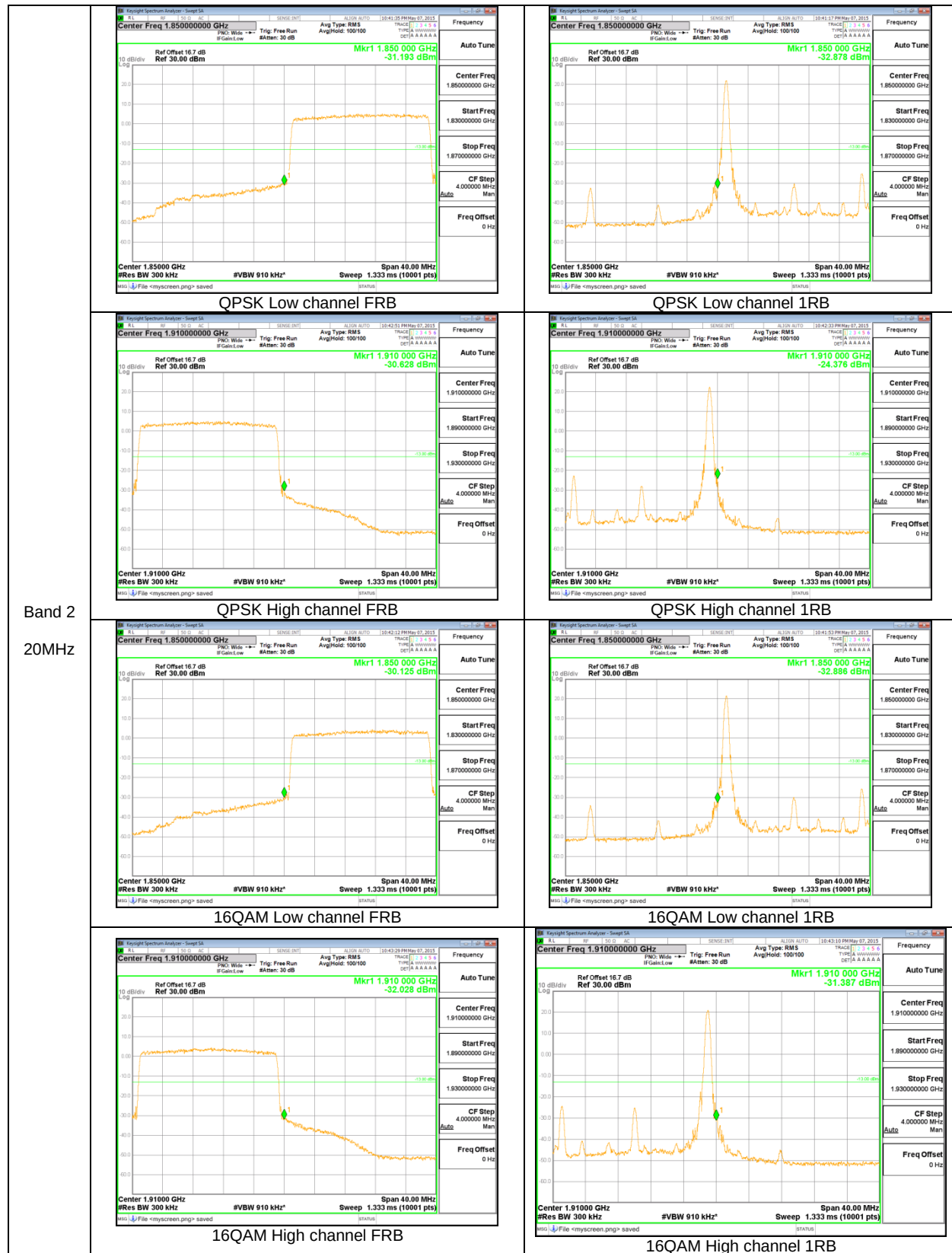
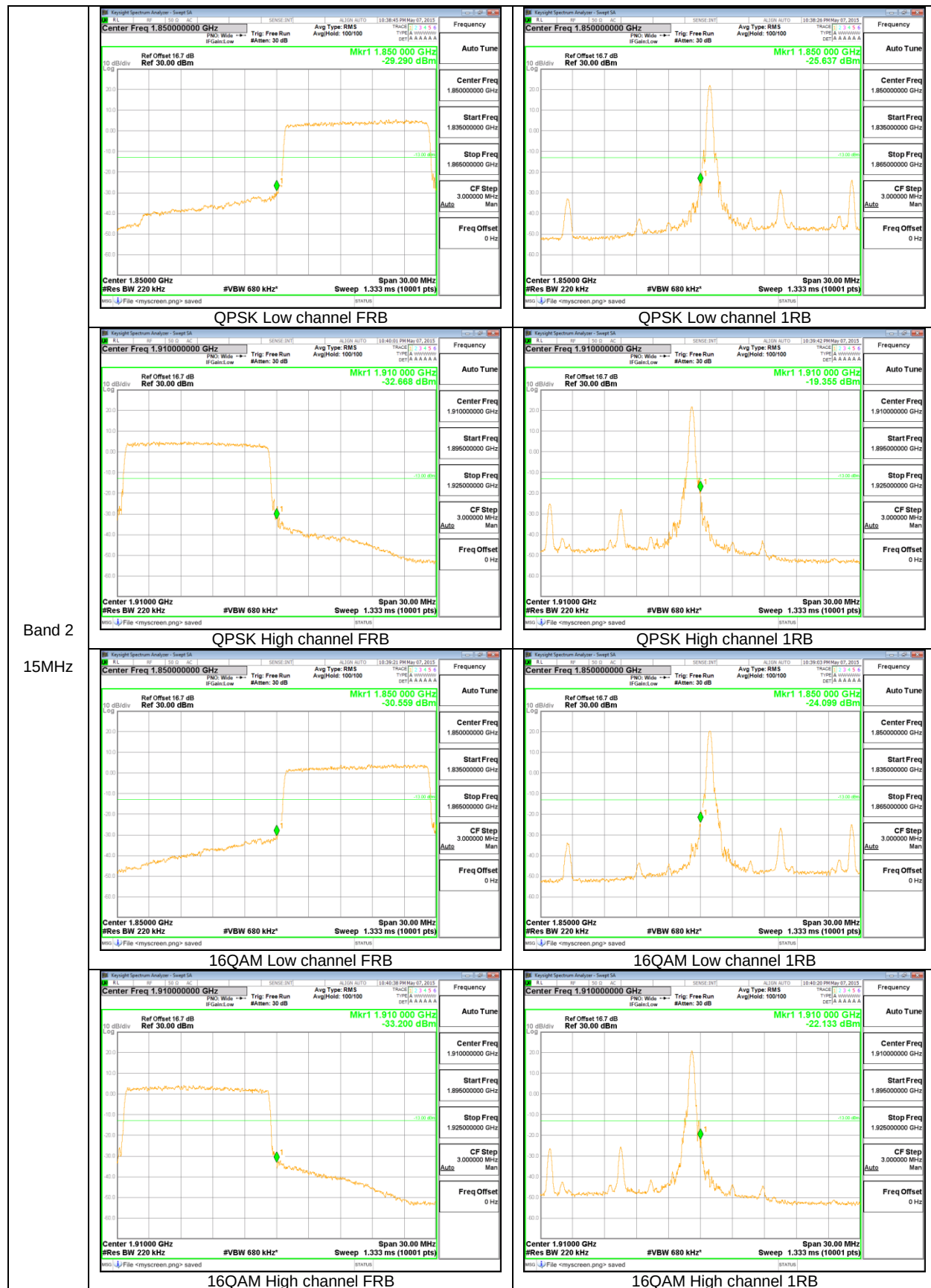
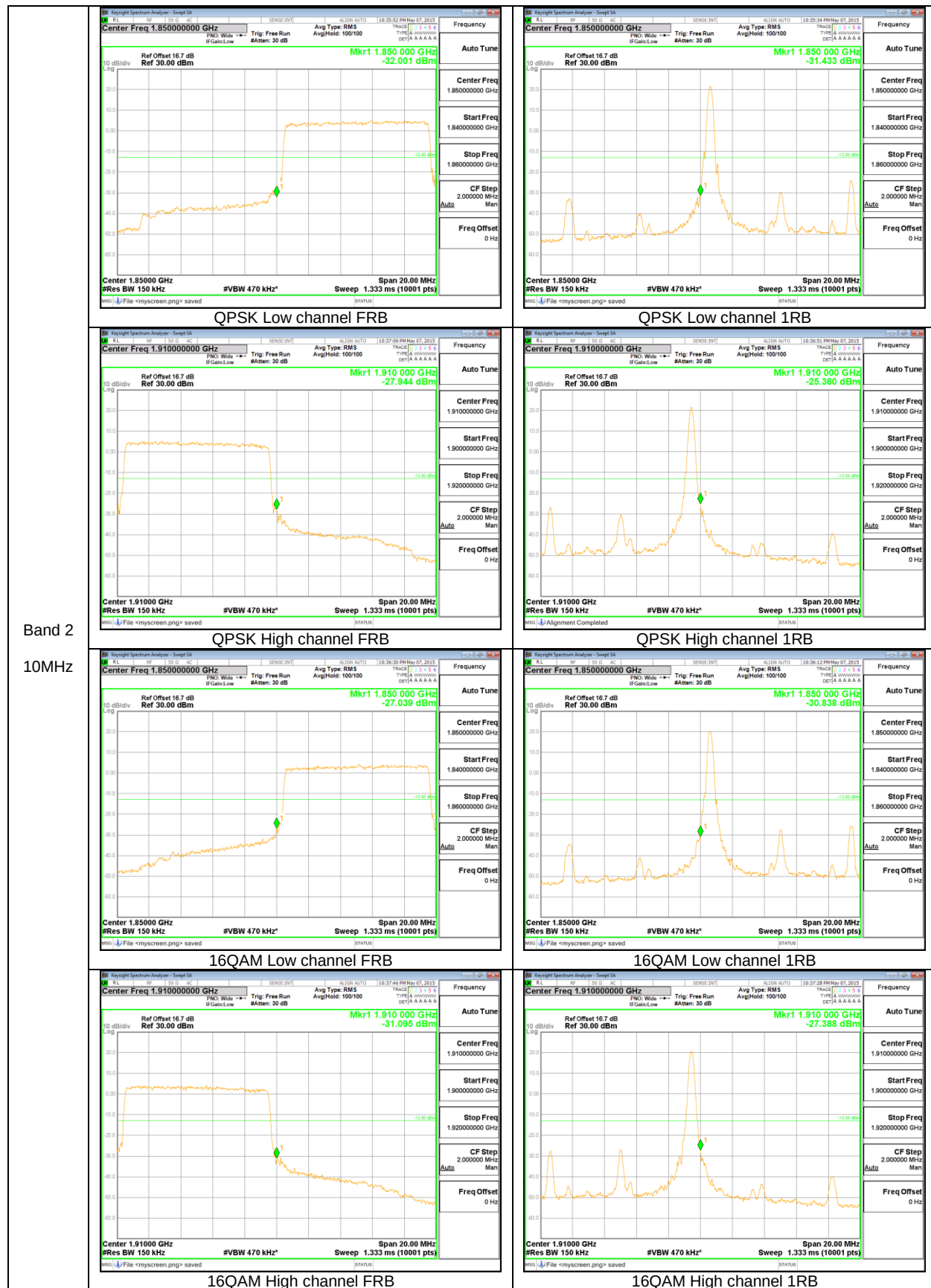


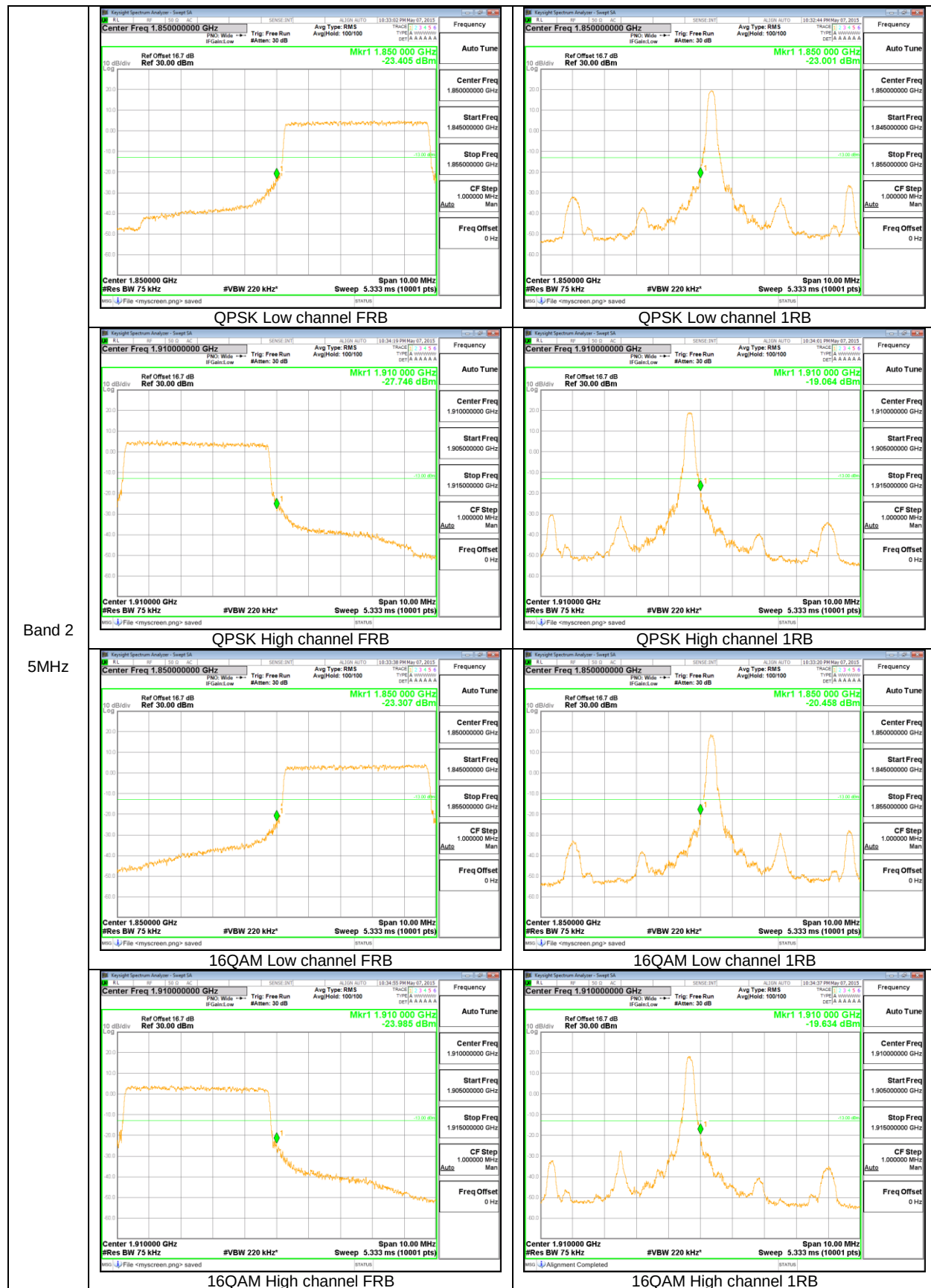
LTE Band 2

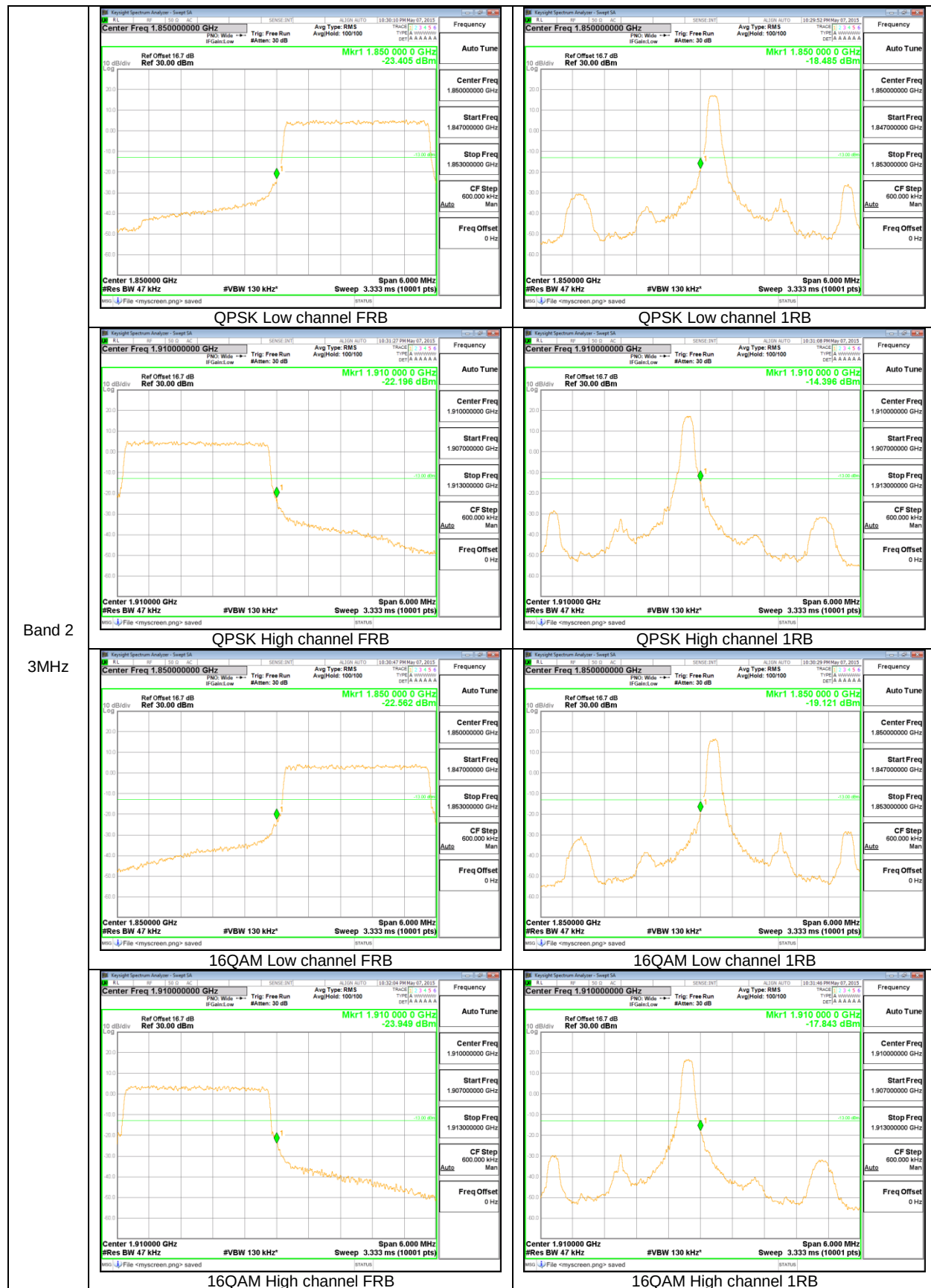


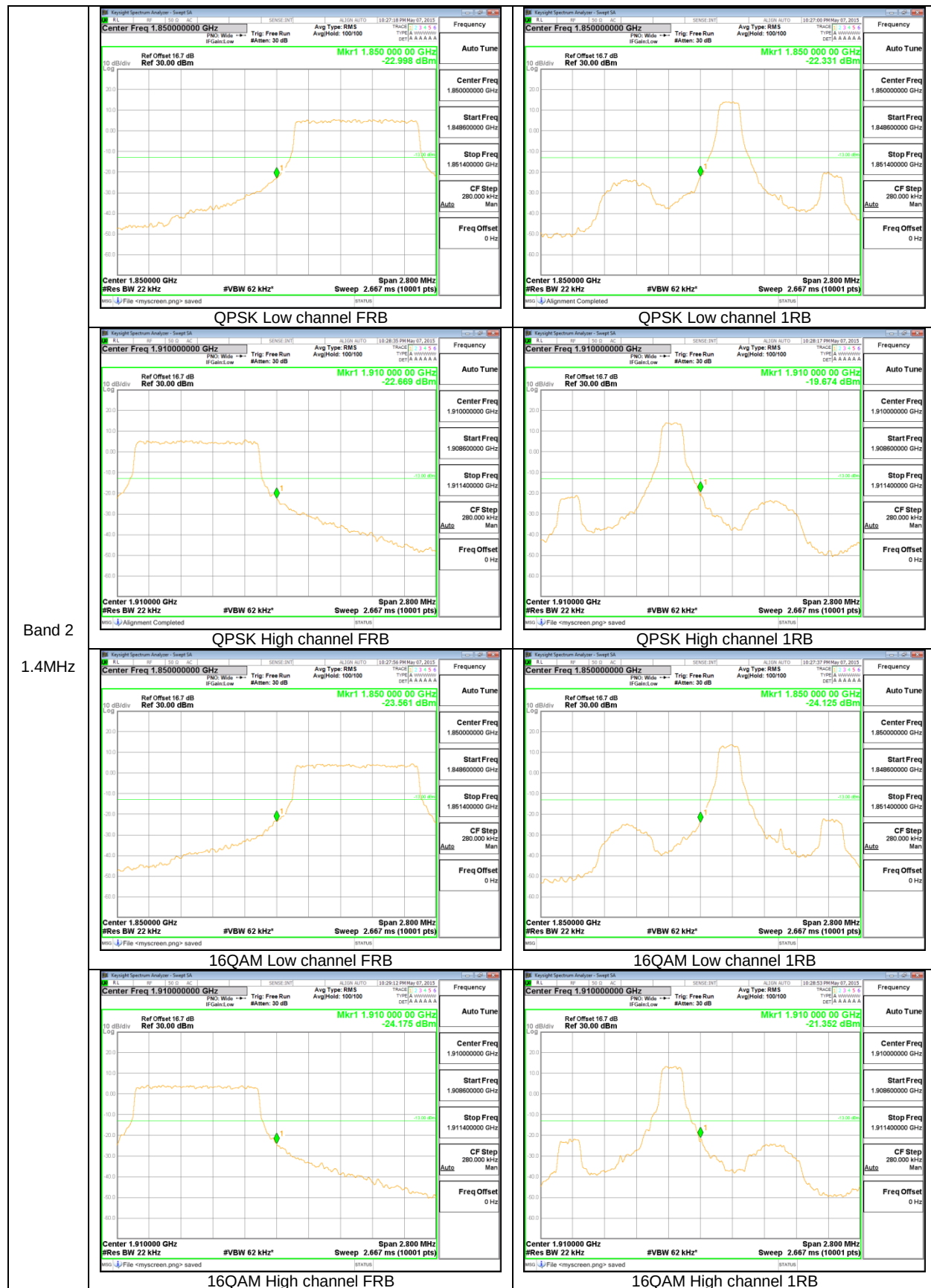
Band 2
20MHz











10.3. OUT OF BAND EMISSIONS

RULE PART(S)

FCC: §2.1051, §22.901, §22.917, §24.238, §27.53 (g)

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.

TEST PROCEDURE

Per KDB 971168 D01 Power Meas License Digital Systems v02r02

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.

RESULTS

10.3.1. OUT OF BAND EMISSIONS RESULT

GSM

Band	Mode	f [MHz]	Spurious [dBm]	Limit [dBm]	Margin [dB]
GSM850	GPRS	824.2	-22.23	-13.00	9.23
		836.6	-22.52		9.52
		848.8	-22.80		9.80
	EGPRS	824.2	-21.42		8.42
		836.6	-22.76		9.76
		848.8	-22.29		9.29
GSM1900	GPRS	1850.2	-21.57		8.57
		1880.0	-21.83		8.83
		1909.8	-22.19		9.19
	EGPRS	1850.2	-22.44		9.44
		1880.0	-21.57		8.57
		1909.8	-22.51		9.51

WCDMA

Band	Mode	f [MHz]	Spurious [dBm]	Limit [dBm]	Margin [dB]
Band 5	REL99	826.4	-32.15	-13.00	19.15
		836.6	-32.08		19.08
		846.6	-33.22		20.22
	HSDPA	826.4	-32.75		19.75
		836.6	-32.90		19.90
		846.6	-32.62		19.62
Band 2	REL99	1852.4	-32.44		19.44
		1880.0	-32.93		19.93
		1907.6	-32.16		19.16
	HSDPA	1852.4	-32.47		19.47
		1880.0	-32.14		19.14
		1907.6	-33.01		20.01

LTE 17

Bandwidth	Mode	f [MHz]	Spurious [dBm]	Limit [dBm]	Margin [dB]
10 MHz	QPSK	709.0	-27.73	-13.00	14.73
		710.0	-26.56		13.56
		711.0	-25.92		12.92
	16QAM	709.0	-26.86		13.86
		710.0	-26.59		13.59
		711.0	-26.86		13.86
5 MHz	QPSK	706.5	-27.77		14.77
		710.0	-27.13		14.13
		713.5	-27.05		14.05
	16QAM	706.5	-26.97		13.97
		710.0	-27.04		14.04
		713.5	-26.10		13.10

LTE 5

Bandwidth	Mode	f [MHz]	Spurious [dBm]	Limit [dBm]	Margin [dB]
10 MHz	QPSK	829.0	-27.49	-13.00	14.46
		836.5	-27.45		14.45
		844.0	-25.85		12.85
	16QAM	829.0	-26.27		13.27
		836.5	-26.98		13.98
		844.0	-27.10		14.10
5 MHz	QPSK	826.5	-27.39		14.39
		836.5	-27.57		14.57
		846.5	-27.00		14.00
	16QAM	826.5	-27.19		14.19
		836.5	-26.05		13.05
		846.5	-27.20		14.20
3 MHz	QPSK	825.5	-26.78		13.78
		836.5	-26.81		13.81
		847.5	-26.82		13.82
	16QAM	825.5	-26.91		13.91
		836.5	-28.11		15.11
		847.5	-26.93		13.93
1.4 MHz	QPSK	824.7	-26.90		13.90
		836.5	-27.06		14.06
		848.3	-26.49		13.49
	16QAM	824.7	-27.55		14.55
		836.5	-27.66		14.66
		848.3	-28.19		15.19

LTE 4

Bandwidth	Mode	f [MHz]	Spurious [dBm]	Limit [dBm]	Margin [dB]
20 MHz	QPSK	1720.0	-26.96	-13.00	13.96
		1732.5	-26.28		13.28
		1745.0	-25.47		12.47
	16QAM	1720.0	-26.37		13.37
		1732.5	-26.35		13.35
		1745.0	-25.81		12.81
15 MHz	QPSK	1717.5	-26.47		13.47
		1732.5	-26.47		13.47
		1747.5	-25.66		12.66
	16QAM	1717.5	-25.87		12.87
		1732.5	-26.76		13.76
		1747.5	-25.84		12.84
10 MHz	QPSK	1715.0	-26.70		13.70
		1732.5	-26.86		13.86
		1750.0	-26.94		13.94
	16QAM	1715.0	-26.03		13.03
		1732.5	-26.97		13.97
		1750.0	-25.85		12.85
5 MHz	QPSK	1712.5	-26.51		13.51
		1732.5	-26.63		13.63
		1752.5	-26.70		13.70
	16QAM	1712.5	-26.27		13.27
		1732.5	-26.41		13.41
		1752.5	-26.13		13.13
3 MHz	QPSK	1711.5	-25.22		12.22
		1732.5	-27.24		14.24
		1753.5	-26.22		13.22
	16QAM	1711.5	-26.53		13.53
		1732.5	-25.76		12.76
		1753.5	-26.00		13.00
1.4 MHz	QPSK	1710.7	-26.17		13.17
		1732.5	-26.07		13.07
		1754.3	-25.82		12.82
	16QAM	1710.7	-26.74		13.74
		1732.5	-26.25		13.25
		1754.3	-26.14		13.14

LTE 2

Bandwidth	Mode	f [MHz]	Spurious [dBm]	Limit [dBm]	Margin [dB]
20 MHz	QPSK	1860.0	-26.32	-13.00	13.32
		1880.0	-26.53		13.53
		1900.0	-26.19		13.19
	16QAM	1860.0	-26.40		13.40
		1880.0	-25.79		12.79
		1900.0	-25.70		12.70
15 MHz	QPSK	1857.5	-26.61		13.61
		1880.0	-26.70		16.70
		1902.5	-27.35		14.35
	16QAM	1857.5	-26.38		13.38
		1880.0	-27.18		14.18
		1902.5	-27.10		14.10
10 MHz	QPSK	1855.0	-26.48		13.48
		1880.0	-26.98		13.98
		1905.0	-26.01		13.01
	16QAM	1855.0	-25.62		12.62
		1880.0	-27.53		14.53
		1905.0	-27.14		14.14
5 MHz	QPSK	1852.5	-26.12		13.12
		1880.0	-26.24		13.24
		1907.5	-26.51		13.51
	16QAM	1852.5	-26.15		13.15
		1880.0	-26.51		13.51
		1907.5	-26.88		13.88
3 MHz	QPSK	1851.5	-25.95		12.95
		1880.0	-25.61		12.61
		1908.5	-25.62		12.62
	16QAM	1851.5	-26.37		13.37
		1880.0	-26.50		13.50
		1908.5	-27.24		14.24
1.4 MHz	QPSK	1850.7	-27.09		14.09
		1880.0	-26.10		13.10
		1909.3	-26.60		13.60
	16QAM	1850.7	-26.40		13.40
		1880.0	-26.80		13.80
		1909.3	-29.91		16.91

10.3.2. OUT OF BAND EMISSIONS PLOTS

GSM 850



GSM 1900



WCDMA Band 5



WCDMA Band 2

