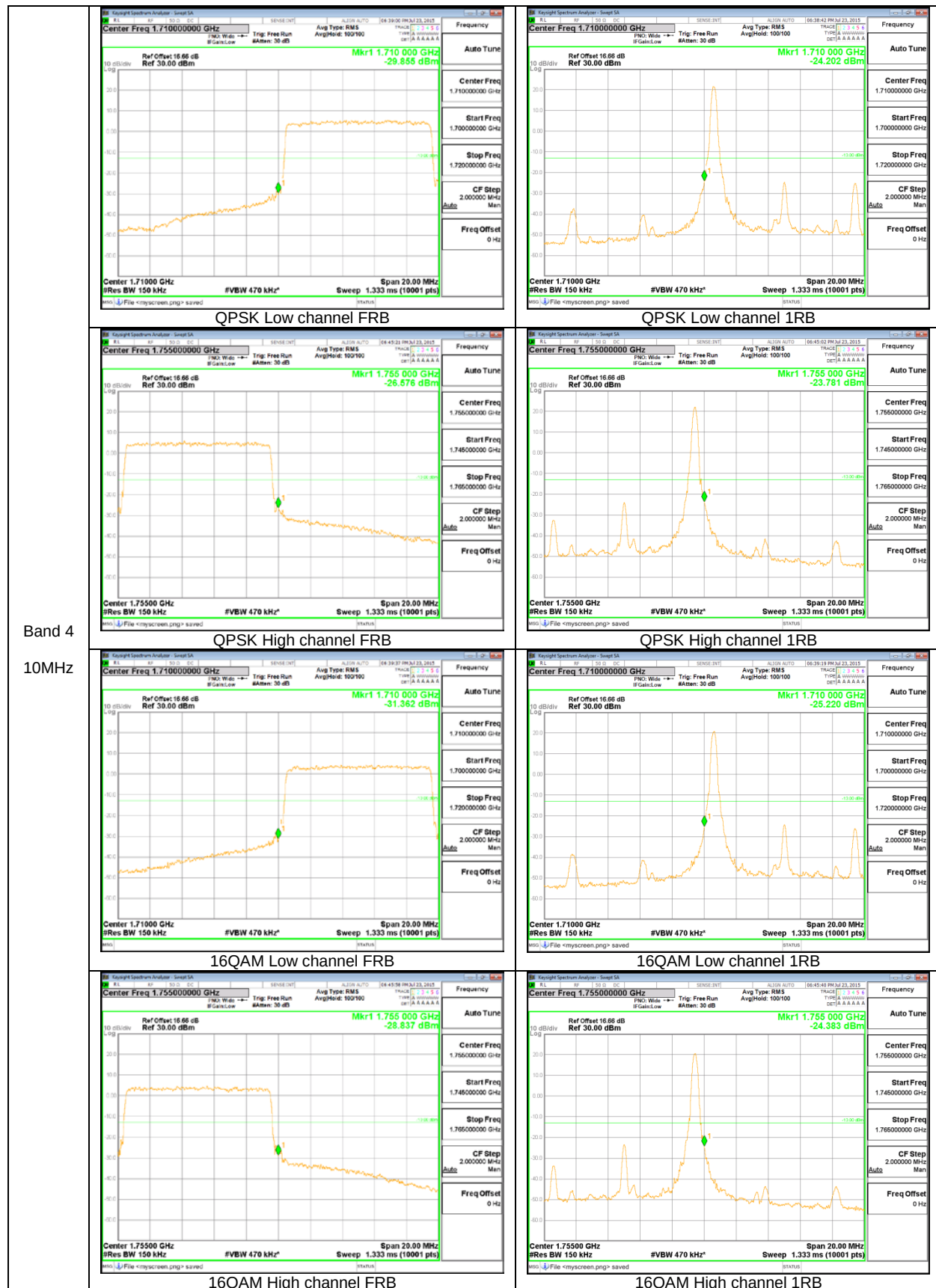
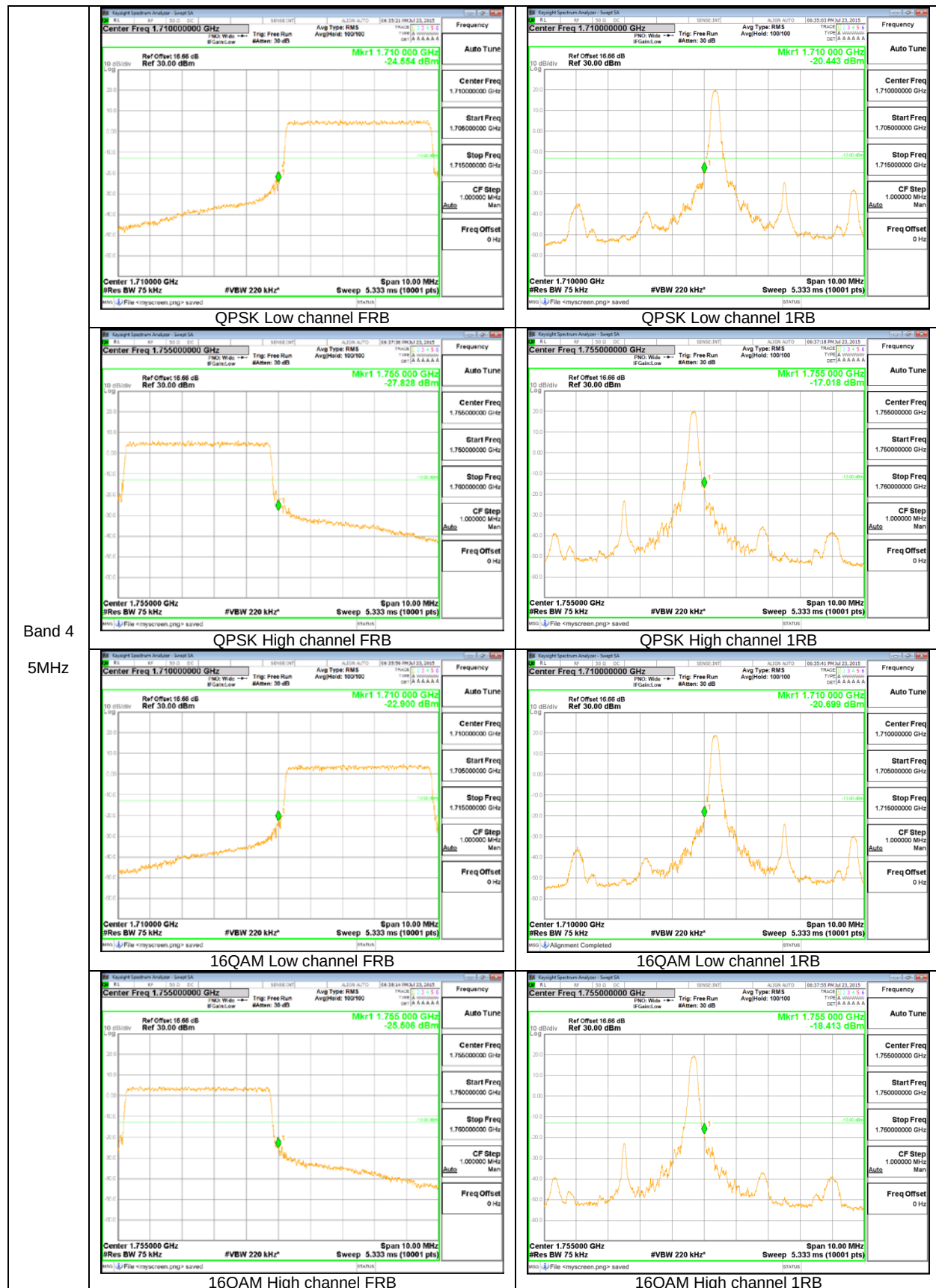
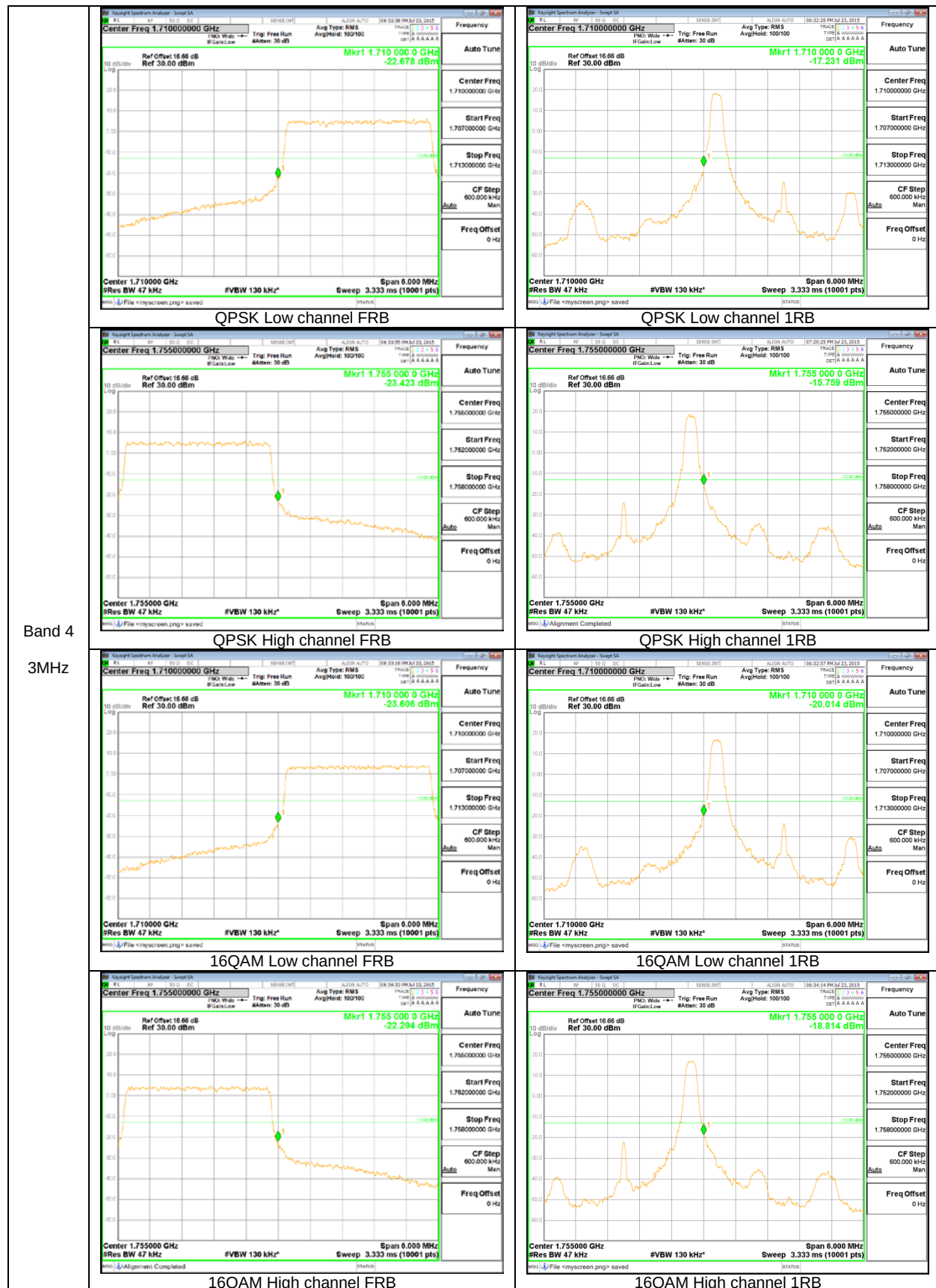
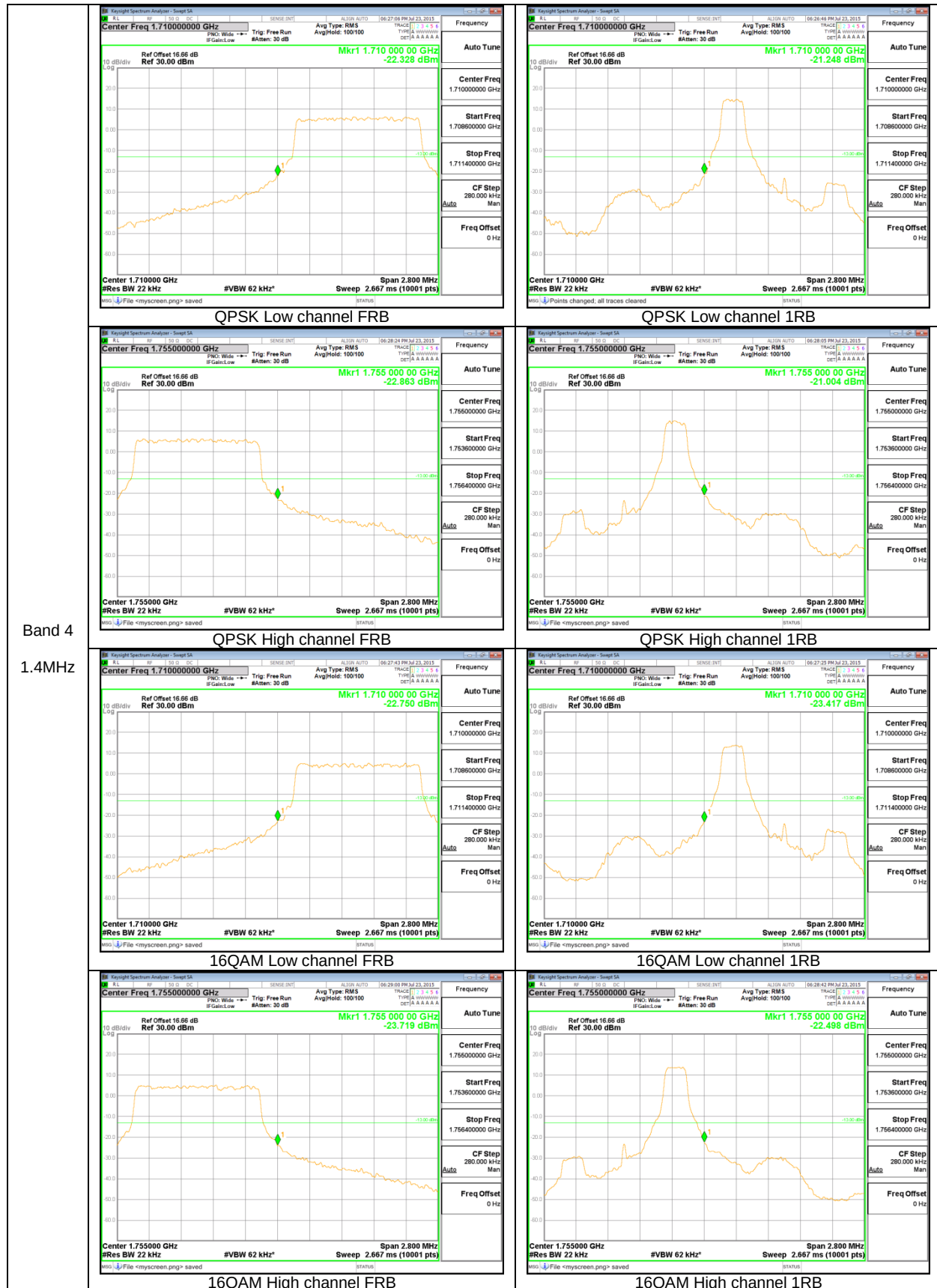


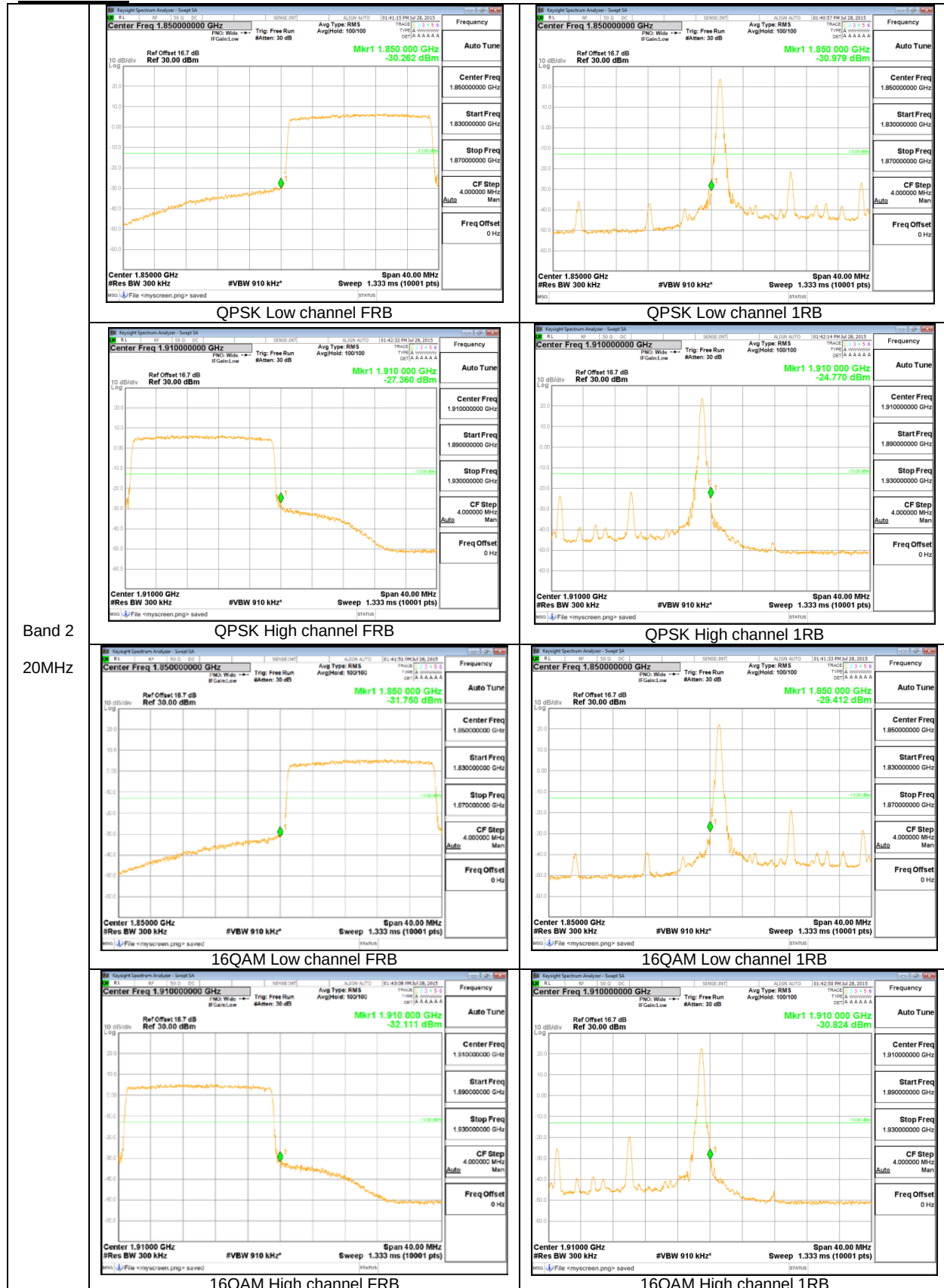




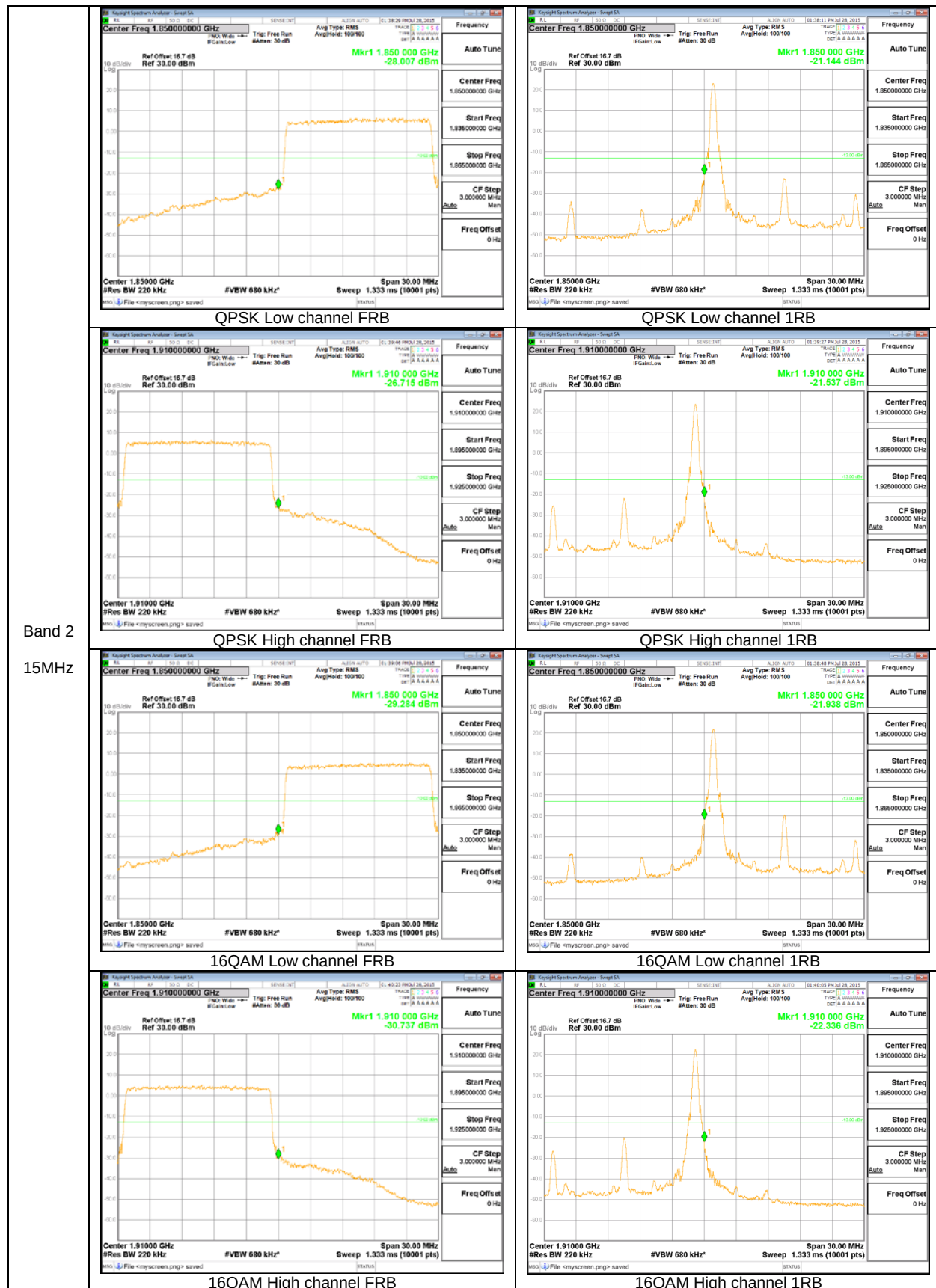


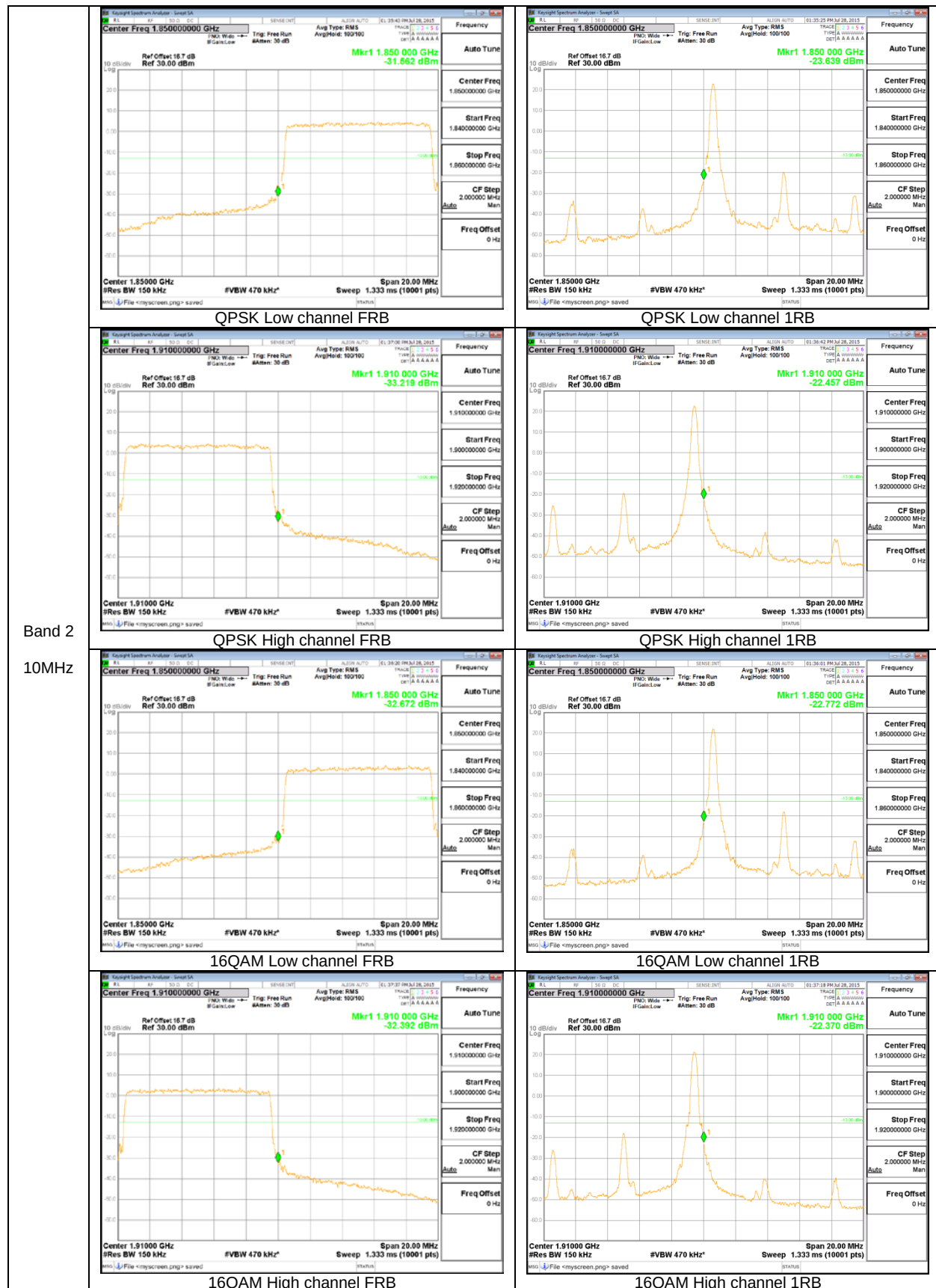


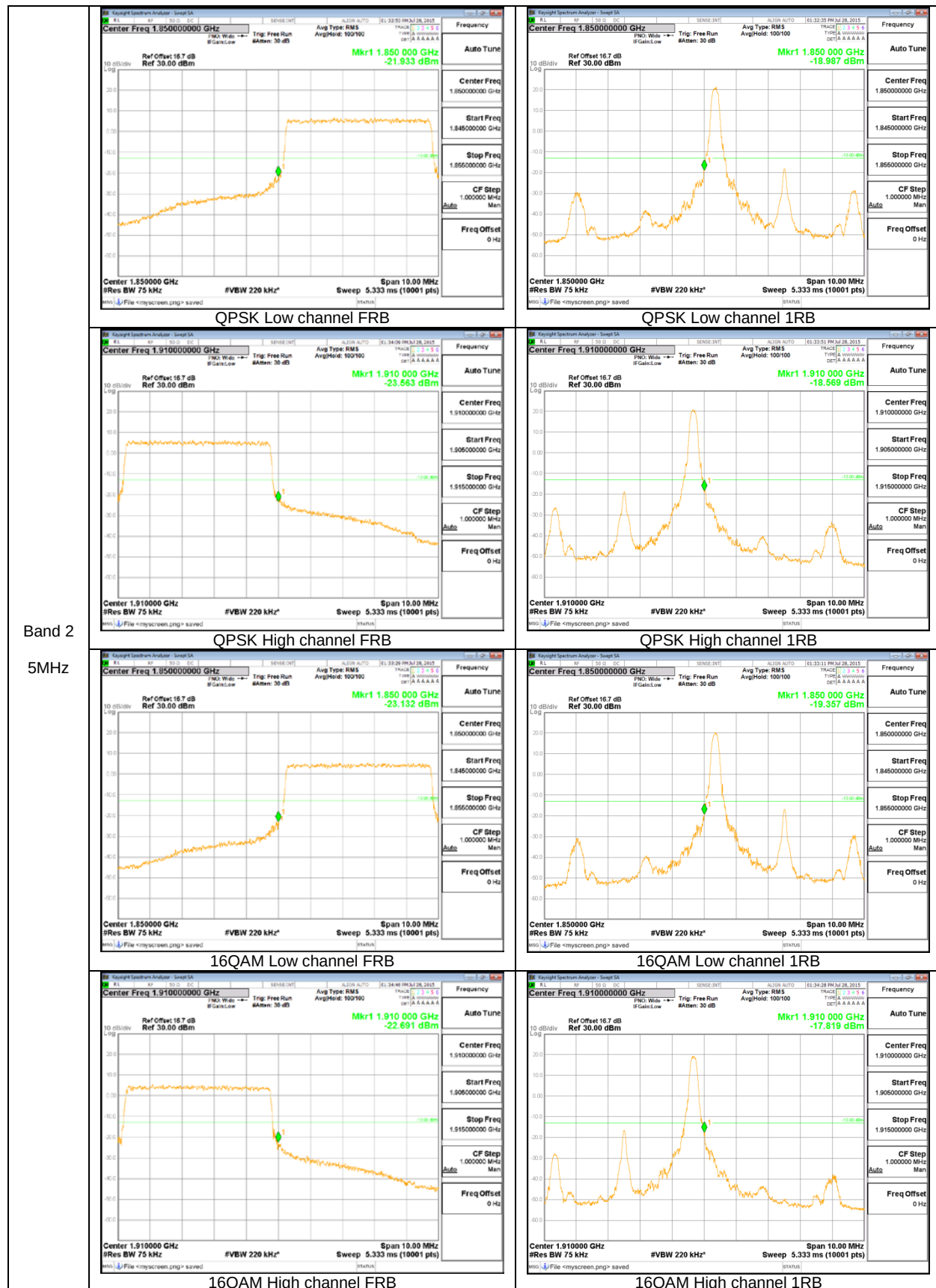
LTE Band 2

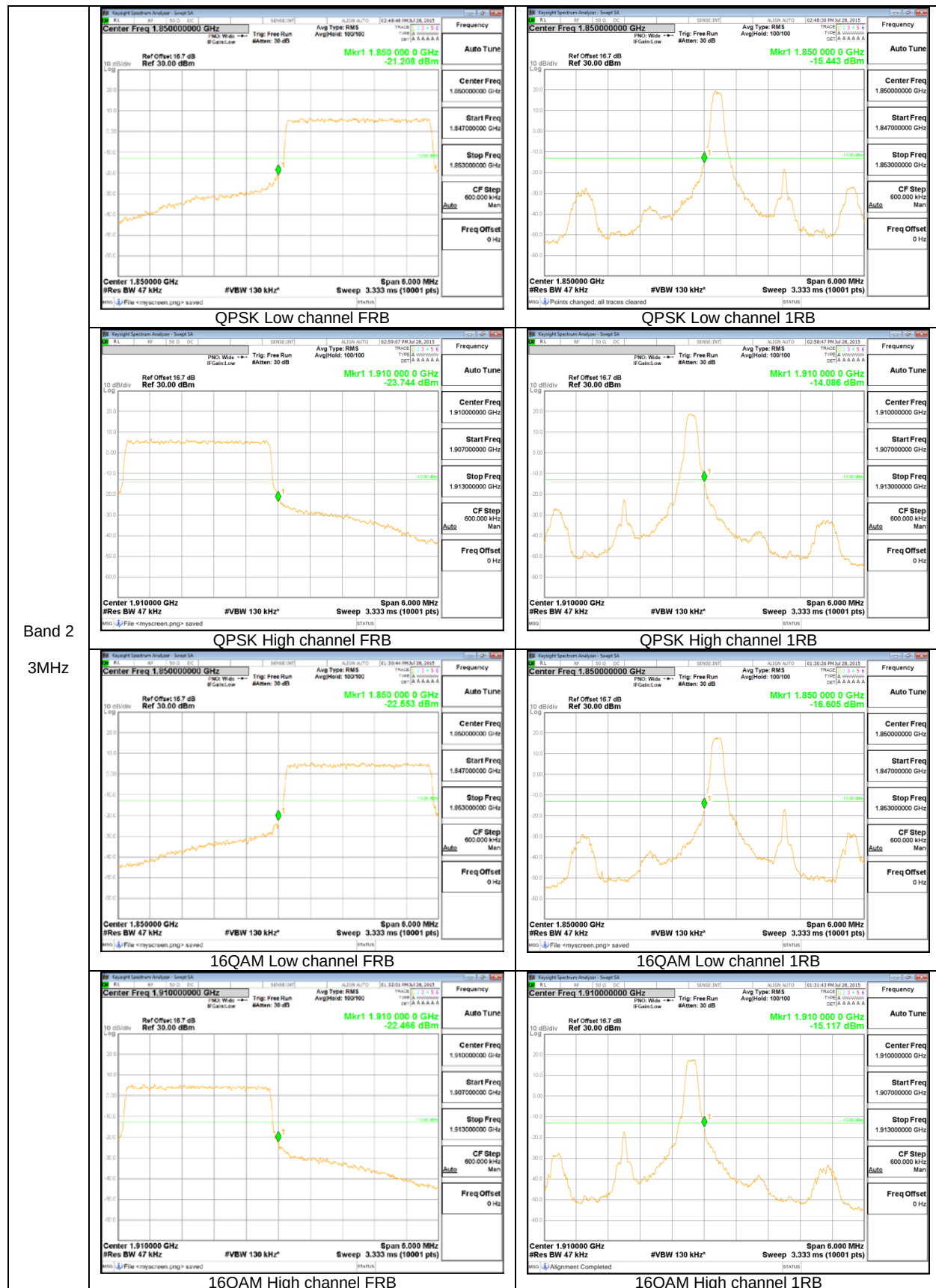


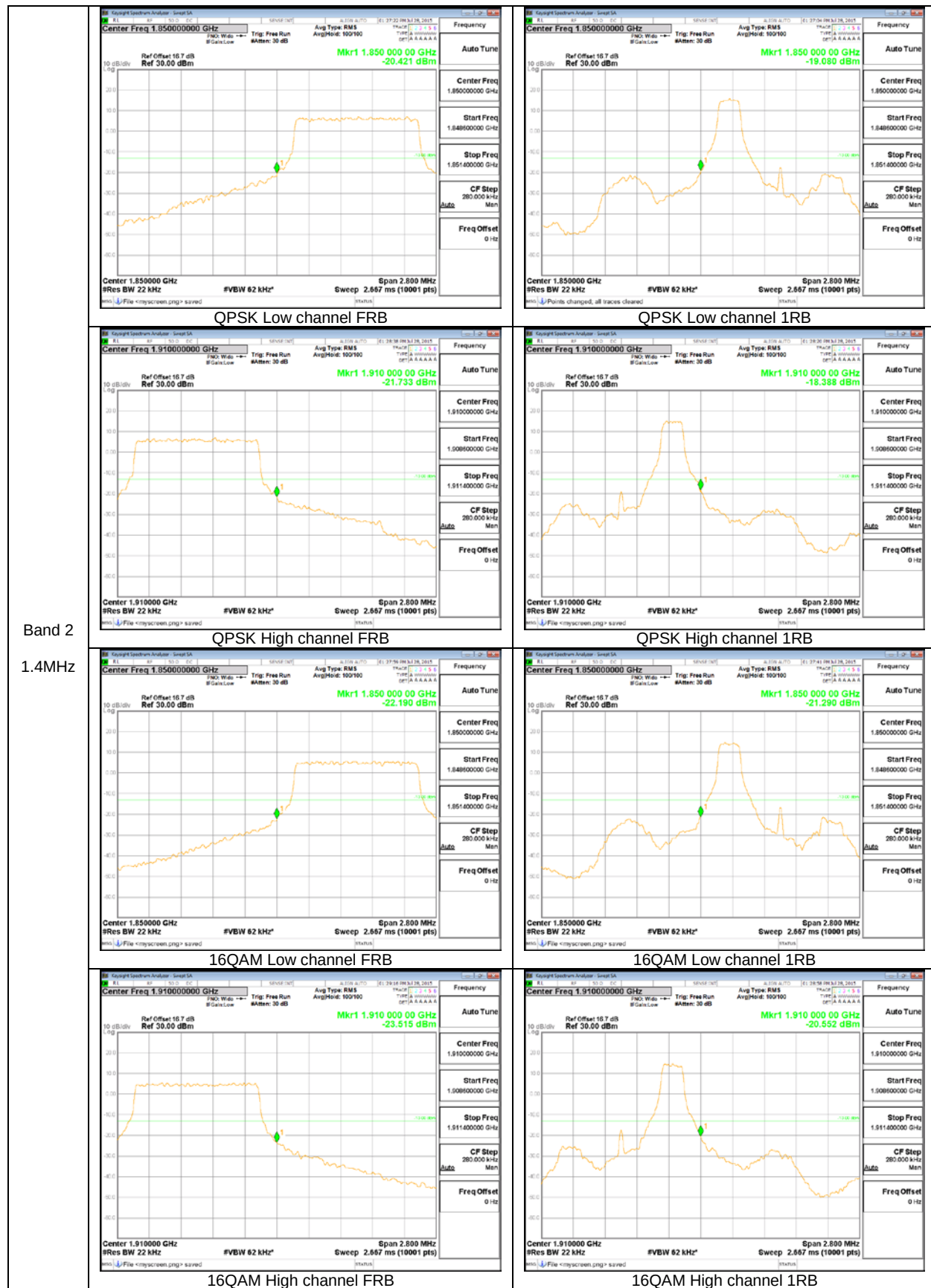
Band 2
20MHz











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	-23.05	-13.00	10.05
		836.6	-21.97		8.97
		848.8	-22.73		9.73
	EGPRS	824.2	-22.03		9.03
		836.6	-21.72		8.72
		848.8	-22.84		9.84
GSM1900	GPRS	1850.2	-22.89		9.89
		1880.0	-21.98		8.98
		1909.8	-22.37		9.37
	EGPRS	1850.2	-22.73		9.73
		1880.0	-21.99		8.99
		1909.8	-22.24		9.24

WCDMA

Band	Mode	f [MHz]	Spurious [dBm]	Limit [dBm]	Margin [dB]
Band 5	REL99	826.4	-33.02	-13.00	20.02
		836.6	-33.16		20.16
		846.6	-33.19		20.19
	HSDPA	826.4	-33.23		20.23
		836.6	-33.67		20.67
		846.6	-32.63		19.63
Band 4	REL99	1712.4	-33.26		20.26
		1732.6	-32.62		19.62
		1752.6	-33.00		20.00
	HSDPA	1712.4	-33.30		20.30
		1732.6	-32.20		19.20
		1752.6	-32.59		19.59
Band 2	REL99	1852.4	-33.18		20.18
		1880.0	-29.69		16.69
		1907.6	-30.75		17.75
	HSDPA	1852.4	-32.77		19.77
		1880.0	-31.81		18.81
		1907.6	-29.38		16.38

LTE 17

Bandwidth	Mode	f [MHz]	Spurious [dBm]	Limit [dBm]	Margin [dB]
10 MHz	QPSK	709.0	-26.64	-13.00	13.64
		710.0	-26.40		13.40
		711.0	-26.79		13.79
	16QAM	709.0	-27.71		14.71
		710.0	-26.91		13.91
		711.0	-26.98		13.98
5 MHz	QPSK	706.5	-27.24		14.24
		710.0	-26.78		13.78
		713.5	-27.31		14.31
	16QAM	706.5	-26.18		13.18
		710.0	-26.42		13.42
		713.5	-27.02		14.02

LTE 5

Bandwidth	Mode	f [MHz]	Spurious [dBm]	Limit [dBm]	Margin [dB]
10 MHz	QPSK	829.0	-26.62	-13.00	13.62
		836.5	-27.19		14.19
		844.0	-27.27		14.27
	16QAM	829.0	-26.83		13.83
		836.5	-26.77		13.77
		844.0	-26.61		13.61
5 MHz	QPSK	826.5	-27.24		14.24
		836.5	-27.26		14.26
		846.5	-27.06		14.06
	16QAM	826.5	-27.43		14.43
		836.5	-26.53		13.53
		846.5	-27.02		14.02
3 MHz	QPSK	825.5	-26.82		13.82
		836.5	-27.25		14.25
		847.5	-28.03		15.03
	16QAM	825.5	-27.98		14.98
		836.5	-26.36		13.36
		847.5	-26.49		13.49
1.4 MHz	QPSK	824.7	-26.99		13.99
		836.5	-27.77		14.77
		848.3	-26.25		13.25
	16QAM	824.7	-27.39		14.39
		836.5	-27.45		14.45
		848.3	-28.05		15.05

LTE 4

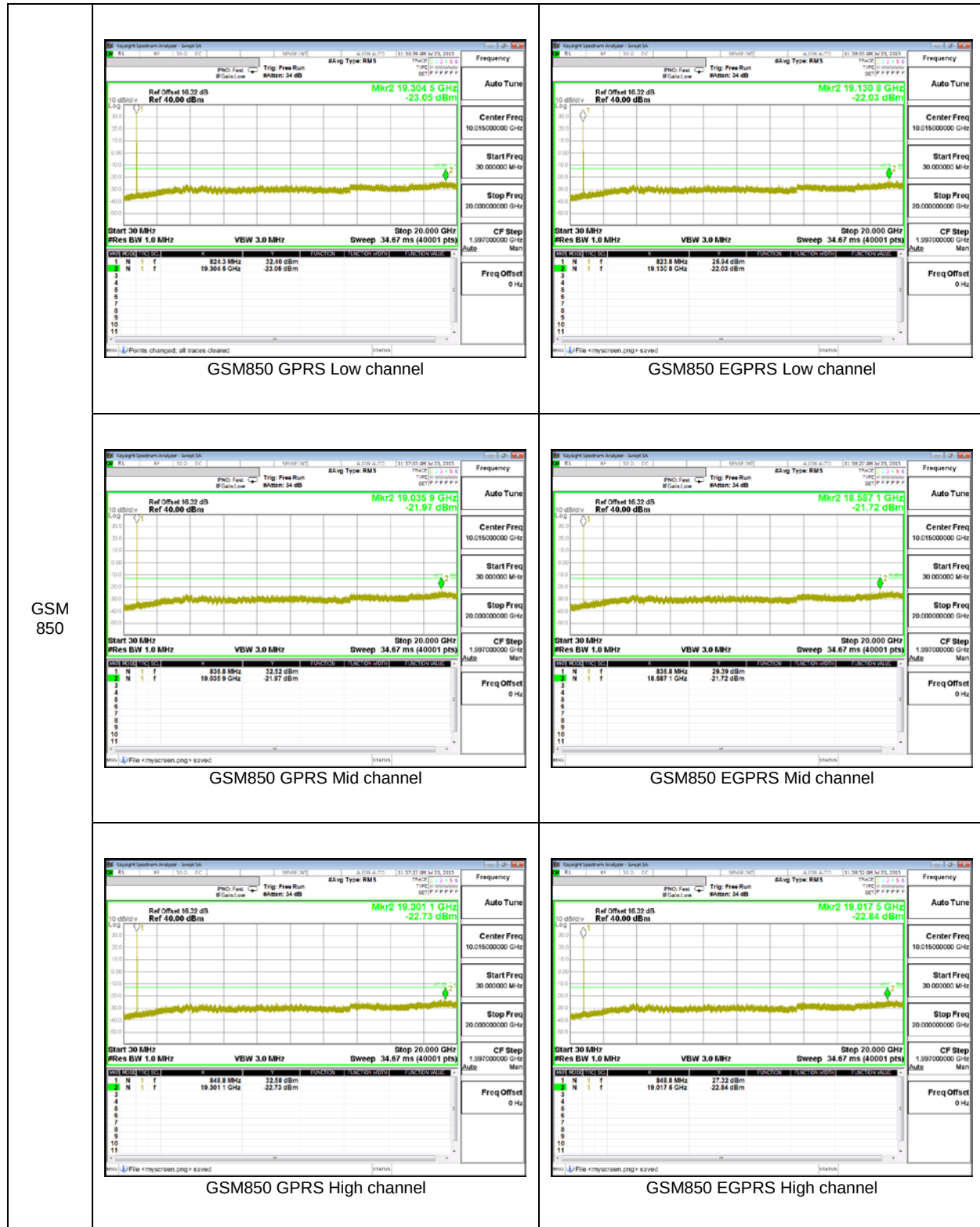
Bandwidth	Mode	f [MHz]	Spurious [dBm]	Limit [dBm]	Margin [dB]
20 MHz	QPSK	1720.0	-25.47	-13.00	12.47
		1732.5	-26.00		13.00
		1745.0	-27.15		14.15
	16QAM	1720.0	-26.80		13.80
		1732.5	-25.29		12.29
		1745.0	-27.18		14.18
15 MHz	QPSK	1717.5	-27.23		14.23
		1732.5	-26.32		13.32
		1747.5	-27.41		14.41
	16QAM	1717.5	-27.01		14.01
		1732.5	-26.36		13.36
		1747.5	-26.72		13.72
10 MHz	QPSK	1715.0	-27.77		14.77
		1732.5	-26.97		13.97
		1750.0	-26.83		13.83
	16QAM	1715.0	-26.33		13.33
		1732.5	-27.46		14.46
		1750.0	-26.49		13.49
5 MHz	QPSK	1712.5	-26.81		13.81
		1732.5	-27.25		14.25
		1752.5	-26.05		13.05
	16QAM	1712.5	-26.81		13.81
		1732.5	-27.08		14.08
		1752.5	-26.98		13.98
3 MHz	QPSK	1711.5	-26.68		13.68
		1732.5	-25.85		12.85
		1753.5	-26.74		13.74
	16QAM	1711.5	-26.87		13.87
		1732.5	-26.72		13.72
		1753.5	-27.29		14.29
1.4 MHz	QPSK	1710.7	-26.91		13.91
		1732.5	-27.38		14.38
		1754.3	-27.20		14.20
	16QAM	1710.7	-27.43		14.43
		1732.5	-26.85		13.85
		1754.3	-27.12		14.12

LTE 2

Bandwidth	Mode	f [MHz]	Spurious [dBm]	Limit [dBm]	Margin [dB]
20 MHz	QPSK	1860.0	-27.17	-13.00	14.17
		1880.0	-27.68		14.68
		1900.0	-26.90		13.90
	16QAM	1860.0	-26.73		13.73
		1880.0	-26.91		13.91
		1900.0	-26.83		13.83
15 MHz	QPSK	1857.5	-26.32		13.32
		1880.0	-25.96		12.96
		1902.5	-26.84		13.84
	16QAM	1857.5	-26.68		13.68
		1880.0	-26.37		13.37
		1902.5	-27.46		14.46
10 MHz	QPSK	1855.0	-26.88		13.88
		1880.0	-27.45		14.45
		1905.0	-26.24		13.24
	16QAM	1855.0	-26.96		13.96
		1880.0	-26.77		13.77
		1905.0	-26.96		13.96
5 MHz	QPSK	1852.5	-26.68		13.68
		1880.0	-26.55		13.55
		1907.5	-27.46		14.46
	16QAM	1852.5	-26.48		13.48
		1880.0	-25.87		12.87
		1907.5	-25.96		12.96
3 MHz	QPSK	1851.5	-26.79		13.79
		1880.0	-26.32		13.32
		1908.5	-26.88		13.88
	16QAM	1851.5	-26.85		13.85
		1880.0	-26.32		13.32
		1908.5	-26.47		13.47
1.4 MHz	QPSK	1850.7	-27.16		14.16
		1880.0	-25.60		12.60
		1909.3	-27.31		14.31
	16QAM	1850.7	-26.13		13.13
		1880.0	-26.35		13.35
		1909.3	-26.32		13.32

10.3.2. OUT OF BAND EMISSIONS PLOTS

GSM 850



GSM 1900



WCDMA Band 5

