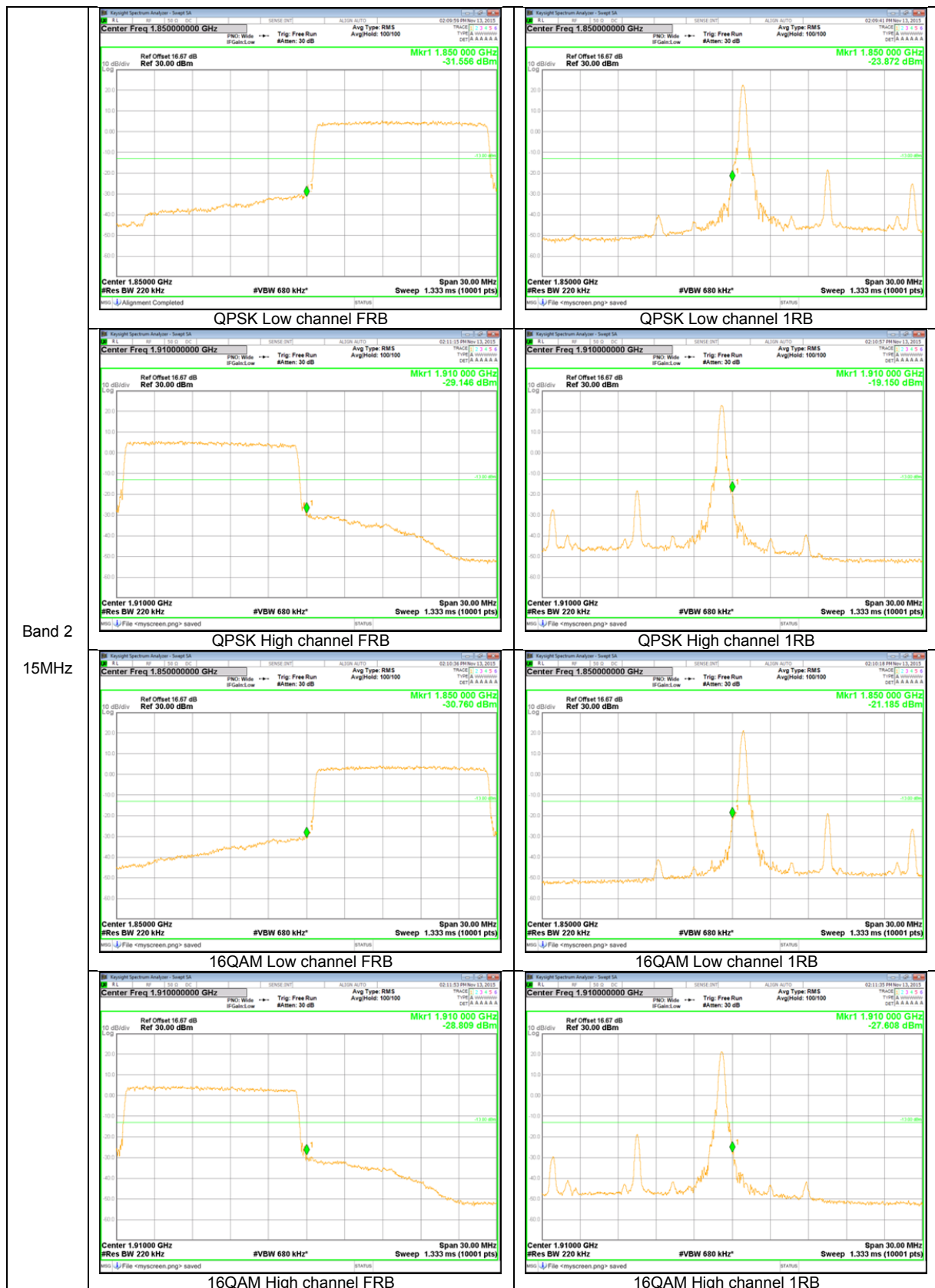
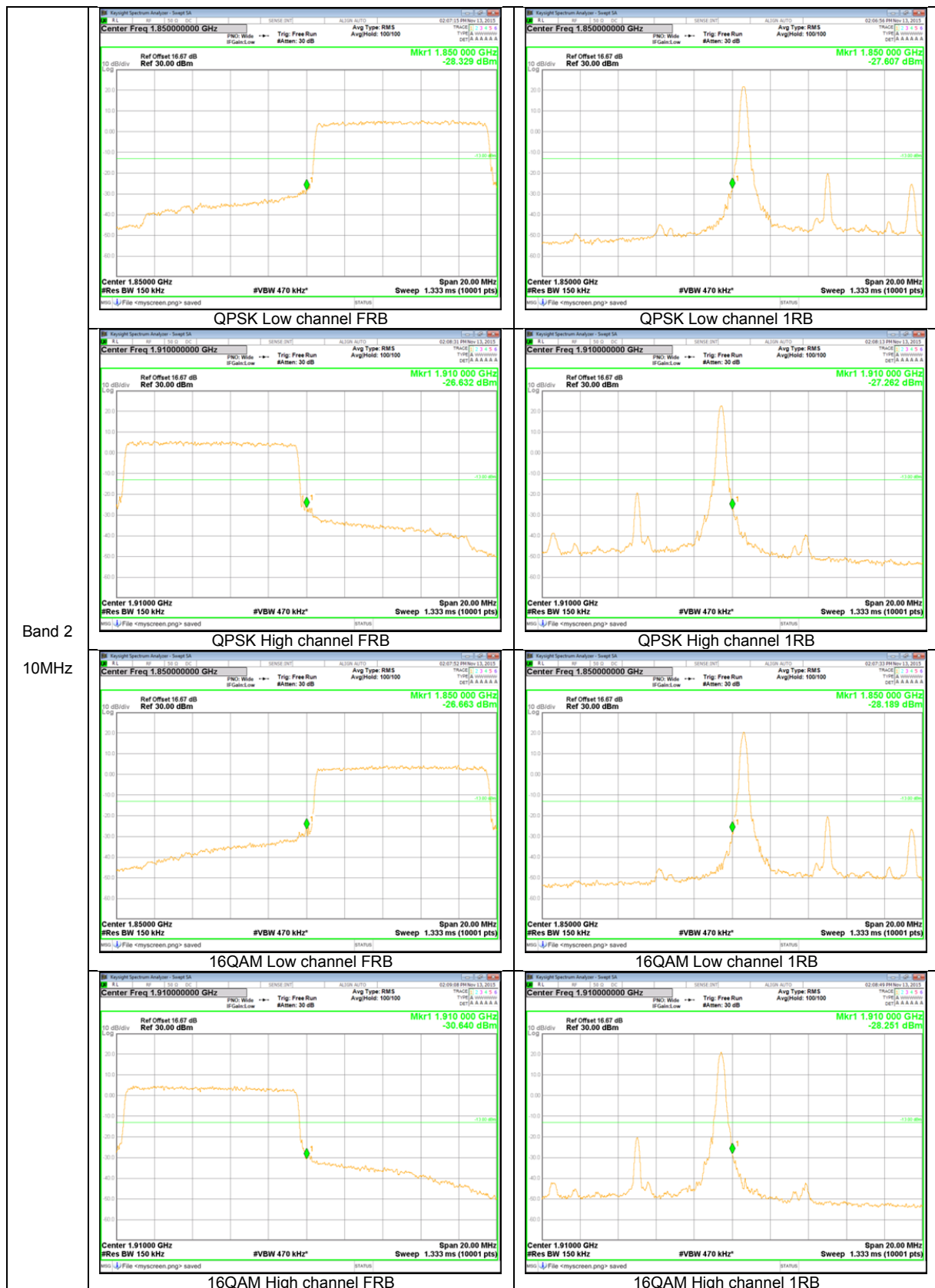
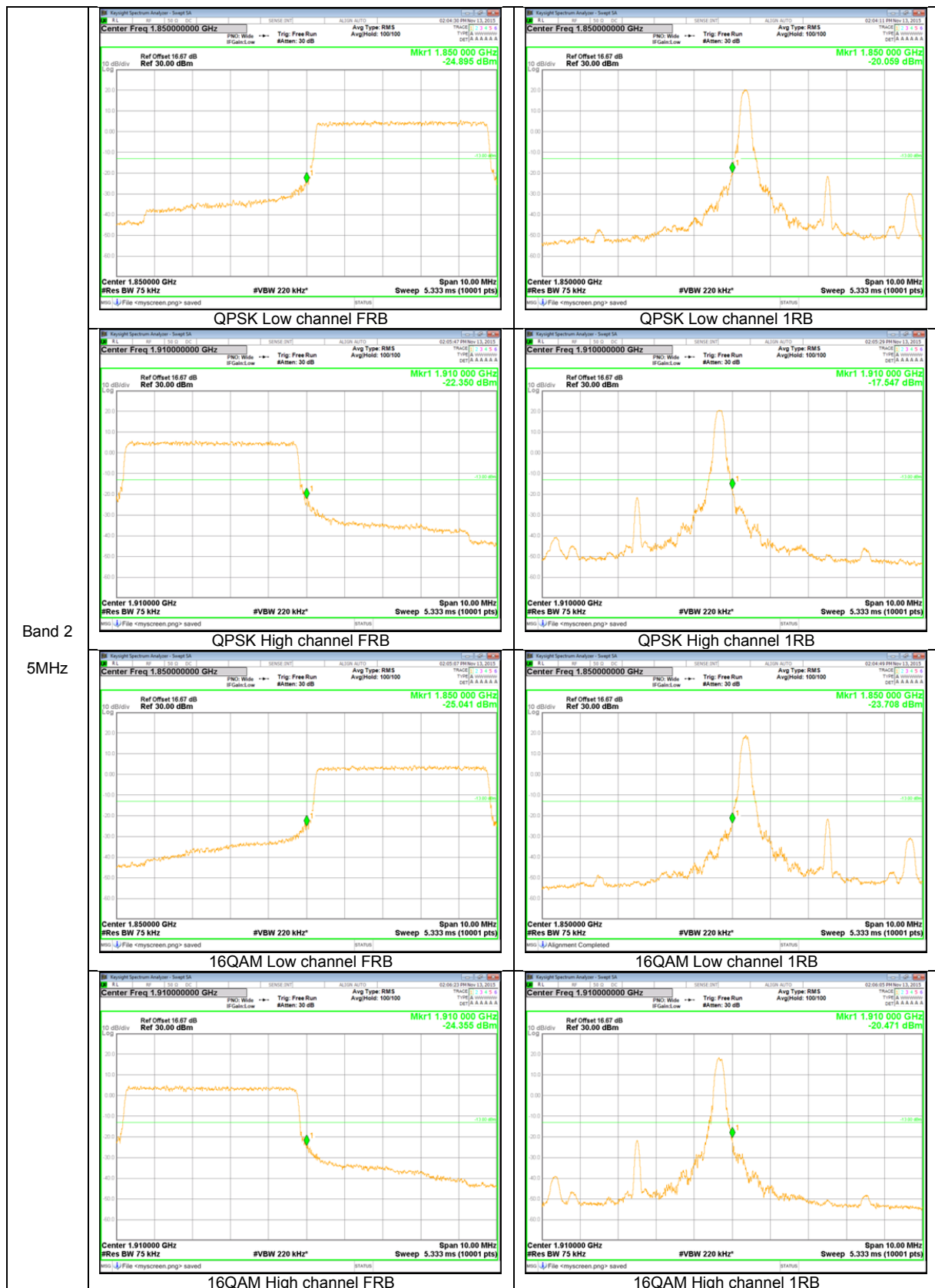
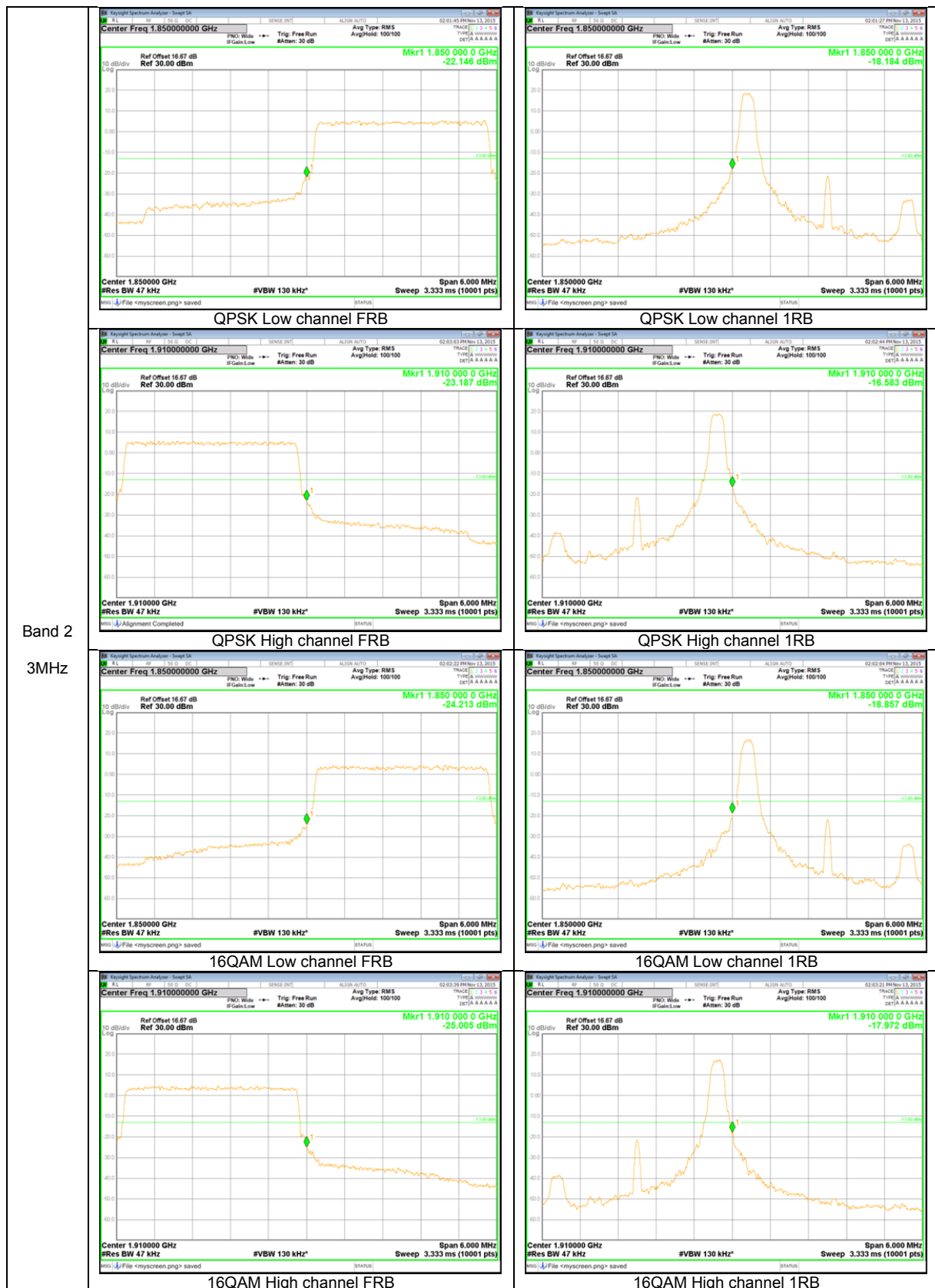
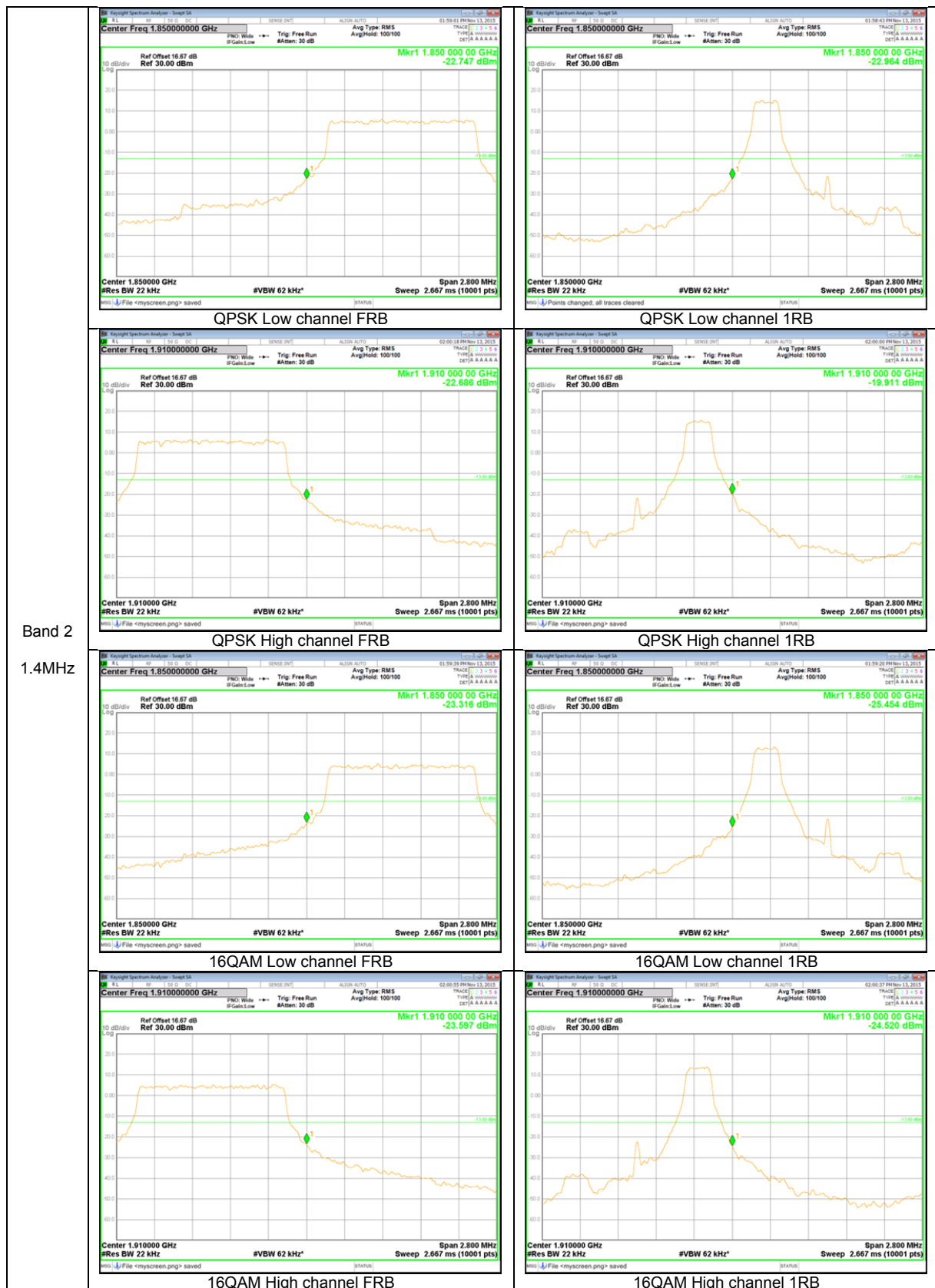












10.3 OUT OF BAND EMISSIONS

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	-24.70	-13.00	11.7
		836.6	-23.64		10.64
		848.8	-24.21		11.21
	EGPRS	824.2	-24.37		11.37
		836.6	-24.14		11.14
		848.8	-23.44		10.44
GSM1900	GPRS	1850.2	-24.78		11.78
		1880.0	-23.46		10.46
		1909.8	-24.27		11.27
	EGPRS	1850.2	-24.05		11.05
		1880.0	-24.47		11.47
		1909.8	-24.04		11.04

WCDMA

Band	Mode	f [MHz]	Spurious [dBm]	Limit [dBm]	Margin [dB]
Band 5	REL99	826.4	-34.73	-13.00	21.73
		836.6	-34.16		21.16
		846.6	-34.75		21.75
	HSDPA	826.4	-34.37		21.37
		836.6	-33.48		20.48
		846.6	-34.58		21.58
Band 4	REL99	1712.4	-33.87		20.87
		1732.6	-33.63		20.63
		1752.6	-33.74		20.74
	HSDPA	1712.4	-33.35		20.35
		1732.6	-34.46		21.46
		1752.6	-34.53		21.53
Band 2	REL99	1852.4	-34.02		21.02
		1880.0	-33.93		20.93
		1907.6	-33.93		20.93
	HSDPA	1852.4	-33.03		20.03
		1880.0	-33.08		20.08
		1907.6	-34.05		21.05

LTE 17

Bandwidth	Mode	f [MHz]	Spurious [dBm]	Limit [dBm]	Margin [dB]
10 MHz	QPSK	709.0	-27.55	-13.00	14.55
		710.0	-28.93		15.93
		711.0	-28.67		15.67
	16QAM	709.0	-27.58		14.58
		710.0	-28.83		15.83
		711.0	-28.76		15.76
5 MHz	QPSK	706.5	-28.34		15.34
		710.0	-29.11		16.11
		713.5	-28.70		15.7
	16QAM	706.5	-29.84		16.84
		710.0	-28.62		15.62
		713.5	-28.81		15.81

LTE 5

Bandwidth	Mode	f [MHz]	Spurious [dBm]	Limit [dBm]	Margin [dB]
10 MHz	QPSK	829.0	-28.27	-13.00	15.27
		836.5	-29.08		16.08
		844.0	-28.98		15.98
	16QAM	829.0	-29.16		16.16
		836.5	-28.48		15.48
		844.0	-27.92		14.92
5 MHz	QPSK	826.5	-27.87		14.87
		836.5	-29.30		16.3
		846.5	-28.77		15.77
	16QAM	826.5	-29.09		16.09
		836.5	-29.19		16.19
		846.5	-29.30		16.3
3 MHz	QPSK	825.5	-29.51		16.51
		836.5	-29.35		16.35
		847.5	-27.84		14.84
	16QAM	825.5	-28.42		15.42
		836.5	-28.30		15.3
		847.5	-29.55		16.55
1.4 MHz	QPSK	824.7	-28.49		15.49
		836.5	-28.35		15.35
		848.3	-29.46		16.46
	16QAM	824.7	-29.33		16.33
		836.5	-29.10		16.1
		848.3	-29.05		16.05

LTE 4

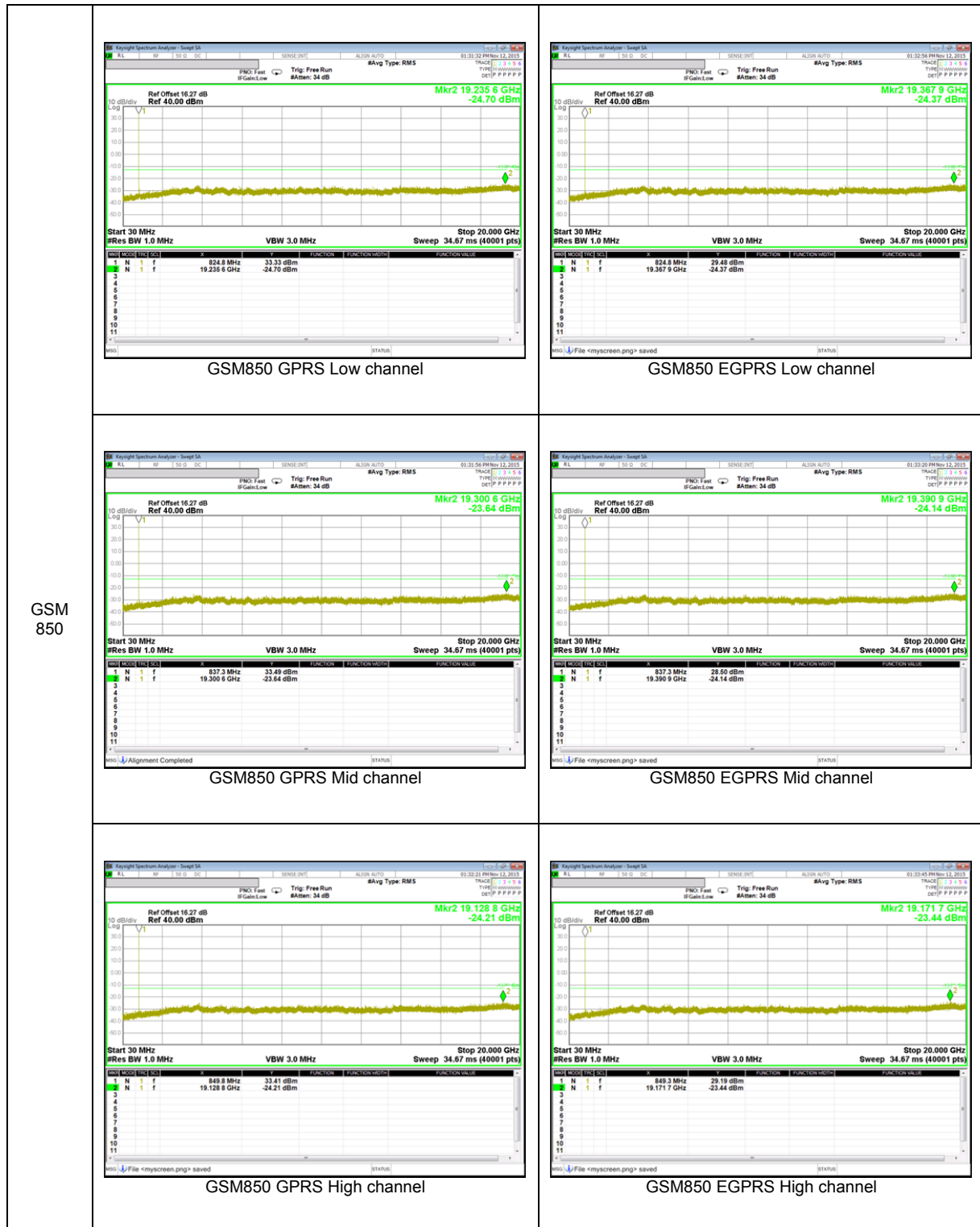
Bandwidth	Mode	f [MHz]	Spurious [dBm]	Limit [dBm]	Margin [dB]
20 MHz	QPSK	1720.0	-28.85	-13.00	15.85
		1732.5	-28.26		15.26
		1745.0	-29.04		16.04
	16QAM	1720.0	-27.91		14.91
		1732.5	-28.51		15.51
		1745.0	-28.68		15.68
15 MHz	QPSK	1717.5	-28.15		15.15
		1732.5	-28.78		15.78
		1747.5	-29.35		16.35
	16QAM	1717.5	-28.65		15.65
		1732.5	-29.16		16.16
		1747.5	-28.71		15.71
10 MHz	QPSK	1715.0	-27.89		14.89
		1732.5	-28.46		15.46
		1750.0	-28.73		15.73
	16QAM	1715.0	-28.78		15.78
		1732.5	-28.80		15.8
		1750.0	-28.47		15.47
5 MHz	QPSK	1712.5	-29.44		16.44
		1732.5	-28.62		15.62
		1752.5	-28.60		15.6
	16QAM	1712.5	-28.94		15.94
		1732.5	-28.05		15.05
		1752.5	-29.20		16.2
3 MHz	QPSK	1711.5	-28.45		15.45
		1732.5	-28.81		15.81
		1753.5	-29.13		16.13
	16QAM	1711.5	-28.76		15.76
		1732.5	-28.88		15.88
		1753.5	-29.32		16.32
1.4 MHz	QPSK	1710.7	-27.94		14.94
		1732.5	-28.88		15.88
		1754.3	-28.49		15.49
	16QAM	1710.7	-28.97		15.97
		1732.5	-28.33		15.33
		1754.3	-28.46		15.46

LTE 2

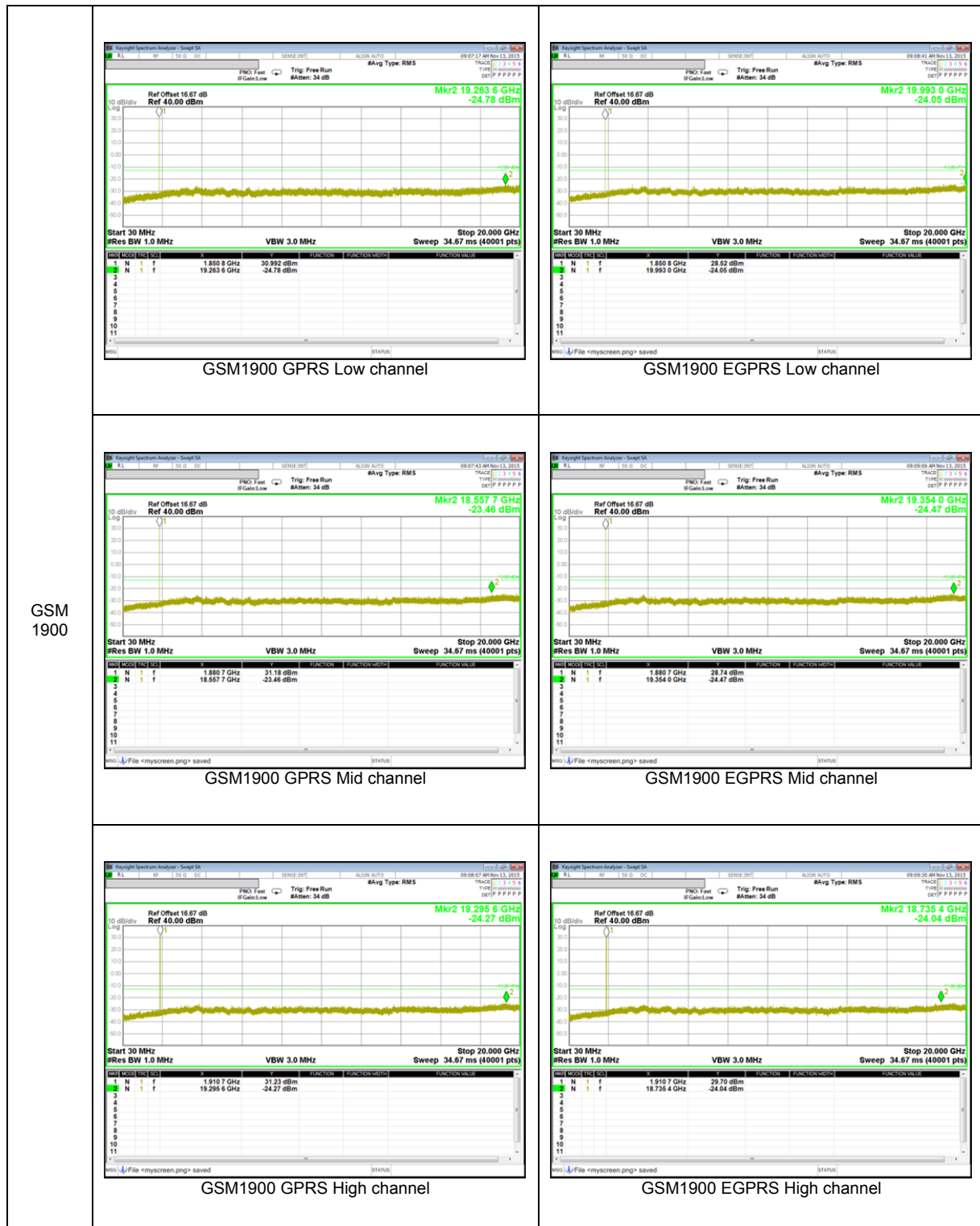
Bandwidth	Mode	f [MHz]	Spurious [dBm]	Limit [dBm]	Margin [dB]
20 MHz	QPSK	1860.0	-28.09	-13.00	15.09
		1880.0	-28.94		15.94
		1900.0	-28.54		15.54
	16QAM	1860.0	-29.25		16.25
		1880.0	-27.67		14.67
		1900.0	-29.51		16.51
15 MHz	QPSK	1857.5	-28.44		15.44
		1880.0	-28.90		15.9
		1902.5	-29.41		16.41
	16QAM	1857.5	-27.93		14.93
		1880.0	-28.18		15.18
		1902.5	-28.81		15.81
10 MHz	QPSK	1855.0	-28.22		15.22
		1880.0	-27.56		14.56
		1905.0	-28.24		15.24
	16QAM	1855.0	-27.39		14.39
		1880.0	-28.06		15.06
		1905.0	-28.39		15.39
5 MHz	QPSK	1852.5	-28.45		15.45
		1880.0	-28.67		15.67
		1907.5	-28.78		15.78
	16QAM	1852.5	-28.16		15.16
		1880.0	-28.21		15.21
		1907.5	-28.70		15.7
3 MHz	QPSK	1851.5	-28.50		15.5
		1880.0	-28.43		15.43
		1908.5	-27.40		14.4
	16QAM	1851.5	-27.76		14.76
		1880.0	-27.99		14.99
		1908.5	-28.07		15.07
1.4 MHz	QPSK	1850.7	-28.10		15.1
		1880.0	-28.07		15.07
		1909.3	-28.43		15.43
	16QAM	1850.7	-28.52		15.52
		1880.0	-28.90		15.9
		1909.3	-28.48		15.48

10.3.2. OUT OF BAND EMISSIONS PLOTS

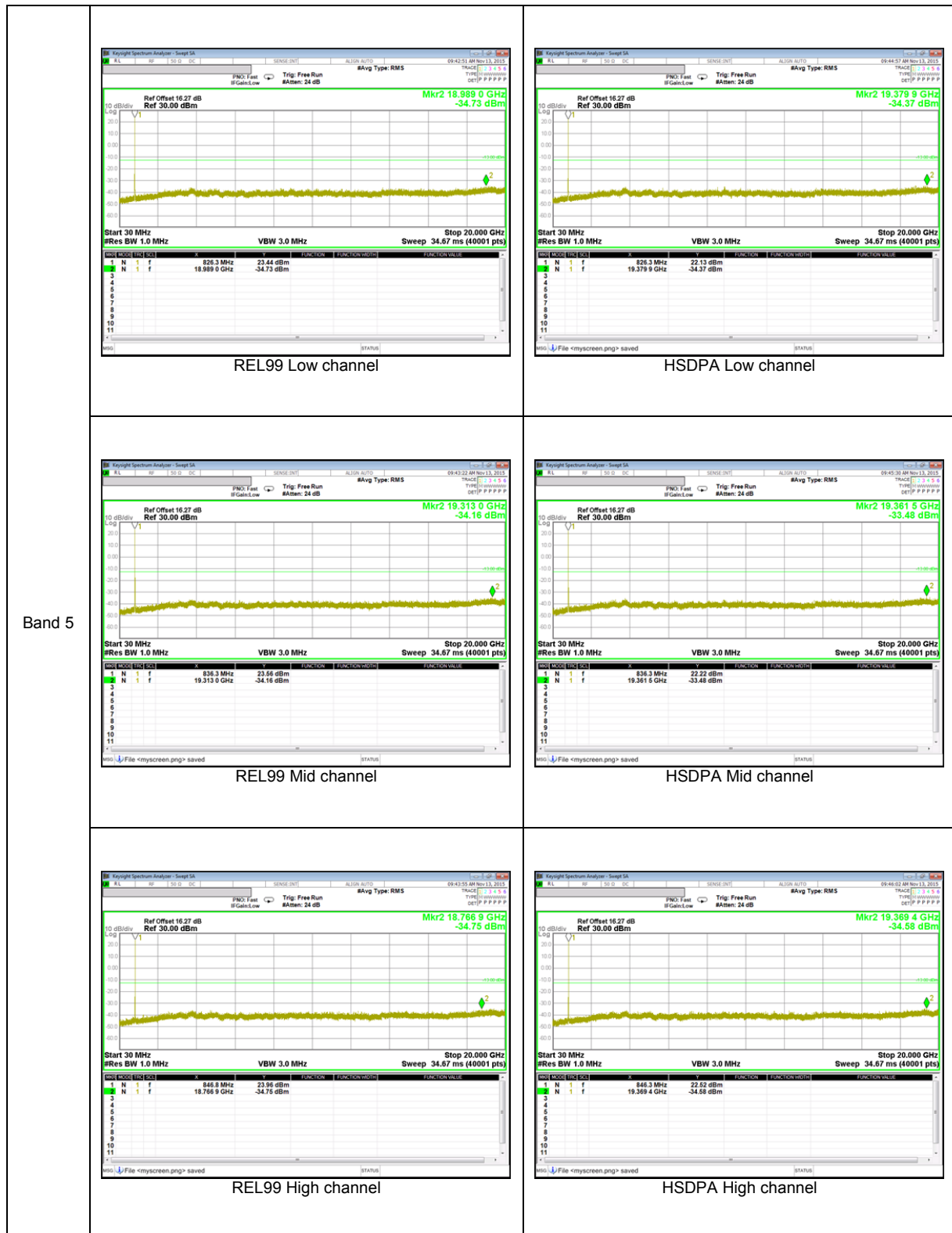
GSM 850



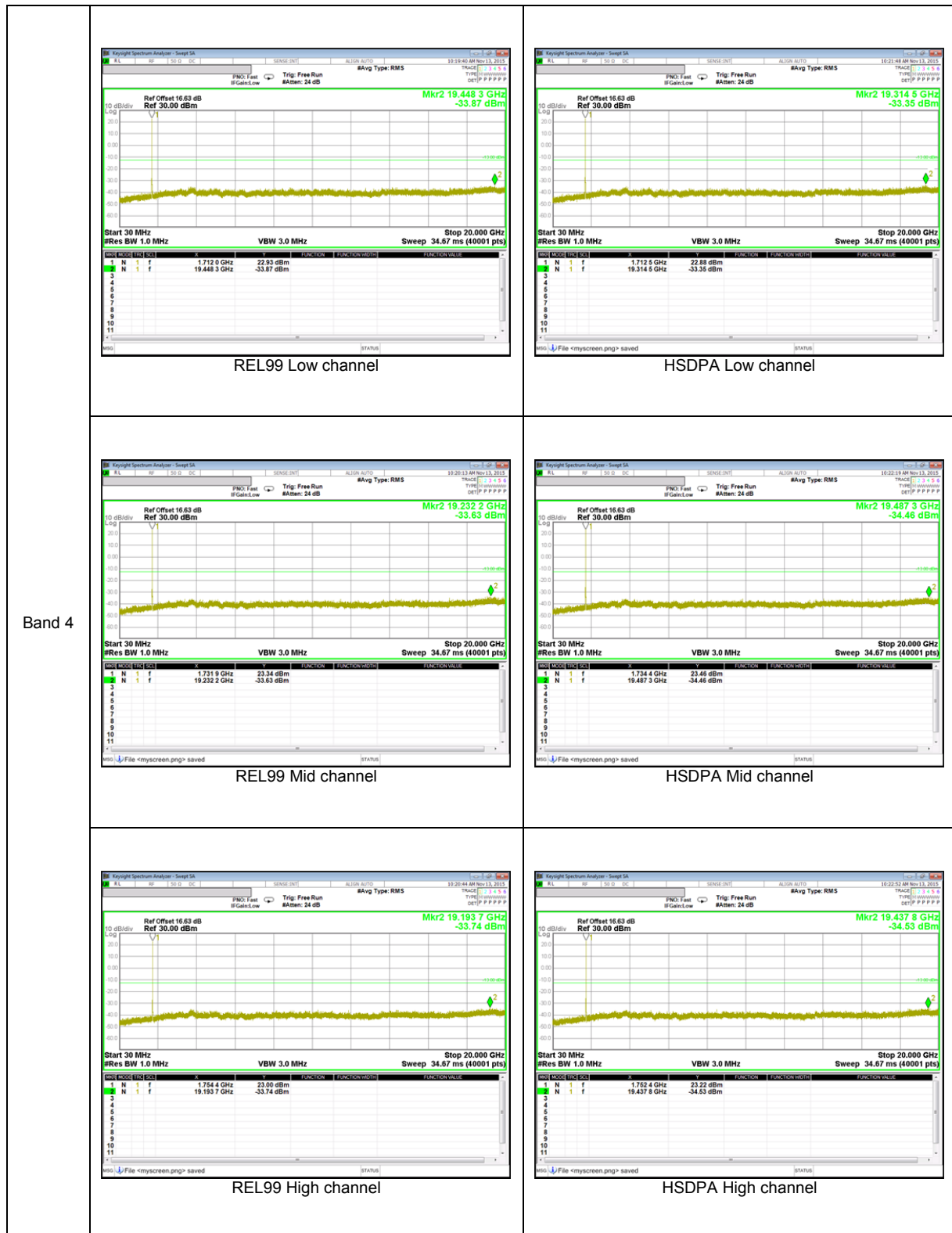
GSM 1900



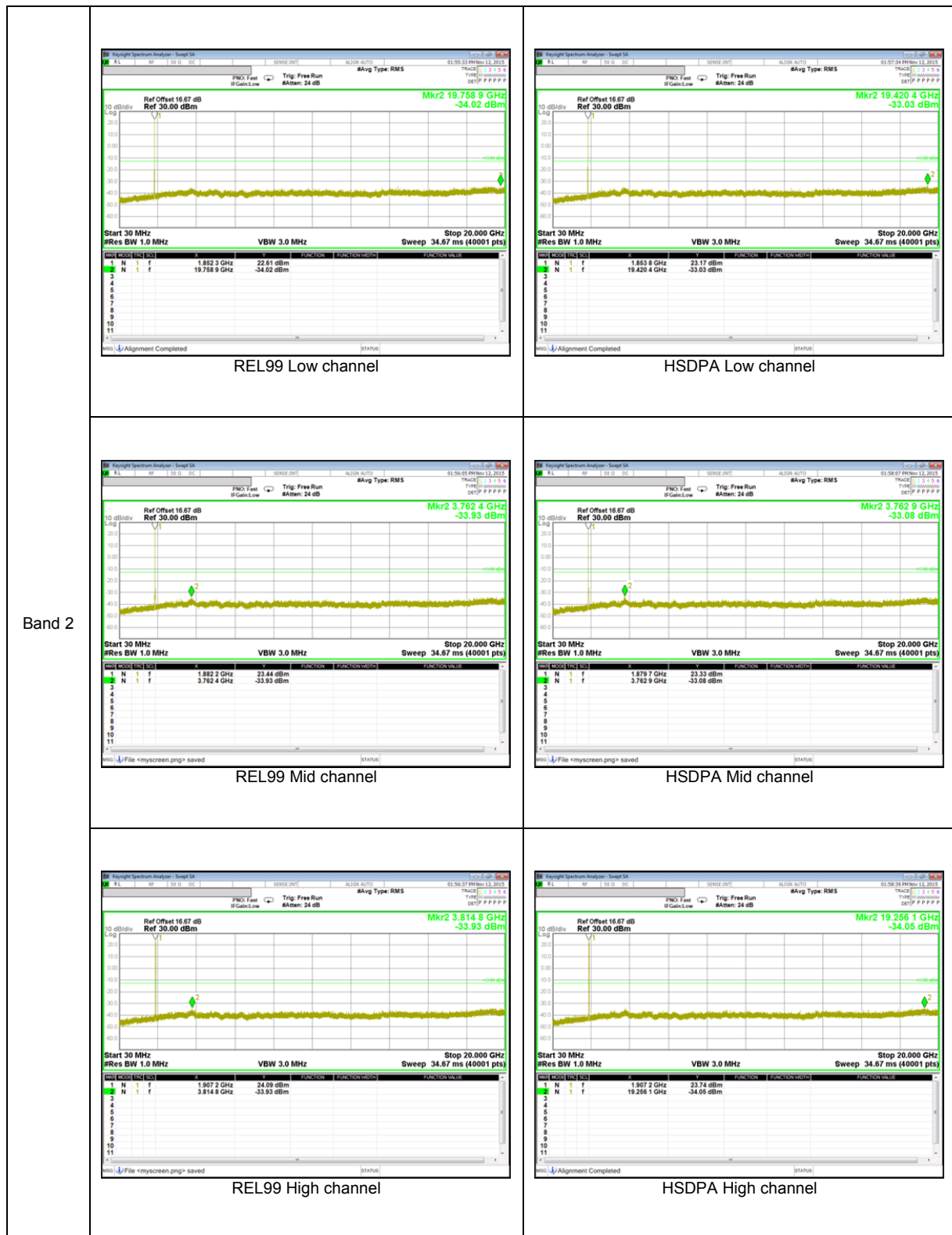
WCDMA Band 5



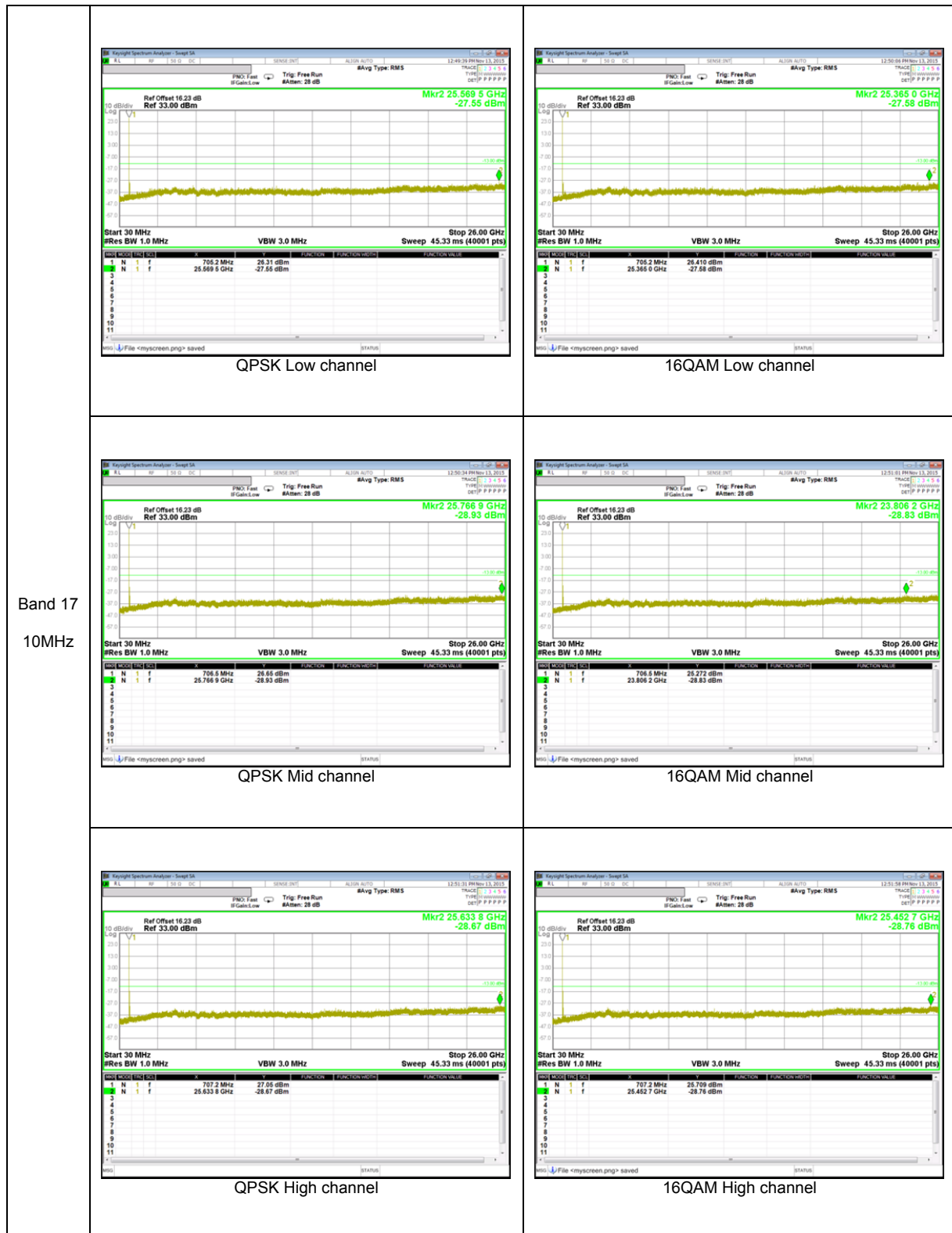
WCDMA Band 4

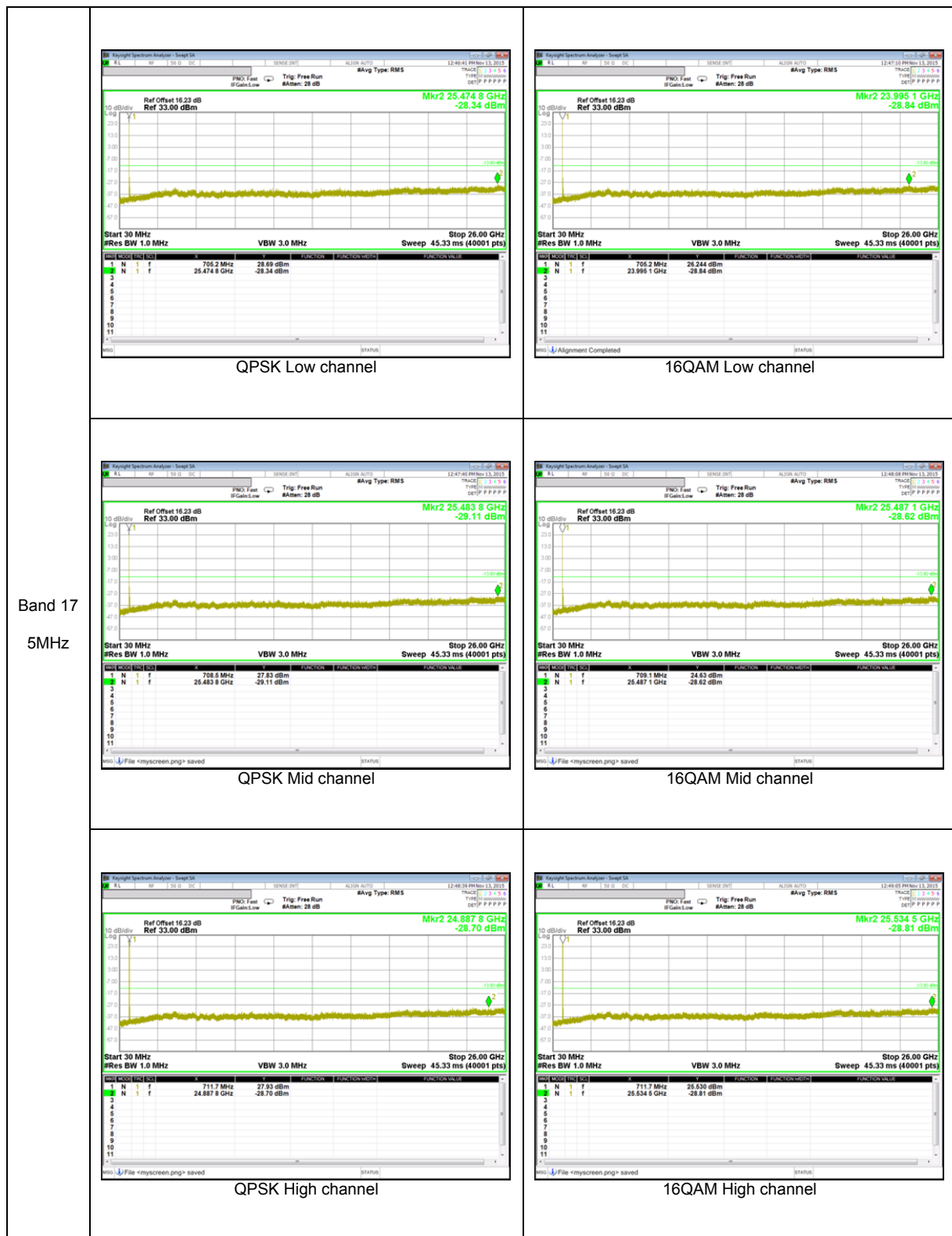


WCDMA Band 2



LTE Band 17





LTE Band 5

