RF TEST REPORT

Report No.: 17020576-FCC-R1
Supersede Report No.: N/A

Applicant	Sangoma Technologies Corp.
Product Name	IP PHONE
Model No.	S705
Serial No.	S505
Test Standard	FCC Part 15.247: 2016, ANSI C63.10: 2013
Test Date	June 05 to June 20, 2017
Issue Date	June 28, 2017
Test Result	☑ **Pass** ☐ **Fail**
Equipment complied with the specification	☑
Equipment did not comply with the specification	☐

Trety Lu	Deon Dai	
Trety Lu **Test Engineer**	**Deon Dai** **Checked By**	

This test report may be reproduced in full only
Test result presented in this test report is applicable to the tested sample only

Issued by:
SIEMIC (Nanjing-China) Laboratories
2-1 Longcang Avenue Yuhua Economic and
Technology Development Park, Nanjing, China
Tel:+86(25)86730128/86730129 Fax:+86(25)86730127 Email: China@siemic.com.cn

Laboratories Introduction

SIEMIC, headquartered in the heart of Silicon Valley, with superior facilities in US and Asia, is one of the leading independent testing and certification facilities providing customers with one-stop shop services for Compliance Testing and Global Certifications.

In addition to testing and certification, SIEMIC provides initial design reviews and compliance management throughout a project. Our extensive experience with China, Asia Pacific, North America, European, and International compliance requirements, assures the fastest, most cost effective way to attain regulatory compliance for the global markets.

Accreditations for Conformity Assessment

Country/Region	Scope
USA	EMC, RF/Wireless, SAR, Telecom
Canada	EMC, RF/Wireless, SAR, Telecom
Taiwan	EMC, RF, Telecom, SAR, Safety
Hong Kong	RF/Wireless, SAR, Telecom
Australia	EMC, RF, Telecom, SAR, Safety
Korea	EMI, EMS, RF, SAR, Telecom, Safety
Japan	EMI, RF/Wireless, SAR, Telecom
Singapore	EMC, RF, SAR, Telecom
Europe	EMC, RF, SAR, Telecom, Safety

This page has been left blank intentionally.

CONTENTS

1. Report Revision History

Report No.	Report Version	Description	Issue Date
17020576-FCC-R1	NONE	Original	June 28, 2017

2. Customer information

Applicant Name	Sangoma Technologies Corp.
Applicant Add	100 Renfrew Drive, Suite 100 / Markham, ON L3R 9R6 CANADA
Manufacturer	Sangoma Technologies Corp.
Manufacturer Add	100 Renfrew Drive, Suite 100 / Markham, ON L3R 9R6 CANADA

3. Test site information

Lab performing tests	SIEMIC (Nanjing-China) Laboratories
Lab Address	2-1 Longcang Avenue Yuhua Economic and Technology Development Park, Nanjing, China
FCC Test Site No.	986914
IC Test Site No.	4842B-1
Test Software	EZ_EMC

4. Equipment under Test (EUT) Information

Description of EUT:	IP PHONE
Main Model:	S705
Serial Model:	S505
Date EUT received:	May 18, 2017
Test Date(s):	June 05 to June 20, 2017
Antenna Gain:	Bluetooth: 2.8 dBi
Type of Modulation:	Bluetooth: GFSK, π/4DQPSK, 8DPSK
RF Operating Frequency (ies):	Bluetooth: 2402-2480 MHz
Max. Output Power:	10.455 dBm
Number of Channels:	Bluetooth: 79CH
Port:	Power Port、Ext Port、Internet Port、PC Port、Earphone Port、Telephone Port
Input Power:	Adapter: Model:NBS05B050120VU Input Power:100-240V,50/60Hz,0.2A Output:5V,1.2A
Trade Name :	Sangoma
FCC ID:	2AL9Y-PHONS705A

Operating Channel list

Channel	Frequency(MHz)	Channel	Frequency(MHz)	Channel	Frequency(MHz)	Channel	Frequency(MHz)	Channel	Frequency(MHz)
00	2402	17	2419	34	2436	51	2453	68	2470
01	2403	18	2420	35	2437	52	2454	69	2471
02	2404	19	2421	36	2438	53	2455	70	2472
03	2405	20	2422	37	2439	54	2456	71	2473
04	2406	21	2423	38	2440	55	2457	72	2474
05	2407	22	2424	39	2441	56	2458	73	2475
06	2408	23	2425	40	2442	57	2459	74	2476
07	2409	24	2426	41	2443	58	2460	75	2477
08	2410	25	2427	42	2444	59	2461	76	2478
09	2411	26	2428	43	2445	60	2462	77	2479
10	2412	27	2429	44	2446	61	2463	78	2480
11	2413	28	2430	45	2447	62	2464		
12	2414	29	2431	46	2448	63	2465		
13	2415	30	2432	47	2449	64	2466		
14	2416	31	2433	48	2450	65	2467		
15	2417	32	2434	49	2451	66	2468		
16	2418	33	2435	50	2452	67	2469		

5. Test Summary

The product was tested in accordance with the following specifications.
All testing has been performed according to below product classification:

FCC Rules	Description of Test	Result
§15.203	Antenna Requirement	Compliance
§15.247(a)(1)	Channel Separation	Compliance
§15.247(a)(1)	20 dB Bandwidth	Compliance
§15.247(b)(1)	Peak Output Power	Compliance
§15.247(a)(1)(iii)	Number of Hopping Channel	Compliance
§15.247(a)(1)(iii)	Time of Occupancy (Dwell Time)	Compliance
§15.247(d)	Band Edge	Compliance
§15.207(a)	AC Line Conducted Emissions	Compliance
§15.205, §15.209, §15.247(d)	Radiated Emissions	Compliance

Measurement Uncertainty

Emissions		
Test Item	**Description**	**Uncertainty**
Band Edge and Radiated Spurious Emissions	Confidence level of approximately 95% (in the case where distributions are normal), with a coverage factor of 2 (for EUTs < 0.5m X 0.5m X 0.5m)	+5.6dB/-4.5dB
-	-	-

6. Measurements, Examination And Derived Results

6.1 Antenna Requirement

Applicable Standard

According to § 15.203, 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 user of a standard antenna jack or electrical connector is prohibited. The structure and application of the EUT were analyzed to determine compliance with section §15.203 of the rules. §15.203 state that the subject device must meet the following criteria:

a. Antenna must be permanently attached to the unit.
b. Antenna must use a unique type of connector to attach to the EUT.

Unit must be professionally installed, and installer shall be responsible for verifying that the correct antenna is employed with the unit. And according to FCC 47 CFR section 15.247 (b), if the transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Antenna Connector Construction

The EUT has 1 antennas:
A permanently attached PIFA antenna for Bluetooth, the gain is 2.8 dBi for Bluetooth.

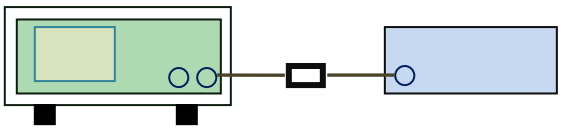
Antenna must be permanently attached to the unit ,it meets up with the ANTENNA REQUIREMENT.

Result: Compliant.

6.2 Channel Separation

Temperature	23°C
Relative Humidity	51%
Atmospheric Pressure	1018mbar
Test date :	June 07, 2017
Tested By :	Trety Lu

Requirement(s):

Spec	Item	Requirement	Applicable
§ 15.247(a)(1)	a)	Channel Separation < 20dB BW and 20dB BW < 25KHz ; Channel Separation Limit=25KHz Chanel Separation < 20dB BW and 20dB BW > 25kHz ; Channel Separation Limit=2/3 20dB BW	☒
Test Setup			
Test Procedure	The test follows FCC Public Notice DA 00-705 Measurement Guidelines. Use the following spectrum analyzer settings: - The EUT must have its hopping function enabled - 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. The limit is specified in one of the subparagraphs of this Section. Submit this plot.		
Remark			
Result	☒Pass ☐Fail		

Test Data ☒Yes ☐N/A
Test Plot ☒Yes (See below) ☐N/A

Channel Separation measurement result

Type/ Modulation	CH	CH Freq (MHz)	CH Separation (MHz)	Limit (MHz)	Result
CH Separation GFSK	Low Channel	2402	1.002	0.694	Pass
	Adjacency Channel	2403			
	Mid Channel	2440	1.005	0.696	Pass
	Adjacency Channel	2441			
	High Channel	2480	1.002	0.699	Pass
	Adjacency Channel	2479			
CH Separation π/4 DQPSK	Low Channel	2402	1.008	0.912	Pass
	Adjacency Channel	2403			
	Mid Channel	2440	1.002	0.913	Pass
	Adjacency Channel	2441			
	High Channel	2480	1.005	0.915	Pass
	Adjacency Channel	2479			
CH Separation 8DPSK	Low Channel	2402	1.002	0.868	Pass
	Adjacency Channel	2403			
	Mid Channel	2440	1.002	0.871	Pass
	Adjacency Channel	2441			
	High Channel	2480	1.005	0.887	Pass
	Adjacency Channel	2479			

Test Plots

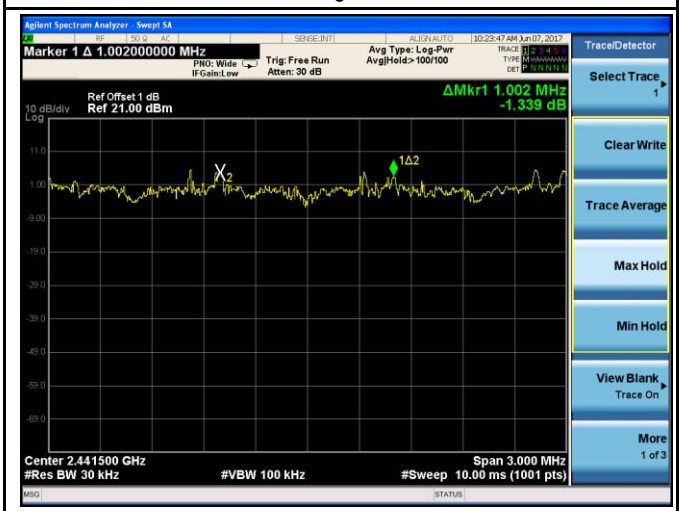
Channel Separation measurement result

GFSK - Low Channel

GFSK - Middle Channel

GFSK - High Channel

π/4 DQPSK - Low Channel



π/4 DQPSK - Middle Channel

π/4 DQPSK - High Channel

8DPSK - Low Channel

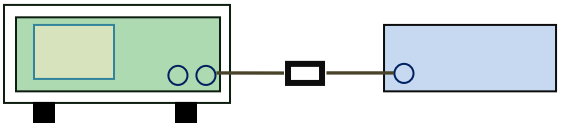
8DPSK - Middle Channel

8DPSK - High Channel

6.3 20dB Bandwidth

Temperature	23°C
Relative Humidity	51%
Atmospheric Pressure	1018mbar
Test date :	June 05, 2017
Tested By :	Trety Lu

Requirement(s):

Spec	Item	Requirement	Applicable
§15.247(a) (1)	a)	Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater.	☒
Test Setup			
Test Procedure	The test follows FCC Public Notice DA 00-705 Measurement Guidelines. 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. - The EUT should be transmitting at its maximum data rate. Allow the trace to stabilize. Use the marker-to-peak function to set the marker to the peak of the emission. Use the marker-delta function to measure 20 dB down one side of the emission. Reset the marker-delta function, and move the marker to the other side of the emission, until it is (as close as possible to) even with the reference marker level. The marker-delta reading at this point is the 20 dB bandwidth of the emission. If this value varies with different modes of operation (e.g., data rate, modulation format, etc.), repeat this test for each variation. The limit is specified in one of the subparagraphs of this Section. Submit this plot(s).		
Remark			
Result	☒Pass ☐ Fail		

Test Data ☒Yes ☐ N/A

Test Plot ☒Yes (See below) ☐ N/A

Measurement result

Modulation	CH	CH Freq (MHz)	20dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
GFSK	Low	2402	1.041	0.93636
	Mid	2441	1.044	0.94153
	High	2480	1.048	0.94941
π/4 DQPSK	Low	2402	1.368	1.2161
	Mid	2441	1.369	1.2168
	High	2480	1.373	1.2257
8-DPSK	Low	2402	1.302	1.1954
	Mid	2441	1.306	1.1980
	High	2480	1.331	1.2111

Test Plots

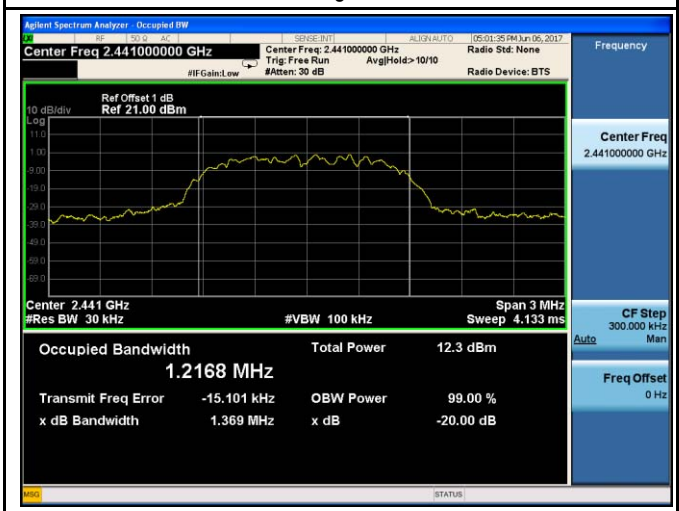
20dB Bandwidth measurement result

GFSK - Low Channel

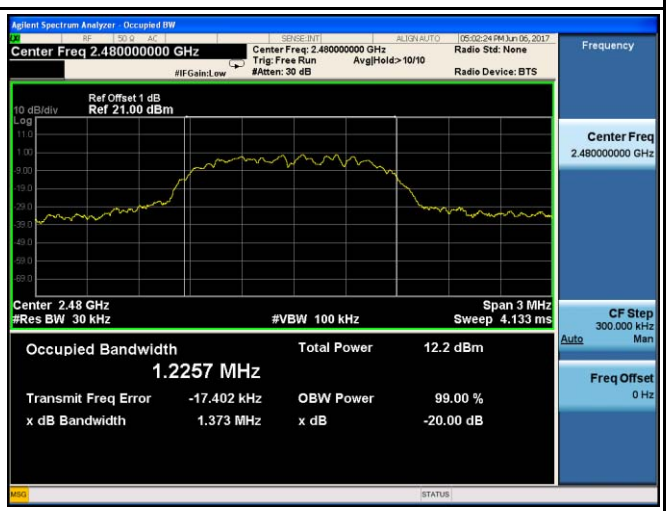
GFSK - Middle Channel

GFSK - High Channel

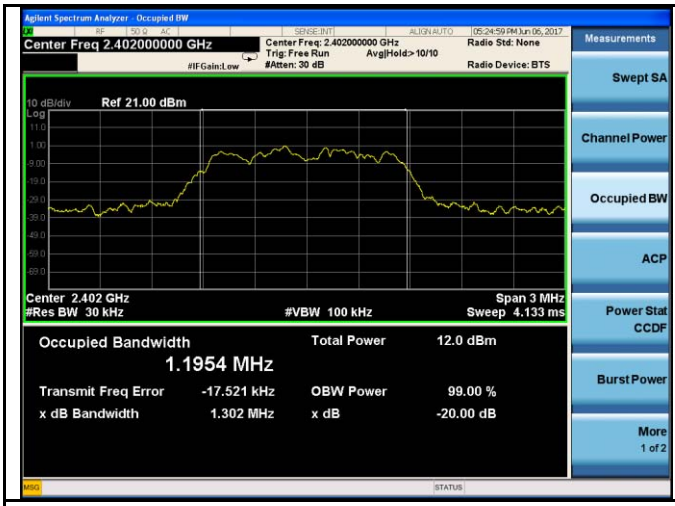
π/4 DQPSK - Low Channel



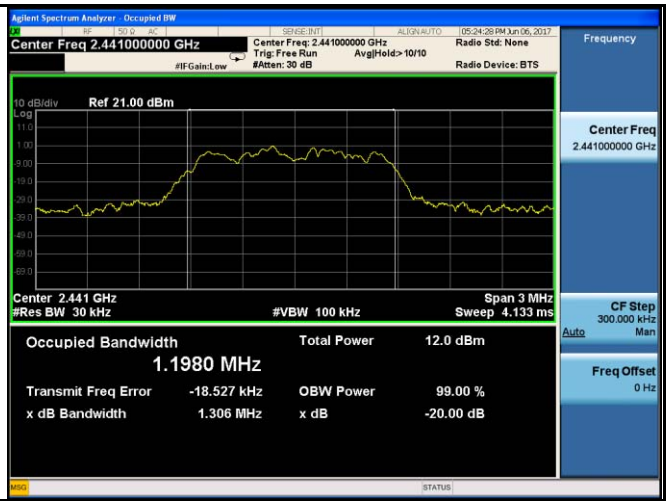
π/4 DQPSK - Middle Channel



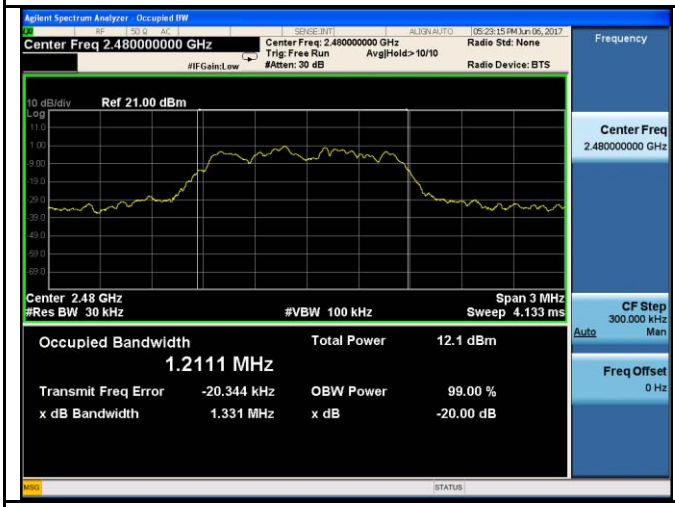
π/4 DQPSK - High Channel



8DPSK - Low Channel



8DPSK - Middle Channel

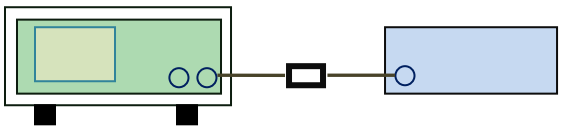


8DPSK - High Channel

6.4 Peak Output Power

Temperature	23°C
Relative Humidity	51%
Atmospheric Pressure	1018mbar
Test date :	June 05, 2017
Tested By :	Trety Lu

Requirement(s):

Spec	Item	Requirement	Applicable
§15.247(b) (2)	a)	FHSS in 2400-2483.5MHz with ≥ 75 channels: ≤1 Watt	☒
	b)	FHSS in 5725-5850MHz: ≤1 Watt	☐
	c)	For all other FHSS in the 2400-2483.5MHz band: ≤0.125 Watt.	☒
	d)	FHSS in 902-928MHz with ≥ 50 channels: ≤1 Watt	☐
	e)	FHSS in 902-928MHz with ≥ 25 & <50 channels: ≤0.25 Watt	☐
	f)	DSSS in 902-928MHz, 2400-2483.5MHz, 5725-5850MHz: ≤1 Watt	☐
Test Setup			
Test Procedure	The test follows FCC Public Notice DA 00-705 Measurement Guidelines. Use the following spectrum analyzer settings: - Span = approximately 5 times the 20 dB bandwidth, centered on a hopping channel - RBW > the 20 dB bandwidth of the emission being measured - VBW ≥RBW - Sweep = auto - Detector function = peak - Trace = max hold - Allow the trace to stabilize. - Use the marker-to-peak function to set the marker to the peak of the emission. The indicated level is the peak output power (see the note above regarding external attenuation and cable loss). The limit is specified in one of the subparagraphs of this Section. Submit this plot. A peak responding power meter may be used instead of a spectrum analyzer.		
Remark			
Result	☒Pass ☐ Fail		

Test Data ☒Yes ☐N/A

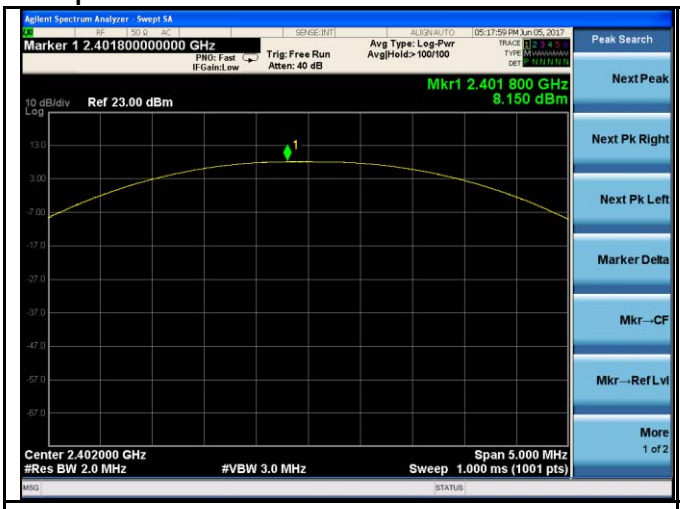
Test Plot ☒Yes (See below) ☐N/A

Peak Output Power measurement result

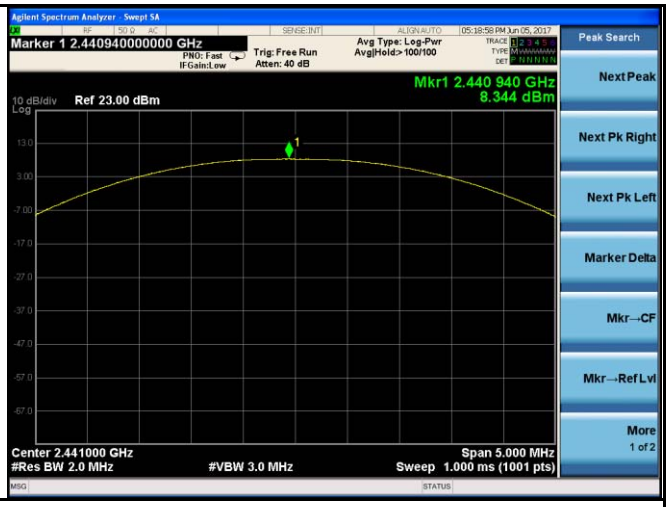
Type	Modulation	CH	Freq (MHz)	Conducted Power (dBm)	Limit (mW)	Result
Output power	GFSK	Low	2402	8.150	125	Pass
		Mid	2441	8.344	125	Pass
		High	2480	8.286	125	Pass
	π/4 DQPSK	Low	2402	9.934	125	Pass
		Mid	2441	9.982	125	Pass
		High	2480	9.975	125	Pass
	8-DPSK	Low	2402	10.062	125	Pass
		Mid	2441	10.067	125	Pass
		High	2480	10.455	125	Pass

Test Plots

Output Power measurement result



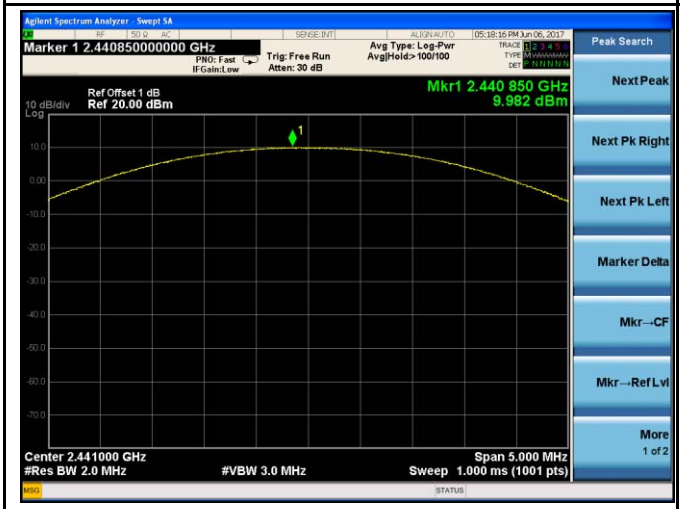
GFSK Output power - Low CH 2402



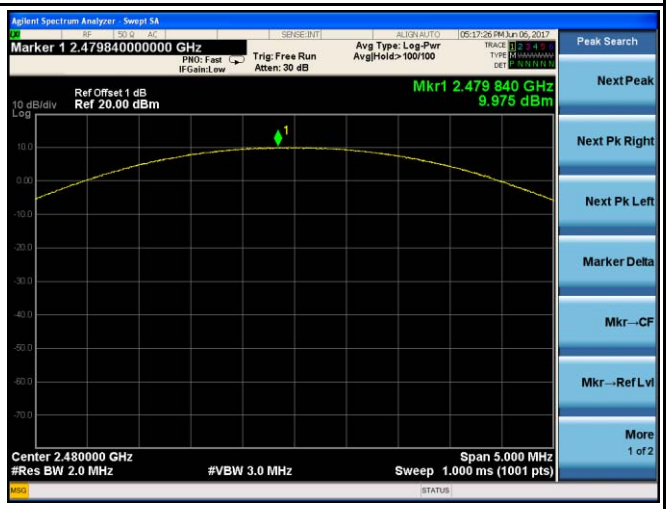
GFSK Output power - Mid CH 2441

GFSK Output power - High CH 2480

π/4 DQPSK Output power - Low CH 2402



π/4 DQPSK Output power - Mid CH 2441



π/4 DQPSK Output power - High CH 2480

8DPSK Output power - Low CH 2402

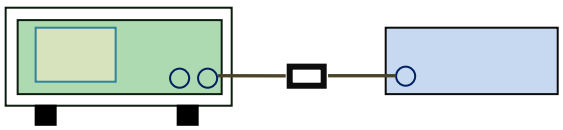
8DPSK Output power - Mid CH 2441

8DPSK Output power - High CH 2480

6.5 Number of Hopping Channel

Temperature	23°C
Relative Humidity	51%
Atmospheric Pressure	1018mbar
Test date :	June 07, 2017
Tested By :	Trety Lu

Requirement(s):

Spec	Item	Requirement	Applicable
§15.247(a)(1)(iii)	a)	FHSS in 2400-2483.5MHz ≥ 15 channels	☒
Test Setup			
Test Procedure	The test follows FCC Public Notice DA 00-705 Measurement Guidelines. Use the following spectrum analyzer settings: The EUT must have its hopping function enabled. - Span = the frequency band of operation - RBW ≥1% of the span - VBW ≥RBW - Sweep = auto - Detector function = peak - Trace = max hold - Allow trace to fully stabilize. - It may prove necessary to break the span up to sections, in order to clearly show all of the hopping frequencies. The limit is specified in one of the subparagraphs of this Section. Submit this plot(s).		
Remark			
Result	☒Pass ☐Fail		

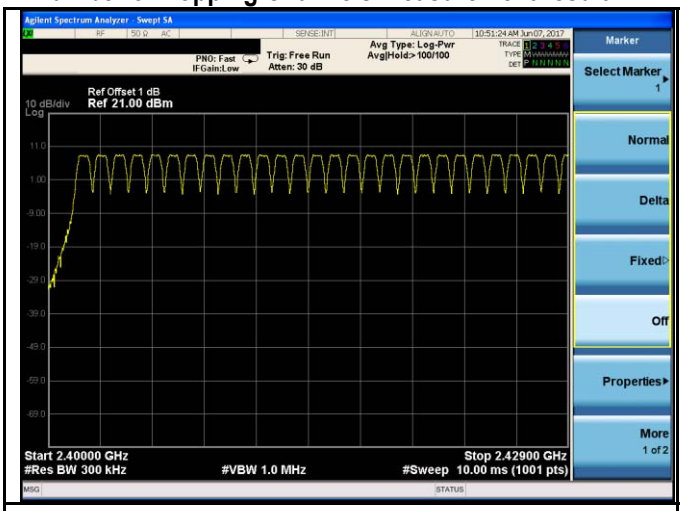
Test Data ☒Yes ☐N/A
Test Plot ☒Yes (See below) ☐N/A

Number of Hopping Channel measurement result

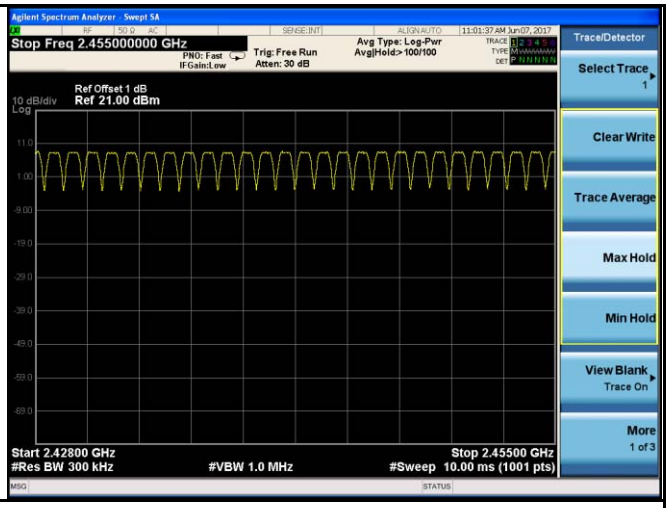
Type	Modulation	Frequency Range	Number of Hopping Channel	Limit
Number of Hopping Channel	GFSK	2400-2483.5	79	15
	π/4 DQPSK	2400-2483.5	79	15
	8-DPSK	2400-2483.5	79	15

Test Plots

Number of Hopping Channels measurement result

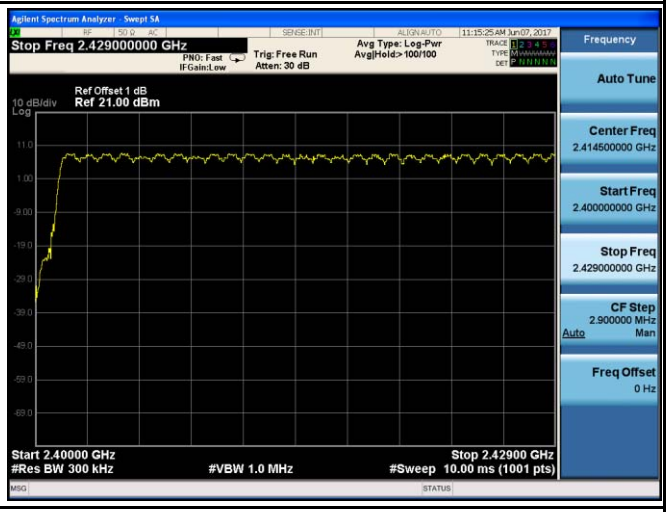


GFSK Number of Hopping Channels - 1

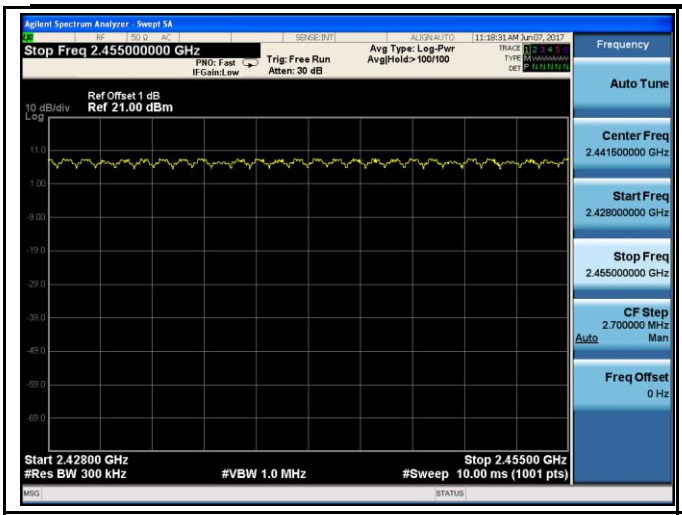


GFSK Number of Hopping Channels -2

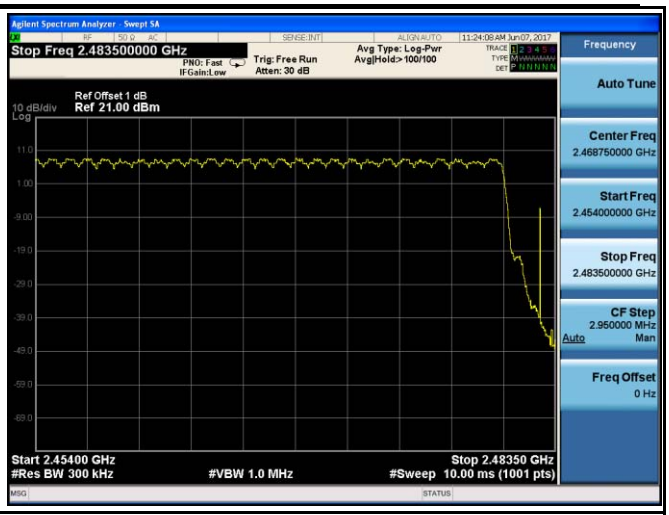
GFSK Number of Hopping Channels – 3



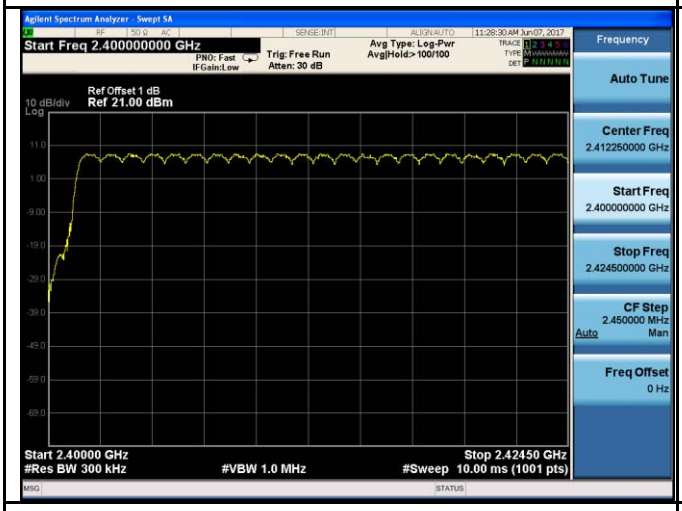
π/4 DQPSK Number of Hopping Channels - 1



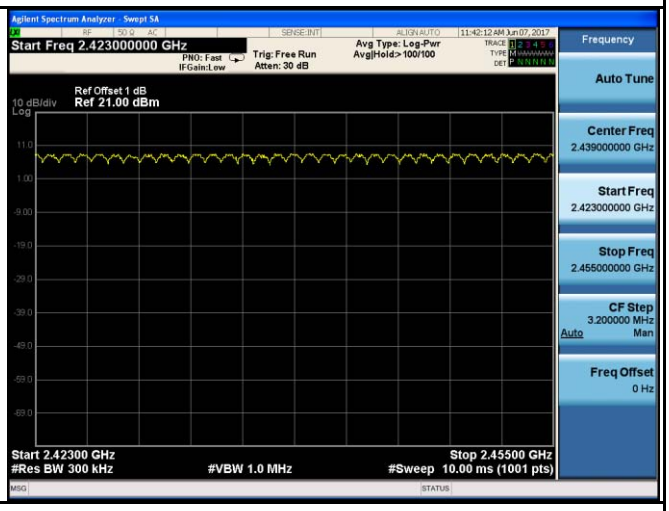
π/4 DQPSK Number of Hopping Channels - 2



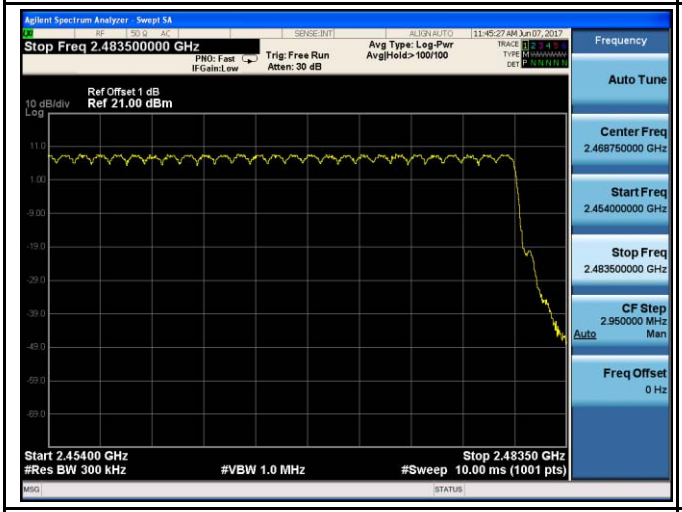
π/4 DQPSK Number of Hopping Channels - 3



8DPSK Number of Hopping Channels - 1



8DPSK Number of Hopping Channels - 2

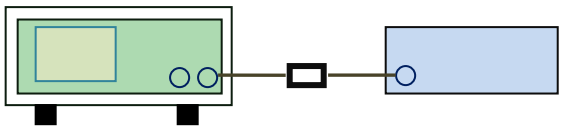


8DPSK Number of Hopping Channels - 3

6.6 Time of Occupancy (Dwell Time)

Temperature	23°C
Relative Humidity	51%
Atmospheric Pressure	1018mbar
Test date :	June 07, 2017
Tested By :	Trety Lu

Requirement(s):

Spec	Item	Requirement	Applicable
§15.247(a)(1)(iii)	a)	Dwell Time < 0.4s	☒
Test Setup			
Test Procedure	The test follows FCC Public Notice DA 00-705 Measurement Guidelines. Use the following spectrum analyzer - Span = zero span, centered on a hopping channel - RBW = 1 MHz - VBW ≥RBW - Sweep = as necessary to capture the entire dwell time per hopping channel - Detector function = peak - Trace = max hold - use the marker-delta function to determine the dwell time		
Remark			
Result	☒Pass ☐ Fail		

Test Data ☒Yes ☐ N/A

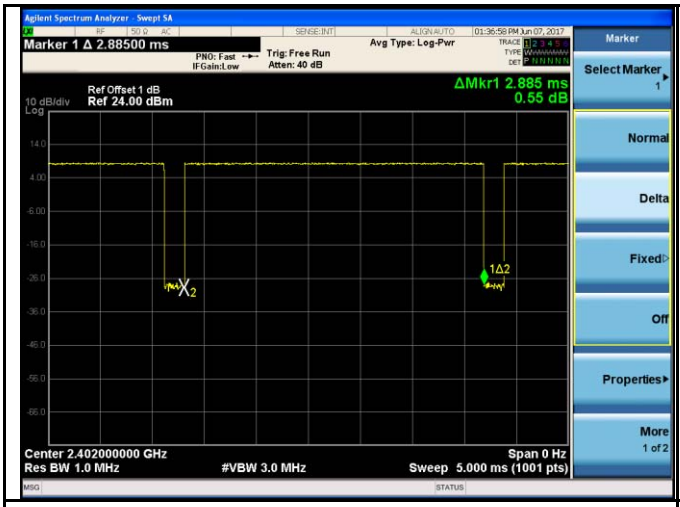
Test Plot ☒Yes (See below) ☐ N/A

Dwell Time measurement result

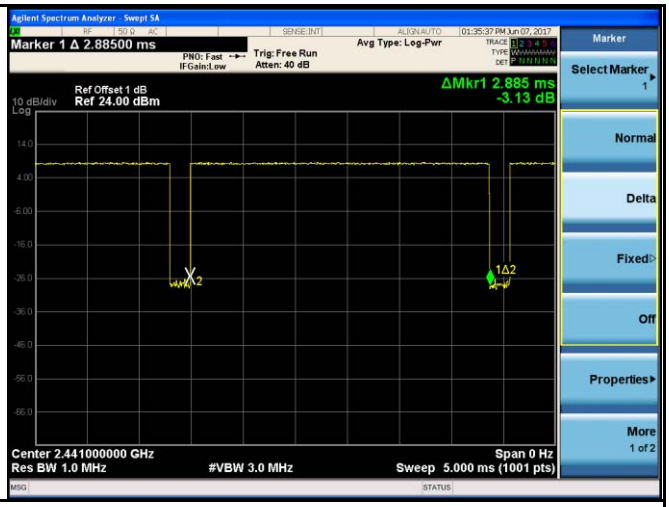
Type	Modulation	CH	Pulse Width (ms)	Dwell Time (ms)	Limit (ms)	Result
Dwell Time	GFSK	Low	2.885	307.7	400	Pass
		Mid	2.885	307.7	400	Pass
		High	2.880	307.2	400	Pass
	π/4 DQPSK	Low	2.900	309.3	400	Pass
		Mid	2.900	309.3	400	Pass
		High	2.900	309.3	400	Pass
	8-DPSK	Low	2.900	309.3	400	Pass
		Mid	2.900	309.3	400	Pass
		High	2.900	309.3	400	Pass
Note: Dwell time=Pulse Time (ms) × (1600 ÷ 6 ÷ 79) ×31.6						

Note：All packet have been tested（DH1、DH2、DH3）,but only worst（DH5）case is the reported.

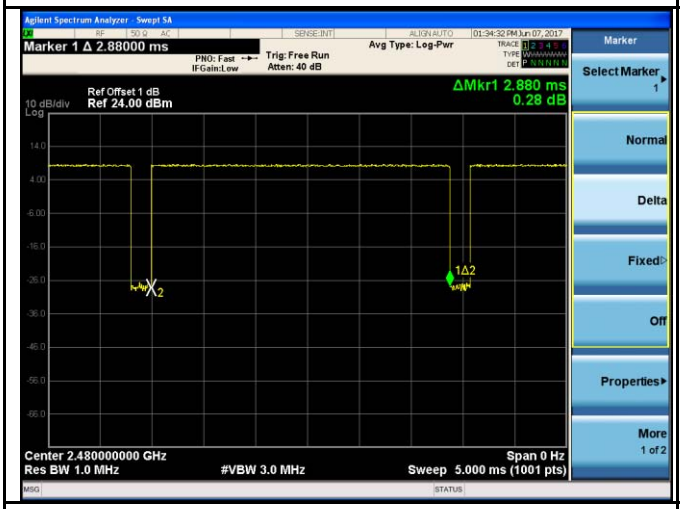
Test Plots
Dwell Time measurement result



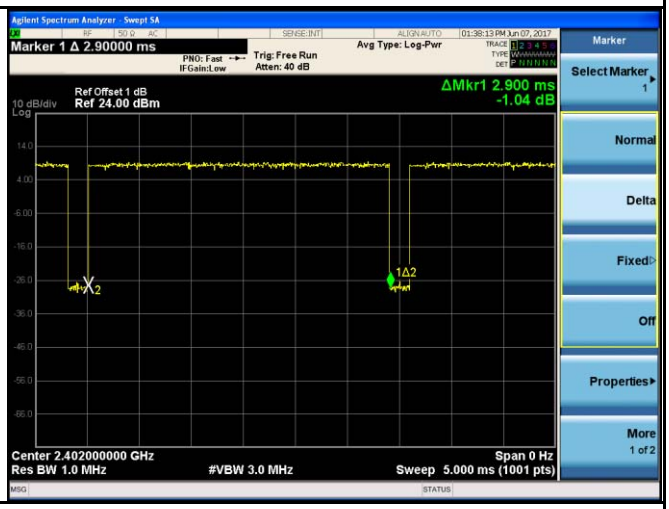
GFSK - Low CH 2402



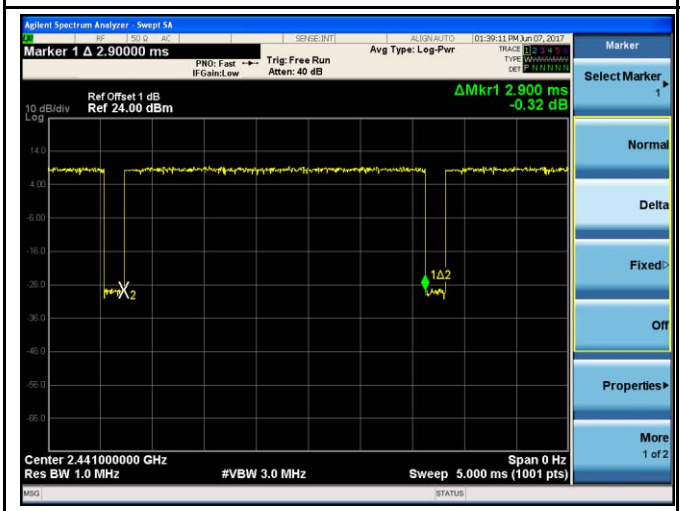
GFSK - Mid CH 2441



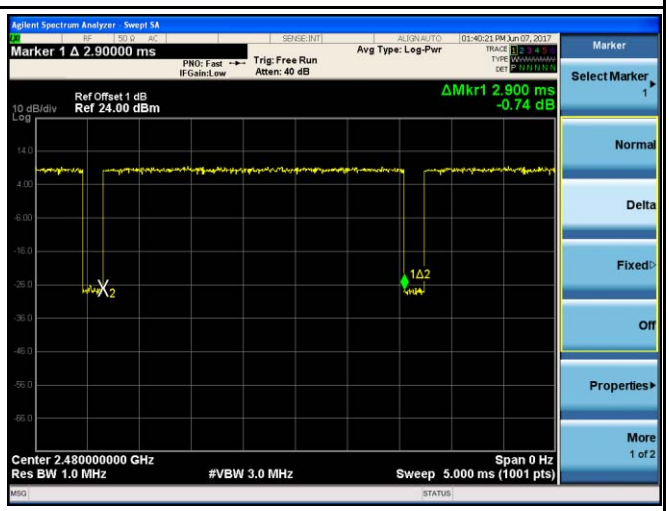
GFSK - High CH 2480



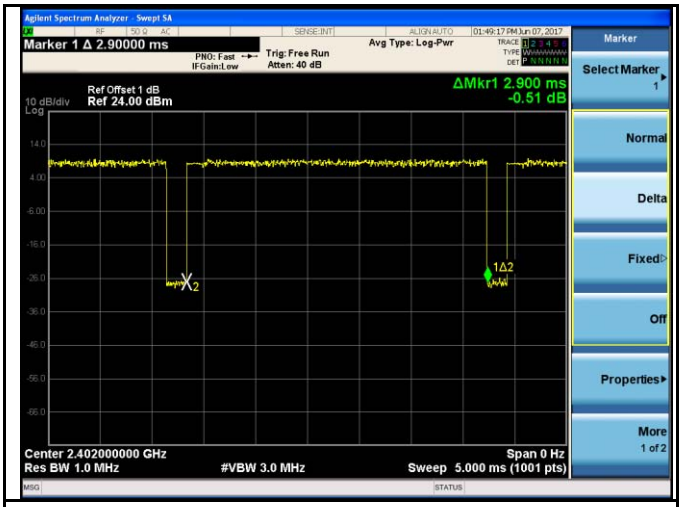
π/4 DQPSK - Low CH 2402



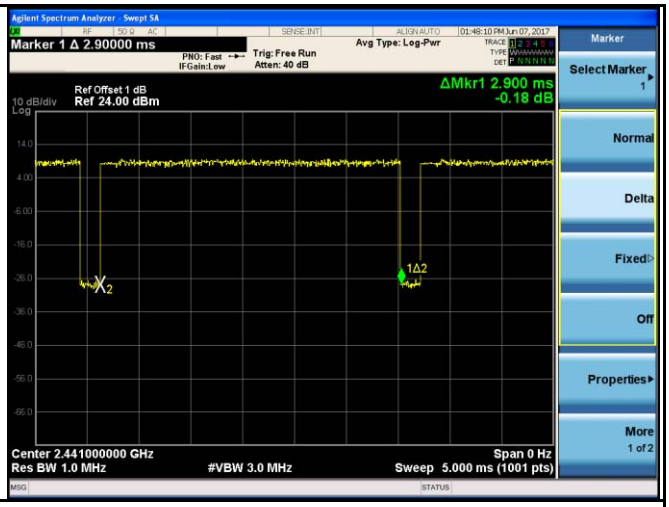
π/4 DQPSK - Mid CH 2441



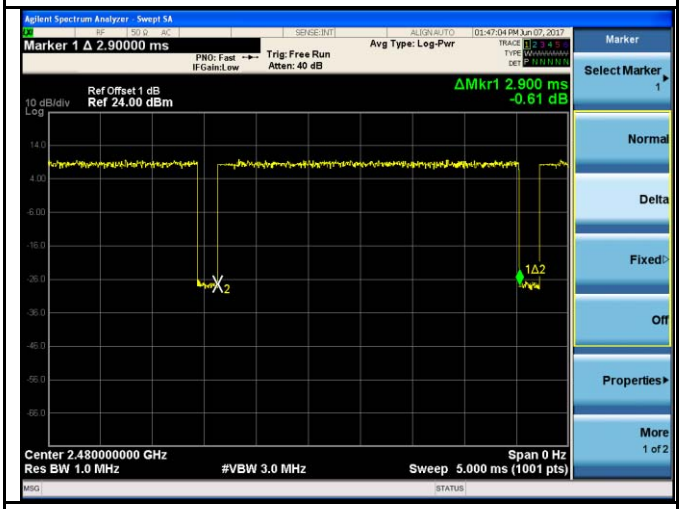
π/4 DQPSK - High CH 2480



8DPSK - Low CH 2402



8DPSK - Mid CH 2441



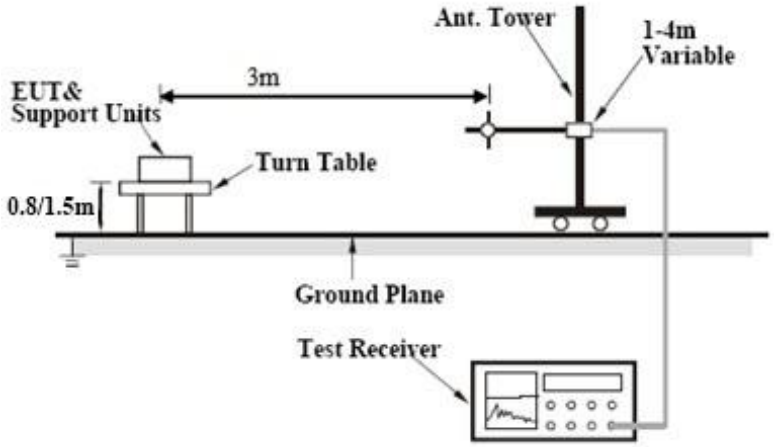
8DPSK - High CH 2480

6.7 Band Edge

Temperature	24°C
Relative Humidity	57%
Atmospheric Pressure	1015mbar
Test date :	June 14, 2017
Tested By :	Trety Lu

Requirement(s):

Spec	Item	Requirement	Applicable
§15.247(a)(1)(iii)	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, provided the transmitter demonstrates compliance with the peak conducted power limits.	☒

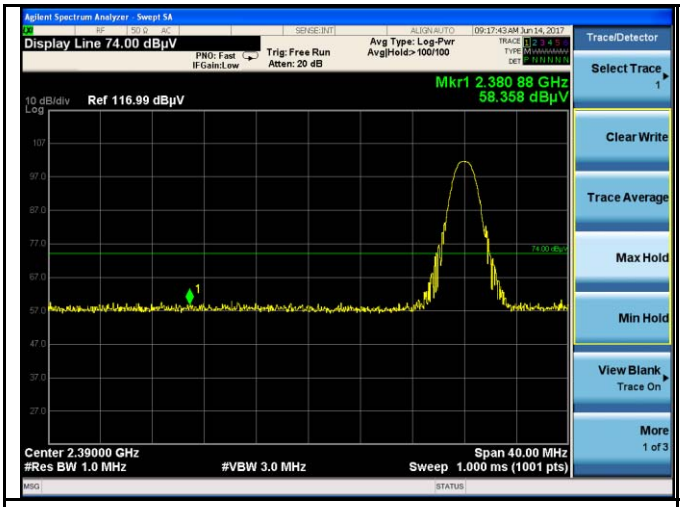
Test Setup	
Test Procedure	The test follows FCC Public Notice DA 00-705 Measurement Guidelines. Radiated Method Only - 1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator. - 2. Position the EUT without connection to measurement instrument. Put it on the Rotated table and turn on the EUT and make it operate in transmitting mode. Then set it to Low Channel and High Channel within its operating range, and make sure the instrument is operated in its linear range. - 3. First, set both RBW and VBW of spectrum analyzer to 100 kHz with a convenient frequency span including 100kHz bandwidth from band edge, check the emission of EUT, if pass then set Spectrum Analyzer as below: a. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasiy Peak detection at frequency below 1GHz. b. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz with Peak detection for Peak measurement at frequency above 1GHz. c. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 10Hz with Peak detection for Average Measurement as below at frequency above 1GHz. - 4. Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency. - 5. Repeat above procedures until all measured frequencies were complete.
Remark	

Result	☒Pass ☐Fail

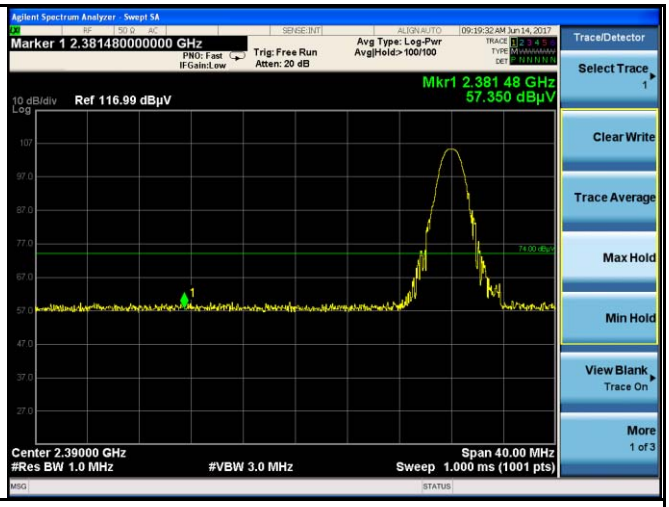
Test Data ☐Yes ☒N/A

Test Plot ☒Yes (See below) ☐N/A

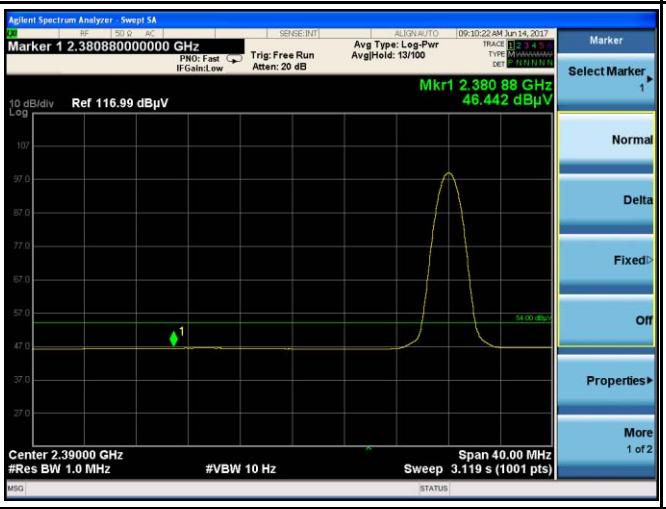
Test Plots
GFSK Mode:



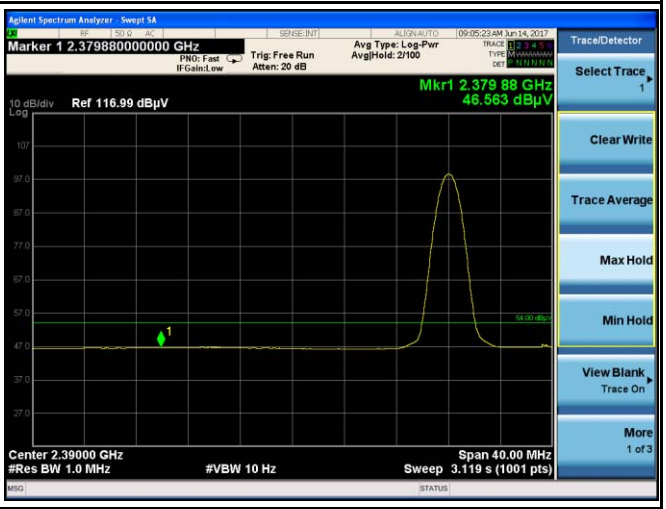
GFSK-Left Side-PK-H



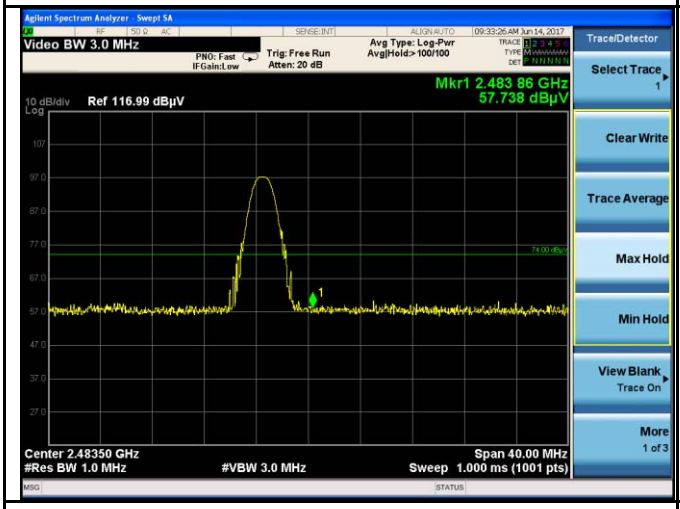
GFSK-Left Side-PK-V



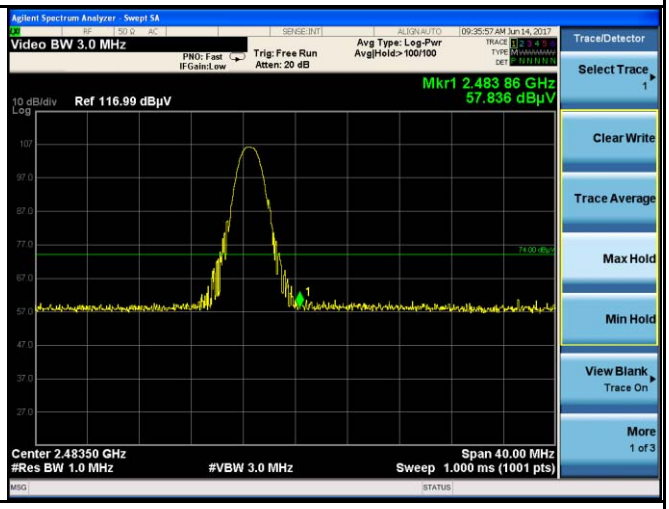
GFSK-Left Side-AV-H



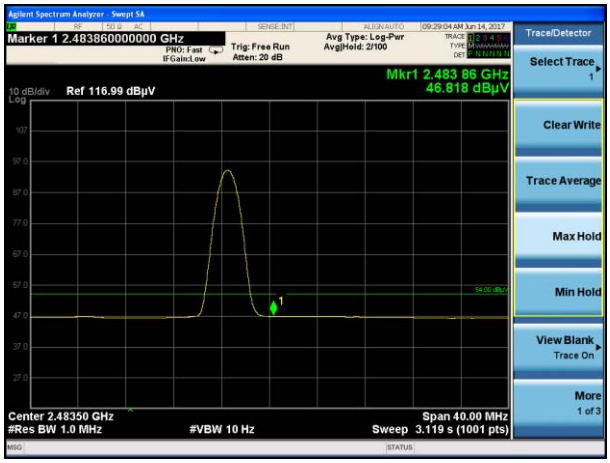
GFSK- Left Side-AV-V



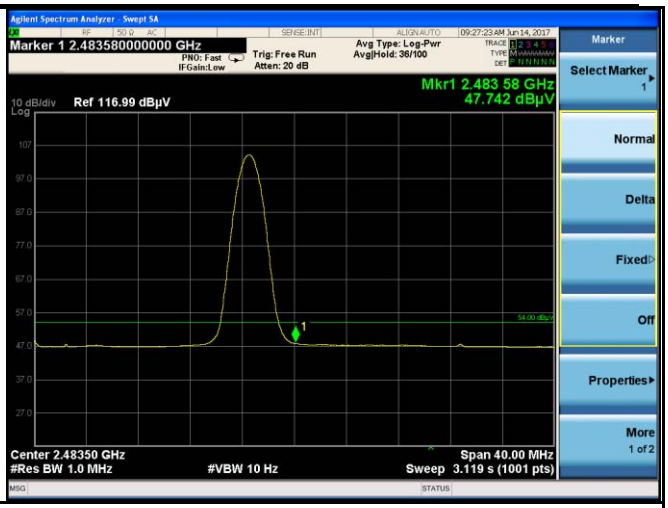
GFSK-Right Side-PK-H



GFSK-Right Side-PK-V

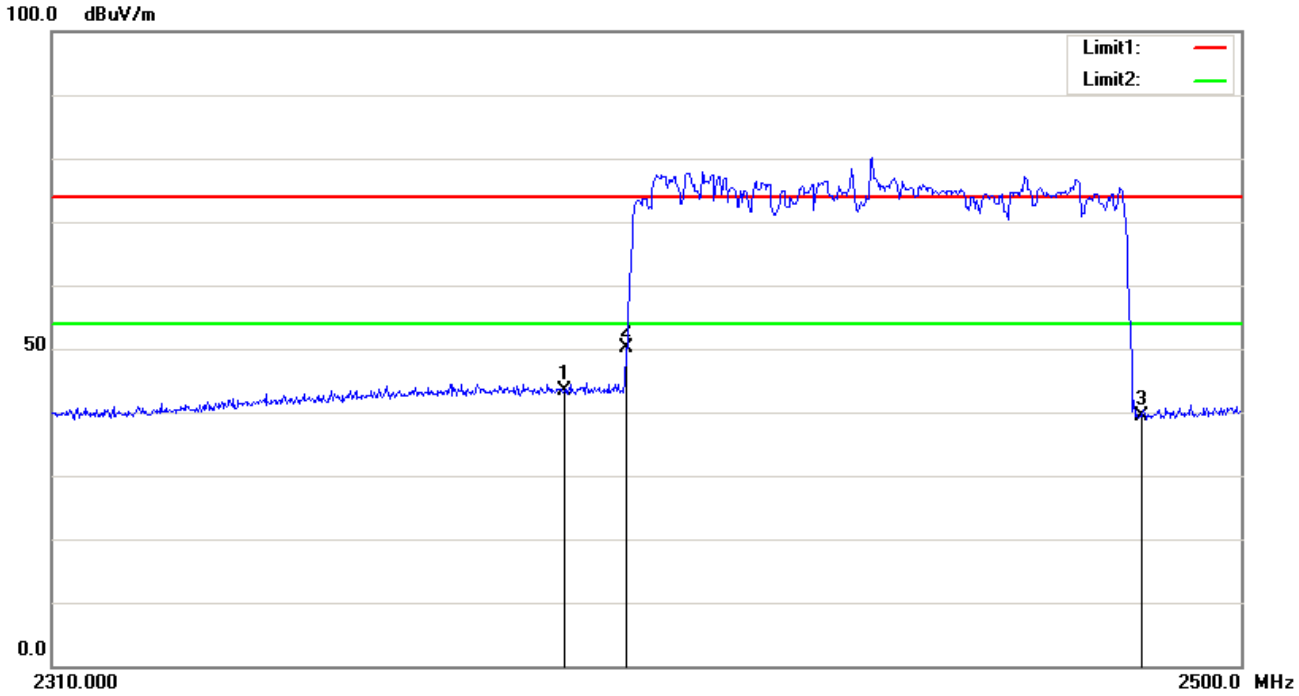


GFSK-Right Side-AV-H



GFSK-Right Side-AV-V

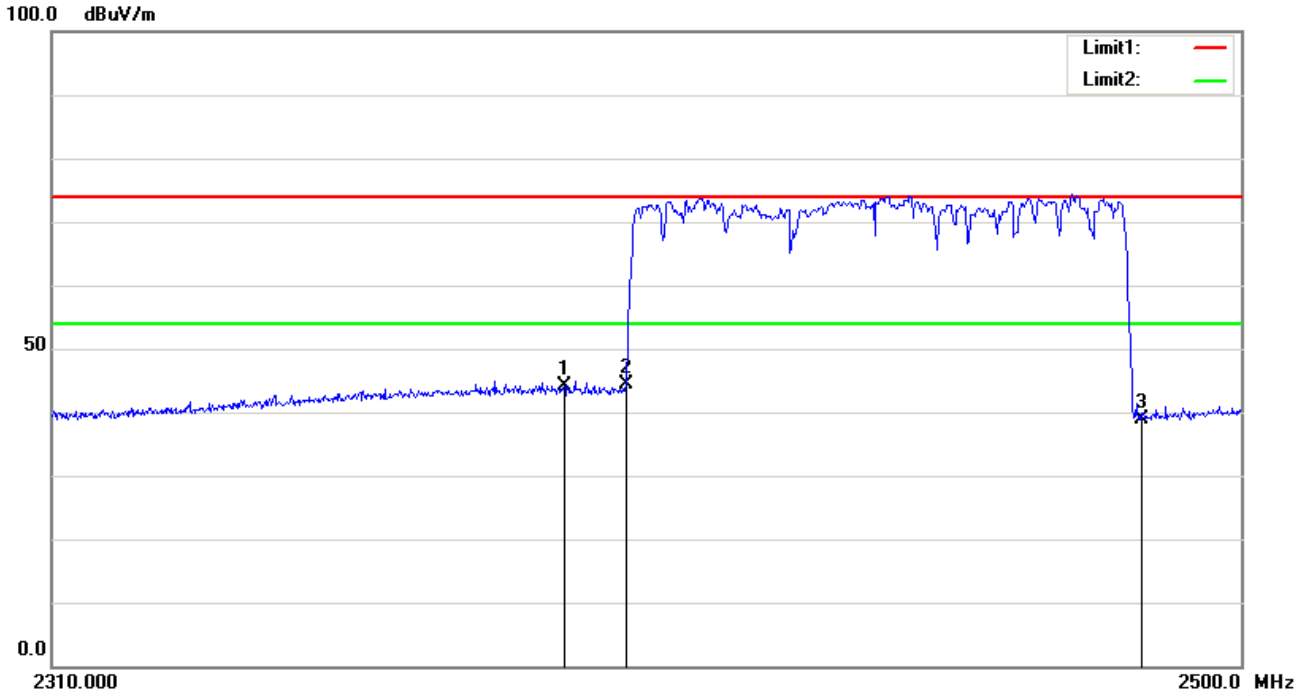
Test Mode:	Hopping Mode



GFSK-Hopping-Horizontal

No.	Frequency (MHz)	Reading (dBuV/m)	Detector	Ant_F (dB/m)	PA_G (dB)	Cab_L (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)
1	2390.000	60.37	peak	31.53	52.55	4.02	43.37	74.00	-30.63	100	39
2	2400.000	67.26	peak	31.54	52.56	4.01	50.25	74.00	-23.75	100	146
3	2483.500	56.47	peak	31.59	52.63	4.06	39.49	74.00	-34.51	200	273

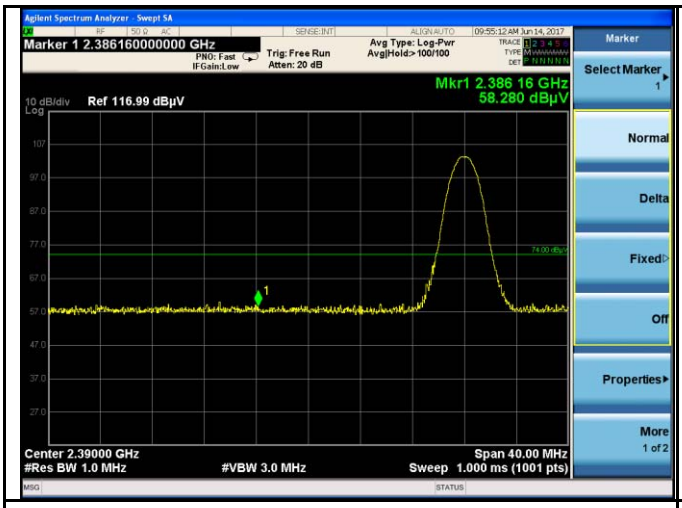
Test Mode:	Hopping Mode



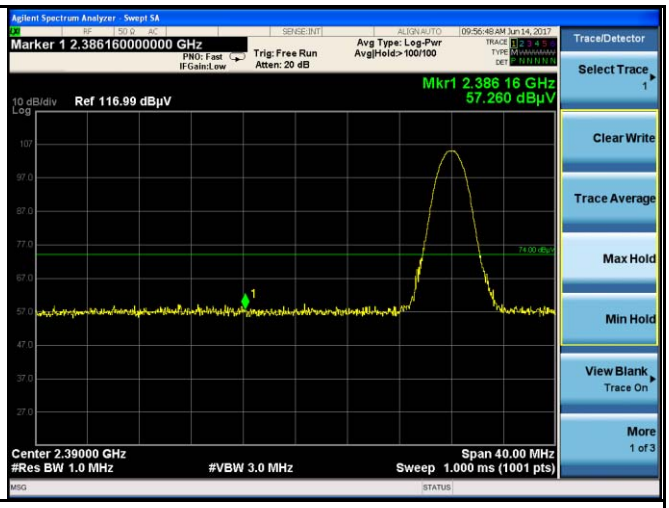
GFSK-Hopping-Vertical

No.	Frequency (MHz)	Reading (dBuV/m)	Detector	Ant_F (dB/m)	PA_G (dB)	Cab_L (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)
1	2390.000	61.19	peak	31.53	52.55	4.02	44.19	74.00	-29.81	200	241
2	2400.000	61.46	peak	31.54	52.56	4.01	44.45	74.00	-29.55	200	158
3	2483.500	55.96	peak	31.59	52.63	4.06	38.98	74.00	-35.02	300	305

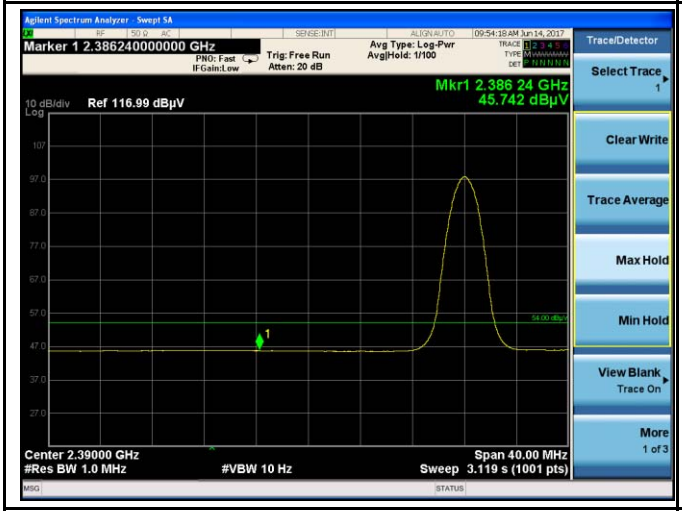
π/4 DQPSK Mode:



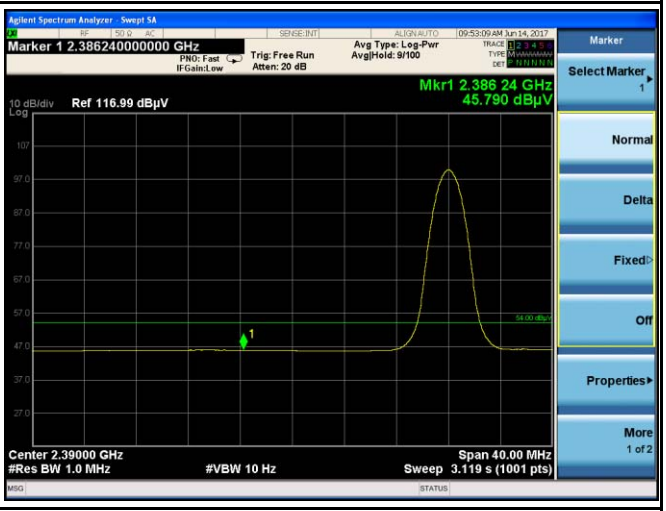
π/4 DQPSK -Left Side-PK-H



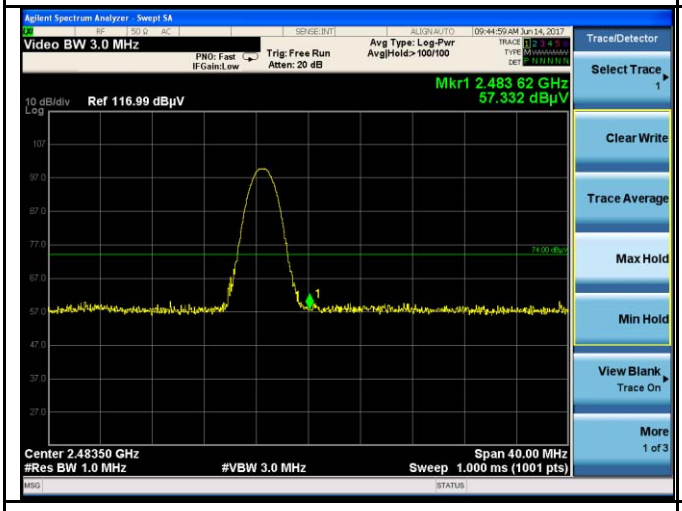
π/4 DQPSK -Left Side-PK-V



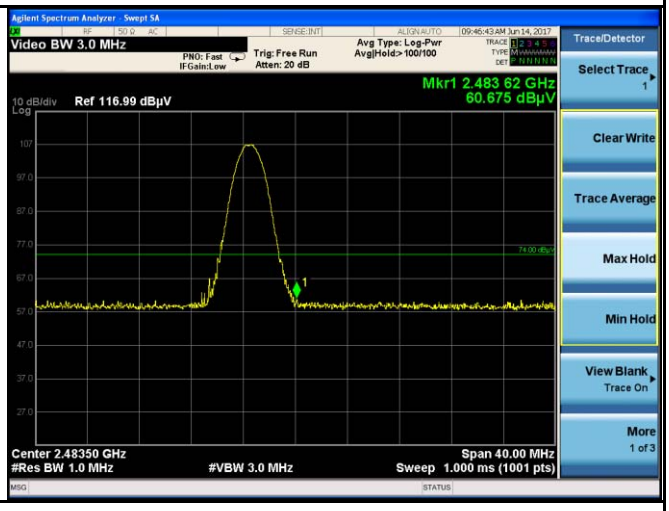
π/4 DQPSK -Left Side-AV-H



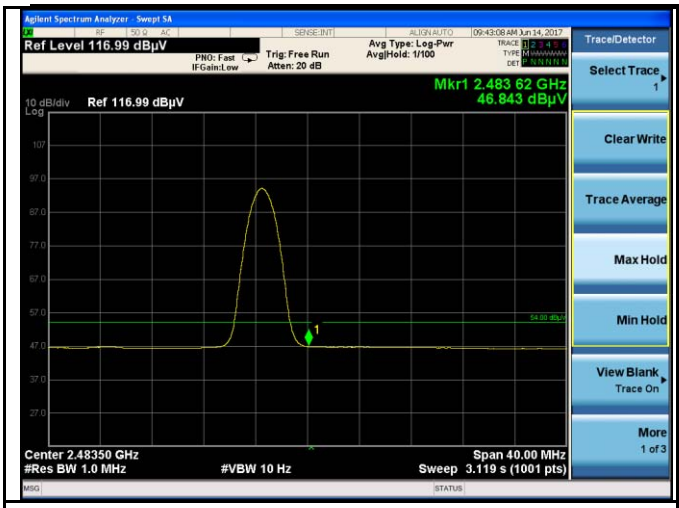
π/4 DQPSK - Left Side-AV-V



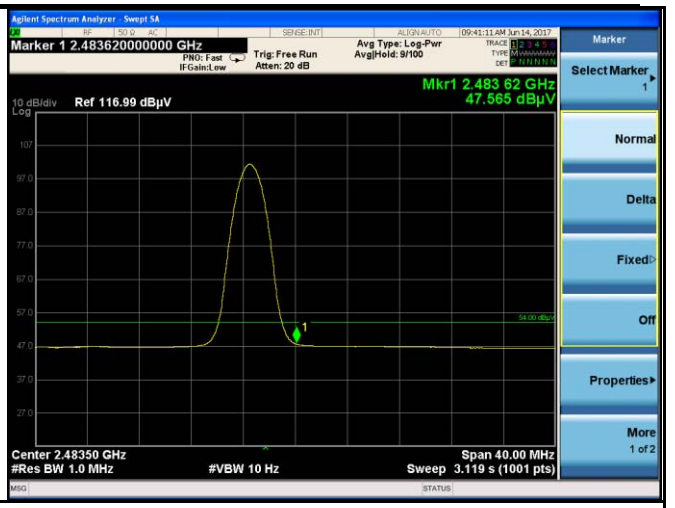
π/4 DQPSK -Right Side-PK-H



π/4 DQPSK -Right Side-PK-V

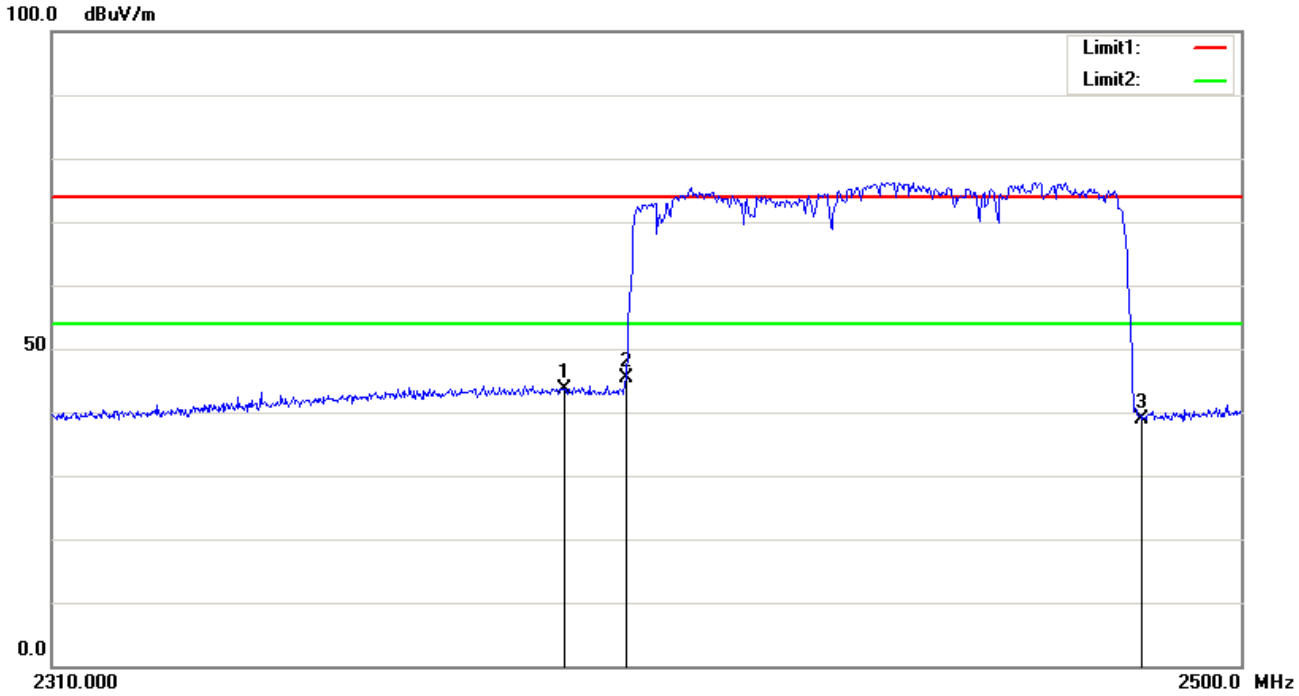


π/4 DQPSK -Right Side-AV-H



π/4 DQPSK -Right Side-AV-V

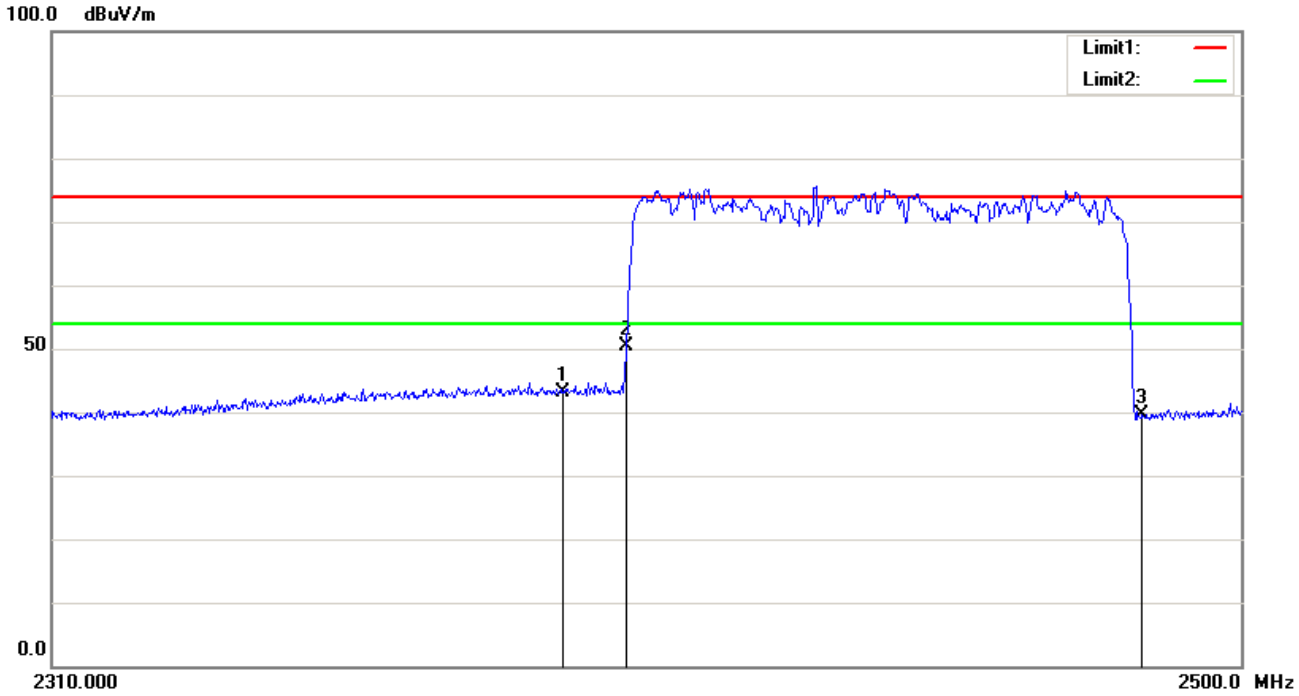
Test Mode:	Hopping Mode



π/4 DQPSK -Hopping-Horizontal

No.	Frequency (MHz)	Reading (dBuV/m)	Detector	Ant_F (dB/m)	PA_G (dB)	Cab_L (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)
1	2390.000	60.69	peak	31.53	52.55	4.02	43.69	74.00	-30.31	100	150
2	2400.000	62.45	peak	31.54	52.56	4.01	45.44	74.00	-28.56	100	263
3	2483.500	55.85	peak	31.59	52.63	4.06	38.87	74.00	-35.13	200	147

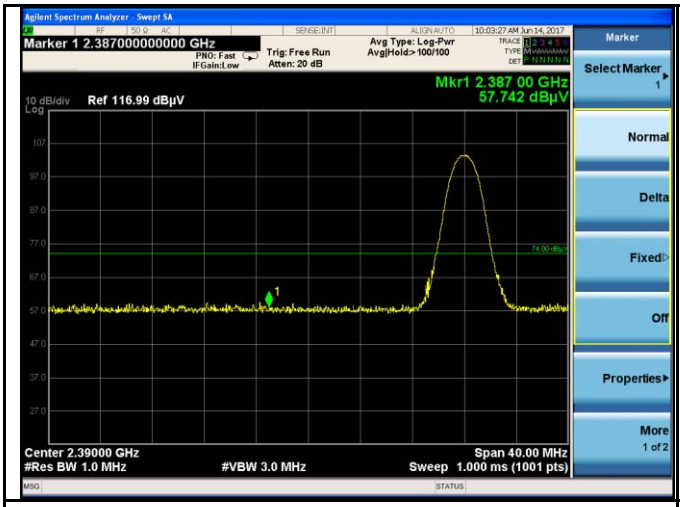
Test Mode:	Hopping Mode



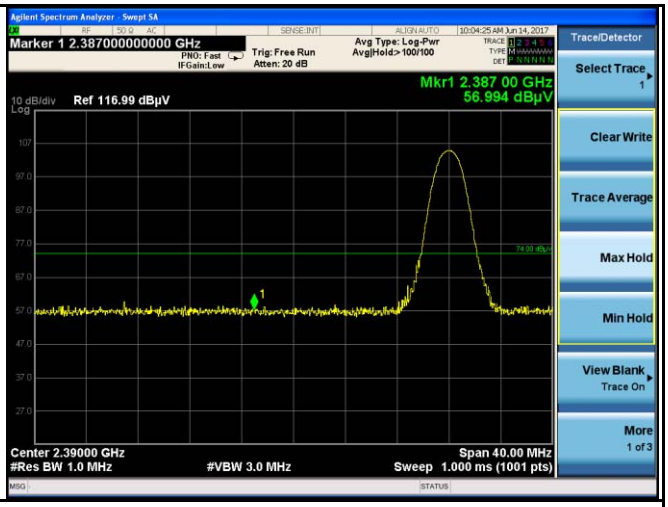
π/4 DQPSK -Hopping-Vertical

No.	Frequency (MHz)	Reading (dBuV/m)	Detector	Ant_F (dB/m)	PA_G (dB)	Cab_L (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)
1	2390.000	60.17	peak	31.53	52.55	4.02	43.17	74.00	-30.83	200	203
2	2400.000	67.49	peak	31.54	52.56	4.01	50.48	74.00	-23.52	200	208
3	2483.500	56.55	peak	31.59	52.63	4.06	39.57	74.00	-34.43	100	250

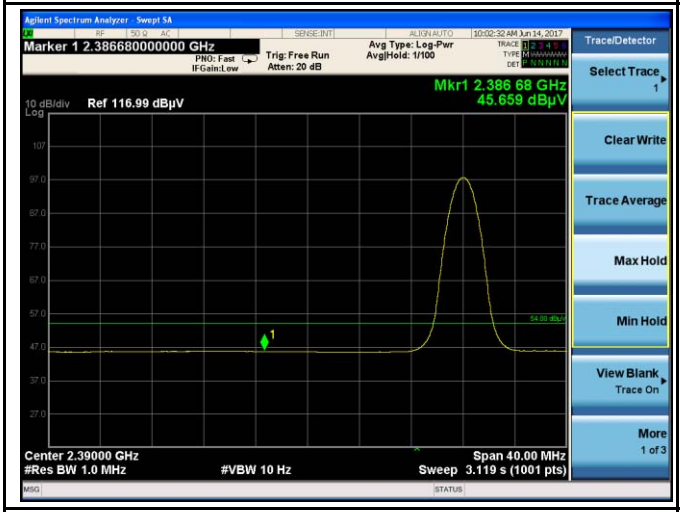
8-DPSK Mode:



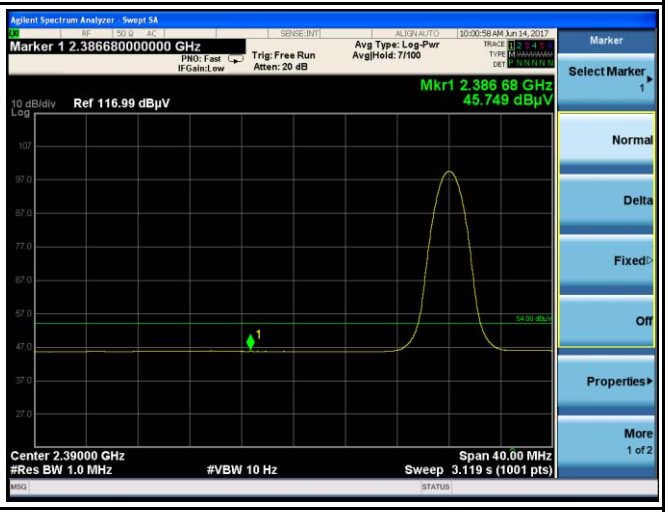
8-DPSK -Left Side-PK-H



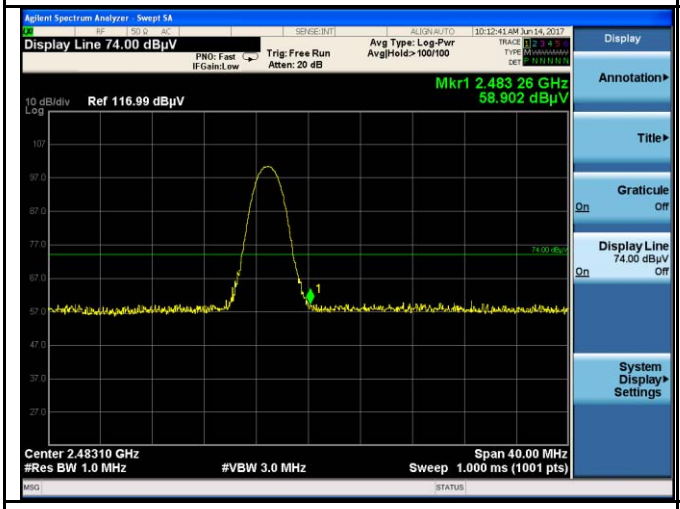
8-DPSK -Left Side-PK-V



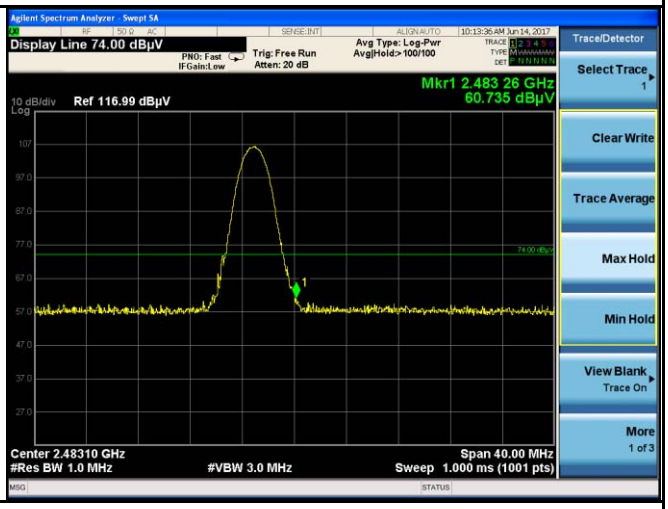
8-DPSK -Left Side-AV-H



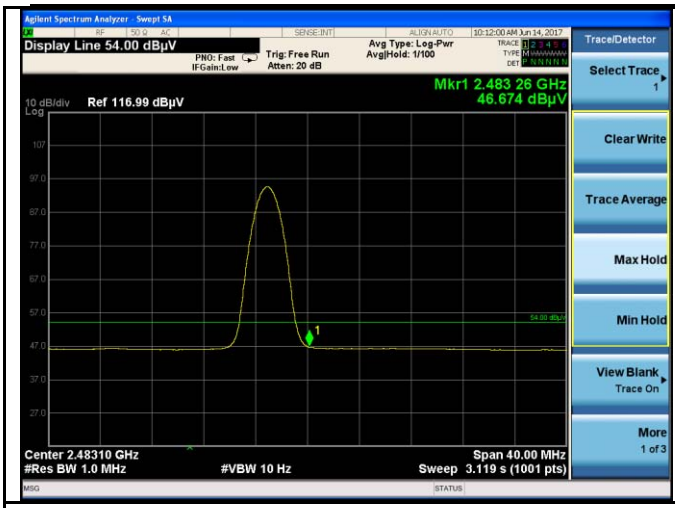
8-DPSK - Left Side-AV-V



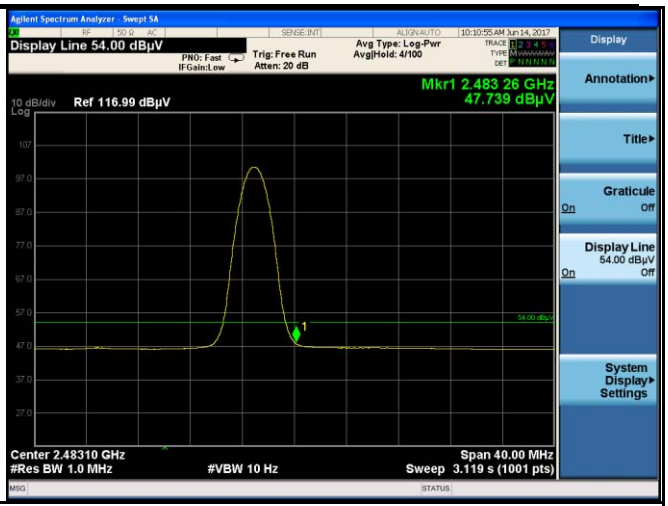
8-DPSK -Right Side-PK-H



8-DPSK -Right Side-PK-V

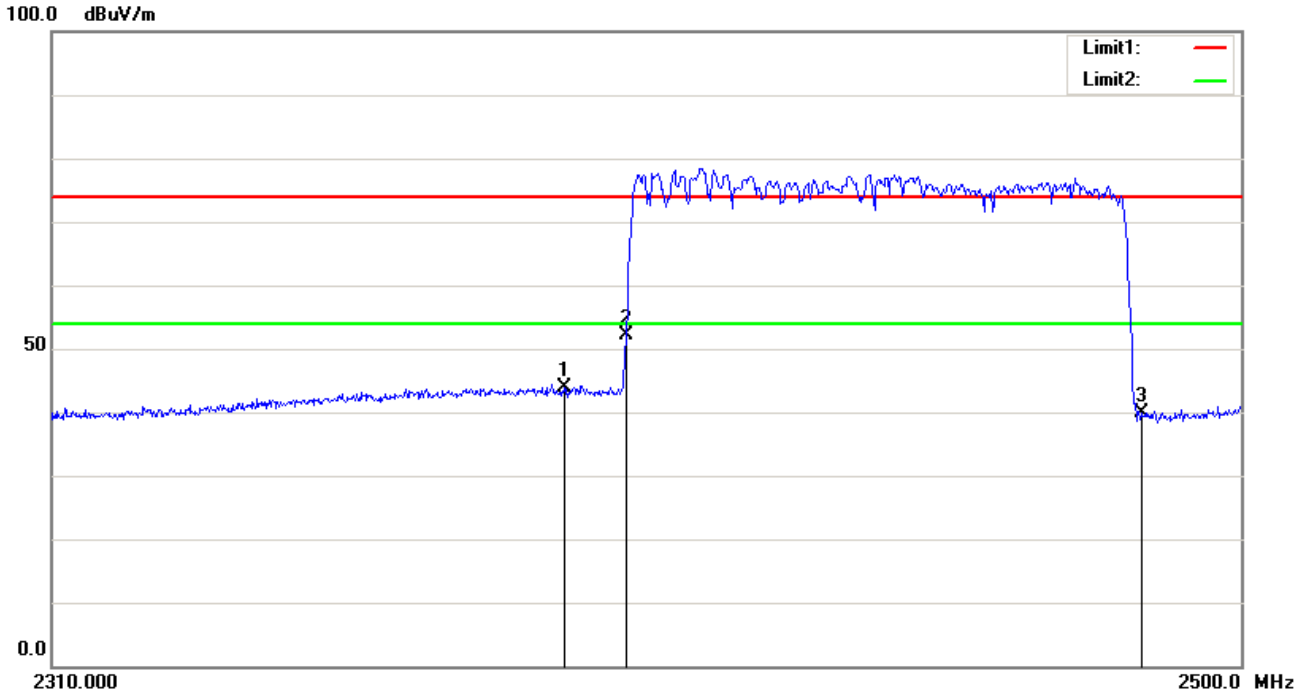


8-DPSK -Right Side-AV-H



8-DPSK -Right Side-AV-V

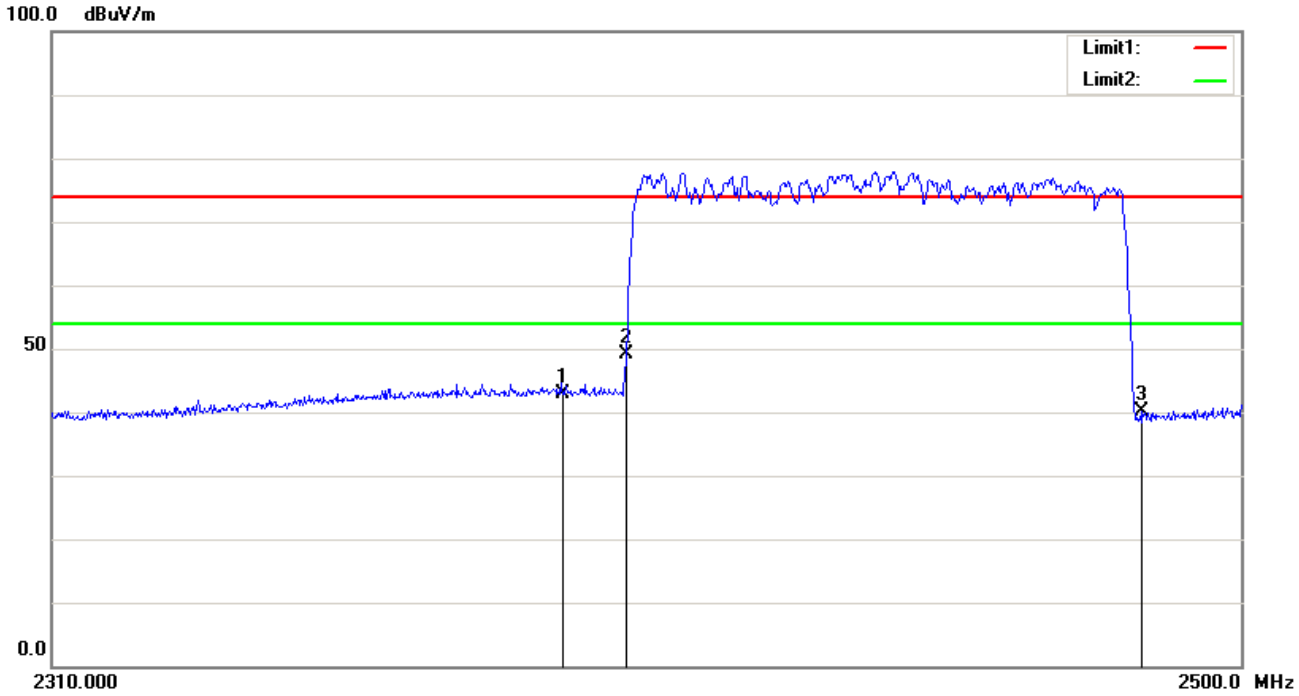
Test Mode:	Hopping Mode



8-DPSK -Hopping-Horizontal

No.	Frequency (MHz)	Reading (dBuV/m)	Detector	Ant_F (dB/m)	PA_G (dB)	Cab_L (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)
1	2390.000	60.82	peak	31.53	52.55	4.02	43.82	74.00	-30.18	100	25
2	2400.000	69.13	peak	31.54	52.56	4.01	52.12	74.00	-21.88	200	168
3	2483.500	56.75	peak	31.59	52.63	4.06	39.77	74.00	-34.23	100	320

Test Mode:	Hopping Mode



8-DPSK -Hopping-Vertical

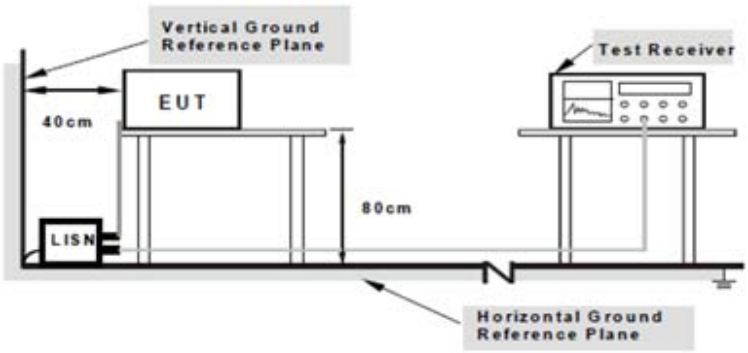
No.	Frequency (MHz)	Reading (dBuV/m)	Detector	Ant_F (dB/m)	PA_G (dB)	Cab_L (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)
1	2390.000	59.76	peak	31.53	52.55	4.02	42.76	74.00	-31.24	200	32
2	2400.000	66.18	peak	31.54	52.56	4.01	49.17	74.00	-24.83	100	291
3	2483.500	57.19	peak	31.59	52.63	4.06	40.21	74.00	-33.79	164	0

6.8 AC Power Line Conducted Emissions

Temperature	22°C
Relative Humidity	59%
Atmospheric Pressure	1017mbar
Test date :	June 09,2017
Tested By :	Trety Lu

Requirement(s):

<table>
<tr><th>Spec</th><th>Item</th><th>Requirement</th><th>Applicable</th></tr>
<tr><td>47CFR§15.207, RSS210 (A8.1)</td><td>a)</td><td>For Low-power radio-frequency devices 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 or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50 [mu]H/50 ohms line impedance stabilization network (LISN). The lower limit applies at the boundary between the frequencies ranges.

Class A Limit
<table>
<tr><th rowspan="2">Frequency ranges (MHz)</th><th colspan="2">Limit (dBμV)</th></tr>
<tr><th>QP</th><th>Average</th></tr>
<tr><td>0.15 ~ 0.5</td><td>79</td><td>66</td></tr>
<tr><td>0.5 ~ 30</td><td>73</td><td>60</td></tr>
</table>
Class B Limit
<table>
<tr><th rowspan="2">Frequency ranges (MHz)</th><th colspan="2">Limit (dBμV)</th></tr>
<tr><th>QP</th><th>Average</th></tr>
<tr><td>0.15 ~ 0.5</td><td>66 – 56</td><td>56 – 46</td></tr>
<tr><td>0.5 ~ 5</td><td>56</td><td>46</td></tr>
<tr><td>5 ~ 30</td><td>60</td><td>50</td></tr>
</table></td><td>☑</td></tr>
<tr><td>Test Setup</td><td colspan="3"> 

Note: 1.Support units were connected to second LISN.
2.Both of LISNs (AMN) are 80cm from EUT and at least 80cm from other units and other metal planes support units.</td></tr>
<tr><td>Procedure</td><td colspan="3">1. The EUT and supporting equipment were set up in accordance with the requirements of the standard on top of a 1.5m x 1m x 0.8m high, non-metallic table.
2. The power supply for the EUT was fed through a 50 [mu]H/50 EUT LISN, connected to filtered mains.
3. The RF OUT of the EUT LISN was connected to the EMI test receiver via a low-loss coaxial cable.
4. All other supporting equipment were powered separately from another main supply.
5. The EUT was switched on and allowed to warm up to its normal operating condition.
6. A scan was made on the NEUTRAL line (for AC mains) or Earth line (for DC power) over the required frequency range using an EMI test receiver.
7. High peaks, relative to the limit line, The EMI test receiver was then tuned to the selected frequencies and the necessary measurements made with a receiver bandwidth setting of 10 kHz.
8. Step 7 was then repeated for the LIVE line (for AC mains) or DC line (for DC power).</td></tr>
<tr><td>Remark</td><td colspan="3">We test 3 modulations, only show GFSK test data in the report.</td></tr>
</table>

Result	☑ Pass ☐ Fail

Test Data ☑ Yes ☐ N/A

Test Plot ☑ Yes (See below) ☐ N/A

Data sample

No.	Frequency	Reading	Detector	Lisn/Isn	Ps_Lmt	Cab_L	Result	Limit	Margin
	(MHz)	(dBμV)		(dB}	(dB)	(dB)	(dBμV)	(dBμV)	(dB)

Frequency (MHz) = Emission frequency in MHz

Reading (dBμV) = Receiver Reading Value

Detector=Quasi Peak Detector or Average Detector

Lisn/ISN= Insertion loss of LISN

Ps_Lmt= Insertion loss of transient limiter (The transient limiter included 10dB attenuation)

Cab_L= cable loss

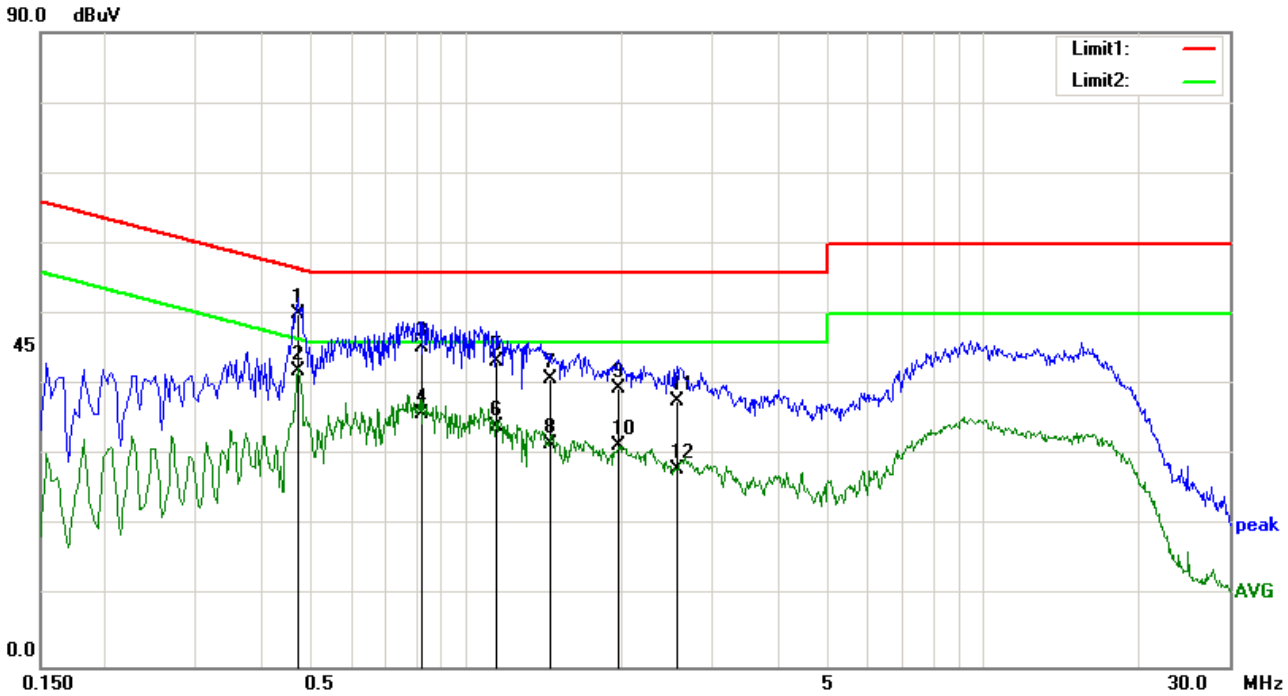
Result (dBμV) = Reading Value + Corrected Value

Limit (dBμV) = Limit stated in standard

Calculation Formula:

Margin (dB) = Result (dBμV) – limit (dBμV)

Test Mode:	Transmitting BT Mode (Low Channel)

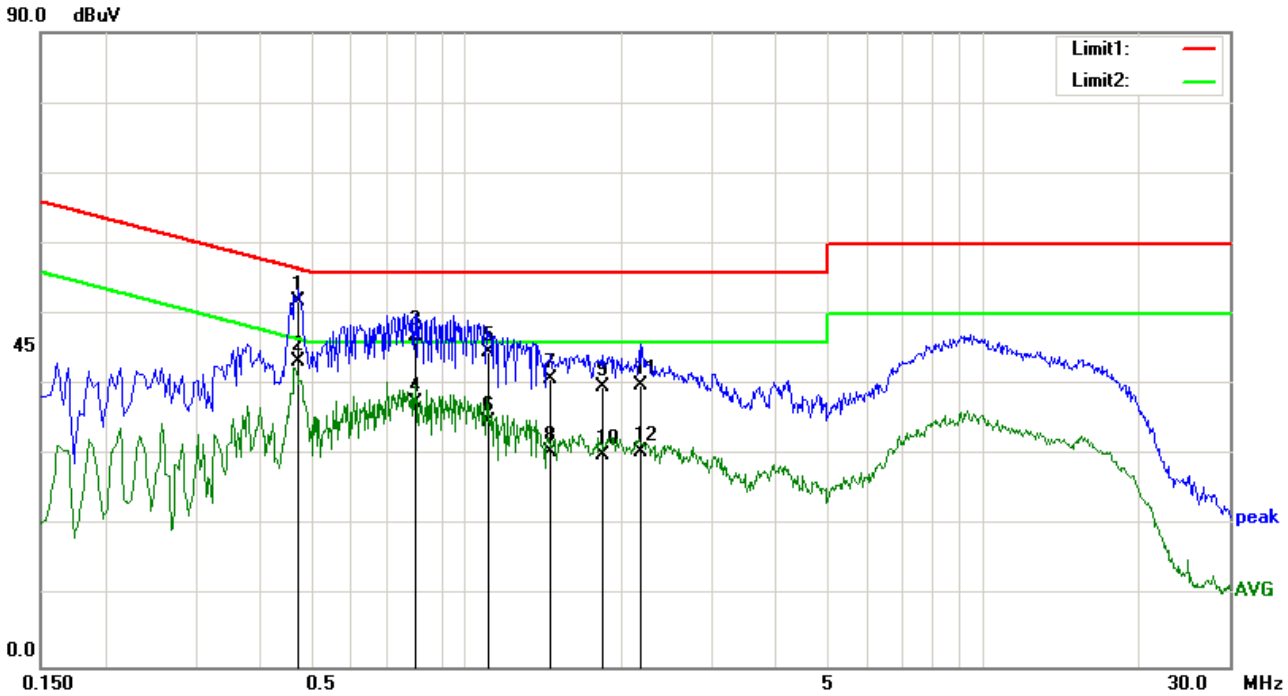


Test Data

Phase Line Plot at 120Vac, 60Hz

No.	Frequency (MHz)	Reading (dBuV)	Detector	Lisn/lsn (dB}	Ps_Lmt (dB)	Cab_L (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)
1	0.4740	39.78	QP	0.12	-10.00	0.21	50.11	56.44	-6.33
2	0.4740	31.74	AVG	0.12	-10.00	0.21	42.07	46.44	-4.37
3	0.8220	34.95	QP	0.13	-10.00	0.20	45.28	56.00	-10.72
4	0.8220	25.66	AVG	0.13	-10.00	0.20	35.99	46.00	-10.01
5	1.1420	33.01	QP	0.14	-10.00	0.20	43.35	56.00	-12.65
6	1.1420	23.77	AVG	0.14	-10.00	0.20	34.11	46.00	-11.89
7	1.4500	30.59	QP	0.15	-10.00	0.20	40.94	56.00	-15.06
8	1.4500	21.34	AVG	0.15	-10.00	0.20	31.69	46.00	-14.31
9	1.9780	29.21	QP	0.16	-10.00	0.18	39.55	56.00	-16.45
10	1.9780	21.03	AVG	0.16	-10.00	0.18	31.37	46.00	-14.63
11	2.5540	27.30	QP	0.18	-10.00	0.23	37.71	56.00	-18.29
12	2.5540	17.52	AVG	0.18	-10.00	0.23	27.93	46.00	-18.07

Test Mode:	Transmitting BT Mode (Low Channel)

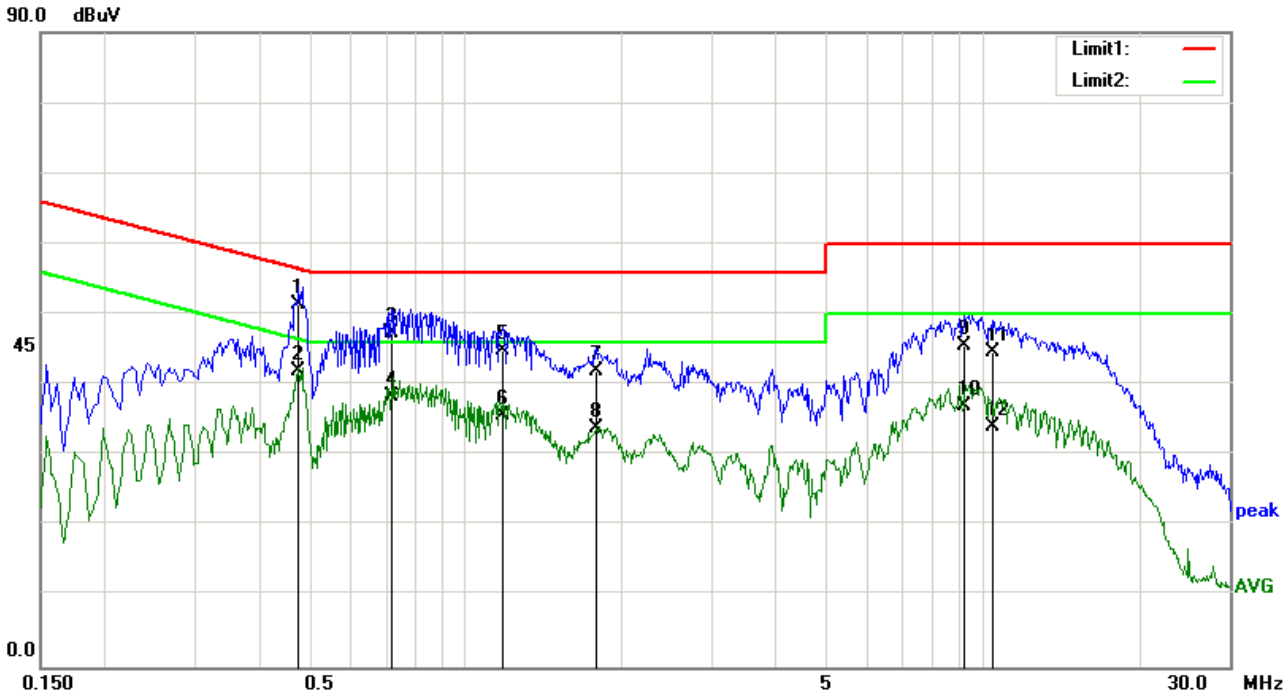


Test Data

Phase Neutral Plot at 120Vac, 60Hz

No.	Frequency (MHz)	Reading (dBuV)	Detector	Lisn/Isn (dB}	Ps_Lmt (dB)	Cab_L (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)
1	0.4740	41.54	QP	0.11	-10.00	0.21	51.86	56.44	-4.58
2	0.4740	32.93	AVG	0.11	-10.00	0.21	43.25	46.44	-3.19
3	0.7980	36.52	QP	0.12	-10.00	0.20	46.84	56.00	-9.16
4	0.7980	27.15	AVG	0.12	-10.00	0.20	37.47	46.00	-8.53
5	1.1100	34.38	QP	0.13	-10.00	0.20	44.71	56.00	-11.29
6	1.1100	24.39	AVG	0.13	-10.00	0.20	34.72	46.00	-11.28
7	1.4620	30.42	QP	0.15	-10.00	0.20	40.77	56.00	-15.23
8	1.4620	20.10	AVG	0.15	-10.00	0.20	30.45	46.00	-15.55
9	1.8340	29.39	QP	0.16	-10.00	0.20	39.75	56.00	-16.25
10	1.8340	19.71	AVG	0.16	-10.00	0.20	30.07	46.00	-15.93
11	2.1740	29.55	QP	0.18	-10.00	0.21	39.94	56.00	-16.06
12	2.1740	20.13	AVG	0.18	-10.00	0.21	30.52	46.00	-15.48

Test Mode:	Transmitting BT Mode (Low Channel)

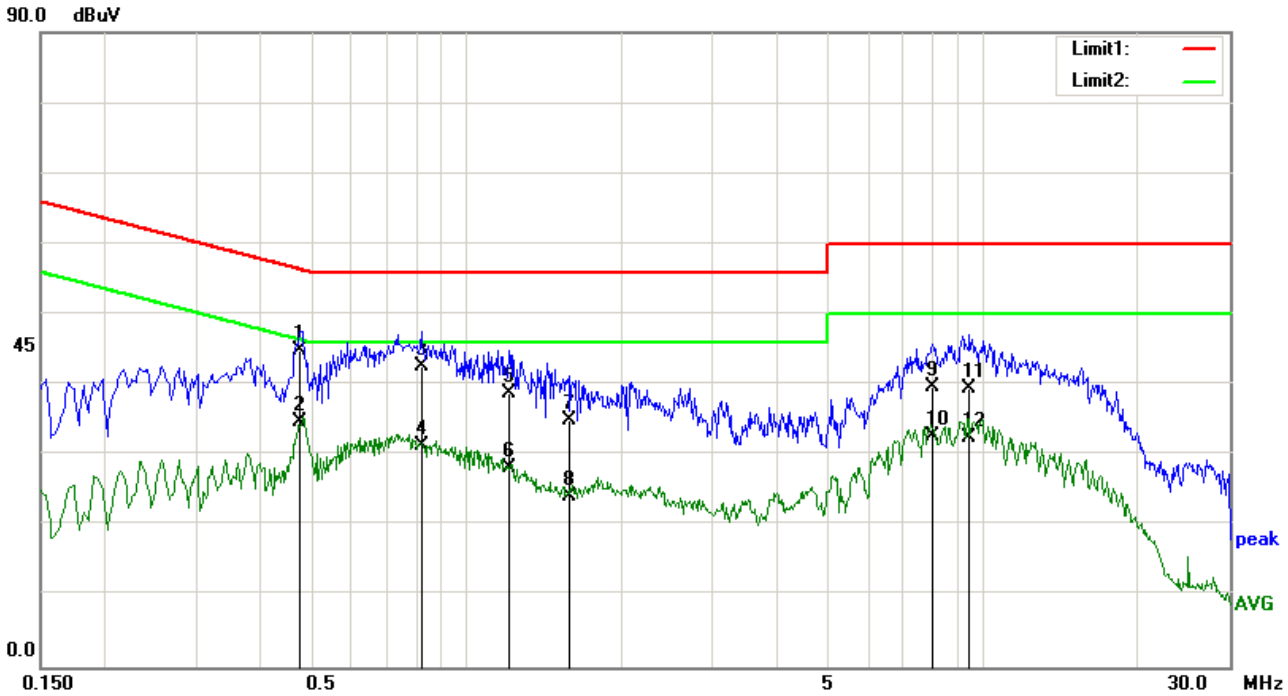


Test Data

Phase Line Plot at 230Vac, 50Hz

No.	Frequency (MHz)	Reading (dBuV)	Detector	Lisn/Isn (dB}	Ps_Lmt (dB)	Cab_L (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)
1	0.4740	40.98	QP	0.12	-10.00	0.21	51.31	56.44	-5.13
2	0.4740	31.67	AVG	0.12	-10.00	0.21	42.00	46.44	-4.44
3	0.7180	36.94	QP	0.13	-10.00	0.20	47.27	56.00	-8.73
4	0.7180	27.93	AVG	0.13	-10.00	0.20	38.26	46.00	-7.74
5	1.1820	34.66	QP	0.14	-10.00	0.20	45.00	56.00	-11.00
6	1.1820	25.26	AVG	0.14	-10.00	0.20	35.60	46.00	-10.40
7	1.7900	31.63	QP	0.16	-10.00	0.21	42.00	56.00	-14.00
8	1.7900	23.40	AVG	0.16	-10.00	0.21	33.77	46.00	-12.23
9	9.2060	34.62	QP	0.46	-10.00	0.38	45.46	60.00	-14.54
10	9.2060	26.12	AVG	0.46	-10.00	0.38	36.96	50.00	-13.04
11	10.4700	33.73	QP	0.52	-10.00	0.50	44.75	60.00	-15.25
12	10.4700	23.11	AVG	0.52	-10.00	0.50	34.13	50.00	-15.87

Test Mode:	Transmitting BT Mode (Low Channel)

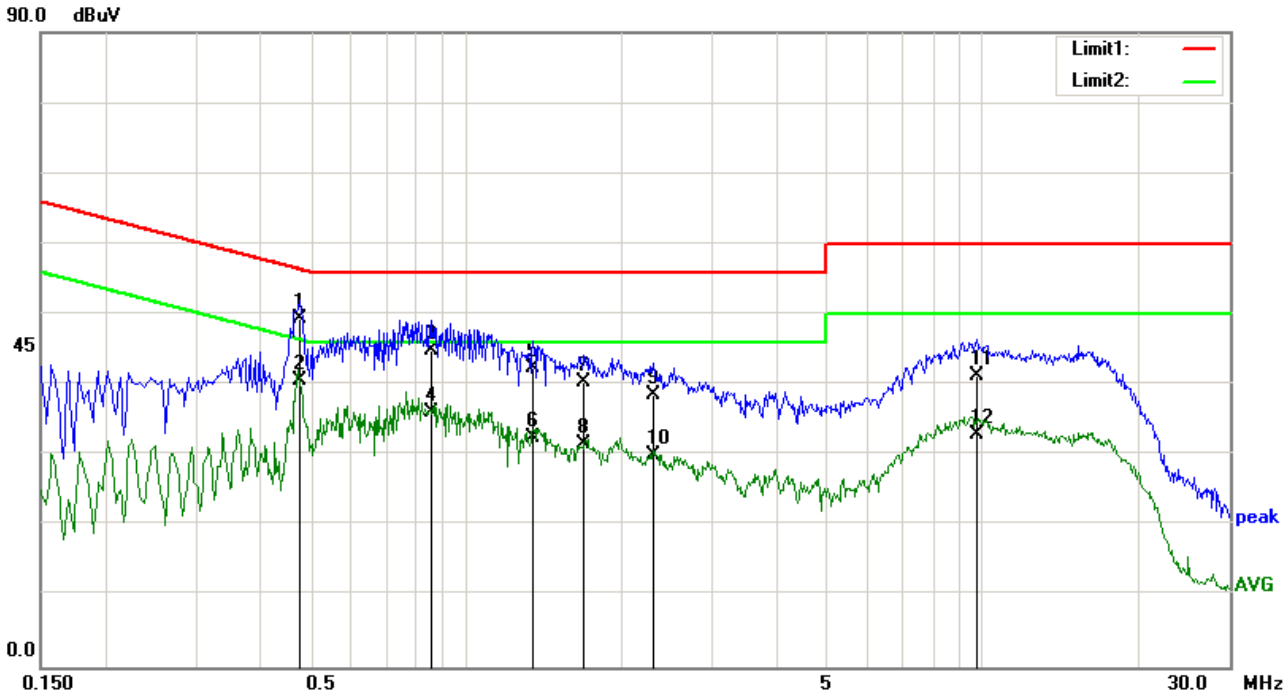


Test Data

Phase Neutral Plot at 230Vac, 50Hz

No.	Frequency (MHz)	Reading (dBuV)	Detector	Lisn/Isn (dB}	Ps_Lmt (dB)	Cab_L (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)
1	0.4780	34.56	QP	0.11	-10.00	0.21	44.88	56.37	-11.49
2	0.4780	24.38	AVG	0.11	-10.00	0.21	34.70	46.37	-11.67
3	0.8180	32.29	QP	0.12	-10.00	0.20	42.61	56.00	-13.39
4	0.8180	20.99	AVG	0.12	-10.00	0.20	31.31	46.00	-14.69
5	1.2140	28.45	QP	0.14	-10.00	0.21	38.80	56.00	-17.20
6	1.2140	17.93	AVG	0.14	-10.00	0.21	28.28	46.00	-17.72
7	1.5780	24.69	QP	0.15	-10.00	0.20	35.04	56.00	-20.96
8	1.5780	13.82	AVG	0.15	-10.00	0.20	24.17	46.00	-21.83
9	7.9980	28.98	QP	0.45	-10.00	0.36	39.79	60.00	-20.21
10	7.9980	21.98	AVG	0.45	-10.00	0.36	32.79	50.00	-17.21
11	9.4500	28.60	QP	0.51	-10.00	0.39	39.50	60.00	-20.50
12	9.4500	21.67	AVG	0.51	-10.00	0.39	32.57	50.00	-17.43

Test Mode:	Transmitting BT Mode (Middle Channel)

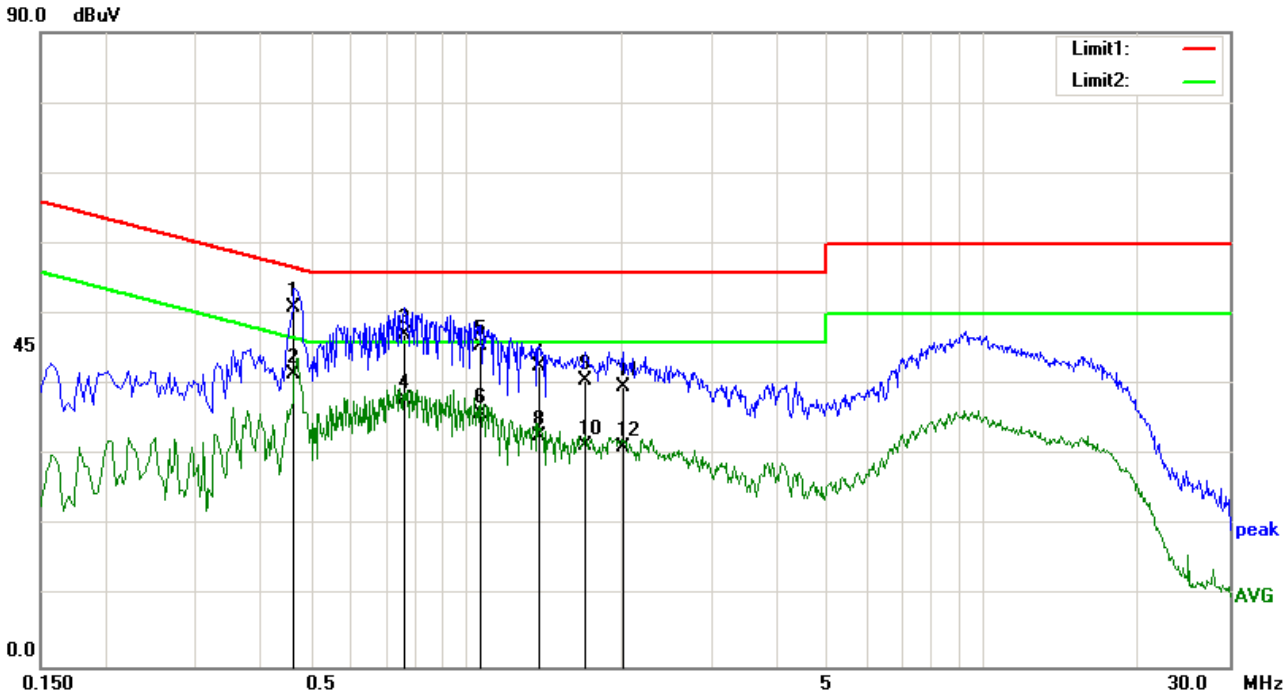


Test Data

Phase Line Plot at 120Vac, 60Hz

No.	Frequency (MHz)	Reading (dBuV)	Detector	Lisn/Isn (dB}	Ps_Lmt (dB)	Cab_L (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)
1	0.4780	39.10	QP	0.12	-10.00	0.21	49.43	56.37	-6.94
2	0.4780	30.27	AVG	0.12	-10.00	0.21	40.60	46.37	-5.77
3	0.8540	34.58	QP	0.14	-10.00	0.20	44.92	56.00	-11.08
4	0.8540	25.79	AVG	0.14	-10.00	0.20	36.13	46.00	-9.87
5	1.3500	32.13	QP	0.15	-10.00	0.21	42.49	56.00	-13.51
6	1.3500	22.21	AVG	0.15	-10.00	0.21	32.57	46.00	-13.43
7	1.6900	30.05	QP	0.15	-10.00	0.21	40.41	56.00	-15.59
8	1.6900	21.28	AVG	0.15	-10.00	0.21	31.64	46.00	-14.36
9	2.2980	28.10	QP	0.17	-10.00	0.22	38.49	56.00	-17.51
10	2.2980	19.70	AVG	0.17	-10.00	0.22	30.09	46.00	-15.91
11	9.7420	30.31	QP	0.48	-10.00	0.39	41.18	60.00	-18.82
12	9.7420	22.14	AVG	0.48	-10.00	0.39	33.01	50.00	-16.99

Test Mode:	Transmitting BT Mode (Middle Channel)

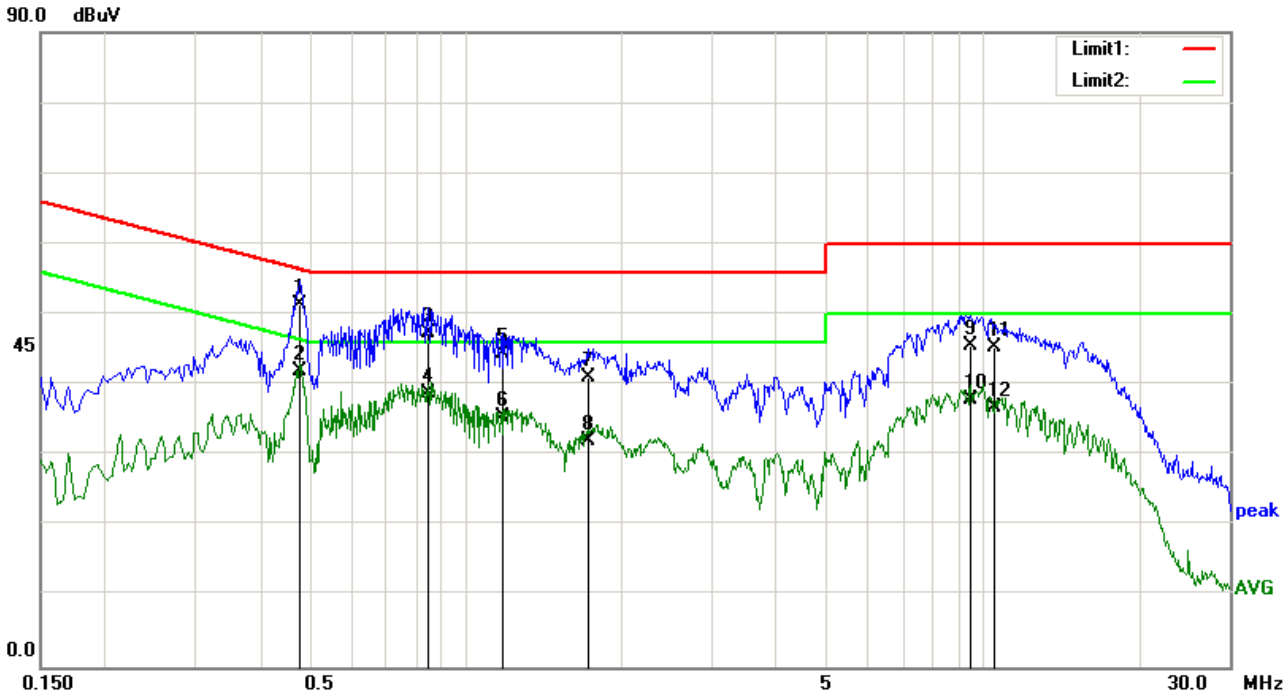


Test Data

Phase Neutral Plot at 120Vac, 60Hz

No.	Frequency (MHz)	Reading (dBuV)	Detector	Lisn/Isn (dB}	Ps_Lmt (dB)	Cab_L (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)
1	0.4660	40.75	QP	0.11	-10.00	0.21	51.07	56.58	-5.51
2	0.4660	31.23	AVG	0.11	-10.00	0.21	41.55	46.58	-5.03
3	0.7620	36.85	QP	0.12	-10.00	0.20	47.17	56.00	-8.83
4	0.7620	27.61	AVG	0.12	-10.00	0.20	37.93	46.00	-8.07
5	1.0700	35.19	QP	0.13	-10.00	0.20	45.52	56.00	-10.48
6	1.0700	25.52	AVG	0.13	-10.00	0.20	35.85	46.00	-10.15
7	1.3820	32.40	QP	0.15	-10.00	0.20	42.75	56.00	-13.25
8	1.3820	22.39	AVG	0.15	-10.00	0.20	32.74	46.00	-13.26
9	1.7060	30.28	QP	0.16	-10.00	0.21	40.65	56.00	-15.35
10	1.7060	21.13	AVG	0.16	-10.00	0.21	31.50	46.00	-14.50
11	2.0220	29.45	QP	0.17	-10.00	0.18	39.80	56.00	-16.20
12	2.0220	20.79	AVG	0.17	-10.00	0.18	31.14	46.00	-14.86

Test Mode:	Transmitting BT Mode (Middle Channel)

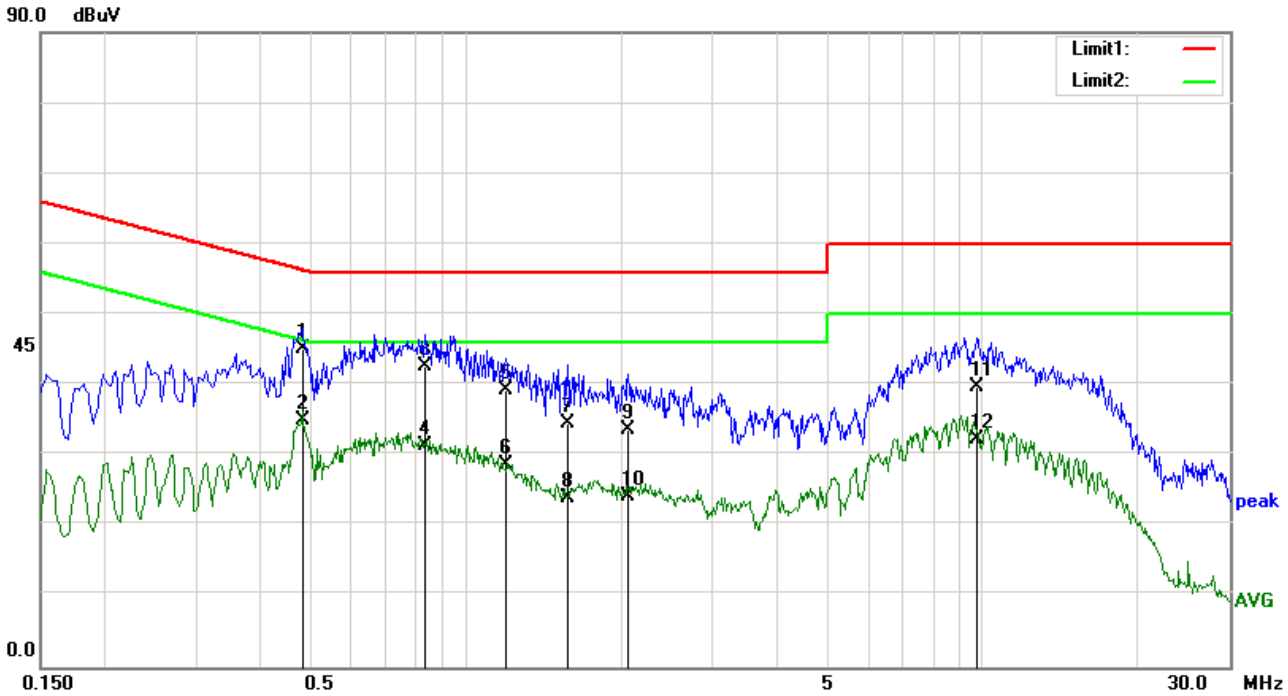


Test Data

Phase Line Plot at 230Vac, 50Hz

No.	Frequency (MHz)	Reading (dBuV)	Detector	Lisn/Isn (dB}	Ps_Lmt (dB)	Cab_L (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)
1	0.4780	41.01	QP	0.12	-10.00	0.21	51.34	56.37	-5.03
2	0.4780	31.56	AVG	0.12	-10.00	0.21	41.89	46.37	-4.48
3	0.8460	36.94	QP	0.13	-10.00	0.20	47.27	56.00	-8.73
4	0.8460	28.44	AVG	0.13	-10.00	0.20	38.77	46.00	-7.23
5	1.1780	34.08	QP	0.14	-10.00	0.20	44.42	56.00	-11.58
6	1.1780	25.11	AVG	0.14	-10.00	0.20	35.45	46.00	-10.55
7	1.7180	30.68	QP	0.15	-10.00	0.21	41.04	56.00	-14.96
8	1.7180	21.63	AVG	0.15	-10.00	0.21	31.99	46.00	-14.01
9	9.4780	34.81	QP	0.47	-10.00	0.39	45.67	60.00	-14.33
10	9.4780	27.05	AVG	0.47	-10.00	0.39	37.91	50.00	-12.09
11	10.5260	34.20	QP	0.53	-10.00	0.50	45.23	60.00	-14.77
12	10.5260	25.85	AVG	0.53	-10.00	0.50	36.88	50.00	-13.12

Test Mode:	Transmitting BT Mode (Middle Channel)

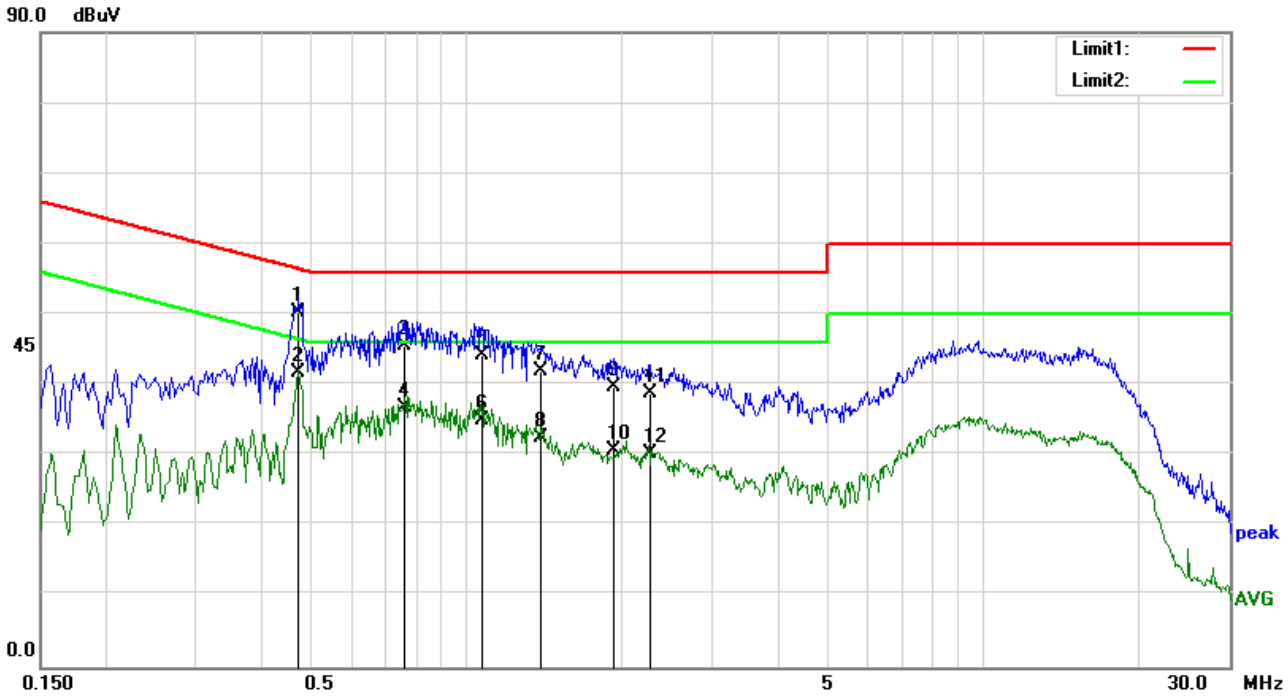


Test Data

Phase Neutral Plot at 230Vac, 50Hz

No.	Frequency (MHz)	Reading (dBuV)	Detector	Lisn/Isn (dB}	Ps_Lmt (dB)	Cab_L (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)
1	0.4820	34.76	QP	0.11	-10.00	0.21	45.08	56.30	-11.22
2	0.4820	24.73	AVG	0.11	-10.00	0.21	35.05	46.30	-11.25
3	0.8340	32.39	QP	0.12	-10.00	0.20	42.71	56.00	-13.29
4	0.8340	21.13	AVG	0.12	-10.00	0.20	31.45	46.00	-14.55
5	1.1940	28.97	QP	0.14	-10.00	0.21	39.32	56.00	-16.68
6	1.1940	18.43	AVG	0.14	-10.00	0.21	28.78	46.00	-17.22
7	1.5740	24.19	QP	0.15	-10.00	0.20	34.54	56.00	-21.46
8	1.5740	13.67	AVG	0.15	-10.00	0.20	24.02	46.00	-21.98
9	2.0620	23.21	QP	0.17	-10.00	0.19	33.57	56.00	-22.43
10	2.0620	13.88	AVG	0.17	-10.00	0.19	24.24	46.00	-21.76
11	9.7100	28.79	QP	0.52	-10.00	0.39	39.70	60.00	-20.30
12	9.7100	21.29	AVG	0.52	-10.00	0.39	32.20	50.00	-17.80

Test Mode:	Transmitting BT Mode (High Channel)

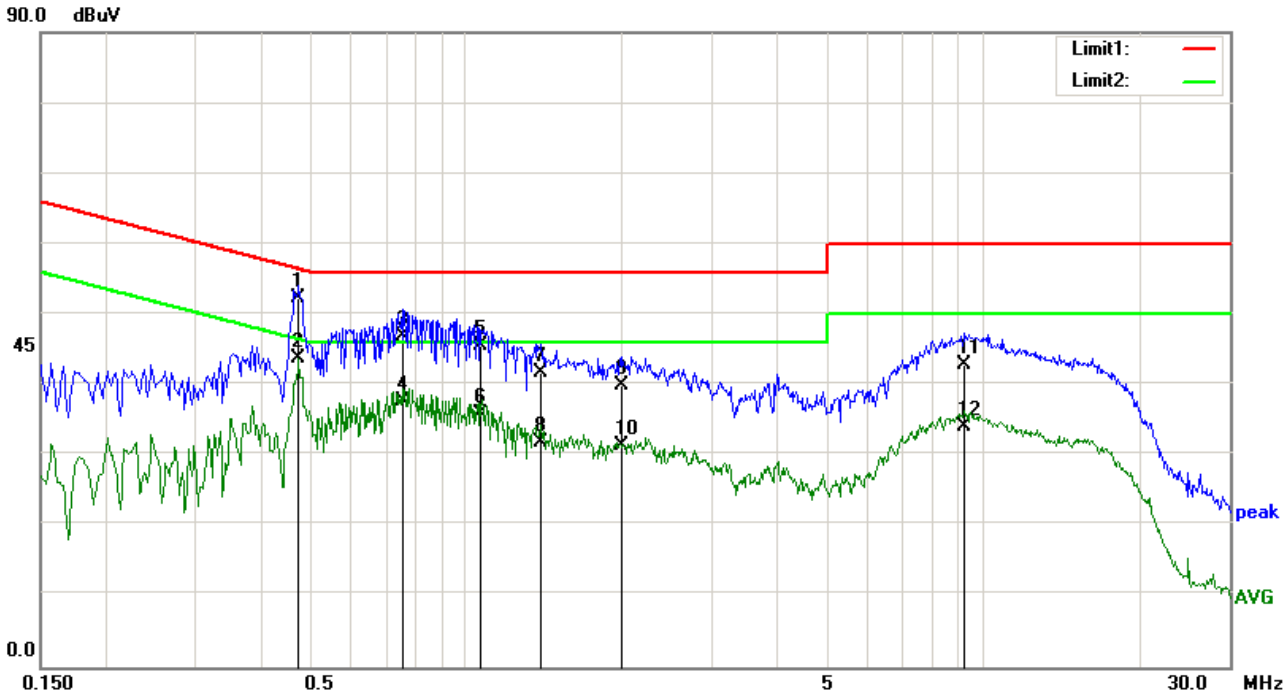


Test Data

Phase Line Plot at 120Vac, 60Hz

No.	Frequency (MHz)	Reading (dBuV)	Detector	Lisn/Isn (dB}	Ps_Lmt (dB)	Cab_L (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)
1	0.4740	40.00	QP	0.12	-10.00	0.21	50.33	56.44	-6.11
2	0.4740	31.50	AVG	0.12	-10.00	0.21	41.83	46.44	-4.61
3	0.7620	35.19	QP	0.13	-10.00	0.20	45.52	56.00	-10.48
4	0.7620	26.39	AVG	0.13	-10.00	0.20	36.72	46.00	-9.28
5	1.0740	33.93	QP	0.14	-10.00	0.20	44.27	56.00	-11.73
6	1.0740	24.73	AVG	0.14	-10.00	0.20	35.07	46.00	-10.93
7	1.3980	31.62	QP	0.15	-10.00	0.20	41.97	56.00	-14.03
8	1.3980	22.16	AVG	0.15	-10.00	0.20	32.51	46.00	-13.49
9	1.9340	29.37	QP	0.16	-10.00	0.19	39.72	56.00	-16.28
10	1.9340	20.46	AVG	0.16	-10.00	0.19	30.81	46.00	-15.19
11	2.2660	28.43	QP	0.17	-10.00	0.22	38.82	56.00	-17.18
12	2.2660	19.93	AVG	0.17	-10.00	0.22	30.32	46.00	-15.68

Test Mode:	Transmitting BT Mode (High Channel)

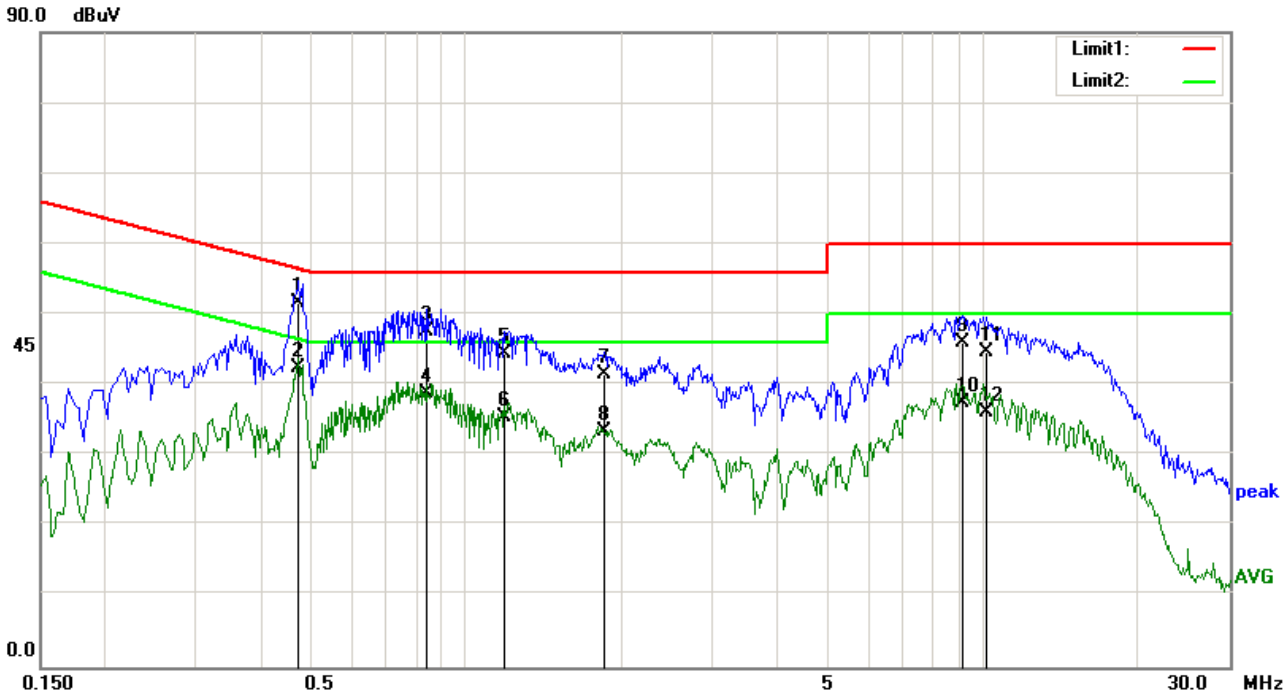


Test Data

Phase Neutral Plot at 120Vac, 60Hz

No.	Frequency (MHz)	Reading (dBuV)	Detector	Lisn/Isn (dB}	Ps_Lmt (dB)	Cab_L (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)
1	0.4740	41.89	QP	0.11	-10.00	0.21	52.21	56.44	-4.23
2	0.4740	33.37	AVG	0.11	-10.00	0.21	43.69	46.44	-2.75
3	0.7540	36.67	QP	0.12	-10.00	0.20	46.99	56.00	-9.01
4	0.7540	27.40	AVG	0.12	-10.00	0.20	37.72	46.00	-8.28
5	1.0660	35.34	QP	0.13	-10.00	0.20	45.67	56.00	-10.33
6	1.0660	25.50	AVG	0.13	-10.00	0.20	35.83	46.00	-10.17
7	1.3980	31.44	QP	0.15	-10.00	0.20	41.79	56.00	-14.21
8	1.3980	21.51	AVG	0.15	-10.00	0.20	31.86	46.00	-14.14
9	2.0020	29.65	QP	0.17	-10.00	0.18	40.00	56.00	-16.00
10	2.0020	21.02	AVG	0.17	-10.00	0.18	31.37	46.00	-14.63
11	9.2180	31.97	QP	0.50	-10.00	0.38	42.85	60.00	-17.15
12	9.2180	23.20	AVG	0.50	-10.00	0.38	34.08	50.00	-15.92

Test Mode:	Transmitting BT Mode (High Channel)

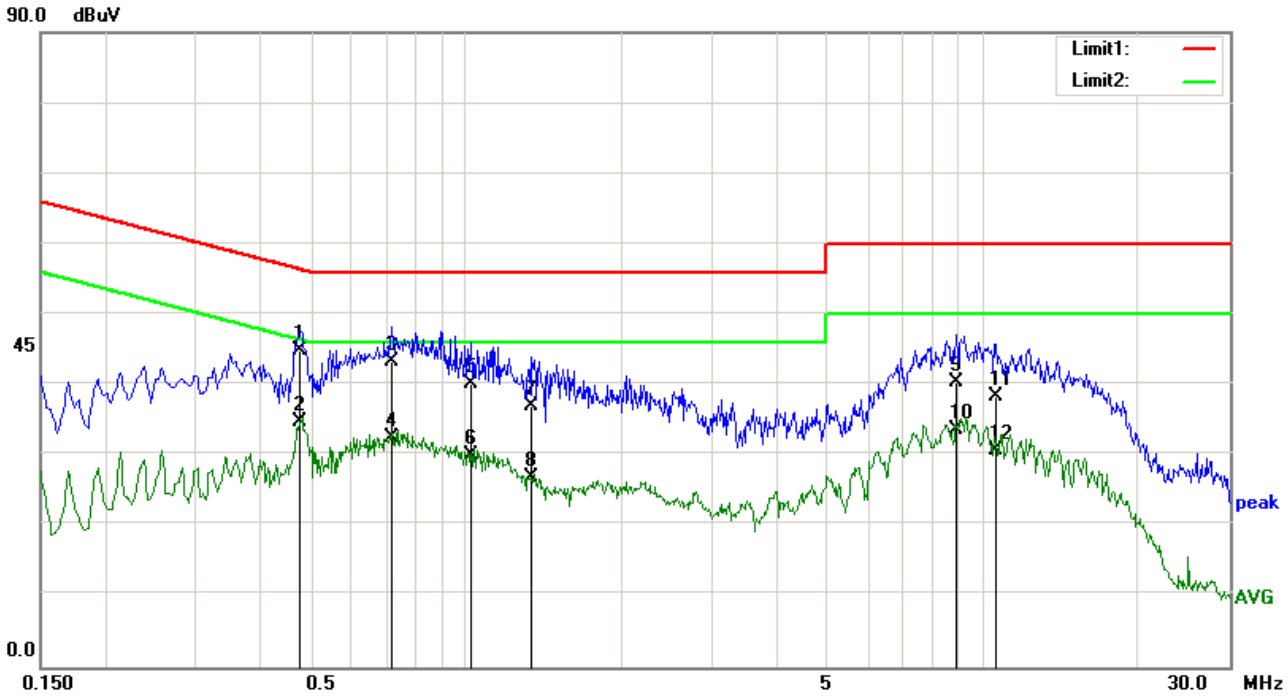


Test Data

Phase Line Plot at 230Vac, 50Hz

No.	Frequency (MHz)	Reading (dBuV)	Detector	Lisn/Isn (dB}	Ps_Lmt (dB)	Cab_L (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)
1	0.4740	41.38	QP	0.12	-10.00	0.21	51.71	56.44	-4.73
2	0.4740	32.01	AVG	0.12	-10.00	0.21	42.34	46.44	-4.10
3	0.8380	37.22	QP	0.13	-10.00	0.20	47.55	56.00	-8.45
4	0.8380	28.38	AVG	0.13	-10.00	0.20	38.71	46.00	-7.29
5	1.1860	34.13	QP	0.14	-10.00	0.20	44.47	56.00	-11.53
6	1.1860	25.02	AVG	0.14	-10.00	0.20	35.36	46.00	-10.64
7	1.8540	31.15	QP	0.16	-10.00	0.20	41.51	56.00	-14.49
8	1.8540	23.12	AVG	0.16	-10.00	0.20	33.48	46.00	-12.52
9	9.1100	35.24	QP	0.46	-10.00	0.37	46.07	60.00	-13.93
10	9.1100	26.66	AVG	0.46	-10.00	0.37	37.49	50.00	-12.51
11	10.1740	33.78	QP	0.50	-10.00	0.44	44.72	60.00	-15.28
12	10.1740	25.26	AVG	0.50	-10.00	0.44	36.20	50.00	-13.80

Test Mode:	Transmitting BT Mode (High Channel)



Test Data

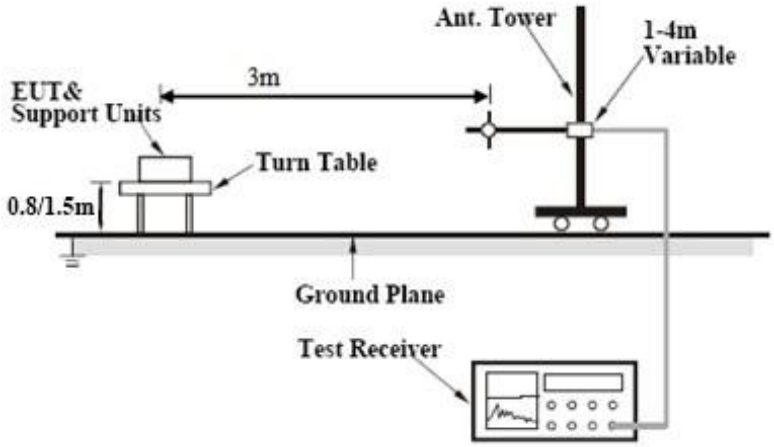
Phase Neutral Plot at 230Vac, 50Hz

No.	Frequency (MHz)	Reading (dBuV)	Detector	Lisn/Isn (dB}	Ps_Lmt (dB)	Cab_L (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)
1	0.4780	34.60	QP	0.11	-10.00	0.21	44.92	56.37	-11.45
2	0.4780	24.42	AVG	0.11	-10.00	0.21	34.74	46.37	-11.63
3	0.7180	32.90	QP	0.12	-10.00	0.20	43.22	56.00	-12.78
4	0.7180	22.18	AVG	0.12	-10.00	0.20	32.50	46.00	-13.50
5	1.0260	29.74	QP	0.13	-10.00	0.19	40.06	56.00	-15.94
6	1.0260	19.72	AVG	0.13	-10.00	0.19	30.04	46.00	-15.96
7	1.3380	26.71	QP	0.14	-10.00	0.21	37.06	56.00	-18.94
8	1.3380	16.50	AVG	0.14	-10.00	0.21	26.85	46.00	-19.15
9	8.8740	29.62	QP	0.48	-10.00	0.37	40.47	60.00	-19.53
10	8.8740	22.86	AVG	0.48	-10.00	0.37	33.71	50.00	-16.29
11	10.5820	27.22	QP	0.58	-10.00	0.50	38.30	60.00	-21.70
12	10.5820	19.71	AVG	0.58	-10.00	0.50	30.79	50.00	-19.21

6.9 Radiated Emissions

Temperature	25°C
Relative Humidity	58%
Atmospheric Pressure	1016mbar
Test date :	June 20, 2017
Tested By :	Trety Lu

Requirement(s):

Spec	Item	Requirement	Applicable
47CFR§15.205, §15.209, §15.247(d)	a)	Except higher limit as specified elsewhere in other section, the emissions from the low-power radio-frequency devices shall not exceed the field strength levels specified in the following table and the level of any unwanted emissions shall not exceed the level of the fundamental emission. The tighter limit applies at the band edges **Class A Limit** Frequency range (MHz) / Field Strength (μV/m) 30 – 88 / 90 88 – 216 / 150 216 – 960 / 210 Above 960 / 300 **Class B Limit** Frequency range (MHz) / Field Strength (μV/m) 30 – 88 / 100 88 – 216 / 150 216 – 960 / 200 Above 960 / 500	☑
Test Setup			
Procedure	1. The EUT was switched on and allowed to warm up to its normal operating condition. 2. The test was carried out at the selected frequency points obtained from the EUT characterization. Maximization of the emissions, was carried out by rotating the EUT, changing the antenna polarization, and adjusting the antenna height in the following manner: a. Vertical or horizontal polarization (whichever gave the higher emission level over a full rotation of the EUT) was chosen. b. The EUT was then rotated to the direction that gave the maximum emission. c. Finally, the antenna height was adjusted to the height that gave the maximum emission. 3. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasiy Peak detection at frequency below 1GHz. 4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz with Peak detection for Peak measurement at frequency above 1GHz. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 10Hz		

	with Peak detection for Average Measurement as below at frequency above 1GHz. 5. Steps 2 and 3 were repeated for the next frequency point, until all selected frequency points were measured.
Remark	We test 3 modulations, only show GFSK test data in the report.
Result	☑ Pass ☐ Fail

Test Data ☑ Yes ☐ N/A

Test Plot ☑ Yes (See below) ☐ N/A

Data sample

No.	Frequency	Reading	Detector	Ant_F	PA_G	Cab_L	Result	Limit	Margin	Height	Degree
	(MHz)	(dBμV/m)		(dB/m)	(dB)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	(cm)	(°)

Frequency (MHz) = Emission frequency in MHz

Reading (dBμV/m) = Receiver Reading Value

Detector= Peak Detector or Quasi Peak Detector

Ant_F=Antenna Factor

PA_G=Pre-Amplifier Gain

Cab_L=Cable Loss

Result (dBμV/m) = Read ing Value + Corrected Value

Limit (dBμV/m) = Limit stated in standard

Height (cm) = Height of Receiver antenna

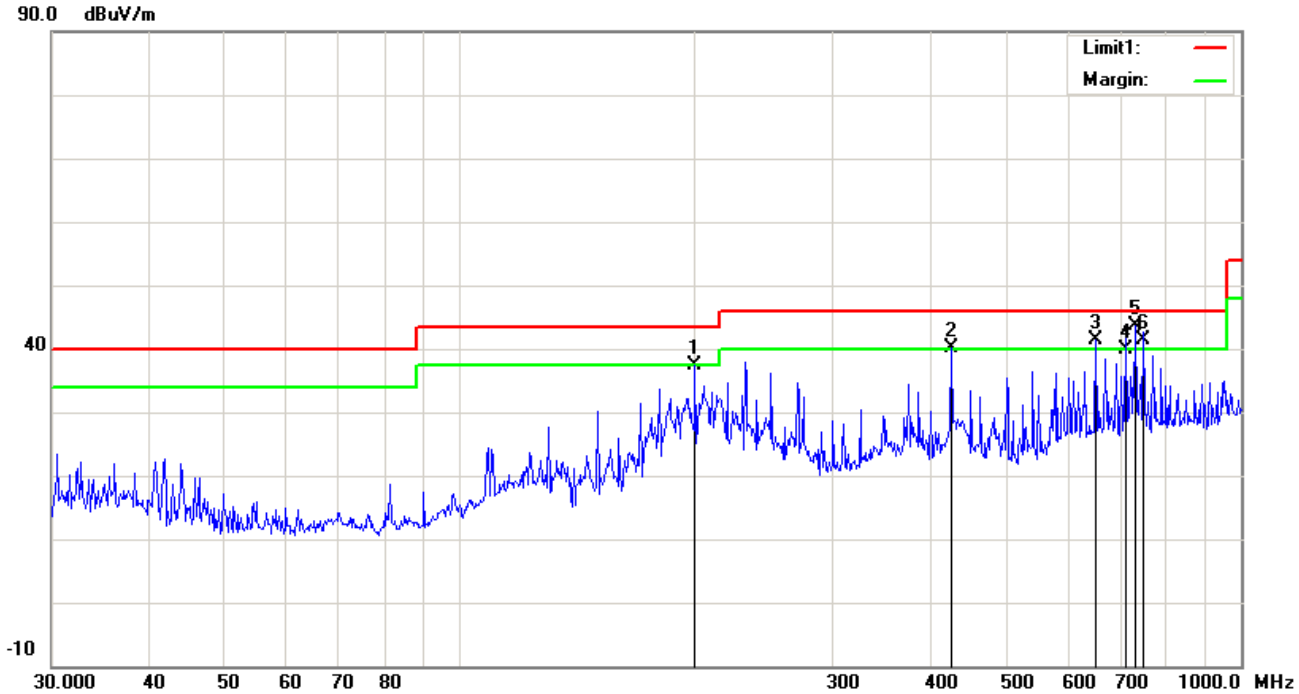
Degree = Turn table degree

Calculation Formula:

Margin (dB) = Result (dBμV/m) – limit (dBμV/m)

Test Mode:	Transmitting BT Mode (GFSK-Low Channel)

Below 1GHz



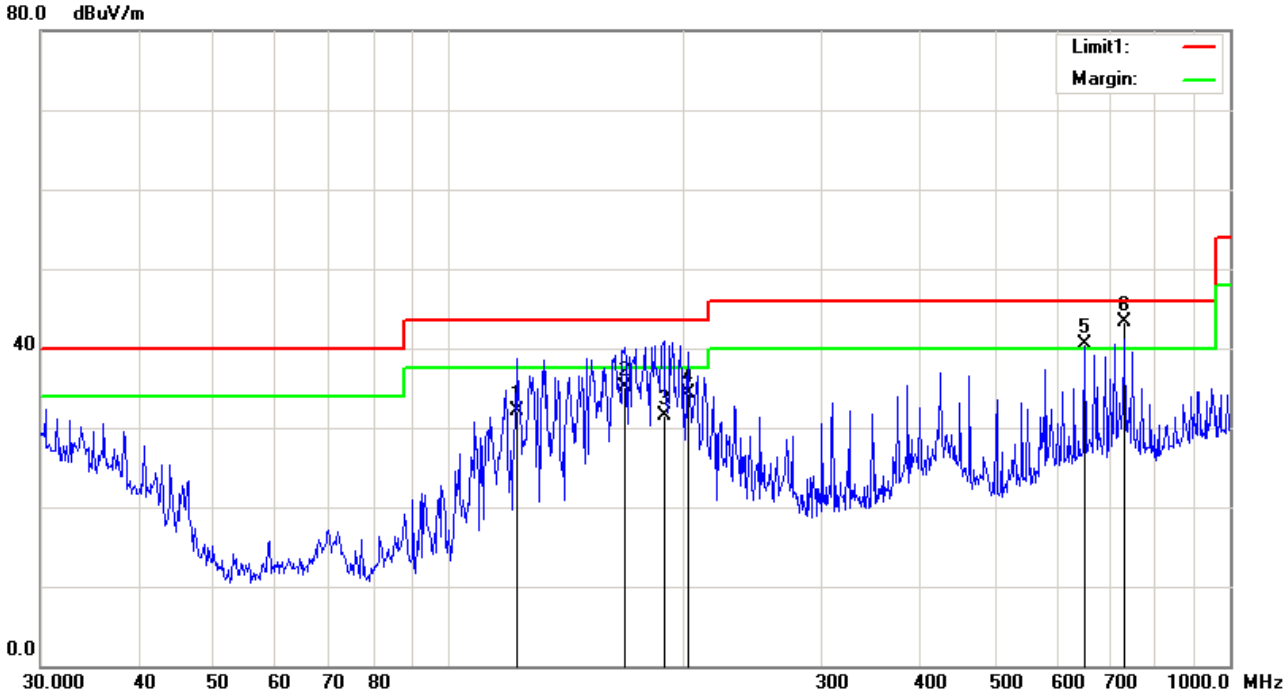
Test Data

Horizontal Polarity Plot @3m

No.	Frequency (MHz)	Reading (dBuV/m)	Detector	Ant_F (dB/m)	PA_G (dB)	Cab_L (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)
1	199.9856	69.13	peak	13.39	47.34	2.26	37.44	43.50	-6.06	200	246
2	425.0280	69.83	QP	16.00	49.09	3.31	40.05	46.00	-5.95	200	235
3	651.9417	63.46	QP	21.85	48.15	4.10	41.26	46.00	-4.74	300	241
4	711.6734	58.84	QP	22.47	45.60	4.29	40.00	46.00	-6.00	200	183
5	731.9203	62.05	QP	22.59	45.38	4.34	43.60	46.00	-2.40	200	202
6	750.1083	59.20	QP	22.70	45.02	4.40	41.28	46.00	-4.72	200	205

Test Mode:	Transmitting BT Mode (GFSK-Low Channel)

Below 1GHz



Vertical Polarity Plot @3m

No.	Frequency	Reading	Detector	Ant_F	PA_G	Cab_L	Result	Limit	Margin	Height	Degree
	(MHz)	(dBuV/m)		(dB/m)	(dB)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(°)
1	121.9755	61.17	QP	15.94	46.71	1.80	32.20	43.50	-11.30	100	161
2	167.8243	65.60	QP	14.17	46.66	2.09	35.20	43.50	-8.30	100	245
3	188.4125	63.60	QP	12.43	46.64	2.21	31.60	43.50	-11.90	100	206
4	202.1005	64.57	QP	14.85	47.39	2.27	34.30	43.50	-9.20	100	36
5	651.9417	63.08	QP	21.47	48.15	4.10	40.50	46.00	-5.50	100	181
6	731.9203	62.18	QP	22.26	45.38	4.34	43.40	46.00	-2.60	100	322