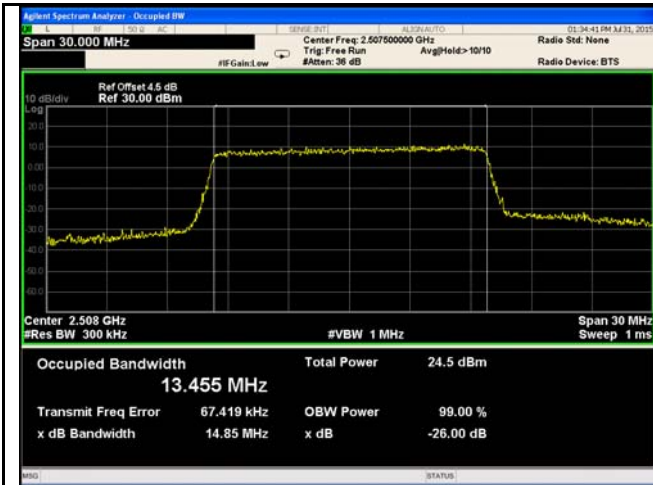
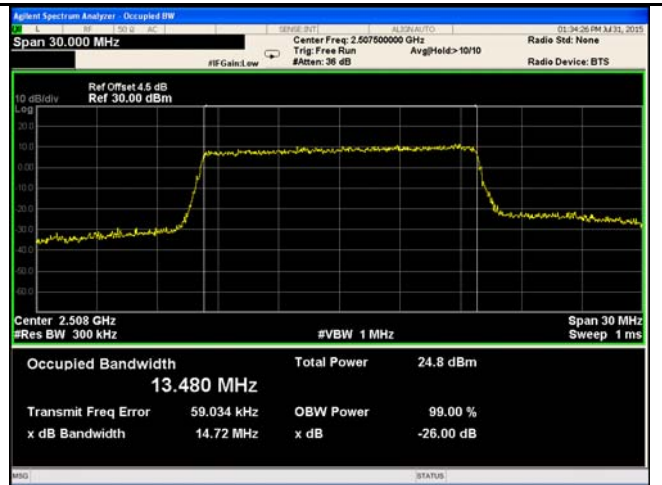
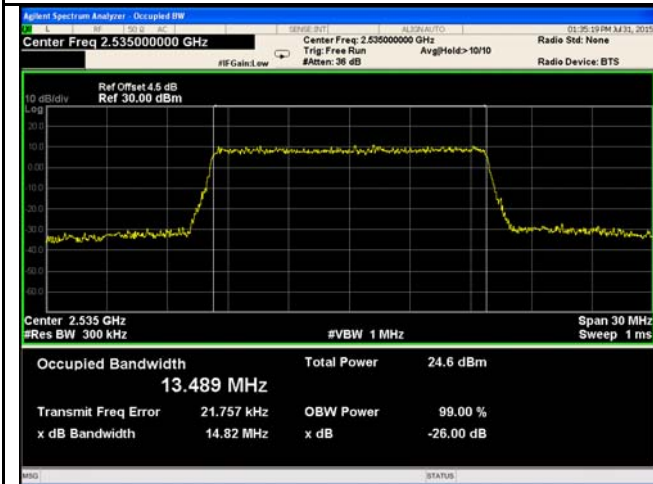




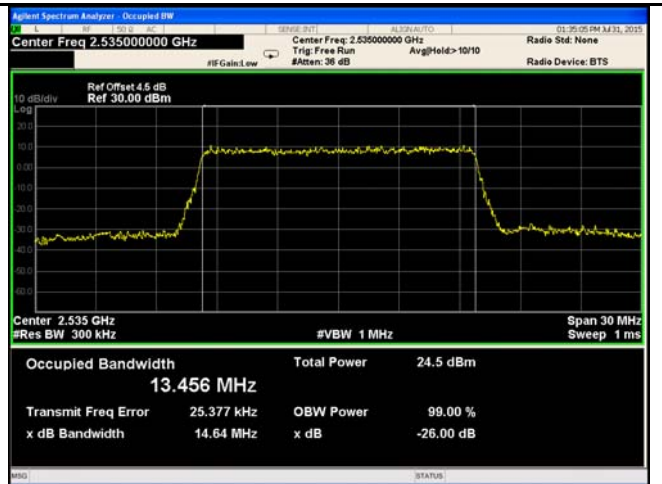
LTE band 7 - Low CH QPSK-15



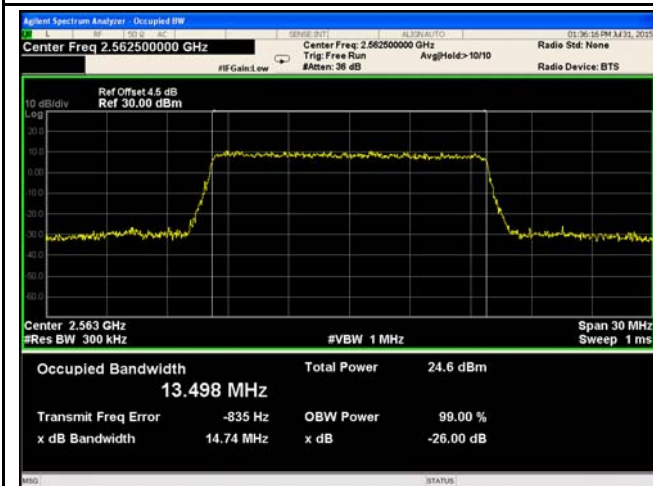
LTE band 7 - Low CH 16QAM-15



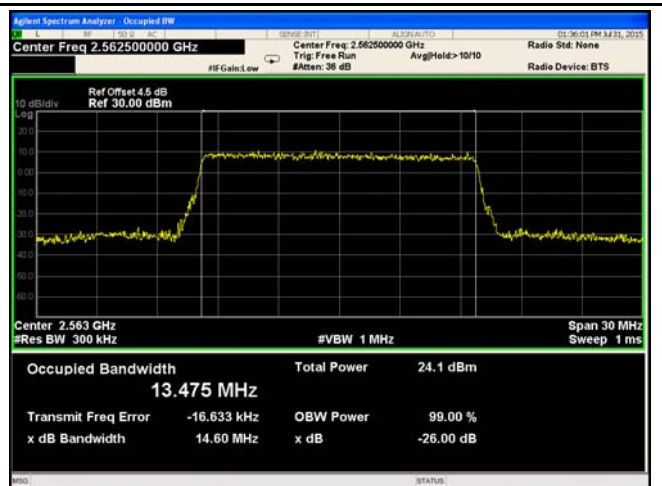
LTE band 7 - Middle CH QPSK-15



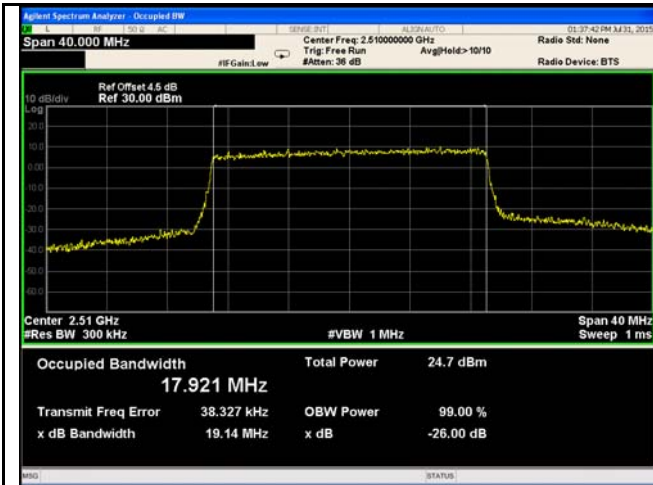
LTE band 7 - Middle CH 16QAM-15



LTE band 7 - High CH QPSK-15



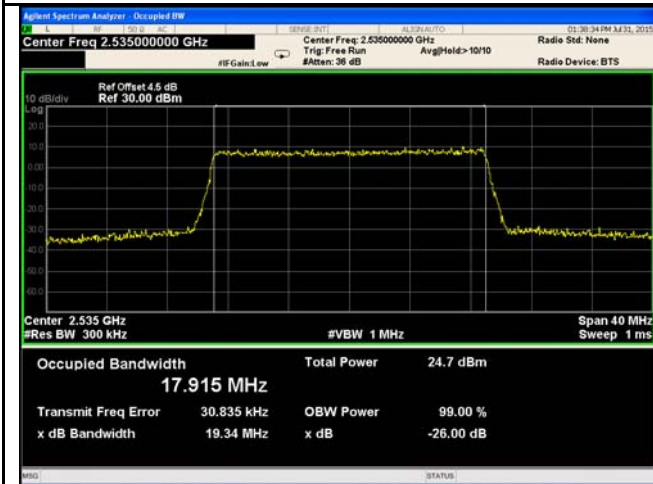
LTE band 7 - High CH 16QAM-15



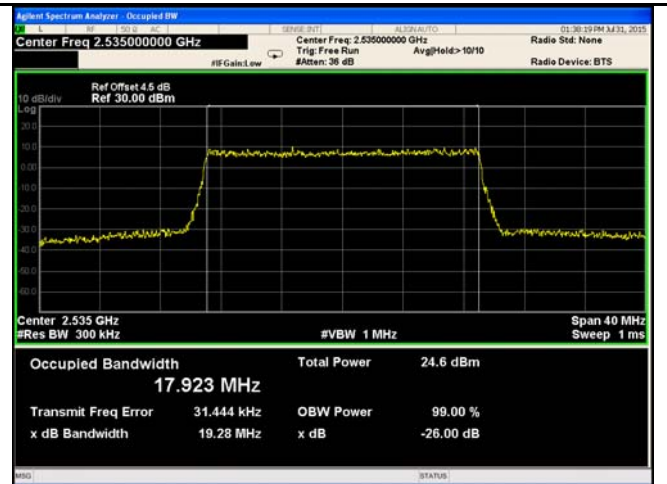
LTE band 7 - Low CH QPSK-20



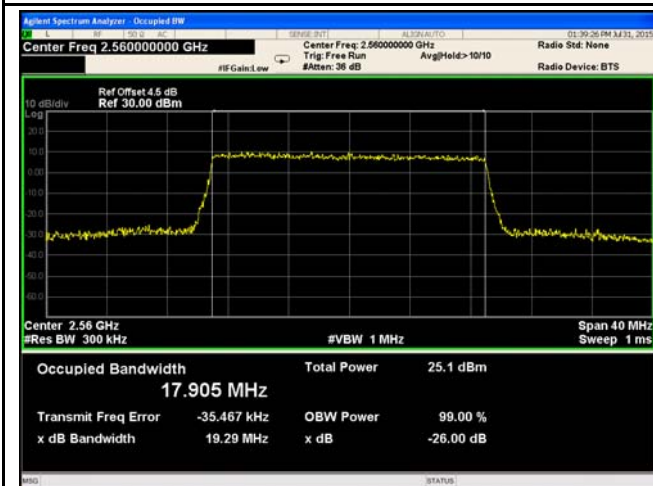
LTE band 7 - Low CH 16QAM-20



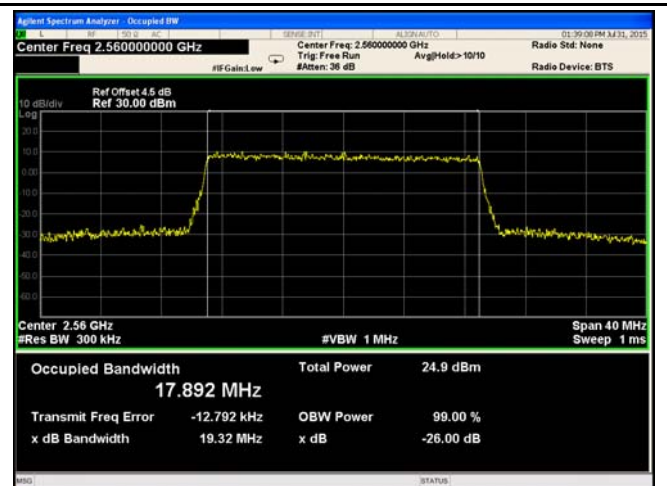
LTE band 7 - Middle CH QPSK-20



LTE band 7 - Middle CH 16QAM-20

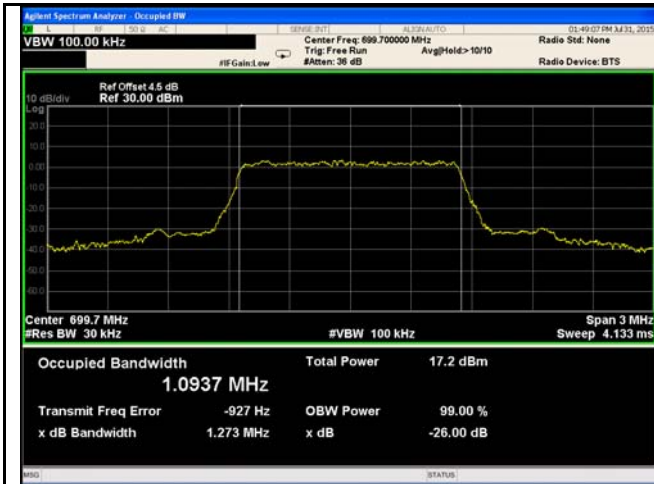


LTE band 7 - High CH QPSK-20

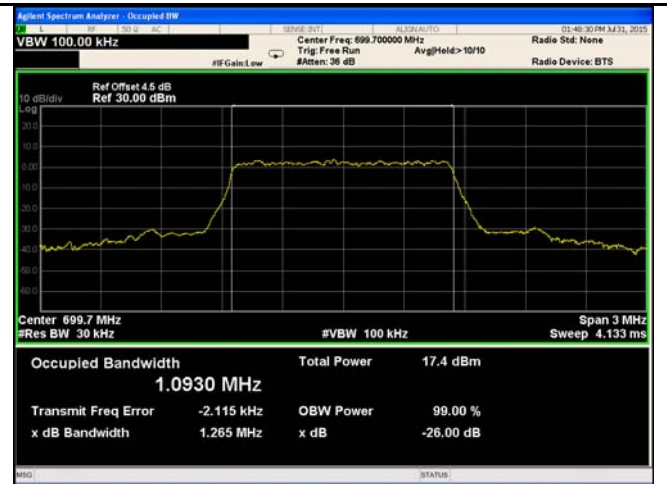


LTE band 7 - High CH 16QAM-20

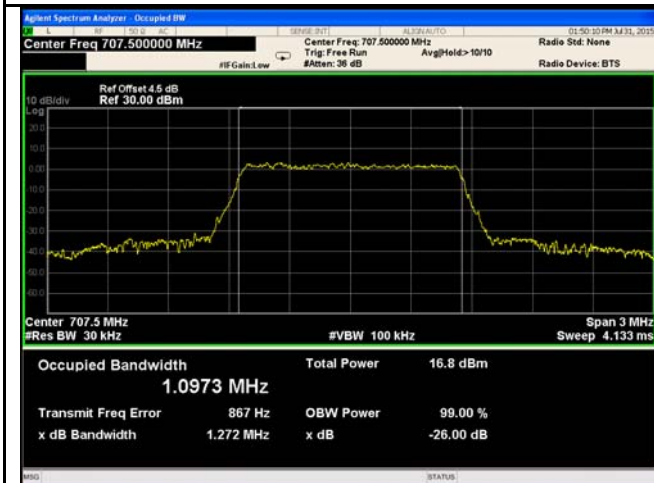
LTE Band 12 (Part 27)



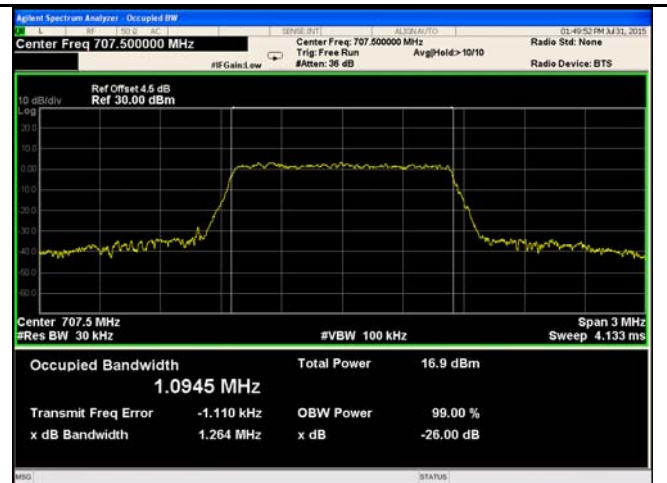
LTE band 12 - Low CH QPSK-1.4



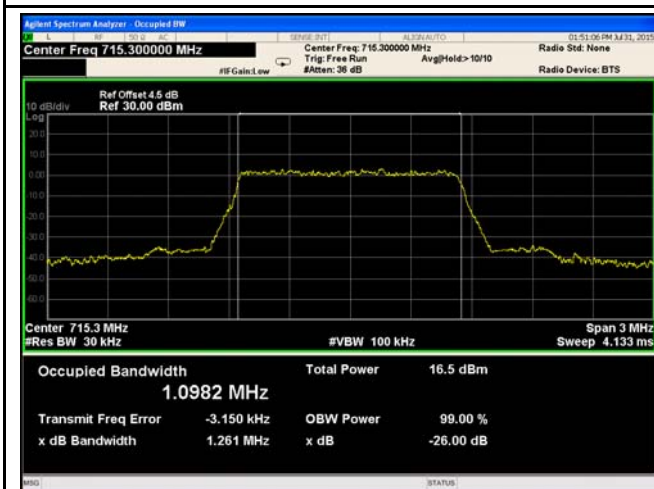
LTE band 12 - Low CH 16QAM-1.4



LTE band 12 - Middle CH QPSK-1.4



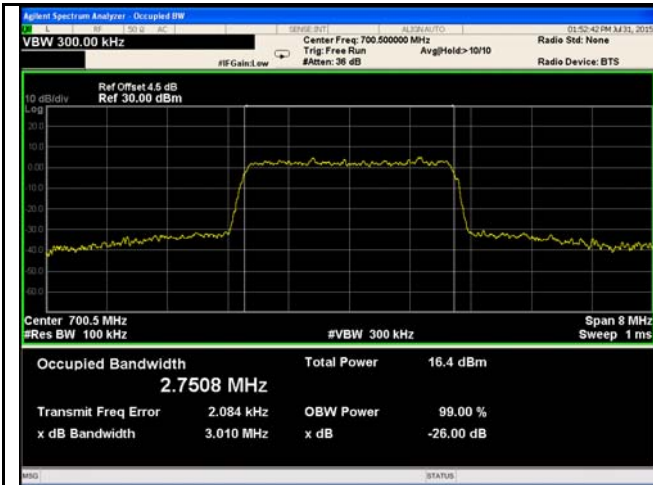
LTE band 12 - Middle CH 16QAM-1.4



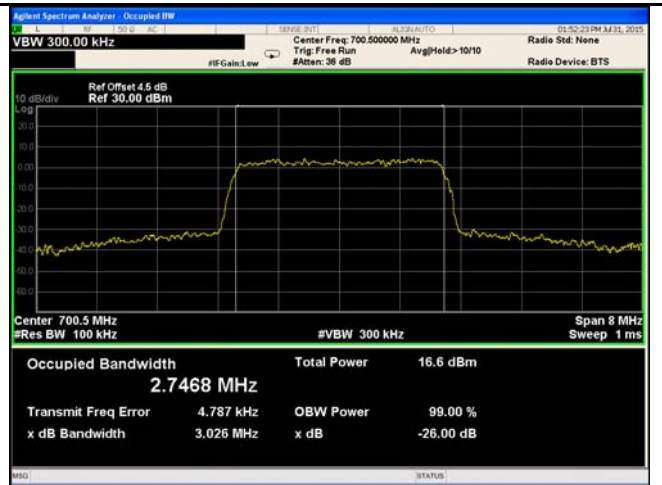
LTE band 12 - High CH QPSK-1.4



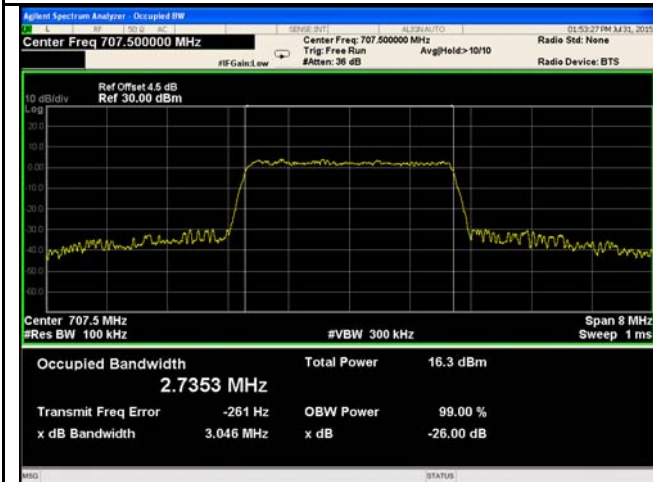
LTE band 12 - High CH 16QAM-1.4



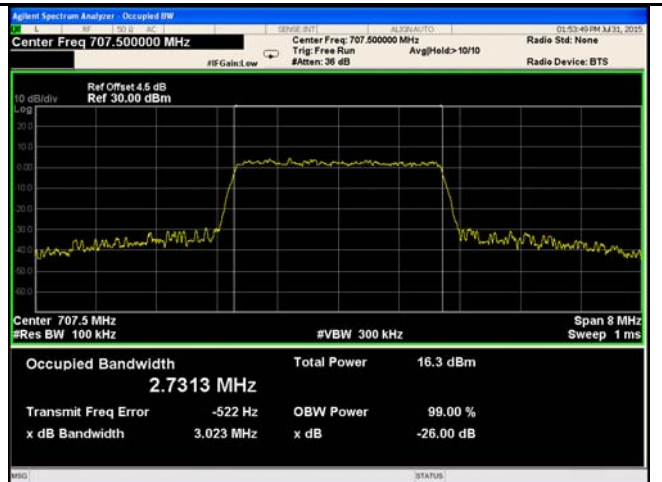
LTE band 12 - Low CH QPSK-3



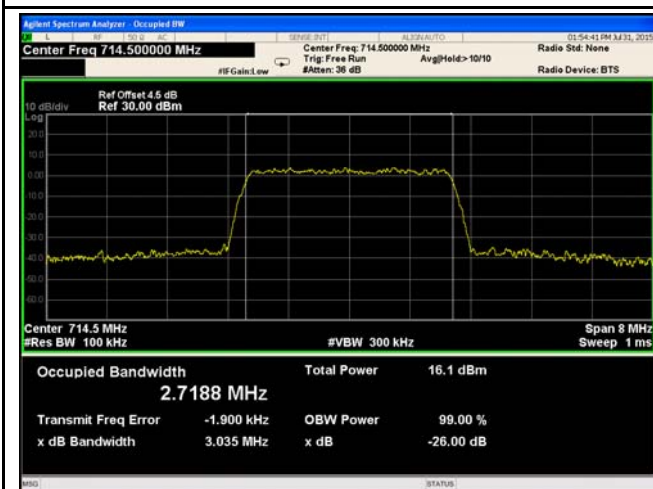
LTE band 12 - Low CH 16QAM-3



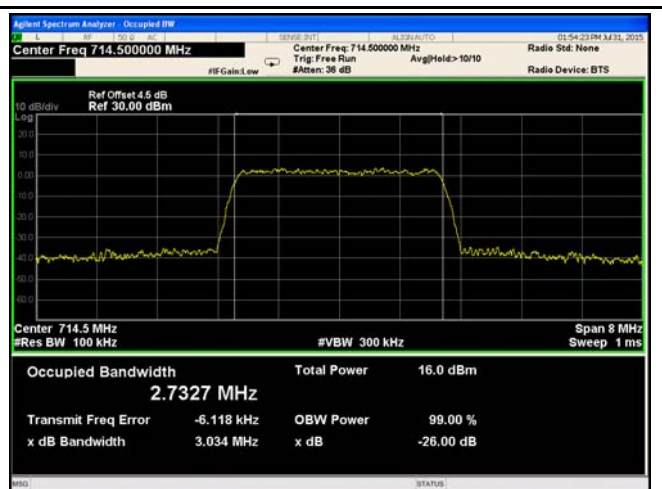
LTE band 12 - Middle CH QPSK-3



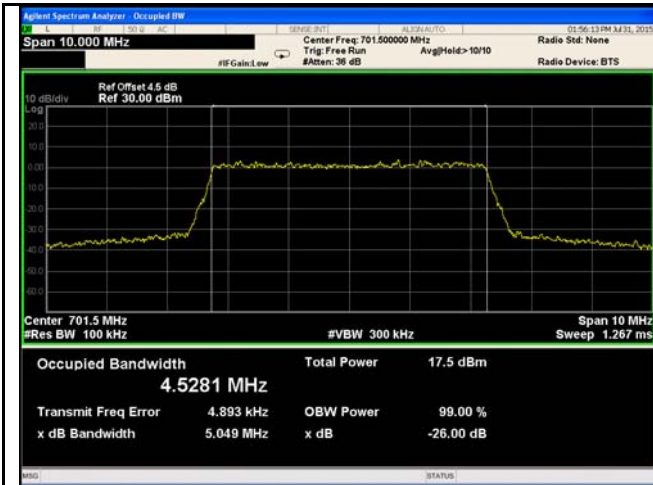
LTE band 12 - Middle CH 16QAM-3



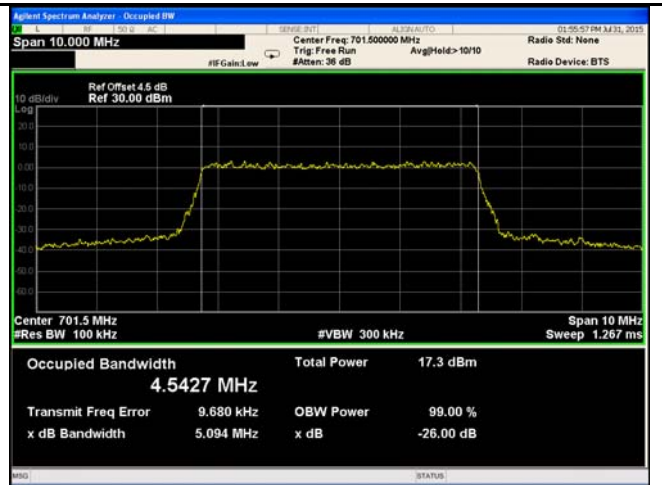
LTE band 12 - High CH QPSK-3



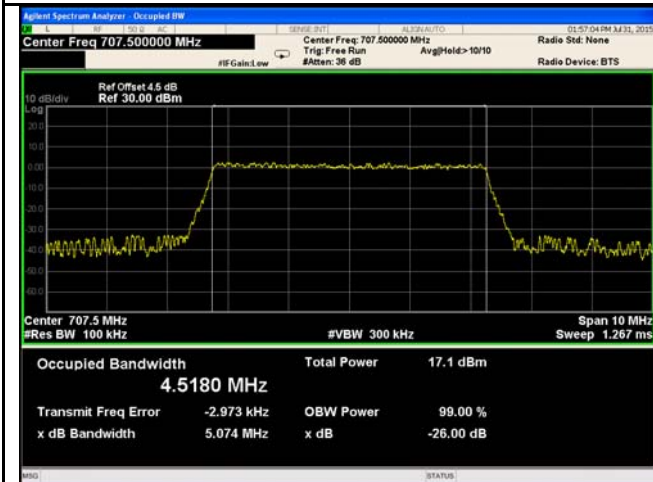
LTE band 12 - High CH 16QAM-3



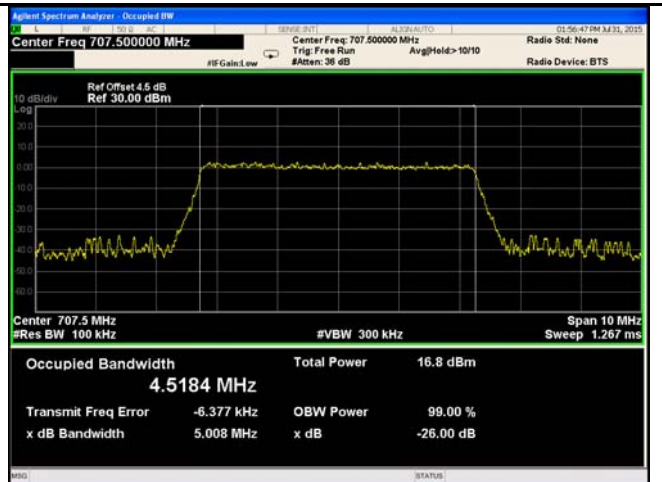
LTE band 12 - Low CH QPSK-5



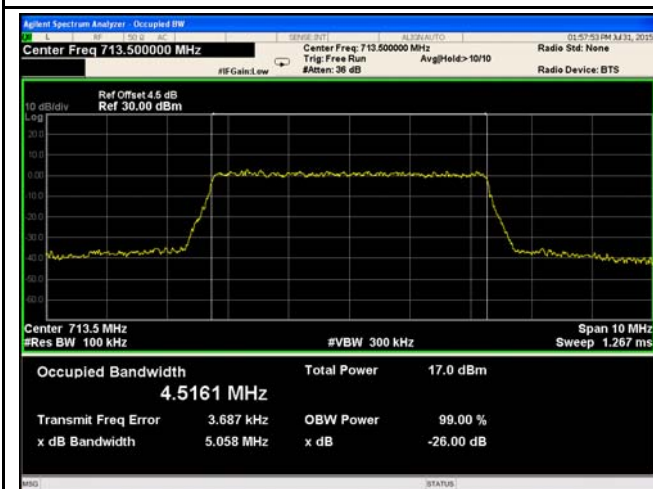
LTE band 12 - Low CH 16QAM-5



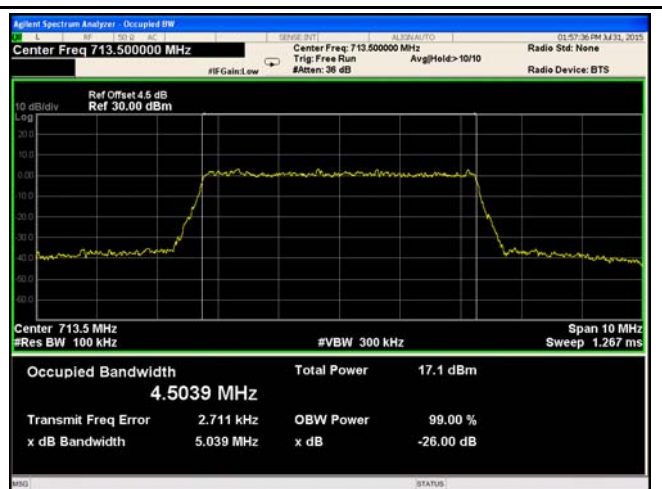
LTE band 12 - Middle CH QPSK-5



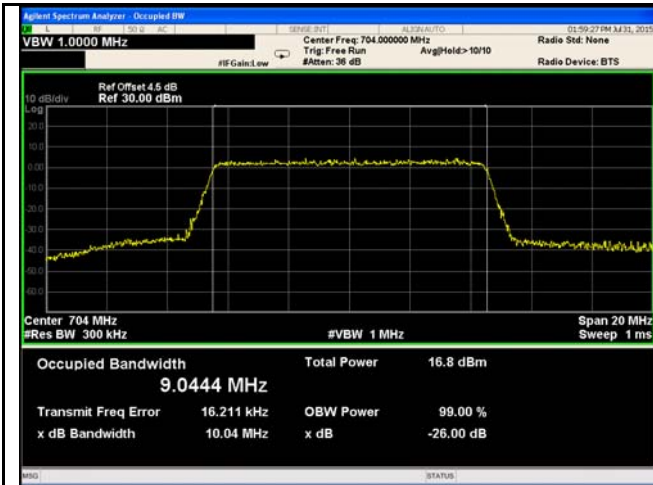
LTE band 12 - Middle CH 16QAM-5



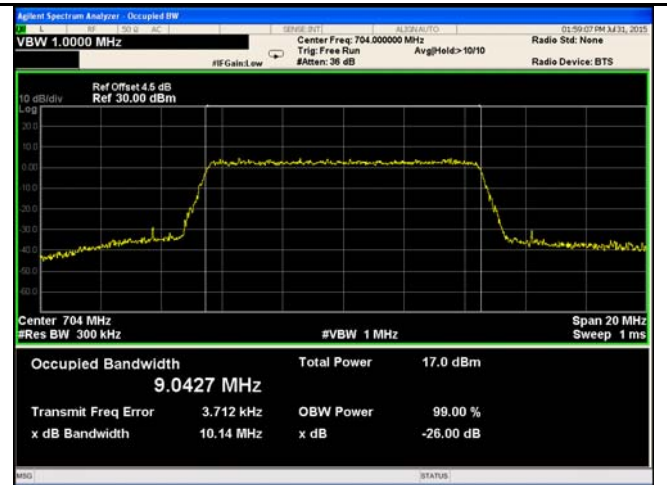
LTE band 12 - High CH QPSK-5



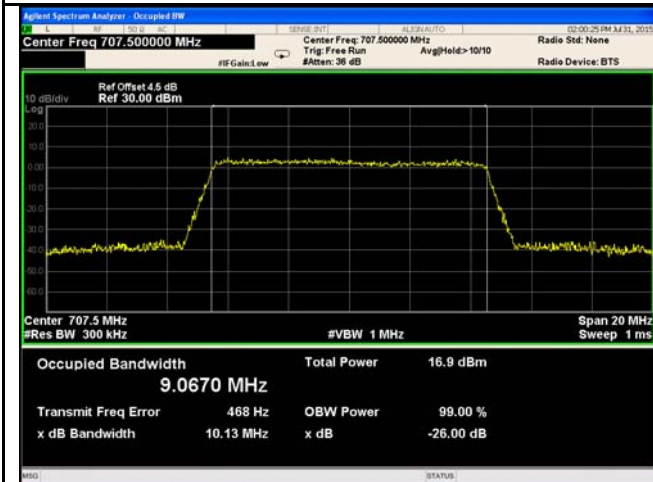
LTE band 12 - High CH 16QAM-5



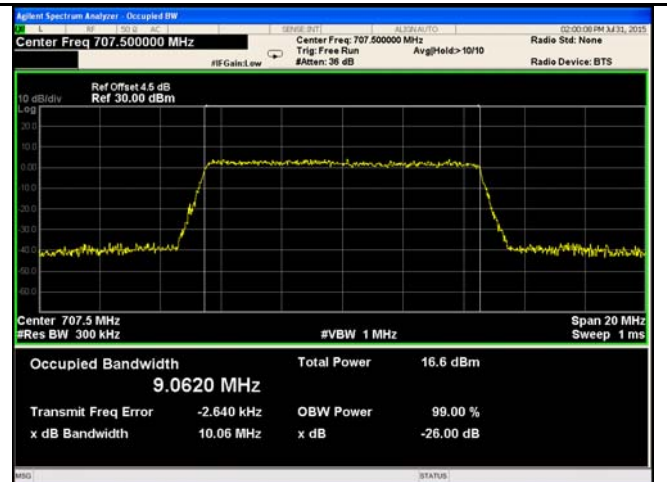
LTE band 12 - Low CH QPSK-10



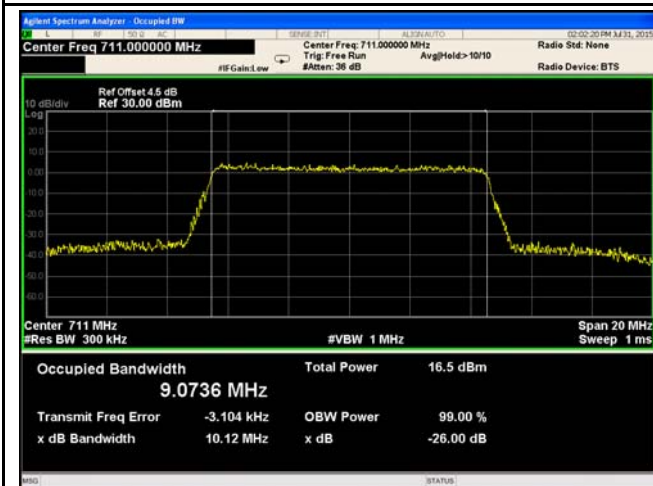
LTE band 12 - Low CH 16QAM-10



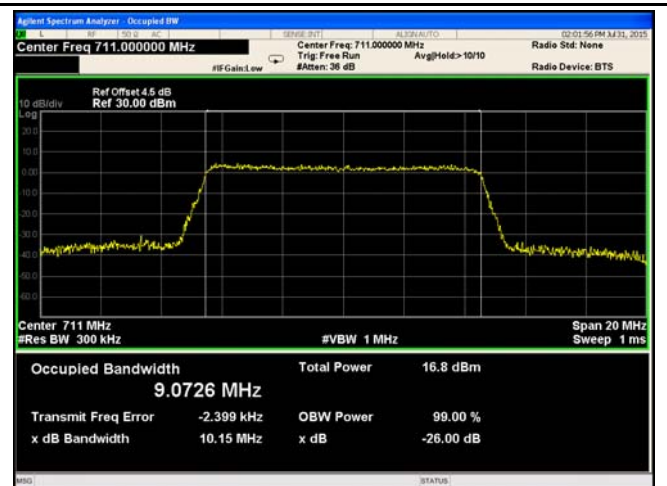
LTE band 12 - Middle CH QPSK-10



LTE band 12 - Middle CH 16QAM-10

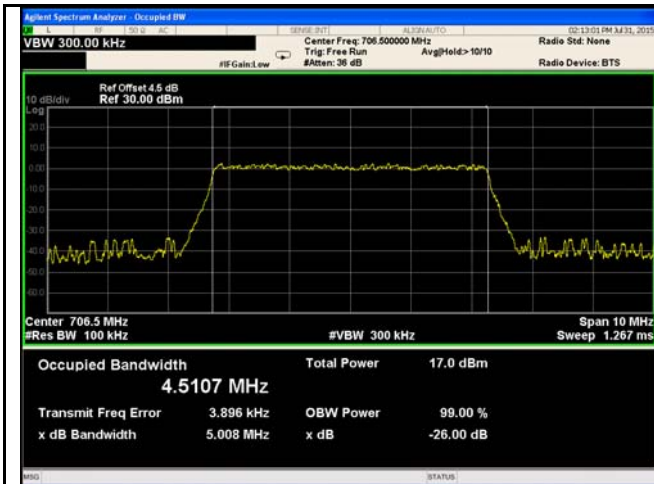


LTE band 12 - High CH QPSK-10

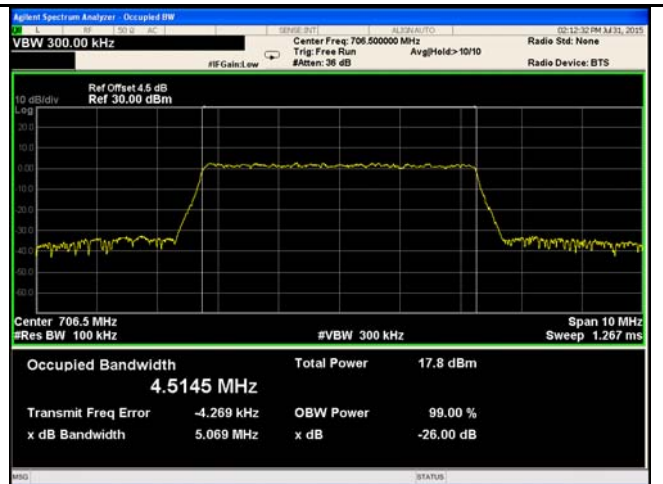


LTE band 12 - High CH 16QAM-10

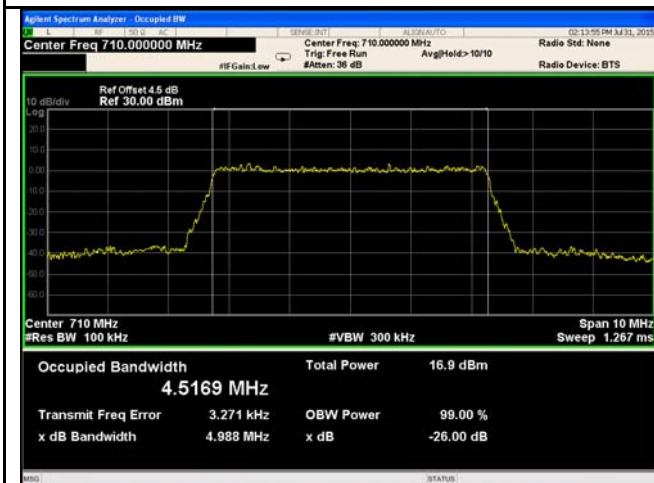
LTE Band 17 (Part 27)



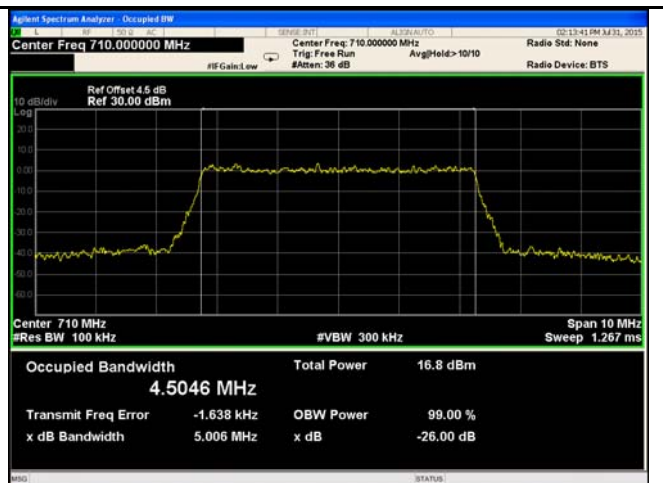
LTE band 17 - Low CH QPSK-5



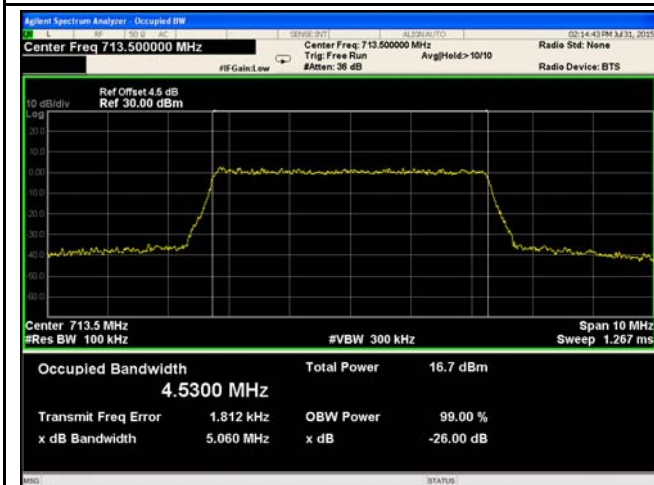
LTE band 17 - Low CH 16QAM-5



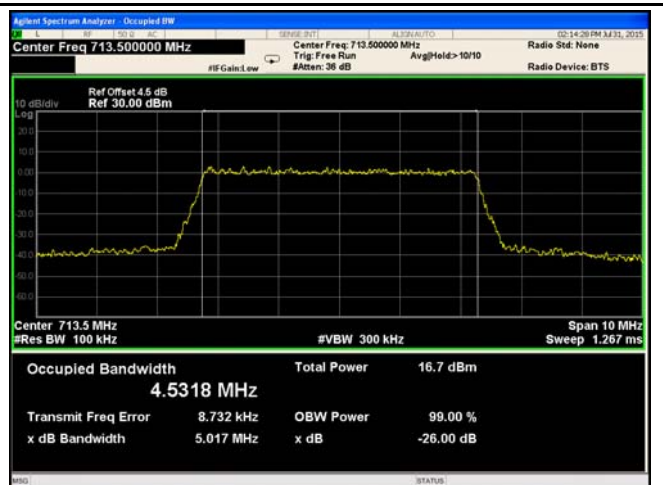
LTE band 17 - Middle CH QPSK-5



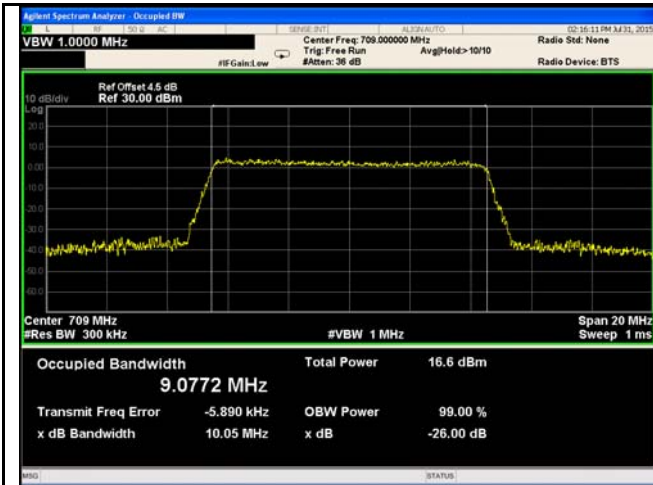
LTE band 17 - Middle CH 16QAM-5



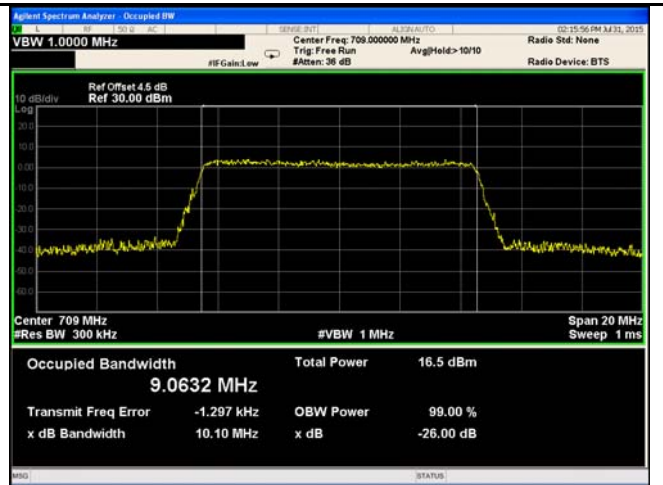
LTE band 17 - High CH QPSK-5



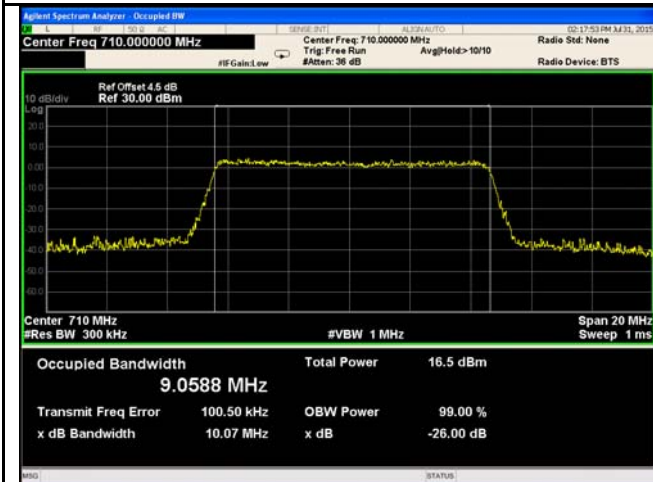
LTE band 17 - High CH 16QAM-5



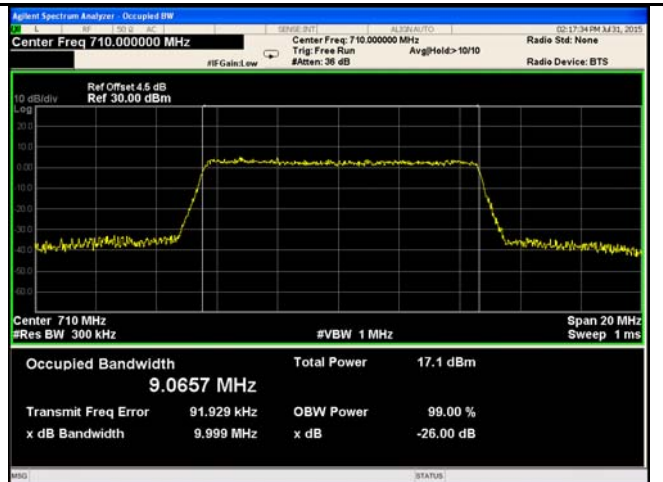
LTE band 17 - Low CH QPSK-10



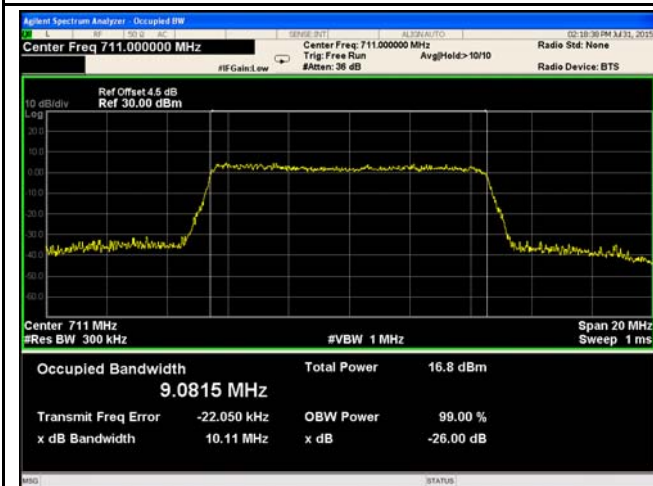
LTE band 17 - Low CH 16QAM-10



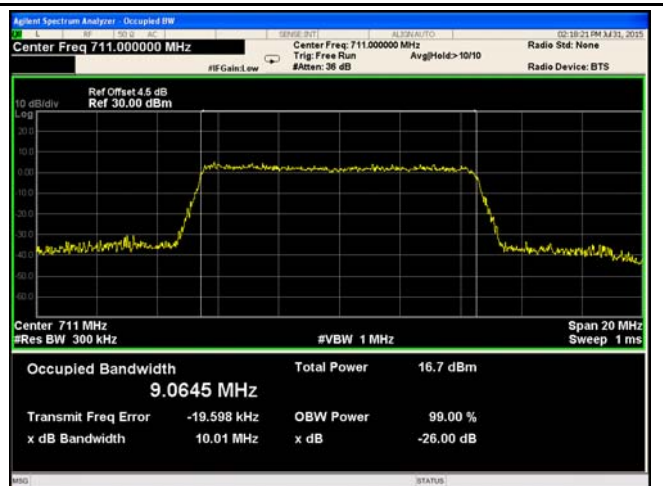
LTE band 17 - Middle CH QPSK-10



LTE band 17 - Middle CH 16QAM-10



LTE band 17 - High CH QPSK-10



LTE band 17 - High CH 16QAM-10

6.6 Spurious Emissions at Antenna Terminals

Temperature	23°C
Relative Humidity	55%
Atmospheric Pressure	1031mbar
Test date :	July 31, 2015
Tested By :	Winnie Zhang

Requirement(s):

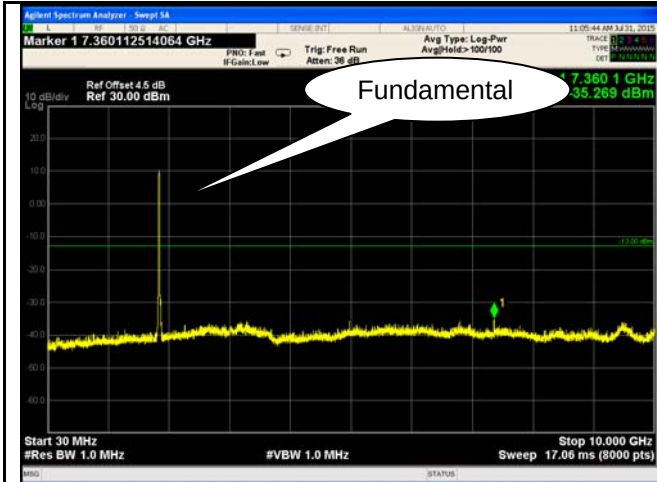
Spec	Item	Requirement	Applicable
§2.1051, §22.917(a)& §24.238(a) § 27.53(h)	a)	The power of any emission outside of the authorized operating frequency ranges must be lower than the transmitter power (P) by a factor of at least $43 + 10 \log (P)$ dB	☒
Test Setup	Base Station Spectrum Analyzer EUT		
Test Procedure	- The EUT was connected to Spectrum Analyzer and Base Station via power divider. - The Band Edges of low and high channels for the highest RF powers were measured. - Setting RBW as roughly BW/100.		
Remark			
Result	☒ Pass ☐ Fail		

Test Data ☒ Yes ☐ N/A

Test Plot ☒ Yes (See below) ☐ N/A

Test Plots 30MHz-5GHz

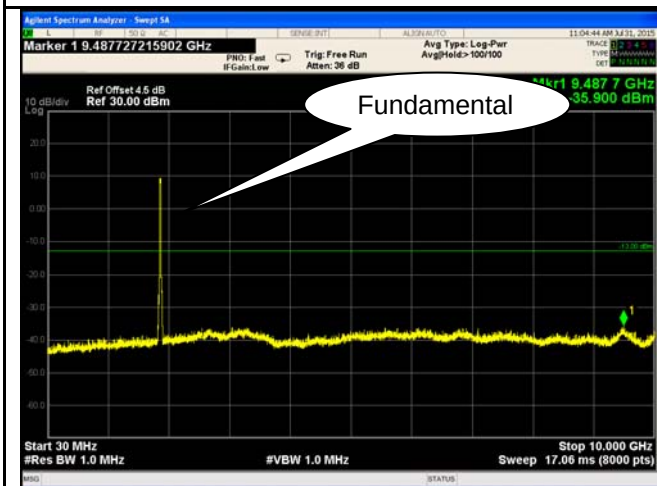
LTE Band 2 (Part 24E)



LTE Band 2 - Low Channel-1



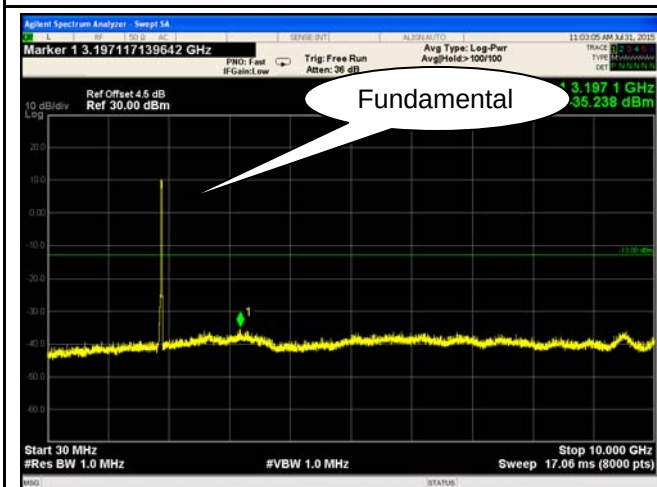
LTE Band 2 - Low Channel-2



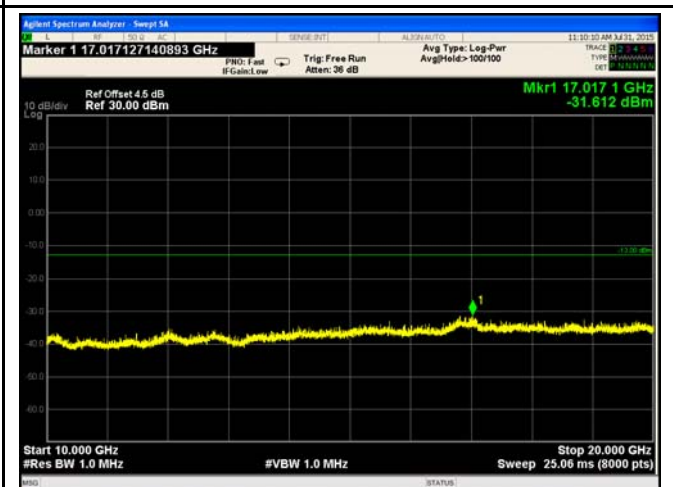
LTE Band 2 Middle Channel-1



LTE Band 2 Middle Channel-2

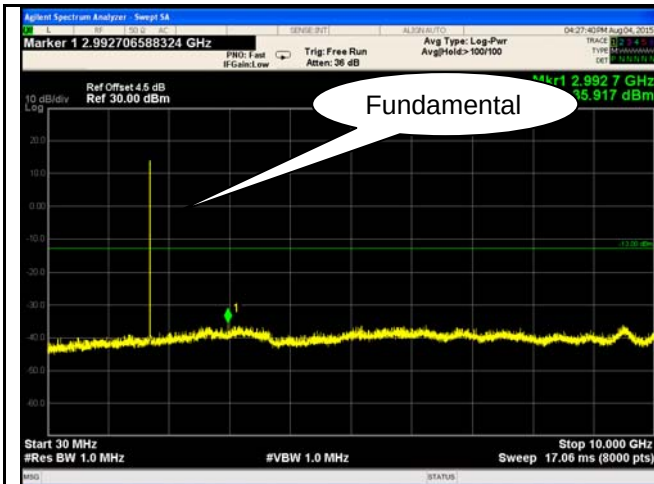


LTE Band 2 - High Channel-1

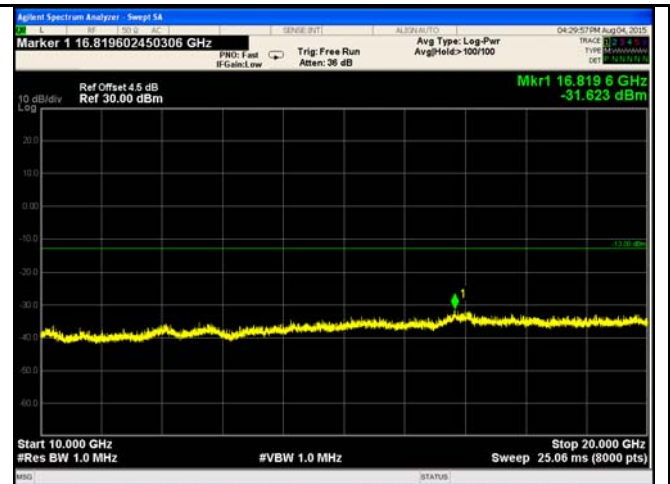


LTE Band 2 - High Channel-2

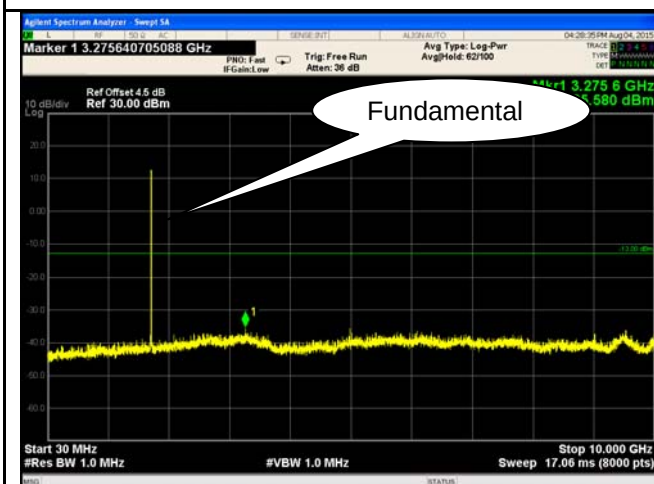
LTE Band 4 (Part27) result



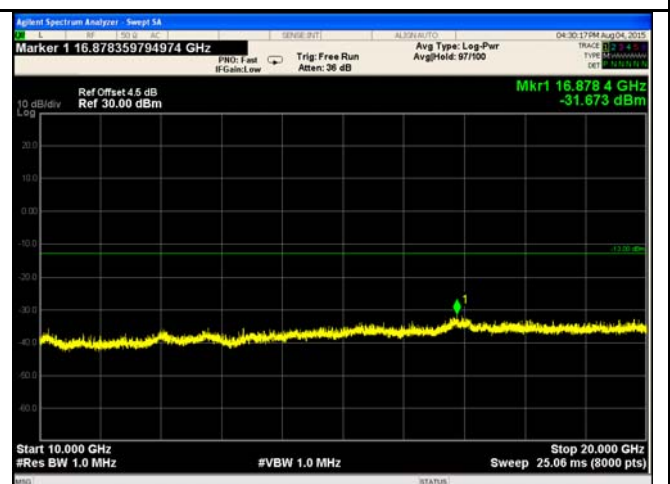
LTE Band 4 - Low Channel-1



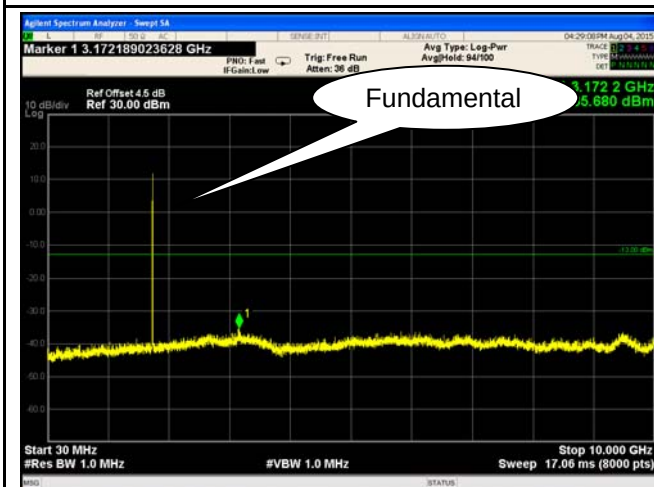
LTE Band 4 - Low Channel-2



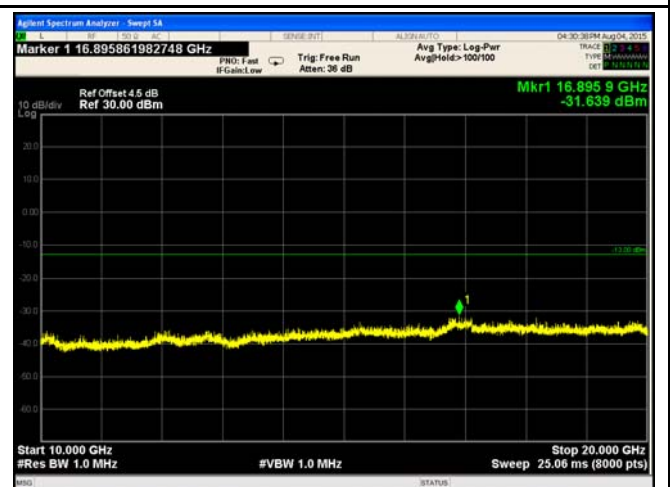
LTE Band 4 - Middle Channel-1



LTE Band 4 - Middle Channel-2

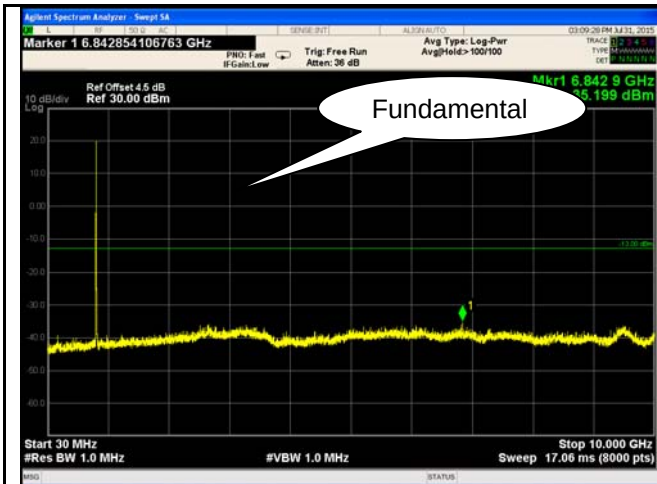


LTE Band 4 - High Channel-1

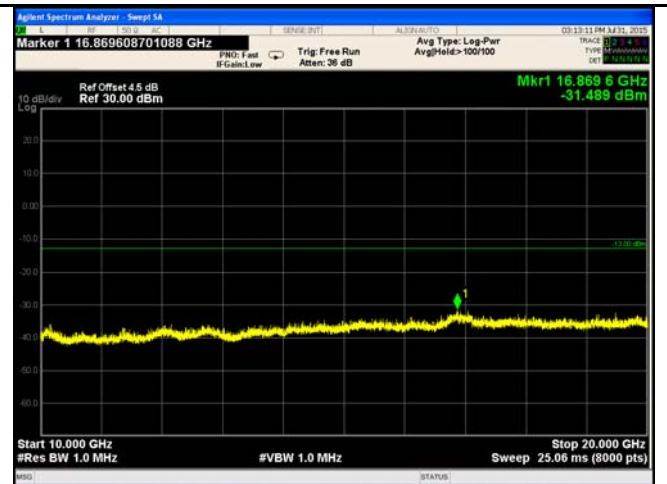


LTE Band 4 - High Channel-2

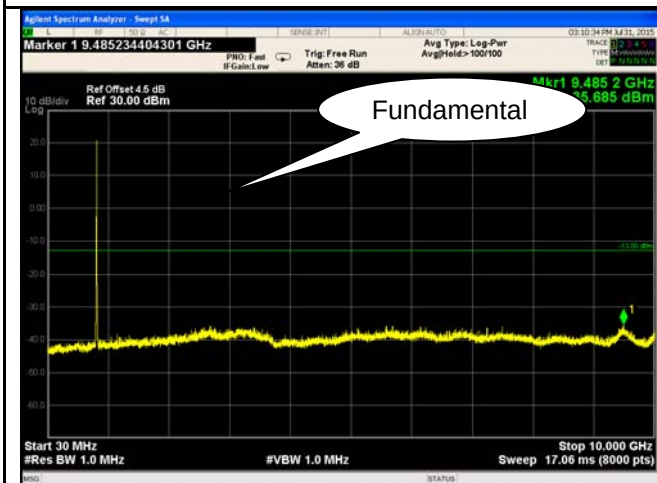
LTE Band 5 (Part 22H)



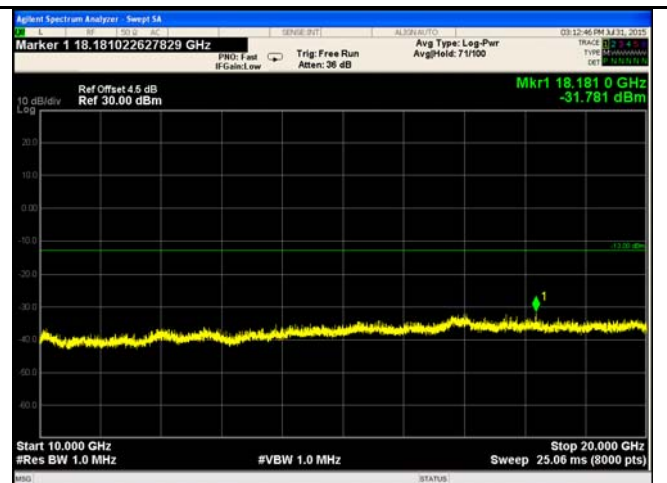
LTE Band 5 - Low Channel-1



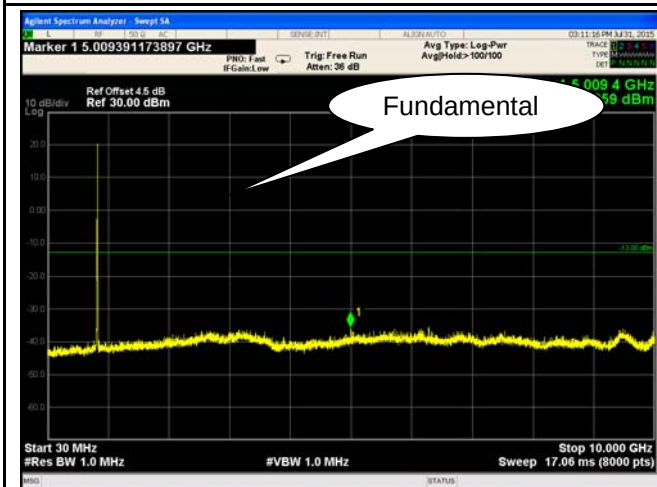
LTE Band 5 - Low Channel-2



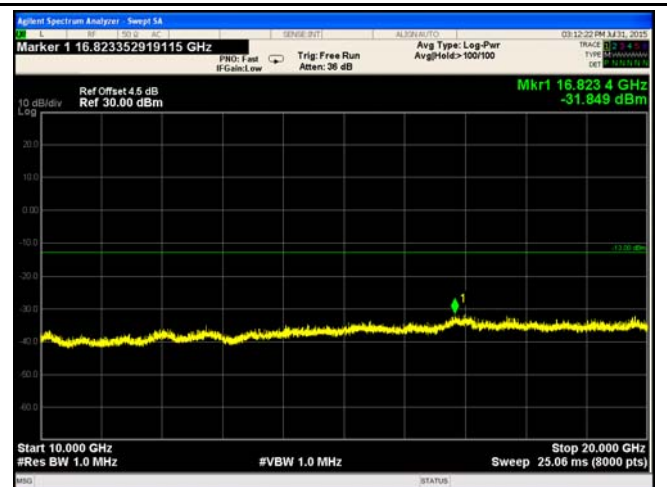
LTE Band 5 - Middle Channel-1



LTE Band 5 - Middle Channel-2

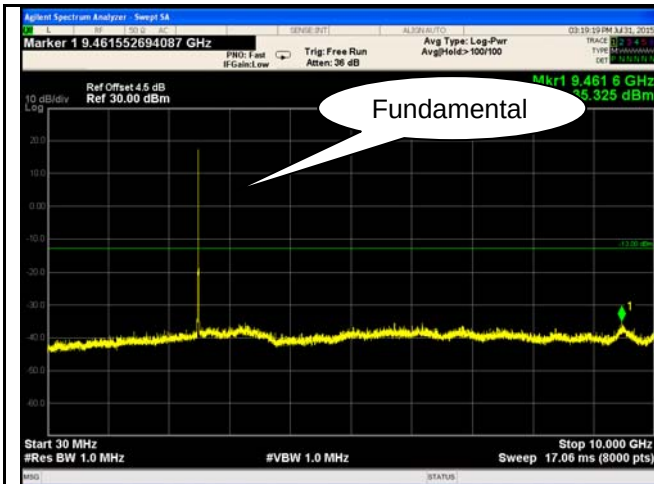


LTE Band 5 - High Channel-1



LTE Band 5 - High Channel-2

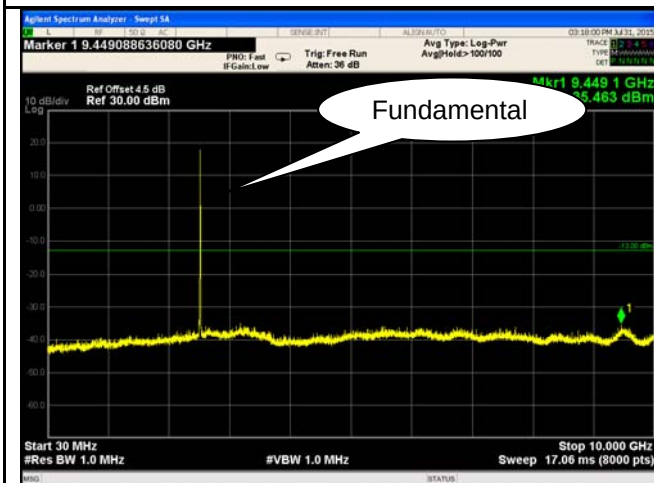
LTE Band 7 (Part 27)



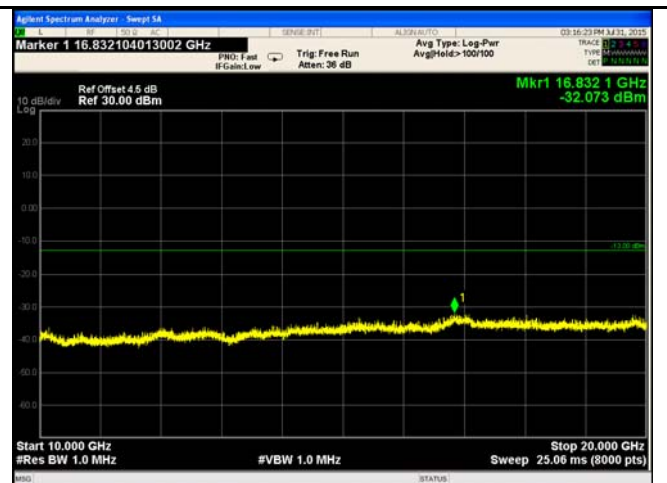
LTE Band 7 - Low Channel-1



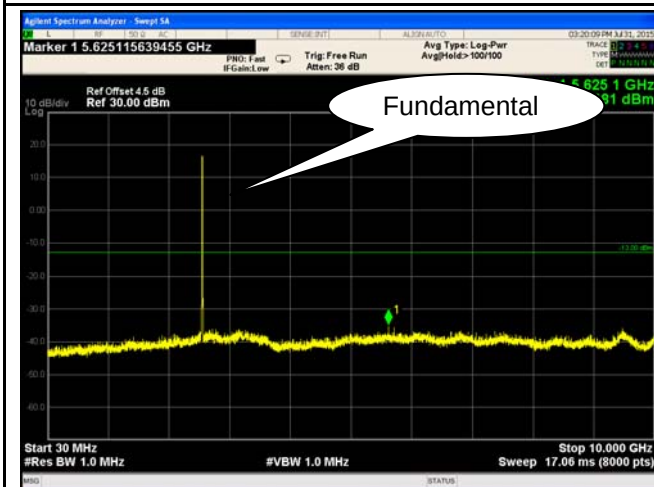
LTE Band 7 - Low Channel-2



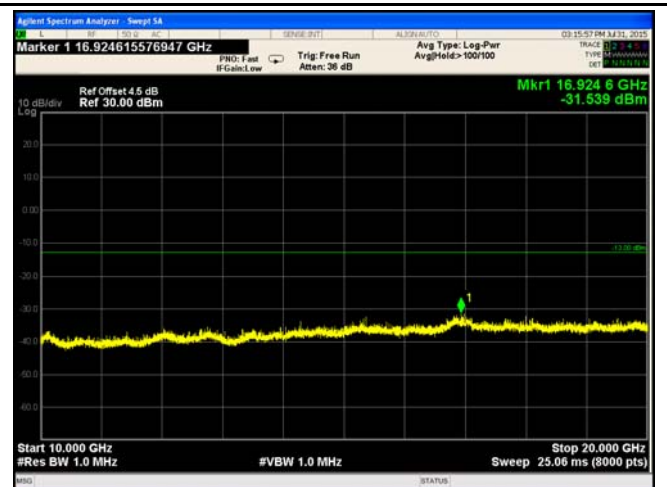
LTE Band 7 - Middle Channel-1



LTE Band 7 - Middle Channel-2

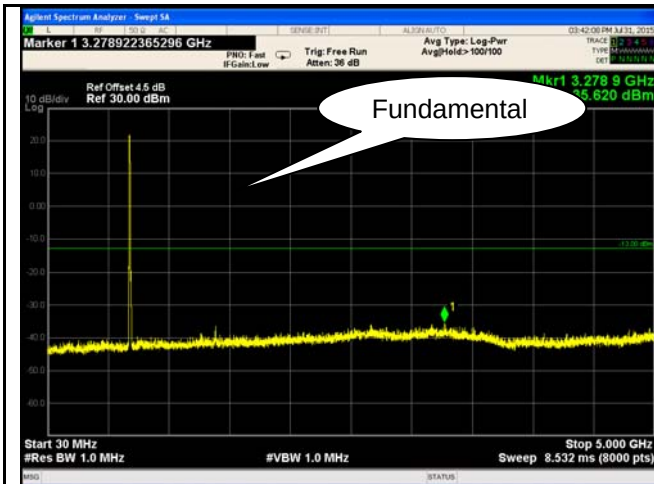


LTE Band 7 - High Channel-1

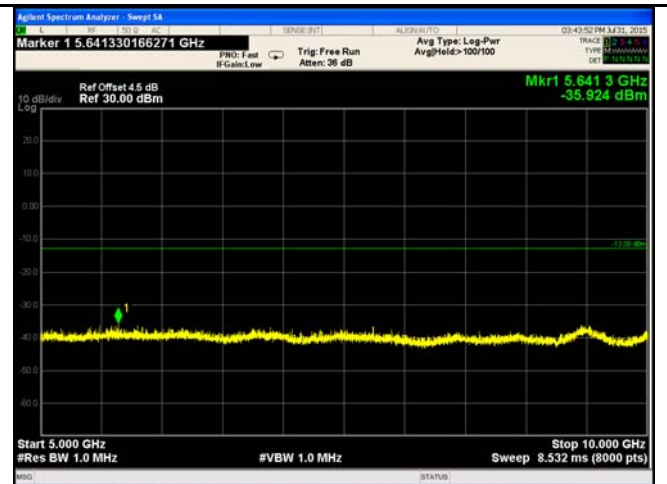


LTE Band 7 - High Channel-2

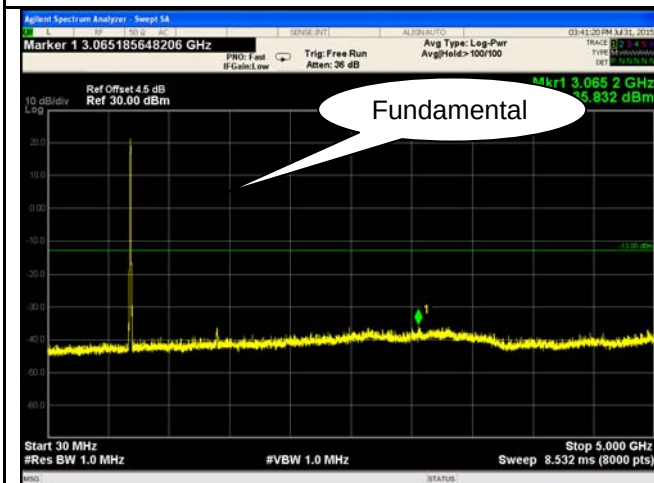
LTE Band 12 (Part 27)



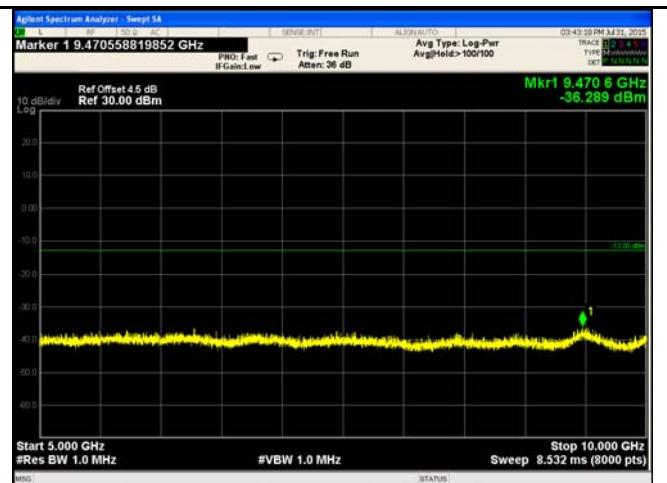
LTE Band 12 - Low Channel-1



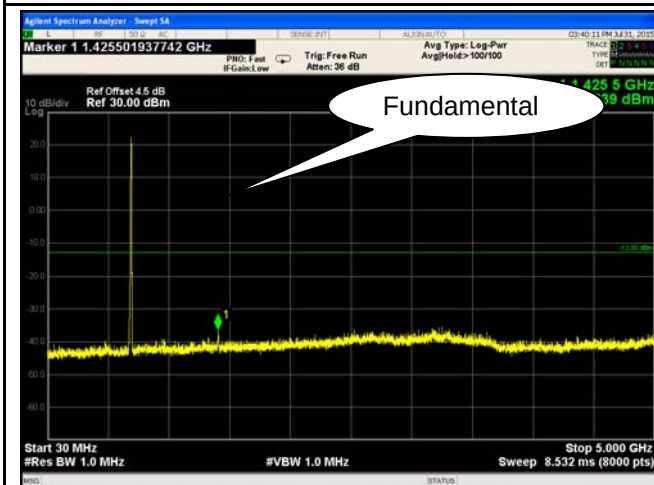
LTE Band 12 - Low Channel-2



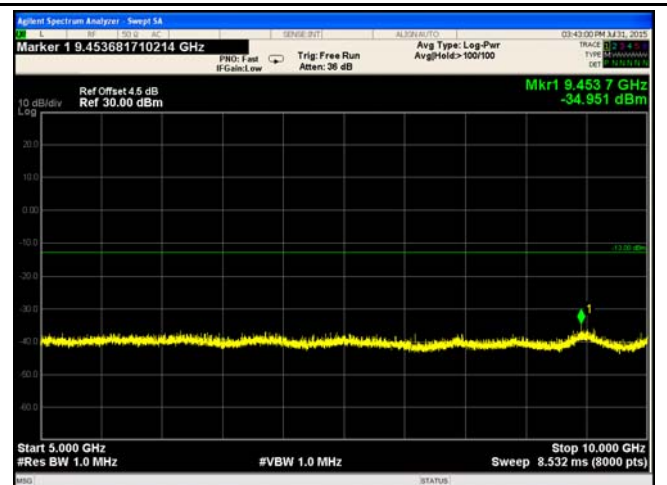
LTE Band 12 - Middle Channel-1



LTE Band 12 - Middle Channel-2

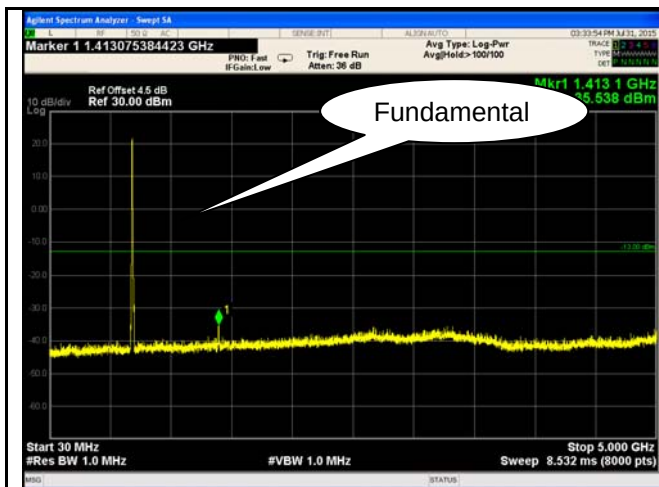


LTE Band 12 - High Channel-1

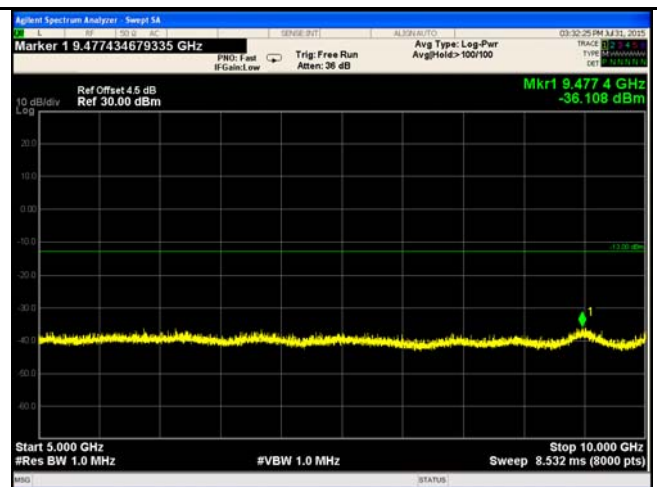


LTE Band 12 - High Channel-2

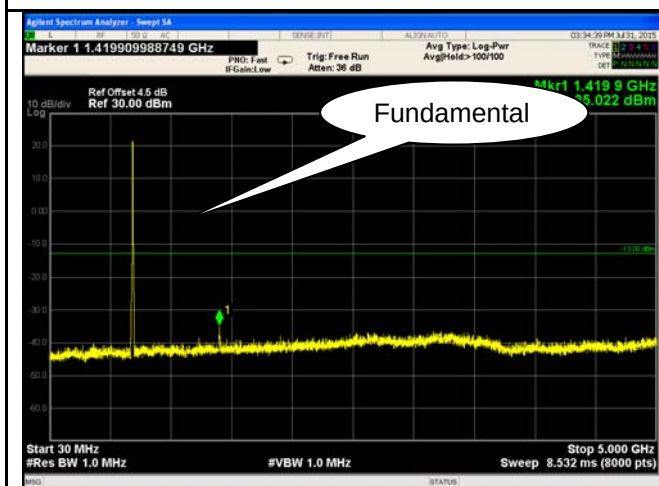
LTE Band 17 (Part 27)



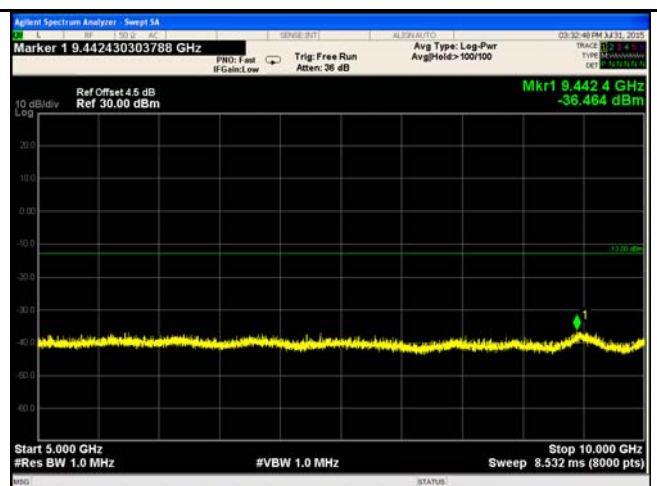
LTE Band 17 - Low Channel-1



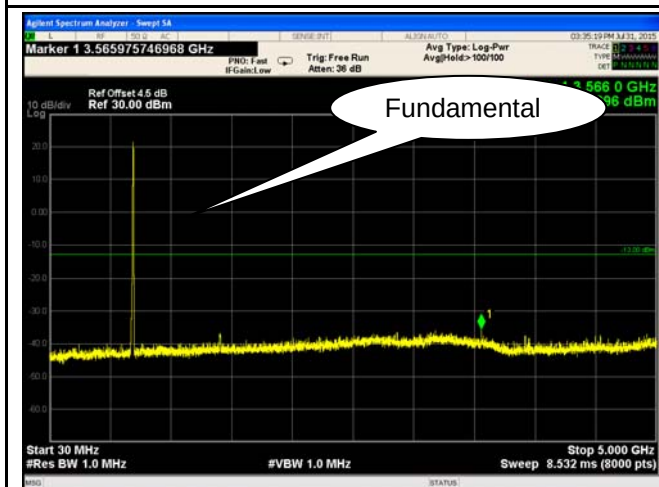
LTE Band 17 - Low Channel-2



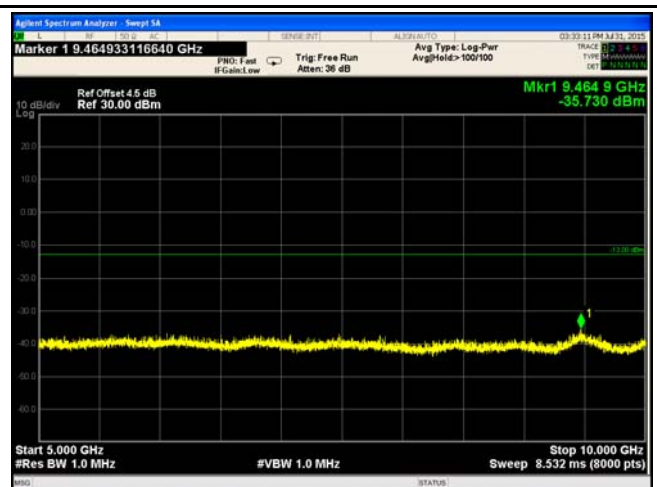
LTE Band 17 - Middle Channel-1



LTE Band 17 - Middle Channel-2



LTE Band 17 - High Channel-1



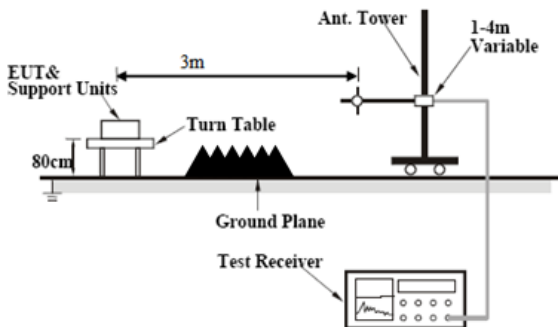
LTE Band 17 - High Channel-2

6.7 Spurious Radiated Emissions

Temperature	23°C
Relative Humidity	54%
Atmospheric Pressure	1030mbar
Test date :	July 30, 2015
Tested By :	Winnie Zhang

Requirement(s):

Spec	Item	Requirement	Applicable
§2.1053, §22.917 & §24.238 § 27.53(h)	a)	The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least $43 + 10 \log (P)$ dB. The spectrum is scanned from 30 MHz up to a frequency including its 10th harmonic.	☒

Test setup	
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Test Procedure	- The transmitter was placed on a wooden turntable, and it was transmitting into a non-radiating load which was also placed on the turntable. - The measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and polarization as well as EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. The test was performed by placing the EUT on 3-orthogonal axis. - Remove the EUT and replace it with substitution antenna. A signal generator was connected to the substitution antenna by a non-radiating cable. The absolute levels of the spurious emissions were measured by the substitution. Sample Calculation: EUT Field Strength = Raw Amplitude (dBμV/m) – Amplifier Gain (dB) + Antenna Factor (dB) + Cable Loss (dB) + Filter Attenuation (dB, if used)
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Remark	
Result	☒ Pass ☐ Fail

Test Data ☒ Yes ☐ N/A

Test Plot ☐ Yes (See below) ☒ N/A

LTE Band 2 (Part 24E) result

Low channel

Frequency (MHz)	Substituted level (dBm)	Polarity (H/V)	Antenna Gain Correction (dB)	Cable Loss (dB)	Corrected Reading (dBm)	Limit (dBm)	Margin (dB)
3720	-47.14	V	10.25	2.73	-39.62	-13	-26.62
3720	-46.92	H	10.25	2.73	-39.40	-13	-26.40
91.4	-44.38	V	1.30	0.13	-43.21	-13	-30.21
164.9	-47.51	H	2.20	0.19	-45.5	-13	-32.50

Middle channel

Frequency (MHz)	Substituted level (dBm)	Polarity (H/V)	Antenna Gain Correction (dB)	Cable Loss (dB)	Corrected Reading (dBm)	Limit (dBm)	Margin (dB)
3760	-46.22	V	10.25	2.73	-38.70	-13	-25.70
3760	-47.34	H	10.25	2.73	-39.82	-13	-26.82
91.7	-45.17	V	1.30	0.13	-44.00	-13	-31.00
164.3	-46.31	H	2.20	0.19	-44.30	-13	-31.30

High channel

Frequency (MHz)	Substituted level (dBm)	Polarity (H/V)	Antenna Gain Correction (dB)	Cable Loss (dB)	Corrected Reading (dBm)	Limit (dBm)	Margin (dB)
3800	-45.96	V	10.36	2.73	-38.33	-13	-25.33
3800	-46.85	H	10.36	2.73	-39.22	-13	-26.22
91.20	-45.66	V	1.30	0.13	-44.49	-13	-31.49
164.5	-47.37	H	2.20	0.19	-45.36	-13	-32.36

LTE Band 4(Part27) result

Low channel

Frequency (MHz)	Substituted level (dBm)	Polarity (H/V)	Antenna Gain Correction (dB)	Cable Loss (dB)	Corrected Reading (dBm)	Limit (dBm)	Margin (dB)
3440	-44.24	V	10.06	2.52	-36.70	-13	-23.7
3440	-45.97	H	10.06	2.52	-38.43	-13	-25.43
91.80	-46.81	V	1.30	0.13	-45.64	-13	-32.64
165.2	-48.02	H	2.20	0.19	-46.01	-13	-33.01

Middle channel

Frequency (MHz)	Substituted level (dBm)	Polarity (H/V)	Antenna Gain Correction (dB)	Cable Loss (dB)	Corrected Reading (dBm)	Limit (dBm)	Margin (dB)
3465	-45.38	V	10.09	2.52	-37.81	-13	-24.81
3465	-46.82	H	10.09	2.52	-39.25	-13	-26.25
91.60	-45.11	V	1.30	0.13	-43.94	-13	-30.94
164.7	-48.75	H	2.20	0.19	-46.74	-13	-33.74

High channel

Frequency (MHz)	Substituted level (dBm)	Polarity (H/V)	Antenna Gain Correction (dB)	Cable Loss (dB)	Corrected Reading (dBm)	Limit (dBm)	Margin (dB)
3490	-45.68	V	10.09	2.52	-38.11	-13	-25.11
3490	-47.13	H	10.09	2.52	-39.56	-13	-26.56
91.30	-45.55	V	1.30	0.13	-44.38	-13	-31.38
164.2	-48.79	H	2.20	0.19	-46.78	-13	-33.78

LTE Band 5(Part22H) result

Low channel

Frequency (MHz)	Substituted level (dBm)	Polarity (H/V)	Antenna Gain Correction (dB)	Cable Loss (dB)	Corrected Reading (dBm)	Limit (dBm)	Margin (dB)
1658	-43.72	V	7.95	0.78	-36.55	-13	-23.55
1658	-45.36	H	7.95	0.78	-38.19	-13	-25.19
92.30	-44.41	V	1.30	0.13	-43.24	-13	-30.24
164.80	-48.39	H	2.20	0.19	-46.38	-13	-33.38

Middle channel

Frequency (MHz)	Substituted level (dBm)	Polarity (H/V)	Antenna Gain Correction (dB)	Cable Loss (dB)	Corrected Reading (dBm)	Limit (dBm)	Margin (dB)
1673	-43.96	V	7.95	0.78	-36.79	-13	-23.79
1673	-45.85	H	7.95	0.78	-38.68	-13	-25.68
91.90	-44.73	V	1.30	0.13	-43.56	-13	-30.56
165.20	-48.34	H	2.20	0.19	-46.33	-13	-33.33

High channel

Frequency (MHz)	Substituted level (dBm)	Polarity (H/V)	Antenna Gain Correction (dB)	Cable Loss (dB)	Corrected Reading (dBm)	Limit (dBm)	Margin (dB)
1688	-44.01	V	7.95	0.78	-36.84	-13	-23.84
1688	-45.96	H	7.95	0.78	-38.79	-13	-25.79
91.70	-44.55	V	1.30	0.13	-43.38	-13	-30.38
164.50	-49.17	H	2.20	0.19	-47.16	-13	-34.16

LTE Band 7(Part27) result

Low channel

Frequency (MHz)	Substituted level (dBm)	Polarity (H/V)	Antenna Gain Correction (dB)	Cable Loss (dB)	Corrected Reading (dBm)	Limit (dBm)	Margin (dB)
5020	-45.22	V	10.29	0.98	-35.91	-13	-22.91
5020	-46.49	H	10.29	0.98	-37.18	-13	-24.18
92.30	-45.51	V	1.30	0.13	-44.34	-13	-31.34
165.70	-48.35	H	2.20	0.19	-46.34	-13	-33.34

Middle channel

Frequency (MHz)	Substituted level (dBm)	Polarity (H/V)	Antenna Gain Correction (dB)	Cable Loss (dB)	Corrected Reading (dBm)	Limit (dBm)	Margin (dB)
5070	-45.84	V	10.3	0.99	-36.53	-13	-23.53
5070	-47.21	H	10.3	0.99	-37.90	-13	-24.9
92.5	-45.95	V	1.30	0.13	-44.78	-13	-31.78
165.3	-49.18	H	2.20	0.19	-47.17	-13	-34.17

High channel

Frequency (MHz)	Substituted level (dBm)	Polarity (H/V)	Antenna Gain Correction (dB)	Cable Loss (dB)	Corrected Reading (dBm)	Limit (dBm)	Margin (dB)
5120	-45.71	V	10.32	1.00	-36.39	-13	-23.39
5120	-48.56	H	10.32	1.00	-39.24	-13	-26.24
92.40	-45.28	V	1.30	0.13	-44.11	-13	-31.11
165.20	-48.33	H	2.20	0.19	-46.32	-13	-33.32

LTE Band 12(Part27) result

Low channel

Frequency (MHz)	Substituted level (dBm)	Polarity (H/V)	Antenna Gain Correction (dB)	Cable Loss (dB)	Corrected Reading (dBm)	Limit (dBm)	Margin (dB)
1408	-46.84	V	7.65	0.75	-39.94	-13	-26.94
1408	-47.59	H	7.65	0.75	-40.69	-13	-27.69
92.8	-50.33	V	1.30	0.13	-49.16	-13	-36.16
165.7	-51.47	H	2.20	0.19	-49.46	-13	-36.46

Middle channel

Frequency (MHz)	Substituted level (dBm)	Polarity (H/V)	Antenna Gain Correction (dB)	Cable Loss (dB)	Corrected Reading (dBm)	Limit (dBm)	Margin (dB)
1415	-46.75	V	7.65	0.75	-39.85	-13	-26.85
1415	-47.32	H	7.65	0.75	-40.42	-13	-27.42
92.6	-49.85	V	1.30	0.13	-48.68	-13	-35.68
165.8	-50.43	H	2.20	0.19	-48.42	-13	-35.42

High channel

Frequency (MHz)	Substituted level (dBm)	Polarity (H/V)	Antenna Gain Correction (dB)	Cable Loss (dB)	Corrected Reading (dBm)	Limit (dBm)	Margin (dB)
1422	-46.52	V	7.65	0.75	-39.62	-13	-26.62
1422	-47.19	H	7.65	0.75	-40.29	-13	-27.29
92.8	-50.07	V	1.30	0.13	-48.90	-13	-35.90
165.2	-51.34	H	2.20	0.19	-49.33	-13	-36.33

LTE Band 17(Part27) result

Low channel

Frequency (MHz)	Substituted level (dBm)	Polarity (H/V)	Antenna Gain Correction (dB)	Cable Loss (dB)	Corrected Reading (dBm)	Limit (dBm)	Margin (dB)
1418	-44.95	V	7.65	0.75	-38.05	-13	-25.05
1418	-46.42	H	7.65	0.75	-39.52	-13	-26.52
91.8	-45.06	V	1.30	0.13	-43.89	-13	-30.89
164.5	-47.58	H	2.20	0.19	-45.57	-13	-32.57

Middle channel

Frequency (MHz)	Substituted level (dBm)	Polarity (H/V)	Antenna Gain Correction (dB)	Cable Loss (dB)	Corrected Reading (dBm)	Limit (dBm)	Margin (dB)
1420	-44.76	V	7.65	0.75	-37.86	-13	-24.86
1420	-46.85	H	7.65	0.75	-39.95	-13	-26.95
91.5	-45.14	V	1.30	0.13	-43.97	-13	-30.97
164.3	-47.66	H	2.20	0.19	-45.65	-13	-32.65

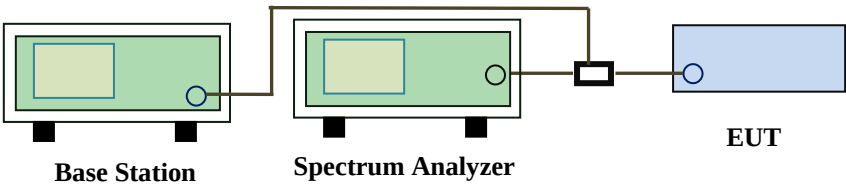
High channel

Frequency (MHz)	Substituted level (dBm)	Polarity (H/V)	Antenna Gain Correction (dB)	Cable Loss (dB)	Corrected Reading (dBm)	Limit (dBm)	Margin (dB)
1422	-44.52	V	7.65	0.75	-37.62	-13	-24.62
1422	-46.73	H	7.65	0.75	-39.83	-13	-26.83
91.4	-45.59	V	1.30	0.13	-44.42	-13	-31.42
164.8	-47.91	H	2.20	0.19	-45.90	-13	-32.90

6.8 Band Edge

Temperature	24°C
Relative Humidity	56%
Atmospheric Pressure	1004mbar
Test date :	August 04, 2015
Tested By :	Winnie Zhang

Requirement(s):

Spec	Item	Requirement	Applicable
§22.917(a) §24.238(a) § 27.53(h)	a)	The power of any emission outside of the authorized operating frequency ranges must be lower than the transmitter power (P) by a factor of at least $43 + 10 \log (P)$ dB.	☒
Test setup	 The diagram illustrates the test setup. A Base Station (green box) is connected to a Spectrum Analyzer (green box) via a cable. The Spectrum Analyzer is then connected to the EUT (blue box) via a power divider (black box). The EUT is labeled 'EUT'.		
Procedure	- The EUT was connected to Spectrum Analyzer and Base Station via power divider. - The Band Edges of low and high channels for the highest RF powers were measured. Setting RBW as roughly BW/100.		
Remark			
Result	☒ Pass ☐ Fail		

Test Data ☒ Yes ☐ N/A

Test Plot ☒ Yes (See below) ☐ N/A

LTE Band 2 (Part 24E) result

BW(MHz)	Channel	Frequency (MHz)	Mode	Emission (dBm)	Limit (dBm)
1.4	18607	1850.7	QPSK	-33.261	-13
			16QAM	-34.937	-13
1.4	18900	1909.3	QPSK	-31.796	-13
			16QAM	-32.298	-13
3	18615	1851.5	QPSK	-30.434	-13
			16QAM	-29.586	-13
3	19185	1908.5	QPSK	-27.143	-13
			16QAM	-29.771	-13
5	18625	1852.5	QPSK	-24.750	-13
			16QAM	-24.856	-13
5	19175	1907.5	QPSK	-14.113	-13
			16QAM	-14.300	-13
10	18650	1855	QPSK	-24.954	-13
			16QAM	-25.654	-13
10	19150	1905	QPSK	-24.486	-13
			16QAM	-23.549	-13
15	18675	1857.5	QPSK	-28.172	-13
			16QAM	-27.740	-13
15	19125	1902.5	QPSK	-26.009	-13
			16QAM	-26.033	-13
20	18700	1860	QPSK	-30.500	-13
			16QAM	-30.731	-13
20	19100	1900	QPSK	-29.871	-13
			16QAM	-30.338	-13

LTE Band 4 (Part 27) result

BW(MHz)	Channel	Frequency (MHz)	Mode	Emission (dBm)	Limit (dBm)
1.4	19957	1710.7	QPSK	-37.812	-13
			16QAM	-37.869	-13
1.4	20393	1754.3	QPSK	-36.025	-13
			16QAM	-36.228	-13
3	19965	1711.5	QPSK	-29.892	-13
			16QAM	-29.130	-13
3	20385	1753.5	QPSK	-32.138	-13
			16QAM	-31.396	-13
5	19975	1712.5	QPSK	-25.857	-13
			16QAM	-25.481	-13
5	20375	1752.5	QPSK	-29.689	-13
			16QAM	-30.186	-13
10	20000	1715	QPSK	-25.524	-13
			16QAM	-25.354	-13
10	20350	1750	QPSK	-29.216	-13
			16QAM	-29.265	-13
15	20025	1717.5	QPSK	-29.001	-13
			16QAM	-29.050	-13
15	20325	1747.5	QPSK	-33.475	-13
			16QAM	-33.273	-13
20	20050	1720	QPSK	-31.186	-13
			16QAM	-30.265	-13
20	20300	1745	QPSK	-36.275	-13
			16QAM	-36.351	-13