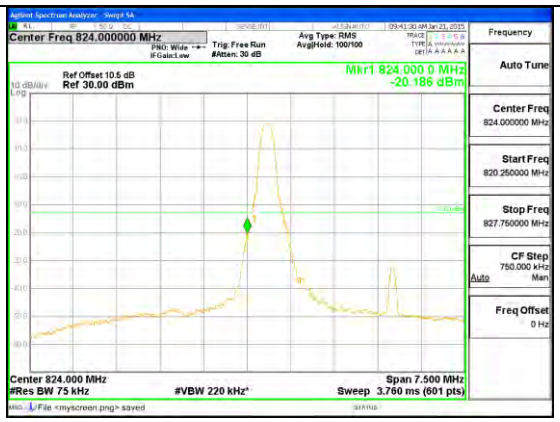
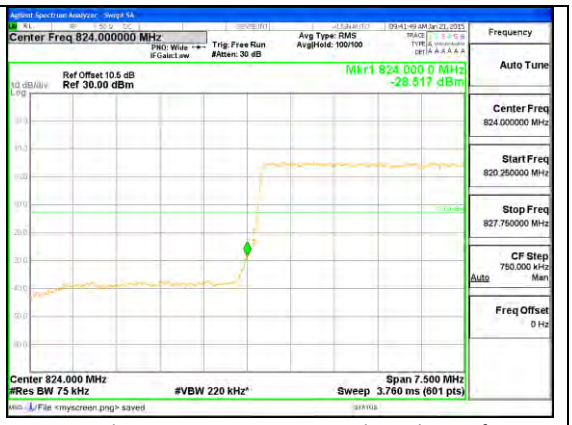
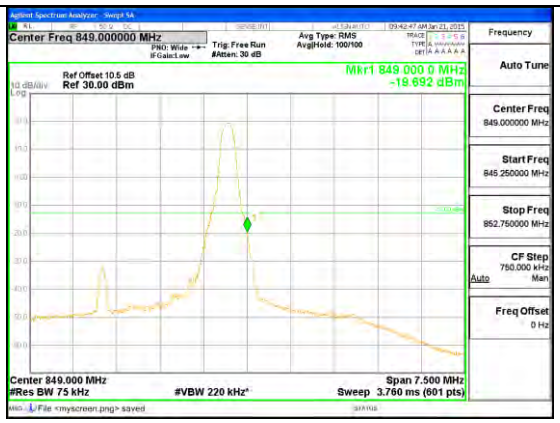
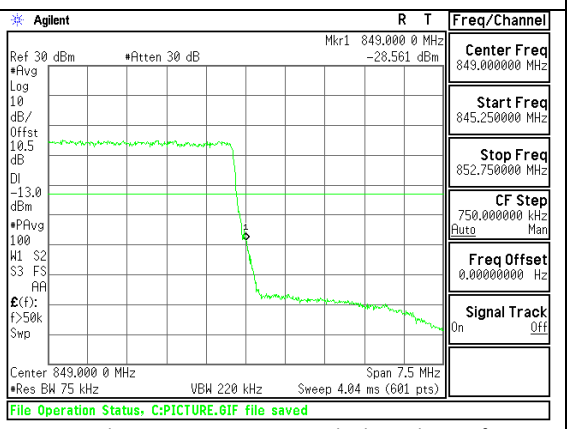
Band LTE5 5MHz QPSK	 Band LTE5 5MHz CBE QPSK Low Channel 1RB.gif	 Band LTE5 5MHz CBE QPSK Low Channel FRB.gif
Band LTE5 5MHz QPSK	 Band LTE5 5MHz CBE QPSK High Channel 1RB.gif	 Band LTE5 5MHz CBE QPSK High Channel FRB.gif

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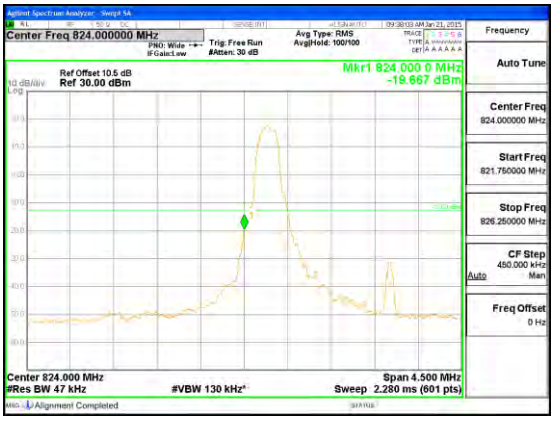
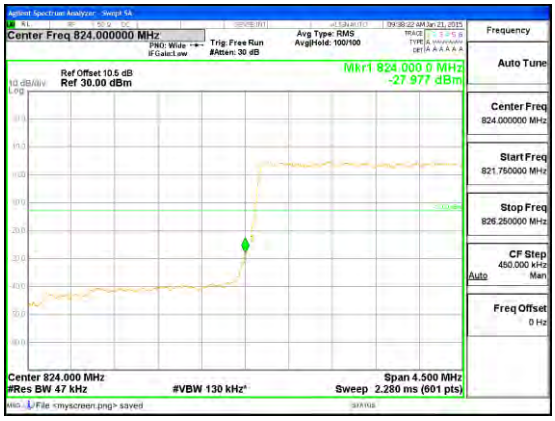
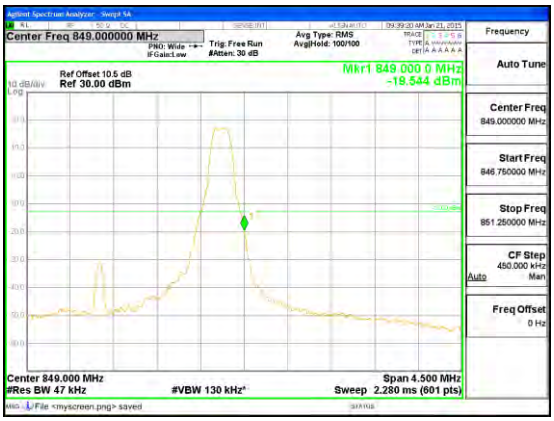
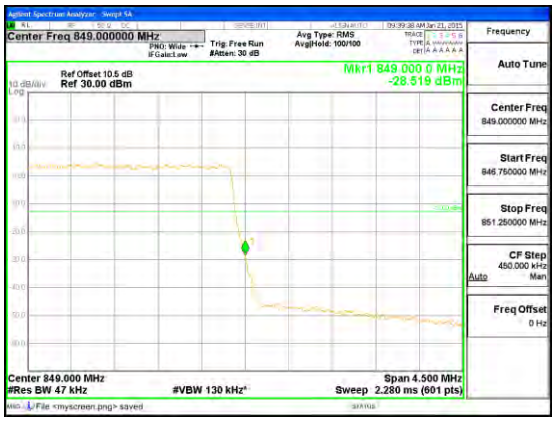
Band LTE5 3MHz 16QAM	 Band LTE5 3MHz CBE 16QAM Low Channel 1RB.gif	 Band LTE5 3MHz CBE 16QAM Low Channel FRB.gif
Band LTE5 3MHz 16QAM	 Band LTE5 3MHz CBE 16QAM High Channel 1RB.gif	 Band LTE5 3MHz CBE 16QAM High Channel FRB.gif

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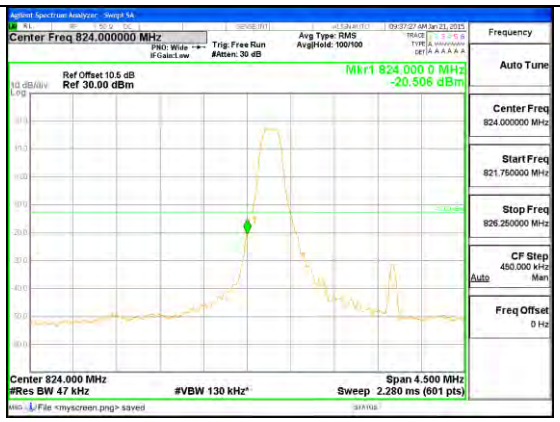
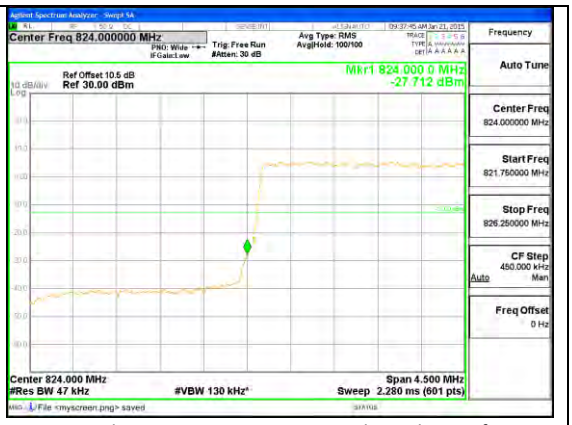
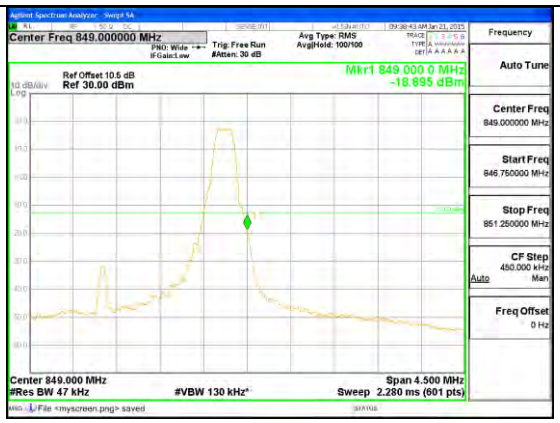
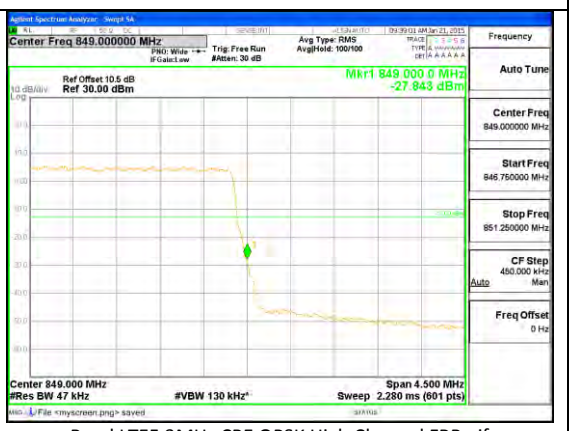
Band LTE5 3MHz QPSK	 Band LTE5 3MHz CBE QPSK Low Channel 1RB.gif	 Band LTE5 3MHz CBE QPSK Low Channel FRB.gif
Band LTE5 3MHz QPSK	 Band LTE5 3MHz CBE QPSK High Channel 1RB.gif	 Band LTE5 3MHz CBE QPSK High Channel FRB.gif

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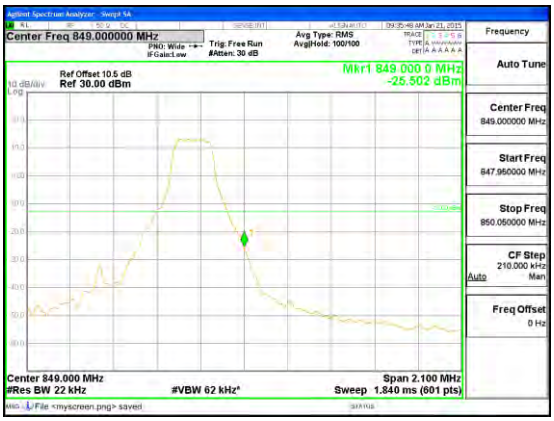
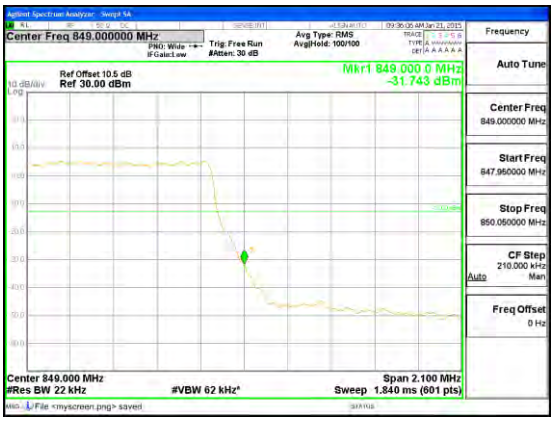
Band LTE5 1.4MHz 16QAM	 Band LTE5 1.4MHz CBE 16QAM Low Channel 1RB.gif	 Band LTE5 1.4MHz CBE 16QAM Low Channel FRB.gif
Band LTE5 1.4MHz 16QAM	 Band LTE5 1.4MHz CBE 16QAM High Channel 1RB.gif	 Band LTE5 1.4MHz CBE 16QAM High Channel FRB.gif

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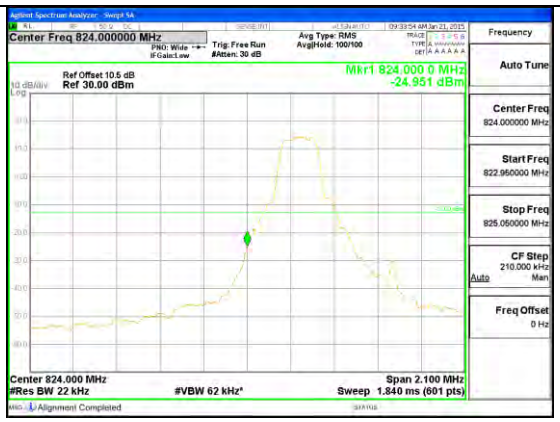
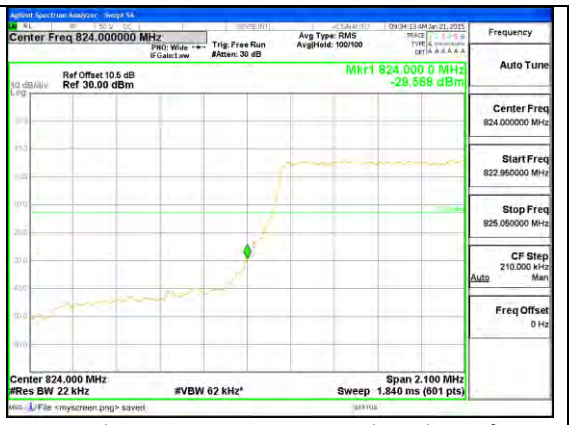
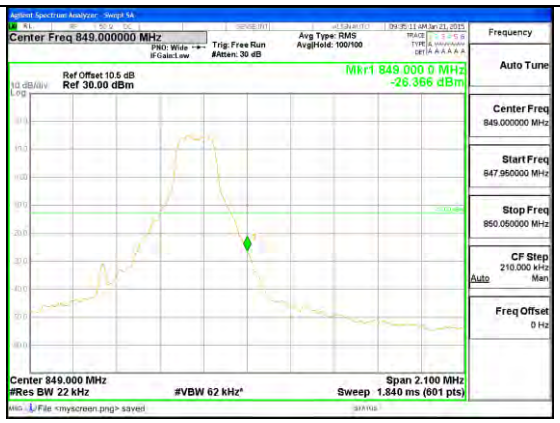
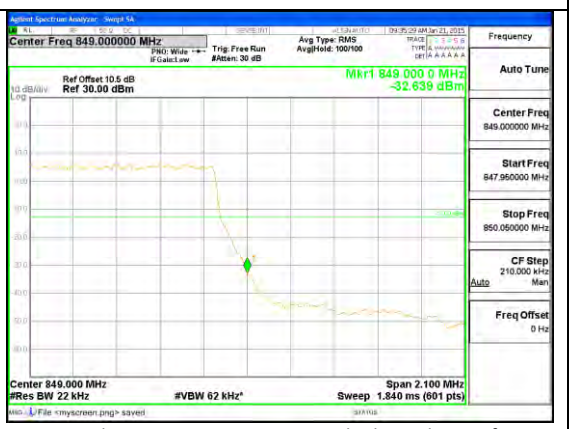
Band LTE5 1.4MHz QPSK	 Band LTE5 1.4MHz CBE QPSK Low Channel 1RB.gif	 Band LTE5 1.4MHz CBE QPSK Low Channel FRB.gif
Band LTE5 1.4MHz QPSK	 Band LTE5 1.4MHz CBE QPSK High Channel 1RB.gif	 Band LTE5 1.4MHz CBE QPSK High Channel FRB.gif

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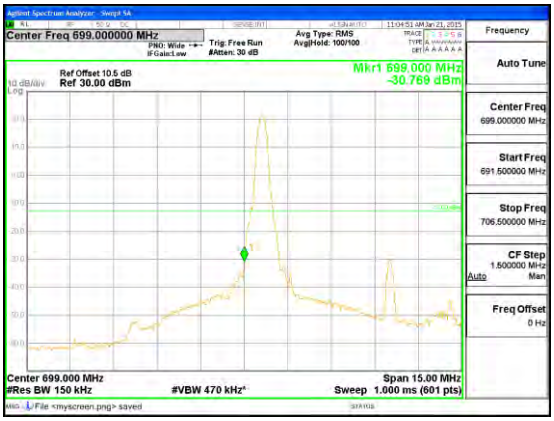
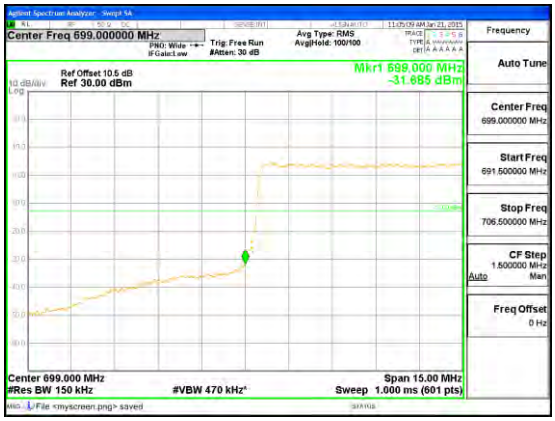
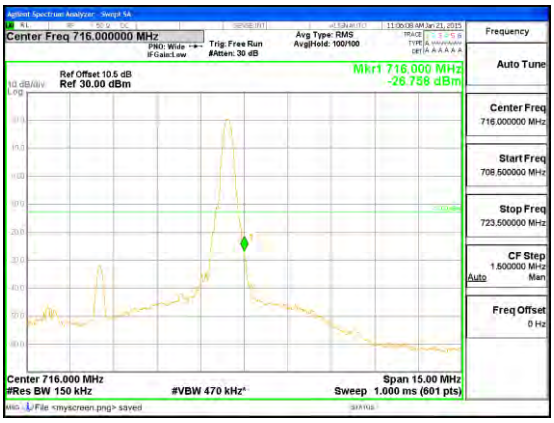
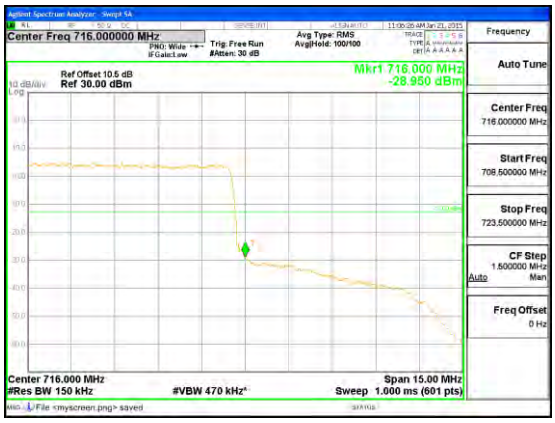
LTE Band 12

Band LTE12 10MHz 16QAM	 Band LTE12 10MHz CBE 16QAM Low Channel 1RB.gif	 Band LTE12 10MHz CBE 16QAM Low Channel FRB.gif
Band LTE12 10MHz 16QAM	 Band LTE12 10MHz CBE 16QAM High Channel 1RB.gif	 Band LTE12 10MHz CBE 16QAM High Channel FRB.gif

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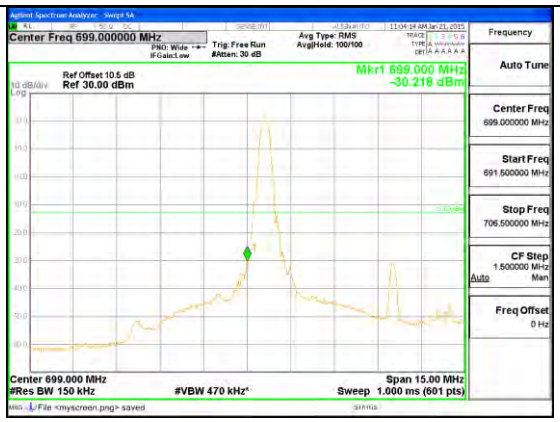
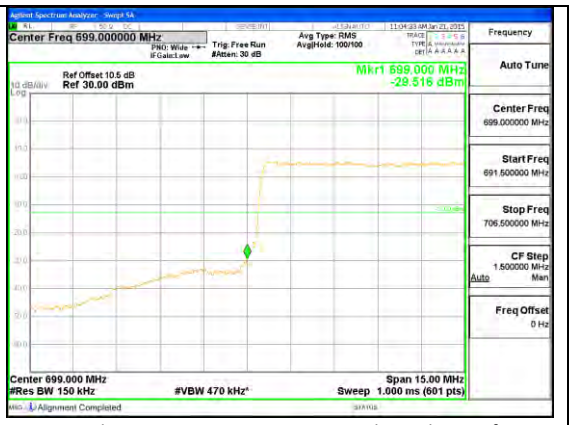
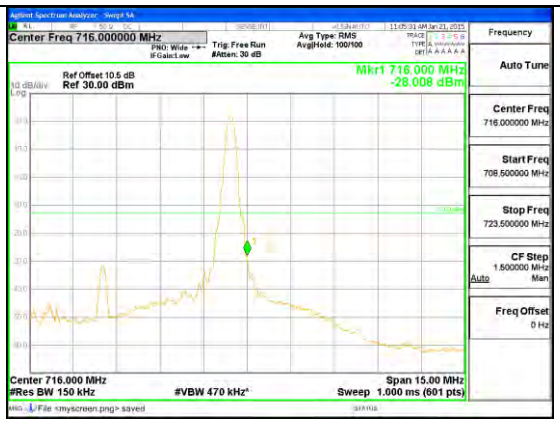
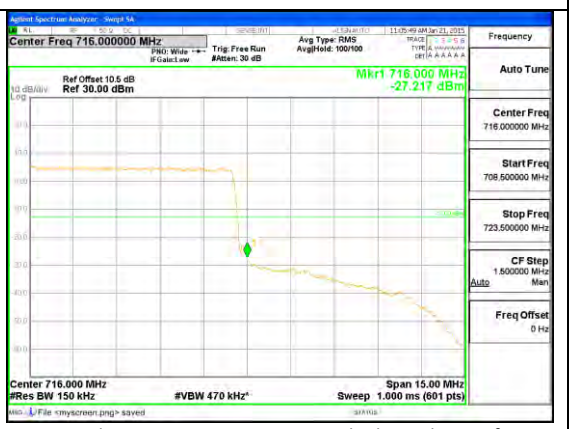
Band LTE12 10MHz QPSK	 Band LTE12 10MHz CBE QPSK Low Channel 1RB.gif	 Band LTE12 10MHz CBE QPSK Low Channel FRB.gif
Band LTE12 10MHz QPSK	 Band LTE12 10MHz CBE QPSK High Channel 1RB.gif	 Band LTE12 10MHz CBE QPSK High Channel FRB.gif

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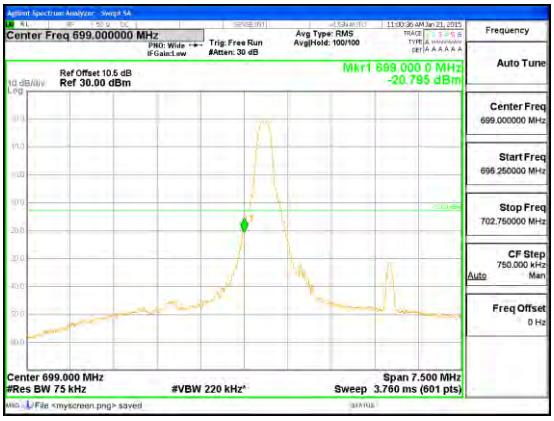
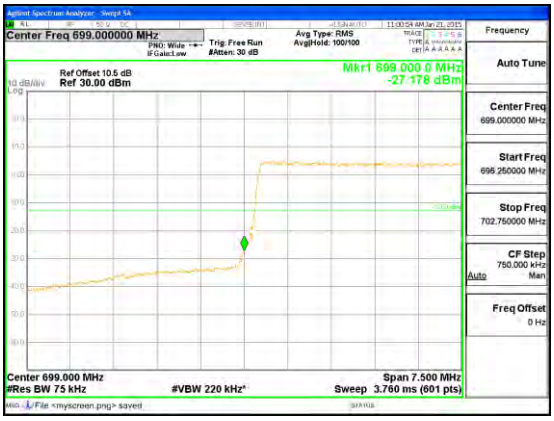
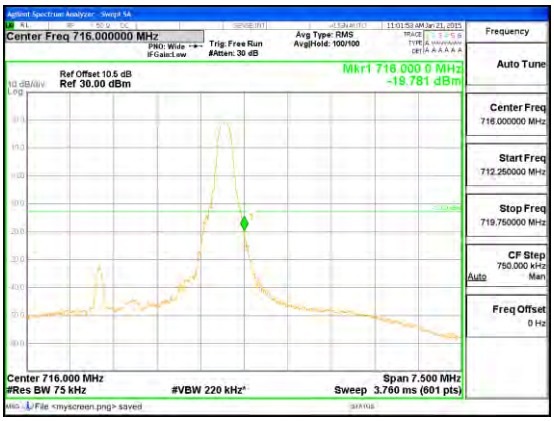
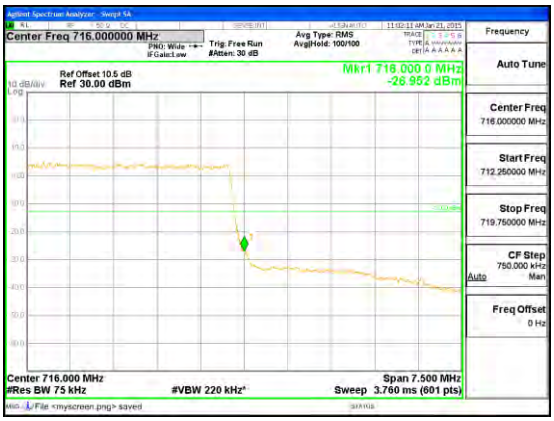
Band LTE12 5MHz 16QAM	 Band LTE12 5MHz CBE 16QAM Low Channel 1RB.gif	 Band LTE12 5MHz CBE 16QAM Low Channel FRB.gif
Band LTE12 5MHz 16QAM	 Band LTE12 5MHz CBE 16QAM High Channel 1RB.gif	 Band LTE12 5MHz CBE 16QAM High Channel FRB.gif

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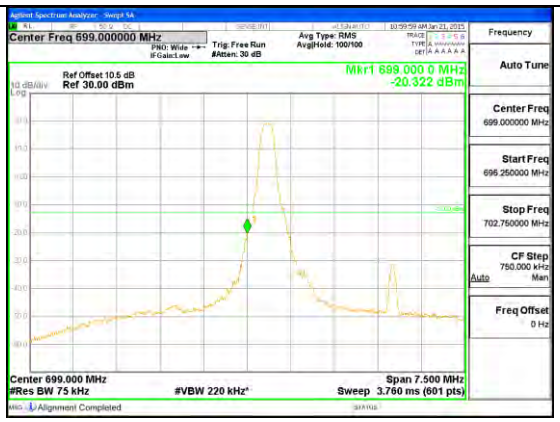
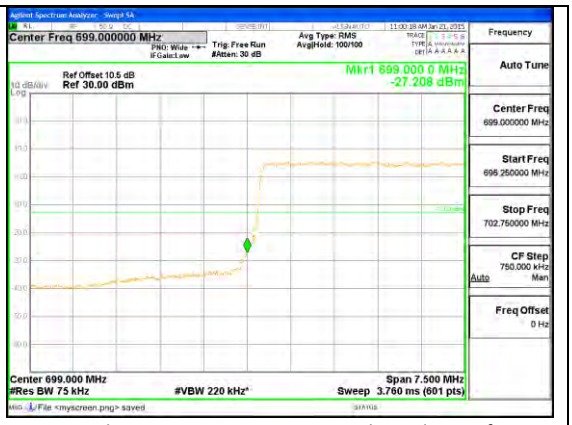
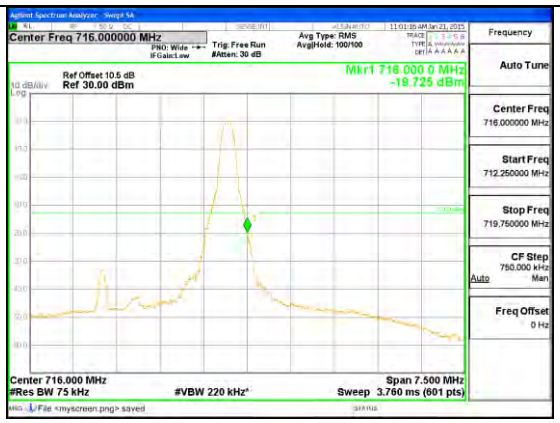
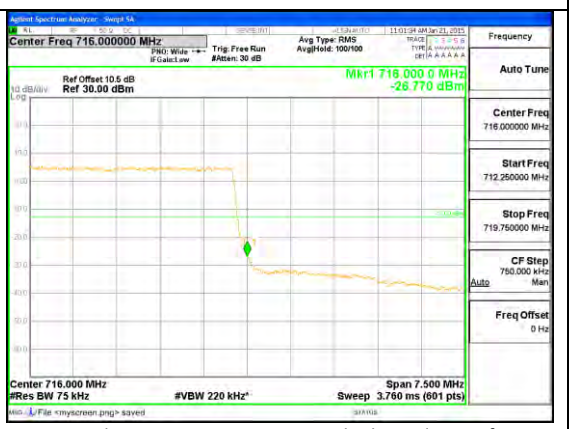
Band LTE12 5MHz QPSK	 Band LTE12 5MHz CBE QPSK Low Channel 1RB.gif	 Band LTE12 5MHz CBE QPSK Low Channel FRB.gif
Band LTE12 5MHz QPSK	 Band LTE12 5MHz CBE QPSK High Channel 1RB.gif	 Band LTE12 5MHz CBE QPSK High Channel FRB.gif

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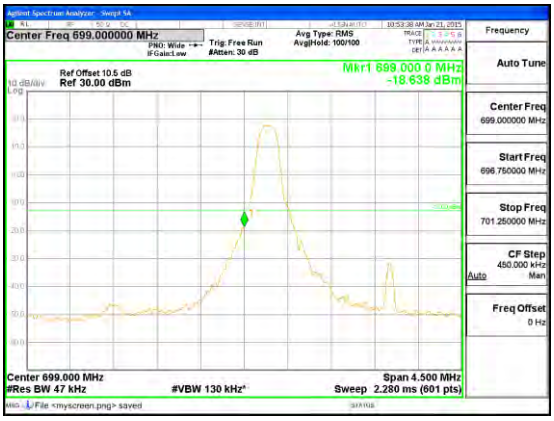
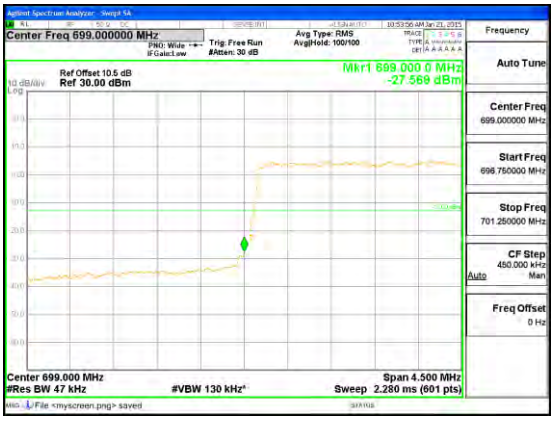
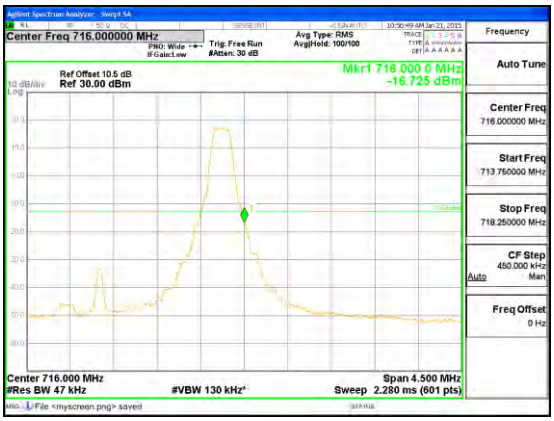
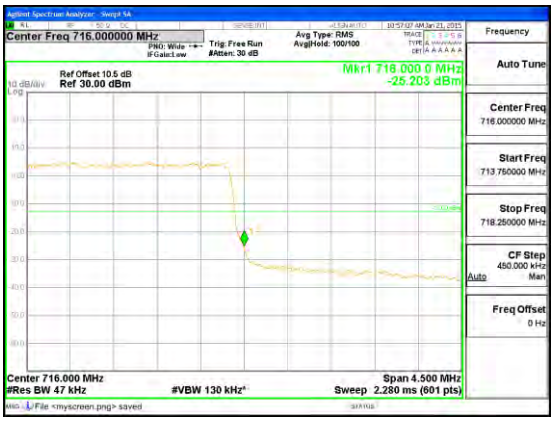
Band LTE12 3MHz 16QAM	 Band LTE12 3MHz CBE 16QAM Low Channel 1RB.gif	 Band LTE12 3MHz CBE 16QAM Low Channel FRB.gif
Band LTE12 3MHz 16QAM	 Band LTE12 3MHz CBE 16QAM High Channel 1RB.gif	 Band LTE12 3MHz CBE 16QAM High Channel FRB.gif

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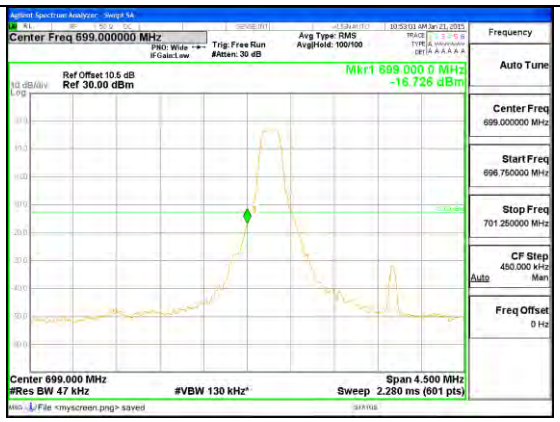
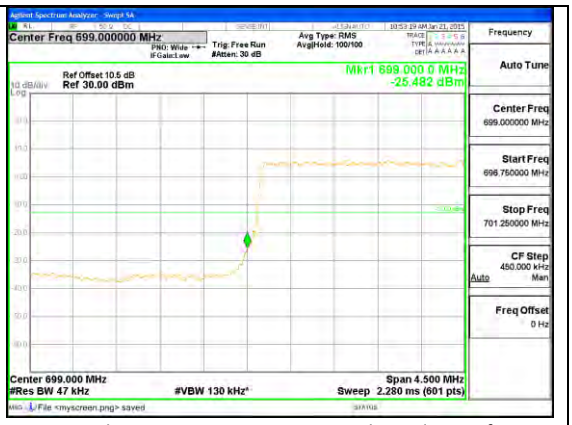
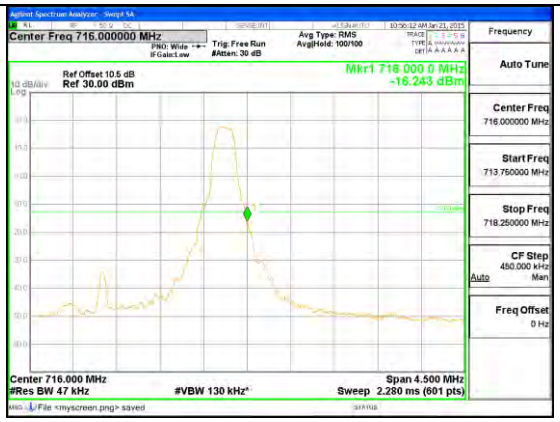
Band LTE12 3MHz QPSK	 Band LTE12 3MHz CBE QPSK Low Channel 1RB.gif	 Band LTE12 3MHz CBE QPSK Low Channel FRB.gif
Band LTE12 3MHz QPSK	 Band LTE12 3MHz CBE QPSK High Channel 1RB.gif	 Band LTE12 3MHz CBE QPSK High Channel FRB.gif

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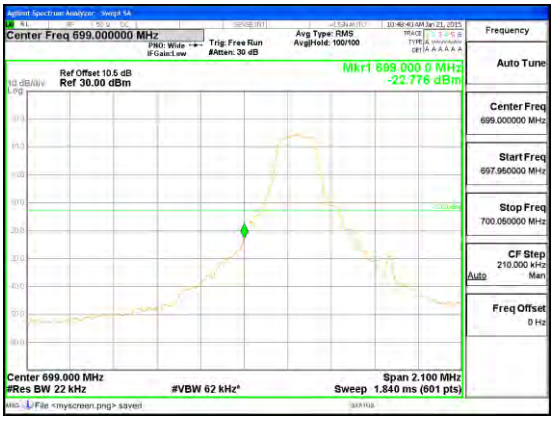
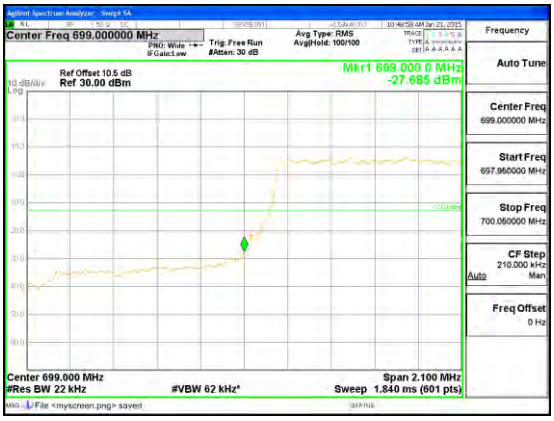
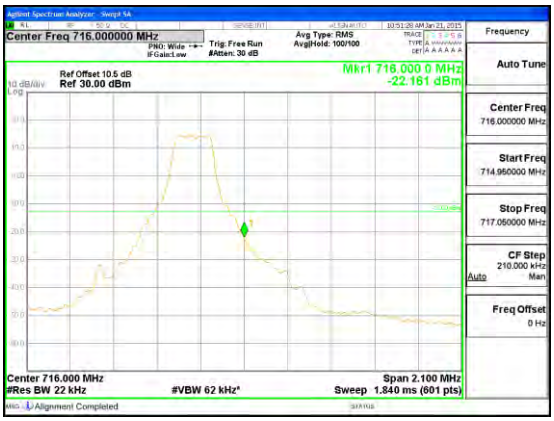
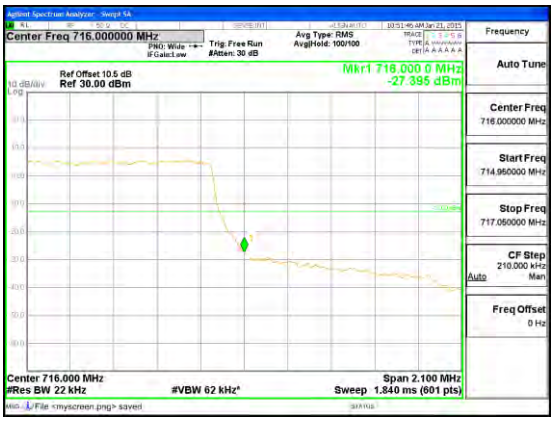
Band LTE12 1.4MHz 16QAM	 Band LTE12 1.4MHz CBE 16QAM Low Channel 1RB.gif	 Band LTE12 1.4MHz CBE 16QAM Low Channel FRB.gif
Band LTE12 1.4MHz 16QAM	 Band LTE12 1.4MHz CBE 16QAM High Channel 1RB.gif	 Band LTE12 1.4MHz CBE 16QAM High Channel FRB.gif

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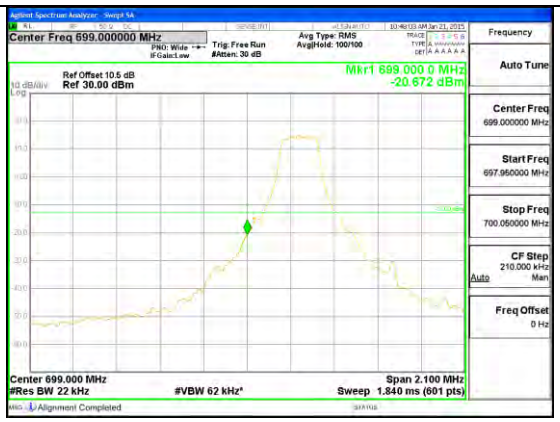
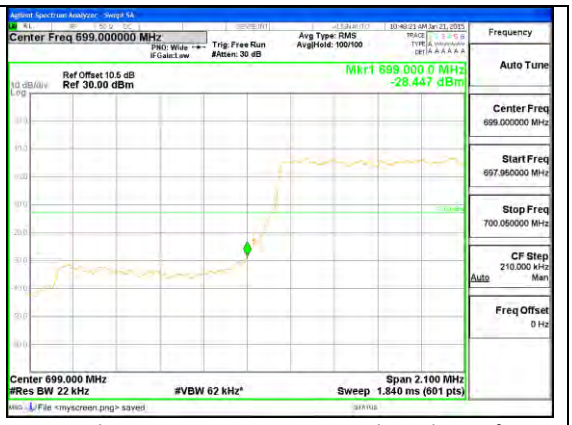
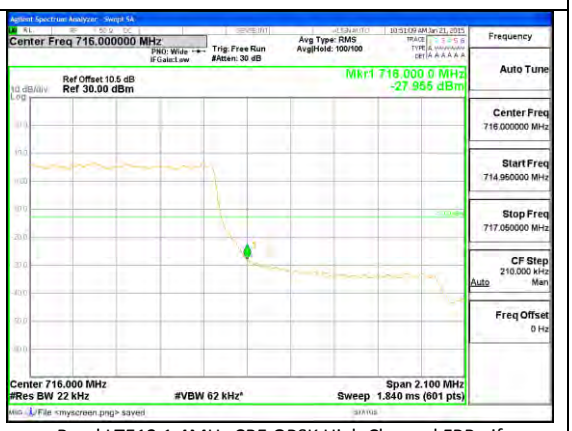
Band LTE12 1.4MHz QPSK	 Band LTE12 1.4MHz CBE QPSK Low Channel 1RB.gif	 Band LTE12 1.4MHz CBE QPSK Low Channel FRB.gif
Band LTE12 1.4MHz QPSK	 Band LTE12 1.4MHz CBE QPSK High Channel 1RB.gif	 Band LTE12 1.4MHz CBE QPSK High Channel FRB.gif

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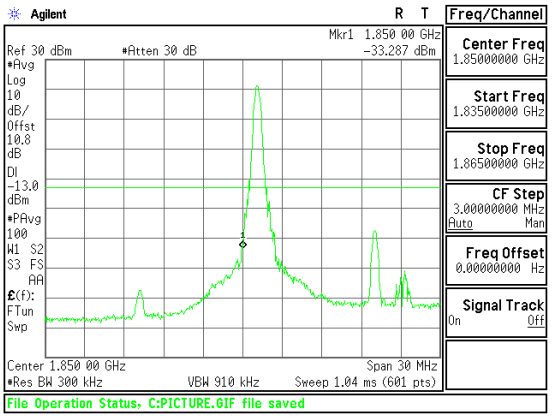
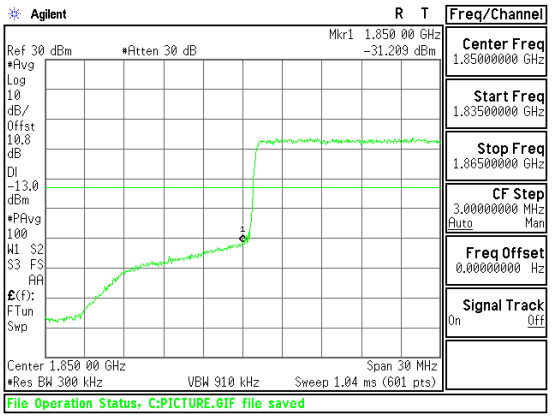
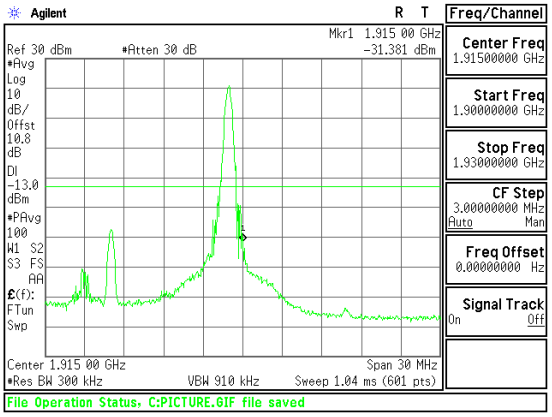
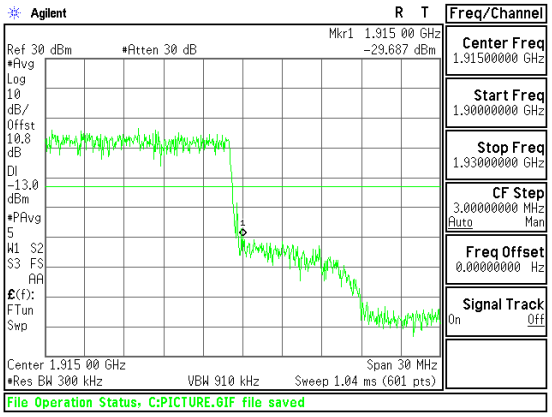
LTE Band 25

Band LTE25 20MHz 16QAM	 Band LTE25 20MHz CBE 16QAM Low Channel 1RB.gif	 Band LTE25 20MHz CBE 16QAM Low Channel FRB.gif
Band LTE25 20MHz 16QAM	 Band LTE25 20MHz CBE 16QAM High Channel 1RB.gif	 Band LTE25 20MHz CBE 16QAM High Channel FRB.gif

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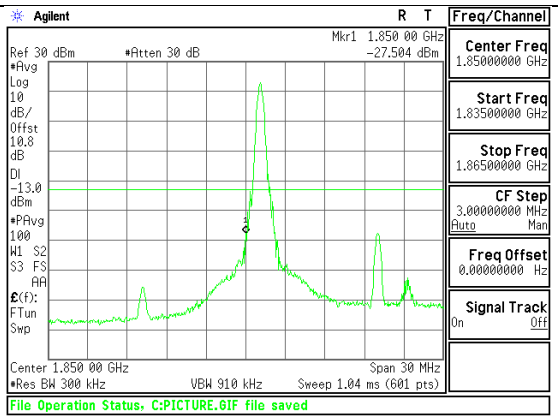
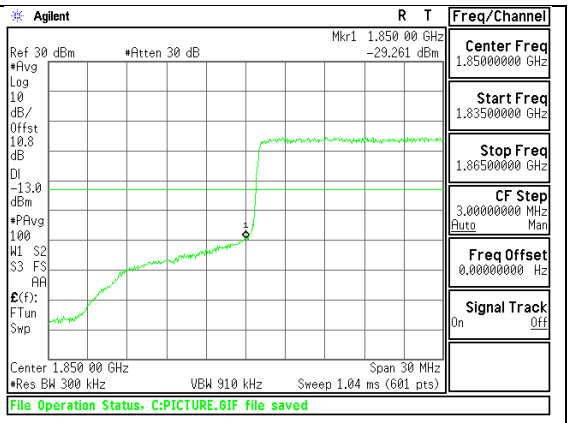
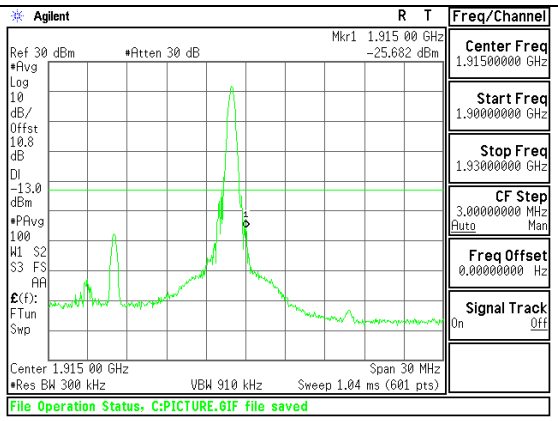
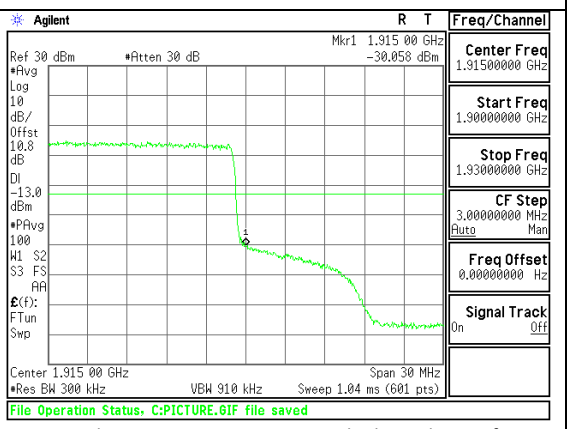
Band LTE25 20MHz QPSK	 Band LTE25 20MHz CBE QPSK Low Channel 1RB.gif	 Band LTE25 20MHz CBE QPSK Low Channel FRB.gif
Band LTE25 20MHz QPSK	 Band LTE25 20MHz CBE QPSK High Channel 1RB.gif	 Band LTE25 20MHz CBE QPSK High Channel FRB.gif

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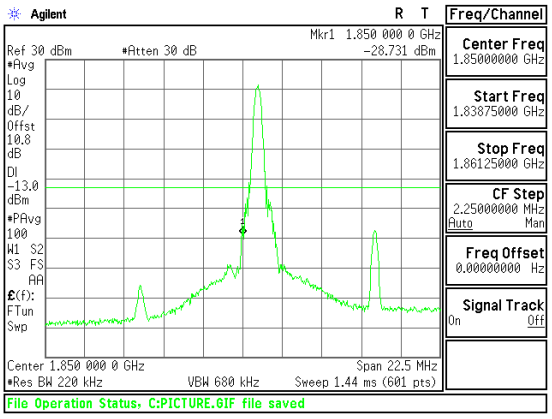
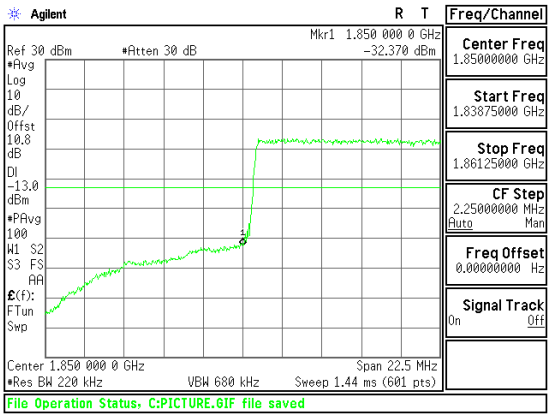
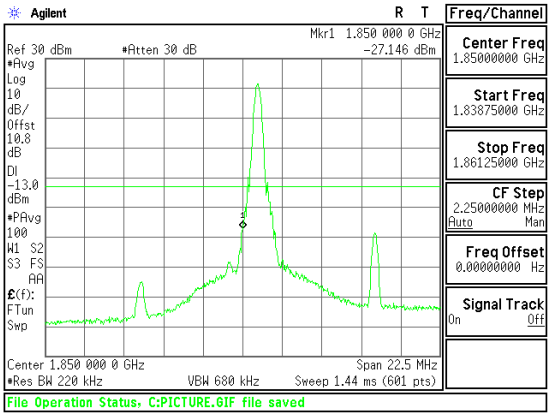
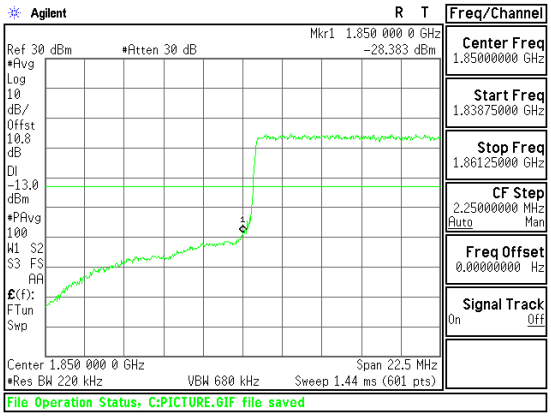
Band LTE25 15MHz 16QAM	 Band LTE25 15MHz CBE 16QAM Low Channel 1RB.gif	 Band LTE25 15MHz CBE 16QAM Low Channel FRB.gif
Band LTE25 15MHz QPSK	 Band LTE25 15MHz CBE QPSK Low Channel 1RB.gif	 Band LTE25 15MHz CBE QPSK Low Channel FRB.gif

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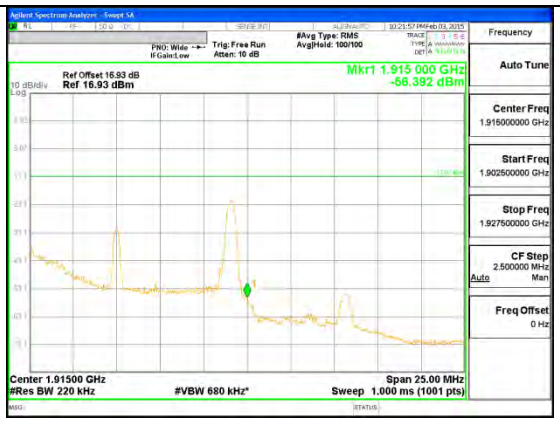
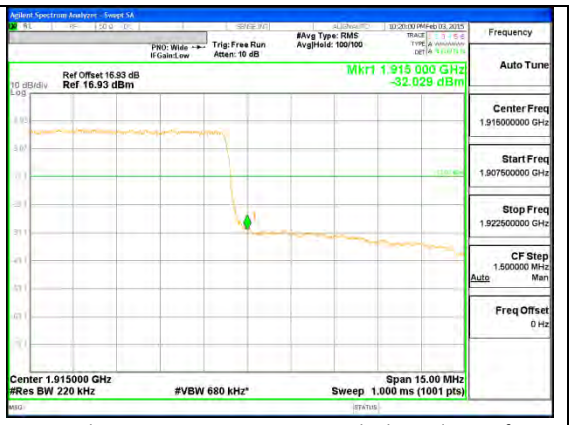
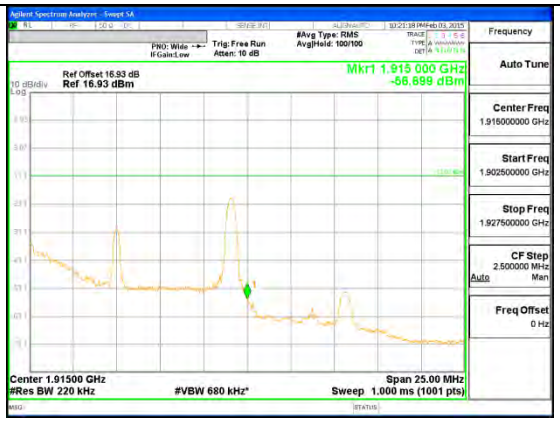
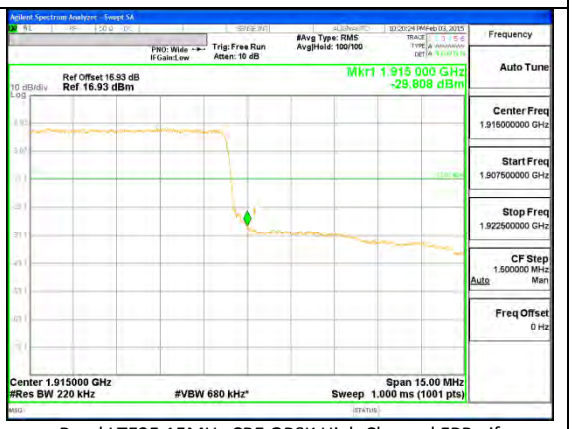
Band LTE25 15MHz 16QAM	 Band LTE25 15MHz CBE 16QAM High Channel 1RB.gif	 Band LTE25 15MHz CBE 16QAM High Channel FRB.gif
Band LTE25 15MHz QPSK	 Band LTE25 15MHz CBE QPSK High Channel 1RB.gif	 Band LTE25 15MHz CBE QPSK High Channel FRB.gif

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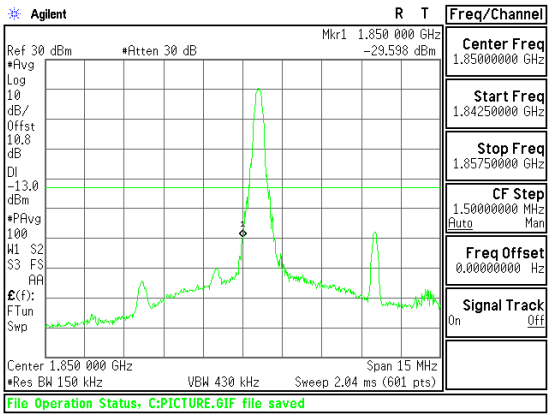
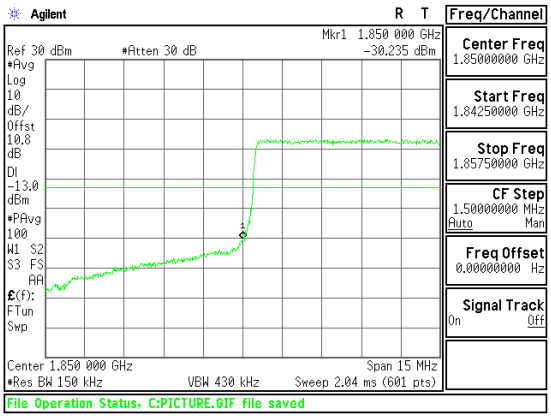
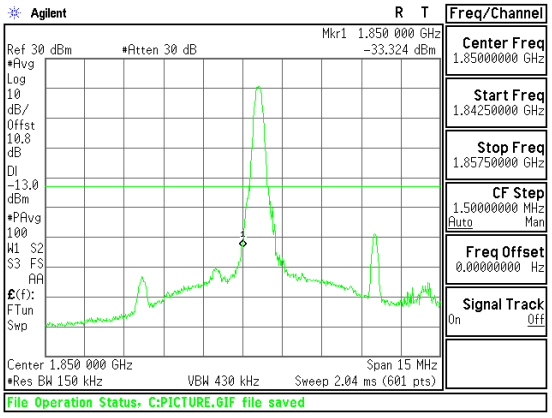
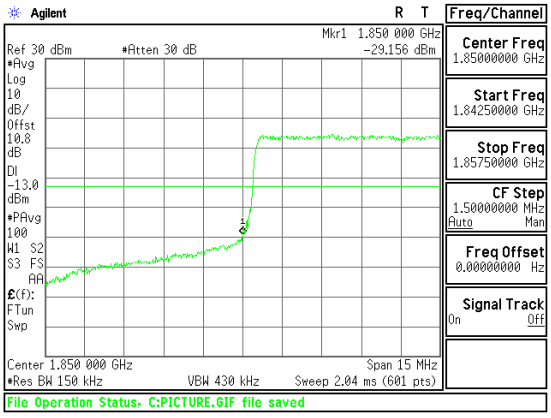
Band LTE25 10MHz 16QAM	 Band LTE25 10MHz CBE 16QAM Low Channel 1RB.gif	 Band LTE25 10MHz CBE 16QAM Low Channel FRB.gif
Band LTE25 10MHz QPSK	 Band LTE25 10MHz CBE QPSK Low Channel 1RB.gif	 Band LTE25 10MHz CBE QPSK Low Channel FRB.gif

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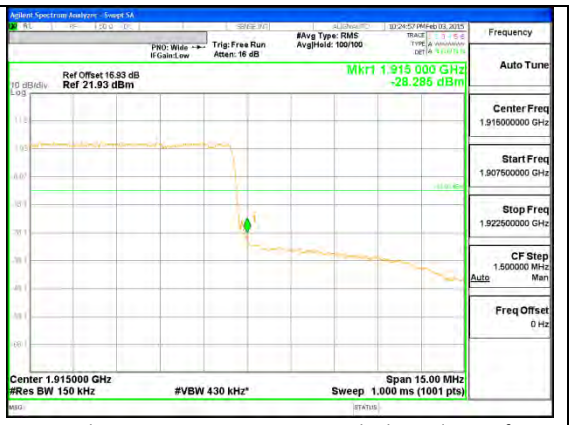
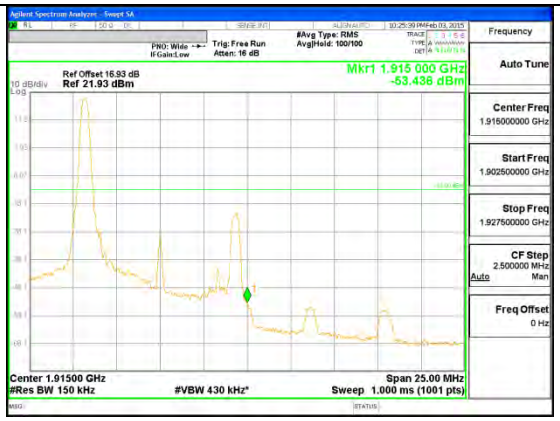
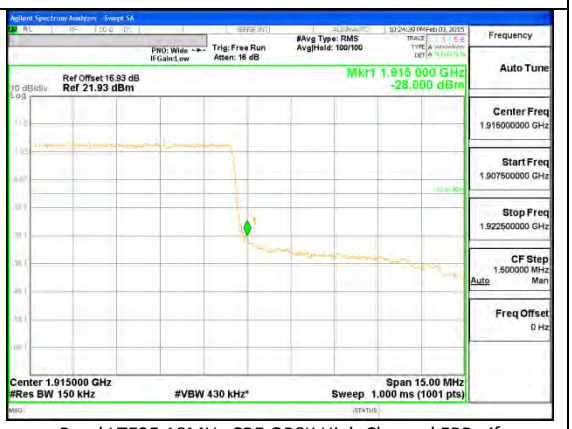
Band LTE25 10MHz 16QAM	 Band LTE25 10MHz CBE 16QAM High Channel 1RB.gif	 Band LTE25 10MHz CBE 16QAM High Channel FRB.gif
Band LTE25 10MHz QPSK	 Band LTE25 10MHz CBE QPSK High Channel 1RB.gif	 Band LTE25 10MHz CBE QPSK High Channel FRB.gif

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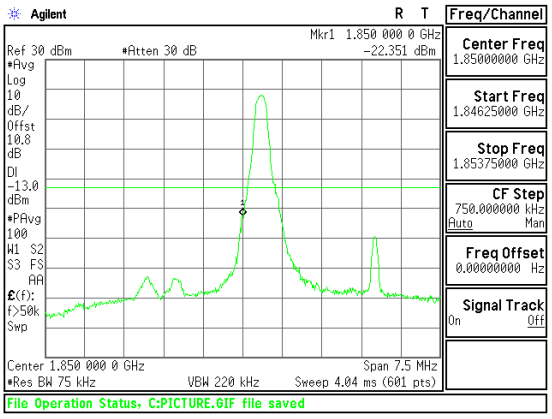
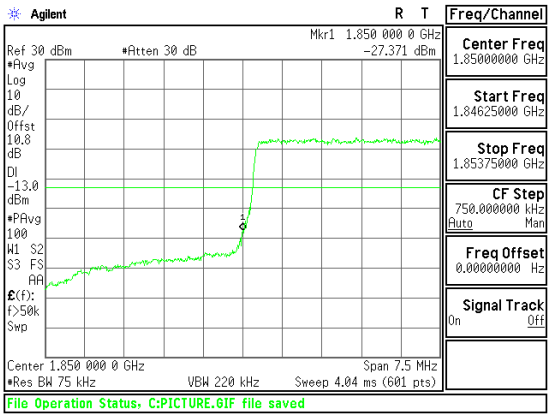
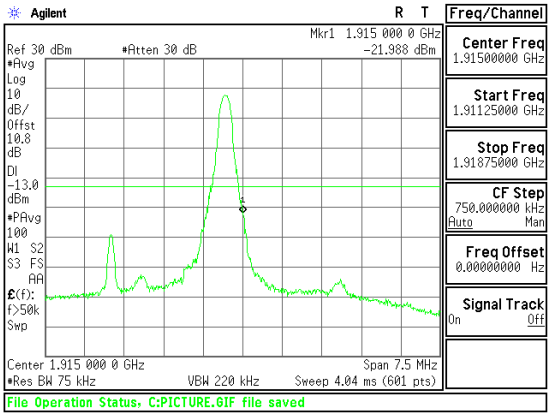
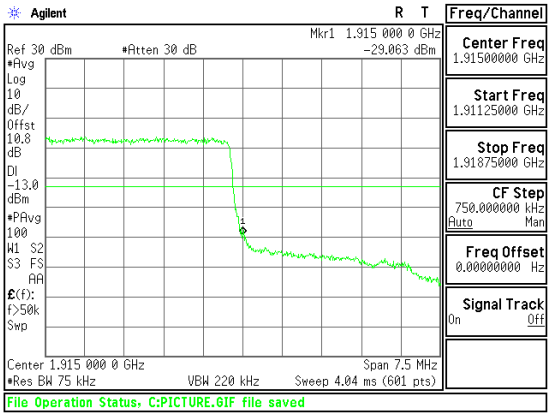
Band LTE25 5MHz 16QAM	 Band LTE25 5MHz CBE 16QAM Low Channel 1RB.gif	 Band LTE25 5MHz CBE 16QAM Low Channel FRB.gif
Band LTE25 5MHz 16QAM	 Band LTE25 5MHz CBE 16QAM High Channel 1RB.gif	 Band LTE25 5MHz CBE 16QAM High Channel FRB.gif

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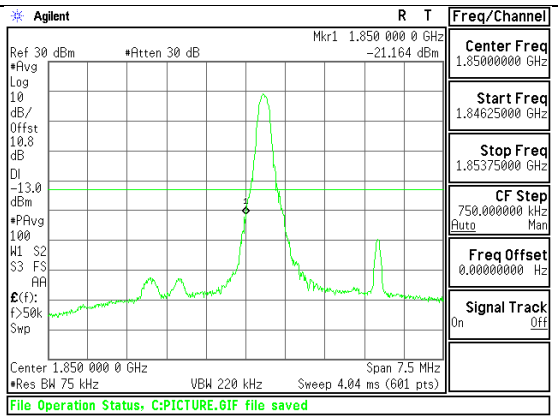
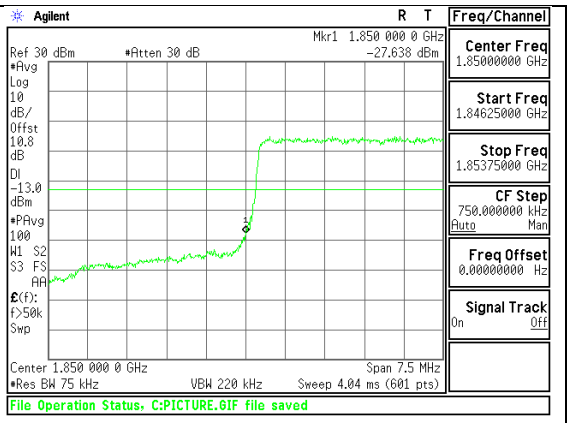
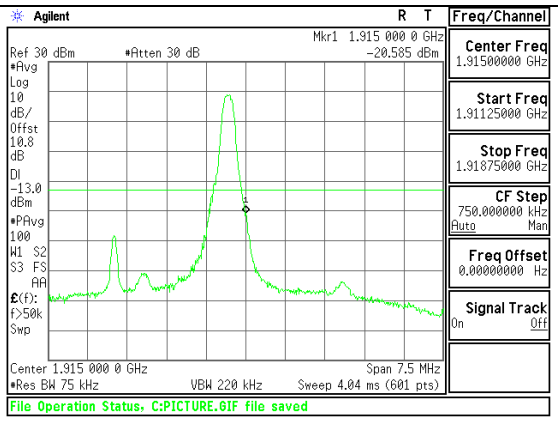
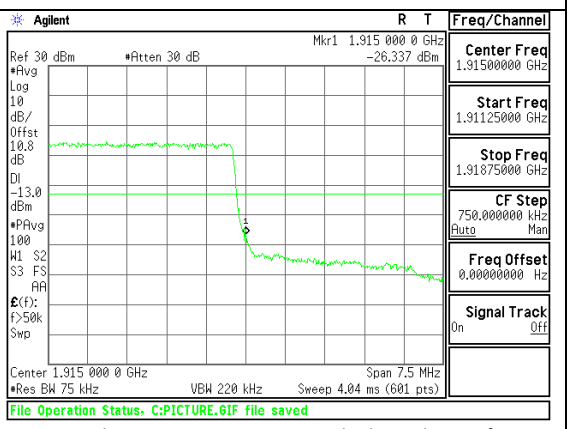
Band LTE25 5MHz QPSK	 Band LTE25 5MHz CBE QPSK Low Channel 1RB.gif	 Band LTE25 5MHz CBE QPSK Low Channel FRB.gif
Band LTE25 5MHz QPSK	 Band LTE25 5MHz CBE QPSK High Channel 1RB.gif	 Band LTE25 5MHz CBE QPSK High Channel FRB.gif

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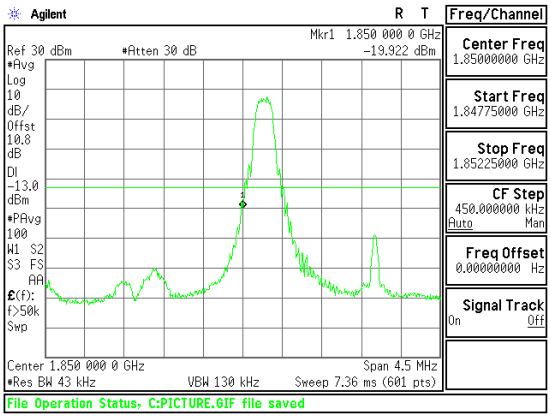
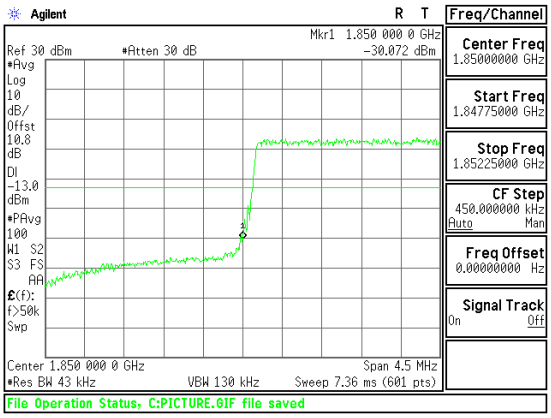
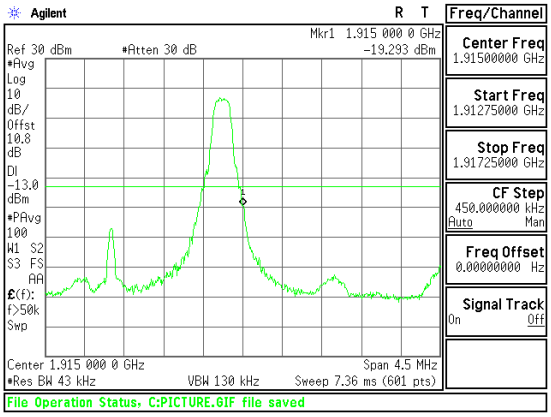
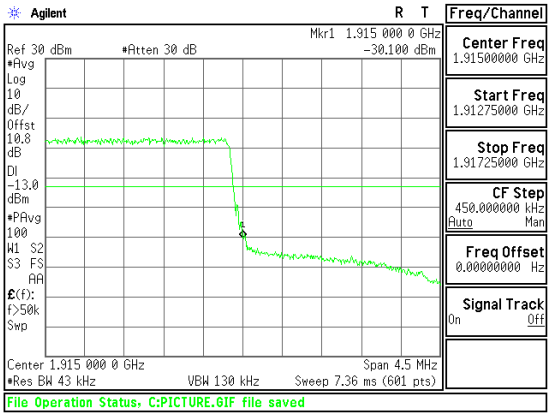
Band LTE25 3MHz 16QAM	 Band LTE25 3MHz CBE 16QAM Low Channel 1RB.gif	 Band LTE25 3MHz CBE 16QAM Low Channel FRB.gif
Band LTE25 3MHz 16QAM	 Band LTE25 3MHz CBE 16QAM High Channel 1RB.gif	 Band LTE25 3MHz CBE 16QAM High Channel FRB.gif

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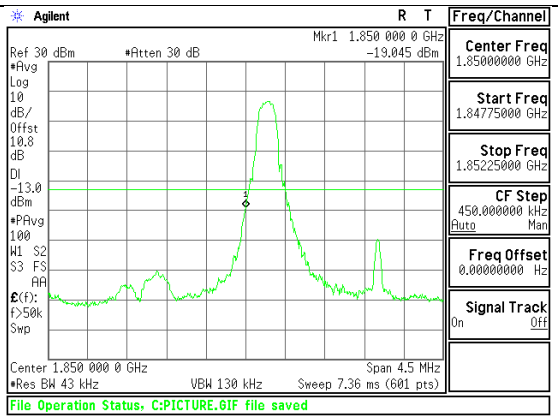
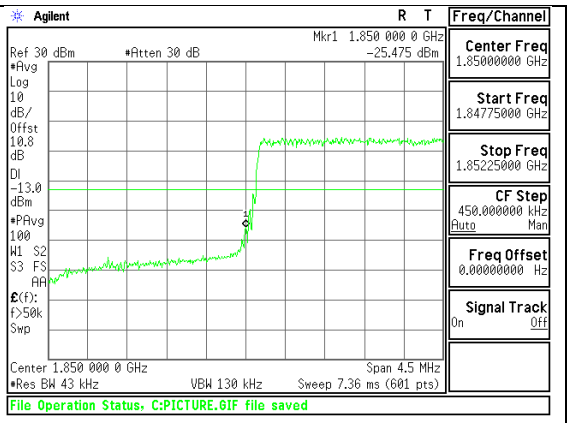
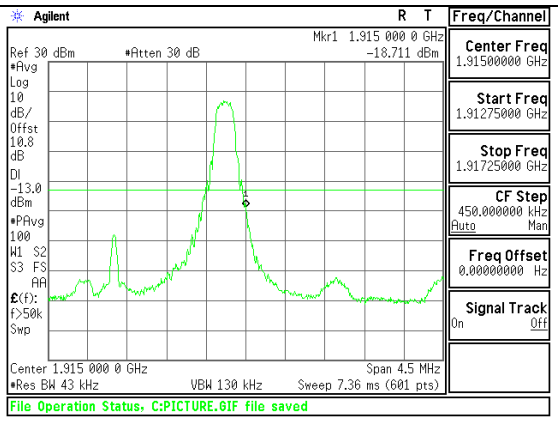
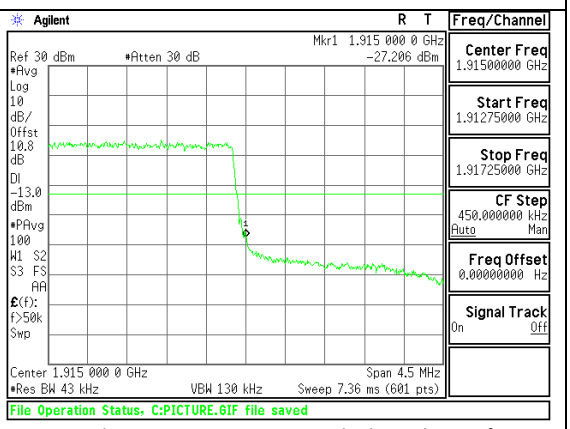
Band LTE25 3MHz QPSK	 Band LTE25 3MHz CBE QPSK Low Channel 1RB.gif	 Band LTE25 3MHz CBE QPSK Low Channel FRB.gif
Band LTE25 3MHz QPSK	 Band LTE25 3MHz CBE QPSK High Channel 1RB.gif	 Band LTE25 3MHz CBE QPSK High Channel FRB.gif

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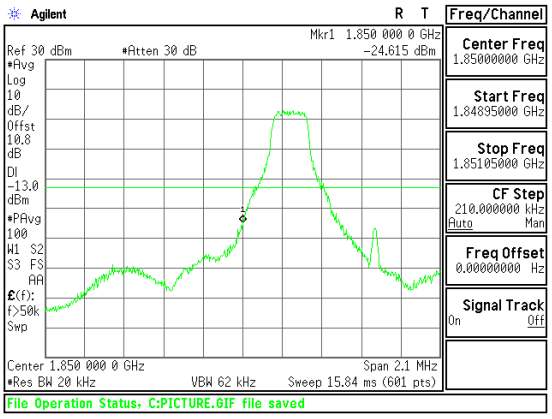
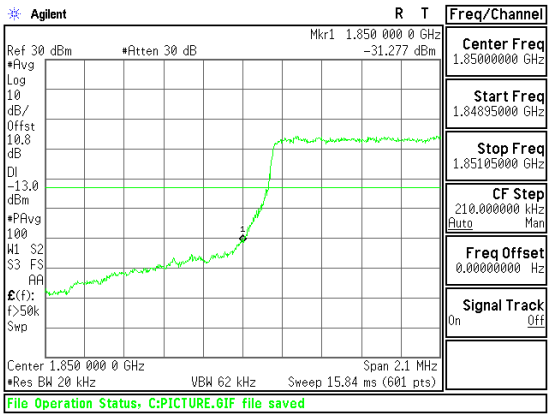
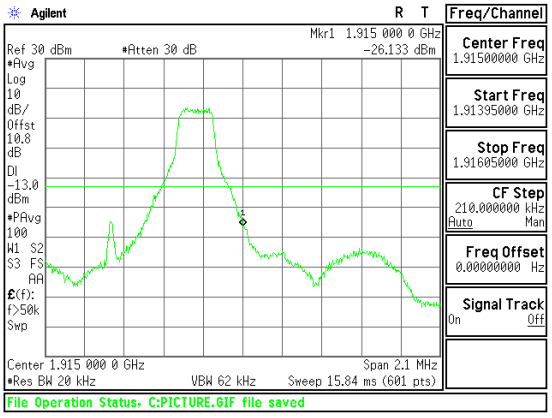
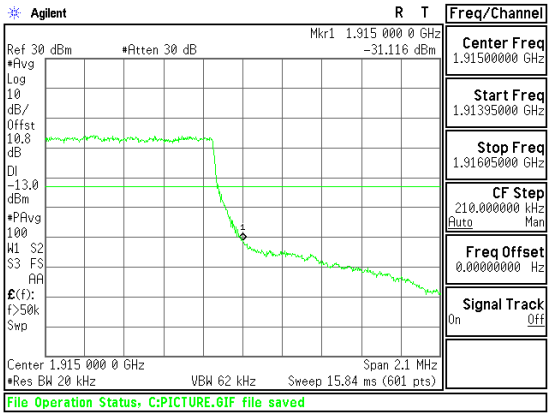
Band LTE25 1.4MHz 16QAM	 Band LTE25 1.4MHz CBE 16QAM Low Channel 1RB.gif	 Band LTE25 1.4MHz CBE 16QAM Low Channel FRB.gif
Band LTE25 1.4MHz 16QAM	 Band LTE25 1.4MHz CBE 16QAM High Channel 1RB.gif	 Band LTE25 1.4MHz CBE 16QAM High Channel FRB.gif

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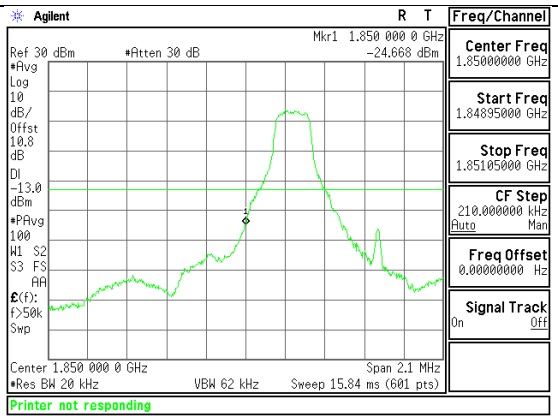
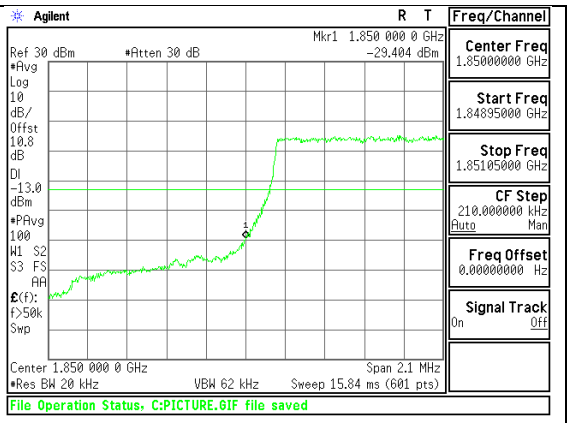
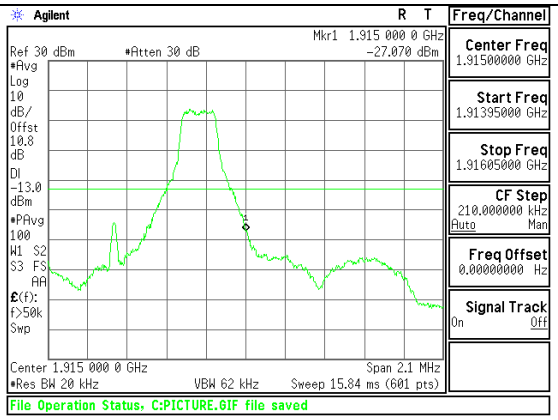
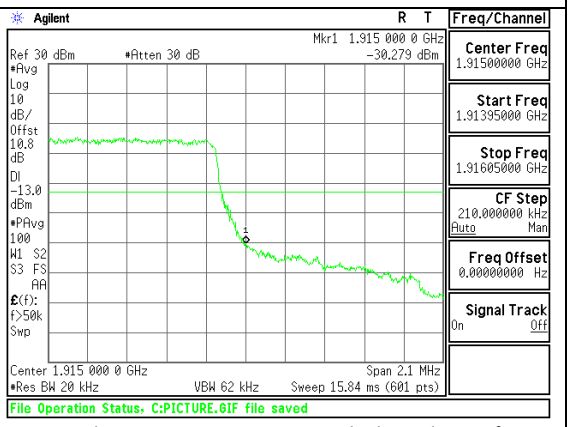
Band LTE25 1.4MHz QPSK	 Band LTE25 1.4MHz CBE QPSK Low Channel 1RB.gif	 Band LTE25 1.4MHz CBE QPSK Low Channel FRB.gif
Band LTE25 1.4MHz QPSK	 Band LTE25 1.4MHz CBE QPSK High Channel 1RB.gif	 Band LTE25 1.4MHz CBE QPSK High Channel FRB.gif

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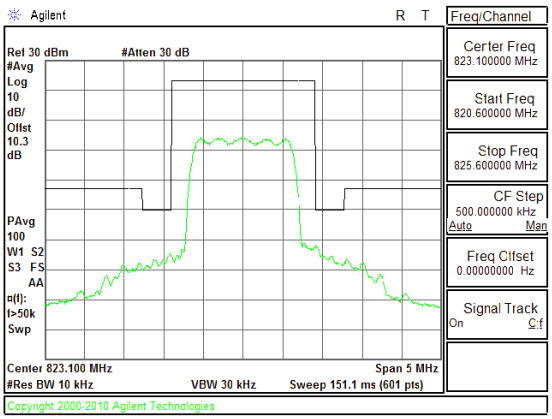
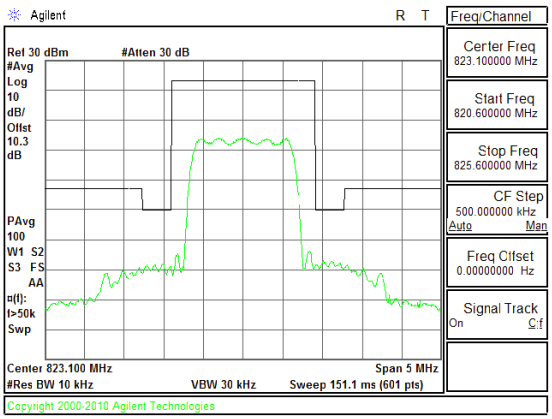
10.2.1. EMISSION MASK PLOTS

CDMA BC10

Band BC10	 Band BC1 EVDO Rel. 0 EM	 Band BC1 1xRTT EM

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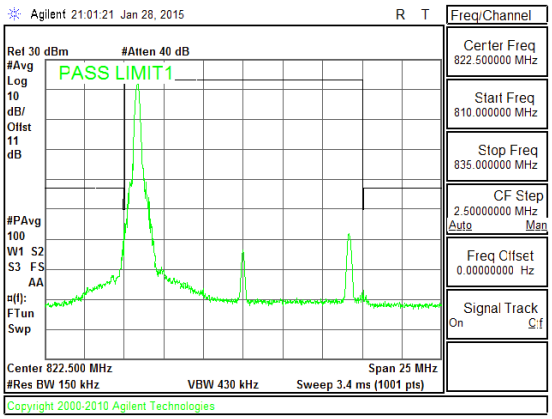
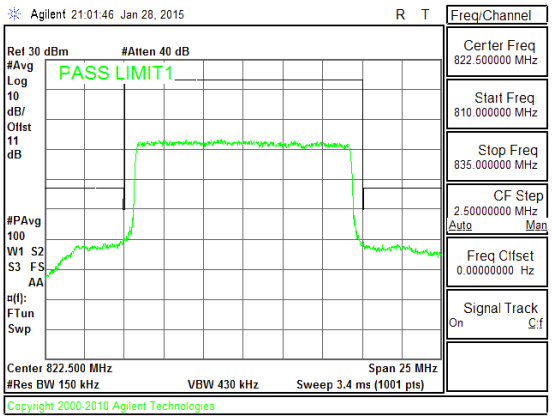
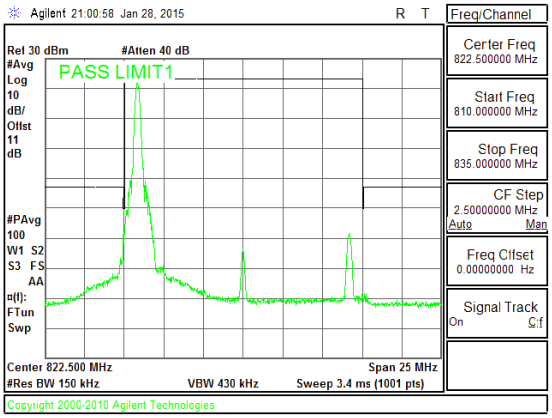
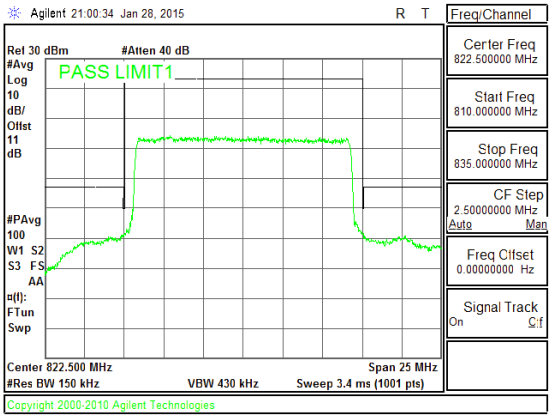
LTE Band 26

Band LTE26 15MHz 16QAM	 Band LTE26 15MHz EM 16QAM 1RB.gif	 Band LTE26 15MHz EM 16QAM FRB.gif
Band LTE26 15MHz QPSK	 Band LTE26 15MHz EM QPSK 1RB.gif	 Band LTE26 15MHz EM QPSK FRB.gif

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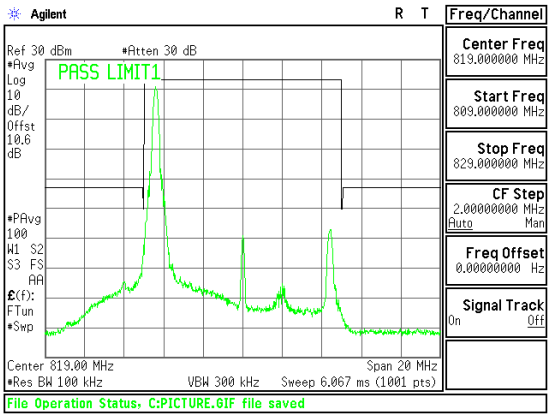
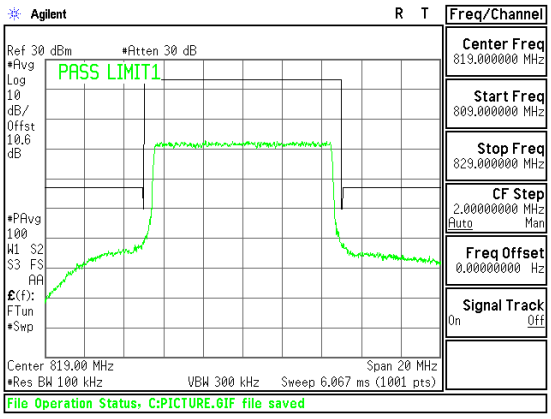
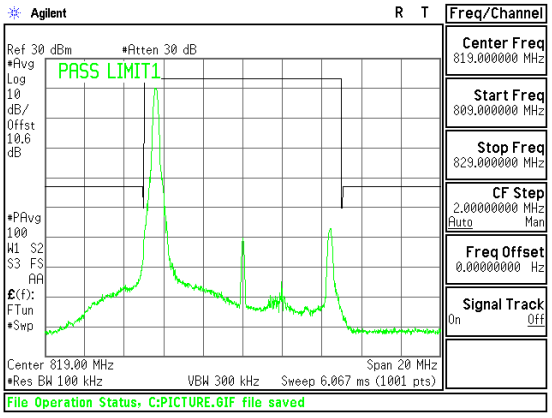
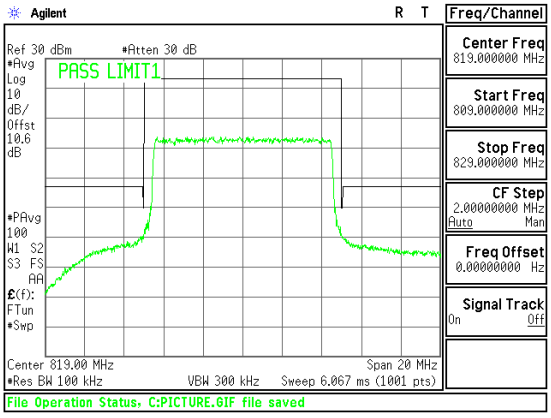
Band LTE26 10MHz 16QAM	 Band LTE26 10MHz EM 16QAM Low Channel 1RB.gif	 Band LTE26 10MHz EM 16QAM Low Channel FRB.gif
Band LTE26 10MHz QPSK	 Band LTE26 10MHz EM QPSK Low Channel 1RB.gif	 Band LTE26 10MHz EM QPSK Low Channel FRB.gif

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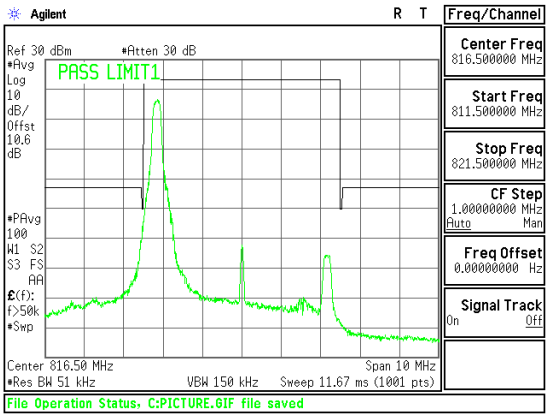
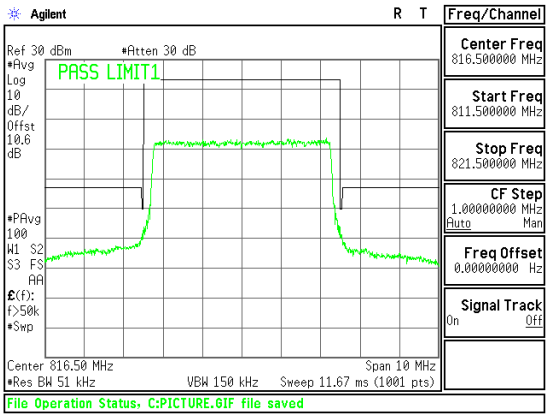
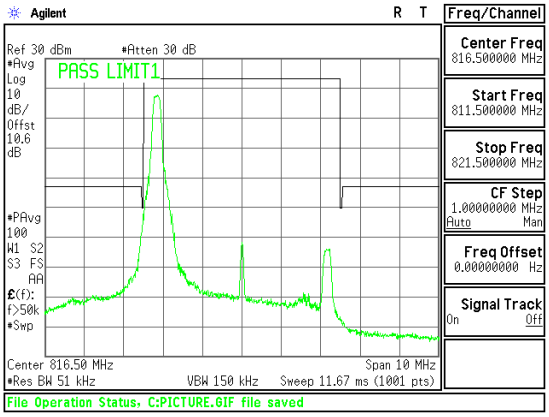
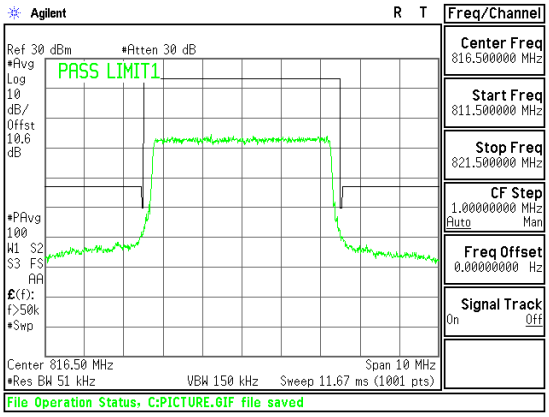
Band LTE26 5MHz 16QAM	 Band LTE26 5MHz EM 16QAM Low Channel 1RB.gif	 Band LTE26 5MHz EM 16QAM Low Channel FRB.gif
Band LTE26 5MHz QPSK	 Band LTE26 5MHz EM QPSK Low Channel 1RB.gif	 Band LTE26 5MHz EM QPSK Low Channel FRB.gif

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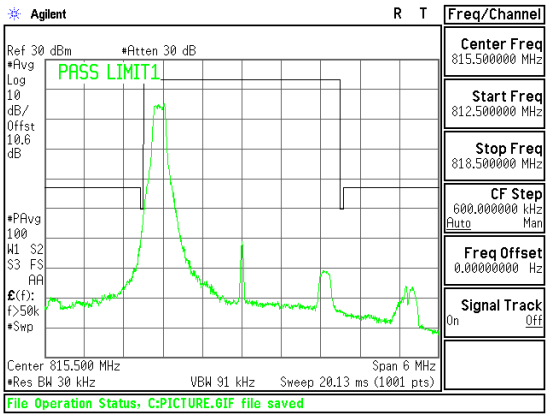
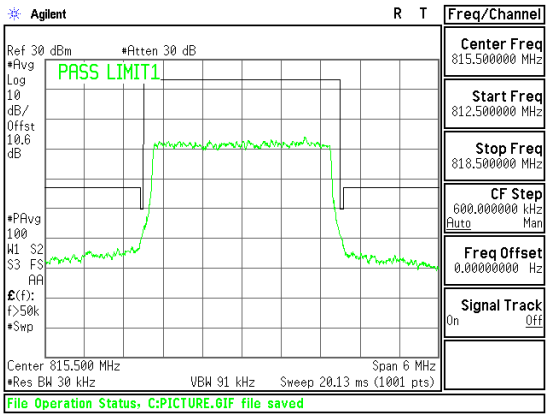
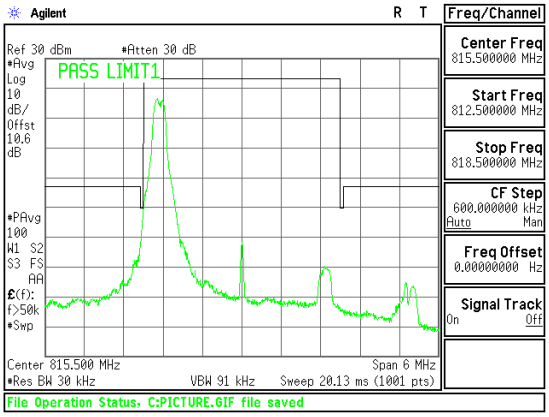
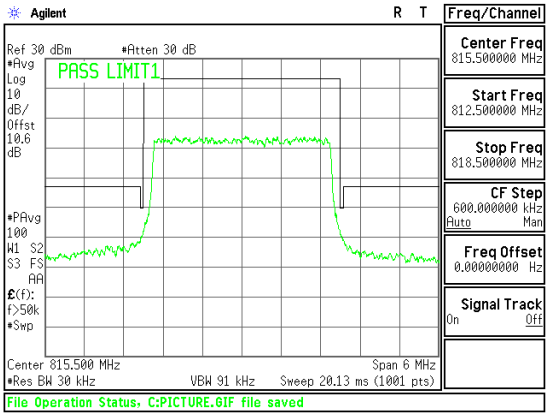
Band LTE26 3MHz 16QAM	 Band LTE26 3MHz EM 16QAM Low Channel 1RB.gif	 Band LTE26 3MHz EM 16QAM Low Channel FRB.gif
Band LTE26 3MHz QPSK	 Band LTE26 5MHz EM QPSK Low Channel 1RB.gif	 Band LTE26 3MHz EM QPSK Low Channel FRB.gif

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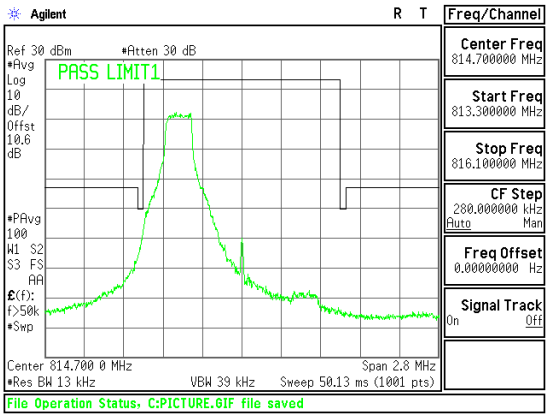
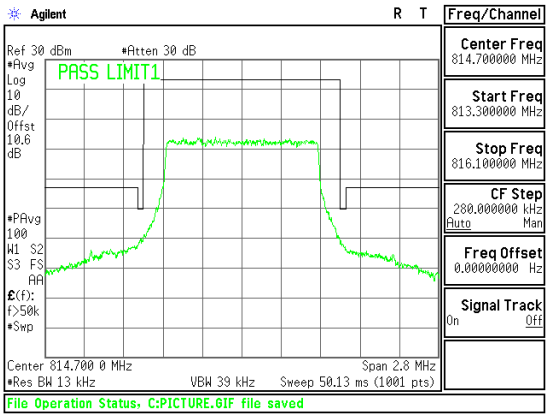
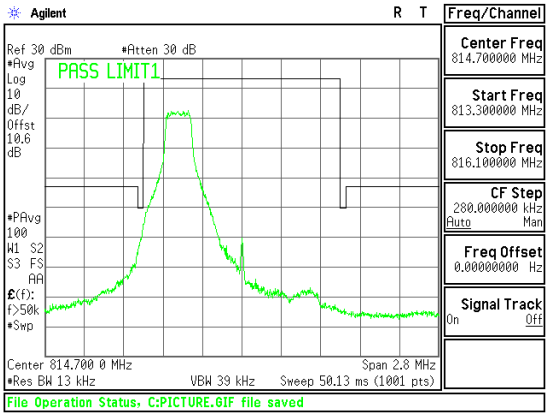
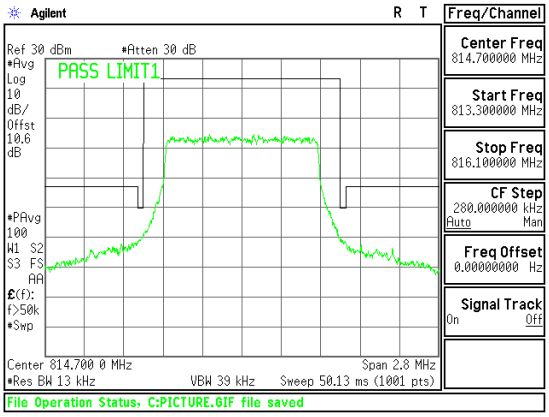
Band LTE26 1.4MHz 16QAM	 Band LTE26 1.4MHz EM 16QAM Low Channel 1RB.gif	 Band LTE26 1.4MHz EM 16QAM Low Channel FRB.gif
Band LTE26 1.4MHz QPSK	 Band LTE26 1.4MHz EM QPSK Low Channel 1RB.gif	 Band LTE26 1.4MHz EM QPSK Low Channel FRB.gif

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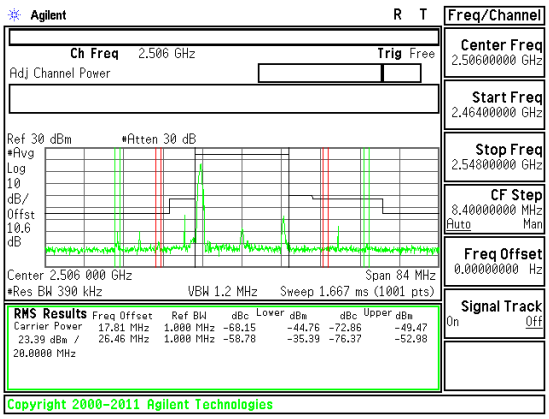
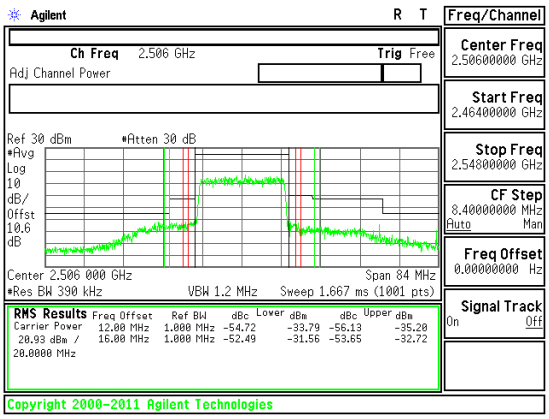
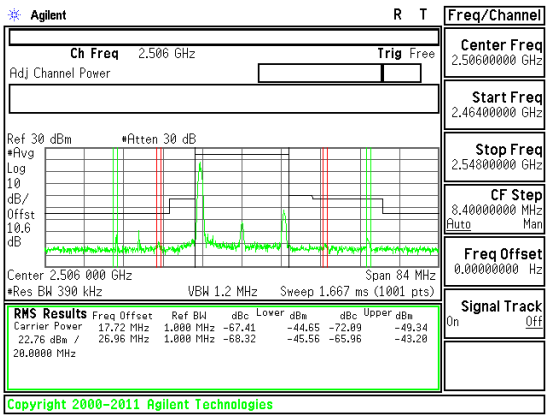
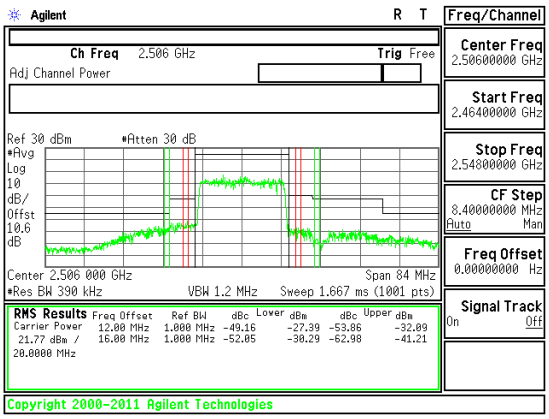
LTE Band 41

Band LTE41 20MHz 16QAM	 Band LTE41 20MHz EM 16QAM Low Channel 1RB.gif	 Band LTE41 20MHz EM 16QAM Low Channel FRB.gif
Band LTE41 20MHz QPSK	 Band LTE41 20MHz EM QPSK Low Channel 1RB.gif	 Band LTE41 20MHz EM QPSK Low Channel FRB.gif

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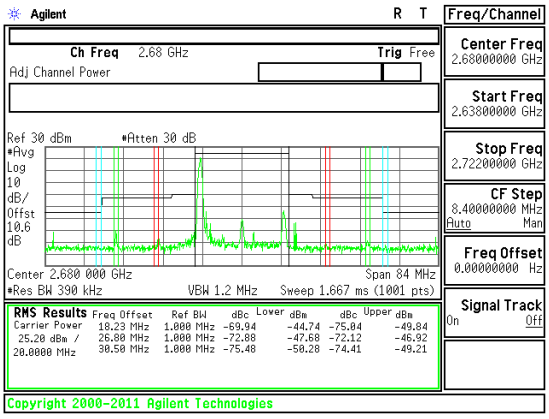
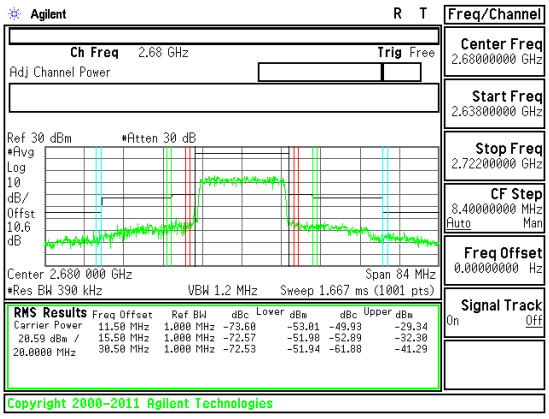
Band LTE41 20MHz 16QAM

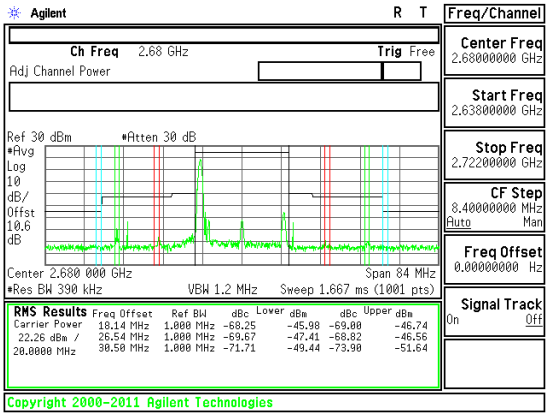


Band LTE41 20MHz EM 16QAM High Channel 1RB.gif

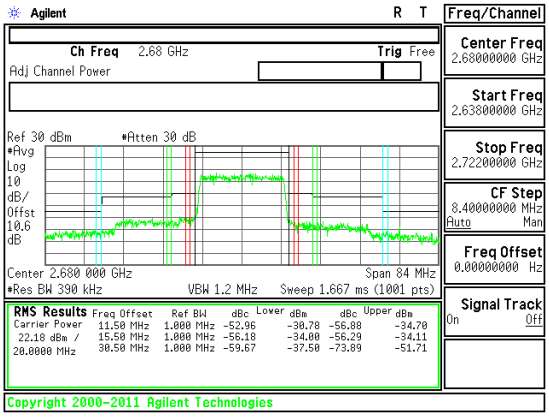


Band LTE41 20MHz EM 16QAM High Channel FRB.gif

Band LTE41 20MHz QPSK



Band LTE41 20MHz EM QPSK High Channel 1RB.gif



Band LTE41 20MHz EM QPSK High Channel FRB.gif

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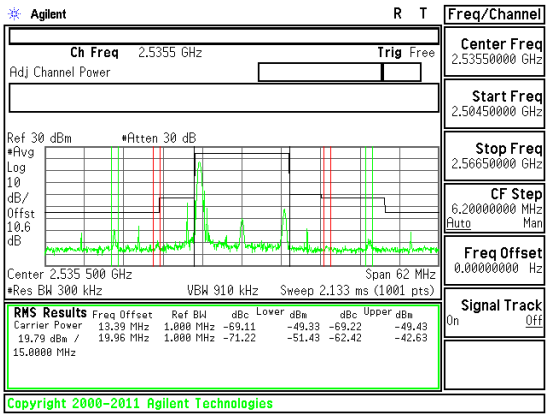
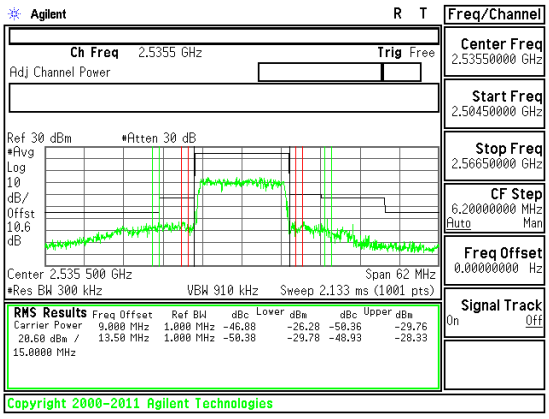
Band LTE41 15MHz 16QAM

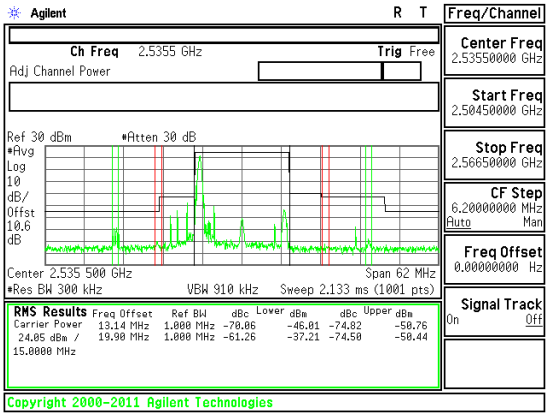


Band LTE41 15MHz EM 16QAM Low Channel 1RB.gif

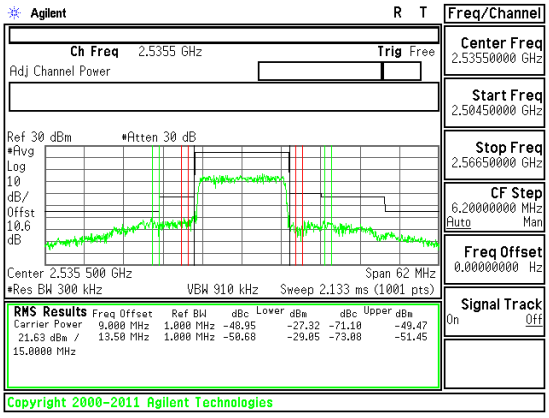


Band LTE41 15MHz EM 16QAM Low Channel FRB.gif

Band LTE41 15MHz QPSK



Band LTE41 15MHz EM QPSK Low Channel 1RB.gif



Band LTE41 15MHz EM QPSK Low Channel FRB.gif

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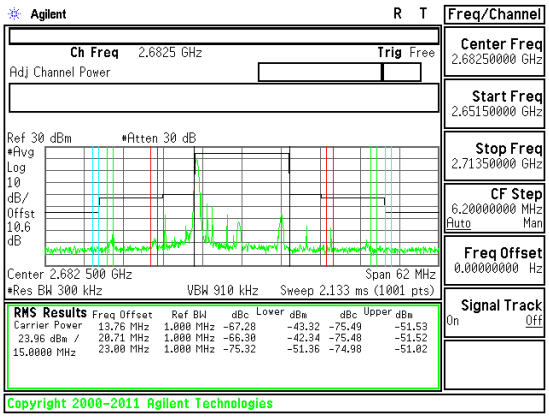
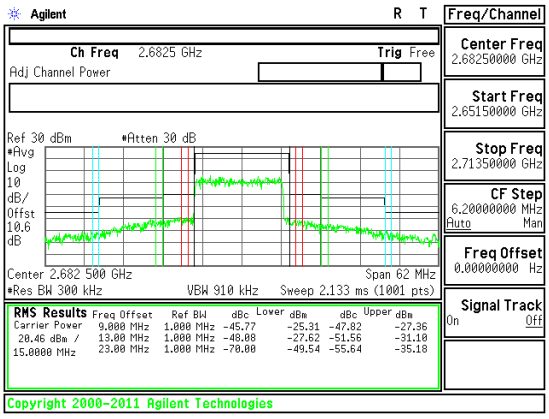
Band LTE41 15MHz 16QAM

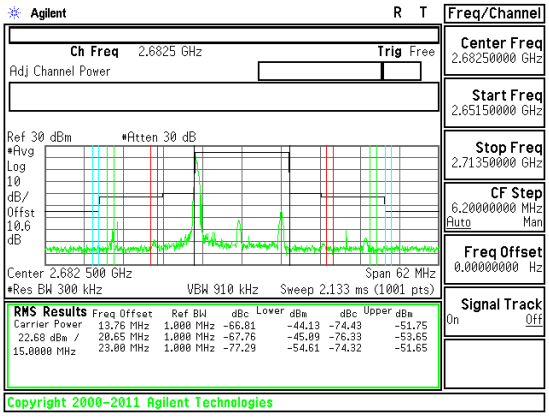


Band LTE41 15MHz EM 16QAM High Channel 1RB.gif

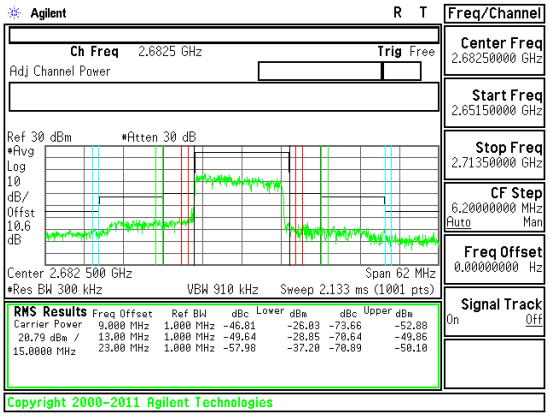


Band LTE41 15MHz EM 16QAM High Channel FRB.gif

Band LTE41 15MHz QPSK



Band LTE41 15MHz EM QPSK High Channel 1RB.gif



Band LTE41 15MHz EM QPSK High Channel FRB.gif

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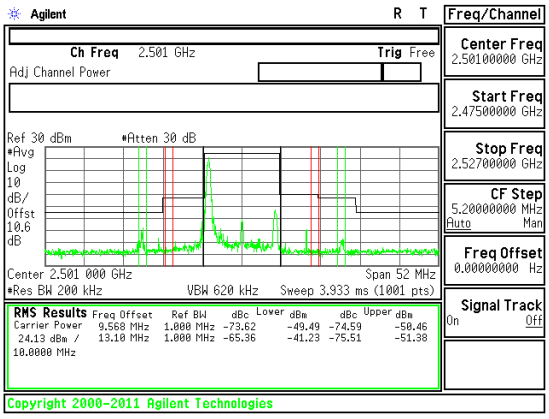
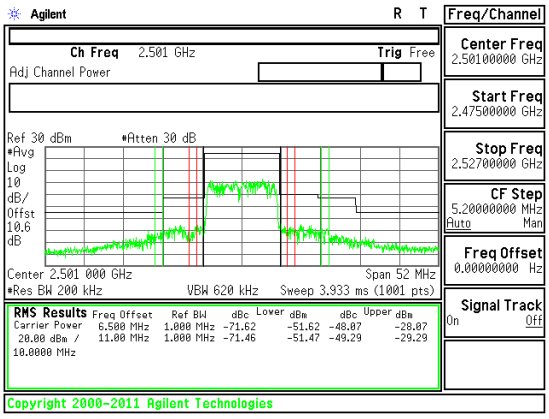
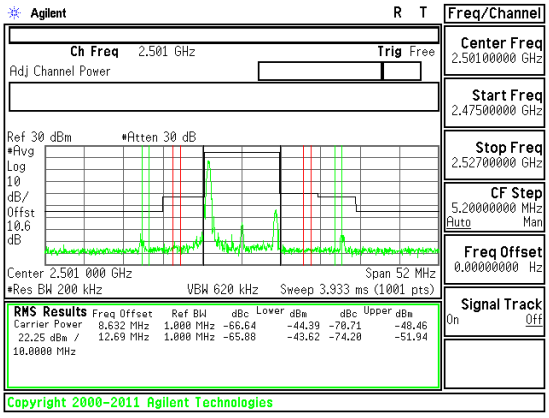
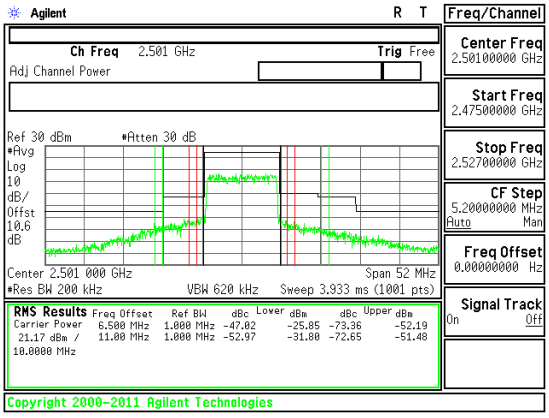
Band LTE41 10MHz 16QAM	 Band LTE41 10MHz EM 16QAM Low Channel 1RB.gif	 Band LTE41 10MHz EM 16QAM Low Channel FRB.gif
Band LTE41 10MHz QPSK	 Band LTE41 10MHz EM QPSK Low Channel 1RB.gif	 Band LTE41 10MHz EM QPSK Low Channel FRB.gif

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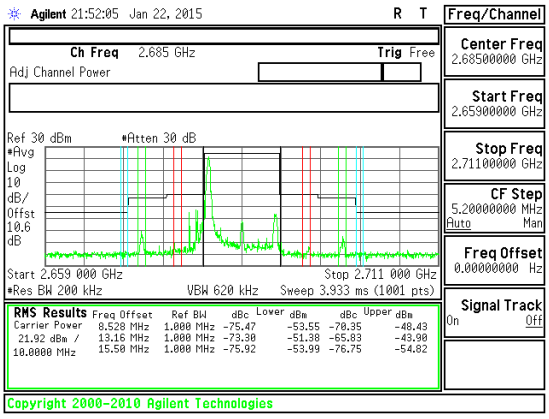
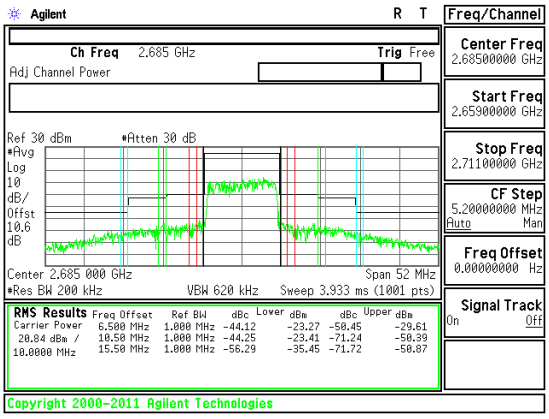
Band LTE41 10MHz 16QAM

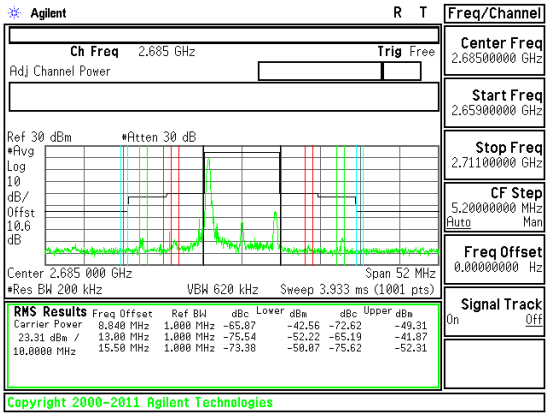


Band LTE41 10MHz EM 16QAM High Channel 1RB.gif

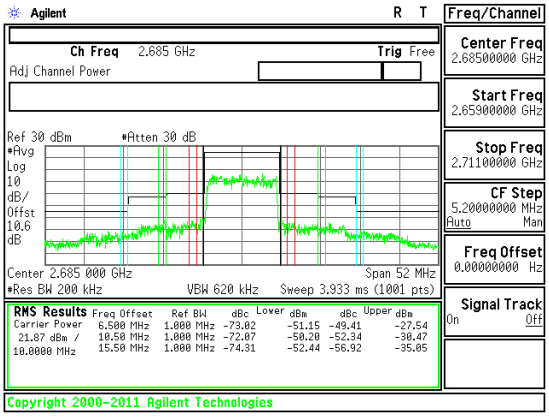


Band LTE41 10MHz EM 16QAM High Channel FRB.gif

Band LTE41 10MHz QPSK



Band LTE41 10MHz EM QPSK High Channel 1RB.gif



Band LTE41 10MHz EM QPSK High Channel FRB.gif

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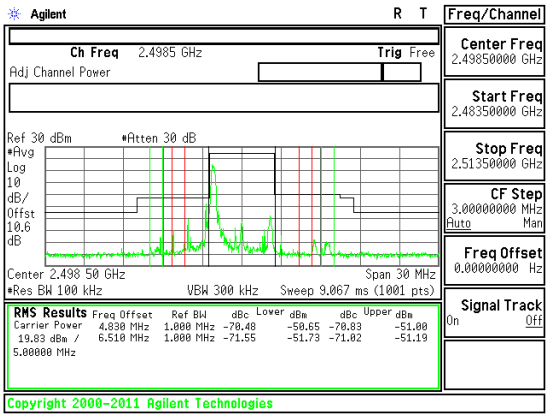
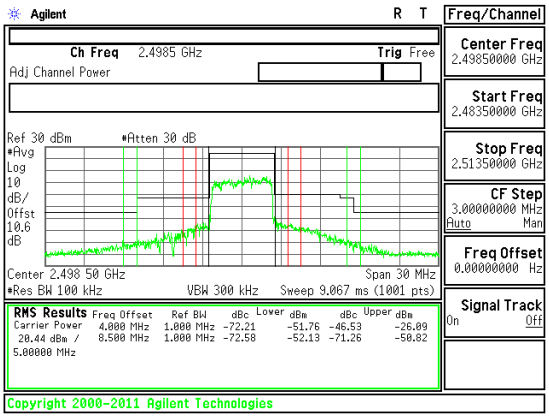
Band LTE41 5MHz 16QAM

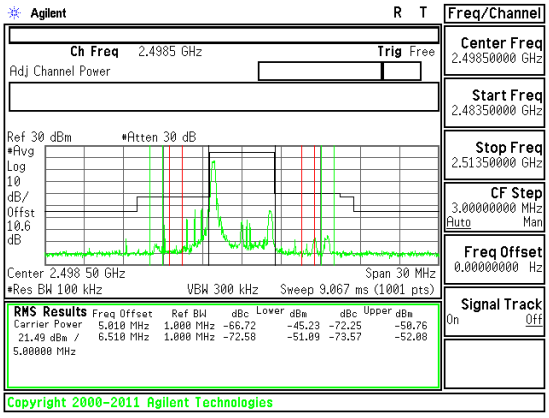


Band LTE41 5MHz EM 16QAM Low Channel 1RB.gif

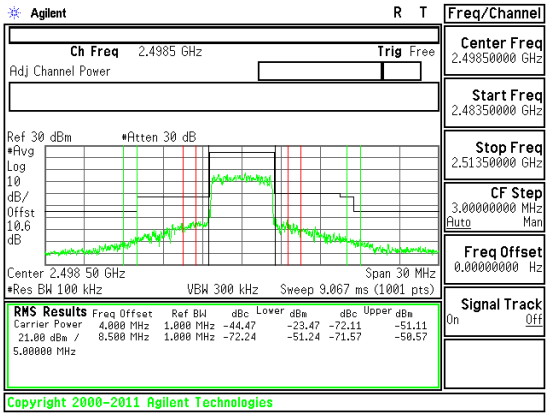


Band LTE41 5MHz EM 16QAM Low Channel FRB.gif

Band LTE41 5MHz QPSK



Band LTE41 5MHz EM QPSK Low Channel 1RB.gif



Band LTE41 5MHz EM QPSK Low Channel FRB.gif

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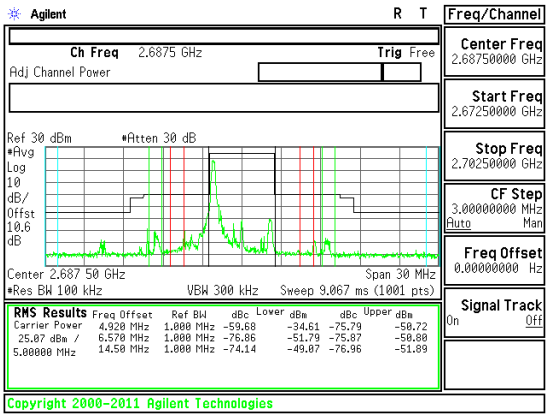
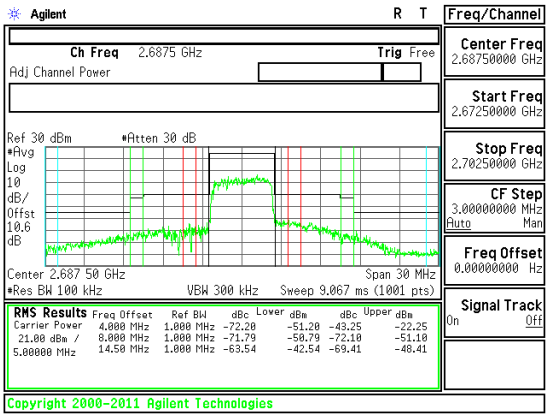
Band LTE41 5MHz 16QAM

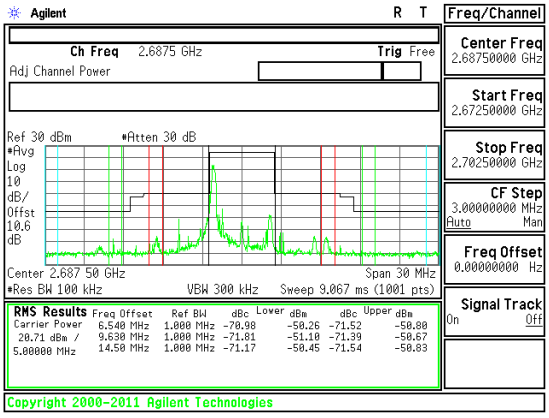


Band LTE41 5MHz EM 16QAM High Channel 1RB.gif

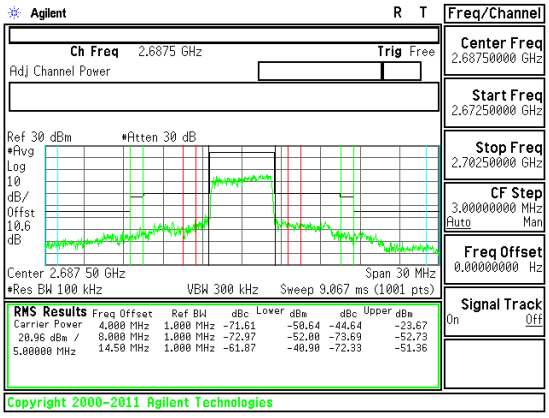


Band LTE41 5MHz EM 16QAM High Channel FRB.gif

Band LTE41 5MHz QPSK



Band LTE41 5MHz EM QPSK High Channel 1RB.gif



Band LTE41 5MHz EM QPSK High Channel FRB.gif

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10.3. OUT OF BAND EMISSIONS

RULE PART(S)

FCC: §2.1051, §22.901, §22.917, §24.238, §27.53 and §90.691

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.

Part 27: (m)(4) For mobile station, the attenuation factor shall be not less than 43+10Log(P)dB at the channel edge and (55+10Log(P)dB) at 5.5MHz from the channel edges.

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.

MODES TESTED

CDMA and LTE

RESULTS

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10.3.1. OUT OF BAND EMISSIONS RESULT

CDMA

Band	Mode	f (MHz)	Spur (dBm)	Spec (dBm)	Delta (dB)
BC10	1xRTT	817.9	-35.96	-13	-22.96
		820.5	-35.14	-13	-22.14
		823.1	-36.21	-13	-23.21
BC0		824.7	-36.78	-13	-23.78
		836.52	-33.43	-13	-20.43
		848.31	-36.59	-13	-23.59
BC1		1851.25	-34.7	-13	-21.7
		1880	-35.81	-13	-22.81
		1908.75	-36.02	-13	-23.02

Band	Mode	f (MHz)	Spur (dBm)	Spec (dBm)	Delta (dB)
BC10	EVDO-R0	817.9	-35.98	-13	-22.98
		820.5	-36.02	-13	-23.02
		823.1	-35.17	-13	-22.17
BC0		824.7	-35.62	-13	-22.62
		836.52	-35.93	-13	-22.93
		848.31	-35.54	-13	-22.54
BC1		1851.25	-35.79	-13	-22.79
		1880	-38.34	-13	-25.34
		1908.75	-36.37	-13	-23.37

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LTE Band 2

Band	BW (MHz)	Mode	f (MHz)	Spur (dBm)	Spec (dBm)	Delta (dB)
LTE2	20	QPSK	1860	-24.44	-13	-11.44
			1880	-24.16	-13	-11.16
			1900	-23.89	-13	-10.89
		16QAM	1860	-24.02	-13	-11.02
			1880	-24.13	-13	-11.13
			1900	-24.55	-13	-11.55
	15	QPSK	1857.5	-22.01	-13	-9.01
			1880	-24.67	-13	-11.67
			1902.5	-23.39	-13	-10.39
		16QAM	1857.5	-24.59	-13	-11.59
			1880	-23.9	-13	-10.9
			1902.5	-24.56	-13	-11.56
	10	QPSK	1855	-24.53	-13	-11.53
			1880	-24.14	-13	-11.14
			1905	-24.49	-13	-11.49
		16QAM	1855	-24.2	-13	-11.2
			1880	-24.42	-13	-11.42
			1905	-23.1	-13	-10.1
	5	QPSK	1852.5	-22.01	-13	-9.01
			1880	-24.67	-13	-11.67
			1907.5	-23.39	-13	-10.39
		16QAM	1852.5	-24.59	-13	-11.59
			1880	-23.9	-13	-10.9
			1907.5	-24.56	-13	-11.56
	3	QPSK	1851.5	-24.44	-13	-11.44
			1880	-24.16	-13	-11.16
			1908.5	-23.89	-13	-10.89
		16QAM	1851.5	-24.02	-13	-11.02
			1880	-24.13	-13	-11.13
			1908.5	-24.55	-13	-11.55

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Band	BW (MHz)	Mode	f (MHz)	Spur (dBm)	Spec (dBm)	Delta (dB)
LTE2	1.4	QPSK	1850.7	-25.25	-13	-12.25
			1880	-24.8	-13	-11.8
			1909.3	-24.42	-13	-11.42
		16QAM	1850.7	-23.84	-13	-10.84
			1880	-24.28	-13	-11.28
			1909.3	-24.54	-13	-11.54

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LTE Band 4

Band	BW (MHz)	Mode	f (MHz)	Spur (dBm)	Spec (dBm)	Delta (dB)
LTE4	20	QPSK	1720	-26.97	-13	-13.97
			1732.5	-28.7	-13	-15.7
			1745	-26.94	-13	-13.94
		16QAM	1720	-27.19	-13	-14.19
			1732.5	-28.7	-13	-15.7
			1745	-29.41	-13	-16.41
	15	QPSK	1717.5	-26.63	-13	-13.63
			1732.5	-27.11	-13	-14.11
			1747.5	-28.04	-13	-15.04
		16QAM	1717.5	-27.54	-13	-14.54
			1732.5	-28.36	-13	-15.36
			1747.5	-30.89	-13	-17.89
	10	QPSK	1715	-27.74	-13	-14.74
			1732.5	-28.6	-13	-15.6
			1750	-29.98	-13	-16.98
		16QAM	1715	-24.95	-13	-11.95
			1732.5	-28.61	-13	-15.61
			1750	-27.9	-13	-14.9
	5	QPSK	1712.5	-27.2	-13	-14.2
			1732.5	-28.4	-13	-15.4
			1752.5	-29.37	-13	-16.37
		16QAM	1712.5	-27.92	-13	-14.92
			1732.5	-27.58	-13	-14.58
			1752.5	-30.59	-13	-17.59

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Band	BW (MHz)	Mode	f (MHz)	Spur (dBm)	Spec (dBm)	Delta (dB)
LTE4	3	QPSK	1711.5	-26.21	-13	-13.21
			1732.5	-29.73	-13	-16.73
			1753.5	-30.2	-13	-17.2
		16QAM	1711.5	-26.92	-13	-13.92
			1732.5	-23.23	-13	-10.23
			1753.5	-30.24	-13	-17.24
	1.4	QPSK	1710.7	-25.72	-13	-12.72
			1732.5	-28.87	-13	-15.87
			1754.3	-28.99	-13	-15.99
		16QAM	1710.7	-23.42	-13	-10.42
			1732.5	-30.09	-13	-17.09
			1754.3	-30.27	-13	-17.27

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LTE Band 5

Band	BW (MHz)	Mode	f (MHz)	Spur (dBm)	Spec (dBm)	Delta (dB)
LTE5	10	QPSK	829	-25.26	-13	-12.26
			836.5	-24.81	-13	-11.81
			844	-24.62	-13	-11.62
		16QAM	829	-25.26	-13	-12.26
			836.5	-25.38	-13	-12.38
			844	-24.62	-13	-11.62
	5	QPSK	826.5	-25.55	-13	-12.55
			836.5	-29.751	-13	-16.751
			846.5	-25.738	-13	-12.738
		16QAM	826.5	-24.929	-13	-11.929
			836.5	-24.390	-13	-11.390
			846.5	-24.962	-13	-11.962
	3	QPSK	825.5	-25.433	-13	-12.433
			836.5	-24.662	-13	-11.662
			847.5	-24.884	-13	-11.884
		16QAM	825.5	-24.224	-13	-11.224
			836.5	-24.888	-13	-11.888
			847.5	-24.414	-13	-11.414
	1.4	QPSK	824.7	-25.239	-13	-12.239
			836.5	-25.094	-13	-12.094
			848.3	-25.386	-13	-12.386
		16QAM	824.7	-23.995	-13	-10.995
			836.5	-25.295	-13	-12.295
			848.3	-25.314	-13	-12.314

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LTE Band 12

Band	BW (MHz)	Mode	f (MHz)	Spur (dBm)	Spec (dBm)	Delta (dB)
LTE12	10	QPSK	704	-30.22	-13	-17.22
			707.5	-29.65	-13	-16.65
			711	-30.04	-13	-17.04
		16QAM	704	-29.47	-13	-16.47
			707.5	-29.86	-13	-16.86
			711	-29.508	-13	-16.508
	5	QPSK	701.5	-28.174	-13	-15.174
			707.5	-29.155	-13	-16.155
			713.5	-32.71	-13	-19.71
		16QAM	701.5	-28.54	-13	-15.54
			707.5	-30.29	-13	-17.29
			713.5	-31.859	-13	-18.859
	3	QPSK	700.5	-28.55	-13	-15.55
			707.5	-30.41	-13	-17.41
			714.5	-31.62	-13	-18.62
		16QAM	700.5	-28.84	-13	-15.84
			707.5	-30.306	-13	-17.306
			714.5	-32.03	-13	-19.03
	1.4	QPSK	699.7	-29.405	-13	-16.405
			707.5	-25.265	-13	-12.265
			715.3	-25.235	-13	-12.235
		16QAM	699.7	-30.269	-13	-17.269
			707.5	-29.91	-13	-16.91
			715.3	-31.6	-13	-18.6

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LTE Band 25

Band	BW (MHz)	Mode	f (MHz)	Spur (dBm)	Spec (dBm)	Delta (dB)
LTE25	20	QPSK	1860	-30.4	-13	-17.4
			1882.5	-30.12	-13	-17.12
			1905	-30.2	-13	-17.2
		16QAM	1860	-30.04	-13	-17.04
			1882.5	-29.93	-13	-16.93
			1905	-30.27	-13	-17.27
	15	QPSK	1857.5	-30.33	-13	-17.33
			1882.5	-29.5	-13	-16.5
			1907.5	-29.2	-13	-16.2
		16QAM	1857.5	-30.01	-13	-17.01
			1882.5	-30.04	-13	-17.04
			1907.5	-30.28	-13	-17.28
	10	QPSK	1855	-30.17	-13	-17.17
			1882.5	-29.37	-13	-16.37
			1910	-29.97	-13	-16.97
		16QAM	1855	-29.52	-13	-16.52
			1882.5	-29.08	-13	-16.08
			1910	-29.7	-13	-16.7
	5	QPSK	1852.5	-29.388	-13	-16.388
			1882.5	-29.835	-13	-16.835
			1912.5	-29.932	-13	-16.932
		16QAM	1852.5	-29.636	-13	-16.636
			1882.5	-30.385	-13	-17.385
			1912.5	-30.337	-13	-17.337

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Band	BW (MHz)	Mode	f (MHz)	Spur (dBm)	Spec (dBm)	Delta (dB)
LTE25	3	QPSK	1851.5	-30.277	-13	-17.277
			1882.5	-30.476	-13	-17.476
			1913.5	-29.809	-13	-16.809
		16QAM	1851.5	-29.841	-13	-16.841
			1882.5	-30.064	-13	-17.064
			1913.5	-29.628	-13	-16.628
	1.4	QPSK	1850.7	-30.515	-13	-17.515
			1882.5	-30.367	-13	-17.367
			1914.3	-29.6	-13	-16.6
		16QAM	1850.7	-30.056	-13	-17.056
			1882.5	-29.165	-13	-16.165
			1914.3	-29.789	-13	-16.789

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LTE Band 26

Band	BW (MHz)	Mode	f (MHz)	Spur (dBm)	Spec (dBm)	Delta (dB)
LTE26	15	QPSK	821.5	-32.82	-13	-19.82
			831.5	-33.27	-13	-20.27
			841.5	-33.49	-13	-20.49
		16QAM	821.5	-33.7	-13	-20.7
			831.5	-33.21	-13	-20.21
			841.5	-32.89	-13	-19.89
	10	QPSK	819	-33.15	-13	-20.15
			831.5	-33.18	-13	-20.18
			844	-33.08	-13	-20.08
		16QAM	819	-32.21	-13	-19.21
			831.5	-32.64	-13	-19.64
			844	-33.12	-13	-20.12
	5	QPSK	816.5	-33.179	-13	-20.179
			831.5	-33.074	-13	-20.074
			846.5	-33.225	-13	-20.225
		16QAM	816.5	-33.03	-13	-20.03
			831.5	-32.685	-13	-19.685
			846.5	-33.724	-13	-20.724
	3	QPSK	815.5	-33.347	-13	-20.347
			831.5	-33.799	-13	-20.799
			847.5	-33.609	-13	-20.609
		16QAM	815.5	-32.713	-13	-19.713
			831.5	-33.194	-13	-20.194
			847.5	-33.182	-13	-20.182
	1.4	QPSK	814.7	-32.359	-13	-19.359
			831.5	-33.102	-13	-20.102
			848.3	-33.39	-13	-20.39
		16QAM	814.7	-33.741	-13	-20.741
			831.5	-34.012	-13	-21.012
			848.3	-33.212	-13	-20.212

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LTE Band 41

Band	BW (MHz)	Mode	f (MHz)	Spur (dBm)	Spec (dBm)	Delta (dB)
LTE41	20	QPSK	2506	-37.48	-25	-12.48
			2593	-33.73	-25	-8.73
			2680	-36.72	-25	-11.72
		16QAM	2506	-34.3	-25	-9.3
			2593	-33.7	-25	-8.7
			2680	-36.49	-25	-11.49
	15	QPSK	2503.5	-34.99	-25	-9.99
			2593	-29.65	-25	-4.65
			2682.5	-29.86	-25	-4.86
		16QAM	2503.5	-36.15	-25	-11.15
			2593	-29.72	-25	-4.72
			2682.5	-29.43	-25	-4.43
	10	QPSK	2501	-29.33	-25	-4.33
			2593	-30.68	-25	-5.68
			2685	-30.58	-25	-5.58
		16QAM	2501	-35.74	-25	-10.74
			2593	-30.25	-25	-5.25
			2685	-35.45	-25	-10.45
	5	QPSK	2498.5	-30.39	-25	-5.39
			2593	-29.97	-25	-4.97
			2687.5	-30.33	-25	-5.33
		16QAM	2498.5	-29.69	-25	-4.69
			2593	-30.45	-25	-5.45
			2687.5	-30.26	-25	-5.26

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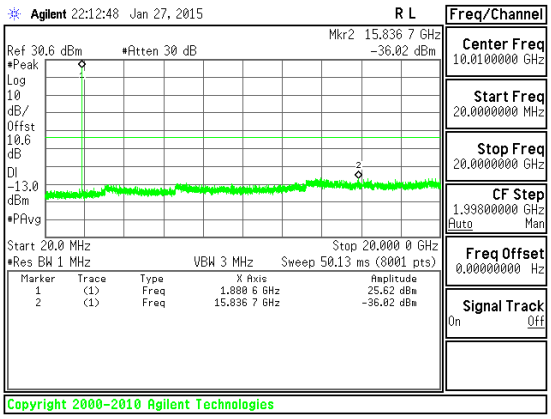
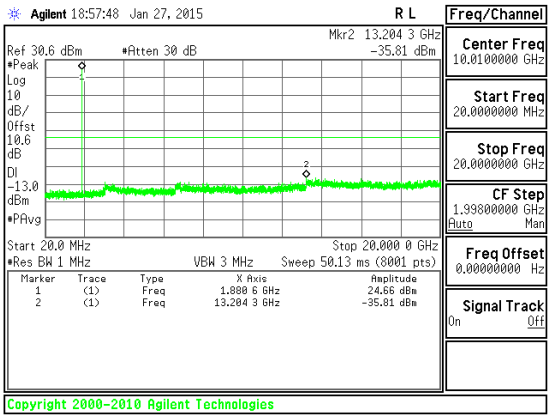
10.3.1. OUT OF BAND EMISSIONS PLOTS

CDMA

Band BC1 EVDO REL. 0	 Band BC1 EVDO Rel. 0 CSE Mid channel	 Band BC1 1xRTT CSE Mid channel

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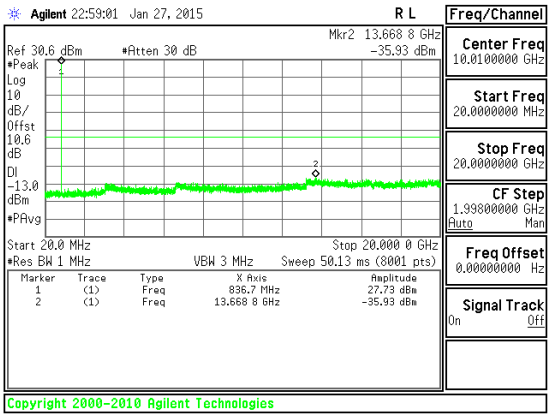
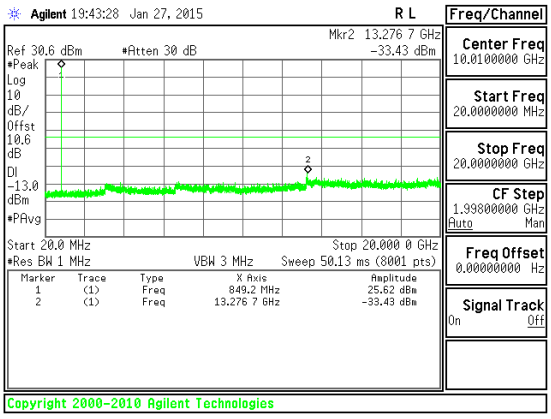
Band BC0 EVDO REL. 0

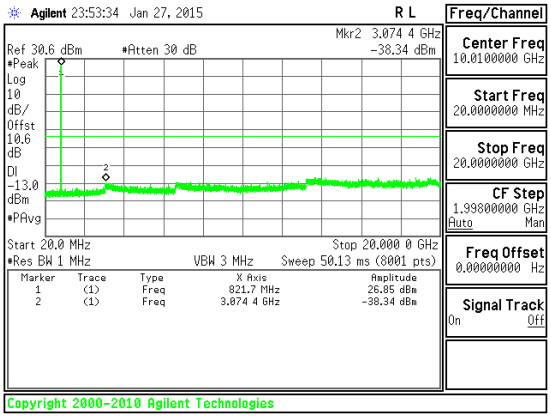


Band BC0 EVDO Rel. 0 CSE Mid channel

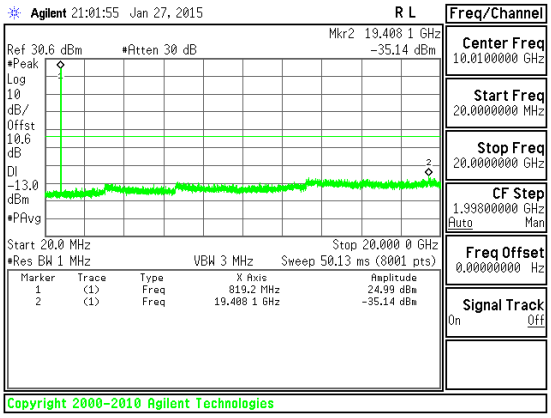


Band BC0 1xRTT CSE Mid channel

Band BC10 EVDO REL. 0



Band BC10 EVDO Rel. 0 CSE Mid channel



Band BC10 1xRTT CSE Mid channel

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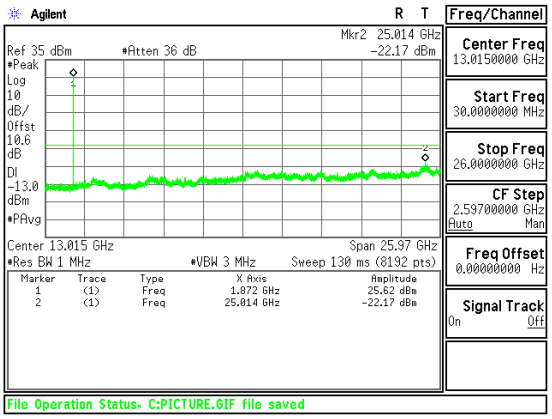
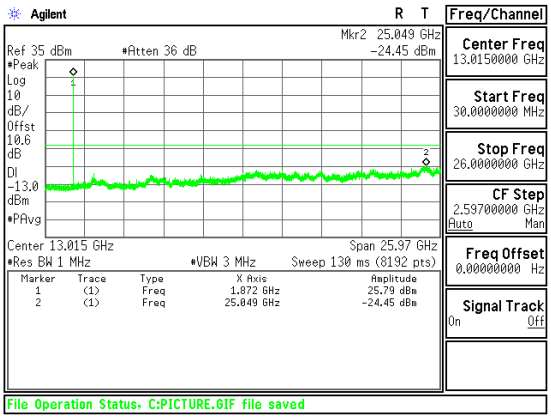
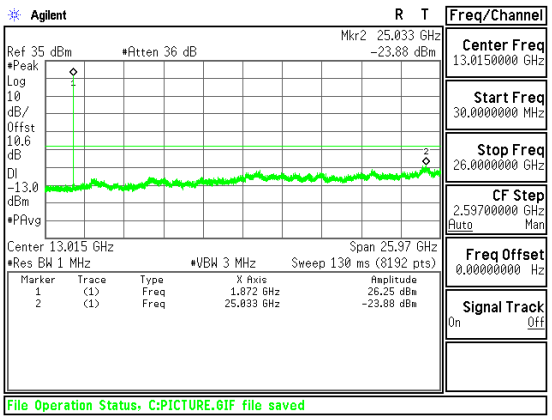
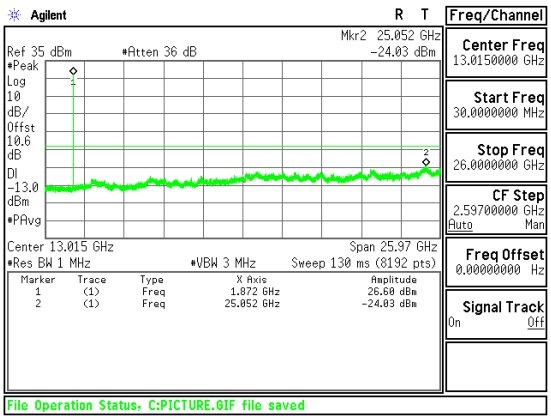
LTE Band 2

Band LTE2 20MHz 16QAM	 Band LTE2 20MHz CSE 16QAM Mid channel	 Band LTE2 20MHz CSE QPSK Mid channel

Band LTE2 15MHz 16QAM	 Band LTE2 15MHz CSE 16QAM Mid channel	 Band LTE2 15MHz CSE QPSK Mid channel

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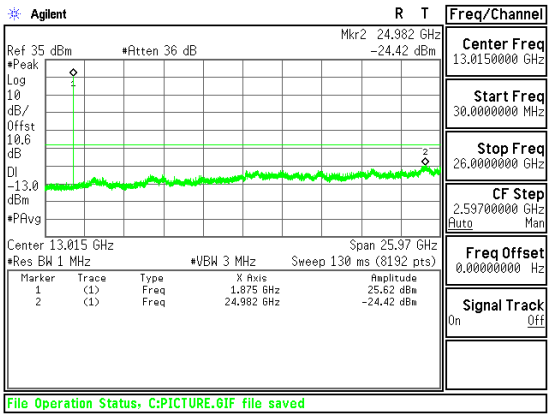
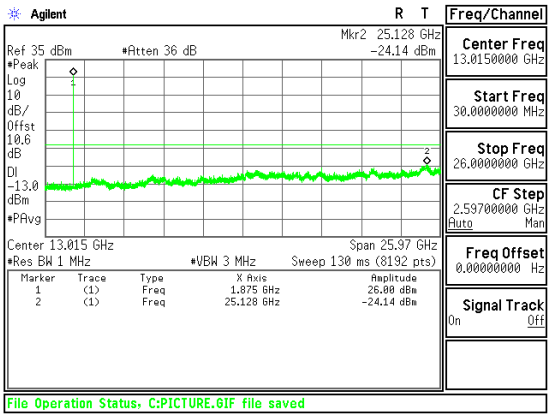
Band LTE2 10MHz 16QAM

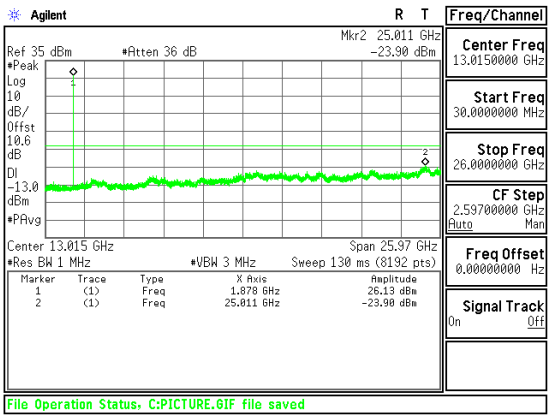


Band LTE2 10MHz CSE 16QAM Mid channel

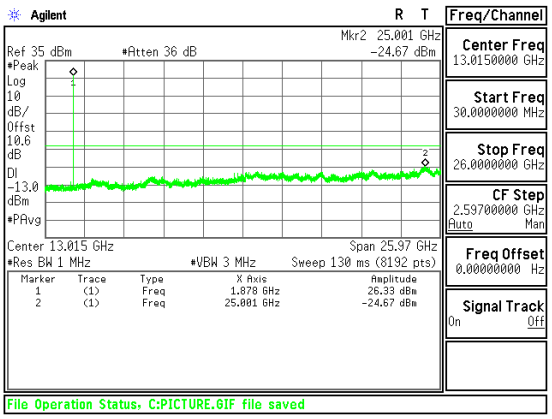


Band LTE2 10MHz CSE QPSK Mid channel

Band LTE2 5MHz 16QAM



Band LTE2 5MHz CSE 16QAM Mid channel



Band LTE2 5MHz CSE QPSK Mid channel

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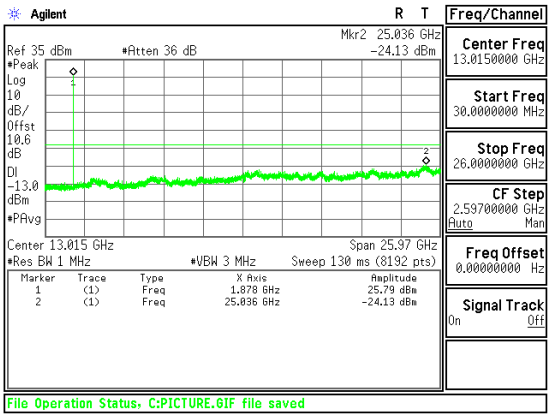
Band

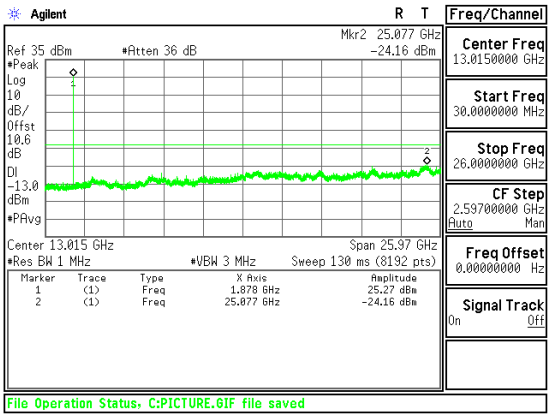
LTE2

3MHz

16QAM



Band LTE2 3MHz CSE 16QAM Mid channel



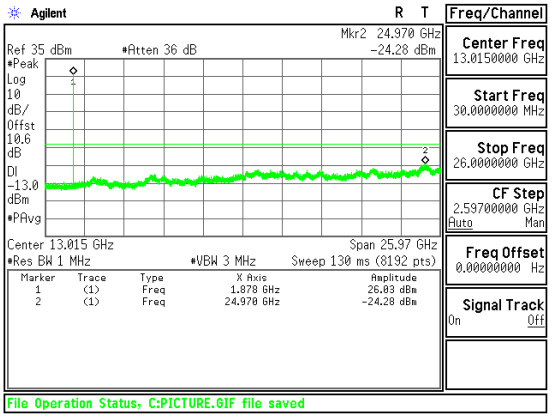
Band LTE2 3MHz CSE QPSK Mid channel

Band

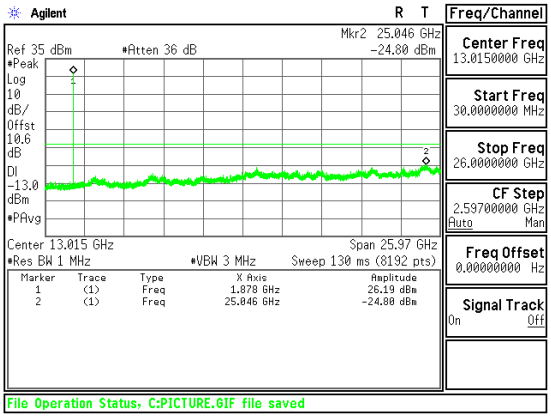
LTE2

1.4MHz

16QAM



Band LTE2 1.4MHz CSE 16QAM Mid channel



Band LTE2 1.4MHz CSE QPSK Mid channel

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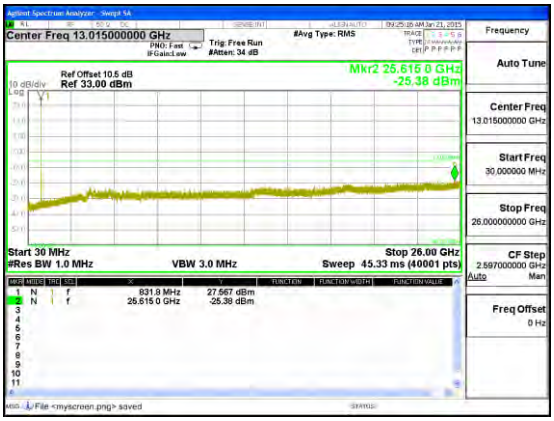
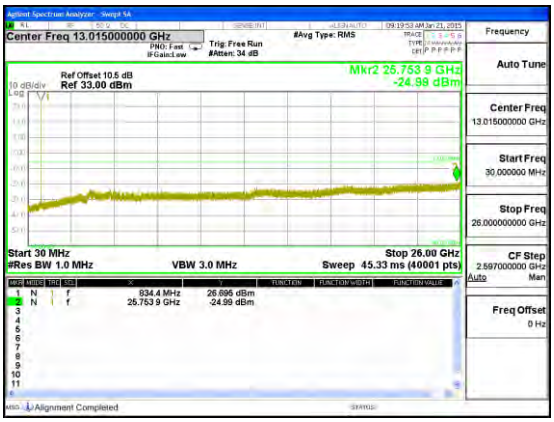
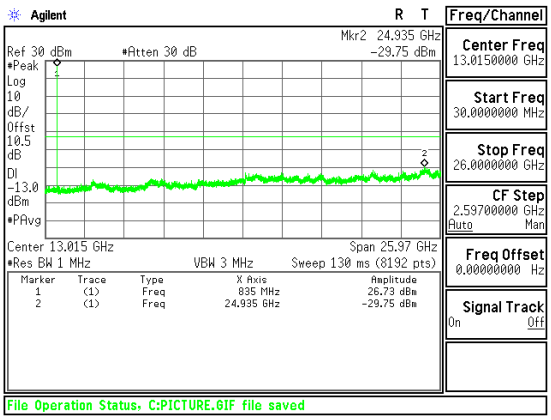
LTE Band 5

Band LTE5 10MHz 16QAM	 Band LTE5 10MHz CSE 16QAM Mid channel	 Band LTE5 10MHz CSE QPSK Mid channel

Band LTE5 5MHz 16QAM	 Band LTE5 5MHz CSE 16QAM Mid channel	 Band LTE5 5MHz CSE QPSK Mid channel

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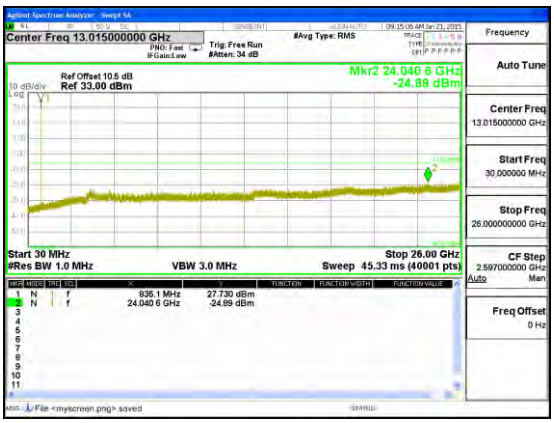
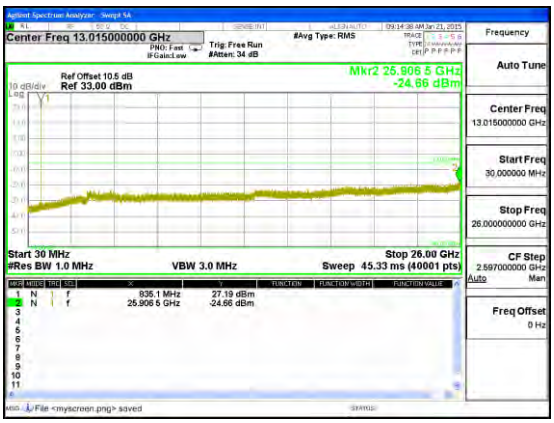
Band LTE5 3MHz 16QAM	 Band LTE5 3MHz CSE 16QAM Mid channel	 Band LTE5 3MHz CSE QPSK Mid channel

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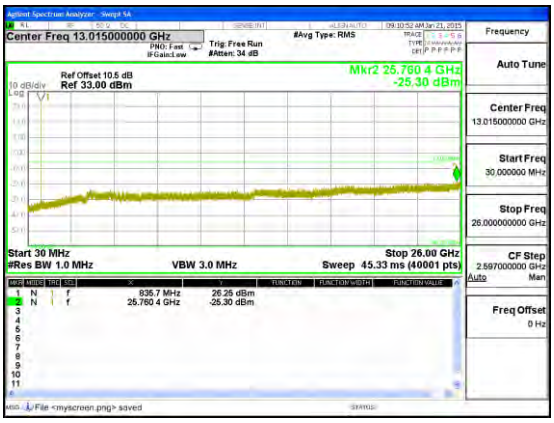
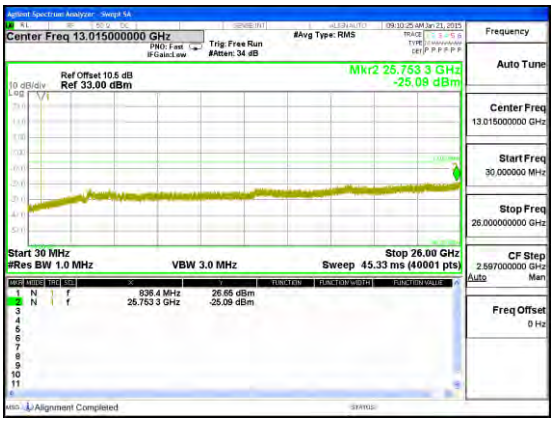
Band LTE5 1.4MHz 16QAM	 Band LTE5 1.4MHz CSE 16QAM Mid channel	 Band LTE5 1.4MHz CSE QPSK Mid channel

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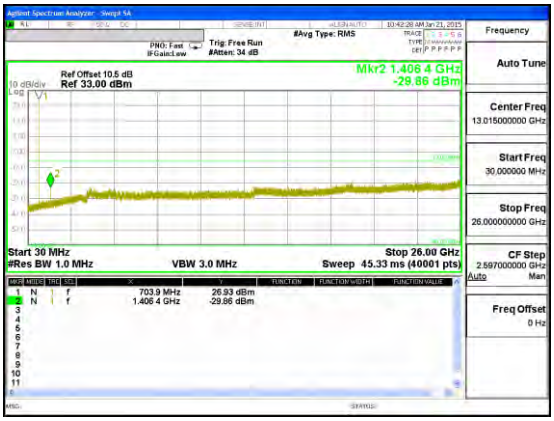
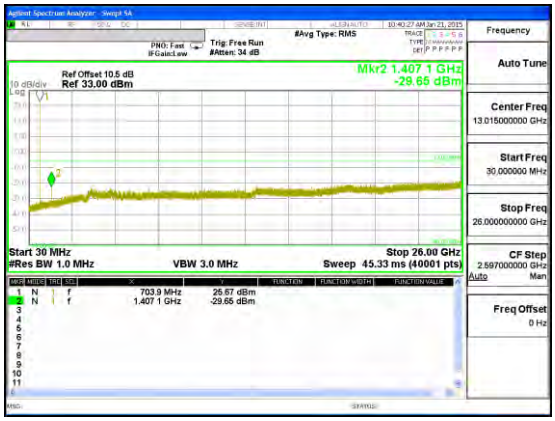
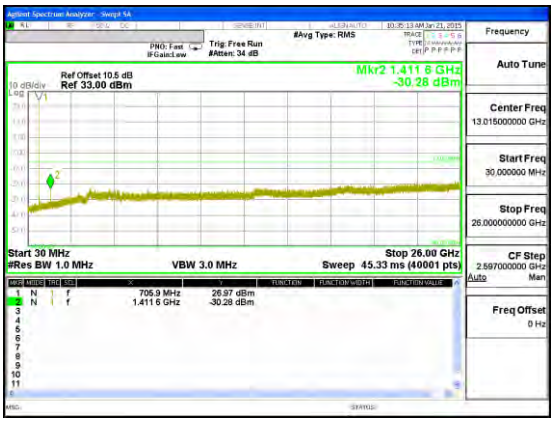
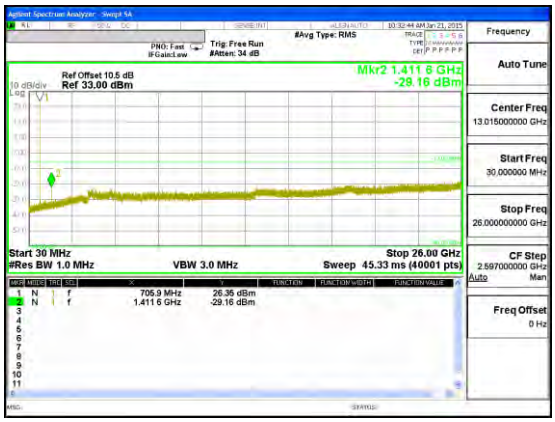
LTE Band 12

Band LTE12 10MHz 16QAM	 Band LTE12 10MHz CSE 16QAM Mid channel	 Band LTE12 10MHz CSE QPSK Mid channel

Band LTE12 5MHz 16QAM	 Band LTE12 5MHz CSE 16QAM Mid channel	 Band LTE12 5MHz CSE QPSK Mid channel

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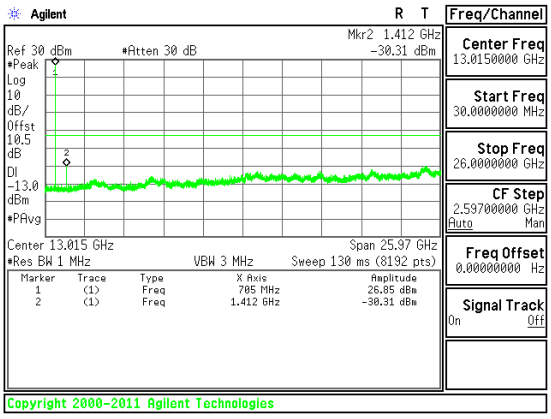
Band

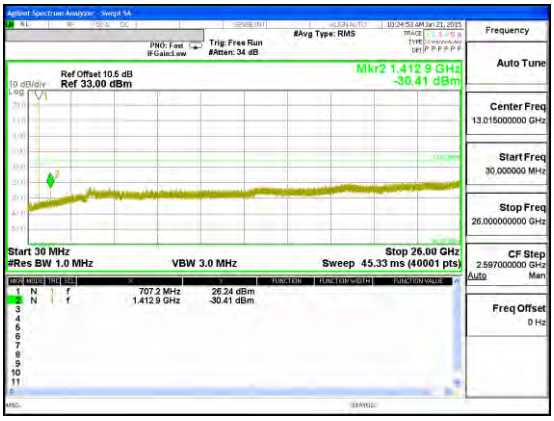
LTE12

3MHz

16QAM



Band LTE12 3MHz CSE 16QAM Mid channel



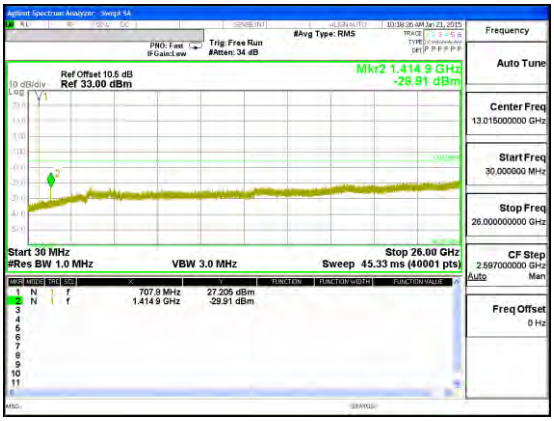
Band LTE12 3MHz CSE QPSK Mid channel

Band

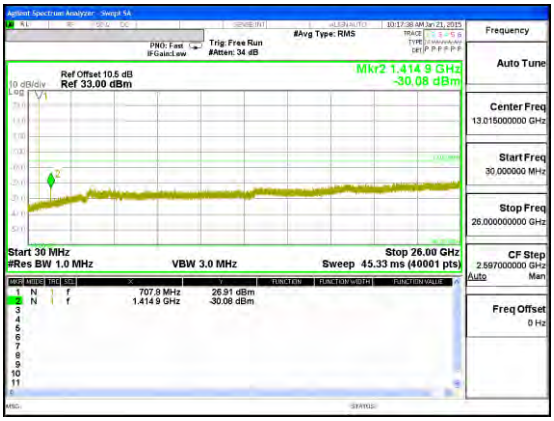
LTE12

1.4MHz

16QAM



Band LTE12 1.4MHz CSE 16QAM Mid channel



Band LTE12 1.4MHz CSE QPSK Mid channel

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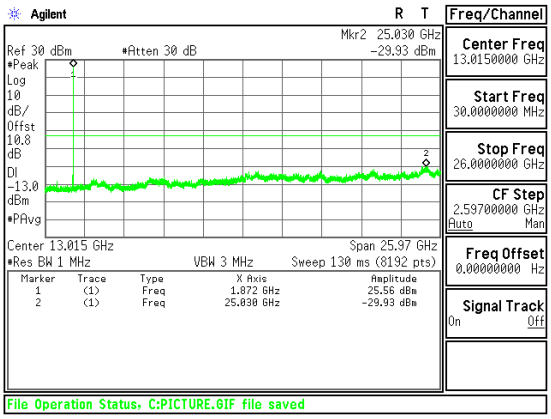
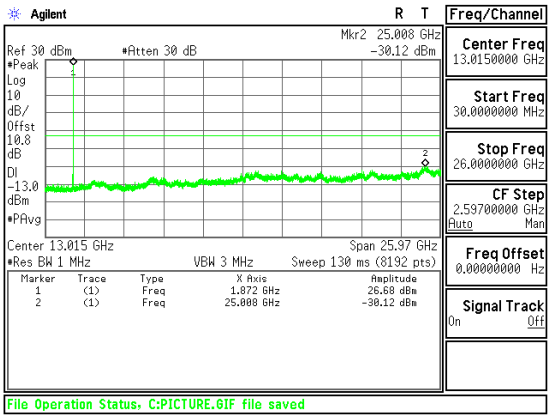
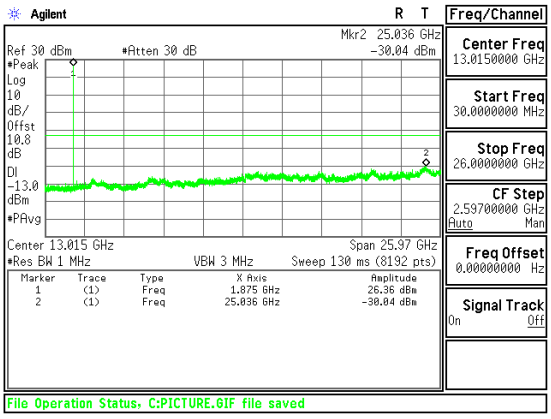
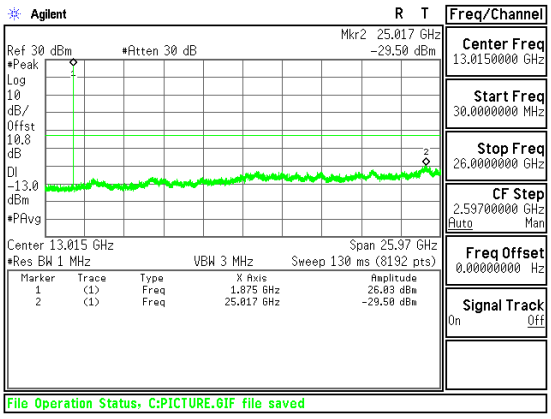
LTE Band 25

Band LTE25 20MHz 16QAM	 Band LTE25 20MHz CSE 16QAM Mid channel	 Band LTE25 20MHz CSE QPSK Mid channel

Band LTE25 15MHz 16QAM	 Band LTE25 15MHz CSE 16QAM Mid channel	 Band LTE25 15MHz CSE QPSK Mid channel

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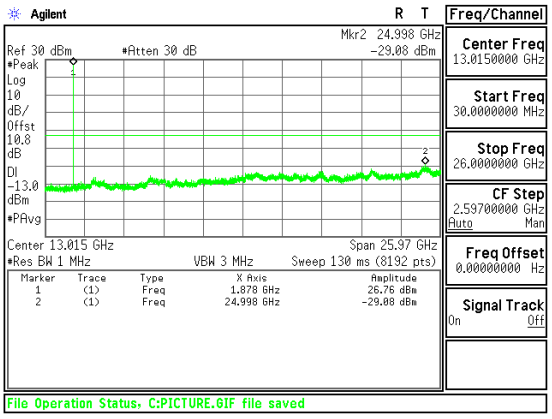
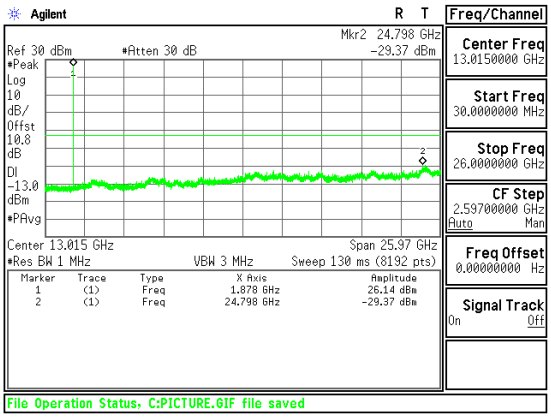
Band LTE25 10MHz 16QAM

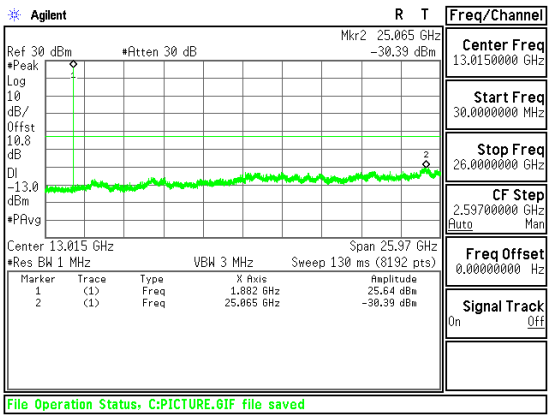


Band LTE25 10MHz CSE 16QAM Mid channel

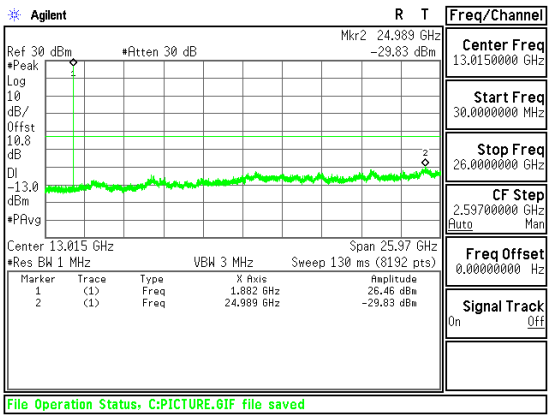


Band LTE25 10MHz CSE QPSK Mid channel

Band LTE25 5MHz 16QAM



Band LTE25 5MHz CSE 16QAM Mid channel



Band LTE25 5MHz CSE QPSK Mid channel

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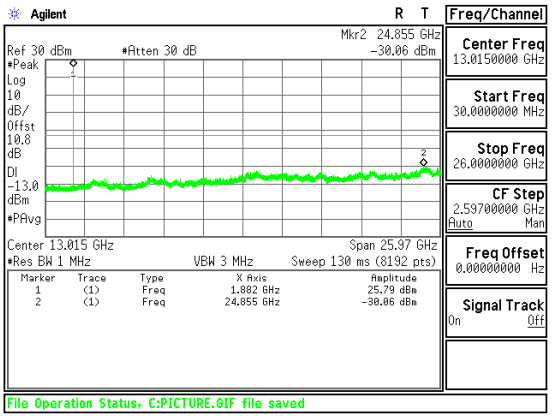
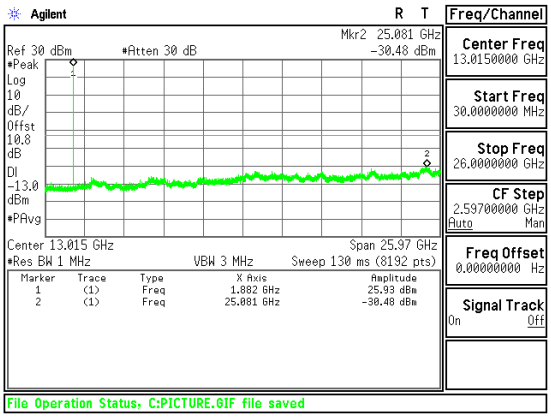
Band LTE25 3MHz 16QAM

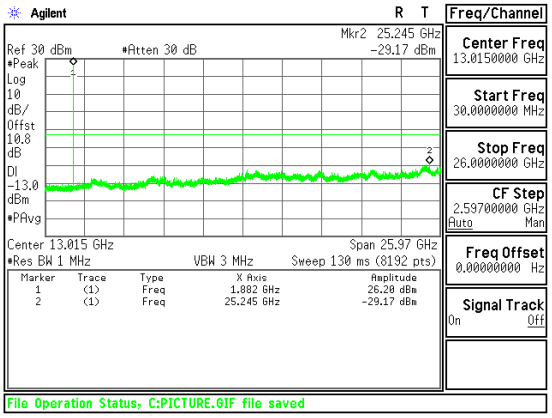


Band LTE25 3MHz CSE 16QAM Mid channel

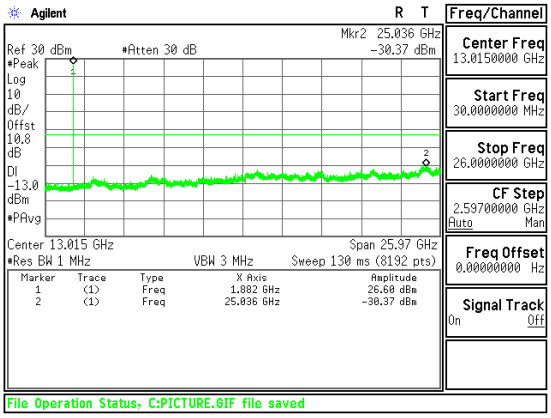


Band LTE25 3MHz CSE QPSK Mid channel

Band LTE25 1.4MHz 16QAM



Band LTE25 1.4MHz CSE 16QAM Mid channel



Band LTE25 1.4MHz CSE QPSK Mid channel

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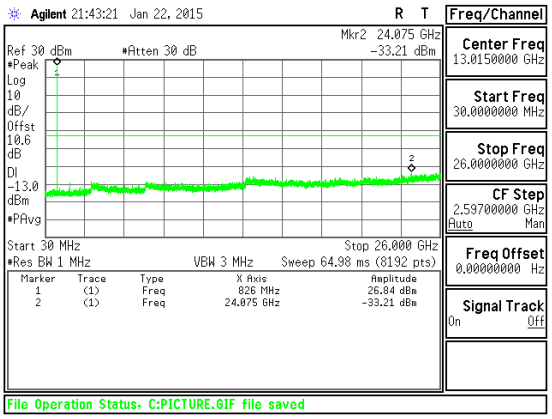
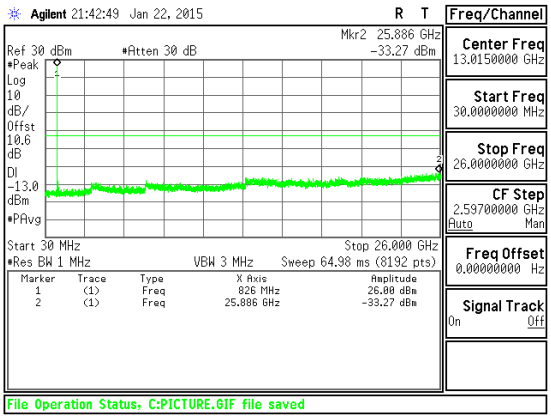
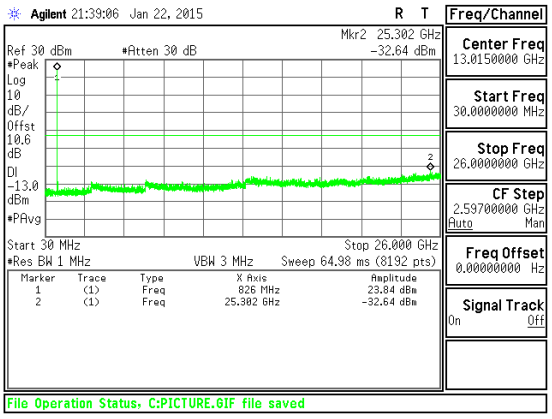
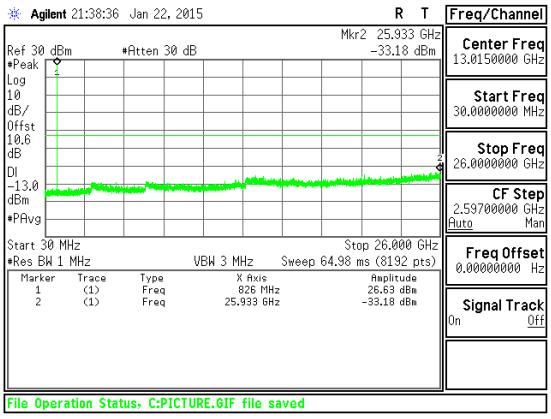
LTE Band 26

Band LTE26 15MHz 16QAM	 Band LTE26 15MHz CSE 16QAM Mid channel	 Band LTE26 15MHz CSE QPSK Mid channel

Band LTE26 10MHz 16QAM	 Band LTE26 10MHz CSE 16QAM Mid channel	 Band LTE26 10MHz CSE QPSK Mid channel

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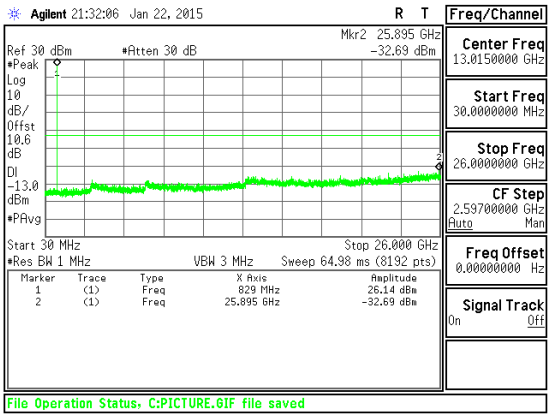
Band

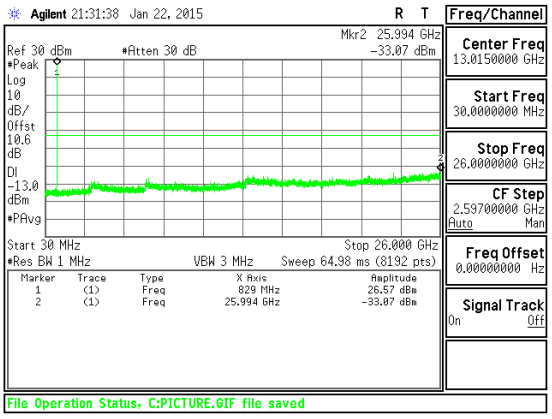
LTE26

5MHz

16QAM



Band LTE26 5MHz CSE 16QAM Mid channel



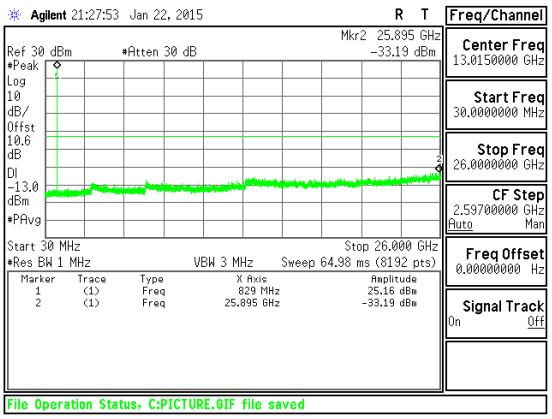
Band LTE26 5MHz CSE QPSK Mid channel

Band

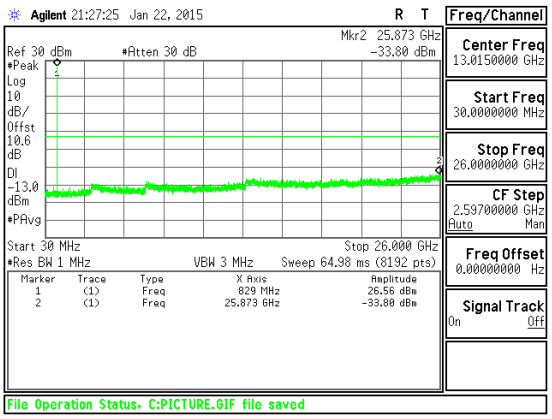
LTE26

3MHz

16QAM



Band LTE26 3MHz CSE 16QAM Mid channel



Band LTE26 3MHz CSE QPSK Mid channel

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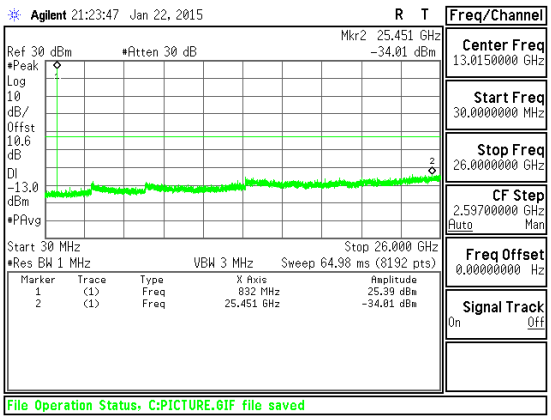
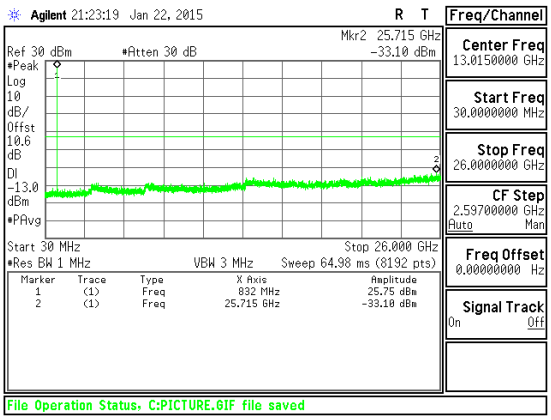
Band LTE26 1.4MHz 16QAM	 Band LTE26 1.4MHz CSE 16QAM Mid channel	 Band LTE26 1.4MHz CSE QPSK Mid channel

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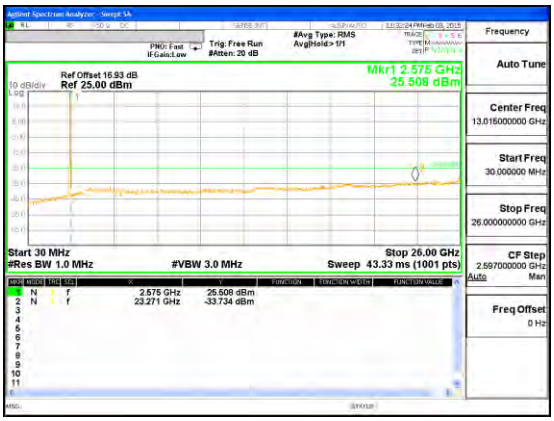
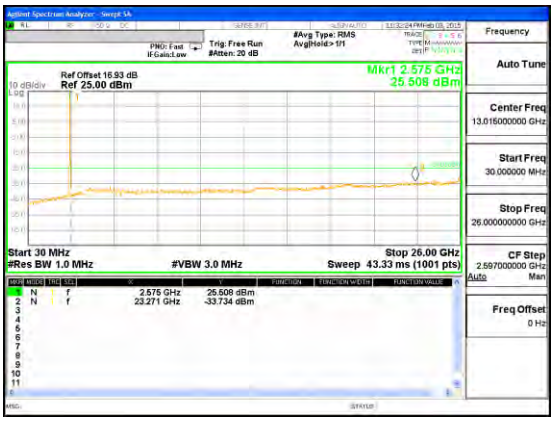
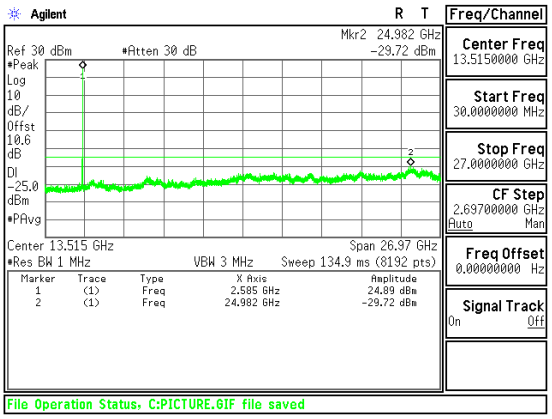
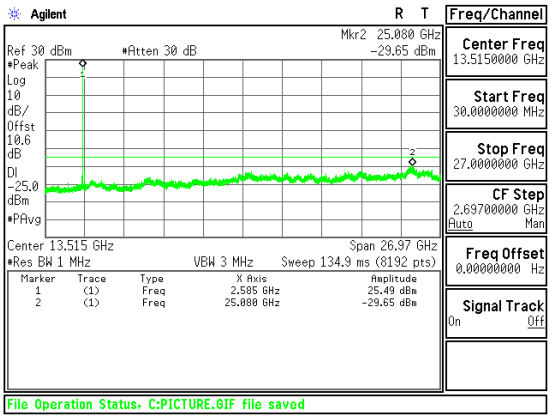
LTE Band 41

Band LTE41 20MHz 16QAM	 Band LTE41 20MHz CSE 16QAM Low channel	 Band LTE41 20MHz CSE QPSK Mid channel

Band LTE41 15MHz 16QAM	 Band LTE41 15MHz CSE 16QAM Mid channel	 Band LTE41 15MHz CSE QPSK Mid channel

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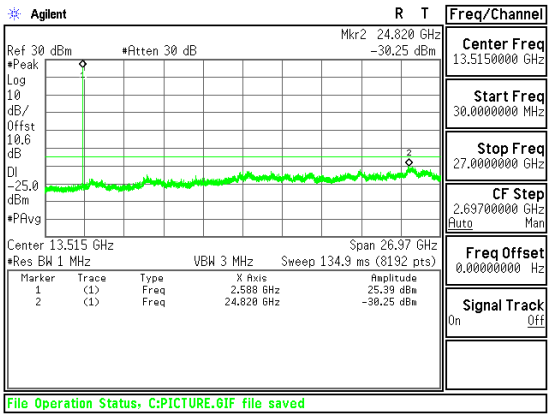
Band

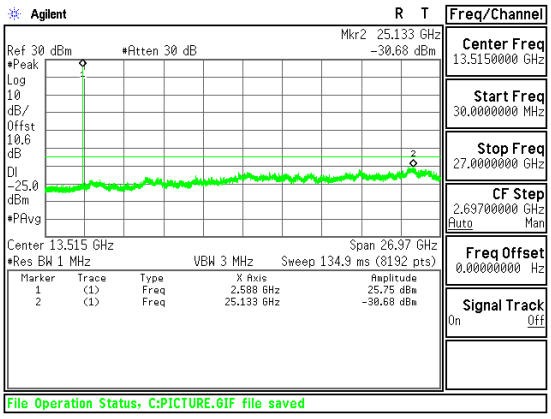
LTE41

10MHz

16QAM



Band LTE41 10MHz CSE 16QAM Mid channel



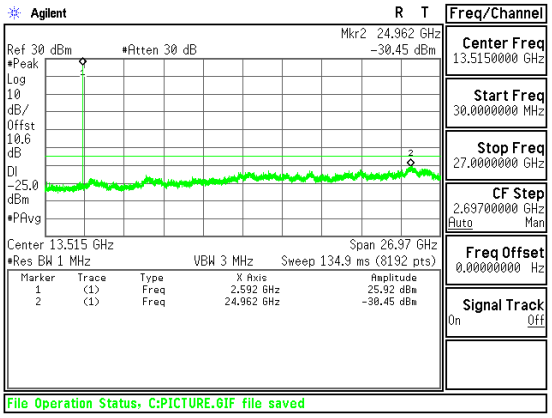
Band LTE41 10MHz CSE QPSK Mid channel

Band

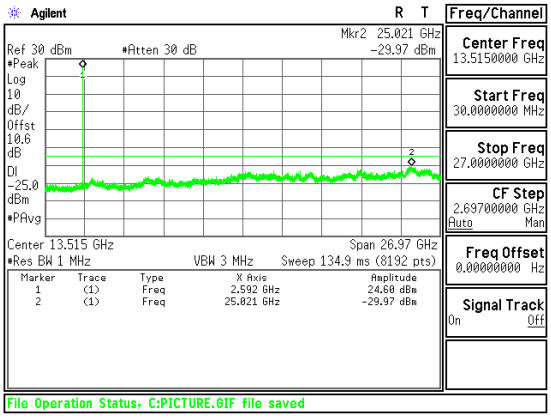
LTE41

5MHz

16QAM



Band LTE41 5MHz CSE 16QAM Mid channel



Band LTE41 5MHz CSE QPSK Mid channel

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11. FREQUENCY STABILITY

RULE PART(S)

FCC: §2.1055, §22.355, §24.235, §27.54 and §90.213

LIMITS

§22.355 - The carrier frequency shall not depart from the reference frequency in excess of ±2.5 ppm for mobile stations.

§24.235 - The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

§27.54 - The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.

§90.213 - The carrier frequency shall not depart from the reference frequency in excess of ±2.5 ppm for mobile stations.

TEST PROCEDURE

Per KDB 971168 D01 Power Meas License Digital Systems v02r02

MODES TESTED

LTE

RESULTS

See the following pages.

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11.1.1. FREQUENCY STABILITY RESULTS

LTE Band 2 – MID CHANNEL (1880.0 MHz)

Reference Frequency: Cellular Mid Channel 1879.999975MHz @ 20°C Limit: to stay +- 2.5 ppm = 4700.000 Hz				
Power Supply (Vdc)	Environment Temperature (°C)	Frequency Deviation Measureed with Time Elapse		
		(MHz)	Delta (ppm)	Limit (ppm)
3.80	50	1879.999971	0.002	2.5
3.80	40	1879.999973	0.001	2.5
3.80	30	1879.999975	0.000	2.5
3.80	***20***	***1879.999975***	***0***	2.5
3.80	10	1879.999975	0.000	2.5
3.80	0	1879.999975	0.000	2.5
3.80	-10	1879.999976	-0.001	2.5
3.80	-20	1879.999977	-0.001	2.5
3.80	-30	1879.999978	-0.001	2.5

Reference Frequency: Cellular Mid Channel 1879.999975MHz @ 20°C Limit: to stay +- 2.5 ppm = 4700.000 Hz				
Power Supply (Vdc)	Environment Temperature (°C)	Frequency Deviation Measureed with Time Elapse		
		(MHz)	Delta (ppm)	Limit (ppm)
3.80	***20***	***1879.999975***	***0***	***2.5***
3.23	20	1879.999976	*0.000*	2.5
4.37	20	1879.999973	*0.001*	2.5

LTE Band 4 – MID CHANNEL (1732.5 MHz)

Reference Frequency: Cellular Mid Channel 1732.500012MHz @ 20°C Limit: to stay +- 2.5 ppm = 4331.250 Hz				
Power Supply (Vdc)	Environment Temperature (°C)	Frequency Deviation Measureed with Time Elapse		
		(MHz)	Delta (ppm)	Limit (ppm)
3.80	50	1732.500010	0.001	2.5
3.80	40	1732.500010	0.001	2.5
3.80	30	1732.500011	0.001	2.5
3.80	***20***	***1732.500012***	***0***	2.5
3.80	10	1732.500011	0.000	2.5
3.80	0	1732.500011	0.000	2.5
3.80	-10	1732.500009	0.002	2.5
3.80	-20	1732.500011	0.001	2.5
3.80	-30	1732.500011	0.001	2.5

Reference Frequency: Cellular Mid Channel 1732.500012MHz @ 20°C Limit: to stay +- 2.5 ppm = 4331.250 Hz				
Power Supply (Vdc)	Environment Temperature (°C)	Frequency Deviation Measureed with Time Elapse		
		(MHz)	Delta (ppm)	Limit (ppm)
3.80	***20***	***1732.500012***	***0***	***2.5***
3.23	20	1732.500010	*0.001*	2.5
4.37	20	1732.500011	*0.001*	2.5

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LTE Band 5 – MID CHANNEL (836.5 MHz)

Reference Frequency: Cellular Mid Channel 836.500007MHz @ 20°C Limit: to stay +- 2.5 ppm = 2091.250 Hz				
Power Supply (Vdc)	Environment Temperature (°C)	Frequency Deviation Measureed with Time Elapse		
		(MHz)	Delta (ppm)	Limit (ppm)
3.80	50	836.500005	0.002	2.5
3.80	40	836.500007	0.000	2.5
3.80	30	836.500006	0.001	2.5
3.80	***20***	***836.500007***	***0***	2.5
3.80	10	836.500006	0.000	2.5
3.80	0	836.500007	0.000	2.5
3.80	-10	836.500008	-0.001	2.5
3.80	-20	836.500008	-0.001	2.5
3.80	-30	836.500007	0.000	2.5

Reference Frequency: Cellular Mid Channel 836.500007MHz @ 20°C Limit: to stay +- 2.5 ppm = 2091.250 Hz				
Power Supply (Vdc)	Environment Temperature (°C)	Frequency Deviation Measureed with Time Elapse		
		(MHz)	Delta (ppm)	Limit (ppm)
3.80	***20***	***836.500007***	***0***	***2.5***
3.23	20	836.500006	*0.001*	2.5
4.37	20	836.500006	*0.000*	2.5

LTE Band 12 – MID CHANNEL (707.5 MHz)

Reference Frequency: Cellular Mid Channel 707.50000678 MHz @ 20°C Limit: to stay +- 2.5 ppm = 1768.750 Hz				
Power Supply (Vdc)	Environment Temperature (°C)	Frequency Deviation Measureed with Time Elapse		
		(MHz)	Delta (ppm)	Limit (ppm)
3.80	50	707.500005	0.002	2.5
3.80	40	707.500007	0.000	2.5
3.80	30	707.500006	0.001	2.5
3.80	***20***	***707.500007***	***0***	2.5
3.80	10	707.500006	0.001	2.5
3.80	0	707.500007	-0.001	2.5
3.80	-10	707.500008	-0.002	2.5
3.80	-20	707.500008	-0.002	2.5
3.80	-30	707.500007	0.000	2.5

Reference Frequency: Cellular Mid Channel 707.5 MHz @ 20°C Limit: to stay +- 2.5 ppm = 1768.750 Hz				
Power Supply (Vdc)	Environment Temperature (°C)	Frequency Deviation Measureed with Time Elapse		
		(MHz)	Delta (ppm)	Limit (ppm)
3.80	***20***	***707.500007***	***0***	***2.5***
3.23	20	707.500006	*0.001*	2.5
4.37	20	707.500006	*0.000*	2.5

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LTE Band 41 – MID CHANNEL

Reference Frequency: Cellular Mid Channel 2592.999996MHz @ 20°C Limit: to stay +- 2.5 ppm = 6482.500 Hz				
Power Supply (Vdc)	Environment Temperature (°C)	Frequency Deviation Measureed with Time Elapse		
		(MHz)	Delta (ppm)	Limit (ppm)
3.80	50	2592.999994	0.001	2.5
3.80	40	2592.999992	0.002	2.5
3.80	30	2592.999997	0.000	2.5
3.80	***20***	***2592.999996***	***0***	***2.5***
3.80	10	2592.999990	0.002	2.5
3.80	0	2593.000002	-0.002	2.5
3.80	-10	2593.000003	-0.003	2.5
3.80	-20	2593.000002	-0.002	2.5
3.80	-30	2593.000001	-0.002	2.5

Reference Frequency: Cellular Mid Channel 2592.999996 MHz @ 20°C Limit: to stay +- 2.5 ppm = 6482.500 Hz				
Power Supply (Vdc)	Environment Temperature (°C)	Frequency Deviation Measureed with Time Elapse		
		(MHz)	Delta (ppm)	Limit (ppm)
3.80	***20***	***2592.999996***	***0***	***2.5***
4.37	20	2592.999997	*0.000*	2.5
3.23	20	2592.999995	*0.000*	2.5

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12. RADIATED TEST RESULTS

12.1. RADIATED POWER (ERP & EIRP)

RULE PART(S)

FCC: §2.1046, §22.913, §24.232, §27 and § 90.635.

LIMITS

22.913(a) - The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts.

24.232(c) - Mobile/portable stations are limited to 2 watts e.i.r.p. peak power and the equipment must employ means to limit the power to the minimum necessary for successful communications.

27.50(b) - (10) Portable stations (hand-held devices) transmitting in the 746-757 MHz, 776-788 MHz, and 805-806 MHz bands are limited to 3 watts ERP. (LTE B13)

27.50(d) - (4) Fixed, mobile, and portable (hand-held) stations operating in the 1710-1755 MHz band and mobile and portable stations operating in the 1695-1710 MHz and 1755-1780 MHz bands are limited to 1 watt EIRP.(Band 4)

27.50(h) - (2) Mobile stations are limited to 2.0 watts EIRP. All user stations are limited to 2.0 watts transmitter output power.(LTE B41 & 7)

90.635(b) - The maximum output power of the transmitter for mobile stations is 100 watts (20 dBw). (LTE B26)

In addition, when the transmitter power is measured in terms of average value, the peak-to-average ratio of the power shall not exceed 13dB.

TEST PROCEDURE

ANSI / TIA / EIA 603C Clause 2.2.17; PSA setting reference to 971168 D01 v02r02

For peak power measurement with a PSA:

a) Set the RBW ≥ OBW; b) Set VBW ≥ 3 × RBW; c) Set span ≥ 2 x RBW; d) Sweep time = auto couple; e) Detector = peak; f) Ensure that the number of measurement points ≥ span/RBW; g) Trace mode = max hold;

For average power measurement with a PSA:

a) Set span to at least 1.5 times the OBW; b) Set RBW = 1-5% of the OBW, not to exceed 1 MHz; c) Set VBW ≥ 3 x RBW; d) Set number of points in sweep ≥ 2 × span / RBW; e) Sweep time = auto-couple; f) Detector = RMS (power averaging); g) Use free run trigger If burst duty cycle ≥ 98; h) Use trigger to capture bursts If burst duty cycle < 98; i) Trace average at least 100 traces in power averaging (i.e., RMS) mode. j) Compute the power by integrating the spectrum across the OBW of the signal using the instrument's band power measurement function.

MODES TESTED

CDMA and LTE

TEST RESULTS

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12.1.1. ERP/EIRP Results

CDMA

Band	Mode	Channel	f(MHz)	ERP / EIRP	
				dBm	mW
BC1	1xRTT	25	1851.25	25.6	363.08
		600	1880	24.76	299.23
		1175	1908.75	25.16	328.1
	EVDO REL. 0	25	1851.25	24.56	285.76
		600	1880	25.06	320.63
		1175	1908.75	24.66	292.42

Band	Mode	Channel	f(MHz)	ERP / EIRP	
				dBm	mW
BC0	1xRTT	1013	824.7	20.781	119.7
		384	836.52	21.801	151.39
		777	848.31	21.301	134.93
	EVDO REL. 0	1013	824.7	21.05	127.35
		384	836.52	21.59	144.21
		777	848.31	21.00	125.89

Band	Mode	Channel	f(MHz)	ERP / EIRP	
				dBm	mW
BC10	1xRTT	476	817.9	19.651	92.28
		580	820.5	20.601	114.84
		684	823.1	20.281	106.68
	EVDO REL. 0	476	817.9	19.70	93.33
		580	820.5	20.36	108.64
		684	823.1	20.62	115.35

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12.1.2. LTE ERP/EIRP Results

LTE Band 2

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE2	20	QPSK	1/0	1860	25.9426	392.88
			1/0	1880	25.7188	373.15
			1/0	1900	25.265	336.12
		16QAM	1/0	1860	24.8626	306.38
			1/0	1880	24.6188	289.65
			1/0	1900	24.455	278.93

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE2	15	QPSK	1/0	1857.5	25.844325	384.09
			1/0	1880	25.7788	378.34
			1/0	1902.5	25.342225	342.15
		16QAM	1/0	1857.5	24.774325	300.22
			1/0	1880	24.7588	299.14
			1/0	1902.5	24.322225	270.53

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE2	10	QPSK	1/0	1855	25.78605	378.97
			1/0	1880	25.6488	367.18
			1/0	1905	25.13945	326.55
		16QAM	1/0	1855	24.58605	287.48
			1/0	1880	24.7588	299.14
			1/0	1905	24.06945	255.24

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Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE2	5	QPSK	1/0	1852.5	25.297775	338.67
			1/0	1880	25.1888	330.28
			1/0	1907.5	24.336675	271.44
		16QAM	1/0	1852.5	24.387775	274.65
			1/0	1880	24.1688	261.14
			1/0	1907.5	23.276675	212.65

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE2	3	QPSK	1/0	1851.5	25.488465	353.87
			1/0	1880	25.1088	324.25
			1/0	1908.5	24.539565	284.42
		16QAM	1/0	1851.5	24.688465	294.34
			1/0	1880	23.8488	242.59
			1/0	1908.5	23.379565	217.75

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE2	1.4	QPSK	1/0	1850.7	25.499017	354.73
			1/0	1880	24.9188	310.37
			1/0	1909.3	24.261877	266.8
		16QAM	1/0	1850.7	24.489017	281.13
			1/0	1880	23.7588	237.62
			1/0	1909.3	23.421877	219.88

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LTE Band 4

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE4	20	QPSK	1/0	1720	23.5368	225.78
			1/0	1732.5	24.72105	296.55
			1/0	1745	24.3753	273.86
		16QAM	1/0	1720	22.7168	186.93
			1/0	1732.5	23.47105	222.38
			1/0	1745	23.5253	225.18

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE4	15	QPSK	1/0	1717.5	23.99595	250.95
			1/0	1732.5	24.34105	271.71
			1/0	1747.5	24.47615	280.29
		16QAM	1/0	1717.5	22.92595	196.15
			1/0	1732.5	23.27105	212.38
			1/0	1747.5	23.56615	227.31

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE4	10	QPSK	1/0	1715	23.5351	225.69
			1/0	1732.5	24.49105	281.26
			1/0	1750	24.097	256.86
		16QAM	1/0	1715	22.4351	175.19
			1/0	1732.5	23.57105	227.56
			1/0	1750	23.307	214.14

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Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE4	5	QPSK	1/0	1712.5	23.21425	209.62
			1/0	1732.5	24.27105	267.37
			1/0	1752.5	24.46785	279.76
		16QAM	1/0	1712.5	22.34425	171.56
			1/0	1732.5	23.37105	217.32
			1/0	1752.5	23.29785	213.69

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE4	3	QPSK	1/0	1711.5	23.62791	230.56
			1/0	1732.5	24.25105	266.14
			1/0	1753.5	24.56419	286.03
		16QAM	1/0	1711.5	22.54791	179.8
			1/0	1732.5	23.07105	202.82
			1/0	1753.5	23.43419	220.51

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE4	1.4	QPSK	1/0	1710.7	23.380838	217.81
			1/0	1732.5	24.33105	271.08
			1/0	1754.3	23.171262	207.55
		16QAM	1/0	1710.7	22.550838	179.92
			1/0	1732.5	23.47105	222.38
			1/0	1754.3	24.321262	270.47

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LTE Band 5

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE5	10	QPSK	1/0	829	20.7	117.49
			1/0	836.5	20.7	117.49
			1/0	844	19.6	91.2
		16QAM	1/0	829	19.8	95.5
			1/0	836.5	19.8	95.5
			1/0	844	18.8	75.86

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE5	5	QPSK	1/0	826.5	20.6	114.82
			1/0	836.5	20.8	120.23
			1/0	846.5	20.8	120.23
		16QAM	1/0	826.5	19.7	93.33
			1/0	836.5	20.1	102.33
			1/0	846.5	19.9	97.72

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE5	3	QPSK	1/0	825.5	20.2	104.71
			1/0	836.5	19.8	95.5
			1/0	847.5	20.9	123.03
		16QAM	1/0	825.5	19.3	85.11
			1/0	836.5	19.1	81.28
			1/0	847.5	20	100

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Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE5	1.4	QPSK	1/0	824.7	20.3	107.15
			1/0	836.5	20.5	112.2
			1/0	848.3	20.2	104.71
		16QAM	1/0	824.7	19.4	87.1
			1/0	836.5	19.4	87.1
			1/0	848.3	19.2	83.18

LTE Band 12

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE12	10	QPSK	1/0	704	20.46	111.17
			1/0	707.5	20.8	120.23
			1/0	711	21.05	127.35
		16QAM	1/0	704	19.6	91.2
			1/0	707.5	19.7	93.33
			1/0	711	20.1	102.33

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE12	5	QPSK	1/0	701.5	19.9	97.72
			1/0	707.5	21.2	131.83
			1/0	713.5	20.7	117.49
		16QAM	1/0	701.5	18.8	75.86
			1/0	707.5	20.1	102.33
			1/0	713.5	19.9	97.72

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Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE12	3	QPSK	1/0	700.5	20.65	116.14
			1/0	707.5	20.86	121.9
			1/0	714.5	20.11	102.57
		16QAM	1/0	700.5	19.7	93.33
			1/0	707.5	20	100
			1/0	714.5	19.3	85.11

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE12	1.4	QPSK	1/0	699.7	20.87	122.18
			1/0	707.5	20.77	119.4
			1/0	715.3	20.58	114.29
		16QAM	1/0	699.7	20	100
			1/0	707.5	19.9	97.72
			1/0	715.3	19.7	93.33

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LTE Band 25

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE25	20	QPSK	1/0	1860	25.9426	392.88
			1/0	1882.5	25.7188	373.15
			1/0	1905	25.265	336.12
		16QAM	1/0	1860	24.8626	306.38
			1/0	1882.5	24.6188	289.65
			1/0	1905	24.455	278.93

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE25	15	QPSK	1/0	1857.5	25.844325	384.09
			1/0	1882.5	25.7788	378.34
			1/0	1907.5	25.342225	342.15
		16QAM	1/0	1857.5	24.774325	300.22
			1/0	1882.5	24.7588	299.14
			1/0	1907.5	24.322225	270.53

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE25	10	QPSK	1/0	1855	25.78605	378.97
			1/0	1882.5	25.6488	367.18
			1/0	1910	25.13945	326.55
		16QAM	1/0	1855	24.58605	287.48
			1/0	1882.5	24.7588	299.14
			1/0	1910	24.06945	255.24

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Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE25	5	QPSK	1/0	1852.5	25.297775	338.67
			1/0	1882.5	25.1888	330.28
			1/0	1912.5	24.336675	271.44
		16QAM	1/0	1852.5	24.387775	274.65
			1/0	1882.5	24.1688	261.14
			1/0	1912.5	23.276675	212.65

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE25	3	QPSK	1/0	1851.5	25.488465	353.87
			1/0	1882.5	25.1088	324.25
			1/0	1913.5	24.539565	284.42
		16QAM	1/0	1851.5	24.688465	294.34
			1/0	1882.5	23.8488	242.59
			1/0	1913.5	23.379565	217.75

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE25	1.4	QPSK	1/0	1850.7	25.50	354.81
			1/0	1882.5	24.92	310.46
			1/0	1914.3	24.26	266.69
		16QAM	1/0	1850.7	24.49	281.19
			1/0	1882.5	23.76	237.68
			1/0	1914.3	23.42	219.79

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LTE Band 26

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE26	15	QPSK	1/0	821.5	19.8	95.5
			1/0	831.5	20.55	113.5
			1/0	841.5	20.27	106.41
		16QAM	1/0	821.5	18.9	77.62
			1/0	831.5	19.7	93.33
			1/0	841.5	19.4	87.1

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE26	10	QPSK	1/0	819	20.7	117.49
			1/0	831.5	20.7	117.49
			1/0	844	19.6	91.2
		16QAM	1/0	819	19.8	95.5
			1/0	831.5	19.8	95.5
			1/0	844	18.8	75.86

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE26	5	QPSK	1/0	816.5	20.6	114.82
			1/0	831.5	20.8	120.23
			1/0	846.5	20.8	120.23
		16QAM	1/0	816.5	19.7	93.33
			1/0	831.5	20.1	102.33
			1/0	846.5	19.9	97.72

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Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE26	3	QPSK	1/0	815.5	20.2	104.71
			1/0	831.5	19.8	95.5
			1/0	847.5	20.9	123.03
		16QAM	1/0	815.5	19.3	85.11
			1/0	831.5	19.1	81.28
			1/0	847.5	20	100

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE26	1.4	QPSK	1/0	814.7	20.3	107.15
			1/0	831.5	20.5	112.2
			1/0	848.3	20.2	104.71
		16QAM	1/0	814.7	19.4	87.1
			1/0	831.5	19.4	87.1
			1/0	848.3	19.2	83.18

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LTE Band 41

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE41	20	QPSK	1/0	2506	25.6398	366.42
			1/0	2593	26.5459	451.43
			1/0	2680	26.1356	410.73
		16QAM	1/0	2506	24.8398	304.78
			1/0	2593	25.4059	347.21
			1/0	2680	25.0256	318.1

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE41	15	QPSK	1/0	2503.5	25.36905	344.27
			1/0	2593	25.6059	363.57
			1/0	2682.5	25.5624	359.95
		16QAM	1/0	2503.5	24.33905	271.58
			1/0	2593	26.4659	443.19
			1/0	2682.5	25.3324	341.38

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE41	10	QPSK	1/0	2501	25.0183	317.56
			1/0	2593	26.3059	427.16
			1/0	2685	25.0392	319.1
		16QAM	1/0	2501	24.3383	271.54
			1/0	2593	25.4059	347.21
			1/0	2685	24.24	265.46

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Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE41	5	QPSK	1/0	2498.5	24.783755	300.87
			1/0	2593	25.6659	368.63
			1/0	2687.5	24.796	301.72
		16QAM	1/0	2498.5	23.983755	250.25
			1/0	2593	24.7459	298.26
			1/0	2687.5	24.146	259.78

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12.1.1. ERP/EIRP PLOTS

CDMA

Band

BC1

EVDO

High Frequency Fundamental Measurement
UL Verification Services Chamber B

Company: LG
Project #: 15I19834
Date: 1/30/2015
Test Engineer: Kiya Kedida
Configuration: EUT Only
Mode: CDMA EVDO BC1

Test Equipment:
Receiving: Horn T345, and Chamber B SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable Warehouse

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1.8513	17.4	V	0.85	8.01	24.56	33.0	-8.4	
1.8513	17.1	H	0.85	8.01	24.29	33.0	-8.7	
Mid Ch								
1.8800	17.1	V	0.85	8.01	24.28	33.0	-8.7	
1.8800	17.9	H	0.85	8.01	25.06	33.0	-7.9	
High Ch								
1.9088	17.1	V	0.85	8.01	24.28	33.0	-8.7	
1.9088	17.5	H	0.85	8.01	24.66	33.0	-8.3	

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Band

BC1

1xRTT

High Frequency Fundamental Measurement
UL Verification Services Chamber B

Company: LG
Project #: 15I19834
Date: 1/29/2015
Test Engineer: Kiya Kedida
Configuration: EUT Only
Mode: CDMA RTT BC1

Test Equipment:
Receiving: Horn T345, and Chamber B SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable Warehouse

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1.8513	17.0	V	0.85	8.01	24.16	33.0	-8.8	
1.8513	18.4	H	0.85	8.01	25.60	33.0	-7.4	
Mid Ch								
1.8800	16.3	V	0.85	8.01	23.48	33.0	-9.5	
1.8800	17.6	H	0.85	8.01	24.76	33.0	-8.2	
High Ch								
1.9088	16.6	V	0.85	8.01	23.76	33.0	-9.2	
1.9088	18.0	H	0.85	8.01	25.16	33.0	-7.8	

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Band

BC0

EVDO

High Frequency Substitution Measurement
UL Verification Services Chamber B

Company: LG
Project #: 15I19834
Date: 1/23/2015
Test Engineer: Kiya Kedida
Configuration: EUT Only
Mode: CDMA EVDO BC0

Test Equipment:
Receiving: T243, and Chamber B Cable
Substitution: Dipole T273, 4ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch								
824.70	14.29	V	0.9	0.0	13.39	38.5	-25.1	
824.70	21.95	H	0.9	0.0	21.05	38.5	-17.4	
Mid Ch								
836.52	14.12	V	0.9	0.0	13.22	38.5	-25.2	
836.52	22.49	H	0.9	0.0	21.59	38.5	-16.9	
High Ch								
848.31	14.16	V	0.9	0.0	13.26	38.5	-25.2	
848.31	22.00	H	0.9	0.0	21.10	38.5	-17.3	

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Band

BC0

1xRTT

High Frequency Substitution Measurement
UL Verification Services Chamber B

Company: LG
Project #: 15I19834
Date: 1/29/2015
Test Engineer: Kiya Kedida
Configuration: EUT Only
Mode: CDMA RTT BC0

Test Equipment:
Receiving: T243, and Chamber B Cable
Substitution: Dipole T273, 4ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch								
824.70	14.40	V	0.9	0.0	13.50	38.5	-24.9	
824.70	21.68	H	0.9	0.0	20.78	38.5	-17.7	
Mid Ch								
836.52	14.37	V	0.9	0.0	13.47	38.5	-25.0	
836.52	22.70	H	0.9	0.0	21.80	38.5	-16.6	
High Ch								
848.31	15.30	V	0.9	0.0	14.40	38.5	-24.0	
848.31	22.20	H	0.9	0.0	21.30	38.5	-17.1	

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Band

BC10

EVDO

High Frequency Substitution Measurement
UL Verification Services Chamber B

Company: LG
Project #: 15I19834
Date: 1/30/2015
Test Engineer: Kiya Kedida
Configuration: EUT Only
Mode: CDMA EVDO BC10

Test Equipment:
Receiving: T243, and Chamber B Cable
Substitution: Dipole T273, 4ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch								
817.90	14.90	V	0.9	0.0	14.00	38.5	-24.4	
817.90	20.60	H	0.9	0.0	19.70	38.5	-18.7	
Mid Ch								
820.50	14.50	V	0.9	0.0	13.60	38.5	-24.8	
820.50	21.26	H	0.9	0.0	20.36	38.5	-18.1	
High Ch								
823.10	14.50	V	0.9	0.0	13.60	38.5	-24.8	
823.10	21.52	H	0.9	0.0	20.62	38.5	-17.8	

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Band

BC10

1xRTT

High Frequency Substitution Measurement
UL Verification Services Chamber B

Company: LG
Project #: 15I19834
Date: 1/29/2015
Test Engineer: Kiya Kedida
Configuration: EUT Only
Mode: CDMA RTT BC10

Test Equipment:
Receiving: T243, and Chamber B Cable
Substitution: Dipole T273, 4ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch								
817.90	14.85	V	0.9	0.0	13.95	38.5	-24.5	
817.90	20.55	H	0.9	0.0	19.65	38.5	-18.8	
Mid Ch								
820.50	15.20	V	0.9	0.0	14.30	38.5	-24.1	
820.50	21.50	H	0.9	0.0	20.60	38.5	-17.8	
High Ch								
823.10	14.70	V	0.9	0.0	13.80	38.5	-24.6	
823.10	21.18	H	0.9	0.0	20.28	38.5	-18.2	

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LTE Band 2

Band

LTE2

20MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I19834
Date: 1/28/2015
Test Engineer: Kiya Kedida
Configuration: EUT Only
Location: Chamber B
Mode: LTE_16QAM Band 2 Fundamentals, 20MHz Bandwidth

Test Equpment:
Receiving: Horn T1345, and Chamber B SMA Cables
Substitution: Horn T59, Xft SMA Cable (SN # SERIALNUMBER) Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1860.00	16.39	V	0.9	7.9	23.37	33.0	-9.6	
1860.00	17.88	H	0.9	7.9	24.86	33.0	-8.1	
Mid Ch								
1880.00	16.59	V	0.9	7.9	23.56	33.0	-9.4	
1880.00	17.65	H	0.9	7.9	24.62	33.0	-8.4	
High Ch								
1900.00	15.76	V	0.9	7.9	22.72	33.0	-10.3	
1900.00	17.50	H	0.9	7.9	24.46	33.0	-8.5	

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Band

LTE2

20MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I19834
Date: 1/28/2015
Test Engineer: Kiya Kedida
Configuration: EUT Only
Location: Chamber B
Mode: LTE_QPSK Band 2 Fundamentals, 20MHz Bandwidth

Test Equpment:
Receiving: Horn T1345, and Chamber B SMA Cables
Substitution: Horn T59, Xft SMA Cable (SN # SERIALNUMBER) Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1860.00	17.36	V	0.9	7.9	24.34	33.0	-8.7	
1860.00	18.96	H	0.9	7.9	25.94	33.0	-7.1	
Mid Ch								
1880.00	17.35	V	0.9	7.9	24.32	33.0	-8.7	
1880.00	18.75	H	0.9	7.9	25.72	33.0	-7.3	
High Ch								
1900.00	16.67	V	0.9	7.9	23.63	33.0	-9.4	
1900.00	18.31	H	0.9	7.9	25.27	33.0	-7.7	

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Band

LTE2

15MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I19834
Date: 1/28/2015
Test Engineer: Kiya Kedida
Configuration: EUT Only
Location: Chamber B
Mode: LTE_16QAM Band 2 Fundamentals, 15MHz Bandwidth

Test Equpment:
Receiving: Horn T1345, and Chamber B SMA Cables
Substitution: Horn T59, Xft SMA Cable (SN # SERIALNUMBER) Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1857.50	16.69	V	0.9	7.9	23.67	33.0	-9.3	
1857.50	17.79	H	0.9	7.9	24.77	33.0	-8.2	
Mid Ch								
1880.00	16.10	V	0.9	7.9	23.07	33.0	-9.9	
1880.00	17.79	H	0.9	7.9	24.76	33.0	-8.2	
High Ch								
1902.50	15.40	V	0.9	7.9	22.36	33.0	-10.6	
1902.50	17.36	H	0.9	7.9	24.32	33.0	-8.7	

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Band

LTE2

15MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I19834
Date: 1/28/2015
Test Engineer: Kiya Kedida
Configuration: EUT Only
Location: Chamber B
Mode: LTE_QPSK Band 2 Fundamentals, 15MHz Bandwidth

Test Equipment:
Receiving: Horn T1345, and Chamber B SMA Cables
Substitution: Horn T59, Xft SMA Cable (SN # SERIALNUMBER) Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1857.50	17.51	V	0.9	7.9	24.49	33.0	-8.5	
1857.50	18.86	H	0.9	7.9	25.84	33.0	-7.2	
Mid Ch								
1880.00	17.24	V	0.9	7.9	24.21	33.0	-8.8	
1880.00	18.81	H	0.9	7.9	25.78	33.0	-7.2	
High Ch								
1902.50	16.50	V	0.9	7.9	23.46	33.0	-9.5	
1902.50	18.38	H	0.9	7.9	25.34	33.0	-7.7	

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Band

LTE2

10MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I19834
Date: 1/28/2015
Test Engineer: Kiya Kedida
Configuration: EUT Only
Location: Chamber B
Mode: LTE_16QAM Band 2 Fundamentals, 10MHz Bandwidth

Test Equipment:
Receiving: Horn T1345, and Chamber B SMA Cables
Substitution: Horn T59, Xft SMA Cable (SN # SERIALNUMBER) Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1855.00	16.76	V	0.9	7.9	23.75	33.0	-9.3	
1855.00	17.60	H	0.9	7.9	24.59	33.0	-8.4	
Mid Ch								
1880.00	15.30	V	0.9	7.9	22.27	33.0	-10.7	
1880.00	17.79	H	0.9	7.9	24.76	33.0	-8.2	
High Ch								
1905.00	15.10	V	0.9	7.9	22.07	33.0	-10.9	
1905.00	17.10	H	0.9	7.9	24.07	33.0	-8.9	

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Band

LTE2

10MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I19834
Date: 1/28/2015
Test Engineer: Kiya Kedida
Configuration: EUT Only
Location: Chamber B
Mode: LTE_QPSK Band 2 Fundamentals, 10MHz Bandwidth

Test Equpment:
Receiving: Horn T1345, and Chamber B SMA Cables
Substitution: Horn T59, Xft SMA Cable (SN # SERIALNUMBER) Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1855.00	17.66	V	0.9	7.9	24.65	33.0	-8.4	
1855.00	18.80	H	0.9	7.9	25.79	33.0	-7.2	
Mid Ch								
1880.00	16.50	V	0.9	7.9	23.47	33.0	-9.5	
1880.00	18.68	H	0.9	7.9	25.65	33.0	-7.4	
High Ch								
1905.00	16.19	V	0.9	7.9	23.16	33.0	-9.8	
1905.00	18.17	H	0.9	7.9	25.14	33.0	-7.9	

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Band

LTE2

5MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I19834
Date: 1/28/2015
Test Engineer: Kiya Kedida
Configuration: EUT Only
Location: Chamber B
Mode: LTE_16QAM Band 2 Fundamentals, 5MHz Bandwidth

Test Equpment:
Receiving: Horn T1345, and Chamber B SMA Cables
Substitution: Horn T59, Xft SMA Cable (SN # SERIALNUMBER) Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1852.50	15.80	V	0.9	7.9	22.79	33.0	-10.2	
1852.50	17.40	H	0.9	7.9	24.39	33.0	-8.6	
Mid Ch								
1880.00	15.39	V	0.9	7.9	22.36	33.0	-10.6	
1880.00	17.20	H	0.9	7.9	24.17	33.0	-8.8	
High Ch								
1907.50	14.89	V	0.9	7.9	21.87	33.0	-11.1	
1907.50	16.30	H	0.9	7.9	23.28	33.0	-9.7	

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Band

LTE2

5MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I19834
Date: 1/28/2015
Test Engineer: Kiya Kedida
Configuration: EUT Only
Location: Chamber B
Mode: LTE_QPSK Band 2 Fundamentals, 5MHz Bandwidth

Test Equpment:
Receiving: Horn T1345, and Chamber B SMA Cables
Substitution: Horn T59, Xft SMA Cable (SN # SERIALNUMBER) Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1852.50	16.90	V	0.9	7.9	23.89	33.0	-9.1	
1852.50	18.31	H	0.9	7.9	25.30	33.0	-7.7	
Mid Ch								
1880.00	16.35	V	0.9	7.9	23.32	33.0	-9.7	
1880.00	18.22	H	0.9	7.9	25.19	33.0	-7.8	
High Ch								
1907.50	15.88	V	0.9	7.9	22.86	33.0	-10.1	
1907.50	17.36	H	0.9	7.9	24.34	33.0	-8.7	

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Band

LTE2

3MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I19834
Date: 1/28/2015
Test Engineer: Kiya Kedida
Configuration: EUT Only
Location: Chamber B
Mode: LTE_16QAM Band 2 Fundamentals, 3MHz Bandwidth

Test Equpment:
Receiving: Horn T1345, and Chamber B SMA Cables
Substitution: Horn T59, Xft SMA Cable (SN # SERIALNUMBER) Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1851.50	16.10	V	0.9	7.9	23.09	33.0	-9.9	
1851.50	17.70	H	0.9	7.9	24.69	33.0	-8.3	
Mid Ch								
1880.00	15.58	V	0.9	7.9	22.55	33.0	-10.5	
1880.00	16.88	H	0.9	7.9	23.85	33.0	-9.2	
High Ch								
1908.50	15.20	V	0.9	7.9	22.18	33.0	-10.8	
1908.50	16.40	H	0.9	7.9	23.38	33.0	-9.6	

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Band

LTE2

3MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I19834
Date: 1/28/2015
Test Engineer: Kiya Kedida
Configuration: EUT Only
Location: Chamber B
Mode: LTE_QPSK Band 2 Fundamentals, 3MHz Bandwidth

Test Equpment:
Receiving: Horn T1345, and Chamber B SMA Cables
Substitution: Horn T59, Xft SMA Cable (SN # SERIALNUMBER) Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1851.50	17.24	V	0.9	7.9	24.23	33.0	-8.8	
1851.50	18.50	H	0.9	7.9	25.49	33.0	-7.5	
Mid Ch								
1880.00	16.45	V	0.9	7.9	23.42	33.0	-9.6	
1880.00	18.14	H	0.9	7.9	25.11	33.0	-7.9	
High Ch								
1908.50	16.07	V	0.9	7.9	23.05	33.0	-10.0	
1908.50	17.56	H	0.9	7.9	24.54	33.0	-8.5	

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Band

LTE2

1.4MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I19834
Date: 1/28/2015
Test Engineer: Kiya Kedida
Configuration: EUT Only
Location: Chamber B
Mode: LTE_16QAM Band 2 Fundamentals, 1.4MHz Bandwidth

Test Equpment:
Receiving: Horn T1345, and Chamber B SMA Cables
Substitution: Horn T59, Xft SMA Cable (SN # SERIALNUMBER) Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1850.70	15.50	V	0.9	7.9	22.49	33.0	-10.5	
1850.70	17.50	H	0.9	7.9	24.49	33.0	-8.5	
Mid Ch								
1880.00	15.10	V	0.9	7.9	22.07	33.0	-10.9	
1880.00	16.79	H	0.9	7.9	23.76	33.0	-9.2	
High Ch								
1909.30	15.40	V	0.9	7.9	22.38	33.0	-10.6	
1909.30	16.44	H	0.9	7.9	23.42	33.0	-9.6	

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Band

LTE2

1.4MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I19834
Date: 1/28/2015
Test Engineer: Kiya Kedida
Configuration: EUT Only
Location: Chamber B
Mode: LTE_QPSK Band 2 Fundamentals, 1.4MHz Bandwidth

Test Equpment:
Receiving: Horn T1345, and Chamber B SMA Cables
Substitution: Horn T59, Xft SMA Cable (SN # SERIALNUMBER) Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1850.70	16.62	V	0.9	7.9	23.61	33.0	-9.4	
1850.70	18.51	H	0.9	7.9	25.50	33.0	-7.5	
Mid Ch								
1880.00	16.11	V	0.9	7.9	23.08	33.0	-9.9	
1880.00	17.95	H	0.9	7.9	24.92	33.0	-8.1	
High Ch								
1909.30	16.24	V	0.9	7.9	23.22	33.0	-9.8	
1909.30	17.28	H	0.9	7.9	24.26	33.0	-8.7	

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LTE Band 4

Band

LTE4

20MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I19834
Date: 1/28/2015
Test Engineer: Kiya Kedida
Configuration: EUT Only
Location: Chamber B
Mode: LTE_16QAM Band 4 Fundamentals, 20MHz Bandwidth

Test Equpment:
Receiving: Horn T1345, and Chamber B SMA Cables
Substitution: Horn T59, 4ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1720.00	14.20	V	0.9	8.2	21.52	30.0	-8.5	
1720.00	15.40	H	0.9	8.2	22.72	30.0	-7.3	
Mid Ch								
1732.50	14.24	V	0.9	8.2	21.51	30.0	-8.5	
1732.50	16.20	H	0.9	8.2	23.47	30.0	-6.5	
High Ch								
1745.00	15.30	V	0.9	8.1	22.53	30.0	-7.5	
1745.00	16.30	H	0.9	8.1	23.53	30.0	-6.5	

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Band

LTE4

20MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I19834
Date: 1/28/2015
Test Engineer: Kiya Kedida
Configuration: EUT Only
Location: Chamber B
Mode: LTE_QPSK Band 4 Fundamentals, 20MHz Bandwidth

Test Equpment:
Receiving: Horn T1345, and Chamber B SMA Cables
Substitution: Horn T59, 4ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1720.00	14.98	V	0.9	8.2	22.30	30.0	-7.7	
1720.00	16.22	H	0.9	8.2	23.54	30.0	-6.5	
Mid Ch								
1732.50	15.34	V	0.9	8.2	22.61	30.0	-7.4	
1732.50	17.45	H	0.9	8.2	24.72	30.0	-5.3	
High Ch								
1745.00	16.40	V	0.9	8.1	23.63	30.0	-6.4	
1745.00	17.15	H	0.9	8.1	24.38	30.0	-5.6	

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Band

LTE4

15MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I19834
Date: 1/28/2015
Test Engineer: Kiya Kedida
Configuration: EUT Only
Location: Chamber B
Mode: LTE_16QAM Band 4 Fundamentals, 15MHz Bandwidth

Test Equpment:
Receiving: Horn T1345, and Chamber B SMA Cables
Substitution: Horn T59, 4ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1717.50	14.40	V	0.9	8.2	21.73	30.0	-8.3	
1717.50	15.60	H	0.9	8.2	22.93	30.0	-7.1	
Mid Ch								
1732.50	14.60	V	0.9	8.2	21.87	30.0	-8.1	
1732.50	16.00	H	0.9	8.2	23.27	30.0	-6.7	
High Ch								
1747.50	15.30	V	0.9	8.1	22.52	30.0	-7.5	
1747.50	16.35	H	0.9	8.1	23.57	30.0	-6.4	

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Band

LTE4

15MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I19834
Date: 1/28/2015
Test Engineer: Kiya Kedida
Configuration: EUT Only
Location: Chamber B
Mode: LTE_QPSK Band 4 Fundamentals, 15MHz Bandwidth

Test Equpment:
Receiving: Horn T1345, and Chamber B SMA Cables
Substitution: Horn T59, 4ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1717.50	15.20	V	0.9	8.2	22.53	30.0	-7.5	
1717.50	16.67	H	0.9	8.2	24.00	30.0	-6.0	
Mid Ch								
1732.50	15.36	V	0.9	8.2	22.63	30.0	-7.4	
1732.50	17.07	H	0.9	8.2	24.34	30.0	-5.7	
High Ch								
1747.50	16.25	V	0.9	8.1	23.47	30.0	-6.5	
1747.50	17.26	H	0.9	8.1	24.48	30.0	-5.5	

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Band

LTE4

10MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I19834
Date: 1/28/2015
Test Engineer: Kiya Kedida
Configuration: EUT Only
Location: Chamber B
Mode: LTE_16QAM Band 4 Fundamentals, 10MHz Bandwidth

Test Equpment:
Receiving: Horn T1345, and Chamber B SMA Cables
Substitution: Horn T59, 4ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1715.00	14.00	V	0.9	8.2	21.34	30.0	-8.7	
1715.00	15.10	H	0.9	8.2	22.44	30.0	-7.6	
Mid Ch								
1732.50	13.90	V	0.9	8.2	21.17	30.0	-8.8	
1732.50	16.30	H	0.9	8.2	23.57	30.0	-6.4	
High Ch								
1750.00	15.00	V	0.9	8.1	22.21	30.0	-7.8	
1750.00	16.10	H	0.9	8.1	23.31	30.0	-6.7	

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Band

LTE4

10MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I19834
Date: 1/28/2015
Test Engineer: Kiya Kedida
Configuration: EUT Only
Location: Chamber B
Mode: LTE_QPSK Band 4 Fundamentals, 10MHz Bandwidth

Test Equpment:
Receiving: Horn T1345, and Chamber B SMA Cables
Substitution: Horn T59, 4ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1715.00	15.14	V	0.9	8.2	22.48	30.0	-7.5	
1715.00	16.20	H	0.9	8.2	23.54	30.0	-6.5	
Mid Ch								
1732.50	14.94	V	0.9	8.2	22.21	30.0	-7.8	
1732.50	17.22	H	0.9	8.2	24.49	30.0	-5.5	
High Ch								
1750.00	16.20	V	0.9	8.1	23.41	30.0	-6.6	
1750.00	16.89	H	0.9	8.1	24.10	30.0	-5.9	

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Band

LTE4

5MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I19834
Date: 1/28/2015
Test Engineer: Kiya Kedida
Configuration: EUT Only
Location: Chamber B
Mode: LTE_16QAM Band 4 Fundamentals, 5MHz Bandwidth

Test Equpment:
Receiving: Horn T1345, and Chamber B SMA Cables
Substitution: Horn T59, 4ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1712.50	14.60	V	0.9	8.2	21.94	30.0	-8.1	
1712.50	15.00	H	0.9	8.2	22.34	30.0	-7.7	
Mid Ch								
1732.50	14.80	V	0.9	8.2	22.07	30.0	-7.9	
1732.50	16.10	H	0.9	8.2	23.37	30.0	-6.6	
High Ch								
1752.50	15.06	V	0.9	8.1	22.26	30.0	-7.7	
1752.50	16.10	H	0.9	8.1	23.30	30.0	-6.7	

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Band

LTE4

5MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I19834
Date: 1/28/2015
Test Engineer: Kiya Kedida
Configuration: EUT Only
Location: Chamber B
Mode: LTE_QPSK Band 4 Fundamentals, 5MHz Bandwidth

Test Equpment:
Receiving: Horn T1345, and Chamber B SMA Cables
Substitution: Horn T59, 4ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1712.50	15.44	V	0.9	8.2	22.78	30.0	-7.2	
1712.50	15.87	H	0.9	8.2	23.21	30.0	-6.8	
Mid Ch								
1732.50	15.46	V	0.9	8.2	22.73	30.0	-7.3	
1732.50	17.00	H	0.9	8.2	24.27	30.0	-5.7	
High Ch								
1752.50	15.96	V	0.9	8.1	23.16	30.0	-6.8	
1752.50	17.27	H	0.9	8.1	24.47	30.0	-5.5	

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Band

LTE4

3MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I19834
Date: 1/28/2015
Test Engineer: Kiya Kedida
Configuration: EUT Only
Location: Chamber B
Mode: LTE_16QAM Band 4 Fundamentals, 3MHz Bandwidth

Test Equpment:
Receiving: Horn T1345, and Chamber B SMA Cables
Substitution: Horn T59, 4ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1711.50	14.20	V	0.9	8.2	21.55	30.0	-8.5	
1711.50	15.20	H	0.9	8.2	22.55	30.0	-7.5	
Mid Ch								
1732.50	14.10	V	0.9	8.2	21.37	30.0	-8.6	
1732.50	15.80	H	0.9	8.2	23.07	30.0	-6.9	
High Ch								
1753.50	15.36	V	0.9	8.1	22.55	30.0	-7.4	
1753.50	16.24	H	0.9	8.1	23.43	30.0	-6.6	

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Band

LTE4

3MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I19834
Date: 1/28/2015
Test Engineer: Kiya Kedida
Configuration: EUT Only
Location: Chamber B
Mode: LTE_QPSK Band 4 Fundamentals, 3MHz Bandwidth

Test Equpment:
Receiving: Horn T1345, and Chamber B SMA Cables
Substitution: Horn T59, 4ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1711.50	15.17	V	0.9	8.2	22.52	30.0	-7.5	
1711.50	16.28	H	0.9	8.2	23.63	30.0	-6.4	
Mid Ch								
1732.50	15.35	V	0.9	8.2	22.62	30.0	-7.4	
1732.50	16.98	H	0.9	8.2	24.25	30.0	-5.7	
High Ch								
1753.50	16.23	V	0.9	8.1	23.42	30.0	-6.6	
1753.50	17.37	H	0.9	8.1	24.56	30.0	-5.4	

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Band

LTE4

1.4MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I19834
Date: 1/28/2015
Test Engineer: Kiya Kedida
Configuration: EUT Only
Location: Chamber B
Mode: LTE_16QAM Band 4 Fundamentals, 1.4MHz Bandwidth

Test Equpment:
Receiving: Horn T1345, and Chamber B SMA Cables
Substitution: Horn T59, 4ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1710.70	14.48	V	0.9	8.3	21.83	30.0	-8.2	
1710.70	15.20	H	0.9	8.3	22.55	30.0	-7.4	
Mid Ch								
1732.50	14.42	V	0.9	8.2	21.69	30.0	-8.3	
1732.50	16.20	H	0.9	8.2	23.47	30.0	-6.5	
High Ch								
1754.30	15.20	V	0.9	8.1	22.39	30.0	-7.6	
1754.30	17.13	H	0.9	8.1	24.32	30.0	-5.7	

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Band

LTE4

1.4MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I19834
Date: 1/28/2015
Test Engineer: Kiya Kedida
Configuration: EUT Only
Location: Chamber B
Mode: LTE_QPSK Band 4 Fundamentals, 1.4MHz Bandwidth

Test Equpment:
Receiving: Horn T1345, and Chamber B SMA Cables
Substitution: Horn T59, 4ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1710.70	15.55	V	0.9	8.3	22.90	30.0	-7.1	
1710.70	16.03	H	0.9	8.3	23.38	30.0	-6.6	
Mid Ch								
1732.50	15.40	V	0.9	8.2	22.67	30.0	-7.3	
1732.50	17.06	H	0.9	8.2	24.33	30.0	-5.7	
High Ch								
1754.30	15.98	V	0.9	8.1	23.17	30.0	-6.8	
1754.30	15.90	H	0.9	8.1	23.09	30.0	-6.9	

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LTE Band 5

Band

LTE5

10MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG Electronics
Project #: 15I19834
Date: 1/29/2015
Test Engineer: K.Kedida
Configuration: EUT Only
Location: Chamber B
Mode: LTE_16QAM Band 5 Fundamentals, 10MHz Bandwidth

Test Equpment:
Receiving: Hybrid T243, and Chamber B SMA Cables
Substitution: Dipole T273, 3ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
829.00	12.80	V	0.9	0.0	11.90	38.5	-26.6	
829.00	20.70	H	0.9	0.0	19.80	38.5	-18.7	
Mid Ch								
836.50	13.60	V	0.9	0.0	12.70	38.5	-25.8	
836.50	20.70	H	0.9	0.0	19.80	38.5	-18.7	
High Ch								
844.00	13.80	V	0.9	0.0	12.90	38.5	-25.6	
844.00	19.70	H	0.9	0.0	18.80	38.5	-19.7	

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Band

LTE5

10MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG Electronics
Project #: 15I19834
Date: 1/29/2015
Test Engineer: K.Kedida
Configuration: EUT Only
Location: Chamber B
Mode: LTE_QPSK Band 5 Fundamentals, 10MHz Bandwidth

Test Equpment:
Receiving: Hybrid T243, and Chamber B SMA Cables
Substitution: Dipole T273, 3ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
829.00	13.70	V	0.9	0.0	12.80	38.5	-25.7	
829.00	21.60	H	0.9	0.0	20.70	38.5	-17.8	
Mid Ch								
836.50	14.50	V	0.9	0.0	13.60	38.5	-24.9	
836.50	21.60	H	0.9	0.0	20.70	38.5	-17.8	
High Ch								
844.00	14.80	V	0.9	0.0	13.90	38.5	-24.6	
844.00	20.50	H	0.9	0.0	19.60	38.5	-18.9	

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Band

LTE5

5MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG Electronics
Project #: 15I19834
Date: 1/29/2015
Test Engineer: K.Kedida
Configuration: EUT Only
Location: Chamber B
Mode: LTE_16QAM Band 5 Fundamentals, 5MHz Bandwidth

Test Equpment:
Receiving: Hybrid T243, and Chamber B SMA Cables
Substitution: Dipole T273, 3ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
826.50	13.50	V	0.9	0.0	12.60	38.5	-25.9	
826.50	20.60	H	0.9	0.0	19.70	38.5	-18.8	
Mid Ch								
836.50	12.80	V	0.9	0.0	11.90	38.5	-26.6	
836.50	21.00	H	0.9	0.0	20.10	38.5	-18.4	
High Ch								
846.50	13.60	V	0.9	0.0	12.70	38.5	-25.8	
846.50	20.80	H	0.9	0.0	19.90	38.5	-18.6	

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Band

LTE5

5MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG Electronics
Project #: 15I19834
Date: 1/29/2015
Test Engineer: K.Kedida
Configuration: EUT Only
Location: Chamber B
Mode: LTE_QPSK Band 5 Fundamentals, 5MHz Bandwidth

Test Equpment:
Receiving: Hybrid T243, and Chamber B SMA Cables
Substitution: Dipole T273, 3ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
826.50	14.40	V	0.9	0.0	13.50	38.5	-25.0	
826.50	21.50	H	0.9	0.0	20.60	38.5	-17.9	
Mid Ch								
836.50	13.70	V	0.9	0.0	12.80	38.5	-25.7	
836.50	21.70	H	0.9	0.0	20.80	38.5	-17.7	
High Ch								
846.50	14.50	V	0.9	0.0	13.60	38.5	-24.9	
846.50	21.70	H	0.9	0.0	20.80	38.5	-17.7	

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Band

LTE5

3MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG Electronics
Project #: 15I19834
Date: 1/29/2015
Test Engineer: K.Kedida
Configuration: EUT Only
Location: Chamber B
Mode: LTE_16QAM Band 5 Fundamentals, 3MHz Bandwidth

Test Equpment:
Receiving: Hybrid T243, and Chamber B SMA Cables
Substitution: Dipole T273, 3ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
825.50	12.40	V	0.9	0.0	11.50	38.5	-27.0	
825.50	20.20	H	0.9	0.0	19.30	38.5	-19.2	
Mid Ch								
836.50	13.10	V	0.9	0.0	12.20	38.5	-26.3	
836.50	20.00	H	0.9	0.0	19.10	38.5	-19.4	
High Ch								
847.50	12.30	V	0.9	0.0	11.40	38.5	-27.1	
847.50	20.90	H	0.9	0.0	20.00	38.5	-18.5	

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Band

LTE5

3MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG Electronics
Project #: 15I19834
Date: 1/29/2015
Test Engineer: K.Kedida
Configuration: EUT Only
Location: Chamber B
Mode: LTE_QPSK Band 5 Fundamentals, 3MHz Bandwidth

Test Equpment:
Receiving: Hybrid T243, and Chamber B SMA Cables
Substitution: Dipole T273, 3ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
825.50	13.30	V	0.9	0.0	12.40	38.5	-26.1	
825.50	21.10	H	0.9	0.0	20.20	38.5	-18.3	
Mid Ch								
836.50	14.00	V	0.9	0.0	13.10	38.5	-25.4	
836.50	20.70	H	0.9	0.0	19.80	38.5	-18.7	
High Ch								
847.50	13.10	V	0.9	0.0	12.20	38.5	-26.3	
847.50	21.80	H	0.9	0.0	20.90	38.5	-17.6	

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Band

LTE5

1.4MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG Electronics
Project #: 15I19834
Date: 1/29/2015
Test Engineer: K.Kedida
Configuration: EUT Only
Location: Chamber B
Mode: LTE_16QAM Band 5 Fundamentals, 1.4MHz Bandwidth

Test Equpment:
Receiving: Hybrid T243, and Chamber B SMA Cables
Substitution: Dipole T273, 3ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
824.70	12.50	V	0.9	0.0	11.60	38.5	-26.9	
824.70	20.30	H	0.9	0.0	19.40	38.5	-19.1	
Mid Ch								
836.50	12.50	V	0.9	0.0	11.60	38.5	-26.9	
836.50	20.30	H	0.9	0.0	19.40	38.5	-19.1	
High Ch								
848.30	13.30	V	0.9	0.0	12.40	38.5	-26.1	
848.30	20.10	H	0.9	0.0	19.20	38.5	-19.3	

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Band

LTE5

1.4MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG Electronics
Project #: 15I19834
Date: 1/29/2015
Test Engineer: K.Kedida
Configuration: EUT Only
Location: Chamber B
Mode: LTE_QPSK Band 5 Fundamentals, 1.4MHz Bandwidth

Test Equpment:
Receiving: Hybrid T243, and Chamber B SMA Cables
Substitution: Dipole T273, 3ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
824.70	13.40	V	0.9	0.0	12.50	38.5	-26.0	
824.70	21.20	H	0.9	0.0	20.30	38.5	-18.2	
Mid Ch								
836.50	13.40	V	0.9	0.0	12.50	38.5	-26.0	
836.50	21.40	H	0.9	0.0	20.50	38.5	-18.0	
High Ch								
848.30	14.20	V	0.9	0.0	13.30	38.5	-25.2	
848.30	21.10	H	0.9	0.0	20.20	38.5	-18.3	

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LTE Band 12

Band

LTE12

10MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG Electronics
Project #: 15I19834
Date: 1/29/2015
Test Engineer: K.Kedida
Configuration: EUT only
Location: Chamber B
Mode: LTE_16QAM Band 12 Fundamentals, 10MHz Bandwidth

Test Equipment:
Receiving: Hybrid T243, and Chamber B SMA Cables
Substitution: Dipole T273, 3ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
704.00	5.40	V	0.9	0.0	4.50	38.5	-34.0	
704.00	20.50	H	0.9	0.0	19.60	38.5	-18.9	
Mid Ch								
707.50	5.10	V	0.9	0.0	4.20	38.5	-34.3	
707.50	20.60	H	0.9	0.0	19.70	38.5	-18.8	
High Ch								
711.00	4.60	V	0.9	0.0	3.70	38.5	-34.8	
711.00	21.00	H	0.9	0.0	20.10	38.5	-18.4	

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Band

LTE12

10MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG Electronics
Project #: 15I19834
Date: 1/29/2015
Test Engineer: K.Kedida
Configuration: EUT only
Location: Chamber B
Mode: LTE_QPSK Band 12 Fundamentals, 10MHz Bandwidth

Test Equpment:
Receiving: Hybrid T243, and Chamber B SMA Cables
Substitution: Dipole T273, 3ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
704.00	6.00	V	0.9	0.0	5.10	38.5	-33.4	
704.00	21.36	H	0.9	0.0	20.46	38.5	-18.0	
Mid Ch								
707.50	5.94	V	0.9	0.0	5.04	38.5	-33.5	
707.50	21.70	H	0.9	0.0	20.80	38.5	-17.7	
High Ch								
711.00	5.50	V	0.9	0.0	4.60	38.5	-33.9	
711.00	21.95	H	0.9	0.0	21.05	38.5	-17.5	

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Band

LTE12

5MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG Electronics
Project #: 15I19834
Date: 1/29/2015
Test Engineer: K.Kedida
Configuration: EUT only
Location: Chamber B
Mode: LTE_16QAM Band 12 Fundamentals, 5MHz Bandwidth

Test Equpment:
Receiving: Hybrid T243, and Chamber B SMA Cables
Substitution: Dipole T273, 3ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
701.50	4.60	V	0.9	0.0	3.70	38.5	-34.8	
701.50	19.70	H	0.9	0.0	18.80	38.5	-19.7	
Mid Ch								
707.50	5.40	V	0.9	0.0	4.50	38.5	-34.0	
707.50	21.00	H	0.9	0.0	20.10	38.5	-18.4	
High Ch								
713.50	5.30	V	0.9	0.0	4.40	38.5	-34.1	
713.50	20.80	H	0.9	0.0	19.90	38.5	-18.6	

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Band

LTE12

5MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG Electronics
Project #: 15I19834
Date: 1/29/2015
Test Engineer: K.Kedida
Configuration: EUT only
Location: Chamber B
Mode: LTE_QPSK Band 12 Fundamentals, 5MHz Bandwidth

Test Equpment:
Receiving: Hybrid T243, and Chamber B SMA Cables
Substitution: Dipole T273, 3ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
701.50	5.40	V	0.9	0.0	4.50	38.5	-34.0	
701.50	20.80	H	0.9	0.0	19.90	38.5	-18.6	
Mid Ch								
707.50	6.10	V	0.9	0.0	5.20	38.5	-33.3	
707.50	22.10	H	0.9	0.0	21.20	38.5	-17.3	
High Ch								
713.50	6.10	V	0.9	0.0	5.20	38.5	-33.3	
713.50	21.60	H	0.9	0.0	20.70	38.5	-17.8	

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Band

LTE12

3MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG Electronics
Project #: 15I19834
Date: 1/29/2015
Test Engineer: K.Kedida
Configuration: EUT only
Location: Chamber B
Mode: LTE_16QAM Band 12 Fundamentals, 3MHz Bandwidth

Test Equipment:
Receiving: Hybrid T243, and Chamber B SMA Cables
Substitution: Dipole T273, 3ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
700.50	5.10	V	0.9	0.0	4.20	38.5	-34.3	
700.50	20.60	H	0.9	0.0	19.70	38.5	-18.8	
Mid Ch								
707.50	5.40	V	0.9	0.0	4.50	38.5	-34.0	
707.50	20.90	H	0.9	0.0	20.00	38.5	-18.5	
High Ch								
714.50	5.07	V	0.9	0.0	4.17	38.5	-34.3	
714.50	20.20	H	0.9	0.0	19.30	38.5	-19.2	

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Band

LTE12

3MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG Electronics
Project #: 15I19834
Date: 1/29/2015
Test Engineer: K.Kedida
Configuration: EUT only
Location: Chamber B
Mode: LTE_QPSK Band 12 Fundamentals, 3MHz Bandwidth

Test Equpment:
Receiving: Hybrid T243, and Chamber B SMA Cables
Substitution: Dipole T273, 3ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
700.50	5.90	V	0.9	0.0	5.00	38.5	-33.5	
700.50	21.55	H	0.9	0.0	20.65	38.5	-17.9	
Mid Ch								
707.50	6.47	V	0.9	0.0	5.57	38.5	-32.9	
707.50	21.76	H	0.9	0.0	20.86	38.5	-17.6	
High Ch								
714.50	5.90	V	0.9	0.0	5.00	38.5	-33.5	
714.50	21.01	H	0.9	0.0	20.11	38.5	-18.4	

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Band

LTE12

1.4MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG Electronics
Project #: 15I19834
Date: 1/29/2015
Test Engineer: K.Kedida
Configuration: EUT only
Location: Chamber B
Mode: LTE_16QAM Band 12 Fundamentals, 1.4MHz Bandwidth

Test Equpment:
Receiving: Hybrid T243, and Chamber B SMA Cables
Substitution: Dipole T273, 3ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
699.70	5.30	V	0.9	0.0	4.40	38.5	-34.1	
699.70	20.90	H	0.9	0.0	20.00	38.5	-18.5	
Mid Ch								
707.50	5.00	V	0.9	0.0	4.10	38.5	-34.4	
707.50	20.80	H	0.9	0.0	19.90	38.5	-18.6	
High Ch								
715.30	4.80	V	0.9	0.0	3.90	38.5	-34.6	
715.30	20.60	H	0.9	0.0	19.70	38.5	-18.8	

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Band

LTE12

1.4MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG Electronics
Project #: 15I19834
Date: 1/29/2015
Test Engineer: K.Kedida
Configuration: EUT only
Location: Chamber B
Mode: LTE_QPSK Band 12 Fundamentals, 1.4MHz Bandwidth

Test Equpment:
Receiving: Hybrid T243, and Chamber B SMA Cables
Substitution: Dipole T273, 3ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
699.70	6.05	V	0.9	0.0	5.15	38.5	-33.4	
699.70	21.77	H	0.9	0.0	20.87	38.5	-17.6	
Mid Ch								
707.50	6.24	V	0.9	0.0	5.34	38.5	-33.2	
707.50	21.67	H	0.9	0.0	20.77	38.5	-17.7	
High Ch								
715.30	5.70	V	0.9	0.0	4.80	38.5	-33.7	
715.30	21.48	H	0.9	0.0	20.58	38.5	-17.9	

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Band

LTE25

20MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I19834
Date: 1/28/2015
Test Engineer: Kiya Kedida
Configuration: EUT Only
Location: Chamber B
Mode: LTE_16QAM Band 25 Fundamentals, 20MHz Bandwidth

Test Equpment:
Receiving: Horn T1345, and Chamber B SMA Cables
Substitution: Horn T59, 4ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1860.00	16.39	V	0.9	7.9	23.37	33.0	-9.6	
1860.00	17.88	H	0.9	7.9	24.86	33.0	-8.1	
Mid Ch								
1882.50	16.59	V	0.9	7.9	23.56	33.0	-9.4	
1882.50	17.65	H	0.9	7.9	24.62	33.0	-8.4	
High Ch								
1905.00	15.76	V	0.9	7.9	22.72	33.0	-10.3	
1905.00	17.50	H	0.9	7.9	24.46	33.0	-8.5	

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Band

LTE25

20MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I19834
Date: 1/28/2015
Test Engineer: Kiya Kedida
Configuration: EUT Only
Location: Chamber B
Mode: LTE_QPSK Band 25 Fundamentals, 20MHz Bandwidth

Test Equpment:
Receiving: Horn T1345, and Chamber B SMA Cables
Substitution: Horn T59, 4ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1860.00	17.36	V	0.9	7.9	24.34	33.0	-8.7	
1860.00	18.96	H	0.9	7.9	25.94	33.0	-7.1	
Mid Ch								
1882.50	17.35	V	0.9	7.9	24.32	33.0	-8.7	
1882.50	18.75	H	0.9	7.9	25.72	33.0	-7.3	
High Ch								
1905.00	16.67	V	0.9	7.9	23.63	33.0	-9.4	
1905.00	18.31	H	0.9	7.9	25.27	33.0	-7.7	

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Band

LTE25

20MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I19834
Date: 1/28/2015
Test Engineer: Kiya Kedida
Configuration: EUT Only
Location: Chamber B
Mode: LTE_16QAM Band 25 Fundamentals, 20MHz Bandwidth

Test Equpment:
Receiving: Horn T1345, and Chamber B SMA Cables
Substitution: Horn T59, 4ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1860.00	16.39	V	0.9	7.9	23.37	33.0	-9.6	
1860.00	17.88	H	0.9	7.9	24.86	33.0	-8.1	
Mid Ch								
1882.50	16.59	V	0.9	7.9	23.56	33.0	-9.4	
1882.50	17.65	H	0.9	7.9	24.62	33.0	-8.4	
High Ch								
1905.00	15.76	V	0.9	7.9	22.72	33.0	-10.3	
1905.00	17.50	H	0.9	7.9	24.46	33.0	-8.5	

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Band

LTE25

20MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I19834
Date: 1/28/2015
Test Engineer: Kiya Kedida
Configuration: EUT Only
Location: Chamber B
Mode: LTE_QPSK Band 25 Fundamentals, 20MHz Bandwidth

Test Equpment:
Receiving: Horn T1345, and Chamber B SMA Cables
Substitution: Horn T59, 4ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1860.00	17.36	V	0.9	7.9	24.34	33.0	-8.7	
1860.00	18.96	H	0.9	7.9	25.94	33.0	-7.1	
Mid Ch								
1882.50	17.35	V	0.9	7.9	24.32	33.0	-8.7	
1882.50	18.75	H	0.9	7.9	25.72	33.0	-7.3	
High Ch								
1905.00	16.67	V	0.9	7.9	23.63	33.0	-9.4	
1905.00	18.31	H	0.9	7.9	25.27	33.0	-7.7	

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Band

LTE25

15MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I19834
Date: 1/28/2015
Test Engineer: Kiya Kedida
Configuration: EUT Only
Location: Chamber B
Mode: LTE_16QAM Band 25 Fundamentals, 15MHz Bandwidth

Test Equpment:
Receiving: Horn T1345, and Chamber B SMA Cables
Substitution: Horn T59, 4ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1857.50	16.69	V	0.9	7.9	23.67	33.0	-9.3	
1857.50	17.79	H	0.9	7.9	24.77	33.0	-8.2	
Mid Ch								
1882.50	16.10	V	0.9	7.9	23.07	33.0	-9.9	
1882.50	17.79	H	0.9	7.9	24.76	33.0	-8.2	
High Ch								
1907.50	15.40	V	0.9	7.9	22.36	33.0	-10.6	
1907.50	17.36	H	0.9	7.9	24.32	33.0	-8.7	

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Band

LTE25

15MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I19834
Date: 1/28/2015
Test Engineer: Kiya Kedida
Configuration: EUT Only
Location: Chamber B
Mode: LTE_QPSK Band 25 Fundamentals, 15MHz Bandwidth

Test Equpment:
Receiving: Horn T1345, and Chamber B SMA Cables
Substitution: Horn T59, 4ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1857.50	17.51	V	0.9	7.9	24.49	33.0	-8.5	
1857.50	18.86	H	0.9	7.9	25.84	33.0	-7.2	
Mid Ch								
1882.50	17.24	V	0.9	7.9	24.21	33.0	-8.8	
1882.50	18.81	H	0.9	7.9	25.78	33.0	-7.2	
High Ch								
1907.50	16.50	V	0.9	7.9	23.46	33.0	-9.5	
1907.50	18.38	H	0.9	7.9	25.34	33.0	-7.7	

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Band

LTE25

15MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I19834
Date: 1/28/2015
Test Engineer: Kiya Kedida
Configuration: EUT Only
Location: Chamber B
Mode: LTE_16QAM Band 25 Fundamentals, 15MHz Bandwidth

Test Equpment:
Receiving: Horn T1345, and Chamber B SMA Cables
Substitution: Horn T59, 4ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1857.50	16.69	V	0.9	7.9	23.67	33.0	-9.3	
1857.50	17.79	H	0.9	7.9	24.77	33.0	-8.2	
Mid Ch								
1882.50	16.10	V	0.9	7.9	23.07	33.0	-9.9	
1882.50	17.79	H	0.9	7.9	24.76	33.0	-8.2	
High Ch								
1907.50	15.40	V	0.9	7.9	22.36	33.0	-10.6	
1907.50	17.36	H	0.9	7.9	24.32	33.0	-8.7	

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Band

LTE25

15MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I19834
Date: 1/28/2015
Test Engineer: Kiya Kedida
Configuration: EUT Only
Location: Chamber B
Mode: LTE_QPSK Band 25 Fundamentals, 15MHz Bandwidth

Test Equpment:
Receiving: Horn T1345, and Chamber B SMA Cables
Substitution: Horn T59, 4ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1857.50	17.51	V	0.9	7.9	24.49	33.0	-8.5	
1857.50	18.86	H	0.9	7.9	25.84	33.0	-7.2	
Mid Ch								
1882.50	17.24	V	0.9	7.9	24.21	33.0	-8.8	
1882.50	18.81	H	0.9	7.9	25.78	33.0	-7.2	
High Ch								
1907.50	16.50	V	0.9	7.9	23.46	33.0	-9.5	
1907.50	18.38	H	0.9	7.9	25.34	33.0	-7.7	

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Band

LTE25

10MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I19834
Date: 1/28/2015
Test Engineer: Kiya Kedida
Configuration: EUT Only
Location: Chamber B
Mode: LTE_16QAM Band 25 Fundamentals, 10MHz Bandwidth

Test Equpment:
Receiving: Horn T1345, and Chamber B SMA Cables
Substitution: Horn T59, Xft SMA Cable (SN # SERIALNUMBER) Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1855.00	16.76	V	0.9	7.9	23.75	33.0	-9.3	
1855.00	17.60	H	0.9	7.9	24.59	33.0	-8.4	
Mid Ch								
1882.50	15.30	V	0.9	7.9	22.27	33.0	-10.7	
1882.50	17.79	H	0.9	7.9	24.76	33.0	-8.2	
High Ch								
1910.00	15.10	V	0.9	7.9	22.07	33.0	-10.9	
1910.00	17.10	H	0.9	7.9	24.07	33.0	-8.9	

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Band

LTE25

10MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I19834
Date: 1/28/2015
Test Engineer: Kiya Kedida
Configuration: EUT Only
Location: Chamber B
Mode: LTE_QPSK Band 25 Fundamentals, 10MHz Bandwidth

Test Equpment:
Receiving: Horn T1345, and Chamber B SMA Cables
Substitution: Horn T59, 4ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1855.00	17.66	V	0.9	7.9	24.65	33.0	-8.4	
1855.00	18.80	H	0.9	7.9	25.79	33.0	-7.2	
Mid Ch								
1882.50	16.50	V	0.9	7.9	23.47	33.0	-9.5	
1882.50	18.68	H	0.9	7.9	25.65	33.0	-7.4	
High Ch								
1910.00	16.19	V	0.9	7.9	23.16	33.0	-9.8	
1910.00	18.17	H	0.9	7.9	25.14	33.0	-7.9	

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Band

LTE25

10MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I19834
Date: 1/28/2015
Test Engineer: Kiya Kedida
Configuration: EUT Only
Location: Chamber B
Mode: LTE_16QAM Band 25 Fundamentals, 10MHz Bandwidth

Test Equpment:
Receiving: Horn T1345, and Chamber B SMA Cables
Substitution: Horn T59, Xft SMA Cable (SN # SERIALNUMBER) Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1855.00	16.76	V	0.9	7.9	23.75	33.0	-9.3	
1855.00	17.60	H	0.9	7.9	24.59	33.0	-8.4	
Mid Ch								
1882.50	15.30	V	0.9	7.9	22.27	33.0	-10.7	
1882.50	17.79	H	0.9	7.9	24.76	33.0	-8.2	
High Ch								
1910.00	15.10	V	0.9	7.9	22.07	33.0	-10.9	
1910.00	17.10	H	0.9	7.9	24.07	33.0	-8.9	

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Band

LTE25

10MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I19834
Date: 1/28/2015
Test Engineer: Kiya Kedida
Configuration: EUT Only
Location: Chamber B
Mode: LTE_QPSK Band 25 Fundamentals, 10MHz Bandwidth

Test Equpment:
Receiving: Horn T1345, and Chamber B SMA Cables
Substitution: Horn T59, 4ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1855.00	17.66	V	0.9	7.9	24.65	33.0	-8.4	
1855.00	18.80	H	0.9	7.9	25.79	33.0	-7.2	
Mid Ch								
1882.50	16.50	V	0.9	7.9	23.47	33.0	-9.5	
1882.50	18.68	H	0.9	7.9	25.65	33.0	-7.4	
High Ch								
1910.00	16.19	V	0.9	7.9	23.16	33.0	-9.8	
1910.00	18.17	H	0.9	7.9	25.14	33.0	-7.9	

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Band

LTE25

5MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I19834
Date: 1/28/2015
Test Engineer: Kiya Kedida
Configuration: EUT Only
Location: Chamber B
Mode: LTE_16QAM Band 25 Fundamentals, 5MHz Bandwidth

Test Equpment:
Receiving: Horn T1345, and Chamber B SMA Cables
Substitution: Horn T59, 4ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1852.50	15.80	V	0.9	7.9	22.79	33.0	-10.2	
1852.50	17.40	H	0.9	7.9	24.39	33.0	-8.6	
Mid Ch								
1882.50	15.39	V	0.9	7.9	22.36	33.0	-10.6	
1882.50	17.20	H	0.9	7.9	24.17	33.0	-8.8	
High Ch								
1912.50	14.89	V	0.9	7.9	21.87	33.0	-11.1	
1912.50	16.30	H	0.9	7.9	23.28	33.0	-9.7	

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Band

LTE25

5MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I19834
Date: 1/28/2015
Test Engineer: Kiya Kedida
Configuration: EUT Only
Location: Chamber B
Mode: LTE_QPSK Band 25 Fundamentals, 5MHz Bandwidth

Test Equpment:
Receiving: Horn T1345, and Chamber B SMA Cables
Substitution: Horn T59, 4ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1852.50	16.90	V	0.9	7.9	23.89	33.0	-9.1	
1852.50	18.31	H	0.9	7.9	25.30	33.0	-7.7	
Mid Ch								
1882.50	16.35	V	0.9	7.9	23.32	33.0	-9.7	
1882.50	18.22	H	0.9	7.9	25.19	33.0	-7.8	
High Ch								
1912.50	15.88	V	0.9	7.9	22.86	33.0	-10.1	
1912.50	17.36	H	0.9	7.9	24.34	33.0	-8.7	

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Band

LTE25

5MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I19834
Date: 1/28/2015
Test Engineer: Kiya Kedida
Configuration: EUT Only
Location: Chamber B
Mode: LTE_16QAM Band 25 Fundamentals, 5MHz Bandwidth

Test Equpment:
Receiving: Horn T1345, and Chamber B SMA Cables
Substitution: Horn T59, 4ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1852.50	15.80	V	0.9	7.9	22.79	33.0	-10.2	
1852.50	17.40	H	0.9	7.9	24.39	33.0	-8.6	
Mid Ch								
1882.50	15.39	V	0.9	7.9	22.36	33.0	-10.6	
1882.50	17.20	H	0.9	7.9	24.17	33.0	-8.8	
High Ch								
1912.50	14.89	V	0.9	7.9	21.87	33.0	-11.1	
1912.50	16.30	H	0.9	7.9	23.28	33.0	-9.7	

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Band

LTE25

5MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I19834
Date: 1/28/2015
Test Engineer: Kiya Kedida
Configuration: EUT Only
Location: Chamber B
Mode: LTE_QPSK Band 25 Fundamentals, 5MHz Bandwidth

Test Equpment:
Receiving: Horn T1345, and Chamber B SMA Cables
Substitution: Horn T59, 4ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1852.50	16.90	V	0.9	7.9	23.89	33.0	-9.1	
1852.50	18.31	H	0.9	7.9	25.30	33.0	-7.7	
Mid Ch								
1882.50	16.35	V	0.9	7.9	23.32	33.0	-9.7	
1882.50	18.22	H	0.9	7.9	25.19	33.0	-7.8	
High Ch								
1912.50	15.88	V	0.9	7.9	22.86	33.0	-10.1	
1912.50	17.36	H	0.9	7.9	24.34	33.0	-8.7	

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Band

LTE25

3MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I19834
Date: 1/28/2015
Test Engineer: Kiya Kedida
Configuration: EUT Only
Location: Chamber B
Mode: LTE_16QAM Band 25 Fundamentals, 3MHz Bandwidth

Test Equpment:
Receiving: Horn T1345, and Chamber B SMA Cables
Substitution: Horn T59, 4ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1851.50	16.10	V	0.9	7.9	23.09	33.0	-9.9	
1851.50	17.70	H	0.9	7.9	24.69	33.0	-8.3	
Mid Ch								
1882.50	15.58	V	0.9	7.9	22.55	33.0	-10.5	
1882.50	16.88	H	0.9	7.9	23.85	33.0	-9.2	
High Ch								
1913.50	15.20	V	0.9	7.9	22.18	33.0	-10.8	
1913.50	16.40	H	0.9	7.9	23.38	33.0	-9.6	

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Band

LTE25

3MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I19834
Date: 1/28/2015
Test Engineer: Kiya Kedida
Configuration: EUT Only
Location: Chamber B
Mode: LTE_QPSK Band 25 Fundamentals, 3MHz Bandwidth

Test Equpment:
Receiving: Horn T1345, and Chamber B SMA Cables
Substitution: Horn T59, 4ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1851.50	17.24	V	0.9	7.9	24.23	33.0	-8.8	
1851.50	18.50	H	0.9	7.9	25.49	33.0	-7.5	
Mid Ch								
1882.50	16.45	V	0.9	7.9	23.42	33.0	-9.6	
1882.50	18.14	H	0.9	7.9	25.11	33.0	-7.9	
High Ch								
1913.50	16.07	V	0.9	7.9	23.05	33.0	-10.0	
1913.50	17.56	H	0.9	7.9	24.54	33.0	-8.5	

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Band

LTE25

3MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I19834
Date: 1/28/2015
Test Engineer: Kiya Kedida
Configuration: EUT Only
Location: Chamber B
Mode: LTE_16QAM Band 25 Fundamentals, 3MHz Bandwidth

Test Equpment:
Receiving: Horn T1345, and Chamber B SMA Cables
Substitution: Horn T59, 4ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1851.50	16.10	V	0.9	7.9	23.09	33.0	-9.9	
1851.50	17.70	H	0.9	7.9	24.69	33.0	-8.3	
Mid Ch								
1882.50	15.58	V	0.9	7.9	22.55	33.0	-10.5	
1882.50	16.88	H	0.9	7.9	23.85	33.0	-9.2	
High Ch								
1913.50	15.20	V	0.9	7.9	22.18	33.0	-10.8	
1913.50	16.40	H	0.9	7.9	23.38	33.0	-9.6	

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Band

LTE25

3MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I19834
Date: 1/28/2015
Test Engineer: Kiya Kedida
Configuration: EUT Only
Location: Chamber B
Mode: LTE_QPSK Band 25 Fundamentals, 3MHz Bandwidth

Test Equpment:
Receiving: Horn T1345, and Chamber B SMA Cables
Substitution: Horn T59, 4ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1851.50	17.24	V	0.9	7.9	24.23	33.0	-8.8	
1851.50	18.50	H	0.9	7.9	25.49	33.0	-7.5	
Mid Ch								
1882.50	16.45	V	0.9	7.9	23.42	33.0	-9.6	
1882.50	18.14	H	0.9	7.9	25.11	33.0	-7.9	
High Ch								
1913.50	16.07	V	0.9	7.9	23.05	33.0	-10.0	
1913.50	17.56	H	0.9	7.9	24.54	33.0	-8.5	

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Band

LTE25

1.4MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I19834
Date: 1/28/2015
Test Engineer: Kiya Kedida
Configuration: EUT Only
Location: Chamber B
Mode: LTE_16QAM Band 25 Fundamentals, 1.4MHz Bandwidth

Test Equpment:
Receiving: Horn T1345, and Chamber B SMA Cables
Substitution: Horn T59, 4ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1850.70	15.50	V	0.9	7.9	22.49	33.0	-10.5	
1850.70	17.50	H	0.9	7.9	24.49	33.0	-8.5	
Mid Ch								
1882.50	15.10	V	0.9	7.9	22.07	33.0	-10.9	
1882.50	16.79	H	0.9	7.9	23.76	33.0	-9.2	
High Ch								
1914.70	15.40	V	0.9	7.9	22.38	33.0	-10.6	
1914.70	16.44	H	0.9	7.9	23.42	33.0	-9.6	

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Band

LTE25

1.4MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I19834
Date: 1/28/2015
Test Engineer: Kiya Kedida
Configuration: EUT Only
Location: Chamber B
Mode: LTE_QPSK Band 25 Fundamentals, 1.4MHz Bandwidth

Test Equpment:
Receiving: Horn T1345, and Chamber B SMA Cables
Substitution: Horn T59, 4ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1850.70	16.62	V	0.9	7.9	23.61	33.0	-9.4	
1850.70	18.51	H	0.9	7.9	25.50	33.0	-7.5	
Mid Ch								
1882.50	16.11	V	0.9	7.9	23.08	33.0	-9.9	
1882.50	17.95	H	0.9	7.9	24.92	33.0	-8.1	
High Ch								
1914.70	16.24	V	0.9	7.9	23.22	33.0	-9.8	
1914.70	17.28	H	0.9	7.9	24.26	33.0	-8.7	

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Band

LTE25

1.4MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I19834
Date: 1/28/2015
Test Engineer: Kiya Kedida
Configuration: EUT Only
Location: Chamber B
Mode: LTE_16QAM Band 25 Fundamentals, 1.4MHz Bandwidth

Test Equpment:
Receiving: Horn T1345, and Chamber B SMA Cables
Substitution: Horn T59, 4ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1850.70	15.50	V	0.9	7.9	22.49	33.0	-10.5	
1850.70	17.50	H	0.9	7.9	24.49	33.0	-8.5	
Mid Ch								
1882.50	15.10	V	0.9	7.9	22.07	33.0	-10.9	
1882.50	16.79	H	0.9	7.9	23.76	33.0	-9.2	
High Ch								
1914.70	15.40	V	0.9	7.9	22.38	33.0	-10.6	
1914.70	16.44	H	0.9	7.9	23.42	33.0	-9.6	

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Band

LTE25

1.4MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I19834
Date: 1/28/2015
Test Engineer: Kiya Kedida
Configuration: EUT Only
Location: Chamber B
Mode: LTE_QPSK Band 25 Fundamentals, 1.4MHz Bandwidth

Test Equpment:
Receiving: Horn T1345, and Chamber B SMA Cables
Substitution: Horn T59, 4ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1850.70	16.62	V	0.9	7.9	23.61	33.0	-9.4	
1850.70	18.51	H	0.9	7.9	25.50	33.0	-7.5	
Mid Ch								
1882.50	16.11	V	0.9	7.9	23.08	33.0	-9.9	
1882.50	17.95	H	0.9	7.9	24.92	33.0	-8.1	
High Ch								
1914.70	16.24	V	0.9	7.9	23.22	33.0	-9.8	
1914.70	17.28	H	0.9	7.9	24.26	33.0	-8.7	

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LTE Band 25

Band

LTE25

20MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I19834
Date: 1/28/2015
Test Engineer: Kiya Kedida
Configuration: EUT Only
Location: Chamber B
Mode: LTE_16QAM Band 25 Fundamentals, 20MHz Bandwidth

Test Equpment:
Receiving: Horn T1345, and Chamber B SMA Cables
Substitution: Horn T59, 4ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1860.00	16.39	V	0.9	7.9	23.37	33.0	-9.6	
1860.00	17.88	H	0.9	7.9	24.86	33.0	-8.1	
Mid Ch								
1882.50	16.59	V	0.9	7.9	23.56	33.0	-9.4	
1882.50	17.65	H	0.9	7.9	24.62	33.0	-8.4	
High Ch								
1905.00	15.76	V	0.9	7.9	22.72	33.0	-10.3	
1905.00	17.50	H	0.9	7.9	24.46	33.0	-8.5	

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Band

LTE25

20MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I19834
Date: 1/28/2015
Test Engineer: Kiya Kedida
Configuration: EUT Only
Location: Chamber B
Mode: LTE_QPSK Band 25 Fundamentals, 20MHz Bandwidth

Test Equpment:
Receiving: Horn T1345, and Chamber B SMA Cables
Substitution: Horn T59, 4ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1860.00	17.36	V	0.9	7.9	24.34	33.0	-8.7	
1860.00	18.96	H	0.9	7.9	25.94	33.0	-7.1	
Mid Ch								
1882.50	17.35	V	0.9	7.9	24.32	33.0	-8.7	
1882.50	18.75	H	0.9	7.9	25.72	33.0	-7.3	
High Ch								
1905.00	16.67	V	0.9	7.9	23.63	33.0	-9.4	
1905.00	18.31	H	0.9	7.9	25.27	33.0	-7.7	

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Band

LTE25

15MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I19834
Date: 1/28/2015
Test Engineer: Kiya Kedida
Configuration: EUT Only
Location: Chamber B
Mode: LTE_16QAM Band 25 Fundamentals, 15MHz Bandwidth

Test Equpment:
Receiving: Horn T1345, and Chamber B SMA Cables
Substitution: Horn T59, 4ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1857.50	16.69	V	0.9	7.9	23.67	33.0	-9.3	
1857.50	17.79	H	0.9	7.9	24.77	33.0	-8.2	
Mid Ch								
1882.50	16.10	V	0.9	7.9	23.07	33.0	-9.9	
1882.50	17.79	H	0.9	7.9	24.76	33.0	-8.2	
High Ch								
1907.50	15.40	V	0.9	7.9	22.36	33.0	-10.6	
1907.50	17.36	H	0.9	7.9	24.32	33.0	-8.7	

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Band

LTE25

15MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I19834
Date: 1/28/2015
Test Engineer: Kiya Kedida
Configuration: EUT Only
Location: Chamber B
Mode: LTE_QPSK Band 25 Fundamentals, 15MHz Bandwidth

Test Equipment:
Receiving: Horn T1345, and Chamber B SMA Cables
Substitution: Horn T59, 4ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1857.50	17.51	V	0.9	7.9	24.49	33.0	-8.5	
1857.50	18.86	H	0.9	7.9	25.84	33.0	-7.2	
Mid Ch								
1882.50	17.24	V	0.9	7.9	24.21	33.0	-8.8	
1882.50	18.81	H	0.9	7.9	25.78	33.0	-7.2	
High Ch								
1907.50	16.50	V	0.9	7.9	23.46	33.0	-9.5	
1907.50	18.38	H	0.9	7.9	25.34	33.0	-7.7	

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Band

LTE25

10MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I19834
Date: 1/28/2015
Test Engineer: Kiya Kedida
Configuration: EUT Only
Location: Chamber B
Mode: LTE_16QAM Band 25 Fundamentals, 10MHz Bandwidth

Test Equipment:
Receiving: Horn T1345, and Chamber B SMA Cables
Substitution: Horn T59, Xft SMA Cable (SN # SERIALNUMBER) Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1855.00	16.76	V	0.9	7.9	23.75	33.0	-9.3	
1855.00	17.60	H	0.9	7.9	24.59	33.0	-8.4	
Mid Ch								
1882.50	15.30	V	0.9	7.9	22.27	33.0	-10.7	
1882.50	17.79	H	0.9	7.9	24.76	33.0	-8.2	
High Ch								
1910.00	15.10	V	0.9	7.9	22.07	33.0	-10.9	
1910.00	17.10	H	0.9	7.9	24.07	33.0	-8.9	

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Band

LTE25

10MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I19834
Date: 1/28/2015
Test Engineer: Kiya Kedida
Configuration: EUT Only
Location: Chamber B
Mode: LTE_QPSK Band 25 Fundamentals, 10MHz Bandwidth

Test Equpment:
Receiving: Horn T1345, and Chamber B SMA Cables
Substitution: Horn T59, 4ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1855.00	17.66	V	0.9	7.9	24.65	33.0	-8.4	
1855.00	18.80	H	0.9	7.9	25.79	33.0	-7.2	
Mid Ch								
1882.50	16.50	V	0.9	7.9	23.47	33.0	-9.5	
1882.50	18.68	H	0.9	7.9	25.65	33.0	-7.4	
High Ch								
1910.00	16.19	V	0.9	7.9	23.16	33.0	-9.8	
1910.00	18.17	H	0.9	7.9	25.14	33.0	-7.9	

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Band

LTE25

5MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I19834
Date: 1/28/2015
Test Engineer: Kiya Kedida
Configuration: EUT Only
Location: Chamber B
Mode: LTE_16QAM Band 25 Fundamentals, 5MHz Bandwidth

Test Equpment:
Receiving: Horn T1345, and Chamber B SMA Cables
Substitution: Horn T59, 4ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1852.50	15.80	V	0.9	7.9	22.79	33.0	-10.2	
1852.50	17.40	H	0.9	7.9	24.39	33.0	-8.6	
Mid Ch								
1882.50	15.39	V	0.9	7.9	22.36	33.0	-10.6	
1882.50	17.20	H	0.9	7.9	24.17	33.0	-8.8	
High Ch								
1912.50	14.89	V	0.9	7.9	21.87	33.0	-11.1	
1912.50	16.30	H	0.9	7.9	23.28	33.0	-9.7	

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Band

LTE25

5MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I19834
Date: 1/28/2015
Test Engineer: Kiya Kedida
Configuration: EUT Only
Location: Chamber B
Mode: LTE_QPSK Band 25 Fundamentals, 5MHz Bandwidth

Test Equipment:
Receiving: Horn T1345, and Chamber B SMA Cables
Substitution: Horn T59, 4ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1852.50	16.90	V	0.9	7.9	23.89	33.0	-9.1	
1852.50	18.31	H	0.9	7.9	25.30	33.0	-7.7	
Mid Ch								
1882.50	16.35	V	0.9	7.9	23.32	33.0	-9.7	
1882.50	18.22	H	0.9	7.9	25.19	33.0	-7.8	
High Ch								
1912.50	15.88	V	0.9	7.9	22.86	33.0	-10.1	
1912.50	17.36	H	0.9	7.9	24.34	33.0	-8.7	

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Band

LTE25

3MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I19834
Date: 1/28/2015
Test Engineer: Kiya Kedida
Configuration: EUT Only
Location: Chamber B
Mode: LTE_16QAM Band 25 Fundamentals, 3MHz Bandwidth

Test Equpment:
Receiving: Horn T1345, and Chamber B SMA Cables
Substitution: Horn T59, 4ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1851.50	16.10	V	0.9	7.9	23.09	33.0	-9.9	
1851.50	17.70	H	0.9	7.9	24.69	33.0	-8.3	
Mid Ch								
1882.50	15.58	V	0.9	7.9	22.55	33.0	-10.5	
1882.50	16.88	H	0.9	7.9	23.85	33.0	-9.2	
High Ch								
1913.50	15.20	V	0.9	7.9	22.18	33.0	-10.8	
1913.50	16.40	H	0.9	7.9	23.38	33.0	-9.6	

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Band

LTE25

3MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I19834
Date: 1/28/2015
Test Engineer: Kiya Kedida
Configuration: EUT Only
Location: Chamber B
Mode: LTE_QPSK Band 25 Fundamentals, 3MHz Bandwidth

Test Equpment:
Receiving: Horn T1345, and Chamber B SMA Cables
Substitution: Horn T59, 4ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1851.50	17.24	V	0.9	7.9	24.23	33.0	-8.8	
1851.50	18.50	H	0.9	7.9	25.49	33.0	-7.5	
Mid Ch								
1882.50	16.45	V	0.9	7.9	23.42	33.0	-9.6	
1882.50	18.14	H	0.9	7.9	25.11	33.0	-7.9	
High Ch								
1913.50	16.07	V	0.9	7.9	23.05	33.0	-10.0	
1913.50	17.56	H	0.9	7.9	24.54	33.0	-8.5	

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Band

LTE25

1.4MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I19834
Date: 1/28/2015
Test Engineer: Kiya Kedida
Configuration: EUT Only
Location: Chamber B
Mode: LTE_16QAM Band 25 Fundamentals, 1.4MHz Bandwidth

Test Equpment:
Receiving: Horn T1345, and Chamber B SMA Cables
Substitution: Horn T59, 4ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1850.70	15.50	V	0.9	7.9	22.49	33.0	-10.5	
1850.70	17.50	H	0.9	7.9	24.49	33.0	-8.5	
Mid Ch								
1882.50	15.10	V	0.9	7.9	22.07	33.0	-10.9	
1882.50	16.79	H	0.9	7.9	23.76	33.0	-9.2	
High Ch								
1914.70	15.40	V	0.9	7.9	22.38	33.0	-10.6	
1914.70	16.44	H	0.9	7.9	23.42	33.0	-9.6	

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Band

LTE25

1.4MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I19834
Date: 1/28/2015
Test Engineer: Kiya Kedida
Configuration: EUT Only
Location: Chamber B
Mode: LTE_QPSK Band 25 Fundamentals, 1.4MHz Bandwidth

Test Equpment:
Receiving: Horn T1345, and Chamber B SMA Cables
Substitution: Horn T59, 4ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1850.70	16.62	V	0.9	7.9	23.61	33.0	-9.4	
1850.70	18.51	H	0.9	7.9	25.50	33.0	-7.5	
Mid Ch								
1882.50	16.11	V	0.9	7.9	23.08	33.0	-9.9	
1882.50	17.95	H	0.9	7.9	24.92	33.0	-8.1	
High Ch								
1914.70	16.24	V	0.9	7.9	23.22	33.0	-9.8	
1914.70	17.28	H	0.9	7.9	24.26	33.0	-8.7	

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LTE Band 26

Band

LTE26

15MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG Electronics
Project #: 15I19834
Date: 2/2/2015
Test Engineer: K.Kedida
Configuration: EUT Only
Location: Chamber B
Mode: LTE_16QAM Band 26 Fundamentals, 15MHz Bandwidth

Test Equpment:
Receiving: Hybrid T243, and Chamber B SMA Cables
Substitution: Dipole T416, Xft SMA Cable (SN # SERIALNUMBER) Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
821.50	13.20	V	0.9	0.0	12.30	50.0	-37.7	
821.50	19.80	H	0.9	0.0	18.90	50.0	-31.1	
Mid Ch								
831.50	13.60	V	0.9	0.0	12.70	50.0	-37.3	
831.50	20.60	H	0.9	0.0	19.70	50.0	-30.3	
High Ch								
841.50	14.12	V	0.9	0.0	13.22	50.0	-36.8	
841.50	20.30	H	0.9	0.0	19.40	50.0	-30.6	

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Band

LTE26

15MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG Electronics
Project #: 15I19834
Date: 2/2/2015
Test Engineer: K.Kedida
Configuration: EUT Only
Location: Chamber B
Mode: LTE_QPSK Band 26 Fundamentals, 15MHz Bandwidth

Test Equipment:
Receiving: Hybrid T243, and Chamber B SMA Cables
Substitution: Dipole T416, Xft SMA Cable (SN # SERIALNUMBER) Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
821.50	14.05	V	0.9	0.0	13.15	50.0	-36.9	
821.50	20.70	H	0.9	0.0	19.80	50.0	-30.2	
Mid Ch								
831.50	14.48	V	0.9	0.0	13.58	50.0	-36.4	
831.50	21.45	H	0.9	0.0	20.55	50.0	-29.5	
High Ch								
841.50	14.97	V	0.9	0.0	14.07	50.0	-35.9	
841.50	21.17	H	0.9	0.0	20.27	50.0	-29.7	

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Band

LTE26

10MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG Electronics
Project #: 15I19834
Date: 1/29/2015
Test Engineer: K.Kedida
Configuration: EUT Only
Location: Chamber B
Mode: LTE_16QAM Band 26 Fundamentals, 10MHz Bandwidth

Test Equpment:
Receiving: Hybrid T243, and Chamber B SMA Cables
Substitution: Dipole T273, 3ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
819.00	12.80	V	0.9	0.0	11.90	38.5	-26.6	
819.00	20.70	H	0.9	0.0	19.80	38.5	-18.7	
Mid Ch								
831.50	13.60	V	0.9	0.0	12.70	38.5	-25.8	
831.50	20.70	H	0.9	0.0	19.80	38.5	-18.7	
High Ch								
844.00	13.80	V	0.9	0.0	12.90	38.5	-25.6	
844.00	19.70	H	0.9	0.0	18.80	38.5	-19.7	

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Band

LTE26

10MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG Electronics
Project #: 15I19834
Date: 1/29/2015
Test Engineer: K.Kedida
Configuration: EUT Only
Location: Chamber B
Mode: LTE_QPSK Band 26 Fundamentals, 10MHz Bandwidth

Test Equpment:
Receiving: Hybrid T243, and Chamber B SMA Cables
Substitution: Dipole T273, 3ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
819.00	13.70	V	0.9	0.0	12.80	38.5	-25.7	
819.00	21.60	H	0.9	0.0	20.70	38.5	-17.8	
Mid Ch								
831.50	14.50	V	0.9	0.0	13.60	38.5	-24.9	
831.50	21.60	H	0.9	0.0	20.70	38.5	-17.8	
High Ch								
844.00	14.80	V	0.9	0.0	13.90	38.5	-24.6	
844.00	20.50	H	0.9	0.0	19.60	38.5	-18.9	

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Band

LTE26

5MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG Electronics
Project #: 15I19834
Date: 1/29/2015
Test Engineer: K.Kedida
Configuration: EUT Only
Location: Chamber B
Mode: LTE_16QAM Band 26 Fundamentals, 5MHz Bandwidth

Test Equpment:
Receiving: Hybrid T243, and Chamber B SMA Cables
Substitution: Dipole T273, 3ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
816.50	13.50	V	0.9	0.0	12.60	38.5	-25.9	
816.50	20.60	H	0.9	0.0	19.70	38.5	-18.8	
Mid Ch								
831.50	12.80	V	0.9	0.0	11.90	38.5	-26.6	
831.50	21.00	H	0.9	0.0	20.10	38.5	-18.4	
High Ch								
846.50	13.60	V	0.9	0.0	12.70	38.5	-25.8	
846.50	20.80	H	0.9	0.0	19.90	38.5	-18.6	

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Band

LTE26

5MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG Electronics
Project #: 15I19834
Date: 1/29/2015
Test Engineer: K.Kedida
Configuration: EUT Only
Location: Chamber B
Mode: LTE_QPSK Band 26 Fundamentals, 5MHz Bandwidth

Test Equpment:
Receiving: Hybrid T243, and Chamber B SMA Cables
Substitution: Dipole T273, 3ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
816.50	14.40	V	0.9	0.0	13.50	38.5	-25.0	
816.50	21.50	H	0.9	0.0	20.60	38.5	-17.9	
Mid Ch								
831.50	13.70	V	0.9	0.0	12.80	38.5	-25.7	
831.50	21.70	H	0.9	0.0	20.80	38.5	-17.7	
High Ch								
846.50	14.50	V	0.9	0.0	13.60	38.5	-24.9	
846.50	21.70	H	0.9	0.0	20.80	38.5	-17.7	

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Band

LTE26

3MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG Electronics
Project #: 15I19834
Date: 1/29/2015
Test Engineer: K.Kedida
Configuration: EUT Only
Location: Chamber B
Mode: LTE_16QAM Band 26 Fundamentals, 3MHz Bandwidth

Test Equipment:
Receiving: Hybrid T243, and Chamber B SMA Cables
Substitution: Dipole T273, 3ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
815.50	12.40	V	0.9	0.0	11.50	38.5	-27.0	
815.50	20.20	H	0.9	0.0	19.30	38.5	-19.2	
Mid Ch								
831.50	13.10	V	0.9	0.0	12.20	38.5	-26.3	
831.50	20.00	H	0.9	0.0	19.10	38.5	-19.4	
High Ch								
847.50	12.30	V	0.9	0.0	11.40	38.5	-27.1	
847.50	20.90	H	0.9	0.0	20.00	38.5	-18.5	

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Band

LTE26

3MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG Electronics
Project #: 15I19834
Date: 1/29/2015
Test Engineer: K.Kedida
Configuration: EUT Only
Location: Chamber B
Mode: LTE_QPSK Band 26 Fundamentals, 3MHz Bandwidth

Test Equpment:
Receiving: Hybrid T243, and Chamber B SMA Cables
Substitution: Dipole T273, 3ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
815.50	13.30	V	0.9	0.0	12.40	38.5	-26.1	
815.50	21.10	H	0.9	0.0	20.20	38.5	-18.3	
Mid Ch								
831.50	14.00	V	0.9	0.0	13.10	38.5	-25.4	
831.50	20.70	H	0.9	0.0	19.80	38.5	-18.7	
High Ch								
847.50	13.10	V	0.9	0.0	12.20	38.5	-26.3	
847.50	21.80	H	0.9	0.0	20.90	38.5	-17.6	

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Band

LTE26

1.4MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG Electronics
Project #: 15I19834
Date: 1/29/2015
Test Engineer: K.Kedida
Configuration: EUT Only
Location: Chamber B
Mode: LTE_16QAM Band 26 Fundamentals, 1.4MHz Bandwidth

Test Equpment:
Receiving: Hybrid T243, and Chamber B SMA Cables
Substitution: Dipole T273, 3ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
814.70	12.50	V	0.9	0.0	11.60	38.5	-26.9	
814.70	20.30	H	0.9	0.0	19.40	38.5	-19.1	
Mid Ch								
831.50	12.50	V	0.9	0.0	11.60	38.5	-26.9	
831.50	20.30	H	0.9	0.0	19.40	38.5	-19.1	
High Ch								
848.30	13.30	V	0.9	0.0	12.40	38.5	-26.1	
848.30	20.10	H	0.9	0.0	19.20	38.5	-19.3	

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Band

LTE26

1.4MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG Electronics
Project #: 15I19834
Date: 1/29/2015
Test Engineer: K.Kedida
Configuration: EUT Only
Location: Chamber B
Mode: LTE_QPSK Band 26 Fundamentals, 1.4MHz Bandwidth

Test Equpment:
Receiving: Hybrid T243, and Chamber B SMA Cables
Substitution: Dipole T273, 3ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
814.70	13.40	V	0.9	0.0	12.50	38.5	-26.0	
814.70	21.20	H	0.9	0.0	20.30	38.5	-18.2	
Mid Ch								
831.50	13.40	V	0.9	0.0	12.50	38.5	-26.0	
831.50	21.40	H	0.9	0.0	20.50	38.5	-18.0	
High Ch								
848.30	14.20	V	0.9	0.0	13.30	38.5	-25.2	
848.30	21.10	H	0.9	0.0	20.20	38.5	-18.3	

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