FCC RF TEST REPORT

ISSUED BY
Shenzhen BALUN Technology Co., Ltd.

FOR
3 Ass't Figurative Decorative Bluetooth Speake-Hulkbuster/ Darth Vader/Storm Trooper

ISSUED TO
Camino International Limited

Flat A, 3rd Floor, International Industrial Building, 501-503 Castle Peak Road, Cheung Sha Wan, Kowloon, Hong Kong

Tested by: Cao Shaodong (Engineer)
Date: Apr. 8, 2016

Approved by: Wei Yanquan (Chief Engineer)
Date: Apr. 8, 2016

Report No.:	BL-SZ15C0136-601
EUT Type:	3 Ass't Figurative Decorative Bluetooth Speake-Hulkbuster/ Darth Vader/Storm Trooper
Model Name:	761403, 761485, 761492, 761481, 761483, 761478, 761484
Brand Name:	N/A
Test Standard:	47 CFR Part 15 Subpart C
FCC ID:	ZZX761074
Test conclusion:	Pass
Test Date:	Mar. 1, 2016 ~ Mar. 7, 2016
Date of Issue:	Apr. 8, 2016

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Revision History

Version	Issue Date	Revisions Content
Rev. 01	Apr. 8, 2016	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 6685 0100
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 is a testing organization accredited by China National Accreditation Service for Conformity Assessment (CNAS) according to ISO/IEC 17025. The accreditation certificate number is L6791.
Description	All measurement facilities used to collect the measurement data are located at Block B, FL 1, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China 518055

1.3 Laboratory Condition

Ambient Temperature	20 to 25℃
Ambient Relative Humidity	45% - 55%
Ambient Pressure	100 kPa - 102 kPa

1.4 Announce

(1) The test report reference to the report template version v2.1.

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

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

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

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

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

2 PRODUCT INFORMATION

2.1 Applicant Information

Applicant	Camino International Limited
Address	Flat A, 3rd Floor, International Industrial Building, 501-503 Castle Peak Road, Cheung Sha Wan, Kowloon, Hong Kong

2.2 Manufacturer Information

Manufacturer	Camino Industrial (Huizhou) Co. Ltd.
Address	Lidong Industrial Estate, Jiutan, Yuanzhou, Boluo, Huizhou, Guangdong, China

2.3 Factory Information

Factory	Camino Industrial (Huizhou) Co. Ltd.
Address	Lidong Industrial Estate, Jiutan, Yuanzhou, Boluo, Huizhou, Guangdong, China

2.4 General Description for Equipment under Test (EUT)

EUT Type	3 Ass't Figurative Decorative Bluetooth Speake-Hulkbuster/ Darth Vader/Storm Trooper
Model Name Under Test	761403, 761481, 761478
Series Model Name	761403, 761485, 761492, 761481, 761483, 761478, 761484
Description of Model name differentiation	The model 761403 and 761485, 761492, 761481, 761483, 761478, 761484 are EUT model. 761403, 761485 and 761492 are Figurative Decorative Bluetooth Speake (Iron Man Mark 44- Hulkbuster); 761481 and 761483 are Figurative Decorative Bluetooth Speake (Star Wars- Darth Vader); 761478 and 761484 are Figurative Decorative Bluetooth Speake (Star Wars- Storm Trooper). Their PCB and function are same, their differences just appearance different color. 761403 (Red), 761481 (Black) and 761478 (White) are the main test simple, their differences just appearance different color and model name.
Hardware Version	N/A
Software Version	N/A
Dimensions (Approx.)	N/A
Weight (Approx.)	N/A
Network and Wireless connectivity	Bluetooth 3.0

2.5 Ancillary Equipment

Ancillary Equipment 1	Charger 1	
	Trade Name	ULLPOWER™ (Logo)
	Model No.	SAW24-090-2500
	Serial No.	N/A
	Rated Input	100-240 V~, 800 mA, 50/60 Hz
	Rated Output	9 V⎓, 2500 mA
Ancillary Equipment 2	Charger 2	
	Trade Name	ULLPOWER™ (Logo)
	Model No.	SAW48-150-2400J
	Serial No.	N/A
	Rated Input	100-240 V~, 1300 mA, 50/60 Hz
	Rated Output	15 V⎓, 2.4 A

Note 1: Their have two types of chargers, all of them were tested in this report. The SAW48-150-2400J as the main for tested and the SAW24-090-2500 as confirmatory test.

2.6 Technical Information

The requirement for the following technical information of the EUT was tested in this report:

Modulation Technology	FHSS
Modulation Type	GFSK, ∏/4-DQPSK, 8-DPSK
Transfer Rate	1 Mbps, 2 Mbps, 3 Mbps
Frequency Range	The frequency range used is 2402 MHz – 2480 MHz; The frequency block is 2400 MHz to 2483.5 MHz.
Number of channel	79 (at intervals of 1 MHz)
Tested Channel	0 (2402 MHz), 39 (2441 MHz), 78 (2480 MHz).
Antenna Type	PCB Antenna
Antenna Gain	0 dBi (All involve the antenna gain test item, has been included in the final results)
About the Product	The equipment contains Bluetooth 3.0 operating at 2.4 GHz ISM band. The Bluetooth 3.0 was tested in this report.

2.7 Additional Instructions

EUT Software Settings:

Mode	☒ Bluetooth test mode loop back enabled. EUT is controlled over CBT / CMU.

3 SUMMARY OF TEST RESULTS

3.1 Test Standards

No.	Identity	Document Title
1	47 CFR Part 15, Subpart C (10-1-14 Edition)	Intentional Radiators
2	ANSI C63.10-2013	American National Standard for Testing Unlicensed Wireless Devices

3.2 Verdict

No.	Description	FCC Part No.	Test Result	Verdict
1	Antenna Requirement	15.203	--	Pass Note1
2	20 dB Bandwidth	15.215(c)	ANNEX A.1	Pass
3	Conducted Emission	15.207	ANNEX A.2	Pass
4	Radiated Spurious Emission	15.249(a)	ANNEX A.3	Pass
5	Band Edge	15.249(a)	ANNEX A.4	Pass
Note 1: The EUT has a permanently and irreplaceable attached antenna, which complies with the requirement FCC 15.203.				

4 GENERAL TEST CONFIGURATIONS

4.1 Test Environments

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

Relative Humidity	45% - 55%	
Atmospheric Pressure	100 kPa - 102 kPa	
Temperature	NT (Normal Temperature)	+22℃ to +25℃
Working Voltage of the EUT	NV (Normal Voltage)	120 V/ 60 Hz 240 V/ 50 Hz

4.2 Test Equipment List

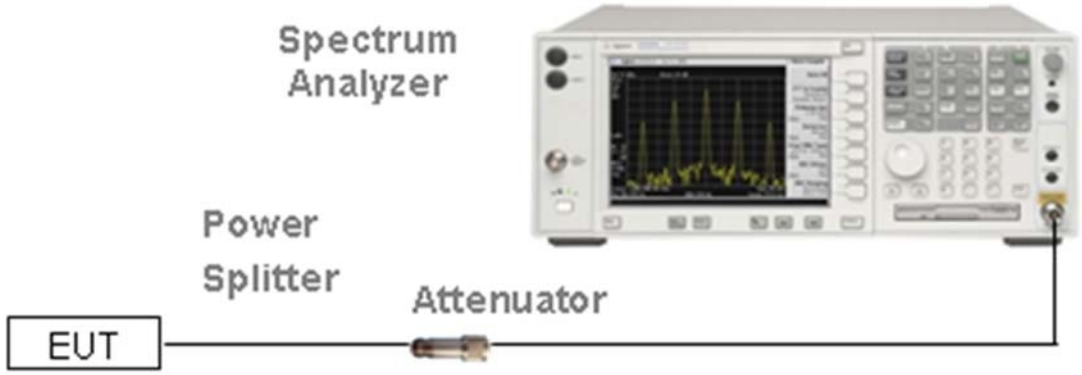
Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
Spectrum Analyzer	ROHDE&SCHWARZ	FSV-30	103118	2015.07.16	2016.07.15
Vector Signal Generator	ROHDE&SCHWARZ	SMBV100A	177746	2015.07.16	2016.07.15
Signal Generator	ROHDE&SCHWARZ	SMB100A	260592	2015.07.01	2016.06.30
Switch Unit with OSP-B157	ROHDE&SCHWARZ	OSP120	101270	2015.07.16	2016.07.15
Spectrum Analyzer	AGILENT	E4440A	MY45304434	2015.10.18	2016.10.17
EMI Receiver	ROHDE&SCHWARZ	ESRP	101036	2015.07.14	2016.07.13
LISN	SCHWARZBECK	NSLK 8127	8127-687	2015.07.14	2016.07.13
Bluetooth Tester	ROHDE&SCHWARZ	CBT	101005	2015.07.16	2016.07.15
Power Splitter	KMW	DCPD-LDC	1305003215	2015.07.01	2016.06.30
Power Sensor	ROHDE&SCHWARZ	NRP-Z21	103971	2015.07.21	2016.07.20
Attenuator (20 dB)	KMW	ZA-S1-201	110617091	--	--
Attenuator (6 dB)	KMW	ZA-S1-61	1305003189	--	--
DC Power Supply	ROHDE&SCHWARZ	HMP2020	018141664	2015.07.17	2016.07.16
Temperature Chamber	ANGELANTIONI SCIENCE	NTH64-40A	1310	2015.08.07	2016.08.06
Test Antenna-Loop(9 kHz-30 MHz)	SCHWARZBECK	FMZB 1519	1519-037	2015.07.22	2017.07.21
Test Antenna-Bi-Log(30 MHz-3 GHz)	SCHWARZBECK	VULB 9163	9163-624	2015.07.22	2017.07.21
Test Antenna-Horn(1-18 GHz)	SCHWARZBECK	BBHA 9120D	9120D-1148	2015.07.22	2017.07.21
Test Antenna-Horn(15-26.5 GHz)	SCHWARZBECK	BBHA 9170	9170-305	2015.07.22	2017.07.21
Anechoic Chamber	RAINFORD	9m*6m*6m	N/A	2015.02.28	2017.02.27
Shielded Enclosure	ChangNing	CN-130701	130703	--	--

4.3 Test Configurations

Test Configurations (TC) NO.	Description	
	Signal Description	Operating Frequency
Transmitter		
TC01	GFSK modulation	2480 MHz

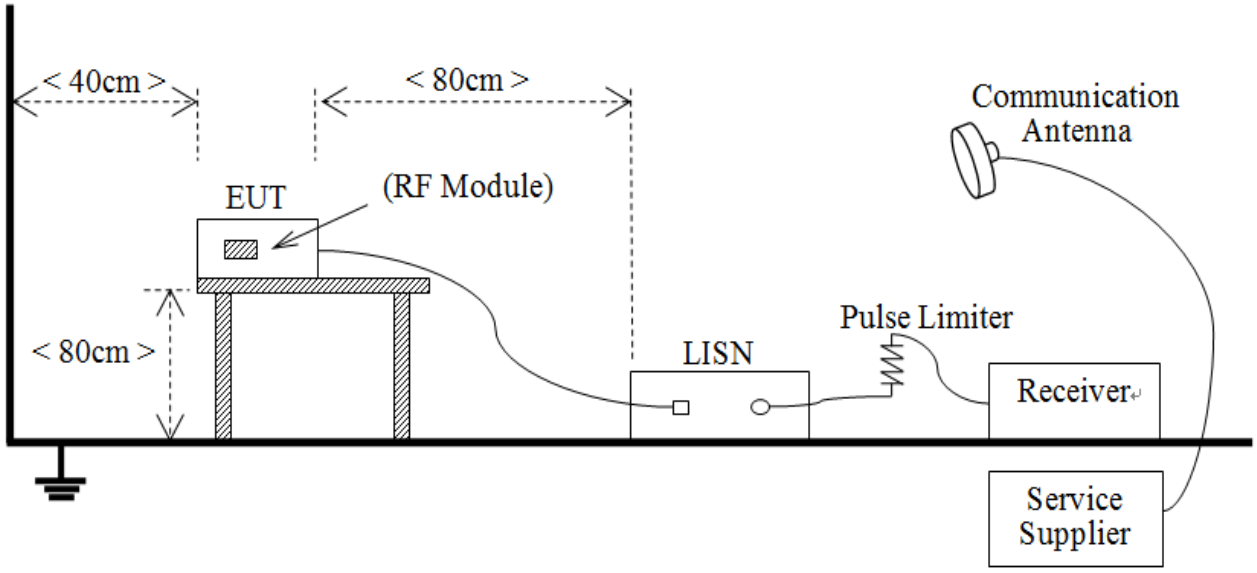
4.4 Description of Test Setup

4.4.1 For Antenna Port Test



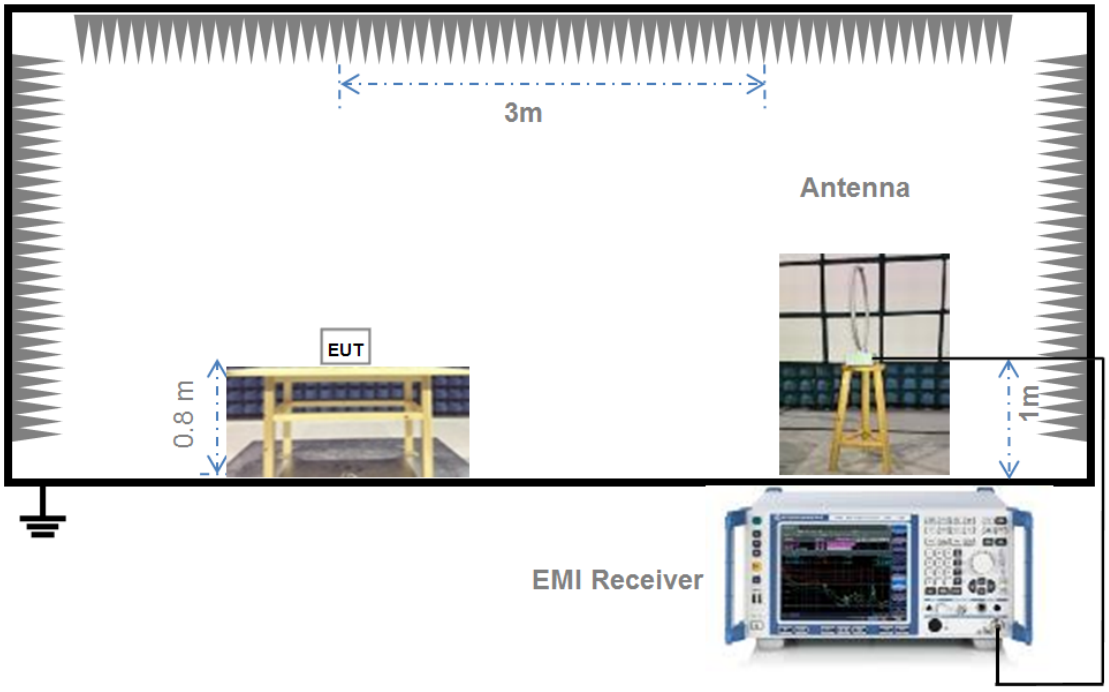
(Diagram 1)

4.4.2 For AC Power Supply Port Test



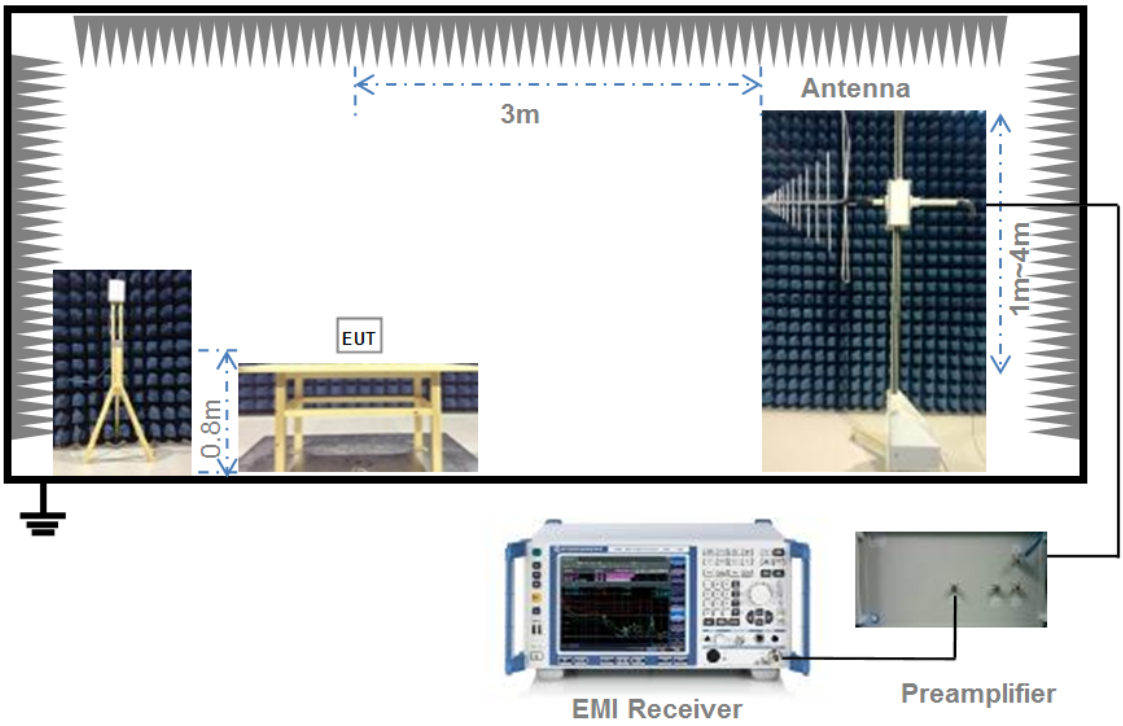
(Diagram 2)

4.4.3 For Radiated Test (Below 30 MHz)



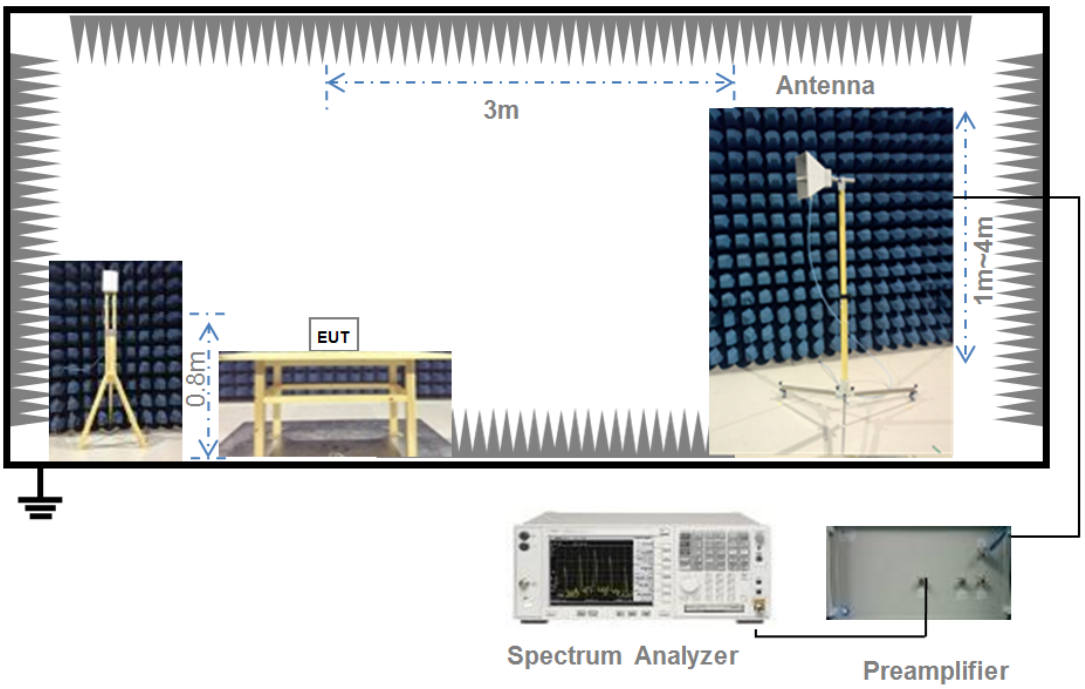
(Diagram 3)

4.4.4 For Radiated Test (30 MHz-1 GHz)



(Diagram 4)

4.4.5 For Radiated Test (Above 1 GHz)



(Diagram 5)

4.5 Test Conditions

Test Case	Test Conditions		
	Test Env.	Test Setup Note 1	Test Configuration Note 2
20dB Bandwidth	NTNV	Test Setup 1	TC01
Conducted Emission	NTNV	Test Setup 2	TC01
Radiated Emission	NTNV	Test Setup 3 Test Setup 4 Test Setup 5	TC01
Band Edge	NTNV	Test Setup 5	TC01
Note: 1. Please refer to section 4.4 for test setup details. 2. Please refer to section 4.3 for test configuration details.			

5 TEST ITEMS

5.1 Antenna Requirements

5.1.1 Standard Applicable

FCC §15.203 & 15.247(b)

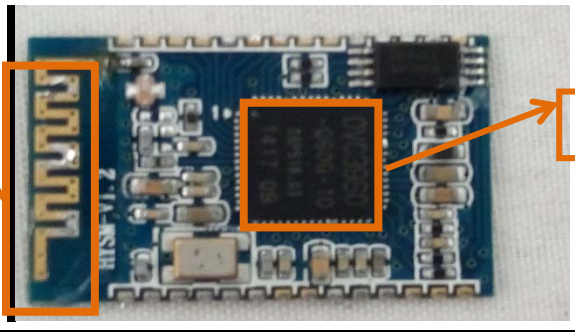
An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply 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 6 dBi, the power shall be reduced by the same level in dB comparing to gain minus 6 dBi. For the fixed point-to-point operation, the power shall be reduced by one dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the FCC rule.

5.1.2 Antenna Anti-Replacement Construction

The Antenna Anti-Replacement as following method:

Protected Method	Description
The antenna is 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 20 dB Bandwidth

5.2.1 Limit

FCC §15.215(c)

Intentional radiators operating under the alternative provisions to the general emission limits, as contained in §§ 15.217 through 15.257 and in Subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated.

5.2.2 Test Setups

See section 4.1.1 for test setup description for the antenna port. The photo of test setup please refer to ANNEX B.

5.2.3 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

5.2.4 Test Result

Please refer to ANNEX A.1.

5.3 Conducted Emission

5.3.1 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 150 kHz to 30 MHz 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

5.3.2 Test Setups

See section 4.1.1 for test setup description for the antenna port. The photo of test setup please refer to ANNEX B.

5.3.3 Test Procedure

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

Note: this device powered by battery, conducted emission at main port is not request.

5.3.4 Test Result

Please refer to ANNEX A.2.

5.4 Radiated Spurious Emission

5.4.1 Limit

FCC §15.249(a)

Except as provided in paragraph (a) of this section, the field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following:

Frequency (MHz)	Field Strength of Fundamental (mV/m)	Field Strength of Harmonics (μV/m)
902-928	50	500
2400-2483.5	50	500
5725-5875	50	500
24000-24250	250	2500

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

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

5.4.2 Test Setups

See section 4.1.2-4.4.5 for test setup description for the antenna port. The photo of test setup please refer to ANNEX B.

5.4.3 Test Procedure

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

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

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

5.4.4 Test Result

Please refer to ANNEX A.3.

5.5 Band Edge

5.5.1 Limit

FCC §15.249(a)

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

5.5.2 Test Setups

See section 4.1.1 for test setup description for the antenna port. The photo of test setup please refer to ANNEX B.

5.5.3 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

5.5.4 Test Result

Please refer to ANNEX A.4.

ANNEX A TEST RESULT

A.1 20dB bandwidth

Test Data

GFSK Mode:

Channel	20 dB Bandwidth (MHz)	99% Bandwidth (kHz)
Low	1.113	955.5398
Middle	1.116	955.1082
High	1.112	949.0448

∏/4-DQPSK Mode:

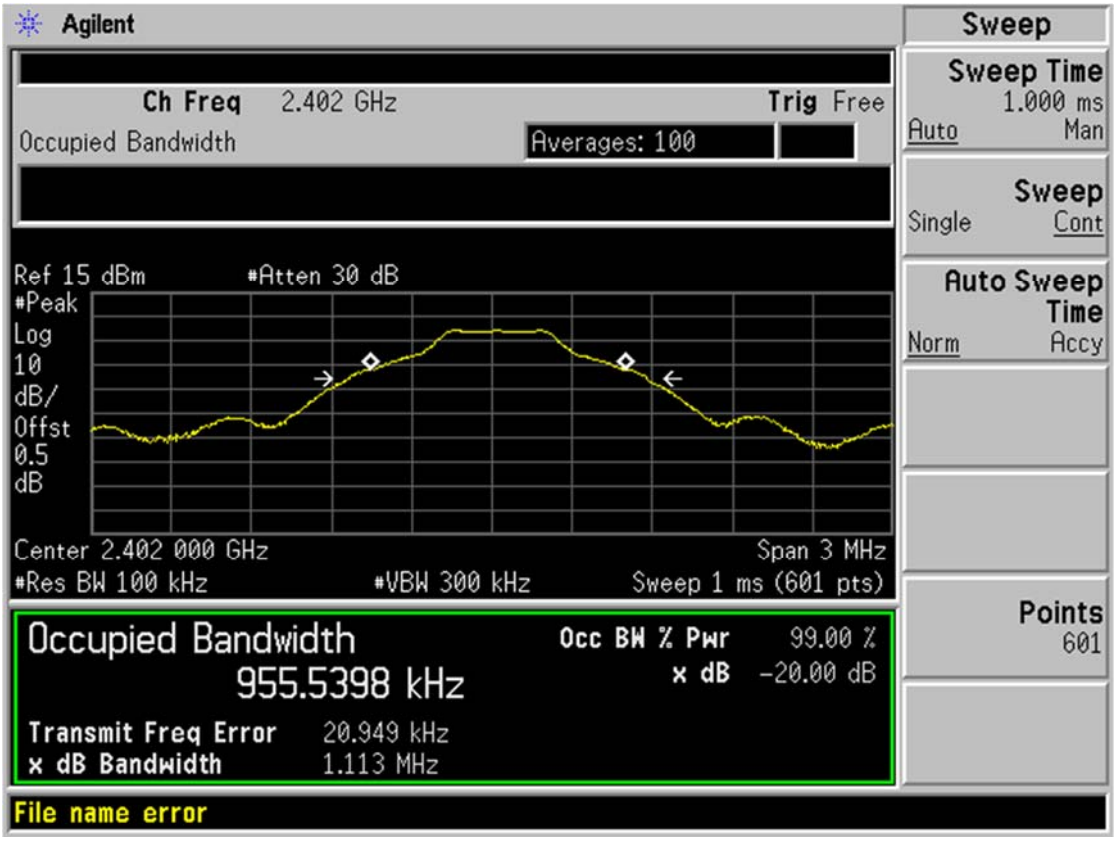
Channel	20 dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	1.412	1.2750
Middle	1.404	1.2546
High	1.406	1.2545

8-DPSK Mode:

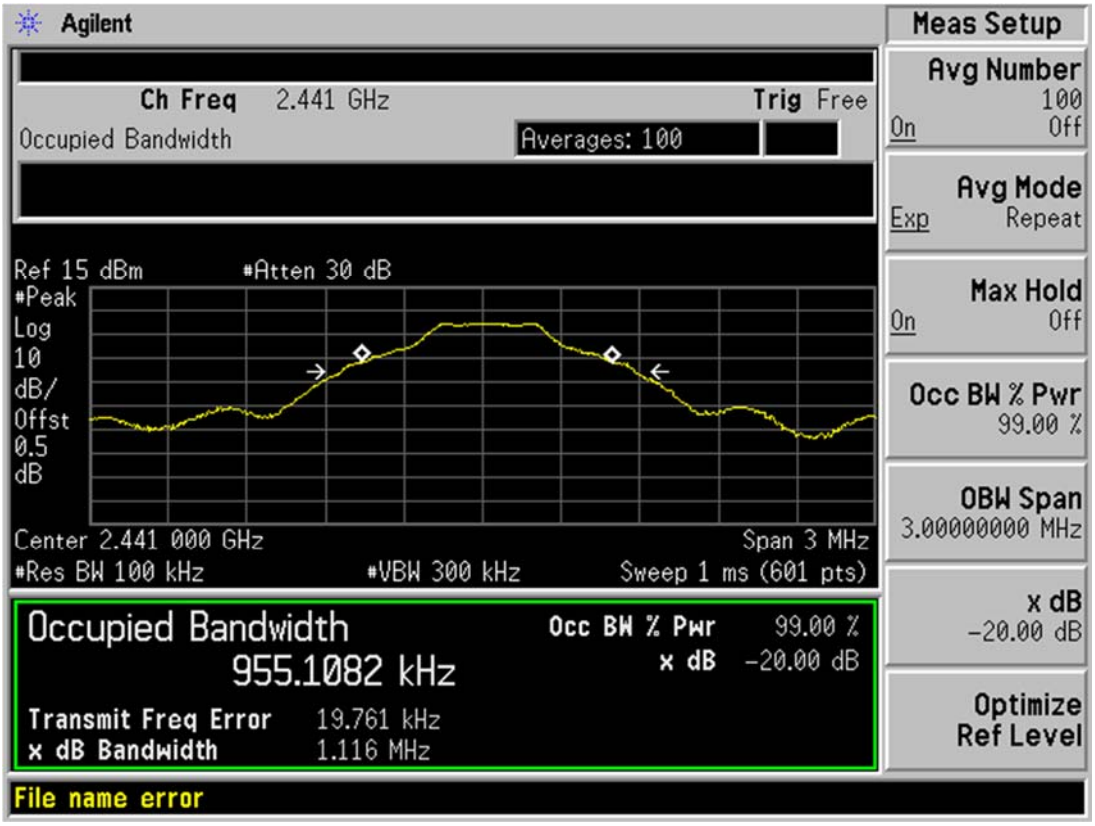
Channel	20 dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	1.412	1.2420
Middle	1.403	1.2353
High	1.402	1.2358

Test plots

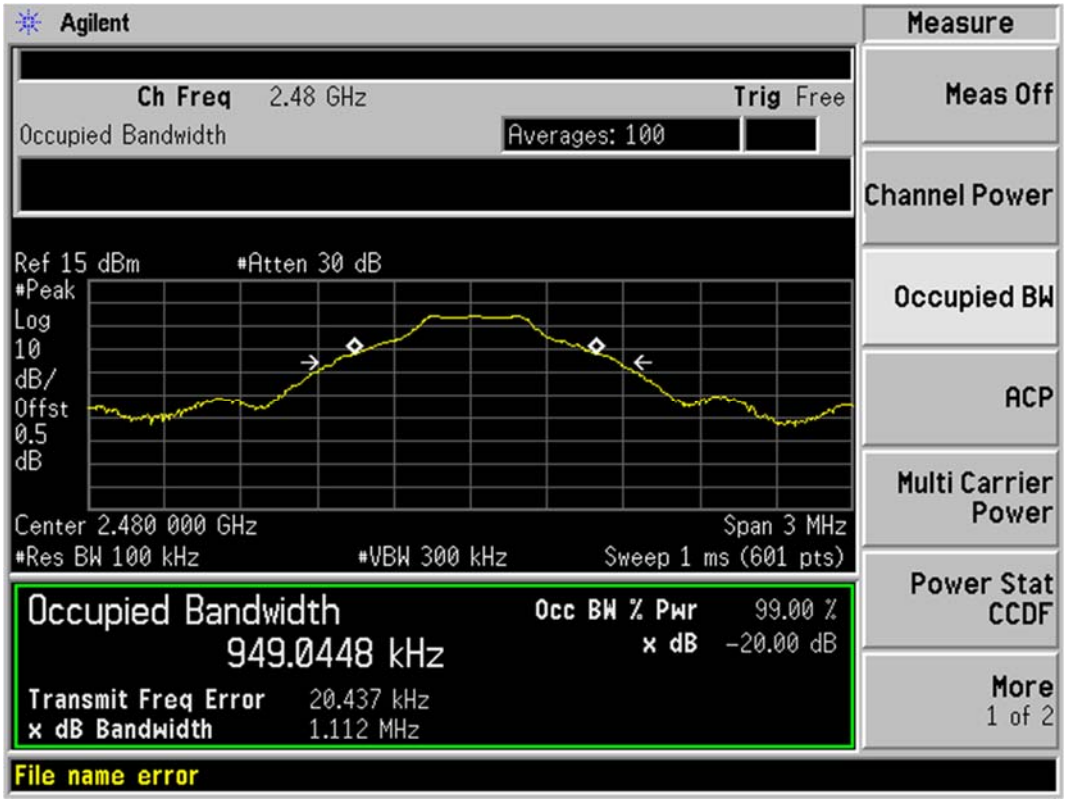
GFSK LOW CHANNEL



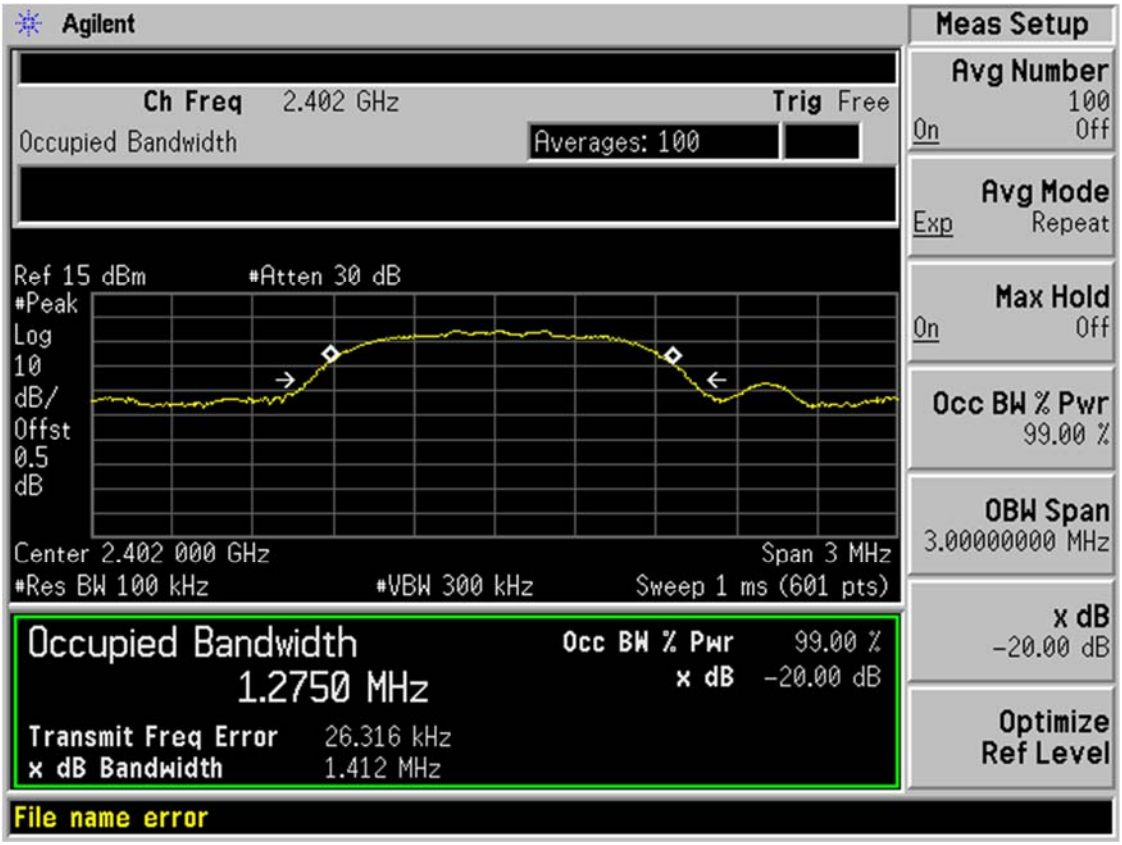
GFSK MIDDLE CHANNEL



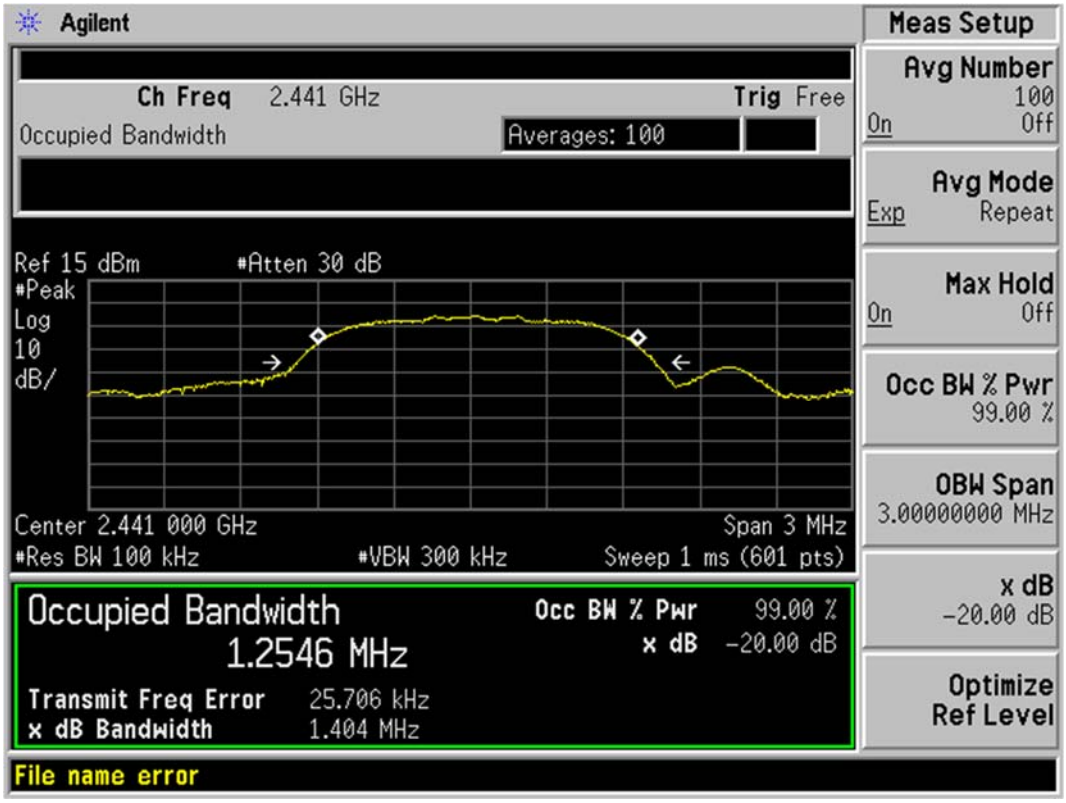
GFSK HIGH CHANNEL



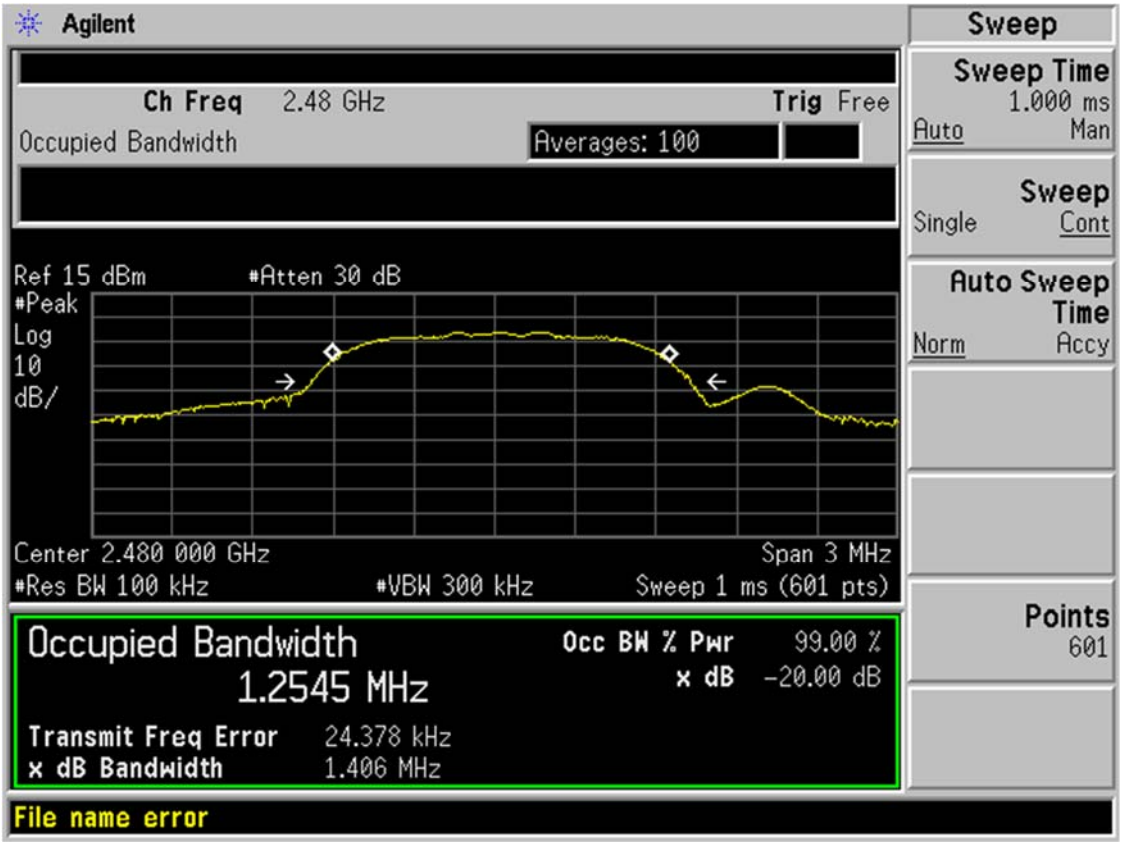
∏/4-DQPSK LOW CHANNEL



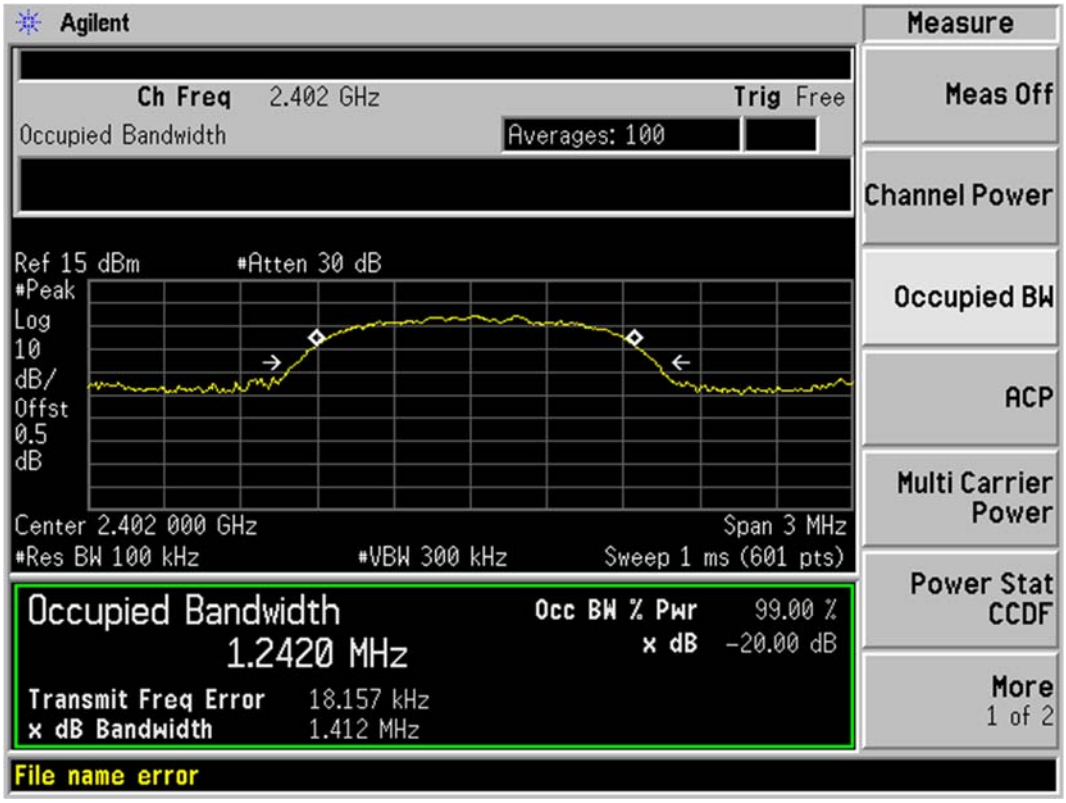
∏/4-DQPSK MIDDLE CHANNEL



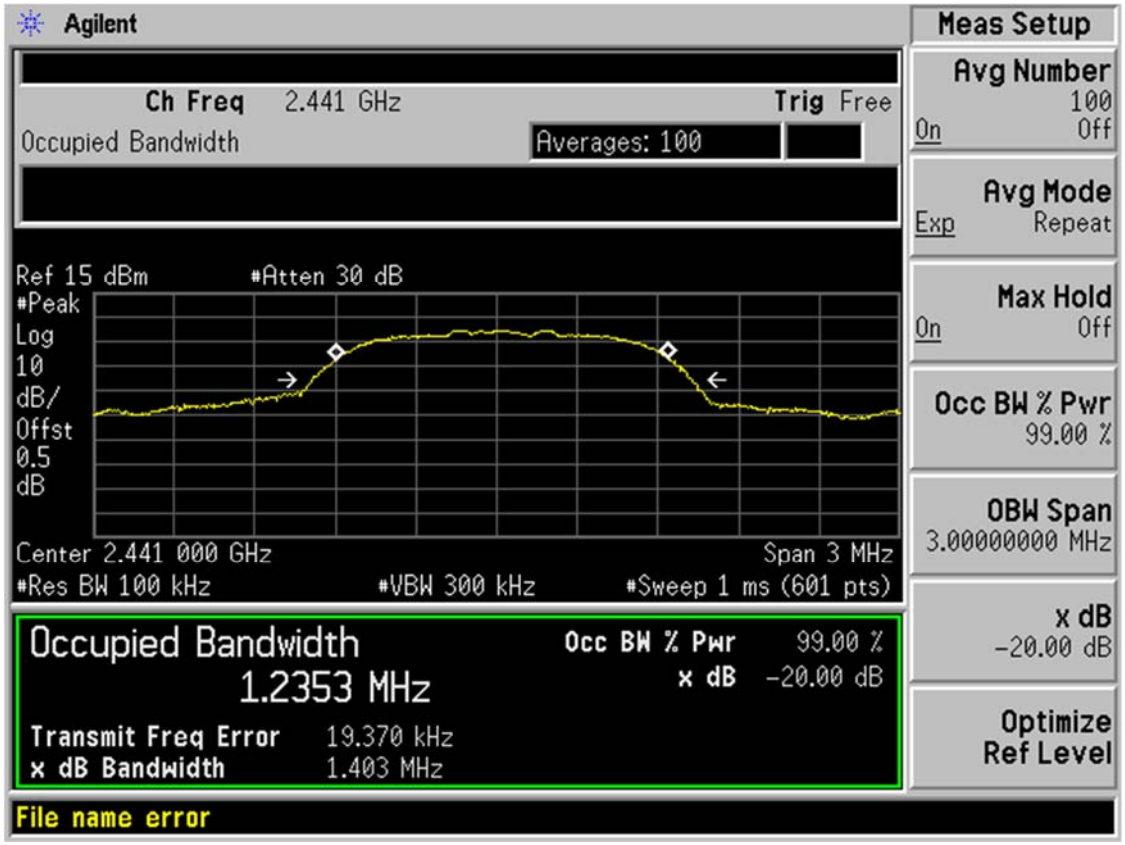
∏/4-DQPSK HIGH CHANNEL



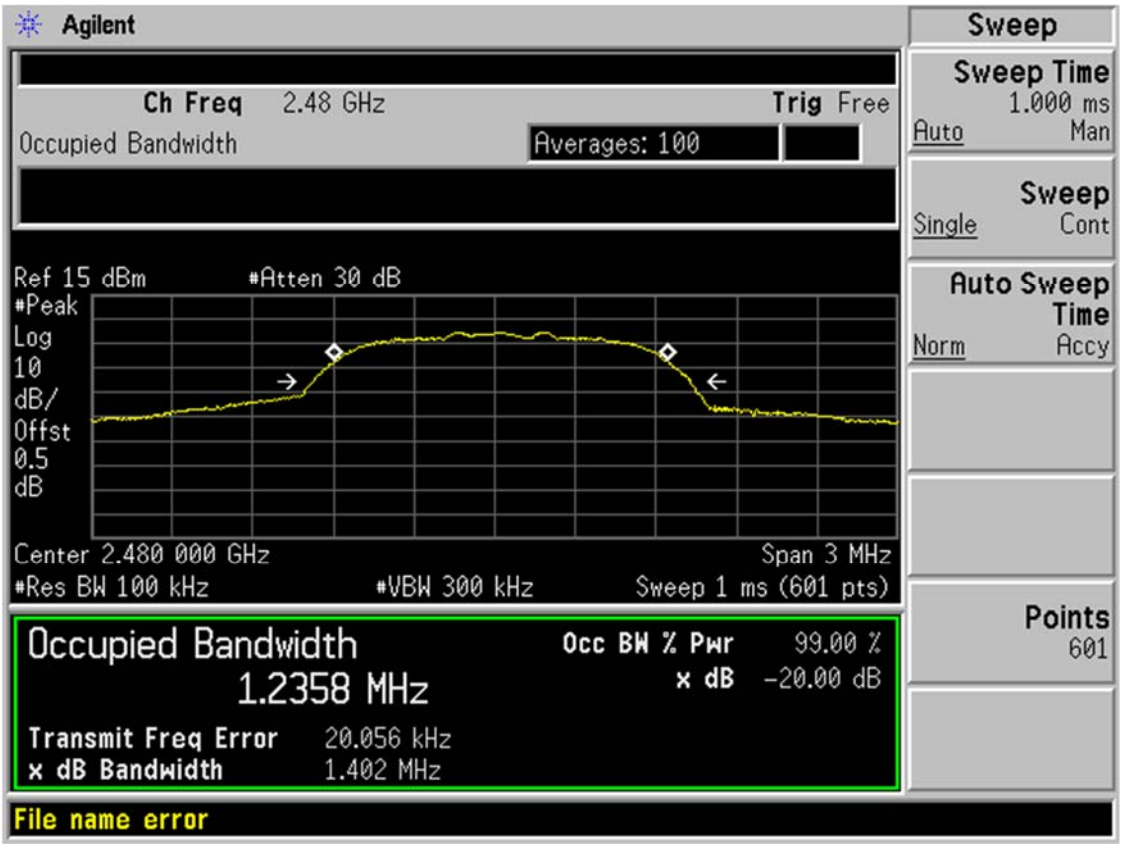
8-DPSK LOW CHANNEL



8-DPSK MIDDLE CHANNEL



8-DPSK HIGH CHANNEL



A.2 Conducted Emission

Note 1: All configurations have been tested, only the worst configuration (GFSK High Channel) shown here.

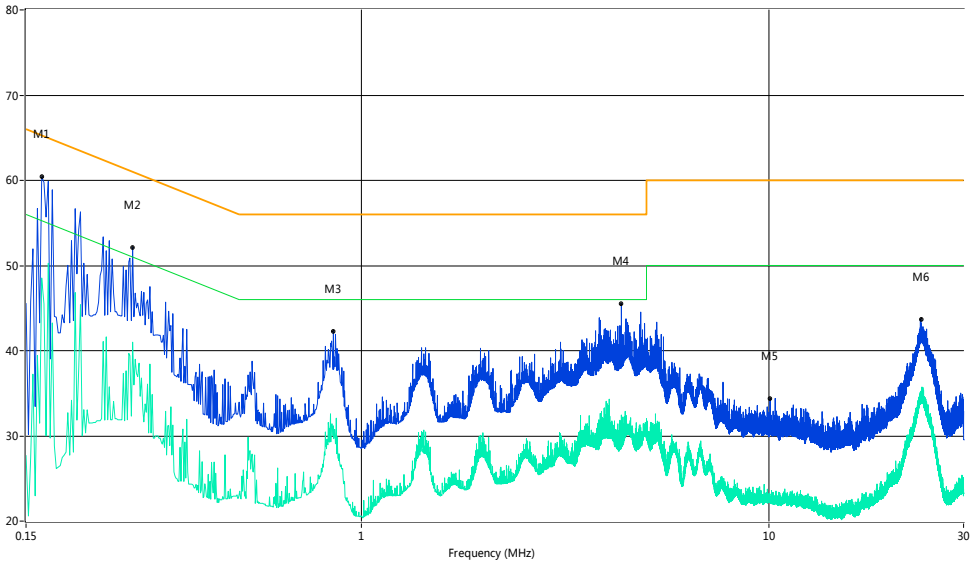
Note 2: Devices subject to Part 15 must be tested for all available U.S. voltages and frequencies (such as a nominal 120 VAC, 50/60 Hz and 240 VAC, 50/60 Hz) for which the device is capable of operation. So, The configuration 120 VAC, 50/60 Hz and 240 VAC, 50/60 Hz were tested respectively, but only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

Note 3: Their have two types of chargers, all of them were tested in this report. For the test data, only show model 761403 (Red) with charger SAW24-090-2500 and model 761403 (Red) with SAW48-150-2400J.

Test Data and Plots

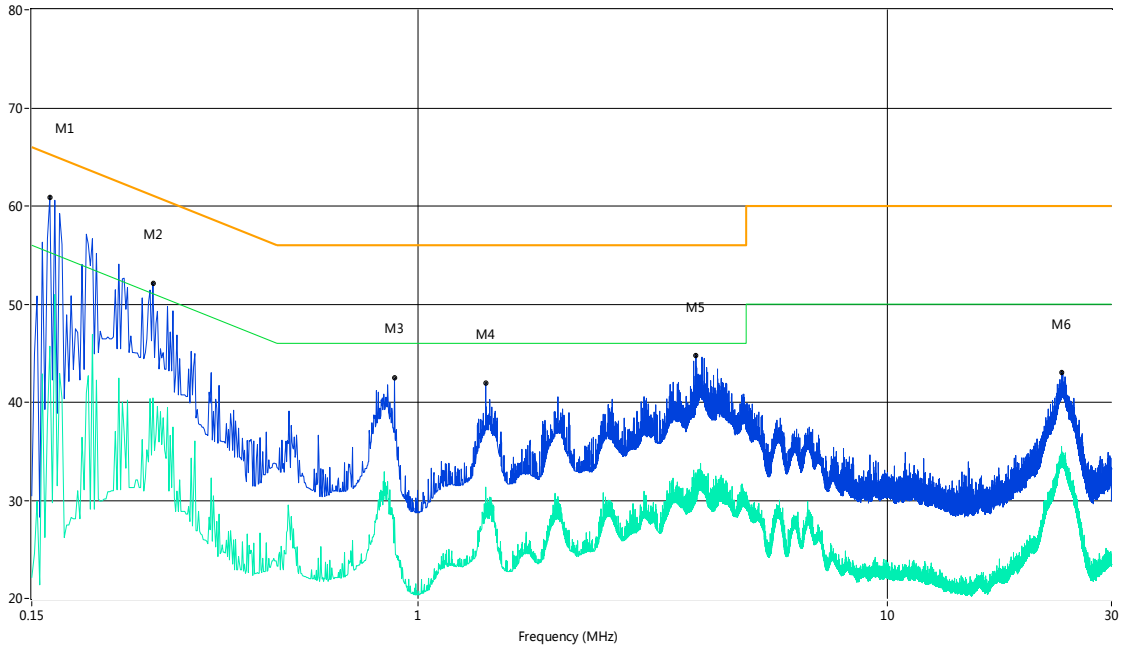
Model 761403 (Red) with Charger SAW24-090-2500

PHASE L



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.16	60.4	13.00	65.6	5.20	Peak	L Line	Pass
1**	0.16	48.5	13.00	55.6	7.10	AV	L Line	Pass
2	0.27	52.1	13.00	62.5	10.40	Peak	L Line	Pass
2**	0.27	41.0	13.00	52.5	11.50	AV	L Line	Pass
3	0.85	42.2	13.00	56.0	13.80	Peak	L Line	Pass
3**	0.85	31.2	13.00	46.0	14.80	AV	L Line	Pass
4	4.34	45.5	13.00	56.0	10.50	Peak	L Line	Pass
4**	4.34	32.5	13.00	46.0	13.50	AV	L Line	Pass
5	10.05	34.4	13.00	60.0	25.60	Peak	L Line	Pass
5**	10.05	22.6	13.00	50.0	27.40	AV	L Line	Pass
6	23.58	43.7	13.00	60.0	16.30	Peak	L Line	Pass
6**	23.58	35.2	13.00	50.0	14.80	AV	L Line	Pass

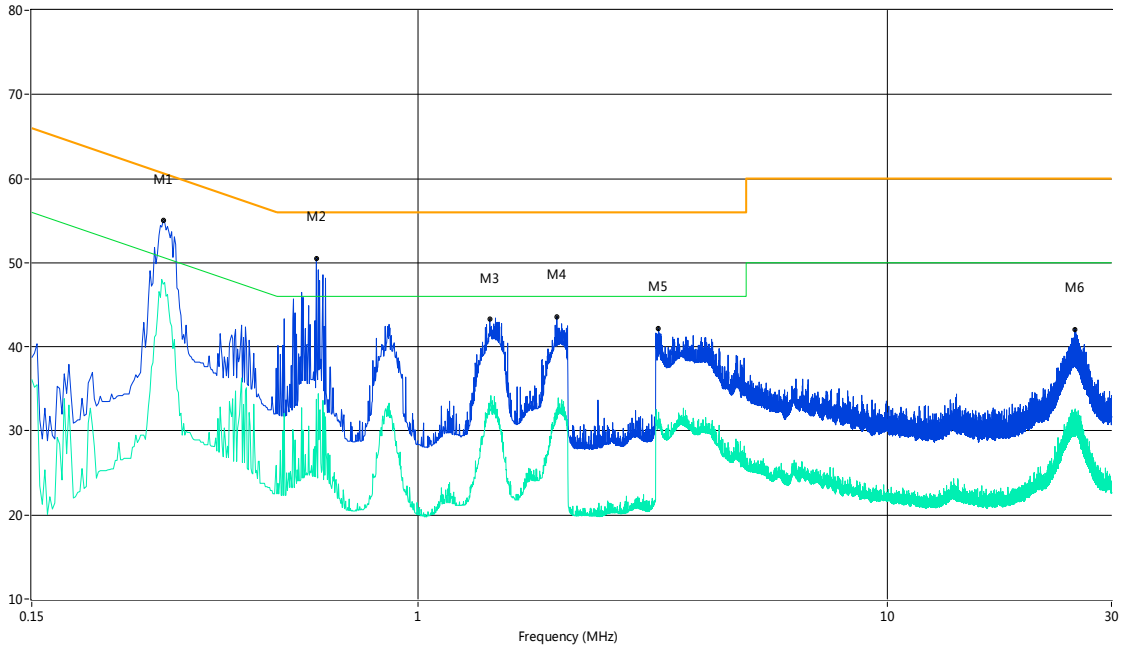
PHASE N



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.16	60.9	13.00	65.6	4.70	Peak	N Line	Pass
1**	0.16	45.7	13.00	55.6	9.90	AV	N Line	Pass
2	0.27	52.1	13.00	62.5	10.40	Peak	N Line	Pass
2**	0.27	40.4	13.00	52.5	12.10	AV	N Line	Pass
3	0.89	42.5	13.00	56.0	13.50	Peak	N Line	Pass
3**	0.89	28.2	13.00	46.0	17.80	AV	N Line	Pass
4	1.39	41.9	13.00	56.0	14.10	Peak	N Line	Pass
4**	1.39	31.4	13.00	46.0	14.60	AV	N Line	Pass
5	3.91	44.8	13.00	56.0	11.20	Peak	N Line	Pass
5**	3.91	32.8	13.00	46.0	13.20	AV	N Line	Pass
6	23.50	43.0	13.00	60.0	17.00	Peak	N Line	Pass
6**	23.50	33.0	13.00	50.0	17.00	AV	N Line	Pass

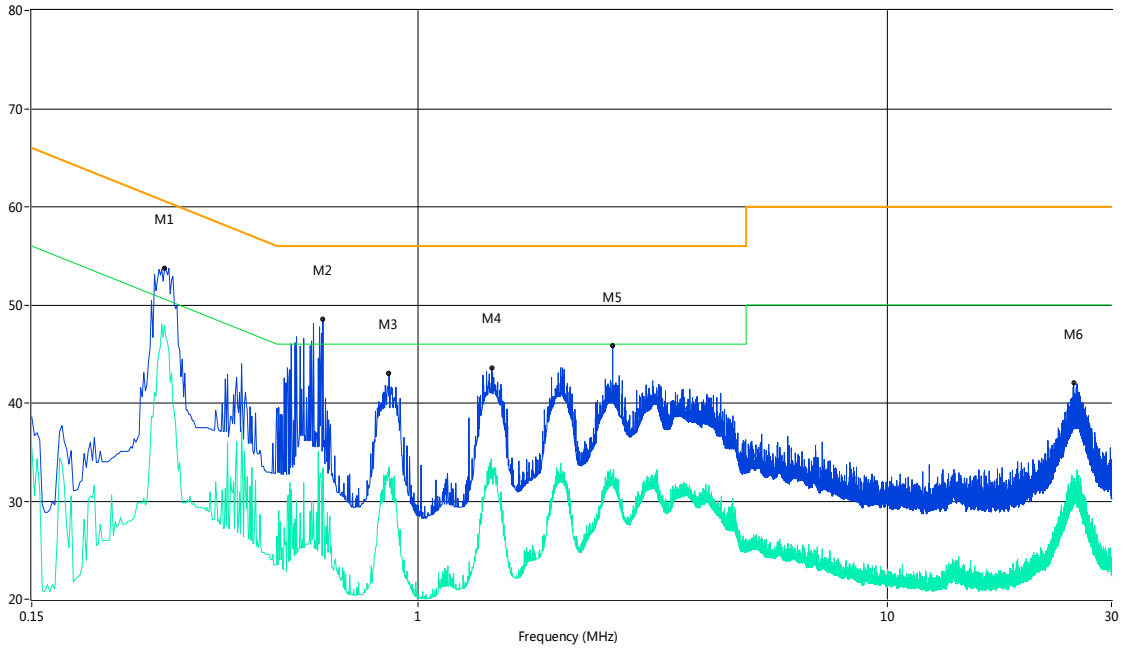
Model 761403 (Red) with Charger SAW48-150-2400J

PHASE L



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.29	55.0	13.00	62.1	7.10	Peak	L Line	Pass
1**	0.29	47.4	13.00	52.1	4.70	AV	L Line	Pass
2	0.61	50.5	13.00	56.0	5.50	Peak	L Line	Pass
2**	0.61	33.8	13.00	46.0	12.20	AV	L Line	Pass
3	1.42	43.3	13.00	56.0	12.70	Peak	L Line	Pass
3**	1.42	32.6	13.00	46.0	13.40	AV	L Line	Pass
4	1.97	43.6	13.00	56.0	12.40	Peak	L Line	Pass
4**	1.97	32.0	13.00	46.0	14.00	AV	L Line	Pass
5	3.25	42.2	13.00	56.0	13.80	Peak	L Line	Pass
5**	3.25	32.2	13.00	46.0	13.80	AV	L Line	Pass
6	25.08	42.1	13.00	60.0	17.90	Peak	L Line	Pass
6**	25.08	31.0	13.00	50.0	19.00	AV	L Line	Pass

PHASE N

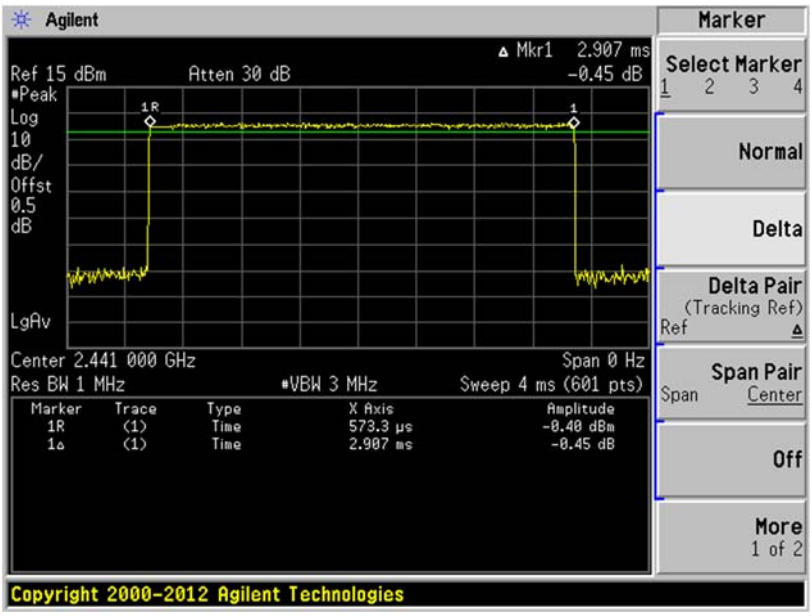


No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.29	53.8	13.00	62.1	8.30	Peak	N Line	Pass
1**	0.29	47.9	13.00	52.1	4.20	AV	N Line	Pass
2	0.63	48.5	13.00	56.0	7.50	Peak	N Line	Pass
2**	0.63	33.4	13.00	46.0	12.60	AV	N Line	Pass
3	0.87	43.0	13.00	56.0	13.00	Peak	N Line	Pass
3**	0.87	33.5	13.00	46.0	12.50	AV	N Line	Pass
4	1.43	43.6	13.00	56.0	12.40	Peak	N Line	Pass
4**	1.43	32.3	13.00	46.0	13.70	AV	N Line	Pass
5	2.60	45.8	13.00	56.0	10.20	Peak	N Line	Pass
5**	2.60	32.4	13.00	46.0	13.60	AV	N Line	Pass
6	24.94	42.0	13.00	60.0	18.00	Peak	N Line	Pass
6**	24.94	31.1	13.00	50.0	18.90	AV	N Line	Pass

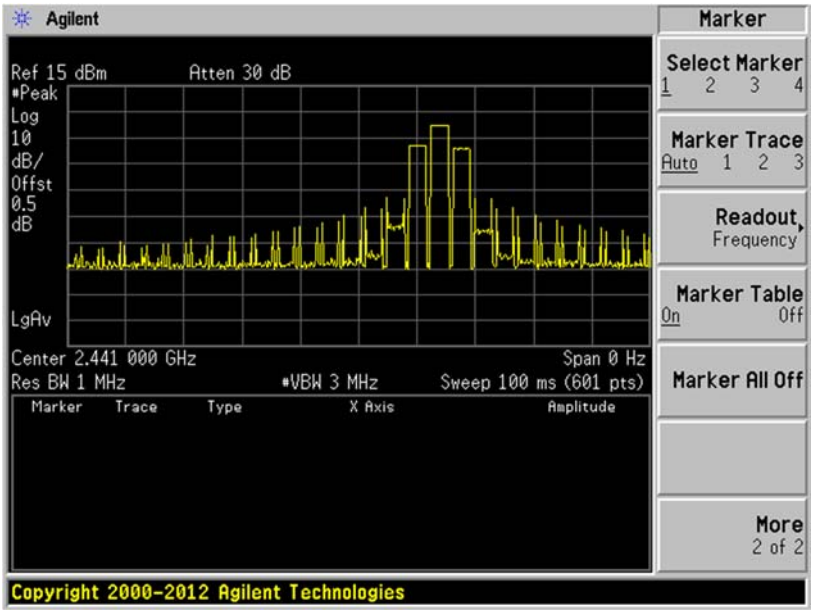
A.3 Radiated Emission

Duty cycle correction factor for average measurement.

DH5 on time/100 ms(One Pulse) Plot on Channel 39



DH5 on time/100 ms(Count Pulses) Plot on Channel 39



Note:

1. Duty cycle = on time/100 milliseconds = 3* 2.907 / 100 =8.721 %
2. Duty cycle correction factor = 20*log (Duty cycle) = -21.19 dB
3. DH5 has the highest duty cycle and is reported.

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

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

Note 3: All configurations have been tested, only the worst configuration (GFSK High Channel) shown here.

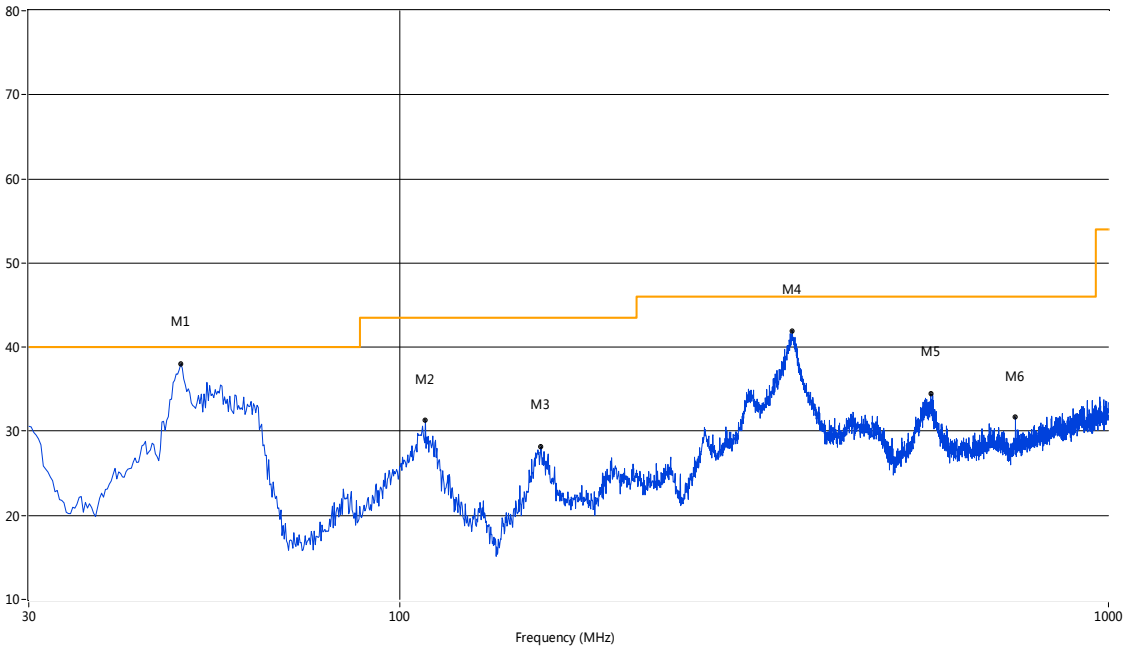
Note 4: Their have two types of chargers, all of them were tested in this report. The SAW48-150-2400J as the main for tested and the SAW24-090-2500 as confirmatory test. For the test data below 1 GHz, model 761403 (Red) with charger SAW24-090-2500 as confirmatory test.

Test Data and Plots

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

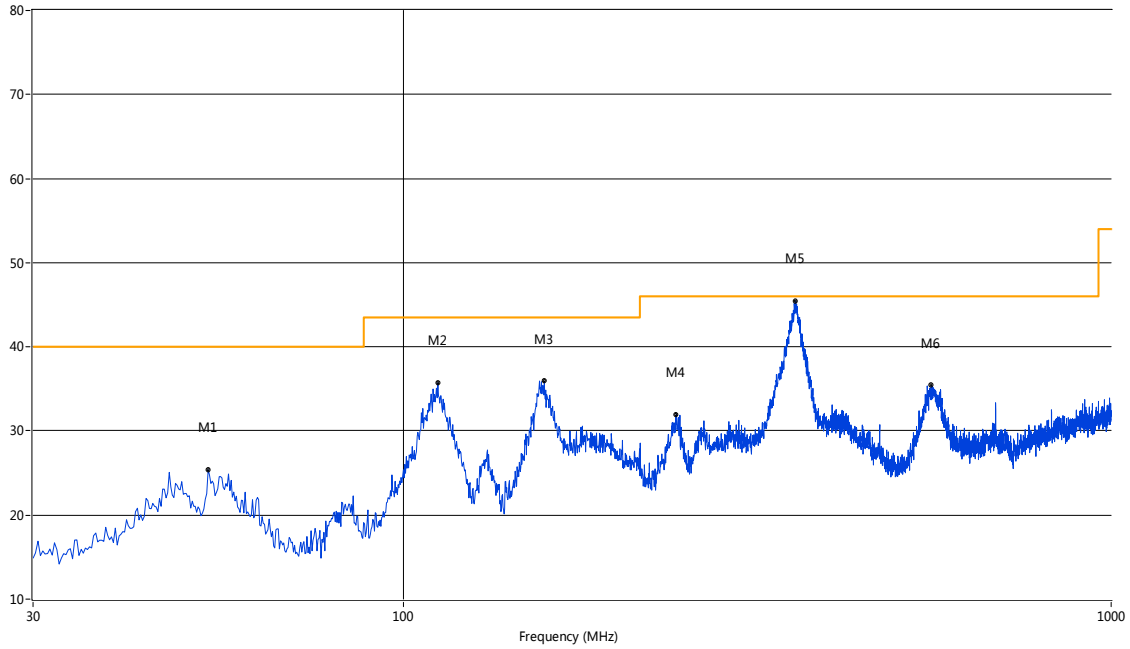
Model 761403 (Red) with Charger SAW48-150-2400J

30 MHz to 1 GHz, ANT V



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	49.15	37.99	-18.67	40.0	2.01	Peak	262.60	100.00	Vertical	Pass
1*	49.15	34.69	-18.67	40.0	5.31	QP	262.60	100.00	Vertical	Pass
2	108.79	31.26	-20.24	43.5	12.24	Peak	56.60	100	Vertical	Pass
3	158.25	28.17	-23.20	43.5	15.33	Peak	66.60	100	Vertical	Pass
4	358.26	41.93	-16.18	46.0	4.07	Peak	359.60	100	Vertical	Pass
5	561.67	34.47	-11.83	46.0	11.53	Peak	232.00	100	Vertical	Pass
6	739.62	31.67	-8.87	46.0	14.33	Peak	145.80	100	Vertical	Pass

30 MHz to 1 GHz, ANT H



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	53.03	25.38	-18.69	40.0	14.62	Peak	212.90	100	Horizontal	Pass
2	111.94	35.73	-20.52	43.5	7.77	Peak	359.80	100	Horizontal	Pass
3	158.25	35.92	-23.20	43.5	7.58	Peak	334.40	100	Horizontal	Pass
4	243.10	32.00	-19.03	46.0	14.00	Peak	273.60	100	Horizontal	Pass
5	358.51	45.48	-16.19	46.0	0.52	Peak	283.60	100.00	Horizontal	Pass
5*	358.51	42.46	-16.19	46.0	3.54	QP	283.60	100.00	Horizontal	Pass
6	557.06	35.42	-11.88	46.0	10.58	Peak	314.00	100	Horizontal	Pass

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

Test Data and Plots (1 GHz ~ 10th Harmonic)

Note 2: The bold frequency is the fundamental.

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

GFSK LOW CHANNEL 1 GHz to 25 GHz, ANT V

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	1203.80	43.24	-5.31	74.0	30.76	Peak	288.00	100	Vertical	Pass
2	1793.21	45.65	-3.73	74.0	28.35	Peak	105.90	100	Vertical	Pass
3	**2402.60**	87.86	-0.27	114.0	-13.86	Peak	48.70	100	Vertical	Pass Note 2
4	4861.14	51.69	13.50	74.0	22.31	Peak	70.70	100	Vertical	Pass
5	11975.04	51.12	20.76	74.0	22.88	Peak	339.90	100	Vertical	Pass
6	19179.70	50.41	14.04	74.0	23.59	Peak	66.70	100	Vertical	Pass

GFSK LOW CHANNEL 1 GHz to 25 GHz, ANT H

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	1223.78	43.83	-5.20	74.0	30.17	Peak	1.50	100	Horizontal	Pass
2	2198.80	52.04	-0.45	74.0	21.96	Peak	2.50	100	Horizontal	Pass
3	**2402.60**	88.06	-0.27	114.0	-14.06	Peak	47.90	100	Horizontal	Pass Note 2
4	4819.18	52.21	13.83	74.0	21.79	Peak	211.90	100	Horizontal	Pass
5	12289.52	51.77	20.65	74.0	22.23	Peak	281.00	100	Horizontal	Pass
6	19409.32	50.00	12.89	74.0	24.00	Peak	360.00	100	Horizontal	Pass

GFSK MIDDLE CHANNEL 1 GHz to 25 GHz, ANT V

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	1205.79	43.95	-5.21	74.0	30.05	Peak	109.80	100	Vertical	Pass
2	1755.24	44.80	-3.82	74.0	29.20	Peak	-0.00	100	Vertical	Pass
3	**2440.56**	88.74	-0.41	114.0	-14.74	Peak	43.20	100	Vertical	Pass Note 2
4	5868.13	51.92	15.45	74.0	22.08	Peak	360.00	100	Vertical	Pass
5	12042.43	52.18	20.83	74.0	21.82	Peak	0.30	100	Vertical	Pass
6	19179.70	50.45	14.04	74.0	23.55	Peak	66.70	100	Vertical	Pass

GFSK MIDDLE CHANNEL 1 GHz to 25 GHz, ANT H

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	1321.68	43.90	-4.81	74.0	30.10	Peak	292.90	100	Horizontal	Pass
2	1793.21	47.53	-3.73	74.0	26.47	Peak	211.10	100	Horizontal	Pass
3	**2440.56**	88.46	-0.41	114.0	-14.46	Peak	47.90	100	Horizontal	Pass Note 2
4	5655.35	51.91	15.59	74.0	22.09	Peak	190.40	100	Horizontal	Pass
5	12143.51	51.45	20.72	74.0	22.55	Peak	41.50	100	Horizontal	Pass
6	19389.35	49.58	12.97	74.0	24.42	Peak	1.20	100	Horizontal	Pass

GFSK HIGH CHANNEL 1 GHz to 25 GHz, ANT V

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	1345.65	43.56	-4.65	74.0	30.44	Peak	133.80	100	Vertical	Pass
2	1807.19	43.96	-3.63	74.0	30.04	Peak	62.00	100	Vertical	Pass
3	**2480.52**	89.49	-0.60	114.0	-15.49	Peak	43.10	100	Vertical	Pass Note 2
4	4726.27	52.21	13.63	74.0	21.79	Peak	45.50	100	Vertical	Pass
5	11615.64	51.07	20.33	74.0	22.93	Peak	312.80	100	Vertical	Pass
6	19389.35	50.08	12.97	74.0	23.92	Peak	1.20	100	Vertical	Pass

GFSK HIGH CHANNEL 1 GHz to 25 GHz, ANT H

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	1217.78	43.10	-5.19	74.0	30.90	Peak	0.10	100	Horizontal	Pass
2	2234.76	50.21	-0.29	74.0	23.79	Peak	240.10	100	Horizontal	Pass
3	**2480.52**	89.75	-0.60	114.0	-15.75	Peak	43.80	100	Horizontal	Pass Note 2
4	4639.36	51.48	13.14	74.0	22.52	Peak	139.00	100	Horizontal	Pass
5	12019.97	50.85	20.86	74.0	23.15	Peak	211.60	100	Horizontal	Pass
6	19409.32	49.84	12.89	74.0	24.16	Peak	360.00	100	Horizontal	Pass

∏/4-DQPSK LOW CHANNEL 1 GHz to 25 GHz, ANT V

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	1391.61	43.85	-4.45	74.0	30.15	Peak	325.60	100	Vertical	Pass
2	2192.81	49.74	-0.66	74.0	24.26	Peak	109.90	100	Vertical	Pass
3	**2402.60**	88.11	-0.27	114.0	-14.11	Peak	37.70	100	Vertical	Pass Note 2
4	5814.19	52.78	15.47	74.0	21.22	Peak	172.10	100	Vertical	Pass
5	11121.46	51.22	20.22	74.0	22.78	Peak	168.60	100	Vertical	Pass
6	18927.21	49.64	12.83	74.0	24.36	Peak	11.60	100	Vertical	Pass

∏/4-DQPSK LOW CHANNEL 1 GHz to 25 GHz, ANT H

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	1345.65	43.49	-4.65	74.0	30.51	Peak	330.80	100	Horizontal	Pass
2	1763.24	44.57	-3.70	74.0	29.43	Peak	58.40	100	Horizontal	Pass
3	**2402.60**	88.59	-0.27	114.0	-14.59	Peak	49.10	100	Horizontal	Pass Note 2
4	6000.00	53.16	15.85	74.0	20.84	Peak	186.40	100	Horizontal	Pass
5	12289.52	51.61	20.65	74.0	22.39	Peak	281.00	100	Horizontal	Pass
6	19179.70	50.57	14.04	74.0	23.43	Peak	66.70	100	Horizontal	Pass

∏/4-DQPSK MIDDLE CHANNEL 1 GHz to 25 GHz, ANT V

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	1529.47	45.30	-4.35	74.0	28.70	Peak	37.90	100	Vertical	Pass
2	2192.81	46.56	-0.66	74.0	27.44	Peak	224.50	100	Vertical	Pass
3	**2440.56**	89.94	-0.41	114.0	-15.94	Peak	42.70	100	Vertical	Pass Note 2
4	4699.30	52.69	13.26	74.0	21.31	Peak	1.00	100	Vertical	Pass
5	12098.59	51.27	20.77	74.0	22.73	Peak	20.30	100	Vertical	Pass
6	19179.70	49.61	14.04	74.0	24.39	Peak	66.70	100	Vertical	Pass

∏/4-DQPSK MIDDLE CHANNEL 1 GHz to 25 GHz, ANT H

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	1491.51	45.14	-4.49	74.0	28.86	Peak	49.20	100	Horizontal	Pass
2	2086.91	45.27	-1.68	74.0	28.73	Peak	187.50	100	Horizontal	Pass
3	**2440.56**	89.60	-0.41	114.0	-15.60	Peak	44.40	100	Horizontal	Pass Note 2
4	5358.64	52.09	14.80	74.0	21.91	Peak	198.30	100	Horizontal	Pass
5	12289.52	51.54	20.65	74.0	22.46	Peak	281.00	100	Horizontal	Pass
6	19219.63	50.32	14.00	74.0	23.68	Peak	360.00	100	Horizontal	Pass

∏/4-DQPSK HIGH CHANNEL 1 GHz to 25 GHz, ANT V

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	1327.67	43.76	-4.82	74.0	30.24	Peak	220.70	100	Vertical	Pass
2	1793.21	46.09	-3.73	74.0	27.91	Peak	106.00	100	Vertical	Pass
3	**2480.52**	90.66	-0.60	114.0	-16.66	Peak	43.80	100	Vertical	Pass Note 2
4	4759.24	51.97	13.58	74.0	22.03	Peak	330.70	100	Vertical	Pass
5	12042.43	52.24	20.83	74.0	21.76	Peak	0.30	100	Vertical	Pass
6	19219.63	49.92	14.00	74.0	24.08	Peak	360.00	100	Vertical	Pass

∏/4-DQPSK HIGH CHANNEL 1 GHz to 25 GHz, ANT H

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	1305.69	43.25	-4.77	74.0	30.75	Peak	220.50	100	Horizontal	Pass
2	1795.20	47.24	-3.75	74.0	26.76	Peak	100.90	100	Horizontal	Pass
3	**2480.52**	90.17	-0.60	114.0	-16.17	Peak	43.10	100	Horizontal	Pass Note 2
4	4672.33	51.77	13.15	74.0	22.23	Peak	10.80	100	Horizontal	Pass
5	12042.43	51.53	20.83	74.0	22.47	Peak	0.30	100	Horizontal	Pass
6	19449.25	50.16	12.80	74.0	23.84	Peak	359.80	100	Horizontal	Pass

8-DPSK LOW CHANNEL 1 GHz to 25 GHz, ANT V

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	1357.64	45.32	-4.44	74.0	28.68	Peak	202.00	100	Vertical	Pass
2	1755.24	45.99	-3.82	74.0	28.01	Peak	58.40	100	Vertical	Pass
3	**2402.60**	87.52	-0.27	114.0	-13.52	Peak	43.90	100	Vertical	Pass Note 2
4	4762.24	52.15	13.54	74.0	21.85	Peak	356.60	100	Vertical	Pass
5	11952.58	51.18	20.65	74.0	22.82	Peak	163.40	100	Vertical	Pass
6	19009.98	50.11	13.42	74.0	23.89	Peak	189.80	100	Vertical	Pass

8-DPSK LOW CHANNEL 1 GHz to 25 GHz, ANT H

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	1469.53	44.06	-4.42	74.0	29.94	Peak	3.70	100	Horizontal	Pass
2	1759.24	45.16	-3.81	74.0	28.84	Peak	229.80	100	Horizontal	Pass
3	**2402.60**	87.34	-0.27	114.0	-13.34	Peak	167.60	100	Horizontal	Pass Note 2
4	4822.18	51.91	13.85	74.0	22.09	Peak	190.20	100	Horizontal	Pass
5	12042.43	51.96	20.83	74.0	22.04	Peak	0.30	100	Horizontal	Pass
6	19179.70	50.27	14.04	74.0	23.73	Peak	66.70	100	Horizontal	Pass

8-DPSK MIDDLE CHANNEL 1 GHz to 25 GHz, ANT V

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	1309.69	43.52	-4.76	74.0	30.48	Peak	325.70	100	Vertical	Pass
2	1823.18	45.48	-3.47	74.0	28.52	Peak	76.20	100	Vertical	Pass
3	**2440.56**	89.78	-0.41	114.0	-15.78	Peak	42.50	100	Vertical	Pass Note 2
4	4651.35	52.31	13.04	74.0	21.69	Peak	249.80	100	Vertical	Pass
5	12042.43	52.24	20.83	74.0	21.76	Peak	0.30	100	Vertical	Pass
6	19449.25	50.13	12.80	74.0	23.87	Peak	359.80	100	Vertical	Pass

8-DPSK MIDDLE CHANNEL 1 GHz to 25 GHz, ANT H

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	1293.71	43.71	-4.81	74.0	30.29	Peak	225.50	100	Horizontal	Pass
2	1863.14	44.92	-3.02	74.0	29.08	Peak	77.30	100	Horizontal	Pass
3	**2440.56**	89.99	-0.41	114.0	-15.99	Peak	43.60	100	Horizontal	Pass Note 2
4	4774.23	52.02	13.61	74.0	21.98	Peak	52.70	100	Horizontal	Pass
5	12042.43	51.63	20.83	74.0	22.37	Peak	0.30	100	Horizontal	Pass
6	19179.70	50.43	14.04	74.0	23.57	Peak	66.70	100	Horizontal	Pass

8-DPSK HIGH CHANNEL 1 GHz to 25 GHz, ANT V

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	1401.60	43.46	-4.58	74.0	30.54	Peak	62.60	100	Vertical	Pass
2	1793.21	49.13	-3.73	74.0	24.87	Peak	100.90	100	Vertical	Pass
3	**2478.52**	89.93	-0.63	114.0	-15.93	Peak	43.40	100	Vertical	Pass Note 2
4	4747.25	53.02	13.51	74.0	20.98	Peak	11.40	100	Vertical	Pass
5	12446.75	51.13	20.44	74.0	22.87	Peak	1.50	100	Vertical	Pass
6	19449.25	50.16	12.80	74.0	23.84	Peak	359.80	100	Vertical	Pass

8-DPSK HIGH CHANNEL 1 GHz to 25 GHz, ANT H

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	1319.68	43.94	-4.85	74.0	30.06	Peak	349.60	100	Horizontal	Pass
2	1725.28	43.84	-4.03	74.0	30.16	Peak	230.40	100	Horizontal	Pass
3	**2480.52**	90.43	-0.60	114.0	-16.43	Peak	43.10	100	Horizontal	Pass Note 2
4	4696.30	52.09	13.22	74.0	21.91	Peak	39.90	100	Horizontal	Pass
5	12042.43	51.50	20.83	74.0	22.50	Peak	0.30	100	Horizontal	Pass
6	19009.98	50.21	13.42	74.0	23.79	Peak	189.80	100	Horizontal	Pass

Hopping Mode:

GFSK MODE 1 GHz to 25 GHz, ANT V

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	1211.79	43.47	-5.15	74.0	30.53	Peak	82.70	100	Vertical	Pass
2	**2402.60**	87.12	-0.27	114.0	-13.12	Peak	49.10	100	Vertical	Pass Note 2
3	**2480.52**	89.25	-0.60	114.0	-15.25	Peak	44.30	100	Vertical	Pass Note 2
4	5199.80	52.09	14.78	74.0	21.91	Peak	356.70	100	Vertical	Pass
5	12289.52	51.68	20.65	74.0	22.32	Peak	281.00	100	Vertical	Pass
6	19249.58	49.76	13.82	74.0	24.24	Peak	280.30	100	Vertical	Pass

GFSK MODE 1 GHz to 25 GHz, ANT H

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	1175.82	43.33	-5.50	74.0	30.67	Peak	258.40	100	Horizontal	Pass
2	**2402.60**	86.48	-0.27	114.0	-12.48	Peak	48.00	100	Horizontal	Pass Note 2
3	**2478.52**	89.10	-0.63	114.0	-15.10	Peak	43.20	100	Horizontal	Pass Note 2
4	4714.29	51.70	13.44	74.0	22.30	Peak	216.10	100	Horizontal	Pass
5	12042.43	52.13	20.83	74.0	21.87	Peak	0.30	100	Horizontal	Pass
6	19179.70	50.40	14.04	74.0	23.60	Peak	66.70	100	Horizontal	Pass

∏/4-DQPSK MODE 1 GHz to 25 GHz, ANT V

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	1727.27	46.15	-4.05	74.0	27.85	Peak	63.10	100	Vertical	Pass
2	**2402.60**	86.39	-0.27	114.0	-12.39	Peak	168.30	100	Vertical	Pass Note 2
3	**2480.52**	87.72	-0.60	114.0	-13.72	Peak	53.80	100	Vertical	Pass Note 2
4	4846.15	51.86	13.60	74.0	22.14	Peak	354.00	100	Vertical	Pass
5	11930.12	51.20	20.55	74.0	22.80	Peak	238.30	100	Vertical	Pass
6	19009.98	50.13	13.42	74.0	23.87	Peak	189.80	100	Vertical	Pass

∏/4-DQPSK MODE 1 GHz to 25 GHz, ANT H

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	1389.61	44.71	-4.44	74.0	29.29	Peak	124.60	100	Horizontal	Pass
2	**2402.60**	86.97	-0.27	114.0	-12.97	Peak	47.60	100	Horizontal	Pass Note 2
3	**2480.52**	89.40	-0.60	114.0	-15.40	Peak	42.80	100	Horizontal	Pass Note 2
4	4633.37	52.19	13.05	74.0	21.81	Peak	40.70	100	Horizontal	Pass
5	12098.59	51.19	20.77	74.0	22.81	Peak	20.30	100	Horizontal	Pass
6	19179.70	50.32	14.04	74.0	23.68	Peak	66.70	100	Horizontal	Pass

8-DPSK MODE 1 GHz to 25 GHz, ANT V

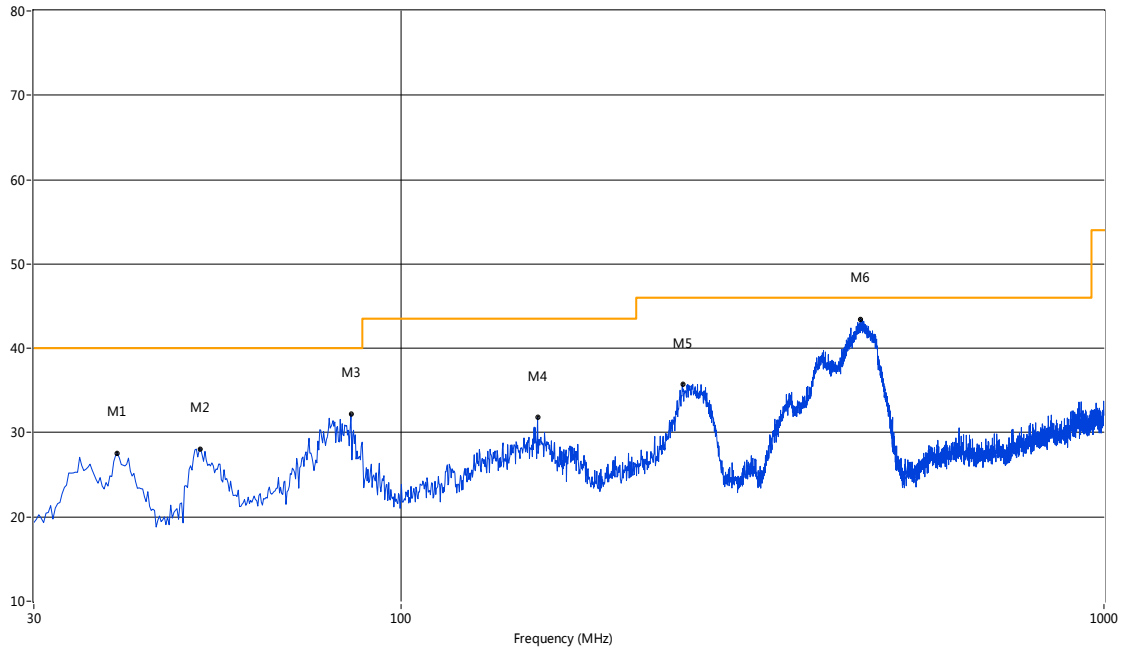
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	1595.40	44.82	-4.34	74.0	29.18	Peak	29.50	100	Vertical	Pass
2	**2408.59**	87.80	-0.10	114.0	-13.80	Peak	48.30	100	Vertical	Pass Note 2
3	**2480.52**	89.09	-0.60	114.0	-15.09	Peak	39.10	100	Vertical	Pass Note 2
4	4819.18	51.87	13.83	74.0	22.13	Peak	178.20	100	Vertical	Pass
5	12109.82	51.14	20.76	74.0	22.86	Peak	211.60	100	Vertical	Pass
6	19449.25	50.37	12.80	74.0	23.63	Peak	359.80	100	Vertical	Pass

8-DPSK MODE 1 GHz to 25 GHz, ANT H

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	1831.17	45.99	-3.43	74.0	28.01	Peak	81.30	100	Horizontal	Pass
2	**2402.60**	87.14	-0.27	114.0	-13.14	Peak	42.80	100	Horizontal	Pass Note 2
3	**2480.52**	88.96	-0.60	114.0	-14.96	Peak	157.80	100	Horizontal	Pass Note 2
4	4858.14	52.28	13.54	74.0	21.72	Peak	176.70	100	Horizontal	Pass
5	12042.43	51.59	20.83	74.0	22.41	Peak	0.30	100	Horizontal	Pass
6	19009.98	50.05	13.42	74.0	23.95	Peak	189.80	100	Horizontal	Pass

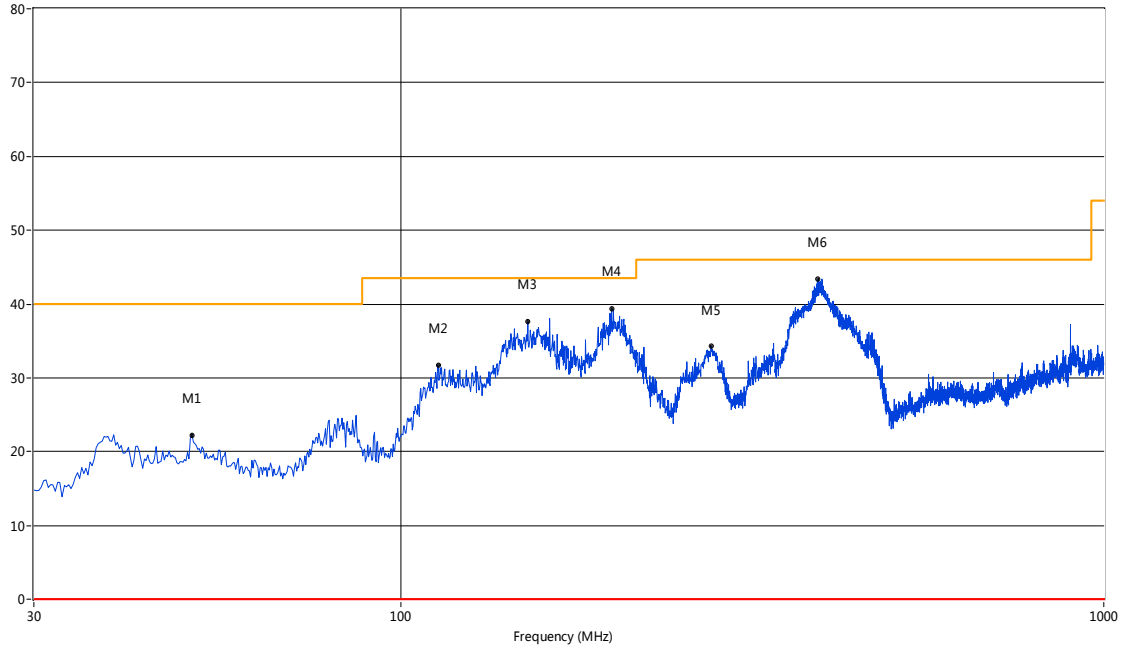
Model 761481 (Black) with Charger SAW48-150-2400J

30 MHz to 1 GHz, ANT V



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	39.46	27.52	-19.91	40.0	12.48	Peak	143.30	100	Vertical	Pass
2	51.82	28.07	-18.64	40.0	11.93	Peak	82.90	100	Vertical	Pass
3	84.79	32.16	-23.44	40.0	7.84	Peak	19.20	100	Vertical	Pass
4	156.31	31.78	-23.22	43.5	11.72	Peak	265.10	100	Vertical	Pass
5	251.35	35.70	-18.86	46.0	10.30	Peak	360.70	100	Vertical	Pass
6	450.63	43.46	-14.45	46.0	2.54	Peak	24.40	100	Vertical	Pass

30 MHz to 1 GHz, ANT H



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	50.36	22.27	-18.57	40.0	17.73	Peak	12.60	100	Horizontal	Pass
2	112.91	31.70	-20.50	43.5	11.80	Peak	199.20	100	Horizontal	Pass
3	151.46	37.63	-23.30	43.5	5.87	Peak	8.10	100	Horizontal	Pass
4	199.22	39.37	-20.07	43.5	4.13	Peak	329.70	100	Horizontal	Pass
5	276.08	34.28	-18.28	46.0	11.72	Peak	229.60	100	Horizontal	Pass
6	392.20	43.39	-15.16	46.0	2.61	Peak	294.50	100	Horizontal	Pass
6*	392.20	41.88	-15.16	46.0	4.02	QP	294.50	100	Horizontal	Pass

Note 1: The marked spikes near 2400 MHz with circle should be ignored because they are Fundamental signal.
Note 2: The bold frequency is the fundamental.
Note 3: Limits are specified for both average and peak (or quasi-peak) detector functions, if the peak (or quasi-peak) measured value complies with the average limit, it is unnecessary to perform an average measurement.

Test Data and Plots (1 GHz ~ 10th Harmonic)

GFSK LOW CHANNEL 1 GHz to 25 GHz, ANT V

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	1675.33	43.78	-4.43	74.0	30.22	Peak	206.3	100	Vertical	Pass
2	2612.39	43.48	9.19	74.0	30.53	Peak	83.4	100	Vertical	Pass
3	**2402.56**	88.75	-0.41	114.0	-14.75	Peak	48.50	100	Vertical	Pass Note 2
4	8830.28	43.74	16.75	74.0	30.26	Peak	103.6	100	Vertical	Pass
5	12957.99	45.92	9.08	74.0	28.08	Peak	155.6	100	Vertical	Pass
6	20537.44	47.63	10.87	74.0	26.37	Peak	322.3	100	Vertical	Pass

GFSK LOW CHANNEL 1 GHz to 25 GHz, ANT H

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	1839.16	44.63	-0.46	74.0	29.37	Peak	328.9	100	Horizontal	Pass
2	2198.80	52.34	-0.45	74.0	21.66	Peak	5.30	100	Horizontal	Pass
3	**2402.65**	88.36	-0.27	114.0	-14.36	Peak	50.70	100	Horizontal	Pass Note 2
4	11413.48	42.35	20.08	74.0	31.65	Peak	17.5	100	Horizontal	Pass
5	15672.21	42.67	8.72	74.0	31.33	Peak	345.8	100	Horizontal	Pass
6	24690.52	44.25	12.44	74.0	29.75	Peak	191.9	100	Horizontal	Pass

GFSK MIDDLE CHANNEL 1 GHz to 25 GHz, ANT V

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	2288.71	45.15	-4.54	74.0	28.85	Peak	275.2	100	Vertical	Pass
2	3137.86	46.12	8.92	74.0	27.88	Peak	62.7	100	Vertical	Pass
3	**2440.56**	88.44	-0.41	114.0	-14.44	Peak	44.25	100	Vertical	Pass Note 2
4	7437.60	48.58	15.05	74.0	25.42	Peak	197.3	100	Vertical	Pass
5	12853.99	43.24	8.59	74.0	30.76	Peak	245.8	100	Vertical	Pass
6	22793.68	45.14	11.72	74.0	28.86	Peak	326.5	100	Vertical	Pass

GFSK MIDDLE CHANNEL 1 GHz to 25 GHz, ANT H

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	1651.35	42.15	-4.15	74.0	31.85	Peak	11.8	100	Horizontal	Pass
2	2630.37	45.10	1.82	74.0	28.90	Peak	77.6	100	Horizontal	Pass
3	**2440.56**	87.45	-0.41	114.0	-13.45	Peak	47.70	100	Horizontal	Pass Note 2
4	10863.15	48.03	15.70	74.0	25.97	Peak	321.1	100	Horizontal	Pass
5	15485.03	46.58	19.86	74.0	27.43	Peak	256.8	100	Horizontal	Pass
6	22783.69	50.68	12.76	74.0	23.32	Peak	260.9	100	Horizontal	Pass

GFSK HIGH CHANNEL 1 GHz to 25 GHz, ANT V

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	1367.63	43.02	-1.36	74.0	30.98	Peak	155.3	100	Vertical	Pass
2	**2480.52**	89.75	-0.60	114.0	-15.49	Peak	43.10	100	Vertical	Pass Note 2
3	3671.33	51.21	15.12	74.0	22.80	Peak	316.5	100	Vertical	Pass
4	9066.14	47.02	16.87	74.0	26.98	Peak	131.9	100	Vertical	Pass
5	16587.35	47.79	10.05	74.0	26.21	Peak	324.6	100	Vertical	Pass
6	23692.18	45.70	10.90	74.0	28.31	Peak	236	100	Vertical	Pass

GFSK HIGH CHANNEL 1 GHz to 25 GHz, ANT H

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	1891.11	43.98	-1.02	74.0	30.02	Peak	160.2	100	Horizontal	Pass
2	**2480.52**	88.92	-0.60	114.0	-14.92	Peak	43.90	100	Horizontal	N/A
3	5007.99	45.16	11.32	74.0	28.84	Peak	86.1	100	Horizontal	Pass
4	6393.10	47.12	15.04	74.0	26.89	Peak	348	100	Horizontal	Pass
5	17169.72	46.35	9.61	74.0	27.65	Peak	186.3	100	Horizontal	Pass
6	18292.85	45.98	9.12	74.0	28.02	Peak	101.1	100	Horizontal	Pass

∏/4-DQPSK LOW CHANNEL 1 GHz to 25 GHz, ANT V

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	1497.50	41.05	-6.20	74.0	32.95	Peak	302.7	100	Vertical	Pass
2	**2402.60**	88.57	-0.27	114.0	-14.57	Peak	37.50	100	Vertical	Pass Note 2
3	4381.62	48.45	10.83	74.0	25.55	Peak	237.3	100	Vertical	Pass
4	9953.41	44.22	16.96	74.0	29.78	Peak	4.5	100	Vertical	Pass
5	13550.75	48.90	11.44	74.0	25.10	Peak	107.5	100	Vertical	Pass
6	18989.60	42.87	8.24	74.0	31.13	Peak	99.3	100	Vertical	Pass

∏/4-DQPSK LOW CHANNEL 1 GHz to 25 GHz, ANT H

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	2048.95	44.79	-0.22	74.0	29.21	Peak	200	100	Horizontal	Pass
2	**2402.60**	88.75	-0.27	114.0	-14.75	Peak	49.50	100	Horizontal	Pass Note 2
3	4210.79	50.72	15.42	74.0	23.28	Peak	320.3	100	Horizontal	Pass
4	6370.63	49.22	18.91	74.0	24.78	Peak	349.5	100	Horizontal	Pass
5	15193.84	42.06	9.11	74.0	31.95	Peak	106.3	100	Horizontal	Pass
6	21515.81	43.82	11.69	74.0	30.19	Peak	169.5	100	Horizontal	Pass

∏/4-DQPSK MIDDLE CHANNEL 1 GHz to 25 GHz, ANT V

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	1729.27	40.76	-5.86	74.0	33.24	Peak	209	100	Vertical	Pass
2	**2440.56**	89.47	-0.41	114.0	-15.47	Peak	42.17	100	Vertical	Pass Note 2
3	4171.83	47.12	10.73	74.0	26.89	Peak	66.8	100	Vertical	Pass
4	8673.05	45.92	14.37	74.0	28.08	Peak	220.9	100	Vertical	Pass
5	16358.57	43.46	9.96	74.0	30.54	Peak	109.5	100	Vertical	Pass
6	23921.80	47.70	10.25	74.0	26.30	Peak	35.2	100	Vertical	Pass

∏/4-DQPSK MIDDLE CHANNEL 1 GHz to 25 GHz, ANT H

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	2368.63	38.72	-0.45	74.0	35.28	Peak	47.7	100	Horizontal	Pass
2	**2440.56**	89.78	-0.41	114.0	-15.78	Peak	44.78	100	Horizontal	Pass Note 2
3	3515.49	51.03	15.40	74.0	22.97	Peak	19.1	100	Horizontal	Pass
4	8347.34	44.86	14.21	74.0	29.14	Peak	335.8	100	Horizontal	Pass
5	17918.47	47.71	9.71	74.0	26.29	Peak	196	100	Horizontal	Pass
6	18459.24	48.00	9.21	74.0	26.00	Peak	163.2	100	Horizontal	Pass

∏/4-DQPSK HIGH CHANNEL 1 GHz to 25 GHz, ANT V

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	2320.68	43.06	-3.98	74.0	30.94	Peak	39.8	100	Vertical	Pass
2	**2480.52**	90.12	-0.60	114.0	-16.12	Peak	43.14	100	Vertical	Pass Note 2
3	5409.59	48.61	11.12	74.0	25.39	Peak	142.4	100	Vertical	Pass
4	6932.20	43.16	18.48	74.0	30.84	Peak	84.8	100	Vertical	Pass
5	12031.20	44.45	9.06	74.0	29.55	Peak	247.7	100	Vertical	Pass
6	22693.84	46.95	13.25	74.0	27.05	Peak	25.3	100	Vertical	Pass

∏/4-DQPSK HIGH CHANNEL 1 GHz to 25 GHz, ANT H

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	1285.71	42.12	-2.60	74.0	31.88	Peak	244.6	100	Horizontal	Pass
2	**2480.52**	90.47	-0.60	114.0	-16.47	Peak	43.42	100	Horizontal	Pass Note 2
3	3785.22	46.08	11.85	74.0	27.92	Peak	74.7	100	Horizontal	Pass
4	7875.62	43.10	13.80	74.0	30.90	Peak	102.5	100	Horizontal	Pass
5	12770.80	47.18	9.04	74.0	26.83	Peak	149.4	100	Horizontal	Pass
6	23422.63	47.26	11.22	74.0	26.74	Peak	355.4	100	Horizontal	Pass

8-DPSK LOW CHANNEL 1 GHz to 25 GHz, ANT V

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	2378.62	41.59	-6.12	74.0	32.41	Peak	255.8	100	Vertical	Pass
2	**2402.60**	87.47	-0.27	114.0	-13.47	Peak	43.50	100	Vertical	Pass Note 2
3	3782.22	46.19	12.44	74.0	27.81	Peak	36.5	100	Vertical	Pass
4	11862.73	45.65	19.01	74.0	28.35	Peak	193.4	100	Vertical	Pass
5	17325.71	42.12	9.61	74.0	31.88	Peak	153.8	100	Vertical	Pass
6	19519.14	46.70	13.15	74.0	27.30	Peak	291.1	100	Vertical	Pass

8-DPSK LOW CHANNEL 1 GHz to 25 GHz, ANT H

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	1269.73	39.91	-5.68	74.0	34.09	Peak	148.5	100	Horizontal	Pass
2	**2402.60**	87.47	-0.27	114.0	-13.47	Peak	167.50	100	Horizontal	Pass Note 2
3	4687.31	45.86	15.62	74.0	28.14	Peak	312.5	100	Horizontal	Pass
4	6314.48	45.19	14.81	74.0	28.81	Peak	65.8	100	Horizontal	Pass
5	15505.82	44.69	9.63	74.0	29.31	Peak	228.4	100	Horizontal	Pass
6	21675.54	44.76	10.95	74.0	29.24	Peak	314	100	Horizontal	Pass

8-DPSK MIDDLE CHANNEL 1 GHz to 25 GHz, ANT V

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	2336.66	44.25	-4.16	74.0	29.75	Peak	10.4	100	Vertical	Pass
2	**2440.56**	89.24	-0.41	114.0	-15.24	Peak	42.78	100	Vertical	Pass Note 2
3	4951.05	47.45	11.06	74.0	26.55	Peak	236.4	100	Vertical	Pass
4	8201.33	47.63	18.93	74.0	26.37	Peak	45.5	100	Vertical	Pass
5	12957.99	44.19	9.37	74.0	29.82	Peak	253.8	100	Vertical	Pass
6	23821.96	43.94	10.74	74.0	30.06	Peak	304.6	100	Vertical	Pass

8-DPSK MIDDLE CHANNEL 1 GHz to 25 GHz, ANT H

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	2336.66	44.28	0.23	74.0	29.72	Peak	282.7	100	Horizontal	Pass
2	**2440.56**	89.14	-0.41	114.0	-15.14	Peak	43.20	100	Horizontal	Pass Note 2
3	4001.00	49.88	13.58	74.0	24.12	Peak	208.7	100	Horizontal	Pass
4	10009.57	45.76	20.46	74.0	28.24	Peak	88.7	100	Horizontal	Pass
5	17939.27	46.14	9.57	74.0	27.86	Peak	10.4	100	Horizontal	Pass
6	24870.22	47.01	10.98	74.0	26.99	Peak	42.8	100	Horizontal	Pass

8-DPSK HIGH CHANNEL 1 GHz to 25 GHz, ANT V

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	2340.66	43.78	-0.55	74.0	30.22	Peak	10.3	100	Vertical	Pass
2	**2478.52**	89.24	-0.63	114.0	-15.24	Peak	43.50	100	Vertical	Pass Note 2
3	5385.61	49.09	11.05	74.0	24.91	Peak	309.3	100	Vertical	Pass
4	10908.07	47.05	14.81	74.0	26.95	Peak	77.6	100	Vertical	Pass
5	12843.59	43.06	8.88	74.0	30.94	Peak	155.8	100	Vertical	Pass
6	22584.03	47.18	11.60	74.0	26.82	Peak	289	100	Vertical	Pass

8-DPSK HIGH CHANNEL 1 GHz to 25 GHz, ANT H

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	1063.94	41.75	-0.58	74.0	32.25	Peak	60.5	100	Horizontal	Pass
2	**2480.52**	90.75	-0.60	114.0	-16.75	Peak	43.42	100	Horizontal	Pass Note 2
3	4081.92	49.84	10.70	74.0	24.16	Peak	146.5	100	Horizontal	Pass
4	9043.68	41.80	14.32	74.0	32.20	Peak	253.7	100	Horizontal	Pass
5	15193.84	46.16	9.11	74.0	27.84	Peak	184.2	100	Horizontal	Pass
6	22873.54	48.64	12.52	74.0	25.36	Peak	100.2	100	Horizontal	Pass

Hopping Mode:

GFSK MODE 1 GHz to 25 GHz, ANT V

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	**2402.60**	87.25	-0.27	114.0	-13.25	Peak	49.78	100	Vertical	Pass Note 2
2	**2480.52**	89.46	-0.60	114.0	-15.46	Peak	44.57	100	Vertical	Pass Note 2
3	4825.18	49.72	11.36	74.0	24.29	Peak	120.4	100	Vertical	Pass
4	9290.77	44.16	14.24	74.0	29.84	Peak	137.7	100	Vertical	Pass
5	16826.54	44.04	12.79	74.0	29.96	Peak	163.3	100	Vertical	Pass
6	21655.57	42.47	10.66	74.0	31.53	Peak	224.1	100	Vertical	Pass

GFSK MODE 1 GHz to 25 GHz, ANT H

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	**2402.60**	85.32	-0.27	114.0	-11.32	Peak	45.00	100	Horizontal	Pass Note 2
2	**2478.52**	88.56	-0.63	114.0	-14.56	Peak	44.50	100	Horizontal	Pass Note 2
3	4594.41	45.85	11.94	74.0	28.15	Peak	0.4	100	Horizontal	Pass
4	11301.17	43.33	20.26	74.0	30.67	Peak	305.3	100	Horizontal	Pass
5	13727.54	48.80	8.66	74.0	25.20	Peak	63.6	100	Horizontal	Pass
6	22603.99	45.46	12.84	74.0	28.54	Peak	316	100	Horizontal	Pass

∏/4-DQPSK MODE 1 GHz to 25 GHz, ANT V

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	**2402.60**	86.75	-0.27	114.0	-12.75	Peak	168.42	100	Vertical	Pass Note 2
2	**2480.52**	87.46	-0.60	114.0	-13.46	Peak	53.37	100	Vertical	Pass Note 2
3	3971.03	50.19	13.23	74.0	23.81	Peak	251.6	100	Vertical	Pass
4	8807.82	46.26	20.40	74.0	27.74	Peak	232	100	Vertical	Pass
5	15984.19	46.26	11.41	74.0	27.74	Peak	182.9	100	Vertical	Pass
6	23222.96	46.79	10.60	74.0	27.21	Peak	309.9	100	Vertical	Pass

∏/4-DQPSK MODE 1 GHz to 25 GHz, ANT H

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	**2402.60**	86.25	-0.27	114.0	-12.25	Peak	47.25	100	Horizontal	Pass Note 2
2	**2480.52**	89.25	-0.60	114.0	-15.25	Peak	42.46	100	Horizontal	Pass Note 2
3	5166.83	46.86	10.97	74.0	27.14	Peak	147.4	100	Horizontal	Pass
4	6617.72	43.21	18.94	74.0	30.79	Peak	204.5	100	Horizontal	Pass
5	13581.95	44.08	9.72	74.0	29.92	Peak	126.1	100	Horizontal	Pass
6	21036.61	45.43	12.49	74.0	28.57	Peak	118.2	100	Horizontal	Pass

8-DPSK MODE 1 GHz to 25 GHz, ANT V

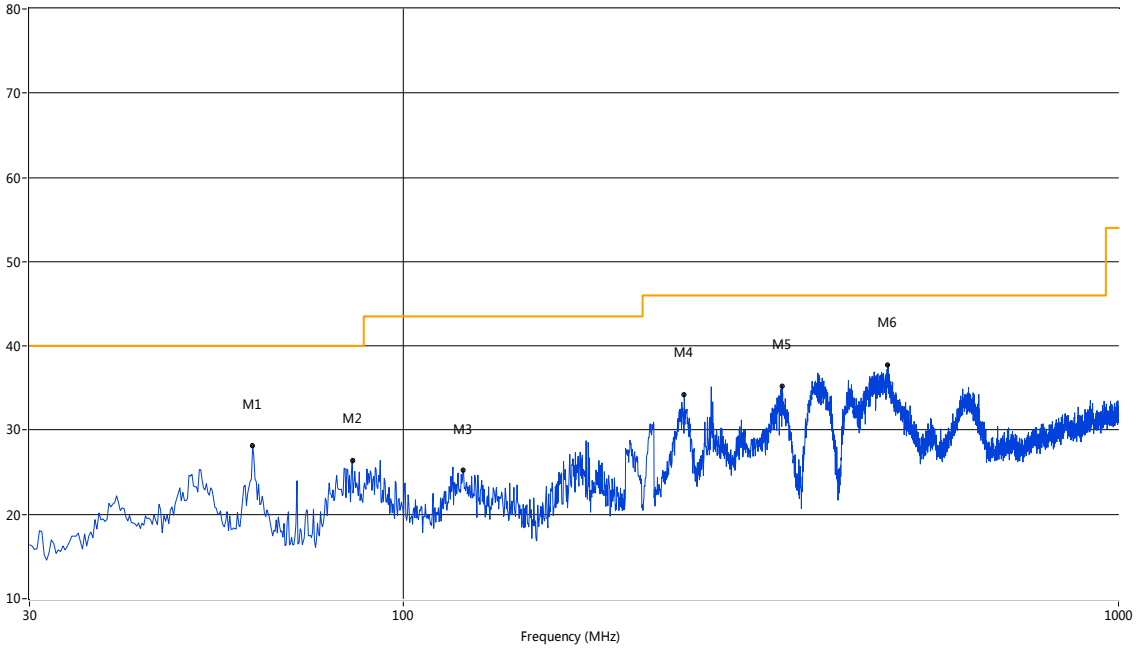
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	1491.51	43.19	-1.78	74.0	30.81	Peak	35.6	100	Vertical	Pass
2	**2408.59**	87.75	-0.10	114.0	-13.75	Peak	48.47	100	Vertical	Pass Note 2
3	**2480.52**	89.26	-0.60	114.0	-15.26	Peak	39.96	100	Vertical	Pass Note 2
4	6258.32	44.40	17.14	74.0	29.60	Peak	164.6	100	Vertical	Pass
5	17544.09	47.04	9.12	74.0	26.96	Peak	113.7	100	Vertical	Pass
6	18480.03	47.63	12.84	74.0	26.37	Peak	130.8	100	Vertical	Pass

8-DPSK MODE 1 GHz to 25 GHz, ANT H

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	**2402.60**	87.47	-0.27	114.0	-13.47	Peak	42.43	100	Horizontal	Pass Note 2
2	**2480.52**	88.63	-0.60	114.0	-14.63	Peak	157.76	100	Horizontal	Pass Note 2
3	4564.44	48.55	15.45	74.0	25.45	Peak	15.8	100	Horizontal	Pass
4	10548.67	48.44	13.62	74.0	25.57	Peak	353.1	100	Horizontal	Pass
5	15495.42	47.78	9.62	74.0	26.22	Peak	175.7	100	Horizontal	Pass
6	22913.48	45.31	9.65	74.0	28.69	Peak	134.1	100	Horizontal	Pass

Model 761478 (White) with Charger SAW48-150-2400J

30 MHz to 1 GHz, ANT V



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	61.52	28.14	-20.23	40.0	11.86	Peak	6.70	100	Vertical	Pass
2	84.79	26.44	-23.44	40.0	13.56	Peak	0.60	100	Vertical	Pass
3	121.16	25.20	-21.83	43.5	18.30	Peak	1.80	100	Vertical	Pass
4	246.98	34.25	-18.89	46.0	11.75	Peak	1.00	100	Vertical	Pass
5	338.38	35.21	-16.41	46.0	10.79	Peak	359.80	100	Vertical	Pass
6	476.09	37.81	-13.85	46.0	8.19	Peak	-0.70	100	Vertical	Pass

30 MHz to 1 GHz, ANT H

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	117.28	31.78	-21.30	43.5	11.72	Peak	355.60	100	Horizontal	Pass
2	127.70	34.81	-22.91	43.5	8.69	Peak	360.70	100	Horizontal	Pass
3	190.98	35.55	-21.15	43.5	7.95	Peak	37.80	100	Horizontal	Pass
4	252.07	37.21	-18.83	46.0	8.79	Peak	27.80	100	Horizontal	Pass
5	359.48	48.30	-16.20	46.0	-2.30	Peak	158.50	100	Horizontal	Pass Note 2
5*	359.48	43.90	-16.20	46.0	2.10	QP	158.50	100	Horizontal	Pass
6	615.01	39.94	-10.30	46.0	6.06	Peak	349.90	100	Horizontal	Pass

Note 1: The marked spikes near 2400 MHz with circle should be ignored because they are Fundamental signal.
Note 2: The bold frequency is the fundamental.
Note 3: Limits are specified for both average and peak (or quasi-peak) detector functions, if the peak (or quasi-peak) measured value complies with the average limit, it is unnecessary to perform an average measurement.

Test Data and Plots (1 GHz ~ 10th Harmonic)

GFSK LOW CHANNEL 1 GHz to 25 GHz, ANT V

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	2254.75	40.21	-4.57	114.0	33.80	Peak	66.2	100	Vertical	Pass
2	**2402.60**	87.25	-0.27	114.0	-13.25	Peak	48.46	100	Vertical	Pass Note 2
3	3788.21	49.26	15.47	74.0	24.75	Peak	18.4	100	Vertical	Pass
4	7269.14	44.58	14.39	74.0	29.42	Peak	256	100	Vertical	Pass
5	15693.01	47.09	10.77	74.0	26.91	Peak	282.8	100	Vertical	Pass
6	19209.65	44.19	9.01	74.0	29.82	Peak	276.8	100	Vertical	Pass

GFSK LOW CHANNEL 1 GHz to 25 GHz, ANT H

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	1021.98	41.59	-4.77	74.0	32.41	Peak	172.2	100	Horizontal	Pass
2	**2402.60**	88.48	-0.27	114.0	-14.48	Peak	47.56	100	Horizontal	Pass Note 2
3	3617.38	51.93	13.58	74.0	22.07	Peak	94	100	Horizontal	Pass
4	6977.12	46.59	16.92	74.0	27.41	Peak	236.7	100	Horizontal	Pass
5	13852.33	41.28	11.53	74.0	32.72	Peak	298.9	100	Horizontal	Pass
6	18968.80	45.86	11.82	74.0	28.14	Peak	150.6	100	Horizontal	Pass

GFSK MIDDLE CHANNEL 1 GHz to 25 GHz, ANT V

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	1389.61	45.38	-4.78	74.0	28.62	Peak	326.2	100	Vertical	Pass
2	**2440.56**	88.43	-0.41	114.0	-14.43	Peak	43.48	100	Vertical	Pass Note 2
3	5250.75	48.77	12.60	74.0	25.23	Peak	264	100	Vertical	Pass
4	10806.99	41.62	14.28	74.0	32.38	Peak	49.5	100	Vertical	Pass
5	13269.97	51.34	8.91	74.0	22.66	Peak	78.4	100	Vertical	Pass
6	22923.46	47.26	9.81	74.0	26.74	Peak	335.1	100	Vertical	Pass

GFSK MIDDLE CHANNEL 1 GHz to 25 GHz, ANT H

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	**2440.56**	88.16	-0.41	114.0	-14.16	Peak	47.59	100	Horizontal	Pass Note 2
2	2902.10	44.74	2.06	74.0	29.26	Peak	159.1	100	Horizontal	Pass
3	4900.10	50.31	14.56	74.0	23.69	Peak	262	100	Horizontal	Pass
4	8235.03	45.57	20.41	74.0	28.43	Peak	238.3	100	Horizontal	Pass
5	14278.70	44.52	9.03	74.0	29.49	Peak	153.9	100	Horizontal	Pass
6	18168.05	44.05	12.09	74.0	29.96	Peak	113.3	100	Horizontal	Pass

GFSK HIGH CHANNEL 1 GHz to 25 GHz, ANT V

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	1957.04	40.72	-2.44	74.0	33.28	Peak	104.6	100	Vertical	Pass
2	**2480.52**	89.68	-0.60	114.0	-15.68	Peak	43.57	100	Vertical	Pass Note 2
3	4204.80	48.36	12.78	74.0	25.64	Peak	80.3	100	Vertical	Pass
4	11368.55	45.57	17.12	74.0	28.43	Peak	177.5	100	Vertical	Pass
5	17627.29	48.92	10.66	74.0	25.08	Peak	306.3	100	Vertical	Pass
6	21455.91	45.53	12.14	74.0	28.47	Peak	262.3	100	Vertical	Pass

GFSK HIGH CHANNEL 1 GHz to 25 GHz, ANT H

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	1611.39	44.92	-2.17	74.0	29.08	Peak	71.5	100	Horizontal	Pass
2	**2480.52**	89.18	-0.60	114.0	-15.18	Peak	43.32	100	Horizontal	Pass Note 2
3	5871.13	51.34	10.19	74.0	22.66	Peak	265.6	100	Horizontal	Pass
4	6718.80	44.79	14.03	74.0	29.21	Peak	185.6	100	Horizontal	Pass
5	12334.44	45.14	11.34	74.0	28.86	Peak	136.6	100	Horizontal	Pass
6	20886.86	46.29	11.59	74.0	27.71	Peak	37.9	100	Horizontal	Pass

∏/4-DQPSK LOW CHANNEL 1 GHz to 25 GHz, ANT V

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	1867.13	39.26	-0.53	74.0	34.74	Peak	255.9	100	Vertical	Pass
2	**2402.60**	88.76	-0.27	114.0	-14.76	Peak	37.78	100	Vertical	Pass Note 2
3	5724.28	48.94	11.33	74.0	25.06	Peak	47.2	100	Vertical	Pass
4	11548.25	45.42	20.44	74.0	28.58	Peak	252.6	100	Vertical	Pass
5	16524.96	44.93	9.41	74.0	29.08	Peak	171.1	100	Vertical	Pass
6	19668.89	45.55	9.68	74.0	28.45	Peak	65.2	100	Vertical	Pass

∏/4-DQPSK LOW CHANNEL 1 GHz to 25 GHz, ANT H

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	1765.24	41.44	-3.24	74.0	32.56	Peak	15.1	100	Horizontal	Pass
2	**2402.60**	88.75	-0.27	114.0	-14.75	Peak	49.16	100	Horizontal	Pass Note 2
3	5610.39	51.28	15.63	74.0	22.72	Peak	148.1	100	Horizontal	Pass
4	11649.33	48.68	20.00	74.0	25.32	Peak	17.9	100	Horizontal	Pass
5	17481.70	44.75	9.10	74.0	29.25	Peak	321.4	100	Horizontal	Pass
6	18656.82	47.49	12.90	74.0	26.51	Peak	143.9	100	Horizontal	Pass

∏/4-DQPSK MIDDLE CHANNEL 1 GHz to 25 GHz, ANT V

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	1771.23	44.35	-5.96	74.0	29.66	Peak	305.2	100	Vertical	Pass
2	**2440.56**	89.77	-0.41	114.0	-15.77	Peak	42.26	100	Vertical	Pass Note 2
3	5223.78	51.64	12.16	74.0	22.37	Peak	190.9	100	Vertical	Pass
4	9987.11	49.28	19.89	74.0	24.72	Peak	22.5	100	Vertical	Pass
5	13769.14	46.40	9.76	74.0	27.60	Peak	293.6	100	Vertical	Pass
6	22653.91	44.13	10.21	74.0	29.87	Peak	107	100	Vertical	Pass

∏/4-DQPSK MIDDLE CHANNEL 1 GHz to 25 GHz, ANT H

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	1505.50	42.35	-1.68	74.0	31.65	Peak	323.4	100	Horizontal	Pass
2	**2440.56**	89.58	-0.41	114.0	-15.58	Peak	44.98	100	Horizontal	Pass Note 2
3	3977.02	47.74	11.91	74.0	26.27	Peak	134.9	100	Horizontal	Pass
4	11458.40	49.29	15.23	74.0	24.71	Peak	83.7	100	Horizontal	Pass
5	16275.37	45.02	9.09	74.0	28.99	Peak	95.8	100	Horizontal	Pass
6	22114.81	42.53	9.07	74.0	31.47	Peak	150.7	100	Horizontal	Pass

∏/4-DQPSK HIGH CHANNEL 1 GHz to 25 GHz, ANT V

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	2060.94	44.76	-1.39	74.0	29.24	Peak	114.6	100	Vertical	Pass
2	**2480.52**	90.47	-0.60	114.0	-16.47	Peak	43.14	100	Vertical	Pass Note 2
3	5211.79	47.75	13.44	74.0	26.25	Peak	49.7	100	Vertical	Pass
4	10649.75	49.47	13.55	74.0	24.53	Peak	220.6	100	Vertical	Pass
5	14725.87	46.38	10.09	74.0	27.62	Peak	251.9	100	Vertical	Pass
6	19828.62	46.04	12.30	74.0	27.96	Peak	195.6	100	Vertical	Pass

∏/4-DQPSK HIGH CHANNEL 1 GHz to 25 GHz, ANT H

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	1441.56	41.43	-0.49	74.0	32.57	Peak	306.6	100	Horizontal	Pass
2	**2480.52**	90.57	-0.60	114.0	-16.57	Peak	43.77	100	Horizontal	Pass Note 2
3	5472.53	49.20	13.63	74.0	24.80	Peak	108.9	100	Horizontal	Pass
4	11200.08	46.56	19.94	74.0	27.44	Peak	325.8	100	Horizontal	Pass
5	16493.76	45.56	10.39	74.0	28.44	Peak	240.7	100	Horizontal	Pass
6	19848.59	47.34	11.67	74.0	26.66	Peak	219.8	100	Horizontal	Pass

8-DPSK LOW CHANNEL 1 GHz to 25 GHz, ANT V

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
3	**2402.60**	87.43	-0.27	114.0	-13.43	Peak	43.53	100	Vertical	Pass Note 2
2	2944.06	45.13	9.02	74.0	28.87	Peak	67.3	100	Vertical	Pass
3	4966.03	49.01	12.47	74.0	24.99	Peak	305.3	100	Vertical	Pass
4	11413.48	48.14	18.90	74.0	25.86	Peak	186.2	100	Vertical	Pass
5	12177.21	43.99	10.40	74.0	30.01	Peak	114.9	100	Vertical	Pass
6	18053.66	42.98	9.77	74.0	31.02	Peak	36.6	100	Vertical	Pass

8-DPSK LOW CHANNEL 1 GHz to 25 GHz, ANT H

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	1669.33	44.88	-1.62	74.0	29.13	Peak	26.8	100	Horizontal	Pass
2	**2402.60**	87.78	-0.27	114.0	-13.78	Peak	167.35	100	Horizontal	Pass Note 2
3	4972.03	49.49	10.91	74.0	24.51	Peak	222.9	100	Horizontal	Pass
4	9111.07	48.42	14.84	74.0	25.58	Peak	104	100	Horizontal	Pass
5	13436.36	44.24	11.41	74.0	29.76	Peak	57.2	100	Horizontal	Pass
6	18417.64	46.32	10.09	74.0	27.69	Peak	39.9	100	Horizontal	Pass

8-DPSK MIDDLE CHANNEL 1 GHz to 25 GHz, ANT V

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	1523.48	41.59	-4.39	74.0	32.41	Peak	102.5	100	Vertical	Pass
2	**2440.56**	89.45	-0.41	114.0	-15.45	Peak	42.67	100	Vertical	Pass Note 2
3	4936.06	50.61	10.88	74.0	23.39	Peak	254.4	100	Vertical	Pass
4	7628.54	45.99	16.91	74.0	28.02	Peak	233.4	100	Vertical	Pass
5	14361.90	46.41	9.03	74.0	27.59	Peak	195.6	100	Vertical	Pass
6	20257.90	48.21	11.26	74.0	25.79	Peak	36.5	100	Vertical	Pass

8-DPSK MIDDLE CHANNEL 1 GHz to 25 GHz, ANT H

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	1361.64	40.69	-6.29	74.0	33.31	Peak	182.4	100	Horizontal	Pass
2	**2440.56**	89.43	-0.41	114.0	-15.43	Peak	43.54	100	Horizontal	Pass Note 2
3	5787.21	52.46	11.36	74.0	21.54	Peak	331.1	100	Horizontal	Pass
4	9504.16	42.30	14.56	74.0	31.71	Peak	288	100	Horizontal	Pass
5	17752.08	44.29	9.25	74.0	29.71	Peak	221.5	100	Horizontal	Pass
6	20806.99	45.58	12.59	74.0	28.42	Peak	297.6	100	Horizontal	Pass

8-DPSK HIGH CHANNEL 1 GHz to 25 GHz, ANT V

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	1097.90	40.00	-4.75	74.0	34.01	Peak	85.9	100	Vertical	Pass
3	**2478.52**	89.36	-0.63	114.0	-15.36	Peak	43.64	100	Vertical	Pass Note 2
3	3767.23	49.22	15.65	74.0	24.78	Peak	322.8	100	Vertical	Pass
4	10717.14	50.27	19.71	74.0	23.73	Peak	124.6	100	Vertical	Pass
5	14465.89	44.25	20.48	74.0	29.76	Peak	207.7	100	Vertical	Pass
6	20777.04	45.70	10.50	74.0	28.30	Peak	0.4	100	Vertical	Pass

8-DPSK HIGH CHANNEL 1 GHz to 25 GHz, ANT H

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	1483.52	41.60	-0.21	74.0	32.40	Peak	247.6	100	Horizontal	Pass
2	**2480.52**	90.36	-0.60	114.0	-16.36	Peak	43.75	100	Horizontal	Pass Note 2
3	5751.25	50.32	14.23	74.0	23.69	Peak	215.2	100	Horizontal	Pass
4	10043.26	47.89	15.10	74.0	26.11	Peak	244	100	Horizontal	Pass
5	12267.06	46.13	8.73	74.0	27.87	Peak	97.2	100	Horizontal	Pass
6	18199.25	46.00	11.08	74.0	28.00	Peak	356	100	Horizontal	Pass

Hopping Mode:

GFSK MODE 1 GHz to 25 GHz, ANT V

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	**2402.60**	87.24	-0.27	114.0	-13.24	Peak	49.46	100	Vertical	Pass Note 2
2	**2480.52**	89.75	-0.60	114.0	-15.75	Peak	44.76	100	Vertical	Pass Note 2
3	3989.01	51.89	11.28	74.0	22.11	Peak	232.1	100	Vertical	Pass
4	6202.16	47.16	14.85	74.0	26.85	Peak	47.9	100	Vertical	Pass
5	17419.30	45.46	20.63	74.0	28.54	Peak	254.9	100	Vertical	Pass
6	22863.56	44.96	10.78	74.0	29.04	Peak	18.7	100	Vertical	Pass

GFSK MODE 1 GHz to 25 GHz, ANT H

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	**2402.60**	86.57	-0.27	114.0	-12.57	Peak	48.44	100	Horizontal	Pass Note 2
2	**2478.52**	89.68	-0.63	114.0	-15.68	Peak	43.25	100	Horizontal	Pass Note 2
3	5844.16	48.66	15.11	74.0	25.34	Peak	49.8	100	Horizontal	Pass
4	8807.82	45.31	13.96	74.0	28.69	Peak	285.1	100	Horizontal	Pass
5	15547.42	45.93	9.63	74.0	28.07	Peak	33.9	100	Horizontal	Pass
6	23462.56	41.48	12.54	74.0	32.52	Peak	77.5	100	Horizontal	Pass

∏/4-DQPSK MODE 1 GHz to 25 GHz, ANT V

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	**2402.60**	86.78	-0.27	114.0	-12.78	Peak	47.57	100	Horizontal	Pass Note 2
2	**2480.52**	89.35	-0.60	114.0	-15.35	Peak	42.56	100	Horizontal	Pass Note 2
3	4573.43	48.90	15.82	74.0	25.10	Peak	274.6	100	Horizontal	Pass
4	7246.67	42.85	14.56	74.0	31.15	Peak	313.1	100	Horizontal	Pass
5	15641.02	42.95	19.71	74.0	31.05	Peak	180.5	100	Horizontal	Pass
6	23851.91	47.25	9.14	74.0	26.75	Peak	301.5	100	Horizontal	Pass

∏/4-DQPSK MODE 1 GHz to 25 GHz, ANT H

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	**2402.60**	86.63	-0.27	114.0	-12.63	Peak	168.53	100	Vertical	Pass Note 2
2	**2480.52**	87.47	-0.60	114.0	-13.47	Peak	53.76	100	Vertical	Pass Note 2
3	4540.46	47.17	9.75	74.0	26.83	Peak	291.5	100	Vertical	Pass
4	11323.63	44.12	20.47	74.0	29.88	Peak	88.7	100	Vertical	Pass
5	14673.88	44.07	10.89	74.0	29.93	Peak	268.3	100	Vertical	Pass
6	22783.69	44.94	9.69	74.0	29.06	Peak	309.9	100	Vertical	Pass

8-DPSK MODE 1 GHz to 25 GHz, ANT V

No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	**2408.59**	87.46	-0.10	114.0	-13.46	Peak	48.51	100	Vertical	Pass Note 2
2	**2480.52**	89.19	-0.60	114.0	-15.19	Peak	39.36	100	Vertical	Pass Note 2
3	4666.33	45.29	13.49	74.0	28.71	Peak	152.9	100	Vertical	Pass
4	9077.37	46.11	20.40	74.0	27.89	Peak	268.2	100	Vertical	Pass
5	15256.24	51.53	8.58	74.0	22.47	Peak	46.5	100	Vertical	Pass
6	22004.99	48.12	12.90	74.0	25.88	Peak	156.5	100	Vertical	Pass

8-DPSK MODE 1 GHz to 25 GHz, ANT H

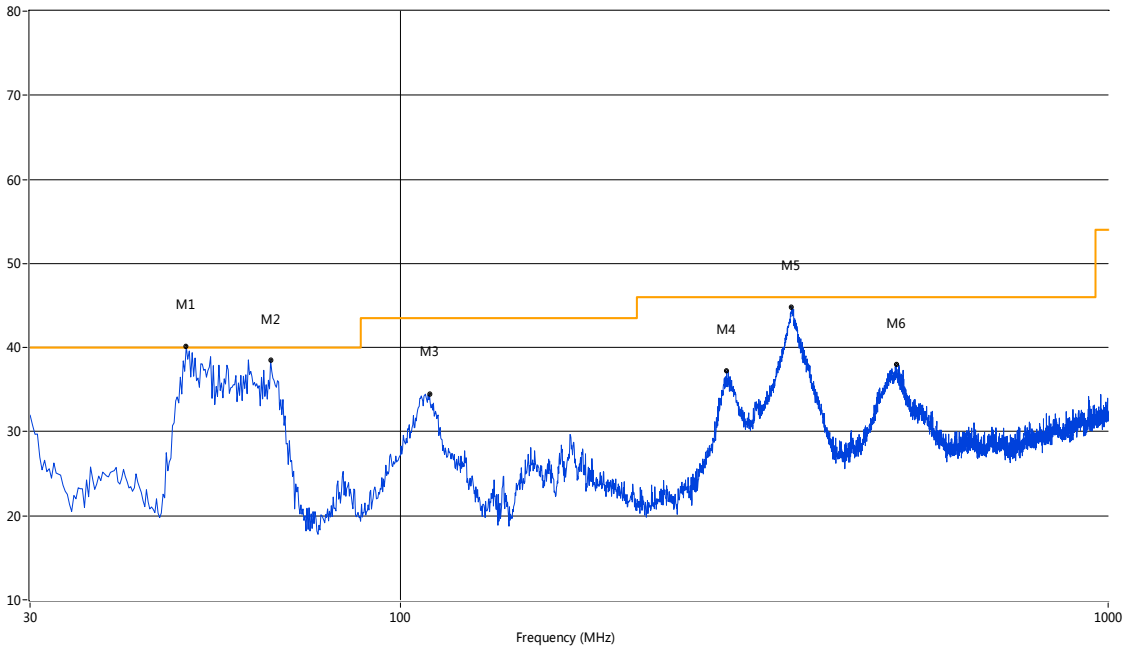
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	**2402.60**	87.32	-0.27	114.0	-13.32	Peak	42.43	100	Horizontal	Pass Note 2
2	**2480.52**	88.61	-0.60	114.0	-14.61	Peak	157.76	100	Horizontal	Pass Note 2
3	4285.71	47.97	15.57	74.0	26.03	Peak	169.7	100	Horizontal	Pass
4	6067.39	46.01	13.83	74.0	27.99	Peak	99.5	100	Horizontal	Pass
5	15973.79	43.92	20.65	74.0	30.09	Peak	322.9	100	Horizontal	Pass
6	21396.01	48.19	11.13	74.0	25.81	Peak	132.1	100	Horizontal	Pass

Test Data and Plots

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

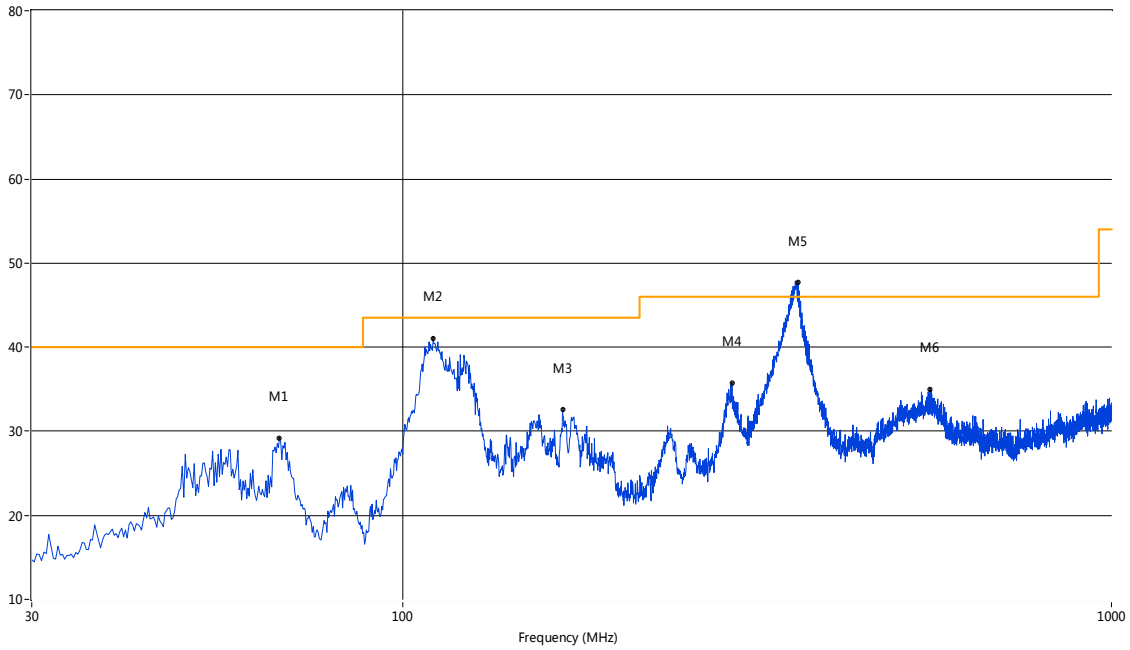
Model 761403 (Red) with Charger SAW24-090-2500

30 MHz to 1 GHz, ANT V



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	49.88	40.15	-18.70	40.0	-0.15	Peak	240.40	100.00	Vertical	N/A
1*	49.88	36.76	-18.70	40.0	3.24	QP	240.40	100.00	Vertical	Pass
2	65.64	38.45	-20.86	40.0	1.55	Peak	190.50	100.00	Vertical	Pass
2*	65.64	35.78	-20.86	40.0	4.22	QP	190.50	100.00	Vertical	Pass
3	110.00	34.51	-20.25	43.5	8.99	Peak	86.90	100	Vertical	Pass
4	289.17	37.22	-18.07	46.0	8.78	Peak	27.10	100	Vertical	Pass
5	357.29	44.83	-16.17	46.0	1.17	Peak	5.30	100.00	Vertical	Pass
5*	357.29	35.35	-16.17	46.0	4.65	QP	5.30	100.00	Vertical	Pass
6	501.79	37.96	-13.10	46.0	8.04	Peak	220.10	100	Vertical	Pass

30 MHz to 1 GHz, ANT H



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	67.09	29.22	-21.39	40.0	10.78	Peak	358.20	100	Horizontal	Pass
2	110.49	41.01	-20.28	43.5	2.49	Peak	357.10	100.00	Horizontal	N/A
2*	110.49	37.49	-20.28	43.5	6.01	QP	357.10	100.00	Horizontal	Pass
3	168.19	32.51	-22.81	43.5	10.99	Peak	298.60	100	Horizontal	Pass
4	291.59	35.73	-17.97	46.0	10.27	Peak	130.40	100	Horizontal	Pass
5	361.41	47.67	-16.16	46.0	-1.67	Peak	273.30	100.00	Horizontal	N/A
5*	361.41	42.97	-16.16	46.0	3.03	QP	273.30	100.00	Horizontal	Pass
6	555.12	34.96	-11.96	46.0	11.04	Peak	303.70	100	Horizontal	Pass

A.4 Band Edge

Test Data

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

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

Model: 761403 (Red)

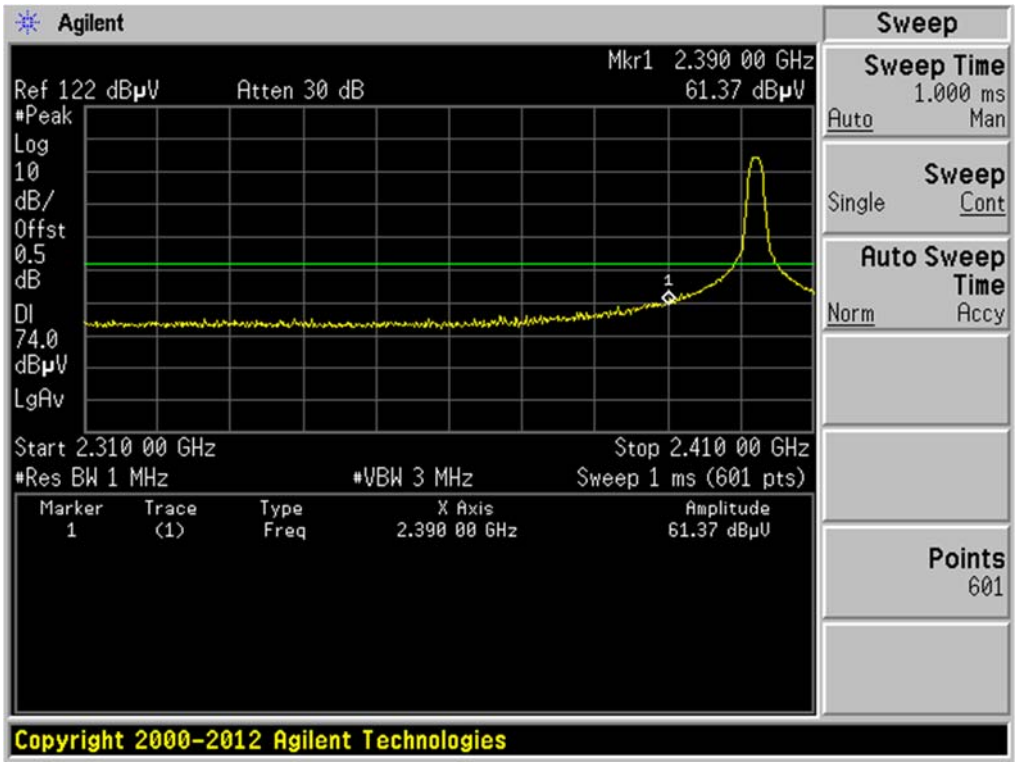
Note: The average levels were calculated from the peak level corrected with duty cycle correction factor (21.19dB) derived from 20log (dwell time/100 ms).

For example: Average level = 61.37 dBuV/m – 21.19 (dB) = 40.18 dBuV/m.

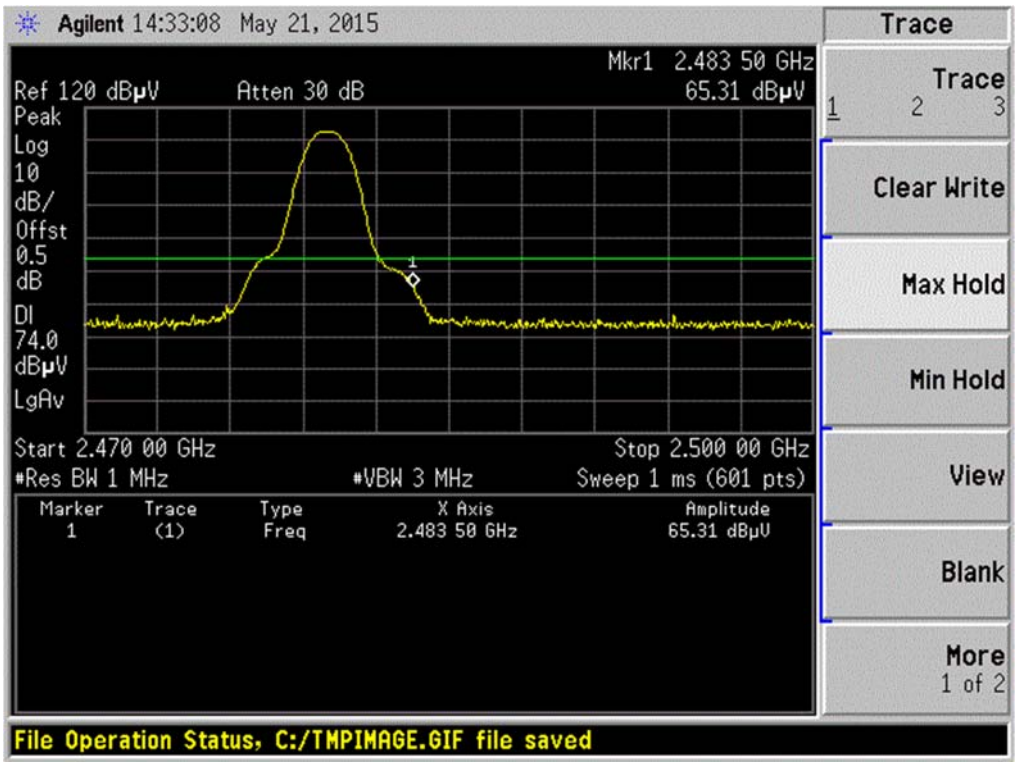
Test Mode	Test Channel	Frequency (MHz)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Remark	Verdict
GFSK	Low	2390.00	61.37	74	12.63	PEAK	Pass
		2390.00	40.18	54	13.82	AVERAGE	Pass
GFSK	HIGH	2483.50	65.31	74	8.69	PEAK	Pass
		2483.50	44.12	54	9.88	AVERAGE	Pass
∏/4DQPSK	Low	2390.00	61.91	74	12.09	PEAK	Pass
		2390.00	40.72	54	13.28	AVERAGE	Pass
∏/4DQPSK	HIGH	2483.50	58.00	74	16.00	PEAK	Pass
		2483.50	36.81	54	17.19	AVERAGE	Pass
8-DPSK	Low	2390.00	62.46	74	11.54	PEAK	Pass
		2390.00	41.27	54	12.73	AVERAGE	Pass
8-DPSK	HIGH	2483.50	59.89	74	14.11	PEAK	Pass
		2483.50	38.70	54	15.30	AVERAGE	Pass
GFSK(Hopping)	Low	2390.00	61.37	74	12.63	PEAK	Pass
		2390.00	40.18	54	13.82	AVERAGE	Pass
GFSK(Hopping	HIGH	2483.50	64.63	74	9.37	PEAK	Pass
		2483.50	43.44	54	10.56	AVERAGE	Pass
∏/4DQPSK (Hopping)	Low	2390.00	61.68	74	12.32	PEAK	Pass
		2390.00	40.49	54	13.51	AVERAGE	Pass
∏/4DQPSK (Hopping)	HIGH	2483.50	55.91	74	18.09	PEAK	Pass
		2483.50	34.72	54	19.28	AVERAGE	Pass
8-DPSK (Hopping)	Low	2390.00	60.20	74	13.80	PEAK	Pass
		2390.00	39.01	54	14.99	AVERAGE	Pass
8-DPSK (Hopping)	HIGH	2483.50	56.21	74	17.79	PEAK	Pass
		2483.50	35.02	54	18.98	AVERAGE	Pass

Test Plots

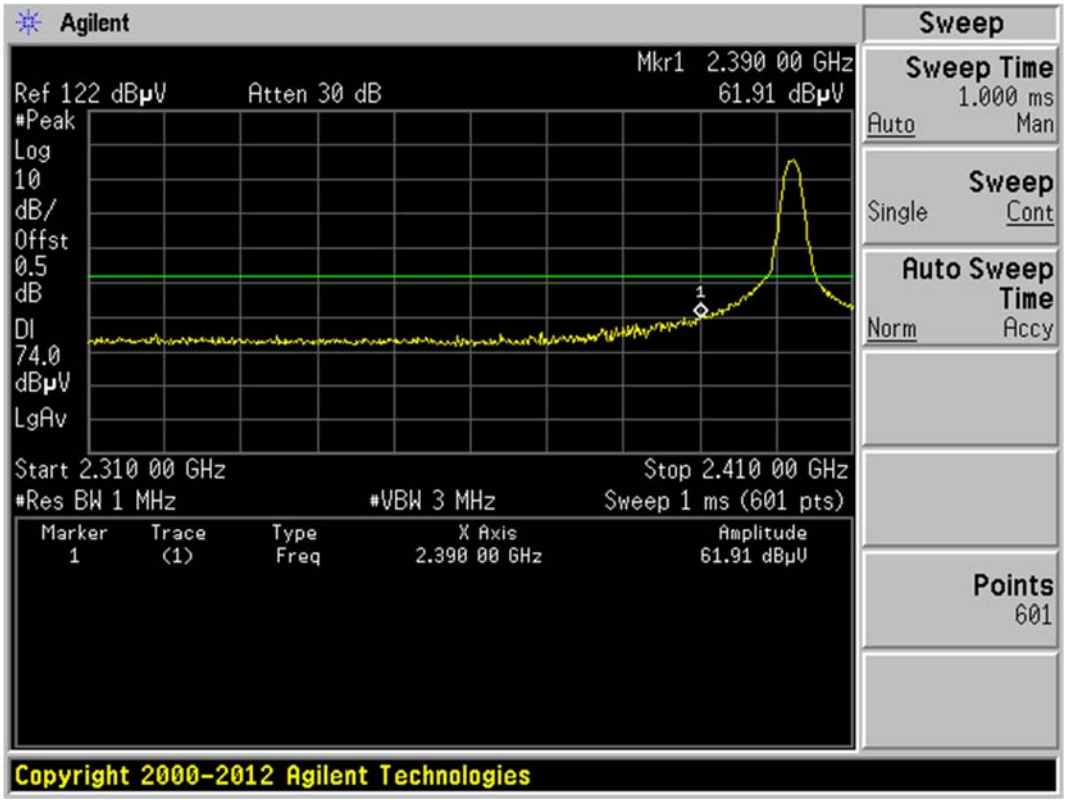
GFSK LOW CHANNEL , PEAK



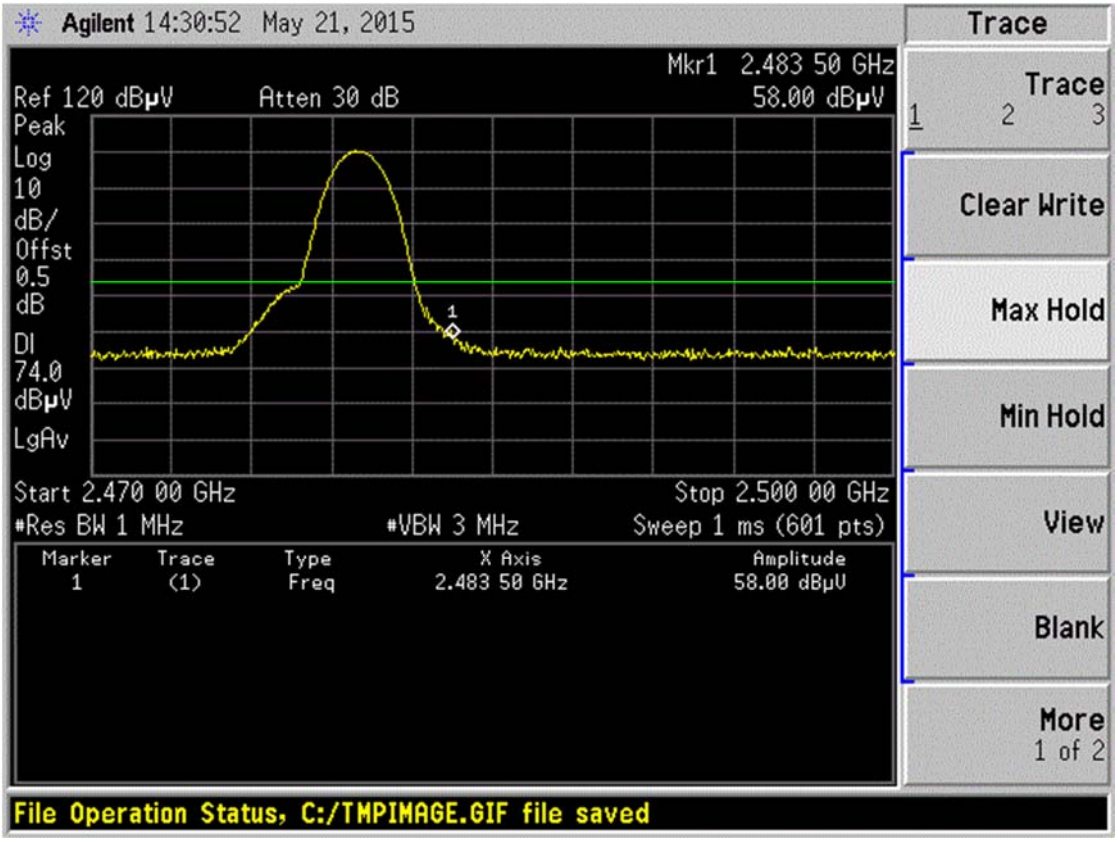
GFSK HIGH CHANNEL , PEAK



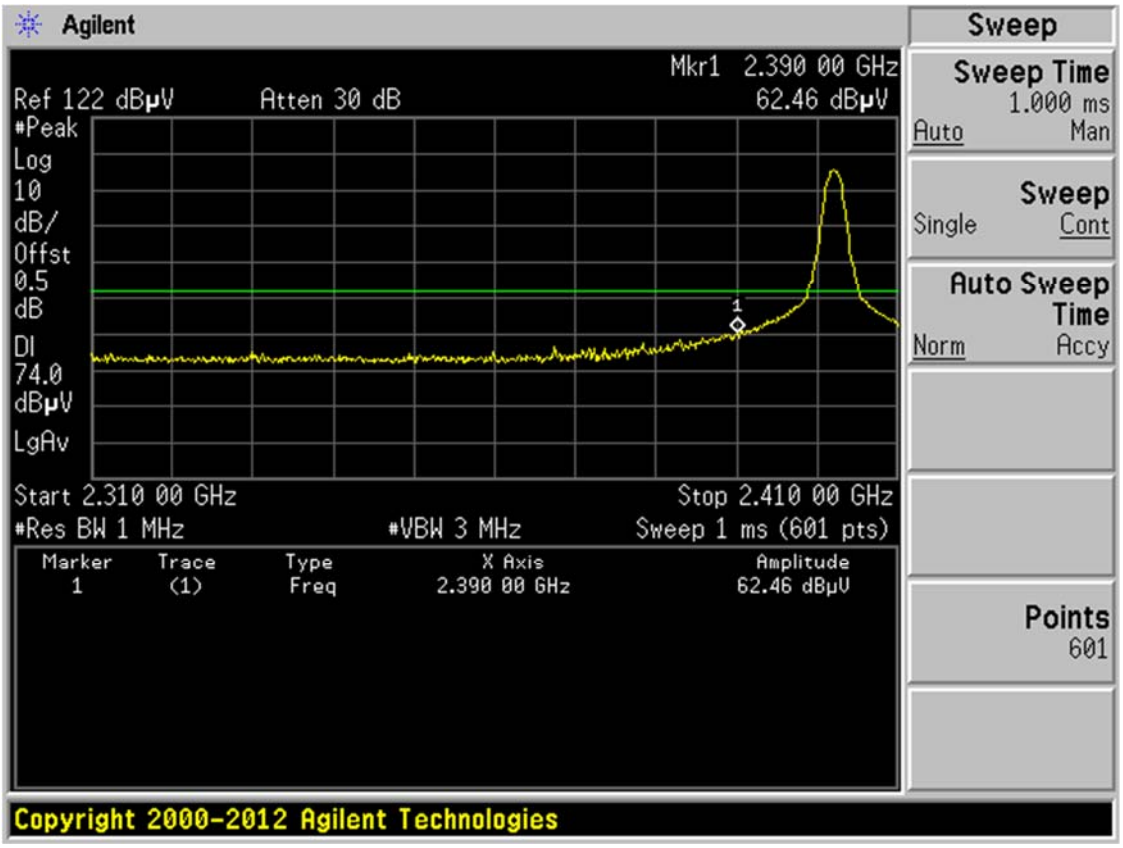
∏/4-DQPSK LOW CHANNEL , PEAK



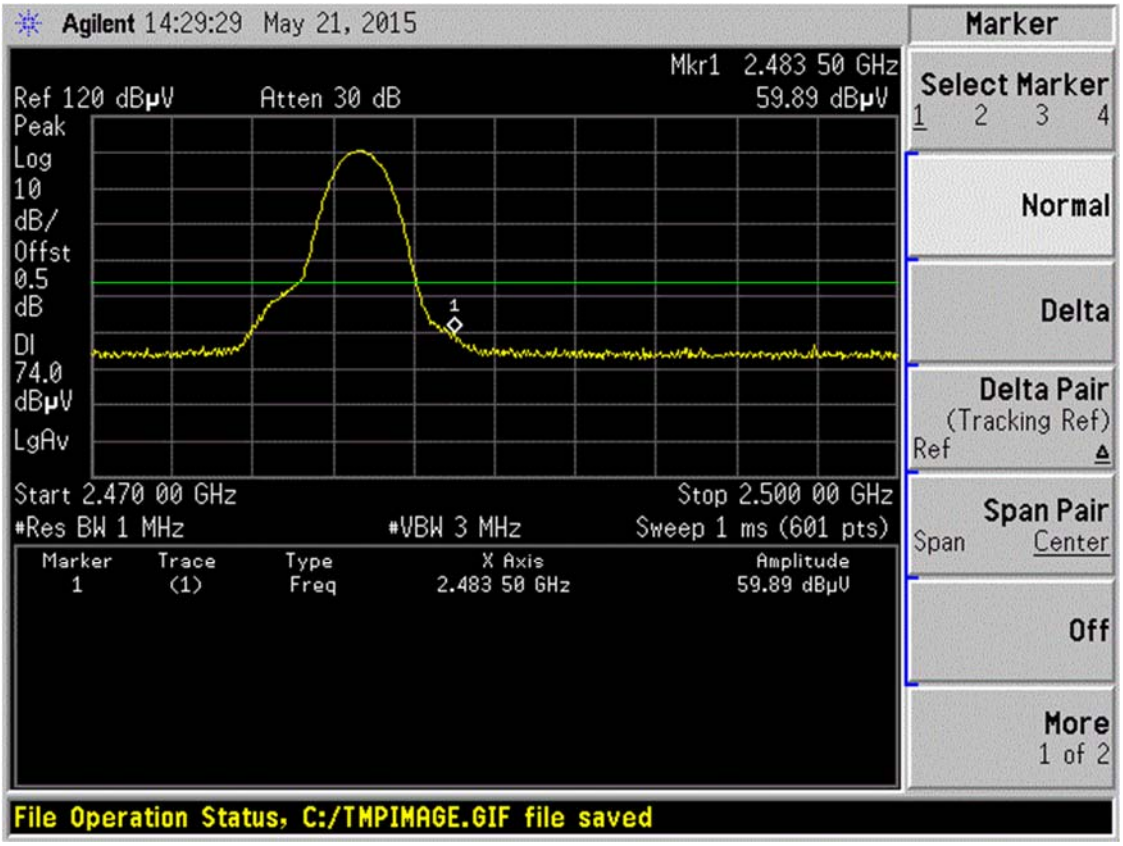
∏/4-DQPSK HIGH CHANNEL , PEAK



8-DPSK LOW CHANNEL , PEAK

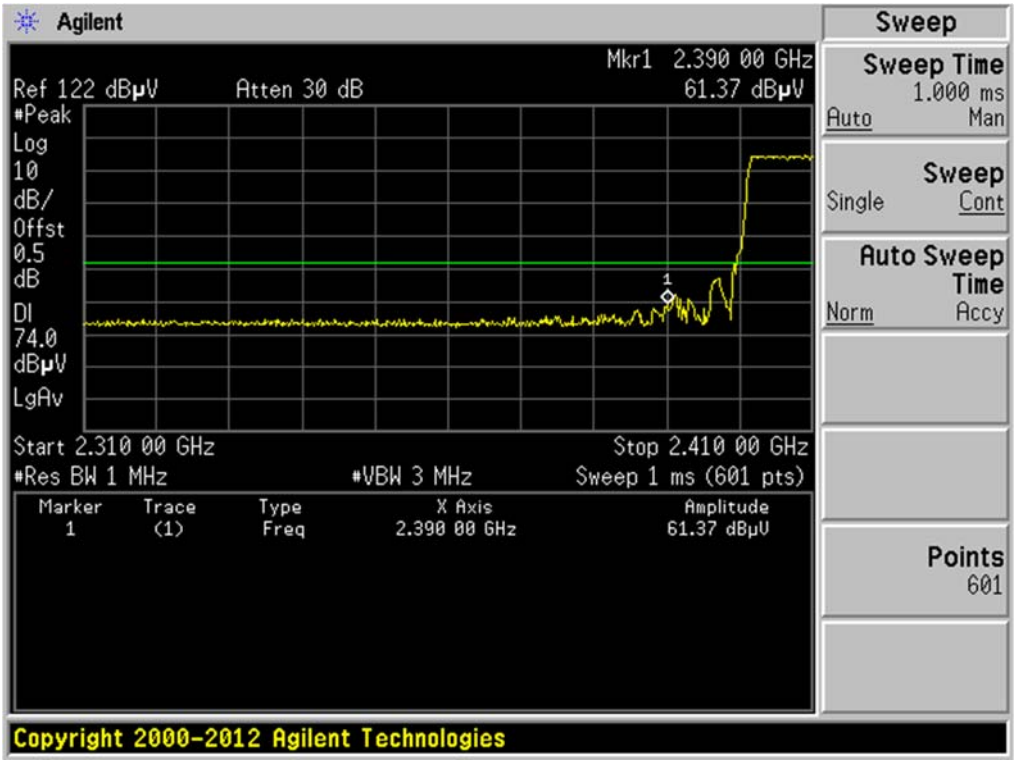


8-DPSK HIGH CHANNEL , PEAK

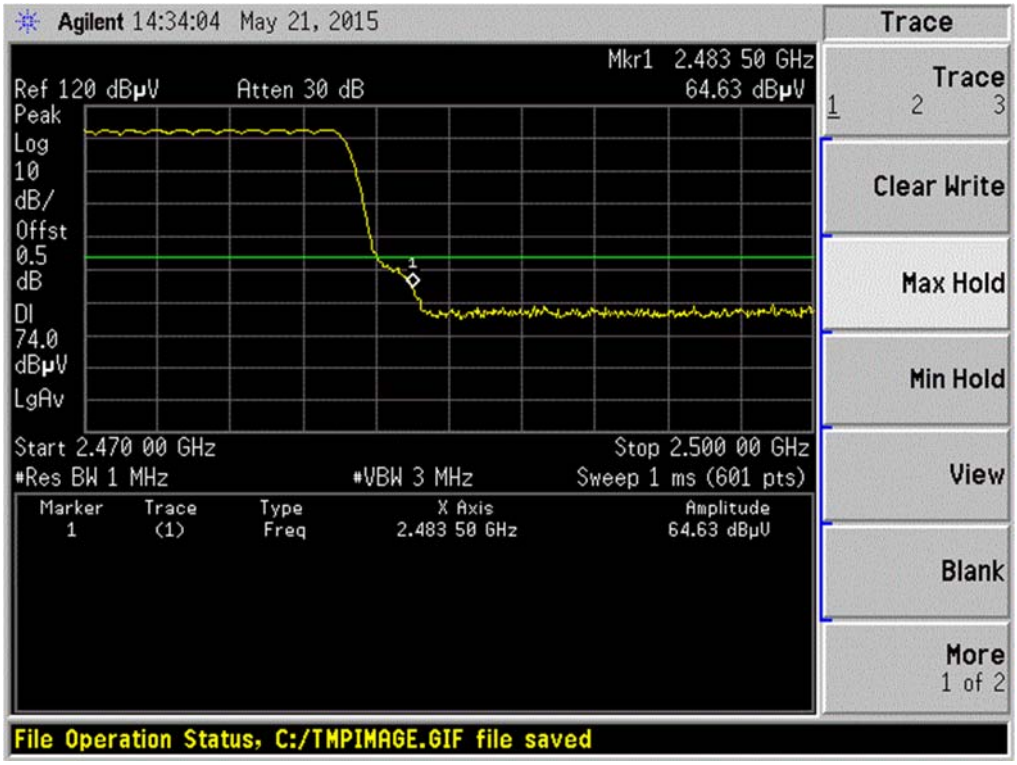


Hopping Mode:

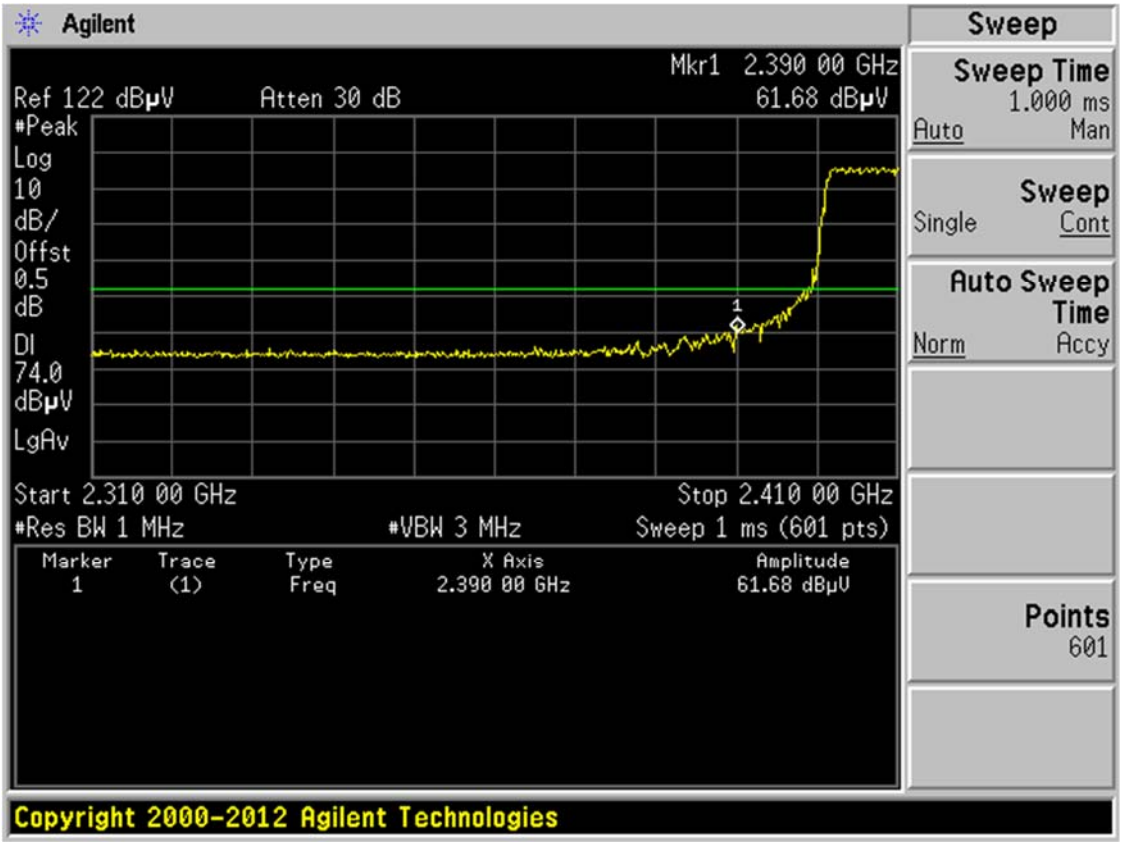
GFSK LOW FREQUENCY BAND, PEAK



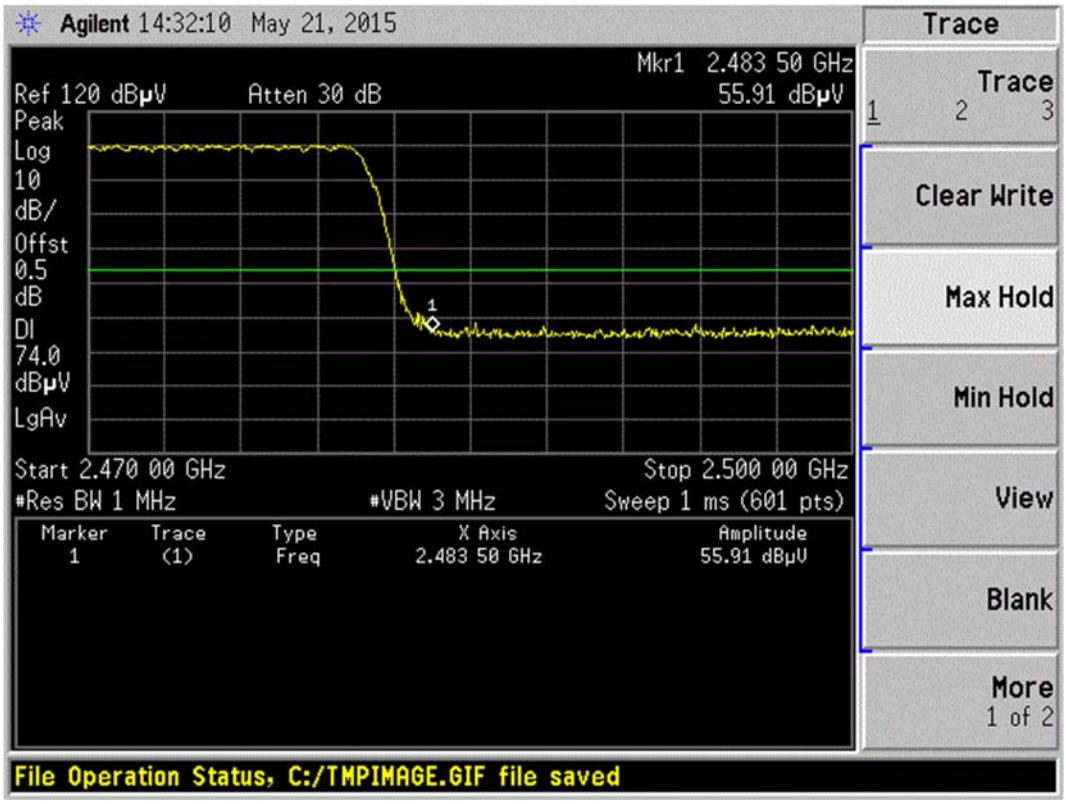
GFSK HIGH FREQUENCY BAND, PEAK



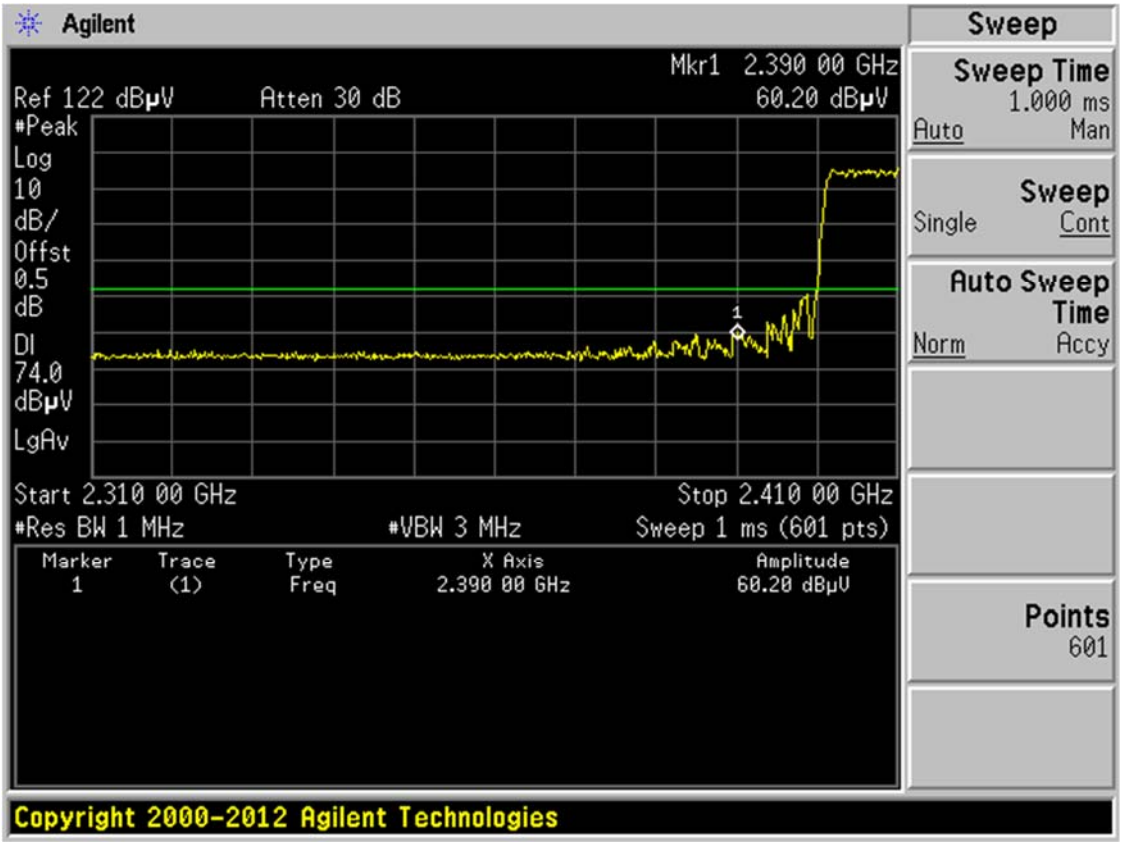
∏/4-DQPSK LOW FREQUENCY BAND, PEAK



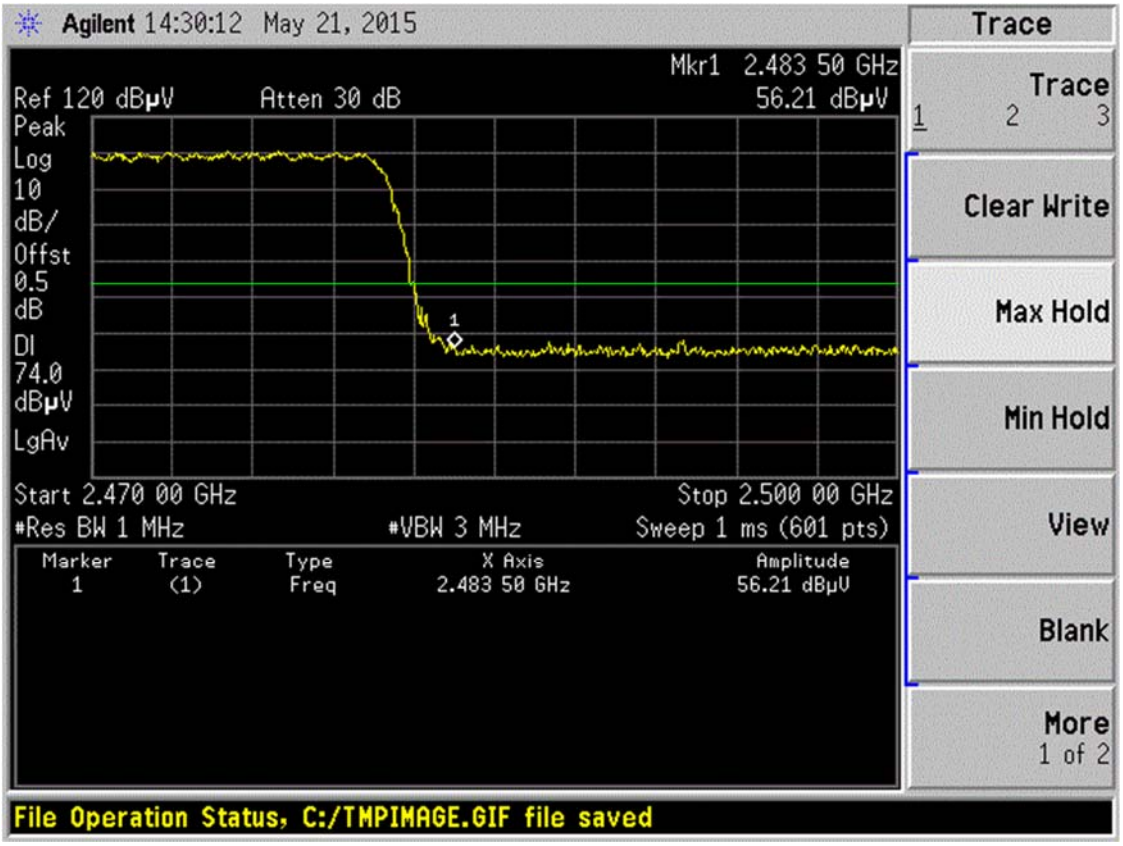
∏/4-DQPSK HIGH FREQUENCY BAND, PEAK



8-DPSK LOW FREQUENCY BAND, PEAK



8-DPSK HIGH FREQUENCY BAND, PEAK



Model: 761481 (Black)

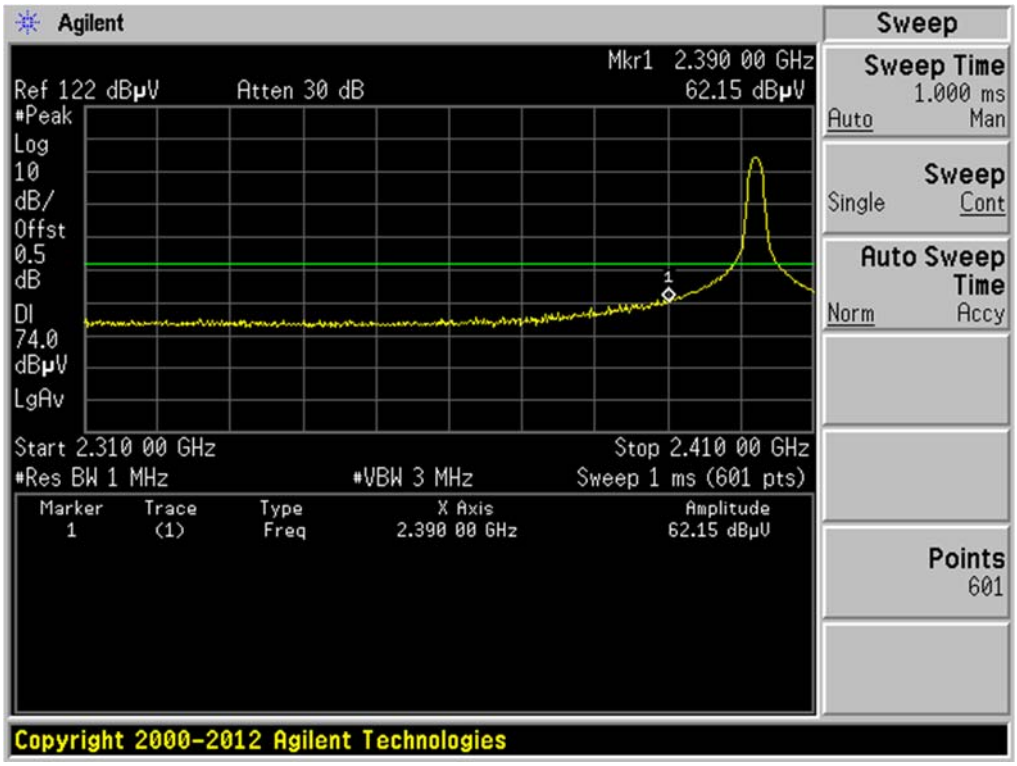
Note: The average levels were calculated from the peak level corrected with duty cycle correction factor (21.19dB) derived from 20log (dwell time/100 ms).

For example: Average level = 62.15 dBuV/m – 21.19 (dB) = 40.96 dBuV/m.

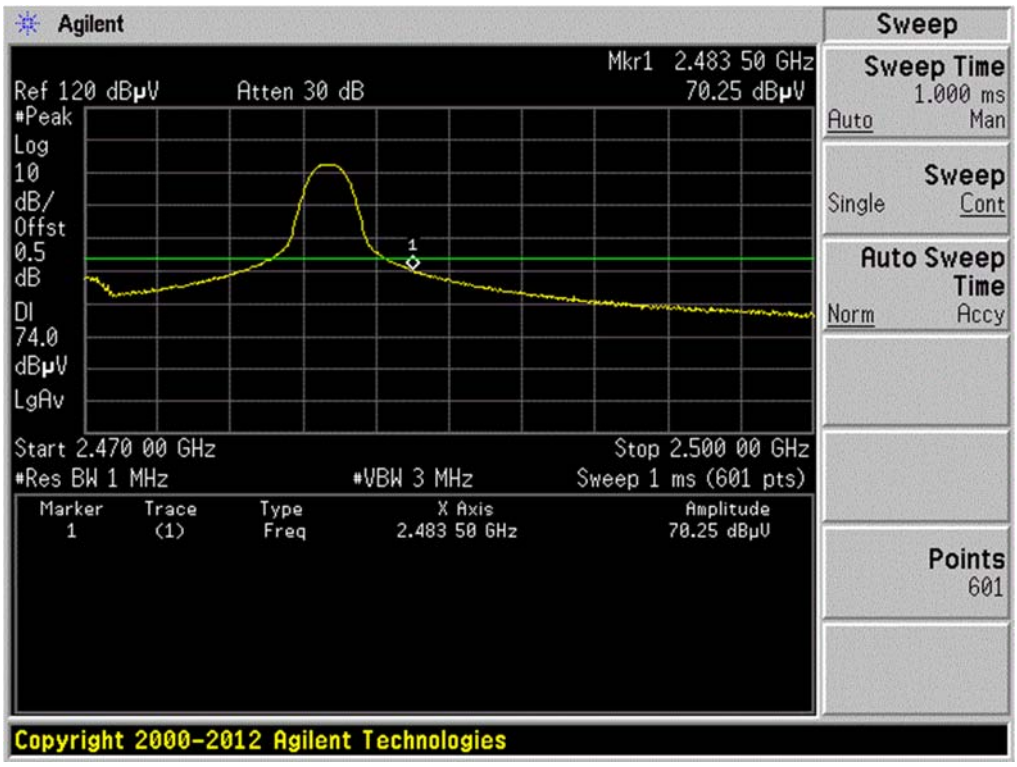
Test Mode	Test Channel	Frequency (MHz)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Remark	Verdict
GFSK	Low	2390.00	62.15	74	11.85	PEAK	Pass
		2390.00	40.96	54	13.04	AVERAGE	Pass
GFSK	HIGH	2483.50	70.25	74	3.75	PEAK	Pass
		2483.50	49.06	54	4.94	AVERAGE	Pass
∏/4DQPSK	Low	2390.00	61.25	74	12.75	PEAK	Pass
		2390.00	40.06	54	13.94	AVERAGE	Pass
∏/4DQPSK	HIGH	2483.50	69.77	74	4.23	PEAK	Pass
		2483.50	48.58	54	5.42	AVERAGE	Pass
8-DPSK	Low	2390.00	61.8	74	12.2	PEAK	Pass
		2390.00	40.61	54	13.39	AVERAGE	Pass
8-DPSK	HIGH	2483.50	69.4	74	4.6	PEAK	Pass
		2483.50	48.21	54	5.79	AVERAGE	Pass
GFSK(Hopping)	Low	2390.00	56.77	74	17.23	PEAK	Pass
		2390.00	35.58	54	18.42	AVERAGE	Pass
GFSK(Hopping	HIGH	2483.50	69.45	74	4.55	PEAK	Pass
		2483.50	48.26	54	5.74	AVERAGE	Pass
∏/4DQPSK (Hopping)	Low	2390.00	56.9	74	17.1	PEAK	Pass
		2390.00	35.71	54	18.29	AVERAGE	Pass
∏/4DQPSK (Hopping)	HIGH	2483.50	70.13	74	3.87	PEAK	Pass
		2483.50	48.94	54	5.06	AVERAGE	Pass
8-DPSK (Hopping)	Low	2390.00	56.64	74	17.36	PEAK	Pass
		2390.00	35.45	54	18.55	AVERAGE	Pass
8-DPSK (Hopping)	HIGH	2483.50	68.94	74	5.06	PEAK	Pass
		2483.50	47.75	54	6.25	AVERAGE	Pass

Test Plots

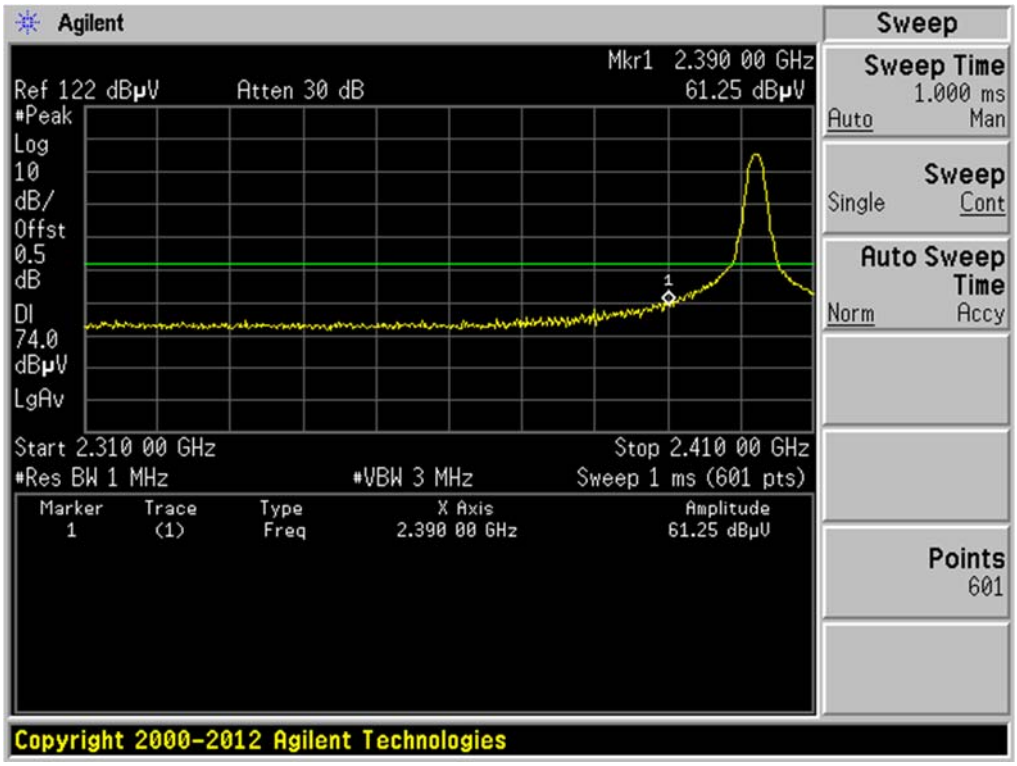
GFSK LOW CHANNEL , PEAK



GFSK HIGH CHANNEL , PEAK

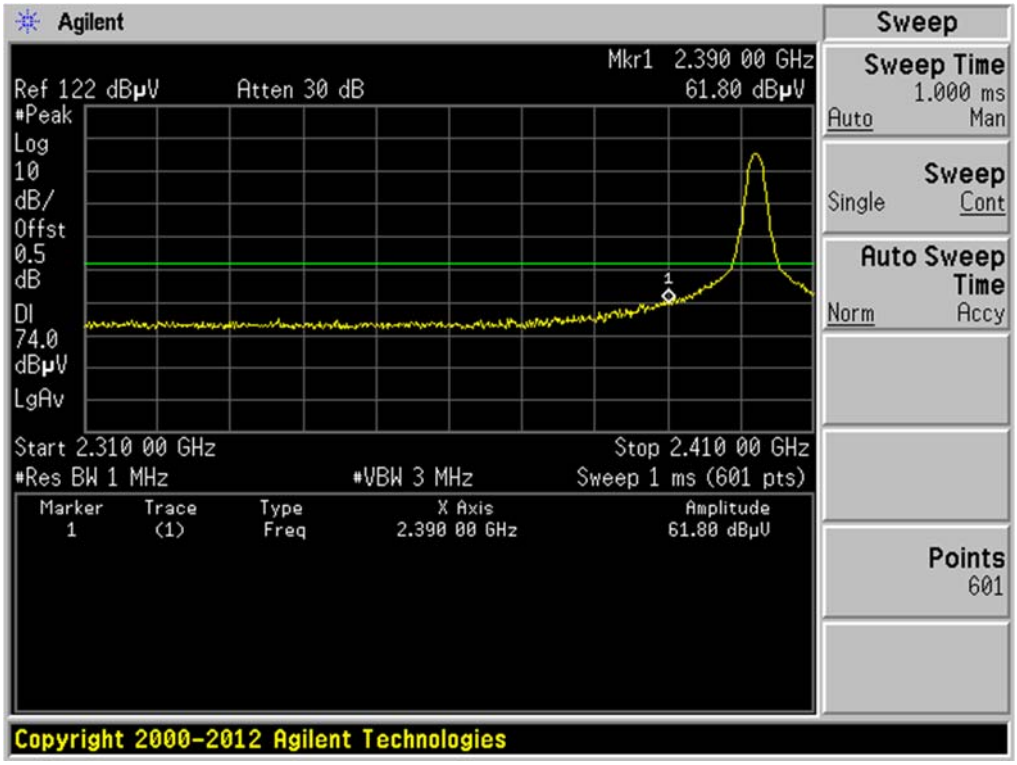


∏/4-DQPSK LOW CHANNEL , PEAK

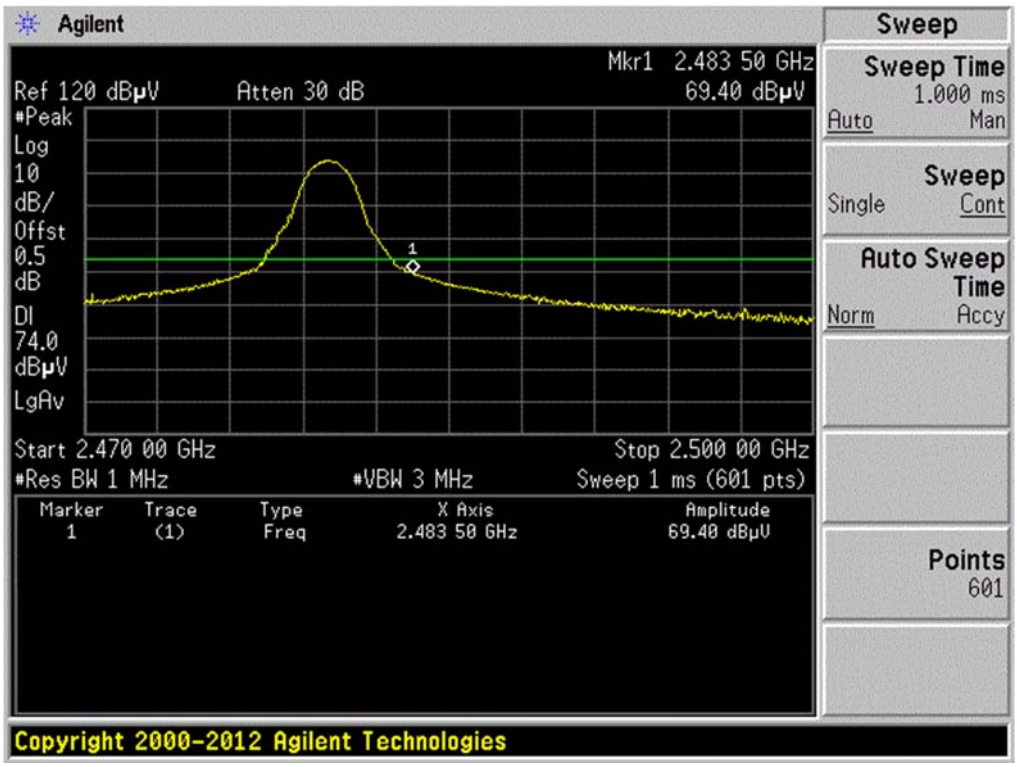


∏/4-DQPSK HIGH CHANNEL , PEAK

8-DPSK LOW CHANNEL , PEAK

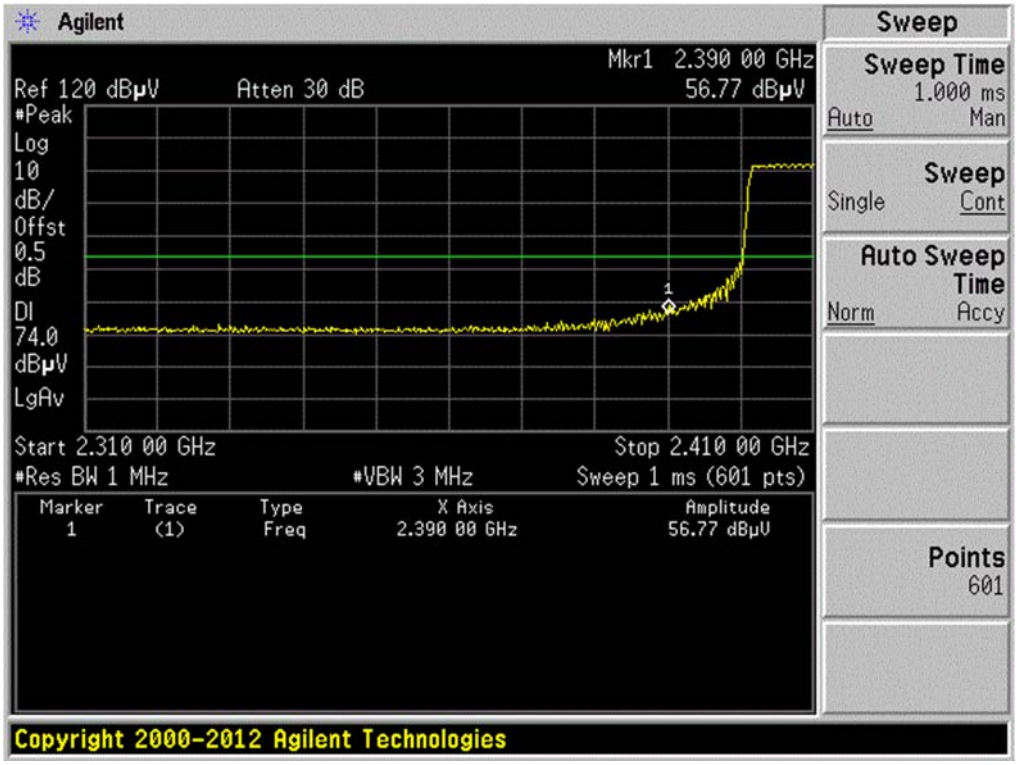


8-DPSK HIGH CHANNEL , PEAK



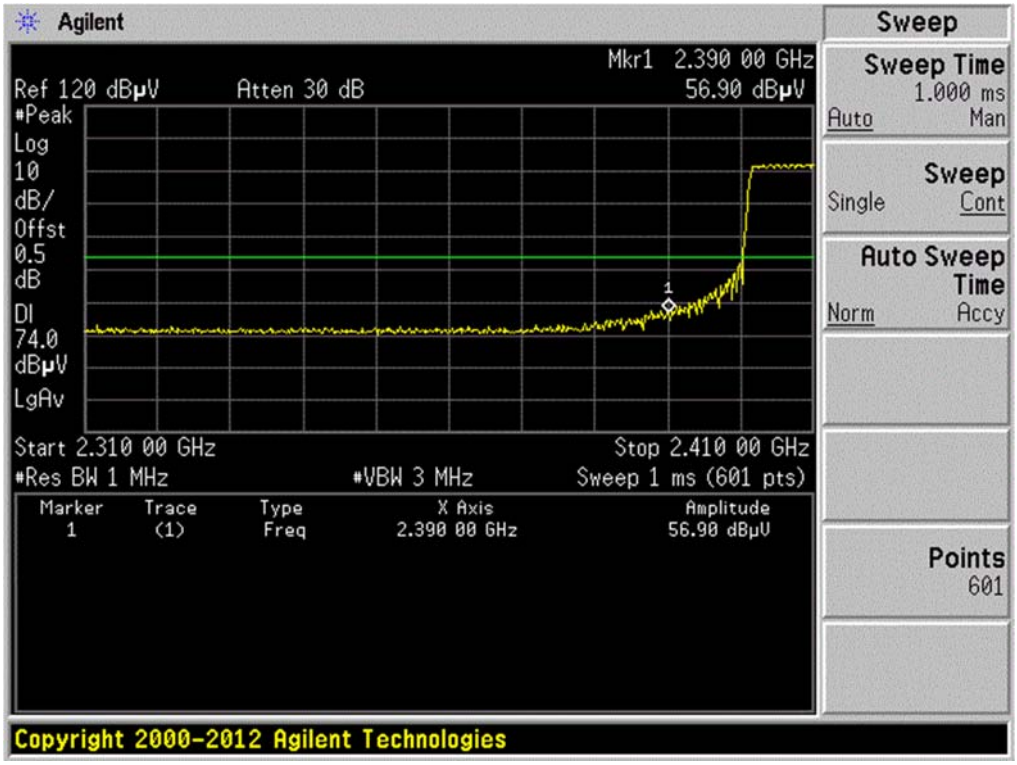
Hopping Mode:

GFSK LOW FREQUENCY BAND, PEAK



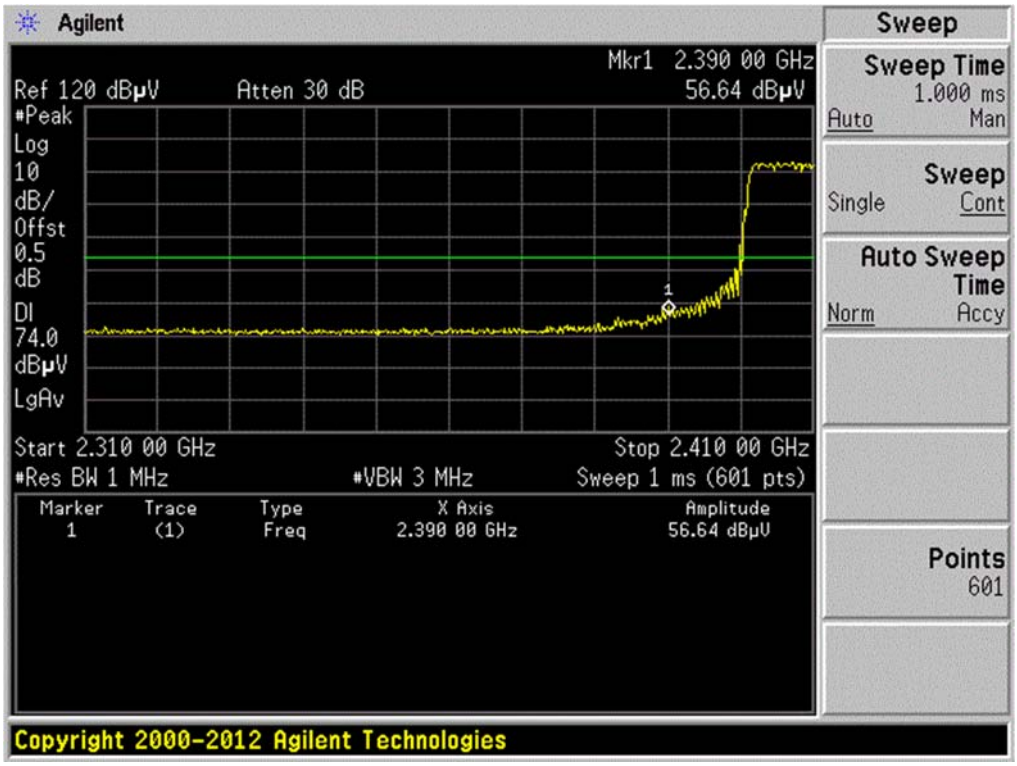
GFSK HIGH FREQUENCY BAND, PEAK

∏/4-DQPSK LOW FREQUENCY BAND, PEAK



∏/4-DQPSK HIGH FREQUENCY BAND, PEAK

8-DPSK LOW FREQUENCY BAND, PEAK



8-DPSK HIGH FREQUENCY BAND, PEAK

Model: 761478 (White)

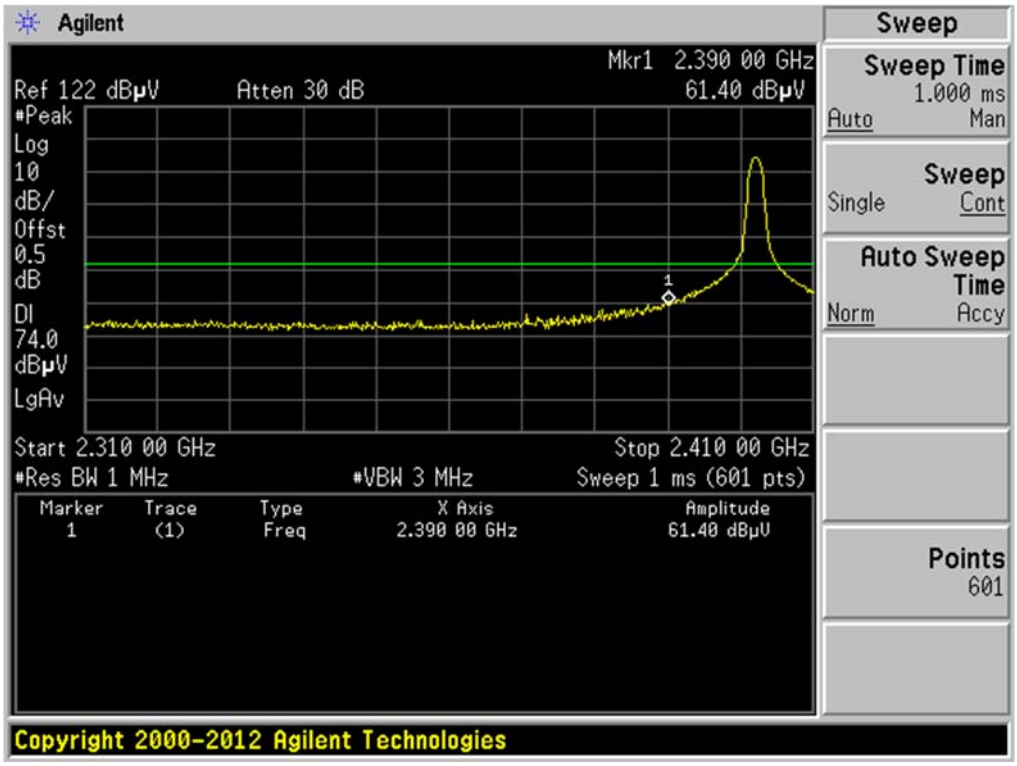
Note: The average levels were calculated from the peak level corrected with duty cycle correction factor (21.19dB) derived from 20log (dwell time/100 ms).

For example: Average level = 62.15 dBuV/m – 21.19 (dB) = 40.21 dBuV/m.

Test Mode	Test Channel	Frequency (MHz)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Remark	Verdict
GFSK	Low	2390.00	61.40	74	12.60	PEAK	Pass
		2390.00	40.21	54	13.79	AVERAGE	Pass
GFSK	HIGH	2483.50	70.09	74	3.91	PEAK	Pass
		2483.50	48.90	54	5.10	AVERAGE	Pass
∏/4DQPSK	Low	2390.00	61.30	74	12.70	PEAK	Pass
		2390.00	40.11	54	13.89	AVERAGE	Pass
∏/4DQPSK	HIGH	2483.50	69.37	74	4.63	PEAK	Pass
		2483.50	48.18	54	5.82	AVERAGE	Pass
8-DPSK	Low	2390.00	62.26	74	11.74	PEAK	Pass
		2390.00	41.07	54	12.93	AVERAGE	Pass
8-DPSK	HIGH	2483.50	69.89	74	4.11	PEAK	Pass
		2483.50	48.70	54	5.30	AVERAGE	Pass
GFSK(Hopping)	Low	2390.00	56.49	74	17.51	PEAK	Pass
		2390.00	35.30	54	18.70	AVERAGE	Pass
GFSK(Hopping	HIGH	2483.50	69.45	74	4.55	PEAK	Pass
		2483.50	48.26	54	5.74	AVERAGE	Pass
∏/4DQPSK (Hopping)	Low	2390.00	57.97	74	16.03	PEAK	Pass
		2390.00	36.78	54	17.22	AVERAGE	Pass
∏/4DQPSK (Hopping)	HIGH	2483.50	62.26	74	11.74	PEAK	Pass
		2483.50	41.07	54	12.93	AVERAGE	Pass
8-DPSK (Hopping)	Low	2390.00	56.18	74	17.82	PEAK	Pass
		2390.00	34.99	54	19.01	AVERAGE	Pass
8-DPSK (Hopping)	HIGH	2483.50	68.99	74	5.01	PEAK	Pass
		2483.50	47.80	54	6.20	AVERAGE	Pass

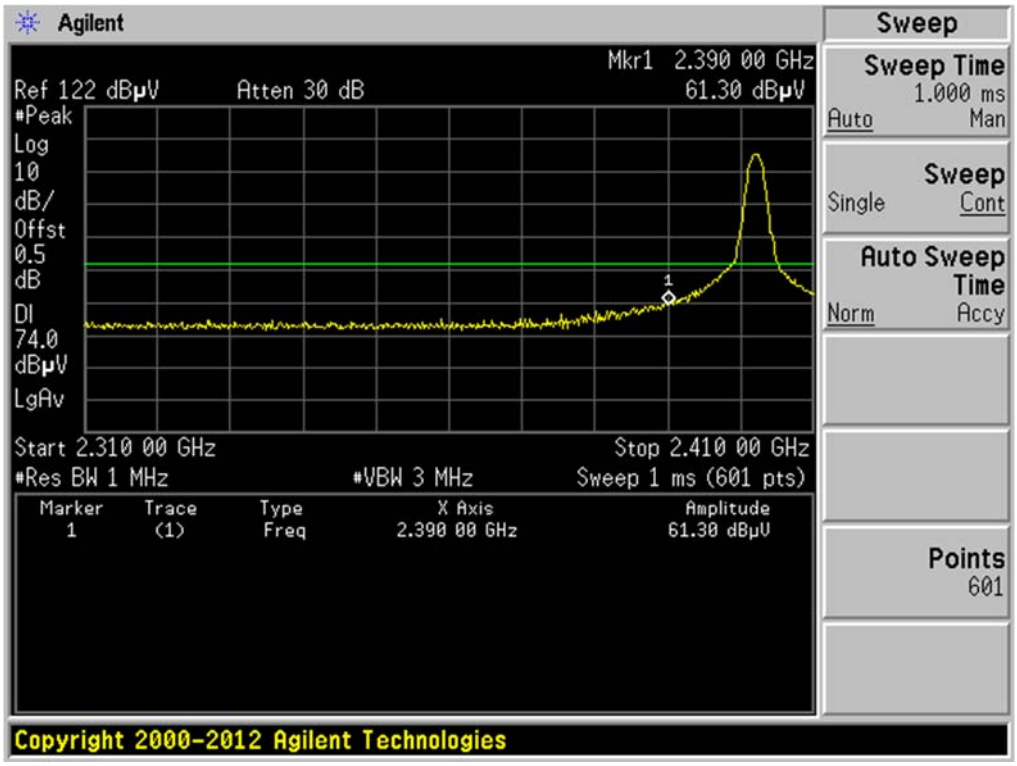
Test Plots

GFSK LOW CHANNEL , PEAK



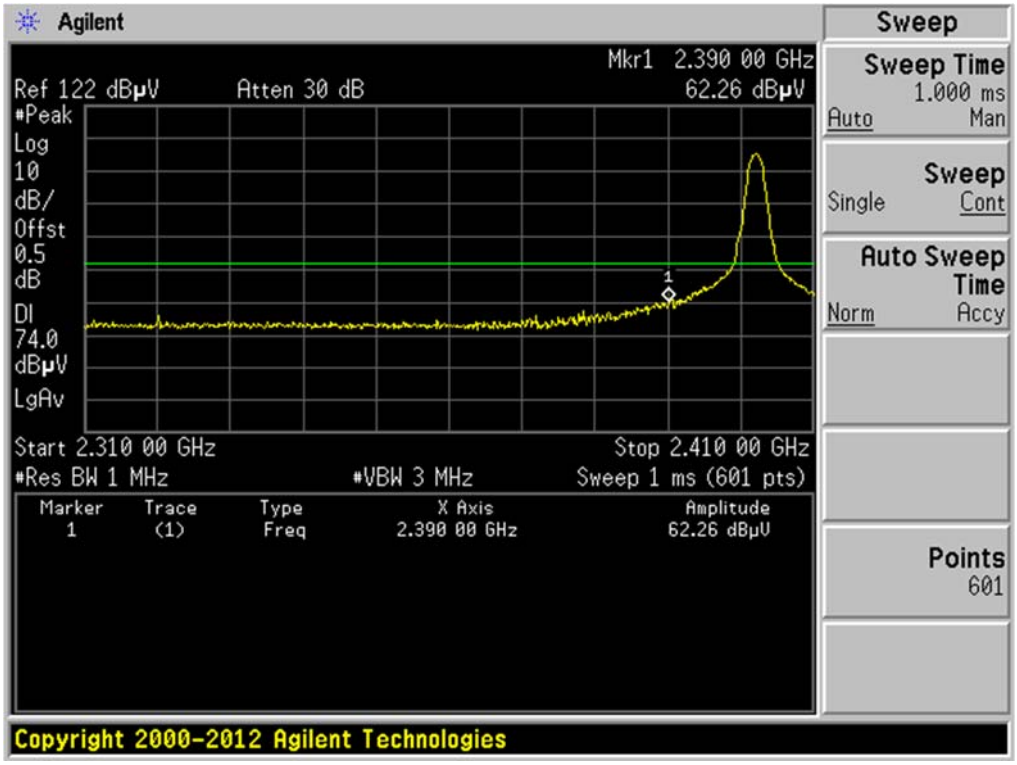
GFSK HIGH CHANNEL , PEAK

∏/4-DQPSK LOW CHANNEL , PEAK

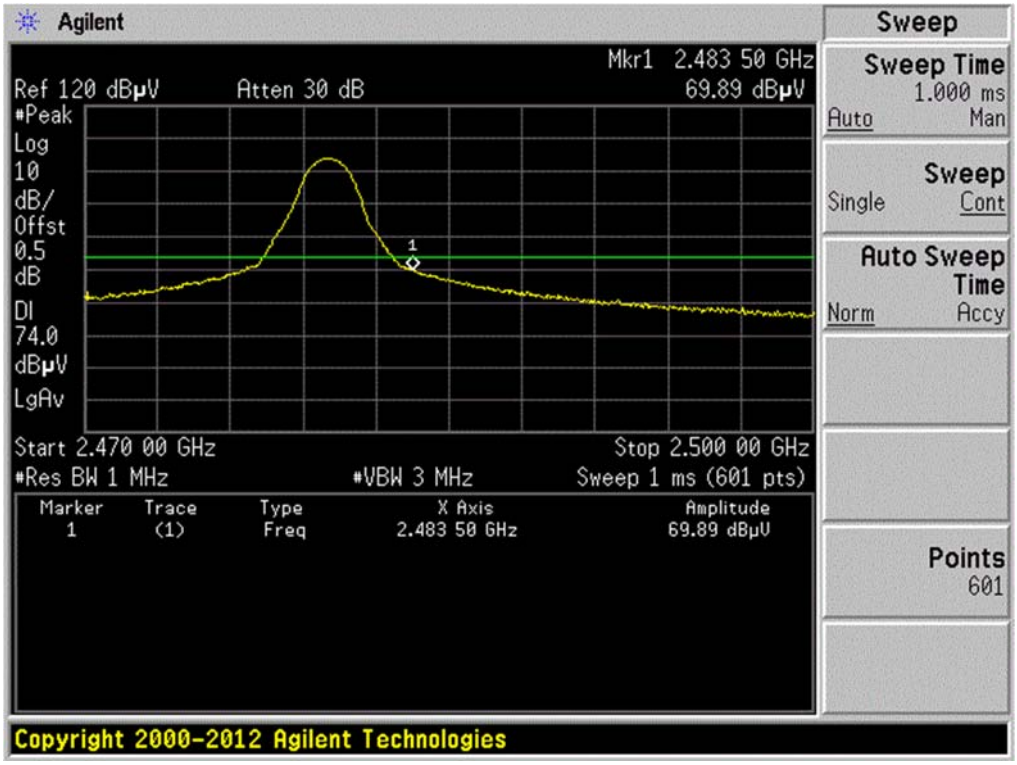


∏/4-DQPSK HIGH CHANNEL , PEAK

8-DPSK LOW CHANNEL , PEAK

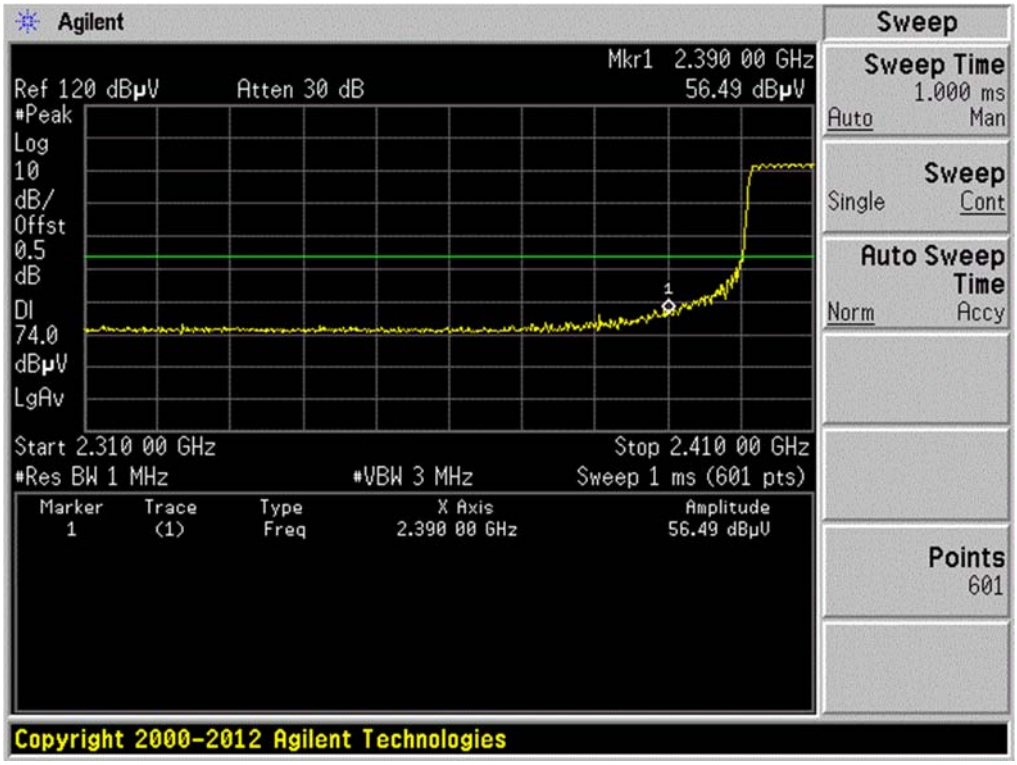


8-DPSK HIGH CHANNEL , PEAK



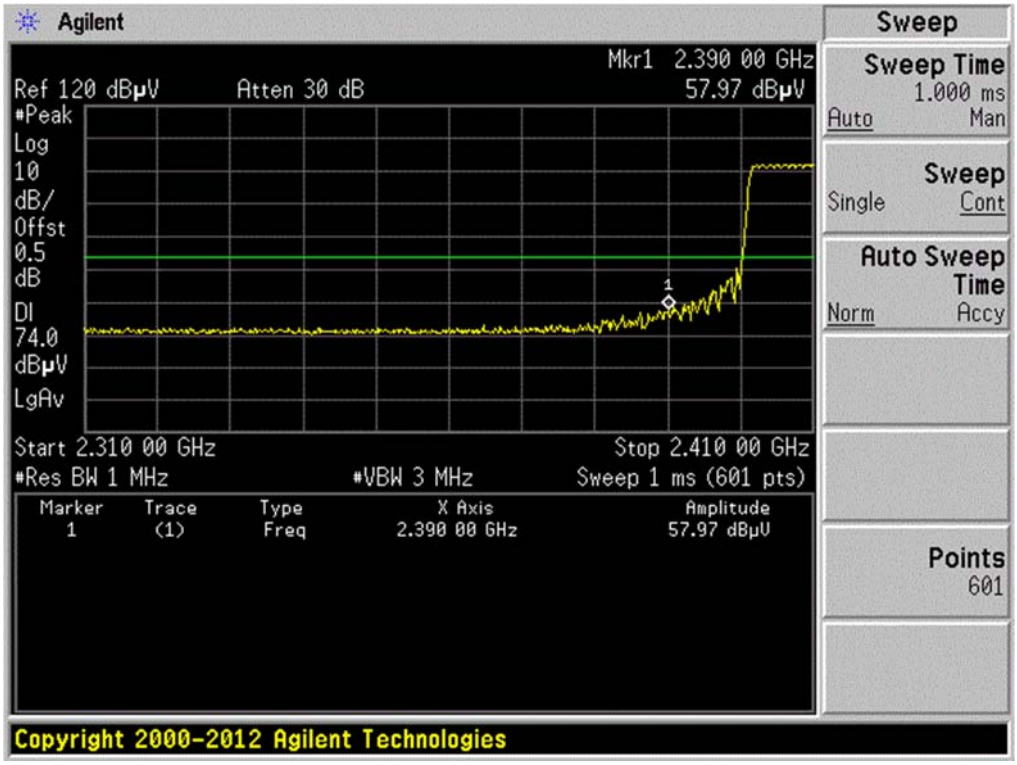
Hopping Mode:

GFSK LOW FREQUENCY BAND, PEAK



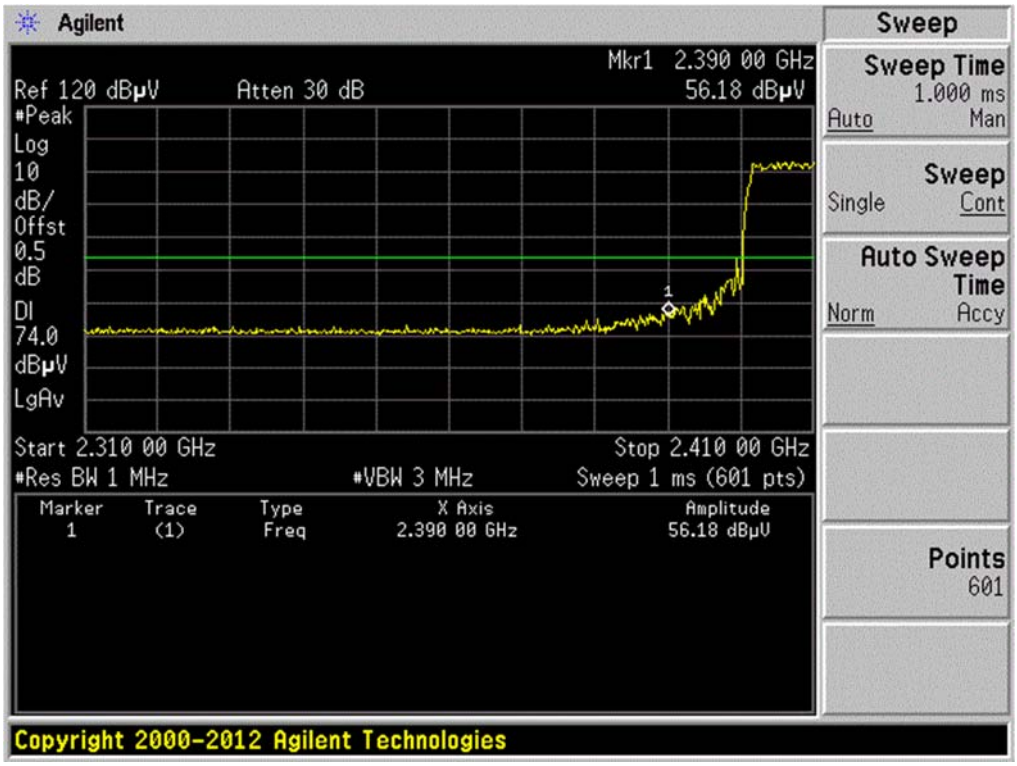
GFSK HIGH FREQUENCY BAND, PEAK

∏/4-DQPSK LOW FREQUENCY BAND, PEAK

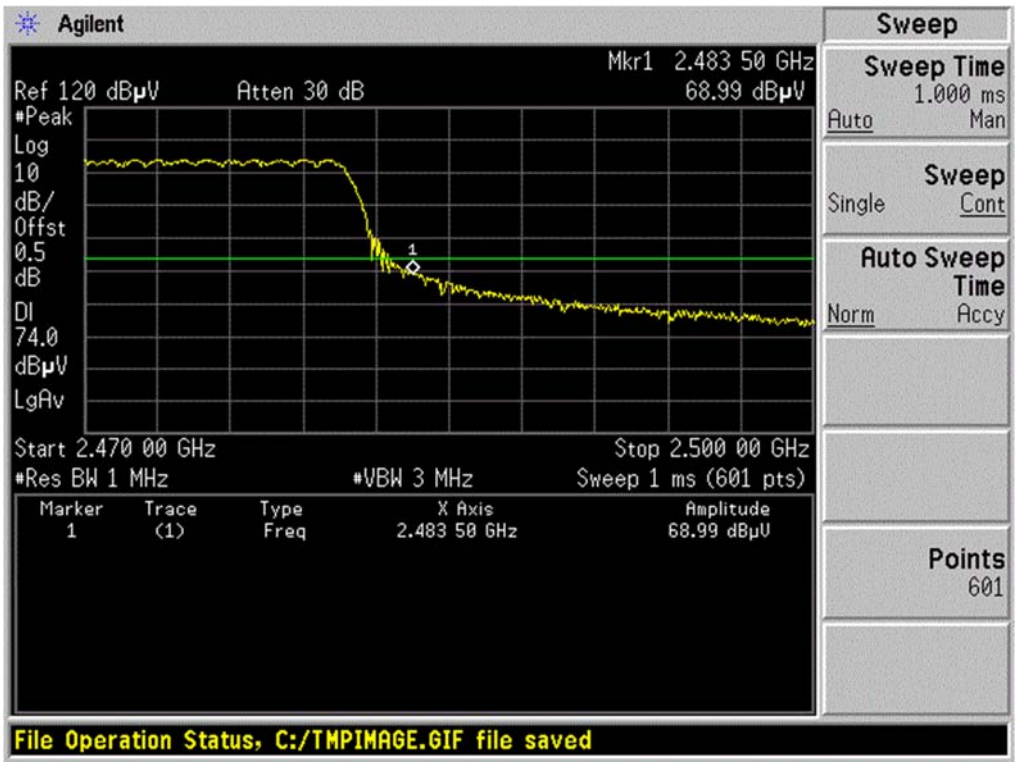


∏/4-DQPSK HIGH FREQUENCY BAND, PEAK

8-DPSK LOW FREQUENCY BAND, PEAK



8-DPSK HIGH FREQUENCY BAND, PEAK



ANNEX B TEST SETUP PHOTOS

Please refer the document “BL- SZ15C0136-DFS.PDF”.

ANNEX C EUT EXTERNAL PHOTOS

Please refer the document “BL- SZ15C0136-AW.PDF”.

ANNEX D EUT INTERNAL PHOTOS

Please refer the document “BL-SZ15C0136-AI.PDF”.

--END OF REPORT--