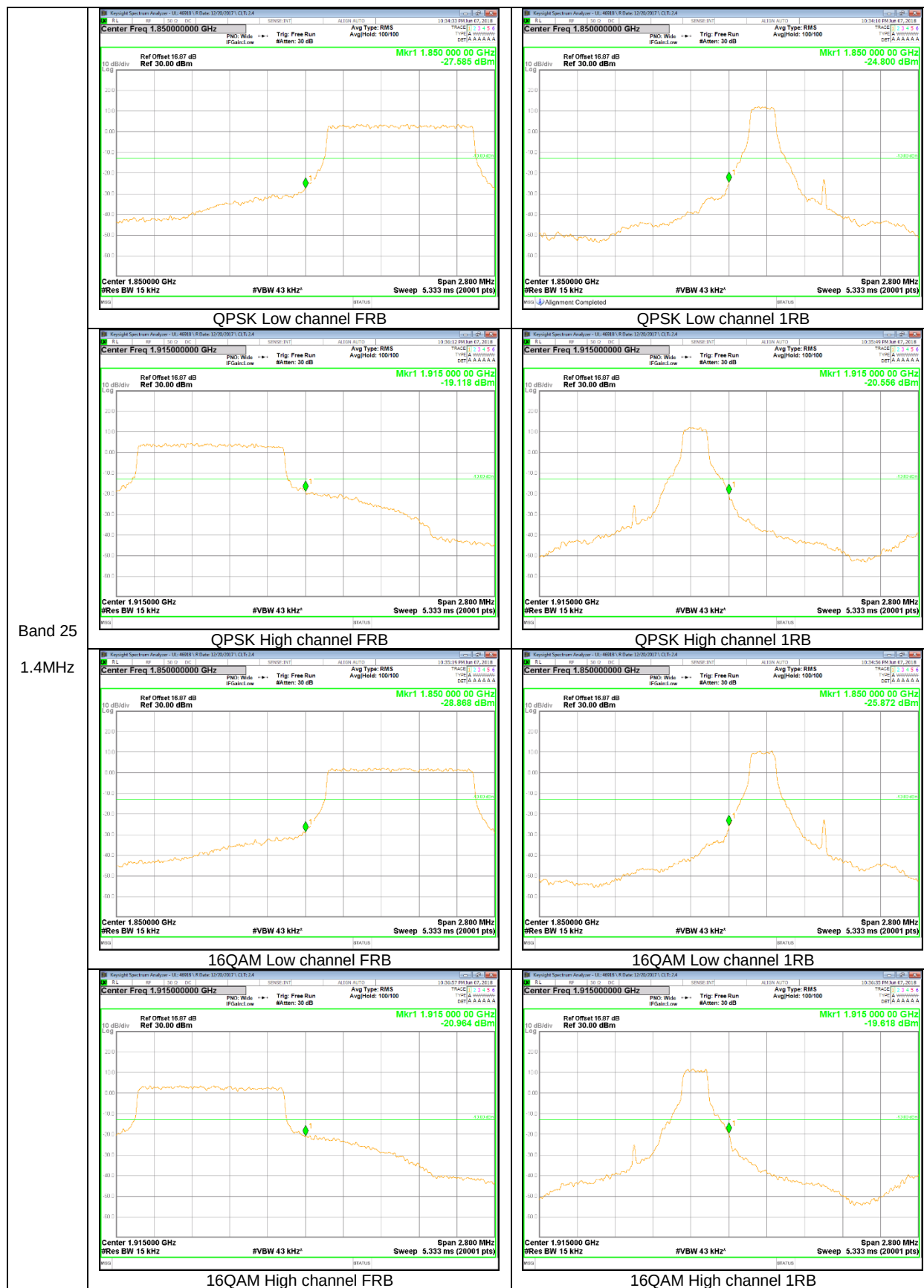
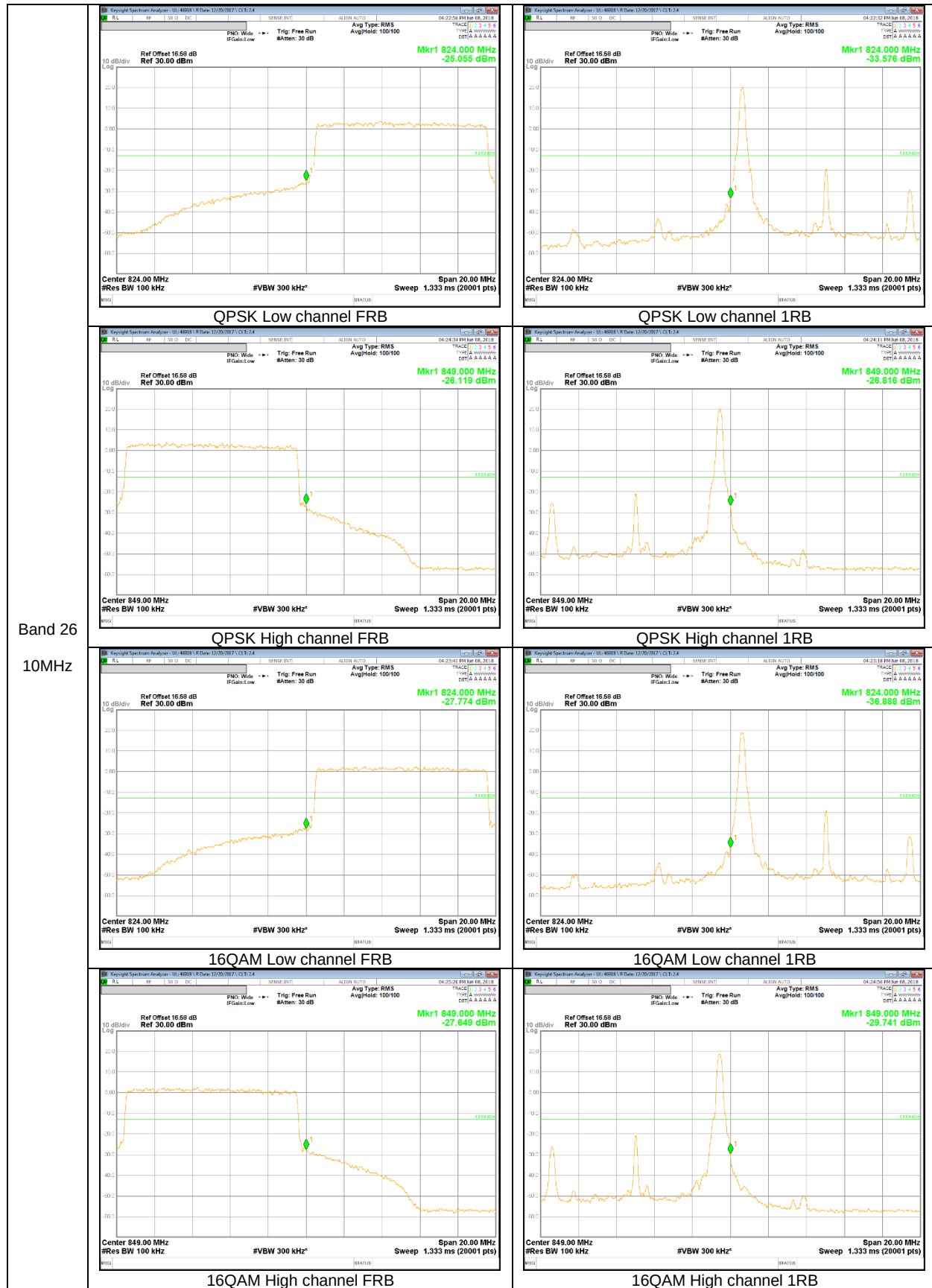
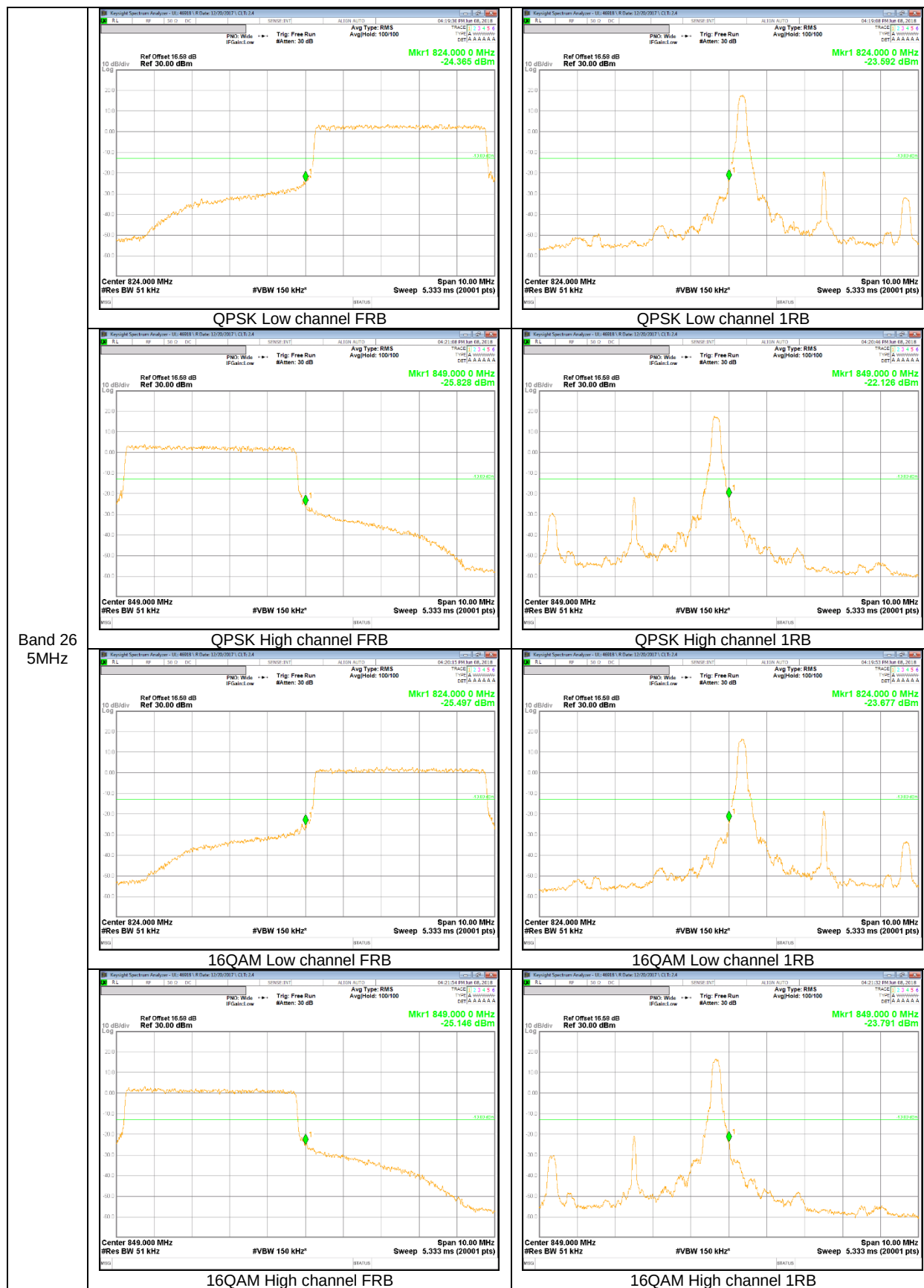
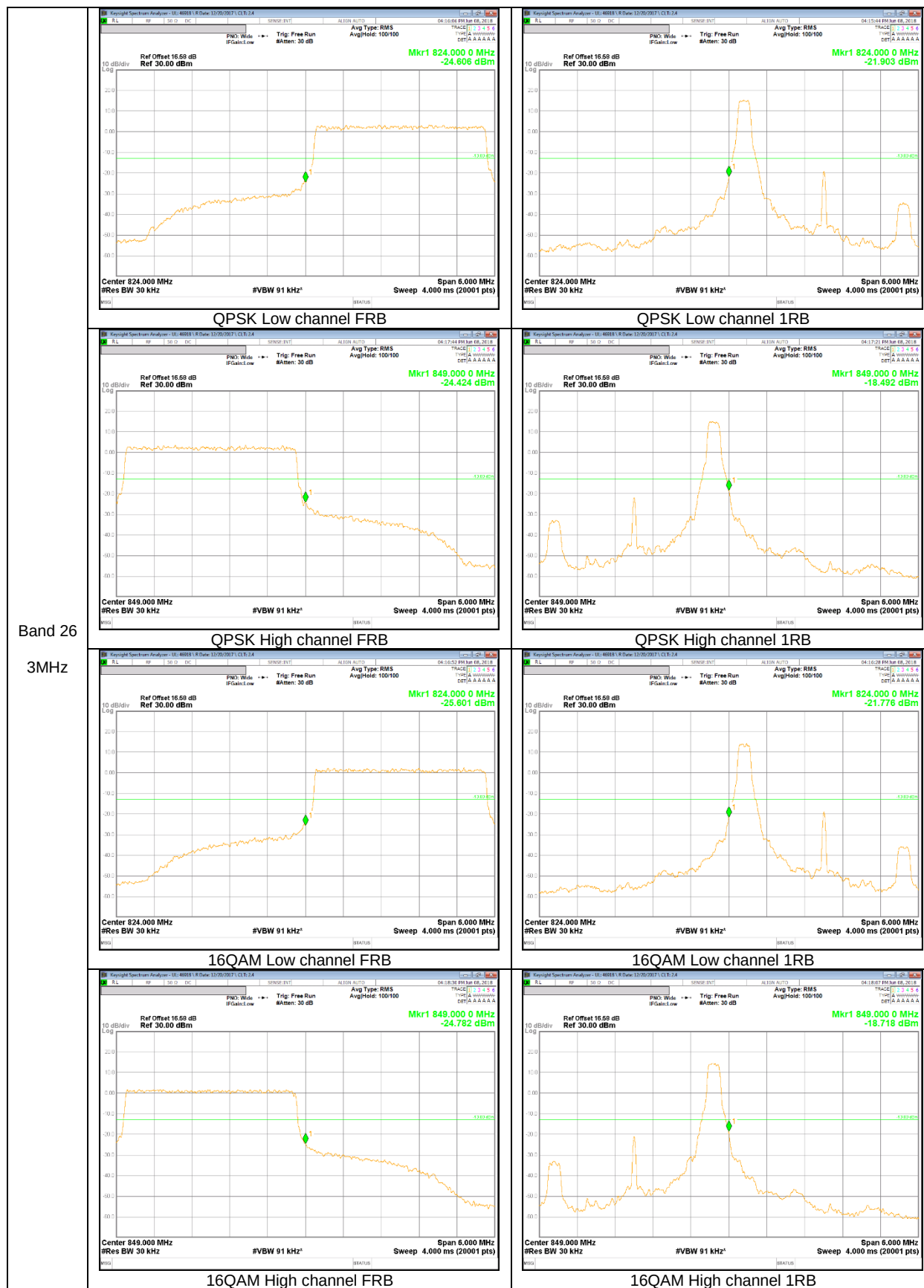
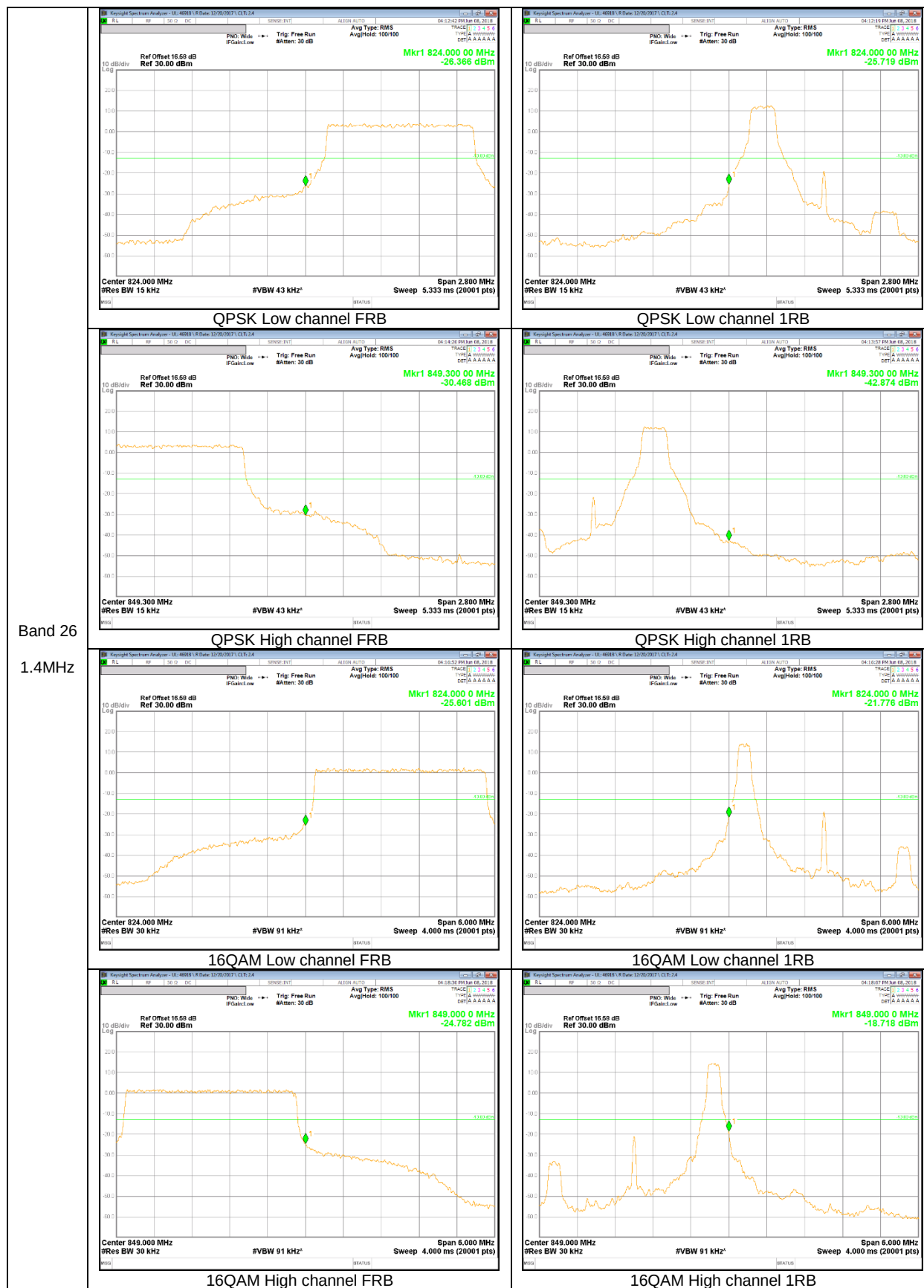




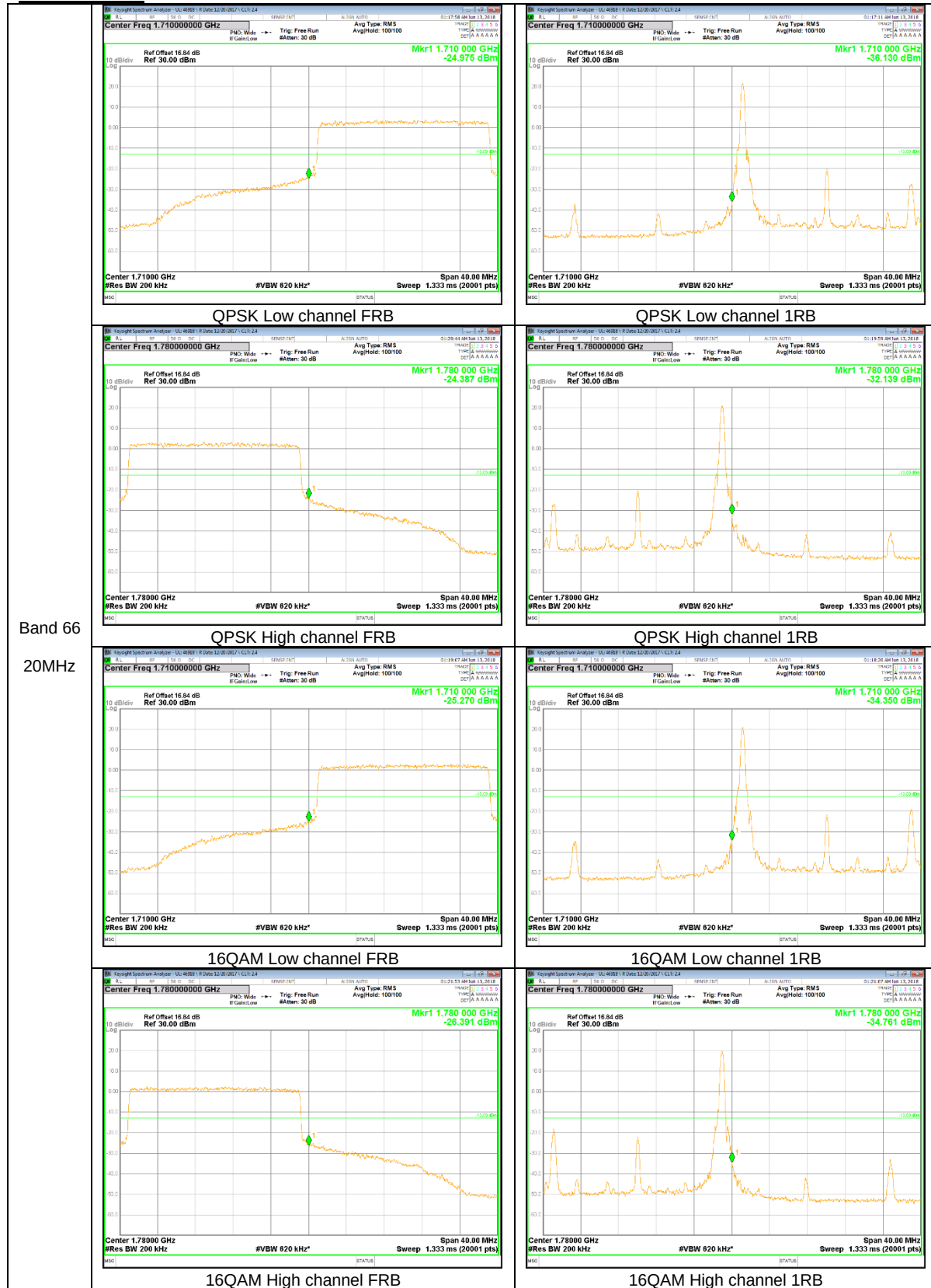


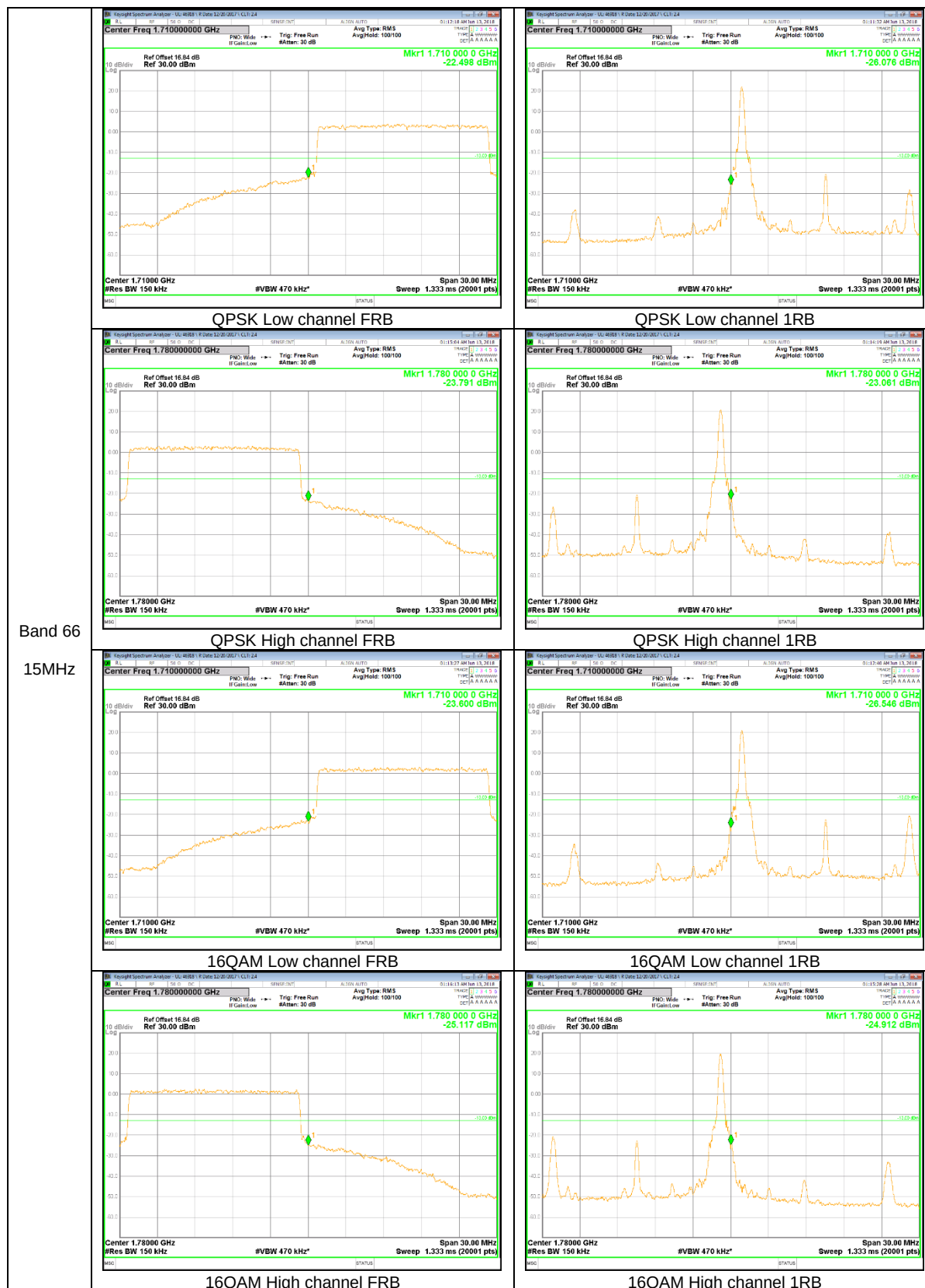


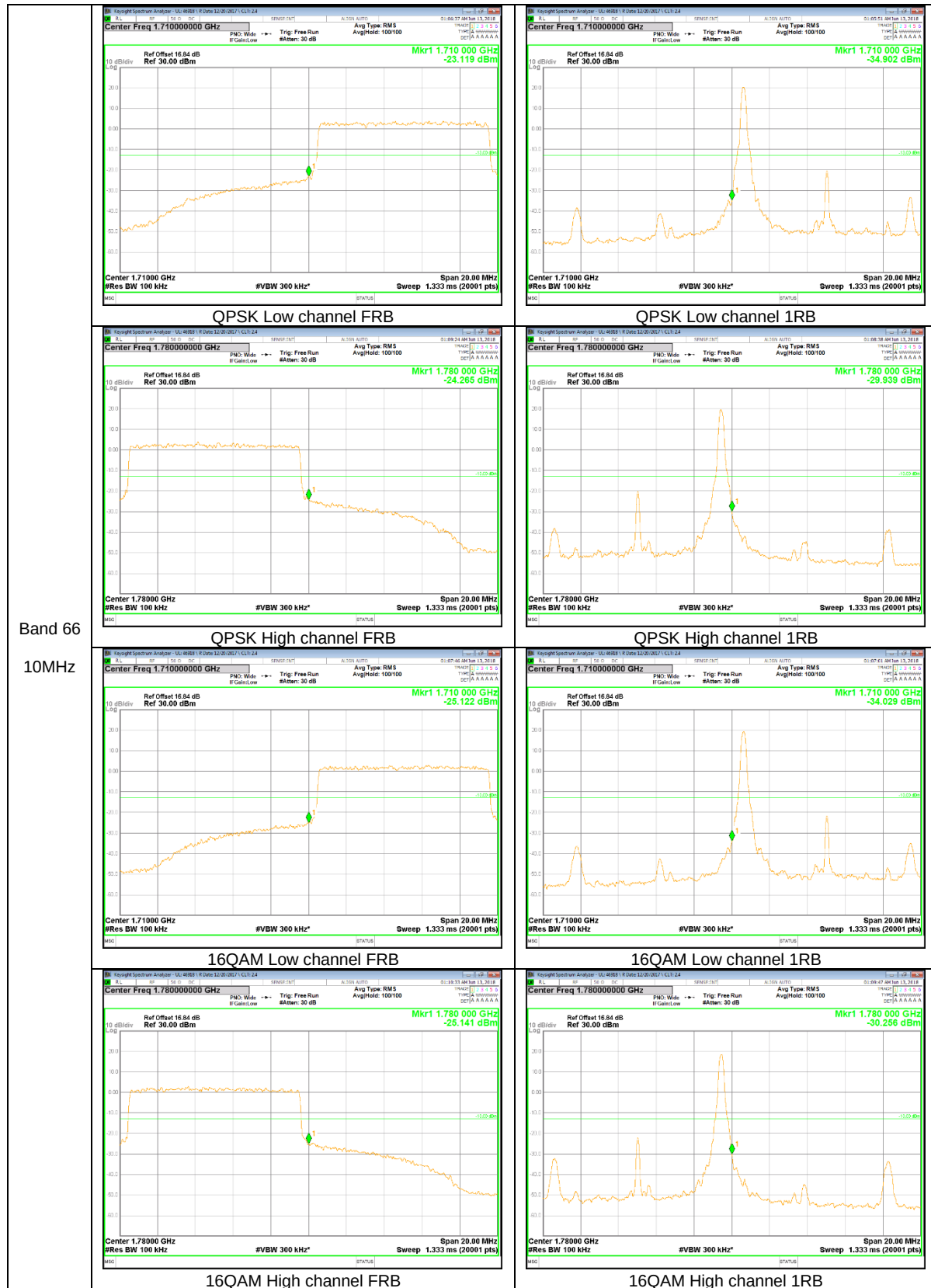


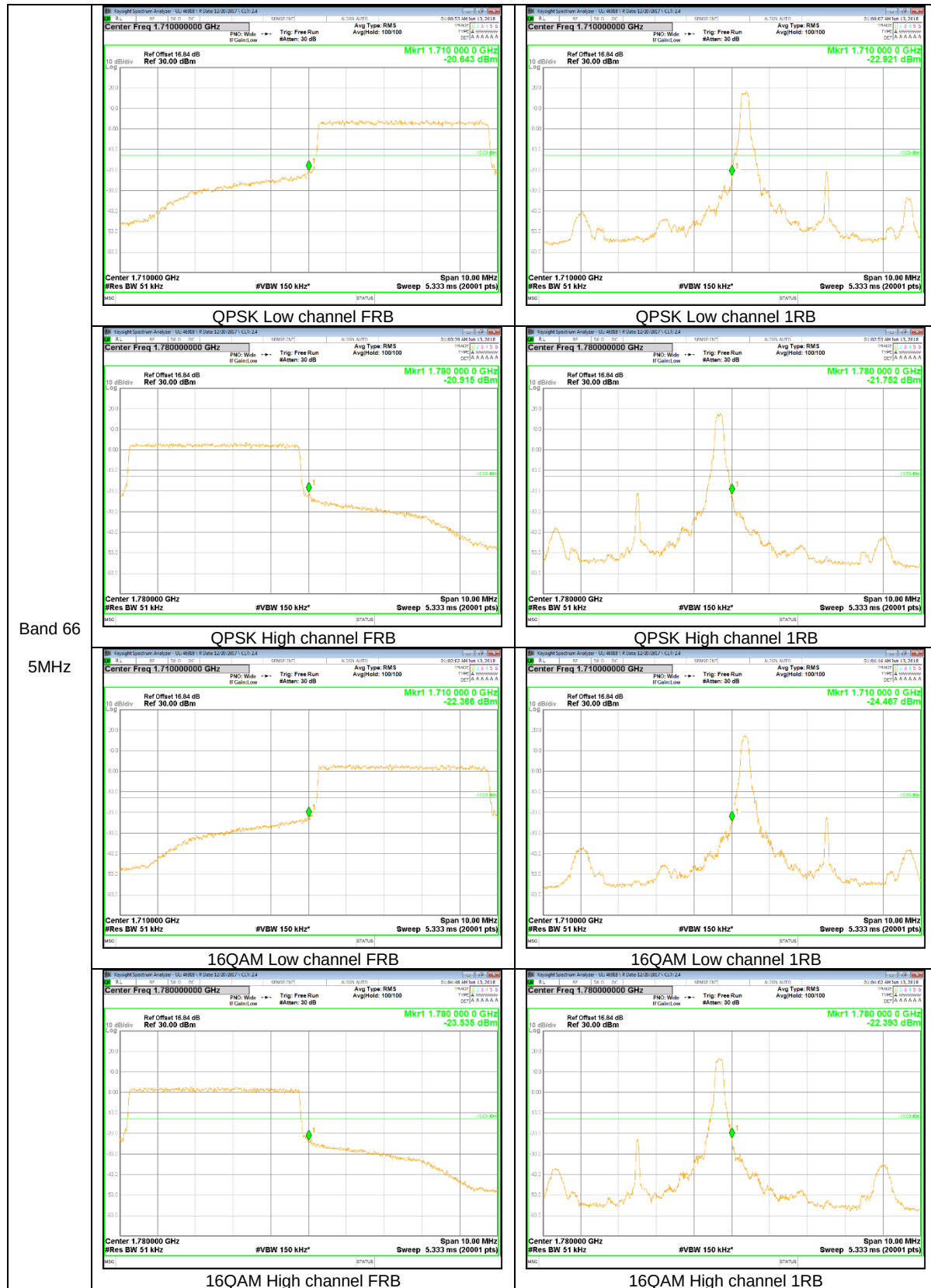


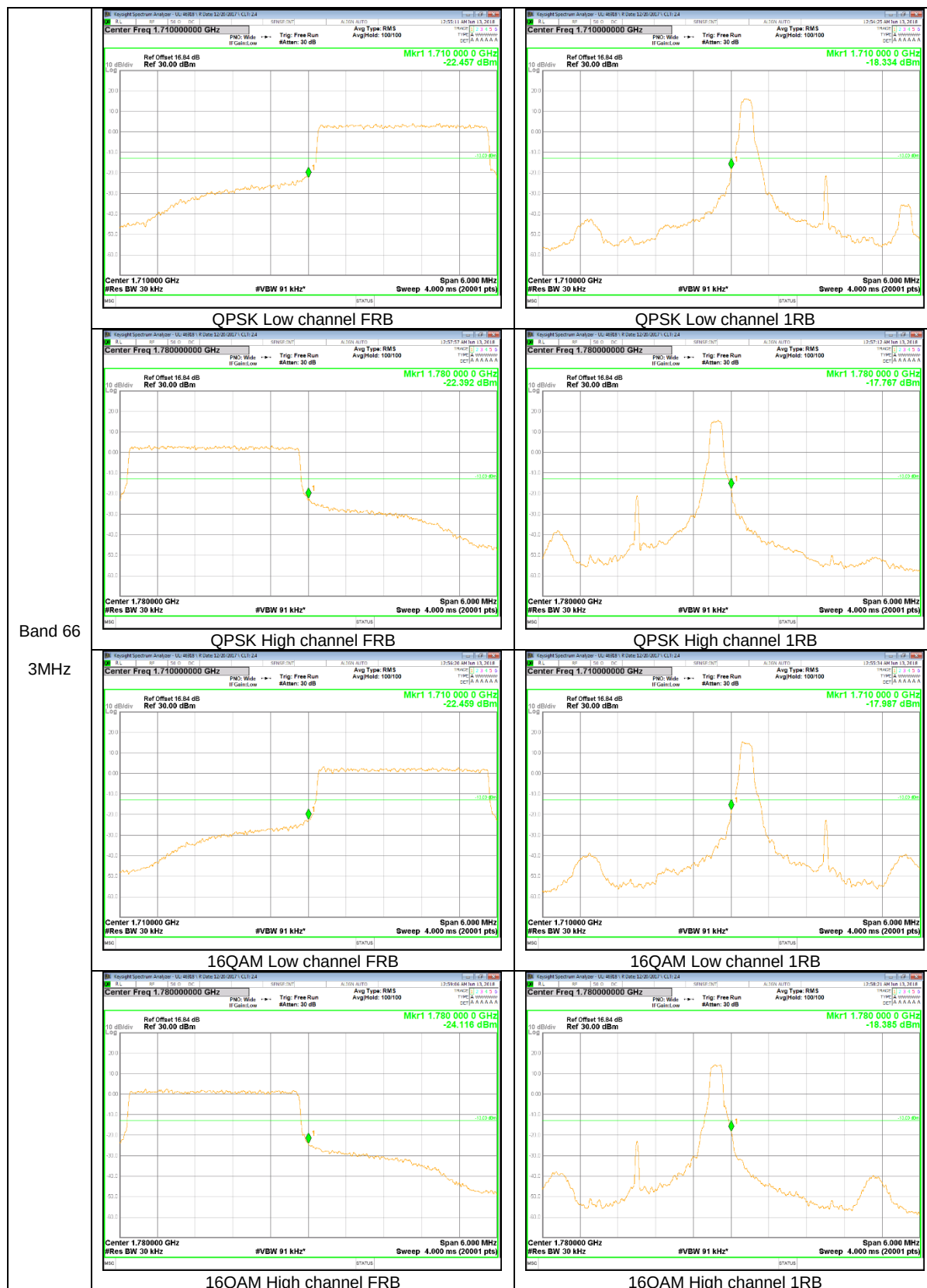
LTE Band 66

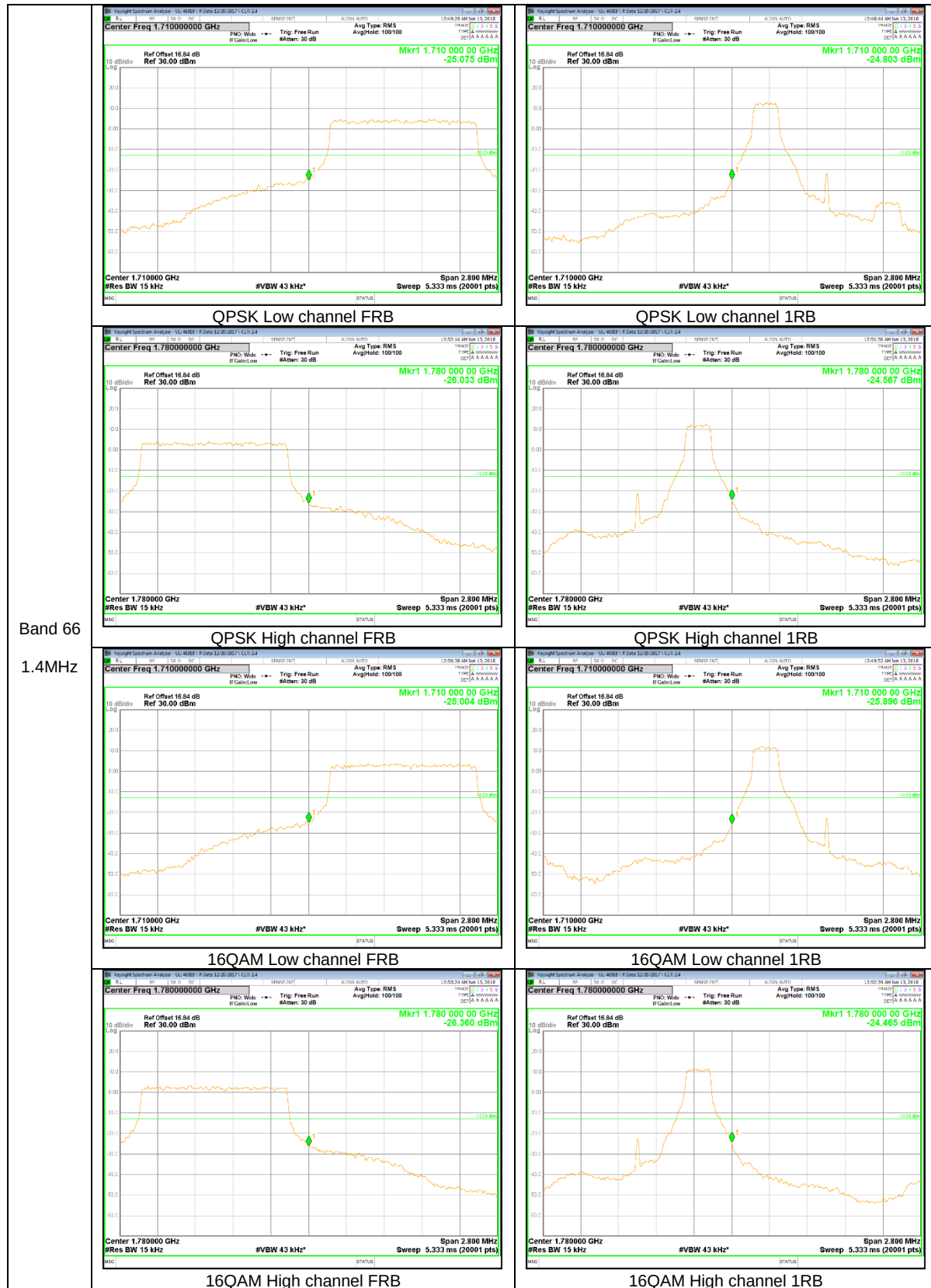






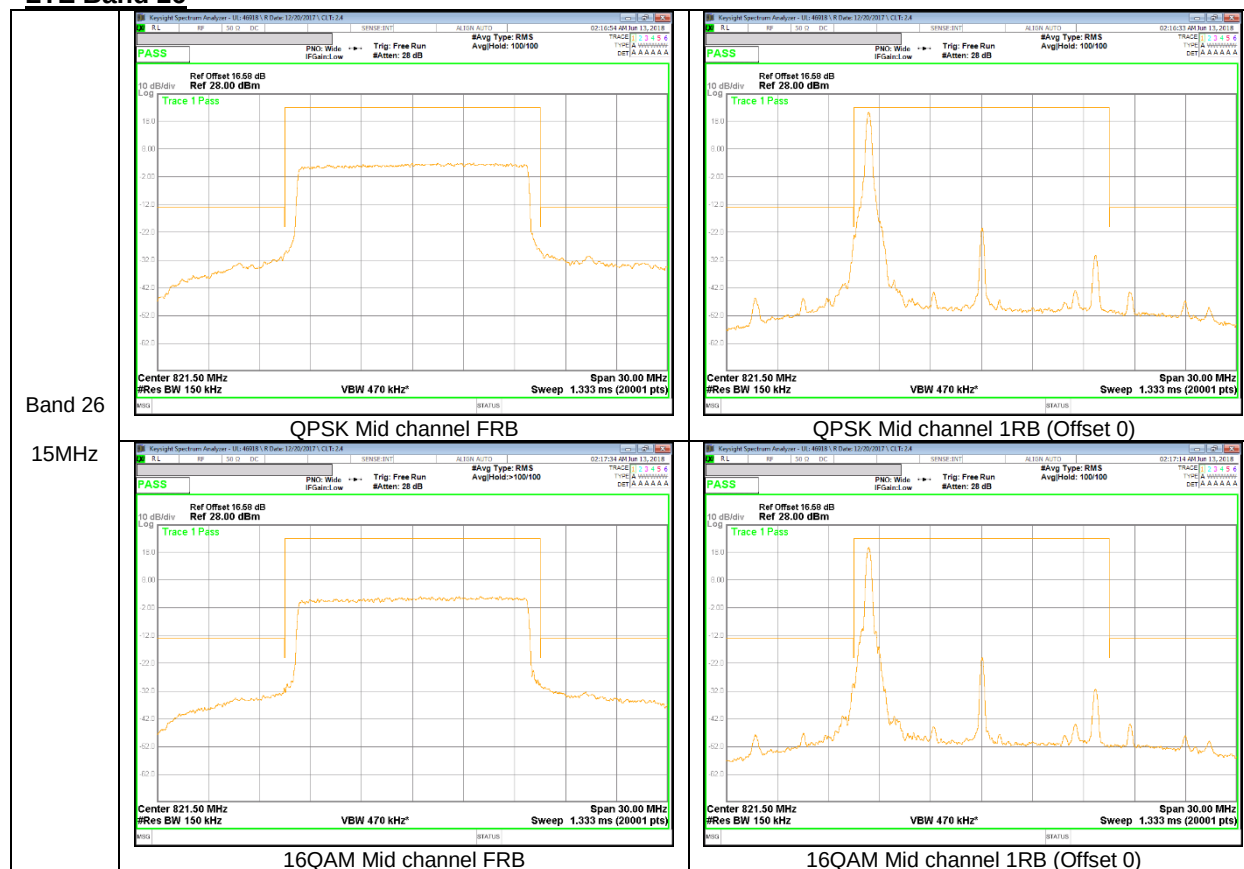


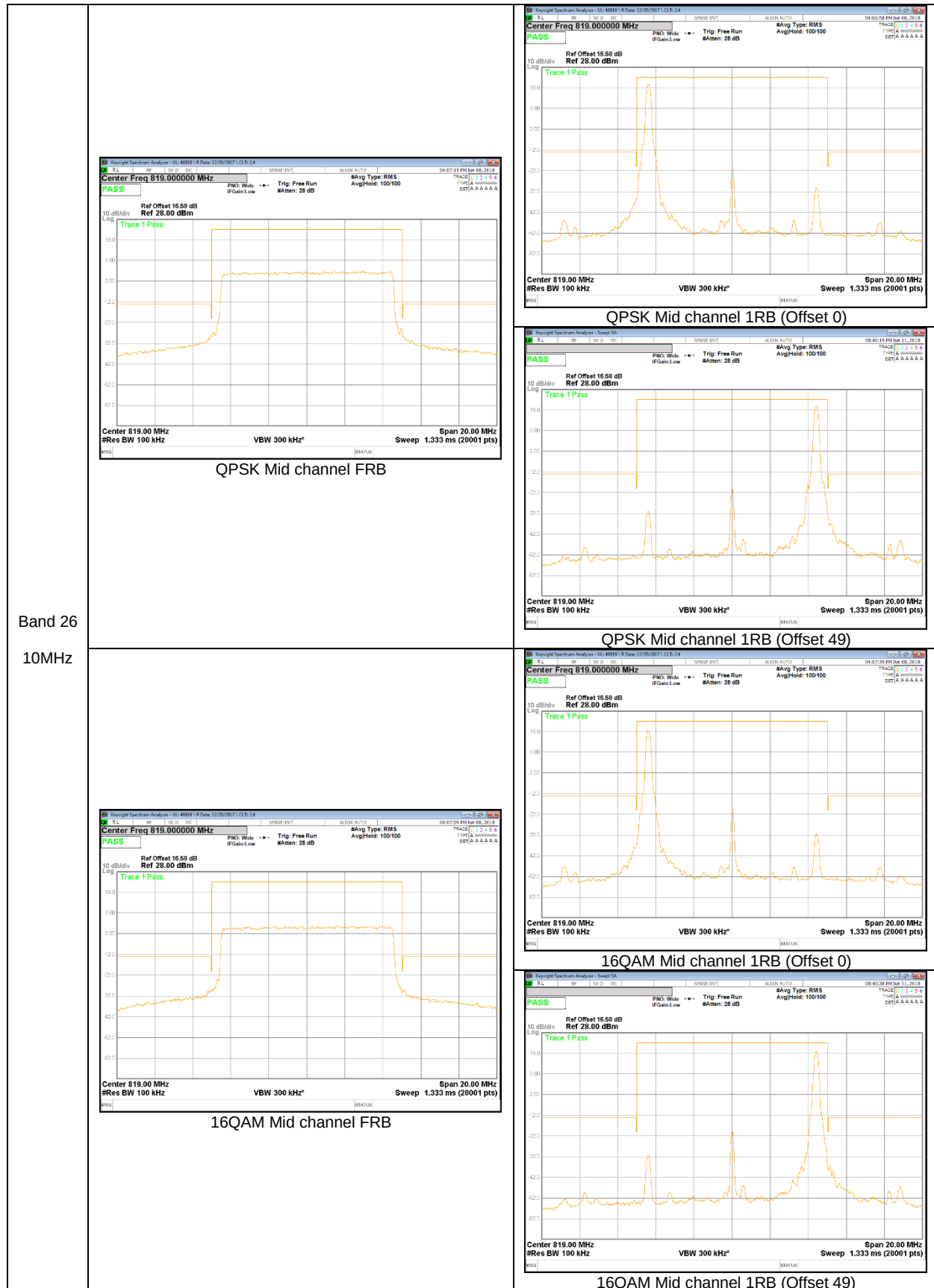


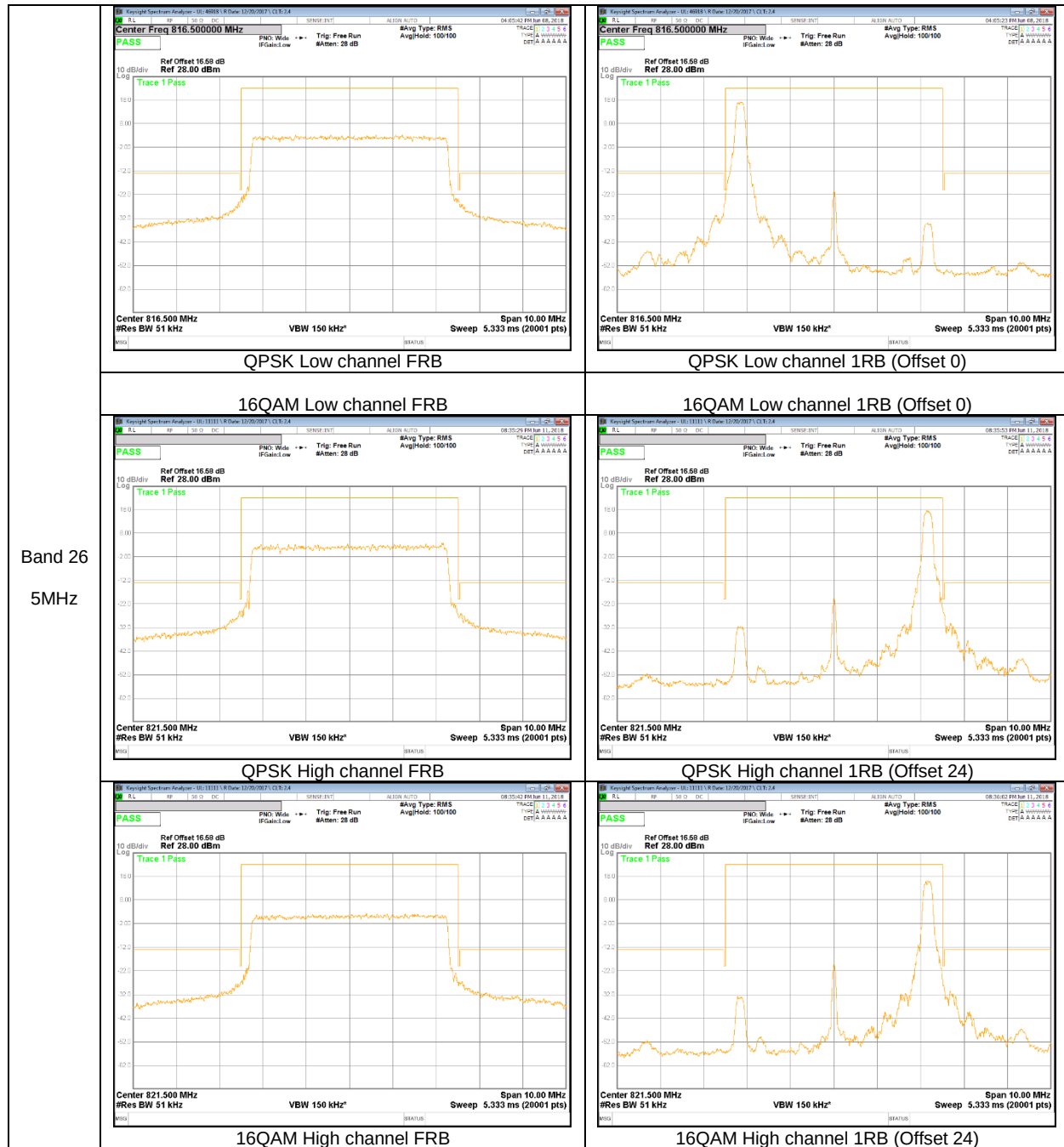


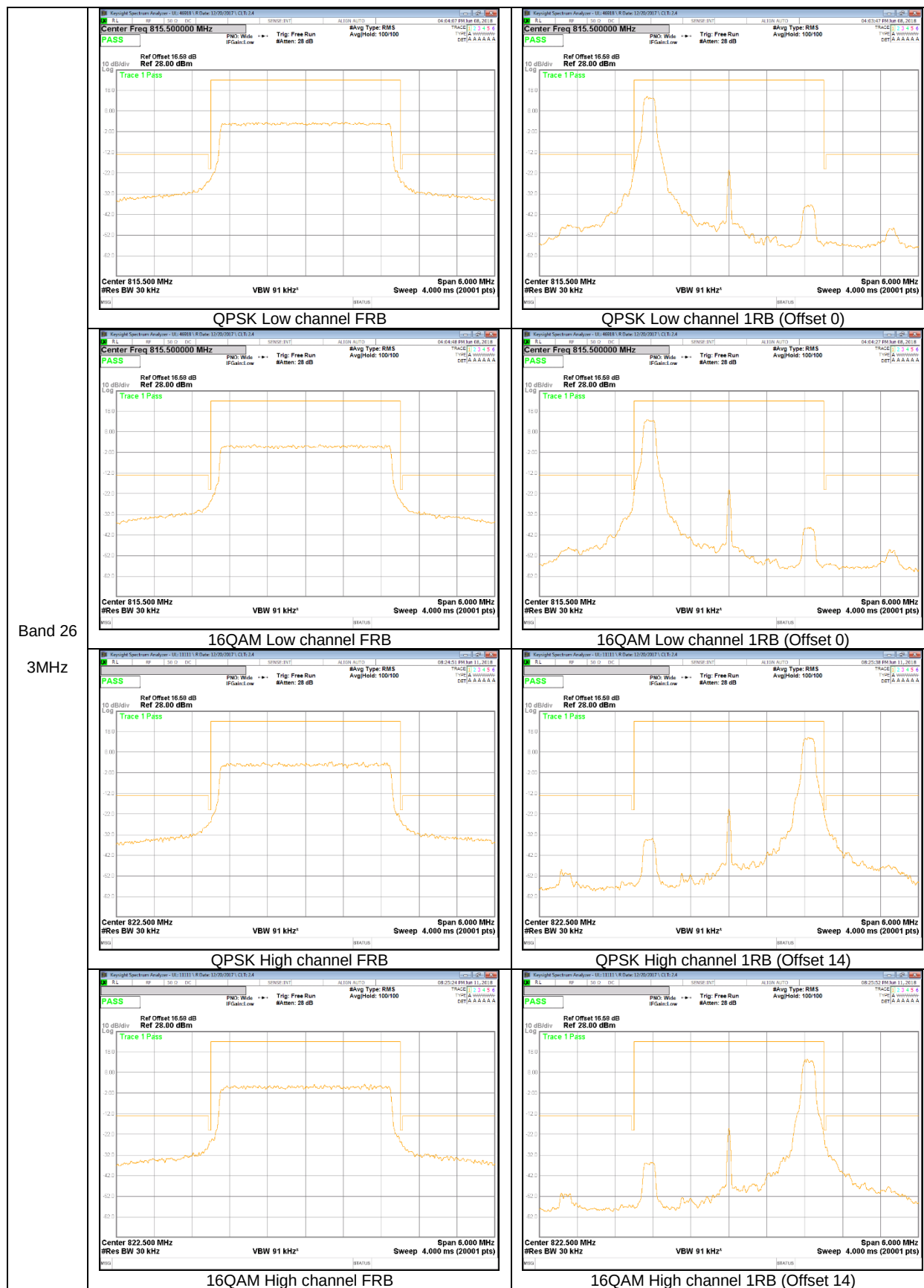
9.2.2. EMISSION MASK PLOTS

LTE Band 26

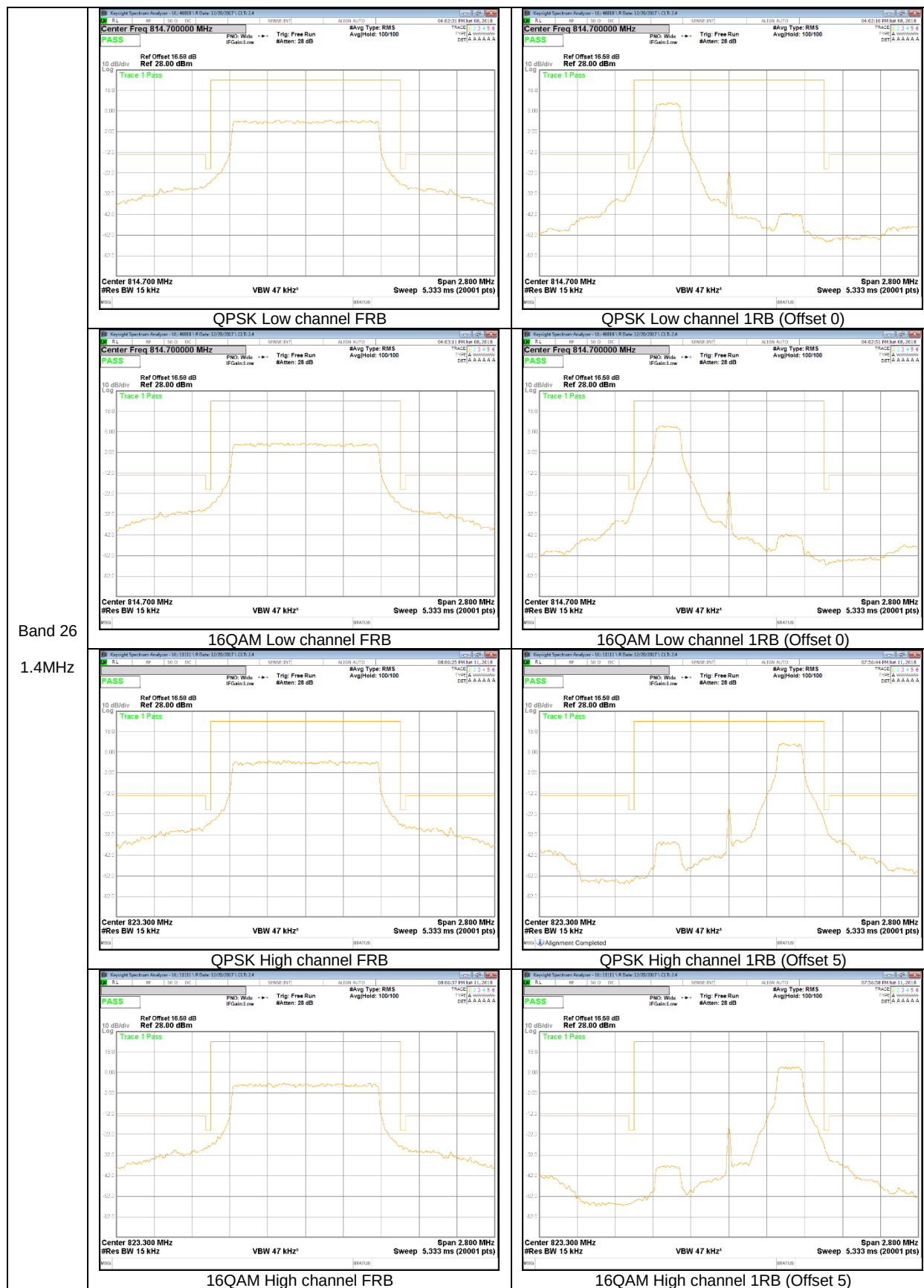








Band 26
3MHz



Band 26

1.4MHz

9.3. OUT OF BAND EMISSIONS

RULE PART(S)

FCC: §2.1051, §22.901, §22.917, §24.238, §27.53 and §90.691
IC: RSS-132 (5.5), RSS-133 (6.5), RSS-130 (4.6), RSS-139 (6.6)

LIMITS

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log (P)$ dB.

Part 90: (a) (2) For any frequency removed from the EA licensee's frequency block greater than 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least $43 + 10 \log_{10}(P)$ decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 37.5 kHz. (NOTE : Use 100kHz reference bandwidth)

TEST PROCEDURE

Per KDB 971168 D01 Power Meas License Digital Systems v03r01

The RF output of the transmitter was connected to a spectrum analyzer through a calibrated coaxial cable. Sufficient scans were taken to show the out-of-band Emissions, if any, up to 10th harmonic. Multiple sweeps were recorded in maximum hold mode using a peak detector to ensure that the worst-case emissions were caught.

- a) Set the RBW = 100KHz for emission below 1GHz and 1MHz for emissions above 1GHz
(Tests were performed 1MHz [Worst case], to sweep 1 time for all frequency range)
- b) Set VBW $\geq 3 \times$ RBW;
- c) Set span ≥ 1.5 times the OBW;
- d) Sweep time = auto couple;
- e) Detector = rms;
- f) Ensure that the number of measurement points = Max (40001);
- g) Trace mode = average(WCDMA, LTE), Maxhold(GSM);

RESULTS

WCDMA

Band	Mode	f [MHz]	Spurious [dBm]	Limit [dBm]
Band 5	REL99	826.4	-42.391	-13.00
		836.6	-42.584	
		846.6	-42.470	
	HSDPA	826.4	-42.529	
		836.6	-42.349	
		846.6	-42.353	
Band 4	REL99	1712.4	-42.116	
		1732.6	-42.213	
		1752.6	-42.260	
	HSDPA	1712.4	-42.192	
		1732.6	-41.882	
		1752.6	-42.264	
Band 2	REL99	1852.4	-42.113	
		1880.0	-42.058	
		1907.6	-42.107	
	HSDPA	1852.4	-41.683	
		1880.0	-42.136	
		1907.6	-42.160	

LTE Band 2

LTE Band 2 (Frequency range: 1850-1910 MHz) is covered by LTE Band 25 (Frequency range: 1850-1915 MHz) due to overlapping frequency range, same maximum tune-up limit and same channel bandwidth.

LTE Band 4

LTE Band 4 (Frequency range: 1710-1755 MHz) is covered by LTE Band 66 (Frequency range: 1710-1780 MHz) due to overlapping frequency range, same maximum tune-up limit and same channel bandwidth.

LTE Band 5

LTE Band 5 (Frequency range: 824-849 MHz) is covered by LTE Band 26 (Frequency range: 814-849 MHz) due to overlapping frequency range, same maximum tune-up limit and same channel bandwidth.

LTE 12

Bandwidth	Mode	f [MHz]	Spurious [dBm]	Limit [dBm]
10 MHz	QPSK	704.0	-40.668	-13.00
		707.5	-40.798	
		711.0	-40.735	
	16QAM	704.0	-40.890	
		707.5	-40.858	
		711.0	-40.832	
5 MHz	QPSK	701.5	-40.704	
		707.5	-40.388	
		713.5	-40.750	
	16QAM	701.5	-40.615	
		707.5	-40.965	
		713.5	-40.533	
3 MHz	QPSK	700.5	-40.798	
		707.5	-40.537	
		714.5	-40.654	
	16QAM	700.5	-40.400	
		707.5	-40.576	
		714.5	-40.822	
1.4 MHz	QPSK	699.7	-40.610	
		707.5	-40.795	
		715.3	-40.589	
	16QAM	699.7	-40.678	
		707.5	-40.124	
		715.3	-40.503	

LTE 13

Bandwidth	Mode	f [MHz]	Spurious [dBm]	Limit [dBm]
10 MHz	QPSK	782.0	-40.790	-13.00
	16QAM	782.0	-40.836	
5 MHz	QPSK	779.5	-40.765	
		782.0	-40.853	
		784.5	-40.754	
	16QAM	779.5	-40.549	
		782.0	-40.752	
		784.5	-40.723	

LTE 25

Bandwidth	Mode	f [MHz]	Spurious [dBm]	Limit [dBm]
20 MHz	QPSK	1860.0	-38.413	-13.00
		1882.5	-38.395	
		1905.0	-38.272	
	16QAM	1860.0	-38.419	
		1882.5	-38.074	
		1905.0	-38.209	
15 MHz	QPSK	1857.5	-38.308	
		1882.5	-38.334	
		1907.5	-38.372	
	16QAM	1857.5	-38.308	
		1882.5	-38.414	
		1907.5	-38.287	
10 MHz	QPSK	1855.0	-38.445	
		1882.5	-38.344	
		1910.0	-38.160	
	16QAM	1855.0	-38.212	
		1882.5	-38.278	
		1910.0	-38.378	
5 MHz	QPSK	1852.5	-38.344	
		1882.5	-38.195	
		1912.5	-38.327	
	16QAM	1852.5	-38.446	
		1882.5	-38.198	
		1912.5	-38.381	
3 MHz	QPSK	1851.5	-38.419	
		1882.5	-38.335	
		1913.5	-38.130	
	16QAM	1851.5	-38.518	
		1882.5	-38.000	
		1913.5	-38.325	
1.4 MHz	QPSK	1850.7	-38.310	
		1882.5	-38.017	
		1914.3	-38.198	
	16QAM	1850.7	-38.293	
		1882.5	-38.183	
		1914.3	-38.203	

LTE 26

Bandwidth	Mode	f [MHz]	Spurious [dBm]	Limit [dBm]
15 MHz	QPSK	821.5	-40.581	-13.00
		831.5	-40.534	
		841.5	-40.292	
	16QAM	821.5	-50.539	
		831.5	-40.743	
		841.5	-40.489	
10 MHz	QPSK	819.0	-40.581	
		829.0	-40.642	
		831.5	-40.673	
		844.0	-40.628	
	16QAM	819.0	-40.475	
		829.0	-40.321	
		831.5	-40.394	
		844.0	-40.653	
5 MHz	QPSK	816.5	-40.600	
		821.5	-40.541	
		826.5	-40.600	
		831.5	-40.568	
	16QAM	846.5	-40.691	
		816.5	-40.298	
		821.5	-40.608	
		826.5	-40.556	
3 MHz	QPSK	831.5	-40.713	
		846.5	-40.501	
		815.5	-40.550	
		822.5	-40.534	
		825.5	-40.823	
	16QAM	831.5	-40.752	
		847.5	-40.644	
		815.5	-40.600	
		822.5	-40.700	
1.4 MHz	QPSK	825.5	-40.527	
		831.5	-40.588	
		847.5	-40.731	
		814.7	-40.696	
		823.3	-40.588	
	16QAM	824.7	-40.234	
		831.5	-40.563	
		848.3	-40.564	
		814.7	-40.714	
		823.3	-40.445	
		824.7	-40.509	
		831.5	-40.721	
		848.3	-40.663	

LTE 66

Bandwidth	Mode	f [MHz]	Spurious [dBm]	Limit [dBm]
20 MHz	QPSK	1720.0	-38.173	-13.00
		1745.0	-38.182	
		1770.0	-38.286	
	16QAM	1720.0	-38.366	
		1745.0	-38.275	
		1770.0	-38.403	
15 MHz	QPSK	1717.5	-38.309	
		1745.0	-38.399	
		1772.5	-38.369	
	16QAM	1717.5	-38.400	
		1745.0	-38.266	
		1772.5	-38.290	
10 MHz	QPSK	1715.0	-38.167	
		1745.0	-38.196	
		1775.0	-38.470	
	16QAM	1715.0	-38.096	
		1745.0	-38.315	
		1775.0	-38.368	
5 MHz	QPSK	1712.5	-38.421	
		1745.0	-38.348	
		1777.5	-38.263	
	16QAM	1712.5	-38.283	
		1745.0	-38.205	
		1777.5	-38.582	
3 MHz	QPSK	1711.5	-38.435	
		1745.0	-38.322	
		1778.5	-38.422	
	16QAM	1711.5	-38.219	
		1745.0	-38.318	
		1778.5	-38.481	
1.4 MHz	QPSK	1710.7	-38.524	
		1745.0	-38.423	
		1779.3	-38.303	
	16QAM	1710.7	-38.149	
		1745.0	-38.277	
		1779.3	-38.408	

LTE Band 4

LTE Band 4 (Frequency range: 1710-1755 MHz) is covered by LTE Band 66 (Frequency range: 1710-1780 MHz) due to overlapping frequency range, same maximum tune-up limit and same channel bandwidth.

9.3.1. OUT OF BAND EMISSIONS PLOTS

WCDMA Band 5

