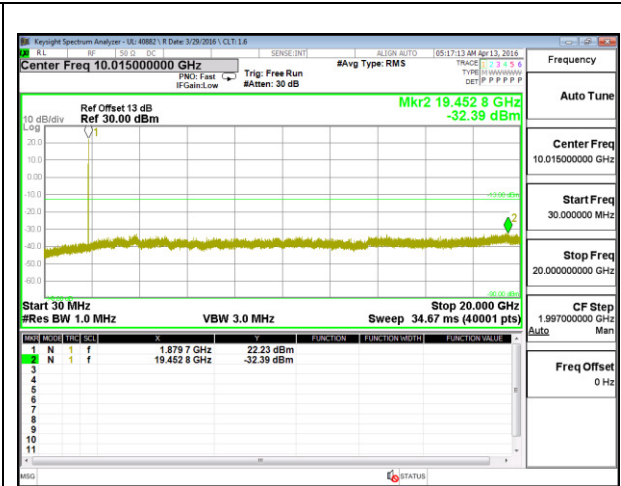
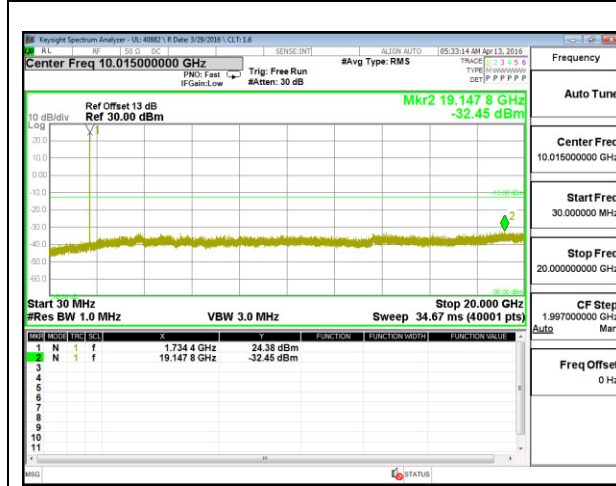


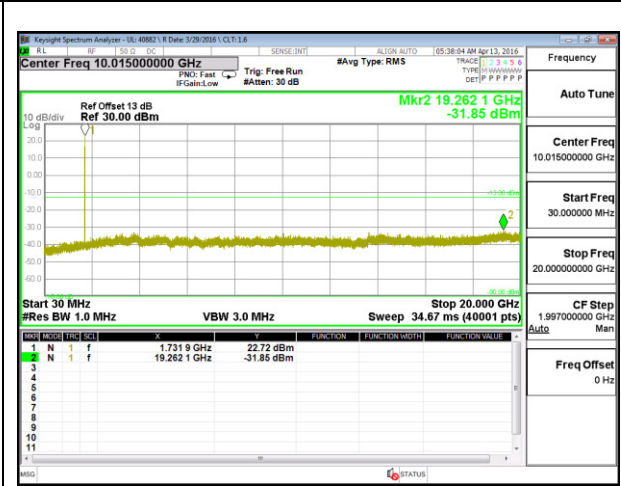
B2 REL99 Middle Channel



B2 HSDPA Middle Channel



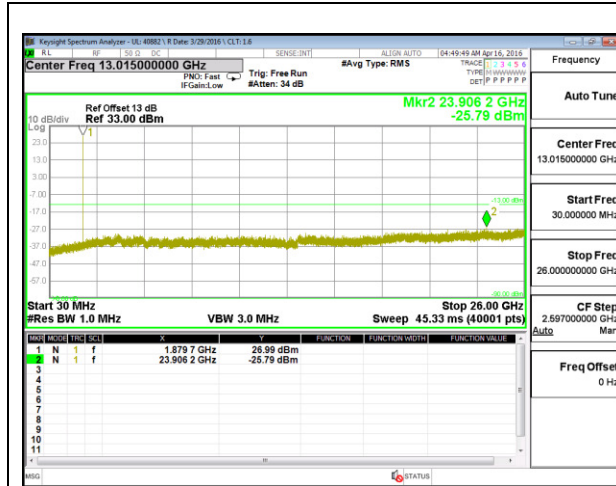
B4 REL99 Middle Channel



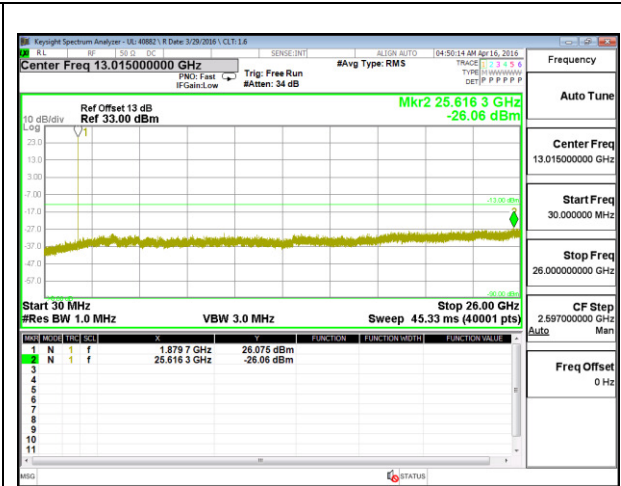
B4 HSDPA Middle Channel

LTE Band 2

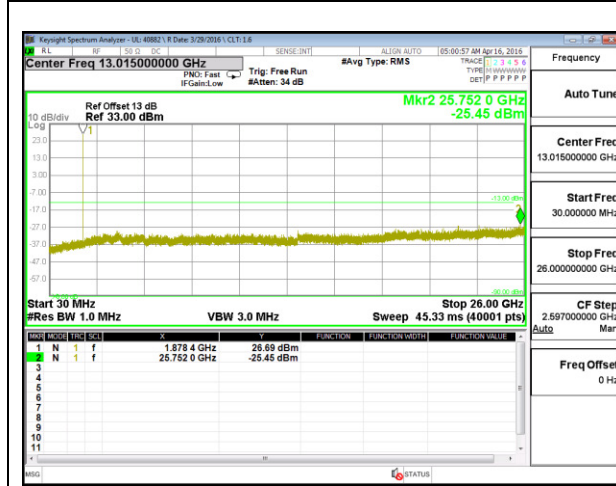
BW(MHz)	Mode	f (MHz)	Spur (dBm)	Spec (dBm)	Delta (dB)
1.4	QPSK	1850.7	-25.93	-13	-12.93
1.4	QPSK	1880	-25.79	-13	-12.79
1.4	QPSK	1909.3	-25.98	-13	-12.98
1.4	16QAM	1850.7	-26.06	-13	-13.06
1.4	16QAM	1880	-26.06	-13	-13.06
1.4	16QAM	1909.3	-25.26	-13	-12.26
3	QPSK	1851.5	-26.22	-13	-13.22
3	QPSK	1880	-25.45	-13	-12.45
3	QPSK	1908.5	-26.81	-13	-13.81
3	16QAM	1851.5	-26.51	-13	-13.51
3	16QAM	1880	-26.5	-13	-13.5
3	16QAM	1908.5	-25.71	-13	-12.71
5	QPSK	1852.5	-25.07	-13	-12.07
5	QPSK	1880	-26.13	-13	-13.13
5	QPSK	1907.5	-26.24	-13	-13.24
5	16QAM	1852.5	-25.33	-13	-12.33
5	16QAM	1880	-25.84	-13	-12.84
5	16QAM	1907.5	-26.39	-13	-13.39
10	QPSK	1855	-25.07	-13	-12.07
10	QPSK	1880	-24.83	-13	-11.83
10	QPSK	1905	-26.24	-13	-13.24
10	16QAM	1855	-26.34	-13	-13.34
10	16QAM	1880	-25.71	-13	-12.71
10	16QAM	1905	-26.13	-13	-13.13
15	QPSK	1857.5	-25.24	-13	-12.24
15	QPSK	1880	-26.47	-13	-13.47
15	QPSK	1902.5	-24.76	-13	-11.76
15	16QAM	1857.5	-25.69	-13	-12.69
15	16QAM	1880	-25.46	-13	-12.46
15	16QAM	1902.5	-26.36	-13	-13.36
20	QPSK	1860	-24.87	-13	-11.87
20	QPSK	1880	-26.23	-13	-13.23
20	QPSK	1900	26.18	-13	39.18
20	16QAM	1860	-25.49	-13	-12.49
20	16QAM	1880	-25.08	-13	-12.08
20	16QAM	1900	-24.91	-13	-11.91



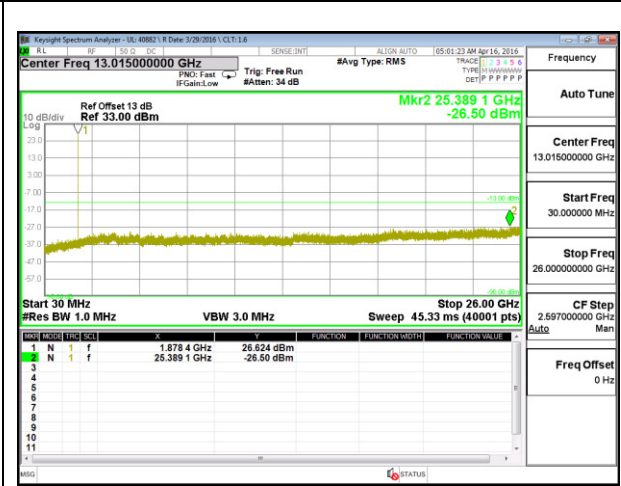
LTE B2 1.4MHz QPSK Middle Channel



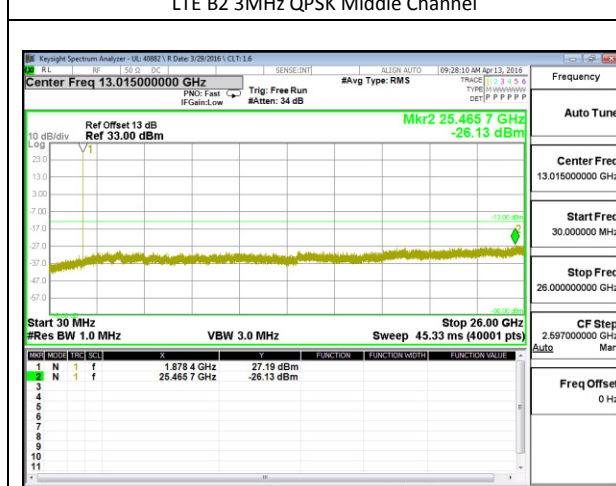
LTE B2 1.4MHz 16QAM Middle Channel



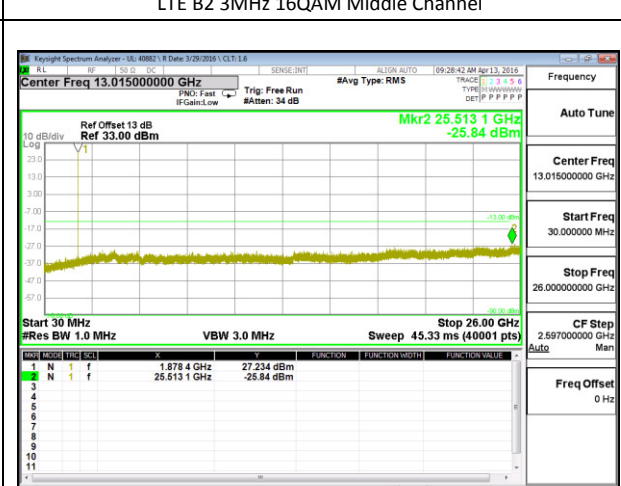
LTE B2 3MHz QPSK Middle Channel



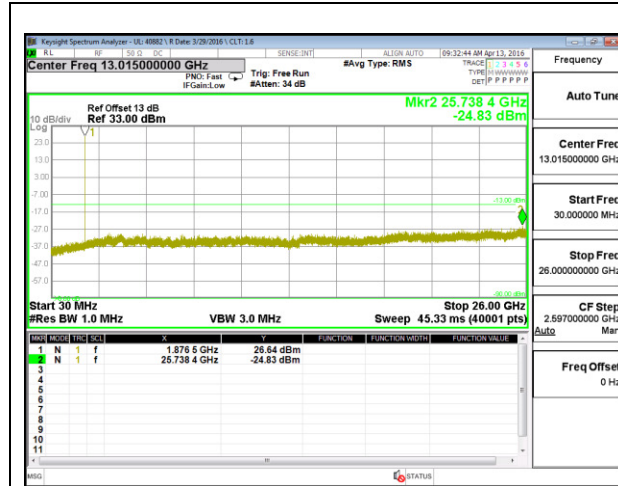
LTE B2 3MHz 16QAM Middle Channel



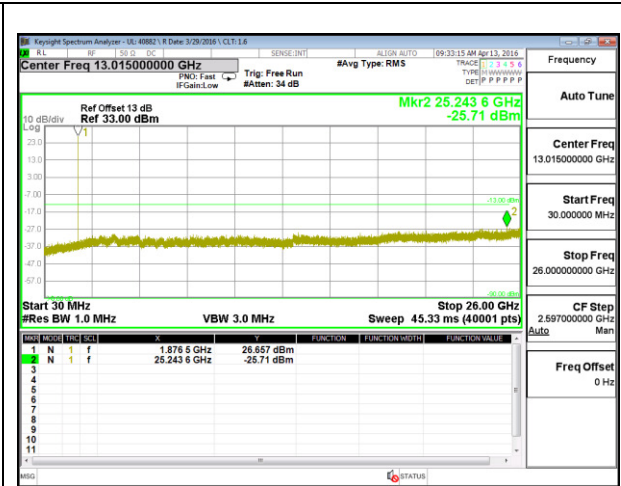
LTE B2 5MHz QPSK Middle Channel



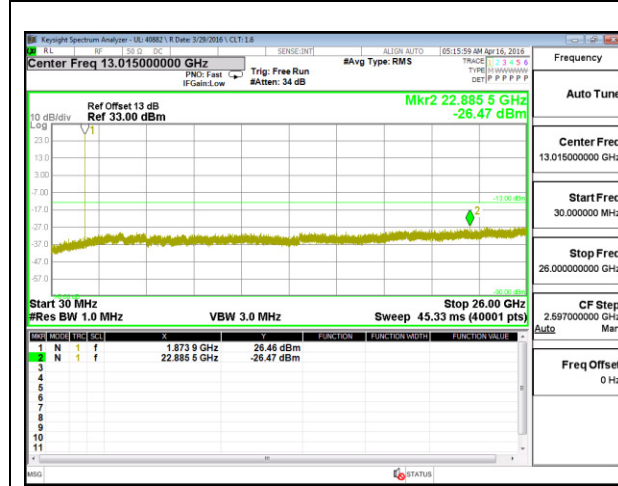
LTE B2 5MHz 16QAM Middle Channel



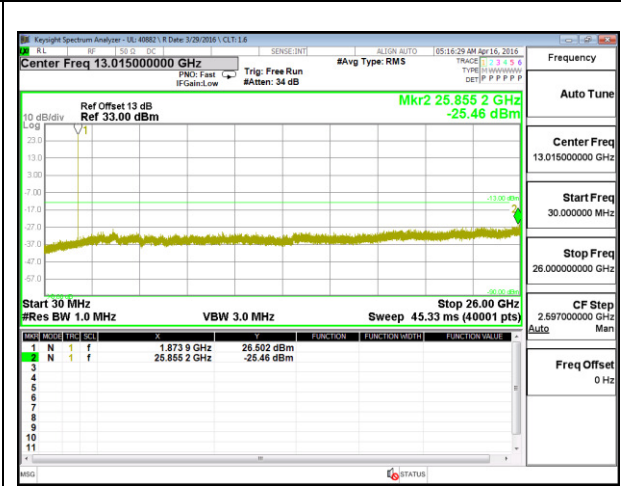
LTE B2 10MHz QPSK Middle Channel



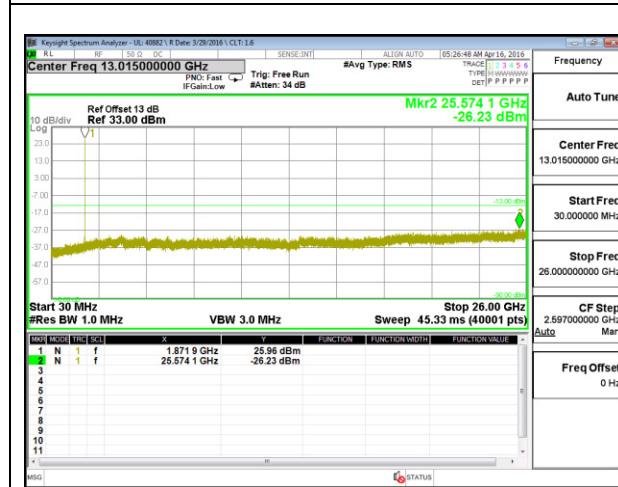
LTE B2 10MHz 16QAM Middle Channel



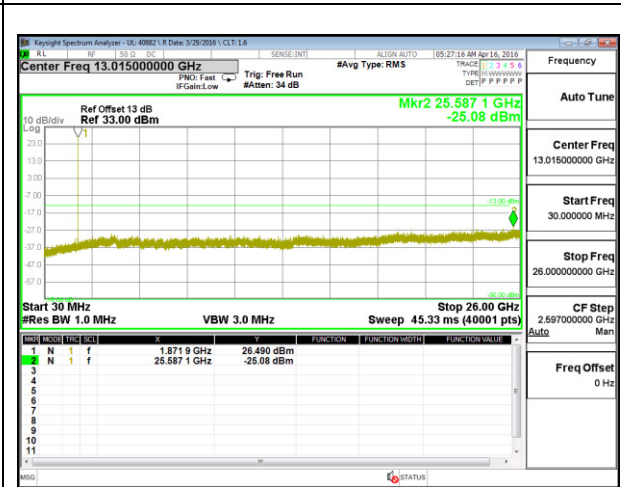
LTE B2 15MHz QPSK Middle Channel



LTE B2 15MHz 16QAM Middle Channel



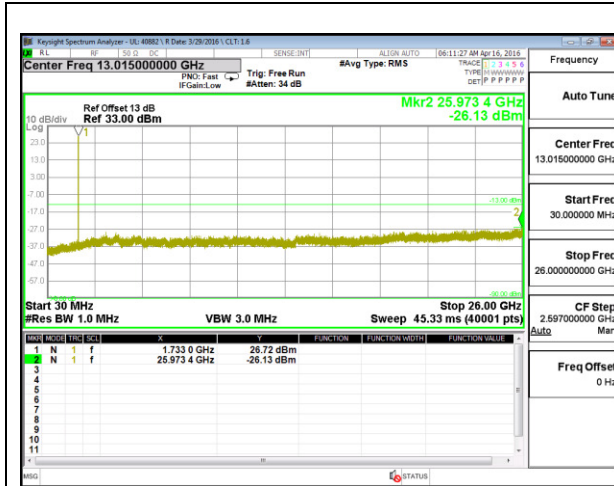
LTE B2 20MHz QPSK Middle Channel



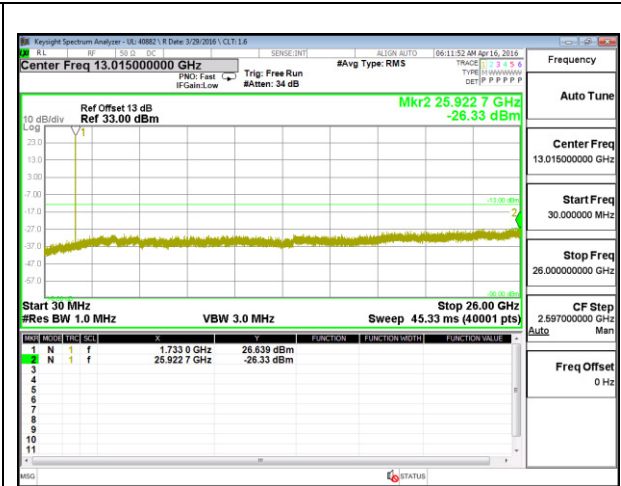
LTE B2 20MHz 16QAM Middle Channel

LTE Band 4

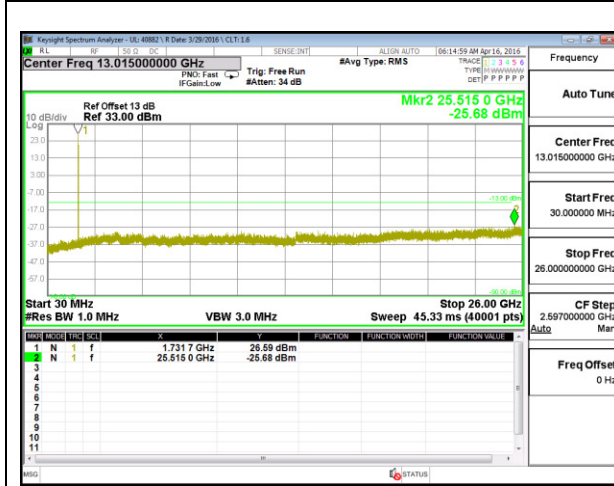
BW(MHz)	Mode	f (MHz)	Spur (dBm)	Spec (dBm)	Delta (dB)
1.4	QPSK	1710.7	-26.24	-13	-13.24
1.4	QPSK	1732.5	-26.13	-13	-13.13
1.4	QPSK	1754.3	-25.31	-13	-12.31
1.4	16QAM	1710.7	-26.13	-13	-13.13
1.4	16QAM	1732.5	-26.33	-13	-13.33
1.4	16QAM	1754.3	-26.09	-13	-13.09
3	QPSK	1711.5	26.35	-13	39.35
3	QPSK	1732.5	-25.68	-13	-12.68
3	QPSK	1753.5	-25.99	-13	-12.99
3	16QAM	1711.5	-25.94	-13	-12.94
3	16QAM	1732.5	-25.90	-13	-12.9
3	16QAM	1753.5	-25.92	-13	-12.92
5	QPSK	1712.5	-25.81	-13	-12.81
5	QPSK	1732.5	-25.63	-13	-12.63
5	QPSK	1752.5	-26.19	-13	-13.19
5	16QAM	1712.5	-26.05	-13	-13.05
5	16QAM	1732.5	-26.41	-13	-13.41
5	16QAM	1752.5	-26.32	-13	-13.32
10	QPSK	1715	-25.60	-13	-12.6
10	QPSK	1732.5	-26.11	-13	-13.11
10	QPSK	1750	-26.09	-13	-13.09
10	16QAM	1715	-25.16	-13	-12.16
10	16QAM	1732.5	-25.55	-13	-12.55
10	16QAM	1750	-26.00	-13	-13
15	QPSK	1717.5	-26.42	-13	-13.42
15	QPSK	1732.5	-25.60	-13	-12.6
15	QPSK	1747.5	-26.23	-13	-13.23
15	16QAM	1717.5	-25.76	-13	-12.76
15	16QAM	1732.5	-26.21	-13	-13.21
15	16QAM	1747.5	-26.45	-13	-13.45
20	QPSK	1720	-25.34	-13	-12.34
20	QPSK	1732.5	-25.89	-13	-12.89
20	QPSK	1745	-25.53	-13	-12.53
20	16QAM	1720	-26.48	-13	-13.48
20	16QAM	1732.5	-25.63	-13	-12.63
20	16QAM	1745	-25.91	-13	-12.91



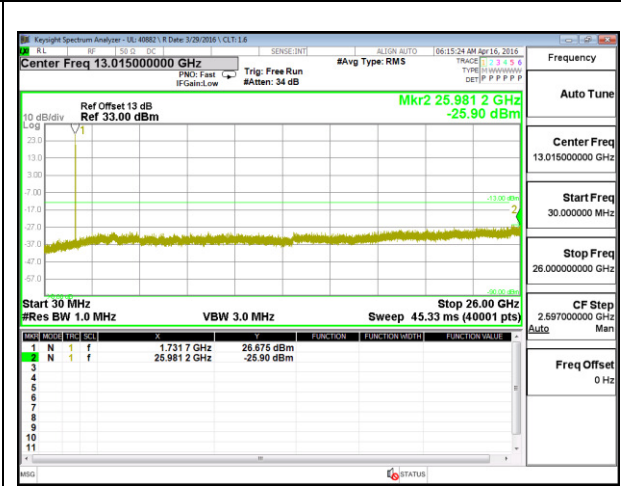
LTE B4 1.4MHz QPSK Middle Channel



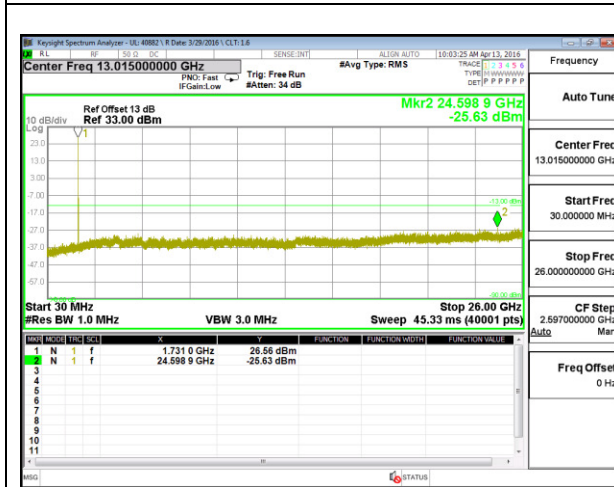
LTE B4 1.4MHz 16QAM Middle Channel



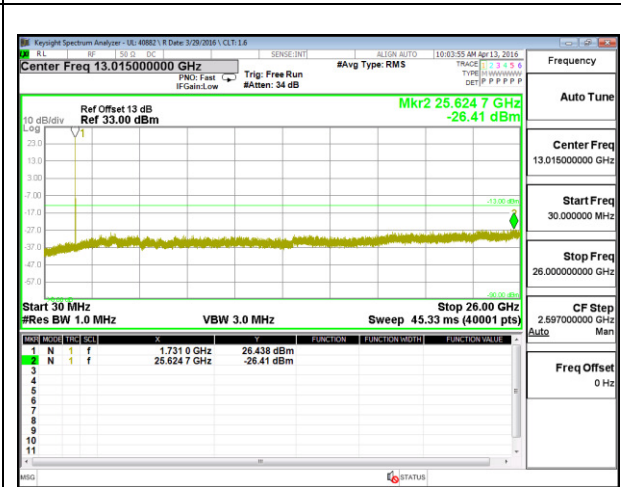
LTE B4 3MHz QPSK Middle Channel



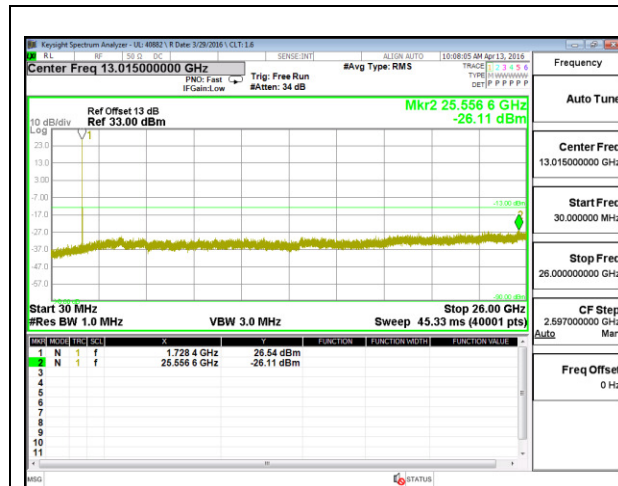
LTE B4 3MHz 16QAM Middle Channel



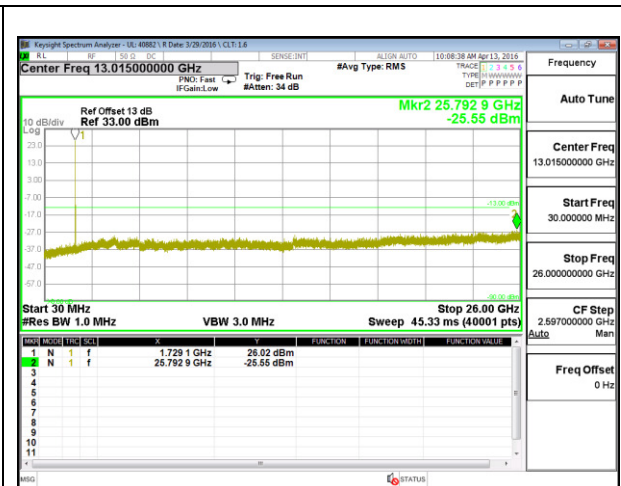
LTE B4 5MHz QPSK Middle Channel



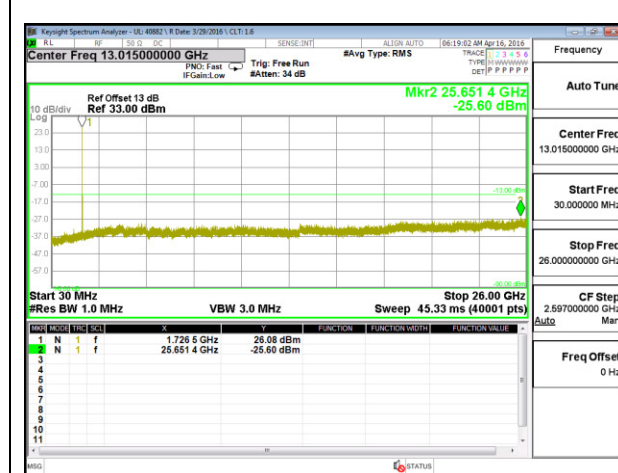
LTE B4 5MHz 16QAM Middle Channel



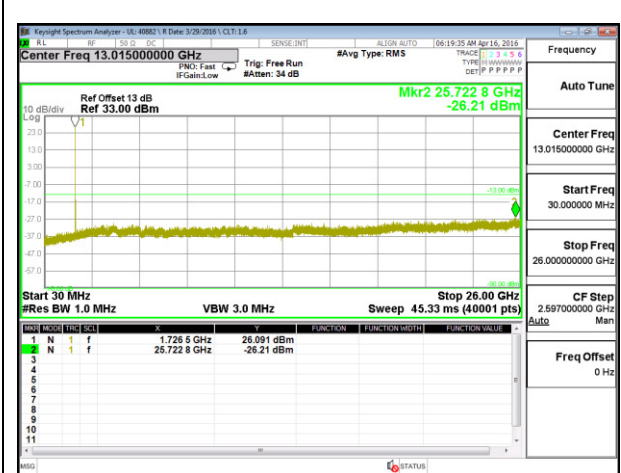
LTE B4 10MHz QPSK Middle Channel



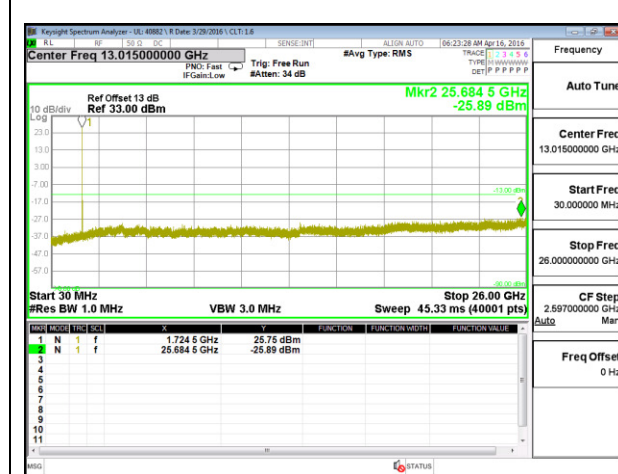
LTE B4 10MHz 16QAM Middle Channel



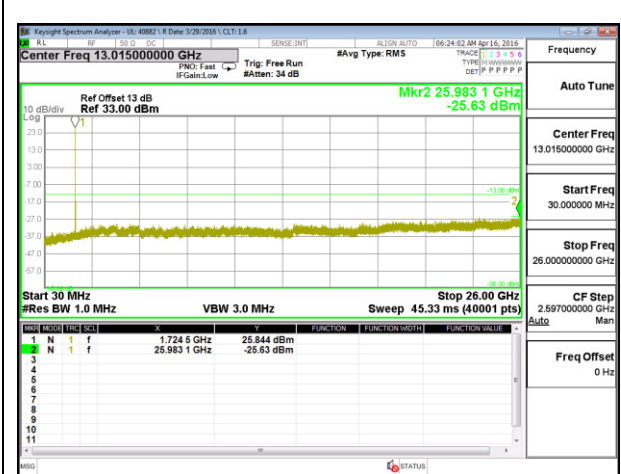
LTE B4 15MHz QPSK Middle Channel



LTE B4 15MHz 16QAM Middle Channel



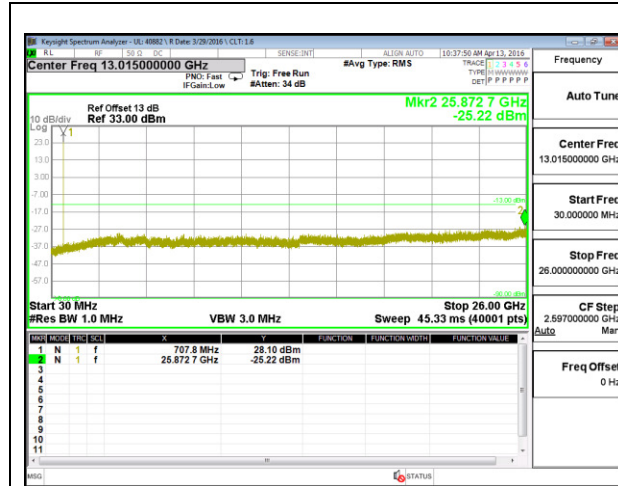
LTE B4 20MHz QPSK Middle Channel



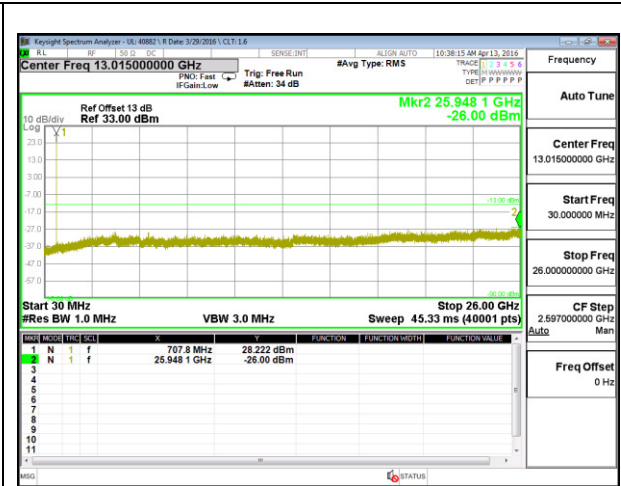
LTE B4 20MHz 16QAM Middle Channel

LTE Band 12

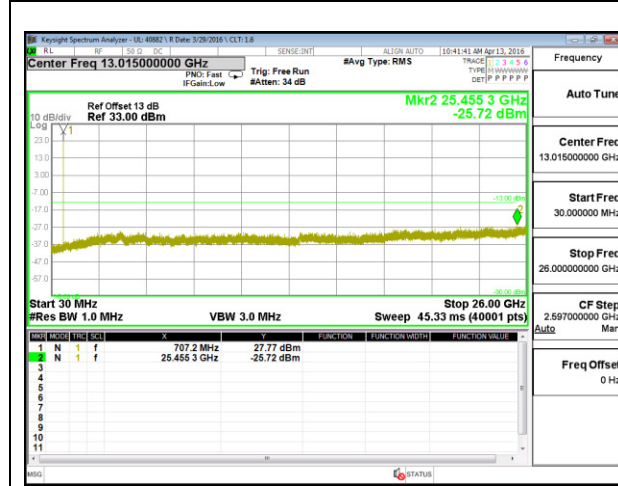
BW(MHz)	Mode	f (MHz)	Spur (dBm)	Spec (dBm)	Delta (dB)
1.4	QPSK	699.7	-26.28	-13	-13.28
1.4	QPSK	707.5	-25.22	-13	-12.22
1.4	QPSK	715.3	-26.22	-13	-13.22
1.4	16QAM	699.7	-25.50	-13	-12.5
1.4	16QAM	707.5	-26.00	-13	-13
1.4	16QAM	715.3	-24.93	-13	-11.93
3	QPSK	700.5	-25.75	-13	-12.75
3	QPSK	707.5	-25.72	-13	-12.72
3	QPSK	714.5	-26.17	-13	-13.17
3	16QAM	700.5	-25.47	-13	-12.47
3	16QAM	707.5	-26.00	-13	-13
3	16QAM	714.5	-25.70	-13	-12.7
5	QPSK	701.5	-25.29	-13	-12.29
5	QPSK	707.5	-26.00	-13	-13
5	QPSK	713.5	-26.05	-13	-13.05
5	16QAM	701.5	-25.85	-13	-12.85
5	16QAM	707.5	-25.48	-13	-12.48
5	16QAM	713.5	-25.33	-13	-12.33
10	QPSK	704	-26.04	-13	-13.04
10	QPSK	707.5	-26.46	-13	-13.46
10	QPSK	711	-25.69	-13	-12.69
10	16QAM	704	-26.16	-13	-13.16
10	16QAM	707.5	-25.79	-13	-12.79
10	16QAM	711	-26.51	-13	-13.51



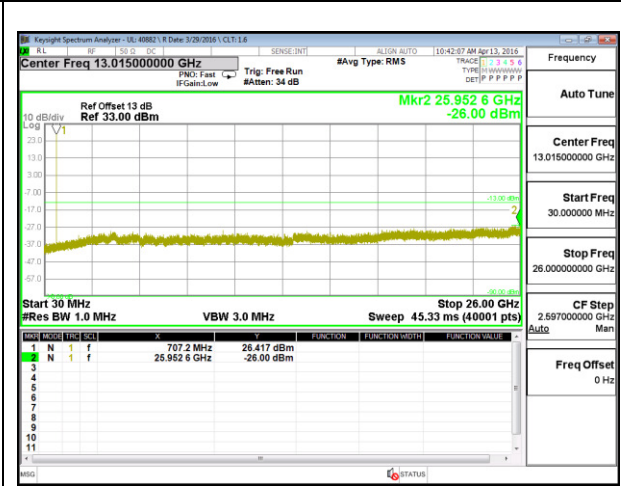
LTE B12 1.4MHz QPSK Middle Channel



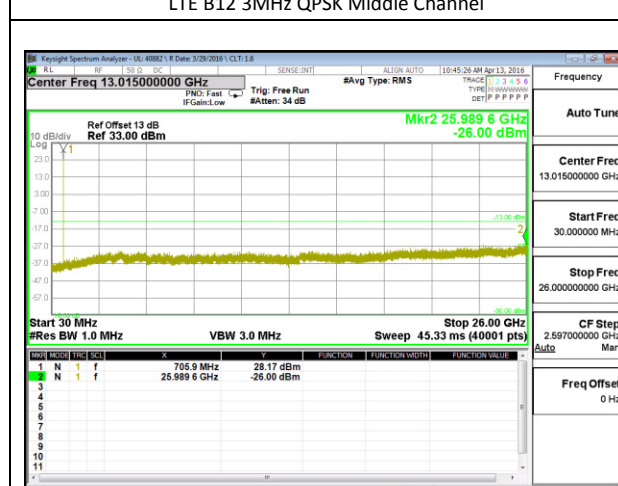
LTE B12 1.4MHz 16QAM Middle Channel



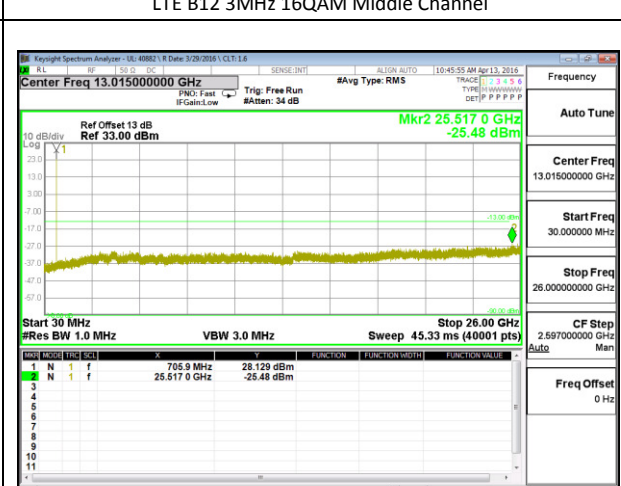
LTE B12 3MHz QPSK Middle Channel



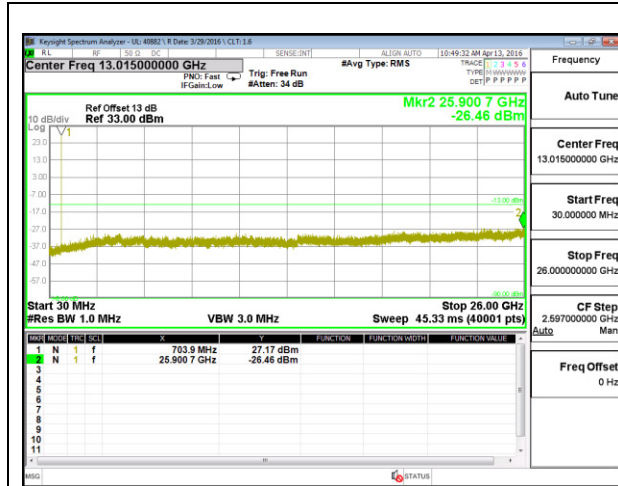
LTE B12 3MHz 16QAM Middle Channel



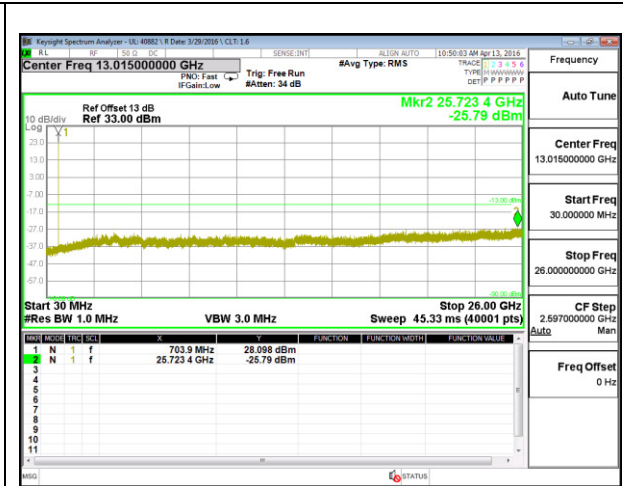
LTE B12 5MHz QPSK Middle Channel



LTE B12 5MHz 16QAM Middle Channel



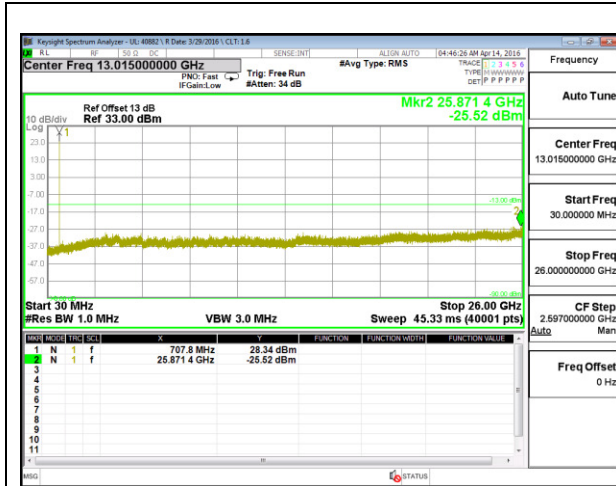
LTE B12 10MHz QPSK Middle Channel



LTE B12 10MHz 16QAM Middle Channel

LTE Band 17

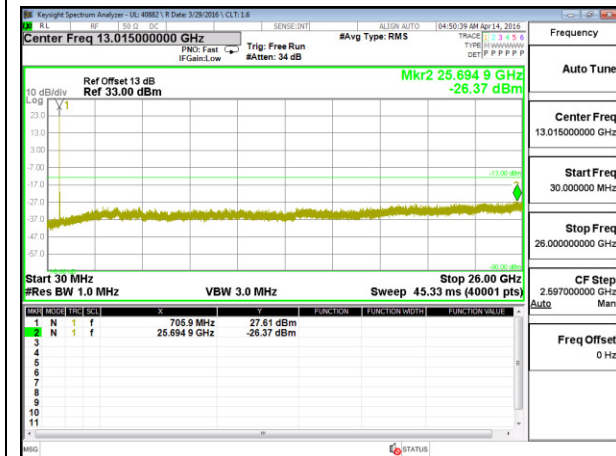
BW(MHz)	Mode	f (MHz)	Spur (dBm)	Spec (dBm)	Delta (dB)
5	QPSK	706.5	-26.59	-13	-13.59
5	QPSK	710	-25.52	-13	-12.52
5	QPSK	713.5	-26.30	-13	-13.3
5	16QAM	706.5	-25.77	-13	-12.77
5	16QAM	710	-25.53	-13	-12.53
5	16QAM	713.5	-26.38	-13	-13.38
10	QPSK	709	-25.56	-13	-12.56
10	QPSK	710	-26.37	-13	-13.37
10	QPSK	711	-26.21	-13	-13.21
10	16QAM	709	-25.69	-13	-12.69
10	16QAM	710	-26.63	-13	-13.63
10	16QAM	711	-26.24	-13	-13.24



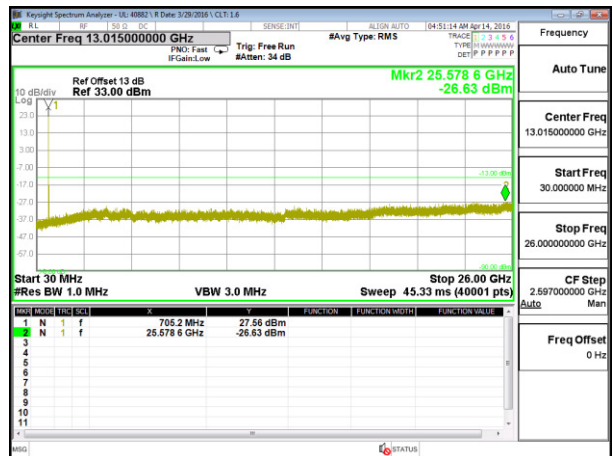
LTE B17 5MHz QPSK Middle Channel



LTE B17 5MHz 16QAM Middle Channel



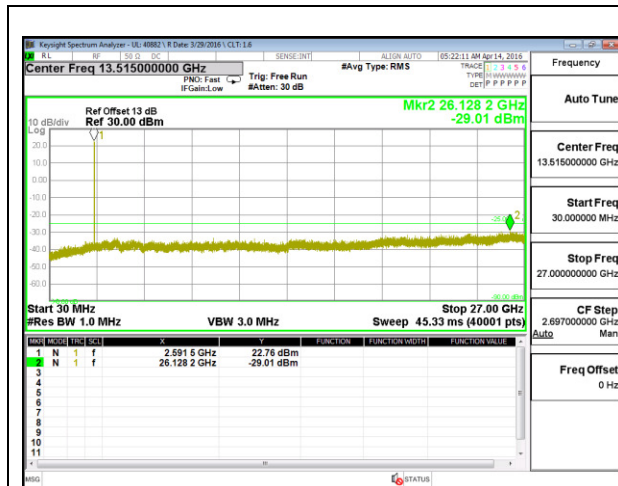
LTE B17 10MHz QPSK Middle Channel



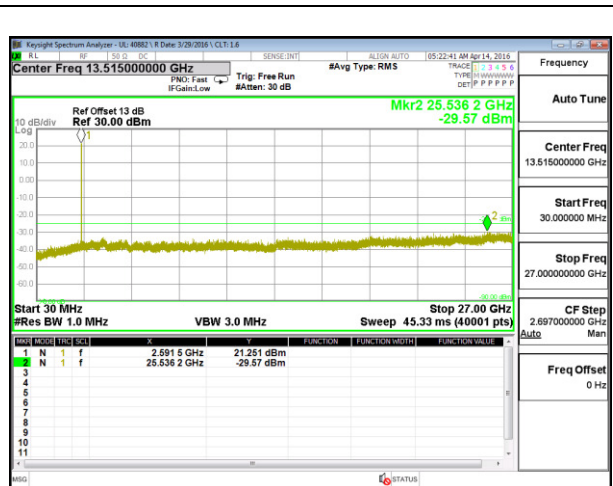
LTE B17 10MHz 16QAM Middle Channel

LTE Band 41

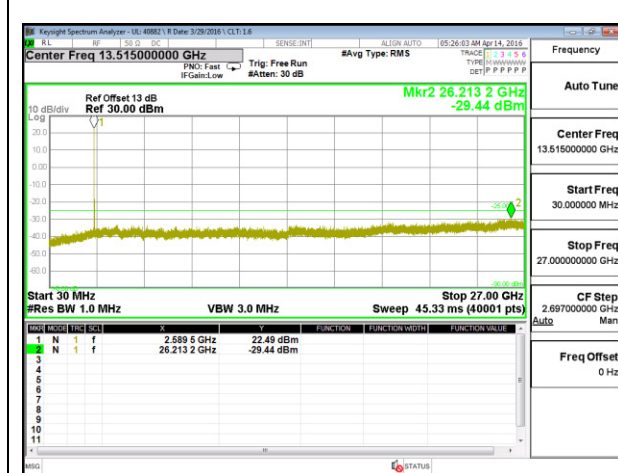
BW(MHz)	Mode	f (MHz)	Spur (dBm)	Spec (dBm)	Delta (dB)
5	QPSK	2498.5	-29.34	-25	-4.34
5	QPSK	2593	-29.01	-25	-4.01
5	QPSK	2687.5	-29.3	-25	-4.3
5	16QAM	2498.5	-28.79	-25	-3.79
5	16QAM	2593	-29.57	-25	-4.57
5	16QAM	2687.5	-29.42	-25	-4.42
10	QPSK	2501	-29.91	-25	-4.91
10	QPSK	2593	-29.44	-25	-4.44
10	QPSK	2685	-29.8	-25	-4.8
10	16QAM	2501	-28.5	-25	-3.5
10	16QAM	2593	-29.91	-25	-4.91
10	16QAM	2685	-29.88	-25	-4.88
15	QPSK	2503.5	-28.19	-25	-3.19
15	QPSK	2593	-29.11	-25	-4.11
15	QPSK	2682.5	-28.75	-25	-3.75
15	16QAM	2503.5	-29.55	-25	-4.55
15	16QAM	2593	-29.69	-25	-4.69
15	16QAM	2682.5	-28.84	-25	-3.84
20	QPSK	2506	-29.5	-25	-4.5
20	QPSK	2593	-29.67	-25	-4.67
20	QPSK	2680	-28.15	-25	-3.15
20	16QAM	2506	-29.83	-25	-4.83
20	16QAM	2593	-28.91	-25	-3.91
20	16QAM	2680	-29.01	-25	-4.01



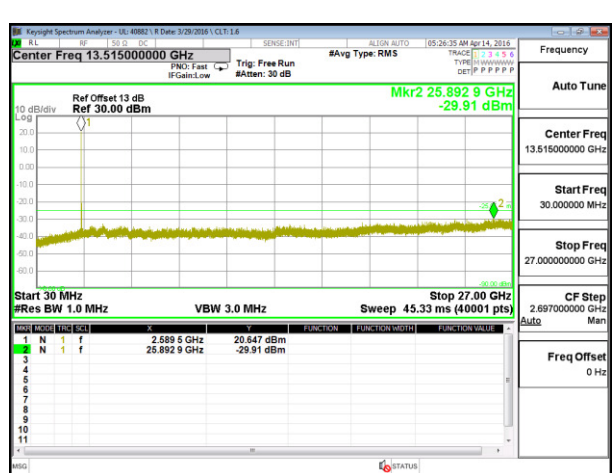
LTE B41 5MHz QPSK Middle Channel



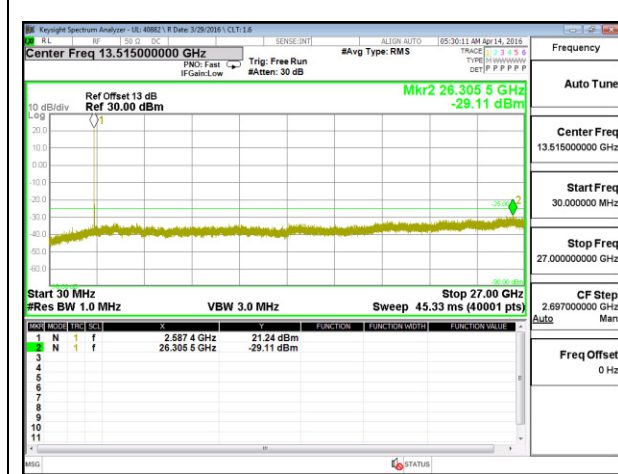
LTE B41 5MHz 16QAM Middle Channel



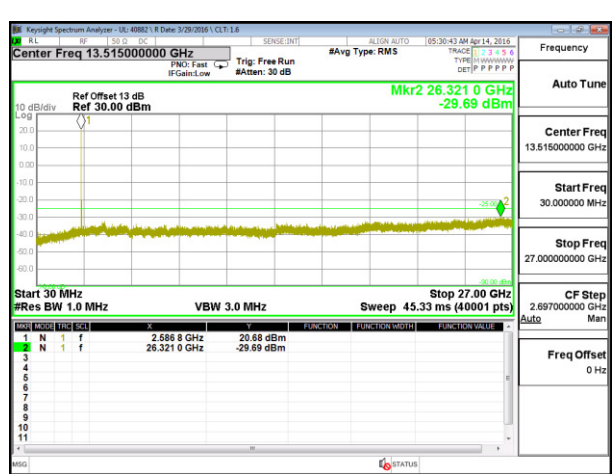
LTE B41 10MHz QPSK Middle Channel



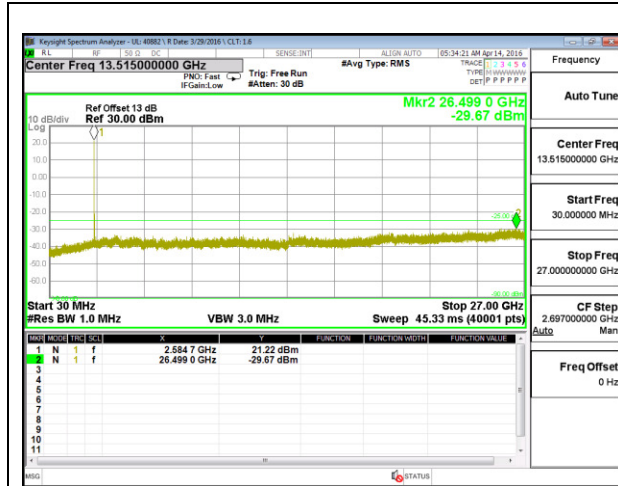
LTE B41 10MHz 16QAM Middle Channel



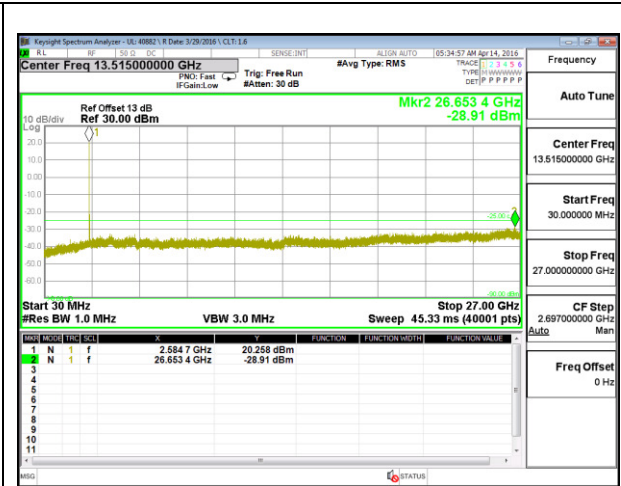
LTE B41 15MHz QPSK Middle Channel



LTE B41 15MHz 16QAM Middle Channel



LTE B41 20MHz QPSK Middle Channel



LTE B41 20MHz 16QAM Middle Channel

13. FREQUENCY STABILITY

RULE PART(S)

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

LIMITS

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

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

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

TEST PROCEDURE

Per KDB 971168 D01 Power Meas License Digital Systems v02r02

13.1. FREQUENCY STABILITY RESULTS

GSM 850

Reference Frequency: Mid Channel 836.6 MHz @ 20°C Limit: to stay +/- 2.5 ppm = 2091.500 Hz				
Power Supply (Vdc)	Environment Temperature (°C)	Frequency Deviation Measured with Time Elapse		
		(MHz)	Delta (ppm)	Limit (ppm)
3.80	50	836.600003	0.010	2.5
3.80	40	836.599992	0.024	2.5
3.80	30	836.600005	0.007	2.5
3.80	20	836.600011	0	2.5
3.80	10	836.600003	0.010	2.5
3.80	0	836.599990	0.026	2.5
3.80	-10	836.599982	0.035	2.5
3.80	-20	836.599991	0.024	2.5
3.80	-30	836.600017	-0.006	2.5

Reference Frequency: PCS Mid Channel 836.6 MHz @ 20°C Limit: to stay +/- 2.5 ppm = 2091.500 Hz				
Power Supply (Vdc)	Environment Temperature (°C)	Frequency Deviation Measured with Time Elapse		
		(MHz)	Delta (ppm)	Limit (ppm)
3.80	20	836.600011	0	2.5
4.20	20	836.5999979	0.016	2.5
3.60	20	836.6000055	0.007	2.5

GSM 1900

Reference Frequency: PCS Mid Channel 1880 MHz @ 20°C Limit: to stay +/- 2.5 ppm = 4700.000 Hz				
Power Supply (Vdc)	Environment Temperature (°C)	Frequency Deviation Measured with Time Elapse		
		(MHz)	Delta (ppm)	Limit (ppm)
3.80	50	1879.999986	0.012	2.5
3.80	40	1880.000008	0.000	2.5
3.80	30	1879.999998	0.005	2.5
3.80	20	1880.000007	0	2.5
3.80	10	1880.000006	0.001	2.5
3.80	0	1880.000003	0.002	2.5
3.80	-10	1879.999984	0.013	2.5
3.80	-20	1880.000006	0.001	2.5
3.80	-30	1880.000024	-0.009	2.5

Reference Frequency: PCS Mid Channel 1880 MHz @ 20°C Limit: to stay +/- 2.5 ppm = 4700.000 Hz				
Power Supply (Vdc)	Environment Temperature (°C)	Frequency Deviation Measured with Time Elapse		
		(MHz)	Delta (ppm)	Limit (ppm)
3.80	20	1880.000007	0	2.5
4.20	20	1880.000001	-0.001	2.5
3.60	20	1880.000003	0.002	2.5

LTE Band 4

Reference Frequency: Mid Channel				
			1732.6	MHz @ 20°C
Limit: to stay +/- 2.5 ppm = 4331.500 Hz				
Power Supply (Vdc)	Environment Temperature (°C)	Frequency Deviation Measured with Time Elapse		
		(MHz)	Delta (ppm)	Limit (ppm)
3.80	50	1732.600015	-0.014	2.5
3.80	40	1732.600012	-0.012	2.5
3.80	30	1732.599991	0.000	2.5
3.80	20	1732.599991	0	2.5
3.80	10	1732.600008	-0.010	2.5
3.80	0	1732.599992	-0.001	2.5
3.80	-10	1732.600007	-0.009	2.5
3.80	-20	1732.599979	0.007	2.5
3.80	-30	1732.600020	-0.017	2.5

Reference Frequency: PCS Mid Channel				
			1732.6	MHz @ 20°C
Limit: to stay +/- 2.5 ppm = 4331.500 Hz				
Power Supply (Vdc)	Environment Temperature (°C)	Frequency Deviation Measured with Time Elapse		
		(MHz)	Delta (ppm)	Limit (ppm)
3.80	20	1732.599991	0	2.5
4.20	20	1732.600002	-0.006	2.5
3.60	20	1732.600003	-0.007	2.5

LTE Band 12

Reference Frequency: Mid Channel 707.5 MHz @ 20°C Limit: to stay +/- 2.5 ppm = 1768.750 Hz				
Power Supply (Vdc)	Environment Temperature (°C)	Frequency Deviation Measured with Time Elapse		
		(MHz)	Delta (ppm)	Limit (ppm)
3.80	50	707.500006	-0.006	2.5
3.80	40	707.499995	0.010	2.5
3.80	30	707.500008	-0.009	2.5
3.80	20	707.500002	0	2.5
3.80	10	707.500007	-0.007	2.5
3.80	0	707.500009	-0.010	2.5
3.80	-10	707.500009	-0.010	2.5
3.80	-20	707.500017	-0.022	2.5
3.80	-30	707.499969	0.047	2.5

Reference Frequency: PCS Mid Channel 707.5 MHz @ 20°C Limit: to stay +/- 2.5 ppm = 1768.750 Hz				
Power Supply (Vdc)	Environment Temperature (°C)	Frequency Deviation Measured with Time Elapse		
		(MHz)	Delta (ppm)	Limit (ppm)
3.80	20	707.500002	0	2.5
4.20	20	707.4999923	0.014	2.5
3.60	20	707.500004	-0.003	2.5

LTE Band 17

Reference Frequency: Mid Channel 710 MHz @ 20°C Limit: to stay +/- 2.5 ppm = 1775.000 Hz				
Power Supply (Vdc)	Environment Temperature (°C)	Frequency Deviation Measured with Time Elapse		
		(MHz)	Delta (ppm)	Limit (ppm)
3.80	50	709.999997	0.006	2.5
3.80	40	709.999991	0.014	2.5
3.80	30	710.000007	-0.008	2.5
3.80	20	710.000001	0	2.5
3.80	10	709.999990	0.016	2.5
3.80	0	710.000007	-0.008	2.5
3.80	-10	709.999992	0.013	2.5
3.80	-20	710.000021	-0.028	2.5
3.80	-30	710.000016	-0.021	2.5

Reference Frequency: PCS Mid Channel 710 MHz @ 20°C Limit: to stay +/- 2.5 ppm = 1775.000 Hz				
Power Supply (Vdc)	Environment Temperature (°C)	Frequency Deviation Measured with Time Elapse		
		(MHz)	Delta (ppm)	Limit (ppm)
3.80	20	710.000001	0	2.5
4.20	20	710.0000017	-0.001	2.5
3.60	20	710.0000065	-0.008	2.5

LTE Band 41

Reference Frequency: Mid Channel 2593 MHz @ 20°C Limit: to stay +/- 2.5 ppm = 6482.500 Hz				
Power Supply (Vdc)	Environment Temperature (°C)	Frequency Deviation Measured with Time Elapse		
		(MHz)	Delta (ppm)	Limit (ppm)
3.80	50	2593.000008	0.000	2.5
3.80	40	2592.999989	0.007	2.5
3.80	30	2593.000004	0.002	2.5
3.80	20	2593.000008	0	2.5
3.80	10	2593.000005	0.001	2.5
3.80	0	2593.000006	0.001	2.5
3.80	-10	2593.000017	-0.003	2.5
3.80	-20	2592.999990	0.007	2.5
3.80	-30	2593.000007	0.000	2.5

Reference Frequency: PCS Mid Channel 2593 MHz @ 20°C Limit: to stay +/- 2.5 ppm = 6482.500 Hz				
Power Supply (Vdc)	Environment Temperature (°C)	Frequency Deviation Measured with Time Elapse		
		(MHz)	Delta (ppm)	Limit (ppm)
3.80	20	2593.000008	0	2.5
4.20	20	2593.000003	0.002	2.5
3.60	20	2593	0.003	2.5

14. RADIATED TEST RESULTS

14.1. RADIATED POWER (ERP & EIRP)

RULE PART(S)

FCC: §2. 1046, §22. 913, §24. 232 and §27.50

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 (handheld devices) are limited to 3 watts ERP; (LTE B17/B12)

27.50 (d) - (4) Fixed, mobile, and portable (handheld) 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)

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

TEST PROCEDURE

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

For peak power measurement with a PSA:

a) Set the RBW \geq OBW; b) Set VBW $\geq 3 \times$ RBW; c) Set span $\geq 2 \times$ RBW; d) Sweep time = auto couple; e) Detector = peak; f) Ensure that the number of measurement points \geq 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 $\geq 3 \times$ RBW; d) Set number of points in sweep $\geq 2 \times$ 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.

14.1.1. ERP/EIRP RESULTS AND TABLE

GSM

Band	Mode	Channel	f(MHz)	ERP/EIRP	
				dBm	mW
GSM850	GPRS	128	824.2	24.17	261.22
GSM850	GPRS	190	836.6	25.49	354.00
GSM850	GPRS	251	848.8	25.25	334.97
GSM850	EGPRS	128	824.2	20.00	100.00
GSM850	EGPRS	190	836.6	21.06	127.64
GSM850	EGPRS	251	848.8	20.21	104.95
GSM1900	GPRS	512	1850.2	25.63	365.59
GSM1900	GPRS	661	1880	25.15	327.34
GSM1900	GPRS	810	1909.8	25.94	392.64
GSM1900	EGPRS	512	1850.2	21.93	155.96
GSM1900	EGPRS	661	1880	21.27	133.97
GSM1900	EGPRS	810	1909.8	22.31	170.22

Fundamental Substitution Measurement (Fc < 1GHz)
 UL LLC, Chamber N

Company: SOMC
 Project #: 11139405
 Date: 2016-04-12
 Test Engineer: Brian Kiewra
 Configuration: Standalone (Sample #CB51292ZCL Z-Axis)
 Mode: GPRS850

Test Equipment:
 Substitution: Dipole antenna AT0016, cable CBL055, and signal-source T374

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	30.99	V	5.3	-1.56	24.17	38.5	-14.3	
824.20	19.96	H	5.3	-1.56	13.14	38.5	-25.3	
Mid Ch								
836.60	32.22	V	5.3	-1.41	25.49	38.5	-13.0	
836.60	11.21	H	5.3	-1.41	4.48	38.5	-34.0	
High Ch								
848.80	31.86	V	5.3	-1.26	25.25	38.5	-13.2	
848.80	20.50	H	5.3	-1.26	13.89	38.5	-24.6	

Rev. 11.02.2015
 Note: For Band 13/17 ERP limit is 34.77dBm. For Band 26 limit is 50dBm

GSM850 GPRS

Fundamental Substitution Measurement (Fc < 1GHz)
 UL LLC, Chamber N

Company: SOMC
 Project #: 11139405
 Date: 2016-04-12
 Test Engineer: Brian Kiewra
 Configuration: Standalone (Sample #CB51292ZCL Z-Axis)
 Mode: EGPRS850

Test Equipment:
 Substitution: Dipole antenna AT0016, cable CBL055, and signal-source T374

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	26.82	V	5.3	-1.56	20.00	38.5	-18.4	
824.20	15.86	H	5.3	-1.56	9.04	38.5	-29.4	
Mid Ch								
836.60	27.79	V	5.3	-1.41	21.06	38.5	-17.4	
836.60	6.52	H	5.3	-1.41	0.21	38.5	-38.7	
High Ch								
848.80	26.82	V	5.3	-1.26	20.21	38.5	-18.2	
848.80	15.37	H	5.3	-1.26	8.76	38.5	-29.7	

Rev. 11.02.2015
 Note: For Band 13/17 ERP limit is 34.77dBm. For Band 26 limit is 50dBm

GSM850 EGPRS

Fundamental Substitution Measurement (Fc > 1GHz)
 UL LLC, Chamber N

Company: SOMC
 Project #: 11139405
 Date: 2016-04-13
 Test Engineer: Brian Kiewra
 Configuration: Standalone (Sample #CB51292ZCL X-Axis)
 Mode: GPRS1900

Test Equipment:
 Substitution: Horn antenna AT0078, cable CBL055, and signal-source T374

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch								
1850.20	27.75	V	8.3	4.4	23.80	33.0	-9.2	
1850.20	29.58	H	8.3	4.4	25.63	33.0	-7.4	
Mid Ch								
1880.00	27.90	V	8.3	4.3	23.85	33.0	-9.1	
1880.00	29.20	H	8.3	4.3	25.15	33.0	-7.8	
High Ch								
1909.80	27.42	V	8.4	4.2	23.22	33.0	-9.8	
1909.80	30.14	H	8.4	4.2	25.94	33.0	-7.1	

Rev. 11.02.2015
 Note: For Band 4 EIRP limit is 30dBm

GSM1900 GPRS

Fundamental Substitution Measurement (Fc > 1GHz)
 UL LLC, Chamber N

Company: SOMC
 Project #: 11139405
 Date: 2016-04-13
 Test Engineer: Brian Kiewra
 Configuration: Standalone (Sample #CB51292ZCL X-Axis)
 Mode: EGPRS1900

Test Equipment:
 Substitution: Horn antenna AT0078, cable CBL055, and signal-source T374

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch								
1850.20	23.90	V	8.3	4.4	19.95	33.0	-13.0	
1850.20	25.88	H	8.3	4.4	21.93	33.0	-11.1	
Mid Ch								
1880.00	24.10	V	8.3	4.3	20.05	33.0	-12.9	
1880.00	25.32	H	8.3	4.3	21.27	33.0	-11.7	
High Ch								
1909.80	23.67	V	8.4	4.2	19.47	33.0	-13.5	
1909.80	26.51	H	8.4	4.2	22.31	33.0	-10.7	

Rev. 11.02.2015
 Note: For Band 4 EIRP limit is 30dBm

GSM1900 EGPRS

WCDMA

Band	Mode	Channel	f(MHz)	ERP/EIRP	
				dBm	mW
Band 2	REL99	9262	1852.4	19.87	97.05
Band 2	REL99	9400	1880	20.06	101.39
Band 2	REL99	9538	1907.6	18.83	76.38
Band 2	HSDPA	9262	1852.4	18.50	70.79
Band 2	HSDPA	9400	1880	18.75	74.99
Band 2	HSDPA	9538	1907.6	17.63	57.94
Band 4	REL99	1312	1712.4	21.66	146.55
Band 4	REL99	1413	1732.6	21.12	129.42
Band 4	REL99	1513	1752.6	20.73	118.30
Band 4	HSDPA	1312	1712.4	20.31	107.40
Band 4	HSDPA	1413	1732.6	20.14	103.28
Band 4	HSDPA	1513	1752.6	18.75	74.99