FCC RF TEST REPORT

ISSUED BY
Shenzhen BALUN Technology Co., Ltd.

FOR

Cooler portable bluetooth speakers

ISSUED TO
Goldar Investments LLC

1201 Brickell Ave # 620, Miami Florida 33131 U.S.A

Prepared by: Cao Shaodong (Reporting Specialist)
Date 2014.5.13

Approved by: Wei Yanquan (Chief Engineer)
Date 2014.5.13

Report No.:	BL-SZ1440049-601
EUT Type:	Cooler portable bluetooth speakers
Model Name:	KGO-SS01
Brand Name:	KALEIGO
Test Standard:	47 CFR Part 15 Subpart C
FCC ID:	2AB93KGOSS01
Test conclusion:	PASS
Test Date:	2014.05.04- 2014.05.12
Date of Issue:	2014.05.13

Block B, 1st FL, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong, P. R. China 518055
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Revision History

Version	Issue Date	Revisions
Rev. 01	2014.05.13	Initial Issue

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1 ADMINISTRATIVE DATA (GENERAL INFORMATION)

1.1 Identification of the Testing Laboratory

Company Name	Shenzhen BALUN Technology Co., Ltd.
Address	Block B, 1st FL, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province,P. R. China
Phone Number	+86 755 6683 3402
Fax Number	+86 755 6182 4271

1.2 Identification of the Responsible Testing Location

Test Location	Shenzhen BALUN Technology Co., Ltd.
Address	Block B, 1st FL, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province,P. R. China
Accreditation Certificate	The laboratory has been listed by Industry Canada to perform electromagnetic emission measurements. The recognition numbers of test site are 11524A-1. The laboratory has been listed by US Federal Communications Commission to perform electromagnetic emission measurements. The recognition numbers of test site are 832625. The laboratory has met the requirements of the IAS Accreditation Criteria for Testing Laboratories (AC89), has demonstrated compliance with ISO/IEC Standard 17025:2005. The accreditation certificate number is TL-588. The laboratory is a testing organization accredited by China National Accreditation Service for Conformity Assessment (CNAS) according to ISO/IEC 17025. The accreditation certificate number is L6791.
Description	All measurement facilities used to collect the measurement data are located at Block B, FL 1, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China 518055

1.3 Test Environment Condition

Ambient Temperature	15 to 35℃
Ambient Relative Humidity	30 to 60%
Ambient Pressure	86 to106kPa

1.4 Announce

(1) The test report is invalid if not marked with the signatures of the persons responsible for preparing and approving the test report.

(2) The test report is invalid if there is any evidence and/or falsification.

(3) The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein.

(4) This document may not be altered or revised in any way unless done so by BALUN and all revisions are duly noted in the revisions section.

(5) Content of the test report, in part or in full, cannot be used for publicity and/or promotional purposes without prior written approval from the laboratory.

2 PRODUCT INFORMATION

2.1 Applicant

Applicant	Goldar Investments LLC
Address	1201 Brickell Ave # 620, Miami Florida 33131 U.S.A

2.2 Manufacturer

Manufacturer	Shenzhen Mgitec Co Ltd
Address	2F, Build B, AnHua Industrial Park, No.35 Distrct, Baoan, Shenzhen, China

2.3 General Description for Equipment under Test (EUT)

EUT Type	Cooler portable bluetooth speakers
Model Name	KGO-SS01
Hardware Version	V 1.0
Software Version	V 1.0
Network and Wireless connectivity	BT 3.0+EDR
Display	N/A
About the Product	The EUT is a Cooler portable bluetooth speakers, it contains Bluetooth Module operating at 2.4GHz ISM band which supports Bluetooth 3.0. The EUT is equipped with a mini USB port, and an AUX port.

2.4 Technical Information

TX/ RX Operating Range	2400~2483.5MHz band f_c = 2402 MHz + N*1 MHz, where - f_c = “Operating Frequency” in MHz, - N = “Channel Number” with the range from 0 to 78.	
Modulation Type	Carrier	Frequency Hopping Spread Spectrum
	Digital	GFSK, π/4-DQPSK, 8DPSK
Antenna Type	PCB Antenna	
Antenna Gain	0dBi	

2.5 Ancillary Equipment

Ancillary Equipment 1	Battery	
	Brand Name	N/A
	Model No	N/A
	Serial No	N/A
	Capacitance	1200 mAh
	Rated Voltage	3.7V
	Extreme Voltage	Low: 3.5V / High:4.2V

3 SUMMARY OF TEST RESULTS

3.1 Test Standards

No.	Identity	Document Title
1	47 CFR Part 15, Subpart C (12-30-13 Edition)	Miscellaneous Wireless Communications Services
2	FCC PUBLIC NOTICE DA 00-705 (Mar. 30, 2000)	Filling and Measurement Guidelines for Frequency Hopping Spread Spectrum Systems
3	ANSI C63.4-2003/2009	American National Standard for Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz
4	ANSI C63.10-2009	American National Standard for Testing Unlicensed Wireless Devices

3.2 Verdict

No.	Description	FCC Part No.	Test Result	Verdict
1	Antenna Requirement	15.203 15.247(b)	--	Pass
2	Number of Hopping Frequency	15.247(a)	ANNEX A.1	Pass
3	Peak Output Power	15.247(b)	ANNEX A.2	Pass
4	Occupied Bandwidth	15.247(a)	ANNEX A.3	Pass
5	Carrier Frequency Separation	15.247(a)	ANNEX A.4	Pass
6	Time of Occupancy (Dwell time)	15.247(a)	ANNEX A.5	Pass
7	Conducted Spurious Emission	15.247(d)	ANNEX A.6	Pass
8	Conducted Emission	15.207	ANNEX A.7	Pass
9	Radiated Spurious Emission	15.209 15.247(c)	ANNEX A.8	Pass
10	Band Edge	15.247(d)	ANNEX A.9	Pass
Note 1: Please refer to section 5.1				

4 GENERAL TEST CONFIGURATIONS

4.1 Test Environments

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

Relative Humidity (%)	30 -60	
Atmospheric Pressure (kPa)	86-106	
Temperature	NT (Normal Temperature)	+20℃ to +25℃
	LT (Low Temperature)	-20℃
	HT (High Temperature)	+55℃
Working Voltage of the EUT	NV (Normal Voltage)	3.70V
	LV (Low Voltage)	3.50V
	HV (High Voltage)	4.20V

4.2 Test Equipment List

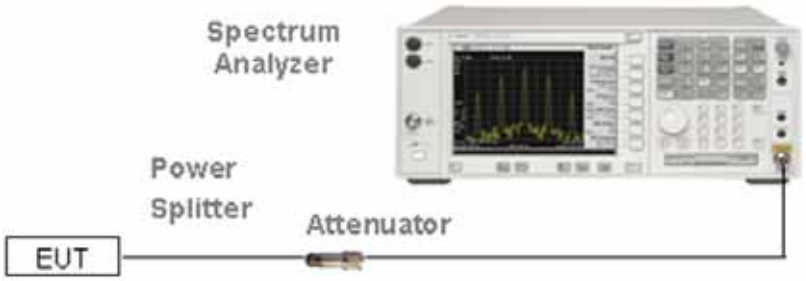
Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
Spectrum Analyzer	AGILENT	E4440A	MY45304434	2014.05.10	2015.05.09
Spectrum Analyzer	ROHDE&SCHWARZ	FSL3	103640/003	2014.05.02	2015.05.01
Bluetooth Tester	ROHDE&SCHWARZ	CBT	101005	2014.05.11	2015.05.10
Power Splitter	KMW	DCPD-LDC	1305003215	2014.05.11	2015.05.10
Power Sensor	ROHDE&SCHWARZ	NRP-Z21	103971	2014.05.08	2015.05.07
Attenuator (20dB)	KMW	ZA-S1-201	110617091	--	--
Attenuator (6dB)	KMW	ZA-S1-61	1305003189	--	--
DC Power Supply	ROHDE&SCHWARZ	HMP2020	018141664	2013.07.06	2014.07.07
Temperature Chamber	ANGELANTIONI SCIENCE	NTH64-40A	1310	2013.07.06	2014.07.07
Test Antenna-Loop(9kHz-30MHz)	SCHWARZBECK	VULB 9163	9163-624	2013.07.03	2014.07.02
Test Antenna-Bi-Log(30MHz-3GHz)	SCHWARZBECK	BBHA 9120D	9120D-1148	2013.07.02	2014.07.01
Test Antenna-Horn(1-18GHz)	SCHWARZBECK	BBHA 9170	9170-305	2013.07.02	2014.07.01
Test Antenna-Horn(15-26.5GHz)	SCHWARZBECK	FMZB 1519	1519-037	2013.07.02	2014.07.01
Anechoic Chamber	RAINFORD	9m*6m*6m	N/A	2013.10.07	2014.10.06

4.3 Test Configurations

Test Configurations (TC) NO.	Description	
	Signal Description	Operating Frequency
Transmitter		
TC01	GFSK modulation, package type DH5, hopping on	--
TC02	GFSK modulation, package type DH5, hopping off	Ch No. 0/ 2402MHz
TC03	GFSK modulation, package type DH5, hopping off	Ch No. 39/ 2441MHz
TC04	GFSK modulation, package type DH5, hopping off	Ch No. 78/ 2480MHz
TC05	π/4-DQPSK modulation, package type DH5, hopping on	--
TC06	π/4-DQPSK modulation, package type DH5, hopping off	Ch No. 0/ 2402MHz
TC07	π/4-DQPSK modulation, package type DH5, hopping off	Ch No. 39/ 2441MHz
TC08	π/4-DQPSK modulation, package type DH5, hopping off	Ch No. 78/ 2480MHz
TC09	8DPSK modulation, package type DH5, hopping on	--
TC10	8DPSK modulation, package type DH5, hopping off	Ch No. 0/ 2402MHz
TC11	8DPSK modulation, package type DH5, hopping off	Ch No. 39/ 2441MHz
TC12	8DPSK modulation, package type DH5, hopping off	Ch No. 78/ 2480MHz

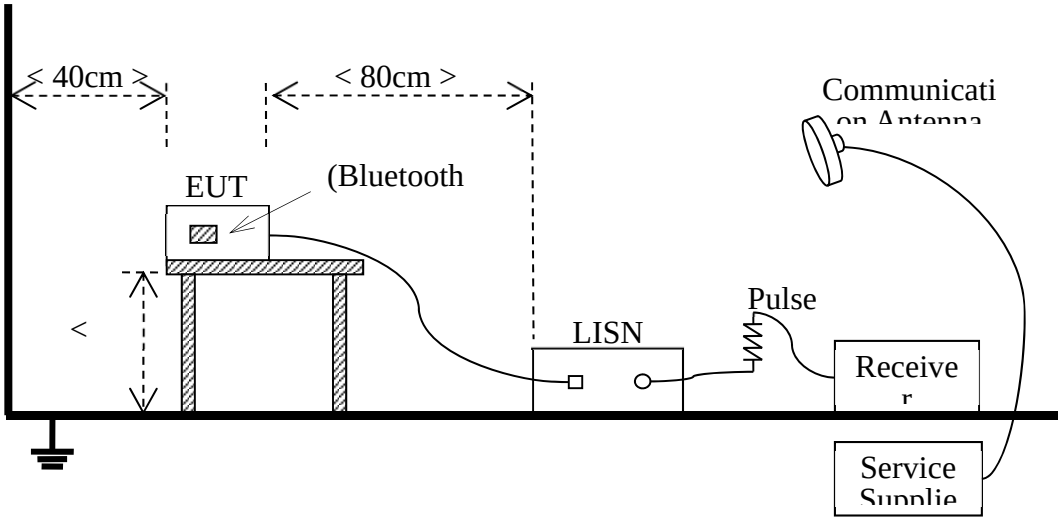
4.4 Description of Test Setup

4.4.1 For Antenna Port Test



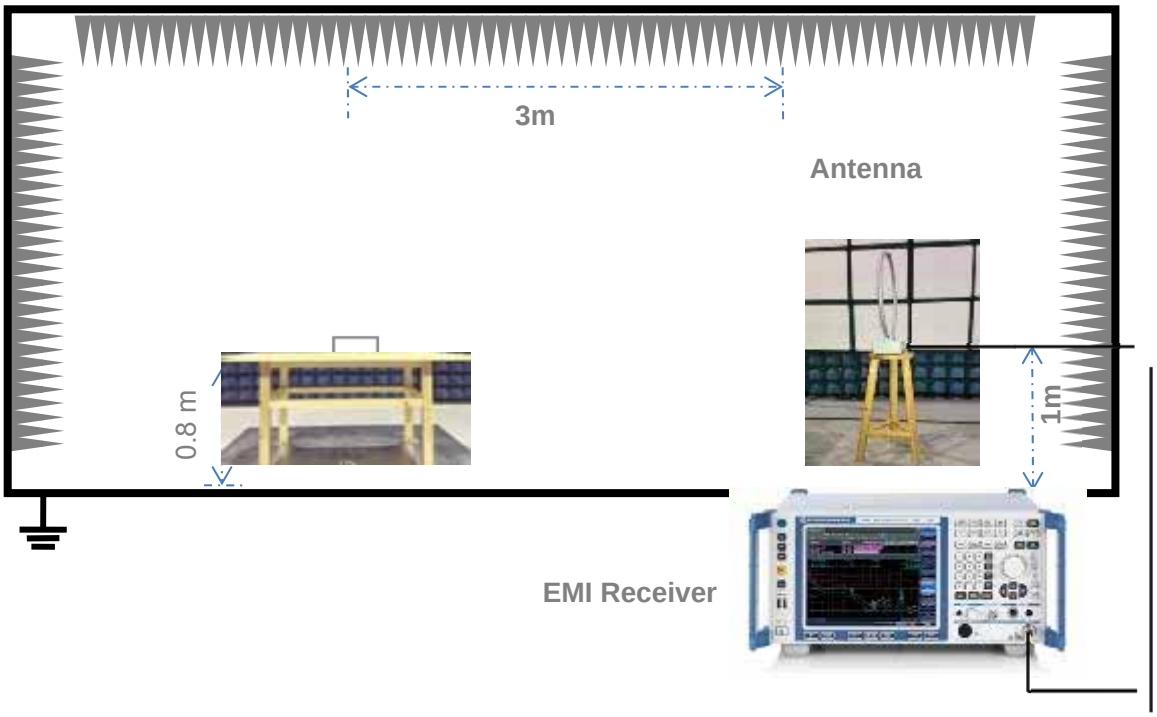
(Diagram 1)

4.4.2 For AC Power Supply Port Test



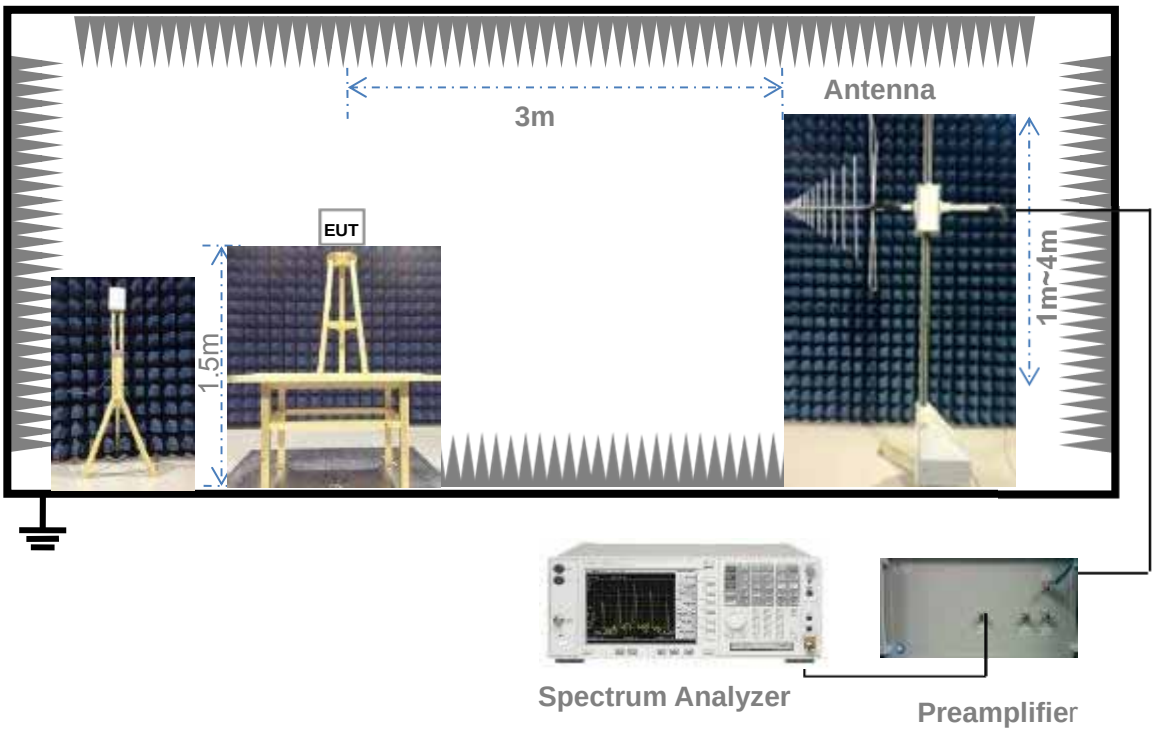
(Diagram 2)

4.4.3 For Radiated Test (Below 30MHz)



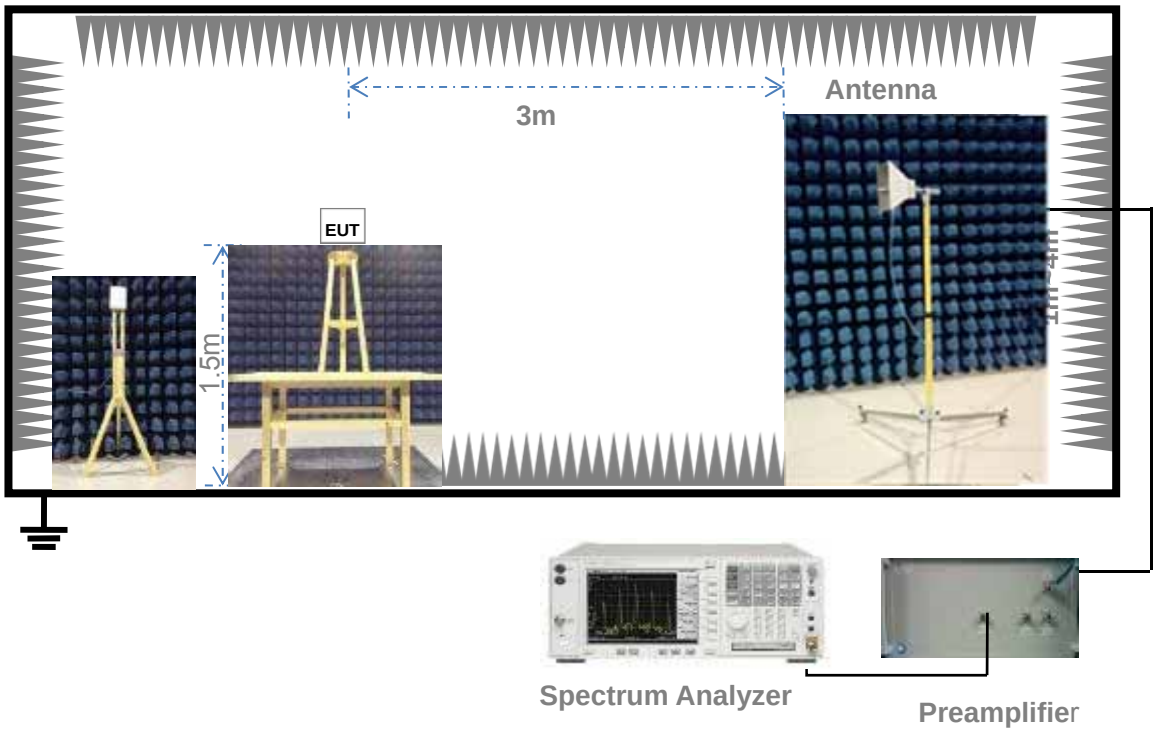
(Diagram 3)

4.4.4 For Radiated Test (30MHz-1GHz)



(Diagram 4)

4.4.5 For Radiated Test (Above 1GHz)



(Diagram 5)

4.5 Test Conditions

Test Case	Test Conditions		
	Test Env.	Test Setup Note 1	Test Configuration Note 2
Number of Hopping Frequency	NTNV	Test Setup 1	TC01, TC05, TC09
Peak Output Power	NTNV	Test Setup 1	TC02, TC03, TC04, TC06,TC07,TC08, TC10, TC11, TC12
Occupied Bandwidth	NTNV	Test Setup 1	TC03, TC07, TC011
Carrier Frequency Separation	NTNV	Test Setup 1	TC01, TC05, TC09
Time of Occupancy (Dwell time)	NTNV	Test Setup 1	TC01, TC05, TC09
Conducted Spurious Emission	NTNV	Test Setup 1	TC02, TC03, TC04, TC06,TC07,TC08, TC10, TC11, TC12
Conducted Emission	NTNV	Test Setup 2	TC02, TC03, TC04, TC06,TC07,TC08, TC10, TC11, TC12
Radiated Emission	NTNV	Test Setup 3 Test Setup 4 Test Setup 5	TC02, TC03, TC04, TC06,TC07,TC08, TC10, TC11, TC12
Band Edge	NTNV	Test Setup 5	TC02, TC04, TC06,TC08, TC10, TC12
Note: 1. Please refer to section 4.4 for test setup details. 2. Please refer to section 4.3 for test setup details.			

5 TEST ITEMS

5.1 Antenna Requirements

5.1.1 Standard Applicable

FCC §15.203 & 15.247(b)

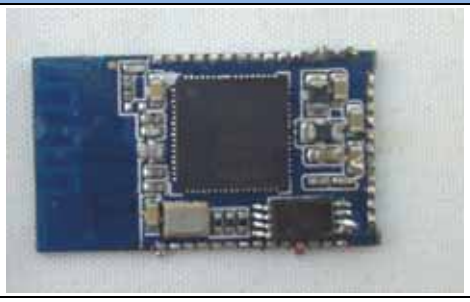
An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of § 15.211, § 15.213, § 15.217, § 15.219, or § 15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with § 15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.

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

5.1.2 Antenna Anti-Replacement Construction

The Antenna Anti-Replacement as following method:

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

Reference Documents	Item
Photo	

5.1.3 Antenna Gain

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

5.2 Number of Hopping Frequency

5.2.1 Limit

FCC §15.247(a)(1)(iii)

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

5.2.2 Test Procedure

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

Span = the frequency band of operation
RBW ≥ 1% of the span
VBW ≥ RBW
Sweep = auto
Detector function = peak
Trace = max hold
Allow the trace to stabilize

5.3 Peak Output Power

5.3.1 Test Limit

FCC § 15.247(b)

For frequency hopping systems that operates in the 2400MHz to 2483.5MHz band employing at least 75 hopping channels, the maximum peak output power of the intentional radiator shall not exceed 1Watt.

5.3.2 Test Procedure

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

5.4 Occupied Bandwidth

5.4.1 Limit

FCC §15.247(a)

The 20dB bandwidth is known as the 99% emission bandwidth, or 20dB bandwidth (10*log1%=20dB) taking the total RF output power.

5.4.2 Test Procedure

Use the following spectrum analyzer settings:

Span = approximately 2 to 3 times the 20 dB bandwidth, centered on a hopping channel
RBW ≥ 1% of the 20 dB bandwidth
VBW ≥ RBW
Sweep = auto
Detector function = peak
Trace = max hold

5.5 Carrier Frequency Separation

5.5.1 Limit

FCC §15.247(a)

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

5.5.2 Test Procedure

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

Span = wide enough to capture the peaks of two adjacent channels
Resolution (or IF) Bandwidth (RBW) ≥ 1% of the span
Video (or Average) Bandwidth (VBW) ≥ RBW
Sweep = auto
Detector function = peak
Trace = max hold

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

5.6 Time of Occupancy (Dwell time)

5.6.1 Limit

FCC §15.247(a)

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

5.6.2 Test Procedure

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

For DH1 package type

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

{Period} = 0.4s * {Number of Hopping Frequency}

For DH3 package type

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

{Period} = 0.4s * {Number of Hopping Frequency}

For DH5 package type

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

{Period} = 0.4s * {Number of Hopping Frequency}

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

5.7 Conducted Spurious Emission

5.7.1 Limit

FCC §15.247(d)

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

5.7.2 Test Procedure

Use the following spectrum analyzer settings:

Span = wide enough to capture the peak level of the in-band emission and all spurious emissions (e.g., harmonics) from the lowest frequency generated in the EUT up through the 10th harmonic. Typically, several plots are required to cover this entire span.
RBW = 100 kHz
VBW ≥ RBW
Sweep = auto
Detector function = peak
Trace = max hold
Allow the trace to stabilize

5.8 Conducted Emission

5.8.1 Limit

FCC §15.207

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

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

5.8.2 Test Procedure

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

5.9 Radiated Spurious Emission

5.9.1 Limit

FCC §15.209&15.247(c)

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

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

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

Note:

1. For Above 1000MHz, the emission limit in this paragraph is based on measurement instrumentation employing an average detector, measurement using instrumentation with a peak detector function, corresponding to 20dB above the maximum permitted average limit.

2. For above 1000MHz, limit field strength of harmonics: 54dBuV/m@3m (AV) and 74dBuV/m@3m (PK).

5.9.2 Test Procedure

The measurement frequency range is from 30MHz to the 10th harmonic of the fundamental frequency. The Turn Table is actuated to turn from 0° to 360°, and both horizontal and vertical polarizations of the Test Antenna are used to find the maximum radiated power. Mid channels on all channel bandwidth verified. Only the worst RB size/offset presented.

The power of the EUT transmitting frequency should be ignored.

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

Use the following spectrum analyzer settings:

Span = wide enough to fully capture the emission being measured
RBW = 1 MHz for f ≥ 1 GHz, 100 kHz for f < 1 GHz
VBW ≥ RBW
Sweep = auto
Detector function = peak
Trace = max hold

5.10 Band Edge

5.10.1 Limit

FCC §15.209&15.247(d)

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

5.10.2 Test Procedure

Span = wide enough to capture the peak level of the emission operating on the channel closest to the band edge, as well as any modulation products which fall outside of the authorized band of operation

RBW ≥ 1% of the span

VBW ≥ RBW

Sweep = auto

Detector function = peak /AV

Trace = max hold

Allow the trace to stabilize.

E [dBμV/m] =UR + AT + AFactor [dB]; AT =LCable loss [dB]-Gpreamp [dB]

AT: Total correction Factor except Antenna

UR: Receiver Reading

Gpreamp: Preamplifier Gain

AFactor: Antenna Factor at 3m

ANNEX A TEST RESULT

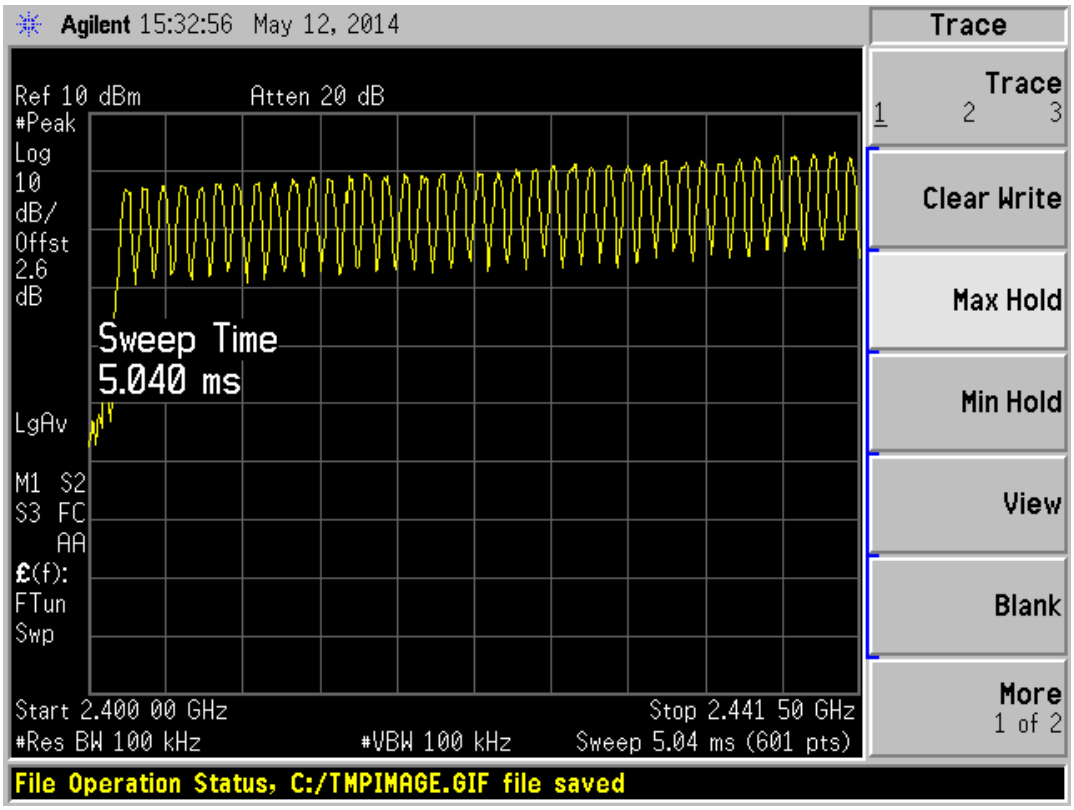
A.1 Number of Hopping Frequency

Test Data

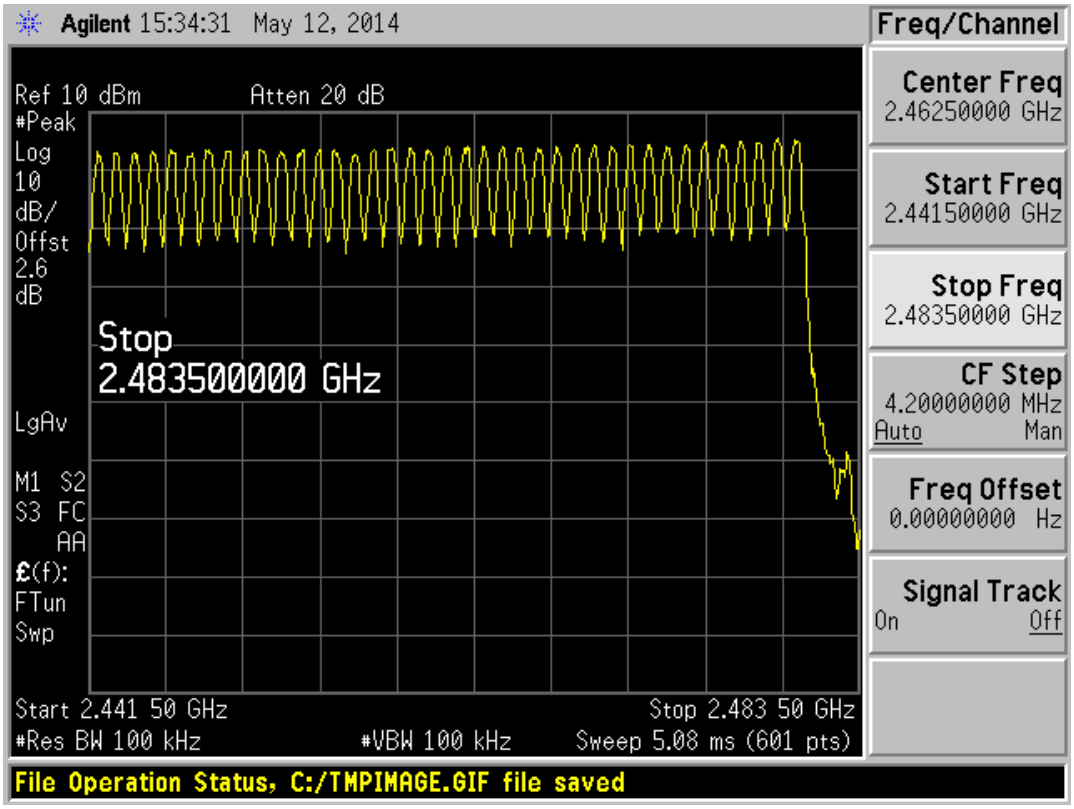
Test Mode	Frequency Block (MHz)	Measured Channel Numbers	Min. Limit	Verdict
GFSK	2400 - 2483.5	79	15	PASS
∏/4-DQPSK	2400 - 2483.5	79	15	PASS
8-DPSK	2400 - 2483.5	79	15	PASS

Test plots

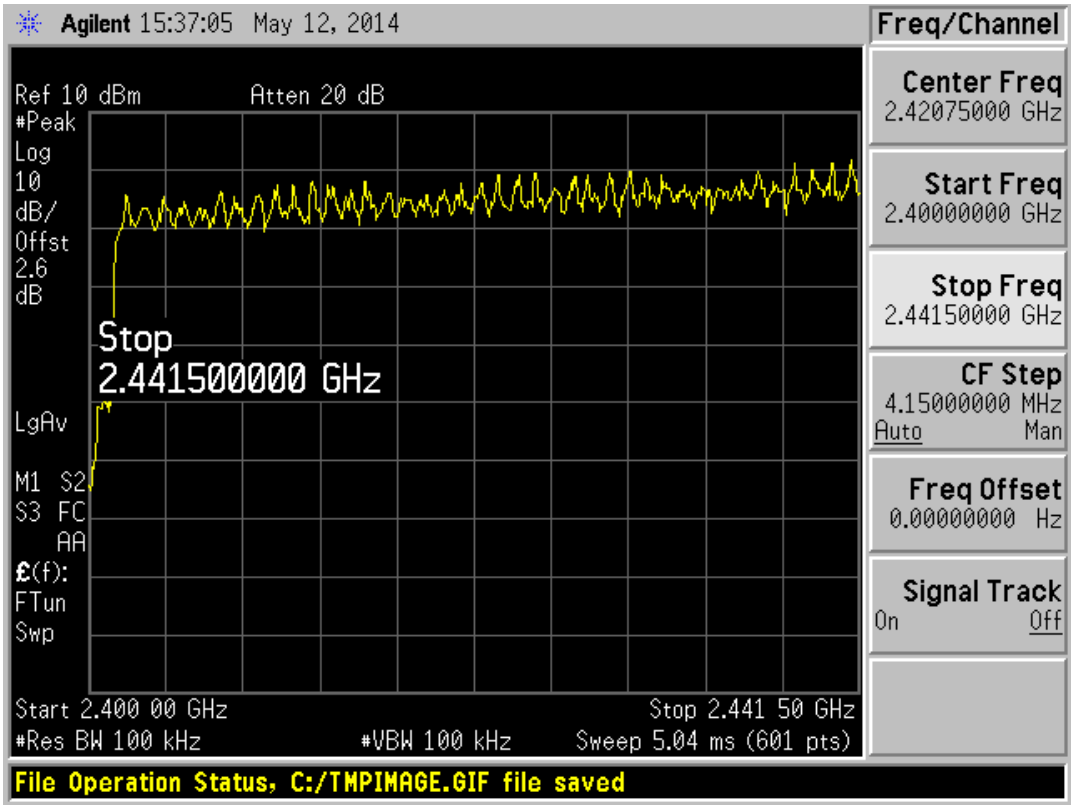
A.1.1, GFSK 2.4GHz~2.4415GHz



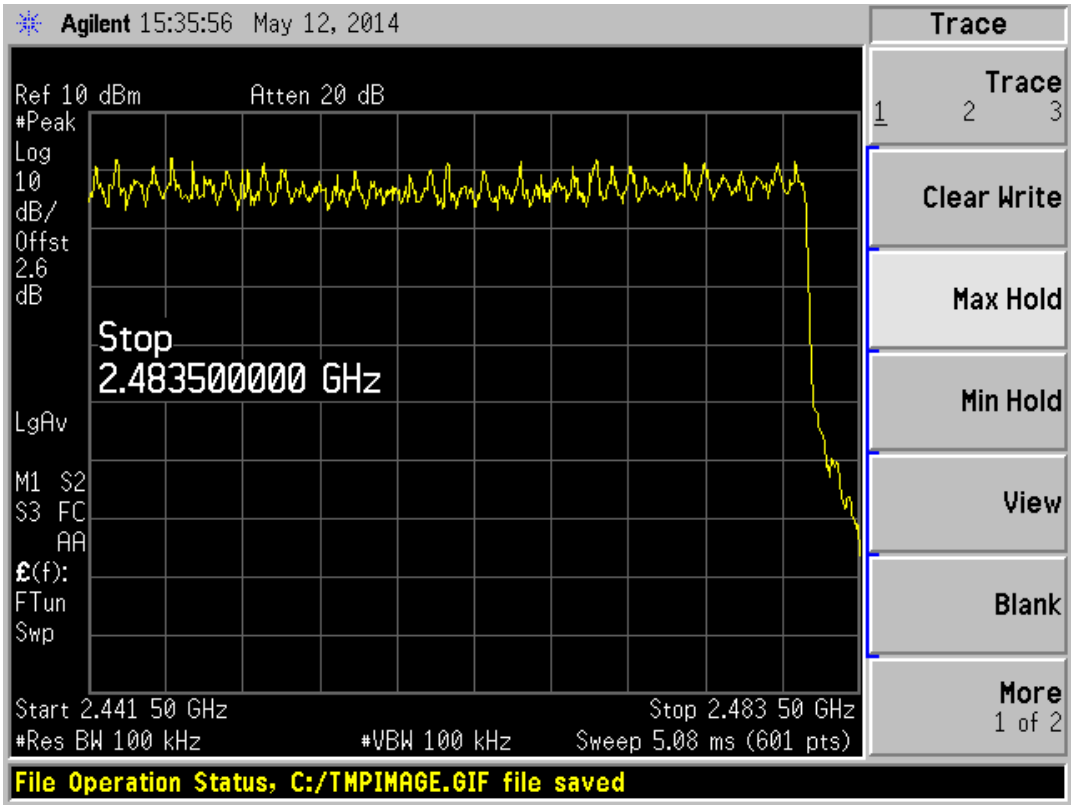
A.1.2, GFSK 2.4415GHz~2.4835GHz



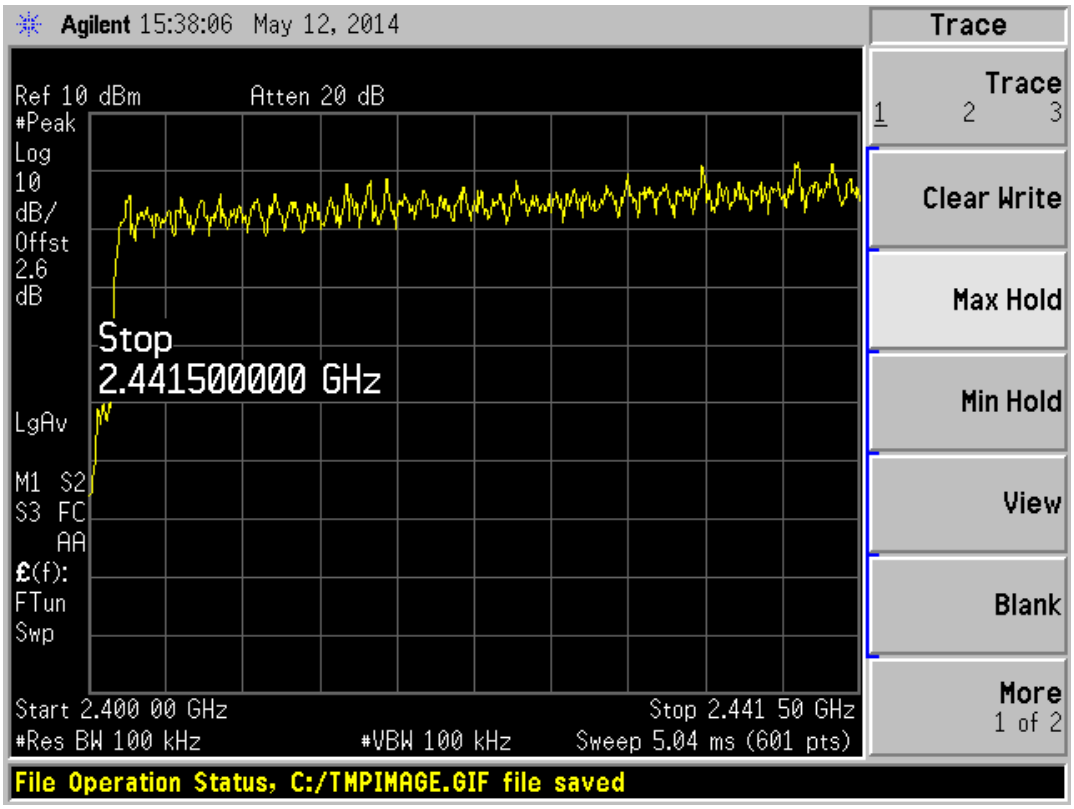
A.1.3, ∏/4-DQPSK 2.4GHz~2.4415GHz



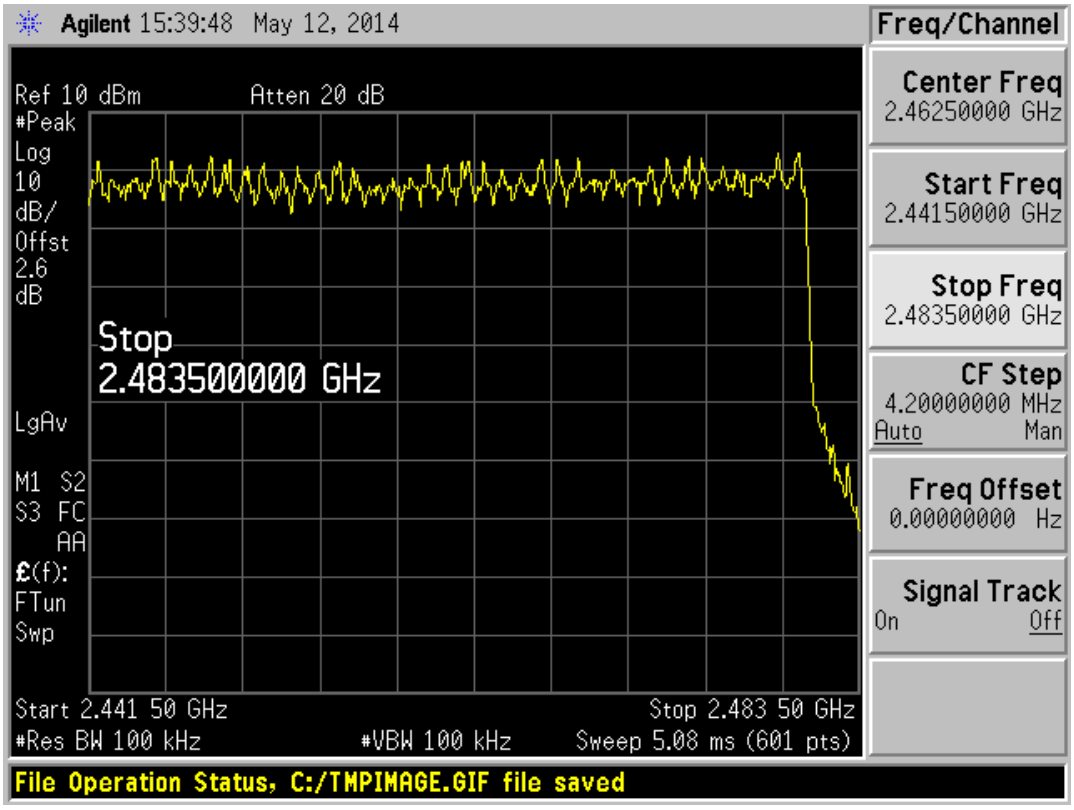
A.1.4, ∏/4-DQPSK 2.4415GHz~2.4835GHz



A.1.5, 8-DPSK 2.4GHz~2.4415GHz



A.1.6, 8-DPSK 2.4415GHz~2.4835GHz



A.2 Peak Output Power

Test Data

GFSK Mode:

Channel	Frequency (MHz)	Measured Output Peak Power		Limit		Verdict
		dBm	mW	dBm	mW	
0	2402	-2.10	0.62	20.97	125	PASS
39	2441	3.50	2.24			PASS
78	2480	3.08	2.03			PASS

∏/4-DQPSK Mode:

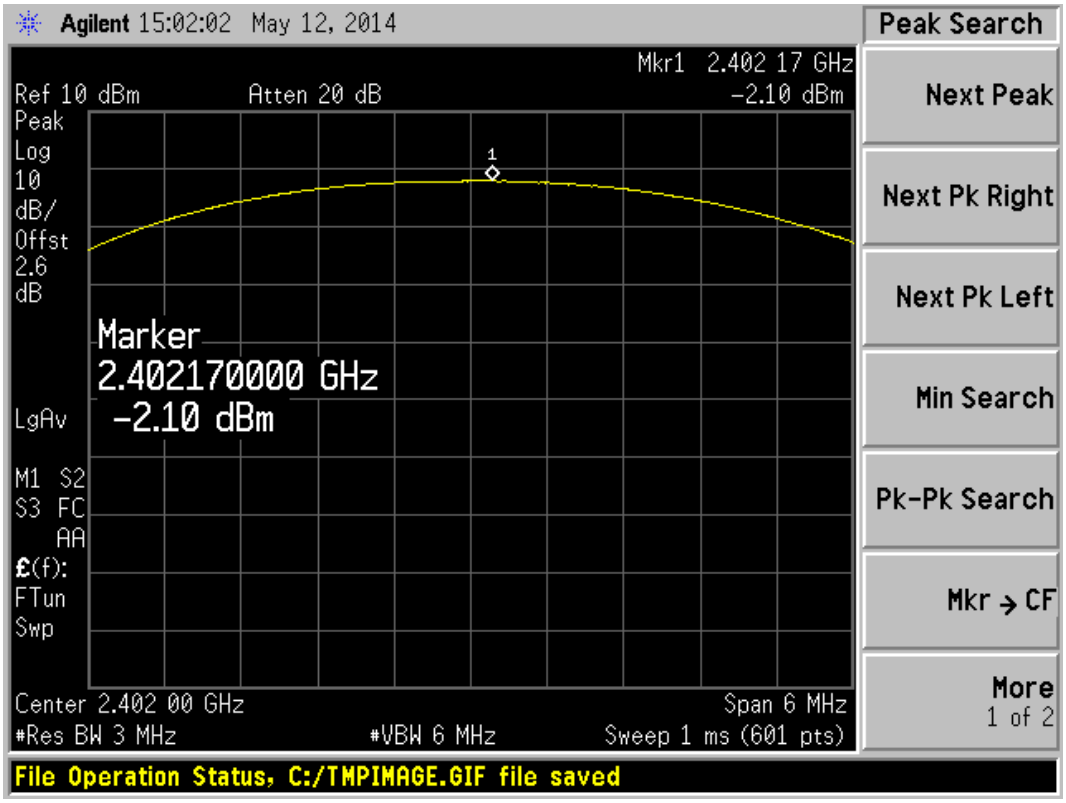
Channel	Frequency (MHz)	Measured Output Peak Power		Limit		Verdict
		dBm	mW	dBm	mW	
0	2402	-3.39	0.46	20.97	125	PASS
39	2441	2.33	1.71			PASS
78	2480	3.97	2.49			PASS

8-DPSK Mode:

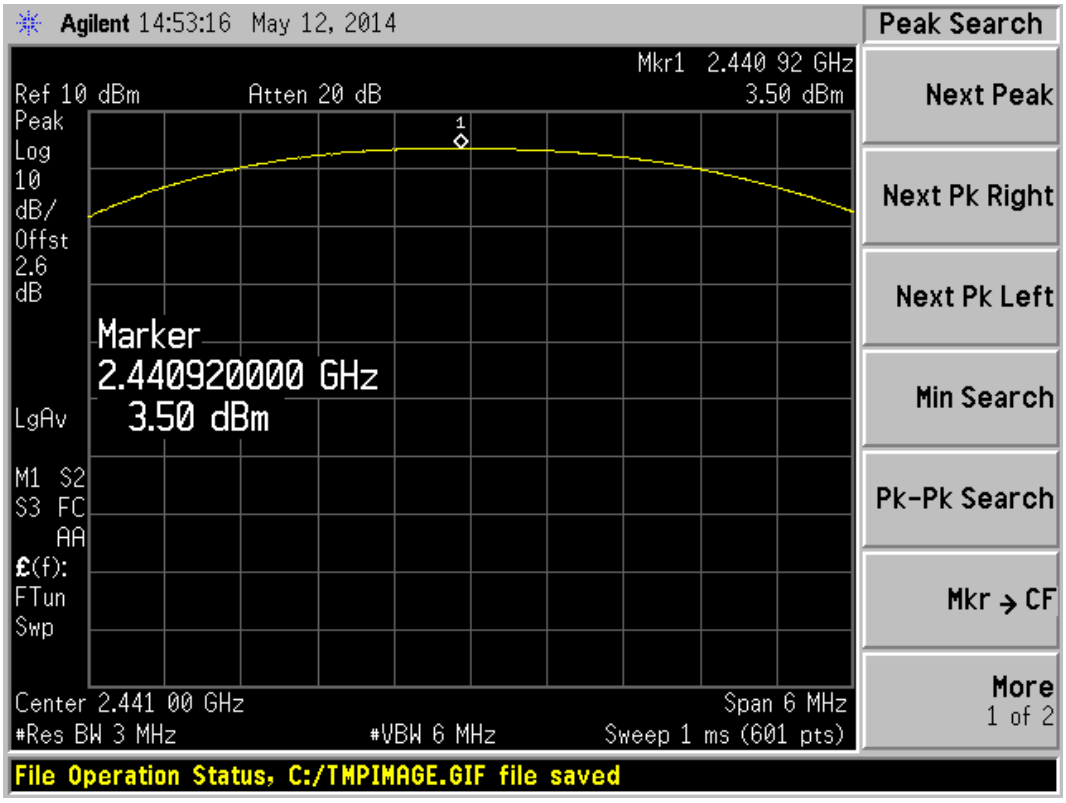
Channel	Frequency (MHz)	Measured Output Peak Power		Limit		Verdict
		dBm	mW	dBm	mW	
0	2402	-3.30	0.47	20.97	125	PASS
39	2441	2.51	1.78			PASS
78	2480	4.18	2.62			PASS

Test plots

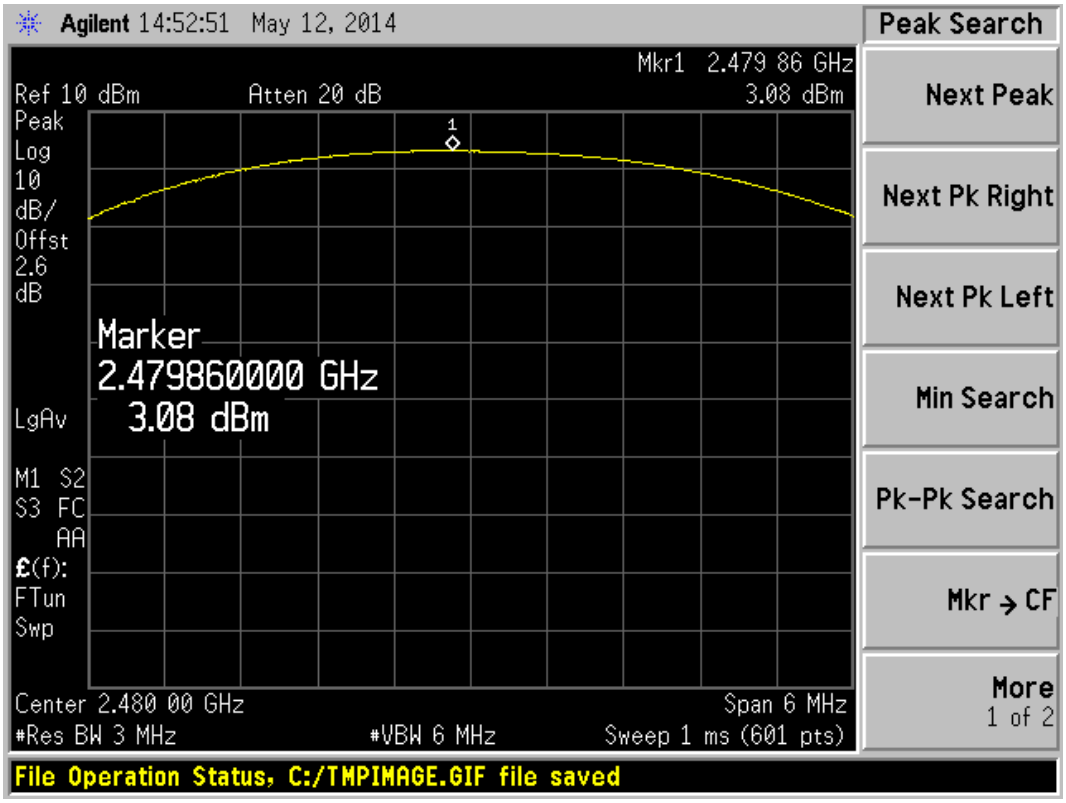
A.2.1, GFSK LOW CHANNEL



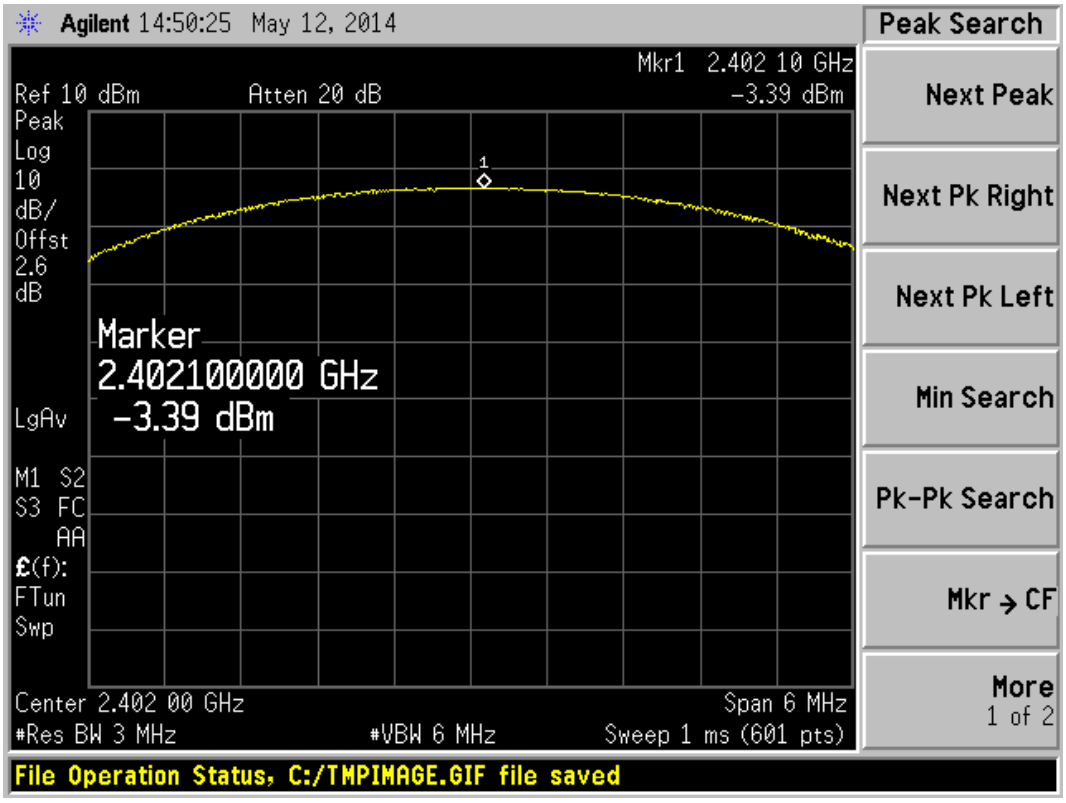
A.2.2, GFSK MID CHANAEL



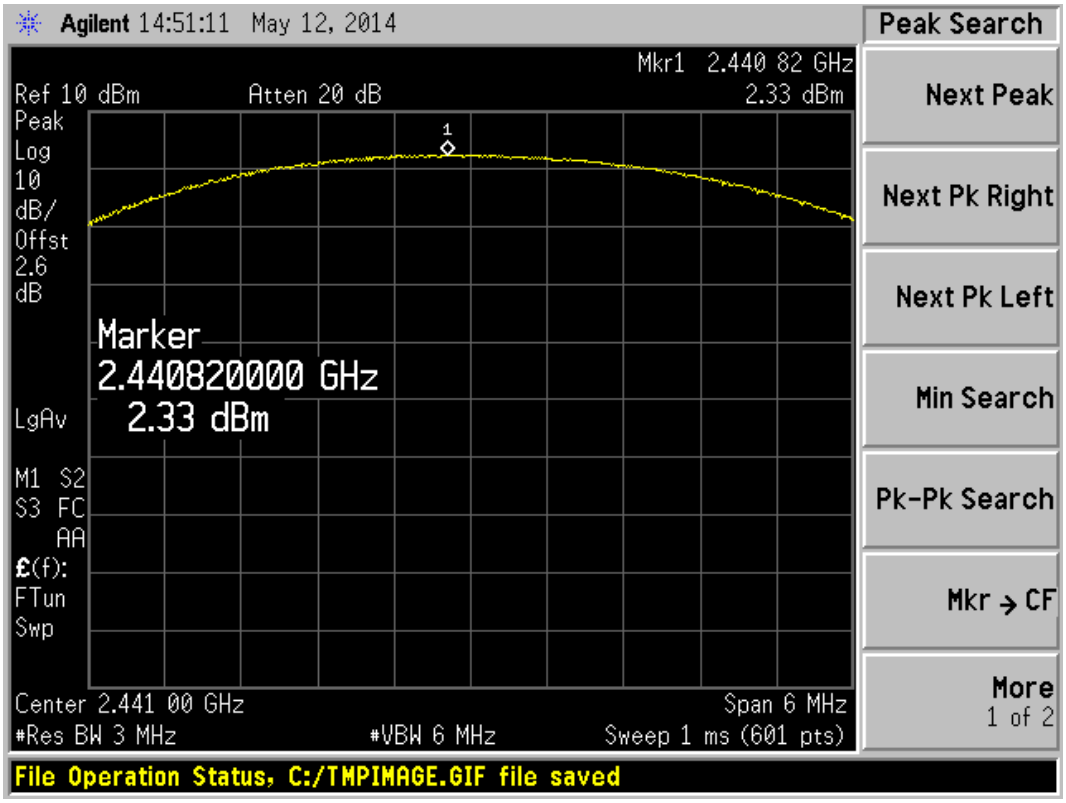
A.2.3, GFSK HIGH CHANNEL



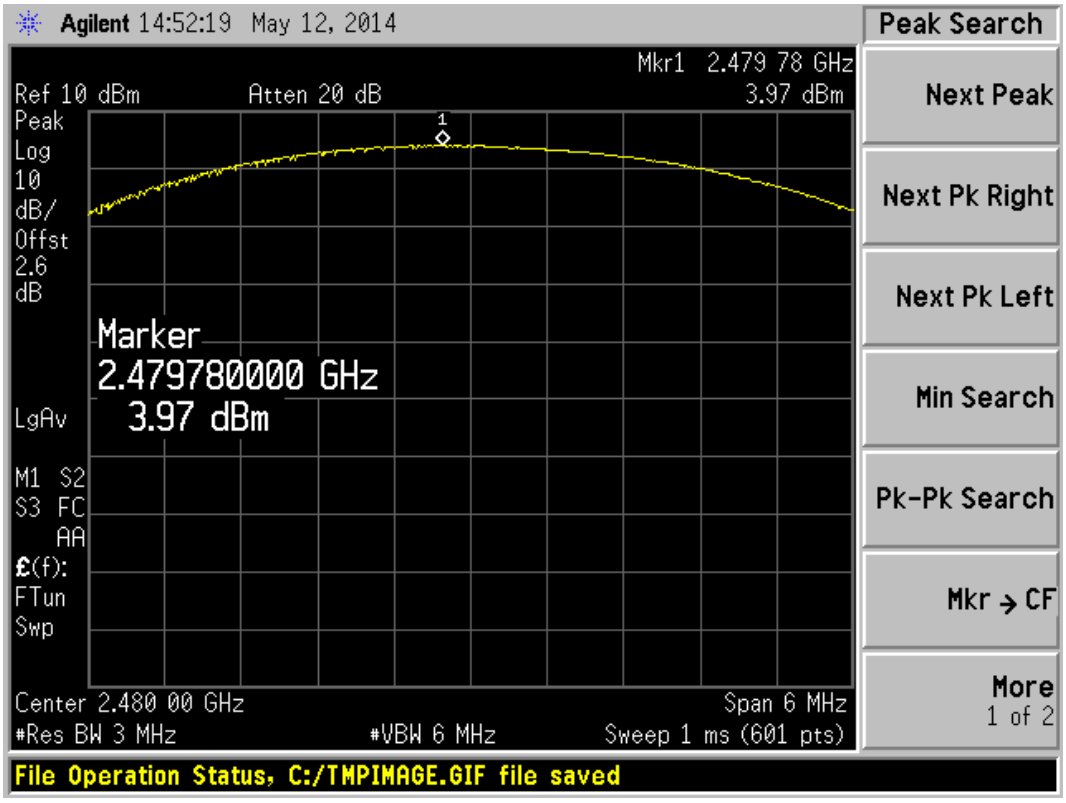
A.2.4, ∏/4-DQPSK LOW CHANNEL



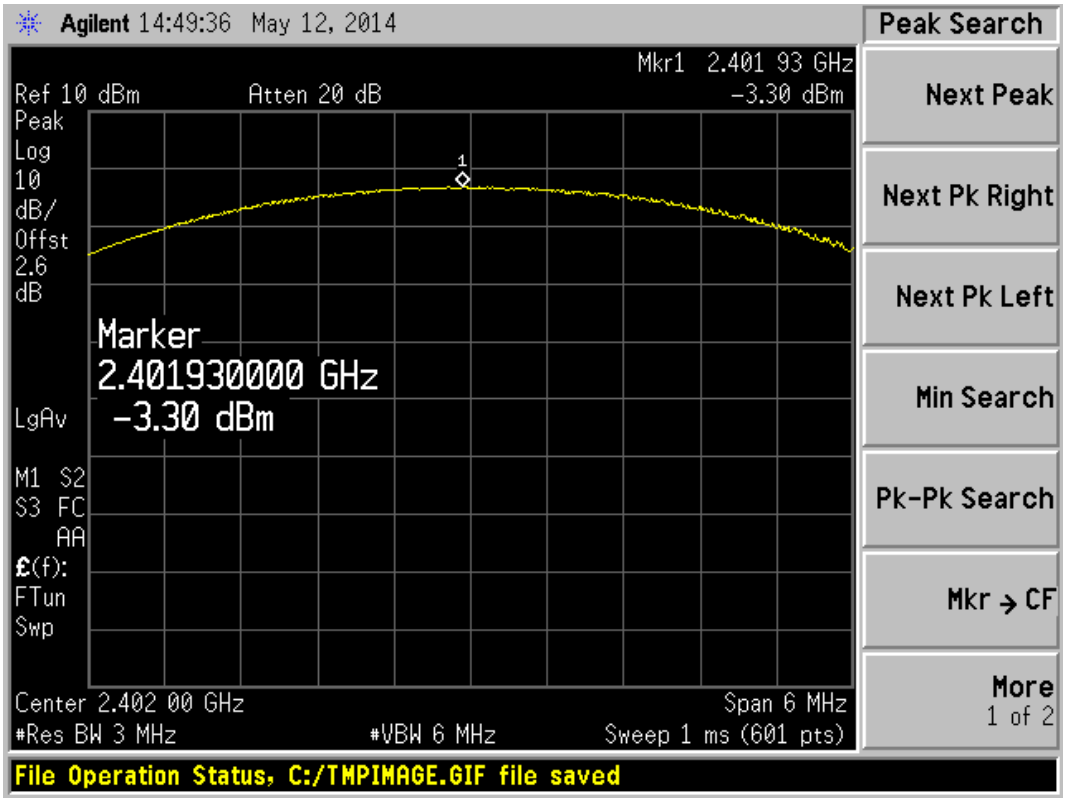
A.2.5, ∏/4-DQPSK MID CHANAEL



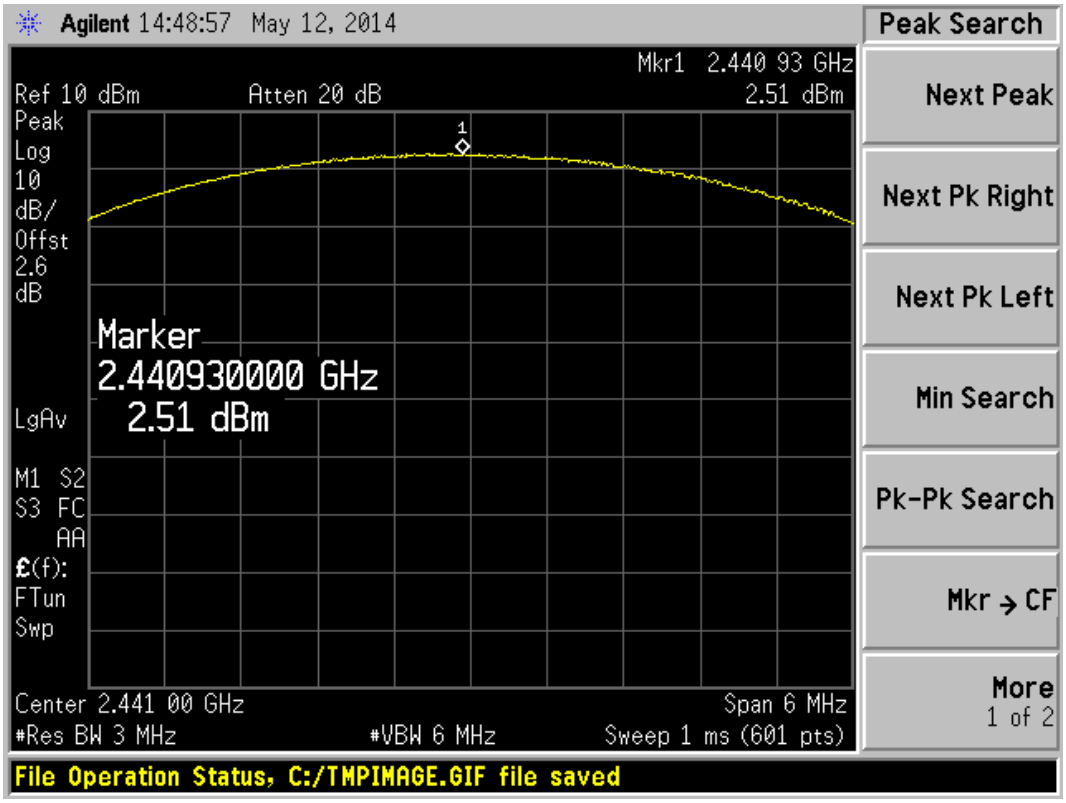
A.2.6, ∏/4-DQPSK HIGH CHANNEL



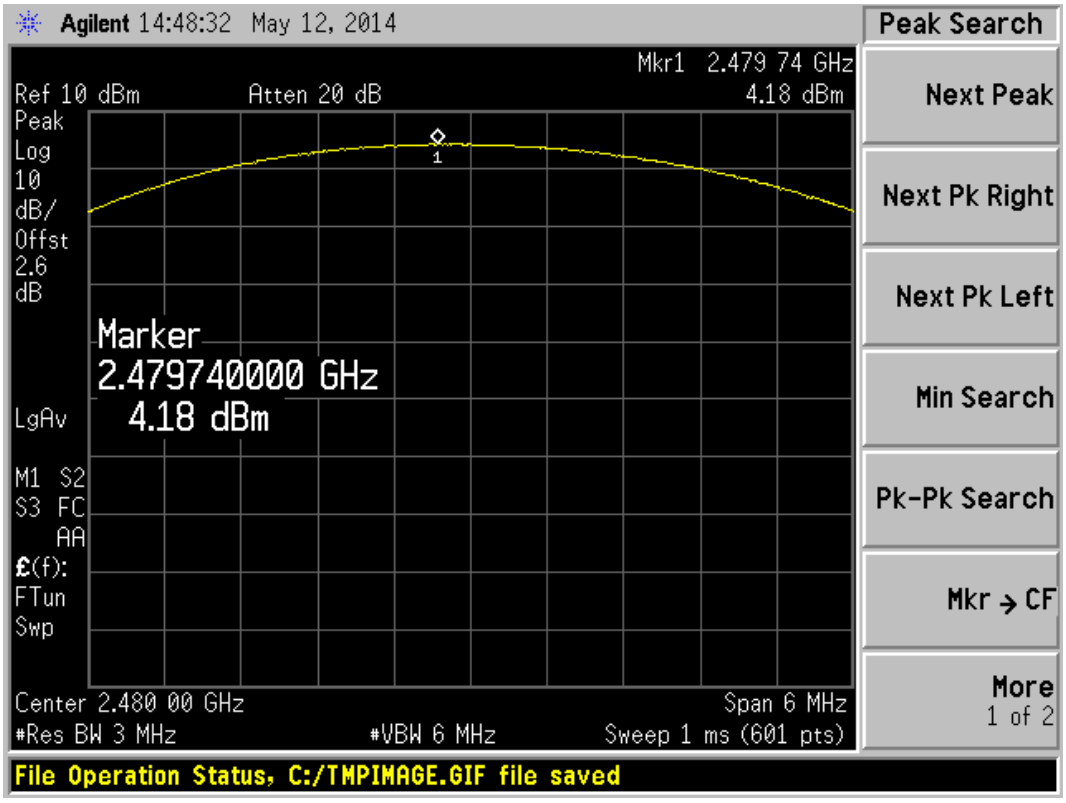
A.2.7, 8-DPSK LOW CHANNEL



A.2.8, 8-DPSK MID CHANAEL



A.2.9, 8-DPSK HIGH CHANNEL



A.3 20dB and 99% bandwidth

Test Data

GFSK Mode:

Channel	Frequency (MHz)	20 dB Bandwidth (MHz)	99% Bandwidth (kHz)
Low	2402	1.131	987.9356
Middle	2441	1.128	987.4480
High	2480	1.129	983.8828

∏/4-DQPSK Mode:

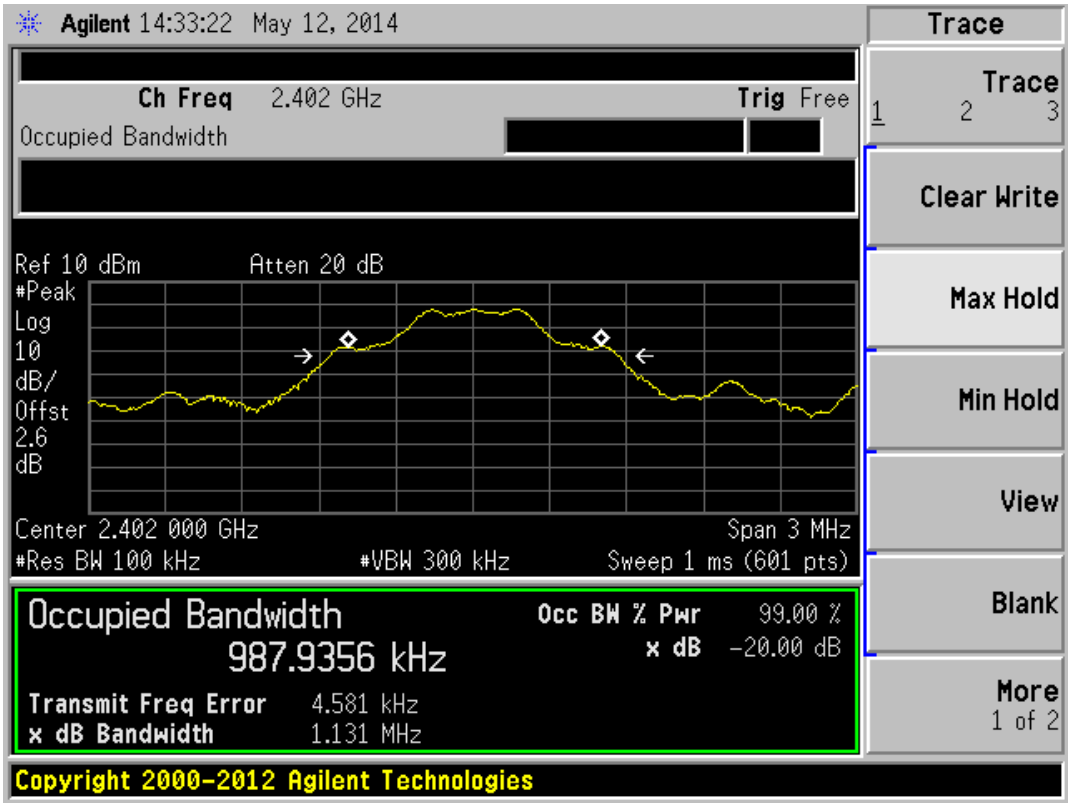
Channel	Frequency (MHz)	20 dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	2402	1.329	1.1807
Middle	2441	1.315	1.1892
High	2480	1.322	1.1882

8-DPSK Mode:

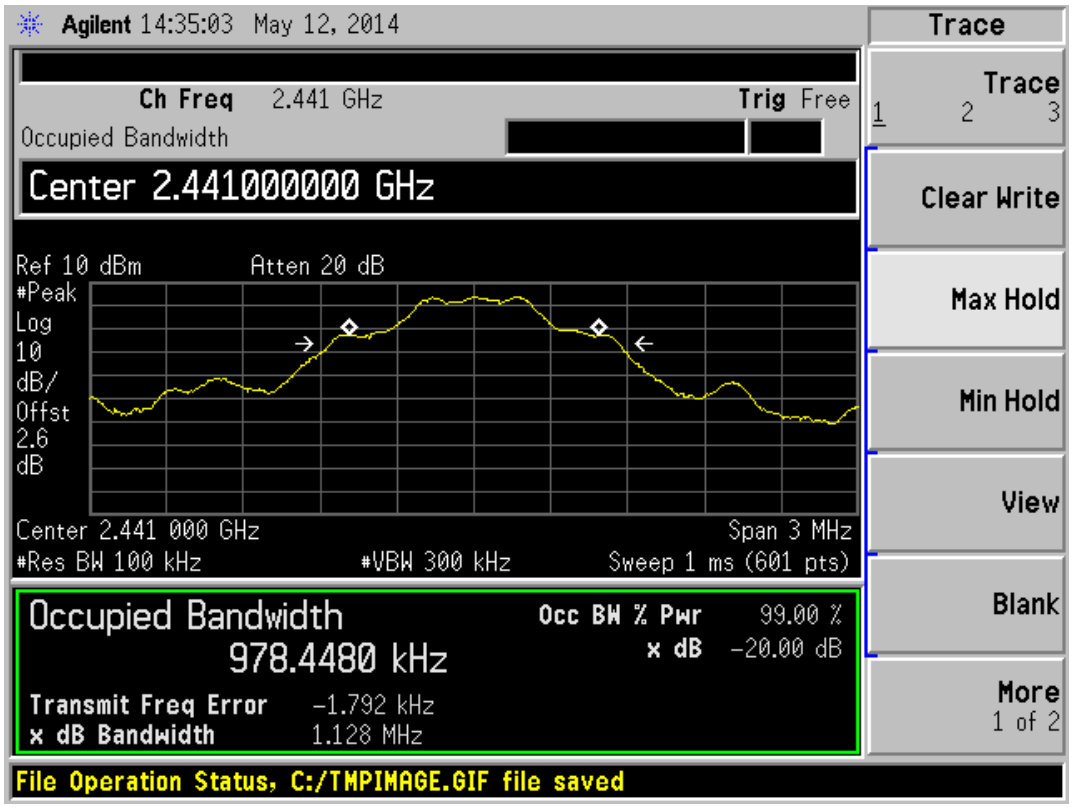
Channel	Frequency (MHz)	20 dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	2402	1.325	1.1918
Middle	2441	1.323	1.1841
High	2480	1.323	1.1877

Test plots

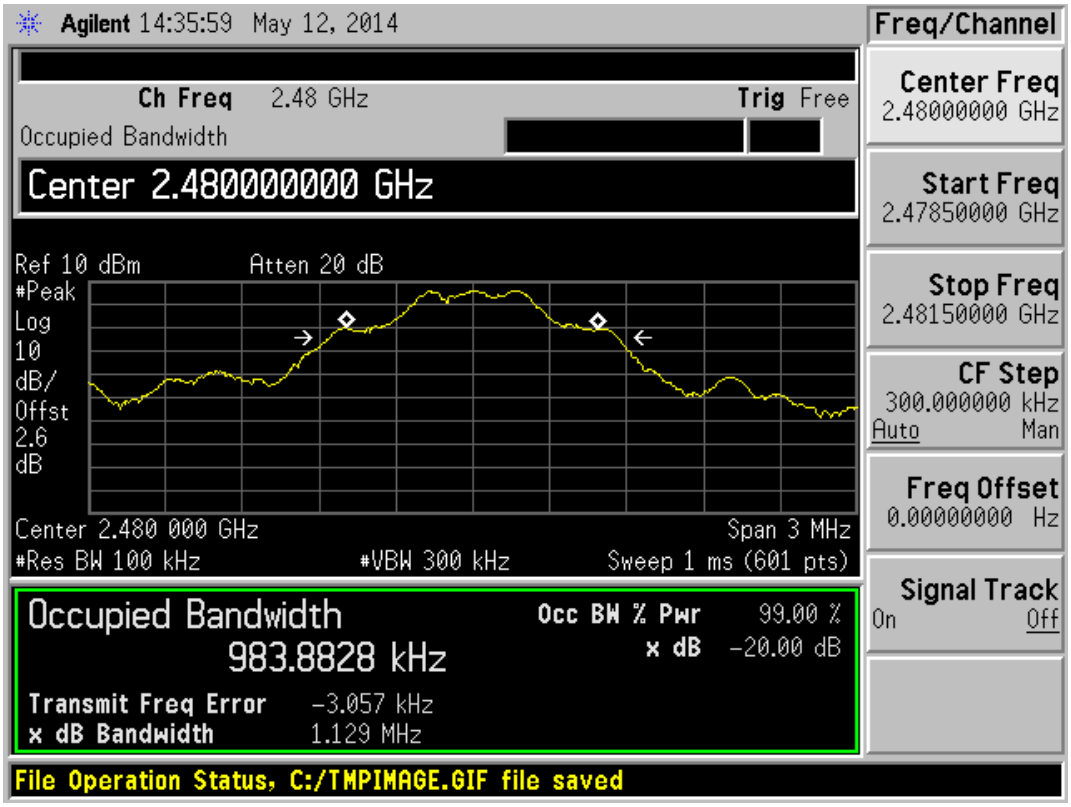
A.3.1, GFSK LOW CHANNEL



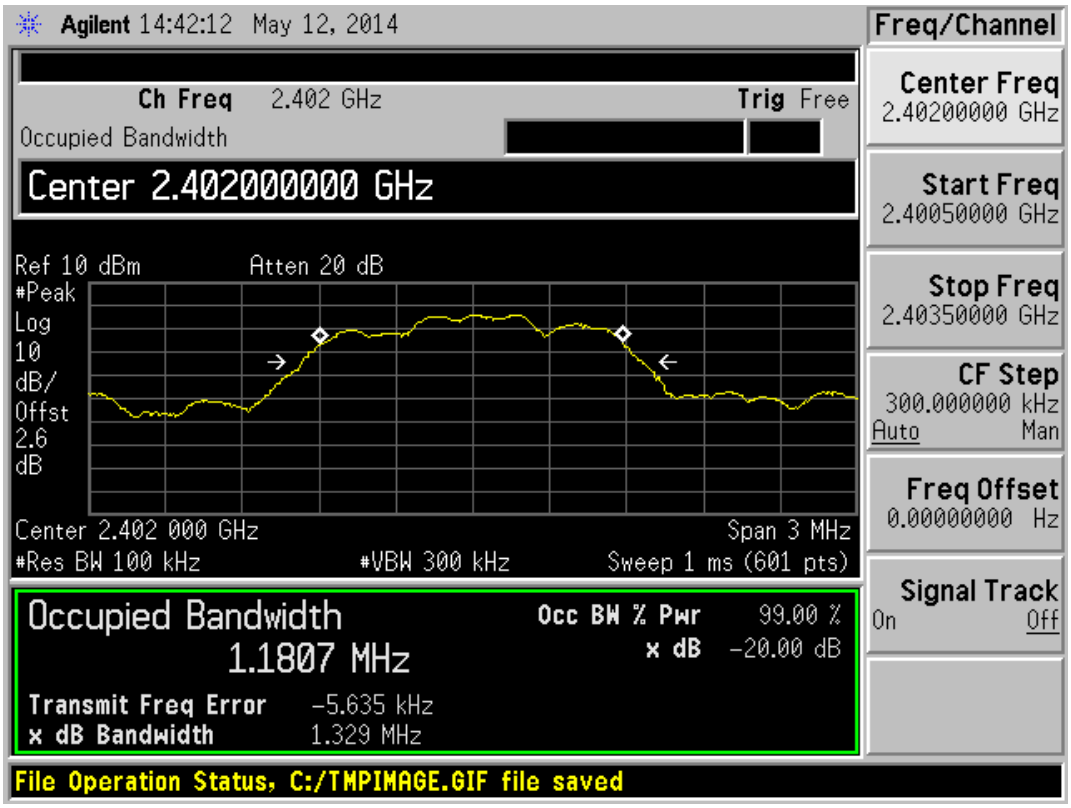
A.3.2, GFSK MID CHANAEL



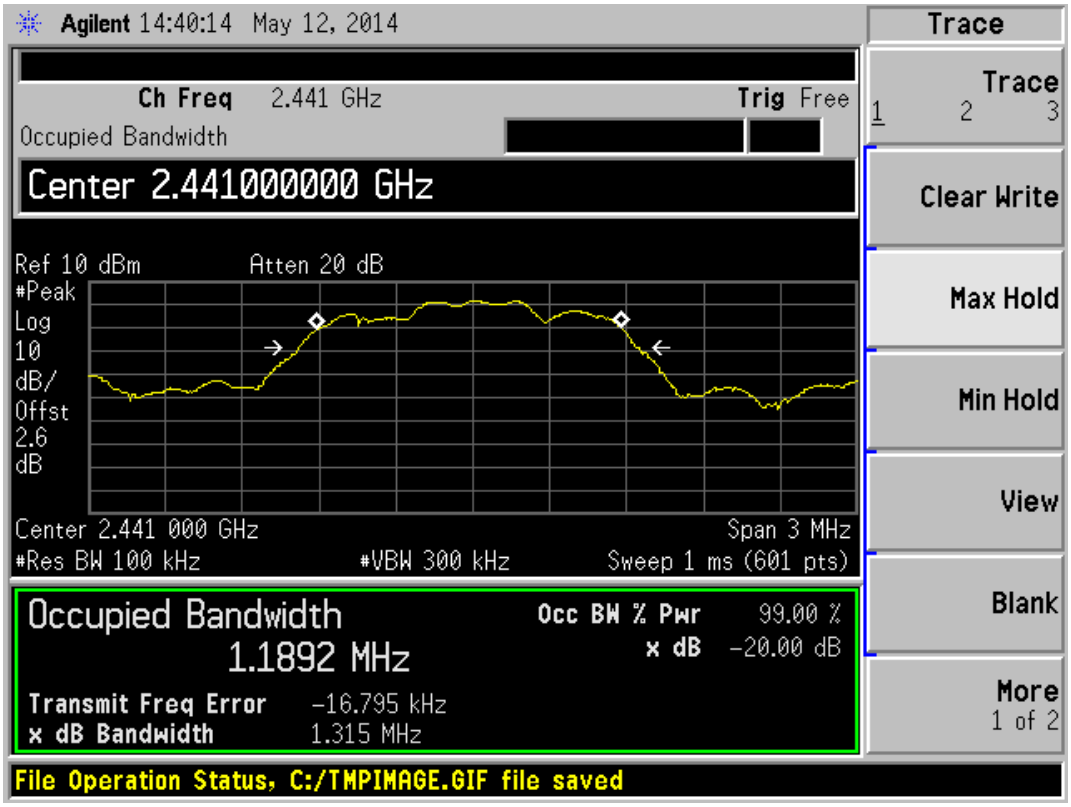
A.3.3, GFSK HIGH CHANNEL



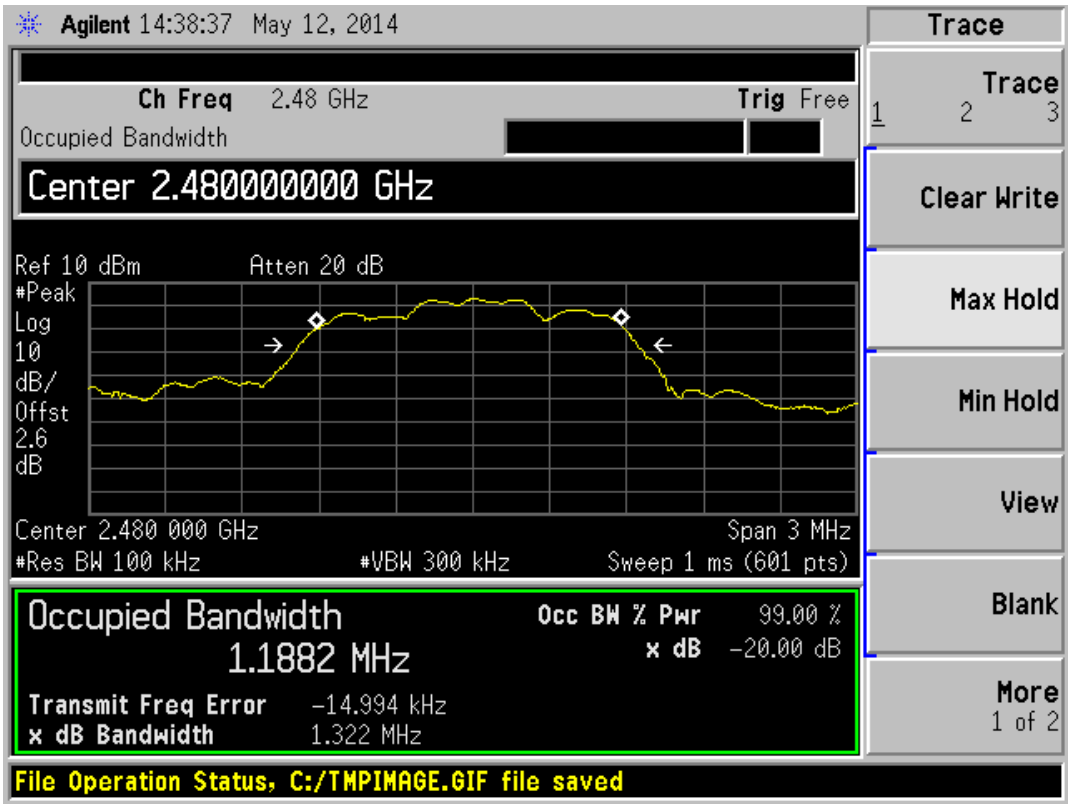
A.3.4, ∏/4-DQPSK LOW CHANNEL



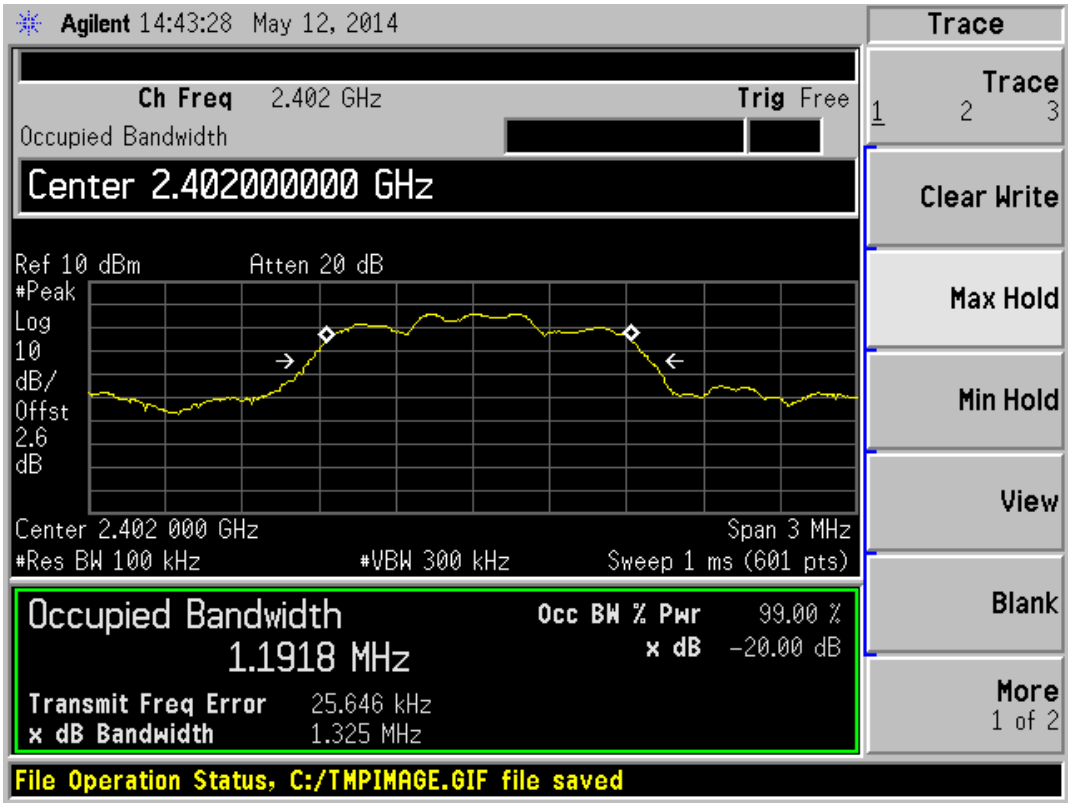
A.3.5, ∏/4-DQPSK MID CHANAEL



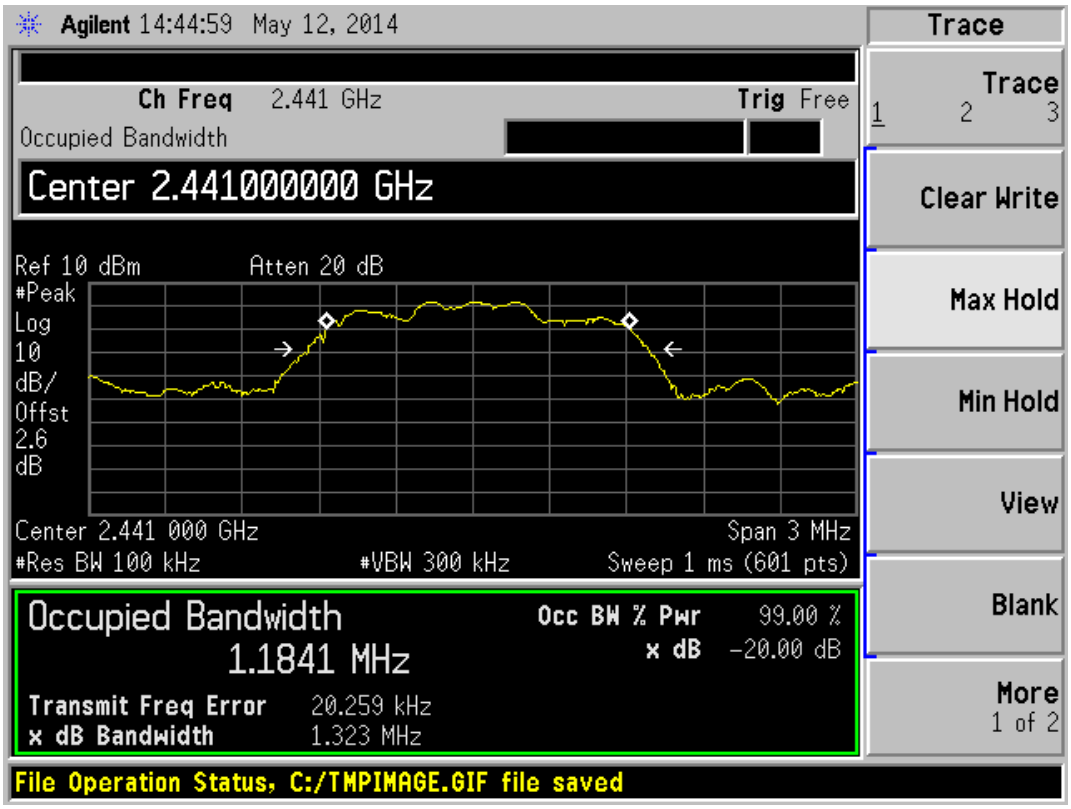
A.3.6, ∏/4-DQPSK HIGH CHANNEL



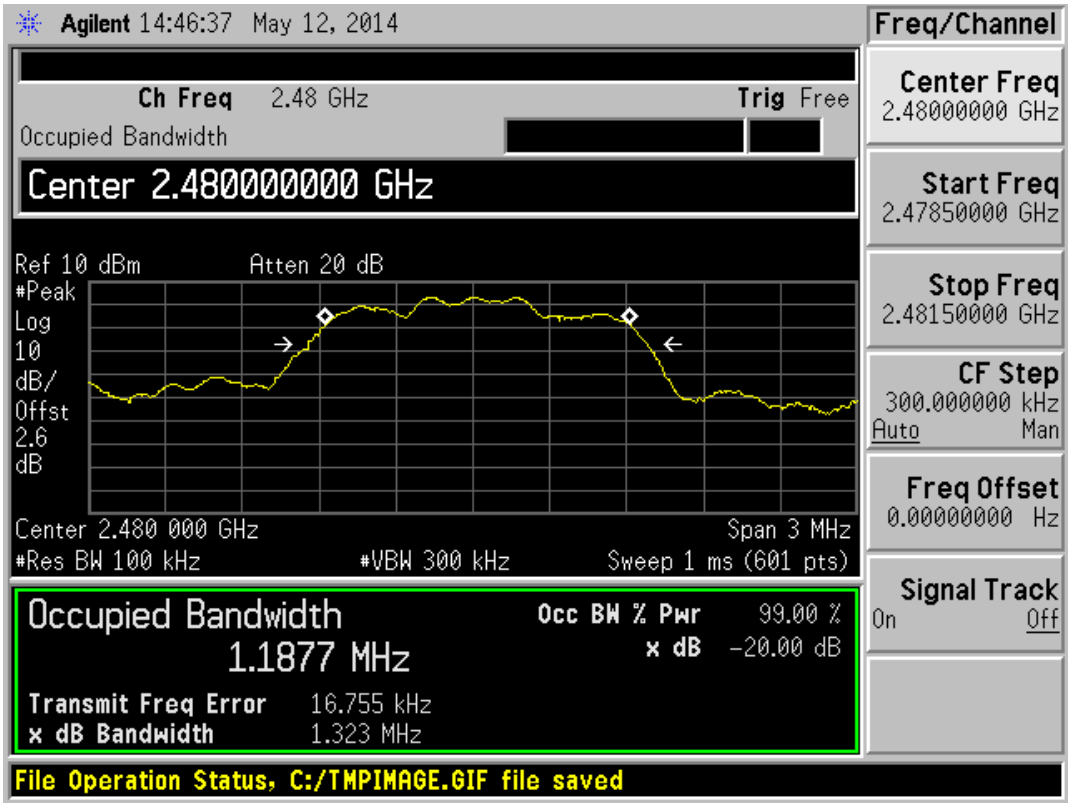
A.3.7, 8-DPSK LOW CHANNEL



A.3.8, 8-DPSK MID CHANAEL



A.3.9, 8-DPSK HIGH CHANNEL



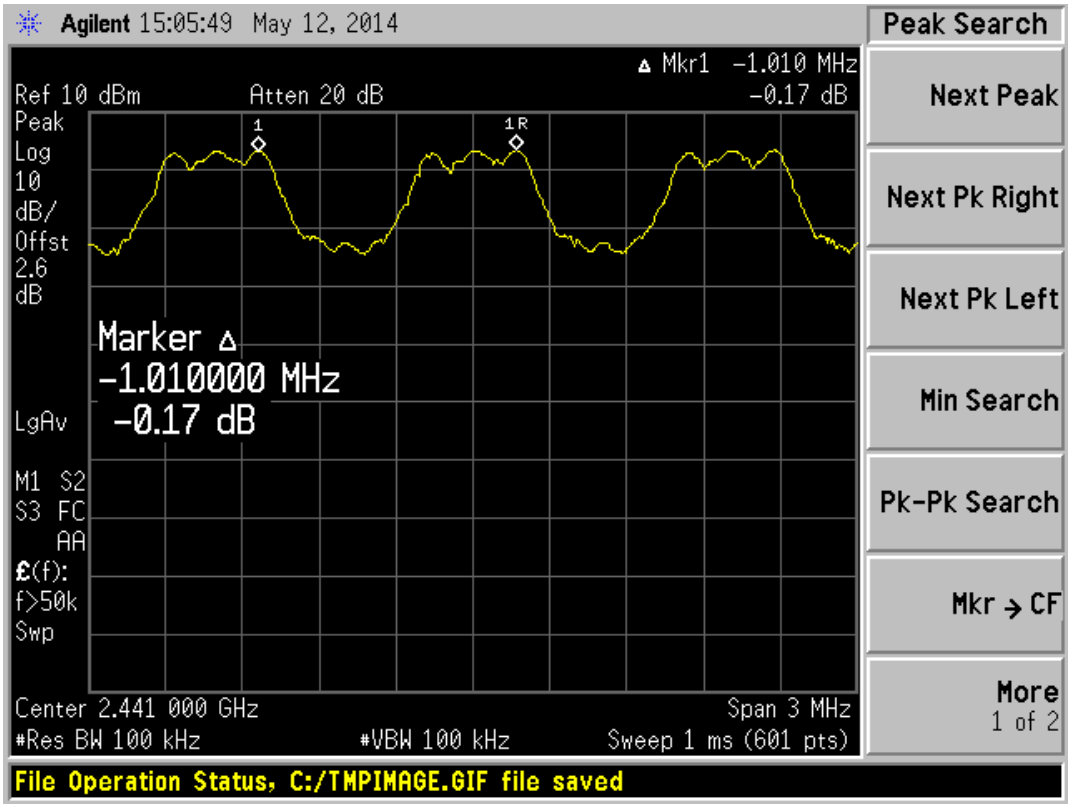
A.4 Hopping Frequency Separation

Test Data

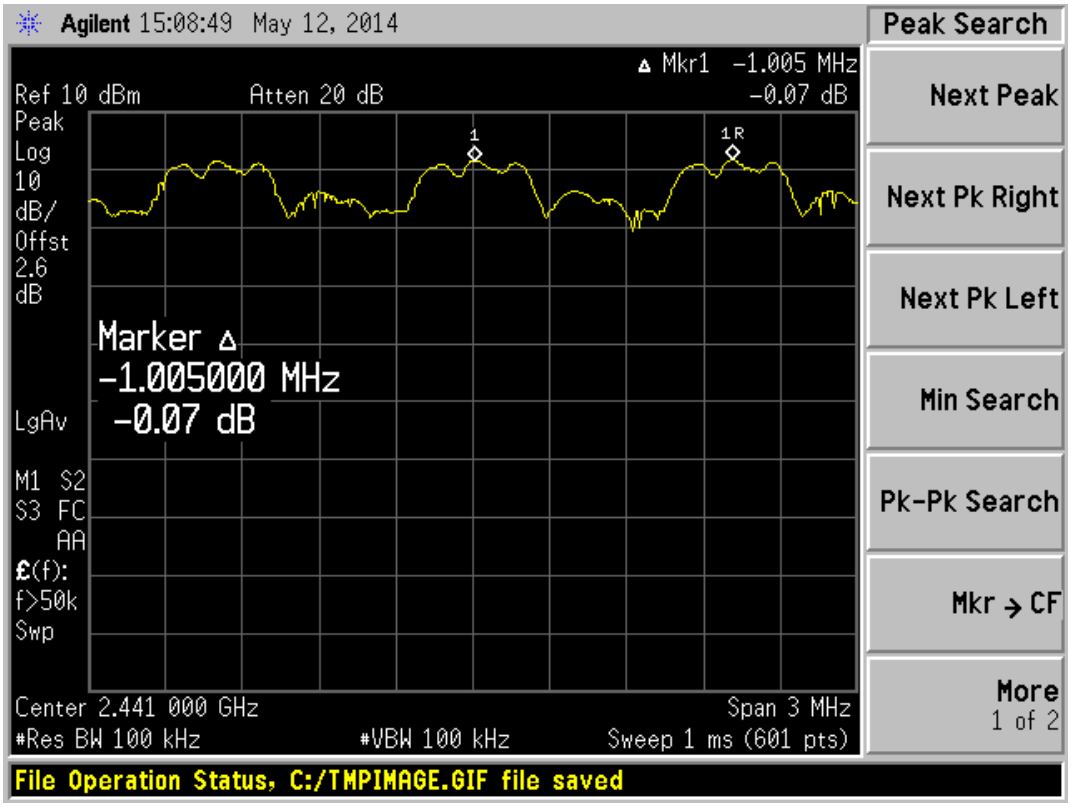
Mode	Frequency separation (MHz)	Max 20 dB Bandwidth (MHz)	Two-thirds of the 20dB bandwidth (MHz)	Verdict
GFSK	1.010	1.131	0.754	PASS
∏/4-DQPSK Mode	1.005	1.329	0.886	PASS
8-DPSK Mode	1.010	1.325	0.883	PASS

Test plots

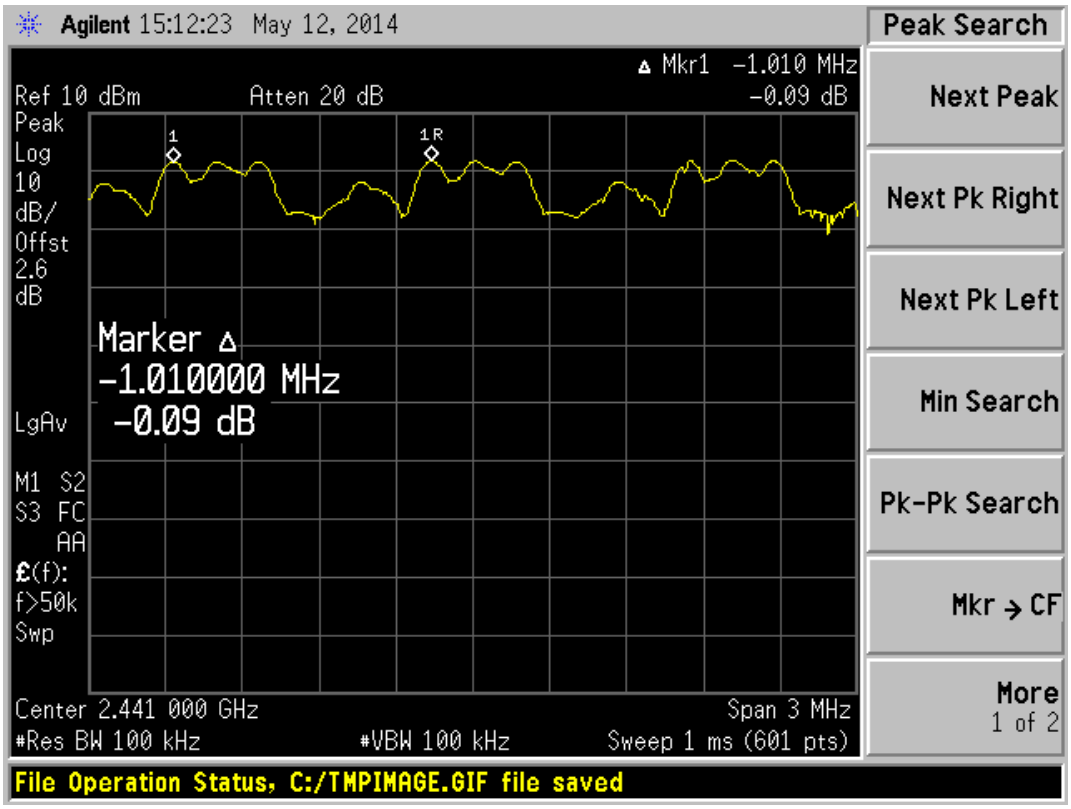
A.4.1, GFSK



A.4.2, ∏/4-DQPSK



A.4.3, 8-DPSK



A.5 Average Time of Occupancy

Test Data

GFSK Mode:

DH Packet	Pulse Width (msec)	Total of Dwell (ms)	Limit (sec)	Verdict
DH 1	0.390	41.60	0.4	PASS
DH 3	1.650	176.00	0.4	PASS
DH 5	2.883	307.52	0.4	PASS

∏/4-DQPSK Mode:

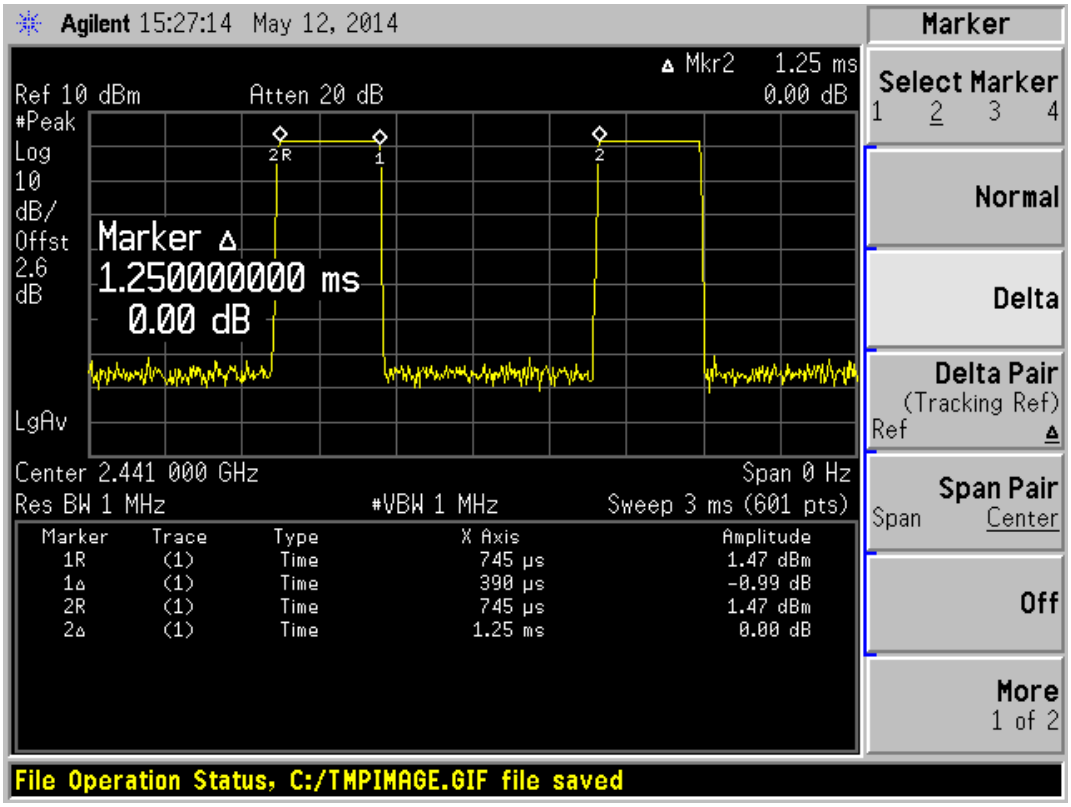
DH Packet	Pulse Width (msec)	Total of Dwell (ms)	Limit (sec)	Verdict
DH 1	0.405	43.20	0.4	PASS
DH 3	1.660	177.07	0.4	PASS
DH 5	2.900	309.33	0.4	PASS

8-DPSK Mode:

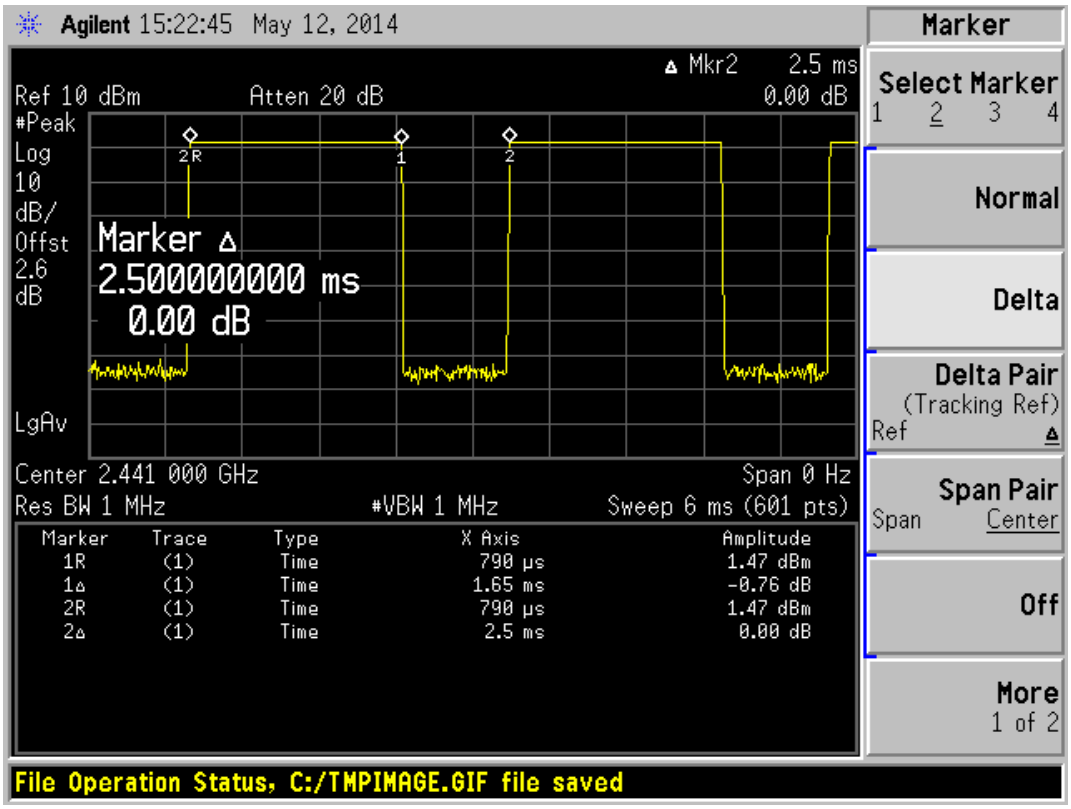
DH Packet	Pulse Width (msec)	Total of Dwell (ms)	Limit (sec)	Verdict
DH 1	0.405	43.20	0.4	PASS
DH 3	1.660	177.07	0.4	PASS
DH 5	2.917	311.15	0.4	PASS

Test Plots

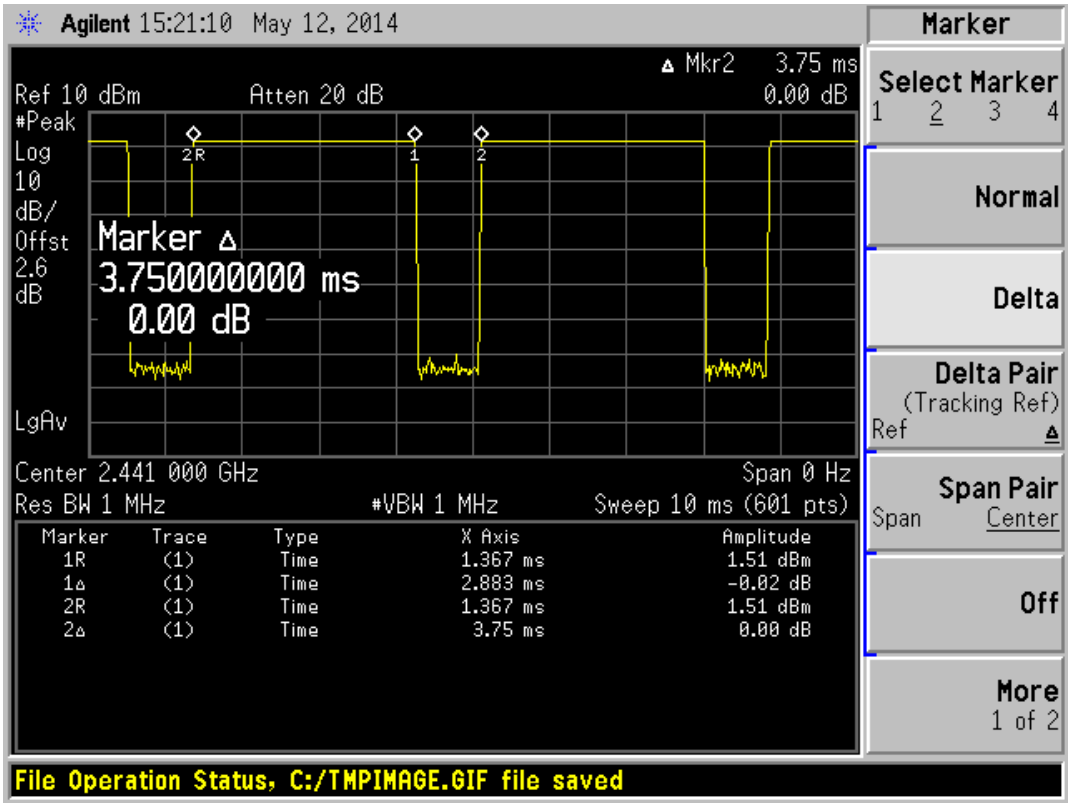
A.5.1, GFSK DH1



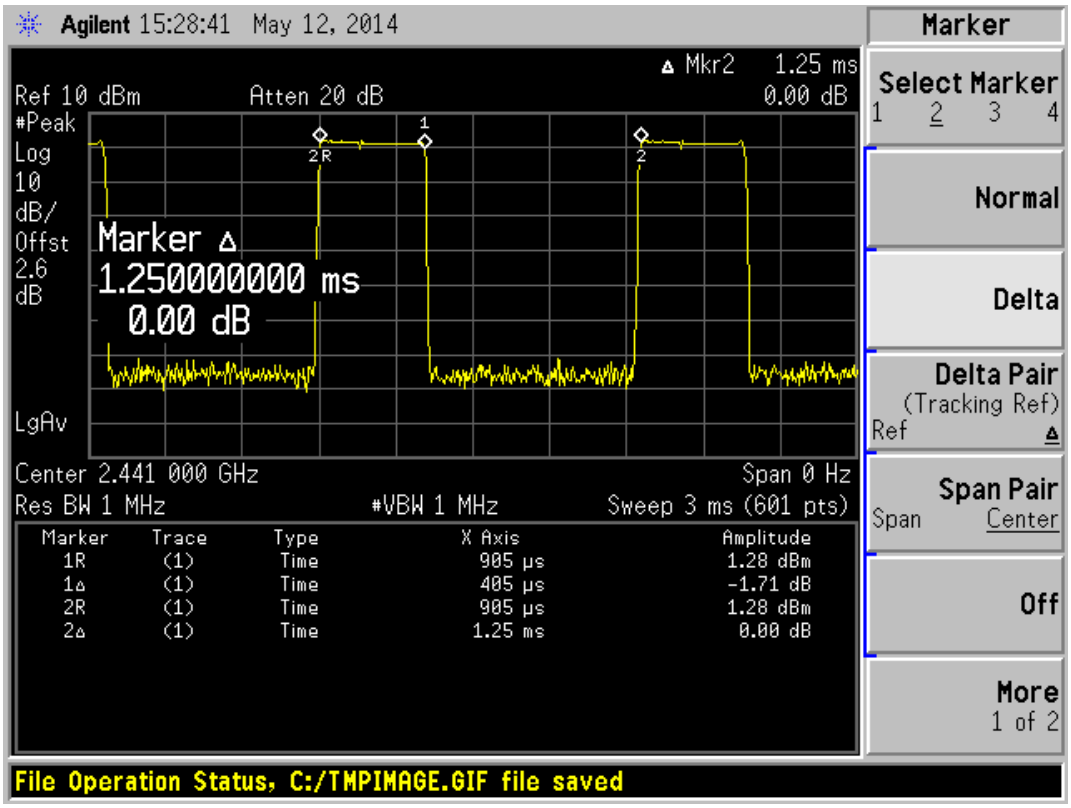
A.5.2, GFSK DH3



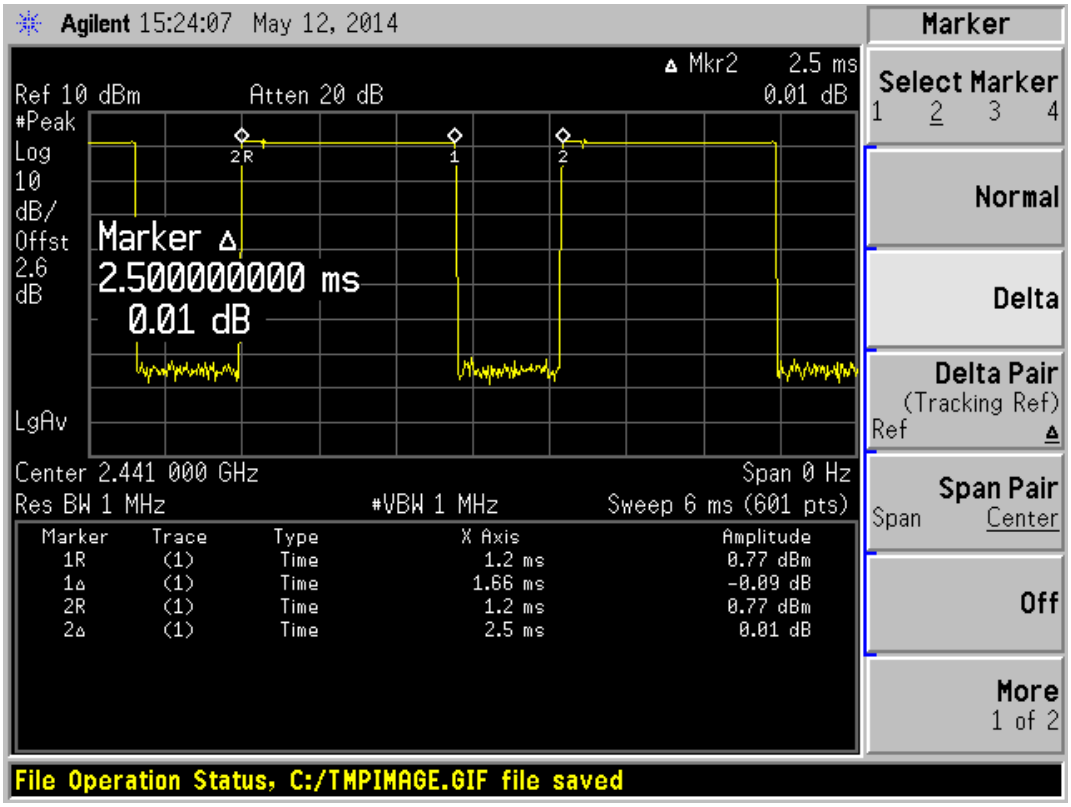
A.5.3, GFSK DH5



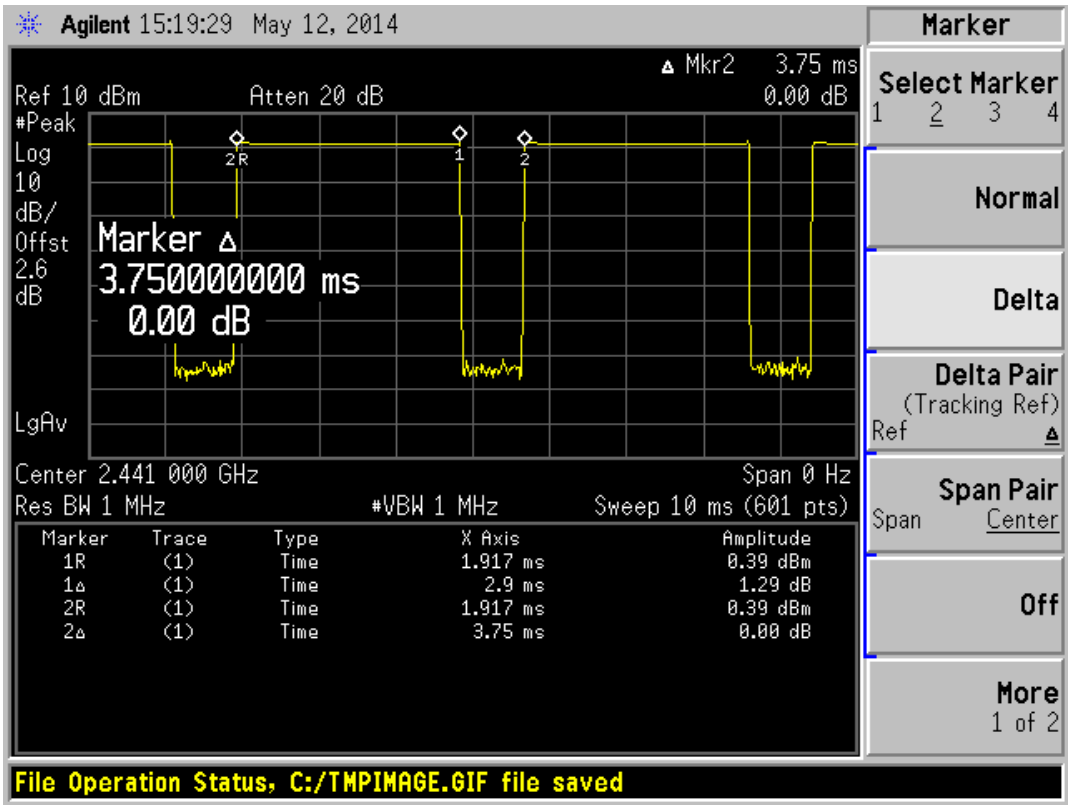
A.5.4, ∏/4-DQPSK DH1



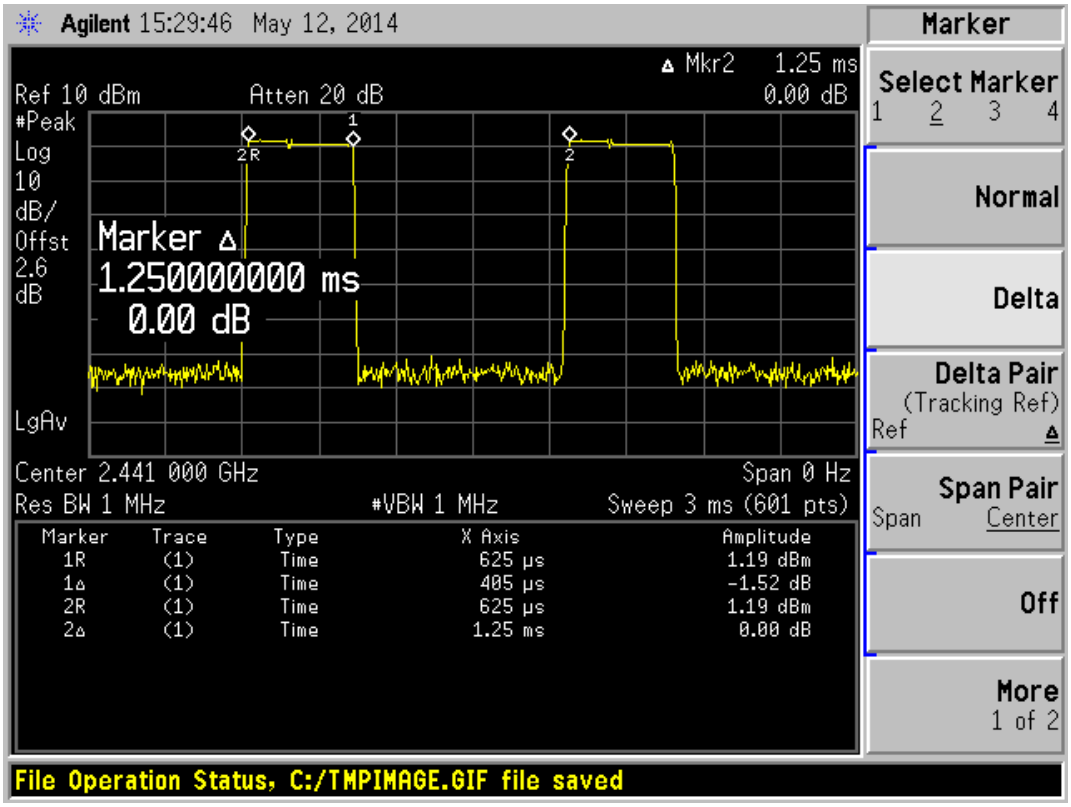
A.5.5, ∏/4-DQPSK DH3



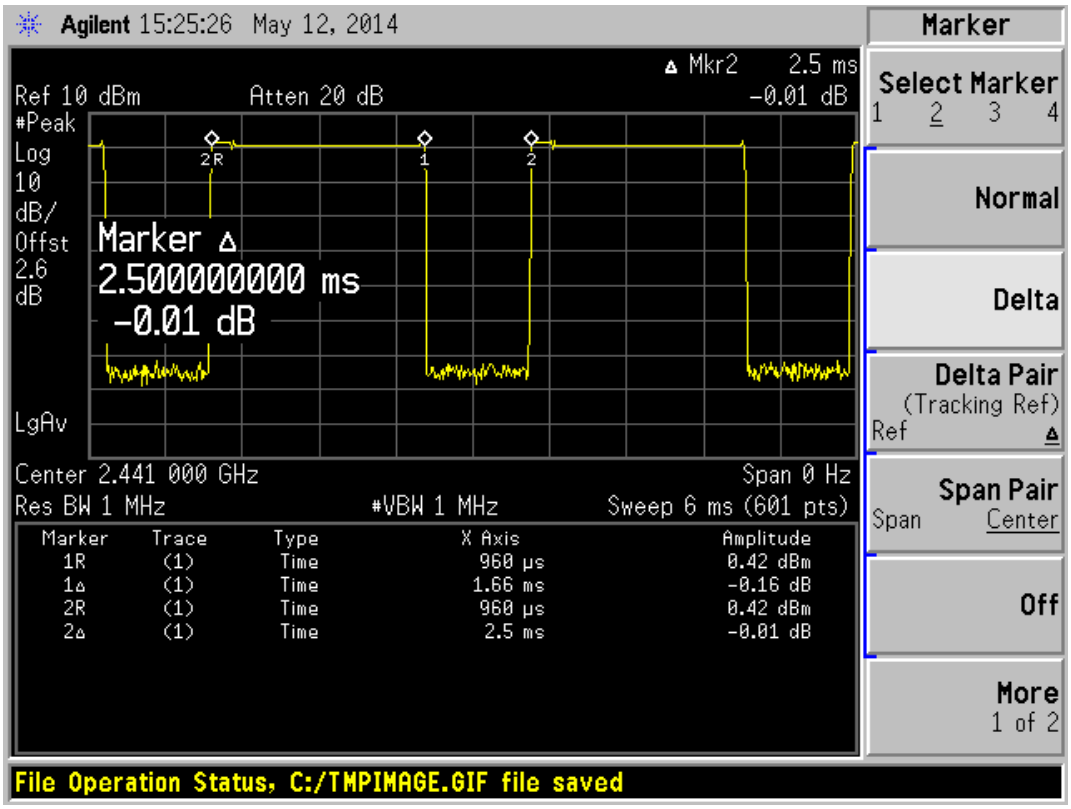
A.5.6, ∏/4-DQPSK DH5



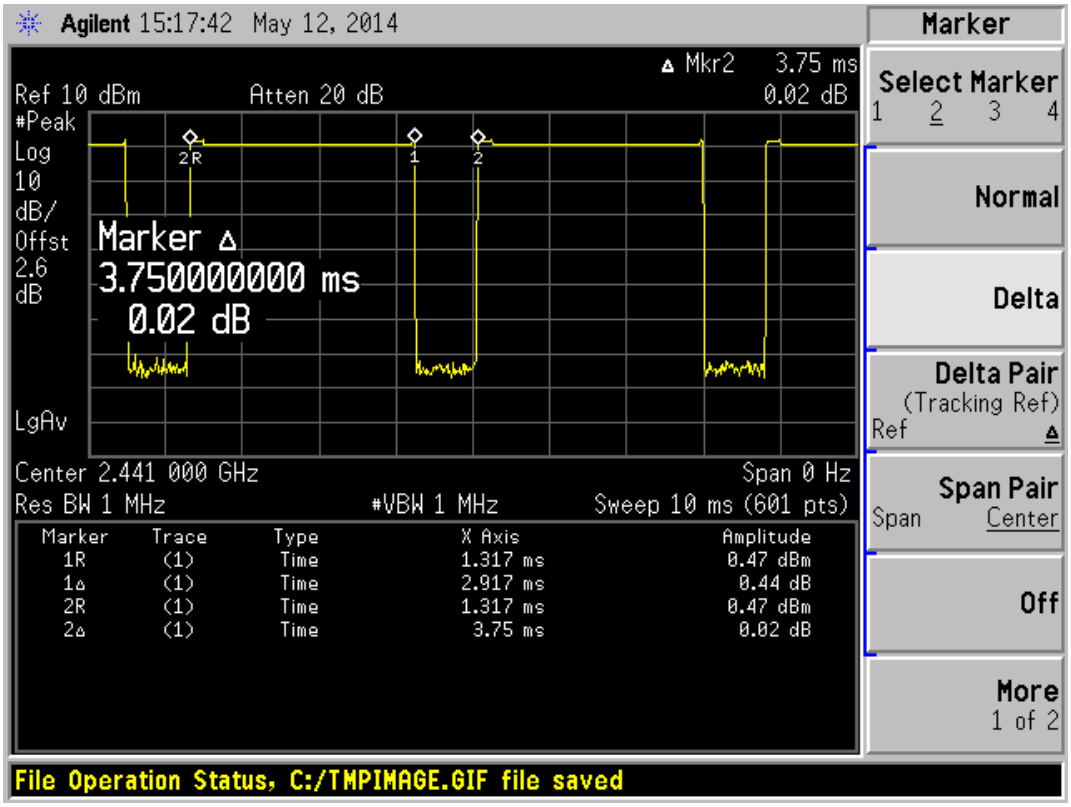
A.5.7, 8-DPSK DH1



A.5.8, 8-DPSK DH3



A.5.9, 8-DPSK DH5



A.6 Conducted Spurious Emissions

Test Data

GFSK Mode:

Channel	Frequency (MHz)	Measured Max. Out of Band Emission (dBm)	Limit (dBm)		Verdict
			Carrier Level	Calculated 20 dBc Limit	
0	2402	-44.47	-2.82	-22.8	PASS
39	2441	-44.95	3.21	-16.8	PASS
78	2480	-45.81	2.66	-17.3	PASS

∏/4-DQPSK Mode:

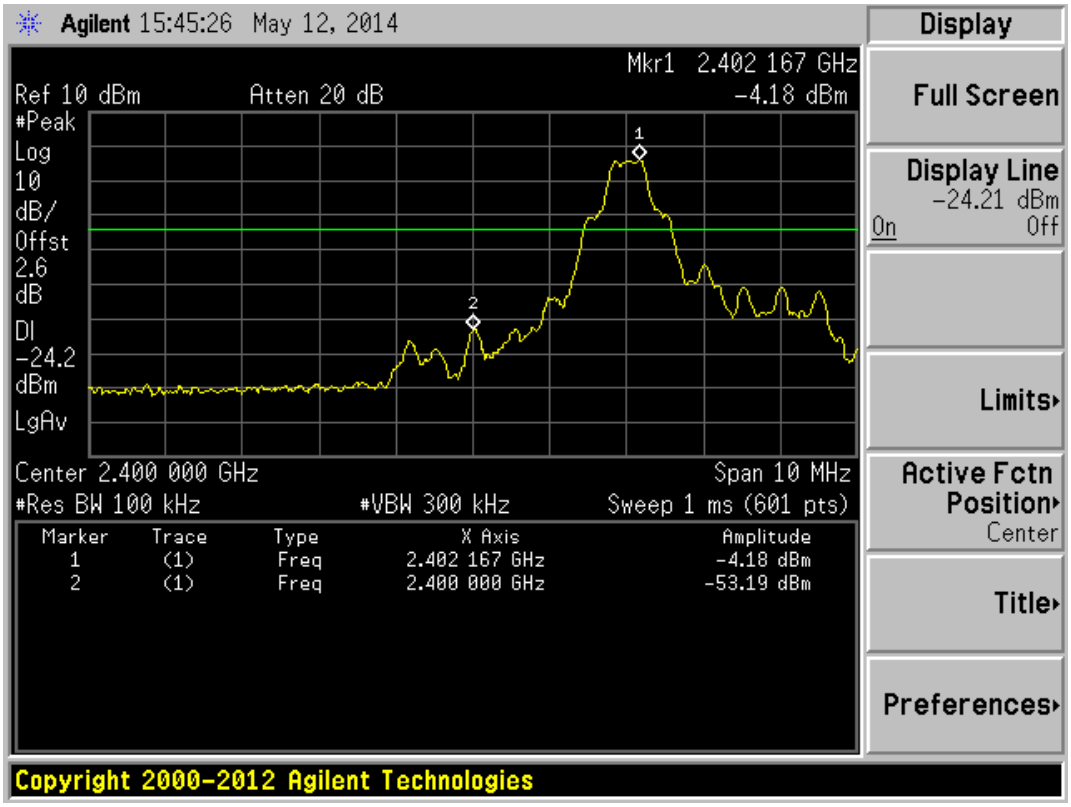
Channel	Frequency (MHz)	Measured Max. Out of Band Emission (dBm)	Limit (dBm)		Verdict
			Carrier Level	Calculated 20 dBc Limit	
0	2402	-46.11	-5.20	-25.2	PASS
39	2441	-46.97	0.83	-19.2	PASS
78	2480	-46.21	1.84	-18.2	PASS

8-DPSK Mode:

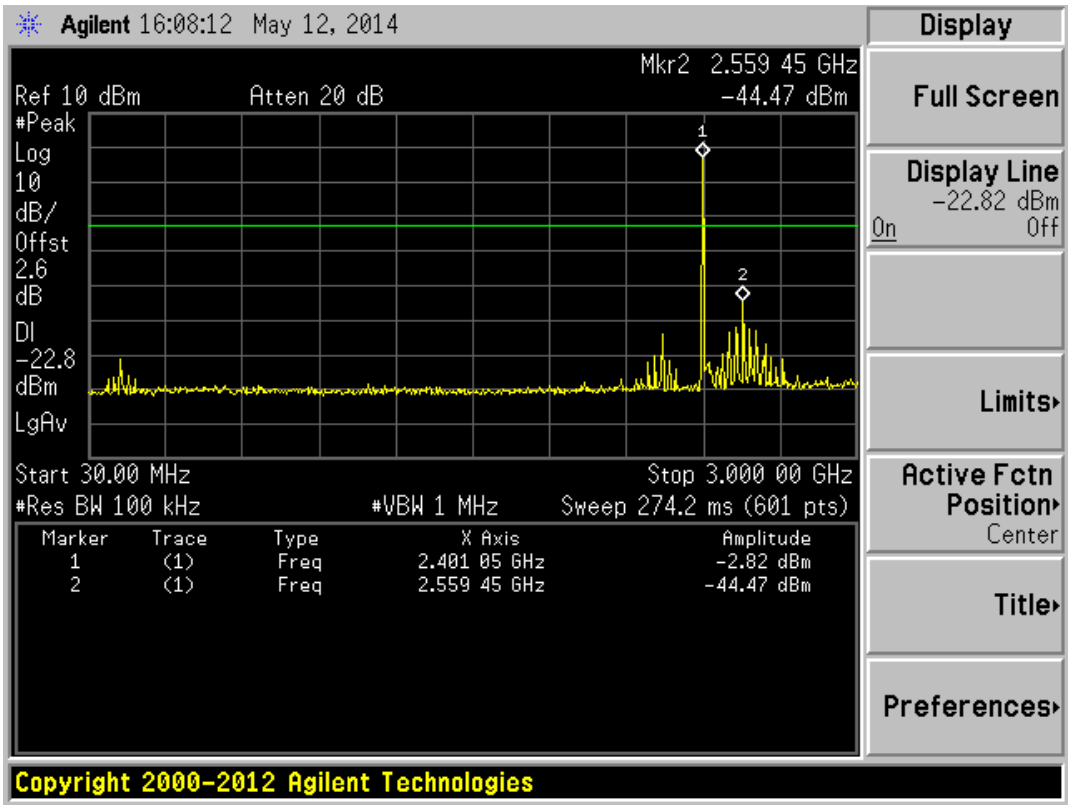
Channel	Frequency (MHz)	Measured Max. Out of Band Emission (dBm)	Limit (dBm)		Verdict
			Carrier Level	Calculated 20 dBc Limit	
0	2402	-46.22	-4.40	-24.4	PASS
39	2441	-46.80	1.49	-18.5	PASS
78	2480	-45.82	2.70	-17.3	PASS

Test Plots

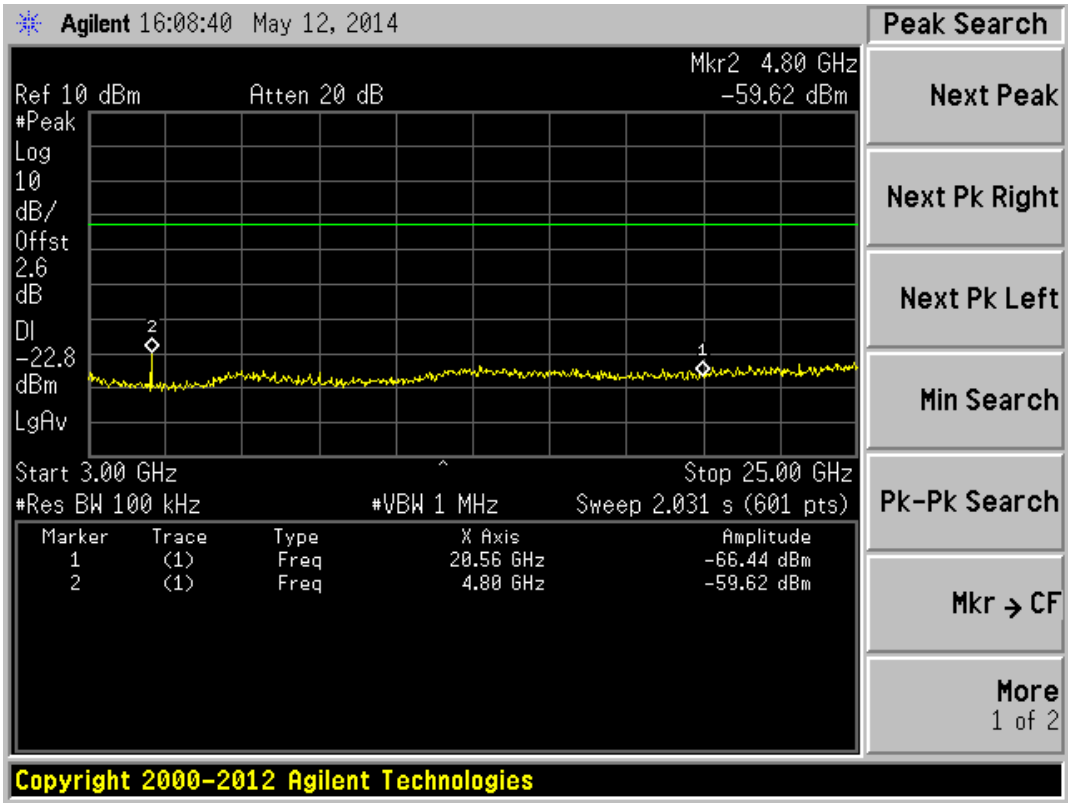
A.6.1, GFSK LOW CHANNEL , BANDEDGE



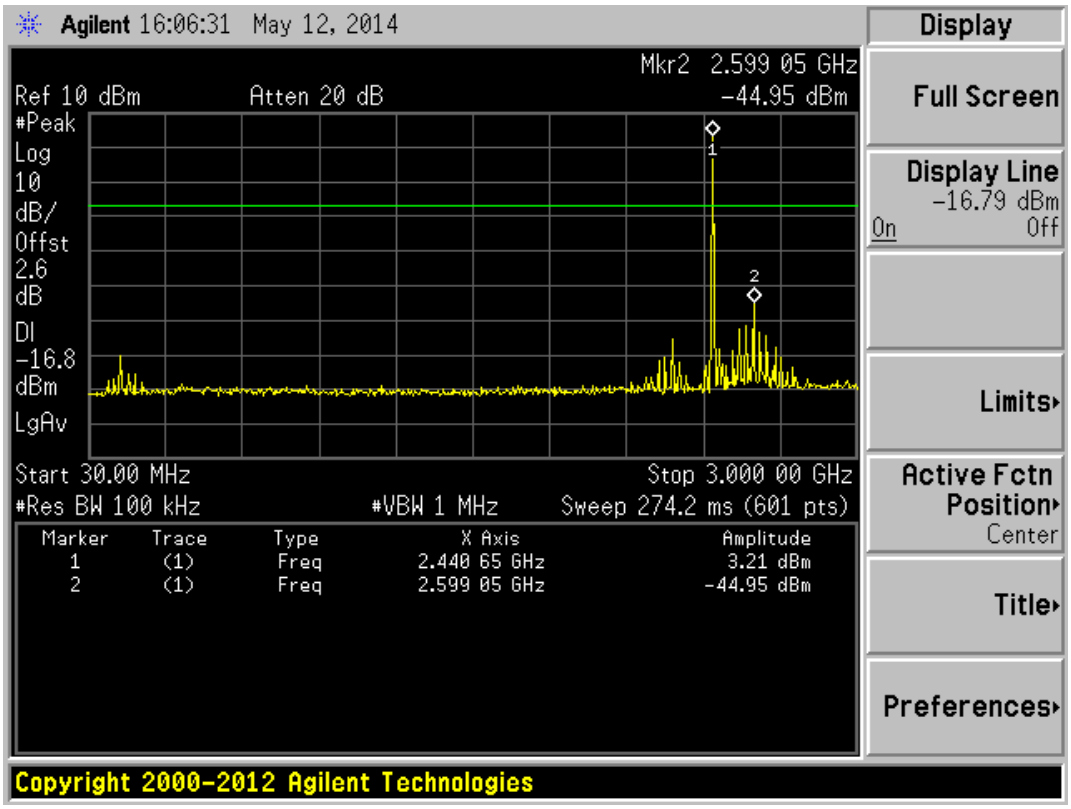
A.6.2, GFSK LOW CHANNEL , SPURIOUS 30MHz~3GHz



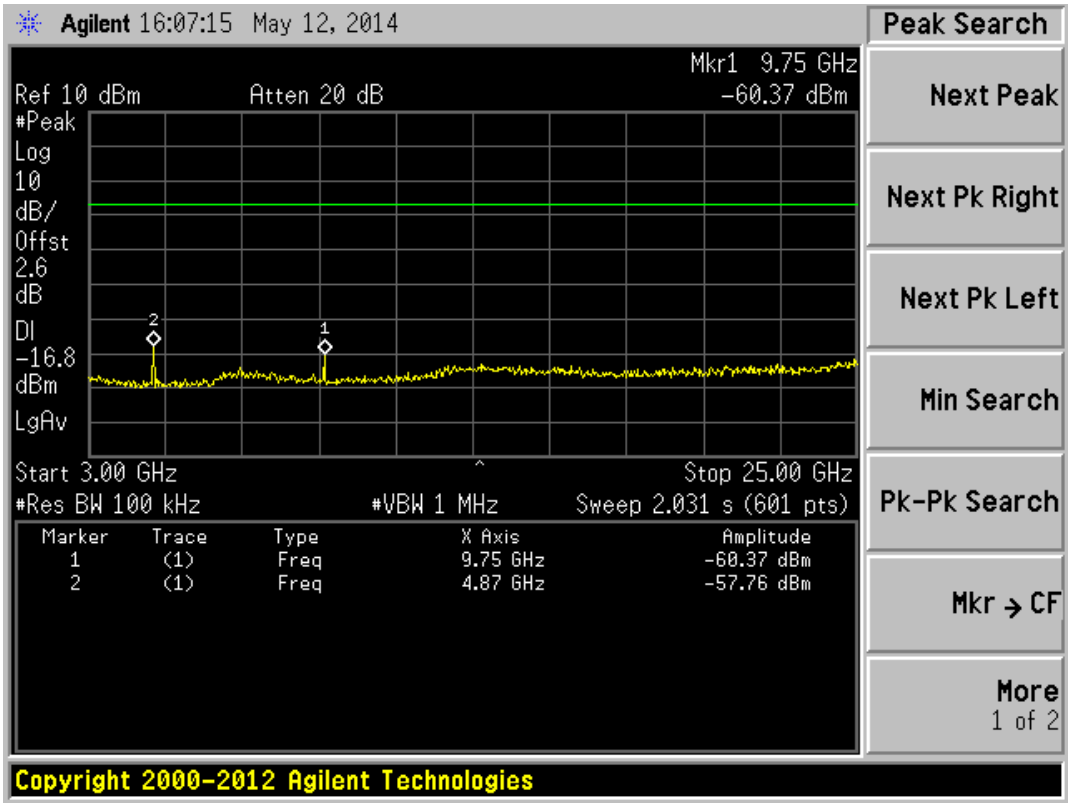
A.6.3, GFSK LOW CHANNEL , SPURIOUS 3GHz~25GHz



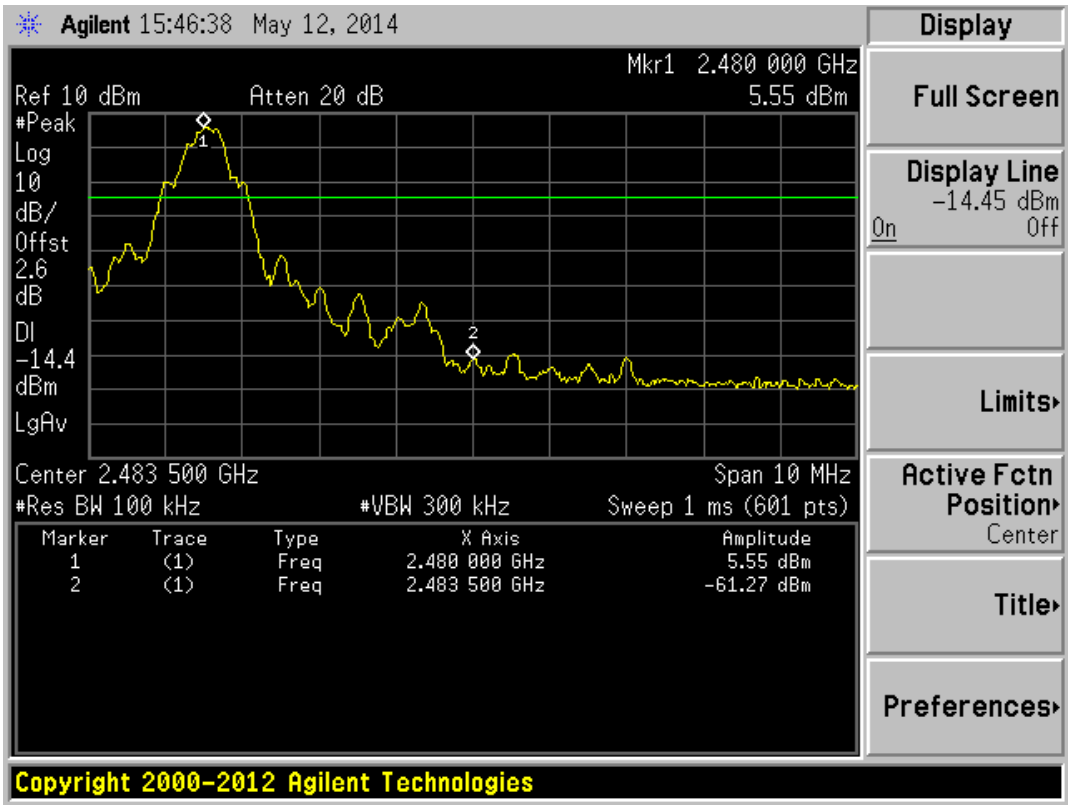
A.6.4, GFSK MID CHANNEL , SPURIOUS 30MHz~3GHz



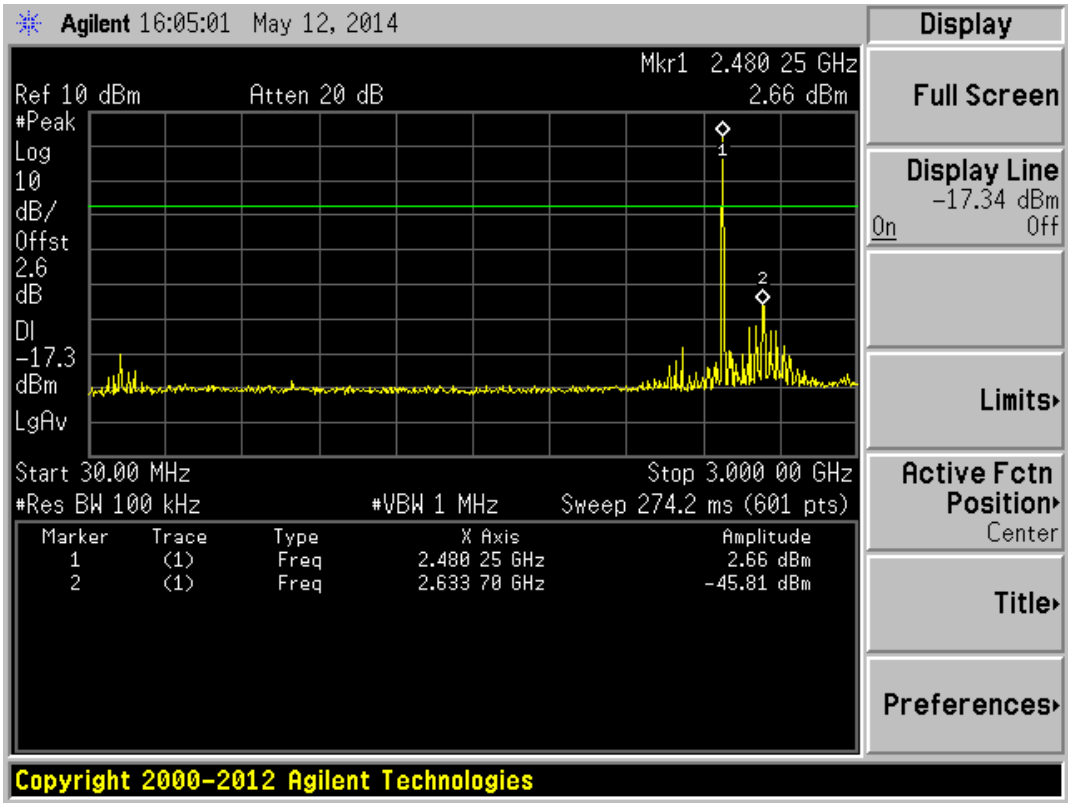
A.6.5, GFSK MID CHANNEL , SPURIOUS 3GHz~25GHz



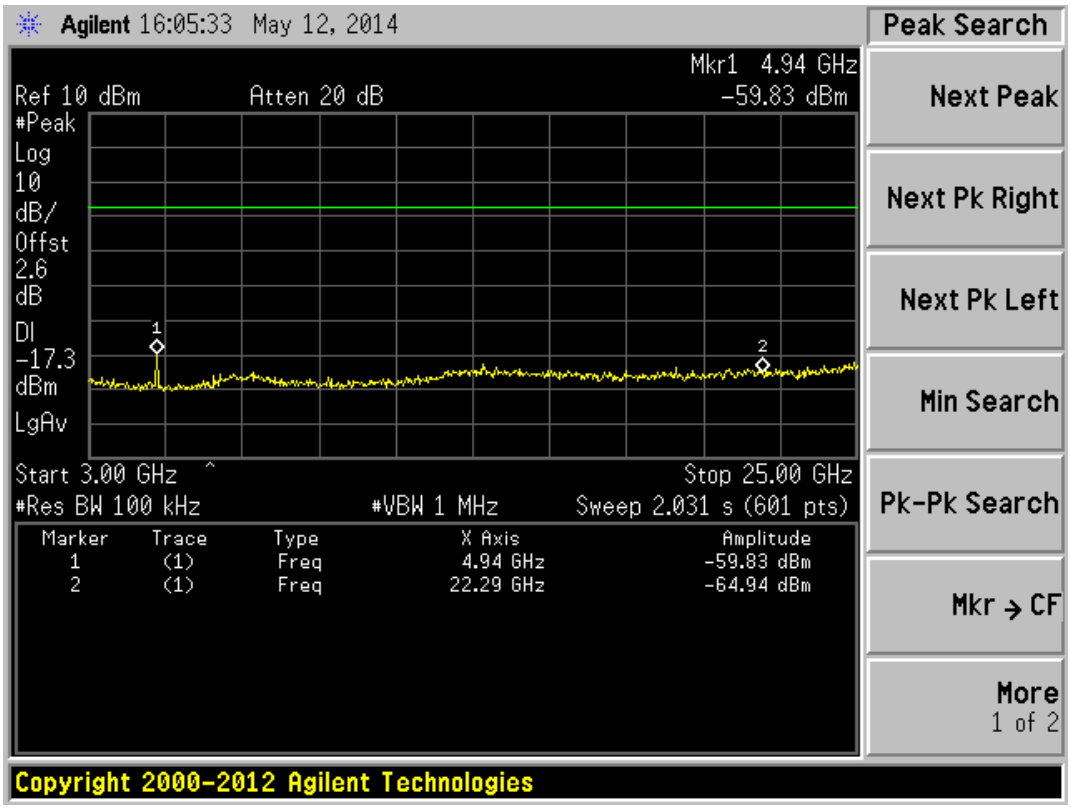
A.6.6, GFSK HIGH CHANNEL , BANDEDGE



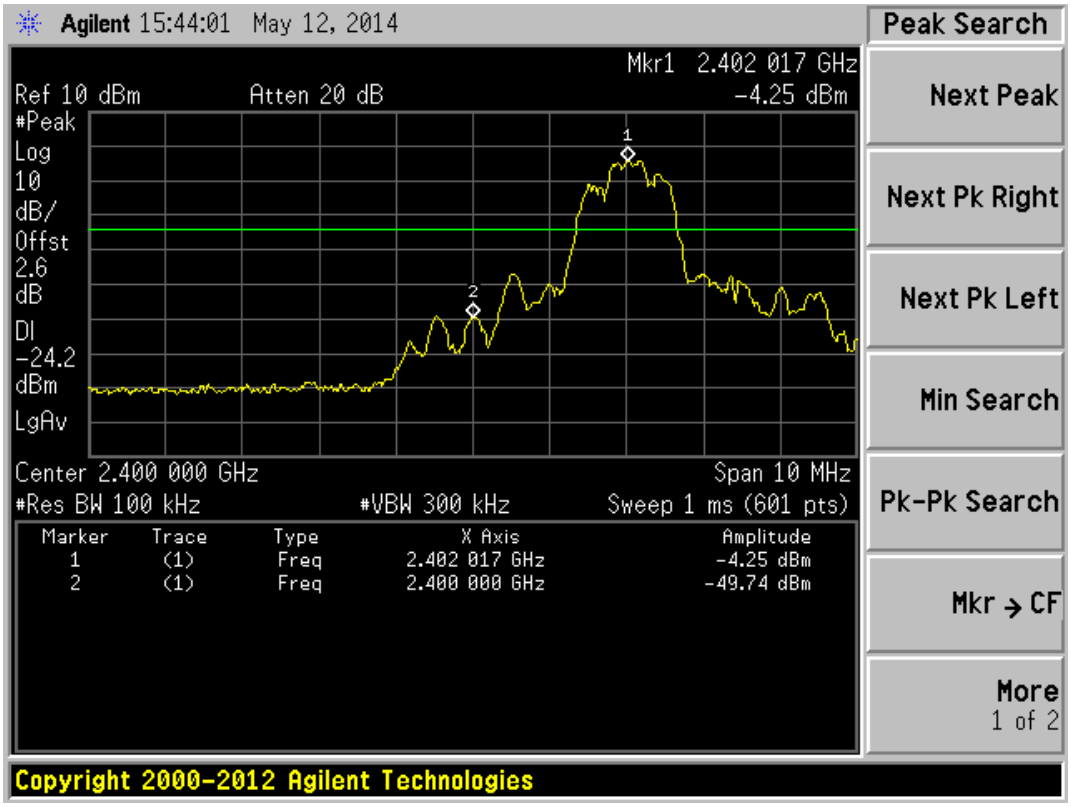
A.6.7, GFSK HIGH CHANNEL , SPURIOUS 30MHz~3GHz



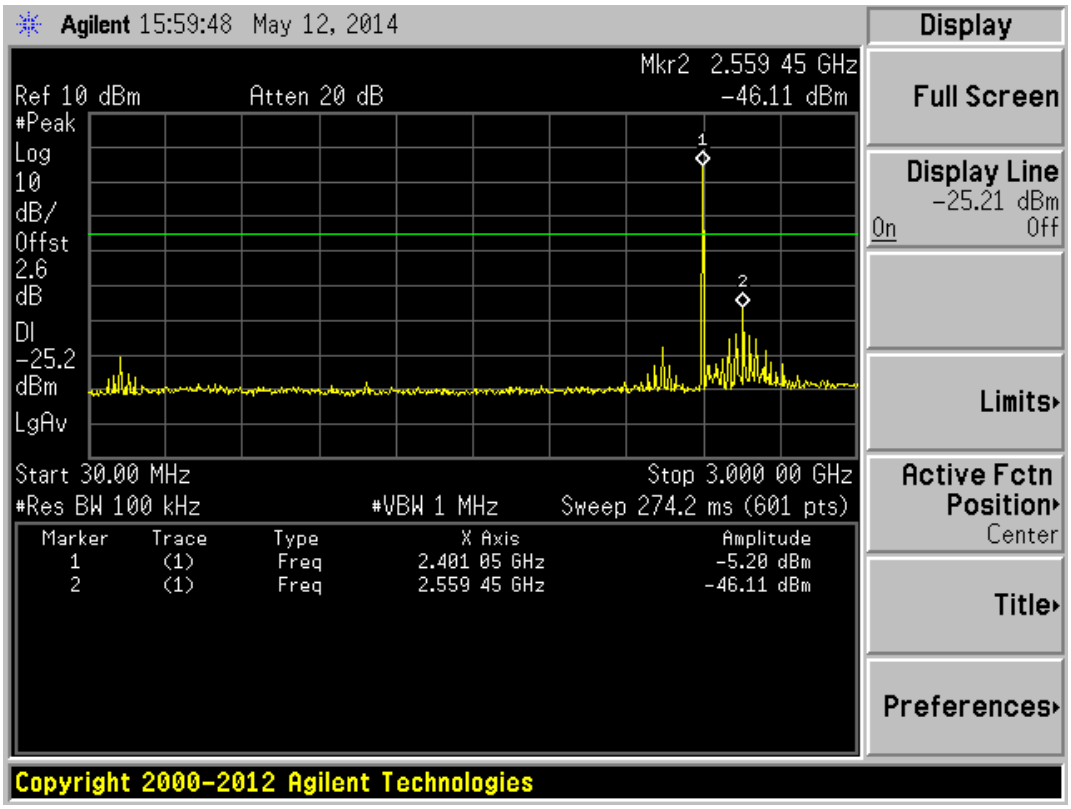
A.6.8, GFSK HIGH CHANNEL , SPURIOUS 3GHz~25GHz



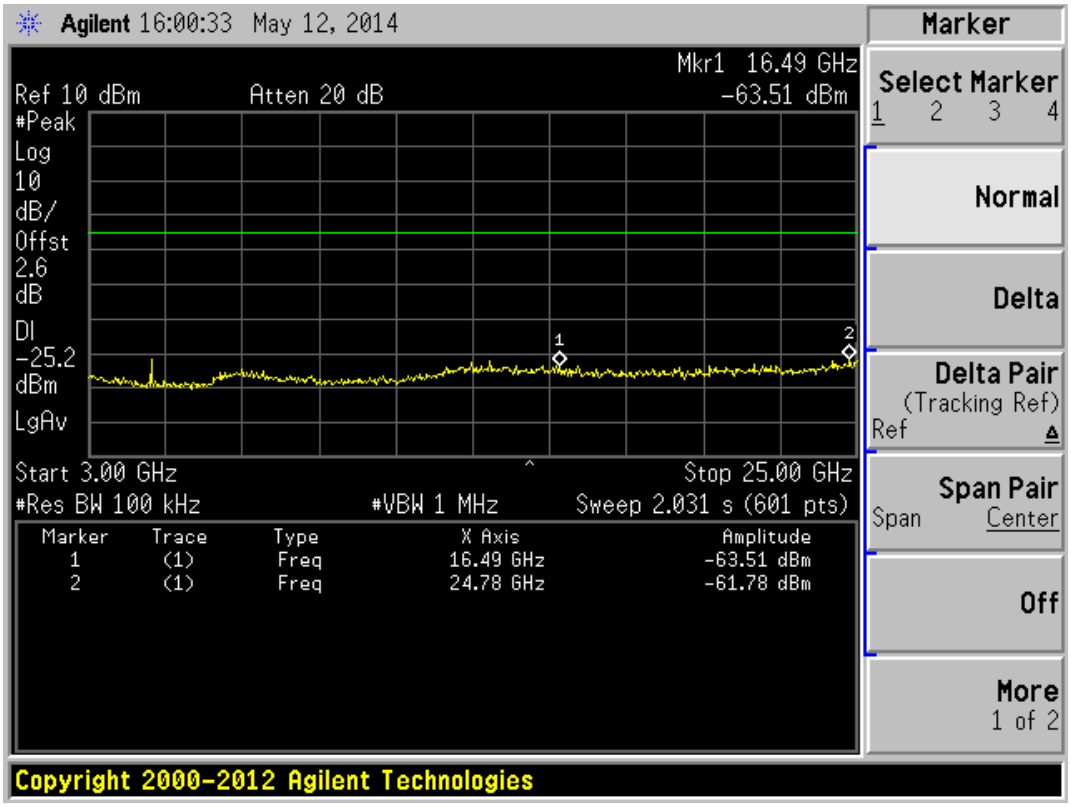
A.6.9, ∏/4-DQPSK LOW CHANNEL , BANDEDGE



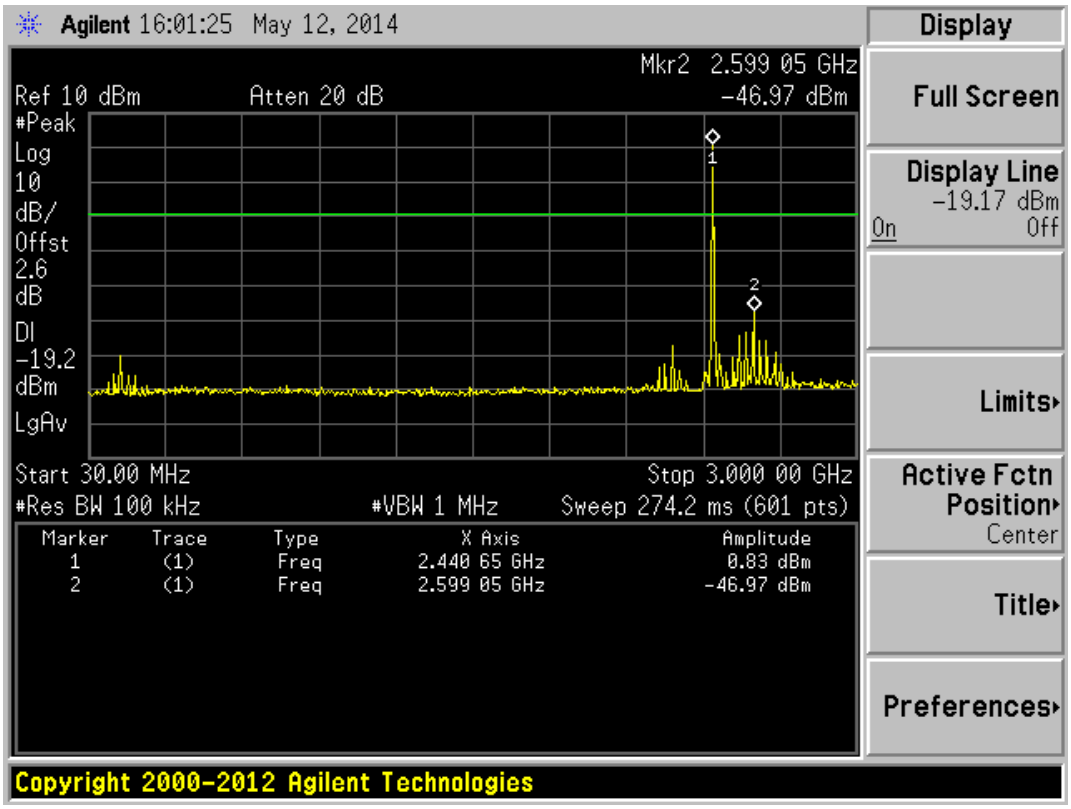
A.6.10, ∏/4-DQPSK LOW CHANNEL , SPURIOUS 30MHz~3GHz



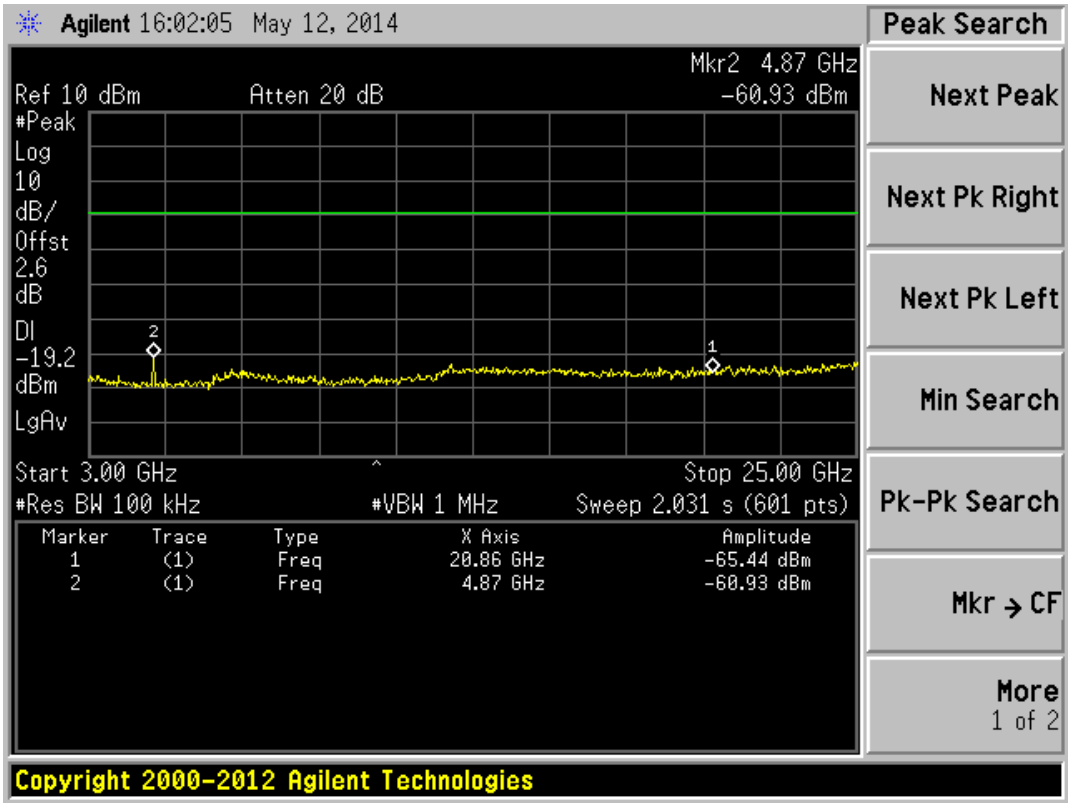
A.6.11, ∏/4-DQPSK LOW CHANNEL , SPURIOUS 3GHz~25GHz



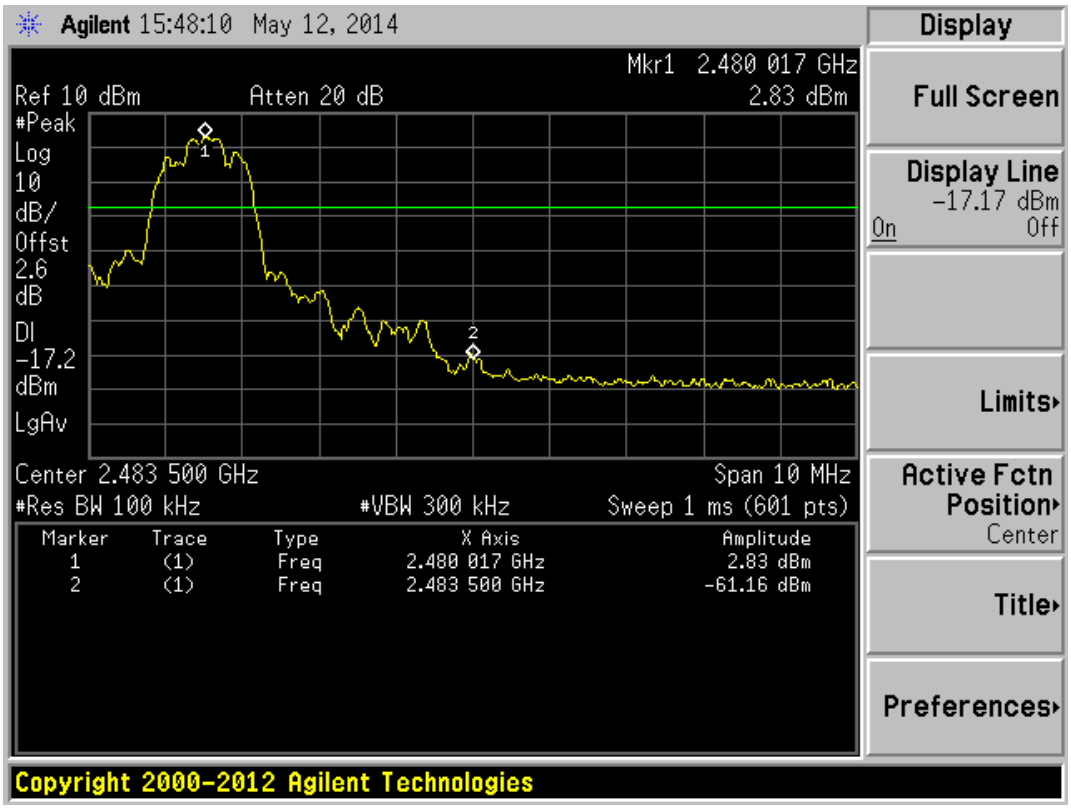
A.6.12, ∏/4-DQPSK MID CHANNEL , SPURIOUS 30MHz~3GHz



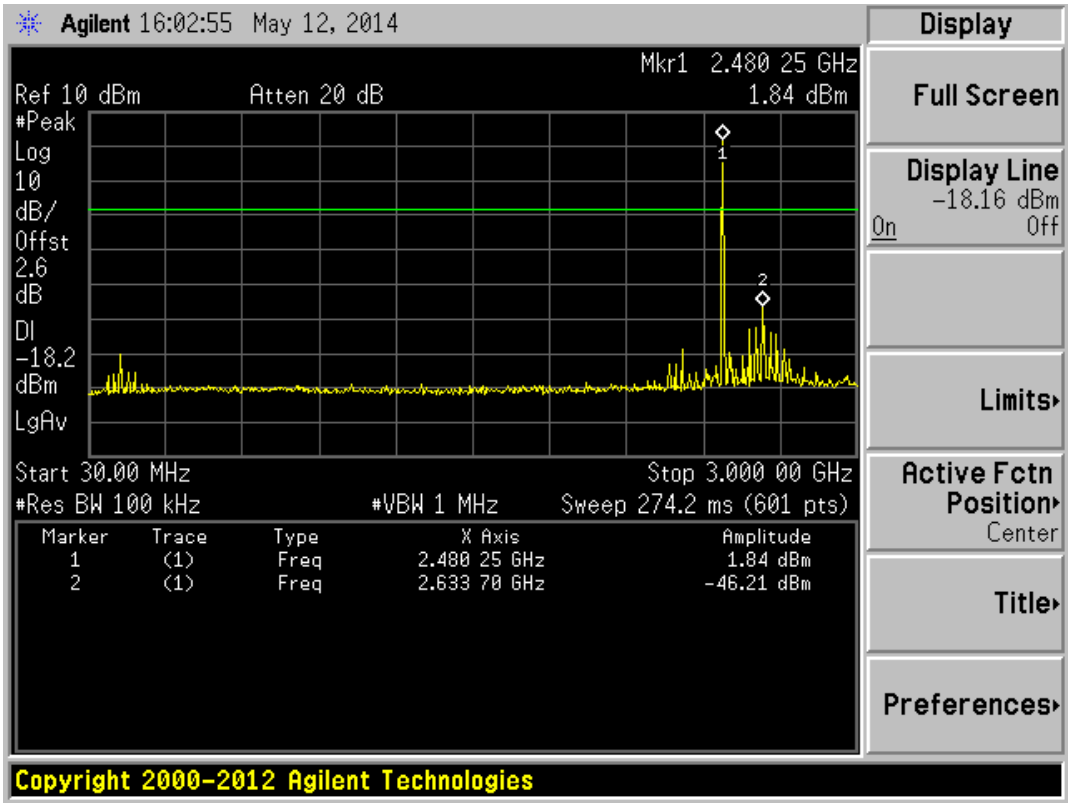
A.6.13, ∏/4-DQPSK MID CHANNEL , SPURIOUS 3GHz~25GHz



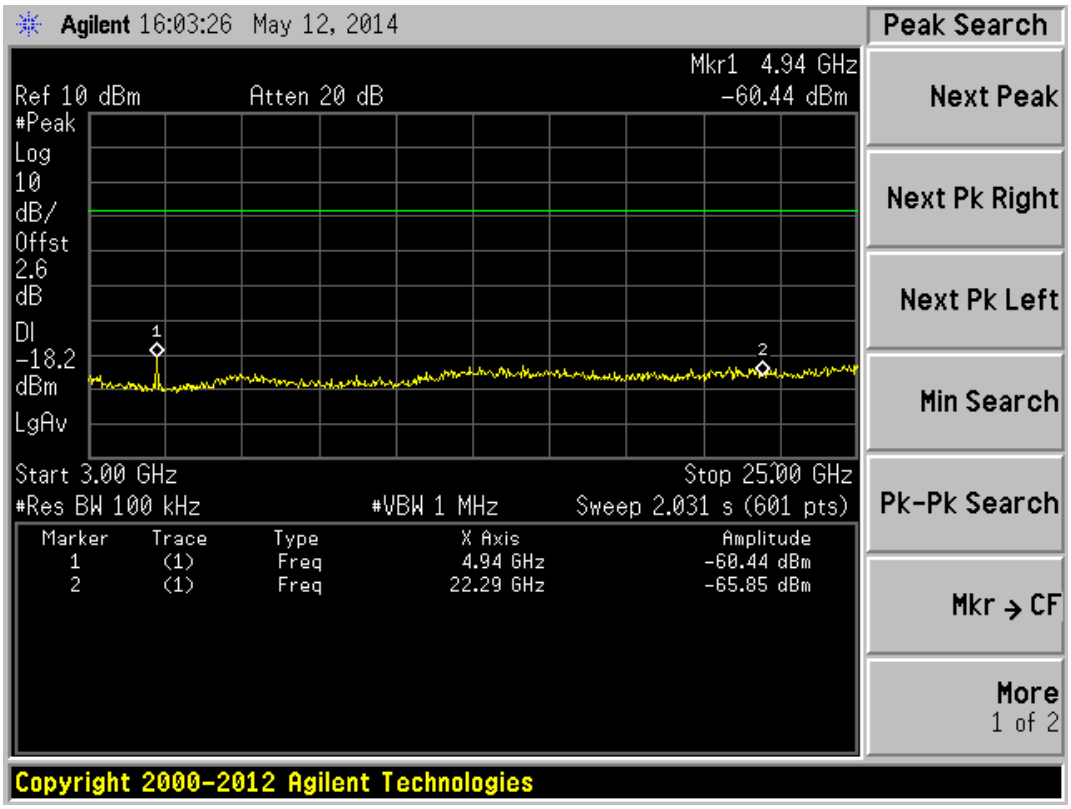
A.6.14, ∏/4-DQPSK HIGH CHANNEL , BANDEDGE



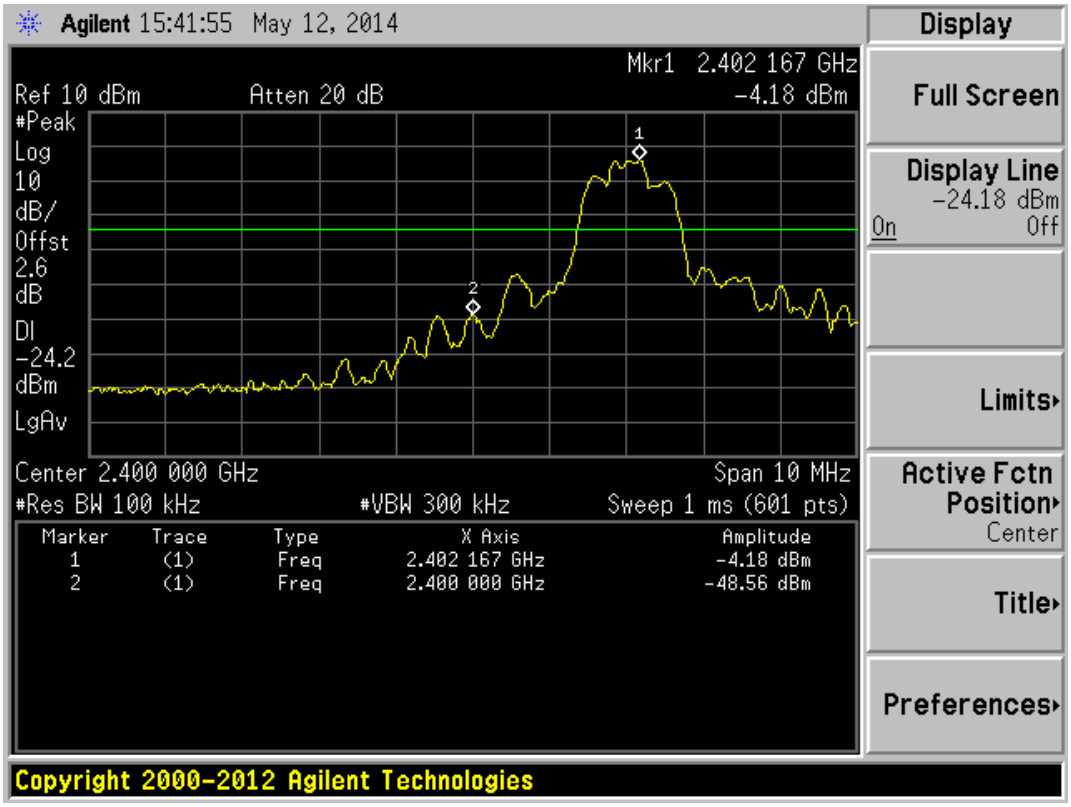
A.6.15, ∏/4-DQPSK HIGH CHANNEL , SPURIOUS 30MHz~3GHz



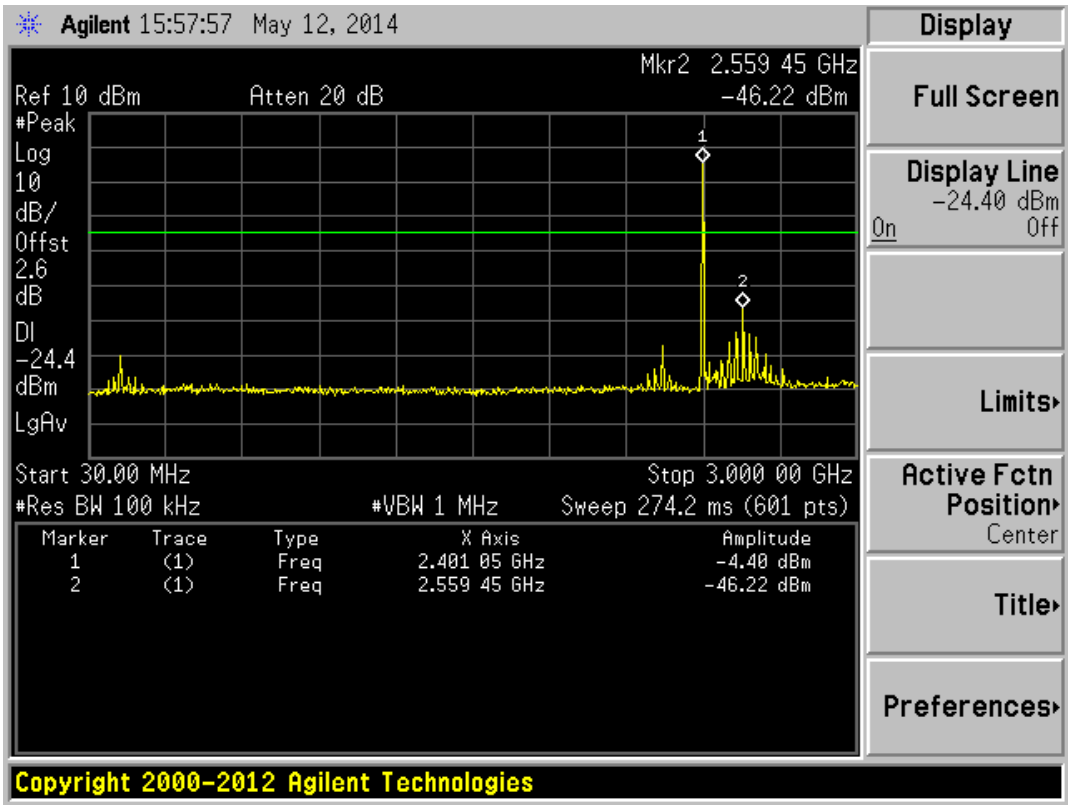
A.6.16, ∏/4-DQPSK HIGH CHANNEL , SPURIOUS 3GHz~25GHz



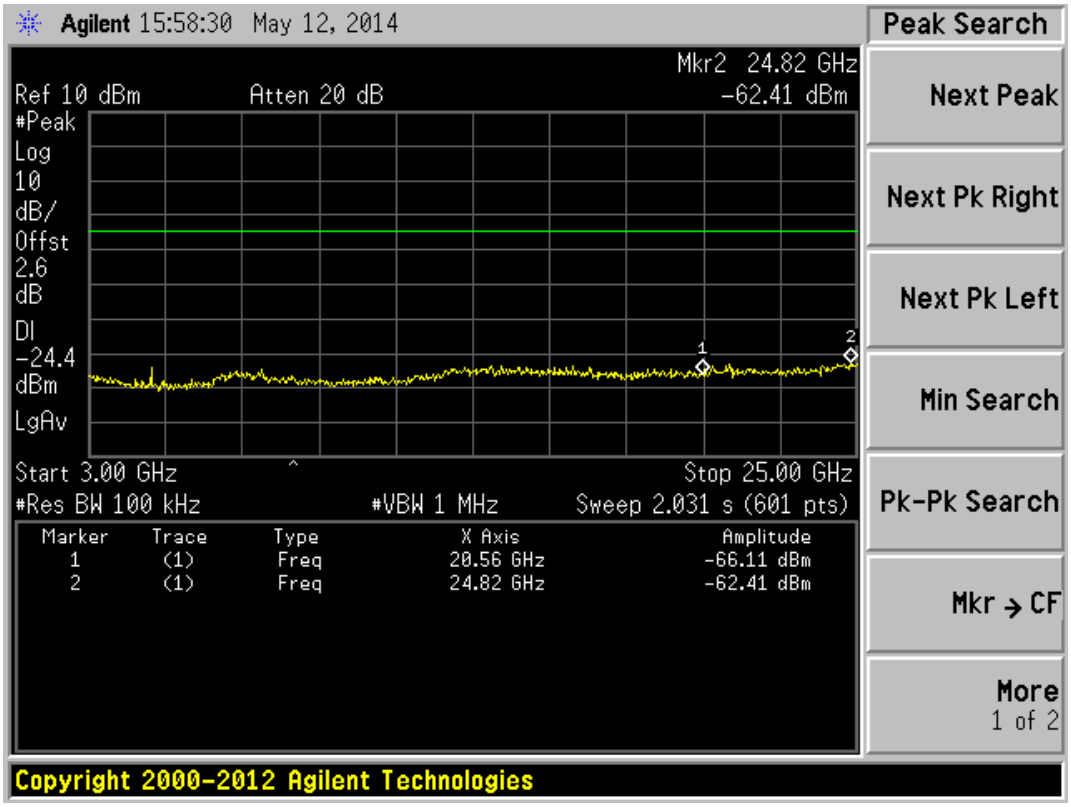
A.6.17, 8-DPSK LOW CHANNEL , BANDEDGE



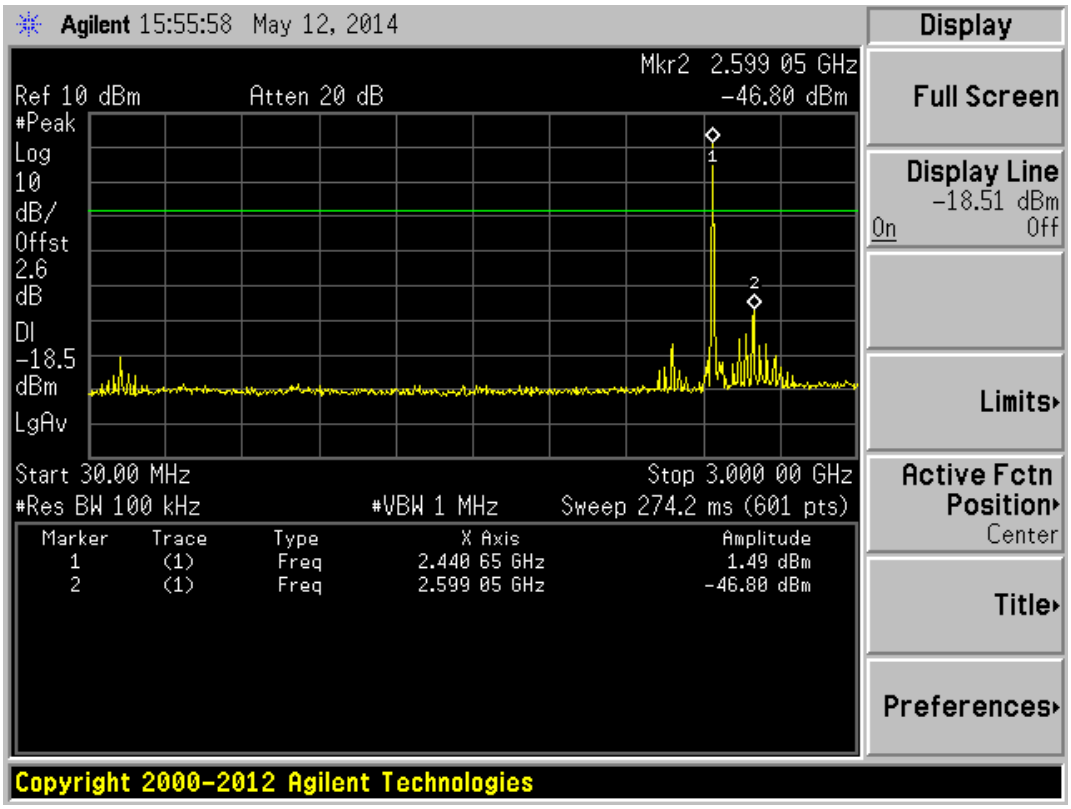
A.6.18, 8-DPSK LOW CHANNEL , SPURIOUS 30MHz~3GHz



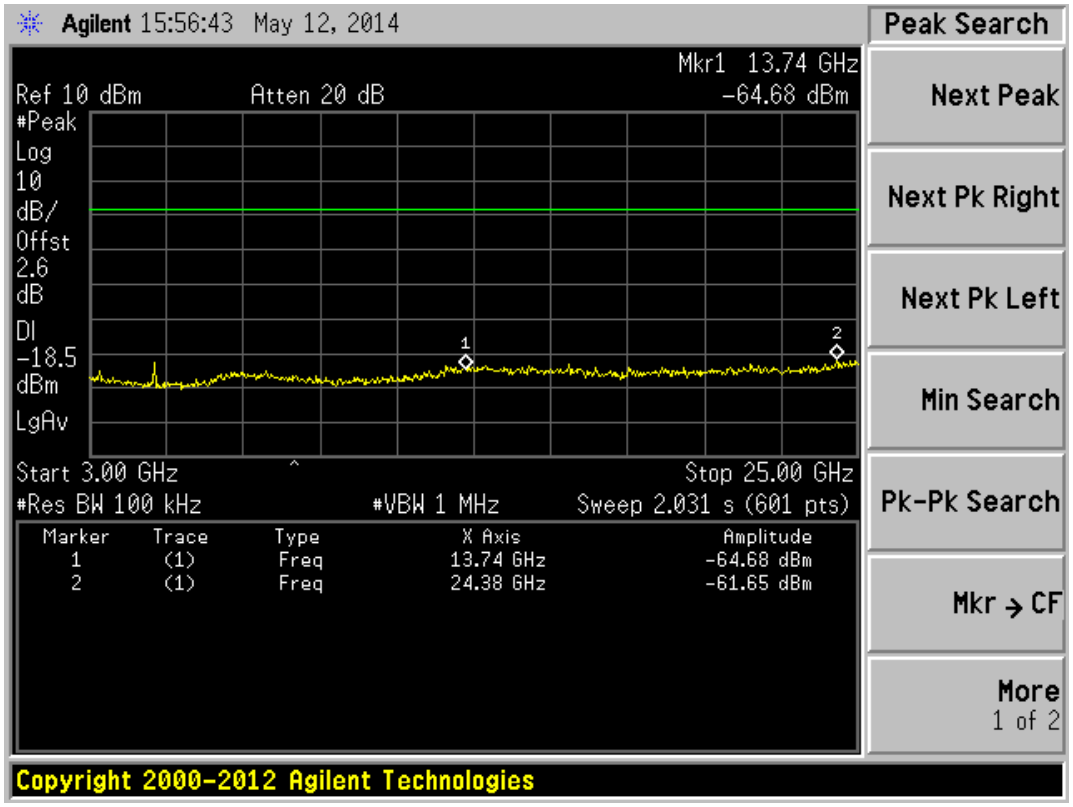
A.6.19, 8-DPSK LOW CHANNEL , SPURIOUS 3GHz~25GHz



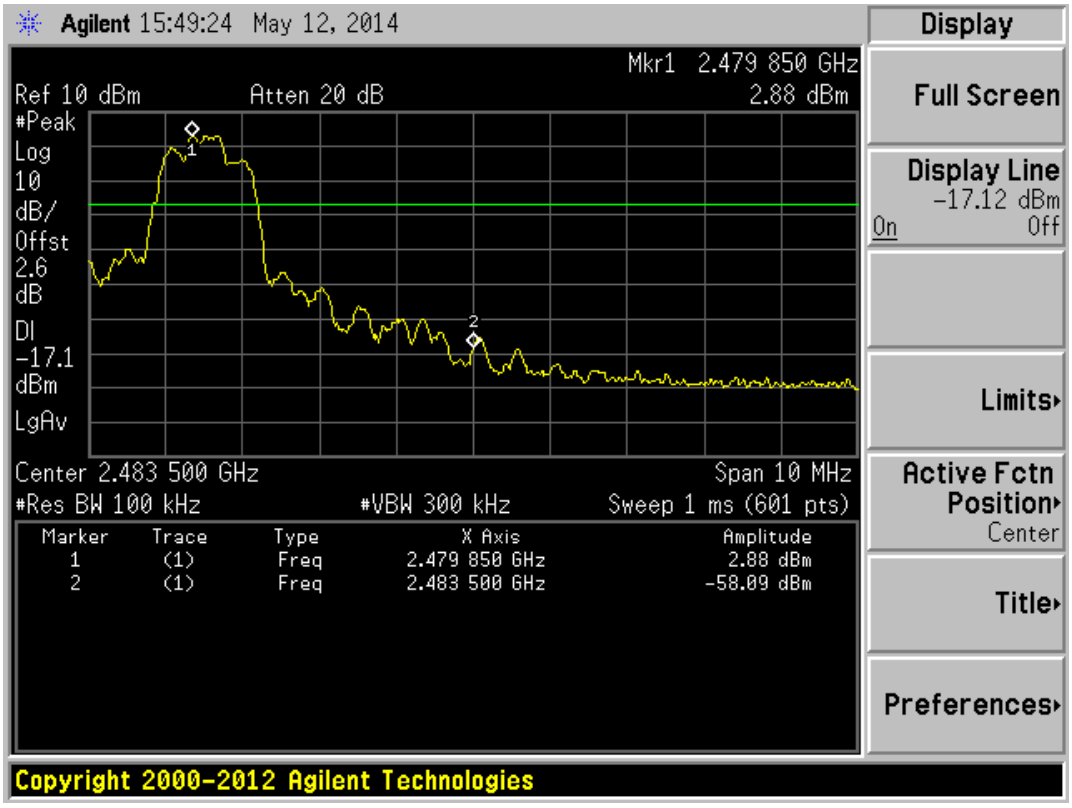
A.6.20, 8-DPSK MID CHANNEL , SPURIOUS 30MHz~3GHz



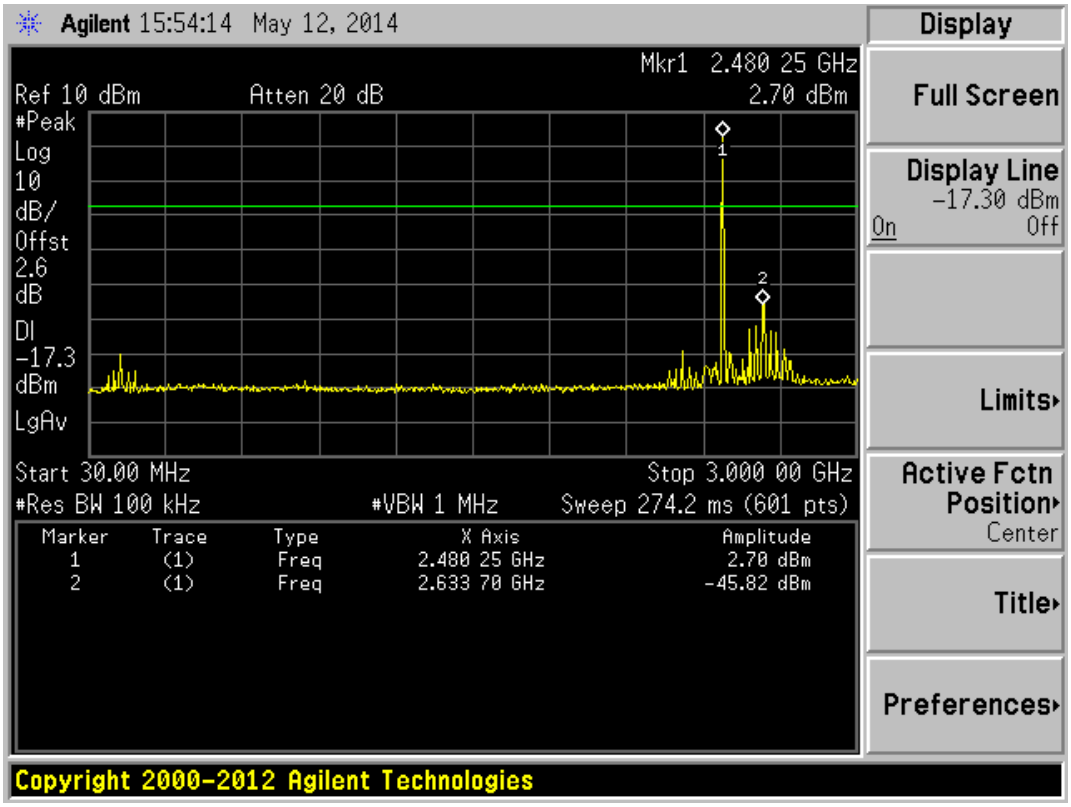
A.6.21, 8-DPSK MID CHANNEL , SPURIOUS 3GHz~25GHz



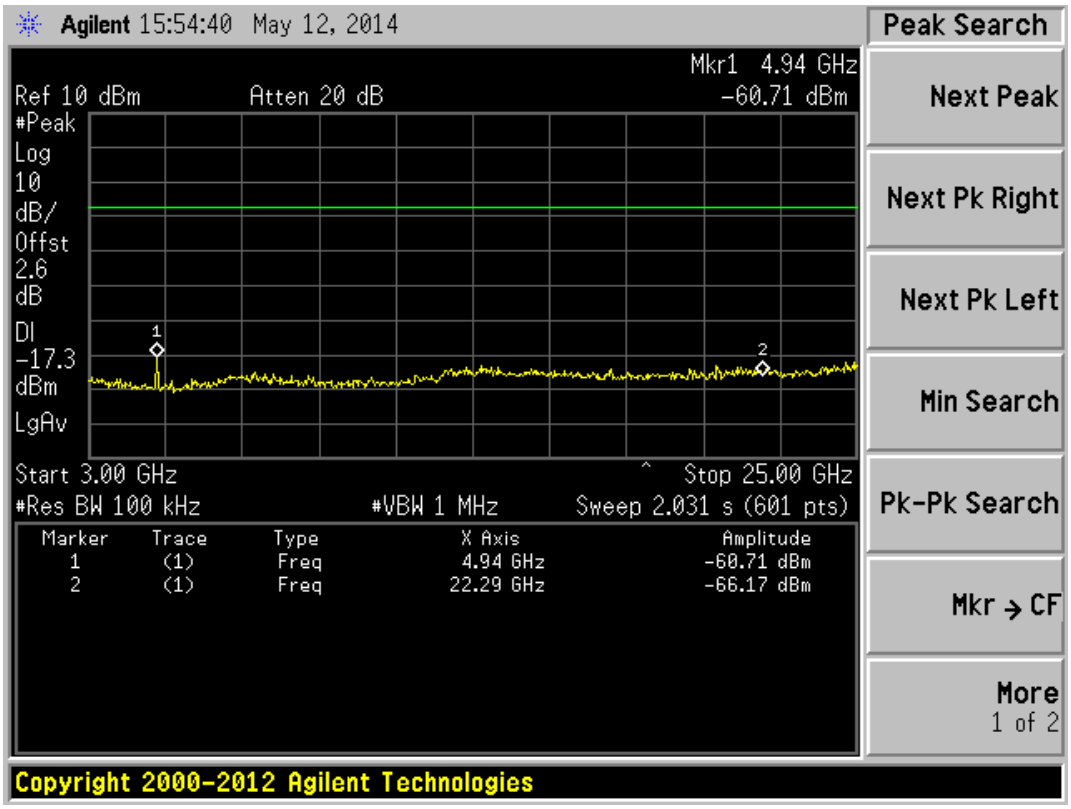
1A.6.22, 8-DPSK HIGH CHANNEL , BANDEDGE



A.6.23, 8-DPSK HIGH CHANNEL , SPURIOUS 30MHz~3GHz



A.6.24, 8-DPSK HIGH CHANNEL , SPURIOUS 3GHz~25GHz



A.7 Conducted Emissions

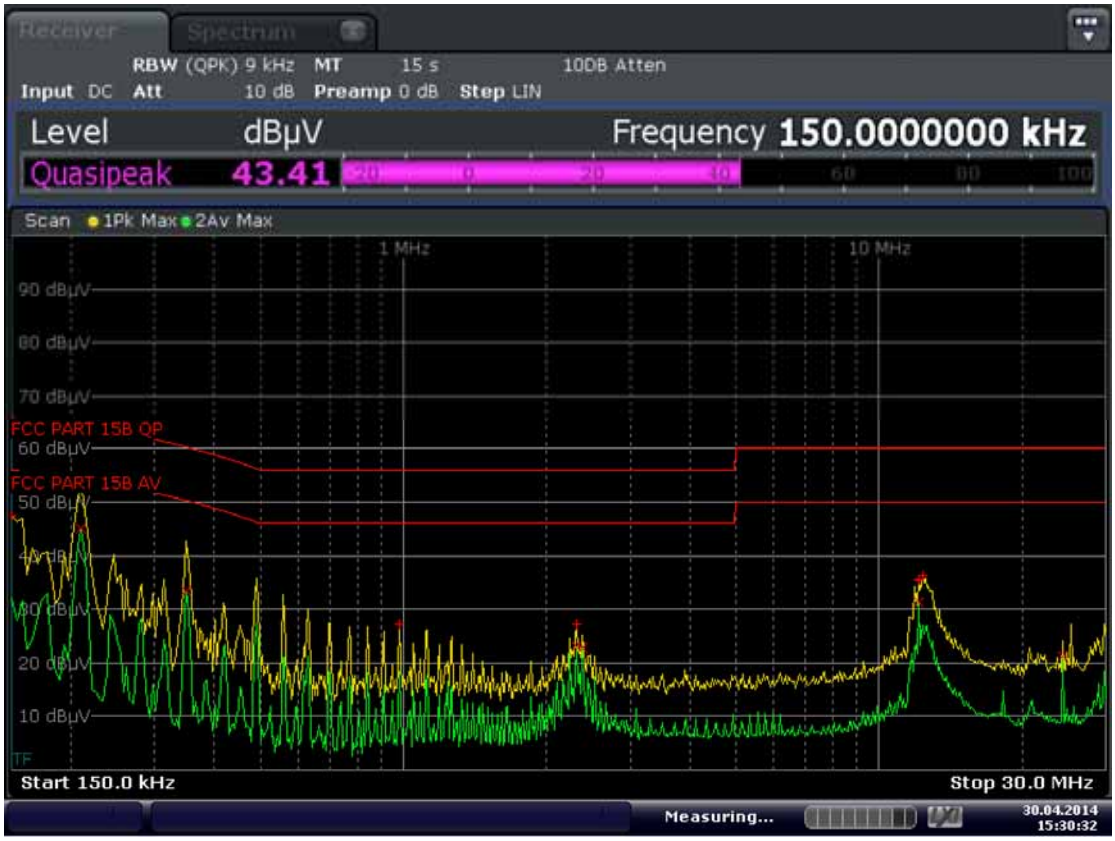
Test Data

No.	Fre. (MHz)	Measurement Level (dBuV)	Limit (dBuV)	Margin (dB)	Phase	Detector	Verdict
1	0.150	47.49	66.00	-18.51	L	QP	PASS
2	0.210	53.92	64.29	-10.37	L	QP	PASS
3	0.210	45.09	54.29	-9.20	L	AV	PASS
4	0.350	33.54	50.29	-16.75	L	AV	PASS
5	0.982	27.11	56.00	-28.89	L	QP	PASS
6	2.310	27.15	56.00	-28.85	L	QP	PASS
7	2.310	23	46.00	-23.00	L	AV	PASS
8	2.382	22.68	46.00	-23.32	L	AV	PASS
9	12.154	35.42	60.00	-24.58	L	QP	PASS
10	12.154	31.4	50.00	-18.60	L	AV	PASS
11	12.418	36.36	60.00	-23.64	L	QP	PASS
12	24.306	21.17	50.00	-28.83	L	AV	PASS

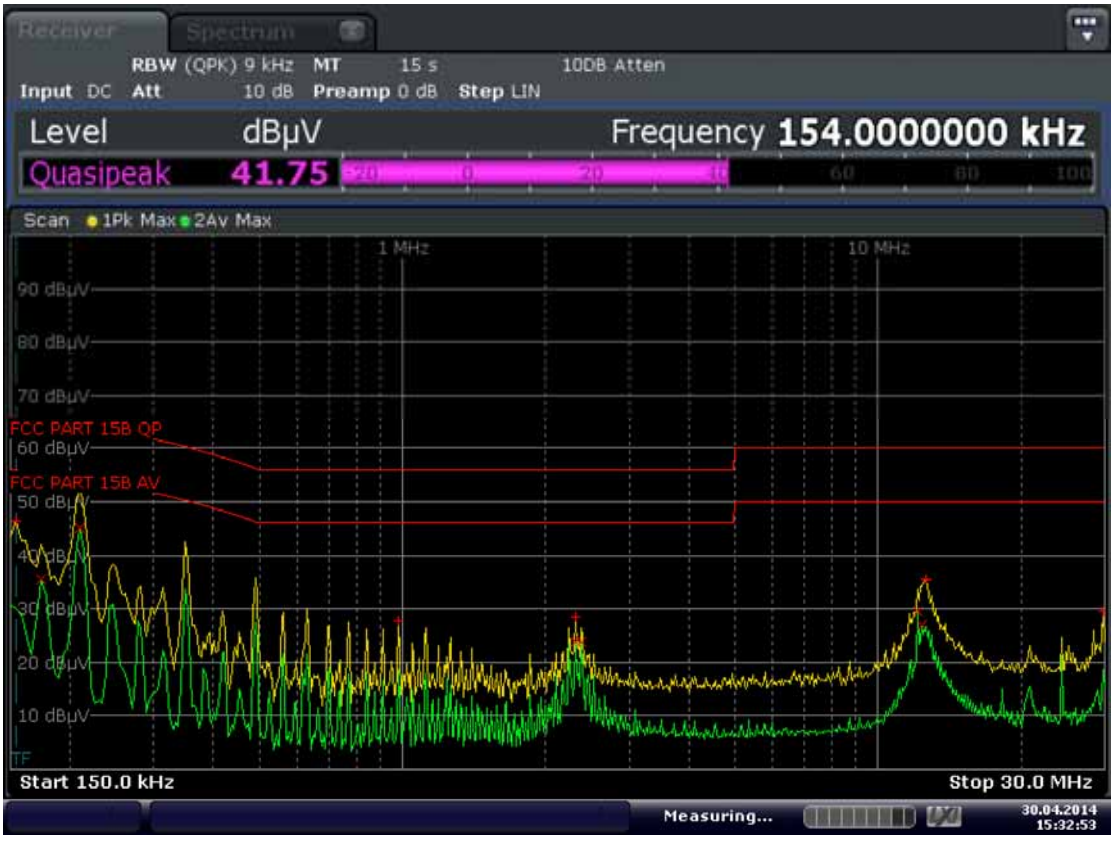
No.	Fre. (MHz)	Measurement Level (dBuV)	Limit (dBuV)	Margin (dB)	Phase	Detector	Verdict
1	0.154	46.45	65.89	-19.44	N	QP	PASS
2	0.174	35.39	55.31	-19.92	N	AV	PASS
3	0.210	53.31	64.29	-10.98	N	QP	PASS
4	0.210	45.13	54.29	-9.16	N	AV	PASS
5	0.982	27.62	56.00	-28.38	N	QP	PASS
6	2.314	28.42	56.00	-27.58	N	QP	PASS
7	2.314	23.91	46.00	-22.09	N	AV	PASS
8	2.382	23.91	46.00	-22.09	N	AV	PASS
9	12.154	29.45	50.00	-20.55	N	AV	PASS
10	12.386	26.91	50.00	-23.09	N	AV	PASS
11	12.594	35.45	60.00	-24.55	N	QP	PASS
12	29.786	29.44	60.00	-30.56	N	QP	PASS

Test Plots

A.7.1, PHASE L



A.7.2, PHASE N

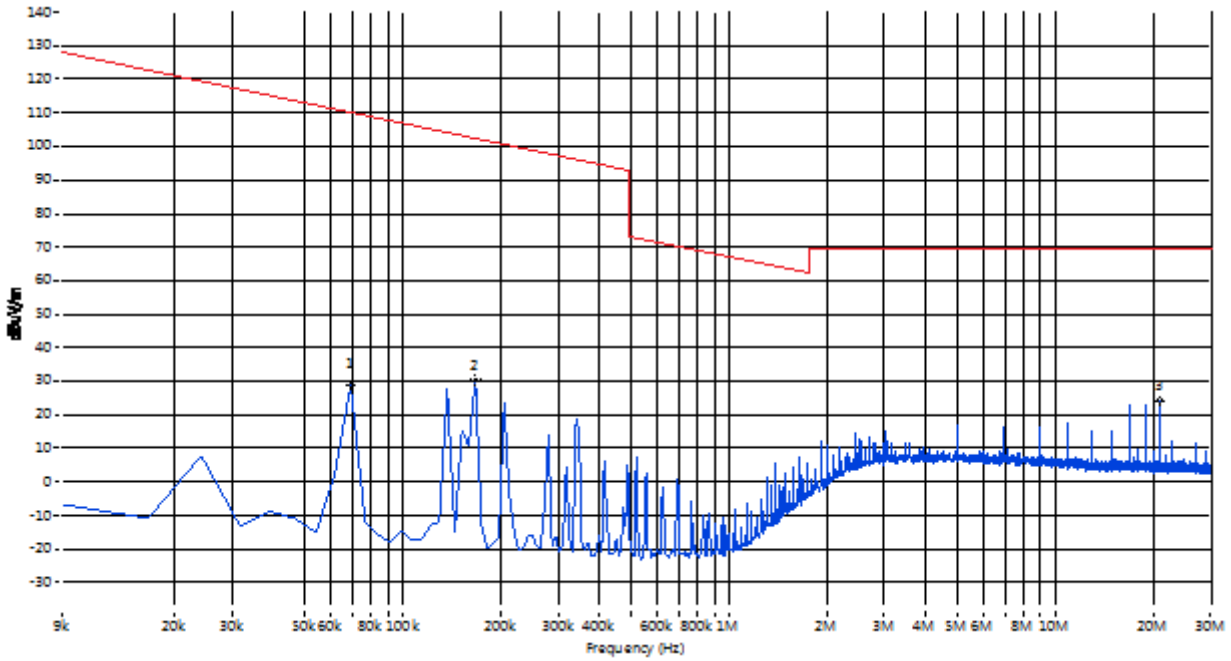


A.8 Radiated Emission

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

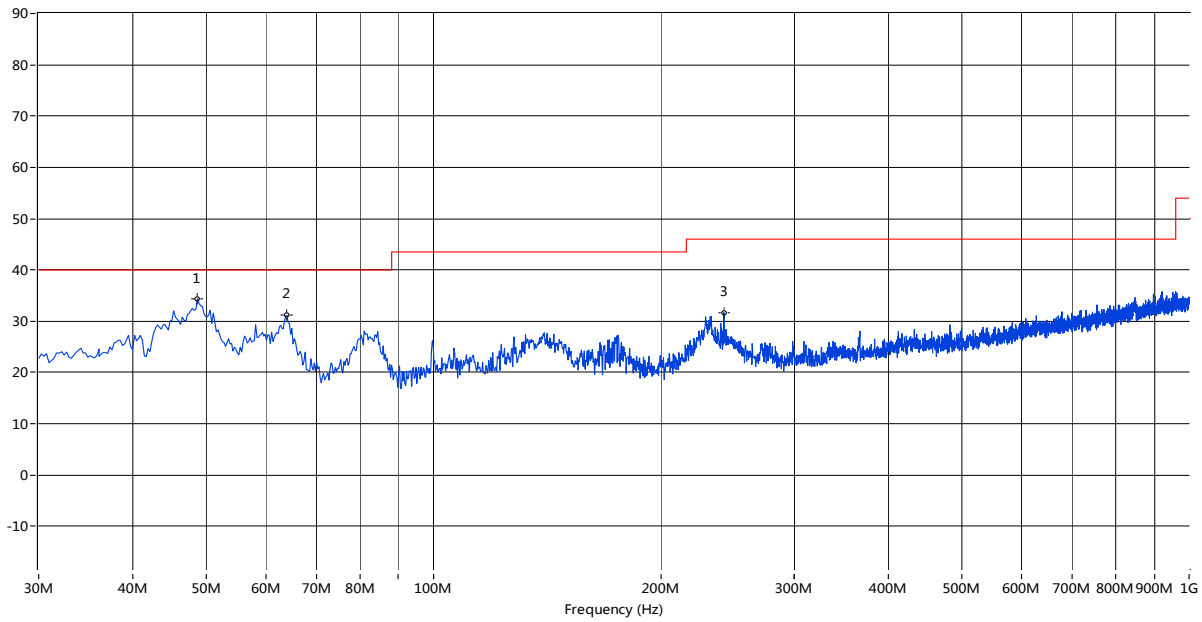
Test Plots

A.8.1, GFSK LOW CHANNEL Below 30MHz



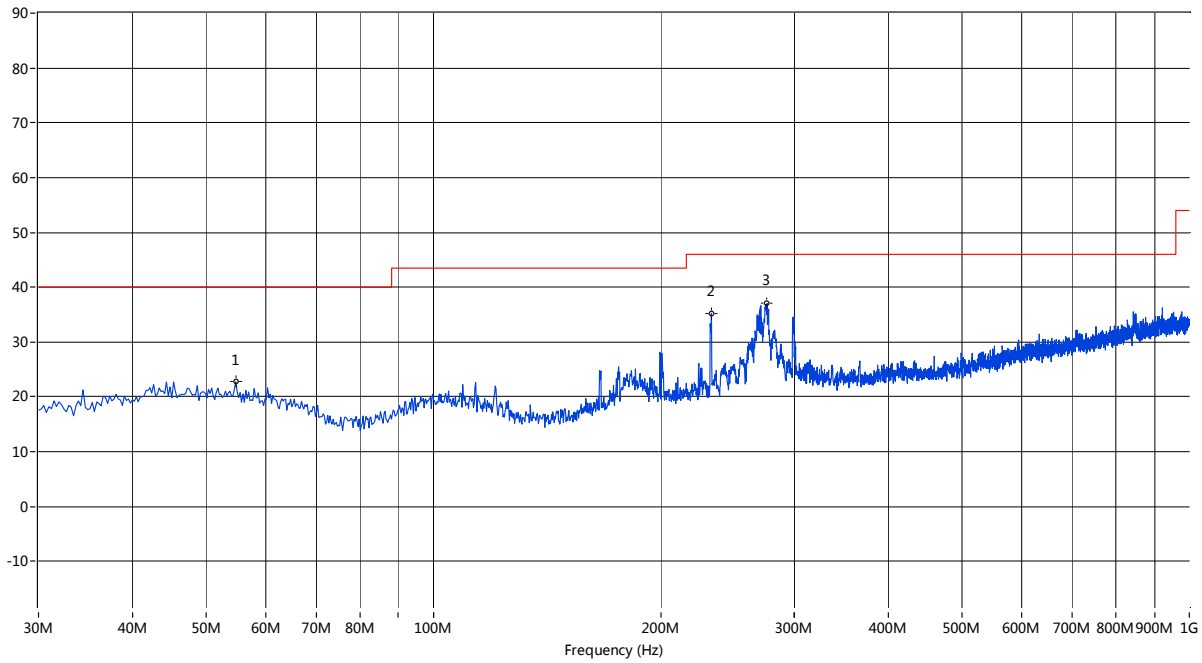
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Degree	Verdical
0.069	28.85	--	--	--	110.8	--	--	PASS
0.166	30.44	--	--	--	103.2	--	--	PASS
20.997	24.29	--	--	--	69.5	--	--	PASS

A.8.2, GFSK LOW CHANNEL 30MHz to 1GHz, ANT V



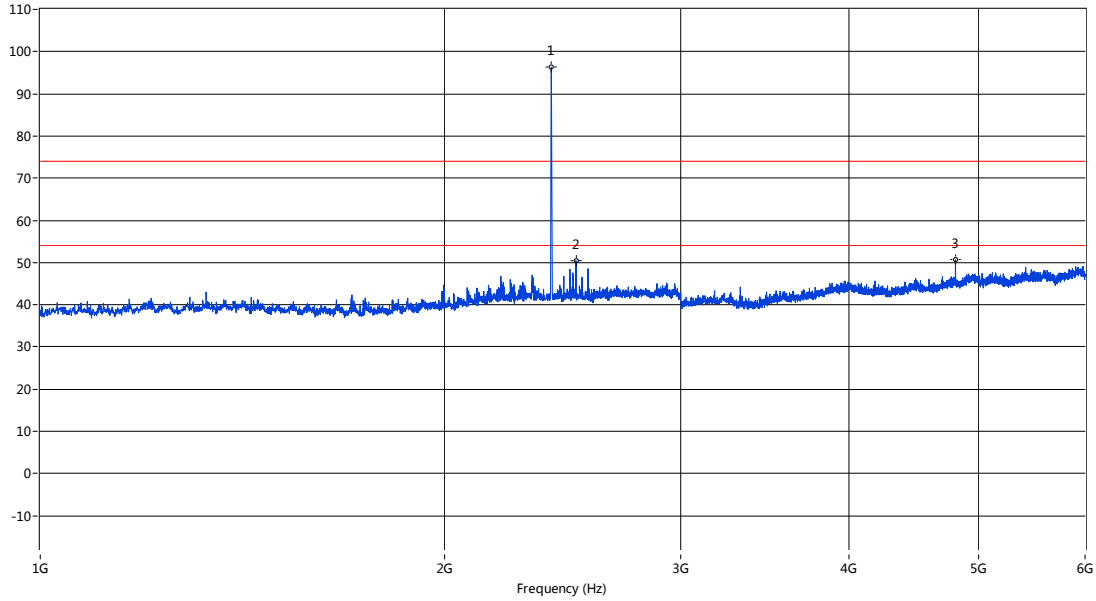
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Degree	Antenna	Verdical
48.668	34.41	--	--	--	40.0	--	204.9	Vertical	pass
63.942	31.14	--	--	--	40.0	--	253.8	Vertical	pass
242.134	31.68	--	--	--	46.0	--	19.6	Vertical	pass

A.8.3, GFSK LOW CHANNEL 30MHz to 1GHz, ANT H



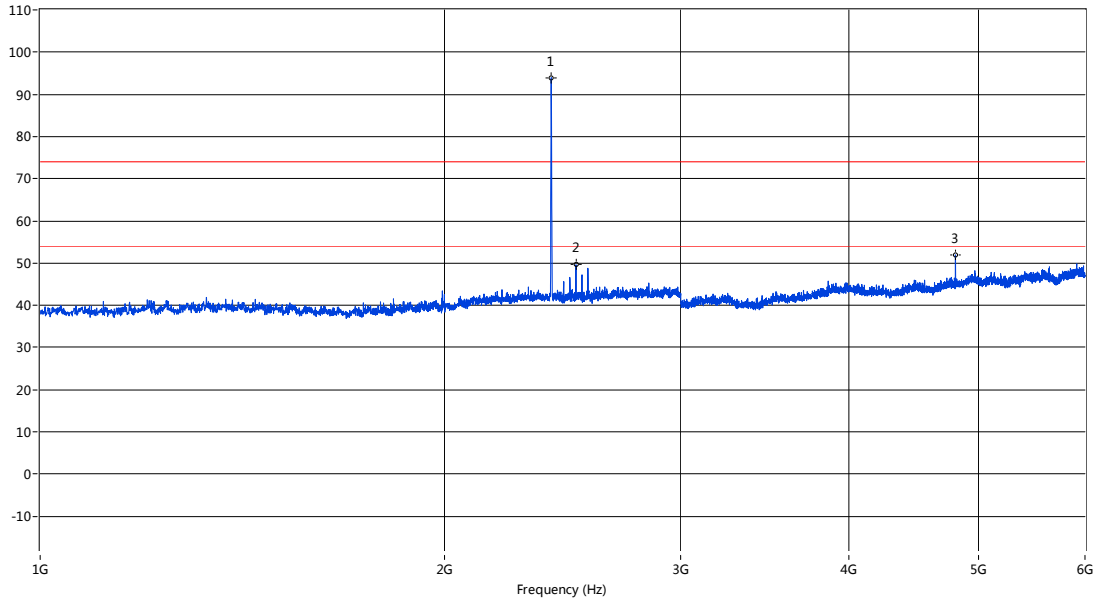
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Degree	Antenna	Verdical
54.729	22.76	--	--	--	40.0	--	336.7	Horizontal	pass
233.164	35.26	--	--	--	46.0	--	38.8	Horizontal	pass
276.318	37.03	--	--	--	46.0	--	41.0	Horizontal	pass

A.8.4, GFSK LOW CHANNEL 1GHz to 6GHz, ANT V



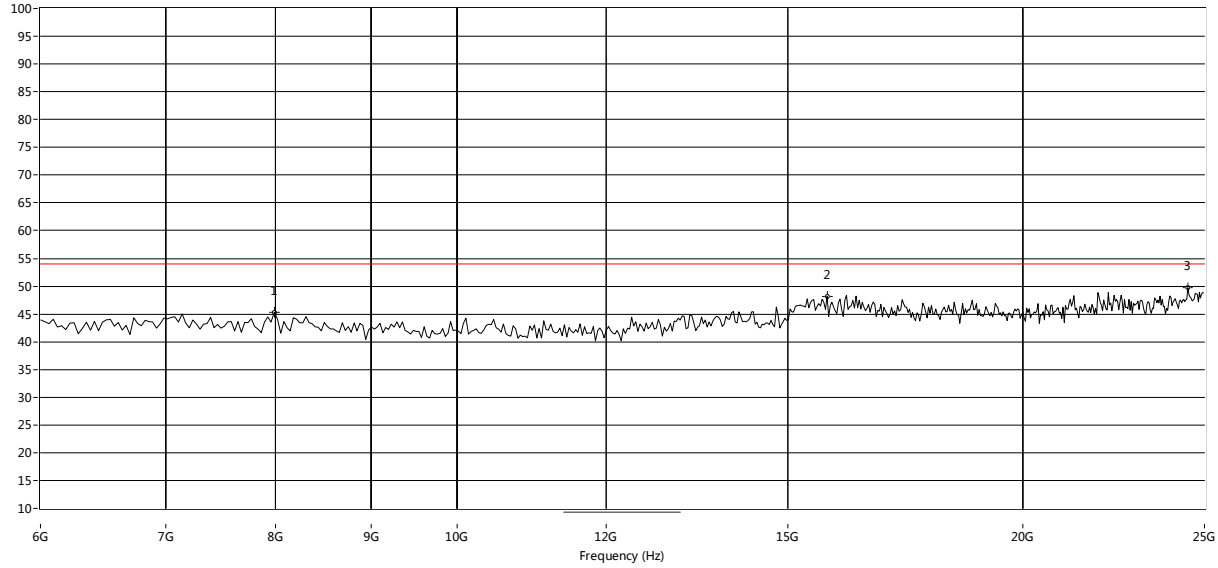
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Degree	Antenna	Verdical
2402.149	96.27	--	--	--	--	--	312.7	Vertical	--
2506.123	50.47	--	--	74.0	--	54.0	318.9	Vertical	pass
4803.299	50.69	--	--	74.0	--	54.0	18.9	Vertical	pass

A.8.5, GFSK LOW CHANNEL 1GHz to 6GHz, ANT H



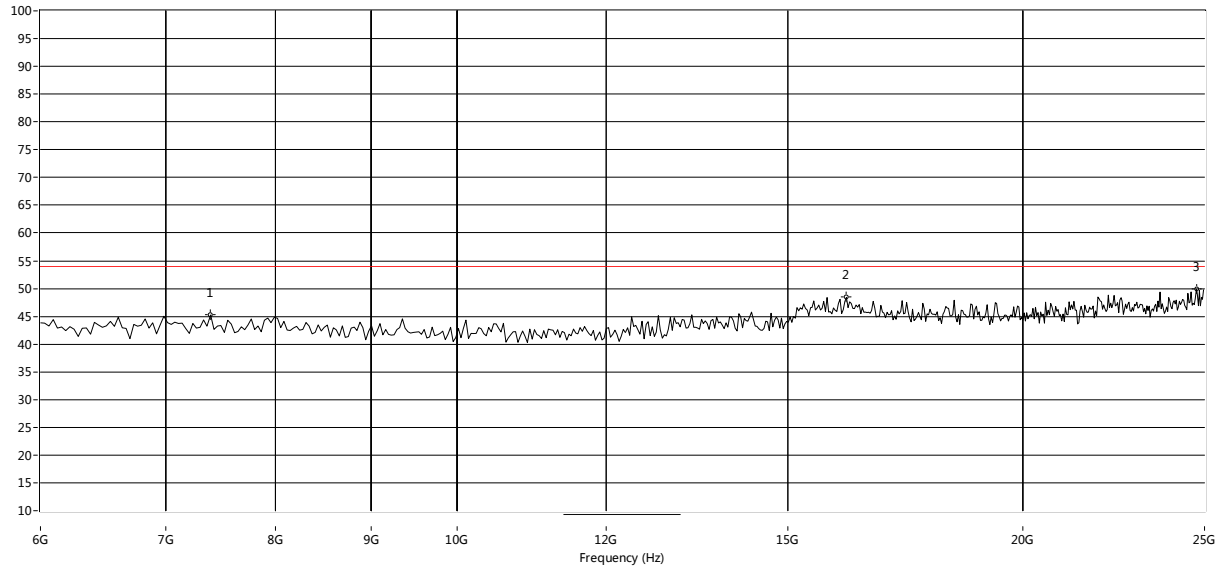
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Degree	Antenna	Verdical
2401.650	93.76	--	--	74.0	--	54.0	346.3	Horizontal	pass
2506.123	49.63	--	--	74.0	--	54.0	353.9	Horizontal	pass
4804.049	51.97	--	--	74.0	--	54.0	331.6	Horizontal	pass

A.8.6, GFSK LOW CHANNEL 6GHz to 25GHz, ANT V



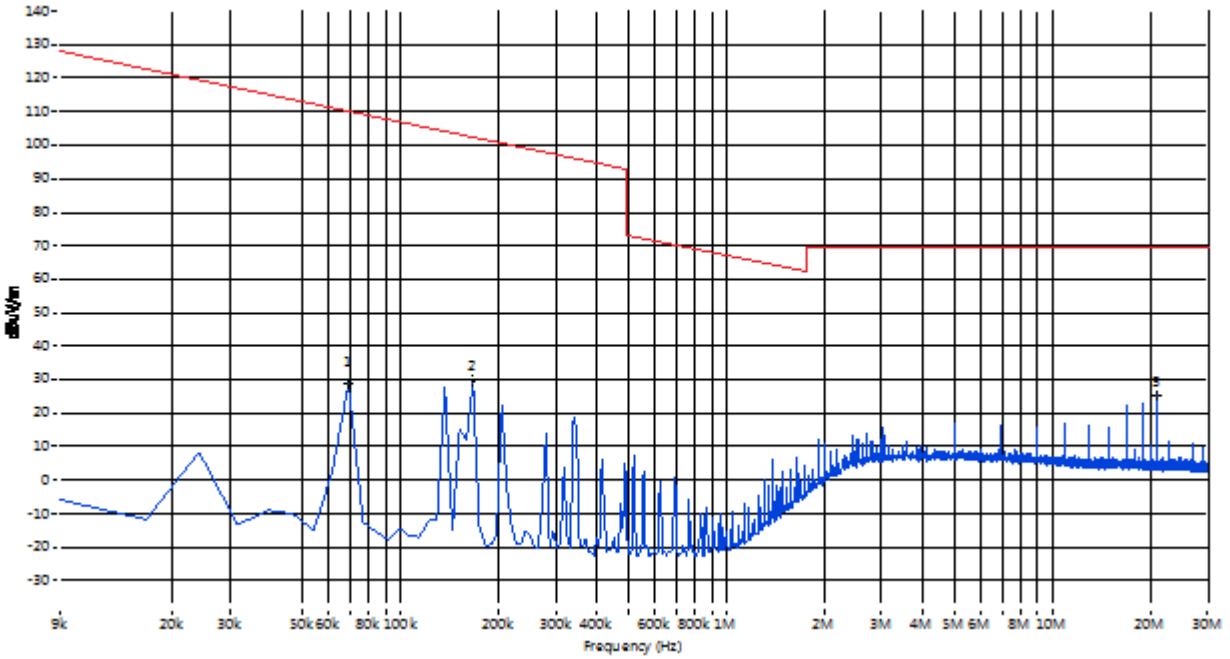
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
7991.681	45.31	54.0	8.7	0.0	Vertical	PASS
15737.105	48.17	54.0	5.8	0.0	Vertical	PASS
24494.176	49.72	54.0	4.3	0.0	Vertical	PASS

A.8.7, GFSK LOW CHANNEL 6GHz to 25GHz, ANT H



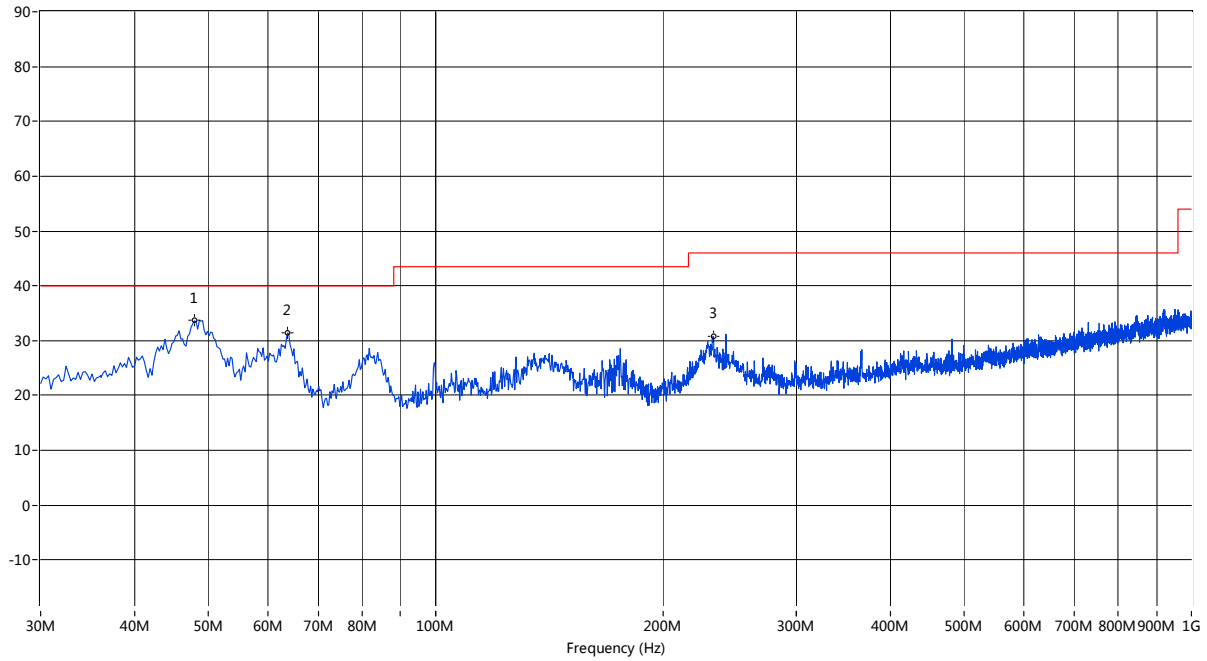
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
7391.015	45.23	54.0	8.8	0.0	Horizontal	PASS
16116.473	48.41	54.0	5.6	0.0	Horizontal	PASS
24747.088	49.83	54.0	4.2	0.0	Horizontal	PASS

A.8.8, GFSK MID CHANNEL Below 30MHz



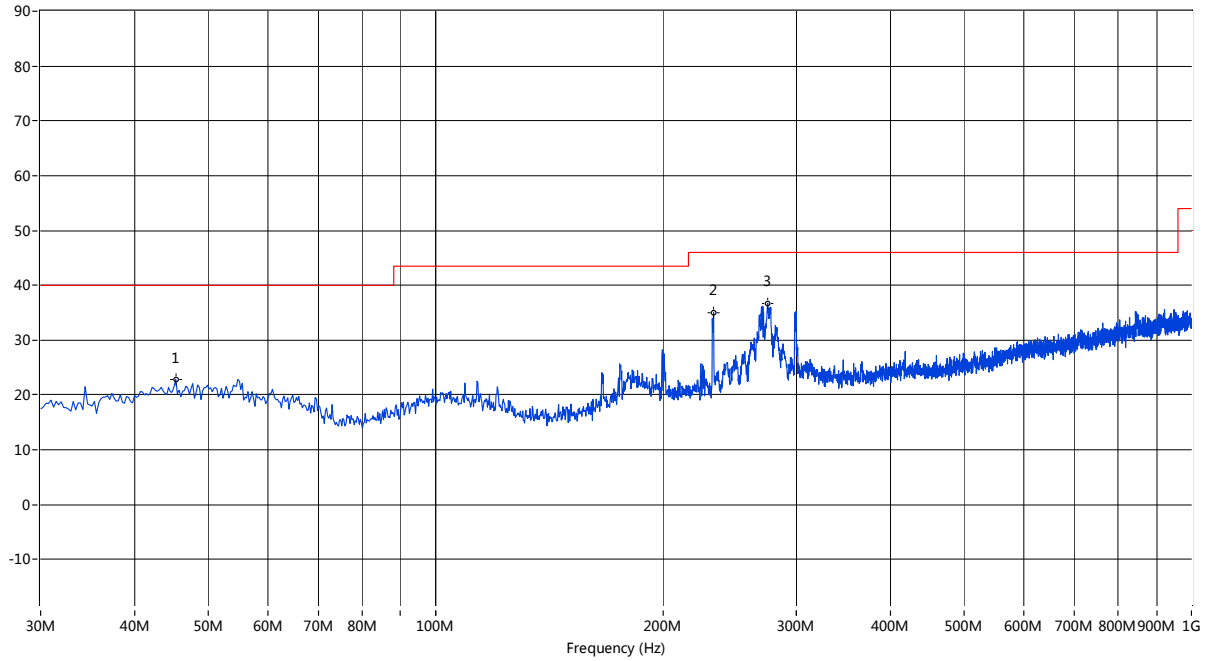
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Degree	Verdical
0.069	28.72	--	--	--	110.8	--	--	PASS
0.166	29.60	--	--	--	103.2	--	--	PASS
20.997	25.27	--	--	--	69.5	--	--	PASS

A.8.9, GFSK MID CHANNEL 30MHz to 1GHz, ANT V



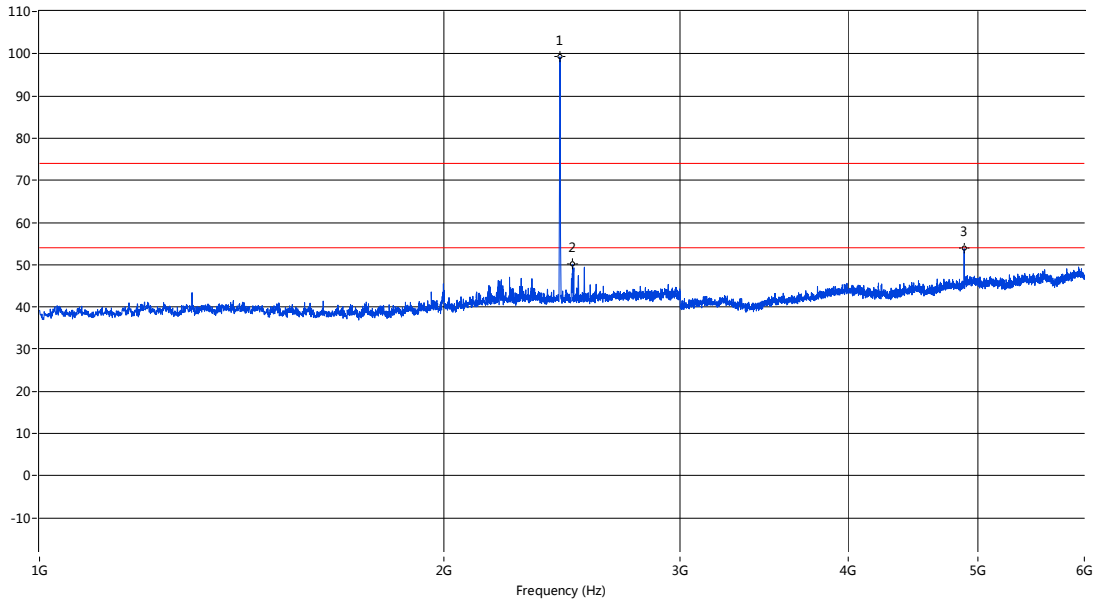
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Degree	Antenna	Verdical
47.941	33.64	--	--	--	40.0	--	43.4	Vertical	pass
63.699	31.44	--	--	--	40.0	--	253.8	Vertical	pass
232.922	30.78	--	--	--	46.0	--	38.8	Vertical	pass

A.8.10, GFSK MID CHANNEL 30MHz to 1GHz, ANT H



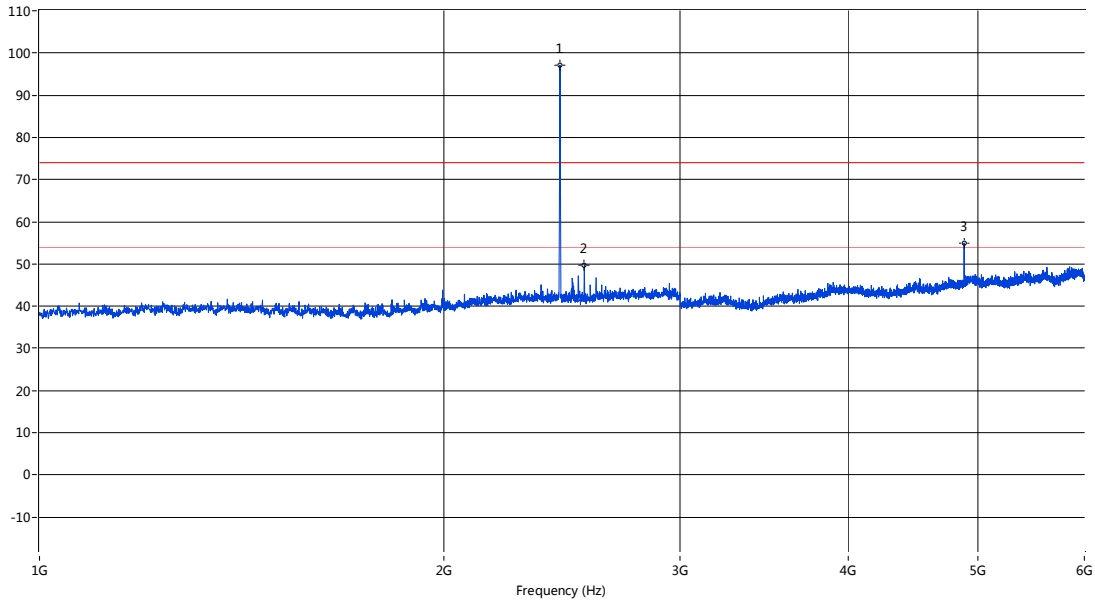
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Degree	Antenna	Verdical
45.274	22.88	--	--	--	40.0	--	155.5	Horizontal	pass
233.164	35.09	--	--	--	46.0	--	38.8	Horizontal	pass
274.864	36.75	--	--	--	46.0	--	39.8	Horizontal	pass

A.8.11, GFSK MID CHANNEL 1GHz to 6GHz, ANT V



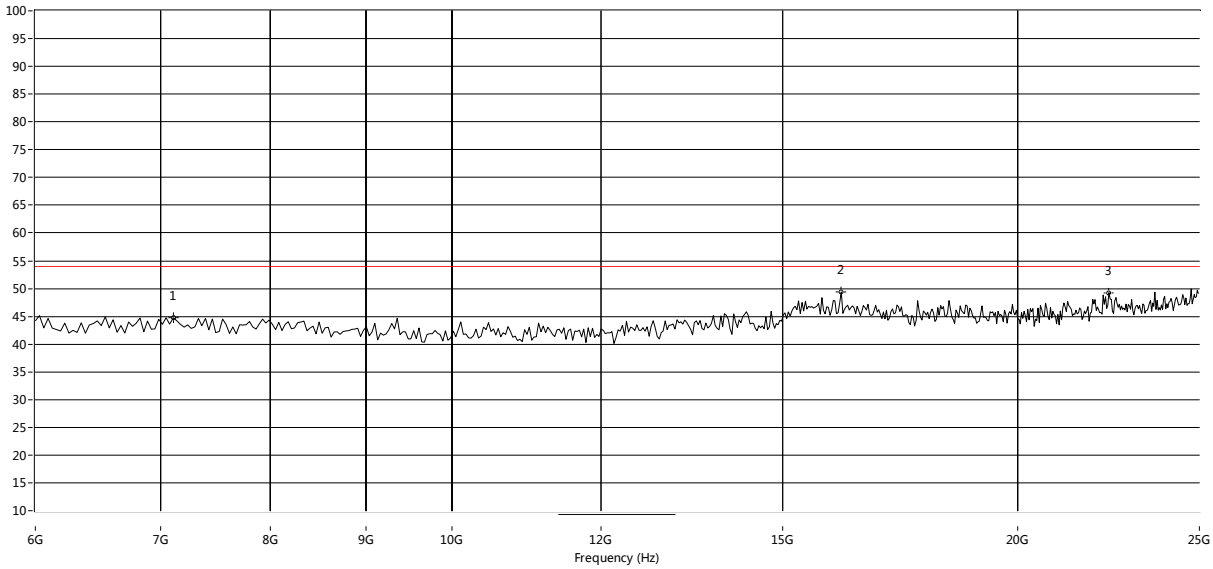
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Degree	Antenna	Verdical
2441.140	99.28	--	--	--	--	--	319.0	Vertical	--
2494.126	50.10	--	--	74.0	--	54.0	319.0	Vertical	pass
4882.029	53.82	--	46.67	74.0	--	54.0	346.7	Vertical	pass

A.8.12, GFSK MID CHANNEL 1GHz to 6GHz, ANT H



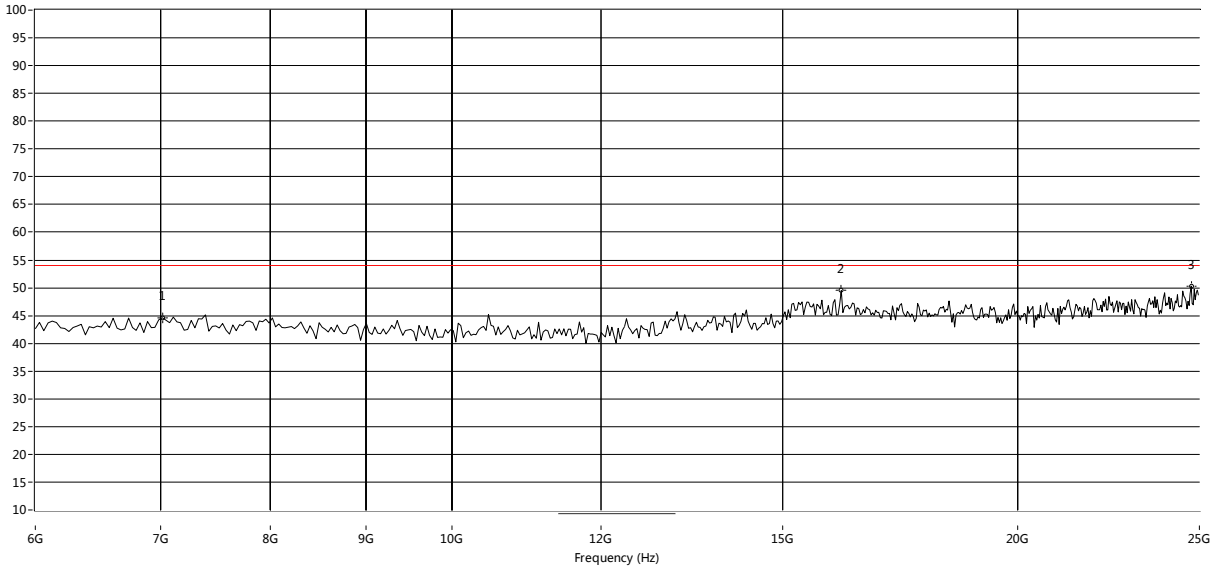
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Degree	Antenna	Verdical
2440.640	97.07	--	--	--	--	--	343.7	Horizontal	--
2545.114	49.83	--	--	74.0	--	54.0	359.1	Horizontal	pass
4882.029	54.99	--	48.05	74.0	--	54.0	317.8	Horizontal	pass

A.8.13, GFSK MID CHANNEL 6GHz to 25GHz, ANT V



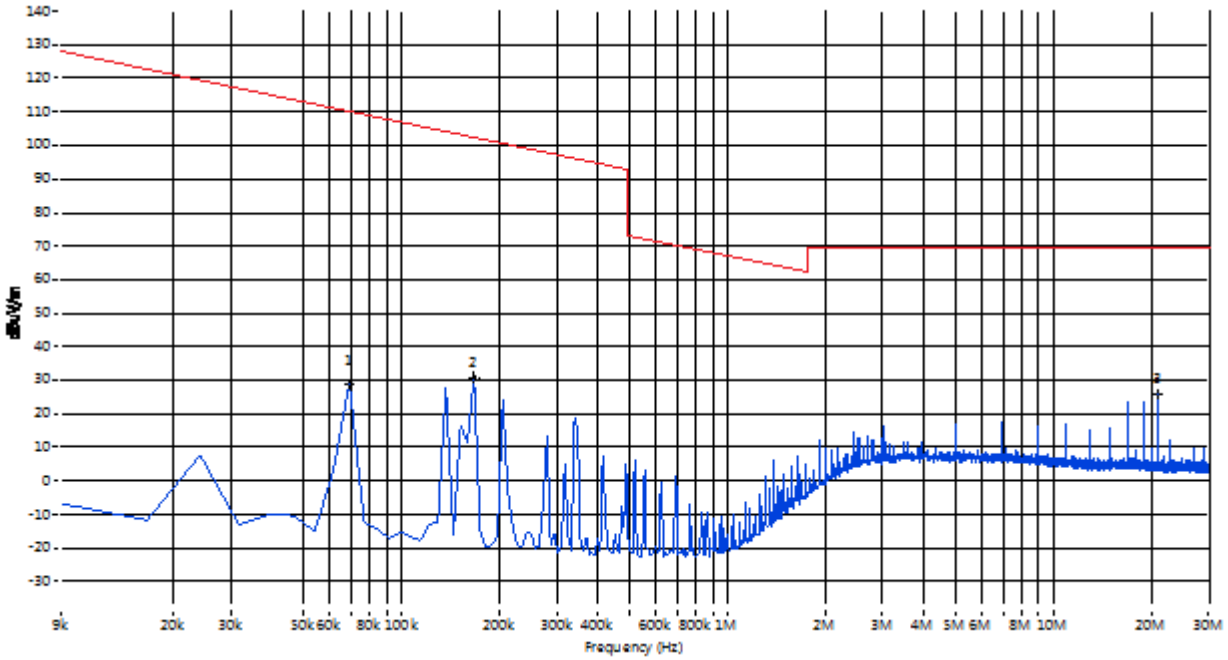
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
7106.489	44.71	54.0	9.3	0.0	Vertical	PASS
16116.473	49.39	54.0	4.6	0.0	Vertical	PASS
22376.040	49.26	54.0	4.7	0.0	Vertical	PASS

A.8.14, GFSK MID CHANNEL 6GHz to 25GHz, ANT H



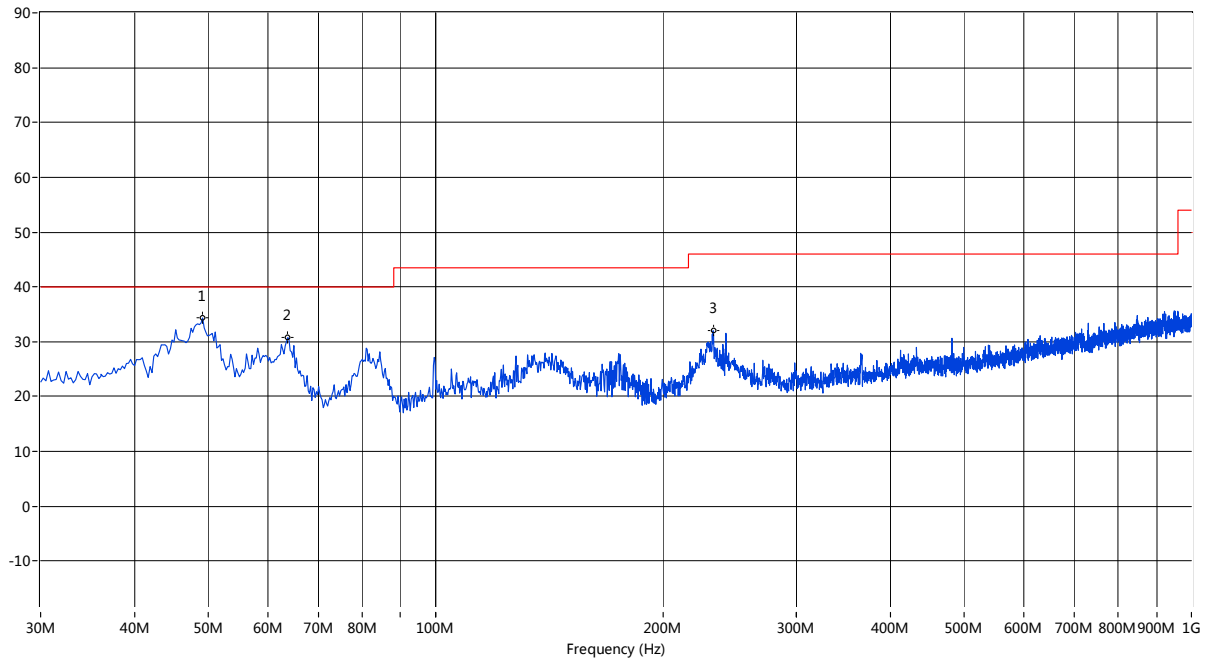
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
7011.647	44.61	54.0	9.4	0.0	Horizontal	PASS
16116.473	49.49	54.0	4.5	0.0	Horizontal	PASS
24747.088	50.31	54.0	3.7	0.0	Horizontal	PASS

A.8.15, GFSK HIGH CHANNEL Below 30MHz



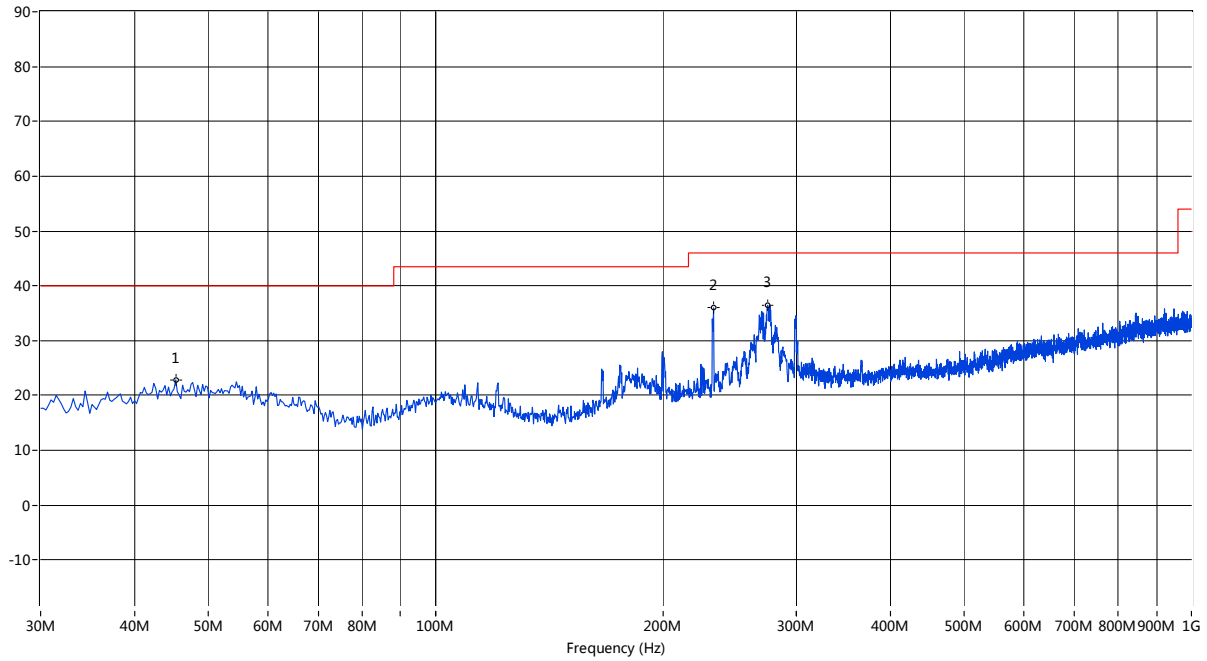
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Degree	Verdical
0.069	29.21	--	--	--	110.8	--	--	PASS
0.166	30.83	--	--	--	103.2	--	--	PASS
20.997	25.81	--	--	--	69.5	--	--	PASS

A.8.16, GFSK HIGH CHANNEL 30MHz to 1GHz, ANT V



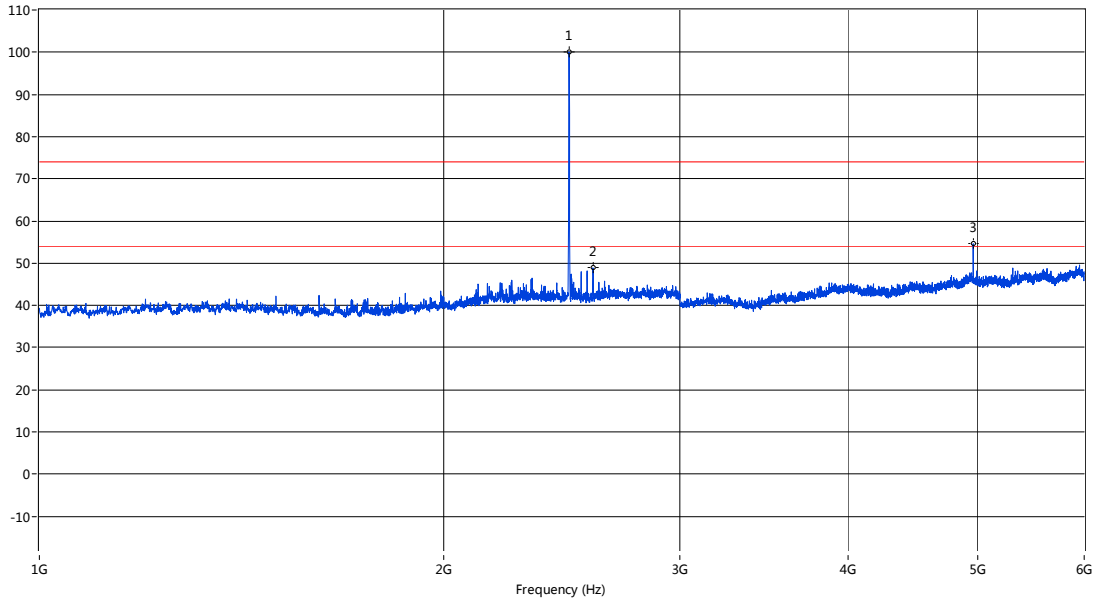
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Degree	Antenna	Verdical
49.153	34.35	--	--	--	40.0	--	74.5	Vertical	pass
63.699	30.77	--	--	--	40.0	--	253.8	Vertical	pass
232.922	32.02	--	--	--	46.0	--	38.8	Vertical	pass

A.8.17, GFSK HIGH CHANNEL 30MHz to 1GHz, ANT H



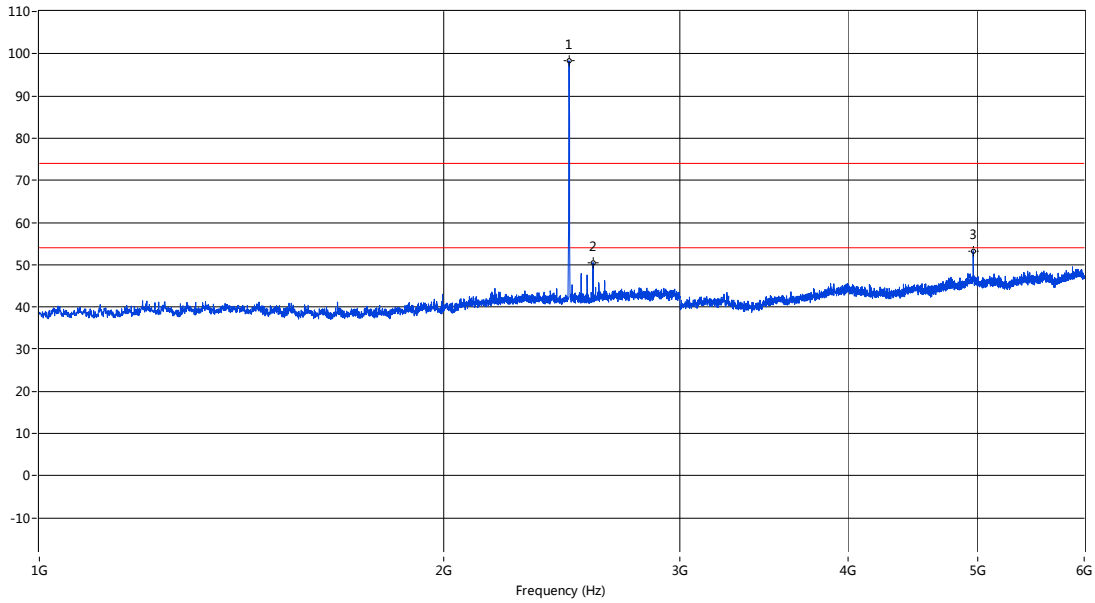
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Degree	Antenna	Verdical
45.274	22.85	--	--	--	40.0	--	155.5	Horizontal	pass
233.164	35.99	--	--	--	46.0	--	38.8	Horizontal	pass
274.864	36.45	--	--	--	46.0	--	39.8	Horizontal	pass

A.8.18, GFSK HIGH CHANNEL 1GHz to 6GHz, ANT V



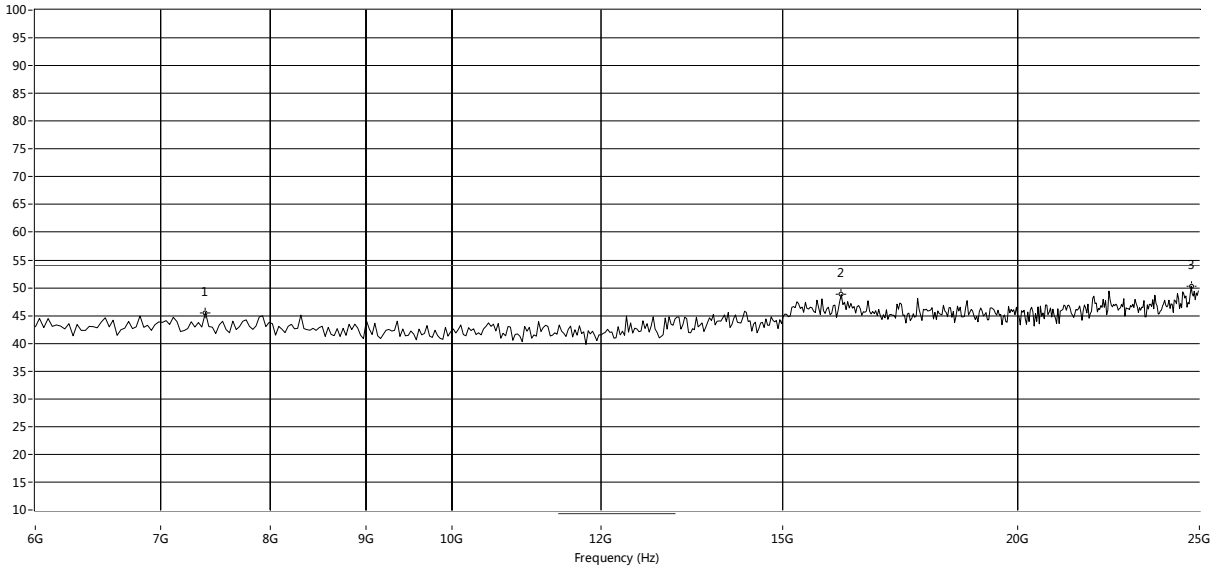
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Degree	Antenna	Verdical
2479.630	100.03	--	--	--	--	--	318.2	Vertical	--
2583.604	48.93	--	--	74.0	--	54.0	166.3	Vertical	pass
4960.010	54.62	--	47.88	74.0	--	54.0	347.4	Vertical	pass

A.8.19, GFSK HIGH CHANNEL 1GHz to 6GHz, ANT H



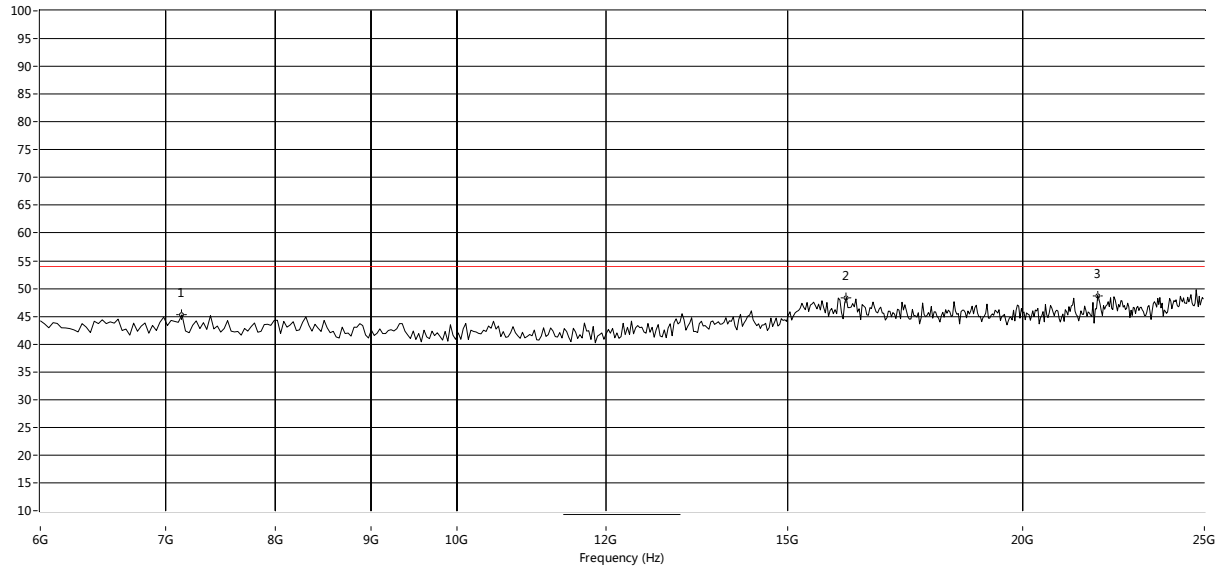
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Degree	Antenna	Verdical
2479.630	98.29	--	--	--	--	--	343.6	Horizontal	--
2584.104	50.54	--	--	74.0	--	54.0	353.4	Horizontal	pass
4960.010	53.46	--	--	74.0	--	54.0	246.2	Horizontal	pass

A.8.20, GFSK HIGH CHANNEL 6GHz to 25GHz, ANT V



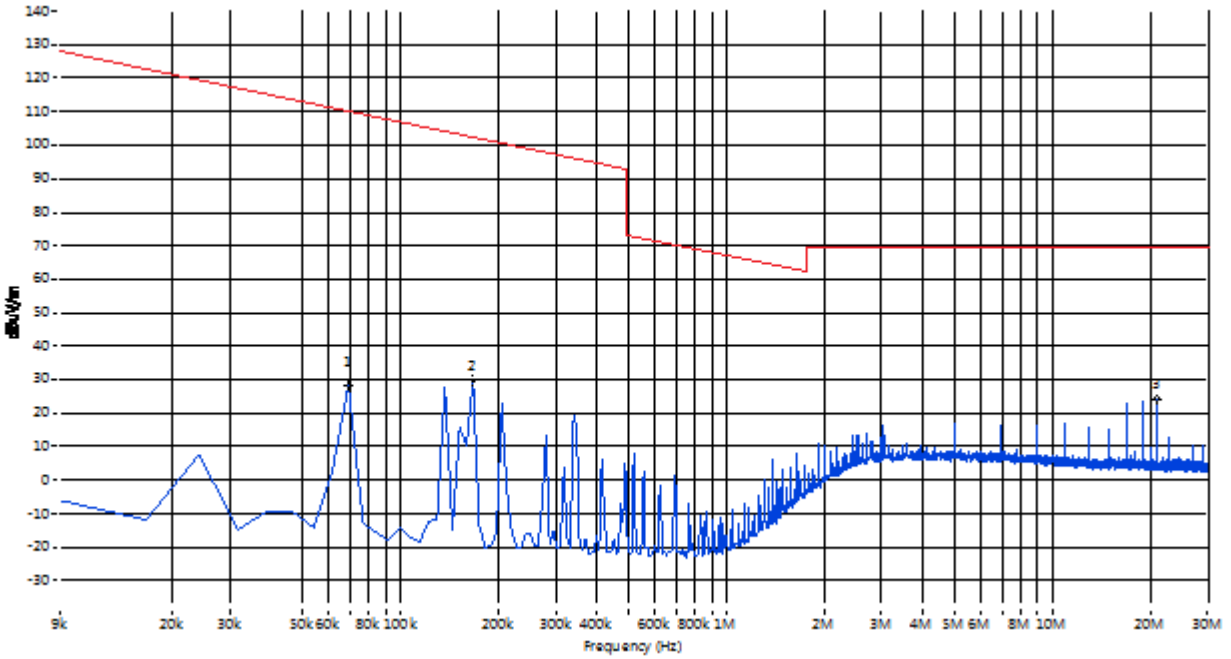
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
7391.015	45.55	54.0	8.4	0.0	Vertical	PASS
16116.473	48.79	54.0	5.2	0.0	Vertical	PASS
24747.088	50.30	54.0	3.7	0.0	Vertical	PASS

A.8.21, GFSK HIGH CHANNEL 6GHz to 25GHz, ANT H



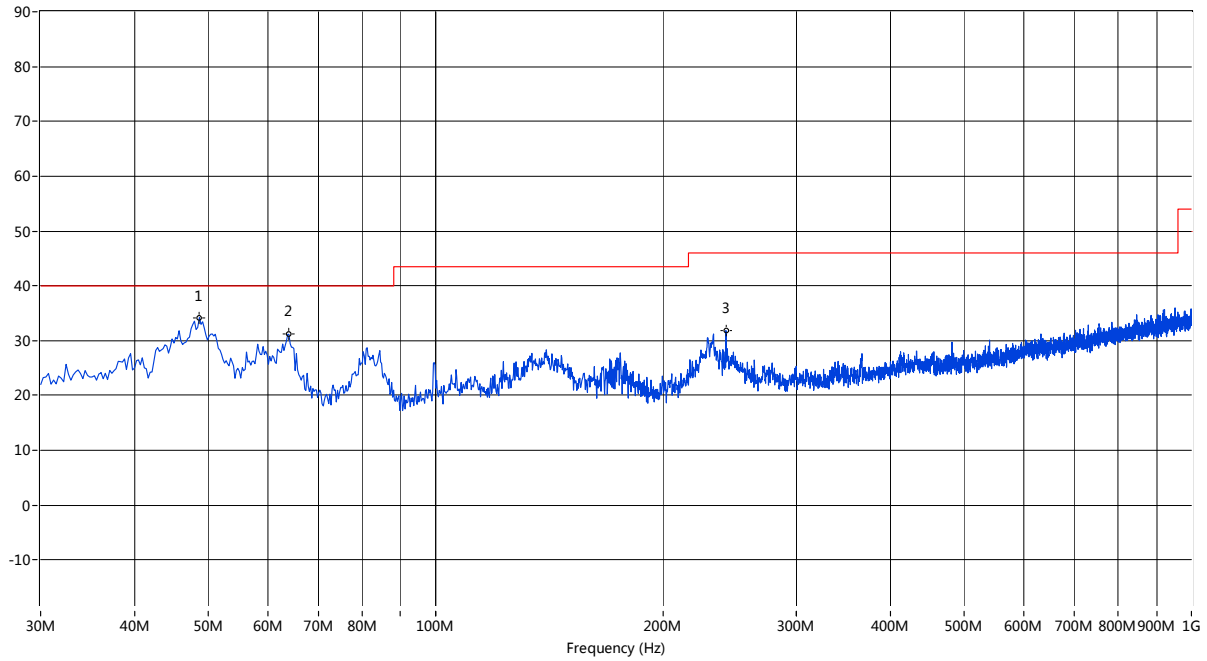
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
7138.103	45.26	54.0	8.7	0.0	Horizontal	PASS
16116.473	48.38	54.0	5.6	0.0	Horizontal	PASS
21933.444	48.75	54.0	5.3	0.0	Horizontal	PASS

A.8.22, ∏/4-DQPSK LOW CHANNEL Below 30MHz



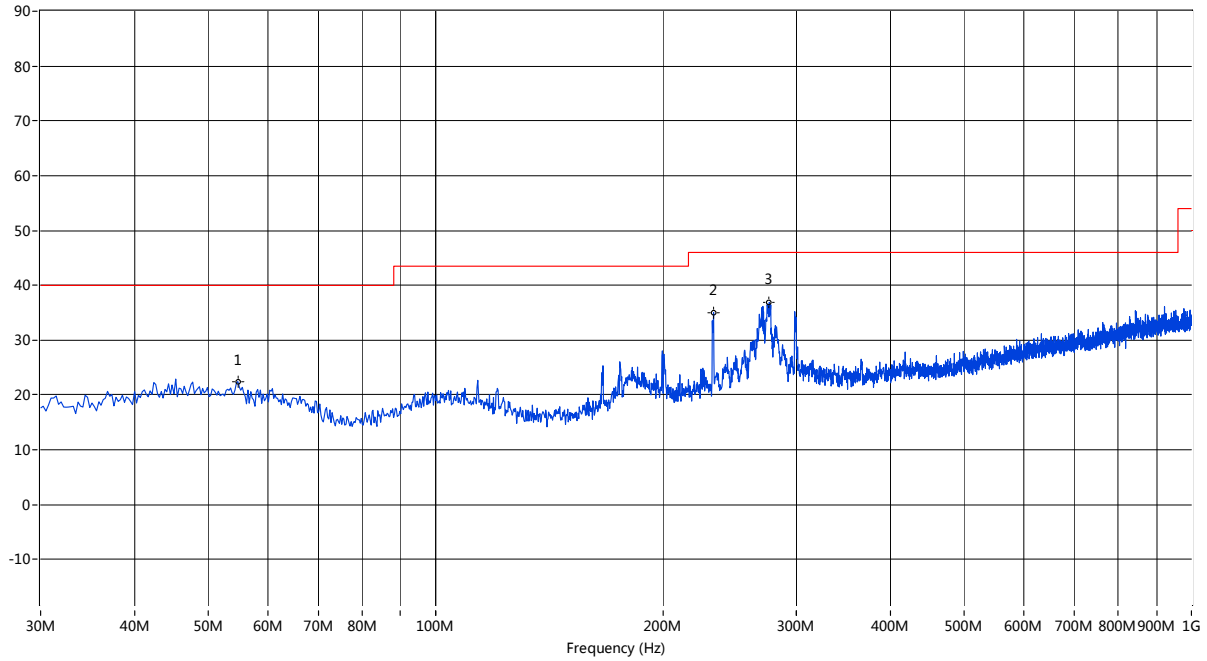
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Degree	Verdical
0.069	28.28	--	--	--	110.8	--	--	PASS
0.166	29.80	--	--	--	103.2	--	--	PASS
20.997	24.29	--	--	--	69.5	--	--	PASS

A.8.23, ∏/4-DQPSK LOW CHANNEL 30MHz to 1GHz, ANT V



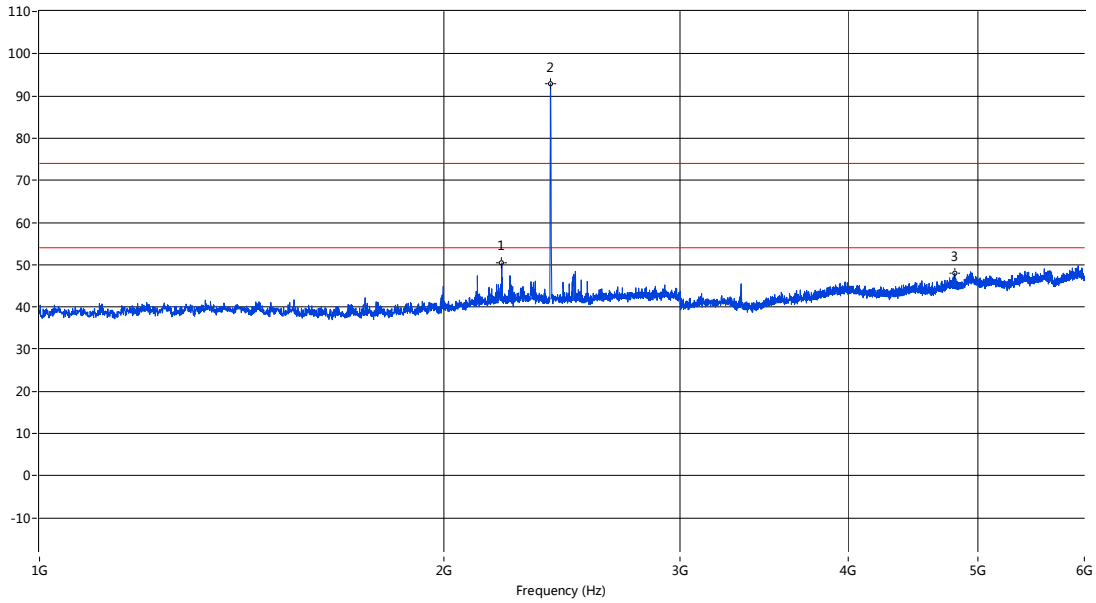
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-A	Degree	Antenna	Verdical
48.668	34.21	--	--	--	40.0	--	204.9	Vertical	pass
63.942	31.14	--	--	--	40.0	--	253.8	Vertical	pass
242.134	31.85	--	--	--	46.0	--	19.6	Vertical	pass

A.8.24, ∏/4-DQPSK LOW CHANNEL 30MHz to 1GHz, ANT H



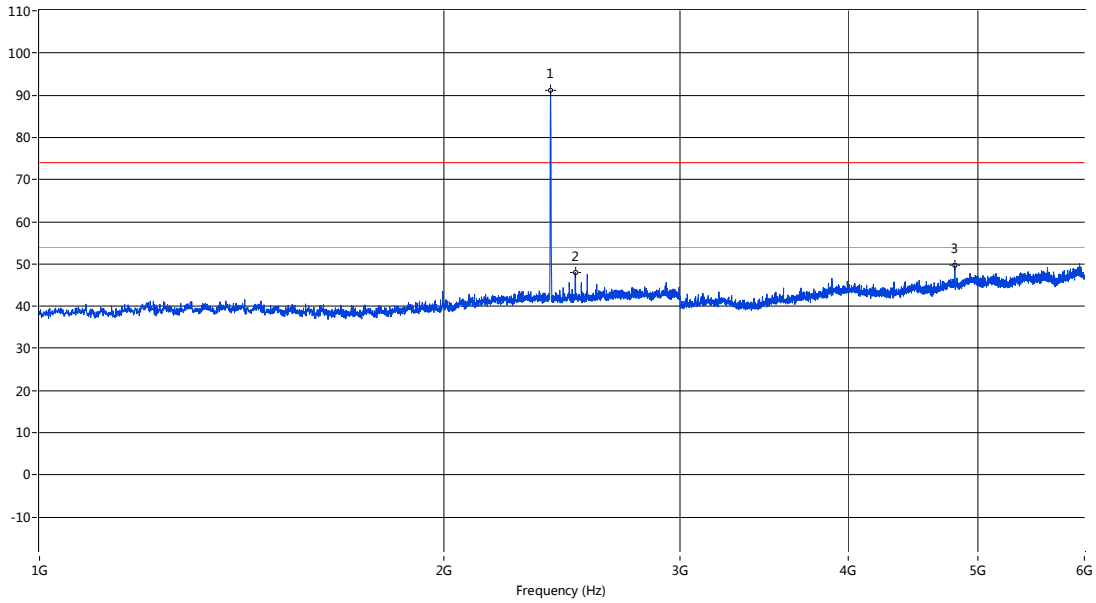
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Degree	Antenna	Verdical
54.729	22.46	--	--	--	40.0	--	336.7	Horizontal	pass
233.164	35.07	--	--	--	46.0	--	38.8	Horizontal	pass
276.318	36.89	--	--	--	46.0	--	41.0	Horizontal	pass

A.8.25, ∏/4-DQPSK LOW CHANNEL 1GHz to 6GHz, ANT V



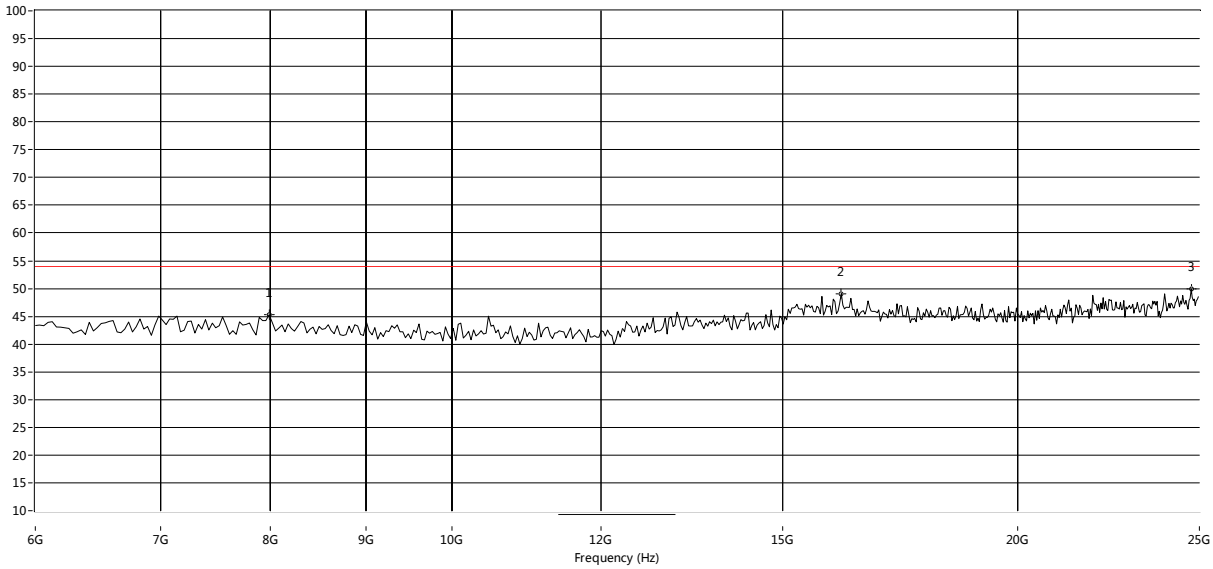
Fre. (MHz)	Pk	QP	V	L mit-PK	Limit-QP	Limit-AV	Degree	Antenna	Verdical
2209.198	50.41	--	--	74.0	--	54.0	175.3	Vertical	pass
2402.149	92.94	--	--	--	--	--	151.7	Vertical	--
4804.049	48.04	--	--	74.0	--	54.0	234.6	Vertical	pass

A.8.26, ∏/4-DQPSK LOW CHANNEL 1GHz to 6GHz, ANT H



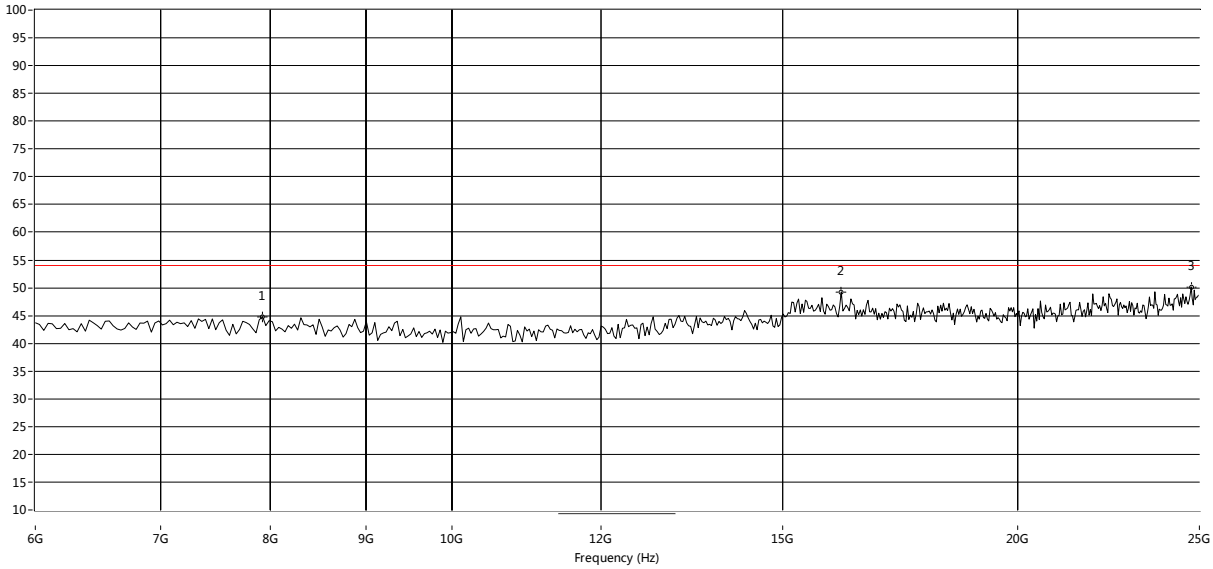
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Degree	Antenna	Verdical
2402.149	91.25	--	--	--	--	--	350.6	Horizontal	--
2506.123	48.04	--	--	74.0	--	54.0	0.1	Horizontal	pass
4804.049	49.70	--	--	74.0	--	54.0	320.7	Horizontal	pass

A.8.27, ∏/4-DQPSK LOW CHANNEL 6GHz to 25GHz, ANT V



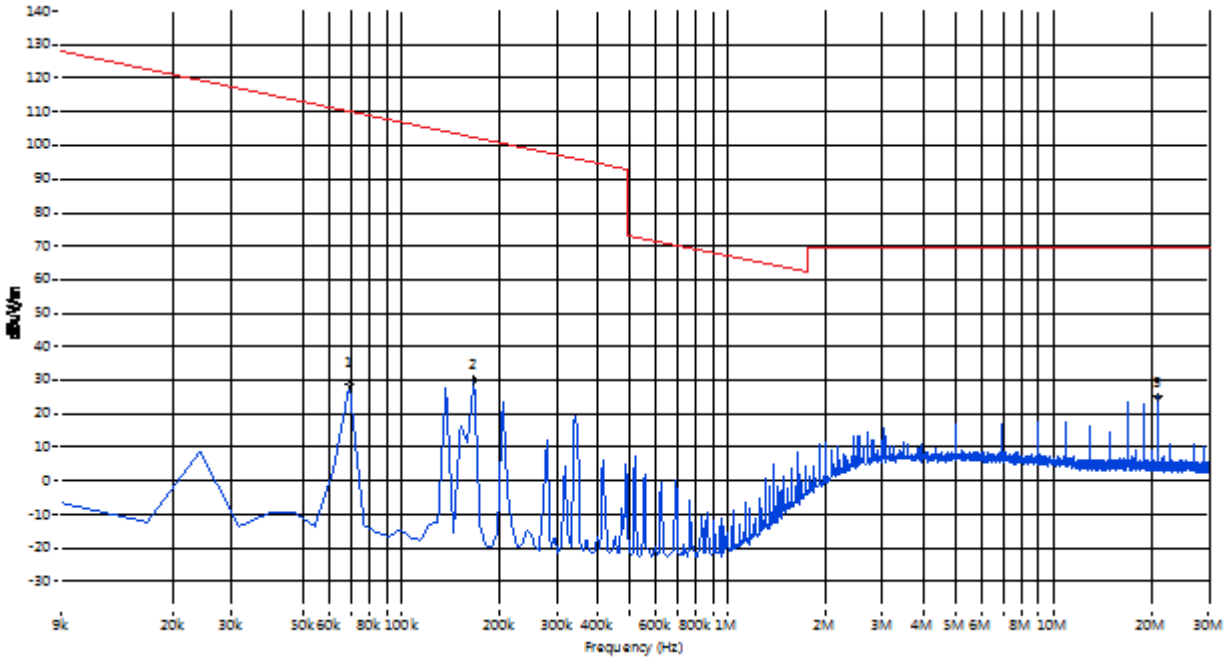
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
7991.681	45.31	54.0	8.7	0.0	Vertical	PASS
16116.473	49.11	54.0	4.9	0.0	Vertical	PASS
24747.088	49.90	54.0	4.1	0.0	Vertical	PASS

A.8.28, ∏/4-DQPSK LOW CHANNEL 6GHz to 25GHz, ANT H



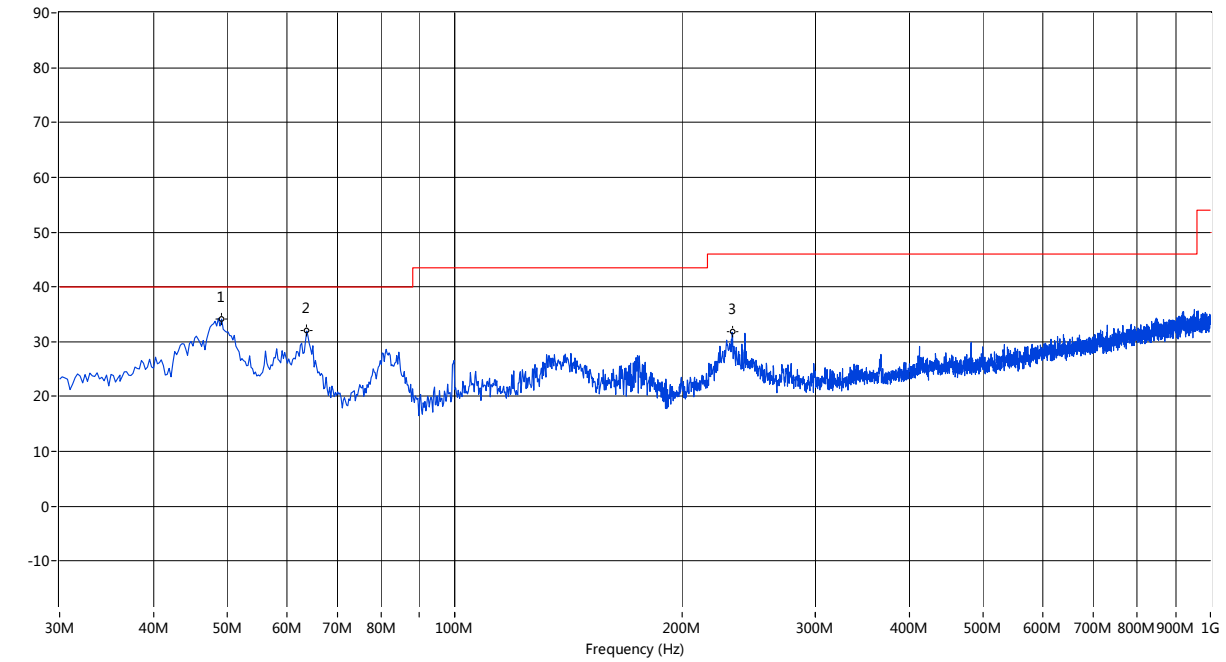
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
7928.453	44.81	54.0	9.2	0.0	Horizontal	PASS
16116.473	49.29	54.0	4.7	0.0	Horizontal	PASS
24747.088	50.15	54.0	3.8	0.0	Horizontal	PASS

A.8.29, ∏/4-DQPSK MID CHANNEL Below 30MHz



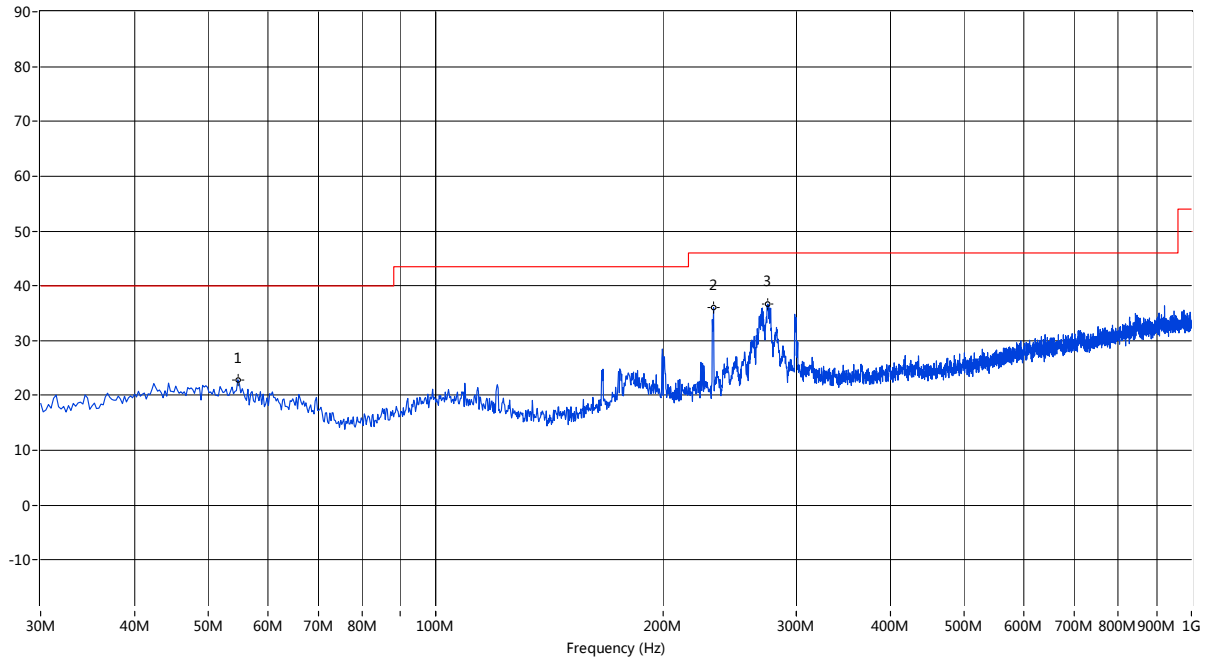
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Degree	Verdical
0.069	28.55	--	--	--	110.8	--	--	PASS
0.166	30.12	--	--	--	103.2	--	--	PASS
20.997	25.09	--	--	--	69.5	--	--	PASS

A.8.30, ∏/4-DQPSK MID CHANNEL 30MHz to 1GHz, ANT V



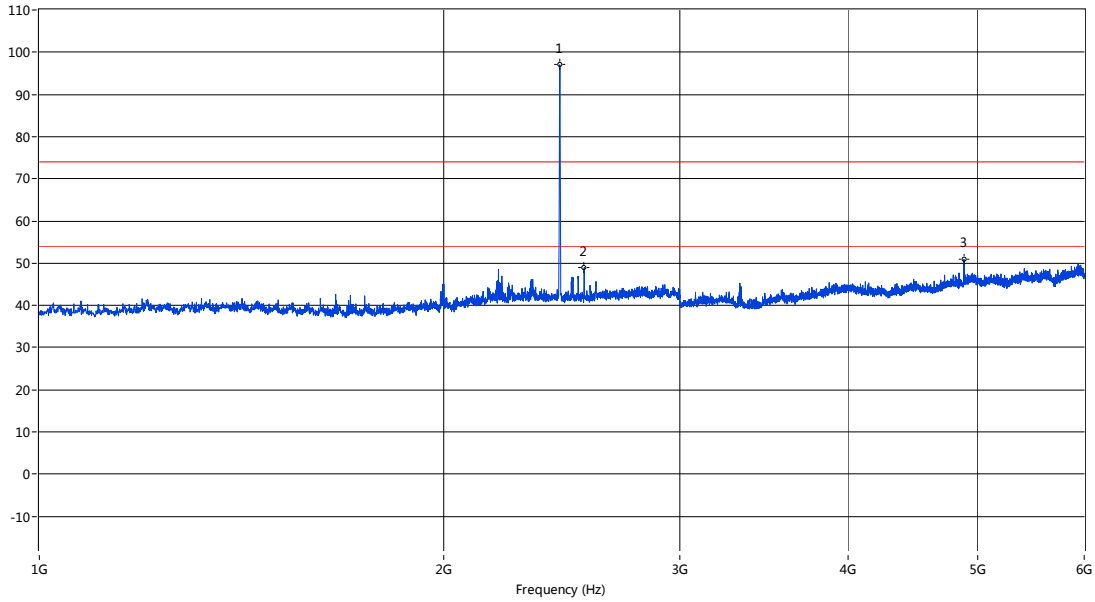
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Degree	Antenna	Verdical
49.153	34.14	--	--	--	40.0	--	74.5	Vertical	pass
63.699	31.97	--	--	--	40.0	--	253.8	Vertical	pass
232.922	31.77	--	--	--	46.0	--	38.8	Vertical	pass

A.8.31, ∏/4-DQPSK MID CHANNEL 30MHz to 1GHz, ANT H



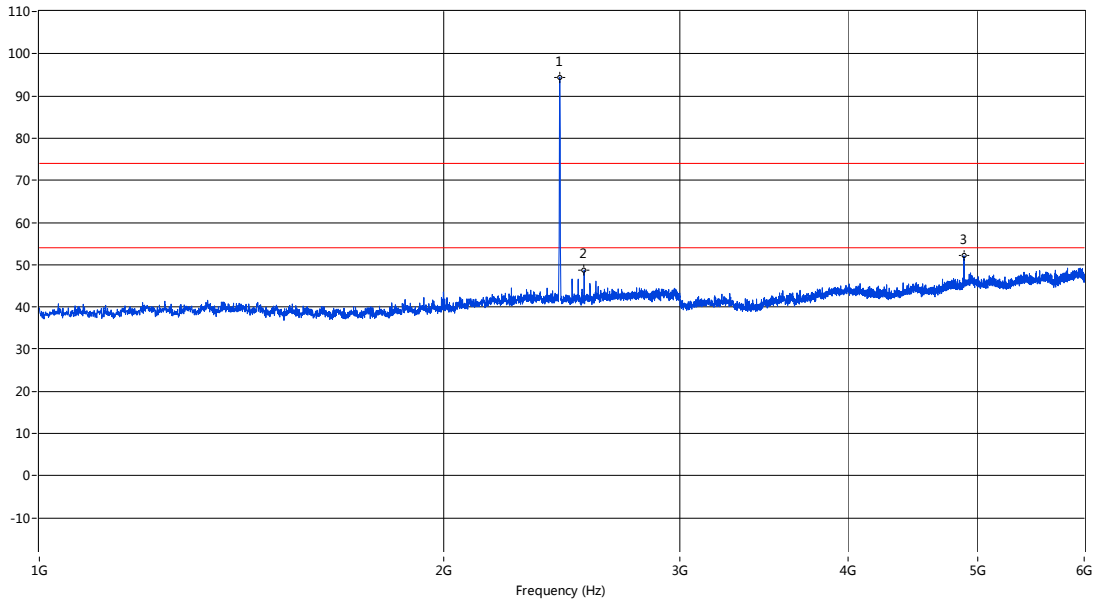
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Degree	Antenna	Verdical
54.729	22.87	--	--	--	40.0	--	336.7	Horizontal	pass
233.164	36.06	--	--	--	46.0	--	38.8	Horizontal	pass
275.106	36.67	--	--	--	46.0	--	33.8	Horizontal	pass

A.8.32, ∏/4-DQPSK MID CHANNEL 1GHz to 6GHz, ANT V



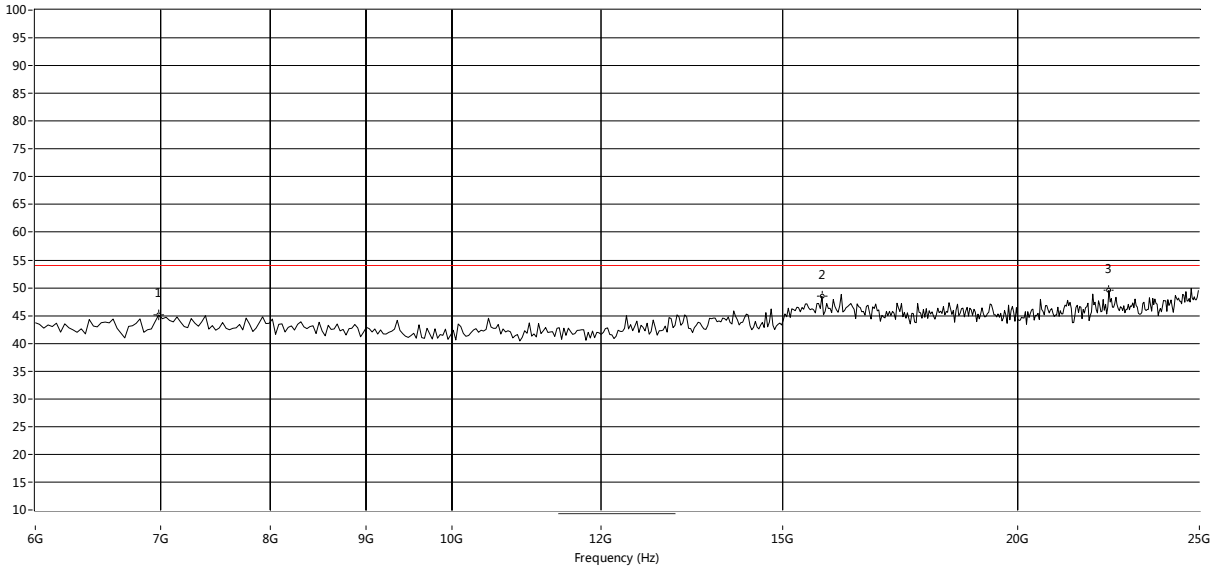
Fre. (MHz)	Pk	QP	AV	Li it-PK	Limit-QP	Limit-AV	Degree	Antenna	Verdical
2440.640	97.00	--	--	--	--	--	320.7	Vertical	--
2545.114	49.00	--	--	74.0	--	54.0	320.7	Vertical	pass
4882.029	50.92	--	--	74.0	--	54.0	346.0	Vertical	pass

A.8.34, ∏/4-DQPSK MID CHANNEL 1GHz to 6GHz, ANT H



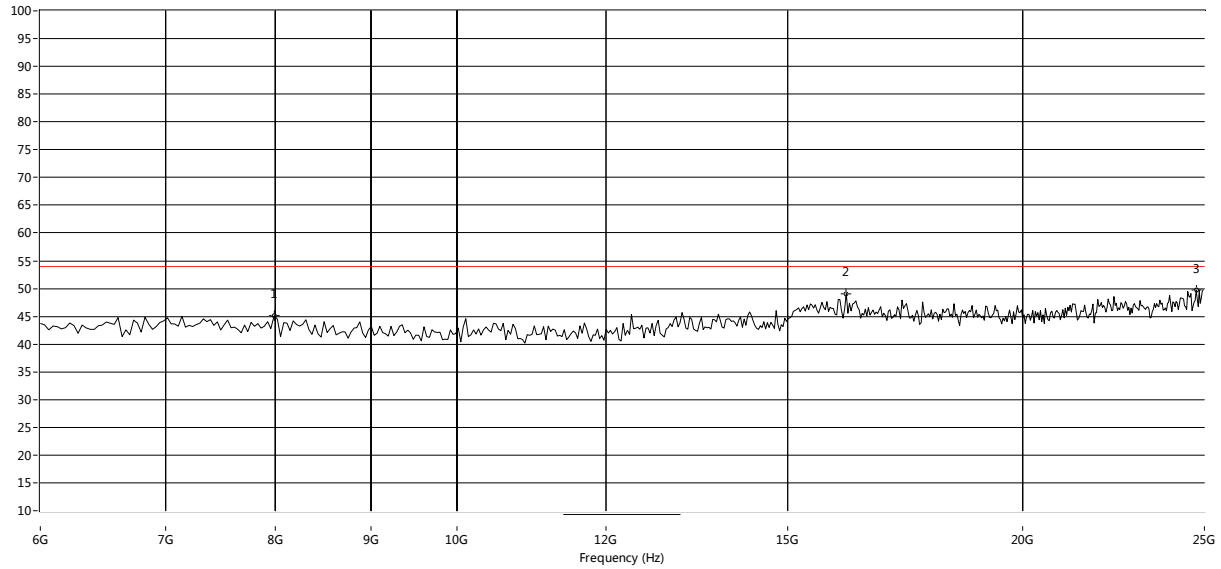
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Degree	Ante na	Verdical
2440.640	94.46	--	--	--	--	--	345.9	Horizontal	--
2544.614	48.74	--	--	74.0	--	54.0	345.9	Horizontal	pass
4882.029	52.12	--	--	74.0	--	54.0	317.8	Horizontal	pass

A.8.35, ∏/4-DQPSK MID CHANNEL 6GHz to 25GHz, ANT V



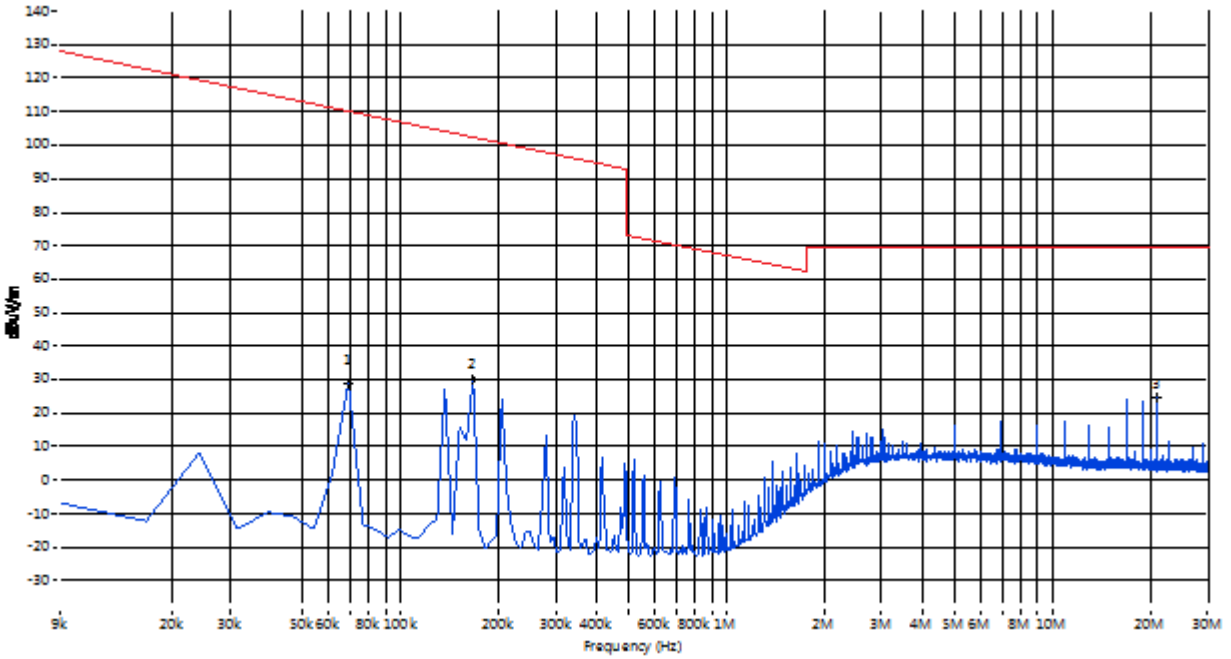
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
6980.033	45.12	54.0	8.9	0.0	Vertical	PASS
15737.105	48.46	54.0	5.5	0.0	Vertical	PASS
22376.040	49.52	54.0	4.5	0.0	Vertical	PASS

A.8.36, ∏/4-DQPSK MID CHANNEL 6GHz to 25GHz, ANT H



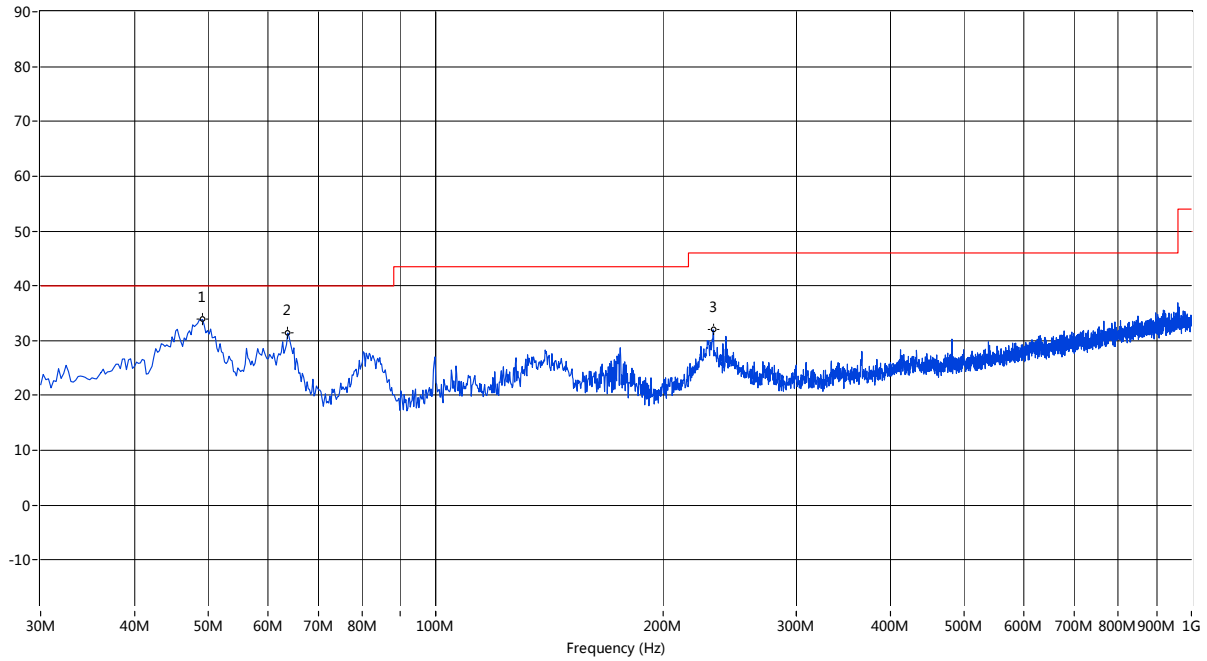
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
7991.681	45.11	54.0	8.9	0.0	Horizontal	PASS
16116.473	49.11	54.0	4.9	0.0	Horizontal	PASS
24747.088	49.69	54.0	4.3	0.0	Horizontal	PASS

A.8.37, ∏/4-DQPSK HIGH CHANNEL Below 30MHz



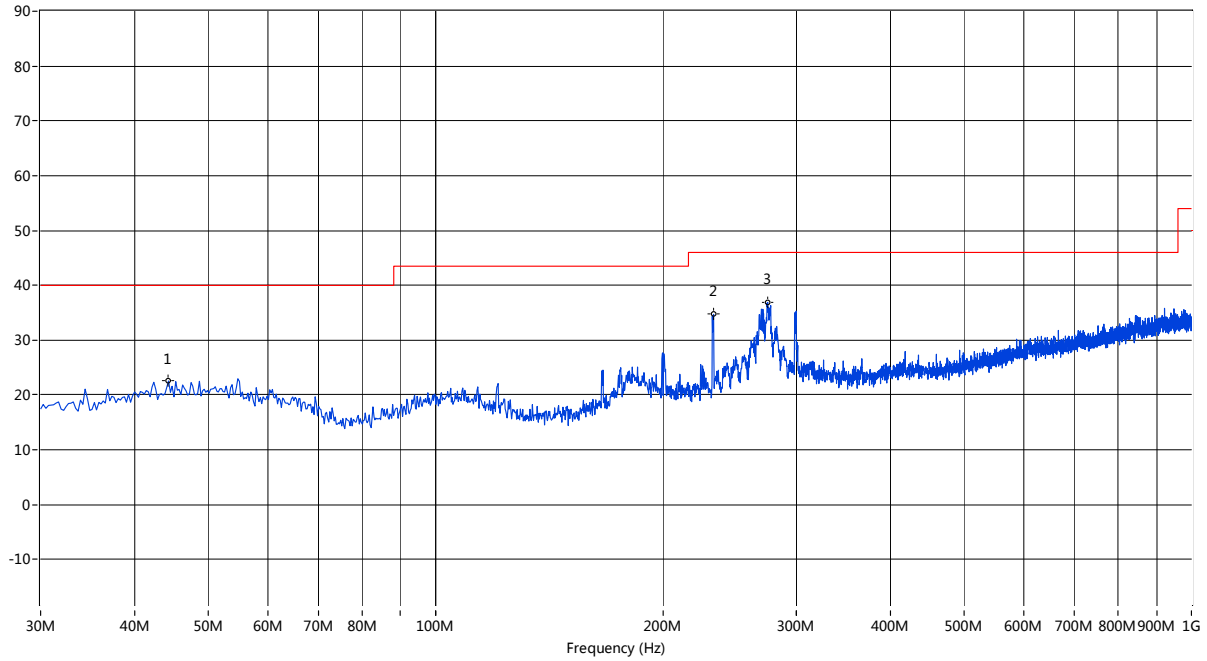
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Degree	Verdical
0.069	29.21	--	--	--	110.8	--	--	PASS
0.166	30.14	--	--	--	103.2	--	--	PASS
20.997	24.59	--	--	--	69.5	--	--	PASS

A.8.38, ∏/4-DQPSK HIGH CHANNEL 30MHz to 1GHz, ANT V



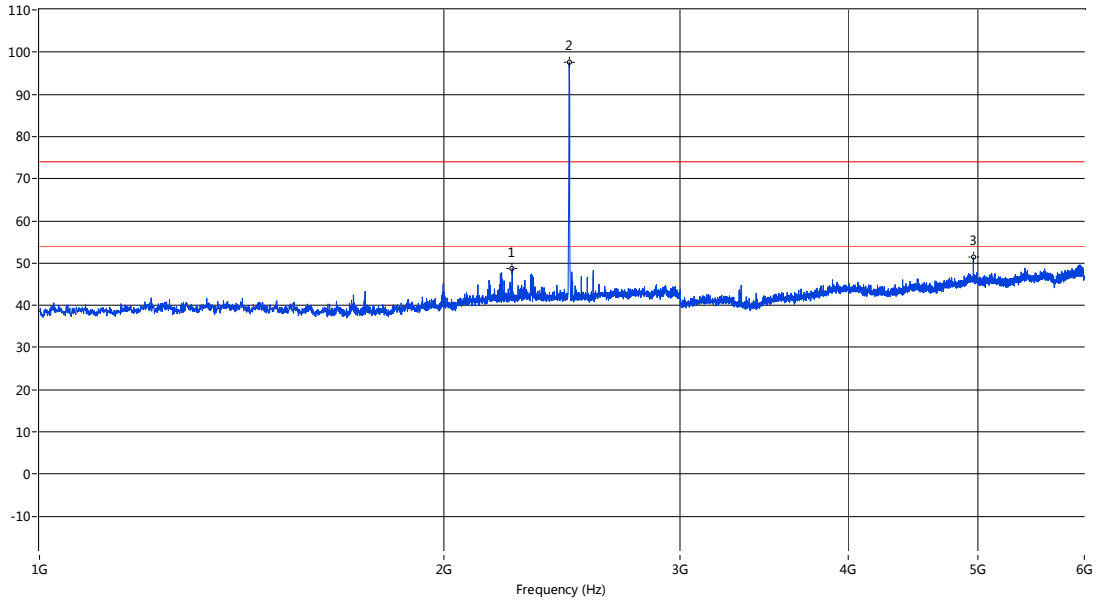
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Li it-AV	Degree	Antenna	Verdical
49.153	33.85	--	--	--	40.0	--	74.5	Vertical	pass
63.699	31.41	--	--	--	40.0	--	253.8	Vertical	pass
232.922	31.99	--	--	--	46.0	--	38.8	Vertical	pass

A.8.39, ∏/4-DQPSK HIGH CHANNEL 30MHz to 1GHz, ANT H



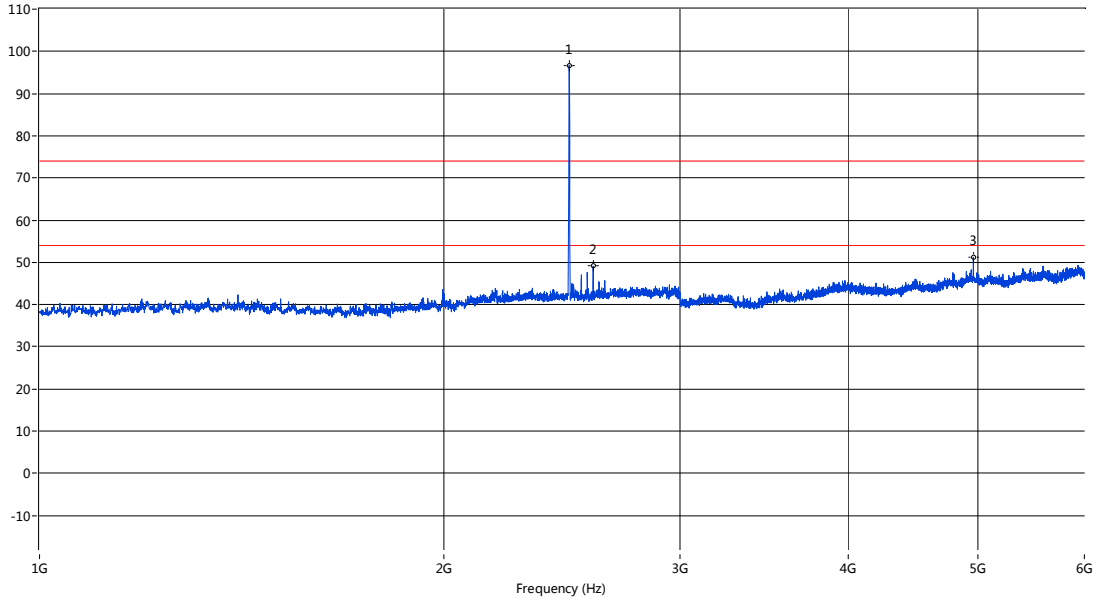
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Degree	Antenn	Verdical
44.304	22.55	--	--	--	40.0	--	158.0	Horizontal	pass
233.164	34.72	--	--	--	46.0	--	38.8	Horizontal	pass
274.864	36.90	--	--	--	46.0	--	39.8	Horizontal	pass

A.8.40, ∏/4-DQPSK HIGH CHANNEL 1GHz to 6GHz, ANT V



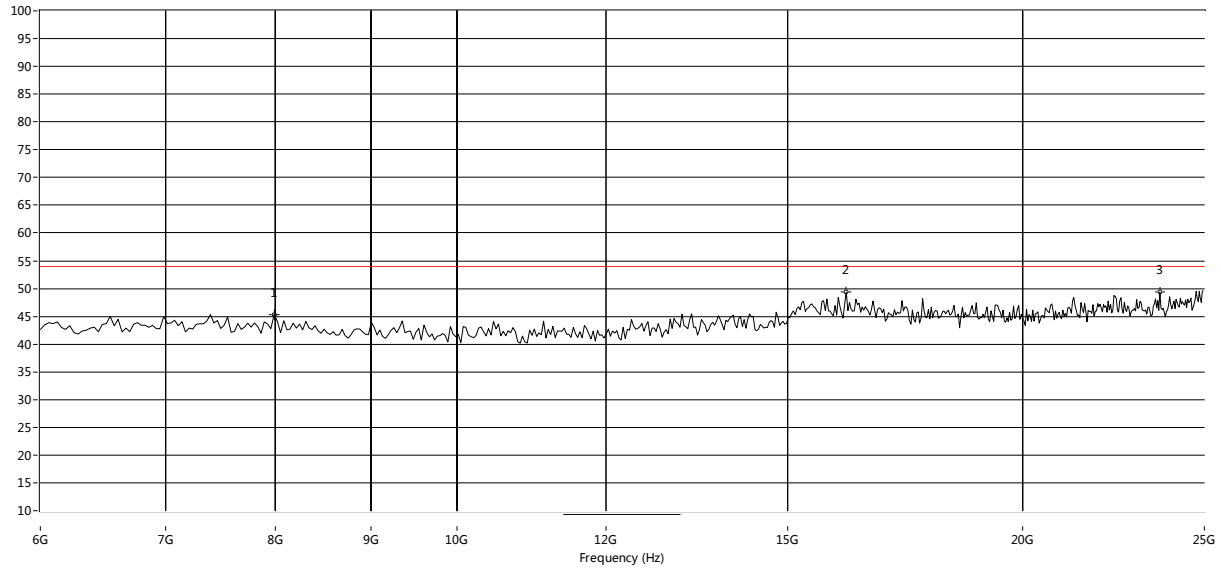
Fre. (MHz)	P	QP	AV	Limit-PK	Limit-QP	Limit-AV	Degree	Antenna	Verdical
2248.688	48.79	--	--	74.0	--	54.0	174.6	Vertical	pass
2480.130	97.57	--	--	--	--	--	321.9	Vertical	--
4960.010	51.36	--	--	74.0	--	54.0	341.9	Vertical	pass

A.8.41, ∏/4-DQPSK HIGH CHANNEL 1GHz to 6GHz, ANT H



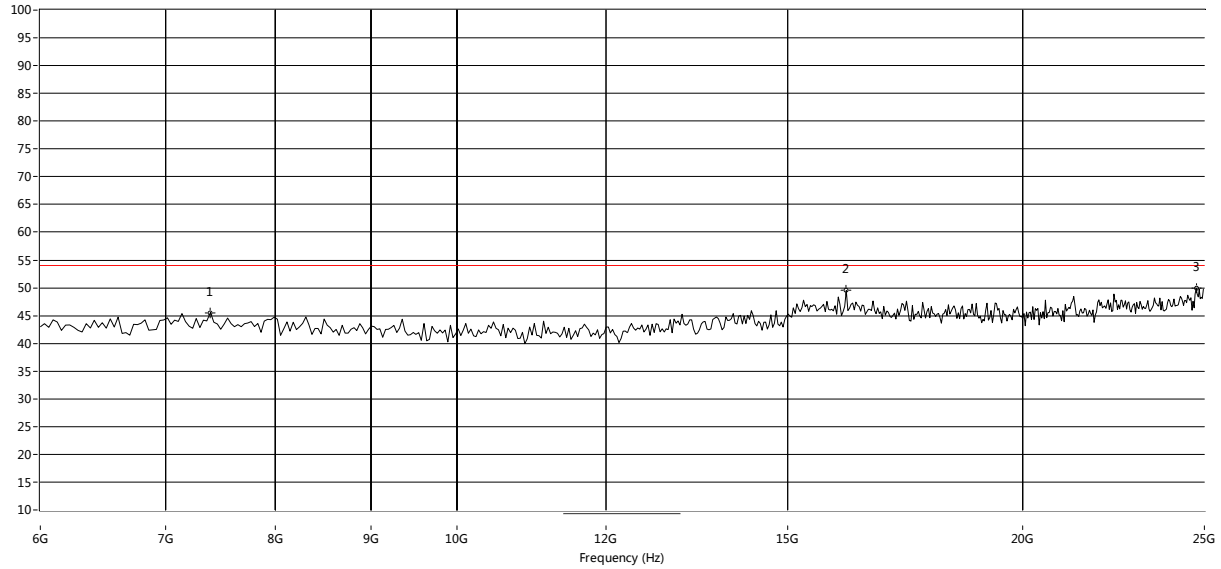
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Degree	Antenna	Verdical
2479.630	96.54	--	--		--		346.5	Horizontal	
2583.604	49.12	--	--	74.0	--	54.0	352.3	Horizontal	pass
4960.760	51.23	--	--	74.0	--	54.0	320.0	Horizontal	pass

A.8.42, ∏/4-DQPSK HIGH CHANNEL 6GHz to 25GHz, ANT V



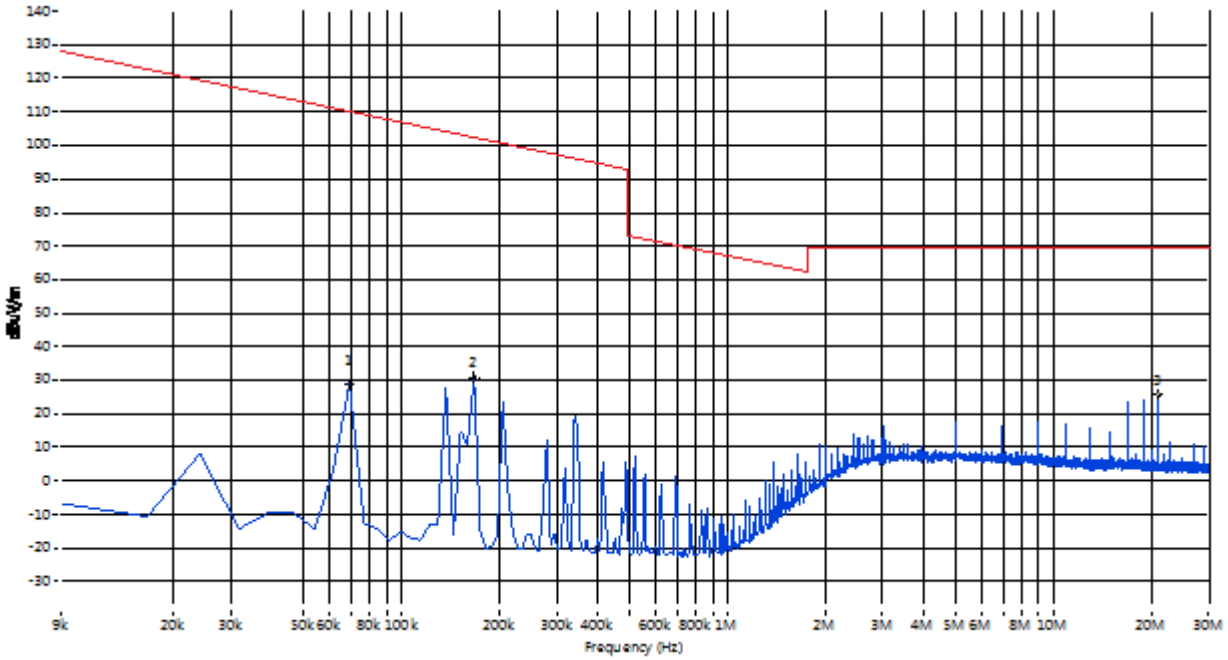
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
7991.681	45.33	54.0	8.7	0.0	Vertical	PASS
16116.473	49.33	54.0	4.7	0.0	Vertical	PASS
23672.213	49.34	54.0	4.7	0.0	Vertical	PASS

A.8.43, ∏/4-DQPSK HIGH CHANNEL 6GHz to 25GHz, ANT H



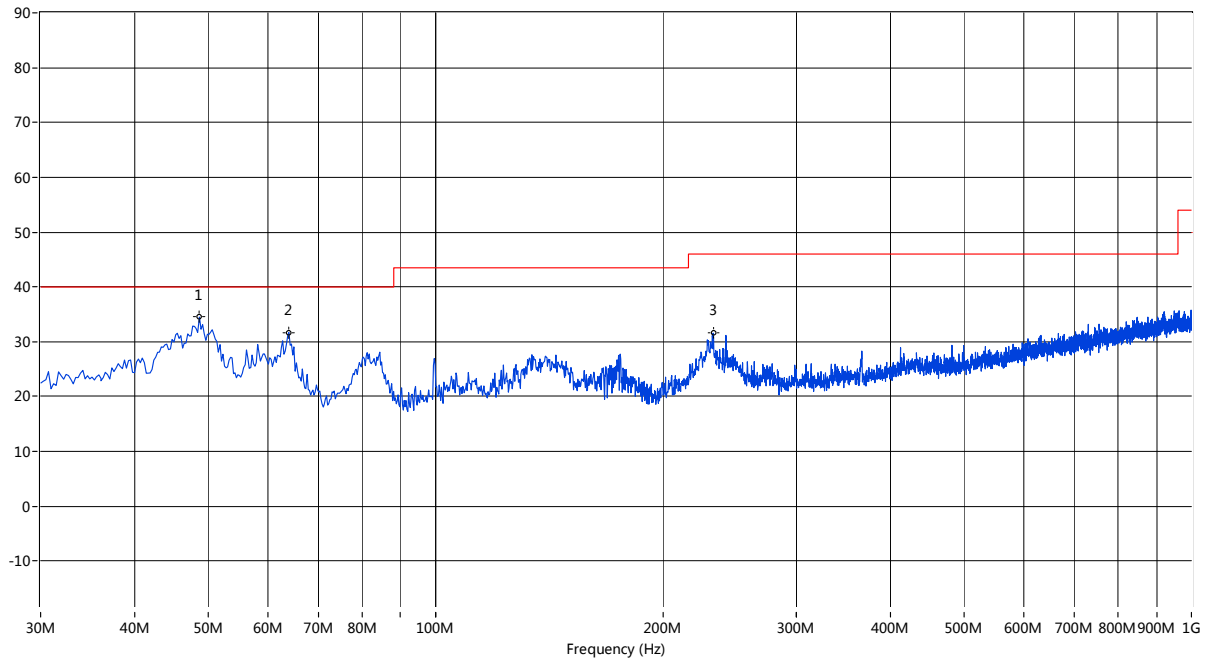
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
7391.015	45.55	54.0	8.4	0.0	Horizontal	PASS
16116.473	49.51	54.0	4.5	0.0	Horizontal	PASS
24747.088	49.86	54.0	4.1	0.0	Horizontal	PASS

A.8.44, 8-DPSK LOW CHANNEL Below 30MHz



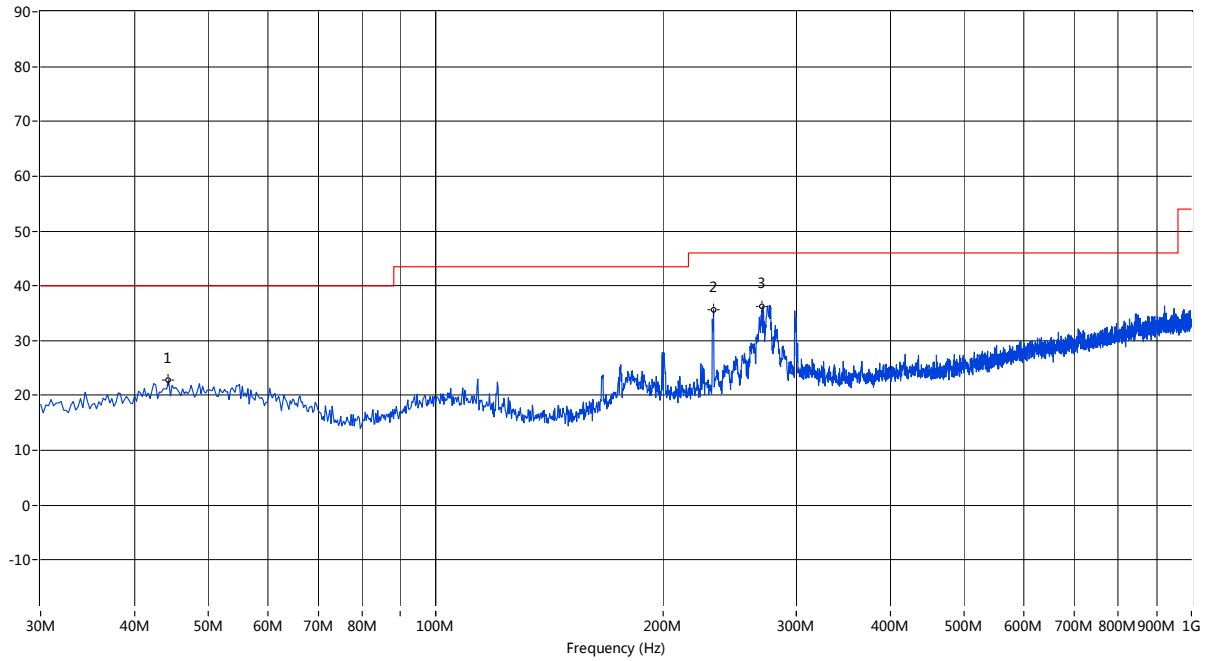
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Degree	Verdical
0.069	28.92	--	--	--	110.8	--	--	PASS
0.166	30.63	--	--	--	103.2	--	--	PASS
20.997	25.52	--	--	--	69.5	--	--	PASS

A.8.45, 8-DPSK LOW CHANNEL 30MHz to 1GHz, ANT V



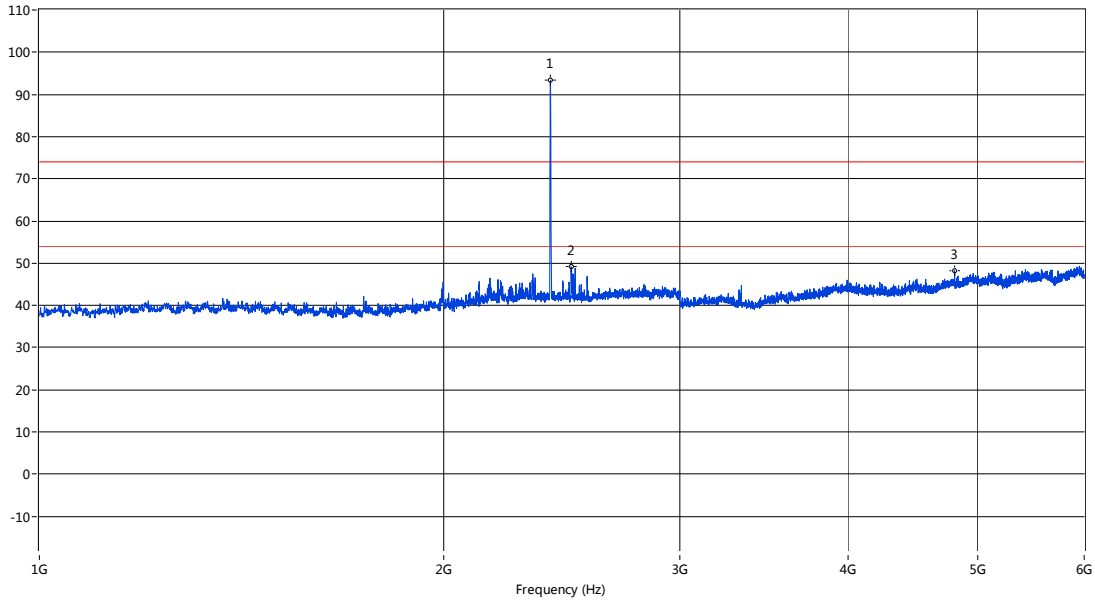
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Degree	Antenna	Verdical
48.668	34.49	--	--	--	40.0	--	204.9	Vertical	pass
63.942	31.71	--	--	--	40.0	--	253.8	Vertical	pass
232.922	31.57	--	--	--	46.0	--	38.8	Vertical	pass

A.8.46, 8-DPSK LOW CHANNEL 30MHz to 1GHz, ANT H



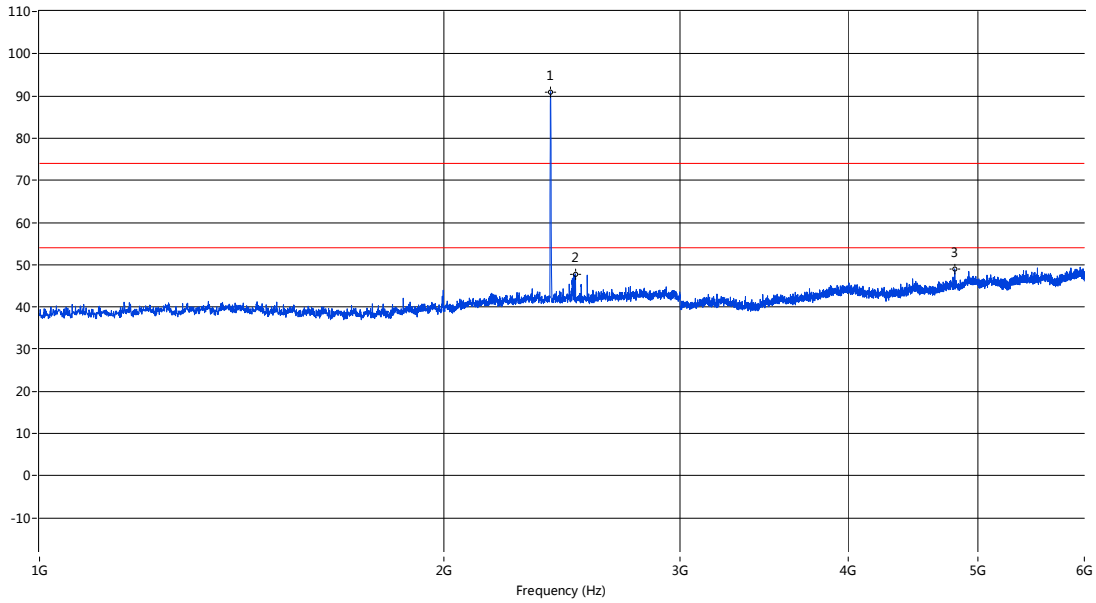
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Degree	Antenna	Verdical
44.304	22.88	--	--	--	40.0	--	158.0	Horizontal	pass
233.164	35.68	--	--	--	46.0	--	38.8	Horizontal	pass
270.500	36.21	--	--	--	46.0	--	43.5	Horizontal	pass

A.8.47, 8-DPSK LOW CHANNEL 1GHz to 6GHz, ANT V



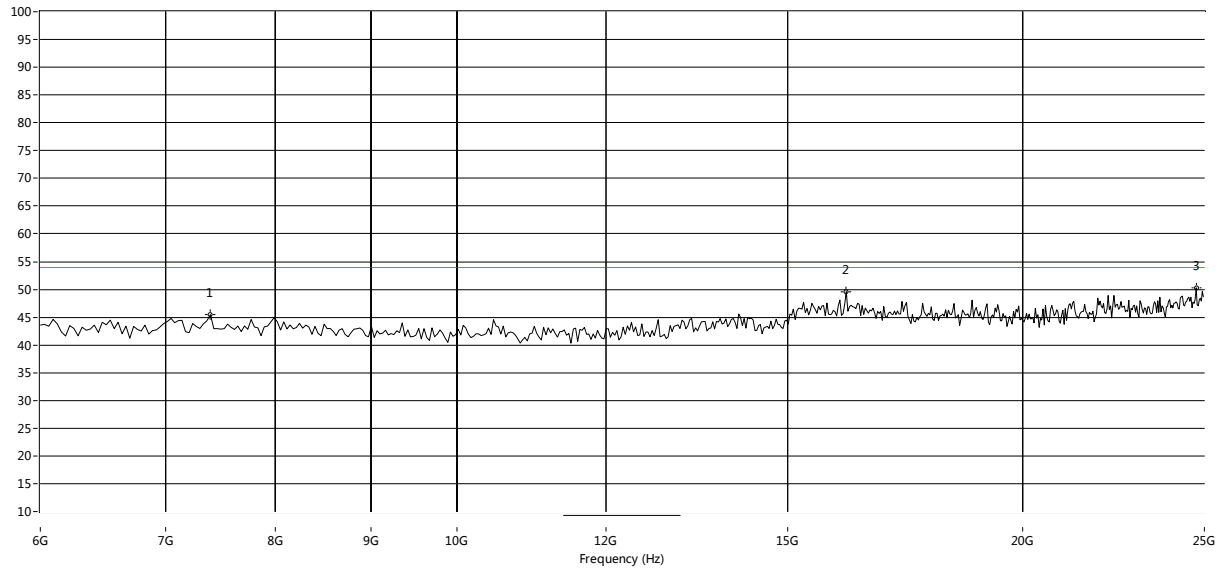
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Degree	Antenna	Verdical
2402.149	93.38	--	--	--	--	--	153.8	Vertical	--
2488.628	49.18	--	--	74.0	--	54.0	185.9	Vertical	pass
4803.299	48.29	--	--	74.0	--	54.0	301.1	Vertical	pass

A.8.48, 8-DPSK LOW CHANNEL 1GHz to 6GHz, ANT H



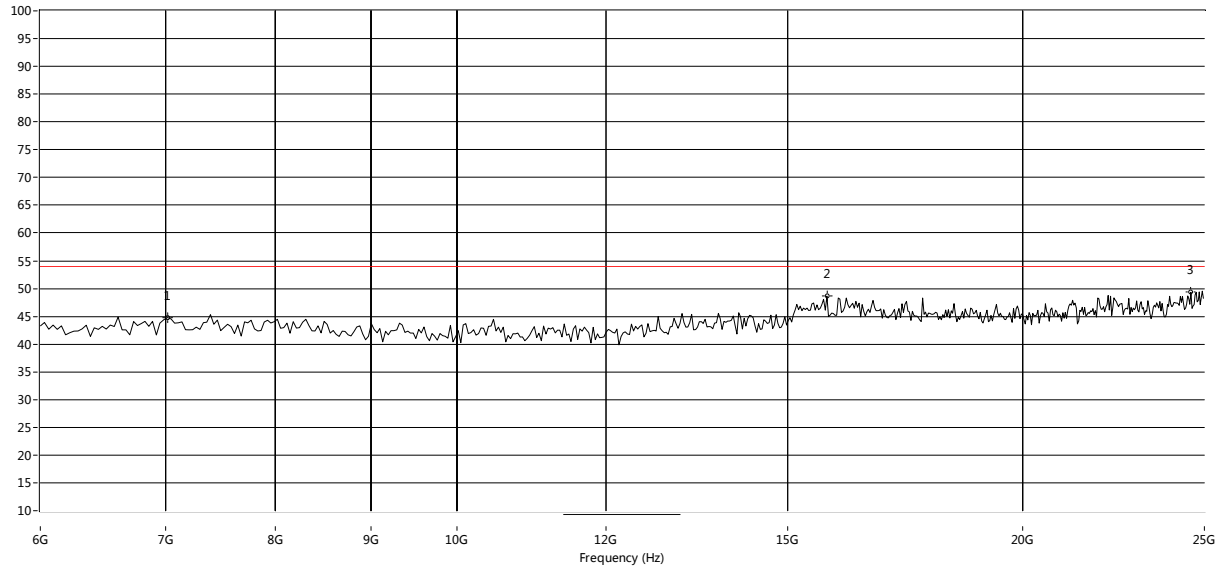
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Degree	Antenna	Verdical
2401.650	91.02	--	--	--	--	--	344.5	Horizontal	--
2506.123	47.82	--	--	74.0	--	54.0	357.9	Horizontal	pass
4803.299	48.99	--	--	74.0	--	54.0	331.5	Horizontal	pass

A.8.49, 8-DPSK LOW CHANNEL 6GHz to 25GHz, ANT V



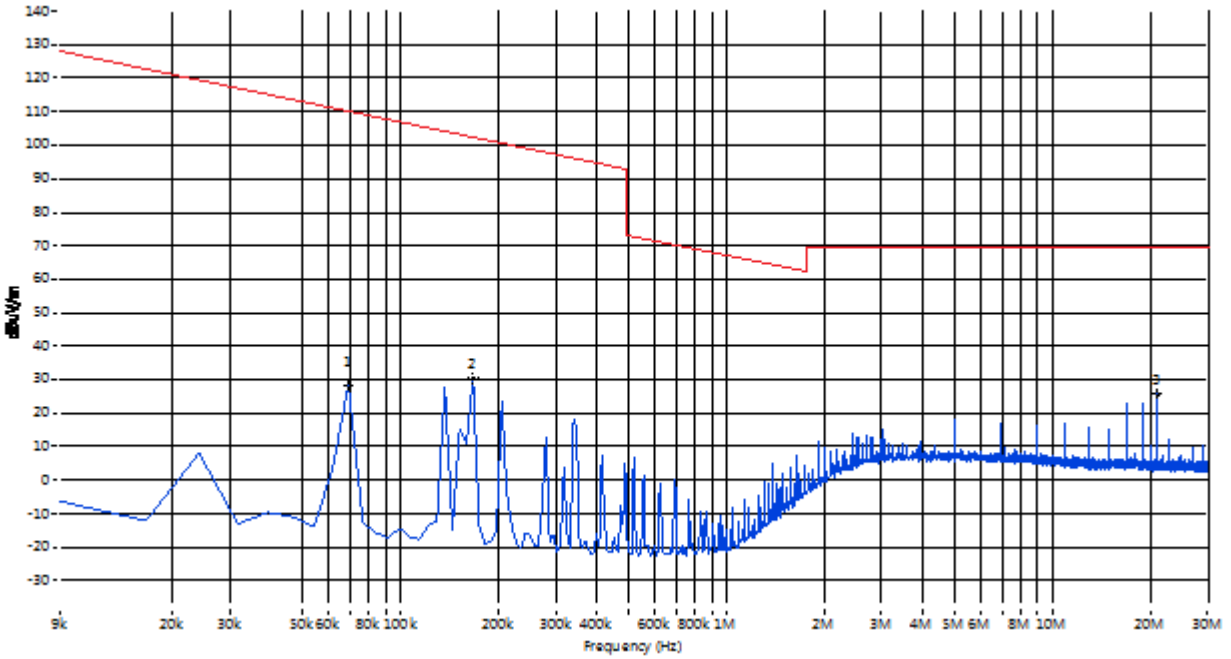
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
7391.015	45.42	54.0	8.6	0.0	Vertical	PASS
16116.473	49.60	54.0	4.4	0.0	Vertical	PASS
24747.088	50.28	54.0	3.7	0.0	Vertical	PASS

A.8.50, 8-DPSK LOW CHANNEL 6GHz to 25GHz, ANT H



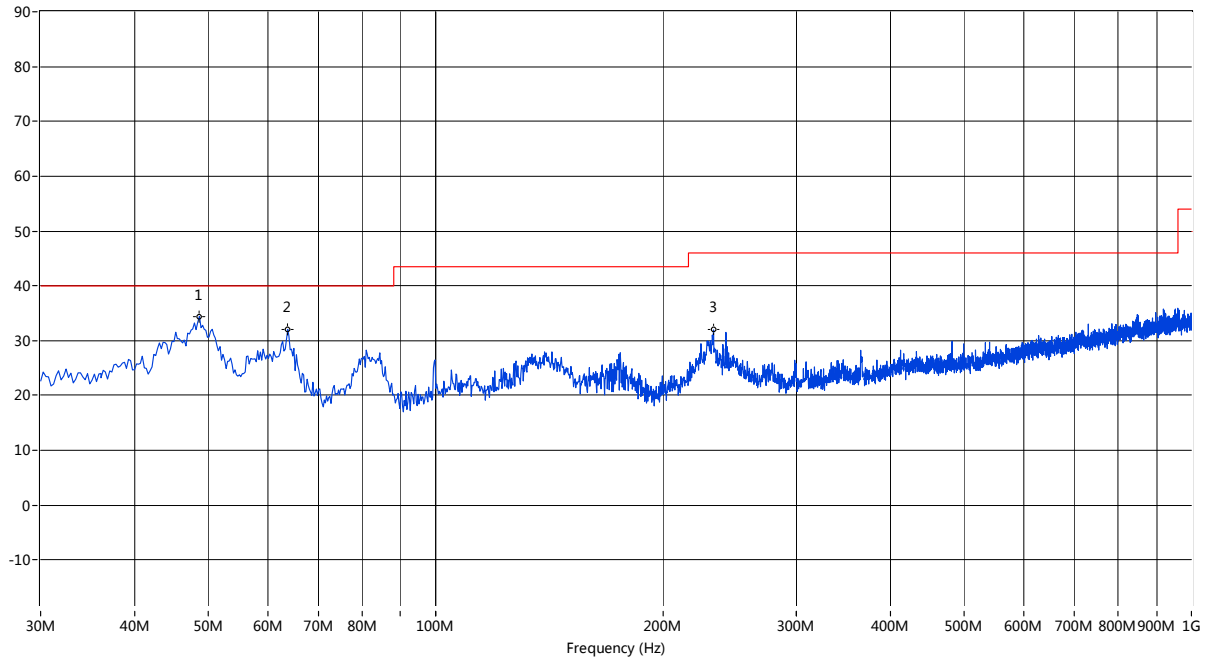
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
7011.647	44.77	54.0	9.2	0.0	Horizontal	PASS
15737.105	48.65	54.0	5.4	0.0	Horizontal	PASS
24589.018	49.34	54.0	4.7	0.0	Horizontal	PASS

A.8.51, 8-DPSK MID CHANNEL Below 30MHz



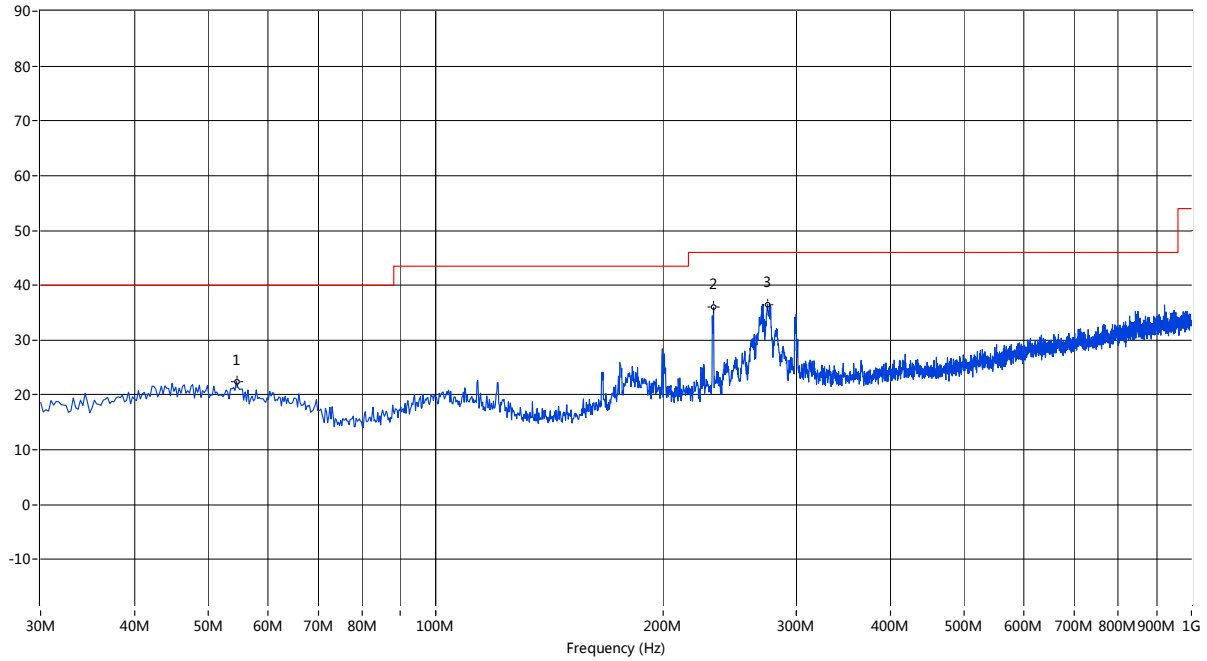
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Degree	Verdical
0.069	28.49	--	--	--	110.8	--	--	PASS
0.166	30.34	--	--	--	103.2	--	--	PASS
20.997	25.74	--	--	--	69.5	--	--	PASS

A.8.52, 8-DPSK MID CHANNEL 30MHz to 1GHz, ANT V



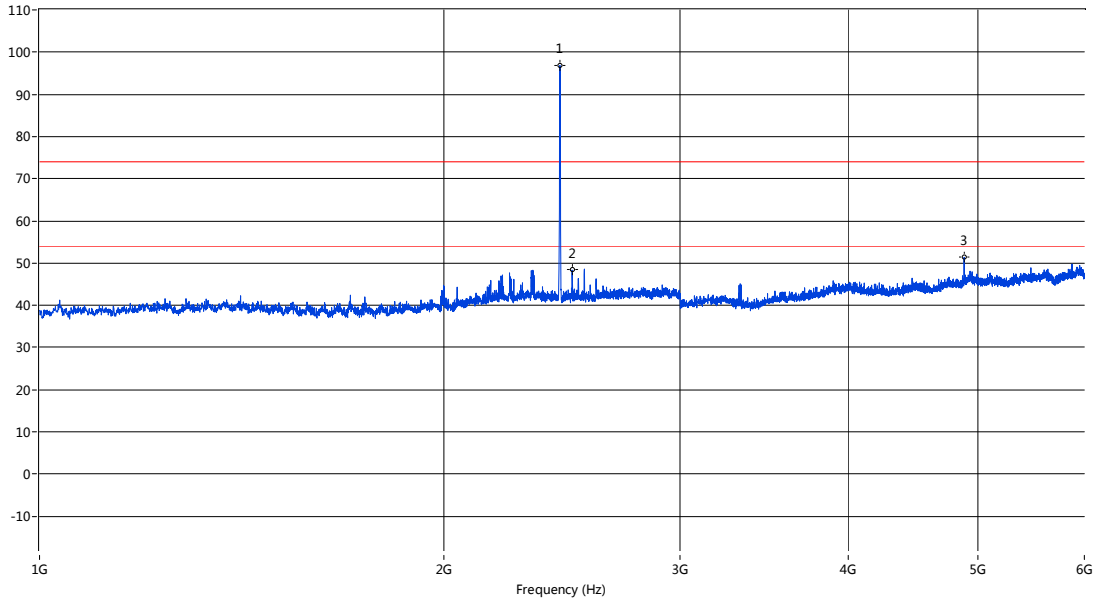
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Degree	Antenna	Verdical
48.668	34.44	--	--	--	40.0	--	204.9	Vertical	pass
63.699	32.07	--	--	--	40.0	--	253.8	Vertical	pass
233.164	31.96	--	--	--	46.0	--	25.6	Vertical	pass

A.8.53, 8-DPSK MID CHANNEL 30MHz to 1GHz, ANT H



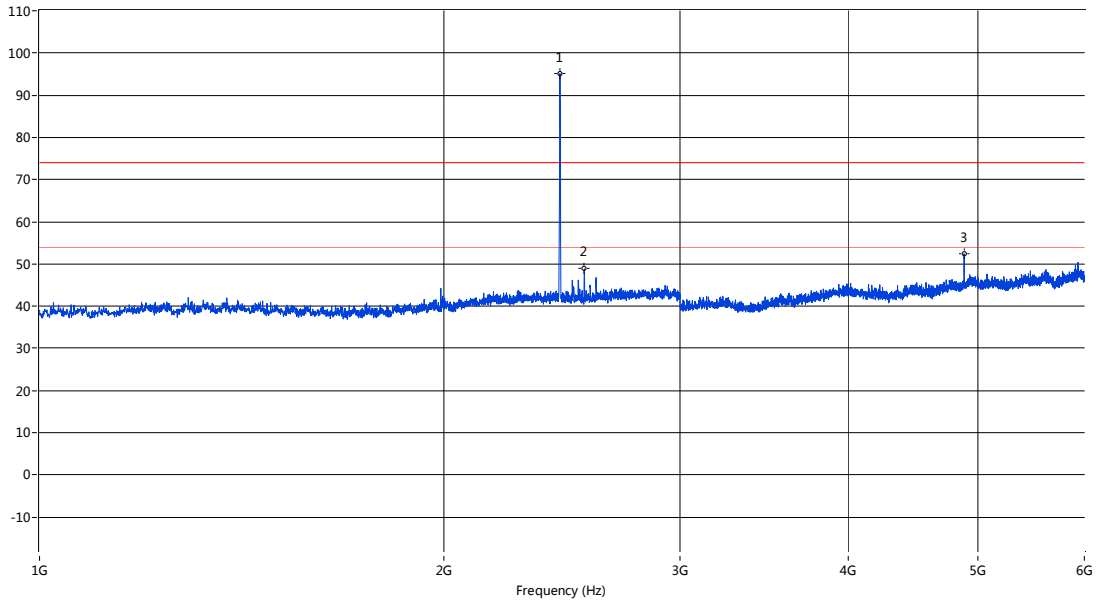
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Degree	Antenna	Verdical
54.486	22.49	--	--	--	40.0	--	360.0	Horizontal	pass
233.164	36.01	--	--	--	46.0	--	38.8	Horizontal	pass
274.864	36.57	--	--	--	46.0	--	39.8	Horizontal	pass

A.8.54, 8-DPSK MID CHANNEL 1GHz to 6GHz, ANT V



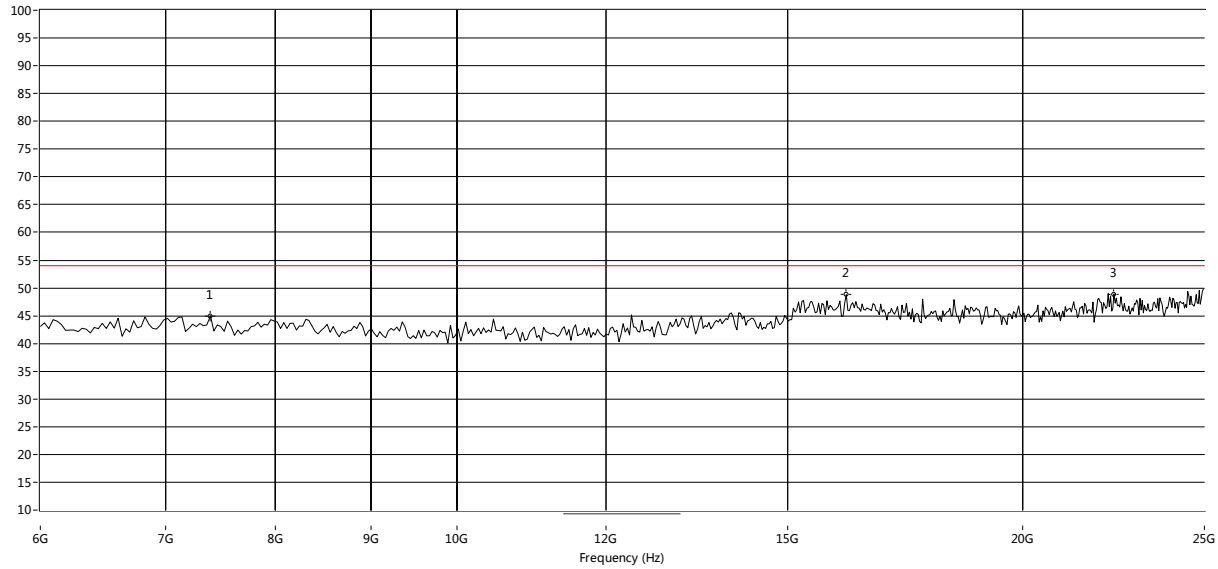
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Degree	Antenna	Verdical
2440.640	96.80	--	--	--	--	--	152.8	Vertical	--
2492.127	48.36	--	--	74.0	--	54.0	325.8	Vertical	pass
4882.029	51.34	--	--	74.0	--	54.0	344.4	Vertical	pass

A.8.55, 8-DPSK MID CHANNEL 1GHz to 6GHz, ANT H



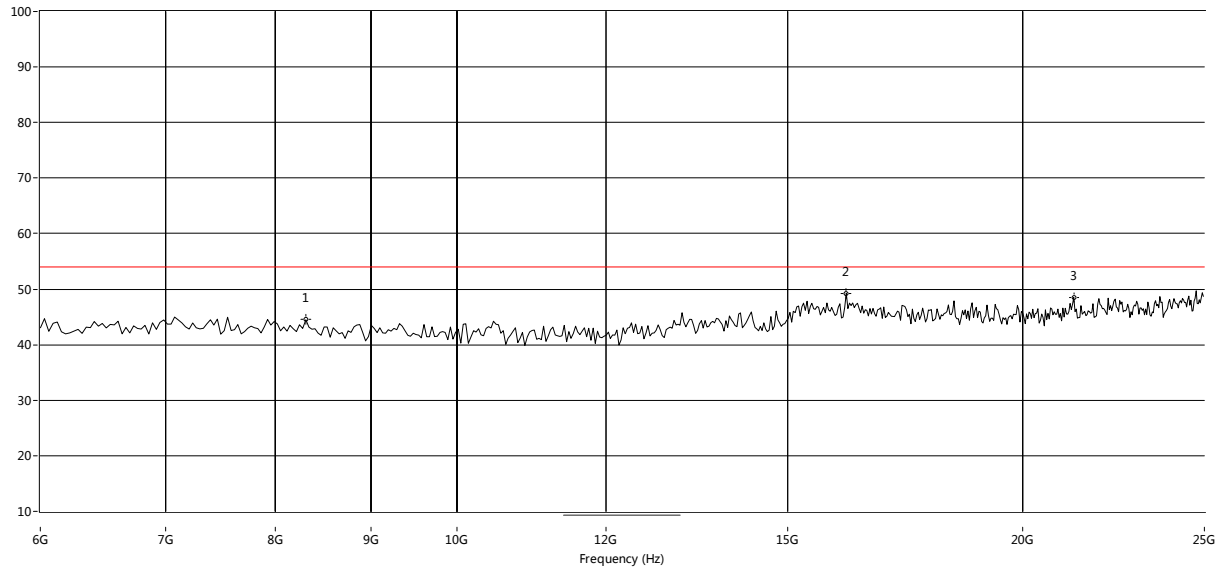
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Degree	Antenna	Verdical
2440.640	95.15	--	--	--	--	--	344.3	Horizontal	--
2545.114	48.86	--	--	74.0	--	54.0	352.6	Horizontal	pass
4881.280	52.41	--	--	74.0	--	54.0	330.4	Horizontal	pass

A.8.56, 8-DPSK MID CHANNEL 6GHz to 25GHz, ANT V



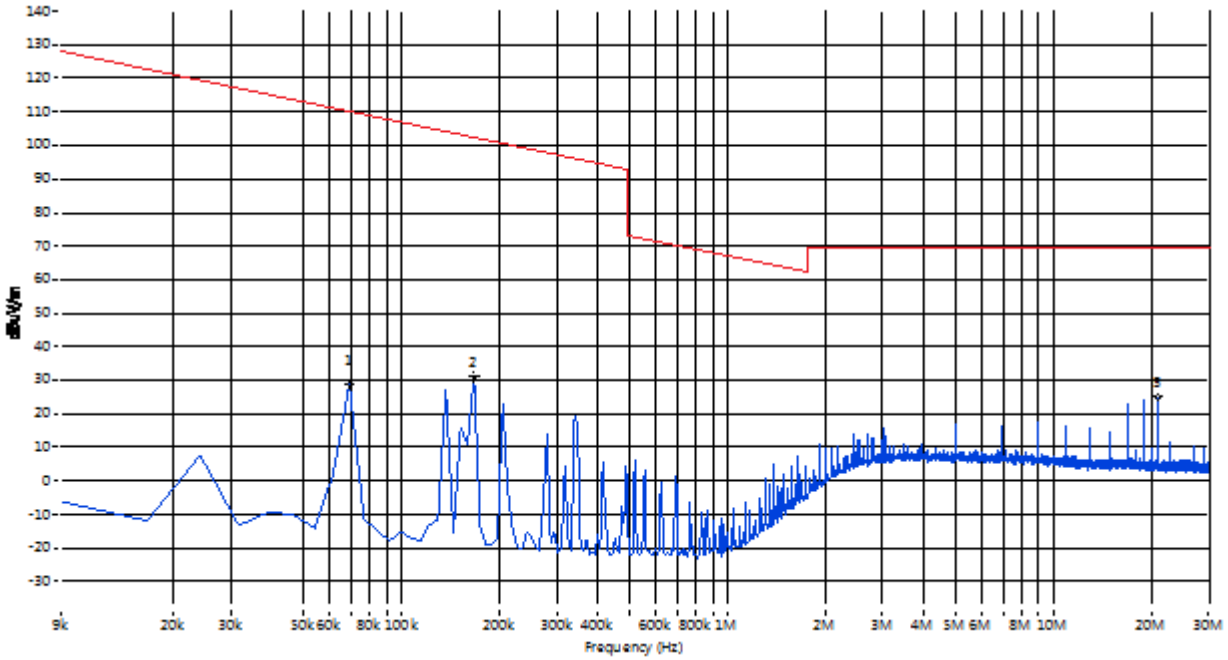
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
7391.015	44.99	54.0	9.0	0.0	Vertical	PASS
16116.473	48.78	54.0	5.2	0.0	Vertical	PASS
22376.040	48.92	54.0	5.1	0.0	Vertical	PASS

A.8.57, 8-DPSK MID CHANNEL 6GHz to 25GHz, ANT H



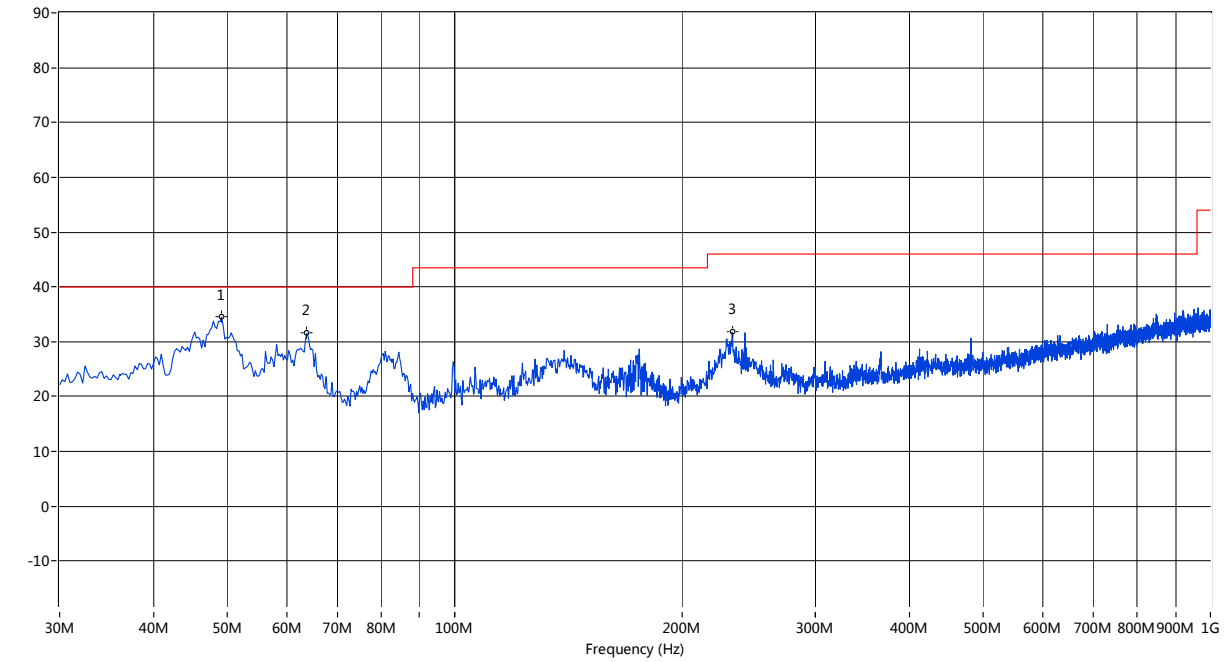
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
8307.820	44.49	54.0	9.5	0.0	Horizontal	PASS
16116.473	49.27	54.0	4.7	0.0	Horizontal	PASS
21301.165	48.52	54.0	5.5	0.0	Horizontal	PASS

A.8.58, 8-DPSK HIGH CHANNEL Below 30MHz



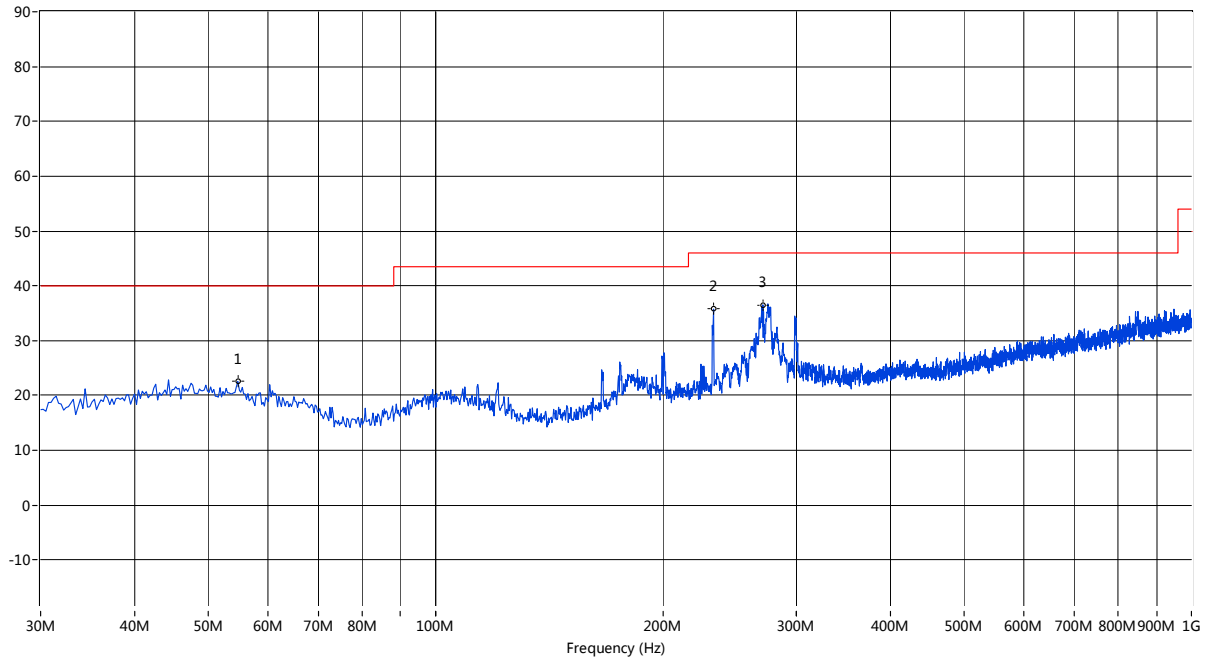
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Degree	Verdical
0.069	28.92	--	--	--	110.8	--	--	PASS
0.166	31.15	--	--	--	103.2	--	--	PASS
20.997	24.96	--	--	--	69.5	--	--	PASS

A.8.59, 8-DPSK HIGH CHANNEL 30MHz to 1GHz, ANT V



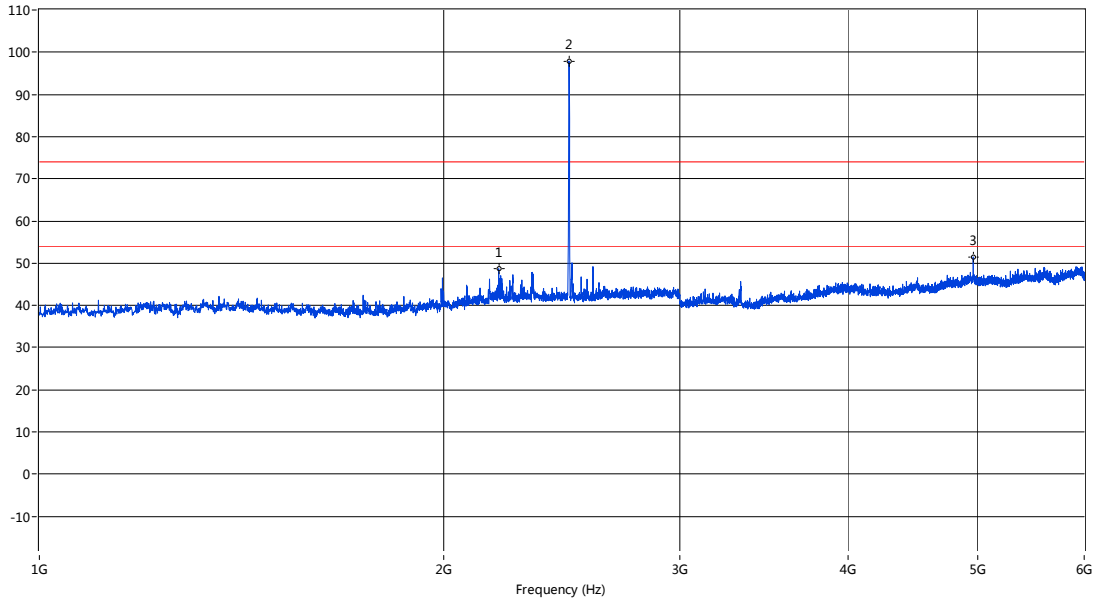
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Degree	Antenna	Verdical
49.153	34.50	--	--	--	40.0	--	74.5	Vertical	pass
63.699	31.55	--	--	--	40.0	--	253.8	Vertical	pass
232.922	31.76	--	--	--	46.0	--	38.8	Vertical	pass

A.8.60, 8-DPSK HIGH CHANNEL 30MHz to 1GHz, ANT H



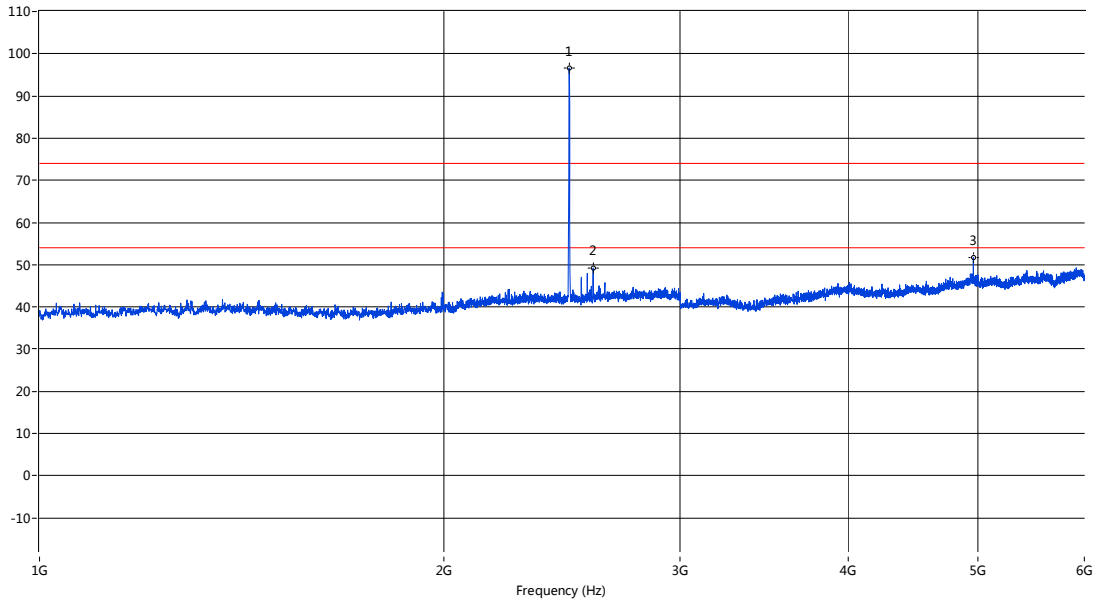
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Degree	Antenna	Verdical
54.729	22.58	--	--	--	40.0	--	336.7	Horizontal	pass
233.164	35.77	--	--	--	46.0	--	38.8	Horizontal	pass
270.985	36.56	--	--	--	46.0	--	35.1	Horizontal	pass

A.8.61, 8-DPSK HIGH CHANNEL 1GHz to 6GHz, ANT V



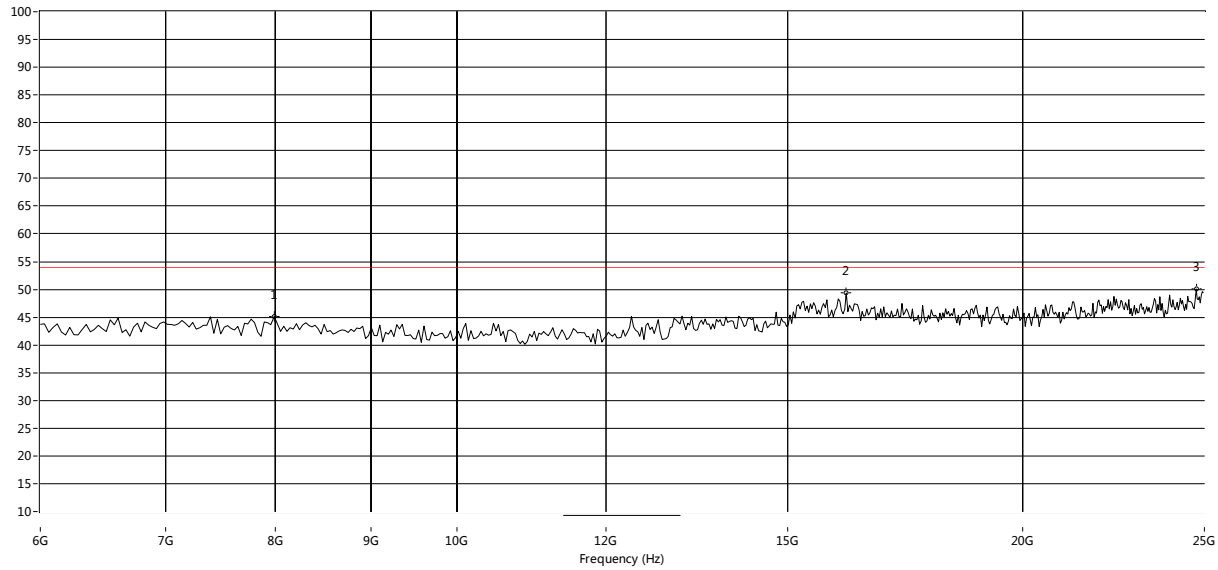
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Degree	Antenna	Verdical
2198.200	48.73	--	--	74.0	--	54.0	168.7	Vertical	pass
2479.630	97.87	--	--	--	--	--	321.2	Vertical	--
4959.260	51.44	--	--	74.0	--	54.0	349.6	Vertical	pass

A.8.62, 8-DPSK HIGH CHANNEL 1GHz to 6GHz, ANT H



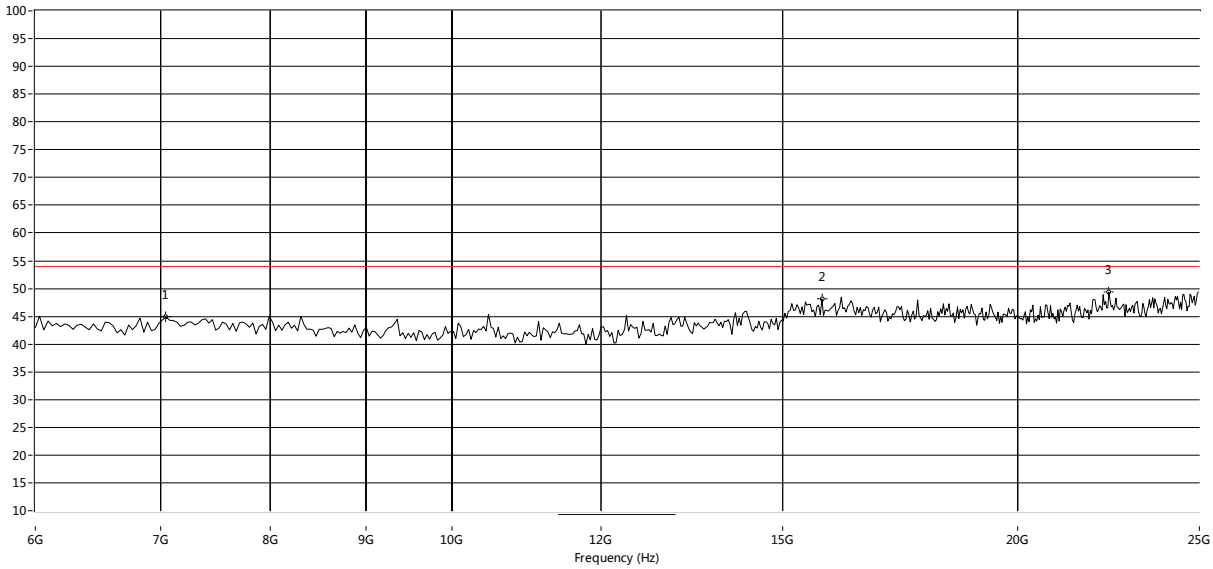
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Degree	Antenna	Verdical
2479.630	96.59	--	--	--	--	--	346.0	Horizontal	--
2584.104	49.24	--	--	74.0	--	54.0	351.6	Horizontal	pass
4960.010	51.73	--	--	74.0	--	54.0	317.8	Horizontal	pass

A.8.63, 8-DPSK HIGH CHANNEL 6GHz to 25GHz, ANT V



Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
7991.681	45.10	54.0	8.9	0.0	Vertical	PASS
16116.473	49.38	54.0	4.6	0.0	Vertical	PASS
24747.088	50.08	54.0	3.9	0.0	Vertical	PASS

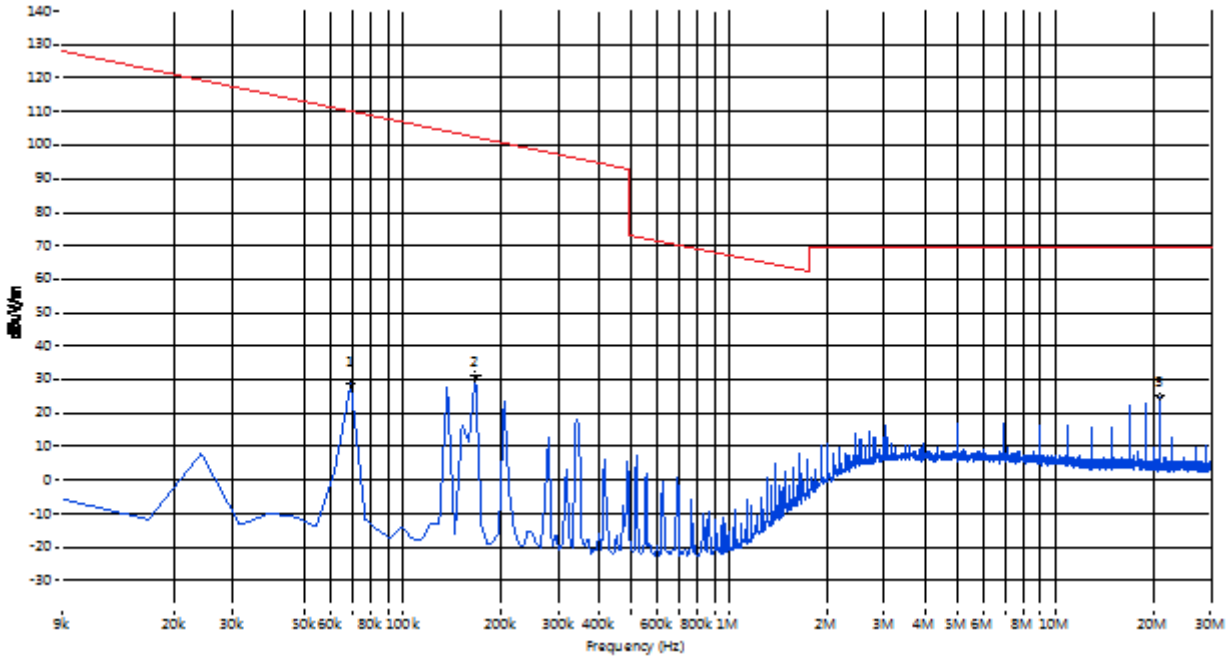
A.8.64, 8-DPSK HIGH CHANNEL 6GHz to 25GHz, ANT H



Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
7043.261	44.86	54.0	9.1	0.0	Horizontal	PASS
15737.105	48.15	54.0	5.9	0.0	Horizontal	PASS
22376.040	49.36	54.0	4.6	0.0	Horizontal	PASS

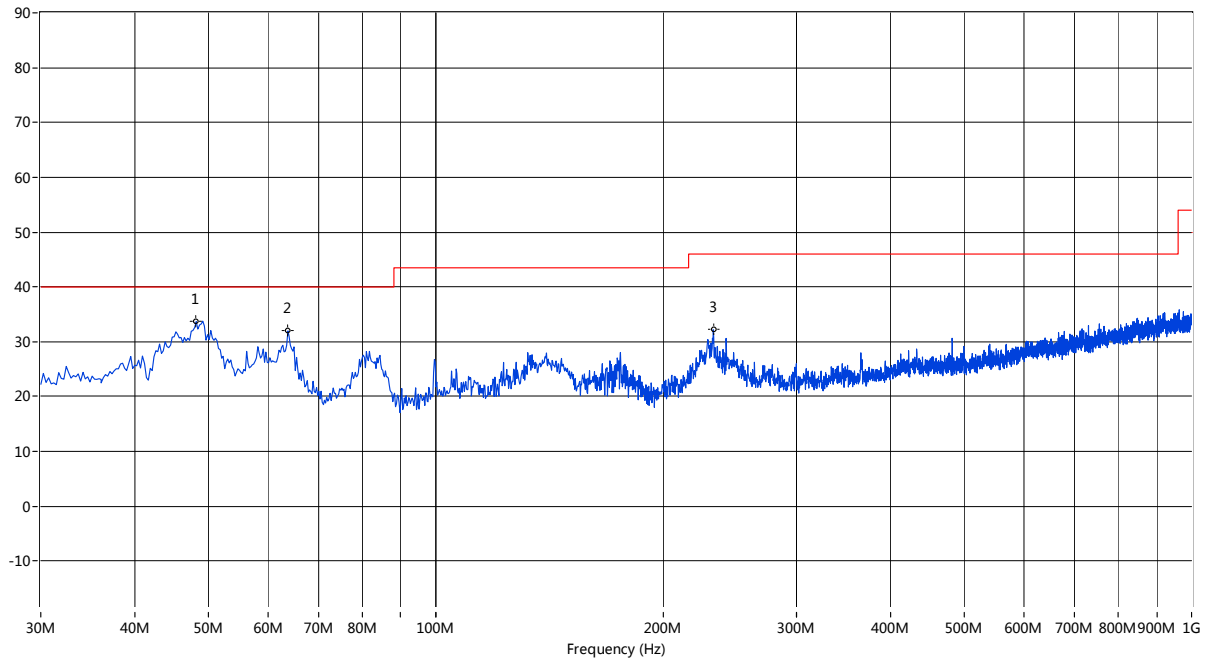
Hopping Mode

A.8.65, GFSK Below 30MHz



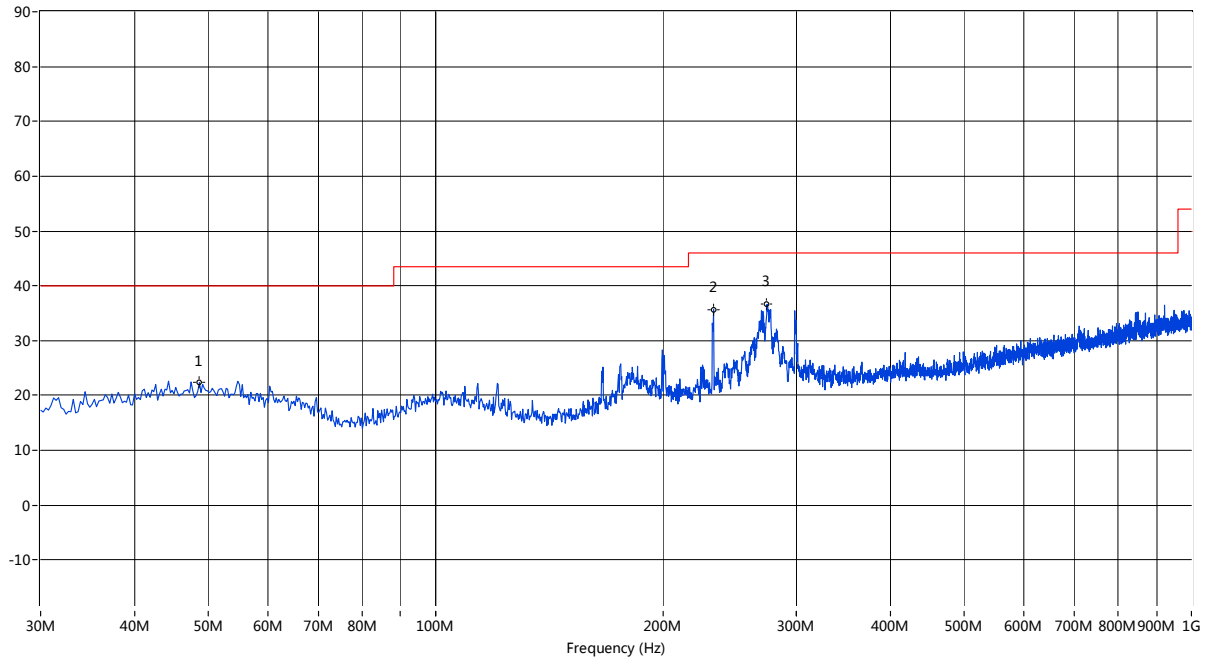
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Degree	Verdical
0.069	28.74	--	--	--	110.8	--	--	PASS
0.166	31.11	--	--	--	103.2	--	--	PASS
20.997	24.84	--	--	--	69.5	--	--	PASS

A.8.66, GFSK 30MHz to 1GHz, ANT V



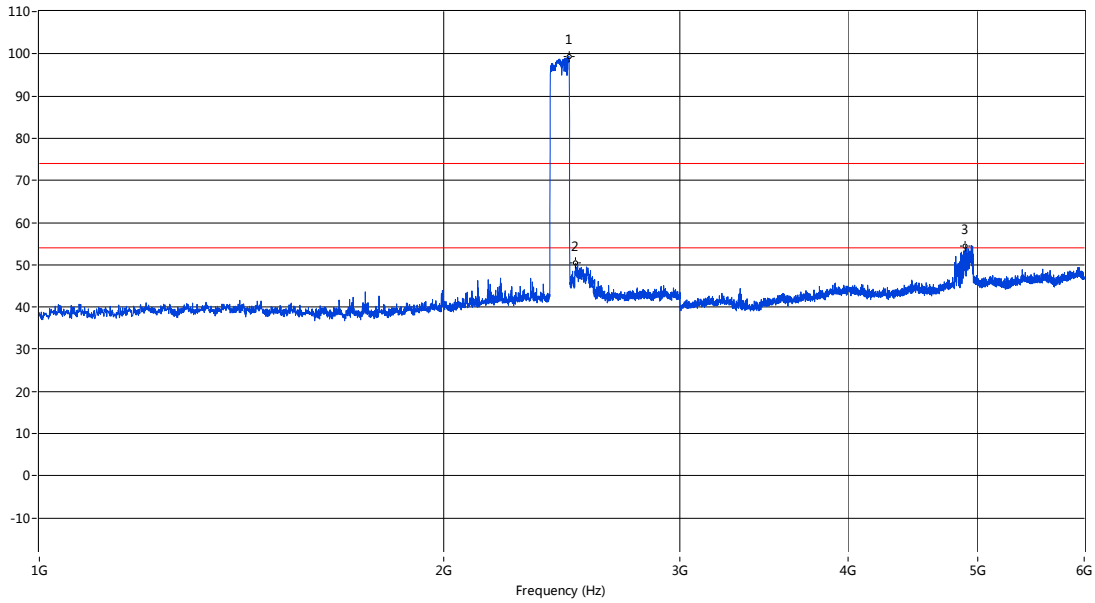
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Degree	Antenna	Verdical
48.183	33.68	--	--	--	40.0	--	178.4	Vertical	pass
63.699	32.01	--	--	--	40.0	--	253.8	Vertical	pass
232.922	32.20	--	--	--	46.0	--	38.8	Vertical	pass

A.8.67, GFSK 30MHz to 1GHz, ANT H



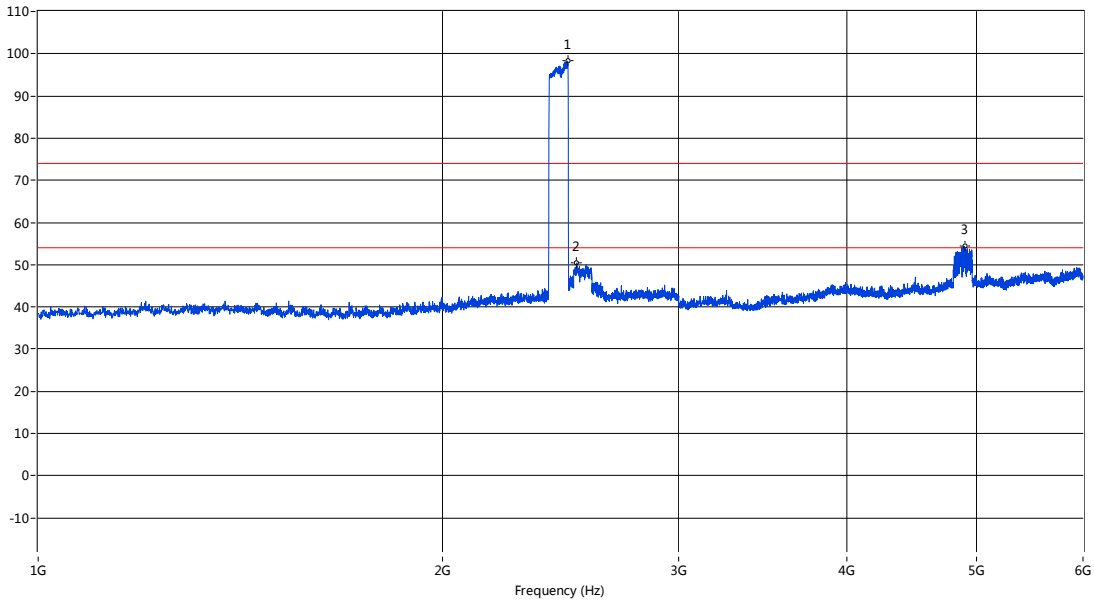
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Degree	Antenna	Verdical
48.668	22.36	--	--	--	40.0	--	360.0	Horizontal	pass
233.164	35.72	--	--	--	46.0	--	38.8	Horizontal	pass
274.379	36.63	--	--	--	46.0	--	39.8	Horizontal	pass

A.8.68, GFSK 1GHz to 6GHz, ANT V



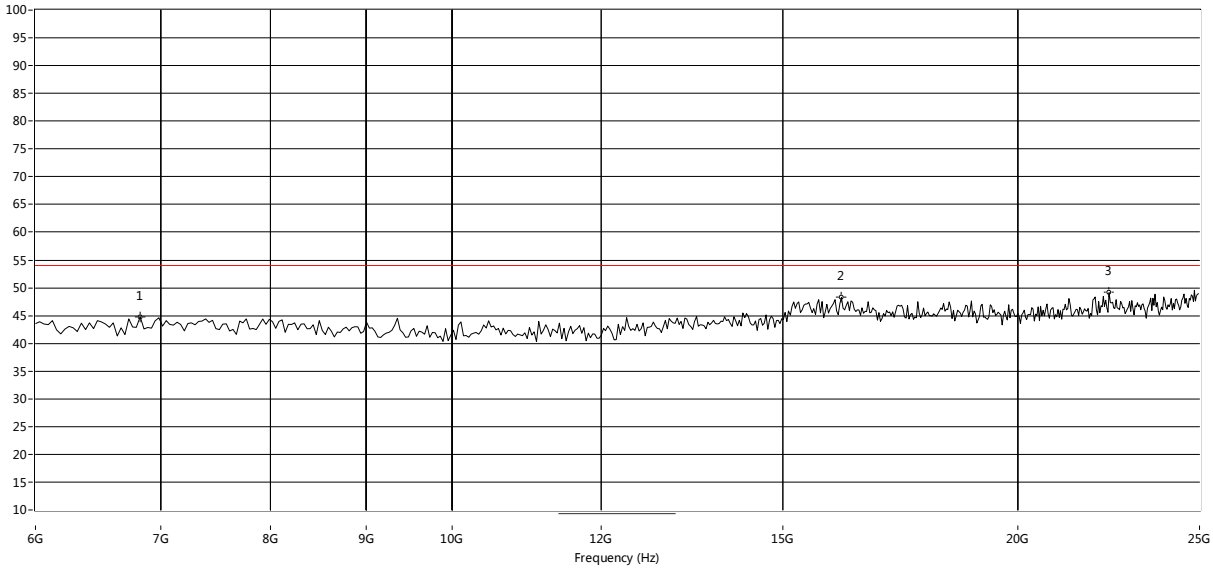
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Degree	Antenna	Verdical
2478.630	99.23	--	--	--	--	--	146.1	Vertical	--
2508.123	50.37	--	--	74.0	--	54.0	317.9	Vertical	pass
4954.011	54.44	--	46.95	74.0	--	54.0	344.5	Vertical	pass

A.8.69, GFSK 1GHz to 6GHz, ANT H



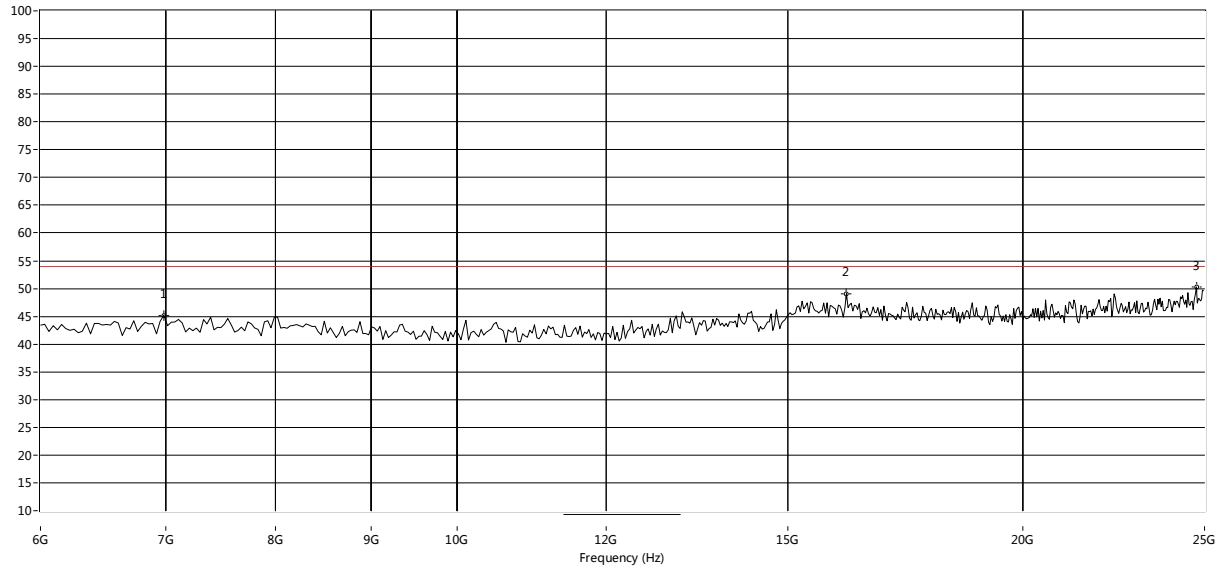
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Degree	Antenna	Verdical
2479.130	98.24	--	--	--	--	--	343.0	Horizontal	--
2518.120	50.40	--	--	74.0	--	54.0	348.9	Horizontal	pass
4896.276	54.35	--	47.85	74.0	--	54.0	327.9	Horizontal	pass

A.8.70, GFSK 6GHz to 25GHz, ANT V



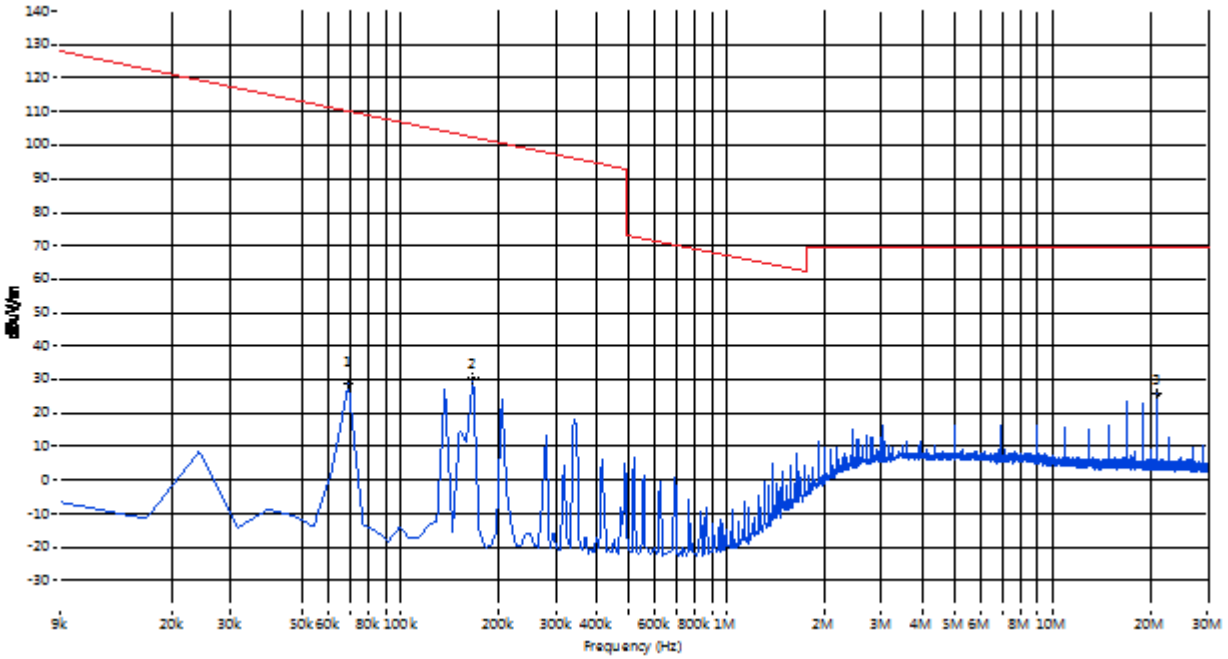
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
6821.963	44.79	54.0	9.2	0.0	Vertical	PASS
16116.473	48.31	54.0	5.7	0.0	Vertical	PASS
22376.040	49.12	54.0	4.9	0.0	Vertical	PASS

A.8.71, GFSK 6GHz to 25GHz, ANT H



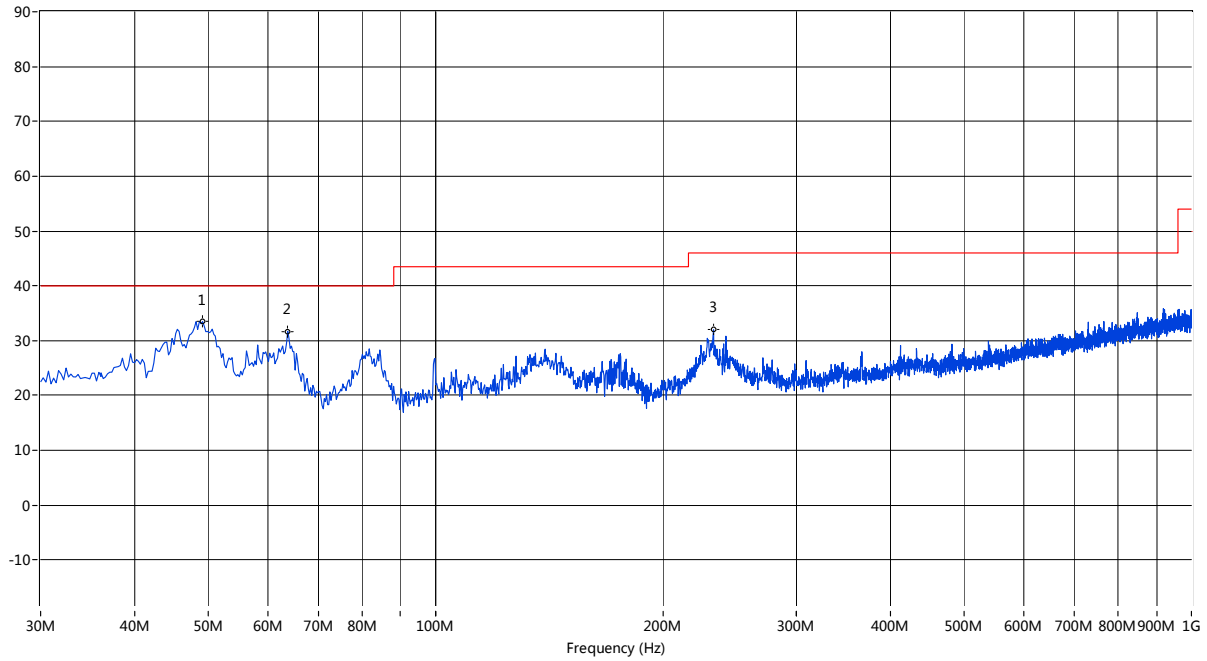
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
6980.033	45.20	54.0	8.8	0.0	Horizontal	PASS
16116.473	49.09	54.0	4.9	0.0	Horizontal	PASS
24747.088	50.27	54.0	3.7	0.0	Horizontal	PASS

A.8.72, ∏/4-DQPSK Below 30MHz



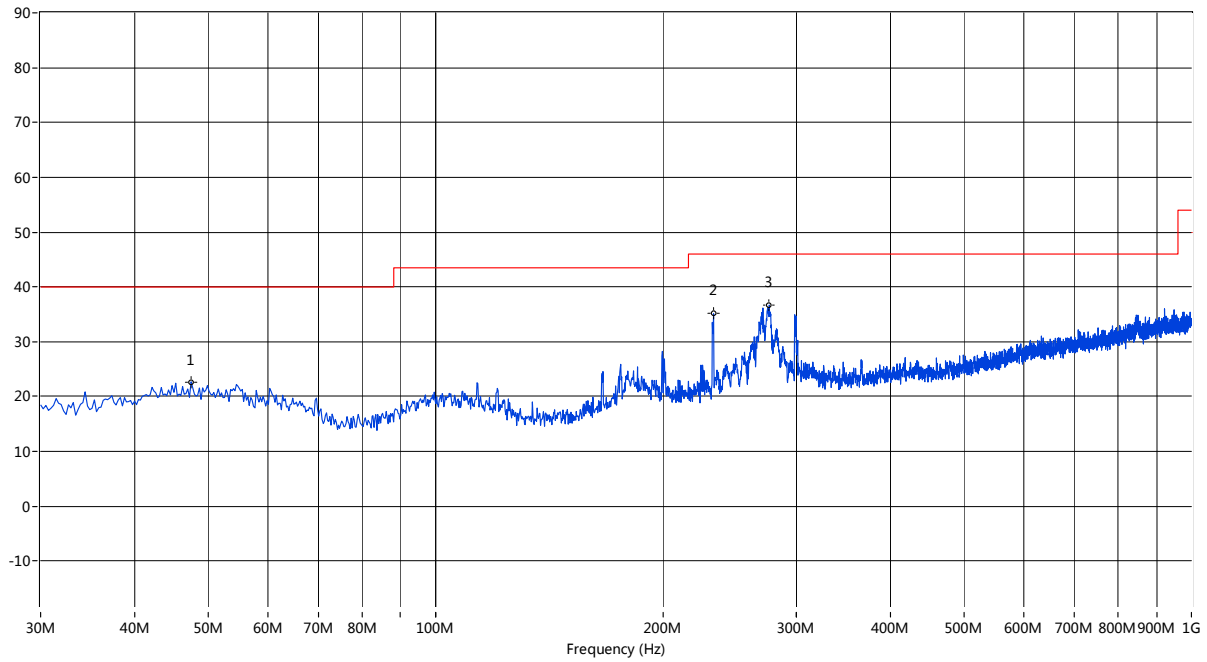
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Degree	Verdical
0.069	28.59	--	--	--	110.8	--	--	PASS
0.166	30.49	--	--	--	103.2	--	--	PASS
20.997	25.78	--	--	--	69.5	--	--	PASS

A.8.73, ∏/4-DQPSK 30MHz to 1GHz, ANT V



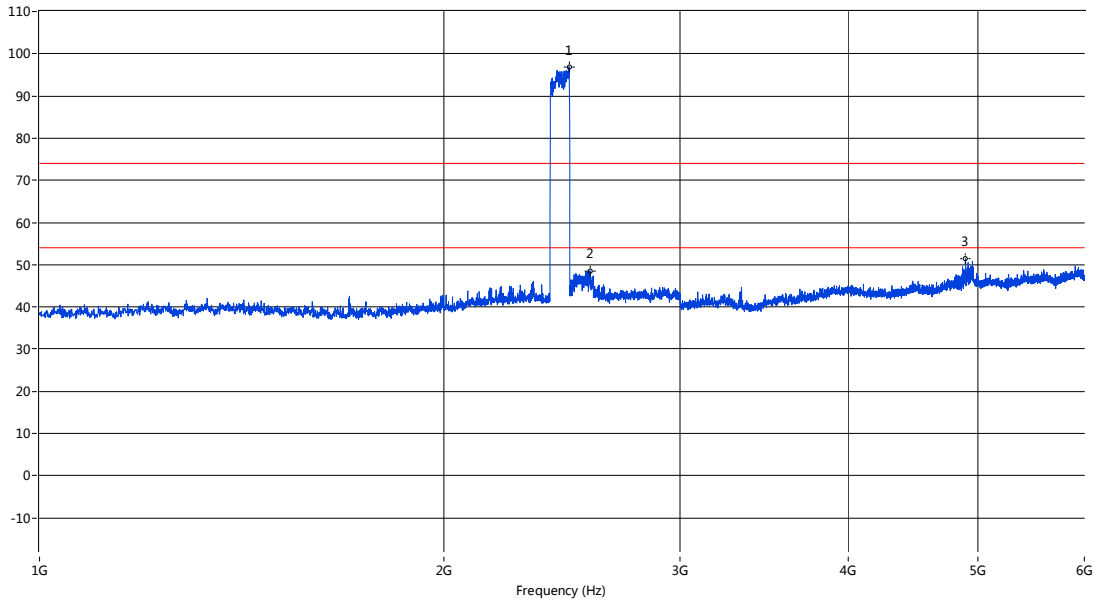
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-A	Degree	Antenna	Verdical
49.153	33.47	--	--	--	40.0	--	74.5	Vertical	pass
63.699	31.69	--	--	--	40.0	--	253.8	Vertical	pass
233.164	32.00	--	--	--	46.0	--	25.6	Vertical	pass

A.8.74, ∏/4-DQPSK 30MHz to 1GHz, ANT H



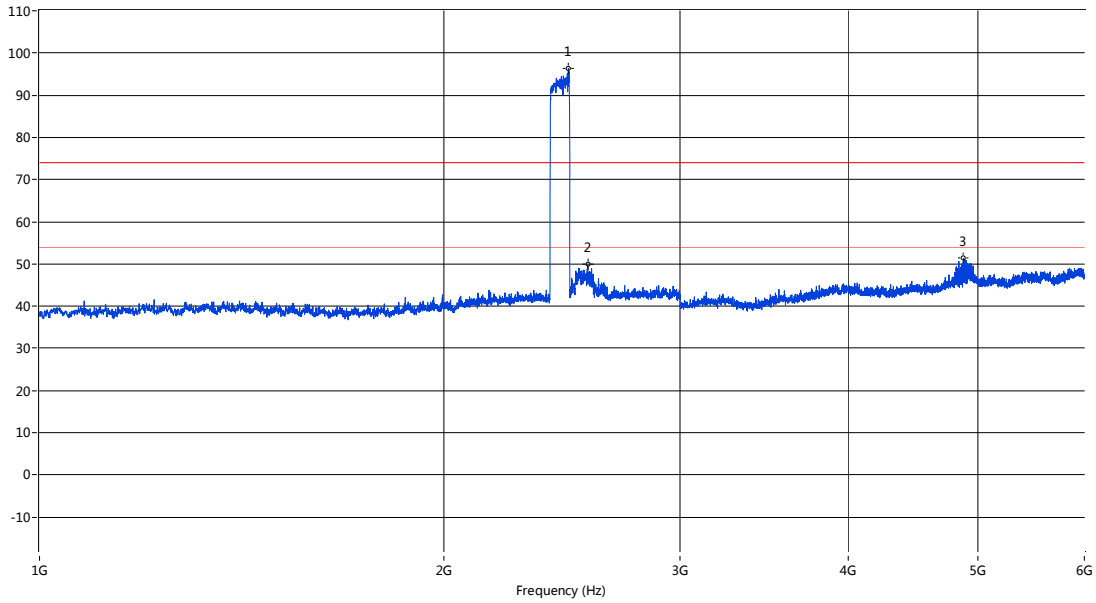
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Degree	Antenna	Verdical
47.456	22.72	--	--	--	40.0	--	51.8	Horizontal	pass
233.164	35.11	--	--	--	46.0	--	38.8	Horizontal	pass
276.318	36.70	--	--	--	46.0	--	41.0	Horizontal	pass

A.8.75, ∏/4-DQPSK 1GHz to 6GHz, ANT V



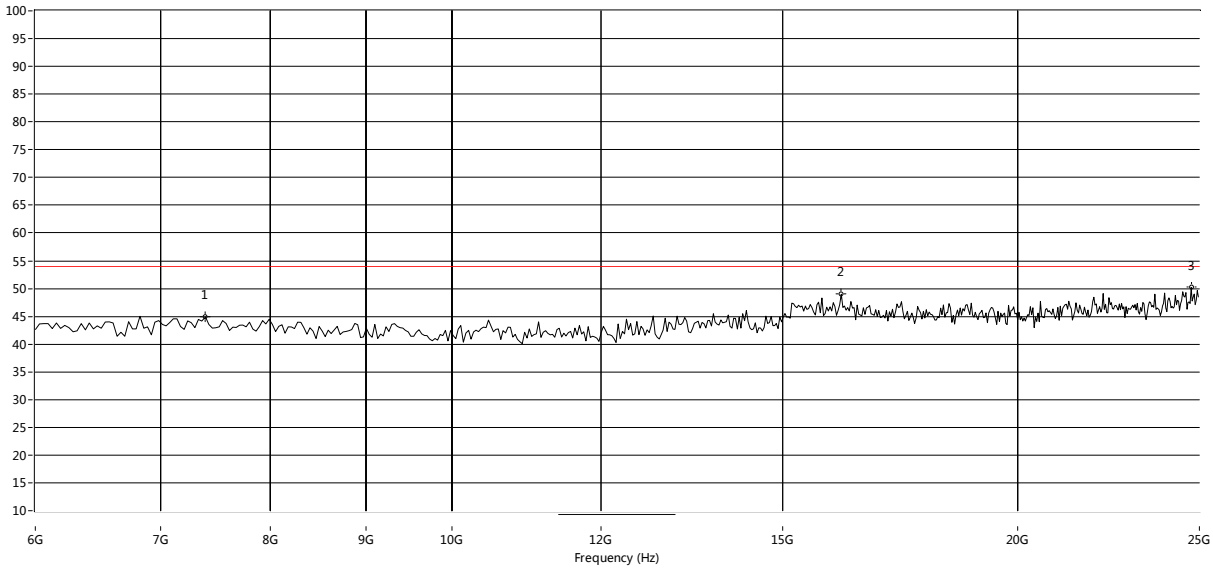
Fre. (MHz)	Pk	QP	V	Limit-PK	Limit-QP	Limit AV	Degree	Antenna	Verdical
2479.630	96.94	--	--	--	--	--	313.4	Vertical	--
2570.107	48.56	--	--	74.0	--	54.0	310.5	Vertical	pass
4954.011	48.62	--	--	74.0	--	54.0	104.1	Vertical	pass

A.8.76, ∏/4-DQPSK 1GHz to 6GHz, ANT H



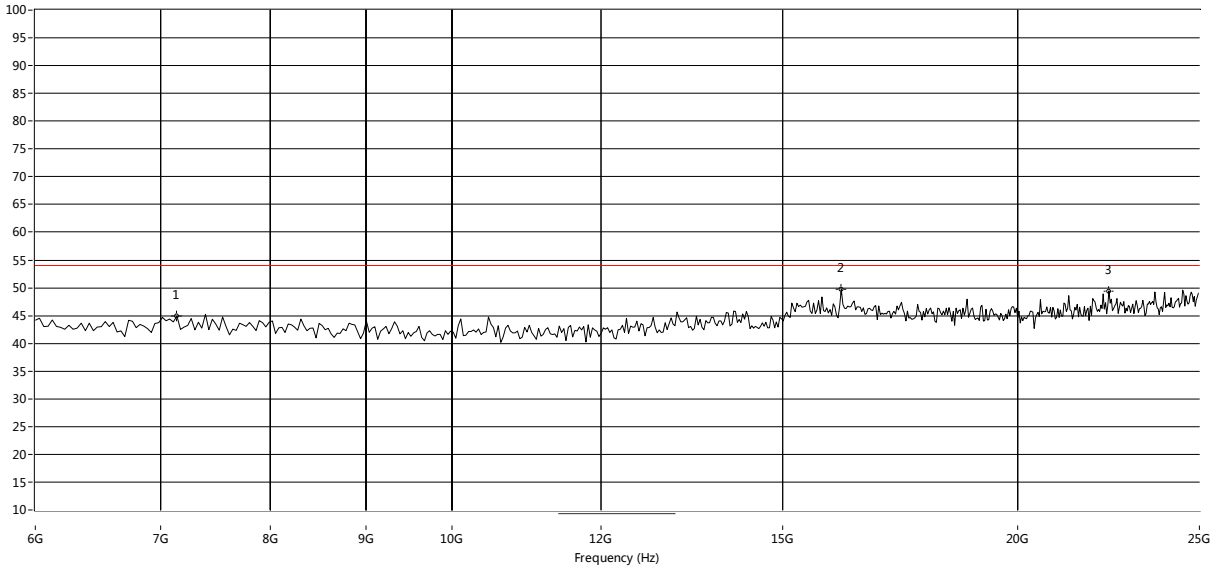
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Degree	Antenna	Verdical
2476.631	96.37	--	--	--	--	--	344.9	Horizontal	--
2559.610	49.84	--	--	74.0	--	54.0	341.9	Horizontal	pass
4877.531	51.37	--	--	74.0	--	54.0	329.3	Horizontal	pass

A.8.77, ∏/4-DQPSK 6GHz to 25GHz, ANT V



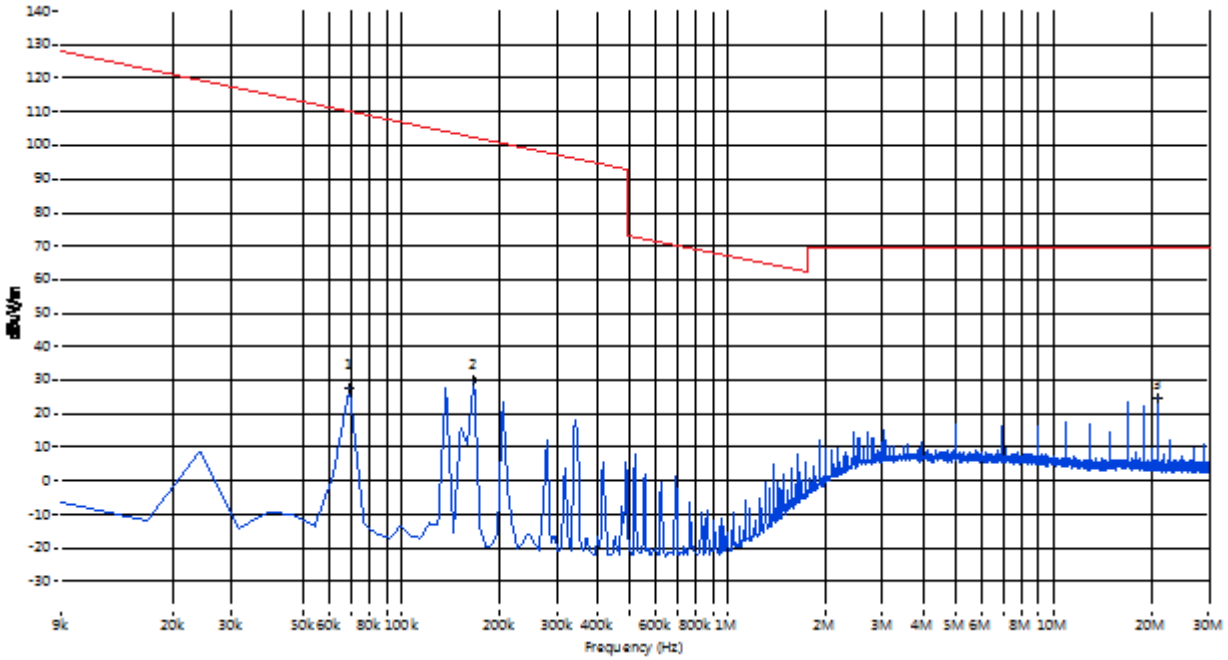
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
7391.015	44.88	54.0	9.1	0.0	Vertical	PASS
16116.473	49.00	54.0	5.0	0.0	Vertical	PASS
24747.088	50.20	54.0	3.8	0.0	Vertical	PASS

A.8.78, ∏/4-DQPSK 6GHz to 25GHz, ANT H



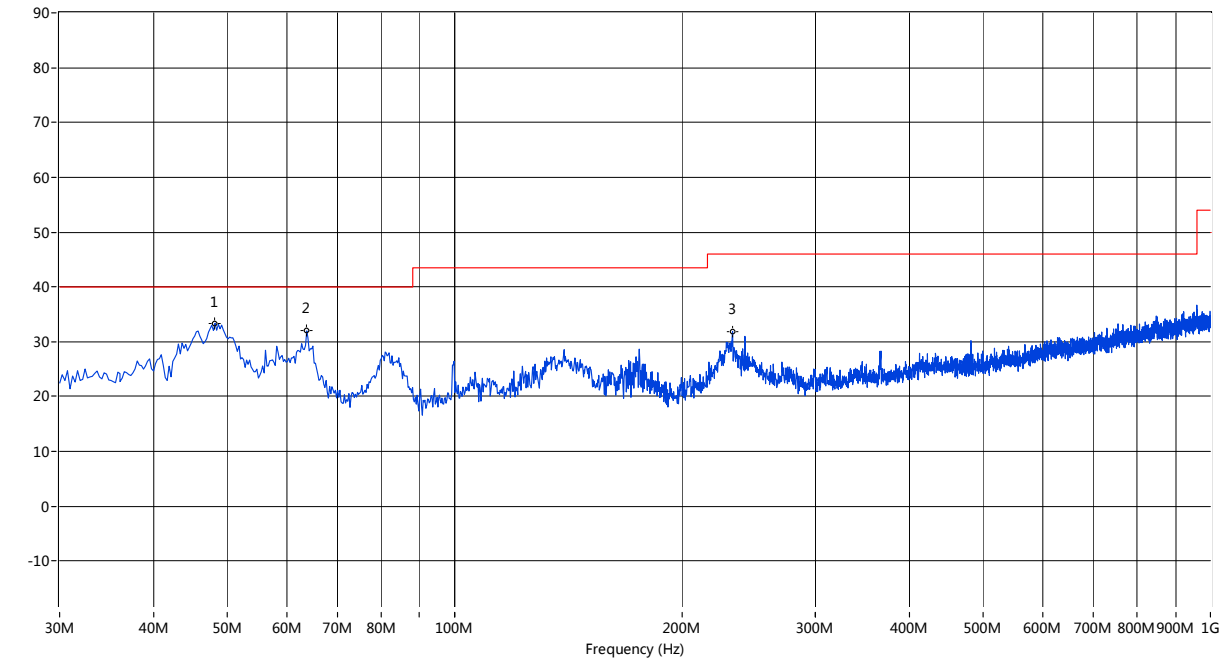
Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
7138.103	44.88	54.0	9.1	0.0	Horizontal	PASS
16116.473	49.73	54.0	4.3	0.0	Horizontal	PASS
22376.040	49.44	54.0	4.6	0.0	Horizontal	PASS

A.8.79, 8-DPSK Below 30MHz



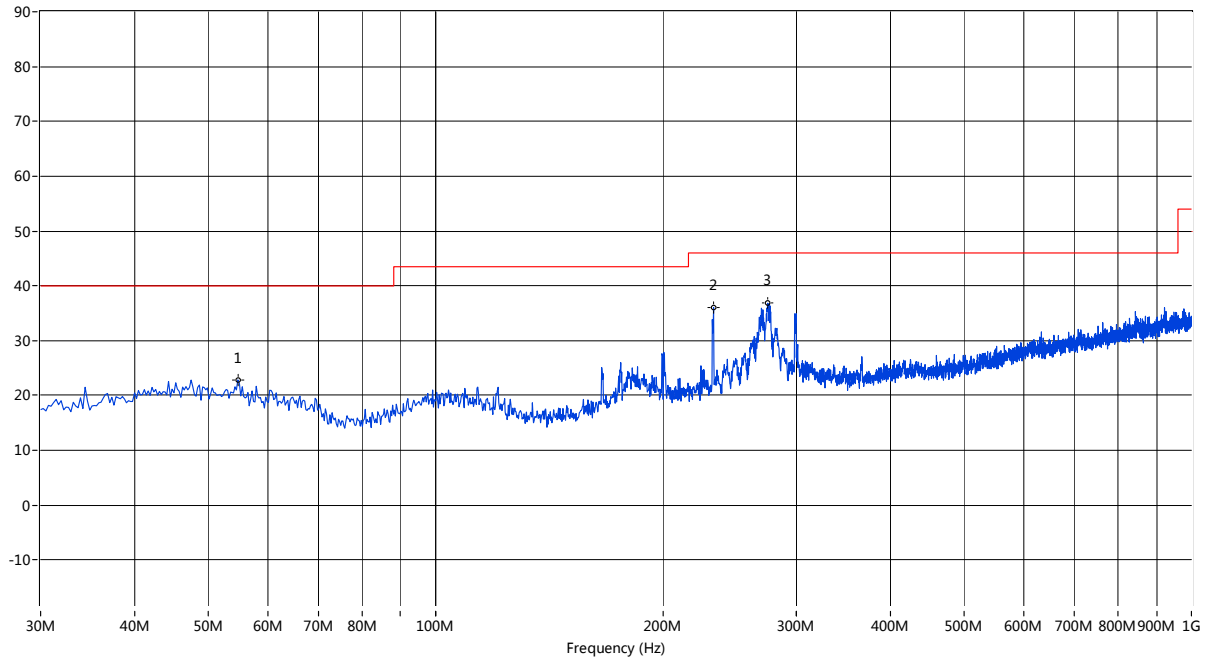
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Degree	Verdical
0.069	27.65	--	--	--	110.8	--	--	PASS
0.166	30.11	--	--	--	103.2	--	--	PASS
20.997	24.52	--	--	--	69.5	--	--	PASS

A.8.80, 8-DPSK 30MHz to 1GHz, ANT V



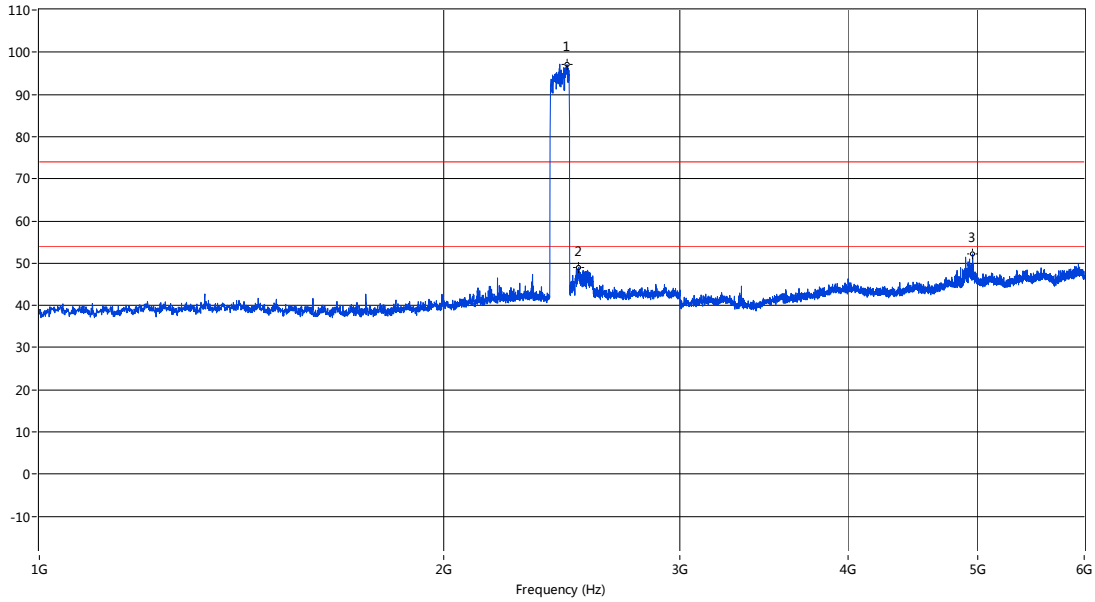
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Degree	Antenna	Verdical
48.183	33.41	--	--	--	40.0	--	178.4	Vertical	pass
63.699	32.00	--	--	--	40.0	--	253.8	Vertical	pass
233.164	31.89	--	--	--	46.0	--	25.6	Vertical	pass

A.8.81, 8-DPSK 30MHz to 1GHz, ANT H



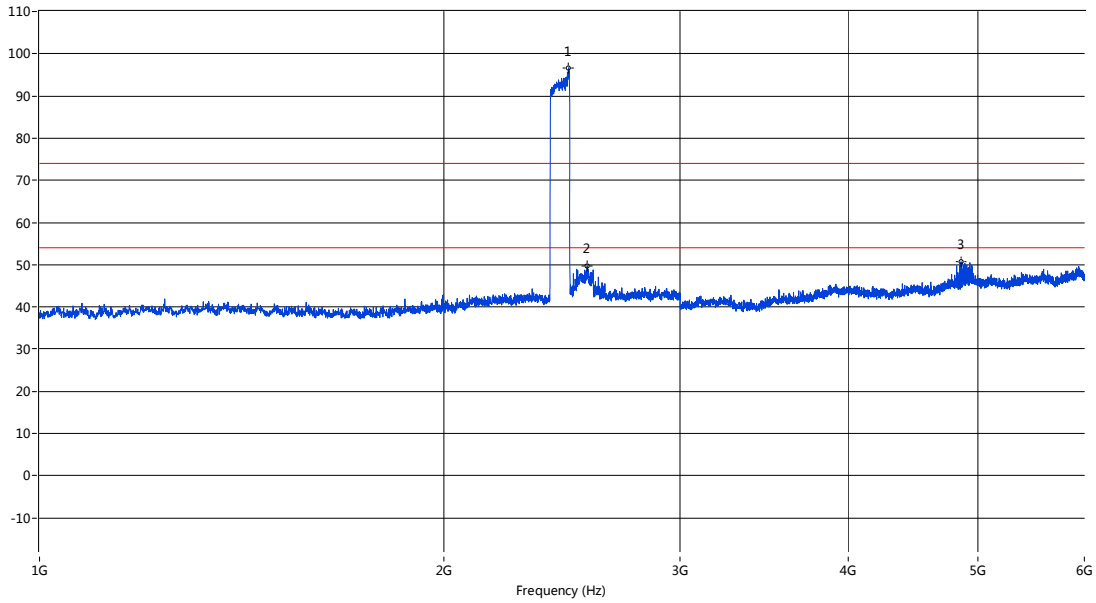
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Degree	Antenna	Verdical
54.729	22.85	--	--	--	40.0	--	336.7	Horizontal	pass
233.164	36.07	--	--	--	46.0	--	38.8	Horizontal	pass
274.864	36.82	--	--	--	46.0	--	39.8	Horizontal	pass

A.8.82, 8-DPSK 1GHz to 6GHz, ANT V



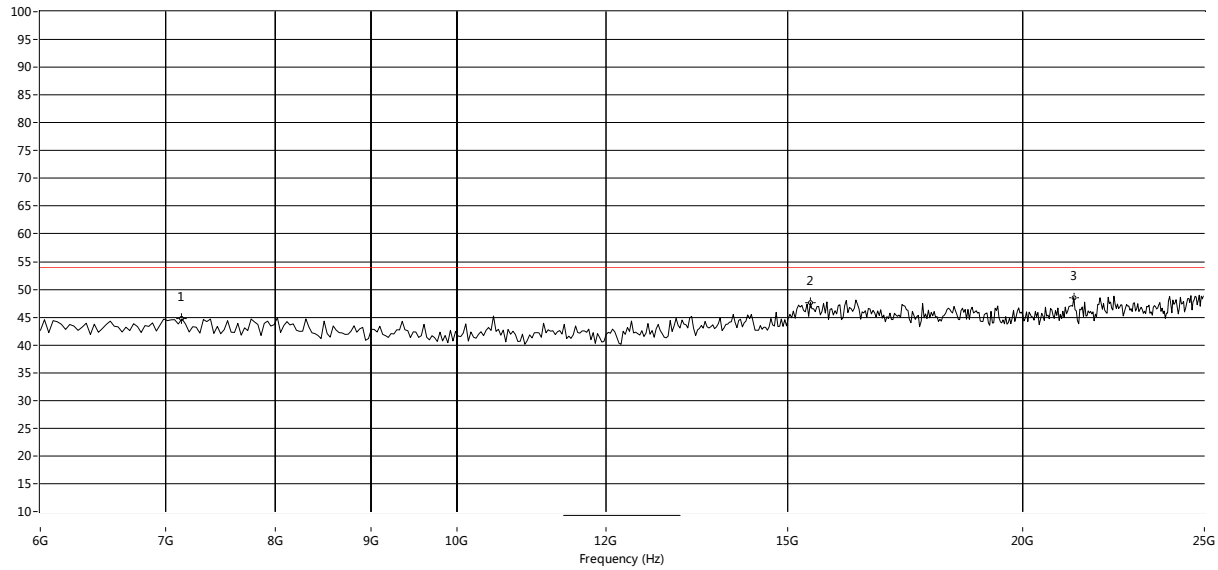
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Degree	Antenna	Verdical
2471.132	97.05	--	--	--	--	--	317.0	Vertical	--
2522.119	49.04	--	--	74.0	--	54.0	317.0	Vertical	pass
4959.857	48.91	--	--	74.0	--	54.0	217.9	Vertical	pass

A.8.83, 8-DPSK 1GHz to 6GHz, ANT H



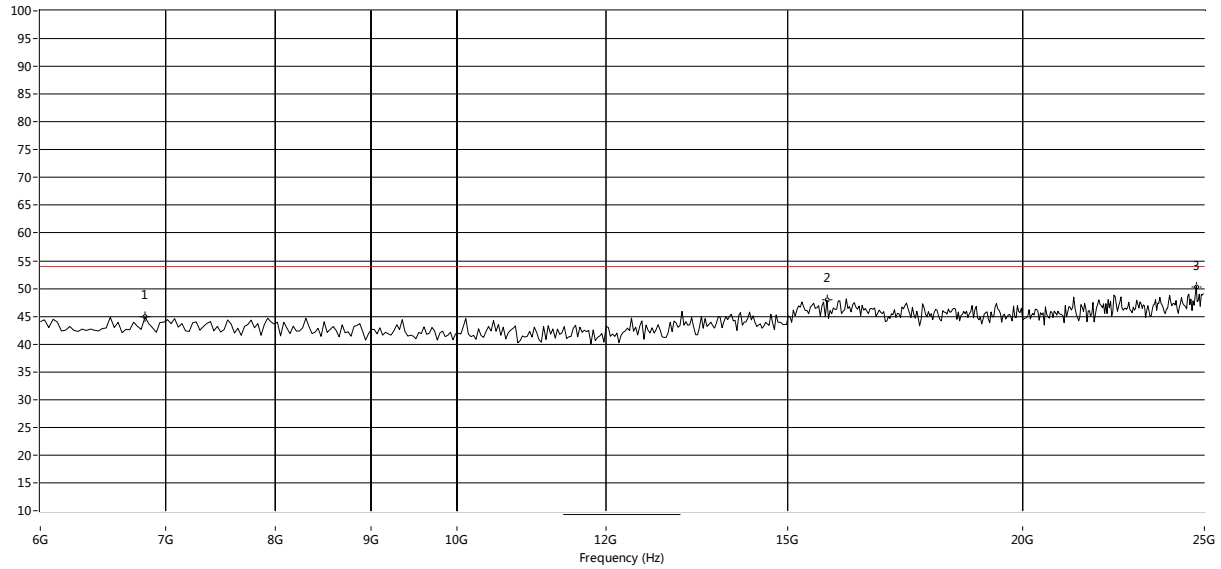
Fre. (MHz)	Pk	QP	AV	Limit-PK	Limit-QP	Limit-AV	Degree	Antenna	Verdical
2478.130	96.70	--	--	--	--	--	345.2	Horizontal	--
2557.111	49.72	--	--	74.0	--	54.0	354.7	Horizontal	pass
4856.536	50.70	--	--	74.0	--	54.0	311.5	Horizontal	pass

A.8.84, 8-DPSK 6GHz to 25GHz, ANT V



Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
7138.103	44.68	54.0	9.3	0.0	Vertical	PASS
15420.965	47.68	54.0	6.3	0.0	Vertical	PASS
21301.165	48.53	54.0	5.5	0.0	Vertical	PASS

A.8.85, 8-DPSK 6GHz to 25GHz, ANT H



Fre. (MHz)	Peak	Limit(PK)	Margin	Degree	Antenna	Verdict
6821.963	44.86	54.0	9.1	0.0	Horizontal	PASS
15737.105	47.90	54.0	6.1	0.0	Horizontal	PASS
24747.088	50.36	54.0	3.6	0.0	Horizontal	PASS

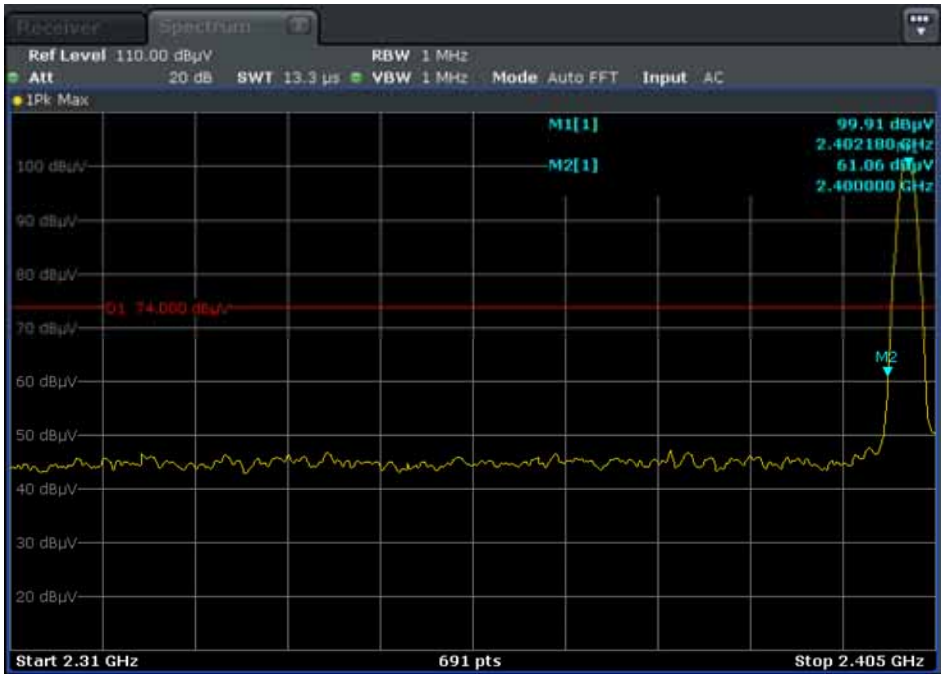
A.9 Band Edge

Test Data

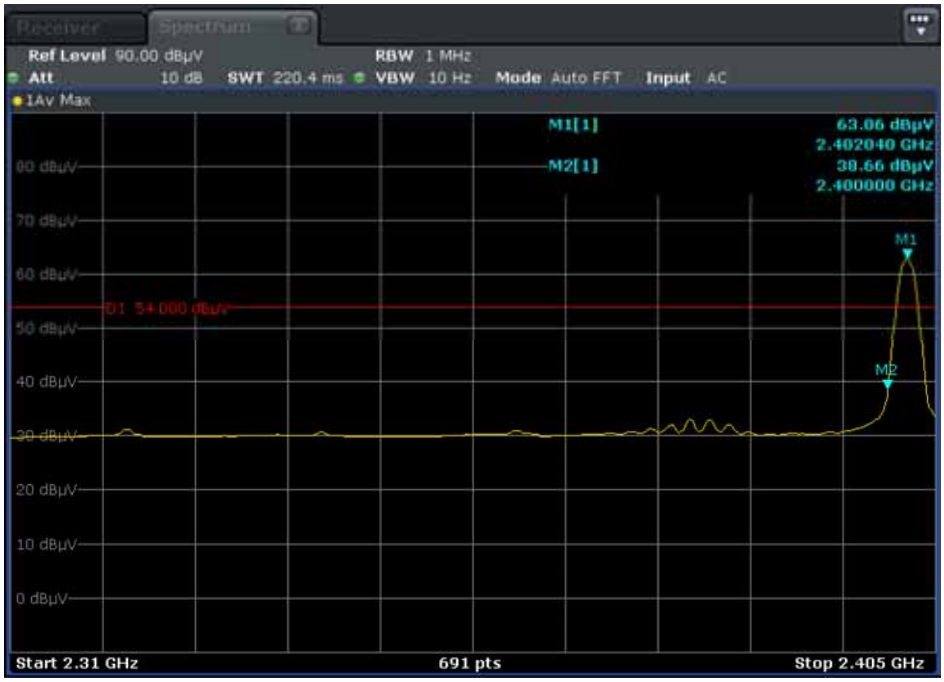
The lowest and highest channels are tested to verify the band edge emissions. Please refer to the following the plots for emissions values.

Test Plots

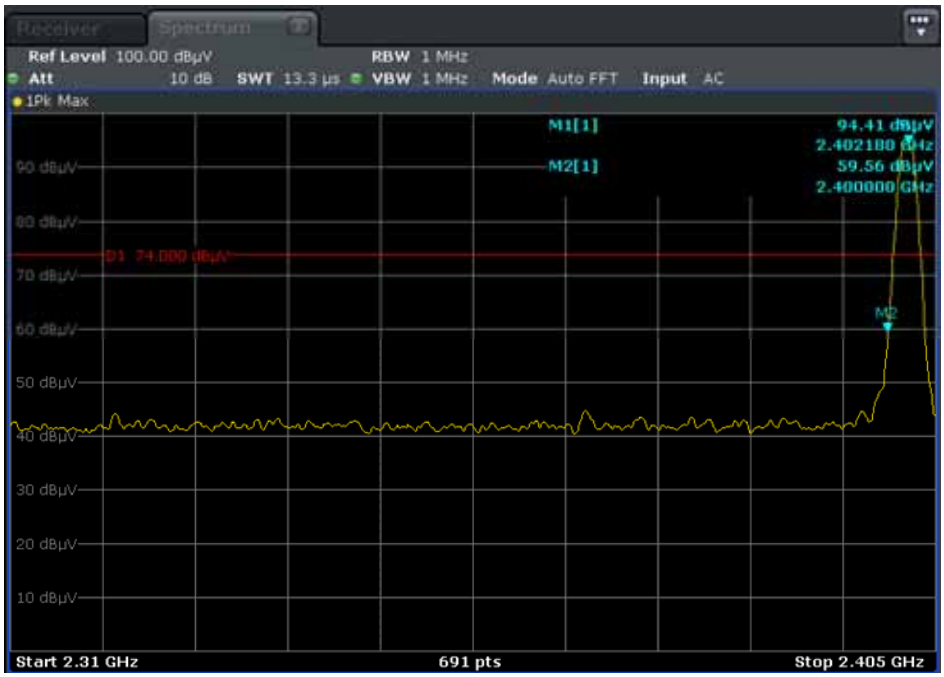
A.9.1, GFSK LOW CHANNEL , ANT V, PEAK



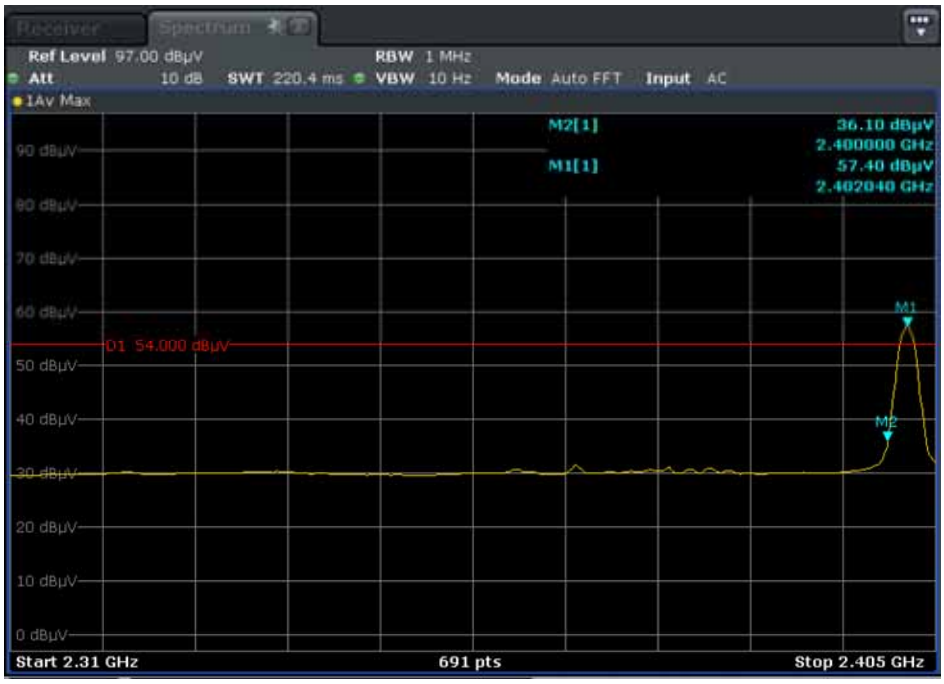
A.9.2, GFSK LOW CHANNEL , ANT V, AVERAGE



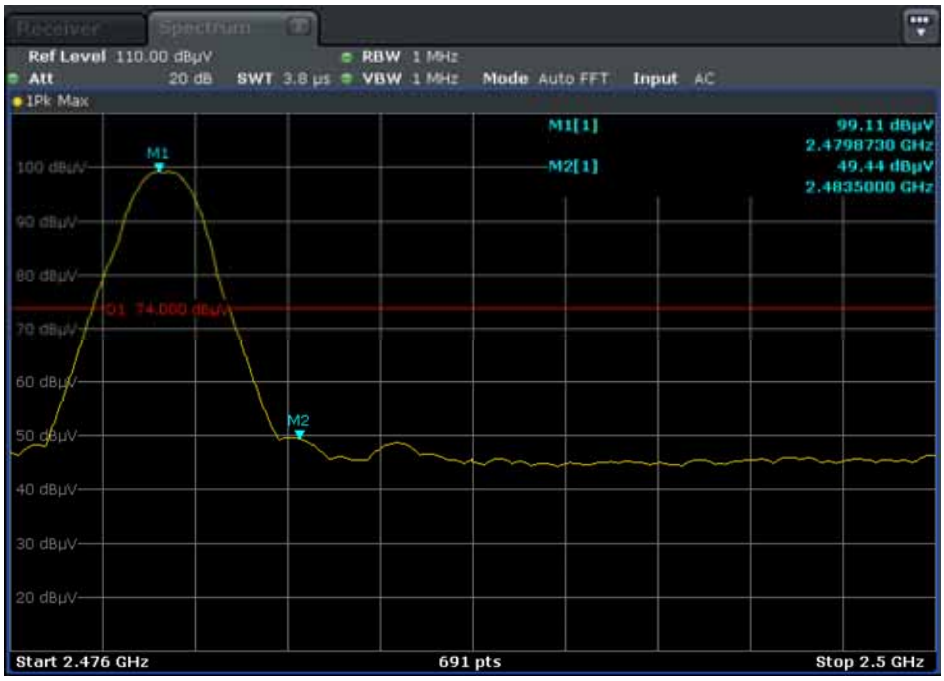
A.9.3, GFSK LOW CHANNEL , ANT H, PEAK



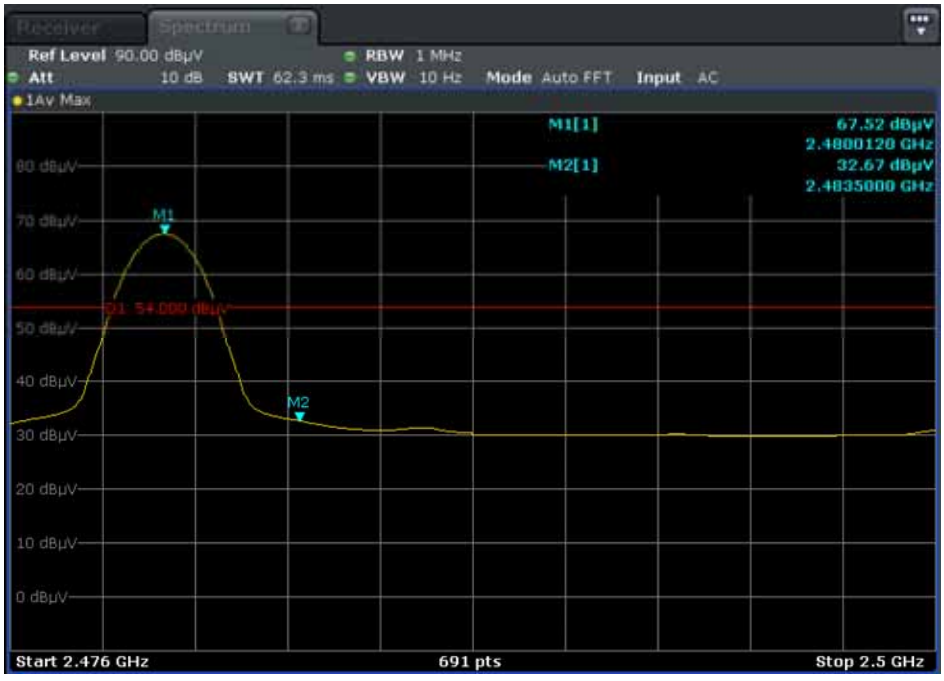
A.9.4, GFSK LOW CHANNEL , ANT H, AVERAGE



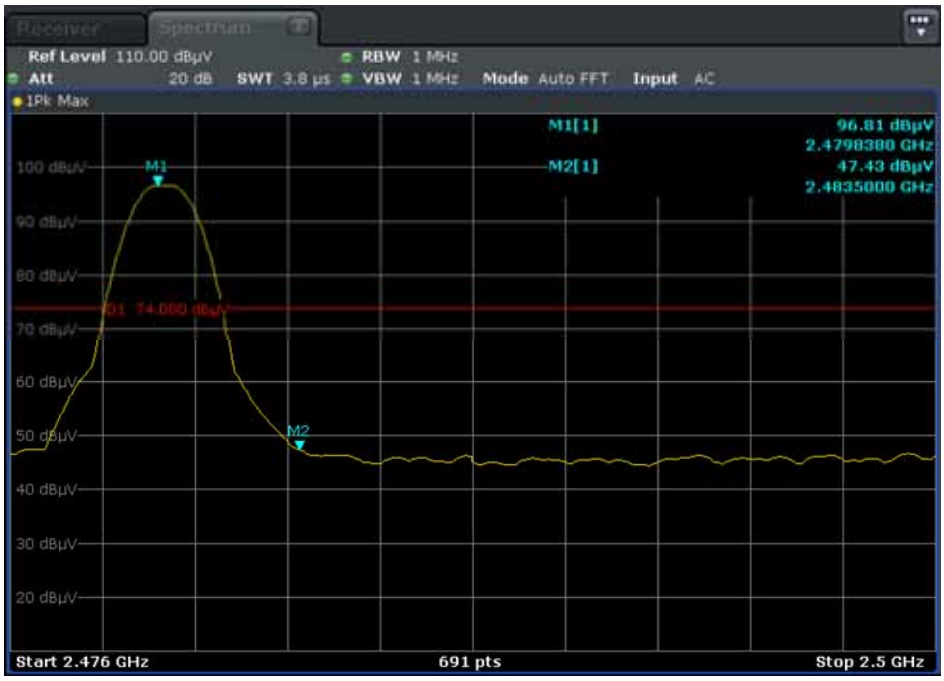
A.9.5, GFSK HIGH CHANNEL , ANT V, PEAK



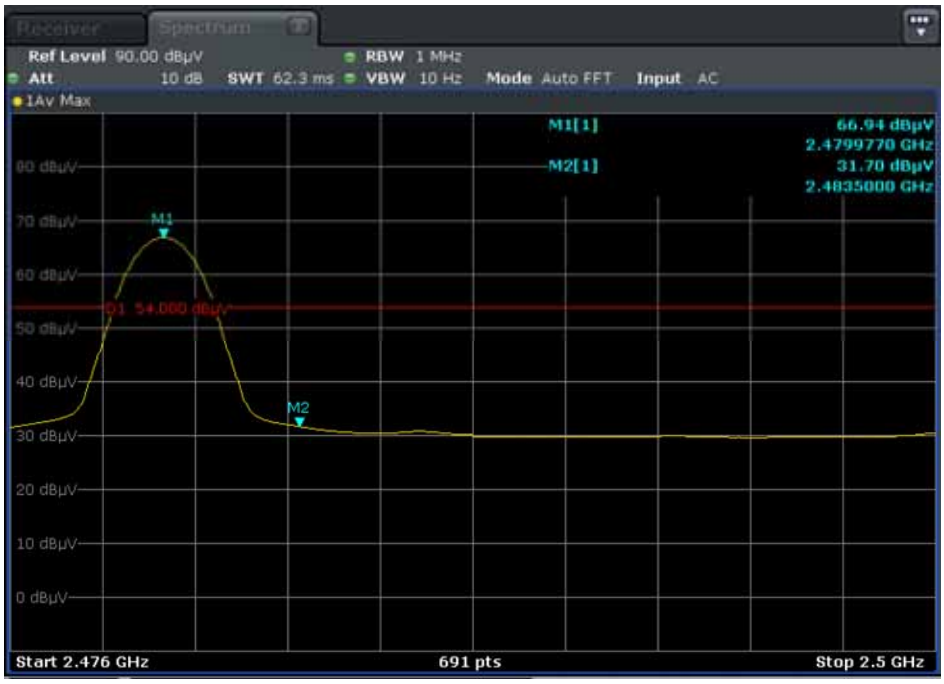
A.9.6, GFSK HIGH CHANNEL , ANT V, AVERAGE



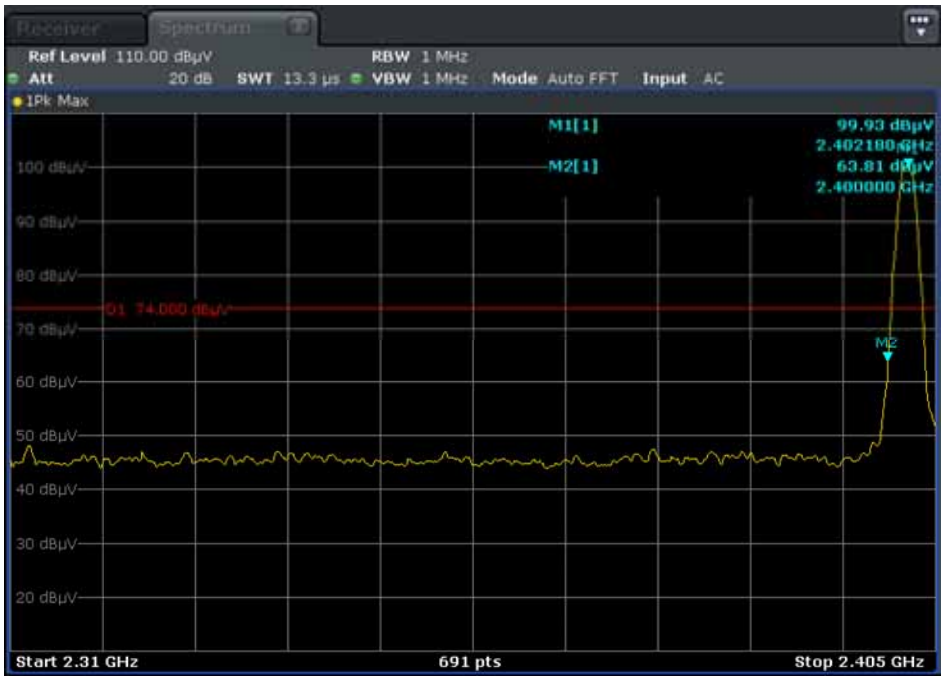
A.9.7, GFSK HIGH CHANNEL , ANT H, PEAK



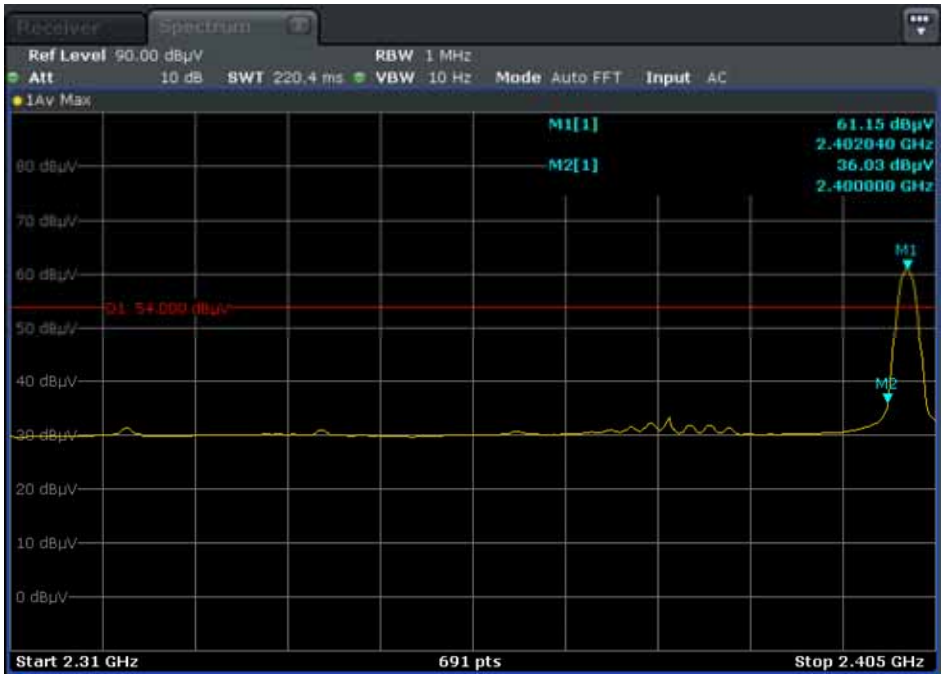
A.9.8, GFSK HIGH CHANNEL , ANT H, AVERAGE



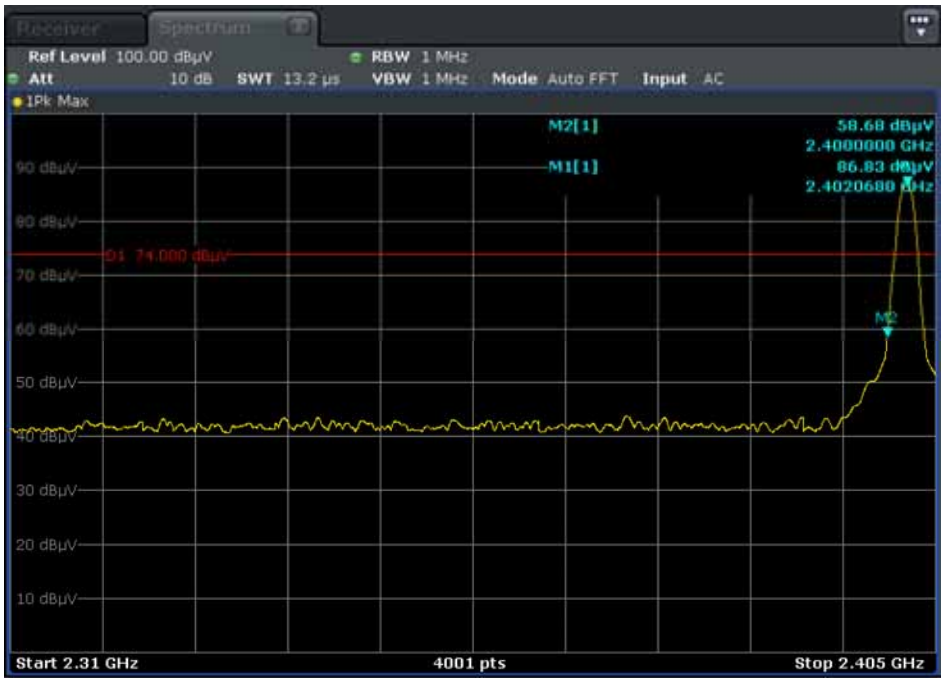
A.9.9, π/4DQPOSK LOW CHANNEL , ANT V, PEAK



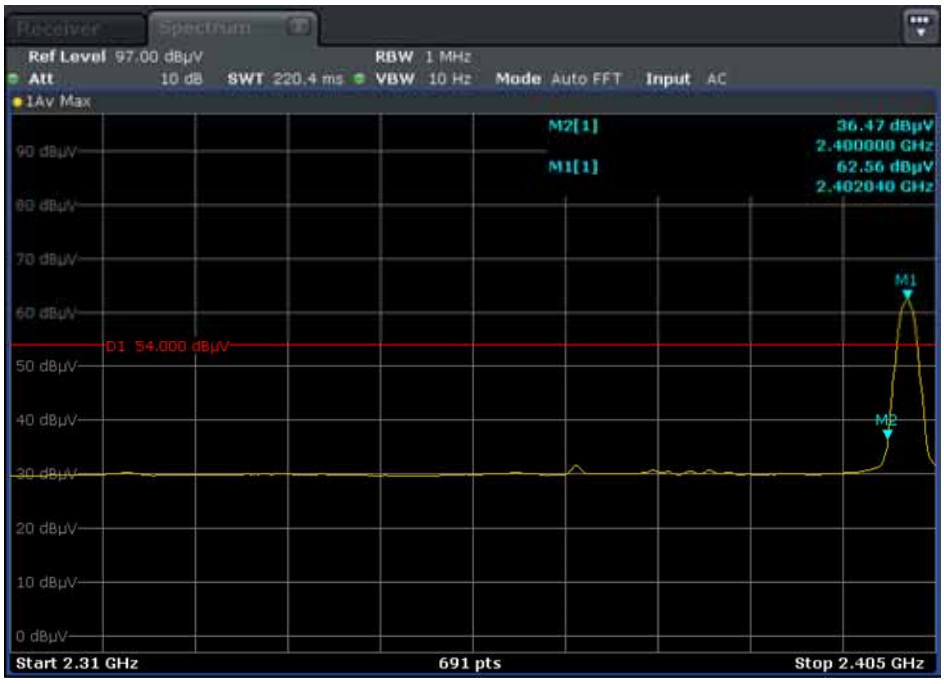
A.9.10, π/4DQPOSK LOW CHANNEL , ANT V, AVERAGE



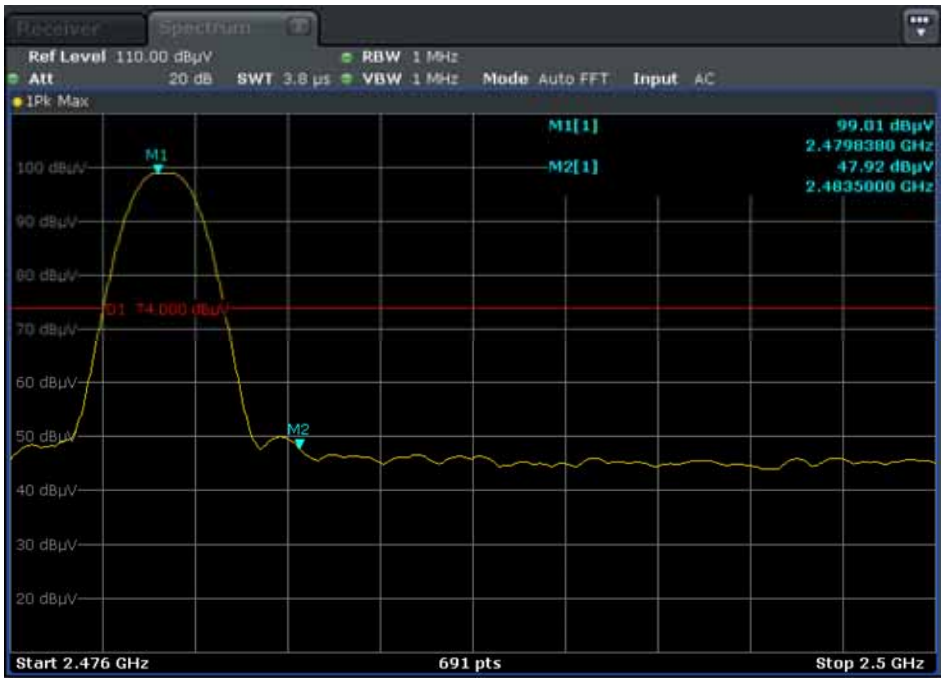
A.9.11, π/4DQPOSK LOW CHANNEL , ANT H, PEAK



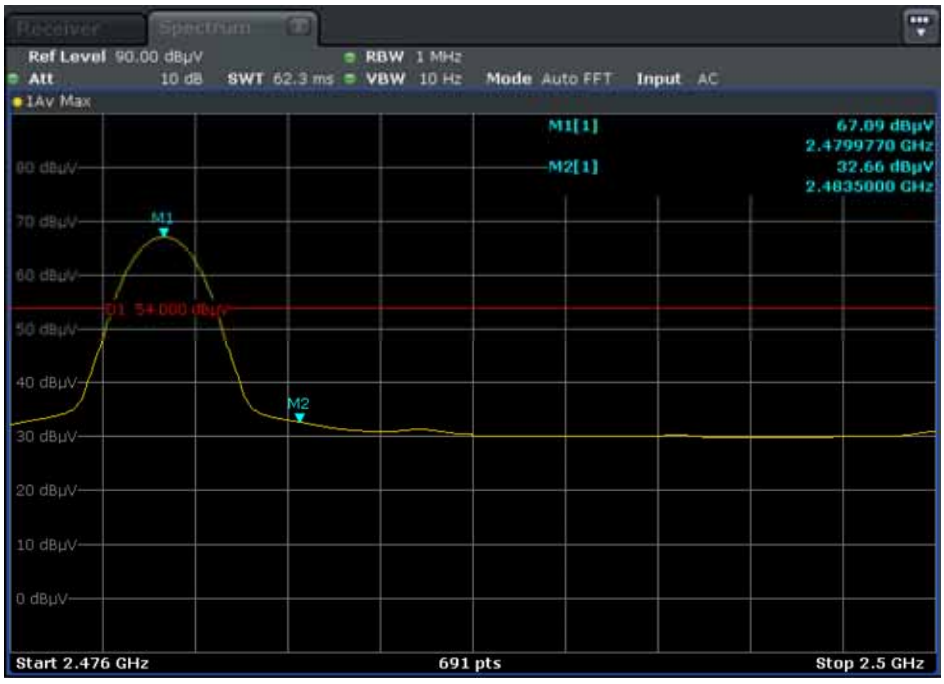
A.9.12, π/4DQPOSK LOW CHANNEL , ANT H, AVERAGE



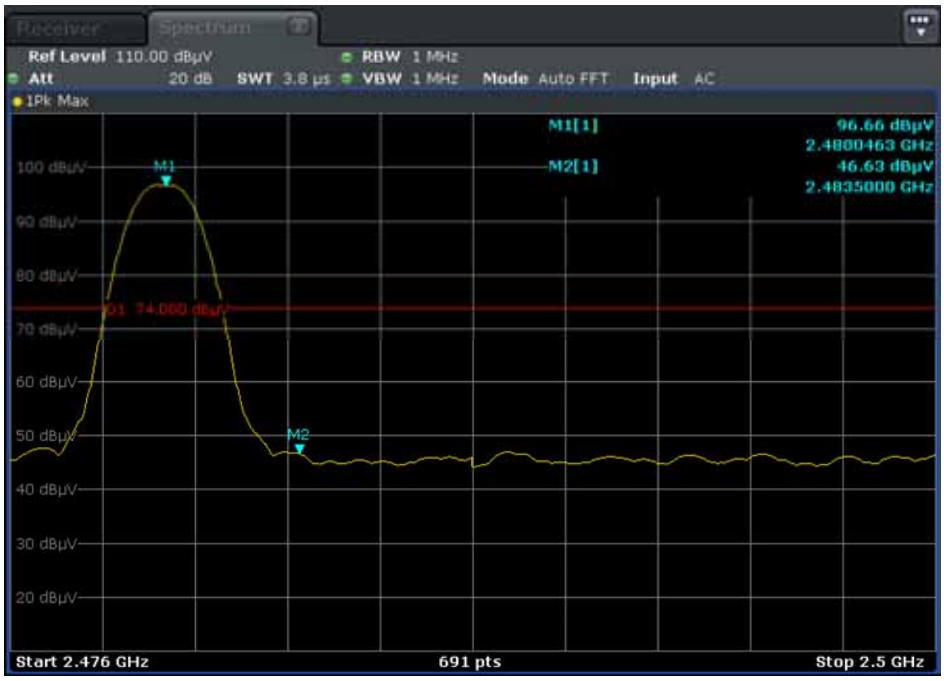
A.9.13, π/4DQPOSK HIGH CHANNEL , ANT V, PEAK



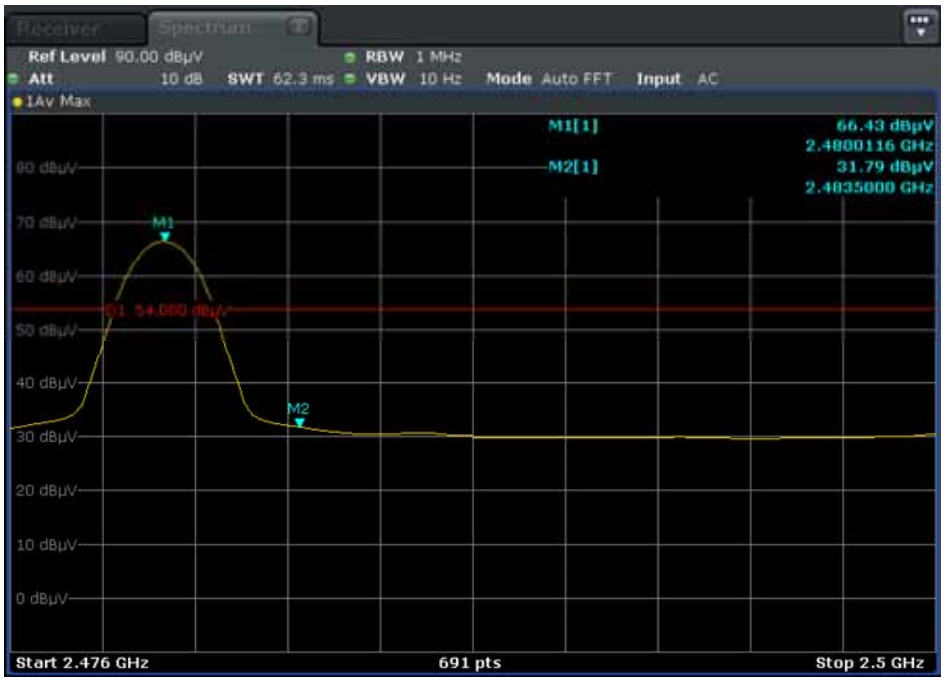
A.9.14, π/4DQPOSK HIGH CHANNEL , ANT V, AVERAGE



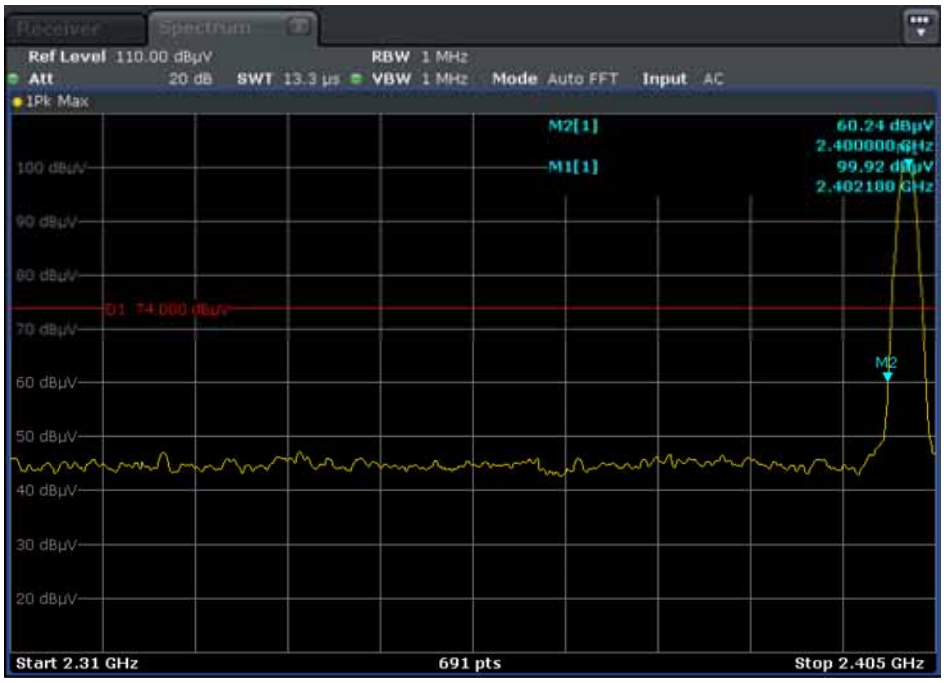
A.9.15, π/4DQPOSK HIGH CHANNEL , ANT H, PEAK



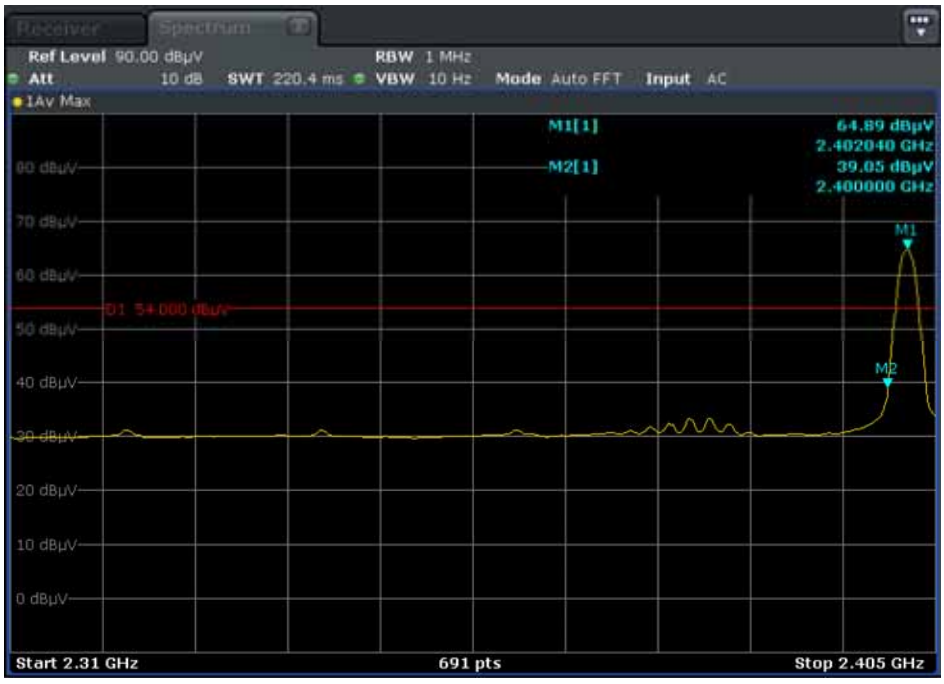
A.9.16, π/4DQPOSK HIGH CHANNEL , ANT H, AVERAGE



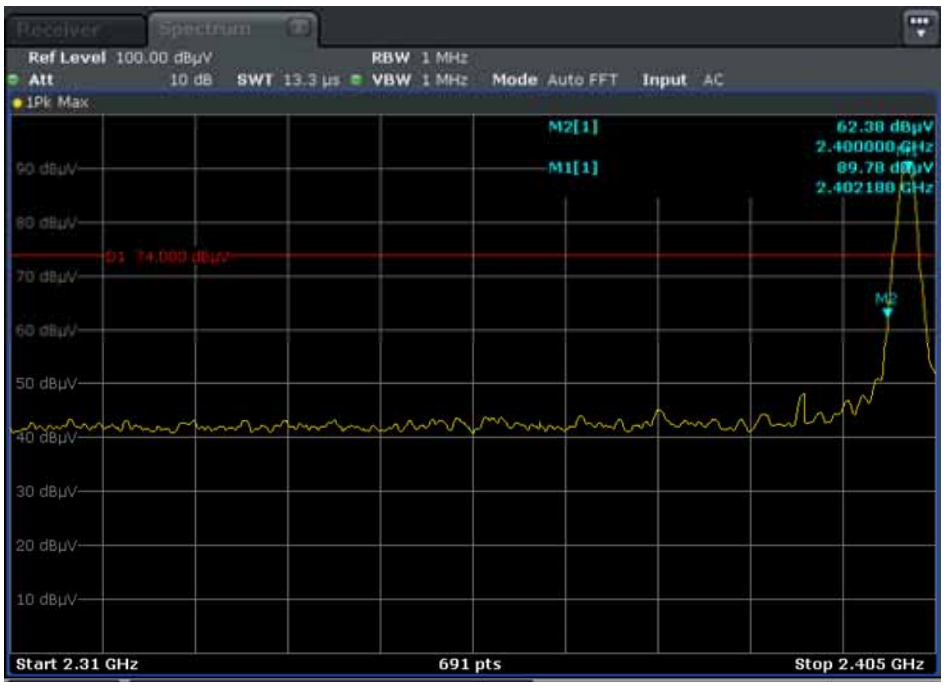
A.9.17, 8-DPSK LOW CHANNEL , ANT V, PEAK



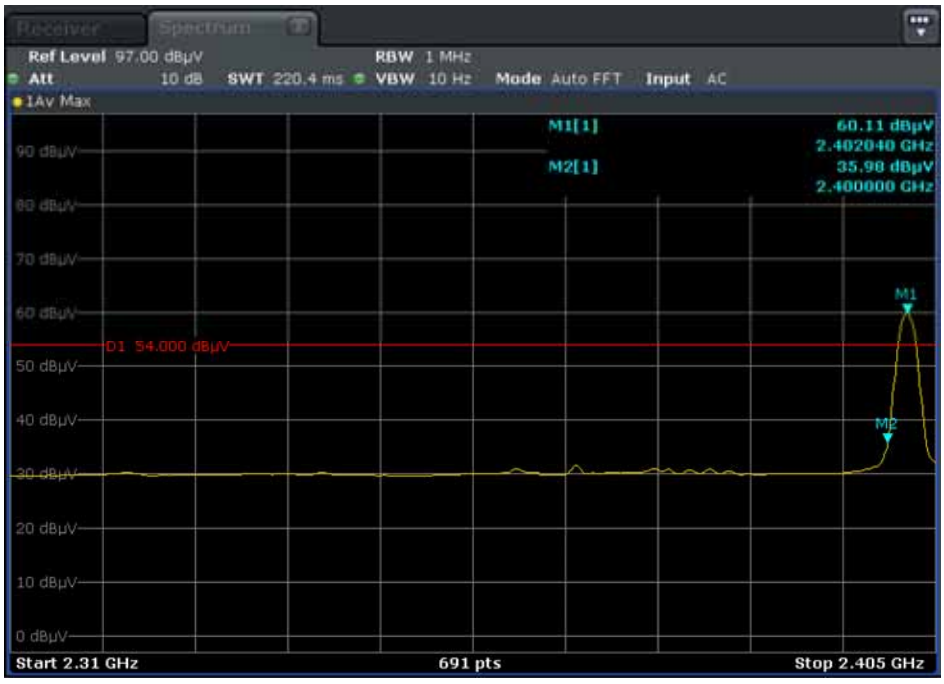
A.9.18, 8-DPSK LOW CHANNEL , ANT V, AVERAGE



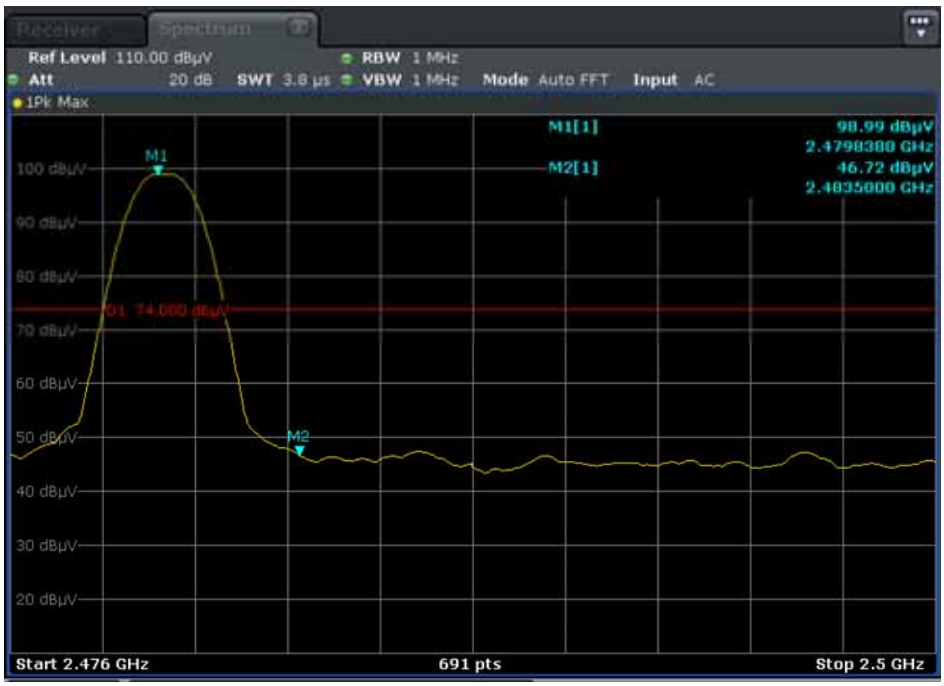
A.9.19, 8-DPSK LOW CHANNEL , ANT H, PEAK



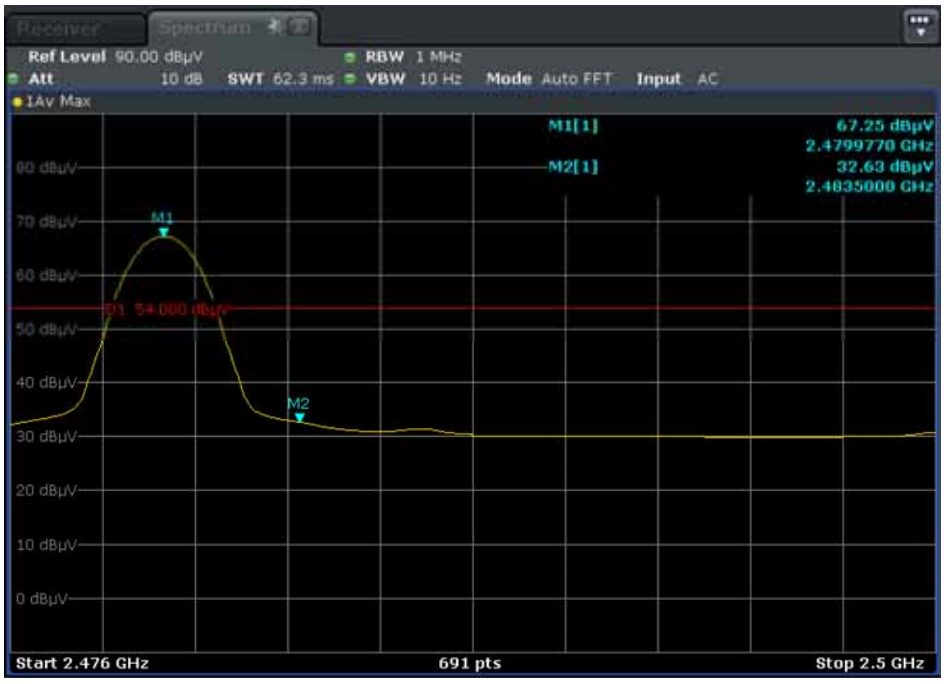
A.9.20, 8-DPSK LOW CHANNEL , ANT H, AVERAGE



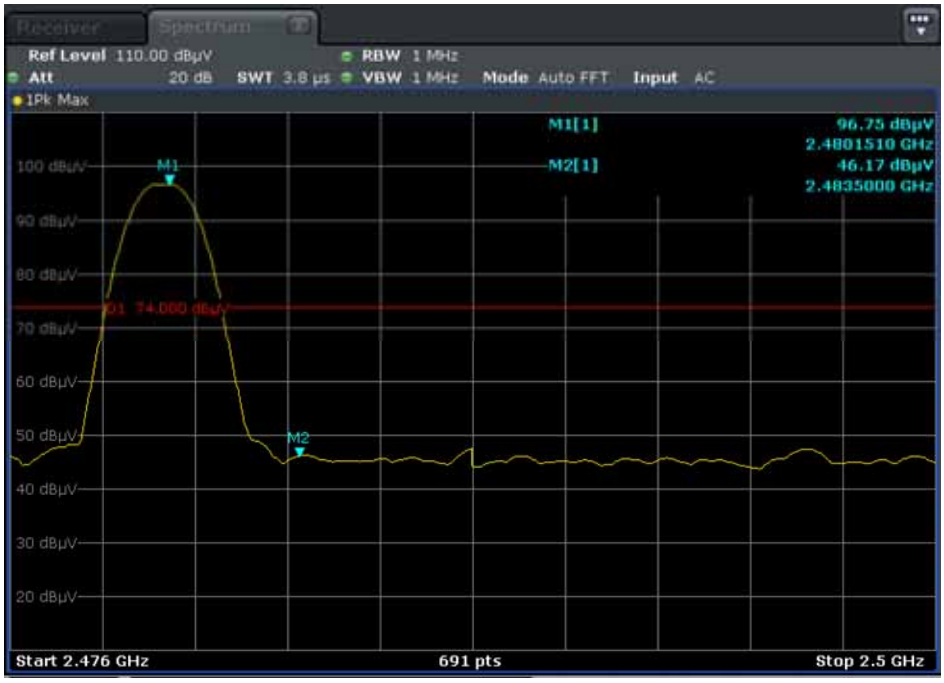
A.9.21, 8-DPSK HIGH CHANNEL , ANT V, PEAK



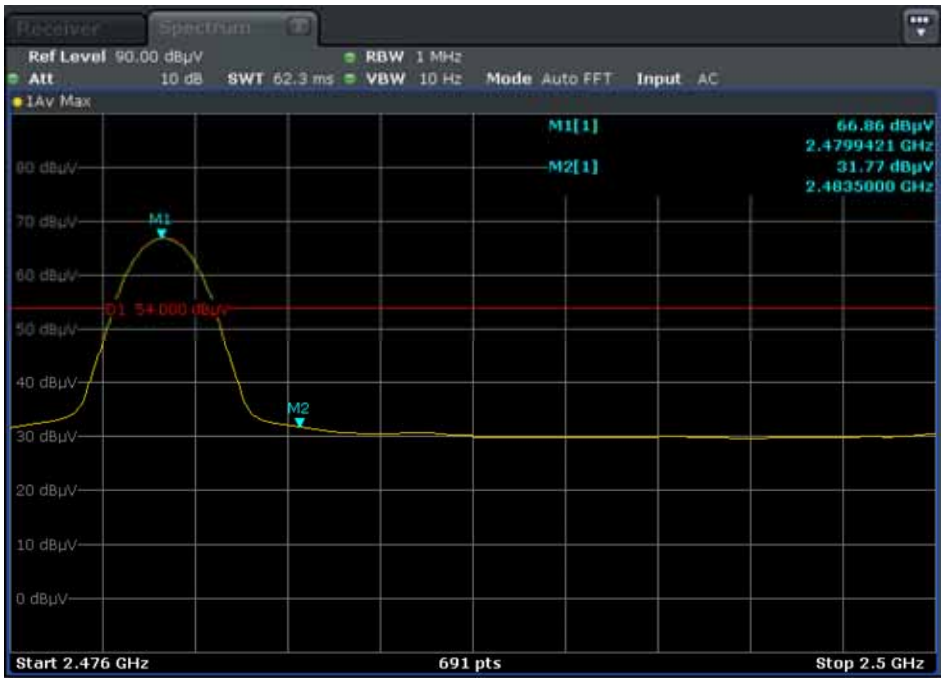
A.9.22, 8-DPSK HIGH CHANNEL , ANT V, AVERAGE



A.9.23, 8-DPSK HIGH CHANNEL , ANT H, PEAK



A.9.24, 8-DPSK HIGH CHANNEL , ANT H, AVERAGE



ANNEX B TEST SETUP PHOTOS

B.1. Conducted Test Photo

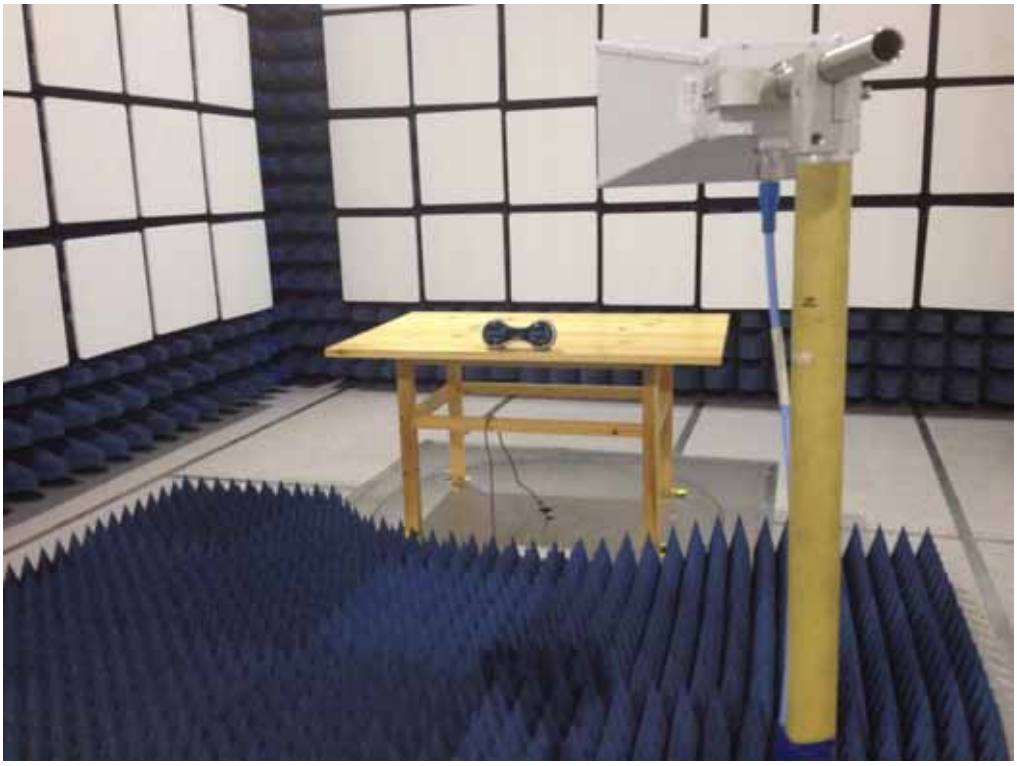
THE BACK OF THE TEST PHOTO

THE FRONT OF THE TEST PHOTO

B.2. Radiated Test Photo

BELOW 30MHZ

30MHz-1GHz

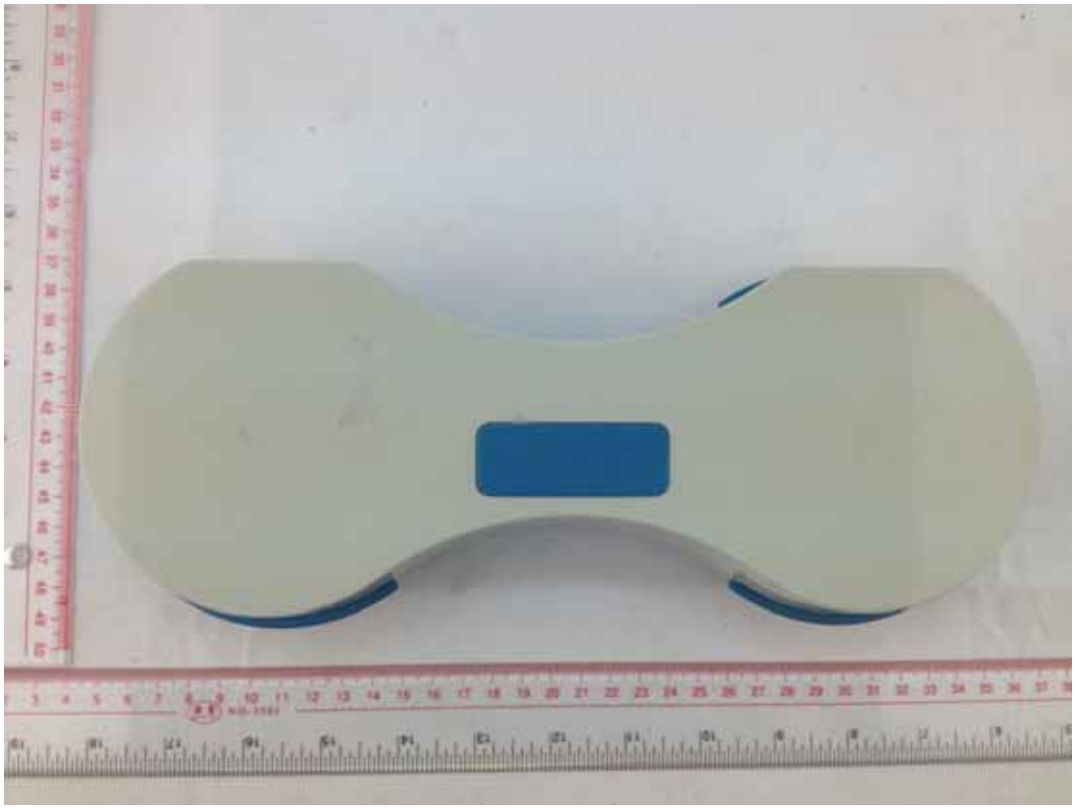


Above 1GHz

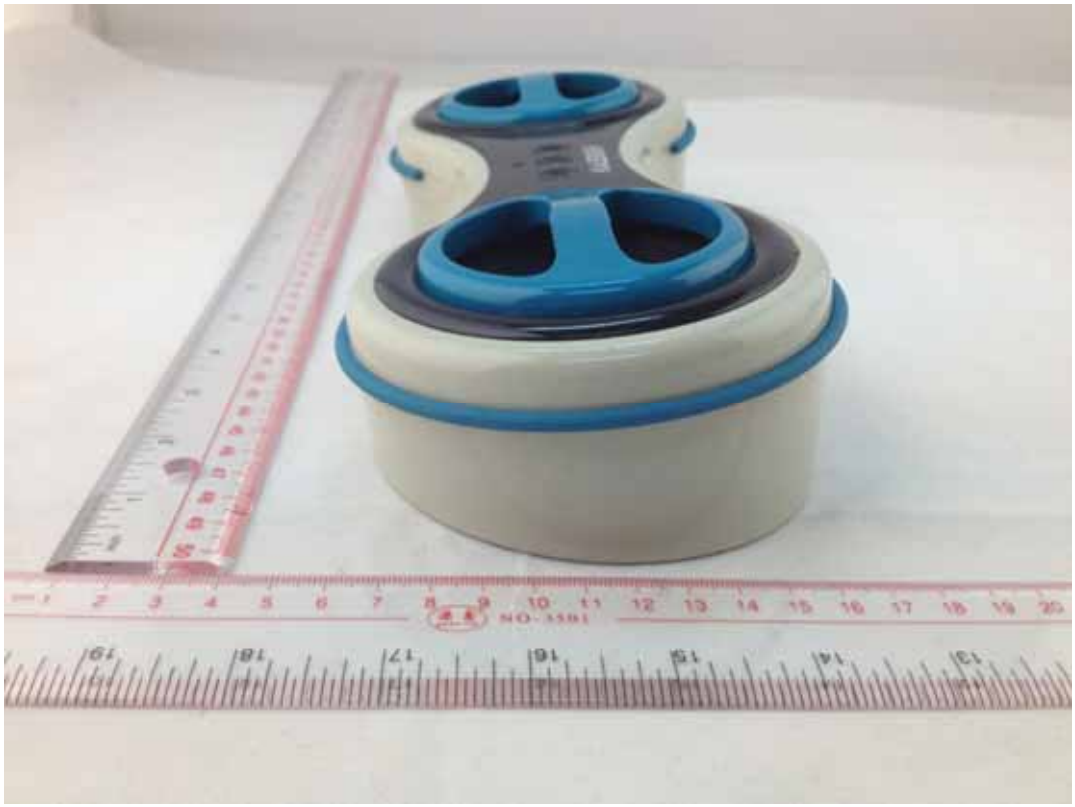
ANNEX C EUT PHOTOS

C.1 Appearance of the EUT

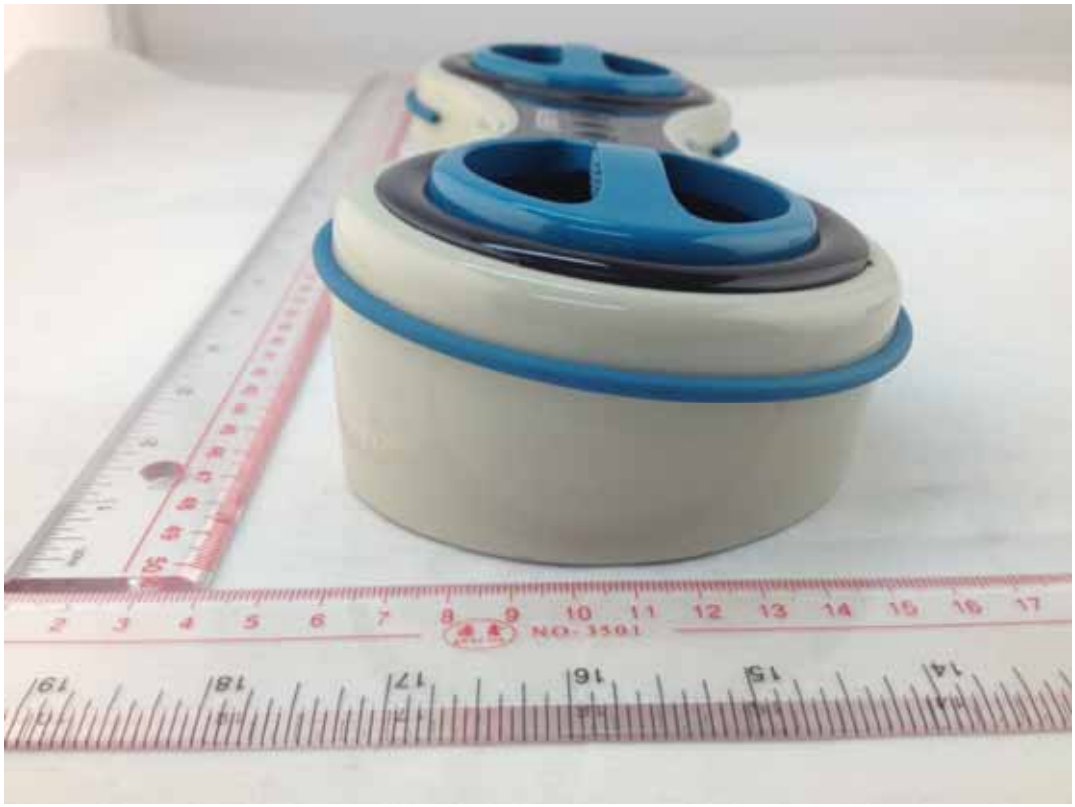
THE FRONT OF EUT



THE BACK OF EUT

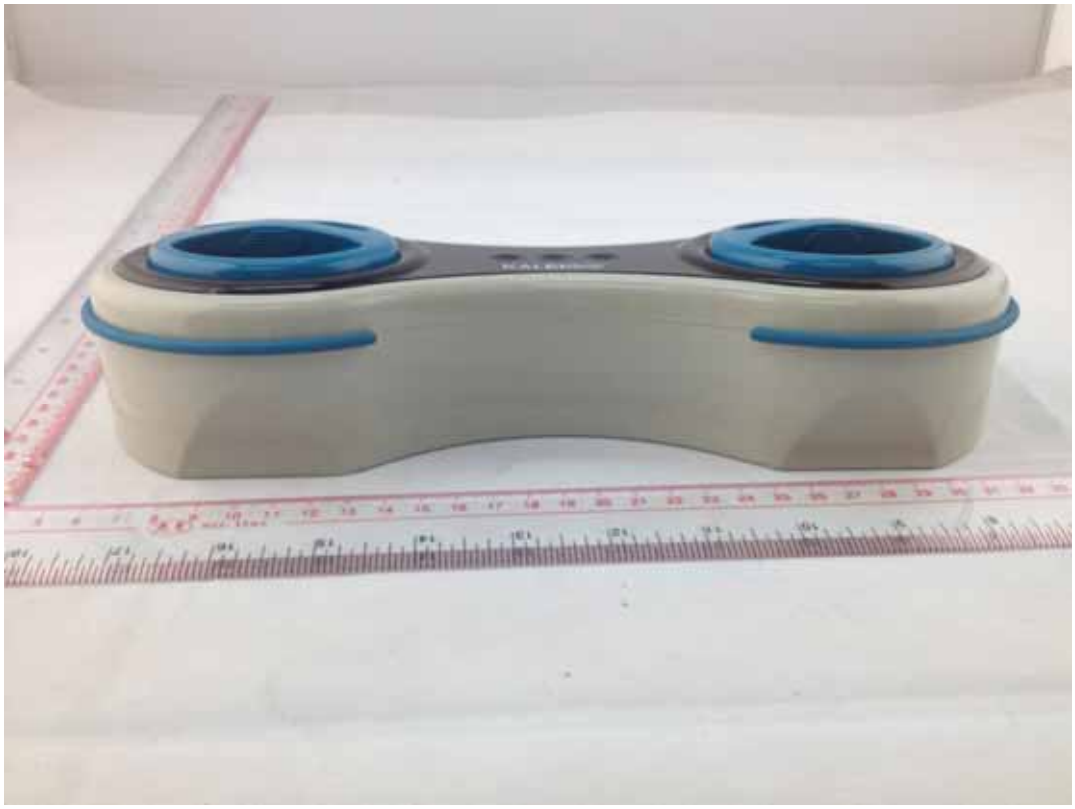


THE LEFT OF EUT



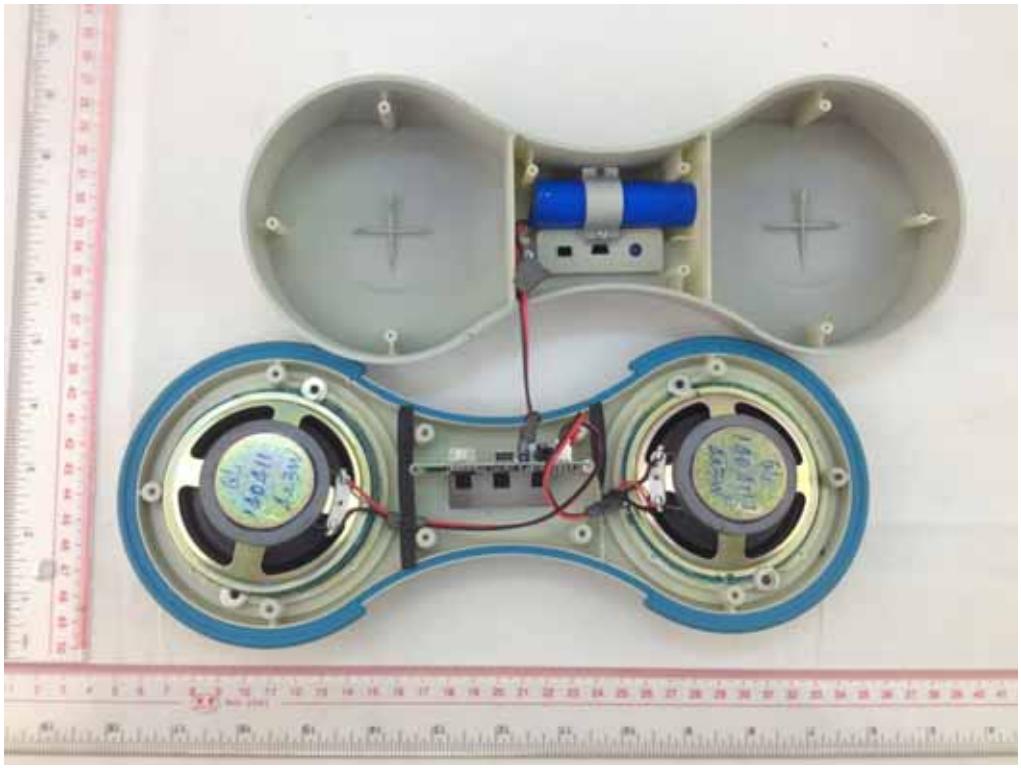
THE RIGHT OF EUT

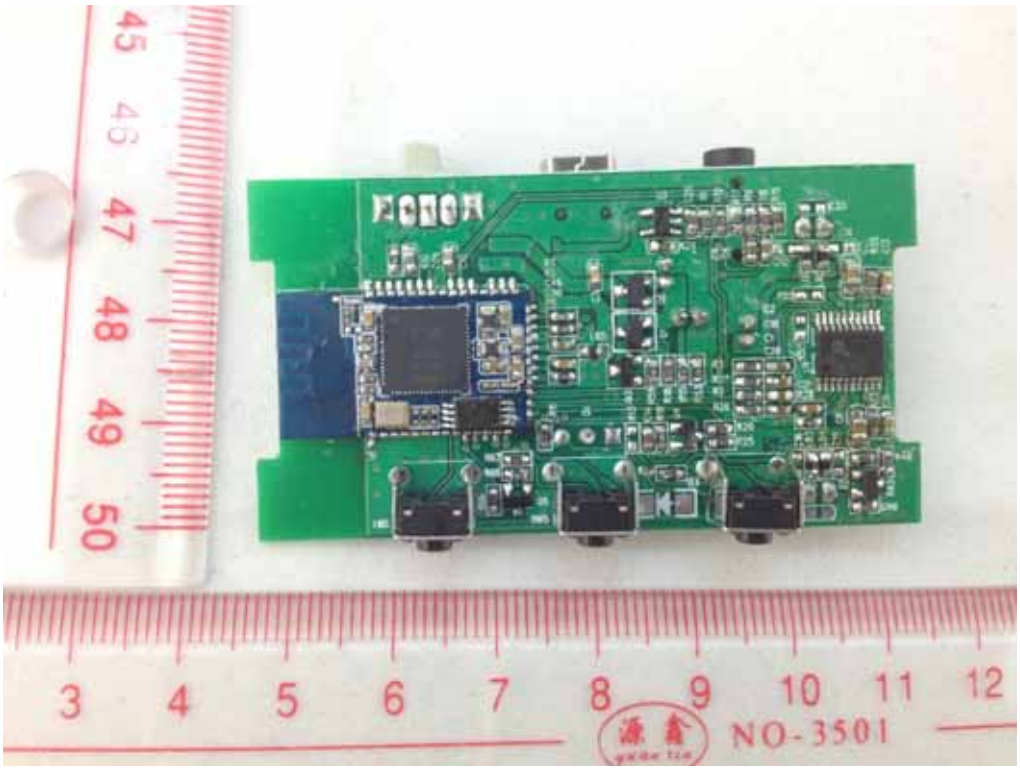
THE UP OF EUT



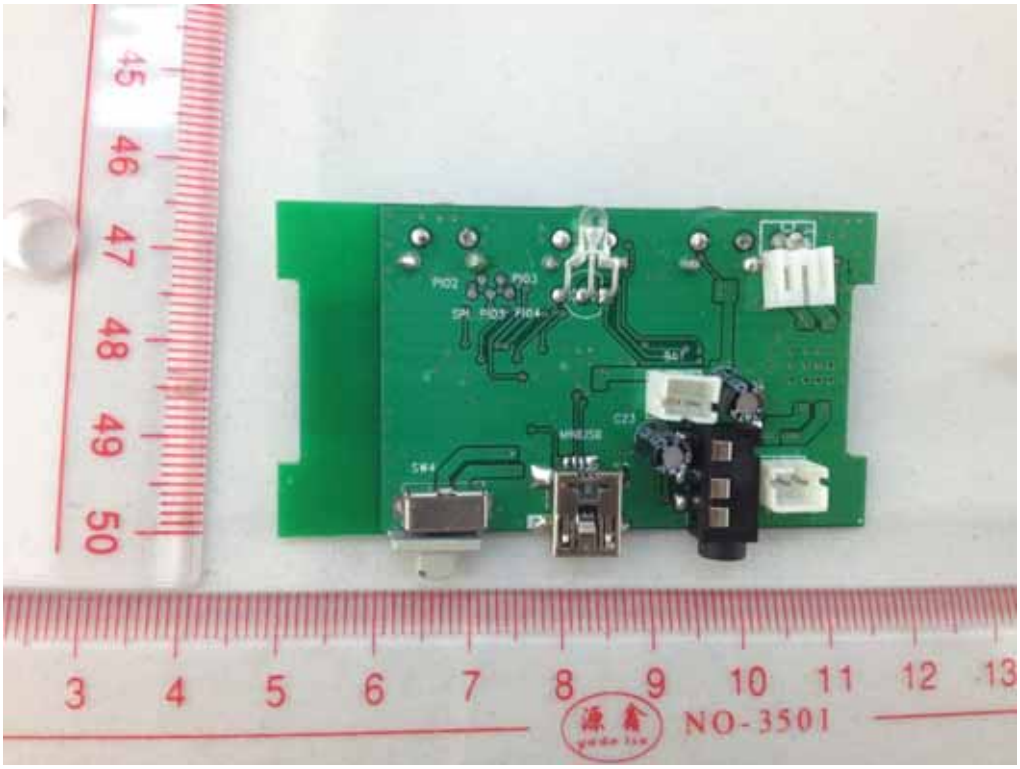
THE DOWN OF EUT

C.2 Inside of the EUT



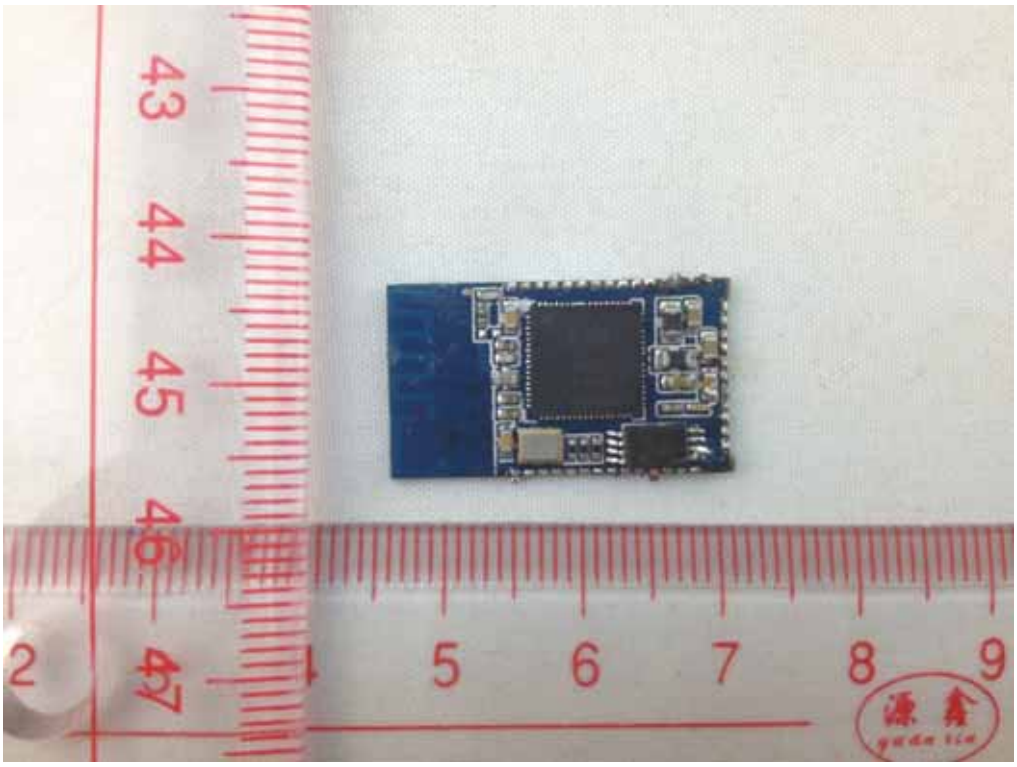


Main Board

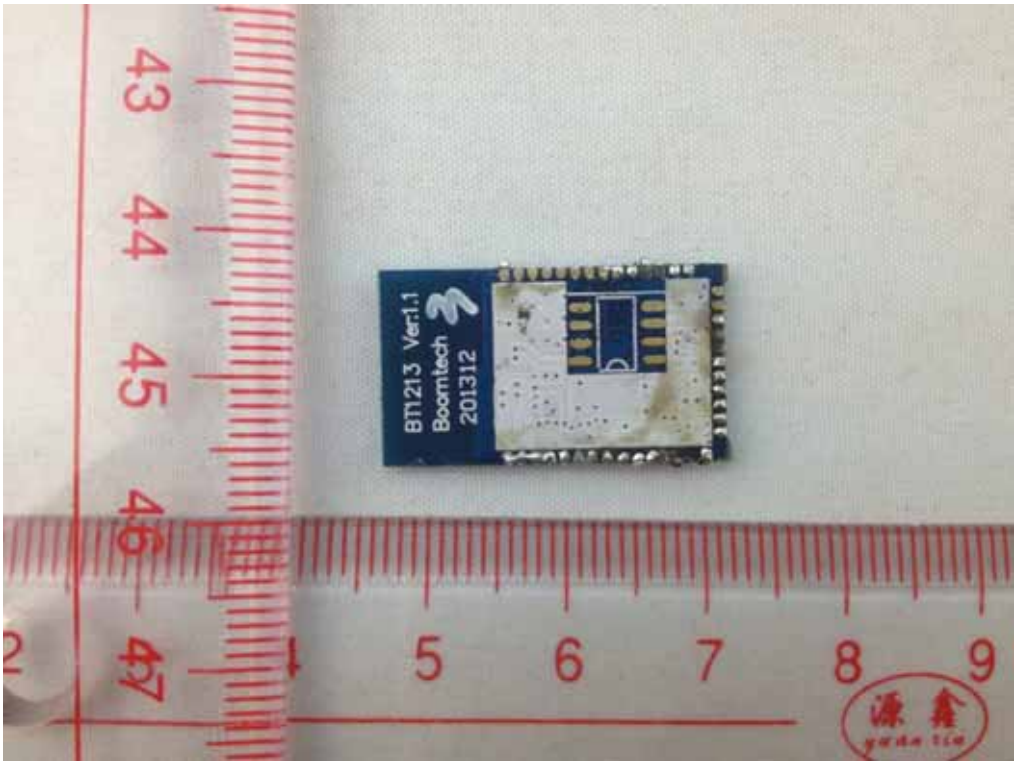


Main Board

Battery



RF Board (FRONT)



RF Board (BACK)

--END OF REPORT--