

1 Conducted output power

Band	Bandwidth (MHz)	UL Channel	RB Size	RB Position	Modulation	Power (dBm)	Gain (dBm)	ERP (dBm)	ERP Limit (dBm)	Verdict
Band13	5	23205	1	#0	QPSK	22.36	4.21	24.42	34.77	PASS
Band13	5	23205	1	#Mid	QPSK	22.32	4.21	24.38	34.77	PASS
Band13	5	23205	1	#Max	QPSK	22.4	4.21	24.46	34.77	PASS
Band13	5	23205	12	#0	QPSK	21.36	4.21	23.42	34.77	PASS
Band13	5	23205	12	#Mid	QPSK	21.4	4.21	23.46	34.77	PASS
Band13	5	23205	12	#Max	QPSK	21.36	4.21	23.42	34.77	PASS
Band13	5	23205	25	#0	QPSK	21.38	4.21	23.44	34.77	PASS
Band13	5	23205	1	#0	QAM16	21.77	4.21	23.83	34.77	PASS
Band13	5	23205	1	#Mid	QAM16	21.8	4.21	23.86	34.77	PASS
Band13	5	23205	1	#Max	QAM16	21.74	4.21	23.8	34.77	PASS
Band13	5	23205	12	#0	QAM16	20.47	4.21	22.53	34.77	PASS
Band13	5	23205	12	#Mid	QAM16	20.46	4.21	22.52	34.77	PASS
Band13	5	23205	12	#Max	QAM16	20.43	4.21	22.49	34.77	PASS
Band13	5	23205	25	#0	QAM16	20.41	4.21	22.47	34.77	PASS
Band13	5	23230	1	#0	QPSK	22.36	4.21	24.42	34.77	PASS
Band13	5	23230	1	#Mid	QPSK	22.41	4.21	24.47	34.77	PASS
Band13	5	23230	1	#Max	QPSK	22.37	4.21	24.43	34.77	PASS
Band13	5	23230	12	#0	QPSK	21.4	4.21	23.46	34.77	PASS
Band13	5	23230	12	#Mid	QPSK	21.41	4.21	23.47	34.77	PASS
Band13	5	23230	12	#Max	QPSK	21.38	4.21	23.44	34.77	PASS
Band13	5	23230	25	#0	QPSK	21.39	4.21	23.45	34.77	PASS
Band13	5	23230	1	#0	QAM16	21.84	4.21	23.9	34.77	PASS
Band13	5	23230	1	#Mid	QAM16	21.81	4.21	23.87	34.77	PASS
Band13	5	23230	1	#Max	QAM16	21.76	4.21	23.82	34.77	PASS
Band13	5	23230	12	#0	QAM16	20.42	4.21	22.48	34.77	PASS
Band13	5	23230	12	#Mid	QAM16	20.45	4.21	22.51	34.77	PASS
Band13	5	23230	12	#Max	QAM16	20.36	4.21	22.42	34.77	PASS
Band13	5	23230	25	#0	QAM16	20.43	4.21	22.49	34.77	PASS
Band13	5	23255	1	#0	QPSK	22.33	4.21	24.39	34.77	PASS
Band13	5	23255	1	#Mid	QPSK	22.3	4.21	24.36	34.77	PASS
Band13	5	23255	1	#Max	QPSK	22.25	4.21	24.31	34.77	PASS
Band13	5	23255	12	#0	QPSK	21.33	4.21	23.39	34.77	PASS
Band13	5	23255	12	#Mid	QPSK	21.29	4.21	23.35	34.77	PASS
Band13	5	23255	12	#Max	QPSK	21.25	4.21	23.31	34.77	PASS
Band13	5	23255	25	#0	QPSK	21.27	4.21	23.33	34.77	PASS
Band13	5	23255	1	#0	QAM16	21.73	4.21	23.79	34.77	PASS
Band13	5	23255	1	#Mid	QAM16	21.76	4.21	23.82	34.77	PASS
Band13	5	23255	1	#Max	QAM16	21.85	4.21	23.91	34.77	PASS
Band13	5	23255	12	#0	QAM16	20.31	4.21	22.37	34.77	PASS
Band13	5	23255	12	#Mid	QAM16	20.32	4.21	22.38	34.77	PASS
Band13	5	23255	12	#Max	QAM16	20.31	4.21	22.37	34.77	PASS

Band13	5	23255	25	#0	QAM16	20.3	4.21	22.36	34.77	PASS
Band13	10	23230	1	#0	QPSK	22.35	4.21	24.41	34.77	PASS
Band13	10	23230	1	#Mid	QPSK	22.34	4.21	24.4	34.77	PASS
Band13	10	23230	1	#Max	QPSK	22.3	4.21	24.36	34.77	PASS
Band13	10	23230	25	#0	QPSK	21.39	4.21	23.45	34.77	PASS
Band13	10	23230	25	#Mid	QPSK	21.41	4.21	23.47	34.77	PASS
Band13	10	23230	25	#Max	QPSK	21.41	4.21	23.47	34.77	PASS
Band13	10	23230	50	#0	QPSK	21.39	4.21	23.45	34.77	PASS
Band13	10	23230	1	#0	QAM16	21.83	4.21	23.89	34.77	PASS
Band13	10	23230	1	#Mid	QAM16	21.64	4.21	23.7	34.77	PASS
Band13	10	23230	1	#Max	QAM16	21.68	4.21	23.74	34.77	PASS
Band13	10	23230	25	#0	QAM16	20.44	4.21	22.5	34.77	PASS
Band13	10	23230	25	#Mid	QAM16	20.45	4.21	22.51	34.77	PASS
Band13	10	23230	25	#Max	QAM16	20.38	4.21	22.44	34.77	PASS
Band13	10	23230	50	#0	QAM16	20.4	4.21	22.46	34.77	PASS

2 Frequency stability

2.1 Frequency VS Voltage

Band	Bandwidth (MHz)	Voltage	Temp (°C)	UL Channel	RB Size	RB Position	Modulation	Result(Hz)	Result (ppm)	Limit (ppm)	Verdict
Band13	10	LV	NT	23230	50	#0	QPSK	-4.95	-0.006	±2.5	PASS
Band13	10	NV	NT	23230	50	#0	QPSK	-4.90	-0.006	±2.5	PASS
Band13	10	HV	NT	23230	50	#0	QPSK	-3.38	-0.005	±2.5	PASS
Band13	10	LV	NT	23230	50	#0	QAM16	3.56	0.005	±2.5	PASS
Band13	10	NV	NT	23230	50	#0	QAM16	-5.50	-0.007	±2.5	PASS
Band13	10	HV	NT	23230	50	#0	QAM16	-6.89	-0.009	±2.5	PASS

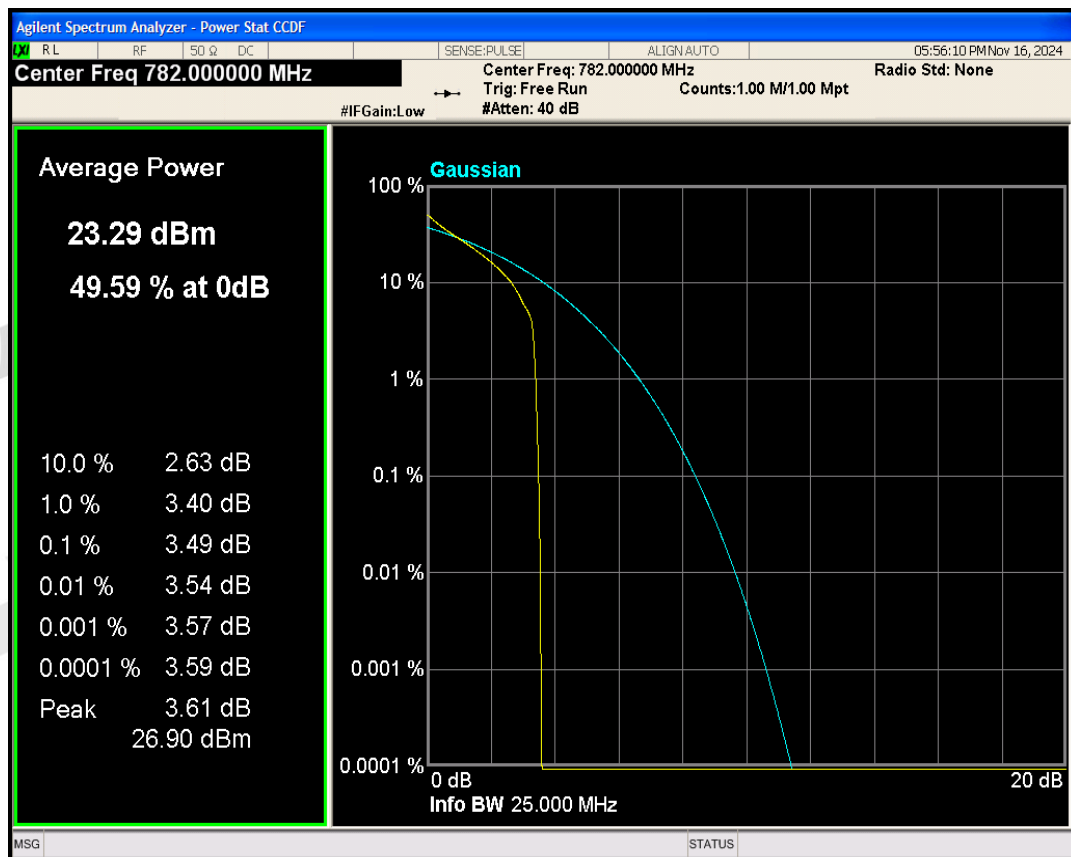
2.2 .Frequency Vs Temperature

Band	Bandwidth (MHz)	Voltage	Temp (°C)	UL Channel	RB Size	RB Position	Modulation	Result(Hz)	Result (ppm)	Limit (ppm)	Verdict
Band13	10	NV	-30	23230	50	#0	QPSK	-0.03	0.000	±2.5	PASS
Band13	10	NV	-20	23230	50	#0	QPSK	-10.81	-0.006	±2.5	PASS
Band13	10	NV	0	23230	50	#0	QPSK	-0.71	0.000	±2.5	PASS
Band13	10	NV	10	23230	50	#0	QPSK	-0.14	0.000	±2.5	PASS
Band13	10	NV	20	23230	50	#0	QPSK	4.77	0.003	±2.5	PASS
Band13	10	NV	30	23230	50	#0	QPSK	0.36	0.000	±2.5	PASS
Band13	10	NV	40	23230	50	#0	QPSK	4.01	0.002	±2.5	PASS
Band13	10	NV	50	23230	50	#0	QPSK	-5.92	-0.002	±2.5	PASS
Band13	10	NV	-30	23230	50	#0	16QAM	-5.78	-0.002	±2.5	PASS
Band13	10	NV	-20	23230	50	#0	16QAM	0.67	0.000	±2.5	PASS
Band13	10	NV	0	23230	50	#0	16QAM	-2.67	-0.001	±2.5	PASS
Band13	10	NV	10	23230	50	#0	16QAM	1.64	0.001	±2.5	PASS
Band13	10	NV	20	23230	50	#0	16QAM	-1.65	-0.001	±2.5	PASS
Band13	10	NV	30	23230	50	#0	16QAM	0.00	0.000	±2.5	PASS
Band13	10	NV	40	23230	50	#0	16QAM	9.93	0.006	±2.5	PASS
Band13	10	NV	50	23230	50	#0	16QAM	4.15	0.002	±2.5	PASS

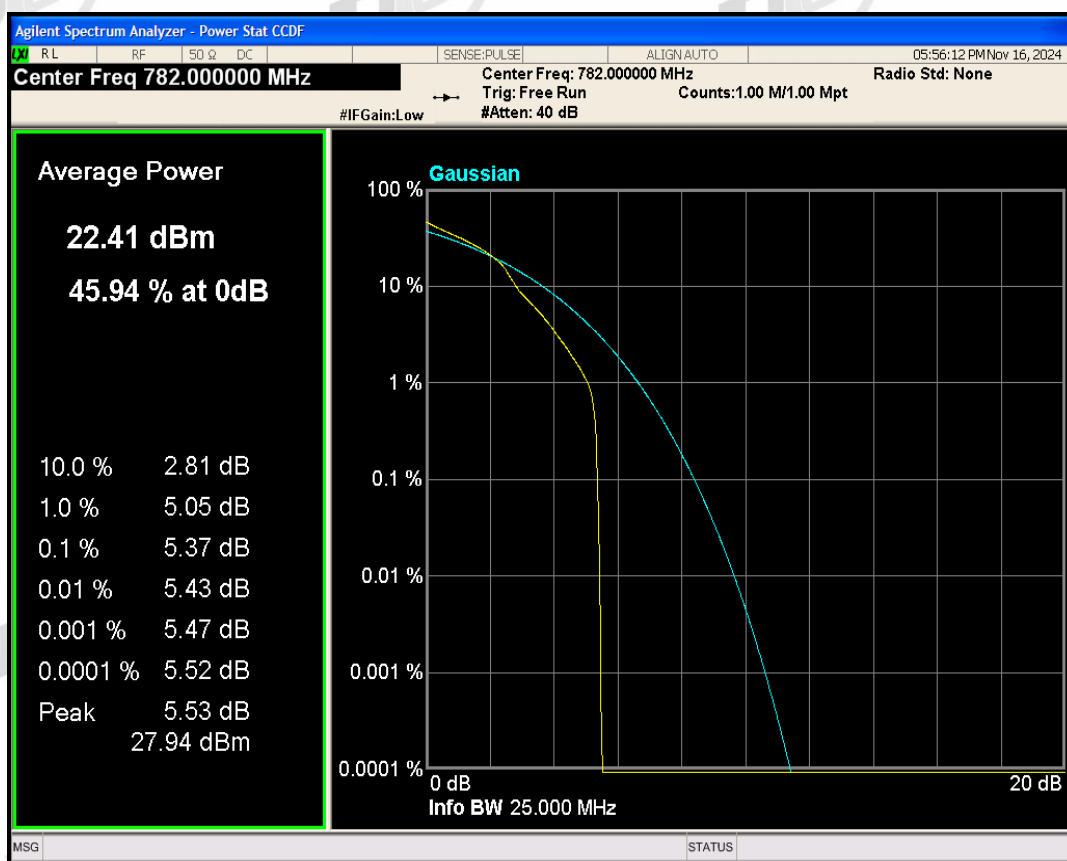
3 Peak-to-Average Ratio

Band	Bandwidth (MHz)	UL Channel	RB Size	RB Position	Modulation	Result (dB)	high Limit (dB)	Verdict
Band13	5	23230	1	#0	QPSK	3.49	13	PASS
Band13	5	23230	1	#0	QAM16	5.37	13	PASS
Band13	10	23230	1	#0	QPSK	3.55	13	PASS
Band13	10	23230	1	#0	QAM16	5.51	13	PASS

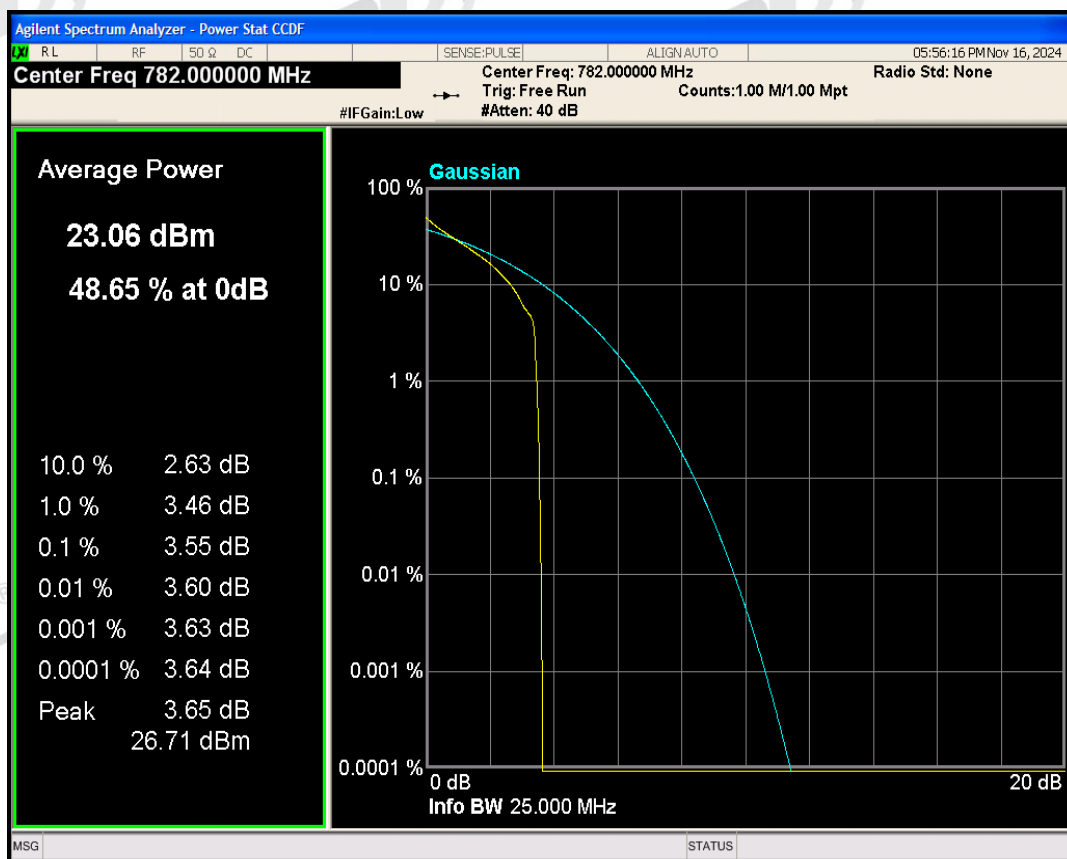
Band13 QPSK BW=5MHz Channel=23230 RB Size=1 Position=#0



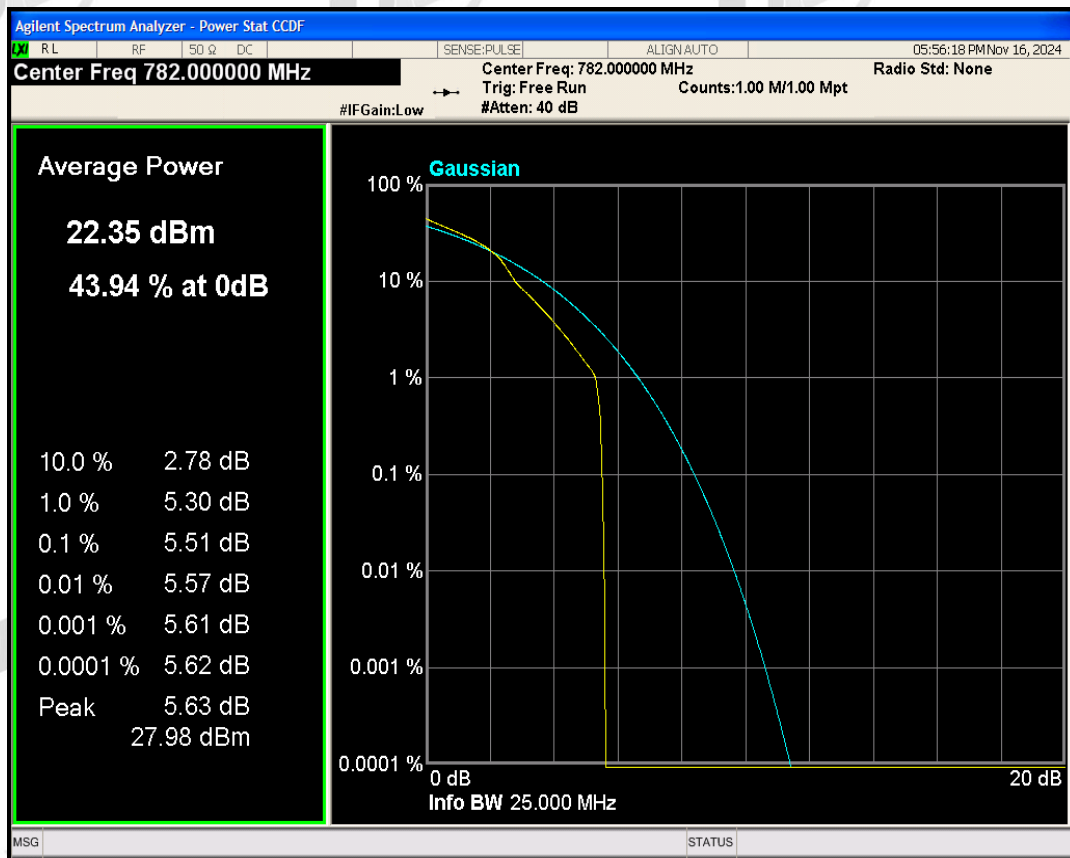
Band13 QAM16 BW=5MHz Channel=23230 RB Size=1 Position=#0



Band13 QPSK BW=10MHz Channel=23230 RB Size=1 Position=#0



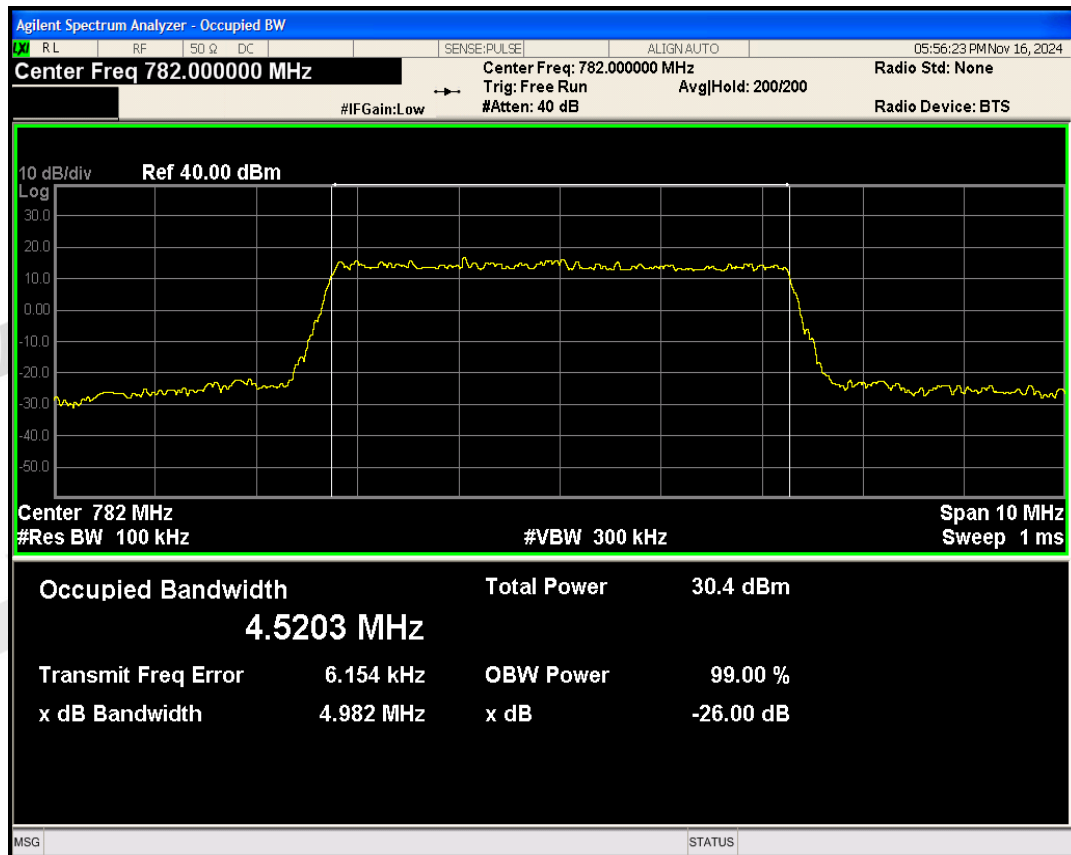
Band13 QAM16 BW=10MHz Channel=23230 RB Size=1 Position=#0



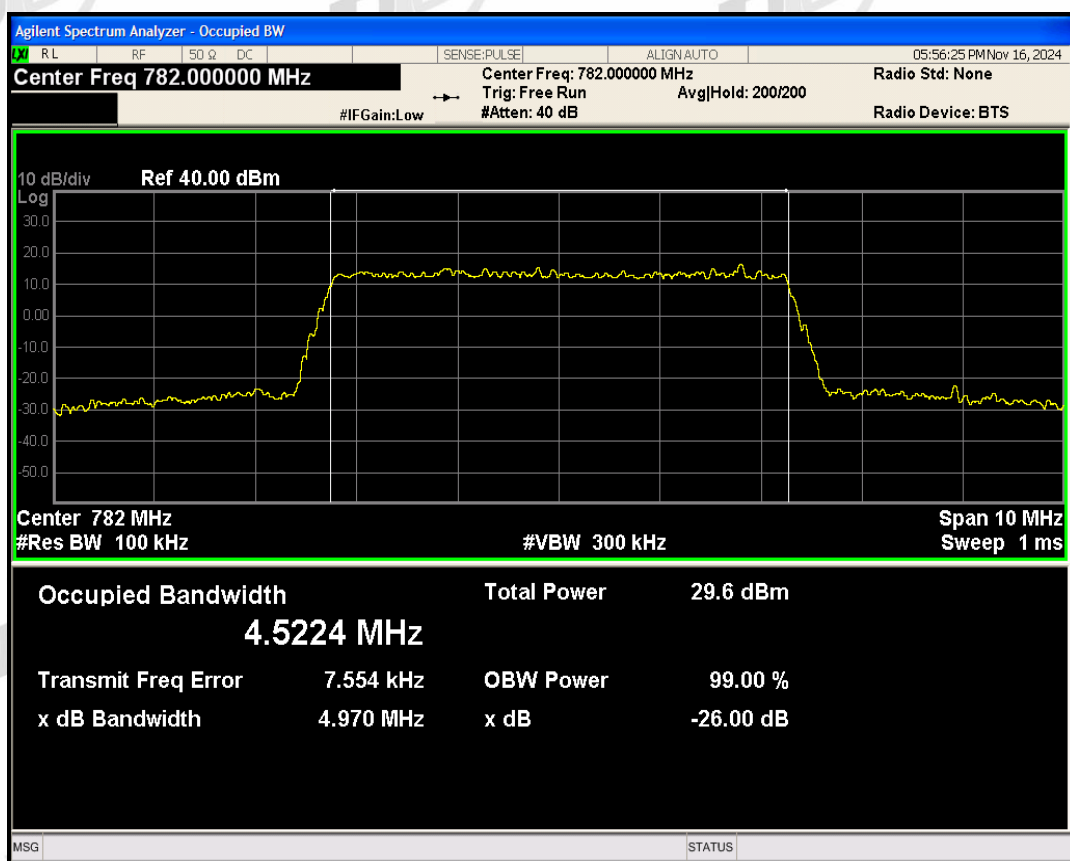
4 Occupied bandwidth

Band	Bandwidth (MHz)	UL Channel	RB Size	RB Position	Modulation	99% OBW (MHz)	-26dB EBW (MHz)	Verdict
Band13	5	23230	25	#0	QPSK	4.520	4.982	PASS
Band13	5	23230	25	#0	QAM16	4.522	4.970	PASS
Band13	10	23230	50	#0	QPSK	8.958	9.766	PASS
Band13	10	23230	50	#0	QAM16	8.968	9.642	PASS

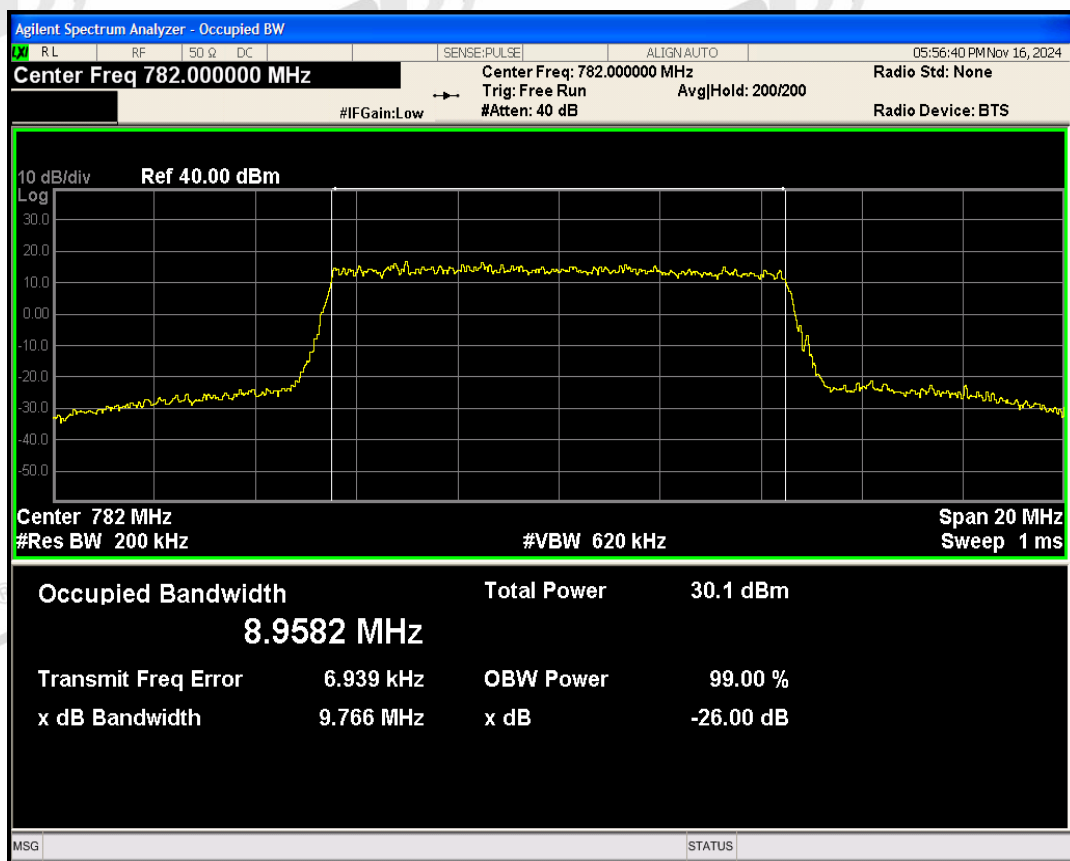
Band13 QPSK BW=5MHz Channel=23230 RB Size=25 Position=#0



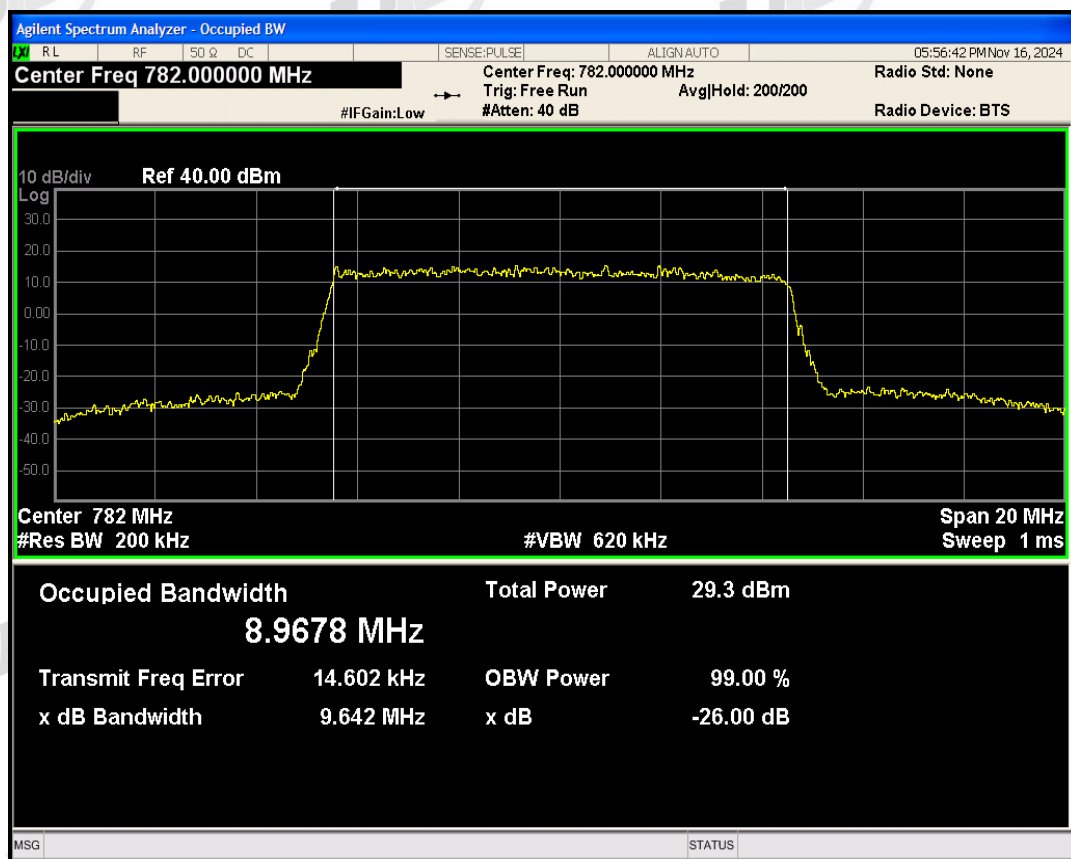
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Band13 QPSK BW=10MHz Channel=23230 RB Size=50 Position=#0



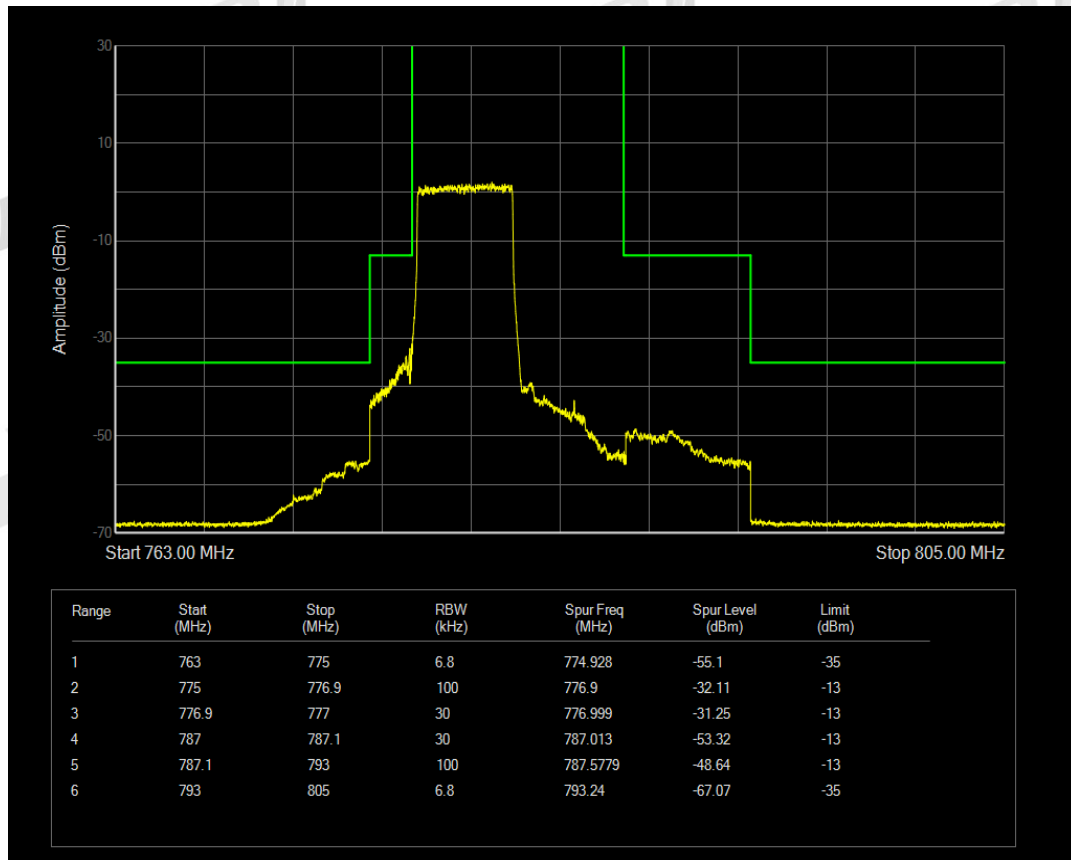
Band13 QAM16 BW=10MHz Channel=23230 RB Size=50 Position=#0



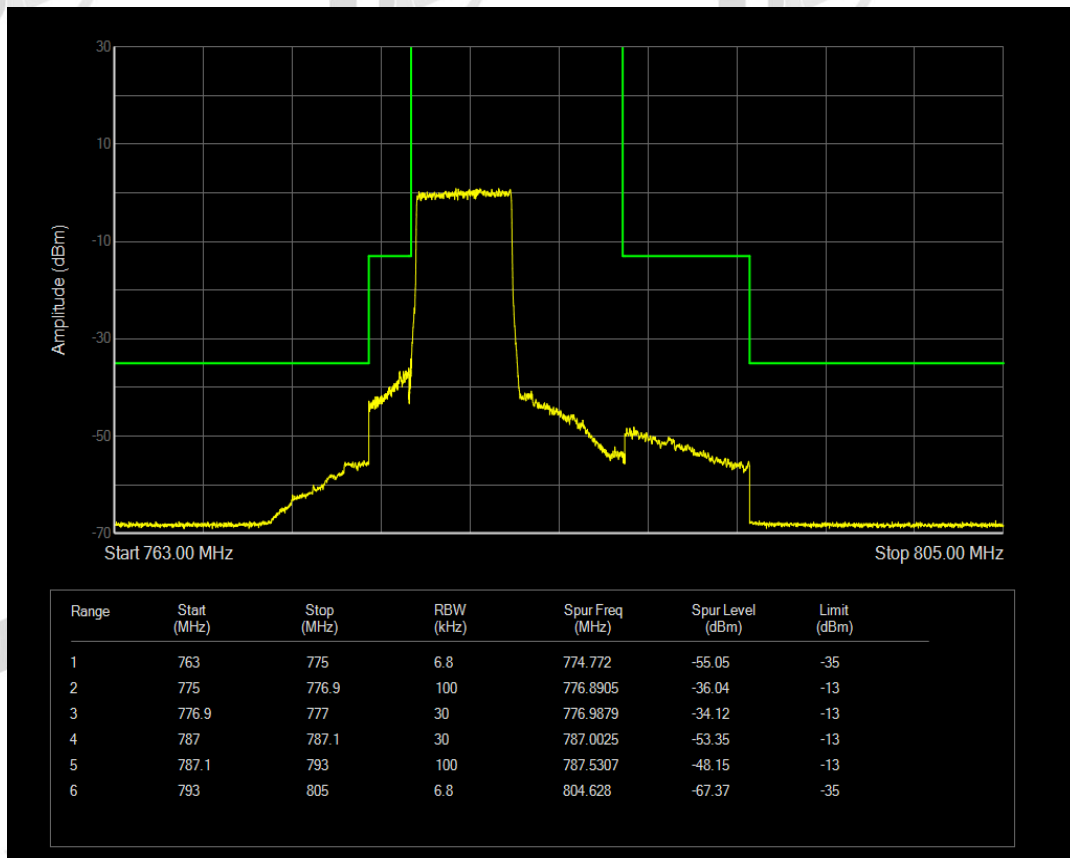
5 Band edge

Band	Bandwidth (MHz)	UL Channel	RB Size	RB Position	Modulation	Spur Freq (MHz)	Spur Level (dBm)	Limit (dBm)	Verdict
Band13	5	23205	25	#0	QPSK	777.00	-31.25	-13	PASS
Band13	5	23205	25	#0	QAM16	774.77	-55.05	-35	PASS
Band13	5	23255	25	#0	QPSK	787.11	-27.77	-13	PASS
Band13	5	23255	25	#0	QAM16	787.63	-30.57	-13	PASS
Band13	10	23230	50	#0	QPSK	774.46	-49.27	-35	PASS
Band13	10	23230	50	#0	QAM16	774.99	-50.44	-35	PASS

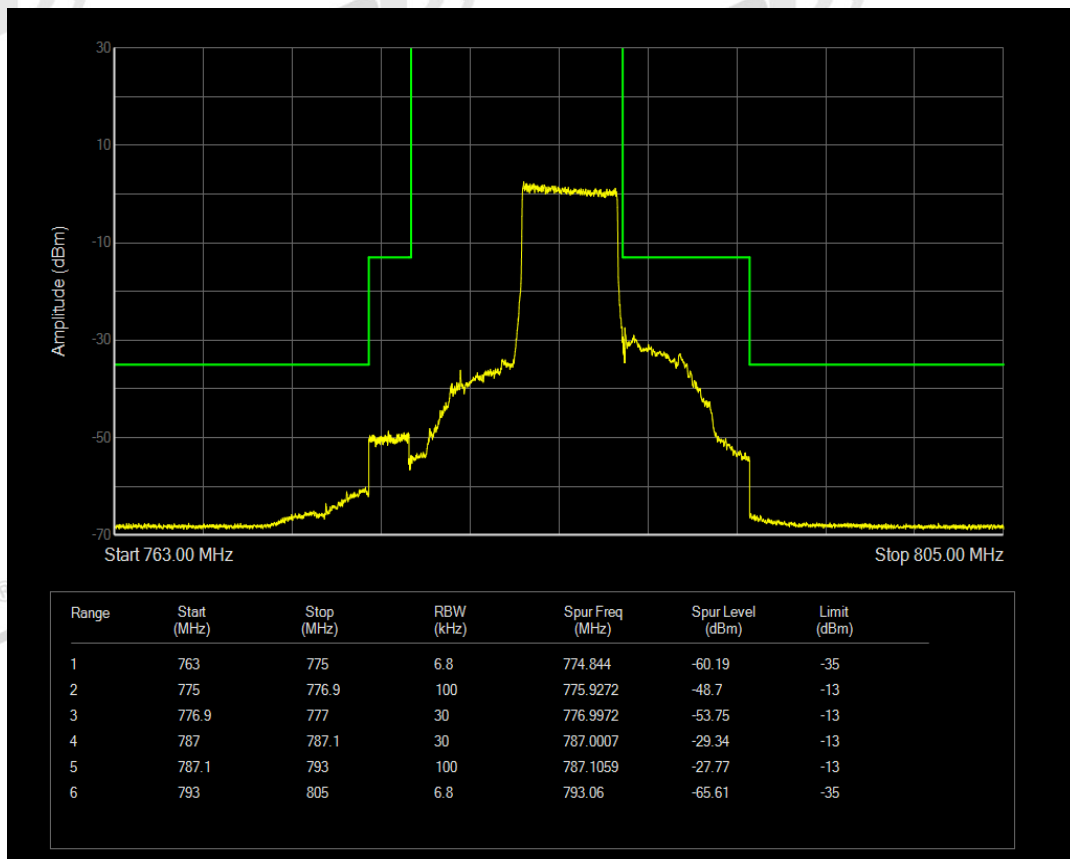
Band13 QPSK BW=5MHz Channel=23205 RB Size=25 Position=#0



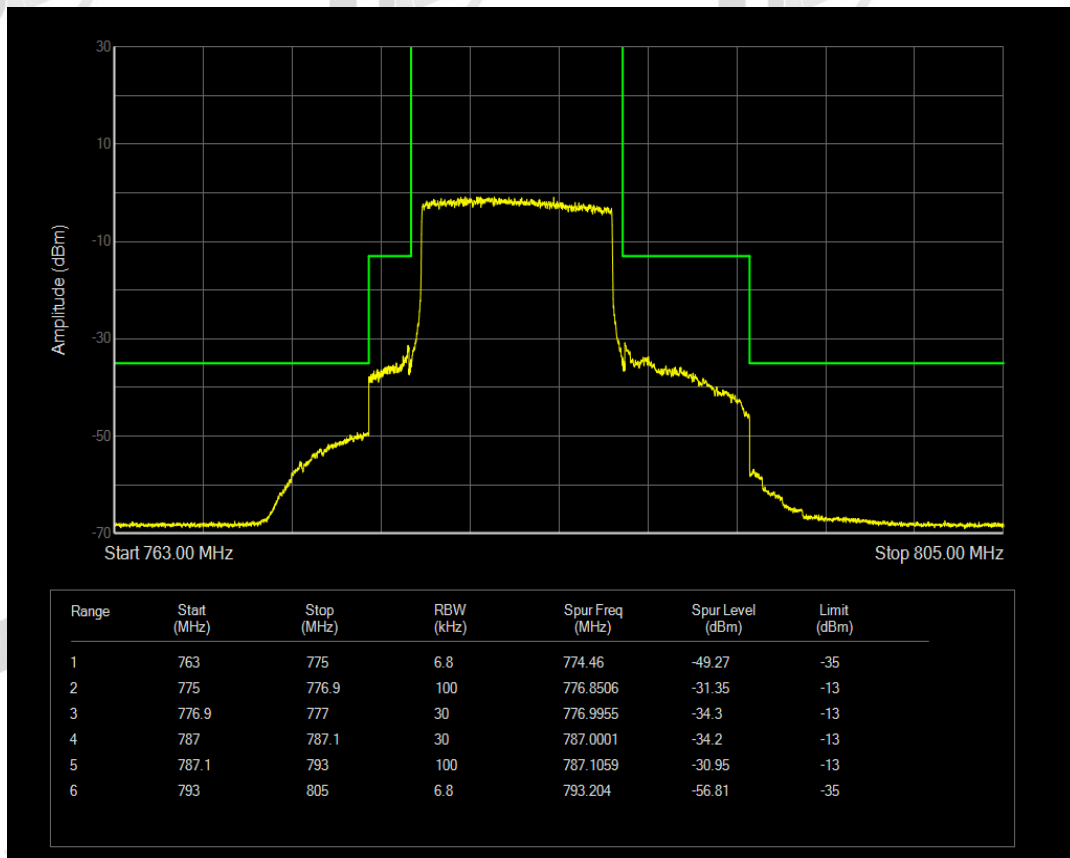
Band13 QAM16 BW=5MHz Channel=23205 RB Size=25 Position=#0



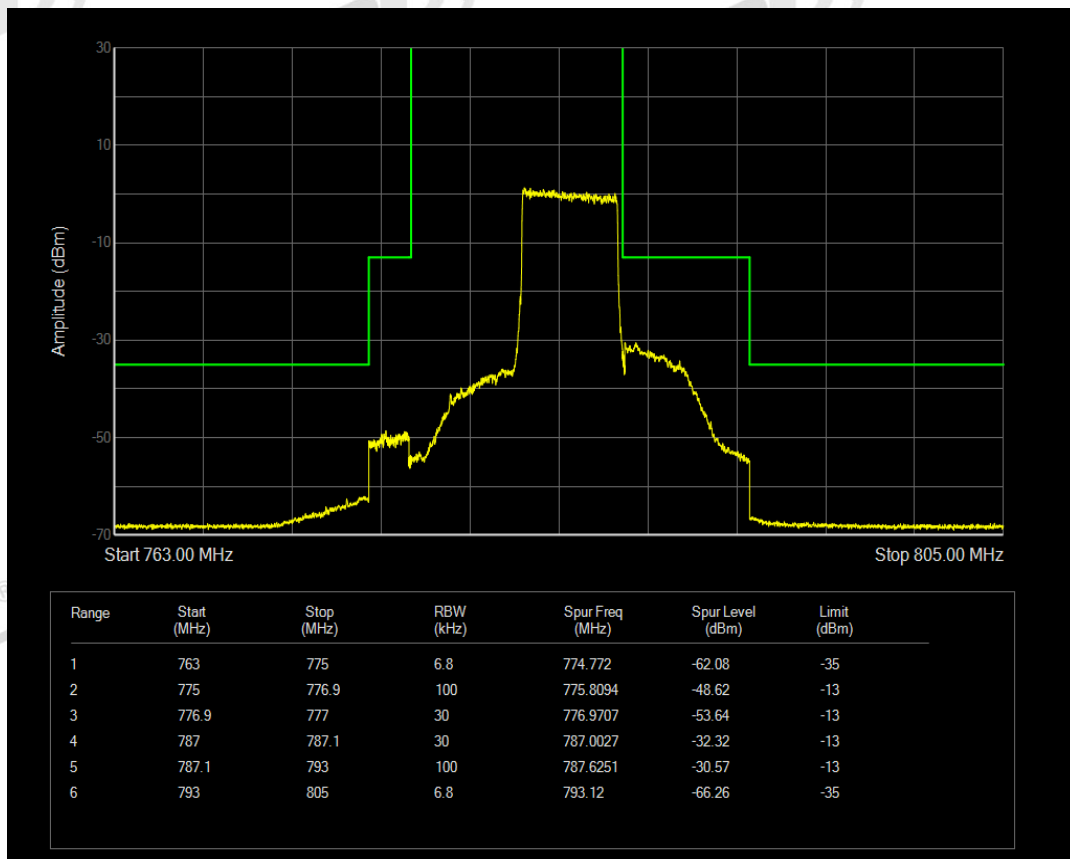
Band13 QPSK BW=5MHz Channel=23255 RB Size=25 Position=#0



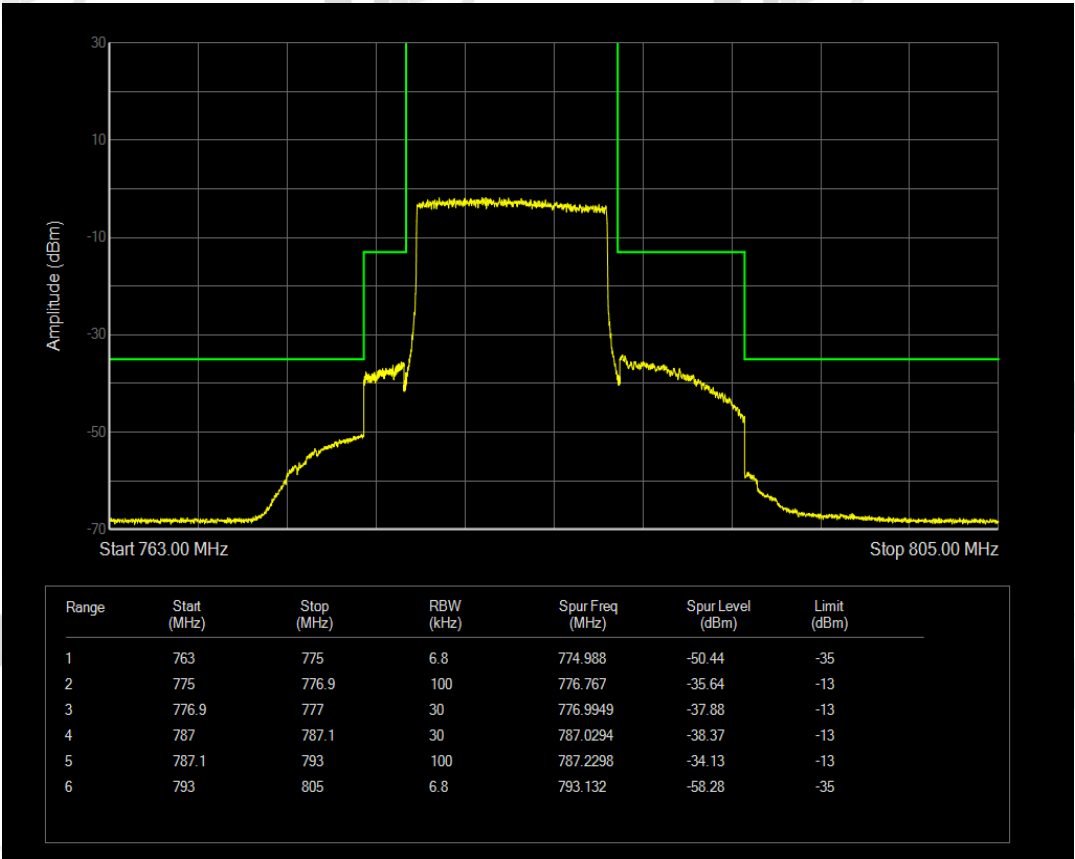
Band13 QPSK BW=10MHz Channel=23230 RB Size=50 Position=#0



Band13 QAM16 BW=5MHz Channel=23255 RB Size=25 Position=#0



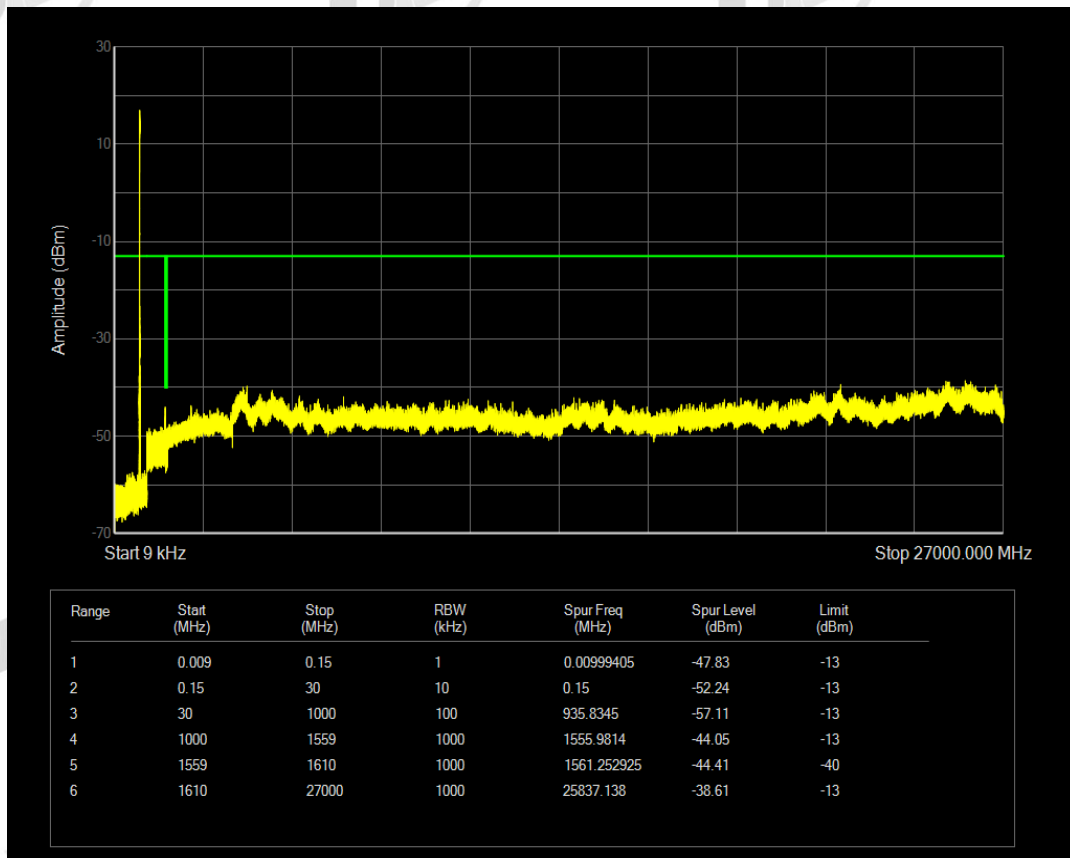
Band13 QAM16 BW=10MHz Channel=23230 RB Size=50 Position=#0



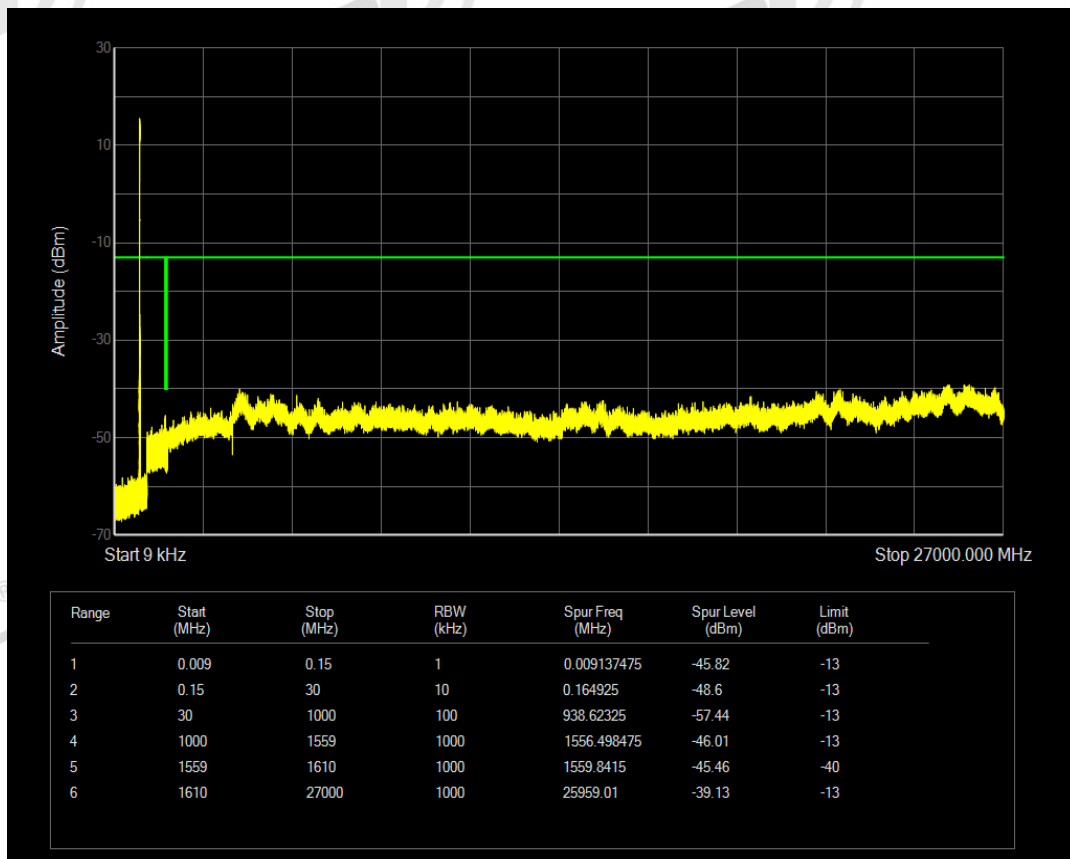
6 Out-of-band emissions

Band	Bandwidth (MHz)	UL Channel	RB Size	RB Position	Modulation	Spur Freq (MHz)	Spur Level (dBm)	Limit (dBm)	Verdict
Band13	5	23205	25	#0	QPSK	1561.25	-44.41	-40	PASS
Band13	5	23205	25	#0	QAM16	1559.84	-45.46	-40	PASS
Band13	5	23255	25	#0	QPSK	1565.94	-45.03	-40	PASS
Band13	5	23255	25	#0	QAM16	1566.55	-45.25	-40	PASS
Band13	10	23230	50	#0	QPSK	1559.49	-46.13	-40	PASS
Band13	10	23230	50	#0	QAM16	1560.34	-46.46	-40	PASS

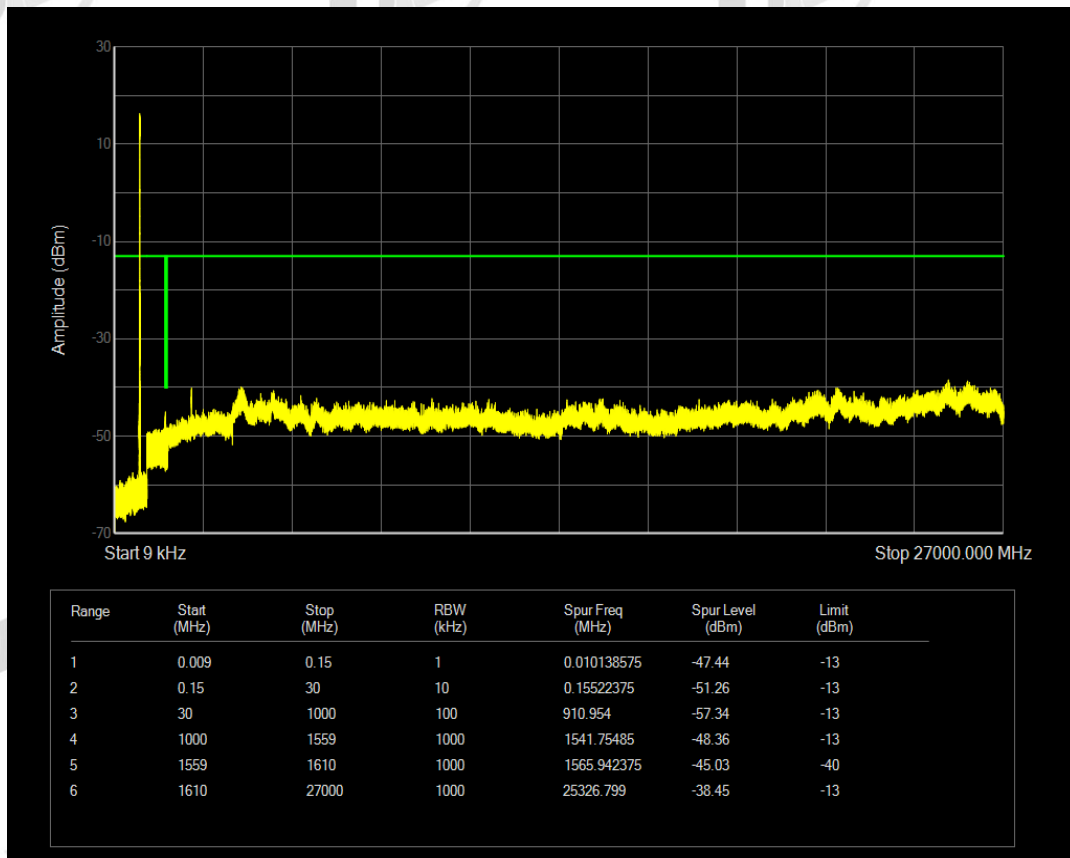
Band13 QPSK BW=5MHz Channel=23205 RB Size=25 Position=#0



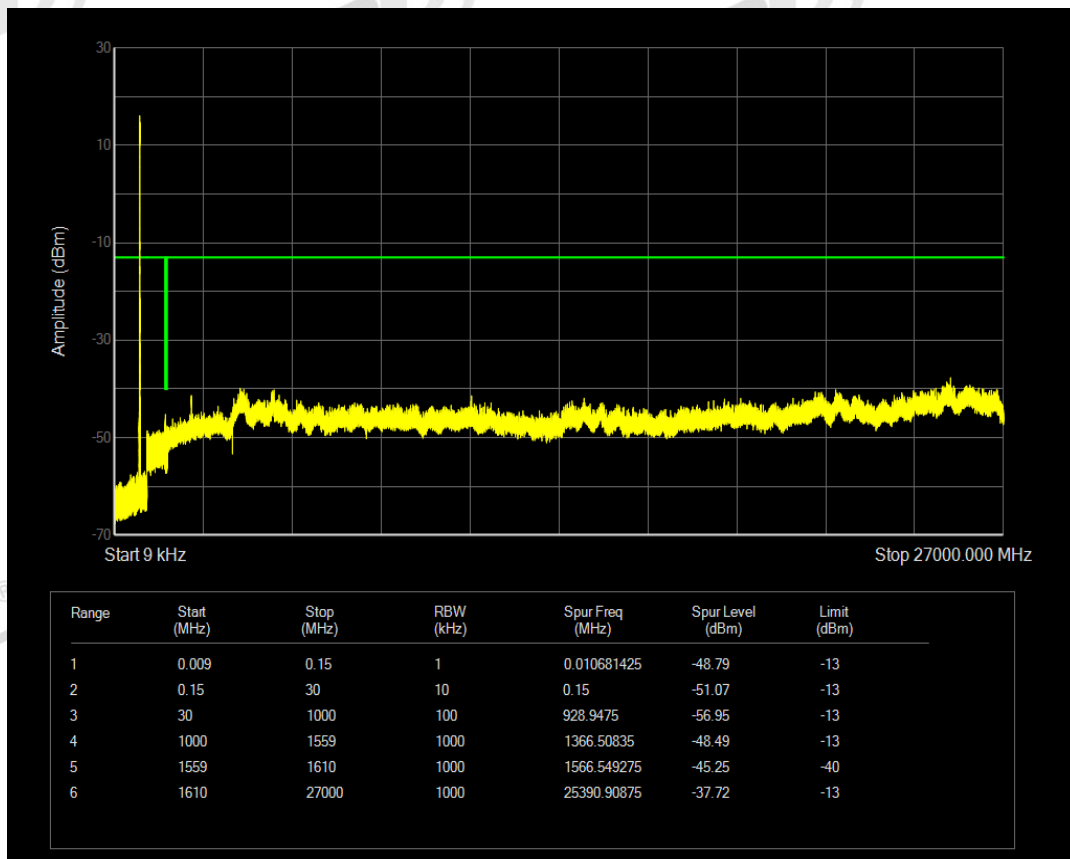
Band13 QAM16 BW=5MHz Channel=23205 RB Size=25 Position=#0



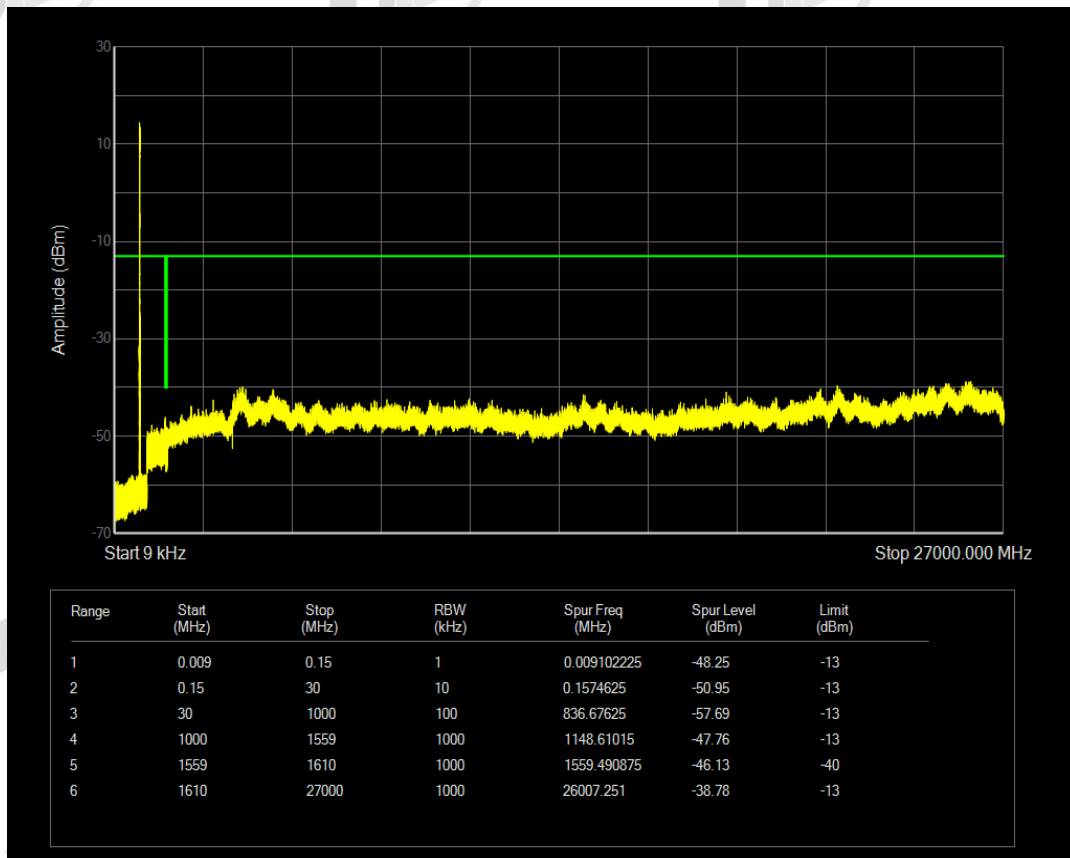
Band13 QPSK BW=5MHz Channel=23255 RB Size=25 Position=#0



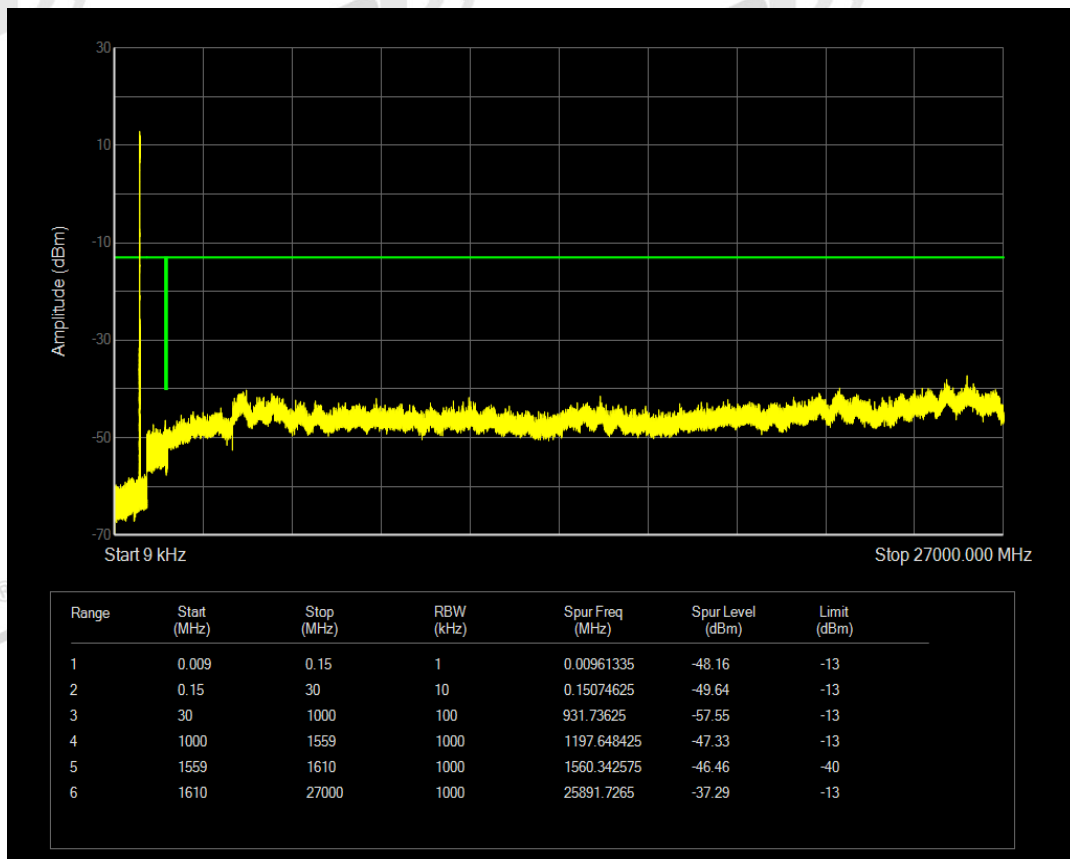
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Band13 QPSK BW=10MHz Channel=23230 RB Size=50 Position=#0

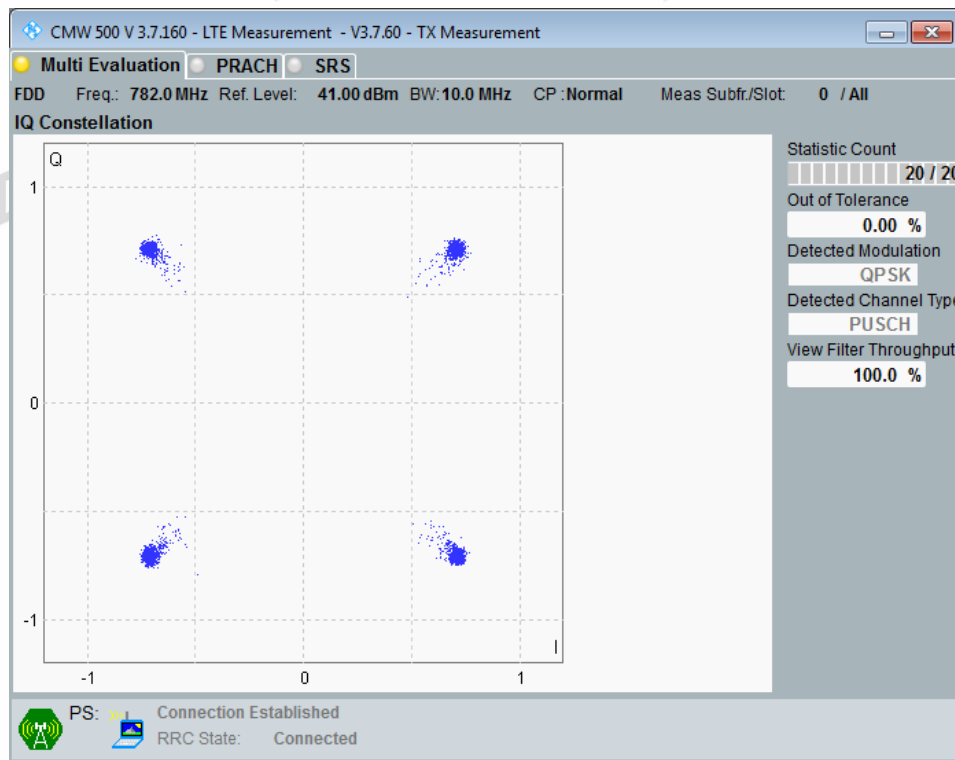


Band13 QAM16 BW=10MHz Channel=23230 RB Size=50 Position=#0

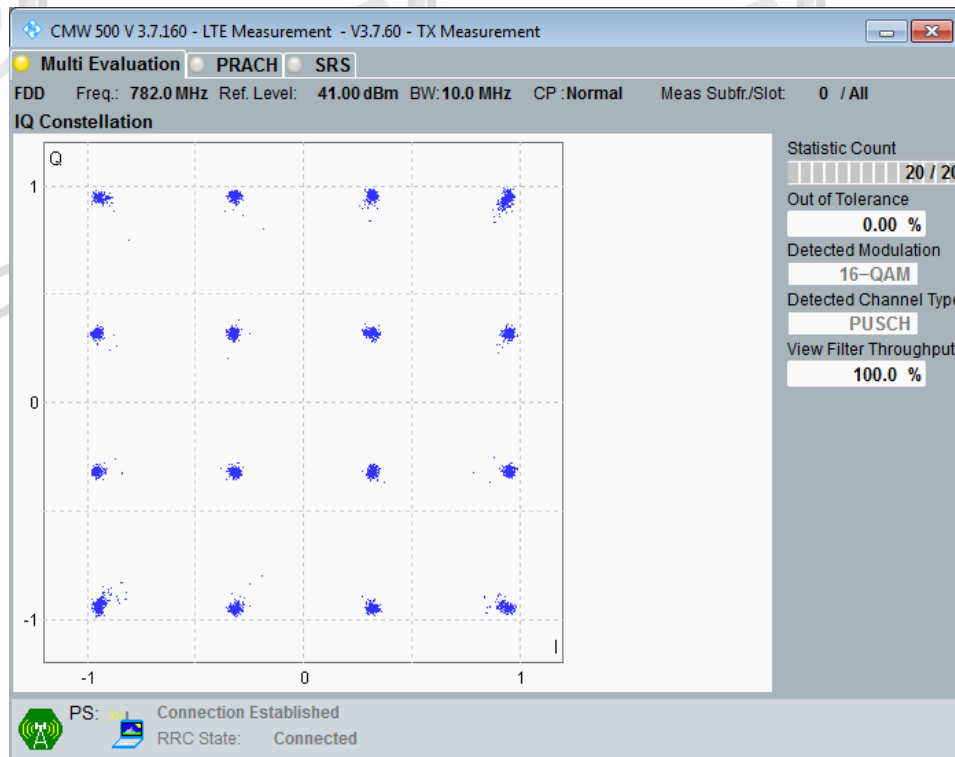


7 Modulation Characteristics

7.1 LTE/TM1 10MHz

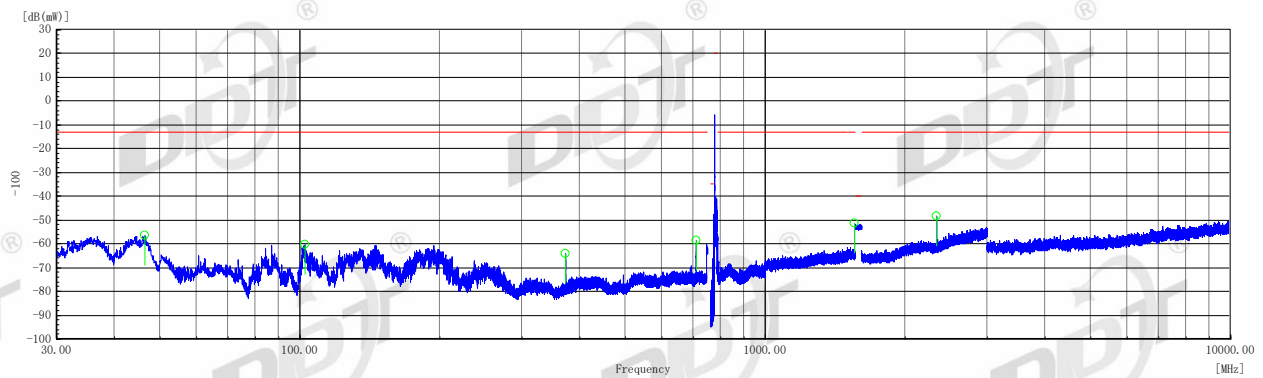


7.1 LTE/TM1 10MHz



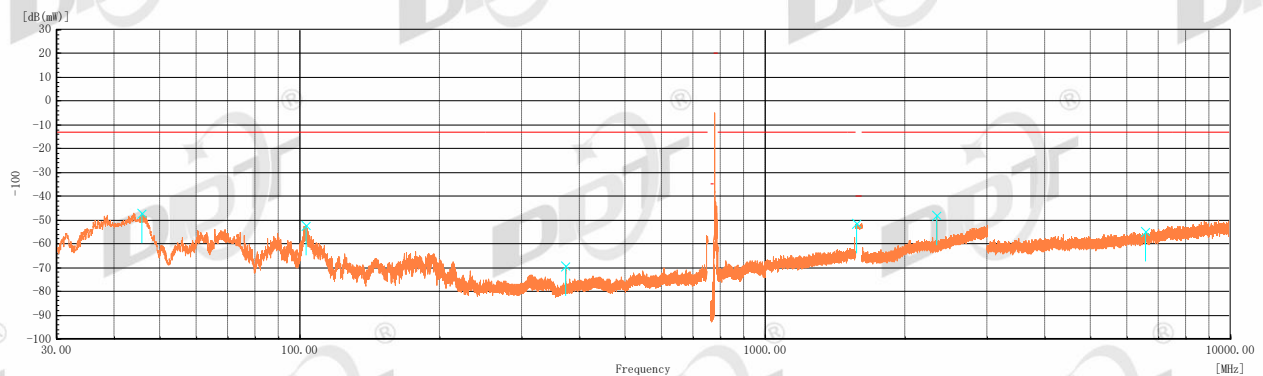
8. Radiated Power and Radiated Spurious Emissions

Test Mode1: LTE Band13 M-channel (horizontal)



Frequency [MHz]	Pol	level (dbuv/m)	Level [dB(mW)]	Limit [dB(mW)]	Margin [dB]	Height [cm]	Azimuth [°]
46.5	H	38.6	-56.7	-13	43.7	130	180.6
372	H	31.0	-64.3	-13	51.3	145	0.1
102.3	H	35.1	-60.2	-13	47.2	151	225.2
710.75	H	36.6	-58.7	-13	45.7	153	0.1
1555.2	H	44.1	-51.2	-13	38.2	153	135.2
2332.8	H	46.9	-48.4	-13	35.4	170	90.2

Test Mode1: LTE Band13 M-channel (vertical)



Frequency [MHz]	Pol	level (dbuv/m)	Level [dB(mW)]	Limit [dB(mW)]	Margin [dB]	Height [cm]	Azimuth [°]
45.65	V	48.1	-47.2	-13	34.2	121	44.9
103.05	V	43.1	-52.2	-13	39.2	125	89.4
372.1	V	26.0	-69.3	-13	56.3	130	269.4
1573.025	V	43.8	-51.5	-40	11.5	145	134.9
2332.8	V	47.3	-48	-13	35	151	359.9
6553.501	V	40.5	-54.8	-13	41.8	153	44.9