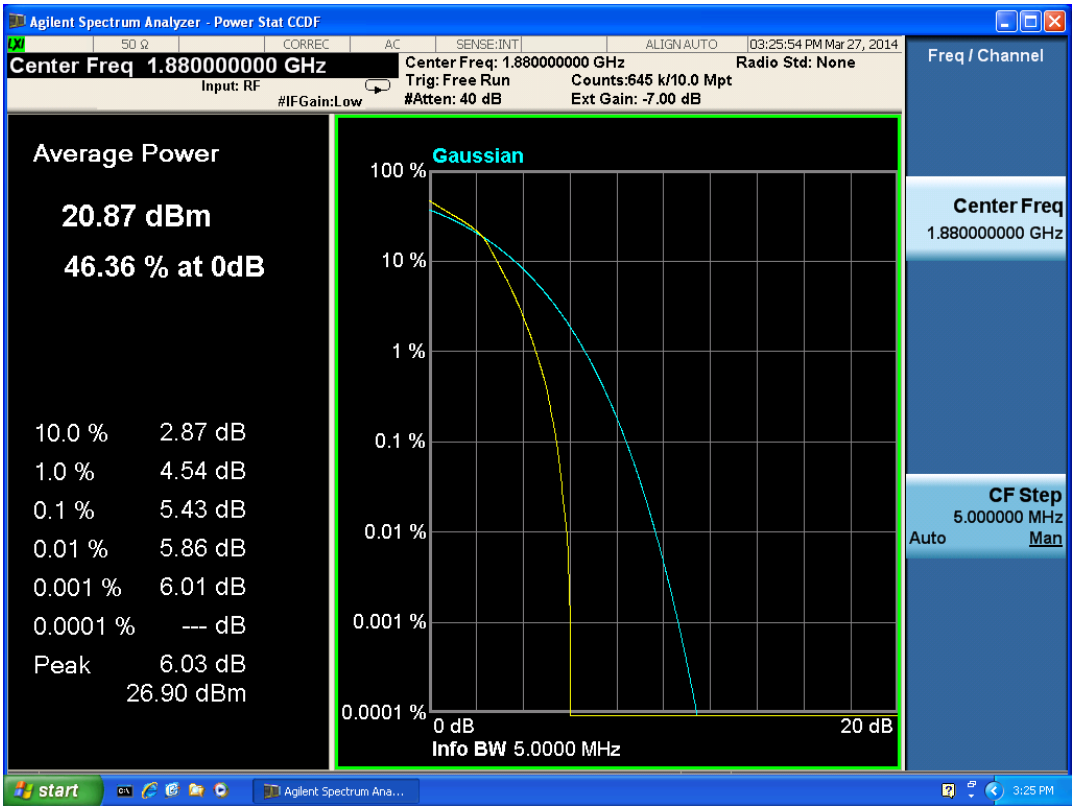
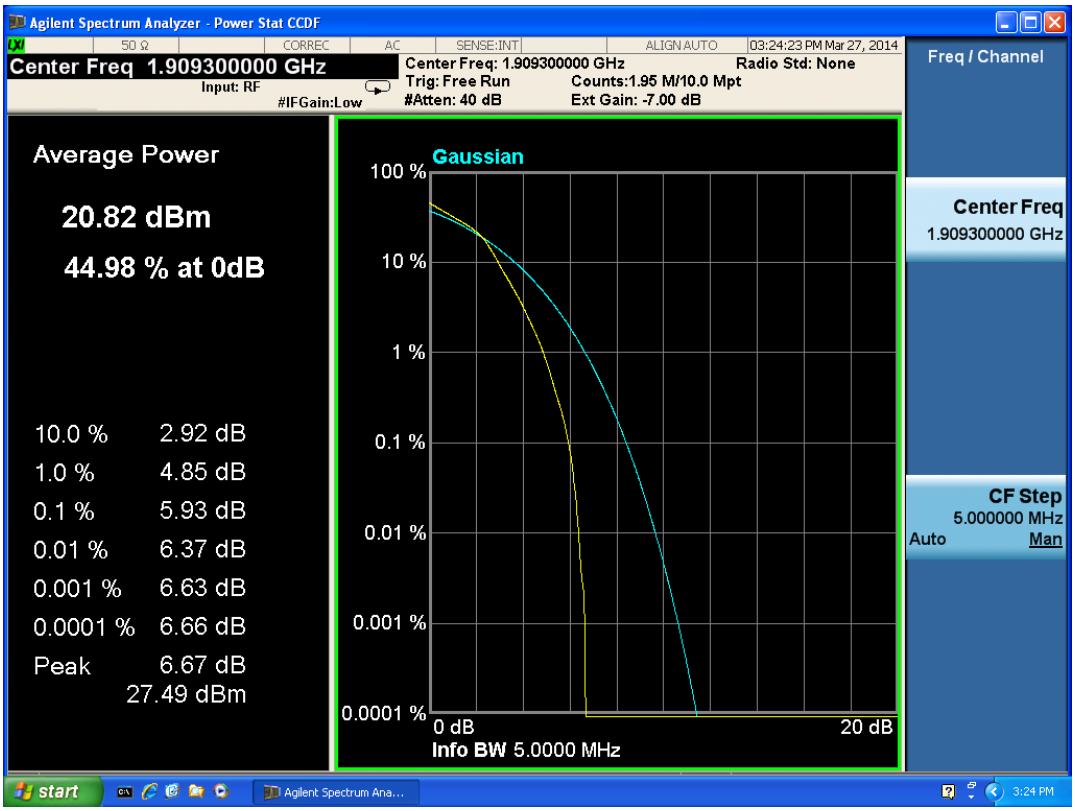
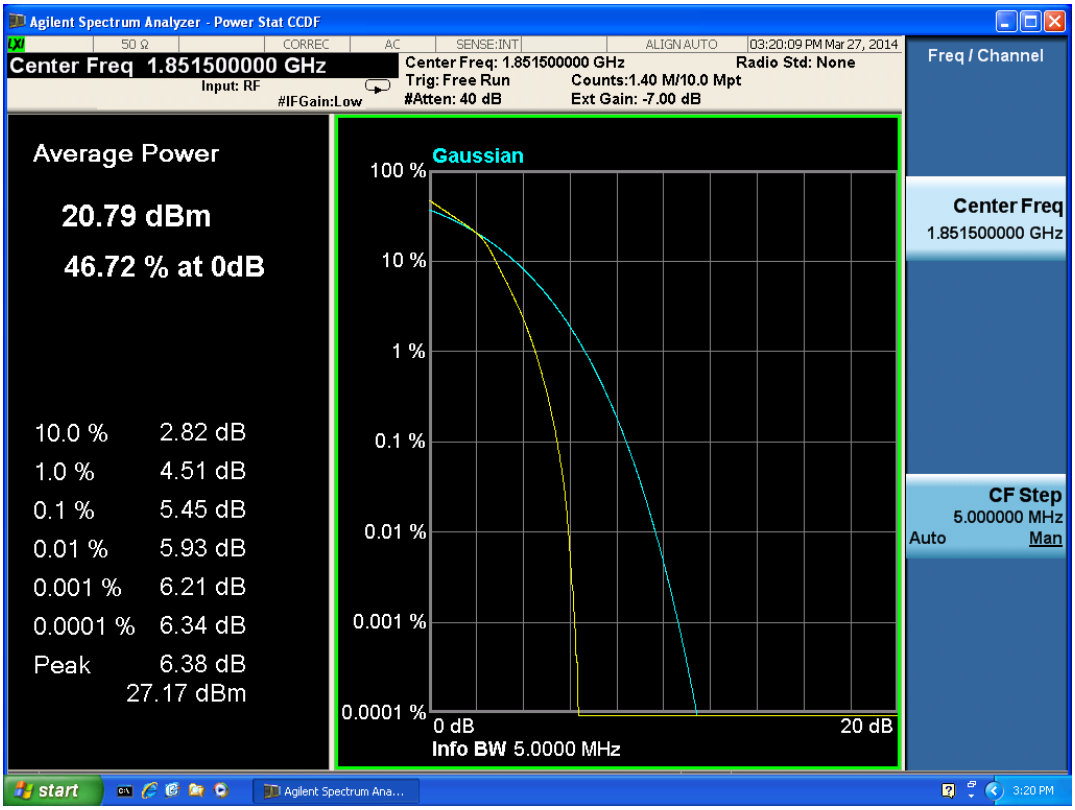


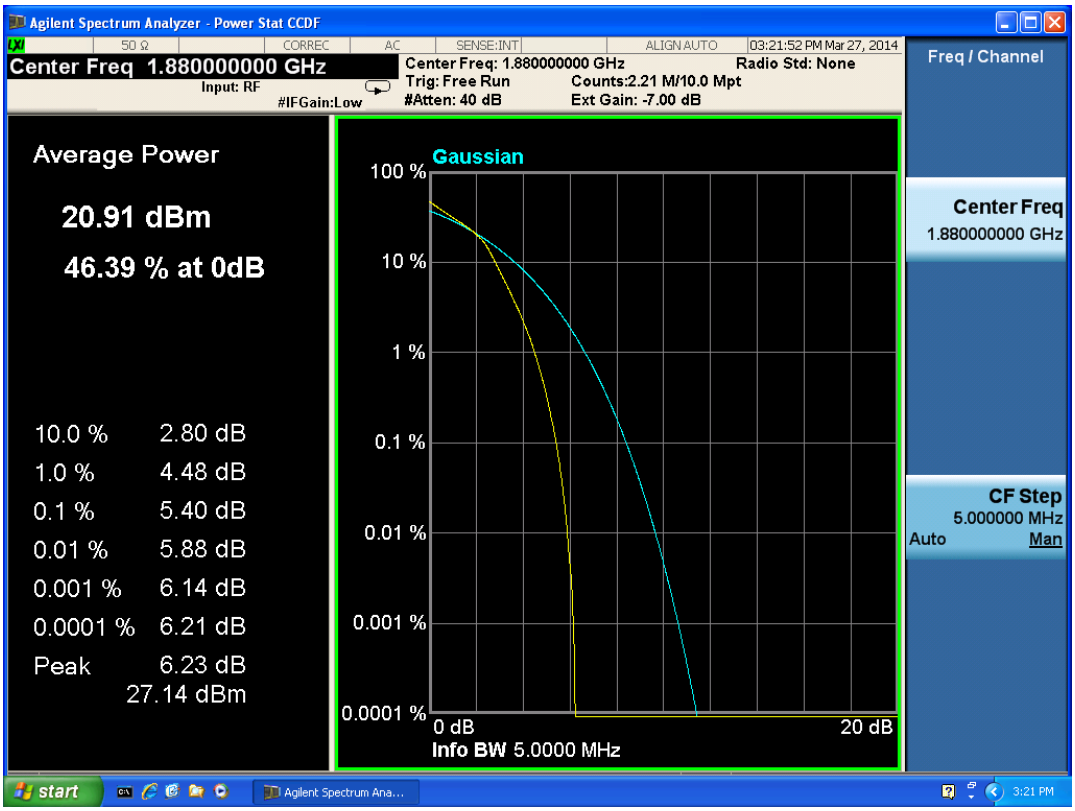
LTE Band 2 16QAM Bandwidth = 1.4MHz CH18900



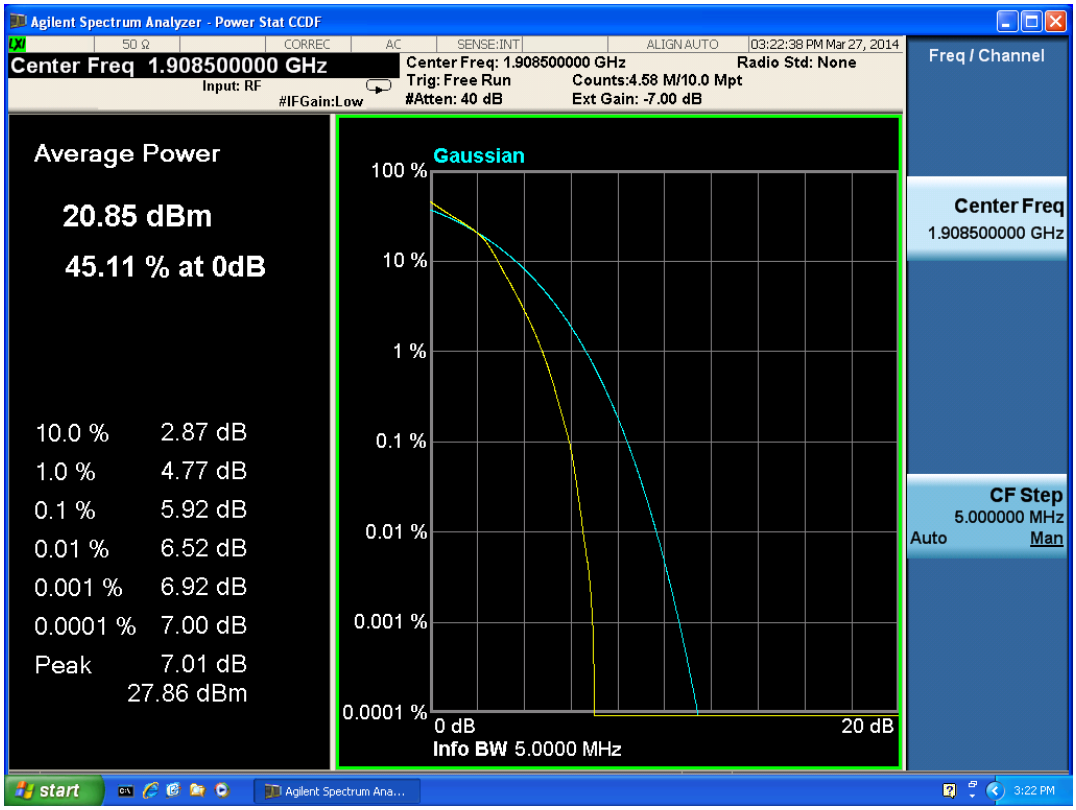
LTE Band 2 16QAM Bandwidth = 1.4MHz CH19193



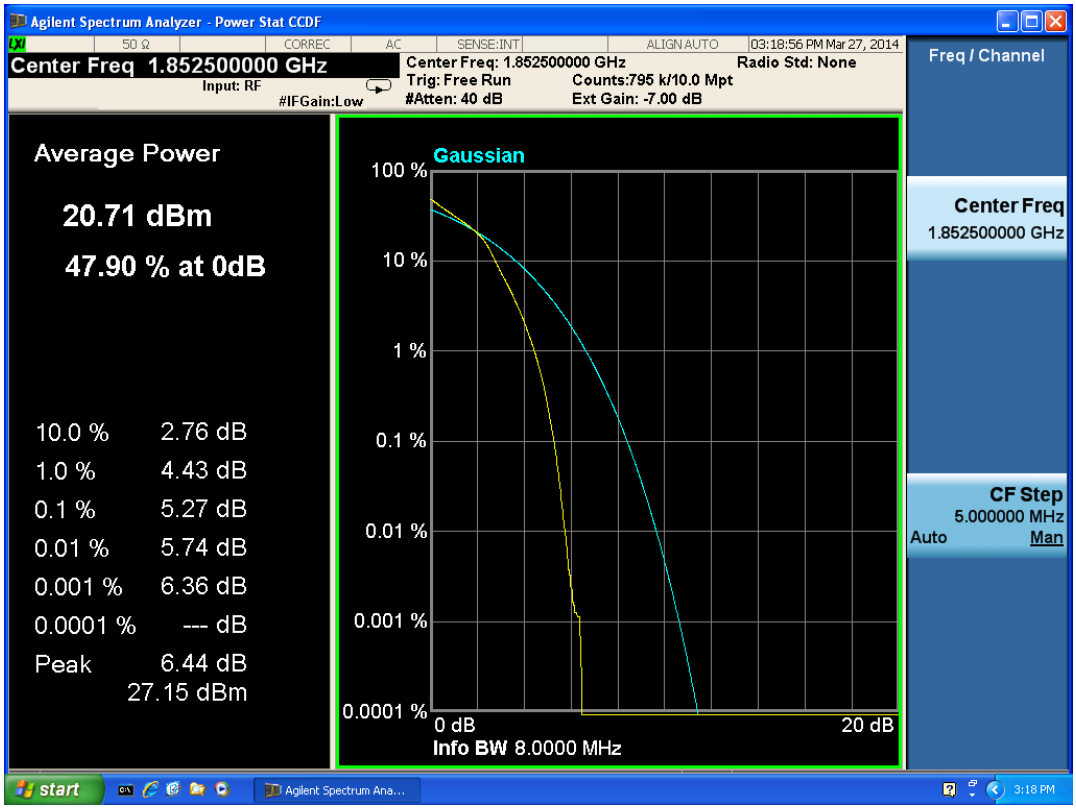
LTE Band 2 16QAM Bandwidth = 3MHz CH18615



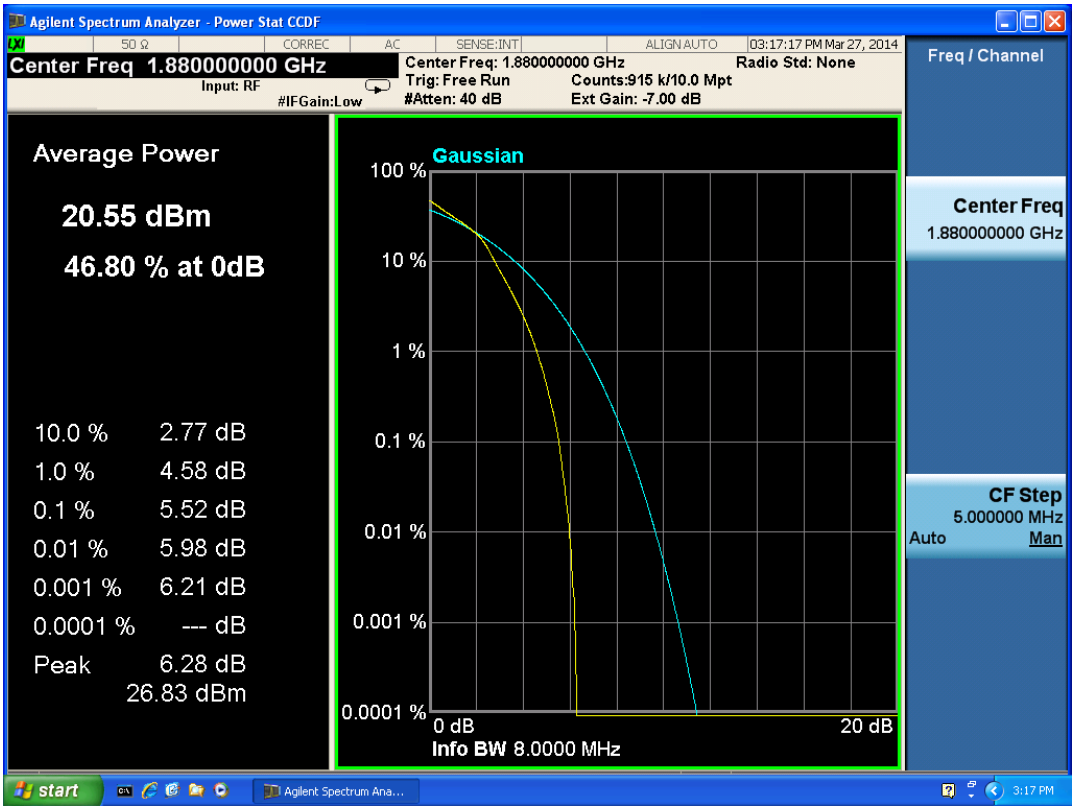
LTE Band 2 16QAM Bandwidth = 3MHz CH18900



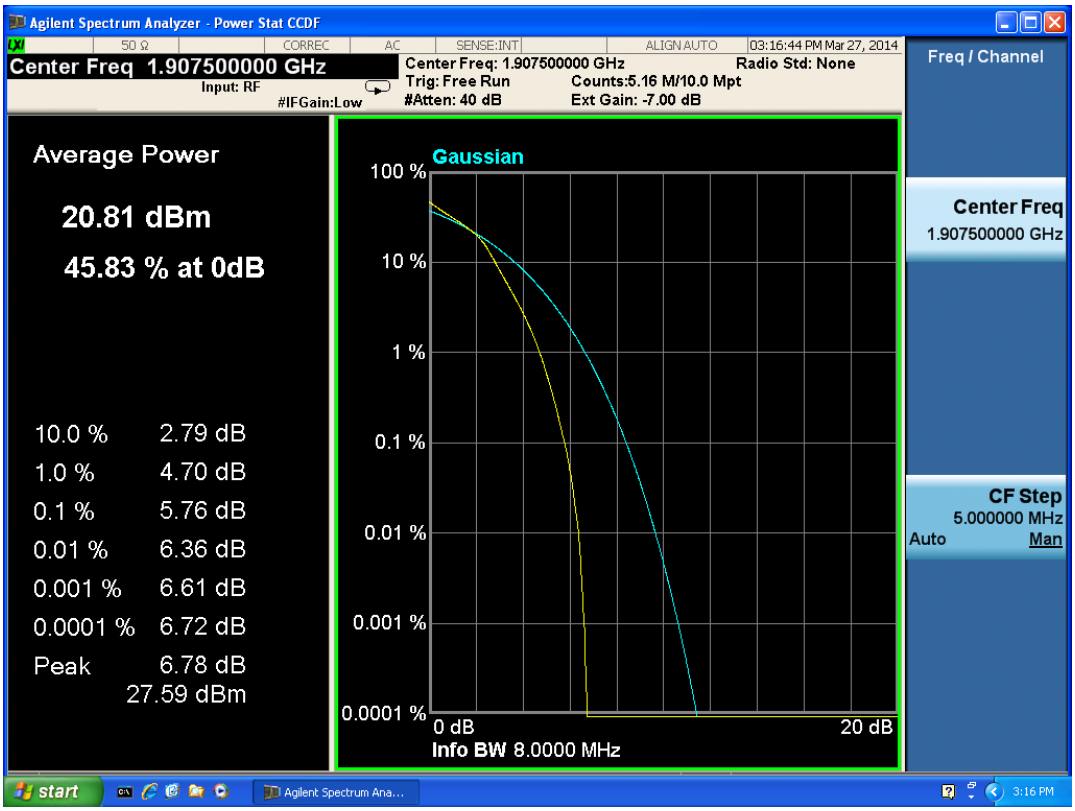
LTE Band 2 16QAM Bandwidth = 3MHz CH19185



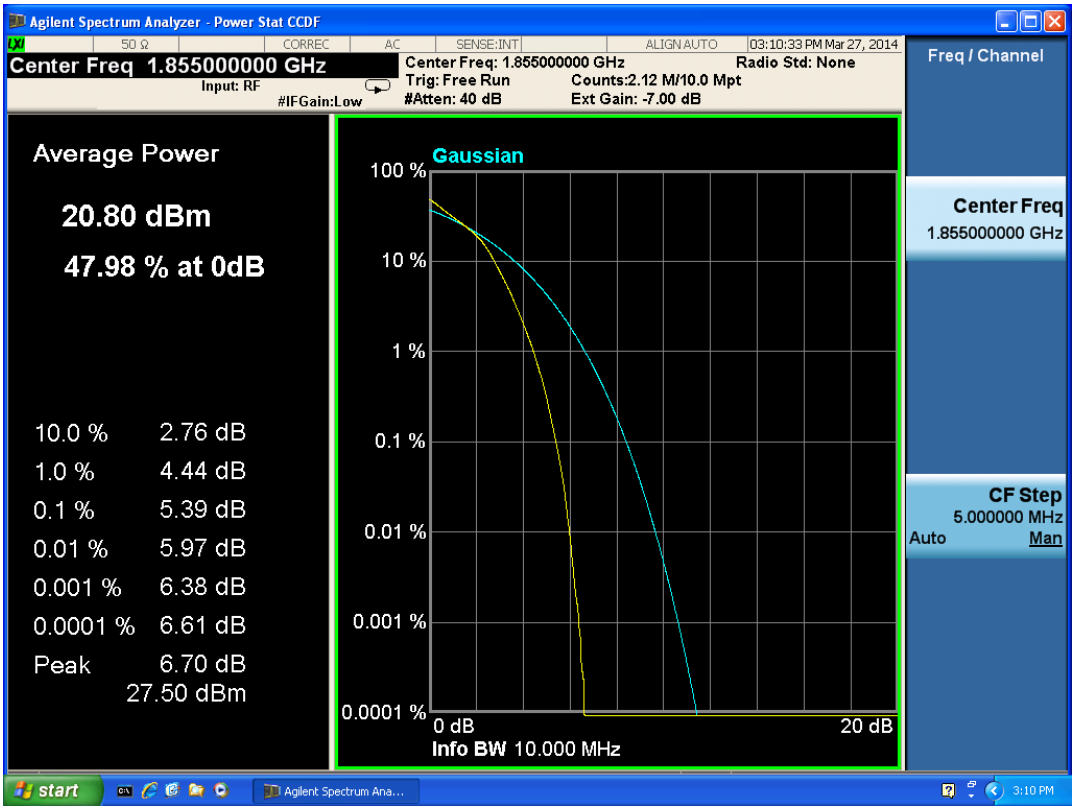
LTE Band 2 16QAM Bandwidth = 5MHz CH18625



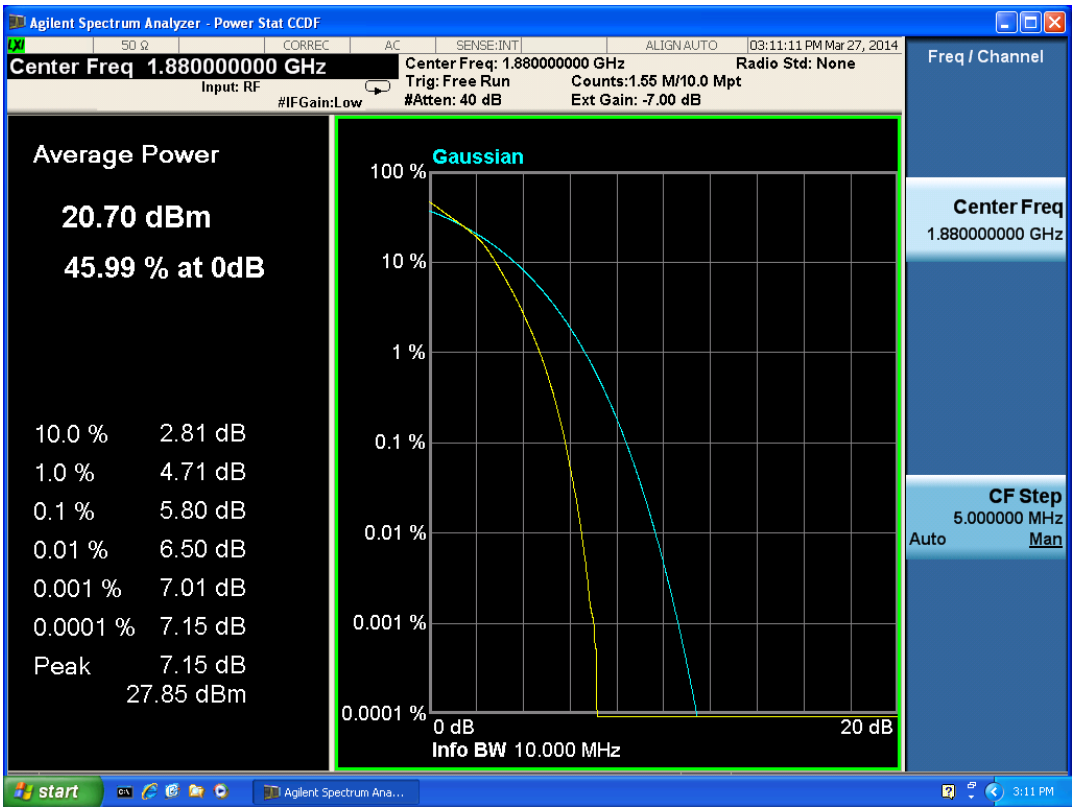
LTE Band 2 16QAM Bandwidth = 5MHz CH18900



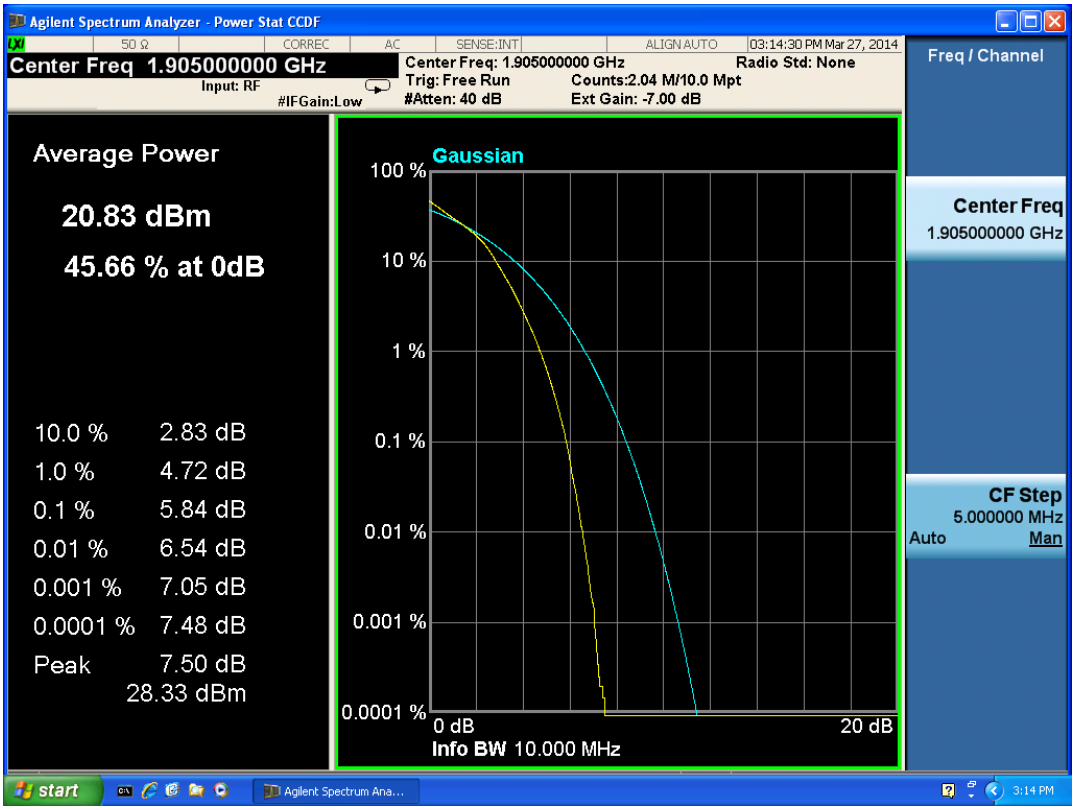
LTE Band 2 16QAM Bandwidth = 5MHz CH19175



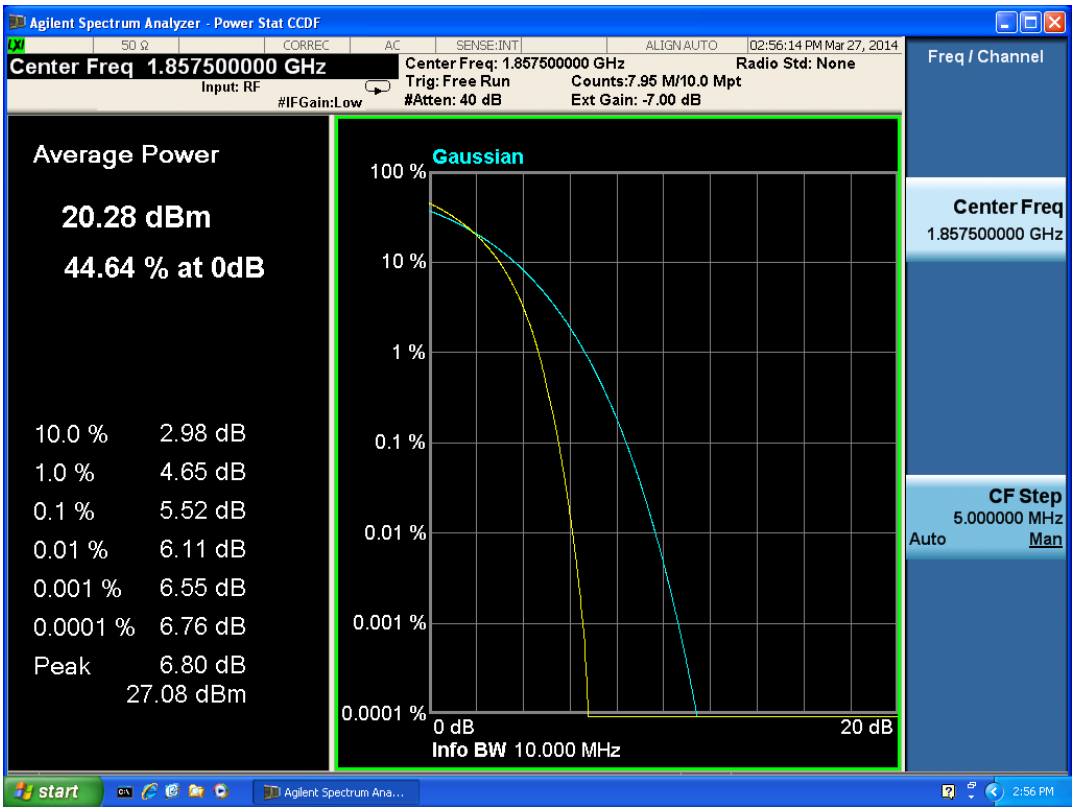
LTE Band 2 16QAM Bandwidth = 10MHz CH18650



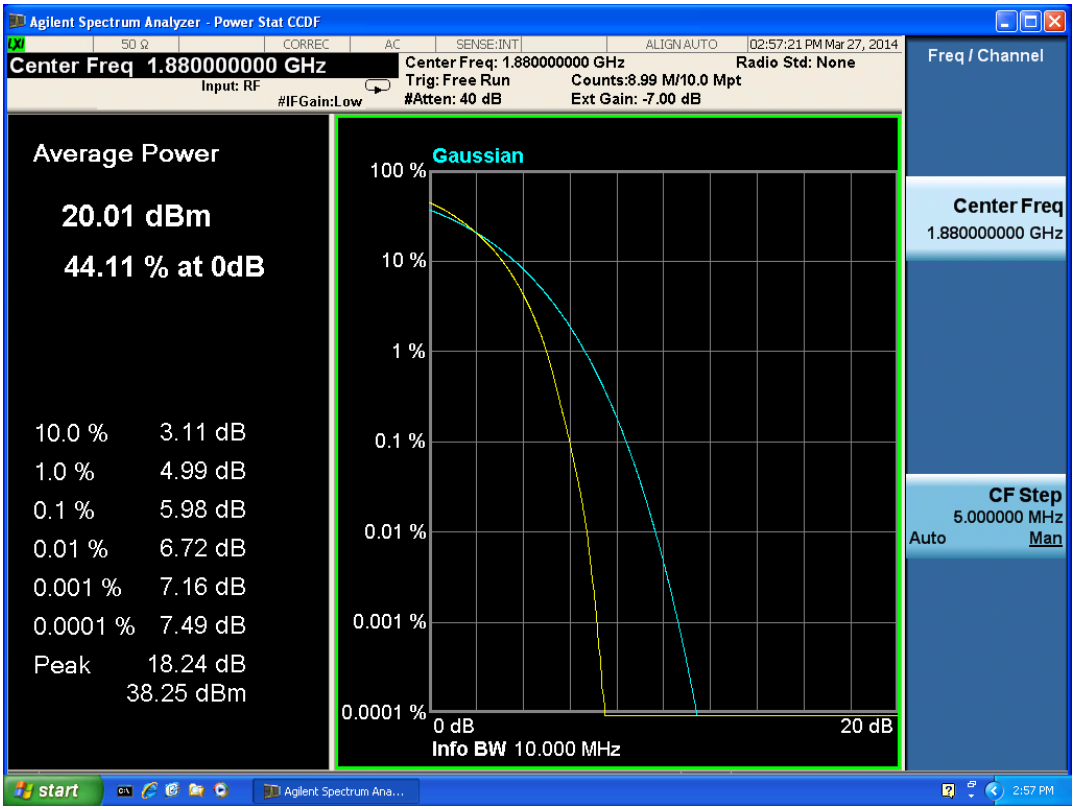
LTE Band 2 16QAM Bandwidth = 10MHz CH18900



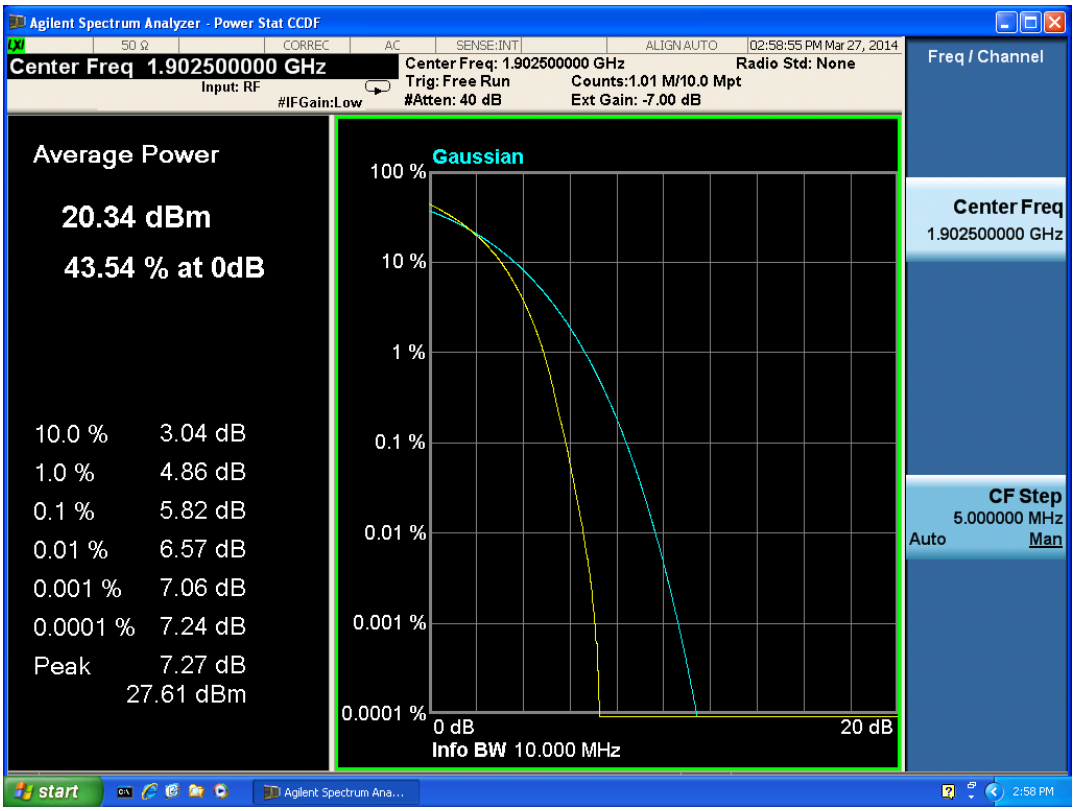
LTE Band 2 16QAM Bandwidth = 10MHz CH19150



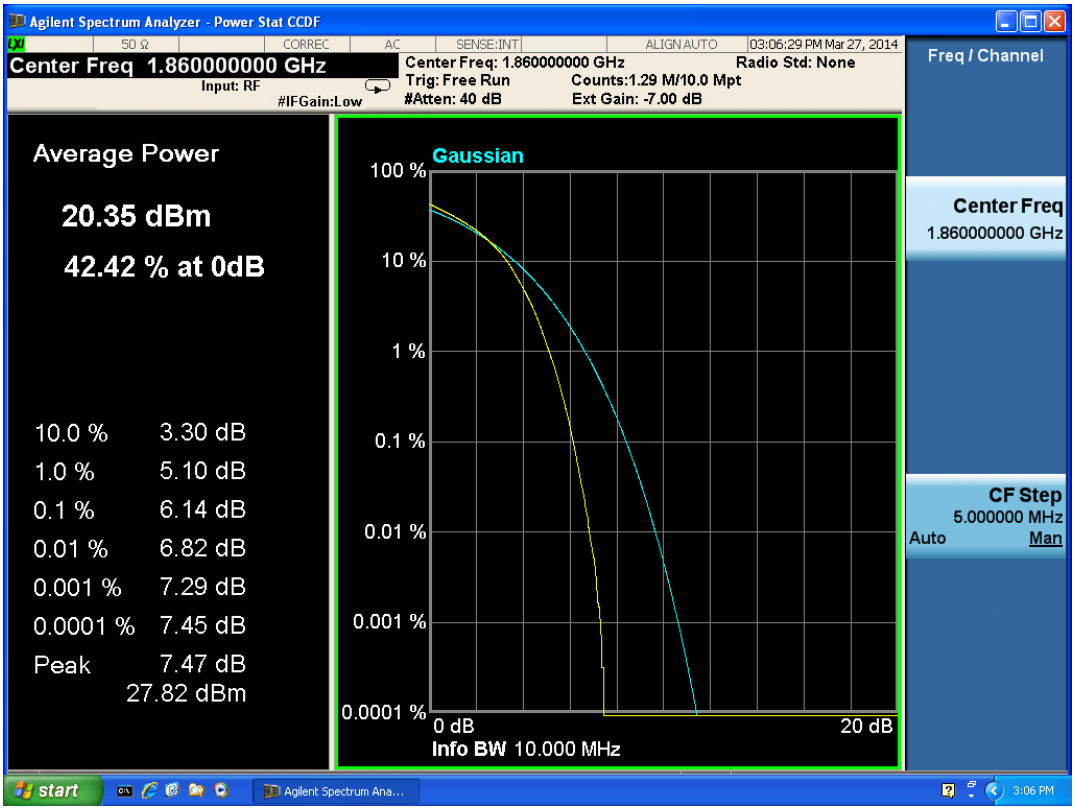
LTE Band 2 16QAM Bandwidth = 15MHz CH18675



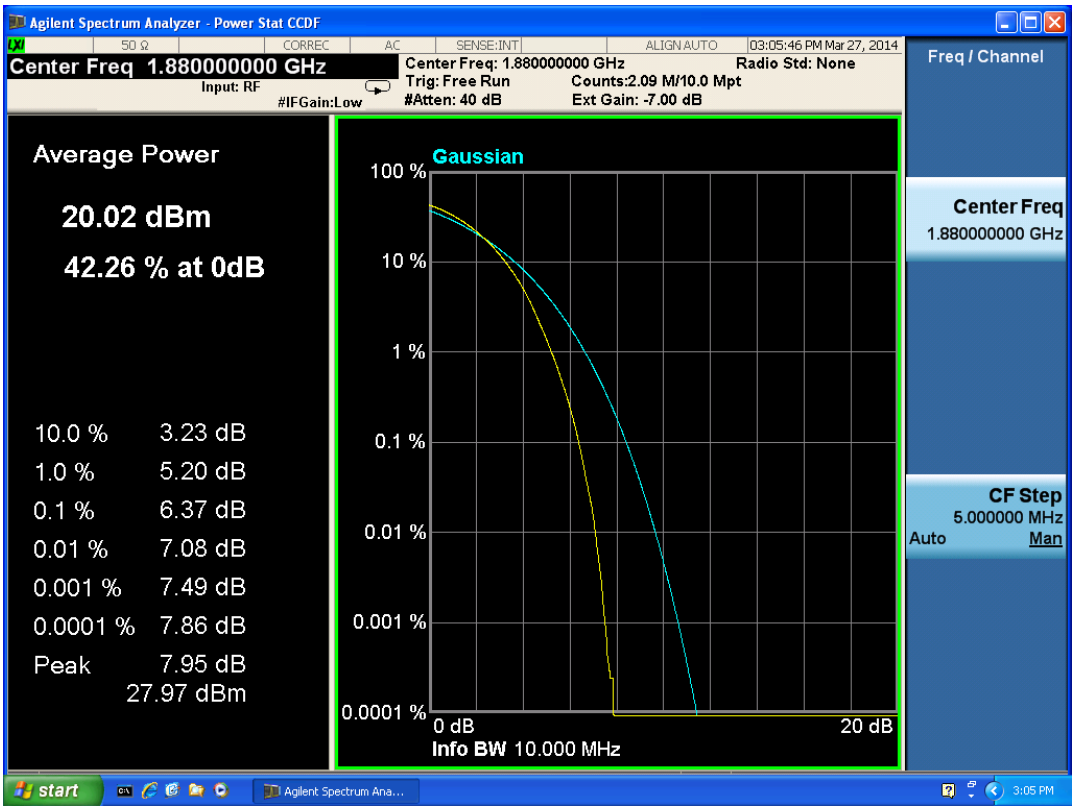
LTE Band 2 16QAM Bandwidth = 15MHz CH18900



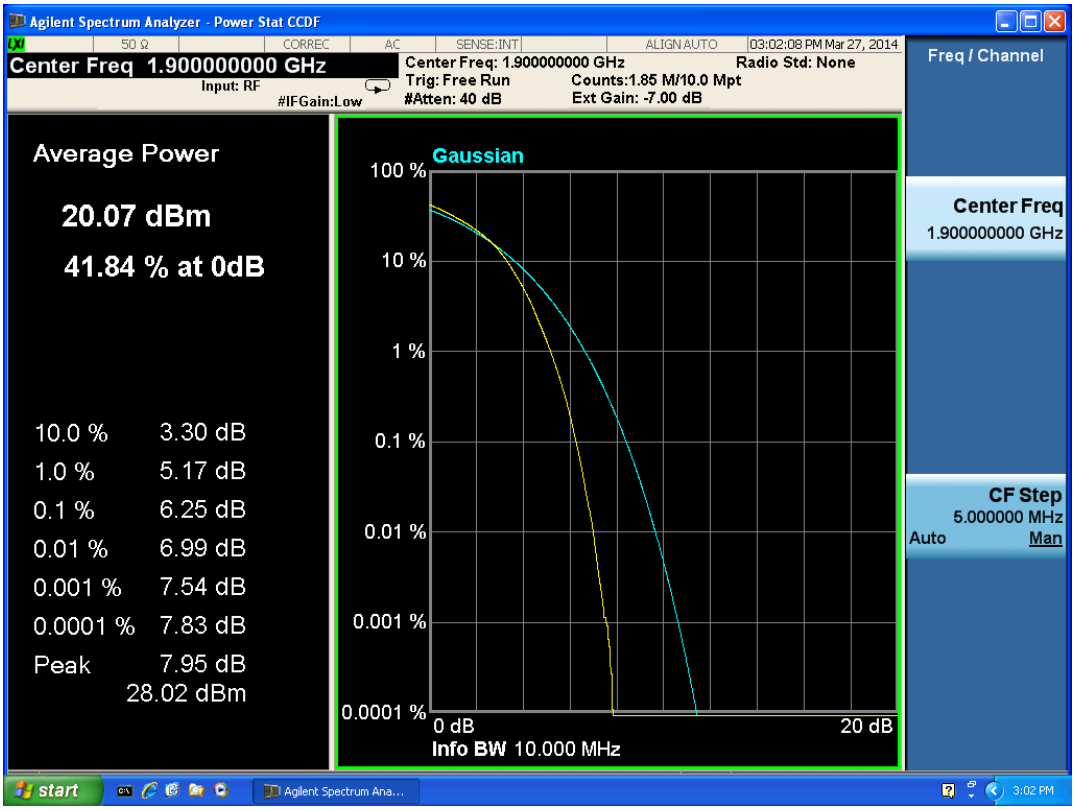
LTE Band 2 16QAM Bandwidth = 15MHz CH19125



LTE Band 2 16QAM Bandwidth = 20MHz CH18700



LTE Band 2 16QAM Bandwidth = 20MHz CH18900



LTE Band 2 16QAM Bandwidth = 20MHz CH19100

2.7. Frequency Stability

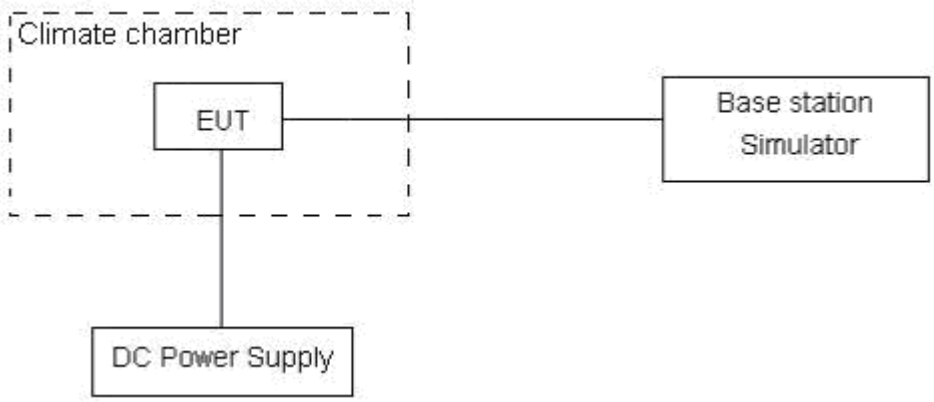
Ambient condition

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 0°C to +40°C in 10°C step size,
   (1) With all power removed, the temperature was decreased to 0°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 0°C to +40°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 3.5 V and 4.2 V, with a nominal voltage of 3.7V.

Test setup



Limits

No specific frequency stability requirements in part 24.235

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

LTE Band 2

Temperature (°C)	Test Results (ppm) / 3.7 V Power supply Channel 18900											
	QPSK, 100%RB						16QAM, 100%RB					
	Channel Bandwidth(MHz)						Channel Bandwidth(MHz)					
	1.4	3	5	10	15	20	1.4	3	5	10	15	20
40	0.0034	0.0064	0.0027	0.0028	-0.0059	-0.0038	-0.0006	-0.0058	0.0055	0.0055	0.0070	0.0040
30	0.0073	0.0043	0.0010	0.0006	-0.0064	0.0052	-0.0028	-0.0040	0.0061	0.0037	0.0035	-0.0021
20	0.0038	0.0039	0.0046	0.0016	-0.0052	0.0090	-0.0010	-0.0022	0.0034	0.0050	0.0045	-0.0043
10	0.0044	0.0021	0.0011	-0.0025	-0.0077	0.0056	-0.0048	-0.0010	0.0036	0.0080	0.0042	-0.0026
0	0.0018	0.0034	0.0021	-0.0047	-0.0060	0.0062	-0.0039	-0.0019	0.0057	0.0048	0.0053	-0.0063

Voltage (V)	Test Results(ppm) / 20°C Channel 18900											
	QPSK, 100%RB						16QAM, 100%RB					
	Channel Bandwidth(MHz)						Channel Bandwidth(MHz)					
	1.4	3	5	10	15	20	1.4	3	5	10	15	20
3.5	0.0041	0.0024	0.0029	-0.0067	-0.0029	0.0037	-0.0032	0.0089	0.0059	0.0034	0.0030	-0.0061
3.7	0.0038	0.0039	0.0046	0.0016	-0.0052	0.0090	-0.0010	-0.0022	0.0034	0.0050	0.0045	-0.0043
4.2	0.0020	0.0056	0.0018	-0.0029	-0.0041	0.0035	-0.0045	0.0051	0.0081	0.0051	0.0052	-0.0055

2.8. Spurious Emissions at Antenna Terminals

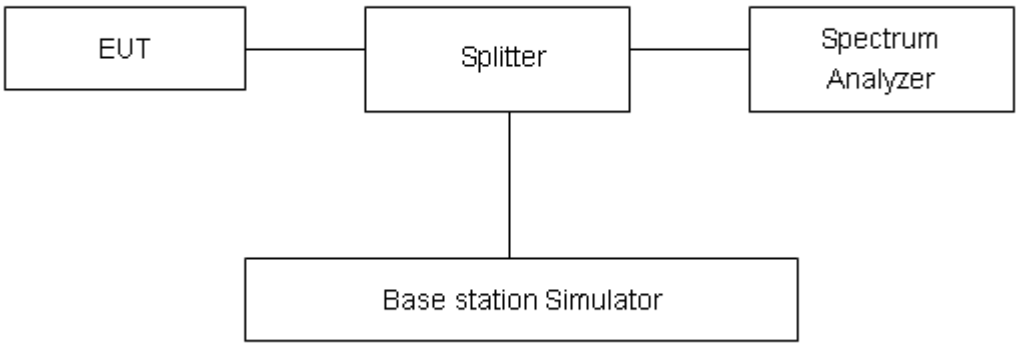
Ambient condition

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, RBW and VBW are set to 100 kHz for the carrier frequency, or RBW and VBW are set to 1MHz(other frequency), Sweep is set to ATUO.
Of those disturbances below (limit – 20 dB), the mark is not required for the EUT.
We tested all modes for LTE Band 2. The worst emission was recorded in the report.

Test setup



Limits

Rule Part 24.238(a) specifies that “on any frequency outside a licensee's frequency block, the power of any emission shall be attenuated below the transmitter power (P) by at least 43 + 10 log10 (P) dB.”

Limit	-13 dBm

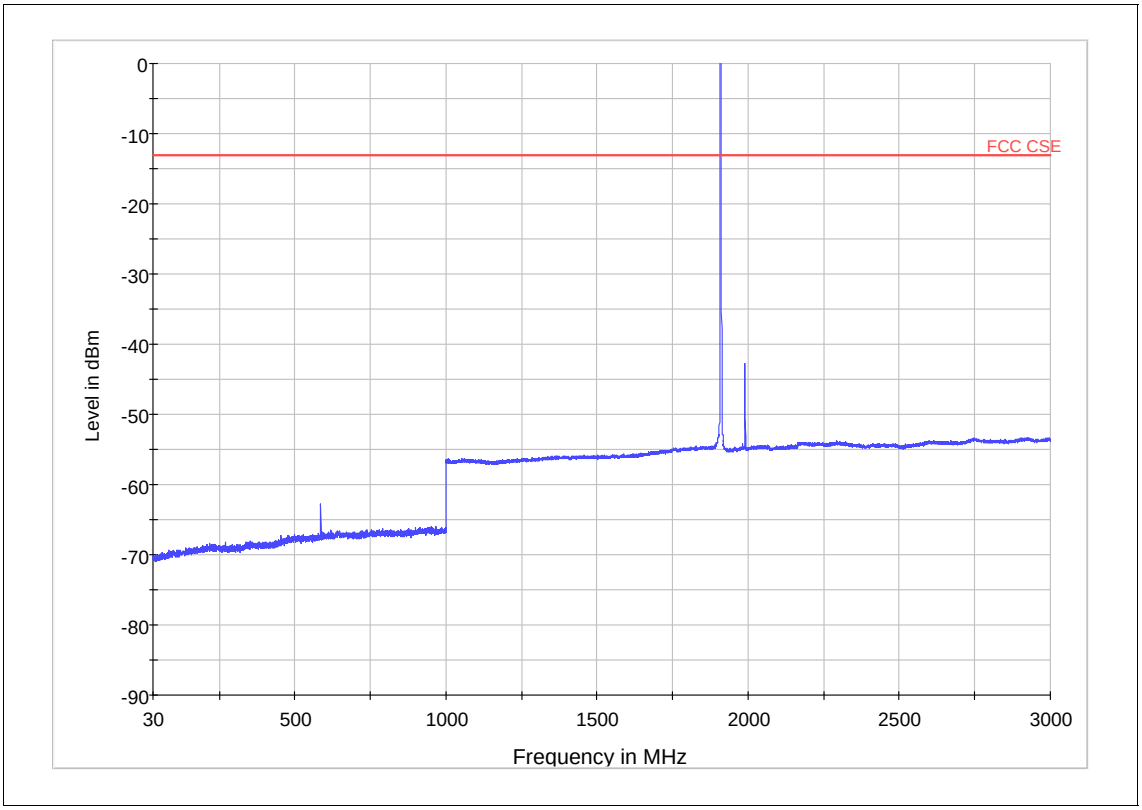
Measurement Uncertainty

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
Above 2GHz	1.407 dB

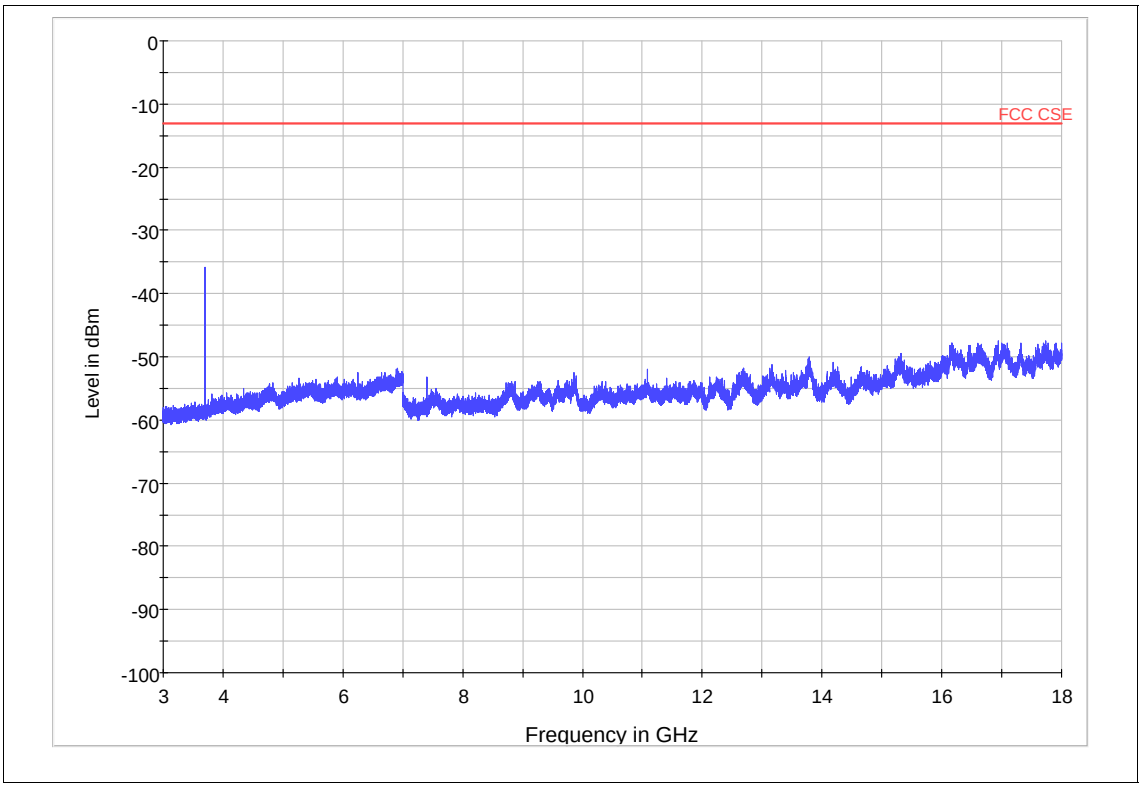
Test Result

LTE Band 2 QPSK Bandwidth = 1.4MHz CH18607,RB 1

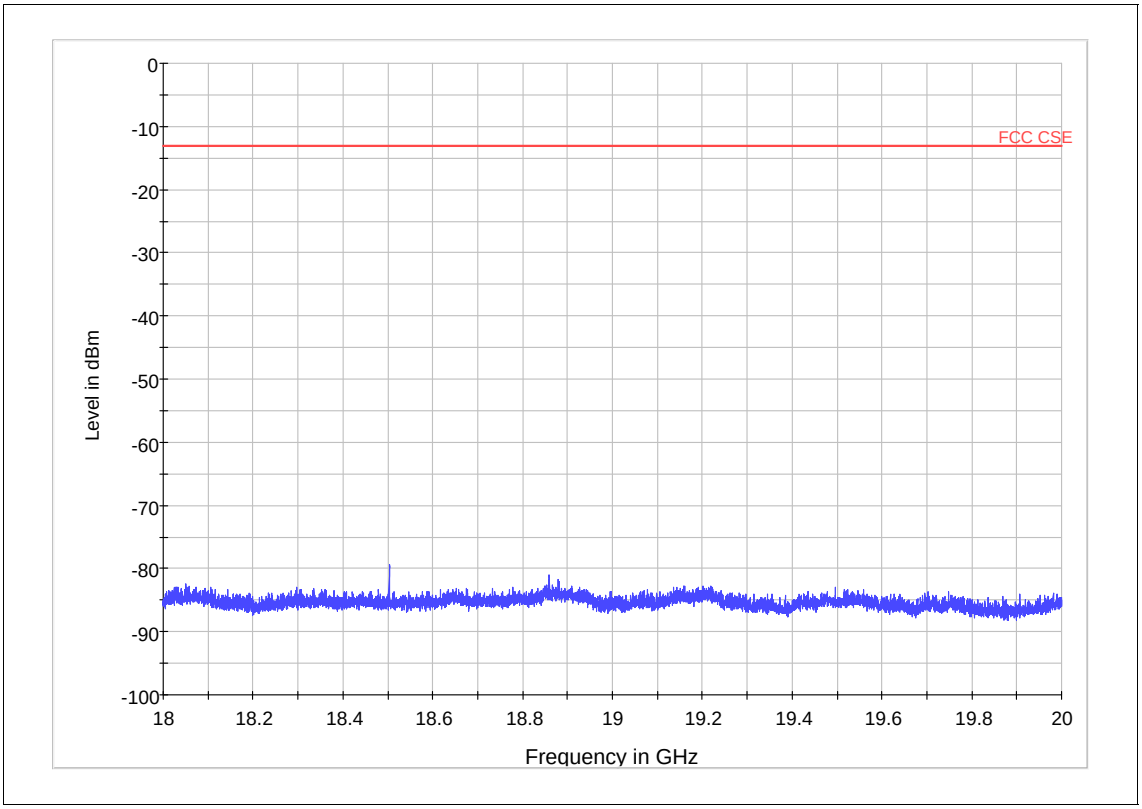


Note: The signal beyond the limit is carrier.

LTE Band 2 18607 Channel 30MHz~3GHz

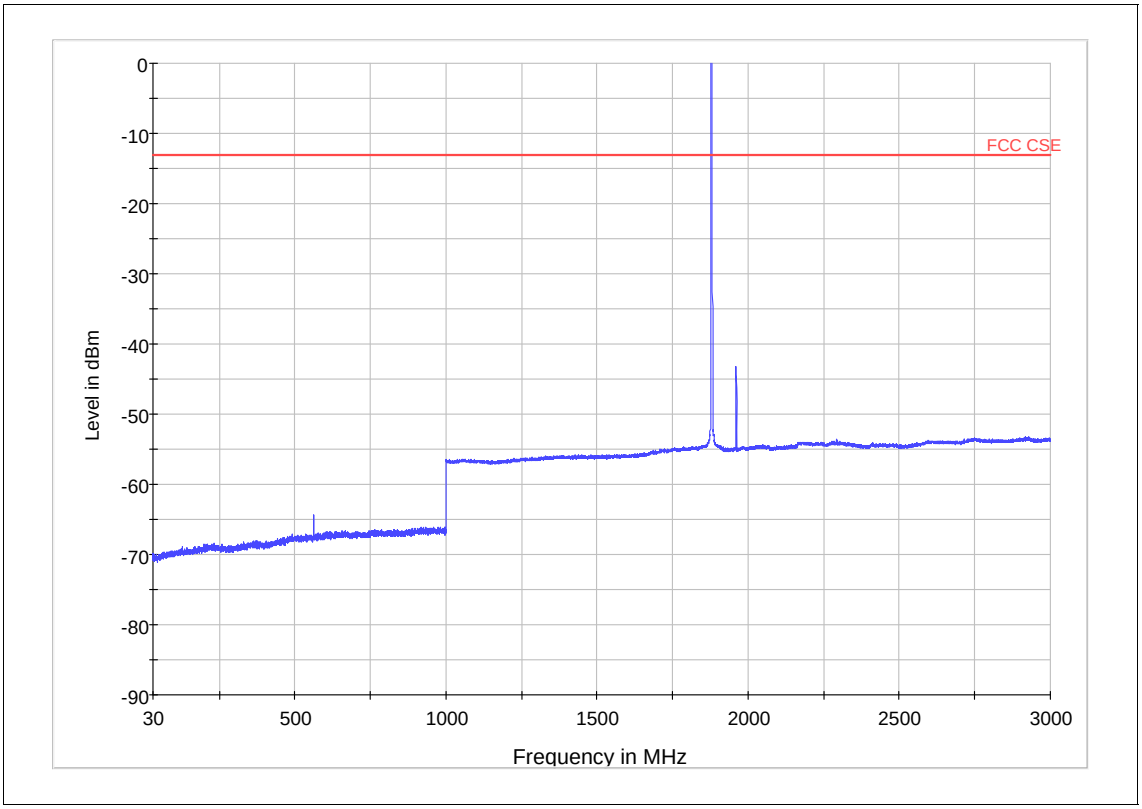


LTE Band 2 18607 Channel 3GHz~18GHz



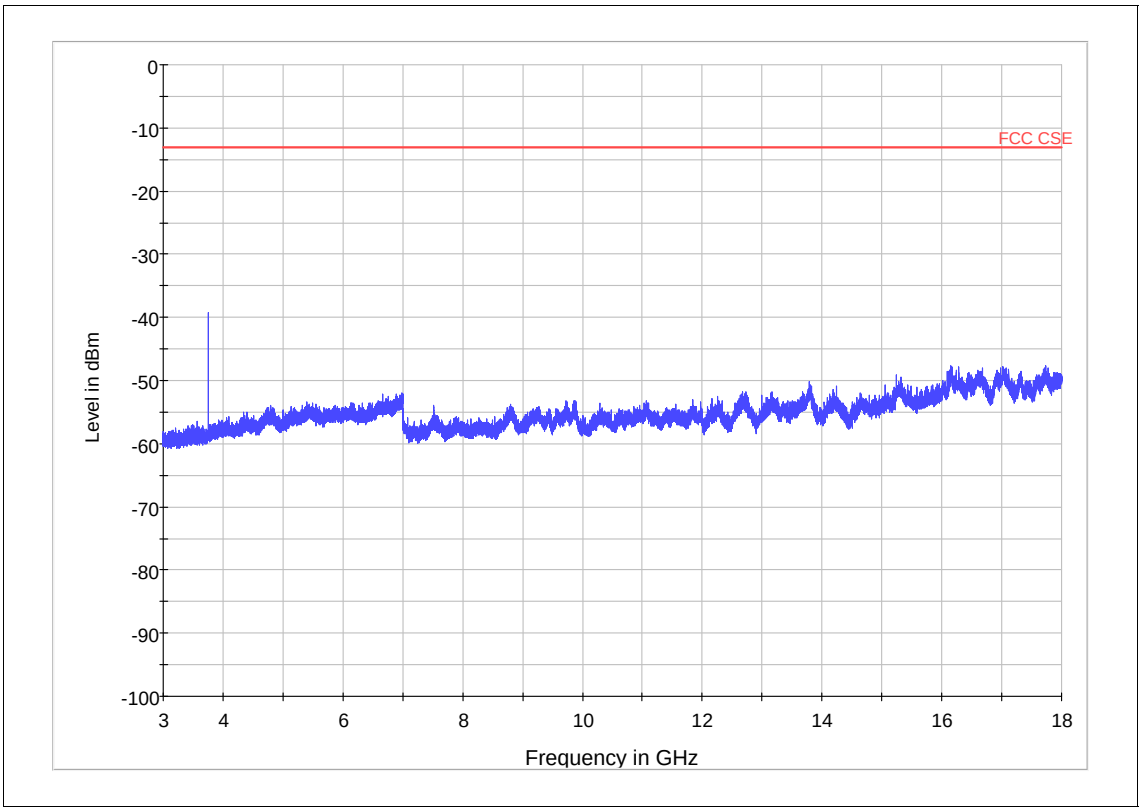
LTE Band 2 18607 Channel 18GHz~20GHz

LTE Band 2 QPSK Bandwidth = 1.4MHz CH18900,RB 1

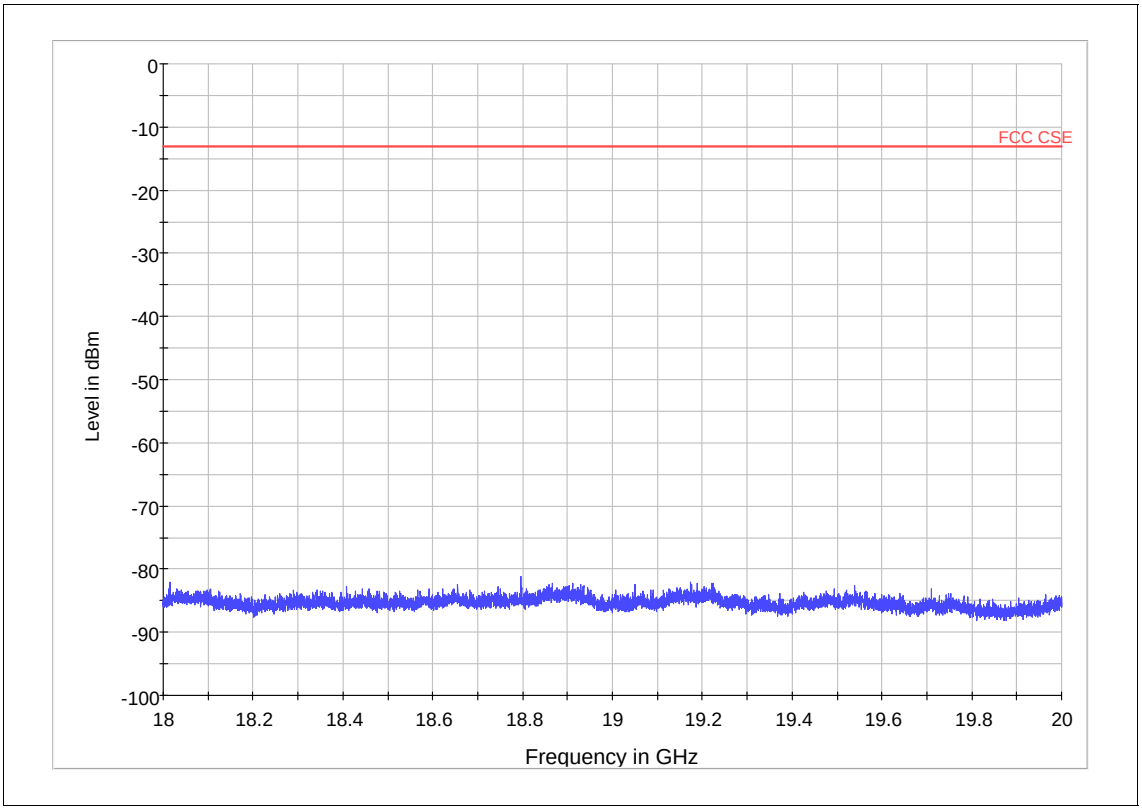


Note: The signal beyond the limit is carrier.

LTE Band 2 18900 Channel 30MHz~3GHz

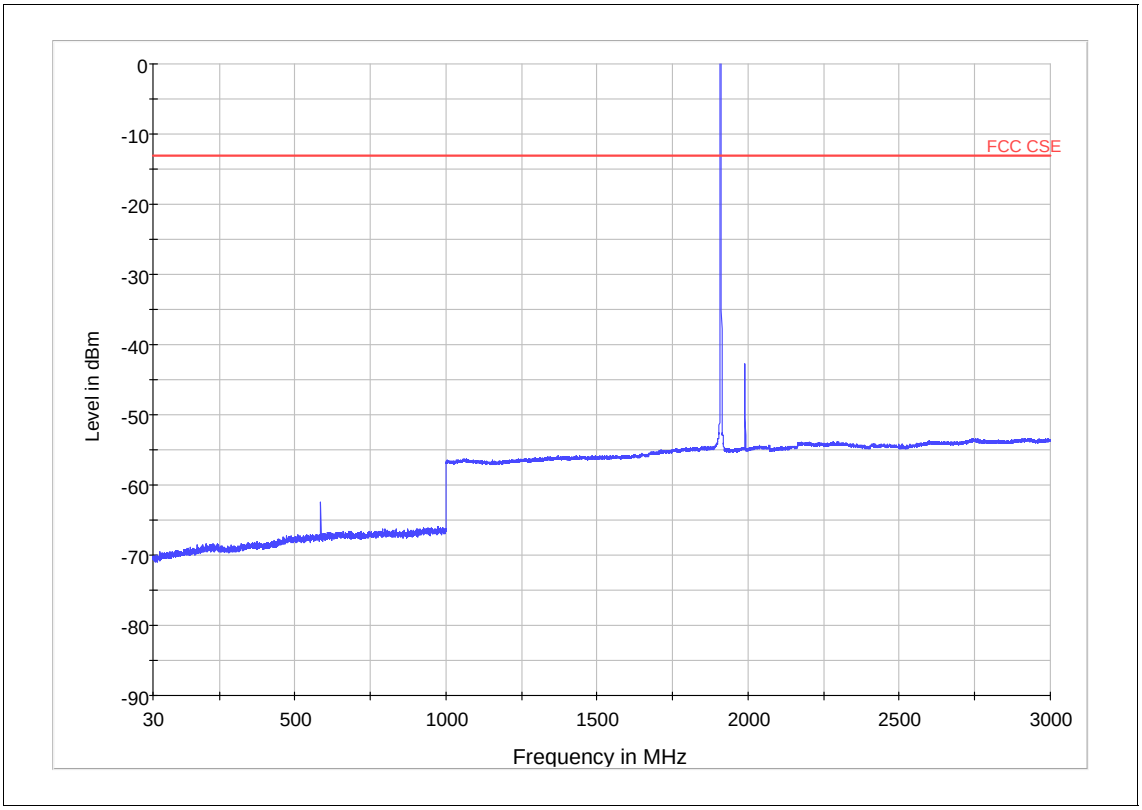


LTE Band 2 18900 Channel 3GHz~18GHz



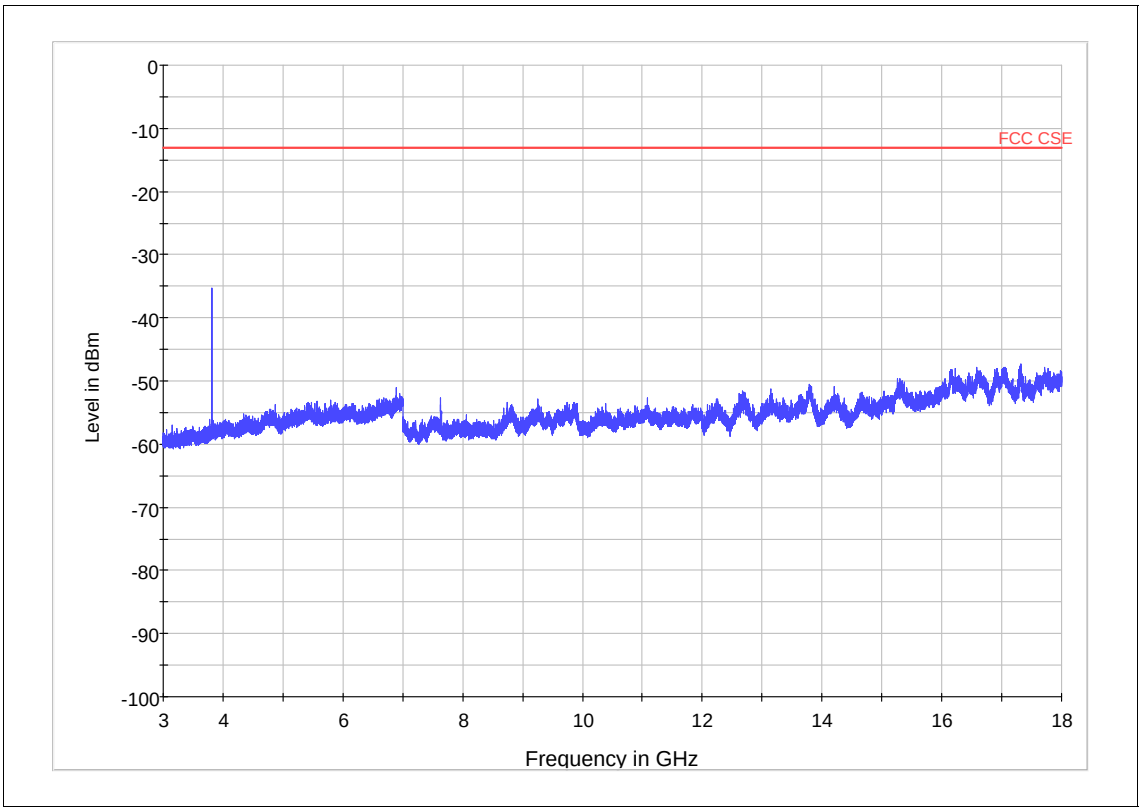
LTE Band 2 18900 Channel 18GHz~20GHz

LTE Band 2 QPSK Bandwidth = 1.4MHz CH19193,RB 1

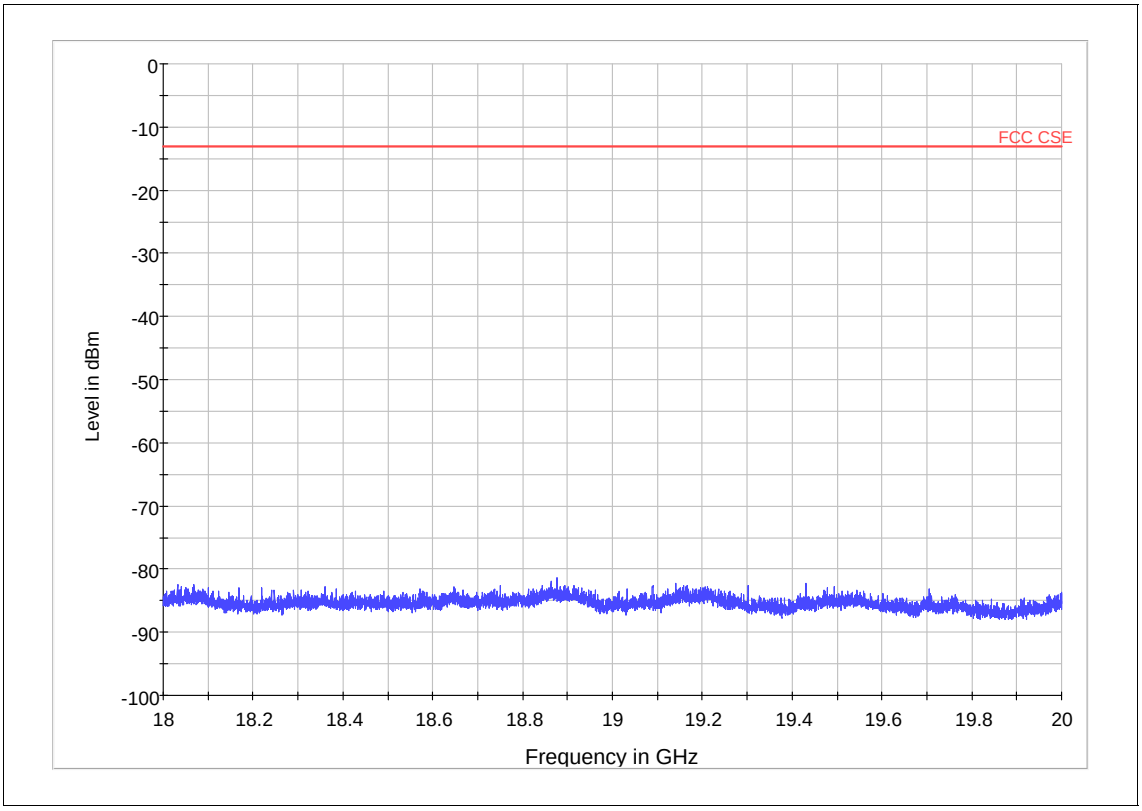


Note: The signal beyond the limit is carrier.

LTE Band 2 19193 Channel 30MHz~3GHz

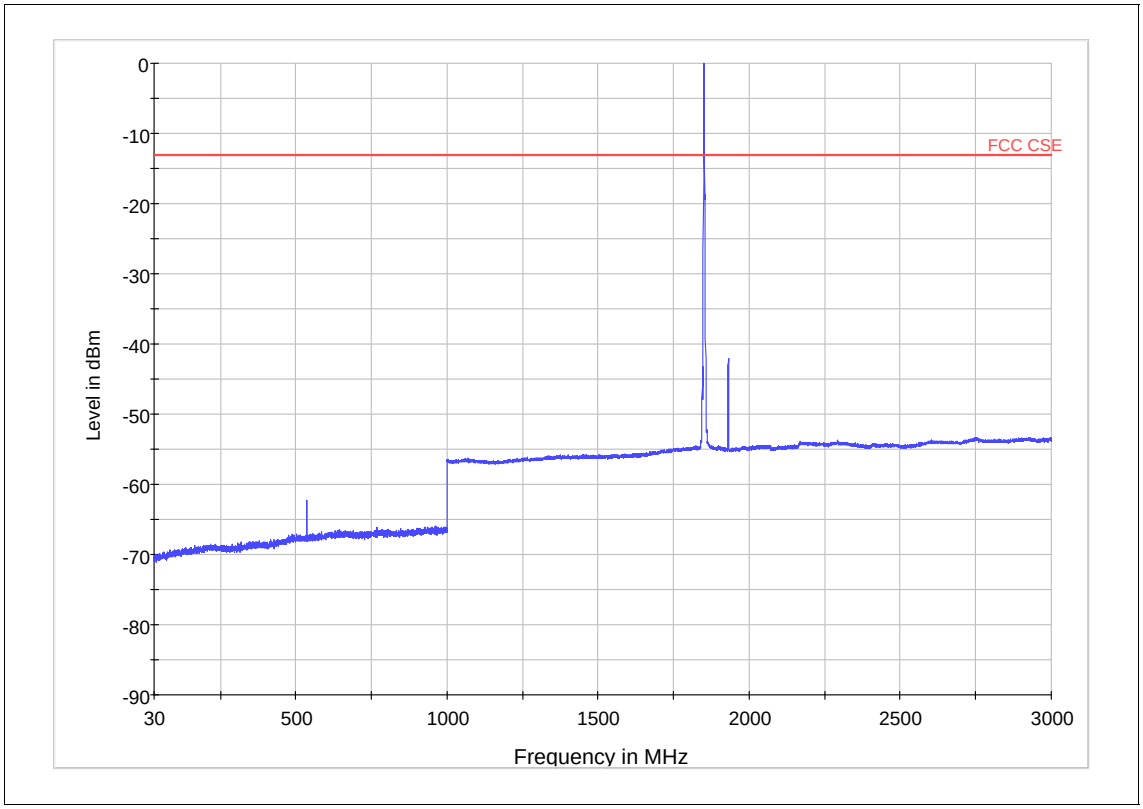


LTE Band 2 19193 Channel 3GHz~18GHz



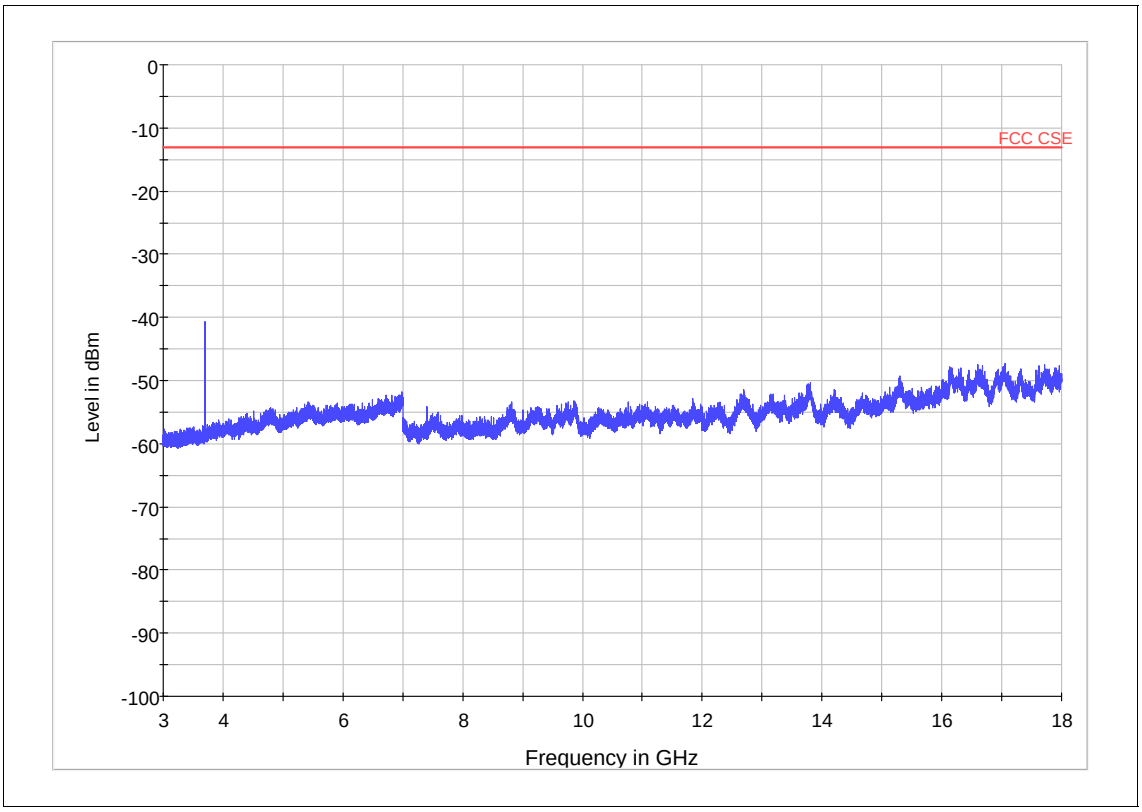
LTE Band 2 19193 Channel 18GHz~20GHz

LTE Band 2 QPSK Bandwidth = 3MHz CH18615,RB 1

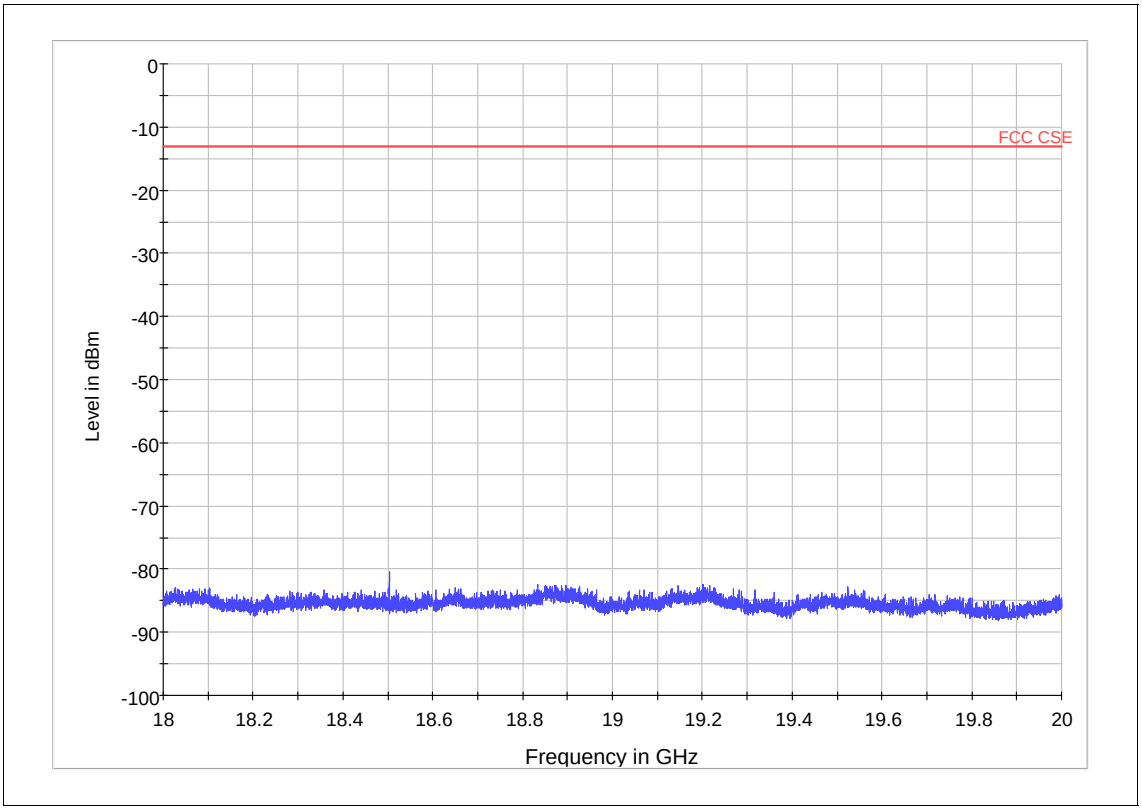


Note: The signal beyond the limit is carrier.

LTE Band 2 18615 Channel 30MHz~3GHz

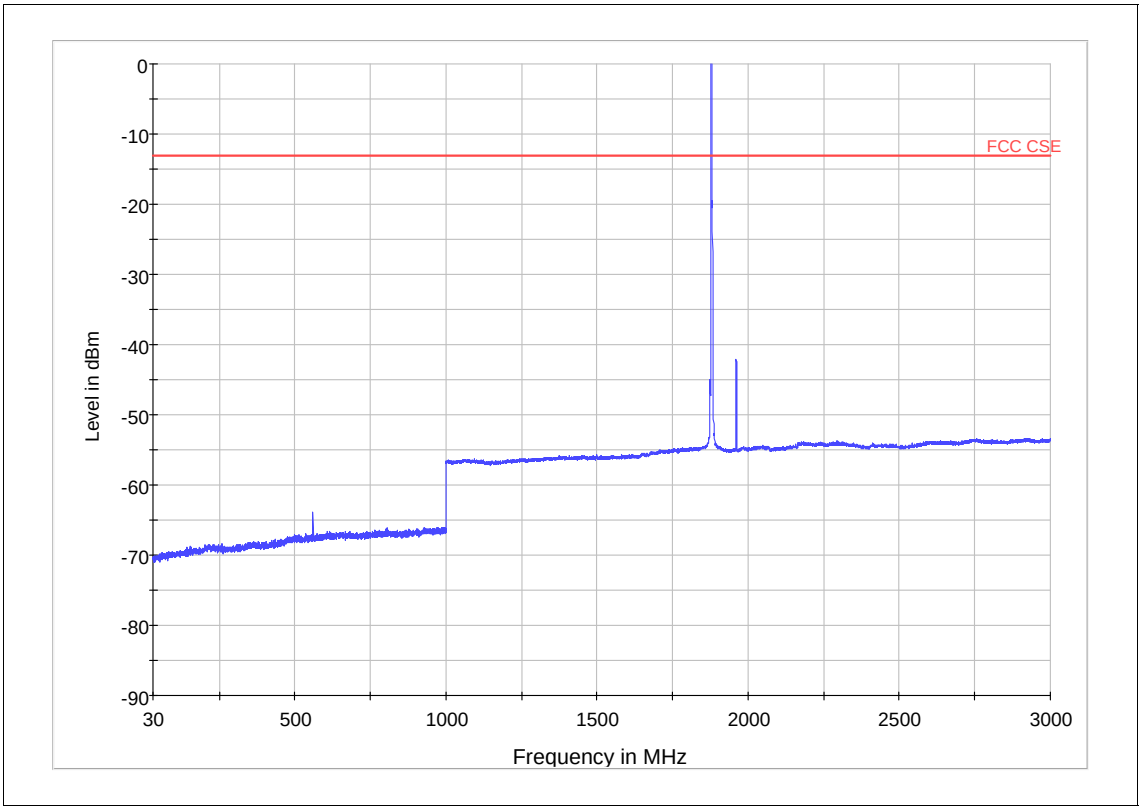


LTE Band 2 18615 Channel 3GHz~18GHz



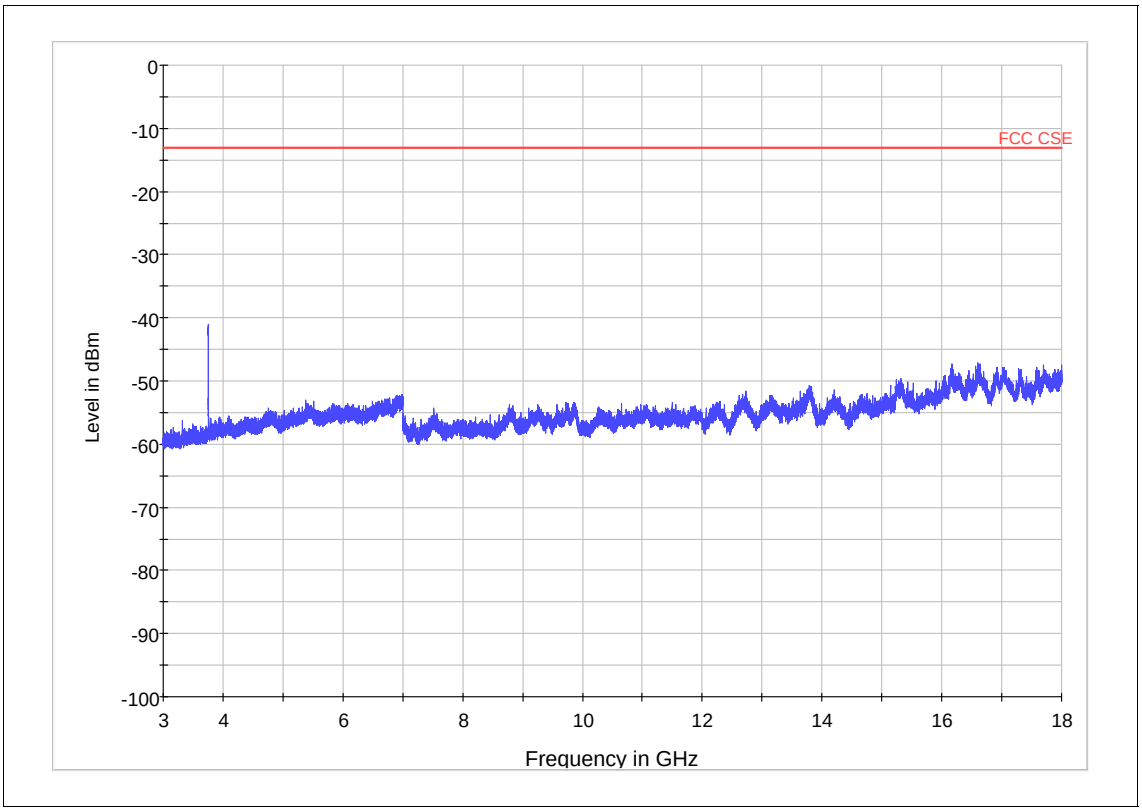
LTE Band 2 18615 Channel 18GHz~20GHz

LTE Band 2 QPSK Bandwidth = 3MHz CH18900,RB 1

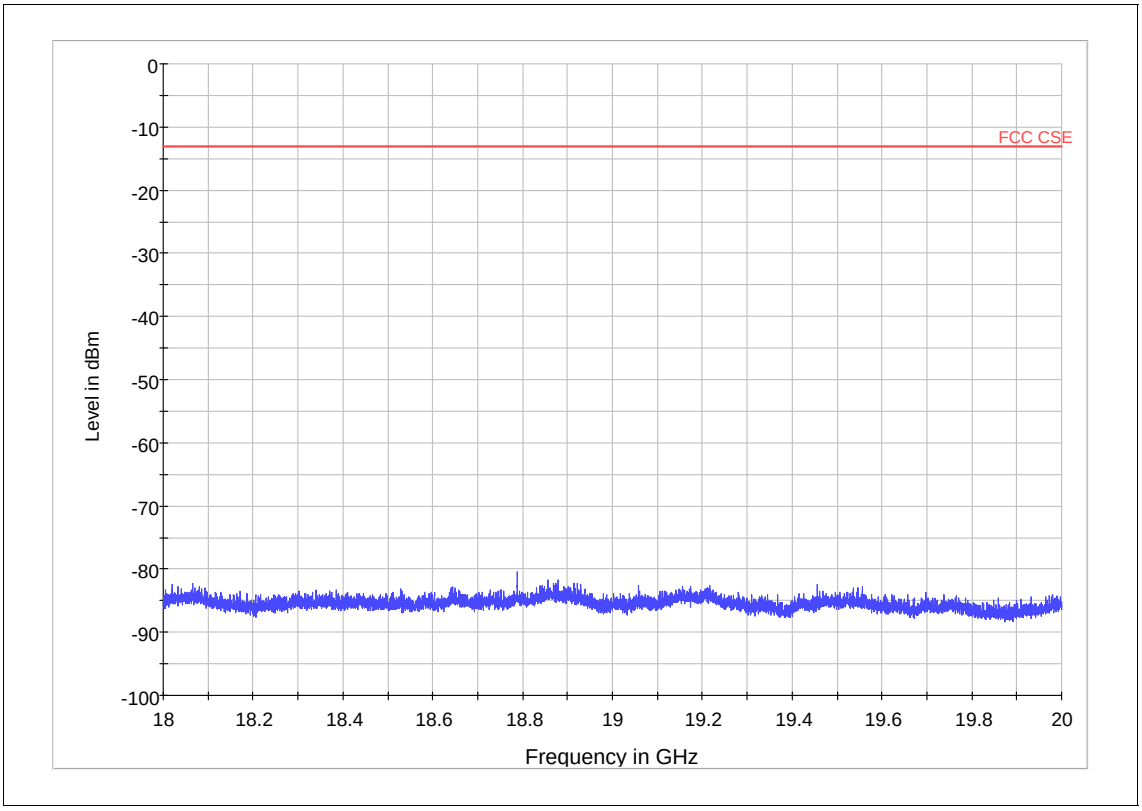


Note: The signal beyond the limit is carrier.

LTE Band 2 18900 Channel 30MHz~3GHz

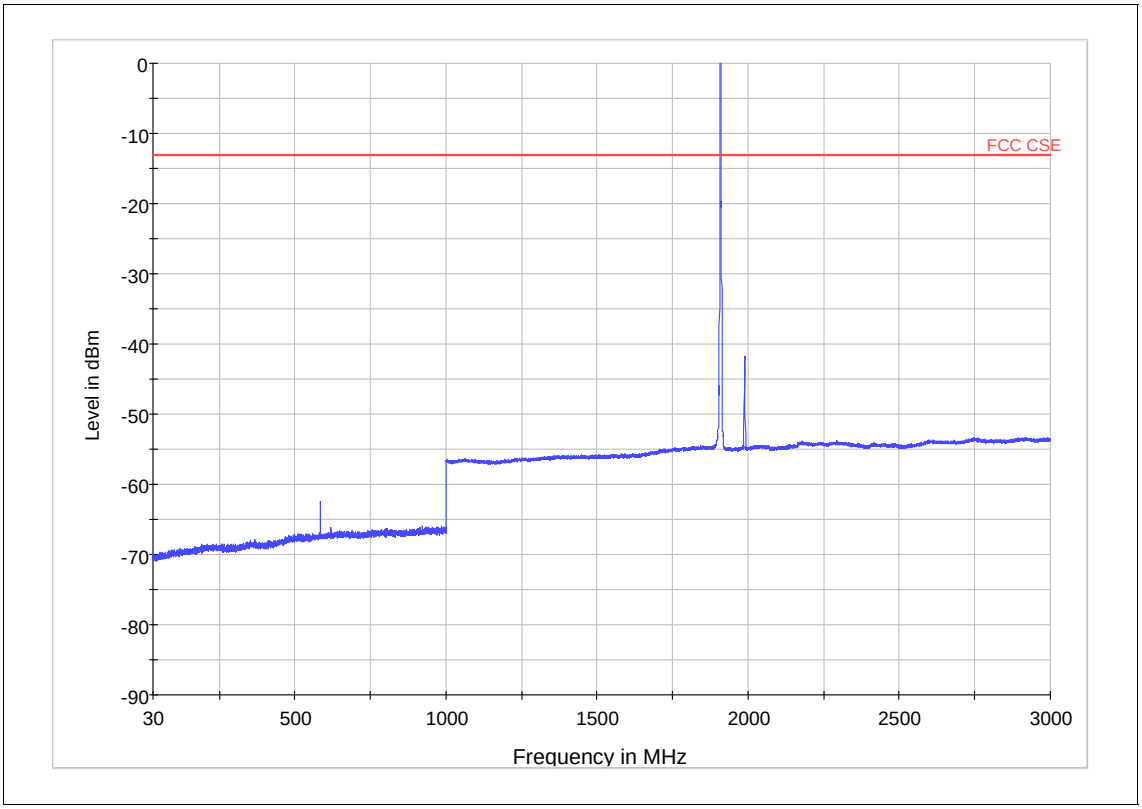


LTE Band 2 18900 Channel 3GHz~18GHz



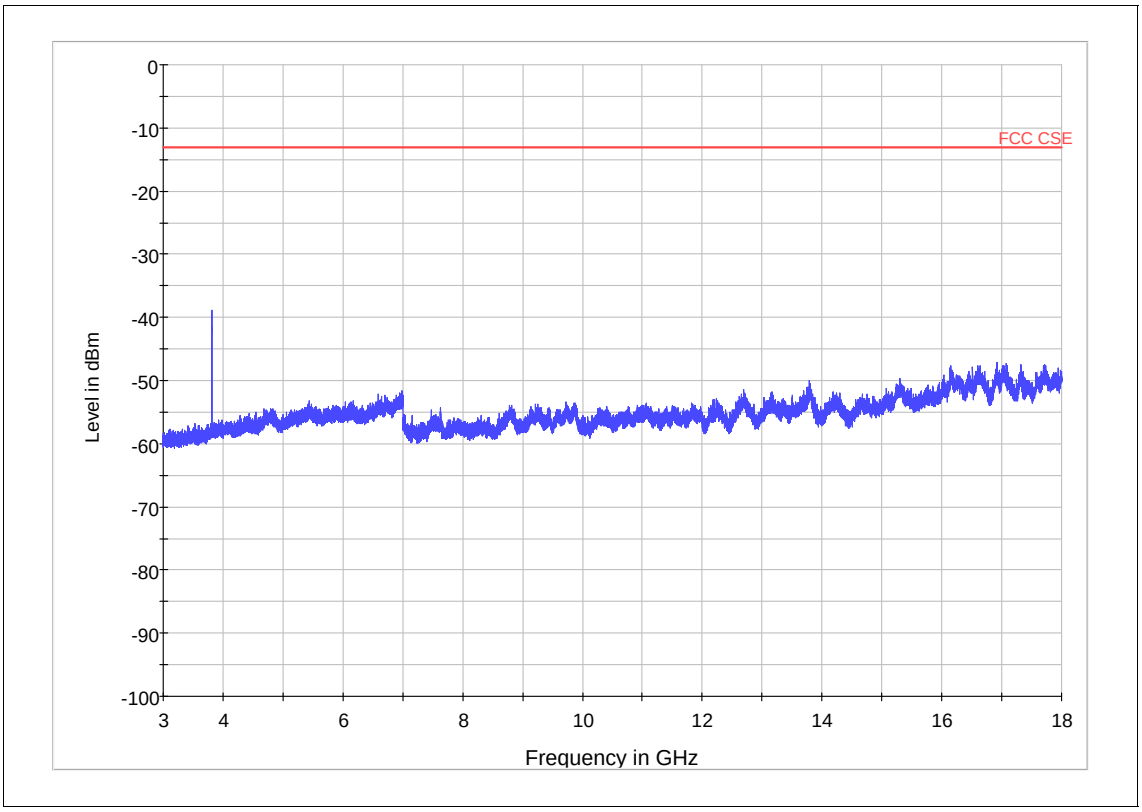
LTE Band 2 18900 Channel 18GHz~20GHz

LTE Band 2 QPSK Bandwidth = 3MHz CH19185,RB 1

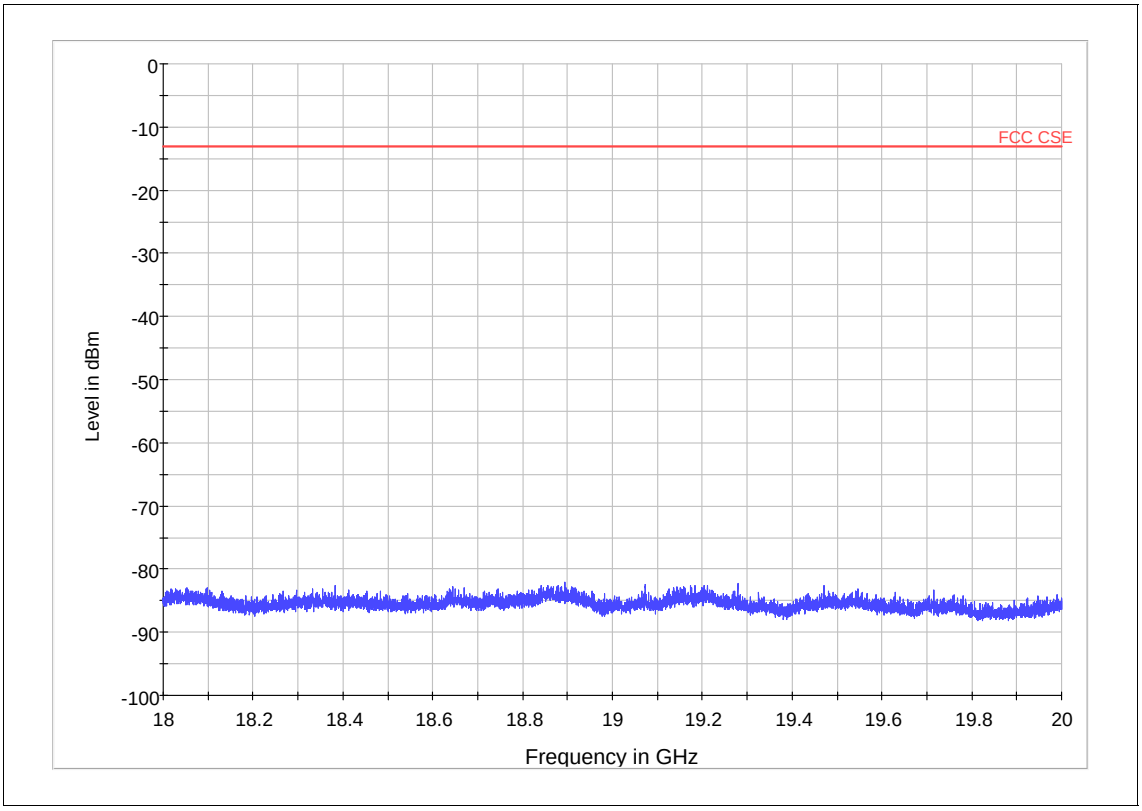


Note: The signal beyond the limit is carrier.

LTE Band 2 19185 Channel 30MHz~3GHz

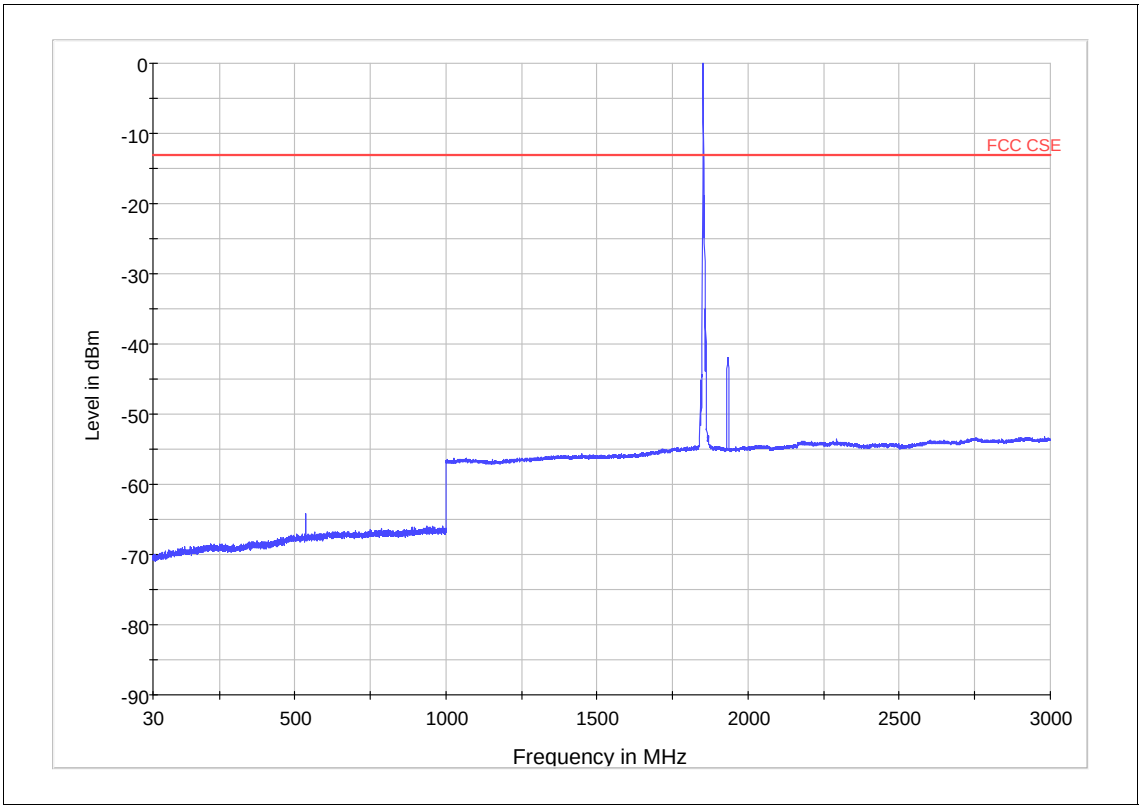


LTE Band 2 19185 Channel 3GHz~18GHz



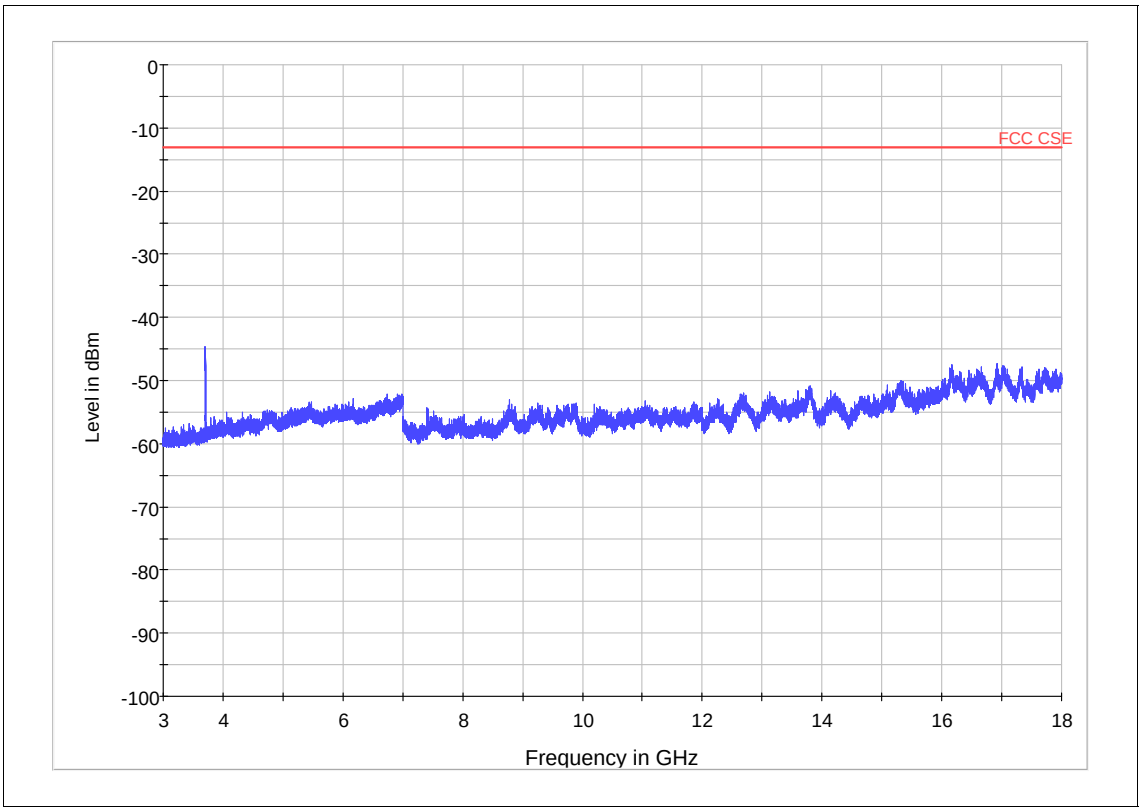
LTE Band 2 19185 Channel 18GHz~20GHz

LTE Band 2 QPSK Bandwidth = 5MHz CH18625,RB 1

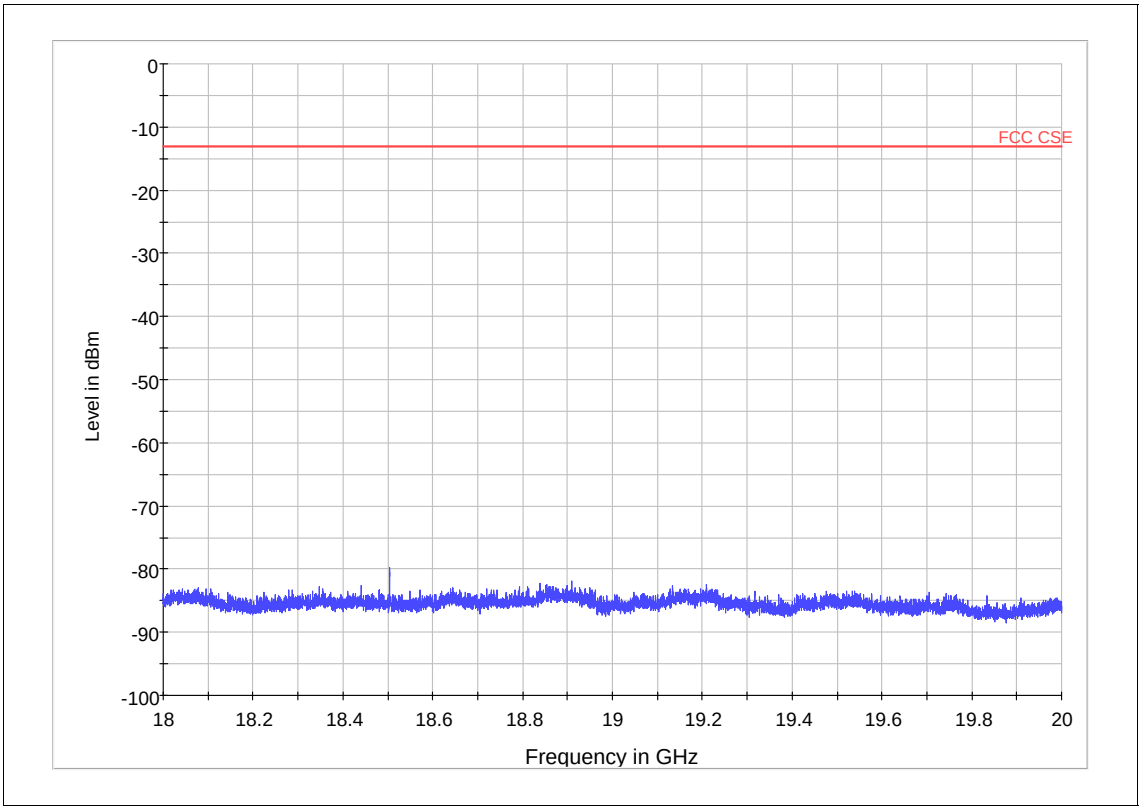


Note: The signal beyond the limit is carrier.

LTE Band 2 18625 Channel 30MHz~3GHz

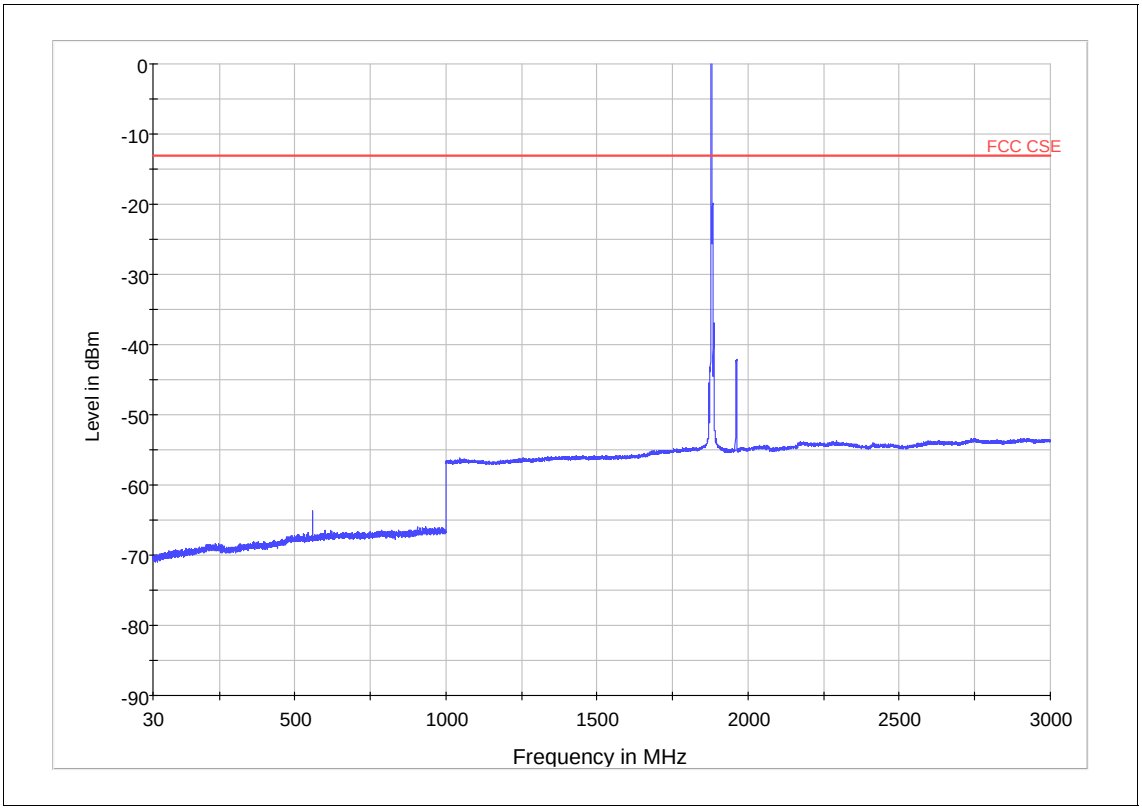


LTE Band 2 18625 Channel 3GHz~18GHz



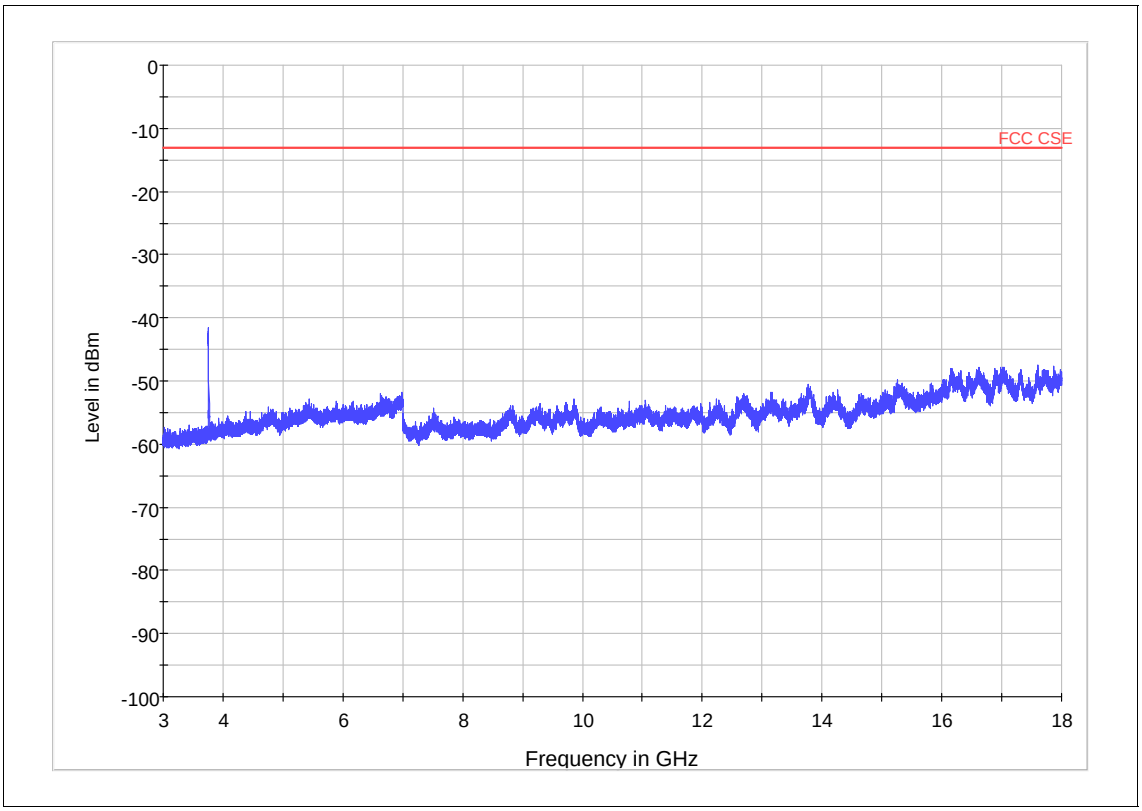
LTE Band 2 18625 Channel 18GHz~20GHz

LTE Band 2 QPSK Bandwidth = 5MHz CH18900,RB 1

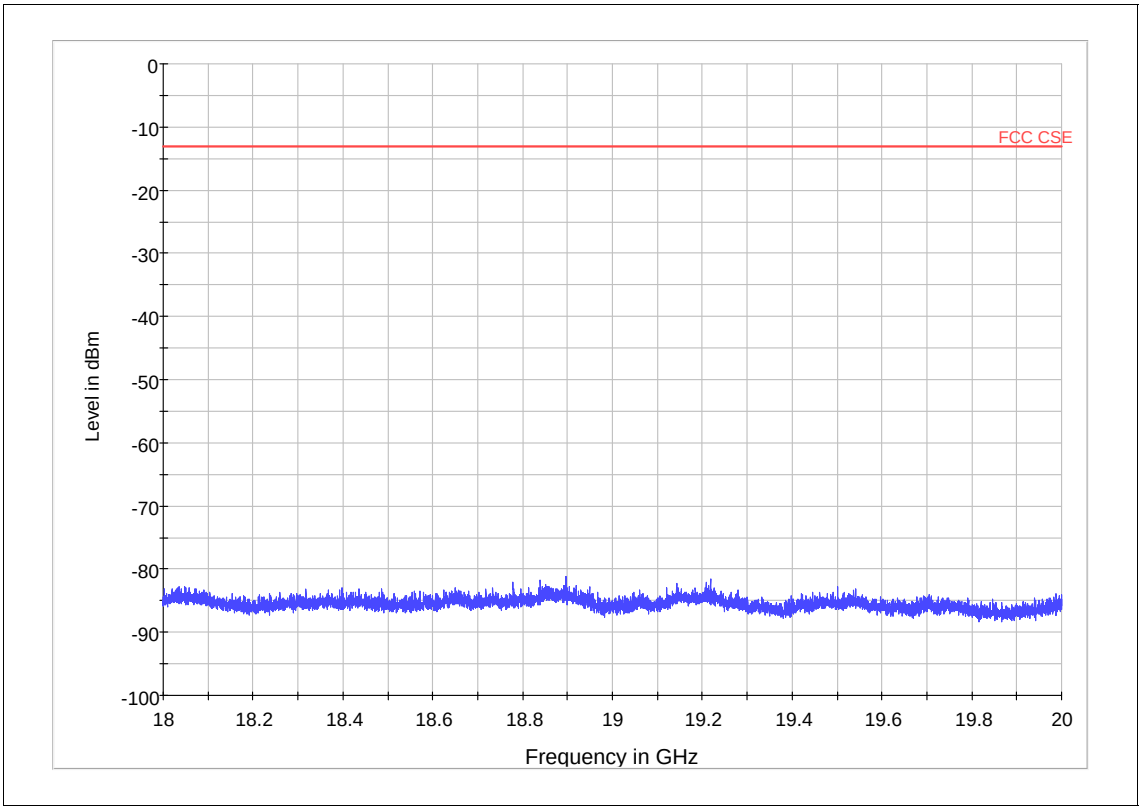


Note: The signal beyond the limit is carrier.

LTE Band 2 18900 Channel 30MHz~3GHz

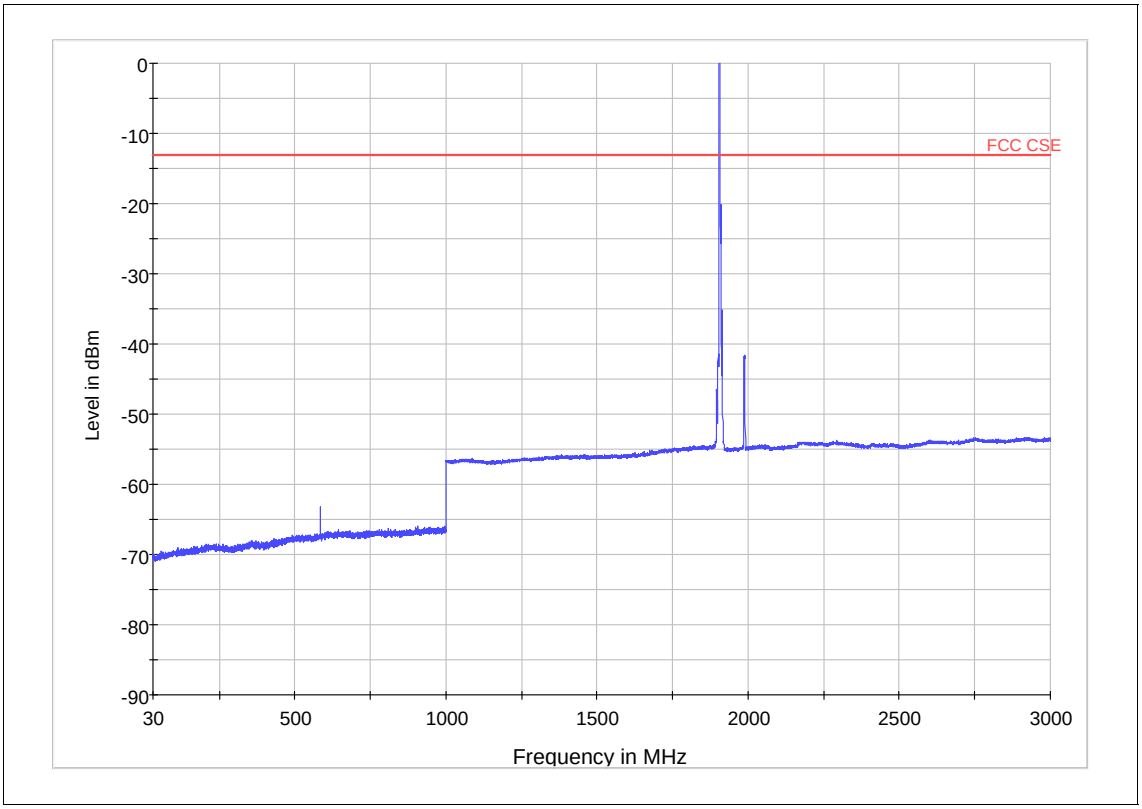


LTE Band 2 18900 Channel 3GHz~18GHz

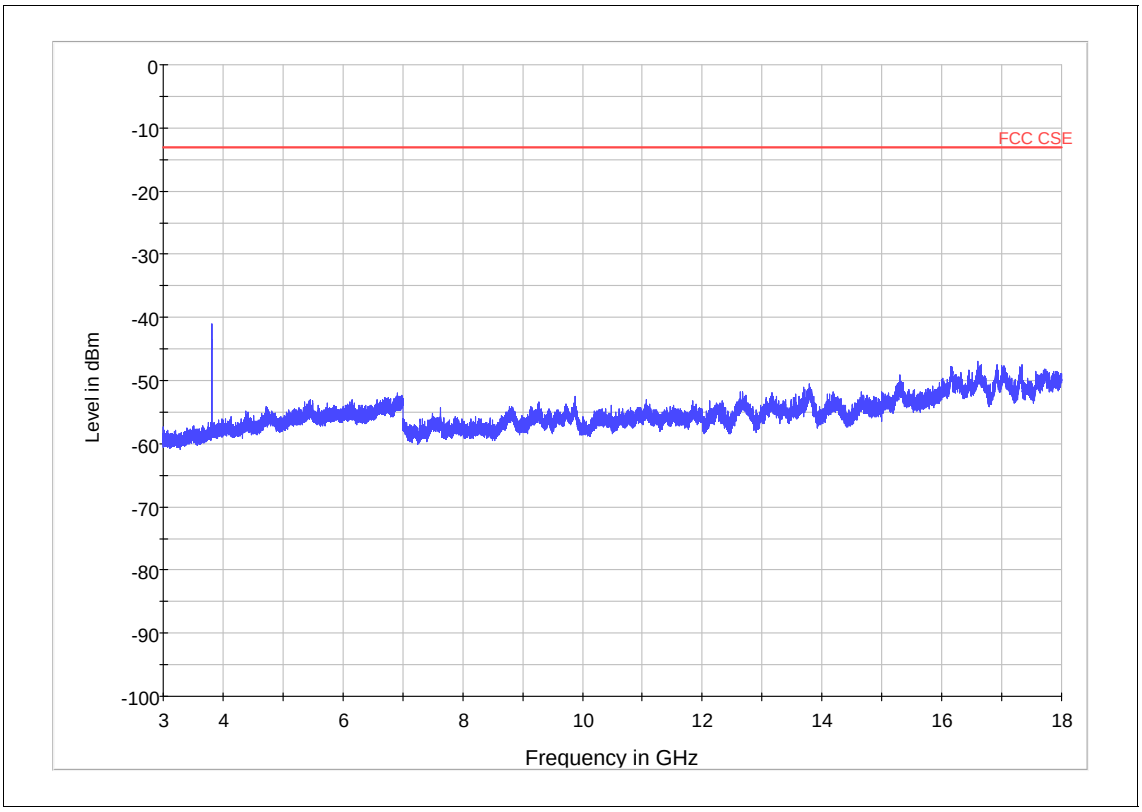


LTE Band 2 18900 Channel 18GHz~20GHz

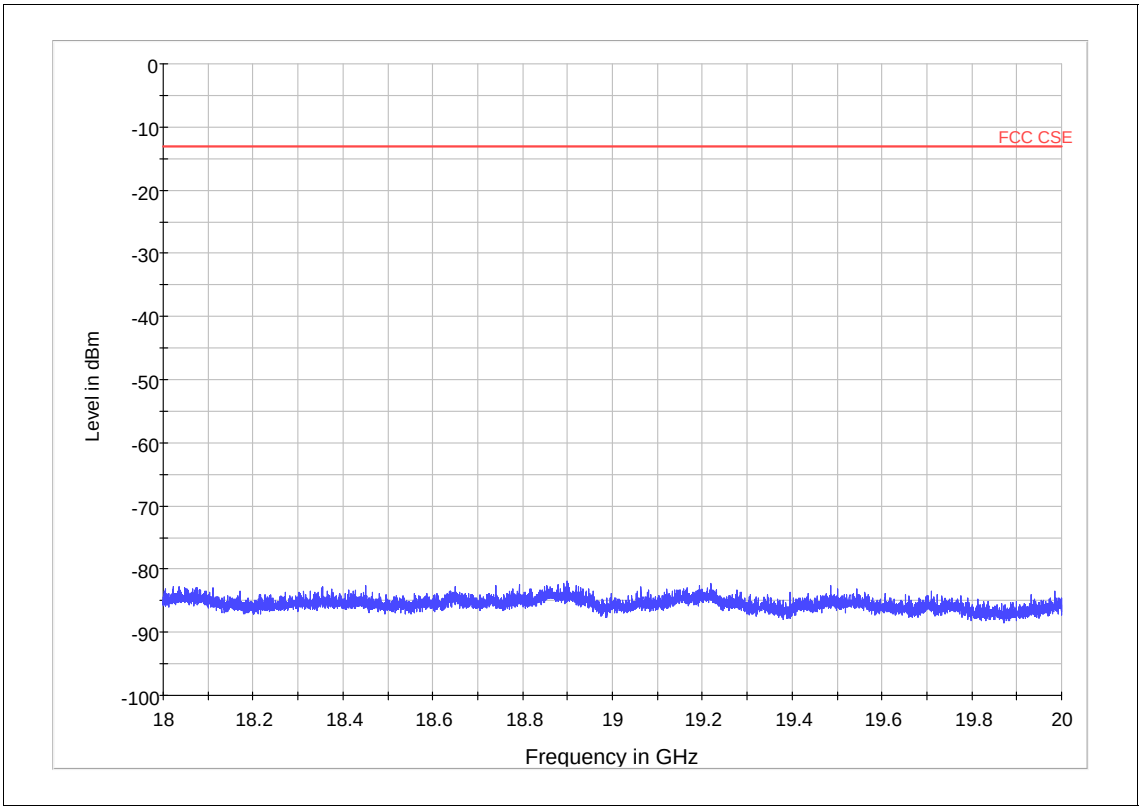
LTE Band 2 QPSK Bandwidth = 5MHz CH19175,RB 1



Note: The signal beyond the limit is carrier.
LTE Band 2 19175 Channel 30MHz~3GHz

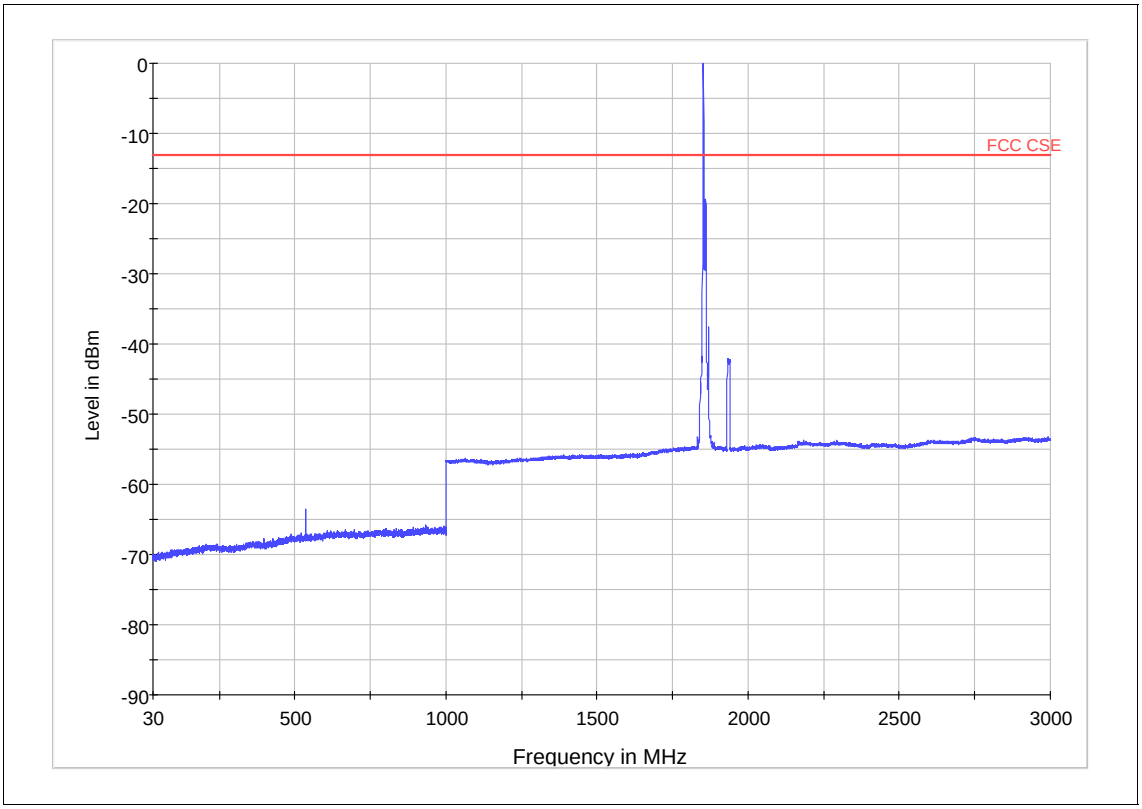


LTE Band 2 19175 Channel 3GHz~18GHz



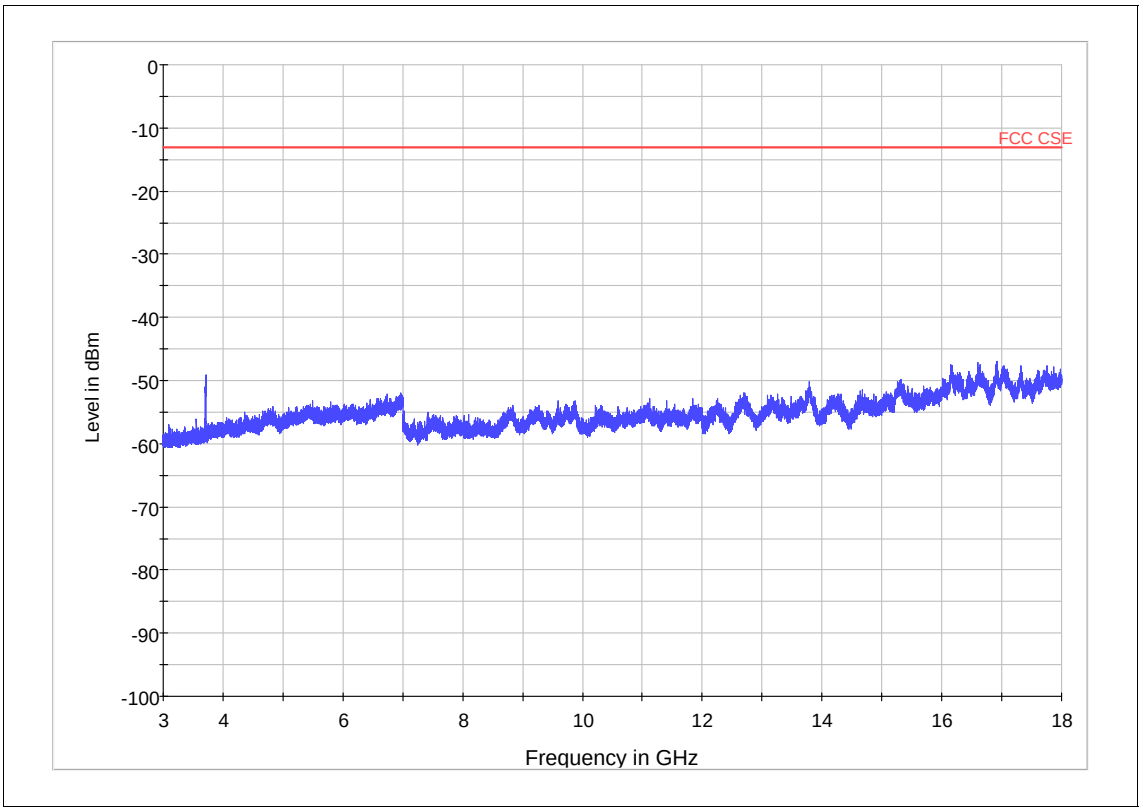
LTE Band 2 19175 Channel 18GHz~20GHz

LTE Band 2 QPSK Bandwidth = 10MHz CH18650,RB 1

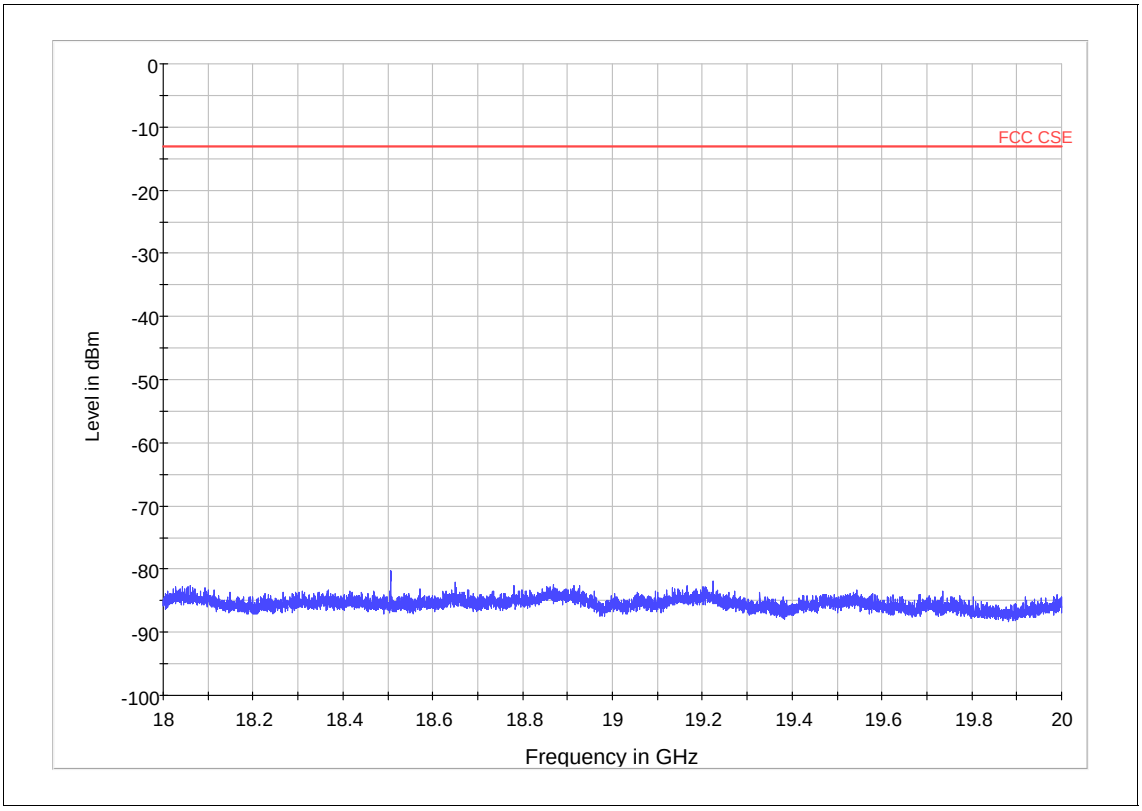


Note: The signal beyond the limit is carrier.

LTE Band 2 18650 Channel 30MHz~3GHz

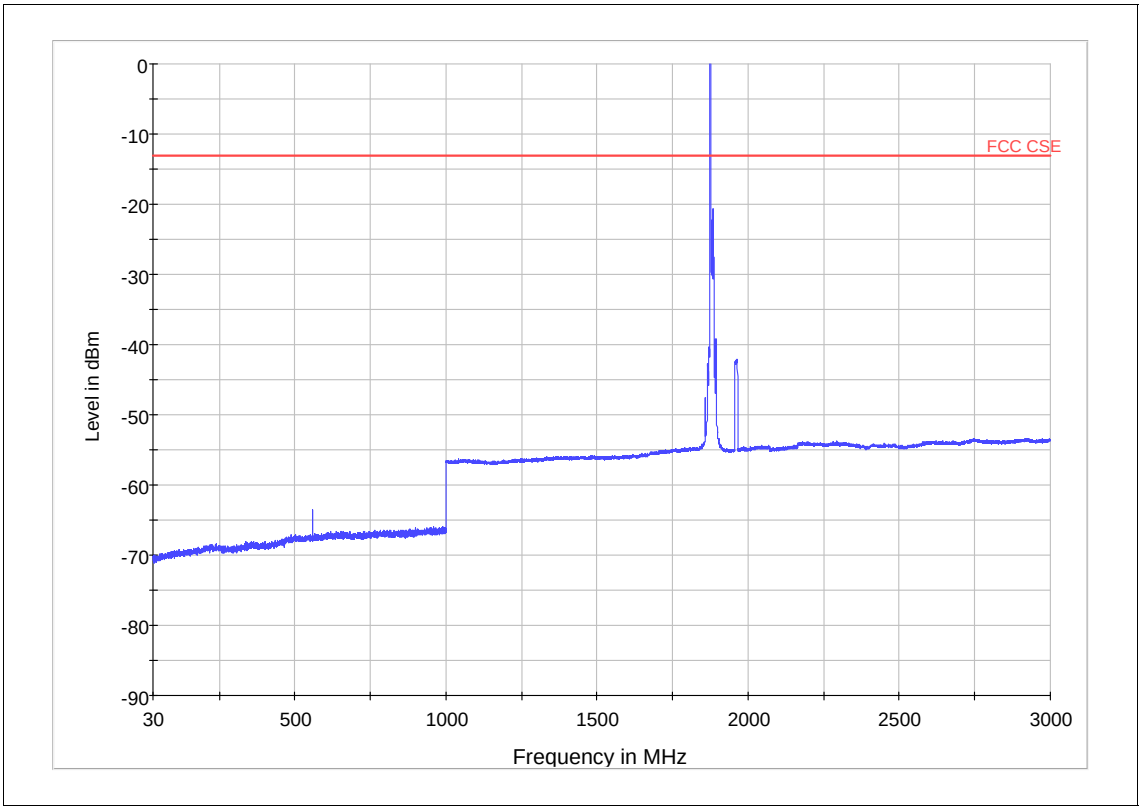


LTE Band 2 18650 Channel 3GHz~18GHz



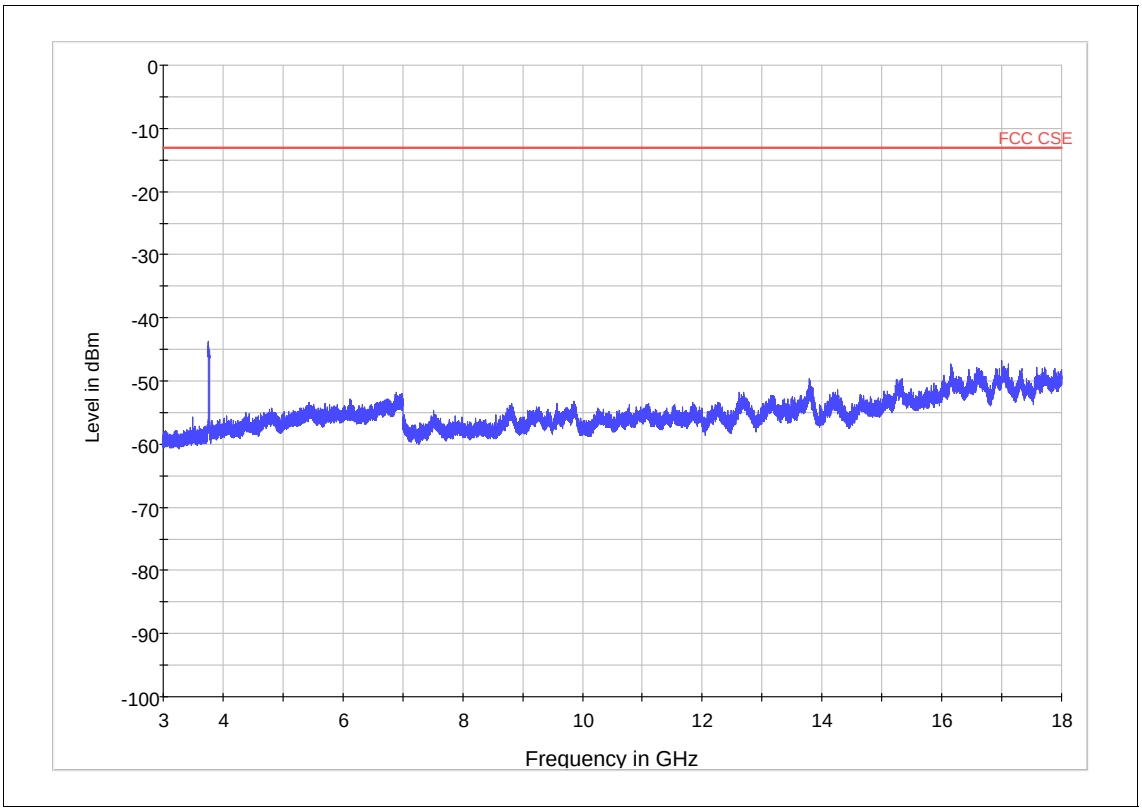
LTE Band 2 18650 Channel 18GHz~20GHz

LTE Band 2 QPSK Bandwidth = 10MHz CH18900,RB 1

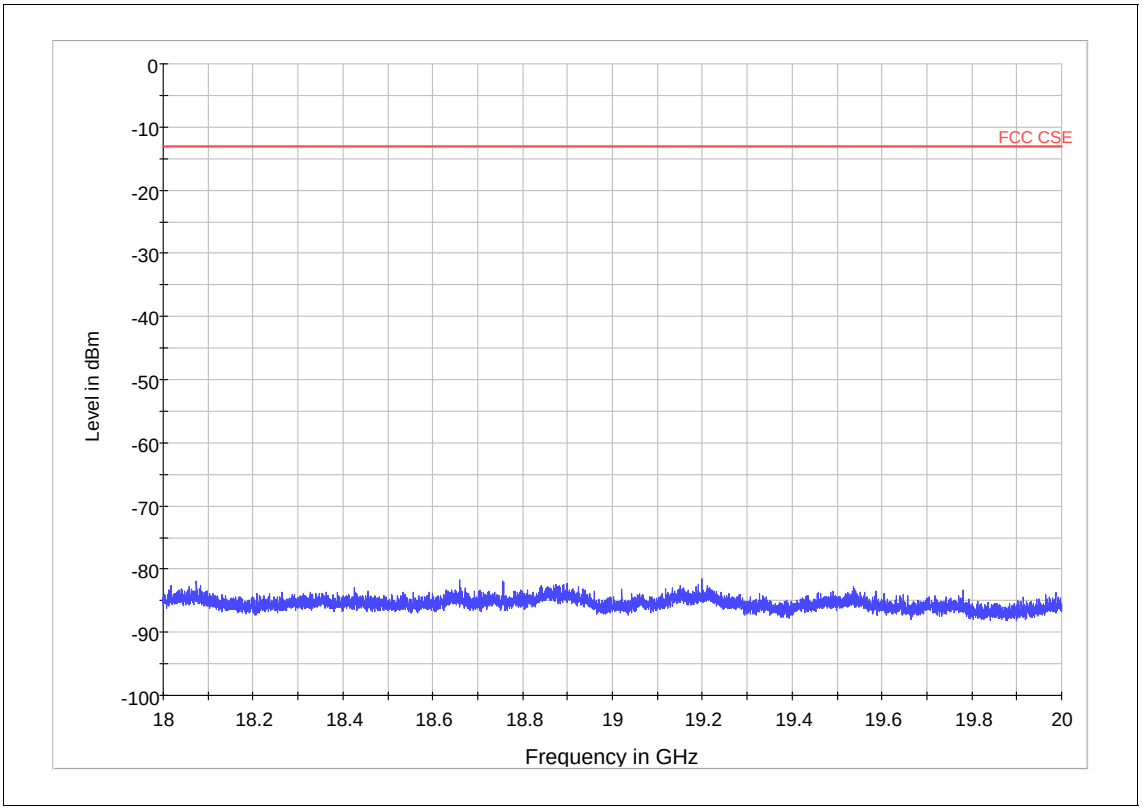


Note: The signal beyond the limit is carrier.

LTE Band 2 18900 Channel 30MHz~3GHz

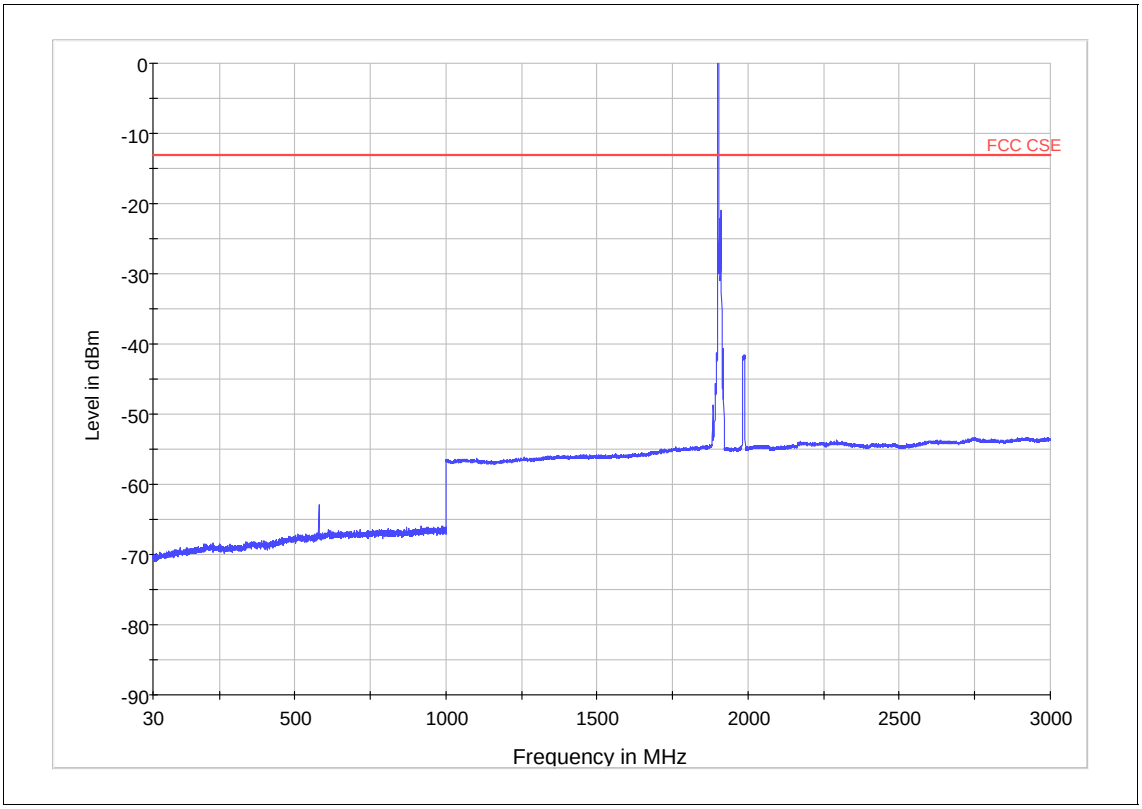


LTE Band 2 18900 Channel 3GHz~18GHz

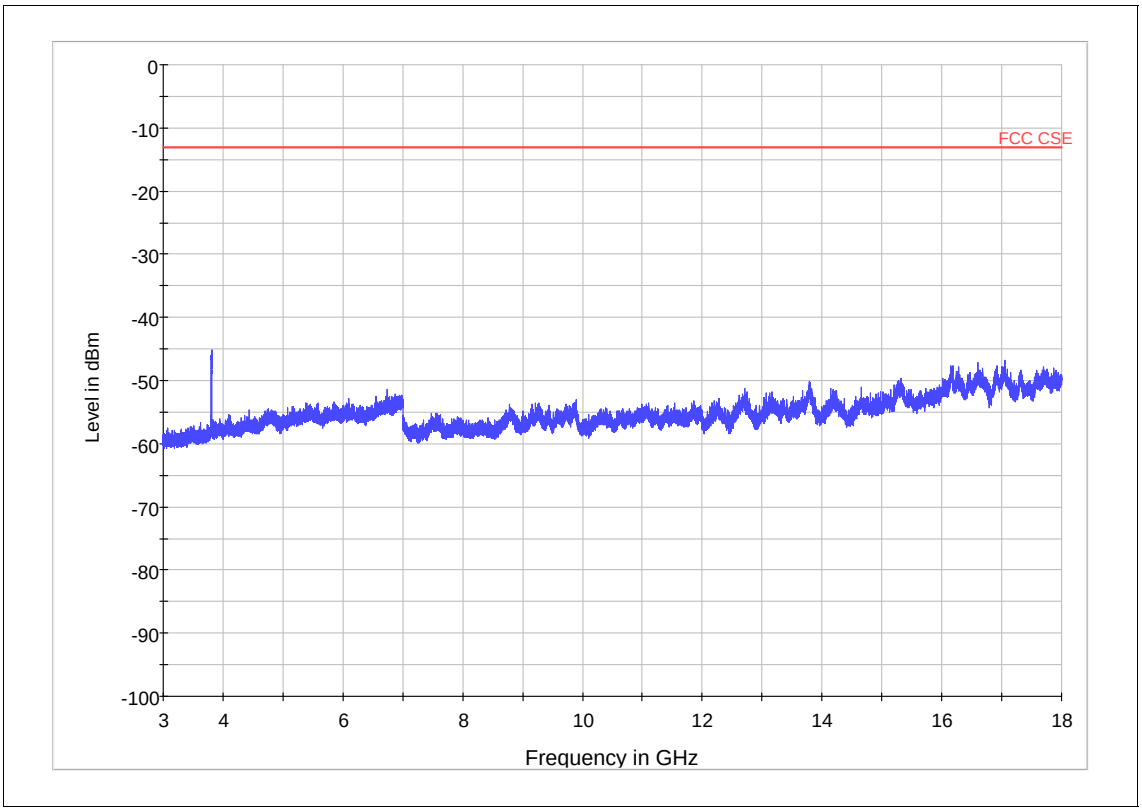


LTE Band 2 18900 Channel 18GHz~20GHz

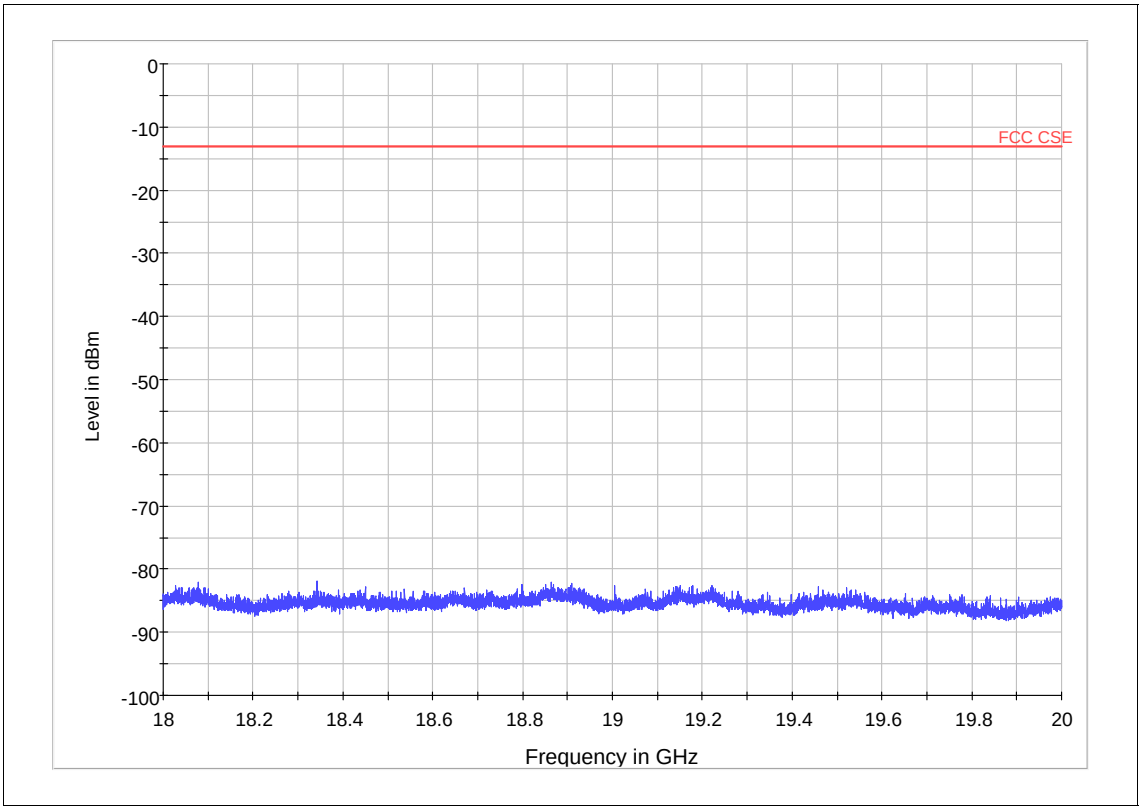
LTE Band 2 QPSK Bandwidth = 10MHz CH19150,RB 1



Note: The signal beyond the limit is carrier.
LTE Band 2 19150 Channel 30MHz~3GHz

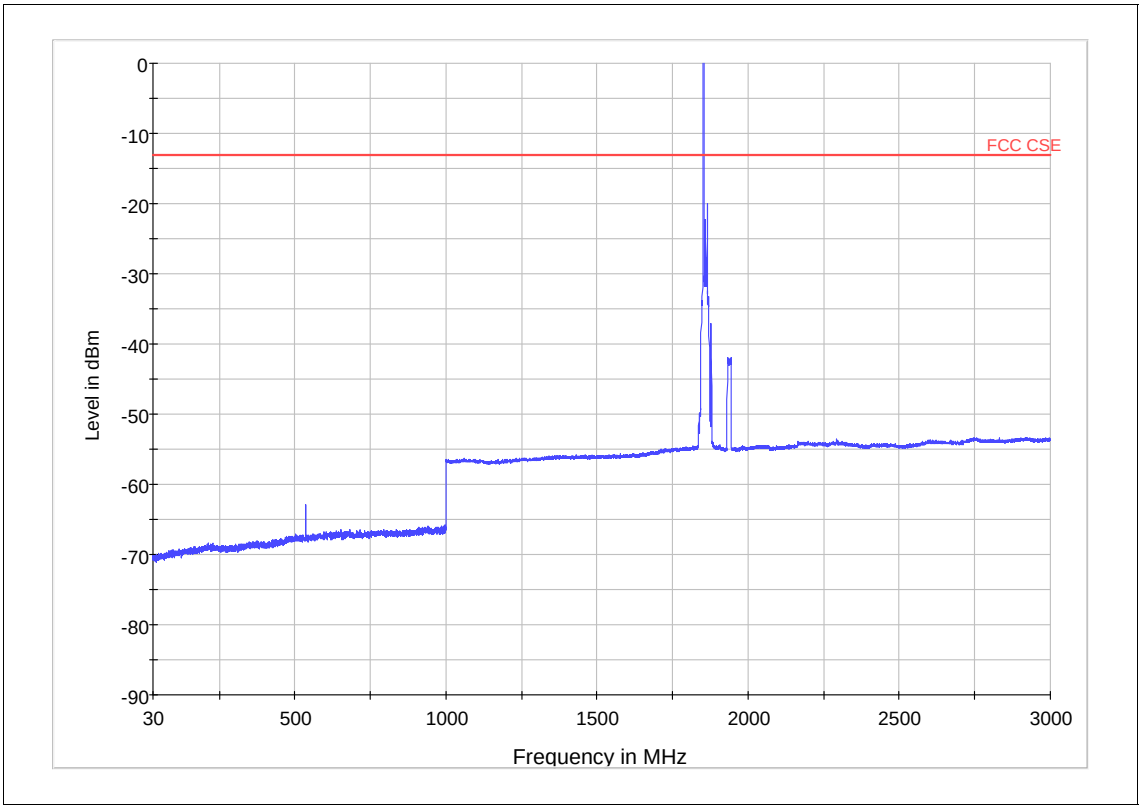


LTE Band 2 19150 Channel 3GHz~18GHz



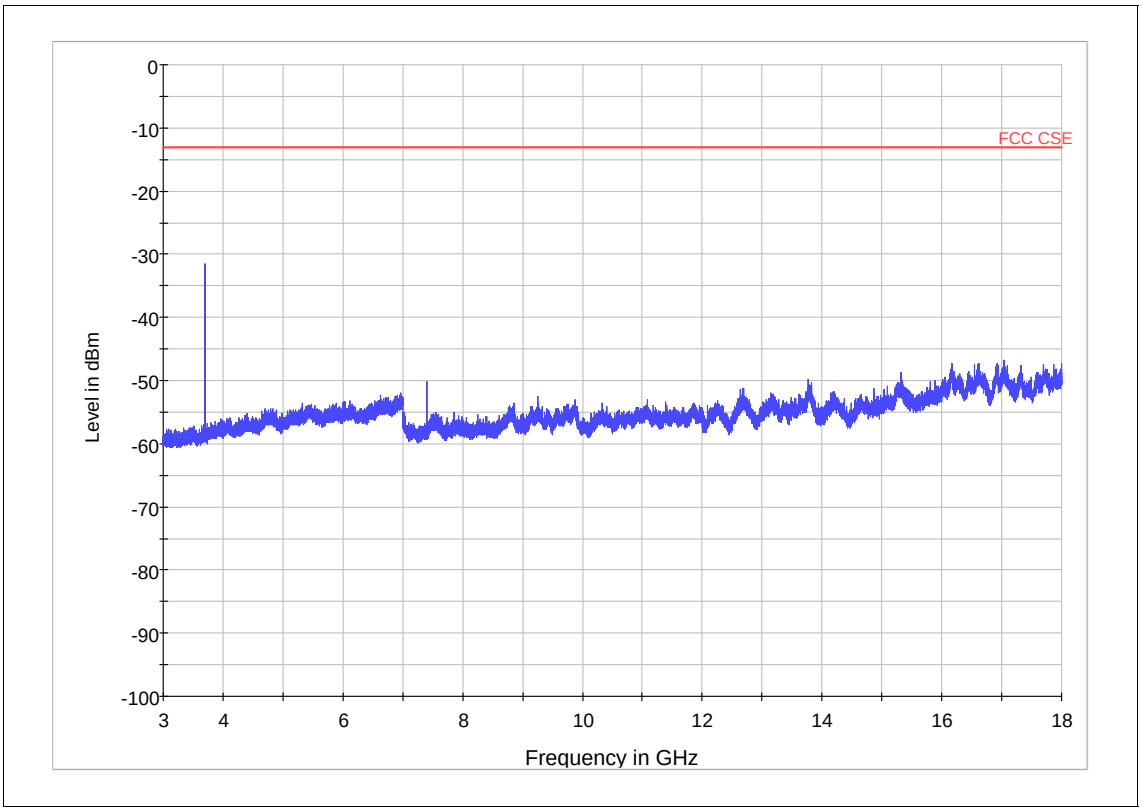
LTE Band 2 19150 Channel 18GHz~20GHz

LTE Band 2 QPSK Bandwidth = 15MHz CH18675,RB 1

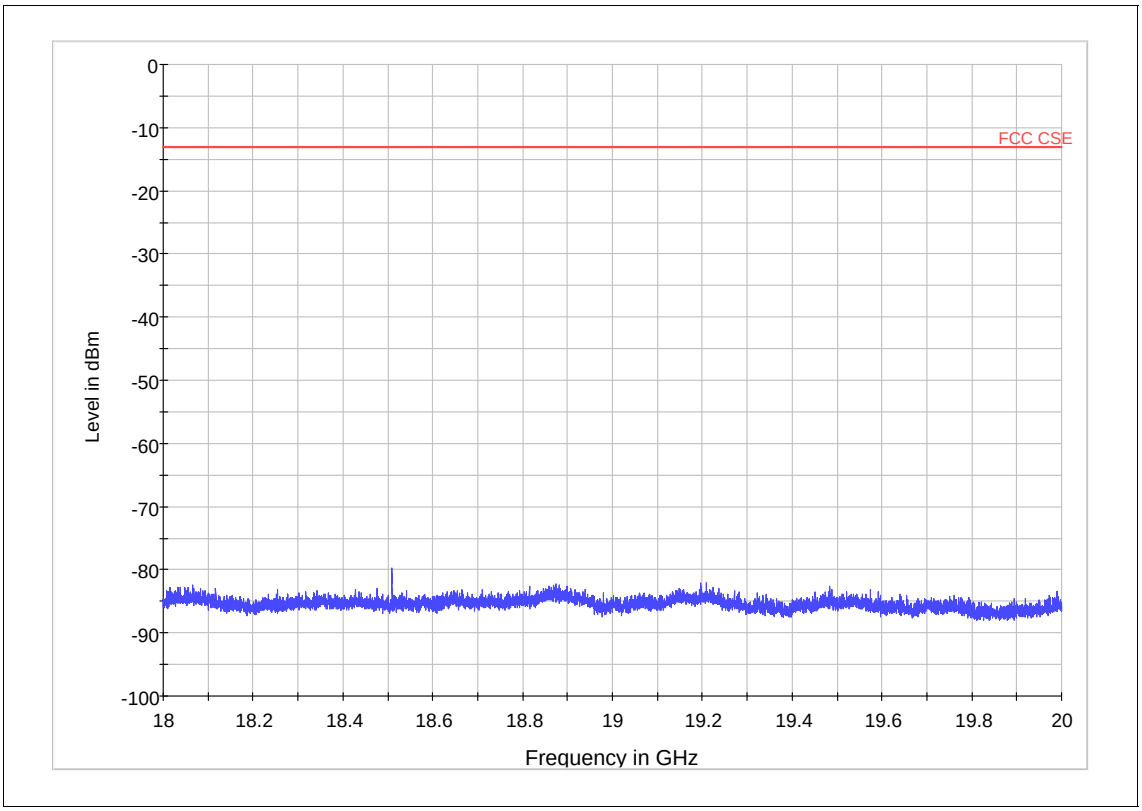


Note: The signal beyond the limit is carrier.

LTE Band 2 18675 Channel 30MHz~3GHz



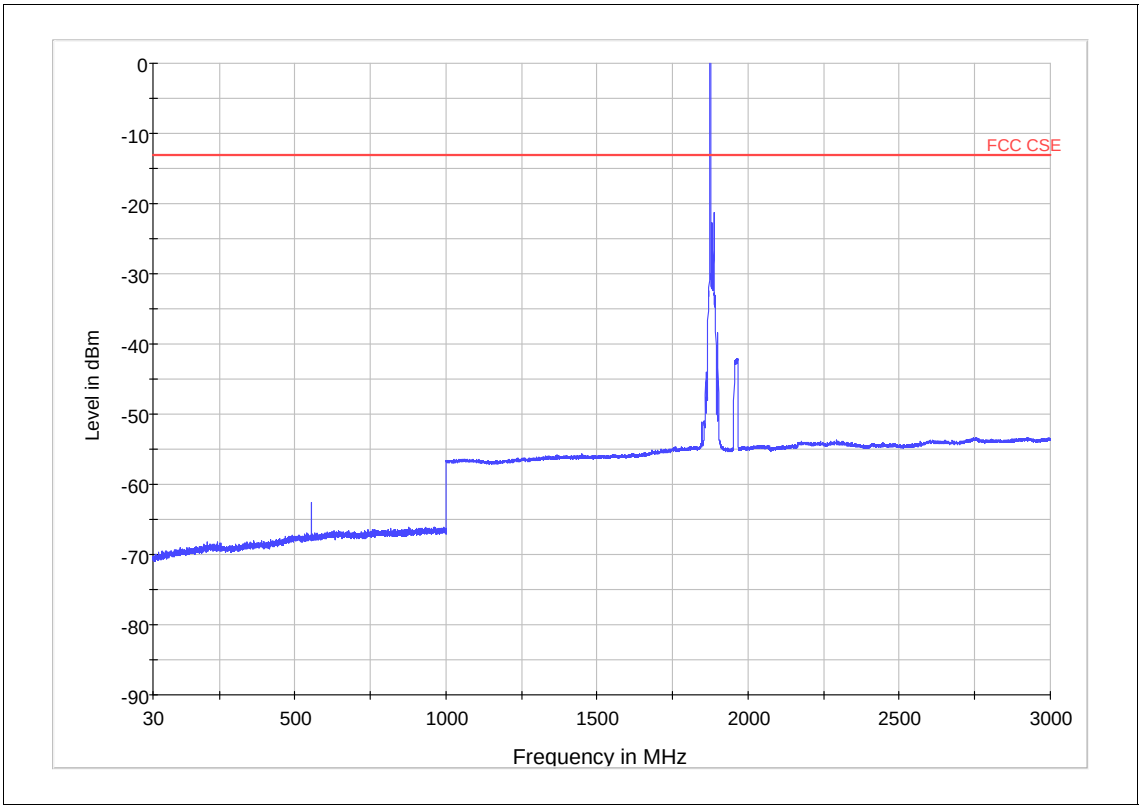
LTE Band 2 18675 Channel 3GHz~18GHz



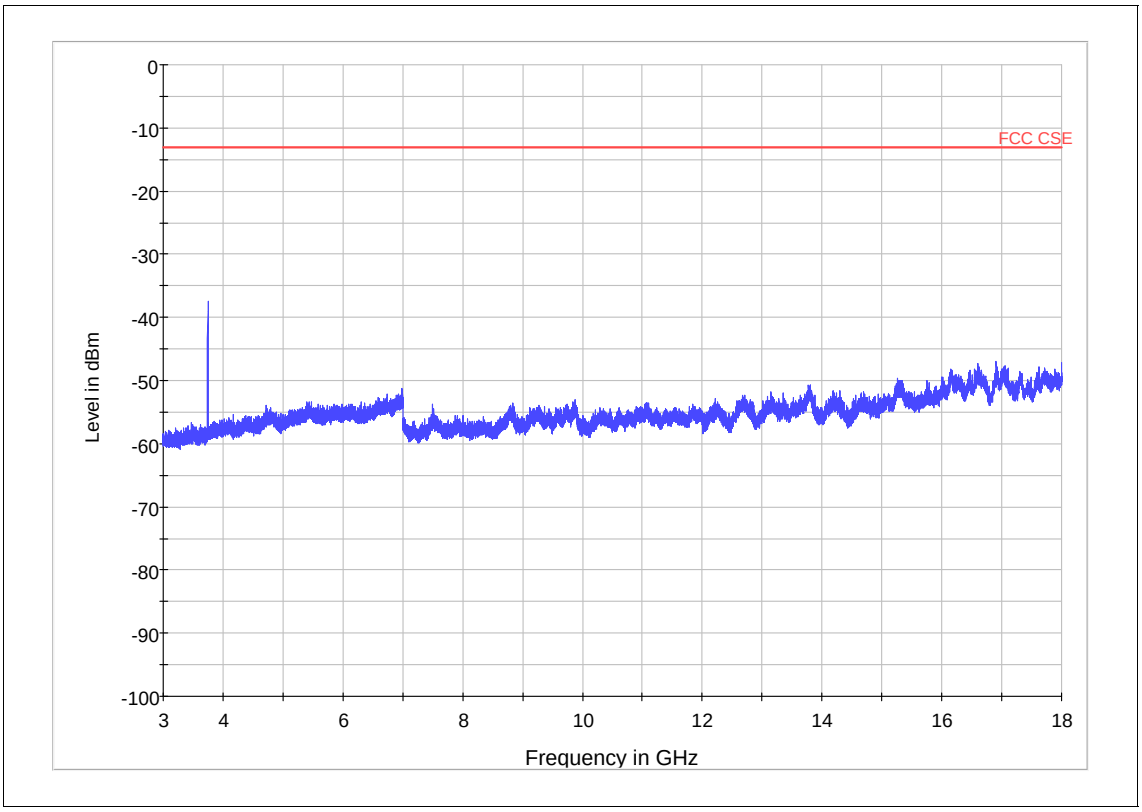
LTE Band 2 18675 Channel 18GHz~20GHz

Harmonic	TX ch. 18675 Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)
2	3702.0	-31.47	-13	18.47

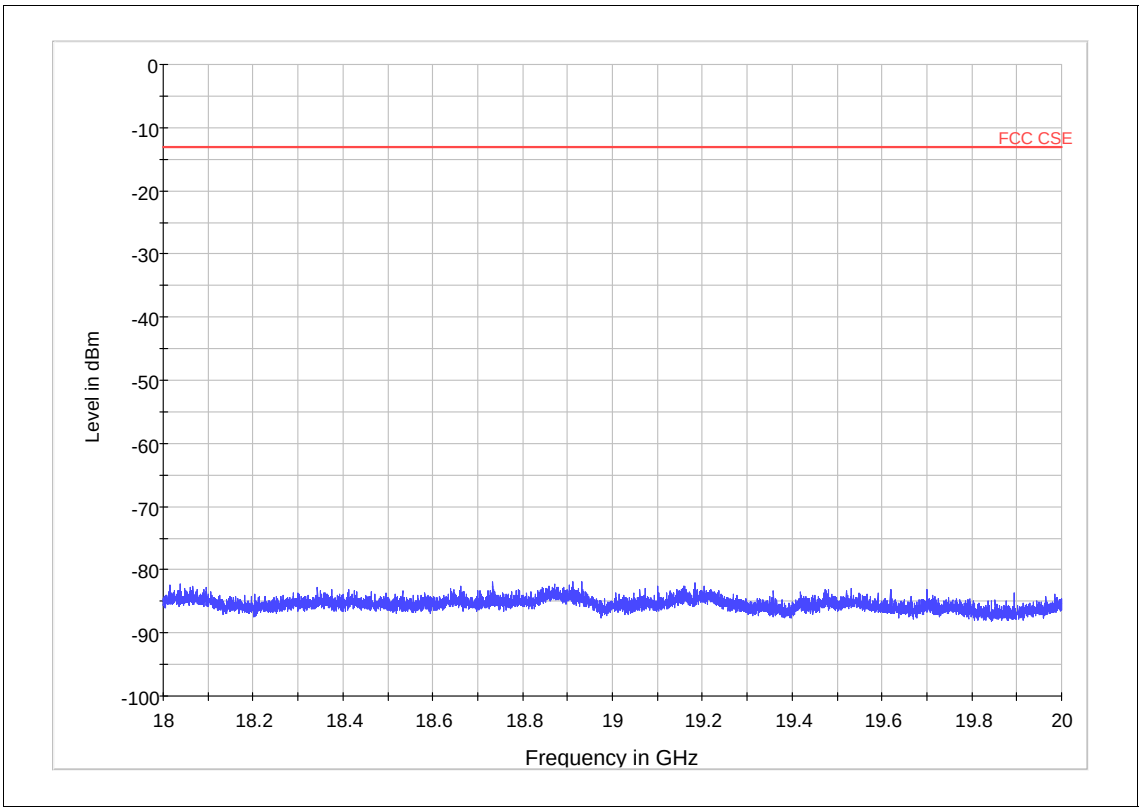
LTE Band 2 QPSK Bandwidth = 15MHz CH18900,RB 1



Note: The signal beyond the limit is carrier.
LTE Band 2 18900 Channel 30MHz~3GHz

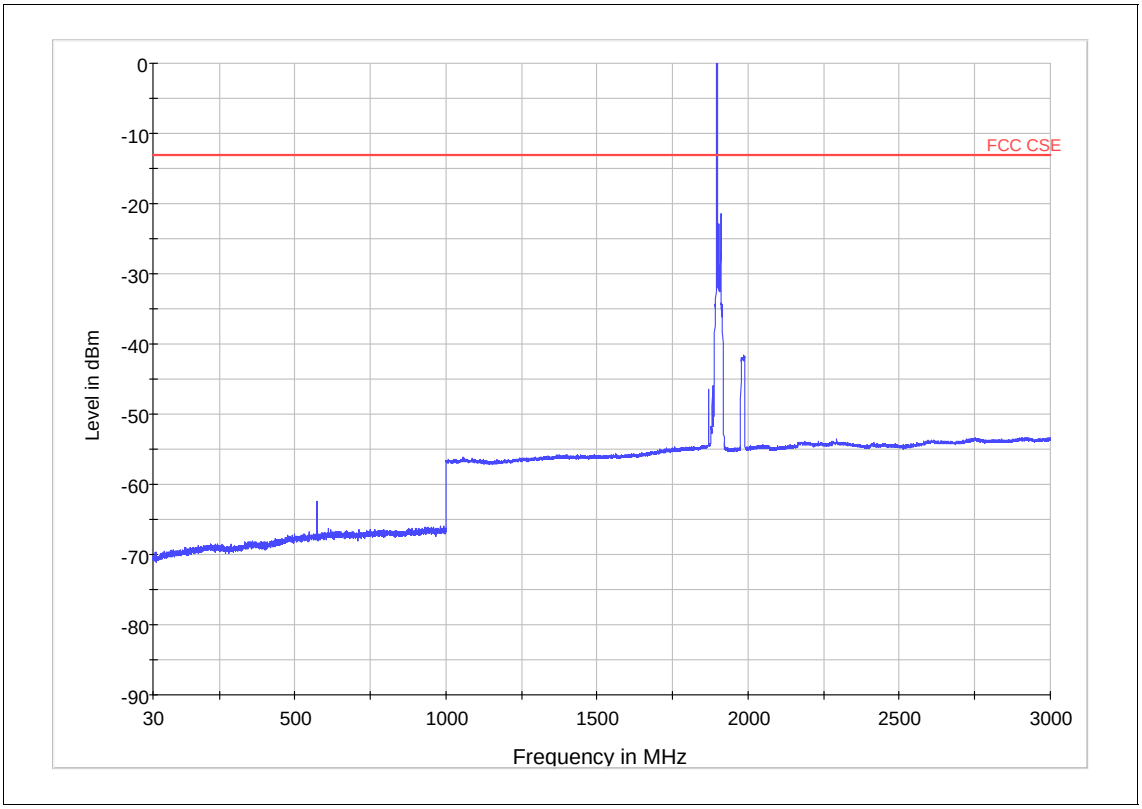


LTE Band 2 18900 Channel 3GHz~18GHz

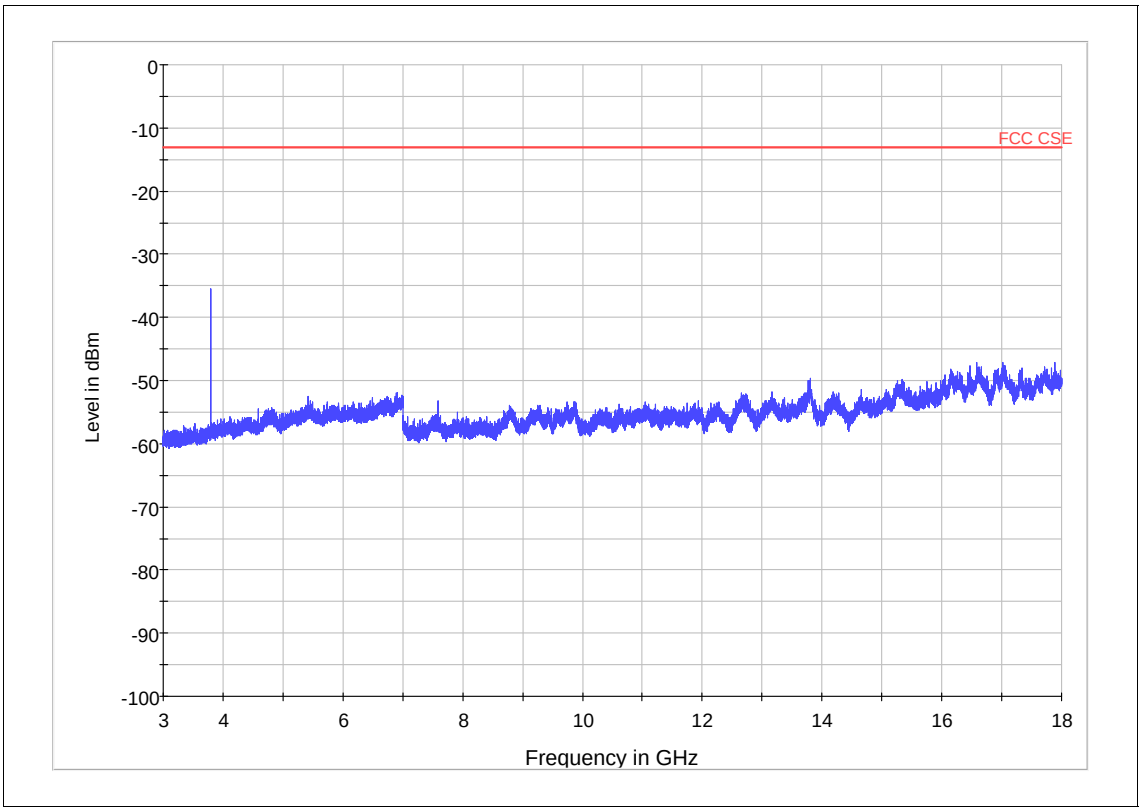


LTE Band 2 18900 Channel 18GHz~20GHz

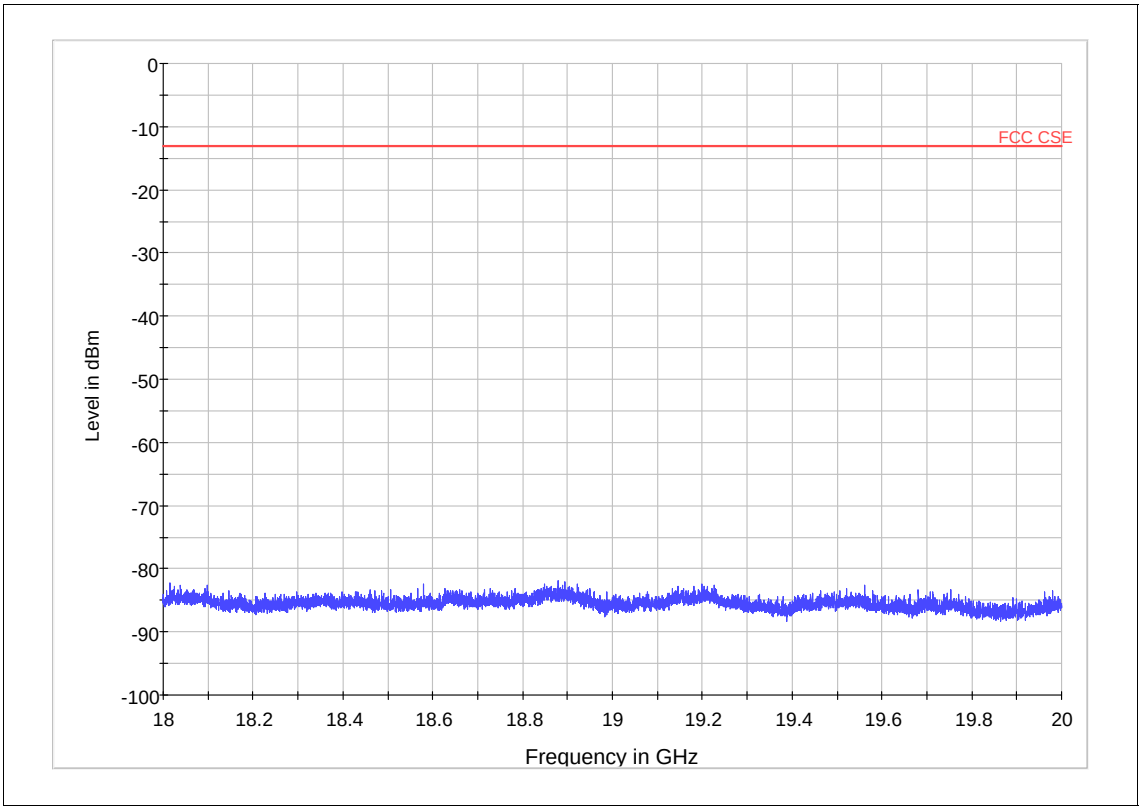
LTE Band 2 QPSK Bandwidth = 15MHz CH19125,RB 1



Note: The signal beyond the limit is carrier.
LTE Band 2 19125 Channel 30MHz~3GHz

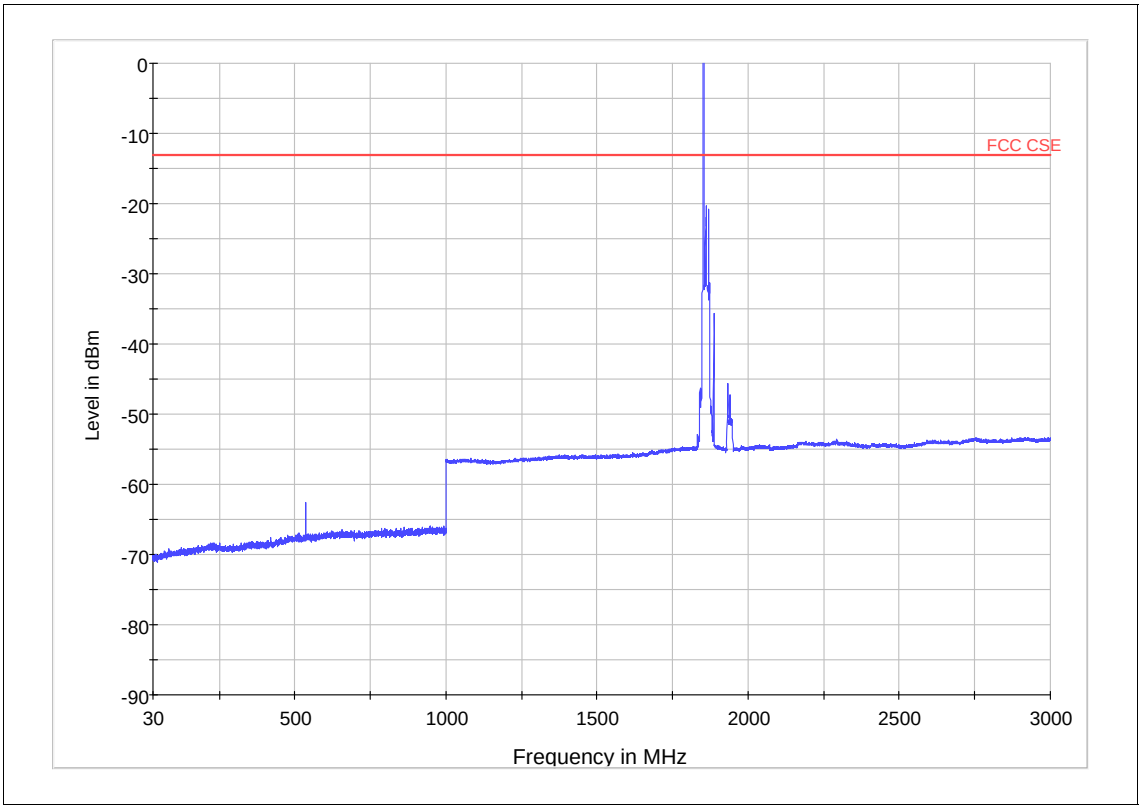


LTE Band 2 19125 Channel 3GHz~18GHz



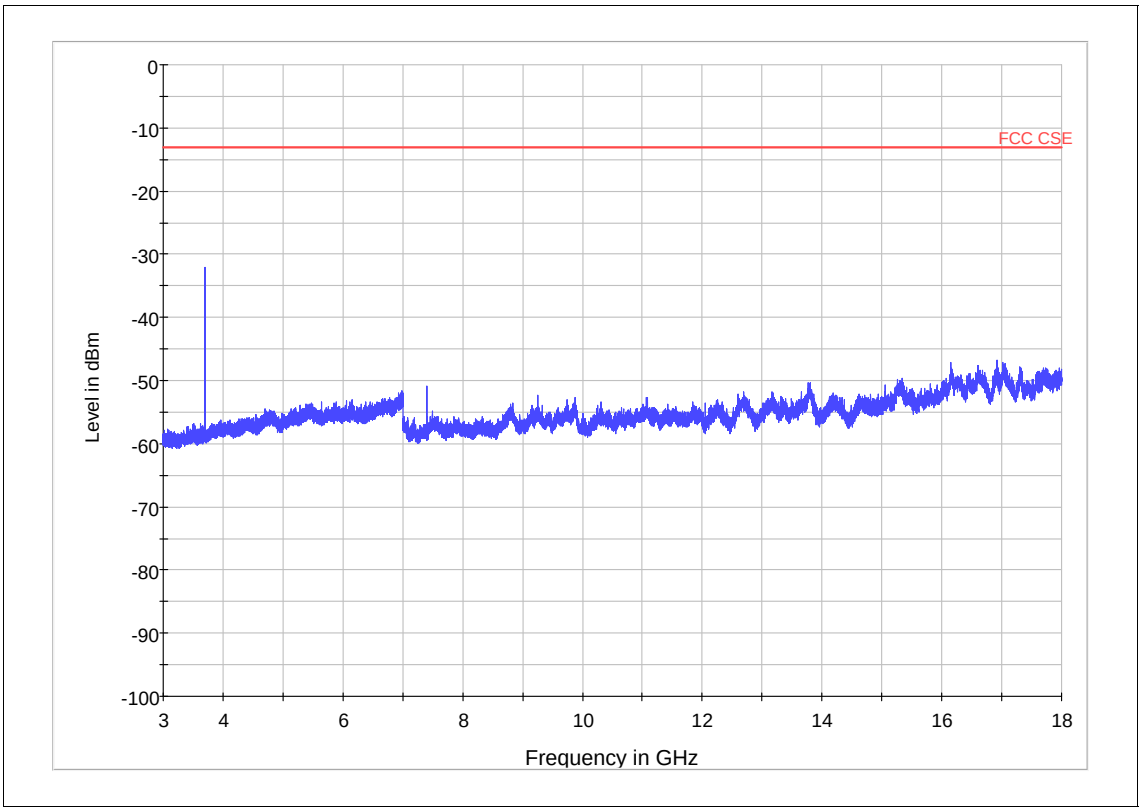
LTE Band 2 19125 Channel 18GHz~20GHz

LTE Band 2 QPSK Bandwidth = 20MHz CH18700,RB 1

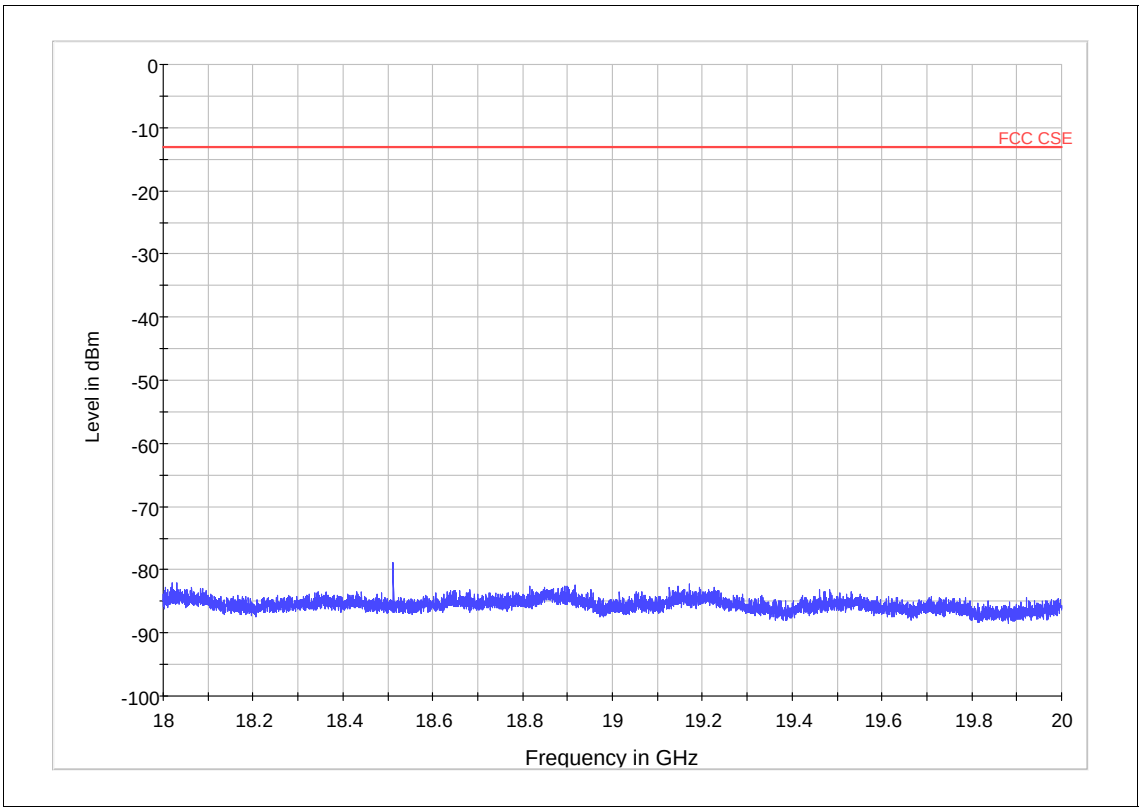


Note: The signal beyond the limit is carrier.

LTE Band 2 18700 Channel 30MHz~3GHz



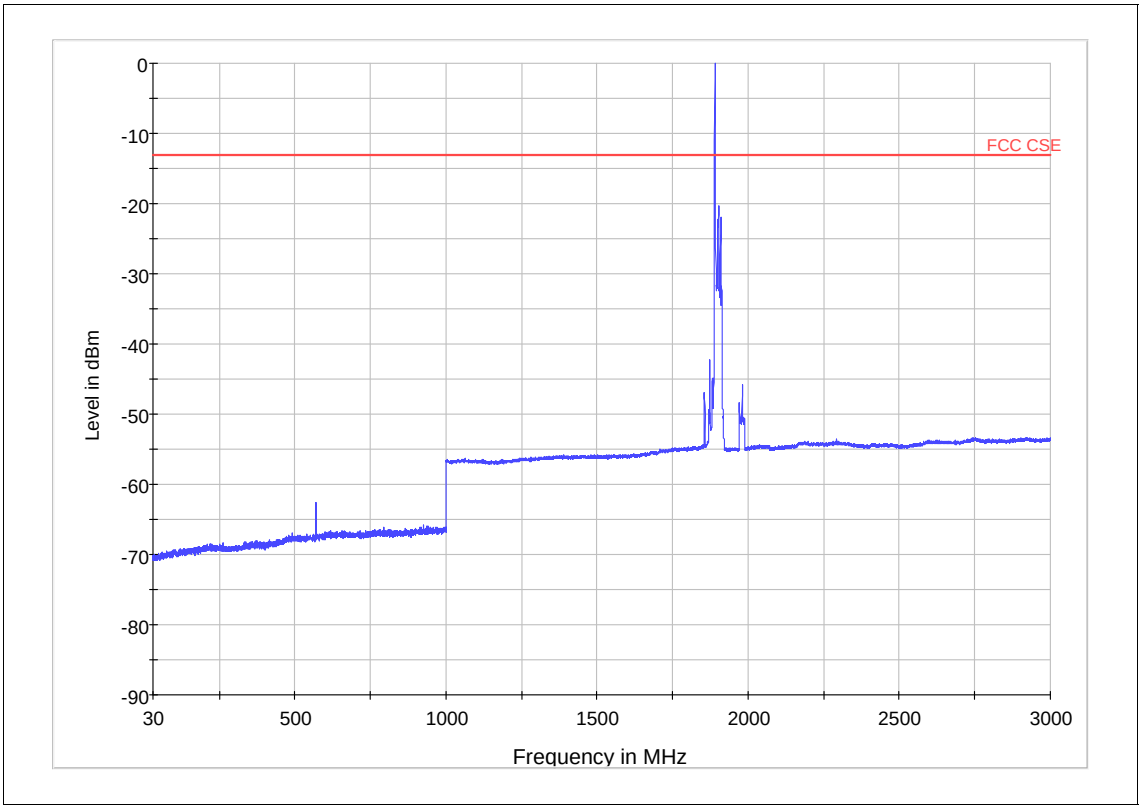
LTE Band 2 18700 Channel 3GHz~18GHz



LTE Band 2 18700 Channel 18GHz~20GHz

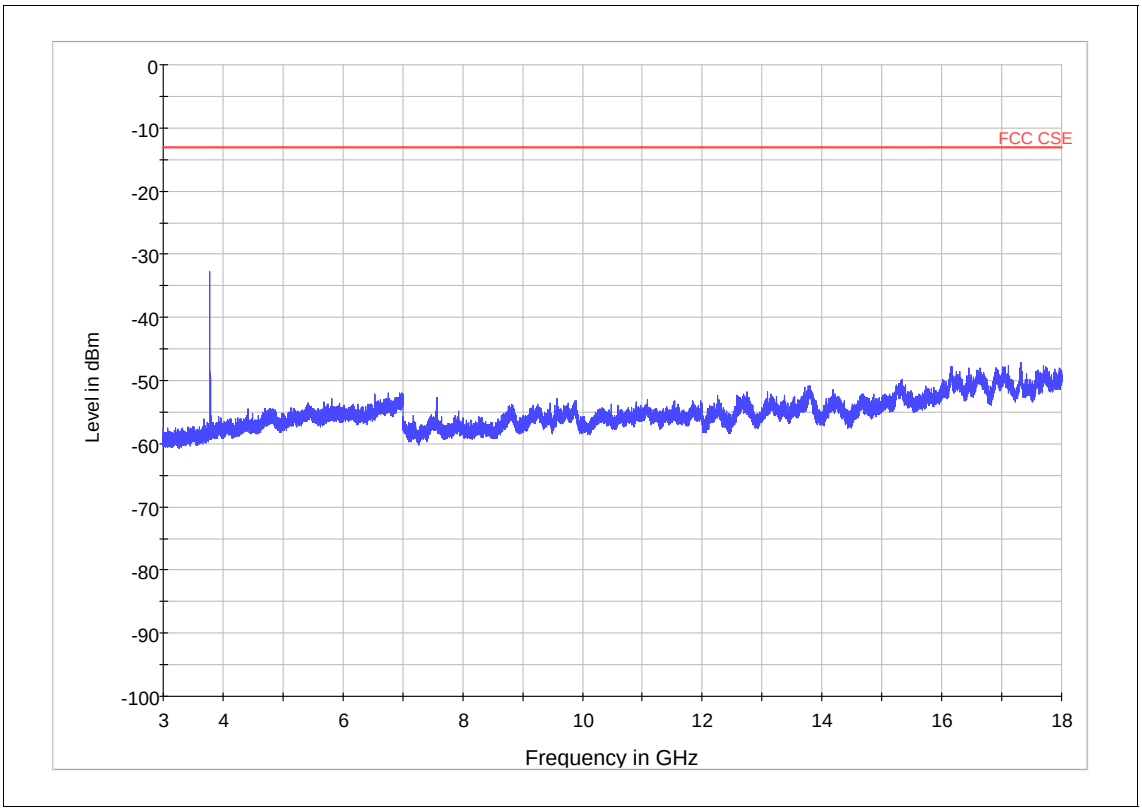
Harmonic	TX ch. 18700 Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)
2	3702.0	-32.03	-13	19.03

LTE Band 2 QPSK Bandwidth = 20MHz CH18900,RB 1

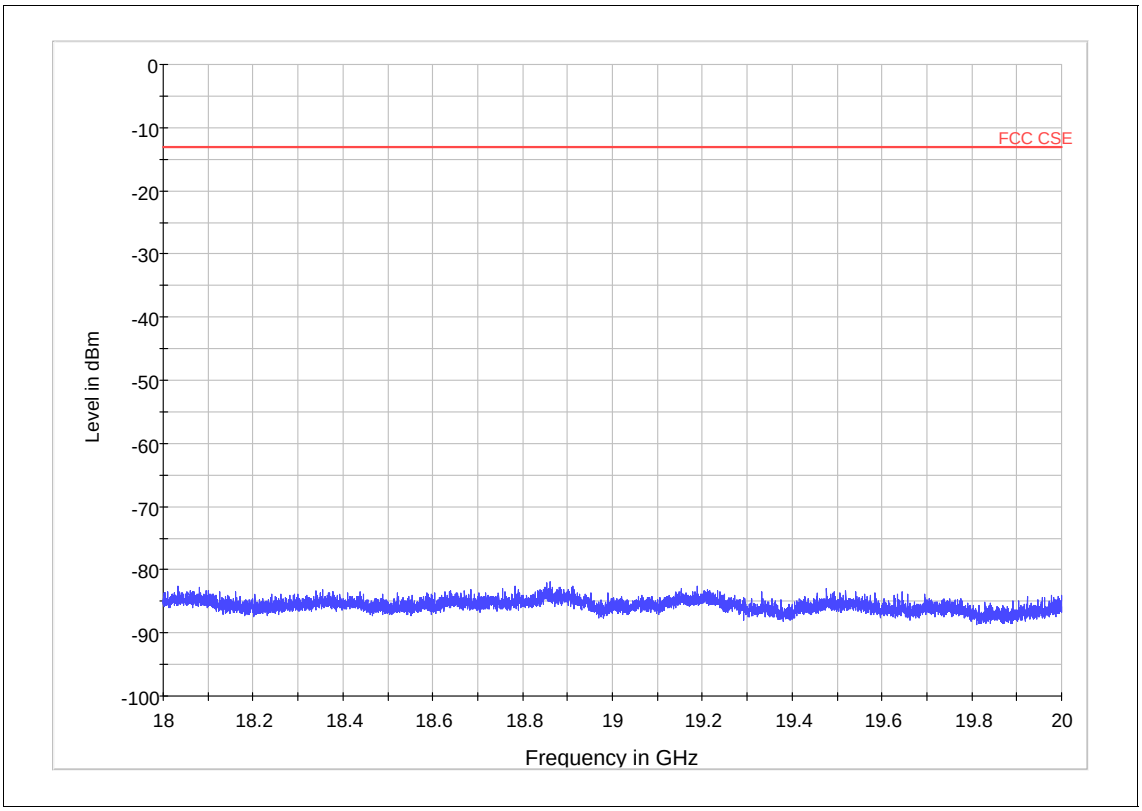


Note: The signal beyond the limit is carrier.

LTE Band 2 18900 Channel 30MHz~3GHz



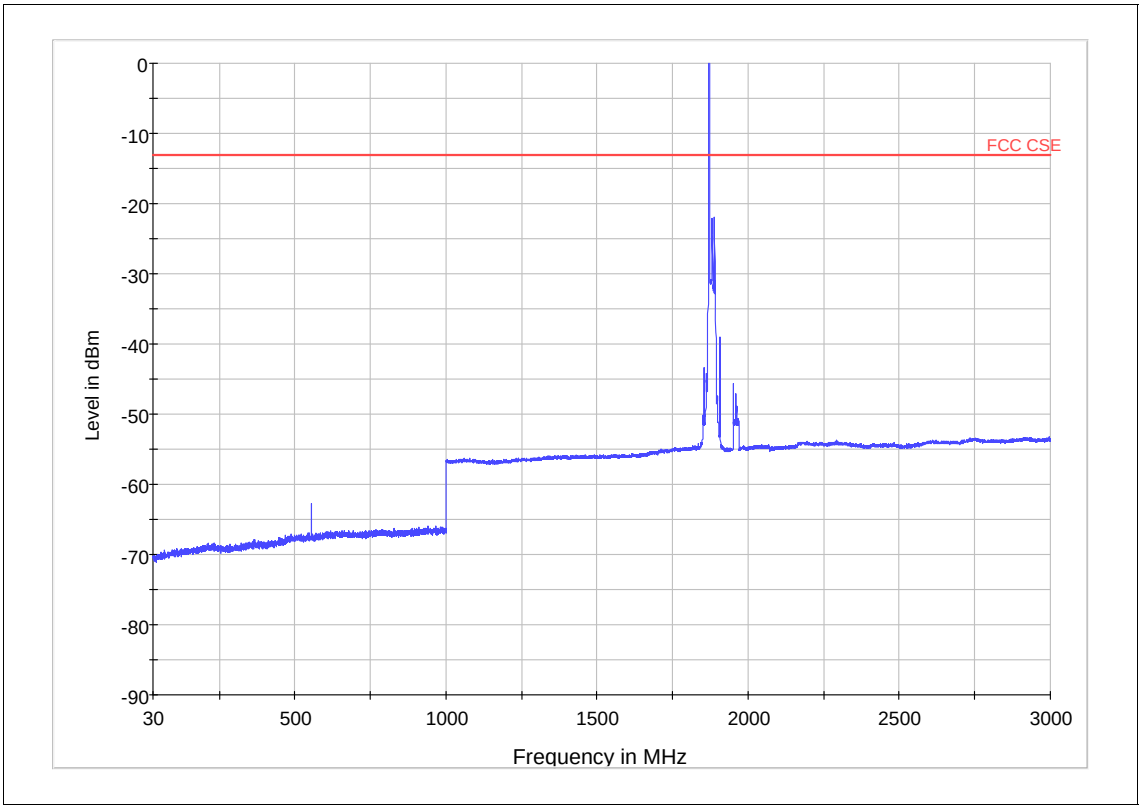
LTE Band 2 18900 Channel 3GHz~18GHz



LTE Band 2 18900 Channel 18GHz~20GHz

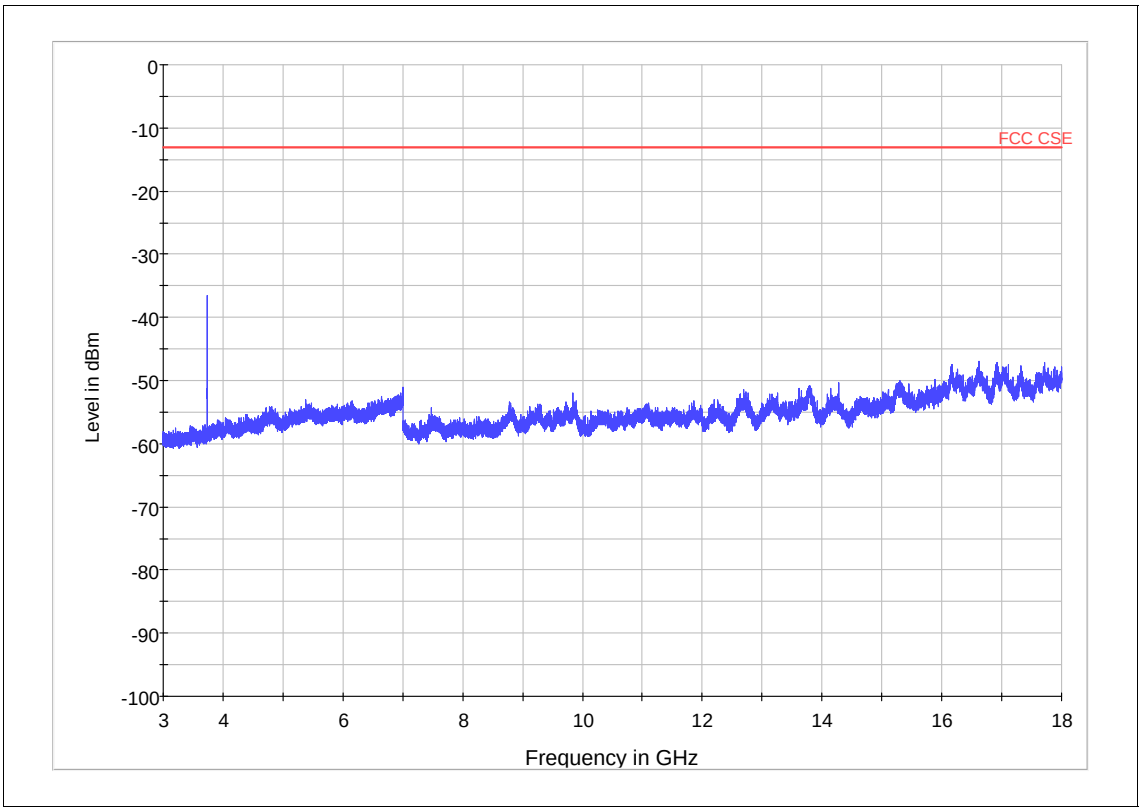
Harmonic	TX ch. 18900 Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)
2	3782.3	-32.84	-13	19.84

LTE Band 2 QPSK Bandwidth = 20MHz CH19100,RB 1

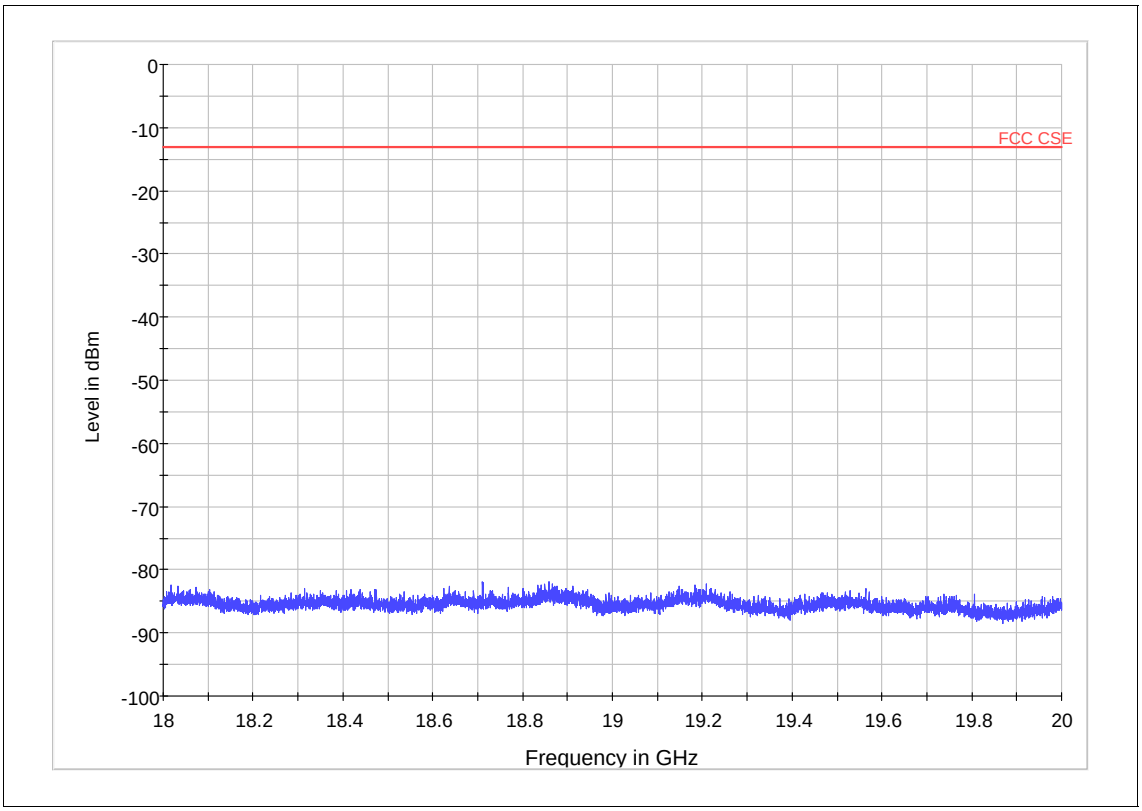


Note: The signal beyond the limit is carrier.

LTE Band 2 19100 Channel 30MHz~3GHz



LTE Band 2 19100 Channel 3GHz~18GHz



LTE Band 2 19100 Channel 18GHz~20GHz

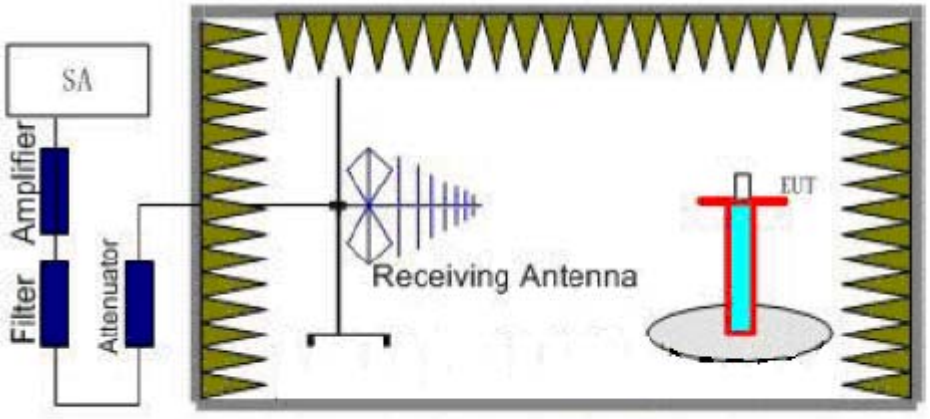
2.8 Radiates Spurious Emission

Ambient condition

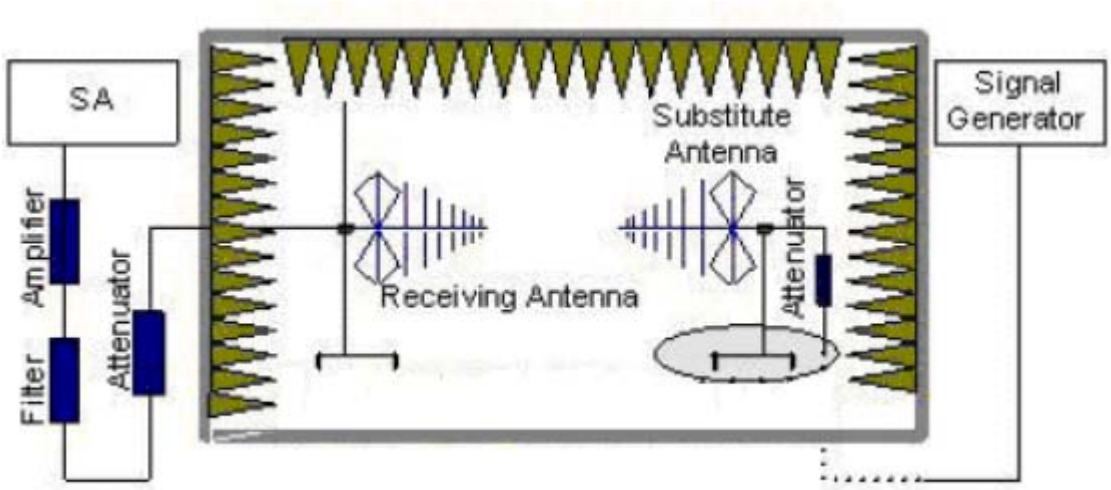
Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Method of Measurement

The spectrum was scanned from 30 MHz to the 10th harmonic of the highest frequency generated within the equipment.
The procedure of Radiates Spurious Emission is as follows:
Step 1:
The measurement is carried out in the semi-anechoic chamber. EUT was placed on a 1.5 meters high non-conductive table at a 3 meters test distance from the test receive antenna. A receiving antenna was placed on the antenna mast 3 meters from the EUT. A radio link shall be established between EUT and Tester. The output power of the cell signal of the tester will be decreased until the output power of the EUT reach a maximum value. A peak detector is used while RBW and VBW are both set to 3MHz. During the measurement, the highest emission was recorded from analyzer power level (LVL) from the 360 degrees rotation of the turntable and the test antenna moved up and down over a range from 1 to 4 meters in both horizontally and vertically polarized orientations. The test setup refers to figure below.



Step 2:
A dipole antenna shall be substituted in place of the EUT. The antenna will be driven by a signal generator with a adjustable S.G. applied through a Tx cable. Adjust the level of the signal generator output until the value of the receiver reach the previously recorded analyzer power level (LVL).Then The E.R.P. /E.I.R.P. of the EUT can be calculated through the level of the signal generator, Tx cable loss and the gain of the substitution antenna. The test setup refers to figure below.



E.R.P（peak power）=S.G. - Tx Cable loss + Substitution antenna gain – 2.15.
EIRP= E.R.P+2.15

The field strength of spurious 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 antenna is vertical.
We tested all modes for CDMA PCS and LTE Band 2. The worst emission was recorded in the report.

Limits

Rule Part 24.238(a) specifies that “on any frequency outside a licensee's frequency block, the power of any emission shall be attenuated below the transmitter power (P) by at least 43 + 10 log10 (P) dB.”

Limit	-13 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

LTE Band 2 QPSK Bandwidth = 1.4MHz CH18607,RB 1

Harmonic	TX ch. 18607 Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3700.5	-45.69	2.00	9.15	Vertical	-40.69	-13	27.69	0
3	5552.1	-66.75	2.50	11.35	Vertical	-60.05	-13	47.05	0
4	7402.8	-65.65	4.20	12.05	Vertical	-59.95	-13	46.95	180
5	9253.5	-64.39	5.20	12.85	Vertical	-58.89	-13	45.89	90
6	11104.2	-65.71	5.50	14.23	Vertical	-59.13	-13	46.13	0
7	12954.9	-62.36	5.70	14.15	Vertical	-56.06	-13	43.06	270
8	14805.6	-60.11	6.30	12.76	Vertical	-55.80	-13	42.80	180
9	16656.3	-60.28	6.80	13.05	Vertical	-56.18	-13	43.18	0
10	18507.0	-59.45	6.90	11.84	Vertical	-56.66	-13	43.66	180
Nf: noise floor									

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 vertical position.

LTE Band 2 QPSK Bandwidth = 1.4MHz CH18900,RB 1

Harmonic	TX ch. 18900 Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3759.0	-51.47	2.00	9.15	Vertical	-46.47	-13	33.47	180
3	5640.0	-66.75	2.50	11.35	Vertical	-60.05	-13	47.05	0
4	7520.0	-65.65	4.20	12.05	Vertical	-59.95	-13	46.95	180
5	9400.0	-64.39	5.20	12.85	Vertical	-58.89	-13	45.89	90
6	11280.0	-65.71	5.50	14.23	Vertical	-59.13	-13	46.13	0
7	13160.0	-62.36	5.70	14.15	Vertical	-56.06	-13	43.06	270
8	15040.0	-60.11	6.30	12.76	Vertical	-55.80	-13	42.80	180
9	16920.0	-60.28	6.80	13.05	Vertical	-56.18	-13	43.18	0
10	18800.0	-59.45	6.90	11.84	Vertical	-56.66	-13	43.66	180
Nf: noise floor									

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 vertical position.

LTE Band 2 QPSK Bandwidth = 1.4MHz CH19193,RB 1

Harmonic	TX ch. 19193 Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3817.9	-51.77	2.00	9.15	Vertical	-46.77	-13	33.77	0
3	5727.9	-66.75	2.50	11.35	Vertical	-60.05	-13	47.05	0
4	7637.2	-65.65	4.20	12.05	Vertical	-59.95	-13	46.95	180
5	9546.5	-64.39	5.20	12.85	Vertical	-58.89	-13	45.89	90
6	11455.8	-65.71	5.50	14.23	Vertical	-59.13	-13	46.13	0
7	13365.1	-62.36	5.70	14.15	Vertical	-56.06	-13	43.06	270
8	15274.4	-60.11	6.30	12.76	Vertical	-55.80	-13	42.80	180
9	17183.7	-60.28	6.80	13.05	Vertical	-56.18	-13	43.18	0
10	19093.0	-59.45	6.90	11.84	Vertical	-56.66	-13	43.66	180
Nf: noise floor									

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 vertical position.

LTE Band 2 QPSK Bandwidth = 3MHz CH18615,RB 1

Harmonic	TX ch. 18615 Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3703.1	-55.98	2.00	9.15	Vertical	-50.98	-13	37.98	0
3	5554.5	-66.75	2.50	11.35	Vertical	-60.05	-13	47.05	0
4	7406.0	-65.65	4.20	12.05	Vertical	-59.95	-13	46.95	180
5	9257.5	-64.39	5.20	12.85	Vertical	-58.89	-13	45.89	90
6	11109.0	-65.71	5.50	14.23	Vertical	-59.13	-13	46.13	0
7	12960.5	-62.36	5.70	14.15	Vertical	-56.06	-13	43.06	270
8	14812.0	-60.11	6.30	12.76	Vertical	-55.80	-13	42.80	180
9	16663.5	-60.28	6.80	13.05	Vertical	-56.18	-13	43.18	0
10	18515.0	-59.45	6.90	11.84	Vertical	-56.66	-13	43.66	180
Nf: noise floor									

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 vertical position.

LTE Band 2 QPSK Bandwidth = 3MHz CH18900,RB 1

Harmonic	TX ch. 18900 Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3762.0	-54.72	2.00	9.15	Vertical	-49.72	-13	36.72	180
3	5640.0	-66.75	2.50	11.35	Vertical	-60.05	-13	47.05	0
4	7520.0	-65.65	4.20	12.05	Vertical	-59.95	-13	46.95	180
5	9400.0	-64.39	5.20	12.85	Vertical	-58.89	-13	45.89	90
6	11280.0	-65.71	5.50	14.23	Vertical	-59.13	-13	46.13	0
7	13160.0	-62.36	5.70	14.15	Vertical	-56.06	-13	43.06	270
8	15040.0	-60.11	6.30	12.76	Vertical	-55.80	-13	42.80	180
9	16920.0	-60.28	6.80	13.05	Vertical	-56.18	-13	43.18	0
10	18800.0	-59.45	6.90	11.84	Vertical	-56.66	-13	43.66	180
Nf: noise floor									

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 vertical position.

LTE Band 2 QPSK Bandwidth = 3MHz CH19185,RB 1

Harmonic	TX ch. 19185 Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3817.0	-68.24	2.00	9.15	Vertical	-63.24	-13	50.24	180
3	5725.5	-66.75	2.50	11.35	Vertical	-60.05	-13	47.05	0
4	7634.0	-65.65	4.20	12.05	Vertical	-59.95	-13	46.95	180
5	9542.5	-64.39	5.20	12.85	Vertical	-58.89	-13	45.89	90
6	11451.0	-65.71	5.50	14.23	Vertical	-59.13	-13	46.13	0
7	13359.5	-62.36	5.70	14.15	Vertical	-56.06	-13	43.06	270
8	15268.0	-60.11	6.30	12.76	Vertical	-55.80	-13	42.80	180
9	17176.5	-60.28	6.80	13.05	Vertical	-56.18	-13	43.18	0
10	19085.0	-59.45	6.90	11.84	Vertical	-56.66	-13	43.66	180
Nf: noise floor									

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 vertical position.

LTE Band 2 QPSK Bandwidth = 5MHz CH18625,RB 1

Harmonic	TX ch. 18625 Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3700.9	-45.08	2.00	9.15	Vertical	-40.08	-13	27.08	0
3	5557.5	-66.75	2.50	11.35	Vertical	-60.05	-13	47.05	0
4	7410.0	-65.65	4.20	12.05	Vertical	-59.95	-13	46.95	180
5	9262.5	-64.39	5.20	12.85	Vertical	-58.89	-13	45.89	90
6	11115.0	-65.71	5.50	14.23	Vertical	-59.13	-13	46.13	0
7	12967.5	-62.36	5.70	14.15	Vertical	-56.06	-13	43.06	270
8	14820.0	-60.11	6.30	12.76	Vertical	-55.80	-13	42.80	180
9	16672.5	-60.28	6.80	13.05	Vertical	-56.18	-13	43.18	0
10	18525.0	-59.45	6.90	11.84	Vertical	-56.66	-13	43.66	180
Nf: noise floor									

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 vertical position.

LTE Band 2 QPSK Bandwidth = 5MHz CH18900,RB 1

Harmonic	TX ch. 18900 Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3755.6	-52.46	2.00	9.15	Vertical	-47.46	-13	34.46	180
3	5640.0	-66.75	2.50	11.35	Vertical	-60.05	-13	47.05	0
4	7520.0	-65.65	4.20	12.05	Vertical	-59.95	-13	46.95	180
5	9400.0	-64.39	5.20	12.85	Vertical	-58.89	-13	45.89	90
6	11280.0	-65.71	5.50	14.23	Vertical	-59.13	-13	46.13	0
7	13160.0	-62.36	5.70	14.15	Vertical	-56.06	-13	43.06	270
8	15040.0	-60.11	6.30	12.76	Vertical	-55.80	-13	42.80	180
9	16920.0	-60.28	6.80	13.05	Vertical	-56.18	-13	43.18	0
10	18800.0	-59.45	6.90	11.84	Vertical	-56.66	-13	43.66	180
Nf: noise floor									

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 vertical position.

LTE Band 2 QPSK Bandwidth = 5MHz CH19175,RB 1

Harmonic	TX ch. 19175 Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3810.8	-53.05	2.00	9.15	Vertical	-48.05	-13	35.05	0
3	5722.5	-66.75	2.50	11.35	Vertical	-60.05	-13	47.05	0
4	7630.0	-65.65	4.20	12.05	Vertical	-59.95	-13	46.95	180
5	9537.5	-64.39	5.20	12.85	Vertical	-58.89	-13	45.89	90
6	11445.0	-65.71	5.50	14.23	Vertical	-59.13	-13	46.13	0
7	13352.5	-62.36	5.70	14.15	Vertical	-56.06	-13	43.06	270
8	15260.0	-60.11	6.30	12.76	Vertical	-55.80	-13	42.80	180
9	17167.5	-60.28	6.80	13.05	Vertical	-56.18	-13	43.18	0
10	19075.0	-59.45	6.90	11.84	Vertical	-56.66	-13	43.66	180
Nf: noise floor									

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 vertical position.

LTE Band 2 QPSK Bandwidth = 10MHz CH18650,RB 1

Harmonic	TX ch. 18650 Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3700.9	-45.12	2.00	9.15	Vertical	-40.12	-13	27.12	0
3	5565.0	-66.75	2.50	11.35	Vertical	-60.05	-13	47.05	0
4	7420.0	-65.65	4.20	12.05	Vertical	-59.95	-13	46.95	180
5	9275.0	-64.39	5.20	12.85	Vertical	-58.89	-13	45.89	90
6	11130.0	-65.71	5.50	14.23	Vertical	-59.13	-13	46.13	0
7	12985.0	-62.36	5.70	14.15	Vertical	-56.06	-13	43.06	270
8	14840.0	-60.11	6.30	12.76	Vertical	-55.80	-13	42.80	180
9	16695.0	-60.28	6.80	13.05	Vertical	-56.18	-13	43.18	0
10	18550.0	-59.45	6.90	11.84	Vertical	-56.66	-13	43.66	180
Nf: noise floor									

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 vertical position.

LTE Band 2 QPSK Bandwidth = 10MHz CH18900,RB 1

Harmonic	TX ch. 18900 Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3751.5	-49.97	2.00	9.15	Vertical	-44.97	-13	31.97	0
3	5640.0	-66.75	2.50	11.35	Vertical	-60.05	-13	47.05	0
4	7520.0	-65.65	4.20	12.05	Vertical	-59.95	-13	46.95	180
5	9400.0	-64.39	5.20	12.85	Vertical	-58.89	-13	45.89	90
6	11280.0	-65.71	5.50	14.23	Vertical	-59.13	-13	46.13	0
7	13160.0	-62.36	5.70	14.15	Vertical	-56.06	-13	43.06	270
8	15040.0	-60.11	6.30	12.76	Vertical	-55.80	-13	42.80	180
9	16920.0	-60.28	6.80	13.05	Vertical	-56.18	-13	43.18	0
10	18800.0	-59.45	6.90	11.84	Vertical	-56.66	-13	43.66	180
Nf: noise floor									

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 vertical position.

LTE Band 2 QPSK Bandwidth = 10MHz CH19150,RB 1

Harmonic	TX ch. 19150 Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3801.4	-54.23	2.00	9.15	Vertical	-49.23	-13	36.23	270
3	5715.0	-66.75	2.50	11.35	Vertical	-60.05	-13	47.05	0
4	7620.0	-65.65	4.20	12.05	Vertical	-59.95	-13	46.95	180
5	9525.0	-64.39	5.20	12.85	Vertical	-58.89	-13	45.89	90
6	11430.0	-65.71	5.50	14.23	Vertical	-59.13	-13	46.13	0
7	13335.0	-62.36	5.70	14.15	Vertical	-56.06	-13	43.06	270
8	15240.0	-60.11	6.30	12.76	Vertical	-55.80	-13	42.80	180
9	17145.0	-60.28	6.80	13.05	Vertical	-56.18	-13	43.18	0
10	19050.0	-59.45	6.90	11.84	Vertical	-56.66	-13	43.66	180
Nf: noise floor									

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 vertical position.

LTE Band 2 QPSK Bandwidth = 15MHz CH18675,RB 1

Harmonic	TX ch. 18675 Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3701.6	-46.05	2.00	9.15	Vertical	-41.05	-13	28.05	0
3	5572.5	-66.75	2.50	11.35	Vertical	-60.05	-13	47.05	0
4	7430.0	-65.65	4.20	12.05	Vertical	-59.95	-13	46.95	180
5	9287.5	-64.39	5.20	12.85	Vertical	-58.89	-13	45.89	90
6	11145.0	-65.71	5.50	14.23	Vertical	-59.13	-13	46.13	0
7	13002.5	-62.36	5.70	14.15	Vertical	-56.06	-13	43.06	270
8	14860.0	-60.11	6.30	12.76	Vertical	-55.80	-13	42.80	180
9	16717.5	-60.28	6.80	13.05	Vertical	-56.18	-13	43.18	0
10	18575.0	-59.45	6.90	11.84	Vertical	-56.66	-13	43.66	180
Nf: noise floor									

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 vertical position.

LTE Band 2 QPSK Bandwidth = 15MHz CH18900,RB 1

Harmonic	TX ch. 18900 Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3747.0	-49.78	2.00	9.15	Vertical	-44.78	-13	31.78	0
3	5640.0	-66.75	2.50	11.35	Vertical	-60.05	-13	47.05	0
4	7520.0	-65.65	4.20	12.05	Vertical	-59.95	-13	46.95	180
5	9400.0	-64.39	5.20	12.85	Vertical	-58.89	-13	45.89	90
6	11280.0	-65.71	5.50	14.23	Vertical	-59.13	-13	46.13	0
7	13160.0	-62.36	5.70	14.15	Vertical	-56.06	-13	43.06	270
8	15040.0	-60.11	6.30	12.76	Vertical	-55.80	-13	42.80	180
9	16920.0	-60.28	6.80	13.05	Vertical	-56.18	-13	43.18	0
10	18800.0	-59.45	6.90	11.84	Vertical	-56.66	-13	43.66	180
Nf: noise floor									

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 vertical position.

LTE Band 2 QPSK Bandwidth = 15MHz CH19125,RB 1

Harmonic	TX ch. 19125 Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3792.0	-51.10	2.00	9.15	Vertical	-46.10	-13	33.10	0
3	5707.5	-66.75	2.50	11.35	Vertical	-60.05	-13	47.05	0
4	7610.0	-65.65	4.20	12.05	Vertical	-59.95	-13	46.95	180
5	9512.5	-64.39	5.20	12.85	Vertical	-58.89	-13	45.89	90
6	11415.0	-65.71	5.50	14.23	Vertical	-59.13	-13	46.13	0
7	13317.5	-62.36	5.70	14.15	Vertical	-56.06	-13	43.06	270
8	15220.0	-60.11	6.30	12.76	Vertical	-55.80	-13	42.80	180
9	17122.5	-60.28	6.80	13.05	Vertical	-56.18	-13	43.18	0
10	19025.0	-59.45	6.90	11.84	Vertical	-56.66	-13	43.66	180
Nf: noise floor									

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 vertical position.

LTE Band 2 QPSK Bandwidth = 20MHz CH18700,RB 1

Harmonic	TX ch. 18700 Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3702.4	-46.54	2.00	9.15	Vertical	-41.54	-13	28.54	0
3	5580.0	-66.75	2.50	11.35	Vertical	-60.05	-13	47.05	0
4	7440.0	-65.65	4.20	12.05	Vertical	-59.95	-13	46.95	180
5	9300.0	-64.39	5.20	12.85	Vertical	-58.89	-13	45.89	90
6	11160.0	-65.71	5.50	14.23	Vertical	-59.13	-13	46.13	0
7	13020.0	-62.36	5.70	14.15	Vertical	-56.06	-13	43.06	270
8	14880.0	-60.11	6.30	12.76	Vertical	-55.80	-13	42.80	180
9	16740.0	-60.28	6.80	13.05	Vertical	-56.18	-13	43.18	0
10	18600.0	-59.45	6.90	11.84	Vertical	-56.66	-13	43.66	180
Nf: noise floor									

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 vertical position.

LTE Band 2 QPSK Bandwidth = 20MHz CH18900,RB 1

Harmonic	TX ch. 18900 Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3742.1	-49.95	2.00	9.15	Vertical	-44.95	-13	31.95	0
3	5640.0	-66.75	2.50	11.35	Vertical	-60.05	-13	47.05	0
4	7520.0	-65.65	4.20	12.05	Vertical	-59.95	-13	46.95	180
5	9400.0	-64.39	5.20	12.85	Vertical	-58.89	-13	45.89	90
6	11280.0	-65.71	5.50	14.23	Vertical	-59.13	-13	46.13	0
7	13160.0	-62.36	5.70	14.15	Vertical	-56.06	-13	43.06	270
8	15040.0	-60.11	6.30	12.76	Vertical	-55.80	-13	42.80	180
9	16920.0	-60.28	6.80	13.05	Vertical	-56.18	-13	43.18	0
10	18800.0	-59.45	6.90	11.84	Vertical	-56.66	-13	43.66	180
Nf: noise floor									

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 vertical position.

LTE Band 2 QPSK Bandwidth = 20MHz CH19100,RB 1

Harmonic	TX ch. 19100 Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3782.3	-50.12	2.00	9.15	Vertical	-45.12	-13	32.12	180
3	5700.0	-66.75	2.50	11.35	Vertical	-60.05	-13	47.05	0
4	7600.0	-65.65	4.20	12.05	Vertical	-59.95	-13	46.95	180
5	9500.0	-64.39	5.20	12.85	Vertical	-58.89	-13	45.89	90
6	11400.0	-65.71	5.50	14.23	Vertical	-59.13	-13	46.13	0
7	13300.0	-62.36	5.70	14.15	Vertical	-56.06	-13	43.06	270
8	15200.0	-60.11	6.30	12.76	Vertical	-55.80	-13	42.80	180
9	17100.0	-60.28	6.80	13.05	Vertical	-56.18	-13	43.18	0
10	19000.0	-59.45	6.90	11.84	Vertical	-56.66	-13	43.66	180
Nf: noise floor									

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 vertical position.

3. Main Test Instruments

No.	Name	Type	Manufacturer	Serial Number	Calibration Date	Valid Period
01	Base Station Simulator	CMU200	R&S	118133	2013-06-29	One year
02	Power Splitter	SHX-GF2-2-13	Hua Xiang	10120101	NA	NA
03	Spectrum Analyzer	E4445A	Agilent	MY46181146	2013-06-29	One year
04	Wideband radio communication tester	CMW 500	R&S	113645	2013-08-29	One year
05	Signal Analyzer	FSV30	R&S	100815	2013-06-29	One year
06	Signal generator	SMB 100A	R&S	102594	2013-06-29	One year
07	EMI Test Receiver	ESCI	R&S	100948	2013-06-29	One year
08	Trilog Antenna	VUBL 9163	SCHWARZBECK	9163-201	2013-06-29	Three years
09	Horn Antenna	HF907	R&S	100126	2012-07-01	Three years
10	Climatic Chamber	PT-30B	Re Ce	20101891	2013-09-09	Three years

*******END OF REPORT *******