

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	-24.21	-13.00	11.21
		836.6	-23.48		10.48
		848.8	-23.65		10.65
	EGPRS	824.2	-24.60		11.60
		836.6	-23.76		10.76
		848.8	-24.45		11.45
GSM1900	GPRS	1850.2	-23.86		10.86
		1880.0	-23.16		10.16
		1909.8	-23.85		10.85
	EGPRS	1850.2	-24.15		11.15
		1880.0	-23.59		10.59
		1909.8	-23.20		10.20

WCDMA

Band	Mode	f [MHz]	Spurious [dBm]	Limit [dBm]	Margin [dB]
Band 5	REL99	826.4	-34.70	-13.00	21.70
		836.6	-33.41		20.41
		846.6	-32.85		19.85
	HSDPA	826.4	-34.05		21.05
		836.6	-34.25		21.25
		846.6	-34.27		21.27
Band 2	REL99	1852.4	-33.76		20.76
		1880.0	-26.80		13.80
		1907.6	-27.32		14.32
	HSDPA	1852.4	-26.58		13.58
		1880.0	-28.01		15.01
		1907.6	-27.50		14.50

LTE 17

Bandwidth	Mode	f [MHz]	Spurious [dBm]	Limit [dBm]	Margin [dB]
10 MHz	QPSK	709.0	-28.75	-13.00	15.75
		710.0	-29.58		16.58
		711.0	-28.82		15.82
	16QAM	709.0	-29.00		16.00
		710.0	-29.59		16.59
		711.0	-28.51		15.51
5 MHz	QPSK	706.5	-28.51		15.51
		710.0	-28.81		15.81
		713.5	-28.02		15.02
	16QAM	706.5	-29.39		16.39
		710.0	-28.90		15.90
		713.5	-28.12		15.12

LTE 5

Bandwidth	Mode	f [MHz]	Spurious [dBm]	Limit [dBm]	Margin [dB]
10 MHz	QPSK	829.0	-27.19	-13.00	14.19
		836.5	-28.34		15.34
		844.0	-28.55		15.55
	16QAM	829.0	-28.02		15.02
		836.5	-28.62		15.62
		844.0	-27.74		14.74
5 MHz	QPSK	826.5	-28.70		15.70
		836.5	-29.48		16.48
		846.5	-28.48		15.48
	16QAM	826.5	-27.86		14.86
		836.5	-27.62		14.62
		846.5	-27.93		14.93
3 MHz	QPSK	825.5	-28.30		15.30
		836.5	-27.85		14.85
		847.5	-28.27		15.27
	16QAM	825.5	-28.31		15.31
		836.5	-28.49		15.49
		847.5	-28.82		15.82
1.4 MHz	QPSK	824.7	-28.16		15.16
		836.5	-30.55		17.55
		848.3	-28.14		16.31
	16QAM	824.7	-28.01		15.01
		836.5	-29.71		16.71
		848.3	-28.71		15.71

LTE 4

Bandwidth	Mode	f [MHz]	Spurious [dBm]	Limit [dBm]	Margin [dB]
20 MHz	QPSK	1720.0	-21.98	-13.00	8.98
		1732.5	-28.33		15.33
		1745.0	-28.18		15.18
	16QAM	1720.0	-22.18		9.18
		1732.5	-22.41		9.41
		1745.0	-27.96		14.96
15 MHz	QPSK	1717.5	-26.58		13.58
		1732.5	-27.82		14.82
		1747.5	-22.26		9.26
	16QAM	1717.5	-27.55		14.55
		1732.5	-22.43		9.43
		1747.5	-28.10		15.10
10 MHz	QPSK	1715.0	-28.62		15.62
		1732.5	-27.91		14.91
		1750.0	-29.03		16.03
	16QAM	1715.0	-28.27		15.27
		1732.5	-28.54		15.54
		1750.0	-27.42		14.42
5 MHz	QPSK	1712.5	-28.88		15.88
		1732.5	-28.45		15.45
		1752.5	-28.90		15.90
	16QAM	1712.5	-27.71		14.71
		1732.5	-27.75		14.75
		1752.5	-27.55		14.55
3 MHz	QPSK	1711.5	-28.35		15.35
		1732.5	-28.05		15.05
		1753.5	-28.60		15.60
	16QAM	1711.5	-28.34		15.34
		1732.5	-28.75		15.75
		1753.5	-28.18		15.18
1.4 MHz	QPSK	1710.7	-27.59		14.59
		1732.5	-28.18		15.18
		1754.3	-28.31		15.31
	16QAM	1710.7	-28.17		15.17
		1732.5	-27.97		14.97
		1754.3	-27.97		14.97

LTE 2

Bandwidth	Mode	f [MHz]	Spurious [dBm]	Limit [dBm]	Margin [dB]
20 MHz	QPSK	1860.0	-28.68	-13.00	15.68
		1880.0	-27.62		14.62
		1900.0	-26.49		13.49
	16QAM	1860.0	-27.93		14.93
		1880.0	-27.86		14.86
		1900.0	-27.47		14.47
15 MHz	QPSK	1857.5	-27.60		14.60
		1880.0	-26.86		13.86
		1902.5	-28.50		15.50
	16QAM	1857.5	-28.49		15.49
		1880.0	-28.11		15.11
		1902.5	-28.05		15.05
10 MHz	QPSK	1855.0	-27.67		14.67
		1880.0	-27.98		14.98
		1905.0	-27.83		14.83
	16QAM	1855.0	-28.29		15.29
		1880.0	-28.45		15.45
		1905.0	-28.72		15.72
5 MHz	QPSK	1852.5	-22.28		9.28
		1880.0	-28.27		15.27
		1907.5	-30.97		17.97
	16QAM	1852.5	-28.65		15.65
		1880.0	-28.51		15.51
		1907.5	-28.84		15.84
3 MHz	QPSK	1851.5	-28.55		15.55
		1880.0	-29.27		16.27
		1908.5	-27.99		14.99
	16QAM	1851.5	-28.41		15.41
		1880.0	-27.93		14.93
		1908.5	-27.77		14.77
1.4 MHz	QPSK	1850.7	-29.00		16.00
		1880.0	-28.04		15.04
		1909.3	-28.53		15.53
	16QAM	1850.7	-27.91		14.91
		1880.0	-28.63		15.63
		1909.3	-28.47		15.47

10.3.2. OUT OF BAND EMISSIONS PLOTS

GSM 850



GSM 1900



WCDMA Band 5

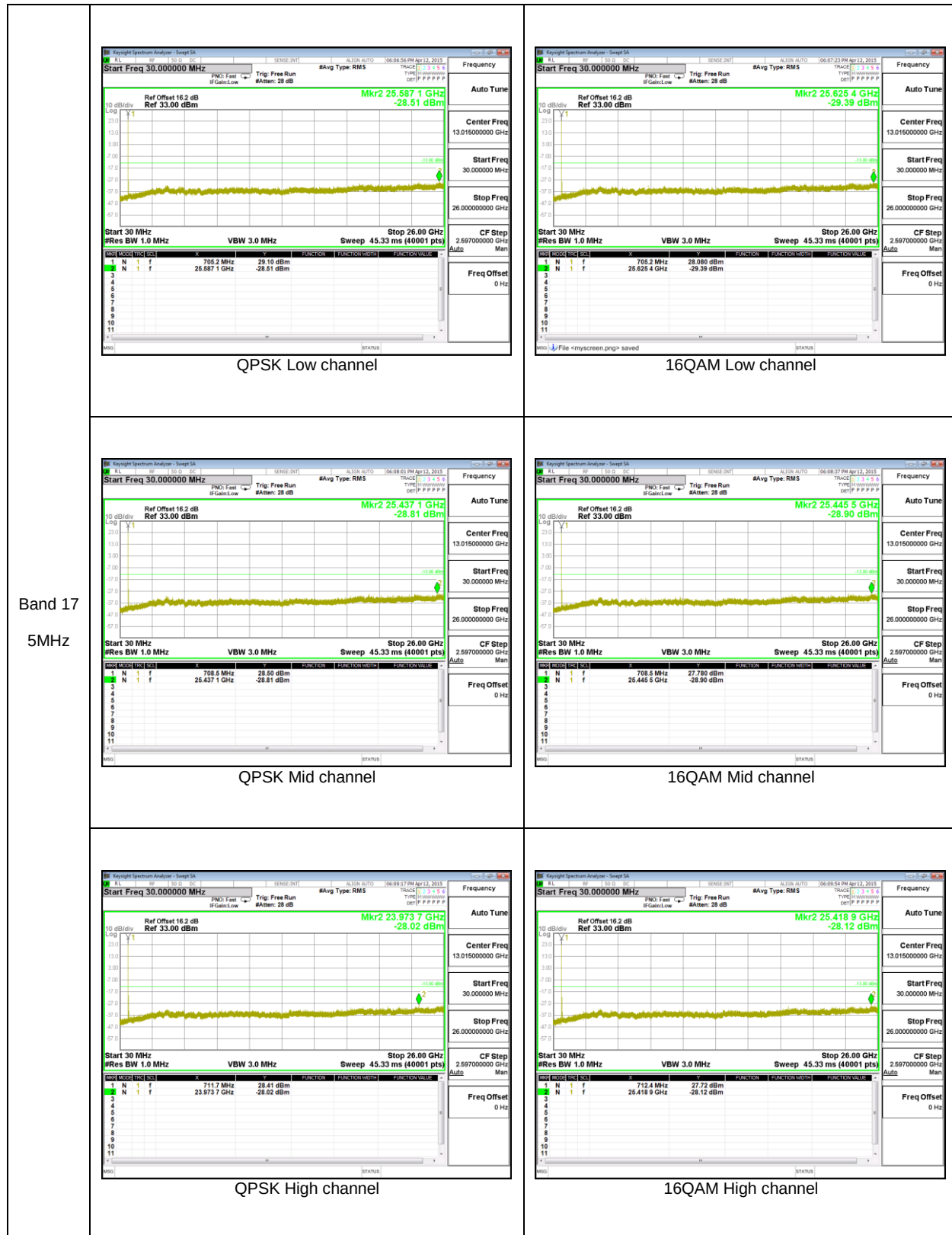


WCDMA Band 2



LTE Band 17





LTE Band 5







