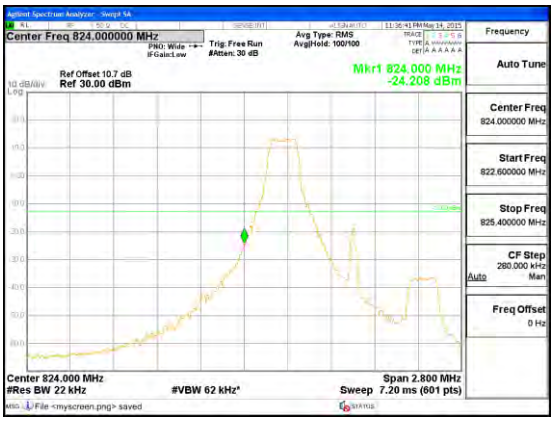
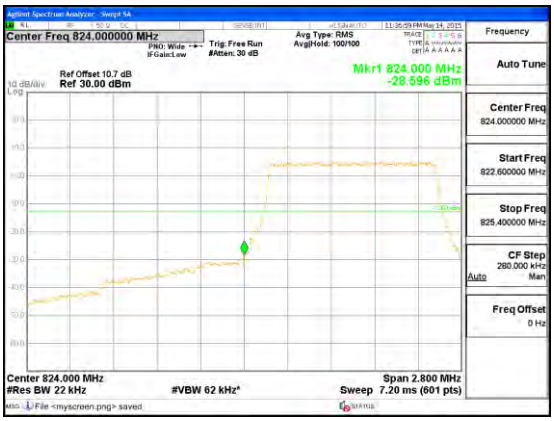
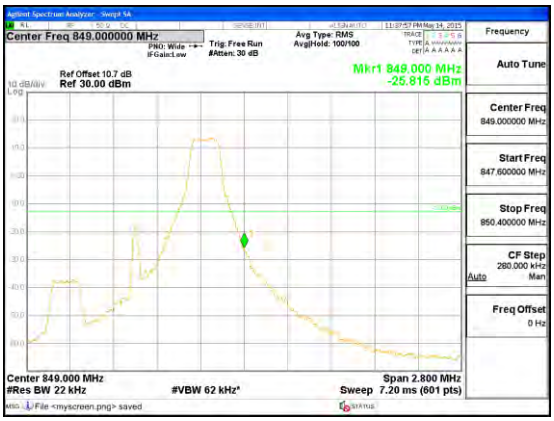
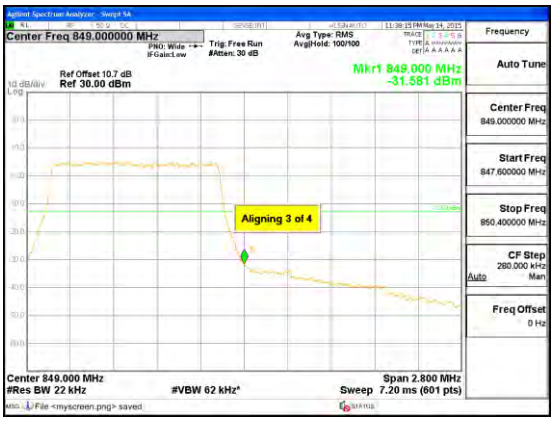
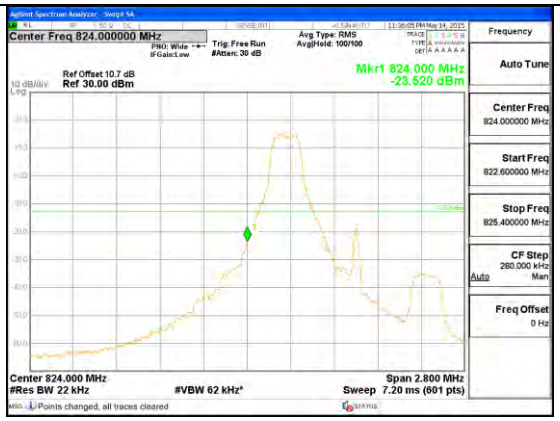
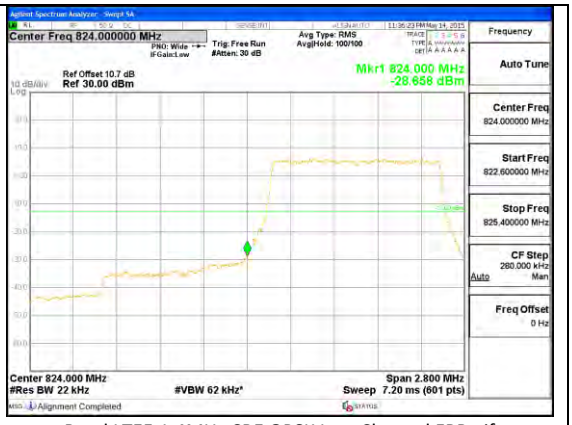
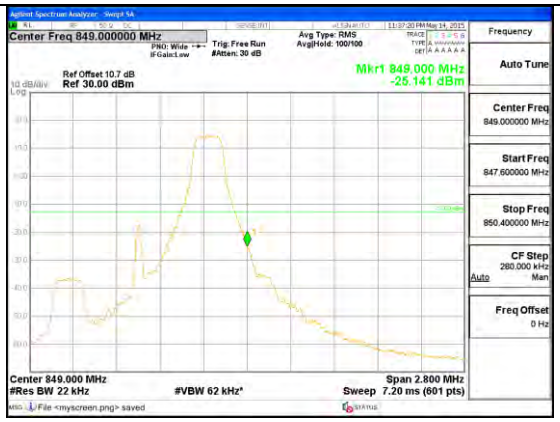
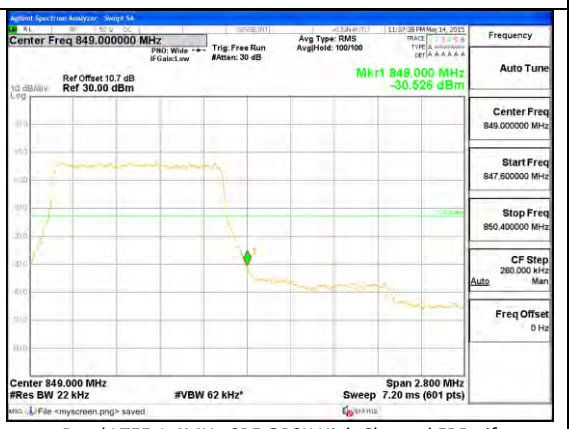
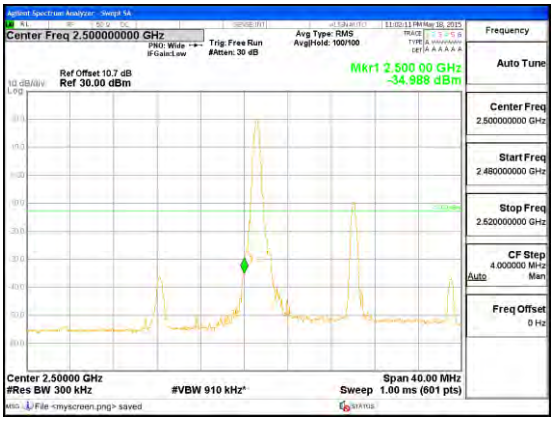
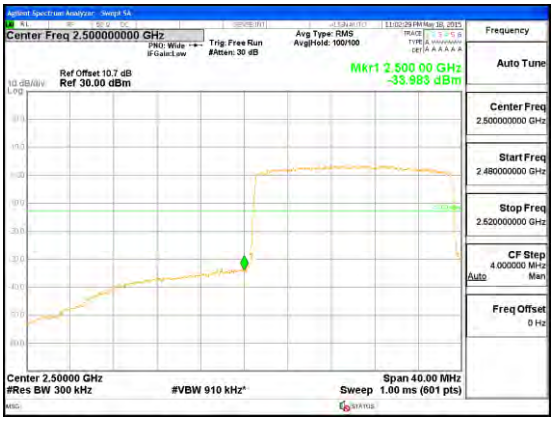
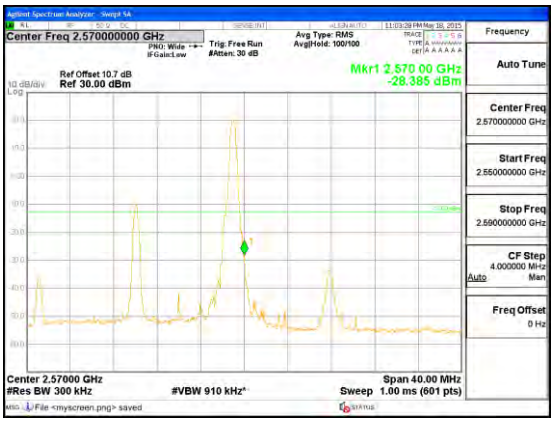
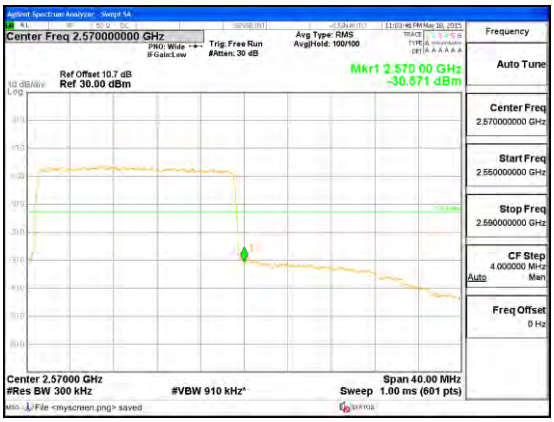
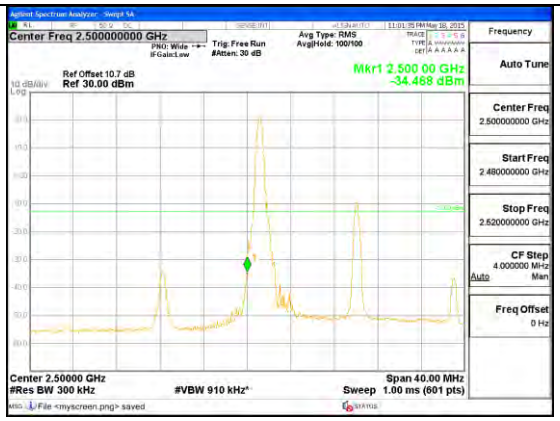
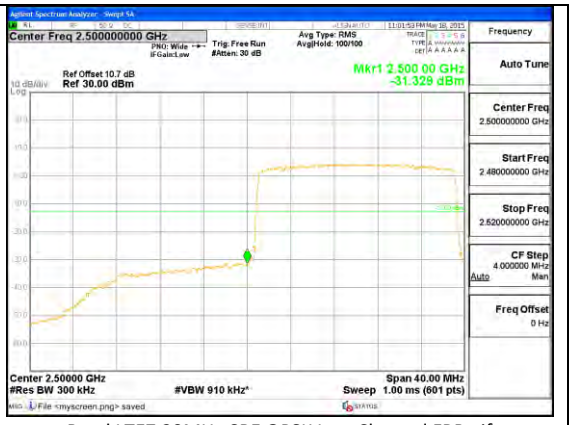
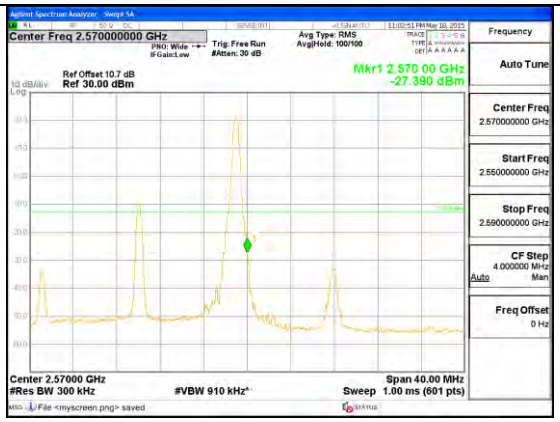
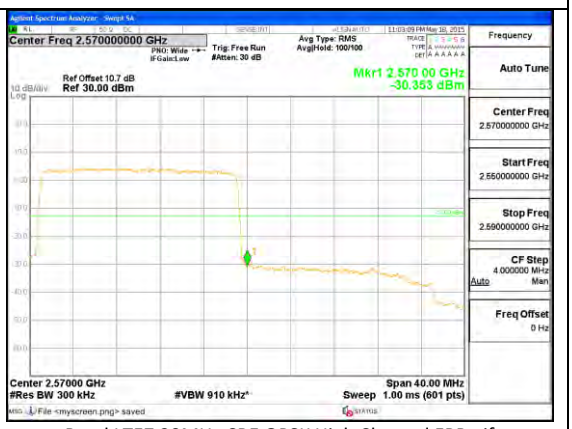
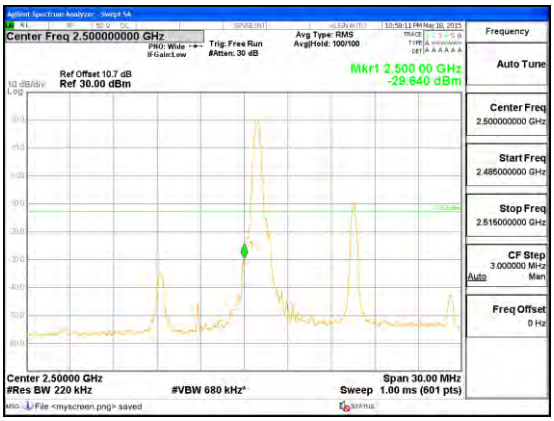
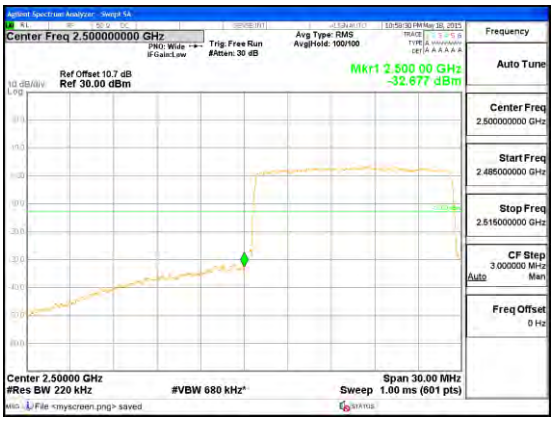
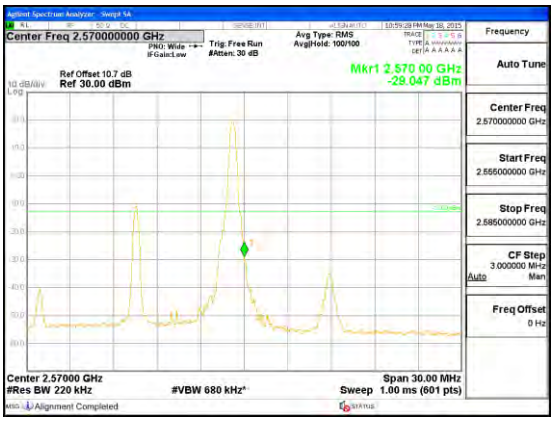
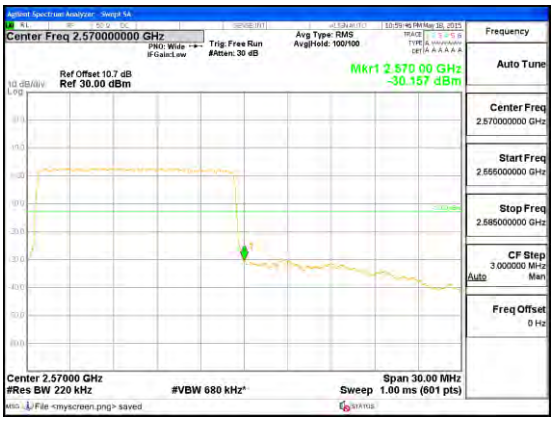
Band LTE5 1.4MHz 16QAM	 Band LTE5 1.4MHz CBE 16QAM Low Channel 1RB.gif	 Band LTE5 1.4MHz CBE 16QAM Low Channel FRB.gif
Band LTE5 1.4MHz 16QAM	 Band LTE5 1.4MHz CBE 16QAM High Channel 1RB.gif	 Band LTE5 1.4MHz CBE 16QAM High Channel FRB.gif

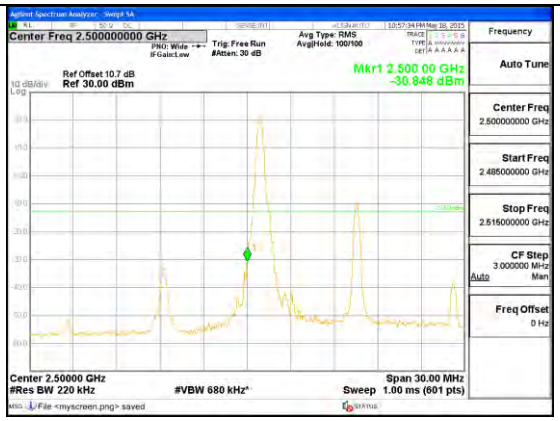
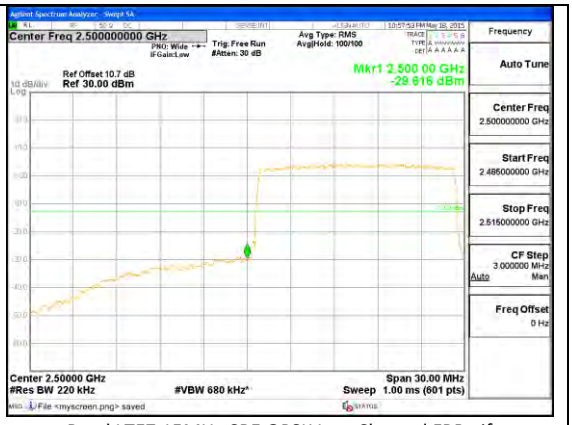
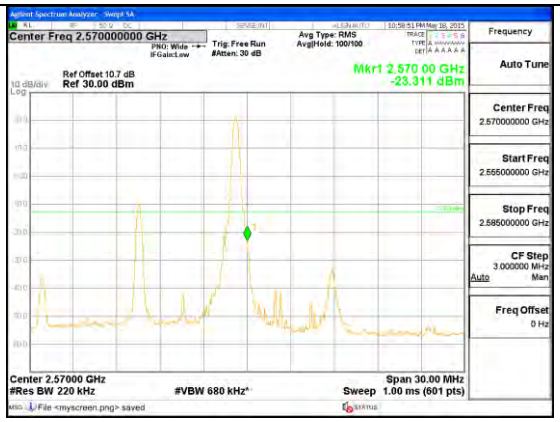
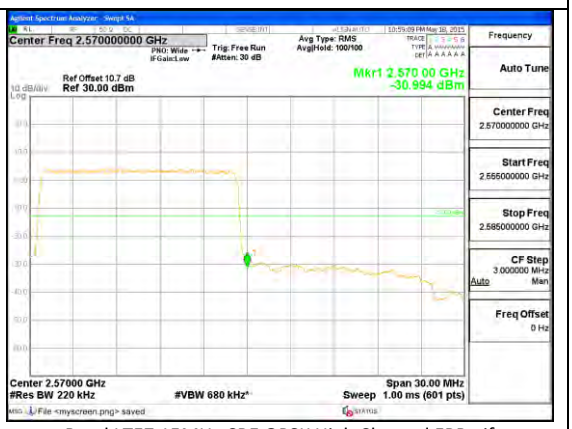
Band LTE5 1.4MHz QPSK	 Band LTE5 1.4MHz CBE QPSK Low Channel 1RB.gif	 Band LTE5 1.4MHz CBE QPSK Low Channel FRB.gif
Band LTE5 1.4MHz QPSK	 Band LTE5 1.4MHz CBE QPSK High Channel 1RB.gif	 Band LTE5 1.4MHz CBE QPSK High Channel FRB.gif

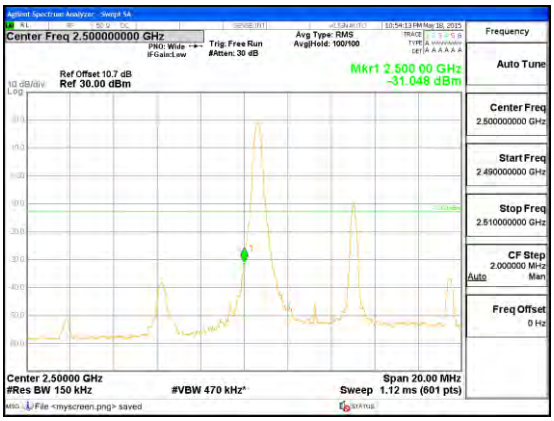
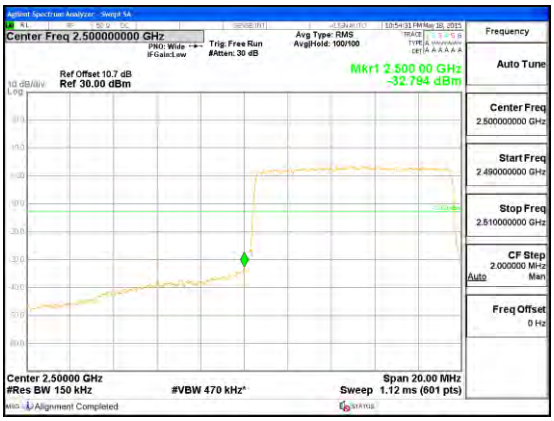
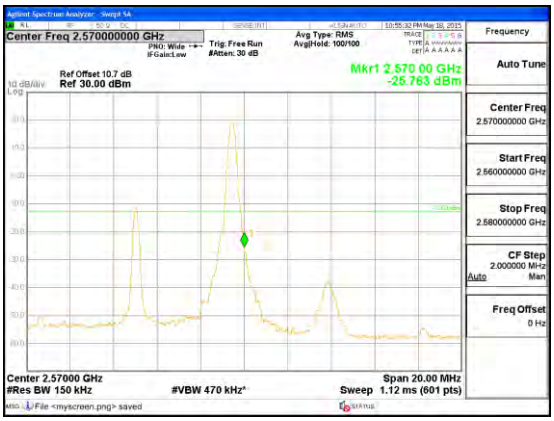
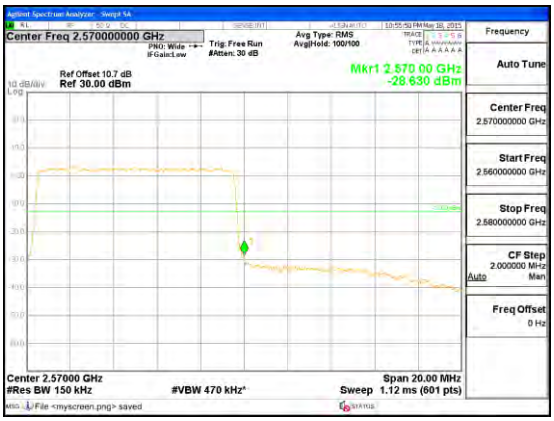
LTE Band 7

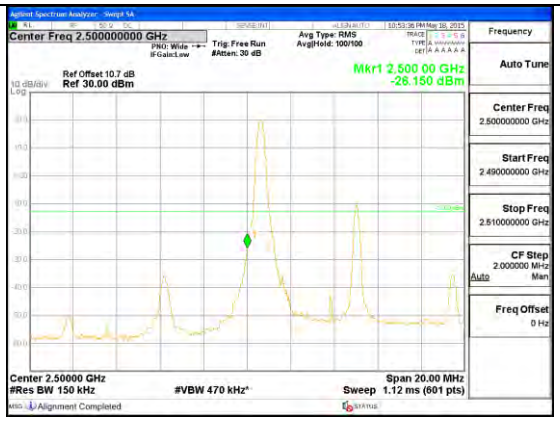
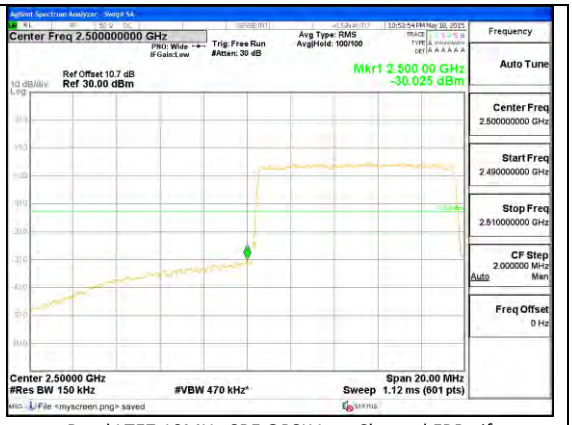
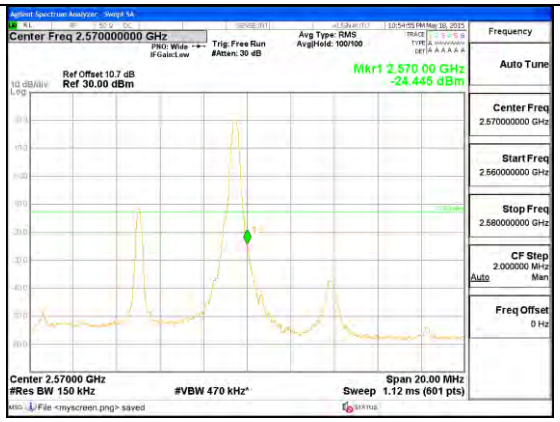
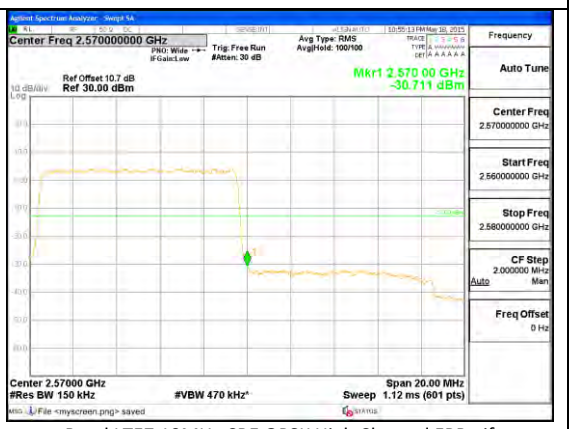
Band LTE7 20MHz 16QAM	 Band LTE7 20MHz CBE 16QAM Low Channel 1RB.gif	 Band LTE7 20MHz CBE 16QAM Low Channel FRB.gif
Band LTE7 20MHz 16QAM	 Band LTE7 20MHz CBE 16QAM High Channel 1RB.gif	 Band LTE7 20MHz CBE 16QAM High Channel FRB.gif

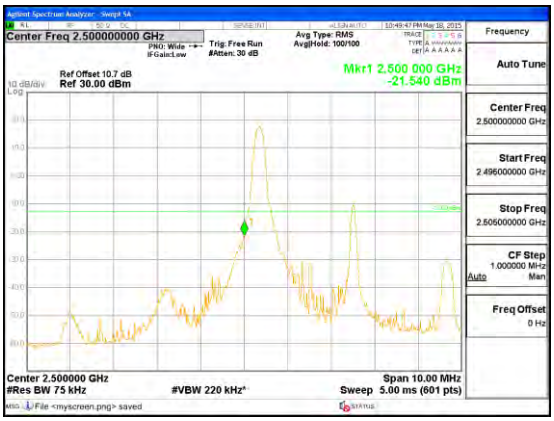
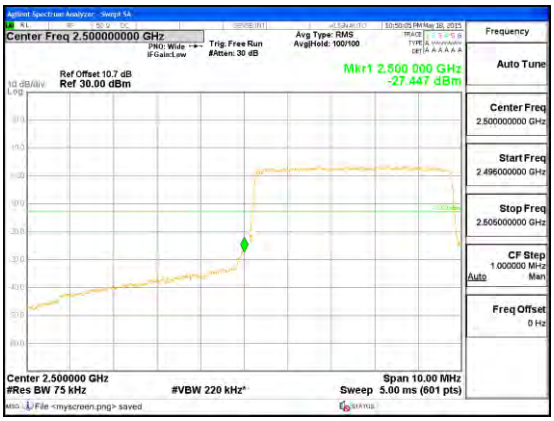
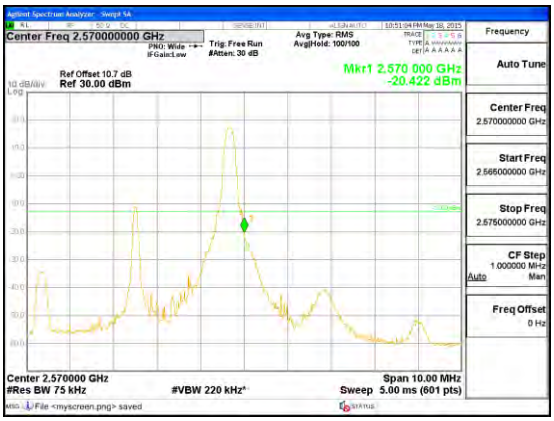
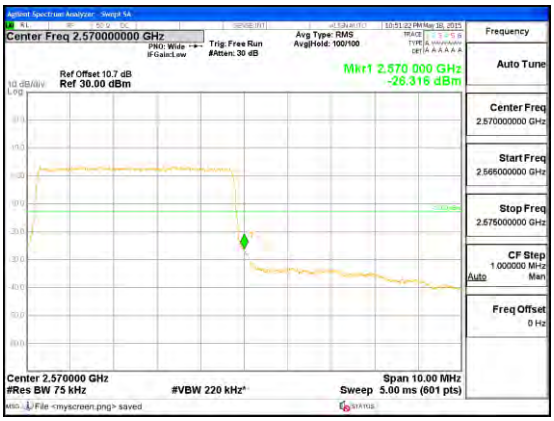
Band LTE7 20MHz QPSK	 Band LTE7 20MHz CBE QPSK Low Channel 1RB.gif	 Band LTE7 20MHz CBE QPSK Low Channel FRB.gif
Band LTE7 20MHz QPSK	 Band LTE7 20MHz CBE QPSK High Channel 1RB.gif	 Band LTE7 20MHz CBE QPSK High Channel FRB.gif

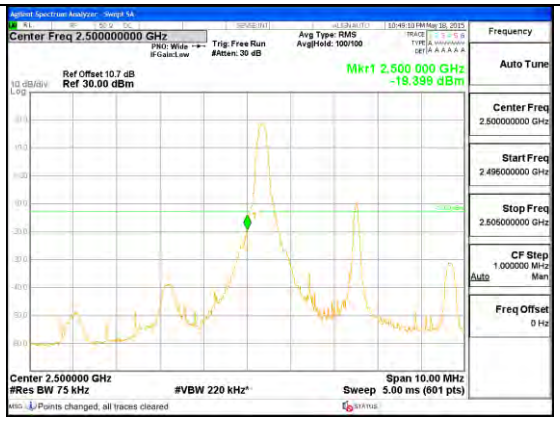
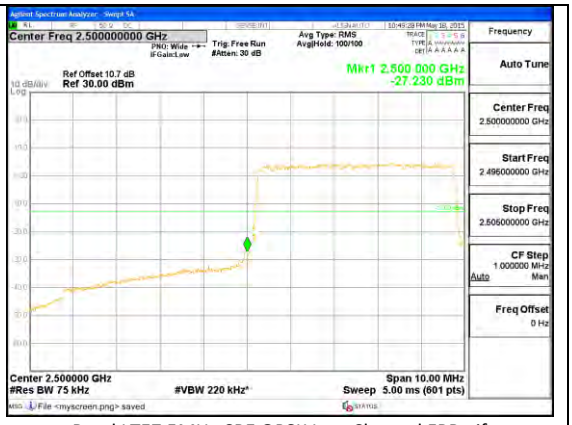
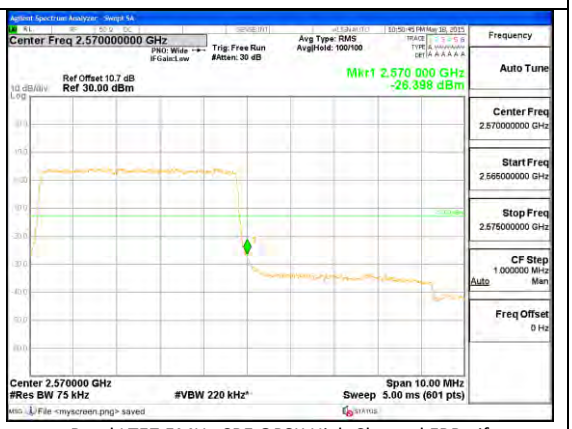
Band LTE7 15MHz 16QAM	 Band LTE7 15MHz CBE 16QAM Low Channel 1RB.gif	 Band LTE7 15MHz CBE 16QAM Low Channel FRB.gif
Band LTE7 15MHz 16QAM	 Band LTE7 15MHz CBE 16QAM High Channel 1RB.gif	 Band LTE7 15MHz CBE 16QAM High Channel FRB.gif

Band LTE7 15MHz QPSK	 Band LTE7 15MHz CBE QPSK Low Channel 1RB.gif	 Band LTE7 15MHz CBE QPSK Low Channel FRB.gif
Band LTE7 15MHz QPSK	 Band LTE7 15MHz CBE QPSK High Channel 1RB.gif	 Band LTE7 15MHz CBE QPSK High Channel FRB.gif

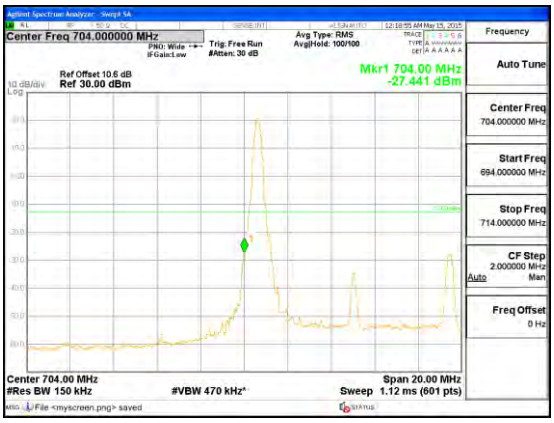
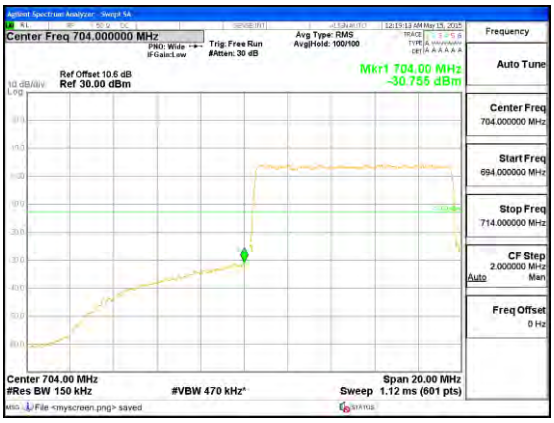
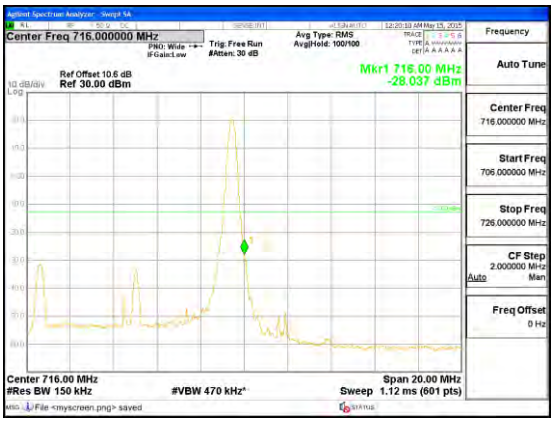
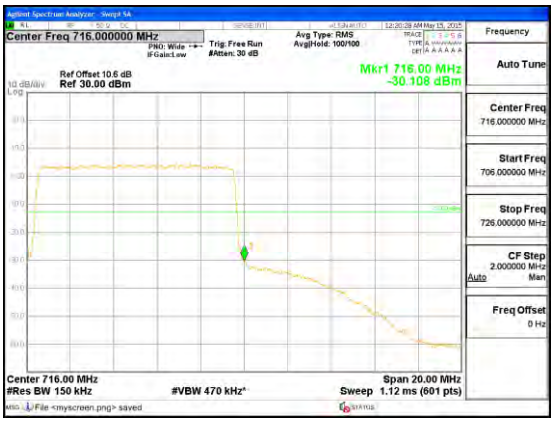
Band LTE7 10MHz 16QAM	 Band LTE7 10MHz CBE 16QAM Low Channel 1RB.gif	 Band LTE7 10MHz CBE 16QAM Low Channel FRB.gif
Band LTE7 10MHz 16QAM	 Band LTE7 10MHz CBE 16QAM High Channel 1RB.gif	 Band LTE7 10MHz CBE 16QAM High Channel FRB.gif

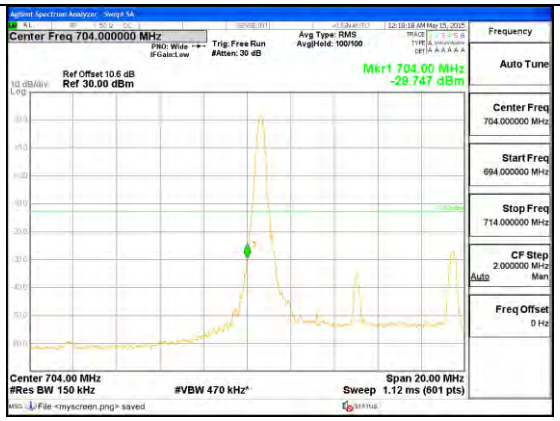
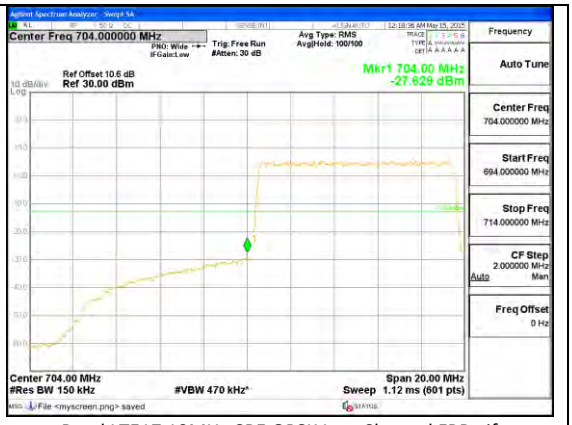
Band LTE7 10MHz QPSK	 Band LTE7 10MHz CBE QPSK Low Channel 1RB.gif	 Band LTE7 10MHz CBE QPSK Low Channel FRB.gif
Band LTE7 10MHz QPSK	 Band LTE7 10MHz CBE QPSK High Channel 1RB.gif	 Band LTE7 10MHz CBE QPSK High Channel FRB.gif

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

LTE Band 17

Band LTE17 10MHz 16QAM	 Band LTE17 10MHz CBE 16QAM Low Channel 1RB.gif	 Band LTE17 10MHz CBE 16QAM Low Channel FRB.gif
Band LTE17 10MHz 16QAM	 Band LTE17 10MHz CBE 16QAM High Channel 1RB.gif	 Band LTE17 10MHz CBE 16QAM High Channel FRB.gif

Band LTE17 10MHz QPSK		
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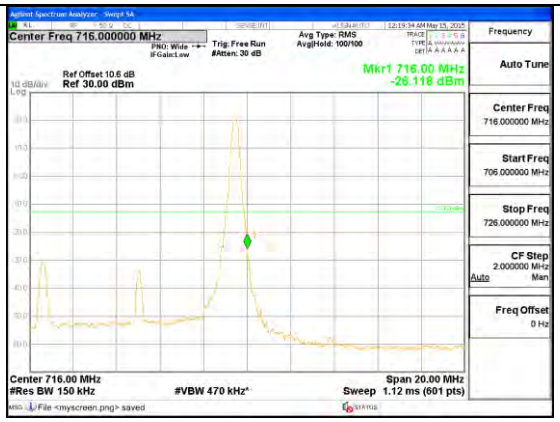
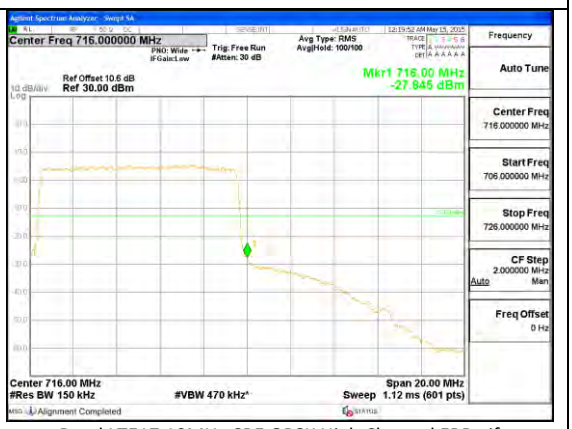
Band LTE17 10MHz QPSK		
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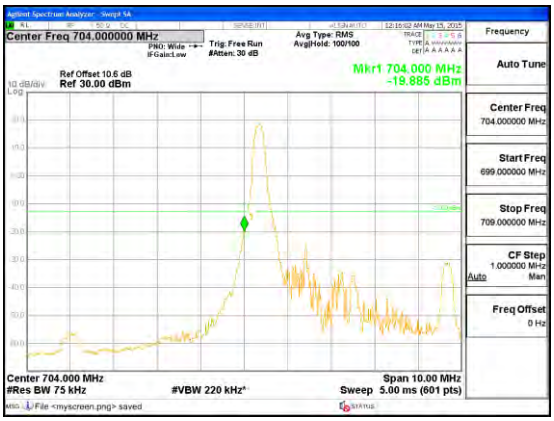
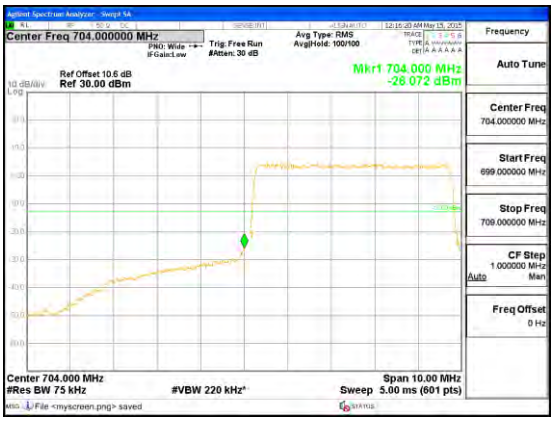
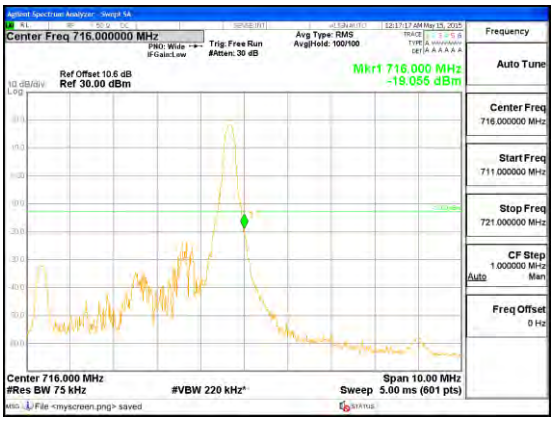
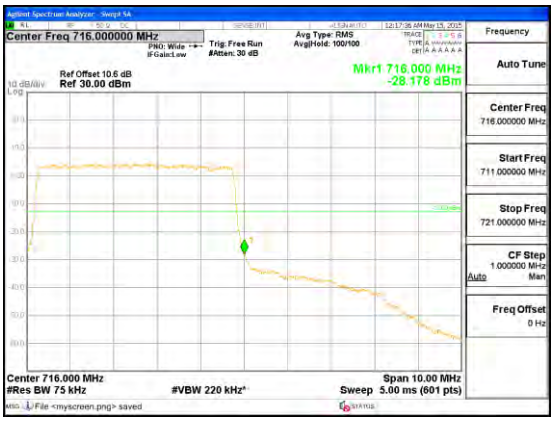
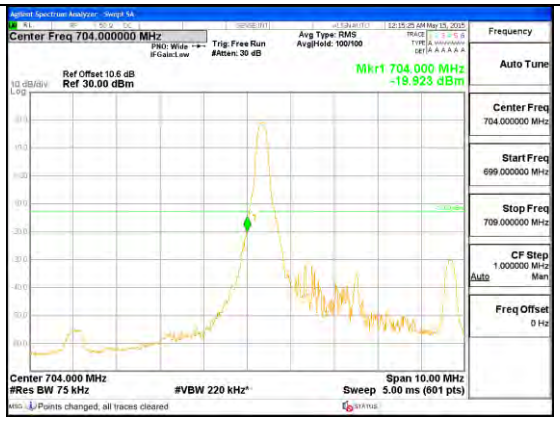
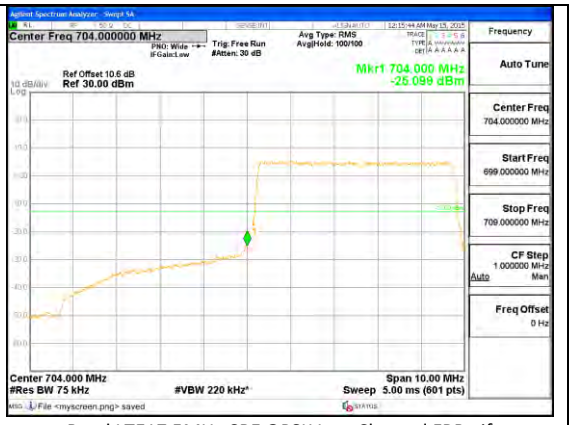
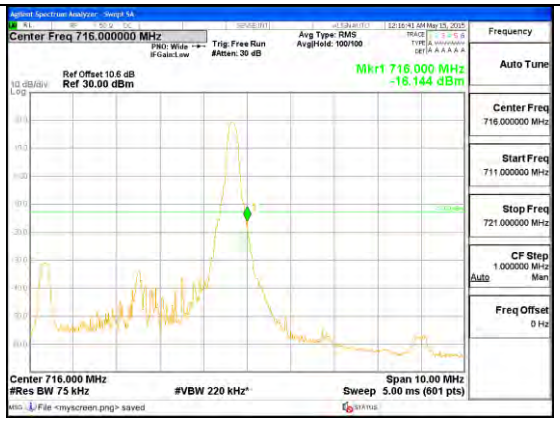
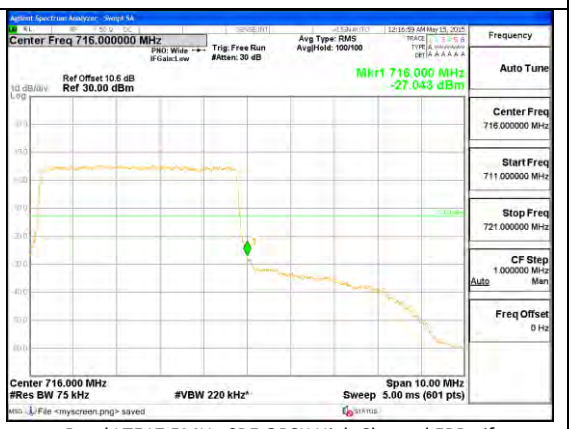
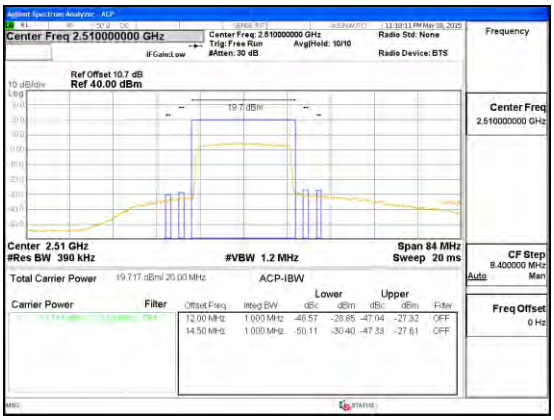
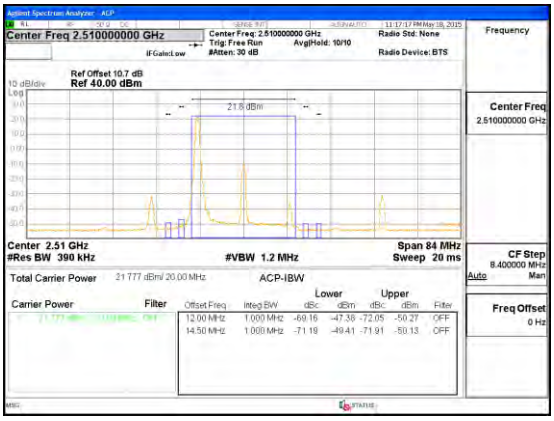
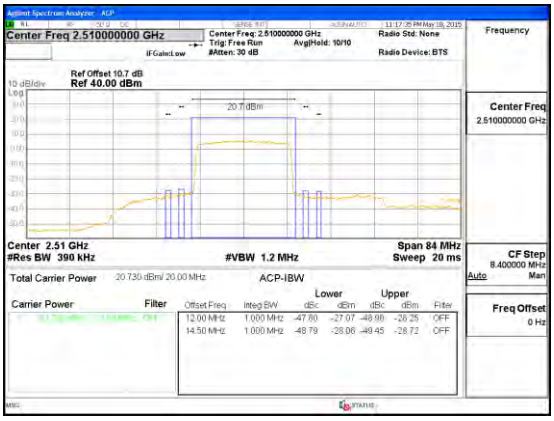
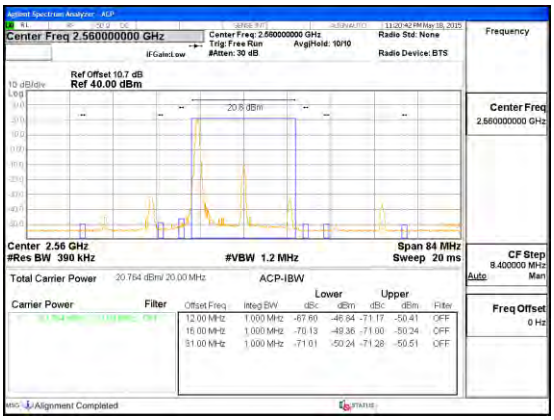
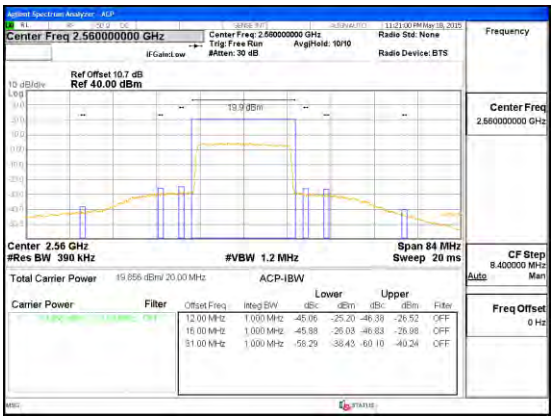
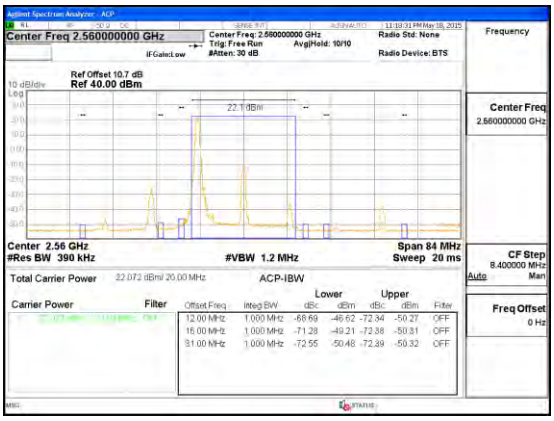
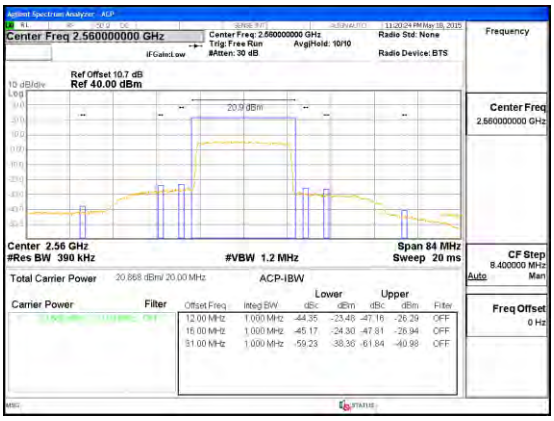
Band LTE17 5MHz 16QAM	 Band LTE17 5MHz CBE 16QAM Low Channel 1RB.gif	 Band LTE17 5MHz CBE 16QAM Low Channel FRB.gif
Band LTE17 5MHz 16QAM	 Band LTE17 5MHz CBE 16QAM High Channel 1RB.gif	 Band LTE17 5MHz CBE 16QAM High Channel FRB.gif

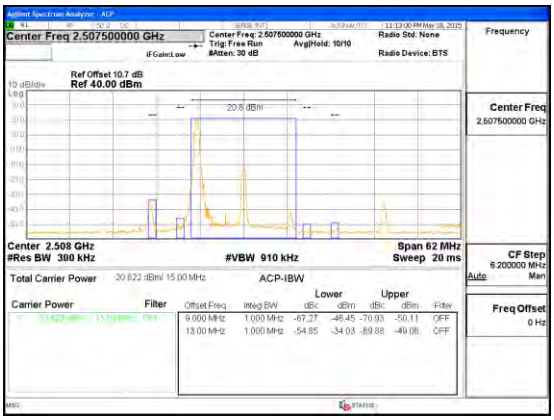
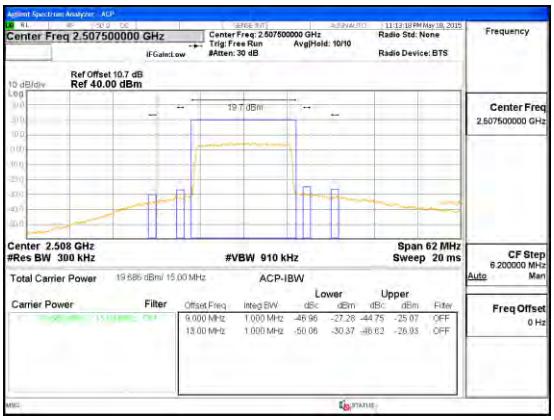
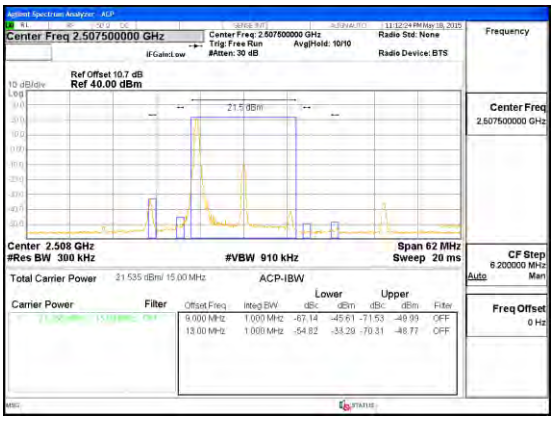
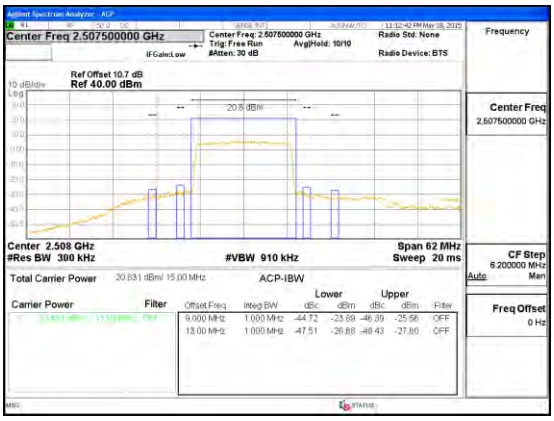
Band LTE17 5MHz QPSK	 Band LTE17 5MHz CBE QPSK Low Channel 1RB.gif	 Band LTE17 5MHz CBE QPSK Low Channel FRB.gif
Band LTE17 5MHz QPSK	 Band LTE17 5MHz CBE QPSK High Channel 1RB.gif	 Band LTE17 5MHz CBE QPSK High Channel FRB.gif

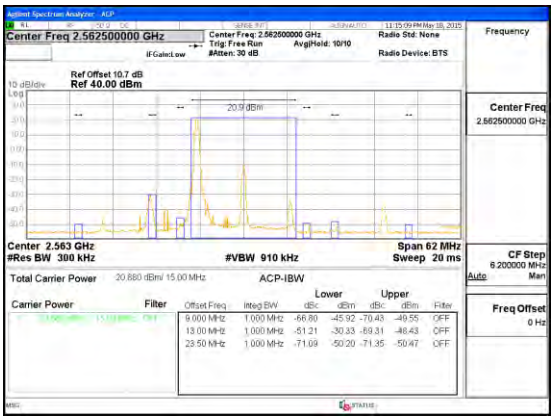
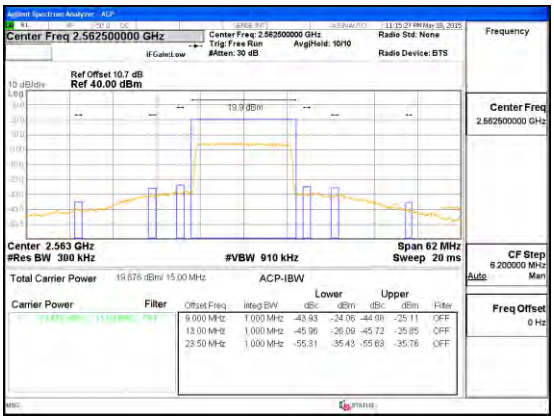
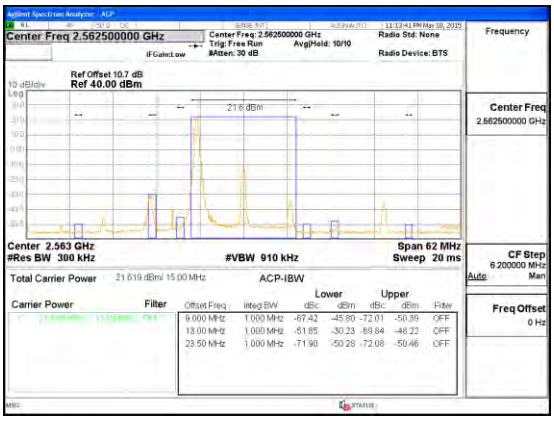
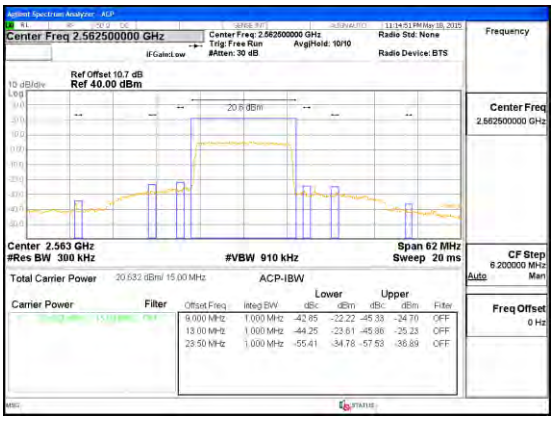
10.2.2. EMISSION MASK PLOTS

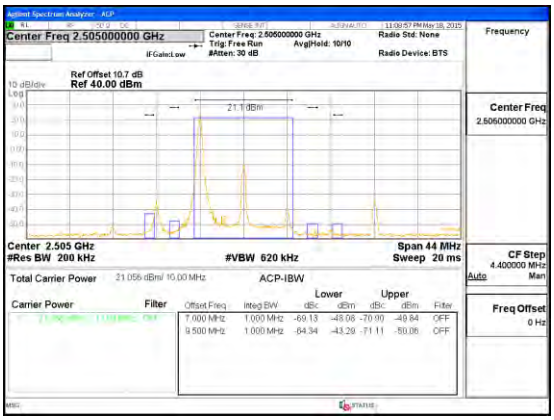
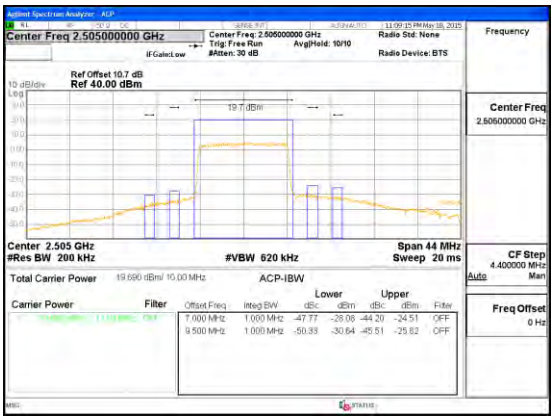
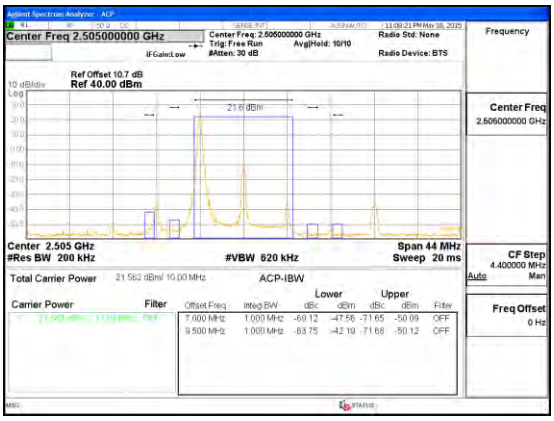
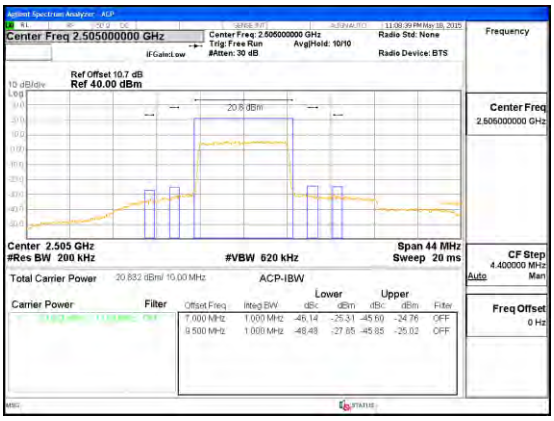
LTE Band 7

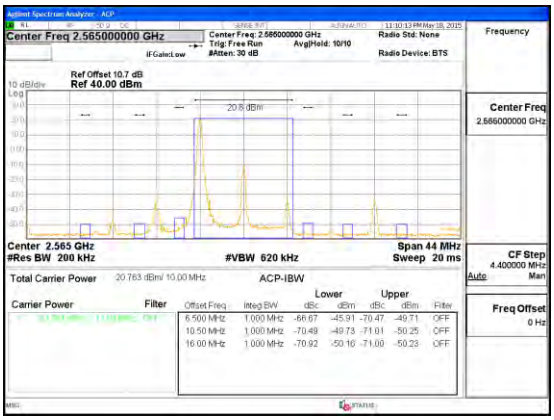
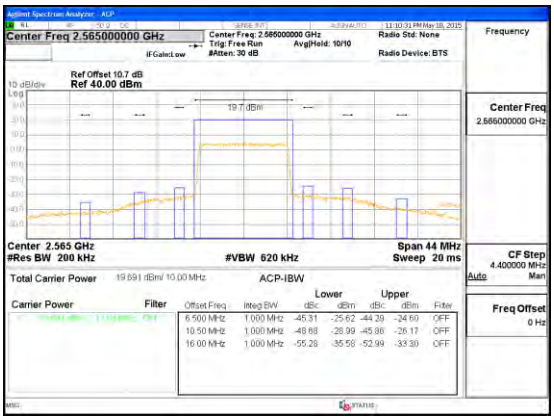
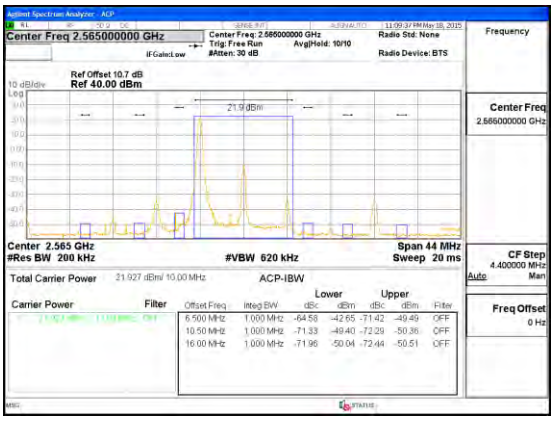
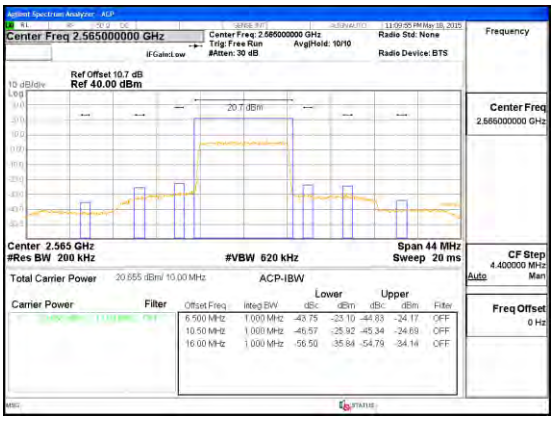
Band LTE7 20MHz 16QAM	 Band LTE7 20MHz EM 16QAM Low Channel 1RB.gif	 Band LTE7 20MHz EM 16QAM Low Channel FRB.gif
Band LTE7 20MHz QPSK	 Band LTE7 20MHz EM QPSK Low Channel 1RB.gif	 Band LTE7 20MHz EM QPSK Low Channel FRB.gif

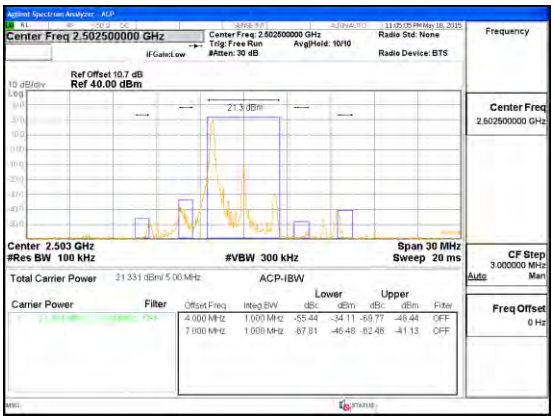
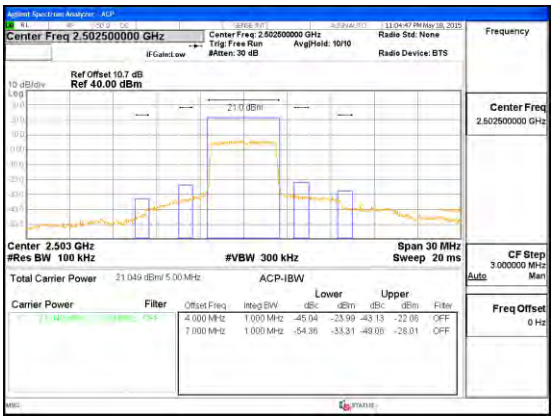
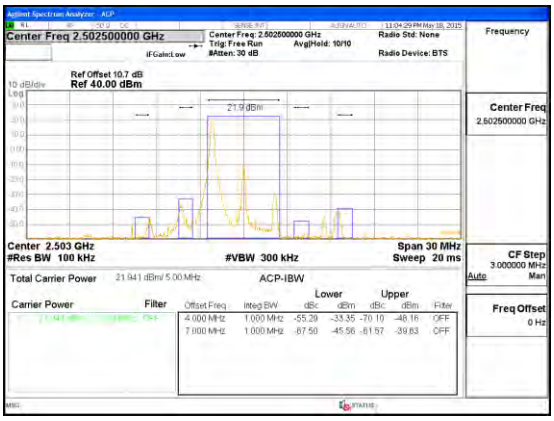
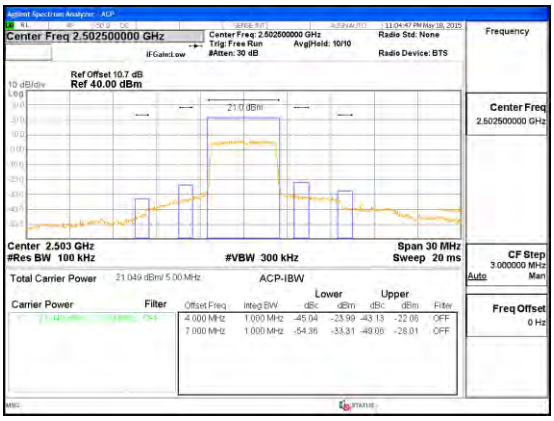
Band LTE7 20MHz 16QAM	 Band LTE7 20MHz EM 16QAM High Channel 1RB.gif	 Band LTE7 20MHz EM 16QAM High Channel FRB.gif
Band LTE7 20MHz QPSK	 Band LTE7 20MHz EM QPSK High Channel 1RB.gif	 Band LTE7 20MHz EM QPSK High Channel FRB.gif

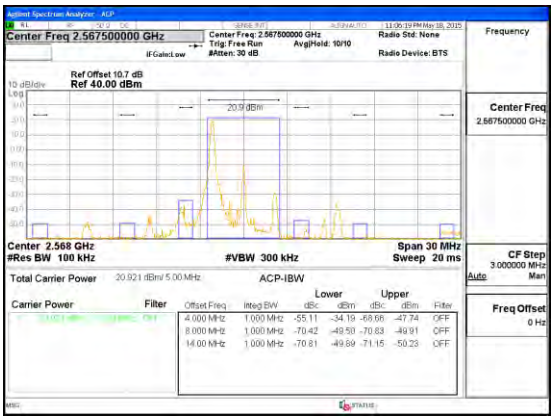
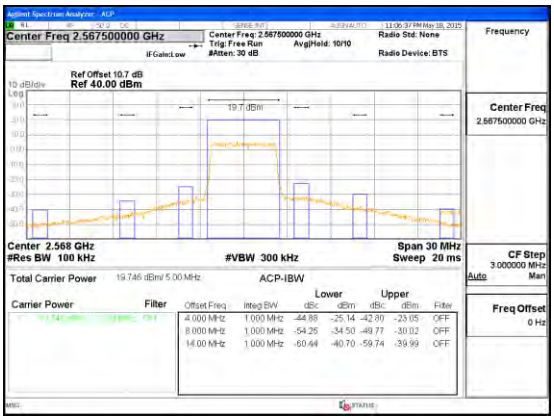
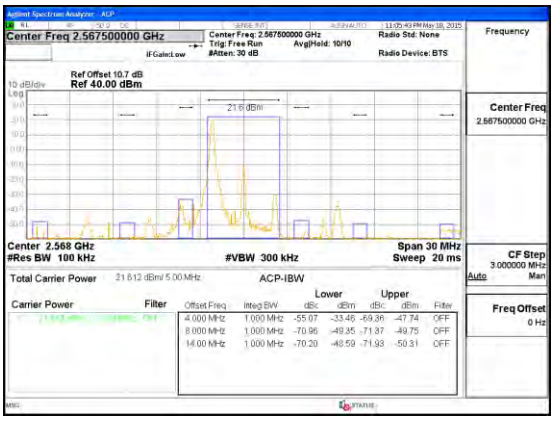
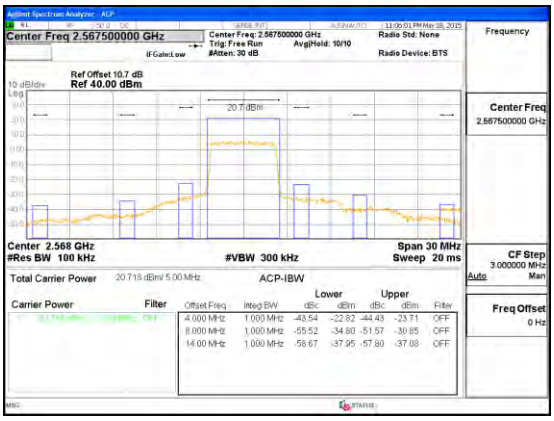
Band LTE7 15MHz 16QAM		
	Band LTE7 15MHz EM 16QAM Low Channel 1RB.gif	Band LTE7 15MHz EM 16QAM Low Channel FRB.gif
Band LTE7 15MHz QPSK		
	Band LTE7 15MHz EM QPSK Low Channel 1RB.gif	Band LTE7 15MHz EM QPSK Low Channel FRB.gif

Band LTE7 15MHz 16QAM	 Band LTE7 15MHz EM 16QAM High Channel 1RB.gif	 Band LTE7 15MHz EM 16QAM High Channel FRB.gif
Band LTE7 15MHz QPSK	 Band LTE7 15MHz EM QPSK High Channel 1RB.gif	 Band LTE7 15MHz EM QPSK High Channel FRB.gif

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

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

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

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

10.3. OUT OF BAND EMISSIONS

RULE PART(S)

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

LIMITS

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

Part 27: (m)(4) (4) For mobile digital stations, the attenuation factor shall be not less than 40 + 10 log (P) dB on all frequencies between the channel edge and 5 megahertz from the channel edge, 43 + 10 log (P) dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and 55 + 10 log (P) dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less that 43 + 10 log (P) dB on all frequencies between 2490.5 MHz and 2496 MHz and 55 + 10 log (P) dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

TEST PROCEDURE

Per KDB 971168 D01 Power Meas License Digital Systems v02r02

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

MODES TESTED

RESULTS

10.3.1. OUT OF BAND EMISSIONS RESULT

GSM

Band	Mode	f (MHz)	Spur (dBm)	Spec (dBm)	Delta (dB)
GSM 850	GPRS	824.2	-17.473	-13	-4.473
		836.6	-16.874	-13	-3.874
		848.8	-16.942	-13	-3.942
	EGPRS	824.2	-17.006	-13	-4.006
		836.6	-17.057	-13	-4.057
		848.8	-17.511	-13	-4.511
GSM 1900	GPRS	1850.2	-24.37	-13	-11.37
		1880	-24.43	-13	-11.43
		1909.8	-24.17	-13	-11.17
	EGPRS	1850.2	-24.14	-13	-11.14
		1880	-24.41	-13	-11.41
		1909.8	-24.59	-13	-11.59

WCDMA

Band	Mode	f (MHz)	Spur (dBm)	Spec (dBm)	Delta (dB)
Band 5	REL99	826.4	-27.032	-13	-14.032
		836.6	-27.383	-13	-14.383
		846.6	-27.728	-13	-14.728
	HSDPA	826.4	-27.196	-13	-14.196
		836.6	-26.797	-13	-13.797
		846.6	-27.474	-13	-14.474
Band 2	REL99	1852.4	-27.166	-13	-14.166
		1880	-26.907	-13	-13.907
		1907.6	-27.72	-13	-14.72
	HSDPA	1852.4	-26.56	-13	-13.56
		1880	-27.839	-13	-14.839
		1907.6	-27.719	-13	-14.719

LTE Band 2

Band	BW (MHz)	Mode	f (MHz)	Spur (dBm)	Spec (dBm)	Delta (dB)
LTE2	20	16QAM	1860	-25.60	-13	-12.60
			1880	-27.72	-13	-14.72
			1900	-27.69	-13	-14.69
		QPSK	1860	-27.91	-13	-14.91
			1880	-28.04	-13	-15.04
			1900	-27.57	-13	-14.57
	15	16QAM	1857.5	-27.31	-13	-14.31
			1880	-27.72	-13	-14.72
			1902.5	-27.56	-13	-14.56
		QPSK	1857.5	-27.85	-13	-14.85
			1880	-25.63	-13	-12.63
			1902.5	-28.04	-13	-15.04
	10	16QAM	1855	-27.69	-13	-14.69
			1880	-27.91	-13	-14.91
			1905	-28.55	-13	-15.55
		QPSK	1855	-26.01	-13	-13.01
			1880	-27.59	-13	-14.59
			1905	-27.74	-13	-14.74
	5	16QAM	1852.5	-25.40	-13	-12.40
			1880	-27.71	-13	-14.71
			1907.5	-27.72	-13	-14.72
		QPSK	1852.5	-27.55	-13	-14.55
			1880	-27.91	-13	-14.91
			1907.5	-26.98	-13	-13.98

Band	BW (MHz)	Mode	f (MHz)	Spur (dBm)	Spec (dBm)	Delta (dB)
LTE2	3	16QAM	1851.5	-24.26	-13	-11.26
			1880	-27.45	-13	-14.45
			1908.5	-28.40	-13	-15.40
		QPSK	1851.5	-26.09	-13	-13.09
			1880	-27.83	-13	-14.83
			1908.5	-27.53	-13	-14.53
	1.4	16QAM	1850.7	-24.68	-13	-11.68
			1880	-27.82	-13	-14.82
			1909.3	-27.07	-13	-14.07
		QPSK	1850.7	-25.42	-13	-12.42
			1880	-27.67	-13	-14.67
			1909.3	-26.50	-13	-13.50

LTE Band 4

Band	BW (MHz)	Mode	f (MHz)	Spur (dBm)	Spec (dBm)	Delta (dB)
LTE4	20	16QAM	1720	-28.25	-13	-15.25
			1732.5	-27.51	-13	-14.51
			1745	-28.40	-13	-15.40
		QPSK	1720	-27.70	-13	-14.70
			1732.5	-28.13	-13	-15.13
			1745	-27.13	-13	-14.13
	15	16QAM	1717.5	-27.40	-13	-14.40
			1732.5	-27.66	-13	-14.66
			1747.5	-28.07	-13	-15.07
		QPSK	1717.5	-27.73	-13	-14.73
			1732.5	-27.66	-13	-14.66
			1747.5	-26.60	-13	-13.60
	10	16QAM	1715	-28.03	-13	-15.03
			1732.5	-27.80	-13	-14.80
			1750	-27.84	-13	-14.84
		QPSK	1715	-27.92	-13	-14.92
			1732.5	-28.13	-13	-15.13
			1750	-27.22	-13	-14.22
	5	16QAM	1712.5	-27.36	-13	-14.36
			1732.5	-27.91	-13	-14.91
			1752.5	-28.18	-13	-15.18
		QPSK	1712.5	-28.26	-13	-15.26
			1732.5	-26.69	-13	-13.69
			1752.5	-27.86	-13	-14.86

Band	BW (MHz)	Mode	f (MHz)	Spur (dBm)	Spec (dBm)	Delta (dB)
LTE4	3	16QAM	1711.5	-28.03	-13	-15.03
			1732.5	-28.18	-13	-15.18
			1753.5	-28.06	-13	-15.06
		QPSK	1711.5	-27.88	-13	-14.88
			1732.5	-28.01	-13	-15.01
			1753.5	-28.14	-13	-15.14
	1.4	16QAM	1710.7	-27.08	-13	-14.08
			1732.5	-27.04	-13	-14.04
			1754.3	-28.22	-13	-15.22
		QPSK	1710.7	-27.44	-13	-14.44
			1732.5	-27.13	-13	-14.13
			1754.3	-26.96	-13	-13.96

LTE Band 5

Band	BW (MHz)	Mode	f (MHz)	Spur (dBm)	Spec (dBm)	Delta (dB)
LTE5	10	16QAM	829	-27.71	-13	-14.71
			836.5	-28.09	-13	-15.09
			844	-28.14	-13	-15.14
		QPSK	829	-27.34	-13	-14.34
			836.5	-28.23	-13	-15.23
			844	-27.22	-13	-14.22
	5	16QAM	826.5	-27.10	-13	-14.10
			836.5	-26.98	-13	-13.98
			846.5	-27.96	-13	-14.96
		QPSK	826.5	-28.33	-13	-15.33
			836.5	-28.26	-13	-15.26
			846.5	-27.81	-13	-14.81
	3	16QAM	825.5	-28.08	-13	-15.08
			836.5	-27.86	-13	-14.86
			847.5	-27.75	-13	-14.75
		QPSK	825.5	-26.93	-13	-13.93
			836.5	-27.80	-13	-14.80
			847.5	-27.62	-13	-14.62
	1.4	16QAM	824.7	-26.53	-13	-13.53
			836.5	-27.49	-13	-14.49
			848.3	-28.34	-13	-15.34
		QPSK	824.7	-27.85	-13	-14.85
			836.5	-27.85	-13	-14.85
			848.3	-27.55	-13	-14.55

LTE Band 7

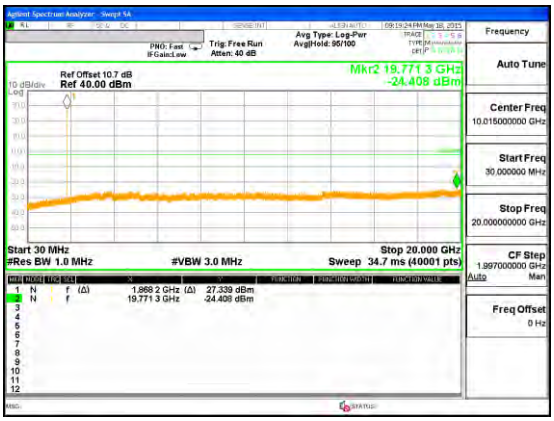
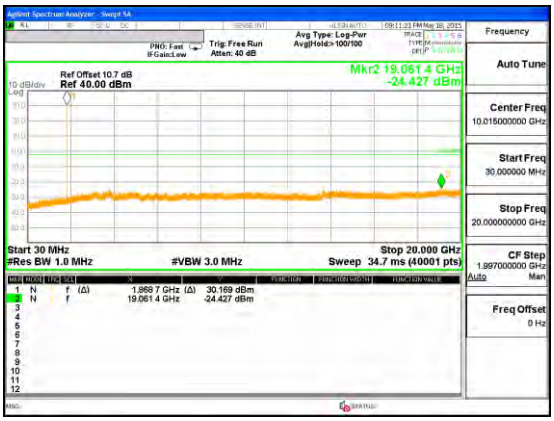
Band	BW (MHz)	Mode	f (MHz)	Spur (dBm)	Spec (dBm)	Delta (dB)
LTE7	20	16QAM	2510	-33.45	-25	-8.45
			2535	-33.10	-25	-8.10
			2560	-34.38	-25	-9.38
		QPSK	2510	-33.84	-25	-8.84
			2535	-34.14	-25	-9.14
			2560	-34.53	-25	-9.53
	15	16QAM	2507.5	-33.50	-25	-8.50
			2535	-34.21	-25	-9.21
			2562.5	-34.36	-25	-9.36
		QPSK	2507.5	-33.68	-25	-8.68
			2535	-33.85	-25	-8.85
			2562.5	-33.34	-25	-8.34
	10	16QAM	2505	-34.50	-25	-9.50
			2535	-33.74	-25	-8.74
			2565	-34.10	-25	-9.10
		QPSK	2505	-33.50	-25	-8.50
			2535	-34.49	-25	-9.49
			2565	-33.85	-25	-8.85
	5	16QAM	2502.5	-34.41	-25	-9.41
			2535	-34.55	-25	-9.55
			2567.5	-34.67	-25	-9.67
		QPSK	2502.5	-33.55	-25	-8.55
			2535	-34.40	-25	-9.40
			2567.5	-33.48	-25	-8.48

LTE Band 17

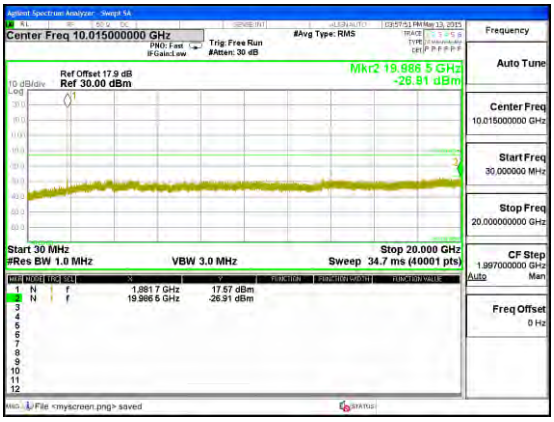
Band	BW (MHz)	Mode	f (MHz)	Spur (dBm)	Spec (dBm)	Delta (dB)
LTE17	10	16QAM	709	-27.62	-13	-14.62
			710	-26.96	-13	-13.96
			711	-28.41	-13	-15.41
		QPSK	709	-28.12	-13	-15.12
			710	-27.92	-13	-14.92
			711	-27.83	-13	-14.83
	5	16QAM	706.5	-28.50	-13	-15.50
			710	-27.30	-13	-14.30
			713.5	-27.82	-13	-14.82
		QPSK	706.5	-27.85	-13	-14.85
			710	-27.80	-13	-14.80
			713.5	-28.11	-13	-15.11

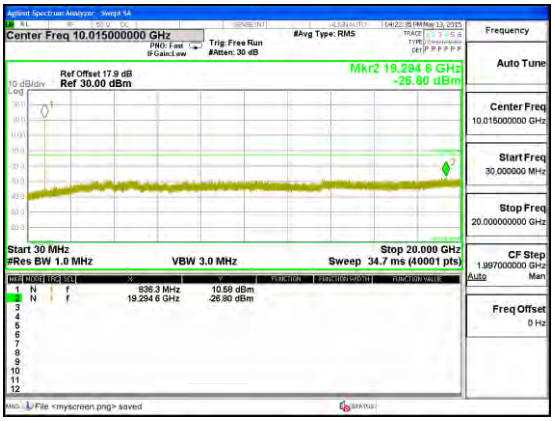
10.3.2. OUT OF BAND EMISSIONS PLOTS

GSM

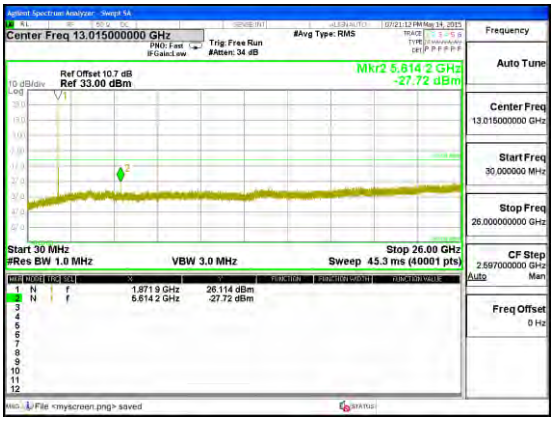
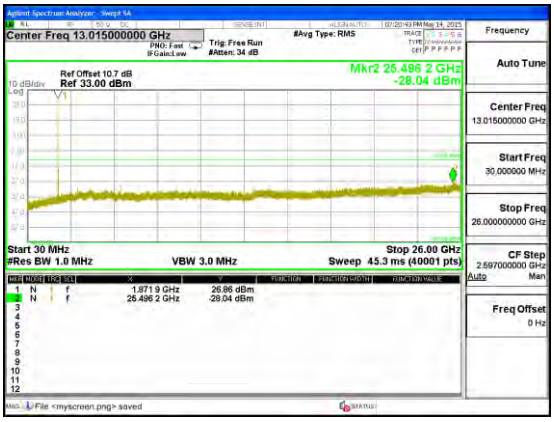
Band GSM1900 EGPRS	 Band GSM1900 EGPRS CSE Mid channel	 Band GSM1900 GPRS CSE Mid channel
Band GSM850 EGPRS	 Band GSM850 EGPRS CSE Mid channel	 Band GSM850 GPRS CSE Mid channel

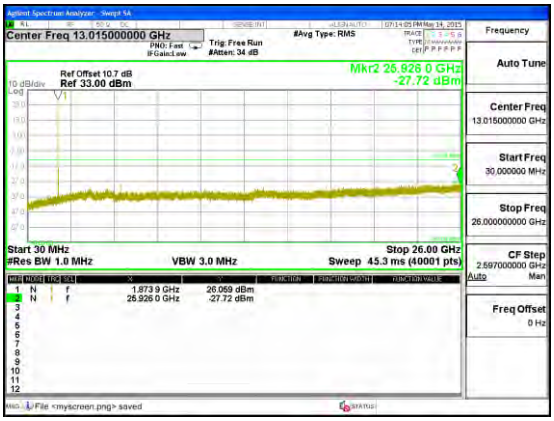
WCDMA

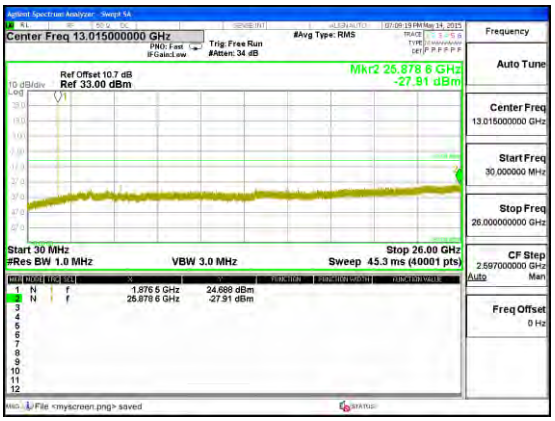
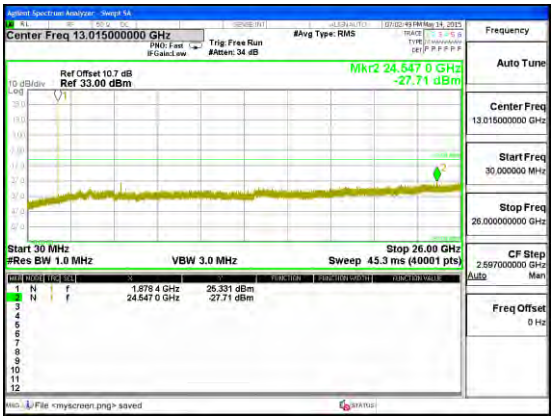
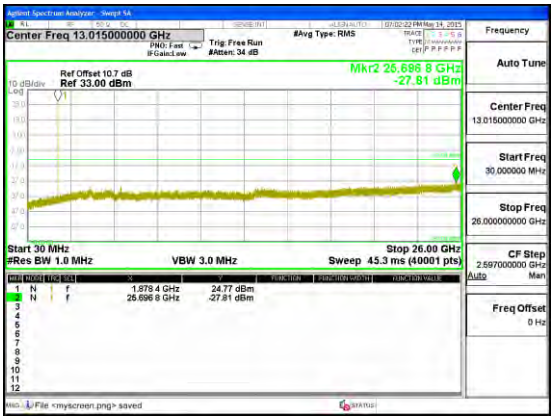
Band		
Band 2 HSDPA	 Band WCDMA B2 HSDPA CSE	 Band WCDMA B2 REL99 CSE

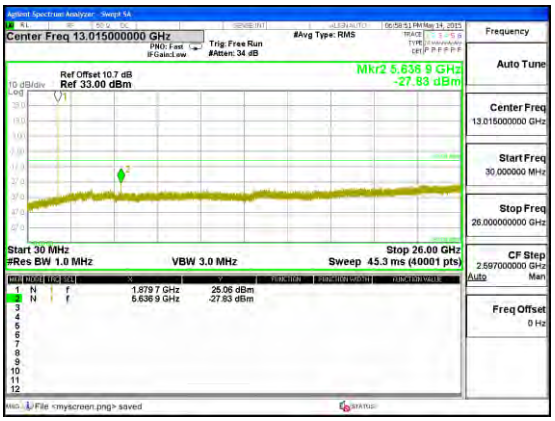
Band		
Band 5 HSDPA	 Band WCDMA B5 HSDPA CSE	 Band WCDMA B5 REL99 CSE

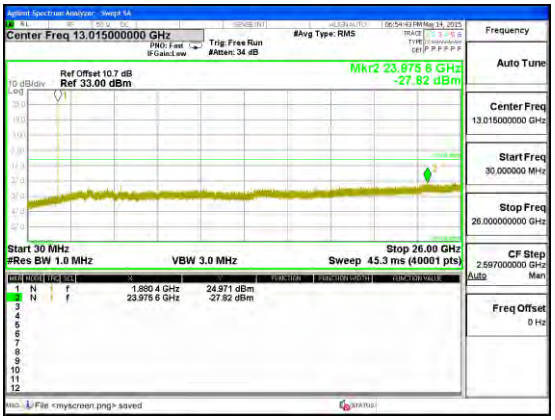
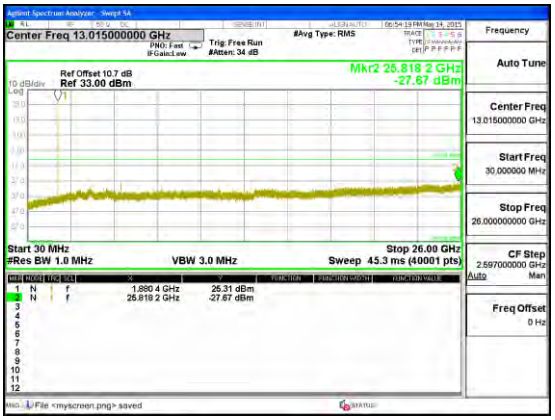
LTE Band 2

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

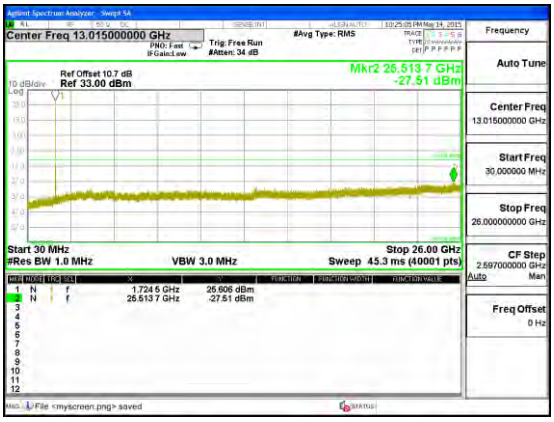
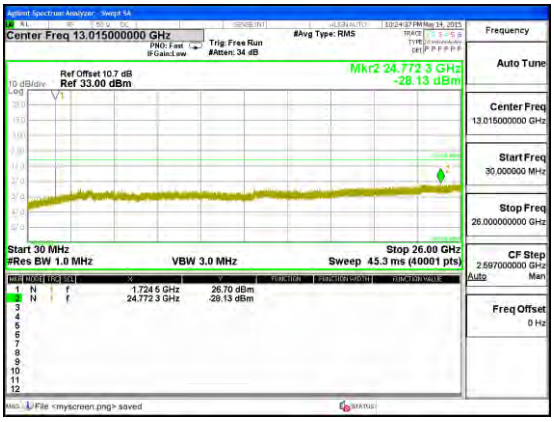
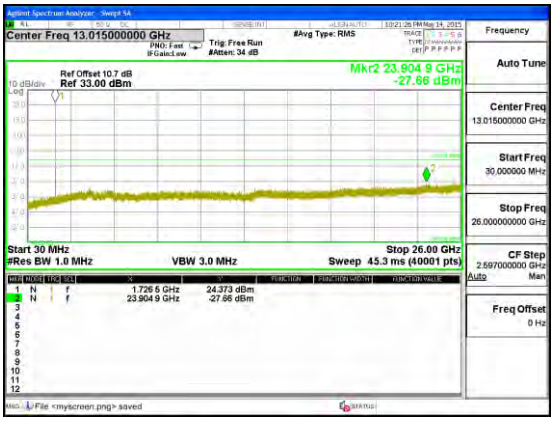
Band LTE2 15MHz 16QAM	 Band LTE2 15MHz CSE 16QAM Mid channel	 Band LTE2 15MHz CSE QPSK Mid channel

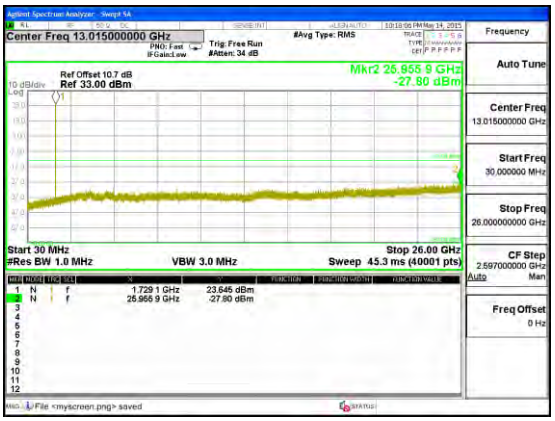
Band LTE2 10MHz 16QAM	 Band LTE2 10MHz CSE 16QAM Mid channel	 Band LTE2 10MHz CSE QPSK Mid channel
Band LTE2 5MHz 16QAM	 Band LTE2 5MHz CSE 16QAM Mid channel	 Band LTE2 5MHz CSE QPSK Mid channel

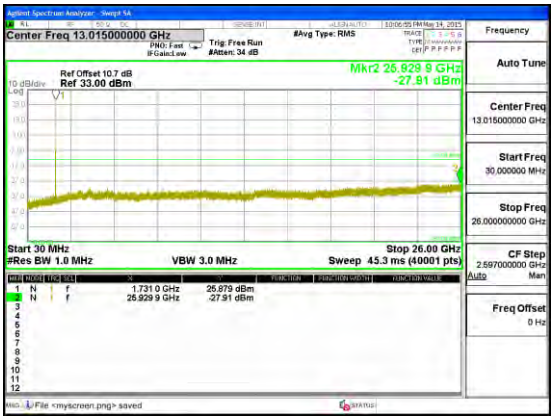
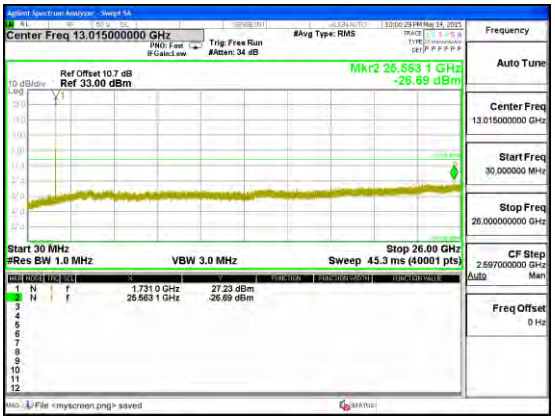
Band LTE2 3MHz 16QAM	 Band LTE2 3MHz CSE 16QAM Mid channel	 Band LTE2 3MHz CSE QPSK Mid channel

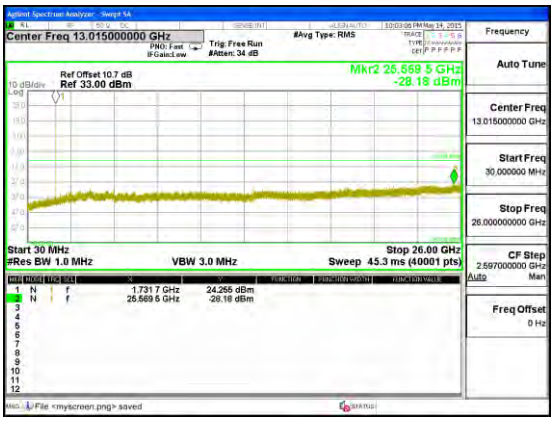
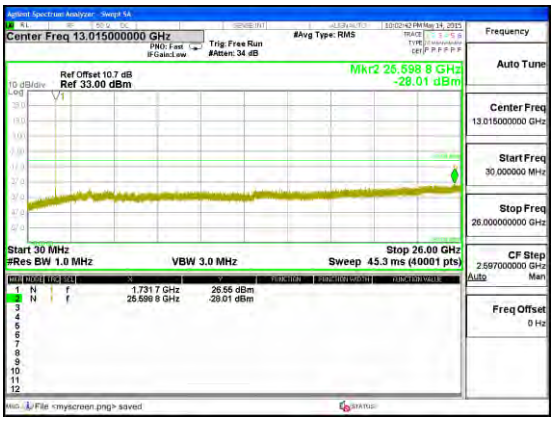
Band LTE2 1.4MHz 16QAM	 Band LTE2 1.4MHz CSE 16QAM Mid channel	 Band LTE2 1.4MHz CSE QPSK Mid channel

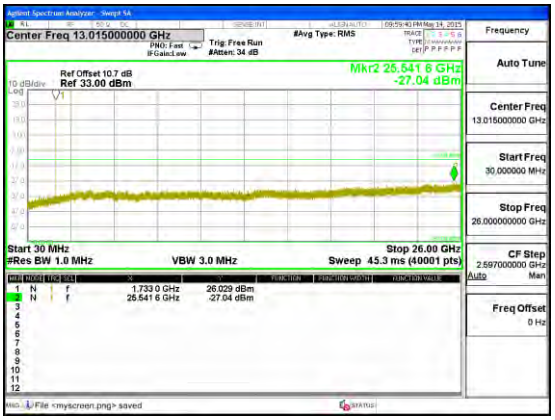
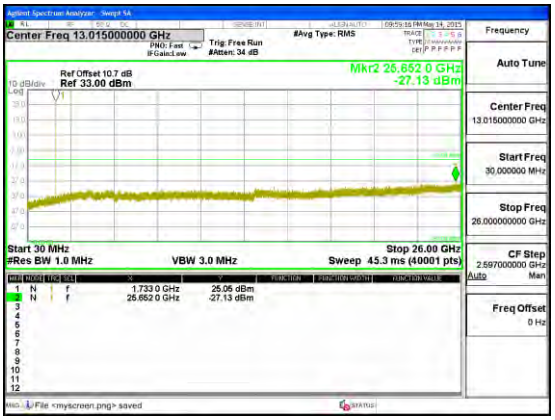
LTE Band 4

Band LTE4 20MHz 16QAM	 Band LTE4 20MHz CSE 16QAM Mid channel	 Band LTE4 20MHz CSE QPSK Mid channel
Band LTE4 15MHz 16QAM	 Band LTE4 15MHz CSE 16QAM Mid channel	 Band LTE4 15MHz CSE QPSK Mid channel

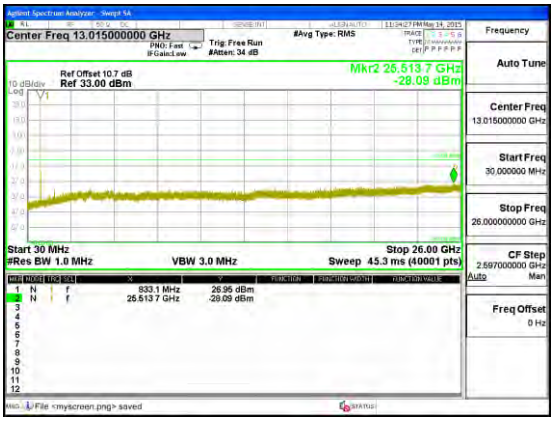
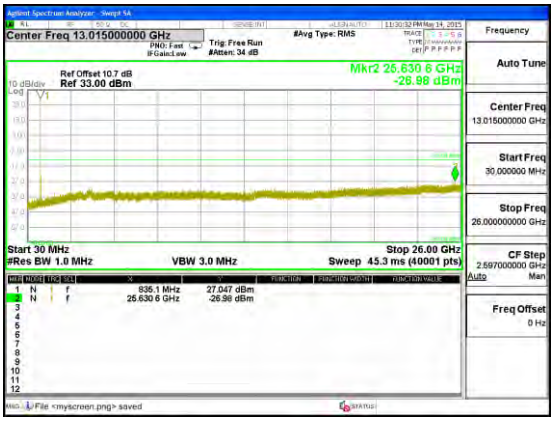
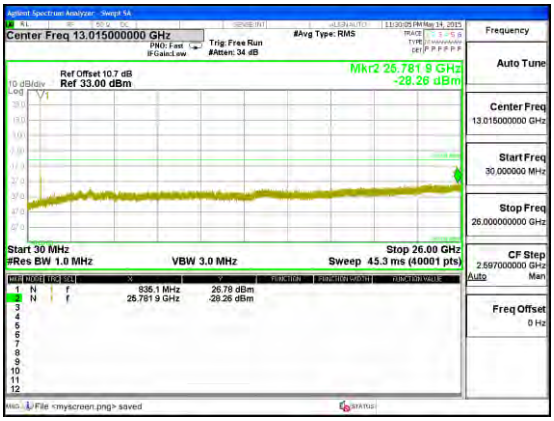
Band LTE4 10MHz 16QAM	 Band LTE4 10MHz CSE 16QAM Mid channel	 Band LTE4 10MHz CSE QPSK Mid channel

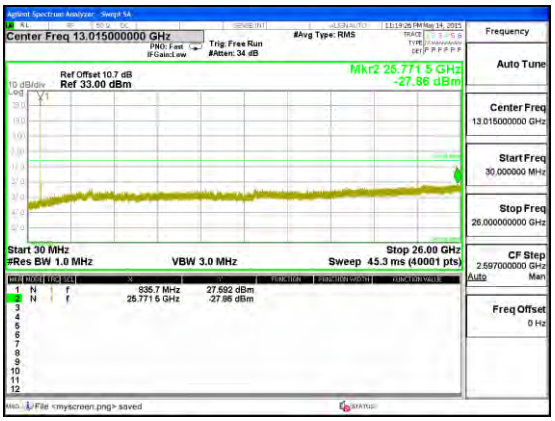
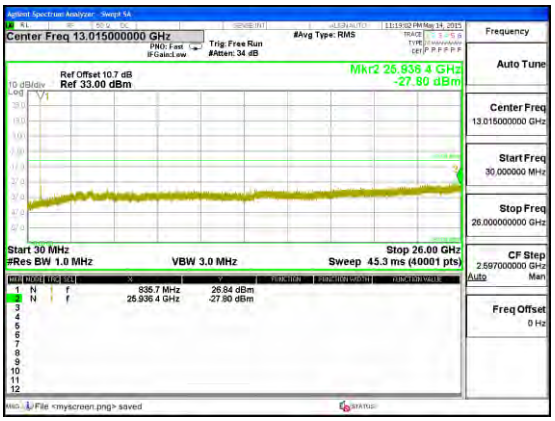
Band LTE4 5MHz 16QAM	 Band LTE4 5MHz CSE 16QAM Mid channel	 Band LTE4 5MHz CSE QPSK Mid channel

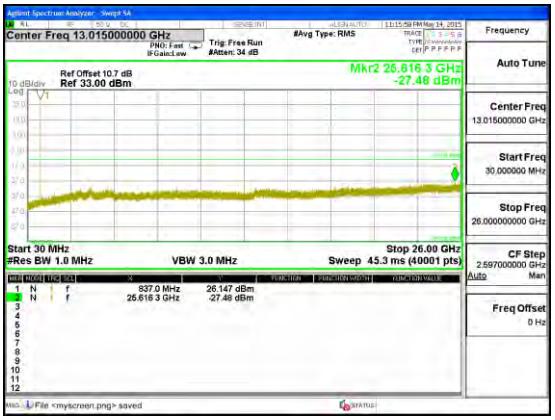
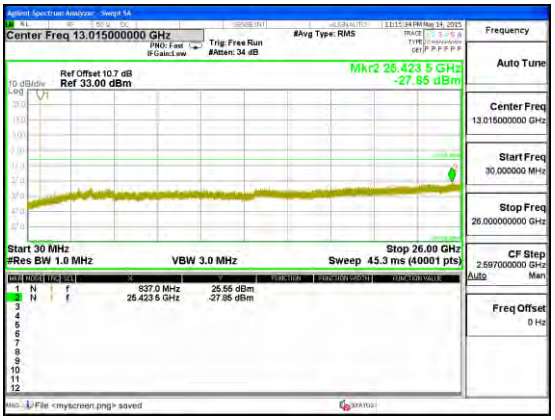
Band LTE4 3MHz 16QAM	 Band LTE4 3MHz CSE 16QAM Mid channel	 Band LTE4 3MHz CSE QPSK Mid channel

Band LTE4 1.4MHz 16QAM	 Band LTE4 1.4MHz CSE 16QAM Mid channel	 Band LTE4 1.4MHz CSE QPSK Mid channel

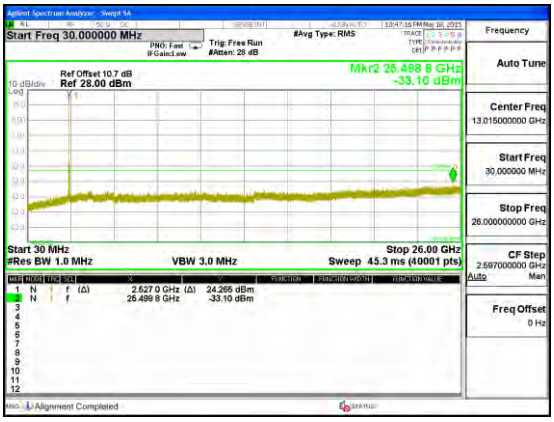
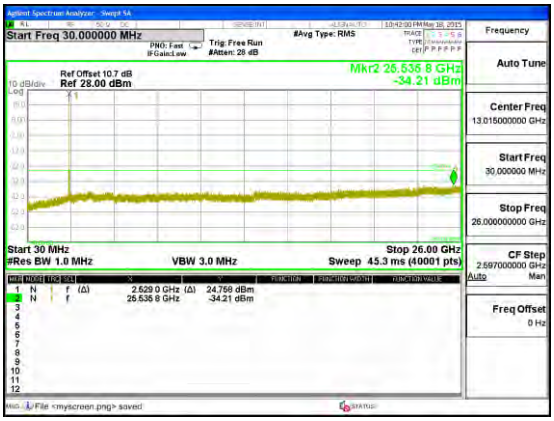
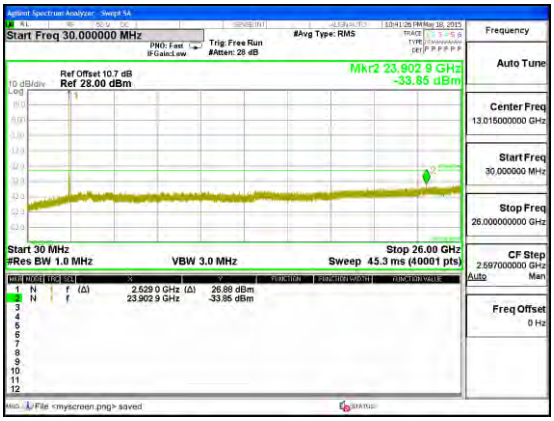
LTE Band 5

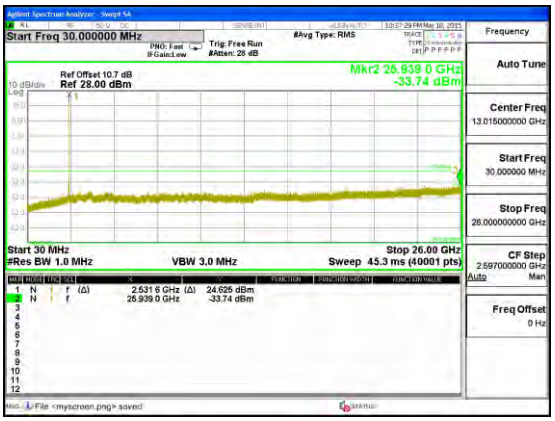
Band LTE5 10MHz 16QAM	 Band LTE5 10MHz CSE 16QAM Mid channel	 Band LTE5 10MHz CSE QPSK Mid channel
Band LTE5 5MHz 16QAM	 Band LTE5 5MHz CSE 16QAM Mid channel	 Band LTE5 5MHz CSE QPSK Mid channel

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

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

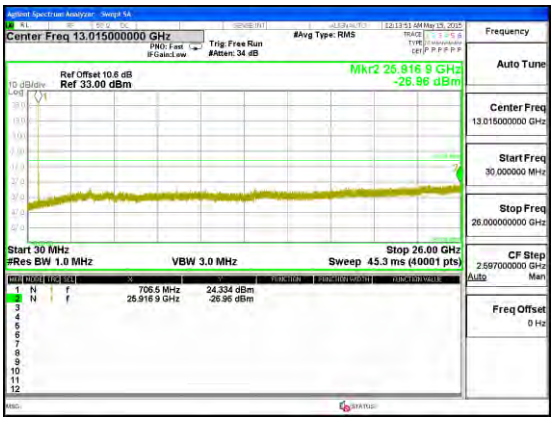
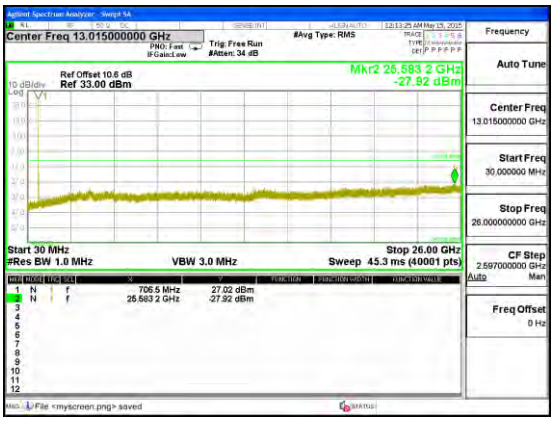
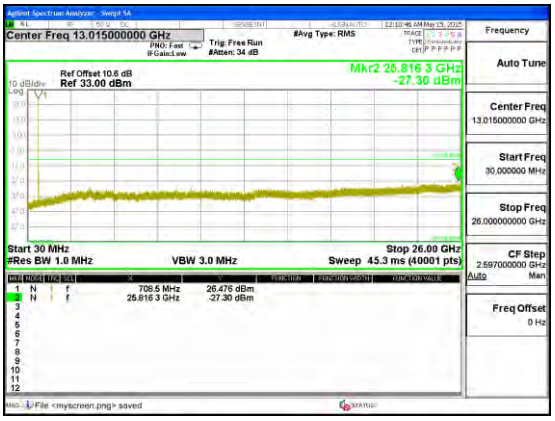
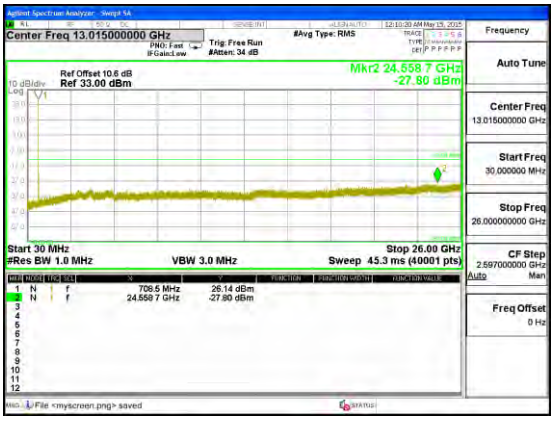
LTE Band 7

Band LTE7 20MHz 16QAM	 Band LTE7 20MHz CSE 16QAM Mid channel	 Band LTE7 20MHz CSE QPSK Mid channel
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

Band LTE7 5MHz 16QAM	 Band LTE7 5MHz CSE 16QAM Mid channel	 Band LTE7 5MHz CSE QPSK Mid channel

LTE Band 17

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

10.4. FREQUENCY STABILITY

RULE PART(S)

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

LIMITS

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

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

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

TEST PROCEDURE

Per KDB 971168 D01 Power Meas License Digital Systems v02r02

MODES TESTED

RESULTS

See the following pages.

10.4.1. FREQUENCY STABILITY RESULTS

LTE Band 2

Reference Frequency: LTE B2 Mid Channel		1880	MHz @ 20°C	
Limit: to stay +- 2.5 ppm =		4700.000	Hz	
Power Supply	Environment	Frequency Deviation Measureed with Time Elapse		
(Vdc)	Temperature (°C)	(MHz)	Delta (ppm)	Limit (ppm)
3.90	50	1880.000007	0.000	2.5
3.90	40	1880.000009	-0.001	2.5
3.90	30	1879.999994	0.007	2.5
3.90	***20***	**1880.000007**	**0**	***2.5***
3.90	10	1880.000006	0.000	2.5
3.90	0	1880.000008	-0.001	2.5
3.90	-10	1880.000006	0.000	2.5
3.90	-20	1879.999992	0.008	2.5
3.90	-30	1879.999993	0.008	2.5

Reference Frequency: LTE B2 Mid Channel		1880	MHz @ 20°C	
Limit: to stay +- 2.5 ppm =		4700.000	Hz	
Power Supply	Environment	Frequency Deviation Measured with Time Elapse		
(Vdc)	Temperature (°C)	(MHz)	Delta (ppm)	Limit (ppm)
3.90	***20***	***1880.000007***	***0***	***2.5***
3.60	20	1880.000009	*-0.001*	2.5
4.20	20	1880.000007	*0.000*	2.5

LTE Band 4

Reference Frequency: LTE B4 Mid Channel		1732.5	MHz @ 20°C	
Limit: to stay +- 2.5 ppm =		4331.250	Hz	
Power Supply	**Environment**	**Frequency Deviation Measureed with Time Elapse**		
(Vdc)	**Temperature (°C)**	**(MHz)**	**Delta (ppm)**	**Limit (ppm)**
3.90	50	1732.500008	0.001	2.5
3.90	40	1732.500007	0.001	2.5
3.90	30	1732.500010	0.000	2.5
3.90	***20***	**1732.500009**	**0**	***2.5***
3.90	10	1732.500008	0.001	2.5
3.90	0	1732.500006	0.002	2.5
3.90	-10	1732.500008	0.001	2.5
3.90	-20	1732.500006	0.002	2.5
3.90	-30	1732.500008	0.001	2.5

Reference Frequency: LTE B4 Mid Channel		1732.5	MHz @ 20°C	
Limit: to stay +- 2.5 ppm =		4331.250	Hz	
Power Supply	**Environment**	**Frequency Deviation Measured with Time Elapse**		
(Vdc)	**Temperature (°C)**	**(MHz)**	**Delta (ppm)**	**Limit (ppm)**
3.90	***20***	***1732.500009***	***0***	***2.5***
3.60	20	1732.500009	*0.000*	2.5
4.20	20	1732.500007	*0.001*	2.5

LTE Band 5

		Reference Frequency: LTE B5 Mid Channel Limit: to stay +- 2.5 ppm =	836.5 2091.250	MHz @ 20°C Hz
Power Supply	**Environment**	**Frequency Deviation Measureed with Time Elapse**		
(Vdc)	**Temperature (°C)**	**(MHz)**	**Delta (ppm)**	**Limit (ppm)**
3.90	50	836.500003	0.001	2.5
3.90	40	836.500004	0.000	2.5
3.90	30	836.499997	0.008	2.5
3.90	***20***	**836.500003**	**0**	***2.5***
3.90	10	836.499997	0.007	2.5
3.90	0	836.500002	0.001	2.5
3.90	-10	836.499995	0.009	2.5
3.90	-20	836.499996	0.009	2.5
3.90	-30	836.499996	0.009	2.5

		Reference Frequency: LTE B5 Mid Channel Limit: to stay +- 2.5 ppm =	836.5 2091.250	MHz @ 20°C Hz
Power Supply	**Environment**	**Frequency Deviation Measured with Time Elapse**		
(Vdc)	**Temperature (°C)**	**(MHz)**	**Delta (ppm)**	**Limit (ppm)**
3.90	***20***	***836.500003***	***0***	***2.5***
3.60	20	836.499996	*0.009*	2.5
4.20	20	836.499997	*0.008*	2.5

LTE Band 7

Reference Frequency: LTE B5 Mid Channel		836.5	MHz @ 20°C
Limit: to stay +- 2.5 ppm =		2091.250	Hz
Power Supply	Environment	Frequency Deviation Measureed with Time Elapse	
(Vdc)	Temperature (°C)	(MHz)	Delta (ppm)	Limit (ppm)
3.90	50	836.500003	0.001	2.5
3.90	40	836.500004	0.000	2.5
3.90	30	836.499997	0.008	2.5
3.90	***20***	**836.500003**	**0**	***2.5***
3.90	10	836.499997	0.007	2.5
3.90	0	836.500002	0.001	2.5
3.90	-10	836.499995	0.009	2.5
3.90	-20	836.499996	0.009	2.5
3.90	-30	836.499996	0.009	2.5

Reference Frequency: LTE B5 Mid Channel		836.5	MHz @ 20°C
Limit: to stay +- 2.5 ppm =		2091.250	Hz
Power Supply	Environment	Frequency Deviation Measured with Time Elapse	
(Vdc)	Temperature (°C)	(MHz)	Delta (ppm)	Limit (ppm)
3.90	***20***	***836.500003***	***0***	***2.5***
3.60	20	836.499996	*0.009*	2.5
4.20	20	836.499997	*0.008*	2.5

LTE Band 17

		Reference Frequency: LTE B17 Mid Channel Limit: to stay +- 2.5 ppm =	710 1775.000	MHz @ 20°C Hz
Power Supply	**Environment**	**Frequency Deviation Measureed with Time Elapse**		
(Vdc)	**Temperature (°C)**	**(MHz)**	**Delta (ppm)**	**Limit (ppm)**
3.90	50	709.999997	0.009	2.5
3.90	40	709.999997	0.008	2.5
3.90	30	710.000003	0.000	2.5
3.90	***20***	**710.000003**	**0**	***2.5***
3.90	10	709.999996	0.010	2.5
3.90	0	710.000003	0.000	2.5
3.90	-10	710.000004	-0.002	2.5
3.90	-20	710.000004	-0.001	2.5
3.90	-30	710.000003	0.001	2.5

		Reference Frequency: LTE B17 Mid Channel Limit: to stay +- 2.5 ppm =	710 1775.000	MHz @ 20°C Hz
Power Supply	**Environment**	**Frequency Deviation Measured with Time Elapse**		
(Vdc)	**Temperature (°C)**	**(MHz)**	**Delta (ppm)**	**Limit (ppm)**
3.90	***20***	***710.000003***	***0***	***2.5***
3.60	20	709.999998	*0.007*	2.5
4.20	20	709.999996	*0.010*	2.5

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.

27.50(c) - (10) Portable stations (hand-held devices) are limited to 3 watts ERP; (LTE B17)

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

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

TEST PROCEDURE

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

For peak power measurement with a PSA:

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

For average power measurement with a PSA:

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

MODES TESTED

TEST RESULTS

11.1.1. ERP/EIRP Results

GSM

Band	Mode	Channel	f(MHz)	ERP / EIRP	
				dBm	mW
GSM850	GPRS	128	824.2	33.49	2234.09
		190	836.6	33.69	2339.38
		251	848.8	33.25	2113.98
	EGPRS	128	824.2	28.56	717.96
		190	836.6	28.77	753.53
		251	848.8	28.04	636.94
GSM1900	GPRS	512	1850.2	32.28	1690.05
		661	1880	32.39	1733.80
		810	1909.8	32.86	1931.52
	EGPRS	512	1850.2	29.60	912.64
		661	1880	28.26	669.11
		810	1909.8	29.35	860.00

WCDMA

Band	Mode	Channel	f(MHz)	ERP / EIRP	
				dBm	mW
Band 5	REL99	4132	826.4	24.39	274.60
		4183	836.6	24.56	285.43
		4233	846.6	23.86	242.94
	HSDPA	4132	826.4	24.30	269.22
		4183	836.6	24.50	281.90
		4233	846.6	23.87	243.84
Band 2	REL99	9262	1852.4	26.18	414.86
		9400	1880	26.02	399.83
		9538	1907.6	24.24	265.58
	HSDPA	9262	1852.4	25.37	344.27
		9400	1880	25.63	365.49
		9538	1907.6	23.94	247.85

11.1.2. LTE ERP/EIRP Results

LTE Band 2

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE2	20	QPSK	1/0	1860	25.07	321.56
			1/0	1880	23.93	247.1
			1/0	1900	26.02	399.48
		16QAM	1/0	1860	24.07	255.42
			1/0	1880	22.99	199.01
			1/0	1900	24.79	300.95
	15	QPSK	1/0	1857.5	25.13	326.16
			1/0	1880	24.73	297.08
			1/0	1902.5	25.60	363.26
		16QAM	1/0	1857.5	24.38	274.43
			1/0	1880	23.76	237.62
			1/0	1902.5	24.66	292.57
	10	QPSK	1/0	1855	24.98	314.49
			1/0	1880	25.37	344.25
			1/0	1905	26.83	481.89
		16QAM	1/0	1855	24.02	252.12
			1/0	1880	24.32	270.32
			1/0	1905	25.86	385.43
	5	QPSK	1/0	1852.5	25.54	357.91
			1/0	1880	24.78	300.52
			1/0	1907.5	25.68	369.55
		16QAM	1/0	1852.5	24.47	279.75
			1/0	1880	23.79	239.27
			1/0	1907.5	24.56	285.54

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE2	3	QPSK	1/0	1851.5	25.10	323.48
			1/0	1880	24.55	285.02
			1/0	1908.5	23.82	240.97
		16QAM	1/0	1851.5	24.26	266.59
			1/0	1880	23.61	229.55
			1/0	1908.5	22.92	195.86
	1.4	QPSK	1/0	1850.7	25.18	329.54
			1/0	1880	24.63	290.32
			1/0	1909.3	23.36	216.86
		16QAM	1/0	1850.7	24.16	260.56
			1/0	1880	23.86	243.15
			1/0	1909.3	22.68	185.43

LTE Band 4

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE4	20	QPSK	1/0	1720	25.81	381.07
			1/0	1732.5	26.19	415.91
			1/0	1745	27.08	510.50
		16QAM	1/0	1720	24.74	297.85
			1/0	1732.5	24.90	309.03
			1/0	1745	26.09	406.44
	15	QPSK	1/0	1717.5	26.09	406.44
			1/0	1732.5	27.27	533.33
			1/0	1747.5	27.39	548.28
		16QAM	1/0	1717.5	25.20	331.13
			1/0	1732.5	26.36	432.51
			1/0	1747.5	26.48	444.63
	10	QPSK	1/0	1715	25.16	328.10
			1/0	1732.5	27.03	504.66
			1/0	1750	26.70	467.74
		16QAM	1/0	1715	24.06	254.68
			1/0	1732.5	25.90	389.05
			1/0	1750	25.72	373.25
	5	QPSK	1/0	1712.5	24.79	301.30
			1/0	1732.5	27.52	564.94
			1/0	1752.5	26.52	448.75
		16QAM	1/0	1712.5	23.70	234.42
			1/0	1732.5	26.52	448.75
			1/0	1752.5	25.46	351.56

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE4	3	QPSK	1/0	1711.5	27.20	524.55
			1/0	1732.5	26.58	455.1
			1/0	1753.5	27.68	586.7
		16QAM	1/0	1711.5	26.21	417.63
			1/0	1732.5	25.61	364
			1/0	1753.5	26.40	436.94
	1.4	QPSK	1/0	1710.7	26.79	477.62
			1/0	1732.5	26.98	499.01
			1/0	1754.3	26.99	500.18
		16QAM	1/0	1710.7	25.77	377.65
			1/0	1732.5	25.92	390.94
			1/0	1754.3	26.18	415.07

LTE Band 5

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE5	10	QPSK	1/0	829	24.17	261.22
			1/0	836.5	23.47	222.18
			1/0	844	24.17	261.40
		16QAM	1/0	829	23.13	205.59
			1/0	836.5	22.47	176.48
			1/0	844	23.01	200.12
	5	QPSK	1/0	826.5	24.17	261.22
			1/0	836.5	24.25	265.89
			1/0	846.5	23.90	245.64
		16QAM	1/0	826.5	23.44	220.80
			1/0	836.5	23.01	199.85
			1/0	846.5	22.90	195.12
	3	QPSK	1/0	825.5	24.60	288.40
			1/0	836.5	24.31	269.59
			1/0	847.5	23.96	249.06
		16QAM	1/0	825.5	23.43	220.29
			1/0	836.5	23.29	213.16
			1/0	847.5	22.95	197.38
	1.4	QPSK	1/0	824.7	23.99	250.61
			1/0	836.5	24.14	259.24
			1/0	848.3	23.20	209.07
		16QAM	1/0	824.7	23.13	205.59
			1/0	836.5	23.39	218.12
			1/0	848.3	22.16	164.55

LTE Band 7

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE7	20	QPSK	1/0	2510	23.12	204.97
			1/0	2535	21.84	152.63
			1/0	2560	24.00	251.02
		16QAM	1/0	2510	22.18	165.08
			1/0	2535	20.74	118.48
			1/0	2560	23.00	199.39
	15	QPSK	1/0	2507.5	24.04	253.53
			1/0	2535	23.06	202.09
			1/0	2562.5	25.80	379.99
		16QAM	1/0	2507.5	22.99	199.08
			1/0	2535	22.01	158.69
			1/0	2562.5	24.64	290.92
	10	QPSK	1/0	2505	24.10	257.01
			1/0	2535	25.31	339.35
			1/0	2565	25.84	383.57
		16QAM	1/0	2505	22.99	199.04
			1/0	2535	24.44	277.75
			1/0	2565	24.93	311.06
	5	QPSK	1/0	2502.5	23.88	244.27
			1/0	2535	23.36	216.60
			1/0	2567.5	24.43	277.28
		16QAM	1/0	2502.5	22.93	196.28
			1/0	2535	22.33	170.86
			1/0	2567.5	23.36	216.73

LTE Band 17

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE17	10	QPSK	1/0	709	19.58	90.80
			1/0	710	19.97	99.31
			1/0	711	19.86	96.83
		16QAM	1/0	709	18.55	71.63
			1/0	710	18.97	78.89
			1/0	711	18.72	74.47
	5	QPSK	1/0	706.5	19.36	86.32
			1/0	710	19.83	96.16
			1/0	713.5	19.64	92.04
		16QAM	1/0	706.5	18.40	69.20
			1/0	710	18.66	73.45
			1/0	713.5	18.42	69.50

11.1.3. ERP/EIRP PLOTS

GSM

Band

GSM 1900

EGPRS

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: Honeywell
Project #: 15U20259
Date: 5/26/2015
Test Engineer: D. Mun
Configuration: EUT Only (FCC WWAN R11)
Location: Chamber A
Mode: EGPRS 1900 MHz Fundamentals

Test Equpment:
Receiving: Horn T136, and Chamber A SMA Cables
Substitution: Horn T59, 6ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1850.20	18.17	V	0.9	8.0	25.27	33.0	-7.7	
1850.20	22.50	H	0.9	8.0	29.60	33.0	-3.4	
Mid Ch								
1880.00	15.36	V	0.9	8.0	22.46	33.0	-10.5	
1880.00	21.16	H	0.9	8.0	28.26	33.0	-4.7	
High Ch								
1909.80	18.29	V	0.9	8.0	25.39	33.0	-7.6	
1909.80	22.25	H	0.9	8.0	29.35	33.0	-3.7	

Band

GSM 1900

GPRS

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company:	Honeywell
Project #:	15U20259
Date:	5/26/2015
Test Engineer:	D. Mun
Configuration:	EUT Only (FCC WWAN R1)
Location:	Chamber A
Mode:	GPRS 1900 MHz Fundamentals

Test Equpment:
Receiving: Horn T136, and Chamber A SMA Cables
Substitution: Horn T59, 6ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1850.20	22.80	V	0.9	8.0	29.90	33.0	-3.1	
1850.20	25.18	H	0.9	8.0	32.28	33.0	-0.7	
Mid Ch								
1880.00	20.12	V	0.9	8.0	27.22	33.0	-5.8	
1880.00	25.29	H	0.9	8.0	32.39	33.0	-0.6	
High Ch								
1909.80	21.30	V	0.9	8.0	28.40	33.0	-4.6	
1909.80	25.76	H	0.9	8.0	32.86	33.0	-0.1	

Band

GSM 850

EGPRS

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: Honeywell
Project #: 15U20259
Date: 5/20/2015
Test Engineer: D. Mun
Configuration: EUT Y-Pos Only
Mode: EGPRS850

Test Equipment:
Receiving: Sunol T130, and 5m Chamber A N-type Cable
Substitution: Dipole T276, 4ft SMA Cable (SN: 244639 002) 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	19.86	V	0.9	0.0	18.96	38.5	-19.5	
824.20	29.46	H	0.9	0.0	28.56	38.5	-9.9	
Mid Ch								
836.60	19.26	V	0.9	0.0	18.36	38.5	-20.1	
836.60	29.67	H	0.9	0.0	28.77	38.5	-9.7	
High Ch								
848.80	18.52	V	0.9	0.0	17.62	38.5	-20.8	
848.80	28.94	H	0.9	0.0	28.04	38.5	-10.4	

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

Band

GSM 850

GPRS

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: Honeywell
Project #: 15U20259
Date: 5/20/2015
Test Engineer: D. Mun
Configuration: EUT Y-Pos Only
Mode: GPRS850

Test Equipment:
Receiving: Sunol T130, and 5m Chamber A N-type Cable
Substitution: Dipole T276, 4ft SMA Cable (SN: 244639 002) 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	24.98	V	0.9	0.0	24.08	38.5	-14.4	
824.20	34.39	H	0.9	0.0	33.49	38.5	-5.0	
Mid Ch								
836.60	24.37	V	0.9	0.0	23.47	38.5	-15.0	
836.60	34.59	H	0.9	0.0	33.69	38.5	-4.8	
High Ch								
848.80	23.86	V	0.9	0.0	22.96	38.5	-15.5	
848.80	34.15	H	0.9	0.0	33.25	38.5	-5.2	

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

WCDMA

Band

Band 2

HSDPA

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

Company: HONEYWELL
Project #: 15U20259
Date: 5/13/2015
Test Engineer: A. Escamilla
Configuration: EUT Only
Mode: HSDPA B2

Test Equipment:
Receiving: Horn T119, and Chamber C SMA Cables
Substitution: Horn T59, 6ft 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	12.56	V	0.9	7.9	19.55	33.0	-13.5	
1852.40	18.38	H	0.9	7.9	25.37	33.0	-7.6	
Mid Ch								
1880.00	10.78	V	0.9	7.9	17.75	33.0	-15.3	
1880.00	18.66	H	0.9	7.9	25.63	33.0	-7.4	
High Ch								
1907.60	8.21	V	0.9	7.9	15.19	33.0	-17.8	
1907.60	16.96	H	0.9	7.9	23.94	33.0	-9.1	

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

Band

Band 2

REL99

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

Company: HONEYWELL
Project #: 15U20259
Date: 5/13/2015
Test Engineer: A. Escamilla
Configuration: EUT Only
Mode: Rel99 B2

Test Equipment:
Receiving: Horn T119, and Chamber C SMA Cables
Substitution: Horn T59, 6ft 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	12.67	V	0.9	7.9	19.66	33.0	-13.3	
1852.40	19.19	H	0.9	7.9	26.18	33.0	-6.8	
Mid Ch								
1880.00	11.69	V	0.9	7.9	18.66	33.0	-14.3	
1880.00	19.05	H	0.9	7.9	26.02	33.0	-7.0	
High Ch								
1907.60	8.71	V	0.9	7.9	15.69	33.0	-17.3	
1907.60	17.26	H	0.9	7.9	24.24	33.0	-8.8	

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

Band

Band 5

HSDPA

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: Honeywell
Project #: 15U20259
Date: 5/22/2015
Test Engineer: D. Mun
Configuration: EUT X-Pos Only
Mode: WCDMA Band 5 HSDPA

Test Equipment:
Receiving: Sunol T130, and 3m Chamber A N-type Cable
Substitution: Dipole T273, 4ft SMA Cable Warehouse.

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch								
826.40	14.10	V	0.9	0.0	13.20	38.5	-25.2	
826.40	25.20	H	0.9	0.0	24.30	38.5	-14.1	
Mid Ch								
836.60	12.90	V	0.9	0.0	12.00	38.5	-26.4	
836.60	25.40	H	0.9	0.0	24.50	38.5	-13.9	
High Ch								
846.60	14.50	V	0.9	0.0	13.60	38.5	-24.8	
846.60	24.77	H	0.9	0.0	23.87	38.5	-14.6	

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

Band

Band 5

REL99

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: Honeywell
Project #: 15U20259
Date: 5/22/2015
Test Engineer: D. Mun
Configuration: EUT X-Pos Only
Mode: REL99 B5 FUND

Test Equipment:
Receiving: Sunol T130, and 3m Chamber A N-type Cable
Substitution: Dipole T273, 4ft SMA Cable Warehouse.

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch								
826.40	14.70	V	0.9	0.0	13.80	38.5	-24.6	
826.40	25.29	H	0.9	0.0	24.39	38.5	-14.1	
Mid Ch								
836.60	14.75	V	0.9	0.0	13.85	38.5	-24.6	
836.60	25.45	H	0.9	0.0	24.56	38.5	-13.9	
High Ch								
846.60	14.37	V	0.9	0.0	13.47	38.5	-25.0	
846.60	24.75	H	0.9	0.0	23.86	38.5	-14.6	

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

LTE Band 2

Band

LTE2

20MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company:	HONEYWELL
Project #:	15U20259
Date:	5/13/2015
Test Engineer:	A. Escamilla
Configuration:	EUT Only
Location:	Chamber C
Mode:	LTE_16QAM Band 2 Fundamentals, 20MHz Bandwidth

Test Equpment:
Receiving: Horn T119, and Chamber C SMA Cables
Substitution: Horn T59, 6ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1860.00	6.90	V	0.9	7.9	13.88	33.0	-19.1	
1860.00	17.09	H	0.9	7.9	24.07	33.0	-8.9	
Mid Ch								
1880.00	6.76	V	0.9	7.9	13.73	33.0	-19.3	
1880.00	16.02	H	0.9	7.9	22.99	33.0	-10.0	
High Ch								
1900.00	10.38	V	0.9	7.9	17.34	33.0	-15.7	
1900.00	17.83	H	0.9	7.9	24.79	33.0	-8.2	

Band

LTE2

20MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: HONEYWELL
Project #: 15U20259
Date: 5/13/2015
Test Engineer: A. Escamilla
Configuration: EUT Only
Location: Chamber C
Mode: LTE_QPSK Band 2 Fundamentals, 20MHz Bandwidth

Test Equpment:
Receiving: Horn T119, and Chamber C SMA Cables
Substitution: Horn T59, 6ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1860.00	7.99	V	0.9	7.9	14.97	33.0	-18.0	
1860.00	18.09	H	0.9	7.9	25.07	33.0	-7.9	
Mid Ch								
1880.00	7.86	V	0.9	7.9	14.83	33.0	-18.2	
1880.00	16.96	H	0.9	7.9	23.93	33.0	-9.1	
High Ch								
1900.00	11.27	V	0.9	7.9	18.23	33.0	-14.8	
1900.00	19.06	H	0.9	7.9	26.02	33.0	-7.0	

Band

LTE2

15MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: HONEYWELL
Project #: 15U20259
Date: 5/13/2015
Test Engineer: A. Escamilla
Configuration: EUT Only
Location: Chamber C
Mode: LTE_16QAM Band 2 Fundamentals, 15MHz Bandwidth

Test Equpment:
Receiving: Horn T119, and Chamber C SMA Cables
Substitution: Horn T59, 6ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1857.50	7.34	V	0.9	7.9	14.32	33.0	-18.7	
1857.50	17.40	H	0.9	7.9	24.38	33.0	-8.6	
Mid Ch								
1880.00	5.15	V	0.9	7.9	12.12	33.0	-20.9	
1880.00	16.79	H	0.9	7.9	23.76	33.0	-9.2	
High Ch								
1902.50	6.60	V	0.9	7.9	13.56	33.0	-19.4	
1902.50	17.70	H	0.9	7.9	24.66	33.0	-8.3	

Band

LTE2

15MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company:	HONEYWELL
Project #:	15U20259
Date:	5/13/2015
Test Engineer:	A. Escamilla
Configuration:	EUT Only
Location:	Chamber C
Mode:	LTE_QPSK Band 2 Fundamentals, 15MHz Bandwidth

Test Equpment:
Receiving: Horn T119, and Chamber C SMA Cables
Substitution: Horn T59, 6ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1857.50	8.39	V	0.9	7.9	15.37	33.0	-17.6	
1857.50	18.15	H	0.9	7.9	25.13	33.0	-7.9	
Mid Ch								
1880.00	6.08	V	0.9	7.9	13.05	33.0	-20.0	
1880.00	17.76	H	0.9	7.9	24.73	33.0	-8.3	
High Ch								
1902.50	7.45	V	0.9	7.9	14.41	33.0	-18.6	
1902.50	18.64	H	0.9	7.9	25.60	33.0	-7.4	

Band

LTE2

10MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: HONEYWELL
Project #: 15U20259
Date: 5/13/2015
Test Engineer: A. Escamilla
Configuration: EUT Only
Location: Chamber C
Mode: LTE_16QAM Band 2 Fundamentals, 10MHz Bandwidth

Test Equpment:
Receiving: Horn T119, and Chamber C SMA Cables
Substitution: Horn T59, 6ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1855.00	6.72	V	0.9	7.9	13.71	33.0	-19.3	
1855.00	17.03	H	0.9	7.9	24.02	33.0	-9.0	
Mid Ch								
1880.00	6.29	V	0.9	7.9	13.26	33.0	-19.7	
1880.00	17.35	H	0.9	7.9	24.32	33.0	-8.7	
High Ch								
1905.00	10.83	V	0.9	7.9	17.80	33.0	-15.2	
1905.00	18.89	H	0.9	7.9	25.86	33.0	-7.1	

Band

LTE2

10MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: HONEYWELL
Project #: 15U20259
Date: 5/13/2015
Test Engineer: A. Escamilla
Configuration: EUT Only
Location: Chamber C
Mode: LTE_QPSK Band 2 Fundamentals, 10MHz Bandwidth

Test Equpment:
Receiving: Horn T119, and Chamber C SMA Cables
Substitution: Horn T59, 6ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1855.00	7.71	V	0.9	7.9	14.70	33.0	-18.3	
1855.00	17.99	H	0.9	7.9	24.98	33.0	-8.0	
Mid Ch								
1880.00	7.26	V	0.9	7.9	14.23	33.0	-18.8	
1880.00	18.40	H	0.9	7.9	25.37	33.0	-7.6	
High Ch								
1905.00	11.94	V	0.9	7.9	18.91	33.0	-14.1	
1905.00	19.86	H	0.9	7.9	26.83	33.0	-6.2	

Band

LTE2

5MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: HONEYWELL
Project #: 15U20259
Date: 5/13/2015
Test Engineer: A. Escamilla
Configuration: EUT Only
Location: Chamber C
Mode: LTE_16QAM Band 2 Fundamentals, 5MHz Bandwidth

Test Equpment:
Receiving: Horn T119, and Chamber C SMA Cables
Substitution: Horn T59, 6ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1852.50	5.33	V	0.9	7.9	12.32	33.0	-20.7	
1852.50	17.48	H	0.9	7.9	24.47	33.0	-8.5	
Mid Ch								
1880.00	7.06	V	0.9	7.9	14.03	33.0	-19.0	
1880.00	16.82	H	0.9	7.9	23.79	33.0	-9.2	
High Ch								
1907.50	5.93	V	0.9	7.9	12.91	33.0	-20.1	
1907.50	17.58	H	0.9	7.9	24.56	33.0	-8.4	

Band

LTE2

5MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: HONEYWELL
Project #: 15U20259
Date: 5/13/2015
Test Engineer: A. Escamilla
Configuration: EUT Only
Location: Chamber C
Mode: LTE_QPSK Band 2 Fundamentals, 5MHz Bandwidth

Test Equpment:
Receiving: Horn T119, and Chamber C SMA Cables
Substitution: Horn T59, 6ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1852.50	6.56	V	0.9	7.9	13.55	33.0	-19.5	
1852.50	18.55	H	0.9	7.9	25.54	33.0	-7.5	
Mid Ch								
1880.00	8.25	V	0.9	7.9	15.22	33.0	-17.8	
1880.00	17.81	H	0.9	7.9	24.78	33.0	-8.2	
High Ch								
1907.50	7.14	V	0.9	7.9	14.12	33.0	-18.9	
1907.50	18.70	H	0.9	7.9	25.68	33.0	-7.3	

Band

LTE2

3MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company:	HONEYWELL
Project #:	15U20259
Date:	5/13/2015
Test Engineer:	A. Escamilla
Configuration:	EUT Only
Location:	Chamber C
Mode:	LTE_16QAM Band 2 Fundamentals, 3MHz Bandwidth

Test Equpment:
Receiving: Horn T119, and Chamber C SMA Cables
Substitution: Horn T59, 6ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1851.50	7.29	V	0.9	7.9	14.28	33.0	-18.7	
1851.50	17.27	H	0.9	7.9	24.26	33.0	-8.7	
Mid Ch								
1880.00	7.08	V	0.9	7.9	14.05	33.0	-19.0	
1880.00	16.64	H	0.9	7.9	23.61	33.0	-9.4	
High Ch								
1908.50	8.22	V	0.9	7.9	15.20	33.0	-17.8	
1908.50	15.94	H	0.9	7.9	22.92	33.0	-10.1	

Band

LTE2

3MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company:	HONEYWELL
Project #:	15U20259
Date:	5/13/2015
Test Engineer:	A. Escamilla
Configuration:	EUT Only
Location:	Chamber C
Mode:	LTE_QPSK Band 2 Fundamentals, 3MHz Bandwidth

Test Equpment:
Receiving: Horn T119, and Chamber C SMA Cables
Substitution: Horn T59, 6ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1851.50	8.34	V	0.9	7.9	15.33	33.0	-17.7	
1851.50	18.11	H	0.9	7.9	25.10	33.0	-7.9	
Mid Ch								
1880.00	8.08	V	0.9	7.9	15.05	33.0	-18.0	
1880.00	17.58	H	0.9	7.9	24.55	33.0	-8.5	
High Ch								
1908.50	9.02	V	0.9	7.9	16.00	33.0	-17.0	
1908.50	16.84	H	0.9	7.9	23.82	33.0	-9.2	

Band

LTE2

1.4MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: HONEYWELL
Project #: 15U20259
Date: 5/13/2015
Test Engineer: A. Escamilla
Configuration: EUT Only
Location: Chamber C
Mode: LTE_16QAM Band 2 Fundamentals, 1.4MHz Bandwidth

Test Equpment:
Receiving: Horn T119, and Chamber C SMA Cables
Substitution: Horn T59, 6ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1850.70	6.22	V	0.9	7.9	13.21	33.0	-19.8	
1850.70	17.17	H	0.9	7.9	24.16	33.0	-8.8	
Mid Ch								
1880.00	7.38	V	0.9	7.9	14.35	33.0	-18.7	
1880.00	16.89	H	0.9	7.9	23.86	33.0	-9.1	
High Ch								
1909.30	8.45	V	0.9	7.9	15.43	33.0	-17.6	
1909.30	15.70	H	0.9	7.9	22.68	33.0	-10.3	

Band

LTE2

1.4MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company:	HONEYWELL
Project #:	15U20259
Date:	5/13/2015
Test Engineer:	A. Escamilla
Configuration:	EUT Only
Location:	Chamber C
Mode:	LTE_QPSK Band 2 Fundamentals, 1.4MHz Bandwidth

Test Equpment:
Receiving: Horn T119, and Chamber C SMA Cables
Substitution: Horn T59, 6ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1850.70	7.22	V	0.9	7.9	14.21	33.0	-18.8	
1850.70	18.19	H	0.9	7.9	25.18	33.0	-7.8	
Mid Ch								
1880.00	8.18	V	0.9	7.9	15.15	33.0	-17.9	
1880.00	17.66	H	0.9	7.9	24.63	33.0	-8.4	
High Ch								
1909.30	9.19	V	0.9	7.9	16.17	33.0	-16.8	
1909.30	16.38	H	0.9	7.9	23.36	33.0	-9.6	

LTE Band 4

Band

LTE4

20MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: HONEYWELL
Project #: 15U20259
Date: 5/14/2015
Test Engineer: A. Escamilla
Configuration: EUT Only
Location: Chamber C
Mode: LTE_16QAM Band 4 Fundamentals, 20MHz Bandwidth

Test Equpment:
Receiving: Horn T119, and Chamber C SMA Cables
Substitution: Horn T59, Xft SMA Cable (SN # SERIALNUMBER) Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1720.00	8.48	V	0.9	8.2	15.80	30.0	-14.2	
1720.00	17.42	H	0.9	8.2	24.74	30.0	-5.3	
Mid Ch								
1732.50	11.38	V	0.9	8.2	18.65	30.0	-11.3	
1732.50	17.63	H	0.9	8.2	24.90	30.0	-5.1	
High Ch								
1745.00	8.17	V	0.9	8.1	15.40	30.0	-14.6	
1745.00	18.86	H	0.9	8.1	26.09	30.0	-3.9	

Band

LTE4

20MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: HONEYWELL
Project #: 15U20259
Date: 5/14/2015
Test Engineer: A. Escamilla
Configuration: EUT Only
Location: Chamber C
Mode: LTE_QPSK Band 4 Fundamentals, 20MHz Bandwidth

Test Equpment:
Receiving: Horn T119, and Chamber C SMA Cables
Substitution: Horn T59, Xft SMA Cable (SN # SERIALNUMBER) Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1720.00	9.42	V	0.9	8.2	16.74	30.0	-13.3	
1720.00	18.49	H	0.9	8.2	25.81	30.0	-4.2	
Mid Ch								
1732.50	12.45	V	0.9	8.2	19.72	30.0	-10.3	
1732.50	18.92	H	0.9	8.2	26.19	30.0	-3.8	
High Ch								
1745.00	9.05	V	0.9	8.1	16.28	30.0	-13.7	
1745.00	19.85	H	0.9	8.1	27.08	30.0	-2.9	

Band

LTE4

15MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company:	HONEYWELL
Project #:	15U20259
Date:	5/14/2015
Test Engineer:	A. Escamilla
Configuration:	EUT Only
Location:	Chamber C
Mode:	LTE_16QAM Band 4 Fundamentals, 15MHz Bandwidth

Test Equpment:
Receiving: Horn T119, and Chamber C SMA Cables
Substitution: Horn T59, Xft SMA Cable (SN # SERIALNUMBER) Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1717.50	7.43	V	0.9	8.2	14.76	30.0	-15.2	
1717.50	17.87	H	0.9	8.2	25.20	30.0	-4.8	
Mid Ch								
1732.50	9.34	V	0.9	8.2	16.61	30.0	-13.4	
1732.50	19.09	H	0.9	8.2	26.36	30.0	-3.6	
High Ch								
1747.50	8.08	V	0.9	8.1	15.30	30.0	-14.7	
1747.50	19.26	H	0.9	8.1	26.48	30.0	-3.5	

Band

LTE4

15MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: HONEYWELL
Project #: 15U20259
Date: 5/14/2015
Test Engineer: A. Escamilla
Configuration: EUT Only
Location: Chamber C
Mode: LTE_QPSK Band 4 Fundamentals, 15MHz Bandwidth

Test Equpment:
Receiving: Horn T119, and Chamber C SMA Cables
Substitution: Horn T59, Xft SMA Cable (SN # SERIALNUMBER) Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1717.50	8.43	V	0.9	8.2	15.76	30.0	-14.2	
1717.50	18.76	H	0.9	8.2	26.09	30.0	-3.9	
Mid Ch								
1732.50	10.21	V	0.9	8.2	17.48	30.0	-12.5	
1732.50	20.00	H	0.9	8.2	27.27	30.0	-2.7	
High Ch								
1747.50	9.04	V	0.9	8.1	16.26	30.0	-13.7	
1747.50	20.17	H	0.9	8.1	27.39	30.0	-2.6	

Band

LTE4

10MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: HONEYWELL
Project #: 15U20259
Date: 5/14/2015
Test Engineer: A. Escamilla
Configuration: EUT Only
Location: Chamber C
Mode: LTE_16QAM Band 4 Fundamentals, 10MHz Bandwidth

Test Equpment:
Receiving: Horn T119, and Chamber C SMA Cables
Substitution: Horn T59, Xft SMA Cable (SN # SERIALNUMBER) Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1715.00	8.61	V	0.9	8.2	15.95	30.0	-14.1	
1715.00	16.72	H	0.9	8.2	24.06	30.0	-5.9	
Mid Ch								
1732.50	12.00	V	0.9	8.2	19.27	30.0	-10.7	
1732.50	18.63	H	0.9	8.2	25.90	30.0	-4.1	
High Ch								
1750.00	7.31	V	0.9	8.1	14.52	30.0	-15.5	
1750.00	18.51	H	0.9	8.1	25.72	30.0	-4.3	

Band

LTE4

10MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: HONEYWELL
Project #: 15U20259
Date: 5/14/2015
Test Engineer: A. Escamilla
Configuration: EUT Only
Location: Chamber C
Mode: LTE_QPSK Band 4 Fundamentals, 10MHz Bandwidth

Test Equpment:
Receiving: Horn T119, and Chamber C SMA Cables
Substitution: Horn T59, Xft SMA Cable (SN # SERIALNUMBER) Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1715.00	9.52	V	0.9	8.2	16.86	30.0	-13.1	
1715.00	17.82	H	0.9	8.2	25.16	30.0	-4.8	
Mid Ch								
1732.50	12.75	V	0.9	8.2	20.02	30.0	-10.0	
1732.50	19.76	H	0.9	8.2	27.03	30.0	-3.0	
High Ch								
1750.00	8.22	V	0.9	8.1	15.43	30.0	-14.6	
1750.00	19.49	H	0.9	8.1	26.70	30.0	-3.3	

Band

LTE4

5MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company:	HONEYWELL
Project #:	15U20259
Date:	5/14/2015
Test Engineer:	A. Escamilla
Configuration:	EUT Only
Location:	Chamber C
Mode:	LTE_16QAM Band 4 Fundamentals, 5MHz Bandwidth

Test Equpment:
Receiving: Horn T119, and Chamber C SMA Cables
Substitution: Horn T59, Xft SMA Cable (SN # SERIALNUMBER) Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1712.50	7.92	V	0.9	8.2	15.26	30.0	-14.7	
1712.50	16.36	H	0.9	8.2	23.70	30.0	-6.3	
Mid Ch								
1732.50	8.12	V	0.9	8.2	15.39	30.0	-14.6	
1732.50	19.25	H	0.9	8.2	26.52	30.0	-3.5	
High Ch								
1752.50	9.91	V	0.9	8.1	17.11	30.0	-12.9	
1752.50	18.26	H	0.9	8.1	25.46	30.0	-4.5	

Band

LTE4

5MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company:	HONEYWELL
Project #:	15U20259
Date:	5/14/2015
Test Engineer:	A. Escamilla
Configuration:	EUT Only
Location:	Chamber C
Mode:	LTE_QPSK Band 4 Fundamentals, 5MHz Bandwidth

Test Equpment:
Receiving: Horn T119, and Chamber C SMA Cables
Substitution: Horn T59, Xft SMA Cable (SN # SERIALNUMBER) Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1712.50	9.06	V	0.9	8.2	16.40	30.0	-13.6	
1712.50	17.45	H	0.9	8.2	24.79	30.0	-5.2	
Mid Ch								
1732.50	9.17	V	0.9	8.2	16.44	30.0	-13.6	
1732.50	20.25	H	0.9	8.2	27.52	30.0	-2.5	
High Ch								
1752.50	11.03	V	0.9	8.1	18.23	30.0	-11.8	
1752.50	19.32	H	0.9	8.1	26.52	30.0	-3.5	

Band

LTE4

3MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company:	HONEYWELL
Project #:	15U20259
Date:	5/13/2015
Test Engineer:	A. Escamilla
Configuration:	EUT Only
Location:	Chamber C
Mode:	LTE_16QAM Band 4 Fundamentals, 3MHz Bandwidth

Test Equpment:
Receiving: Horn T119, and Chamber C SMA Cables
Substitution: Horn T59, 6ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1711.50	7.34	V	0.9	8.2	14.69	30.0	-15.3	
1711.50	18.86	H	0.9	8.2	26.21	30.0	-3.8	
Mid Ch								
1732.50	11.46	V	0.9	8.2	18.73	30.0	-11.3	
1732.50	18.34	H	0.9	8.2	25.61	30.0	-4.4	
High Ch								
1753.50	7.62	V	0.9	8.1	14.81	30.0	-15.2	
1753.50	19.21	H	0.9	8.1	26.40	30.0	-3.6	

Band

LTE4

3MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: HONEYWELL
Project #: 15U20259
Date: 5/13/2015
Test Engineer: A. Escamilla
Configuration: EUT Only
Location: Chamber C
Mode: LTE_QPSK Band 4 Fundamentals, 3MHz Bandwidth

Test Equpment:
Receiving: Horn T119, and Chamber C SMA Cables
Substitution: Horn T59, 6ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1711.50	9.29	V	0.9	8.2	16.64	30.0	-13.4	
1711.50	19.85	H	0.9	8.2	27.20	30.0	-2.8	
Mid Ch								
1732.50	12.51	V	0.9	8.2	19.78	30.0	-10.2	
1732.50	19.31	H	0.9	8.2	26.58	30.0	-3.4	
High Ch								
1753.50	8.78	V	0.9	8.1	15.97	30.0	-14.0	
1753.50	20.49	H	0.9	8.1	27.68	30.0	-2.3	

Band

LTE4

1.4MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: HONEYWELL
Project #: 15U20259
Date: 5/13/2015
Test Engineer: A. Escamilla
Configuration: EUT Only
Location: Chamber C
Mode: LTE_16QAM Band 4 Fundamentals, 1.4MHz Bandwidth

Test Equpment:
Receiving: Horn T119, and Chamber C SMA Cables
Substitution: Horn T59, 6ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1710.70	8.80	V	0.9	8.3	16.15	30.0	-13.8	
1710.70	18.42	H	0.9	8.3	25.77	30.0	-4.2	
Mid Ch								
1732.50	10.06	V	0.9	8.2	17.33	30.0	-12.7	
1732.50	18.65	H	0.9	8.2	25.92	30.0	-4.1	
High Ch								
1754.30	8.85	V	0.9	8.1	16.04	30.0	-14.0	
1754.30	18.99	H	0.9	8.1	26.18	30.0	-3.8	

Band

LTE4

1.4MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: HONEYWELL
Project #: 15U20259
Date: 5/13/2015
Test Engineer: A. Escamilla
Configuration: EUT Only
Location: Chamber C
Mode: LTE_QPSK Band 4 Fundamentals, 1.4MHz Bandwidth

Test Equpment:
Receiving: Horn T119, and Chamber C SMA Cables
Substitution: Horn T59, 6ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1710.70	9.84	V	0.9	8.3	17.19	30.0	-12.8	
1710.70	19.44	H	0.9	8.3	26.79	30.0	-3.2	
Mid Ch								
1732.50	11.08	V	0.9	8.2	18.35	30.0	-11.6	
1732.50	19.71	H	0.9	8.2	26.98	30.0	-3.0	
High Ch								
1754.30	9.63	V	0.9	8.1	16.82	30.0	-13.2	
1754.30	19.80	H	0.9	8.1	26.99	30.0	-3.0	

LTE Band 5

Band

LTE5

10MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: Honeywell
Project #: 15U20259
Date: 5/21/2015
Test Engineer: O. Stoelting
Configuration: X-pos EUT Only
Location: Chamber A
Mode: LTE_16QAM Band 5 Fundamentals, 10MHz Bandwidth

Test Equpment:
Receiving: Hybrid T130, and Chamber A SMA Cables
Substitution: Dipole T276, 6ft N Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
829.00	16.49	V	0.9	0.0	15.59	38.5	-22.9	
829.00	24.03	H	0.9	0.0	23.13	38.5	-15.4	
Mid Ch								
836.50	15.80	V	0.9	0.0	14.90	38.5	-23.6	
836.50	23.37	H	0.9	0.0	22.47	38.5	-16.0	
High Ch								
844.00	15.46	V	0.9	0.0	14.56	38.5	-23.9	
844.00	23.91	H	0.9	0.0	23.01	38.5	-15.5	

Band

LTE5

10MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company:	Honeywell
Project #:	15U20259
Date:	5/21/2015
Test Engineer:	O. Stoelting
Configuration:	X-pos EUT Only
Location:	Chamber A
Mode:	LTE_QPSK Band 5 Fundamentals, 10MHz Bandwidth

Test Equpment:
Receiving: Hybrid T130, and Chamber A SMA Cables
Substitution: Dipole T276, 6ft N Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
829.00	17.48	V	0.9	0.0	16.58	38.5	-21.9	
829.00	25.07	H	0.9	0.0	24.17	38.5	-14.3	
Mid Ch								
836.50	16.75	V	0.9	0.0	15.85	38.5	-22.6	
836.50	24.37	H	0.9	0.0	23.47	38.5	-15.0	
High Ch								
844.00	16.53	V	0.9	0.0	15.63	38.5	-22.9	
844.00	25.07	H	0.9	0.0	24.17	38.5	-14.3	

Band

LTE5

5MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company:	Honeywell
Project #:	15U20259
Date:	5/21/2015
Test Engineer:	O. Stoelting
Configuration:	X-pos EUT Only
Location:	Chamber A
Mode:	LTE_16QAM Band 5 Fundamentals, 5MHz Bandwidth

Test Equpment:
Receiving: Hybrid T130, and Chamber A SMA Cables
Substitution: Dipole T276, 6ft N Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
826.50	16.66	V	0.9	0.0	15.76	38.5	-22.7	
826.50	24.34	H	0.9	0.0	23.44	38.5	-15.1	
Mid Ch								
836.50	15.42	V	0.9	0.0	14.52	38.5	-24.0	
836.50	23.91	H	0.9	0.0	23.01	38.5	-15.5	
High Ch								
846.50	15.86	V	0.9	0.0	14.96	38.5	-23.5	
846.50	23.80	H	0.9	0.0	22.90	38.5	-15.6	

Band

LTE5

5MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: Honeywell
Project #: 15U20259
Date: 5/21/2015
Test Engineer: O. Stoelting
Configuration: X-pos EUT Only
Location: Chamber A
Mode: LTE_QPSK Band 5 Fundamentals, 5MHz Bandwidth

Test Equpment:
Receiving: Hybrid T130, and Chamber A SMA Cables
Substitution: Dipole T276, 6ft N Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
826.50	17.59	V	0.9	0.0	16.69	38.5	-21.8	
826.50	25.07	H	0.9	0.0	24.17	38.5	-14.3	
Mid Ch								
836.50	16.62	V	0.9	0.0	15.72	38.5	-22.8	
836.50	25.15	H	0.9	0.0	24.25	38.5	-14.3	
High Ch								
846.50	16.65	V	0.9	0.0	15.75	38.5	-22.8	
846.50	24.80	H	0.9	0.0	23.90	38.5	-14.6	

Band

LTE5

3MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company:	Honeywell
Project #:	15U20259
Date:	5/21/2015
Test Engineer:	O. Stoelting
Configuration:	X-pos EUT Only
Location:	Chamber A
Mode:	LTE_16QAM Band 5 Fundamentals, 3MHz Bandwidth

Test Equpment:
Receiving: Hybrid T130, and Chamber A SMA Cables
Substitution: Dipole T276, 6ft N Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
825.50	16.48	V	0.9	0.0	15.58	38.5	-22.9	
825.50	24.33	H	0.9	0.0	23.43	38.5	-15.1	
Mid Ch								
836.50	15.47	V	0.9	0.0	14.57	38.5	-23.9	
836.50	24.19	H	0.9	0.0	23.29	38.5	-15.2	
High Ch								
847.50	15.86	V	0.9	0.0	14.96	38.5	-23.5	
847.50	23.85	H	0.9	0.0	22.95	38.5	-15.5	

Band

LTE5

3MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: Honeywell
Project #: 15U20259
Date: 5/21/2015
Test Engineer: O. Stoelting
Configuration: X-pos EUT Only
Location: Chamber A
Mode: LTE_QPSK Band 5 Fundamentals, 3MHz Bandwidth

Test Equpment:
Receiving: Hybrid T130, and Chamber A SMA Cables
Substitution: Dipole T276, 6ft N Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
825.50	17.40	V	0.9	0.0	16.50	38.5	-22.0	
825.50	25.50	H	0.9	0.0	24.60	38.5	-13.9	
Mid Ch								
836.50	16.37	V	0.9	0.0	15.47	38.5	-23.0	
836.50	25.21	H	0.9	0.0	24.31	38.5	-14.2	
High Ch								
847.50	16.84	V	0.9	0.0	15.94	38.5	-22.6	
847.50	24.86	H	0.9	0.0	23.96	38.5	-14.5	

Band

LTE5

1.4MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: Honeywell
Project #: 15U20259
Date: 5/21/2015
Test Engineer: O. Stoelting
Configuration: X-pos EUT Only
Location: Chamber A
Mode: LTE_16QAM Band 5 Fundamentals, 1.4MHz Bandwidth

Test Equpment:
Receiving: Hybrid T130, and Chamber A SMA Cables
Substitution: Dipole T276, 6ft N Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
824.70	16.89	V	0.9	0.0	15.99	38.5	-22.5	
824.70	24.03	H	0.9	0.0	23.13	38.5	-15.4	
Mid Ch								
836.50	16.02	V	0.9	0.0	15.12	38.5	-23.4	
836.50	24.29	H	0.9	0.0	23.39	38.5	-15.1	
High Ch								
848.30	15.63	V	0.9	0.0	14.73	38.5	-23.8	
848.30	23.06	H	0.9	0.0	22.16	38.5	-16.3	

Band

LTE5

1.4MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company:	Honeywell
Project #:	15U20259
Date:	5/21/2015
Test Engineer:	O. Stoelting
Configuration:	X-pos EUT Only
Location:	Chamber A
Mode:	LTE_QPSK Band 5 Fundamentals, 1.4MHz Bandwidth

Test Equpment:
Receiving: Hybrid T130, and Chamber A SMA Cables
Substitution: Dipole T276, 6ft N Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
824.70	17.80	V	0.9	0.0	16.90	38.5	-21.6	
824.70	24.89	H	0.9	0.0	23.99	38.5	-14.5	
Mid Ch								
836.50	16.88	V	0.9	0.0	15.98	38.5	-22.5	
836.50	25.04	H	0.9	0.0	24.14	38.5	-14.4	
High Ch								
848.30	16.55	V	0.9	0.0	15.65	38.5	-22.9	
848.30	24.10	H	0.9	0.0	23.20	38.5	-15.3	

LTE Band 7

Band

LTE7

20MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: Honeywell
Project #: 15U20259
Date: 5/20/2015
Test Engineer: O. Stoelting
Configuration: EUT Only
Location: Chamber A
Mode: LTE_16QAM Band 7 Fundamentals, 20MHz Bandwidth

Test Equpment:
Receiving: Horn T136, and Chamber A SMA Cables
Substitution: Horn T59, 6ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
2510.00	12.10	V	0.9	9.5	20.68	33.0	-12.3	
2510.00	13.60	H	0.9	9.5	22.18	33.0	-10.8	
Mid Ch								
2535.00	12.15	V	0.9	9.5	20.74	33.0	-12.3	
2535.00	11.32	H	0.9	9.5	19.91	33.0	-13.1	
High Ch								
2560.00	14.40	V	0.9	9.5	23.00	33.0	-10.0	
2560.00	12.57	H	0.9	9.5	21.16	33.0	-11.8	

Band

LTE7

20MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: Honeywell
Project #: 15U20259
Date: 5/20/2015
Test Engineer: O. Stoelting
Configuration: EUT Only
Location: Chamber A
Mode: LTE_QPSK Band 7 Fundamentals, 20MHz Bandwidth

Test Equpment:
Receiving: Horn T136, and Chamber A SMA Cables
Substitution: Horn T59, 6ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
2510.00	13.21	V	0.9	9.5	21.79	33.0	-11.2	
2510.00	14.54	H	0.9	9.5	23.12	33.0	-9.9	
Mid Ch								
2535.00	13.25	V	0.9	9.5	21.84	33.0	-11.2	
2535.00	12.45	H	0.9	9.5	21.04	33.0	-12.0	
High Ch								
2560.00	15.40	V	0.9	9.5	24.00	33.0	-9.0	
2560.00	13.54	H	0.9	9.5	22.13	33.0	-10.9	

Band

LTE7

15MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: Honeywell
Project #: 15U20259
Date: 5/20/2015
Test Engineer: O. Stoelting
Configuration: EUT Only
Location: Chamber A
Mode: LTE_16QAM Band 7 Fundamentals, 15MHz Bandwidth

Test Equpment:
Receiving: Horn T136, and Chamber A SMA Cables
Substitution: Horn T59, 6ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
2507.50	14.41	V	0.9	9.5	22.99	33.0	-10.0	
2507.50	14.28	H	0.9	9.5	22.86	33.0	-10.1	
Mid Ch								
2535.00	13.35	V	0.9	9.5	21.94	33.0	-11.1	
2535.00	13.42	H	0.9	9.5	22.01	33.0	-11.0	
High Ch								
2562.50	16.04	V	0.9	9.5	24.64	33.0	-8.4	
2562.50	14.54	H	0.9	9.5	23.13	33.0	-9.9	

Band

LTE7

15MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company:	Honeywell
Project #:	15U20259
Date:	5/20/2015
Test Engineer:	O. Stoelting
Configuration:	EUT Only
Location:	Chamber A
Mode:	LTE_QPSK Band 7 Fundamentals, 15MHz Bandwidth

Test Equpment:
Receiving: Horn T136, and Chamber A SMA Cables
Substitution: Horn T59, 6ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
2507.50	15.46	V	0.9	9.5	24.04	33.0	-9.0	
2507.50	15.12	H	0.9	9.5	23.70	33.0	-9.3	
Mid Ch								
2535.00	14.32	V	0.9	9.5	22.91	33.0	-10.1	
2535.00	14.47	H	0.9	9.5	23.06	33.0	-9.9	
High Ch								
2562.50	17.20	V	0.9	9.5	25.80	33.0	-7.2	
2562.50	15.69	H	0.9	9.5	24.28	33.0	-8.7	

Band

LTE7

10MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company:	Honeywell
Project #:	15U20259
Date:	5/20/2015
Test Engineer:	O. Stoelting
Configuration:	EUT Only
Location:	Chamber A
Mode:	LTE_16QAM Band 7 Fundamentals, 10MHz Bandwidth

Test Equpment:
Receiving: Horn T136, and Chamber A SMA Cables
Substitution: Horn T59, 6ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
2505.00	14.41	V	0.9	9.5	22.99	33.0	-10.0	
2505.00	14.37	H	0.9	9.5	22.95	33.0	-10.1	
Mid Ch								
2535.00	15.85	V	0.9	9.5	24.44	33.0	-8.6	
2535.00	13.24	H	0.9	9.5	21.83	33.0	-11.2	
High Ch								
2565.00	16.33	V	0.9	9.5	24.93	33.0	-8.1	
2565.00	14.49	H	0.9	9.5	23.08	33.0	-9.9	

Band

LTE7

10MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: Honeywell
Project #: 15U20259
Date: 5/20/2015
Test Engineer: O. Stoelting
Configuration: EUT Only
Location: Chamber A
Mode: LTE_QPSK Band 7 Fundamentals, 10MHz Bandwidth

Test Equpment:
Receiving: Horn T136, and Chamber A SMA Cables
Substitution: Horn T59, 6ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. Ant. Pol.	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
2505.00	15.52	V	0.9	9.5	24.10	33.0	-8.9	
2505.00	15.43	H	0.9	9.5	24.01	33.0	-9.0	
Mid Ch								
2535.00	16.72	V	0.9	9.5	25.31	33.0	-7.7	
2535.00	14.25	H	0.9	9.5	22.84	33.0	-10.2	
High Ch								
2565.00	17.24	V	0.9	9.5	25.84	33.0	-7.2	
2565.00	15.42	H	0.9	9.5	24.01	33.0	-9.0	

Band

LTE7

5MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company:	Honeywell
Project #:	15U20259
Date:	5/20/2015
Test Engineer:	O. Stoelting
Configuration:	EUT Only
Location:	Chamber A
Mode:	LTE_16QAM Band 7 Fundamentals, 5MHz Bandwidth

Test Equpment:
Receiving: Horn T136, and Chamber A SMA Cables
Substitution: Horn T59, 6ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
2502.50	14.35	V	0.9	9.5	22.93	33.0	-10.1	
2502.50	14.24	H	0.9	9.5	22.81	33.0	-10.2	
Mid Ch								
2535.00	13.74	V	0.9	9.5	22.33	33.0	-10.7	
2535.00	13.41	H	0.9	9.5	22.00	33.0	-11.0	
High Ch								
2567.50	14.76	V	0.9	9.5	23.36	33.0	-9.6	
2567.50	12.26	H	0.9	9.5	20.85	33.0	-12.1	

Band

LTE7

5MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company:	Honeywell
Project #:	15U20259
Date:	5/20/2015
Test Engineer:	O. Stoelting
Configuration:	EUT Only
Location:	Chamber A
Mode:	LTE_QPSK Band 7 Fundamentals, 5MHz Bandwidth

Test Equpment:
Receiving: Horn T136, and Chamber A SMA Cables
Substitution: Horn T59, 6ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
2502.50	15.30	V	0.9	9.5	23.88	33.0	-9.1	
2502.50	15.26	H	0.9	9.5	23.83	33.0	-9.2	
Mid Ch								
2535.00	14.77	V	0.9	9.5	23.36	33.0	-9.6	
2535.00	14.45	H	0.9	9.5	23.04	33.0	-10.0	
High Ch								
2567.50	15.83	V	0.9	9.5	24.43	33.0	-8.6	
2567.50	13.33	H	0.9	9.5	21.92	33.0	-11.1	

LTE Band 17

Band

LTE17

10MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company:	Honeywell
Project #:	15U20259
Date:	5/21/2015
Test Engineer:	O. Stoelting
Configuration:	Y-pos EUT Only
Location:	Chamber A
Mode:	LTE_16QAM Band 17 Fundamentals, 10MHz Bandwidth

Test Equpment:
Receiving: Hybrid T130, and Chamber A SMA Cables
Substitution: Dipole T276, 6ft N Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
709.00	10.91	V	0.9	0.0	10.01	34.8	-24.8	
709.00	19.45	H	0.9	0.0	18.55	34.8	-16.2	
Mid Ch								
710.00	10.89	V	0.9	0.0	9.99	34.8	-24.8	
710.00	19.87	H	0.9	0.0	18.97	34.8	-15.8	
High Ch								
711.00	10.74	V	0.9	0.0	9.84	34.8	-24.9	
711.00	19.62	H	0.9	0.0	18.72	34.8	-16.1	

Band

LTE17

10MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company:	Honeywell
Project #:	15U20259
Date:	5/21/2015
Test Engineer:	O. Stoelting
Configuration:	Y-pos EUT Only
Location:	Chamber A
Mode:	LTE_QPSK Band 17 Fundamentals, 10MHz Bandwidth

Test Equpment:
Receiving: Hybrid T130, and Chamber A SMA Cables
Substitution: Dipole T276, 6ft N Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
709.00	11.87	V	0.9	0.0	10.97	34.8	-23.8	
709.00	20.48	H	0.9	0.0	19.58	34.8	-15.2	
Mid Ch								
710.00	11.86	V	0.9	0.0	10.96	34.8	-23.8	
710.00	20.87	H	0.9	0.0	19.97	34.8	-14.8	
High Ch								
711.00	11.76	V	0.9	0.0	10.86	34.8	-23.9	
711.00	20.76	H	0.9	0.0	19.86	34.8	-14.9	

Band

LTE17

5MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: Honeywell
Project #: 15U20259
Date: 5/21/2015
Test Engineer: O. Stoelting
Configuration: Y-pos EUT Only
Location: Chamber A
Mode: LTE_16QAM Band 17 Fundamentals, 5MHz Bandwidth

Test Equpment:
Receiving: Hybrid T130, and Chamber A SMA Cables
Substitution: Dipole T276, 6ft N Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
706.50	10.83	V	0.9	0.0	9.93	34.8	-24.8	
706.50	19.30	H	0.9	0.0	18.40	34.8	-16.4	
Mid Ch								
710.00	10.55	V	0.9	0.0	9.65	34.8	-25.1	
710.00	19.56	H	0.9	0.0	18.66	34.8	-16.1	
High Ch								
713.50	10.74	V	0.9	0.0	9.84	34.8	-24.9	
713.50	19.32	H	0.9	0.0	18.42	34.8	-16.4	

Band

LTE17

5MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company:	Honeywell
Project #:	15U20259
Date:	5/21/2015
Test Engineer:	O. Stoelting
Configuration:	Y-pos EUT Only
Location:	Chamber A
Mode:	LTE_QPSK Band 17 Fundamentals, 5MHz Bandwidth

Test Equpment:
Receiving: Hybrid T130, and Chamber A SMA Cables
Substitution: Dipole T276, 6ft N Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
706.50	11.69	V	0.9	0.0	10.79	34.8	-24.0	
706.50	20.26	H	0.9	0.0	19.36	34.8	-15.4	
Mid Ch								
710.00	11.82	V	0.9	0.0	10.92	34.8	-23.8	
710.00	20.73	H	0.9	0.0	19.83	34.8	-14.9	
High Ch								
713.50	11.69	V	0.9	0.0	10.79	34.8	-24.0	
713.50	20.54	H	0.9	0.0	19.64	34.8	-15.1	

11.2. FIELD STRENGTH OF SPURIOUS RADIATION

RULE PART(S)

FCC: §2.1053, §22.917, §24.238, §27.53 and §90.691

LIMIT

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

Part 27: (m)(4) (4) For mobile digital stations, the attenuation factor shall be not less than 40 + 10 log (P) dB on all frequencies between the channel edge and 5 megahertz from the channel edge, 43 + 10 log (P) dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and 55 + 10 log (P) dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less that 43 + 10 log (P) dB on all frequencies between 2490.5 MHz and 2496 MHz and 55 + 10 log (P) dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

TEST PROCEDURE

For Cellular equipment - Compliance with these rules is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater. In the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (i.e. 100 kHz or 1 percent of emission bandwidth, as specified). The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

For PCS equipment - Compliance with these rules is based on the use of measurement instrumentation employing a resolution bandwidth of 1 MHz or greater. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (i.e. 1 MHz or 1 percent of emission bandwidth, as specified). The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

MODES TESTED

RESULTS

11.2.1. SPURIOUS RADIATION PLOTS

GSM

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: Honeywell
Project #: 15U20259
Date: 05/18/15
Test Engineer: D. Mun
Configuration: X-pos EUT with Charger Dock
Mode: EGPRS1900 Harm

Chamber	Pre-amplifer	Filter	Limit
3m Chamber	T34 8449B	Filter 1	Part 24

Band

GSM 1900

EGPRS

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1850.2MHz									
3.700	-14.5	V	3.0	35.4	1.0	-48.9	-13.0	-35.9	
5.551	-11.1	V	3.0	34.7	1.0	-44.8	-13.0	-31.8	
7.401	-6.8	V	3.0	34.9	1.0	-40.7	-13.0	-27.7	
3.700	-15.0	H	3.0	35.4	1.0	-49.4	-13.0	-36.4	
5.551	-11.1	H	3.0	34.7	1.0	-44.8	-13.0	-31.8	
7.401	-5.5	H	3.0	34.9	1.0	-39.4	-13.0	-26.4	
Mid Ch, 1880.0MHz									
3.760	-14.6	V	3.0	35.3	1.0	-49.0	-13.0	-36.0	
5.640	-11.3	V	3.0	34.7	1.0	-45.1	-13.0	-32.1	
7.520	-6.3	V	3.0	34.9	1.0	-40.2	-13.0	-27.2	
3.760	-15.0	H	3.0	35.3	1.0	-49.3	-13.0	-36.3	
5.640	-10.8	H	3.0	34.7	1.0	-44.5	-13.0	-31.5	
7.520	-5.1	H	3.0	34.9	1.0	-39.0	-13.0	-26.0	
High Ch, 1909.8MHz									
3.820	-14.3	V	3.0	35.3	1.0	-48.6	-13.0	-35.6	
5.729	-10.6	V	3.0	34.7	1.0	-44.4	-13.0	-31.4	
7.639	-5.4	V	3.0	35.0	1.0	-39.3	-13.0	-26.3	
3.820	-13.7	H	3.0	35.3	1.0	-48.0	-13.0	-35.0	
5.729	-10.0	H	3.0	34.7	1.0	-43.7	-13.0	-30.7	
7.639	-4.6	H	3.0	35.0	1.0	-38.5	-13.0	-25.5	

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: Honeywell
Project #: 15U20259
Date: 05/18/15
Test Engineer: D. Mun
Configuration: X-pos EUT with Charger Dock
Mode: GPRS1900 Harm

Chamber	Pre-amplifer	Filter	Limit
3m Chamber	T34 8449B	Filter 1	Part 24

Band

GSM 1900

GPRS

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1850.2MHz									
3.700	-14.9	V	3.0	35.4	1.0	-49.3	-13.0	-36.3	
5.551	-11.6	V	3.0	34.7	1.0	-45.4	-13.0	-32.4	
7.401	-6.5	V	3.0	34.9	1.0	-40.5	-13.0	-27.5	
3.700	-15.2	H	3.0	35.4	1.0	-49.6	-13.0	-36.6	
5.551	-11.2	H	3.0	34.7	1.0	-44.9	-13.0	-31.9	
7.401	-4.8	H	3.0	34.9	1.0	-38.7	-13.0	-25.7	
Mid Ch, 1880.0MHz									
3.760	-14.3	V	3.0	35.3	1.0	-48.7	-13.0	-35.7	
5.640	-11.2	V	3.0	34.7	1.0	-45.0	-13.0	-32.0	
7.520	-6.5	V	3.0	34.9	1.0	-40.4	-13.0	-27.4	
3.760	-14.7	H	3.0	35.3	1.0	-49.1	-13.0	-36.1	
5.640	-11.1	H	3.0	34.7	1.0	-44.8	-13.0	-31.8	
7.520	-5.5	H	3.0	34.9	1.0	-39.5	-13.0	-26.5	
High Ch, 1909.8MHz									
3.820	-14.3	V	3.0	35.3	1.0	-48.6	-13.0	-35.6	
5.729	-11.4	V	3.0	34.7	1.0	-45.1	-13.0	-32.1	
7.639	-5.5	V	3.0	35.0	1.0	-39.4	-13.0	-26.4	
3.820	-14.4	H	3.0	35.3	1.0	-48.7	-13.0	-35.7	
5.729	-10.6	H	3.0	34.7	1.0	-44.4	-13.0	-31.4	
7.639	-4.6	H	3.0	35.0	1.0	-38.5	-13.0	-25.5	

Band

GSM 850

EGPRS

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: Honeywell
Project #: 15U20259
Date: 5/19/2015
Test Engineer: D. Mun
Configuration: EUT + Charger Dock
Location: Chamber C
Mode: EGPRS 850 MHz Harmonics

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 824.2									
1648.40	-18.1	V	3.0	37.0	1.0	-54.1	-13.0	-41.1	
2472.60	-17.3	V	3.0	36.4	1.0	-52.7	-13.0	-39.7	
3296.80	-18.4	V	3.0	36.2	1.0	-53.6	-13.0	-40.6	
1648.40	-16.5	H	3.0	37.0	1.0	-52.5	-13.0	-39.5	
2472.60	-12.6	H	3.0	36.4	1.0	-48.0	-13.0	-35.0	
3296.80	-21.1	H	3.0	36.2	1.0	-56.2	-13.0	-43.2	
Mid Ch, 836.6									
1673.20	-16.1	V	3.0	37.0	1.0	-52.1	-13.0	-39.1	
2509.80	-15.3	V	3.0	36.4	1.0	-50.7	-13.0	-37.7	
3346.40	-21.1	V	3.0	36.1	1.0	-56.2	-13.0	-43.2	
1673.20	-16.0	H	3.0	37.0	1.0	-52.0	-13.0	-39.0	
2509.80	-22.3	H	3.0	36.4	1.0	-57.8	-13.0	-44.8	
3346.40	-21.3	H	3.0	36.1	1.0	-56.4	-13.0	-43.4	
High Ch, 848.8									
1697.60	-7.9	V	3.0	37.0	1.0	-43.8	-13.0	-30.8	
2546.40	-9.9	V	3.0	36.4	1.0	-45.3	-13.0	-32.3	
3395.20	-21.0	V	3.0	36.1	1.0	-56.1	-13.0	-43.1	
1697.60	-18.0	H	3.0	37.0	1.0	-54.0	-13.0	-41.0	
2546.40	-11.1	H	3.0	36.4	1.0	-46.5	-13.0	-33.5	
3395.20	-22.0	H	3.0	36.1	1.0	-57.1	-13.0	-44.1	

Band

GSM850

GPRS

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: Honeywell
Project #: 15U20259
Date: 5/19/2015
Test Engineer: D. Mun
Configuration: EUT + Charger Dock
Location: Chamber C
Mode: GPRS 850 MHz Harmonics

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 824.2									
1648.40	-14.7	V	3.0	37.0	1.0	-50.7	-13.0	-37.7	
2472.60	-14.4	V	3.0	36.4	1.0	-49.8	-13.0	-36.8	
3296.80	-21.1	V	3.0	36.2	1.0	-56.2	-13.0	-43.2	
1648.40	-18.7	H	3.0	37.0	1.0	-54.7	-13.0	-41.7	
2472.60	-23.5	H	3.0	36.4	1.0	-58.9	-13.0	-45.9	
3296.80	-21.0	H	3.0	36.2	1.0	-56.1	-13.0	-43.1	
Mid Ch, 836.6									
1673.20	-13.4	V	3.0	37.0	1.0	-49.4	-13.0	-36.4	
2509.80	-15.8	V	3.0	36.4	1.0	-51.2	-13.0	-38.2	
3346.40	-16.2	V	3.0	36.1	1.0	-51.3	-13.0	-38.3	
1673.20	-4.5	H	3.0	37.0	1.0	-40.5	-13.0	-27.5	
2509.80	-16.7	H	3.0	36.4	1.0	-52.1	-13.0	-39.1	
3346.40	-14.7	H	3.0	36.1	1.0	-49.8	-13.0	-36.8	
High Ch, 848.8									
1697.60	-5.7	V	3.0	37.0	1.0	-41.7	-13.0	-28.7	
2546.40	-10.0	V	3.0	36.4	1.0	-45.4	-13.0	-32.4	
3395.20	-20.5	V	3.0	36.1	1.0	-55.6	-13.0	-42.6	
1697.60	-5.8	H	3.0	37.0	1.0	-41.8	-13.0	-28.8	
2546.40	-12.5	H	3.0	36.4	1.0	-47.9	-13.0	-34.9	
3395.20	-19.8	H	3.0	36.1	1.0	-54.9	-13.0	-41.9	

WCDMA

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: Honeywell
Project #: 15U20259
Date: 05/18/15
Test Engineer: D. Mun
Configuration: X-pos EUT with Charger Dock
Mode: HSDPA_B2

Chamber	Pre-amplifer	Filter	Limit
3m Chamber	T34 8449B	Filter 1	Part 24

Band: Band 2

HSDPA

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1852.4MHz									
3.705	-14.7	V	3.0	35.4	1.0	-49.1	-13.0	-36.1	
5.557	-11.6	V	3.0	34.7	1.0	-45.3	-13.0	-32.3	
7.410	-6.6	V	3.0	34.9	1.0	-40.5	-13.0	-27.5	
3.705	-15.3	H	3.0	35.4	1.0	-49.7	-13.0	-36.7	
5.557	-11.5	H	3.0	34.7	1.0	-45.3	-13.0	-32.3	
7.410	-5.2	H	3.0	34.9	1.0	-39.1	-13.0	-26.1	
Mid Ch, 1880MHz									
3.760	-14.3	V	3.0	35.3	1.0	-48.7	-13.0	-35.7	
5.640	-11.6	V	3.0	34.7	1.0	-45.3	-13.0	-32.3	
7.520	-5.4	V	3.0	34.9	1.0	-39.4	-13.0	-26.4	
3.760	-14.7	H	3.0	35.3	1.0	-49.0	-13.0	-36.0	
5.640	-10.9	H	3.0	34.7	1.0	-44.7	-13.0	-31.7	
7.520	-5.1	H	3.0	34.9	1.0	-39.0	-13.0	-26.0	
High Ch, 1907.6MHz									
3.815	-13.9	V	3.0	35.3	1.0	-48.2	-13.0	-35.2	
5.723	-11.5	V	3.0	34.7	1.0	-45.3	-13.0	-32.3	
7.630	-6.3	V	3.0	34.9	1.0	-40.2	-13.0	-27.2	
3.815	-14.0	H	3.0	35.3	1.0	-48.3	-13.0	-35.3	
5.723	-10.4	H	3.0	34.7	1.0	-44.2	-13.0	-31.2	
7.630	-3.5	H	3.0	34.9	1.0	-37.5	-13.0	-24.5	

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: Honeywell
Project #: 15U20259
Date: 05/18/15
Test Engineer: D. Mun
Configuration: X-pos EUT with Charger Dock
Mode: Rel99_B2

Chamber	Pre-amplifer	Filter	Limit
3m Chamber	T34 8449B	Filter 1	Part 24

Band: Band 2
REL99

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1852.4MHz									
3.705	-14.9	V	3.0	35.4	1.0	-49.3	-13.0	-36.3	
5.557	-11.3	V	3.0	34.7	1.0	-45.0	-13.0	-32.0	
7.410	-6.3	V	3.0	34.9	1.0	-40.2	-13.0	-27.2	
3.705	-15.1	H	3.0	35.4	1.0	-49.5	-13.0	-36.5	
5.557	-11.2	H	3.0	34.7	1.0	-44.9	-13.0	-31.9	
7.410	-5.7	H	3.0	34.9	1.0	-39.6	-13.0	-26.6	
Mid Ch, 1880MHz									
3.760	-14.5	V	3.0	35.3	1.0	-48.8	-13.0	-35.8	
5.640	-11.4	V	3.0	34.7	1.0	-45.1	-13.0	-32.1	
7.520	-5.9	V	3.0	34.9	1.0	-39.9	-13.0	-26.9	
3.760	-14.8	H	3.0	35.3	1.0	-49.1	-13.0	-36.1	
5.640	-11.0	H	3.0	34.7	1.0	-44.7	-13.0	-31.7	
7.520	-5.0	H	3.0	34.9	1.0	-38.9	-13.0	-25.9	
High Ch, 1907.6MHz									
3.815	-14.3	V	3.0	35.3	1.0	-48.6	-13.0	-35.6	
5.723	-11.1	V	3.0	34.7	1.0	-44.9	-13.0	-31.9	
7.630	-5.3	V	3.0	34.9	1.0	-39.2	-13.0	-26.2	
3.815	-14.8	H	3.0	35.3	1.0	-49.1	-13.0	-36.1	
5.723	-10.8	H	3.0	34.7	1.0	-44.5	-13.0	-31.5	
7.630	-5.3	H	3.0	34.9	1.0	-39.3	-13.0	-26.3	

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: Honeywell
Project #: 15U20259
Date: 05/18/15
Test Engineer: D. Mun
Configuration: X-pos EUT with Charger Dock
Mode: HSDPA_B5

Chamber	Pre-amplifer	Filter	Limit
3m Chamber	T34 8449B	Filter 1	Part 22

Band 5
HSDPA

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 826.4MHz									
1.653	-21.4	V	3.0	37.4	1.0	-57.7	-13.0	-44.7	
2.479	-22.4	V	3.0	36.4	1.0	-57.7	-13.0	-44.7	
3.306	-21.2	V	3.0	35.8	1.0	-56.0	-13.0	-43.0	
1.653	-23.9	H	3.0	37.4	1.0	-60.2	-13.0	-47.2	
2.479	-23.8	H	3.0	36.4	1.0	-59.2	-13.0	-46.2	
3.306	-20.8	H	3.0	35.8	1.0	-55.6	-13.0	-42.6	
Mid Ch, 836.6MHz									
1.673	-25.4	V	3.0	37.3	1.0	-61.8	-13.0	-48.8	
2.510	-23.2	V	3.0	36.4	1.0	-58.6	-13.0	-45.6	
3.346	-21.9	V	3.0	35.8	1.0	-56.6	-13.0	-43.6	
1.673	-19.7	H	3.0	37.3	1.0	-56.0	-13.0	-43.0	
2.510	-24.7	H	3.0	36.4	1.0	-60.0	-13.0	-47.0	
3.346	-21.3	H	3.0	35.8	1.0	-56.0	-13.0	-43.0	
High Ch, 846.6MHz									
1.693	-26.0	V	3.0	37.3	1.0	-62.3	-13.0	-49.3	
2.540	-22.5	V	3.0	36.3	1.0	-57.9	-13.0	-44.9	
3.386	-21.2	V	3.0	35.7	1.0	-55.9	-13.0	-42.9	
1.693	-24.2	H	3.0	37.3	1.0	-60.5	-13.0	-47.5	
2.540	-24.7	H	3.0	36.3	1.0	-60.1	-13.0	-47.1	
3.386	-20.5	H	3.0	35.7	1.0	-55.2	-13.0	-42.2	

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: Honeywell
Project #: 15U20259
Date: 05/18/15
Test Engineer: D. Mun
Configuration: X-pos EUT with Charger Dock
Mode: REL99_B5

Chamber	Pre-amplifer	Filter	Limit
3m Chamber	T34 8449B	Filter 1	Part 22

Band

Band 5

REL99

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 826.4MHz									
1.653	-21.8	V	3.0	37.4	1.0	-58.1	-13.0	-45.1	
2.479	-23.4	V	3.0	36.4	1.0	-58.8	-13.0	-45.8	
3.306	-21.2	V	3.0	35.8	1.0	-56.0	-13.0	-43.0	
1.653	-24.9	H	3.0	37.4	1.0	-61.3	-13.0	-48.3	
2.479	-24.6	H	3.0	36.4	1.0	-60.0	-13.0	-47.0	
3.306	-21.5	H	3.0	35.8	1.0	-56.3	-13.0	-43.3	
Mid Ch, 836.6MHz									
1.673	-26.5	V	3.0	37.3	1.0	-62.8	-13.0	-49.8	
2.510	-22.7	V	3.0	36.4	1.0	-58.1	-13.0	-45.1	
3.346	-21.5	V	3.0	35.8	1.0	-56.3	-13.0	-43.3	
1.673	-17.7	H	3.0	37.3	1.0	-54.0	-13.0	-41.0	
2.510	-23.9	H	3.0	36.4	1.0	-59.2	-13.0	-46.2	
3.346	-21.9	H	3.0	35.8	1.0	-56.6	-13.0	-43.6	
High Ch, 846.6MHz									
1.693	-24.9	V	3.0	37.3	1.0	-61.2	-13.0	-48.2	
2.540	-22.8	V	3.0	36.3	1.0	-58.2	-13.0	-45.2	
3.386	-20.6	V	3.0	35.7	1.0	-55.3	-13.0	-42.3	
1.693	-17.0	H	3.0	37.3	1.0	-53.3	-13.0	-40.3	
2.540	-24.4	H	3.0	36.3	1.0	-59.7	-13.0	-46.7	
3.386	-21.3	H	3.0	35.7	1.0	-56.0	-13.0	-43.0	

LTE Band 2

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: Honeywell
Project #: 15U20259
Date: 5/18/2015
Test Engineer: D. Mun
Configuration: X-pos EUT with Charger Dock
Location: Chamber C
Mode: LTE_16QAM Band 2 Harmonics, 20MHz Bandwidth

Band
LTE2
20MHz
16QAM

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1860									
3720.00	-14.8	V	3.0	35.8	1.0	-49.7	-13.0	-36.7	
5580.00	-11.7	V	3.0	35.5	1.0	-46.2	-13.0	-33.2	
7440.00	-6.8	V	3.0	35.7	1.0	-41.5	-13.0	-28.5	
3720.00	-14.8	H	3.0	35.8	1.0	-49.7	-13.0	-36.7	
5580.00	-10.5	H	3.0	35.5	1.0	-45.0	-13.0	-32.0	
7440.00	-4.1	H	3.0	35.7	1.0	-38.8	-13.0	-25.8	
Mid Ch, 1880									
3760.00	-13.7	V	3.0	35.8	1.0	-48.5	-13.0	-35.5	
5640.00	-11.8	V	3.0	35.5	1.0	-46.3	-13.0	-33.3	
7520.00	-6.1	V	3.0	35.7	1.0	-40.8	-13.0	-27.8	
3760.00	-14.8	H	3.0	35.8	1.0	-49.6	-13.0	-36.6	
5640.00	-10.4	H	3.0	35.5	1.0	-44.9	-13.0	-31.9	
7520.00	-4.6	H	3.0	35.7	1.0	-39.4	-13.0	-26.4	
High Ch, 1900									
3800.00	-14.2	V	3.0	35.8	1.0	-48.9	-13.0	-35.9	
5700.00	-11.6	V	3.0	35.5	1.0	-46.1	-13.0	-33.1	
7600.00	-6.2	V	3.0	35.8	1.0	-41.0	-13.0	-28.0	
3800.00	-14.5	H	3.0	35.8	1.0	-49.3	-13.0	-36.3	
5700.00	-10.5	H	3.0	35.5	1.0	-45.0	-13.0	-32.0	
7600.00	-5.4	H	3.0	35.8	1.0	-40.1	-13.0	-27.1	

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: Honeywell
Project #: 15U20259
Date: 5/18/2015
Test Engineer: D. Mun
Configuration: X-pos EUT with Charger Dock
Location: Chamber C
Mode: LTE_QPSK Band 2 Harmonics, 20MHz Bandwidth

Band
LTE2
20MHz
QPSK

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1860									
3720.00	-15.0	V	3.0	35.8	1.0	-49.8	-13.0	-36.8	
5580.00	-12.0	V	3.0	35.5	1.0	-46.4	-13.0	-33.4	
7440.00	-6.3	V	3.0	35.7	1.0	-41.1	-13.0	-28.1	
3720.00	-14.6	H	3.0	35.8	1.0	-49.4	-13.0	-36.4	
5580.00	-11.2	H	3.0	35.5	1.0	-45.7	-13.0	-32.7	
7440.00	-5.3	H	3.0	35.7	1.0	-40.0	-13.0	-27.0	
Mid Ch, 1880									
3760.00	-14.3	V	3.0	35.8	1.0	-49.1	-13.0	-36.1	
5640.00	-11.8	V	3.0	35.5	1.0	-46.3	-13.0	-33.3	
7520.00	-6.4	V	3.0	35.7	1.0	-41.2	-13.0	-28.2	
3760.00	-14.6	H	3.0	35.8	1.0	-49.5	-13.0	-36.5	
5640.00	-10.9	H	3.0	35.5	1.0	-45.4	-13.0	-32.4	
7520.00	-5.0	H	3.0	35.7	1.0	-39.7	-13.0	-26.7	
High Ch, 1900									
3800.00	-14.4	V	3.0	35.8	1.0	-49.2	-13.0	-36.2	
5700.00	-11.2	V	3.0	35.5	1.0	-45.6	-13.0	-32.6	
7600.00	-5.3	V	3.0	35.8	1.0	-40.0	-13.0	-27.0	
3800.00	-14.5	H	3.0	35.8	1.0	-49.3	-13.0	-36.3	
5700.00	-10.6	H	3.0	35.5	1.0	-45.1	-13.0	-32.1	
7600.00	-5.6	H	3.0	35.8	1.0	-40.3	-13.0	-27.3	

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: Honeywell
Project #: 15U20259
Date: 5/18/2015
Test Engineer: D. Mun
Configuration: X-pos EUT with Charger Dock
Location: Chamber C
Mode: LTE_16QAM Band 2 Harmonics, 15MHz Bandwidth

Band
LTE2
15MHz
16QAM

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1857.5									
3715.00	-14.3	V	3.0	35.8	1.0	-49.1	-13.0	-36.1	
5572.50	-12.1	V	3.0	35.5	1.0	-46.6	-13.0	-33.6	
7430.00	-6.0	V	3.0	35.7	1.0	-40.8	-13.0	-27.8	
3715.00	-15.3	H	3.0	35.8	1.0	-50.1	-13.0	-37.1	
5572.50	-11.0	H	3.0	35.5	1.0	-45.5	-13.0	-32.5	
7430.00	-4.6	H	3.0	35.7	1.0	-39.4	-13.0	-26.4	
Mid Ch, 1880									
3760.00	-13.5	V	3.0	35.8	1.0	-48.3	-13.0	-35.3	
5640.00	-11.5	V	3.0	35.5	1.0	-46.0	-13.0	-33.0	
7520.00	-5.5	V	3.0	35.7	1.0	-40.2	-13.0	-27.2	
3760.00	-13.8	H	3.0	35.8	1.0	-48.6	-13.0	-35.6	
5640.00	-10.3	H	3.0	35.5	1.0	-44.8	-13.0	-31.8	
7520.00	-4.6	H	3.0	35.7	1.0	-39.4	-13.0	-26.4	
High Ch, 1902.5									
3805.00	-14.1	V	3.0	35.8	1.0	-48.8	-13.0	-35.8	
5707.50	-11.2	V	3.0	35.5	1.0	-45.7	-13.0	-32.7	
7610.00	-5.7	V	3.0	35.8	1.0	-40.5	-13.0	-27.5	
3805.00	-14.9	H	3.0	35.8	1.0	-49.7	-13.0	-36.7	
5707.50	-10.5	H	3.0	35.5	1.0	-45.0	-13.0	-32.0	
7610.00	-4.4	H	3.0	35.8	1.0	-39.1	-13.0	-26.1	

Band
LTE2
15MHz
QPSK

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: Honeywell
Project #: 15U20259
Date: 5/18/2015
Test Engineer: D. Mun
Configuration: X-pos EUT with Charger Dock
Location: Chamber C
Mode: LTE_QPSK Band 2 Harmonics, 15MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1857.5									
3715.00	-15.1	V	3.0	35.8	1.0	-49.9	-13.0	-36.9	
5572.50	-11.2	V	3.0	35.5	1.0	-45.6	-13.0	-32.6	
7430.00	-5.3	V	3.0	35.7	1.0	-40.0	-13.0	-27.0	
3715.00	-14.7	H	3.0	35.8	1.0	-49.5	-13.0	-36.5	
5572.50	-10.5	H	3.0	35.5	1.0	-45.0	-13.0	-32.0	
7430.00	-5.1	H	3.0	35.7	1.0	-39.9	-13.0	-26.9	
Mid Ch, 1880									
3760.00	-13.7	V	3.0	35.8	1.0	-48.5	-13.0	-35.5	
5640.00	-11.0	V	3.0	35.5	1.0	-45.5	-13.0	-32.5	
7520.00	-5.2	V	3.0	35.7	1.0	-39.9	-13.0	-26.9	
3760.00	-14.0	H	3.0	35.8	1.0	-48.8	-13.0	-35.8	
5640.00	-10.6	H	3.0	35.5	1.0	-45.1	-13.0	-32.1	
7520.00	-4.3	H	3.0	35.7	1.0	-39.1	-13.0	-26.1	
High Ch, 1902.5									
3805.00	-14.3	V	3.0	35.8	1.0	-49.0	-13.0	-36.0	
5707.50	-11.3	V	3.0	35.5	1.0	-45.8	-13.0	-32.8	
7610.00	-5.4	V	3.0	35.8	1.0	-40.2	-13.0	-27.2	
3805.00	-14.8	H	3.0	35.8	1.0	-49.6	-13.0	-36.6	
5707.50	-10.3	H	3.0	35.5	1.0	-44.8	-13.0	-31.8	
7610.00	-4.1	H	3.0	35.8	1.0	-38.8	-13.0	-25.8	

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: Honeywell
Project #: 15U20259
Date: 5/18/2015
Test Engineer: D. Mun
Configuration: X-pos EUT with Charger Dock
Location: Chamber C
Mode: LTE_16QAM Band 2 Harmonics, 10MHz Bandwidth

Band
LTE2
10MHz
16QAM

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1855									
3710.00	-14.1	V	3.0	35.9	1.0	-48.9	-13.0	-35.9	
5565.00	-11.1	V	3.0	35.5	1.0	-45.6	-13.0	-32.6	
7420.00	-5.5	V	3.0	35.7	1.0	-40.3	-13.0	-27.3	
3710.00	-14.1	H	3.0	35.9	1.0	-48.9	-13.0	-35.9	
5565.00	-10.5	H	3.0	35.5	1.0	-45.0	-13.0	-32.0	
7420.00	-4.6	H	3.0	35.7	1.0	-39.4	-13.0	-26.4	
Mid Ch, 1880									
3760.00	-14.4	V	3.0	35.8	1.0	-49.2	-13.0	-36.2	
5640.00	-11.1	V	3.0	35.5	1.0	-45.6	-13.0	-32.6	
7520.00	-5.8	V	3.0	35.7	1.0	-40.6	-13.0	-27.6	
3760.00	-15.0	H	3.0	35.8	1.0	-49.8	-13.0	-36.8	
5640.00	-10.5	H	3.0	35.5	1.0	-45.0	-13.0	-32.0	
7520.00	-5.0	H	3.0	35.7	1.0	-39.7	-13.0	-26.7	
High Ch, 1905									
3810.00	-14.2	V	3.0	35.8	1.0	-49.0	-13.0	-36.0	
5715.00	-11.5	V	3.0	35.5	1.0	-46.0	-13.0	-33.0	
7620.00	-5.6	V	3.0	35.8	1.0	-40.4	-13.0	-27.4	
3810.00	-13.1	H	3.0	35.8	1.0	-47.9	-13.0	-34.9	
5715.00	-10.6	H	3.0	35.5	1.0	-45.1	-13.0	-32.1	
7620.00	-4.9	H	3.0	35.8	1.0	-39.6	-13.0	-26.6	

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: Honeywell
Project #: 15U20259
Date: 5/18/2015
Test Engineer: D. Mun
Configuration: X-pos EUT with Charger Dock
Location: Chamber C
Mode: LTE_QPSK Band 2 Harmonics, 10MHz Bandwidth

Band
LTE2
10MHz
QPSK

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1855									
3710.00	-14.8	V	3.0	35.9	1.0	-49.6	-13.0	-36.6	
5565.00	-11.8	V	3.0	35.5	1.0	-46.3	-13.0	-33.3	
7420.00	-6.0	V	3.0	35.7	1.0	-40.7	-13.0	-27.7	
3710.00	-14.5	H	3.0	35.9	1.0	-49.4	-13.0	-36.4	
5565.00	-11.3	H	3.0	35.5	1.0	-45.8	-13.0	-32.8	
7420.00	-4.7	H	3.0	35.7	1.0	-39.5	-13.0	-26.5	
Mid Ch, 1880									
3760.00	-14.5	V	3.0	35.8	1.0	-49.3	-13.0	-36.3	
5640.00	-11.4	V	3.0	35.5	1.0	-45.9	-13.0	-32.9	
7520.00	-6.6	V	3.0	35.7	1.0	-41.4	-13.0	-28.4	
3760.00	-14.4	H	3.0	35.8	1.0	-49.2	-13.0	-36.2	
5640.00	-10.9	H	3.0	35.5	1.0	-45.4	-13.0	-32.4	
7520.00	-5.5	H	3.0	35.7	1.0	-40.3	-13.0	-27.3	
High Ch, 1905									
3810.00	-13.8	V	3.0	35.8	1.0	-48.6	-13.0	-35.6	
5715.00	-11.2	V	3.0	35.5	1.0	-45.7	-13.0	-32.7	
7620.00	-5.4	V	3.0	35.8	1.0	-40.2	-13.0	-27.2	
3810.00	-14.1	H	3.0	35.8	1.0	-48.9	-13.0	-35.9	
5715.00	-10.3	H	3.0	35.5	1.0	-44.8	-13.0	-31.8	
7620.00	-5.3	H	3.0	35.8	1.0	-40.1	-13.0	-27.1	

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: Honeywell
Project #: 15U20259
Date: 5/18/2015
Test Engineer: D. Mun
Configuration: X-pos EUT with Charger Dock
Location: Chamber C
Mode: LTE_16QAM Band 2 Harmonics, 5MHz Bandwidth

Band
LTE2
5MHz
16QAM

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1852.5									
3705.00	-14.6	V	3.0	35.9	1.0	-49.5	-13.0	-36.5	
5557.50	-10.9	V	3.0	35.5	1.0	-45.4	-13.0	-32.4	
7410.00	-5.7	V	3.0	35.7	1.0	-40.4	-13.0	-27.4	
3705.00	-13.3	H	3.0	35.9	1.0	-48.1	-13.0	-35.1	
5557.50	-10.1	H	3.0	35.5	1.0	-44.6	-13.0	-31.6	
7410.00	-4.4	H	3.0	35.7	1.0	-39.2	-13.0	-26.2	
Mid Ch, 1880									
3760.00	-14.4	V	3.0	35.8	1.0	-49.2	-13.0	-36.2	
5640.00	-11.2	V	3.0	35.5	1.0	-45.6	-13.0	-32.6	
7520.00	-5.9	V	3.0	35.7	1.0	-40.6	-13.0	-27.6	
3760.00	-14.1	H	3.0	35.8	1.0	-48.9	-13.0	-35.9	
5640.00	-10.6	H	3.0	35.5	1.0	-45.0	-13.0	-32.0	
7520.00	-4.3	H	3.0	35.7	1.0	-39.1	-13.0	-26.1	
High Ch, 1907.5									
3815.00	-14.1	V	3.0	35.8	1.0	-48.9	-13.0	-35.9	
5722.50	-11.1	V	3.0	35.5	1.0	-45.6	-13.0	-32.6	
7630.00	-4.5	V	3.0	35.8	1.0	-39.3	-13.0	-26.3	
3815.00	-14.5	H	3.0	35.8	1.0	-49.3	-13.0	-36.3	
5722.50	-10.3	H	3.0	35.5	1.0	-44.8	-13.0	-31.8	
7630.00	-3.9	H	3.0	35.8	1.0	-38.7	-13.0	-25.7	

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: Honeywell
Project #: 15U20259
Date: 5/18/2015
Test Engineer: D. Mun
Configuration: X-pos EUT with Charger Dock
Location: Chamber C
Mode: LTE_QPSK Band 2 Harmonics, 5MHz Bandwidth

Band
LTE2
5MHz
QPSK

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1852.5									
3705.00	-14.2	V	3.0	35.9	1.0	-49.0	-13.0	-36.0	
5557.50	-11.4	V	3.0	35.5	1.0	-45.9	-13.0	-32.9	
7410.00	-5.8	V	3.0	35.7	1.0	-40.5	-13.0	-27.5	
3705.00	-14.2	H	3.0	35.9	1.0	-49.0	-13.0	-36.0	
5557.50	-10.9	H	3.0	35.5	1.0	-45.4	-13.0	-32.4	
7410.00	-4.4	H	3.0	35.7	1.0	-39.2	-13.0	-26.2	
Mid Ch, 1880									
3760.00	-13.1	V	3.0	35.8	1.0	-48.0	-13.0	-35.0	
5640.00	-9.8	V	3.0	35.5	1.0	-44.3	-13.0	-31.3	
7520.00	-5.7	V	3.0	35.7	1.0	-40.5	-13.0	-27.5	
3760.00	-14.0	H	3.0	35.8	1.0	-48.8	-13.0	-35.8	
5640.00	-10.9	H	3.0	35.5	1.0	-45.4	-13.0	-32.4	
7520.00	-4.8	H	3.0	35.7	1.0	-39.6	-13.0	-26.6	
High Ch, 1907.5									
3815.00	-13.9	V	3.0	35.8	1.0	-48.6	-13.0	-35.6	
5722.50	-11.1	V	3.0	35.5	1.0	-45.6	-13.0	-32.6	
7630.00	-5.1	V	3.0	35.8	1.0	-39.8	-13.0	-26.8	
3815.00	-14.8	H	3.0	35.8	1.0	-49.6	-13.0	-36.6	
5722.50	-9.8	H	3.0	35.5	1.0	-44.3	-13.0	-31.3	
7630.00	-3.5	H	3.0	35.8	1.0	-38.2	-13.0	-25.2	

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: Honeywell
Project #: 15U20259
Date: 5/18/2015
Test Engineer: D. Mun
Configuration: X-pos EUT w/ Charging Dock
Location: Chamber C
Mode: LTE_16QAM Band 2 Harmonics, 3MHz Bandwidth

Band
LTE2
3MHz
16QAM

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1851.5									
3703.00	-14.5	V	3.0	35.9	1.0	-49.4	-13.0	-36.4	
5554.50	-11.0	V	3.0	35.5	1.0	-45.4	-13.0	-32.4	
7406.00	-5.7	V	3.0	35.7	1.0	-40.5	-13.0	-27.5	
3703.00	-14.5	H	3.0	35.9	1.0	-49.4	-13.0	-36.4	
5554.50	-10.7	H	3.0	35.5	1.0	-45.1	-13.0	-32.1	
7406.00	-4.8	H	3.0	35.7	1.0	-39.5	-13.0	-26.5	
Mid Ch, 1880									
3760.00	-12.7	V	3.0	35.8	1.0	-47.5	-13.0	-34.5	
5640.00	-11.2	V	3.0	35.5	1.0	-45.6	-13.0	-32.6	
7520.00	-5.3	V	3.0	35.7	1.0	-40.0	-13.0	-27.0	
3760.00	-13.6	H	3.0	35.8	1.0	-48.5	-13.0	-35.5	
5640.00	-10.7	H	3.0	35.5	1.0	-45.2	-13.0	-32.2	
7520.00	-6.0	H	3.0	35.7	1.0	-40.8	-13.0	-27.8	
High Ch, 1908.5									
3817.00	-12.5	V	3.0	35.8	1.0	-47.3	-13.0	-34.3	
5725.50	-10.3	V	3.0	35.5	1.0	-44.8	-13.0	-31.8	
7634.00	-4.1	V	3.0	35.8	1.0	-38.9	-13.0	-25.9	
3817.00	-14.3	H	3.0	35.8	1.0	-49.1	-13.0	-36.1	
5725.50	-10.5	H	3.0	35.5	1.0	-45.0	-13.0	-32.0	
7634.00	-3.8	H	3.0	35.8	1.0	-38.6	-13.0	-25.6	

Band
LTE2
3MHz
QPSK

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: Honeywell
Project #: 15U20259
Date: 5/18/2015
Test Engineer: D. Mun
Configuration: X-pos EUT w/ Charging Dock
Location: Chamber C
Mode: LTE_QPSK Band 2 Harmonics, 3MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1851.5									
3703.00	-14.0	V	3.0	35.9	1.0	-48.9	-13.0	-35.9	
5554.50	-11.4	V	3.0	35.5	1.0	-45.8	-13.0	-32.8	
7406.00	-6.6	V	3.0	35.7	1.0	-41.3	-13.0	-28.3	
3703.00	-14.6	H	3.0	35.9	1.0	-49.5	-13.0	-36.5	
5554.50	-10.6	H	3.0	35.5	1.0	-45.1	-13.0	-32.1	
7406.00	-4.2	H	3.0	35.7	1.0	-38.9	-13.0	-25.9	
Mid Ch, 1880									
3760.00	-13.8	V	3.0	35.8	1.0	-48.6	-13.0	-35.6	
5640.00	-11.3	V	3.0	35.5	1.0	-45.7	-13.0	-32.7	
7520.00	-5.1	V	3.0	35.7	1.0	-39.8	-13.0	-26.8	
3760.00	-14.2	H	3.0	35.8	1.0	-49.1	-13.0	-36.1	
5640.00	-10.3	H	3.0	35.5	1.0	-44.7	-13.0	-31.7	
7520.00	-5.2	H	3.0	35.7	1.0	-40.0	-13.0	-27.0	
High Ch, 1908.5									
3817.00	-13.8	V	3.0	35.8	1.0	-48.6	-13.0	-35.6	
5725.50	-10.9	V	3.0	35.5	1.0	-45.4	-13.0	-32.4	
7634.00	-5.0	V	3.0	35.8	1.0	-39.8	-13.0	-26.8	
3817.00	-14.4	H	3.0	35.8	1.0	-49.1	-13.0	-36.1	
5725.50	-10.7	H	3.0	35.5	1.0	-45.1	-13.0	-32.1	
7634.00	-3.8	H	3.0	35.8	1.0	-38.5	-13.0	-25.5	

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: Honeywell
Project #: 15U20259
Date: 5/18/2015
Test Engineer: D. Mun
Configuration: X-pos EUT w/ Charging Dock
Location: Chamber C
Mode: LTE_16QAM Band 2 Harmonics, 1.4MHz Bandwidth

Band
LTE2
1.4MHz
16QAM

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1850.7									
3701.40	-11.0	V	3.0	35.9	1.0	-45.8	-13.0	-32.8	
5552.10	-7.9	V	3.0	35.5	1.0	-42.4	-13.0	-29.4	
7402.80	-2.3	V	3.0	35.7	1.0	-37.1	-13.0	-24.1	
3701.40	-10.2	H	3.0	35.9	1.0	-45.0	-13.0	-32.0	
5552.10	-8.0	H	3.0	35.5	1.0	-42.5	-13.0	-29.5	
7402.80	-1.0	H	3.0	35.7	1.0	-35.8	-13.0	-22.8	
Mid Ch, 1880									
3760.00	-11.3	V	3.0	35.8	1.0	-46.1	-13.0	-33.1	
5640.00	-8.6	V	3.0	35.5	1.0	-43.1	-13.0	-30.1	
7520.00	-3.1	V	3.0	35.7	1.0	-37.8	-13.0	-24.8	
3760.00	-11.3	H	3.0	35.8	1.0	-46.1	-13.0	-33.1	
5640.00	-7.8	H	3.0	35.5	1.0	-42.2	-13.0	-29.2	
7520.00	-1.7	H	3.0	35.7	1.0	-36.5	-13.0	-23.5	
High Ch, 1909.3									
3818.60	-10.4	V	3.0	35.8	1.0	-45.1	-13.0	-32.1	
5727.90	-7.0	V	3.0	35.5	1.0	-41.5	-13.0	-28.5	
7637.20	-0.6	V	3.0	35.8	1.0	-35.3	-13.0	-22.3	
3818.60	-10.4	H	3.0	35.8	1.0	-45.2	-13.0	-32.2	
5727.90	-6.3	H	3.0	35.5	1.0	-40.8	-13.0	-27.8	
7637.20	-0.4	H	3.0	35.8	1.0	-35.1	-13.0	-22.1	

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: Honeywell
Project #: 15U20259
Date: 5/18/2015
Test Engineer: D. Mun
Configuration: X-pos EUT w/ Charging Dock
Location: Chamber C
Mode: LTE_QPSK Band 2 Harmonics, 1.4MHz Bandwidth

Band
LTE2
1.4MHz
QPSK

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1850.7									
3701.40	-10.0	V	3.0	35.9	1.0	-44.8	-13.0	-31.8	
5552.10	-8.1	V	3.0	35.5	1.0	-42.6	-13.0	-29.6	
7402.80	-2.4	V	3.0	35.7	1.0	-37.2	-13.0	-24.2	
3701.40	-10.8	H	3.0	35.9	1.0	-45.6	-13.0	-32.6	
5552.10	-7.3	H	3.0	35.5	1.0	-41.8	-13.0	-28.8	
7402.80	-1.3	H	3.0	35.7	1.0	-36.0	-13.0	-23.0	
Mid Ch, 1880									
3760.00	-11.5	V	3.0	35.8	1.0	-46.3	-13.0	-33.3	
5640.00	-8.5	V	3.0	35.5	1.0	-43.0	-13.0	-30.0	
7520.00	-3.0	V	3.0	35.7	1.0	-37.7	-13.0	-24.7	
3760.00	-12.0	H	3.0	35.8	1.0	-46.8	-13.0	-33.8	
5640.00	-7.2	H	3.0	35.5	1.0	-41.7	-13.0	-28.7	
7520.00	-2.0	H	3.0	35.7	1.0	-36.7	-13.0	-23.7	
High Ch, 1909.3									
3818.60	-10.8	V	3.0	35.8	1.0	-45.6	-13.0	-32.6	
5727.90	-7.9	V	3.0	35.5	1.0	-42.4	-13.0	-29.4	
7637.20	-1.4	V	3.0	35.8	1.0	-36.2	-13.0	-23.2	
3818.60	-11.3	H	3.0	35.8	1.0	-46.1	-13.0	-33.1	
5727.90	-7.8	H	3.0	35.5	1.0	-42.3	-13.0	-29.3	
7637.20	-0.6	H	3.0	35.8	1.0	-35.3	-13.0	-22.3	

LTE Band 4

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: Honeywell
Project #: 15U20259
Date: 5/18/2015
Test Engineer: A. Escamilla
Configuration: X-pos EUT w/ Charging Dock
Location: Chamber C
Mode: LTE_16QAM Band 4 Harmonics, 20MHz Bandwidth

Band
LTE4
20MHz
16QAM

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1720									
3440.00	-29.2	V	3.0	36.0	1.0	-64.2	-13.0	-51.2	
5160.00	-13.5	V	3.0	35.4	1.0	-47.9	-13.0	-34.9	
6880.00	-16.8	V	3.0	35.7	1.0	-51.5	-13.0	-38.5	
3440.00	-21.9	H	3.0	36.0	1.0	-56.9	-13.0	-43.9	
5160.00	-21.5	H	3.0	35.4	1.0	-56.0	-13.0	-43.0	
6880.00	-21.1	H	3.0	35.7	1.0	-55.7	-13.0	-42.7	
Mid Ch, 1732.5									
3465.00	-23.5	V	3.0	36.0	1.0	-58.6	-13.0	-45.6	
5197.50	-13.4	V	3.0	35.4	1.0	-47.8	-13.0	-34.8	
6930.00	-18.7	V	3.0	35.7	1.0	-53.3	-13.0	-40.3	
3465.00	-23.5	H	3.0	36.0	1.0	-58.5	-13.0	-45.5	
5197.50	-25.8	H	3.0	35.4	1.0	-60.2	-13.0	-47.2	
6930.00	-16.7	H	3.0	35.7	1.0	-51.4	-13.0	-38.4	
High Ch, 1745									
3490.00	-21.2	V	3.0	36.0	1.0	-56.2	-13.0	-43.2	
5235.00	-10.3	V	3.0	35.4	1.0	-44.8	-13.0	-31.8	
6980.00	-16.1	V	3.0	35.7	1.0	-50.8	-13.0	-37.8	
3490.00	-26.5	H	3.0	36.0	1.0	-61.6	-13.0	-48.6	
5235.00	-22.5	H	3.0	35.4	1.0	-56.9	-13.0	-43.9	
6980.00	-18.0	H	3.0	35.7	1.0	-52.7	-13.0	-39.7	

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: Honeywell
Project #: 15U20259
Date: 5/18/2015
Test Engineer: A. Escamilla
Configuration: X-pos EUT w/ Charging Dock
Location: Chamber C
Mode: LTE_QPSK Band 4 Harmonics, 20MHz Bandwidth

Band
LTE4
20MHz
QPSK

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1720									
3440.00	-29.0	V	3.0	36.0	1.0	-64.0	-13.0	-51.0	
5160.00	-14.0	V	3.0	35.4	1.0	-48.5	-13.0	-35.5	
6880.00	-17.3	V	3.0	35.7	1.0	-52.0	-13.0	-39.0	
3440.00	-22.1	H	3.0	36.0	1.0	-57.1	-13.0	-44.1	
5160.00	-22.5	H	3.0	35.4	1.0	-56.9	-13.0	-43.9	
6880.00	-20.8	H	3.0	35.7	1.0	-55.5	-13.0	-42.5	
Mid Ch, 1732.5									
3465.00	-23.4	V	3.0	36.0	1.0	-58.5	-13.0	-45.5	
5197.50	-13.6	V	3.0	35.4	1.0	-48.0	-13.0	-35.0	
6930.00	-17.6	V	3.0	35.7	1.0	-52.2	-13.0	-39.2	
3465.00	-23.1	H	3.0	36.0	1.0	-58.1	-13.0	-45.1	
5197.50	-25.6	H	3.0	35.4	1.0	-60.0	-13.0	-47.0	
6930.00	-15.5	H	3.0	35.7	1.0	-50.2	-13.0	-37.2	
High Ch, 1745									
3490.00	-20.5	V	3.0	36.0	1.0	-55.5	-13.0	-42.5	
5235.00	-9.1	V	3.0	35.4	1.0	-43.6	-13.0	-30.6	
6980.00	-16.8	V	3.0	35.7	1.0	-51.5	-13.0	-38.5	
3490.00	-25.3	H	3.0	36.0	1.0	-60.3	-13.0	-47.3	
5235.00	-23.2	H	3.0	35.4	1.0	-57.6	-13.0	-44.6	
6980.00	-17.9	H	3.0	35.7	1.0	-52.6	-13.0	-39.6	

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: Honeywell
Project #: 15U20259
Date: 5/18/2015
Test Engineer: A. Escamilla
Configuration: X-pos EUT w/ Charging Dock
Location: Chamber C
Mode: LTE_16QAM Band 4 Harmonics, 15MHz Bandwidth

Band
LTE4
15MHz
16QAM

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1717.5									
3435.00	-28.8	V	3.0	36.1	1.0	-63.9	-13.0	-50.9	
5152.50	-11.7	V	3.0	35.4	1.0	-46.1	-13.0	-33.1	
6870.00	-16.9	V	3.0	35.7	1.0	-51.6	-13.0	-38.6	
3435.00	-20.5	H	3.0	36.1	1.0	-55.5	-13.0	-42.5	
5152.50	-24.6	H	3.0	35.4	1.0	-59.0	-13.0	-46.0	
6870.00	-15.9	H	3.0	35.7	1.0	-50.6	-13.0	-37.6	
Mid Ch, 1732.5									
3465.00	-21.5	V	3.0	36.0	1.0	-56.6	-13.0	-43.6	
5197.50	-15.7	V	3.0	35.4	1.0	-50.1	-13.0	-37.1	
6930.00	-18.2	V	3.0	35.7	1.0	-52.9	-13.0	-39.9	
3465.00	-25.0	H	3.0	36.0	1.0	-60.0	-13.0	-47.0	
5197.50	-24.0	H	3.0	35.4	1.0	-58.5	-13.0	-45.5	
6930.00	-20.3	H	3.0	35.7	1.0	-55.0	-13.0	-42.0	
High Ch, 1747.5									
3495.00	-29.5	V	3.0	36.0	1.0	-64.5	-13.0	-51.5	
5242.50	-12.6	V	3.0	35.4	1.0	-47.1	-13.0	-34.1	
6990.00	-13.0	V	3.0	35.7	1.0	-47.7	-13.0	-34.7	
3495.00	-20.4	H	3.0	36.0	1.0	-55.5	-13.0	-42.5	
5242.50	-20.9	H	3.0	35.4	1.0	-55.4	-13.0	-42.4	
6990.00	-17.7	H	3.0	35.7	1.0	-52.4	-13.0	-39.4	

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: Honeywell
Project #: 15U20259
Date: 5/18/2015
Test Engineer: A. Escamilla
Configuration: X-pos EUT w/ Charging Dock
Location: Chamber C
Mode: LTE_QPSK Band 4 Harmonics, 15MHz Bandwidth

Band
LTE4
15MHz
QPSK

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1717.5									
3435.00	-28.4	V	3.0	36.1	1.0	-63.5	-13.0	-50.5	
5152.50	-13.9	V	3.0	35.4	1.0	-48.4	-13.0	-35.4	
6870.00	-18.2	V	3.0	35.7	1.0	-52.8	-13.0	-39.8	
3435.00	-20.1	H	3.0	36.1	1.0	-55.2	-13.0	-42.2	
5152.50	-23.9	H	3.0	35.4	1.0	-58.3	-13.0	-45.3	
6870.00	-15.8	H	3.0	35.7	1.0	-50.4	-13.0	-37.4	
Mid Ch, 1732.5									
3465.00	-21.1	V	3.0	36.0	1.0	-56.1	-13.0	-43.1	
5197.50	-15.1	V	3.0	35.4	1.0	-49.5	-13.0	-36.5	
6930.00	-18.2	V	3.0	35.7	1.0	-52.9	-13.0	-39.9	
3465.00	-25.0	H	3.0	36.0	1.0	-60.0	-13.0	-47.0	
5197.50	-23.6	H	3.0	35.4	1.0	-58.0	-13.0	-45.0	
6930.00	-20.2	H	3.0	35.7	1.0	-54.8	-13.0	-41.8	
High Ch, 1747.5									
3495.00	-29.4	V	3.0	36.0	1.0	-64.4	-13.0	-51.4	
5242.50	-13.4	V	3.0	35.4	1.0	-47.8	-13.0	-34.8	
6990.00	-14.2	V	3.0	35.7	1.0	-48.8	-13.0	-35.8	
3495.00	-20.0	H	3.0	36.0	1.0	-55.0	-13.0	-42.0	
5242.50	-20.9	H	3.0	35.4	1.0	-55.3	-13.0	-42.3	
6990.00	-18.2	H	3.0	35.7	1.0	-52.9	-13.0	-39.9	

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: Honeywell
Project #: 15U20259
Date: 5/18/2015
Test Engineer: A. Escamilla
Configuration: X-pos EUT w/ Charging Dock
Location: Chamber C
Mode: LTE_16QAM Band 4 Harmonics, 10MHz Bandwidth

Band
LTE4
10MHz
16QAM

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1715									
3430.00	-27.7	V	3.0	36.1	1.0	-62.8	-13.0	-49.8	
5145.00	-19.4	V	3.0	35.4	1.0	-53.9	-13.0	-40.9	
6860.00	-13.9	V	3.0	35.7	1.0	-48.5	-13.0	-35.5	
3430.00	-27.3	H	3.0	36.1	1.0	-62.3	-13.0	-49.3	
5145.00	-23.4	H	3.0	35.4	1.0	-57.8	-13.0	-44.8	
6860.00	-14.7	H	3.0	35.7	1.0	-49.4	-13.0	-36.4	
Mid Ch, 1732.5									
3465.00	-18.8	V	3.0	36.0	1.0	-53.9	-13.0	-40.9	
5197.50	-13.4	V	3.0	35.4	1.0	-47.8	-13.0	-34.8	
6930.00	-19.4	V	3.0	35.7	1.0	-54.1	-13.0	-41.1	
3465.00	-14.8	H	3.0	36.0	1.0	-49.8	-13.0	-36.8	
5197.50	-23.9	H	3.0	35.4	1.0	-58.3	-13.0	-45.3	
6930.00	-15.8	H	3.0	35.7	1.0	-50.5	-13.0	-37.5	
High Ch, 1750									
3500.00	-24.7	V	3.0	36.0	1.0	-59.7	-13.0	-46.7	
5250.00	-8.8	V	3.0	35.4	1.0	-43.2	-13.0	-30.2	
7000.00	-16.1	V	3.0	35.7	1.0	-50.8	-13.0	-37.8	
3500.00	-29.7	H	3.0	36.0	1.0	-64.7	-13.0	-51.7	
5250.00	-21.5	H	3.0	35.4	1.0	-56.0	-13.0	-43.0	
7000.00	-17.6	H	3.0	35.7	1.0	-52.3	-13.0	-39.3	

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: Honeywell
Project #: 15U20259
Date: 5/18/2015
Test Engineer: A. Escamilla
Configuration: X-pos EUT w/ Charging Dock
Location: Chamber C
Mode: LTE_QPSK Band 4 Harmonics, 10MHz Bandwidth

Band
LTE4
10MHz
QPSK

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1715									
3430.00	-29.3	V	3.0	36.1	1.0	-64.3	-13.0	-51.3	
5145.00	-18.7	V	3.0	35.4	1.0	-53.1	-13.0	-40.1	
6860.00	-15.1	V	3.0	35.7	1.0	-49.8	-13.0	-36.8	
3430.00	-28.1	H	3.0	36.1	1.0	-63.1	-13.0	-50.1	
5145.00	-23.2	H	3.0	35.4	1.0	-57.6	-13.0	-44.6	
6860.00	-14.8	H	3.0	35.7	1.0	-49.4	-13.0	-36.4	
Mid Ch, 1732.5									
3465.00	-19.2	V	3.0	36.0	1.0	-54.2	-13.0	-41.2	
5197.50	-12.4	V	3.0	35.4	1.0	-46.9	-13.0	-33.9	
6930.00	-19.6	V	3.0	35.7	1.0	-54.3	-13.0	-41.3	
3465.00	-14.1	H	3.0	36.0	1.0	-49.1	-13.0	-36.1	
5197.50	-22.8	H	3.0	35.4	1.0	-57.2	-13.0	-44.2	
6930.00	-15.1	H	3.0	35.7	1.0	-49.8	-13.0	-36.8	
High Ch, 1750									
3500.00	-24.1	V	3.0	36.0	1.0	-59.1	-13.0	-46.1	
5250.00	-11.9	V	3.0	35.4	1.0	-46.4	-13.0	-33.4	
7000.00	-15.9	V	3.0	35.7	1.0	-50.6	-13.0	-37.6	
3500.00	-29.9	H	3.0	36.0	1.0	-64.9	-13.0	-51.9	
5250.00	-22.1	H	3.0	35.4	1.0	-56.6	-13.0	-43.6	
7000.00	-18.4	H	3.0	35.7	1.0	-53.0	-13.0	-40.0	

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: Honeywell
Project #: 15U20259
Date: 5/18/2015
Test Engineer: A. Escamilla
Configuration: X-pos EUT w/ Charging Dock
Location: Chamber C
Mode: LTE_16QAM Band 4 Harmonics, 5MHz Bandwidth

Band
LTE4
5MHz
16QAM

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1712.5									
3425.00	-29.9	V	3.0	36.1	1.0	-64.9	-13.0	-51.9	
5137.50	-16.7	V	3.0	35.4	1.0	-51.2	-13.0	-38.2	
6850.00	-16.6	V	3.0	35.7	1.0	-51.3	-13.0	-38.3	
3425.00	-25.2	H	3.0	36.1	1.0	-60.2	-13.0	-47.2	
5137.50	-22.9	H	3.0	35.4	1.0	-57.3	-13.0	-44.3	
6850.00	-16.2	H	3.0	35.7	1.0	-50.9	-13.0	-37.9	
Mid Ch, 1732.5									
3465.00	-15.0	V	3.0	36.0	1.0	-50.0	-13.0	-37.0	
5197.50	-22.6	V	3.0	35.4	1.0	-57.0	-13.0	-44.0	
6930.00	-21.5	V	3.0	35.7	1.0	-56.1	-13.0	-43.1	
3465.00	-17.1	H	3.0	36.0	1.0	-52.2	-13.0	-39.2	
5197.50	-22.7	H	3.0	35.4	1.0	-57.2	-13.0	-44.2	
6930.00	-18.4	H	3.0	35.7	1.0	-53.1	-13.0	-40.1	
High Ch, 1752.5									
3505.00	-29.3	V	3.0	36.0	1.0	-64.3	-13.0	-51.3	
5257.50	-20.4	V	3.0	35.4	1.0	-54.8	-13.0	-41.8	
7010.00	-20.4	V	3.0	35.7	1.0	-55.1	-13.0	-42.1	
3505.00	-18.8	H	3.0	36.0	1.0	-53.8	-13.0	-40.8	
5257.50	-23.6	H	3.0	35.4	1.0	-58.0	-13.0	-45.0	
7010.00	-19.5	H	3.0	35.7	1.0	-54.2	-13.0	-41.2	

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: Honeywell
Project #: 15U20259
Date: 5/18/2015
Test Engineer: A. Escamilla
Configuration: X-pos EUT w/ Charging Dock
Location: Chamber C
Mode: LTE_QPSK Band 4 Harmonics, 5MHz Bandwidth

Band
LTE4
5MHz
QPSK

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1712.5									
3425.00	-29.8	V	3.0	36.1	1.0	-64.9	-13.0	-51.9	
5137.50	-16.4	V	3.0	35.4	1.0	-50.8	-13.0	-37.8	
6850.00	-16.9	V	3.0	35.7	1.0	-51.6	-13.0	-38.6	
3425.00	-25.1	H	3.0	36.1	1.0	-60.1	-13.0	-47.1	
5137.50	-22.9	H	3.0	35.4	1.0	-57.4	-13.0	-44.4	
6850.00	-14.9	H	3.0	35.7	1.0	-49.6	-13.0	-36.6	
Mid Ch, 1732.5									
3465.00	-14.4	V	3.0	36.0	1.0	-49.5	-13.0	-36.5	
5197.50	-22.6	V	3.0	35.4	1.0	-57.0	-13.0	-44.0	
6930.00	-21.2	V	3.0	35.7	1.0	-55.9	-13.0	-42.9	
3465.00	-16.6	H	3.0	36.0	1.0	-51.6	-13.0	-38.6	
5197.50	-25.5	H	3.0	35.4	1.0	-60.0	-13.0	-47.0	
6930.00	-17.7	H	3.0	35.7	1.0	-52.3	-13.0	-39.3	
High Ch, 1752.5									
3505.00	-28.5	V	3.0	36.0	1.0	-63.5	-13.0	-50.5	
5257.50	-20.6	V	3.0	35.4	1.0	-55.1	-13.0	-42.1	
7010.00	-18.7	V	3.0	35.7	1.0	-53.4	-13.0	-40.4	
3505.00	-18.3	H	3.0	36.0	1.0	-53.3	-13.0	-40.3	
5257.50	-25.5	H	3.0	35.4	1.0	-59.9	-13.0	-46.9	
7010.00	-18.4	H	3.0	35.7	1.0	-53.1	-13.0	-40.1	

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: Honeywell
Project #: 15U20259
Date: 5/18/2015
Test Engineer: A. Escamilla
Configuration: X-pos EUT w/ Charging Dock
Location: Chamber C
Mode: LTE_16QAM Band 4 Harmonics, 3MHz Bandwidth

Band
LTE4
3MHz
16QAM

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1711.5									
3423.00	-29.2	V	3.0	36.1	1.0	-64.3	-13.0	-51.3	
5134.50	-16.7	V	3.0	35.4	1.0	-51.1	-13.0	-38.1	
6846.00	-15.6	V	3.0	35.7	1.0	-50.3	-13.0	-37.3	
3423.00	-29.0	H	3.0	36.1	1.0	-64.0	-13.0	-51.0	
5134.50	-18.6	H	3.0	35.4	1.0	-53.1	-13.0	-40.1	
6846.00	-19.4	H	3.0	35.7	1.0	-54.1	-13.0	-41.1	
Mid Ch, 1732.5									
3465.00	-24.5	V	3.0	36.0	1.0	-59.5	-13.0	-46.5	
5197.50	-12.7	V	3.0	35.4	1.0	-47.1	-13.0	-34.1	
6930.00	-16.1	V	3.0	35.7	1.0	-50.8	-13.0	-37.8	
3465.00	-26.1	H	3.0	36.0	1.0	-61.1	-13.0	-48.1	
5197.50	-23.6	H	3.0	35.4	1.0	-58.0	-13.0	-45.0	
6930.00	-14.2	H	3.0	35.7	1.0	-48.9	-13.0	-35.9	
High Ch, 1753.5									
3507.00	-27.3	V	3.0	36.0	1.0	-62.3	-13.0	-49.3	
5260.50	-15.2	V	3.0	35.4	1.0	-49.7	-13.0	-36.7	
7014.00	-16.1	V	3.0	35.7	1.0	-50.7	-13.0	-37.7	
3507.00	-19.0	H	3.0	36.0	1.0	-54.0	-13.0	-41.0	
5260.50	-25.6	H	3.0	35.4	1.0	-60.0	-13.0	-47.0	
7014.00	-17.2	H	3.0	35.7	1.0	-51.9	-13.0	-38.9	

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: Honeywell
Project #: 15U20259
Date: 5/18/2015
Test Engineer: A. Escamilla
Configuration: X-pos EUT w/ Charging Dock
Location: Chamber C
Mode: LTE_QPSK Band 4 Harmonics, 3MHz Bandwidth

Band
LTE4
3MHz
QPSK

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1711.5									
3423.00	-29.2	V	3.0	36.1	1.0	-64.2	-13.0	-51.2	
5134.50	-17.0	V	3.0	35.4	1.0	-51.4	-13.0	-38.4	
6846.00	-16.3	V	3.0	35.7	1.0	-51.0	-13.0	-38.0	
3423.00	-29.8	H	3.0	36.1	1.0	-64.8	-13.0	-51.8	
5134.50	-20.0	H	3.0	35.4	1.0	-54.5	-13.0	-41.5	
6846.00	-18.9	H	3.0	35.7	1.0	-53.6	-13.0	-40.6	
Mid Ch, 1732.5									
3465.00	-24.8	V	3.0	36.0	1.0	-59.9	-13.0	-46.9	
5197.50	-14.0	V	3.0	35.4	1.0	-48.4	-13.0	-35.4	
6930.00	-15.7	V	3.0	35.7	1.0	-50.4	-13.0	-37.4	
3465.00	-26.3	H	3.0	36.0	1.0	-61.3	-13.0	-48.3	
5197.50	-24.2	H	3.0	35.4	1.0	-58.6	-13.0	-45.6	
6930.00	-14.5	H	3.0	35.7	1.0	-49.1	-13.0	-36.1	
High Ch, 1753.5									
3507.00	-27.2	V	3.0	36.0	1.0	-62.2	-13.0	-49.2	
5260.50	-15.0	V	3.0	35.4	1.0	-49.5	-13.0	-36.5	
7014.00	-16.6	V	3.0	35.7	1.0	-51.3	-13.0	-38.3	
3507.00	-18.4	H	3.0	36.0	1.0	-53.4	-13.0	-40.4	
5260.50	-24.8	H	3.0	35.4	1.0	-59.2	-13.0	-46.2	
7014.00	-17.2	H	3.0	35.7	1.0	-51.9	-13.0	-38.9	

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: Honeywell
Project #: 15U20259
Date: 5/18/2015
Test Engineer: A. Escamilla
Configuration: X-pos EUT w/ Charging Dock
Location: Chamber C
Mode: LTE_16QAM Band 4 Harmonics, 1.4MHz Bandwidth

Band
LTE4
1.4MHz
16QAM

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1710.7									
3421.40	-27.0	V	3.0	36.1	1.0	-62.1	-13.0	-49.1	
5132.10	-14.8	V	3.0	35.4	1.0	-49.2	-13.0	-36.2	
6842.80	-17.0	V	3.0	35.7	1.0	-51.6	-13.0	-38.6	
3421.40	-28.5	H	3.0	36.1	1.0	-63.5	-13.0	-50.5	
5132.10	-18.5	H	3.0	35.4	1.0	-52.9	-13.0	-39.9	
6842.80	-18.5	H	3.0	35.7	1.0	-53.1	-13.0	-40.1	
Mid Ch, 1732.5									
3465.00	-22.2	V	3.0	36.0	1.0	-57.2	-13.0	-44.2	
5197.50	-13.1	V	3.0	35.4	1.0	-47.5	-13.0	-34.5	
6930.00	-17.4	V	3.0	35.7	1.0	-52.1	-13.0	-39.1	
3465.00	-19.4	H	3.0	36.0	1.0	-54.4	-13.0	-41.4	
5197.50	-22.9	H	3.0	35.4	1.0	-57.3	-13.0	-44.3	
6930.00	-19.3	H	3.0	35.7	1.0	-54.0	-13.0	-41.0	
High Ch, 1754.3									
3508.60	-17.4	V	3.0	36.0	1.0	-52.4	-13.0	-39.4	
5262.90	-25.5	V	3.0	35.4	1.0	-59.9	-13.0	-46.9	
7017.20	-20.1	V	3.0	35.7	1.0	-54.7	-13.0	-41.7	
3508.60	-24.3	H	3.0	36.0	1.0	-59.3	-13.0	-46.3	
5262.90	-24.8	H	3.0	35.4	1.0	-59.3	-13.0	-46.3	
7017.20	-20.3	H	3.0	35.7	1.0	-54.9	-13.0	-41.9	