TESTING LABORATORY
CERTIFICATE #4820.01

FCC PART 15.247

TEST REPORT

For

George Patton Associates, Inc

81 Commerce Drive, Fall River, Massachusetts, United States

FCC ID: 2ASCB-DGFS55IN

Report Type:	**Product Name:**
Original Report	55” Indoor Floor Standing 4K UHD Digital Signage

Report Number:	RSH190201051-00A
Report Date:	2019-04-24
Reviewed By:	Dean Lau RF Supervisor
Test Laboratory:	Bay Area Compliance Laboratories Corp. (Dongguan) No.69 Pulongcun, Puxinhu Industry Area, Tangxia, Dongguan, Guangdong, China Tel: +86-769-86858888 Fax: +86-769-86858891 www.baclcorp.com.cn

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GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

EUT Name:	55" Indoor Floor Standing 4K UHD Digital Signage
EUT Model:	DGFSTCH55
Multiple Models:	DGFSNT55
Rated Input Voltage:	100-240VAC 50/60Hz
External Dimension:	810mm(L)* 50 mm(W)* 1980mm(H)
Serial Number:	190201051
EUT Received Date:	2019.02.13

Notes: *Model DGFSTCH55 was selected for fully testing, the detailed information about the difference between DGFSTCH55 and model DGFSNT55 can be referred to the declaration letter which was stated and guaranteed by the manufacturer.*

Objective

This report is prepared on behalf of ***George Patton Associate, Inc*** in accordance with Part 2, Subpart J, Part 15, Subparts A and C of the Federal Communications Commission's rules.

The tests were performed in order to determine the Bluetooth BDR and EDR mode of EUT compliance with FCC Rules Part 15, Subpart C, and section 15.203, 15.205, 15.207, 15.209 and 15.247 rules.

Related Submittal(s)/Grant(s)

FCC Part 15C DTS submissions with FCC ID: 2ASCB-DGFS55IN.

Test Methodology

All measurements detailed in this test report were performed in accordance with ANSI C63.10-2013 "American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices".

All emissions measurement was performed and Bay Area Compliance Laboratories Corp. (Dongguan).

Measurement Uncertainty

Parameter	Measurement Uncertainty
Occupied Channel Bandwidth	±5 %
RF output power, conducted	±0.61dB
Unwanted Emissions, radiated	30M~200MHz: 4.55 dB,200M~1GHz: 5.92 dB,1G~6GHz: 4.98 dB, 6G~18GHz: 5.89 dB,18G~26.5G:5.47 dB,26.5G~40G:5.63 dB
Unwanted Emissions, conducted	±1.5 dB
Temperature	±1℃
Humidity	±5%
DC and low frequency voltages	±0.4%
Duty Cycle	1%
AC Power Lines Conducted Emission	3.12 dB (150 kHz to 30 MHz)

Test Facility

The Test site used by Bay Area Compliance Laboratories Corp. (Dongguan) to collect test data is located on the No.69 Pulongcun, Puxinhu Industry Area, Tangxia, Dongguan, Guangdong, China.

The lab has been recognized as the FCC accredited lab under the KDB 974614 D01 and is listed in the FCC Public Access Link (PAL) database, FCC Registration No. : 897218, the FCC Designation No. : CN1220.

The lab has been recognized by Innovation, Science and Economic Development Canada to test to Canadian radio equipment requirements, the CAB identifier: CN0022.

SYSTEM TEST CONFIGURATION

Description of Test Configuration

The system was configured for testing in engineering mode.

EUT Exercise Software

The software "RFTestTool V5.6" was used for testing, which was configured the maximum power level as default setting.

Mode	Packet type	Channel	Frequency (MHz)	Packet length	Power Level
GFSK	DH1	Low	2402	27	0(Specify Power Table Index)
		Middle	2441	27	0(Specify Power Table Index)
		High	2480	27	0(Specify Power Table Index)
	DH3	Low	2402	183	0(Specify Power Table Index)
		Middle	2441	183	0(Specify Power Table Index)
		High	2480	183	0(Specify Power Table Index)
	DH5	Low	2402	339	0(Specify Power Table Index)
		Middle	2441	339	0(Specify Power Table Index)
		High	2480	339	0(Specify Power Table Index)
π/4 DQPSK	2DH1	Low	2402	54	0(Specify Power Table Index)
		Middle	2441	54	0(Specify Power Table Index)
		High	2480	54	0(Specify Power Table Index)
	2DH3	Low	2402	367	0(Specify Power Table Index)
		Middle	2441	367	0(Specify Power Table Index)
		High	2480	367	0(Specify Power Table Index)
	2DH5	Low	2402	679	0(Specify Power Table Index)
		Middle	2441	679	0(Specify Power Table Index)
		High	2480	679	0(Specify Power Table Index)
8DPSK	3DH1	Low	2402	83	0(Specify Power Table Index)
		Middle	2441	83	0(Specify Power Table Index)
		High	2480	83	0(Specify Power Table Index)
	3DH3	Low	2402	552	0(Specify Power Table Index)
		Middle	2441	552	0(Specify Power Table Index)
		High	2480	552	0(Specify Power Table Index)
	3DH5	Low	2402	1021	0(Specify Power Table Index)
		Middle	2441	1021	0(Specify Power Table Index)
		High	2480	1021	0(Specify Power Table Index)

Equipment Modifications

No modification was made to the EUT.

Support Equipment List and Details

Manufacturer	Description	Model	Serial Number
Sandisk	U-DISK	N/A	N/A
Four-Faith	Router	F7836	N/A
ThinkPad	Notebook	E450	N/A

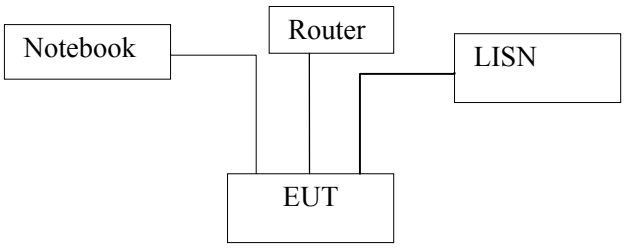
Support Cable List and Details

Cable Description	Shielding Type	Ferrite Core	Length (m)	From	To
Power cable	No	Yes	1.5	LISN	EUT
RJ45	No	No	5	EUT	Router
HDMI cable	Yes	Yes	1.4	EUT	Notebook

Block Diagram of Test Setup

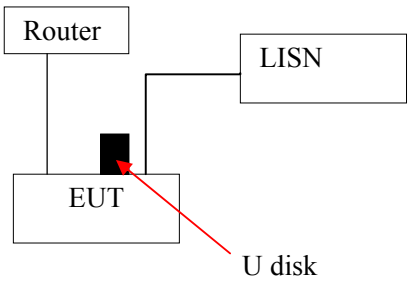
Conducted emission:

HDMI Input:



EUT with wheel on the floor

USB Input:



EUT with wheel on the floor

SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
FCC §15.247 (i) & §1.1310 & §2.1091	Maximum Permissable Exposure (MPE)	Compliance
§15.203	Antenna Requirement	Compliance
§15.207 (a)	Conducted Emissions	Compliance
§15.205, §15.209, §15.247(d)	Spurious Emissions	Compliance
§15.247 (a)(1)	20 dB Bandwidth	Compliance
§15.247(a)(1)	Channel Separation Test	Compliance
§15.247(a)(1)(iii)	Time of Occupancy (Dwell Time)	Compliance
§15.247(a)(1)(iii)	Quantity of hopping channel Test	Compliance
§15.247(b)(1)	Peak Output Power Measurement	Compliance
§15.247(d)	Band Edges	Compliance

FCC §15.247 (i) & §1.1310 & §2.1091- MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Applicable Standard

According to subpart 15.247(i)and subpart §1.1310, systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

Limits for Maximum Permissible Exposure (MPE) (§1.1310, §2.1091)

(B) Limits for General Population/Uncontrolled Exposure				
Frequency Range (MHz)	**Electric Field Strength (V/m)**	**Magnetic Field Strength (A/m)**	**Power Density (mW/cm^2)**	**Averaging Time (minutes)**
0.3–1.34	614	1.63	*(100)	30
1.34–30	824/f	2.19/f	*(180/f^2)	30
30–300	27.5	0.073	0.2	30
300–1500	/	/	f/1500	30
1500–100,000	/	/	1.0	30

f = frequency in MHz; * = Plane-wave equivalent power density;

According to §1.1310 and §2.1091 RF exposure is calculated.

Calculation formula:

Prediction of power density at the distance of the applicable MPE limit
$S = PG/4\pi R^2$ = power density (in appropriate units, e.g. mW/cm^2);
P = power input to the antenna (in appropriate units, e.g., mW);
G = power gain of the antenna in the direction of interest relative to an isotropic radiator, the power gain factor, is normally numeric gain;
R = distance to the center of radiation of the antenna (appropriate units, e.g., cm);

Calculated Data:

Mode	**Frequency (MHz)**	**Antenna Gain**		**Conducted output power including Tune-up Tolerance**		**Evaluation Distance (cm)**	**Power Density (mW/cm^2)**	**MPE Limit (mW/cm^2)**
		(dBi)	**(numeric)**	**(dBm)**	**(mW)**			
Wi-Fi	2412-2462	5	3.16	17	50.12	20	0.032	1.0
Bluetooth LE	2402-2480	5	3.16	0	1.00	20	0.001	1.0
Bluetooth	2402-2480	5	3.16	4	2.51	20	0.002	1.0

Note: All modes can't transmit simultaneously.

Result: The device meet FCC MPE at 20 cm distance

FCC §15.203 - ANTENNA REQUIREMENT

Applicable Standard

According to FCC § 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 use of a standard antenna jack or electrical connector is prohibited.

Antenna Connector Construction

The EUT has one external antenna arrangement for BT, and the antenna gain is 5 dBi, fulfill the requirement of this section. Please refer to the EUT photos.

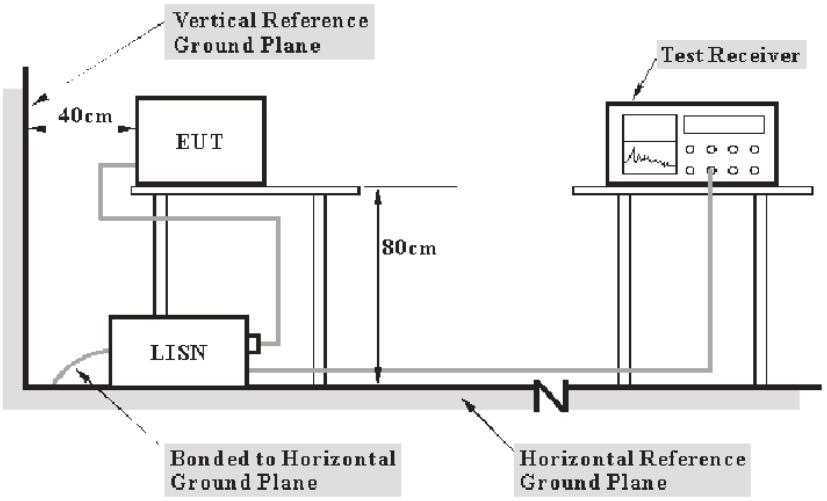
Result: Compliance.

FCC §15.207 (a) – AC LINE CONDUCTED EMISSIONS

Applicable Standard

FCC§15.207(a)

EUT Setup



Note: 1. Support units were connected to second LISN.
2. Both of LISNs (AMN) 80 cm from EUT and at the least 80 cm from other units and other metal planes support units.

The setup of EUT is according with per ANSI C63.10-2013 measurement procedure. The specification used was with the FCC Part 15.207 limits.

The spacing between the peripherals was 10 cm.

The adapter was connected to the main LISN with a 120 V/60 Hz AC power source.

EMI Test Receiver Setup

The EMI test receiver was set to investigate the spectrum from 150 kHz to 30 MHz.

During the conducted emission test, the EMI test receiver was set with the following configurations:

Frequency Range	IF B/W
150 kHz – 30 MHz	9 kHz

Test Procedure

During the conducted emission test, the adapter was connected to the outlet of the first LISN.

Maximizing procedure was performed on the six (6) highest emissions of the EUT.

All data was recorded in the Quasi-peak and average detection mode.

Corrected Amplitude & Margin Calculation

The basic equation is as follows:

$V_C = V_R + A_C + VDF$

Herein,
V_C: corrected voltage amplitude
V_R: reading voltage amplitude
A_c: attenuation caused by cable loss
VDF: voltage division factor of AMN or ISN

The "**Margin**" column of the following data tables indicates the degree of compliance within the applicable limit. For example, a margin of 7dB means the emission is 7dB below the limit. The equation for margin calculation is as follows:

Margin = Limit – Corrected Amplitude

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	EMI Test Receiver	ESCS 30	830245/006	2018-12-11	2019-12-11
R&S	L.I.S.N	ESH2-Z5	892107/021	2018-09-25	2019-09-25
R&S	Two-line V-network	ENV 216	101614	2018-12-08	2019-12-08
R&S	Test Software	EMC32	Version8.53.0	N/A	N/A
Unknown	Coaxial Cable	C-NJNJ-50	C-0200-01	2018-09-05	2019-09-05

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Data

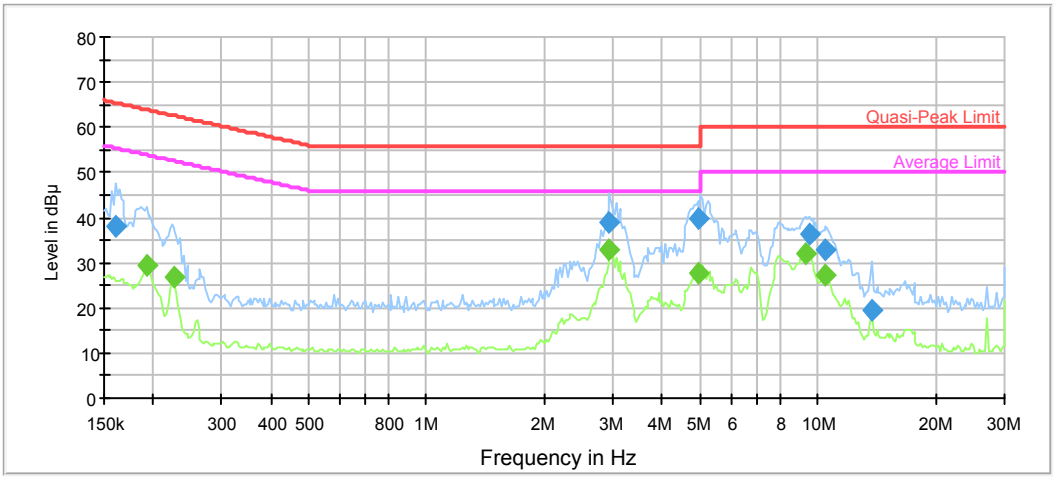
Environmental Conditions

Temperature:	30.5 °C
Relative Humidity:	56 %
ATM Pressure:	101.5 kPa

The testing was performed by Lily Xie on 2019-04-22.

Test Mode: *GFSK low channel transmitting was the worst*

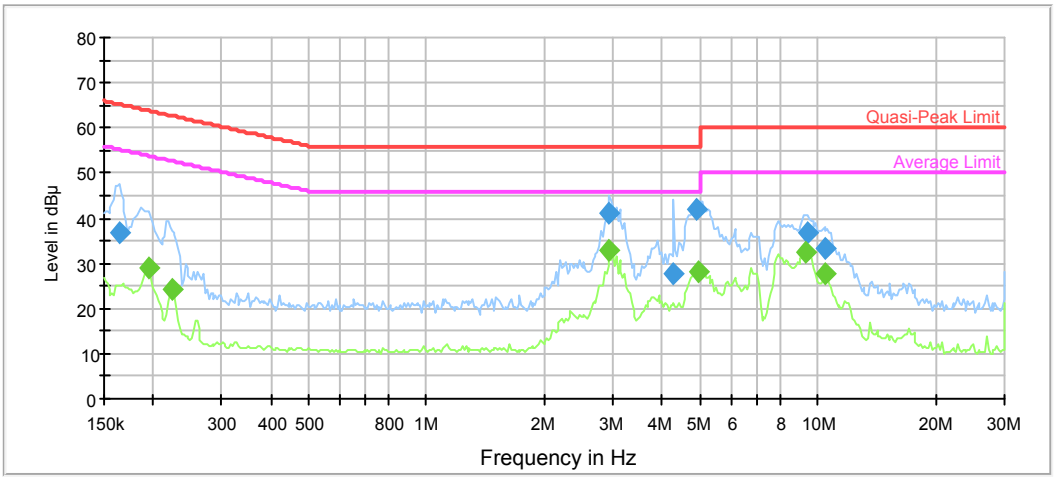
For Model DGFSTCH55 (HDMI):
AC120V, 60 Hz, Line:



Frequency (MHz)	QuasiPeak (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.160820	38.2	9.000	L1	11.0	27.2	65.4	Compliance
2.938883	38.9	9.000	L1	9.8	17.1	56.0	Compliance
4.930532	39.6	9.000	L1	9.8	16.4	56.0	Compliance
9.508334	36.5	9.000	L1	9.8	23.5	60.0	Compliance
10.503116	32.9	9.000	L1	9.8	27.1	60.0	Compliance
13.740269	19.6	9.000	L1	9.9	40.4	60.0	Compliance

Frequency (MHz)	Average (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.192365	29.4	9.000	L1	10.7	24.5	53.9	Compliance
0.225563	26.8	9.000	L1	10.5	25.8	52.6	Compliance
2.938883	32.7	9.000	L1	9.8	13.3	46.0	Compliance
4.979837	27.9	9.000	L1	9.8	18.1	46.0	Compliance
9.320982	31.8	9.000	L1	9.8	18.2	50.0	Compliance
10.503116	27.3	9.000	L1	9.8	22.7	50.0	Compliance

AC120V, 60 Hz, Neutral:

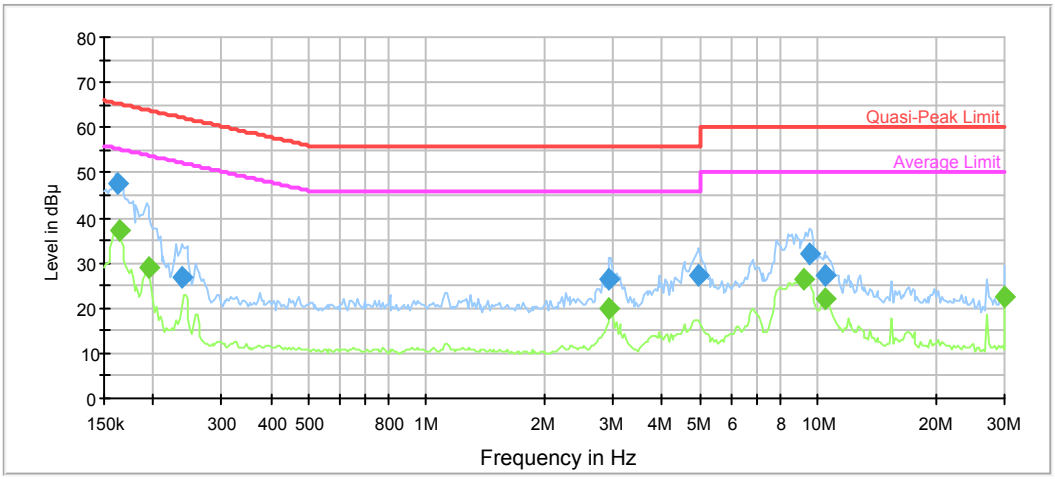


Frequency (MHz)	QuasiPeak (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.164053	36.6	9.000	N	11.0	28.7	65.3	Compliance
2.938883	40.9	9.000	N	9.8	15.1	56.0	Compliance
4.289380	27.6	9.000	N	9.8	28.4	56.0	Compliance
4.881714	41.8	9.000	N	9.8	14.2	56.0	Compliance
9.414192	36.8	9.000	N	9.8	23.2	60.0	Compliance
10.399125	33.2	9.000	N	9.8	26.8	60.0	Compliance

Frequency (MHz)	Average (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.194289	29.2	9.000	N	10.7	24.7	53.9	Compliance
0.223330	24.2	9.000	N	10.5	28.5	52.7	Compliance
2.938883	32.8	9.000	N	9.8	13.2	46.0	Compliance
4.930532	28.2	9.000	N	9.8	17.8	46.0	Compliance
9.320982	32.3	9.000	N	9.8	17.7	50.0	Compliance
10.399125	27.6	9.000	N	9.8	22.4	50.0	Compliance

For Model DGFSTCH55 (USB):

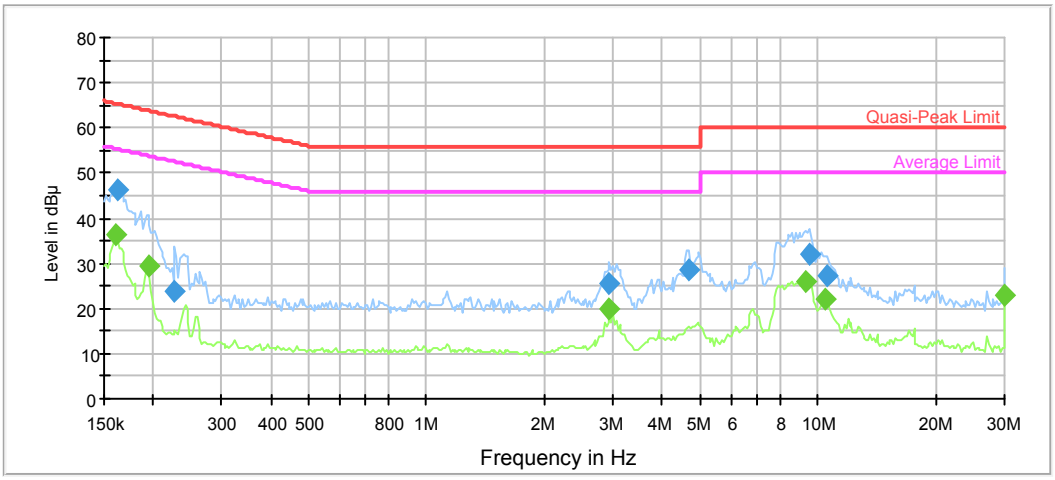
AC120V, 60 Hz, Line:



Frequency (MHz)	QuasiPeak (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.162429	47.8	9.000	L1	11.0	17.5	65.3	Compliance
0.237069	26.8	9.000	L1	10.4	35.4	62.2	Compliance
2.938883	26.5	9.000	L1	9.8	29.5	56.0	Compliance
4.979837	27.0	9.000	L1	9.8	29.0	56.0	Compliance
9.508334	32.1	9.000	L1	9.8	27.9	60.0	Compliance
10.399125	27.2	9.000	L1	9.8	32.8	60.0	Compliance

Frequency (MHz)	Average (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.164053	37.0	9.000	L1	11.0	18.3	55.3	Compliance
0.194289	28.8	9.000	L1	10.7	25.1	53.9	Compliance
2.938883	19.7	9.000	L1	9.8	26.3	46.0	Compliance
9.228695	26.6	9.000	L1	9.8	23.4	50.0	Compliance
10.399125	21.9	9.000	L1	9.8	28.1	50.0	Compliance
30.000000	22.6	9.000	L1	10.1	27.4	50.0	Compliance

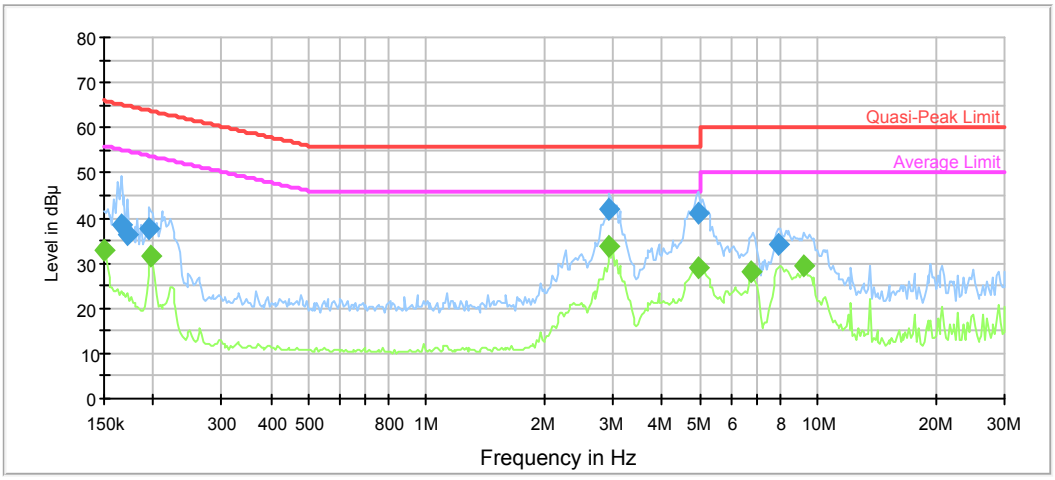
AC120V, 60 Hz, Neutral:



Frequency (MHz)	QuasiPeak (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.162429	46.1	9.000	N	11.0	19.2	65.3	Compliance
0.227819	23.7	9.000	N	10.4	38.8	62.5	Compliance
2.938883	25.6	9.000	N	9.8	30.4	56.0	Compliance
4.691232	28.7	9.000	N	9.8	27.3	56.0	Compliance
9.508334	32.2	9.000	N	9.8	27.8	60.0	Compliance
10.608147	27.5	9.000	N	9.8	32.5	60.0	Compliance

Frequency (MHz)	Average (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.160820	36.5	9.000	N	11.0	18.9	55.4	Compliance
0.194289	29.4	9.000	N	10.7	24.5	53.9	Compliance
2.938883	19.7	9.000	N	9.8	26.3	46.0	Compliance
9.320982	26.1	9.000	N	9.8	23.9	50.0	Compliance
10.399125	21.9	9.000	N	9.8	28.1	50.0	Compliance
30.000000	22.8	9.000	N	10.1	27.2	50.0	Compliance

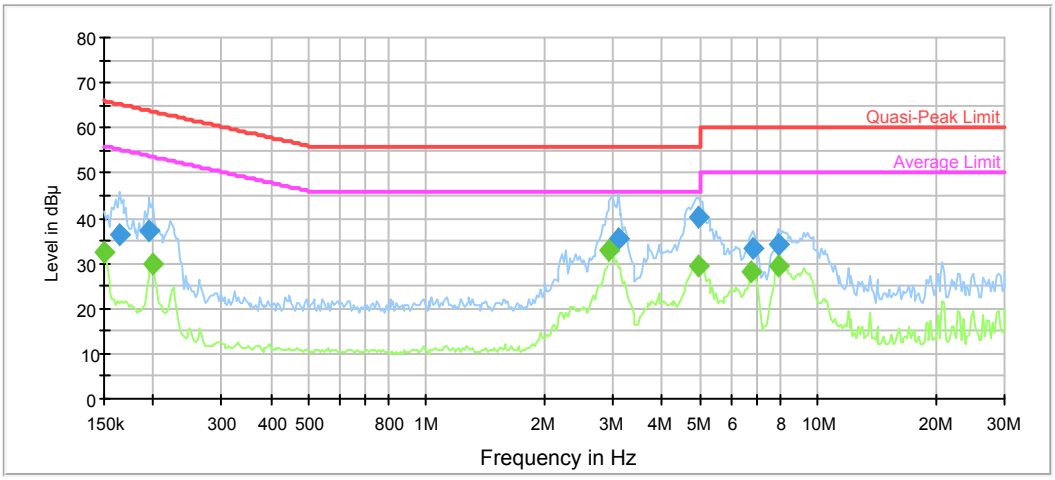
For Model DGFSNT55 (HDMI):
AC120V, 60 Hz, Line:



Frequency (MHz)	QuasiPeak (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.165693	38.4	9.000	L1	11.0	26.8	65.2	Compliance
0.172421	36.2	9.000	L1	10.9	28.6	64.8	Compliance
0.196231	37.6	9.000	L1	10.6	26.2	63.8	Compliance
2.938883	41.8	9.000	L1	9.8	14.2	56.0	Compliance
4.930532	41.3	9.000	L1	9.8	14.7	56.0	Compliance
7.949132	34.1	9.000	L1	9.8	25.9	60.0	Compliance

Frequency (MHz)	Average (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.150000	32.8	9.000	L1	11.2	23.2	56.0	Compliance
0.198194	31.5	9.000	L1	10.6	22.2	53.7	Compliance
2.938883	33.9	9.000	L1	9.8	12.1	46.0	Compliance
4.930532	28.9	9.000	L1	9.8	17.1	46.0	Compliance
6.779188	28.1	9.000	L1	9.8	21.9	50.0	Compliance
9.228695	29.4	9.000	L1	9.8	20.6	50.0	Compliance

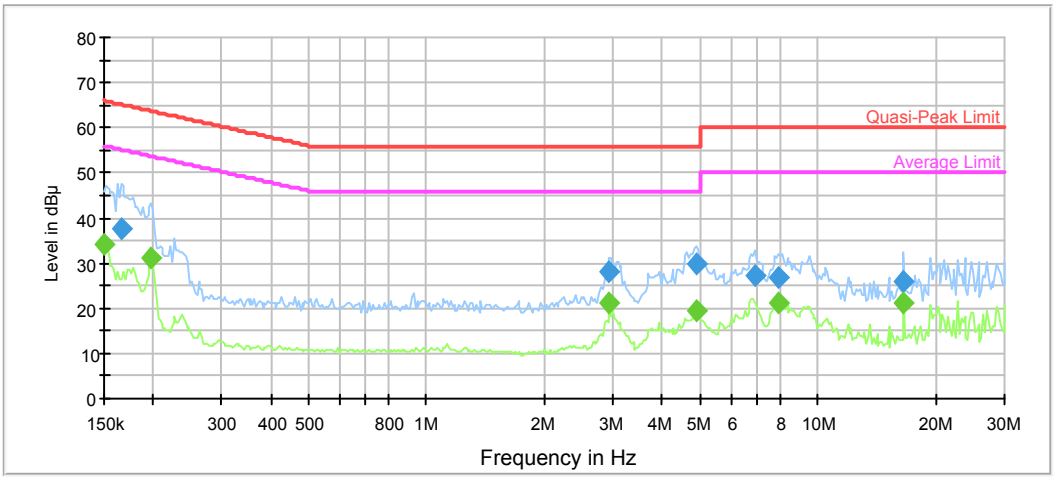
AC120V, 60 Hz, Neutral:



Frequency (MHz)	QuasiPeak (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.164053	36.3	9.000	N	11.0	28.9	65.2	Compliance
0.196231	37.2	9.000	N	10.6	26.6	63.8	Compliance
3.088796	35.5	9.000	N	9.8	20.5	56.0	Compliance
4.930532	40.2	9.000	N	9.8	15.8	56.0	Compliance
6.846980	33.3	9.000	N	9.8	26.7	60.0	Compliance
7.949132	34.0	9.000	N	9.8	26.0	60.0	Compliance

Frequency (MHz)	Average (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.150000	32.3	9.000	N	11.2	23.7	56.0	Compliance
0.200176	29.8	9.000	N	10.6	23.8	53.6	Compliance
2.938883	32.8	9.000	N	9.8	13.2	46.0	Compliance
4.979837	29.2	9.000	N	9.8	16.8	46.0	Compliance
6.779188	28.0	9.000	N	9.8	22.0	50.0	Compliance
7.949132	29.2	9.000	N	9.8	20.8	50.0	Compliance

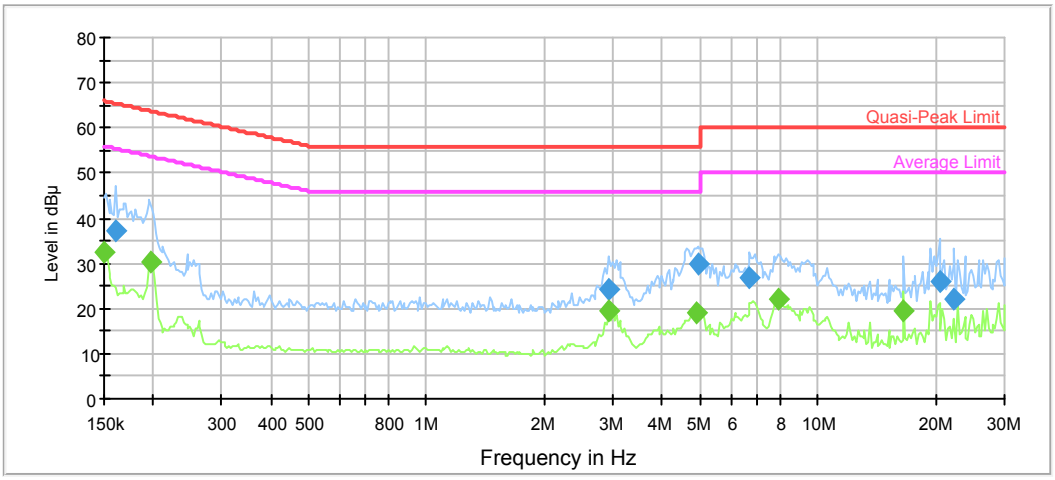
For Model DGFSNT55 (USB):
AC120V, 60 Hz, Line:



Frequency (MHz)	QuasiPeak (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.165693	37.4	9.000	L1	11.0	27.8	65.2	Compliance
2.938883	28.1	9.000	L1	9.8	27.9	56.0	Compliance
4.881714	29.6	9.000	L1	9.8	26.4	56.0	Compliance
6.915450	27.0	9.000	L1	9.8	33.0	60.0	Compliance
7.949132	26.8	9.000	L1	9.8	33.2	60.0	Compliance
16.599742	25.8	9.000	L1	10.0	34.2	60.0	Compliance

Frequency (MHz)	Average (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.150000	34.2	9.000	L1	11.2	21.8	56.0	Compliance
0.198194	31.0	9.000	L1	10.6	22.7	53.7	Compliance
2.938883	21.1	9.000	L1	9.8	24.9	46.0	Compliance
4.881714	19.7	9.000	L1	9.8	26.3	46.0	Compliance
7.949132	21.1	9.000	L1	9.8	28.9	50.0	Compliance
16.599742	21.1	9.000	L1	10.0	28.9	50.0	Compliance

AC120V, 60 Hz, Neutral:



Frequency (MHz)	QuasiPeak (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.160820	37.4	9.000	N	11.0	28.0	65.4	Compliance
2.909785	24.4	9.000	N	9.8	31.6	56.0	Compliance
4.930532	29.6	9.000	N	9.8	26.4	56.0	Compliance
6.712068	26.7	9.000	N	9.8	33.3	60.0	Compliance
20.457389	25.9	9.000	N	10.0	34.1	60.0	Compliance
22.373945	22.0	9.000	N	10.0	38.0	60.0	Compliance

Frequency (MHz)	Average (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.150000	32.3	9.000	N	11.2	23.7	56.0	Compliance
0.198194	30.2	9.000	N	10.6	23.5	53.7	Compliance
2.938883	19.6	9.000	N	9.8	26.4	46.0	Compliance
4.881714	19.0	9.000	N	9.8	27.0	46.0	Compliance
7.949132	22.3	9.000	N	9.8	27.7	50.0	Compliance
16.599742	19.4	9.000	N	9.9	30.6	50.0	Compliance

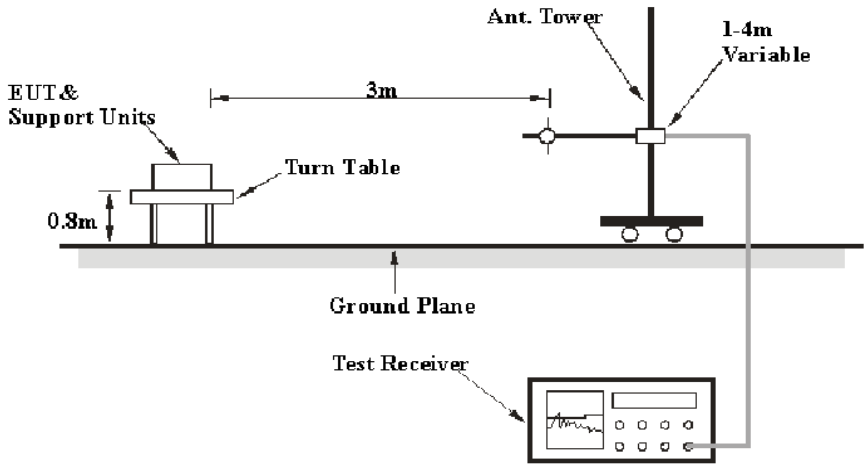
FCC §15.209, §15.205 & §15.247(d) - SPURIOUS EMISSIONS

Applicable Standard

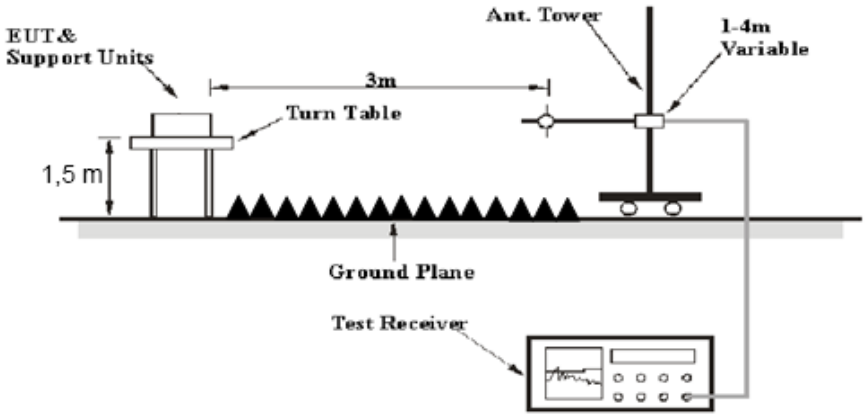
FCC §15.247 (d); §15.209; §15.205;

EUT Setup

Below 1GHz:



Above 1GHz:



The radiated emission below 1GHz tests were performed in the 3 meters chamber test site A, above 1GHz tests were performed in the 3 meters chamber test site B, using the setup accordance with the ANSI C63.10-2013. The specification used was the FCC 15.209, and FCC 15.247 limits.

The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.

The spacing between the peripherals was 10 cm.

EMI Test Receiver & Spectrum Analyzer Setup

The system was investigated from 30 MHz to 25 GHz.

According to FCC public notice: DA-00-705, During the radiated emission test, the EMI test receiver & Spectrum Analyzer Setup were set with the following configurations :

Frequency Range	RBW	Video B/W	IF B/W	Measurement
30 MHz – 1000 MHz	120 kHz	300 kHz	120 kHz	QP
Above 1 GHz	1MHz	3 MHz	/	PK
	1MHz	10 Hz	/	AV

If the maximized peak measured value complies with under the QP/Average limit more than 6dB, then it is unnecessary to perform an QP/Average measurement.

Test Procedure

Maximizing procedure was performed on the highest emissions to ensure that the EUT complied with all installation combinations.

Data was recorded in Quasi-peak detection mode for frequency range of 30 MHz - 1 GHz, peak and average detection modes for frequencies above 1 GHz.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	EMI Test Receiver	ESCI	100224	2018-12-11	2019-12-11
Sunol Sciences	Antenna	JB3	A060611-1	2017-11-10	2020-11-10
HP	Amplifier	8447D	2727A05902	2018-09-05	2019-09-05
Agilent	Spectrum Analyzer	E4440A	SG43360054	2019-01-04	2020-01-04
ETS-Lindgren	Horn Antenna	3115	000 527 35	2019-01-05	2021-01-04
MITEQ	Amplifier	AFS42-00101800-25-S-42	2001271	2018-09-05	2019-09-05
Quinstar	Amplifier	QLW-18405536-JO	15964001001	2018-06-27	2019-06-27
Ducommun Technolagies	Horn Antenna	ARH-4223-02	1007726-01 1304	2016-11-18	2019-11-18
E-Microwave	Band-stop Filters	OBSF-2400-2483.5-S	OE01601525	2018-06-16	2019-06-16
Micro-tronics	High Pass Filter	HPM50111	S/N-G217	2018-06-16	2019-06-16
Unknown	Coaxial Cable	C-NJNJ-50	C-0400-01	2018-09-05	2019-09-05
Unknown	Coaxial Cable	C-NJNJ-50	C-0075-01	2018-09-05	2019-09-05
Unknown	Coaxial Cable	C-NJNJ-50	C-1000-01	2018-09-05	2019-09-05
Unknown	Coaxial Cable	C-SJSJ-50	C-0800-01	2018-09-05	2019-09-05
Unknown	Coaxial Cable	C-2.4J2.4J-50	C-0700-02	2018-06-27	2019-06-27
Farad	Test Software	EZ-EMC	V1.1.4.2	N/A	N/A

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and Cable Loss, and subtracting the Amplifier Gain from the Meter Reading. The basic equation is as follows:

Corrected Amplitude = Meter Reading + Antenna Factor + Cable Loss - Amplifier Gain

The "**Margin**" column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of 7dB means the emission is 7dB below the limit. The equation for margin calculation is as follows:

Margin = Limit – Corrected Amplitude

Test Data

Environmental Conditions

Temperature:	26.5 °C
Relative Humidity:	42 %
ATM Pressure:	101.4 kPa

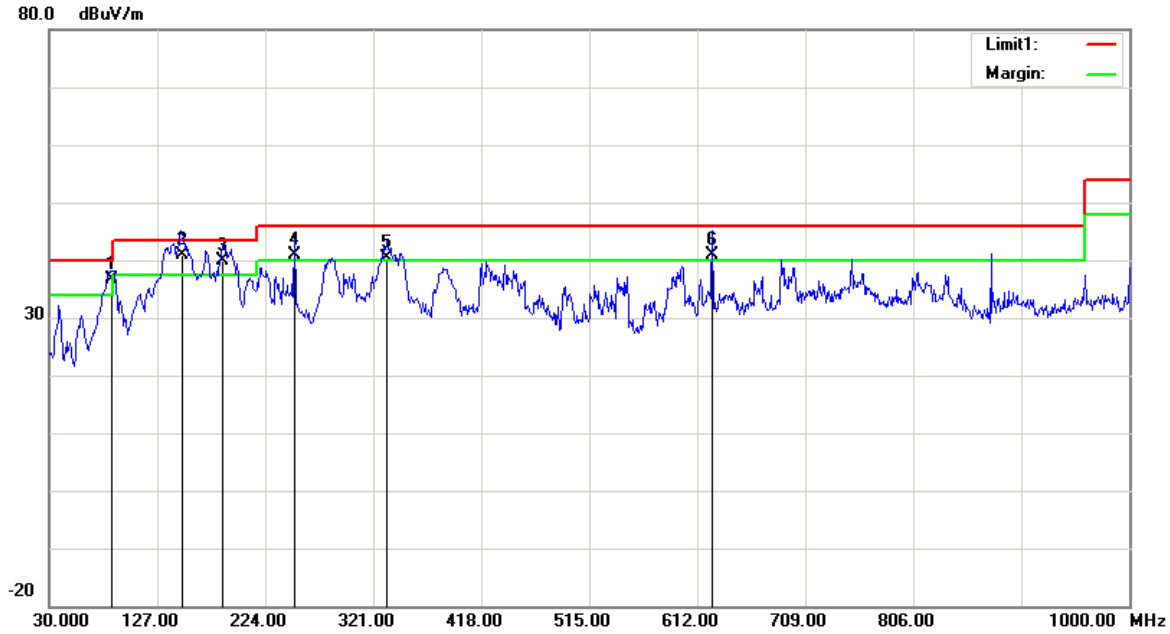
** The testing was performed by Tyler Pan & Vem Shen on 2019-04-23.*

Test Mode: Transmitting

1) 30MHz-1GHz (8-DPSK Low channel was the worst)

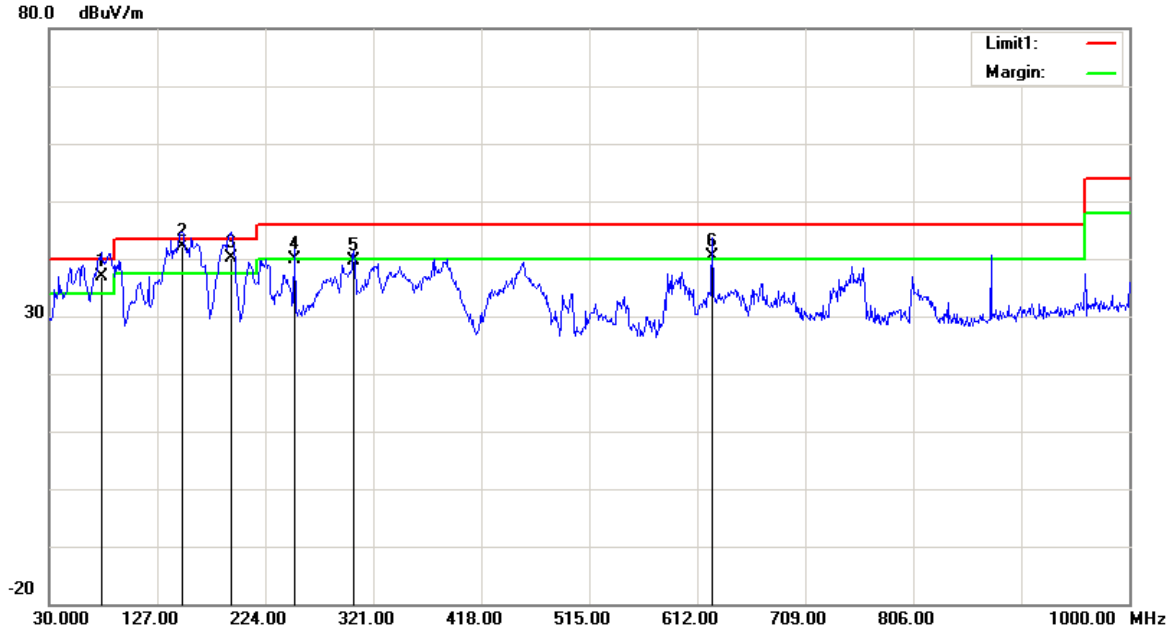
For Model DGFSNT55 (USB Input):

Horizontal:



Frequency (MHz)	Receiver Reading (dBµV)	Detector	Correction Factor (dB/m)	Cord. Amp. (dBµV/m)	Limit (dBµV/m)	Margin (dB)
86.2600	55.72	QP	-19.02	36.70	40.00	3.30
150.0000	53.72	QP	-12.82	40.90	43.50	2.60
186.1700	53.66	QP	-13.76	39.90	43.50	3.60
250.1900	54.13	QP	-13.33	40.80	46.00	5.20
333.6100	50.23	QP	-9.93	40.30	46.00	5.70
625.5800	44.09	QP	-3.09	41.00	46.00	5.00

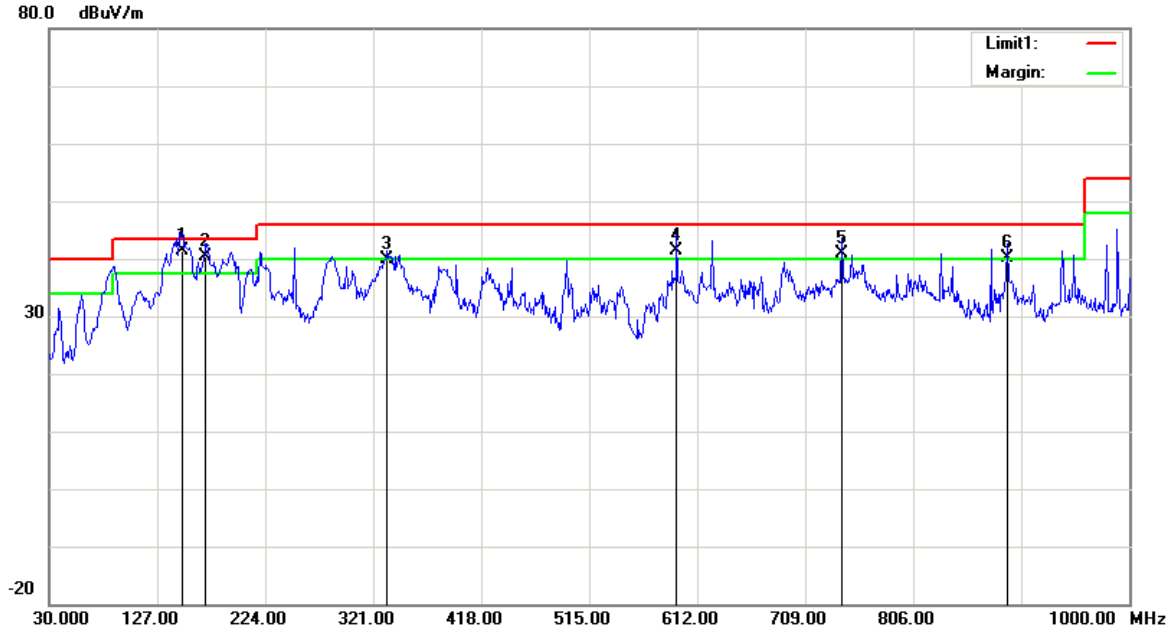
Vertical:



Frequency (MHz)	Receiver Reading (dBµV)	Detector	Correction Factor (dB/m)	Cord. Amp. (dBµV/m)	Limit (dBµV/m)	Margin (dB)
76.5600	56.54	QP	-19.74	36.80	40.00	3.20
150.0000	55.02	QP	-12.82	42.20	43.50	1.30
193.9300	53.91	QP	-13.71	40.20	43.50	3.30
250.1900	53.23	QP	-13.33	39.90	46.00	6.10
303.5400	50.25	QP	-10.65	39.60	46.00	6.40
625.5800	43.59	QP	-3.09	40.50	46.00	5.50

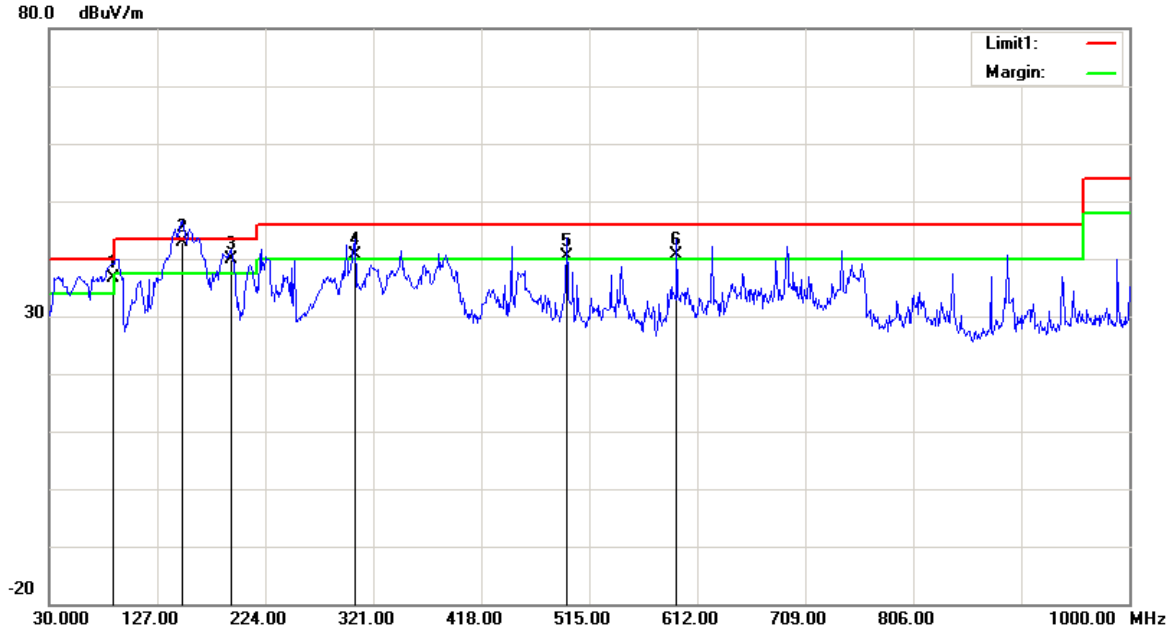
For Model DGFSNT55 (HDMI Input):

Horizontal:



Frequency (MHz)	Receiver Reading (dBµV)	Detector	Correction Factor (dB/m)	Cord. Amp. (dBµV/m)	Limit (dBµV/m)	Margin (dB)
149.3100	54.30	QP	-12.80	41.50	43.50	2.00
170.6500	53.42	QP	-12.92	40.50	43.50	3.00
333.6100	49.83	QP	-9.93	39.90	46.00	6.10
593.5700	44.80	QP	-3.40	41.40	46.00	4.60
741.9800	42.14	QP	-1.34	40.80	46.00	5.20
890.3900	39.17	QP	1.03	40.20	46.00	5.80

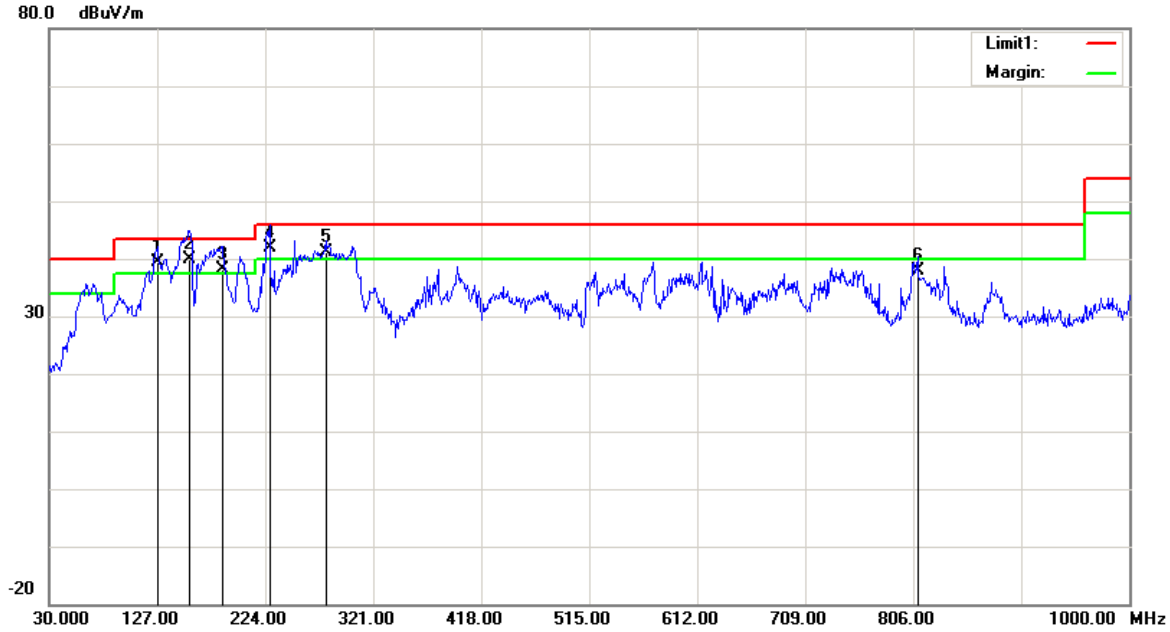
Vertical:



Frequency (MHz)	Receiver Reading (dBµV)	Detector	Correction Factor (dB/m)	Cord. Amp. (dBµV/m)	Limit (dBµV/m)	Margin (dB)
87.2300	55.55	QP	-18.95	36.60	40.00	3.40
150.0000	55.72	QP	-12.82	42.90	43.50	0.60
192.9600	53.74	QP	-13.84	39.90	43.50	3.60
304.5100	51.21	QP	-10.61	40.60	46.00	5.40
494.6300	46.71	QP	-6.21	40.50	46.00	5.50
593.5700	44.00	QP	-3.40	40.60	46.00	5.40

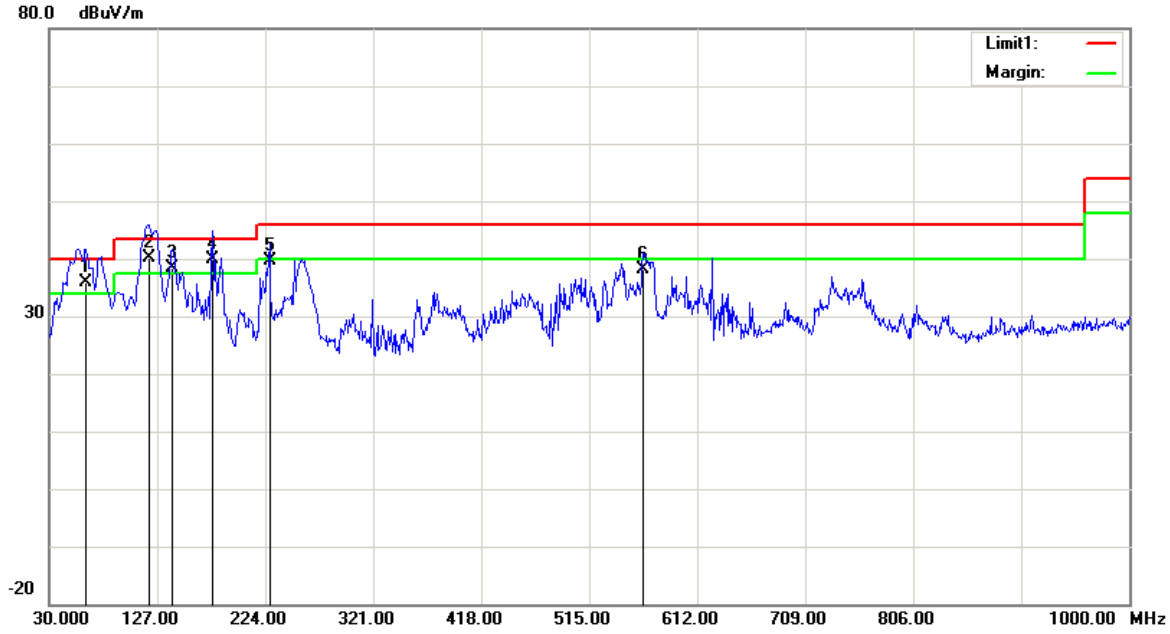
For Model DGFSTCH55 (USB Input):

Horizontal:



Frequency (MHz)	Receiver Reading (dBµV)	Detector	Correction Factor (dB/m)	Cord. Amp. (dBµV/m)	Limit (dBµV/m)	Margin (dB)
127.0000	53.52	QP	-14.22	39.30	43.50	4.20
156.1000	52.59	QP	-12.79	39.80	43.50	3.70
185.2000	51.87	QP	-13.67	38.20	43.50	5.30
227.8800	56.06	QP	-14.06	42.00	46.00	4.00
278.3200	53.02	QP	-11.82	41.20	46.00	4.80
809.8800	38.80	QP	-0.80	38.00	46.00	8.00

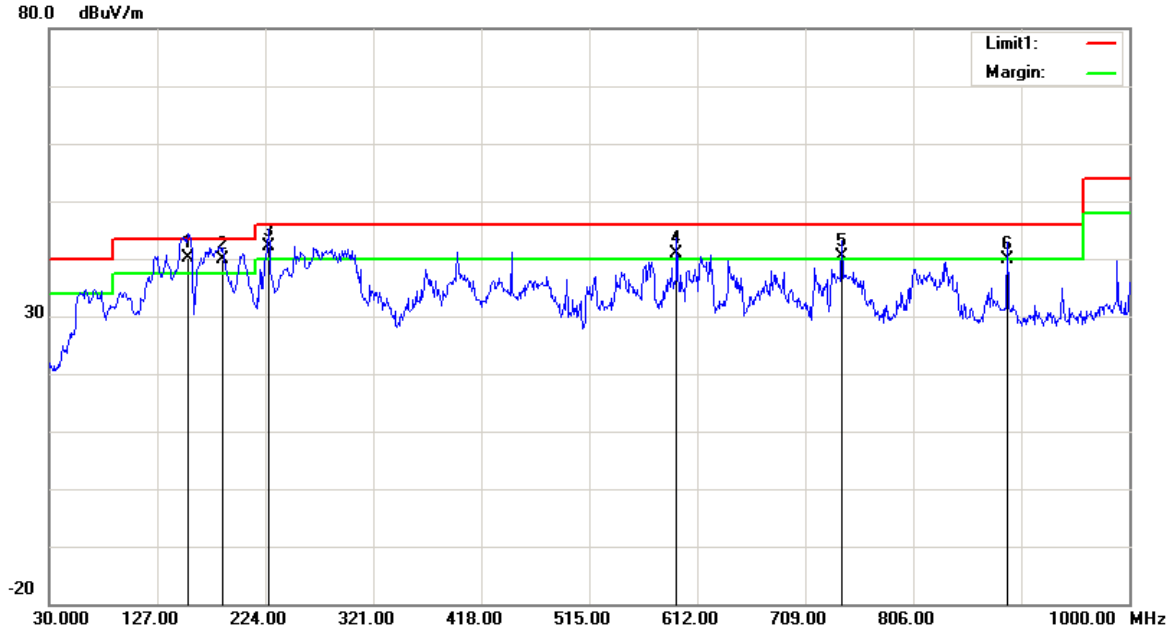
Vertical:



Frequency (MHz)	Receiver Reading (dBµV)	Detector	Correction Factor (dB/m)	Cord. Amp. (dBµV/m)	Limit (dBµV/m)	Margin (dB)
62.9800	56.14	QP	-20.14	36.00	40.00	4.00
119.2400	56.47	QP	-16.27	40.20	43.50	3.30
140.5800	51.21	QP	-12.71	38.50	43.50	5.00
176.4700	53.18	QP	-13.28	39.90	43.50	3.60
227.8800	53.76	QP	-14.06	39.70	46.00	6.30
563.5000	42.00	QP	-3.80	38.20	46.00	7.80

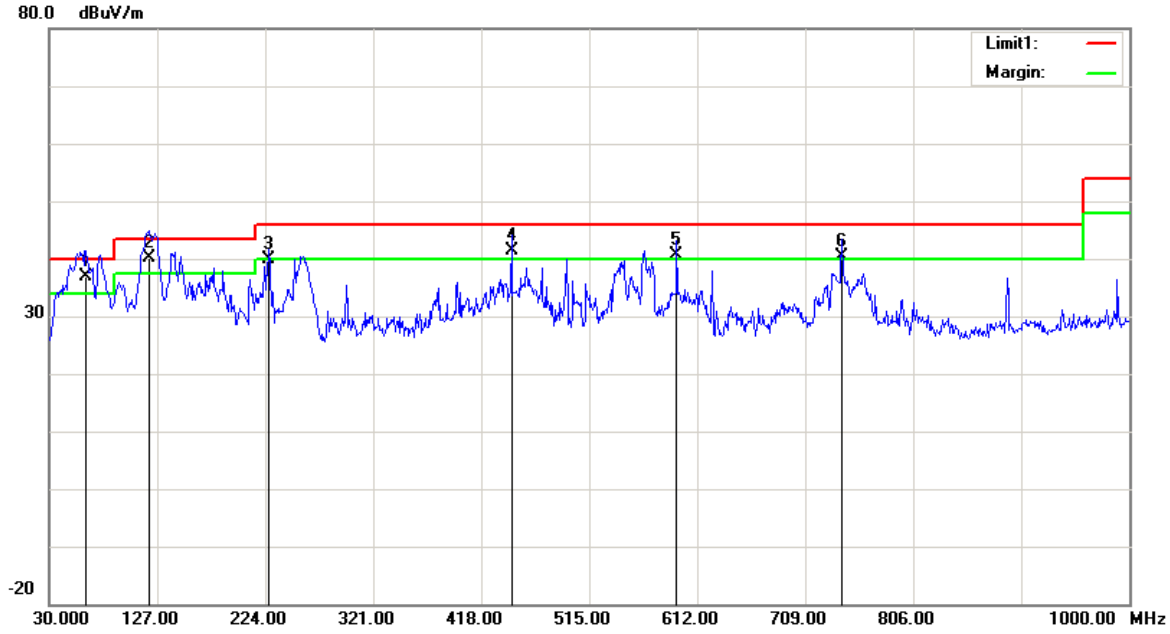
For Model DGFSTCH55 (HDMIInput):

Horizontal:



Frequency (MHz)	Receiver Reading (dBµV)	Detector	Correction Factor (dB/m)	Cord. Amp. (dBµV/m)	Limit (dBµV/m)	Margin (dB)
155.1300	53.01	QP	-12.81	40.20	43.50	3.30
185.2000	53.67	QP	-13.67	40.00	43.50	3.50
226.9100	56.30	QP	-14.10	42.20	46.00	3.80
593.5700	44.30	QP	-3.40	40.90	46.00	5.10
741.9800	41.84	QP	-1.34	40.50	46.00	5.50
890.3900	38.87	QP	1.03	39.90	46.00	6.10

Vertical:



Frequency (MHz)	Receiver Reading (dBµV)	Detector	Correction Factor (dB/m)	Cord. Amp. (dBµV/m)	Limit (dBµV/m)	Margin (dB)
62.9800	56.94	QP	-20.14	36.80	40.00	3.20
119.2400	56.47	QP	-16.27	40.20	43.50	3.30
226.9100	54.00	QP	-14.10	39.90	46.00	6.10
445.1600	49.03	QP	-7.53	41.50	46.00	4.50
593.5700	44.00	QP	-3.40	40.60	46.00	5.40
741.9800	41.64	QP	-1.34	40.30	46.00	5.70

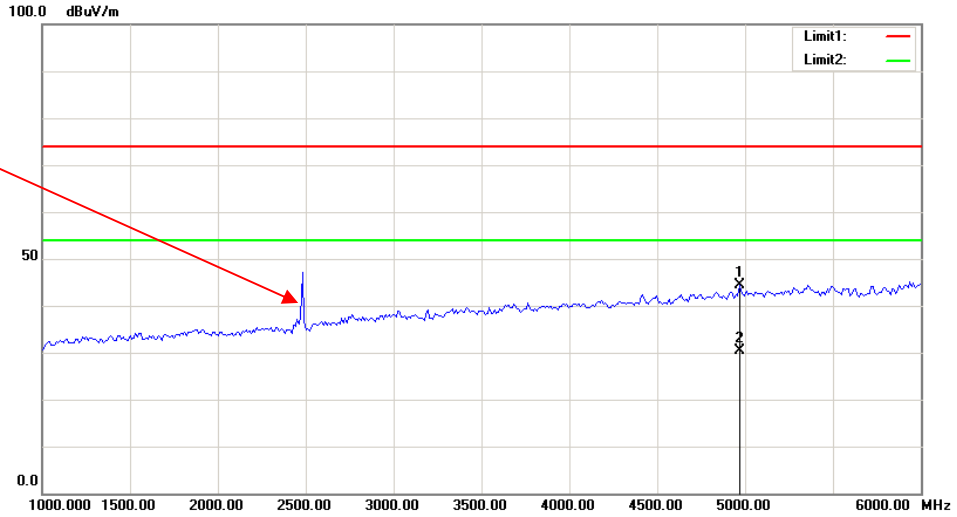
2) 1GHz-25GHz:

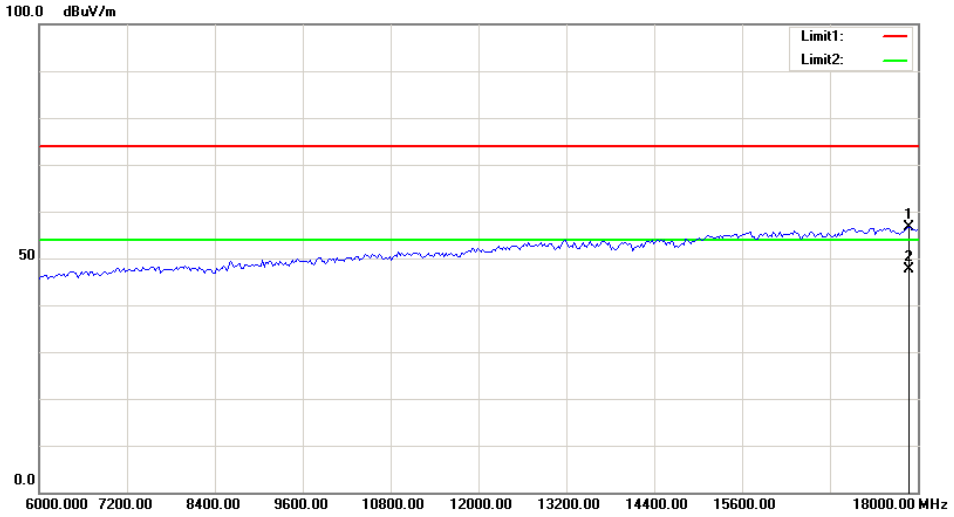
BDR Mode (GFSK):

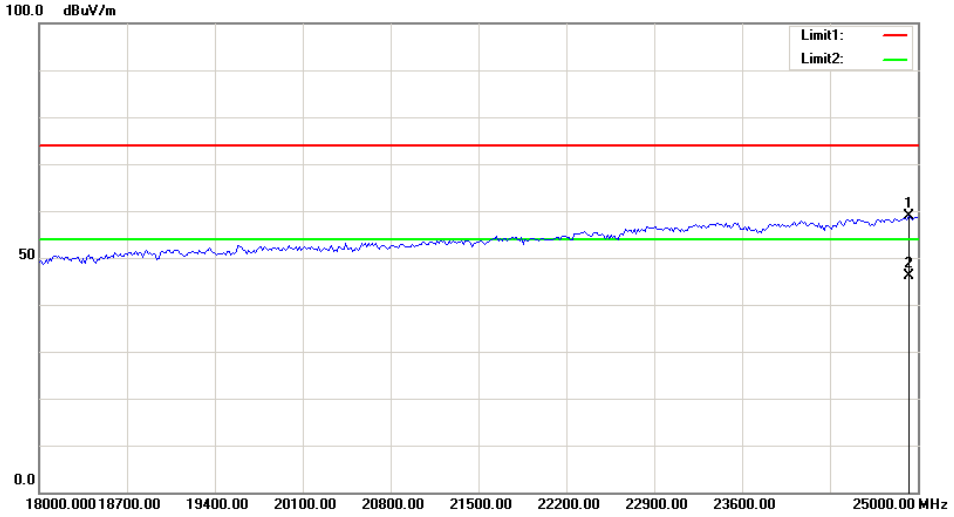
Frequency (MHz)	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector	Polar (H/V)	Factor (dB/m)					
Low Channel: 2402 MHz									
2402.00	59.71	PK	H	24.82	3.34	0.00	87.87	N/A	N/A
2402.00	48.67	AV	H	24.82	3.34	0.00	76.83	N/A	N/A
2402.00	69.81	PK	V	24.82	3.34	0.00	97.97	N/A	N/A
2402.00	58.96	AV	V	24.82	3.34	0.00	87.12	N/A	N/A
2390.00	24.03	PK	V	24.80	3.33	0.00	52.16	74.00	21.84
2390.00	12.32	AV	V	24.80	3.33	0.00	40.45	54.00	13.55
4804.00	38.00	PK	V	29.71	4.58	27.36	44.93	74.00	29.07
4804.00	24.61	AV	V	29.71	4.58	27.36	31.54	54.00	22.46
7206.00	36.41	PK	V	33.93	5.59	27.19	48.74	74.00	25.26
7206.00	23.41	AV	V	33.93	5.59	27.19	35.74	54.00	18.26
Middle Channel: 2441 MHz									
2441.00	61.35	PK	H	24.89	3.36	0.00	89.60	N/A	N/A
2441.00	50.14	AV	H	24.89	3.36	0.00	78.39	N/A	N/A
2441.00	71.23	PK	V	24.89	3.36	0.00	99.48	N/A	N/A
2441.00	60.57	AV	V	24.89	3.36	0.00	88.82	N/A	N/A
4882.00	37.65	PK	V	29.86	4.56	27.56	44.51	74.00	29.49
4882.00	23.96	AV	V	29.86	4.56	27.56	30.82	54.00	23.18
7323.00	37.51	PK	V	34.12	5.69	27.26	50.06	74.00	23.94
7323.00	24.83	AV	V	34.12	5.69	27.26	37.38	54.00	16.62
High Channel: 2480 MHz									
2480.00	60.72	PK	H	24.96	3.38	0.00	89.06	N/A	N/A
2480.00	49.63	AV	H	24.96	3.38	0.00	77.97	N/A	N/A
2480.00	70.07	PK	V	24.96	3.38	0.00	98.41	N/A	N/A
2480.00	59.30	AV	V	24.96	3.38	0.00	87.64	N/A	N/A
2483.50	30.98	PK	V	24.97	3.38	0.00	59.33	74.00	14.67
2483.50	20.15	AV	V	24.97	3.38	0.00	48.50	54.00	5.50
4960.00	37.26	PK	V	30.02	4.58	27.37	44.49	74.00	29.51
4960.00	23.92	AV	V	30.02	4.58	27.37	31.15	54.00	22.85
7440.00	39.17	PK	V	34.30	5.79	27.22	52.04	74.00	21.96
7440.00	26.82	AV	V	34.30	5.79	27.22	39.69	54.00	14.31

Worst plots (8-DPSK Low channel)
Horizontal

Fundamental Test with Band Rejection Filter

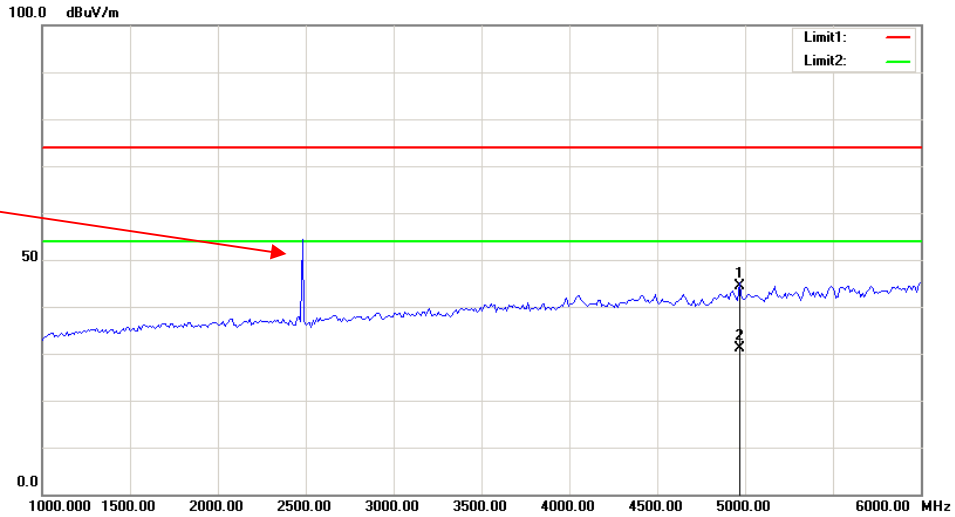


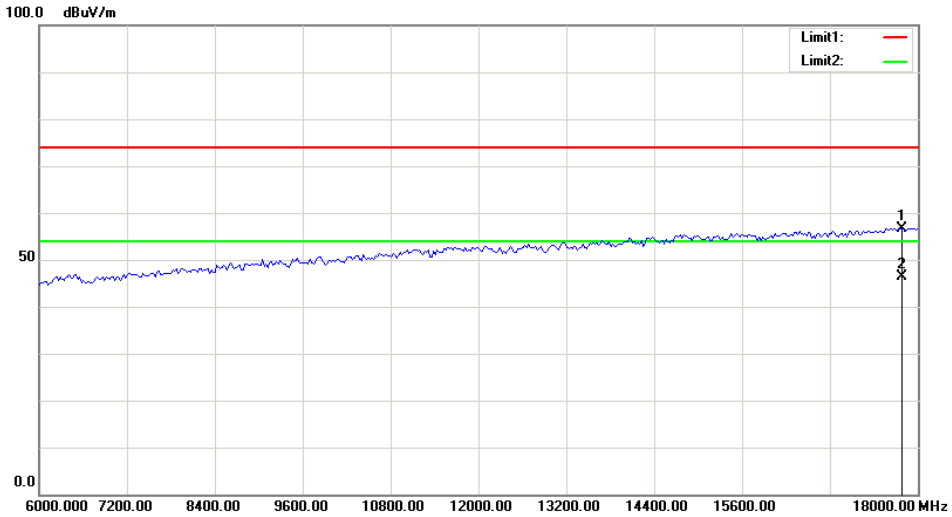


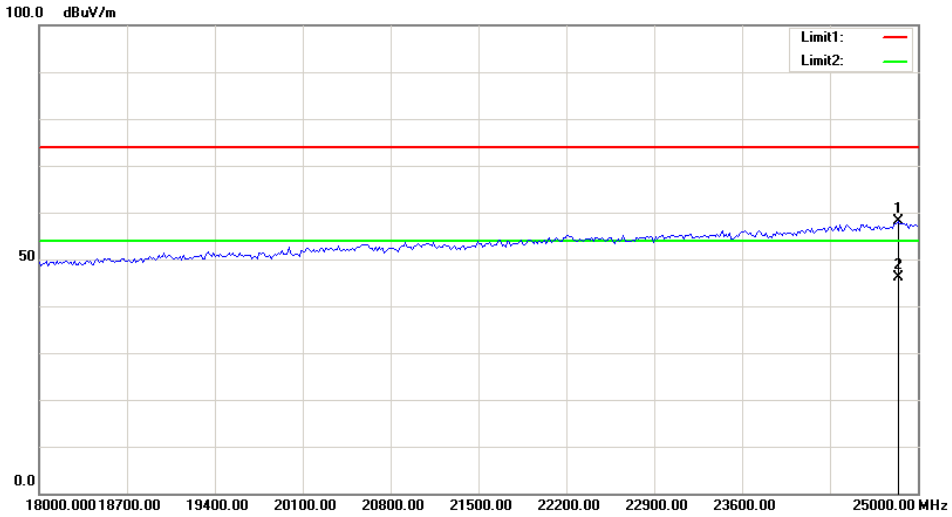


Vertical

Fundamental Test with Band Rejection Filter







FCC §15.247(a) (1) - CHANNEL SEPARATION TEST

Applicable Standard

Frequency hopping systems shall have hoping channel carrier frequencies separated by a minimum of 25 kHz or the 20dB bandwidth of the hopping channel, whichever is greater. Alternatively, frequency hopping systems operating in the 2400-2483.50 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20dB bandwidth of the hopping channel, whichever is greater provided the systems operate with an output power no greater than 125 mW.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	Signal Analyzer	FSIQ26	831929/005	2018-08-03	2019-08-03
Unknown	Coaxial Cable	C-SJ00-0010	C0010/01	Each time	/

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Procedure

1. Set the EUT in transmitting mode, spectrum Bandwidth was set at 30 kHz, maxhold the channel.
2. Set the adjacent channel of the EUT maxhold another trace.
3. Measure the channel separation.

Test Data

Environmental Conditions

Temperature:	28.7 °C
Relative Humidity:	53 %
ATM Pressure:	101 kPa

** The testing was performed by Andy Huang on 2019-03-18.*

Test Result: Compliance.

Please refer to following tables and plots

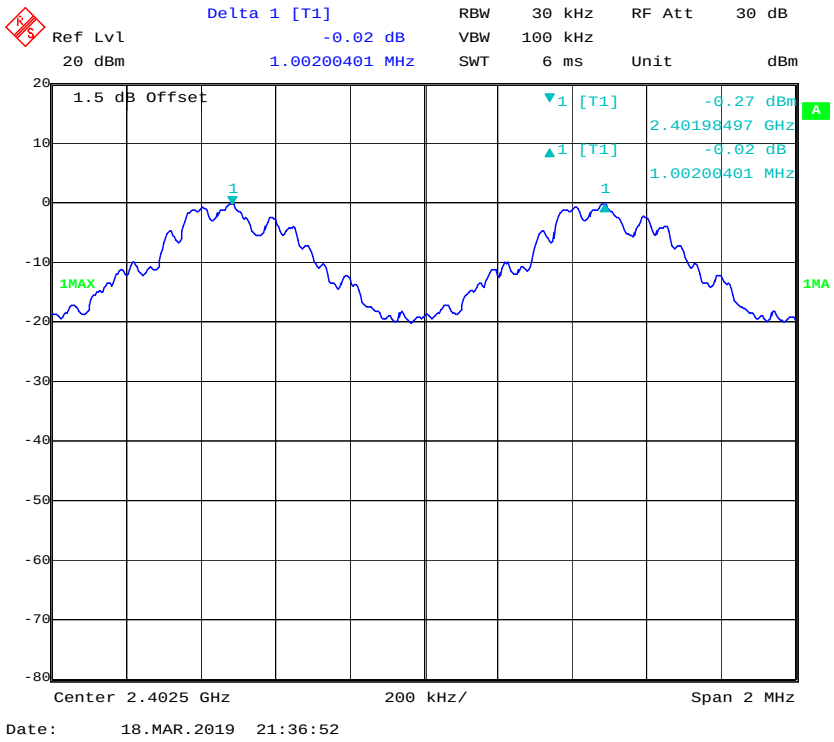
Test Mode: Transmitting

Mode	Channel	Frequency (MHz)	Channel Separation (MHz)	Limit (MHz)
BDR (GFSK)	Low	2402	1.002	0.65
	Middle	2441	0.998	0.67
	High	2480	1.006	0.68
EDR (π/4-DQPSK)	Low	2402	1.002	0.90
	Middle	2441	1.002	0.90
	High	2480	1.002	0.90
EDR (8-DPSK)	Low	2402	1.002	0.89
	Middle	2441	1.002	0.90
	High	2480	1.002	0.90

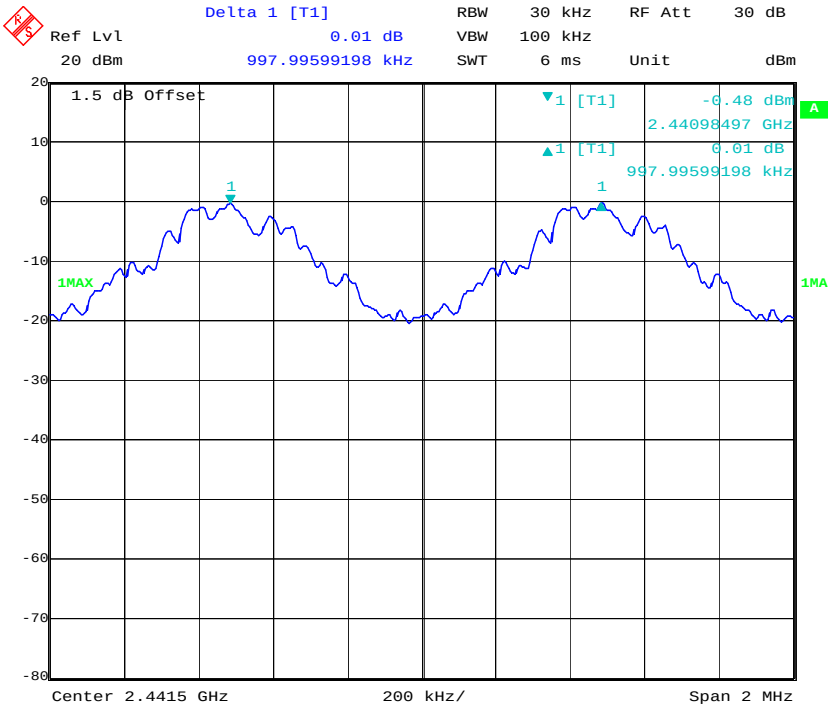
Note: Limit= (2/3) × 20dB bandwidth

BDR Mode (GFSK):

Low Channel

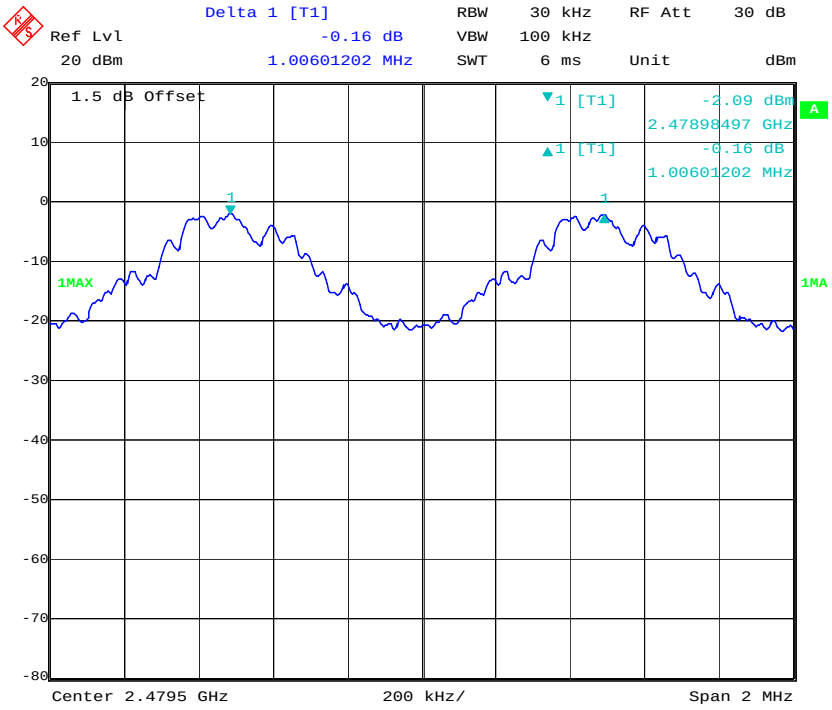


Middle Channel



Date: 18.MAR.2019 21:38:31

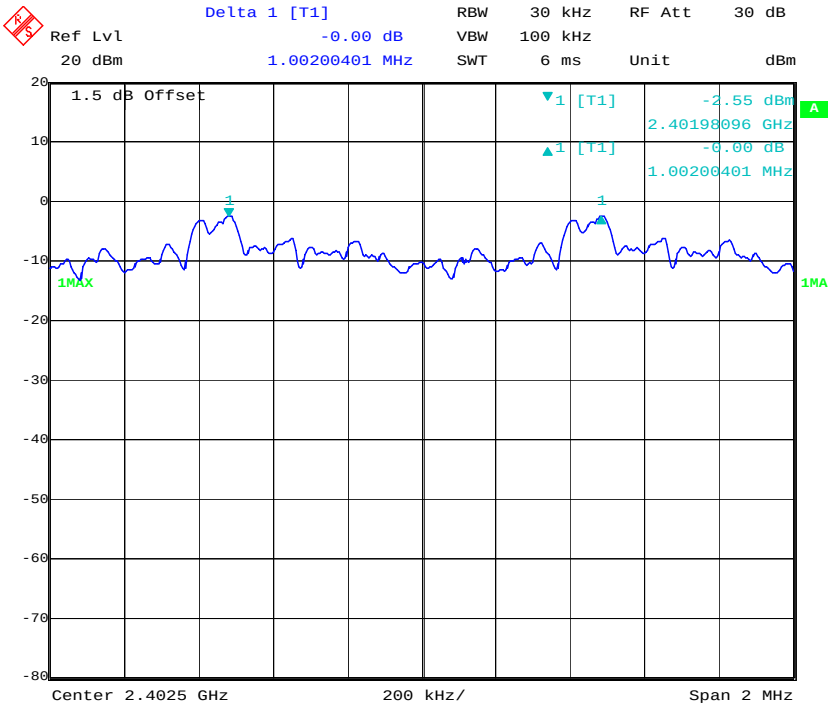
High Channel



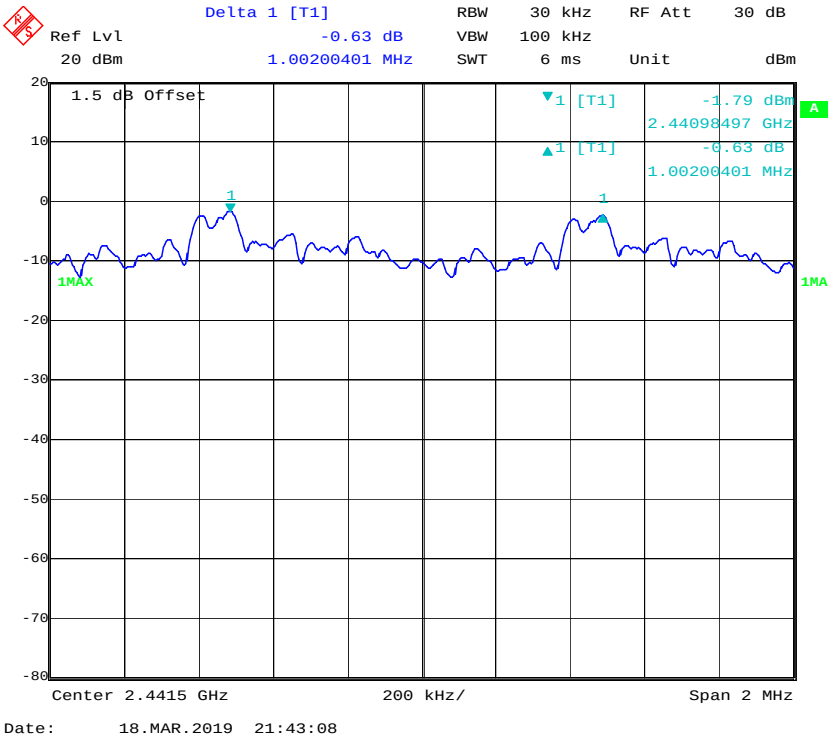
Date: 18.MAR.2019 21:39:53

EDR Mode (π/4-DQPSK):

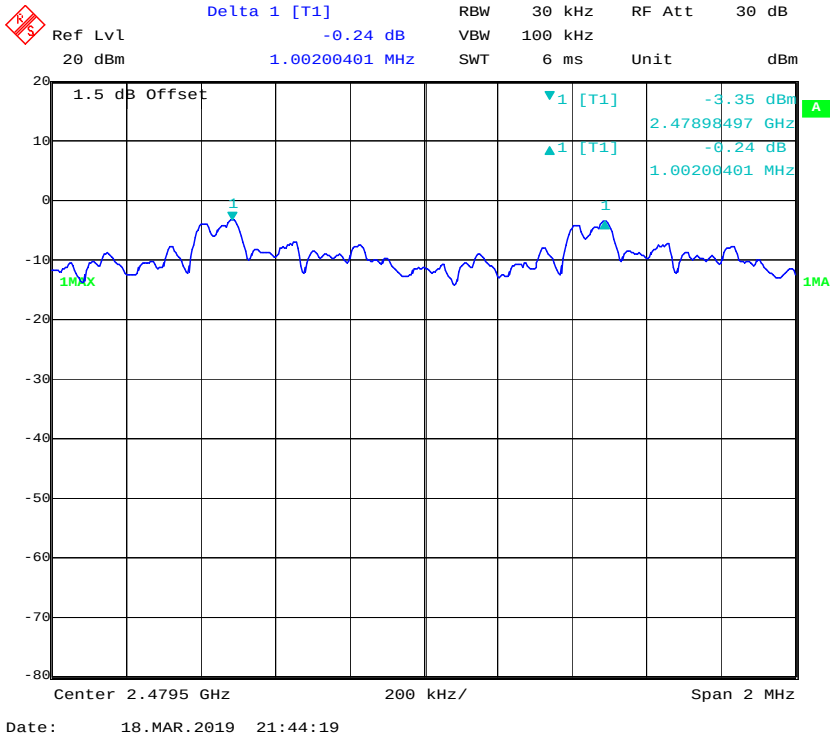
Low Channel



Middle Channel

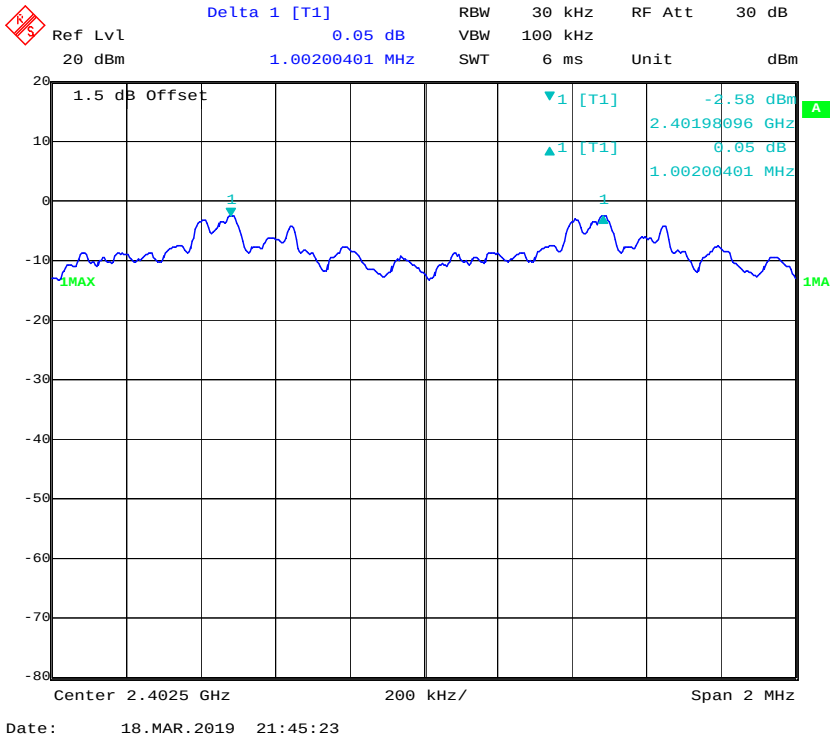


High Channel

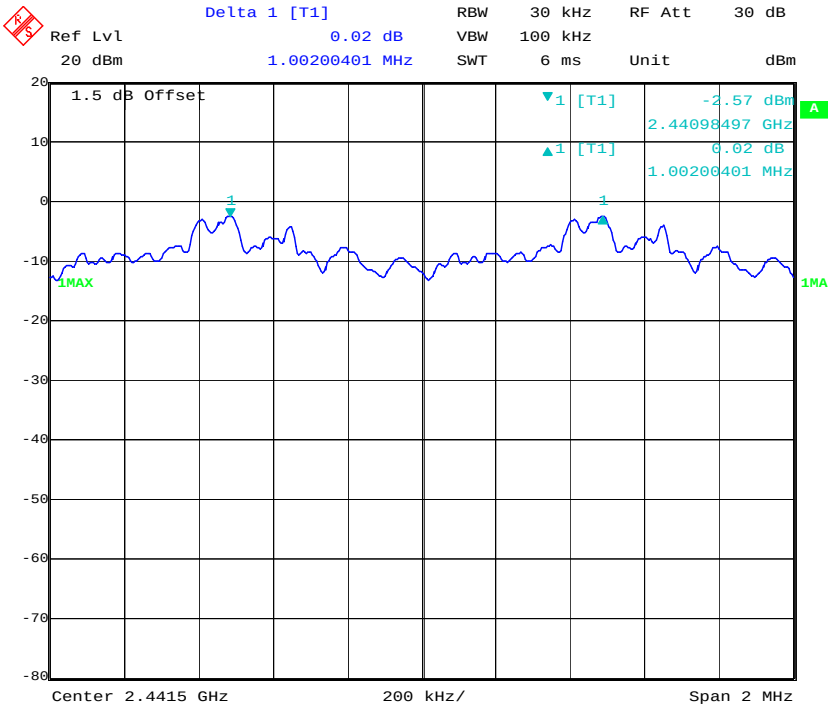


EDR Mode (8-DPSK):

Low Channel

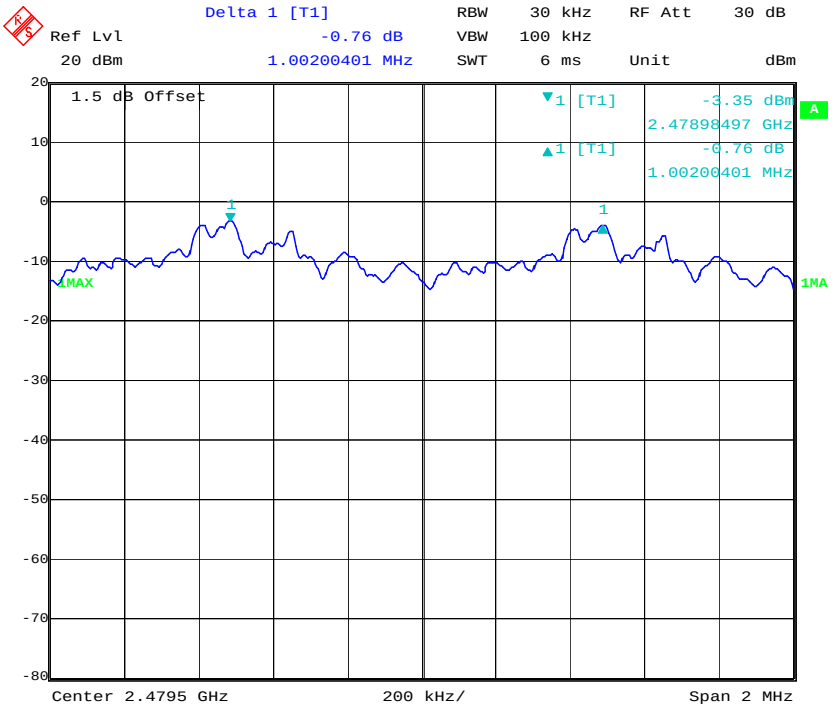


Middle Channel



Date: 18.MAR.2019 21:46:25

High Channel



Date: 18.MAR.2019 21:49:23

FCC §15.247(a) (1) – 20 dB BANDWIDTH TESTING

Applicable Standard

Alternatively, frequency hopping systems operating in the 2400–2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 mW.

Test Procedure

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 on the test table without connection to measurement instrument. Turn on the EUT. Then set it to any one convenient frequency within its operating range. Set a reference level on the measuring instrument equal to the highest peak value.
3. Measure the frequency difference of two frequencies that were attenuated 20 dB from the reference level. Record the frequency difference as the emission bandwidth.
4. Repeat above procedures until all frequencies measured were complete.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	Signal Analyzer	FSIQ26	831929/005	2018-08-03	2019-08-03
Unknown	Coaxial Cable	C-SJ00-0010	C0010/01	Each time	/

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Data

Environmental Conditions

Temperature:	28.7 °C
Relative Humidity:	53 %
ATM Pressure:	101 kPa

** The testing was performed by Andy Huang on 2019-03-15.*

Test Result: Compliance.

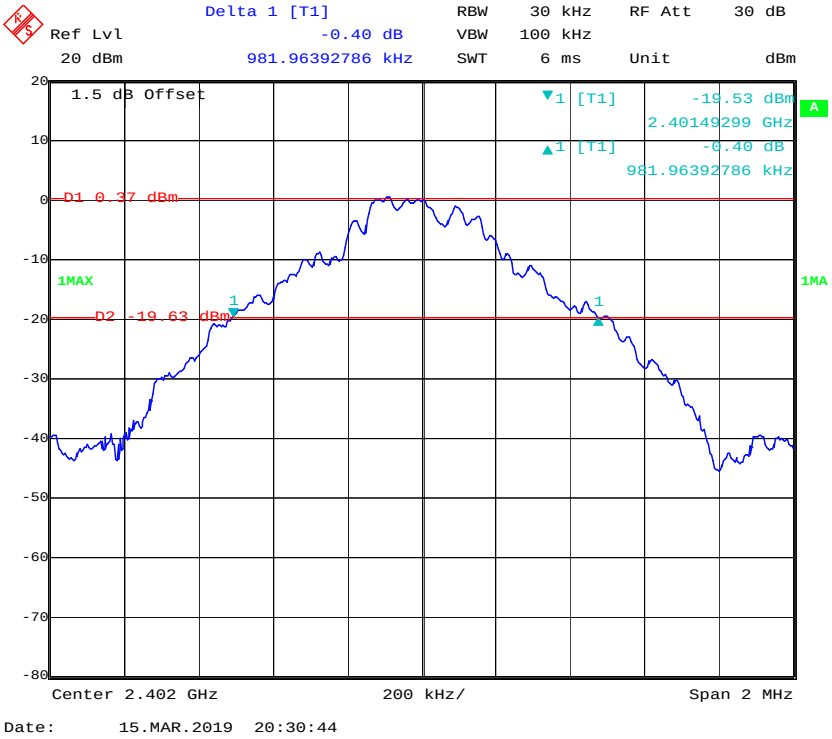
Please refer to following tables and plots

Test Mode: Transmitting

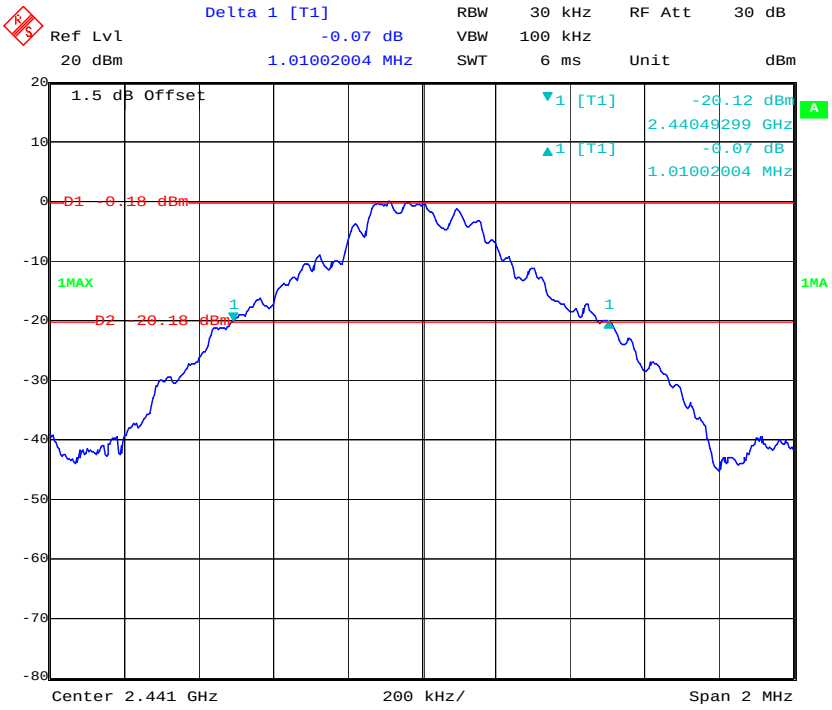
Mode	Channel	Frequency (MHz)	20 dB Bandwidth (MHz)
BDR Mode (GFSK)	Low	2402	0.982
	Middle	2441	1.010
	High	2480	1.014
EDR Mode (π/4-DQPSK)	Low	2402	1.351
	Middle	2441	1.351
	High	2480	1.355
EDR Mode (8-DPSK)	Low	2402	1.339
	Middle	2441	1.343
	High	2480	1.343

BDR Mode (GFSK):

Low Channel

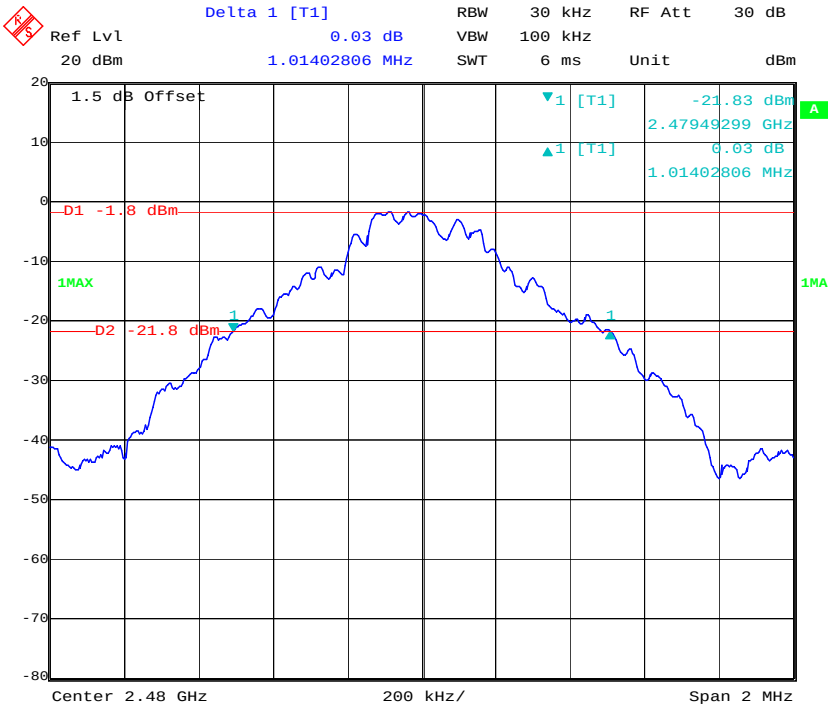


Middle Channel



Date: 15.MAR.2019 20:32:28

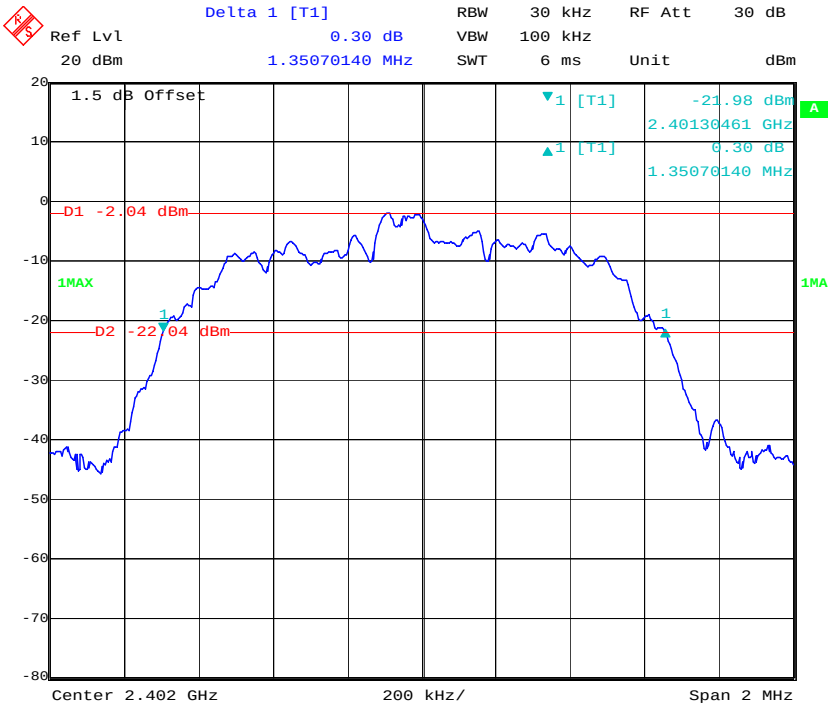
High Channel



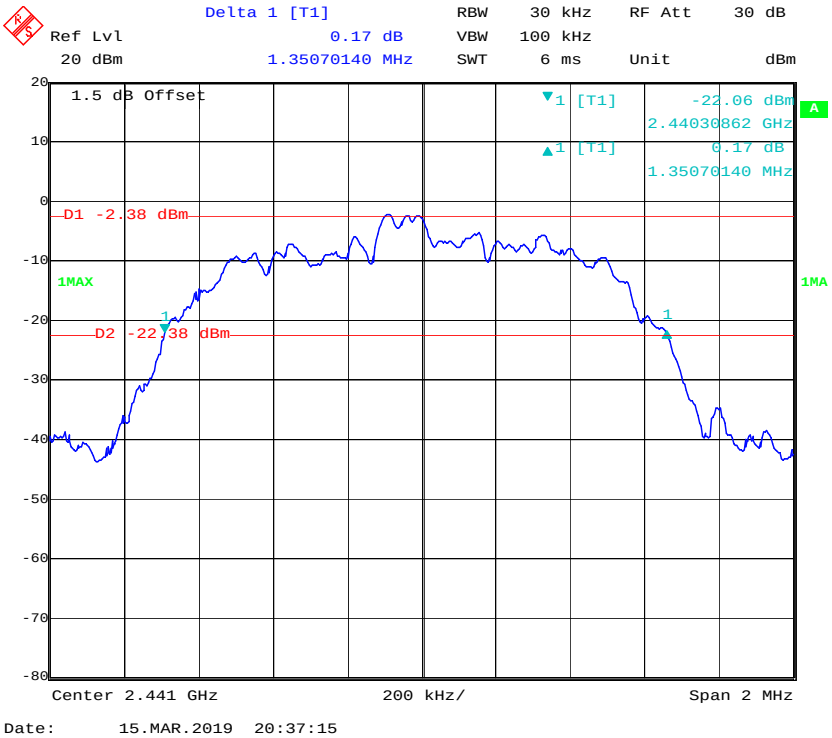
Date: 15.MAR.2019 20:33:43

EDR Mode (π/4-DQPSK):

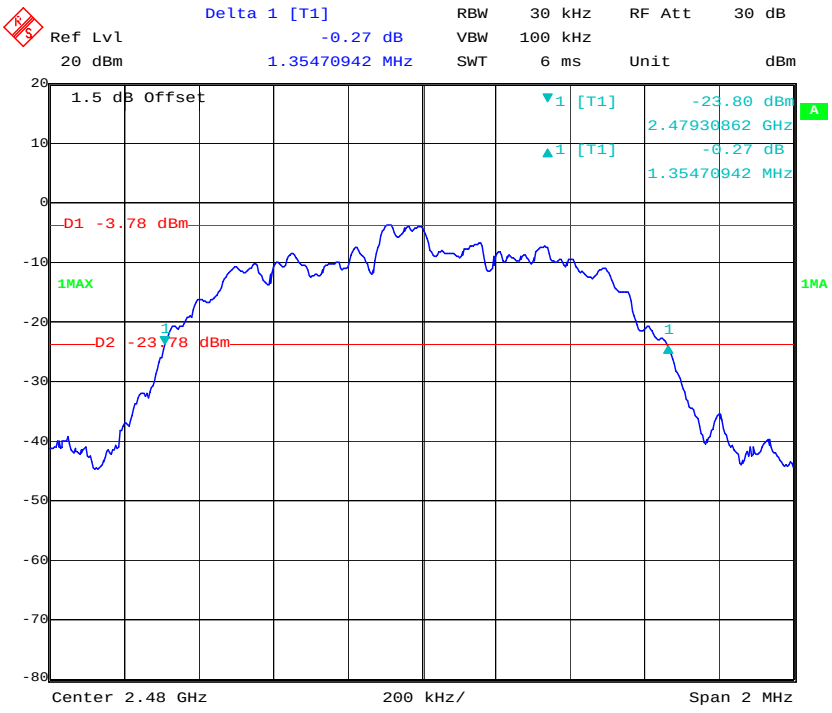
Low Channel



Middle Channel

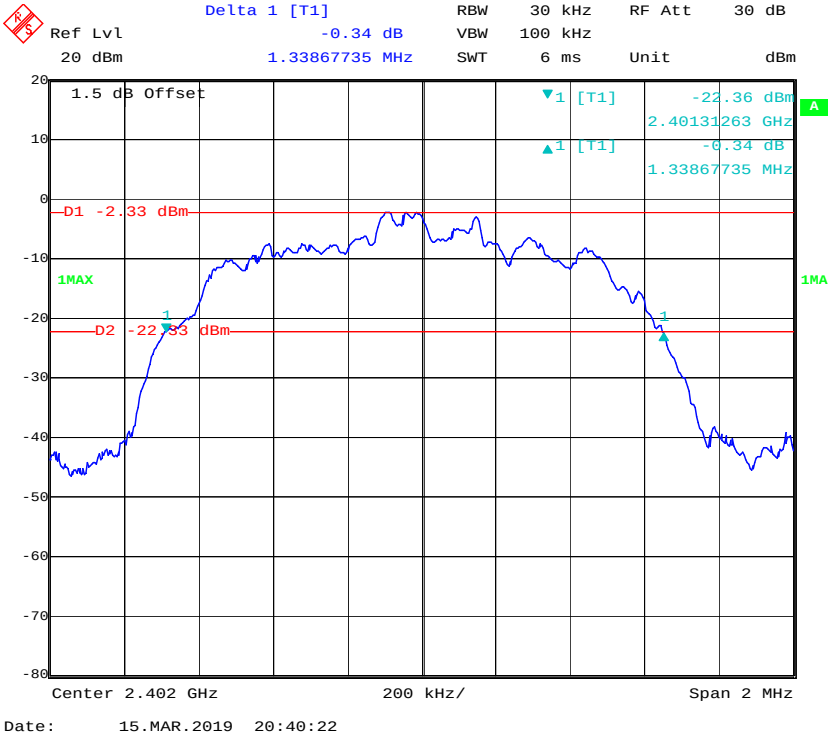


High Channel

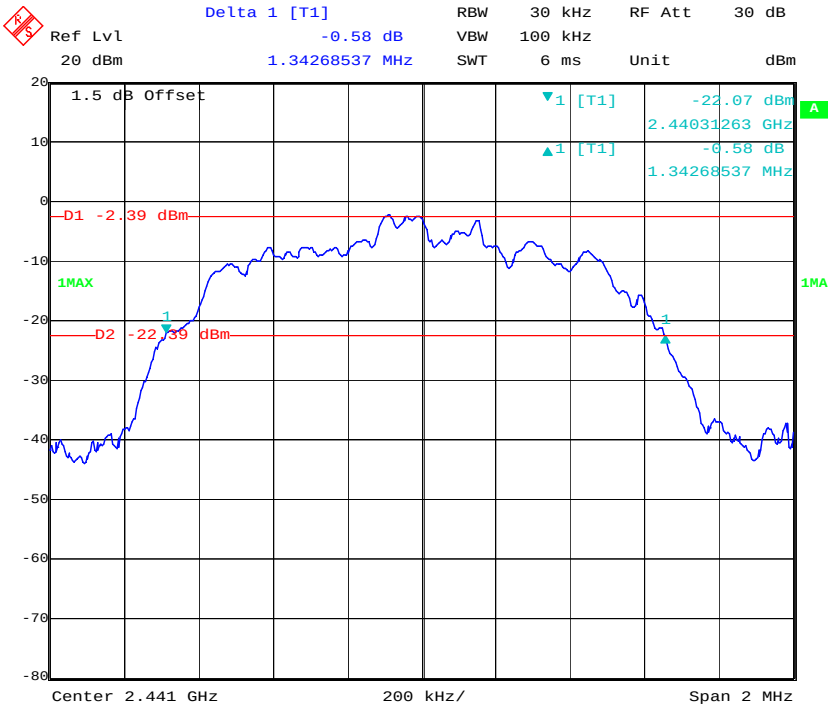


EDR Mode (8-DPSK):

Low Channel

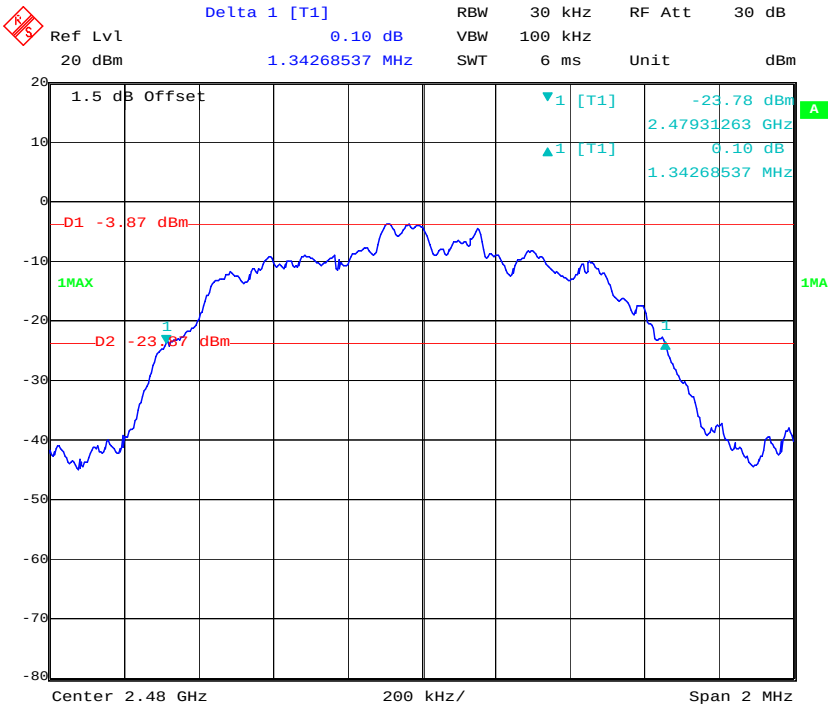


Middle Channel



Date: 15.MAR.2019 20:42:26

High Channel



Date: 15.MAR.2019 20:43:38

FCC §15.247(a) (1) (iii) - QUANTITY OF HOPPING CHANNEL TEST

Applicable Standard

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

Test Procedure

1. Check the calibration of the measuring instrument (SA) using either an internal calibrator or a known signal from an external generator.

2. Set the EUT in hopping mode from first channel to last.

3. By using the Max-Hold function record the Quantity of the channel.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSU 26	200256	2019-01-04	2020-01-04
Unknown	Coaxial Cable	C-SJ00-0010	C0010/01	Each time	/

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Data

Environmental Conditions

Temperature:	28.7 °C
Relative Humidity:	53 %
ATM Pressure:	101 kPa

** The testing was performed by Andy Huang on 2019-03-18.*

Test Result: Compliance.

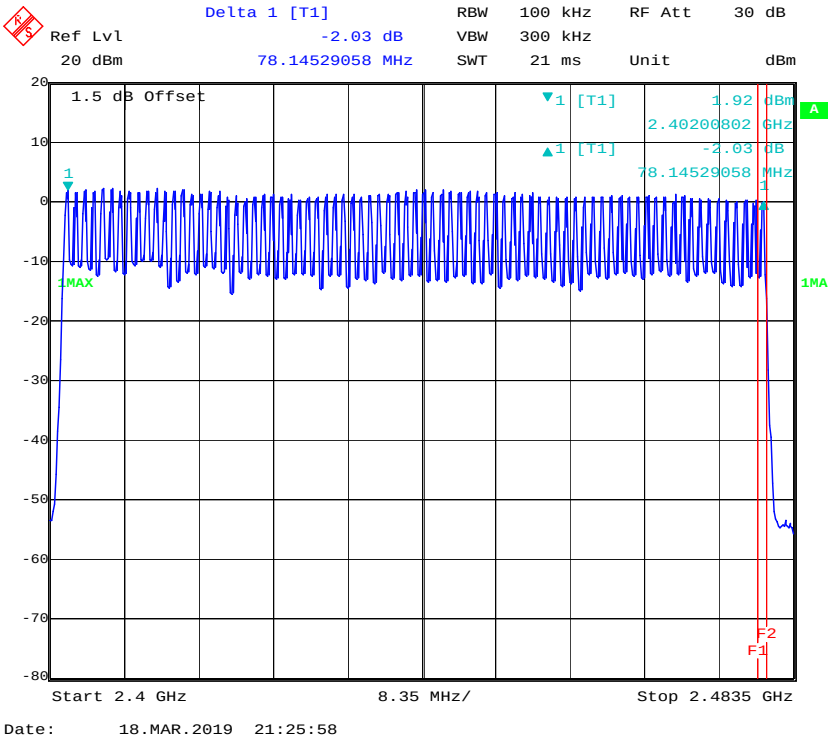
Please refer to following tables and plots

Test Mode: Transmitting

BDR Mode (GFSK):

Frequency Range (MHz)	Number of Hopping Channel	Limit
2400-2483.5	79	≥15

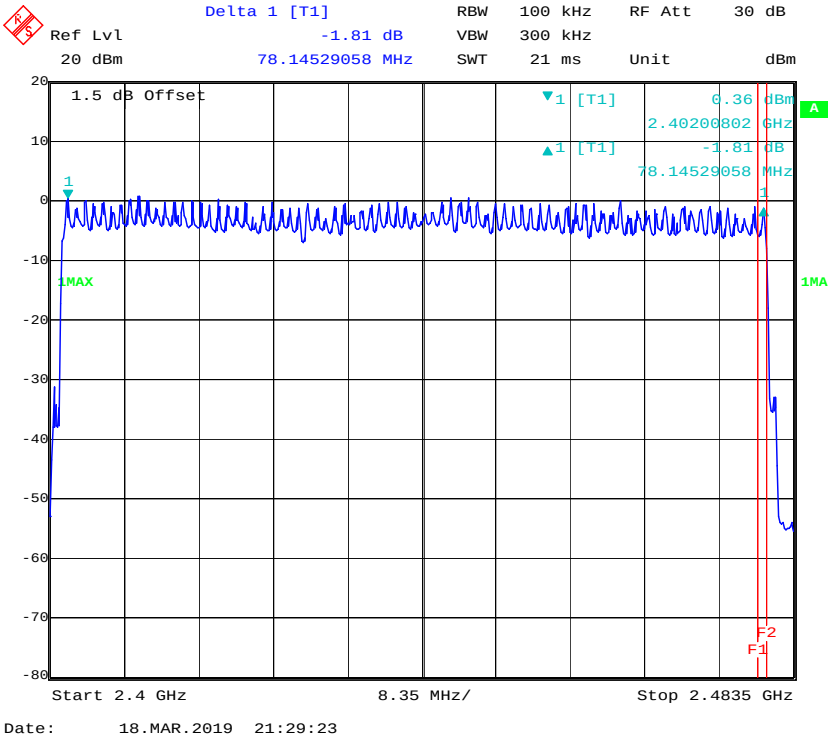
Number of Hopping Channels



EDR Mode (π/4-DQPSK):

Frequency Range (MHz)	Number of Hopping Channel	Limit
2400-2483.5	79	≥15

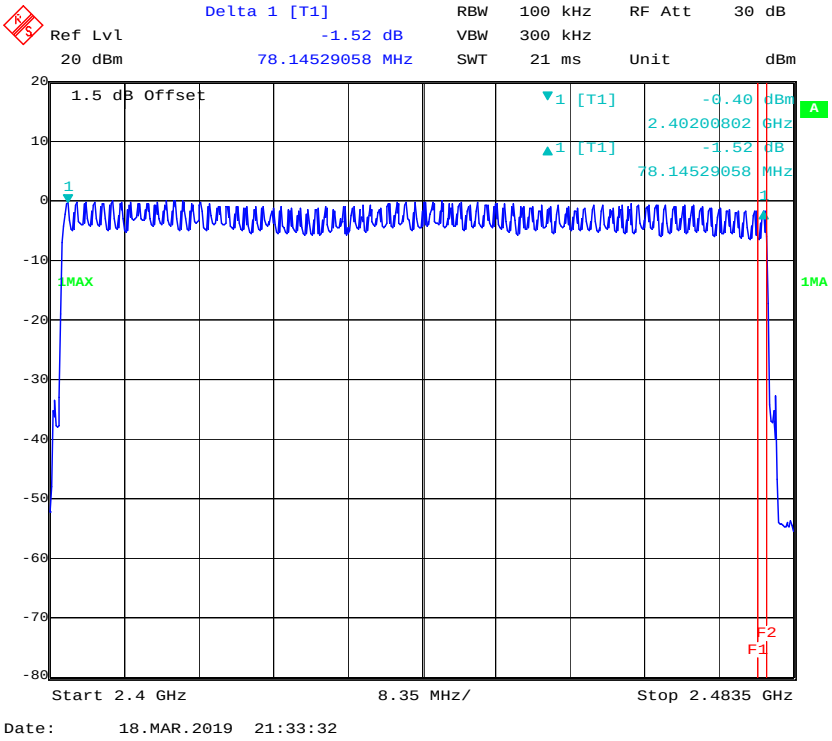
Number of Hopping Channels



EDR Mode (8-DPSK):

Frequency Range (MHz)	Number of Hopping Channel	Limit
2400-2483.5	79	≥15

Number of Hopping Channels



FCC §15.247(a) (1) (iii) - TIME OF OCCUPANCY (DWELL TIME)

Applicable Standard

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

Test Procedure

The EUT was worked in channel hopping; the time of single pulses was tested.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSU 26	200256	2019-01-04	2020-01-04
Unknown	Coaxial Cable	C-SJ00-0010	C0010/01	Each time	/

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Data

Environmental Conditions

Temperature:	28.7 °C
Relative Humidity:	53 %
ATM Pressure:	101 kPa

** The testing was performed by Andy Huang on 2019-03-15.*

Test Result: Compliance.

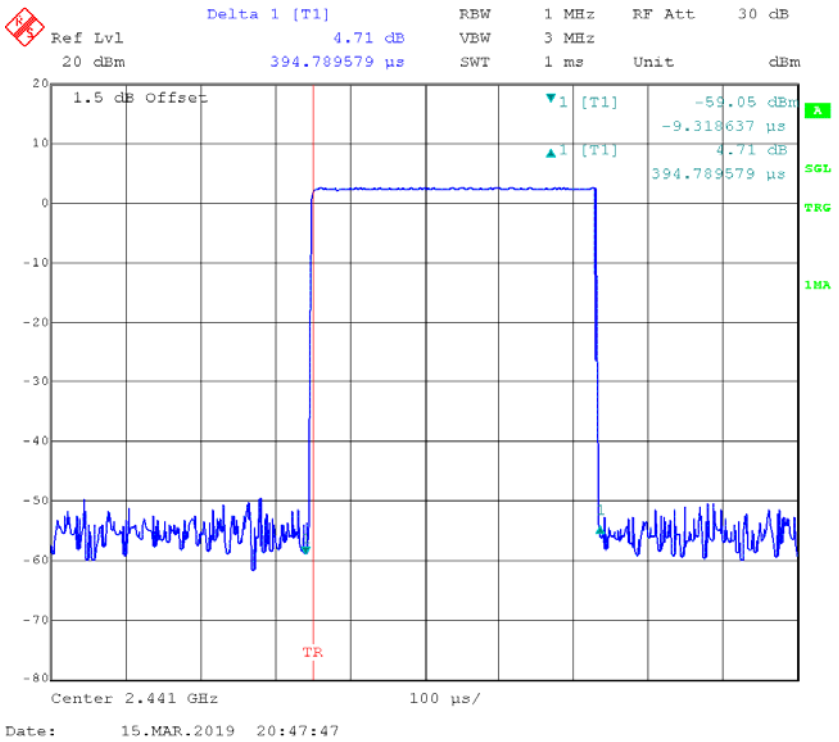
Please refer to following tables and plots

Test Mode: Transmitting

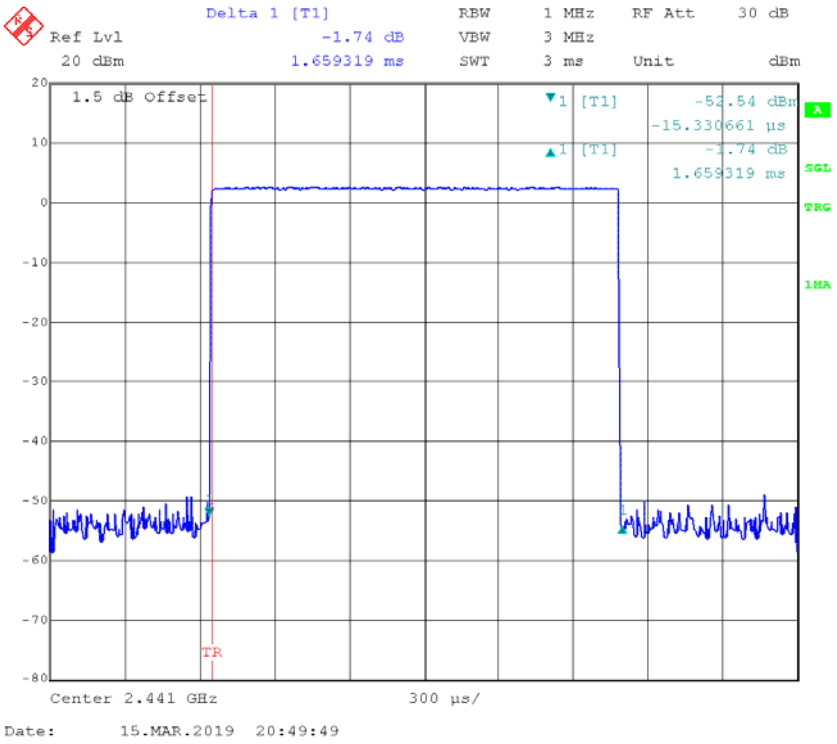
BDR Mode (GFSK):

Mode	Packet type	Channel	Pulse Width (ms)	Dwell Time (s)	Limit (s)	Result
GFSK	DH1	Middle	0.395	0.126	0.4	Compliance
	DH3	Middle	1.659	0.265	0.4	Compliance
	DH5	Middle	2.912	0.311	0.4	Compliance
	Note: Dwell time=Pulse time (ms) × (1600/2/79) ×31.6 s					
π/4 DQPSK	DH1	Middle	0.408	0.131	0.4	Compliance
	DH3	Middle	1.670	0.267	0.4	Compliance
	DH5	Middle	2.933	0.313	0.4	Compliance
	Note: Dwell time=Pulse time (ms) × (1600/4/79) ×31.6 s					
8DPSK	DH1	Middle	0.400	0.128	0.4	Compliance
	DH3	Middle	1.656	0.265	0.4	Compliance
	DH5	Middle	2.939	0.313	0.4	Compliance
	Note: Dwell time=Pulse time (ms) × (1600/6/79) ×31.6 s					

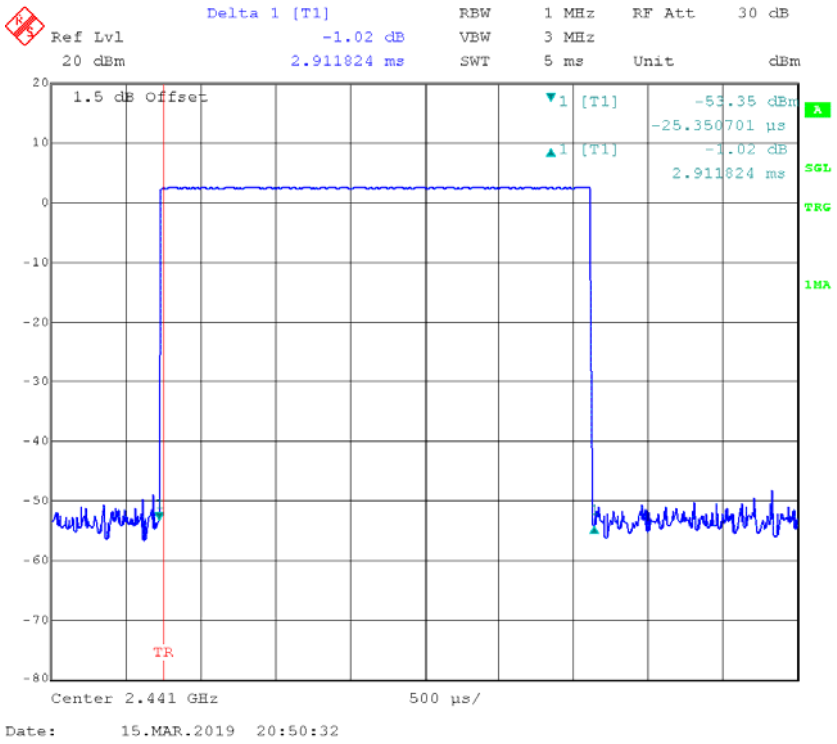
DH1: Middle Channel



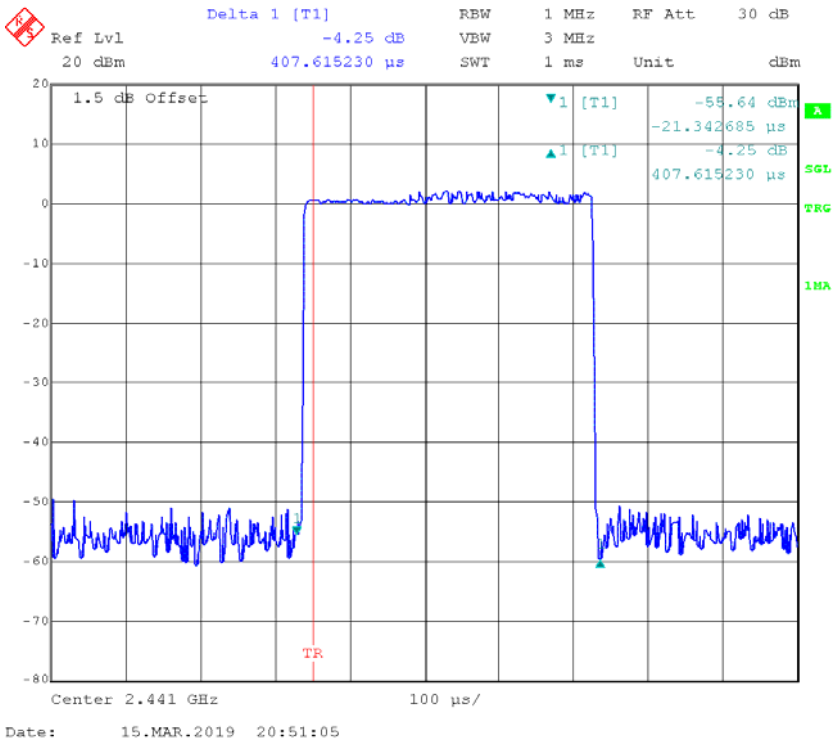
DH3: Middle Channel



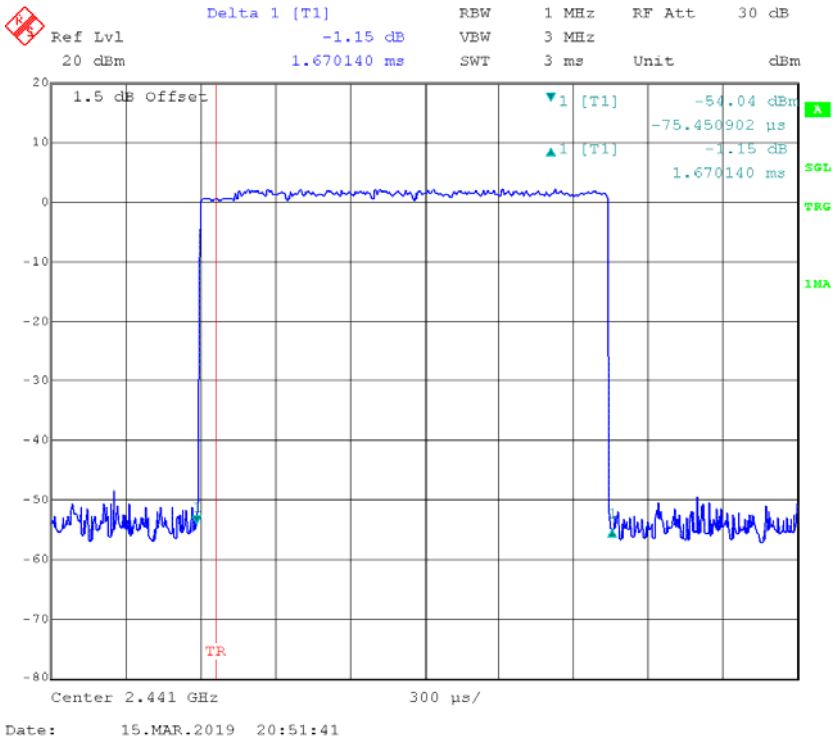
DH5: Middle Channel



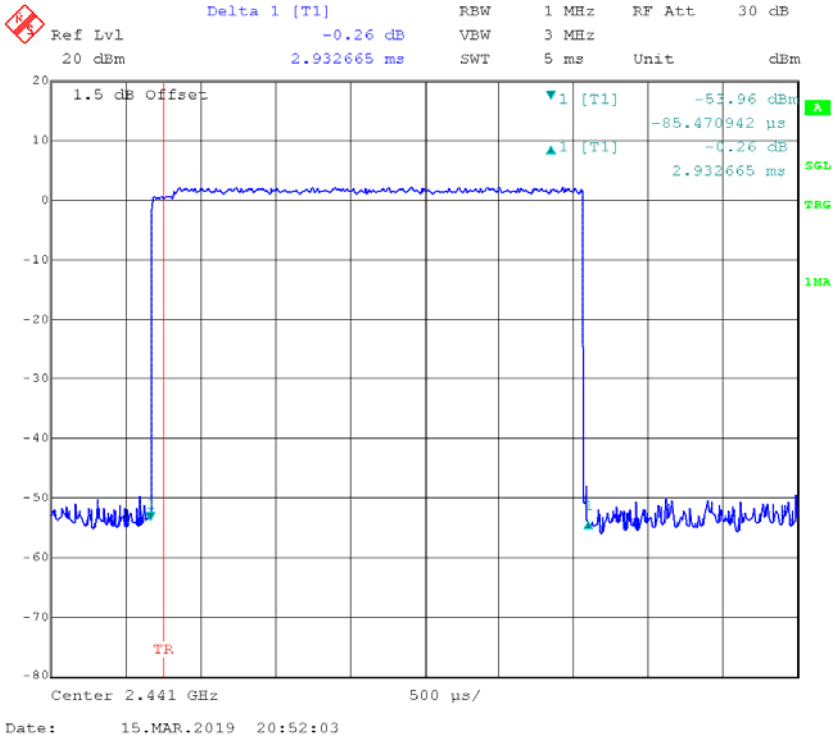
2DH1: Middle Channel



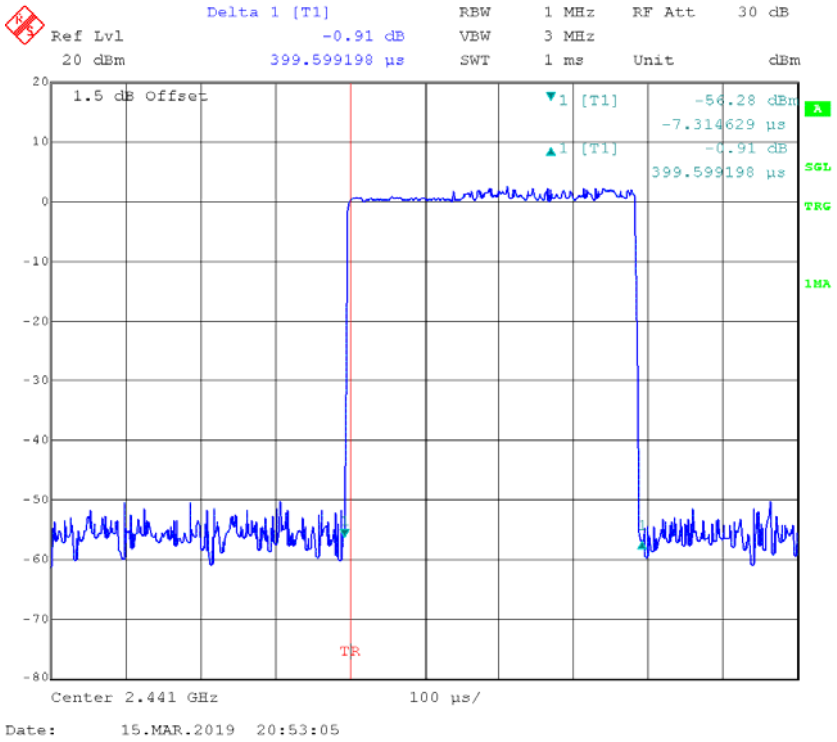
2DH3: Middle Channel



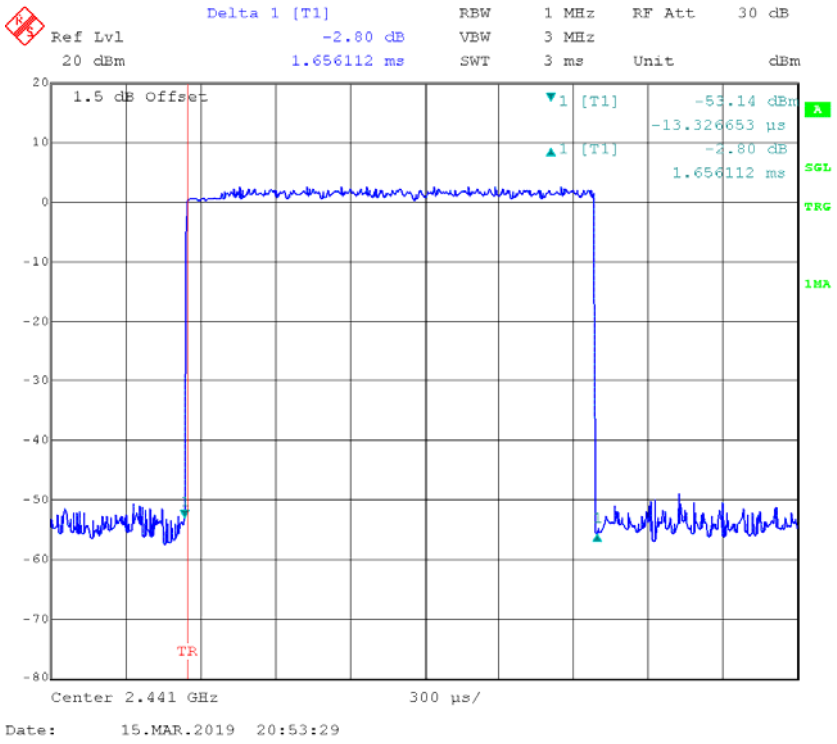
2DH5: Middle Channel



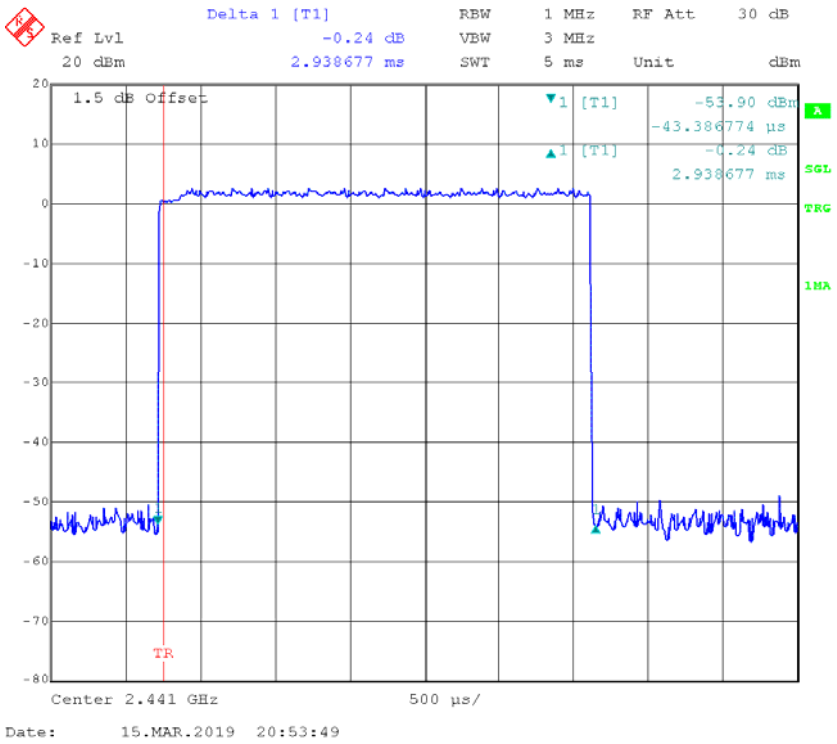
3DH1: Middle Channel



3DH3: Middle Channel



3DH5: Middle Channel



FCC §15.247(b) (1) - PEAK OUTPUT POWER MEASUREMENT

Applicable Standard

According to §15.247(b) (1), for frequency hopping systems operating in the 2400–2483.5 MHz band employing at least 75 non-overlapping hopping channels, and all frequency hopping systems in the 5725-5850 MHz band: 1 watt. For all other frequency hopping systems in the 2400–2483.5 MHz band: 0.125 watts

Test Procedure

1. Place the EUT on a bench and set in transmitting mode.
2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to one test equipment.
3. Add a correction factor to the display.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Agilent	USB Wideband Power Sensor	U2022XA	MY5417006	2018-12-11	2019-12-11
Unknown	Coaxial Cable	C-SJ00-0010	C0010/01	Each time	/

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Data

Environmental Conditions

Temperature:	28.7 °C
Relative Humidity:	53 %
ATM Pressure:	101 kPa

** The testing was performed by Andy Huang on 2019-03-15.*

Test Result: Compliance.

Test Mode: Transmitting

Mode	Frequency (MHz)	Peak Conducted Output power (dBm)	Limit (dBm)
BDR Mode (GFSK)	2402	3.27	21
	2441	2.64	21
	2480	1.29	21
EDR Mode (π/4-DQPSK)	2402	3.00	21
	2441	2.64	21
	2480	1.04	21
EDR Mode (8-DPSK)	2402	3.40	21
	2441	2.76	21
	2480	1.29	21

Note: The data above was tested in conducted mode.

FCC §15.247(d) - BAND EDGES TESTING

Applicable Standard

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. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

Test Procedure

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Remove the antenna from the EUT and then connect to a low loss RF cable from the antenna port to a EMI test receiver, then 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. Set RBW/ VBW of spectrum analyzer to 100/300 kHz with a convenient frequency span including 100 kHz bandwidth from band edge.
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.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSU 26	200256	2019-01-04	2020-01-04
Unknown	Coaxial Cable	C-SJ00-0010	C0010/01	Each time	/

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Data

Environmental Conditions

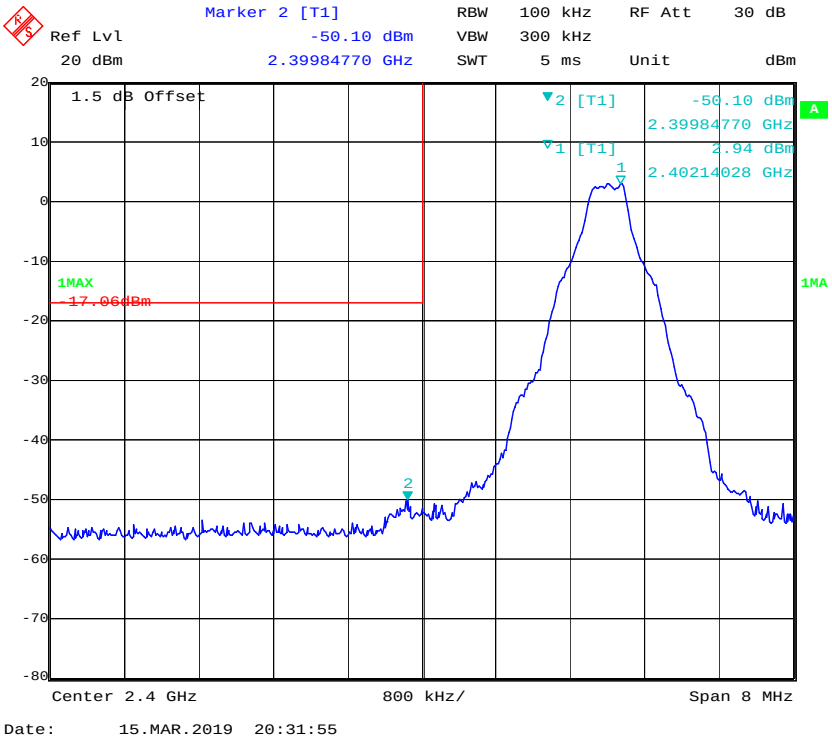
Temperature:	28.7 °C
Relative Humidity:	53 %
ATM Pressure:	101 kPa

** The testing was performed by Andy Huang on 2019-03-15.*

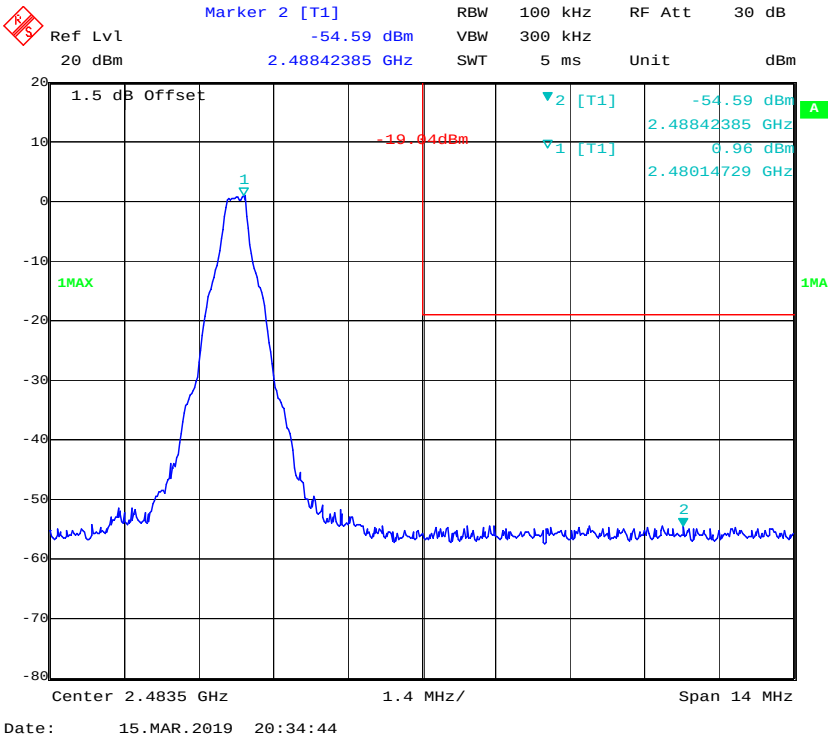
Test Result: Compliance

Single mode:
BDR Mode (GFSK):

Band Edge, Left Side

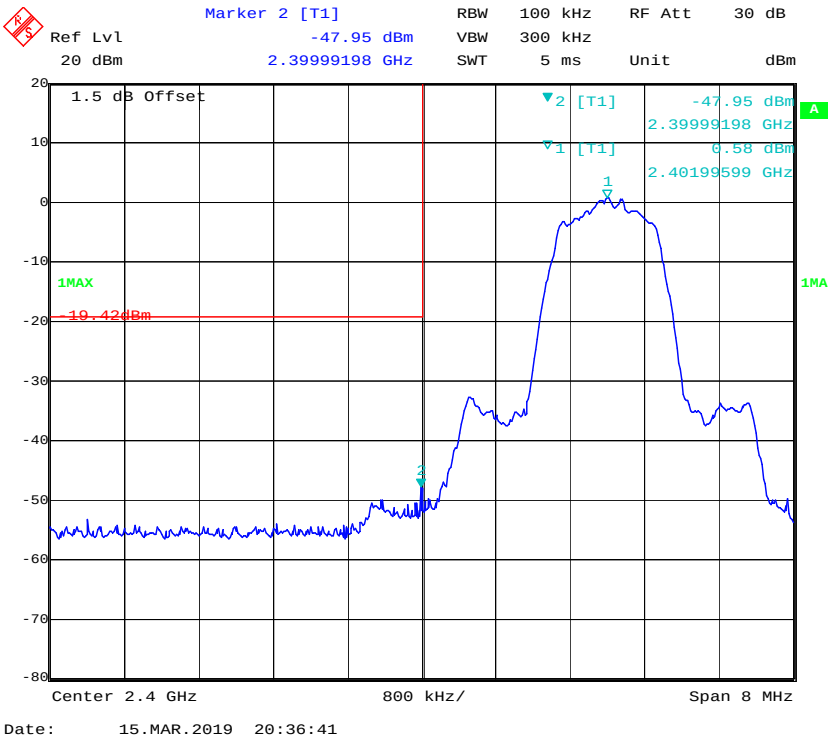


Band Edge, Right Side

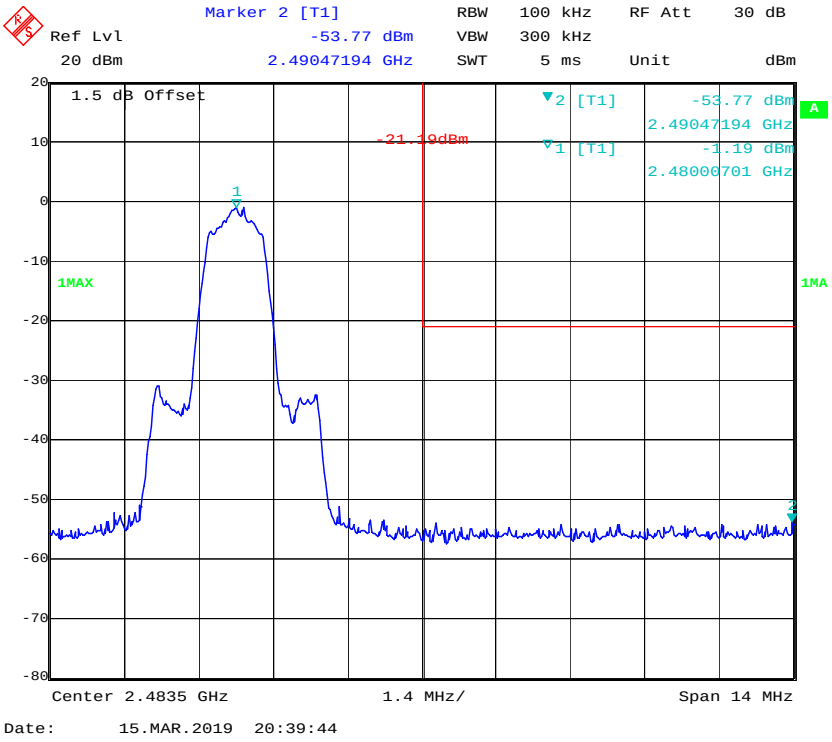


EDR Mode (π/4-DQPSK):

Band Edge, Left Side

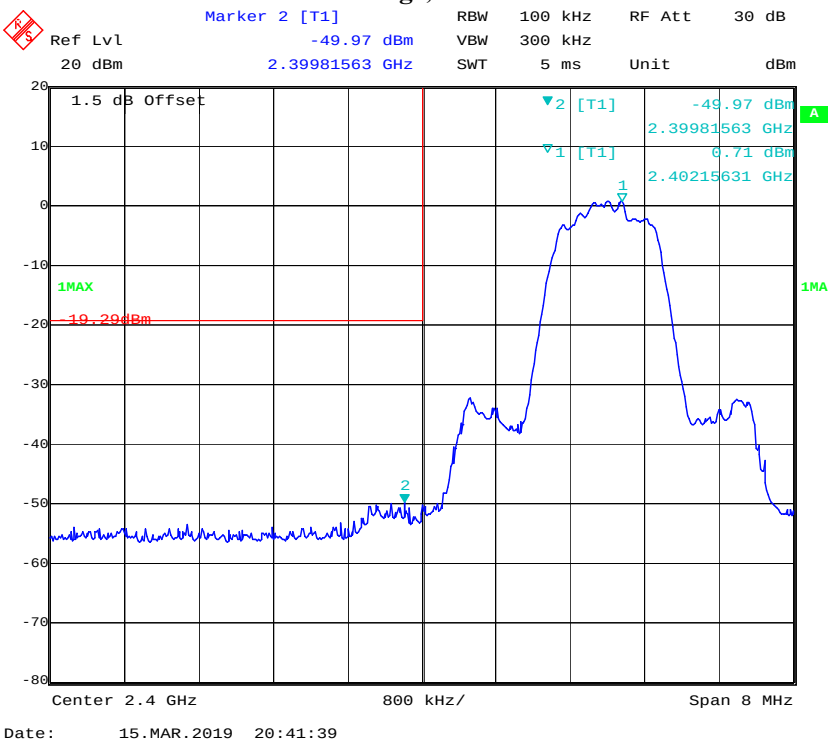


Band Edge, Right Side

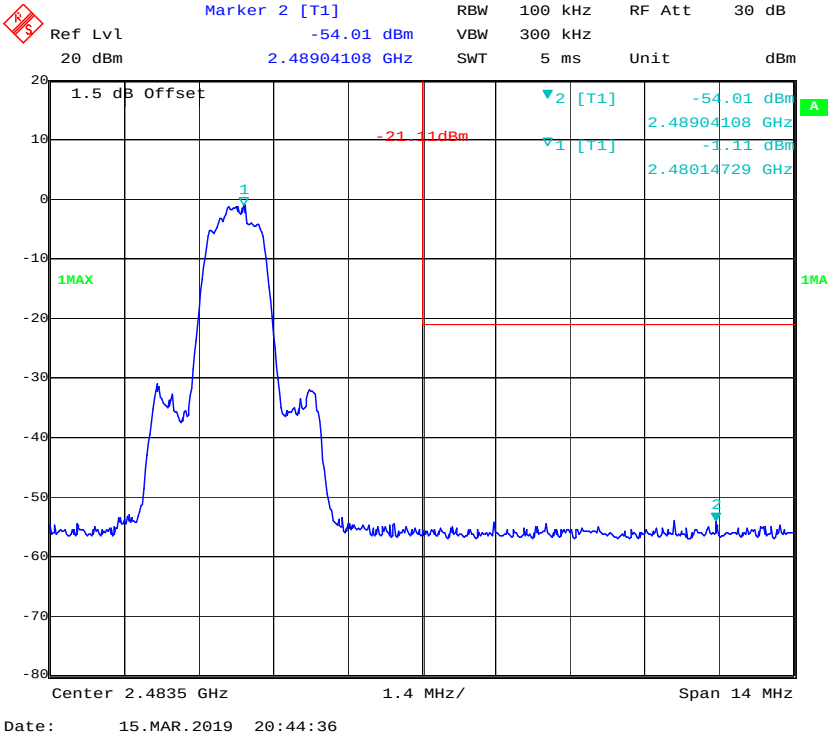


EDR Mode (8-DPSK):

Band Edge, Left Side

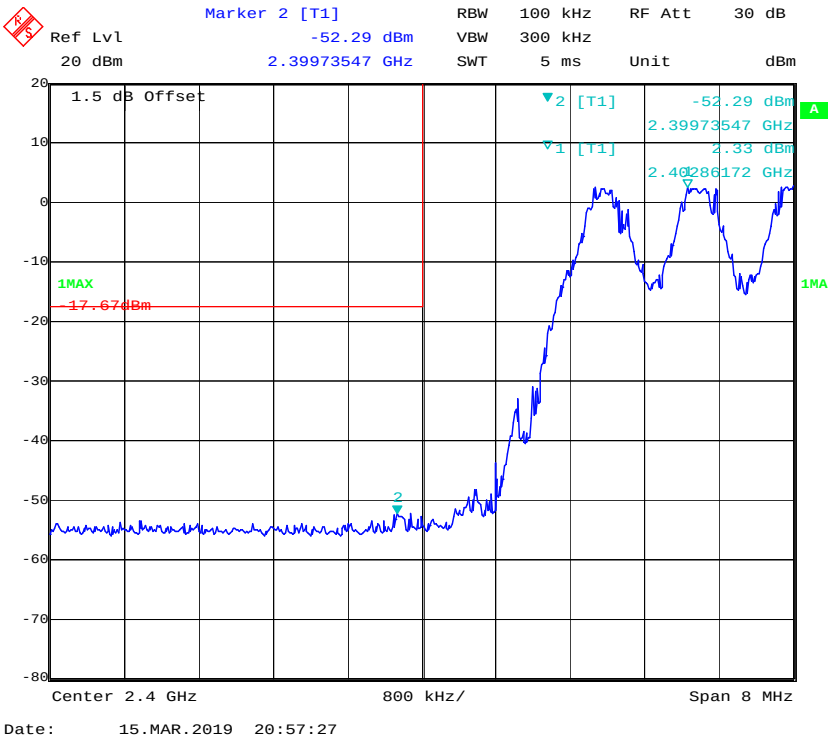


Band Edge, Right Side

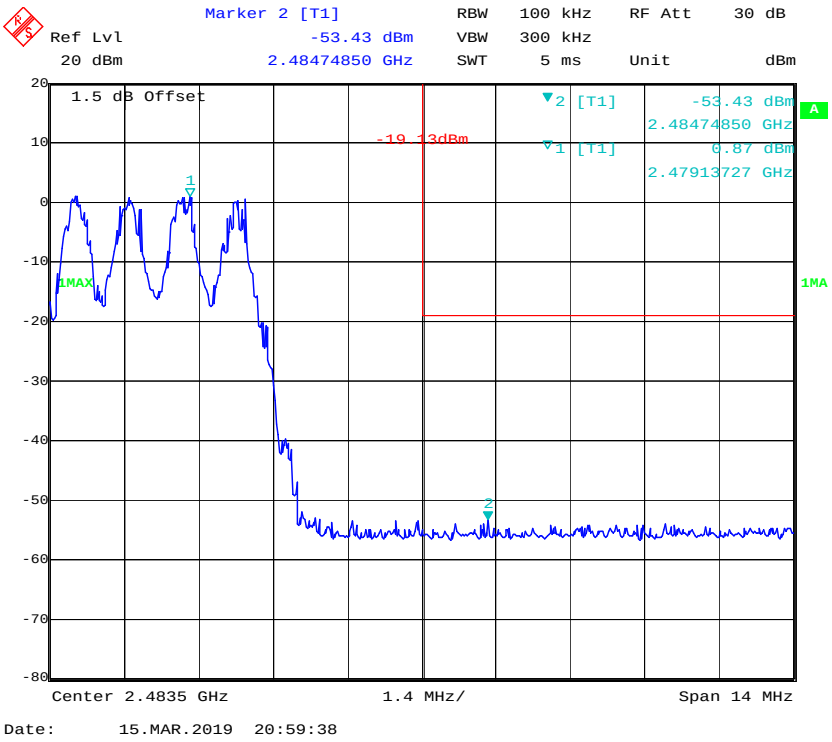


Hopping mode:
BDR Mode (GFSK):

Band Edge, Left Side

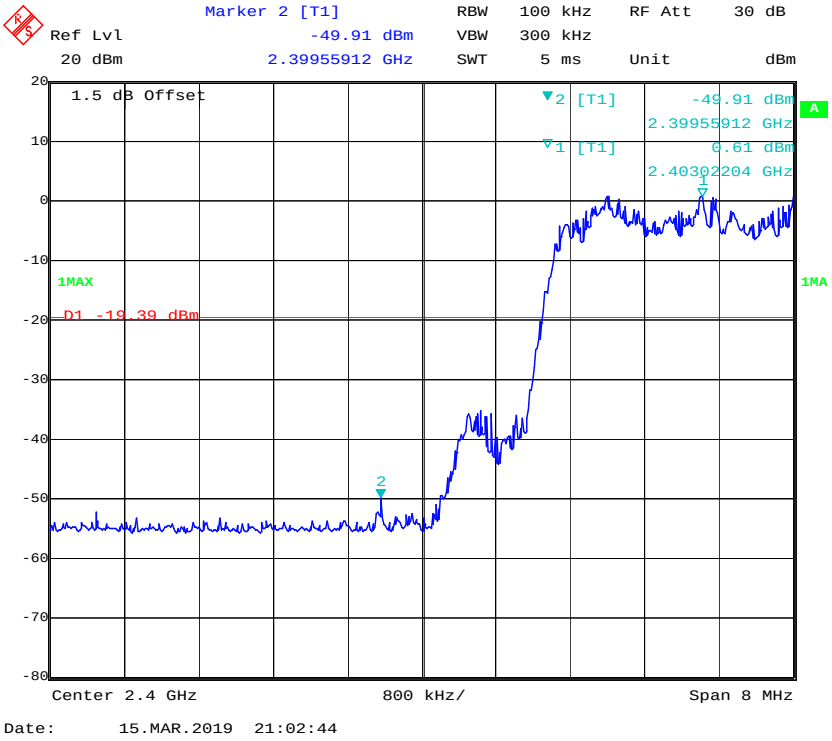


Band Edge, Right Side

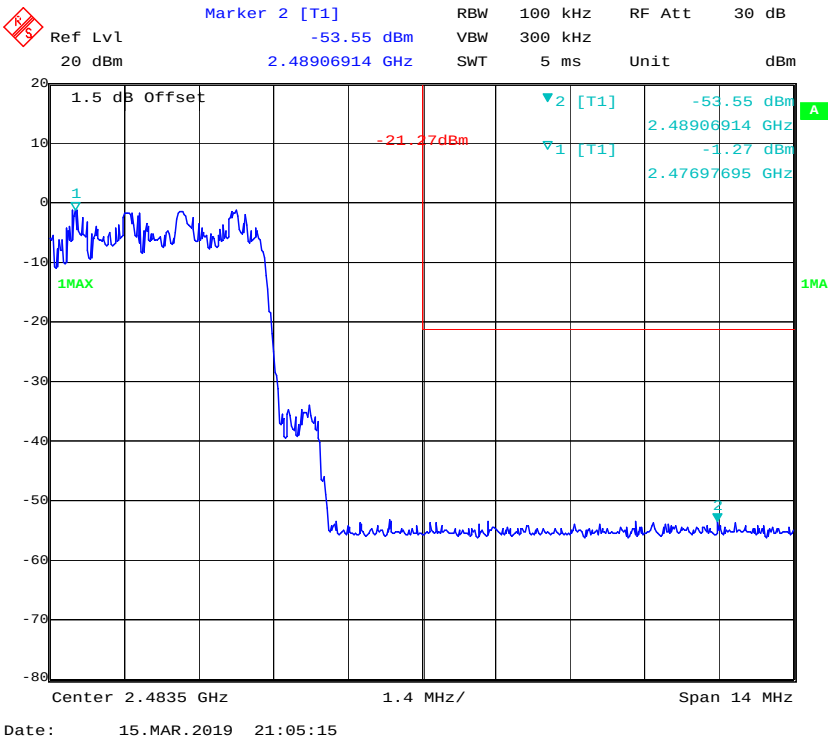


EDR Mode (π/4-DQPSK):

Band Edge, Left Side

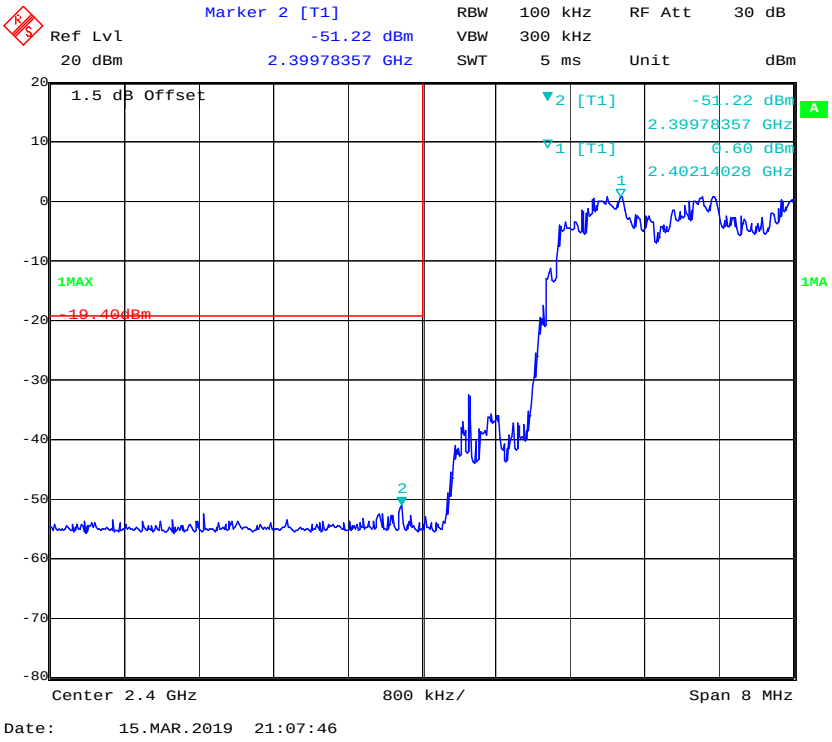


Band Edge, Right Side

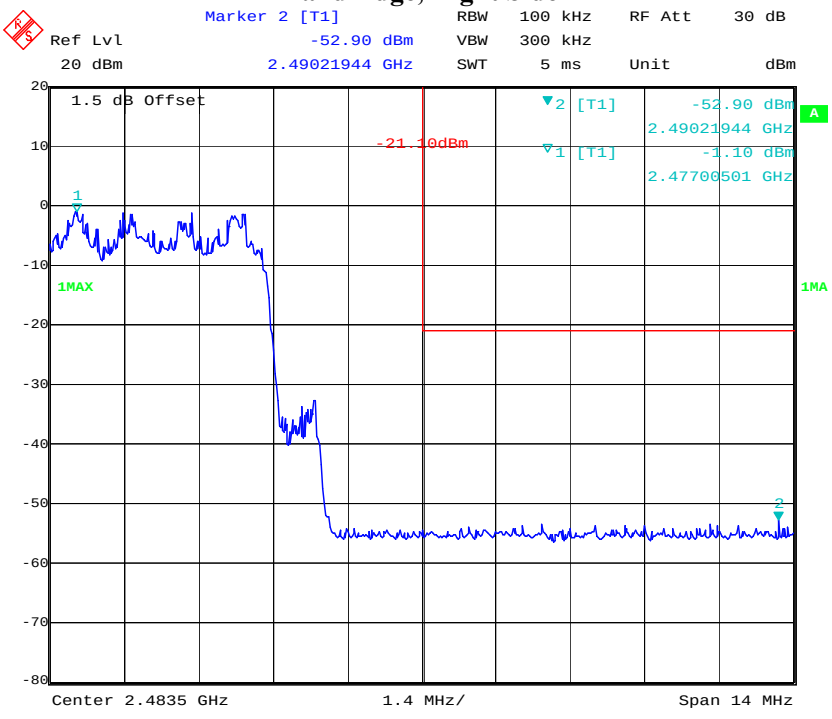


EDR Mode (8-DPSK):

Band Edge, Left Side



Band Edge, Right Side



******* END OF REPORT *******