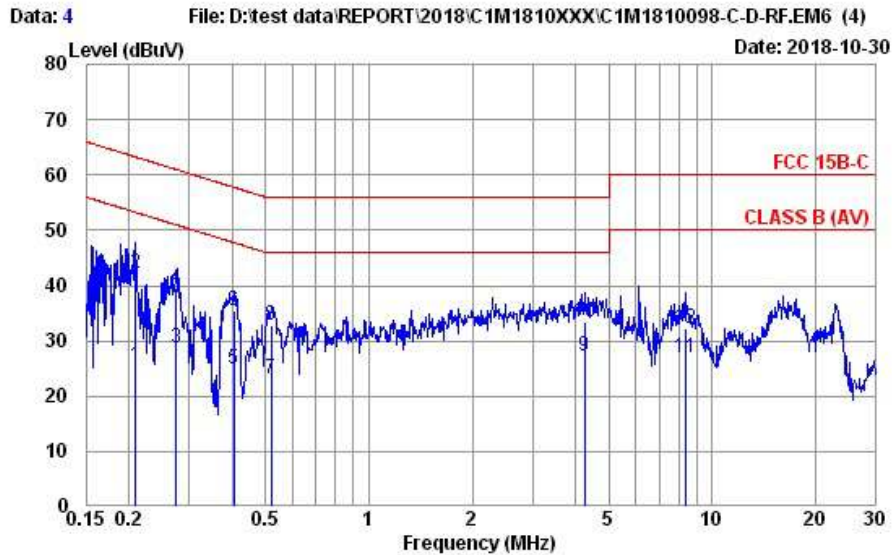


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## A.1 CONDUCTED EMISSION

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

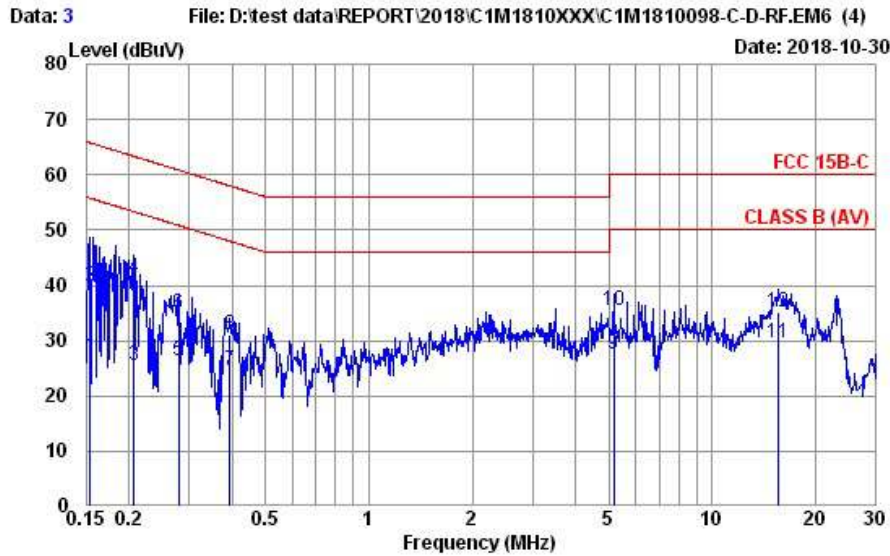


Site no. : No.8 Shielded Room Data no. : 4  
 Condition : ENV4200 100169 LISN Phase : NEUTRAL  
 Limit : FCC 15B-C  
 Env. / Ins. : 24°C / 49% ESR3(1774) Engineer : Nick Du  
 EUT : 13Z990  
 Power Rating : 120Vac/60Hz  
 Test Mode : Operating

	Freq. (MHz)	AMN Factor (dB)	Cable Loss (dB)	Pulse Att. (dB)	Reading (dBμV)	Emission Level (dBμV)	Limits (dBμV)	Margin (dB)	Remark
1	0.209	10.51	0.03	9.98	4.88	25.40	53.23	27.83	Average
2	0.209	10.51	0.03	9.98	21.67	42.19	63.23	21.04	QP
3	0.274	10.48	0.03	9.98	8.24	28.73	50.98	22.25	Average
4	0.274	10.48	0.03	9.98	19.01	39.50	60.98	21.48	QP
5	0.404	10.43	0.04	9.98	4.53	24.98	47.77	22.79	Average
6	0.404	10.43	0.04	9.98	15.05	35.50	57.77	22.27	QP
7	0.518	10.43	0.05	9.98	2.61	23.07	46.00	22.93	Average
8	0.518	10.43	0.05	9.98	12.41	32.87	56.00	23.13	QP
9	4.247	10.64	0.11	10.00	6.56	27.31	46.00	18.69	Average
10	4.247	10.64	0.11	10.00	12.60	33.35	56.00	22.65	QP
11	8.323	11.16	0.17	10.01	5.66	27.00	50.00	23.00	Average
12	8.323	11.16	0.17	10.01	10.88	32.22	60.00	27.78	QP

Remarks: 1. Emission Level= AMN Factor + Cable Loss + Pulse Att. + Reading.  
 2. If the average limit is met when using a quasi-peak detector, the EUT shall be deemed to meet both limits and measurement with average detector is unnecessary.

Test Date	2018/10/30	Temp./Hum.	24°C/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 : 13Z990  
 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	0.154	10.62	0.03	9.98	6.28	26.91	55.78	28.87	Average
2	0.154	10.62	0.03	9.98	19.19	39.82	65.78	25.96	QP
3	0.207	10.55	0.03	9.98	4.86	25.42	53.32	27.90	Average
4	0.207	10.55	0.03	9.98	20.80	41.36	63.32	21.96	QP
5	0.279	10.51	0.03	9.98	5.84	26.36	50.85	24.49	Average
6	0.279	10.51	0.03	9.98	14.24	34.76	60.85	26.09	QP
7	0.393	10.45	0.04	9.98	4.10	24.57	47.99	23.42	Average
8	0.393	10.45	0.04	9.98	10.63	31.10	57.99	26.89	QP
9	5.166	10.79	0.13	10.00	6.54	27.46	50.00	22.54	Average
10	5.166	10.79	0.13	10.00	14.50	35.42	60.00	24.58	QP
11	15.552	12.74	0.23	10.05	6.71	29.73	50.00	20.27	Average
12	15.552	12.74	0.23	10.05	12.29	35.31	60.00	24.69	QP

Remarks: 1. Emission Level= AMN Factor + Cable Loss + Pulse Att. + Reading.  
 2. If the average limit is met when using a quasi-peak detector, the EUT shall be deemed to meet both limits and measurement with average detector is unnecessary.

## A.2 RADIATED EMISSION

Test Date	2018/11/02	Temp./Hum.	23°C/50%
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 1GHz

Mode	GFSK	Frequency	TX 2480MHz
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#### Antenna at Horizontal Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dB $\mu$ V)	Emission Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)	Detector
48.43	15.38	1.54	9.80	26.72	40.00	13.28	Peak
123.12	18.64	2.54	7.24	28.42	43.50	15.08	Peak
269.59	19.29	4.01	4.58	27.88	46.00	18.12	Peak
438.37	22.51	5.91	2.58	31.00	46.00	15.00	Peak
654.68	24.77	6.94	1.71	33.42	46.00	12.58	Peak
893.30	26.76	8.14	1.48	36.38	46.00	9.62	Peak

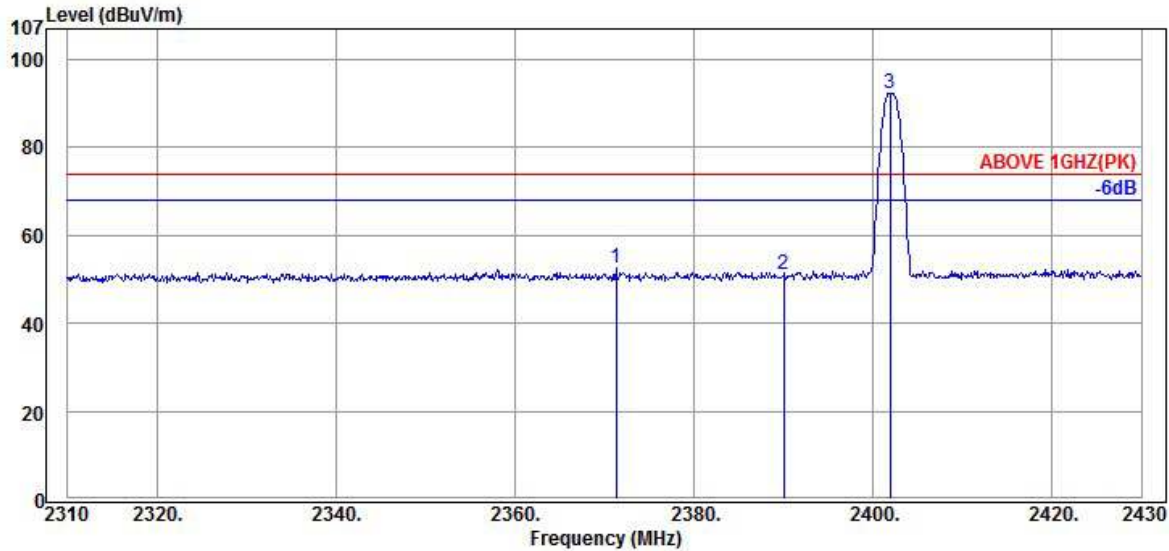
#### Antenna at Vertical Polarization

Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dB $\mu$ V)	Emission Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)	Detector
31.94	23.76	1.25	13.73	38.74	40.00	1.26	Peak
94.02	16.36	2.20	12.88	31.44	43.50	12.06	Peak
165.80	16.06	2.99	10.20	29.25	43.50	14.25	Peak
239.52	18.47	3.71	6.14	28.32	46.00	17.68	Peak
326.82	20.25	4.68	9.00	33.93	46.00	12.07	Peak
499.48	23.14	6.42	5.19	34.75	46.00	11.25	Peak

A.2.1.3 Frequency Above 1 GHz to 10<sup>th</sup> harmonics

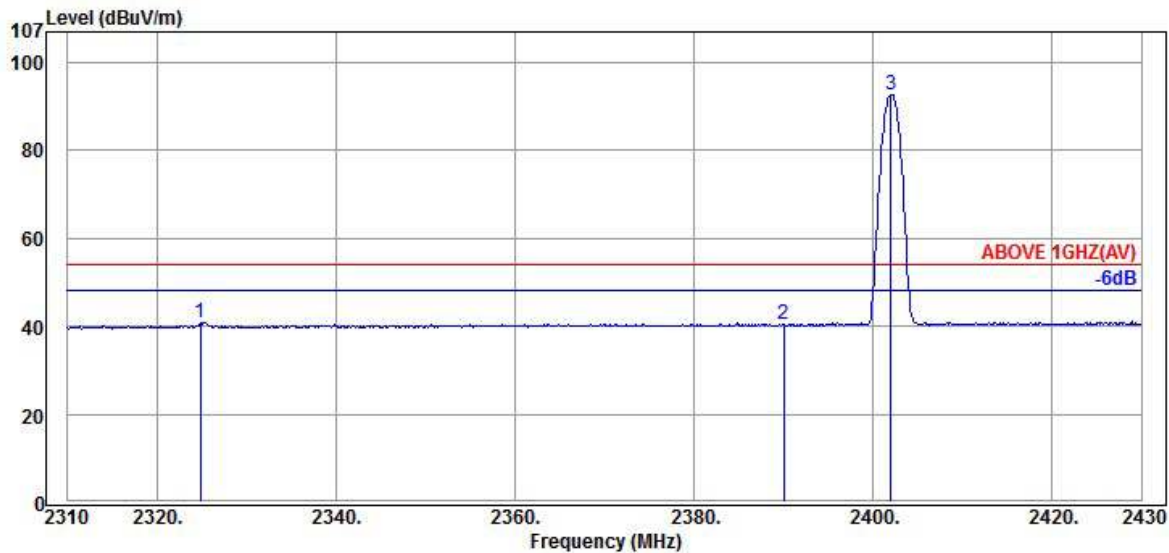
**Band Edge:**

Mode	GFSK	Frequency	TX 2402MHz
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Antenna at Horizontal Polarization

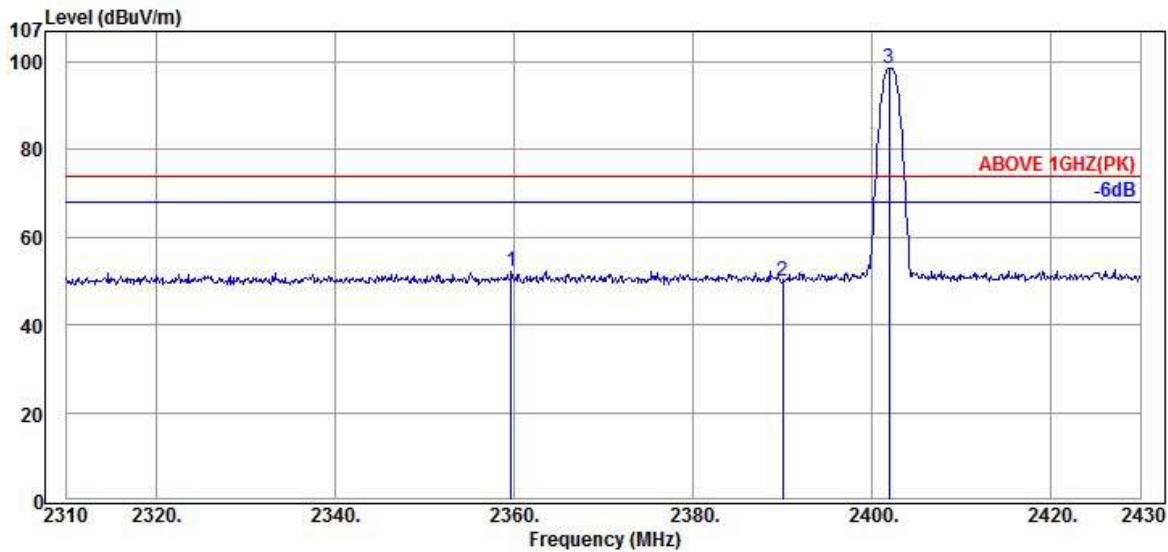
Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2371.32	28.26	5.22	19.24	52.72	74.00	21.28	Peak
2390.04	28.28	5.24	17.43	50.95	74.00	23.05	Peak
2401.92	28.29	5.25	58.88	92.42	---	---	Peak



Antenna at Horizontal Polarization

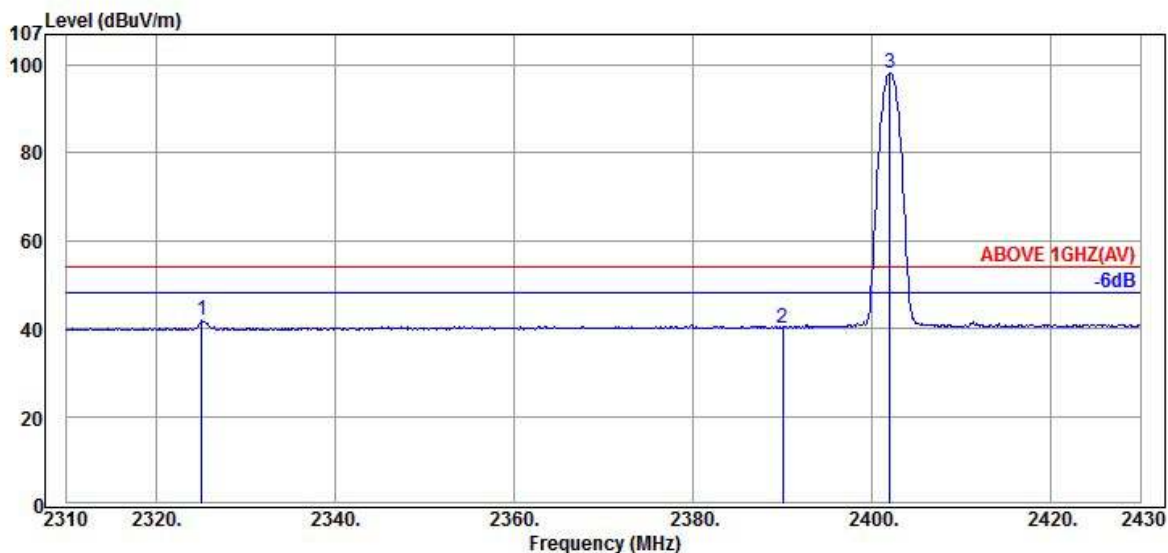
Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2324.88	28.21	5.19	7.46	40.86	54.00	13.14	Average
2390.04	28.28	5.24	6.85	40.37	54.00	13.63	Average
2402.04	28.29	5.25	59.29	92.83	---	---	Average

Mode	GFSK	Frequency	TX 2402MHz
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Antenna at Vertical Polarization

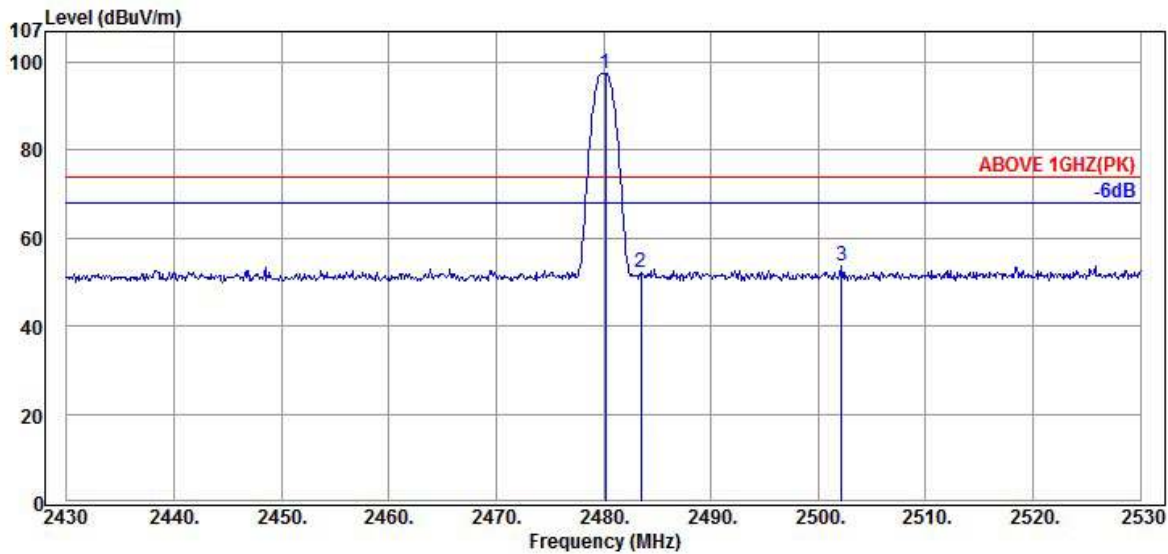
Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2359.68	28.24	5.22	18.76	52.22	74.00	21.78	Peak
2390.04	28.28	5.24	16.32	49.84	74.00	24.16	Peak
2401.92	28.29	5.25	64.91	98.45	---	---	Peak



Antenna at Vertical Polarization

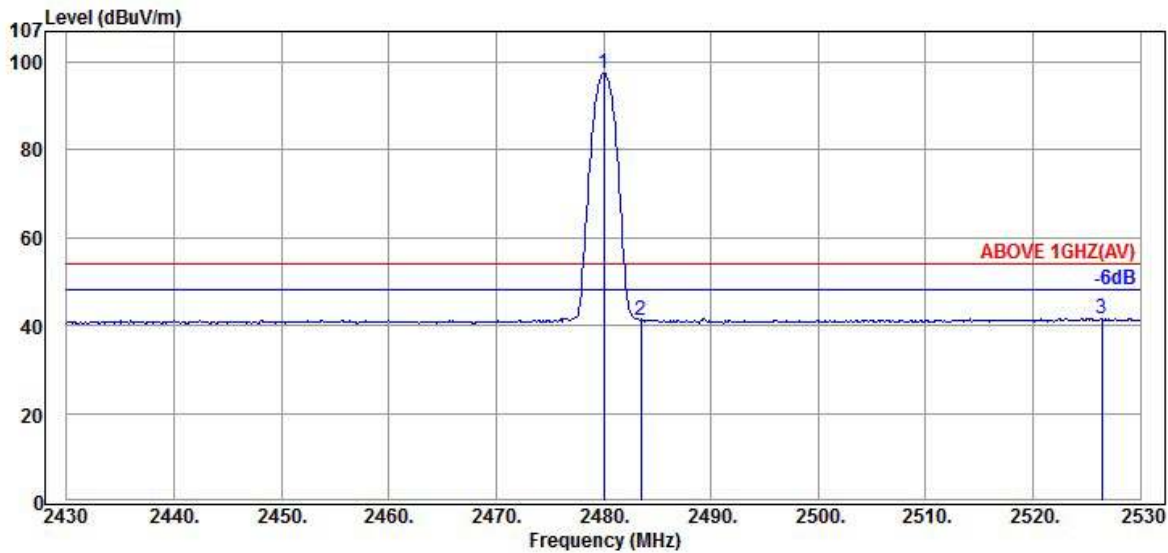
Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2325.12	28.21	5.19	8.42	41.82	54.00	12.18	Average
2390.04	28.28	5.24	6.70	40.22	54.00	13.78	Average
2402.04	28.29	5.25	64.70	98.24	---	---	Average

Mode	GFSK	Frequency	TX 2480MHz
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Antenna at Horizontal Polarization

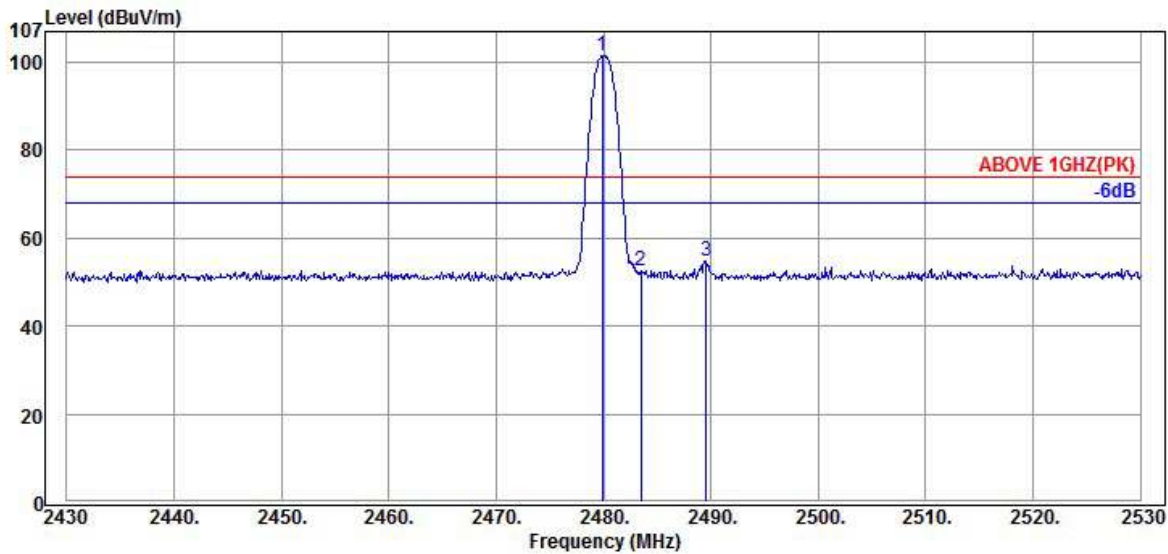
Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2480.20	28.38	5.30	63.89	97.57	---	---	Peak
2483.50	28.38	5.31	18.43	52.12	74.00	21.88	Peak
2502.20	28.40	5.32	19.99	53.71	74.00	20.29	Peak



Antenna at Horizontal Polarization

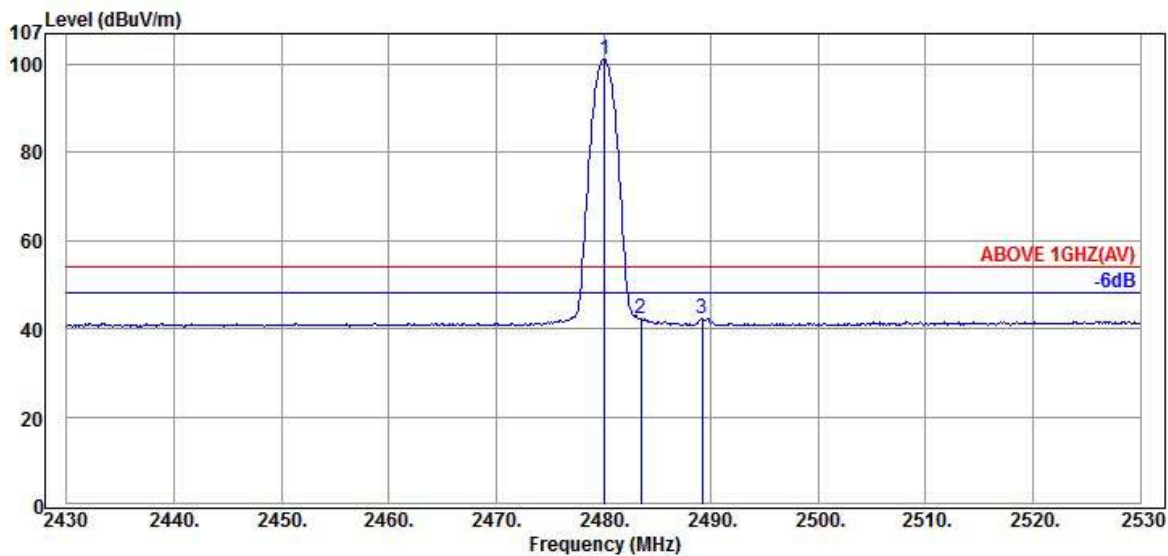
Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2480.00	28.38	5.30	63.89	97.57	---	---	Average
2483.50	28.38	5.31	7.66	41.35	54.00	12.65	Average
2526.40	28.51	5.34	7.88	41.73	54.00	12.27	Average

Mode	GFSK	Frequency	TX 2480MHz
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Antenna at Vertical Polarization

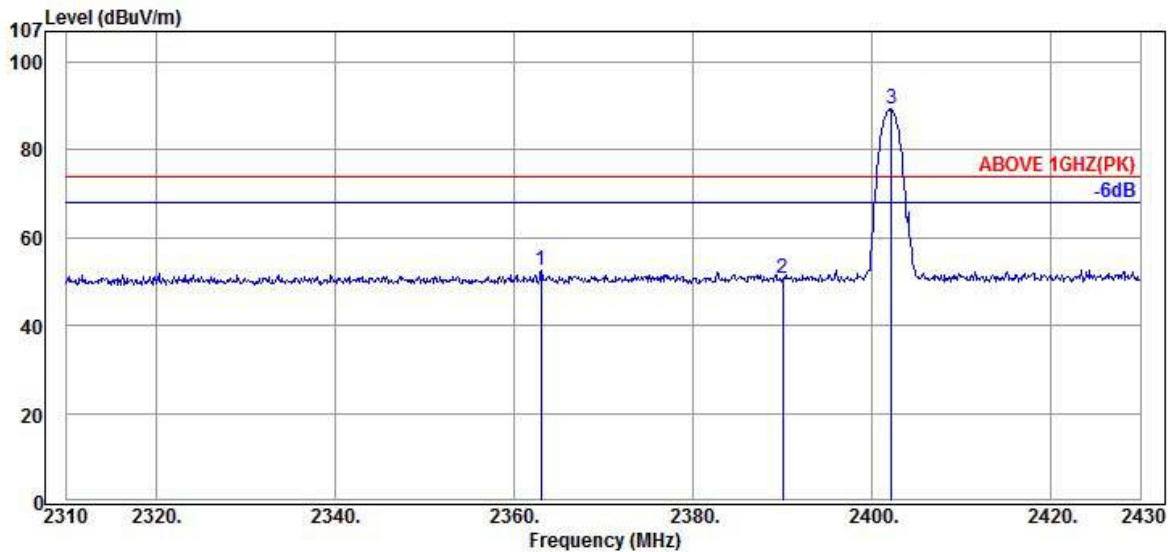
Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2479.90	28.38	5.30	67.66	101.34	---	---	Peak
2483.50	28.38	5.31	19.04	52.73	74.00	21.27	Peak
2489.60	28.39	5.31	21.20	54.90	74.00	19.10	Peak



Antenna at Vertical Polarization

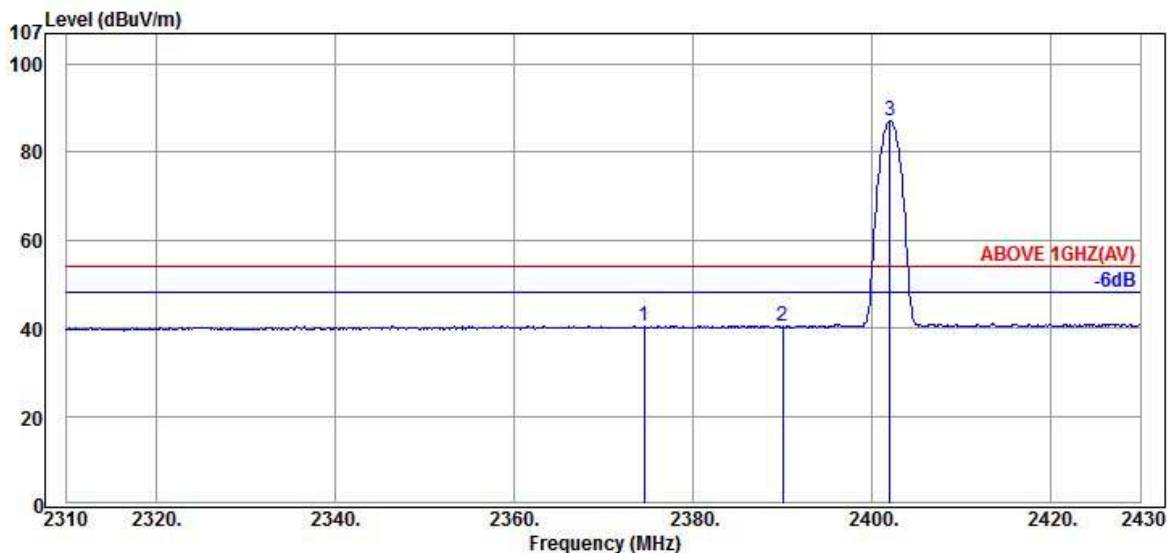
Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2480.10	28.38	5.30	67.47	101.15	---	---	Average
2483.50	28.38	5.31	8.67	42.36	54.00	11.64	Average
2489.20	28.39	5.31	8.63	42.33	54.00	11.67	Average

Mode	8-DPSK	Frequency	TX 2402MHz
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Antenna at Horizontal Polarization

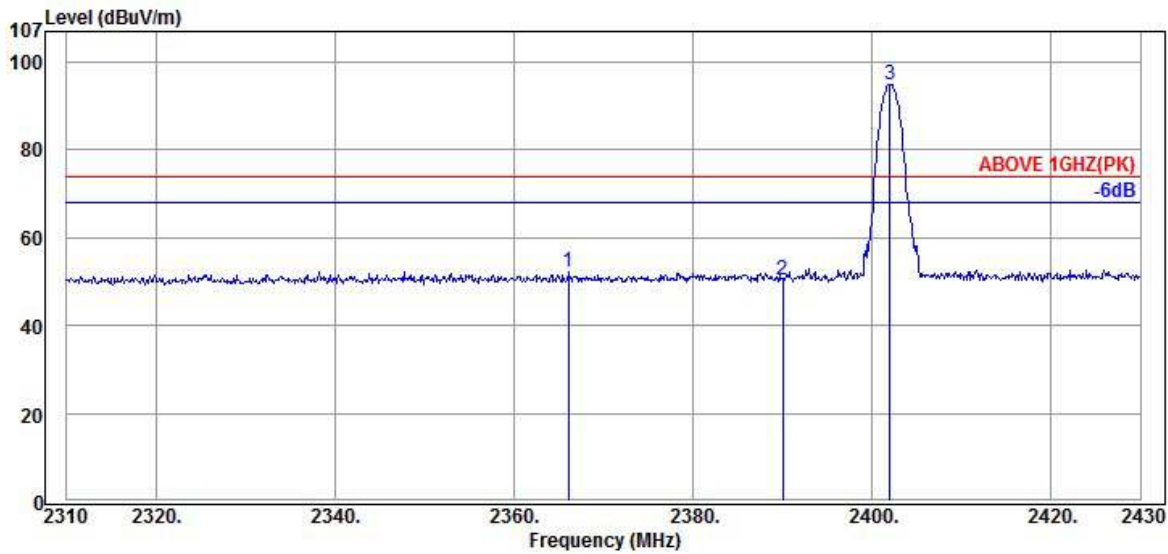
Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2363.04	28.25	5.22	19.09	52.56	74.00	21.44	Peak
2390.04	28.28	5.24	17.06	50.58	74.00	23.42	Peak
2402.16	28.29	5.25	55.74	89.28	---	---	Peak



Antenna at Horizontal Polarization

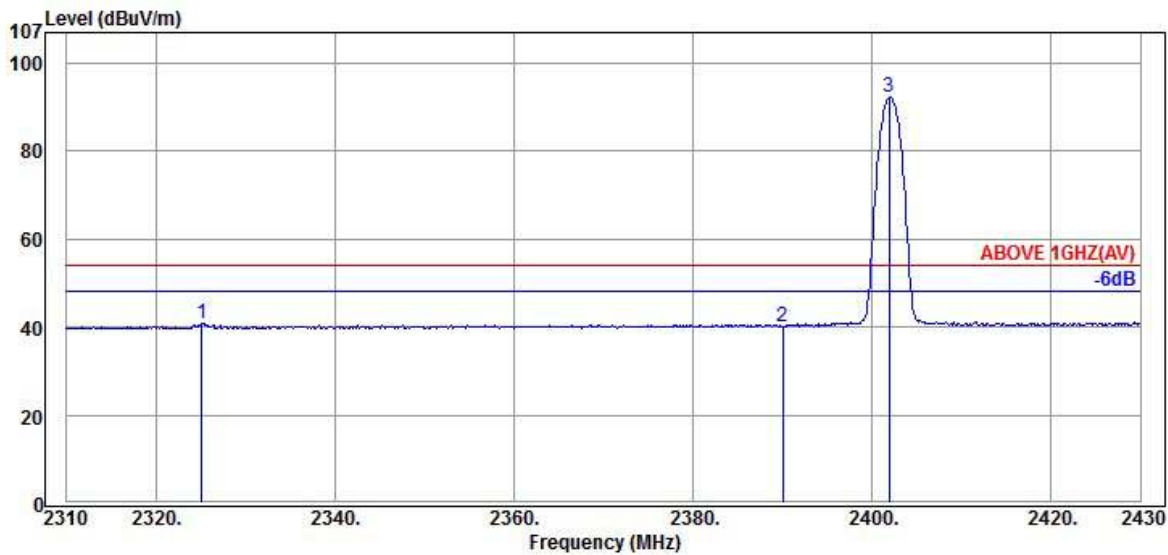
Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2374.56	28.26	5.23	7.06	40.55	54.00	13.45	Average
2390.04	28.28	5.24	6.77	40.29	54.00	13.71	Average
2402.04	28.29	5.25	53.61	87.15	---	---	Average

Mode	8-DPSK	Frequency	TX 2402MHz
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Antenna at Vertical Polarization

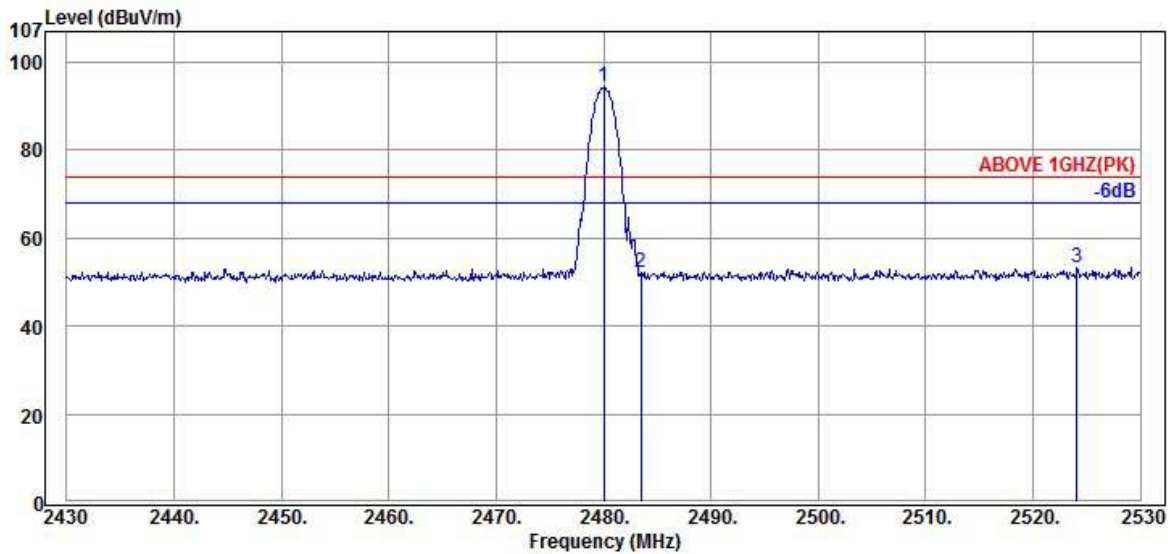
Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2366.04	28.25	5.22	18.88	52.35	74.00	21.65	Peak
2390.04	28.28	5.24	16.80	50.32	74.00	23.68	Peak
2402.04	28.29	5.25	61.37	94.91	---	---	Peak



Antenna at Vertical Polarization

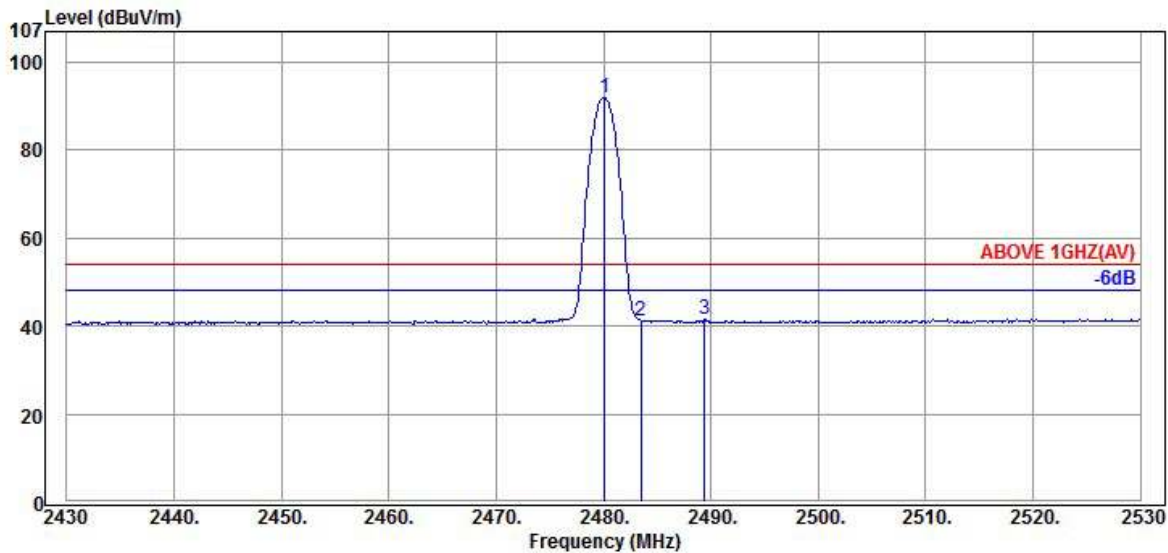
Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2325.12	28.21	5.19	7.59	40.99	54.00	13.01	Average
2390.04	28.28	5.24	6.67	40.19	54.00	13.81	Average
2401.92	28.29	5.25	58.61	92.15	---	---	Average

Mode	8-DPSK	Frequency	TX 2480MHz
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Antenna at Horizontal Polarization

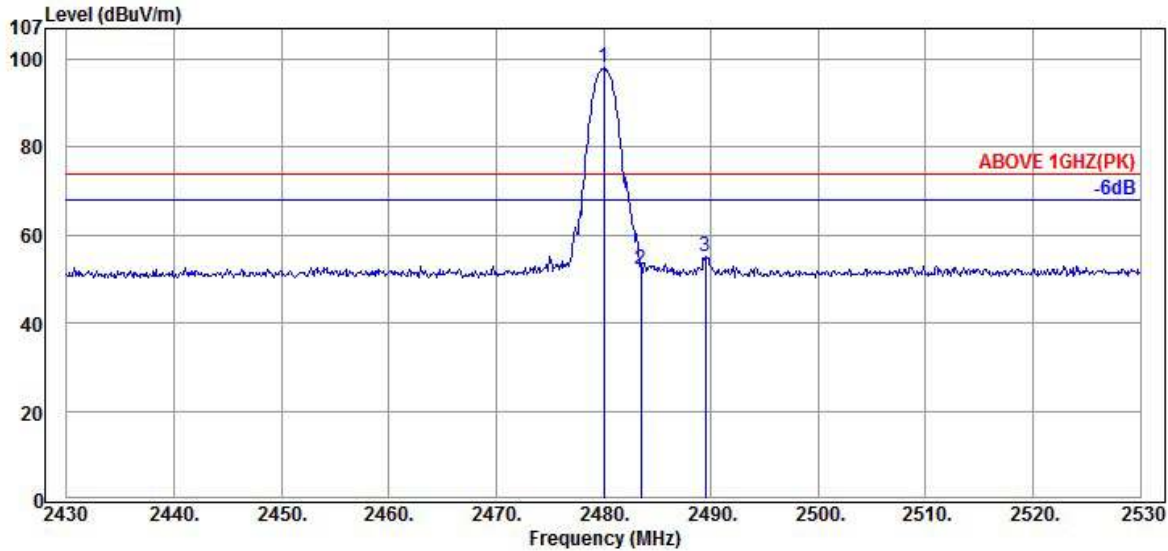
Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2480.00	28.38	5.30	60.70	94.38	---	---	Peak
2483.50	28.38	5.31	18.36	52.05	74.00	21.95	Peak
2524.10	28.48	5.34	19.39	53.21	74.00	20.79	Peak



Antenna at Horizontal Polarization

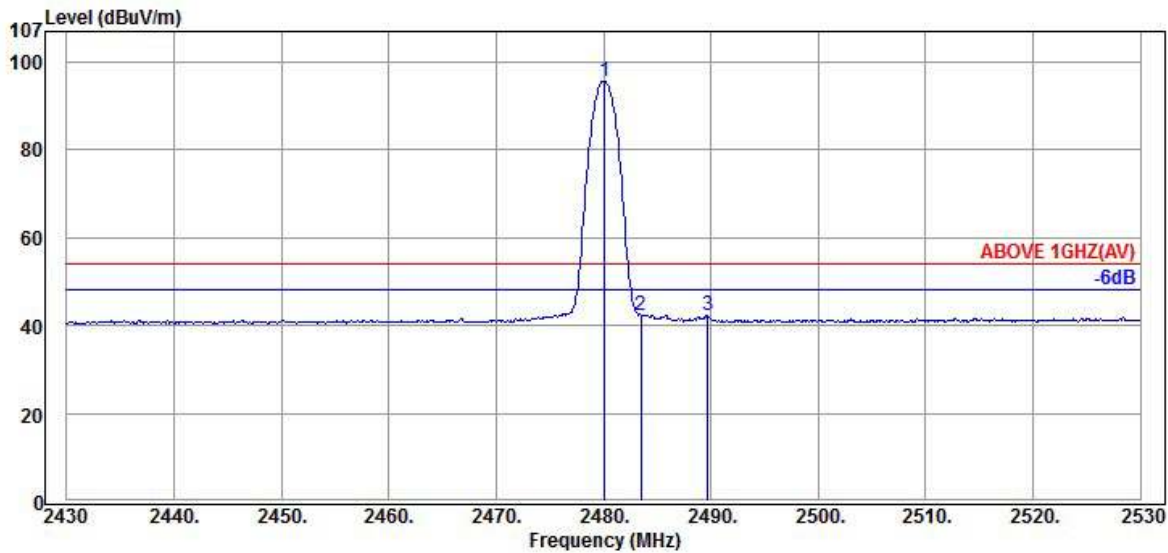
Emission Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Meter Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector
2480.10	28.38	5.30	58.33	92.01	---	---	Average
2483.50	28.38	5.31	7.63	41.32	54.00	12.68	Average
2489.40	28.39	5.31	7.93	41.63	54.00	12.37	Average

Mode	8-DPSK	Frequency	TX 2480MHz
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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
2480.00	28.38	5.30	64.36	98.04	---	---	Peak
2483.50	28.38	5.31	18.35	52.04	74.00	21.96	Peak
2489.50	28.39	5.31	21.42	55.12	74.00	18.88	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
2480.10	28.38	5.30	62.06	95.74	---	---	Average
2483.50	28.38	5.31	8.76	42.45	54.00	11.55	Average
2489.70	28.39	5.31	8.70	42.40	54.00	11.60	Average

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
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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
4804.00	32.82	8.98	6.51	48.31	54.00	5.69	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
4804.00	32.82	8.98	6.21	48.01	54.00	5.99	Peak

Mode	GFSK	Frequency	TX 2441MHz
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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
4882.00	32.98	9.08	6.01	48.07	54.00	5.93	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
4882.00	32.98	9.08	5.91	47.97	54.00	6.03	Peak

Mode	GFSK	Frequency	TX 2480MHz
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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
4960.00	33.12	9.20	6.00	48.32	54.00	5.68	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
4960.00	33.12	9.20	5.90	48.22	54.00	5.78	Peak

A.2.3 Emissions in Non-restricted Frequency Bands:

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

### A.3 20dB BANDWIDTH

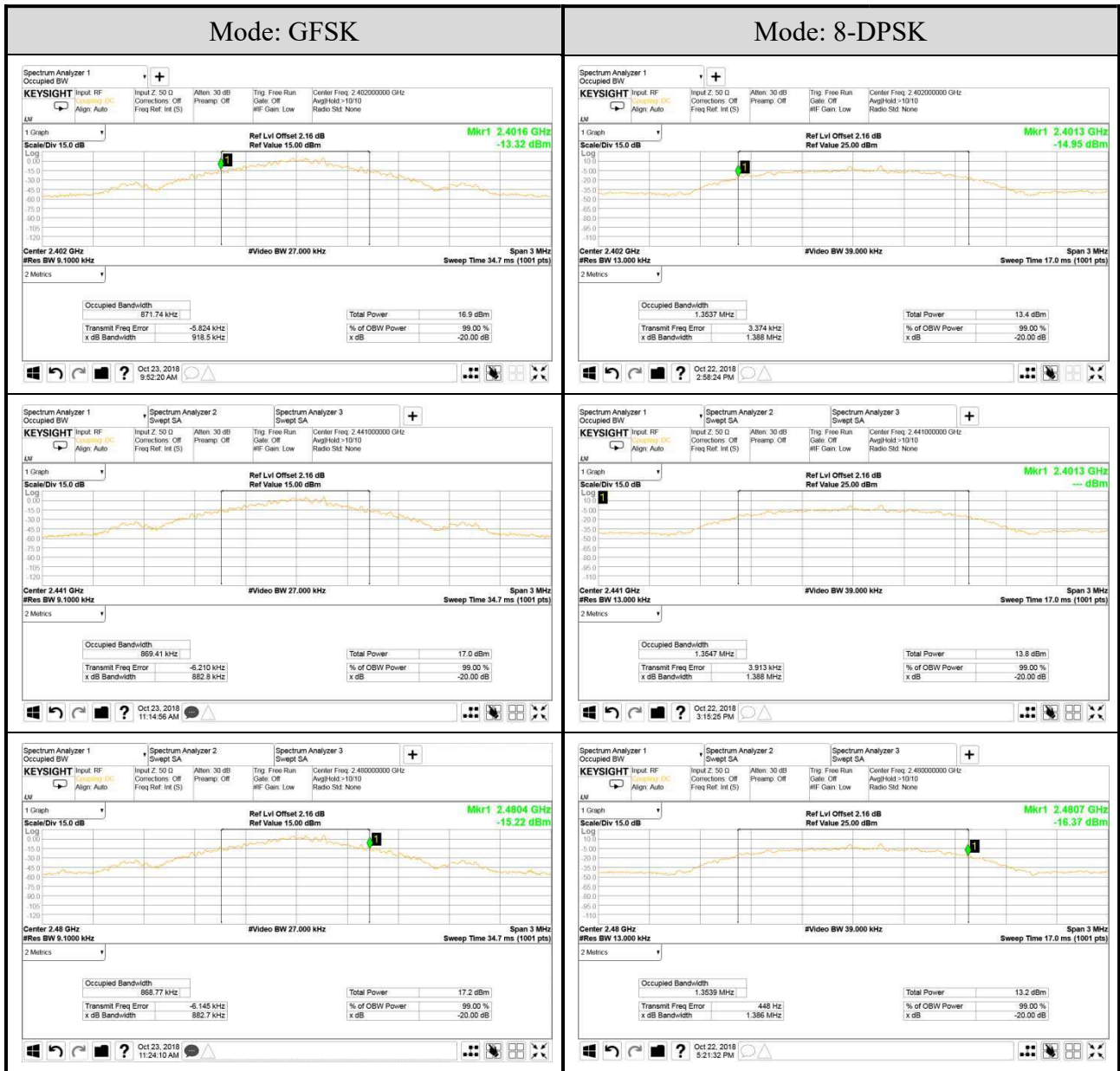
Test Date	2018/10/22 ~ 23	Temp./Hum.	23~24°C/52~55%
Cable Loss	2.16dB	Test Voltage	AC 120V, 60Hz (via AC Adapter)

#### 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

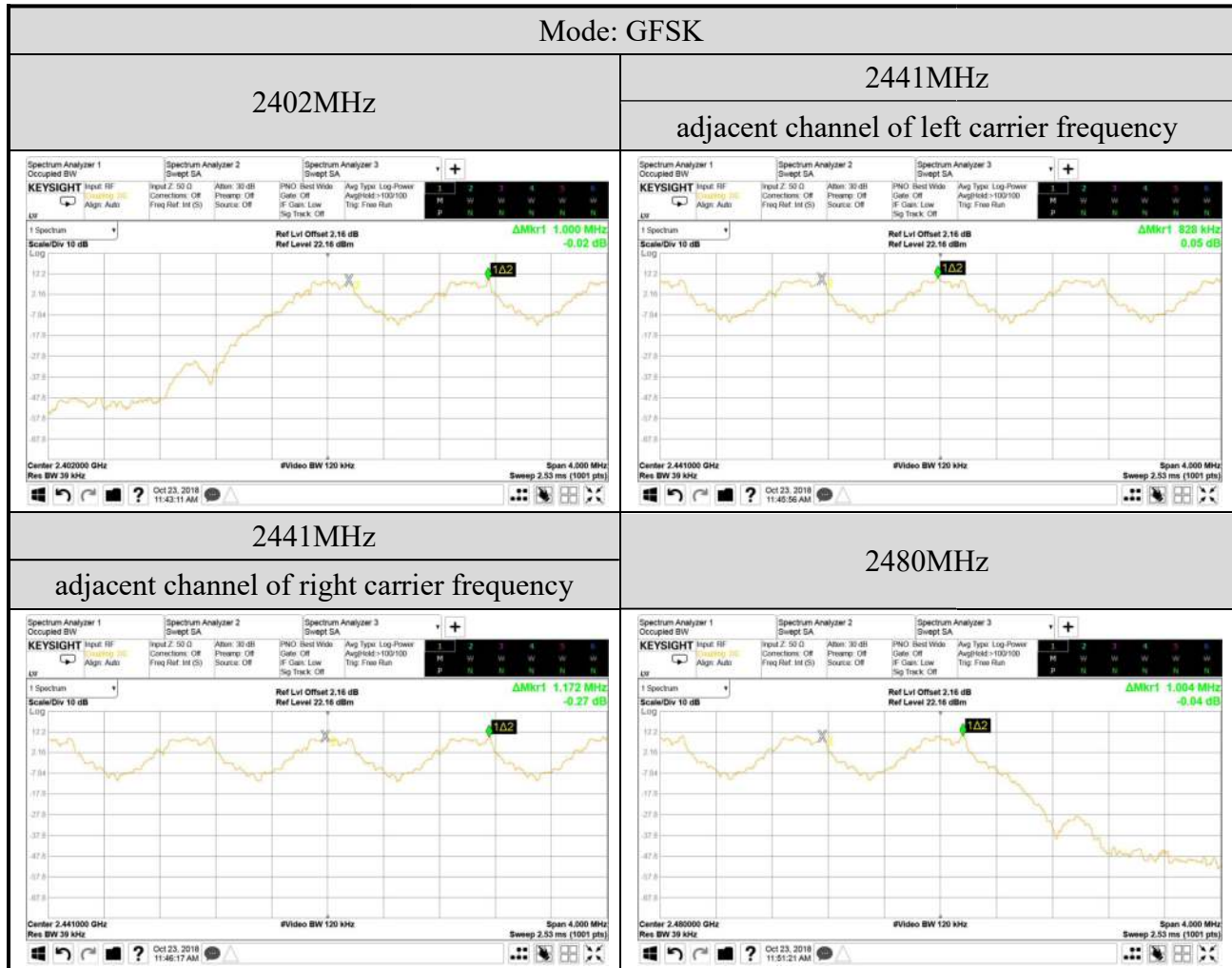
Remark: The maximum two-thirds of the 20dB bandwidth is the limit for carrier frequency separation presented.

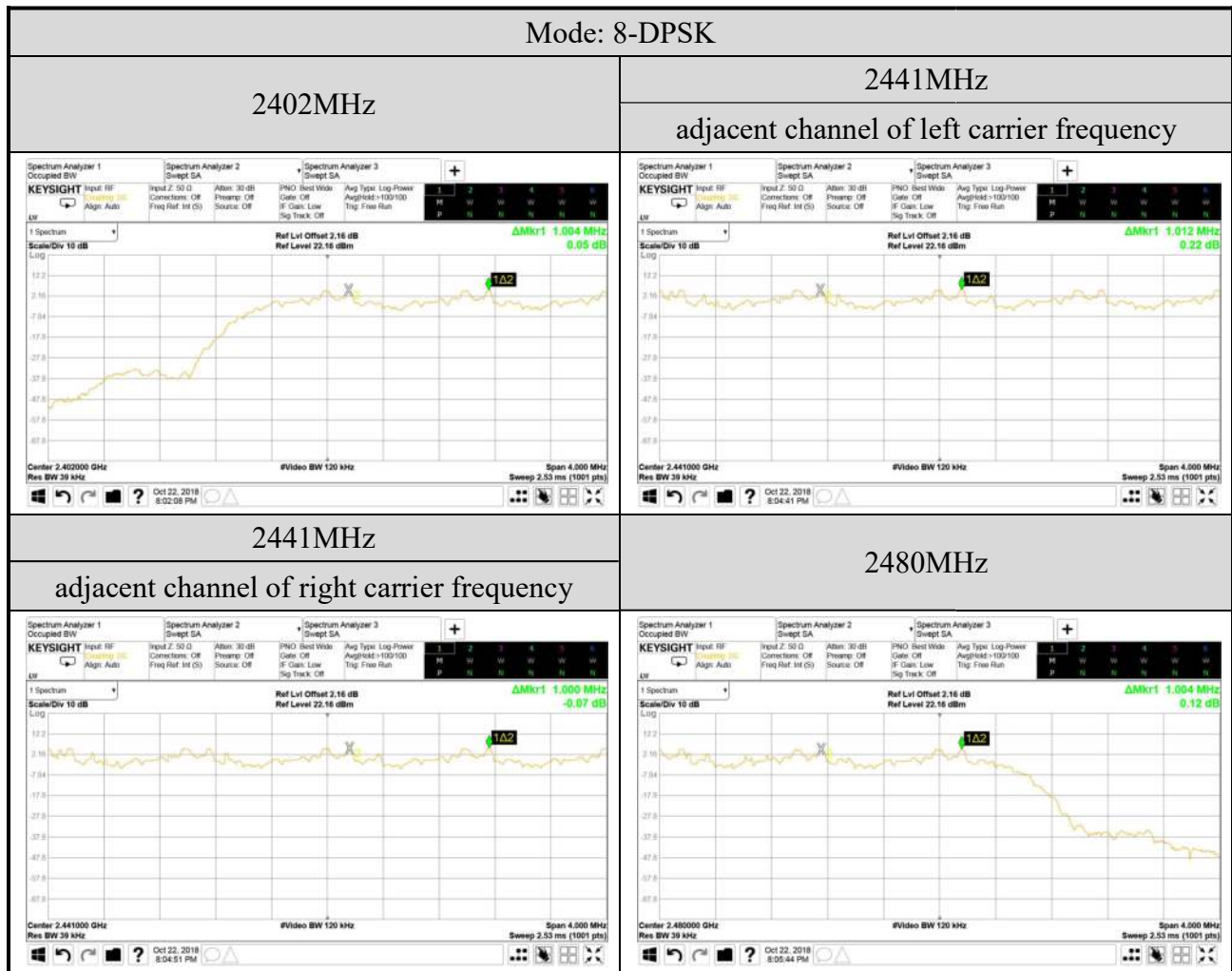
A.3.2 Measurement Plots



## A.4 CARRIER FREQUENCY SEPARATION

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





## A.5 TIME OF OCCUPANCY

Test Date	2018/10/22 ~ 23	Temp./Hum.	23~24°C/52~55%
Cable Loss	2.16dB	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:

$$79 \text{ channels} * 0.4 \text{ seconds} = 31.6 \text{ seconds}$$

#### DH1 Mode

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

#### DH3 Mode

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

#### DH5 Mode

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

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:

$$79 \text{ channels} * 0.4 \text{ seconds} = 31.6 \text{ seconds}$$

#### DH1 Mode

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

#### DH3 Mode

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

#### DH5 Mode

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

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:

$$79 \text{ channels} * 0.4 \text{ seconds} = 31.6 \text{ seconds}$$

**DH1 Mode**

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

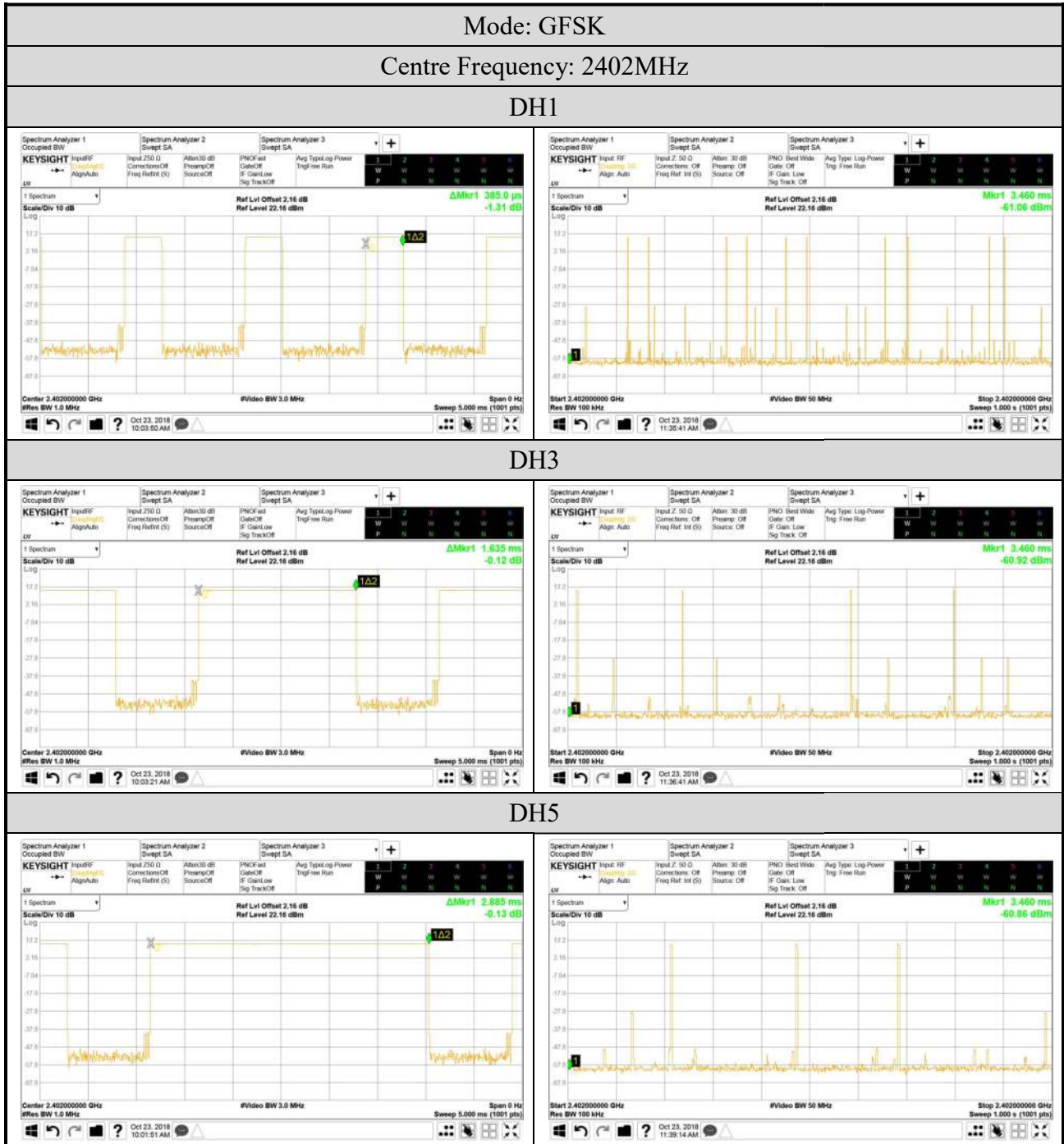
**DH3 Mode**

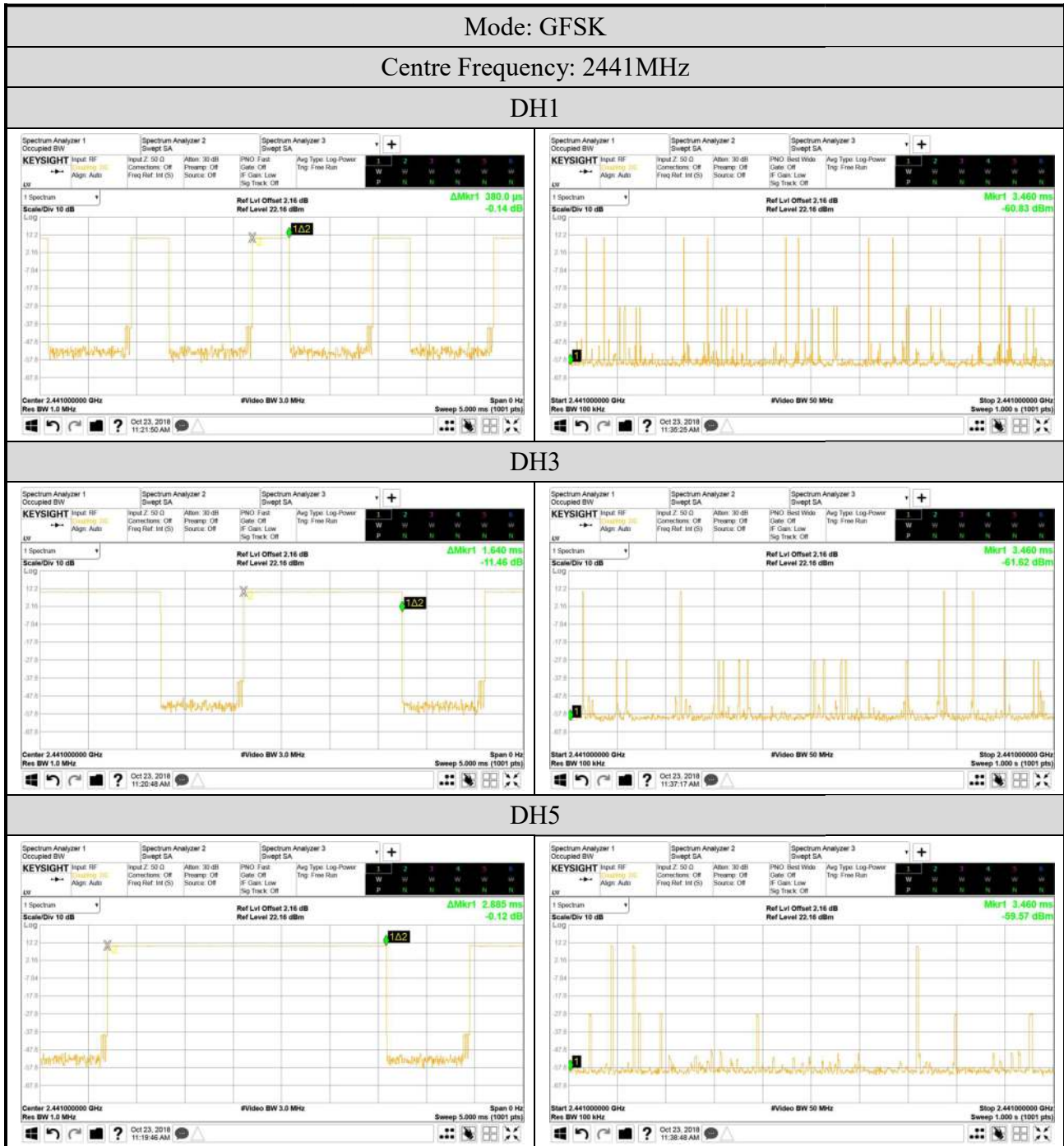
For each second of **5** transmission appearance, the longest time of occupancy is  
 $5 \text{ transmission} * 31.6 \text{ seconds} * 1.635 \text{ ms} = 258.330 \text{ ms} (<400\text{ms})$

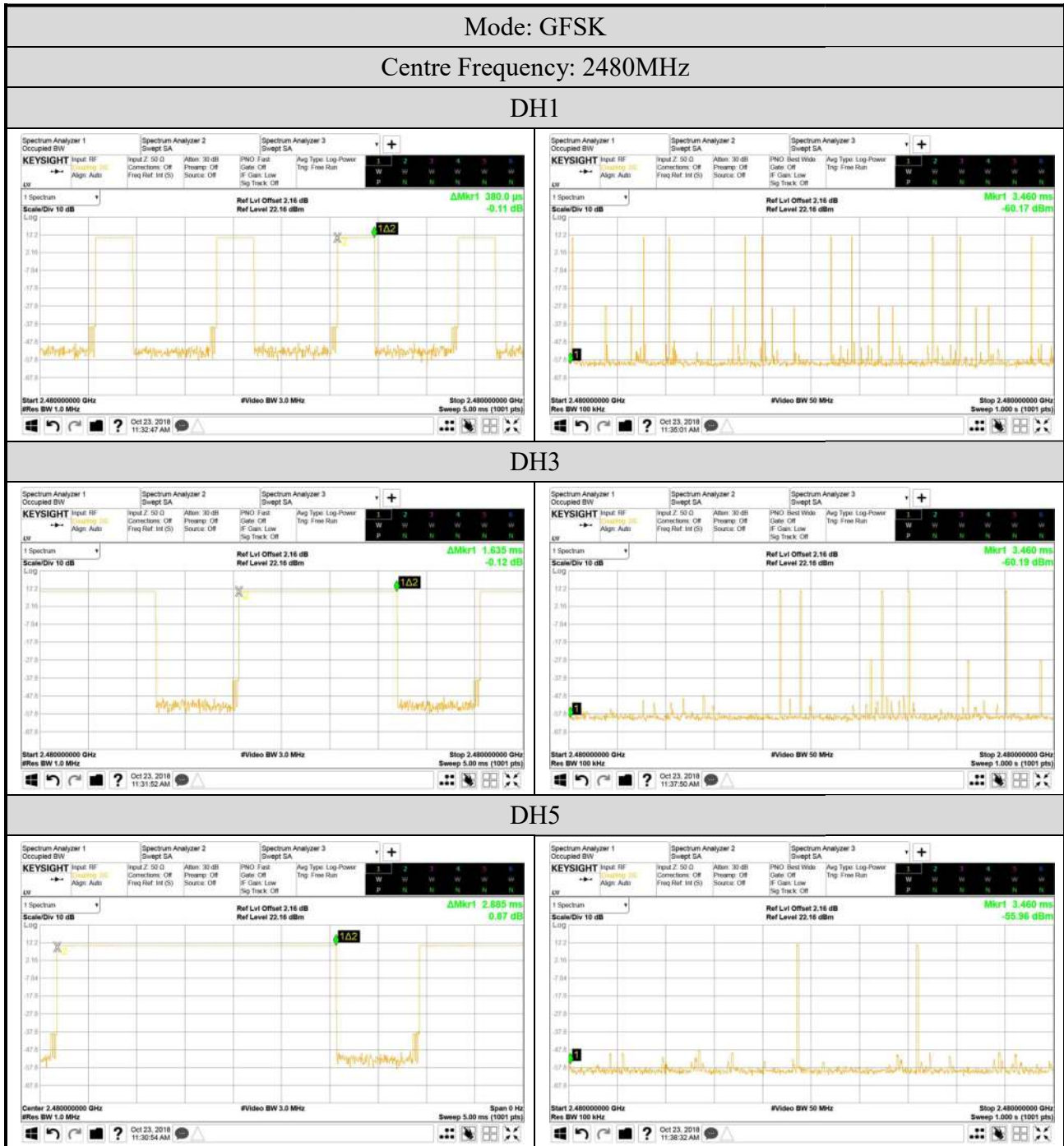
**DH5 Mode**

For each second of **2** transmission appearance, the longest time of occupancy is  
 $2 \text{ transmission} * 31.6 \text{ seconds} * 2.885 \text{ ms} = 182.332 \text{ ms} (<400\text{ms})$

● Measurement Plots







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:

$79 \text{ channels} * 0.4 \text{ seconds} = 31.6 \text{ seconds}$

**3DH1 Mode**

For each second of **10** transmission appearance, the longest time of occupancy is  
 $10 \text{ transmission} * 31.6 \text{ seconds} * 0.390 \text{ ms} = 123.240 \text{ ms} (<400\text{ms})$

**3DH3 Mode**

For each second of **6** transmission appearance, the longest time of occupancy is  
 $6 \text{ transmission} * 31.6 \text{ seconds} * 1.640 \text{ ms} = 310.944 \text{ ms} (<400\text{ms})$

**3DH5 Mode**

For each second of **3** transmission appearance, the longest time of occupancy is  
 $3 \text{ transmission} * 31.6 \text{ seconds} * 2.890 \text{ ms} = 273.972 \text{ ms} (<400\text{ms})$

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:

$79 \text{ channels} * 0.4 \text{ seconds} = 31.6 \text{ seconds}$

**3DH1 Mode**

For each second of **10** transmission appearance, the longest time of occupancy is  
 $10 \text{ transmission} * 31.6 \text{ seconds} * 0.390 \text{ ms} = 123.240 \text{ ms} (<400\text{ms})$

**3DH3 Mode**

For each second of **5** transmission appearance, the longest time of occupancy is  
 $5 \text{ transmission} * 31.6 \text{ seconds} * 1.640 \text{ ms} = 259.120 \text{ ms} (<400\text{ms})$

**3DH5 Mode**

For each second of **3** transmission appearance, the longest time of occupancy is  
 $3 \text{ transmission} * 31.6 \text{ seconds} * 2.890 \text{ ms} = 273.972 \text{ ms} (<400\text{ms})$

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:

$79 \text{ channels} * 0.4 \text{ seconds} = 31.6 \text{ seconds}$

**3DH1 Mode**

For each second of **10** transmission appearance, the longest time of occupancy is  
 $10 \text{ transmission} * 31.6 \text{ seconds} * 0.390 \text{ ms} = 123.240 \text{ ms} (<400\text{ms})$

**3DH3 Mode**

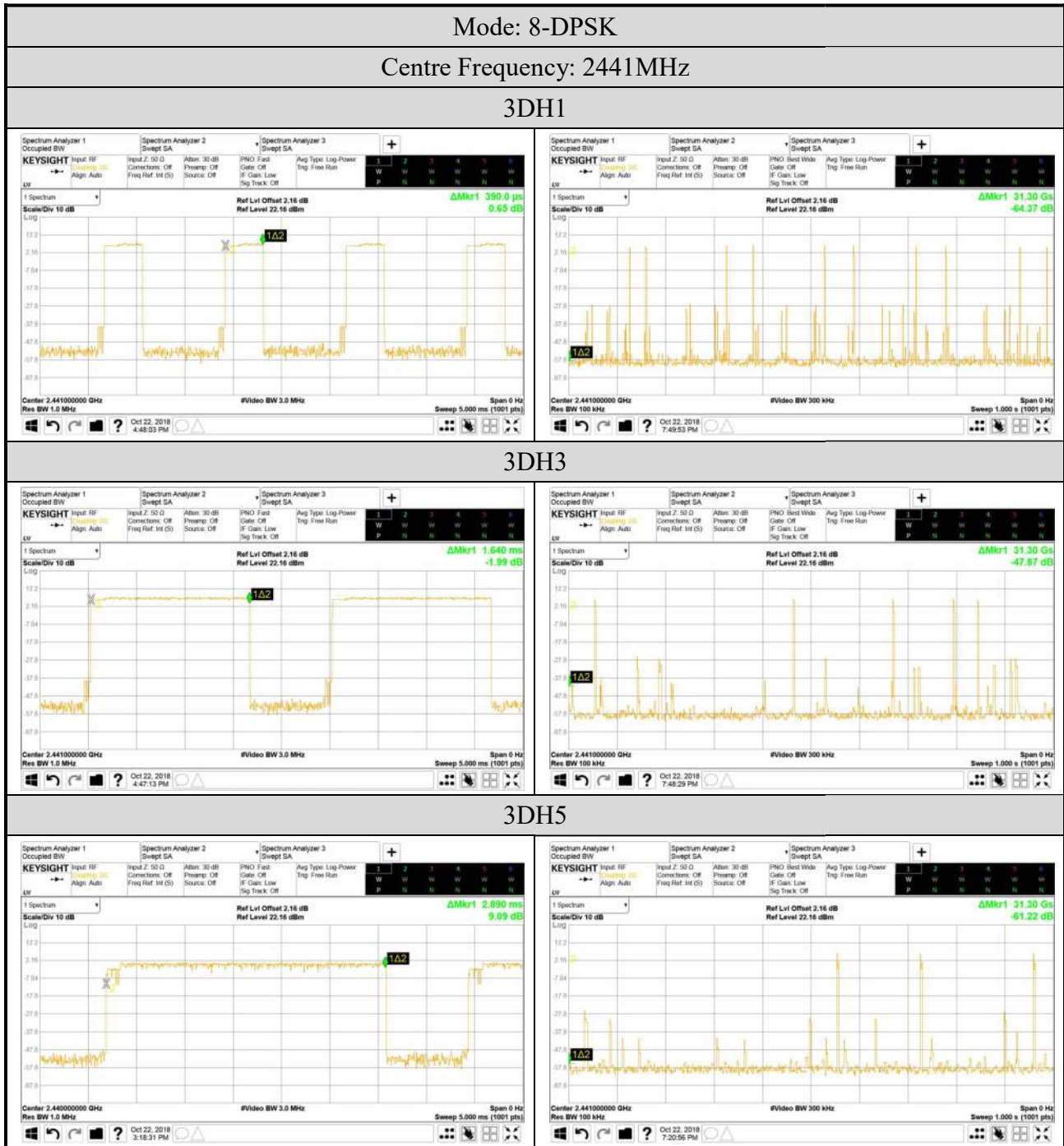
For each second of **5** transmission appearance, the longest time of occupancy is  
 $5 \text{ transmission} * 31.6 \text{ seconds} * 1.640 \text{ ms} = 259.120 \text{ ms} (<400\text{ms})$

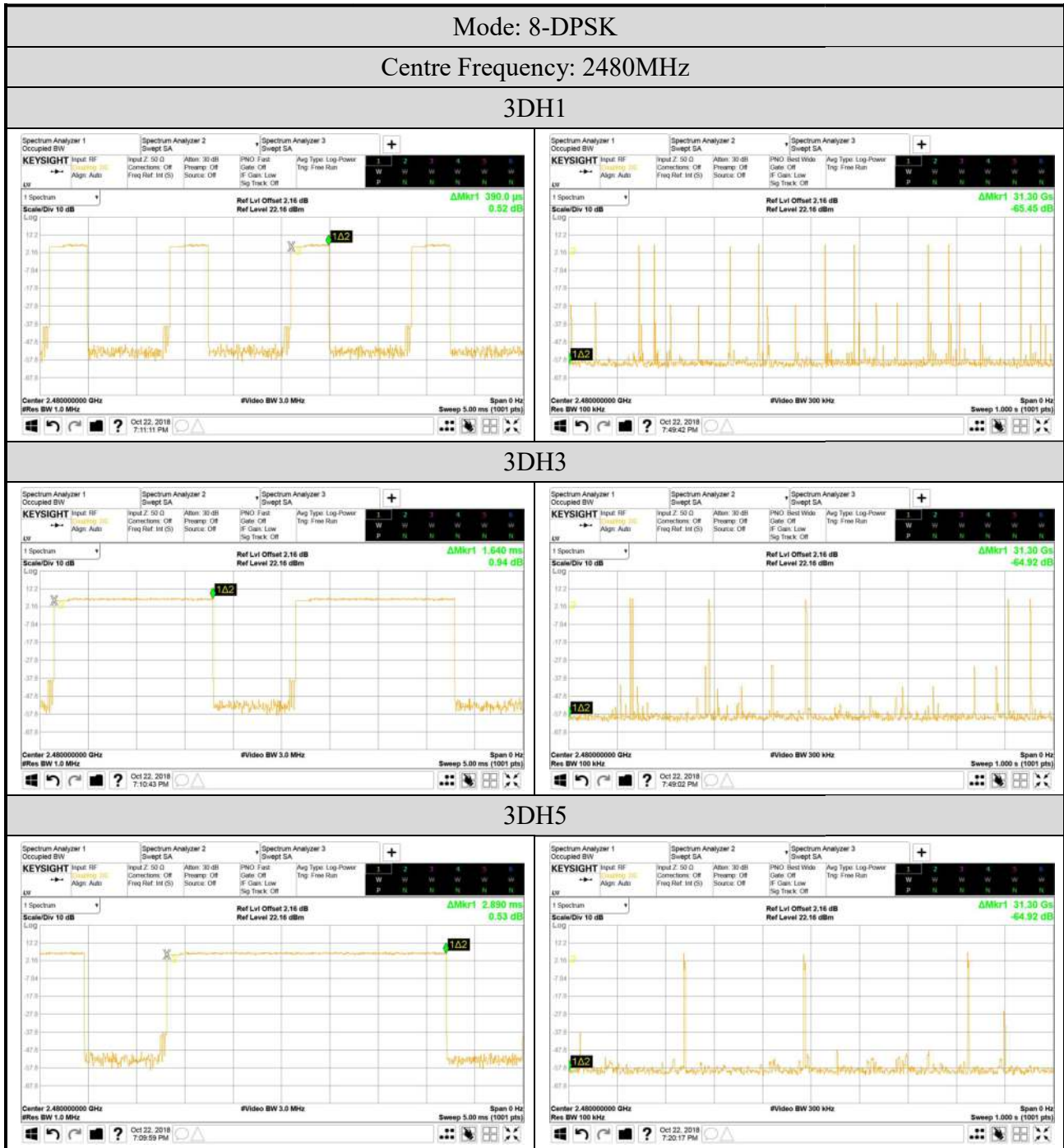
**3DH5 Mode**

For each second of **3** transmission appearance, the longest time of occupancy is  
 $3 \text{ transmission} * 31.6 \text{ seconds} * 2.890 \text{ ms} = 273.972 \text{ ms} (<400\text{ms})$

● Measurement Plots







## A.6 NUMBER OF HOPPING CHANNELS

Test Date	2018/10/22 ~ 23	Temp./Hum.	23~24°C/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.

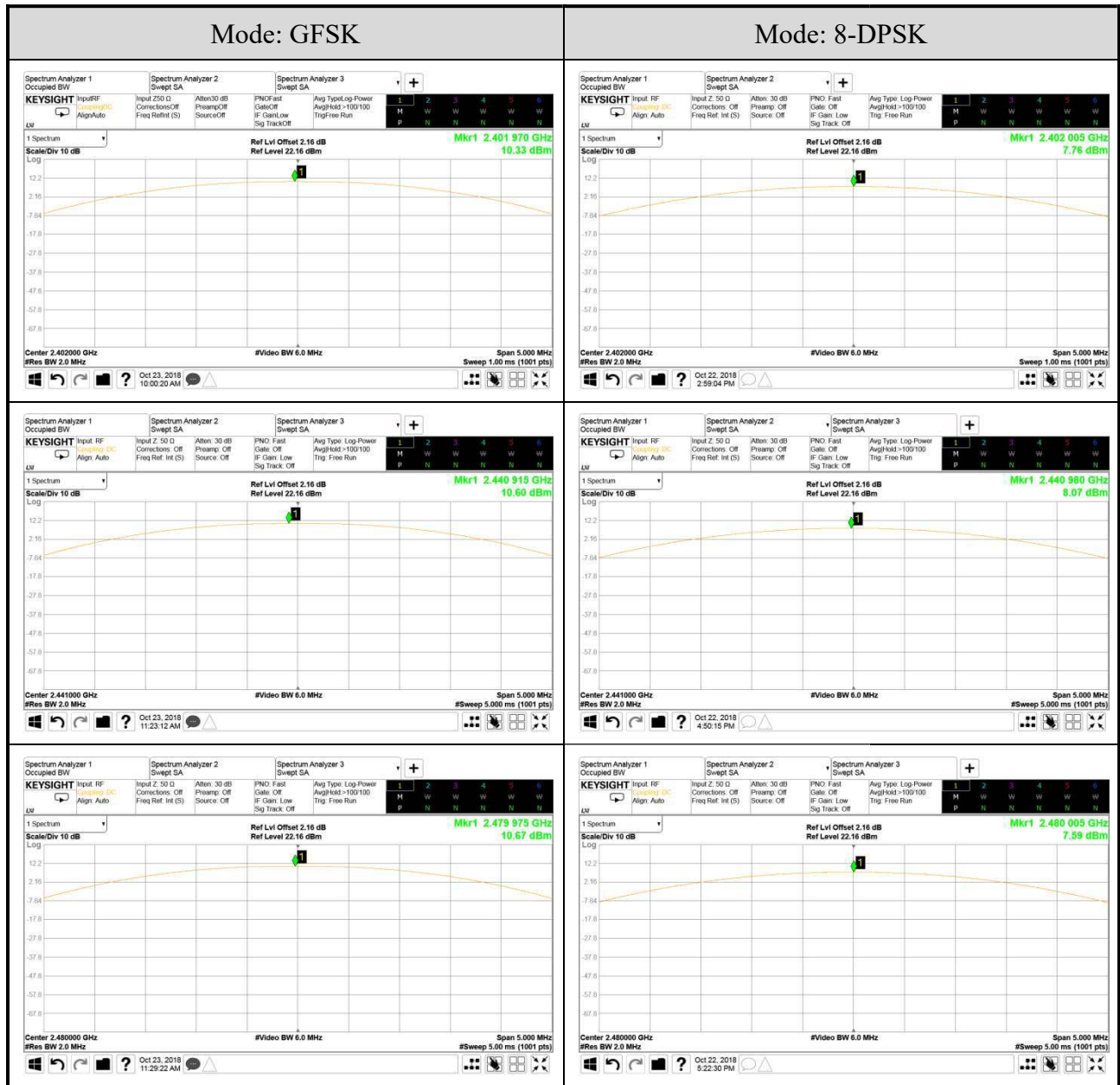
## A.7 MAXIMUM PEAK OUTPUT POWER

Test Date	2018/10/22 ~ 23	Temp./Hum.	23~24°C/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	

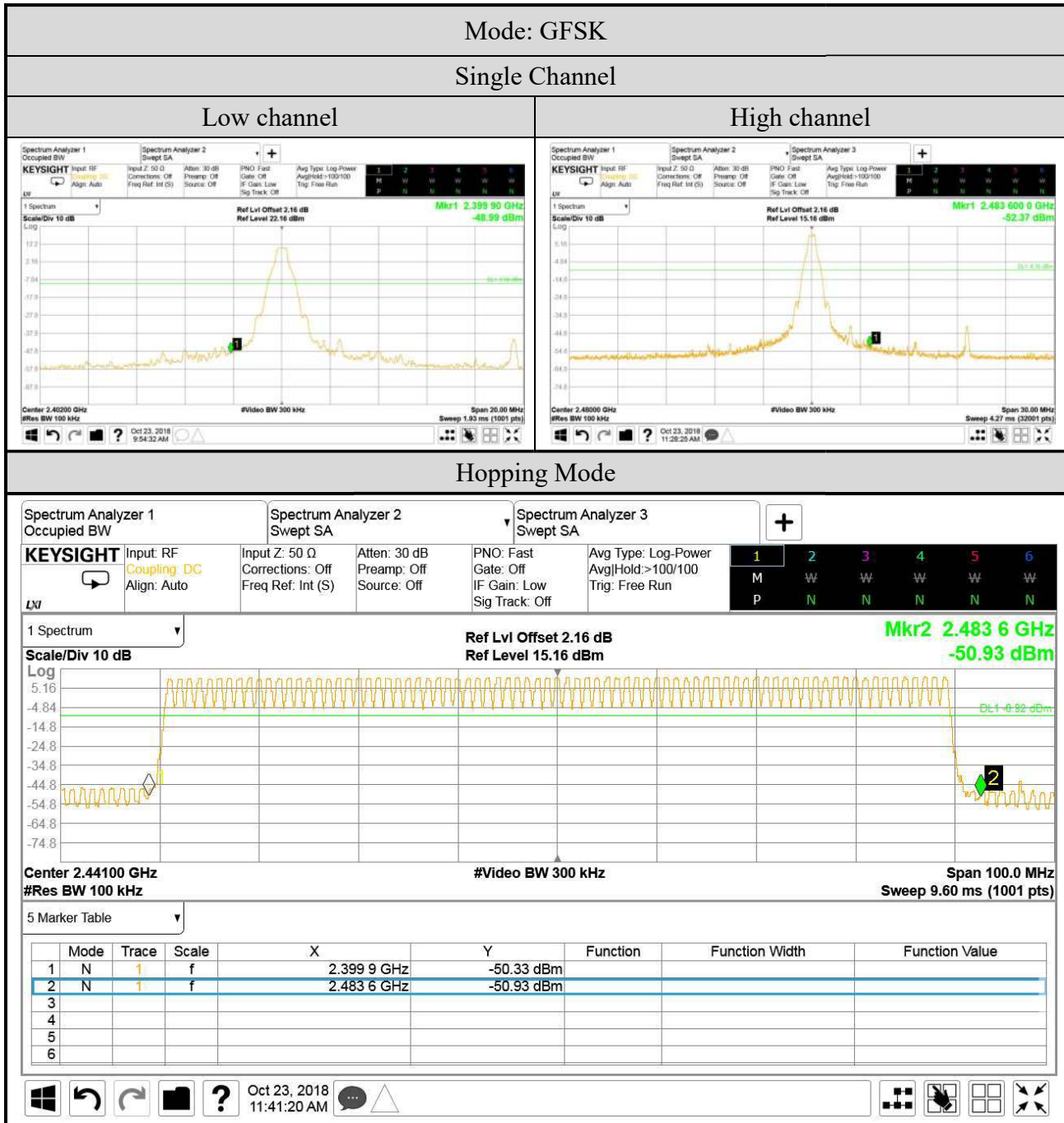
A.7.2 Measurement Plots

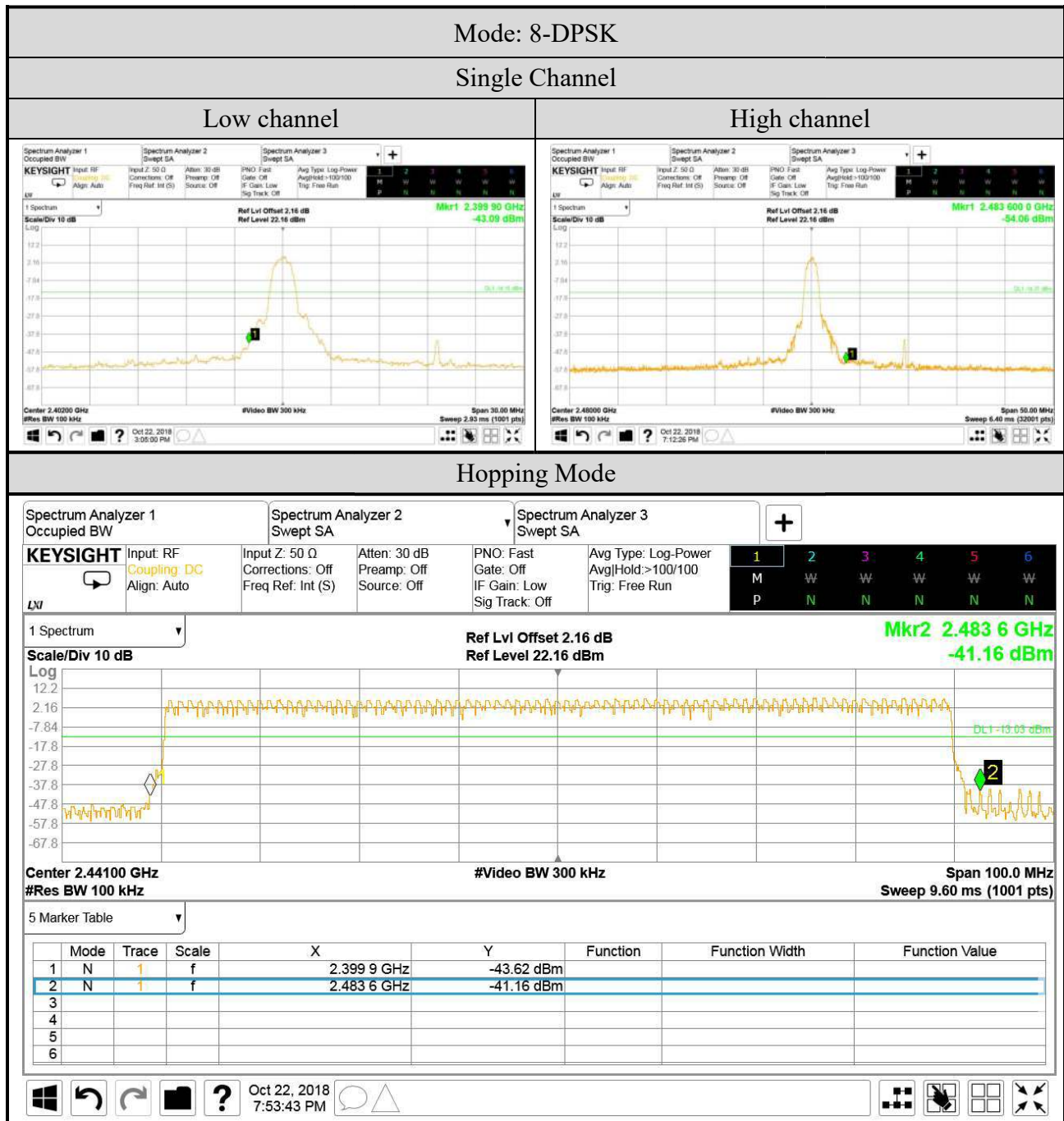


## A.8 EMISSION LIMITATIONS MEASUREMENT

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

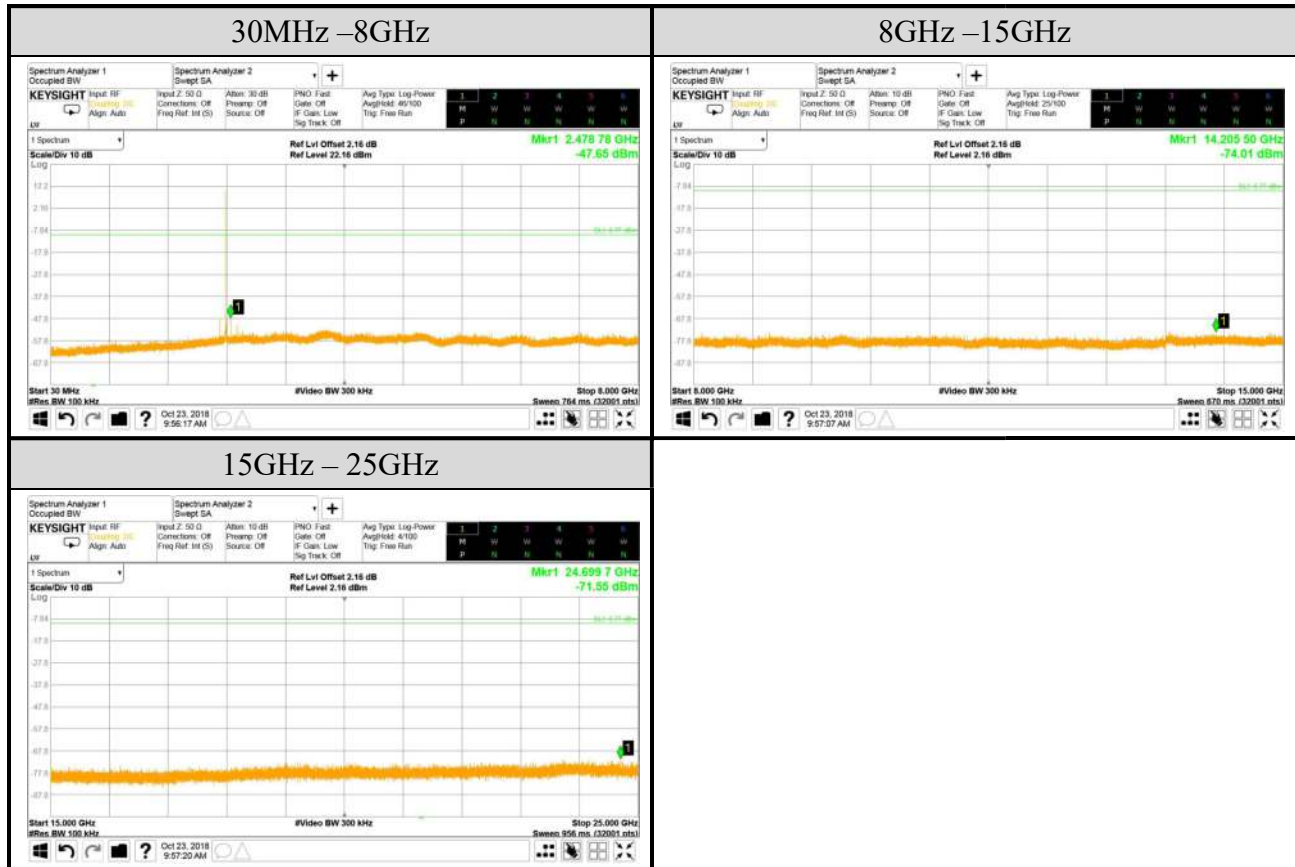
### A.8.1 Band Edge





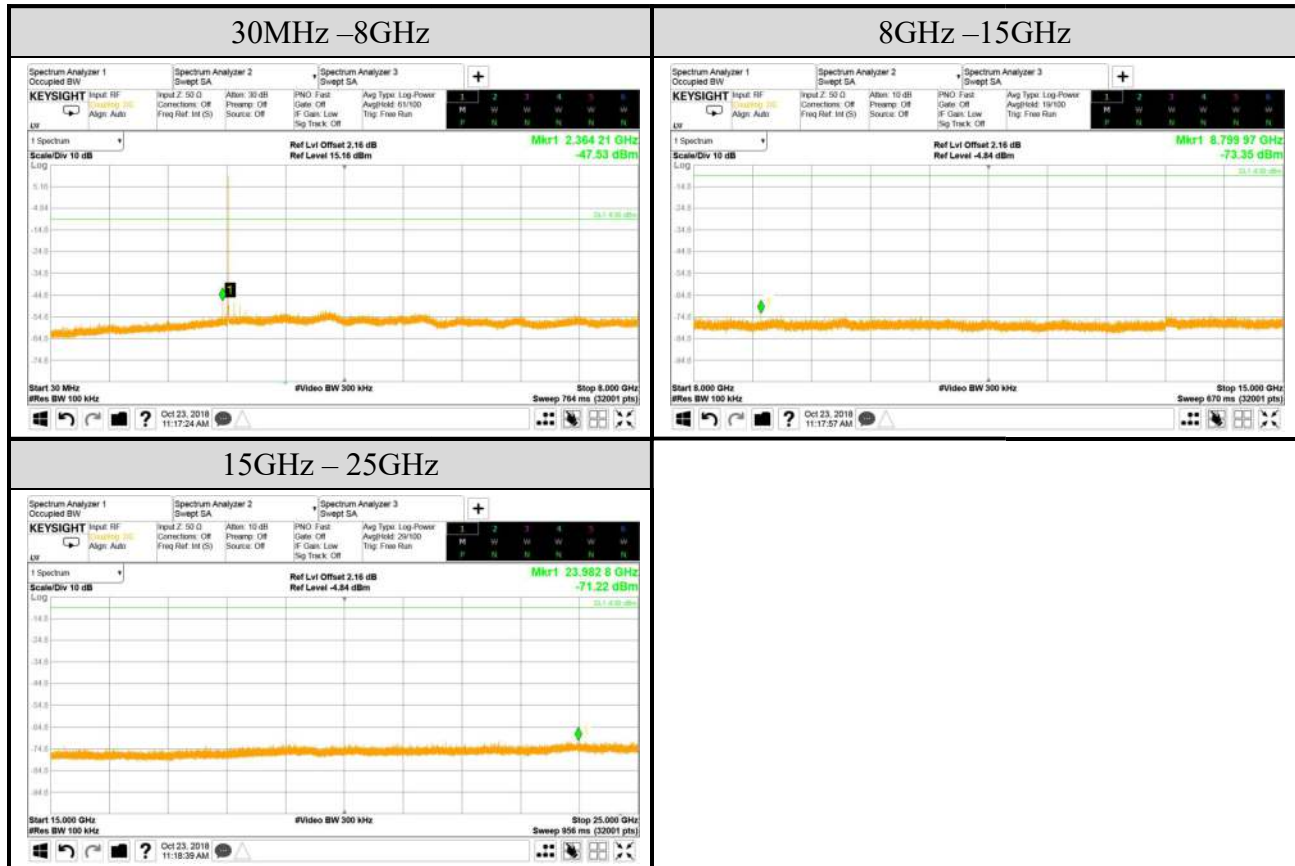
**A.8.2 Spurious Emission**

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



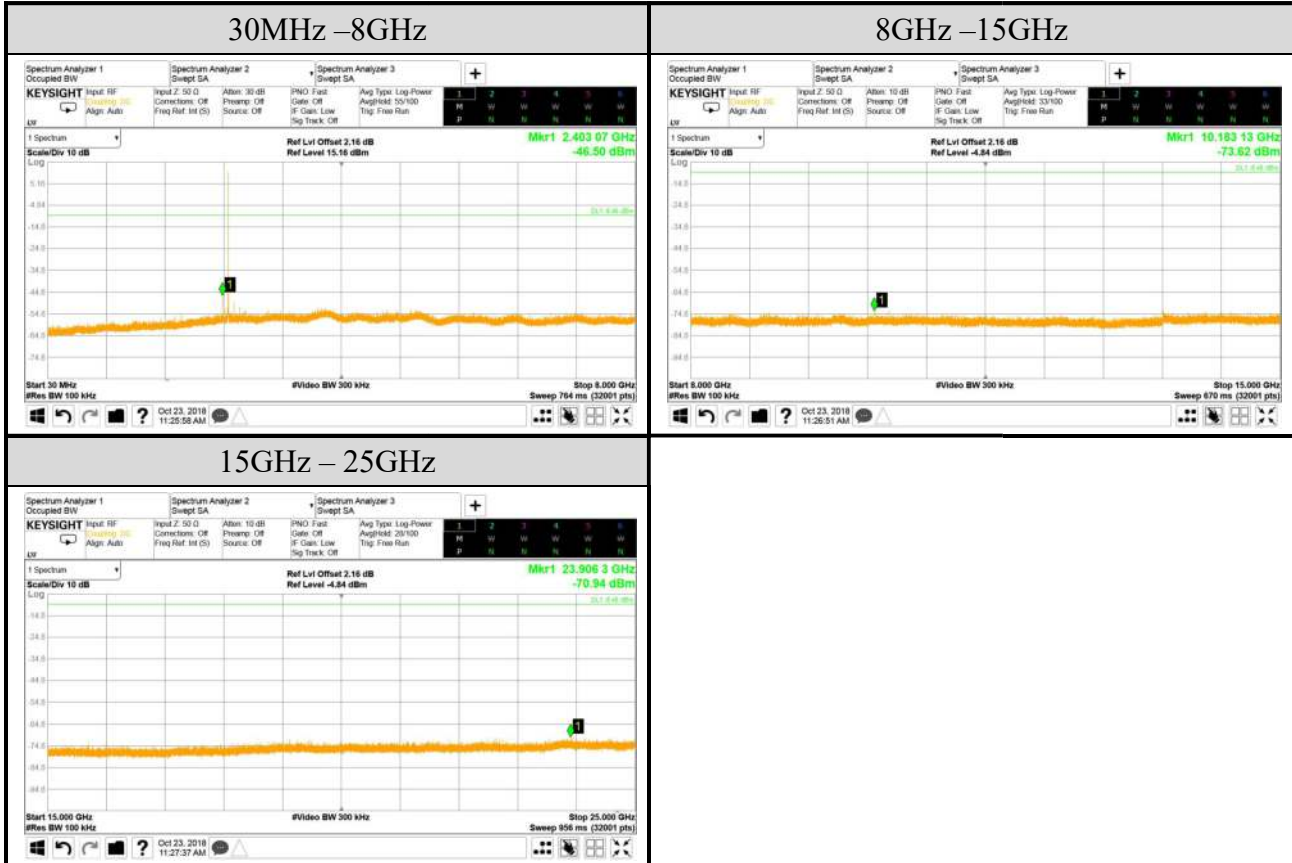
Note: All results have been included cable loss.

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



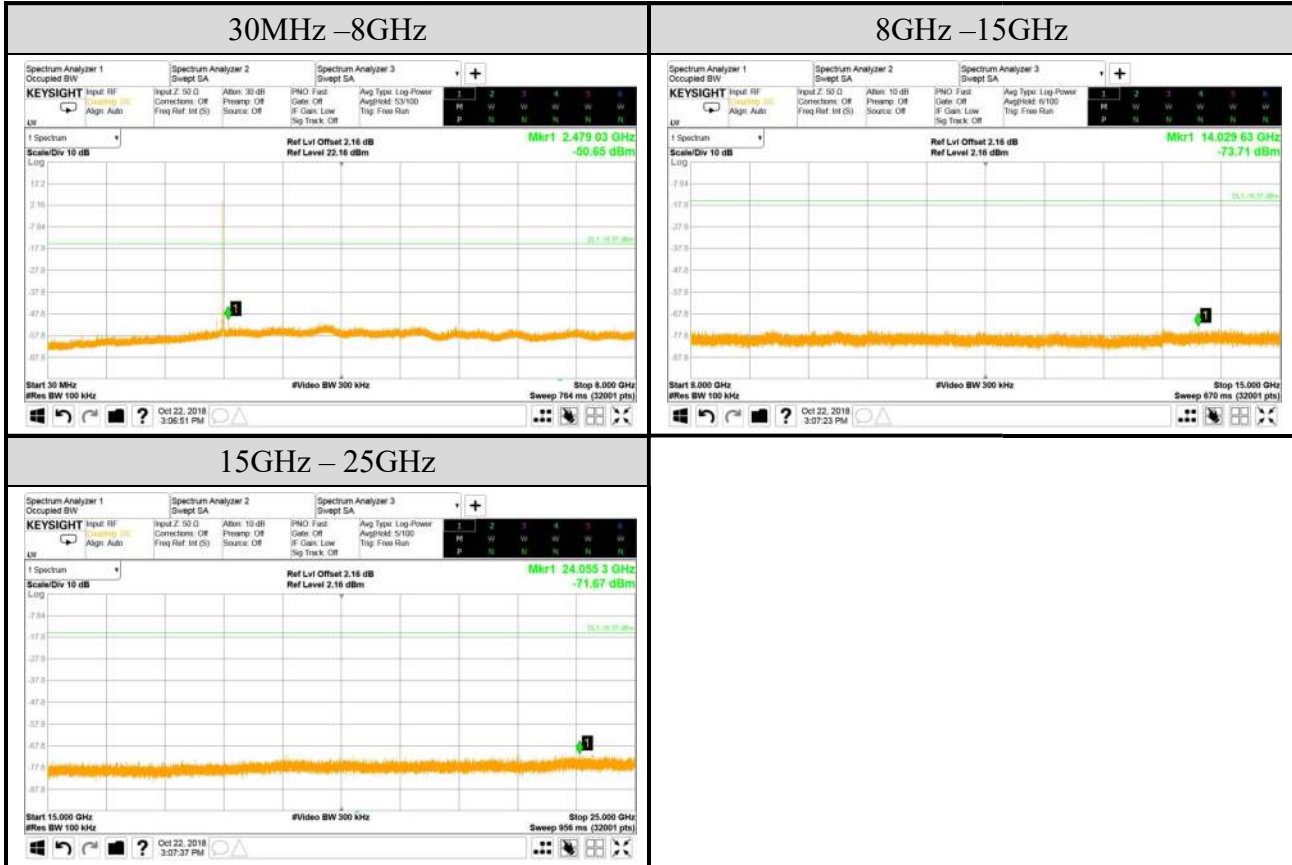
Note: All results have been included cable loss.

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



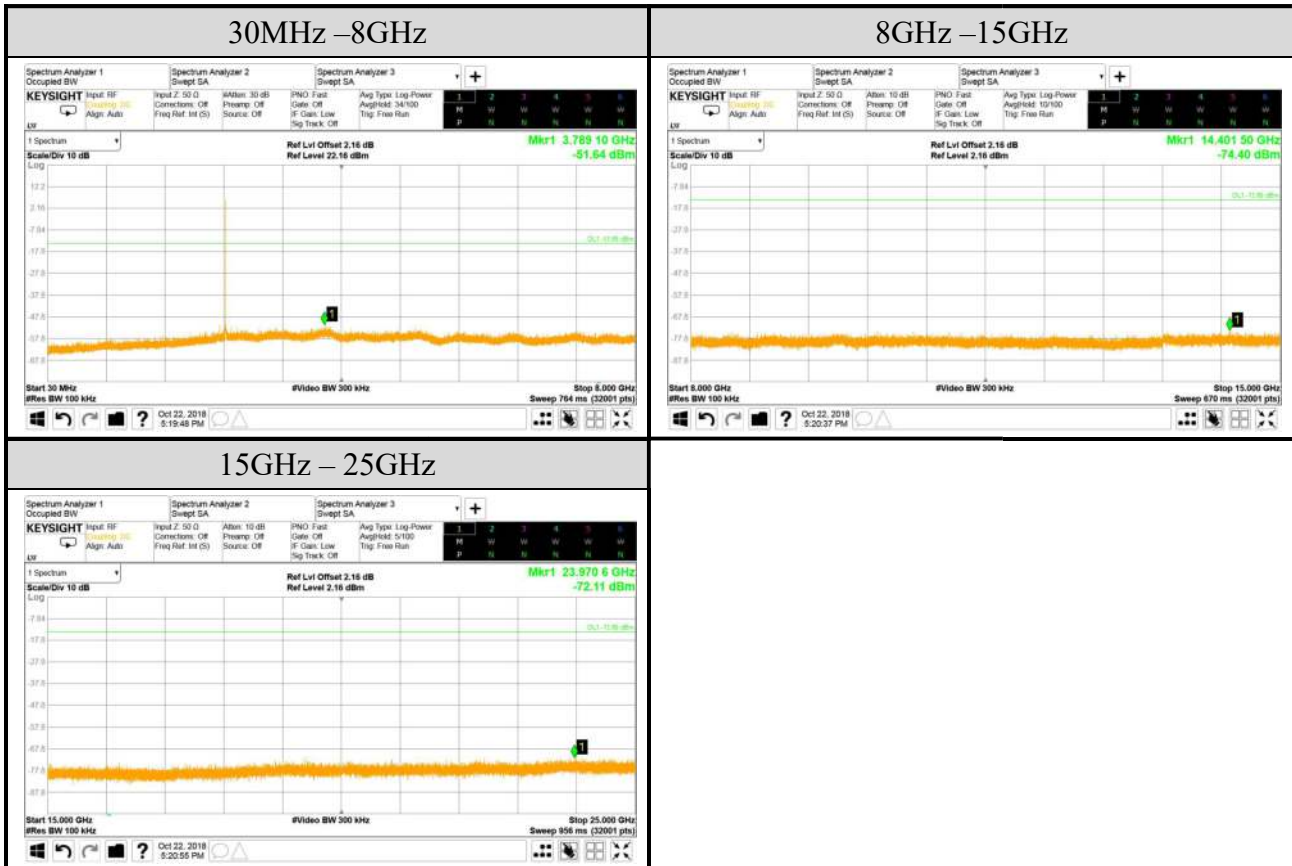
Note: All results have been included cable loss.

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



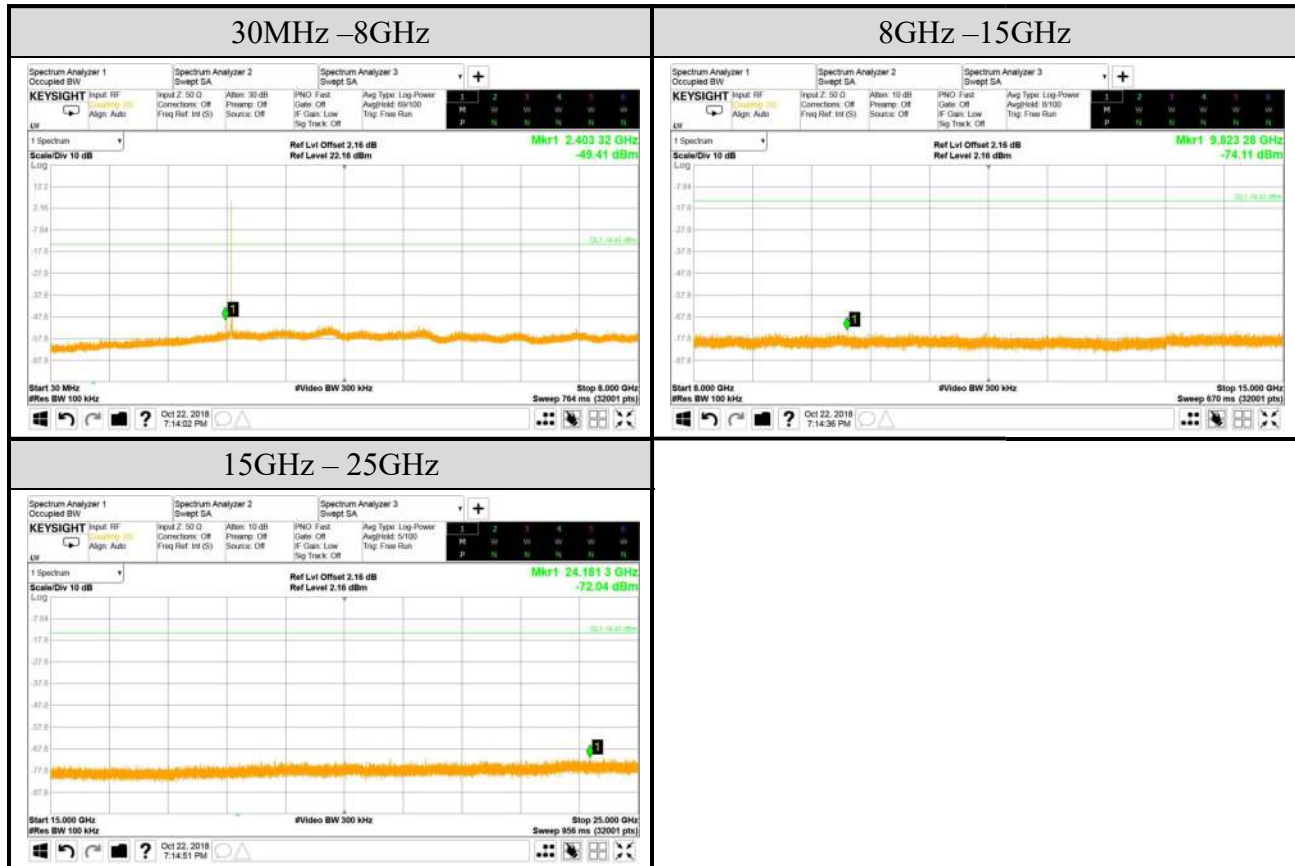
Note: All results have been included cable loss.

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



Note: All results have been included cable loss.

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



Note: All results have been included cable loss.