

EMC

TEST REPORT

Report No.: 160800378TWN-001

Model No.: JG01

Issued Date: Oct. 06, 2016

Applicant: DAQI CONCEPT INC.
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112, Taiwan

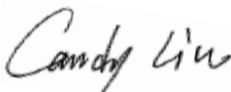
Test Method/ Standard: 47 CFR FCC Part 15.249 & ANSI C63.10 2013

Test By: Intertek Testing Services Taiwan Ltd.,
Hsinchu Laboratory
No. 11, Lane 275, Ko-Nan 1 Street, Chia-Tung Li,
Shiang-Shan District, Hsinchu City, Taiwan

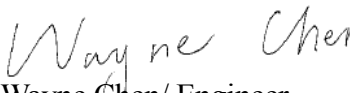
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Revision History

Report No.	Issue Date	Revision Summary
160800378TWN-001	Oct. 06, 2016	Original report

Table of Contents

Summary of Tests	4
1. General information	5
1.1 Identification of the EUT.....	5
1.2 Additional information about the EUT	5
1.3 Antenna description.....	5
2. Test specifications	6
2.1 Test standard.....	6
2.2 Operation mode	6
2.3 Peripherals equipment	6
3. Radiated emission test FCC 15.249 (C).....	7
3.1 Operating environment.....	7
3.2 Test setup & procedure	7
3.3 Emission limit	9
3.3.1 Fundamental and harmonics emission limits.....	9
3.3.2 General radiated emission limits	10
3.4 Radiated spurious emission test data.....	10
3.4.1 Measurement results: frequency range from 9 kHz to 30 MHz.....	10
3.4.2 Measurement results: frequencies equal to or less than 1 GHz	11
3.4.3 Measurement results: frequency above 1GHz.....	12
3.4.4 Measurement results: Fundamental emission.....	14
4. Radiated emission on the band edge FCC 15.249(d)	15
4.1 Operating environment.....	15
4.2 Radiated emission on the band edge test data	15
5. Conducted emission test FCC 15.207	22
5.1 Operating environment.....	22
5.2 Test setup & procedure	22
5.3 Emission limit	23
5.4 Conducted emission data FCC 15.207	24
6. 20dB Bandwidth test.....	26
6.1 Operating environment.....	26
6.2 Test setup & procedure	26
6.3 Measured data of modulated bandwidth test results.....	26
Appendix A: Test equipment list.....	32
Appendix B: Measurement Uncertainty	33

Summary of Tests

Test	Reference	Results
Radiated Emission test	15.249(c), 15.209	Pass
Emission on the Band Edge	15.249(d)	Pass
Conducted Emission of AC Power	15.207	Pass
20dB Bandwidth	15.215(c)	Pass

1. General information

1.1 Identification of the EUT

Product: Wireless Audio Light
Model No.: JG01
Brand Name: DAQICONCEPT
Frequency Range: 2402MHz ~ 2480MHz
Channel Number: 79 Channels
Frequency of Each Channel: 2402MHz+1k, k=0~78
Type of Modulation: GFSK
Rated Power: DC 5 V
Power Cord: N/A
Sample Received: Aug. 23, 2016
Sample condition: Workable
Test Date(s): Aug. 31, 2016 ~ Sep. 06, 2016

Note 1: The test report only allows to be revised within three years from its original issued date unless further standard or the requirement was noticed.

Note 2: When determining the test conclusion, the Measurement Uncertainty of test has been considered.

Note 3: Except where explicitly agreed in writing, all work and services performed by Intertek is subject to our standard Terms and Conditions which can be obtained at our website: <http://www.intertek-twn.com/terms/>. Intertek's responsibility and liability are limited to the terms and conditions of the agreement.

This report is made solely on the basis of your instructions and / or information and materials supplied by you and provide no warranty on the tested sample(s) be truly representative of the sample source. The report is not intended to be a recommendation for any particular course of action, you are responsible for acting as you see fit on the basis of the report results. Intertek is under no obligation to refer to or report upon any facts or circumstances which are outside the specific instructions received and accepts no responsibility to any parties whatsoever, following the issue of the report, for any matters arising outside the agreed scope of the works. This report does not discharge or release you from your legal obligations and duties to any other person. You are the only one authorized to permit copying or distribution of this report (and then only in its entirety). Any such third parties to whom this report may be circulated rely on the content of the report solely at their own risk.

1.2 Additional information about the EUT

The EUT is a Wireless Audio Light, and was defined as information technology equipment.

For more detail features, please refer to user's Manual.

1.3 Antenna description

The EUT uses a permanently connected antenna.

Antenna Gain : 1.92dBi
Antenna Type : PCB Antenna
Connector Type : Fixed

2. Test specifications

2.1 Test standard

The EUT was performed according to the procedures in FCC Part 15 Subpart C Paragraph 15.249 for non-spread spectrum devices.

The test of radiated measurements according to FCC Part15 Section 15.33(a) had been conducted and the field strength of this frequency band were all meet limit requirement, thus we evaluate the EUT pass the specified test.

2.2 Operation mode

The EUT is supplied with DC 5 V from Notebook PC (Test voltage: 120Vac, 60Hz).

TX-MODE is based on “ISRT_Ver2.1.26.4422” and the program can select different frequency and modulation.

2.3 Peripherals equipment

Peripherals	Brand	Model No.	Serial No.	Description of Data Cable
Notebook PC	DELL	Latitude D610	1YWZK1S	Mini USB 0.5 meter × 1

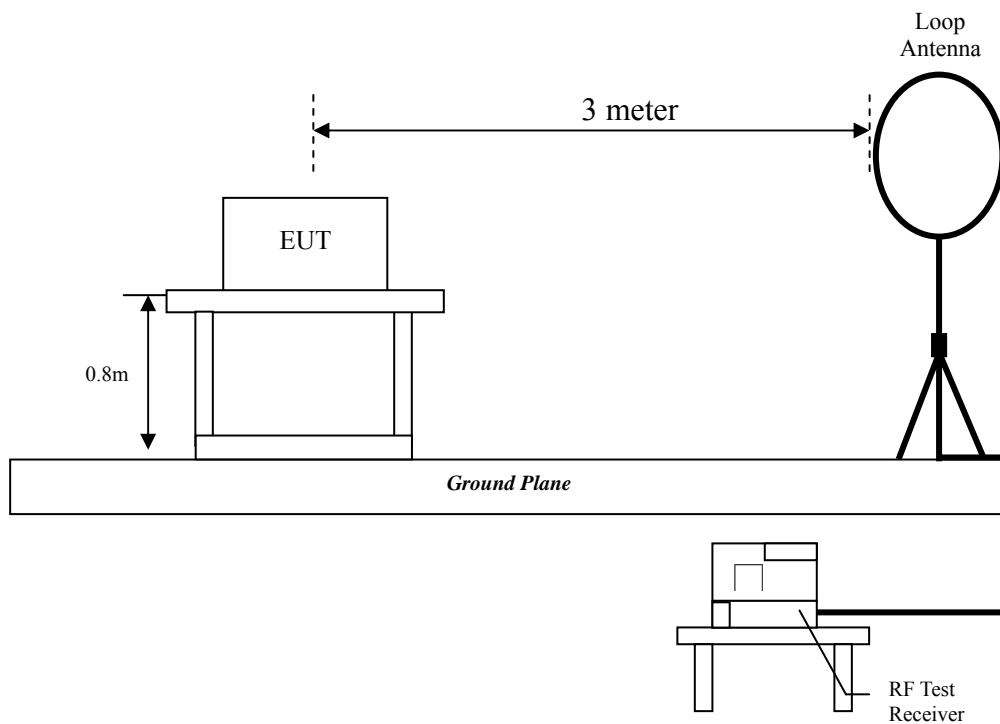
3. Radiated emission test FCC 15.249 (C)

3.1 Operating environment

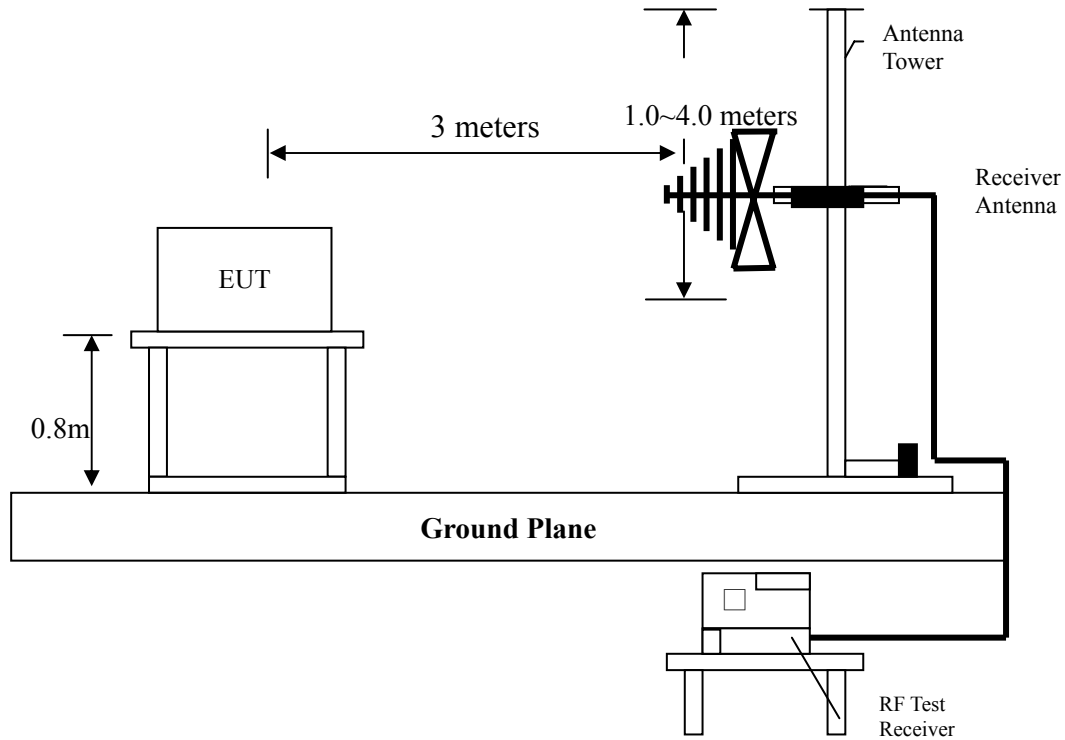
Temperature: 25 °C
Relative Humidity: 50 %
Atmospheric Pressure: 1008 hPa
Test date: Sep. 02, 2016

3.2 Test setup & procedure

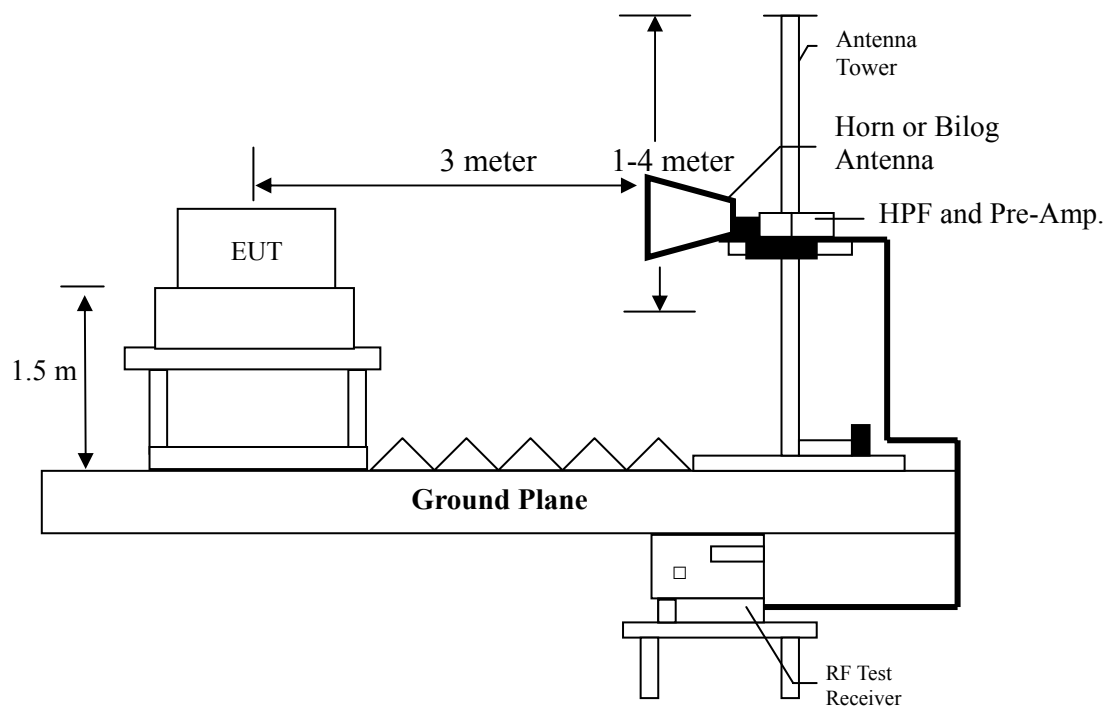
Radiated emission from 9 kHz to 30 MHz uses Loop Antenna:



Radiated emission from 30 MHz to 1 GHz uses Bilog Antenna:



Radiated emission above 1 GHz uses Horn Antenna:



Radiated emissions were investigated cover the frequency range from 30MHz to 1000MHz using a receiver RBW of 120kHz record QP reading, and the frequency over 1GHz using a spectrum analyzer RBW of 1MHz and 3MHz VBW record Peak and Average reading (15.209 paragraph) on the report.

The EUT for testing is arranged on a turntable. If some peripherals apply to the EUT, the peripherals will be connected to EUT and the whole system. During the test, all cables were arranged to produce worst-case emissions. The signal is maximized through rotation. The height of antenna and polarization is changing constantly for exploring for maximum signal level. The height of antenna can be up to 4 meters and down to 1 meter.

The measurement for radiated emission will be done at the distance of three meters unless the signal level is too low to measure at that distance. In the case of the reading under noise floor, a pre-amplifier is used and/or the test is conducted at a closer distance. And then all readings are extrapolated back to the equivalent three meter reading using inverse scaling with distance.

3.3 Emission limit

3.3.1 Fundamental and harmonics emission limits

Frequency (MHz)	Field Strength of Fundamental		Field Strength of Harmonics	
	(mV/m@3m)	(dBuV/m@3m)	(uV/m@3m)	(dBuV/m@3m)
2400-2483.5	50	94	500	54

3.3.2 General radiated emission limits

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50dB below the level of the fundamental or to the general radiated emission limits in paragraph 15.209, whichever is the lesser attenuation.

Frequency MHz	15.209 Limits (dB μ V/m@3m)
30-88	40
88-216	43.5
216-960	46
Above 960	54

Remark:

1. In the above table, the tighter limit applies at the band edges.
2. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system

3.4 Radiated spurious emission test data

3.4.1 Measurement results: frequency range from 9 kHz to 30 MHz

Polarity (circle)	Frequency (MHz)	Detection value	factor (dB/m)	Reading (dB μ V)	Value (dB μ V/m)	Limit @ 3m (dB μ V/m)	Tolerance (dB)
Plane	0.01	QP	20.97	50.02	70.99	127.60	-56.61
Plane	0.02	QP	20.92	48.71	69.62	121.58	-51.96
Plane	0.04	QP	20.85	41.51	62.35	115.56	-53.21
Plane	0.07	QP	20.81	34.70	55.51	110.70	-55.19
Plane	0.09	QP	20.78	30.80	51.58	108.52	-56.94
Plane	0.15	QP	20.77	27.98	48.75	104.08	-55.33

Remark: Corr. Factor = Antenna Factor + Cable Loss - PreAmplifier Gain

3.4.2 Measurement results: frequencies equal to or less than 1 GHz

The test was performed on EUT under GFSK continuously transmitting mode. Low, Middle, High Channel were verified. The worst case occurred at GFSK TX Low Channel

EUT: JG01

Worst case: Tx at Low Channel

Antenna Polarized (V/H)	Freq. (MHz)	Receiver Detector	Corr. Factor (dB/m)	Reading (dBuV)	Corrected Level (dBuV/m)	Limit @ 3 m (dBuV/m)	Margin (dB)
V	95.96	QP	11.05	24.81	35.86	43.50	-7.64
V	142.52	QP	16.16	19.91	36.07	43.50	-7.43
V	159.98	QP	16.42	20.46	36.88	43.50	-6.62
V	175.50	QP	15.42	20.83	36.25	43.50	-7.25
V	171.02	QP	15.94	16.34	32.28	43.50	-11.22
V	288.02	QP	17.06	16.81	33.87	46.00	-12.13
H	159.98	QP	16.42	21.85	38.27	43.50	-5.23
H	171.02	QP	15.94	20.50	36.44	43.50	-7.06
H	206.54	QP	14.34	24.47	38.81	43.50	-4.69
H	224.00	QP	14.75	25.43	40.18	46.00	-5.82
H	255.04	QP	16.01	21.75	37.76	46.00	-8.24
H	288.02	QP	17.06	20.63	37.69	46.00	-8.31

Remark:

1. Corr. Factor = Antenna Factor + Cable Loss
2. Corrected Level = Reading + Corr. Factor

3.4.3 Measurement results: frequency above 1GHz

Mode	Frequency (MHz)	Spectrum Analyzer Detector	Ant. Pol. (H/V)	Preamp. Gain (dB)	Correction Factor (dB/m)	Reading (dBμV)	Corrected Reading (dBμV/m)	Limit @ 3 m (dBμV/m)	Margin (dB)
GFSK Ch Low 2402MHz	4804	PK	V	40.13	-0.10	41.45	41.35	74.00	-32.65
	4980	PK	V	39.81	0.48	47.65	48.13	74.00	-25.87
	7206	PK	V	38.11	8.10	38.29	46.39	74.00	-27.61
	4804	PK	H	40.13	-0.10	41.03	40.93	74.00	-33.07
	7206	PK	H	38.11	8.10	38.41	46.51	74.00	-27.49
GFSK Ch Middle 2441MHz	4882	PK	V	39.99	0.16	40.30	40.46	74.00	-33.54
	4980	PK	V	39.81	0.48	48.00	48.48	74.00	-25.52
	7323	PK	V	38.01	8.46	38.06	46.52	74.00	-27.48
	4882	PK	H	39.99	0.16	40.30	40.46	74.00	-33.54
	7323	PK	H	38.01	8.46	38.37	46.83	74.00	-27.17
GFSK Ch High 2480MHz	4960	PK	V	39.84	0.41	40.30	40.71	74.00	-33.29
	4980	PK	V	39.81	0.48	47.56	48.04	74.00	-25.96
	7440	PK	V	37.91	8.82	37.62	46.44	74.00	-27.56
	4960	PK	H	39.84	0.41	40.44	40.85	74.00	-33.15
	7440	PK	H	37.91	8.82	36.24	45.06	74.00	-28.94
$\pi/4$ -DQPSK Ch Low 2402MHz	4804	PK	V	40.13	-0.10	42.42	42.32	74.00	-31.68
	4980	PK	V	39.81	0.48	47.77	48.25	74.00	-25.75
	7206	PK	V	38.11	8.10	36.99	45.09	74.00	-28.91
	4804	PK	H	40.13	-0.10	40.71	40.61	74.00	-33.39
	4980	PK	H	39.81	0.48	41.86	42.34	74.00	-31.66
	7206	PK	H	38.11	8.10	37.05	45.15	74.00	-28.85
$\pi/4$ -DQPSK Ch Middle 2441MHz	4882	PK	V	39.99	0.16	41.46	41.62	74.00	-32.38
	4980	PK	V	39.81	0.48	47.59	48.07	74.00	-25.93
	7323	PK	V	38.01	8.46	37.11	45.57	74.00	-28.43
	4882	PK	H	39.99	0.16	40.35	40.51	74.00	-33.49
	7323	PK	H	38.01	8.46	37.60	46.06	74.00	-27.94

Remark:

1. Correction Factor = Antenna Factor + Cable Loss + Power Amplifier
2. Corrected Level = Reading + Correction Factor
3. The frequency measured ranges from 1 GHz to 25 GHz. The data value listed above which is higher than the system noise floor.

Mode	Frequency (MHz)	Spectrum Analyzer Detector	Ant. Pol. (H/V)	Preamp. Gain (dB)	Correction Factor (dB/m)	Reading (dBμV)	Corrected Reading (dBμV/m)	Limit @ 3 m (dBμV/m)	Margin (dB)
π/4-DQPSK Ch High 2480MHz	4960	PK	V	39.84	0.41	40.29	40.70	74.00	-33.30
	4980	PK	V	39.81	0.48	48.80	49.28	74.00	-24.72
	7440	PK	V	37.91	8.82	36.34	45.16	74.00	-28.84
	4960	PK	H	39.84	0.41	41.03	41.44	74.00	-32.56
	7440	PK	H	37.91	8.82	36.54	45.36	74.00	-28.64
8DPSK Ch Low 2402MHz	4804	PK	V	40.13	-0.10	41.92	41.82	74.00	-32.18
	4980	PK	V	39.81	0.48	46.51	46.99	74.00	-27.01
	7206	PK	V	38.11	8.10	37.04	45.14	74.00	-28.86
	4804	PK	H	40.13	-0.10	42.59	42.49	74.00	-31.51
	4980	PK	H	39.81	0.48	42.97	43.45	74.00	-30.55
	7206	PK	H	38.11	8.10	38.25	46.35	74.00	-27.65
8DPSK Ch Middle 2441MHz	4882	PK	V	39.99	0.16	42.24	42.40	74.00	-31.60
	4980	PK	V	39.81	0.48	47.12	47.60	74.00	-26.40
	7323	PK	V	38.01	8.46	37.64	46.10	74.00	-27.90
	4882	PK	H	39.99	0.16	39.83	39.99	74.00	-34.01
	4980	PK	H	39.81	0.48	41.94	42.42	74.00	-31.58
	7323	PK	H	38.01	8.46	37.44	45.90	74.00	-28.10
8DPSK Ch High 2480MHz	4960	PK	V	39.84	0.41	39.79	40.20	74.00	-33.80
	4980	PK	V	39.81	0.48	46.96	47.44	74.00	-26.56
	7440	PK	V	37.91	8.82	36.86	45.68	74.00	-28.32
	4960	PK	H	39.84	0.41	40.11	40.52	74.00	-33.48
	7440	PK	H	37.91	8.82	35.86	44.68	74.00	-29.32

Remark:

1. Correction Factor = Antenna Factor + Cable Loss + Power Amplifier
2. Corrected Level = Reading + Correction Factor
3. The frequency measured ranges from 1 GHz to 25 GHz. The data value listed above which is higher than the system noise floor.

3.4.4 Measurement results: Fundamental emission

Mode	Frequency (MHz)	Spectrum Analyzer	Ant. Pol. (H/V)	Correction Factor (dB/m)	Reading (dBuV)	Corrected Reading (dBuV/m)	Limit @ 3 m (dBuV/m)	Margin (dB)
GFSK Ch Low 2402MHz	2402	PK	V	33.37	52.99	86.36	114	-27.64
	2402	PK	H	33.37	55.45	88.82	114	-25.18
GFSK Ch Middle 2441MHz	2441	PK	V	33.48	48.59	82.07	114	-31.93
	2441	PK	H	33.48	54.26	87.74	114	-26.26
GFSK Ch High 2480MHz	2480	PK	V	33.59	47.07	80.66	114	-33.34
	2480	PK	H	33.59	52.81	86.40	114	-27.60
$\pi/4$ -DQPSK Ch Low 2402MHz	2402	PK	V	33.37	52.22	85.59	114	-28.41
	2402	PK	H	33.37	55.07	88.44	114	-25.56
$\pi/4$ -DQPSK Ch Middle 2441MHz	2441	PK	V	33.48	49.10	82.58	114	-31.42
	2441	PK	H	33.48	53.72	87.20	114	-26.80
$\pi/4$ -DQPSK Ch High 2480MHz	2480	PK	V	33.59	47.51	81.10	114	-32.90
	2480	PK	H	33.59	52.84	86.43	114	-27.57
8DPSK Ch Low 2402MHz	2402	PK	V	33.37	52.16	85.53	114	-28.47
	2402	PK	H	33.37	54.19	87.56	114	-26.44
8DPSK Ch Middle 2441MHz	2441	PK	V	33.48	48.57	82.05	114	-31.95
	2441	PK	H	33.48	52.64	86.12	114	-27.88
8DPSK Ch High 2480MHz	2480	PK	V	33.59	47.58	81.17	114	-32.83
	2480	PK	H	33.59	52.46	86.05	114	-27.95

Remark:

1. Correction Factor = Antenna Factor + Cable Loss
2. Corrected Level = Reading + Correction Factor
3. The frequency measured ranges from 1 GHz to 25 GHz. The data value listed above which is higher than the system noise floor.
4. The emissions measured by peak detector were below the limit by using average detector (94 dBuV/m).

4. Radiated emission on the band edge FCC 15.249(d)

4.1 Operating environment

Temperature: 25 °C
Relative Humidity: 50 %
Atmospheric Pressure: 1008 hPa
Test date: Sep. 02, 2016

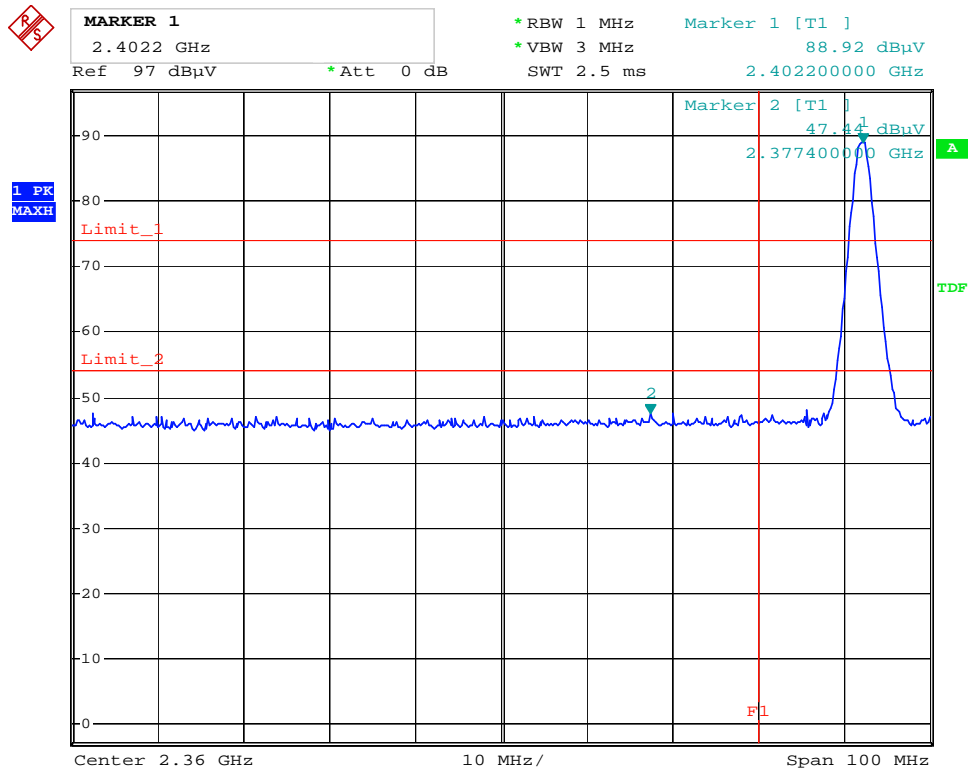
4.2 Radiated emission on the band edge test data

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental (2402~2480MHz) or to the general radiated emission limits in §15.209, whichever is the lesser attenuation.

Mode	Frequency (MHz)	Spectrum Analyzer Detector	Ant. Pol. (H/V)	Correction Factor (dB/m)	Reading (dBμV)	Corrected Reading (dBμV/m)	Limit @ 3 m (dBμV/m)	Margin (dB)	Restricted band (MHz)
GFSK	2377.40	PK	H	33.79	13.65	47.44	74	-26.56	2310~2390
	2390.00	AV	H	33.85	1.21	35.06	54	-18.94	
	2483.50	PK	H	34.30	14.38	48.68	74	-25.32	2483.5~2500
	2483.50	AV	H	34.30	2.76	37.06	54	-16.94	
π/4-DQPSK	2382.80	PK	H	33.82	13.28	47.10	74	-26.90	2310~2390
	2390.00	AV	H	33.85	1.23	35.08	54	-18.92	
	2483.50	PK	H	34.30	14.98	49.28	74	-24.72	2483.5~2500
	2483.50	AV	H	34.30	3.16	37.46	54	-16.54	
8DPSK	2335.00	PK	H	33.59	14.03	47.62	74	-26.38	2310~2390
	2390.00	AV	H	33.85	1.24	35.09	54	-18.91	
	2483.50	PK	H	34.30	15.23	49.53	74	-24.47	2483.5~2500
	2483.50	AV	H	34.30	3.59	37.89	54	-16.11	

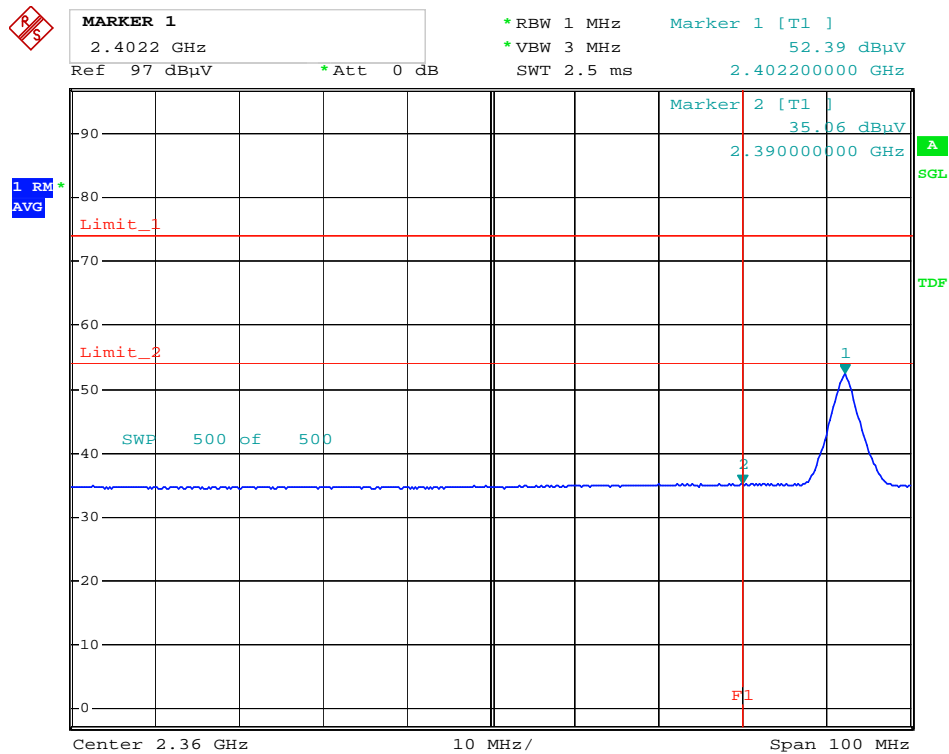
Remark: Correction Factor = Antenna Factor + Cable Loss

Band edge @ GFSK mode Channel 0 2402MHz PK



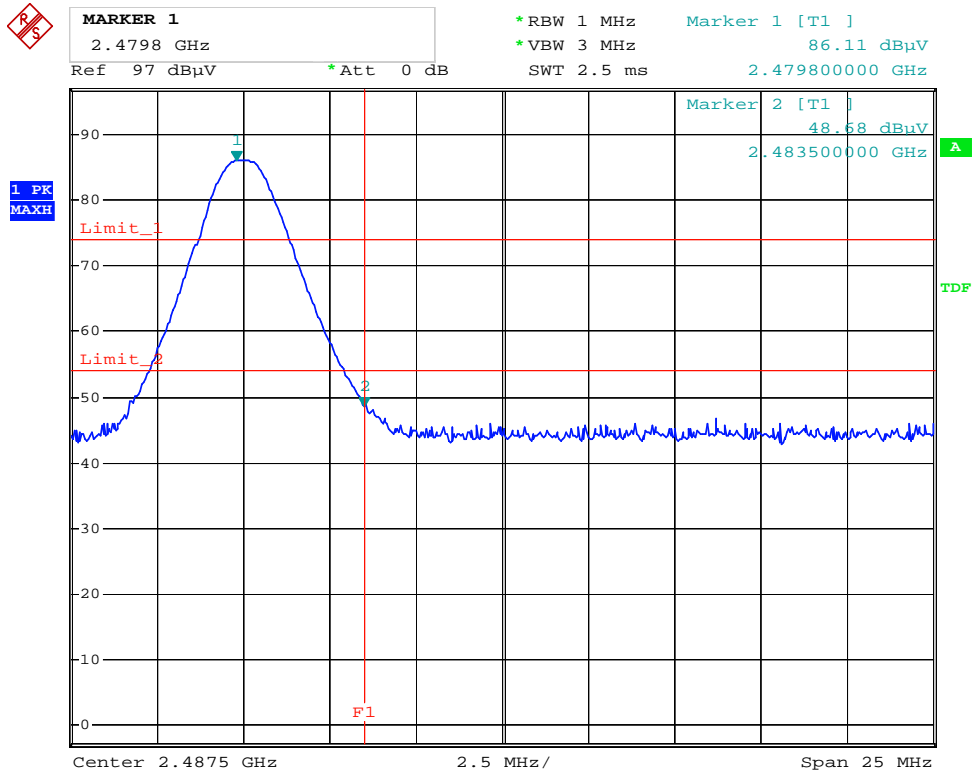
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Band edge @ GFSK mode Channel 0 2402MHz AV



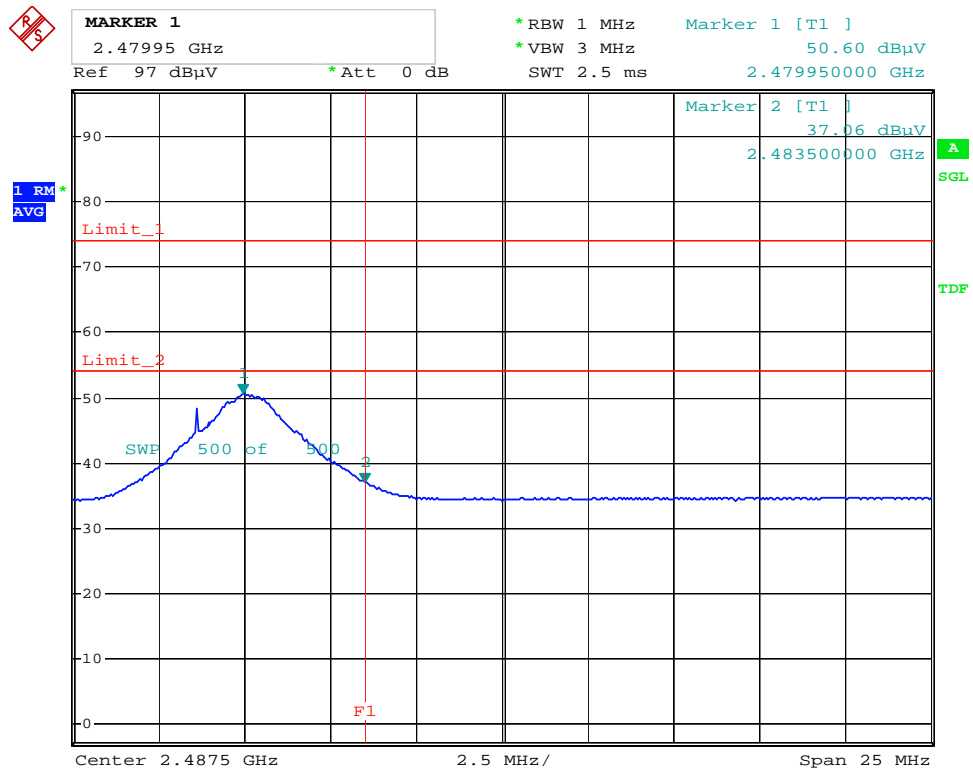
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Band edge @ GFSK mode Channel 78 2480MHz PK



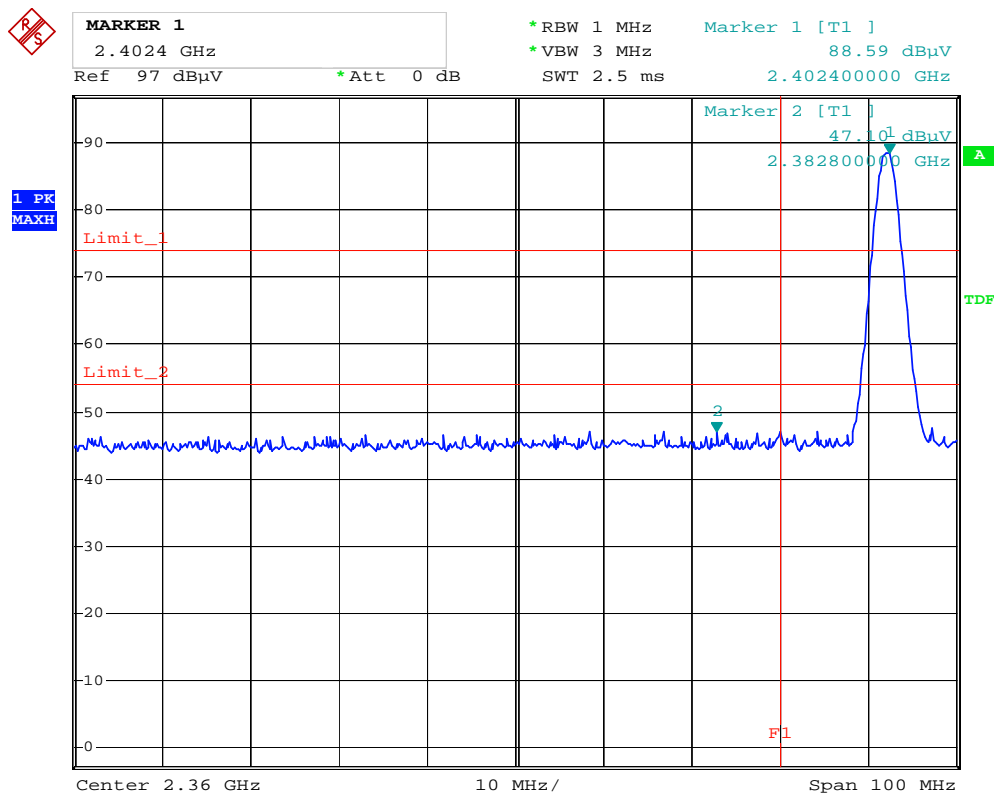
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Band edge @ GFSK mode Channel 78 2480MHz AV



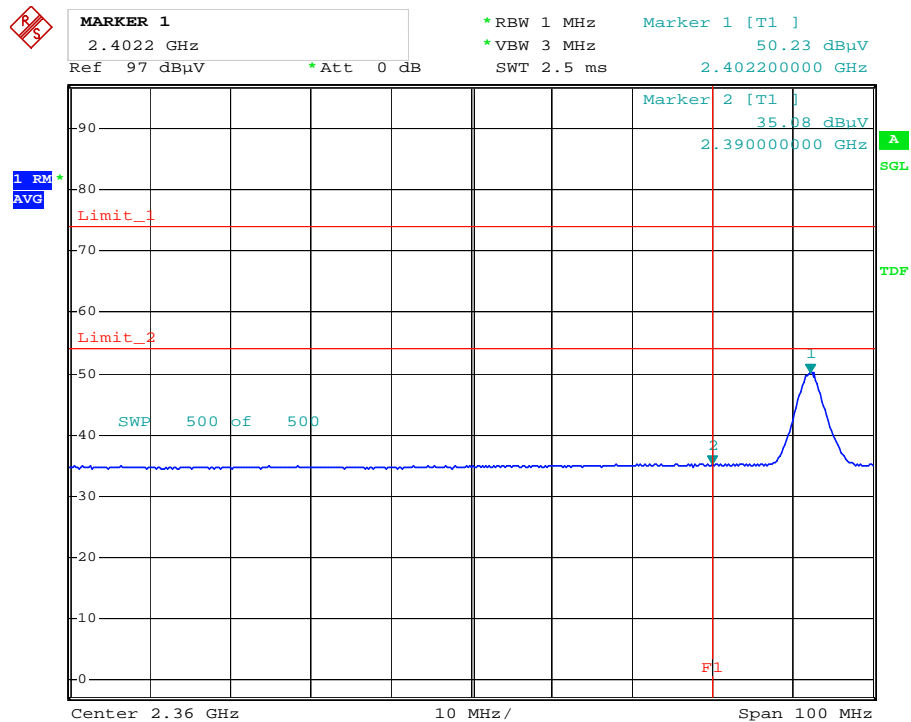
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Band edge @ $\pi/4$ -DQPSK mode Channel 0 2402MHz PK



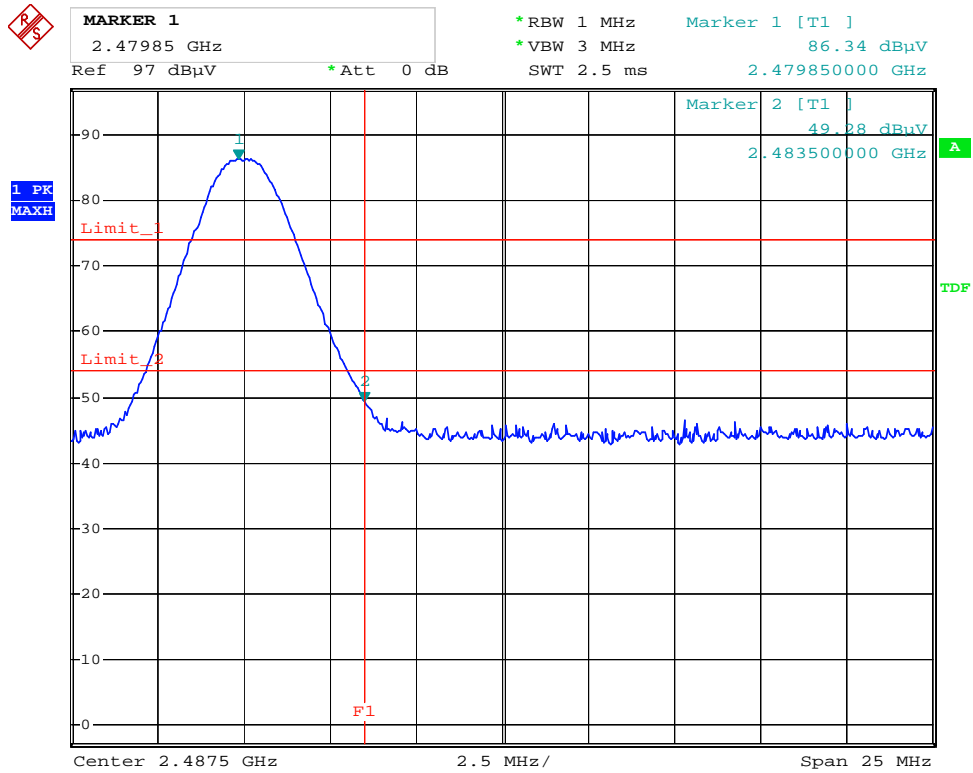
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Band edge @ $\pi/4$ -DQPSK mode Channel 0 2402MHz AV



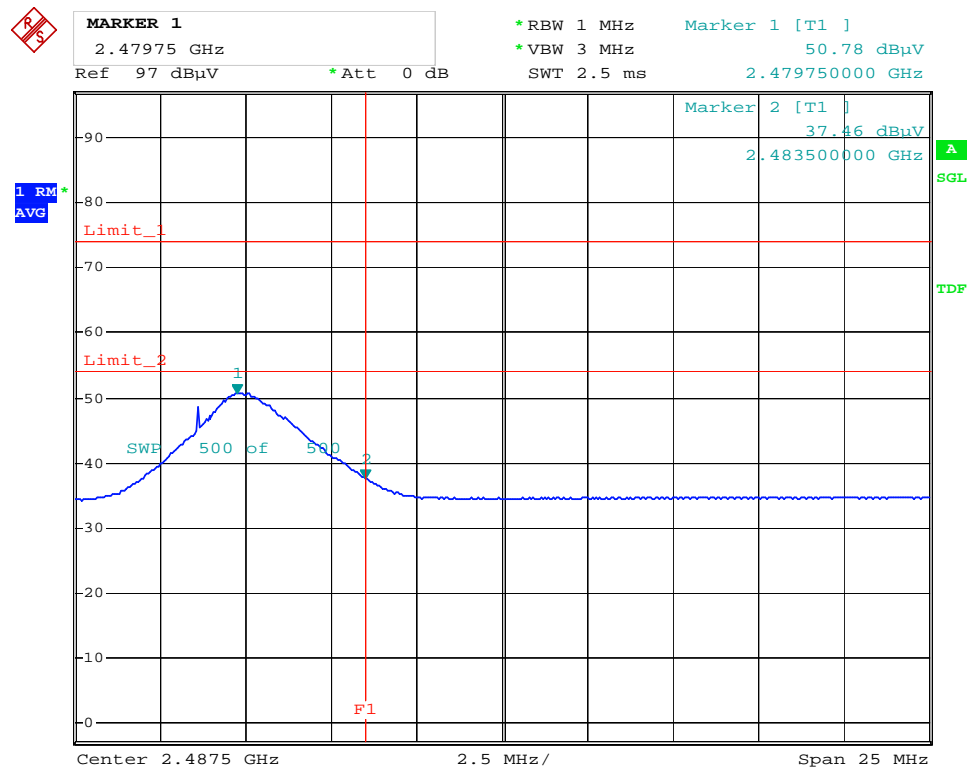
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Band edge @ $\pi/4$ -DQPSK mode Channel 78 2480MHz PK



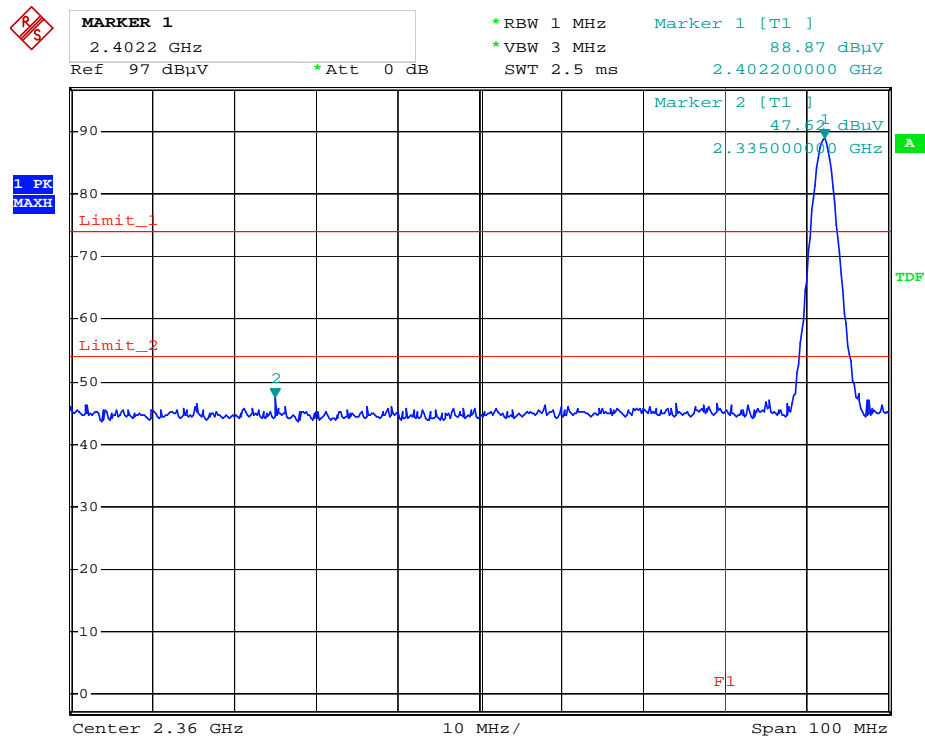
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Band edge @ $\pi/4$ -DQPSK mode Channel 78 2480MHz AV



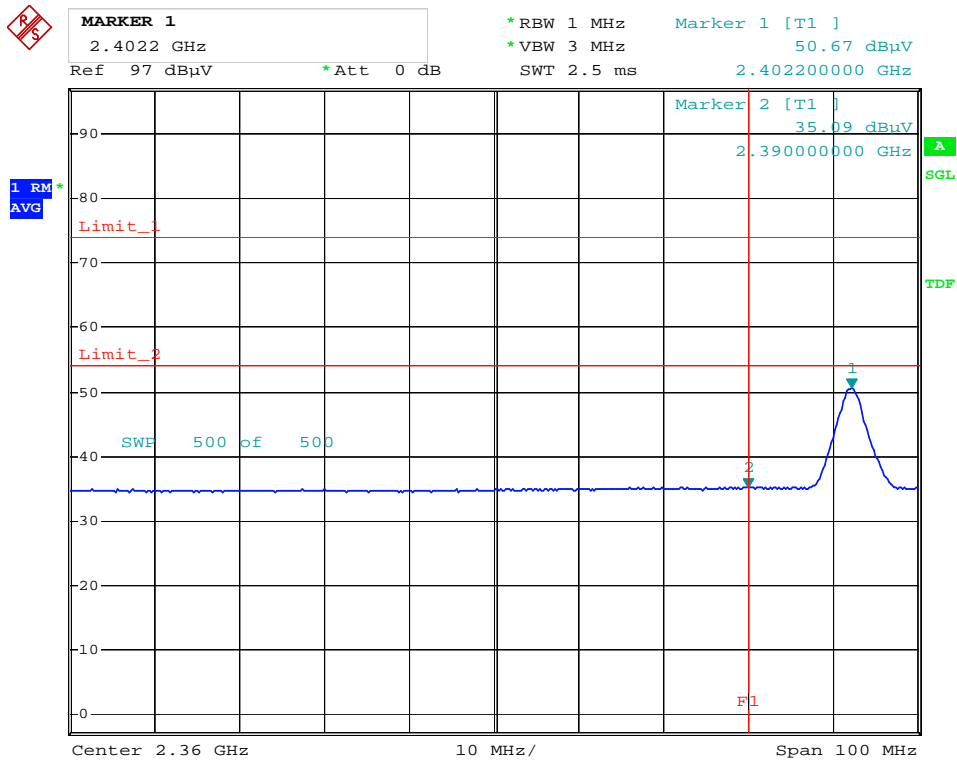
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Band edge @ 8DPSK mode Channel 0 2402MHz PK



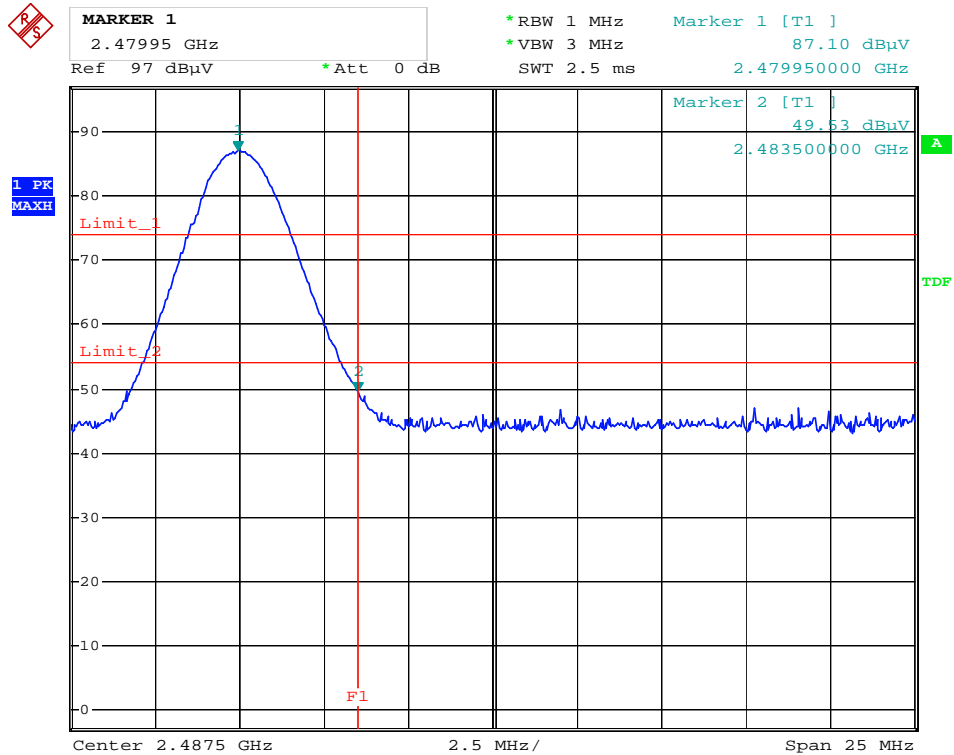
Date: 2.SEP.2016 12:10:22

Band edge @ 8DPSK mode Channel 0 2402MHz AV



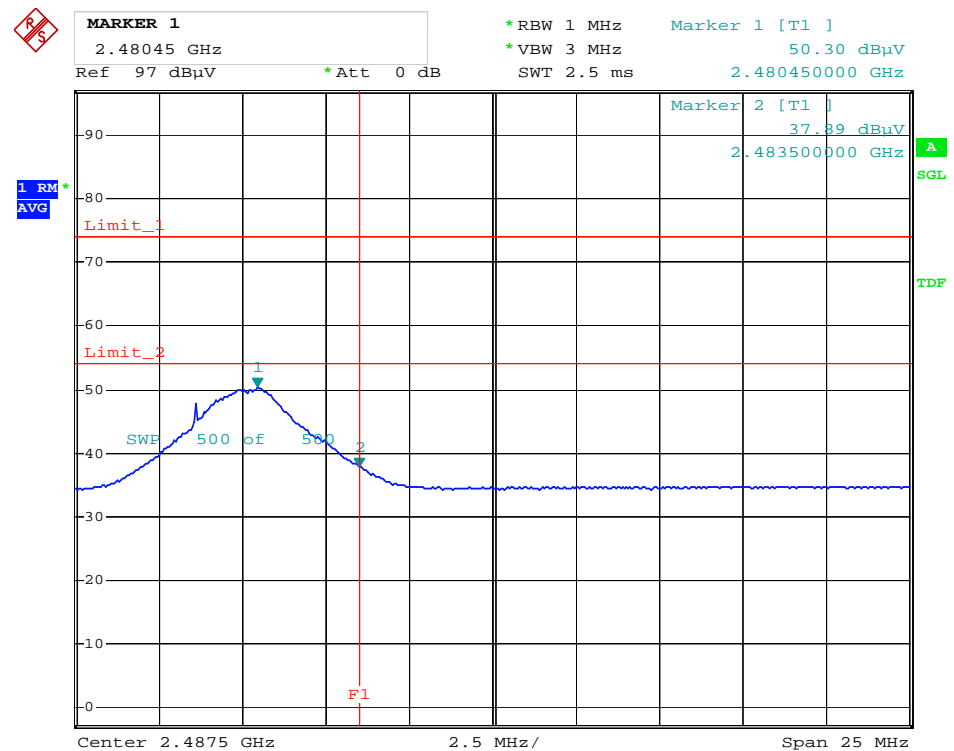
Date: 2.SEP.2016 12:11:24

Band edge @ 8DPSK mode Channel 78 2480MHz PK



Date: 2.SEP.2016 12:27:41

Band edge @ 8DPSK mode Channel 78 2480MHz AV



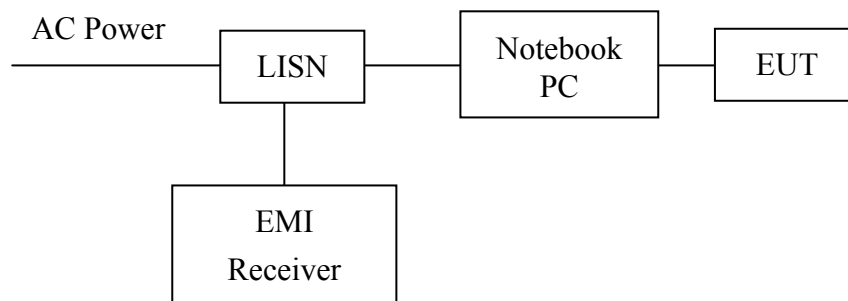
Date: 2.SEP.2016 12:29:39

5. Conducted emission test FCC 15.207

5.1 Operating environment

Temperature: 25 °C
Relative Humidity: 50 %
Atmospheric Pressure: 1008 hPa
Test date: Aug. 31, 2016

5.2 Test setup & procedure



The EUT are connected to the main power through a line impedance stabilization network (LISN). This provides a 50 ohm/50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination.

Both sides (Line and Neutral) of AC line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10: 2013 on conducted measurement.

The bandwidth of the field strength meter (R & S Test Receiver ESCI) is set at 9kHz.

5.3 Emission limit

Freq. (MHz)	Conducted Limit (dBuV)	
	Q.P.	Ave.
0.15~0.50	66 – 56*	56 – 46*
0.50~5.00	56	46
5.00~30.0	60	50

*Decreases with the logarithm of the frequency.

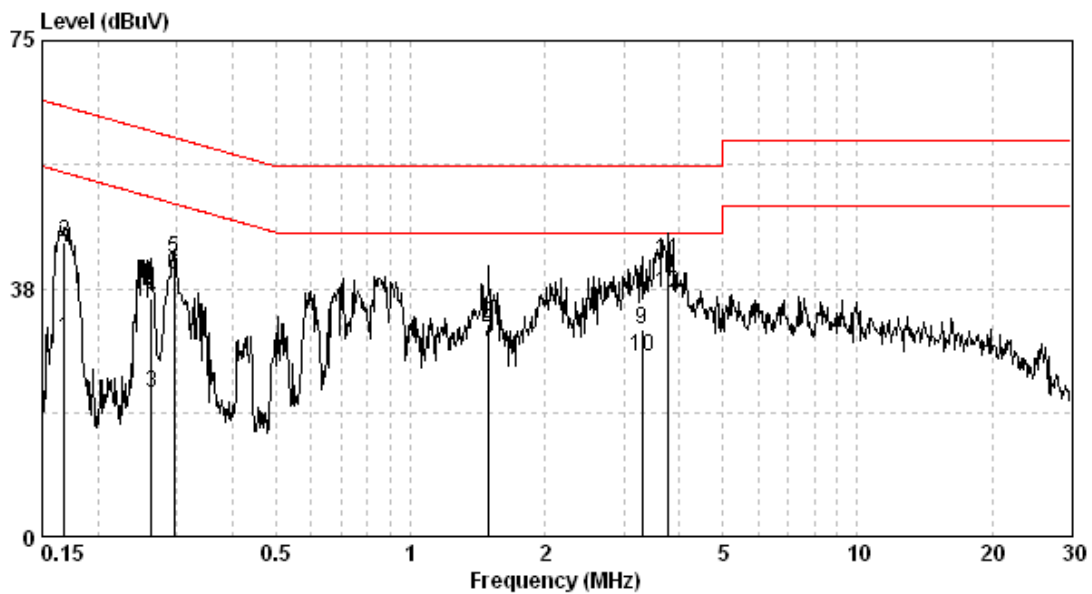
5.4 Conducted emission data FCC 15.207

Phase: Live Line
Model No.: JG01
Test Condition: Normal mode

Frequency (MHz)	Corr. Factor (dB)	Level Qp (dBuV)	Limit Qp (dBuV)	Level Av (dBuV)	Limit Av (dBuV)	Margin (dB)	
						Qp	Av
0.169	9.74	44.45	65.03	30.02	55.03	-20.58	-25.01
0.263	9.75	35.98	61.34	21.74	51.34	-25.36	-29.59
0.296	9.76	42.05	60.37	39.43	50.37	-18.32	-10.94
1.495	9.86	32.24	56.00	29.45	46.00	-23.76	-16.55
3.293	9.91	31.38	56.00	27.29	46.00	-24.62	-18.71
3.779	9.91	41.64	56.00	36.70	46.00	-14.36	-9.30

Remark:

1. Correction Factor (dB) LISN Factor (dB) + Cable Loss (dB)
2. Margin (dB) = Level (dBuV) – Limit (dBuV)

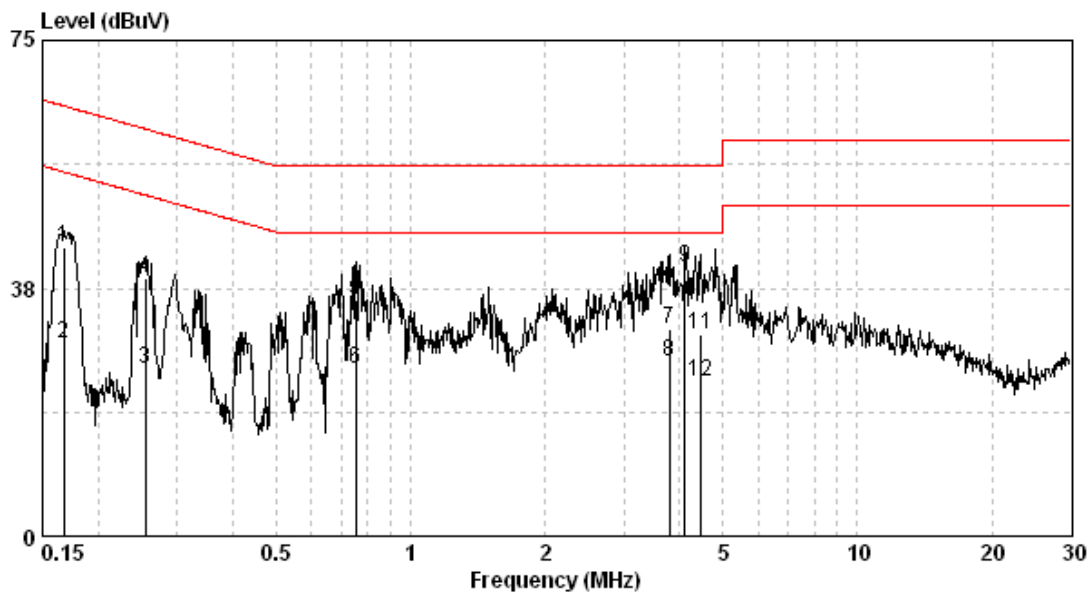


Phase: Neutral Line
Model No.: JG01
Test Condition: Normal mode

Frequency (MHz)	Corr. Factor (dB)	Level Qp (dBuV)	Limit Qp (dBuV)	Level Av (dBuV)	Limit Av (dBuV)	Margin (dB) Qp	Av
0.168	9.74	43.79	65.08	29.25	55.08	-21.29	-25.82
0.255	9.75	38.98	61.60	25.34	51.60	-22.62	-26.26
0.755	9.82	35.61	56.00	25.20	46.00	-20.39	-20.80
3.799	9.92	31.37	56.00	26.25	46.00	-24.63	-19.75
4.114	9.92	40.74	56.00	35.52	46.00	-15.26	-10.48
4.478	9.93	30.41	56.00	23.45	46.00	-25.59	-22.55

Remark:

1. Correction Factor (dB)= LISN Factor (dB) + Cable Loss (dB)
2. Margin (dB) = Level (dBuV) – Limit (dBuV)



6. 20dB Bandwidth test

6.1 Operating environment

Temperature: 25 °C
Relative Humidity: 50 %
Atmospheric Pressure: 1008 hPa
Test date: Sep. 06, 2016

6.2 Test setup & procedure

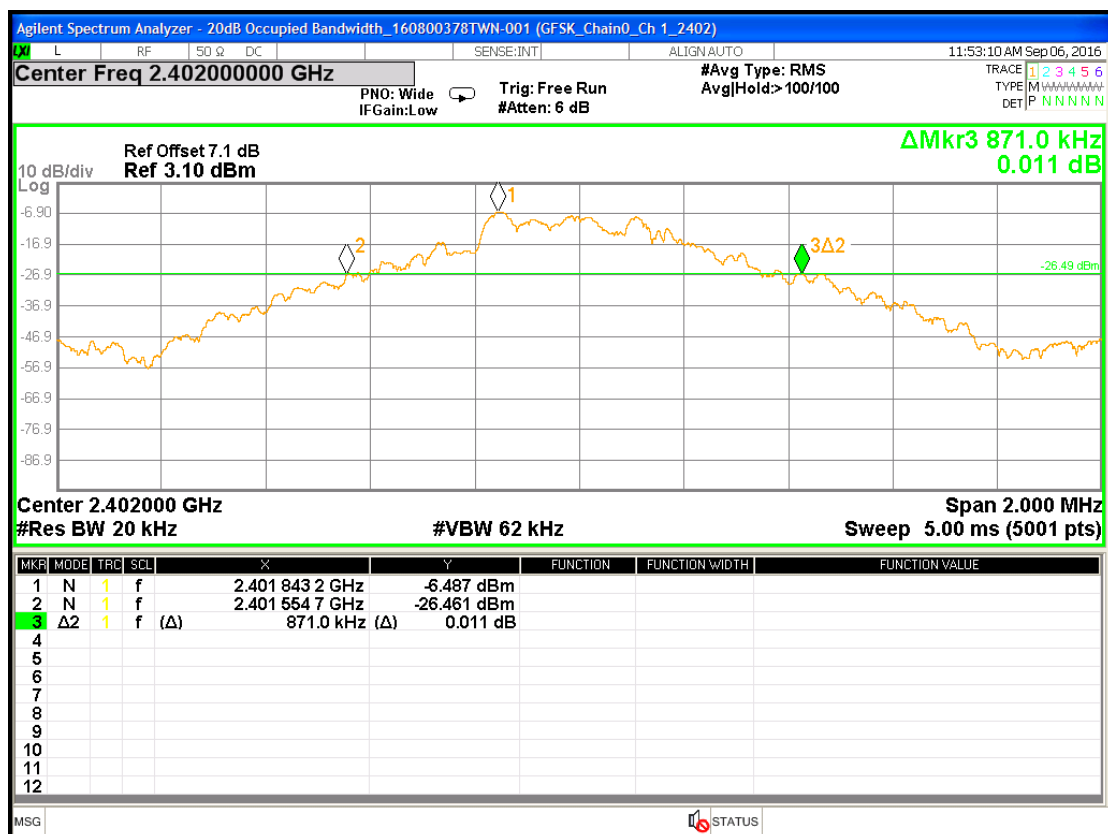
- Step 1: The 20dB bandwidth was measured using a 50 ohm spectrum analyzer
Step 2: The span range for the SA display shall be between two times and five times the OBW.
Step 3: The nominal IF filter bandwidth (3 dB RBW) should be approximately 1 % to 5 % of the OBW, unless otherwise specified, depending on the applicable requirement.
Step 4: The test was performed at 3 channels (lowest, middle and highest channel). The maximum 20dB modulation bandwidth is in the following Table.

6.3 Measured data of modulated bandwidth test results

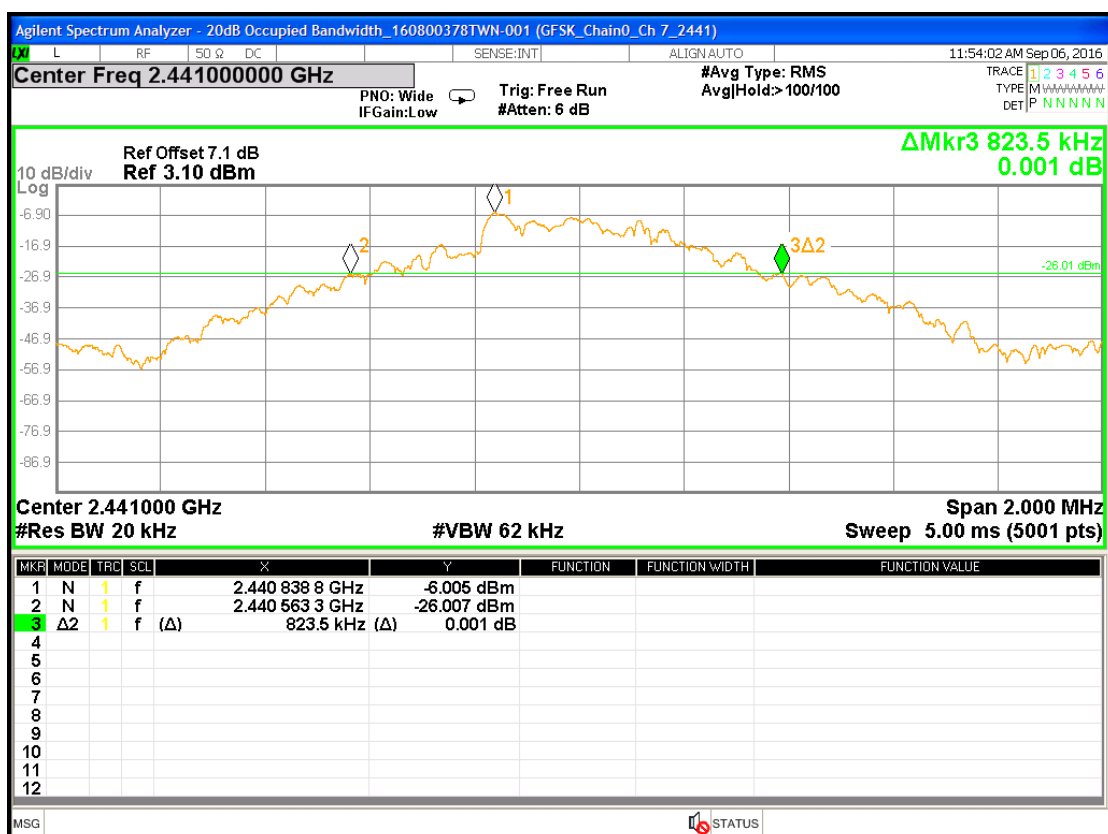
Modulation	Channel	Frequency (MHz)	Data Rate Mbps	20dB Bandwidth (MHz)
GFSK	0	2402	1	0.8710
	39	2441		0.8235
	78	2480		0.8336
$\pi/4$ -DPSK	0	2402	2	1.2188
	39	2441		1.2372
	78	2480		1.2440
8DPSK	0	2402	3	1.2018
	39	2441		1.2032
	78	2480		1.8889

Please see the plot below.

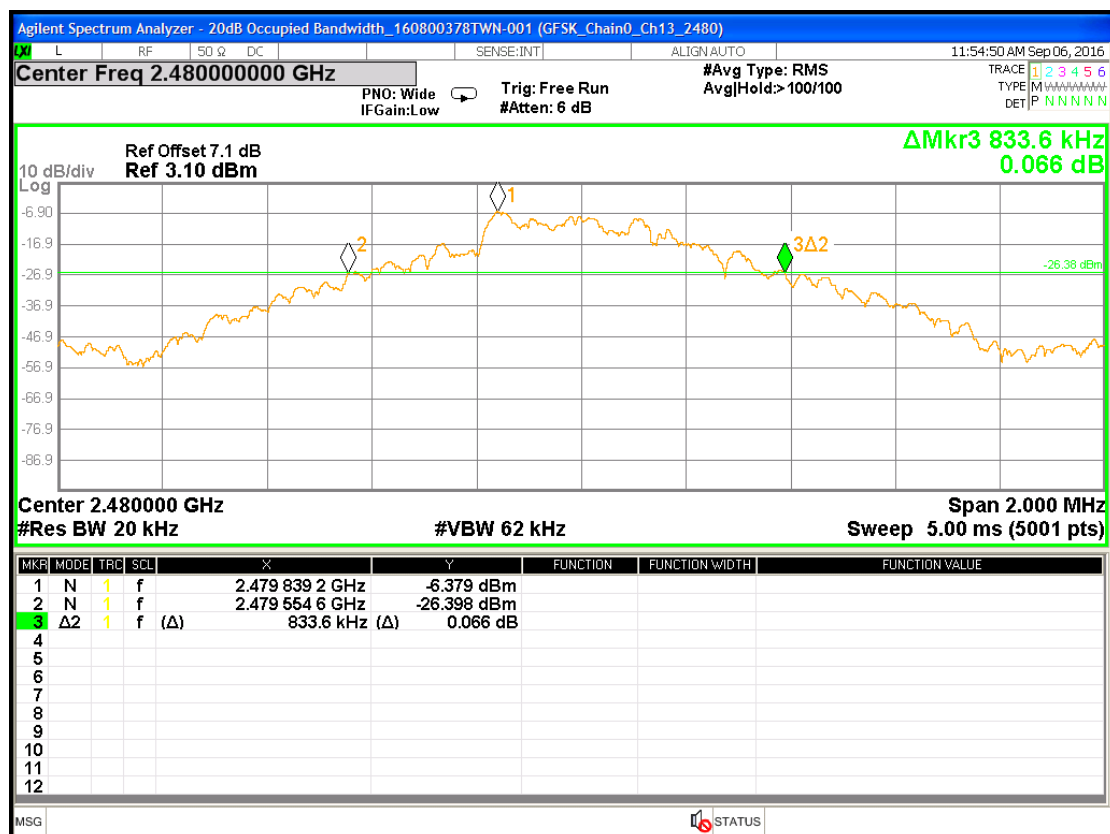
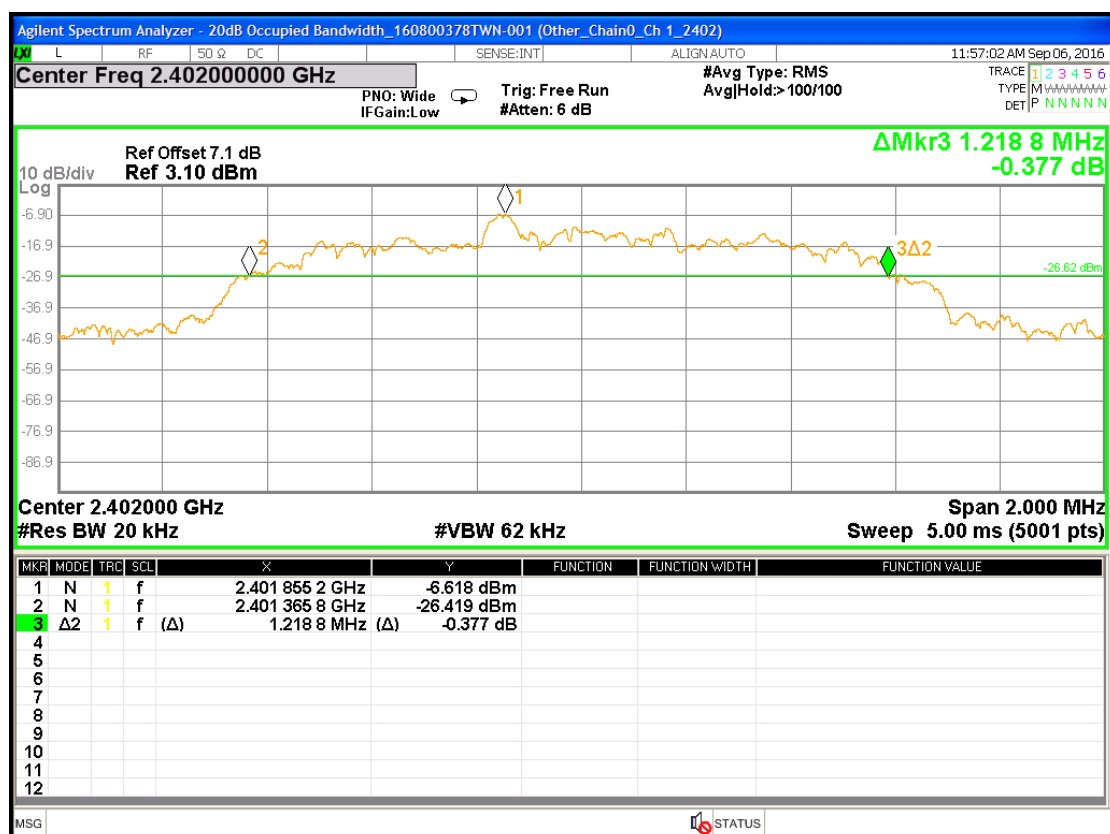
20dB Occupied Bandwidth @ GFSK mode Channel 0 2402MHz

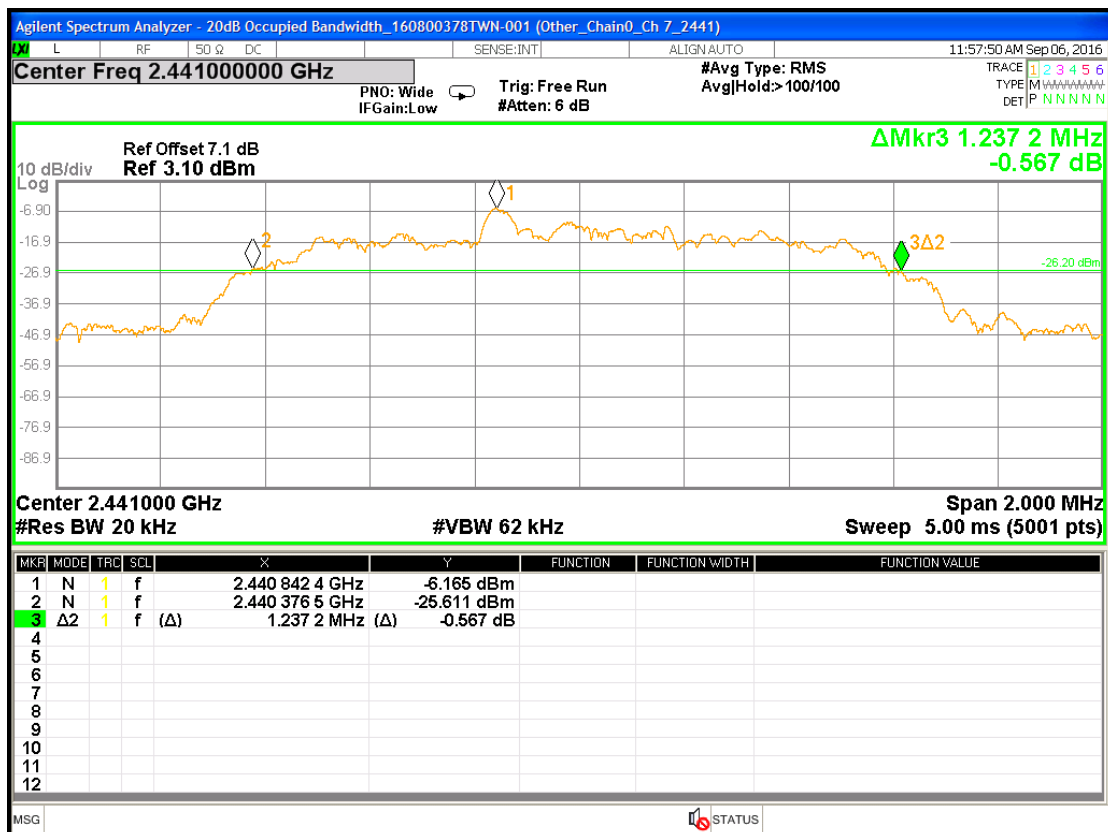
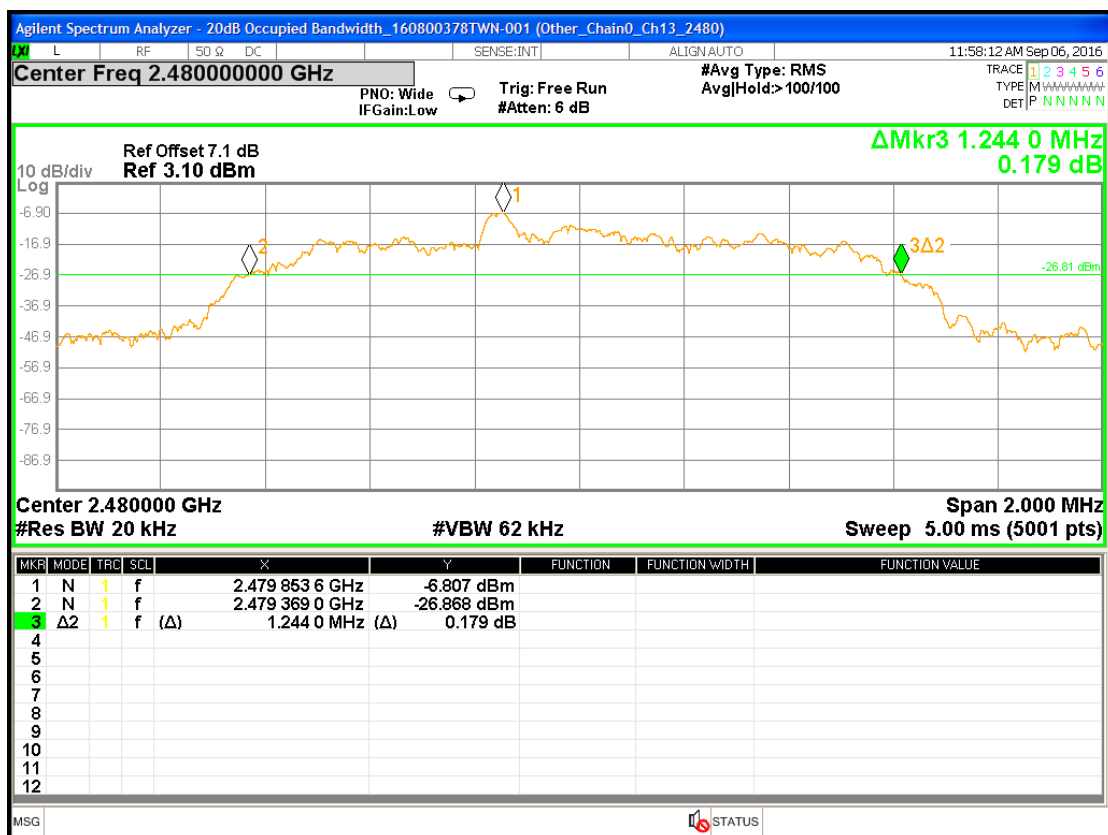


20dB Occupied Bandwidth @ GFSK mode Channel 39 2441MHz

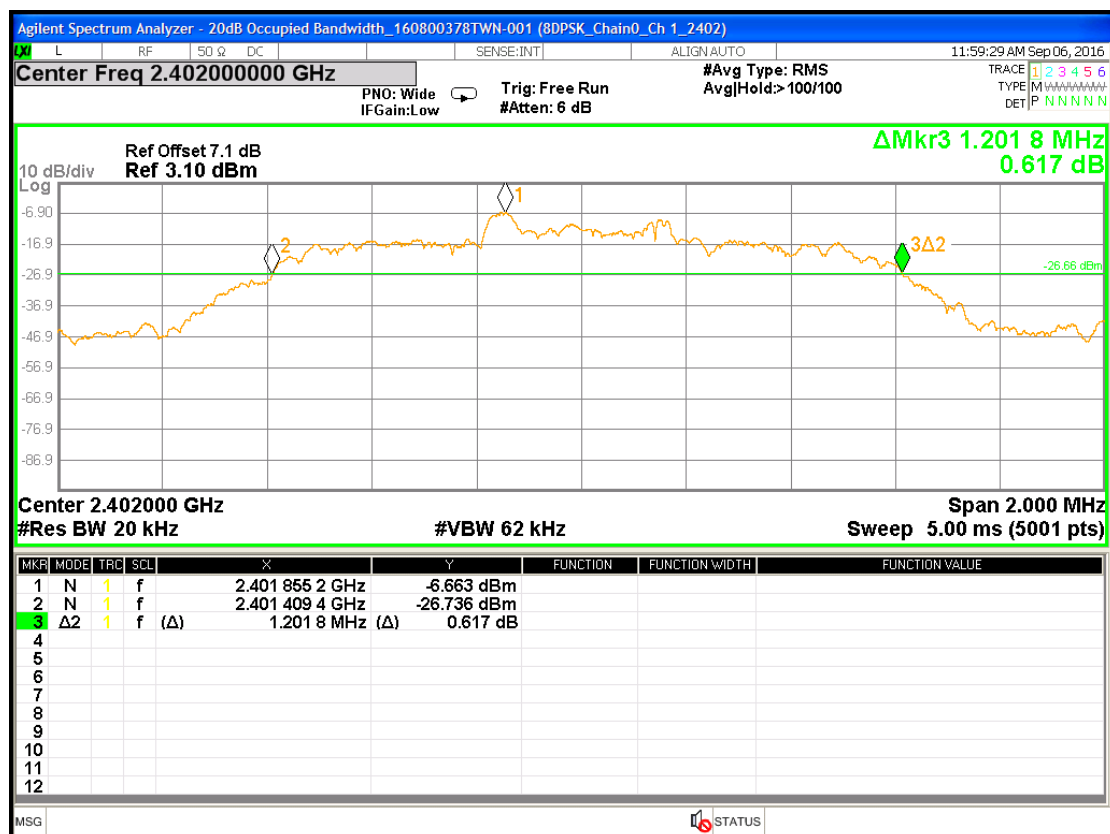


20dB Occupied Bandwidth (@ GFSK mode Channel 78 2480MHz)

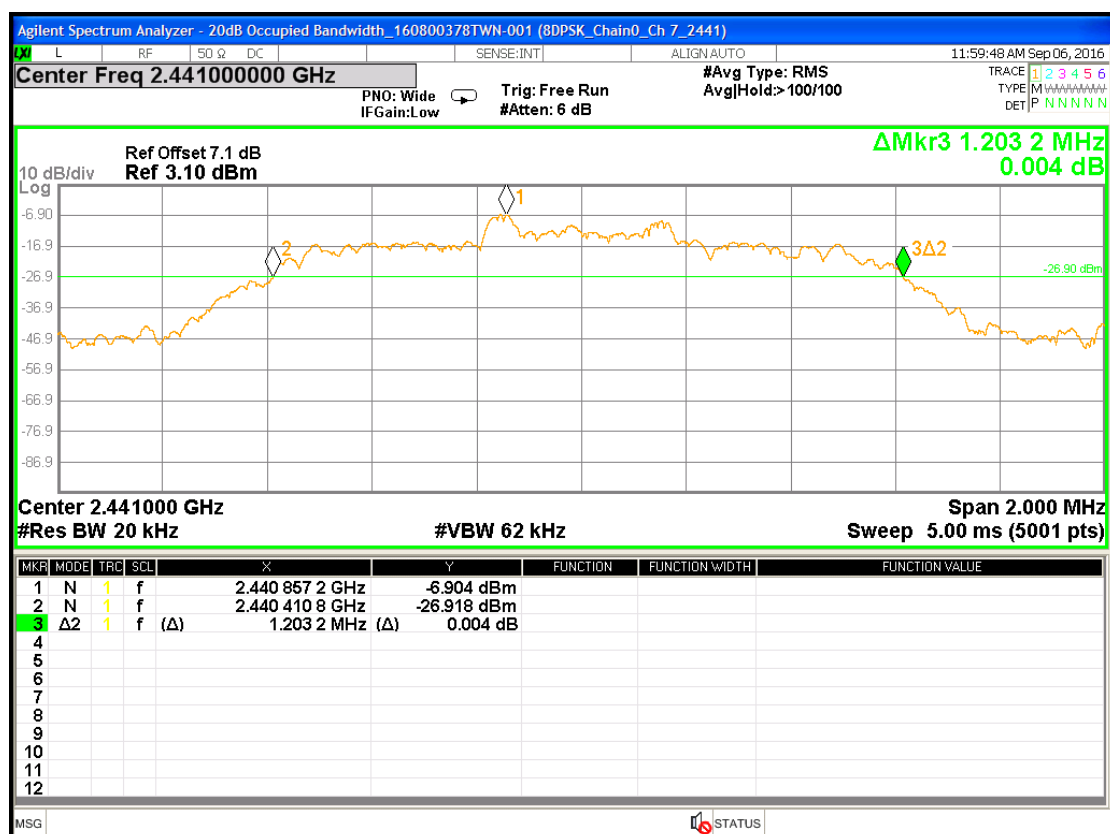
20dB Occupied Bandwidth (@ $\pi/4$ -DQPSK mode Channel 0 2402MHz)

20dB Occupied Bandwidth @ $\pi/4$ -DQPSK mode Channel 39 2441MHz20dB Occupied Bandwidth @ $\pi/4$ -DQPSK mode Channel 78 2480MHz

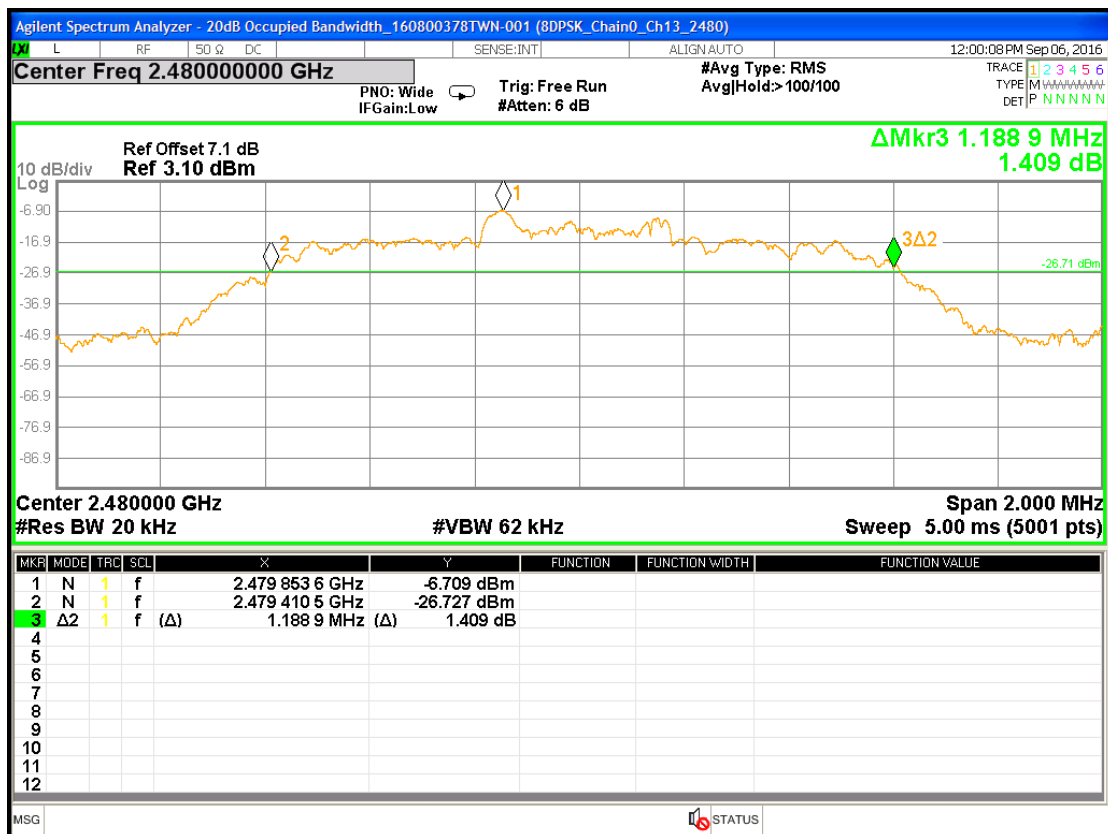
20dB Occupied Bandwidth (@ 8DPSK mode Channel 0 2402MHz)



20dB Occupied Bandwidth @ 8DPSK mode Channel 39 2441MHz



20dB Occupied Bandwidth @ 8DPSK mode Channel 78 2480MHz



Appendix A: Test equipment list

Equipment	Brand	Model No.	Serial No.	Calibration Date	Next Calibration Date
ESCI EMI Test Receiver	Rohde & Schwarz	ESCI	100018	2015/12/02	2016/11/30
Spectrum Analyzer	Rohde & Schwarz	FSP30	100137	2016/08/16	2017/08/15
Horn Antenna (1-18G)	SHWARZBECK	BBHA 9120 D	9120D-456	2014/08/29	2017/08/27
Horn Antenna (14-42G)	SHWARZBECK	BBHA 9170	BBHA9170159	2014/09/16	2017/09/14
Broadband Antenna	SHWARZBECK	VULB 9168	9168-172	2016/03/22	2017/03/21
Pre-Amplifier	EMC Co.	EMC12635SE	980205	2015/10/7	2016/10/05
Pre-Amplifier	MITEQ	JS4-26004000--2 7-8A	828825	2015/09/15	2016/09/13
Power Meter	Anritsu	ML2495A	0844001	2015/11/11	2016/11/09
Power Sensor	Anritsu	MA2411B	0738452	2015/11/11	2016/11/09
Signal Analyzer	Agilent	N9030A	MY51380492	2015/09/21	2016/09/19
966-2(A) Cable 9kHz~26.5GHz	SUHNER	SMA / EX 100	N/A	2016/05/05	2017/05/04
966-2(B) Cable 9kHz~26.5GHz	SUHNER	SUCOFLEX 104P	CB0005	2016/05/04	2017/05/03
RF Cable 9kHz~26.5GHz	SUHNER	SUCOFLEX 102	CB0006	2016/05/05	2017/05/04
966-2_3m Semi-Anechoic Chamber	966_2	CEM-966_2	N/A	2016/02/24	2017/02/22
High Pass Filter	Reactel	7HS-3G/18G-S11	N/A	2016/06/03	2017/06/02
Active Loop Antenna	SCHWARZBECK MESS-ELEKTRO NIC	FMZB1519	1519-067	2016/03/03	2017/03/02
Attenuator	PASTERNAK	N/A	PA7001-20	2016/05/06	2017/05/05
Attenuator	EMCI	N/A	AT-N0619	2016/05/06	2017/05/05

Note: No Calibration Required (NCR).

Appendix B: Measurement Uncertainty

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

Item	Uncertainty
Vertically polarized radiated disturbances from 30MHz~1GHz in a semi-anechoic chamber at a distance of 3m	5.14 dB
Horizontally polarized radiated disturbances from 30MHz~1GHz in a semi-anechoic chamber at a distance of 3m	5.22 dB
Vertically polarized Radiated disturbances from 1GHz~18GHz in a semi-anechoic chamber at a distance of 3m	3.64 dB
Horizontally polarized Radiated disturbances from 1GHz~18GHz in a semi-anechoic chamber at a distance of 3m	3.64 dB
Vertically polarized Radiated disturbances from 18GHz~40GHz in a semi-anechoic chamber at a distance of 3m	2.7 dB
Horizontally polarized Radiated disturbances from 18GHz~40GHz in a semi-anechoic chamber at a distance of 3m	2.7 dB
Radiated disturbances from 9kHz~30MHz in a semi-anechoic chamber at a distance of 3m	3.53 dB
Emission on the Band Edge Test	3.64 dB
20dB Bandwidth	0.85 dB
AC Power Line Conducted Emission	2.47 dB