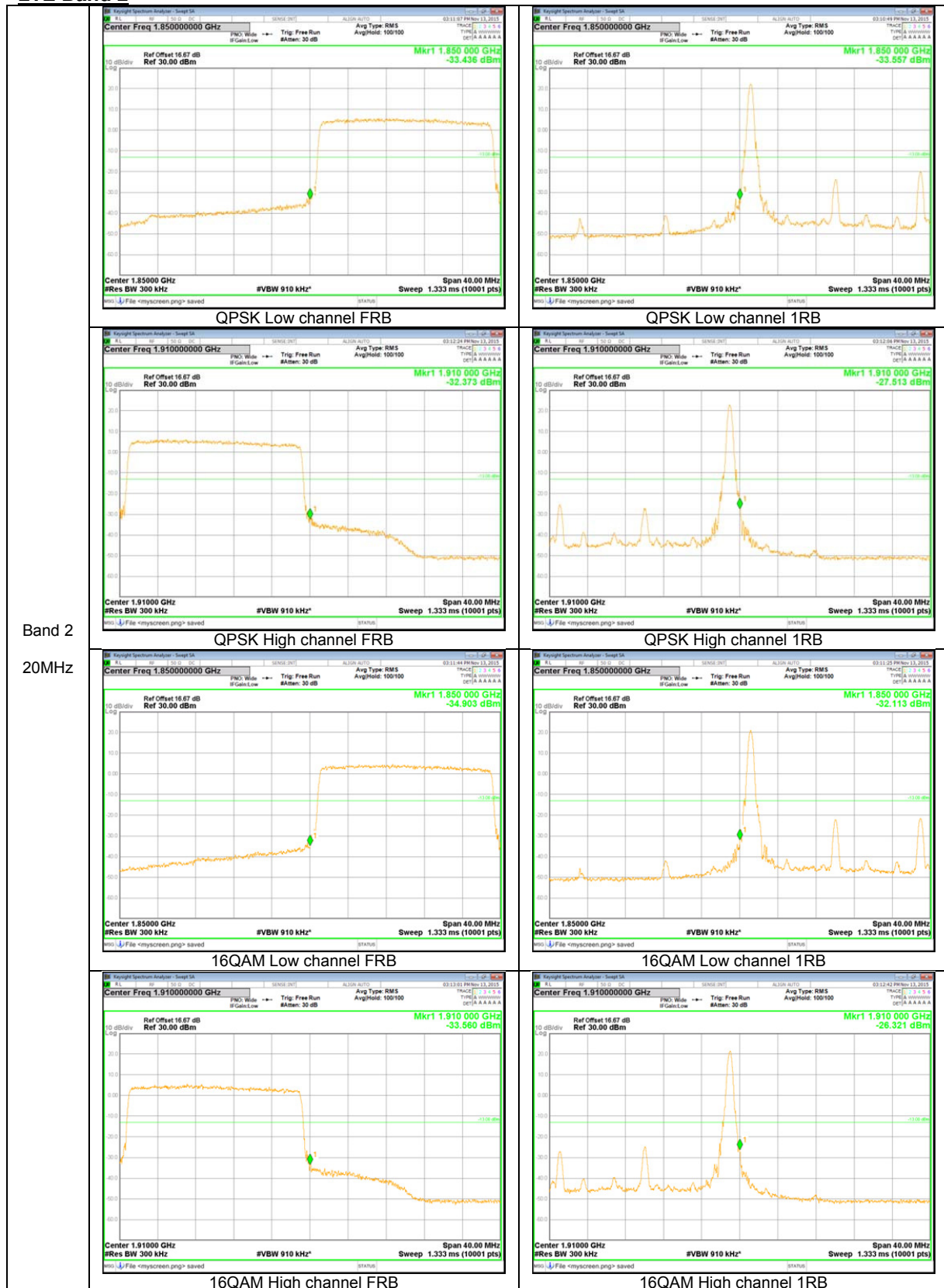
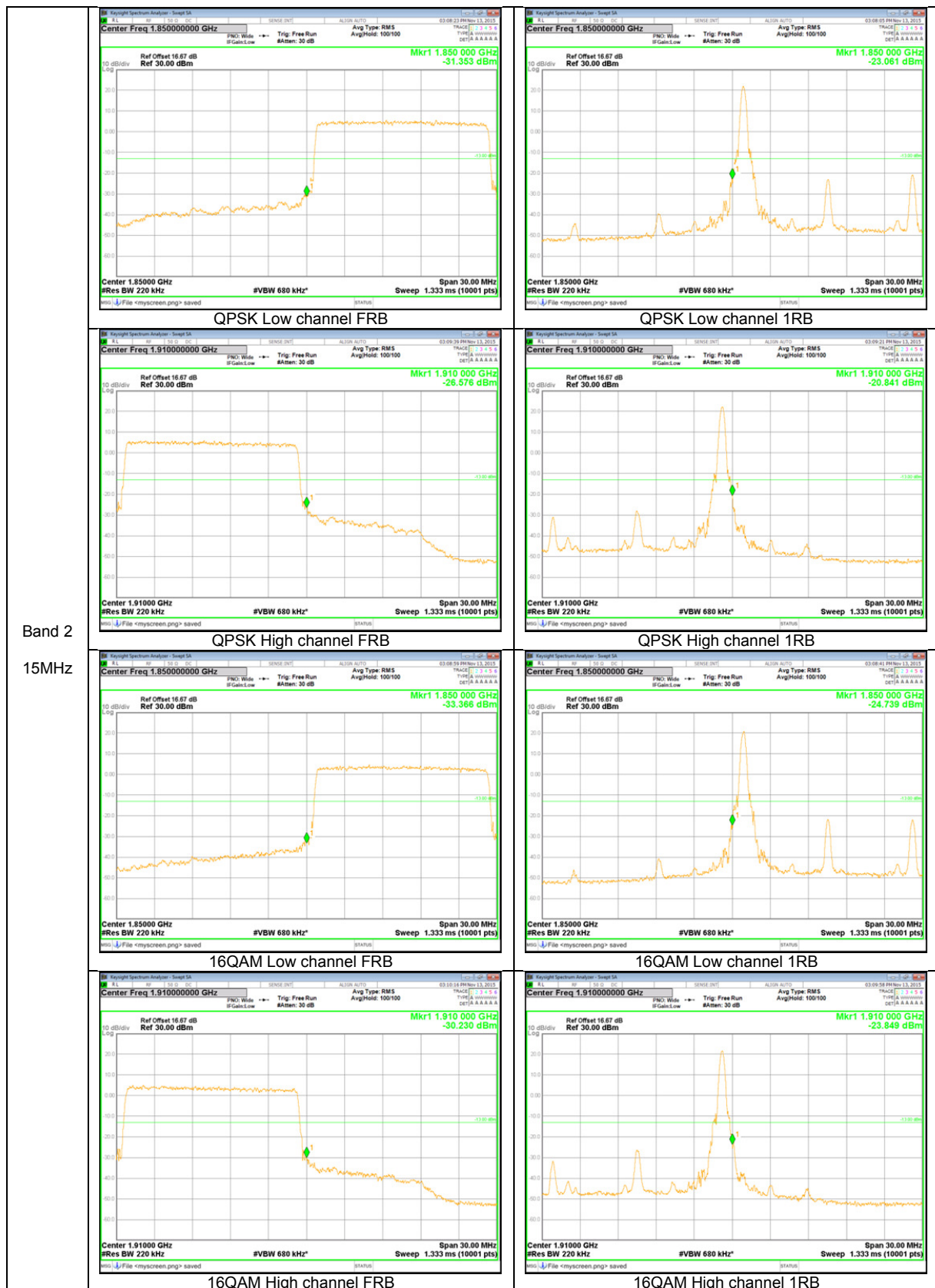
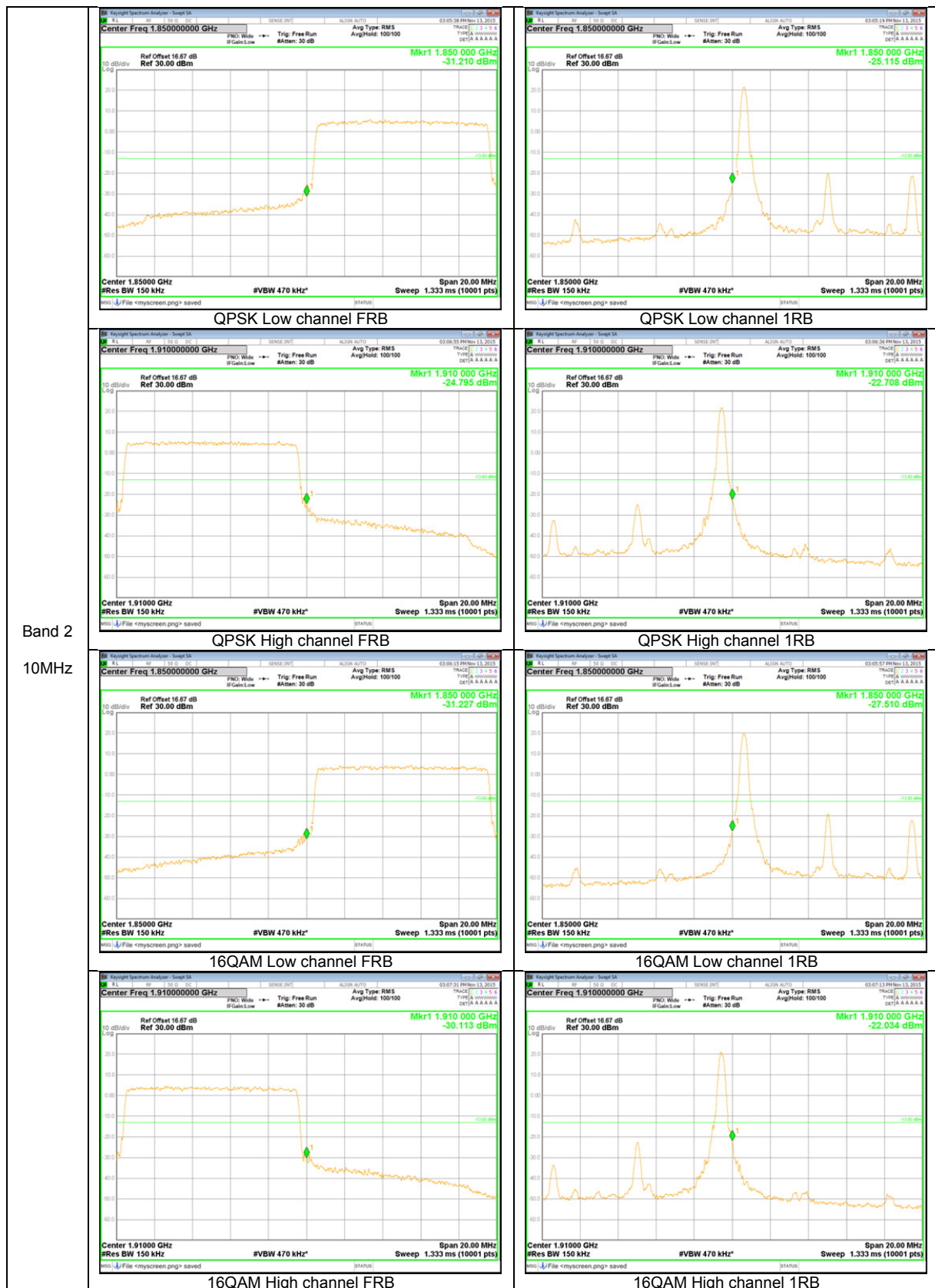


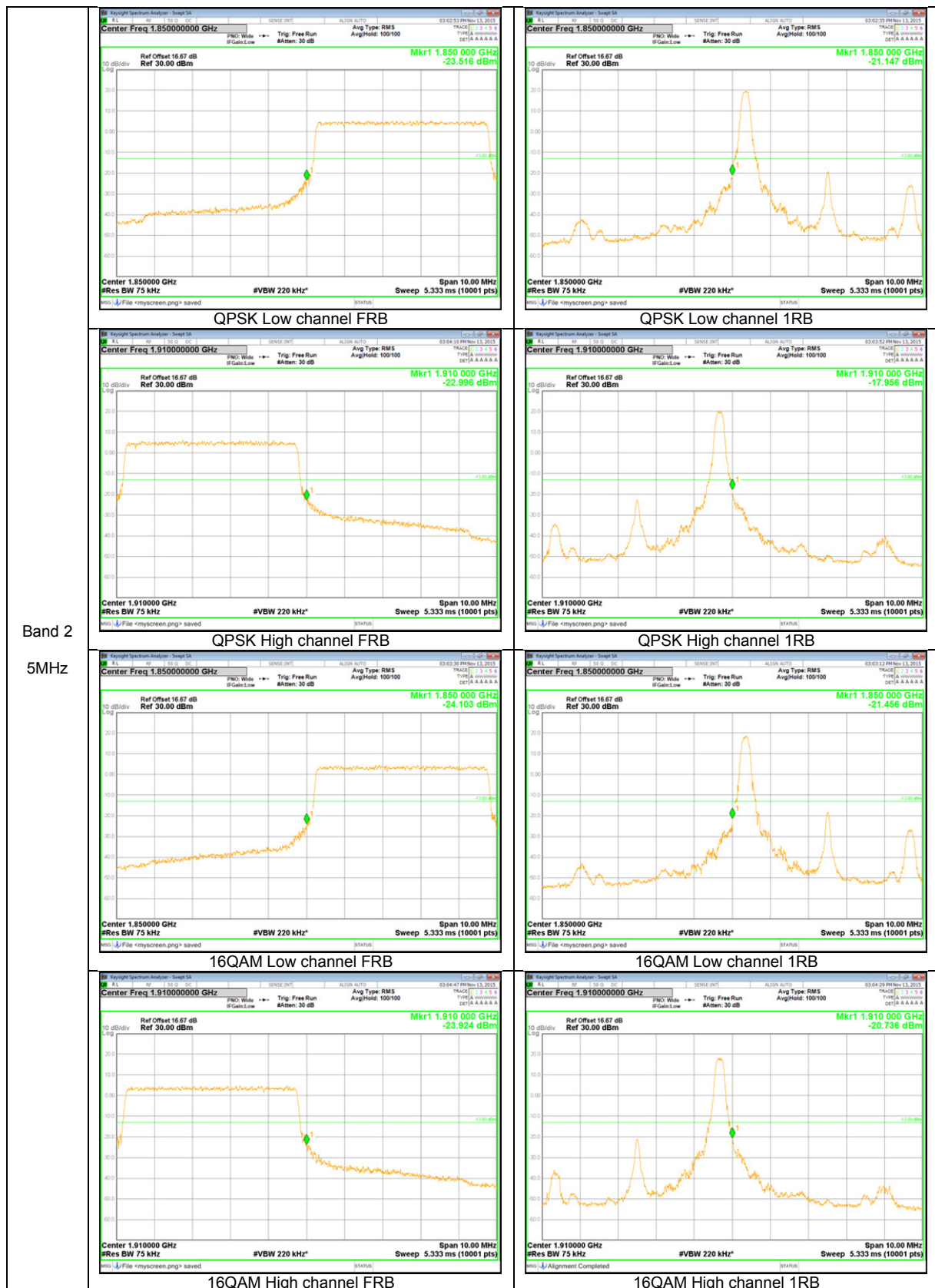
LTE Band 2

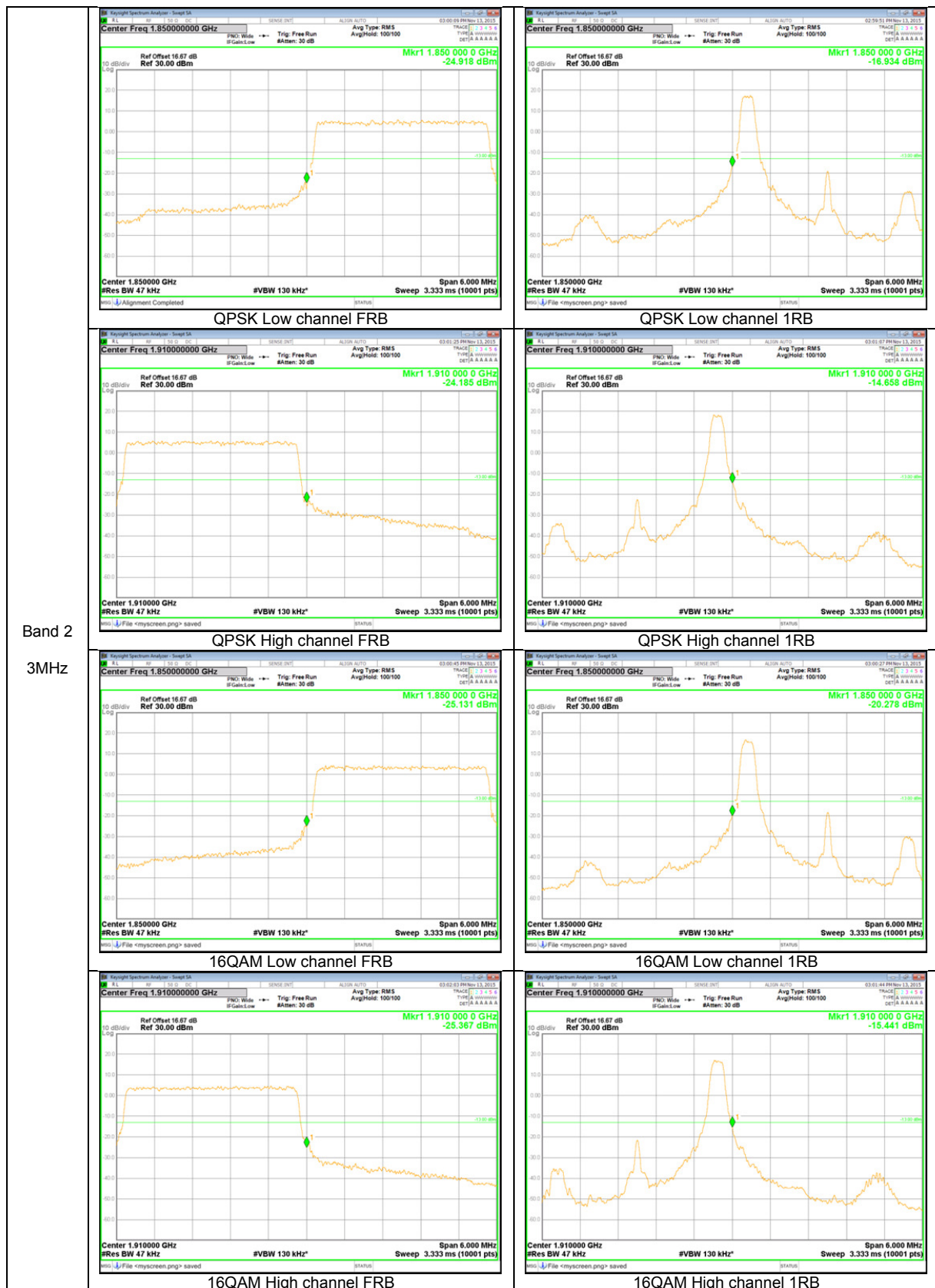


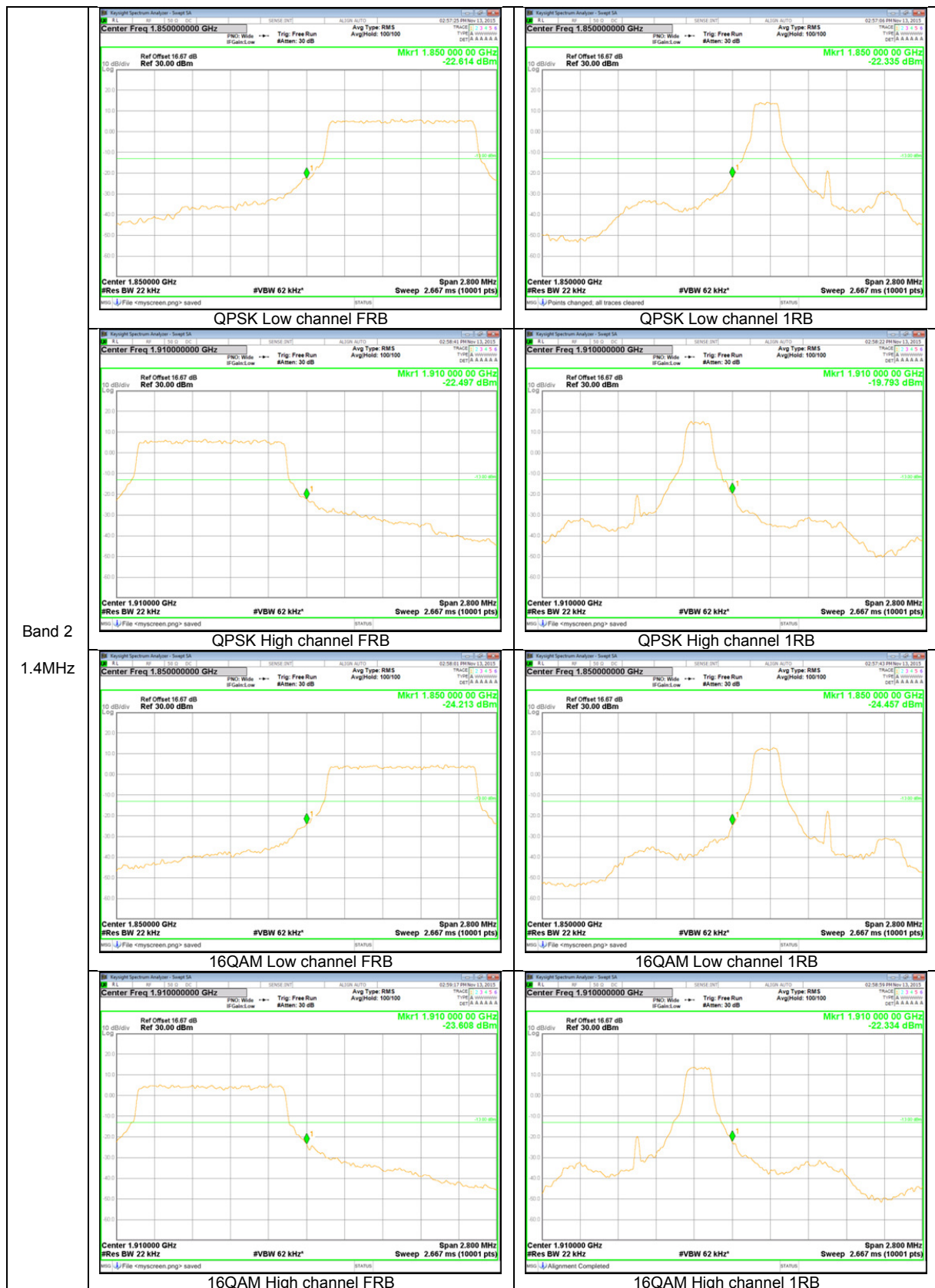
Band 2
20MHz











10.3 OUT OF BAND EMISSIONS

RULE PART(S)

FCC: §2.1051, §22.901, §22.917, §24.238 and §27. 53

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	-24.49	-13.00	11.49
		836.6	-23.38		10.38
		848.8	-24.99		11.99
	EGPRS	824.2	-24.35		11.35
		836.6	-23.52		10.52
		848.8	-24.96		11.96
GSM1900	GPRS	1850.2	-23.87		10.87
		1880.0	-24.41		11.41
		1909.8	-23.96		10.96
	EGPRS	1850.2	-23.92		10.92
		1880.0	-23.50		10.5
		1909.8	-23.74		10.74

WCDMA

Band	Mode	f [MHz]	Spurious [dBm]	Limit [dBm]	Margin [dB]
Band 5	REL99	826.4	-34.53	-13.00	21.53
		836.6	-34.51		21.51
		846.6	-34.21		21.21
	HSDPA	826.4	-34.82		21.82
		836.6	-34.69		21.69
		846.6	-34.57		21.57
Band 4	REL99	1712.4	-34.07		21.07
		1732.6	-32.92		19.92
		1752.6	-33.88		20.88
	HSDPA	1712.4	-33.36		20.36
		1732.6	-34.07		21.07
		1752.6	-34.13		21.13
Band 2	REL99	1852.4	-33.61		20.61
		1880.0	-34.43		21.43
		1907.6	-34.05		21.05
	HSDPA	1852.4	-33.61		20.61
		1880.0	-34.18		21.18
		1907.6	-33.88		20.88

LTE 17

Bandwidth	Mode	f [MHz]	Spurious [dBm]	Limit [dBm]	Margin [dB]
10 MHz	QPSK	709.0	-28.93	-13.00	15.93
		710.0	-28.35		15.35
		711.0	-28.35		15.35
	16QAM	709.0	-29.33		16.33
		710.0	-28.81		15.81
		711.0	-29.47		16.47
5 MHz	QPSK	706.5	-28.18		15.18
		710.0	-28.88		15.88
		713.5	-28.92		15.92
	16QAM	706.5	-29.56		16.56
		710.0	-28.94		15.94
		713.5	-29.06		16.06

LTE 5

Bandwidth	Mode	f [MHz]	Spurious [dBm]	Limit [dBm]	Margin [dB]
10 MHz	QPSK	829.0	-28.84	-13.00	15.84
		836.5	-29.37		16.37
		844.0	-29.03		16.03
	16QAM	829.0	-28.98		15.98
		836.5	-29.01		16.01
		844.0	-29.16		16.16
5 MHz	QPSK	826.5	-29.09		16.09
		836.5	-28.58		15.58
		846.5	-29.34		16.34
	16QAM	826.5	-28.56		15.56
		836.5	-28.65		15.65
		846.5	-29.62		16.62
3 MHz	QPSK	825.5	-29.44		16.44
		836.5	-29.11		16.11
		847.5	-29.30		16.3
	16QAM	825.5	-28.96		15.96
		836.5	-29.32		16.32
		847.5	-28.93		15.93
1.4 MHz	QPSK	824.7	-29.20		16.2
		836.5	-29.19		16.19
		848.3	-28.51		15.51
	16QAM	824.7	-29.82		16.82
		836.5	-28.95		15.95
		848.3	-29.63		16.63

LTE 4

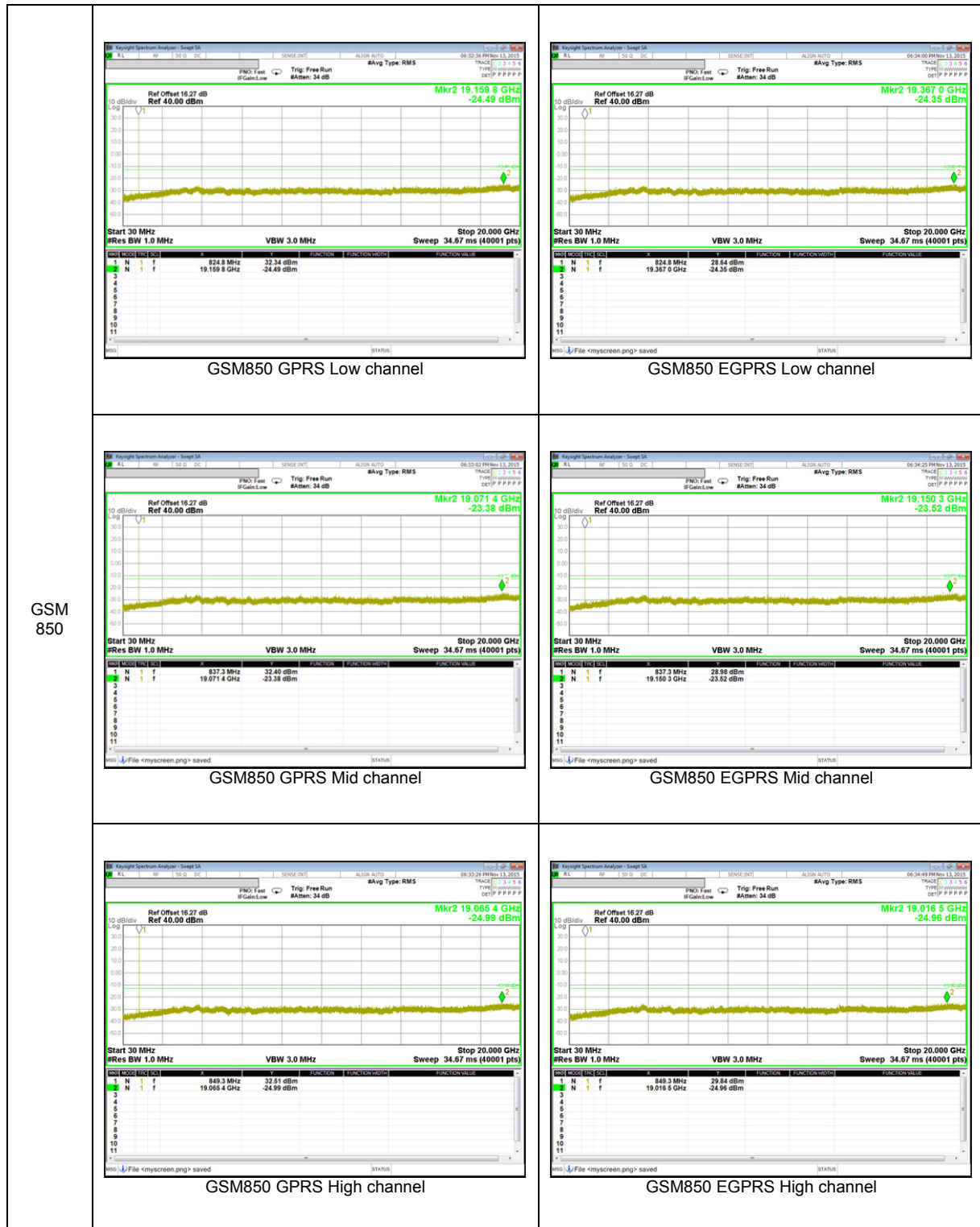
Bandwidth	Mode	f [MHz]	Spurious [dBm]	Limit [dBm]	Margin [dB]
20 MHz	QPSK	1720.0	-28.99	-13.00	15.99
		1732.5	-28.49		15.49
		1745.0	-28.87		15.87
	16QAM	1720.0	-28.56		15.56
		1732.5	-28.56		15.56
		1745.0	-27.90		14.9
15 MHz	QPSK	1717.5	-28.81		15.81
		1732.5	-28.87		15.87
		1747.5	-28.73		15.73
	16QAM	1717.5	-27.85		14.85
		1732.5	-29.08		16.08
		1747.5	-28.73		15.73
10 MHz	QPSK	1715.0	-29.68		16.68
		1732.5	-28.75		15.75
		1750.0	-28.81		15.81
	16QAM	1715.0	-28.38		15.38
		1732.5	-29.09		16.09
		1750.0	-28.39		15.39
5 MHz	QPSK	1712.5	-27.59		14.59
		1732.5	-28.81		15.81
		1752.5	-28.64		15.64
	16QAM	1712.5	-28.98		15.98
		1732.5	-29.19		16.19
		1752.5	-28.92		15.92
3 MHz	QPSK	1711.5	-28.81		15.81
		1732.5	-28.66		15.66
		1753.5	-28.83		15.83
	16QAM	1711.5	-29.16		16.16
		1732.5	-29.24		16.24
		1753.5	-28.36		15.36
1.4 MHz	QPSK	1710.7	-28.25		15.25
		1732.5	-28.86		15.86
		1754.3	-27.55		14.55
	16QAM	1710.7	-27.23		14.23
		1732.5	-28.47		15.47
		1754.3	-28.85		15.85

LTE 2

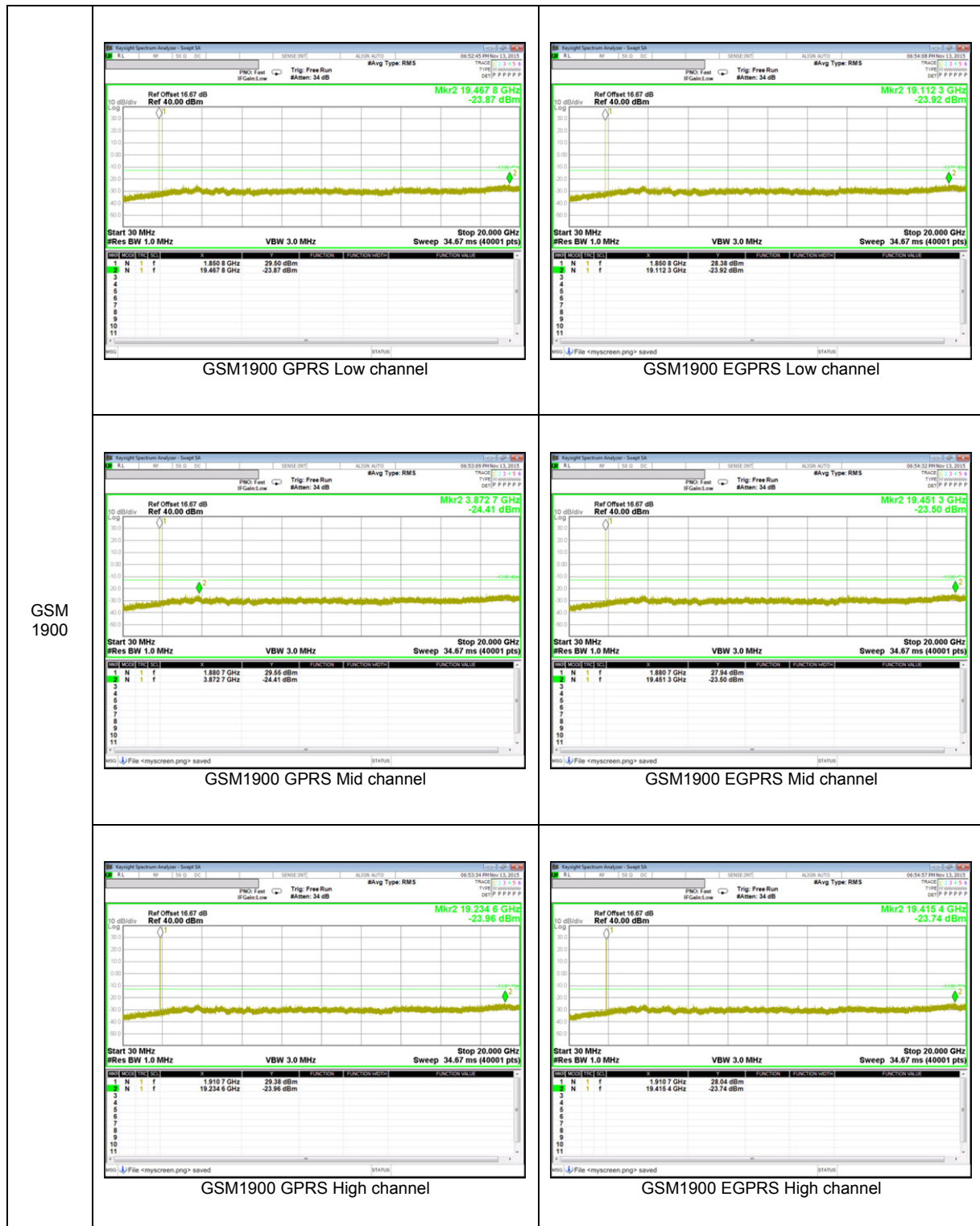
Bandwidth	Mode	f [MHz]	Spurious [dBm]	Limit [dBm]	Margin [dB]
20 MHz	QPSK	1860.0	-29.07	-13.00	16.07
		1880.0	-28.02		15.02
		1900.0	-28.47		15.47
	16QAM	1860.0	-28.16		15.16
		1880.0	-28.63		15.63
		1900.0	-28.85		15.85
15 MHz	QPSK	1857.5	-28.52		15.52
		1880.0	-28.97		15.97
		1902.5	-28.86		15.86
	16QAM	1857.5	-28.63		15.63
		1880.0	-27.50		14.5
		1902.5	-28.40		15.4
10 MHz	QPSK	1855.0	-28.85		15.85
		1880.0	-28.67		15.67
		1905.0	-27.62		14.62
	16QAM	1855.0	-28.36		15.36
		1880.0	-28.44		15.44
		1905.0	-28.30		15.3
5 MHz	QPSK	1852.5	-27.40		14.4
		1880.0	-28.57		15.57
		1907.5	-27.99		14.99
	16QAM	1852.5	-28.34		15.34
		1880.0	-28.94		15.94
		1907.5	-28.18		15.18
3 MHz	QPSK	1851.5	-28.30		15.3
		1880.0	-28.27		15.27
		1908.5	-27.70		14.7
	16QAM	1851.5	-28.66		15.66
		1880.0	-27.75		14.75
		1908.5	-28.15		15.15
1.4 MHz	QPSK	1850.7	-27.50		14.50
		1880.0	-28.01		15.01
		1909.3	-28.55		15.55
	16QAM	1850.7	-28.11		15.11
		1880.0	-28.27		15.27
		1909.3	-28.24		15.24

10.3.2. OUT OF BAND EMISSIONS PLOTS

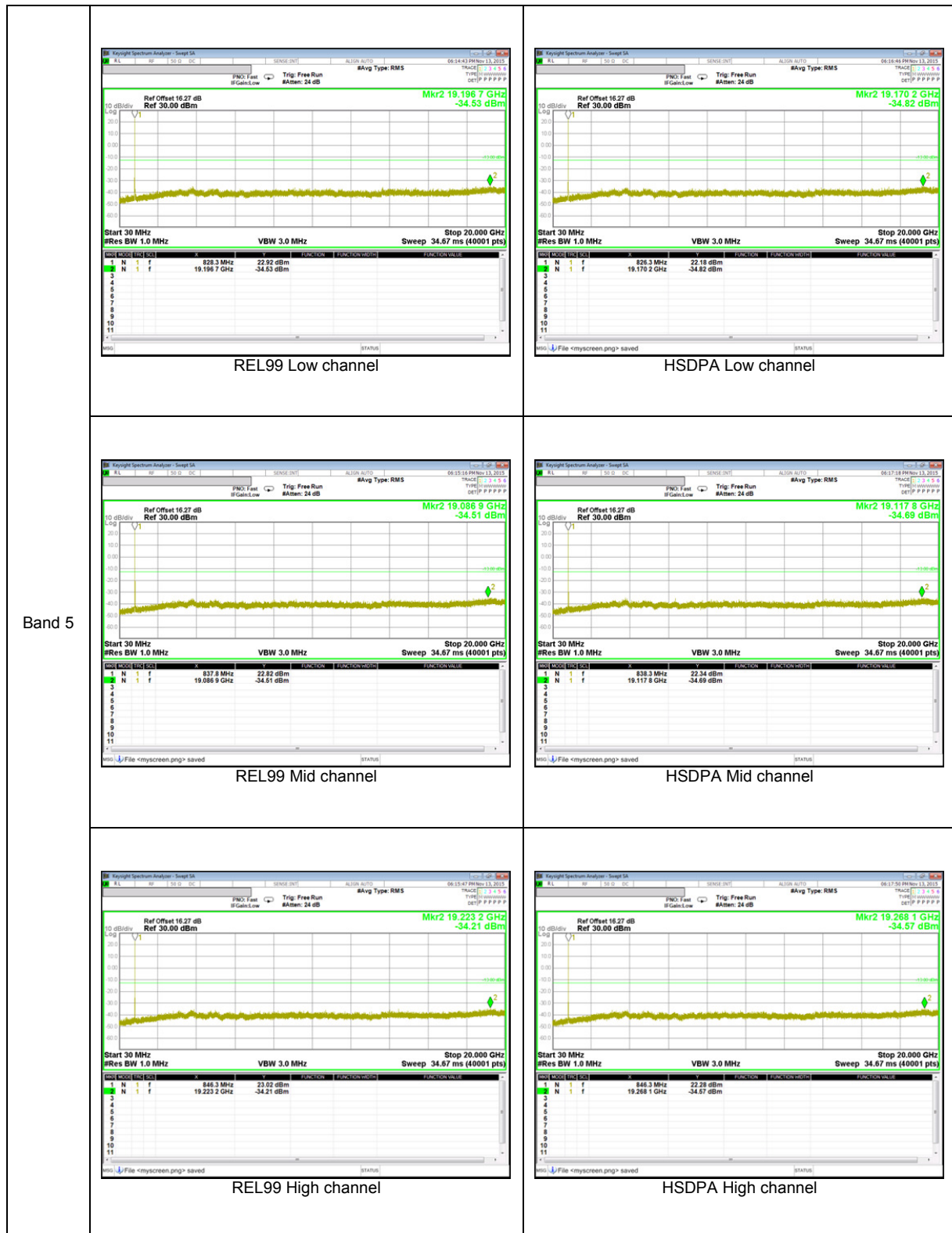
GSM 850



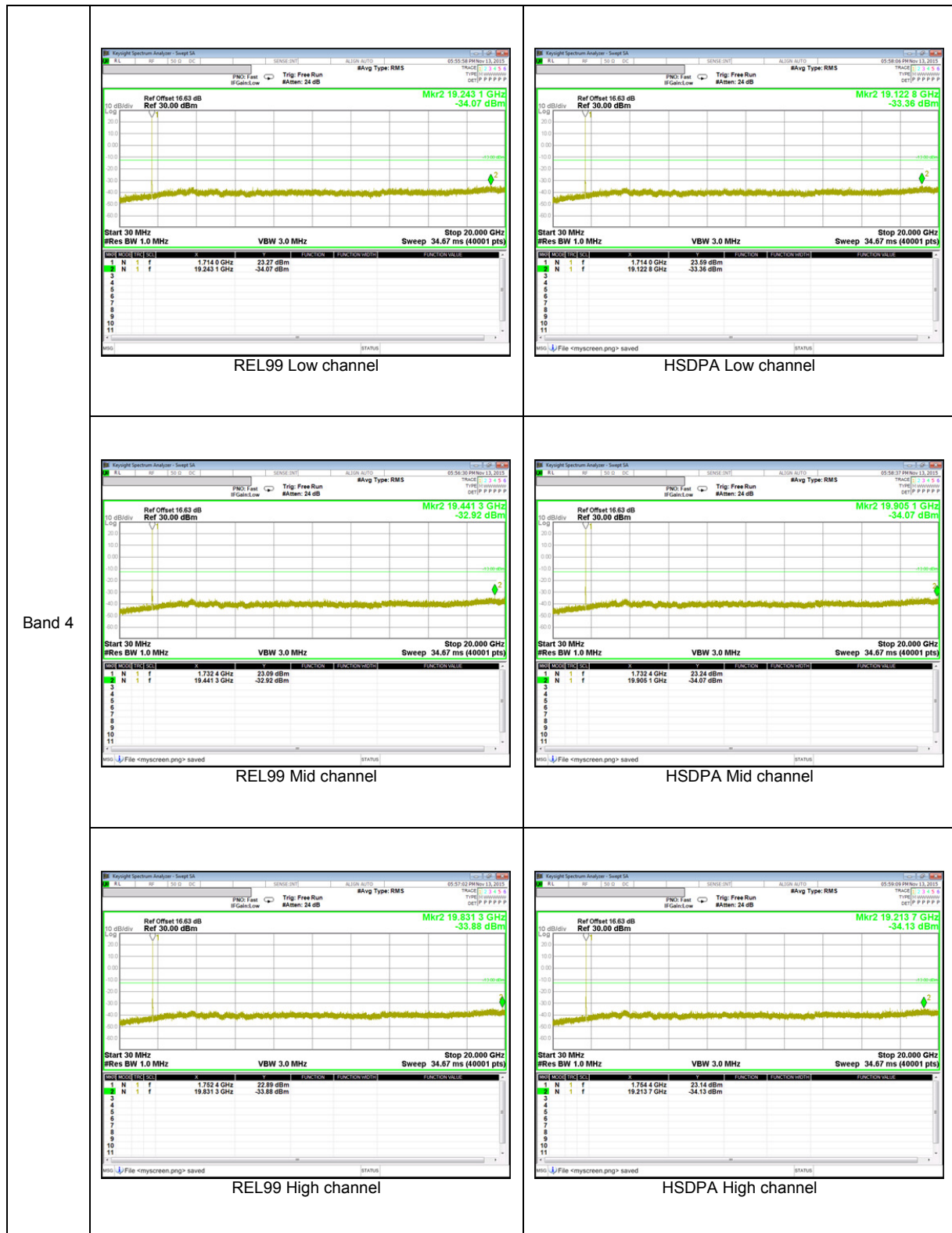
GSM 1900



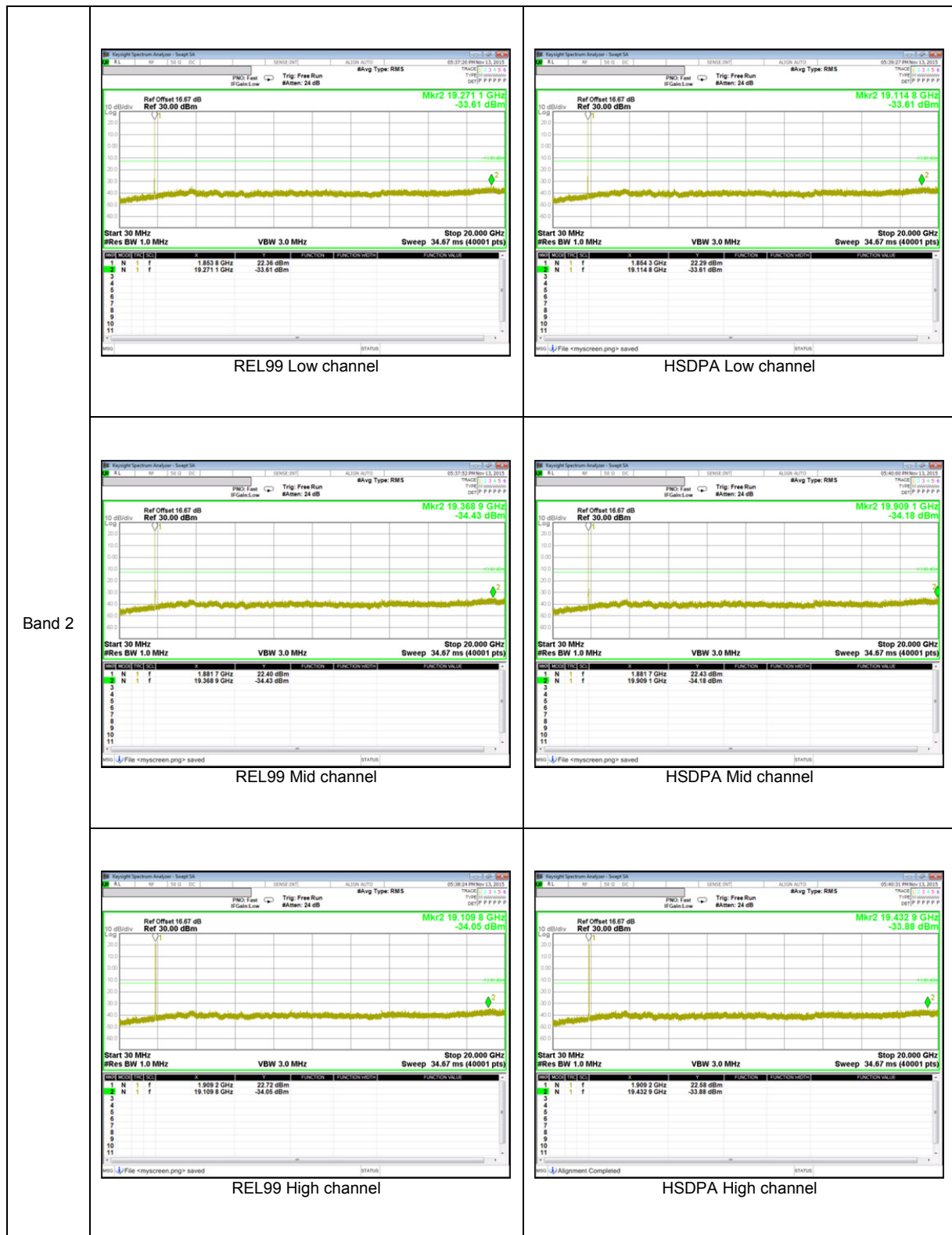
WCDMA Band 5



WCDMA Band 4



WCDMA Band 2



LTE Band 17

