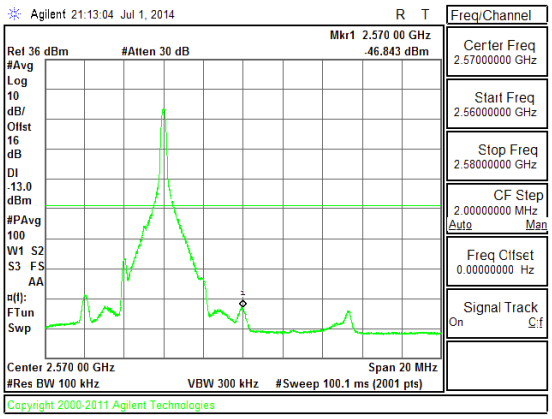
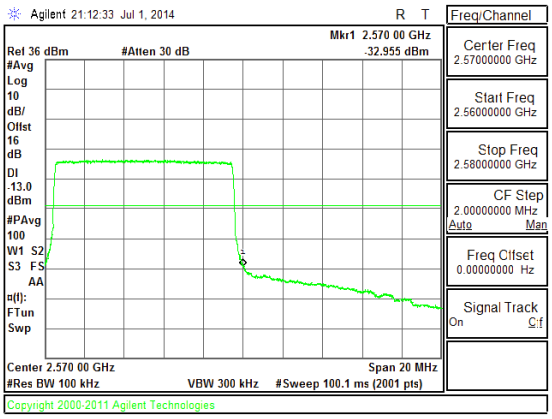
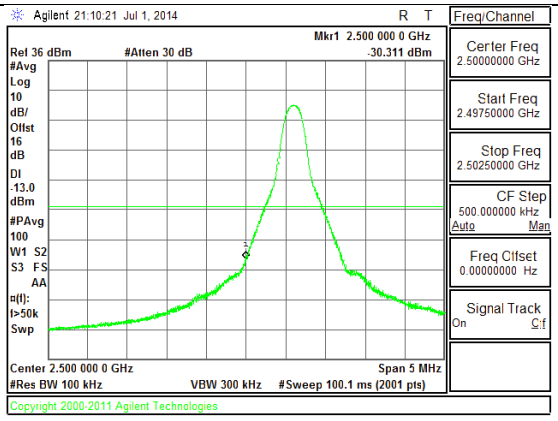
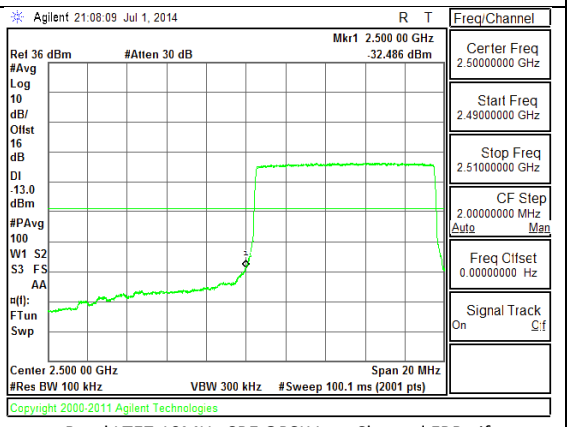
Band LTE7 10MHz 16QAM	 Band LTE7 10MHz CBE 16QAM High Channel 1RB.gif	 Band LTE7 10MHz CBE 16QAM High Channel FRB.gif
Band LTE7 10MHz QPSK	 Band LTE7 10MHz CBE QPSK Low Channel 1RB.gif	 Band LTE7 10MHz CBE QPSK Low Channel FRB.gif

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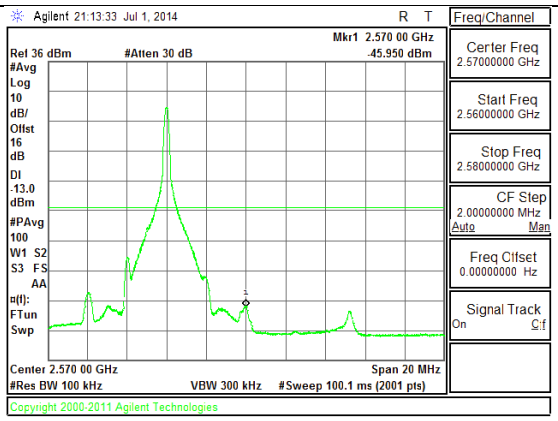
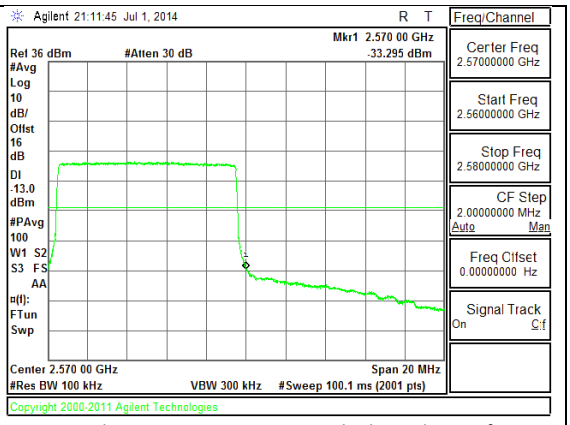
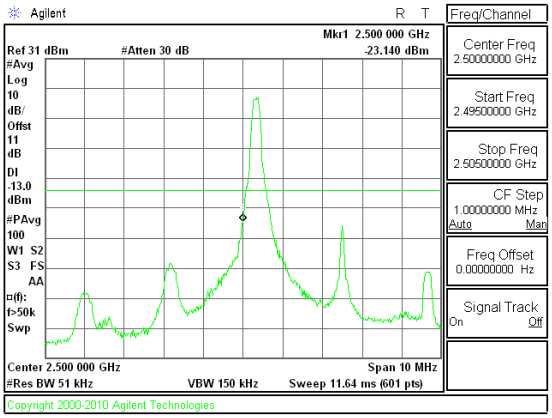
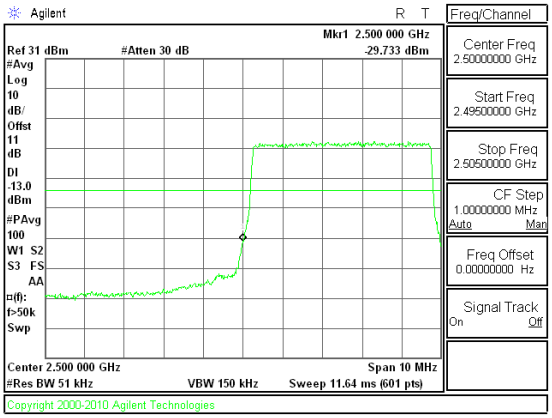
Band LTE7 10MHz QPSK	 Band LTE7 10MHz CBE QPSK High Channel 1RB.gif	 Band LTE7 10MHz CBE QPSK High Channel FRB.gif

Band LTE7 5MHz 16QAM	 Band LTE7 5MHz CBE 16QAM Low Channel 1RB.gif	 Band LTE7 5MHz CBE 16QAM Low Channel FRB.gif

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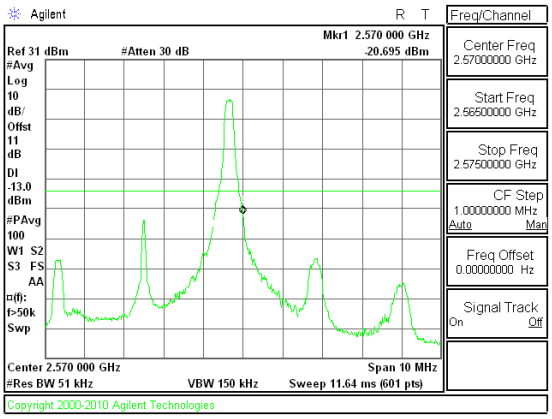
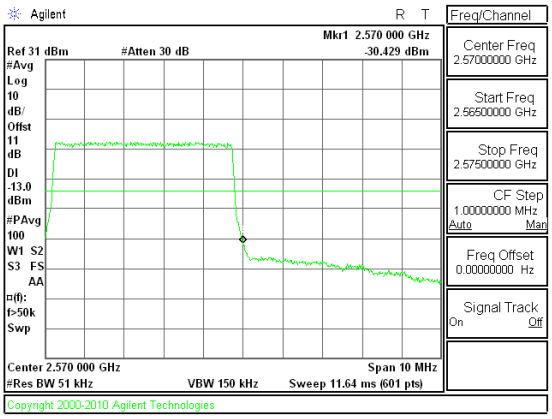
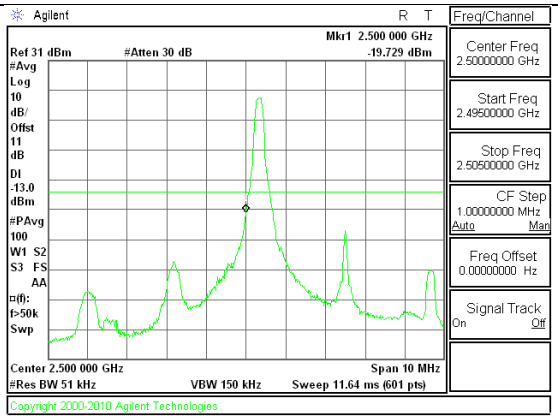
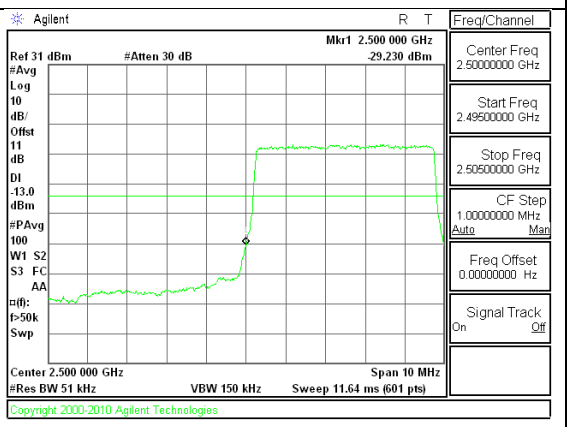
Band LTE7 5MHz 16QAM	 Band LTE7 5MHz CBE 16QAM High Channel 1RB.gif	 Band LTE7 5MHz CBE 16QAM High Channel FRB.gif
Band LTE7 5MHz QPSK	 Band LTE7 5MHz CBE QPSK Low Channel 1RB.gif	 Band LTE7 5MHz CBE QPSK Low Channel FRB.gif

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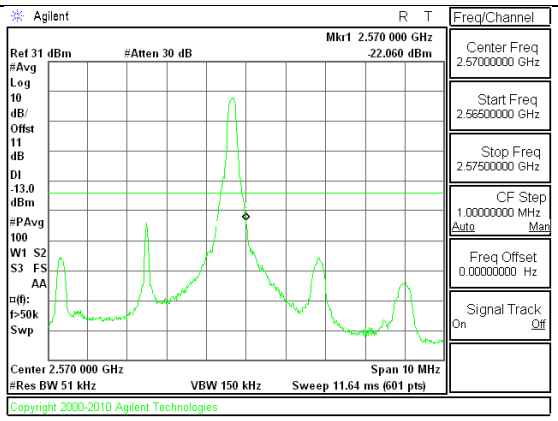
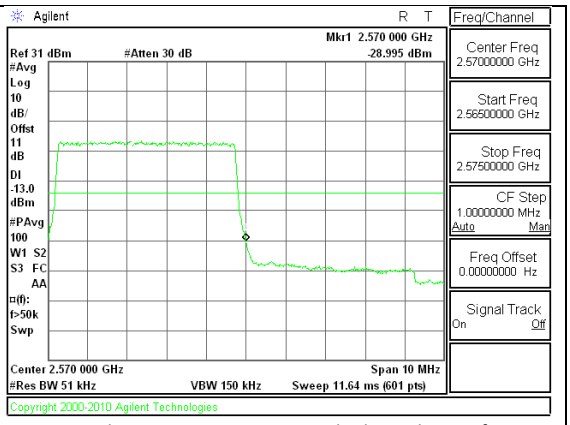
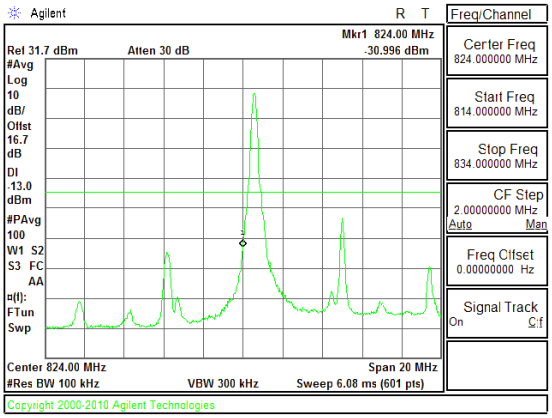
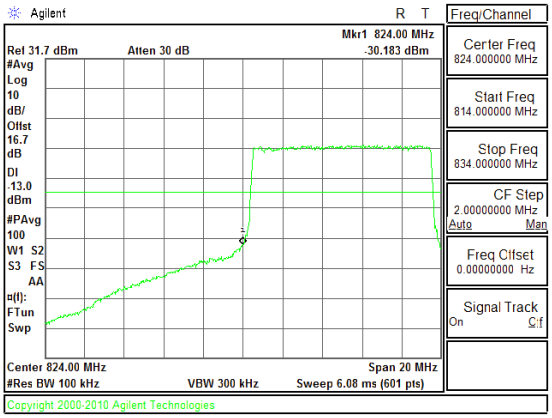
Band LTE7 5MHz QPSK	 Band LTE7 5MHz CBE QPSK High Channel 1RB.gif	 Band LTE7 5MHz CBE QPSK High Channel FRB.gif

Band LTE5 10MHz 16QAM	 Band LTE5 10MHz CBE 16QAM Low Channel 1RB.gif	 Band LTE5 10MHz CBE 16QAM Low Channel FRB.gif

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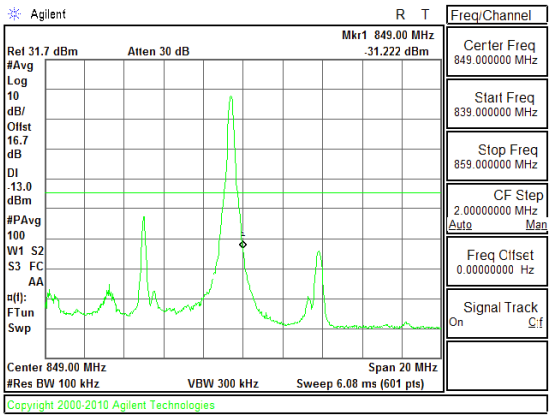
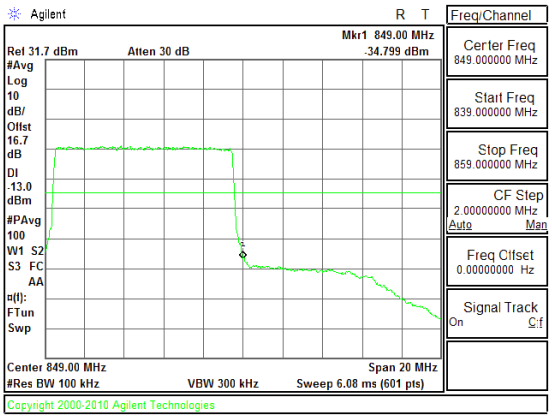
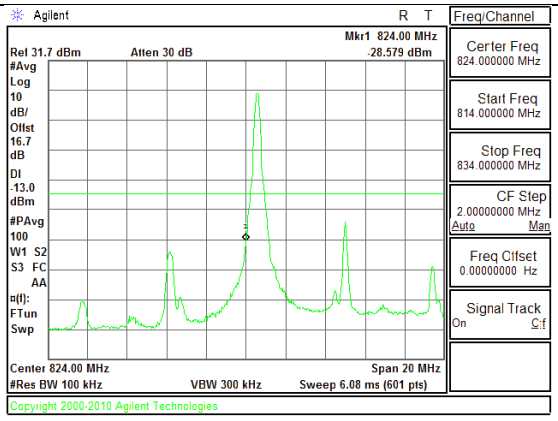
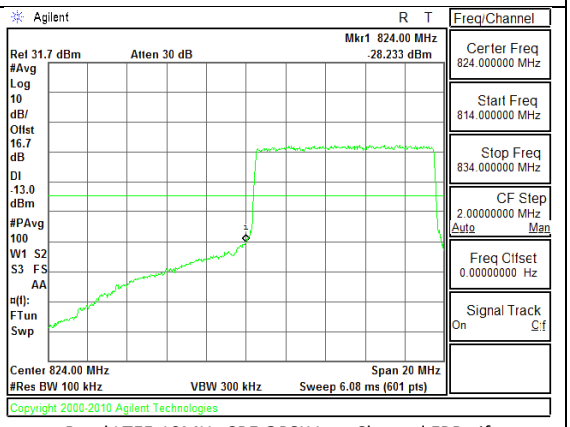
Band LTE5 10MHz 16QAM	 Band LTE5 10MHz CBE 16QAM High Channel 1RB.gif	 Band LTE5 10MHz CBE 16QAM High Channel FRB.gif
Band LTE5 10MHz QPSK	 Band LTE5 10MHz CBE QPSK Low Channel 1RB.gif	 Band LTE5 10MHz CBE QPSK Low Channel FRB.gif

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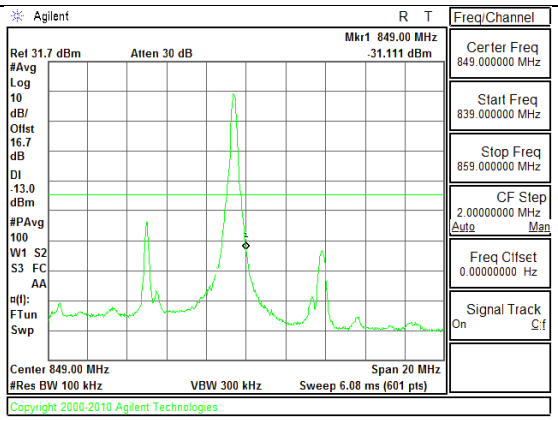
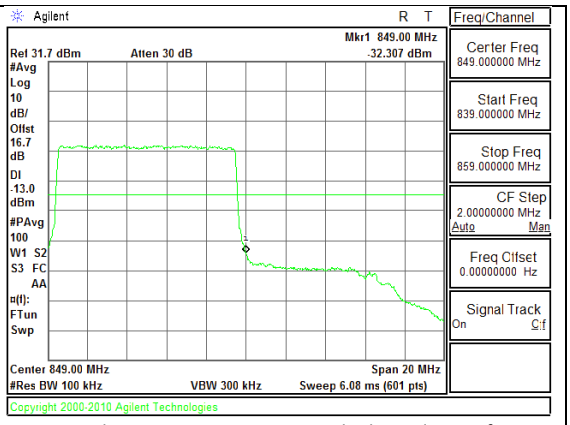
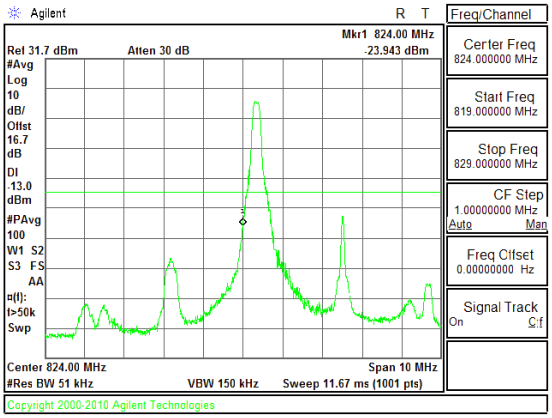
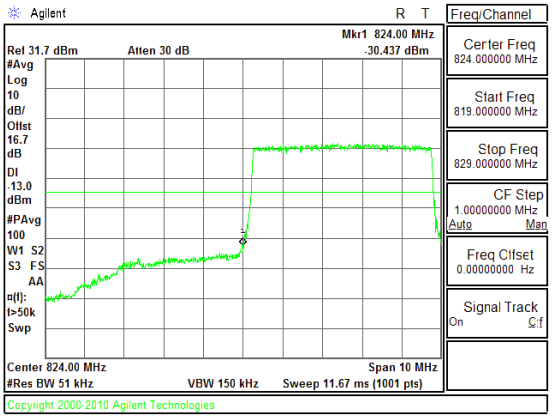
Band LTE5 10MHz QPSK	 Band LTE5 10MHz CBE QPSK High Channel 1RB.gif	 Band LTE5 10MHz CBE QPSK High Channel FRB.gif

Band LTE5 5MHz 16QAM	 Band LTE5 5MHz CBE 16QAM Low Channel 1RB.gif	 Band LTE5 5MHz CBE 16QAM Low Channel FRB.gif

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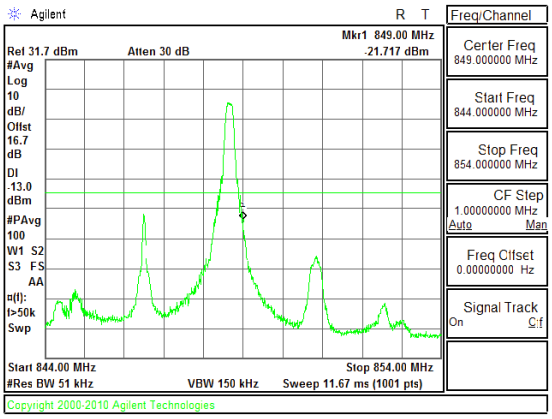
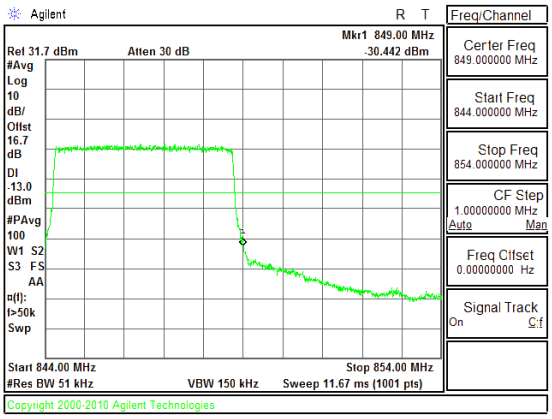
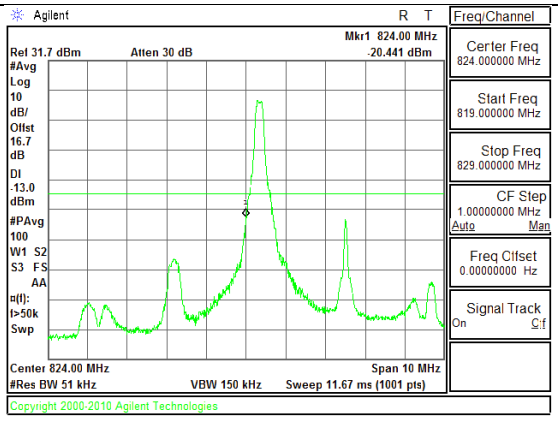
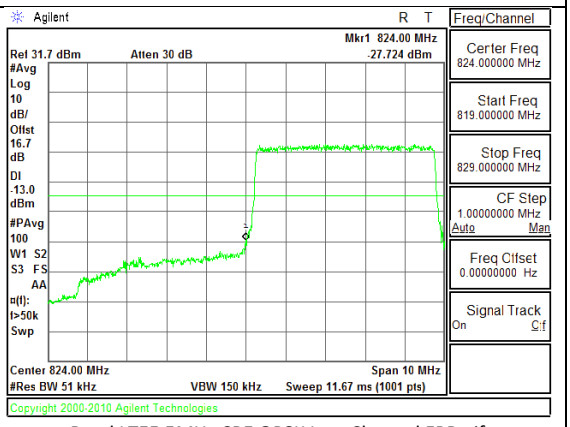
Band LTE5 5MHz 16QAM	 Band LTE5 5MHz CBE 16QAM High Channel 1RB.gif	 Band LTE5 5MHz CBE 16QAM High Channel FRB.gif
Band LTE5 5MHz QPSK	 Band LTE5 5MHz CBE QPSK Low Channel 1RB.gif	 Band LTE5 5MHz CBE QPSK Low Channel FRB.gif

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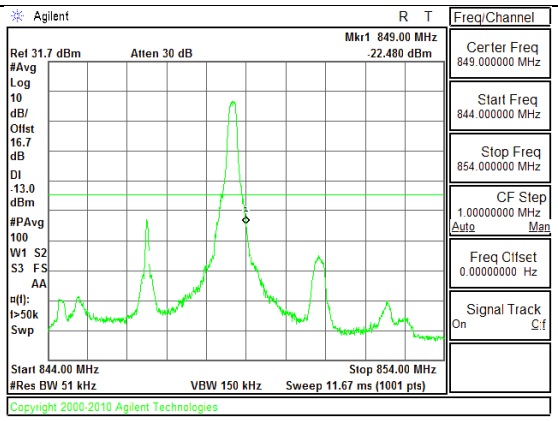
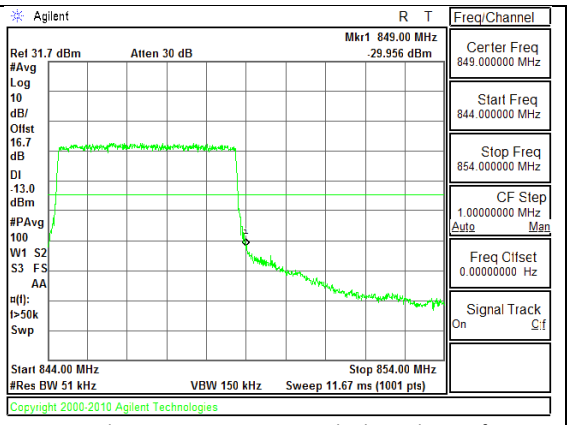
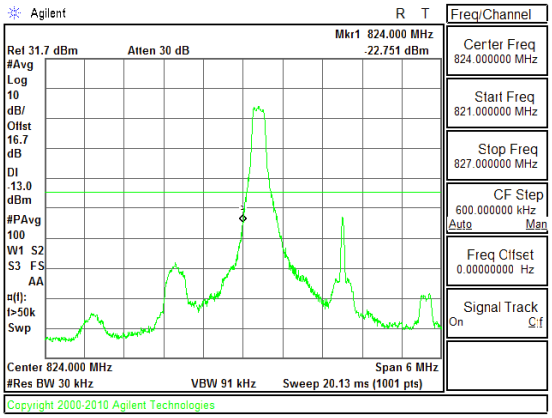
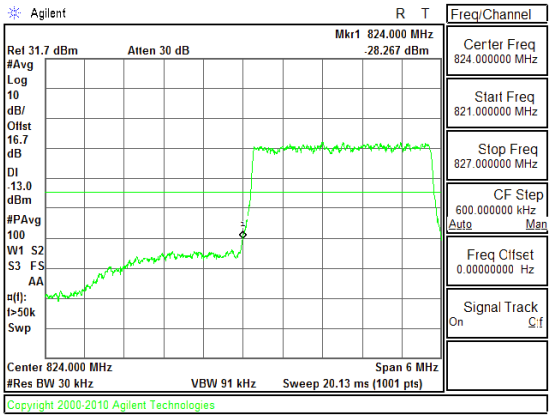
Band LTE5 5MHz QPSK	 Band LTE5 5MHz CBE QPSK High Channel 1RB.gif	 Band LTE5 5MHz CBE QPSK High Channel FRB.gif

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

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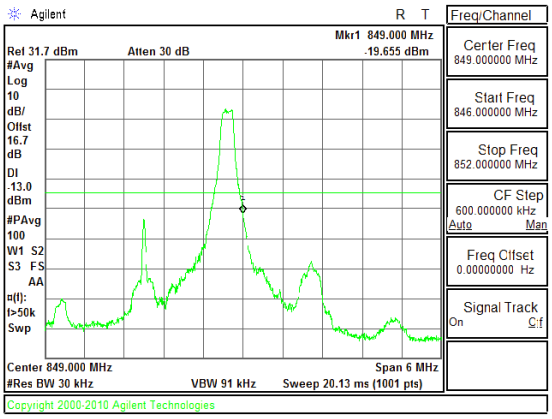
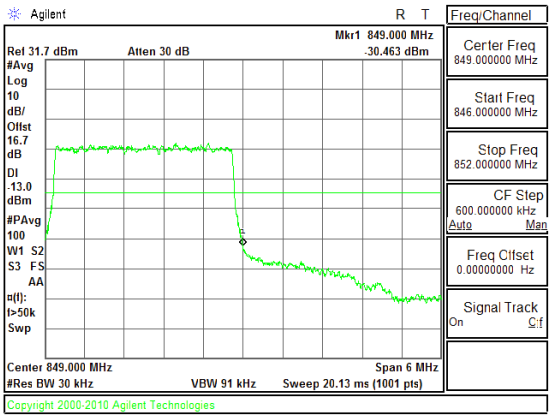
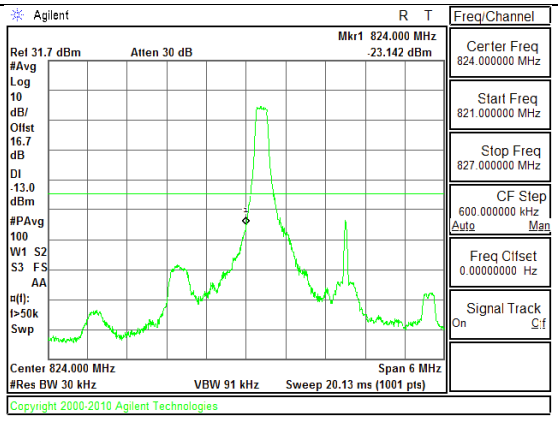
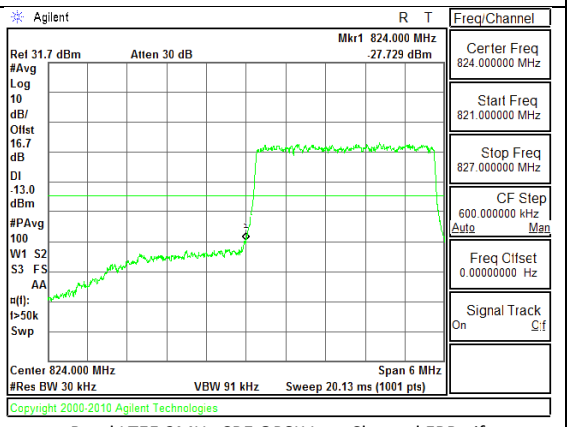
Band LTE5 3MHz 16QAM	 Band LTE5 3MHz CBE 16QAM High Channel 1RB.gif	 Band LTE5 3MHz CBE 16QAM High Channel FRB.gif
Band LTE5 3MHz QPSK	 Band LTE5 3MHz CBE QPSK Low Channel 1RB.gif	 Band LTE5 3MHz CBE QPSK Low Channel FRB.gif

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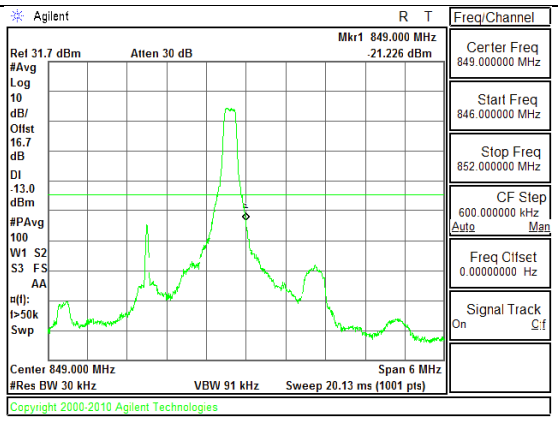
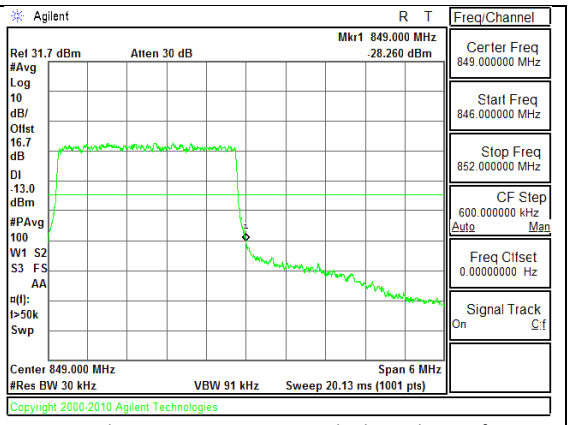
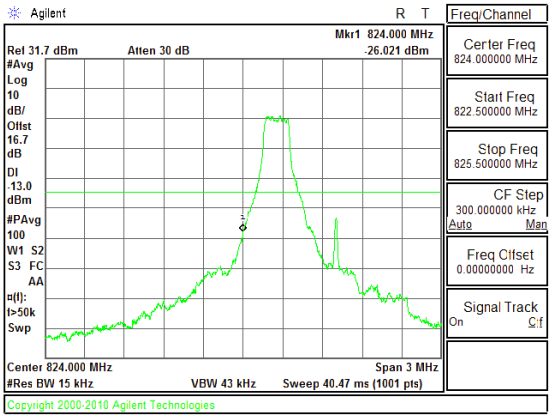
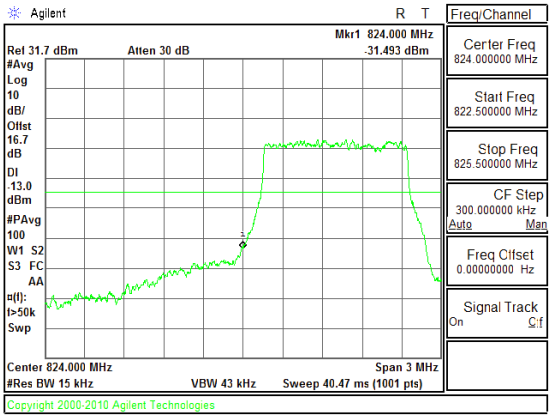
Band LTE5 3MHz QPSK	 Band LTE5 3MHz CBE QPSK High Channel 1RB.gif	 Band LTE5 3MHz CBE QPSK High Channel FRB.gif

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

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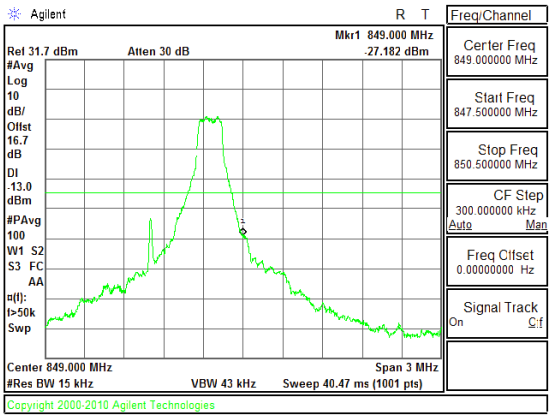
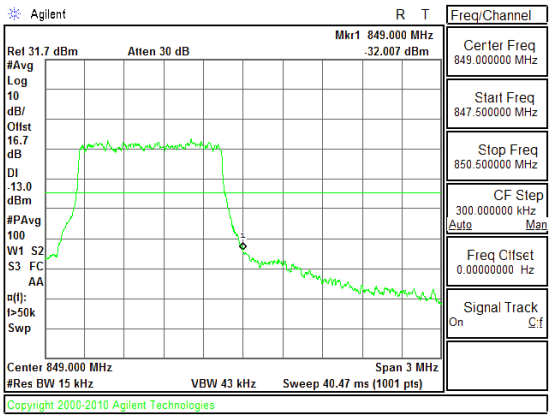
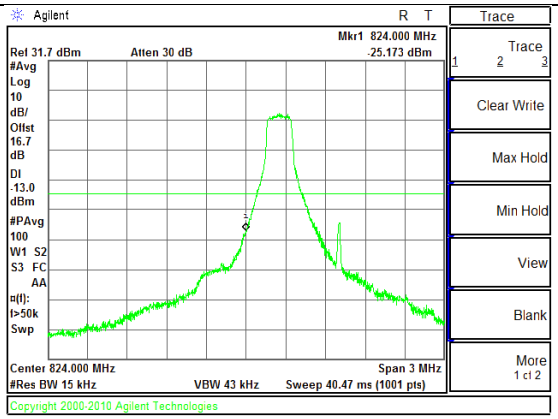
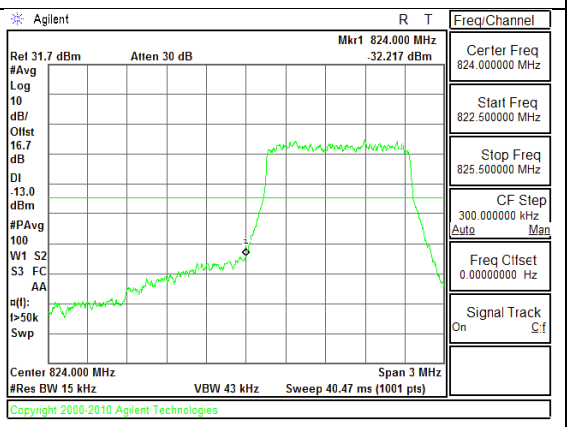
Band LTE5 1.4MHz 16QAM	 Band LTE5 1.4MHz CBE 16QAM High Channel 1RB.gif	 Band LTE5 1.4MHz CBE 16QAM High Channel FRB.gif
Band LTE5 1.4MHz QPSK	 Band LTE5 1.4MHz CBE QPSK Low Channel 1RB.gif	 Band LTE5 1.4MHz CBE QPSK Low Channel FRB.gif

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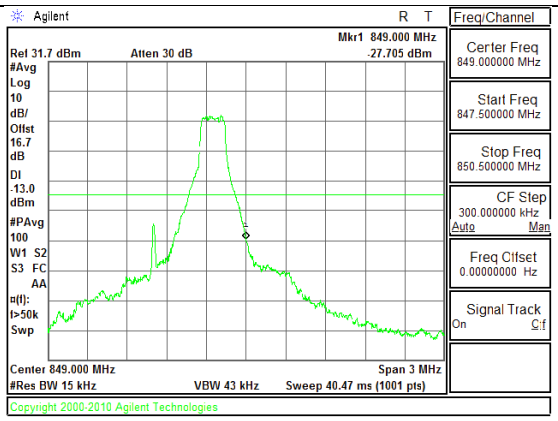
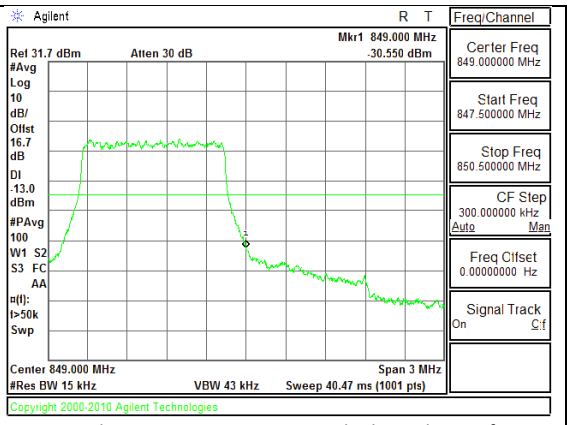
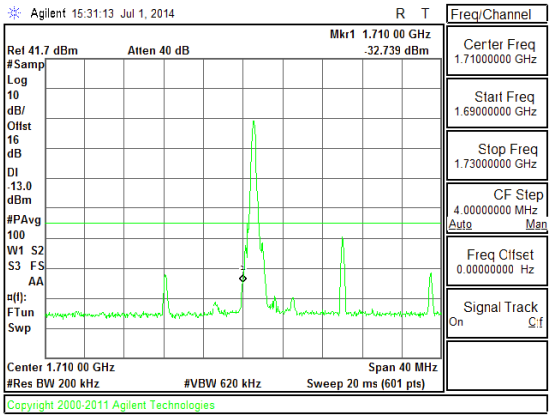
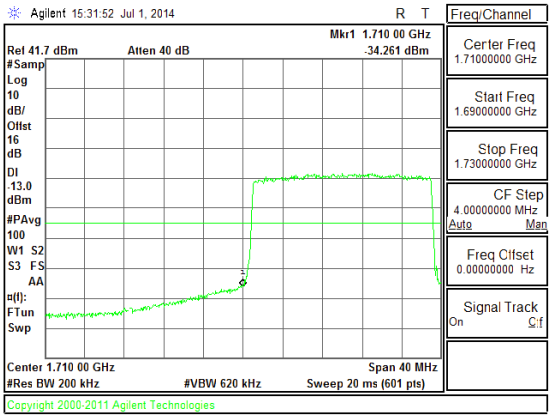
Band LTE5 1.4MHz QPSK	 Band LTE5 1.4MHz CBE QPSK High Channel 1RB.gif	 Band LTE5 1.4MHz CBE QPSK High Channel FRB.gif

Band LTE4 20MHz 16QAM	 Band LTE4 20MHz CBE 16QAM Low Channel 1RB.gif	 Band LTE4 20MHz CBE 16QAM Low Channel FRB.gif

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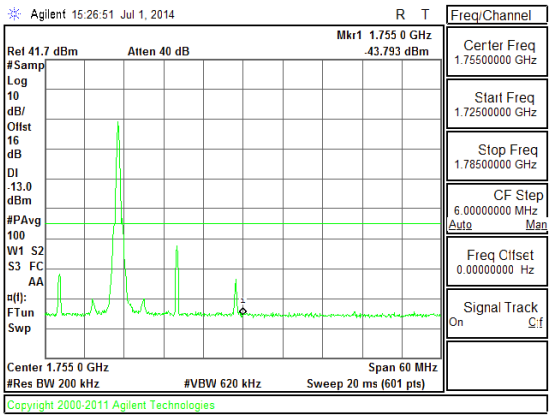
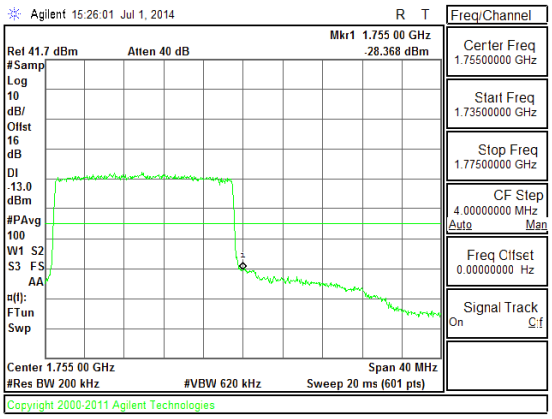
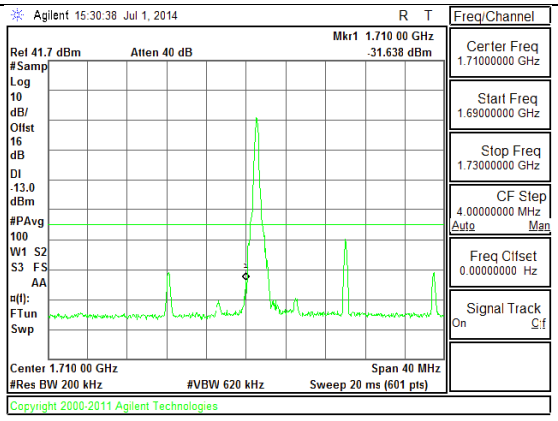
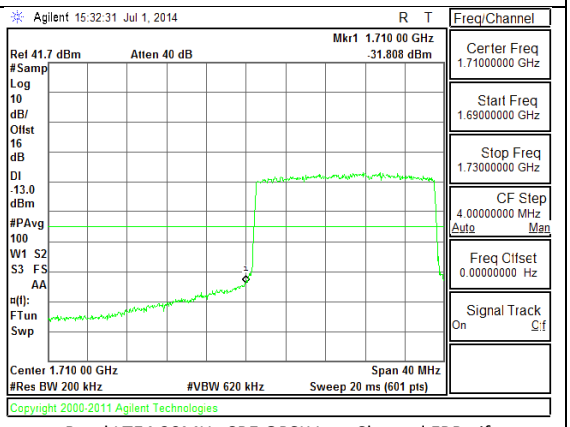
Band LTE4 20MHz 16QAM	 Band LTE4 20MHz CBE 16QAM High Channel 1RB.gif	 Band LTE4 20MHz CBE 16QAM High Channel FRB.gif
Band LTE4 20MHz QPSK	 Band LTE4 20MHz CBE QPSK Low Channel 1RB.gif	 Band LTE4 20MHz CBE QPSK Low Channel FRB.gif

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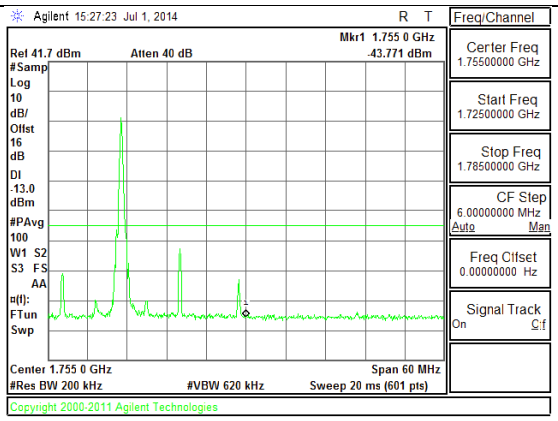
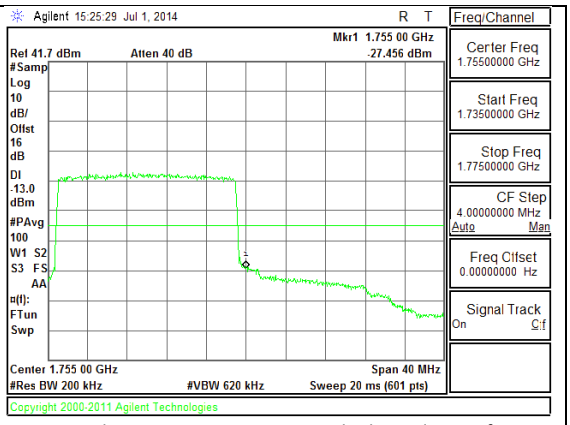
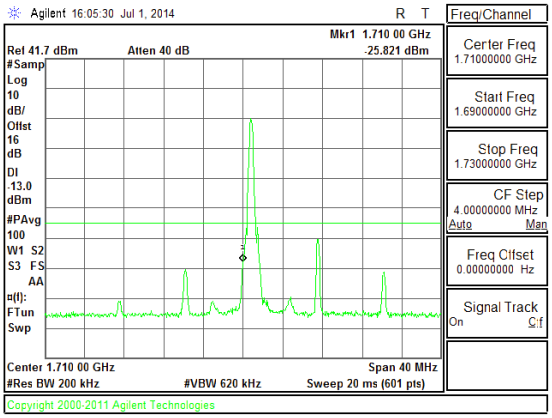
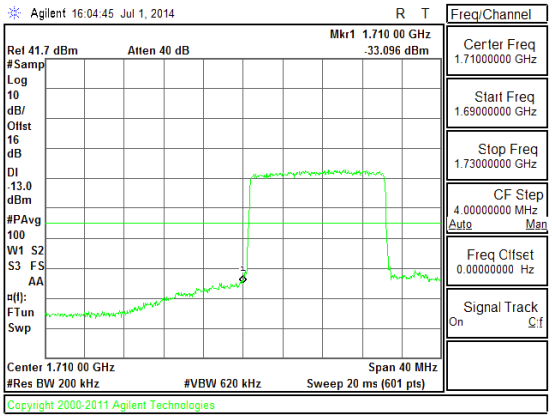
Band LTE4 20MHz QPSK	 Band LTE4 20MHz CBE QPSK High Channel 1RB.gif	 Band LTE4 20MHz CBE QPSK High Channel FRB.gif

Band LTE4 15MHz 16QAM	 Band LTE4 15MHz CBE 16QAM Low Channel 1RB.gif	 Band LTE4 15MHz CBE 16QAM Low Channel FRB.gif

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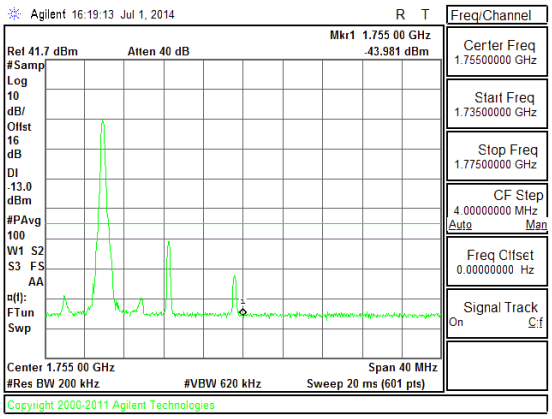
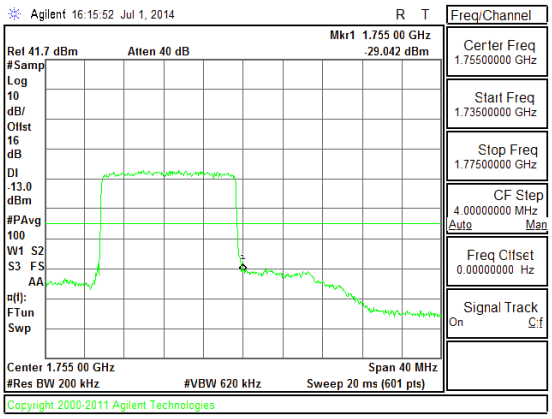
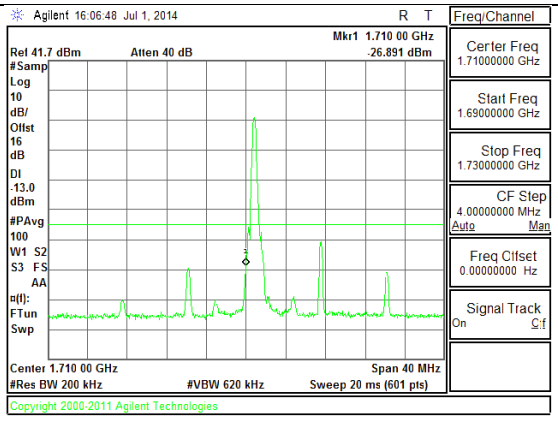
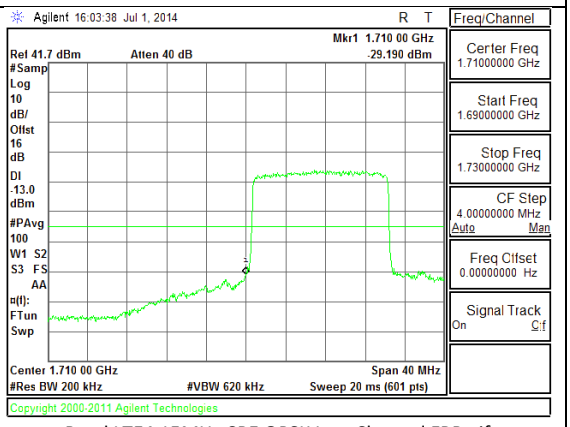
Band LTE4 15MHz 16QAM	 Band LTE4 15MHz CBE 16QAM High Channel 1RB.gif	 Band LTE4 15MHz CBE 16QAM High Channel FRB.gif
Band LTE4 15MHz QPSK	 Band LTE4 15MHz CBE QPSK Low Channel 1RB.gif	 Band LTE4 15MHz CBE QPSK Low Channel FRB.gif

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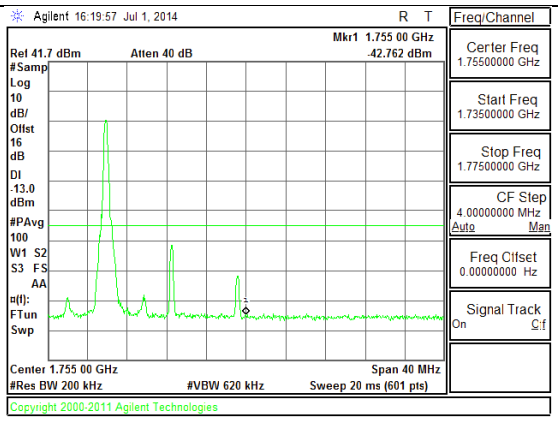
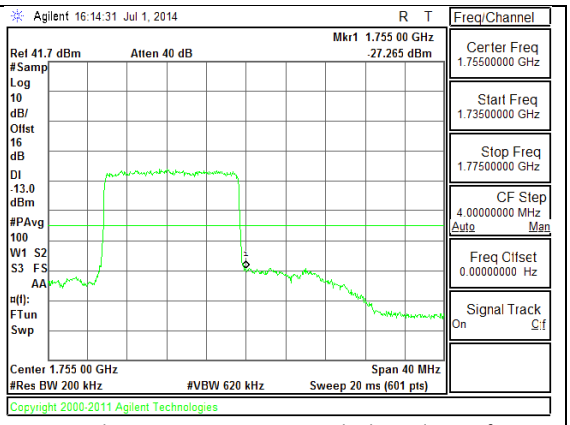
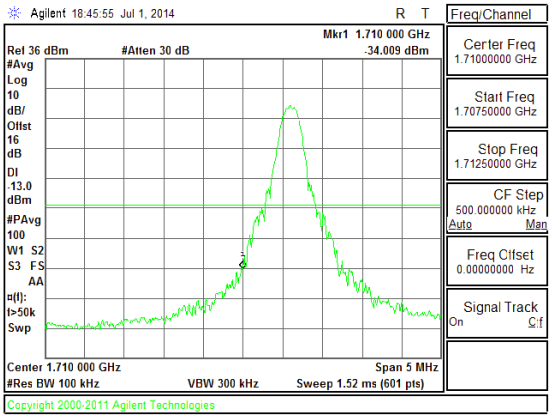
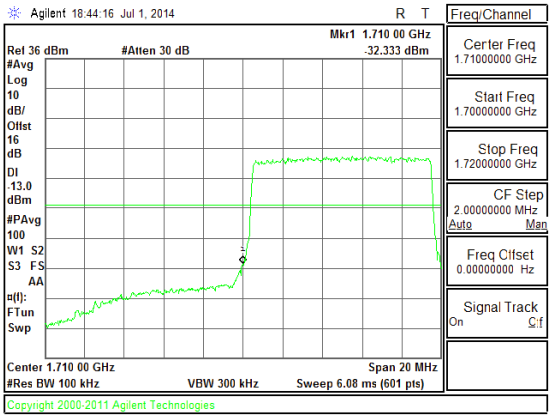
Band LTE4 15MHz QPSK	 Band LTE4 15MHz CBE QPSK High Channel 1RB.gif	 Band LTE4 15MHz CBE QPSK High Channel FRB.gif

Band LTE4 10MHz 16QAM	 Band LTE4 10MHz CBE 16QAM Low Channel 1RB.gif	 Band LTE4 10MHz CBE 16QAM Low Channel FRB.gif

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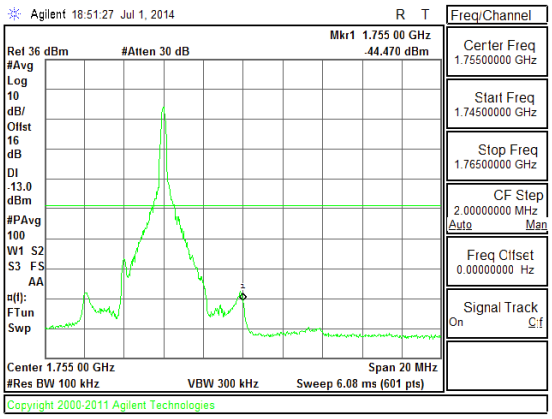
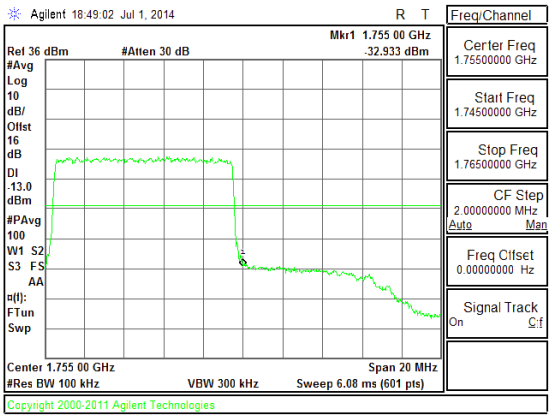
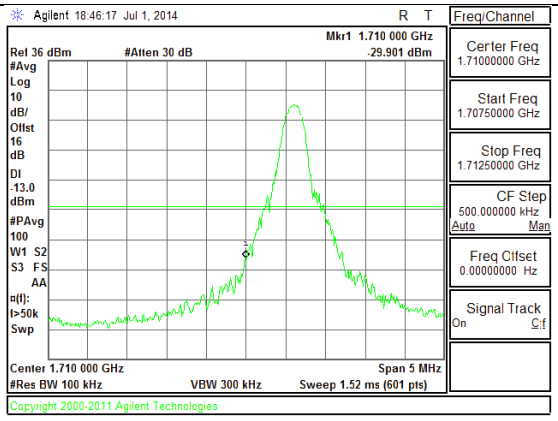
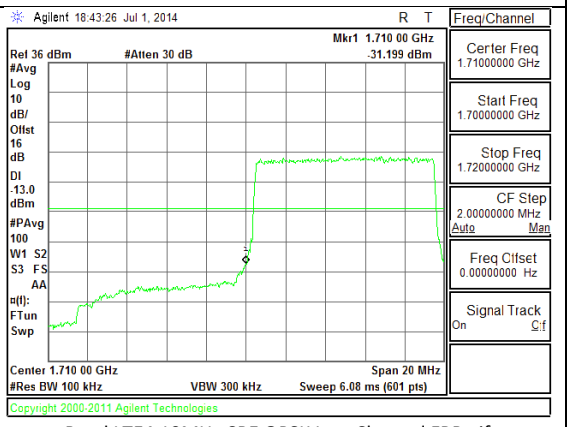
Band LTE4 10MHz 16QAM	 Band LTE4 10MHz CBE 16QAM High Channel 1RB.gif	 Band LTE4 10MHz CBE 16QAM High Channel FRB.gif
Band LTE4 10MHz QPSK	 Band LTE4 10MHz CBE QPSK Low Channel 1RB.gif	 Band LTE4 10MHz CBE QPSK Low Channel FRB.gif

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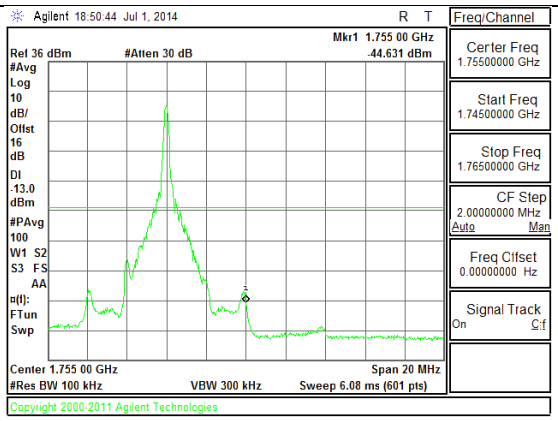
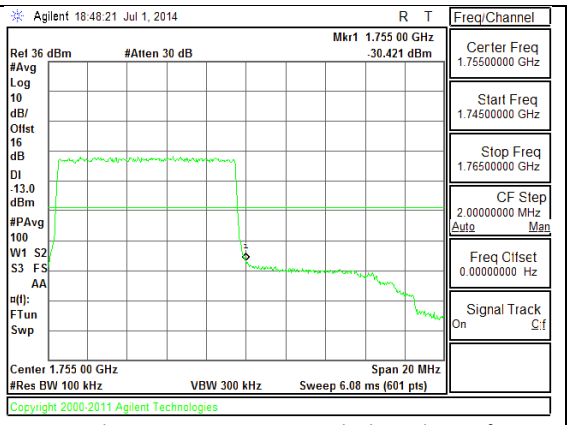
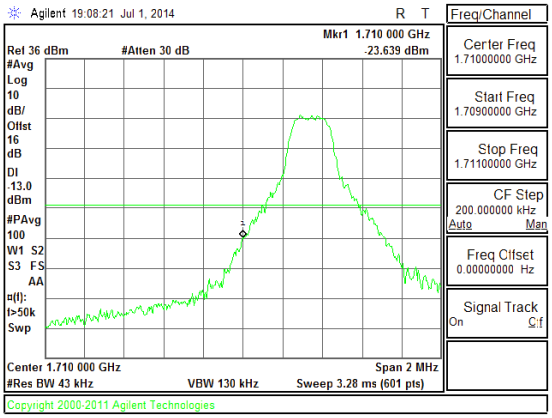
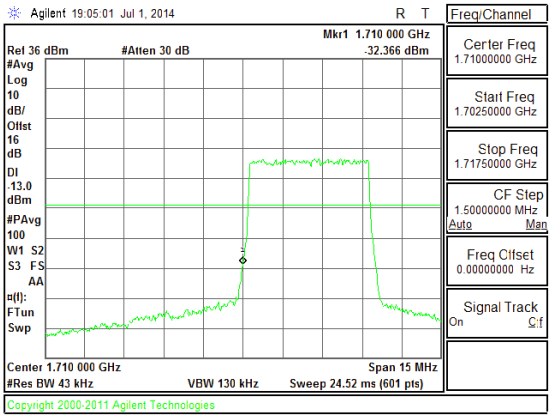
Band LTE4 10MHz QPSK	 Band LTE4 10MHz CBE QPSK High Channel 1RB.gif	 Band LTE4 10MHz CBE QPSK High Channel FRB.gif

Band LTE4 5MHz 16QAM	 Band LTE4 5MHz CBE 16QAM Low Channel 1RB.gif	 Band LTE4 5MHz CBE 16QAM Low Channel FRB.gif

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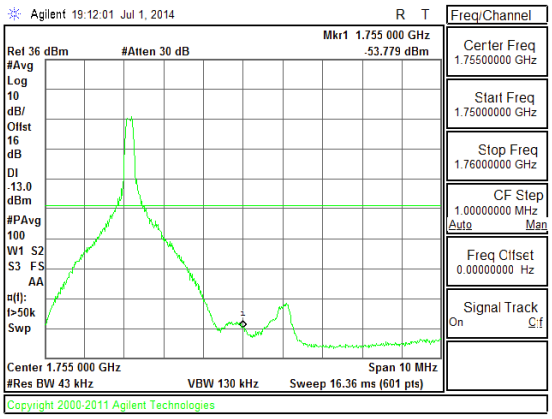
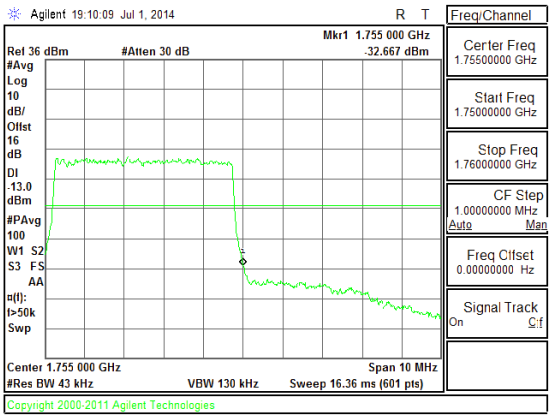
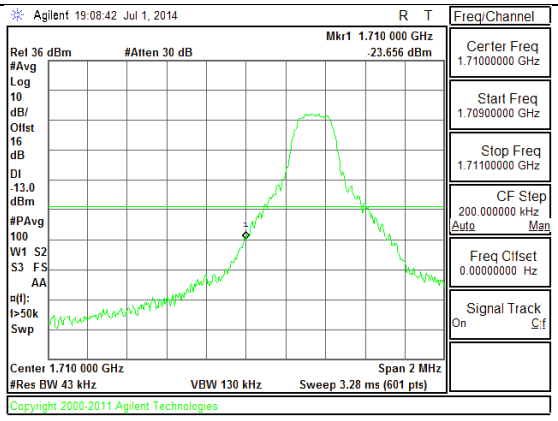
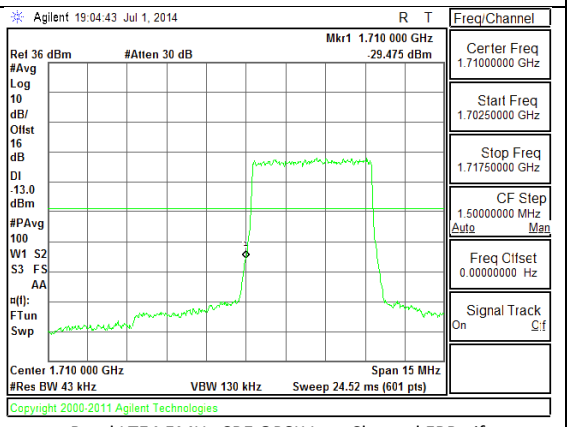
Band LTE4 5MHz 16QAM	 Band LTE4 5MHz CBE 16QAM High Channel 1RB.gif	 Band LTE4 5MHz CBE 16QAM High Channel FRB.gif
Band LTE4 5MHz QPSK	 Band LTE4 5MHz CBE QPSK Low Channel 1RB.gif	 Band LTE4 5MHz CBE QPSK Low Channel FRB.gif

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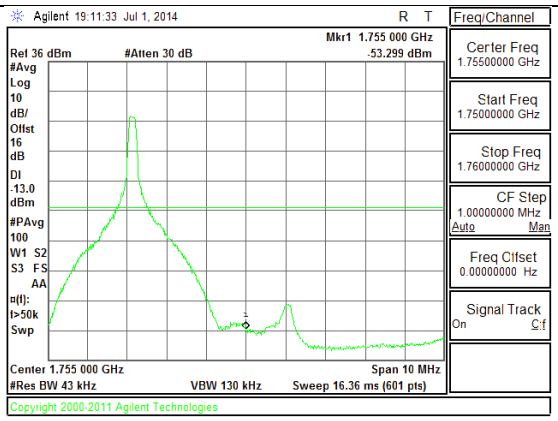
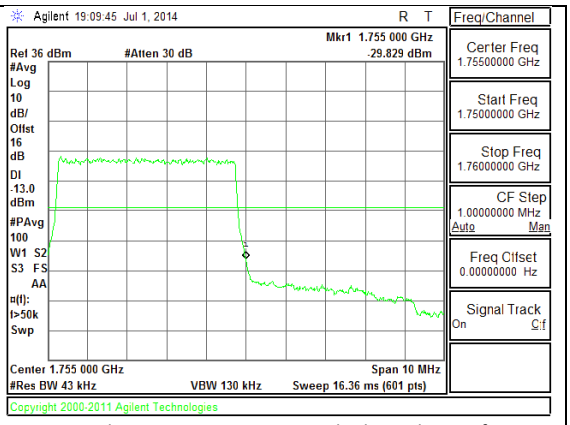
Band LTE4 5MHz QPSK

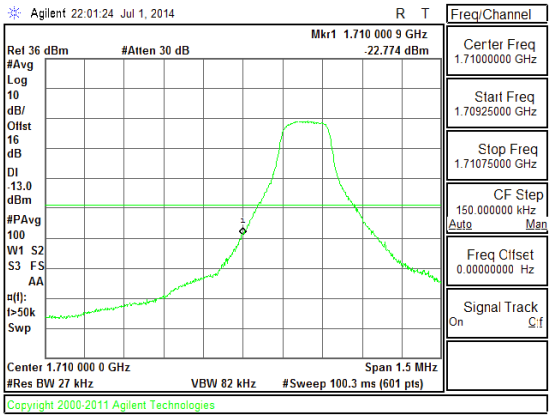


Band LTE4 5MHz CBE QPSK High Channel 1RB.gif

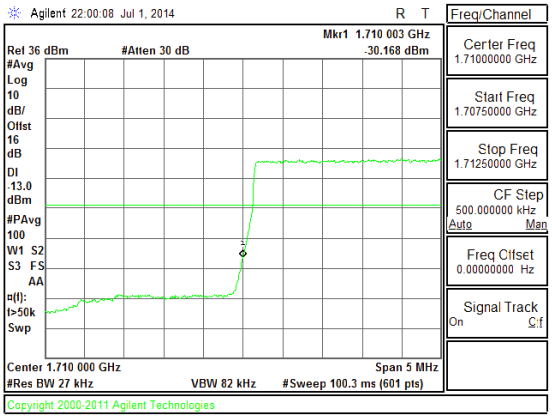


Band LTE4 5MHz CBE QPSK High Channel FRB.gif

Band LTE4 3MHz 16QAM



Band LTE4 3MHz CBE 16QAM Low Channel 1RB.gif



Band LTE4 3MHz CBE 16QAM Low Channel FRB.gif

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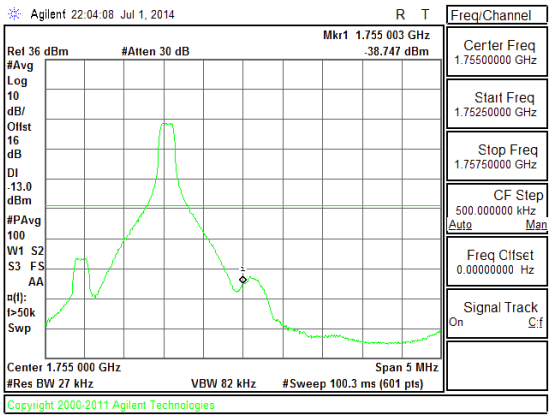
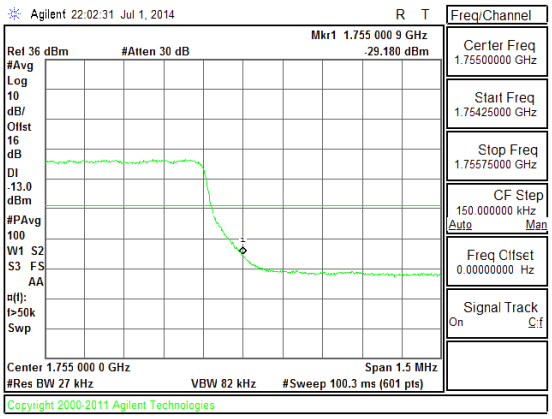
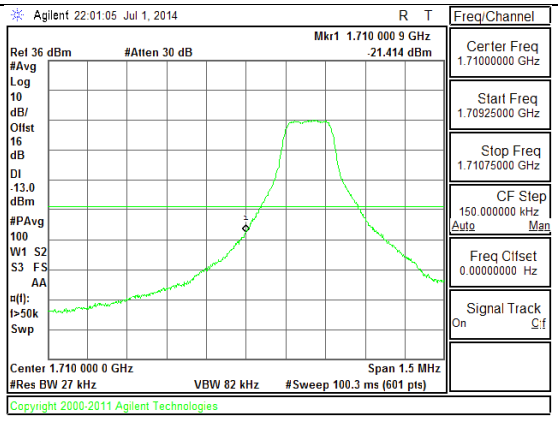
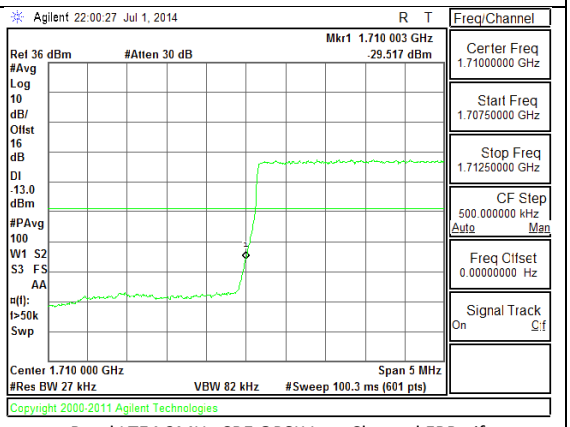
Band LTE4 3MHz 16QAM	 Band LTE4 3MHz CBE 16QAM High Channel 1RB.gif	 Band LTE4 3MHz CBE 16QAM High Channel FRB.gif
Band LTE4 3MHz QPSK	 Band LTE4 3MHz CBE QPSK Low Channel 1RB.gif	 Band LTE4 3MHz CBE QPSK Low Channel FRB.gif

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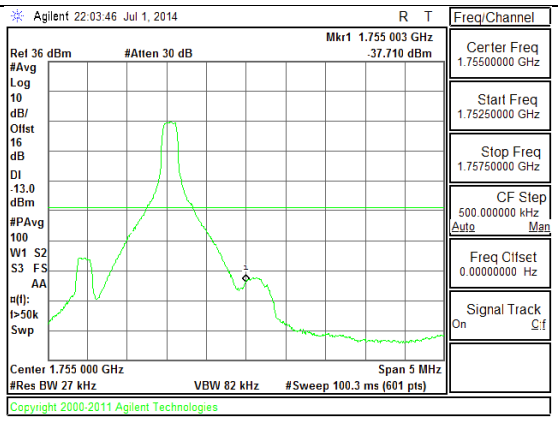
Band LTE4 3MHz QPSK



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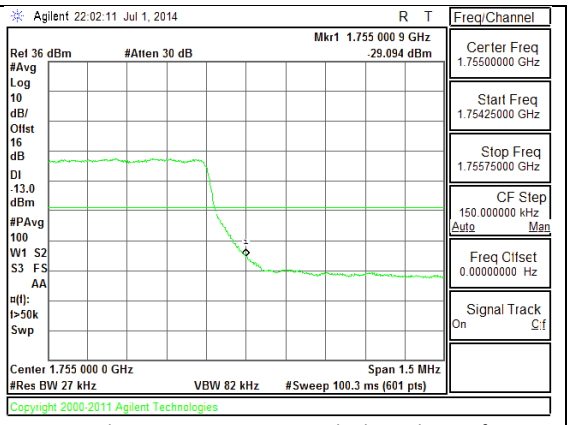
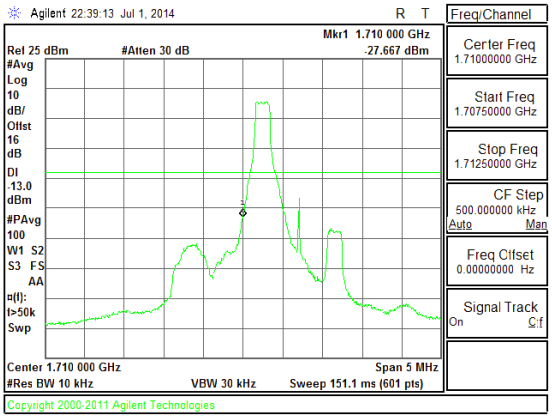
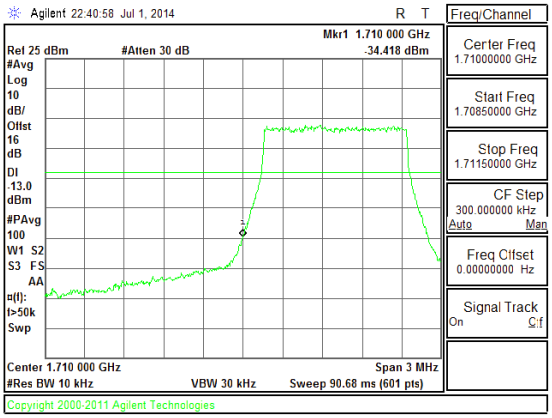


Band LTE4 3MHz CBE QPSK High Channel FRB.gif

Band LTE4 1.4MHz 16QAM



Band LTE4 1.4MHz CBE 16QAM Low Channel 1RB.gif



Band LTE4 1.4MHz CBE 16QAM Low Channel FRB.gif

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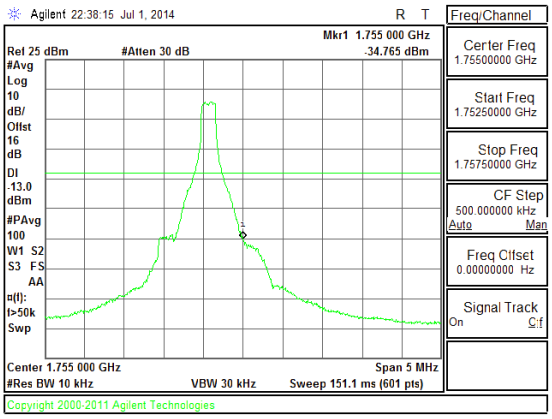
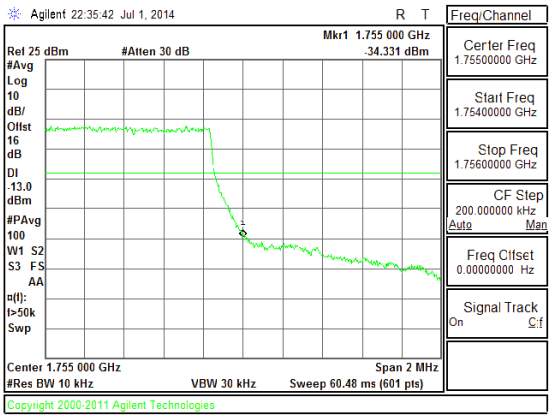
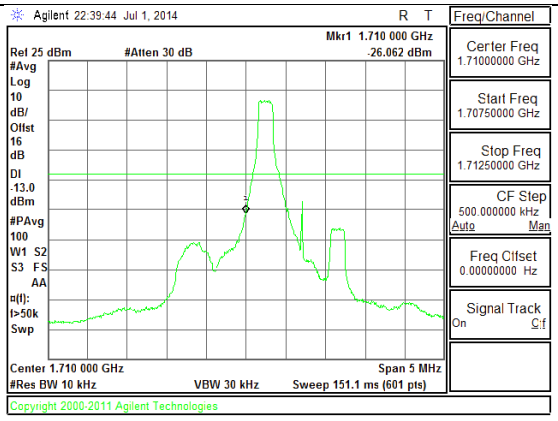
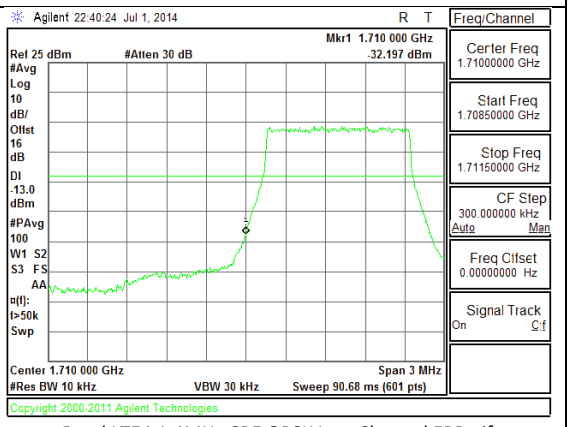
Band LTE4 1.4MHz 16QAM	 Band LTE4 1.4MHz CBE 16QAM High Channel 1RB.gif	 Band LTE4 1.4MHz CBE 16QAM High Channel FRB.gif
Band LTE4 1.4MHz QPSK	 Band LTE4 1.4MHz CBE QPSK Low Channel 1RB.gif	 Band LTE4 1.4MHz CBE QPSK Low Channel FRB.gif

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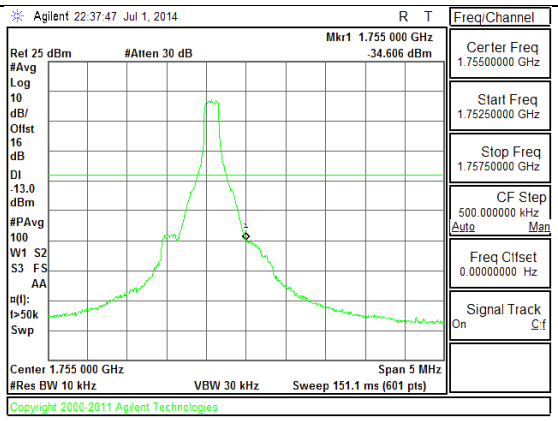
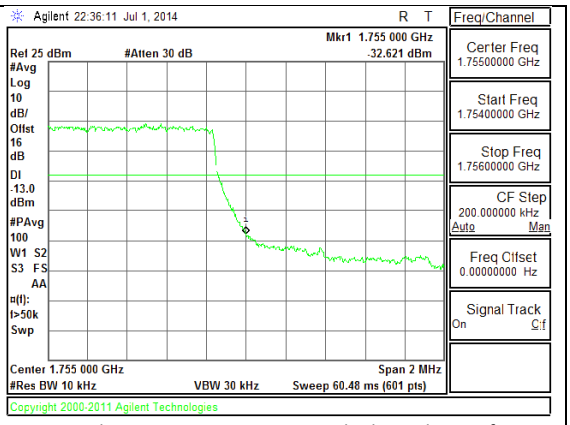
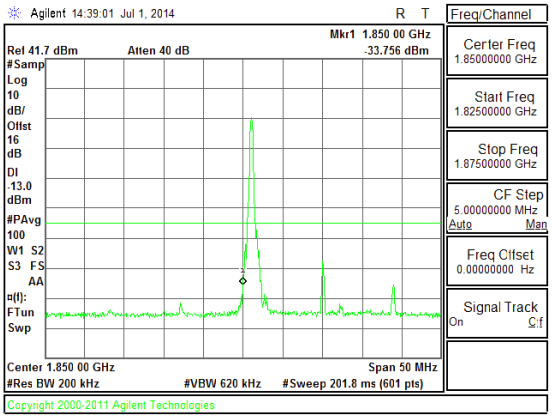
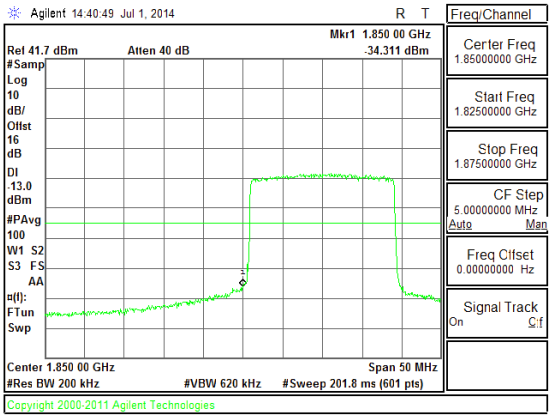
Band LTE4 1.4MHz QPSK	 Band LTE4 1.4MHz CBE QPSK High Channel 1RB.gif	 Band LTE4 1.4MHz CBE QPSK High Channel FRB.gif

Band LTE2 20MHz 16QAM	 Band LTE2 20MHz CBE 16QAM Low Channel 1RB.gif	 Band LTE2 20MHz CBE 16QAM Low Channel FRB.gif

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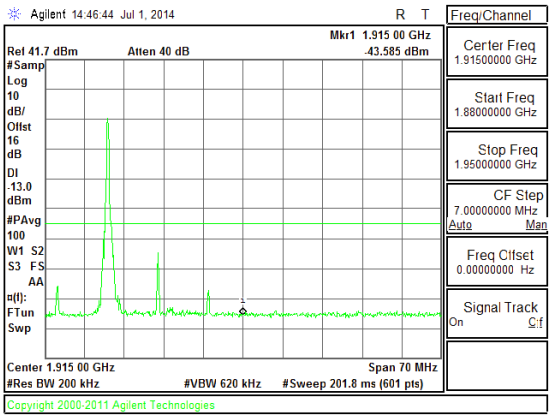
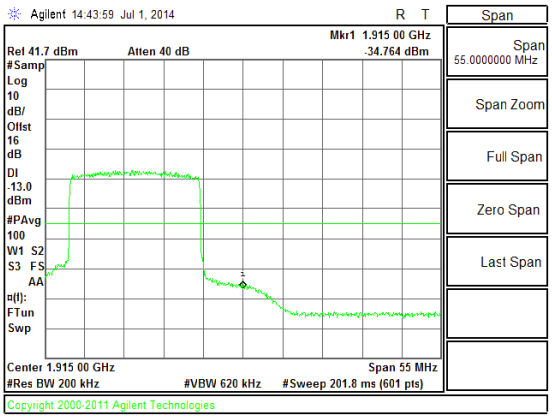
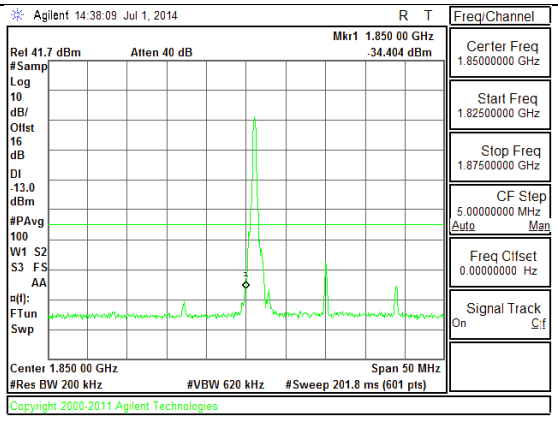
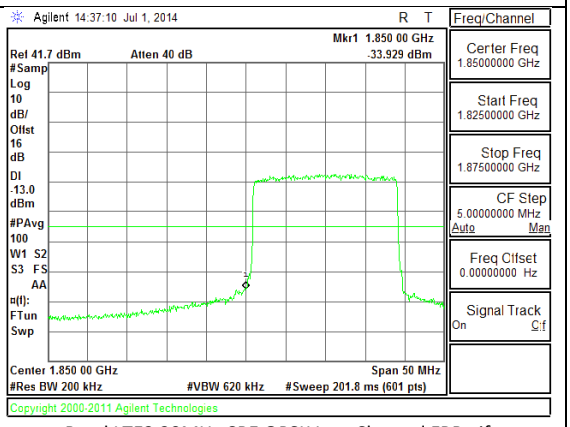
Band LTE2 20MHz 16QAM	 Band LTE2 20MHz CBE 16QAM High Channel 1RB.gif	 Band LTE2 20MHz CBE 16QAM High Channel FRB.gif
Band LTE2 20MHz QPSK	 Band LTE2 20MHz CBE QPSK Low Channel 1RB.gif	 Band LTE2 20MHz CBE QPSK Low Channel FRB.gif

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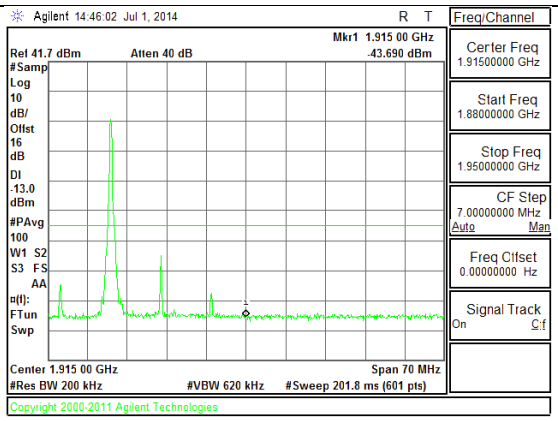
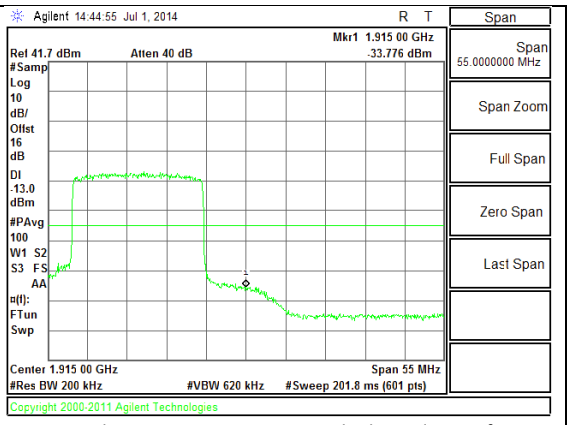
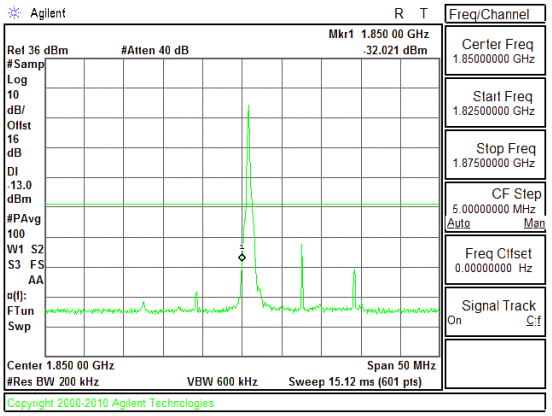
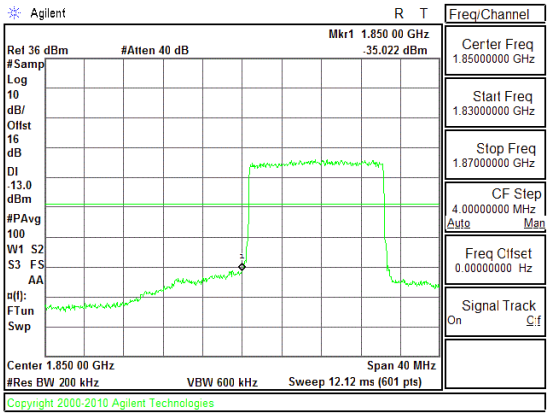
Band LTE2 20MHz QPSK	 Band LTE2 20MHz CBE QPSK High Channel 1RB.gif	 Band LTE2 20MHz CBE QPSK High Channel FRB.gif

Band LTE2 15MHz 16QAM	 Band LTE2 15MHz CBE 16QAM Low Channel 1RB.gif	 Band LTE2 15MHz CBE 16QAM Low Channel FRB.gif

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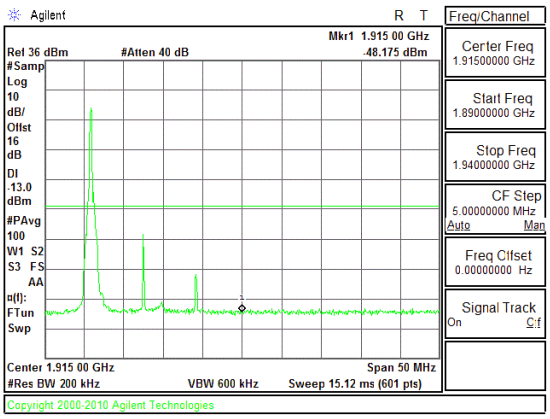
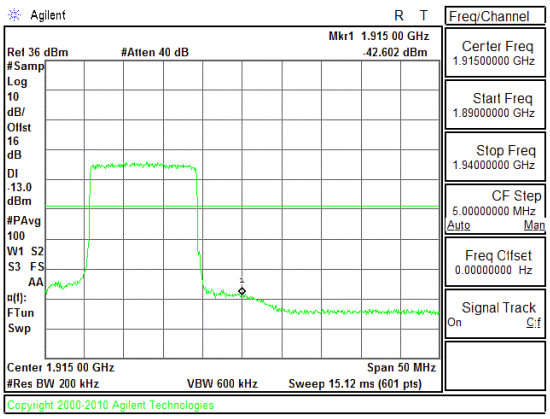
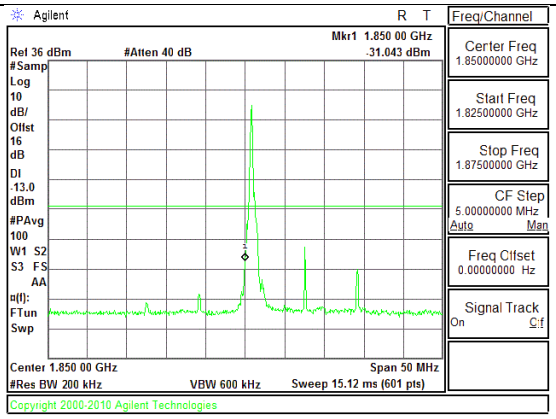
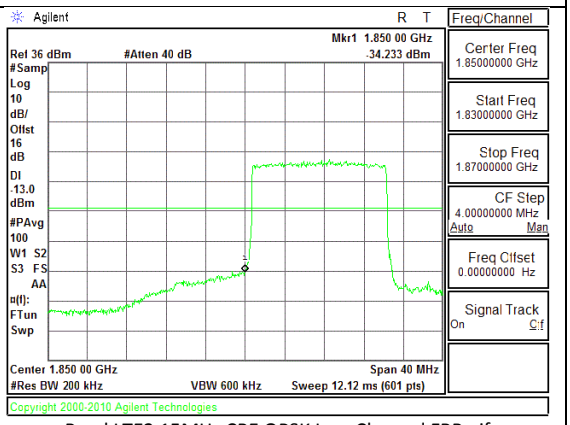
Band LTE2 15MHz 16QAM	 Band LTE2 15MHz CBE 16QAM High Channel 1RB.gif	 Band LTE2 15MHz CBE 16QAM High Channel FRB.gif
Band LTE2 15MHz QPSK	 Band LTE2 15MHz CBE QPSK Low Channel 1RB.gif	 Band LTE2 15MHz CBE QPSK Low Channel FRB.gif

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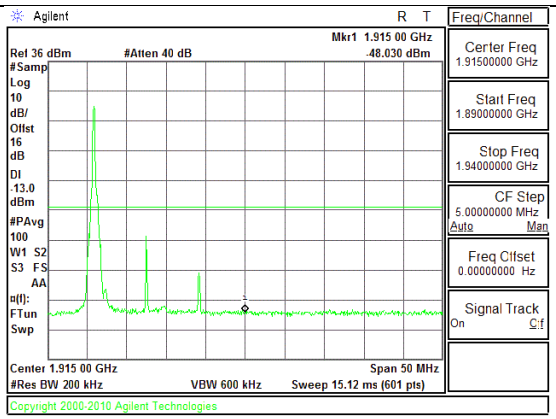
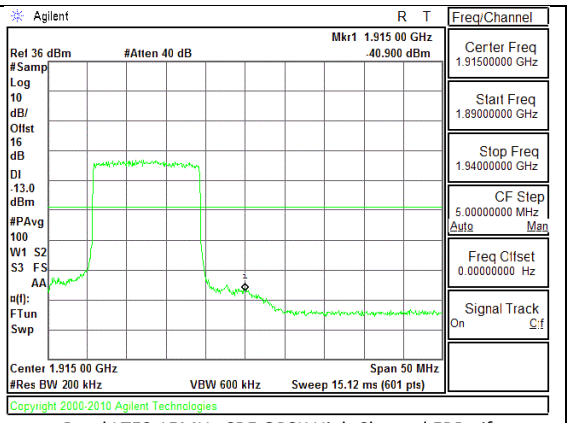
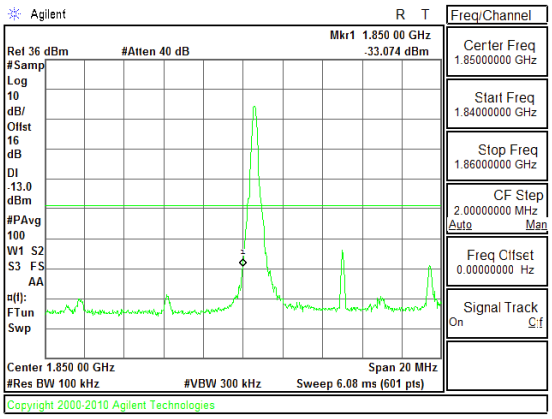
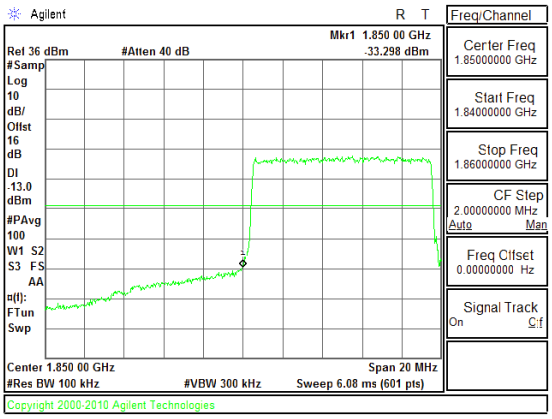
Band LTE2 15MHz QPSK	 Band LTE2 15MHz CBE QPSK High Channel 1RB.gif	 Band LTE2 15MHz CBE QPSK High Channel FRB.gif

Band LTE2 10MHz 16QAM	 Band LTE2 10MHz CBE 16QAM Low Channel 1RB.gif	 Band LTE2 10MHz CBE 16QAM Low Channel FRB.gif

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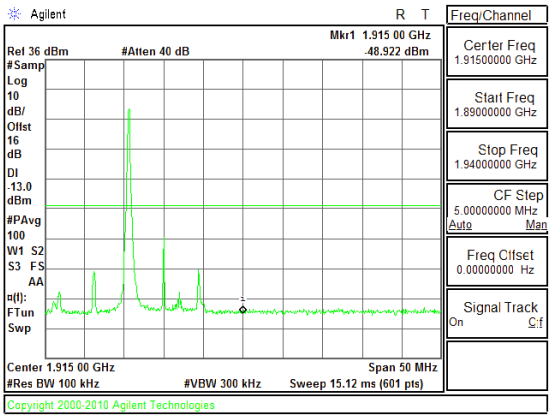
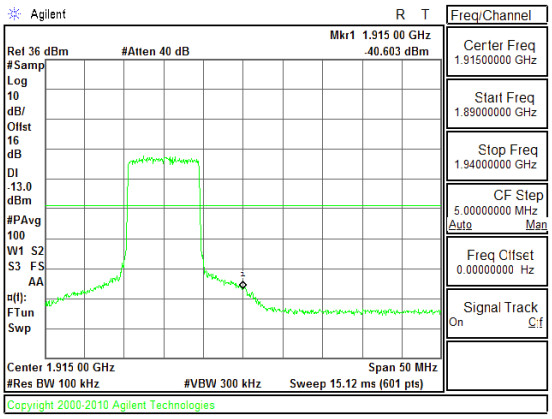
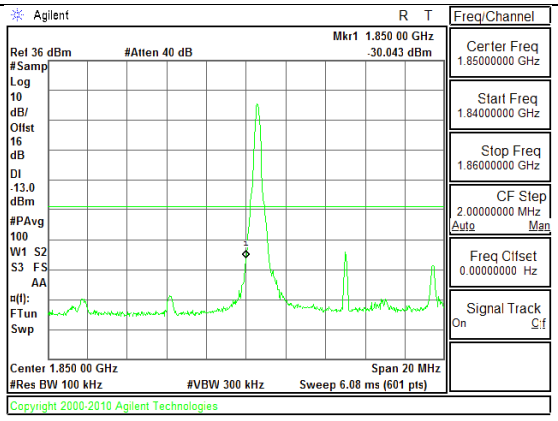
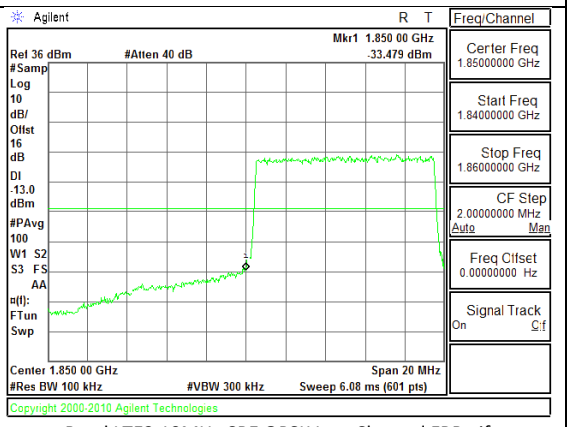
Band LTE2 10MHz 16QAM	 Band LTE2 10MHz CBE 16QAM High Channel 1RB.gif	 Band LTE2 10MHz CBE 16QAM High Channel FRB.gif
Band LTE2 10MHz QPSK	 Band LTE2 10MHz CBE QPSK Low Channel 1RB.gif	 Band LTE2 10MHz CBE QPSK Low Channel FRB.gif

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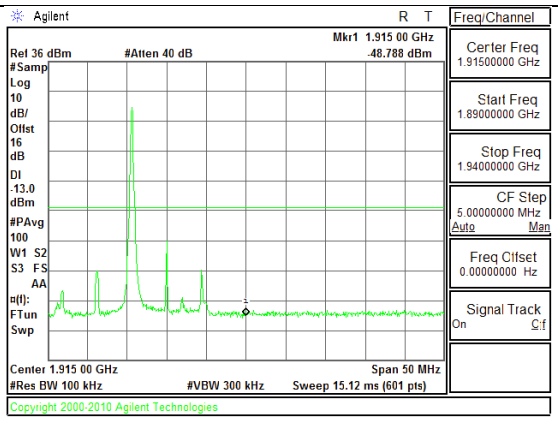
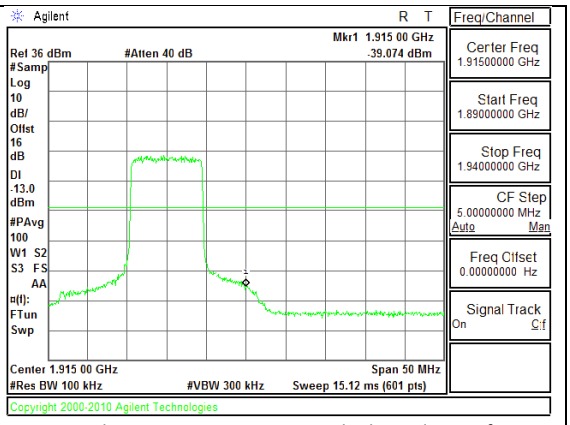
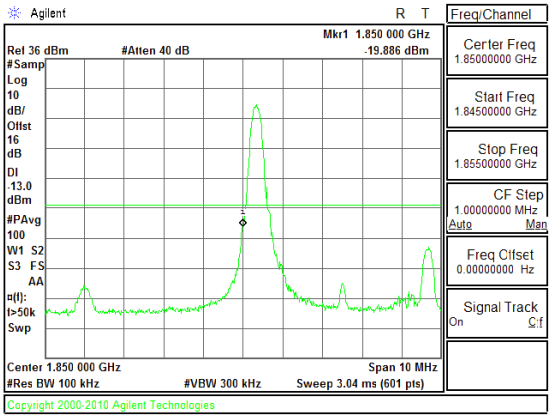
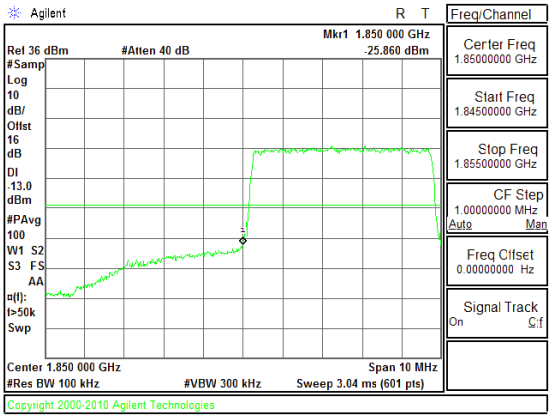
Band LTE2 10MHz QPSK	 Band LTE2 10MHz CBE QPSK High Channel 1RB.gif	 Band LTE2 10MHz CBE QPSK High Channel FRB.gif

Band LTE2 5MHz 16QAM	 Band LTE2 5MHz CBE 16QAM Low Channel 1RB.gif	 Band LTE2 5MHz CBE 16QAM Low Channel FRB.gif

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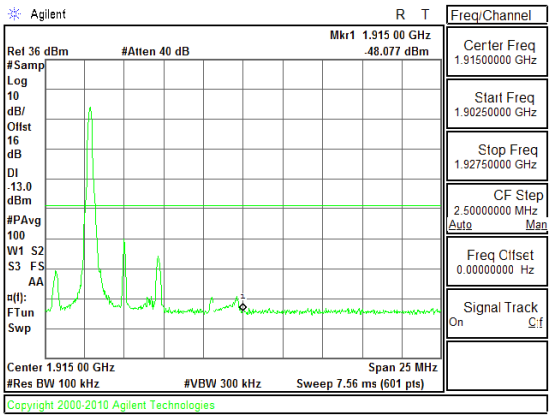
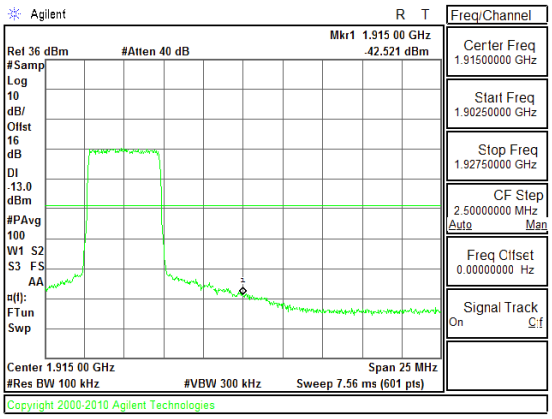
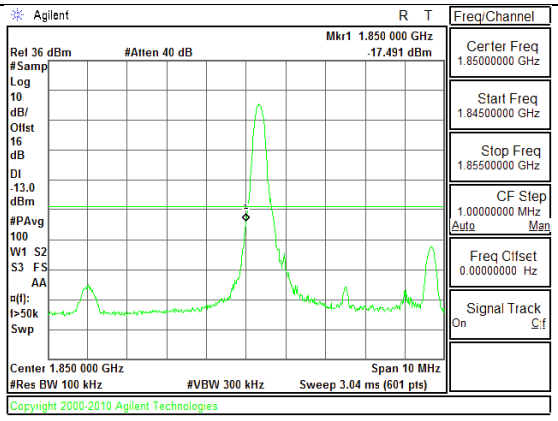
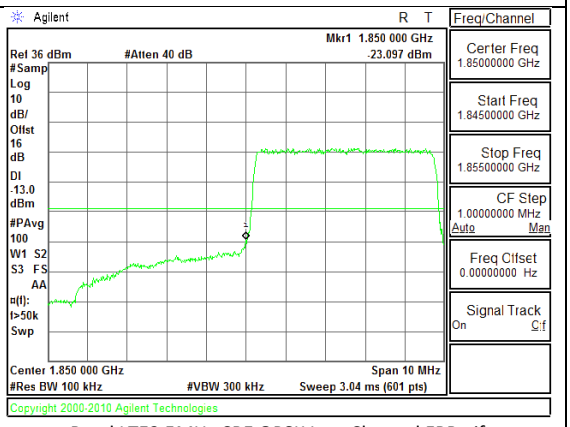
Band LTE2 5MHz 16QAM	 Band LTE2 5MHz CBE 16QAM High Channel 1RB.gif	 Band LTE2 5MHz CBE 16QAM High Channel FRB.gif
Band LTE2 5MHz QPSK	 Band LTE2 5MHz CBE QPSK Low Channel 1RB.gif	 Band LTE2 5MHz CBE QPSK Low Channel FRB.gif

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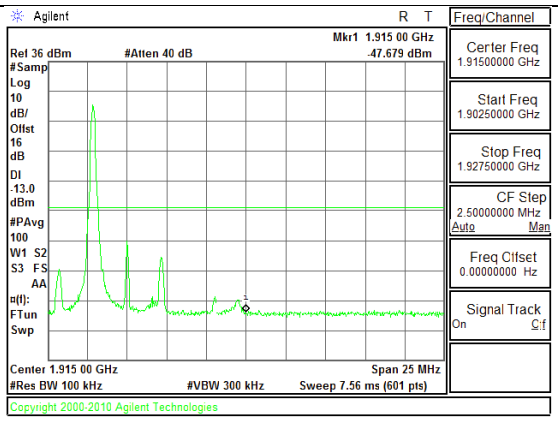
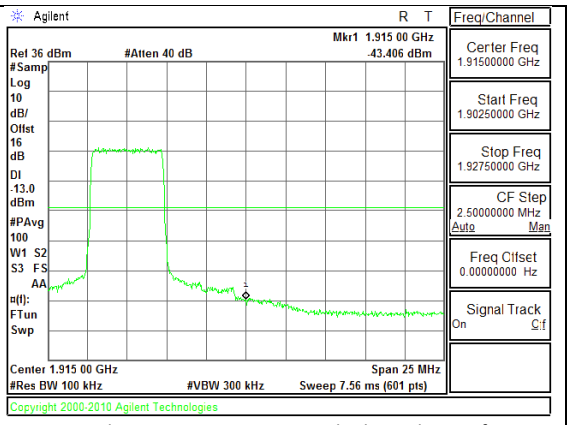
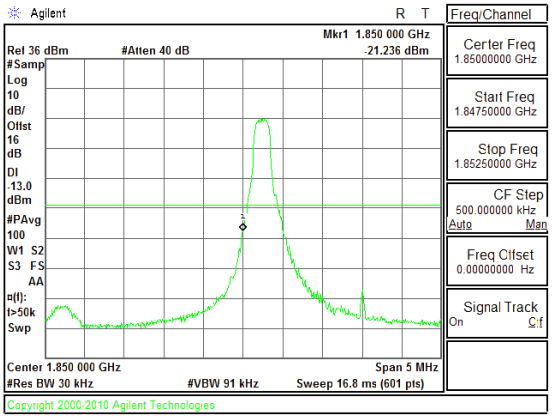
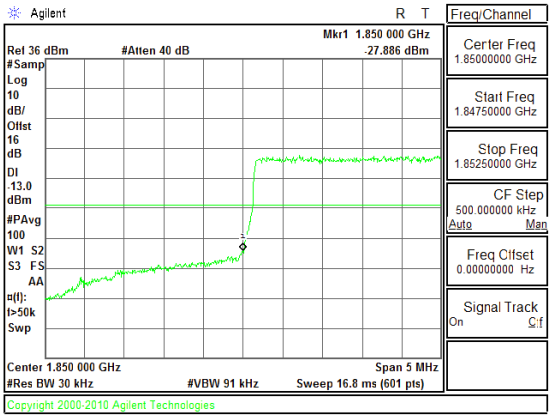
Band LTE2 5MHz QPSK	 Band LTE2 5MHz CBE QPSK High Channel 1RB.gif	 Band LTE2 5MHz CBE QPSK High Channel FRB.gif

Band LTE2 3MHz 16QAM	 Band LTE2 3MHz CBE 16QAM Low Channel 1RB.gif	 Band LTE2 3MHz CBE 16QAM Low Channel FRB.gif

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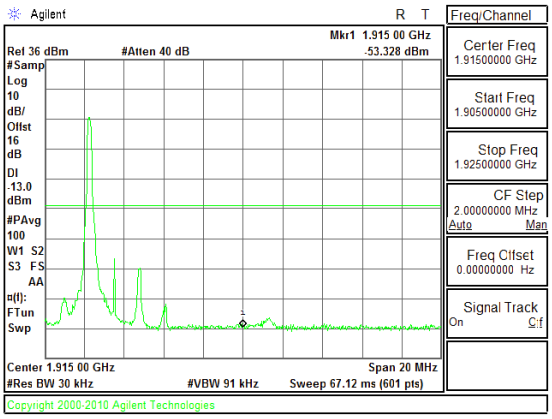
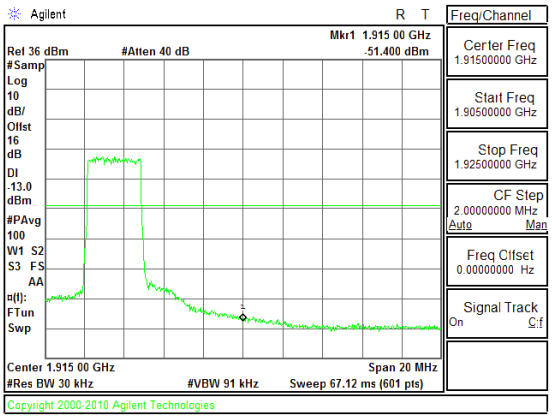
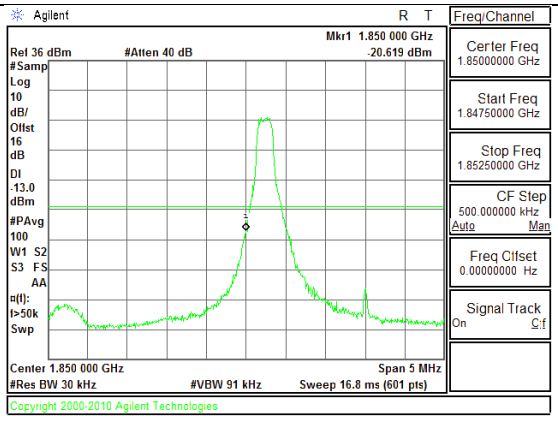
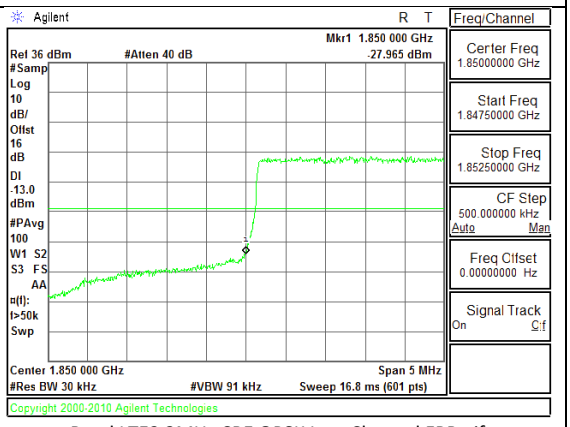
Band LTE2 3MHz 16QAM	 Band LTE2 3MHz CBE 16QAM High Channel 1RB.gif	 Band LTE2 3MHz CBE 16QAM High Channel FRB.gif
Band LTE2 3MHz QPSK	 Band LTE2 3MHz CBE QPSK Low Channel 1RB.gif	 Band LTE2 3MHz CBE QPSK Low Channel FRB.gif

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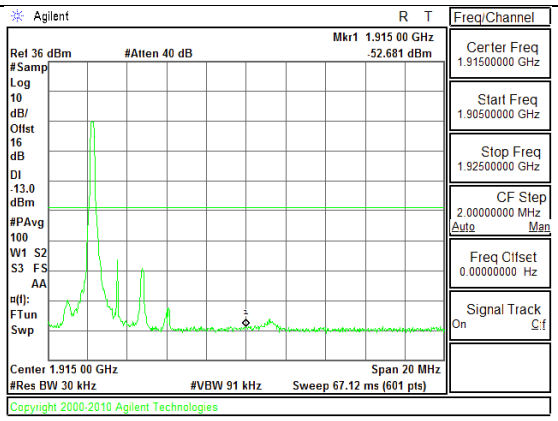
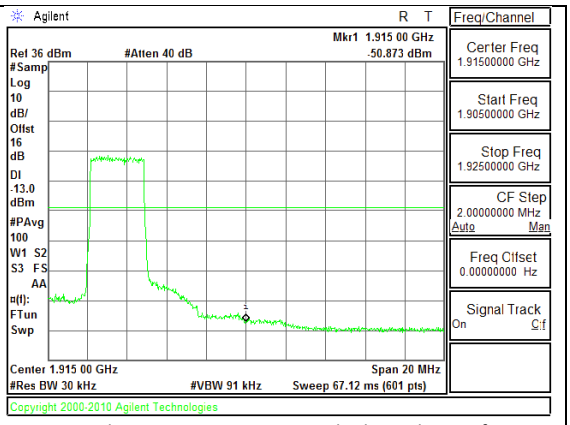
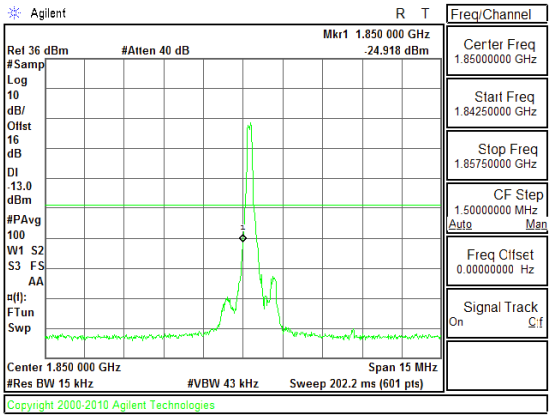
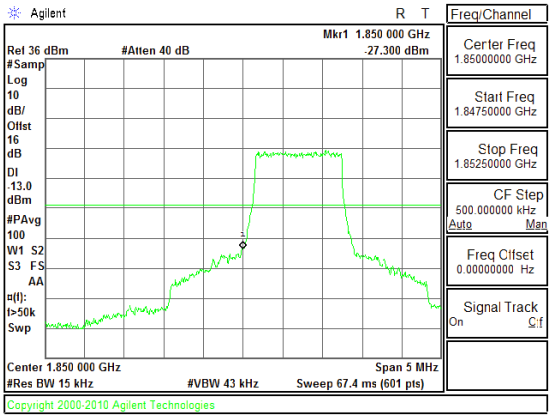
Band LTE2 3MHz QPSK	 Band LTE2 3MHz CBE QPSK High Channel 1RB.gif	 Band LTE2 3MHz CBE QPSK High Channel FRB.gif

Band LTE2 1.4MHz 16QAM	 Band LTE2 1.4MHz CBE 16QAM Low Channel 1RB.gif	 Band LTE2 1.4MHz CBE 16QAM Low Channel FRB.gif

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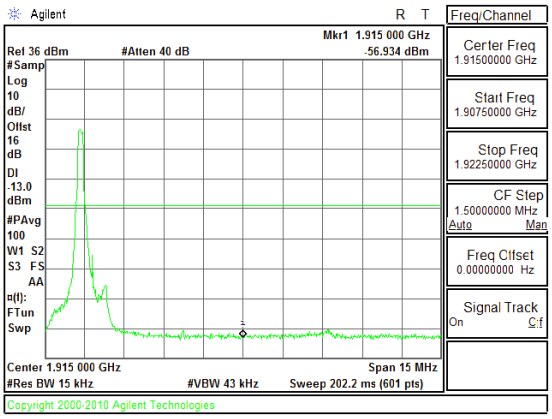
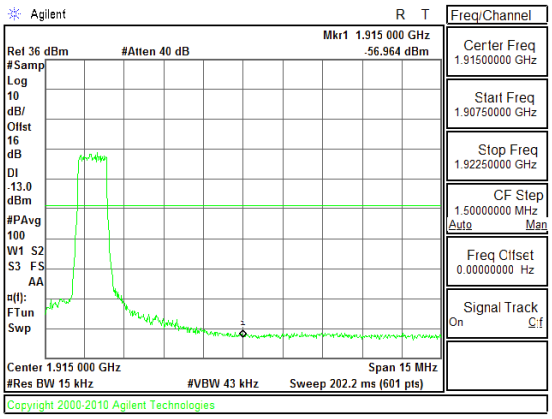
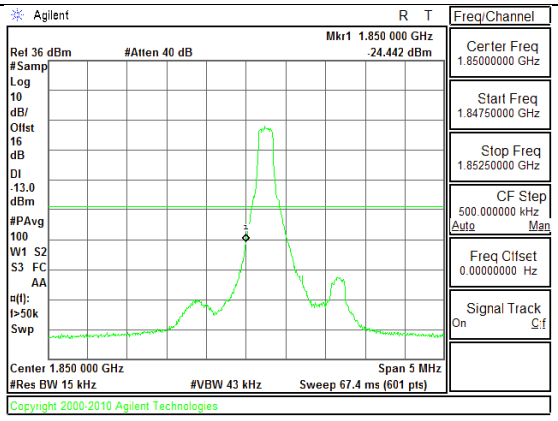
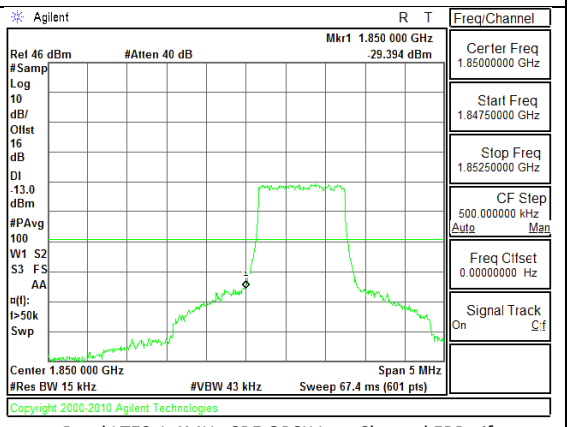
Band LTE2 1.4MHz 16QAM	 Band LTE2 1.4MHz CBE 16QAM High Channel 1RB.gif	 Band LTE2 1.4MHz CBE 16QAM High Channel FRB.gif
Band LTE2 1.4MHz QPSK	 Band LTE2 1.4MHz CBE QPSK Low Channel 1RB.gif	 Band LTE2 1.4MHz CBE QPSK Low Channel FRB.gif

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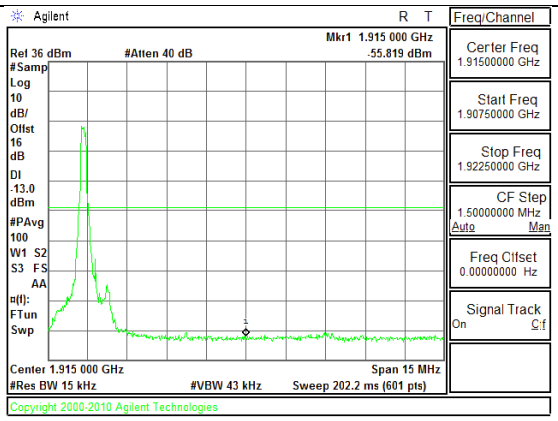
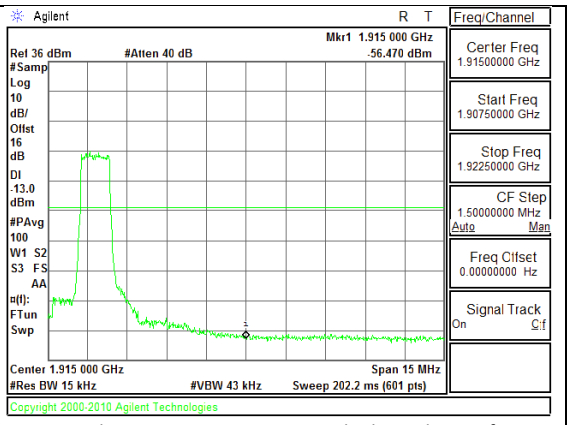
Band LTE2 1.4MHz QPSK	 Band LTE2 1.4MHz CBE QPSK High Channel 1RB.gif	 Band LTE2 1.4MHz CBE QPSK High Channel FRB.gif

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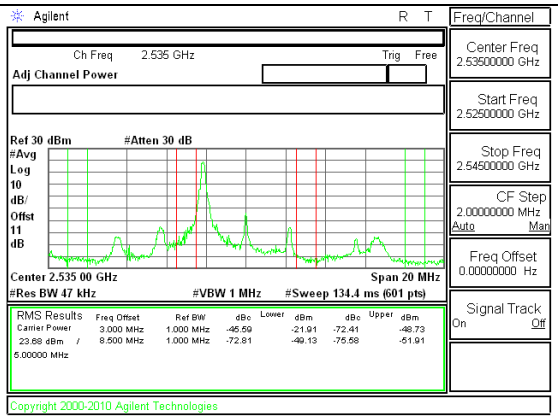
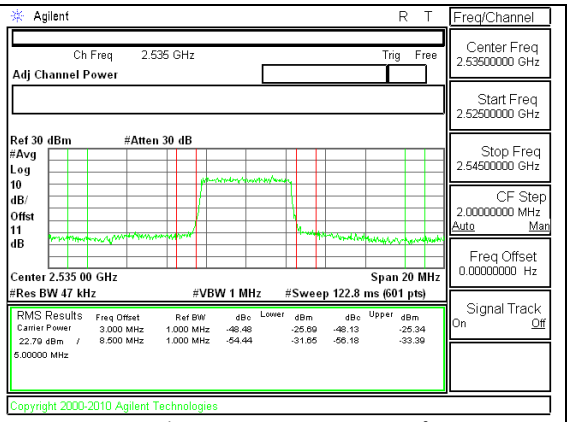
10.2.2. EMISSION MASK PLOTS

Band LTE7 5MHz QPSK

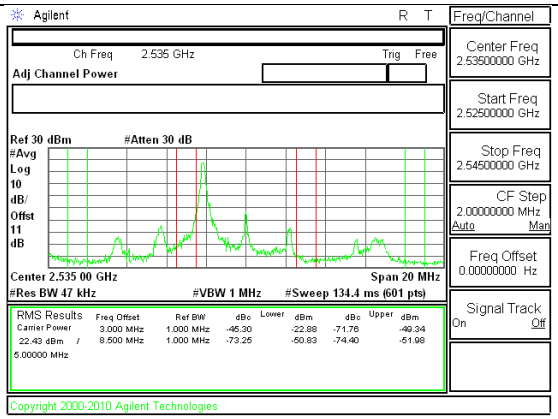


Band LTE7 5MHz CBE QPSK 1RB.gif

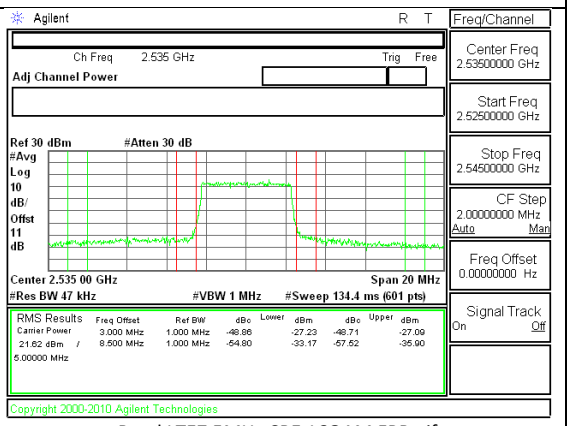


Band LTE7 5MHz CBE QPSK FRB.gif

Band LTE7 5MHz 16QAM



Band LTE7 5MHz CBE 16QAM 1RB.gif



Band LTE7 5MHz CBE 16QAM FRB.gif

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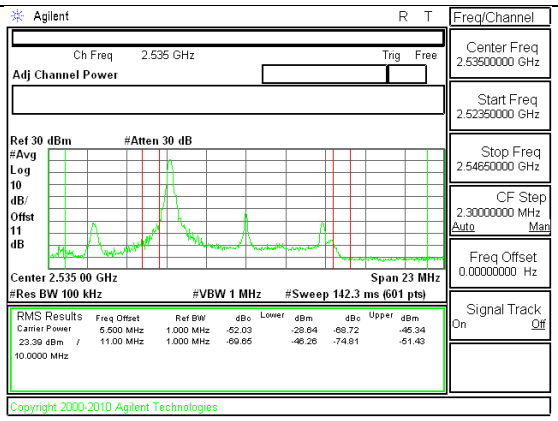
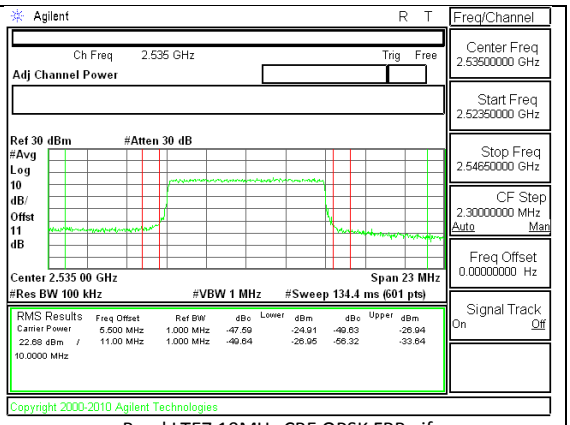
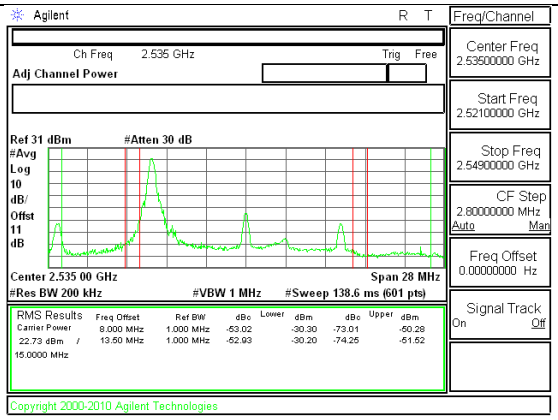
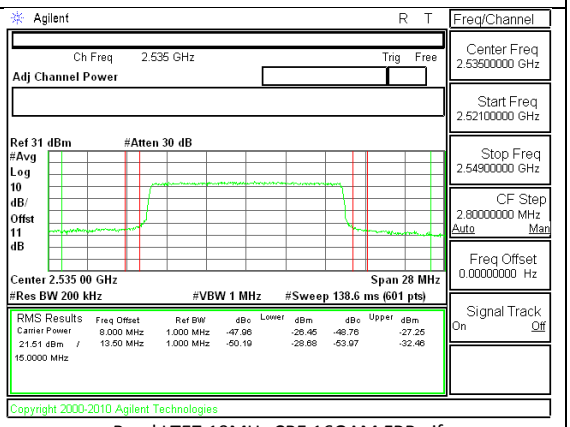
Band LTE7 10MHz QPSK	 Band LTE7 10MHz CBE QPSK 1RB.gif	 Band LTE7 10MHz CBE QPSK FRB.gif
Band LTE7 10MHz 16QAM	 Band LTE7 10MHz CBE 16QAM 1RB.gif	 Band LTE7 10MHz CBE 16QAM FRB.gif

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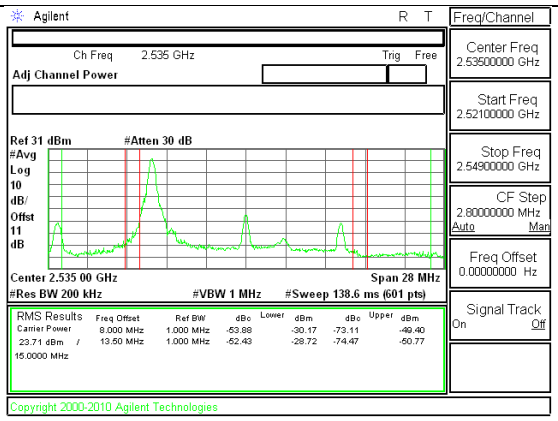
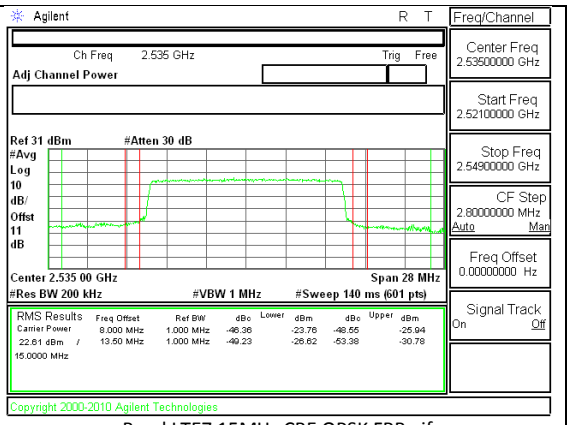
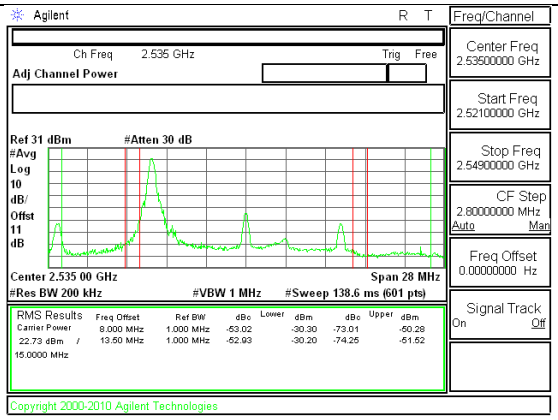
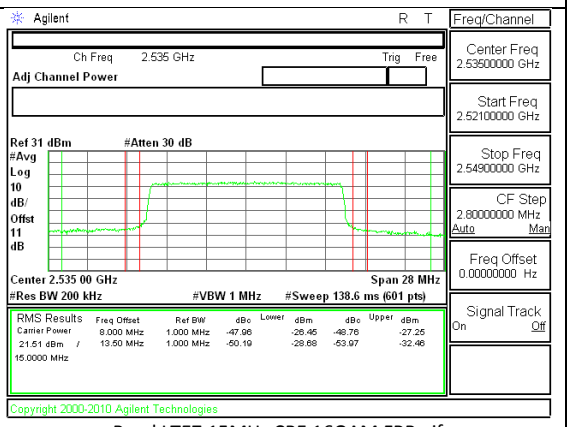
Band LTE7 15MHz QPSK	 Band LTE7 15MHz CBE QPSK 1RB.gif	 Band LTE7 15MHz CBE QPSK FRB.gif
Band LTE7 15MHz 16QAM	 Band LTE7 15MHz CBE 16QAM 1RB.gif	 Band LTE7 15MHz CBE 16QAM FRB.gif

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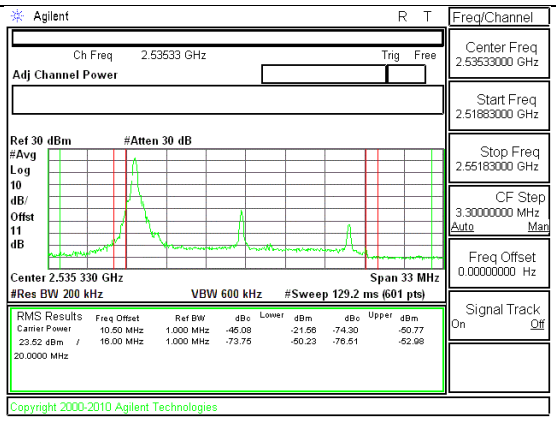
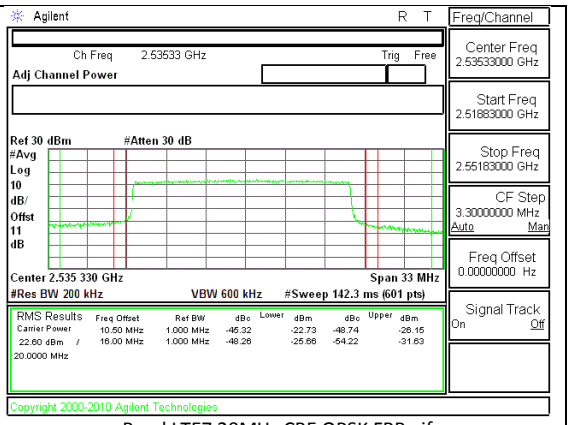
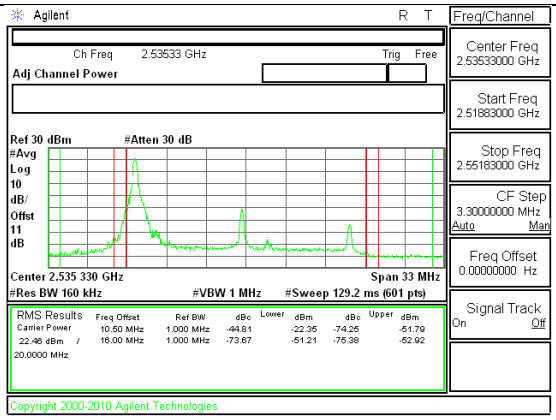
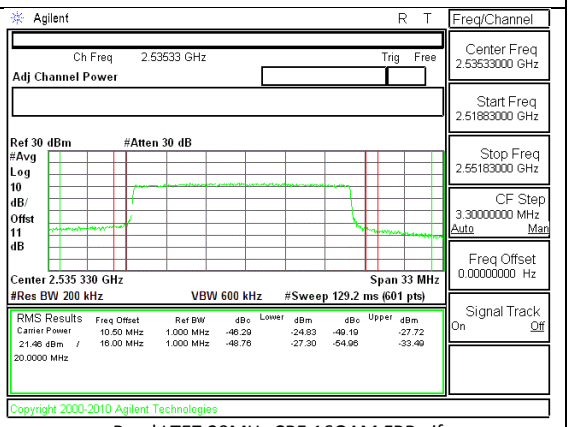
Band LTE7 20MHz QPSK	 Band LTE7 20MHz CBE QPSK 1RB.gif	 Band LTE7 20MHz CBE QPSK FRB.gif
Band LTE7 20MHz 16QAM	 Band LTE7 20MHz CBE 16QAM 1RB.gif	 Band LTE7 20MHz CBE 16QAM FRB.gif

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10.3. OUT OF BAND EMISSIONS

RULE PART(S)

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

LIMITS

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log (P) dB.

TEST PROCEDURE

Per KDB 971168 D01 Power Meas License Digital Systems v02r01

The RF output of the transmitter was connected to a spectrum analyzer through a calibrated coaxial cable. Sufficient scans were taken to show the out-of-band Emissions, if any, up to 10th harmonic. Multiple sweeps were recorded in maximum hold mode using a peak detector to ensure that the worst-case emissions were caught.

RESULTS

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10.3.1. OUT OF BAND EMISSIONS RESULT

Band	Mode	f (MHz)	Spur (dBm)	Spec (dBm)	Delta (dB)
GSM850	GPRS	824.2	-20.89	-13	-7.89
		836.6	-19.35	-13	-6.35
		848.8	-18.47	-13	-5.47
	EGPRS	824.2	-23.4	-13	-10.4
		836.6	-22.81	-13	-9.81
		848.8	-23.67	-13	-10.67
GSM1900	GPRS	1850.2	-20.05	-13	-7.05
		1880	-18.93	-13	-5.93
		1909.8	-20.88	-13	-7.88
	EGPRS	1850.2	-19.17	-13	-6.17
		1880	-20.4	-13	-7.4
		1909.8	-19.5	-13	-6.5
Band 5	REL99	826.4	-19	-13	-6
		836.6	-20.34	-13	-7.34
		846.6	-20.44	-13	-7.44
	HSDPA	826.4	-19.04	-13	-6.04
		836.6	-20.01	-13	-7.01
		846.6	-18.75	-13	-5.75
Band 2	REL99	1852.4	-18.94	-13	-5.94
		1880	-19.48	-13	-6.48
		1907.6	-20.22	-13	-7.22
	HSDPA	1852.4	-19.8	-13	-6.8
		1880	-20.62	-13	-7.62
		1907.6	-21.13	-13	-8.13
Band 4	REL99	1712.4	-29.38	-13	-16.38
		1732.6	-29.74	-13	-16.74
		1752.6	-29.92	-13	-16.92
	HSDPA	1712.4	-19.53	-13	-6.53
		1732.6	-19.29	-13	-6.29
		1752.6	-18.77	-13	-5.77

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Band	BW (MHz)	Mode	f (MHz)	Spur (dBm)	Spec (dBm)	Delta (dB)
LTE17	10	QPSK	709	-23.01	-13	-10.01
			710	-23.43	-13	-10.43
			711	-22.66	-13	-9.66
		16QAM	709	-22.69	-13	-9.69
			710	-22.88	-13	-9.88
			711	-22.33	-13	-9.33

Band	BW (MHz)	Mode	f (MHz)	Spur (dBm)	Spec (dBm)	Delta (dB)
LTE17	5	QPSK	706.5	-22.25	-13	-9.25
			710	-22.92	-13	-9.92
			713.5	-21.76	-13	-8.76
		16QAM	706.5	-23.07	-13	-10.07
			710	-22.75	-13	-9.75
			713.5	-22.55	-13	-9.55

Band	BW (MHz)	Mode	f (MHz)	Spur (dBm)	Spec (dBm)	Delta (dB)
LTE13	10	QPSK	782	-22.7	-13	-9.7
		16QAM	782	-22.87	-13	-9.87

Band	BW (MHz)	Mode	f (MHz)	Spur (dBm)	Spec (dBm)	Delta (dB)
LTE13	5	QPSK	779.5	-22.76	-13	-9.76
			782	-23.86	-13	-10.86
			784.5	-22.76	-13	-9.76
		16QAM	779.5	-24.96	-13	-11.96
			782	-23.56	-13	-10.56
			784.5	-23.35	-13	-10.35

Band	BW (MHz)	Mode	f (MHz)	Spur (dBm)	Spec (dBm)	Delta (dB)
LTE7	20	QPSK	2510	-29.16	-25	-4.16

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			2535	-28.74	-25	-3.74
			2560	-29.02	-25	-4.02
		16QAM	2510	-29	-25	-4
			2535	-29.1	-25	-4.1
			2560	-28.92	-25	-3.92

Band	BW (MHz)	Mode	f (MHz)	Spur (dBm)	Spec (dBm)	Delta (dB)
LTE7	15	QPSK	2507.5	-30.68	-25	-5.68
			2535	-27.58	-25	-2.58
			2562.5	-28.97	-25	-3.97
		16QAM	2507.5	-30.24	-25	-5.24
			2535	-30.99	-25	-5.99
			2562.5	-28.49	-25	-3.49

Band	BW (MHz)	Mode	f (MHz)	Spur (dBm)	Spec (dBm)	Delta (dB)
LTE7	10	QPSK	2505	-28.09	-25	-3.09
			2535	-27.01	-25	-2.01
			2565	-26.98	-25	-1.98
		16QAM	2505	-29.35	-25	-4.35
			2535	-27.06	-25	-2.06
			2565	-27.11	-25	-2.11

Band	BW (MHz)	Mode	f (MHz)	Spur (dBm)	Spec (dBm)	Delta (dB)
LTE7	5	QPSK	2502.5	-36.07	-25	-11.07
			2535	-36.47	-25	-11.47
			2567.5	-36.84	-25	-11.84
		16QAM	2502.5	-35.91	-25	-10.91
			2535	-36.31	-25	-11.31
			2567.5	-34.75	-25	-9.75

Band	BW (MHz)	Mode	f (MHz)	Spur (dBm)	Spec (dBm)	Delta (dB)

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LTE5	10	QPSK	829	-30.05	-13	-17.05
			836.5	-28.92	-13	-15.92
			844	-30.06	-13	-17.06
		16QAM	829	-29.02	-13	-16.02
			836.5	-29.35	-13	-16.35
			844	-29.67	-13	-16.67

Band	BW (MHz)	Mode	f (MHz)	Spur (dBm)	Spec (dBm)	Delta (dB)
LTE5	5	QPSK	826.5	-28.25	-13	-15.25
			836.5	-30.37	-13	-17.37
			846.5	-30.59	-13	-17.59
		16QAM	826.5	-29.75	-13	-16.75
			836.5	-29.28	-13	-16.28
			846.5	-29.05	-13	-16.05

Band	BW (MHz)	Mode	f (MHz)	Spur (dBm)	Spec (dBm)	Delta (dB)
LTE5	3	QPSK	825.5	-28.42	-13	-15.42
			836.5	-28.78	-13	-15.78
			847.5	-31.6	-13	-18.6
		16QAM	825.5	-29.96	-13	-16.96
			836.5	-30.99	-13	-17.99
			847.5	-30.13	-13	-17.13

Band	BW (MHz)	Mode	f (MHz)	Spur (dBm)	Spec (dBm)	Delta (dB)
LTE5	1.4	QPSK	824.7	-30.93	-13	-17.93
			836.5	-31.15	-13	-18.15
			848.3	-30.48	-13	-17.48
		16QAM	824.7	-29.87	-13	-16.87
			836.5	-30.27	-13	-17.27
			848.3	-30.07	-13	-17.07

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Band	BW (MHz)	Mode	f (MHz)	Spur (dBm)	Spec (dBm)	Delta (dB)
LTE4	20	QPSK	1720	-17.62	-13	-4.62
			1732.5	-17.45	-13	-4.45
			1745	-17.17	-13	-4.17
		16QAM	1720	-16.94	-13	-3.94
			1732.5	-18.12	-13	-5.12
			1745	-16.83	-13	-3.83

Band	BW (MHz)	Mode	f (MHz)	Spur (dBm)	Spec (dBm)	Delta (dB)
LTE4	15	QPSK	1717.5	-17.47	-13	-4.47
			1732.5	-17.37	-13	-4.37
			1747.5	-17.94	-13	-4.94
		16QAM	1717.5	-18.09	-13	-5.09
			1732.5	-17.02	-13	-4.02
			1747.5	-17.66	-13	-4.66

Band	BW (MHz)	Mode	f (MHz)	Spur (dBm)	Spec (dBm)	Delta (dB)
LTE4	10	QPSK	1715	-27.66	-13	-14.66
			1732.5	-29.13	-13	-16.13
			1750	-28.91	-13	-15.91
		16QAM	1715	-28.5	-13	-15.5
			1732.5	-28.02	-13	-15.02
			1750	-28.11	-13	-15.11

Band	BW (MHz)	Mode	f (MHz)	Spur (dBm)	Spec (dBm)	Delta (dB)
LTE4	5	QPSK	1712.5	-27.82	-13	-14.82
			1732.5	-28.5	-13	-15.5
			1752.5	-27.16	-13	-14.16
		16QAM	1712.5	-27.83	-13	-14.83
			1732.5	-28.6	-13	-15.6
			1752.5	-28.08	-13	-15.08

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Band	BW (MHz)	Mode	f (MHz)	Spur (dBm)	Spec (dBm)	Delta (dB)
LTE4	3	QPSK	1711.5	-26.67	-13	-13.67
			1732.5	-28.44	-13	-15.44
			1753.5	-28.18	-13	-15.18
		16QAM	1711.5	-26.97	-13	-13.97
			1732.5	-27.08	-13	-14.08
			1753.5	-28.2	-13	-15.2

Band	BW (MHz)	Mode	f (MHz)	Spur (dBm)	Spec (dBm)	Delta (dB)
LTE4	1.4	QPSK	1710.7	-28.78	-13	-15.78
			1732.5	-26.83	-13	-13.83
			1754.3	-28.2	-13	-15.2
		16QAM	1710.7	-27.95	-13	-14.95
			1732.5	-28.05	-13	-15.05
			1754.3	-27.11	-13	-14.11

Band	BW (MHz)	Mode	f (MHz)	Spur (dBm)	Spec (dBm)	Delta (dB)
LTE2	20	QPSK	1860	-18.19	-13	-5.19
			1880	-17.03	-13	-4.03
			1900	-17.05	-13	-4.05
		16QAM	1860	-17.65	-13	-4.65
			1880	-16.04	-13	-3.04
			1900	-16.67	-13	-3.67

Band	BW (MHz)	Mode	f (MHz)	Spur (dBm)	Spec (dBm)	Delta (dB)
LTE2	15	QPSK	1857.5	-20.69	-13	-7.69
			1880	-20.16	-13	-7.16
			1902.5	-19.53	-13	-6.53
		16QAM	1857.5	-20.61	-13	-7.61
			1880	-20.31	-13	-7.31
			1902.5	-19.84	-13	-6.84

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Band	BW (MHz)	Mode	f (MHz)	Spur (dBm)	Spec (dBm)	Delta (dB)
LTE2	10	QPSK	1855	-20.13	-13	-7.13
			1880	-20.03	-13	-7.03
			1905	-20.27	-13	-7.27
		16QAM	1855	-20.95	-13	-7.95
			1880	-20.05	-13	-7.05
			1905	-20.2	-13	-7.2

Band	BW (MHz)	Mode	f (MHz)	Spur (dBm)	Spec (dBm)	Delta (dB)
LTE2	5	QPSK	1852.5	-20.54	-13	-7.54
			1880	-21.23	-13	-8.23
			1907.5	-21	-13	-8
		16QAM	1852.5	-20.59	-13	-7.59
			1880	-19.2	-13	-6.2
			1907.5	-21.04	-13	-8.04

Band	BW (MHz)	Mode	f (MHz)	Spur (dBm)	Spec (dBm)	Delta (dB)
LTE2	3	QPSK	1851.5	-21.79	-13	-8.79
			1880	-20.44	-13	-7.44
			1908.5	-20.87	-13	-7.87
		16QAM	1851.5	-20.66	-13	-7.66
			1880	-20.19	-13	-7.19
			1908.5	-19.85	-13	-6.85

Band	BW (MHz)	Mode	f (MHz)	Spur (dBm)	Spec (dBm)	Delta (dB)
LTE2	1.4	QPSK	1850.7	-20.87	-13	-7.87
			1880	-20.3	-13	-7.3
			1909.3	-19.5	-13	-6.5
		16QAM	1850.7	-20.32	-13	-7.32
			1880	-19.89	-13	-6.89
			1909.3	-19.93	-13	-6.93

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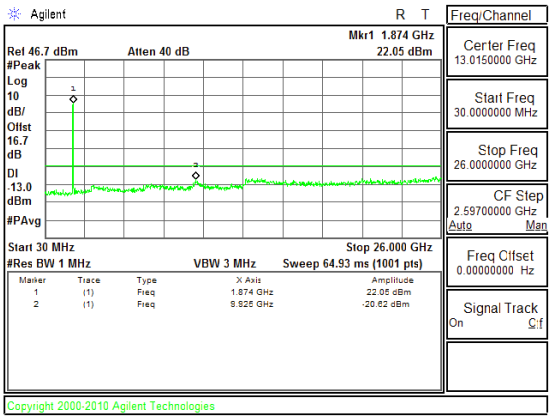
10.3.2. OUT OF BAND EMISSIONS PLOTS

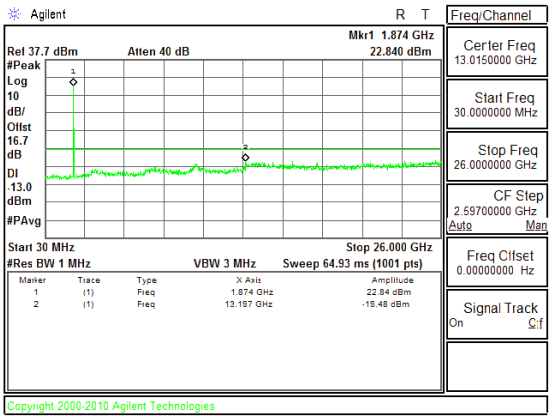
Band

Band 2

HSDPA



Band WCDMA B2 HSDPA CSE

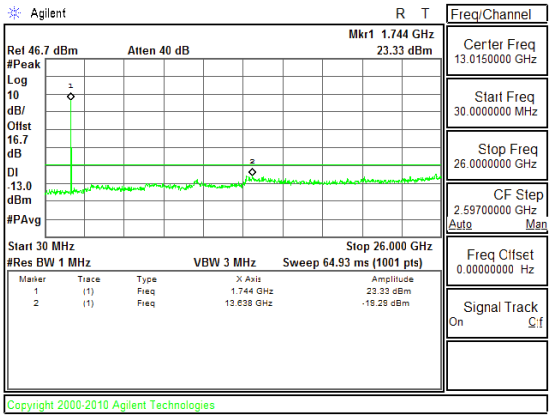


Band WCDMA B2 REL99 CSE

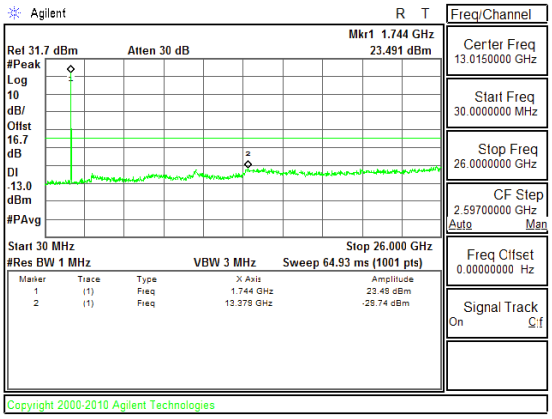
Band

Band 4

HSDPA



Band WCDMA B4 HSDPA CSE



Band WCDMA B4 REL99 CSE

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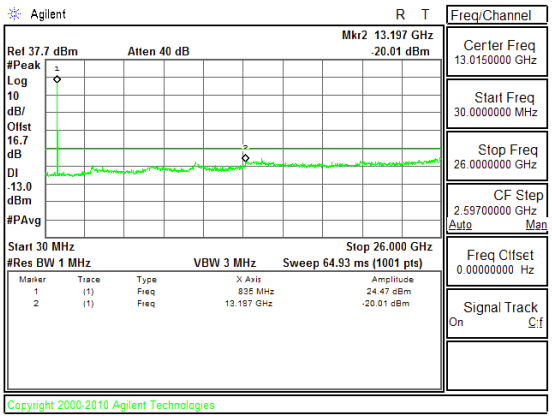
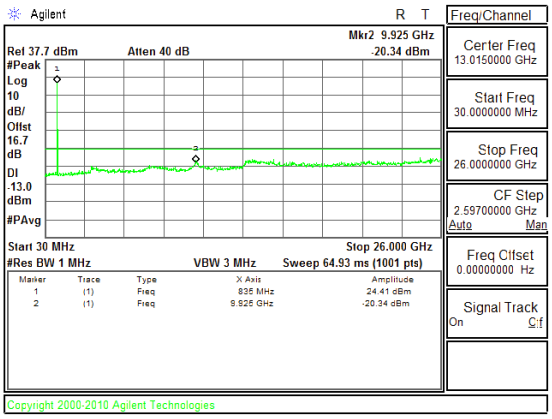
Band

Band 5

HSDPA



Band WCDMA B5 HSDPA CSE

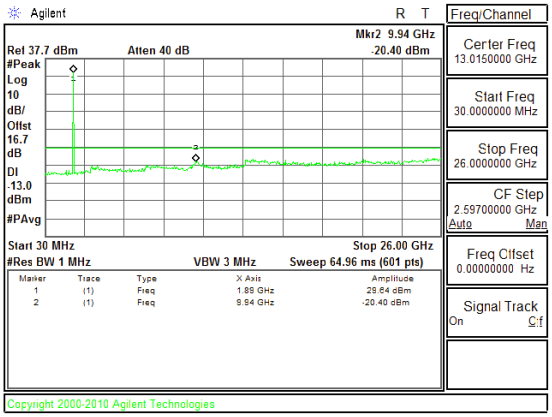


Band WCDMA B5 REL99 CSE

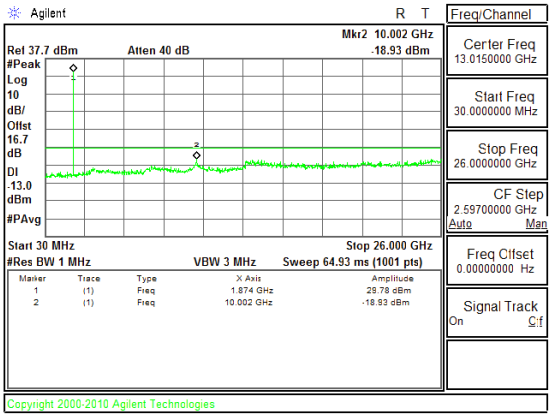
Band

GSM1900

EGPRS



Band GSM1900 EGPRS CSE Mid channel



Band GSM1900 GPRS CSE Mid channel

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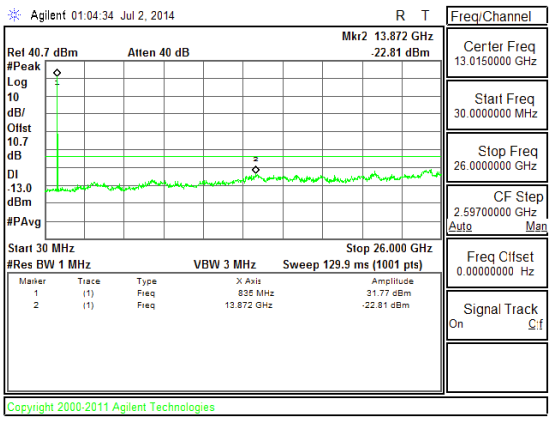
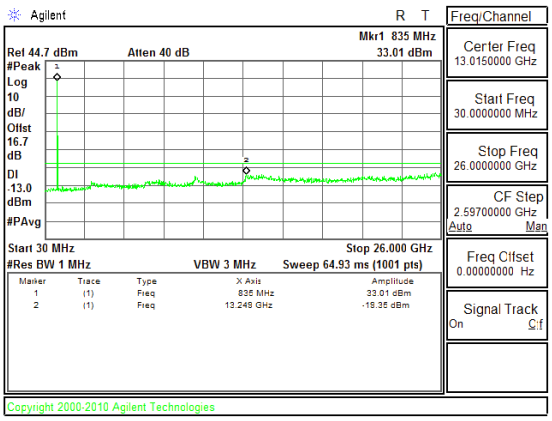
Band

GSM850

EGPRS



Band GSM850 EGPRS CSE Mid channel



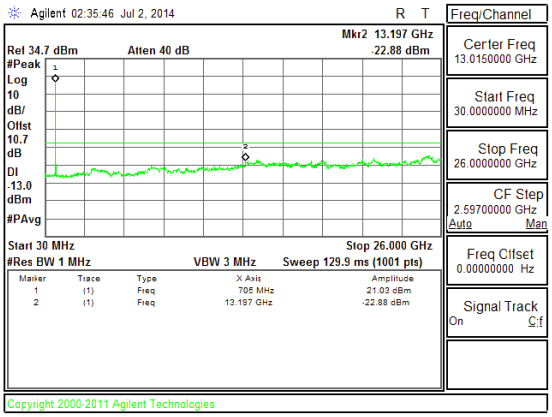
Band GSM850 GPRS CSE Mid channel

Band

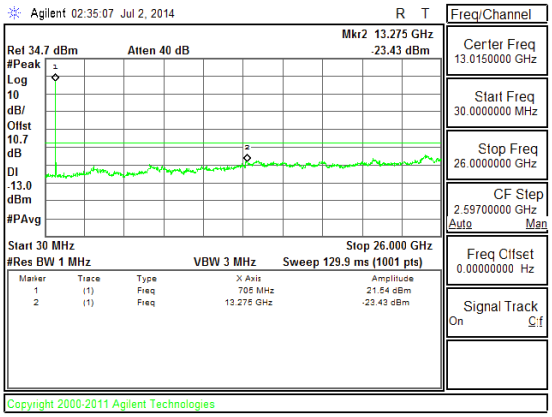
LTE17

10MHz

16QAM



Band LTE17 10MHz CSE 16QAM Mid channel



Band LTE17 10MHz CSE QPSK Mid channel

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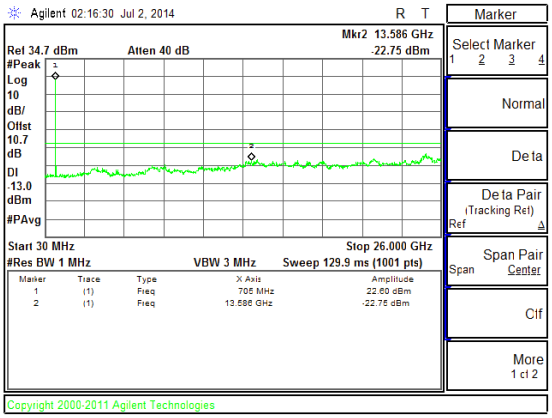
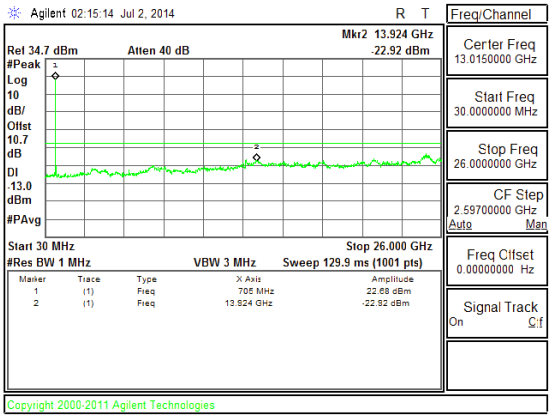
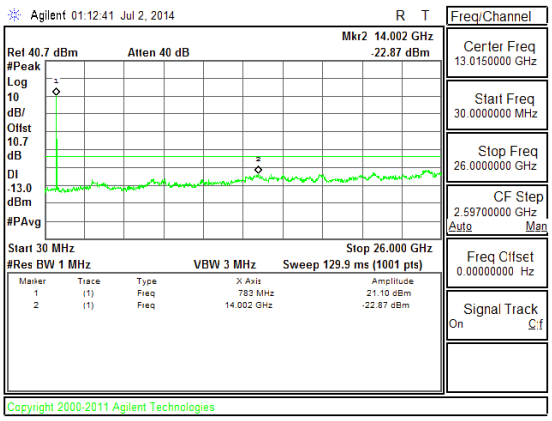
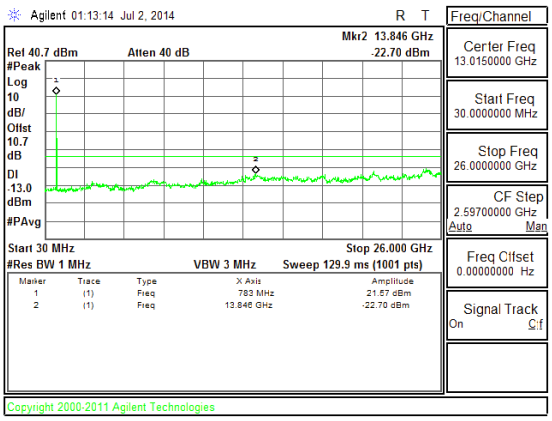
Band LTE17 5MHz 16QAM	 Band LTE17 5MHz CSE 16QAM Mid channel	 Band LTE17 5MHz CSE QPSK Mid channel
Band LTE13 10MHz 16QAM	 Band LTE13 10MHz CSE 16QAM High channel	 Band LTE13 10MHz CSE QPSK High channel

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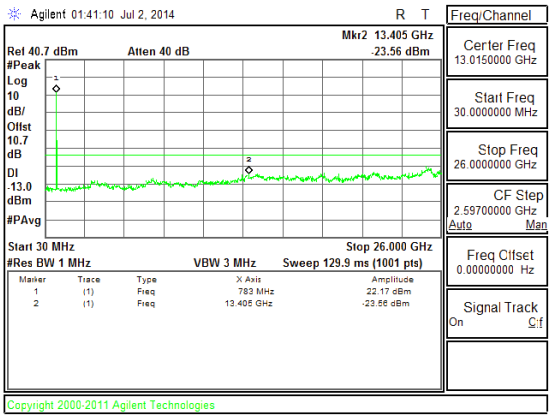
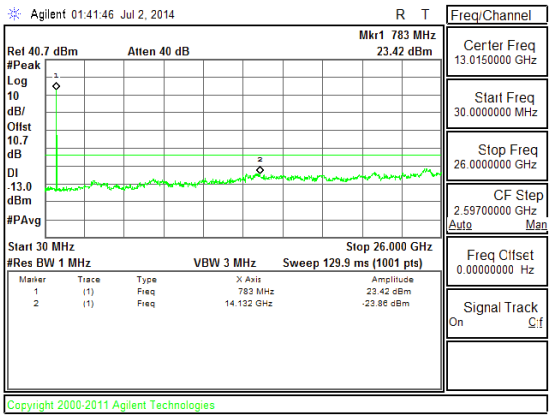
Band LTE13 5MHz 16QAM

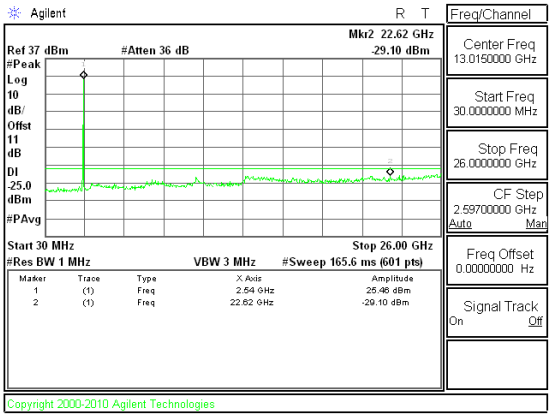


Band LTE13 5MHz CSE 16QAM Mid channel

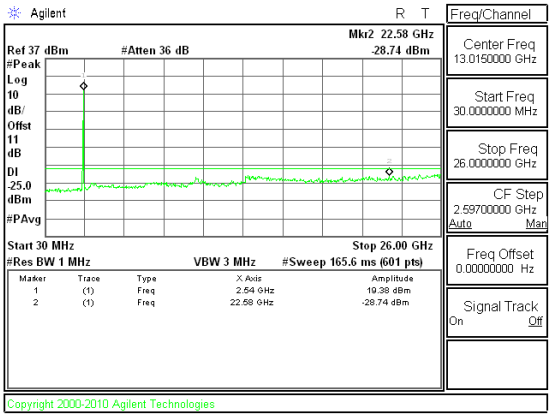


Band LTE13 5MHz CSE QPSK Mid channel

Band LTE7 20MHz 16QAM



Band LTE7 20MHz CSE 16QAM Mid channel



Band LTE7 20MHz CSE QPSK Mid channel

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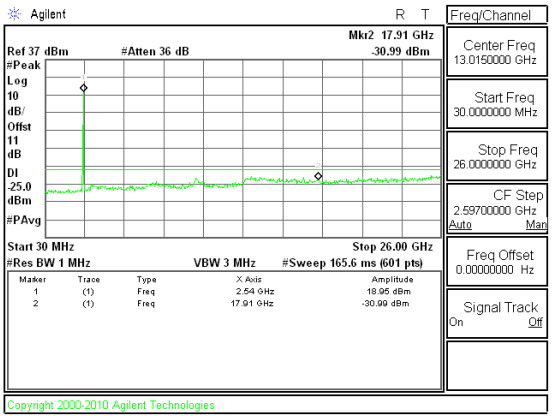
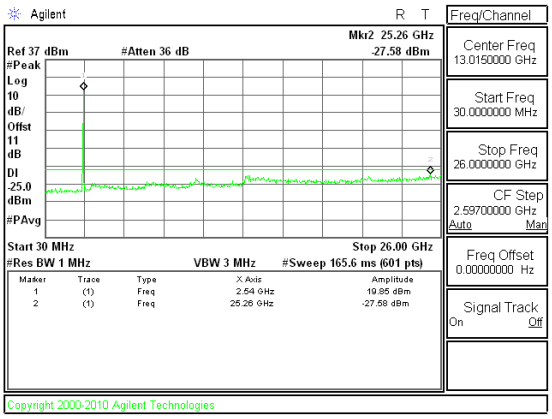
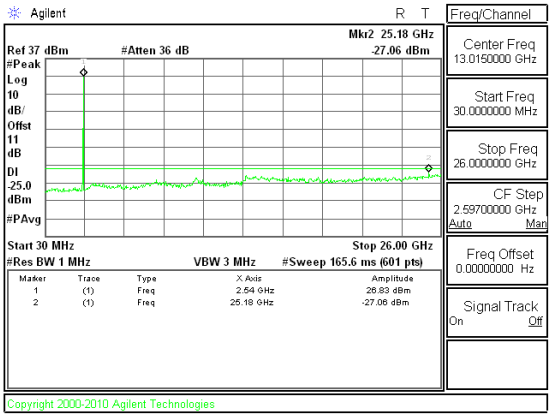
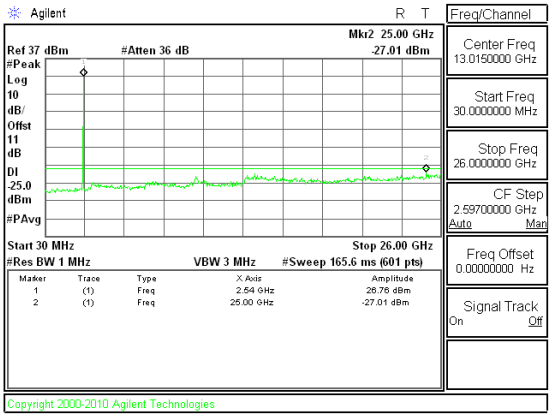
Band LTE7 15MHz 16QAM	 Band LTE7 15MHz CSE 16QAM Mid channel	 Band LTE7 15MHz CSE QPSK Mid channel
Band LTE7 10MHz 16QAM	 Band LTE7 10MHz CSE 16QAM Mid channel	 Band LTE7 10MHz CSE QPSK Mid channel

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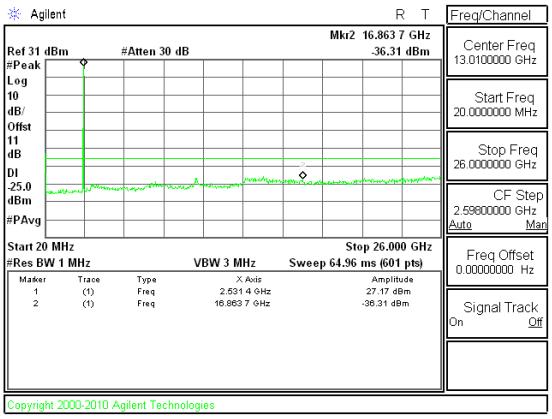
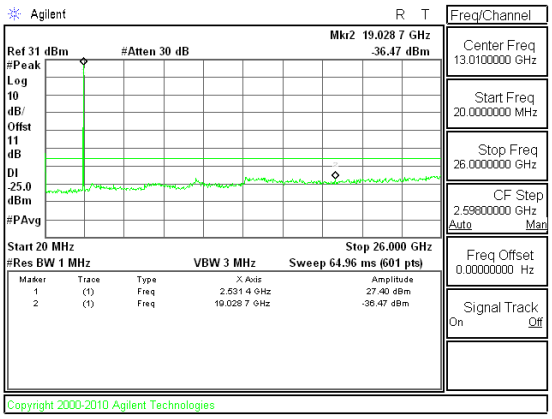
Band LTE7 5MHz 16QAM

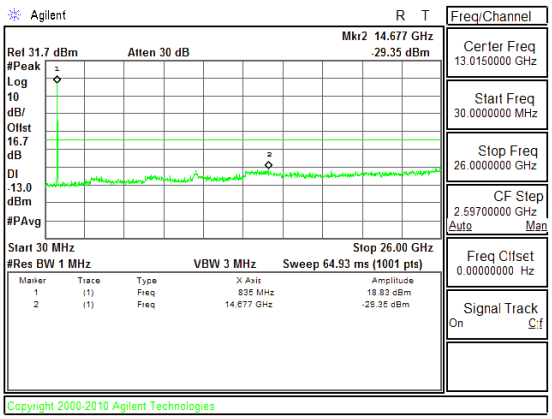


Band LTE7 5MHz CSE 16QAM Mid channel

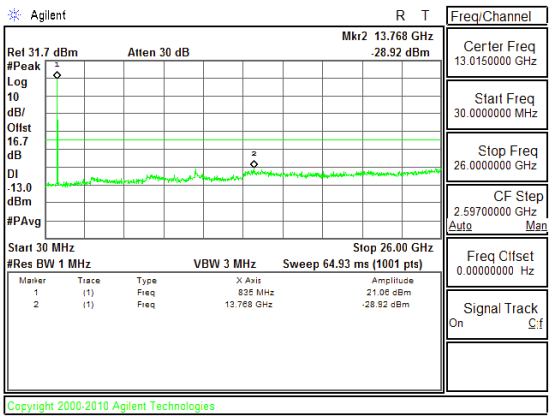


Band LTE7 5MHz CSE QPSK Mid channel

Band LTE5 10MHz 16QAM



Band LTE5 10MHz CSE 16QAM Mid channel



Band LTE5 10MHz CSE QPSK Mid channel

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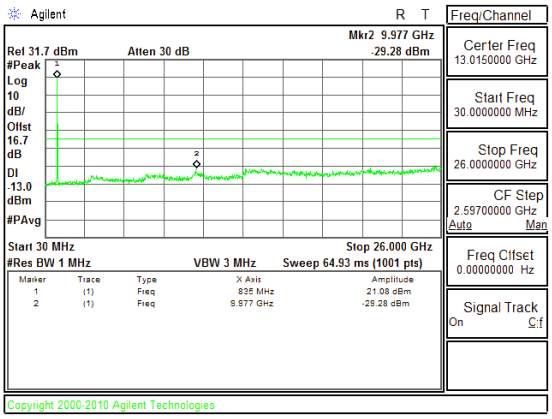
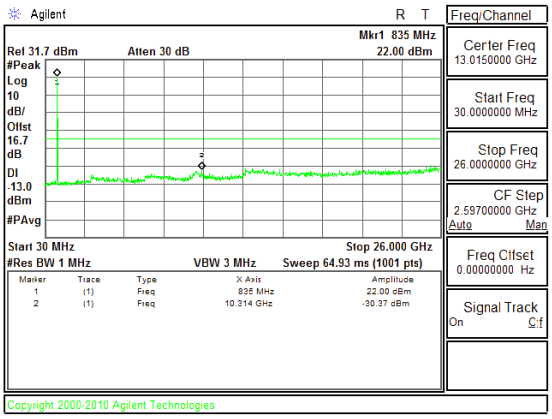
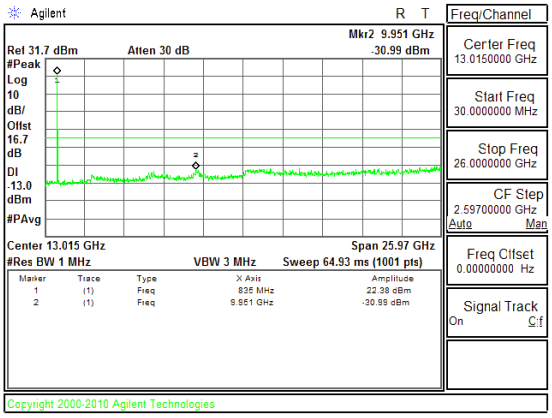
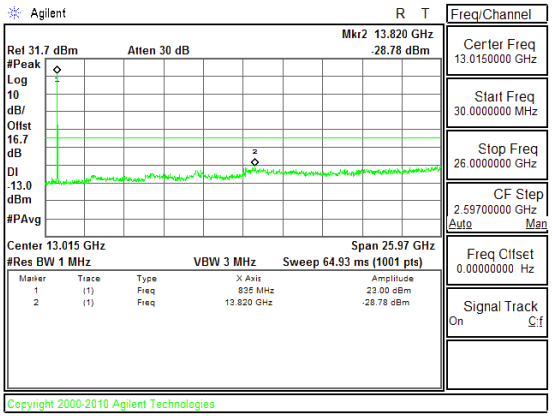
Band LTE5 5MHz 16QAM	 Band LTE5 5MHz CSE 16QAM Mid channel	 Band LTE5 5MHz CSE QPSK Mid channel
Band LTE5 3MHz 16QAM	 Band LTE5 3MHz CSE 16QAM Mid channel	 Band LTE5 3MHz CSE QPSK Mid channel

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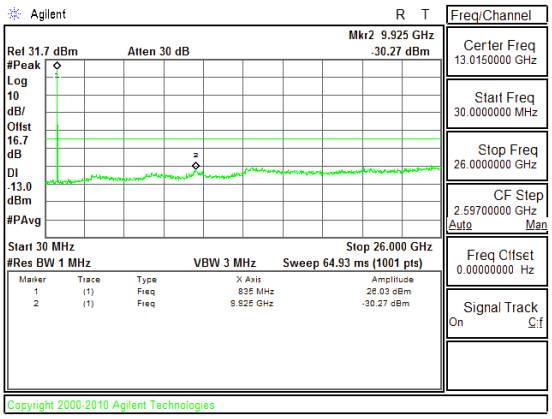
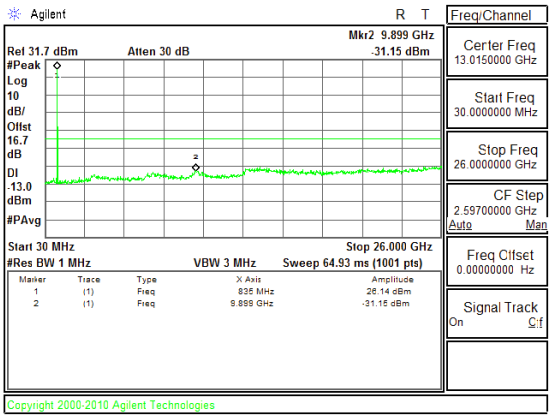
Band LTE5 1.4MHz 16QAM

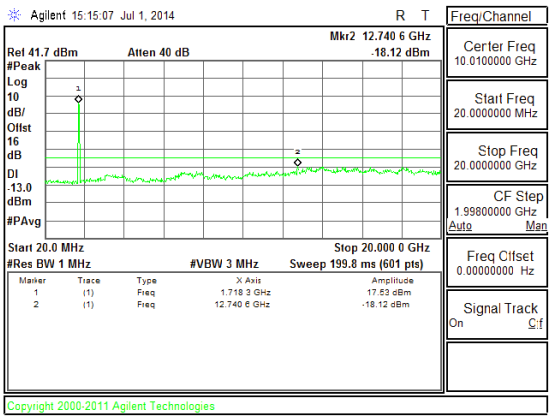


Band LTE5 1.4MHz CSE 16QAM Mid channel

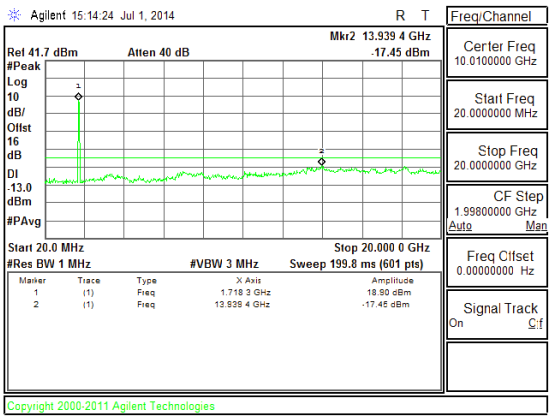


Band LTE5 1.4MHz CSE QPSK Mid channel

Band LTE4 20MHz 16QAM



Band LTE4 20MHz CSE 16QAM Mid channel



Band LTE4 20MHz CSE QPSK Mid channel

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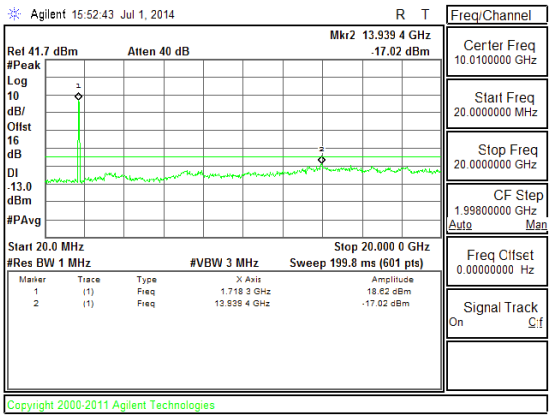
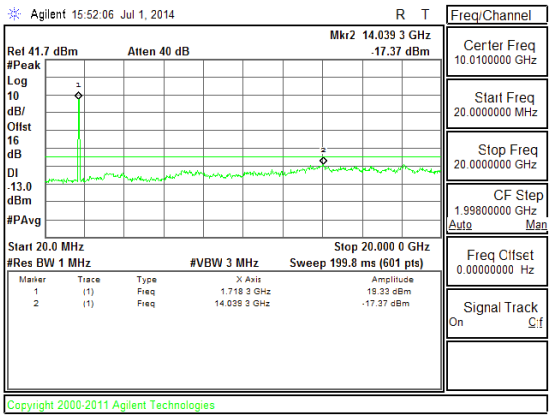
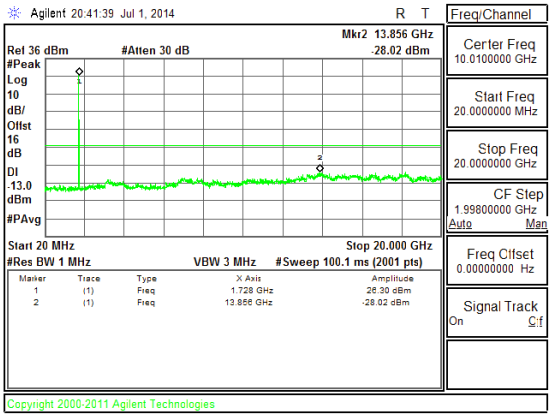
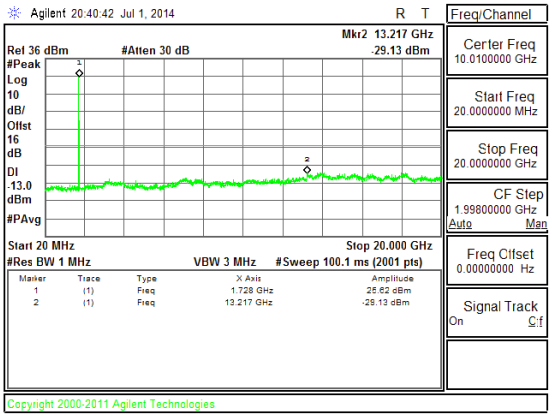
Band LTE4 15MHz 16QAM	 Band LTE4 15MHz CSE 16QAM Mid channel	 Band LTE4 15MHz CSE QPSK Mid channel
Band LTE4 10MHz 16QAM	 Band LTE4 10MHz CSE 16QAM Mid channel	 Band LTE4 10MHz CSE QPSK Mid channel

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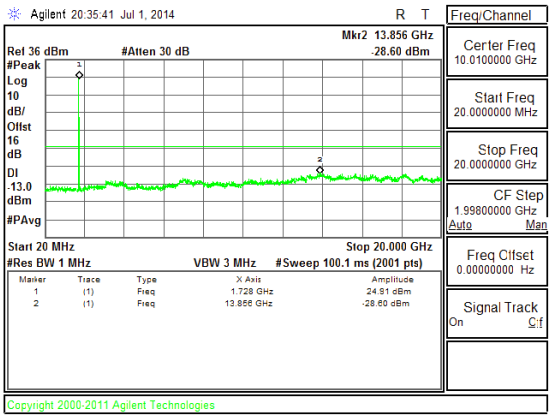
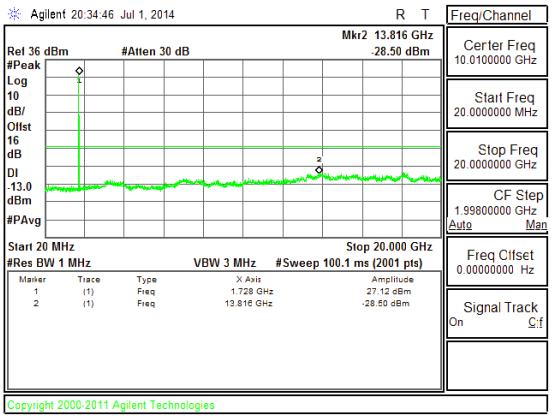
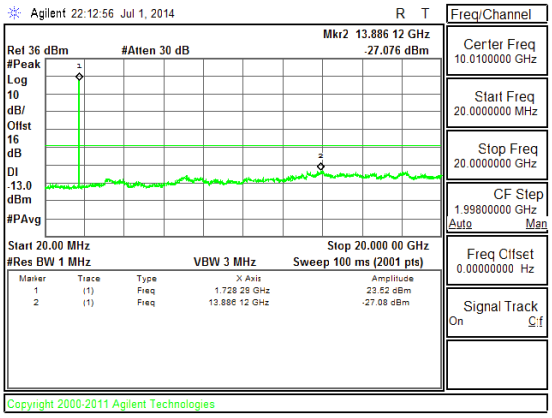
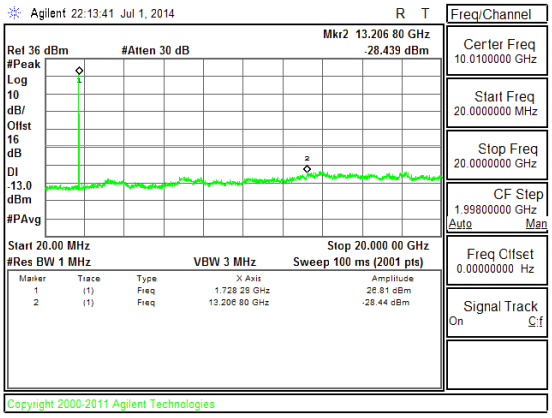
Band LTE4 5MHz 16QAM	 Band LTE4 5MHz CSE 16QAM Mid channel	 Band LTE4 5MHz CSE QPSK Mid channel
Band LTE4 3MHz 16QAM	 Band LTE4 3MHz CSE 16QAM Mid channel	 Band LTE4 3MHz CSE QPSK Mid channel

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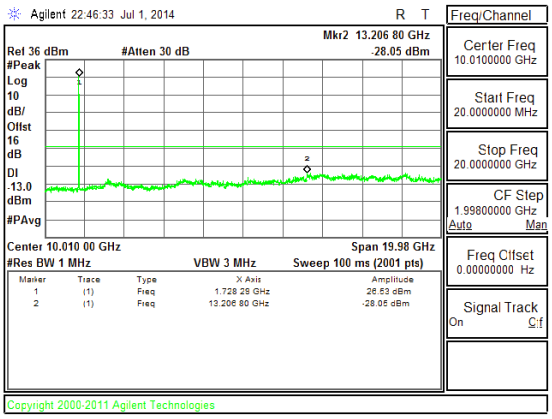
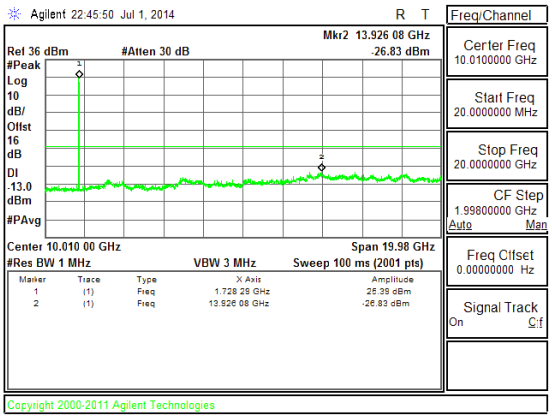
Band LTE4 1.4MHz 16QAM

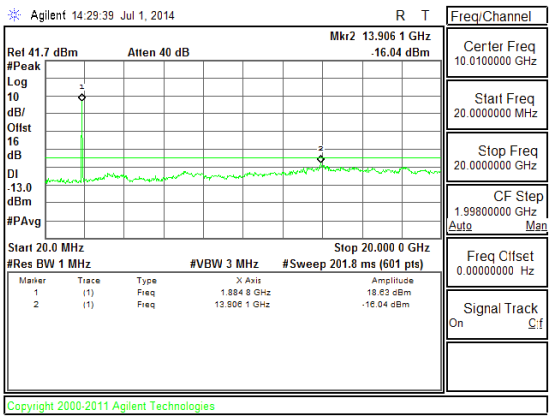


Band LTE4 1.4MHz CSE 16QAM Mid channel

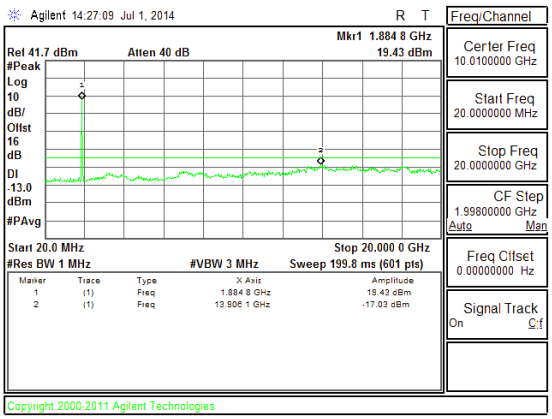


Band LTE4 1.4MHz CSE QPSK Mid channel

Band LTE2 20MHz 16QAM



Band LTE2 20MHz CSE 16QAM Mid channel



Band LTE2 20MHz CSE QPSK Mid channel

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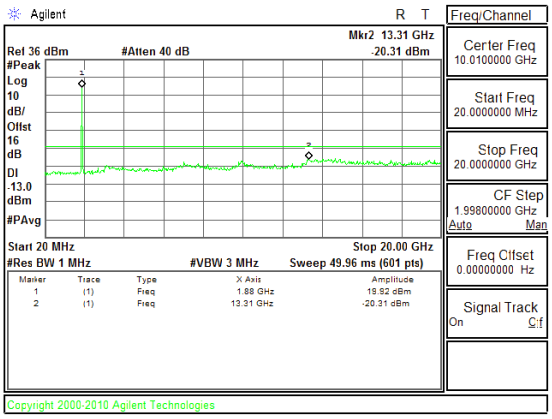
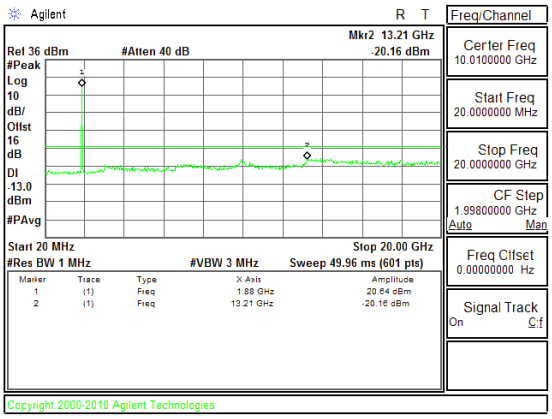
Band LTE2 15MHz 16QAM

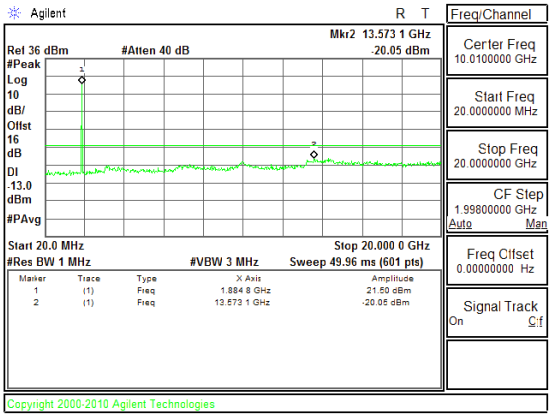


Band LTE2 15MHz CSE 16QAM Mid channel

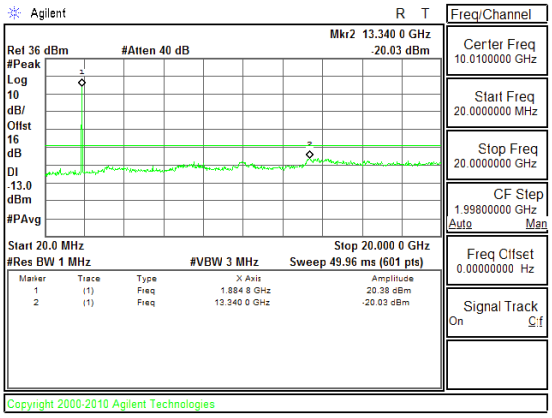


Band LTE2 15MHz CSE QPSK Mid channel

Band LTE2 10MHz 16QAM



Band LTE2 10MHz CSE 16QAM Mid channel



Band LTE2 10MHz CSE QPSK Mid channel

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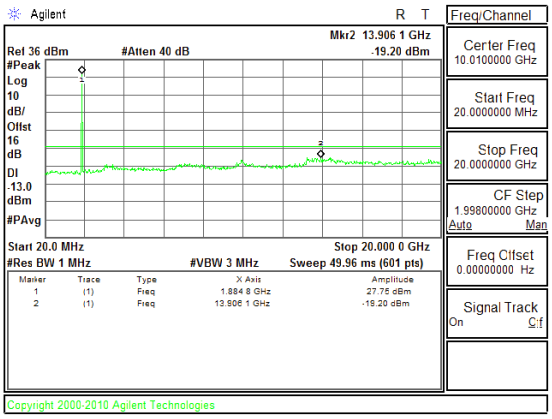
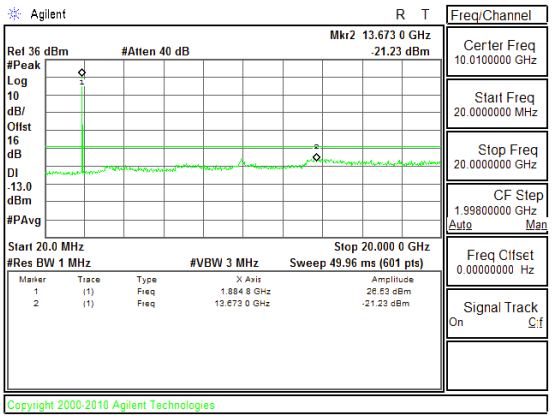
Band LTE2 5MHz 16QAM

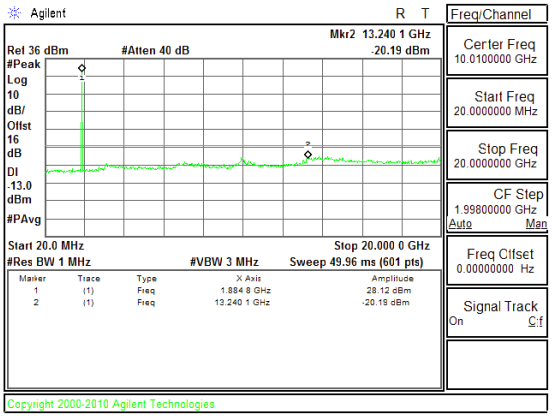


Band LTE2 5MHz CSE 16QAM Mid channel

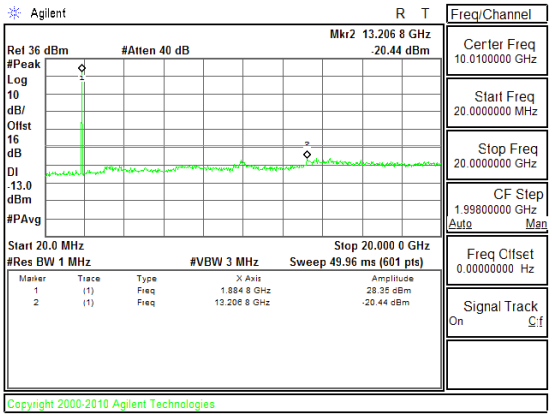


Band LTE2 5MHz CSE QPSK Mid channel

Band LTE2 3MHz 16QAM



Band LTE2 3MHz CSE 16QAM Mid channel



Band LTE2 3MHz CSE QPSK Mid channel

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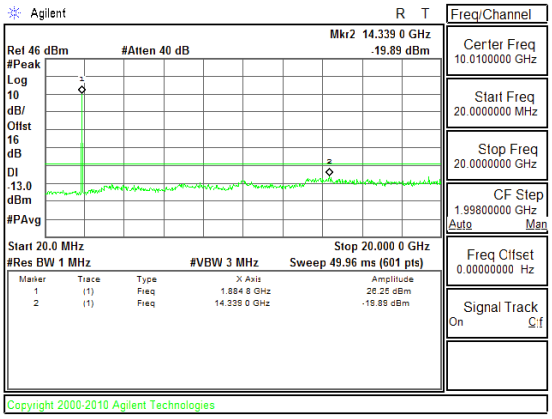
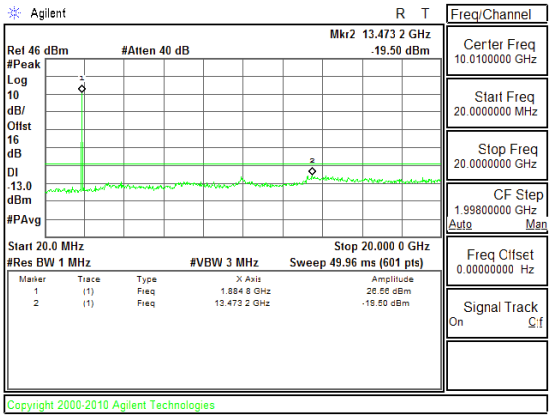
Band LTE2 1.4MHz 16QAM	 Band LTE2 1.4MHz CSE 16QAM Mid channel	 Band LTE2 1.4MHz CSE QPSK Mid channel

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10.4. FREQUENCY STABILITY

RULE PART(S)

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

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.

TEST PROCEDURE

Per KDB 971168 D01 Power Meas License Digital Systems v02r01

SOP

Frequency Stability vs Temperature:

The EUT is place inside a temperature chamber. The temperature is set to 20ºC and allowed to stabilize. After sufficient soak time, the transmitting frequency error is measured. The temperature is increased by 10 degrees, allowed to stabilize and soak, and then the measurement is repeated. This is repeated until +50ºC is reached. Reference power supply voltage for these tests is 3.8Vdc.

Frequency Stability vs Voltage:

The peak frequency error is recorded (worst-case). The test voltage ranges from 3.42 to 4.18 VDC.

RESULTS

See the following pages.

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10.4.1. FREQUENCY STABILITY RESULTS

BAND II, Channel 9400 Freq: 1880MHz– MID CHANNEL

Reference Frequency: PC S Mid Channel 1880MHz @ 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	1880.000007	0.000	2.5
3.80	40	1880.000006	0.001	2.5
3.80	30	1880.000007	0.000	2.5
3.80	***20***	***1880.000007***	***0***	***2.5***
3.80	10	1880.000007	0.000	2.5
3.80	0	1880.000008	0.000	2.5
3.80	-10	1880.000006	0.001	2.5
3.80	-20	1880.000006	0.000	2.5
3.80	-30	1880.000007	0.000	2.5

Reference Frequency: PCS Mid Channel 1880 MHz @ 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***	***1880.000006***	***0***	***2.5***
4.18	20	1880.000006	*0.000*	2.5
3.42	20	1880.000007	*-0.001*	2.5

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BAND V, Channel 4183, Freq: 836.6MHz – MID CHANNEL

Reference Frequency: Cell Mid Channel 836.6 MHz @ 20ºC Limit: +- 2.5 ppm = 2091.500 Hz				
Power Supply (Vdc)	Environment Temperature (*C)	Frequency Deviation Measureed with Time Elapse		
		(MHz)	Delta (ppm)	Limit (ppm)
3.80	50	836.600004	-0.001	2.5
3.80	40	836.600002	0.001	2.5
3.80	30	836.599996	0.008	2.5
3.80	***20***	***836.600003***	***0***	***2.5***
3.80	10	836.600002	0.001	2.5
3.80	0	836.600004	-0.001	2.5
3.80	-10	836.599997	0.007	2.5
3.80	-20	836.600005	-0.002	2.5
3.80	-30	836.600004	-0.001	2.5

Reference Frequency: Mid Channel 836.6 MHz @ 20ºC Limit: +- 2.5 ppm = 2091.500 Hz				
Power Supply (Vdc)	Environment Temperature (*C)	Frequency Deviation Measureed with Time Elapse		
			Delta (ppm)	Limit (ppm)
3.80	***20***	***836.599998***	***0.00000***	***2.5***
4.18	20	836.600003	*-0.00574*	2.5
3.42	20	836.599997	*0.00096*	2.5

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BAND 4, Freq: 836.6MHz – MID CHANNEL

Reference Frequency: Cell Mid Channel 1732.6 MHz @ 20ºC Limit: +- 2.5 ppm = 4331.500 Hz				
Power Supply (Vdc)	Environment Temperature (*C)	Frequency Deviation Measureed with Time Elapse		
		(MHz)	Delta (ppm)	Limit (ppm)
3.80	50	1732.600000	0.00346	2.5
3.80	40	1732.600000	0.00346	2.5
3.80	30	1732.600000	0.00346	2.5
3.80	***20***	1732.600006	***0.00000***	***2.5***
3.80	10	1732.600000	0.00346	2.5
3.80	0	1732.600000	0.00346	2.5
3.80	-10	1732.600000	0.00346	2.5
3.80	-20	1732.600000	0.00346	2.5
3.80	-30	1732.600000	0.00346	2.5

Reference Frequency: Cell Mid Channel 1732.6 MHz @ 20ºC Limit: +- 2.5 ppm = 4331.500 Hz				
Power Supply (Vdc)	Environment Temperature (*C)	Frequency Deviation Measureed with Time Elapse		
			Delta (ppm)	Limit (ppm)
3.80	***20***	1732.600006	***0.00000***	***2.5***
4.18	20	1732.600007	*-0.00058*	2.5
3.42	20	1732.600008	*-0.00115*	2.5

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LTE BAND 7, Channel 21100, Freq: 2535.0MHz – MID CHANNEL

Reference Frequency: Cell Mid Channel 2535.0 MHz @ 20ºC Limit: +- 2.5 ppm = 6337.500 Hz				
Power Supply (Vdc)	Environment Temperature (*C)	Frequency Deviation Measureed with Time Elapse (MHz)	Delta (ppm)	Limit (ppm)
3.80	50	2535.000015	-0.009	2.5
3.80	40	2534.999986	0.002	2.5
3.80	30	2535.000013	-0.008	2.5
3.80	***20***	***2534.999992***	***0***	***2.5***
3.80	10	2535.000014	-0.009	2.5
3.80	0	2535.000014	-0.009	2.5
3.80	-10	2535.000017	-0.010	2.5
3.80	-20	2535.000013	-0.008	2.5
3.80	-30	2535.000016	-0.009	2.5

Reference Frequency: Mid Channel 836.6 MHz @ 20ºC Limit: +- 2.5 ppm = 2091.500 Hz				
Power Supply (Vdc)	Environment Temperature (*C)	Frequency Deviation Measureed with Time Elapse	Delta (ppm)	Limit (ppm)
3.80	***20***	***2535.000013***	***0.00000***	***2.5***
4.18	20	2534.999992	*0.02579*	2.5
3.42	20	2534.999992	*0.02568*	2.5

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LTE BAND 13, Channel 23230 Freq: 782.0MHz– MID CHANNEL

Reference Frequency: Cell Mid Channel 782MHz @ 20°C Limit: to stay +- 2.5 ppm = 1955.000 Hz				
Power Supply (Vdc)	Environment Temperature (°C)	Frequency Deviation Measureed with Time Elapse		
		(MHz)	Delta (ppm)	Limit (ppm)
3.80	50	781.9999935	0.003	2.5
3.80	40	781.9999959	0.000	2.5
3.80	30	781.999997	-0.002	2.5
3.80	***20***	***781.999996***	***0***	***2.5***
3.80	10	781.999997	-0.001	2.5
3.80	0	781.9999959	-0.001	2.5
3.80	-10	781.9999957	0.000	2.5
3.80	-20	781.999996	0.000	2.5
3.80	-30	781.999995	0.001	2.5

Reference Frequency: PCS Mid Channel 1880 MHz @ 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***	***781.999986***	***0***	***2.5***
4.18	20	***782.000014***	*-0.015*	2.5
3.42	20	781.9999955	*-0.005*	2.5

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LTE BAND 17, Channel 23790 Freq: 710.0MHz– MID CHANNEL

Reference Frequency: Cell Mid Channel 782MHz @ 20°C Limit: to stay +- 2.5 ppm = 1775.000 Hz				
Power Supply (Vdc)	Environment Temperature (°C)	Frequency Deviation Measureed with Time Elapse		
		(MHz)	Delta (ppm)	Limit (ppm)
3.80	50	710.000004	-0.001	2.5
3.80	40	710.000004	-0.001	2.5
3.80	30	710.000004	-0.001	2.5
3.80	***20***	***710.000004***	***0***	***2.5***
3.80	10	710.000005	-0.001	2.5
3.80	0	710.000005	-0.003	2.5
3.80	-10	710.000005	-0.002	2.5
3.80	-20	710.000003	0.000	2.5
3.80	-30	710.000004	-0.001	2.5

Reference Frequency: PCS Mid Channel 1880 MHz @ 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***	***710.000004***	***0***	***2.5***
4.18	20	***710.000004***	*0.000*	2.5
3.42	20	710.000004	*0.000*	2.5

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11. RADIATED TEST RESULTS

11.1. RADIATED POWER (ERP & EIRP)

RULE PART(S)

FCC: §2.1046, §22.913, §24.232, §27

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.

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

TEST RESULTS

11.1.1. ERP/EIRP Results

Band	Mode	Channel	f(MHz)	ERP / EIRP	
				dBm	mW
Band 2	REL99	9262	1852.4	22.94	196.79
		9400	1880	22.94	196.79
		9538	1907.6	23.7	234.42
	HSDPA	9262	1852.4	22.76	188.8
		9400	1880	22.62	182.81
		9538	1907.6	23.46	221.82

Band	Mode	Channel	f(MHz)	ERP / EIRP	
				dBm	mW
Band 4	REL99	1312	1712.4	24.02	252.35
		1413	1732.6	24.93	311.17
		1513	1752.6	24.71	295.8
	HSDPA	1312	1712.4	23.58	228.03

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		1413	1732.6	23.9	245.47
		1513	1752.6	23.85	242.66

Band	Mode	Channel	f(MHz)	ERP / EIRP	
				dBm	mW
Band 5	REL99	4132	826.4	20.371	108.92
		4183	836.6	21.251	133.38
		4233	846.6	21.491	140.96
	HSDPA	4132	826.4	19.841	96.41
		4183	836.6	20.021	100.48
		4233	846.6	20.321	107.67

Band	Mode	Channel	f(MHz)	ERP / EIRP	
				dBm	mW
GSM1900	GPRS	512	1850.2	29.48	887.16
		661	1880	30.23	1054.39
		810	1909.8	28.09	644.17
	EGPRS	512	1850.2	25.705	371.96
		661	1880	27.03	504.66
		810	1909.8	25.022	317.83

Band	Mode	Channel	f(MHz)	ERP / EIRP	
				dBm	mW
GSM850	GPRS	128	824.2	30.397	1095.72
		190	836.6	29.001	794.51
		251	848.8	30.157	1036.81
	EGPRS	128	824.2	28.627	728.95
		190	836.6	27.306	537.77
		251	848.8	28.033	635.77

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11.1.2. LTE ERP/EIRP Results

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE17	10	QPSK	1/0	709	14.21	26.36
			1/0	710	14.68	29.38
			1/0	711	15.33	34.12
		16QAM	1/0	709	13.12	20.51
			1/0	710	13.70	23.44
			1/0	711	14.41	27.61

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE17	5	QPSK	1/0	706.5	13.83	24.15
			1/0	710	15.00	31.62
			1/0	713.5	15.83	38.28
		16QAM	1/0	706.5	12.95	19.72
			1/0	710	13.84	24.21
			1/0	713.5	14.71	29.58

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE13	10	QPSK	1/0	782	19.70	93.3
			1/0	782	19.70	93.3
			1/0	782	19.70	93.3
		16QAM	1/0	782	18.53	71.29
			1/0	782	18.53	71.29
			1/0	782	18.53	71.29

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Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE13	5	QPSK	1/0	779.5	20.20	104.7
			1/0	782	18.96	78.7
			1/0	784.5	20.33	107.9
		16QAM	1/0	779.5	18.90	77.6
			1/0	782	17.99	63.0
			1/0	784.5	19.35	86.1

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE7	20	QPSK	1/0	2510	21.39	137.72
			1/0	2535	21.57	143.55
			1/0	2560	22.02	159.22
		16QAM	1/0	2510	20.99	125.6
			1/0	2535	20.86	121.9
			1/0	2560	21.14	130.02

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE7	15	QPSK	1/0	2507.5	21.63	145.55
			1/0	2535	21.75	149.62
			1/0	2562.5	22.05	160.32
		16QAM	1/0	2507.5	21.14	130.02
			1/0	2535	20.98	125.31
			1/0	2562.5	21.05	127.35

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Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE7	10	QPSK	1/0	2505	21.38	137.4
			1/0	2535	21.26	133.66
			1/0	2565	22.72	187.07
		16QAM	1/0	2505	21.35	136.46
			1/0	2535	20.52	112.72
			1/0	2565	21.67	146.89

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE7	5	QPSK	1/0	2502.5	21.77	150.31
			1/0	2535	21.37	137.09
			1/0	2567.5	22.38	172.98
		16QAM	1/0	2502.5	21.07	127.94
			1/0	2535	20.29	106.91
			1/0	2567.5	21.15	130.32

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE5	10	QPSK	1/0	829	18.861	76.93
			1/0	836.5	19.171	82.62
			1/0	844	19.731	93.99
		16QAM	1/0	829	18.011	63.26
			1/0	836.5	18.301	67.62
			1/0	844	18.851	76.75

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Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE5	5	QPSK	1/0	826.5	18.661	73.47
			1/0	836.5	19.201	83.2
			1/0	846.5	18.731	74.66
		16QAM	1/0	826.5	17.671	58.49
			1/0	836.5	18.271	67.16
			1/0	846.5	18.101	64.58

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE5	3	QPSK	1/0	825.5	18.741	74.83
			1/0	836.5	19.021	79.82
			1/0	847.5	18.871	77.11
		16QAM	1/0	825.5	17.571	57.16
			1/0	836.5	18.161	65.48
			1/0	847.5	18.071	64.14

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE5	1.4	QPSK	1/0	824.7	18.061	63.99
			1/0	836.5	19.221	83.58
			1/0	848.3	18.951	78.54
		16QAM	1/0	824.7	17.041	50.59
			1/0	836.5	18.091	64.43
			1/0	848.3	18.011	63.26

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Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE4	20	QPSK	1/0	1720	22.41	174.18
			1/0	1732.5	23.51	224.39
			1/0	1745	22.63	183.23
		16QAM	1/0	1720	21.83	152.41
			1/0	1732.5	23.27	212.32
			1/0	1745	20.91	123.31

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE4	15	QPSK	1/0	1717.5	22.99	199.07
			1/0	1732.5	23.37	217.27
			1/0	1747.5	22.89	194.54
		16QAM	1/0	1717.5	21.56	143.22
			1/0	1732.5	23.14	206.06
			1/0	1747.5	23.29	213.3

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE4	10	QPSK	1/0	1715	22.59	181.55
			1/0	1732.5	23.34	215.77
			1/0	1750	23.31	214.29
		16QAM	1/0	1715	21.8	151.36
			1/0	1732.5	21.99	158.12
			1/0	1750	23.03	200.91

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE4	5	QPSK	1/0	1712.5	22.03	159.59
			1/0	1732.5	23.09	203.7
			1/0	1752.5	22.98	198.61

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		16QAM	1/0	1712.5	22.65	184.08
			1/0	1732.5	22.98	198.61
			1/0	1752.5	22.97	198.15

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE4	3	QPSK	1/0	1711.5	21.33	135.83
			1/0	1732.5	23.16	207.01
			1/0	1753.5	22.87	193.64
		16QAM	1/0	1711.5	22.20	165.96
			1/0	1732.5	22.04	159.96
			1/0	1753.5	22.87	193.64

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE4	1.4	QPSK	1/0	1710.7	21.29	134.59
			1/0	1732.5	23.4	218.78
			1/0	1754.3	22.53	179.06
		16QAM	1/0	1710.7	20.18	104.23
			1/0	1732.5	22.13	163.31
			1/0	1754.3	21.64	145.88

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE2	20	QPSK	1/0	1860	22.92	195.99
			1/0	1880	22.50	178.02
			1/0	1900	23.33	215.31
		16QAM	1/0	1860	23.02	200.56
			1/0	1880	22.69	185.98
			1/0	1900	22.57	180.74

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Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE2	15	QPSK	1/0	1857.5	23.96	248.89
			1/0	1880	22.6	181.97
			1/0	1902.5	23.97	249.46
		16QAM	1/0	1857.5	22.68	185.35
			1/0	1880	21.62	145.21
			1/0	1902.5	22.55	179.89

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE2	10	QPSK	1/0	1855	23.52	224.91
			1/0	1880	22.92	195.88
			1/0	1905	23.56	226.99
		16QAM	1/0	1855	22.15	164.06
			1/0	1880	21.71	148.25
			1/0	1905	22.36	172.19

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE2	5	QPSK	1/0	1852.5	22.57	180.72
			1/0	1880	22.84	192.31
			1/0	1907.5	24.38	274.16
		16QAM	1/0	1852.5	21.6	144.54
			1/0	1880	21.64	145.88
			1/0	1907.5	22.59	181.55

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE2	3	QPSK	1/0	1851.5	23.83	241.55
			1/0	1880	24.53	283.66
			1/0	1908.5	23.93	247.12

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		16QAM	1/0	1851.5	22.59	181.55
			1/0	1880	23.38	217.67
			1/0	1908.5	22.66	184.46

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE2	1.4	QPSK	1/0	1850.7	24.22	264.24
			1/0	1880	23.15	206.54
			1/0	1909.3	24.219	264.18
		16QAM	1/0	1850.7	23.05	201.84
			1/0	1880	22.51	178.24
			1/0	1909.3	23.65	231.74

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11.1.3. ERP/EIRP PLOTS

Band

Band 2

HSDPA

High Frequency Fundamental Measurement
Compliance Certification Services Chamber E

Company: Sony
Project #: 14U17929
Date: 06/30/14
Test Engineer: T. Oeur
Configuration: EUT only X position
Mode: WCDMA_1900 MHz_HSDPA

Test Equipment:
Receiving: Horn T119, and Chamber C SMA Cables
Substitution: Horn T72 Substitution, 4ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch								
1852.40	8.77	V	0.85	7.9	15.82	33.0	-17.2	
1852.40	15.71	H	0.85	7.9	22.76	33.0	-10.2	
Mid Ch								
1880.00	7.87	V	0.85	7.9	14.92	33.0	-18.1	
1880.00	15.57	H	0.85	7.9	22.62	33.0	-10.4	
High Ch								
1907.60	9.49	V	0.85	7.9	16.54	33.0	-16.5	
1907.60	16.41	H	0.85	7.9	23.46	33.0	-9.5	

Rev. 3.17.11
Note: For Band 4 EIRP limit is 30dBm

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Band

Band 2

REL99

High Frequency Fundamental Measurement
Compliance Certification Services Chamber C

Company: Sony
Project #: 14U17929
Date: 06/30/14
Test Engineer: T. Oeur
Configuration: EUT only X position
Mode: WCDMA_REL 99_1900MHz

Test Equipment:
Receiving: Horn T119, and Chamber C SMA Cables
Substitution: Horn T72 Substitution, 4ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch								
1852.40	8.75	V	0.85	7.9	15.80	33.0	-17.2	
1852.40	15.89	H	0.85	7.9	22.94	33.0	-10.1	
Mid Ch								
1880.00	7.73	V	0.85	7.9	14.78	33.0	-18.2	
1880.00	15.89	H	0.85	7.9	22.94	33.0	-10.1	
High Ch								
1907.60	10.58	V	0.85	7.9	17.63	33.0	-15.4	
1907.60	16.65	H	0.85	7.9	23.70	33.0	-9.3	

Rev. 3.17.11
Note: For horizontal polarization, used T344 substitution antenna; horizontal polarization done in Chamber B

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Band

Band 4

HSDPA

High Frequency Substitution Measurement
UL Verification Services, Inc. Chamber C

Company: Sony
Project #: 14U17927
Date: 7/8/2014
Test Engineer:
Configuration: X axis
Mode: HSDPA B4

Test Equipment:
Receiving: Horn T119, and Chamber C SMA Cables
Substitution: Horn T72 Substitution, 4ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch								
1712.40	11.13	V	0.9	8.4	18.68	30.0	-11.3	
1712.40	16.03	H	0.9	8.4	23.58	30.0	-6.4	
Mid Ch								
1732.60	9.52	V	0.9	8.4	17.07	30.0	-12.9	
1732.60	16.35	H	0.9	8.4	23.90	30.0	-6.1	
High Ch								
1752.60	8.66	V	0.9	8.6	16.41	30.0	-13.6	
1752.60	16.10	H	0.9	8.6	23.85	30.0	-6.2	

Rev. 3.17.11
Note: For Band 4 EIRP limit is 30dBm

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Band

Band 4

REL99

High Frequency Substitution Measurement
UL Verification Services, Inc. Chamber C

Company: Sony
Project #:
Date:
Test Engineer:
Configuration: X axis
Mode: REL99 B4

Test Equipment:
Receiving: Horn T119, and Chamber C SMA Cables
Substitution: Horn T72 Substitution, 4ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch								
1712.40	9.89	V	0.9	8.4	17.44	33.0	-15.6	
1712.40	16.47	H	0.9	8.4	24.02	33.0	-9.0	
Mid Ch								
1732.60	9.14	V	0.9	8.4	16.69	33.0	-16.3	
1732.60	17.38	H	0.9	8.4	24.93	33.0	-8.1	
High Ch								
1752.60	10.41	V	0.9	8.6	18.16	33.0	-14.8	
1752.60	16.96	H	0.9	8.6	24.71	33.0	-8.3	

Rev. 3.17.11
Note: For Band 4 EIRP limit is 30dBm

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Band

Band 5

HSDPA

High Frequency Substitution Measurement
UL Verification Services, Inc. Chamber C

Company: Sony
Project #: 14U17929
Date: 07/2/14
Test Engineer: R. Alegre/ Jude S.
Configuration: EUT ONLY/ Y Orientation
Mode: WCDMA_HSDPA_850

Test Equipment:
Receiving: Sunol T185, and 3m Chamber N-type Cable (Setup this one for testing EUT)
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (SN # 245200 001) 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								
826.40	12.65	V	0.9	0.0	11.75	38.5	-26.7	
826.40	20.74	H	0.9	0.0	19.84	38.5	-18.6	
Mid Ch								
836.60	12.98	V	0.9	0.0	12.08	38.5	-26.4	
836.60	20.92	H	0.9	0.0	20.02	38.5	-18.4	
High Ch								
846.60	11.70	V	0.9	0.0	10.80	38.5	-27.6	
846.60	21.22	H	0.9	0.0	20.32	38.5	-18.1	

Rev. 3.17.11
Note: For Band 13/17 ERP limit is 34.77dBm; For Band 26 limit is 50dBm

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Band

Band 5

REL99

High Frequency Substitution Measurement
UL Verification Services, Inc. Chamber C

Company: Sony
Project #: 14U17929
Date: 07/2/14
Test Engineer: R. Alegre/ Jude S.
Configuration: EUT ONLY/ Y Orientation
Mode: WCDMA_REL99_850

Test Equipment:
Receiving: Sunol T185, and 3m Chamber N-type Cable (Setup this one for testing EUT)
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (SN # 245200 001) 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								
826.40	11.75	V	0.9	0.0	10.85	38.5	-27.6	
826.40	21.27	H	0.9	0.0	20.37	38.5	-18.1	
Mid Ch								
836.60	10.42	V	0.9	0.0	9.52	38.5	-28.9	
836.60	22.15	H	0.9	0.0	21.25	38.5	-17.2	
High Ch								
846.60	9.63	V	0.9	0.0	8.73	38.5	-29.7	
846.60	22.39	H	0.9	0.0	21.49	38.5	-17.0	

Rev. 3.17.11
Note: For Band 13/17 ERP limit is 34.77dBm; For Band 26 limit is 50dBm

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Band

GSM1900

EGPRS

High Frequency Substitution Measurement
UL Verification Services, Inc. Chamber C

Company: Sony
Project #: 14U17929
Date: 07/08/14
Test Engineer: T. Oeur
Configuration: EUT only X position
Mode: EGPRS 1900MHz

Test Equipment:
Receiving: Horn T119, and Chamber C SMA Cables
Substitution: Horn T72 Substitution, 4ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch								
1850.20	8.33	V	0.85	7.9	15.38	33.0	-17.6	
1850.20	18.66	H	0.85	7.9	25.71	33.0	-7.3	
Mid Ch								
1880.00	9.06	V	0.85	7.9	16.11	33.0	-16.9	
1880.00	19.98	H	0.85	7.9	27.03	33.0	-6.0	
High Ch								
1909.80	10.05	V	0.85	7.9	17.10	33.0	-15.9	
1909.80	17.97	H	0.85	7.9	25.02	33.0	-8.0	

Rev. 3.17.11
Note: For Band 4 EIRP limit is 30dBm

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Band

GSM1900

GPRS

High Frequency Substitution Measurement
UL Verification Services, Inc. Chamber C

Company: Sony
Project #: 14U17929
Date: 07/08/14
Test Engineer: T. Oeur
Configuration: EUT only X position
Mode: GPRS 1900MHz

Test Equipment:
Receiving: Horn T119, and Chamber C SMA Cables
Substitution: Horn T72 Substitution, 4ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch								
1850.20	11.96	V	0.85	7.9	19.01	33.0	-14.0	
1850.20	22.43	H	0.85	7.9	29.48	33.0	-3.5	
Mid Ch								
1880.00	12.25	V	0.85	7.9	19.30	33.0	-13.7	
1880.00	23.18	H	0.85	7.9	30.23	33.0	-2.8	
High Ch								
1909.80	15.32	V	0.85	7.9	22.37	33.0	-10.6	
1909.80	21.04	H	0.85	7.9	28.09	33.0	-4.9	

Rev. 3.17.11
Note: For Band 4 EIRP limit is 30dBm

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Band

GSM850

EGPRS

High Frequency Substitution Measurement
UL Verification Services, Inc. Chamber C

Company: Sony
Project #: 14U17929
Date: 07/08/14
Test Engineer: T. Oeur
Configuration: EUT only Y position
Mode: EGPRS 850M FUND

Test Equipment:
Receiving: Sunol T185, and 3m Chamber N-type Cable (Setup this one for testing EUT)
Substitution: Dipole S/N: 00022117, 5ft SMA Cable (SN # 16795) 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								
824.20	13.51	V	0.5	0.0	13.02	38.5	-25.4	
824.20	29.13	H	0.5	0.0	28.63	38.5	-9.8	
Mid Ch								
836.60	14.65	V	0.5	0.0	14.15	38.5	-24.3	
836.60	27.81	H	0.5	0.0	27.31	38.5	-11.1	
High Ch								
848.80	14.00	V	0.5	0.0	13.51	38.5	-24.9	
848.80	28.53	H	0.5	0.0	28.03	38.5	-10.4	

Rev. 3.17.11
Note: For Band 13/17 ERP limit is 34.77dBm; For Band 26 limit is 50dBm

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Band

GSM 850

GPRS

High Frequency Substitution Measurement
UL Verification Services, Inc. Chamber C

Company: Sony
Project #: 14U17929
Date: 07/08/14
Test Engineer: T. Oeur
Configuration: EUT only Y position
Mode: GPRS 850MHz

Test Equipment:
Receiving: Sunol T185, and 3m Chamber N-type Cable (Setup this one for testing EUT)
Substitution: Dipole S/N: 00022117, 5ft SMA Cable (SN # 16795) 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								
824.20	16.63	V	0.5	0.0	16.13	38.5	-22.3	
824.20	30.90	H	0.5	0.0	30.40	38.5	-8.1	
Mid Ch								
836.60	17.81	V	0.5	0.0	17.31	38.5	-21.1	
836.60	29.50	H	0.5	0.0	29.00	38.5	-9.4	
High Ch								
848.80	16.93	V	0.5	0.0	16.43	38.5	-22.0	
848.80	30.66	H	0.5	0.0	30.16	38.5	-8.3	

Rev. 3.17.11
Note: For Band 13/17 ERP limit is 34.77dBm; For Band 26 limit is 50dBm

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Band

LTE17

10MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc. Chamber C

Company: Sony
Project #: 14U17929
Date: 07/02/14
Test Engineer: T. Oeur
Configuration: EUT only Y position
Mode: LTE B17 10MHz 16QAM

Test Equipment:
Receiving: Horn T185, and Chamber C SMA Cables
Substitution: Horn T72 Substitution, 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								
709.00	5.19	V	0.85	0.0	4.34	34.8	-30.5	
709.00	13.97	H	0.85	0.0	13.12	34.8	-21.7	
Mid Ch								
710.00	4.44	V	0.85	0.0	3.59	34.8	-31.2	
710.00	14.55	H	0.85	0.0	13.70	34.8	-21.1	
High Ch								
711.00	4.42	V	0.85	0.0	3.57	34.8	-31.2	
711.00	15.26	H	0.85	0.0	14.41	34.8	-20.4	

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Band

LTE17

10MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc. Chamber C

Company: Sony
Project #: 14U17929
Date: 07/02/14
Test Engineer: T. Oeur
Configuration: EUT only Y position
Mode: LTE B17 10MHz QPSK

Test Equipment:
Receiving: Horn T185, and Chamber C SMA Cables
Substitution: Horn T72 Substitution, 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								
709.00	6.00	V	0.85	0.0	5.15	34.8	-29.6	
709.00	15.06	H	0.85	0.0	14.21	34.8	-20.6	
Mid Ch								
710.00	5.31	V	0.85	0.0	4.46	34.8	-30.3	
710.00	15.53	H	0.85	0.0	14.68	34.8	-20.1	
High Ch								
711.00	5.35	V	0.85	0.0	4.50	34.8	-30.3	
711.00	16.18	H	0.85	0.0	15.33	34.8	-19.5	

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Band

LTE17

5MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc. Chamber C

Company: Sony
Project #: 14U17929
Date: 07/02/14
Test Engineer: T. Oeur
Configuration: EUT only Y position
Mode: LTE B17 5MHz 16QAM

Test Equipment:
Receiving: Horn T185, and Chamber C SMA Cables
Substitution: Horn T72 Substitution, 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								
706.50	6.30	V	0.85	0.0	5.45	34.8	-29.3	
706.50	13.80	H	0.85	0.0	12.95	34.8	-21.8	
Mid Ch								
710.00	5.55	V	0.85	0.0	4.70	34.8	-30.1	
710.00	14.69	H	0.85	0.0	13.84	34.8	-21.0	
High Ch								
713.50	5.91	V	0.85	0.0	5.06	34.8	-29.7	
713.50	15.56	H	0.85	0.0	14.71	34.8	-20.1	

Rev. 3.17.11
Note: For Band 4 EIRP limit is 30dBm

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Band

LTE17

5MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc. Chamber C

Company: Sony
Project #: 14U17929
Date: 07/02/14
Test Engineer: T. Oeur
Configuration: EUT only Y position
Mode: LTE B17 5MHz QPSK

Test Equipment:
Receiving: Horn T185, and Chamber C SMA Cables
Substitution: Horn T72 Substitution, 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								
706.50	7.29	V	0.85	0.0	6.44	34.8	-28.4	
706.50	14.68	H	0.85	0.0	13.83	34.8	-21.0	
Mid Ch								
710.00	6.66	V	0.85	0.0	5.81	34.8	-29.0	
710.00	15.85	H	0.85	0.0	15.00	34.8	-19.8	
High Ch								
713.50	6.83	V	0.85	0.0	5.98	34.8	-28.8	
713.50	16.68	H	0.85	0.0	15.83	34.8	-19.0	

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Band

LTE13

10MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc. Chamber C

Company: Sony
Project #: 14U17929
Date: 07/02/14
Test Engineer: T. Oeur
Configuration: EUT only Y position
Mode: LTE B13 10MHz 16QAM

Test Equipment:
Receiving: Horn T185, and Chamber C SMA Cables
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (SN # 245200 001) 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								
						34.8		
						34.8		
Mid Ch								
782.00	12.99	V	0.85	0.0	12.14	34.8	-22.6	
782.00	19.38	H	0.85	0.0	18.53	34.8	-16.2	
High Ch								
						34.8		
						34.8		

Rev. 3.17.11
Note: For Band 13/17 ERP limit is 34.77dBm; For Band 26 limit is 50dBm

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Band

LTE13

10MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc. Chamber C

Company: Sony
Project #: 14U17929
Date: 07/02/14
Test Engineer: T. Oeur
Configuration: EUT only Y position
Mode: LTE B13 10MHz QPSK

Test Equipment:
Receiving: Horn T185, and Chamber C SMA Cables
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (SN # 245200 001) 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								
						34.8		
						34.8		
Mid Ch								
782.00	13.62	V	0.85	0.0	12.77	34.8	-22.0	
782.00	20.55	H	0.85	0.0	19.70	34.8	-15.1	
High Ch								
						34.8		
						34.8		

Rev. 3.17.11
Note: For Band 13/17 ERP limit is 34.77dBm; For Band 26 limit is 50dBm

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Band

LTE13

5MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc. Chamber C

Company: Sony
Project #: 14U17929
Date: 07/02/14
Test Engineer: T. Oeur
Configuration: EUT only Y position
Mode: LTE B13 5MHz 16QAM

Test Equipment:
Receiving: Horn T185, and Chamber C SMA Cables
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (SN # 245200 001) 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								
779.50	12.37	V	0.85	0.0	11.52	38.5	-26.9	
779.50	19.75	H	0.85	0.0	18.90	38.5	-19.5	
Mid Ch								
782.00	12.95	V	0.85	0.0	12.10	38.5	-26.3	
782.00	18.84	H	0.85	0.0	17.99	38.5	-20.5	
High Ch								
784.50	13.27	V	0.85	0.0	12.42	38.5	-26.0	
784.50	20.20	H	0.85	0.0	19.35	38.5	-19.1	

Rev. 3.17.11
Note: For Band 13/17 ERP limit is 34.77dBm; For Band 26 limit is 50dBm

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Band

LTE13

5MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc. Chamber C

Company: Sony
Project #: 14U17929
Date: 07/02/14
Test Engineer: T. Oeur
Configuration: EUT only Y position
Mode: LTE B13 5MHz QPSK

Test Equipment:
Receiving: Horn T185, and Chamber C SMA Cables
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (SN # 245200 001) 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								
779.50	13.47	V	0.85	0.0	12.62	34.8	-22.1	
779.50	21.05	H	0.85	0.0	20.20	34.8	-14.6	
Mid Ch								
782.00	13.83	V	0.85	0.0	12.98	34.8	-21.8	
782.00	19.81	H	0.85	0.0	18.96	34.8	-15.8	
High Ch								
784.50	14.16	V	0.85	0.0	13.31	34.8	-21.5	
784.50	21.18	H	0.85	0.0	20.33	34.8	-14.4	

Rev. 3.17.11
Note: For Band 13/17 ERP limit is 34.77dBm; For Band 26 limit is 50dBm

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Band

LTE7

20MHz

16QAM

High Frequency Substitution Measurement
Compliance Certification Services Chamber C

Company: Sony
Project #: 14U17929
Date: 07/02/14
Test Engineer: R. Alegre/ Jude S.
Configuration: EUT only, X position
Mode: LTE band 7, 20MHz BW
16QAM, Average, RB1-0

Test Equipment:
Receiving: Horn T119, and Chamber C SMA Cables
Substitution: T72, 5ft SMA Cable (SN # 16795) 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								
2510.00	4.45	V	0.9	9.5	13.02	33.0	-20.0	
2510.00	12.42	H	0.9	9.5	20.99	33.0	-12.0	
Mid Ch								
2535.00	6.35	V	0.9	9.5	14.95	33.0	-18.1	
2535.00	12.26	H	0.9	9.5	20.86	33.0	-12.1	
High Ch								
2560.00	5.77	V	0.9	9.7	14.57	33.0	-18.4	
2560.00	12.34	H	0.9	9.7	21.14	33.0	-11.9	

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Band

LTE7

20MHz

QPSK

High Frequency Substitution Measurement
Compliance Certification Services Chamber C

Company: Sony
Project #: 14U17929
Date: 07/02/14
Test Engineer: R. Alegre/ Jude S.
Configuration: EUT only, X position
Mode: LTE band 7, 20MHz BW
QPSK, Average, RB1-0

Test Equipment:
Receiving: Horn T119, and Chamber C SMA Cables
Substitution: T72, 5ft SMA Cable (SN # 16795) 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								
2510.00	4.05	V	0.9	9.5	12.62	33.0	-20.4	
2510.00	12.82	H	0.9	9.5	21.39	33.0	-11.6	
Mid Ch								
2535.00	7.85	V	0.9	9.5	16.45	33.0	-16.6	
2535.00	12.97	H	0.9	9.5	21.57	33.0	-11.4	
High Ch								
2560.00	7.07	V	0.9	9.7	15.87	33.0	-17.1	
2560.00	13.22	H	0.9	9.7	22.02	33.0	-11.0	

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Band

LTE7

15MHz

16QAM

High Frequency Substitution Measurement
Compliance Certification Services Chamber C

Company: Sony
Project #: 14U17929
Date: 07/02/14
Test Engineer: O. Stoelting
Configuration: EUT only, X position
Mode: LTE band 7, 15MHz BW
16QAM, Average, RB1-0

Test Equipment:
Receiving: Horn T119, and Chamber C SMA Cables
Substitution: T72, 5ft SMA Cable (SN # 16795) 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								
2507.50	4.77	V	0.9	9.5	13.34	33.0	-19.7	
2507.50	12.57	H	0.9	9.5	21.14	33.0	-11.9	
Mid Ch								
2535.00	7.41	V	0.9	9.5	16.01	33.0	-17.0	
2535.00	12.38	H	0.9	9.5	20.98	33.0	-12.0	
High Ch								
2562.50	4.72	V	0.9	9.5	13.32	33.0	-19.7	
2562.50	12.45	H	0.9	9.5	21.05	33.0	-12.0	

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Band

LTE7

15MHz

QPSK

High Frequency Substitution Measurement
Compliance Certification Services Chamber C

Company: Sony
Project #: 14U17929
Date: 07/02/14
Test Engineer: O. Stoelting
Configuration: EUT only, X position
Mode: LTE band 7, 15MHz BW
QPSK, Average, RB1-0

Test Equipment:
Receiving: Horn T119, and Chamber C SMA Cables
Substitution: T72, 5ft SMA Cable (SN # 16795) 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								
2507.50	5.05	V	0.9	9.5	13.62	33.0	-19.4	
2507.50	13.06	H	0.9	9.5	21.63	33.0	-11.4	
Mid Ch								
2535.00	8.47	V	0.9	9.5	17.07	33.0	-15.9	
2535.00	13.15	H	0.9	9.5	21.75	33.0	-11.3	
High Ch								
2562.50	4.91	V	0.9	9.5	13.51	33.0	-19.5	
2562.50	13.45	H	0.9	9.5	22.05	33.0	-11.0	

Rev. 3.17.11

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Band

LTE7

10MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc. Chamber C

Company: Sony
Project #: 14U17929
Date: 07/02/14
Test Engineer: O. Stoelting
Configuration: EUT only, X position
Mode: LTE Band 7 16QAM, 10MHz

Test Equipment:
Receiving: Horn T119, and Chamber C SMA Cables
Substitution: T72, 5ft SMA Cable (SN # 16795) 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								
2505.00	4.88	V	0.9	9.5	13.48	33.0	-19.5	
2505.00	12.75	H	0.9	9.5	21.35	33.0	-11.7	
Mid Ch								
2535.00	6.51	V	0.9	9.5	15.11	33.0	-17.9	
2535.00	11.92	H	0.9	9.5	20.52	33.0	-12.5	
High Ch								
2565.00	3.98	V	0.9	9.5	12.58	33.0	-20.4	
2565.00	13.07	H	0.9	9.5	21.67	33.0	-11.3	

Rev. 3.17.11
Note: For Band 13/17 ERP limit is 34.77dBm; For Band 26 limit is 50dBm

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Band

LTE7

10MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc. Chamber C

Company: Sony
Project #: 14U17929
Date: 07/02/14
Test Engineer: O. Stoelting
Configuration: EUT only, X position
Mode: LTE Band 7 QPSK, 10MHz

Test Equipment:
Receiving: Horn T119, and Chamber C SMA Cables
Substitution: T72, 5ft SMA Cable (SN # 16795) 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								
2505.00	5.22	V	0.9	9.5	13.82	33.0	-19.2	
2505.00	12.78	H	0.9	9.5	21.38	33.0	-11.6	
Mid Ch								
2535.00	7.93	V	0.9	9.5	16.53	33.0	-16.5	
2535.00	12.66	H	0.9	9.5	21.26	33.0	-11.7	
High Ch								
2565.00	4.92	V	0.9	9.5	13.52	33.0	-19.5	
2565.00	14.12	H	0.9	9.5	22.72	33.0	-10.3	

Rev. 3.17.11
Note: For Band 13/17 ERP limit is 34.77dBm; For Band 26 limit is 50dBm

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Band

LTE7

5MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc. Chamber C

Company: Sony
Project #: 14U17929
Date: 07/02/14
Test Engineer: O. Stoelting
Configuration: EUT only, X position
Mode: LTE Band 7 16QAM, 5MHz

Test Equipment:
Receiving: Horn T119, and Chamber C SMA Cables
Substitution: T72, 5ft SMA Cable (SN # 16795) Warehouse.

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch								
2502.50	4.39	V	0.9	9.5	12.99	33.0	-20.0	
2502.50	12.47	H	0.9	9.5	21.07	33.0	-11.9	
Mid Ch								
2535.00	8.00	V	0.9	9.5	16.60	33.0	-16.4	
2535.00	11.69	H	0.9	9.5	20.29	33.0	-12.7	
High Ch								
2567.50	4.12	V	0.9	9.5	12.72	33.0	-20.3	
2567.50	12.55	H	0.9	9.5	21.15	33.0	-11.9	

Rev. 3.17.11
Note: For Band 4 EIRP limit is 30dBm

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Band

LTE7

5MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc. Chamber C

Company: Sony
Project #: 14U17929
Date: 07/02/14
Test Engineer: O. Stoelting
Configuration: EUT only, X position
Mode: LTE Band 7 QPSK, 5MHz

Test Equipment:
Receiving: Horn T119, and Chamber C SMA Cables
Substitution: T72, 5ft SMA Cable (SN # 16795) 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								
2502.50	5.27	V	0.9	9.5	13.87	33.0	-19.1	
2502.50	13.17	H	0.9	9.5	21.77	33.0	-11.2	
Mid Ch								
2535.00	7.60	V	0.9	9.5	16.20	33.0	-16.8	
2535.00	12.77	H	0.9	9.5	21.37	33.0	-11.6	
High Ch								
2567.50	4.14	V	0.9	9.5	12.74	33.0	-20.3	
2567.50	13.78	H	0.9	9.5	22.38	33.0	-10.6	

Rev. 3.17.11
Note: For Band 13/17 ERP limit is 34.77dBm; For Band 26 limit is 50dBm

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Band

LTE5

10MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc. Chamber C

Company: Sony
Project #: 14U17929
Date: 07/2/14
Test Engineer: R. Alegre/ Jude S.
Configuration: EUT ONLY/ Y Orientation
Mode: LTE5 10MHz FUND 16QAM

Test Equipment:
Receiving: Sunol T185, and 3m Chamber N-type Cable (Setup this one for testing EUT)
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (SN # 245200 001) 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								
829.00	9.40	V	0.9	0.0	8.50	38.5	-29.9	
829.00	18.91	H	0.9	0.0	18.01	38.5	-20.4	
Mid Ch								
836.50	8.51	V	0.9	0.0	7.61	38.5	-30.8	
836.50	19.20	H	0.9	0.0	18.30	38.5	-20.1	
High Ch								
844.00	7.67	V	0.9	0.0	6.77	38.5	-31.7	
844.00	19.75	H	0.9	0.0	18.85	38.5	-19.6	

Rev. 3.17.11
Note: For Band 13/17 ERP limit is 34.77dBm; For Band 26 limit is 50dBm

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High Frequency Substitution Measurement
UL Verification Services, Inc. Chamber C

Company: Sony
Project #: 14U17929
Date: 07/2/14
Test Engineer: R. Alegre/ Jude S.
Configuration: EUT ONLY/ Y Orientation
Mode: LTE5 10MHz FUND QPSK

Band

LTE5

10MHz

QPSK

Test Equipment:
Receiving: Sunol T185, and 3m Chamber N-type Cable (Setup this one for testing EUT)
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (SN # 245200 001) 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								
829.00	10.05	V	0.9	0.0	9.15	38.5	-29.3	
829.00	19.76	H	0.9	0.0	18.86	38.5	-19.6	
Mid Ch								
836.50	9.39	V	0.9	0.0	8.49	38.5	-30.0	
836.50	20.07	H	0.9	0.0	19.17	38.5	-19.3	
High Ch								
844.00	8.37	V	0.9	0.0	7.47	38.5	-31.0	
844.00	20.63	H	0.9	0.0	19.73	38.5	-18.7	

Rev. 3.17.11
Note: For Band 13/17 ERP limit is 34.77dBm; For Band 26 limit is 50dBm

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Band

LTE5

5MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc. Chamber C

Company: Sony
Project #: 14U17929
Date: 07/2/14
Test Engineer: R. Alegre/ Jude S.
Configuration: EUT ONLY/ Y Orientation
Mode: LTE5 5MHz FUND 16QAM

Test Equipment:
Receiving: Sunol T185, and 3m Chamber N-type Cable (Setup this one for testing EUT)
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (SN # 245200 001) 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								
826.50	8.42	V	0.9	0.0	7.52	38.5	-30.9	
826.50	18.57	H	0.9	0.0	17.67	38.5	-20.8	
Mid Ch								
836.50	8.28	V	0.9	0.0	7.38	38.5	-31.1	
836.50	19.17	H	0.9	0.0	18.27	38.5	-20.2	
High Ch								
846.50	7.41	V	0.9	0.0	6.51	38.5	-31.9	
846.50	19.00	H	0.9	0.0	18.10	38.5	-20.3	

Rev. 3.17.11
Note: For Band 13/17 ERP limit is 34.77dBm; For Band 26 limit is 50dBm

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Band

LTE5

5MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc. Chamber C

Company: Sony
Project #: 14U17929
Date: 07/2/14
Test Engineer: R. Alegre/ Jude S.
Configuration: EUT ONLY/ Y Orientation
Mode: LTE5 5MHz FUND QPSK

Test Equipment:
Receiving: Sunol T185, and 3m Chamber N-type Cable (Setup this one for testing EUT)
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (SN # 245200 001) 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								
826.50	8.91	V	0.9	0.0	8.01	38.5	-30.4	
826.50	19.56	H	0.9	0.0	18.66	38.5	-19.8	
Mid Ch								
836.50	8.76	V	0.9	0.0	7.86	38.5	-30.6	
836.50	20.10	H	0.9	0.0	19.20	38.5	-19.2	
High Ch								
846.50	8.08	V	0.9	0.0	7.18	38.5	-31.3	
846.50	19.63	H	0.9	0.0	18.73	38.5	-19.7	

Rev. 3.17.11
Note: For Band 13/17 ERP limit is 34.77dBm; For Band 26 limit is 50dBm

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Band

LTE5

3MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc. Chamber C

Company: Sony
Project #: 14U17929
Date: 07/2/14
Test Engineer: R. Alegre/ Jude S.
Configuration: EUT ONLY/ Y Orientation
Mode: LTE5 3MHz FUND 16QAM

Test Equipment:
Receiving: Hybrid T185
Substitution: Dipole S/N: 00022117, 5ft SMA Cable (SN# 16795) 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								
825.50	9.60	V	0.9	0.0	8.70	38.5	-29.7	
825.50	18.47	H	0.9	0.0	17.57	38.5	-20.9	
Mid Ch								
836.50	8.43	V	0.9	0.0	7.53	38.5	-30.9	
836.50	19.06	H	0.9	0.0	18.16	38.5	-20.3	
High Ch								
847.50	8.28	V	0.9	0.0	7.38	38.5	-31.1	
847.50	18.97	H	0.9	0.0	18.07	38.5	-20.4	

Rev. 3.17.11
Note: For Band 13/17 ERP limit is 34.77dBm; For Band 26 limit is 50dBm

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Band

LTE5

3MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc. Chamber C

Company: Sony
Project #: 14U17929
Date: 07/2/14
Test Engineer: R. Alegre/ Jude S.
Configuration: EUT ONLY/ Y Orientation
Mode: LTE5 3MHz FUND QPSK

Test Equipment:
Receiving: Hybrid T185
Substitution: Dipole S/N: 00022117, 5ft SMA Cable (SN# 16795) 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								
825.50	9.93	V	0.9	0.0	9.03	38.5	-29.4	
825.50	19.64	H	0.9	0.0	18.74	38.5	-19.7	
Mid Ch								
836.50	9.03	V	0.9	0.0	8.13	38.5	-30.3	
836.50	19.92	H	0.9	0.0	19.02	38.5	-19.4	
High Ch								
847.50	8.77	V	0.9	0.0	7.87	38.5	-30.6	
847.50	19.77	H	0.9	0.0	18.87	38.5	-19.6	

Rev. 3.17.11
Note: For Band 13/17 ERP limit is 34.77dBm; For Band 26 limit is 50dBm

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Band

LTE5

1.4MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc. Chamber C

Company: Sony
Project #: 14U17929
Date: 07/2/14
Test Engineer: R. Alegre/ Jude S.
Configuration: EUT ONLY/ Y Orientation
Mode: LTE5 1.4MHz FUND 16QAM

Test Equipment:
Receiving: Hybrid T185
Substitution: Dipole S/N: 00022117, 5ft SMA Cable (SN# 16795) 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	9.53	V	0.9	0.0	8.63	38.5	-29.8	
824.70	17.94	H	0.9	0.0	17.04	38.5	-21.4	
Mid Ch								
836.50	8.55	V	0.9	0.0	7.65	38.5	-30.8	
836.50	18.99	H	0.9	0.0	18.09	38.5	-20.4	
High Ch								
848.30	8.25	V	0.9	0.0	7.35	38.5	-31.1	
848.30	18.91	H	0.9	0.0	18.01	38.5	-20.4	

Rev. 3.17.11
Note: For Band 13/17 ERP limit is 34.77dBm; For Band 26 limit is 50dBm

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Band

LTE5

1.4MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc. Chamber C

Company: Sony
Project #: 14U17929
Date: 07/2/14
Test Engineer: R. Alegre/ Jude S.
Configuration: EUT ONLY/ Y Orientation
Mode: LTE5 1.4MHz FUND QPSK

Test Equipment:
Receiving: Hybrid T185
Substitution: Dipole S/N: 00022117, 5ft SMA Cable (SN# 16795) 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	10.33	V	0.9	0.0	9.43	38.5	-29.0	
824.70	18.96	H	0.9	0.0	18.06	38.5	-20.4	
Mid Ch								
836.50	9.53	V	0.9	0.0	8.63	38.5	-29.8	
836.50	20.12	H	0.9	0.0	19.22	38.5	-19.2	
High Ch								
848.30	9.41	V	0.9	0.0	8.51	38.5	-29.9	
848.30	19.85	H	0.9	0.0	18.95	38.5	-19.5	

Rev. 3.17.11
Note: For Band 13/17 ERP limit is 34.77dBm; For Band 26 limit is 50dBm

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Band

LTE4

20MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc. Chamber C

Company: Sony
Project #: 14U17929
Date: 07/01/14
Test Engineer: T. Oeur
Configuration: EUT only X position
Mode: LTE B4 20MHz 16QAM

Test Equipment:
Receiving: Horn T119, and Chamber C SMA Cables
Substitution: Horn T72 Substitution, 4ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch								
1720.00	10.67	V	0.85	7.9	17.72	30.0	-12.3	
1720.00	14.78	H	0.85	7.9	21.83	30.0	-8.2	
Mid Ch								
1732.50	9.34	V	0.85	7.9	16.39	30.0	-13.6	
1732.50	16.22	H	0.85	7.9	23.27	30.0	-6.7	
High Ch								
1745.00	9.10	V	0.85	7.9	16.15	30.0	-13.9	
1745.00	13.86	H	0.85	7.9	20.91	30.0	-9.1	

Rev. 3.17.11
Note: For Band 4 EIRP limit is 30dBm

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Band

LTE4

20MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc. Chamber C

Company: Sony
Project #: 14U17929
Date: 07/01/14
Test Engineer: T. Oeur
Configuration: EUT only X position
Mode: LTE B4 20MHz QPSK

Test Equipment:
Receiving: Horn T119, and Chamber C SMA Cables
Substitution: Horn T72 Substitution, 4ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch								
1720.00	11.57	V	0.85	7.9	18.62	30.0	-11.4	
1720.00	15.36	H	0.85	7.9	22.41	30.0	-7.6	
Mid Ch								
1732.50	10.23	V	0.85	7.9	17.28	30.0	-12.7	
1732.50	16.46	H	0.85	7.9	23.51	30.0	-6.5	
High Ch								
1745.00	10.41	V	0.85	7.9	17.46	30.0	-12.5	
1745.00	15.58	H	0.85	7.9	22.63	30.0	-7.4	

Rev. 3.17.11
Note: For Band 4 EIRP limit is 30dBm

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Band

LTE4

15MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc. Chamber C

Company: Sony
Project #: 14U17929
Date: 07/01/14
Test Engineer: T. Oeur
Configuration: EUT only X position
Mode: LTE B4 15MHz 16QAM

Test Equipment:
Receiving: Horn T119, and Chamber C SMA Cables
Substitution: Horn T72 Substitution, 4ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch								
1717.50	11.46	V	0.85	7.9	18.51	30.0	-11.5	
1717.50	14.51	H	0.85	7.9	21.56	30.0	-8.4	
Mid Ch								
1732.50	8.76	V	0.85	7.9	15.81	30.0	-14.2	
1732.50	16.09	H	0.85	7.9	23.14	30.0	-6.9	
High Ch								
1747.50	8.35	V	0.85	7.9	15.40	30.0	-14.6	
1747.50	16.24	H	0.85	7.9	23.29	30.0	-6.7	

Rev. 3.17.11
Note: For Band 4 EIRP limit is 30dBm

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Band

LTE4

15MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc. Chamber C

Company: Sony
Project #: 14U17929
Date: 07/01/14
Test Engineer: T. Oeur
Configuration: EUT only X position
Mode: LTE B4 15MHz QPSK

Test Equipment:
Receiving: Horn T119, and Chamber C SMA Cables
Substitution: Horn T72 Substitution, 4ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch								
1717.50	12.61	V	0.85	7.9	19.66	30.0	-10.3	
1717.50	15.94	H	0.85	7.9	22.99	30.0	-7.0	
Mid Ch								
1732.50	9.63	V	0.85	7.9	16.68	30.0	-13.3	
1732.50	16.32	H	0.85	7.9	23.37	30.0	-6.6	
High Ch								
1747.50	9.89	V	0.85	7.9	16.94	30.0	-13.1	
1747.50	15.84	H	0.85	7.9	22.89	30.0	-7.1	

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