Audix Technology Corp.
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APPDNDIX A

TEST DATA AND PLOTS

(Model: 17Z990)

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AUDIX Technology Corp.
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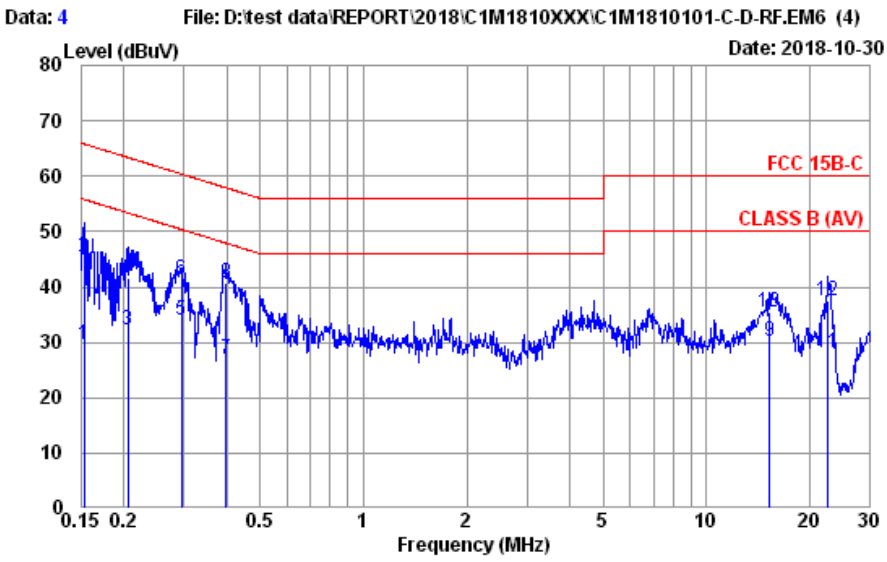
A.1 CONDUCTED EMISSION

Test Date	2018/10/30	Temp./Hum.	24℃/49%
Test Voltage	AC 120V 60Hz (Via AC Adapter)		



Site no. : No.8 Shielded Room Data no. : 4
Condition : ENV4200 100169 LISN Phase : NEUTRAL
Limit : FCC 15B-C
Env. / Ins. : 24*C / 49% ESR3(1774) Engineer : Nick Du
EUT : 17Z990
Power Rating : 120Vac/60Hz
Test Mode : Operating

	Freq. (MHz)	AMN Factor (dB)	Cable Loss (dB)	Pulse Att. (dB)	Reading (dBµV)	Emission Level (dBµV)	Limits (dBµV)	Margin (dB)	Remark
1	0.153	10.57	0.03	9.98	9.08	29.66	55.82	26.16	Average
2	0.153	10.57	0.03	9.98	24.78	45.36	65.82	20.46	QP
3	0.206	10.52	0.03	9.98	11.67	32.20	53.36	21.16	Average
4	0.206	10.52	0.03	9.98	21.13	41.66	63.36	21.70	QP
5	0.294	10.47	0.04	9.98	13.57	34.06	50.41	16.35	Average
6	0.294	10.47	0.04	9.98	20.82	41.31	60.41	19.10	QP
7	0.398	10.43	0.04	9.98	6.58	27.03	47.90	20.87	Average
8	0.398	10.43	0.04	9.98	20.18	40.63	57.90	17.27	QP
9	15.307	12.65	0.23	10.05	7.16	30.09	50.00	19.91	Average
10	15.307	12.65	0.23	10.05	12.41	35.34	60.00	24.66	QP
11	22.655	14.36	0.29	10.08	3.47	28.20	50.00	21.80	Average
12	22.655	14.36	0.29	10.08	12.91	37.64	60.00	22.36	QP

Remarks: 1. Emission Level= AMN Factor + Cable Loss + Pulse Att. + Reading.

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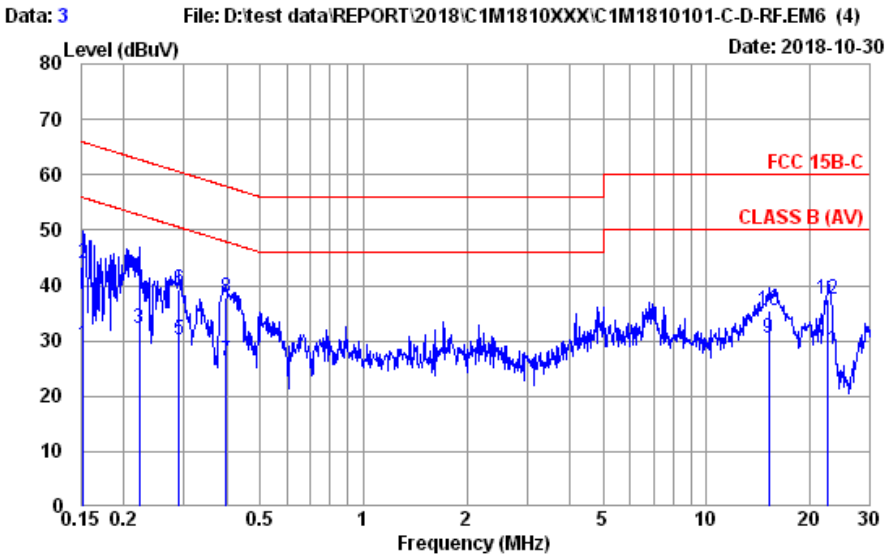
Test Date	2018/10/30	Temp./Hum.	24℃/49%
Test Voltage	AC 120V 60Hz (Via AC Adapter)		



Site no. : No.8 Shielded Room Data no. : 3
Condition : ENV4200 100169 LISN Phase : LINE
Limit : FCC 15B-C
Env. / Ins. : 24°C / 49% ESR3(1774) Engineer : Nick Du
EUT : 17Z990
Power Rating : 120Vac/60Hz
Test Mode : Operating

	Freq. (MHz)	AMN Factor (dB)	Cable Loss (dB)	Pulse Att. (dB)	Reading (dBµV)	Emission Level (dBµV)	Limits (dBµV)	Margin (dB)	Remark
1	0.152	10.63	0.03	9.98	8.65	29.29	55.87	26.58	Average
2	0.152	10.63	0.03	9.98	23.23	43.87	65.87	22.00	QP
3	0.222	10.54	0.03	9.98	11.72	32.27	52.74	20.47	Average
4	0.222	10.54	0.03	9.98	20.04	40.59	62.74	22.15	QP
5	0.289	10.50	0.04	9.98	9.52	30.04	50.54	20.50	Average
6	0.289	10.50	0.04	9.98	18.76	39.28	60.54	21.26	QP
7	0.398	10.45	0.04	9.98	5.76	26.23	47.90	21.67	Average
8	0.398	10.45	0.04	9.98	17.31	37.78	57.90	20.12	QP
9	15.146	12.65	0.23	10.05	7.52	30.45	50.00	19.55	Average
10	15.146	12.65	0.23	10.05	12.60	35.53	60.00	24.47	QP
11	22.655	14.42	0.29	10.08	3.58	28.37	50.00	21.63	Average
12	22.655	14.42	0.29	10.08	12.78	37.57	60.00	22.43	QP

Remarks: 1. Emission Level= AMN Factor + Cable Loss + Pulse Att. + Reading.

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A.2 RADIATED EMISSION

Test Date	2018/10/30	Temp./Hum.	24℃/51%
Test Voltage	AC 120V, 60Hz (via AC Adapter)		

A.2.1 Emissions within Restricted Frequency Bands

A.2.1.1 Frequency 9kHz~30MHz

The emissions (9kHz~30MHz) not reported for there is no emission be found.

A.2.1.2 Frequency Below 1 GHz

Mode	GFSK	Frequency	TX 2480MHz

Antenna at Horizontal Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
30.9700	24.27	1.22	3.42	28.91	40.00	11.09	Peak
101.7800	17.60	2.29	9.03	28.92	43.50	14.58	Peak
268.6200	19.29	4.00	4.70	27.99	46.00	18.01	Peak
383.0800	21.66	5.36	3.68	30.70	46.00	15.30	Peak
597.4500	24.61	6.74	1.80	33.15	46.00	12.85	Peak
734.2200	25.25	7.27	2.39	34.91	46.00	11.09	Peak

Antenna at Vertical Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
30.9700	24.27	1.22	12.94	38.43	40.00	1.57	Peak
94.9900	16.56	2.21	12.80	31.57	43.50	11.93	Peak
163.8600	16.17	2.97	8.69	27.83	43.50	15.67	Peak
326.8200	20.25	4.68	7.53	32.46	46.00	13.54	Peak
417.0300	22.27	5.72	5.30	33.29	46.00	12.71	Peak
765.2600	25.58	7.44	3.11	36.13	46.00	9.87	Peak

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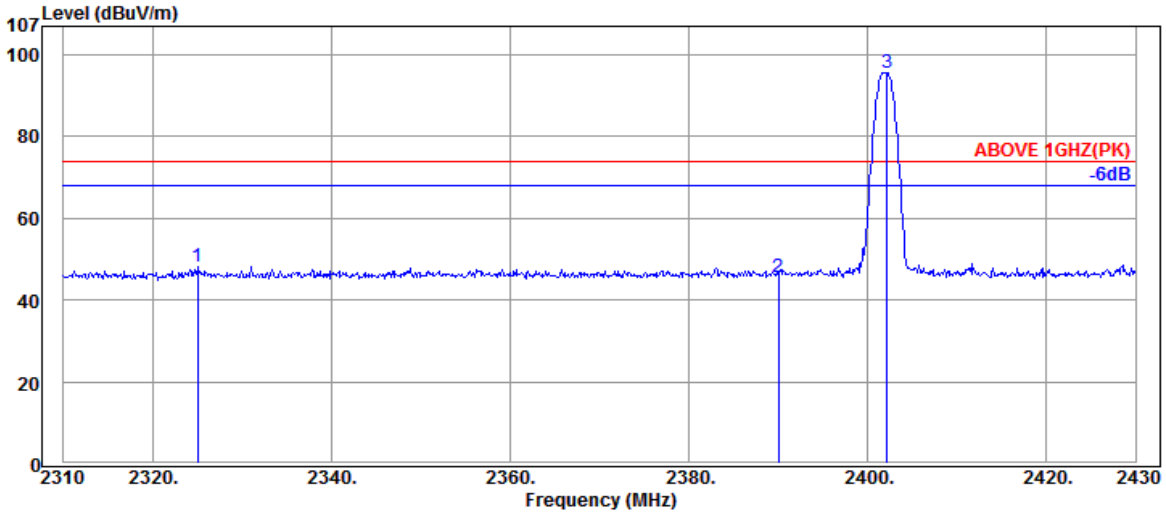
A.2.1.3 Frequency Above 1 GHz to 10th harmonics

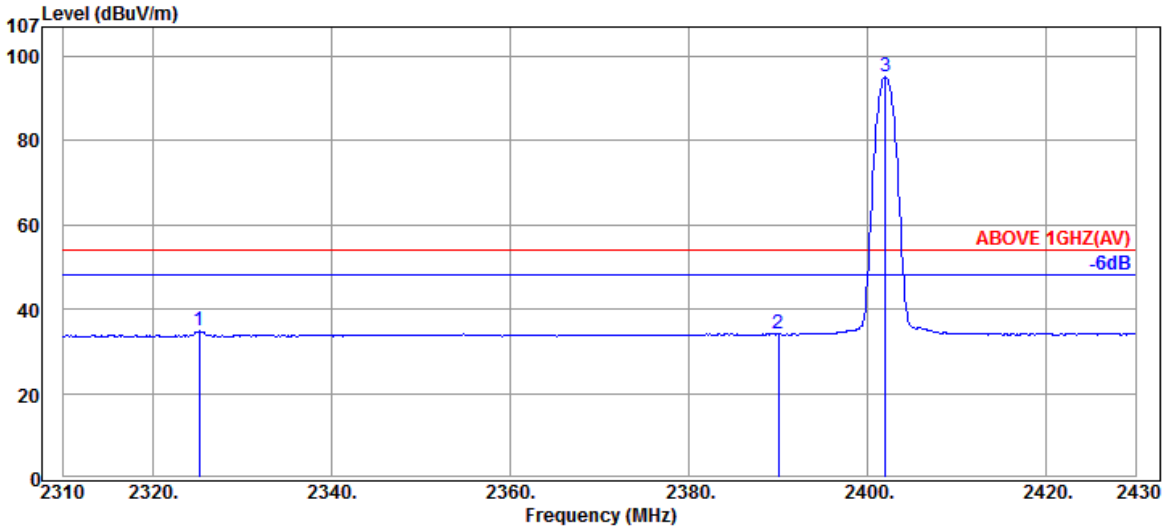
Band Edge:

Mode	GFSK	Frequency	TX 2402MHz



Antenna at Horizontal Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2325.0000	32.06	7.79	8.42	48.27	74.00	25.73	Peak
2390.0400	32.16	7.92	5.66	45.74	74.00	28.26	Peak
2402.1600	32.16	7.92	55.63	95.71	---	---	Peak



Antenna at Horizontal Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2325.2400	32.06	7.79	-5.10	34.75	54.00	19.25	Average
2390.0400	32.16	7.92	-6.06	34.02	54.00	19.98	Average
2402.0400	32.16	7.92	54.97	95.05	---	---	Average

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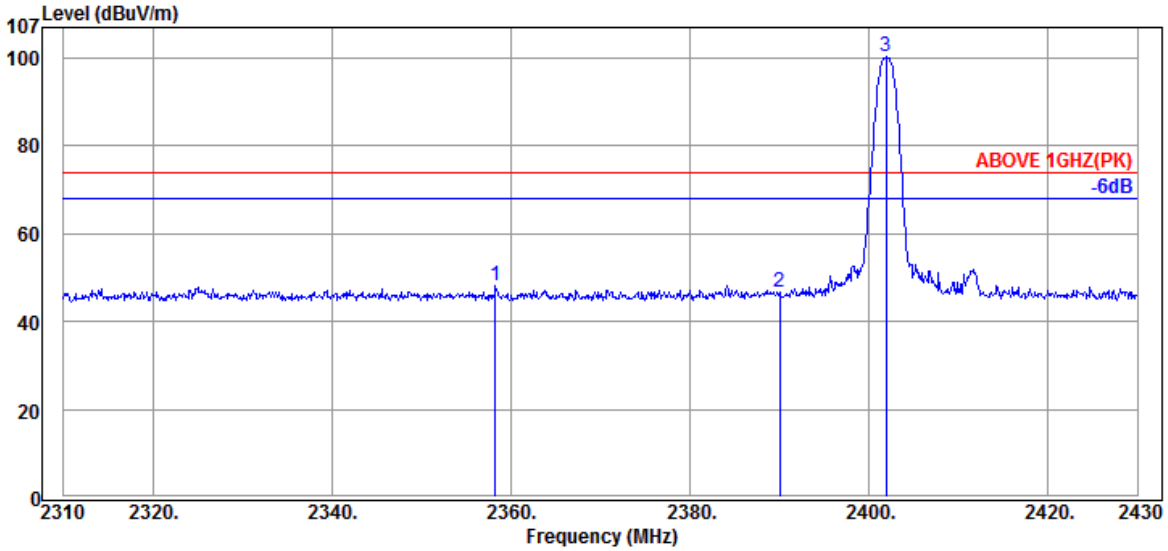
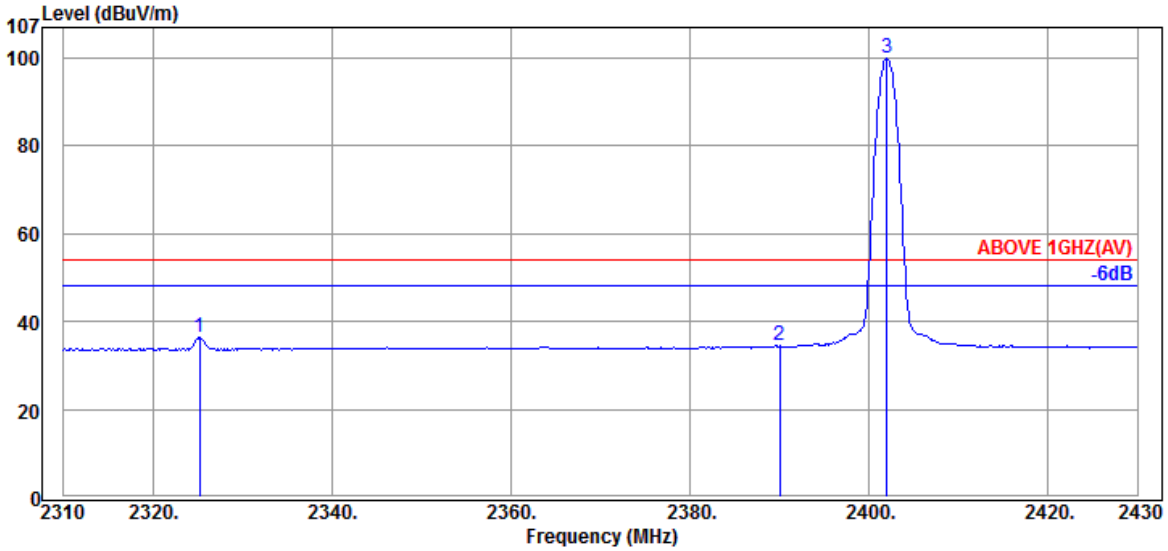
Mode	GFSK	Frequency	TX 2402MHz



Antenna at Vertical Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2358.2400	32.11	7.86	8.27	48.24	74.00	25.76	Peak
2390.0400	32.16	7.92	6.57	46.65	74.00	27.35	Peak
2401.9200	32.16	7.92	60.12	100.20	---	---	Peak



Antenna at Vertical Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2325.2400	32.06	7.79	-3.57	36.28	54.00	17.72	Average
2390.0400	32.16	7.92	-5.69	34.39	54.00	19.61	Average
2402.0400	32.16	7.92	59.77	99.85	---	---	Average

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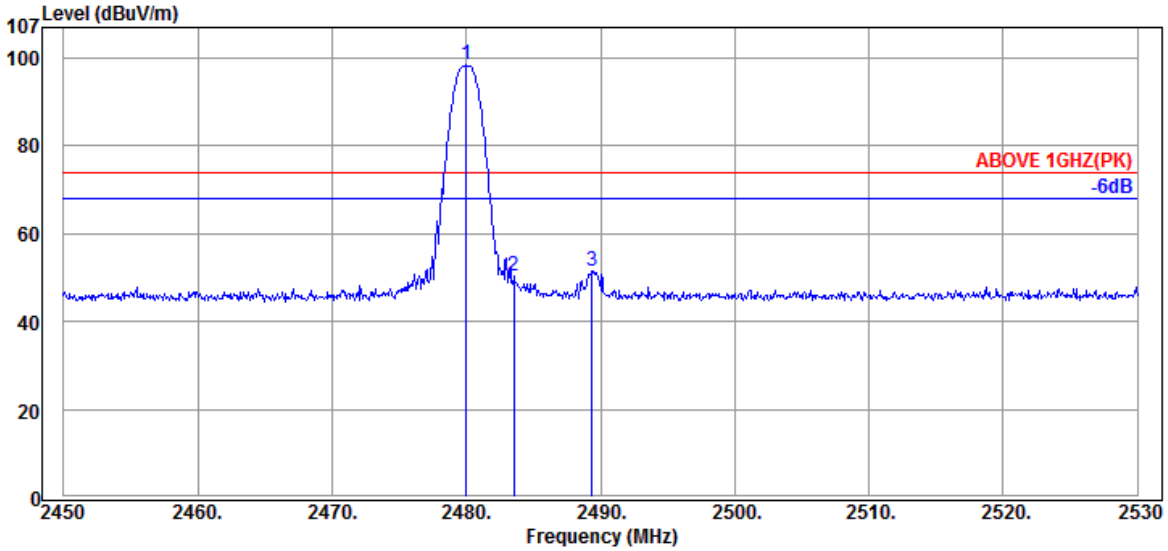
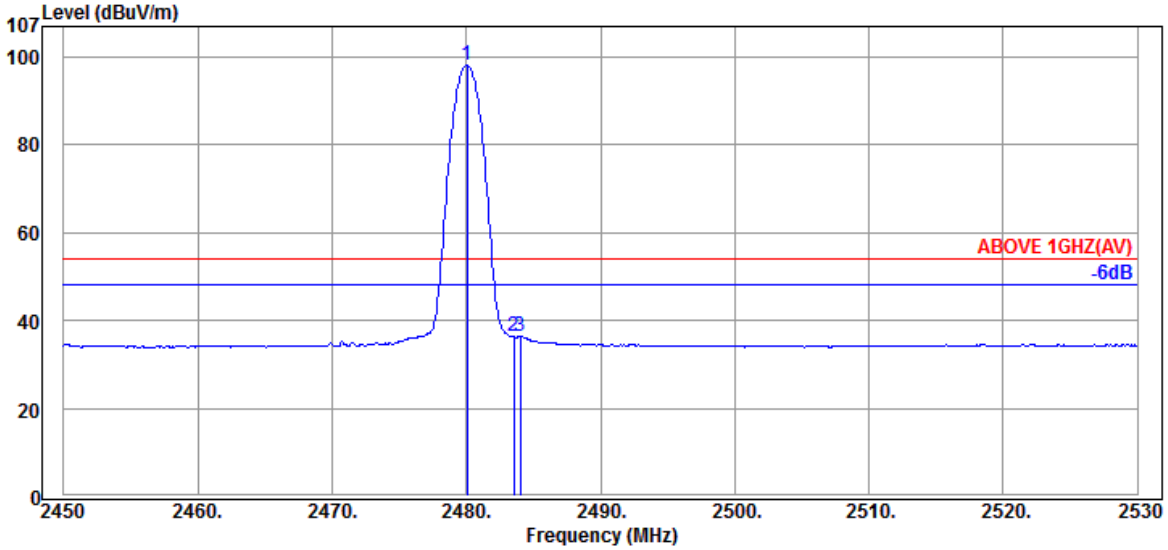
Mode	GFSK	Frequency	TX 2480MHz



Antenna at Horizontal Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2480.0000	32.28	7.90	58.20	98.38	---	---	Peak
2483.5200	32.28	7.90	10.23	50.41	74.00	23.59	Peak
2489.3600	32.30	7.90	11.25	51.45	74.00	22.55	Peak



Antenna at Horizontal Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2480.0800	32.28	7.90	57.91	98.09	---	---	Average
2483.5200	32.28	7.90	-3.82	36.36	54.00	17.64	Average
2484.0000	32.28	7.90	-3.80	36.38	54.00	17.62	Average

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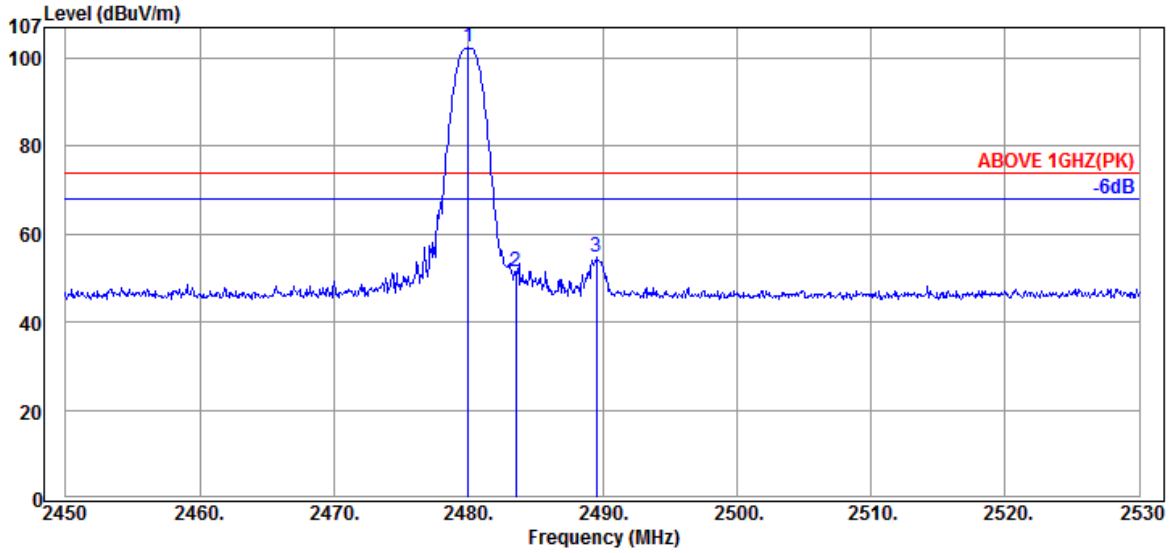
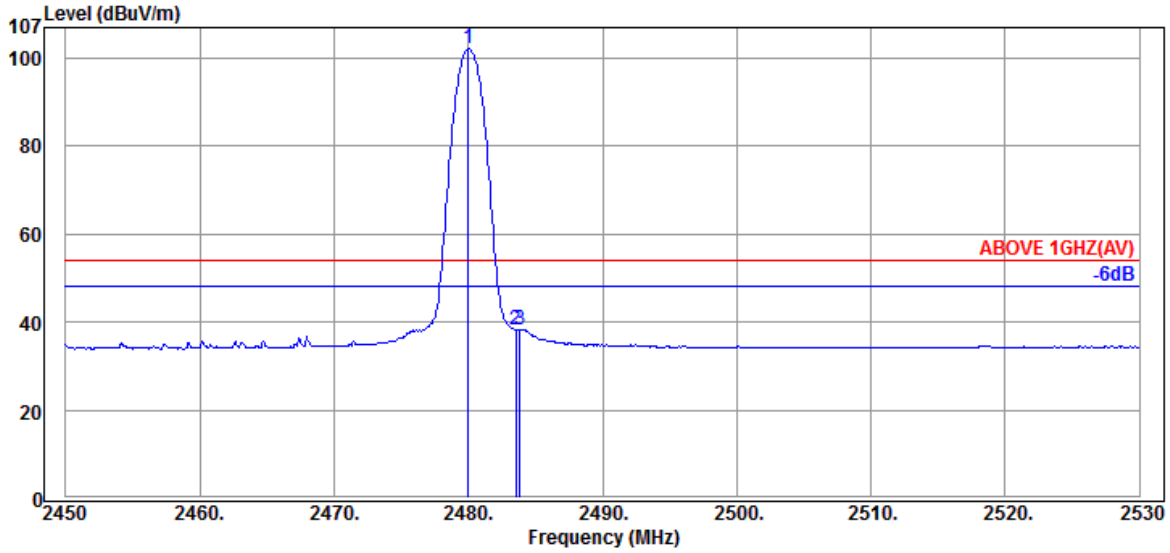
Mode	GFSK	Frequency	TX 2480MHz



Antenna at Vertical Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2480.0000	32.28	7.90	62.26	102.44	---	---	Peak
2483.5200	32.28	7.90	11.27	51.45	74.00	22.55	Peak
2489.5200	32.30	7.90	14.54	54.74	74.00	19.26	Peak



Antenna at Vertical Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2480.0000	32.28	7.90	61.91	102.09	---	---	Average
2483.5200	32.28	7.90	-1.94	38.24	54.00	15.76	Average
2483.8400	32.28	7.90	-1.86	38.32	54.00	15.68	Average

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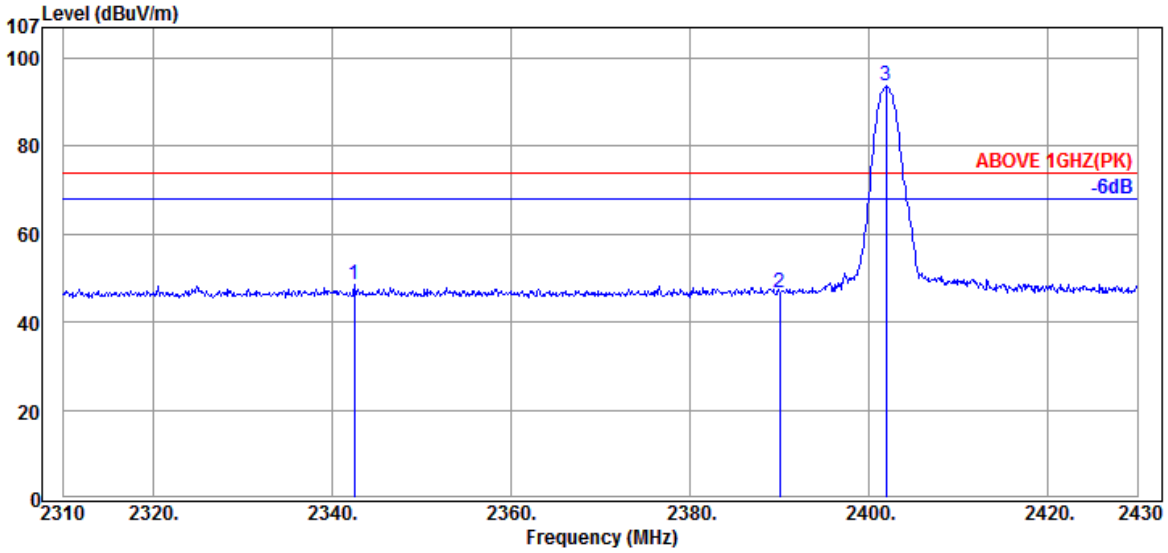
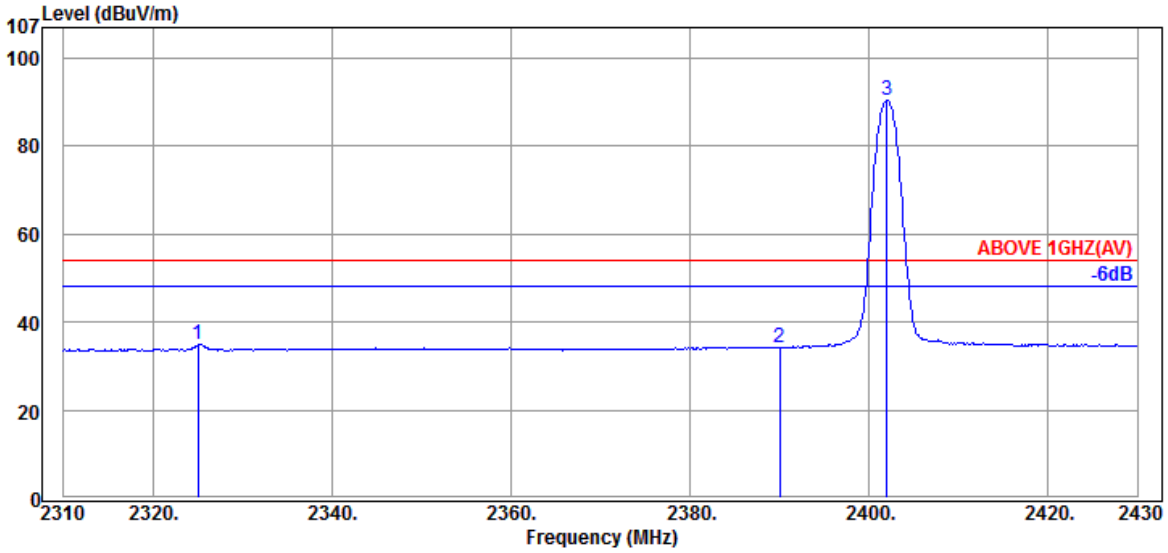
Mode	8-DPSK	Frequency	TX 2402MHz



Antenna at Horizontal Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2342.5200	32.08	7.82	8.47	48.37	74.00	25.63	Peak
2390.0400	32.16	7.92	6.50	46.58	74.00	27.42	Peak
2401.9200	32.16	7.92	53.56	93.64	---	---	Peak



Antenna at Horizontal Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2325.0000	32.06	7.79	-4.90	34.95	54.00	19.05	Average
2390.0400	32.16	7.92	-5.84	34.24	54.00	19.76	Average
2402.0400	32.16	7.92	50.29	90.37	---	---	Average

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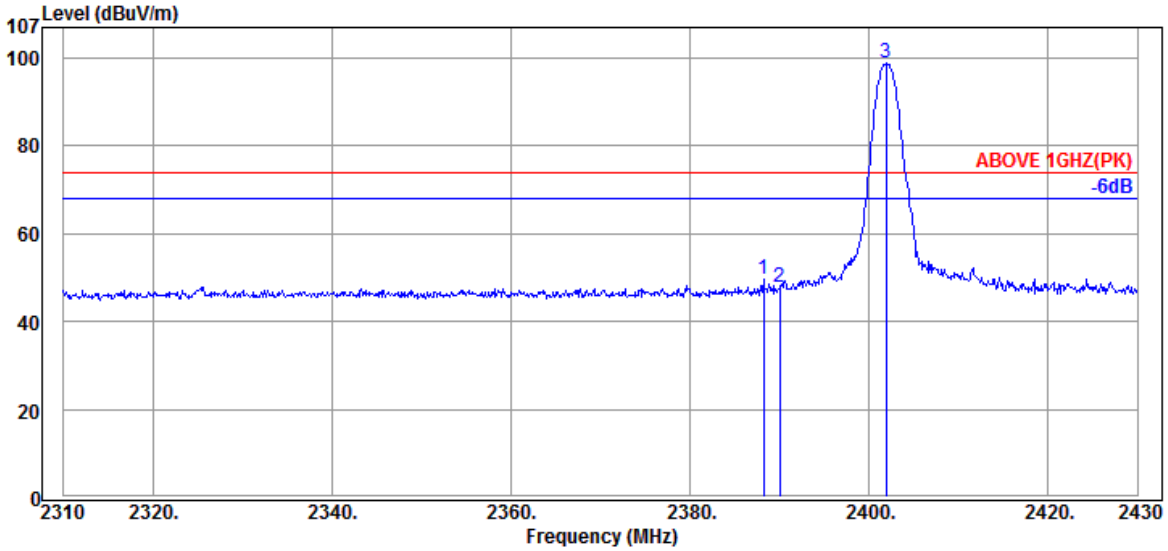
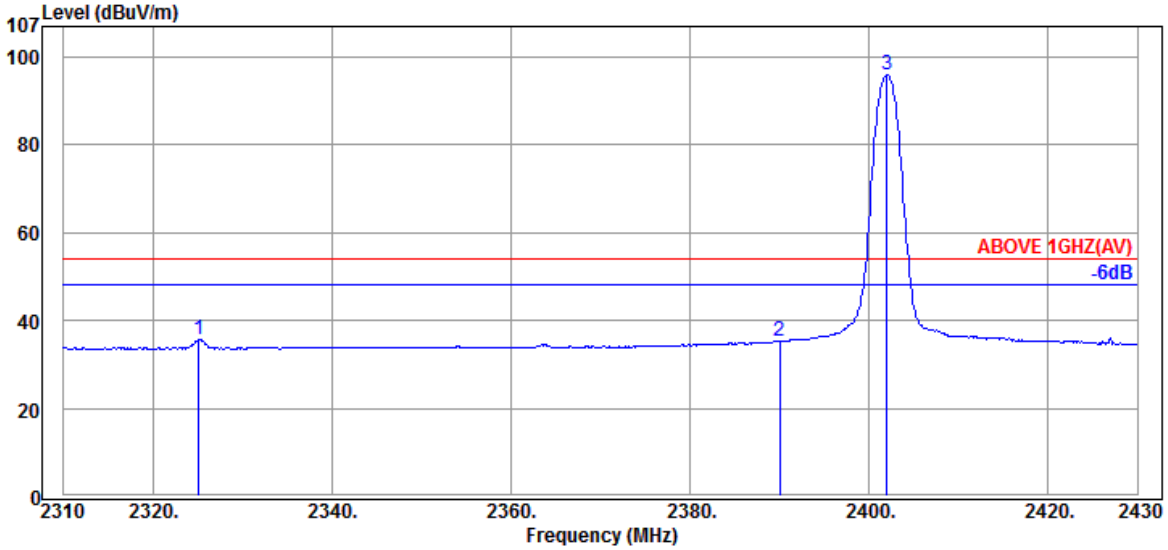
Mode	8-DPSK	Frequency	TX 2402MHz



Antenna at Vertical Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Detector
2388.2400	32.16	7.92	9.62	49.70	74.00	24.30	Peak
2390.0400	32.16	7.92	7.56	47.64	74.00	26.36	Peak
2401.9200	32.16	7.92	58.69	98.77	---	---	Peak



Antenna at Vertical Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Detector
2325.1200	32.06	7.79	-4.14	35.71	54.00	18.29	Average
2390.0400	32.16	7.92	-4.81	35.27	54.00	18.73	Average
2402.0400	32.16	7.92	55.90	95.98	---	---	Average

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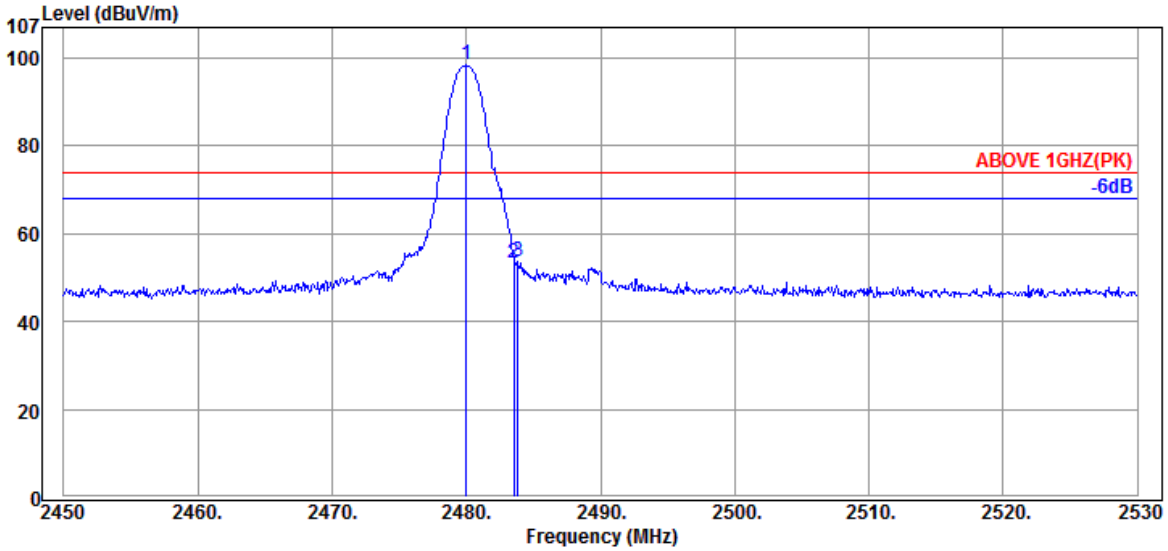
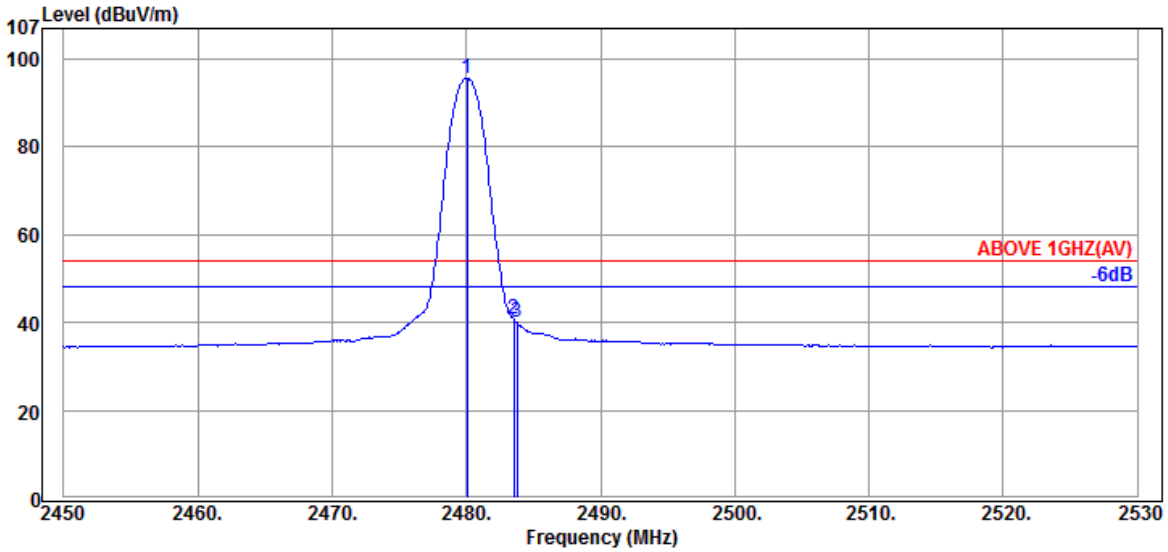
Mode	8-DPSK	Frequency	TX 2480MHz



Antenna at Horizontal Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2480.0000	32.28	7.90	58.18	98.36	---	---	Peak
2483.5200	32.28	7.90	13.27	53.45	74.00	20.55	Peak
2483.8400	32.28	7.90	13.41	53.59	74.00	20.41	Peak



Antenna at Horizontal Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2480.0800	32.28	7.90	55.50	95.68	---	---	Average
2483.5200	32.28	7.90	0.73	40.91	54.00	13.09	Average
2483.7600	32.28	7.90	-0.15	40.03	54.00	13.97	Average

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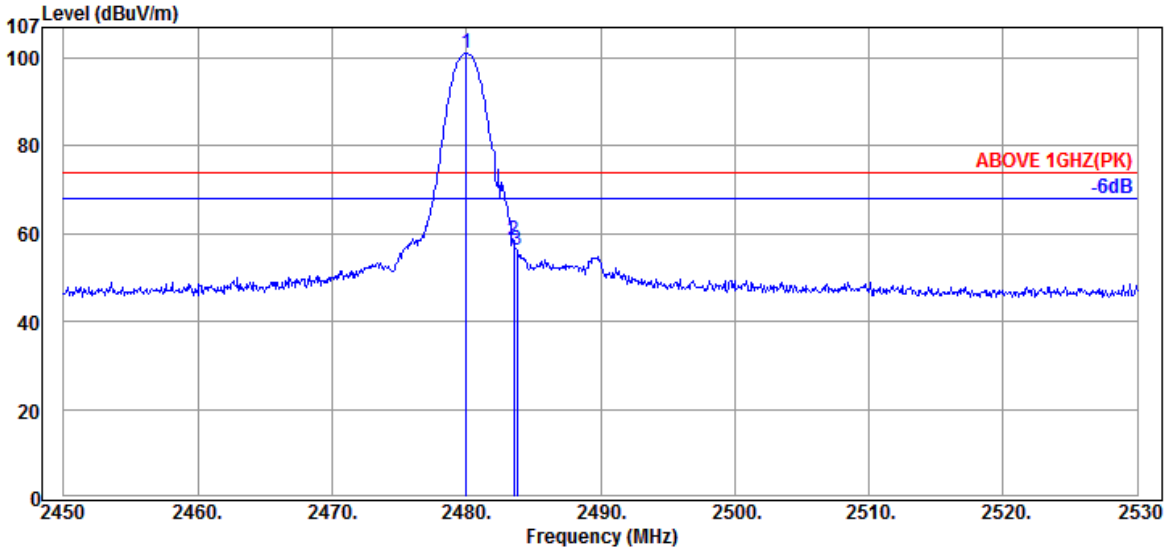
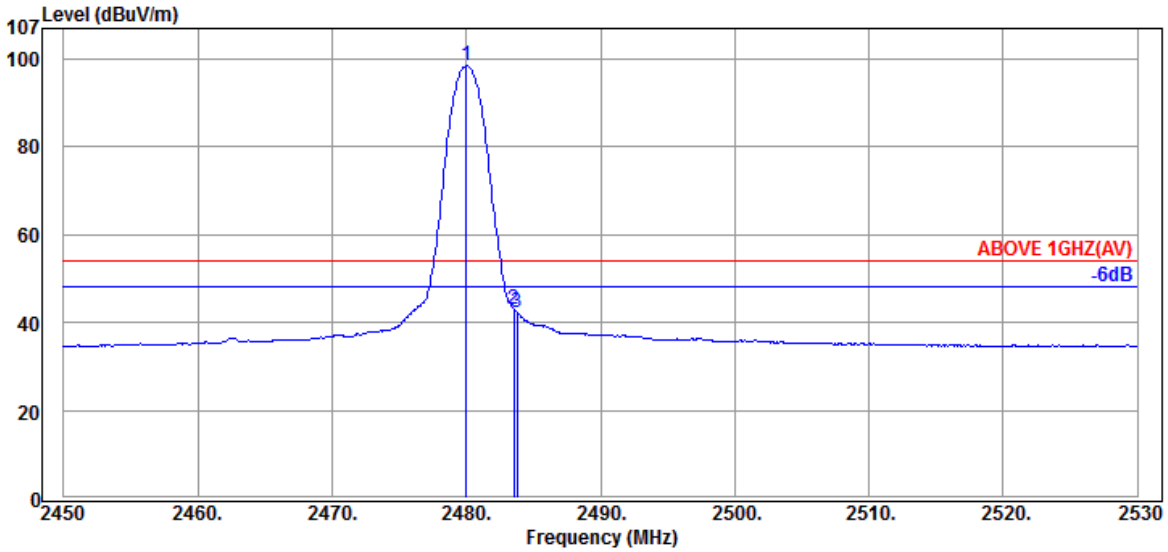


Antenna at Vertical Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2480.0000	32.28	7.90	60.92	101.10	---	---	Peak
2483.5200	32.28	7.90	18.19	58.37	74.00	15.63	Peak
2483.7600	32.28	7.90	15.95	56.13	74.00	17.87	Peak



Antenna at Vertical Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2480.0000	32.28	7.90	58.26	98.44	---	---	Average
2483.5200	32.28	7.90	2.91	43.09	54.00	10.91	Average
2483.7600	32.28	7.90	2.13	42.31	54.00	11.69	Average

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A.2.2 Emissions outside the frequency band:

The emissions (up to 25GHz) not reported for there is no emission be found.

Mode	GFSK	Frequency	TX 2402MHz

Antenna at Horizontal Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
4804.0000	34.22	11.42	-1.01	44.63	54.00	9.37	Peak

Antenna at Vertical Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
4804.0000	34.22	11.42	-1.34	44.30	54.00	9.70	Peak

Mode	GFSK	Frequency	TX 2441MHz

Antenna at Horizontal Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
4882.0000	34.25	13.00	0.01	47.26	54.00	6.74	Peak

Antenna at Vertical Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
4882.0000	34.25	13.00	-1.33	45.92	54.00	8.08	Peak

Mode	GFSK	Frequency	TX 2480MHz

Antenna at Horizontal Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
4960.0000	34.29	13.21	-2.50	45.00	54.00	9.00	Peak

Antenna at Vertical Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
4960.0000	34.29	13.21	-1.99	45.51	54.00	8.49	Peak

A.2.3 Emissions in Non-restricted Frequency Bands:

All emission levels below the FCC 15.209(a)/RSS-Gen Section 8.9 table 4 general radiated emissions limits is not required.

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A.3 20dB BANDWIDTH

Test Date	2018/10/22 ~ 23	Temp./Hum.	23~24℃/52~55%
Cable Loss	2.16dB	Test Voltage	AC 120V, 60Hz (via AC Adapter)

A.3.1 6dB Bandwidth Result

Mode	Centre Frequency (MHz)	20dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz) (Reference only)	2/3 (20dB Bandwidth)
GFSK	2402	0.9185	0.87174	0.612
	2441	0.8828	0.86941	0.589
	2480	0.8827	0.86877	0.588
8-DPSK	2402	1.388	1.3537	0.925
	2441	1.388	1.3547	0.925
	2480	1.386	1.3539	0.924

Remark: The maximum two-thirds of the 20dB bandwidth is the limit for carrier frequency separation presented.

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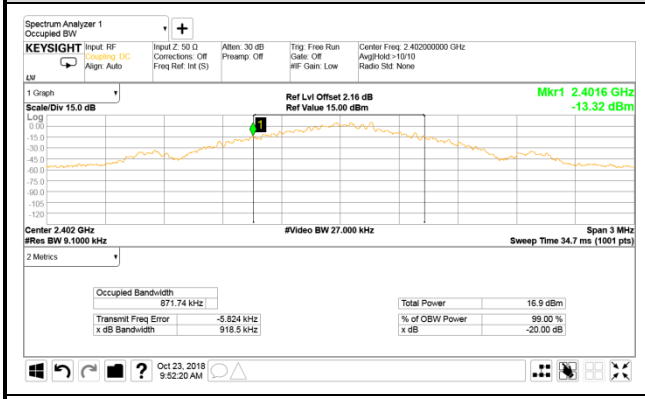
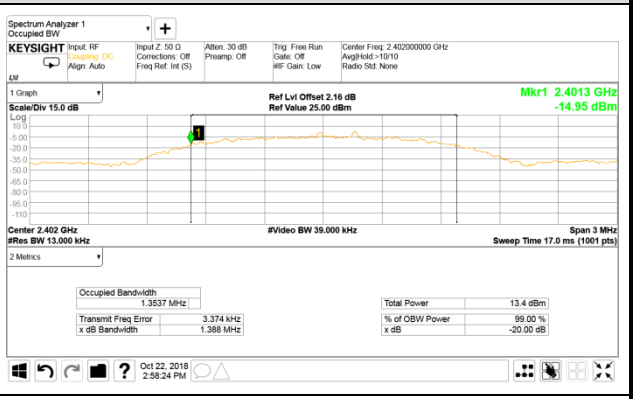
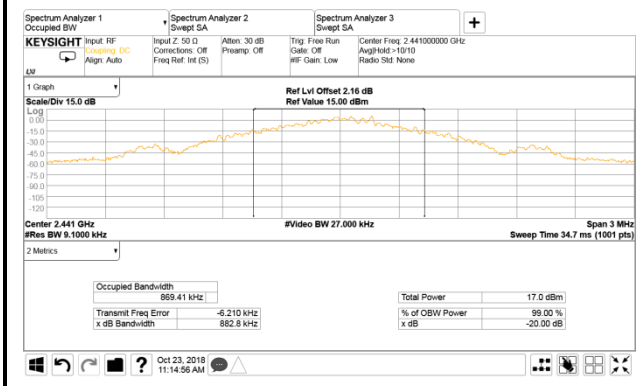
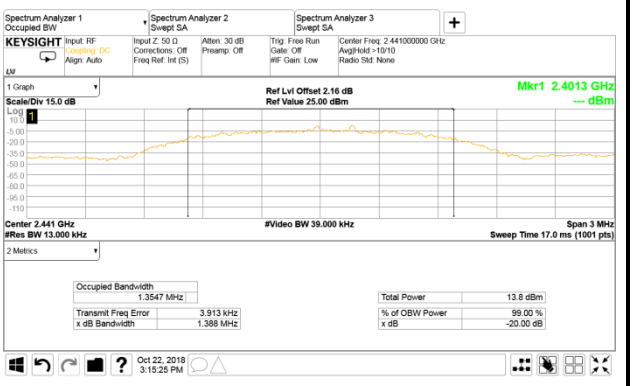
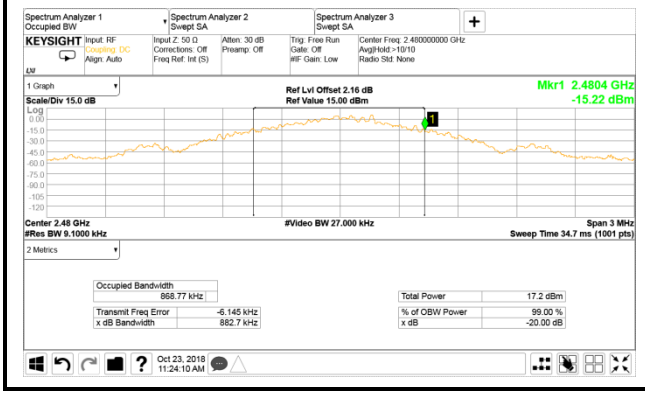
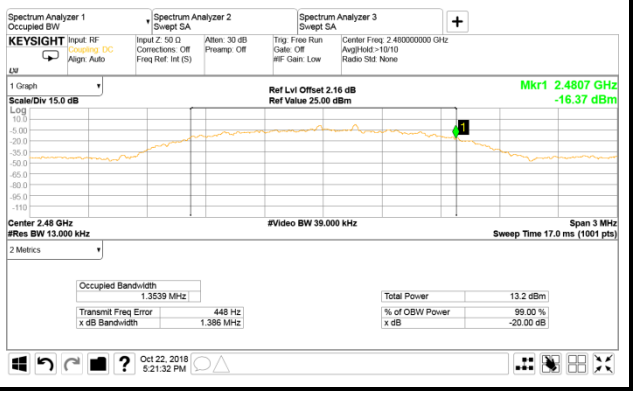
A.3.2 Measurement Plots

Mode: GFSK	Mode: 8-DPSK
	
	
	

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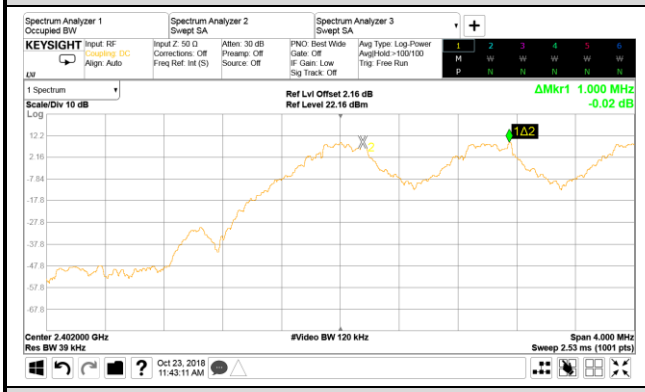
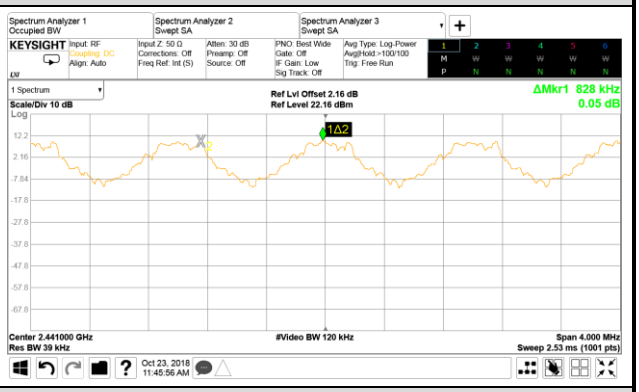
A.4 CARRIER FREQUENCY SEPARATION

Test Date	2018/10/22 ~ 23	Temp./Hum.	23~24℃/52~55%
Cable Loss	2.16dB	Test Voltage	AC 120V, 60Hz (via AC Adapter)

<table>
<tr><td colspan="2">Mode: GFSK</td></tr>
<tr><td rowspan="2">2402MHz</td><td>2441MHz</td></tr>
<tr><td>adjacent channel of left carrier frequency</td></tr>
<tr><td> 
</td><td> 
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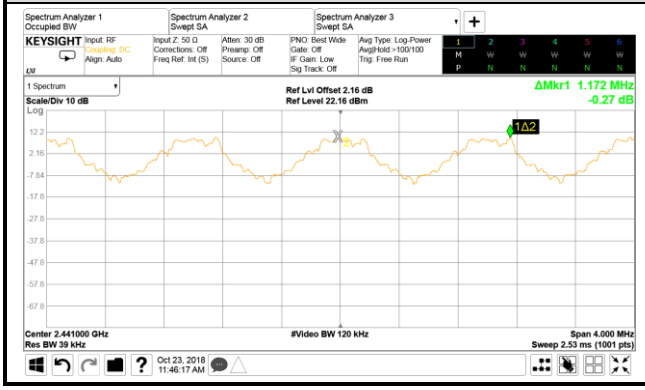
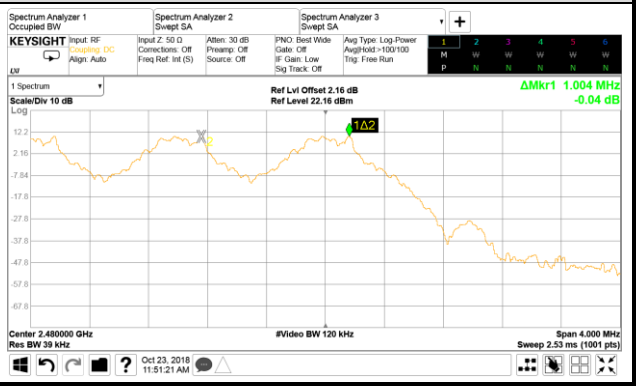
<tr><td>2441MHz
adjacent channel of right carrier frequency</td><td rowspan="2">2480MHz</td></tr>
<tr><td> 
</td><td> 
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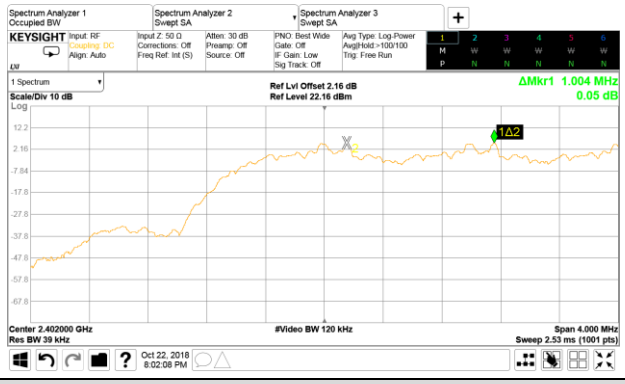
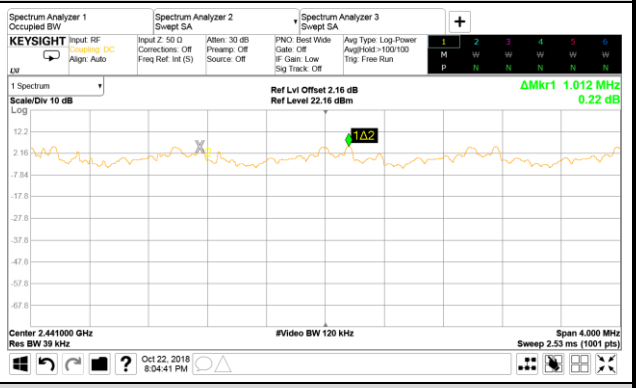
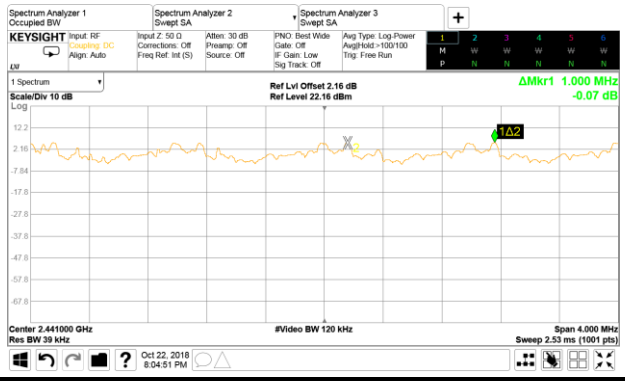
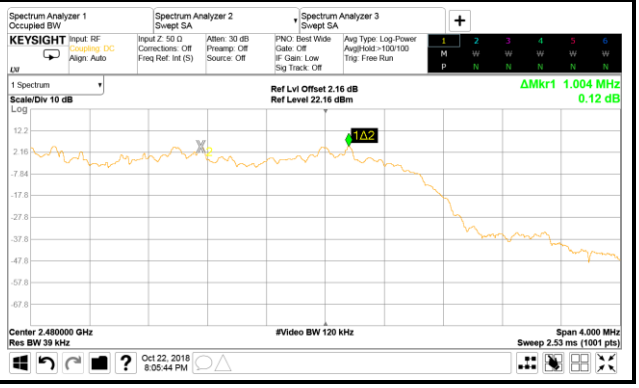
Mode: 8-DPSK	
2402MHz	2441MHz adjacent channel of left carrier frequency
	
2441MHz adjacent channel of right carrier frequency	2480MHz
	

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A.5 TIME OF OCCUPANCY

Test Date	2018/10/22 ~ 23	Temp./Hum.	23~24℃/52~55%
Cable Loss	0.5dB	Test Voltage	AC 120V, 60Hz (via AC Adapter)

A.5.1 Time of Occupancy

Mode	Centre Frequency (MHz)	Mode	Each second appearance transmission	Time of Occupancy (ms)	Maximum accumulated Time of Occupancy (ms)	Limit (ms)
GFSK	2402	DH1	10	0.385	121.660	<400
		DH3	4	1.635	206.664	<400
		DH5	3	2.885	273.498	<400

Observation Period:

79 channels* **0.4** seconds= **31.6** seconds

DH1 Mode

For each second of **10** transmission appearance,the longest time of occupancy is
10 transmission* **31.6** seconds* **0.385** ms= **121.660** ms (<400ms)

DH3 Mode

For each second of **4** transmission appearance,the longest time of occupancy is
4 transmission* **31.6** seconds* **1.635** ms= **206.664** ms (<400ms)

DH5 Mode

For each second of **3** transmission appearance,the longest time of occupancy is
3 transmission* **31.6** seconds* **2.885** ms= **273.498** ms (<400ms)

Mode	Centre Frequency (MHz)	Mode	Each second appearance transmission	Time of Occupancy (ms)	Maximum accumulated Time of Occupancy (ms)	Limit (ms)
GFSK	2440	DH1	10	0.380	120.080	<400
		DH3	4	1.640	207.296	<400
		DH5	3	2.885	273.498	<400

Observation Period:

79 channels* **0.4** seconds= **31.6** seconds

DH1 Mode

For each second of **10** transmission appearance,the longest time of occupancy is
10 transmission* **31.6** seconds* **0.380** ms= **120.080** ms (<400ms)

DH3 Mode

For each second of **4** transmission appearance,the longest time of occupancy is
4 transmission* **31.6** seconds* **1.640** ms= **207.296** ms (<400ms)

DH5 Mode

For each second of **3** transmission appearance,the longest time of occupancy is
3 transmission* **31.6** seconds* **2.885** ms= **273.498** ms (<400ms)

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Mode	Centre Frequency (MHz)	Mode	Each second appearance transmission	Time of Occupancy (ms)	Maximum accumulated Time of Occupancy (ms)	Limit (ms)
GFSK	2480	DH1	10	0.380	120.080	<400
		DH3	5	1.635	258.330	<400
		DH5	2	2.885	182.332	<400

Observation Period:

79 channels* **0.4** seconds= **31.6** seconds

DH1 Mode

For each second of **10** transmission appearance,the longest time of occupancy is

10 transmission* **31.6** seconds* **0.380** ms= **120.080** ms (<400ms)

DH3 Mode

For each second of **5** transmission appearance,the longest time of occupancy is

5 transmission* **31.6** seconds* **1.635** ms= **258.330** ms (<400ms)

DH5 Mode

For each second of **2** transmission appearance,the longest time of occupancy is

2 transmission* **31.6** seconds* **2.885** ms= **182.332** ms (<400ms)

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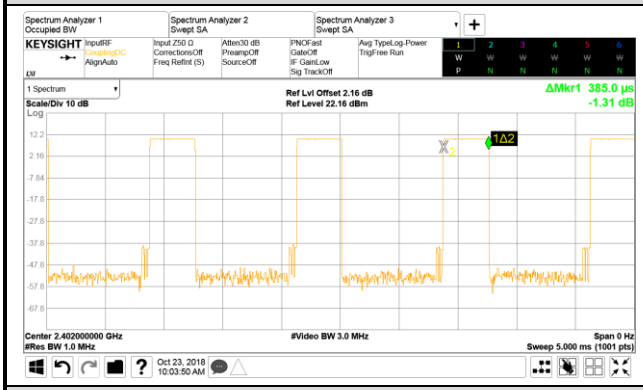
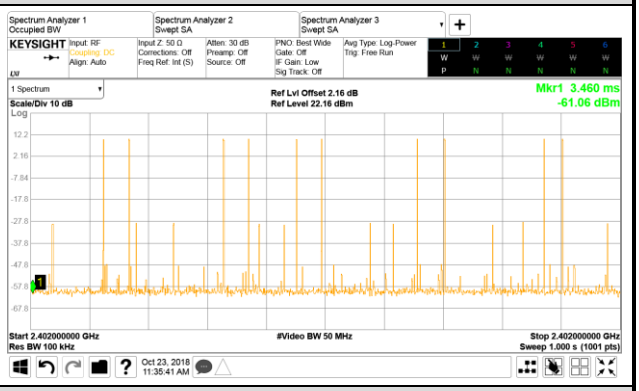
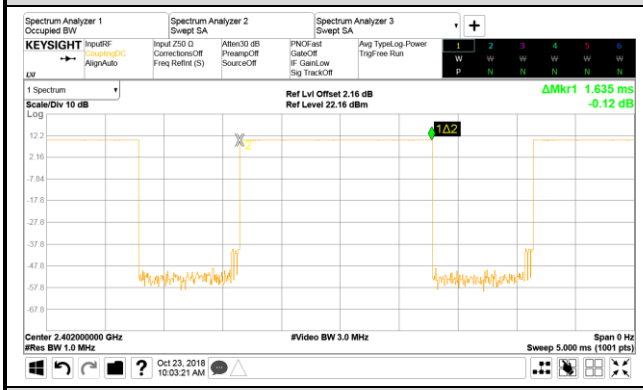
- Measurement Plots

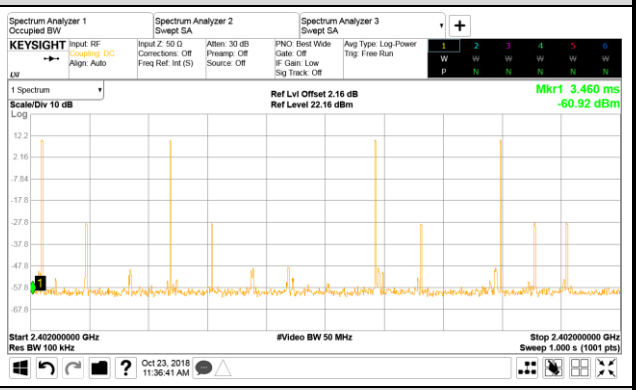
Mode: GFSK
Centre Frequency: 2402MHz
DH1



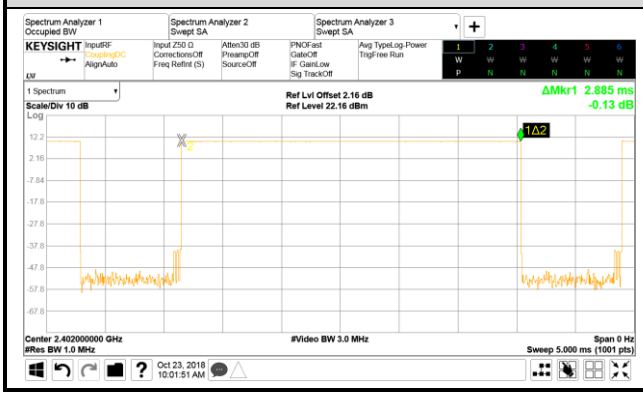


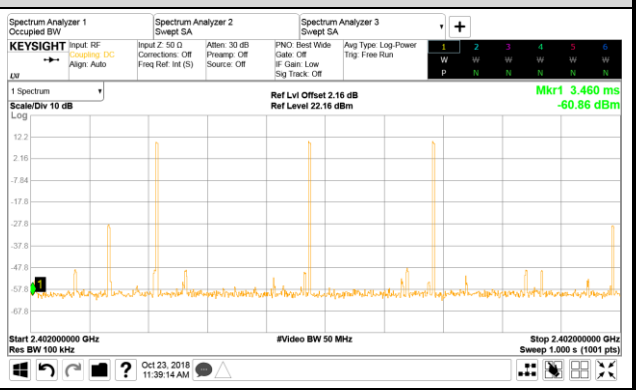
DH3





DH5





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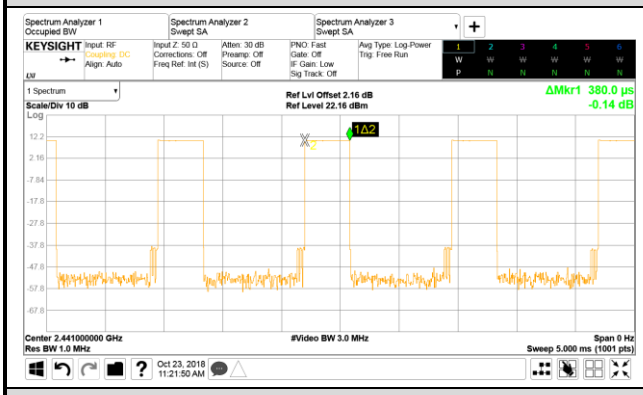
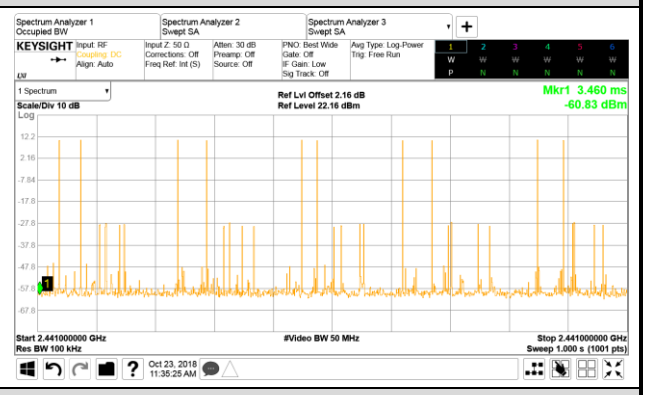
Mode: GFSK	
Centre Frequency: 2441MHz	
DH1	
	
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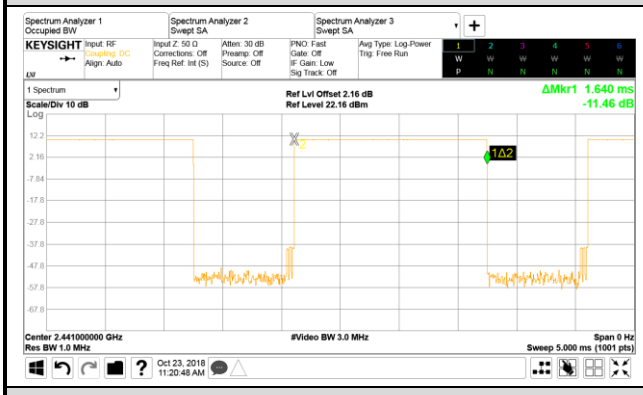	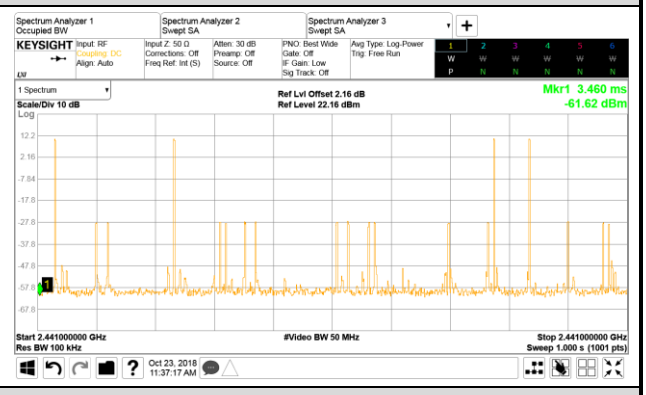
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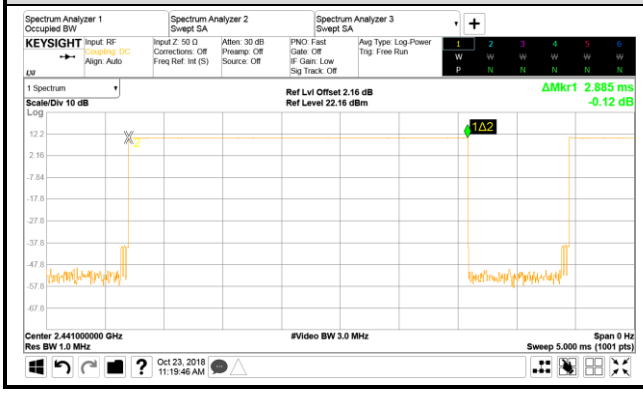	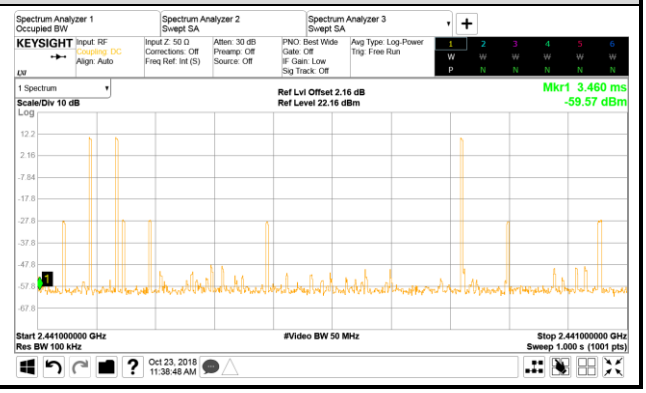

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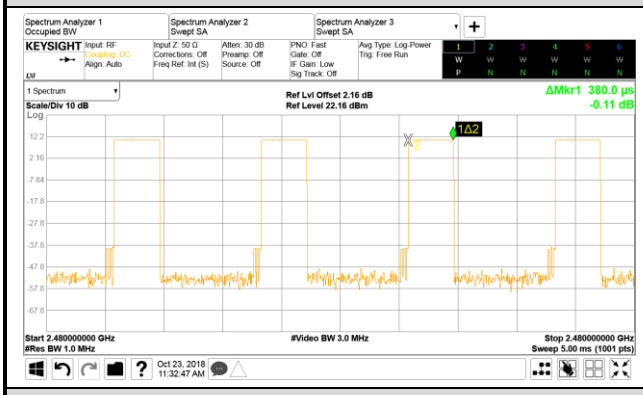
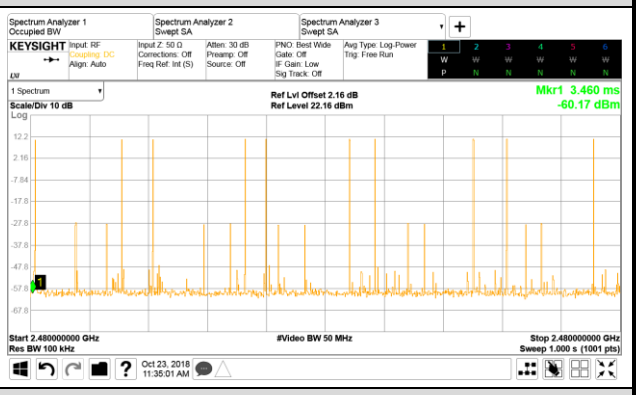
Mode: GFSK	
Centre Frequency: 2480MHz	
DH1	
	
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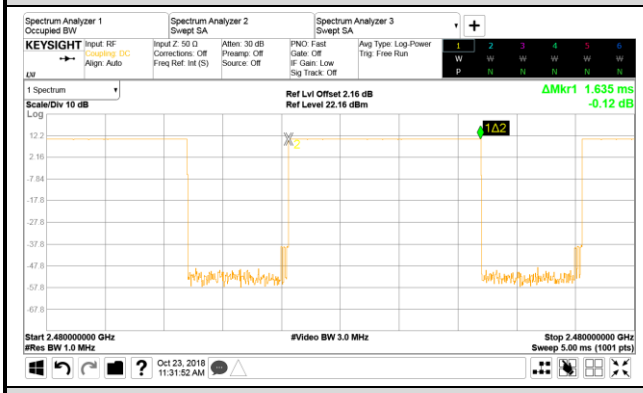	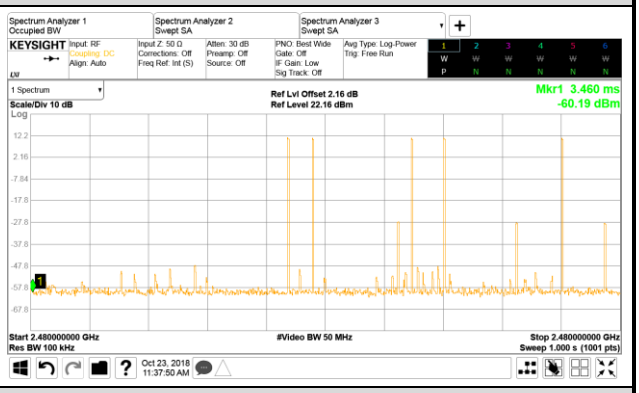
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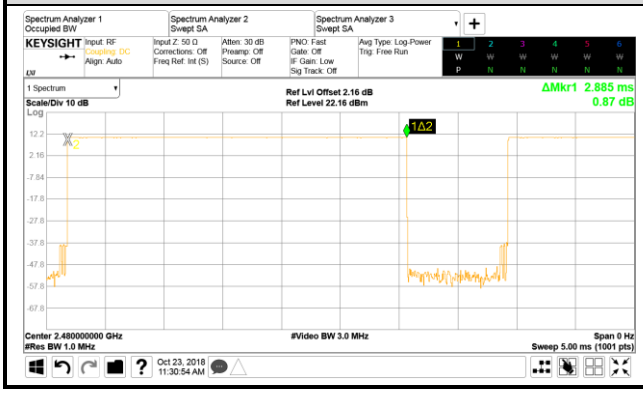	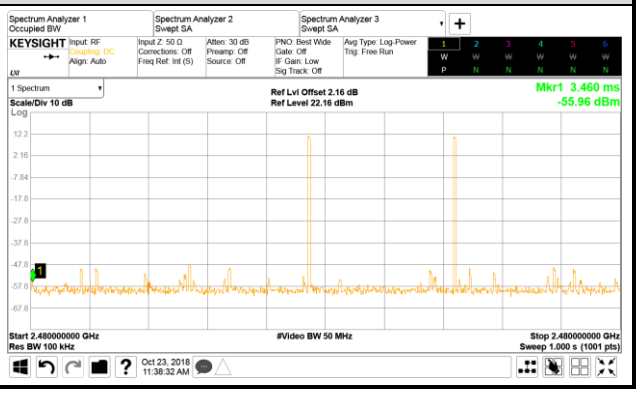

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Mode	Centre Frequency (MHz)	Mode	Each second appearance transmission	Time of Occupancy (ms)	Maximum accumulated Time of Occupancy (ms)	Limit (ms)
8-DPSK	2402	3DH1	10	0.390	123.240	<400
		3DH3	6	1.640	310.944	<400
		3DH5	3	2.890	273.972	<400

Observation Period:

79 channels* **0.4** seconds= **31.6** seconds

3DH1 Mode

For each second of **10** transmission appearance,the longest time of occupancy is

10 transmission* **31.6** seconds* **0.390** ms= **123.240** ms (<400ms)

3DH3 Mode

For each second of **6** transmission appearance,the longest time of occupancy is

6 transmission* **31.6** seconds* **1.640** ms= **310.944** ms (<400ms)

3DH5 Mode

For each second of **3** transmission appearance,the longest time of occupancy is

3 transmission* **31.6** seconds* **2.890** ms= **273.972** ms (<400ms)

Mode	Centre Frequency (MHz)	Mode	Each second appearance transmission	Time of Occupancy (ms)	Maximum accumulated Time of Occupancy (ms)	Limit (ms)
8-DPSK	2441	3DH1	10	0.390	123.240	<400
		3DH3	5	1.640	259.120	<400
		3DH5	3	2.890	273.972	<400

Observation Period:

79 channels* **0.4** seconds= **31.6** seconds

3DH1 Mode

For each second of **10** transmission appearance,the longest time of occupancy is

10 transmission* **31.6** seconds* **0.390** ms= **123.240** ms (<400ms)

3DH3 Mode

For each second of **5** transmission appearance,the longest time of occupancy is

5 transmission* **31.6** seconds* **1.640** ms= **259.120** ms (<400ms)

3DH5 Mode

For each second of **3** transmission appearance,the longest time of occupancy is

3 transmission* **31.6** seconds* **2.890** ms= **273.972** ms (<400ms)

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Mode	Centre Frequency (MHz)	Mode	Each second appearance transmission	Time of Occupancy (ms)	Maximum accumulated Time of Occupancy (ms)	Limit (ms)
8-DPSK	2480	3DH1	10	0.390	123.240	<400
		3DH3	5	1.640	259.120	<400
		3DH5	3	2.890	273.972	<400

Observation Period:

79 channels* **0.4** seconds= **31.6** seconds

3DH1 Mode

For each second of **10** transmission appearance,the longest time of occupancy is

10 transmission* **31.6** seconds* **0.390** ms= **123.240** ms (<400ms)

3DH3 Mode

For each second of **5** transmission appearance,the longest time of occupancy is

5 transmission* **31.6** seconds* **1.640** ms= **259.120** ms (<400ms)

3DH5 Mode

For each second of **3** transmission appearance,the longest time of occupancy is

3 transmission* **31.6** seconds* **2.890** ms= **273.972** ms (<400ms)

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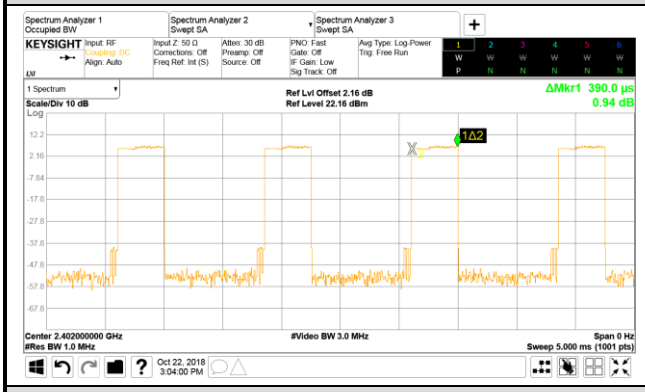
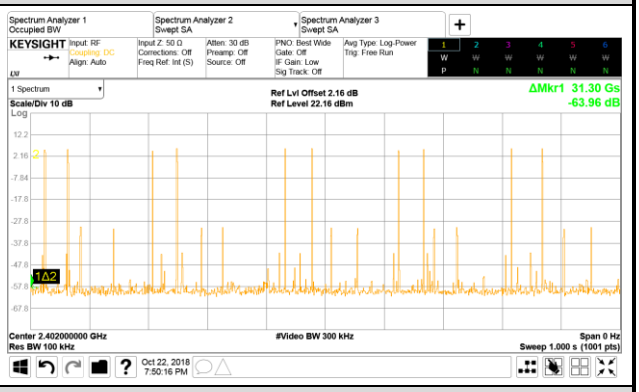
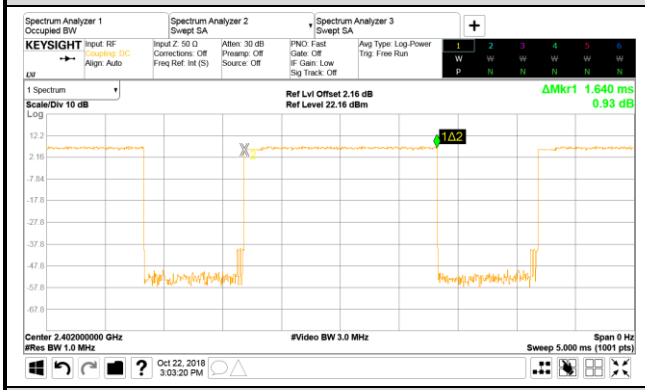
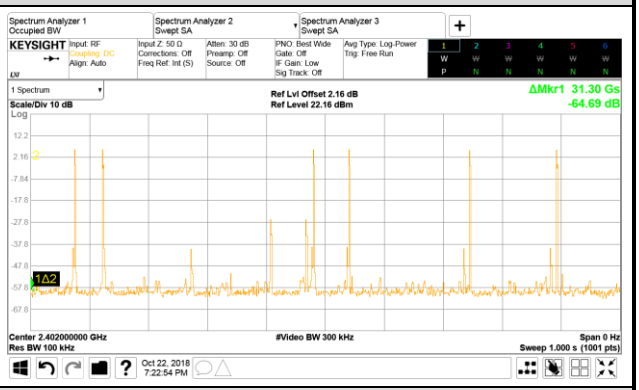
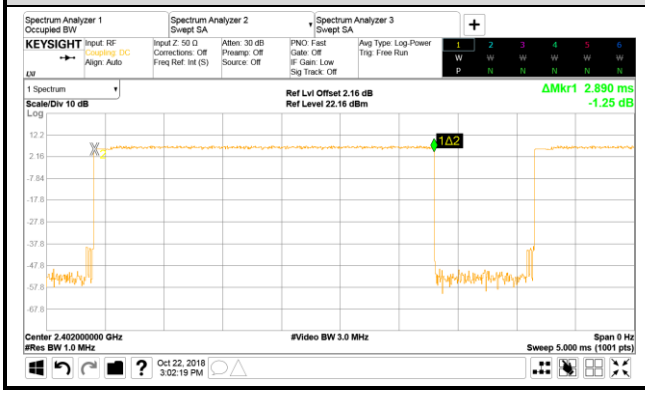
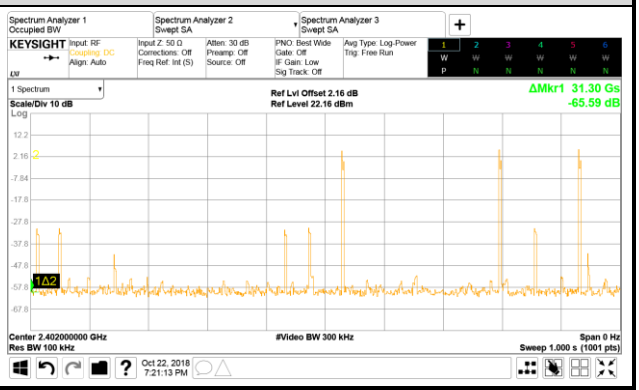
- Measurement Plots

Mode: 8-DPSK	
Centre Frequency: 2402MHz	
3DH1	
	
3DH3	
	
3DH5	
	

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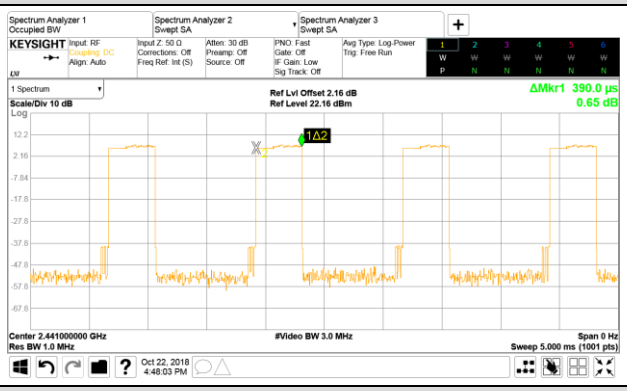
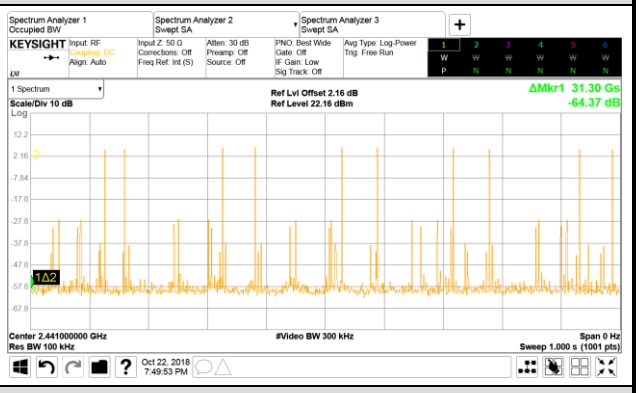
Mode: 8-DPSK	
Centre Frequency: 2441MHz	
3DH1	
	
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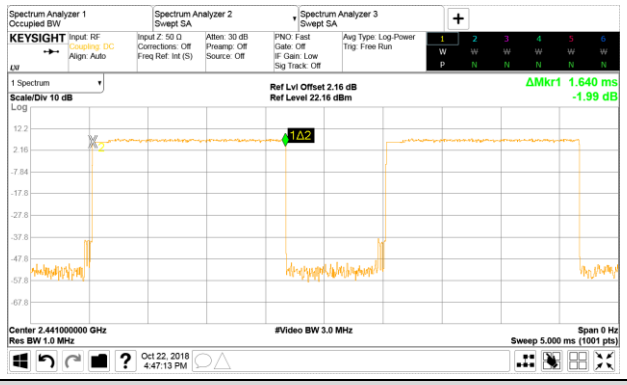	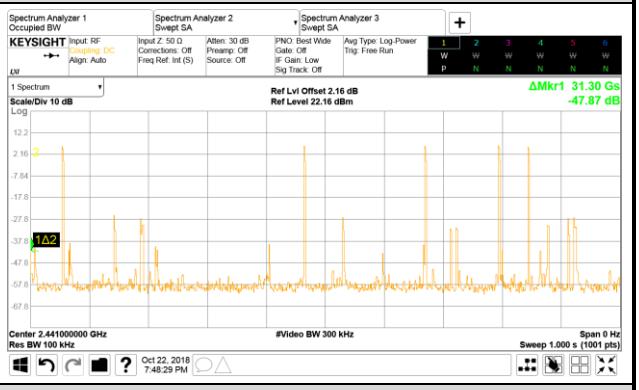
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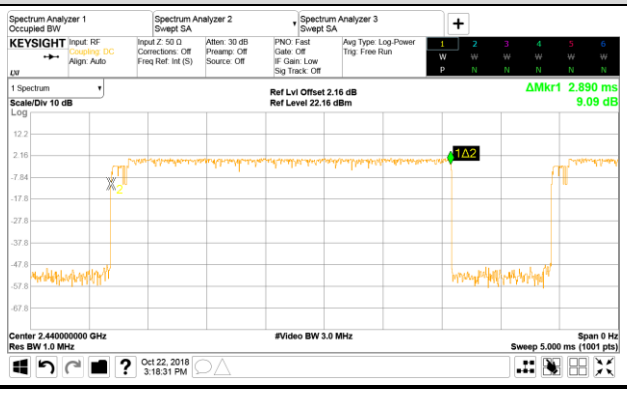	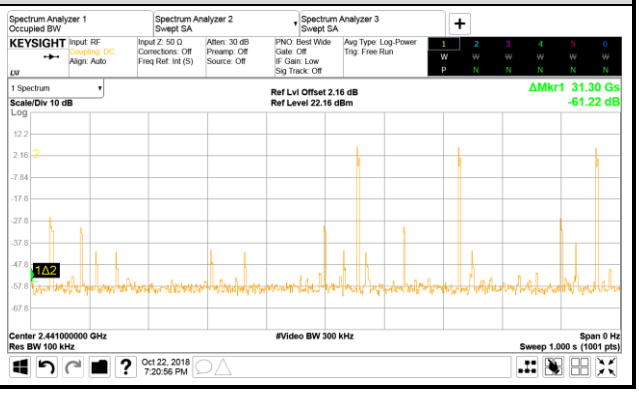

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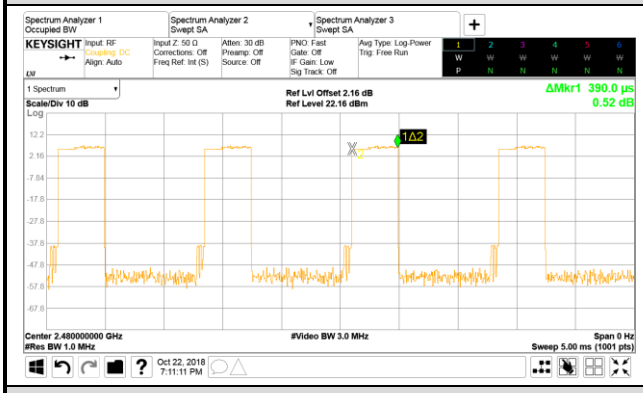
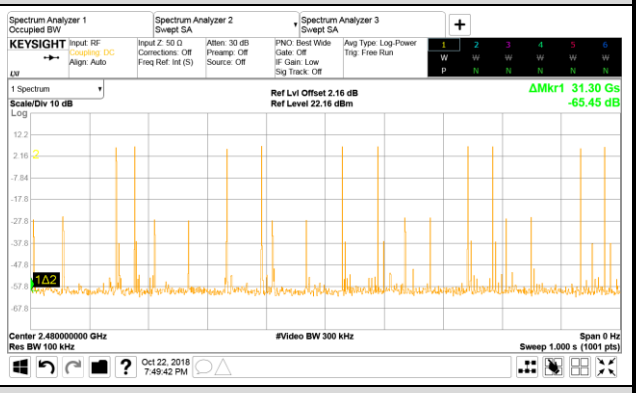
Mode: 8-DPSK	
Centre Frequency: 2480MHz	
3DH1	
	
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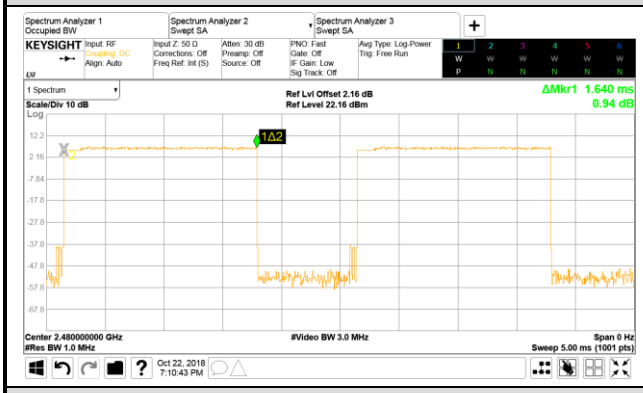
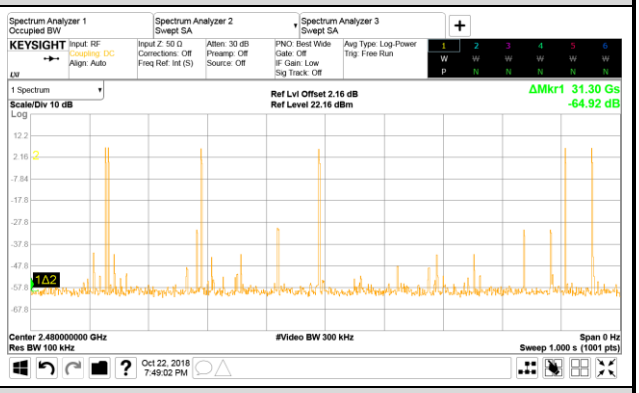
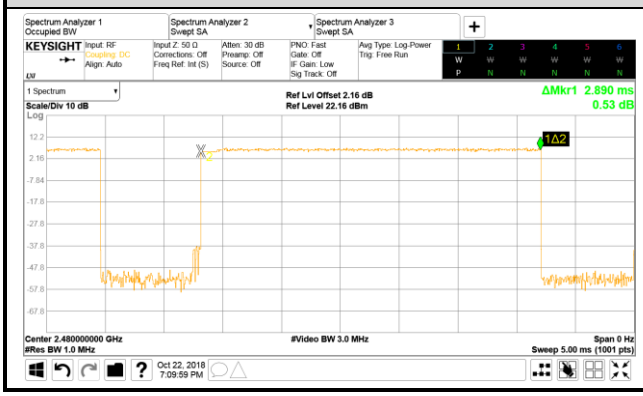
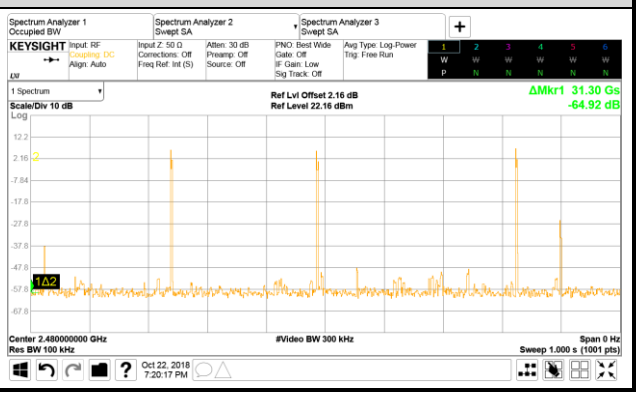
	
3DH5	
	

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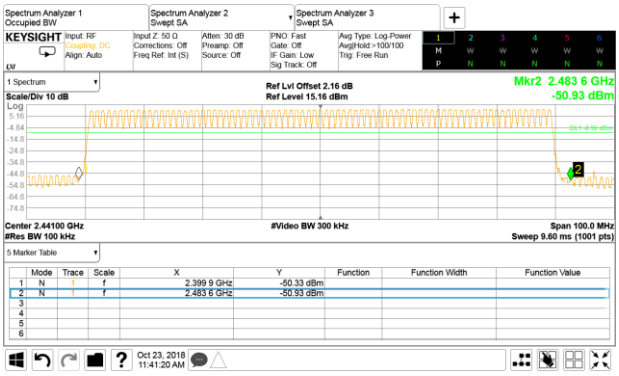
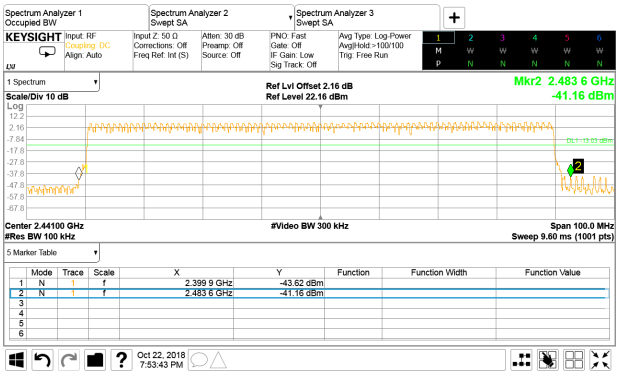
A.6 NUMBER OF HOPPING CHANNELS

Test Date	2018/10/22 ~ 23	Temp./Hum.	23~24℃/52~55%
Cable Loss	2.16dB	Test Voltage	AC 120V, 60Hz (via AC Adapter)

Mode: GFSK	Mode: 8-DPSK
	
The number hopping channel is 79.	The number hopping channel is 79.

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A.7 MAXIMUM PEAK OUTPUT POWER

Test Date	2018/10/22 ~ 23	Temp./Hum.	23~24℃/52~55%
Cable Loss	2.16dB	Test Voltage	AC 120V, 60Hz (via AC Adapter)

A.7.1 Maximum Peak Output Power

Mode	Centre Frequency (MHz)	Maximum Peak Output Power		Limit
		dBm	W	
GFSK	2402	10.33	0.011	21dBm (0.125W)
	2441	10.60	0.011	
	2480	10.67	0.012	
8-DPSK	2402	7.76	0.006	
	2441	8.07	0.006	
	2480	7.59	0.006	

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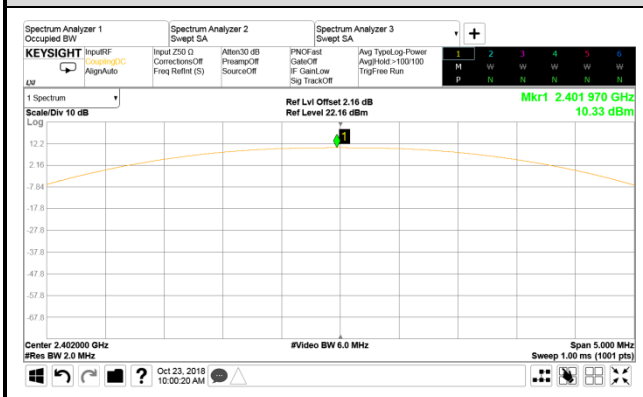
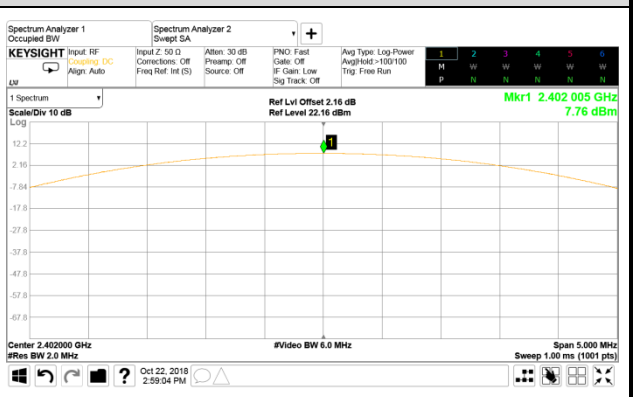
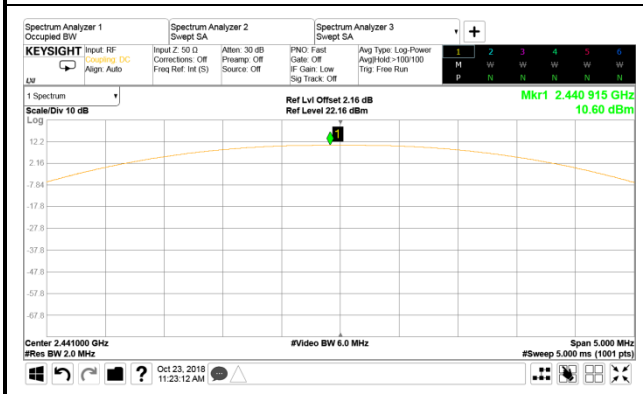
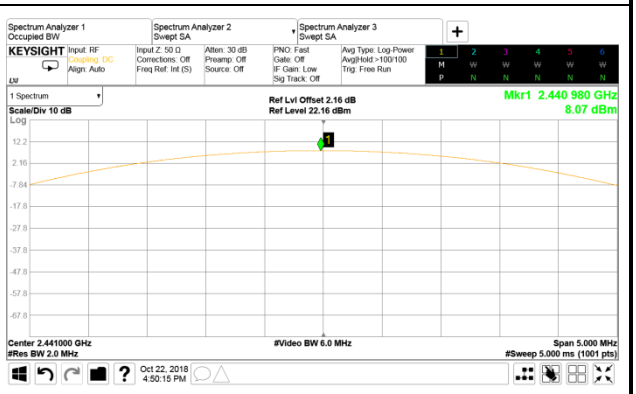
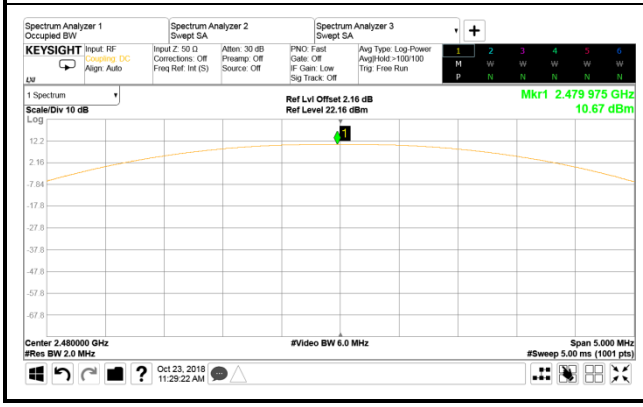
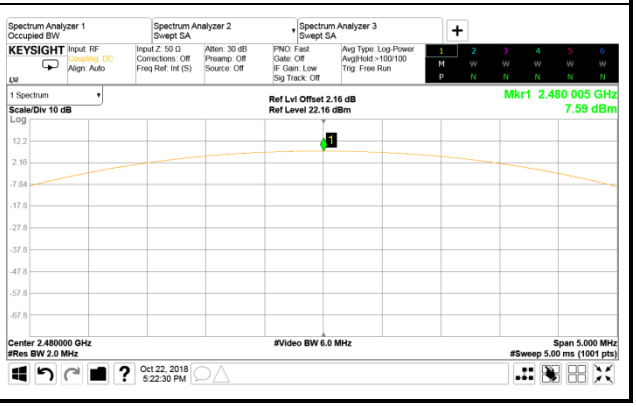
A.7.2 Measurement Plots

Mode: GFSK	Mode: 8-DPSK
	
	
	

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A.8 EMISSION LIMITATIONS MEASUREMENT

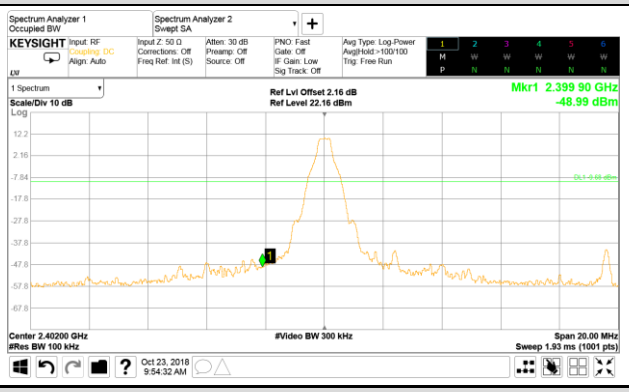
Test Date	2018/10/22 ~ 23	Temp./Hum.	23~24℃/52~55%
Cable Loss	2.16dB	Test Voltage	AC 120V, 60Hz (via AC Adapter)

A.8.1 Band Edge

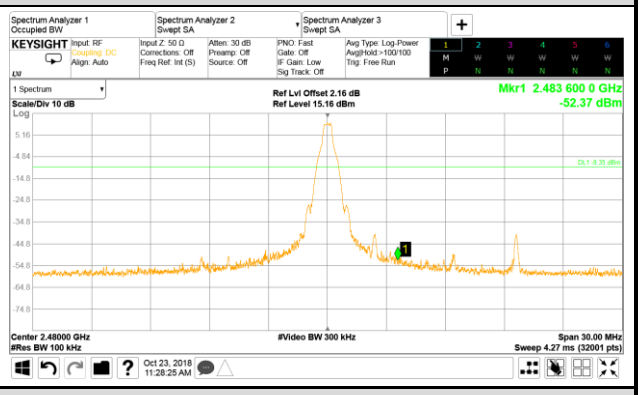
Mode: GFSK

Single Channel

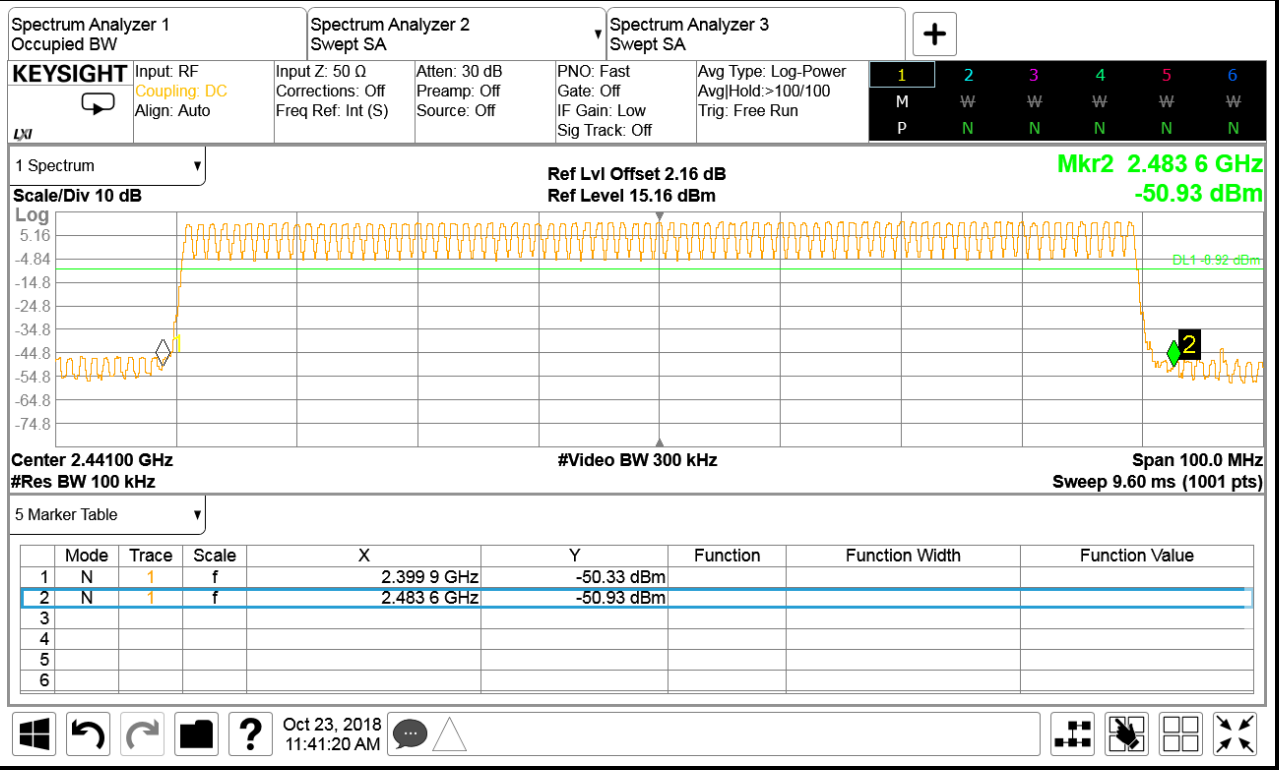
Low channel



High channel



Hopping Mode



	Mode	Trace	Scale	X	Y	Function	Function Width	Function Value
1	N	1	f	2.399 9 GHz	-50.33 dBm			
2	N	1	f	2.483 6 GHz	-50.93 dBm			
3								
4								
5								
6								

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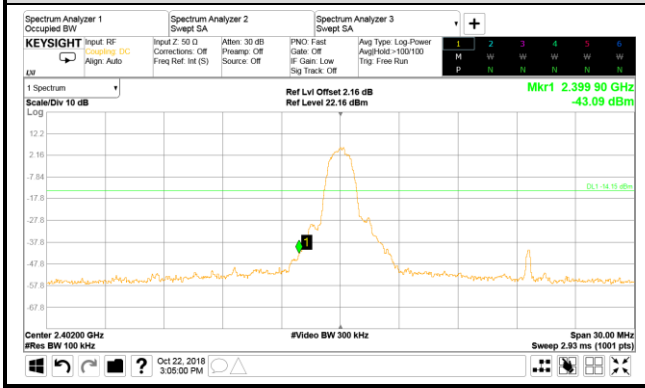
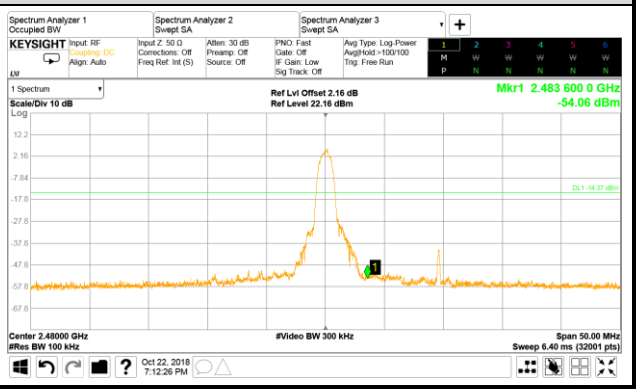
Mode: 8-DPSK

Single Channel

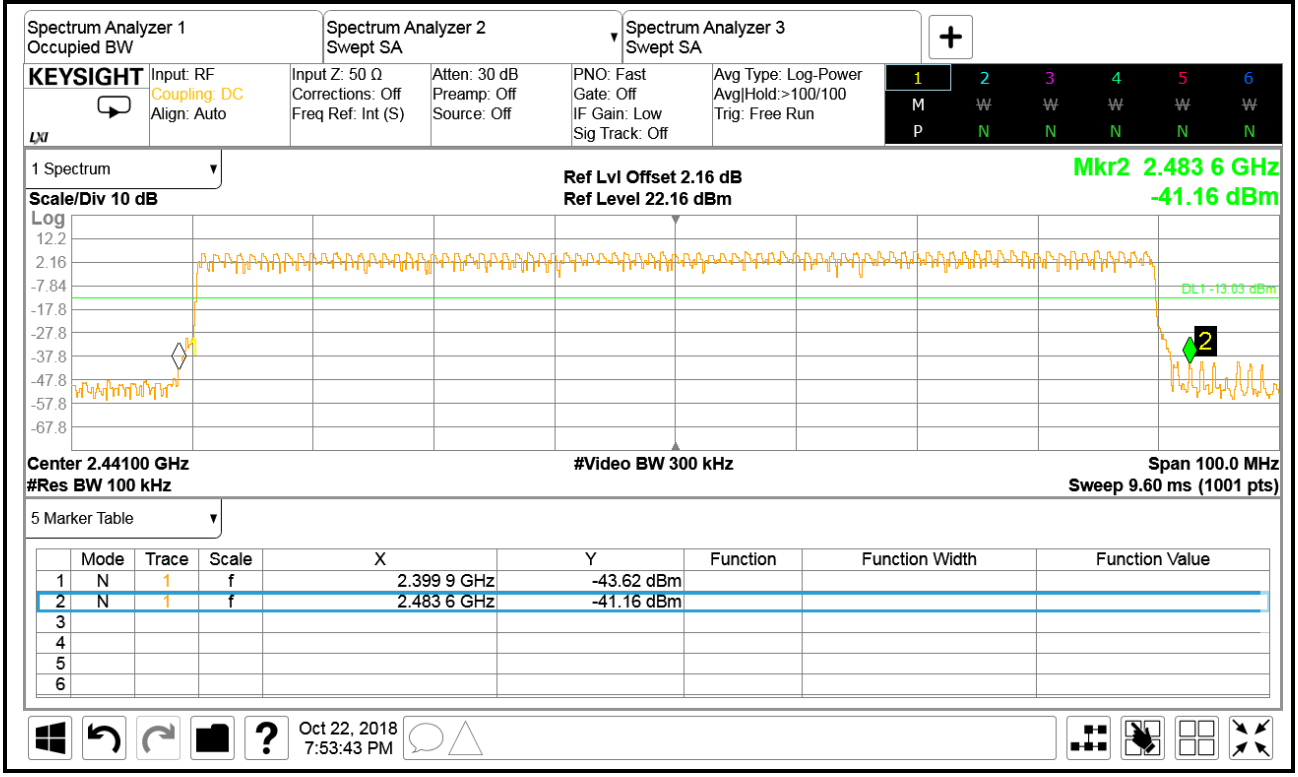
Low channel



High channel



Hopping Mode



	Mode	Trace	Scale	X	Y	Function	Function Width	Function Value
1	N	1	f	2.399 9 GHz	-43.62 dBm			
2	N	1	f	2.483 6 GHz	-41.16 dBm			
3								
4								
5								
6								

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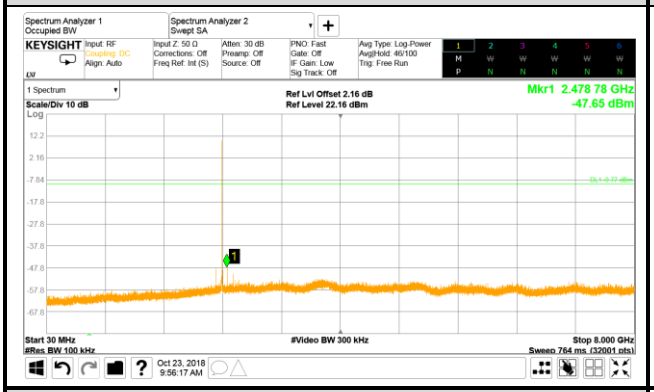
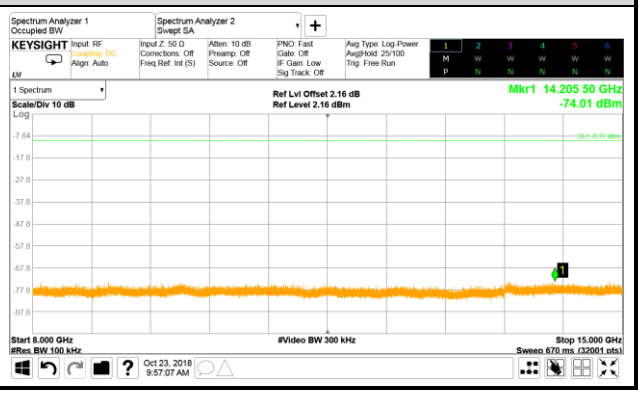
A.8.2 Spurious Emission

Test Date	2018/10/23	Temp./Hum.	23℃/55%
Cable Loss	2.16dB	Test Voltage	AC 120V, 60Hz (via AC Adapter)
Mode	GFSK	Frequency	2402MHz

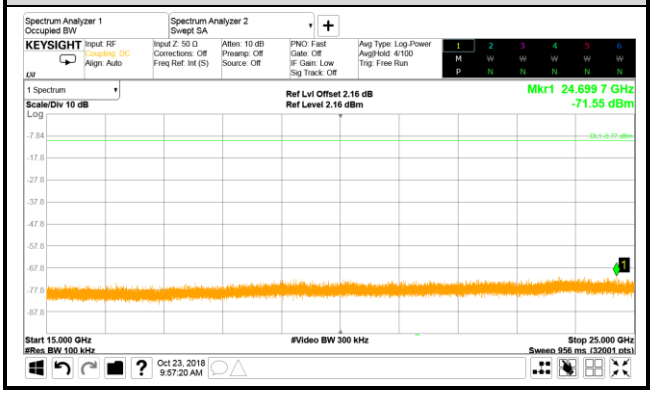
30MHz – 8GHz



8GHz – 15GHz



15GHz – 25GHz



Note: All results have been included cable loss.

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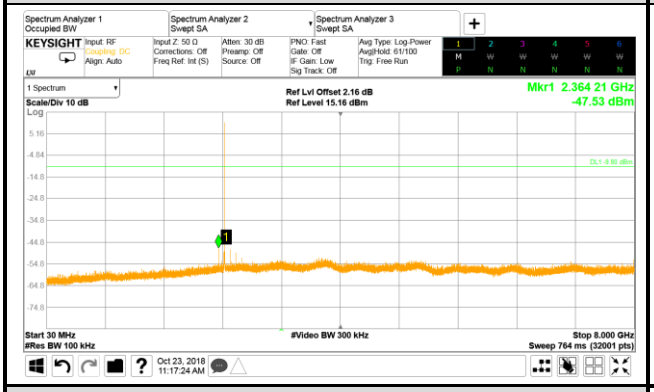
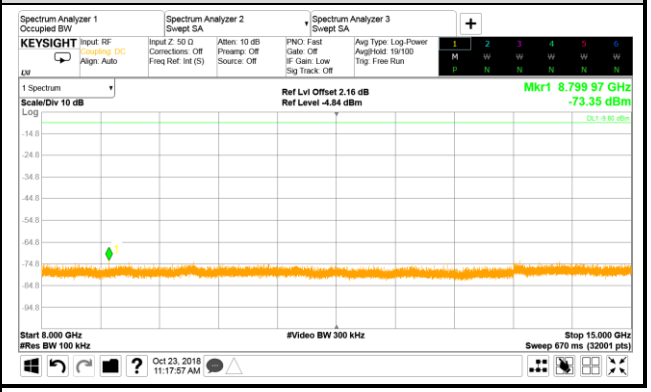
Test Date	2018/10/23	Temp./Hum.	23℃/55%
Cable Loss	2.16dB	Test Voltage	AC 120V, 60Hz (via AC Adapter)
Mode	GFSK	Frequency	2441MHz

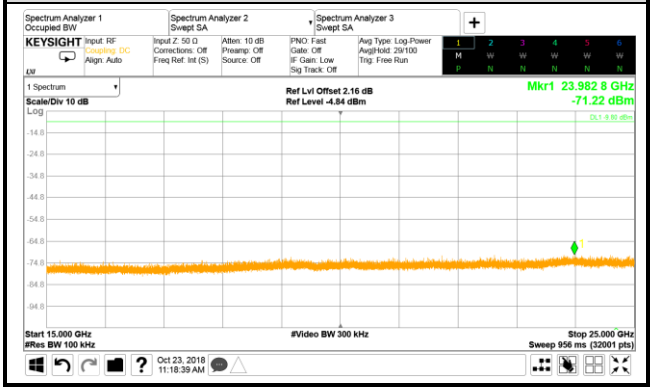
30MHz – 8GHz



8GHz – 15GHz



15GHz – 25GHz



Note: All results have been included cable loss.

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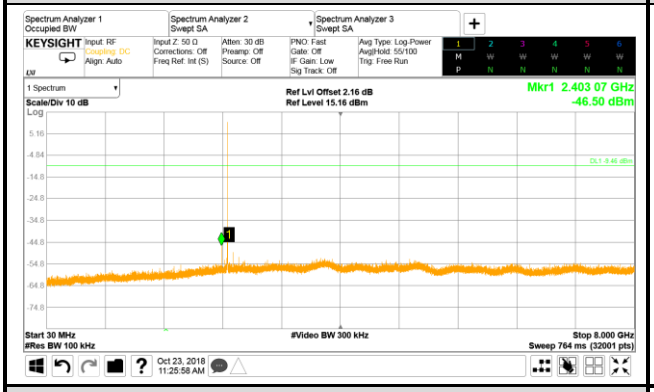
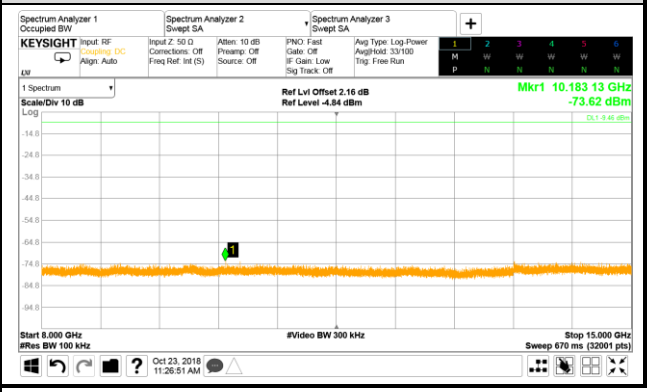
Test Date	2018/10/23	Temp./Hum.	23℃/55%
Cable Loss	2.16dB	Test Voltage	AC 120V, 60Hz (via AC Adapter)
Mode	GFSK	Frequency	2480MHz

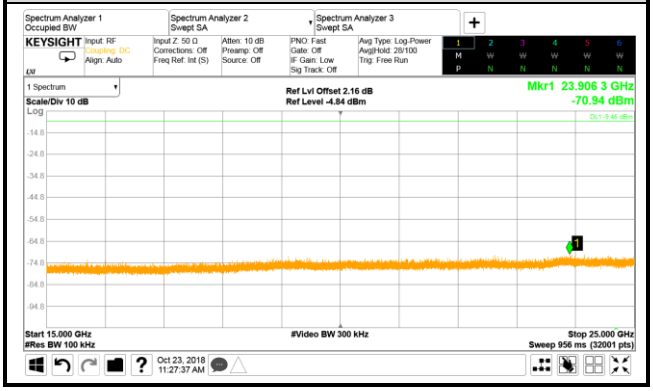
30MHz – 8GHz



8GHz – 15GHz



15GHz – 25GHz



Note: All results have been included cable loss.

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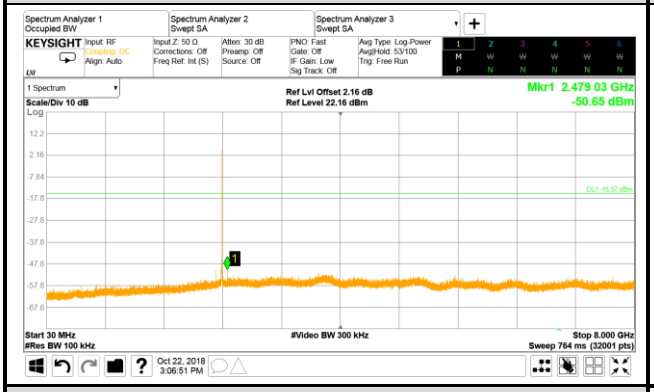
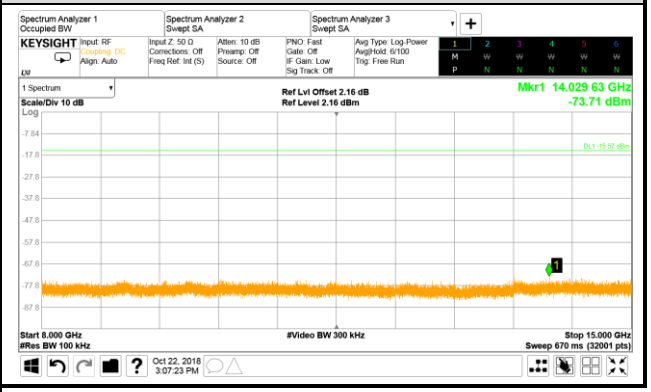
Test Date	2018/10/22	Temp./Hum.	24℃/52%
Cable Loss	2.16dB	Test Voltage	AC 120V, 60Hz (via AC Adapter)
Mode	8-DPSK	Frequency	2402MHz

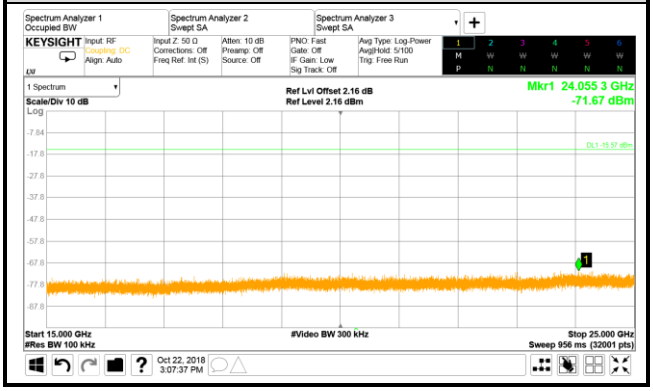
30MHz – 8GHz



8GHz – 15GHz



15GHz – 25GHz



Note: All results have been included cable loss.

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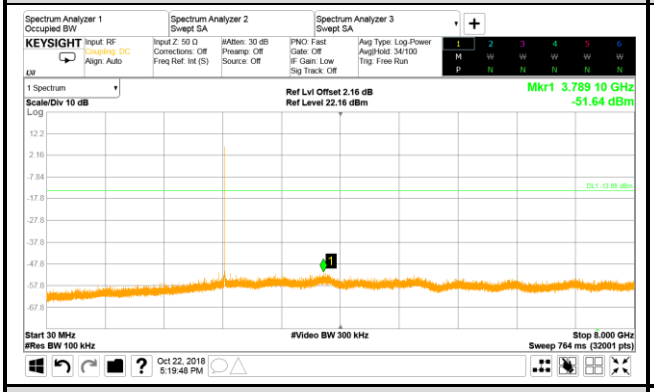
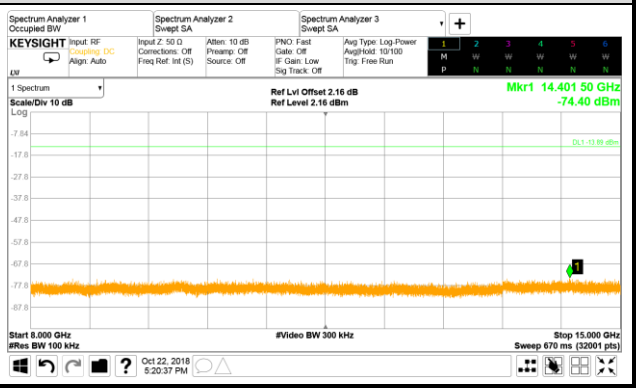
Test Date	2018/10/22	Temp./Hum.	24℃/52%
Cable Loss	2.16dB	Test Voltage	AC 120V, 60Hz (via AC Adapter)
Mode	8-DPSK	Frequency	2441MHz

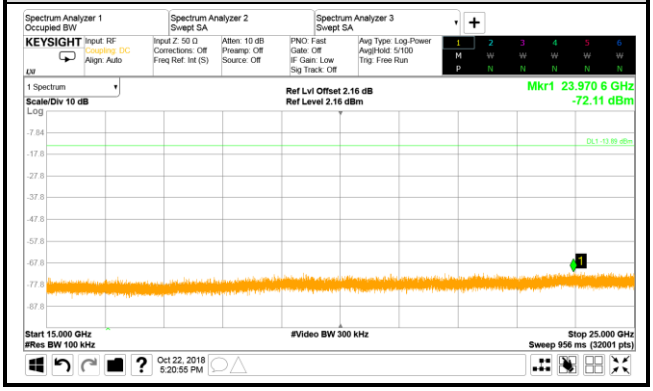
30MHz – 8GHz



8GHz – 15GHz



15GHz – 25GHz



Note: All results have been included cable loss.

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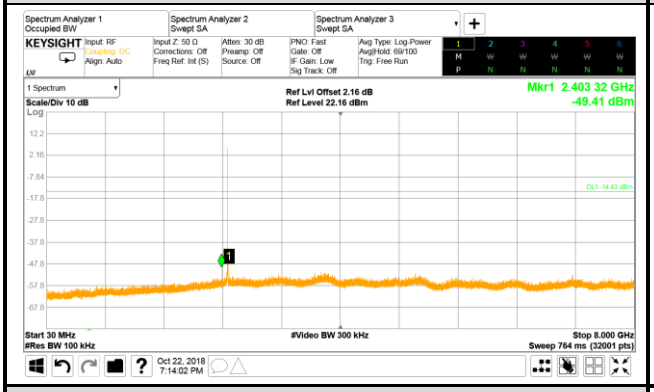
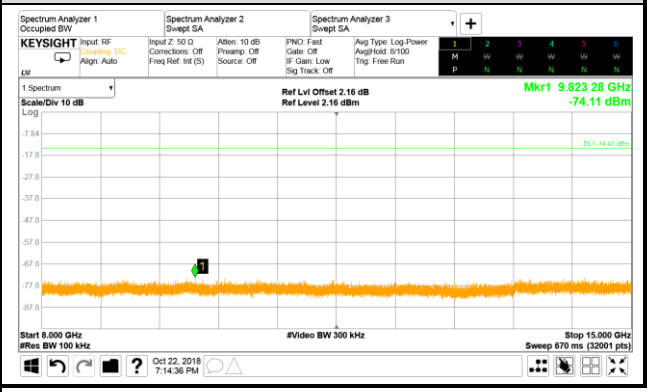
Test Date	2018/10/22	Temp./Hum.	24℃/52%
Cable Loss	2.16dB	Test Voltage	AC 120V, 60Hz (via AC Adapter)
Mode	8-DPSK	Frequency	2480MHz

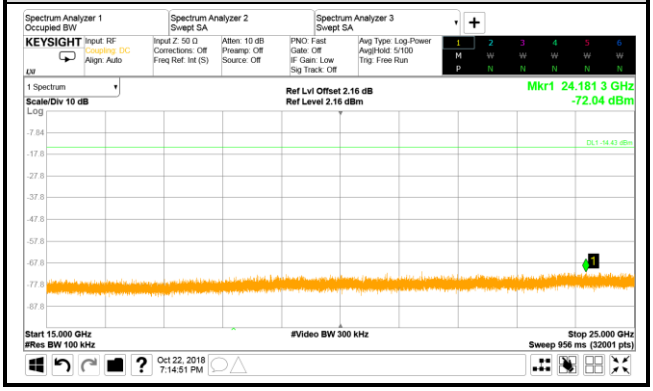
30MHz – 8GHz



8GHz – 15GHz



15GHz – 25GHz



Note: All results have been included cable loss.

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APPDNDIX B

TEST PHOTOGRAPHS

(Model: 17Z990)