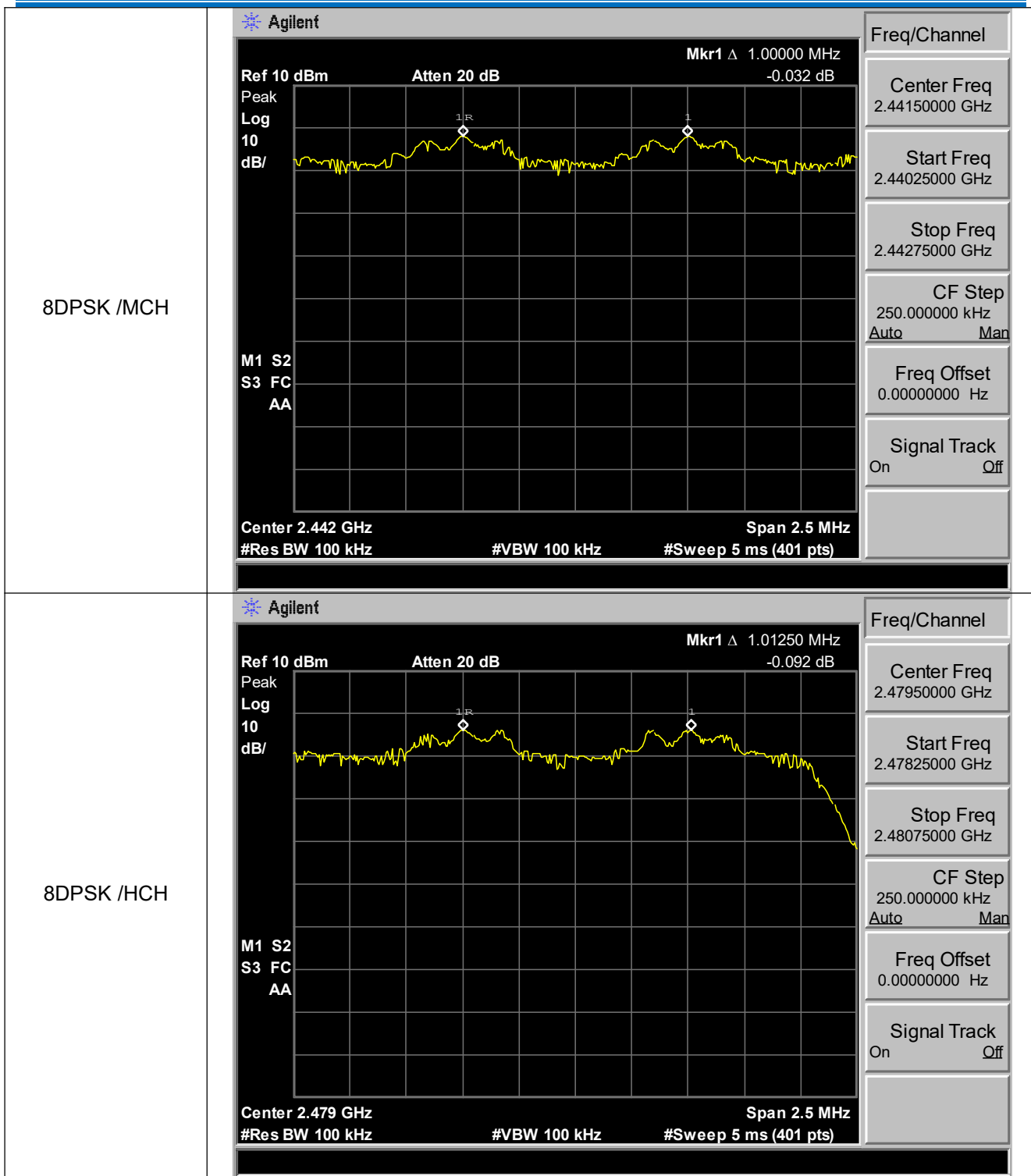
Test Requirement:	47 CFR Part 15C Section 15.247 (a)(1)
Test Method:	ANSI C63.10:2013
Test Setup:	 Remark: Offset=Cable loss+ attenuation factor.
Limit:	2/3 of the 20dB bandwidth
	Remark: the transmission power is less than 0.125W.
Exploratory Test Mode:	Hopping transmitting with all kind of modulation and all kind of data type
Final Test Mode:	DH5 ,2DH5 & 3-DH5 of data type is the GFSK , $\pi/4$ -DQPSK and 8DPSK modulation type.
	Only the worst case is recorded in the report.
Test Results:	Pass

Mode	Channel	Channel separation (MHz)	Limit	Conclusion
GFSK	Low CH	1.006	0.877 MHz	PASS
	Mid CH	1.000	0.868 MHz	PASS
	High CH	1.013	0.864 MHz	PASS
8-DPSK	Low CH	1.000	> 2/3 of the 20dB Bandwidth or 25[kHz](whichever is greater)	PASS
	Mid CH	1.000		PASS
	High CH	1.013		PASS

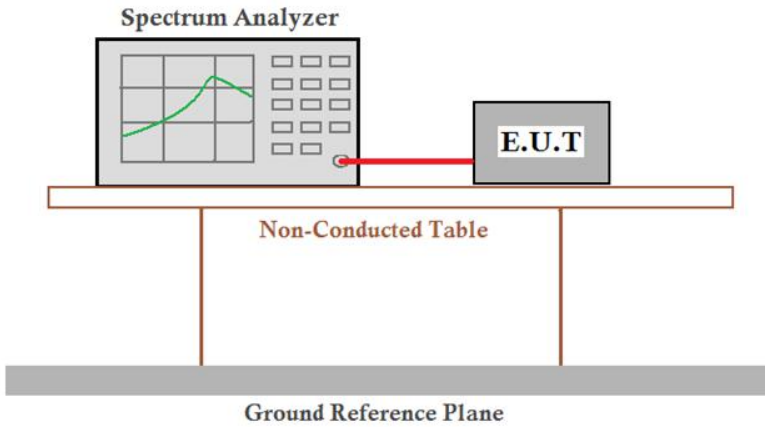
Test plot as follows:







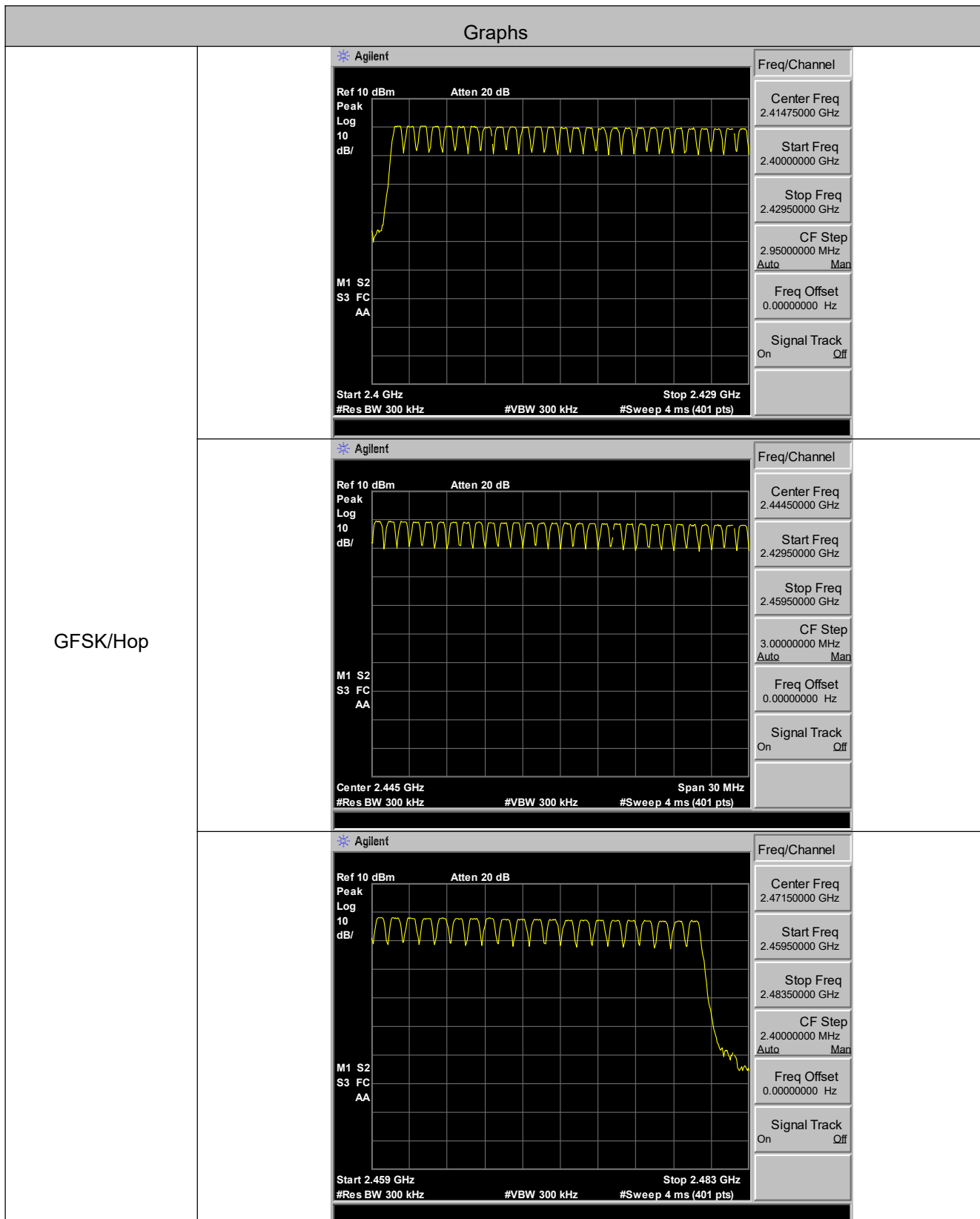
5.5 Hopping Channel Number

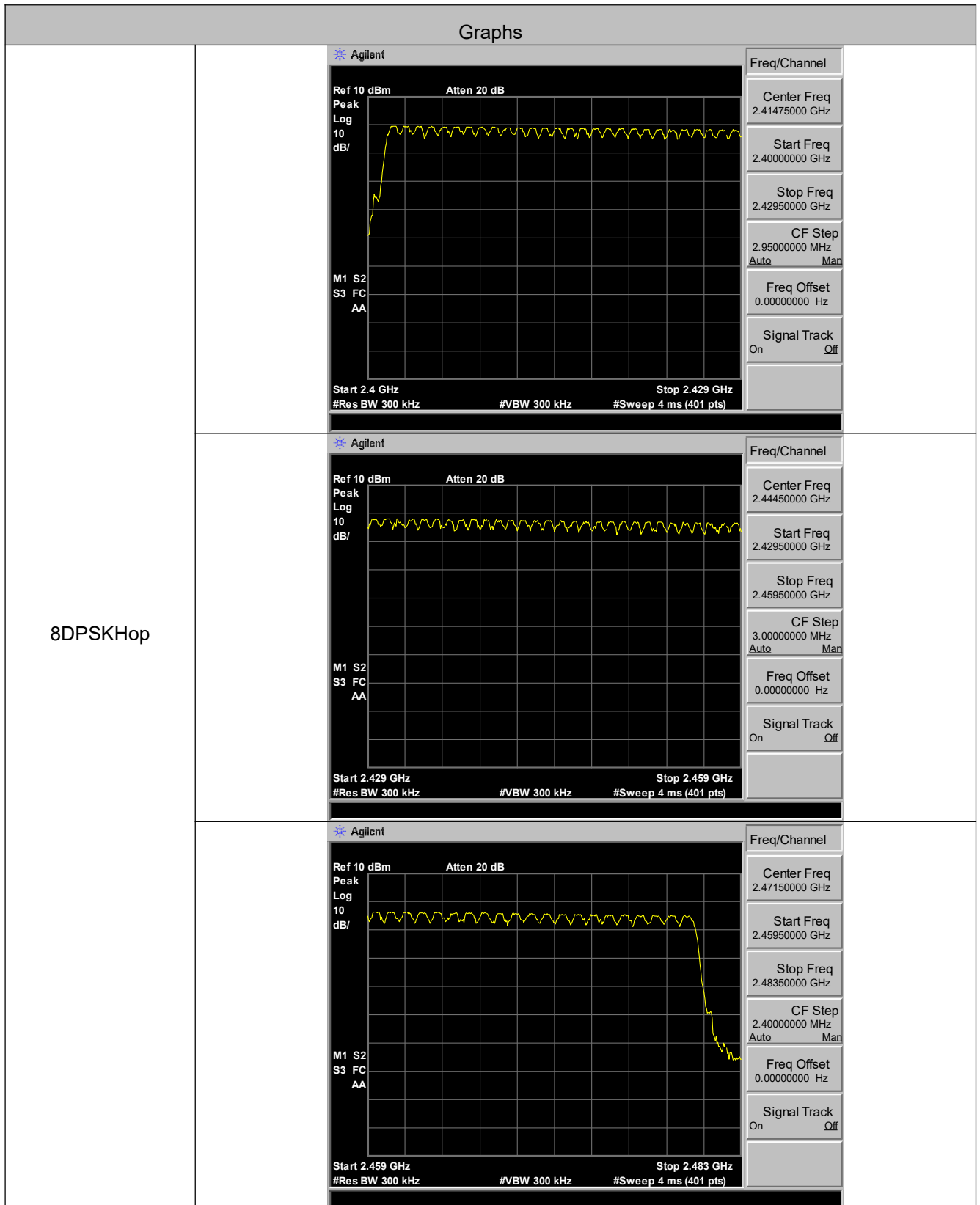
Test Requirement:	47 CFR Part 15C Section 15.247 (a)(1)
Test Method:	ANSI C63.10:2013
Test Setup:	 Remark: $\text{Offset} = \text{Cable loss} + \text{attenuation factor}$.
Limit:	At least 15 channels
Exploratory Test Mode:	hopping transmitting with all kind of modulation and all kind of data type
Final Test Mode:	DH5 ,2DH5 & 3-DH5 of data type is the GFSK , $\pi/4$ -DQPSK and 8DPSK modulation type. Only the worst case is recorded in the report.
Test Results:	Pass

Measurement Data

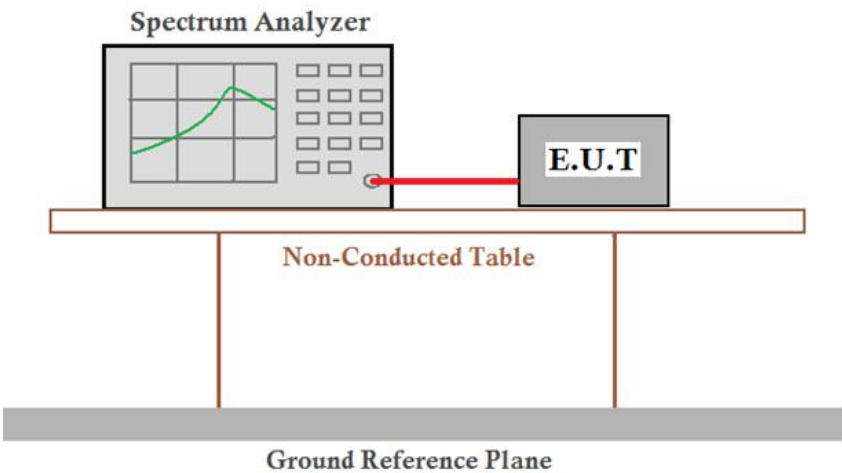
Mode	Hopping channel numbers	Limit
GFSK	79	≥ 15
8DPSK	79	≥ 15

Test plot as follows:





5.6 Dwell Time

Test Requirement:	47 CFR Part 15C Section 15.247 (a)(1)
Test Method:	ANSI C63.10:2013
Test Setup:	 Remark: Offset=Cable loss+ attenuation factor.
Test Mode:	Hopping transmitting with all kind of modulation and all kind of data type.
Limit:	400ms
Test Results:	Pass

Measurement Data

Mode	Dwell time (ms)	Limit	Conclusion
GFSK DH1	186.44	<400ms	PASS
GFSK DH3	282.82	<400ms	PASS
GFSK DH5	335.21	<400ms	PASS
8-DPSK 3DH1	180.12	<400ms	PASS
8-DPSK 3DH3	289.14	<400ms	PASS
8-DPSK 3DH5	333.06	<400ms	PASS

Remark:

GFSK DH1 : $50\text{hop}/5\text{s} * 0.4 * 79 * 0.59\text{ms} = 186.44$

GFSK DH3 : $25\text{hop}/5\text{s} * 0.4 * 79 * 1.79\text{ms} = 282.82$

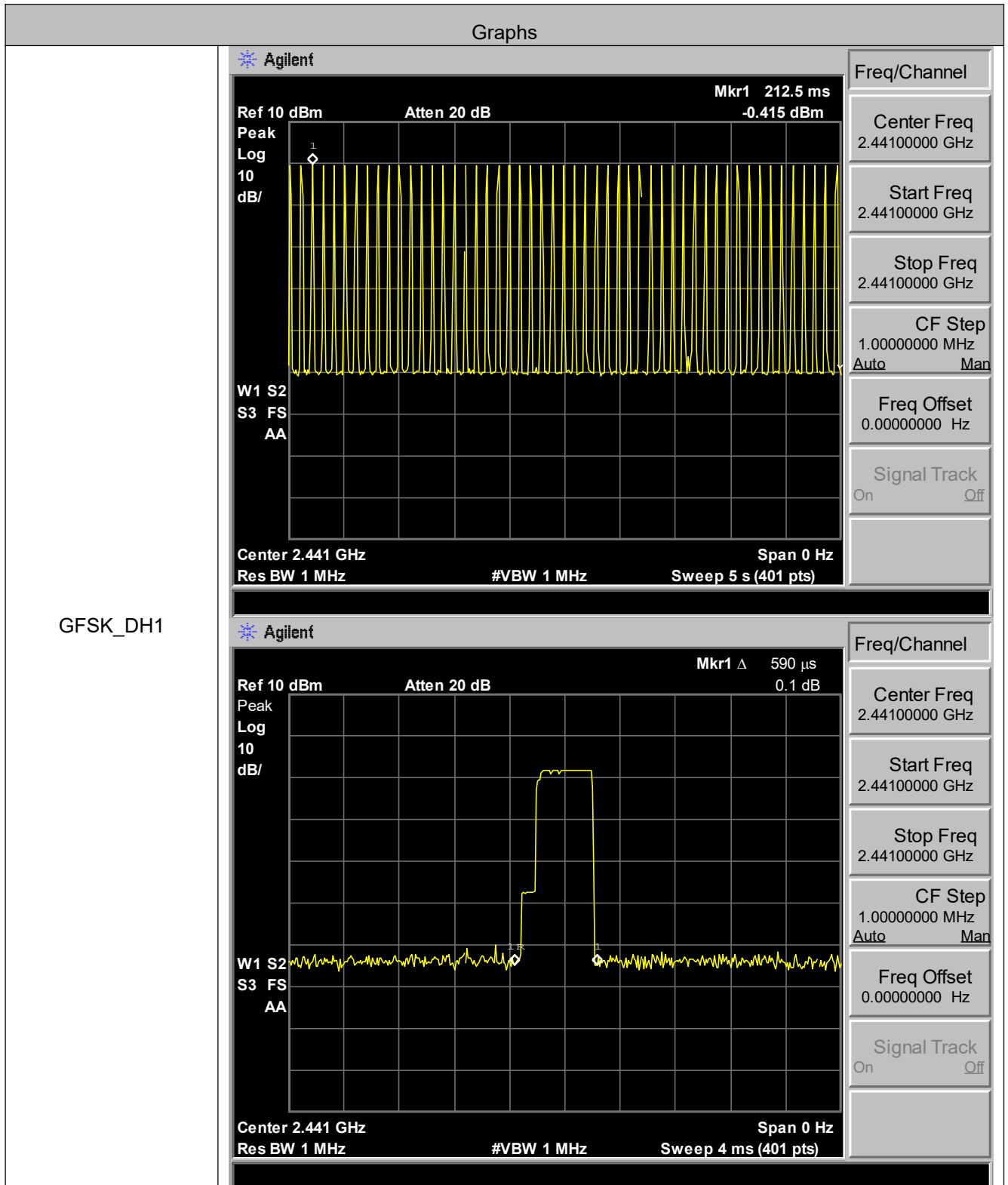
GFSK DH5 : $17\text{hop}/5\text{s} * 0.4 * 79 * 3.12\text{ms} = 335.21$

8-DPSK 3DH1 : $50\text{hop}/5\text{s} * 0.4 * 79 * 0.57\text{ms} = 180.12$

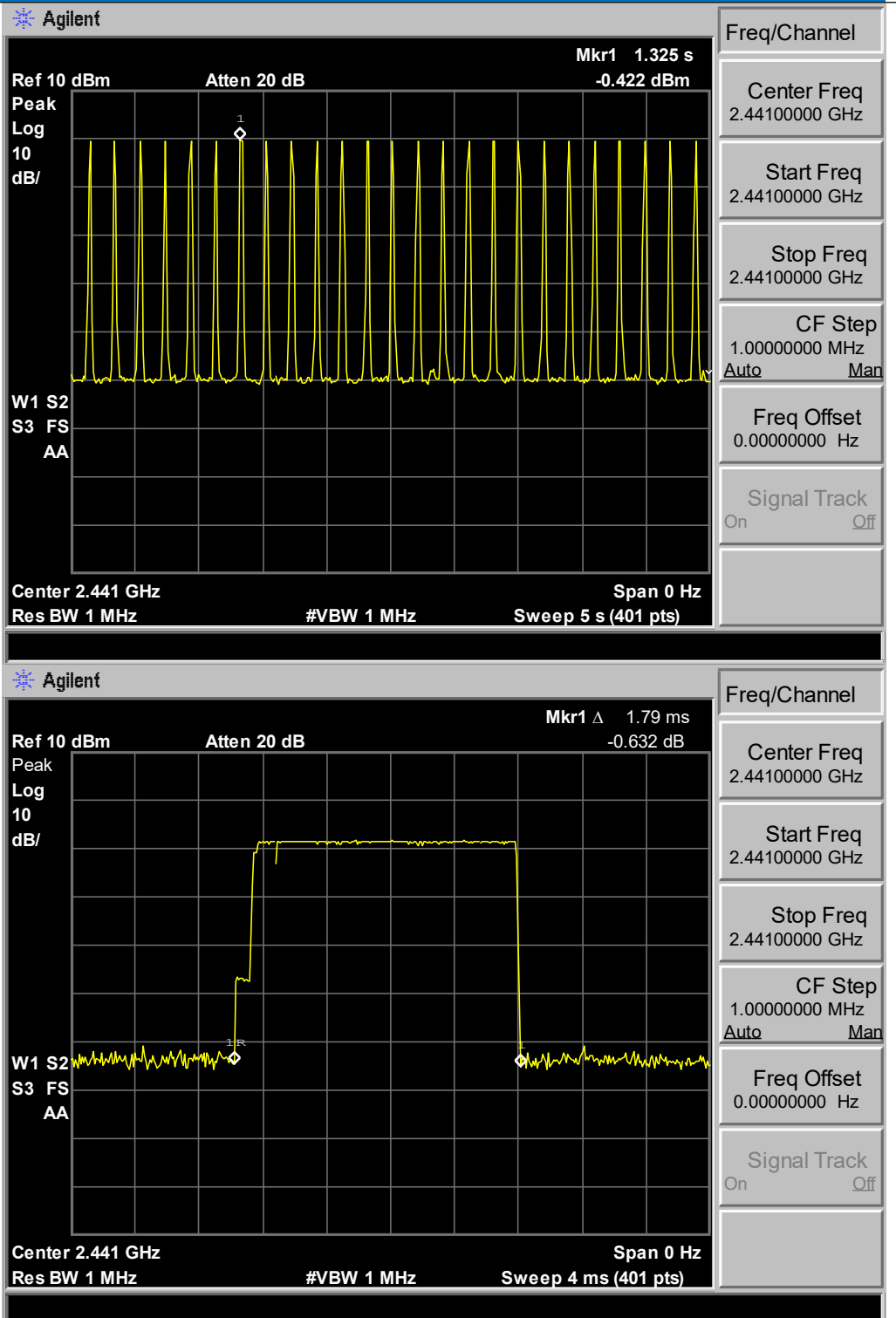
8-DPSK 3DH3: $25\text{hop}/5\text{s} * 0.4 * 79 * 1.83\text{ms} = 289.14$

8-DPSK 3DH5 : $17\text{hop}/5\text{s} * 0.4 * 79 * 3.10\text{ms} = 333.06$

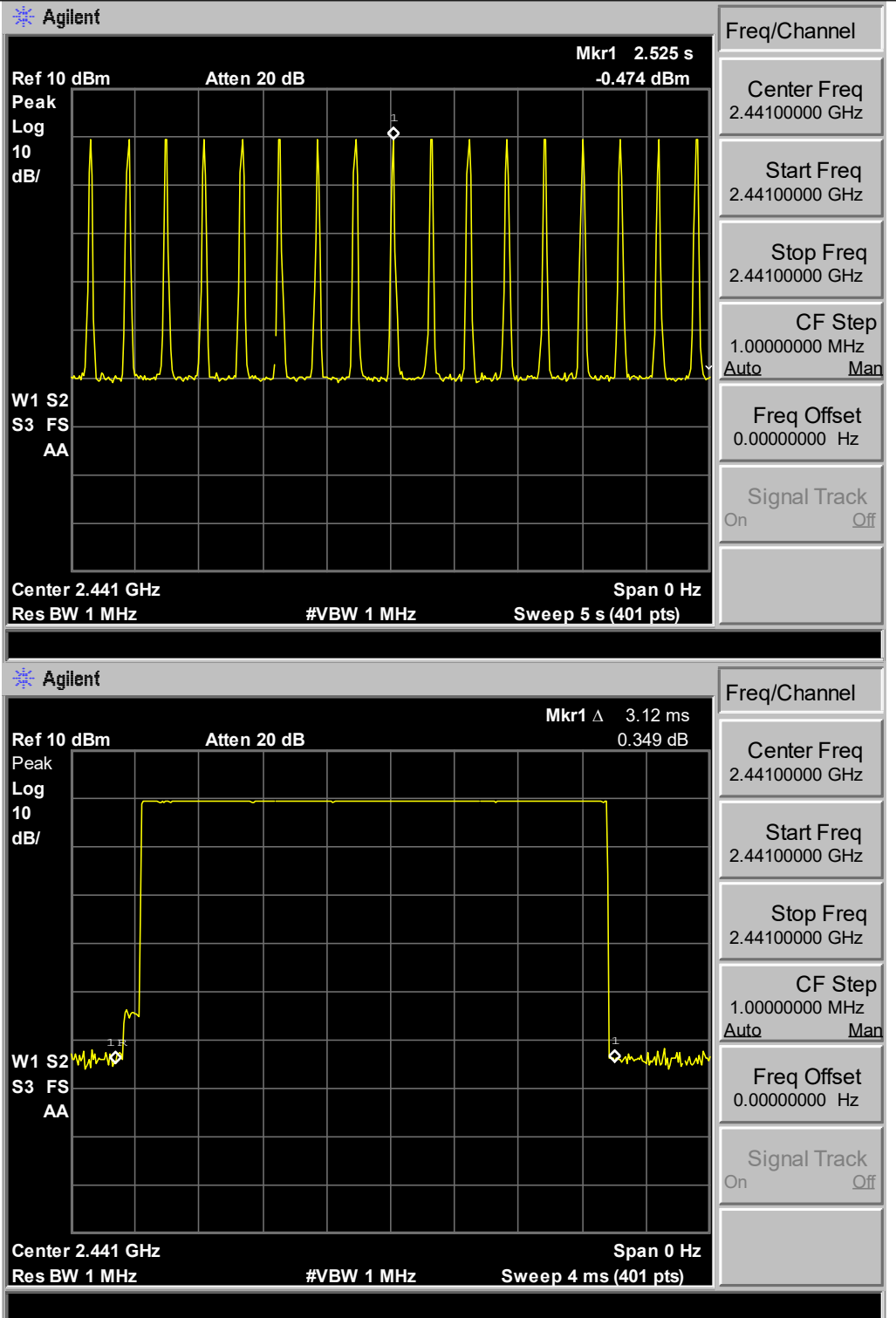
Test plot as follows:



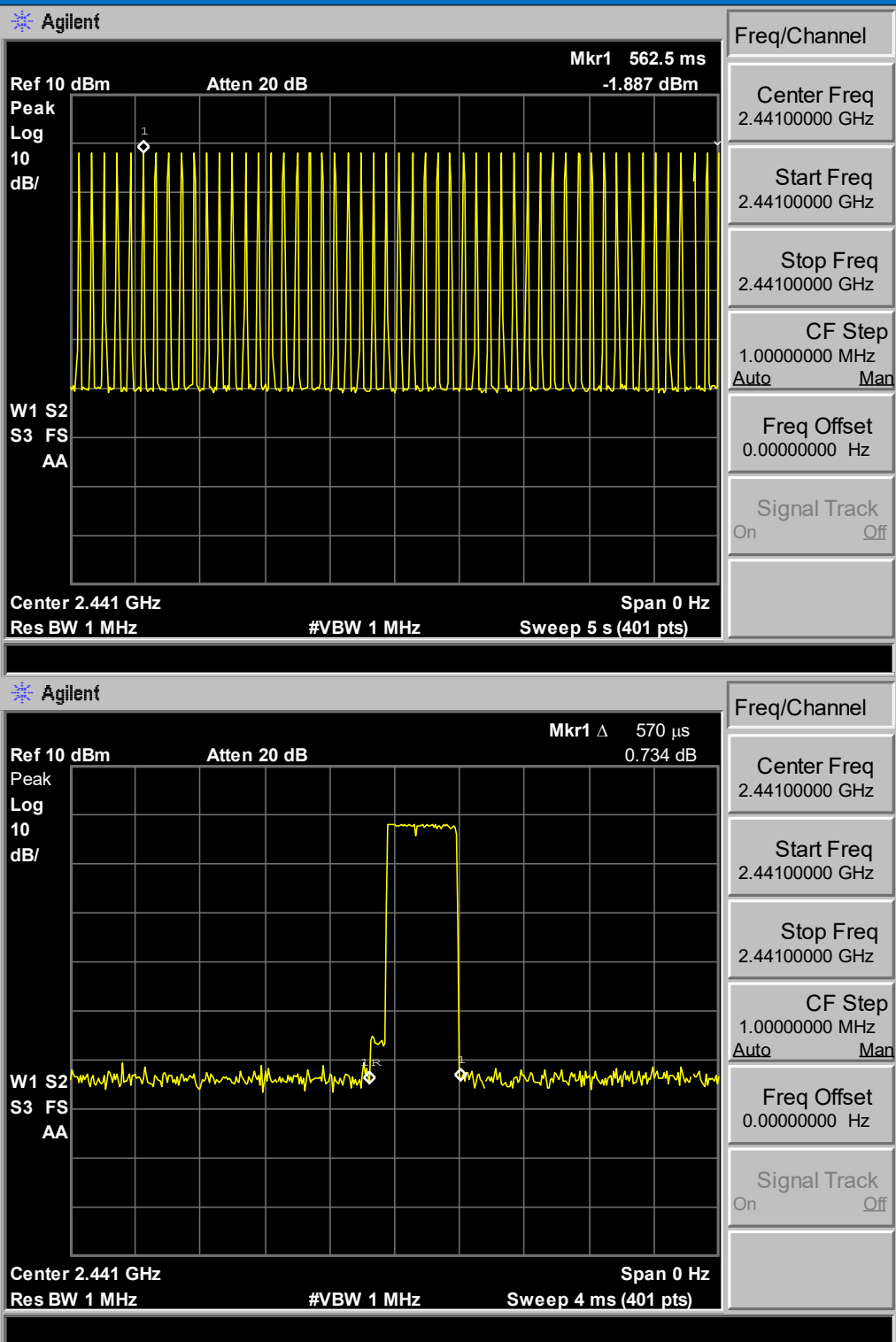
GFSK_DH3



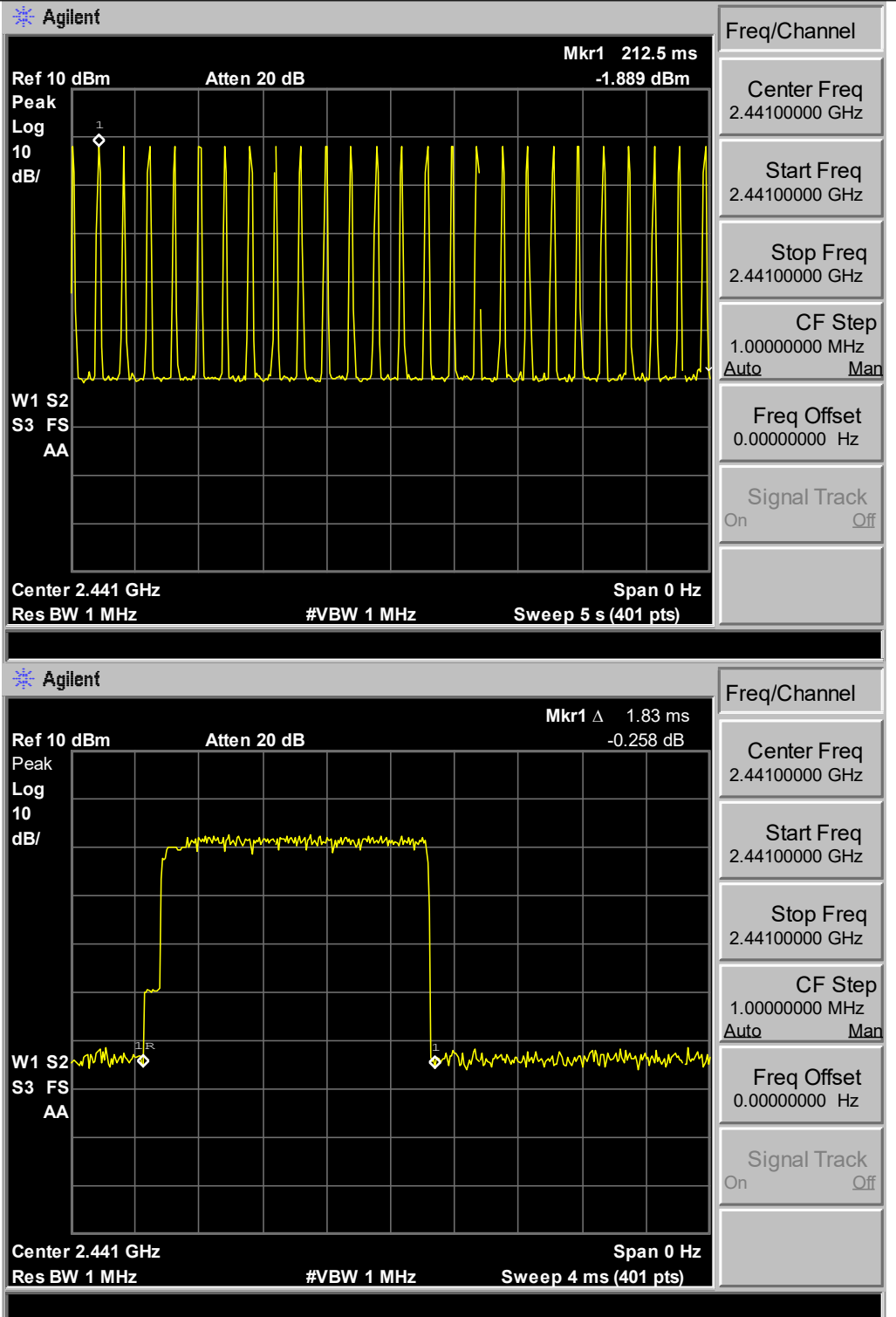
GFSK_DH5



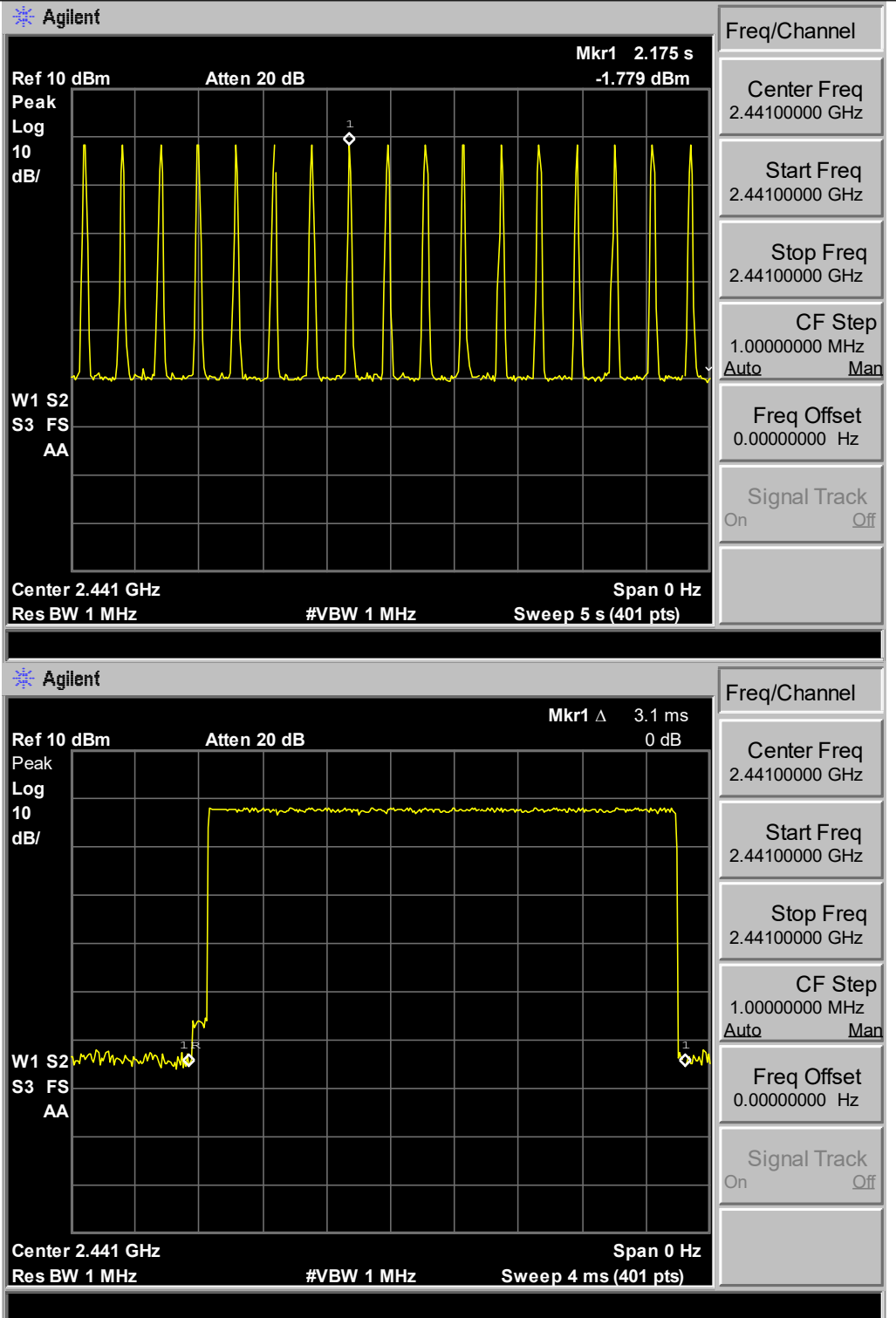
8DPSK_3DH1



8DPSK_3DH3



8DPSK_3DH5



5.7 Radiated Spurious Emission & Restricted bands

Test Requirement:	47 CFR Part 15C Section 15.209 and 15.205				
Test Method:	ANSI C63.10: 2013				
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	Peak	100 kHz	300kHz	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
	Note: 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:

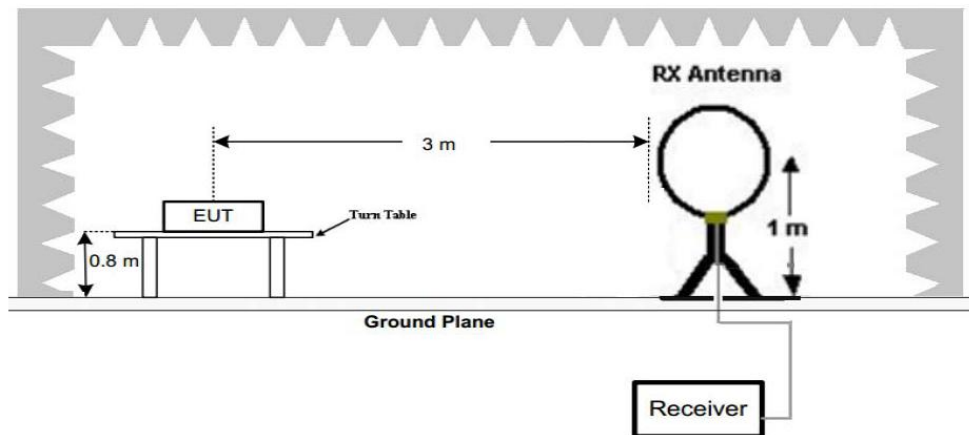


Figure 1. Below 30MHz

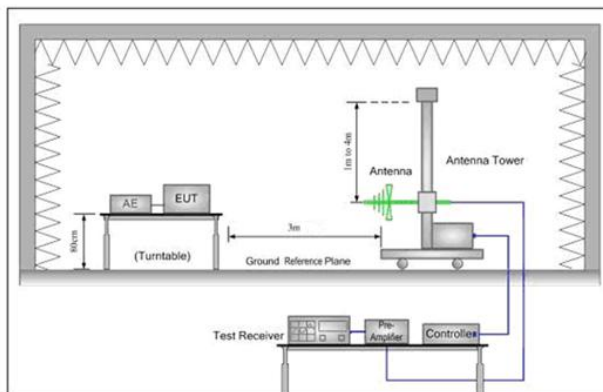


Figure 2. 30MHz to 1GHz

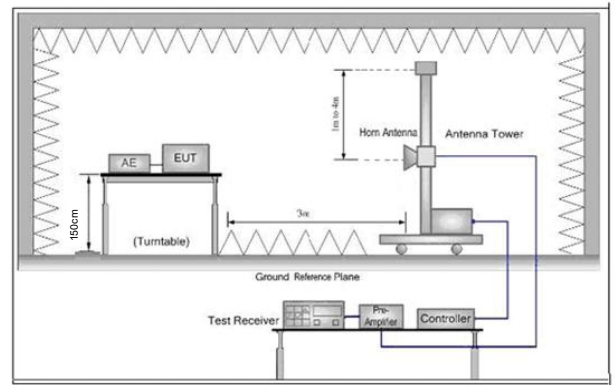


Figure 3. Above 1 GHz

Test Procedure:

- a. 1) Below 1G: The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
2) Above 1G: The EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
Note: For the radiated emission test above 1GHz:
Place the measurement antenna away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response. The measurement antenna may have to be higher or lower than the EUT, depending on the radiation pattern of the emission and staying aimed at the emission source for receiving the maximum signal. The final measurement antenna elevation shall be that which maximizes the emissions. The measurement antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. 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.

	d. 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. e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. f. 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. g. Test the EUT in the lowest channel (2402MHz),the middle channel (2441MHz),the Highest channel (2480MHz) h. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case. i. Repeat above procedures until all frequencies measured was complete.
Exploratory Test Mode:	Non-hopping transmitting mode with all kind of modulation and all kind of data type Transmitting mode
Final Test Mode:	Through Pre-scan, find the DH5 of data type and GFSK modulation is the worst case. Pretest the EUT at Transmitting mode and Charge + Transmitting mode, found the Charge + Transmitting mode which it is worse case For below 1GHz part, through pre-scan, the worst case is the lowest channel. Only the worst case is recorded in the report.
Test Results:	Pass

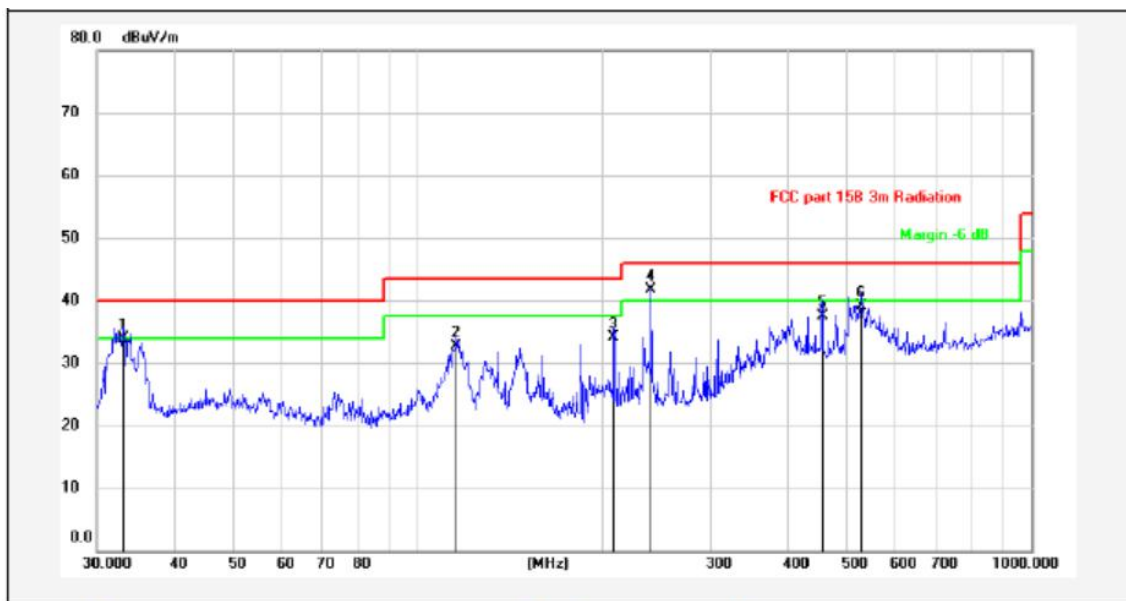
5.7.1 Radiated Emission below 1GHz

30MHz~1GHz

Test mode:

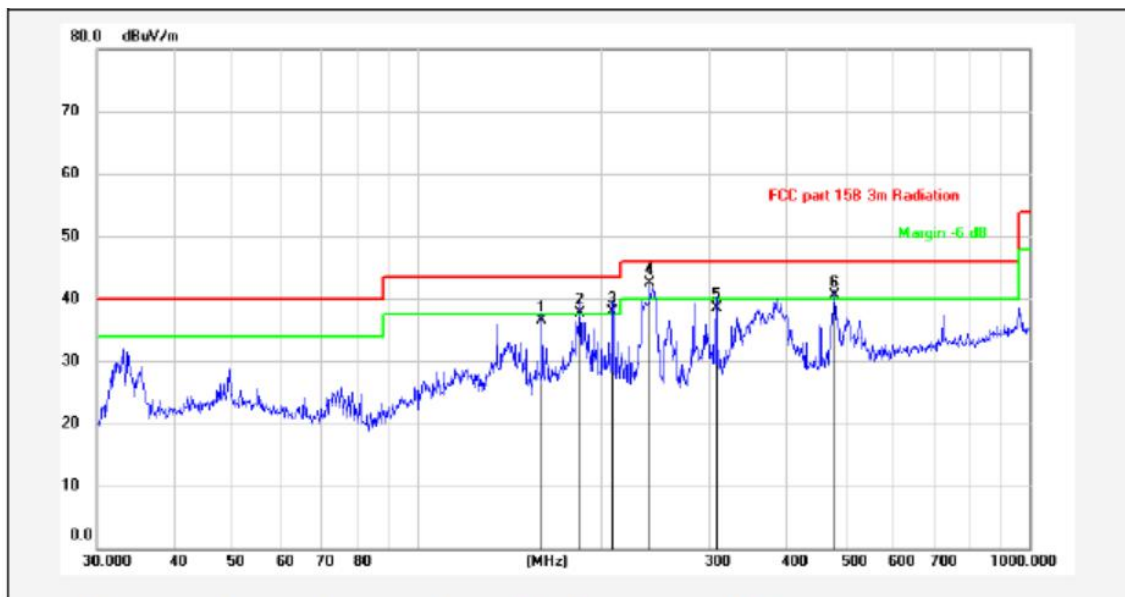
Transmitting

Vertical



No.	Frequency (MHz)	Reading (dBuV/m)	Antenna. (dB/m)	Cable. (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	33.2112	21.75	11.52	0.63	33.90	40.00	-6.10	QP	
2	115.7256	19.93	11.21	1.66	32.80	43.50	-10.70	QP	
3	208.5803	21.05	11.03	2.12	34.20	43.50	-9.30	QP	
4	239.9874	27.45	12.12	2.23	41.80	46.00	-4.20	QP	
5	455.9058	19.06	15.58	2.86	37.50	46.00	-8.50	QP	
6	528.2458	19.11	16.8	3.19	39.10	46.00	-6.90	QP	

Test mode:	Transmitting	Horizontal
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No.	Frequency (MHz)	Reading (dBuV/m)	Antenna. (dB/m)	Cable. (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	159.7844	25.72	8.82	1.96	36.50	43.50	-7.00	QP	
2	184.4898	25.64	9.98	2.08	37.70	43.50	-5.80	QP	
3	208.5801	24.75	11.03	2.12	37.90	43.50	-5.60	QP	
4	239.9874	28.25	12.12	2.23	42.60	46.00	-3.40	QP	
5	307.8312	23.03	13.16	2.41	38.60	46.00	-7.40	QP	
6	480.5276	21.45	16.03	3.02	40.50	46.00	-5.50	QP	

5.7.2 Transmitter Emission above 1GHz

Worse case mode:		GFSK(DH5)		Test channel:		Lowest	
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detector Type	Ant. Pol.
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V
2400	53.59	-9.39	44.20	74	-29.80	Peak	H
4804	53.04	-4.33	48.71	74	-25.29	Peak	H
7206	50.58	1.01	51.59	74	-22.41	Peak	H
2400	52.50	-9.39	43.11	74	-30.89	Peak	V
4804	52.35	-4.33	48.02	74	-25.98	Pek	V
7206	49.47	1.01	50.48	74	-23.52	Peak	V

Worse case mode:		GFSK(DH5)		Test channel:		Middle	
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detector Type	Ant. Pol.
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V
4882	50.69	-4.11	46.58	4	-27.42	peak	H
7323	48.89	1.51	50.40	74	-23.60	peak	H
4882	51.75	-4.11	47.64	74	-26.36	peak	V
7323	49.94	1.51	51.45	74	-22.55	peak	V

Worse case mode:		GFSK(DH5)		Test channel:		Highest	
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detector Type	Ant. Pol.
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V
4960	49.80	-4.04	45.76	74	-28.24	Peak	H
7440	49.60	1.57	51.17	74	-22.83	Peak	H
4960	49.16	-4.04	45.12	74	-28.88	Peak	V
7440	48.97	1.57	50.54	74	-23.46	Peak	V

Worse case mode:		8DPSK (3DH5)		Test channel:		Lowest	
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detector Type	Ant. Pol.
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V
4882	50.69	-4.11	46.58	74	-27.42	peak	H
7323	48.89	1.51	50.40	74	23.60	peak	H
4882	51.75	-4.11	47.64	74	-26.36	peak	V
7323	49.94	1.51	51.45	74	-22.55	peak	V

Worse case mode:		8DPSK (3DH5)		Test channel:		Middle	
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detector Type	Ant. Pol.
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V
4960	49.80	-4.04	45.76	74	-28.24	Peak	H
7440	49.60	1.57	51.17	74	-22.83	Peak	H
4960	49.16	-4.04	45.12	74	-28.88	Peak	V
7440	48.97	1.57	50.54	74	-23.46	Peak	V

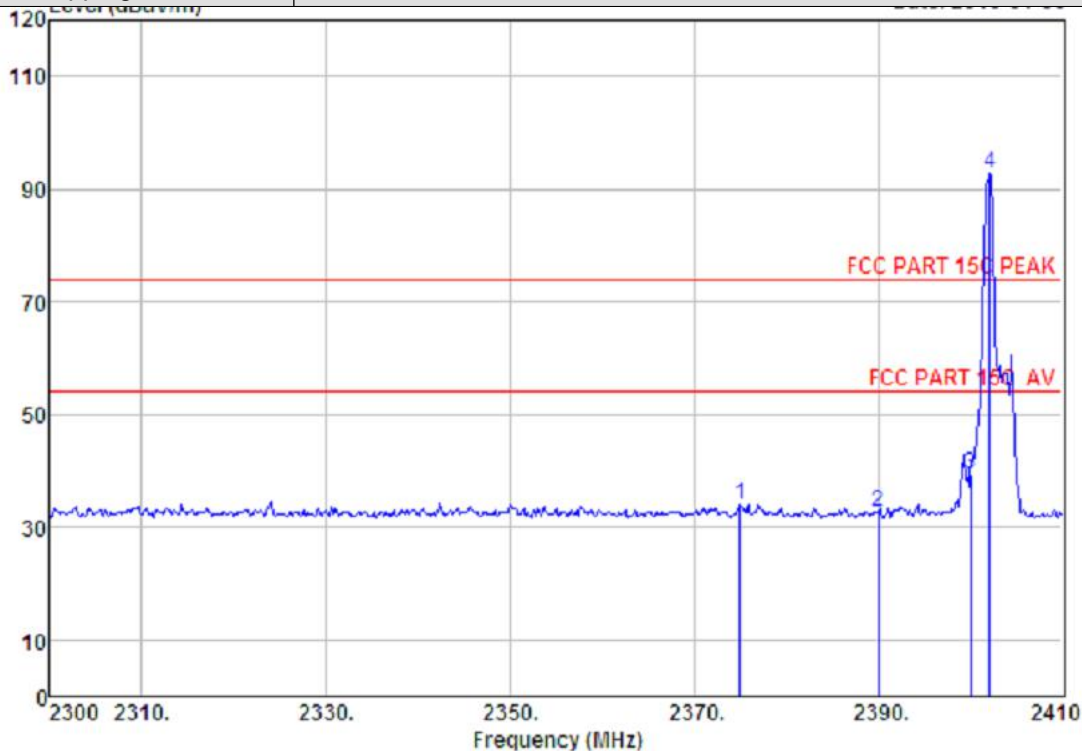
Worse case mode:		8DPSK (3DH5)		Test channel:		Highest	
Frequency	Meter Reading	Factor	Emission Level	Limits	Over	Detector Type	Ant. Pol.
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)		H/V
2400	2400	55.56	-9.39	46.17	74	Peak	H
4804	4804	51.32	-4.33	46.99	74	Peak	H
7206	7206	48.82	1.01	49.83	74	Peak	H
2400	2400	55.42	-9.39	46.03	74	Peak	V
4804	4804	52.73	-4.33	48.40	74	Peak	V
7206	7206	48.40	1.01	49.41	74	Peak	V

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 above 10GHz and below 30MHz was very low. 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.

5.7.3 Restricted bands around fundamental frequency

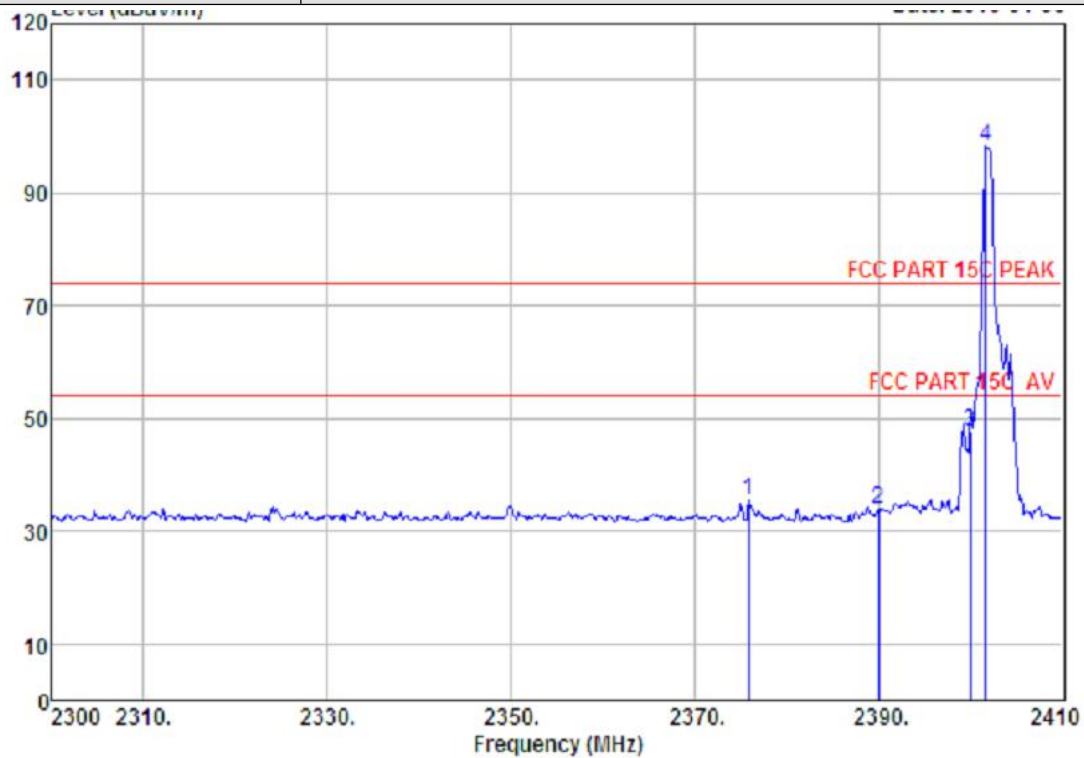
Test mode: GFSK(DH5)	2402MHz	Test channel:	Lowest	Polarization	Horizontal
No Hopping					



	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2375.02	27.64	6.60	34.59	34.40	34.05	74.00	39.95	Peak
2	2390.00	27.64	6.62	34.62	33.15	32.79	74.00	41.21	Peak
3	2400.00	27.61	6.62	34.64	39.74	39.33	74.00	34.67	Peak
4	2402.08	27.61	6.62	34.64	93.08	92.67	74.00	-18.67	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

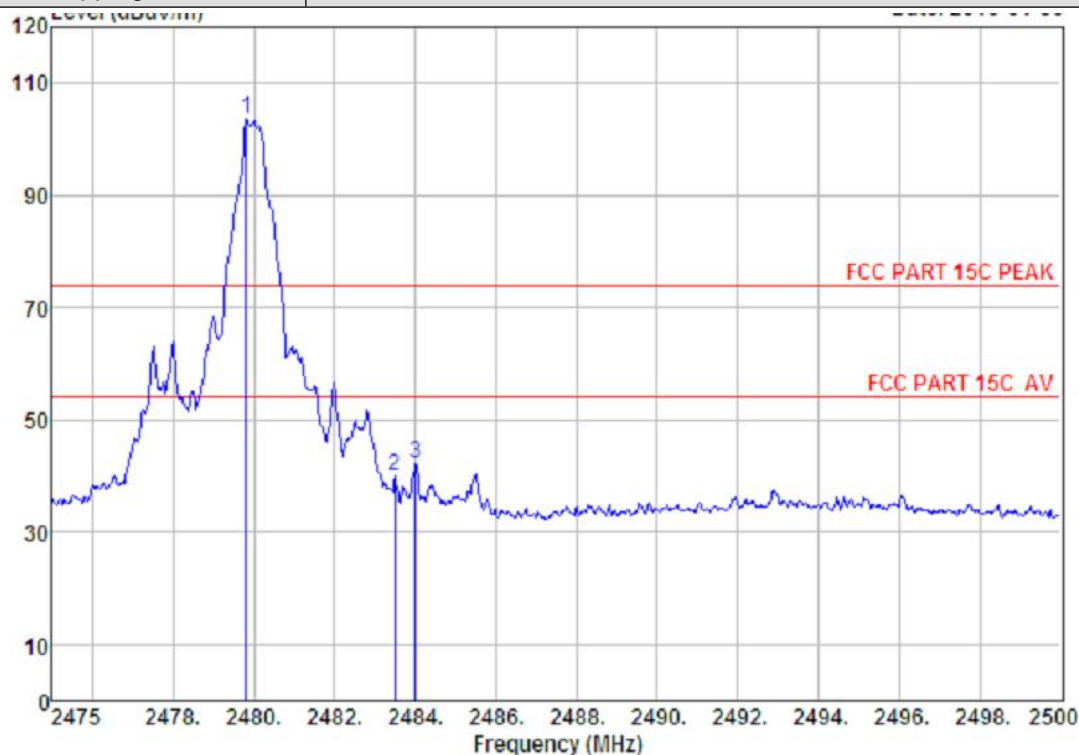
Test mode: GFSK(DH5)	2402MHz	Test channel:	Lowest	Polarization	vertical
No Hopping					



	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2375.90	27.64	6.60	34.59	35.76	35.41	74.00	38.59	Peak
2	2390.00	27.64	6.62	34.62	34.19	33.83	74.00	40.17	Peak
3	2400.00	27.61	6.62	34.64	47.95	47.54	74.00	26.46	Peak
4	2401.75	27.61	6.62	34.64	98.50	98.09	74.00	-24.09	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

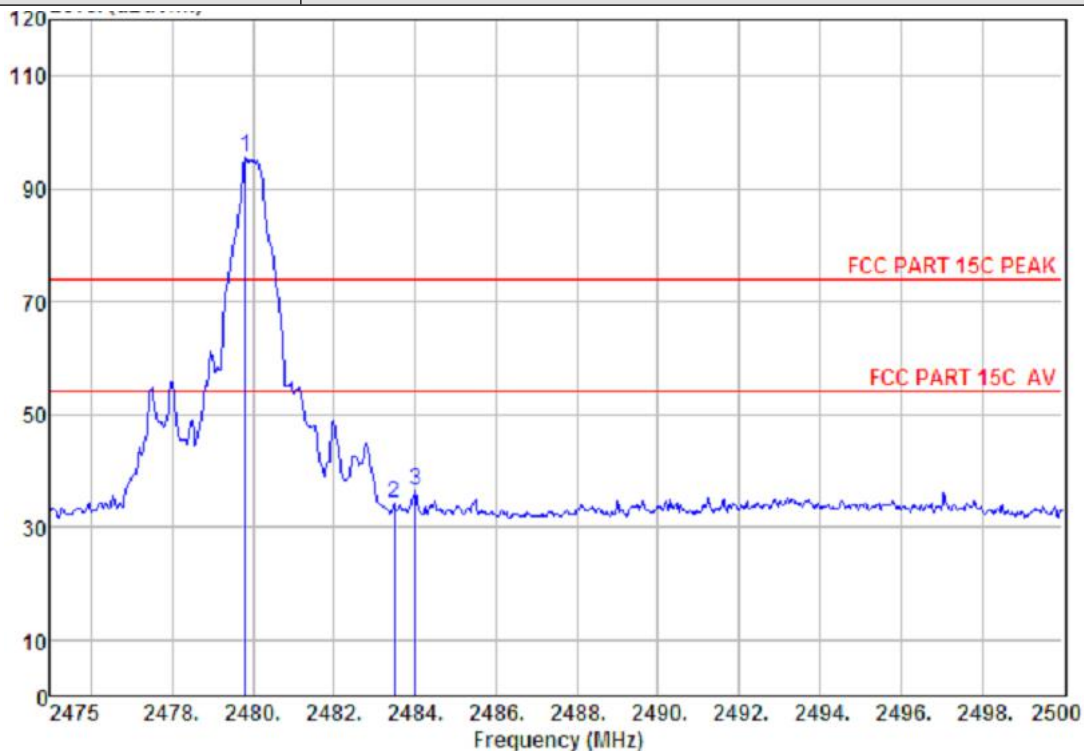
Test mode: GFSK(DH5)	2480MHz	Test channel:	Highest	Polarization	vertical
No Hopping					



	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2479.80	27.58	6.71	35.11	104.38	103.56	74.00	-29.56	Peak
2	2483.50	27.58	6.71	35.11	40.69	39.87	74.00	34.13	Peak
3	2484.00	27.58	6.71	35.11	43.21	42.39	74.00	31.61	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

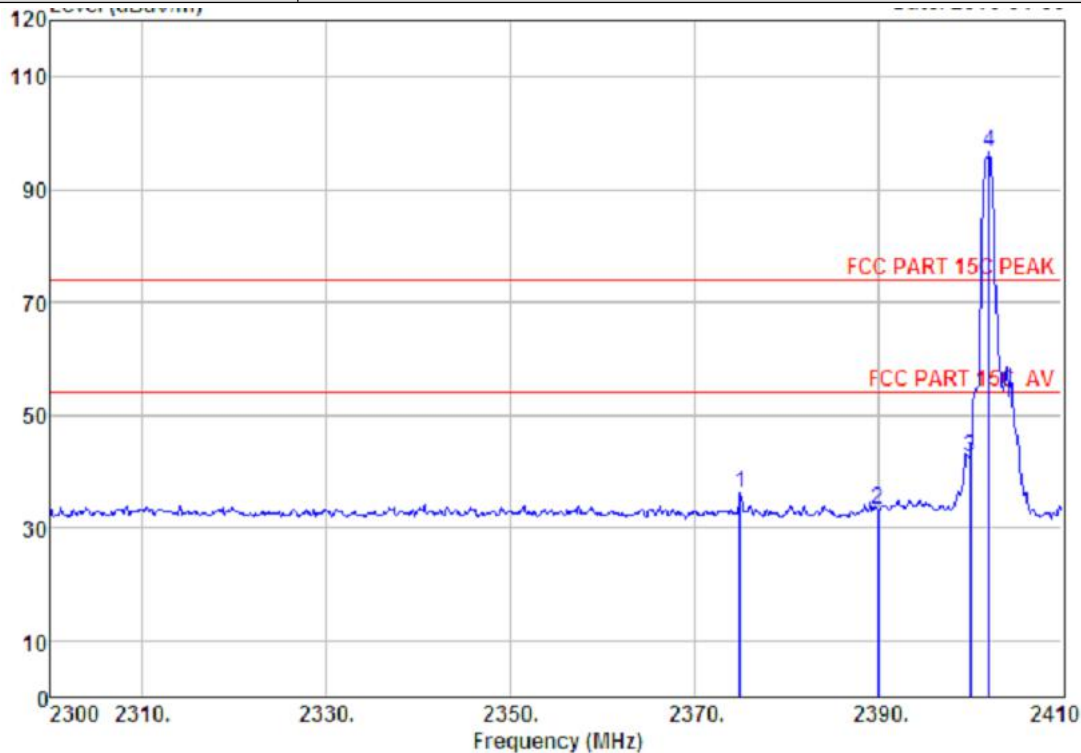
Test mode: GFSK(DH5)	2480MHz	Test channel:	Highest	Polarization	Horizontal
No Hopping					



	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2479.80	27.58	6.71	35.11	96.62	95.80	74.00	-21.80	Peak
2	2483.50	27.58	6.71	35.11	35.21	34.39	74.00	39.61	Peak
3	2484.00	27.58	6.71	35.11	37.16	36.34	74.00	37.66	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

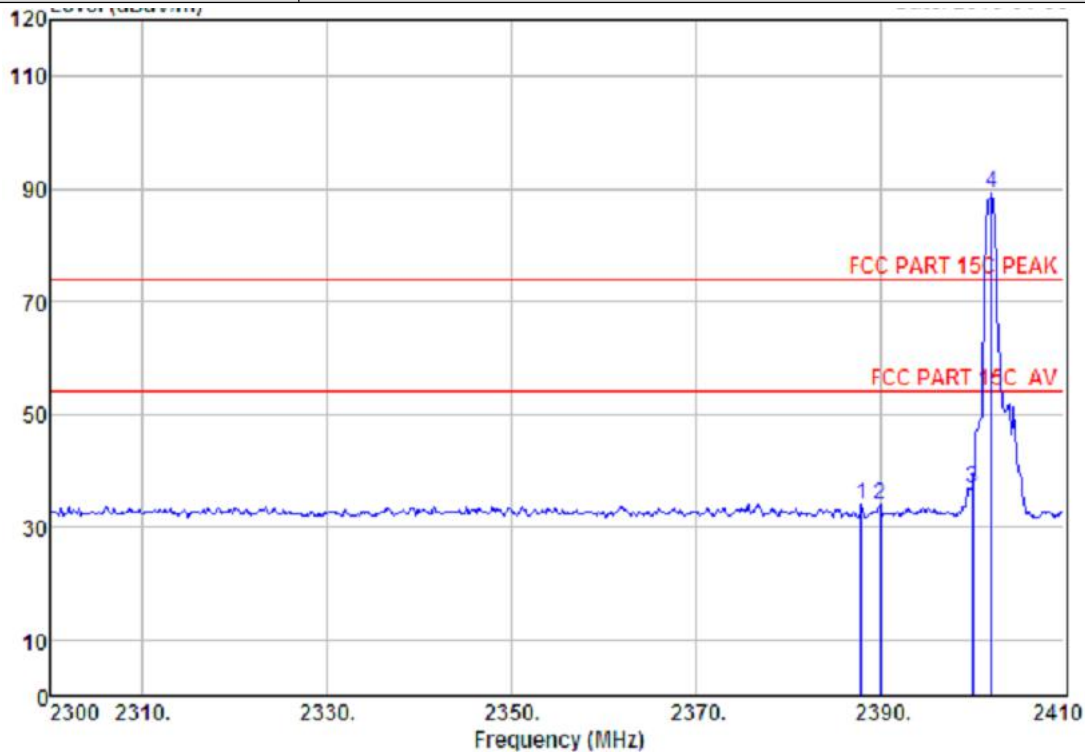
Test mode: 8DPSK (3DH5)	2402MHz	Test channel:	Lowest	Polarization	Horizontal
No Hopping					



	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2375.02	27.64	6.60	34.59	36.56	36.21	74.00	37.79	Peak
2	2390.00	27.64	6.62	34.62	33.63	33.27	74.00	40.73	Peak
3	2400.00	27.61	6.62	34.64	42.85	42.44	74.00	31.56	Peak
4	2402.08	27.61	6.62	34.64	97.12	96.71	74.00	-22.71	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

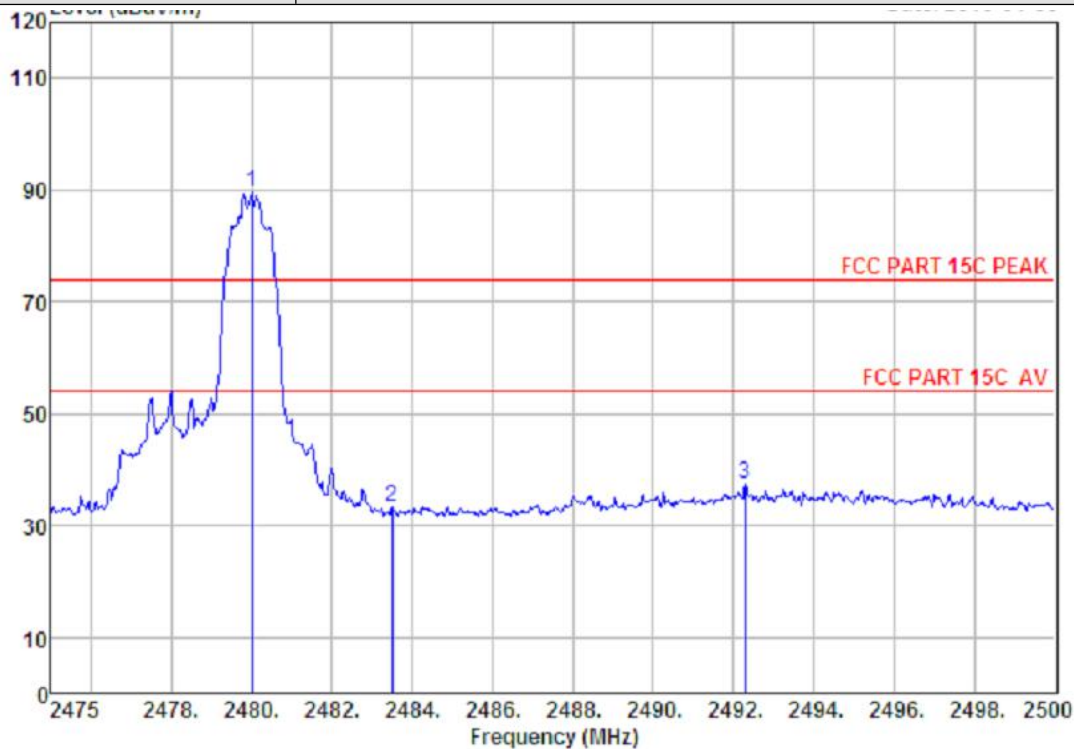
Test mode: 8DPSK (3DH5)	2402MHz	Test channel:	Lowest	Polarization	vertical
No Hopping					



	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2388.00	27.64	6.62	34.62	34.19	33.83	74.00	40.17	Peak
2	2390.00	27.64	6.62	34.62	34.17	33.81	74.00	40.19	Peak
3	2400.00	27.61	6.62	34.64	37.11	36.70	74.00	37.30	Peak
4	2402.08	27.61	6.62	34.64	89.54	89.13	74.00	-15.13	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

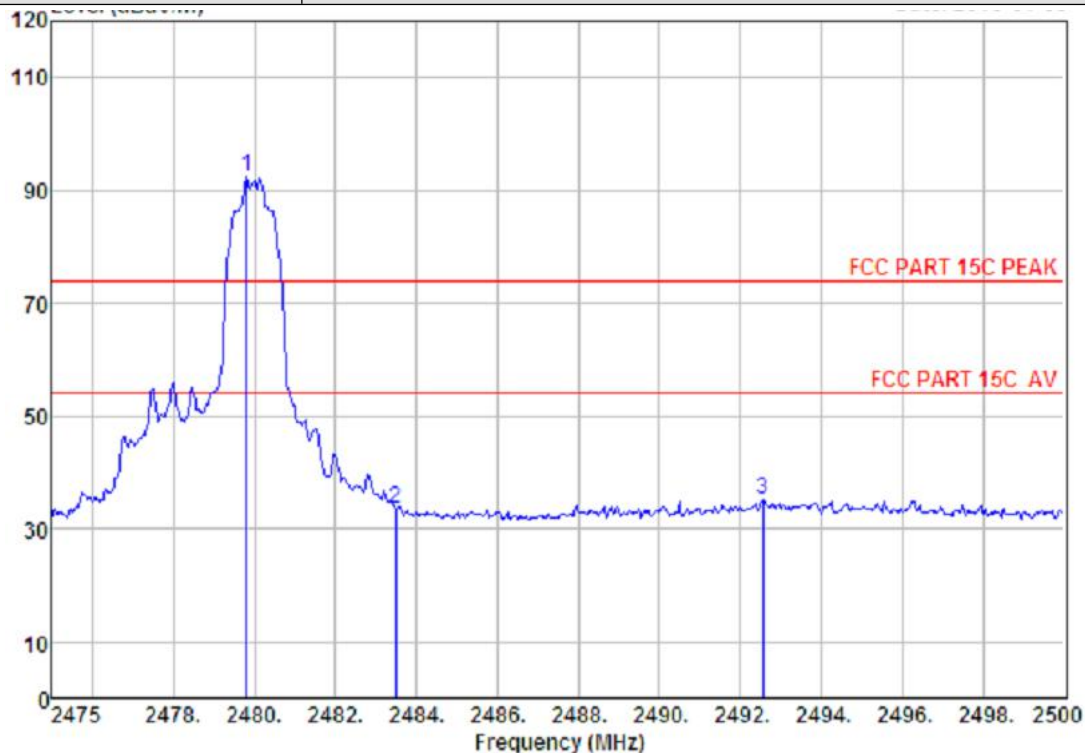
Test mode: 8DPSK(3DH5)	2480MHz	Test channel:	Highest	Polarization	vertical
No Hopping					



	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2480.00	27.58	6.71	35.11	90.36	89.54	74.00	-15.54	Peak
2	2483.50	27.58	6.71	35.11	34.03	33.21	74.00	40.79	Peak
3	2492.30	27.58	6.73	35.24	38.22	37.29	74.00	36.71	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

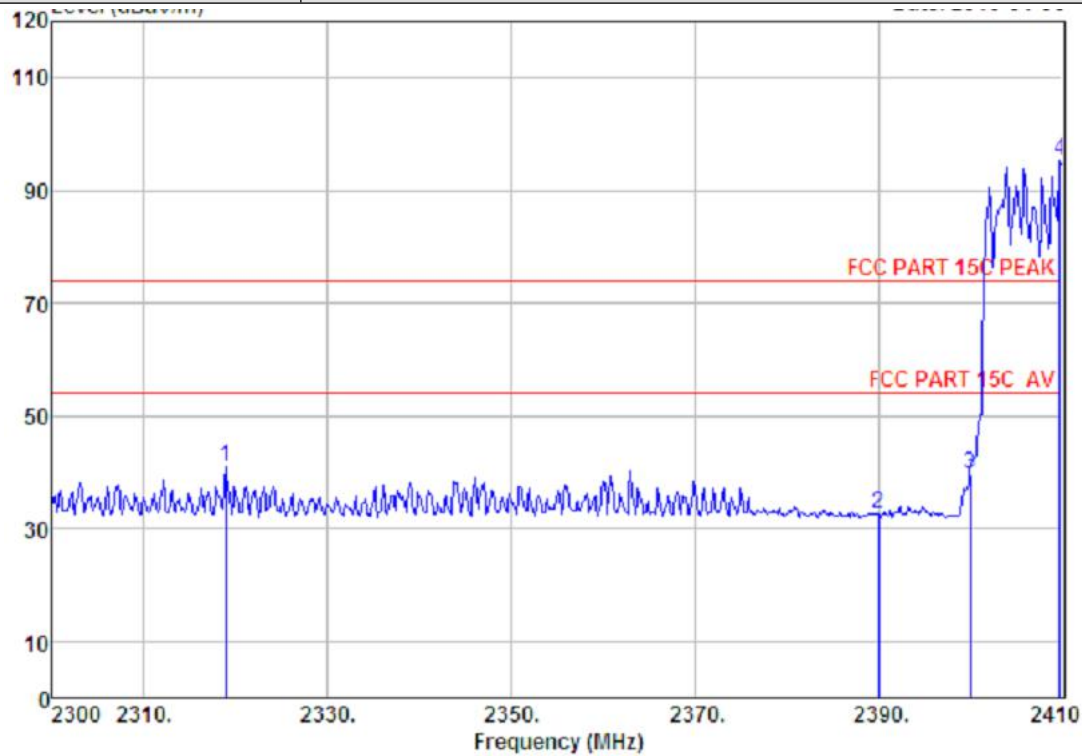
Test mode: 8DPSK(3DH5)	2480MHz	Test channel:	Highest	Polarization	Horizontal
No Hopping					



	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2479.80	27.58	6.71	35.11	93.18	92.36	74.00	-18.36	Peak
2	2483.50	27.58	6.71	35.11	34.31	33.49	74.00	40.51	Peak
3	2492.55	27.58	6.73	35.24	36.22	35.29	74.00	38.71	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

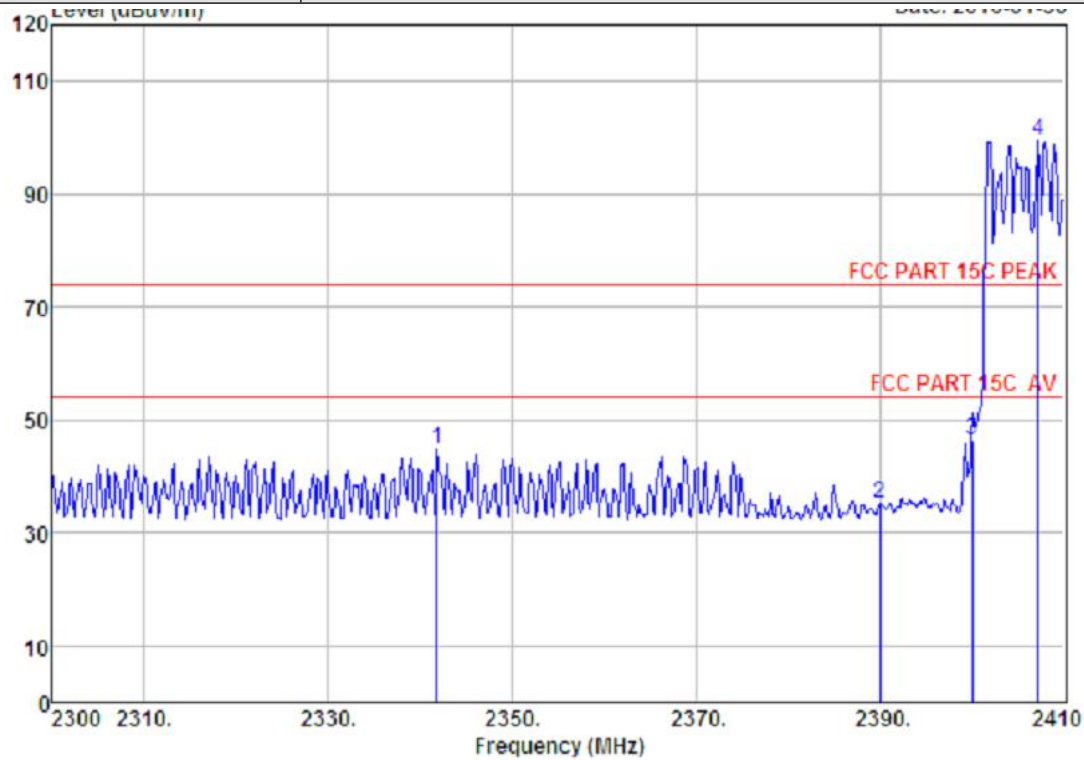
Test mode: GFSK(DH5)	2402MHz	Test channel:	Lowest	Polarization	Horizontal
Hopping on					



	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2318.92	27.76	6.54	34.60	41.32	41.02	74.00	32.98	Peak
2	2390.00	27.64	6.62	34.62	33.04	32.68	74.00	41.32	Peak
3	2400.00	27.61	6.62	34.64	40.04	39.63	74.00	34.37	Peak
4	2409.78	27.60	6.64	34.64	95.60	95.20	74.00	-21.20	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

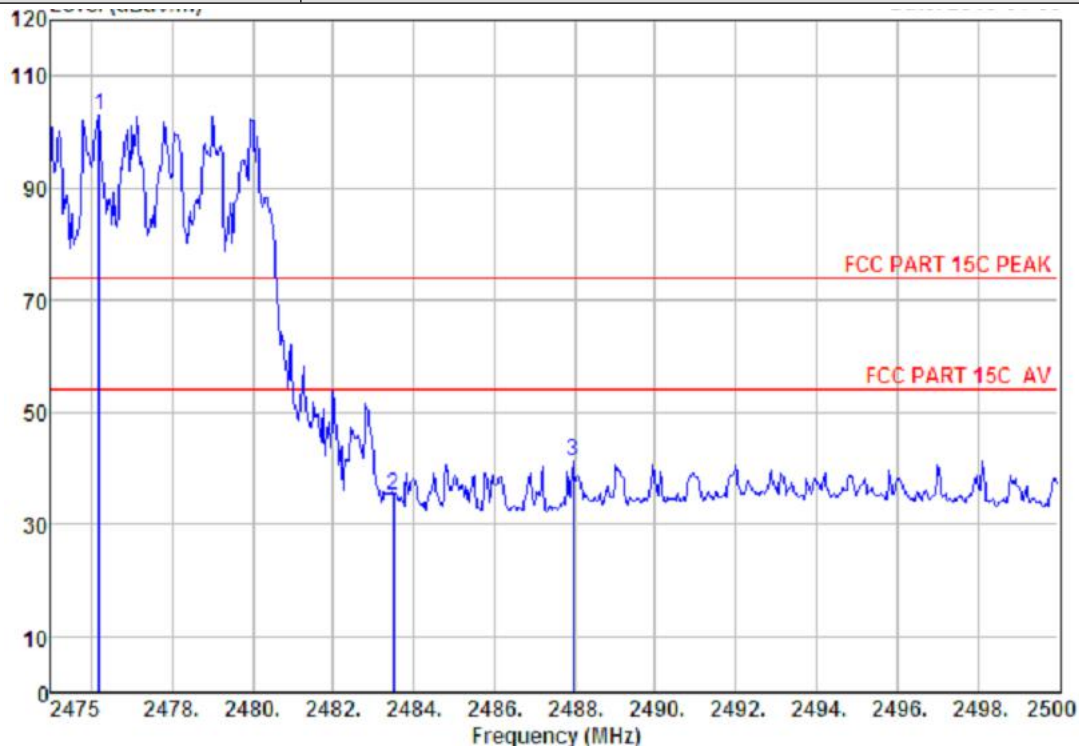
Test mode: GFSK(DH5)	2402MHz	Test channel:	Lowest	Polarization	vertical
Hopping on					



	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2341.80	27.70	6.56	34.59	45.04	44.71	74.00	29.29	Peak
2	2390.00	27.64	6.62	34.62	35.46	35.10	74.00	38.90	Peak
3	2400.00	27.61	6.62	34.64	46.79	46.38	74.00	27.62	Peak
4	2407.25	27.61	6.64	34.64	99.93	99.54	74.00	-25.54	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

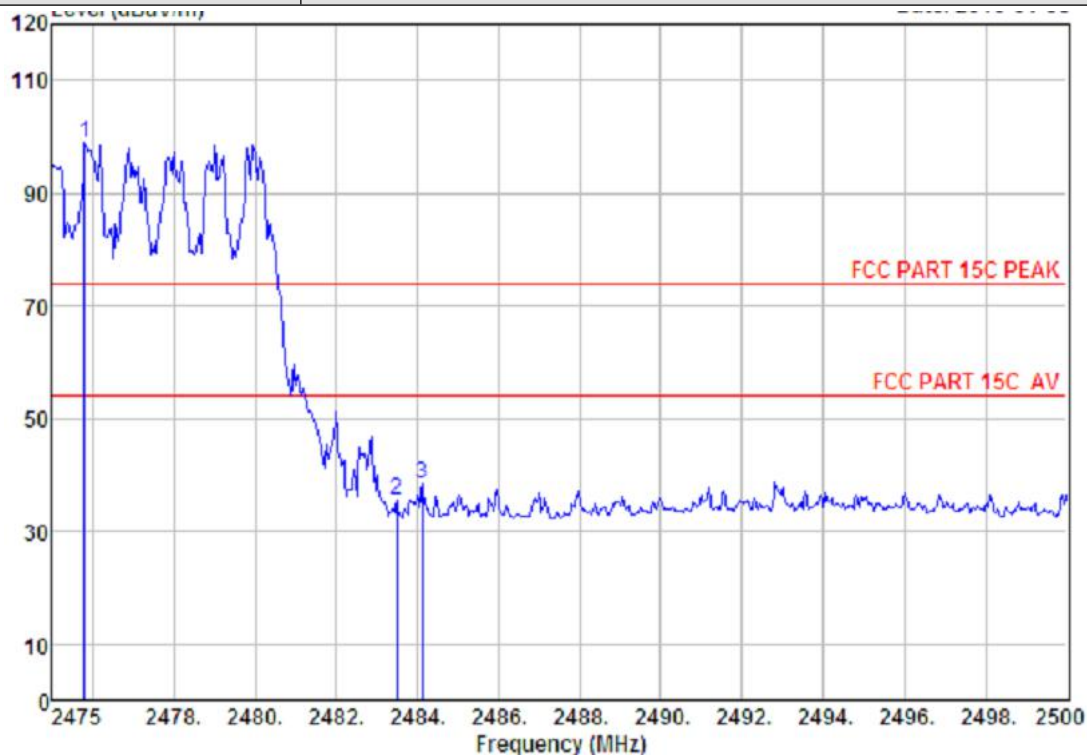
Test mode: GFSK(DH5)	2480MHz	Test channel:	Highest	Polarization	vertical
Hopping on					



	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2476.20	27.58	6.71	35.11	103.79	102.97	74.00	-28.97	Peak
2	2483.50	27.58	6.71	35.11	35.99	35.17	74.00	38.83	Peak
3	2487.95	27.58	6.73	35.11	41.94	41.14	74.00	32.86	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

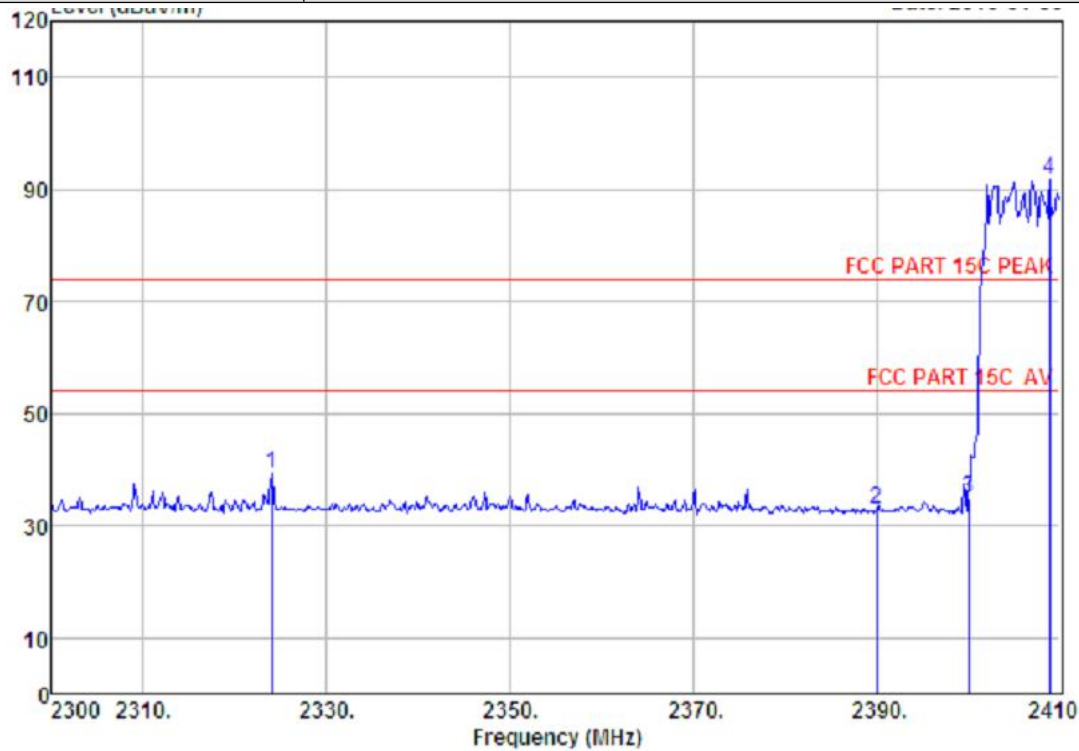
Test mode: GFSK(DH5)	2480MHz	Test channel:	Highest	Polarization	Horizontal
Hopping on					



	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2475.80	27.58	6.71	35.11	99.86	99.04	74.00	-25.04	Peak
2	2483.50	27.58	6.71	35.11	36.30	35.48	74.00	38.52	Peak
3	2484.13	27.58	6.71	35.11	39.17	38.35	74.00	35.65	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

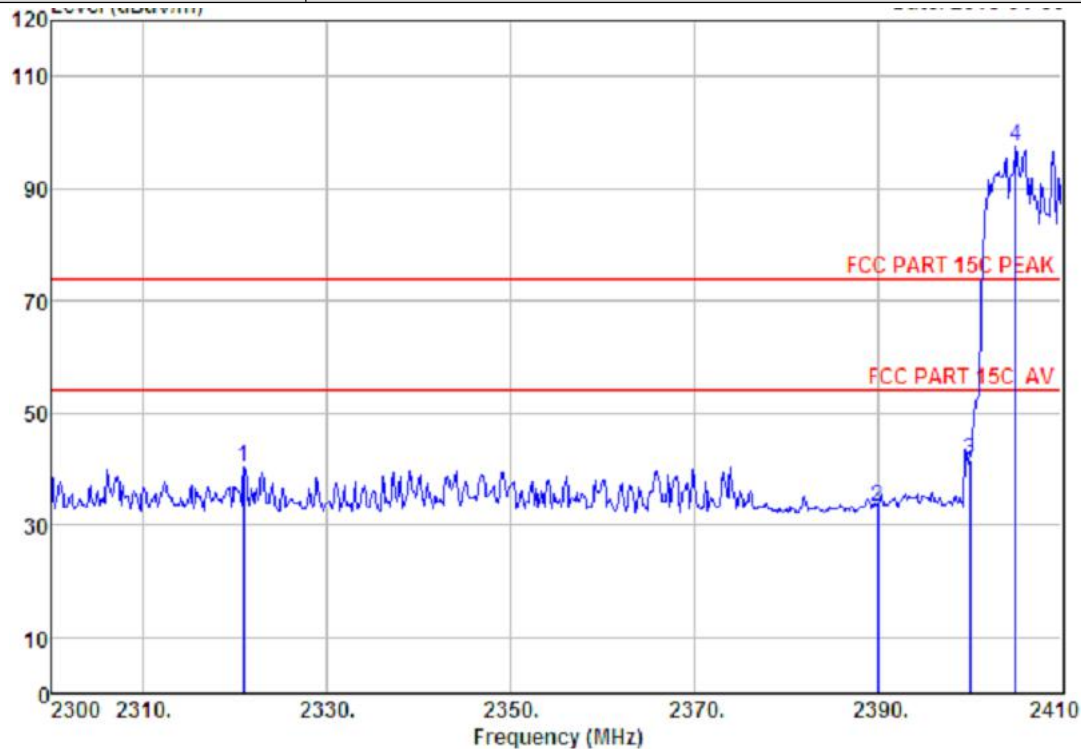
Test mode: 8DPSK(3DH5)	2402MHz	Test channel:	Lowest	Polarization	Horizontal
Hopping on					



	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2323.98	27.73	6.54	34.60	39.70	39.37	74.00	34.63	Peak
2	2390.00	27.64	6.62	34.62	33.25	32.89	74.00	41.11	Peak
3	2400.00	27.61	6.62	34.64	35.14	34.73	74.00	39.27	Peak
4	2408.90	27.60	6.64	34.64	92.09	91.69	74.00	-17.69	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

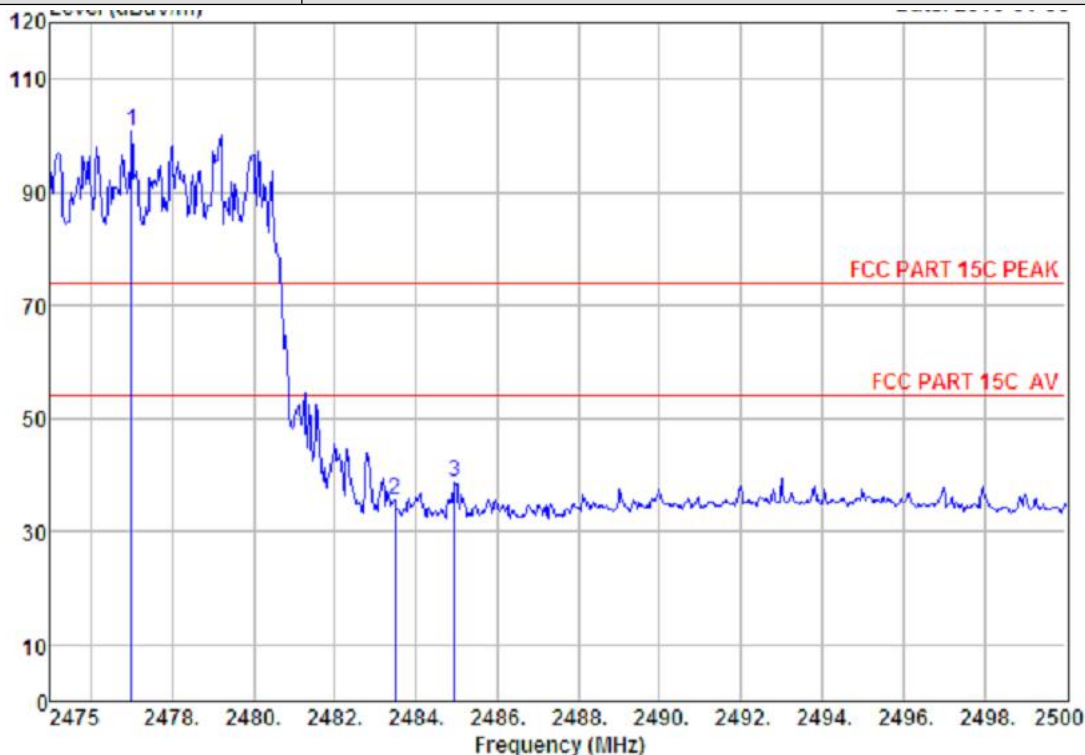
Test mode: 8DPSK(3DH5)	2402MHz	Test channel:	Lowest	Polarization	vertical
Hopping on					



	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2320.90	27.76	6.54	34.60	40.69	40.39	74.00	33.61	Peak
2	2390.00	27.64	6.62	34.62	33.71	33.35	74.00	40.65	Peak
3	2400.00	27.61	6.62	34.64	42.04	41.63	74.00	32.37	Peak
4	2405.05	27.61	6.64	34.64	97.90	97.51	74.00	-23.51	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

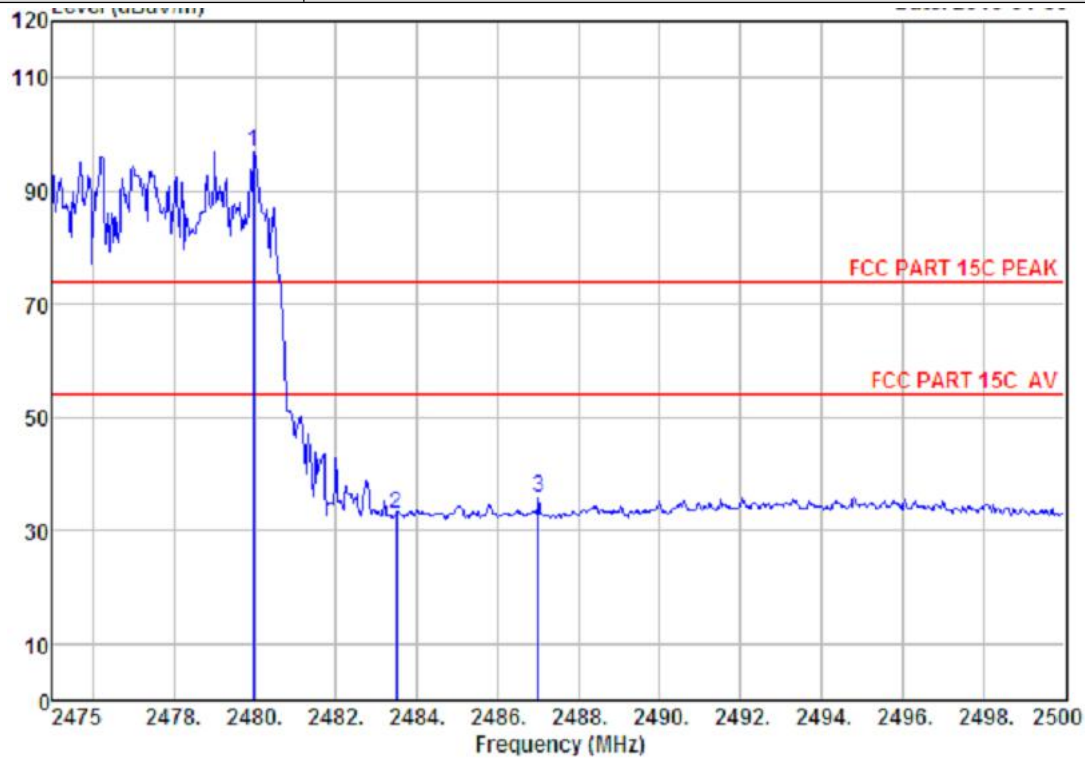
Test mode: 8DPSK(3DH5)	2480MHz	Test channel:	Highest	Polarization	vertical
Hopping on					



	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2477.00	27.58	6.71	35.11	101.78	100.96	74.00	-26.96	Peak
2	2483.50	27.58	6.71	35.11	36.25	35.43	74.00	38.57	Peak
3	2484.95	27.58	6.71	35.11	39.41	38.59	74.00	35.41	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

Test mode: 8DPSK(3DH5)	2480MHz	Test channel:	Highest	Polarization	Horizontal
Hopping on					



	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2479.98	27.58	6.71	35.11	97.83	97.01	74.00	-23.01	Peak
2	2483.50	27.58	6.71	35.11	33.91	33.09	74.00	40.91	Peak
3	2487.00	27.58	6.71	35.11	36.77	35.95	74.00	38.05	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

6 Photographs - EUT Test Setup

6.1 Radiated Emission

9K-30M



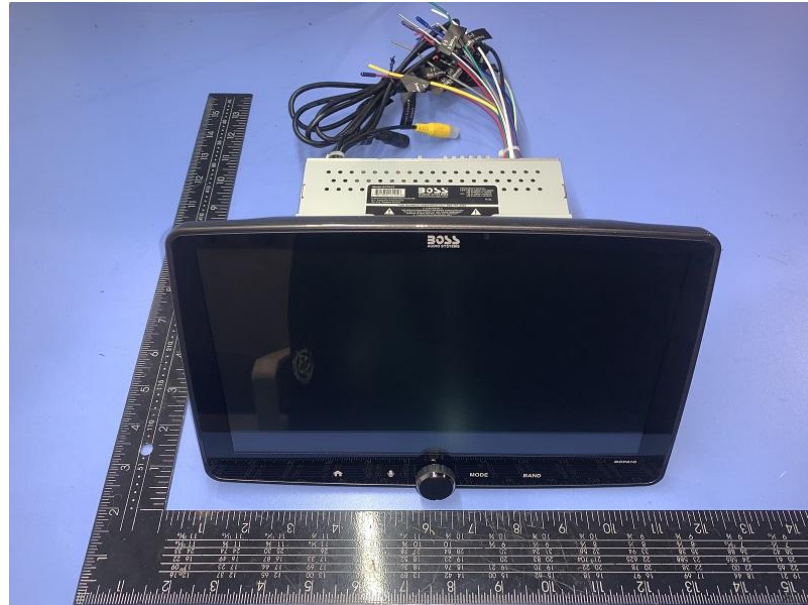
30MHz~1GHz:



Above 1GHz:

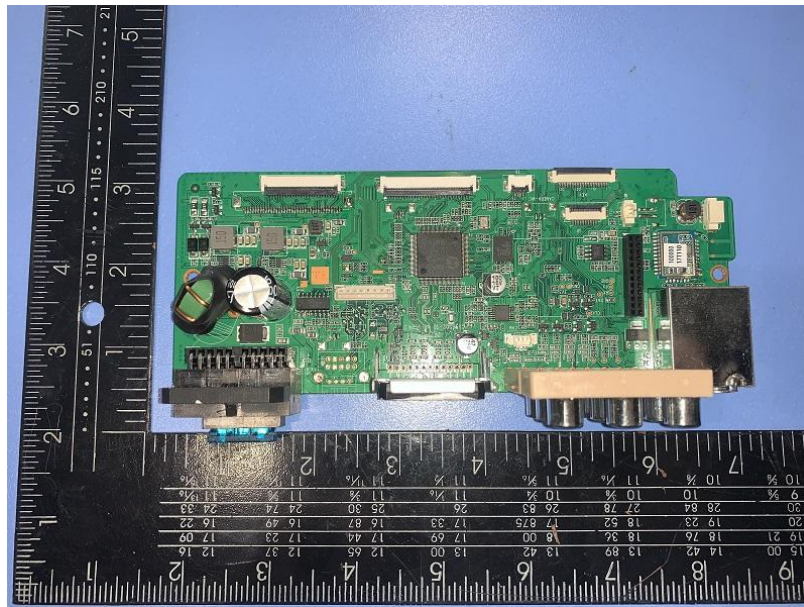
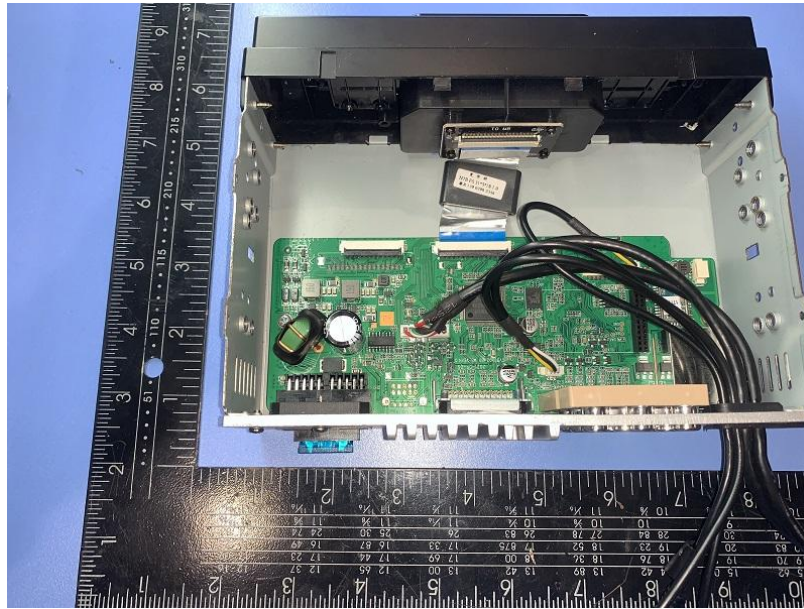


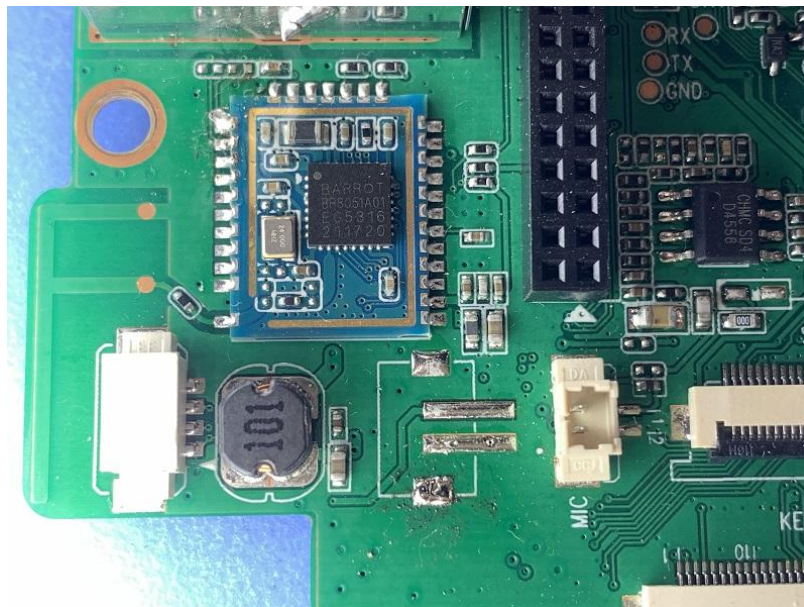
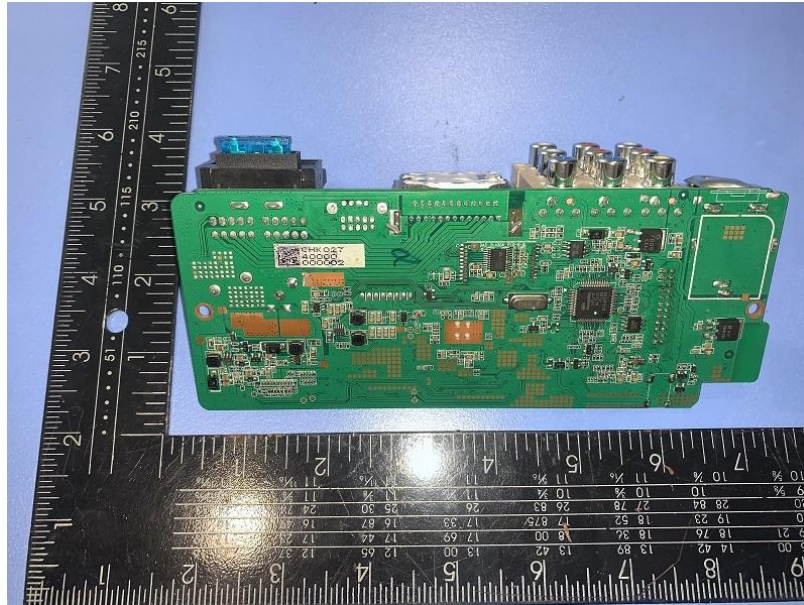
7 Photographs - EUT Constructional Details













*** END OF REPORT ***