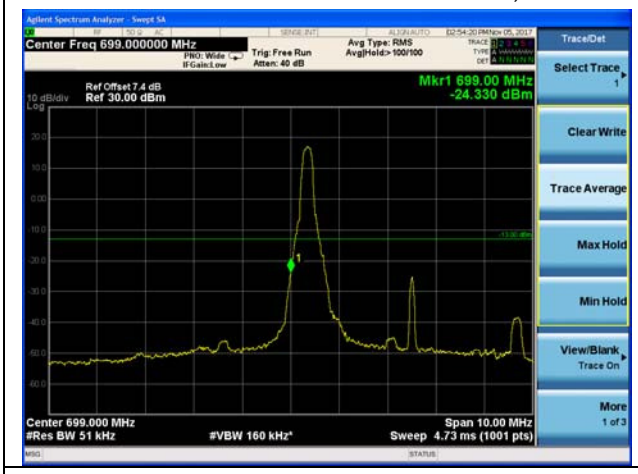
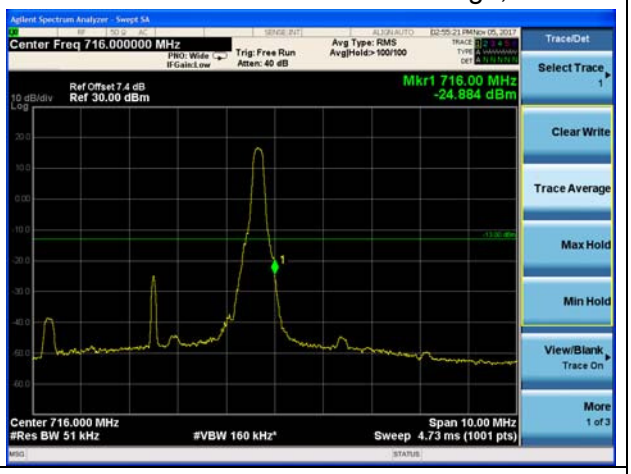
LTE Band 12 16QAM 5MHz CH-Low, 1 RB



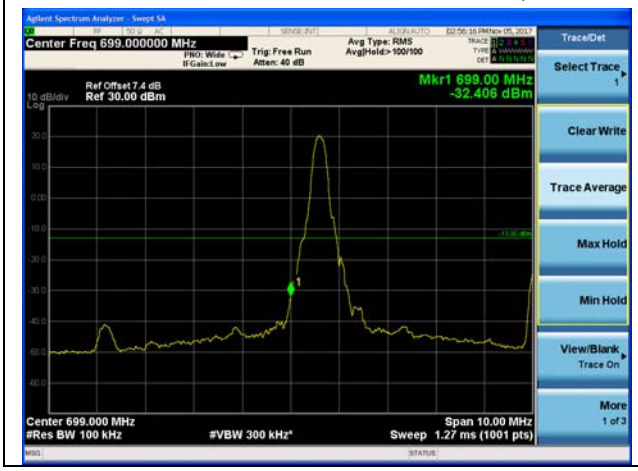
LTE Band 12 16QAM 5MHz CH-High, 1 RB



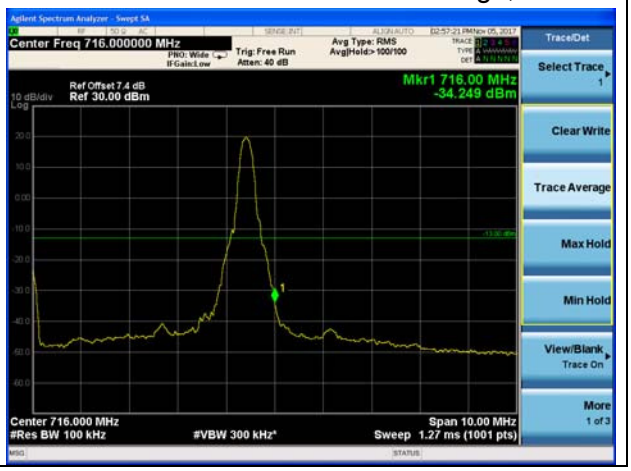
LTE Band 12 16QAM 5MHz CH-Low, 100%RB

LTE Band 12 16QAM 5MHz CH-High, 100%RB

LTE Band 12 16QAM 10MHz CH-Low, 1 RB

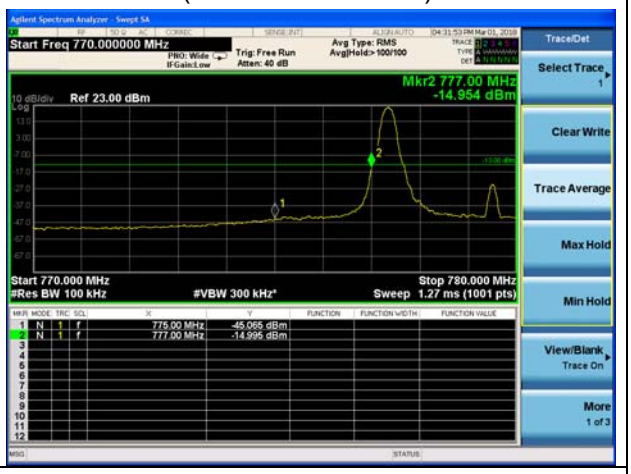
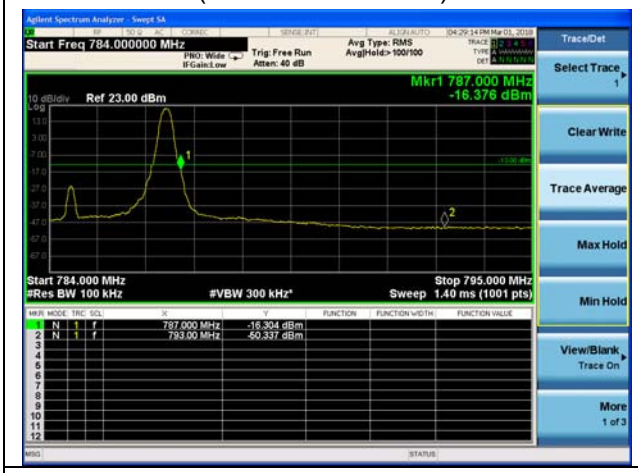
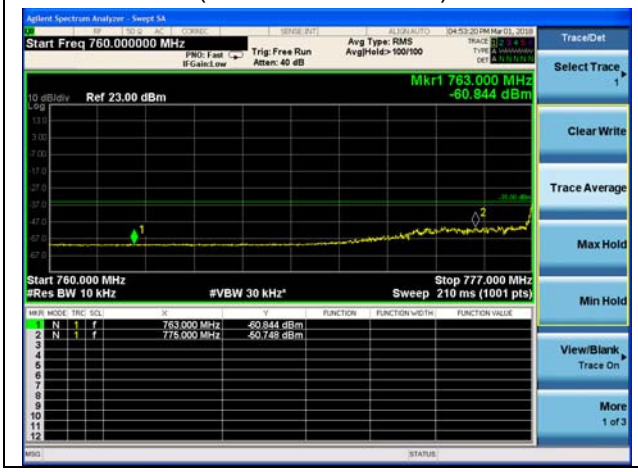


LTE Band 12 16QAM 10MHz CH-High, 1 RB



LTE Band 12 16QAM 10MHz CH-Low, 100%RB	LTE Band 12 16QAM 10MHz CH-High, 100%RB
	

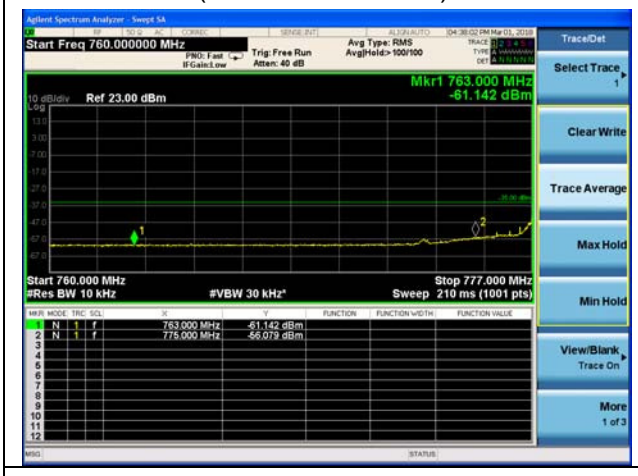
Variant

LTE Band 13 QPSK 5MHz CH-Low, 1 RB (763MHz ~775MHz)	LTE Band 13 QPSK 5MHz CH-Low, 1 RB (775MHz ~777MHz)
	
LTE Band 13 QPSK 5MHz CH-High, 1 RB (787MHz ~793MHz)	LTE Band 13 QPSK 5MHz CH-High, 1 RB (793MHz ~805MHz)
	
LTE Band 13 QPSK 5MHz CH-Low, 100%RB (763MHz ~775MHz)	LTE Band 13 QPSK 5MHz CH-Low, 100%RB (775MHz ~777MHz)
	

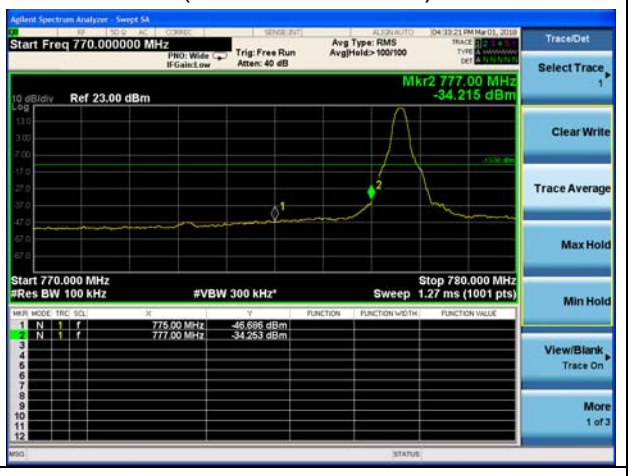
LTE Band 13 QPSK 5MHz CH-High, 100%RB (787MHz ~793MHz)

LTE Band 13 QPSK 5MHz CH-High, 100%RB (793MHz ~805MHz)

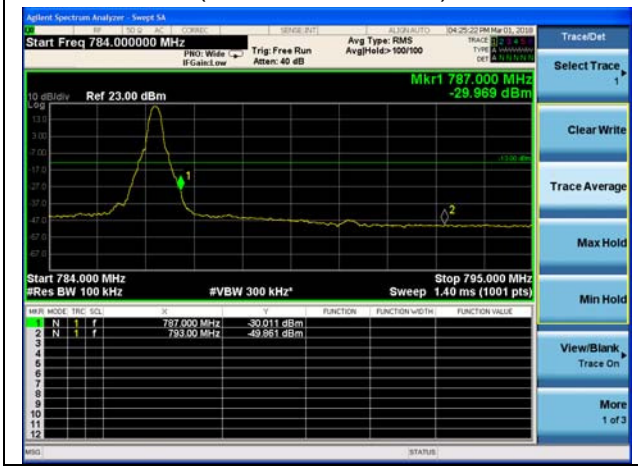
LTE Band 13 QPSK 10MHz CH-Low, 1 RB (763MHz ~775MHz)



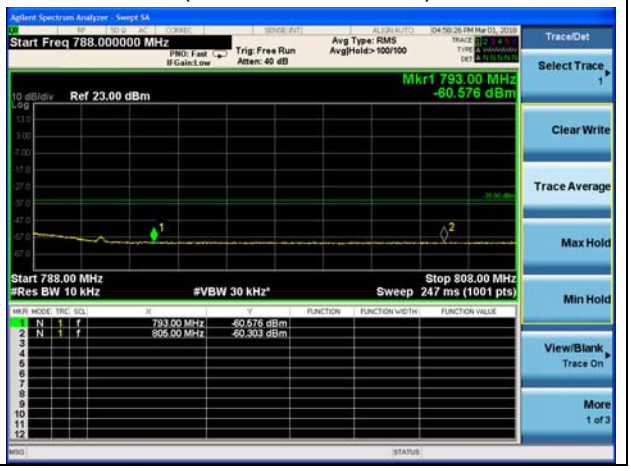
LTE Band 13 QPSK 10MHz CH-Low, 1 RB (775MHz ~777MHz)



LTE Band 13 QPSK 10MHz CH-High, 1 RB (787MHz ~793MHz)



LTE Band 13 QPSK 10MHz CH-High, 1 RB (793MHz ~805MHz)



LTE Band 13 QPSK 10MHz CH-Low, 100%RB (763MHz ~775MHz)

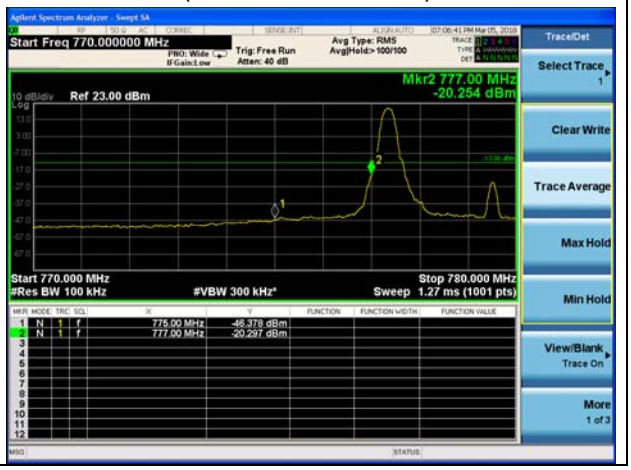
LTE Band 13 QPSK 10MHz CH-Low, 100%RB (775MHz ~777MHz)

LTE Band 13 QPSK 10MHz CH-High, 100%RB (787MHz ~793MHz)

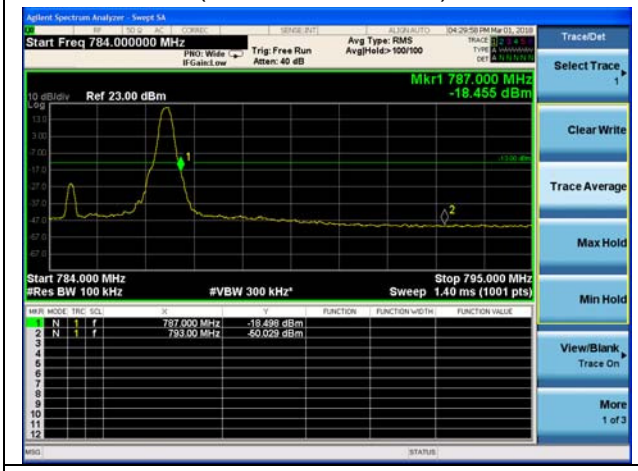
LTE Band 13 QPSK 10MHz CH-High, 100%RB (793MHz ~805MHz)

LTE Band 13 16QAM 5MHz CH-Low, 1 RB (763MHz ~775MHz)

LTE Band 13 16QAM 5MHz CH-Low, 1 RB (775MHz ~777MHz)

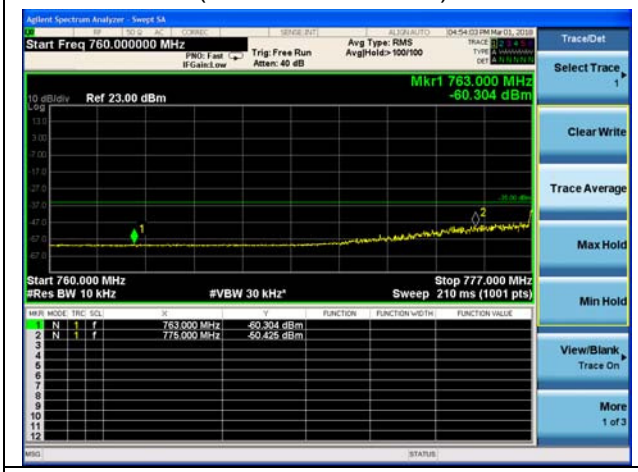


LTE Band 13 16QAM 5MHz CH-High, 1 RB (787MHz ~793MHz)



LTE Band 13 16QAM 5MHz CH-High, 1 RB (793MHz ~805MHz)

LTE Band 13 16QAM 5MHz CH-Low, 100%RB (763MHz ~775MHz)



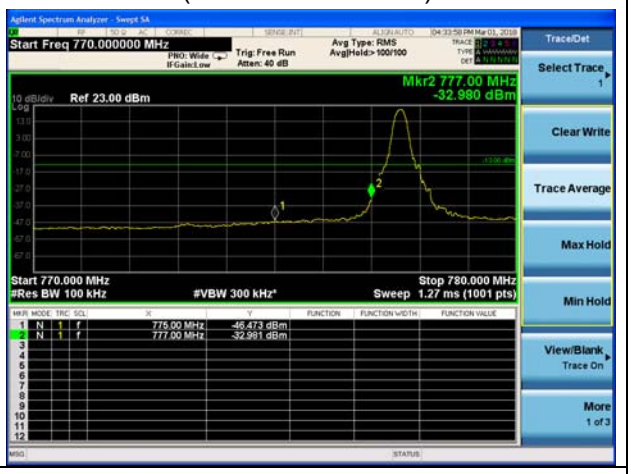
LTE Band 13 16QAM 5MHz CH-Low, 100%RB (775MHz ~777MHz)

LTE Band 13 16QAM 5MHz CH-High, 100%RB (787MHz ~793MHz)

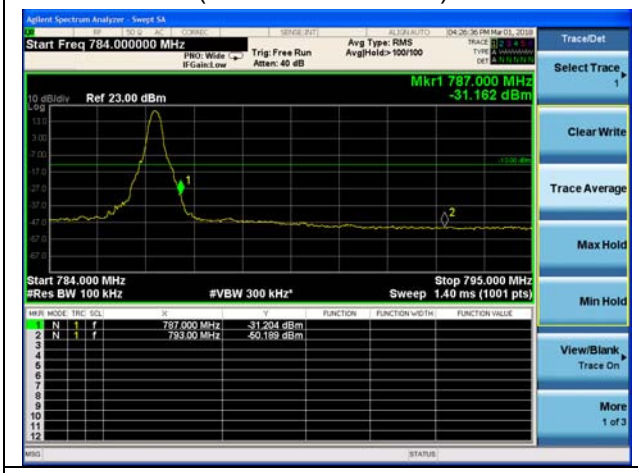
LTE Band 13 16QAM 5MHz CH-High, 100%RB (793MHz ~805MHz)

LTE Band 13 16QAM 10MHz CH-Low, 1 RB (763MHz ~775MHz)

LTE Band 13 16QAM 10MHz CH-Low, 1 RB (775MHz ~777MHz)

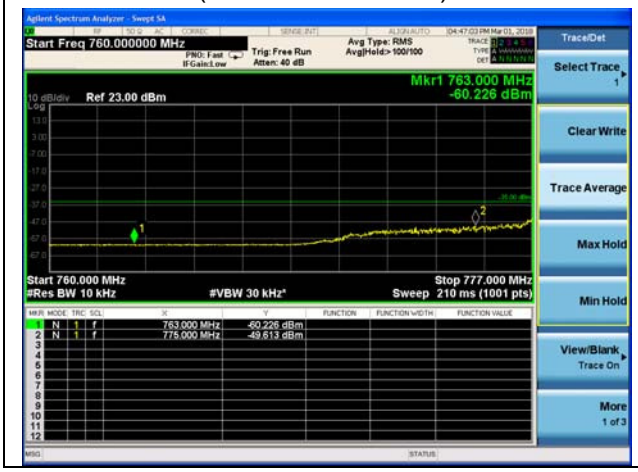


LTE Band 13 16QAM 10MHz CH-High, 1 RB (787MHz ~793MHz)



LTE Band 13 16QAM 10MHz CH-High, 1 RB (793MHz ~805MHz)

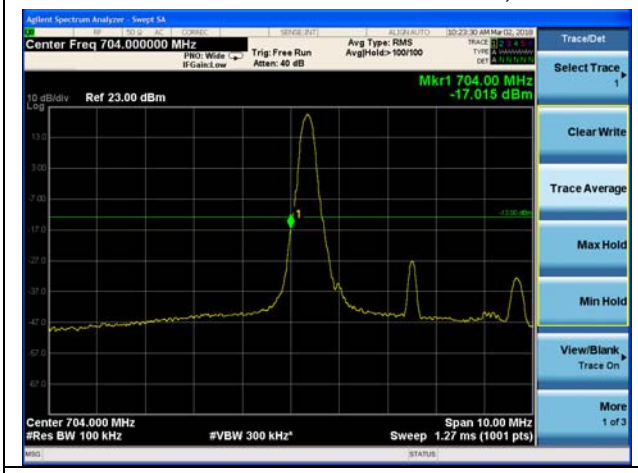
LTE Band 13 16QAM 10MHz CH-Low, 100%RB (763MHz ~775MHz)



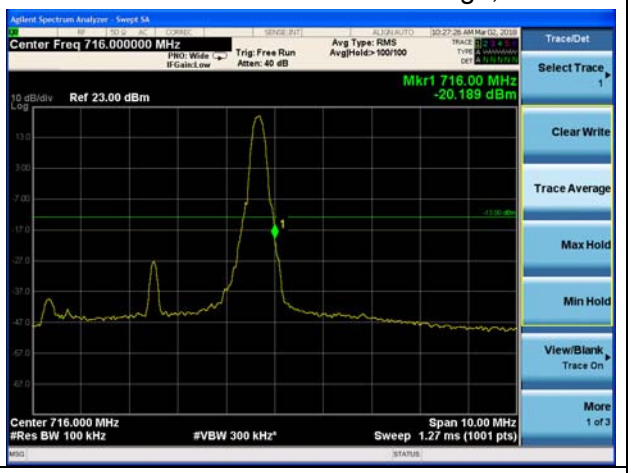
LTE Band 13 16QAM 10MHz CH-Low, 100%RB (775MHz ~777MHz)

LTE Band 13 16QAM 10MHz CH-High, 100%RB (787MHz ~793MHz)	LTE Band 13 16QAM 10MHz CH-High, 100%RB (793MHz ~805MHz)
	

LTE Band 17 QPSK 5MHz CH-Low, 1 RB



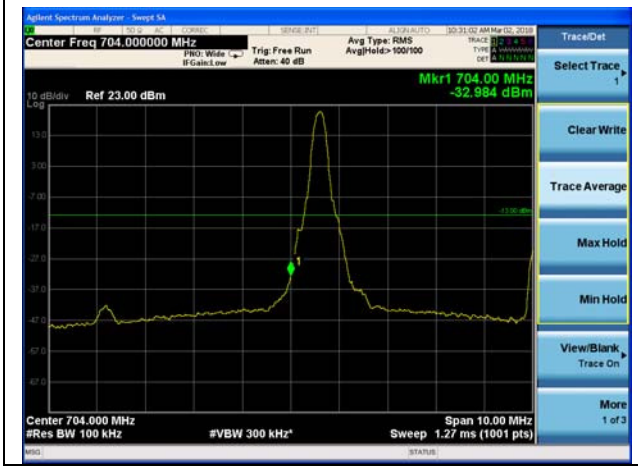
LTE Band 17 QPSK 5MHz CH-High, 1 RB



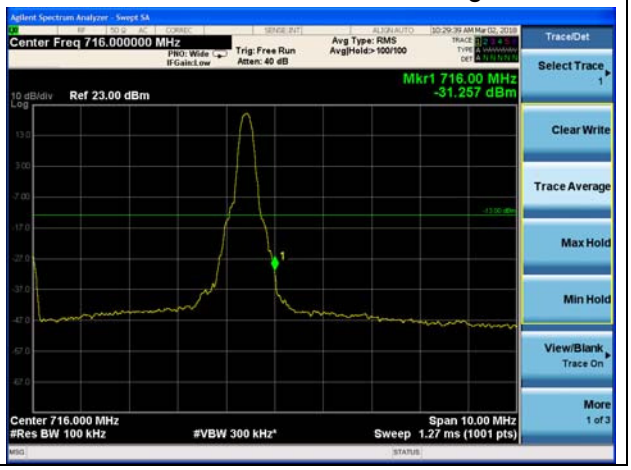
LTE Band 17 QPSK 5MHz CH-Low, 100%RB

LTE Band 17 QPSK 5MHz CH-High, 100%RB

LTE Band 17 QPSK 10MHz CH-Low, 1 RB



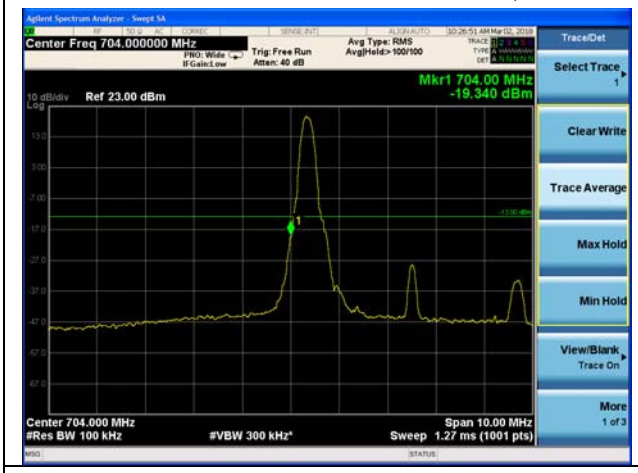
LTE Band 17 QPSK 10MHz CH-High, 1 RB



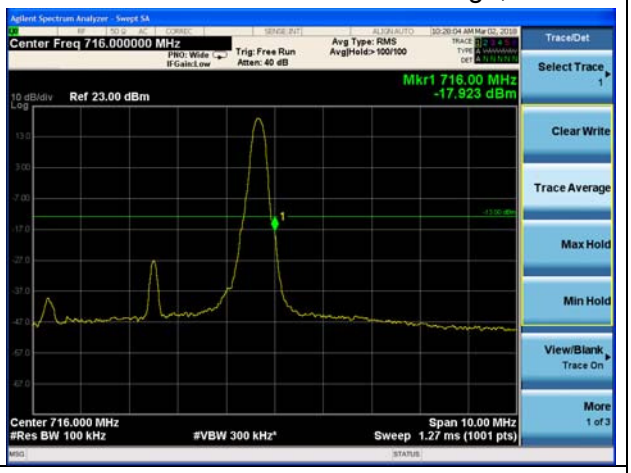
LTE Band 17 QPSK 10MHz CH-Low, 100%RB

LTE Band 17 QPSK 10MHz CH-High, 100%RB

LTE Band 17 16QAM 5MHz CH-Low, 1 RB



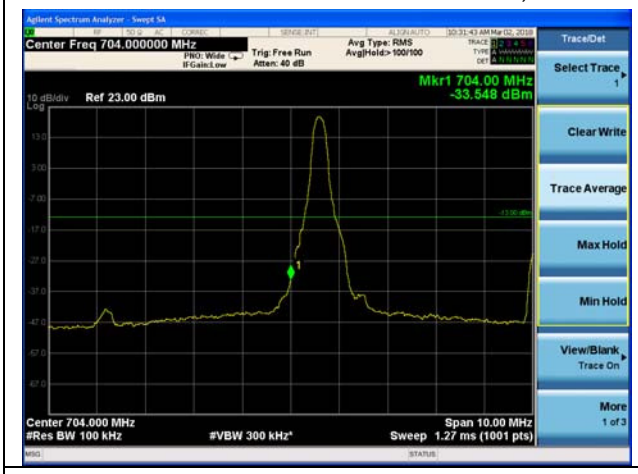
LTE Band 17 16QAM 5MHz CH-High, 1 RB



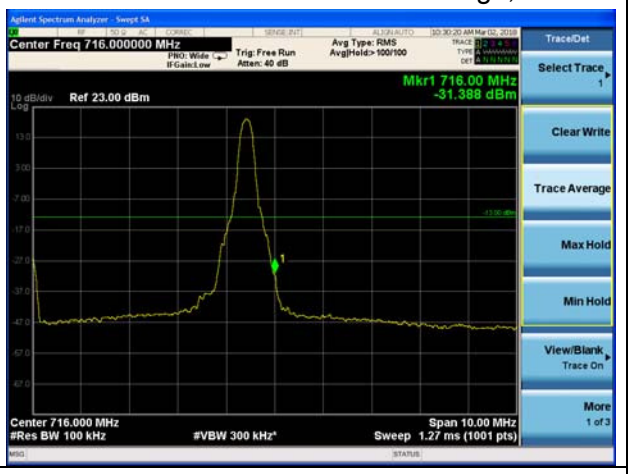
LTE Band 17 16QAM 5MHz CH-Low, 100%RB

LTE Band 17 16QAM 5MHz CH-High, 100%RB

LTE Band 17 16QAM 10MHz CH-Low, 1 RB



LTE Band 17 16QAM 10MHz CH-High, 1 RB



LTE Band 17 16QAM 10MHz CH-Low, 100%RB

LTE Band 17 16QAM 10MHz CH-High, 100%RB

5.5 Peak-to-Average Power Ratio (PAPR)

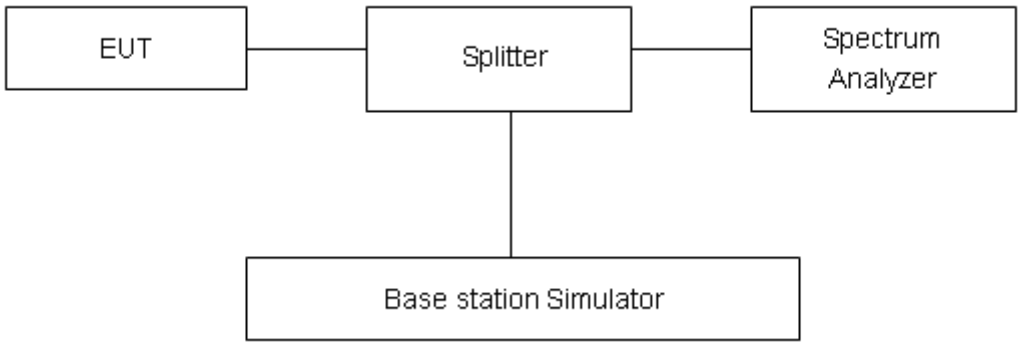
Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Methods of Measurement

Measure the total peak power and record as PPk. And measure the total average power and record as PAvg. Both the peak and average power levels must be expressed in the same logarithmic units (*e.g.*, dBm). Determine the PAPR from:
PAPR (dB) = PPk (dBm) - PAvg (dBm).

Test Setup



Limits

Rule Part 27.50(d)(5) Equipment employed must be authorized in accordance with the provisions of 24.51. Power measurements for transmissions by stations authorized under this section may be made either in accordance with a Commission-approved average power technique or in compliance with paragraph (d)(6) of this section. In measuring transmissions in this band using an average power technique, the peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for thenormal distribution is with the coverage factor k = 2, U= 0.4 dB.

Test Results

Original

LTE Band 4								
Modulation	Bandwidth (MHz)	Channel	Frequency (MHz)	Peak (dBm)	Avg (dBm)	PAPR (dB)	Limit (dB)	Conclusion
QPSK	1.4	19957	1710.7	27.13	21.87	5.26	≤13	PASS
		20175	1732.5	27.14	22.00	5.14	≤13	PASS
		20393	1754.3	27.09	21.95	5.14	≤13	PASS
	3	19965	1711.5	27.20	21.90	5.30	≤13	PASS
		20175	1732.5	27.24	22.04	5.20	≤13	PASS
		20385	1753.5	27.19	21.98	5.21	≤13	PASS
	5	19975	1712.5	27.23	21.88	5.35	≤13	PASS
		20175	1732.5	27.26	22.03	5.23	≤13	PASS
		20375	1752.5	27.17	21.96	5.21	≤13	PASS
	10	20000	1715	27.21	21.96	5.25	≤13	PASS
		20175	1732.5	27.19	22.05	5.14	≤13	PASS
		20350	1750	27.14	22.00	5.14	≤13	PASS
	15	20025	1717.5	27.41	21.94	5.47	≤13	PASS
		20175	1732.5	27.31	22.01	5.30	≤13	PASS
		20325	1747.5	27.25	21.95	5.30	≤13	PASS
	20	20050	1720	27.13	21.91	5.22	≤13	PASS
		20175	1732.5	27.10	21.96	5.14	≤13	PASS
		20300	1745	27.07	21.91	5.16	≤13	PASS
16QAM	1.4	19957	1710.7	26.99	20.91	6.08	≤13	PASS
		20175	1732.5	26.92	20.91	6.01	≤13	PASS
		20393	1754.3	27.09	21.09	6.00	≤13	PASS
	3	19965	1711.5	27.09	20.94	6.15	≤13	PASS
		20175	1732.5	27.00	20.95	6.05	≤13	PASS
		20385	1753.5	27.14	21.12	6.02	≤13	PASS
	5	19975	1712.5	27.02	20.92	6.10	≤13	PASS
		20175	1732.5	26.90	20.91	5.99	≤13	PASS
		20375	1752.5	27.05	21.07	5.98	≤13	PASS
	10	20000	1715	26.96	20.95	6.01	≤13	PASS
		20175	1732.5	26.90	20.96	5.94	≤13	PASS
		20350	1750	27.04	21.11	5.93	≤13	PASS
	15	20025	1717.5	27.05	20.92	6.13	≤13	PASS
		20175	1732.5	26.91	20.91	6.00	≤13	PASS
		20325	1747.5	27.04	21.07	5.97	≤13	PASS
	20	20050	1720	26.91	20.90	6.01	≤13	PASS
		20175	1732.5	26.79	20.87	5.92	≤13	PASS

		20300	1745	26.94	21.04	5.90	≤13	PASS

LTE Band 12								
Modulation	**Bandwidth (MHz)**	**Channel**	**Frequency (MHz)**	**Peak (dBm)**	**Avg (dBm)**	**PAPR (dB)**	**Limit (dB)**	**Conclusion**
QPSK	1.4	23017	699.7	26.51	21.23	5.28	≤13	PASS
		23095	707.5	26.67	21.20	5.47	≤13	PASS
		23173	715.3	26.31	21.26	5.05	≤13	PASS
	3	23025	700.5	26.58	21.26	5.32	≤13	PASS
		23095	707.5	26.77	21.24	5.53	≤13	PASS
		23165	714.5	26.55	21.29	5.26	≤13	PASS
	5	23035	701.5	26.62	21.24	5.38	≤13	PASS
		23095	707.5	26.81	21.23	5.58	≤13	PASS
		23155	713.5	26.46	21.27	5.19	≤13	PASS
	10	23060	704	26.75	21.27	5.48	≤13	PASS
		23095	707.5	26.64	21.16	5.48	≤13	PASS
		23130	711	26.37	21.22	5.15	≤13	PASS
16QAM	1.4	23017	699.7	26.45	20.40	6.05	≤13	PASS
		23095	707.5	26.64	20.25	6.39	≤13	PASS
		23173	715.3	26.13	20.30	5.83	≤13	PASS
	3	23025	700.5	26.61	20.43	6.18	≤13	PASS
		23095	707.5	26.70	20.29	6.41	≤13	PASS
		23165	714.5	26.31	20.33	5.98	≤13	PASS
	5	23035	701.5	26.56	20.41	6.15	≤13	PASS
		23095	707.5	26.61	20.25	6.36	≤13	PASS
		23155	713.5	26.26	20.28	5.98	≤13	PASS
	10	23060	704	26.65	20.39	6.26	≤13	PASS
		23095	707.5	26.50	20.21	6.29	≤13	PASS
		23130	711	26.28	20.25	6.03	≤13	PASS

Variant

LTE Band 13								
Modulation	Bandwidth (MHz)	Channel	Frequency (MHz)	Peak (dBm)	Avg (dBm)	PAPR (dB)	Limit (dB)	Conclusion
QPSK	5	23205	779.5	27.45	22.26	5.19	≤13	PASS
		23230	782	27.31	22.23	5.08	≤13	PASS
		23255	784.5	27.20	22.26	4.94	≤13	PASS
	10	23230	782	27.29	22.31	4.98	≤13	PASS
16QAM	5	23205	779.5	27.11	21.13	5.98	≤13	PASS
		23230	782	27.02	21.15	5.87	≤13	PASS
		23255	784.5	26.89	21.17	5.72	≤13	PASS
	10	23230	782	27.00	21.17	5.83	≤13	PASS

LTE Band 17								
Modulation	Bandwidth (MHz)	Channel	Frequency (MHz)	Peak (dBm)	Avg (dBm)	PAPR (dB)	Limit (dB)	Conclusion
QPSK	5	23755	706.5	27.48	21.84	5.64	≤13	PASS
		23790	710	27.28	21.86	5.42	≤13	PASS
		23825	713.5	27.05	21.94	5.11	≤13	PASS
	10	23780	709	27.22	21.81	5.41	≤13	PASS
		23790	710	27.08	21.81	5.27	≤13	PASS
		23800	711	27.07	21.90	5.17	≤13	PASS
16QAM	5	23755	706.5	27.37	20.99	6.38	≤13	PASS
		23790	710	26.99	20.77	6.22	≤13	PASS
		23825	713.5	26.81	20.94	5.87	≤13	PASS
	10	23780	709	27.19	20.97	6.22	≤13	PASS
		23790	710	26.85	20.73	6.12	≤13	PASS
		23800	711	26.96	20.91	6.05	≤13	PASS

5.6 Frequency Stability

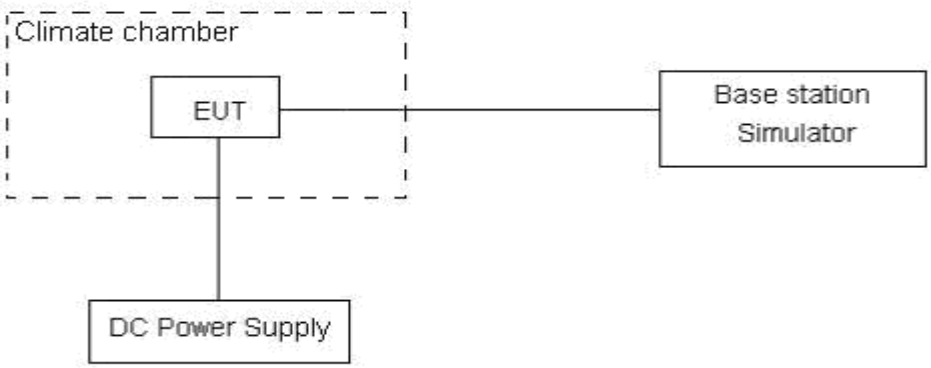
Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Method of Measurement

1. Frequency Stability (Temperature Variation)
   The temperature inside the climate chamber is varied from -30°C to +55°C in 10°C step size.
   (1)With all power removed, the temperature was decreased to -10°C and permitted to stabilize for three hours.
   (2)Measure the carrier frequency with the test equipment in a “call mode”. These measurements should be made within 1 minute of powering up the mobile station, to prevent significant self warming.
   (3) Repeat the above measurements at 10°C increments from -30°C to +55°C. Allow at least 1.5 hours at each temperature, un-powered, before making measurements.
2. Frequency Stability (Voltage Variation)
   The frequency stability shall be measured with variation of primary supply voltage as follows:
   (1) Vary primary supply voltage from 85 to 115 percent of the nominal value for other than hand carried battery equipment.
   (2) For hand carried, battery powered equipment, reduce primary supply voltage to the battery-operating end point which shall be specified by the manufacturer.
   This transceiver is specified to operate with an input voltage of between 3.6 V and 4.4 V, with a nominal voltage of 3.85V.

Test setup



Limits

No specific frequency stability requirements in part 27.54

Measurement Uncertainty

The assessed measurement uncertainty to ensure 99.75% confidence level for the normal distribution is with the coverage factor k = 3, U=0.01ppm.

Test Result

Original

Bandwidth	Test status	LTE Band 4 Channel 20175 Test Results (ppm)	
		QPSK	16QAM
1.4MHz	-30°C/Normal Voltage	-0.00083	0.00240
	-20°C/Normal Voltage	-0.00021	0.00119
	-10°C/Normal Voltage	0.00180	0.00199
	0°C/Normal Voltage	0.00089	-0.00186
	10°C/Normal Voltage	0.00067	-0.00079
	20°C/Normal Voltage	0.00107	-0.00083
	30°C/Normal Voltage	-0.00068	0.00125
	40°C/Normal Voltage	0.00062	0.00188
	50°C/Normal Voltage	-0.00170	-0.00095
	55°C/Normal Voltage	-0.00104	-0.00013
	20°C/Min Voltage	0.00096	0.00040
	20°C/Max Voltage	-0.00118	0.00042
3MHz	-30°C/Normal Voltage	-0.00023	0.00077
	-20°C/Normal Voltage	0.00051	0.00186
	-10°C/Normal Voltage	-0.00191	0.00075
	0°C/Normal Voltage	-0.00084	-0.00032
	10°C/Normal Voltage	0.00048	0.00119
	20°C/Normal Voltage	-0.00046	0.00061
	30°C/Normal Voltage	0.00012	0.00331
	40°C/Normal Voltage	-0.00154	0.00084
	50°C/Normal Voltage	0.00168	0.00245
	55°C/Normal Voltage	-0.00052	-0.00150
	20°C/Min Voltage	-0.00088	0.00058
	20°C/Max Voltage	-0.00148	0.00089
5MHz	-30°C/Normal Voltage	-0.00073	0.00249
	-20°C/Normal Voltage	-0.00012	0.00129
	-10°C/Normal Voltage	0.00190	0.00209
	0°C/Normal Voltage	0.00099	-0.00176
	10°C/Normal Voltage	0.00077	-0.00069
	20°C/Normal Voltage	0.00117	-0.00073
	30°C/Normal Voltage	-0.00058	0.00135
	40°C/Normal Voltage	0.00072	0.00198
	50°C/Normal Voltage	-0.00160	-0.00085
	55°C/Normal Voltage	-0.00094	-0.00003
	20°C/Min Voltage	0.00106	0.00050
	20°C/Max Voltage	-0.00109	0.00052

10MHz	-30°C/Normal Voltage	-0.00033	0.00068
	-20°C/Normal Voltage	0.00041	0.00177
	-10°C/Normal Voltage	-0.00201	0.00065
	0°C/Normal Voltage	-0.00094	-0.00042
	10°C/Normal Voltage	0.00039	0.00110
	20°C/Normal Voltage	-0.00056	0.00051
	30°C/Normal Voltage	0.00002	0.00322
	40°C/Normal Voltage	-0.00163	0.00074
	50°C/Normal Voltage	0.00158	0.00235
	55°C/Normal Voltage	-0.00062	-0.00160
	20°C/Min Voltage	-0.00098	0.00048
	20°C/Max Voltage	-0.00158	0.00079
15MHz	-30°C/Normal Voltage	0.00255	-0.00018
	-20°C/Normal Voltage	0.00134	0.00056
	-10°C/Normal Voltage	0.00214	-0.00186
	0°C/Normal Voltage	-0.00171	-0.00078
	10°C/Normal Voltage	-0.00064	0.00054
	20°C/Normal Voltage	-0.00068	-0.00041
	30°C/Normal Voltage	0.00140	0.00017
	40°C/Normal Voltage	0.00203	-0.00148
	50°C/Normal Voltage	-0.00080	0.00173
	55°C/Normal Voltage	0.00002	-0.00047
	20°C/Min Voltage	0.00055	-0.00083
	20°C/Max Voltage	0.00057	-0.00143
20MHz	-30°C/Normal Voltage	-0.00068	0.00083
	-20°C/Normal Voltage	-0.00006	0.00192
	-10°C/Normal Voltage	0.00195	0.00080
	0°C/Normal Voltage	0.00104	-0.00027
	10°C/Normal Voltage	0.00082	0.00125
	20°C/Normal Voltage	0.00122	0.00066
	30°C/Normal Voltage	-0.00053	0.00337
	40°C/Normal Voltage	0.00077	0.00089
	50°C/Normal Voltage	-0.00155	0.00251
	55°C/Normal Voltage	-0.00089	-0.00145
	20°C/Min Voltage	0.00111	0.00063
	20°C/Max Voltage	-0.00103	0.00094

Bandwidth	Test status	LTE Band 12 Channel 23095 Test Results (ppm)

		QPSK	16QAM
1.4M	-30°C/Normal Voltage	-0.00287	-0.00277
	-20°C/Normal Voltage	-0.00401	-0.00061
	-10°C/Normal Voltage	-0.00531	0.00011
	0°C/Normal Voltage	-0.00324	-0.00478
	10°C/Normal Voltage	-0.00510	0.00105
	20°C/Normal Voltage	-0.00307	-0.00413
	30°C/Normal Voltage	-0.00455	-0.00237
	40°C/Normal Voltage	-0.00464	-0.00049
	50°C/Normal Voltage	-0.00609	-0.00031
	55°C/Normal Voltage	-0.00421	-0.00253
	20°C/Min Voltage	-0.00455	0.00114
	20°C/Max Voltage	-0.00085	-0.00277
3M	-30°C/Normal Voltage	-0.00254	0.00295
	-20°C/Normal Voltage	-0.00038	0.00127
	-10°C/Normal Voltage	0.00034	0.00021
	0°C/Normal Voltage	-0.00455	-0.00222
	10°C/Normal Voltage	0.00127	0.00172
	20°C/Normal Voltage	-0.00390	-0.00307
	30°C/Normal Voltage	-0.00215	0.00030
	40°C/Normal Voltage	-0.00027	-0.00250
	50°C/Normal Voltage	-0.00008	-0.00098
	55°C/Normal Voltage	-0.00230	0.00235
	20°C/Min Voltage	0.00137	-0.00204
	20°C/Max Voltage	-0.00254	0.00059
5MHz	-30°C/Normal Voltage	0.00273	-0.00449
	-20°C/Normal Voltage	0.00105	-0.00526
	-10°C/Normal Voltage	-0.00001	-0.00773
	0°C/Normal Voltage	-0.00245	-0.00553
	10°C/Normal Voltage	0.00150	-0.00383
	20°C/Normal Voltage	-0.00329	-0.00300
	30°C/Normal Voltage	0.00007	0.00047
	40°C/Normal Voltage	-0.00273	-0.00314
	50°C/Normal Voltage	-0.00120	-0.00509
	55°C/Normal Voltage	0.00212	-0.00317
	20°C/Min Voltage	-0.00226	-0.00797
	20°C/Max Voltage	0.00037	-0.00425
10MHz	-30°C/Normal Voltage	-0.00427	-0.00264
	-20°C/Normal Voltage	-0.00503	-0.00379
	-10°C/Normal Voltage	-0.00751	-0.00509

	0°C/Normal Voltage	-0.00530	-0.00301
	10°C/Normal Voltage	-0.00360	-0.00488
	20°C/Normal Voltage	-0.00277	-0.00284
	30°C/Normal Voltage	0.00069	-0.00433
	40°C/Normal Voltage	-0.00291	-0.00441
	50°C/Normal Voltage	-0.00486	-0.00587
	55°C/Normal Voltage	-0.00294	-0.00399
	20°C/Min Voltage	-0.00775	-0.00433
	20°C/Max Voltage	-0.00403	-0.00062

Variant

Bandwidth	Test status	LTE Band 13 Channel 23230 Test Results (ppm)	
		QPSK	16QAM
5MHz	-30°C/Normal Voltage	-0.01123	-0.01059
	-20°C/Normal Voltage	-0.00678	-0.00776
	-10°C/Normal Voltage	-0.01254	-0.00962
	0°C/Normal Voltage	-0.00783	-0.00381
	10°C/Normal Voltage	-0.00969	-0.00097
	20°C/Normal Voltage	-0.00582	-0.01348
	30°C/Normal Voltage	-0.01147	-0.01102
	40°C/Normal Voltage	-0.00852	-0.00605
	50°C/Normal Voltage	-0.01055	-0.00705
	55°C/Normal Voltage	-0.00041	-0.01376
	20°C/Min Voltage	-0.00683	0.00519
	20°C/Max Voltage	-0.00754	0.00849
10MHz	-30°C/Normal Voltage	-0.00687	0.00471
	-20°C/Normal Voltage	-0.00402	0.00648
	-10°C/Normal Voltage	-0.00653	-0.00953
	0°C/Normal Voltage	-0.00639	-0.00297
	10°C/Normal Voltage	-0.00771	-0.00114
	20°C/Normal Voltage	-0.00407	0.00827
	30°C/Normal Voltage	-0.00994	-0.01248
	40°C/Normal Voltage	-0.00728	0.00737
	50°C/Normal Voltage	-0.00721	0.00471
	55°C/Normal Voltage	-0.00779	-0.01132
	20°C/Min Voltage	-0.00619	-0.01018
	20°C/Max Voltage	-0.00224	-0.01068

Bandwidth	Test status	LTE Band 17 Channel 23790 Test Results (ppm)	
		QPSK	16QAM
5MHz	-30°C/Normal Voltage	-0.00679	-0.01323
	-20°C/Normal Voltage	-0.00492	-0.01414
	-10°C/Normal Voltage	-0.00482	-0.01100
	0°C/Normal Voltage	-0.00773	-0.01321
	10°C/Normal Voltage	-0.00315	-0.01592
	20°C/Normal Voltage	-0.00431	-0.01245
	30°C/Normal Voltage	-0.00762	-0.01339
	40°C/Normal Voltage	-0.00863	-0.01137
	50°C/Normal Voltage	0.00375	0.00289
	55°C/Normal Voltage	0.00031	-0.00638
	20°C/Min Voltage	-0.00031	0.00218
	20°C/Max Voltage	0.01392	0.00534
10MHz	-30°C/Normal Voltage	-0.00527	-0.00468
	-20°C/Normal Voltage	-0.00461	-0.00544
	-10°C/Normal Voltage	-0.00265	-0.00427
	0°C/Normal Voltage	-0.00475	0.00386
	10°C/Normal Voltage	-0.00700	0.00775
	20°C/Normal Voltage	-0.00273	0.00248
	30°C/Normal Voltage	-0.00444	0.00597
	40°C/Normal Voltage	-0.00628	-0.00399
	50°C/Normal Voltage	-0.00601	-0.00368
	55°C/Normal Voltage	-0.01220	-0.01373
	20°C/Min Voltage	-0.01034	-0.00372
	20°C/Max Voltage	-0.01324	-0.00844

5.7 Spurious Emissions at Antenna Terminals

Ambient condition

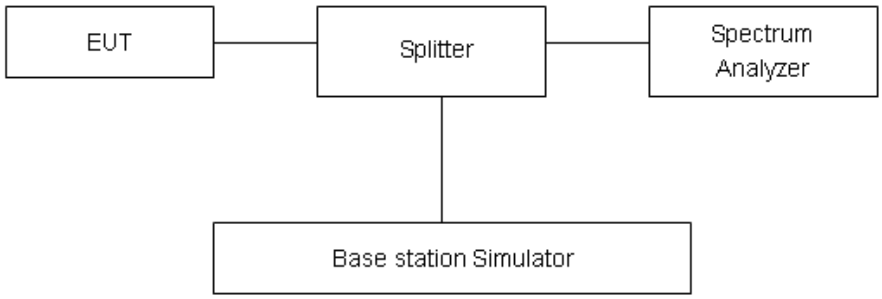
Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Method of Measurement

The EUT was connected to Spectrum Analyzer and Base Station Simulator via power Splitter. The measurement is carried out using a spectrum analyzer. The spectrum analyzer scans from 30MHz to the 10th harmonic of the carrier. The peak detector is used. Set RBW 1MHz and VBW 3MHz， Sweep is set to ATUO.

Of those disturbances below (limit – 20 dB), the mark is not required for the EUT.

Test setup



Limits

Rule Part 27.53(h) specifies that “for operations in the 1695-1710 MHz, 1710-1755 MHz, 1755-1780 MHz, 1915-1920 MHz, 1995-2000 MHz, 2000-2020 MHz, 2110-2155 MHz, 2155-2180 MHz, and 2180-2200 bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least 43 + 10 log10 (P) dB..”

Rule Part 27.53 (g) For operations in the 600 MHz band and the 698-746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least 43 + 10 log (P) dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

Rule Part 27.53(f) For operations in the 746-758 MHz, 775-788 MHz, and 805-806 MHz bands, emissions in the band 1559-1610 MHz shall be limited to −70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and −80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth. For the purpose of equipment authorization, a transmitter shall be tested with an

antenna that is representative of the type that will be used with the equipment in normal operation.

Part 27.53 (c) For operations in the 746-758 MHz band and the 776-788 MHz band, the power of any emission outside the licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, in accordance with the following:
(1) On any frequency outside the 746-758 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least 43 + 10 log (P) dB;
(2) On any frequency outside the 776-788 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least 43 + 10 log (P) dB;
(3) On all frequencies between 763-775 MHz and 793-805 MHz, by a factor not less than 76 + 10 log (P) dB in a 6.25 kHz band segment, for base and fixed stations;
(4) On all frequencies between 763-775 MHz and 793-805 MHz, by a factor not less than 65 + 10 log (P) dB in a 6.25 kHz band segment, for mobile and portable stations;
(5) Compliance with the provisions of paragraphs (c)(1) and (c)(2) of this section is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater. However, in the 100 kHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least 30 kHz may be employed;

Part 27.53(h)/(g) Limit		-13 dBm
Part 27.53(f) Limit	Limit out of the band 1559-1610 MHz	-13 dBm
	Limit in the band 1559-1610 MHz	-40 dBm

Measurement Uncertainty

The assessed measurement uncertainty to ensure 99.75% confidence level for the normal distribution is with the coverage factor k = 1.96.

Frequency	Uncertainty
100kHz-2GHz	0.684 dB
2GHz-18GHz	1.407 dB

Test Result

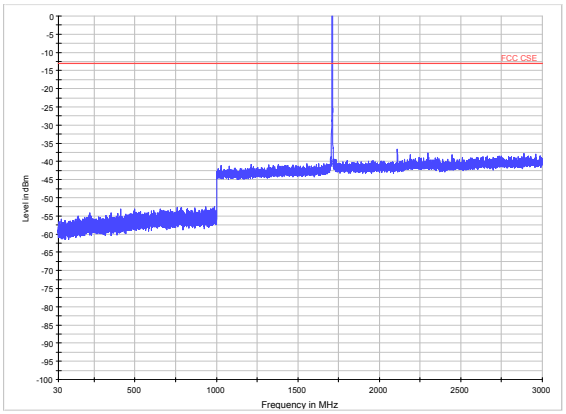
Sweep from 9 kHz to 30MHz, and the emissions more than 20 dB below the permissible value are not reported.

If disturbances were found more than 20dB below limit line, the mark is not required for the EUT.

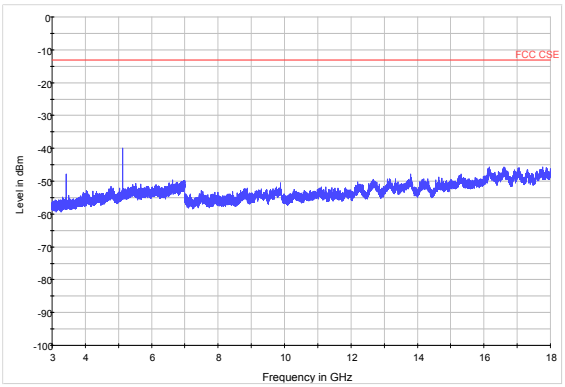
The signal beyond the limit is carrier.

Original

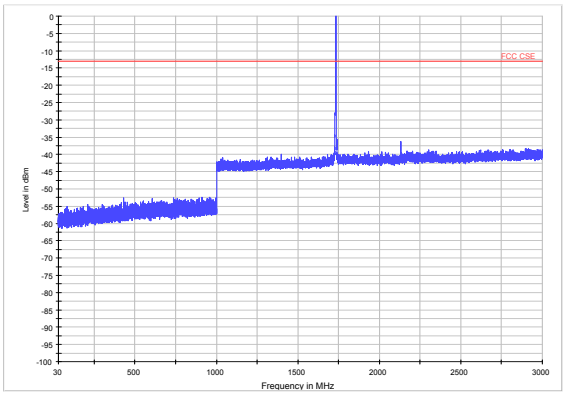
LTE Band 4 1.4MHz CH-Low 30MHz~3GHz



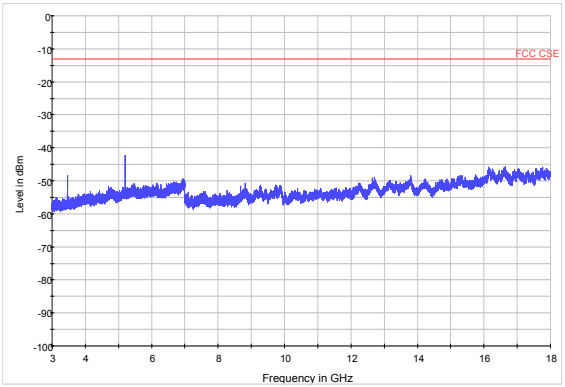
LTE Band 4 1.4MHz CH-Low 3GHz~18GHz



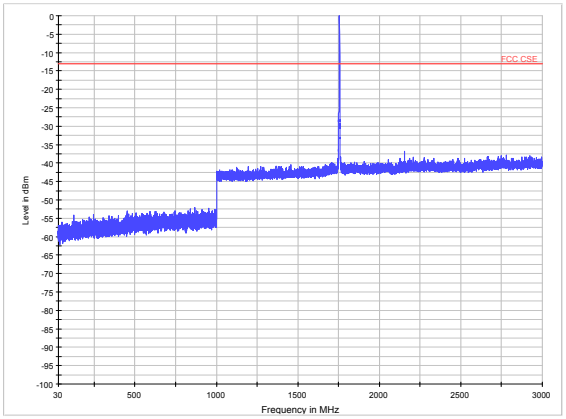
LTE Band 4 1.4MHz CH-Middle 30MHz~3GHz



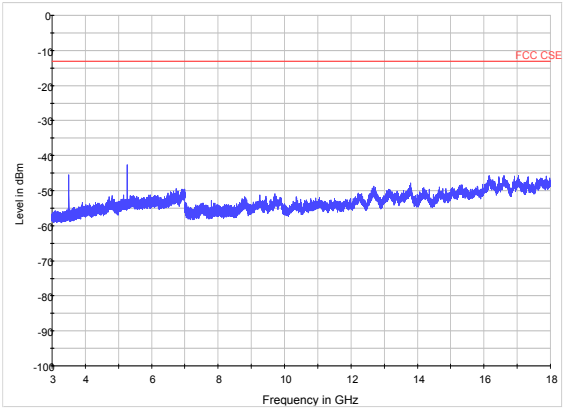
LTE Band 4 1.4MHz CH-Middle 3GHz~18GHz



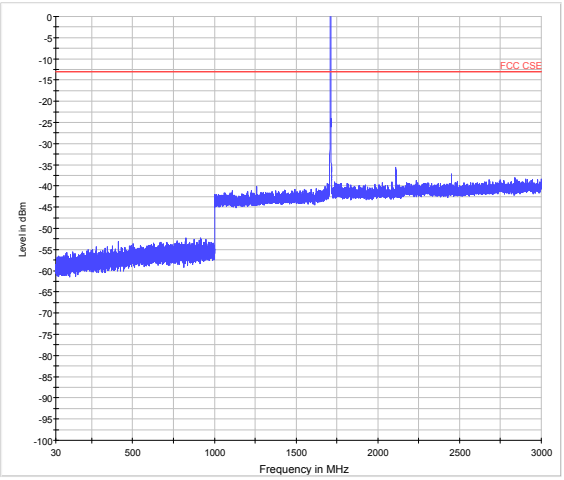
LTE Band 4 1.4MHz CH-High 30MHz~3GHz



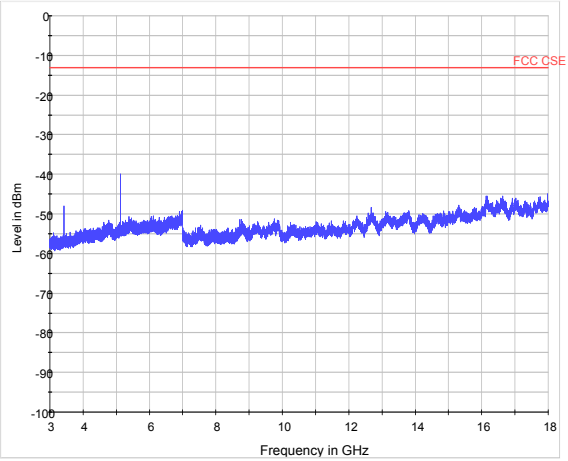
LTE Band 4 1.4MHz CH-High 3GHz~18GHz



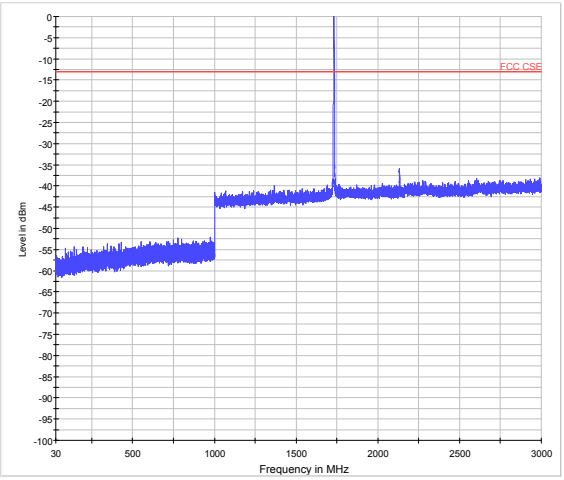
LTE Band 4 3MHz CH-Low 30MHz~3GHz



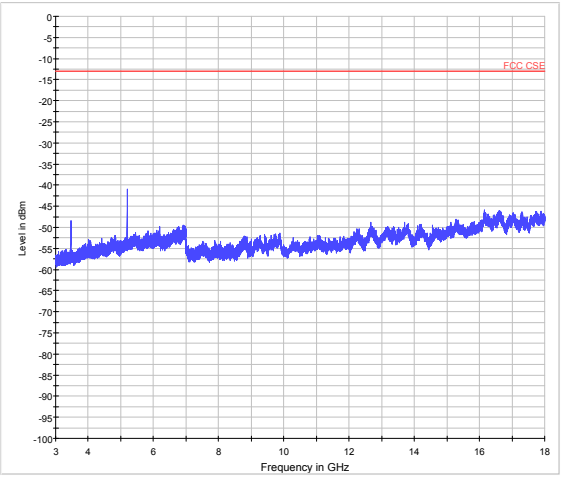
LTE Band 4 3MHz CH-Low 3GHz~18GHz



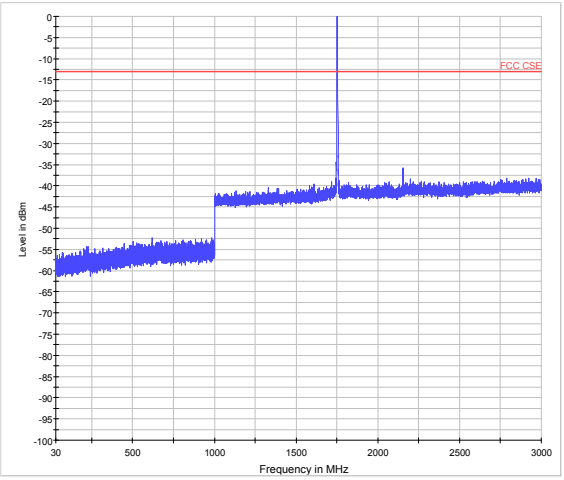
LTE Band 4 3MHz CH-Middle 30MHz~3GHz



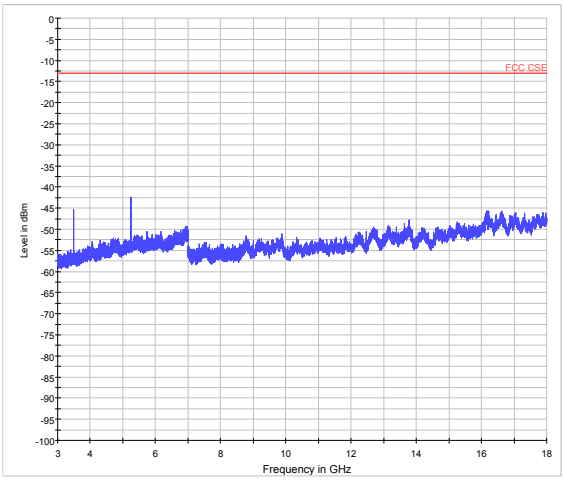
LTE Band 4 3MHz CH-Middle 3GHz~18GHz



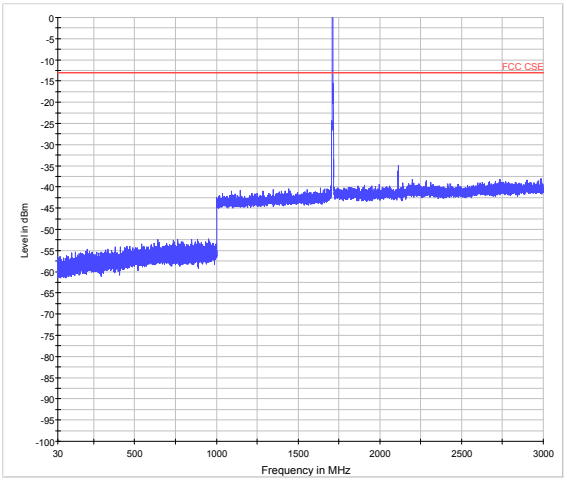
LTE Band 4 3MHz CH-High 30MHz~3GHz



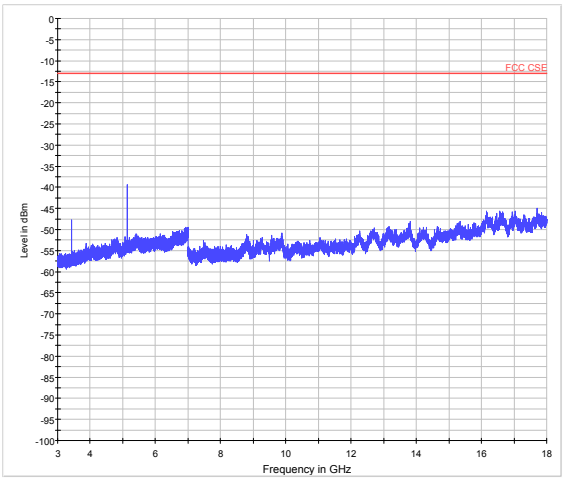
LTE Band 4 3MHz CH-High 3GHz~18GHz



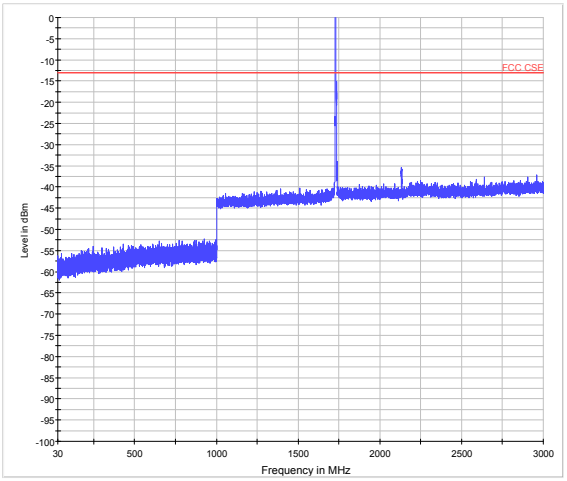
LTE Band 4 5MHz CH-Low 30MHz~3GHz



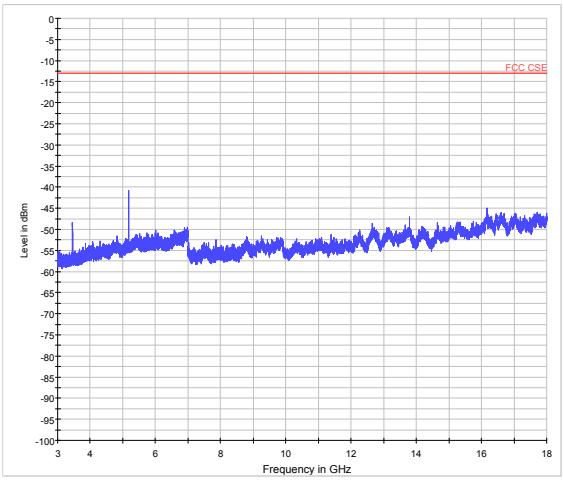
LTE Band 4 5MHz CH-Low 3GHz~18GHz



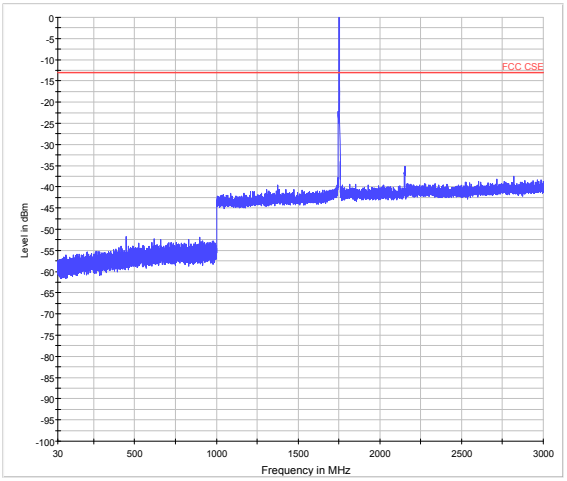
LTE Band 4 5MHz CH-Middle 30MHz~3GHz



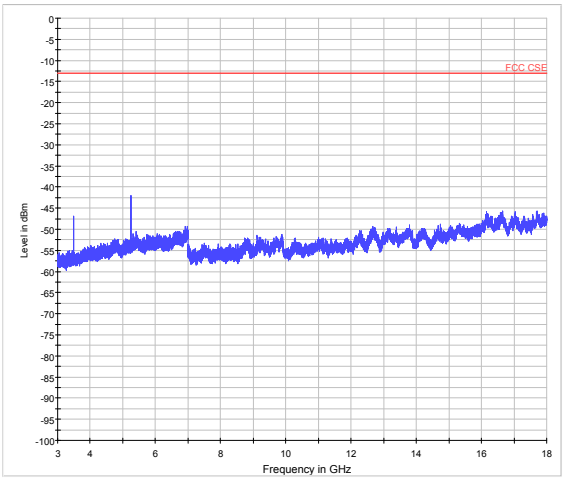
LTE Band 4 5MHz CH-Middle 3GHz~18GHz



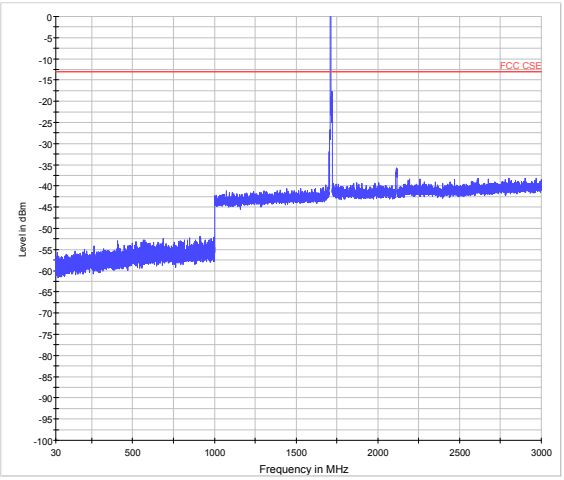
LTE Band 4 5MHz CH-High 30MHz~3GHz



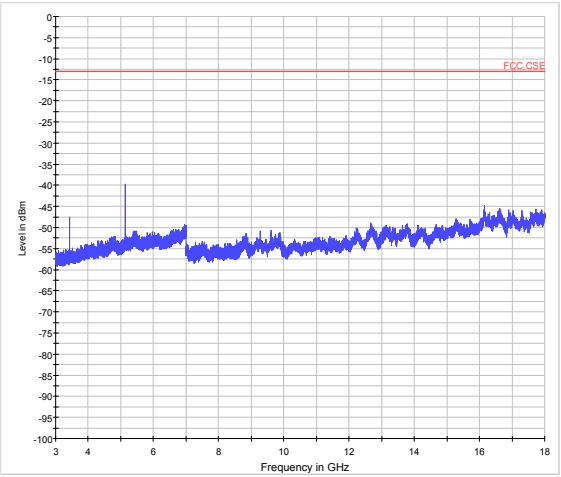
LTE Band 4 5MHz CH-High 3GHz~18GHz



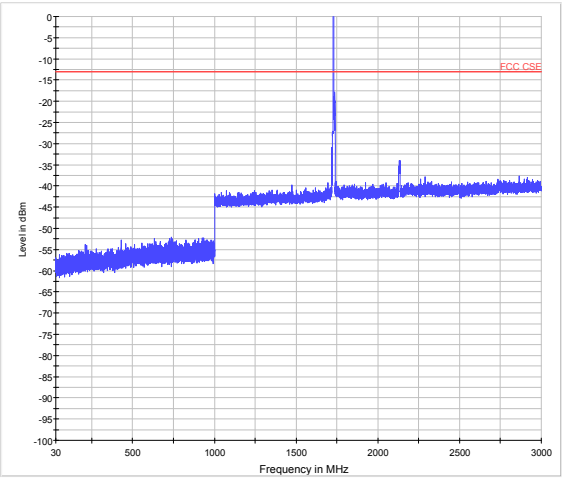
LTE Band 4 10MHz CH-Low 30MHz~3GHz



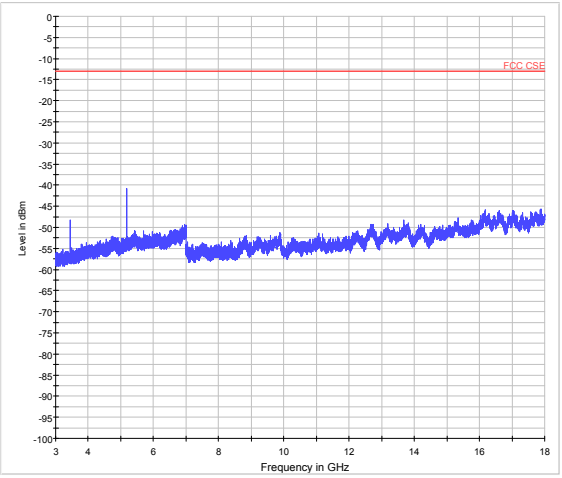
LTE Band 4 10MHz CH-Low 3GHz~18GHz



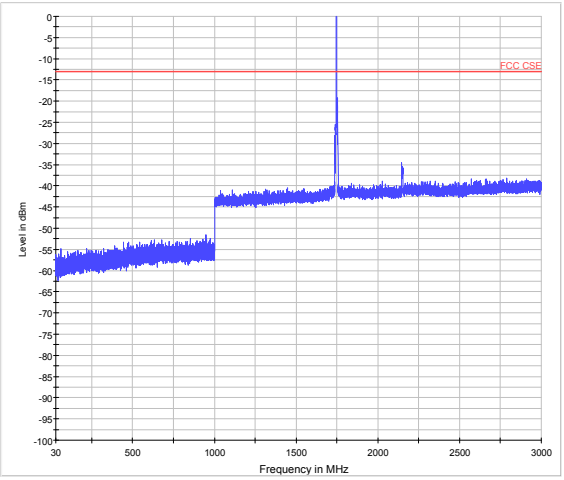
LTE Band 4 10MHz CH-Middle 30MHz~3GHz



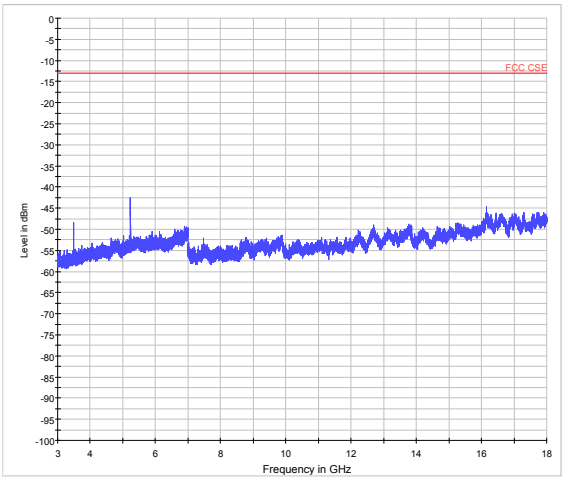
LTE Band 4 10MHz CH-Middle 3GHz~18GHz



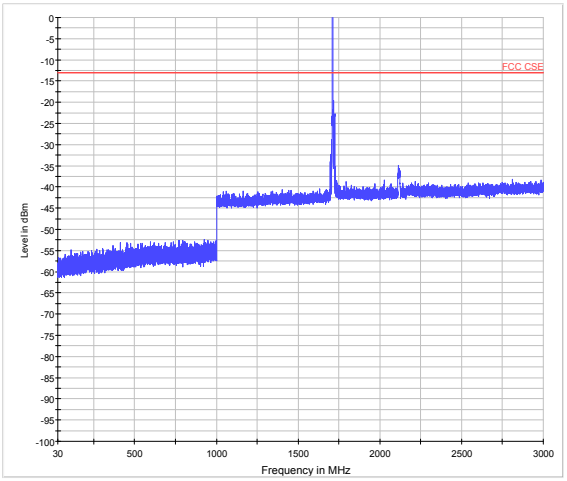
LTE Band 4 10MHz CH-High 30MHz~3GHz



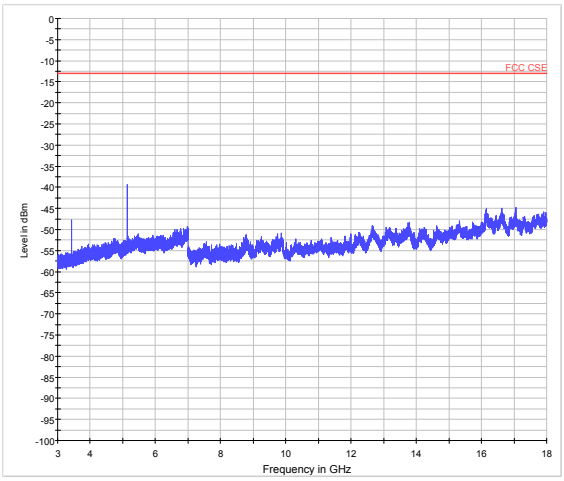
LTE Band 4 10MHz CH-High 3GHz~18GHz



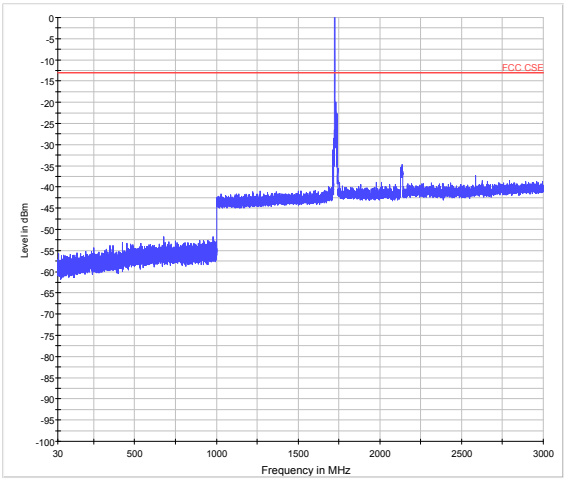
LTE Band 4 15MHz CH-Low 30MHz~3GHz



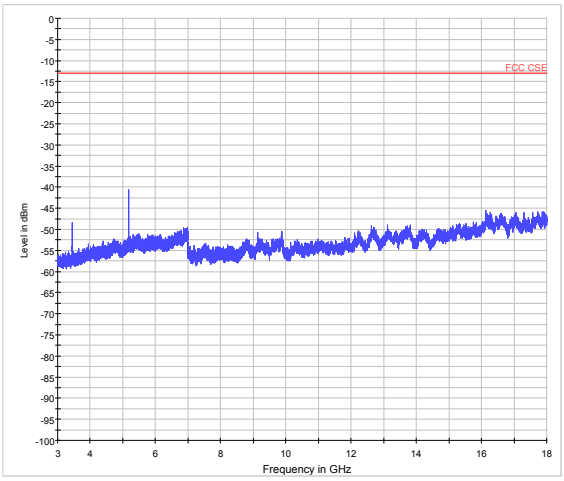
LTE Band 4 15MHz CH-Low 3GHz~18GHz



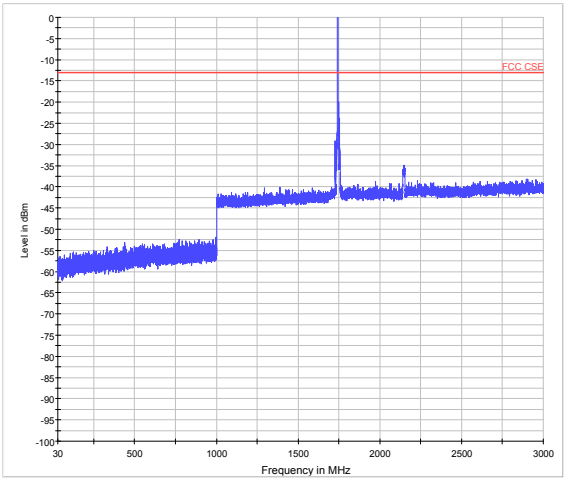
LTE Band 4 15MHz CH-Middle 30MHz~3GHz



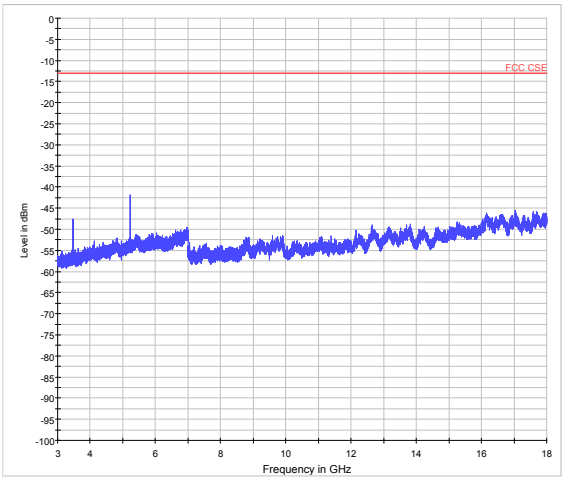
LTE Band 4 15MHz CH-Middle 3GHz~18GHz



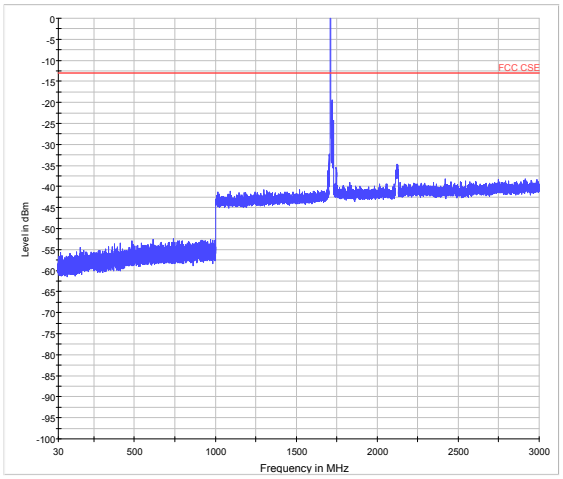
LTE Band 4 15MHz CH-High 30MHz~3GHz



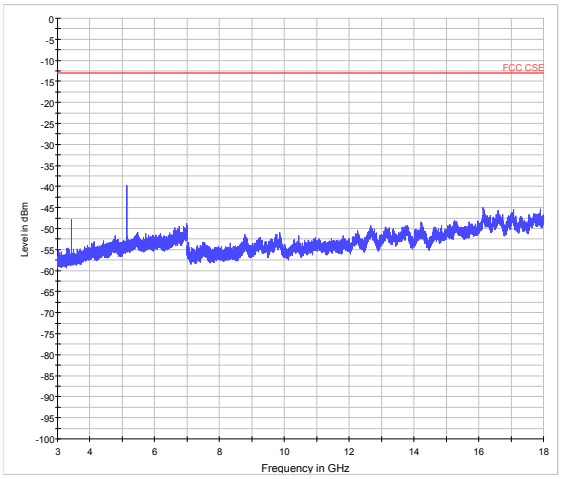
LTE Band 4 15MHz CH-High 3GHz~18GHz



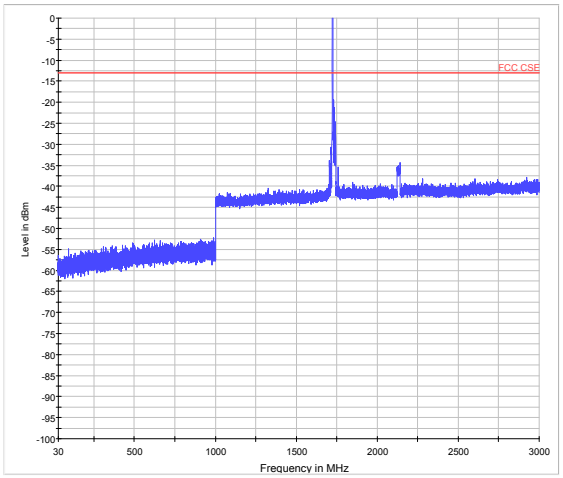
LTE Band 4 20MHz CH-Low 30MHz~3GHz



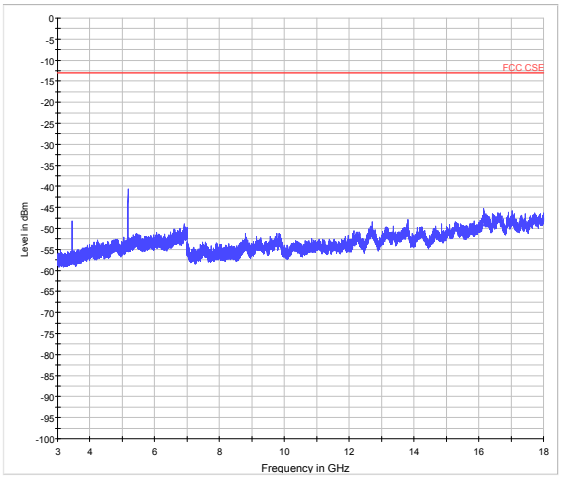
LTE Band 4 20MHz CH-Low 3GHz~18GHz



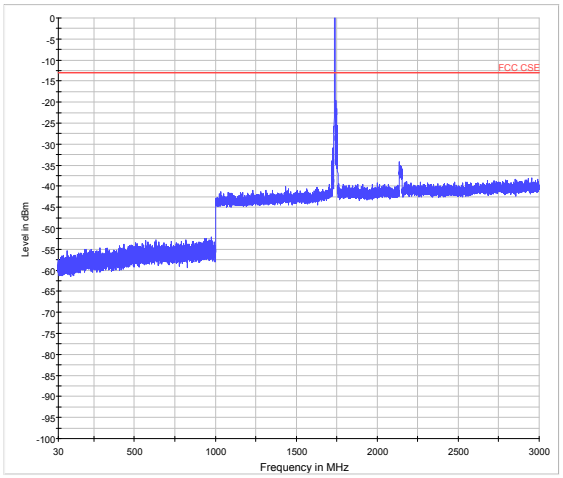
LTE Band 4 20MHz CH-Middle 30MHz~3GHz



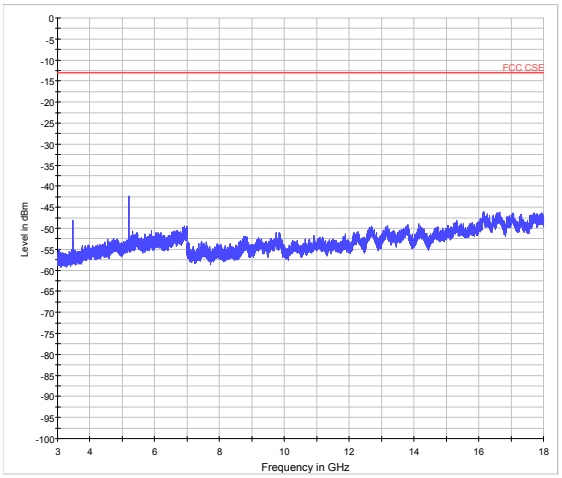
LTE Band 4 20MHz CH-Middle 3GHz~18GHz



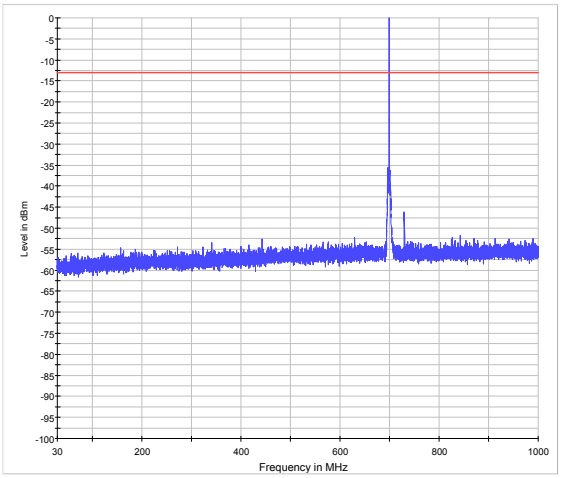
LTE Band 4 20MHz CH-High 30MHz~3GHz



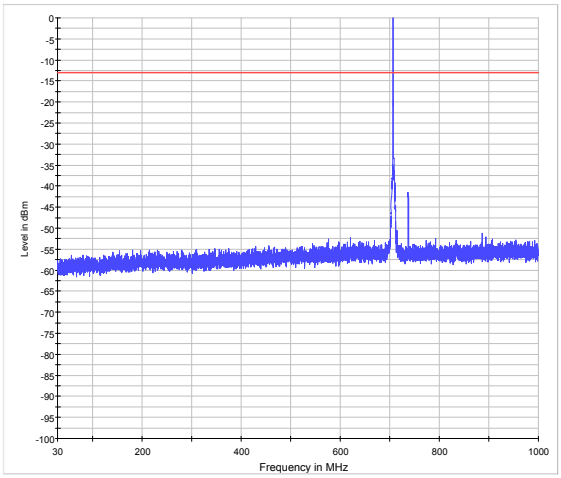
LTE Band 4 20MHz CH-High 3GHz~18GHz



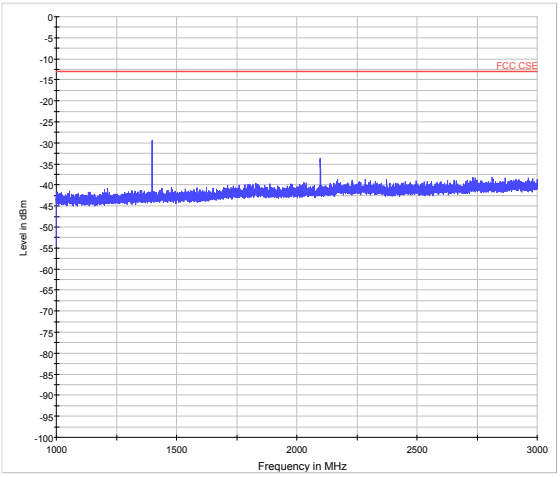
LTE Band 12 1.4MHz CH-Low 30MHz~1GHz



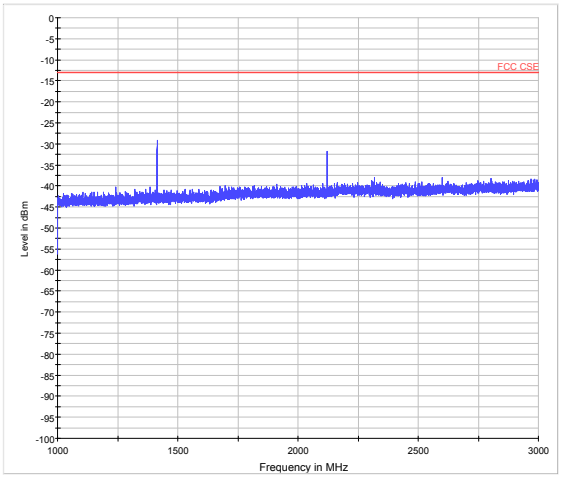
LTE Band 12 1.4MHz CH-Middle 30MHz~1GHz



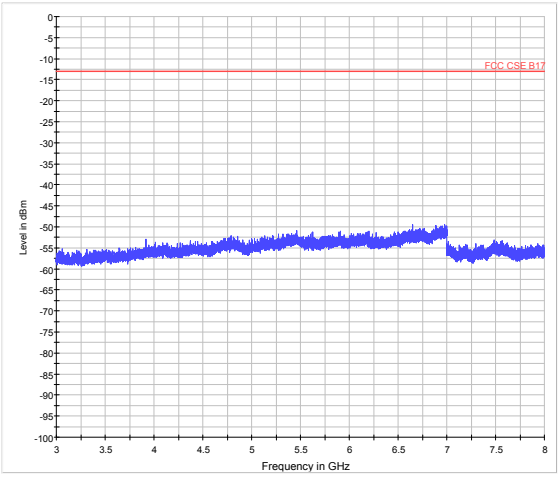
LTE Band 12 1.4MHz CH-Low 1GHz~3GHz



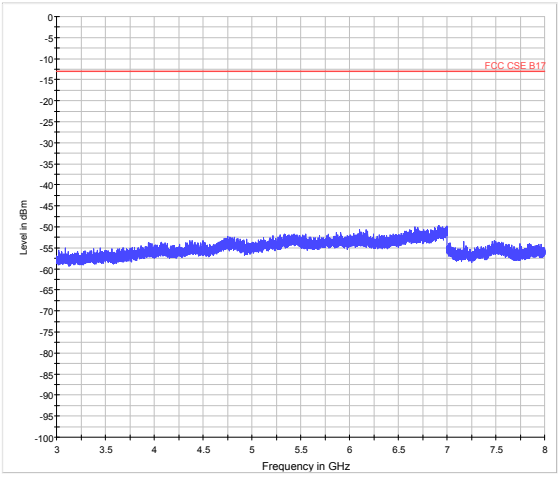
LTE Band 12 1.4MHz CH-Middle 1GHz~3GHz



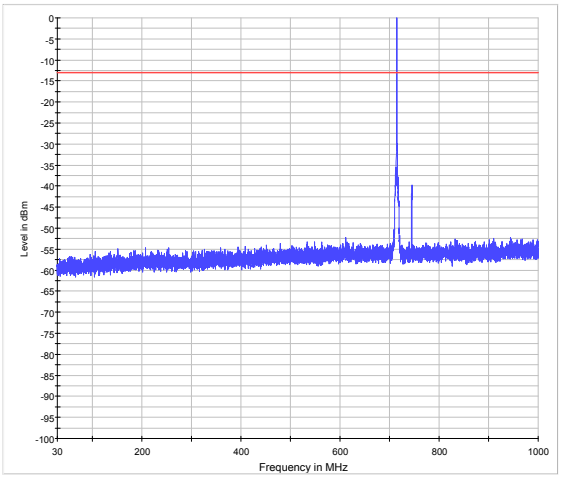
LTE Band 12 1.4MHz CH-Low 3GHz~8GHz



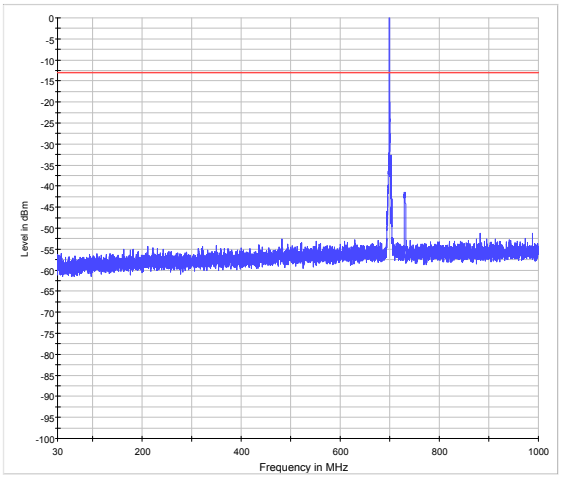
LTE Band 12 1.4MHz CH-Middle 3GHz~8GHz



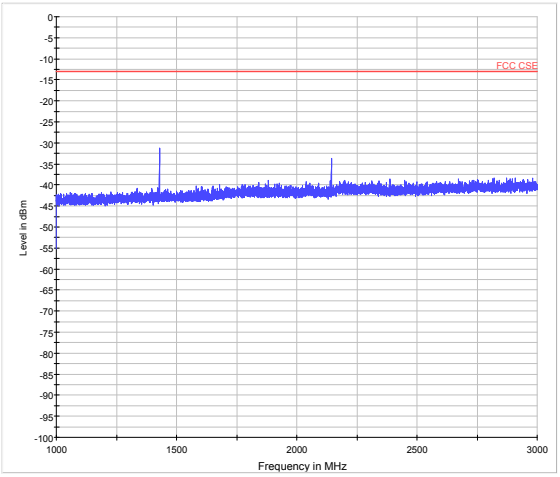
LTE Band 12 1.4MHz CH-High 30MHz~1GHz



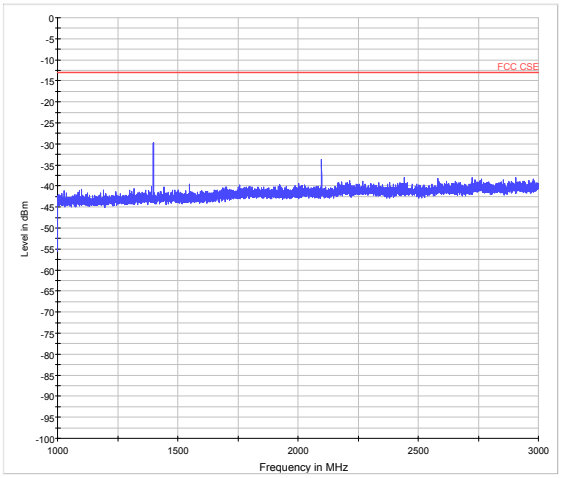
LTE Band 12 3MHz CH-Low 30MHz~1GHz



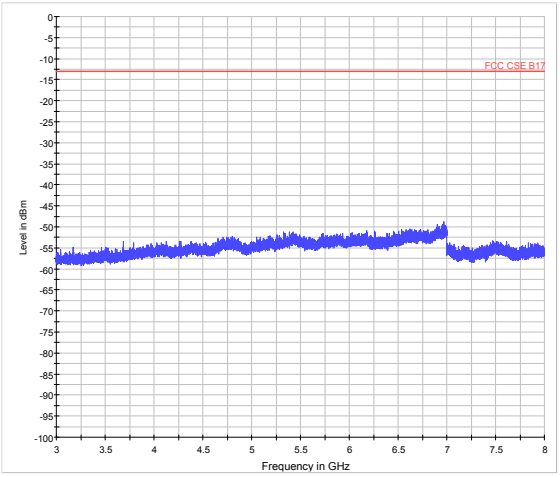
LTE Band 12 1.4MHz CH-High 1GHz~3GHz



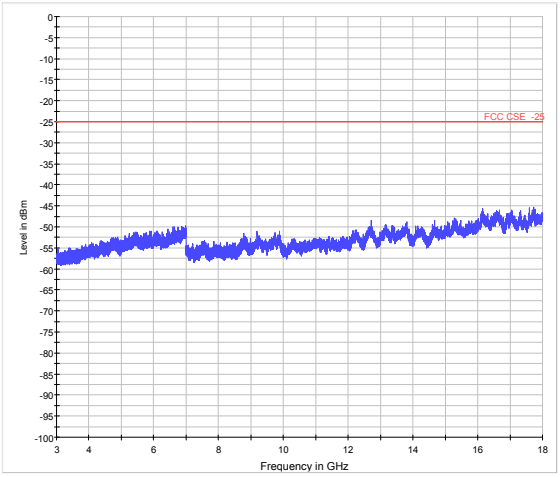
LTE Band 12 3MHz CH-Low 1GHz~3GHz



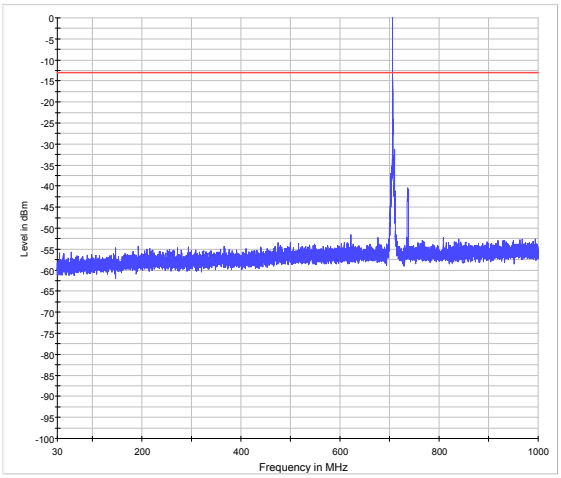
LTE Band 12 1.4MHz CH-High 3GHz~8GHz



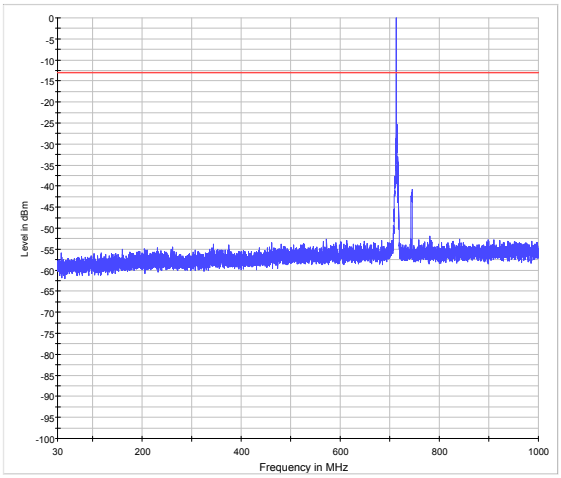
LTE Band 12 3MHz CH-Low 3GHz~8GHz



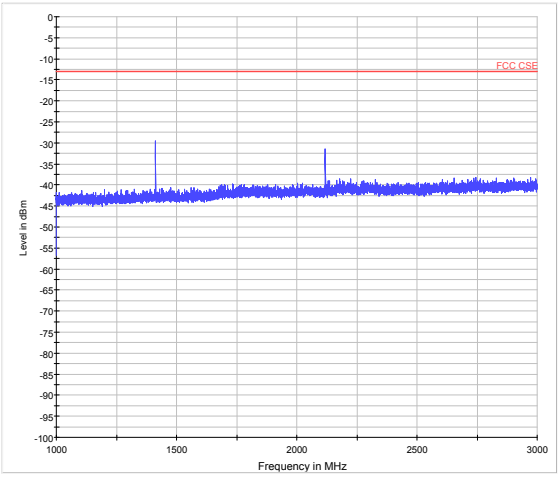
LTE Band 12 3MHz CH-Middle 30MHz~1GHz



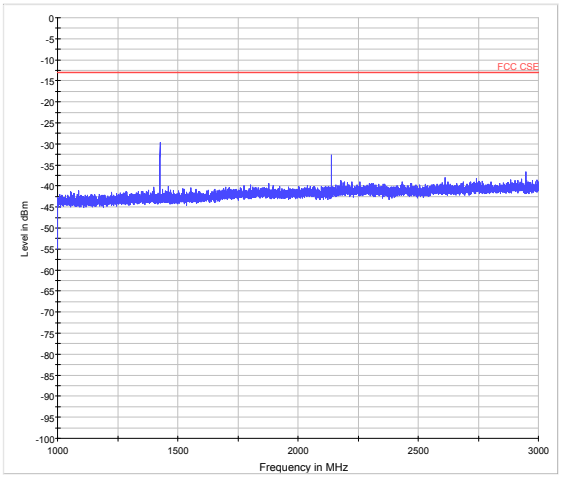
LTE Band 12 3MHz CH-High 30MHz~1GHz



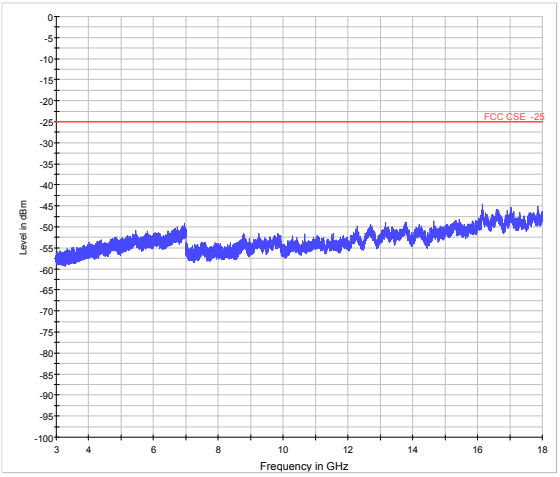
LTE Band 12 3MHz CH-Middle 1GHz~3GHz



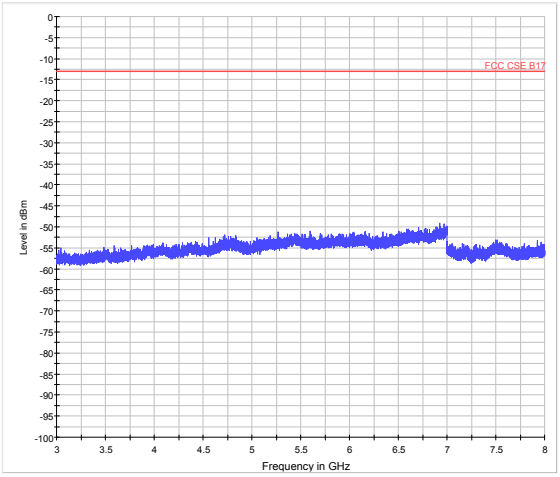
LTE Band 12 3MHz CH-High 1GHz~3GHz



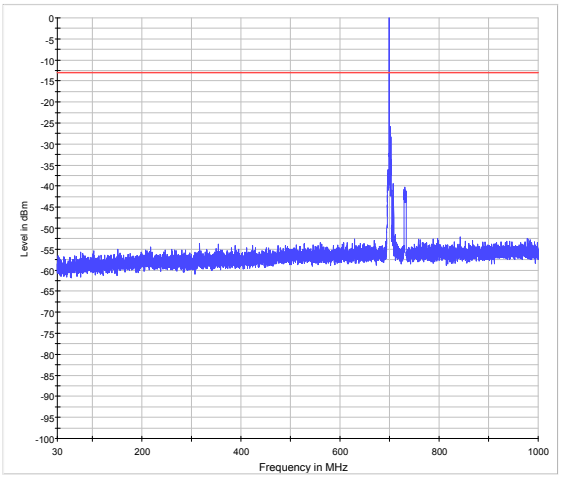
LTE Band 12 3MHz CH-Middle 3GHz~8GHz



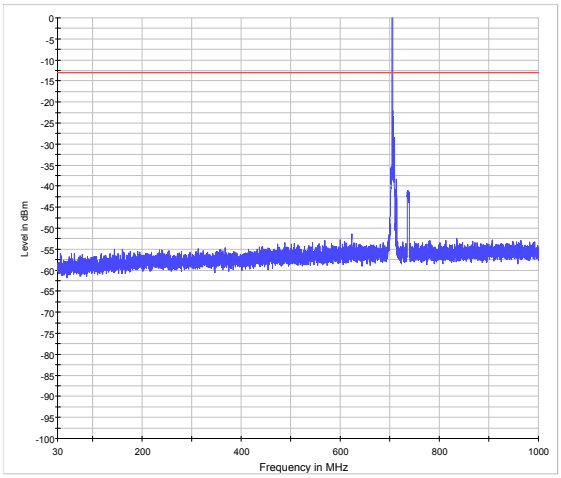
LTE Band 12 3MHz CH-High 3GHz~8GHz



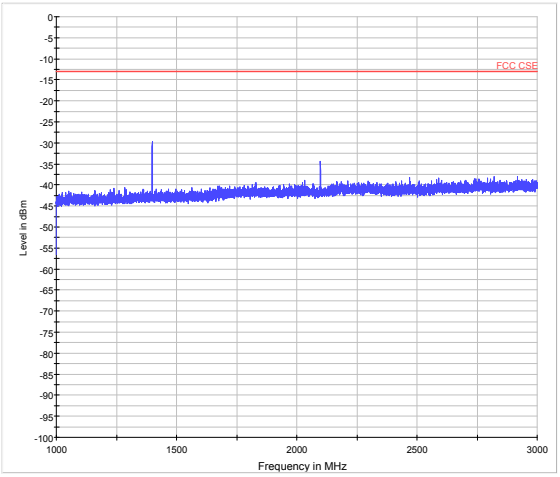
LTE Band 12 5MHz CH-Low 30MHz~1GHz



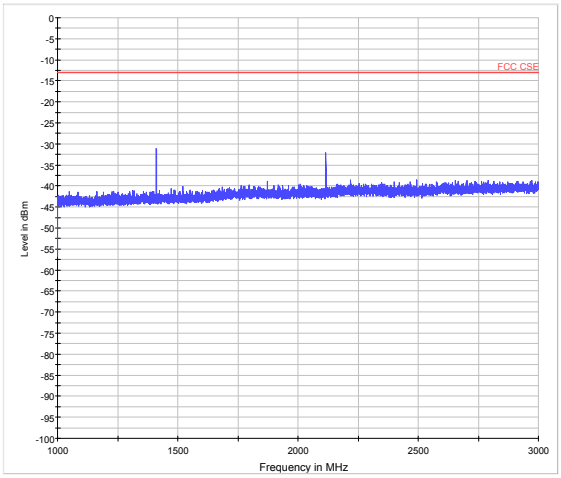
LTE Band 12 5MHz CH-Middle 30MHz~1GHz



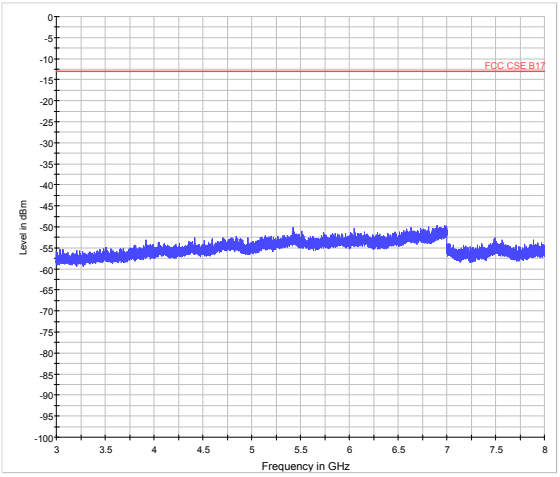
LTE Band 12 5MHz CH-Low 1GHz~3GHz



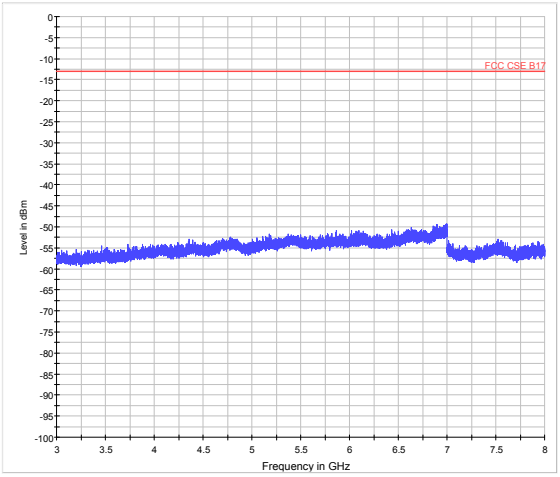
LTE Band 12 5MHz CH-Middle 1GHz~3GHz



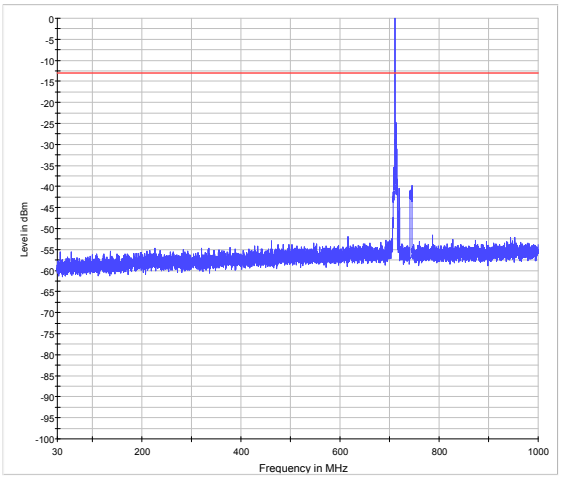
LTE Band 12 5MHz CH-Low 3GHz~8GHz



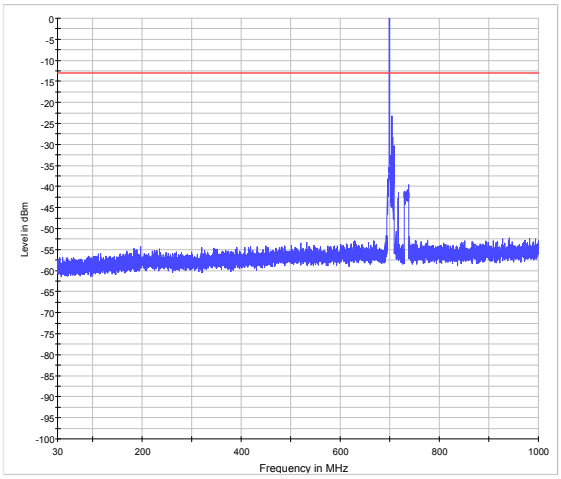
LTE Band 12 5MHz CH-Middle 3GHz~8GHz



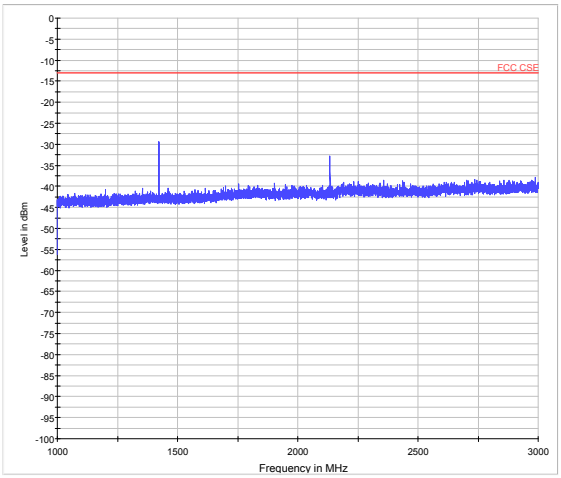
LTE Band 12 5MHz CH-High 30MHz~1GHz



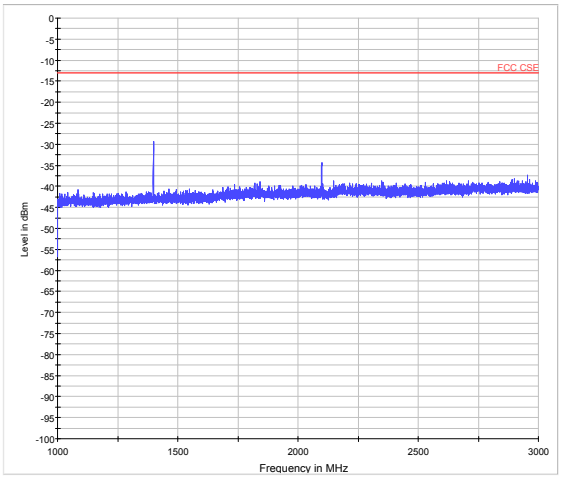
LTE Band 12 10MHz CH-Low 30MHz~1GHz



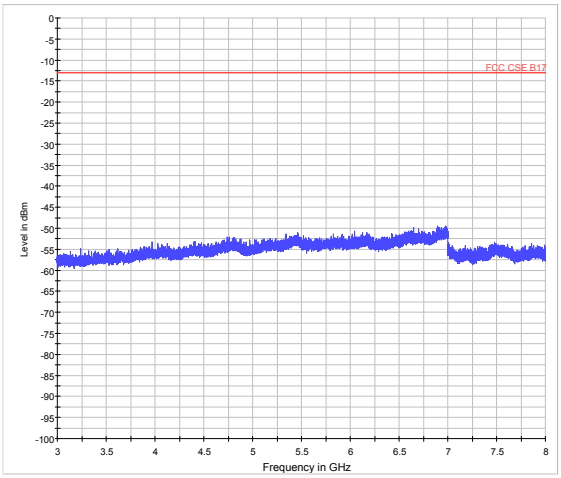
LTE Band 12 5MHz CH-High 1GHz~3GHz



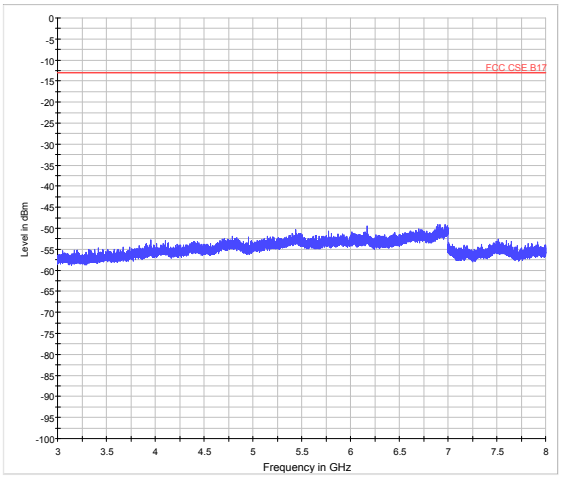
LTE Band 12 10MHz CH-Low 1GHz~3GHz



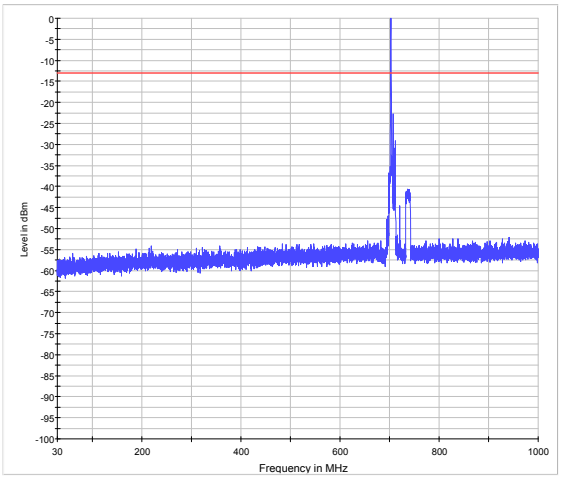
LTE Band 12 5MHz CH-High 3GHz~8GHz



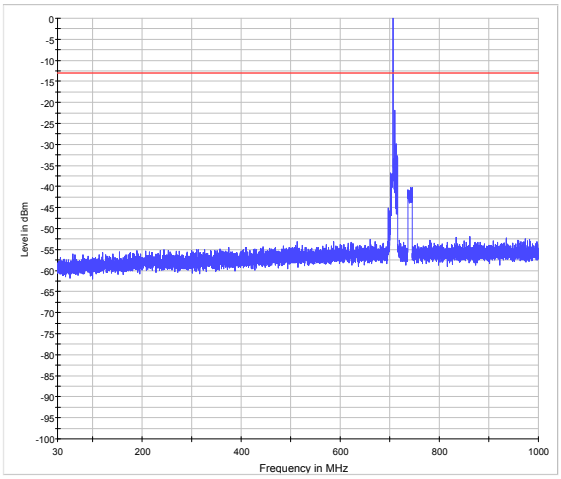
LTE Band 12 10MHz CH-Low 3GHz~8GHz



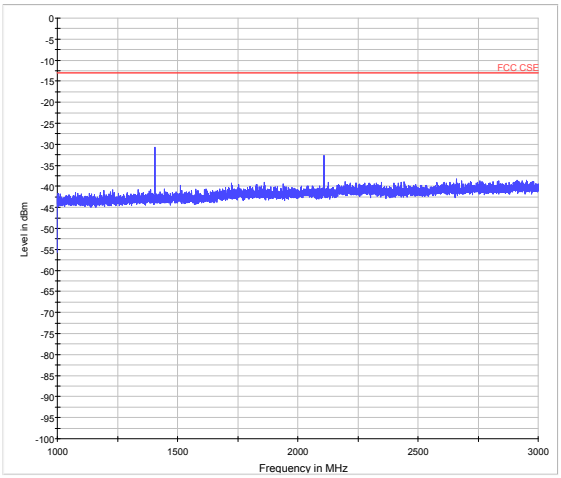
LTE Band 12 10MHz CH-Middle 30MHz~1GHz



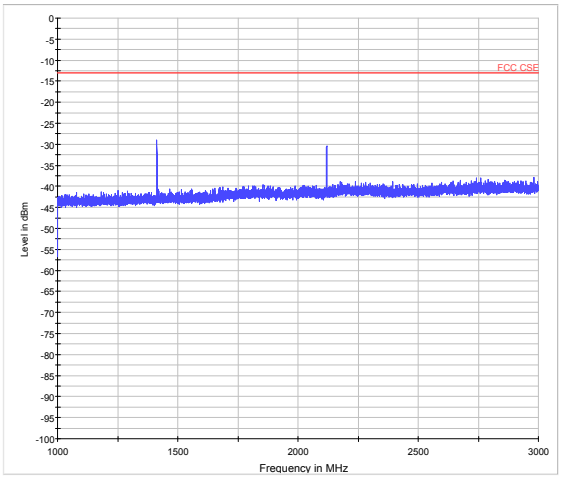
LTE Band 12 10MHz CH-High 30MHz~1GHz



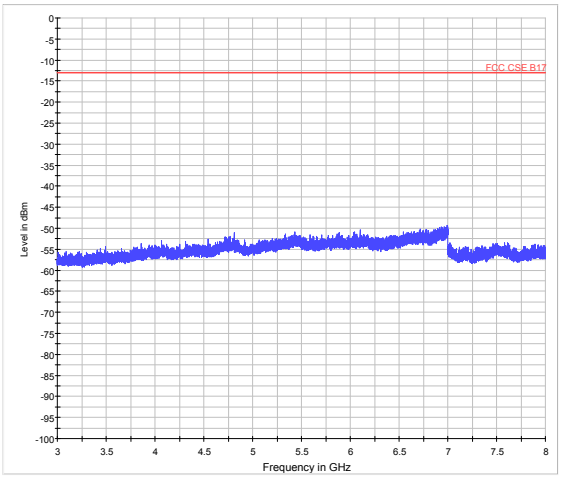
LTE Band 12 10MHz CH-Middle 1GHz~3GHz



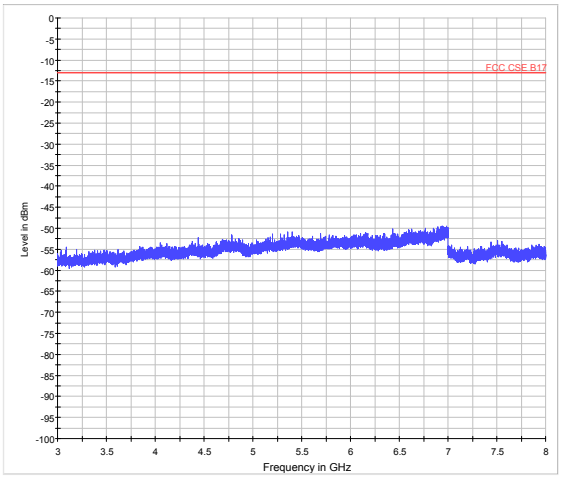
LTE Band 12 10MHz CH-High 1GHz~3GHz



LTE Band 12 10MHz CH-Middle 3GHz~8GHz

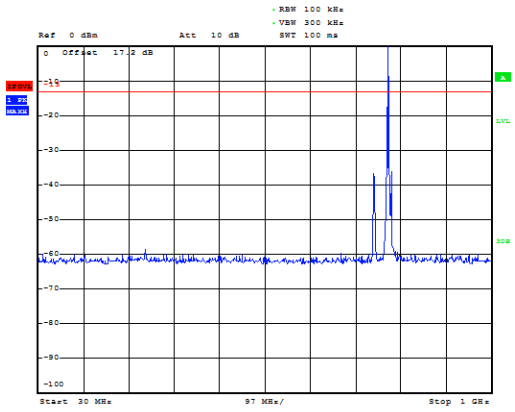


LTE Band 12 10MHz CH-High 3GHz~8GHz

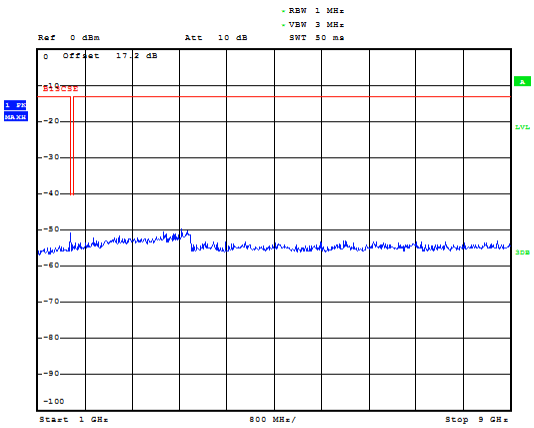


Variant

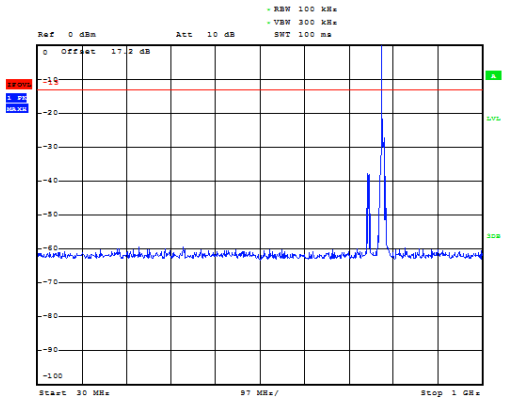
LTE Band 13 5MHz CH-Low 30MHz~1GHz



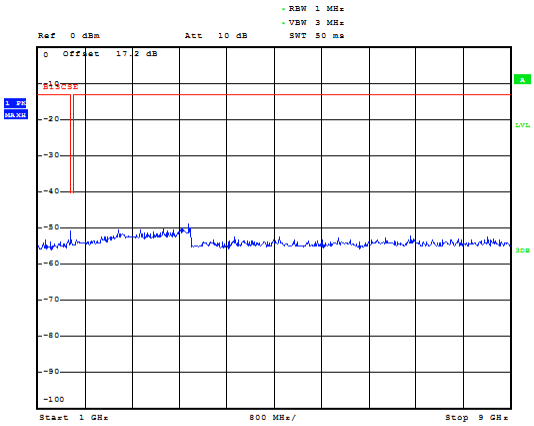
LTE Band 13 5MHz CH-Low 1GHz~9GHz



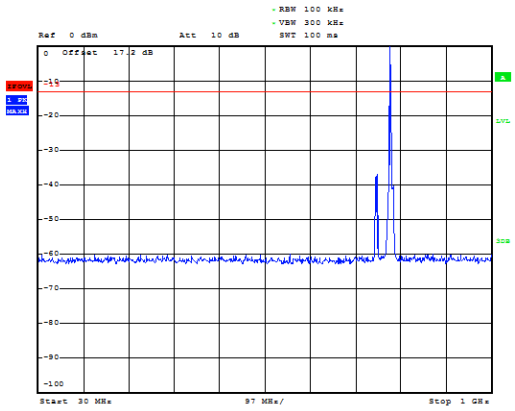
LTE Band 13 5MHz CH-Middle 30MHz~1GHz



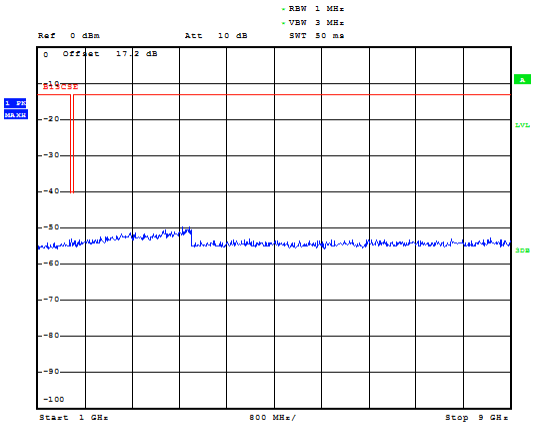
LTE Band 13 5MHz CH-Middle 1GHz~9GHz

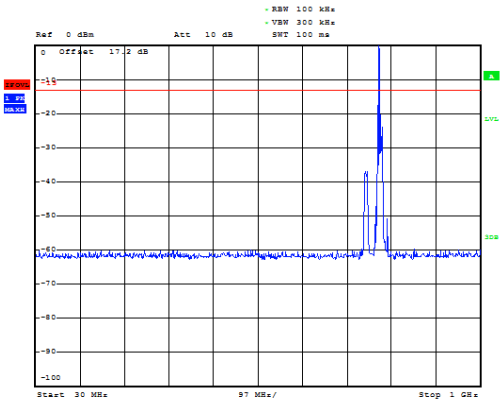
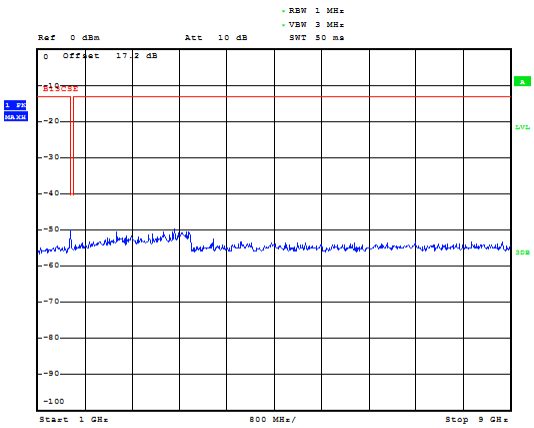


LTE Band 13 5MHz CH-High 30MHz~1GHz

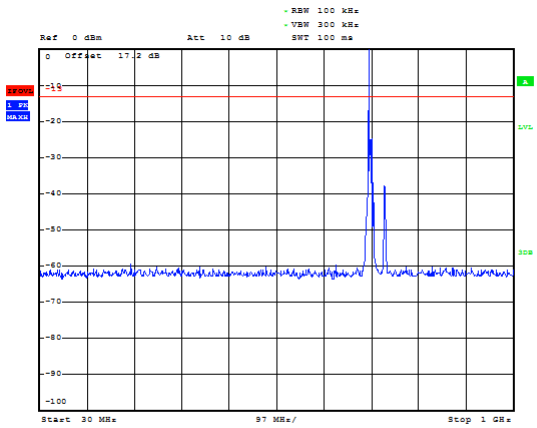


LTE Band 13 5MHz CH-High 1GHz~9GHz

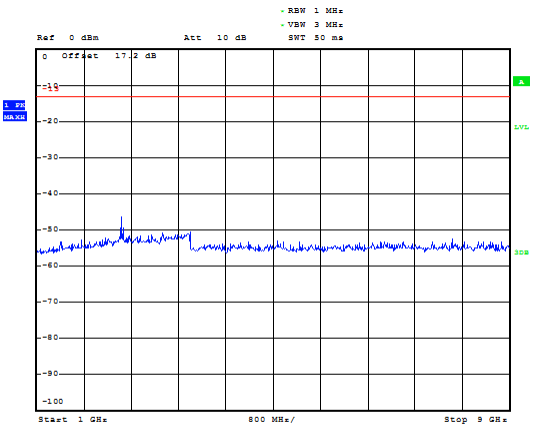


LTE Band 13 10MHz CH-Middle 30MHz~1GHz	LTE Band 13 10MHz CH-Middle 1GHz~9GHz
	

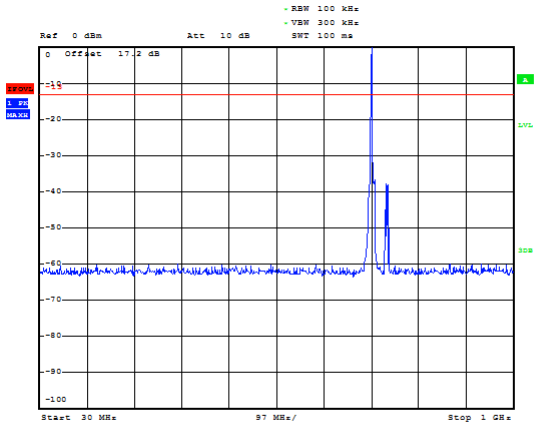
LTE Band 17 5MHz CH-Low 30MHz~1GHz



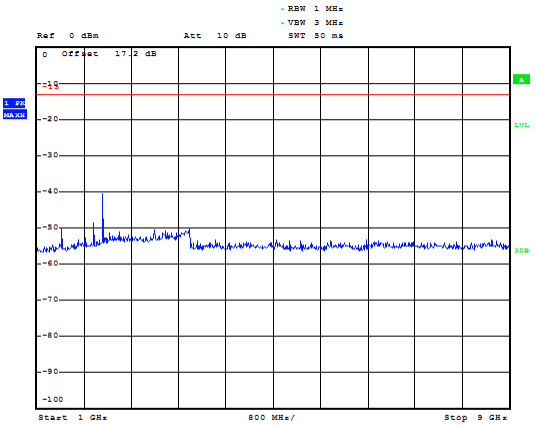
LTE Band 17 5MHz CH-Low 1GHz~9GHz



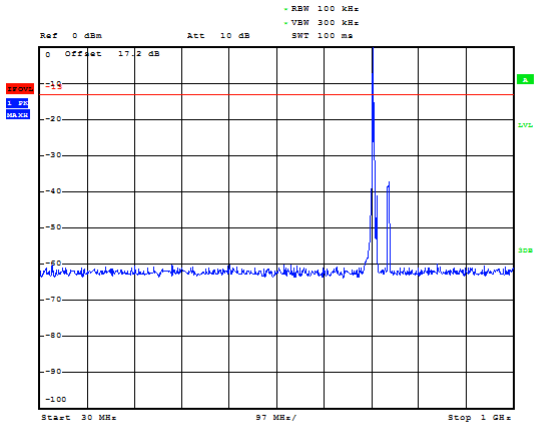
LTE Band 17 5MHz CH-Middle 30MHz~1GHz



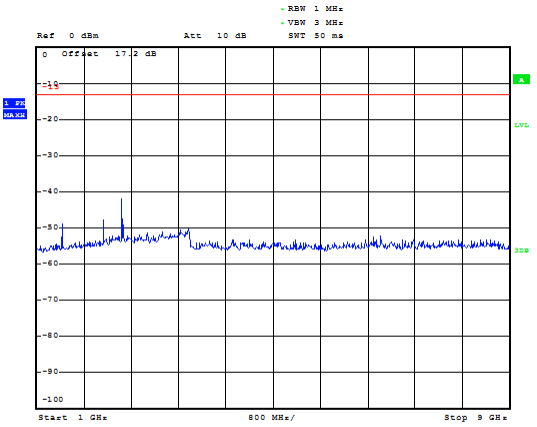
LTE Band 17 5MHz CH-Middle 1GHz~9GHz



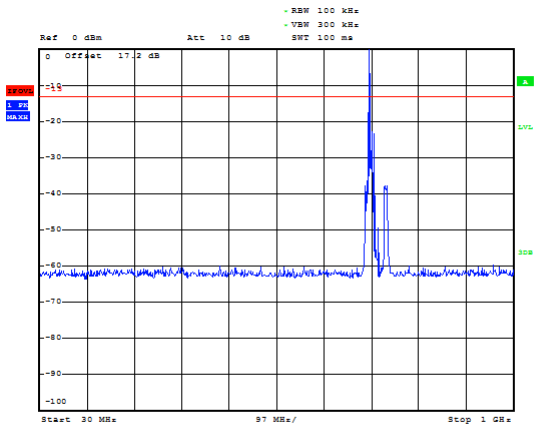
LTE Band 17 5MHz CH-High 30MHz~1GHz



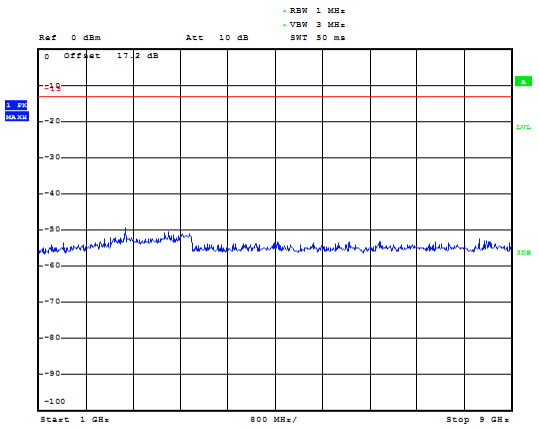
LTE Band 17 5MHz CH-High 1GHz~9GHz



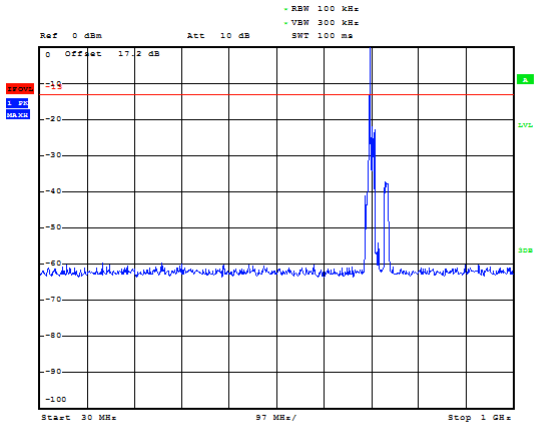
LTE Band 17 10MHz CH-Low 30MHz~1GHz



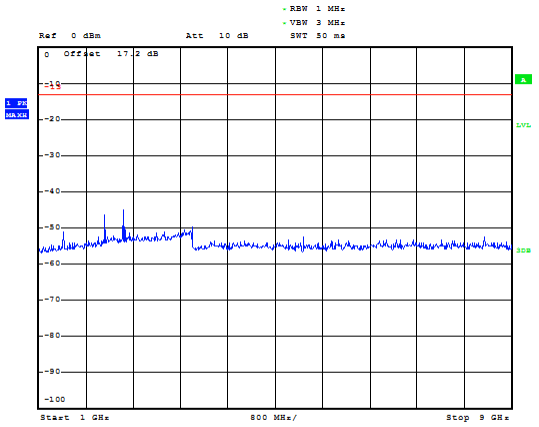
LTE Band 17 10MHz CH-Low 1GHz~9GHz



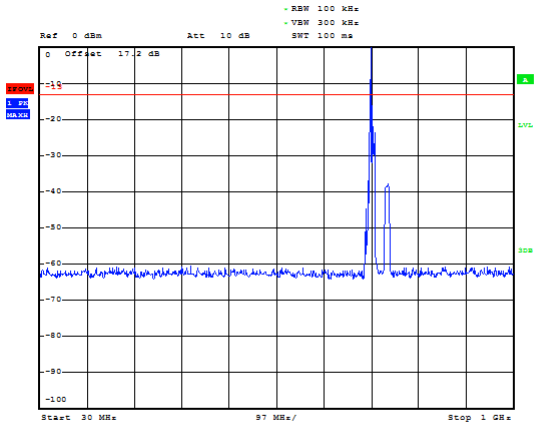
LTE Band 17 10MHz CH-Middle 30MHz~1GHz



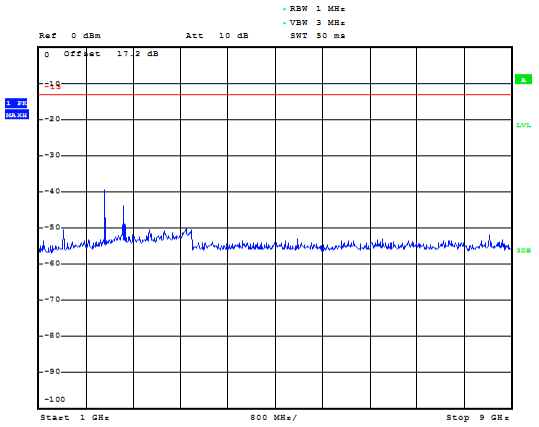
LTE Band 17 10MHz CH-Middle 1GHz~9GHz



LTE Band 17 10MHz CH-High 30MHz~1GHz



LTE Band 17 10MHz CH-High 1GHz~9GHz



If disturbances were found more than 20dB below limit line, the mark is not required for the EUT. The signal beyond the limit is carrier in the following plots.

Test Data File Name	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)
CSE_LTE B12_CHMID_1.4M_RB1_1-3GHz	1414.0	-29.24	-13.00	16.24
CSE_LTE B12_CHHIGH_1.4M_RB1_1-3GHz	1429.5	-31.59	-13.00	18.59
CSE_LTE B12_CHLOW_3M_RB1_1-3GHz	1398.5	-29.60	-13.00	16.60
CSE_LTE B12_CHMID_3M_RB1_1-3GHz	1412.3	-29.56	-13.00	16.56
CSE_LTE B12_CHHIGH_3M_RB1_1-3GHz	1426.5	-29.66	-13.00	16.66
CSE_LTE B12_CHLOW_5M_RB1_1-3GHz	1398.5	-29.77	-13.00	16.77
CSE_LTE B12_CHMID_5M_RB1_1-3GHz	1410.5	-30.99	-13.00	17.99
CSE_LTE B12_CHHIGH_5M_RB1_1-3GHz	1422.5	-29.27	-13.00	16.27
CSE_LTE B12_CHLOW_10M_RB1_1-3GHz	1399.3	-29.34	-13.00	16.34
CSE_LTE B12_CHMID_10M_RB1_1-3GHz	1406.0	-30.66	-13.00	17.66
CSE_LTE B12_CHHIGH_10M_RB1_1-3GHz	1413.3	-28.95	-13.00	15.95

5.8 Radiates Spurious Emission

Ambient condition

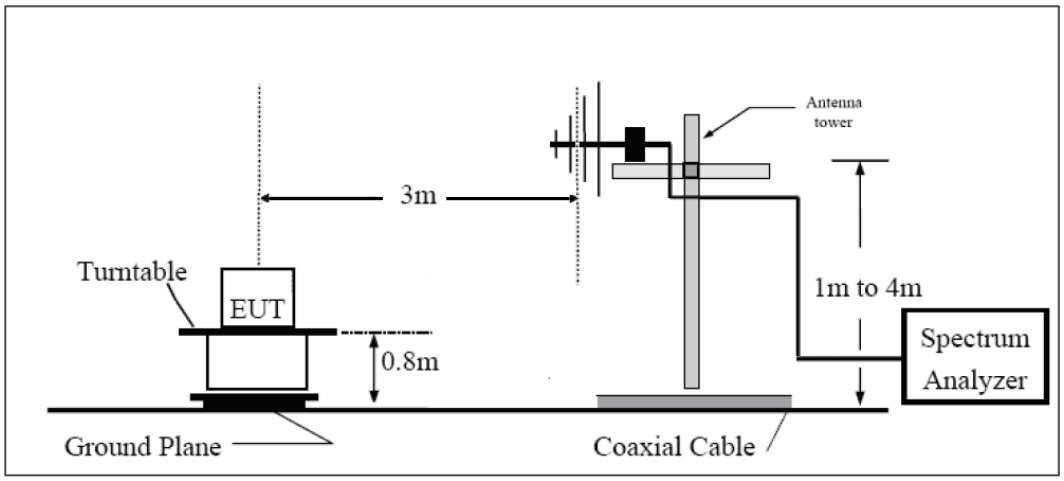
Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Method of Measurement

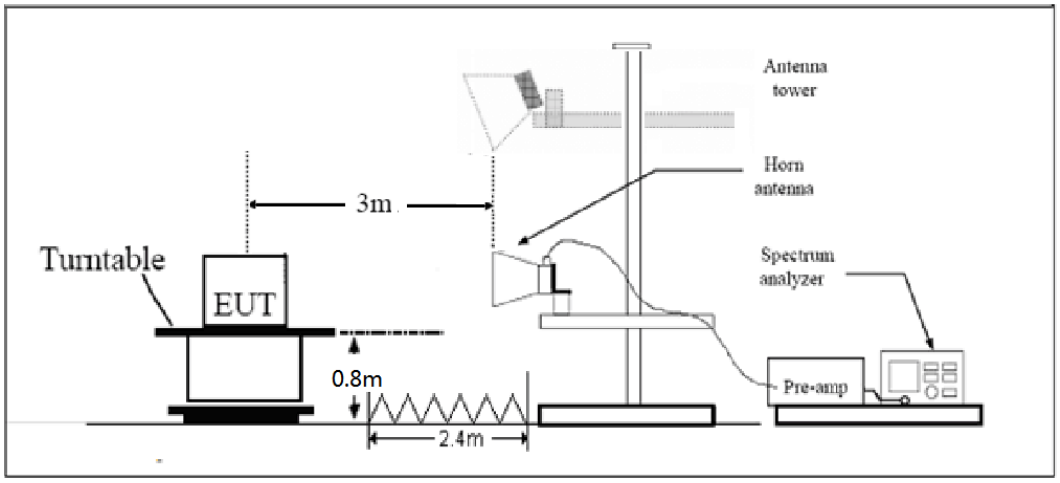
1. The testing follows FCC KDB 971168 D01 v03 Section 5.8 and ANSI/TIA-603-E (2016).
2. The EUT is placed on a turntable 0.8 meters above the ground in the chamber, 3 meter away from the antenna. The maximal emission value is acquired by adjusting the antenna height, polarisation and turntable azimuth. Normally, the height range of antenna is 1 m to 4 m, the azimuth range of turntable is 0° to 360°, and the receive antenna has two polarizations Vertical (V) and Horizontal (H).
3. A log-periodic antenna or double-ridged waveguide horn antenna shall be substituted in place of the EUT. The log-periodic antenna will be driven by a signal generator and the level will be adjusted till the same power value on the spectrum analyzer or receiver. The level of the spurious emissions can be calculated through the level of the signal generator, cable loss, the gain of the substitution antenna and the reading of the spectrum analyzer or receiver.
4. The EUT is then put into continuously transmitting mode at its maximum power level during the test.Set Test Receiver or Spectrum RBW=1MHz,VBW=3MHz, And the maximum value of the receiver should be recorded as (Pr).
5. The EUT shall be replaced by a substitution antenna. In the chamber, an substitution antenna for the frequency band of interest is placed at the reference point of the chamber. An RF Signal source for the frequency band of interest is connected to the substitution antenna with a cable that has been constructed to not interfere with the radiation pattern of the antenna. A power (PMea) is applied to the input of the substitution antenna, and adjust the level of the signal generator output until the value of the receiver reach the previously recorded (Pr). The power of signal source (PMea) is recorded. The test should be performed by rotating the test item and adjusting the receiving antenna polarization.
6. A amplifier should be connected to the Signal Source output port. And the cable should be connect between the Amplifier and the Substitution Antenna. The cable loss (Pcl) ,the Substitution Antenna Gain (Ga) and the Amplifier Gain (PAg) should be recorded after test.
7. The measurement results are obtained as described below:
Power(EIRP)=PMea- PAg - Pcl + Ga
The measurement results are amend as described below:
Power(EIRP)=PMea- Pcl + Ga
8. This value is EIRP since the measurement is calibrated using an antenna of known gain (2.15 dBi) and known input power. ERP can be calculated from EIRP by subtracting the gain of the dipole, ERP = EIRP-2.15dBi.

Test setup

30MHz~~~ 1GHz



Above 1GHz



Note: Area side:2.4mX3.6m

The radiated emission was measured in the following position: EUT stand-up position (Z axis), lie-down position (X, Y axis). The worst emission was found in stand-up position (Z axis) and the worst case was recorded.

Limits

Rule Part 27.53(h) specifies that “for operations in the 1695-1710 MHz, 1710-1755 MHz, 1755-1780 MHz, 1915-1920 MHz, 1995-2000 MHz, 2000-2020 MHz, 2110-2155 MHz, 2155-2180 MHz, and 2180-2200 bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least 43 + 10 log10 (P) dB..”

Rule Part 27.53 (g) For operations in the 600 MHz band and the 698-746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least 43 + 10 log (P) dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater. However, in the 100 kilohertz bands

immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

Rule Part 27.53(f)For operations in the 746-758 MHz, 775-788 MHz, and 805-806 MHz bands, emissions in the band 1559-1610 MHz shall be limited to −70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and −80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth. For the purpose of equipment authorization, a transmitter shall be tested with an antenna that is representative of the type that will be used with the equipment in normal operation.

Part 27.53(h)/(g) Limit		-13 dBm
Part 27.53(f) Limit	Limit out of the band 1559-1610 MHz	-13 dBm
	Limit in the band 1559-1610 MHz	-40 dBm

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95％ confidence level for the normal distribution is with the coverage factor k = ±1.96, U= ±3.55 dB.

Test Result

Original

LTE Band 4 QPSK 1.4MHz CH-Low, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3421.4	-60.15	2.6	10.15	Horizontal	-52.60	-13.00	39.60	315
3	5132.1	-56.65	2.4	11.35	Horizontal	-47.70	-13.00	34.70	270
4	6842.8	-51.15	4.5	10.85	Horizontal	-44.80	-13.00	31.80	135
5	8553.5	-78.35	5.1	11.35	Horizontal	-72.10	-13.00	59.10	225
6	10264.2	-47.85	5.3	11.95	Horizontal	-41.20	-13.00	28.20	180
7	11974.9	-47.25	5.5	13.55	Horizontal	-39.20	-13.00	26.20	45
8	13685.6	-44.75	6.3	13.75	Horizontal	-37.30	-13.00	24.30	315
9	15396.3	-46.75	6.7	13.85	Horizontal	-39.60	-13.00	26.60	270
10	17107.0	-43.55	6.8	14.25	Horizontal	-36.10	-13.00	23.10	135
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

LTE Band 4 QPSK 1.4MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3465.0	-60.05	2.6	10.75	Horizontal	-51.90	-13.00	38.90	90
3	5197.5	-56.35	2.4	11.05	Horizontal	-47.70	-13.00	34.70	225
4	6930.0	-50.05	4.5	11.15	Horizontal	-43.40	-13.00	30.40	180
5	8662.5	-47.65	5.1	11.35	Horizontal	-41.40	-13.00	28.40	225
6	10395.0	-46.25	5.3	11.95	Horizontal	-39.60	-13.00	26.60	180
7	12127.5	-48.05	5.5	13.55	Horizontal	-40.00	-13.00	27.00	45
8	13860.0	-43.75	6.3	13.75	Horizontal	-36.30	-13.00	23.30	270
9	15592.5	-46.85	6.7	13.85	Horizontal	-39.70	-13.00	26.70	90
10	17325.0	-42.75	6.8	14.25	Horizontal	-35.30	-13.00	22.30	180
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

LTE Band 4 QPSK 1.4MHz CH-High, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3508.6	-57.55	2.6	10.15	Horizontal	-50.00	-13.00	37.00	315
3	5262.9	-57.05	2.4	11.05	Horizontal	-48.40	-13.00	35.40	270
4	7017.2	38.35	4.5	11.15	Horizontal	45.00	-13.00	-58.00	135
5	8771.5	-47.95	5.1	11.35	Horizontal	-41.70	-13.00	28.70	225
6	10525.8	-45.75	5.3	11.95	Horizontal	-39.10	-13.00	26.10	180
7	12280.1	-47.65	5.5	13.55	Horizontal	-39.60	-13.00	26.60	45
8	14034.4	-44.05	6.3	13.75	Horizontal	-36.60	-13.00	23.60	315
9	15788.7	-45.55	6.7	13.85	Horizontal	-38.40	-13.00	25.40	270
10	17543.0	-44.55	6.8	14.25	Horizontal	-37.10	-13.00	24.10	135
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

LTE Band 4 QPSK 3MHz CH-Low, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3423.0	-59.35	2.6	10.15	Horizontal	-51.80	-13.00	38.80	90
3	5134.5	-57.15	2.4	11.35	Horizontal	-48.20	-13.00	35.20	225
4	6846.0	-51.55	4.5	10.85	Horizontal	-45.20	-13.00	32.20	315
5	8557.5	-48.25	5.1	11.35	Horizontal	-42.00	-13.00	29.00	270
6	10269.0	-47.95	5.3	11.95	Horizontal	-41.30	-13.00	28.30	135
7	11980.5	-47.55	5.5	13.55	Horizontal	-39.50	-13.00	26.50	225
8	13692.0	-44.95	6.3	13.75	Horizontal	-37.50	-13.00	24.50	180
9	15403.5	-46.75	6.7	13.85	Horizontal	-39.60	-13.00	26.60	45
10	17115.0	-45.25	6.8	14.25	Horizontal	-37.80	-13.00	24.80	315
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

LTE Band 4 QPSK 3MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3465.0	-58.95	2.6	10.75	Horizontal	-50.80	-13.00	37.80	270
3	5197.5	-56.35	2.4	11.05	Horizontal	-47.70	-13.00	34.70	135
4	6930.0	-51.65	4.5	11.15	Horizontal	-45.00	-13.00	32.00	90
5	8662.5	-47.35	5.1	11.35	Horizontal	-41.10	-13.00	28.10	225
6	10395.0	-47.15	5.3	11.95	Horizontal	-40.50	-13.00	27.50	180
7	12127.5	-46.85	5.5	13.55	Horizontal	-38.80	-13.00	25.80	225
8	13860.0	-44.85	6.3	13.75	Horizontal	-37.40	-13.00	24.40	180
9	15592.5	-47.85	6.7	13.85	Horizontal	-40.70	-13.00	27.70	45
10	17325.0	-44.25	6.8	14.25	Horizontal	-36.80	-13.00	23.80	315
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

LTE Band 4 QPSK 3MHz CH-High, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3507.0	-58.35	2.6	10.15	Horizontal	-50.80	-13.00	37.80	45
3	5260.5	-58.65	2.4	11.05	Horizontal	-50.00	-13.00	37.00	315
4	7014.0	-52.55	4.5	11.15	Horizontal	-45.90	-13.00	32.90	90
5	8767.5	-48.65	5.1	11.35	Horizontal	-42.40	-13.00	29.40	180
6	10521.0	-46.55	5.3	11.95	Horizontal	-39.90	-13.00	26.90	225
7	12274.5	-48.05	5.5	13.55	Horizontal	-40.00	-13.00	27.00	90
8	14028.0	-44.15	6.3	13.75	Horizontal	-36.70	-13.00	23.70	270
9	15781.5	-46.25	6.7	13.85	Horizontal	-39.10	-13.00	26.10	135
10	17535.0	-44.55	6.8	14.25	Horizontal	-37.10	-13.00	24.10	270
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

LTE Band 4 QPSK 5MHz CH-Low, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3425.0	-60.65	2.6	10.15	Horizontal	-53.10	-13.00	40.10	180
3	5137.5	-57.15	2.4	11.35	Horizontal	-48.20	-13.00	35.20	270
4	6850.0	-49.85	4.5	10.85	Horizontal	-43.50	-13.00	30.50	45
5	8562.5	-49.05	5.1	11.35	Horizontal	-42.80	-13.00	29.80	225
6	10275.0	-47.55	5.3	11.95	Horizontal	-40.90	-13.00	27.90	315
7	11987.5	-47.05	5.5	13.55	Horizontal	-39.00	-13.00	26.00	90
8	13700.0	-45.65	6.3	13.75	Horizontal	-38.20	-13.00	25.20	45
9	15412.5	-46.75	6.7	13.85	Horizontal	-39.60	-13.00	26.60	315
10	17125.0	-44.45	6.8	14.25	Horizontal	-37.00	-13.00	24.00	180
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

LTE Band 4 QPSK 5MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3465.0	-63.05	2.6	10.75	Horizontal	-54.90	-13.00	41.90	45
3	5197.5	-55.25	2.4	11.05	Horizontal	-46.60	-13.00	33.60	315
4	6930.0	-52.05	4.5	11.15	Horizontal	-45.40	-13.00	32.40	90
5	8662.5	-47.15	5.1	11.35	Horizontal	-40.90	-13.00	27.90	180
6	10395.0	-46.85	5.3	11.95	Horizontal	-40.20	-13.00	27.20	270
7	12127.5	-47.05	5.5	13.55	Horizontal	-39.00	-13.00	26.00	315
8	13860.0	-44.45	6.3	13.75	Horizontal	-37.00	-13.00	24.00	225
9	15592.5	-47.35	6.7	13.85	Horizontal	-40.20	-13.00	27.20	45
10	17325.0	-43.75	6.8	14.25	Horizontal	-36.30	-13.00	23.30	180
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

LTE Band 4 QPSK 5MHz CH-High, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3505.0	-59.85	2.6	10.15	Horizontal	-52.30	-13.00	39.30	90
3	5257.5	-58.25	2.4	11.05	Horizontal	-49.60	-13.00	36.60	315
4	7010.0	-52.35	4.5	11.15	Horizontal	-45.70	-13.00	32.70	270
5	8762.5	-48.55	5.1	11.35	Horizontal	-42.30	-13.00	29.30	45
6	10515.0	-46.55	5.3	11.95	Horizontal	-39.90	-13.00	26.90	180
7	12267.5	-46.85	5.5	13.55	Horizontal	-38.80	-13.00	25.80	90
8	14020.0	-44.25	6.3	13.75	Horizontal	-36.80	-13.00	23.80	225
9	15772.5	-45.55	6.7	13.85	Horizontal	-38.40	-13.00	25.40	270
10	17525.0	-44.75	6.8	14.25	Horizontal	-37.30	-13.00	24.30	315
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

LTE Band 4 QPSK 10MHz CH-Low, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3430.0	-59.95	2.6	10.15	Horizontal	-52.40	-13.00	39.40	270
3	5145.0	-55.65	2.4	11.35	Horizontal	-46.70	-13.00	33.70	180
4	6860.0	-51.25	4.5	10.85	Horizontal	-44.90	-13.00	31.90	45
5	8575.0	-48.05	5.1	11.35	Horizontal	-41.80	-13.00	28.80	225
6	10290.0	-47.65	5.3	11.95	Horizontal	-41.00	-13.00	28.00	180
7	12005.0	-47.25	5.5	13.55	Horizontal	-39.20	-13.00	26.20	315
8	13720.0	-44.85	6.3	13.75	Horizontal	-37.40	-13.00	24.40	45
9	15435.0	-46.35	6.7	13.85	Horizontal	-39.20	-13.00	26.20	225
10	17150.0	-43.95	6.8	14.25	Horizontal	-36.50	-13.00	23.50	90
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

LTE Band 4 QPSK 10MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3465.0	-60.25	2.6	10.75	Horizontal	-52.10	-13.00	39.10	225
3	5197.5	-55.65	2.4	11.05	Horizontal	-47.00	-13.00	34.00	180
4	6930.0	-52.15	4.5	11.15	Horizontal	-45.50	-13.00	32.50	90
5	8662.5	-49.15	5.1	11.35	Horizontal	-42.90	-13.00	29.90	270
6	10395.0	-46.65	5.3	11.95	Horizontal	-40.00	-13.00	27.00	45
7	12127.5	-45.65	5.5	13.55	Horizontal	-37.60	-13.00	24.60	225
8	13860.0	-45.45	6.3	13.75	Horizontal	-38.00	-13.00	25.00	315
9	15592.5	-47.55	6.7	13.85	Horizontal	-40.40	-13.00	27.40	180
10	17325.0	-43.55	6.8	14.25	Horizontal	-36.10	-13.00	23.10	135
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

LTE Band 4 QPSK 10MHz CH-High, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3500.0	-59.05	2.6	10.15	Horizontal	-51.50	-13.00	38.50	315
3	5250.0	-57.35	2.4	11.05	Horizontal	-48.70	-13.00	35.70	90
4	7000.0	-51.95	4.5	11.15	Horizontal	-45.30	-13.00	32.30	270
5	8750.0	-47.55	5.1	11.35	Horizontal	-41.30	-13.00	28.30	45
6	10500.0	-46.45	5.3	11.95	Horizontal	-39.80	-13.00	26.80	225
7	12250.0	-46.55	5.5	13.55	Horizontal	-38.50	-13.00	25.50	180
8	14000.0	-45.58	6.3	13.75	Horizontal	-38.13	-13.00	25.13	270
9	15750.0	-46.95	6.7	13.85	Horizontal	-39.80	-13.00	26.80	315
10	17500.0	-44.75	6.8	14.25	Horizontal	-37.30	-13.00	24.30	180
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

LTE Band 4 QPSK 15MHz CH Low, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3435.0	-58.95	2.6	10.15	Horizontal	-51.40	-13.00	38.40	225
3	5152.5	-56.55	2.4	11.35	Horizontal	-47.60	-13.00	34.60	180
4	6870.0	-51.25	4.5	10.85	Horizontal	-44.90	-13.00	31.90	270
5	8587.5	-48.95	5.1	11.35	Horizontal	-42.70	-13.00	29.70	45
6	10305.0	-47.75	5.3	11.95	Horizontal	-41.10	-13.00	28.10	135
7	12022.5	-48.55	5.5	13.55	Horizontal	-40.50	-13.00	27.50	90
8	13740.0	-45.65	6.3	13.75	Horizontal	-38.20	-13.00	25.20	135
9	15457.5	-47.15	6.7	13.85	Horizontal	-40.00	-13.00	27.00	225
10	17175.0	-44.85	6.8	14.25	Horizontal	-37.40	-13.00	24.40	315
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

LTE Band 4 QPSK 15MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3465.0	-59.95	2.6	10.75	Horizontal	-51.80	-13.00	38.80	180
3	5197.5	-55.55	2.4	11.05	Horizontal	-46.90	-13.00	33.90	315
4	6930.0	-51.85	4.5	11.15	Horizontal	-45.20	-13.00	32.20	90
5	8662.5	-48.05	5.1	11.35	Horizontal	-41.80	-13.00	28.80	225
6	10395.0	-46.05	5.3	11.95	Horizontal	-39.40	-13.00	26.40	270
7	12127.5	-47.75	5.5	13.55	Horizontal	-39.70	-13.00	26.70	45
8	13860.0	-44.35	6.3	13.75	Horizontal	-36.90	-13.00	23.90	180
9	15592.5	-45.95	6.7	13.85	Horizontal	-38.80	-13.00	25.80	90
10	17325.0	-43.95	6.8	14.25	Horizontal	-36.50	-13.00	23.50	135
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

LTE Band 4 QPSK 15MHz CH-High, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3495.0	-59.25	2.6	10.15	Horizontal	-51.70	-13.00	38.70	225
3	5242.5	-57.65	2.4	11.05	Horizontal	-49.00	-13.00	36.00	45
4	6990.0	-52.55	4.5	11.15	Horizontal	-45.90	-13.00	32.90	270
5	8737.5	-49.35	5.1	11.35	Horizontal	-43.10	-13.00	30.10	315
6	10485.0	-47.05	5.3	11.95	Horizontal	-40.40	-13.00	27.40	90
7	12232.5	-47.65	5.5	13.55	Horizontal	-39.60	-13.00	26.60	225
8	13980.0	-45.85	6.3	13.75	Horizontal	-38.40	-13.00	25.40	45
9	15727.5	-46.65	6.7	13.85	Horizontal	-39.50	-13.00	26.50	180
10	17475.0	-45.05	6.8	14.25	Horizontal	-37.60	-13.00	24.60	90
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

LTE Band 4 QPSK 20MHz CH-Low, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3440.0	-60.55	2.6	10.15	Horizontal	-53.00	-13.00	40.00	315
3	5160.0	-56.15	2.4	11.35	Horizontal	-47.20	-13.00	34.20	270
4	6880.0	-51.85	4.5	10.85	Horizontal	-45.50	-13.00	32.50	45
5	8600.0	-48.65	5.1	11.35	Horizontal	-42.40	-13.00	29.40	225
6	10320.0	-47.75	5.3	11.95	Horizontal	-41.10	-13.00	28.10	180
7	12040.0	-46.95	5.5	13.55	Horizontal	-38.90	-13.00	25.90	270
8	13760.0	-44.85	6.3	13.75	Horizontal	-37.40	-13.00	24.40	90
9	15480.0	-47.55	6.7	13.85	Horizontal	-40.40	-13.00	27.40	90
10	17200.0	-44.35	6.8	14.25	Horizontal	-36.90	-13.00	23.90	225
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

LTE Band 4 QPSK 20MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3465.0	-60.65	2.6	10.75	Horizontal	-52.50	-13.00	39.50	45
3	5197.5	-56.05	2.4	11.05	Horizontal	-47.40	-13.00	34.40	225
4	6930.0	-52.45	4.5	11.15	Horizontal	-45.80	-13.00	32.80	270
5	8662.5	-48.65	5.1	11.35	Horizontal	-42.40	-13.00	29.40	90
6	10395.0	-46.55	5.3	11.95	Horizontal	-39.90	-13.00	26.90	225
7	12127.5	-46.95	5.5	13.55	Horizontal	-38.90	-13.00	25.90	315
8	13860.0	-44.55	6.3	13.75	Horizontal	-37.10	-13.00	24.10	180
9	15592.5	-46.95	6.7	13.85	Horizontal	-39.80	-13.00	26.80	45
10	17325.0	-44.95	6.8	14.25	Horizontal	-37.50	-13.00	24.50	180
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

LTE Band 4 QPSK 20MHz CH-High, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3490.0	-58.25	2.6	10.15	Horizontal	-50.70	-13.00	37.70	315
3	5235.0	-56.85	2.4	11.05	Horizontal	-48.20	-13.00	35.20	225
4	6980.0	-52.05	4.5	11.15	Horizontal	-45.40	-13.00	32.40	45
5	8725.0	-48.85	5.1	11.35	Horizontal	-42.60	-13.00	29.60	180
6	10470.0	-45.65	5.3	11.95	Horizontal	-39.00	-13.00	26.00	270
7	12215.0	-47.55	5.5	13.55	Horizontal	-39.50	-13.00	26.50	315
8	13960.0	-44.75	6.3	13.75	Horizontal	-37.30	-13.00	24.30	90
9	15705.0	-45.85	6.7	13.85	Horizontal	-38.70	-13.00	25.70	180
10	17450.0	-44.45	6.8	14.25	Horizontal	-37.00	-13.00	24.00	135
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

LTE Band 12 QPSK 1.4MHz CH-Low, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1399.4	-60.85	2.00	10.15	Horizontal	-52.70	-13.00	39.70	45
3	2099.1	-58.95	2.50	11.35	Horizontal	-50.10	-13.00	37.10	270
4	2798.8	-56.15	4.20	10.85	Horizontal	-49.50	-13.00	36.50	45
5	3498.5	-56.85	5.20	11.35	Horizontal	-50.70	-13.00	37.70	180
6	4198.2	-56.15	5.50	11.95	Horizontal	-49.70	-13.00	36.70	270
7	4897.9	-56.95	5.70	13.55	Horizontal	-49.10	-13.00	36.10	135
8	5597.6	-55.25	6.30	13.75	Horizontal	-47.80	-13.00	34.80	45
9	6297.3	-53.95	6.80	13.85	Horizontal	-46.90	-13.00	33.90	270
10	6997.0	-53.25	6.90	14.25	Horizontal	-45.90	-13.00	32.90	180
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

LTE Band 12 QPSK 1.4MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1415.0	-61.65	2.00	10.75	Horizontal	-52.90	-13.00	39.90	270
3	2122.5	-58.54	2.51	11.05	Horizontal	-50.00	-13.00	37.00	180
4	2830.0	-56.45	4.20	11.15	Horizontal	-49.50	-13.00	36.50	270
5	3537.5	-58.95	5.20	11.15	Horizontal	-53.00	-13.00	40.00	270
6	4245.0	-56.05	5.50	11.95	Horizontal	-49.60	-13.00	36.60	270
7	4952.5	-56.25	5.70	13.55	Horizontal	-48.40	-13.00	35.40	135
8	5660.0	-55.65	6.30	13.75	Horizontal	-48.20	-13.00	35.20	45
9	6367.5	-52.65	6.80	13.85	Horizontal	-45.60	-13.00	32.60	270
10	7075.0	-50.85	6.90	14.25	Horizontal	-43.50	-13.00	30.50	180
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

LTE Band 12 QPSK 1.4MHz CH-High, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1430.6	-61.15	2.00	10.15	Horizontal	-53.00	-13.00	40.00	135
3	2145.9	-58.94	2.51	11.05	Horizontal	-50.40	-13.00	37.40	45
4	2861.2	-56.45	4.20	11.15	Horizontal	-49.50	-13.00	36.50	180
5	3576.5	-58.95	5.20	11.15	Horizontal	-53.00	-13.00	40.00	270
6	4291.8	-56.05	5.50	11.95	Horizontal	-49.60	-13.00	36.60	135
7	5007.1	-55.05	5.70	13.55	Horizontal	-47.20	-13.00	34.20	180
8	5722.4	-55.25	6.30	13.75	Horizontal	-47.80	-13.00	34.80	270
9	6437.7	-52.95	6.80	13.85	Horizontal	-45.90	-13.00	32.90	135
10	7153.0	-50.65	6.90	14.25	Horizontal	-43.30	-13.00	30.30	45
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

LTE Band 12 QPSK 3MHz CH-Low, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1401.0	-61.65	2.00	10.15	Horizontal	-53.50	-13.00	40.50	45
3	2101.5	-59.04	2.51	11.35	Horizontal	-50.20	-13.00	37.20	270
4	2802.0	-56.35	4.20	10.85	Horizontal	-49.70	-13.00	36.70	180
5	3502.5	-57.45	5.20	11.35	Horizontal	-51.30	-13.00	38.30	270
6	4203.0	-56.15	5.50	11.95	Horizontal	-49.70	-13.00	36.70	180
7	4903.5	-58.15	5.70	13.55	Horizontal	-50.30	-13.00	37.30	270
8	5604.0	-55.85	6.30	13.75	Horizontal	-48.40	-13.00	35.40	135
9	6304.5	-53.45	6.80	13.85	Horizontal	-46.40	-13.00	33.40	90
10	7005.0	-52.75	6.90	14.25	Horizontal	-45.40	-13.00	32.40	225
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

LTE Band 12 QPSK 3MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1415.0	-61.65	2.00	10.75	Horizontal	-52.90	-13.00	39.90	270
3	2122.5	-58.34	2.51	11.05	Horizontal	-49.80	-13.00	36.80	135
4	2830.0	-57.25	4.20	11.15	Horizontal	-50.30	-13.00	37.30	45
5	3537.5	-57.55	5.20	11.15	Horizontal	-51.60	-13.00	38.60	90
6	4245.0	-56.65	5.50	11.95	Horizontal	-50.20	-13.00	37.20	135
7	4952.5	-55.45	5.70	13.55	Horizontal	-47.60	-13.00	34.60	225
8	5660.0	-55.55	6.30	13.75	Horizontal	-48.10	-13.00	35.10	225
9	6367.5	-52.45	6.80	13.85	Horizontal	-45.40	-13.00	32.40	180
10	7075.0	-50.75	6.90	14.25	Horizontal	-43.40	-13.00	30.40	45
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

LTE Band 12 QPSK 3MHz CH-High, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1429.0	-61.25	2.00	10.15	Horizontal	-53.10	-13.00	40.10	180
3	2143.5	-58.34	2.51	11.05	Horizontal	-49.80	-13.00	36.80	45
4	2858.0	-56.85	4.20	11.15	Horizontal	-49.90	-13.00	36.90	180
5	3572.5	-57.95	5.20	11.15	Horizontal	-52.00	-13.00	39.00	225
6	4287.0	-55.75	5.50	11.95	Horizontal	-49.30	-13.00	36.30	180
7	5001.5	-54.65	5.70	13.55	Horizontal	-46.80	-13.00	33.80	45
8	5716.0	-55.25	6.30	13.75	Horizontal	-47.80	-13.00	34.80	315
9	6430.5	-52.75	6.80	13.85	Horizontal	-45.70	-13.00	32.70	270
10	7145.0	-50.45	6.90	14.25	Horizontal	-43.10	-13.00	30.10	315
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

LTE Band 12 QPSK 5MHz CH-Low, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1403.0	-61.45	2.00	10.15	Horizontal	-53.30	-13.00	40.30	45
3	2104.5	-58.75	2.50	11.35	Horizontal	-49.90	-13.00	36.90	270
4	2806.0	-56.15	4.20	10.85	Horizontal	-49.50	-13.00	36.50	180
5	3507.5	-56.55	5.20	11.35	Horizontal	-50.40	-13.00	37.40	270
6	4209.0	-56.35	5.50	11.95	Horizontal	-49.90	-13.00	36.90	135
7	4910.5	-56.25	5.70	13.55	Horizontal	-48.40	-13.00	35.40	90
8	5612.0	-53.65	6.30	13.75	Horizontal	-46.20	-13.00	33.20	225
9	6313.5	-53.35	6.80	13.85	Horizontal	-46.30	-13.00	33.30	180
10	7015.0	-52.65	6.90	14.25	Horizontal	-45.30	-13.00	32.30	45
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

LTE Band 12 QPSK 5MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1415.0	-61.45	2.00	10.75	Horizontal	-52.70	-13.00	39.70	270
3	2122.5	-58.74	2.51	11.05	Horizontal	-50.20	-13.00	37.20	135
4	2830.0	-56.45	4.20	11.15	Horizontal	-49.50	-13.00	36.50	45
5	3537.5	-58.15	5.20	11.15	Horizontal	-52.20	-13.00	39.20	225
6	4245.0	-56.35	5.50	11.95	Horizontal	-49.90	-13.00	36.90	180
7	4952.5	-57.55	5.70	13.55	Horizontal	-49.70	-13.00	36.70	45
8	5660.0	-55.75	6.30	13.75	Horizontal	-48.30	-13.00	35.30	315
9	6367.5	-50.05	6.80	13.85	Horizontal	-43.00	-13.00	30.00	270
10	7075.0	-50.35	6.90	14.25	Horizontal	-43.00	-13.00	30.00	135
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

LTE Band 12 QPSK 5MHz CH-High, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1427.0	-61.25	2.00	10.15	Horizontal	-53.10	-13.00	40.10	180
3	2140.5	-58.24	2.51	11.05	Horizontal	-49.70	-13.00	36.70	45
4	2854.0	-56.85	4.20	11.15	Horizontal	-49.90	-13.00	36.90	180
5	3567.5	-57.35	5.20	11.15	Horizontal	-51.40	-13.00	38.40	90
6	4281.0	-56.25	5.50	11.95	Horizontal	-49.80	-13.00	36.80	225
7	4994.5	-53.65	5.70	13.55	Horizontal	-45.80	-13.00	32.80	180
8	5708.0	-55.15	6.30	13.75	Horizontal	-47.70	-13.00	34.70	45
9	6421.5	-53.45	6.80	13.85	Horizontal	-46.40	-13.00	33.40	225
10	7135.0	-51.05	6.90	14.25	Horizontal	-43.70	-13.00	30.70	180
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

LTE Band 12 QPSK 10MHz CH-Low, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1408.0	-60.55	2.00	10.15	Horizontal	-52.40	-13.00	39.40	270
3	2112.0	-59.14	2.51	11.35	Horizontal	-50.30	-13.00	37.30	135
4	2816.0	-56.75	4.20	10.85	Horizontal	-50.10	-13.00	37.10	45
5	3520.0	-58.35	5.20	11.35	Horizontal	-52.20	-13.00	39.20	135
6	4224.0	-55.15	5.50	11.95	Horizontal	-48.70	-13.00	35.70	0
7	4928.0	-57.25	5.70	13.55	Horizontal	-49.40	-13.00	36.40	90
8	5632.0	-55.85	6.30	13.75	Horizontal	-48.40	-13.00	35.40	135
9	6336.0	-53.85	6.80	13.85	Horizontal	-46.80	-13.00	33.80	270
10	7040.0	-50.95	6.90	14.25	Horizontal	-43.60	-13.00	30.60	225
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

LTE Band 12 QPSK 10MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1415.0	-61.25	2.00	10.75	Horizontal	-52.50	-13.00	39.50	270
3	2122.5	-58.64	2.51	11.05	Horizontal	-50.10	-13.00	37.10	180
4	2830.0	-57.15	4.20	11.15	Horizontal	-50.20	-13.00	37.20	270
5	3537.5	-57.45	5.20	11.15	Horizontal	-51.50	-13.00	38.50	135
6	4245.0	-56.25	5.50	11.95	Horizontal	-49.80	-13.00	36.80	225
7	4952.5	-57.25	5.70	13.55	Horizontal	-49.40	-13.00	36.40	135
8	5660.0	-55.35	6.30	13.75	Horizontal	-47.90	-13.00	34.90	0
9	6367.5	-52.35	6.80	13.85	Horizontal	-45.30	-13.00	32.30	45
10	7075.0	-51.75	6.90	14.25	Horizontal	-44.40	-13.00	31.40	135
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

LTE Band 12 QPSK 10MHz CH-High, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1422.0	-60.65	2.00	10.15	Horizontal	-52.50	-13.00	39.50	135
3	2133.0	-58.64	2.51	11.05	Horizontal	-50.10	-13.00	37.10	45
4	2844.0	-56.35	4.20	11.15	Horizontal	-49.40	-13.00	36.40	180
5	3555.0	-57.55	5.20	11.15	Horizontal	-51.60	-13.00	38.60	0
6	4266.0	-57.15	5.50	11.95	Horizontal	-50.70	-13.00	37.70	90
7	4977.0	-56.55	5.70	13.55	Horizontal	-48.70	-13.00	35.70	135
8	5688.0	-54.95	6.30	13.75	Horizontal	-47.50	-13.00	34.50	270
9	6399.0	-54.15	6.80	13.85	Horizontal	-47.10	-13.00	34.10	225
10	7110.0	-51.25	6.90	14.25	Horizontal	-43.90	-13.00	30.90	135
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

Variant

LTE Band 13 QPSK 5MHz CH-Low, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1555.8	-60.00	2.00	10.15	Horizontal	-54.0	-13.00	41.0	90
3	2338.5	-57.00	2.50	11.35	Horizontal	-50.3	-13.00	37.3	45
4	3118.0	-54.00	4.20	10.85	Horizontal	-49.5	-13.00	36.5	270
5	3897.5	-52.70	5.20	11.35	Horizontal	-48.7	-13.00	35.7	180
6	4677.0	-51.70	5.50	11.95	Horizontal	-47.4	-13.00	34.4	270
7	5456.5	-51.00	5.70	13.55	Horizontal	-45.3	-13.00	32.3	135
8	6236.0	-51.00	6.30	13.75	Horizontal	-45.7	-13.00	32.7	90
9	7015.5	-49.10	6.80	13.85	Horizontal	-44.2	-13.00	31.2	45
10	7795.0	-47.80	6.90	14.25	Horizontal	-42.6	-13.00	29.6	225
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

LTE Band 13 QPSK 5MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1564.0	-60.30	2.00	10.75	Horizontal	-53.7	-40.00	13.7	135
3	2346.0	-56.69	2.51	11.05	Horizontal	-50.3	-13.00	37.3	225
4	3128.0	-51.90	4.20	11.15	Horizontal	-47.1	-13.00	34.1	135
5	3910.0	-52.40	5.20	11.15	Horizontal	-48.6	-13.00	35.6	90
6	4692.0	-51.50	5.50	11.95	Horizontal	-47.2	-13.00	34.2	225
7	5474.0	-51.20	5.70	13.55	Horizontal	-45.5	-13.00	32.5	180
8	6256.0	-50.50	6.30	13.75	Horizontal	-45.2	-13.00	32.2	90
9	7038.0	-48.70	6.80	13.85	Horizontal	-43.8	-13.00	30.8	225
10	7820.0	-47.70	6.90	14.25	Horizontal	-42.5	-13.00	29.5	180
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

LTE Band 13 QPSK 5MHz CH-High, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1569.0	-59.70	2.00	10.15	Horizontal	-53.7	-40.00	13.70	135
3	2353.5	-55.99	2.51	11.05	Horizontal	-49.6	-13.00	36.6	45
4	3138.0	-52.00	4.20	11.15	Horizontal	-47.2	-13.00	34.2	45
5	3922.5	-52.20	5.20	11.15	Horizontal	-48.4	-13.00	35.4	135
6	4707.0	-51.40	5.50	11.95	Horizontal	-47.1	-13.00	34.1	270
7	5491.5	-51.10	5.70	13.55	Horizontal	-45.4	-13.00	32.4	135
8	6276.0	-48.90	6.30	13.75	Horizontal	-43.6	-13.00	30.6	225
9	7060.5	-48.40	6.80	13.85	Horizontal	-43.5	-13.00	30.5	90
10	7845.0	-47.10	6.90	14.25	Horizontal	-41.9	-13.00	28.9	180
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

LTE Band 13 QPSK 10MHz CH-Low, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1556.5	-58.40	2.00	10.15	Horizontal	-52.4	-13.00	39.4	180
3	2346.0	-55.29	2.51	11.35	Horizontal	-48.6	-13.00	35.6	45
4	3128.0	-53.60	4.20	10.85	Horizontal	-49.1	-13.00	36.1	45
5	3910.0	-51.50	5.20	11.35	Horizontal	-47.5	-13.00	34.5	225
6	4692.0	-50.60	5.50	11.95	Horizontal	-46.3	-13.00	33.3	180
7	5474.0	-50.90	5.70	13.55	Horizontal	-45.2	-13.00	32.2	90
8	6256.0	-50.10	6.30	13.75	Horizontal	-44.8	-13.00	31.8	0
9	7038.0	-47.50	6.80	13.85	Horizontal	-42.6	-13.00	29.6	90
10	7820.0	-46.50	6.90	14.25	Horizontal	-41.3	-13.00	28.3	135
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

LTE Band 13 QPSK 10MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1555.3	-59.10	2.00	10.75	Horizontal	-52.5	-13.00	39.5	180
3	2346.0	-55.19	2.51	11.05	Horizontal	-48.8	-13.00	35.8	90
4	3128.0	-53.70	4.20	11.15	Horizontal	-48.9	-13.00	35.9	270
5	3910.0	-51.40	5.20	11.15	Horizontal	-47.6	-13.00	34.6	45
6	4692.0	-50.40	5.50	11.95	Horizontal	-46.1	-13.00	33.1	135
7	5474.0	-51.10	5.70	13.55	Horizontal	-45.4	-13.00	32.4	225
8	6256.0	-50.60	6.30	13.75	Horizontal	-45.3	-13.00	32.3	90
9	7038.0	-47.40	6.80	13.85	Horizontal	-42.5	-13.00	29.5	0
10	7820.0	-46.30	6.90	14.25	Horizontal	-41.1	-13.00	28.1	45
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

LTE Band 13 QPSK 10MHz CH-High, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1564.0	-57.30	2.00	10.15	Horizontal	-51.3	-40.00	11.3	45
3	2346.0	-55.19	2.51	11.05	Horizontal	-48.8	-13.00	35.8	45
4	3128.0	-53.50	4.20	11.15	Horizontal	-48.7	-13.00	35.7	135
5	3910.0	-51.30	5.20	11.15	Horizontal	-47.5	-13.00	34.5	0
6	4692.0	-50.50	5.50	11.95	Horizontal	-46.2	-13.00	33.2	90
7	5474.0	-51.20	5.70	13.55	Horizontal	-45.5	-13.00	32.5	135
8	6256.0	-51.10	6.30	13.75	Horizontal	-45.8	-13.00	32.8	270
9	7038.0	-47.60	6.80	13.85	Horizontal	-42.7	-13.00	29.7	225
10	7820.0	-46.50	6.90	14.25	Horizontal	-41.3	-13.00	28.3	135
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

LTE Band 17 QPSK 5MHz CH-Low, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1408.5	-57.20	2.00	10.15	Horizontal	-51.2	-13.00	38.2	45
3	2209.5	-55.90	2.50	11.35	Horizontal	-49.2	-13.00	36.2	270
4	2946.0	-54.00	4.20	10.85	Horizontal	-49.5	-13.00	36.5	180
5	3682.5	-53.90	5.20	11.35	Horizontal	-49.9	-13.00	36.9	270
6	4419.0	-52.40	5.50	11.95	Horizontal	-48.1	-13.00	35.1	135
7	5155.5	-51.30	5.70	13.55	Horizontal	-45.6	-13.00	32.6	90
8	5892.0	-51.50	6.30	13.75	Horizontal	-46.2	-13.00	33.2	225
9	6628.5	-48.40	6.80	13.85	Horizontal	-43.5	-13.00	30.5	180
10	7365.0	-46.90	6.90	14.25	Horizontal	-41.7	-13.00	28.7	45
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

LTE Band 17 QPSK 5MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1415.5	-57.60	2.00	10.75	Horizontal	-51.0	-13.00	38.0	270
3	2220.0	-56.09	2.51	11.05	Horizontal	-49.7	-13.00	36.7	135
4	2960.0	-55.10	4.20	11.15	Horizontal	-50.3	-13.00	37.3	45
5	3700.0	-53.60	5.20	11.15	Horizontal	-49.8	-13.00	36.8	225
6	4440.0	-51.90	5.50	11.95	Horizontal	-47.6	-13.00	34.6	180
7	5180.0	-51.00	5.70	13.55	Horizontal	-45.3	-13.00	32.3	45
8	5920.0	-51.40	6.30	13.75	Horizontal	-46.1	-13.00	33.1	315
9	6660.0	-48.30	6.80	13.85	Horizontal	-43.4	-13.00	30.4	270
10	7400.0	-46.60	6.90	14.25	Horizontal	-41.4	-13.00	28.4	135
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

LTE Band 17 QPSK 5MHz CH-High, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1487.0	-59.00	2.00	10.15	Horizontal	-53.0	-13.00	40.0	180
3	2230.5	-54.69	2.51	11.05	Horizontal	-48.3	-13.00	35.3	45
4	2974.0	-55.30	4.20	11.15	Horizontal	-50.5	-13.00	37.5	180
5	3717.5	-53.30	5.20	11.15	Horizontal	-49.5	-13.00	36.5	90
6	4461.0	-51.00	5.50	11.95	Horizontal	-46.7	-13.00	33.7	225
7	5204.5	-50.90	5.70	13.55	Horizontal	-45.2	-13.00	32.2	180
8	5948.0	-51.10	6.30	13.75	Horizontal	-45.8	-13.00	32.8	45
9	6691.5	-51.10	6.80	13.85	Horizontal	-46.2	-13.00	33.2	225
10	7435.0	-46.30	6.90	14.25	Horizontal	-41.1	-13.00	28.1	180
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

LTE Band 17 QPSK 10MHz CH-Low, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1408.5	-57.00	2.00	10.15	Horizontal	-51.0	-13.00	38.0	270
3	2147.0	-54.89	2.51	11.35	Horizontal	-48.2	-13.00	35.2	135
4	2956.0	-55.30	4.20	10.85	Horizontal	-50.8	-13.00	37.8	45
5	3695.0	-53.90	5.20	11.35	Horizontal	-49.9	-13.00	36.9	135
6	4434.0	-53.50	5.50	11.95	Horizontal	-49.2	-13.00	36.2	0
7	5173.0	-51.90	5.70	13.55	Horizontal	-46.2	-13.00	33.2	90
8	5912.0	-50.80	6.30	13.75	Horizontal	-45.5	-13.00	32.5	135
9	6651.0	-47.00	6.80	13.85	Horizontal	-42.1	-13.00	29.1	270
10	7390.0	-47.00	6.90	14.25	Horizontal	-41.8	-13.00	28.8	225
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

LTE Band 17 QPSK 10MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1411.0	-57.80	2.00	10.75	Horizontal	-51.2	-13.00	38.2	270
3	2220.0	-55.89	2.51	11.05	Horizontal	-49.5	-13.00	36.5	180
4	2960.0	-55.10	4.20	11.15	Horizontal	-50.3	-13.00	37.3	270
5	3700.0	-53.50	5.20	11.15	Horizontal	-49.7	-13.00	36.7	135
6	4440.0	-53.70	5.50	11.95	Horizontal	-49.4	-13.00	36.4	225
7	5180.0	-52.20	5.70	13.55	Horizontal	-46.5	-13.00	33.5	135
8	5920.0	-51.00	6.30	13.75	Horizontal	-45.7	-13.00	32.7	0
9	6660.0	-47.20	6.80	13.85	Horizontal	-42.3	-13.00	29.3	45
10	7400.0	-47.20	6.90	14.25	Horizontal	-42.0	-13.00	29.0	135
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

LTE Band 17 QPSK 10MHz CH-High, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1412.7	-57.50	2.00	10.15	Horizontal	-51.5	-13.00	38.5	135
3	2223.0	-55.99	2.51	11.05	Horizontal	-49.6	-13.00	36.6	45
4	2964.0	-55.00	4.20	11.15	Horizontal	-50.2	-13.00	37.2	180
5	3705.0	-53.30	5.20	11.15	Horizontal	-49.5	-13.00	36.5	0
6	4446.0	-53.40	5.50	11.95	Horizontal	-49.1	-13.00	36.1	90
7	5187.0	-51.90	5.70	13.55	Horizontal	-46.2	-13.00	33.2	135
8	5928.0	-50.60	6.30	13.75	Horizontal	-45.3	-13.00	32.3	270
9	6669.0	-46.90	6.80	13.85	Horizontal	-42.0	-13.00	29.0	225
10	7410.0	-46.90	6.90	14.25	Horizontal	-41.7	-13.00	28.7	135
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

6 Main Test Instruments

Name	Manufacturer	Type	Serial Number	Calibration Date	Expiration Date
Base Station Simulator	R&S	CMW500	113645	2017-05-14	2018-05-13
Power Splitter	Hua Xiang	SHX-GF2-2-13	10120101	2017-05-14	2018-05-13
Spectrum Analyzer	Agilent	N9010A	MY47191109	2017-05-14	2018-05-13
Signal Analyzer	R&S	FSV30	100815	2016-12-16	2017-12-15
Signal Analyzer	R&S	FSV30	100815	2017-12-17	2018-12-16
Signal generator	R&S	SMB 100A	102594	2017-05-14	2018-05-13
EMI Test Receiver	R&S	ESCI	100948	2017-05-20	2018-05-19
Trilog Antenna	SCHWARZBECK	VUBL 9163	9163-201	2014-12-06	2017-12-05
Trilog Antenna	SCHWARZBECK	VUBL 9163	9163-201	2017-11-18	2020-11-17
Horn Antenna	R&S	HF907	100126	2014-12-06	2017-12-05
Horn Antenna	R&S	HF907	100126	2014-12-06	2019-12-05
Horn Antenna	ETS-Lindgren	3160-09	00102643	2015-01-30	2020-01-29
Climatic Chamber	Re Ce	PT-30B	20101891	2015-07-18	2018-07-17
RF Cable	Agilent	SMA 15cm	0001	2017-08-04	2018-02-03
RF Cable	Agilent	SMA 15cm	0001	2018-02-03	2018-08-02
Preampflier	R&S	SCU18	102327	2017-06-18	2018-06-17
Software	R&S	EMC32	V 8.52.0	NA	NA

ANNEX A: Product Change Description

As the applicant of the below model, [ZTE Corporation] declares that the product,

[ZTE BLADE A6 MAX、ZTE BLADE A0605、BLADE A6 MAX]

is the variant of the initial certified product,

[ZTE BLADE A6 MAX、ZTE BLADE A0605、BLADE A6 MAX]

SOFTWARE MODIFICATIONS:

Protocol Stack changes: NO
MMS/STK changes: NO
JAVA changes: NO
Other changes detailed:
Software versions: From TEL_MX_P809F15V1.0.0 to **JM_P809F15V1.0.0B03**
Band changes:
From
GSM：850/1900;
UMTS：850 /1900/1700;
LTE: B2/B4/B5/B7/B12
To
GSM: 850/1900;
UMTS: 850/1900;
LTE：B4/B5/B12/B13/B17

HARDWARE MODIFICATION:

Power Amplifier changes: NO
Antenna changes: NO
PCB Layout changes: NO
Components on PCB changes: NO
LCD changes: NO
Speaker changes: NO
Camera changes: NO
Vibrator changes: NO

MECHANICAL MODIFICATIONS:

Use new metal front/back cover or keypad: NO
Mechanical shell changes: NO
Other changes detailed: NO

ACCESSORY MODIFICATIONS:

Battery changes: NO

AC Adaptor changes: NO

Earphone changes: NO

DATA LINE changes: NO

Date: 2018/02/12

Sign by: Min Zhang