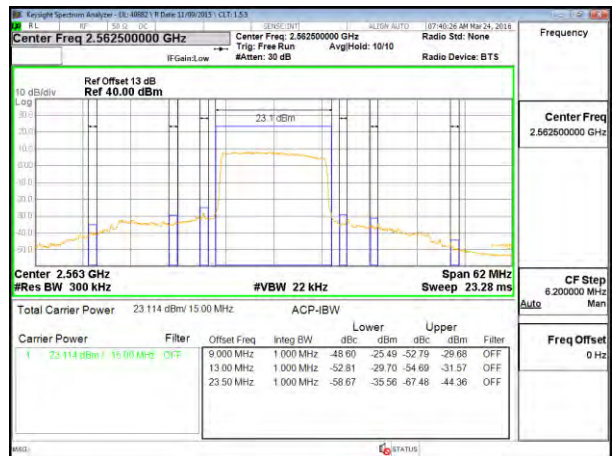
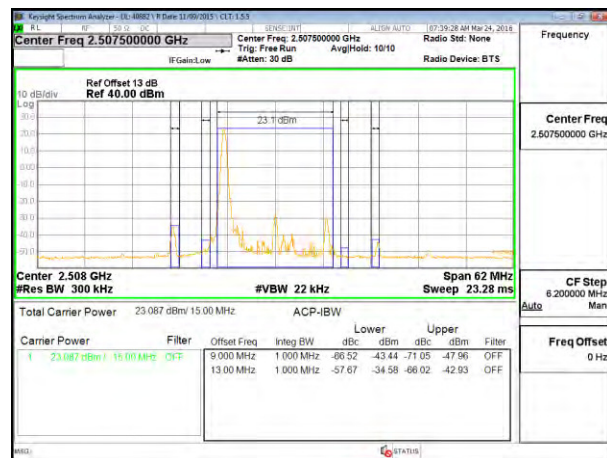


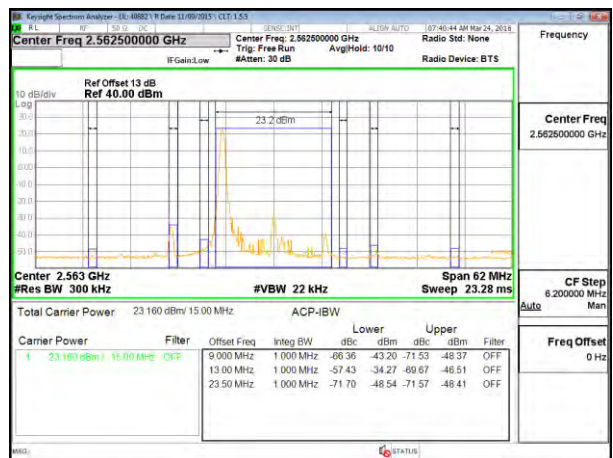
LTE B7 15MHz QPSK Low Channel FRB



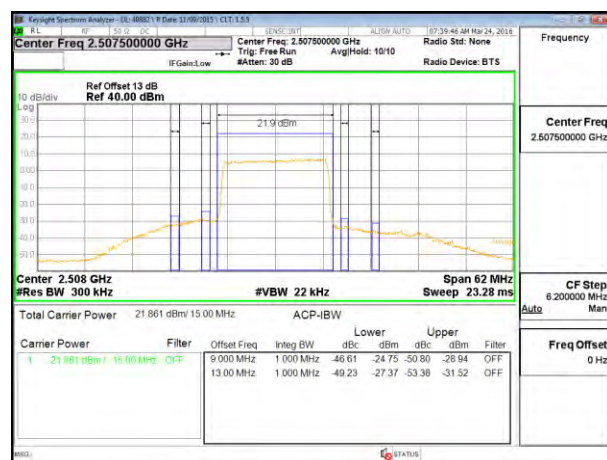
LTE B7 15MHz QPSK High Channel FRB



LTE B7 15MHz 16QAM Low Channel 1RB



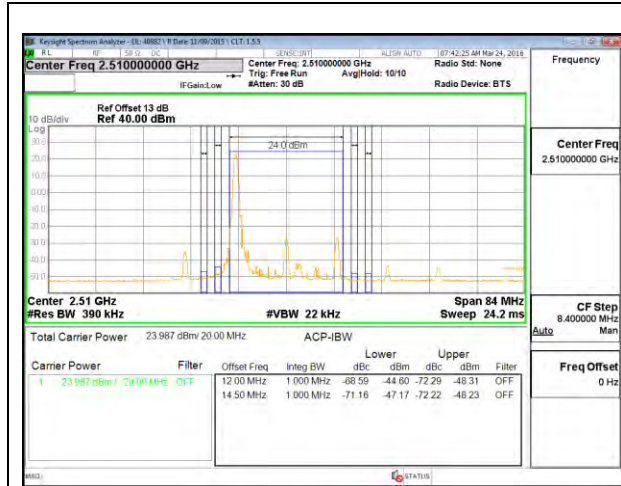
LTE B7 15MHz 16QAM High Channel 1RB



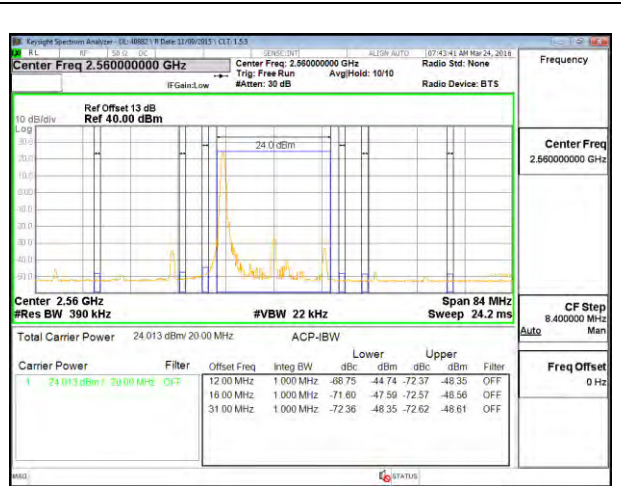
LTE B7 15MHz 16QAM Low Channel FRB



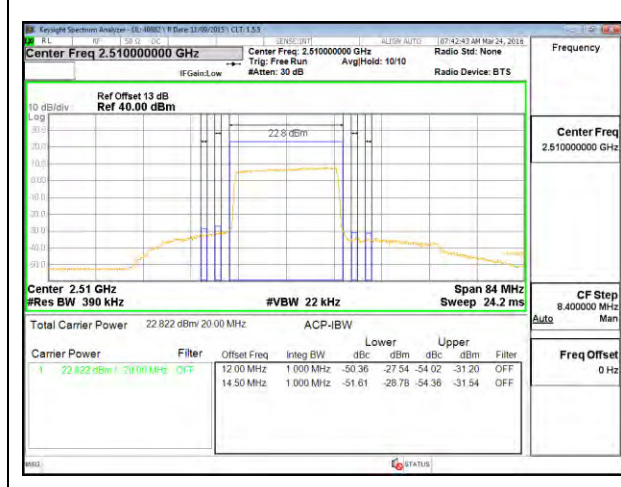
LTE B7 15MHz 16QAM High Channel FRB



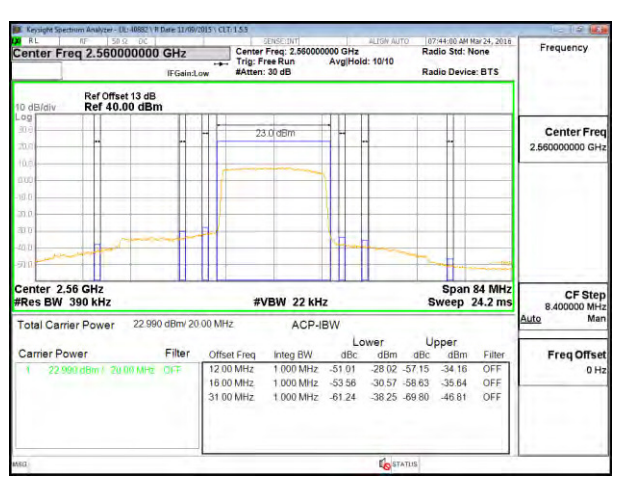
LTE B7 20MHz QPSK Low Channel 1RB



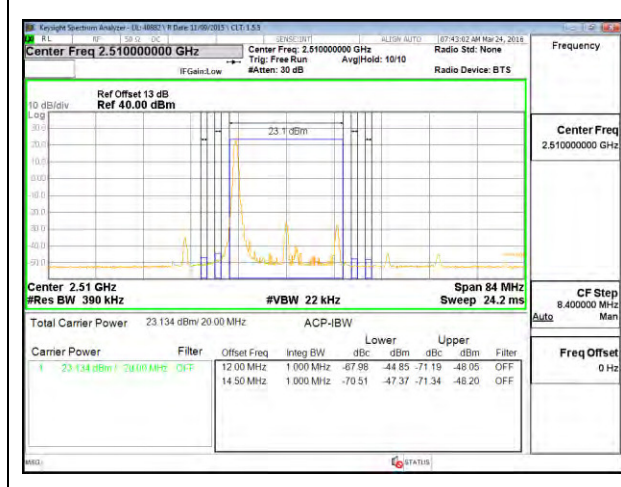
LTE B7 20MHz QPSK High Channel 1RB



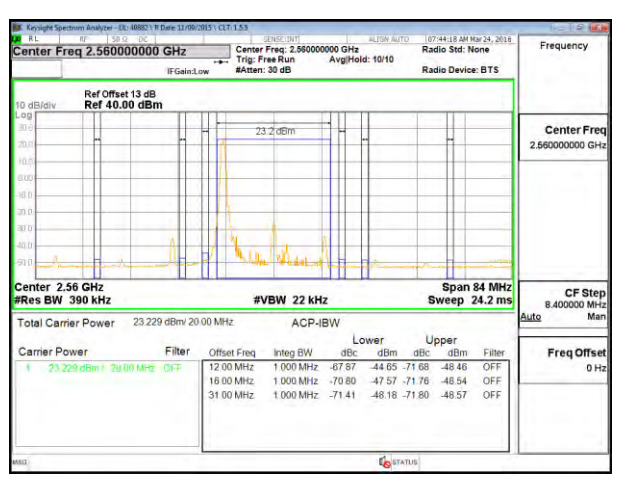
LTE B7 20MHz QPSK Low Channel FRB



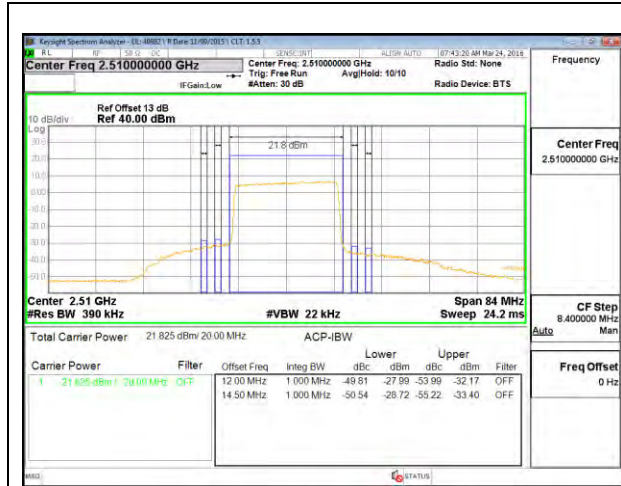
LTE B7 20MHz QPSK High Channel FRB



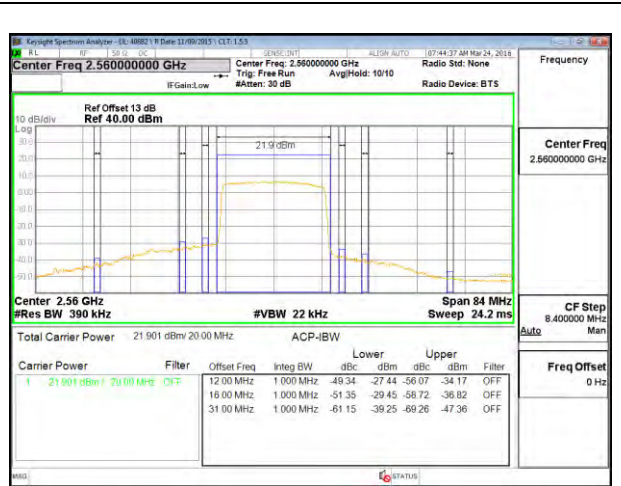
LTE B7 20MHz 16QAM Low Channel 1RB



LTE B7 20MHz 16QAM High Channel 1RB

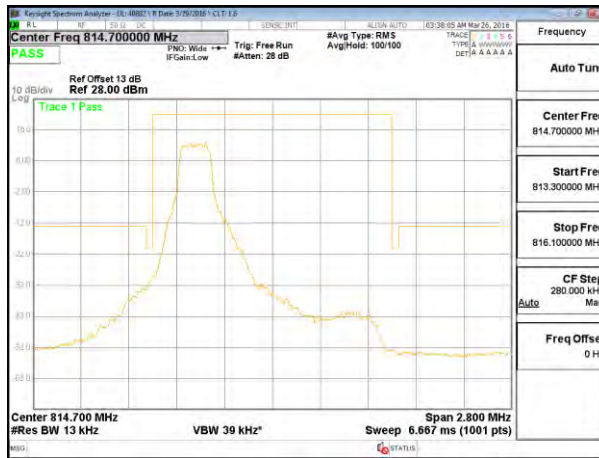


LTE B7 20MHz 16QAM Low Channel FRB

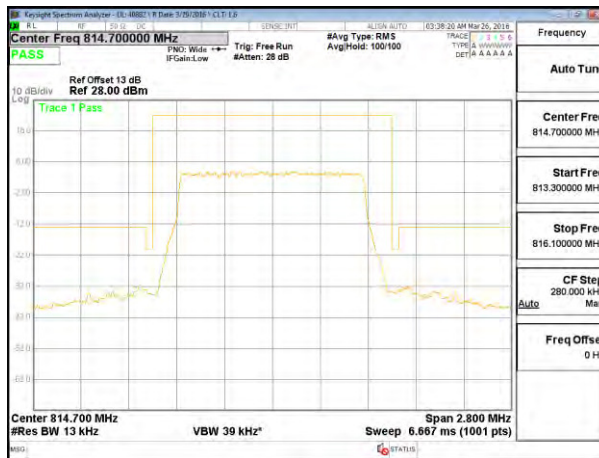


LTE B7 20MHz 16QAM High Channel FRB

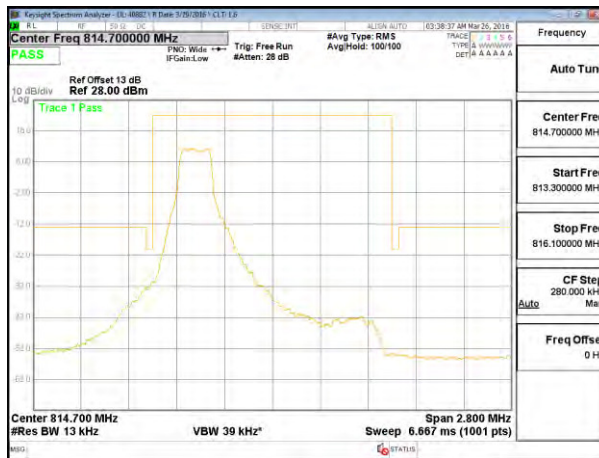
LTE Band 26



LTE B26 1.4MHz QPSK Low Channel 1RB



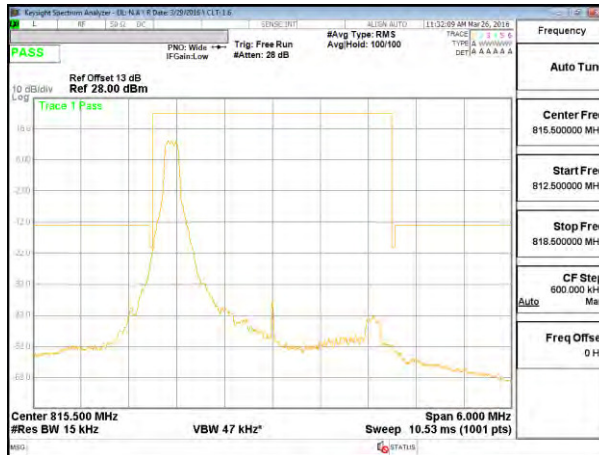
LTE B26 1.4MHz QPSK Low Channel FRB



LTE B26 1.4MHz 16QAM Low Channel 1RB



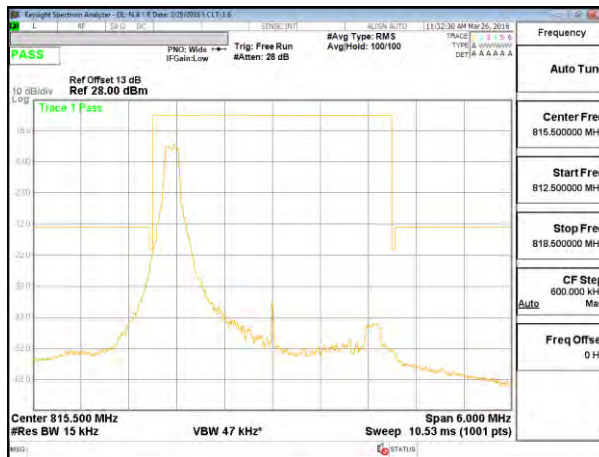
LTE B26 1.4MHz 16QAM Low Channel FRB



LTE B26 3MHz QPSK Low Channel 1RB



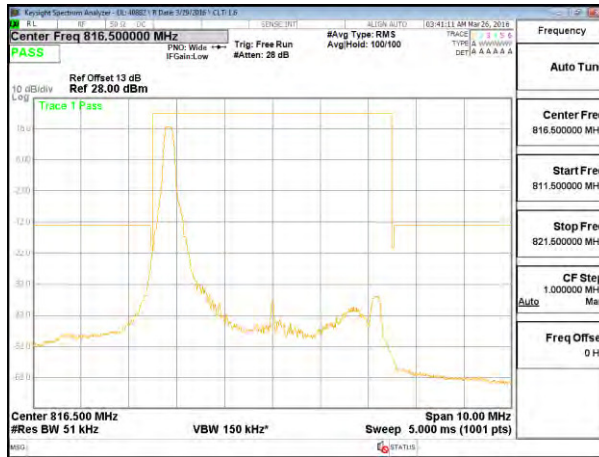
LTE B26 3MHz QPSK Low Channel FRB



LTE B26 3MHz 16QAM Low Channel 1RB



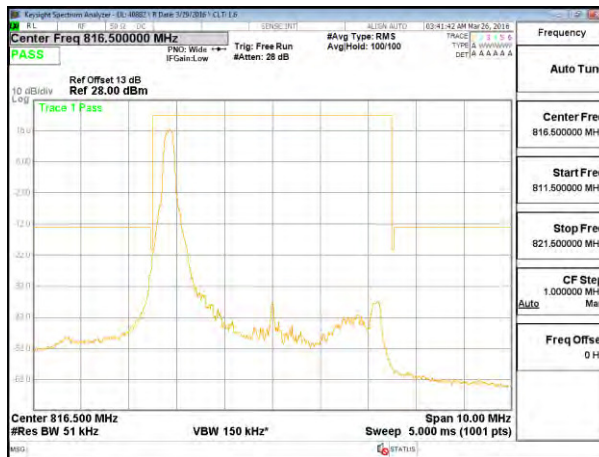
LTE B26 3MHz 16QAM Low Channel FRB



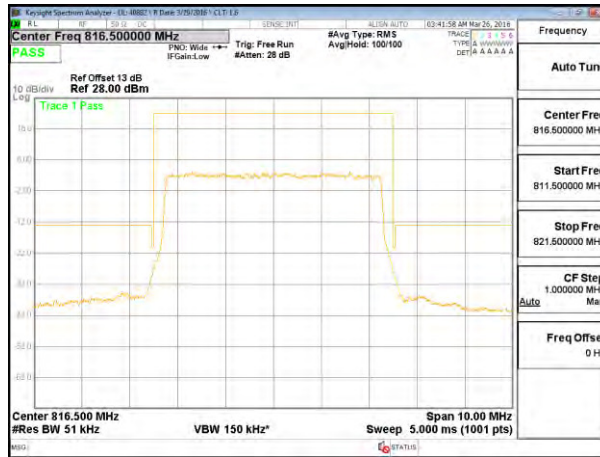
LTE B26 5MHz QPSK Low Channel 1RB



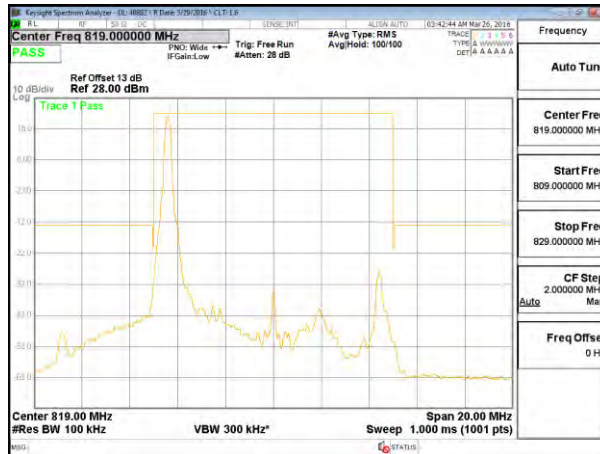
LTE B26 5MHz QPSK Low Channel FRB



LTE B26 5MHz 16QAM Low Channel 1RB



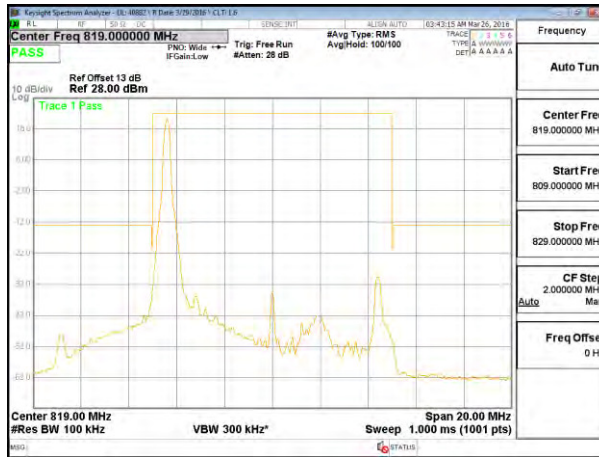
LTE B26 5MHz 16QAM Low Channel FRB



LTE B26 10MHz QPSK Low Channel 1RB



LTE B26 10MHz QPSK Low Channel FRB

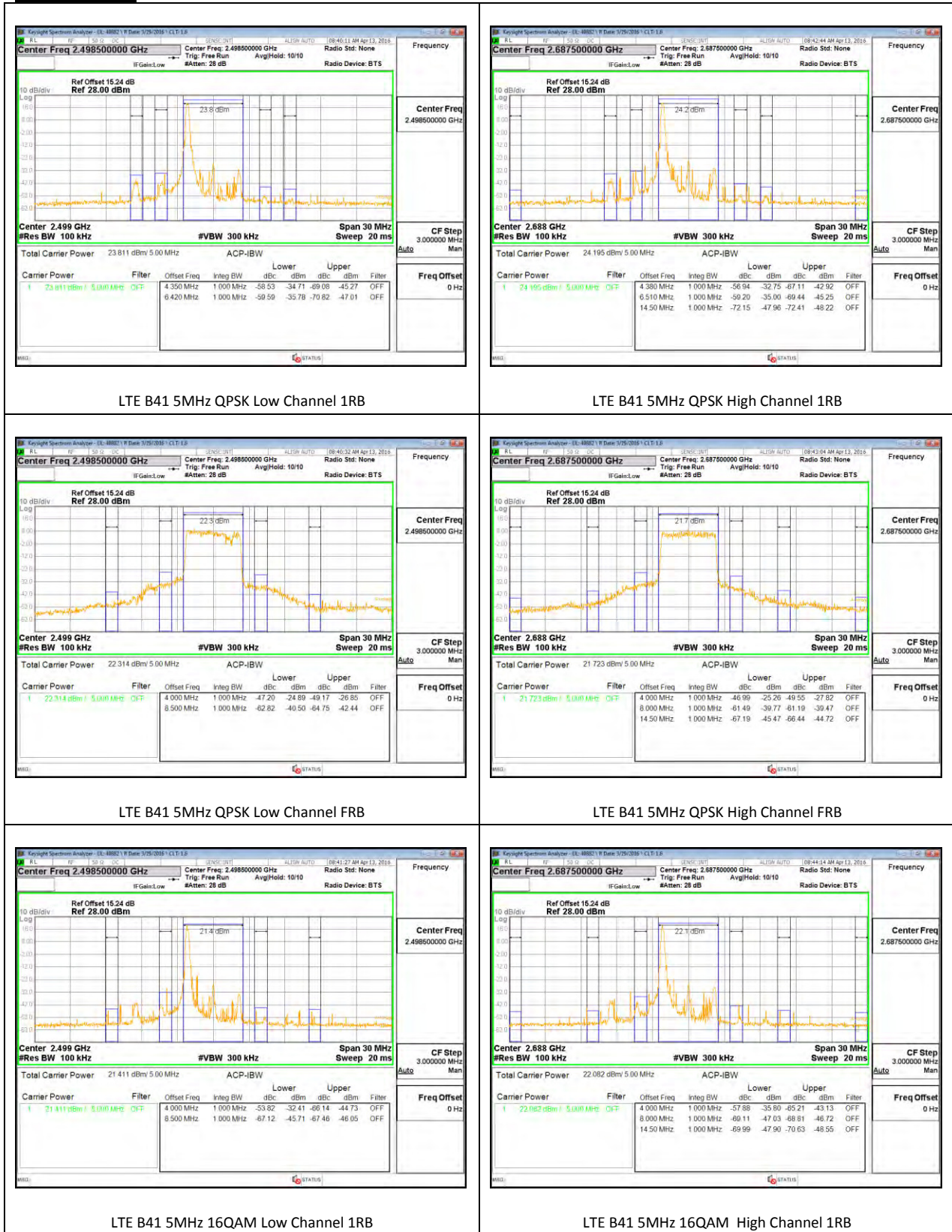


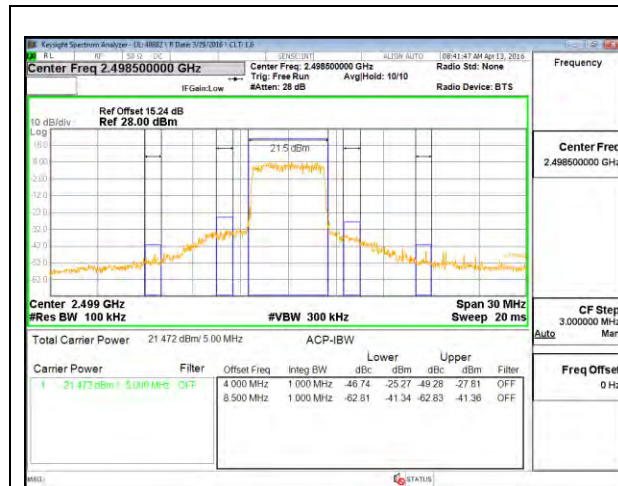
LTE B26 10MHz 16QAM Low Channel 1RB



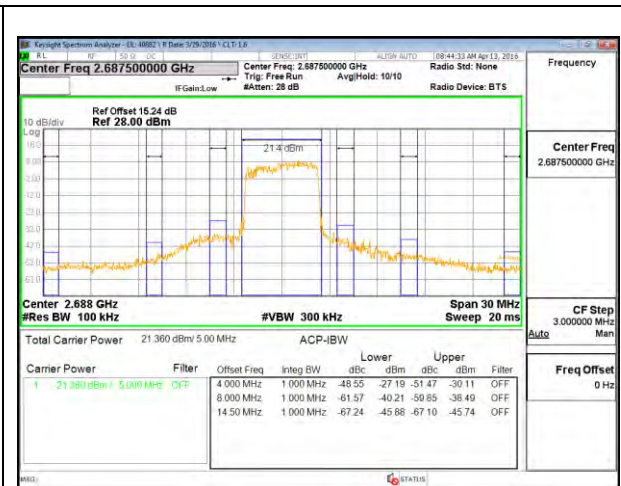
LTE B26 10MHz 16QAM Low Channel FRB

LTE Band 41

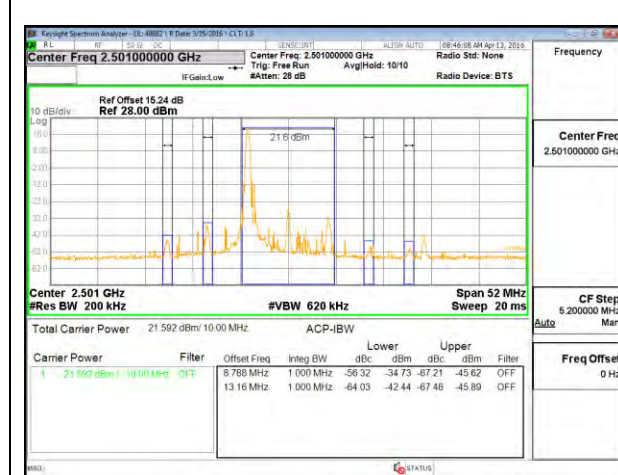




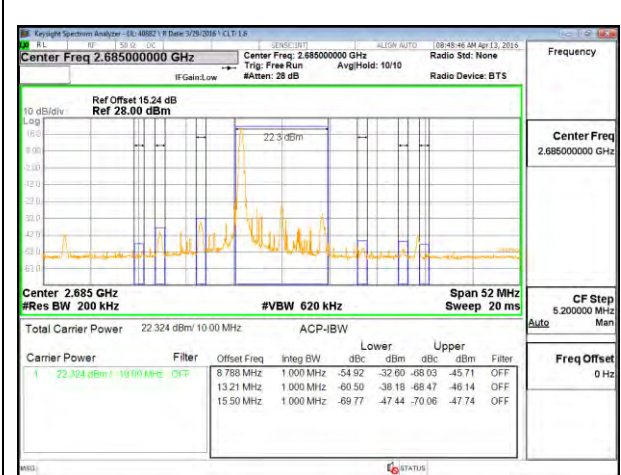
LTE B41 5MHz 16QAM Low Channel FRB



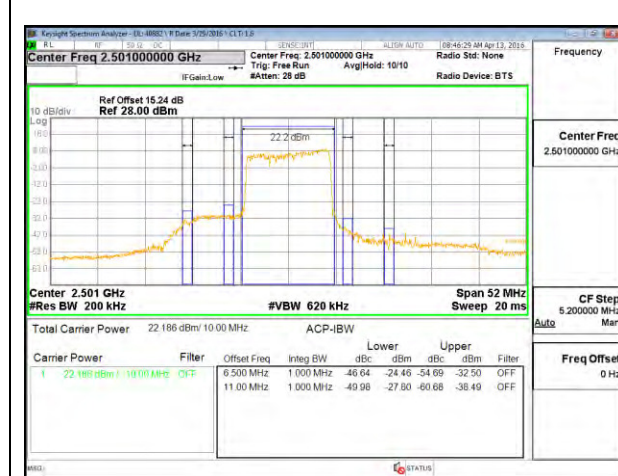
LTE B41 5MHz 16QAM High Channel FRB



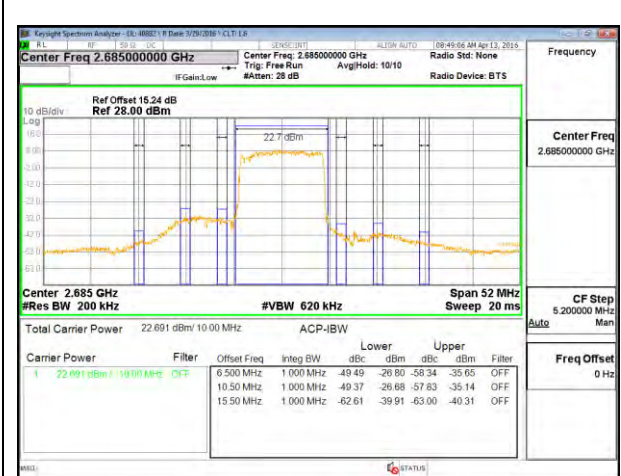
LTE B41 10MHz QPSK Low Channel 1RB



LTE B41 10MHz QPSK High Channel 1RB



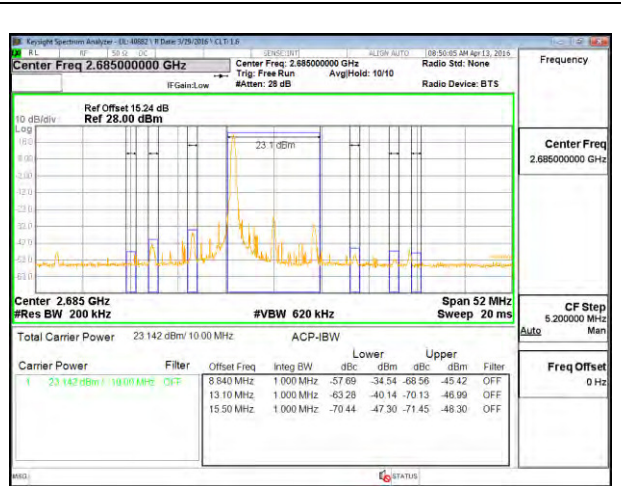
LTE B41 10MHz QPSK Low Channel FRB



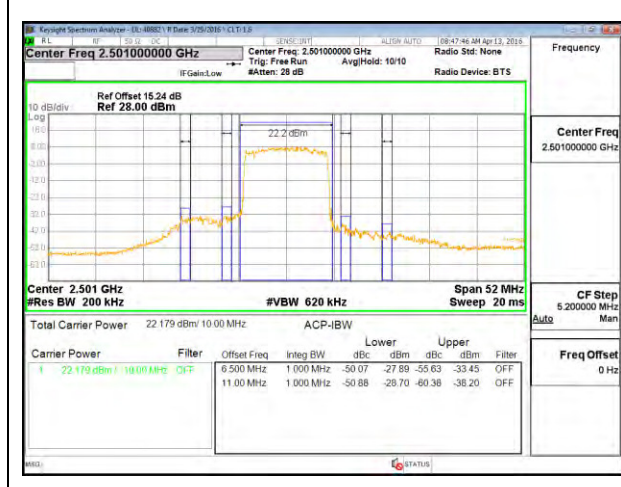
LTE B41 10MHz QPSK High Channel FRB



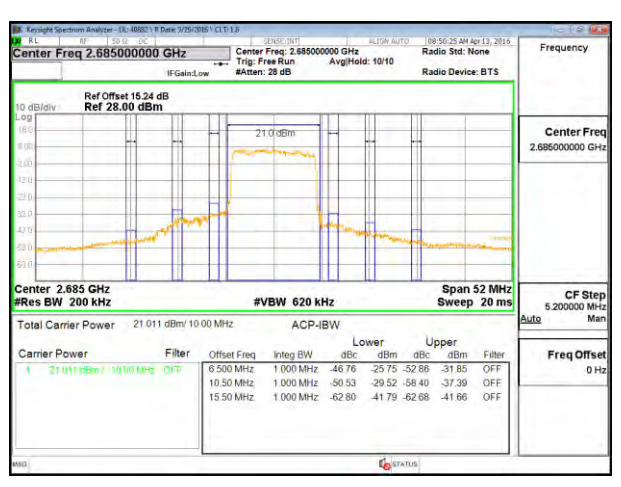
LTE B41 10MHz 16QAM Low Channel 1RB



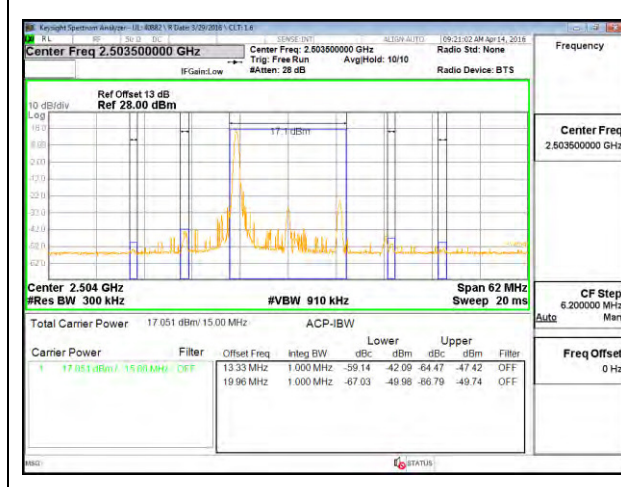
LTE B41 10MHz 16QAM High Channel 1RB



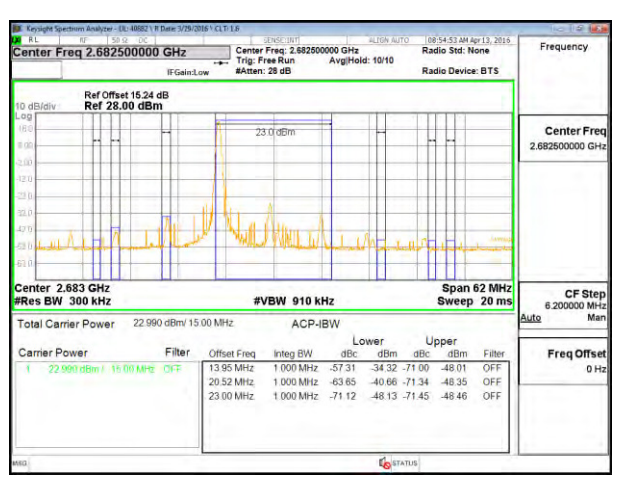
LTE B41 10MHz 16QAM Low Channel FRB



LTE B41 10MHz 16QAM High Channel FRB



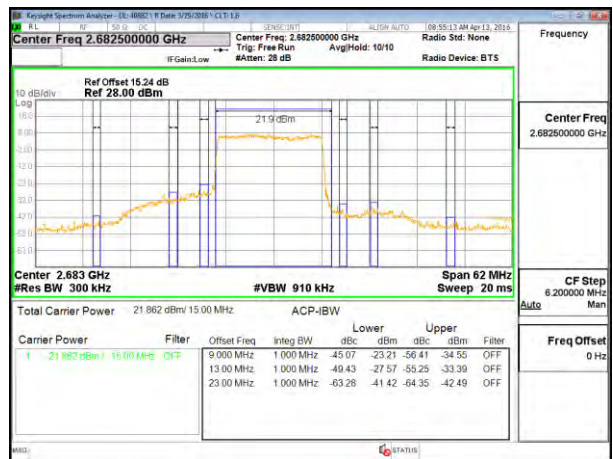
LTE B41 15MHz QPSK Low Channel 1RB



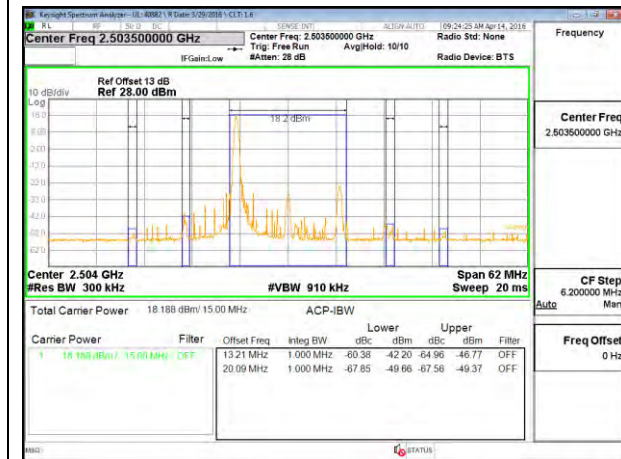
LTE B41 15MHz QPSK High Channel 1RB



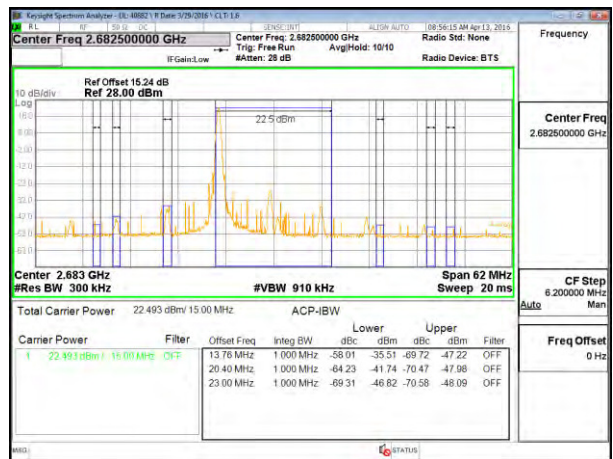
LTE B41 15MHz QPSK Low Channel FRB



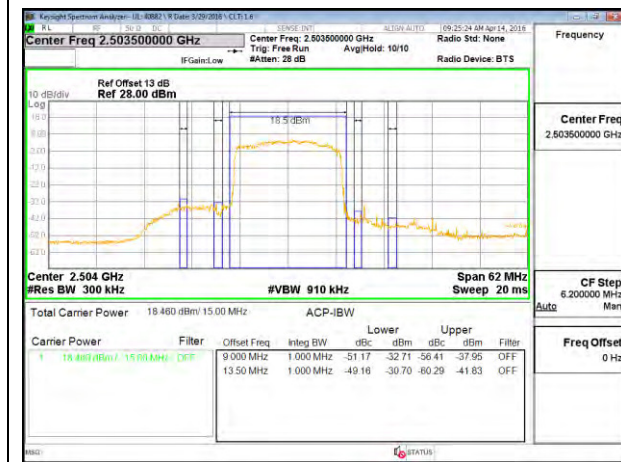
LTE B41 15MHz QPSK High Channel FRB



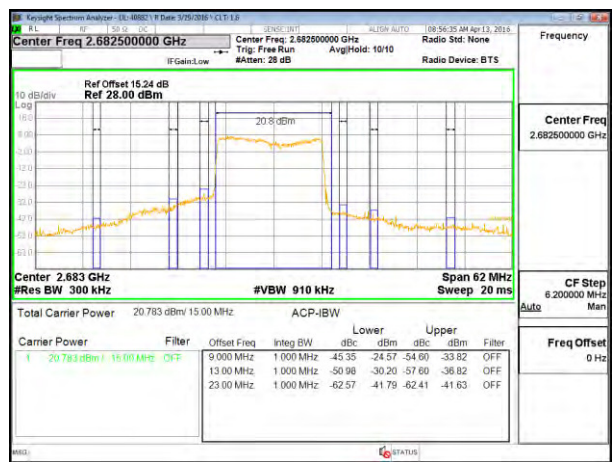
LTE B41 15MHz 16QAM Low Channel 1RB



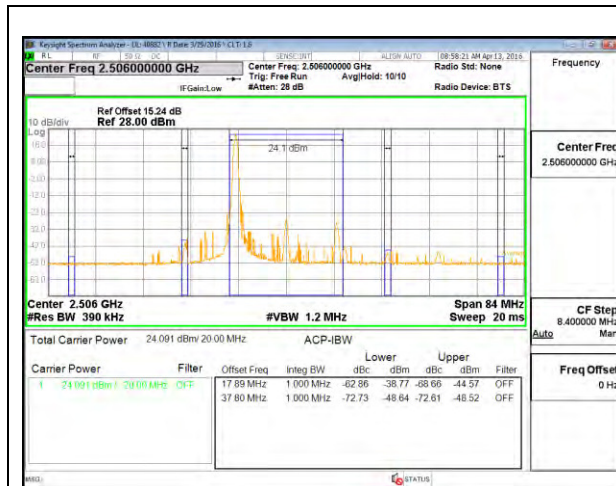
LTE B41 15MHz 16QAM High Channel 1RB



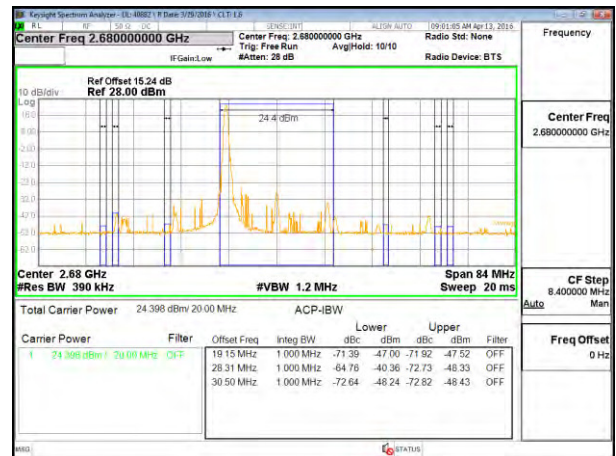
LTE B41 15MHz 16QAM Low Channel FRB



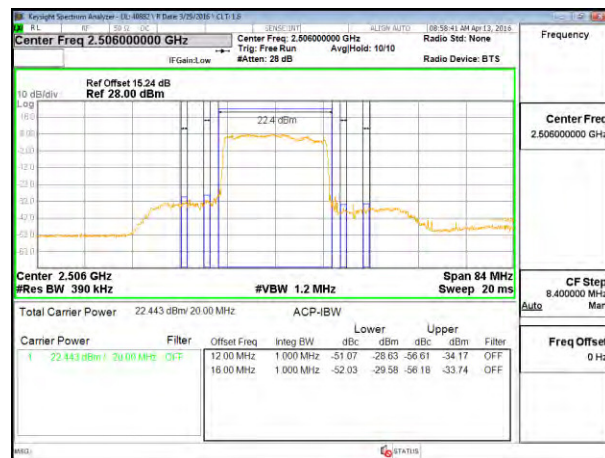
LTE B41 15MHz 16QAM High Channel FRB



LTE B41 20MHz QPSK Low Channel 1RB



LTE B41 20MHz QPSK High Channel 1RB



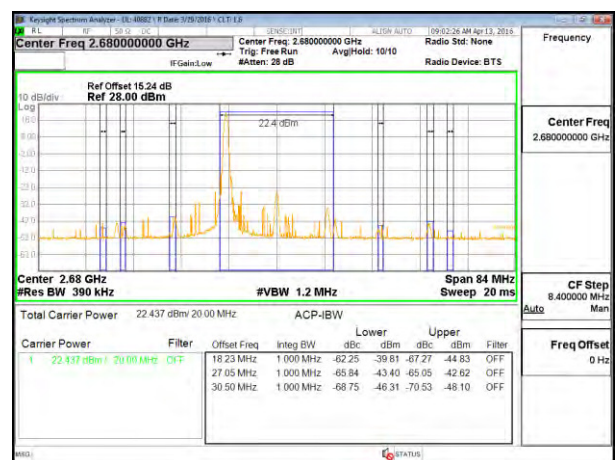
LTE B41 20MHz QPSK Low Channel FRB



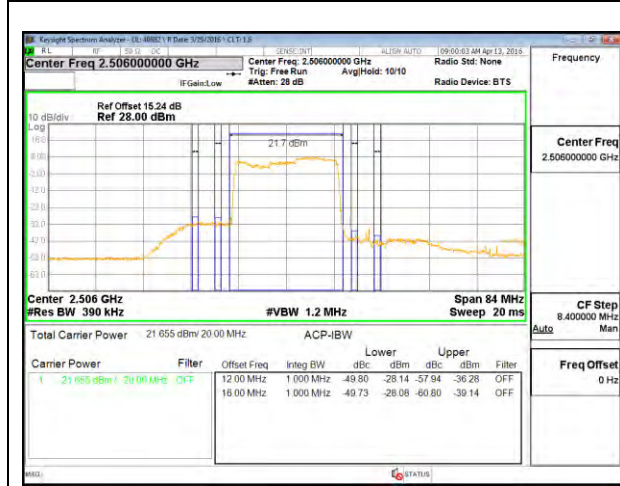
LTE B41 20MHz QPSK High Channel FRB



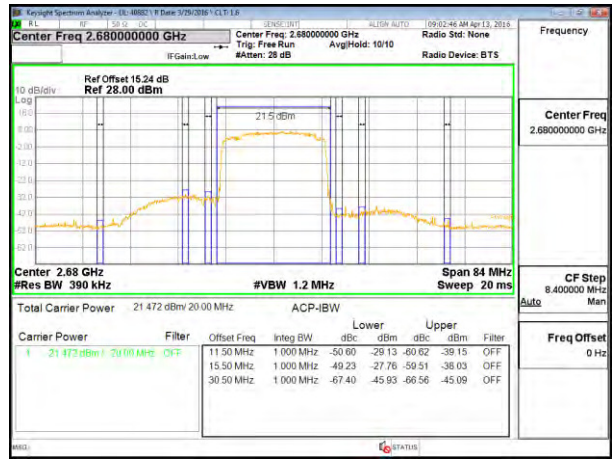
LTE B41 20MHz 16QAM Low Channel 1RB



LTE B41 20MHz 16QAM High Channel 1RB



LTE B41 20MHz 16QAM Low Channel FRB



LTE B41 20MHz 16QAM High Channel FRB

12. 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 than $43 + 10 \log (P)$ 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 a maximum hold mode using a peak detector to ensure that the worst-case emissions were caught.

12.1. OUT OF BAND EMISSIONS RESULT AND PLOTS

GSM

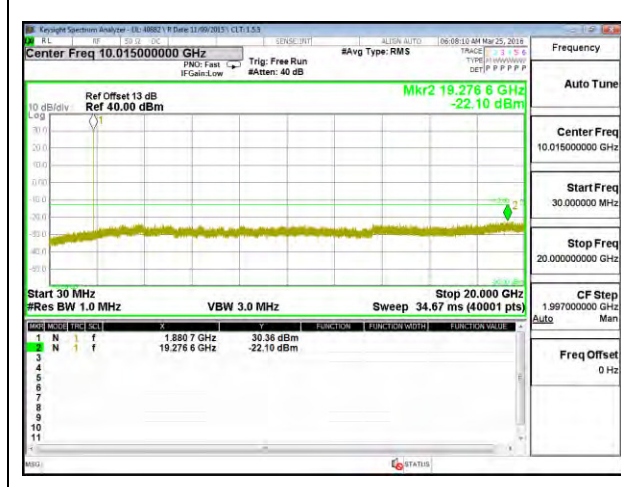
Band	Mode	f (MHz)	Spur (dBm)	Spec (dBm)	Delta (dB)
GSM850	GPRS	824.2	-21.59	-13	-8.59
GSM850	GPRS	836.6	-22.322	-13	-9.322
GSM850	GPRS	848.8	-22.484	-13	-9.484
GSM850	EGPRS	824.2	-22.506	-13	-9.506
GSM850	EGPRS	836.6	-21.846	-13	-8.846
GSM850	EGPRS	848.8	-22.457	-13	-9.457
GSM1900	GPRS	1850.2	-21.5	-13	-8.5
GSM1900	GPRS	1880	-22.097	-13	-9.097
GSM1900	GPRS	1909.8	-22.346	-13	-9.346
GSM1900	EGPRS	1850.2	-22.435	-13	-9.435
GSM1900	EGPRS	1880	-21.601	-13	-8.601
GSM1900	EGPRS	1909.8	-22.521	-13	-9.521



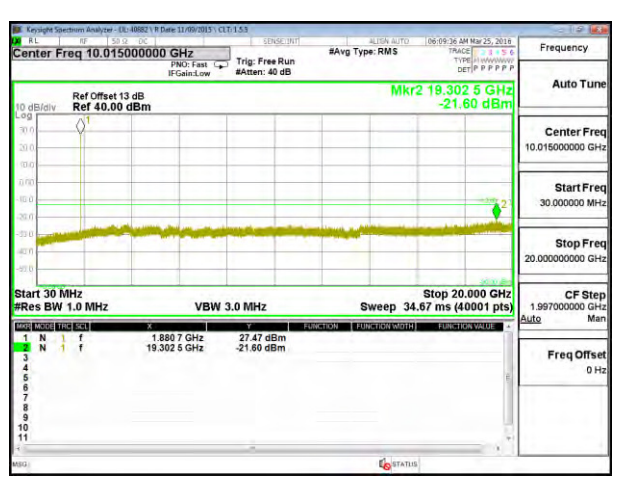
GSM850 GPRS Middle Channel



GSM850 EGPRS Middle Channel



GSM1900 GPRS Middle Channel



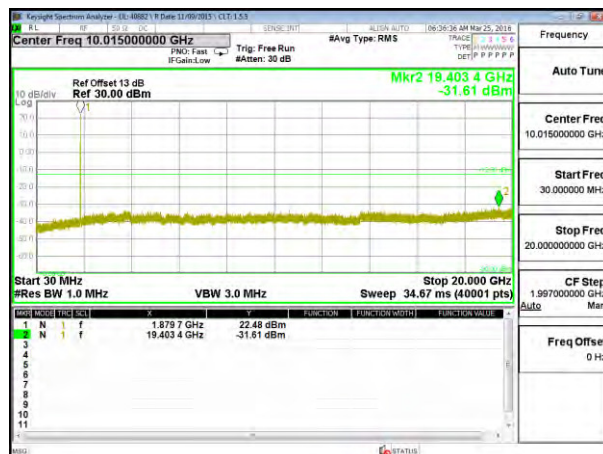
GSM1900 EGPRS Middle Channel

WCDMA

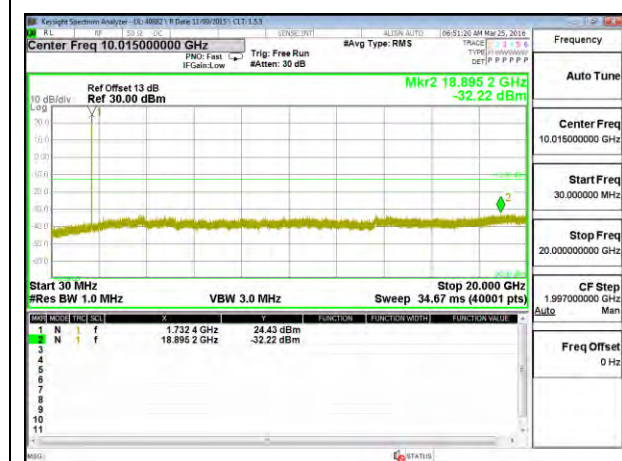
Band	Mode	f (MHz)	Spur (dBm)	99% BW (MHz)	Delta (dB)
Band 2	REL99	1852.4	-32.326	-13	-19.326
Band 2	REL99	1880	-32.116	-13	-19.116
Band 2	REL99	1907.6	-31.942	-13	-18.942
Band 2	HSDPA	1852.4	-32.291	-13	-19.291
Band 2	HSDPA	1880	-31.613	-13	-18.613
Band 2	HSDPA	1907.6	-31.741	-13	-18.741
Band 4	REL99	1712.4	-31.438	-13	-18.438
Band 4	REL99	1732.6	-32.222	-13	-19.222
Band 4	REL99	1752.6	-32.41	-13	-19.41
Band 4	HSDPA	1712.4	-31.684	-13	-18.684
Band 4	HSDPA	1732.6	-31.038	-13	-18.038
Band 4	HSDPA	1752.6	-31.714	-13	-18.714
Band 5	REL99	826.4	-31.922	-13	-18.922
Band 5	REL99	836.6	-32.14	-13	-19.14
Band 5	REL99	846.6	-32.255	-13	-19.255
Band 5	HSDPA	826.4	-31.605	-13	-18.605
Band 5	HSDPA	836.6	-31.395	-13	-18.395
Band 5	HSDPA	846.6	-31.502	-13	-18.502



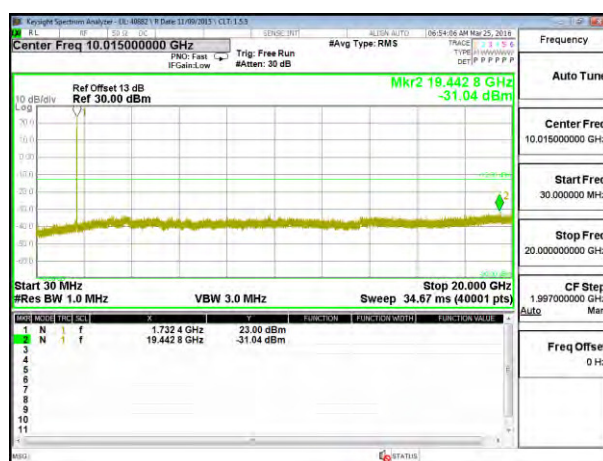
B2 REL99 Middle Channel



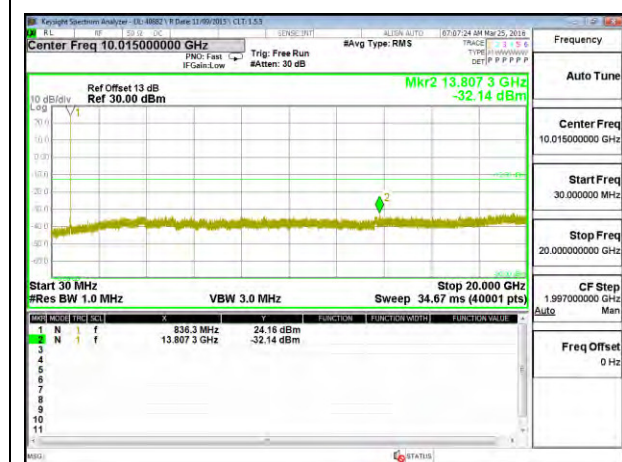
B2 HSDPA Middle Channel



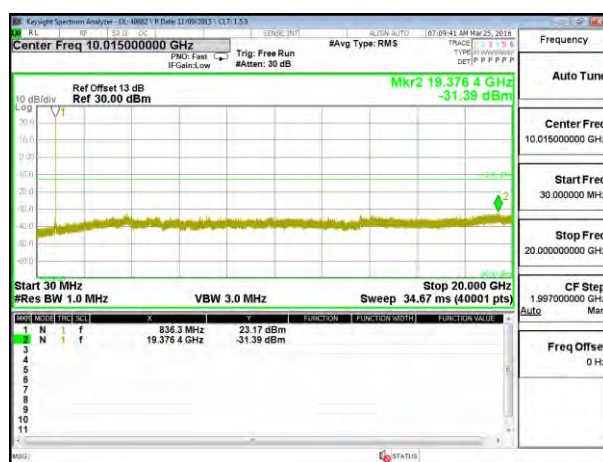
B4 REL99 Middle Channel



B4 HSDPA Middle Channel



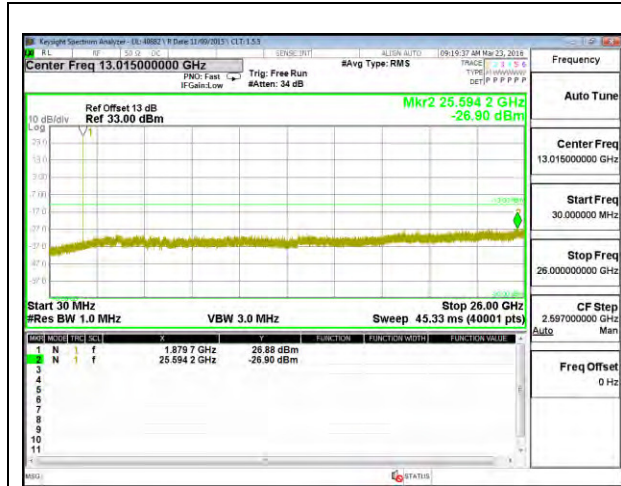
B5 REL99 Middle Channel



B5 HSDPA Middle Channel

LTE Band 2

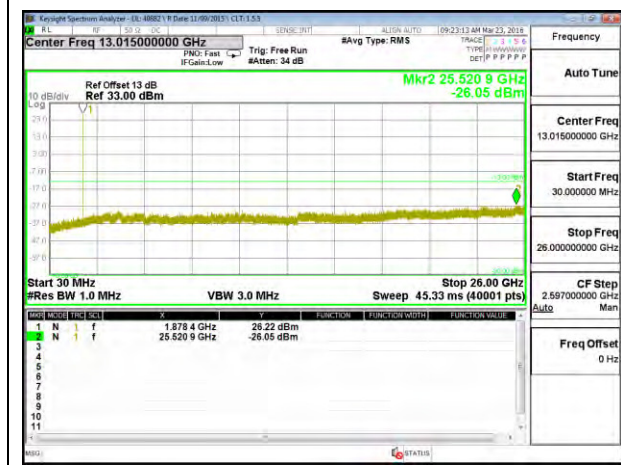
BW(MHz)	Mode	f (MHz)	Spur (dBm)	Spec (dBm)	Delta (dB)
1.4	QPSK	1850.7	-25.468	-13	-12.468
1.4	QPSK	1880	-26.901	-13	-13.901
1.4	QPSK	1909.3	-26.385	-13	-13.385
1.4	16QAM	1850.7	-27.022	-13	-14.022
1.4	16QAM	1880	-26.387	-13	-13.387
1.4	16QAM	1909.3	-26.61	-13	-13.61
3	QPSK	1851.5	-26.00	-13	-13
3	QPSK	1880	-26.05	-13	-13.05
3	QPSK	1908.5	-26.649	-13	-13.649
3	16QAM	1851.5	-26.271	-13	-13.271
3	16QAM	1880	-25.90	-13	-12.9
3	16QAM	1908.5	-26.909	-13	-13.909
5	QPSK	1852.5	-26.55	-13	-13.55
5	QPSK	1880	-25.746	-13	-12.746
5	QPSK	1907.5	-25.65	-13	-12.65
5	16QAM	1852.5	-26.57	-13	-13.57
5	16QAM	1880	-25.57	-13	-12.57
5	16QAM	1907.5	-26.54	-13	-13.54
10	QPSK	1855	-26.04	-13	-13.04
10	QPSK	1880	-26.115	-13	-13.115
10	QPSK	1905	-26.36	-13	-13.36
10	16QAM	1855	-26.61	-13	-13.61
10	16QAM	1880	-26.48	-13	-13.48
10	16QAM	1905	-26.23	-13	-13.23
15	QPSK	1857.5	-26.251	-13	-13.251
15	QPSK	1880	-26.49	-13	-13.49
15	QPSK	1902.5	-26.60	-13	-13.6
15	16QAM	1857.5	-26.98	-13	-13.98
15	16QAM	1880	-26.59	-13	-13.59
15	16QAM	1902.5	-26.37	-13	-13.37
20	QPSK	1860	-25.49	-13	-12.49
20	QPSK	1880	-26.52	-13	-13.52
20	QPSK	1900	-25.98	-13	-12.98
20	16QAM	1860	-25.69	-13	-12.69
20	16QAM	1880	-26.21	-13	-13.21
20	16QAM	1900	-26.50	-13	-13.5



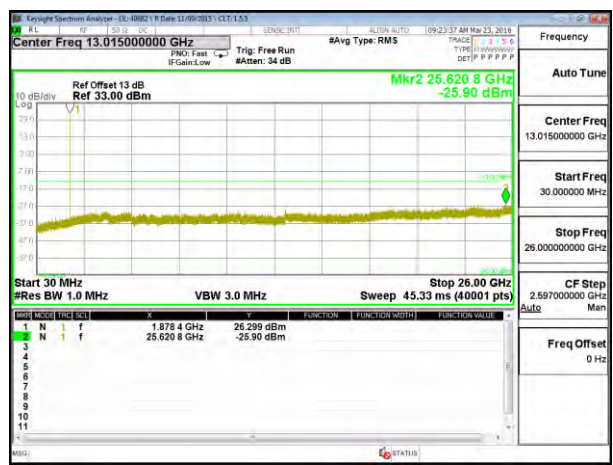
LTE B2 1.4MHz QPSK Middle Channel



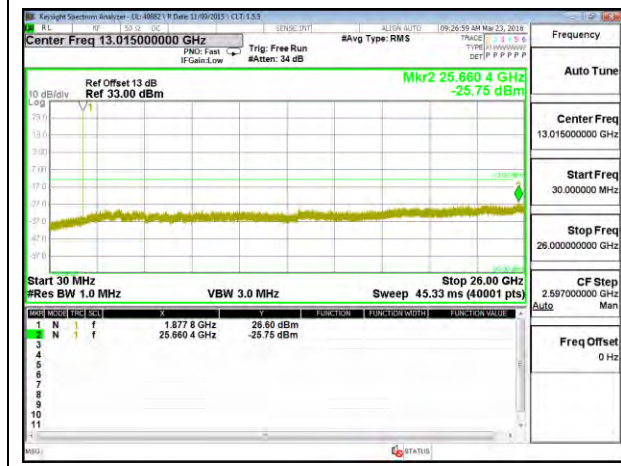
LTE B2 1.4MHz 16QAM Middle Channel



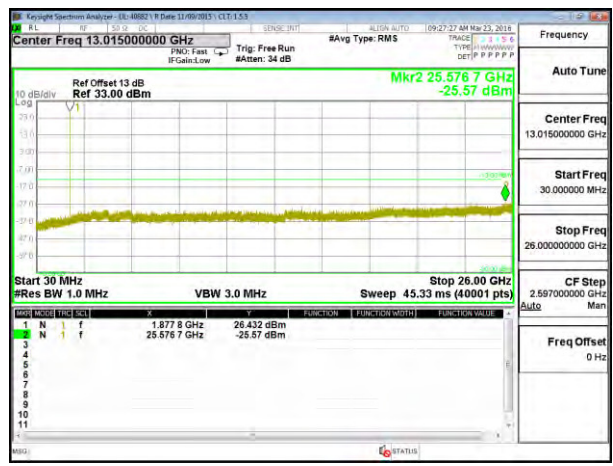
LTE B2 3MHz QPSK Middle Channel



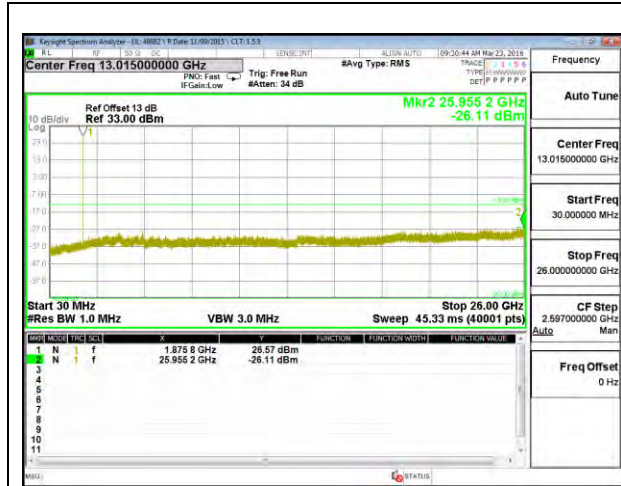
LTE B2 3MHz 16QAM Middle Channel



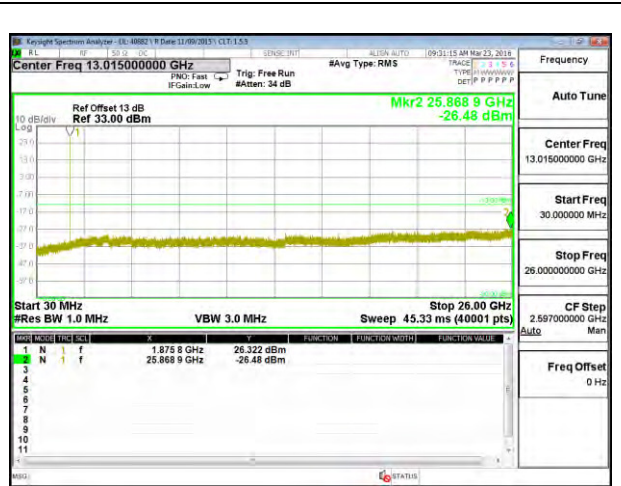
LTE B2 5MHz QPSK Middle Channel



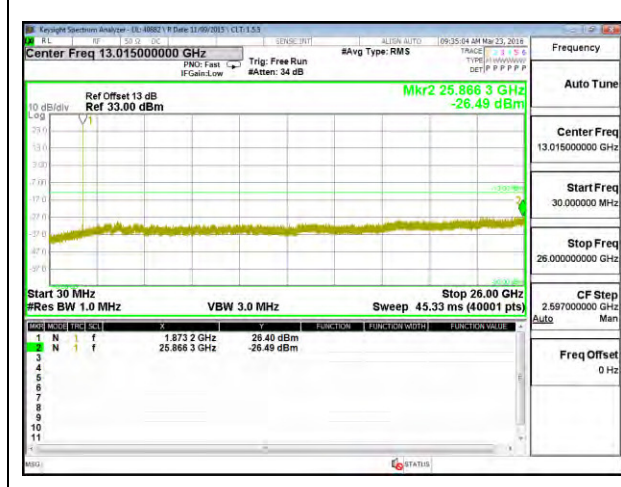
LTE B2 5MHz 16QAM Middle Channel



LTE B2 10MHz QPSK Middle Channel



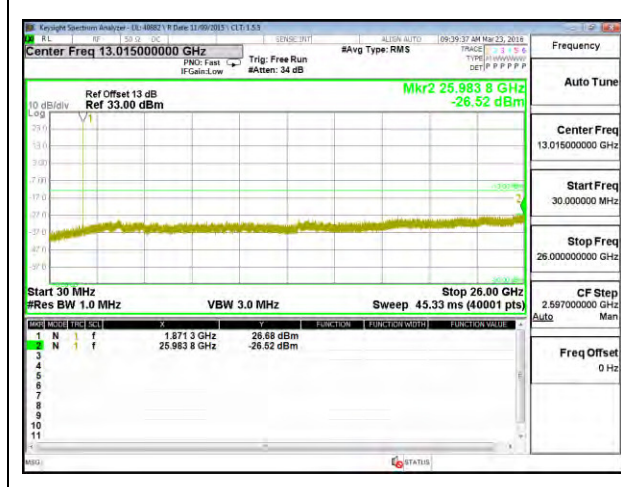
LTE B2 10MHz 16QAM Middle Channel



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

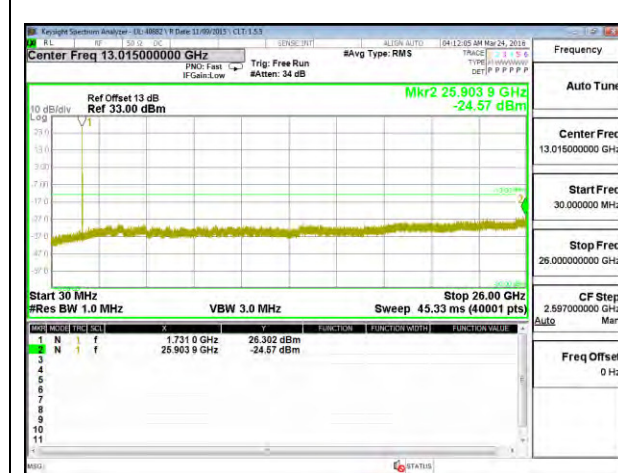
BW(MHz)	Mode	f (MHz)	Spur (dBm)	Spec (dBm)	Delta (dB)
1.4	QPSK	1710.7	-27.06	-13	-14.06
1.4	QPSK	1732.5	-26.75	-13	-13.75
1.4	QPSK	1754.3	-25.87	-13	-12.87
1.4	16QAM	1710.7	-26.75	-13	-13.75
1.4	16QAM	1732.5	-27.27	-13	-14.27
1.4	16QAM	1754.3	-27.14	-13	-14.14
3	QPSK	1711.5	-26.49	-13	-13.49
3	QPSK	1732.5	-24.57	-13	-11.57
3	QPSK	1753.5	-26.17	-13	-13.17
3	16QAM	1711.5	-25.91	-13	-12.91
3	16QAM	1732.5	-26.24	-13	-13.24
3	16QAM	1753.5	-26.30	-13	-13.3
5	QPSK	1712.5	-25.95	-13	-12.95
5	QPSK	1732.5	-25.24	-13	-12.24
5	QPSK	1752.5	-25.87	-13	-12.87
5	16QAM	1712.5	-26.14	-13	-13.14
5	16QAM	1732.5	-26.06	-13	-13.06
5	16QAM	1752.5	-25.95	-13	-12.95
10	QPSK	1715	-26.23	-13	-13.23
10	QPSK	1732.5	-26.66	-13	-13.66
10	QPSK	1750	-26.71	-13	-13.71
10	16QAM	1715	-26.17	-13	-13.17
10	16QAM	1732.5	-26.48	-13	-13.48
10	16QAM	1750	-25.47	-13	-12.47
15	QPSK	1717.5	-26.69	-13	-13.69
15	QPSK	1732.5	-25.86	-13	-12.86
15	QPSK	1747.5	-26.00	-13	-13
15	16QAM	1717.5	-25.61	-13	-12.61
15	16QAM	1732.5	-26.74	-13	-13.74
15	16QAM	1747.5	-25.79	-13	-12.79
20	QPSK	1720	-26.57	-13	-13.57
20	QPSK	1732.5	-26.12	-13	-13.12
20	QPSK	1745	-25.88	-13	-12.88
20	16QAM	1720	-26.15	-13	-13.15
20	16QAM	1732.5	-26.57	-13	-13.57
20	16QAM	1745	-26.66	-13	-13.66



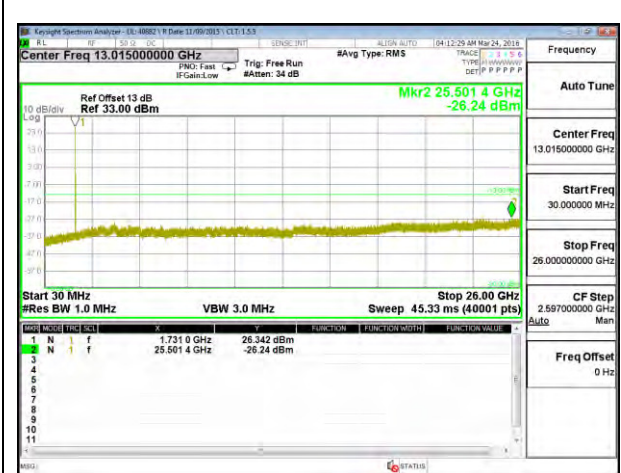
LTE B4 1.4MHz QPSK Middle Channel



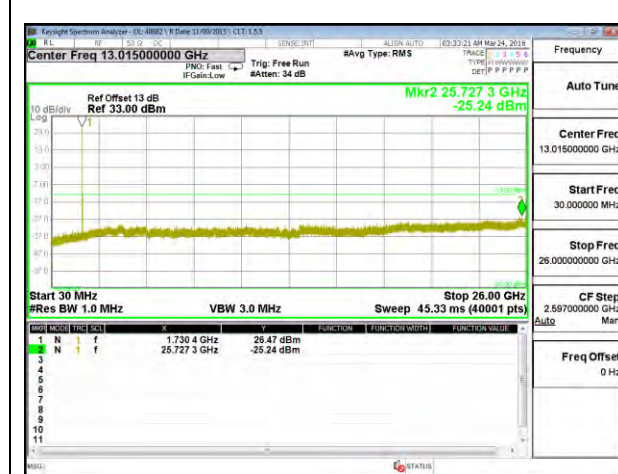
LTE B4 1.4MHz 16QAM Middle Channel



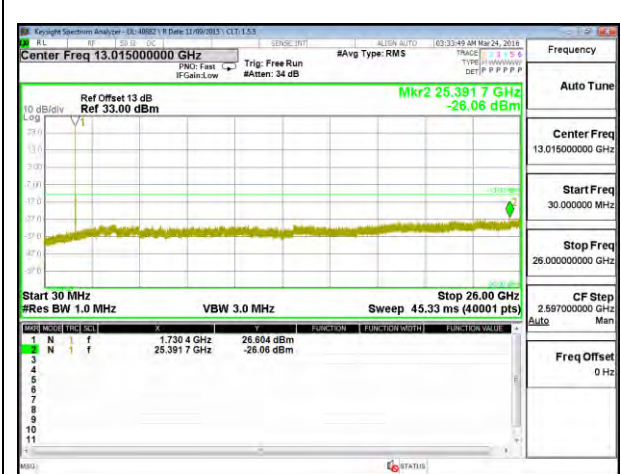
LTE B4 3MHz QPSK Middle Channel



LTE B4 3MHz 16QAM Middle Channel



LTE B4 5MHz QPSK Middle Channel



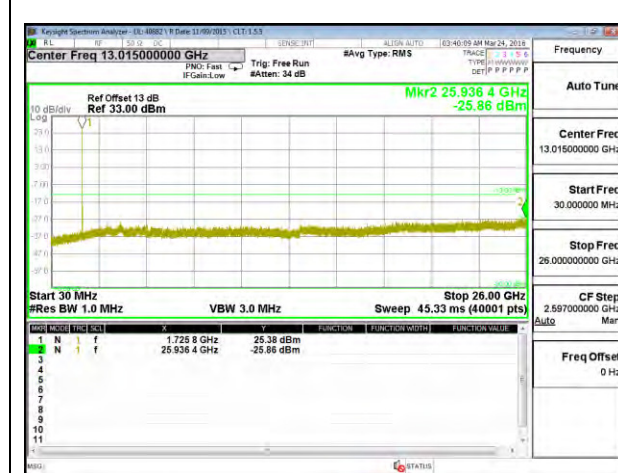
LTE B4 5MHz 16QAM Middle Channel



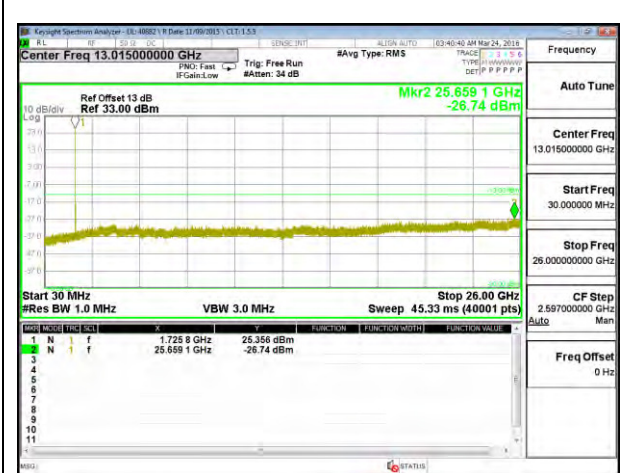
LTE B4 10MHz QPSK Middle Channel



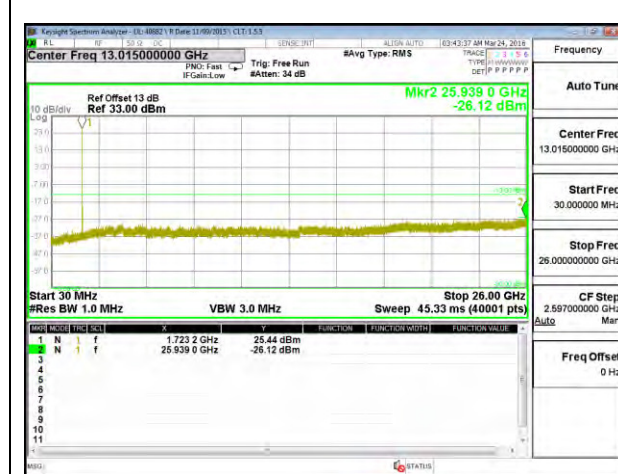
LTE B4 10MHz 16QAM Middle Channel



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 5

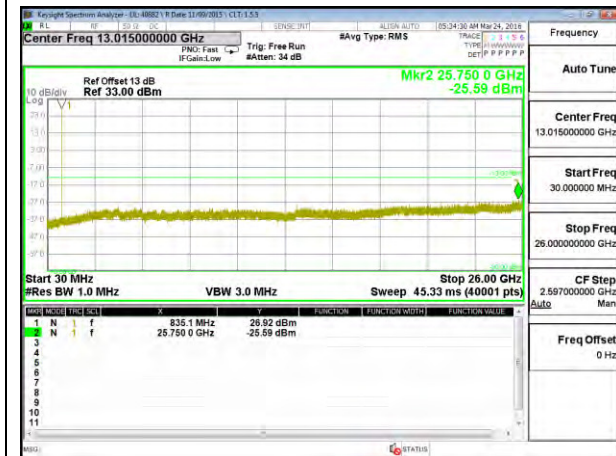
BW(MHz)	Mode	f (MHz)	Spur (dBm)	Spec (dBm)	Delta (dB)
1.4	QPSK	824.7	-26.35	-13	-13.35
1.4	QPSK	836.5	-26.07	-13	-13.07
1.4	QPSK	848.3	-26.76	-13	-13.76
1.4	16QAM	824.7	-26.08	-13	-13.08
1.4	16QAM	836.5	-26.09	-13	-13.09
1.4	16QAM	848.3	-26.43	-13	-13.43
3	QPSK	825.5	-26.32	-13	-13.32
3	QPSK	836.5	-25.59	-13	-12.59
3	QPSK	847.5	-25.84	-13	-12.84
3	16QAM	825.5	-26.27	-13	-13.27
3	16QAM	836.5	-25.60	-13	-12.6
3	16QAM	847.5	-25.90	-13	-12.9
5	QPSK	826.5	-25.95	-13	-12.95
5	QPSK	836.5	-26.28	-13	-13.28
5	QPSK	846.5	-26.13	-13	-13.13
5	16QAM	826.5	-26.49	-13	-13.49
5	16QAM	836.5	-25.74	-13	-12.74
5	16QAM	846.5	-26.36	-13	-13.36
10	QPSK	829	-26.18	-13	-13.18
10	QPSK	836.5	-26.05	-13	-13.05
10	QPSK	844	-26.34	-13	-13.34
10	16QAM	829	-25.24	-13	-12.24
10	16QAM	836.5	-26.46	-13	-13.46
10	16QAM	844	-26.08	-13	-13.08



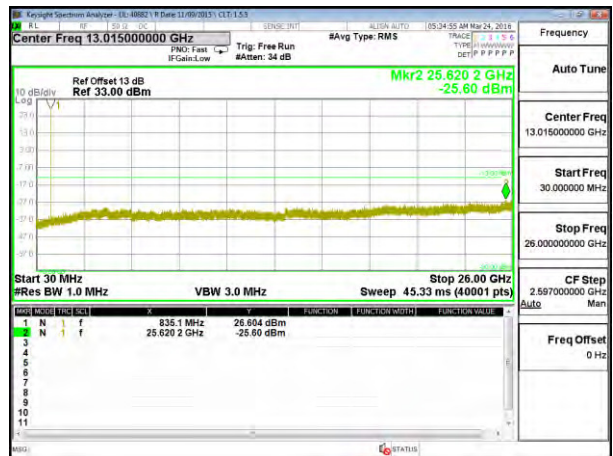
LTE B5 1.4MHz QPSK Middle Channel



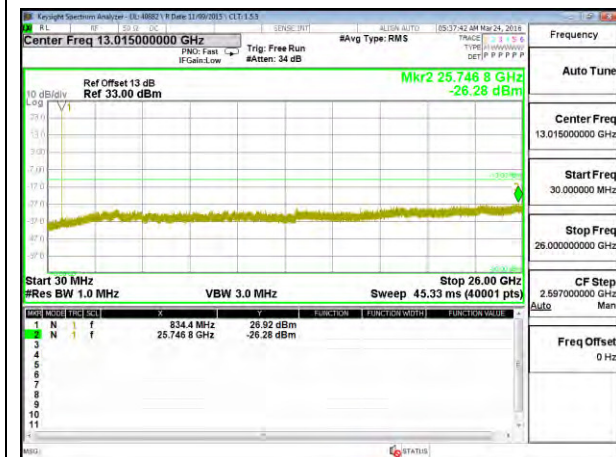
LTE B5 1.4MHz 16QAM Middle Channel



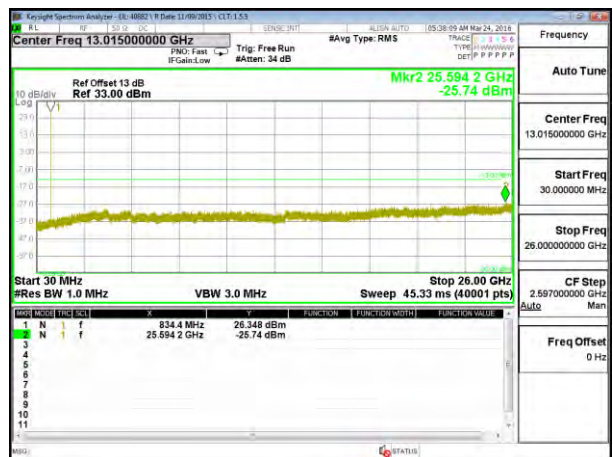
LTE B5 3MHz QPSK Middle Channel



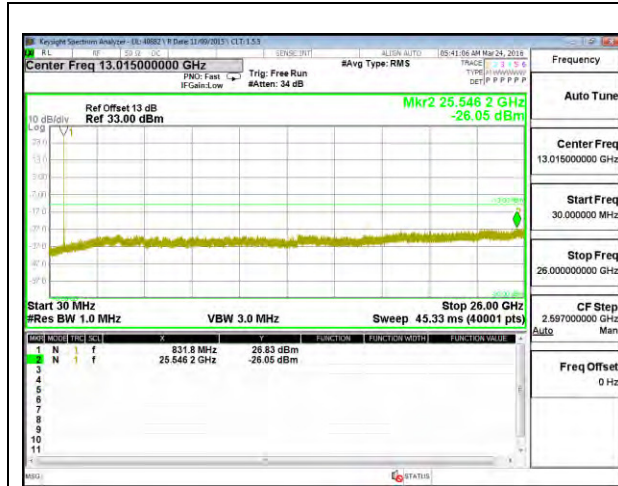
LTE B5 3MHz 16QAM Middle Channel



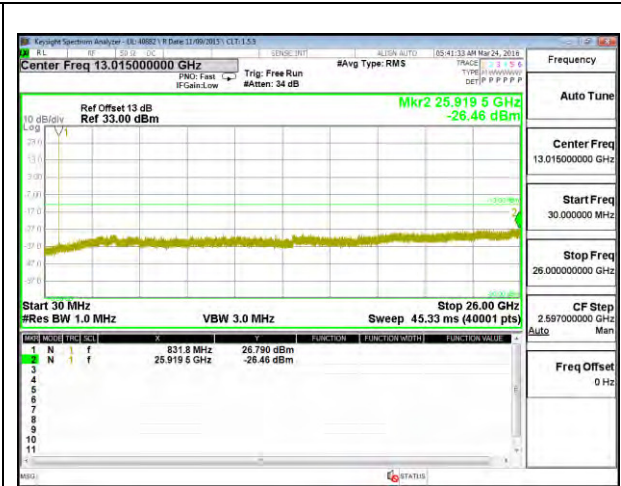
LTE B5 5MHz QPSK Middle Channel



LTE B5 5MHz 16QAM Middle Channel



LTE B5 10MHz QPSK Middle Channel



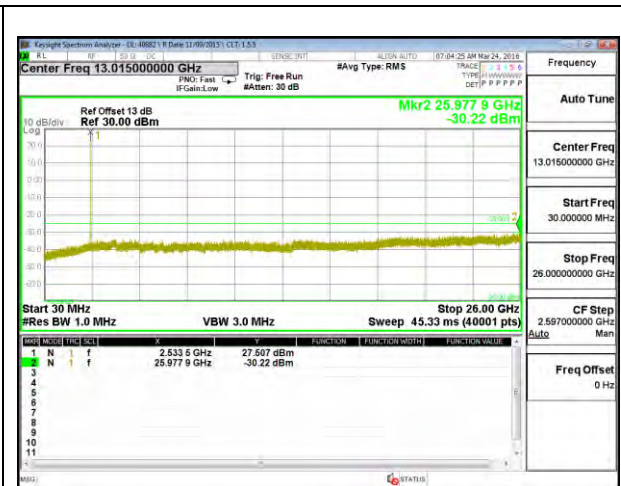
LTE B5 10MHz 16QAM Middle Channel

LTE Band 7

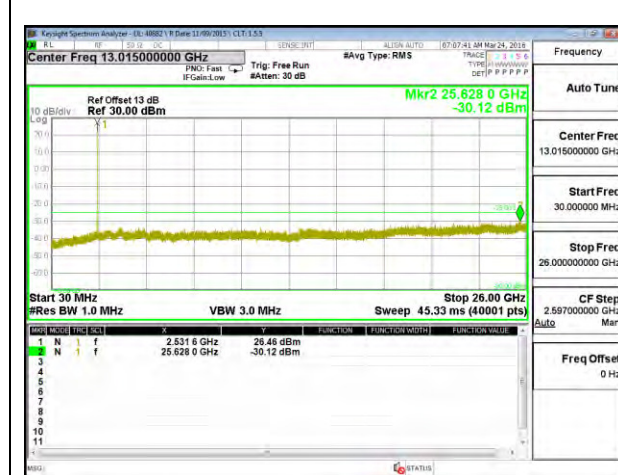
BW(MHz)	Mode	f (MHz)	Spur (dBm)	Spec (dBm)	Delta (dB)
5	QPSK	2502.5	-29.559	-25	-4.559
5	QPSK	2535	-30.10	-25	-5.1
5	QPSK	2567.5	-29.741	-25	-4.741
5	16QAM	2502.5	-30.476	-25	-5.476
5	16QAM	2535	-30.223	-25	-5.223
5	16QAM	2567.5	-30.19	-25	-5.19
10	QPSK	2505	-29.495	-25	-4.495
10	QPSK	2535	-30.121	-25	-5.121
10	QPSK	2565	-30.04	-25	-5.04
10	16QAM	2505	-29.815	-25	-4.815
10	16QAM	2535	-29.95	-25	-4.95
10	16QAM	2565	-29.63	-25	-4.63
15	QPSK	2507.5	-29.748	-25	-4.748
15	QPSK	2535	-30.18	-25	-5.18
15	QPSK	2562.5	-30.45	-25	-5.45
15	16QAM	2507.5	-30.503	-25	-5.503
15	16QAM	2535	-29.813	-25	-4.813
15	16QAM	2562.5	-29.66	-25	-4.66
20	QPSK	2510	-30.002	-25	-5.002
20	QPSK	2535	-30.18	-25	-5.18
20	QPSK	2560	-30.294	-25	-5.294
20	16QAM	2510	-29.924	-25	-4.924
20	16QAM	2535	-29.32	-25	-4.32
20	16QAM	2560	-30.522	-25	-5.522



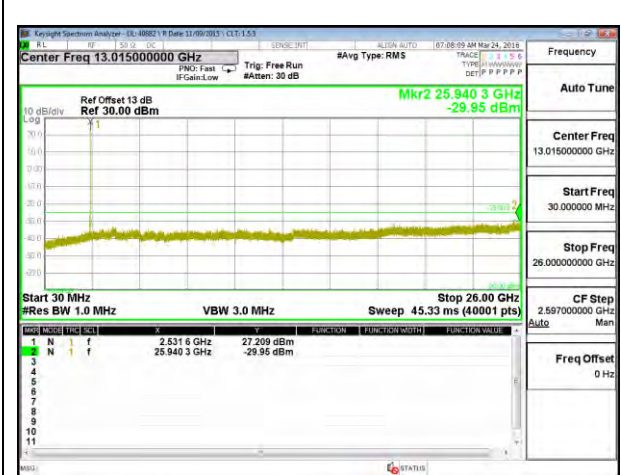
LTE B7 5MHz QPSK Middle Channel



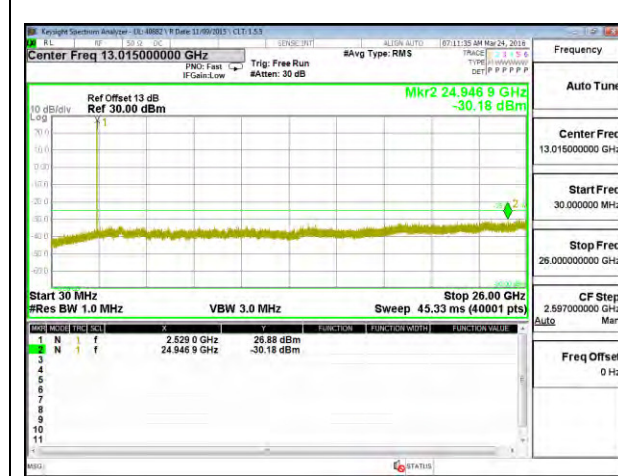
LTE B7 5MHz 16QAM Middle Channel



LTE B7 10MHz QPSK Middle Channel



LTE B7 10MHz 16QAM Middle Channel



LTE B7 15MHz QPSK Middle Channel



LTE B7 15MHz 16QAM Middle Channel



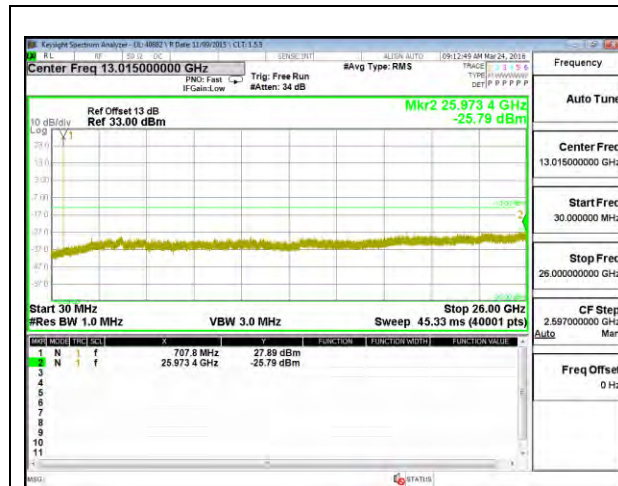
LTE B7 20MHz QPSK Middle Channel



LTE B7 20MHz 16QAM Middle Channel

LTE Band 12

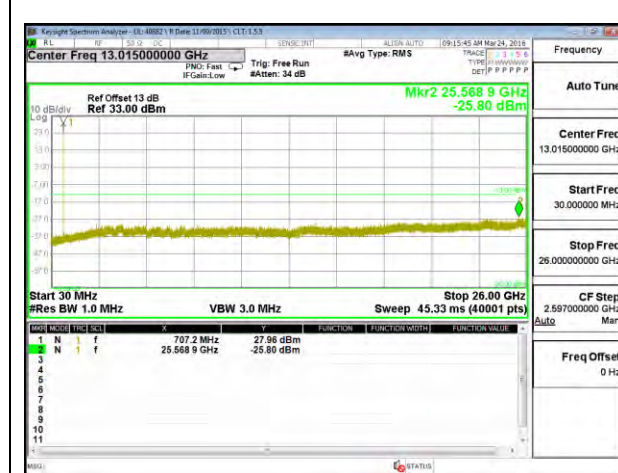
BW(MHz)	Mode	f (MHz)	Spur (dBm)	Spec (dBm)	Delta (dB)
1.4	QPSK	699.7	-25.97	-13	-12.97
1.4	QPSK	707.5	-25.79	-13	-12.79
1.4	QPSK	715.3	-25.76	-13	-12.76
1.4	16QAM	699.7	-26.51	-13	-13.51
1.4	16QAM	707.5	-26.31	-13	-13.31
1.4	16QAM	715.3	-26.03	-13	-13.03
3	QPSK	700.5	-26.54	-13	-13.54
3	QPSK	707.5	-25.80	-13	-12.8
3	QPSK	714.5	-26.30	-13	-13.3
3	16QAM	700.5	-26.44	-13	-13.44
3	16QAM	707.5	-25.62	-13	-12.62
3	16QAM	714.5	-25.99	-13	-12.99
5	QPSK	701.5	-25.55	-13	-12.55
5	QPSK	707.5	-25.92	-13	-12.92
5	QPSK	713.5	-26.81	-13	-13.81
5	16QAM	701.5	-26.27	-13	-13.27
5	16QAM	707.5	-26.04	-13	-13.04
5	16QAM	713.5	-25.56	-13	-12.56
10	QPSK	704	-26.59	-13	-13.59
10	QPSK	707.5	-26.08	-13	-13.08
10	QPSK	711	-25.76	-13	-12.76
10	16QAM	704	-26.30	-13	-13.3
10	16QAM	707.5	-26.11	-13	-13.11
10	16QAM	711	-25.62	-13	-12.62



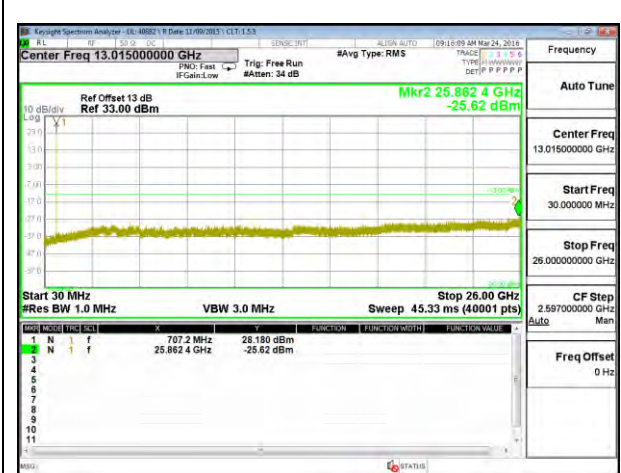
LTE B12 1.4MHz QPSK Middle Channel



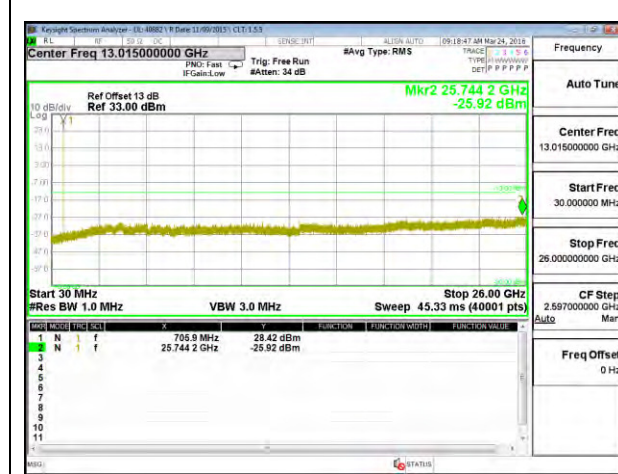
LTE B12 1.4MHz 16QAM Middle Channel



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



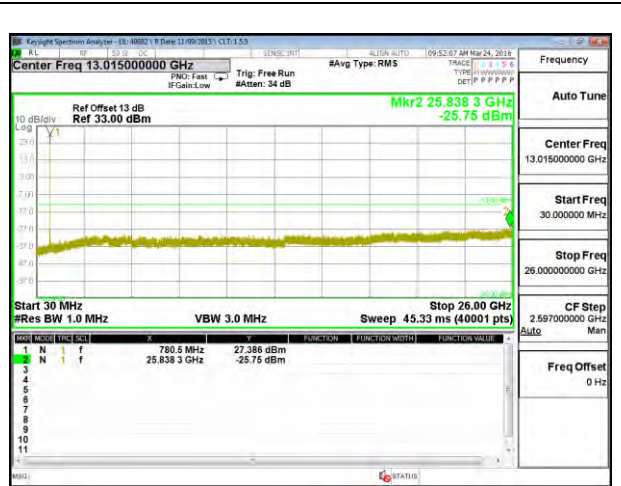
LTE B12 10MHz 16QAM Middle Channel

LTE Band 13

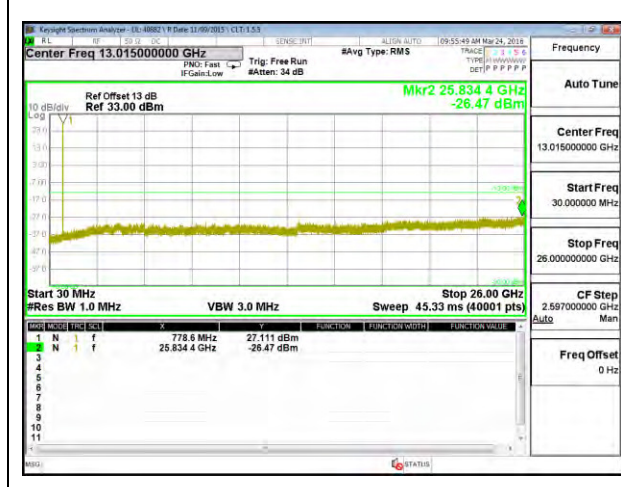
BW(MHz)	Mode	f (MHz)	Spur (dBm)	Spec (dBm)	Delta (dB)
5	QPSK	779.5	-25.77	-13	-12.77
5	QPSK	782	-26.59	-13	-13.59
5	QPSK	784.5	-25.58	-13	-12.58
5	16QAM	779.5	-25.58	-13	-12.58
5	16QAM	782	-25.75	-13	-12.75
5	16QAM	784.5	-25.66	-13	-12.66
10	QPSK	782	-26.47	-13	-13.47
10	16QAM	782	-25.04	-13	-12.04



LTE B13 5MHz QPSK Middle Channel



LTE B13 5MHz 16QAM Middle Channel



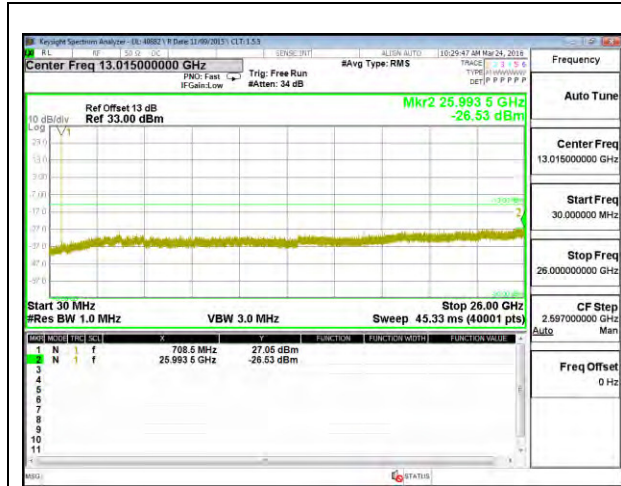
LTE B13 10MHz QPSK Middle Channel



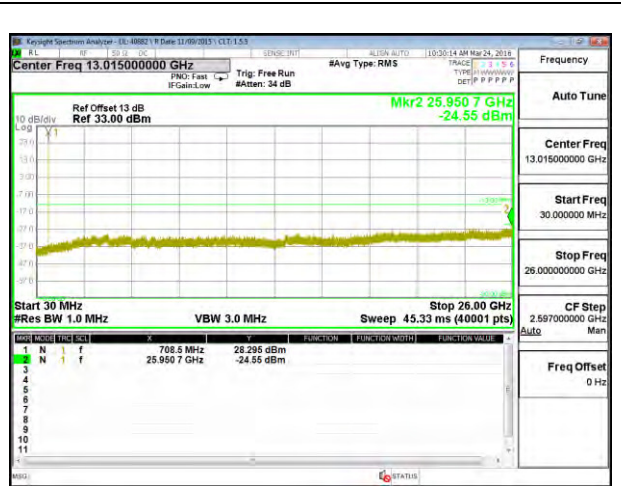
LTE B13 10MHz 16QAM Middle Channel

LTE Band 17

BW(MHz)	Mode	f (MHz)	Spur (dBm)	Spec (dBm)	Delta (dB)
5	QPSK	706.5	-25.46	-13	-12.46
5	QPSK	710	-26.53	-13	-13.53
5	QPSK	713.5	-26.13	-13	-13.13
5	16QAM	706.5	-26.38	-13	-13.38
5	16QAM	710	-24.55	-13	-11.55
5	16QAM	713.5	-25.61	-13	-12.61
10	QPSK	709	-25.87	-13	-12.87
10	QPSK	710	-26.55	-13	-13.55
10	QPSK	711	-25.90	-13	-12.9
10	16QAM	709	-26.40	-13	-13.4
10	16QAM	710	-26.53	-13	-13.53
10	16QAM	711	-25.69	-13	-12.69



LTE B17 5MHz QPSK Middle Channel



LTE B17 5MHz 16QAM Middle Channel



LTE B17 10MHz QPSK Middle Channel



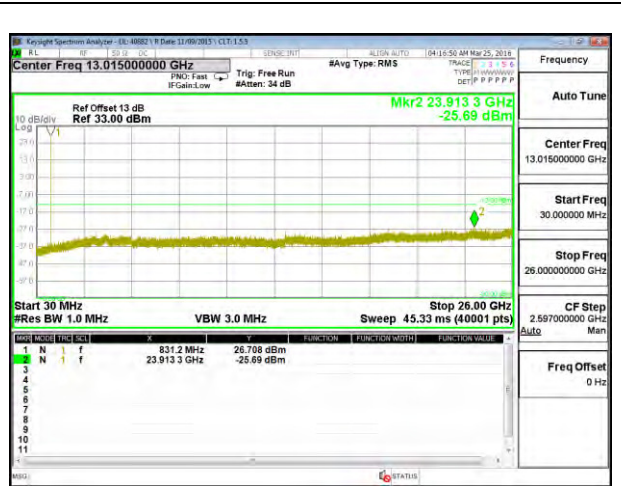
LTE B17 10MHz 16QAM Middle Channel

LTE Band 26

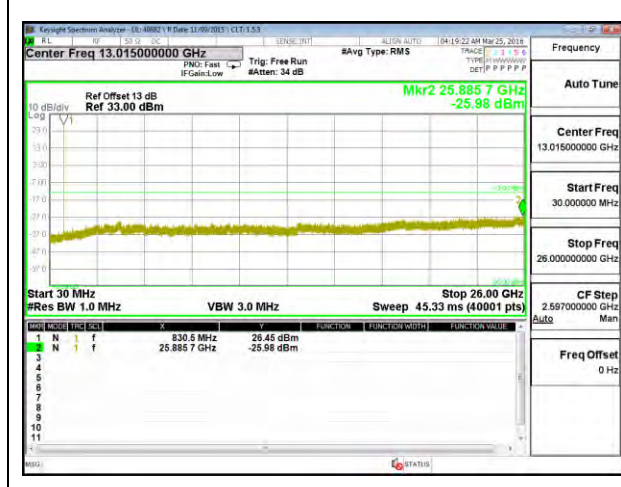
BW(MHz)	Mode	f (MHz)	Spur (dBm)	Spec (dBm)	Delta (dB)
1.4	QPSK	814.7	-24.962	-13	-11.962
1.4	QPSK	831.5	-26.226	-13	-13.226
1.4	QPSK	848.3	-25.843	-13	-12.843
1.4	16QAM	814.7	-26.155	-13	-13.155
1.4	16QAM	831.5	-25.691	-13	-12.691
1.4	16QAM	848.3	-26.205	-13	-13.205
3	QPSK	815.5	-25.954	-13	-12.954
3	QPSK	831.5	-25.983	-13	-12.983
3	QPSK	847.5	-24.88	-13	-11.88
3	16QAM	815.5	-26.202	-13	-13.202
3	16QAM	831.5	-25.561	-13	-12.561
3	16QAM	847.5	-25.943	-13	-12.943
5	QPSK	816.5	-25.67	-13	-12.67
5	QPSK	831.5	-25.87	-13	-12.87
5	QPSK	846.5	-25.02	-13	-12.02
5	16QAM	816.5	-24.22	-13	-11.22
5	16QAM	831.5	-26.11	-13	-13.11
5	16QAM	846.5	-25.77	-13	-12.77
10	QPSK	819	-26.58	-13	-13.58
10	QPSK	831.5	-25.11	-13	-12.11
10	QPSK	844	-26.64	-13	-13.64
10	16QAM	819	-25.60	-13	-12.6
10	16QAM	831.5	-26.16	-13	-13.16
10	16QAM	844	-26.40	-13	-13.4
15	QPSK	831.5	-25.97	-13	-12.97
15	QPSK	836.5	-25.51	-13	-12.51
15	QPSK	841.5	-25.21	-13	-12.21
15	16QAM	831.5	-26.35	-13	-13.35
15	16QAM	836.5	-26.33	-13	-13.33
15	16QAM	841.5	-25.36	-13	-12.36



LTE B26 1.4MHz QPSK Middle Channel



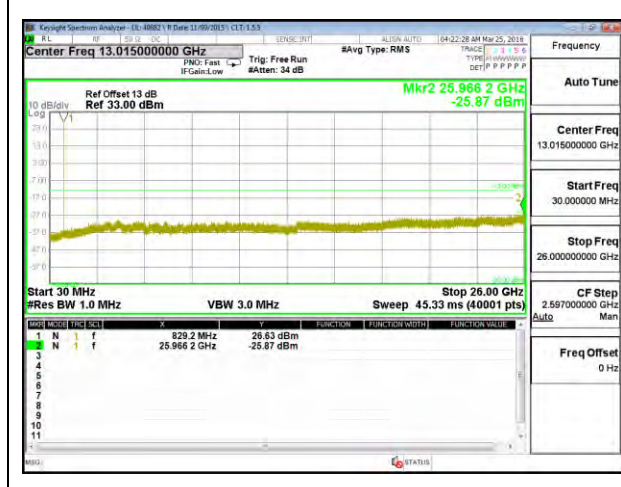
LTE B26 1.4MHz 16QAM Middle Channel



LTE B26 3MHz QPSK Middle Channel



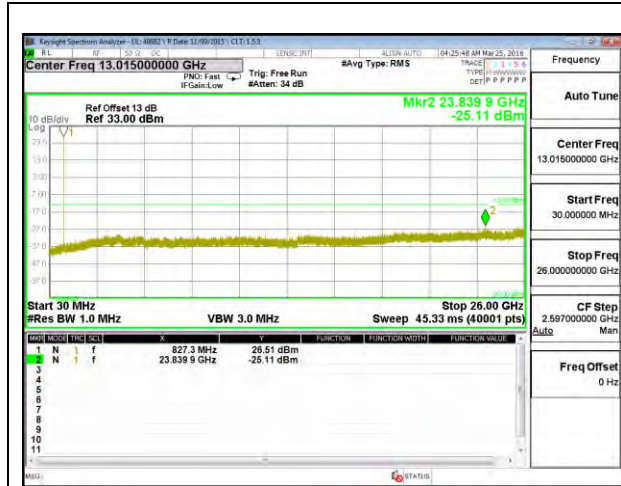
LTE B26 3MHz 16QAM Middle Channel



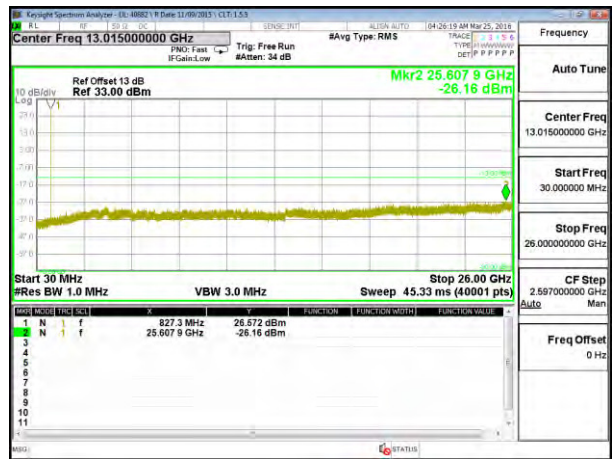
LTE B26 5MHz QPSK Middle Channel



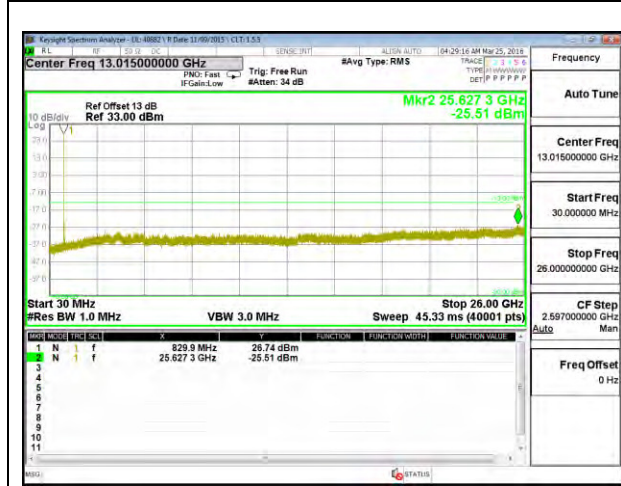
LTE B26 5MHz 16QAM Middle Channel



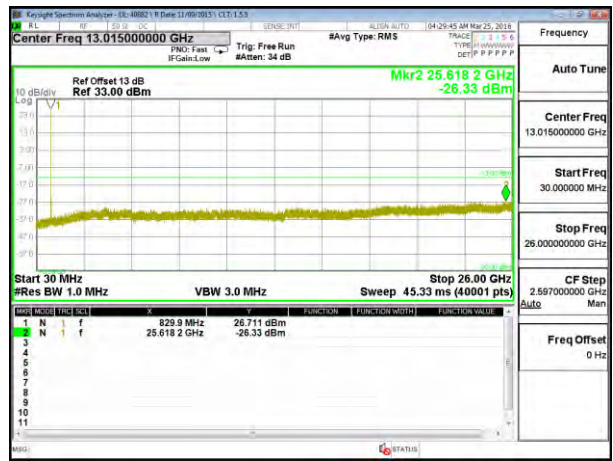
LTE B26 10MHz QPSK Middle Channel



LTE B26 10MHz 16QAM Middle Channel



LTE B26 15MHz QPSK Middle Channel



LTE B26 15MHz 16QAM Middle Channel

LTE Band 41

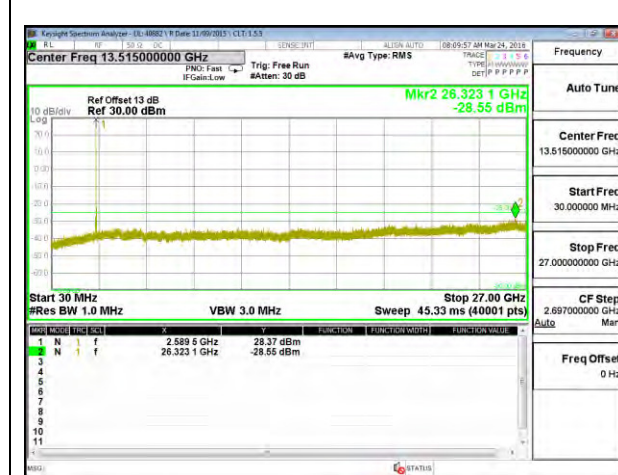
BW(MHz)	Mode	f (MHz)	Spur (dBm)	Spec (dBm)	Delta (dB)
5	QPSK	2498.5	-29.49	-25	-4.49
5	QPSK	2593	-29.881	-25	-4.881
5	QPSK	2687.5	-28.166	-25	-3.166
5	16QAM	2498.5	-29.418	-25	-4.418
5	16QAM	2593	-29.478	-25	-4.478
5	16QAM	2687.5	-29.116	-25	-4.116
10	QPSK	2501	-29.489	-25	-4.489
10	QPSK	2593	-28.547	-25	-3.547
10	QPSK	2685	-29.278	-25	-4.278
10	16QAM	2501	-29.067	-25	-4.067
10	16QAM	2593	-29.301	-25	-4.301
10	16QAM	2685	-29.392	-25	-4.392
15	QPSK	2503.5	-29.315	-25	-4.315
15	QPSK	2593	-29.062	-25	-4.062
15	QPSK	2682.5	-28.979	-25	-3.979
15	16QAM	2503.5	-29.233	-25	-4.233
15	16QAM	2593	-29.403	-25	-4.403
15	16QAM	2682.5	-28.854	-25	-3.854
20	QPSK	2506	-29.551	-25	-4.551
20	QPSK	2593	-29.788	-25	-4.788
20	QPSK	2680	-29.762	-25	-4.762
20	16QAM	2506	-30.241	-25	-5.241
20	16QAM	2593	-29.177	-25	-4.177
20	16QAM	2680	-29.303	-25	-4.303



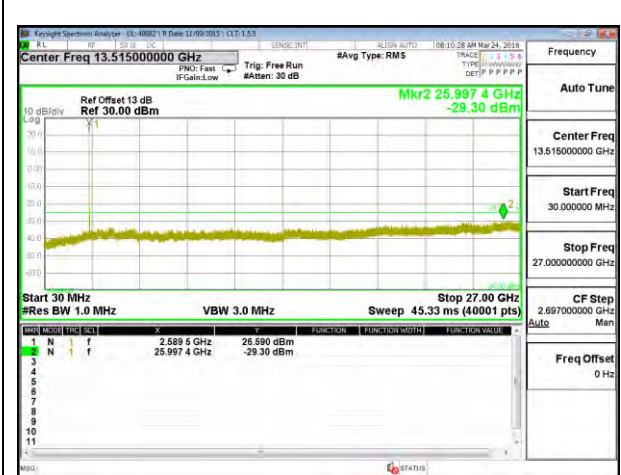
LTE B41 5MHz QPSK Middle Channel



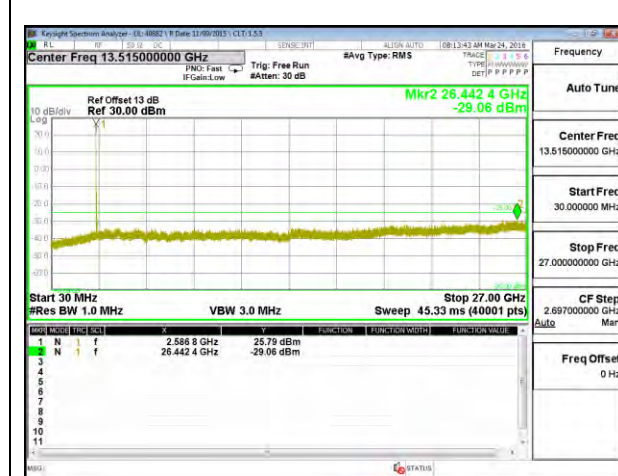
LTE B41 5MHz 16QAM Middle Channel



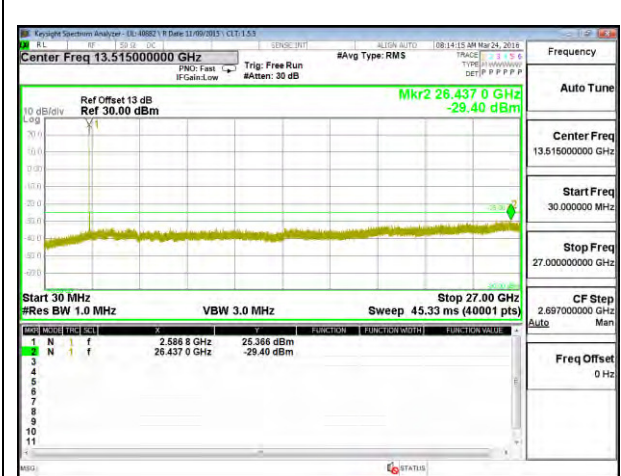
LTE B41 10MHz QPSK Middle Channel



LTE B41 10MHz 16QAM Middle Channel



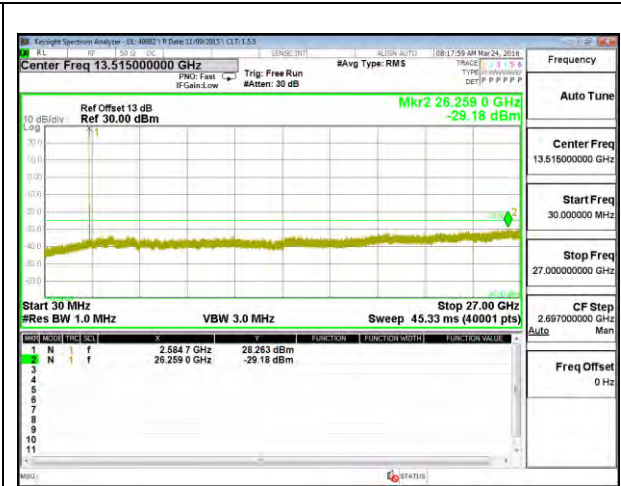
LTE B41 15MHz QPSK Middle Channel



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, §27.54 and §90.213

LIMITS

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

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

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

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

TEST PROCEDURE

Per KDB 971168 D01 Power Meas License Digital Systems v02r02

13.1. FREQUENCY STABILITY RESULTS

LTE Band 2

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	1880.000005	-0.002	2.5
3.80	40	1879.999991	0.005	2.5
3.80	30	1880.000004	-0.002	2.5
3.80	20	1880.000000	0	2.5
3.80	10	1880.000004	-0.002	2.5
3.80	0	1879.999998	0.001	2.5
3.80	-10	1880.000006	-0.003	2.5
3.80	-20	1880.000004	-0.002	2.5
3.80	-30	1880.000010	-0.005	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	1880.000000	0	2.5
4.20	20	1880.000002	-0.001	2.5
3.60	20	1880	0.000	2.5

WCDMA Band 4

REL99

Limit		1710	1780	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm (MHz)	F high @ -13dBm (MHz)		
Temperature	Voltage				
Normal (25C)	3.8 Vdc	1710.1100	1754.6880		
Extreme (50C)		1710.1100	1754.6880	17.1	0.010
Extreme (40C)		1710.1100	1754.6880	12.1	0.007
Extreme (30C)		1710.1100	1754.6880	8.7	0.005
Extreme (10C)		1710.1100	1754.6880	3.5	0.002
Extreme (0C)		1710.1100	1754.6880	2.2	0.001
Extreme (-10C)		1710.1100	1754.6880	5.6	0.003
Extreme (-20C)		1710.1100	1754.6880	1.2	0.001
Extreme (-30C)		1710.1100	1754.6880	-9.7	-0.006
25C	3.8 Vdc	1710.1100	1754.6880	1.1	0.001
	4.2 Vdc	1710.1100	1754.6880	-0.3	0.000
	3.6 Vdc	1710.1100	1754.6880	1.0	0.001

HSDPA

Limit		1710	1780	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm (MHz)	F high @ -13dBm (MHz)		
Temperature	Voltage				
Normal (25C)	3.8 Vdc	1710.1470	1754.6700		
Extreme (50C)		1710.1470	1754.6700	17.1	0.010
Extreme (40C)		1710.1470	1754.6700	12.1	0.007
Extreme (30C)		1710.1470	1754.6700	8.7	0.005
Extreme (10C)		1710.1470	1754.6700	3.5	0.002
Extreme (0C)		1710.1470	1754.6700	2.2	0.001
Extreme (-10C)		1710.1470	1754.6700	5.6	0.003
Extreme (-20C)		1710.1470	1754.6700	1.2	0.001
Extreme (-30C)		1710.1470	1754.6700	-9.7	-0.006
25C	3.8 Vdc	1710.1470	1754.6700	1.1	0.001
	4.2 Vdc	1710.1470	1754.6700	-0.3	0.000
	3.6 Vdc	1710.1470	1754.6700	1.0	0.001

LTE Band 5

Reference Frequency: Mid Channel 836.5 MHz @ 20°C Limit: to stay +/- 2.5 ppm = 2091.250 Hz				
Power Supply (Vdc)	Environment Temperature (°C)	Frequency Deviation Measured with Time Elapse		
		(MHz)	Delta (ppm)	Limit (ppm)
3.80	50	836.499996	0.005	2.5
3.80	40	836.500006	-0.006	2.5
3.80	30	836.500008	-0.009	2.5
3.80	20	836.500001	0	2.5
3.80	10	836.500000	0.001	2.5
3.80	0	836.500005	-0.005	2.5
3.80	-10	836.500009	-0.010	2.5
3.80	-20	836.500001	0.000	2.5
3.80	-30	836.500003	-0.003	2.5

Reference Frequency: PCS Mid Channel 836.5 MHz @ 20°C Limit: to stay +/- 2.5 ppm = 2091.250 Hz				
Power Supply (Vdc)	Environment Temperature (°C)	Frequency Deviation Measured with Time Elapse		
		(MHz)	Delta (ppm)	Limit (ppm)
3.80	20	836.500001	0	2.5
4.20	20	836.500005	0.000	2.5
3.60	20	836.499982	0.003	2.5

LTE Band 7

QPSK, (20MHz BANDWIDTH)

Limit		2496	2690	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm (MHz)	F high @ -13dBm (MHz)		
Temperature	Voltage				
Normal (25C)	3.8 Vdc	2500.7300	2569.2700		
Extreme (50C)		2500.7300	2569.2700	12.3	0.005
Extreme (40C)		2500.7300	2569.2700	9.2	0.004
Extreme (30C)		2500.7300	2569.2700	10.3	0.004
Extreme (10C)		2500.7300	2569.2700	-1.7	-0.001
Extreme (0C)		2500.7300	2569.2700	5.5	0.002
Extreme (-10C)		2500.7300	2569.2700	1.2	0.000
Extreme (-20C)		2500.7300	2569.2700	4.7	0.002
Extreme (-30C)		2500.7300	2569.2700	0.2	0.000
25C		3.8 Vdc	2500.7300	2569.2700	0.1
	4.2 Vdc	2500.7300	2569.2700	-1.4	-0.001
	3.6 Vdc	2500.7300	2569.2700	-0.2	0.000

16QAM, (20MHz BANDWIDTH)

Limit		2496	2690	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm (MHz)	F high @ -13dBm (MHz)		
Temperature	Voltage				
Normal (25C)	3.8 Vdc	2500.7300	2569.2700		
Extreme (50C)		2500.7300	2569.2700	12.3	0.005
Extreme (40C)		2500.7300	2569.2700	9.2	0.004
Extreme (30C)		2500.7300	2569.2700	10.3	0.004
Extreme (10C)		2500.7300	2569.2700	-1.7	-0.001
Extreme (0C)		2500.7300	2569.2700	5.5	0.002
Extreme (-10C)		2500.7300	2569.2700	1.2	0.000
Extreme (-20C)		2500.7300	2569.2700	4.7	0.002
Extreme (-30C)		2500.7300	2569.2700	0.2	0.000
25C		3.8 Vdc	2500.7300	2569.2700	0.1
	4.2 Vdc	2500.7300	2569.2700	-1.4	-0.001
	3.6 Vdc	2500.7300	2569.2700	-0.2	0.000