

Appendix I

Test Results of LTE Band 17

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1. Test Conditions

Item	Environment	Test Channel	RB size	Modulation	BW (MHz)	Test by
Conducted Output Power	☒ N.T / N.V.	☒ Low ☒ Mid ☒ High	☒ 1 ☒ Half ☒ Full	☒ QPSK ☒ 16QAM	☒ 5 ☒ 10	Sean
EIRP/ERP	☒ N.T / N.V.	☒ Low ☒ Mid ☒ High	☒ 1 ☒ Half ☒ Full	☒ QPSK ☒ 16QAM	☒ 5 ☒ 10	Sean
Peak-to-Average Ratio	☒ N.T / N.V.	☒ Low ☒ Mid ☒ High	☒ 1 ☐ Half ☒ Full	☒ QPSK ☒ 16QAM	☒ 10	Sean
Occupied Bandwidth	☒ N.T / N.V.	☒ Low ☒ Mid ☒ High	☐ 1 ☐ Half ☒ Full	☒ QPSK ☒ 16QAM	☒ 5 ☒ 10	Sean
Conducted Band Edge	☒ N.T / N.V.	☒ Low ☐ Mid ☒ High	☒ 1 ☐ Half ☒ Full	☒ QPSK ☒ 16QAM	☒ 5 ☒ 10	Sean
Spurious Emission at Antenna Terminal	☒ N.T / N.V.	☒ Low ☒ Mid ☒ High	☒ 1 ☐ Half ☐ Full	☒ QPSK ☒ 16QAM	☒ 10	Sean
Field Strength of Spurious Radiation	☒ N.T / N.V.	☒ Low ☒ Mid ☒ High	☒ worst case			Sean
Frequency Stability	☒ N.T / N.V. ☒ L.T / L.V. ☒ L.T / H.V. ☒ H.T / L.V. ☒ H.T / H.V.	☐ Low ☒ Mid ☐ High	☐ 1 ☐ Half ☒ Full	☒ QPSK ☐ 16QAM	☒ 10	Sean

NOTE: All settings for RB allocation, modulation mode, channel, channel bandwidth and environment required by the standard are considered and tested; only the worst case and normal test plots are shown on the report.

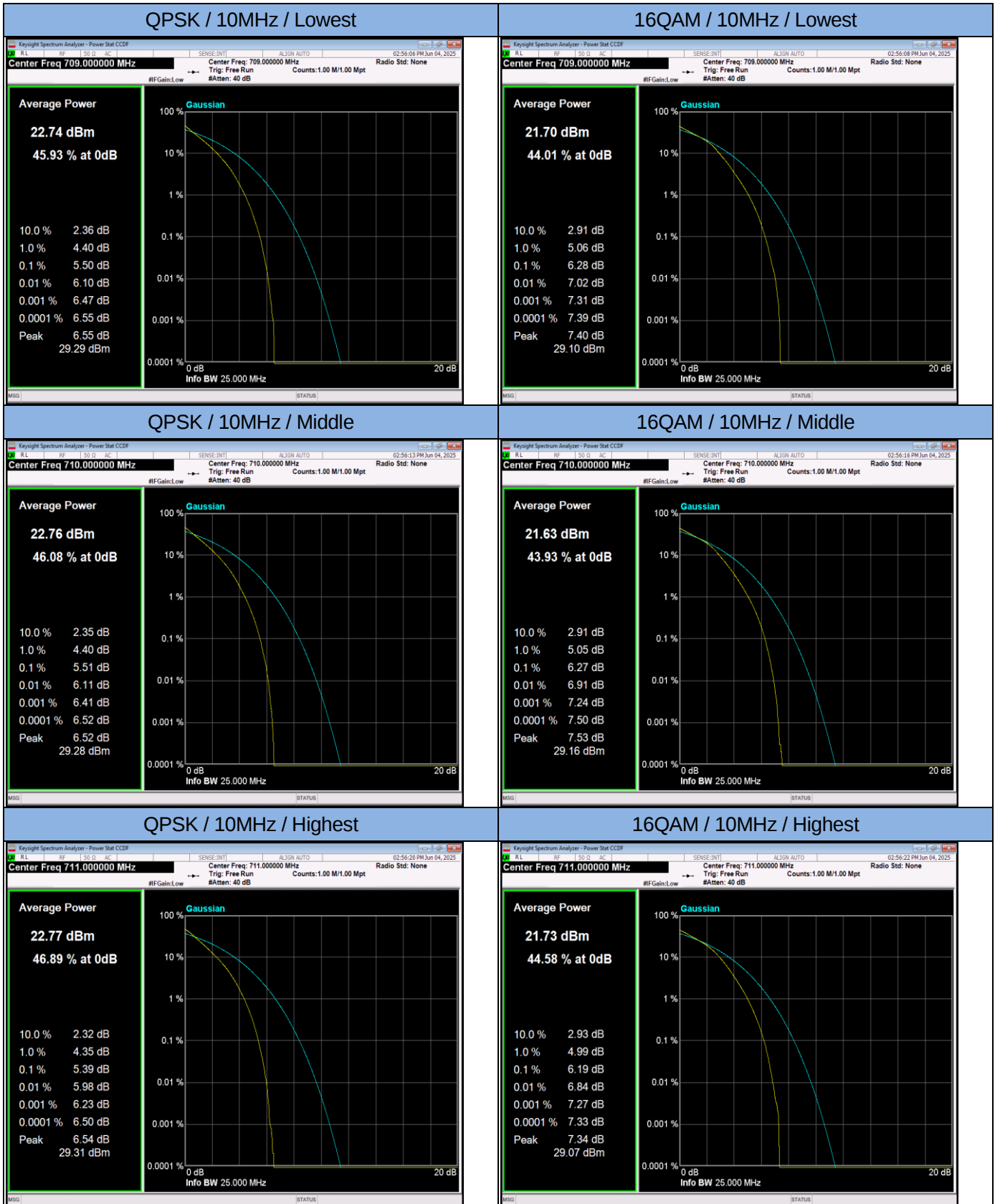
2. Conducted Output Power and ERP

BW (MHz)	Modulation	Channel	RB Allocation		Average Power (dBm)	GT - LC (dB)	ERP (dBm)	Limit (dBm)	Result
			Size	Offset					
5.0	QPSK	Low	1	0	22.28	-6.69	13.44	34.77	Pass
				12	22.58	-6.69	13.74		Pass
				24	22.06	-6.69	13.22		Pass
			12	0	21.67	-6.69	12.83		Pass
				7	21.64	-6.69	12.80		Pass
				13	21.49	-6.69	12.65		Pass
			25	0	21.60	-6.69	12.76		Pass
		Mid	1	0	22.54	-6.69	13.70		Pass
				12	22.74	-6.69	13.90		Pass
				24	22.42	-6.69	13.58		Pass
			12	0	21.46	-6.69	12.62		Pass
				7	21.54	-6.69	12.70		Pass
				13	21.59	-6.69	12.75		Pass
			25	0	21.43	-6.69	12.59		Pass
		High	1	0	22.32	-6.69	13.48		Pass
				12	23.12	-6.69	14.28		Pass
				24	22.42	-6.69	13.58		Pass
			12	0	21.54	-6.69	12.70		Pass
				7	21.52	-6.69	12.68		Pass
				13	21.56	-6.69	12.72		Pass
			25	0	21.47	-6.69	12.63		Pass
	16QAM	Low	1	0	21.75	-6.69	12.91	34.77	Pass
				12	21.65	-6.69	12.81		Pass
				24	20.79	-6.69	11.95		Pass
			12	0	20.11	-6.69	11.27		Pass
				7	20.29	-6.69	11.45		Pass
				13	20.01	-6.69	11.17		Pass
			25	0	20.60	-6.69	11.76		Pass
		Mid	1	0	21.82	-6.69	12.98		Pass
				12	21.83	-6.69	12.99		Pass
				24	21.21	-6.69	12.37		Pass
			12	0	20.13	-6.69	11.29		Pass
				7	20.20	-6.69	11.36		Pass
				13	20.25	-6.69	11.41		Pass
			25	0	20.40	-6.69	11.56		Pass
		High	1	0	21.68	-6.69	12.84		Pass
				12	21.89	-6.69	13.05		Pass
				24	21.20	-6.69	12.36		Pass
			12	0	20.27	-6.69	11.43		Pass
				7	20.25	-6.69	11.41		Pass
				13	20.29	-6.69	11.45		Pass
			25	0	20.56	-6.69	11.72		Pass

BW (MHz)	Modulation	Channel	RB Allocation		Average Power (dBm)	GT - LC (dB)	ERP (dBm)	Limit (dBm)	Result
			Size	Offset					
10	QPSK	Low	1	0	22.55	-6.69	13.71	34.77	Pass
				25	22.52	-6.69	13.68		Pass
				49	22.57	-6.69	13.73		Pass
			25	0	21.56	-6.69	12.72		Pass
				12	21.51	-6.69	12.67		Pass
				25	21.68	-6.69	12.84		Pass
			50	0	21.66	-6.69	12.82		Pass
		Mid	1	0	22.37	-6.69	13.53		Pass
				25	22.38	-6.69	13.54		Pass
				49	22.45	-6.69	13.61		Pass
			25	0	21.47	-6.69	12.63		Pass
				12	21.55	-6.69	12.71		Pass
				25	21.58	-6.69	12.74		Pass
			50	0	21.59	-6.69	12.75		Pass
		High	1	0	22.53	-6.69	13.69		Pass
				25	22.76	-6.69	13.92		Pass
				49	22.70	-6.69	13.86		Pass
			25	0	21.47	-6.69	12.63		Pass
				12	21.59	-6.69	12.75		Pass
				25	21.65	-6.69	12.81		Pass
			50	0	21.57	-6.69	12.73		Pass
	16QAM	Low	1	0	22.05	-6.69	13.21	34.77	Pass
				25	22.39	-6.69	13.55		Pass
				49	22.26	-6.69	13.42		Pass
			25	0	20.36	-6.69	11.52		Pass
				12	20.34	-6.69	11.50		Pass
				25	20.43	-6.69	11.59		Pass
			50	0	20.54	-6.69	11.70		Pass
		Mid	1	0	21.34	-6.69	12.50		Pass
				25	21.41	-6.69	12.57		Pass
				49	20.81	-6.69	11.97		Pass
			25	0	20.27	-6.69	11.43		Pass
				12	20.27	-6.69	11.43		Pass
				25	20.38	-6.69	11.54		Pass
			50	0	20.44	-6.69	11.60		Pass
		High	1	0	21.40	-6.69	12.56		Pass
				25	21.61	-6.69	12.77		Pass
				49	21.57	-6.69	12.73		Pass
			25	0	20.48	-6.69	11.64		Pass
				12	20.51	-6.69	11.67		Pass
				25	20.57	-6.69	11.73		Pass
			50	0	20.44	-6.69	11.60		Pass

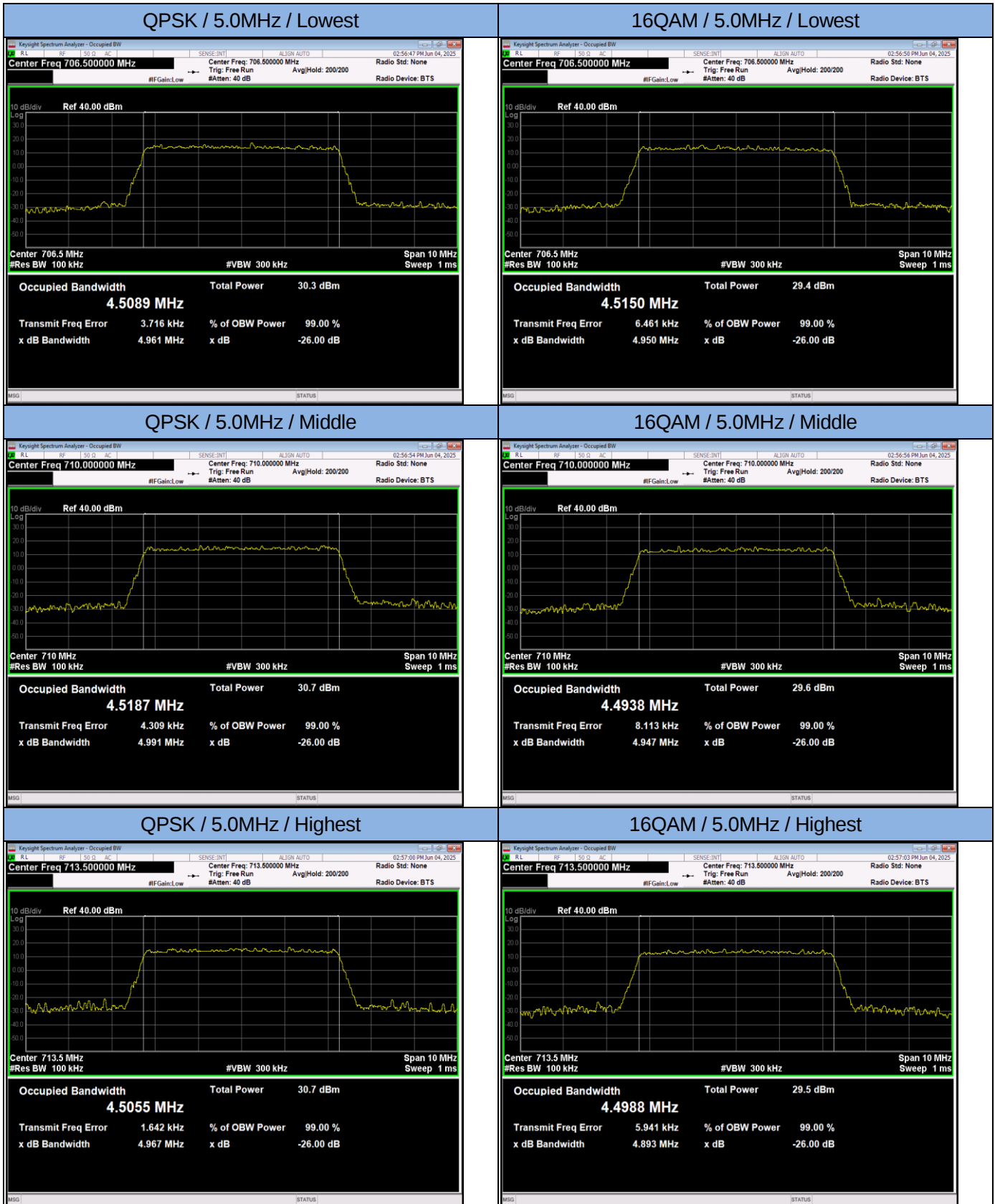
3. Peak-to-Average Ratio

BW (MHz)	Modulation	Channel	RB Allocation		Peak-to-Average Ratio (dB)	Limit (dBm)	Result
			Size	Offset			
10	QPSK	Low	Full	0	5.50	13.0	Pass
		Mid	Full	0	5.51		Pass
		High	Full	0	5.39		Pass
	16QAM	Low	Full	0	6.28	13.0	Pass
		Mid	Full	0	6.27		Pass
		High	Full	0	6.19		Pass

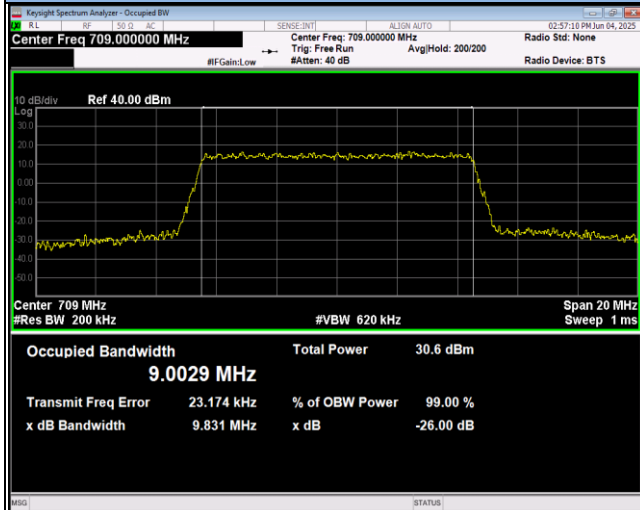


4. Occupied Bandwidth

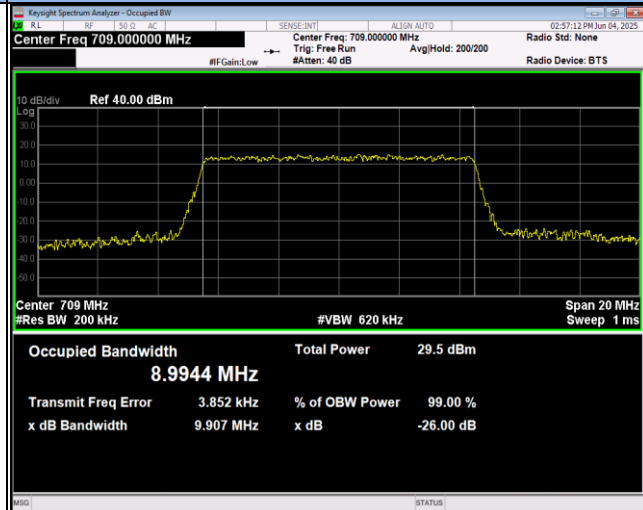
BW (MHz)	Channel	Modulation	RB Allocation		26dB BW (MHz)	99% OBW (MHz)	Limit (dBm)	Result
			Size	Offset				
5.0	Low	QPSK	Full	0	4.961	4.509	---	Pass
		16QAM	Full	0	4.950	4.515		Pass
	Mid	QPSK	Full	0	4.991	4.519		Pass
		16QAM	Full	0	4.947	4.494	---	Pass
	High	QPSK	Full	0	4.967	4.506		Pass
		16QAM	Full	0	4.893	4.499		Pass
10	Low	QPSK	Full	0	9.831	9.003	---	Pass
		16QAM	Full	0	9.907	8.994		Pass
	Mid	QPSK	Full	0	9.768	8.991		Pass
		16QAM	Full	0	9.901	8.980	---	Pass
	High	QPSK	Full	0	9.685	8.943		Pass
		16QAM	Full	0	9.870	8.962		Pass



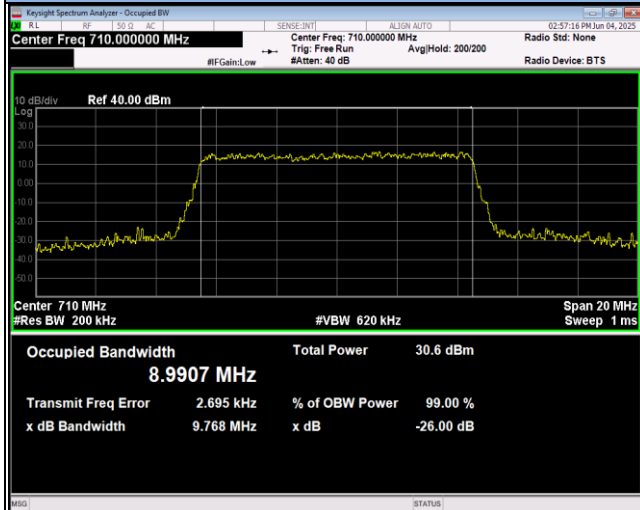
QPSK / 10.0MHz / Lowest



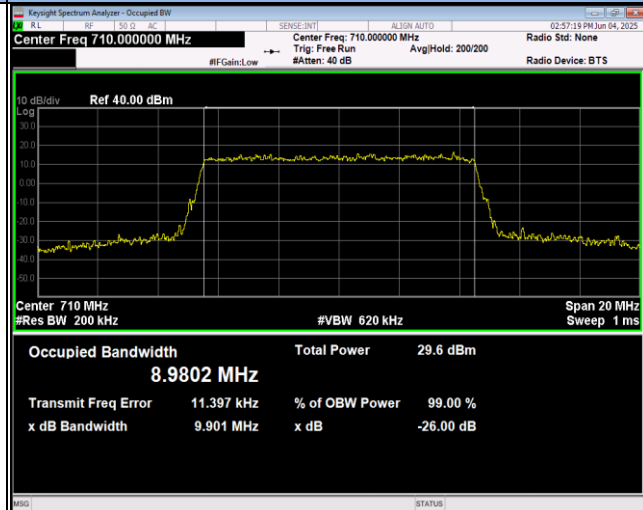
16QAM / 10.0MHz / Lowest



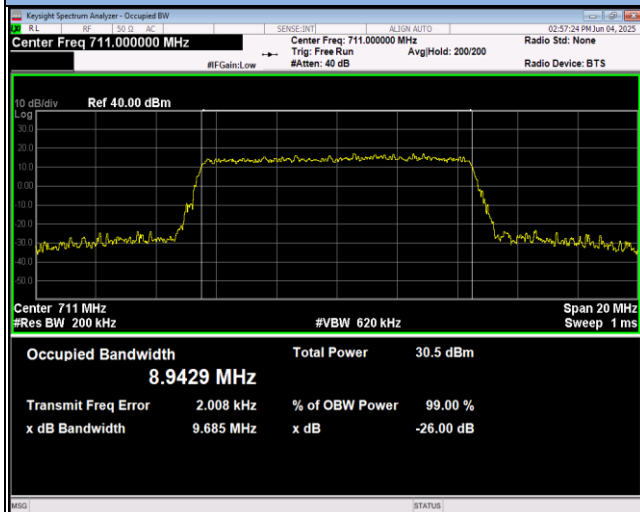
QPSK / 10.0MHz / Middle



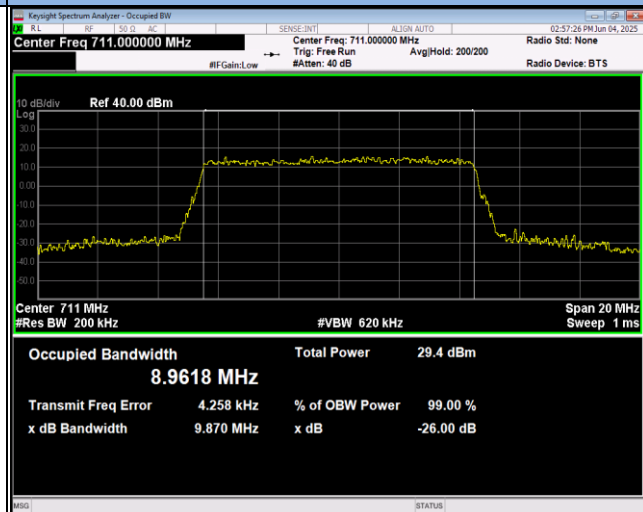
16QAM / 10.0MHz / Middle



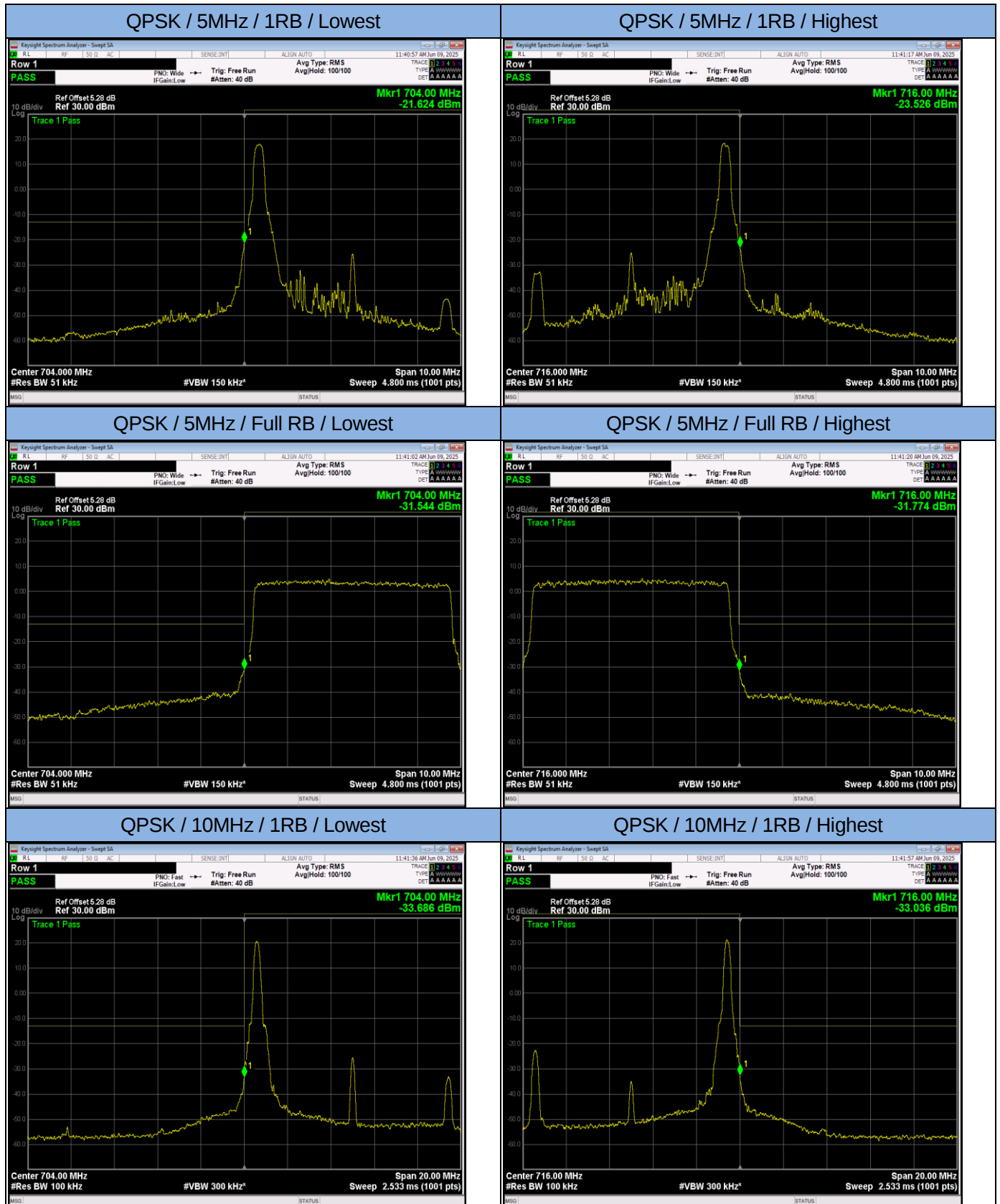
QPSK / 10.0MHz / Highest

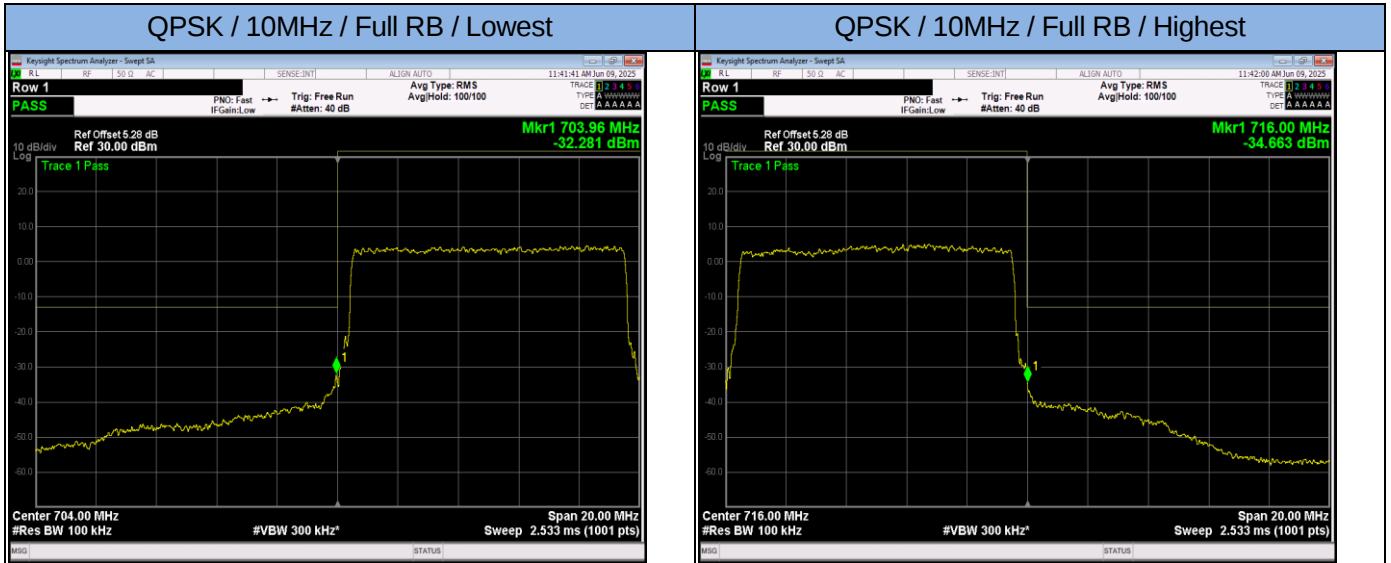


16QAM / 10.0MHz / Highest

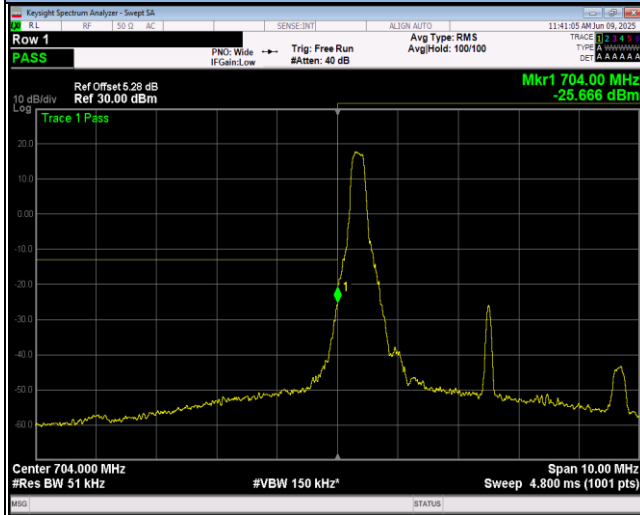


5. Band Edge

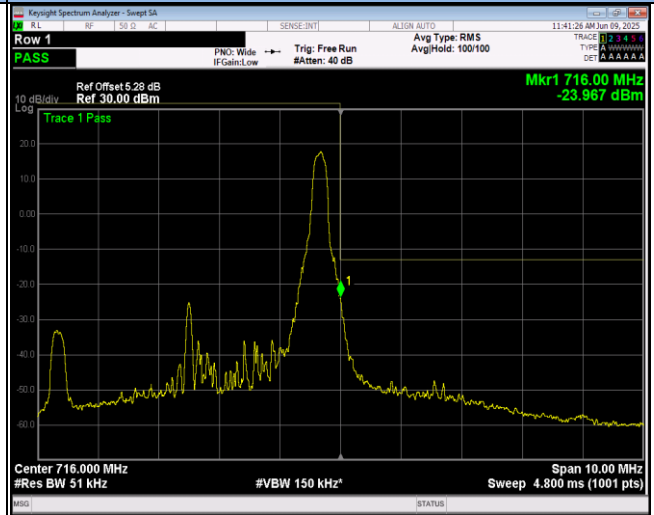




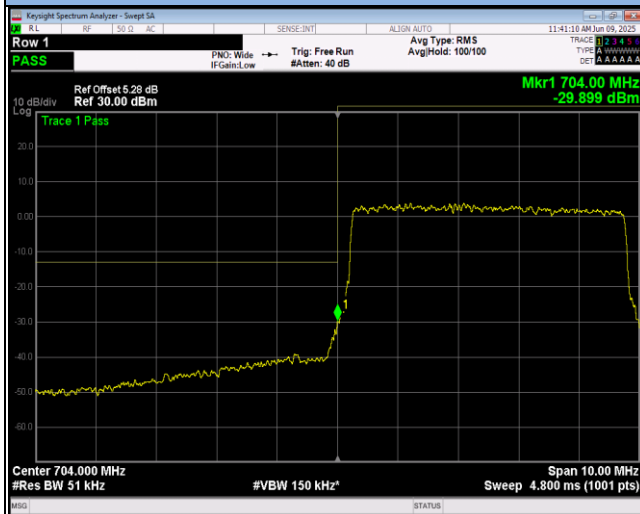
16QAM / 5MHz / 1RB / Lowest



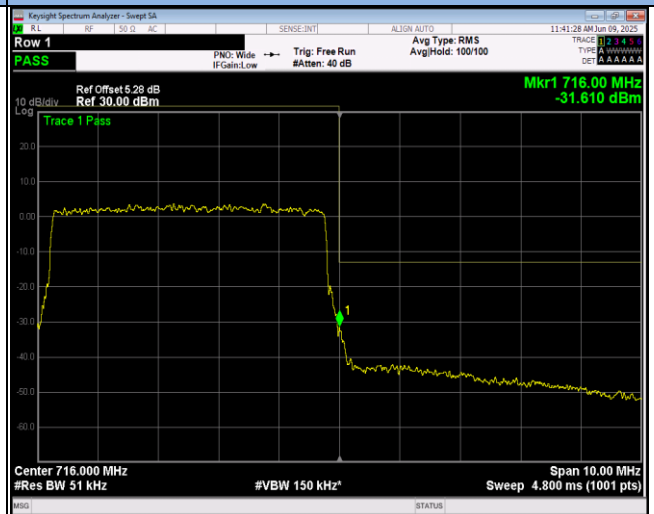
16QAM / 5MHz / 1RB / Highest



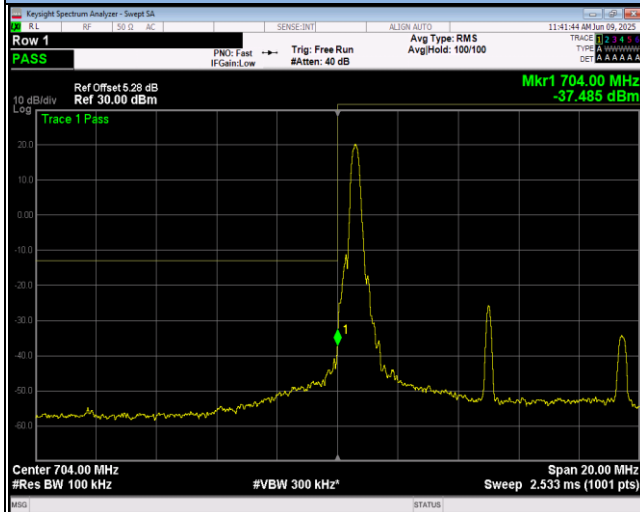
16QAM / 5MHz / Full RB / Lowest



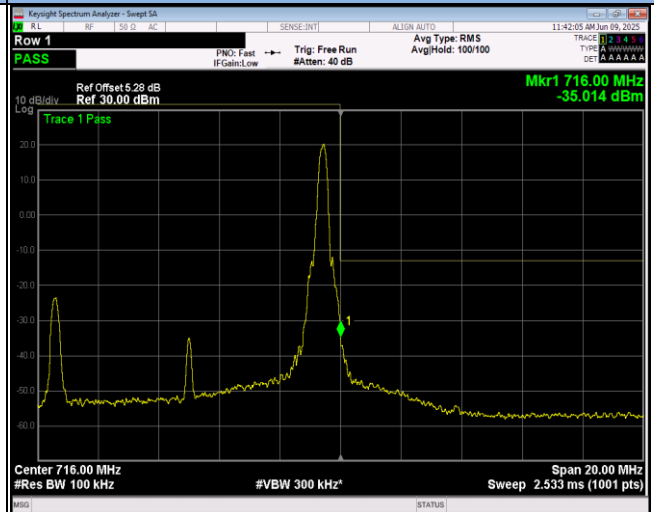
16QAM / 5MHz / Full RB / Highest

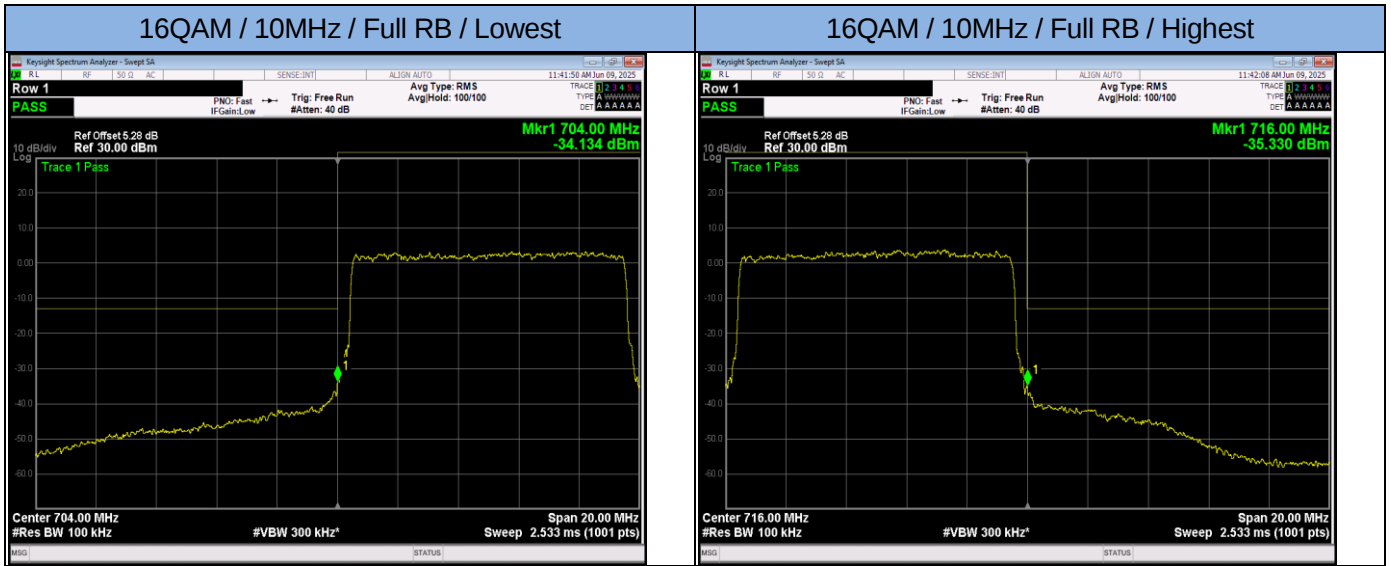


16QAM / 10MHz / 1RB / Lowest



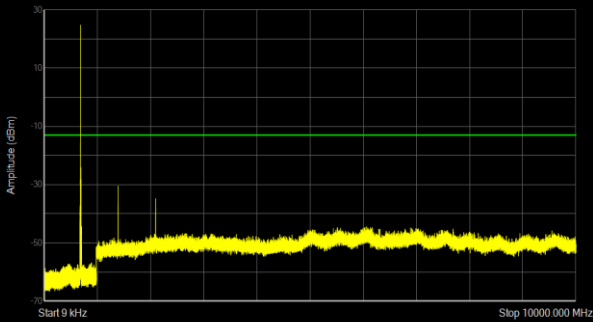
16QAM / 10MHz / 1RB / Highest





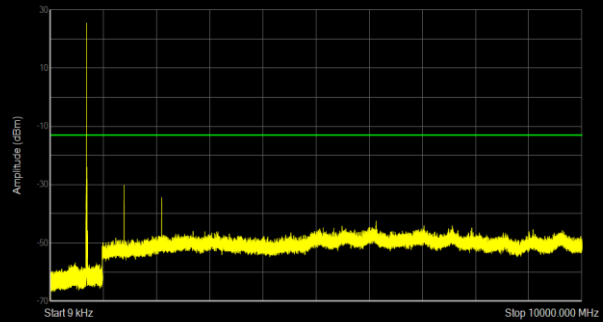
6. Transmitter Spurious Emissions

QPSK / 10MHz / 1RB / 0 offset / Lowest



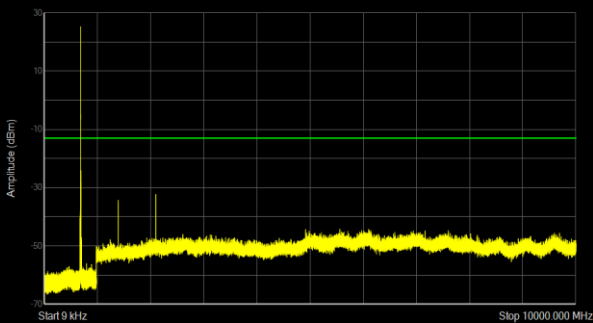
Range	Start (MHz)	Stop (MHz)	RBW (kHz)	Spur Freq (MHz)	Spur Level (dBm)	Limit (dBm)
1	0.009	0.15	1	0.009358	-48.99	-13
2	0.15	30	10	0.1574625	-51	-13
3	30	1000	100	907.462	-56.91	-13
4	1000	10000	1000	1409.275	-30.5	-13

16QAM / 10MHz / 1RB / 0 offset / Lowest



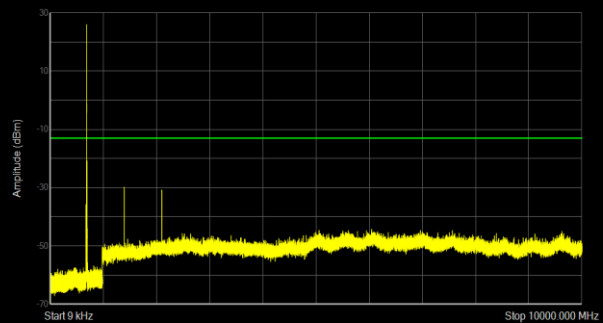
Range	Start (MHz)	Stop (MHz)	RBW (kHz)	Spur Freq (MHz)	Spur Level (dBm)	Limit (dBm)
1	0.009	0.15	1	0.0091075	-49.34	-13
2	0.15	30	10	0.15074625	-49.79	-13
3	30	1000	100	494.5815	-56.83	-13
4	1000	10000	1000	1409.275	-30.22	-13

QPSK / 10MHz / 1RB / 0 offset / Middle



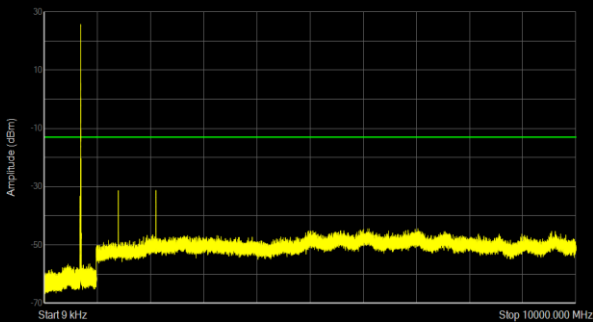
Range	Start (MHz)	Stop (MHz)	RBW (kHz)	Spur Freq (MHz)	Spur Level (dBm)	Limit (dBm)
1	0.009	0.15	1	0.01151685	-48.89	-13
2	0.15	30	10	0.158965	-49.78	-13
3	30	1000	100	819.289	-56.06	-13
4	1000	10000	1000	2116.9	-32.31	-13

16QAM / 10MHz / 1RB / 0 offset / Middle



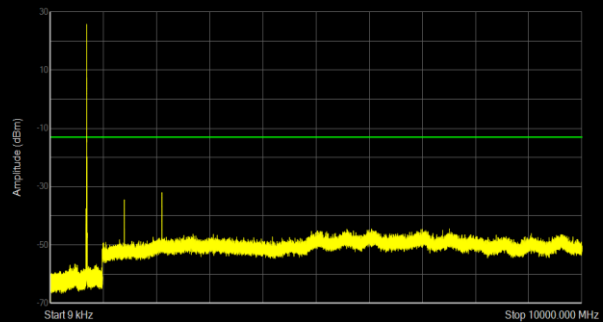
Range	Start (MHz)	Stop (MHz)	RBW (kHz)	Spur Freq (MHz)	Spur Level (dBm)	Limit (dBm)
1	0.009	0.15	1	0.00899535	-49.63	-13
2	0.15	30	10	0.152985	-52.02	-13
3	30	1000	100	840.726	-56.91	-13
4	1000	10000	1000	1411.3	-29.87	-13

QPSK / 10MHz / 1RB / 0 offset / Highest



Range	Start (MHz)	Stop (MHz)	RBW (kHz)	Spur Freq (MHz)	Spur Level (dBm)	Limit (dBm)
1	0.009	0.15	1	0.0097795	-48.72	-13
2	0.15	30	10	0.17313375	-51.62	-13
3	30	1000	100	879.16225	-56.5	-13
4	1000	10000	1000	2120.05	-31.29	-13

16QAM / 10MHz / 0RB / Full offset / Highest



Range	Start (MHz)	Stop (MHz)	RBW (kHz)	Spur Freq (MHz)	Spur Level (dBm)	Limit (dBm)
1	0.009	0.15	1	0.009736725	-50.11	-13
2	0.15	30	10	0.15074625	-50.87	-13
3	30	1000	100	487.42775	-56.58	-13
4	1000	10000	1000	2120.05	-32.03	-13

7. Field Strength of Spurious Radiation

LTE Band 17 / 10M / QPSK					
Channel	Frequency (MHz)	Polarization (H/V)	Meas. Level (dBm)	Limit (dBm)	Margin (dBm)
Lowest	1418.000	H	-49.74	-13	-36.74
	2127.000	H	-50.25	-13	-37.25

	1418.000	V	-49.63	-13	-36.63
	2127.000	V	-50.16	-13	-37.16

Middle	1420.000	H	-49.77	-13	-36.77
	2127.000	H	-50.23	-13	-37.23

	1420.000	V	-49.78	-13	-36.78
	2127.000	V	-50.62	-13	-37.62

Highest	1422.000	H	-49.46	-13	-36.46
	2133.000	H	-50.15	-13	-37.15

	1422.000	V	-49.32	-13	-36.32
	2133.000	V	-50.20	-13	-37.20

Note: 1. Spurious emissions within 30-1000MHz and other emissions were found more than 20dB below limit line.
2. Only the worst case was recorded in the report.

8. Frequency Stability

LTE Band 17 / 10M / QPSK / Full RB					
Middle channel, $f_0 = 710.0$ MHz					
Temperature (°C)	Power Supplied (Vdc)	Frequency Error (Hz)	Frequency Error (ppm)	Limit (dBm)	Result
-10	3.850	-1.1	-0.001549	±2.5	PASS
0		0.5	0.000704	±2.5	PASS
20		-0.5	-0.000704	±2.5	PASS
30		0.8	0.001127	±2.5	PASS
40		-0.4	-0.000563	±2.5	PASS
50		-1.7	-0.002394	±2.5	PASS
25	3.465	-1.2	-0.001690	±2.5	PASS
	4.235	-0.9	-0.001268	±2.5	PASS

Note: EUT temperature working range is -10 to 55 °C and the voltage range is 3.465 to 4.235V.

---End---