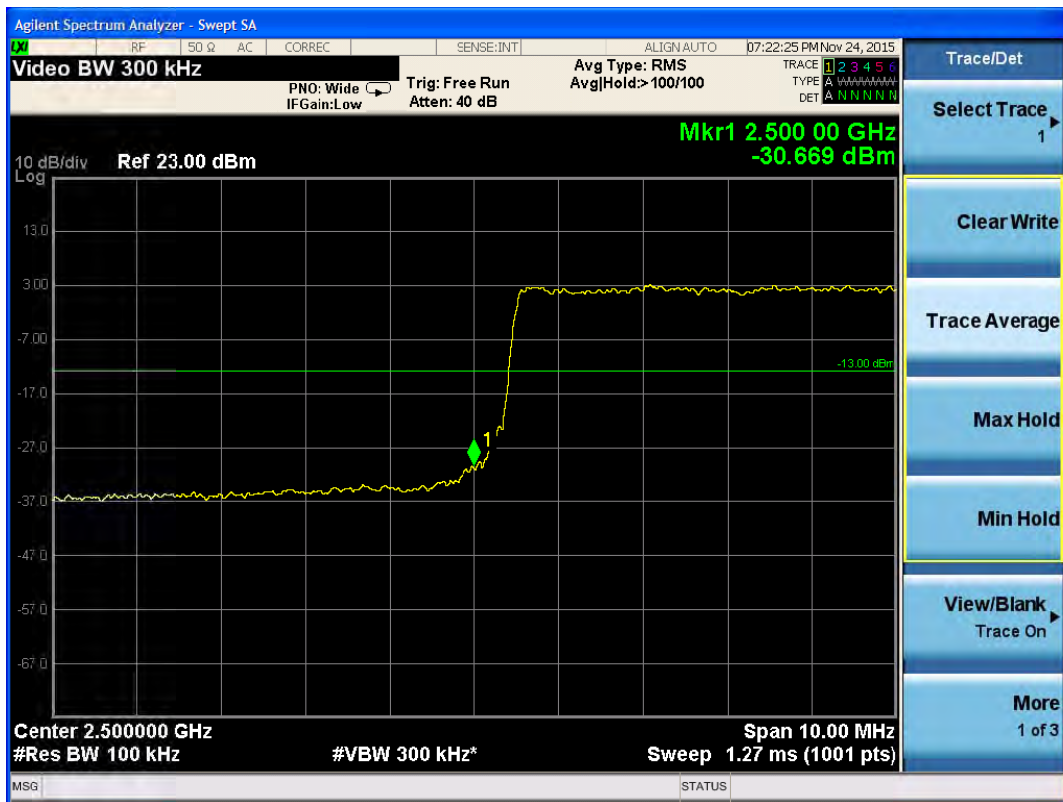
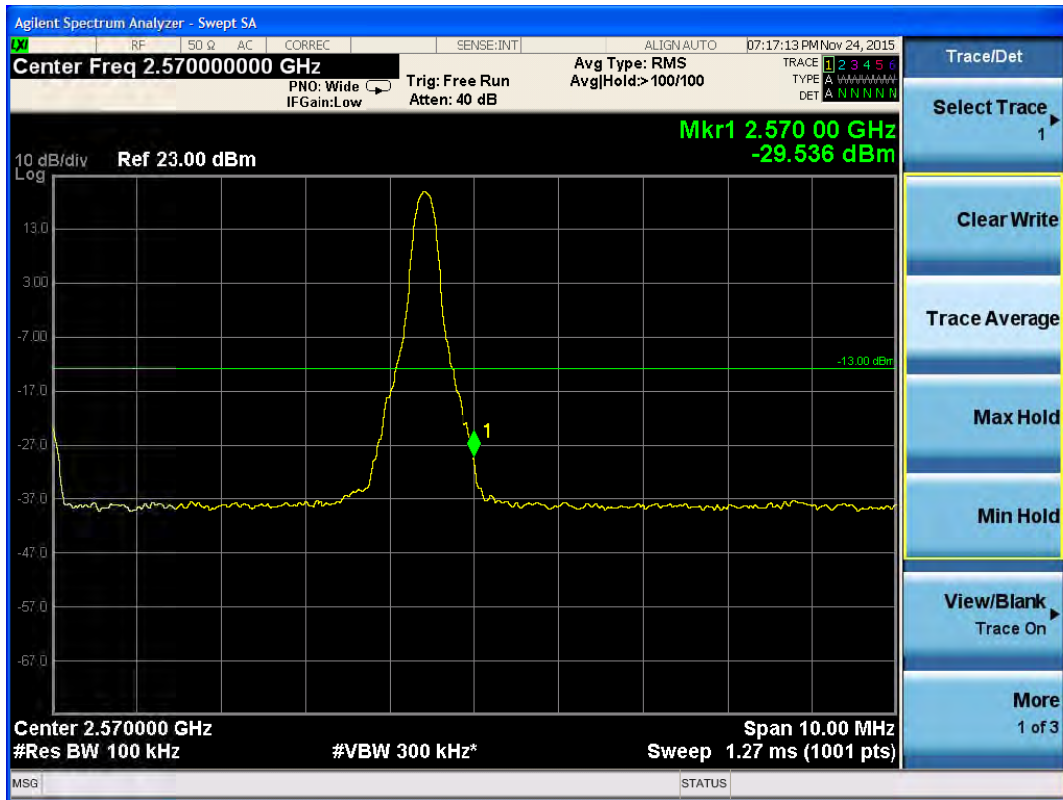


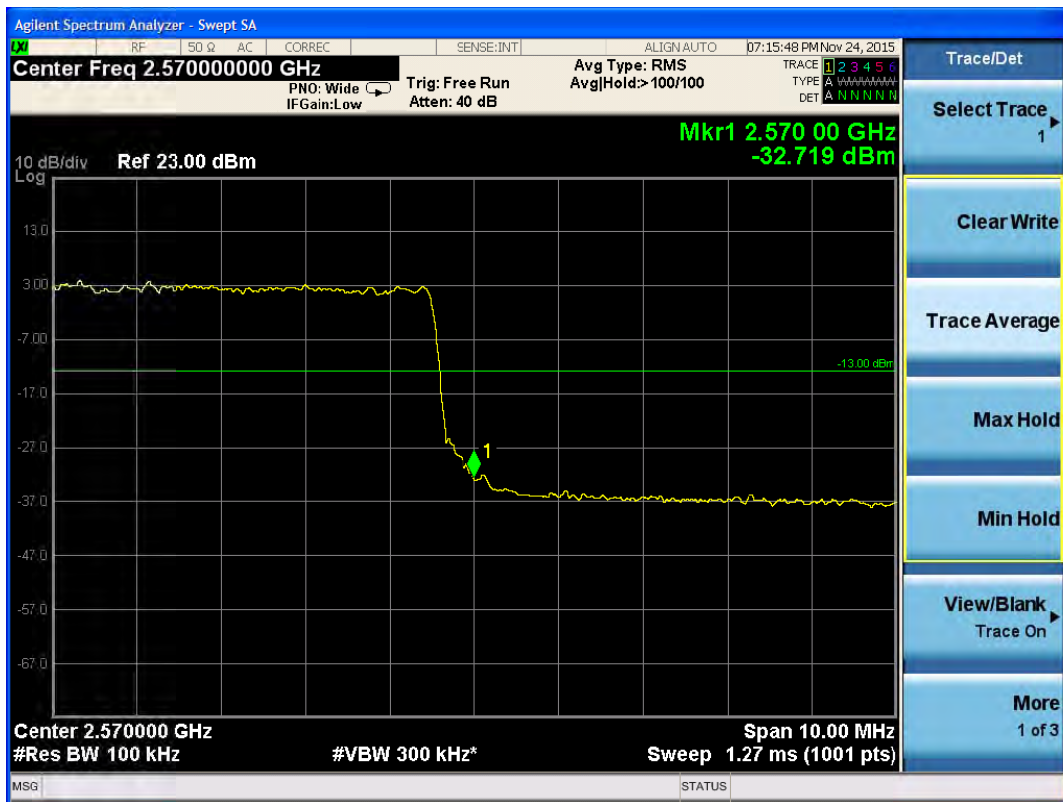
LTE Band 7 QPSK Bandwidth = 10MHz CH20800, RB 1



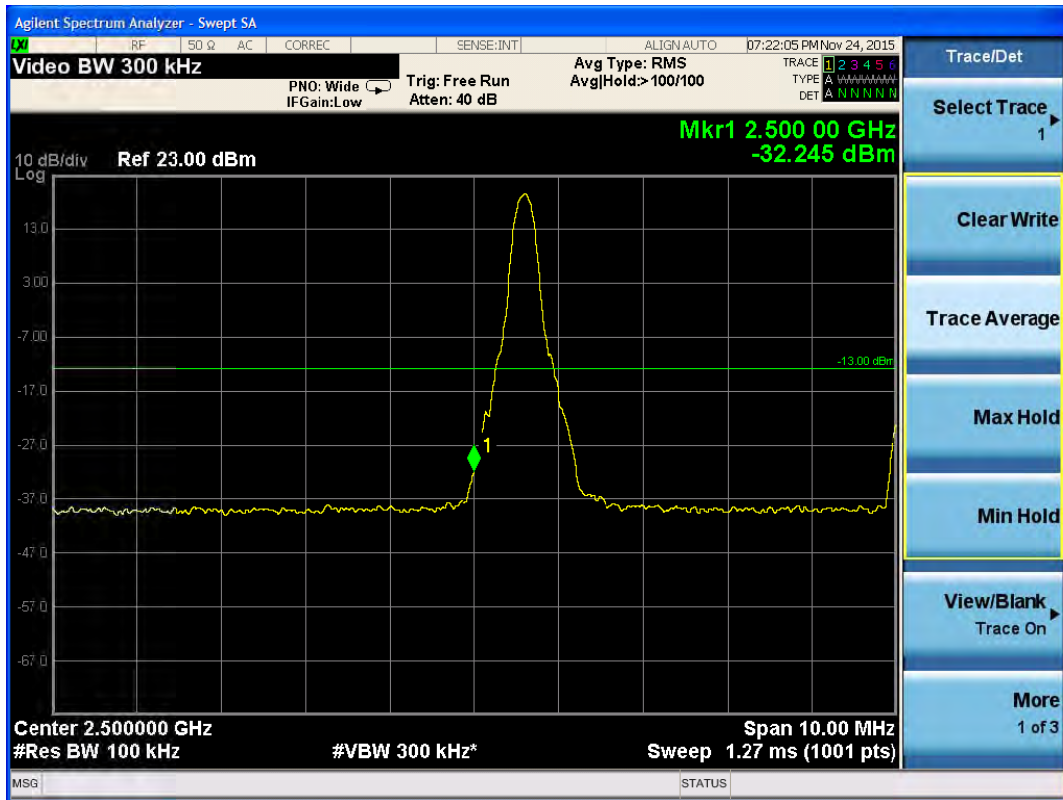
LTE Band 7 QPSK Bandwidth = 10MHz CH20800, RB 50



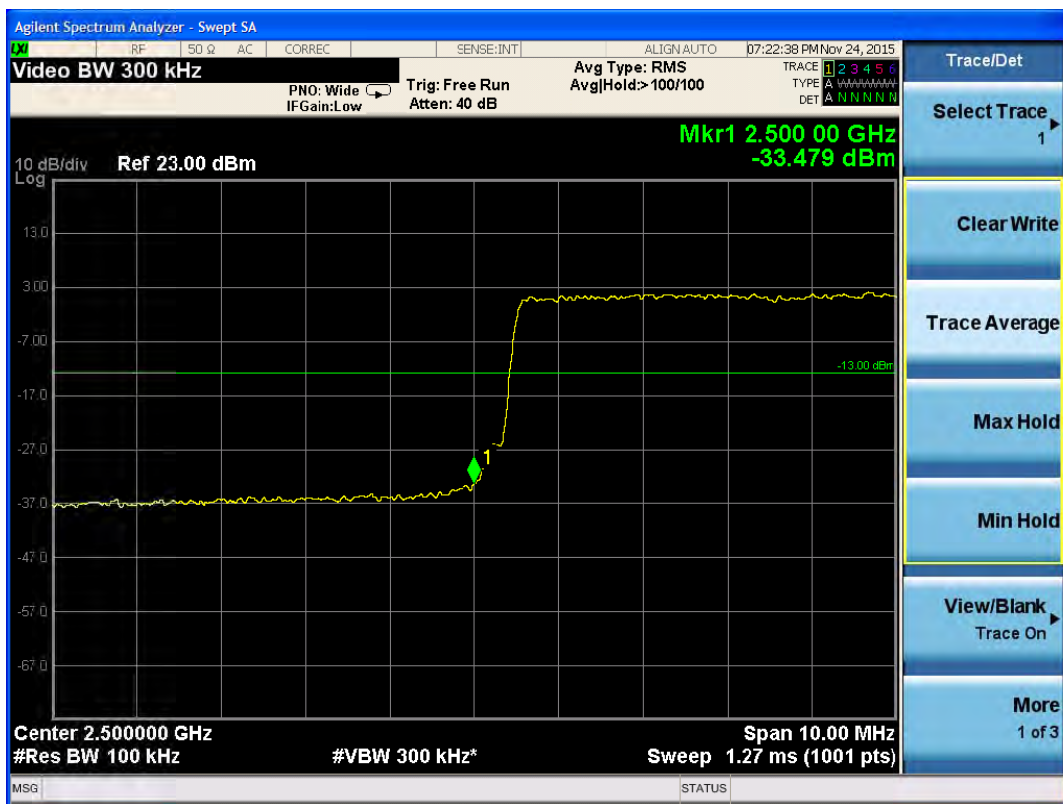
LTE Band 7 QPSK Bandwidth = 10MHz CH21400, RB 1



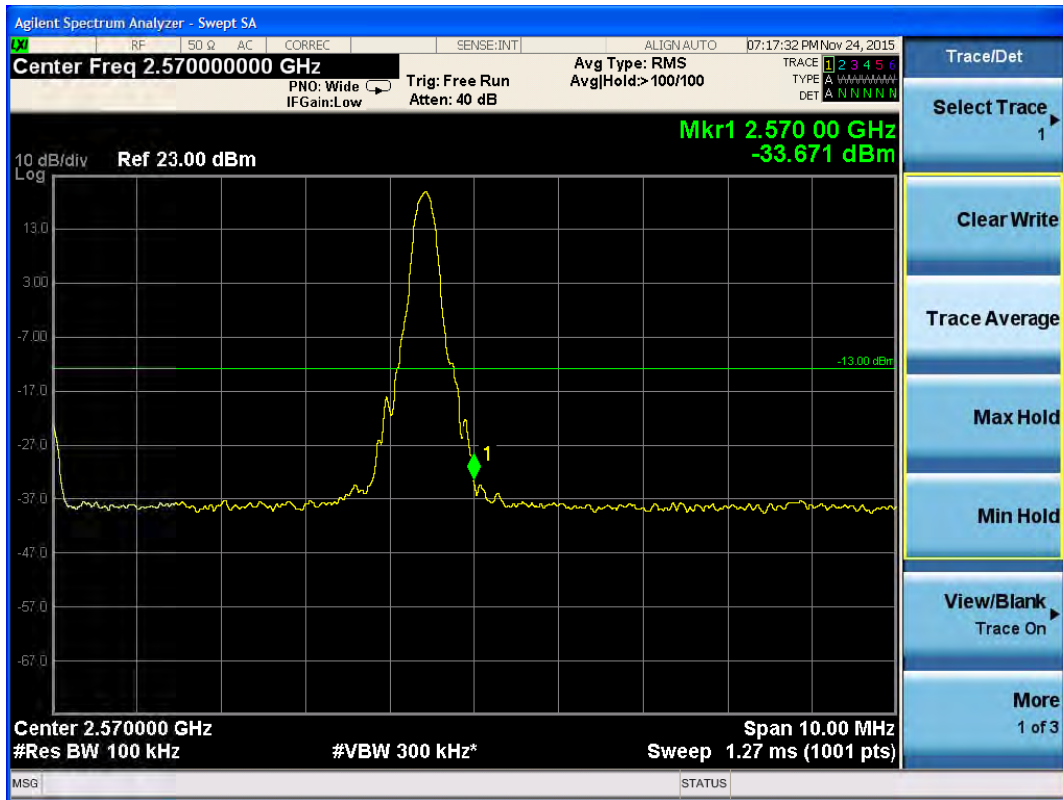
LTE Band 7 QPSK Bandwidth = 10MHz CH21400, RB 50



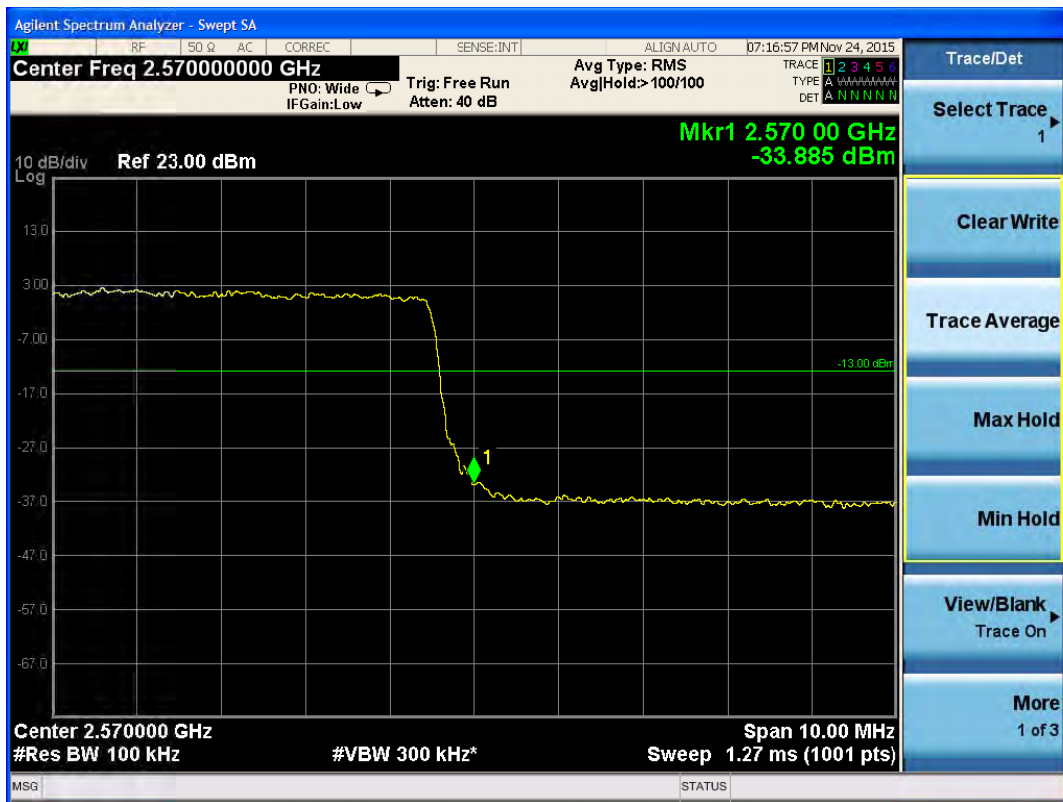
LTE Band 7 16QAM Bandwidth = 10MHz CH20800, RB 1



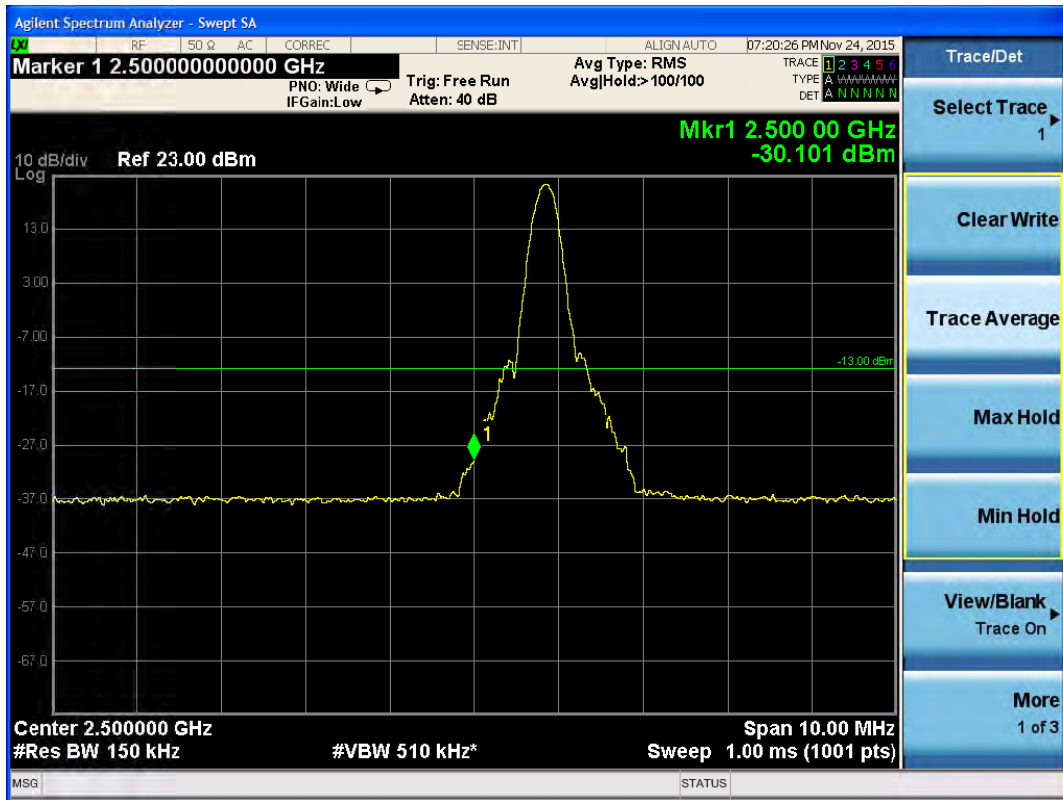
LTE Band 7 16QAM Bandwidth = 10MHz CH20800, RB 50



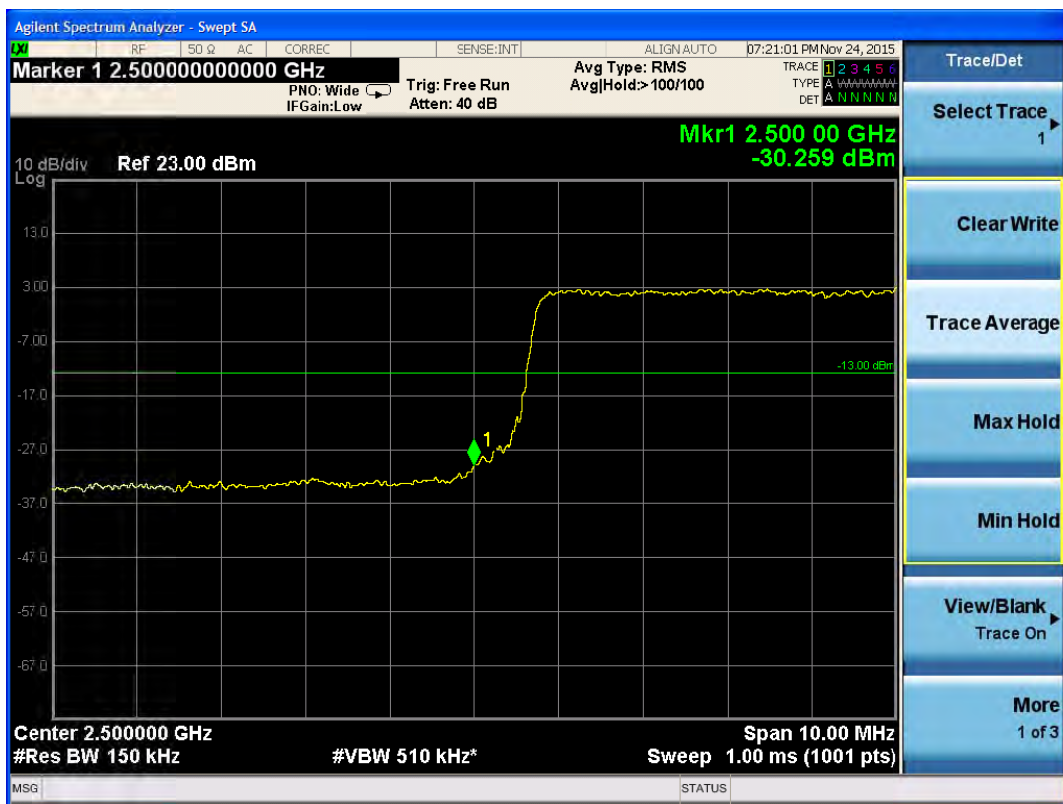
LTE Band 7 16QAM Bandwidth = 10MHz CH21400, RB 1



LTE Band 7 16QAM Bandwidth = 10MHz CH21400, RB 50

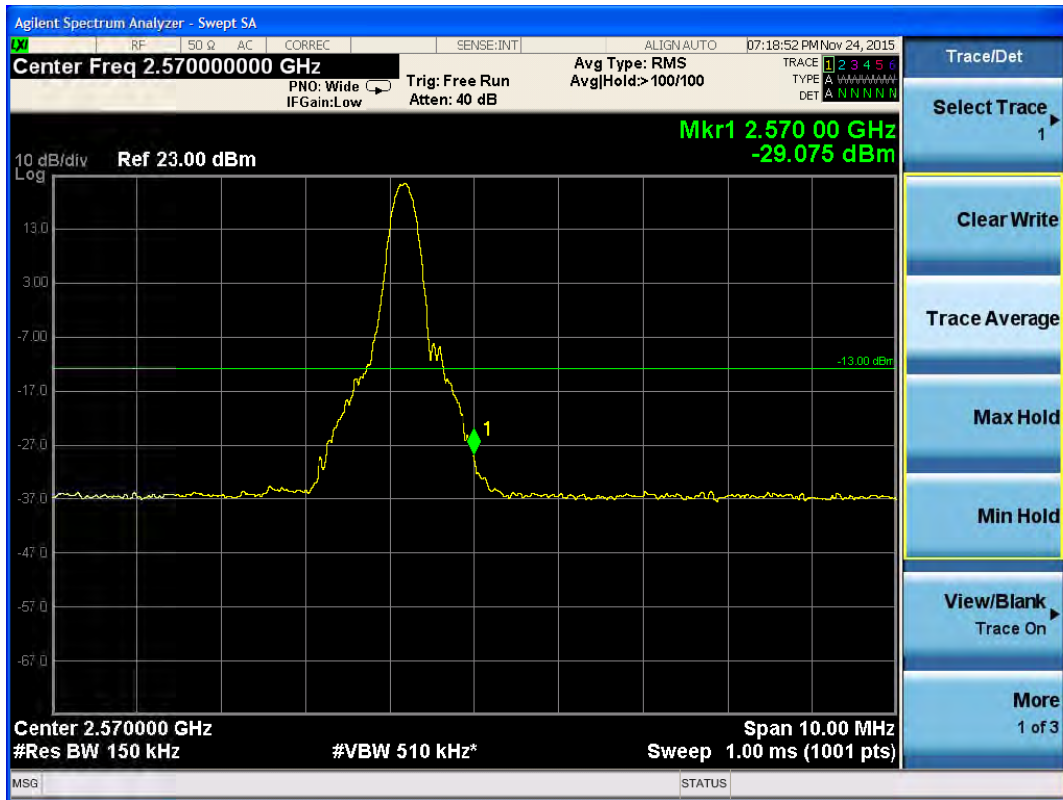


LTE Band 7 QPSK Bandwidth = 15MHz CH20825, RB 1



LTE Band 7 QPSK Bandwidth = 15MHz CH20825, RB 75

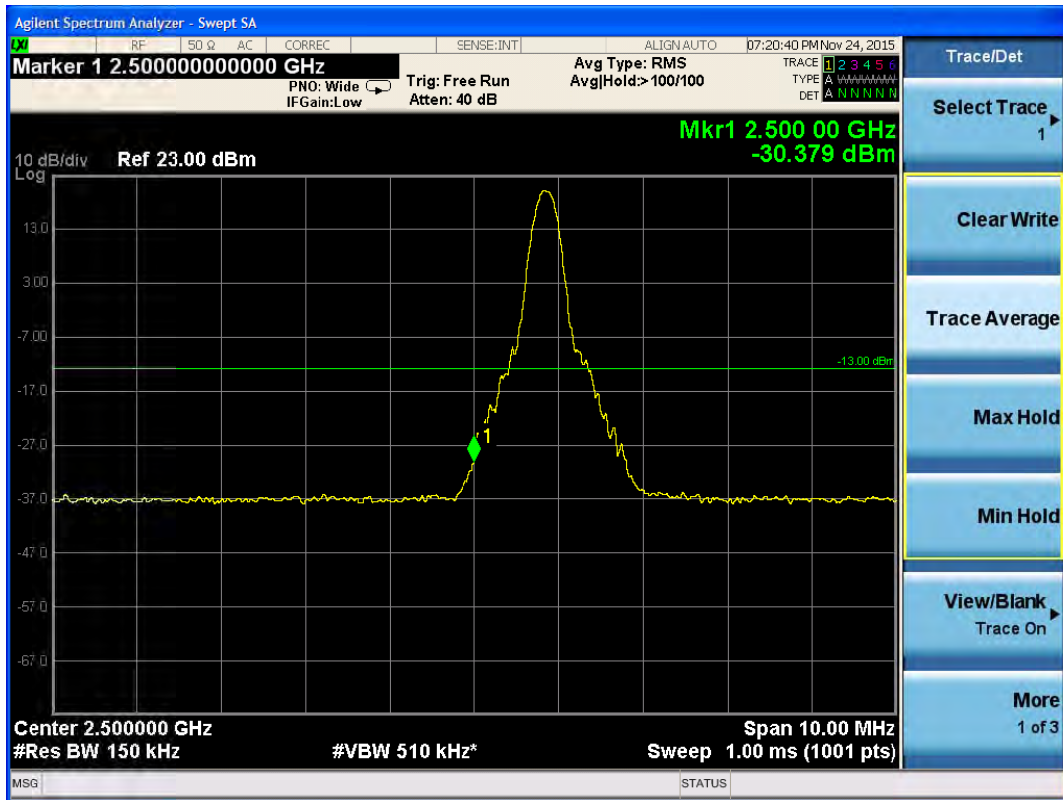




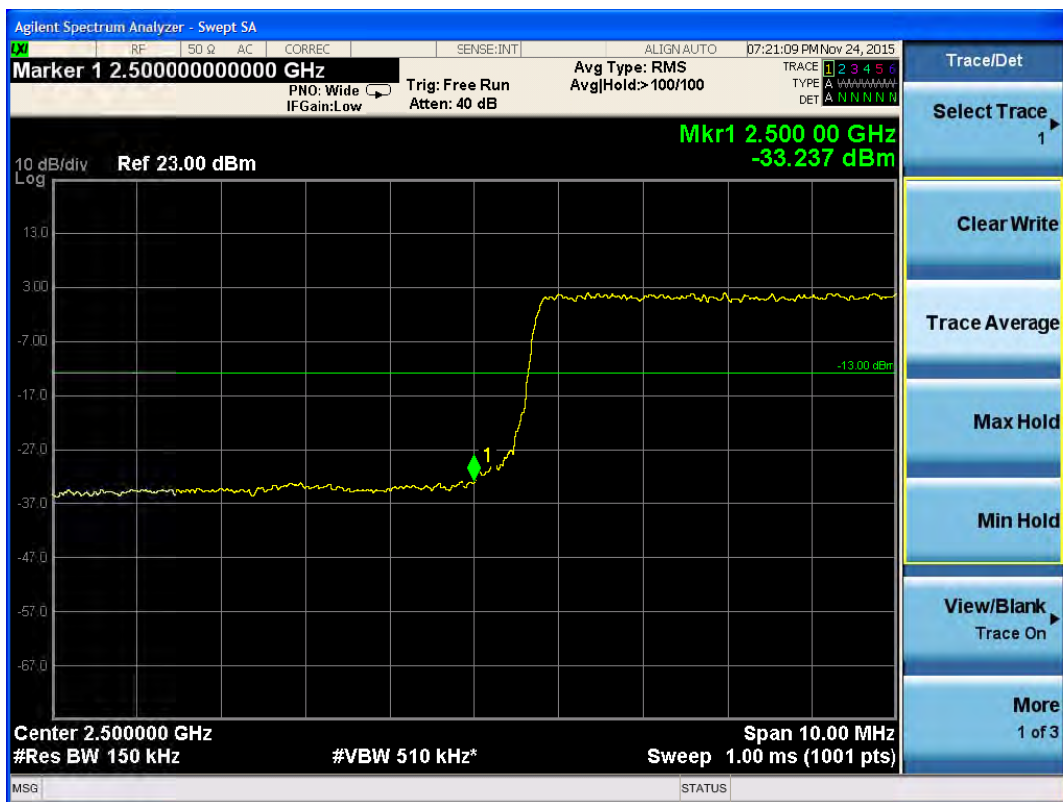
LTE Band 7 QPSK Bandwidth = 15MHz CH21375, RB 1



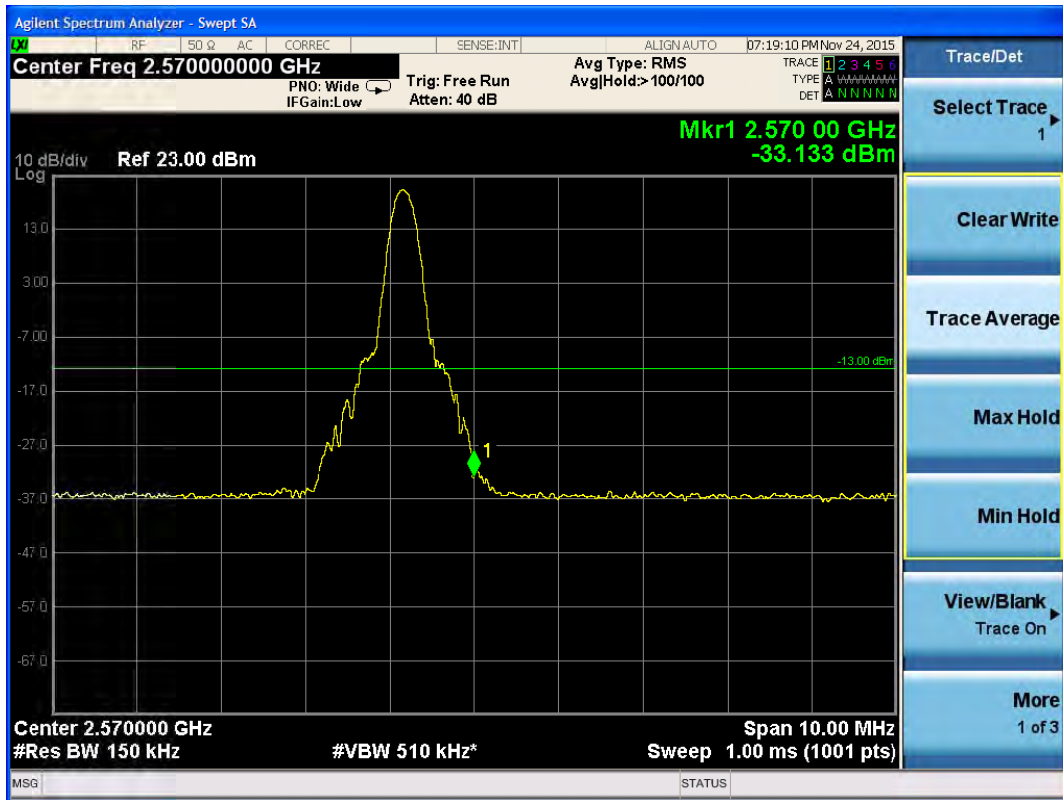
LTE Band 7 QPSK Bandwidth = 15MHz CH21375, RB 75



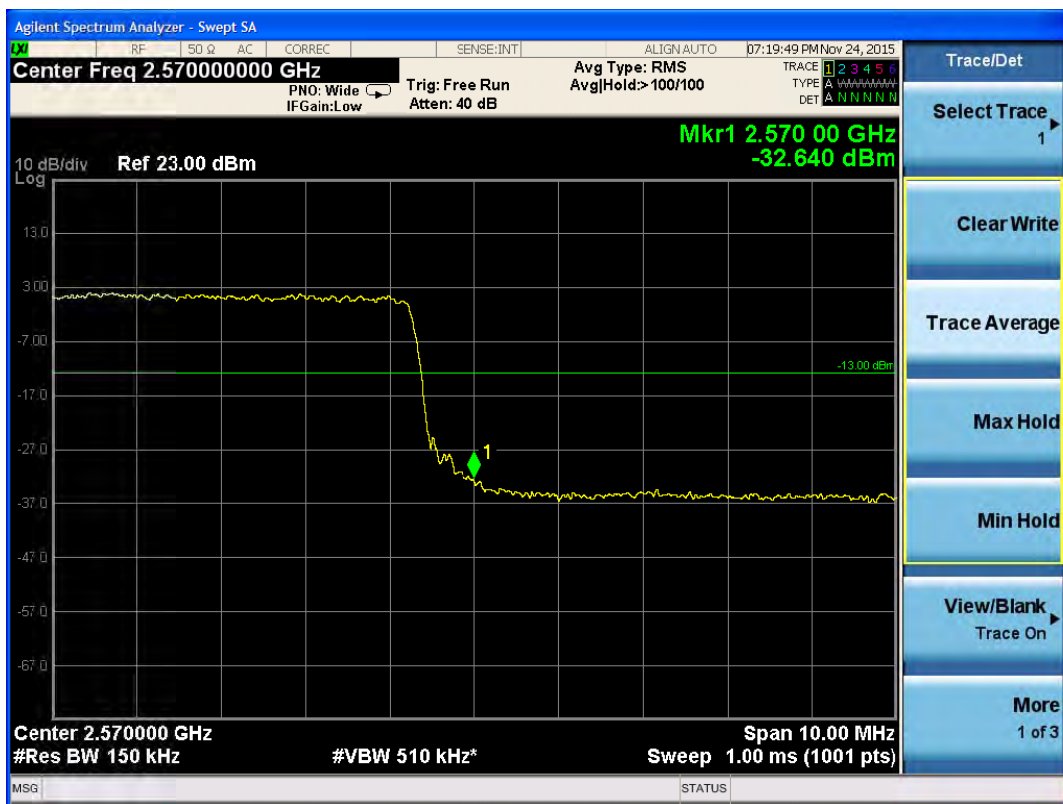
LTE Band 7 16QAM Bandwidth = 15MHz CH20825, RB 1



LTE Band 7 16QAM Bandwidth = 15MHz CH20825, RB 75

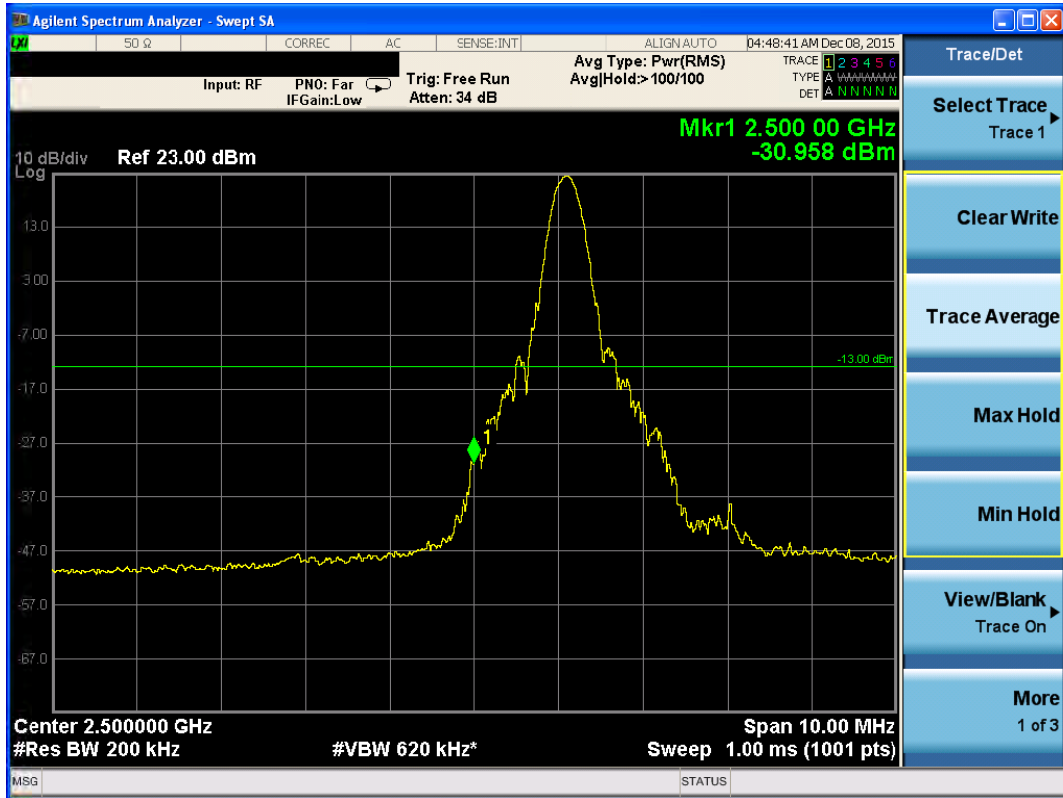


LTE Band 7 16QAM Bandwidth = 15MHz CH21375, RB 1

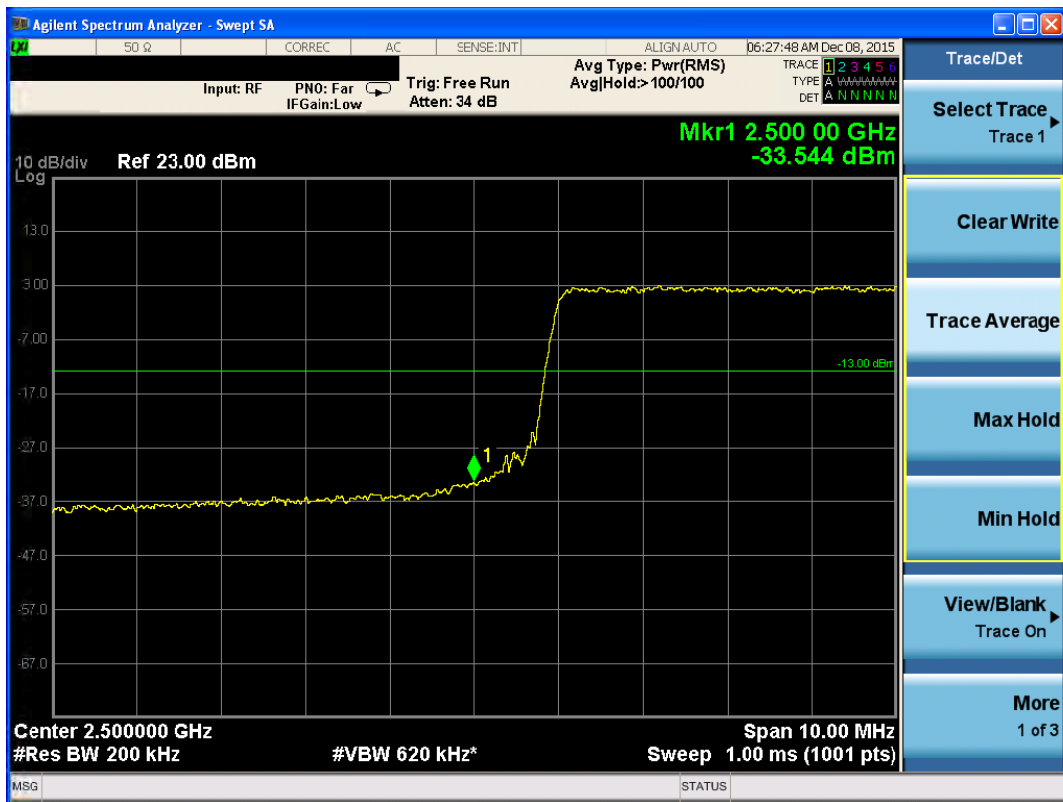


LTE Band 7 16QAM Bandwidth = 15MHz CH21375, RB 75

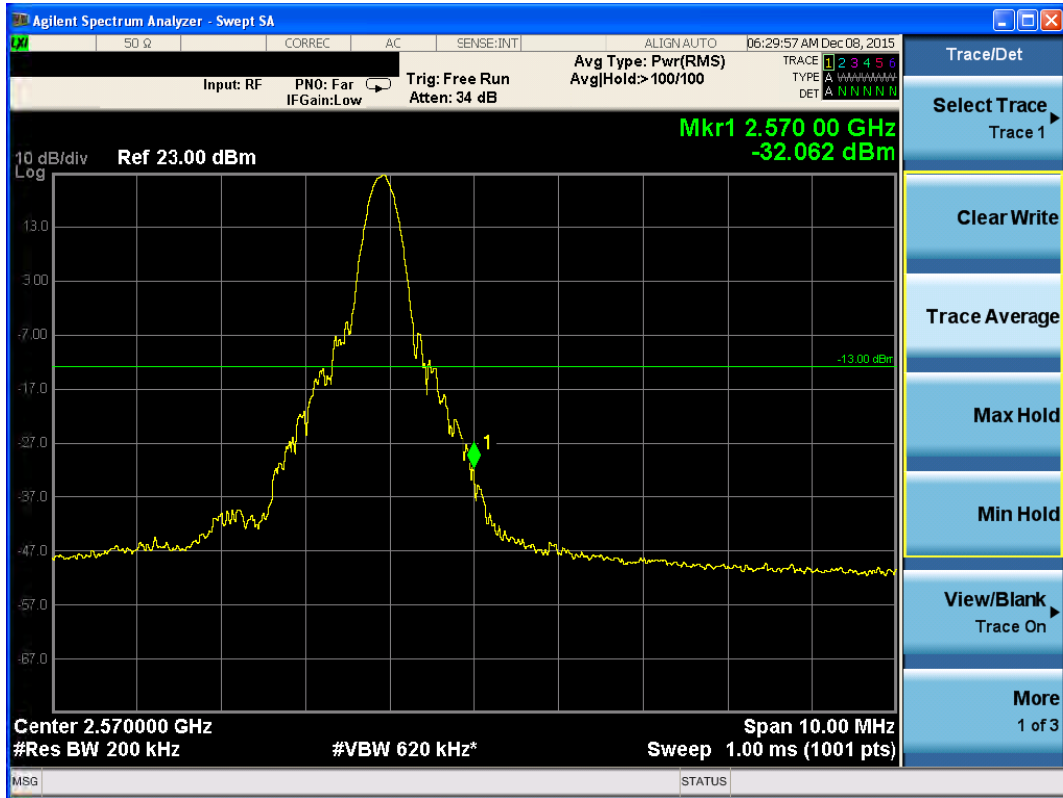




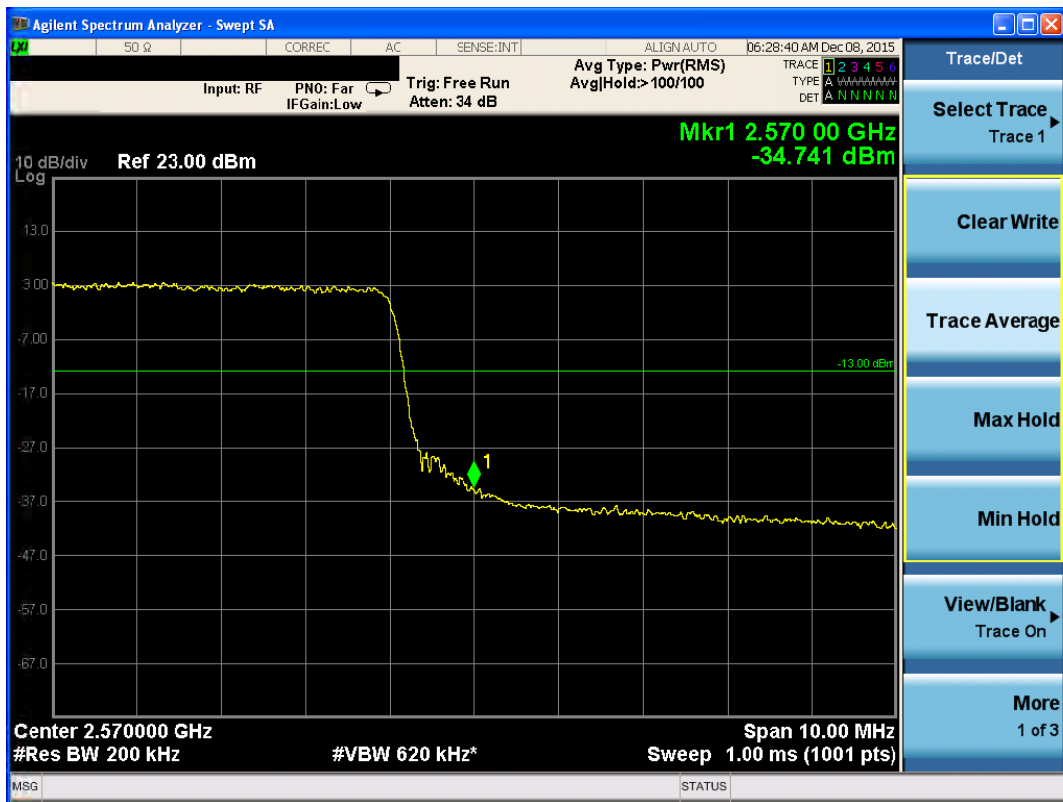
LTE Band 7 QPSK Bandwidth = 20MHz CH20850, RB 1



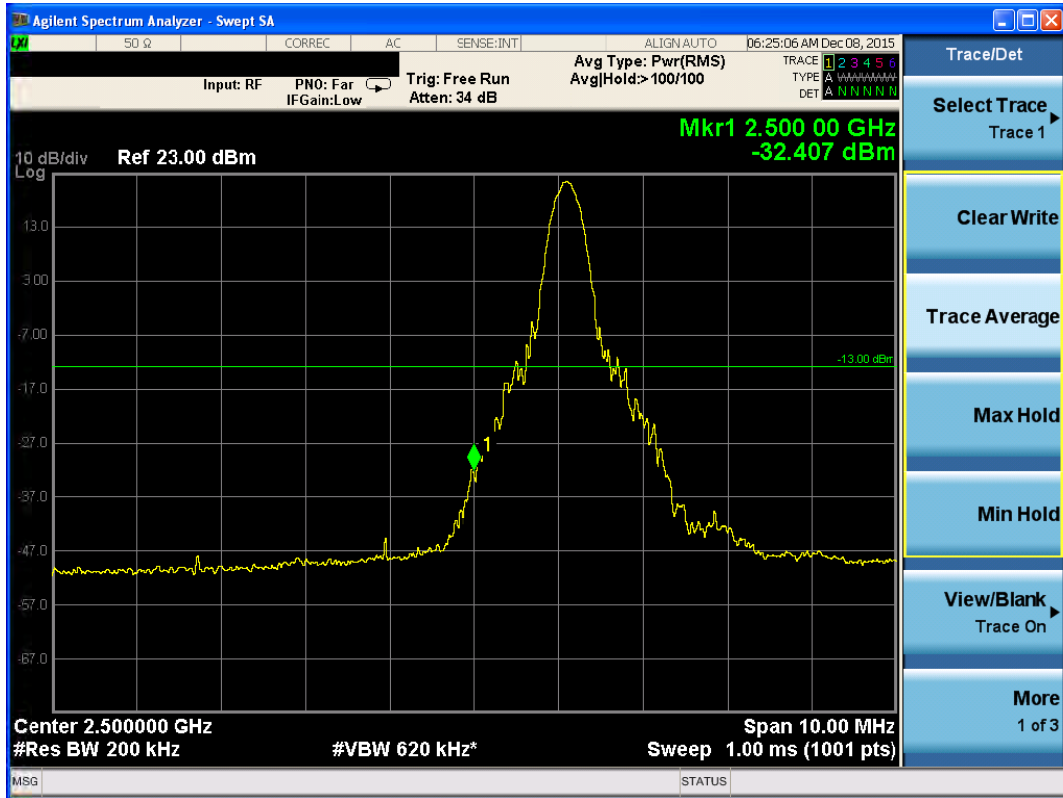
LTE Band 7 QPSK Bandwidth = 20MHz CH20850, RB 100



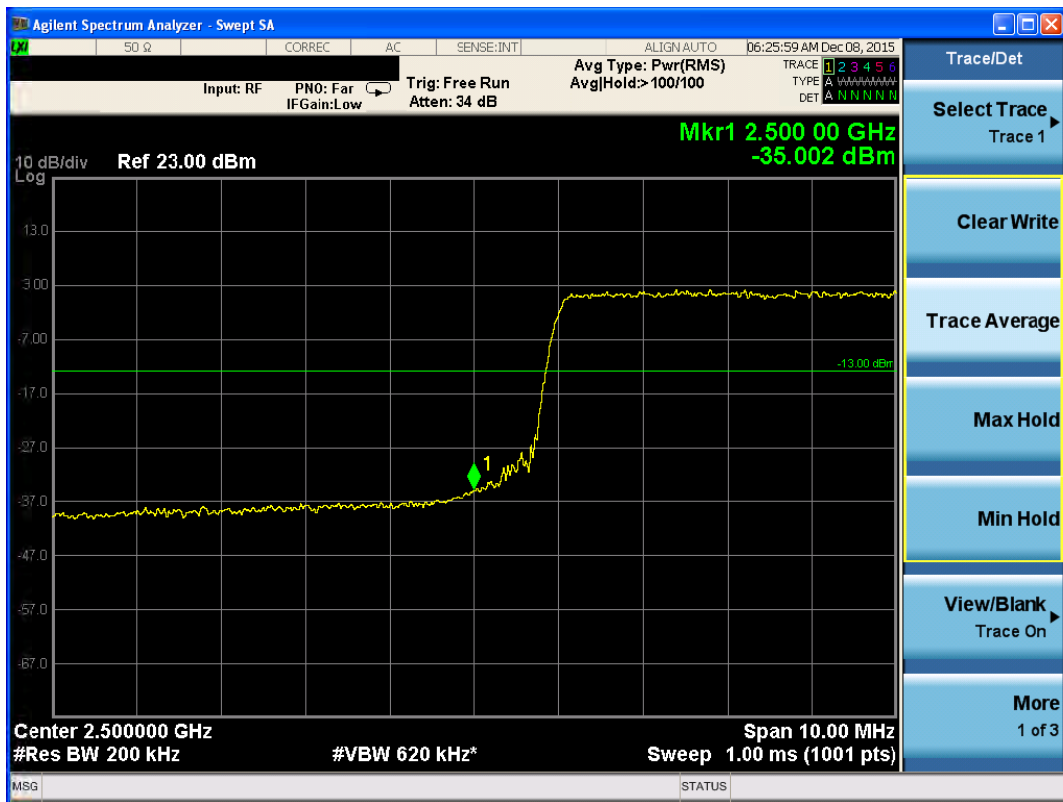
LTE Band 7 QPSK Bandwidth = 20MHz CH21350, RB 1



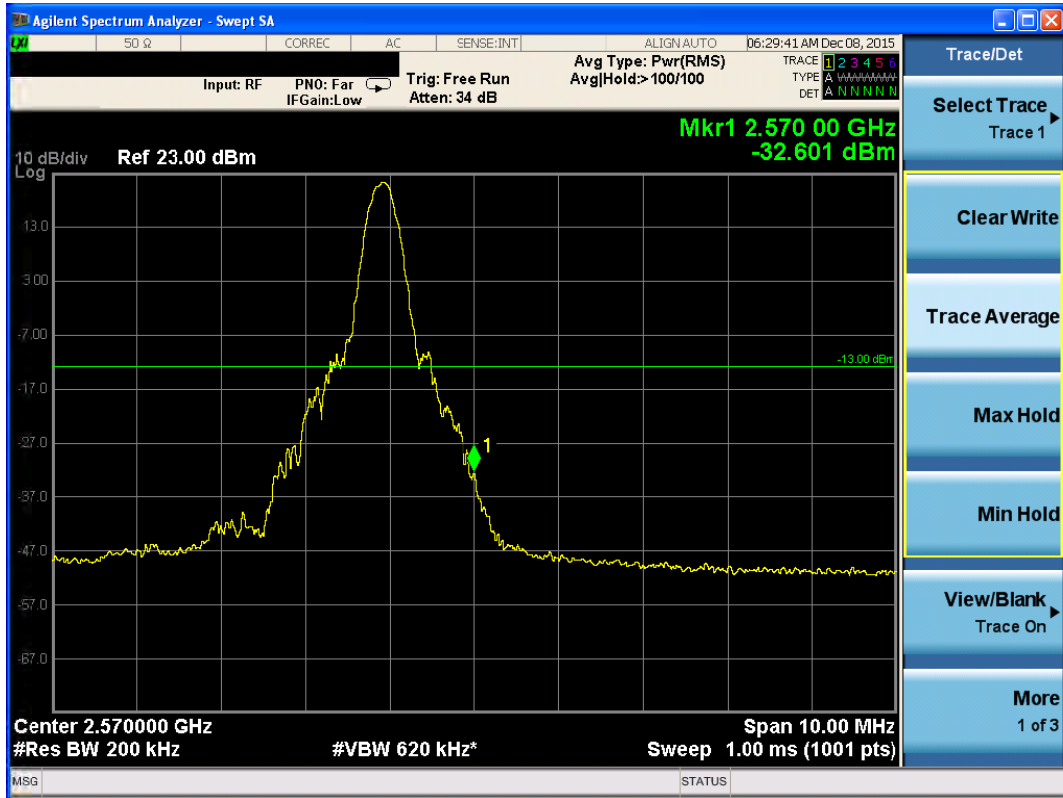
LTE Band 7 QPSK Bandwidth = 20MHz CH21350, RB 100



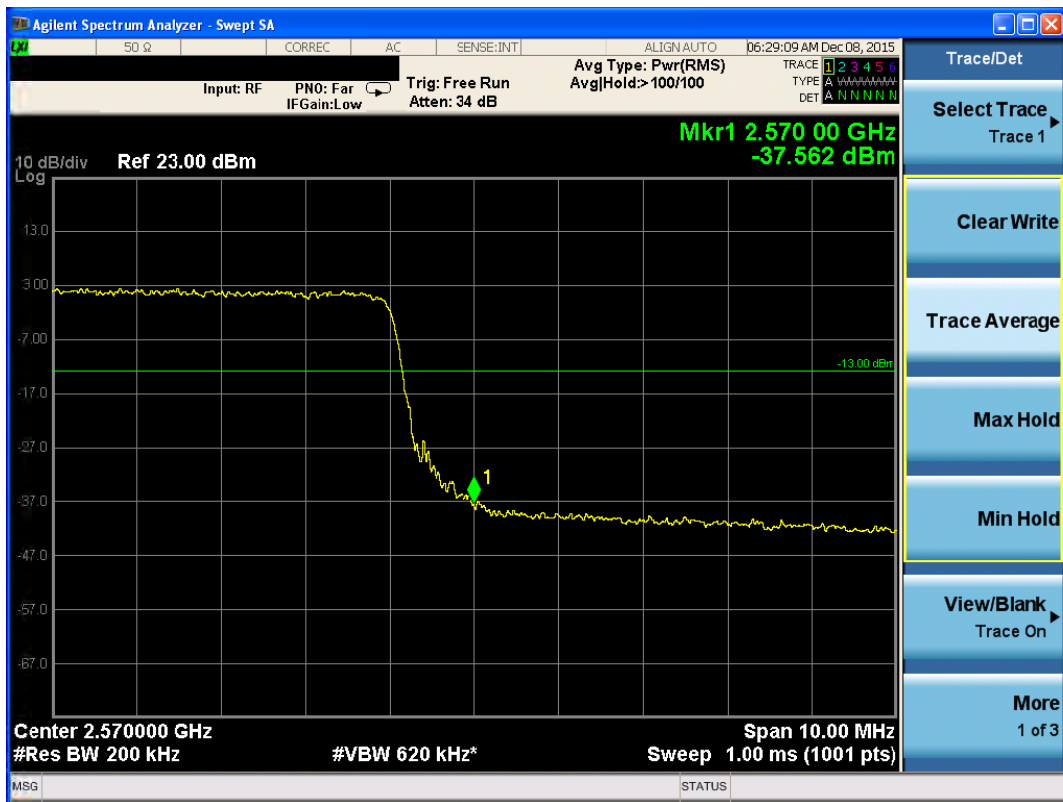
LTE Band 7 16QAM Bandwidth = 20MHz CH20850, RB 1



LTE Band 7 16QAM Bandwidth = 20MHz CH20850, RB 100



LTE Band 7 16QAM Bandwidth = 20MHz CH21350, RB 1



LTE Band 7 16QAM Bandwidth = 20MHz CH21350, RB 100

### 4.5 Peak-to-Average Power Ratio (PAPR)

#### Ambient condition

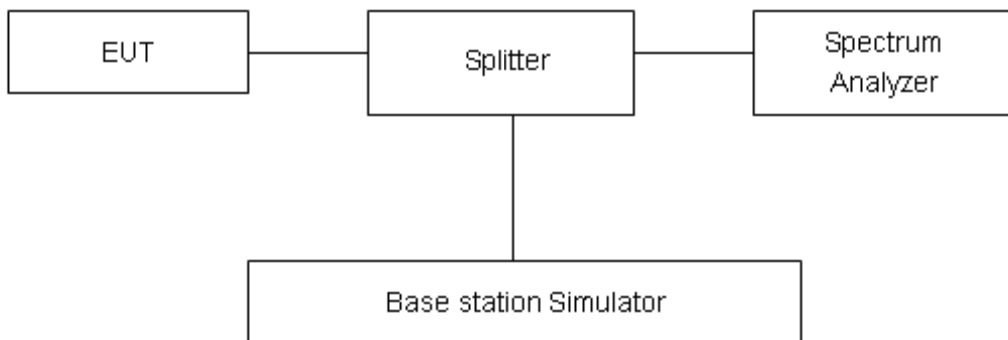
Temperature	Relative humidity
21°C ~25°C	40%~60%

#### 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

The peak-to-average power ratio (PAPR) of the transmitter output power must not exceed 13 dB in Part 27.50(a).

#### Measurement Uncertainty

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



**Test Results**

WCDMA Band IV	Channel	Frequency (MHz)	Peak(dBm)	Avg(dBm)	PAPR(dB)	Conclusion
<b>RMC</b>	1312	1712.4	25.02	21.58	3.44	PASS
	1413	1732.6	25.06	21.59	3.47	PASS
	1513	1752.6	25.09	21.66	3.43	PASS

<b>LTE Band 4</b>							
Modulation	Bandwidth (MHz)	Channel	Frequency (MHz)	Peak (dBm)	Avg (dBm)	PAPR (dB)	Conclusion
<b>QPSK</b>	1.4	19957	1710.7	22.37	21.48	0.89	PASS
		20175	1732.5	22.06	21.60	0.46	PASS
		20393	1754.3	22.52	21.57	0.95	PASS
	3	19965	1711.5	22.33	21.38	0.95	PASS
		20175	1732.5	22.24	21.55	0.69	PASS
		20385	1753.5	22.43	21.52	0.91	PASS
	5	19975	1712.5	22.17	21.40	0.77	PASS
		20175	1732.5	22.05	21.56	0.49	PASS
		20375	1752.5	22.59	21.53	1.06	PASS
	10	20000	1715	22.48	21.42	1.06	PASS
		20175	1732.5	22.67	21.57	1.10	PASS
		20350	1750	21.67	21.54	0.13	PASS
	15	20025	1717.5	22.79	21.44	1.35	PASS
		20175	1732.5	22.74	21.58	1.16	PASS
		20325	1747.5	22.84	21.55	1.29	PASS
	20	20050	1720	22.63	21.46	1.17	PASS
		20175	1732.5	22.90	21.59	1.31	PASS
		20300	1745	22.88	21.56	1.32	PASS
<b>16QAM</b>	1.4	19957	1710.7	21.41	20.60	0.81	PASS
		20175	1732.5	21.40	20.51	0.89	PASS
		20393	1754.3	21.51	20.67	0.84	PASS
	3	19965	1711.5	21.30	20.50	0.80	PASS
		20175	1732.5	21.35	20.46	0.89	PASS
		20385	1753.5	21.44	20.62	0.82	PASS
	5	19975	1712.5	21.29	20.52	0.77	PASS
		20175	1732.5	21.60	20.47	1.13	PASS
		20375	1752.5	21.30	20.63	0.67	PASS
	10	20000	1715	21.68	20.54	1.14	PASS
		20175	1732.5	21.62	20.48	1.14	PASS
		20350	1750	21.81	20.64	1.17	PASS



15	20025	1717.5	21.91	20.56	1.35	PASS
	20175	1732.5	21.74	20.49	1.25	PASS
	20325	1747.5	21.89	20.65	1.24	PASS
20	20050	1720	22.33	21.16	1.17	PASS
	20175	1732.5	22.55	21.20	1.35	PASS
	20300	1745	22.66	21.44	1.22	PASS

LTE Band 7							
Modulation	Bandwidth (MHz)	Channel	Frequency (MHz)	Peak (dBm)	Avg (dBm)	PAPR (dB)	Conclusion
QPSK	5	20775	2502.5	21.82	21.34	0.48	PASS
		21100	2535	22.04	21.31	0.73	PASS
		21425	2567.5	22.06	21.25	0.81	PASS
	10	20800	2505	22.43	21.36	1.07	PASS
		21100	2535	22.59	21.32	1.27	PASS
		21400	2565	22.51	21.26	1.25	PASS
	15	20825	2507.5	22.55	21.38	1.17	PASS
		21100	2535	22.68	21.33	1.35	PASS
		21375	2562.5	22.39	21.27	1.12	PASS
	20	20850	2510	22.68	21.40	1.28	PASS
		21100	2535	22.73	21.34	1.39	PASS
		21350	2560	22.49	21.28	1.21	PASS
16QAM	5	20775	2502.5	21.29	20.29	1.00	PASS
		21100	2535	20.96	20.19	0.77	PASS
		21425	2567.5	21.11	20.20	0.91	PASS
	10	20800	2505	21.53	20.31	1.22	PASS
		21100	2535	21.41	20.2	1.21	PASS
		21400	2565	21.22	20.23	0.99	PASS
	15	20825	2507.5	21.50	20.33	1.17	PASS
		21100	2535	21.57	20.21	1.36	PASS
		21375	2562.5	21.58	20.24	1.34	PASS
	20	20850	2510	21.59	20.35	1.24	PASS
		21100	2535	21.55	20.22	1.33	PASS
		21350	2560	21.44	20.25	1.19	PASS

## 4.6 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 0°C to +50°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 +50°C. Allow at least 1.5 hours at each temperature, un-powered, before making measurements.

#### 2. Frequency Stability (Voltage Variation)

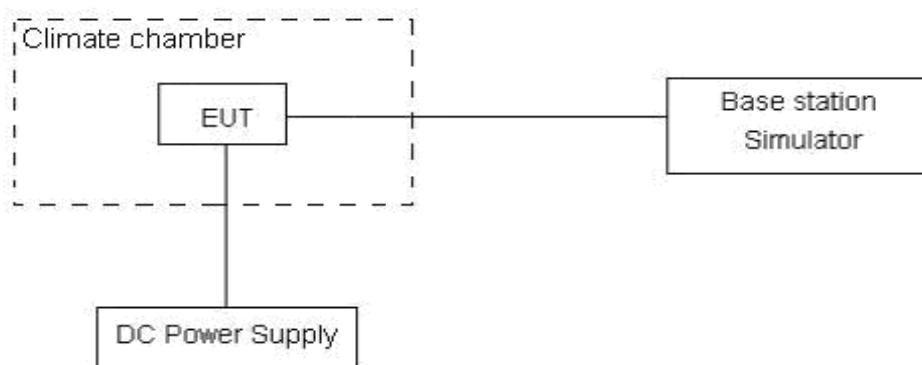
The frequency stability shall be measured with variation of primary supply voltage as follows:

(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 4.35 V, with a nominal voltage of 3.8V.

### 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  $k = 3, U=0.01\text{ppm}$ .

**Test Result**

WCDMA Band IV

Test status	WCDMA Band IV Channel 1413 RMC	
	Test Results (ppm)	Conclusion
0°C/3.8 V	-0.82	PASS
10°C/3.8 V	-0.16	PASS
20°C/3.8 V	0.49	PASS
30°C/3.8 V	-0.71	PASS
40°C/3.8 V	-1.16	PASS
50°C/3.8 V	-1.15	PASS
20°C/3.6 V	-0.45	PASS
20°C/4.35 V	-0.35	PASS

Bandwidth	Test status	LTE Band 4 Channel 20175 Test Results (ppm)		
		QPSK	16QAM	Conclusion
1.4MHz	0°C/3.8 V	-0.004760	0.005201	PASS
	10°C/3.8 V	-0.002340	0.002488	PASS
	20°C/3.8 V	-0.000260	0.000294	PASS
	30°C/3.8 V	-0.002220	0.002372	PASS
	40°C/3.8 V	-0.005170	0.003180	PASS
	50°C/3.8 V	-0.004180	0.004681	PASS
	20°C/3.6 V	0.006147	-0.002361	PASS
	20°C/4.35 V	-0.001991	0.007452	PASS
3MHz	0°C/3.8 V	0.002165	-0.003860	PASS
	10°C/3.8 V	0.002973	-0.004210	PASS
	20°C/3.8 V	0.003261	-0.003460	PASS
	30°C/3.8 V	0.004762	-0.001380	PASS
	40°C/3.8 V	0.006955	-0.002190	PASS
	50°C/3.8 V	0.003319	-0.002530	PASS
	20°C/3.6 V	0.004589	-0.001610	PASS
	20°C/4.35 V	0.005224	-0.005997	PASS
5MHz	0°C/3.8 V	0.004242	0.004912	PASS
	10°C/3.8 V	0.001876	-0.003460	PASS



	20°C/3.8 V	0.000837	-0.000230	PASS
	30°C/3.8 V	0.002107	-0.003340	PASS
	40°C/3.8 V	0.002799	-0.000800	PASS
	50°C/3.8 V	0.002511	-0.001610	PASS
	20°C/3.6 V	0.001126	0.001853	PASS
	20°C/4.35 V	0.001241	0.002545	PASS
10MHz	0°C/3.8 V	0.004185	0.006701	PASS
	10°C/3.8 V	0.002222	0.005258	PASS
	20°C/3.8 V	0.002165	0.004450	PASS
	30°C/3.8 V	0.000375	0.003238	PASS
	40°C/3.8 V	-0.000140	0.002834	PASS
	50°C/3.8 V	0.002742	0.004566	PASS
	20°C/3.6 V	0.003492	0.005027	PASS
	20°C/4.35 V	0.004762	0.008433	PASS
15MHz	0°C/3.8 V	-0.001700	0.003700	PASS
	10°C/3.8 V	-0.003610	0.003411	PASS
	20°C/3.8 V	-0.001240	0.006874	PASS
	30°C/3.8 V	0.002107	0.004335	PASS
	40°C/3.8 V	0.001010	0.003354	PASS
	50°C/3.8 V	0.001587	0.003931	PASS
	20°C/3.6 V	-0.004877	0.005835	PASS
	20°C/4.35 V	-0.005801	0.001853	PASS
20MHz	0°C/3.8 V	-0.002970	0.003873	PASS
	10°C/3.8 V	-0.004990	0.003988	PASS
	20°C/3.8 V	-0.006900	0.002776	PASS
	30°C/3.8 V	-0.004130	0.003123	PASS
	40°C/3.8 V	-0.005510	0.002026	PASS
	50°C/3.8 V	-0.003200	0.003758	PASS
	20°C/3.6 V	-0.002684	0.002603	PASS
	20°C/4.35 V	-0.001645	0.001506	PASS



Bandwidth	Test status	LTE Band 7 Channel 21100 Test Results (ppm)		
		QPSK	16QAM	Conclusion
5MHz	0°C/3.8 V	0.000746	0.002734	PASS
	10°C/3.8 V	-0.001976	0.004706	PASS
	20°C/3.8 V	-0.000714	0.004272	PASS
	30°C/3.8 V	-0.000911	0.006836	PASS
	40°C/3.8 V	0.001456	0.003957	PASS
	50°C/3.8 V	-0.001700	0.003562	PASS
	20°C/3.6 V	-0.001108	0.004469	PASS
	20°C/4.35 V	-0.001858	0.002892	PASS
10MHz	0°C/3.8 V	-0.001464	0.003917	PASS
	10°C/3.8 V	-0.002213	0.002970	PASS
	20°C/3.8 V	-0.000596	0.004312	PASS
	30°C/3.8 V	-0.000517	0.004588	PASS
	40°C/3.8 V	-0.001345	0.006205	PASS
	50°C/3.8 V	-0.002134	0.003799	PASS
	20°C/3.6 V	0.004020	-0.004919	PASS
	20°C/4.35 V	0.002284	-0.003026	PASS
15MHz	0°C/3.8 V	0.001732	0.004548	PASS
	10°C/3.8 V	0.001732	-0.002039	PASS
	20°C/3.8 V	0.000785	-0.001329	PASS
	30°C/3.8 V	0.002126	-0.002237	PASS
	40°C/3.8 V	0.002402	-0.003617	PASS
	50°C/3.8 V	0.002363	-0.002237	PASS
	20°C/3.6 V	0.001061	0.003602	PASS
	20°C/4.35 V	0.001022	0.005101	PASS
20MHz	0°C/3.8 V	-0.002489	0.005377	PASS
	10°C/3.8 V	-0.000280	0.001629	PASS
	20°C/3.8 V	-0.000793	0.000919	PASS
	30°C/3.8 V	-0.001069	0.002379	PASS
	40°C/3.8 V	0.000036	0.002576	PASS
	50°C/3.8 V	-0.002213	0.001826	PASS
	20°C/3.6 V	0.000982	0.001787	PASS
	20°C/4.35 V	-0.004185	0.003996	PASS

### 4.7 Spurious Emissions at Antenna Terminals

#### Ambient condition

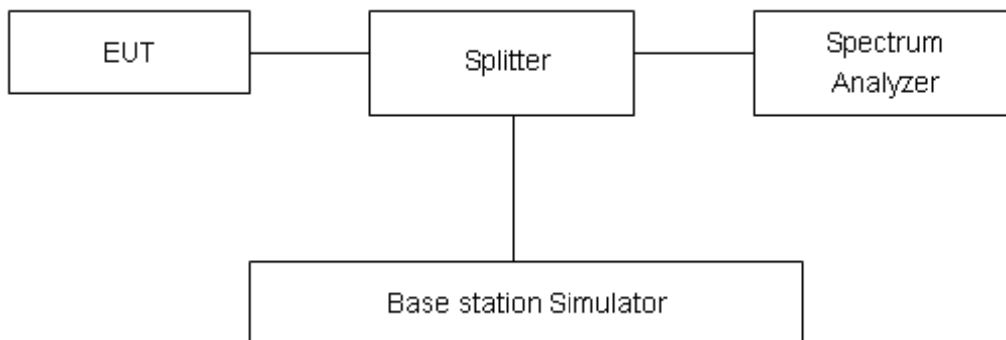
Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

#### 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. 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.

#### Test setup



#### Limits

Rule Part 27.53(h) specifies that “the power of any emission outside a licensee’s frequency block shall be attenuated below the transmitter power (P) by at least 43 + 10 log<sub>10</sub>(P) dB.”

Limit	-13 dBm
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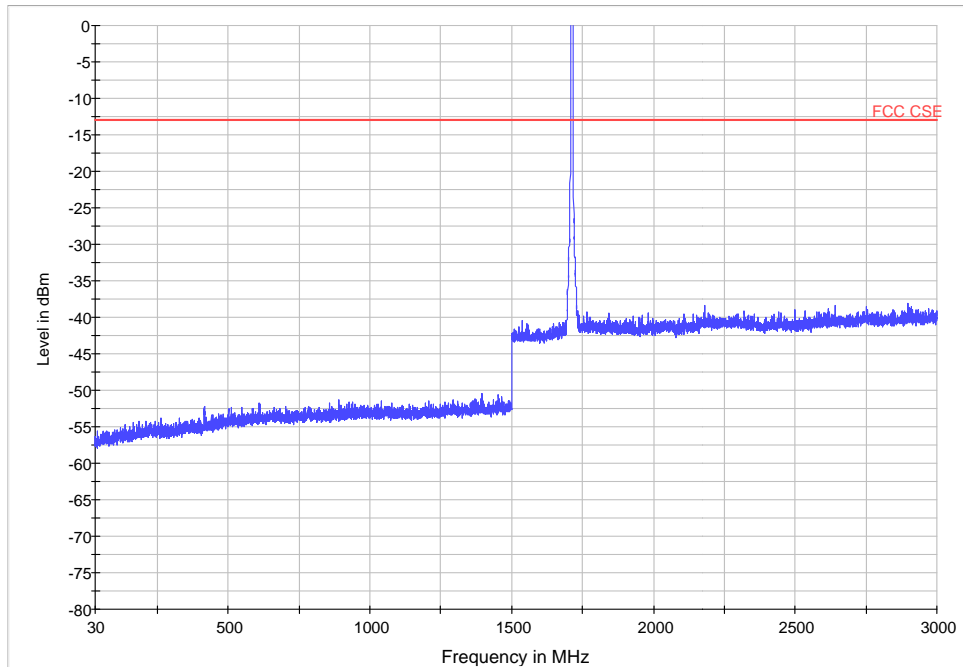
#### Measurement Uncertainty

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-12.75GHz	1.407 dB

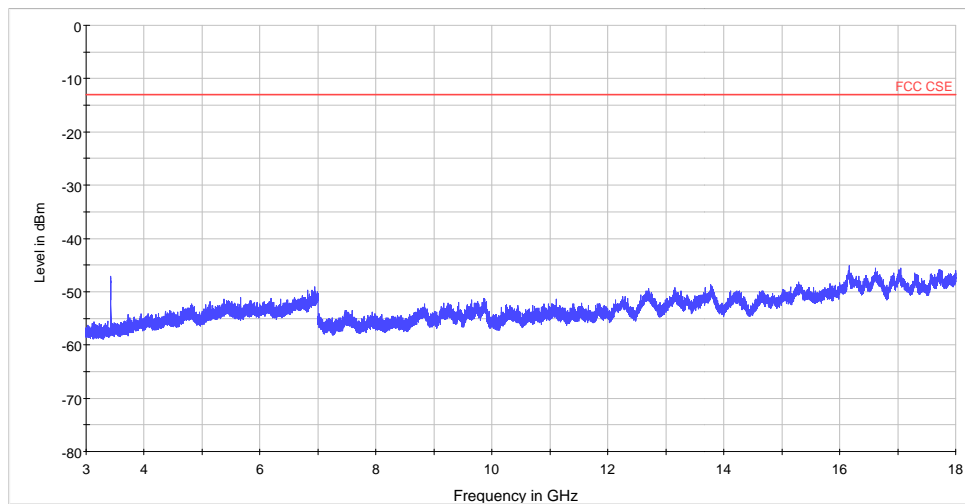
**Test Result: PASS**

If disturbances were found more than 20dB below limit line, the mark is not required for the EUT.  
WCDMA Band IV CH1312



MaxPeak-MaxHold-PK+      FCC CSE

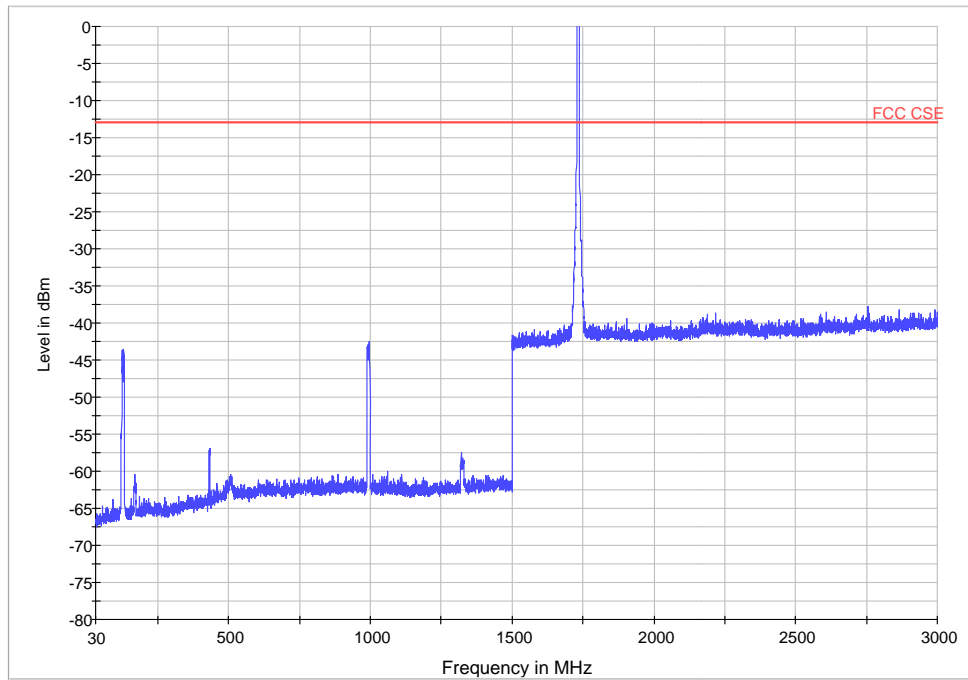
Note: The signal beyond the limit is carrier.  
WCDMA Band IV Channel1312 30MHz~3GHz



MaxPeak-MaxHold-PK+      FCC CSE

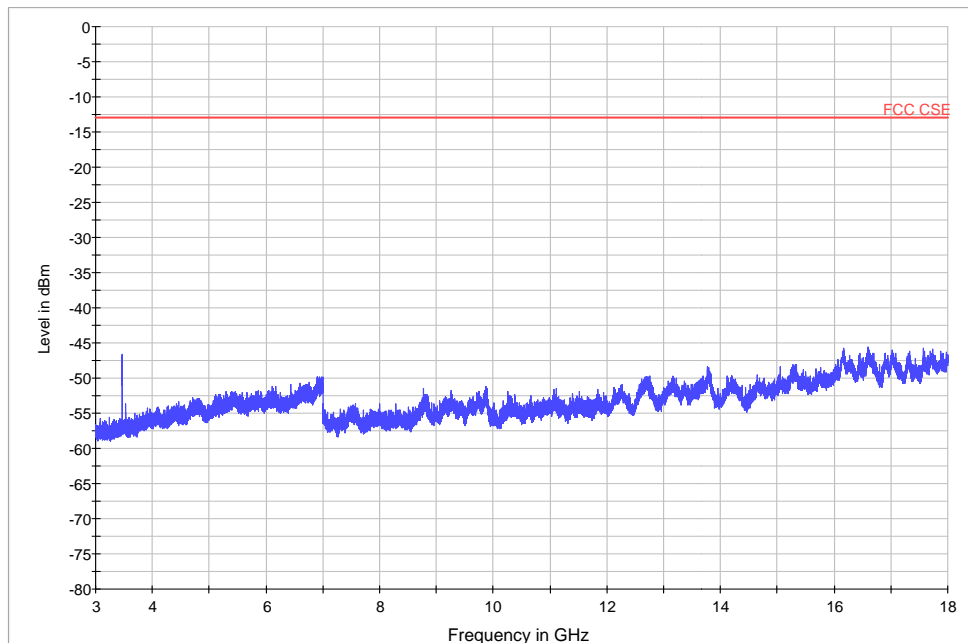
WCDMA Band IV Channel1312 3GHz ~18GHz

WCDMA Band IV CH1413



— MaxPeak-MaxHold-PK+ — FCC CSE

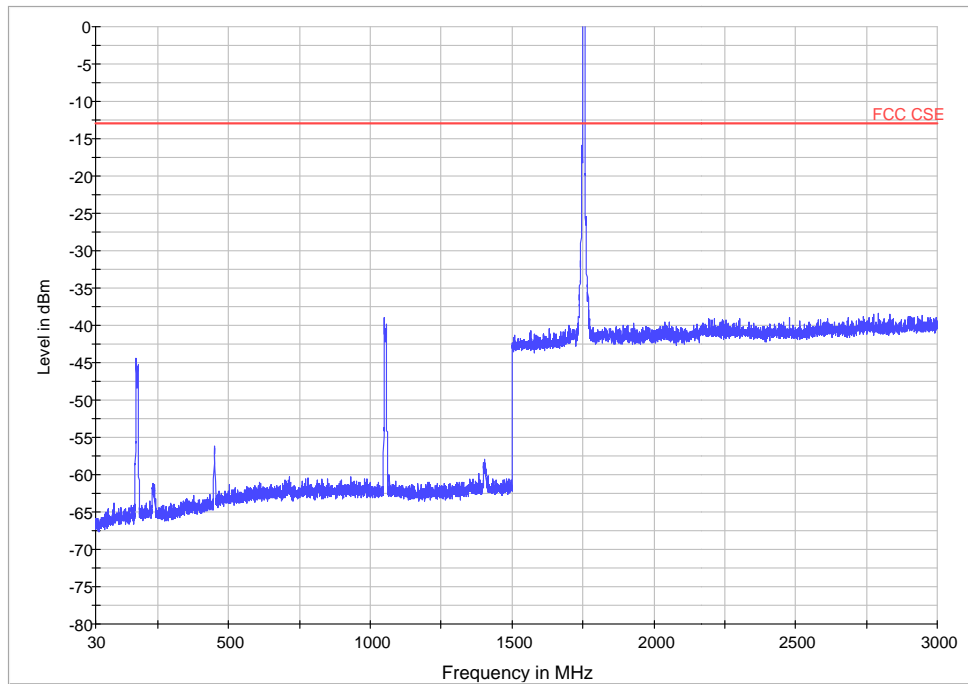
Note: The signal beyond the limit is carrier.  
WCDMA Band IV Channel1413 30MHz~3GHz



— MaxPeak-MaxHold-PK+ — FCC CSE

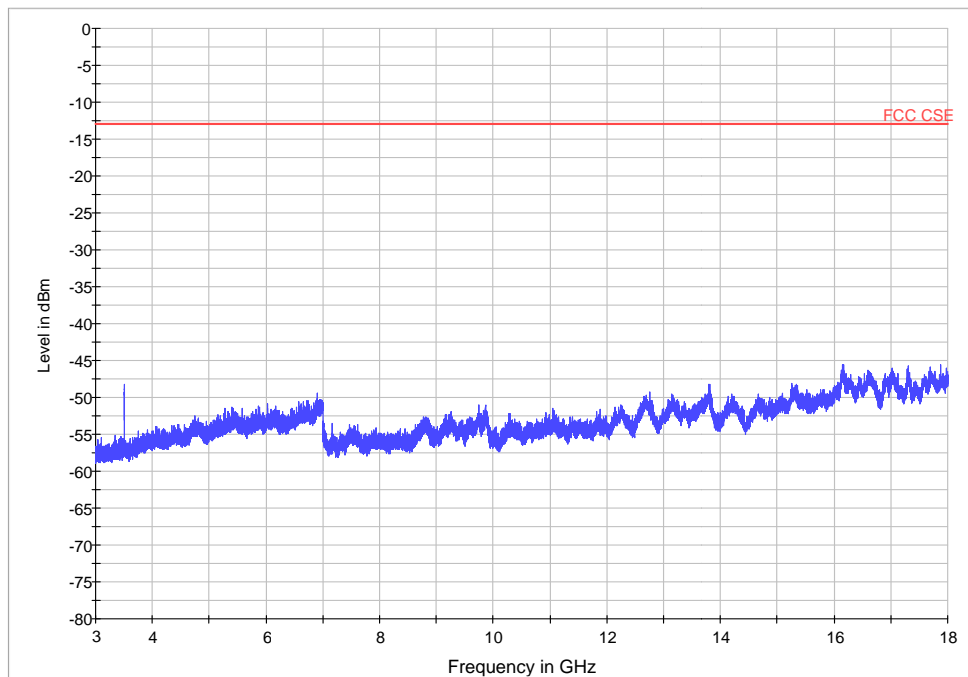
WCDMA Band IV Channel1413 3GHz ~18GHz

WCDMA Band IV CH1513



— MaxPeak-MaxHold-PK+ — FCC CSE

Note: The signal beyond the limit is carrier.  
WCDMA Band IV Channel1513 30MHz~3GHz

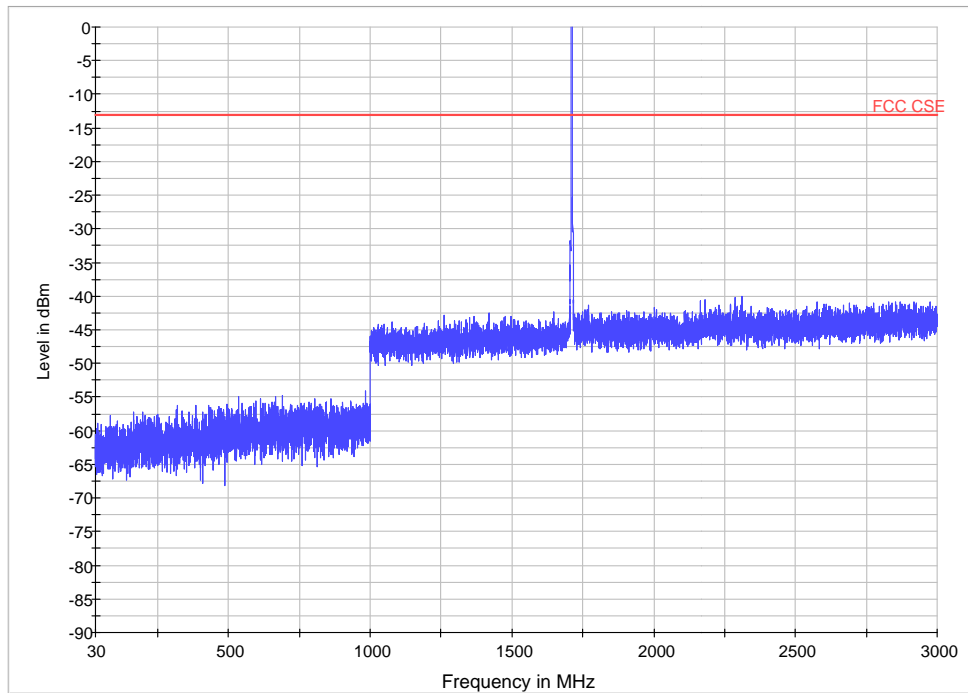


— MaxPeak-MaxHold-PK+ — FCC CSE

WCDMA Band IV Channel1513 3GHz ~18GHz

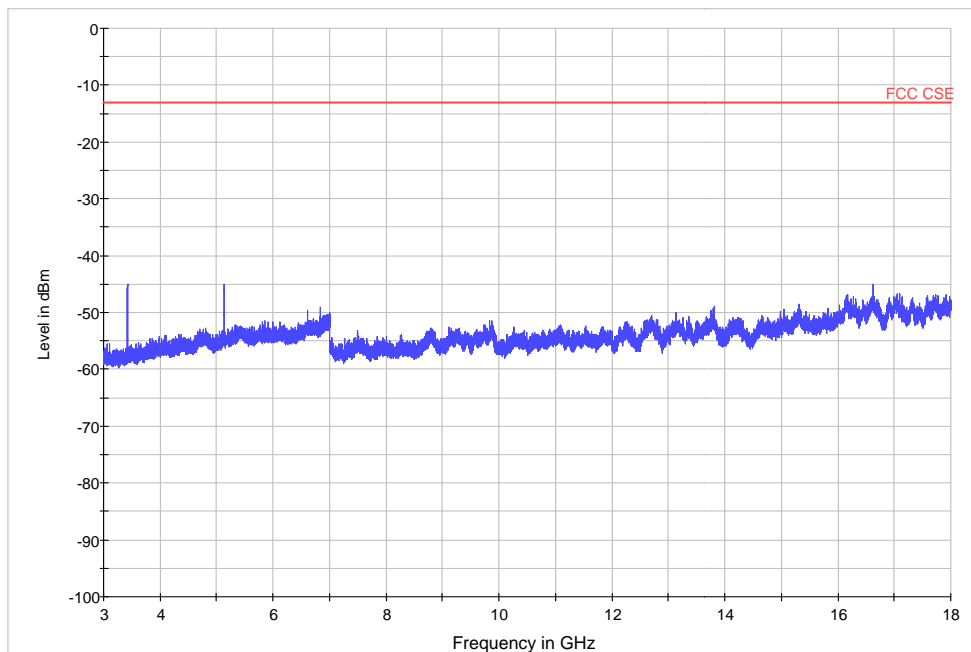


LTE Band 4 QPSK Bandwidth = 1.4MHz CH19957, RB 1



MaxPeak-MaxHold-PK+ FCC CSE

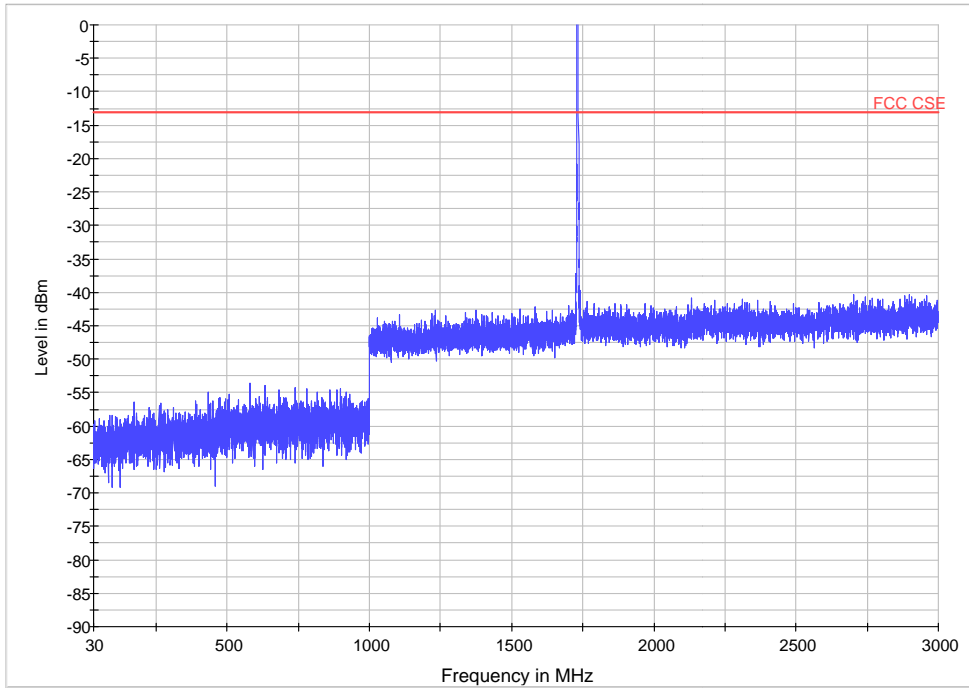
Note: The signal beyond the limit is carrier  
LTE Band 4 CH19957 30MHz~3GHz



MaxPeak-MaxHold-PK+ FCC CSE

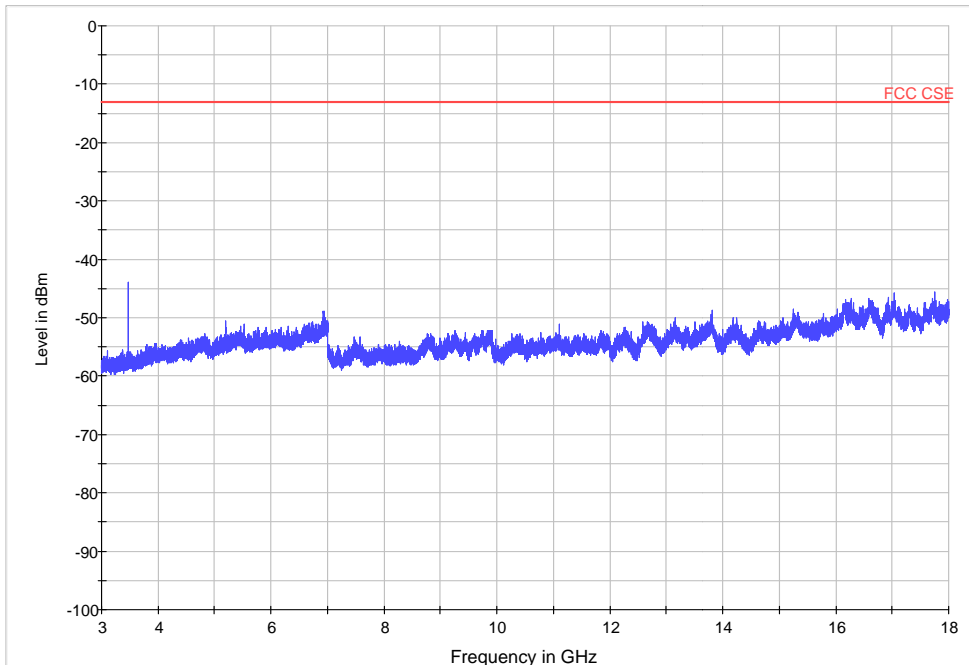
LTE Band 4 CH19957 3GHz~18GHz

LTE Band 4 QPSK Bandwidth = 1.4MHz CH20175, RB 1



— MaxPeak-MaxHold-PK+ — FCC CSE

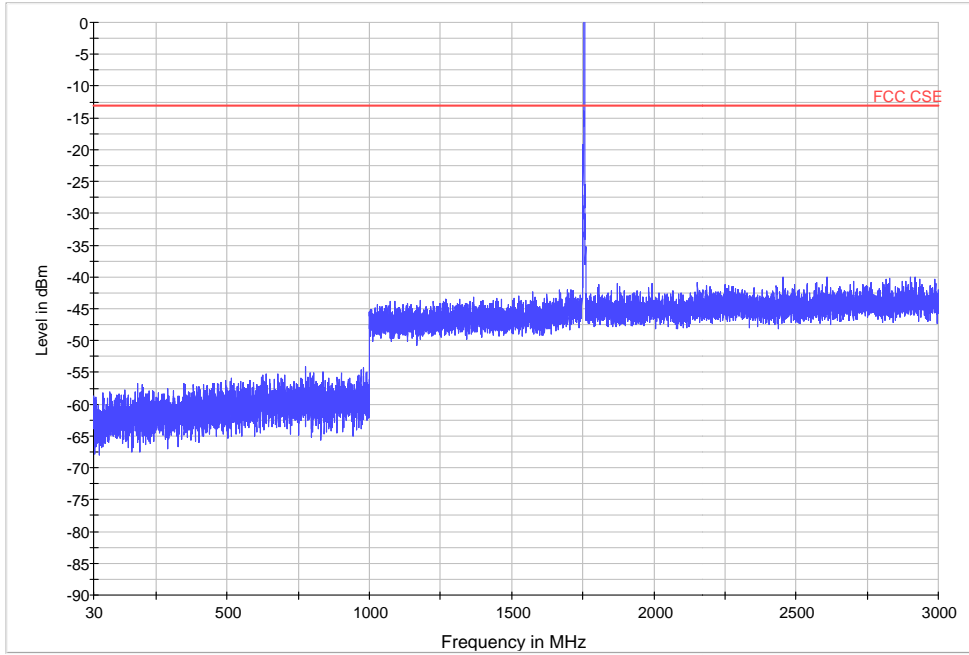
Note: The signal beyond the limit is carrier  
LTE Band 4 CH20175 30MHz~3GHz



— MaxPeak-MaxHold-PK+ — FCC CSE

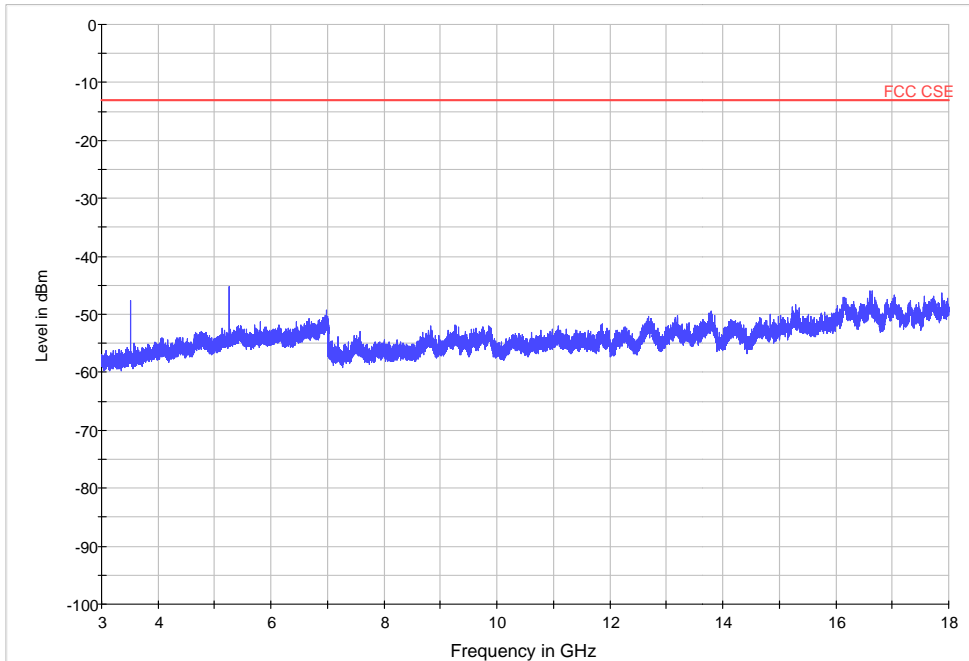
LTE Band 4 CH20175 3GHz~18GHz

LTE Band 4 QPSK Bandwidth = 1.4MHz CH20393, RB 1



— MaxPeak-MaxHold-PK+ — FCC CSE

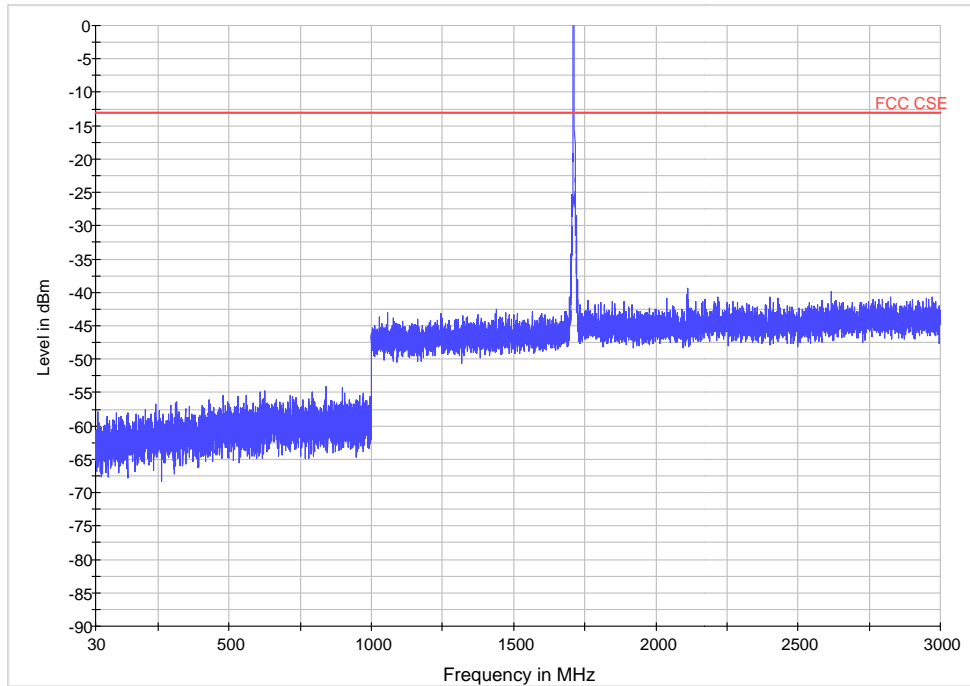
Note: The signal beyond the limit is carrier  
LTE Band 4 CH20393 30MHz~3GHz



— MaxPeak-MaxHold-PK+ — FCC CSE

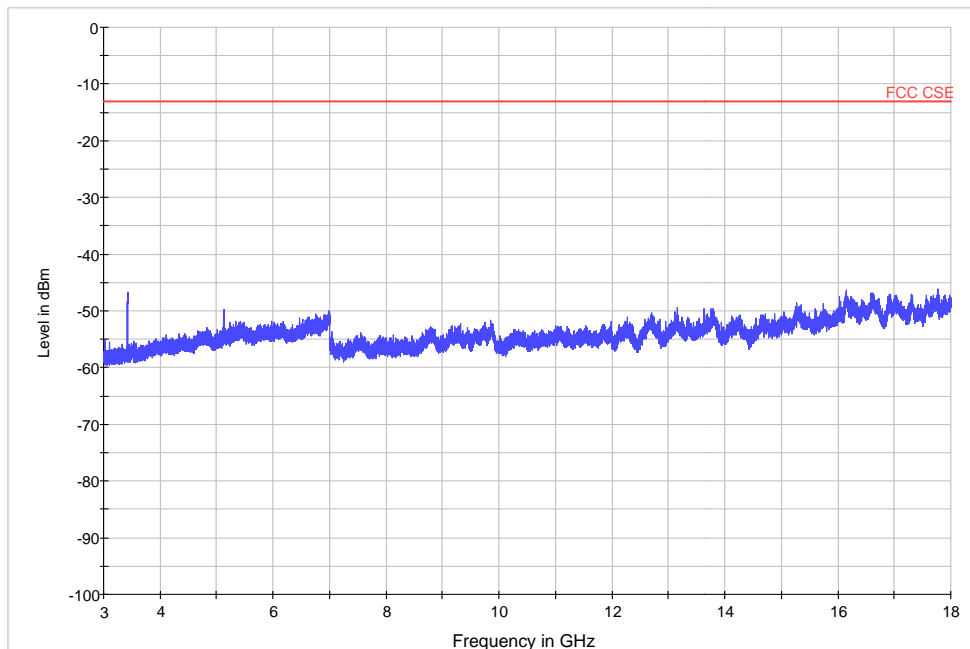
LTE Band 4 CH20393 3GHz~18GHz

LTE Band 4 QPSK Bandwidth = 3MHz CH19965, RB 1



— MaxPeak-MaxHold-PK+ — FCC CSE

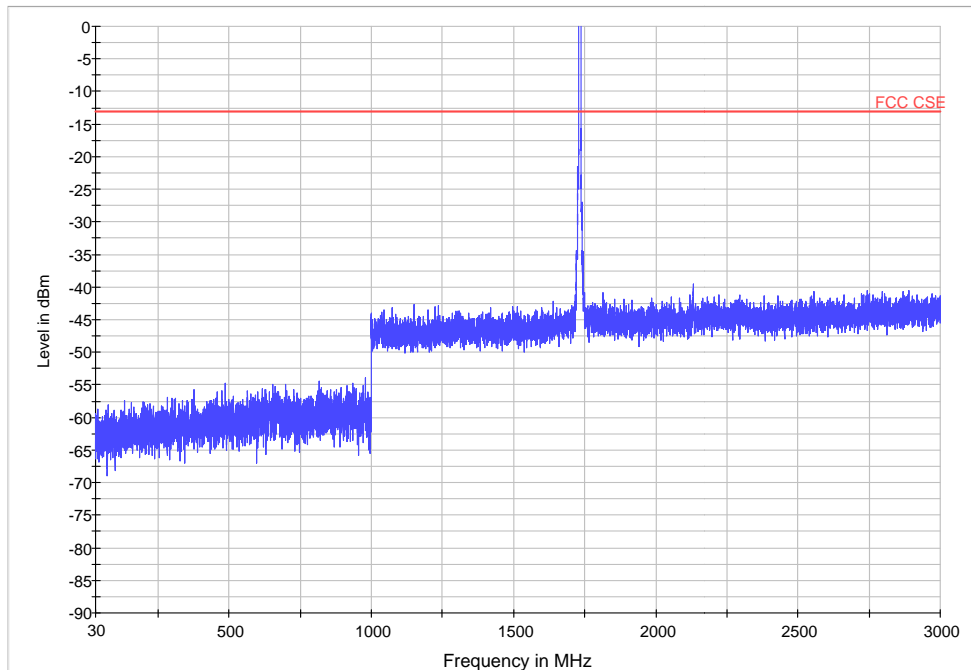
Note: The signal beyond the limit is carrier  
LTE Band 4 CH19965 30MHz~3GHz



— MaxPeak-MaxHold-PK+ — FCC CSE

LTE Band 4 CH19965 3GHz~18GHz

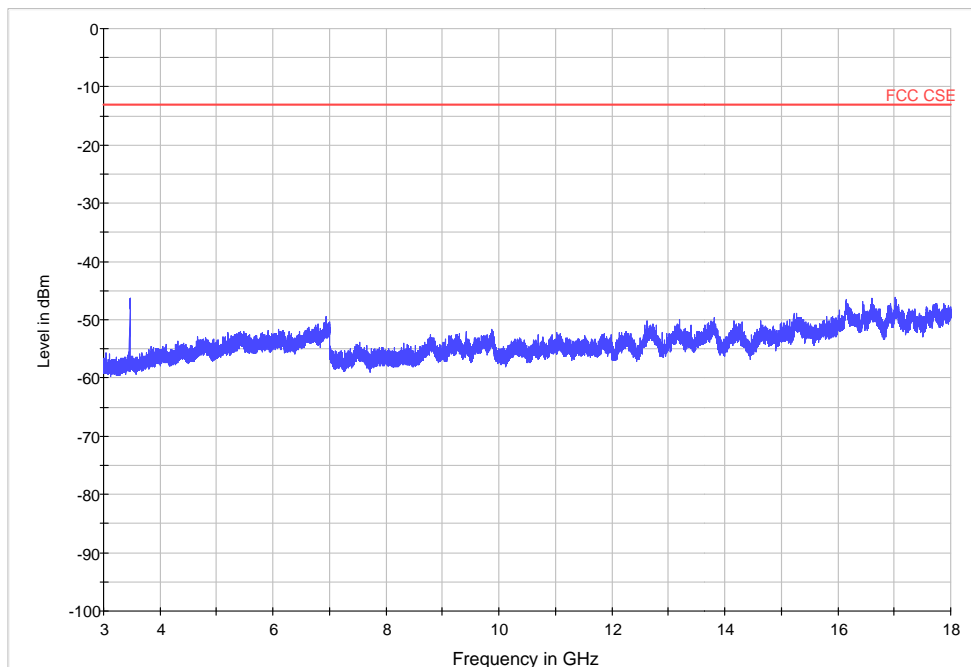
LTE Band 4 QPSK Bandwidth = 3MHz CH20175, RB 1



MaxPeak-MaxHold-PK+      FCC CSE

Note: The signal beyond the limit is carrier

LTE Band 4 CH20175 30MHz~3GHz

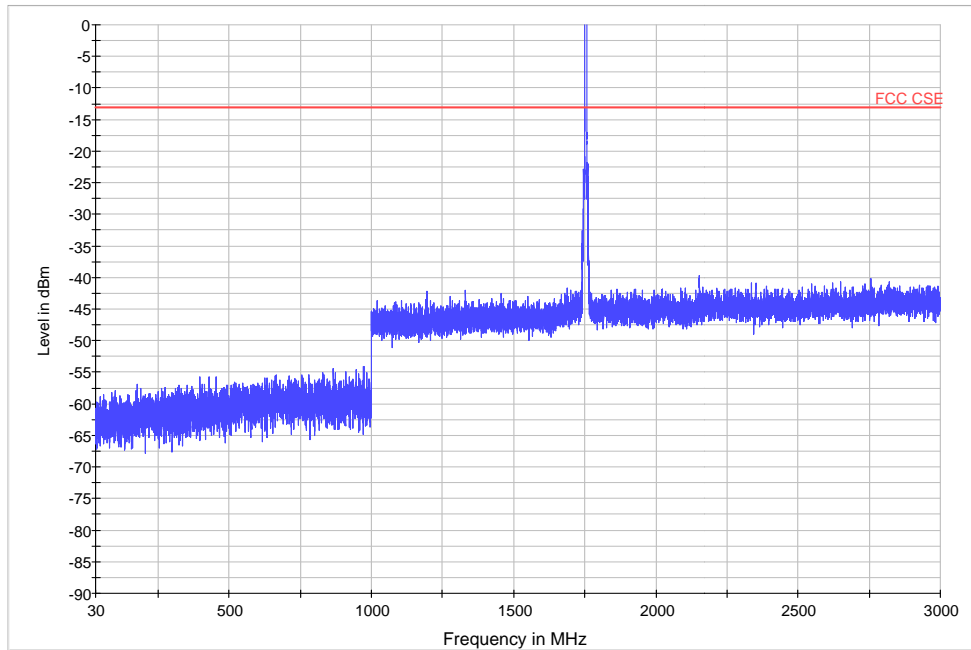


MaxPeak-MaxHold-PK+      FCC CSE

LTE Band 4 CH20175 3GHz~18GHz

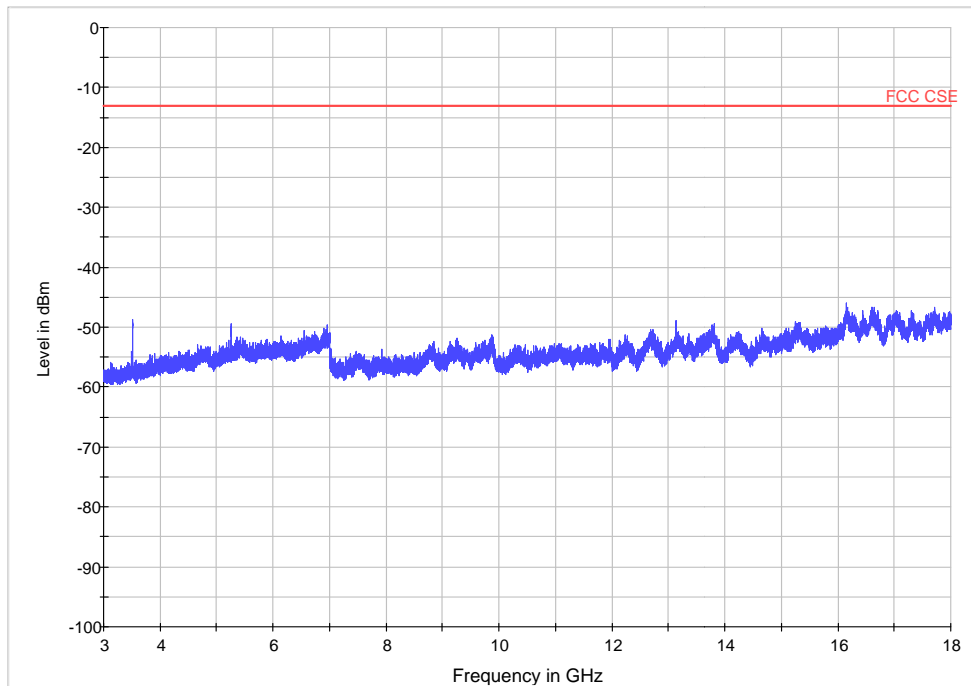


LTE Band 4 QPSK Bandwidth = 3MHz CH20385, RB 1



MaxPeak-MaxHold-PK+      FCC CSE

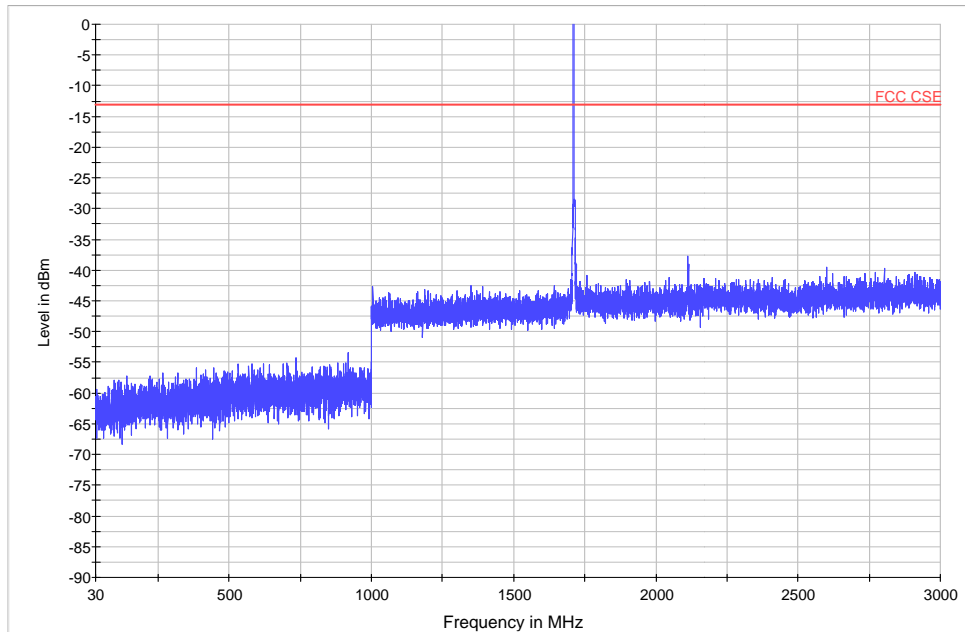
Note: The signal beyond the limit is carrier  
LTE Band 4 CH20385 30MHz~3GHz



MaxPeak-MaxHold-PK+      FCC CSE

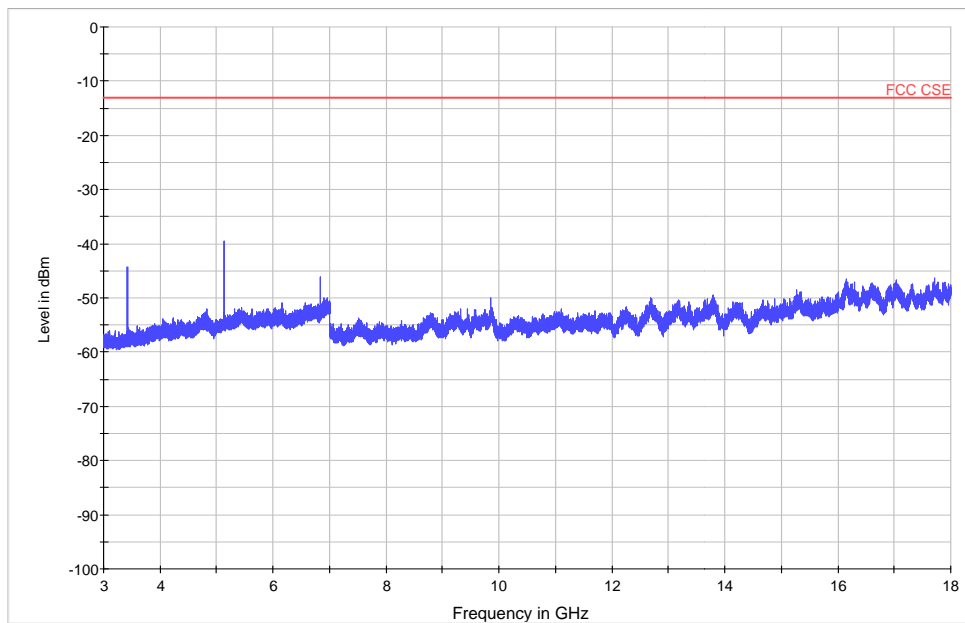
LTE Band 4 CH20385 3GHz~18GHz

LTE Band 4 QPSK Bandwidth = 5MHz CH19975, RB 1



MaxPeak-MaxHold-PK+ FCC CSE

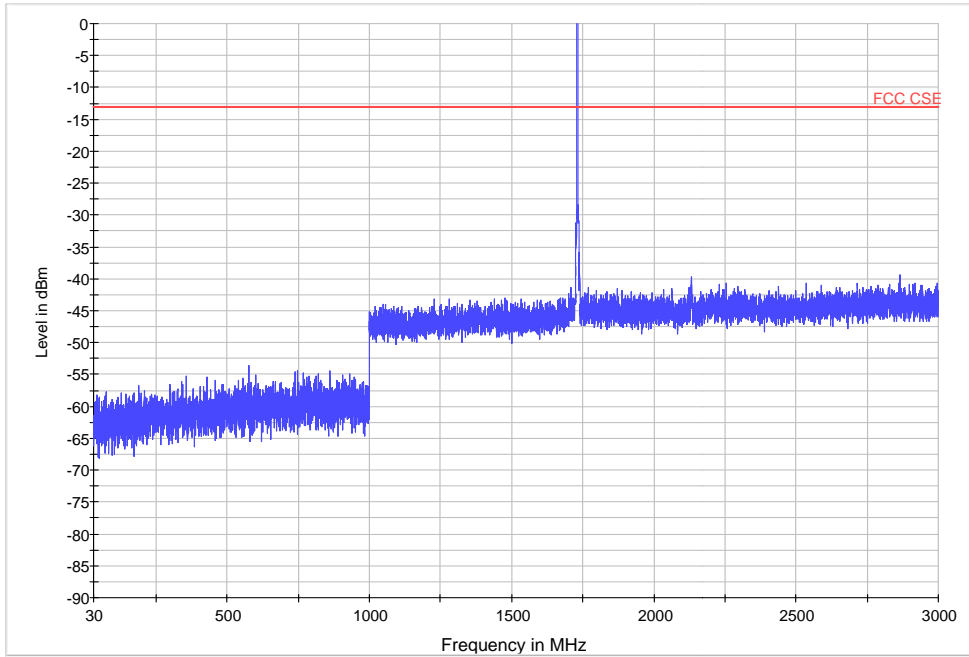
Note: The signal beyond the limit is carrier  
LTE Band 4 CH19975 30MHz~3GHz



MaxPeak-MaxHold-PK+ FCC CSE

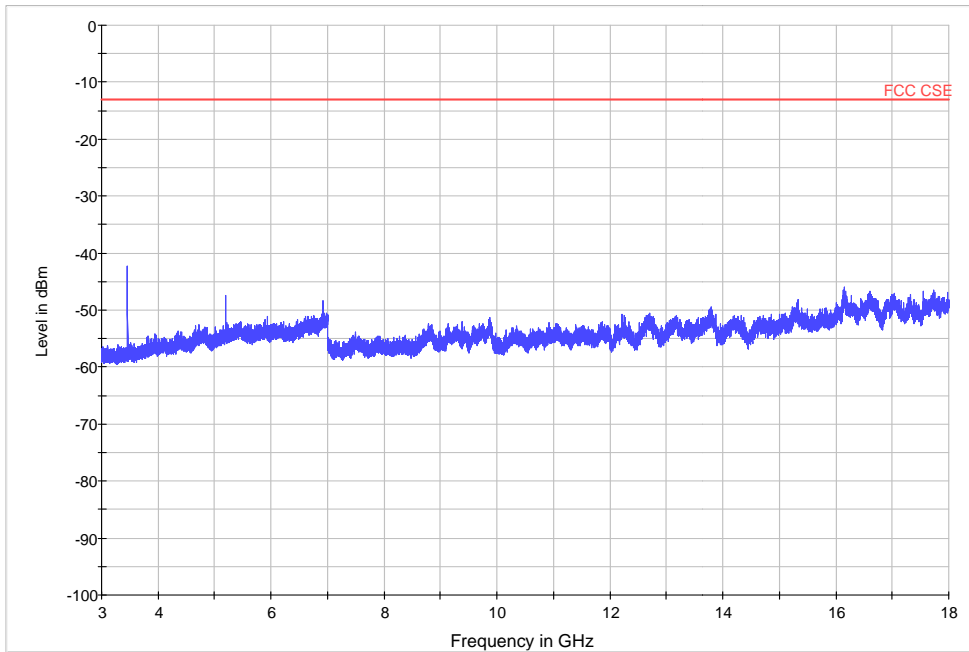
LTE Band 4 CH19975 3GHz~18GHz

LTE Band 4 QPSK Bandwidth = 5MHz CH20175, RB 1



MaxPeak-MaxHold-PK+ FCC CSE

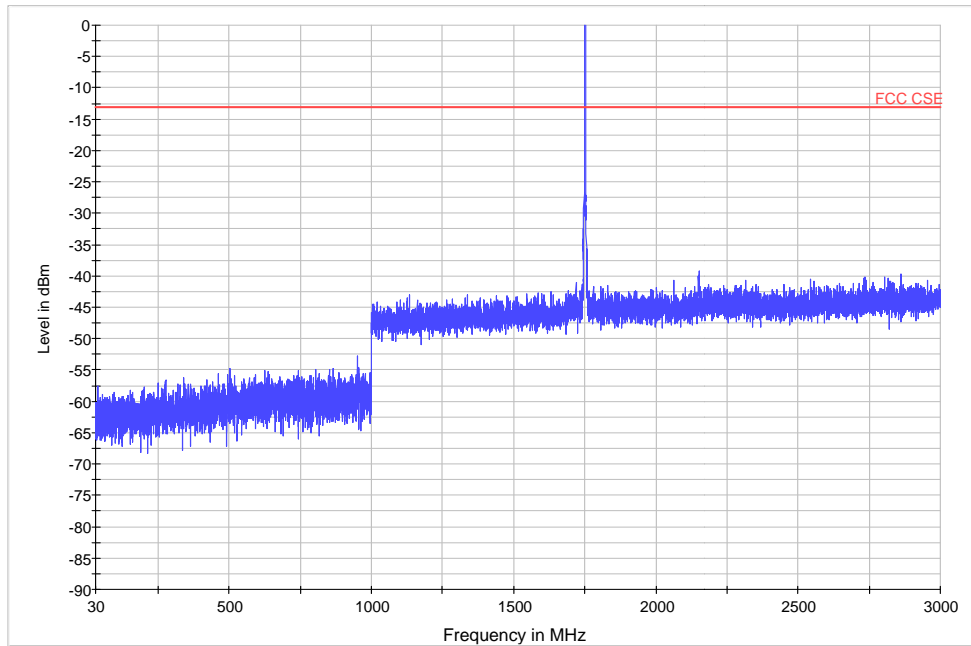
Note: The signal beyond the limit is carrier  
LTE Band 4 CH20175 30MHz~3GHz



MaxPeak-MaxHold-PK+ FCC CSE

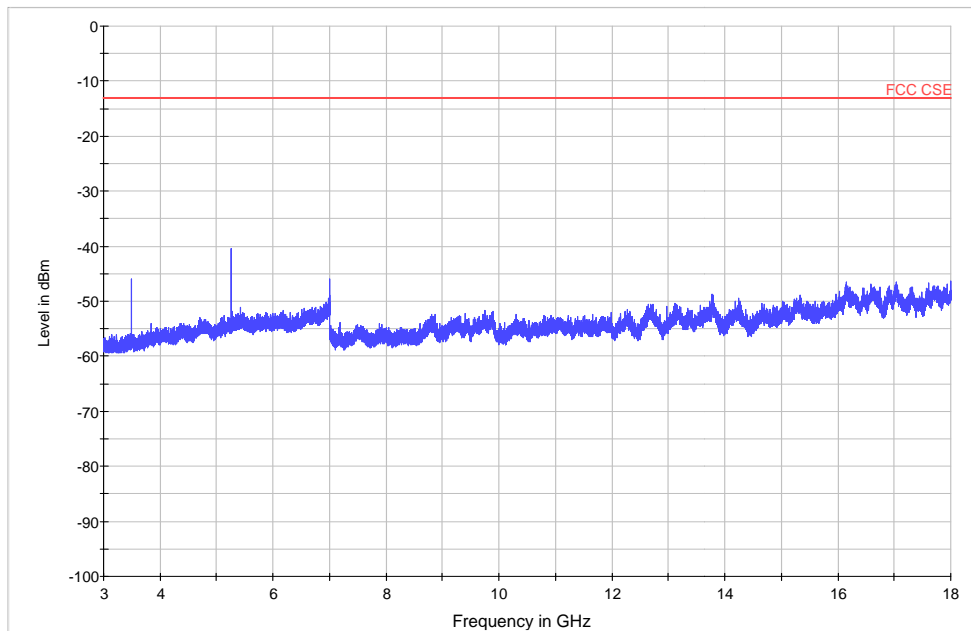
LTE Band 4 CH20175 3GHz~18GHz

LTE Band 4 QPSK Bandwidth = 5MHz CH20375, RB 1



MaxPeak-MaxHold-PK+      FCC CSE

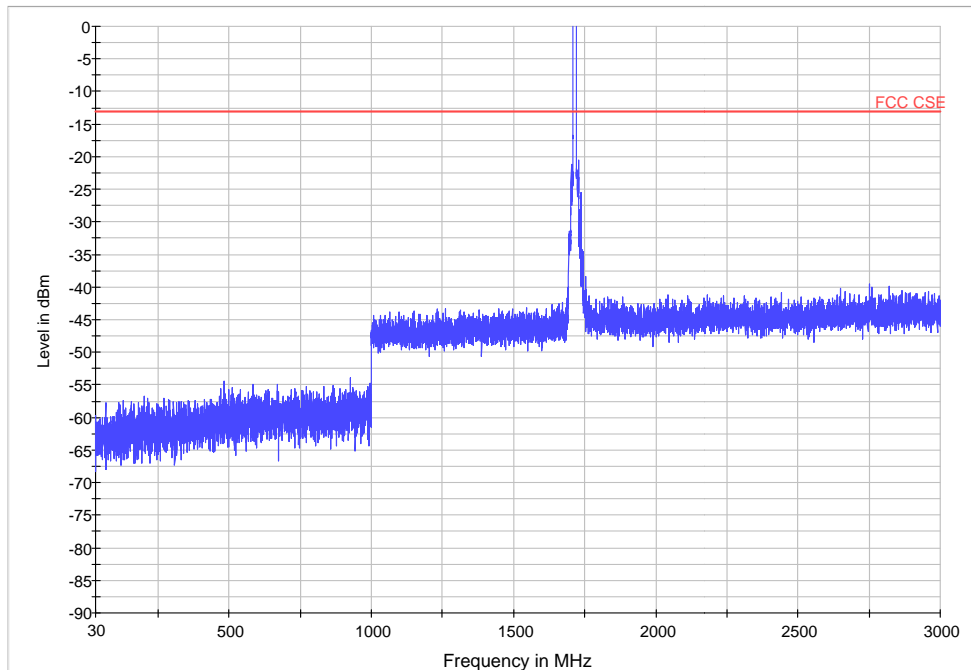
Note: The signal beyond the limit is carrier  
LTE Band 4 CH20375 30MHz~3GHz



MaxPeak-MaxHold-PK+      FCC CSE

LTE Band 4 CH20375 3GHz~18GHz

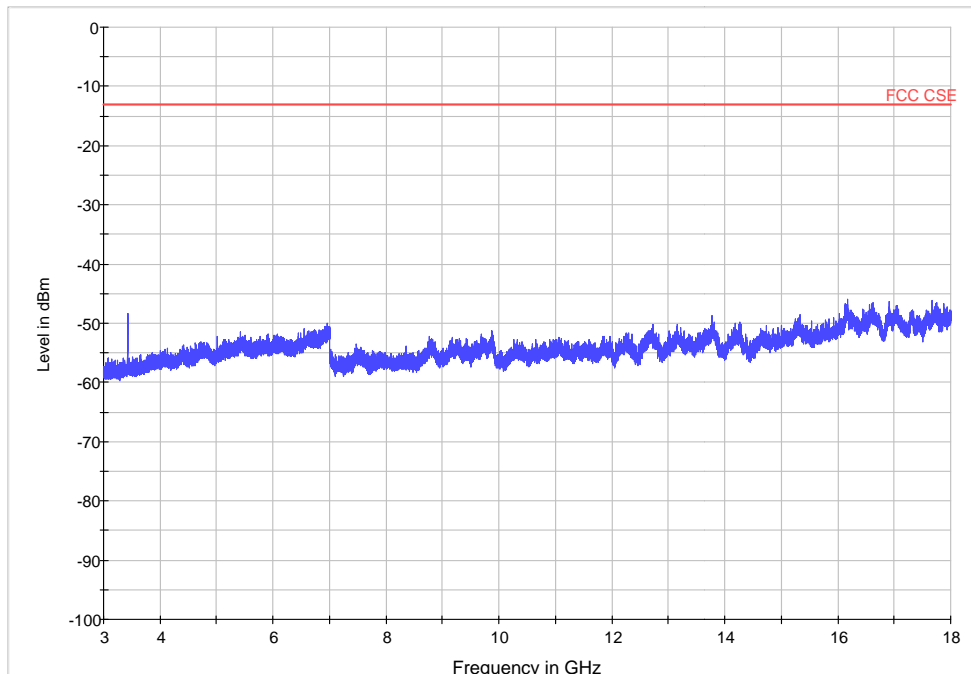
LTE Band 4 QPSK Bandwidth = 10MHz CH20000, RB 1



MaxPeak-MaxHold-PK+      FCC CSE

Note: The signal beyond the limit is carrier

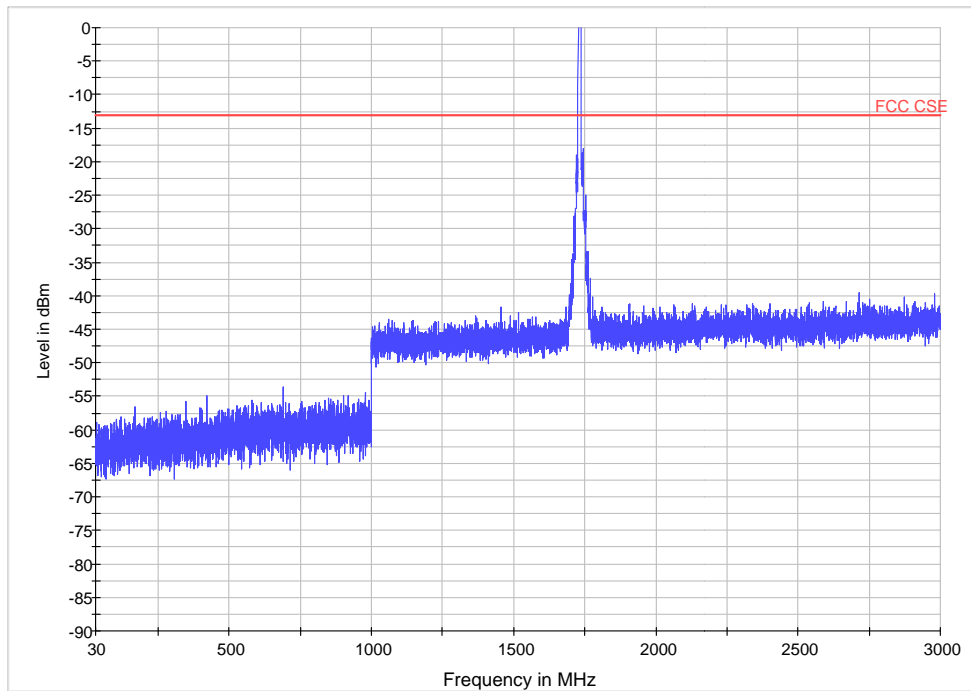
LTE Band 4 CH20000 30MHz~3GHz



MaxPeak-MaxHold-PK+      FCC CSE

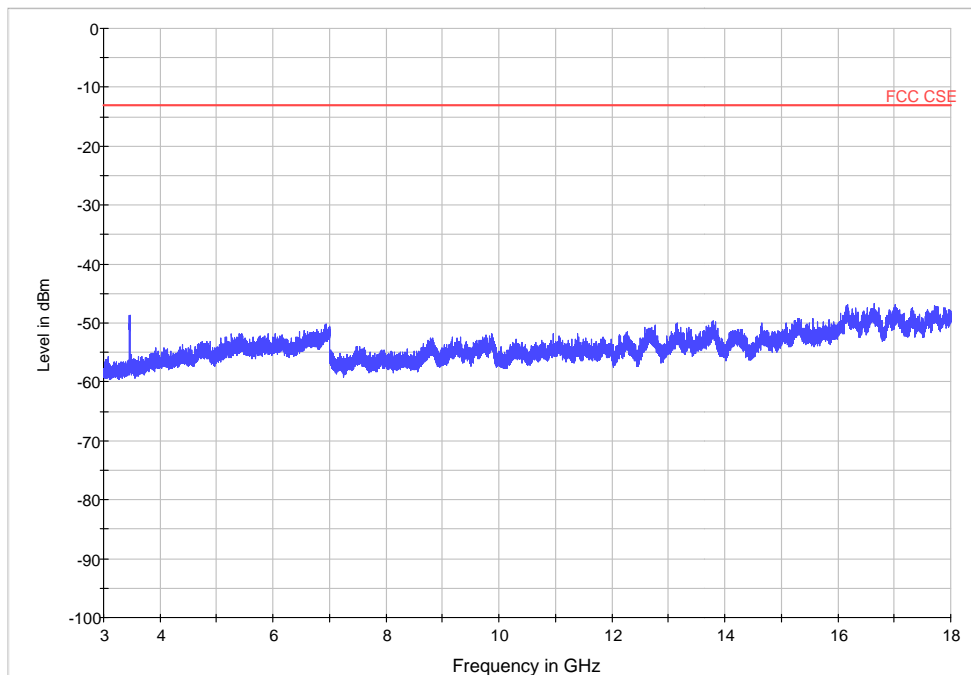
LTE Band 4 CH20000 3GHz~18GHz

LTE Band 4 QPSK Bandwidth = 10MHz CH20175, RB 1



MaxPeak-MaxHold-PK+ FCC CSE

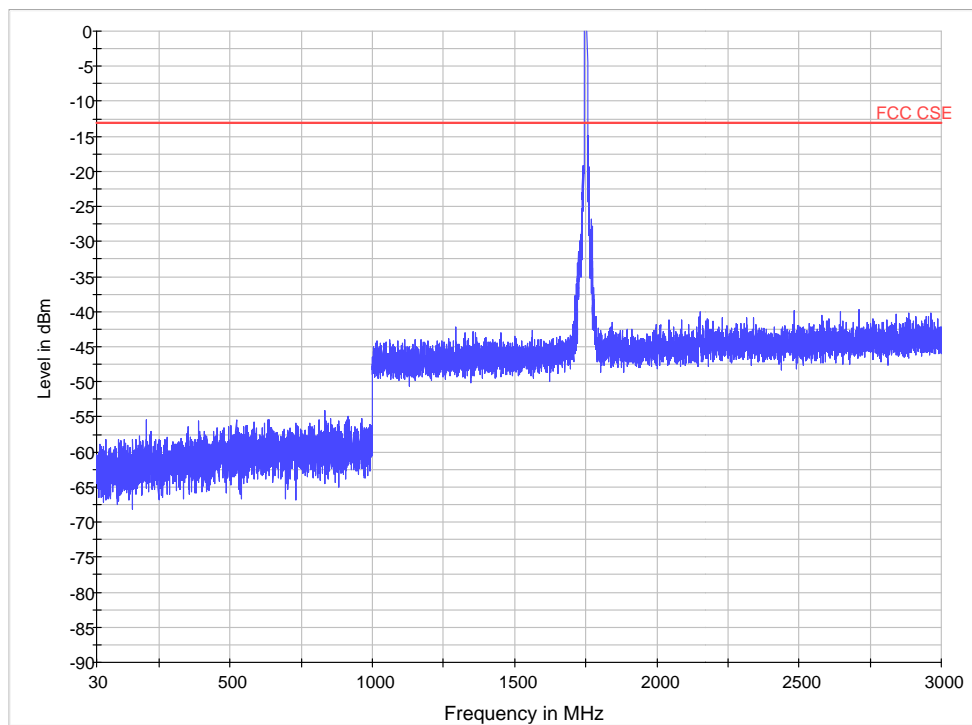
Note: The signal beyond the limit is carrier  
LTE Band 4 CH20175 30MHz~3GHz



MaxPeak-MaxHold-PK+ FCC CSE

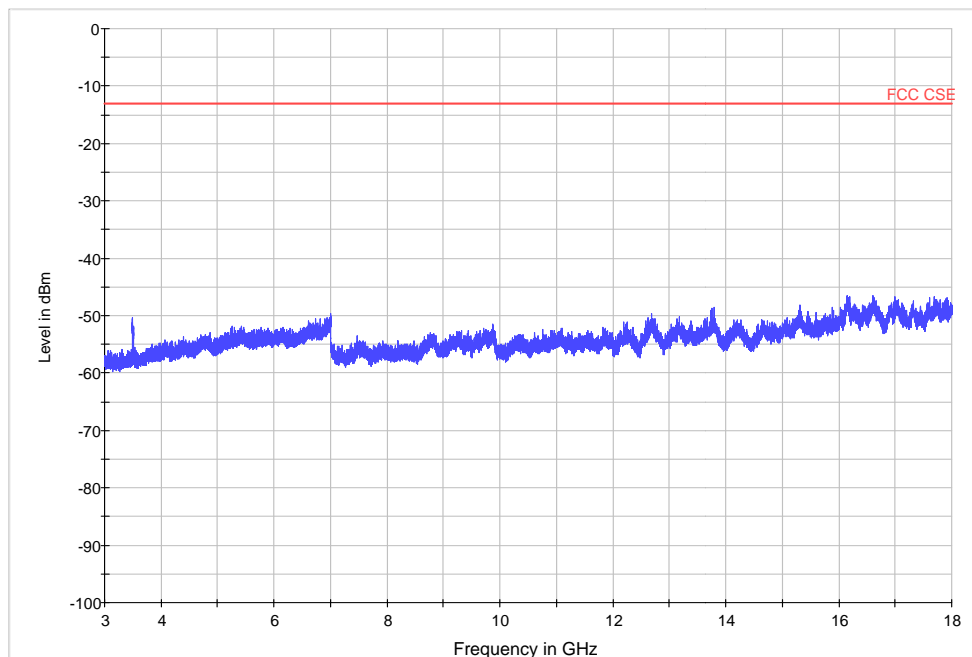
LTE Band 4 CH20175 3GHz~18GHz

LTE Band 4 QPSK Bandwidth = 10MHz CH20350, RB 1



— MaxPeak-MaxHold-PK+ — FCC CSE

Note: The signal beyond the limit is carrier  
LTE Band 4 CH20350 30MHz~3GHz

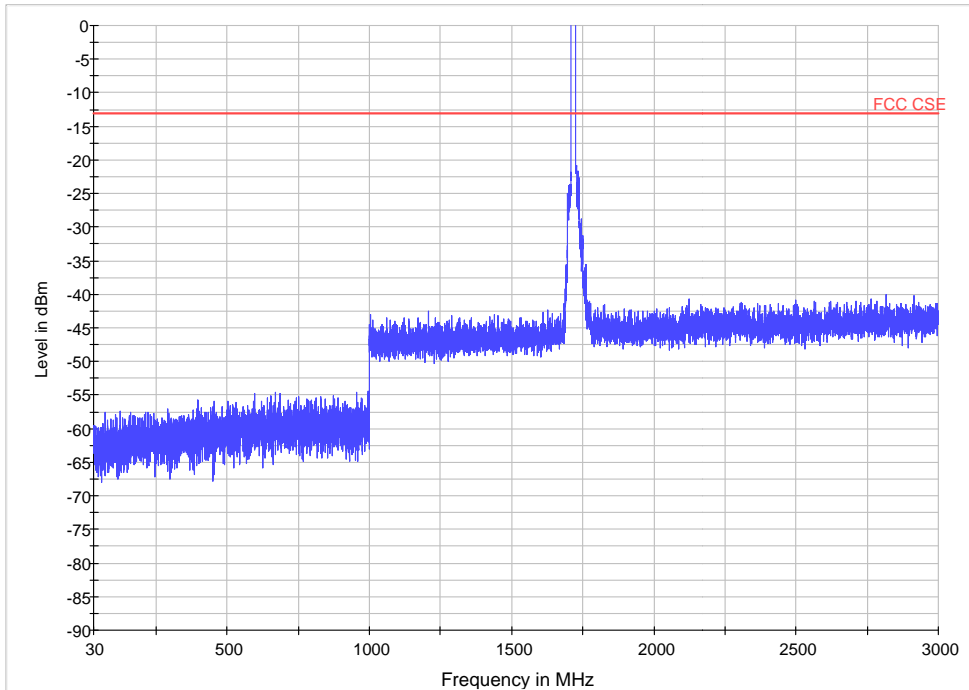


— MaxPeak-MaxHold-PK+ — FCC CSE

LTE Band 4 CH20350 3GHz~18GHz

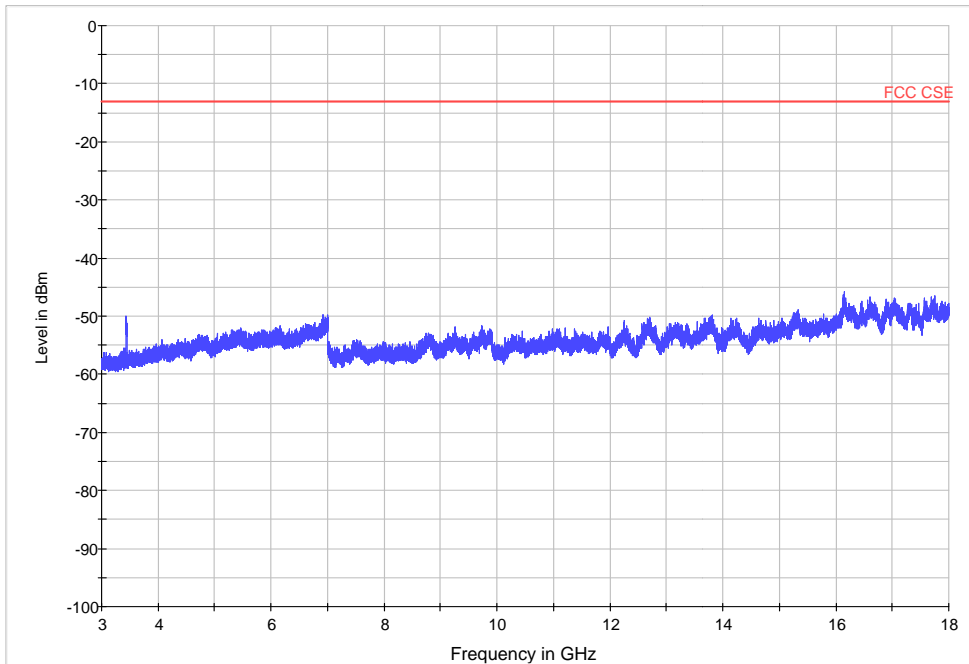


LTE Band 4 QPSK Bandwidth = 15MHz CH20025, RB 1



MaxPeak-MaxHold-PK+ FCC CSE

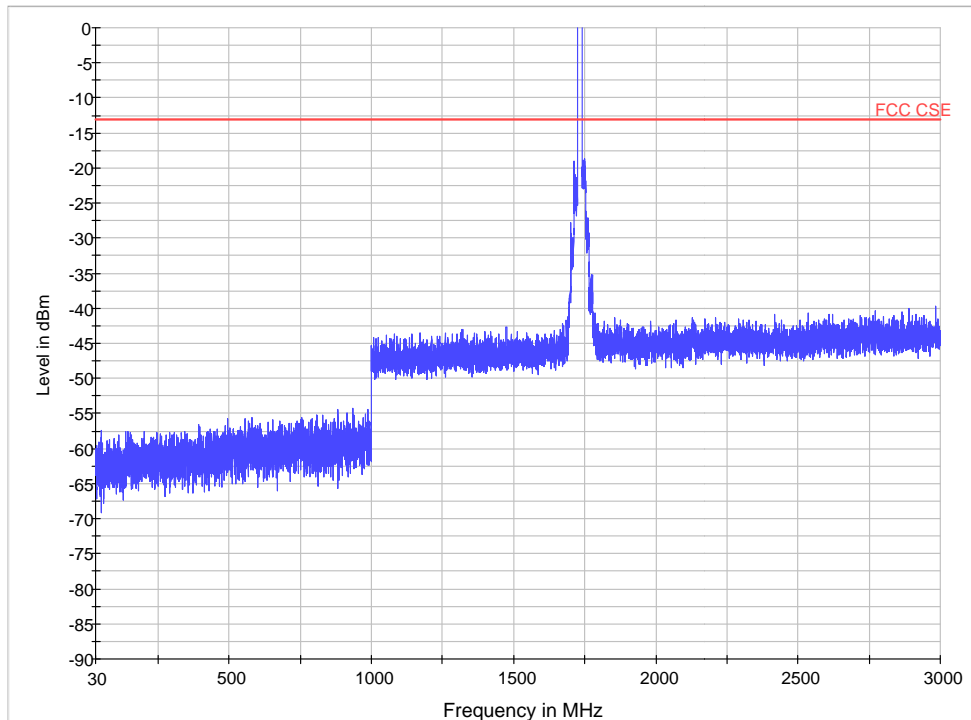
Note: The signal beyond the limit is carrier  
 LTE Band 4 CH20025 30MHz~3GHz



MaxPeak-MaxHold-PK+ FCC CSE

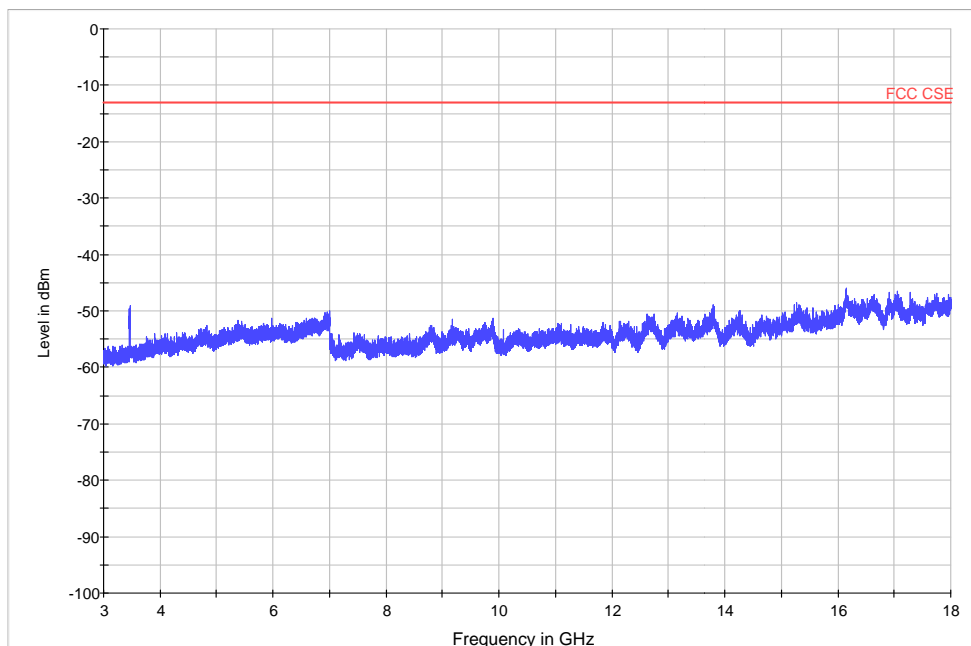
LTE Band 4 CH20025 3GHz~18GHz

LTE Band 4 QPSK Bandwidth = 15MHz CH20175, RB 1



— MaxPeak-MaxHold-PK+ — FCC CSE

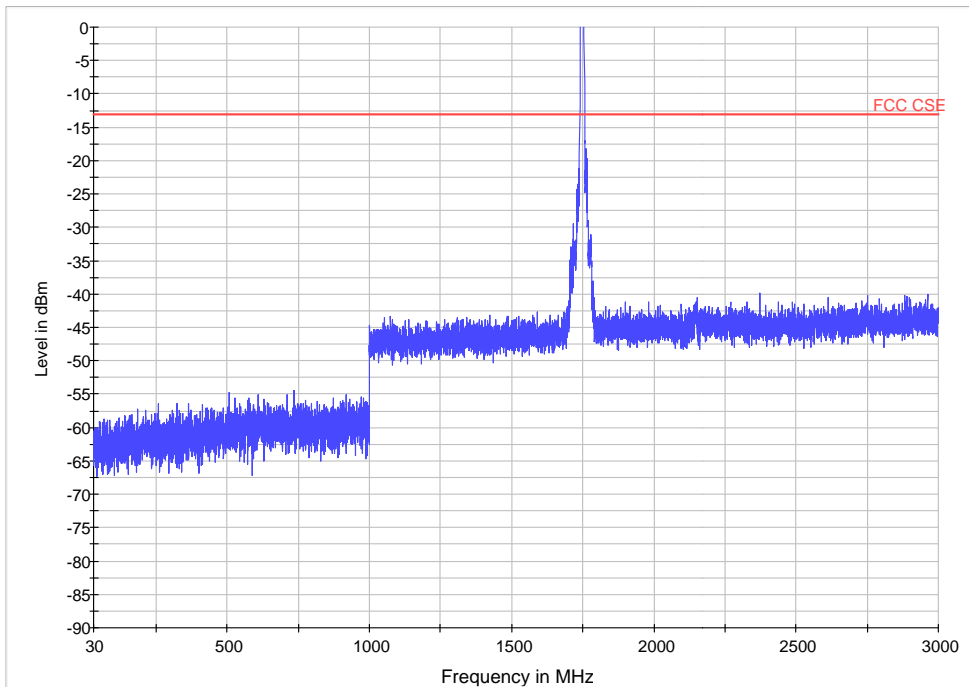
Note: The signal beyond the limit is carrier  
LTE Band 4 CH20175 30MHz~3GHz



— MaxPeak-MaxHold-PK+ — FCC CSE

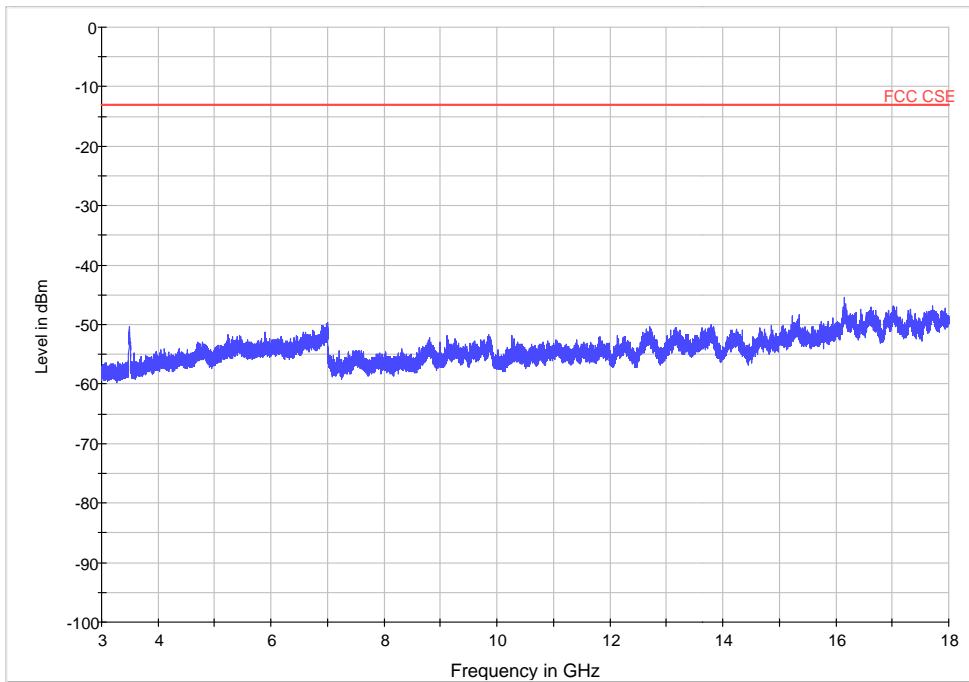
LTE Band 4 CH20175 3GHz~18GHz

LTE Band 4 QPSK Bandwidth = 15MHz CH20325, RB 1



MaxPeak-MaxHold-PK+ FCC CSE

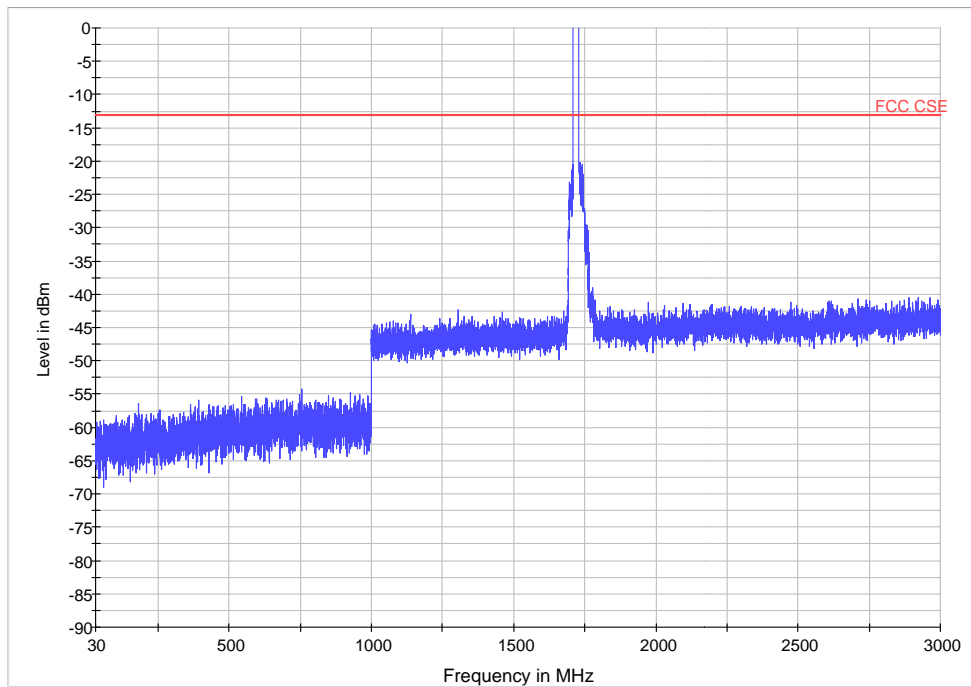
Note: The signal beyond the limit is carrier  
LTE Band 4 CH20325 30MHz~3GHz



MaxPeak-MaxHold-PK+ FCC CSE

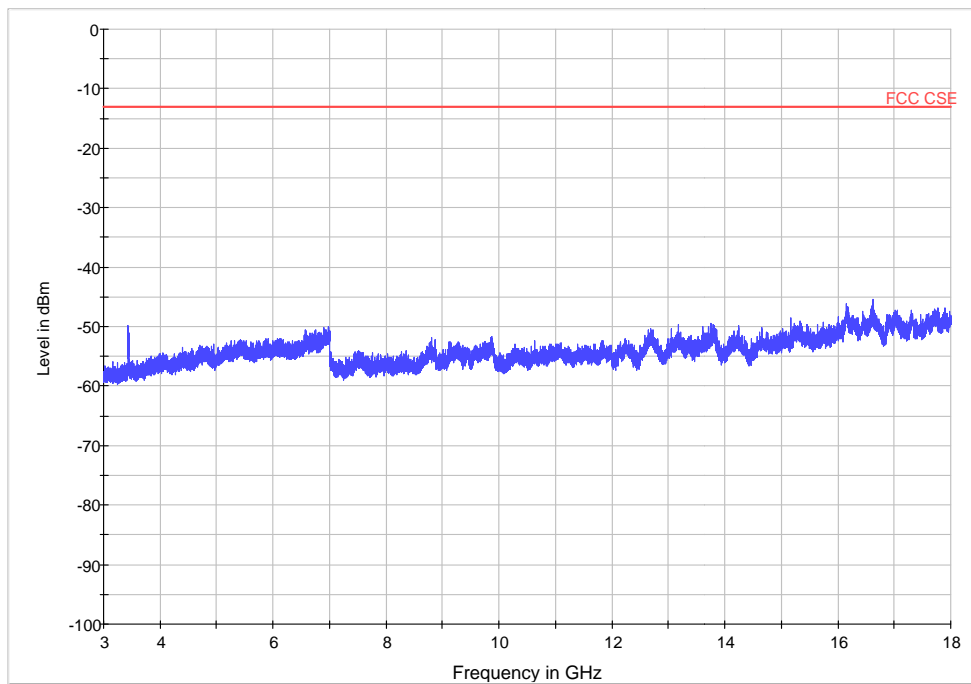
LTE Band 4 CH20325 3GHz~18GHz

LTE Band 4 QPSK Bandwidth = 20MHz CH20050, RB 1



MaxPeak-MaxHold-PK+ FCC CSE

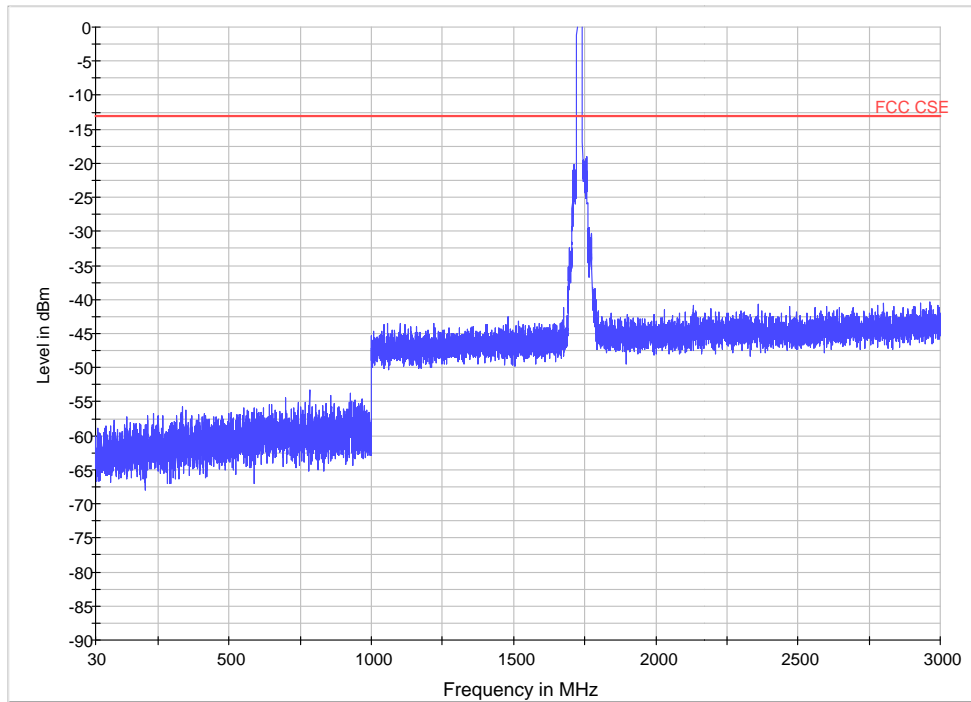
Note: The signal beyond the limit is carrier  
LTE Band 4 CH20050 30MHz~3GHz



MaxPeak-MaxHold-PK+ FCC CSE

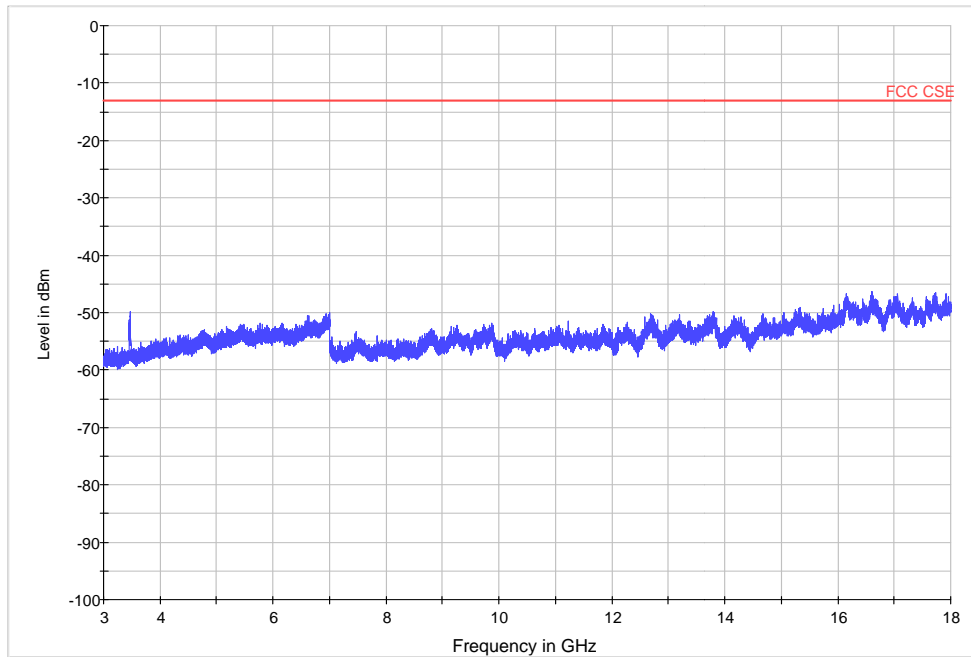
LTE Band 4 CH20050 3GHz~18GHz

LTE Band 4 QPSK Bandwidth = 20MHz CH20175, RB 1



MaxPeak-MaxHold-PK+ FCC CSE

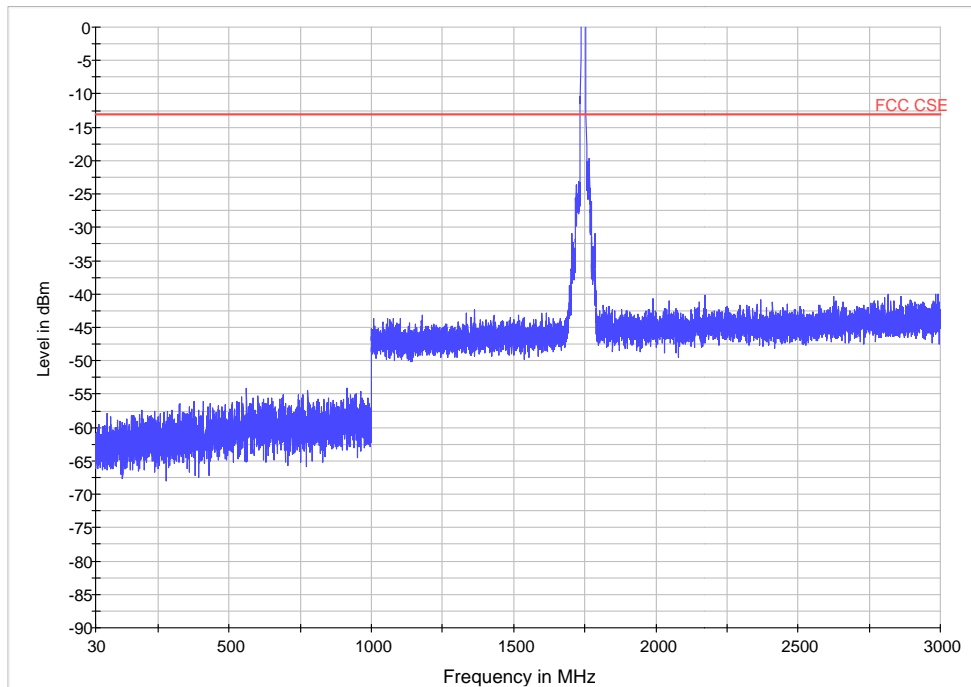
Note: The signal beyond the limit is carrier  
LTE Band 4 CH20175 30MHz~3GHz



MaxPeak-MaxHold-PK+ FCC CSE

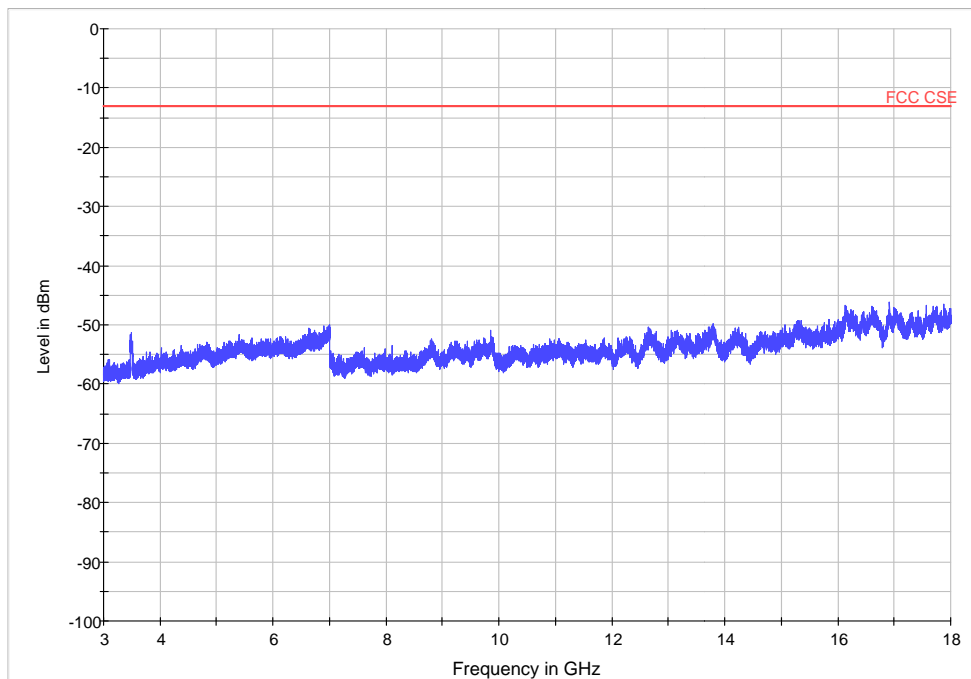
LTE Band 4 CH20175 3GHz~18GHz

LTE Band 4 QPSK Bandwidth = 20MHz CH20300, RB 1



MaxPeak-MaxHold-PK+ FCC CSE

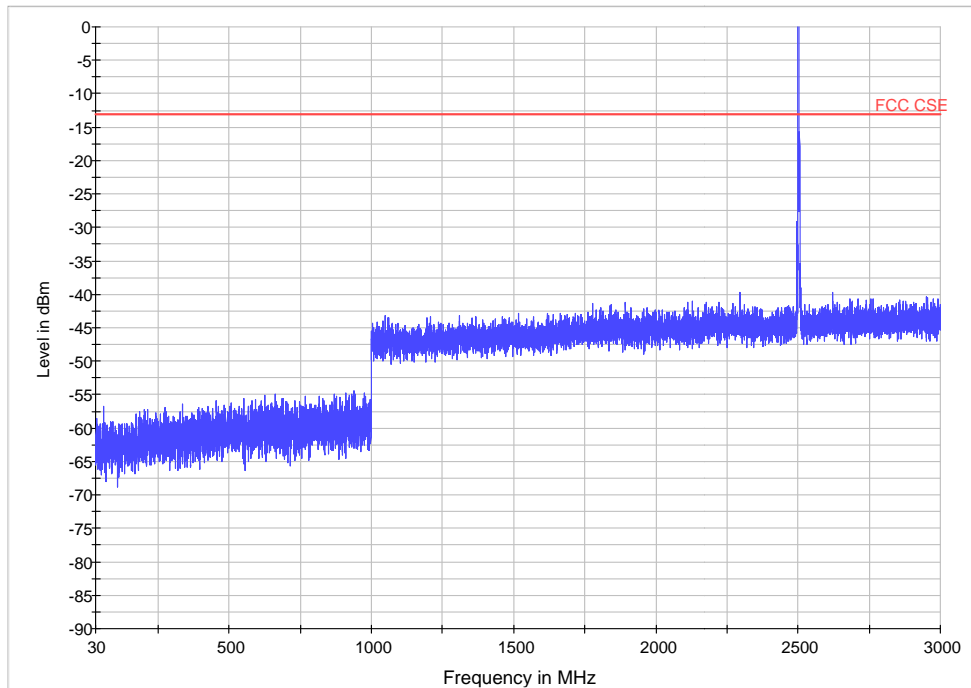
Note: The signal beyond the limit is carrier  
LTE Band 4 CH20300 30MHz~3GHz



MaxPeak-MaxHold-PK+ FCC CSE

LTE Band 4 CH20300 3GHz~18GHz

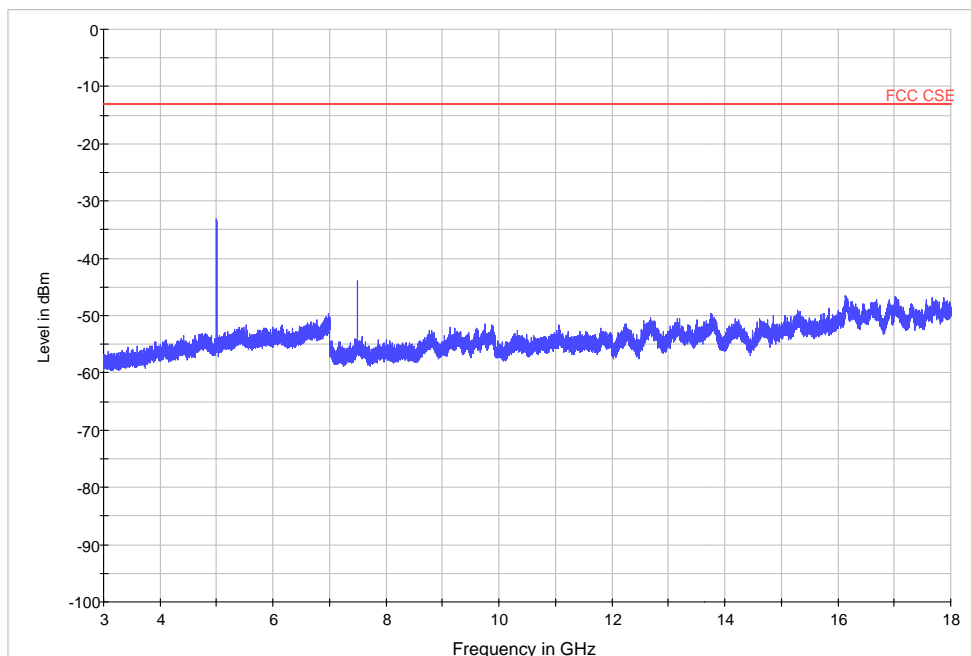
LTE Band 7 QPSK Bandwidth = 5MHz CH20775, RB 1



— MaxPeak-MaxHold-PK+ — FCC CSE

Note: The signal beyond the limit is carrier

LTE Band 7 CH20775 30MHz~3GHz

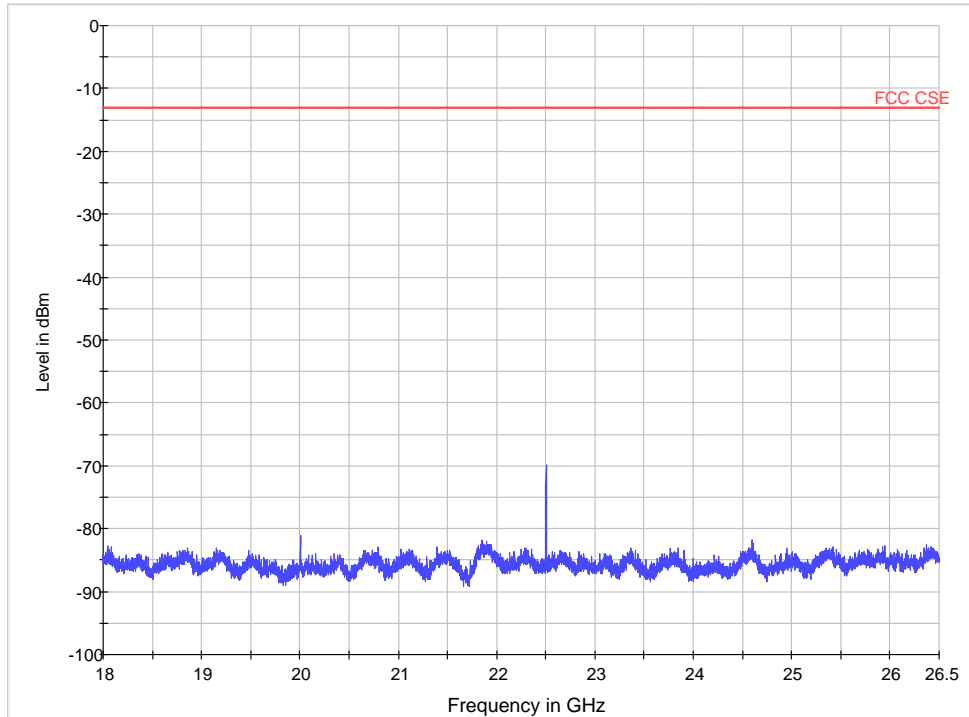


— MaxPeak-MaxHold-PK+ — FCC CSE

LTE Band 7 CH20775 3GHz~18GHz

Harmonic	Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)
2	5000.6	-33.08	-13	20.08

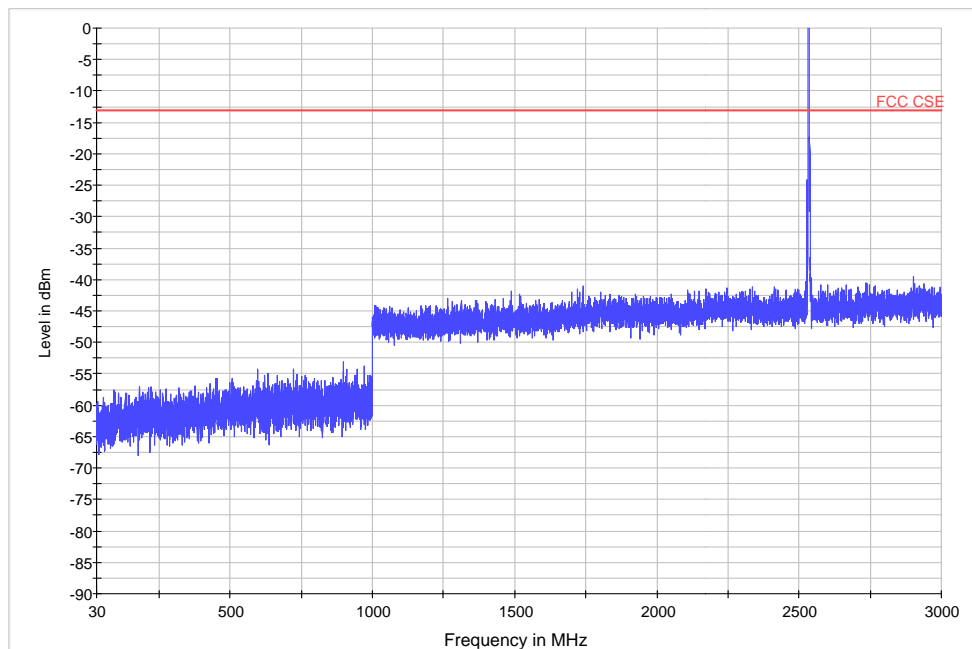




— MaxPeak-MaxHold-PK+ — FCC CSE

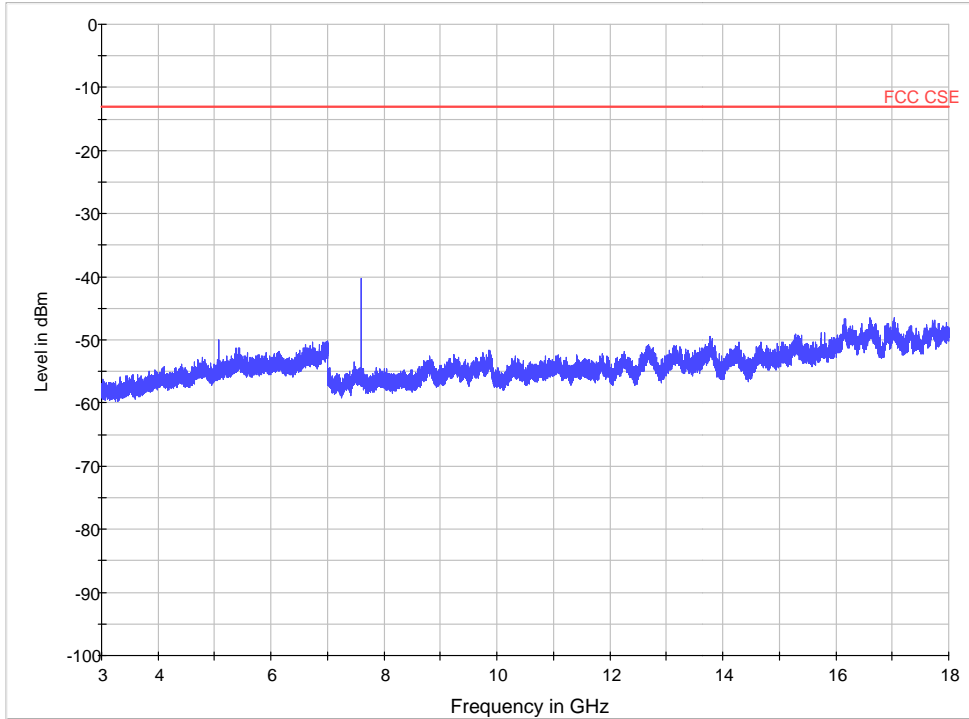
LTE Band 7 CH20775 18GHz~26.5GHz

LTE Band 7 QPSK Bandwidth = 5MHz CH21100, RB 1



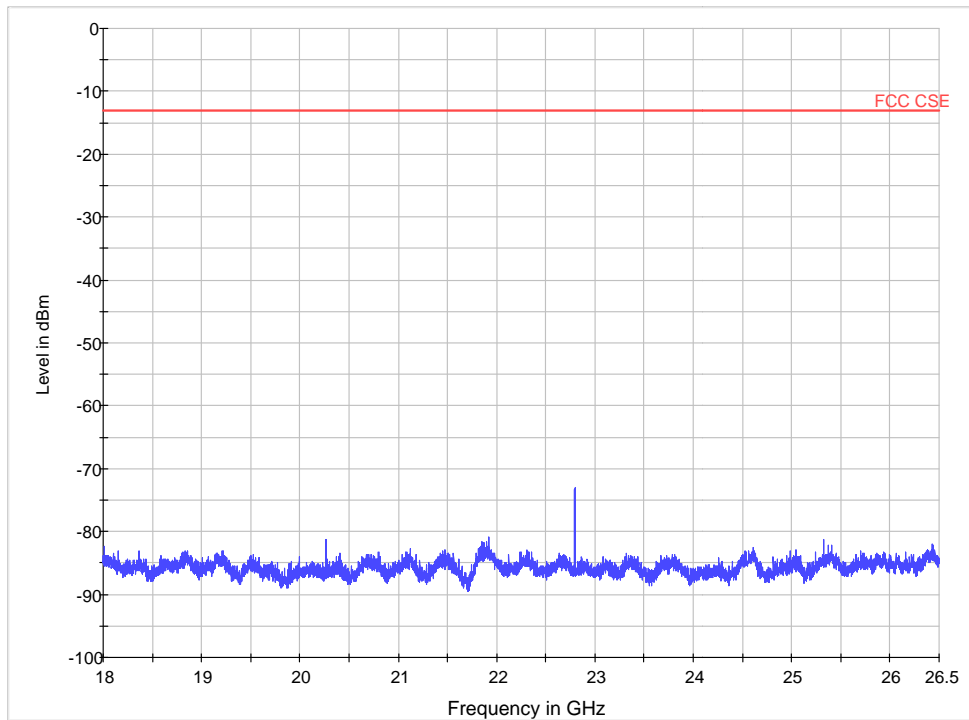
— MaxPeak-MaxHold-PK+ — FCC CSE

Note: The signal beyond the limit is carrier  
LTE Band 7 CH21100 30MHz~3GHz



MaxPeak-MaxHold-PK+    FCC CSE

LTE Band 7 CH21100 3GHz~18GHz

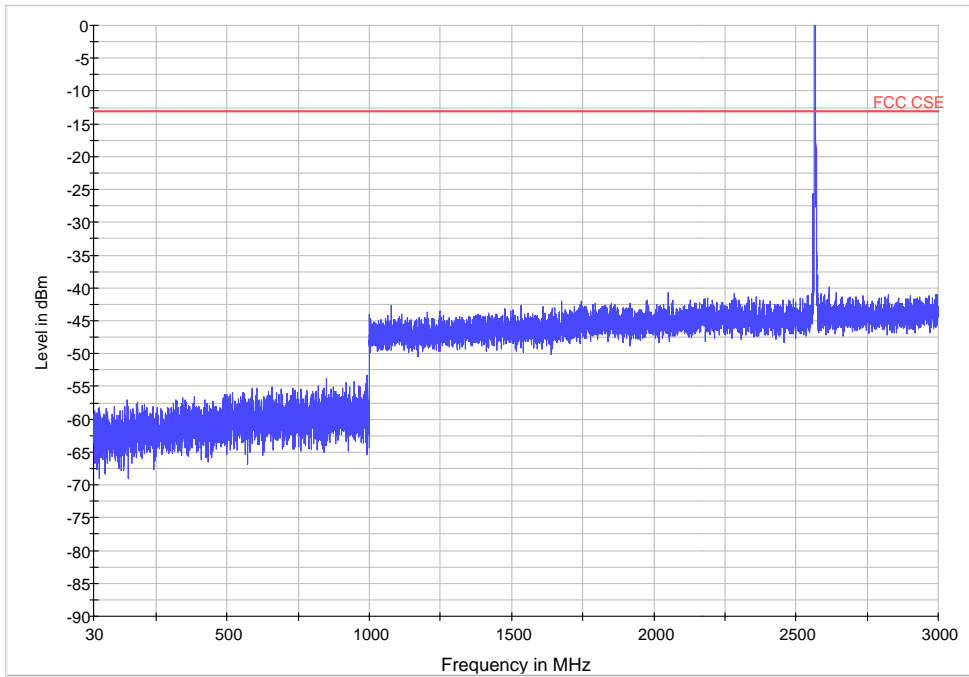


MaxPeak-MaxHold-PK+    FCC CSE

LTE Band 7 CH21100 18GHz~26.5GHz

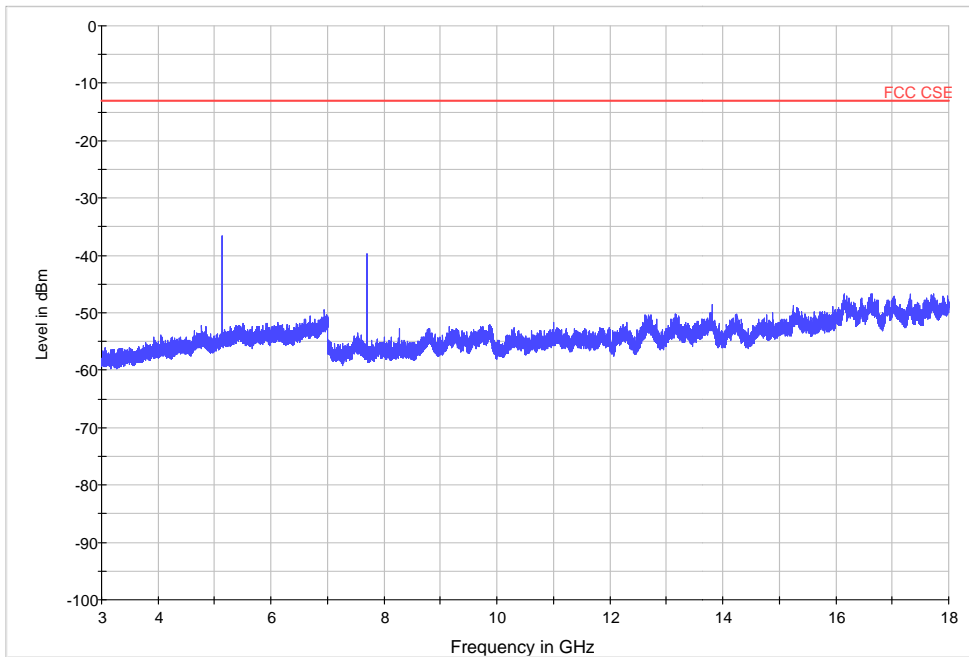


LTE Band 7 QPSK Bandwidth = 5MHz CH21425, RB 1



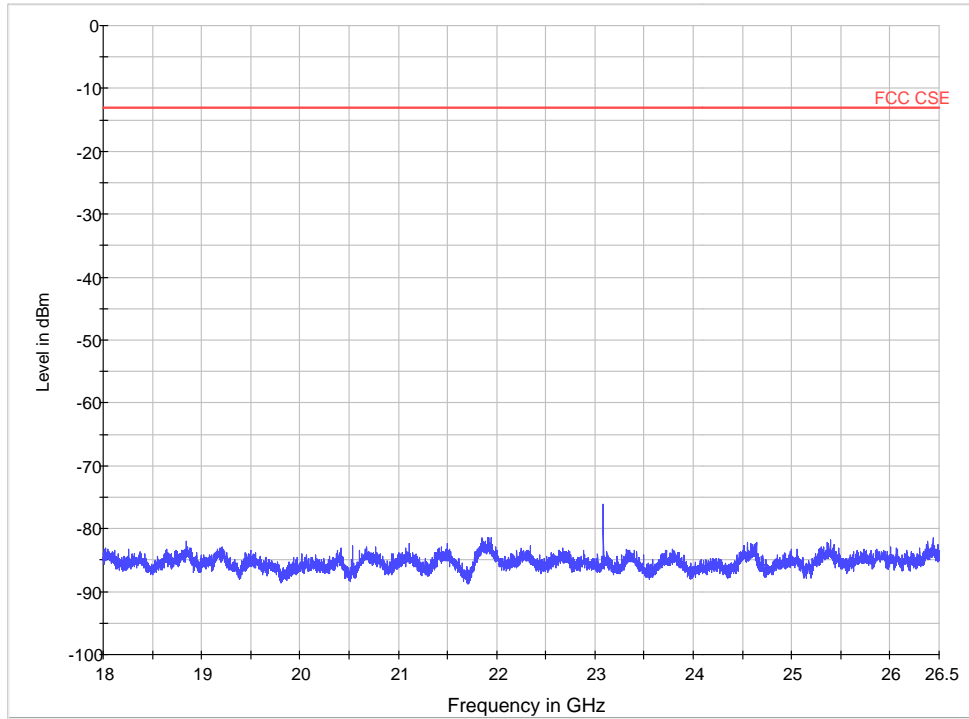
MaxPeak-MaxHold-PK+      FCC CSE

Note: The signal beyond the limit is carrier  
LTE Band 7 CH21425 30MHz~3GHz



MaxPeak-MaxHold-PK+      FCC CSE

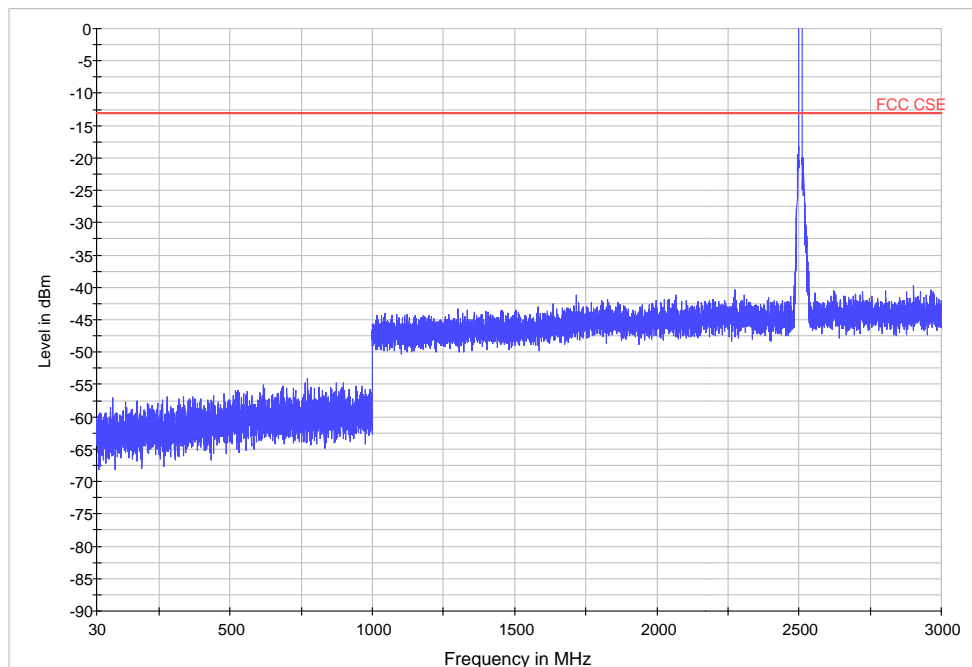
LTE Band 7 CH21425 3GHz~18GHz



MaxPeak-MaxHold-PK+ FCC CSE

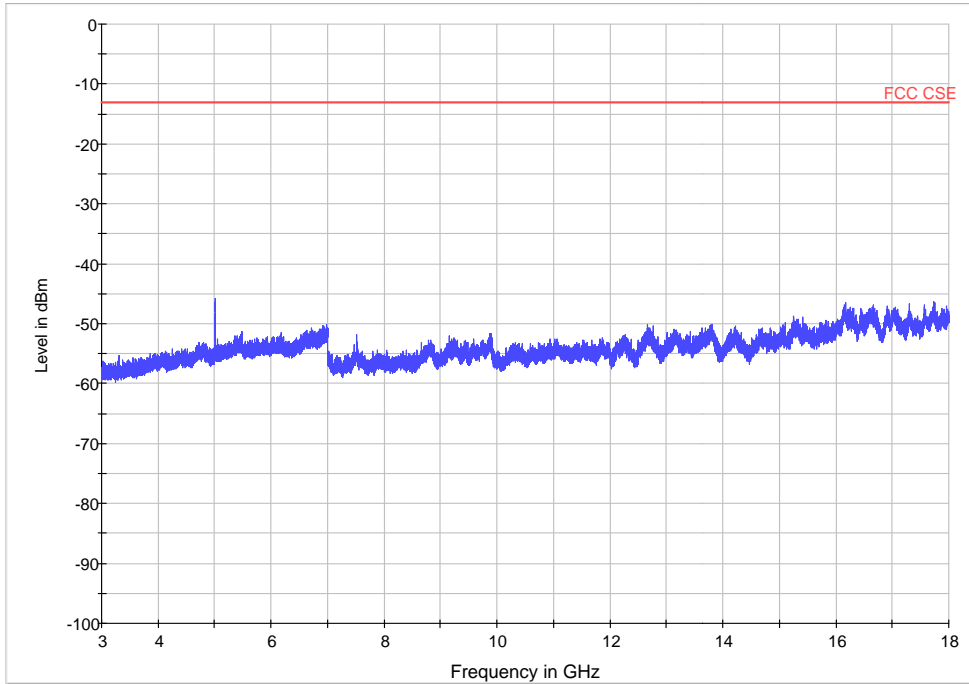
LTE Band 7 CH21425 18GHz~26.5GHz

LTE Band 7 QPSK Bandwidth = 10MHz CH20800, RB 1



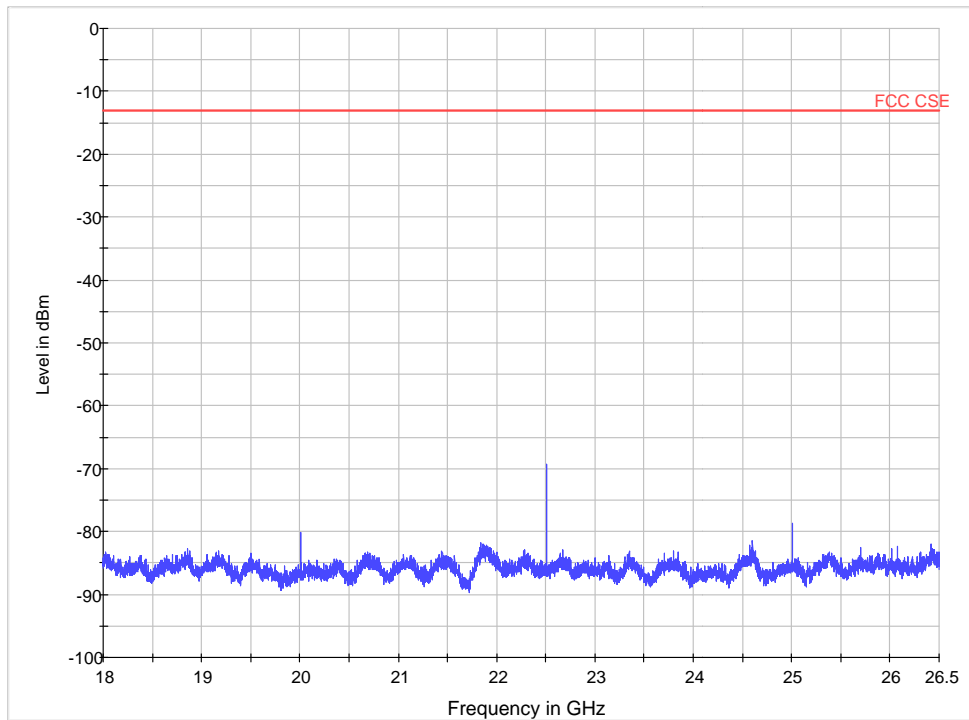
MaxPeak-MaxHold-PK+ FCC CSE

Note: The signal beyond the limit is carrier  
LTE Band 7 CH20800 30MHz~3GHz



MaxPeak-MaxHold-PK+    FCC CSE

LTE Band 7 CH20800 3GHz~18GHz

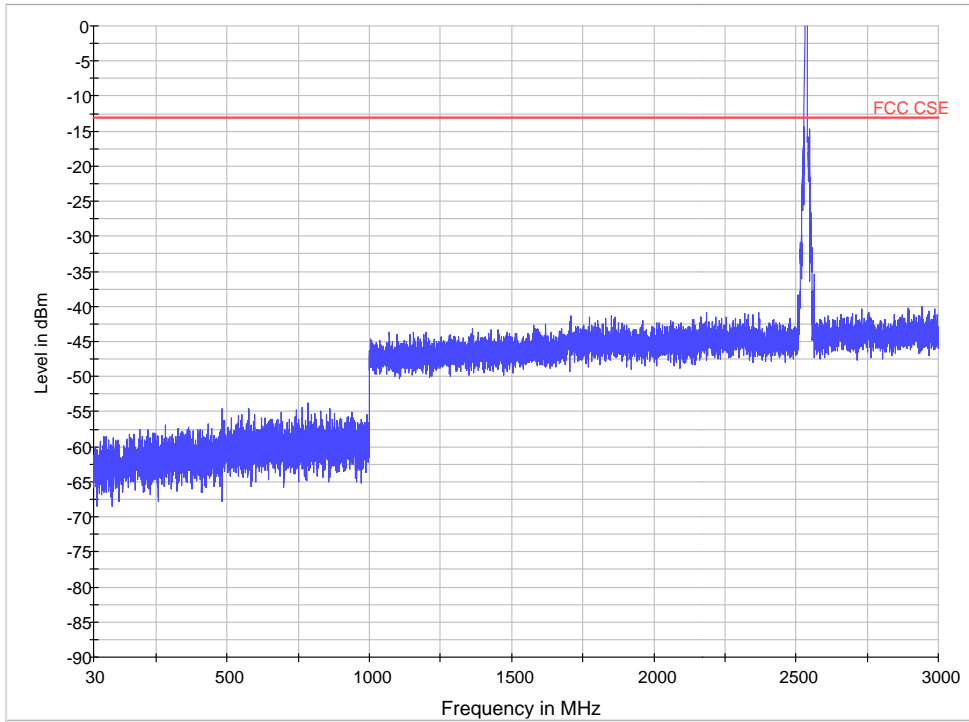


MaxPeak-MaxHold-PK+    FCC CSE

LTE Band 7 CH20800 18GHz~26.5GHz

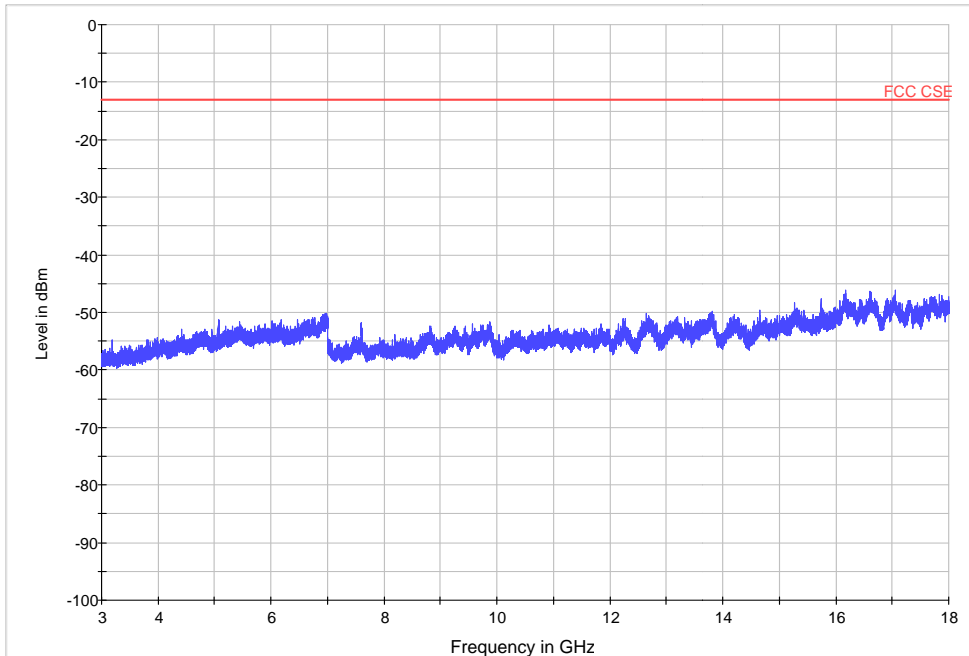


LTE Band 7 QPSK Bandwidth = 10MHz CH21100, RB 1



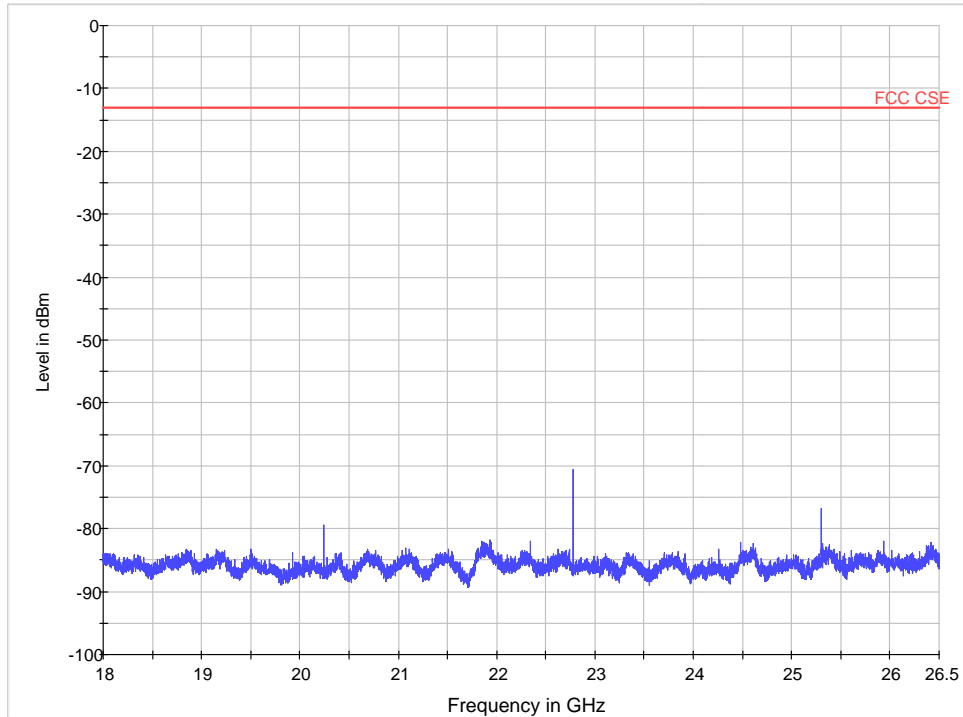
MaxPeak-MaxHold-PK+ FCC CSE

Note: The signal beyond the limit is carrier  
LTE Band 7 CH21100 30MHz~3GHz



MaxPeak-MaxHold-PK+ FCC CSE

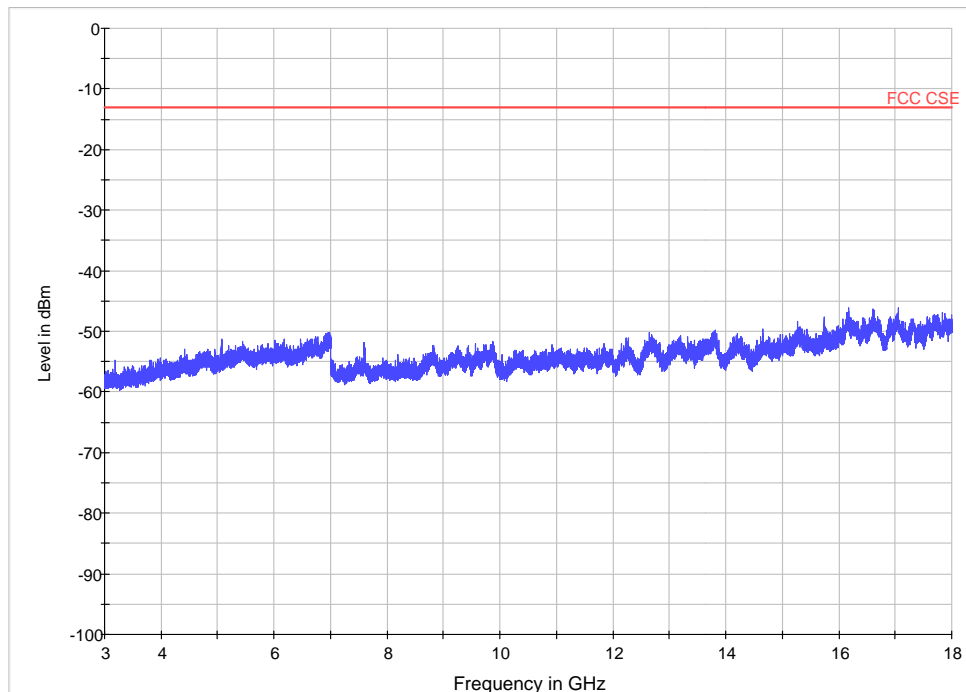
LTE Band 7 CH21100 3GHz~18GHz



— MaxPeak-MaxHold-PK+ — FCC CSE

LTE Band 7 CH21100 18GHz~26.5GHz

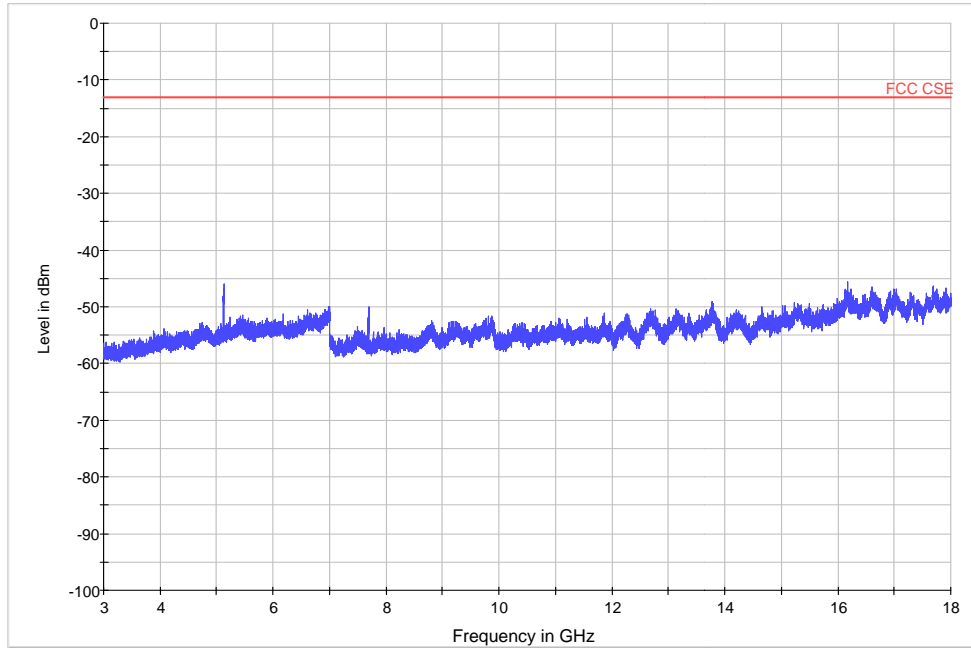
LTE Band 7 QPSK Bandwidth = 10MHz CH21400, RB 1



— MaxPeak-MaxHold-PK+ — FCC CSE

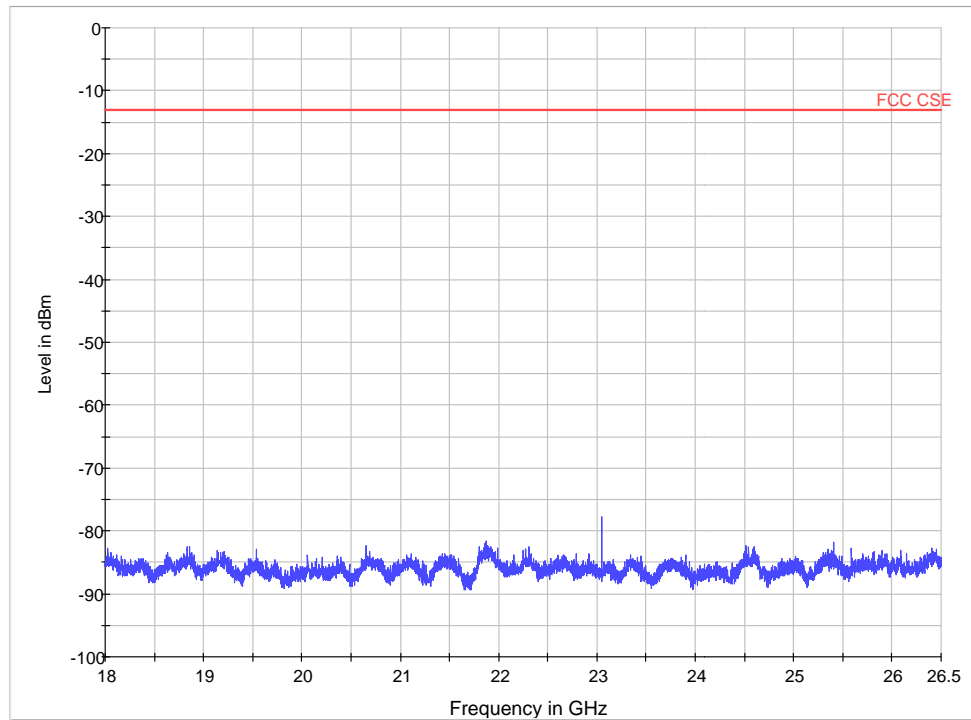
Note: The signal beyond the limit is carrier  
LTE Band 7 CH21400 30MHz~3GHz





— MaxPeak-MaxHold-PK+ — FCC CSE

LTE Band 7 CH21400 3GHz~18GHz

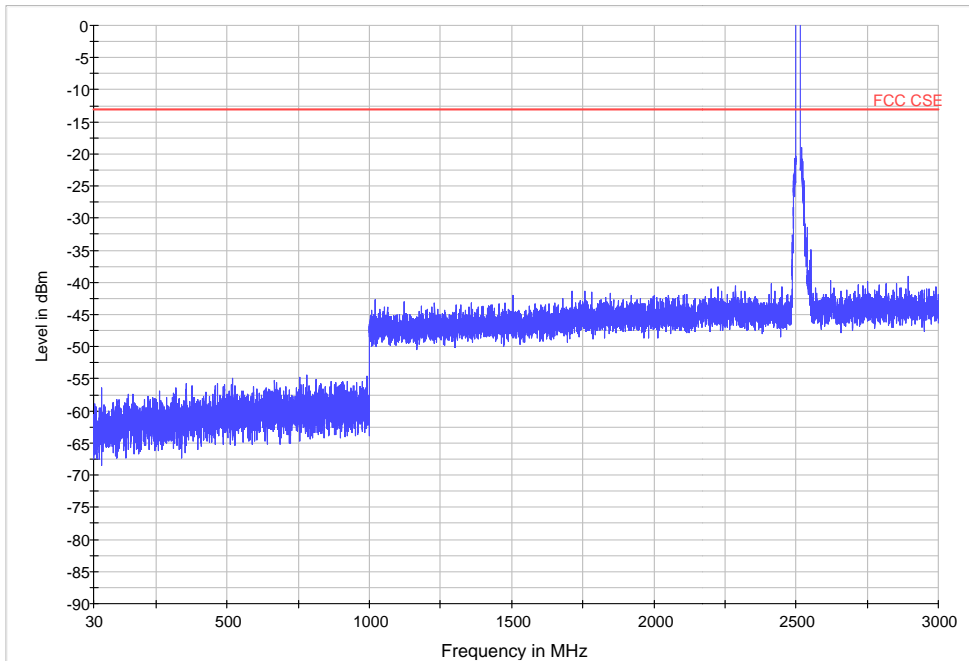


— MaxPeak-MaxHold-PK+ — FCC CSE

LTE Band 7 CH21400 18GHz~26.5GHz

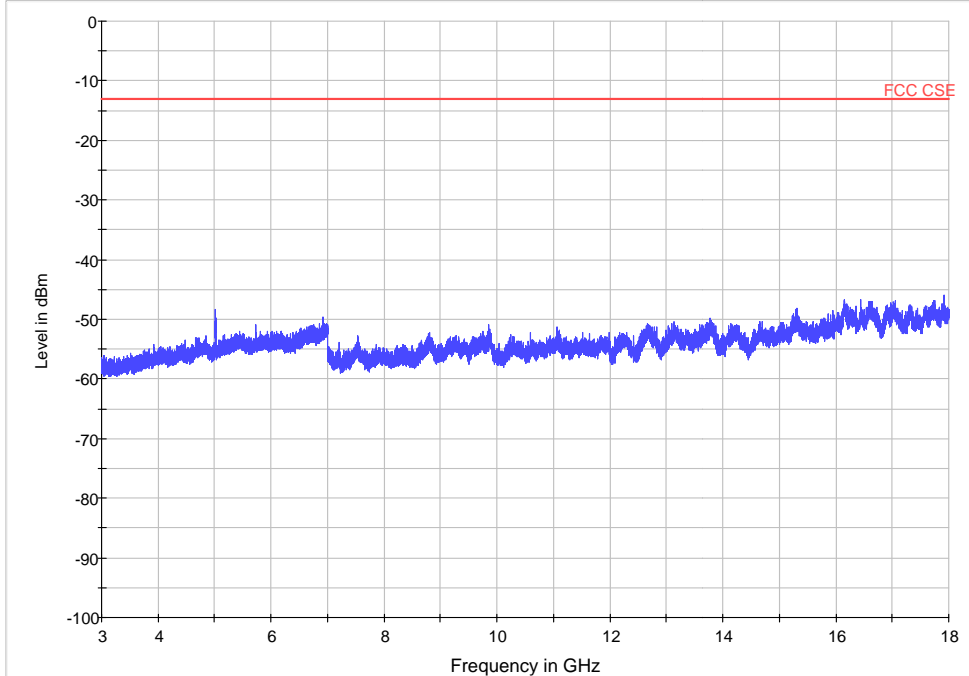


LTE Band 7 QPSK Bandwidth = 15MHz CH20825, RB 1



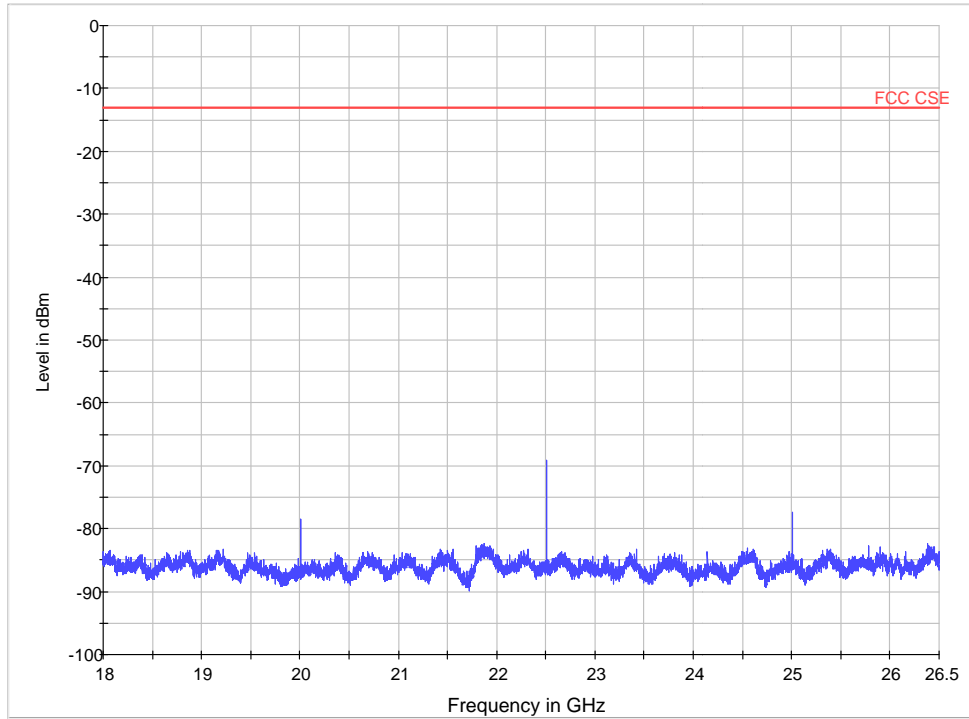
MaxPeak-MaxHold-PK+ FCC CSE

Note: The signal beyond the limit is carrier  
LTE Band 7 CH20825 30MHz~3GHz



MaxPeak-MaxHold-PK+ FCC CSE

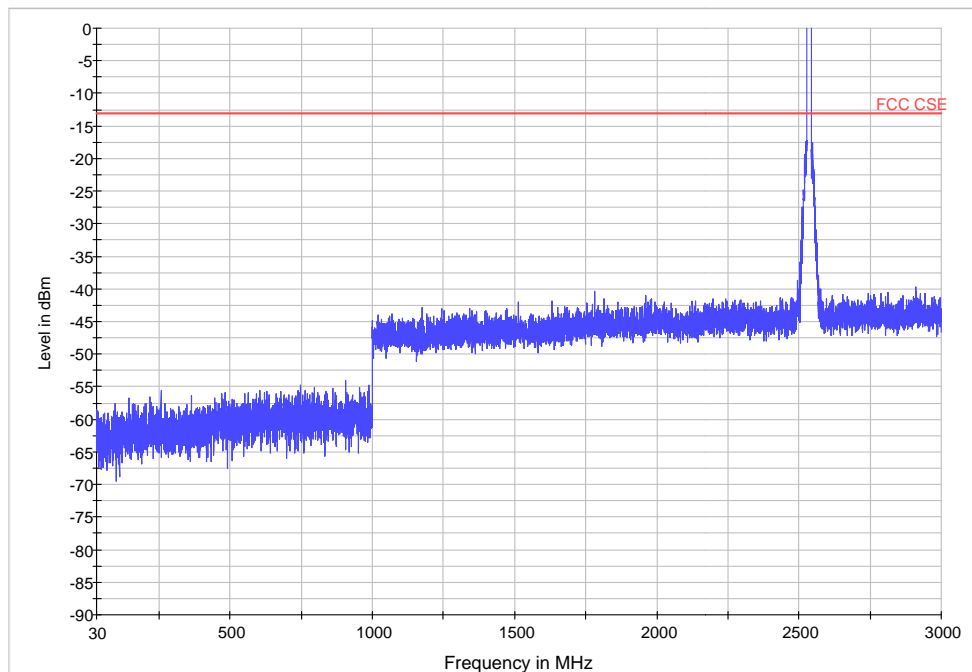
LTE Band 7 CH20825 3GHz~18GHz



— MaxPeak-MaxHold-PK+ — FCC CSE

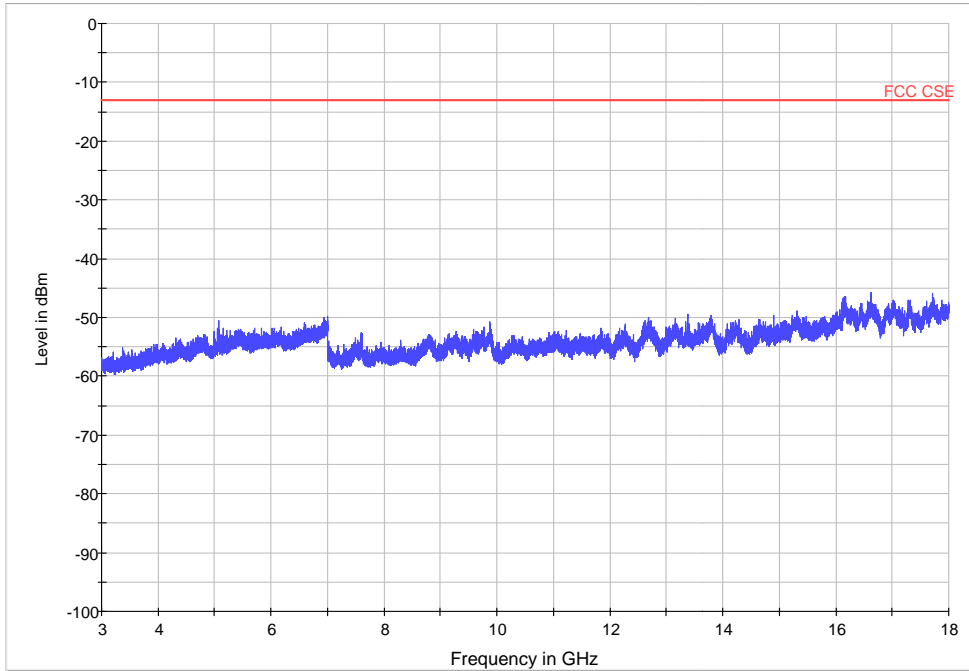
LTE Band 7 CH20825 18GHz~26.5GHz

LTE Band 7 QPSK Bandwidth = 15MHz CH21100, RB 1



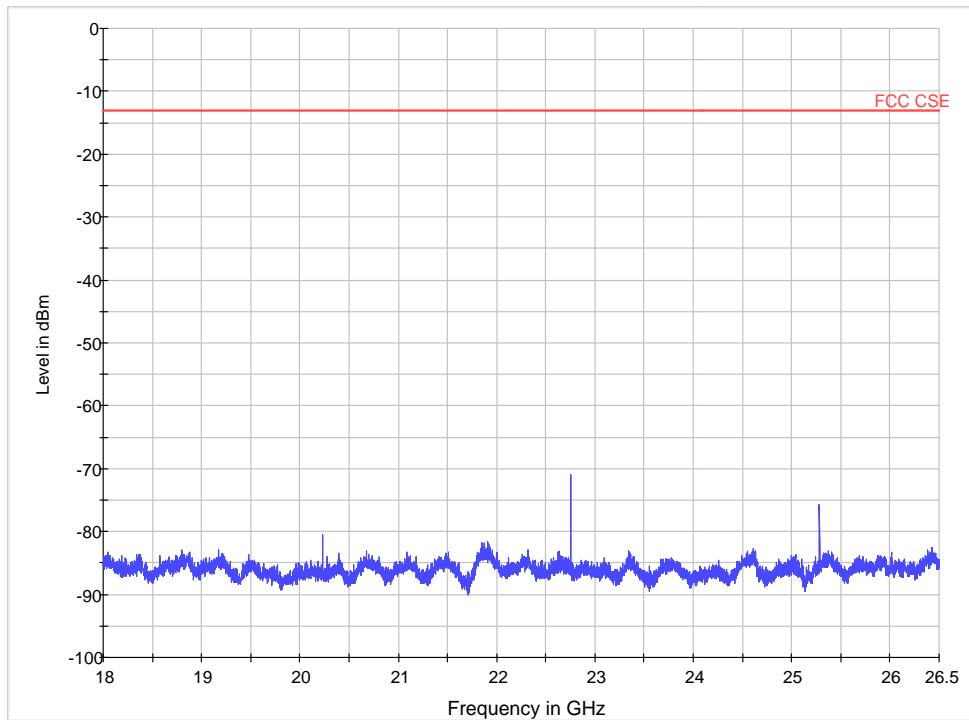
— MaxPeak-MaxHold-PK+ — FCC CSE

Note: The signal beyond the limit is carrier  
LTE Band 7 CH21100 30MHz~3GHz



— MaxPeak-MaxHold-PK+ — FCC CSE

LTE Band 7 CH21100 3GHz~18GHz

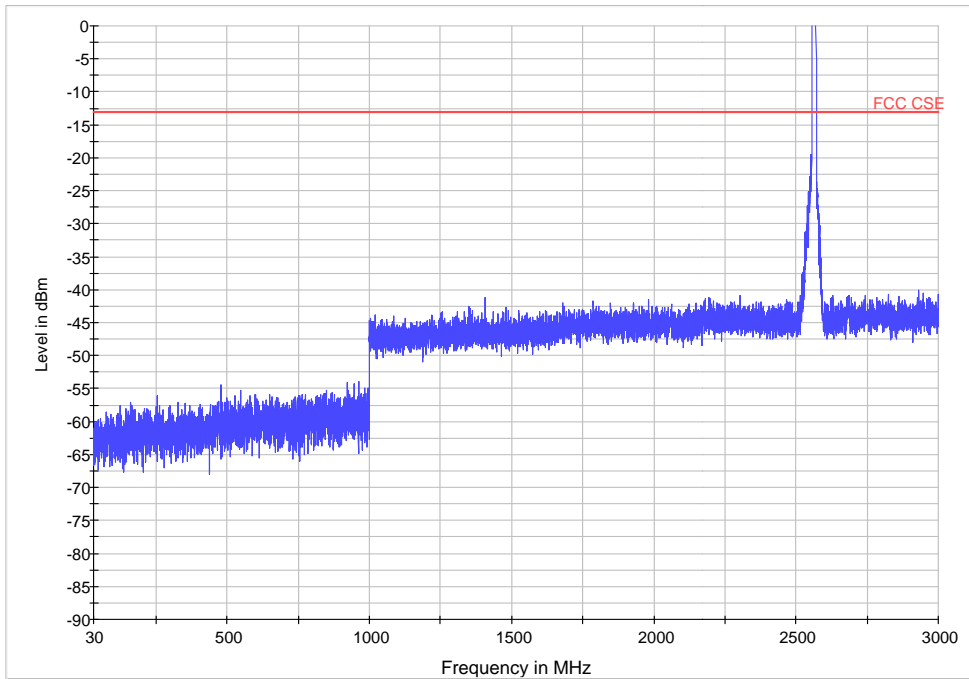


— MaxPeak-MaxHold-PK+ — FCC CSE

LTE Band 7 CH21100 18GHz~26.5GHz

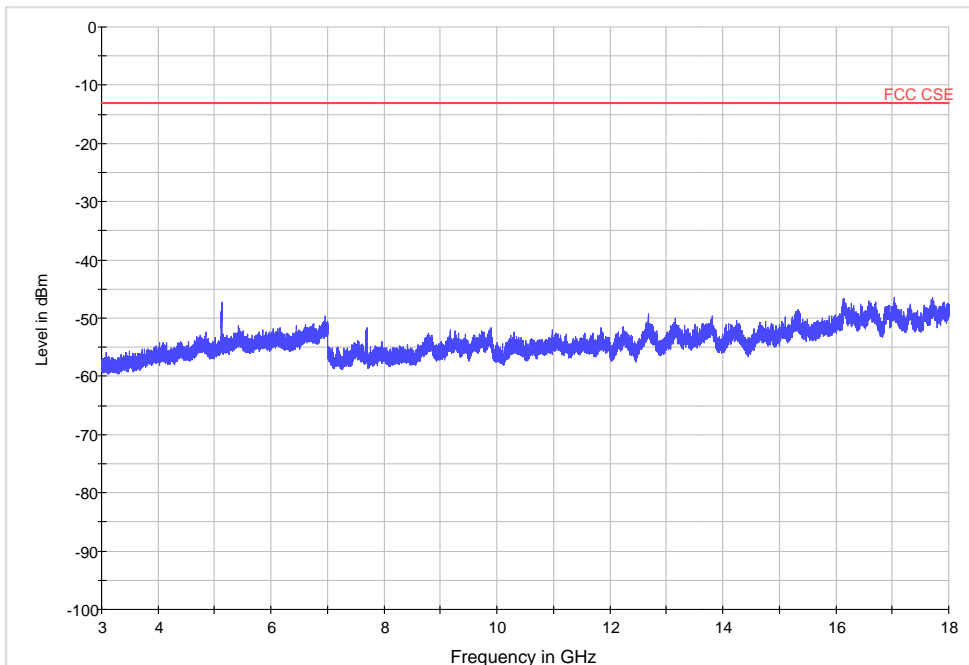


LTE Band 7 QPSK Bandwidth = 15MHz CH21375, RB 1



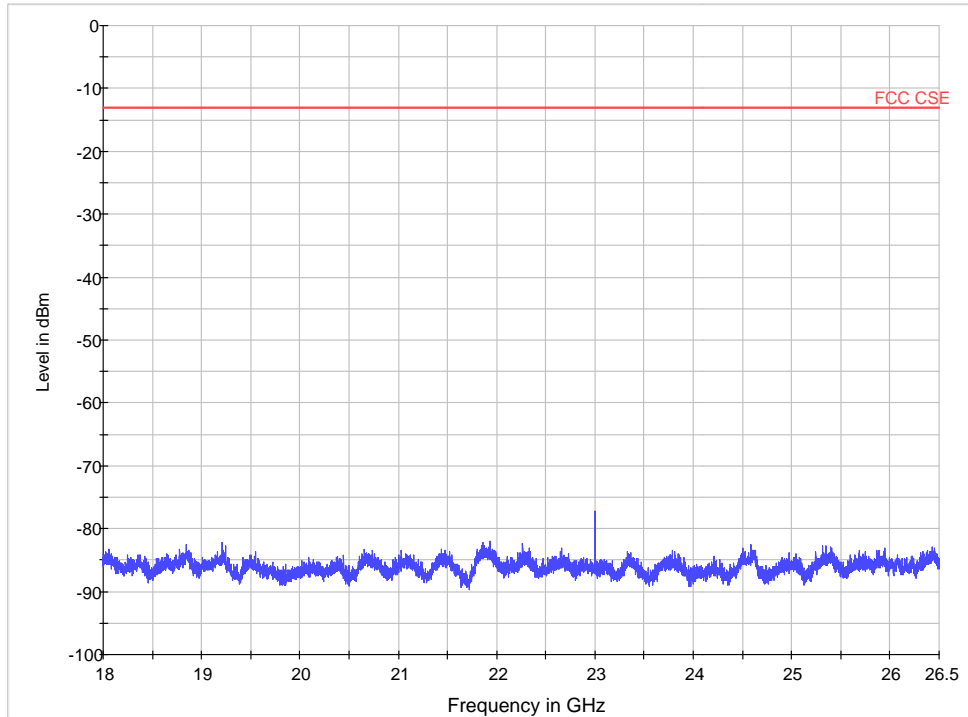
MaxPeak-MaxHold-PK+    FCC CSE

Note: The signal beyond the limit is carrier  
LTE Band 7 CH21375 30MHz~3GHz



MaxPeak-MaxHold-PK+    FCC CSE

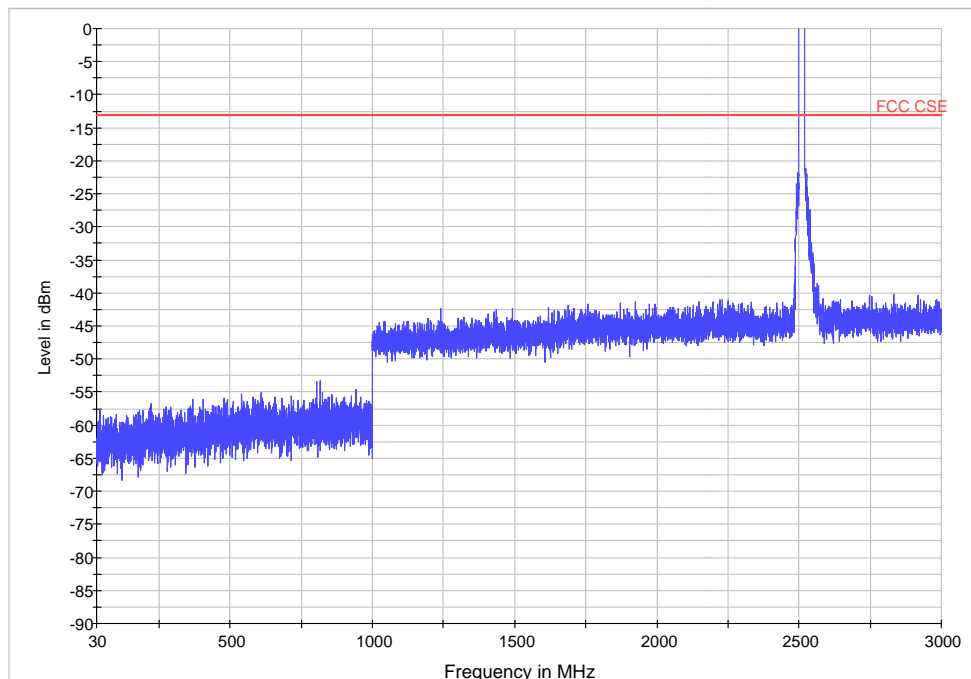
LTE Band 7 CH21375 3GHz~18GHz



— MaxPeak-MaxHold-PK+ — FCC CSE

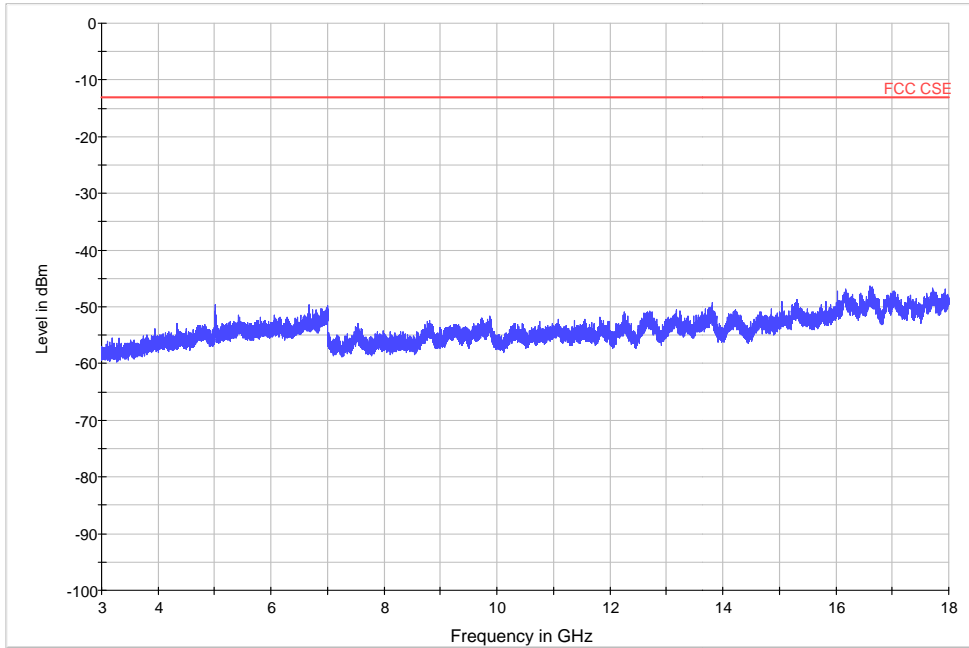
LTE Band 7 CH21375 18GHz~26.5GHz

LTE Band 7 QPSK Bandwidth = 20MHz CH20850, RB 1



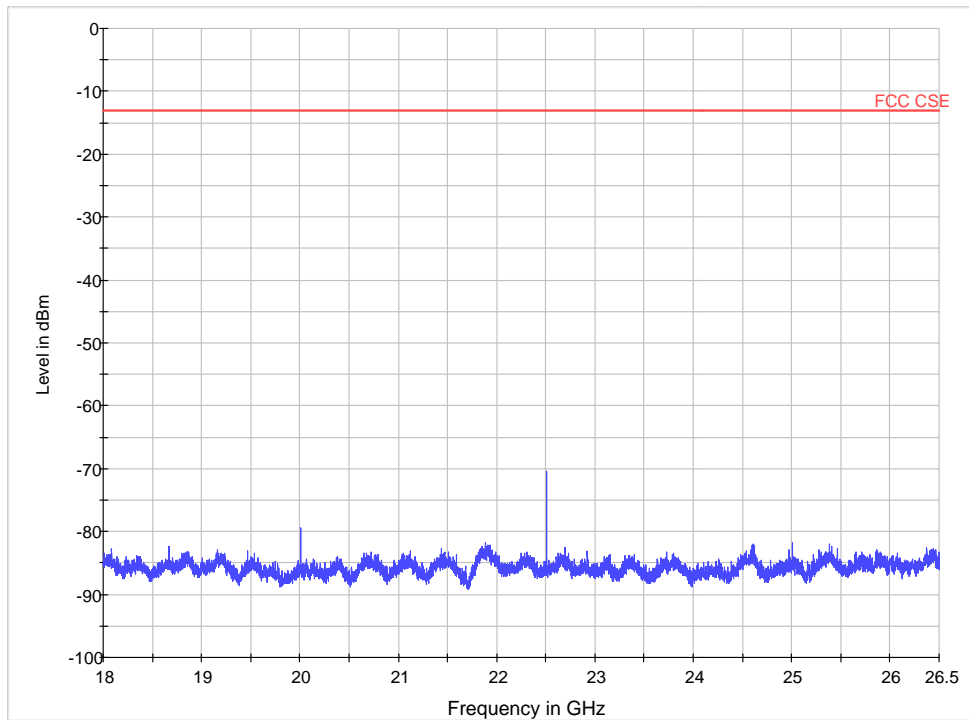
— MaxPeak-MaxHold-PK+ — FCC CSE

Note: The signal beyond the limit is carrier  
LTE Band 7 CH20850 30MHz~3GHz



— MaxPeak-MaxHold-PK+ — FCC CSE

LTE Band 7 CH20850 3GHz~18GHz

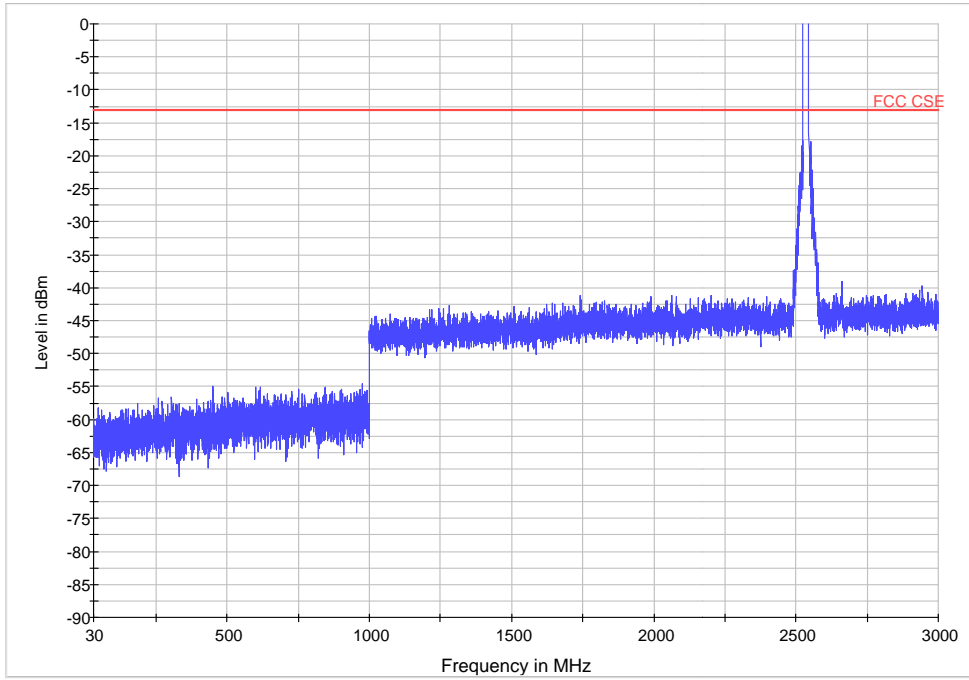


— MaxPeak-MaxHold-PK+ — FCC CSE

LTE Band 7 CH20850 18GHz~26.5GHz

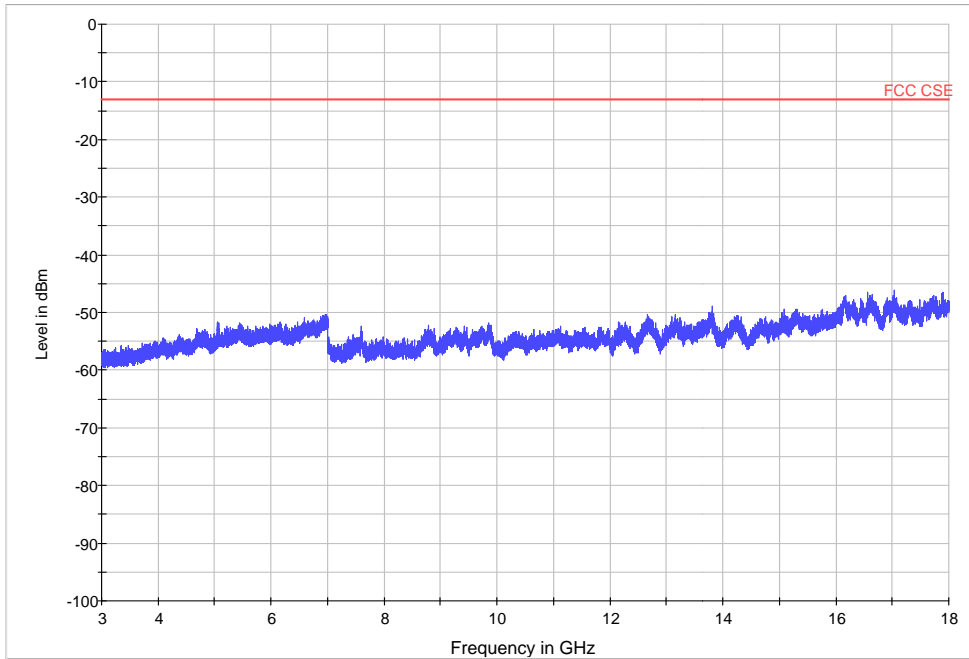


LTE Band 7 QPSK Bandwidth = 20MHz CH21100, RB 1



MaxPeak-MaxHold-PK+    FCC CSE

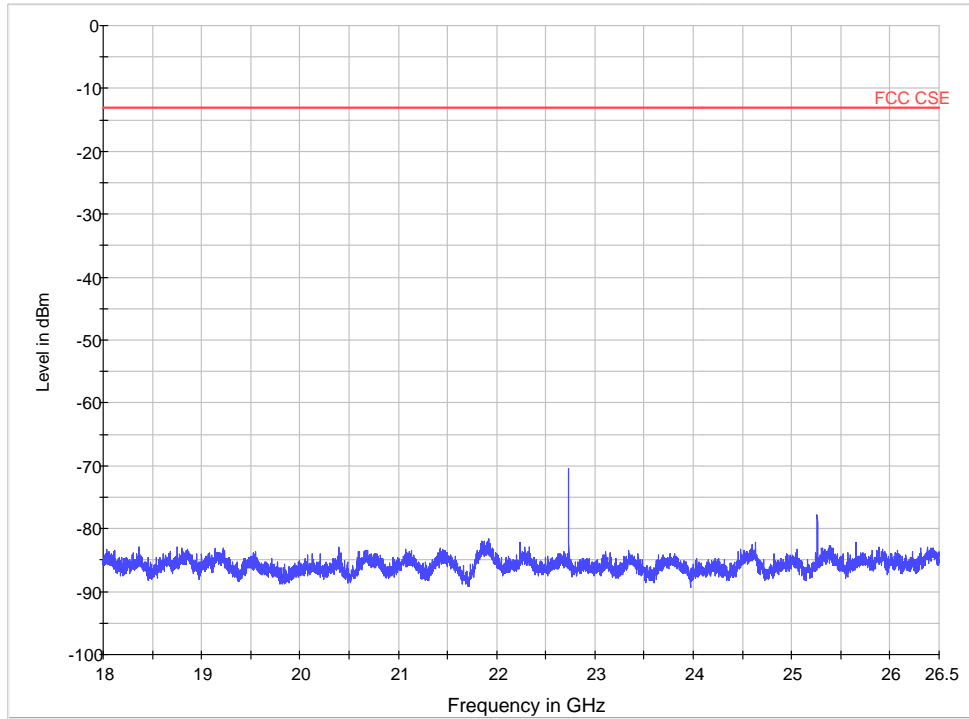
Note: The signal beyond the limit is carrier  
LTE Band 7 CH21100 30MHz~3GHz



MaxPeak-MaxHold-PK+    FCC CSE

LTE Band 7 CH21100 3GHz~18GHz

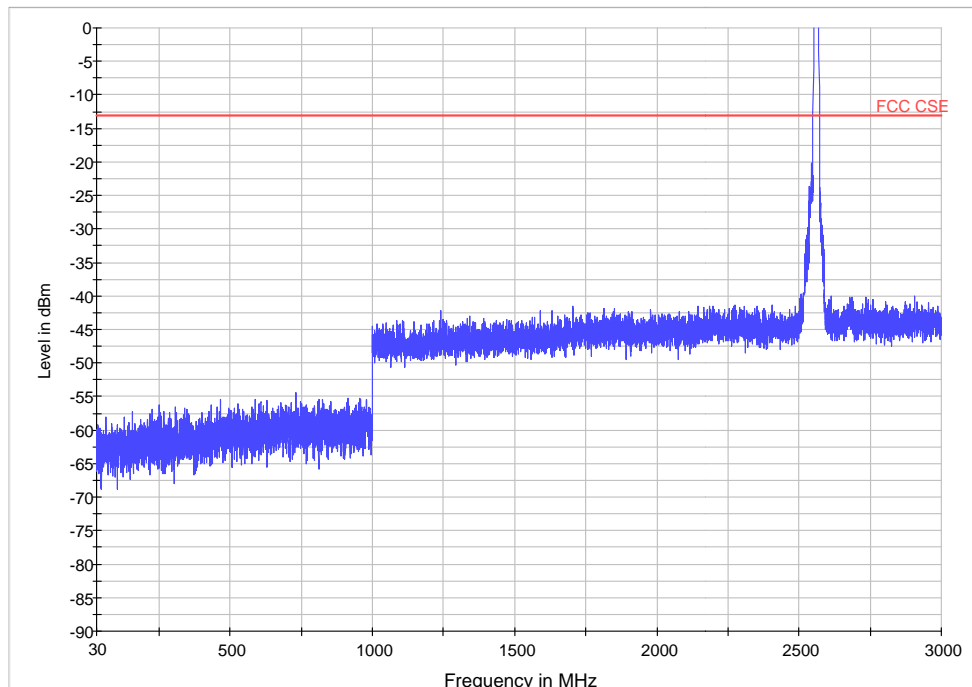




— MaxPeak-MaxHold-PK+ — FCC CSE

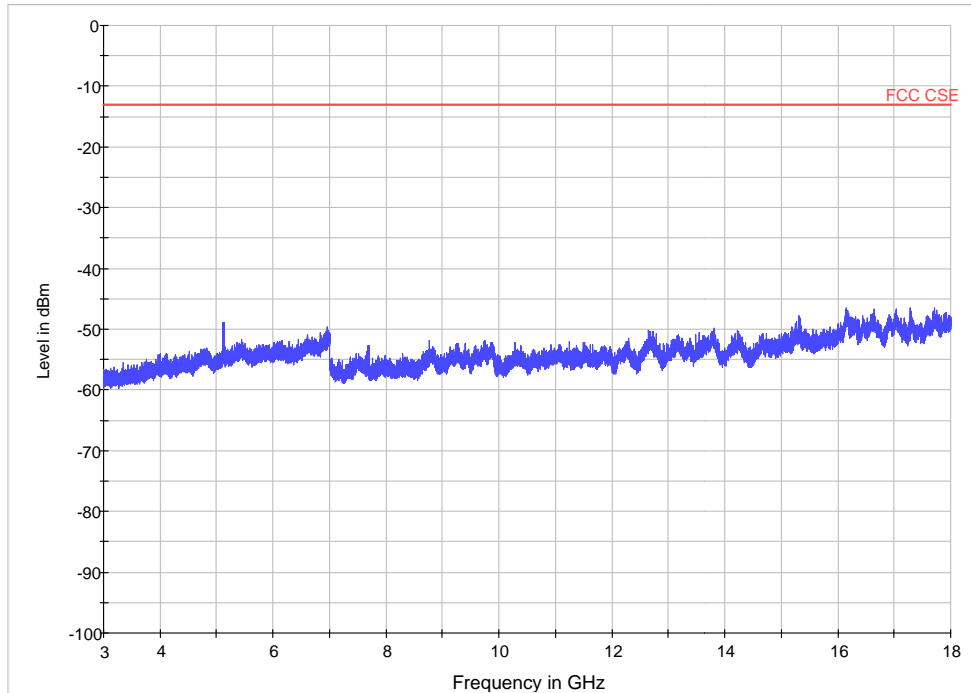
LTE Band 7 CH21100 18GHz~26.5GHz

LTE Band 7 QPSK Bandwidth = 20MHz CH21350, RB 1



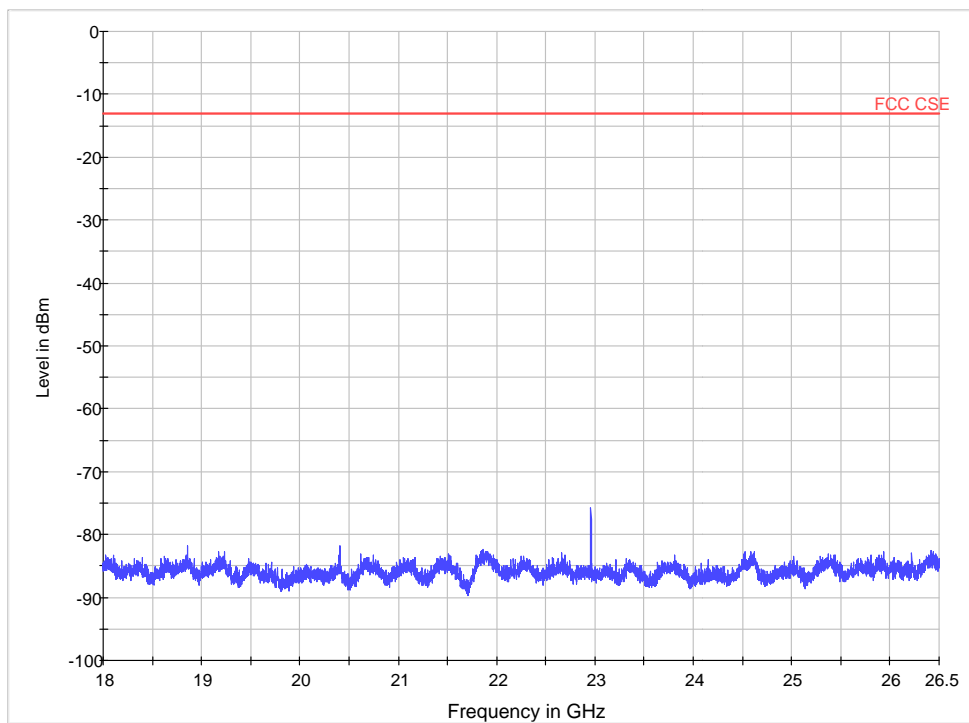
— MaxPeak-MaxHold-PK+ — FCC CSE

Note: The signal beyond the limit is carrier  
LTE Band 7 CH21350 30MHz~3GHz



— MaxPeak-MaxHold-PK+ — FCC CSE

LTE Band 7 CH21350 3GHz~18GHz



— MaxPeak-MaxHold-PK+ — FCC CSE

LTE Band 7 CH21350 18GHz~26.5GHz

## 4.8 Radiates Spurious Emission

### Ambient condition

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

### Method of Measurement

The measurements procedures in ANSI/TIA-603-D are used.

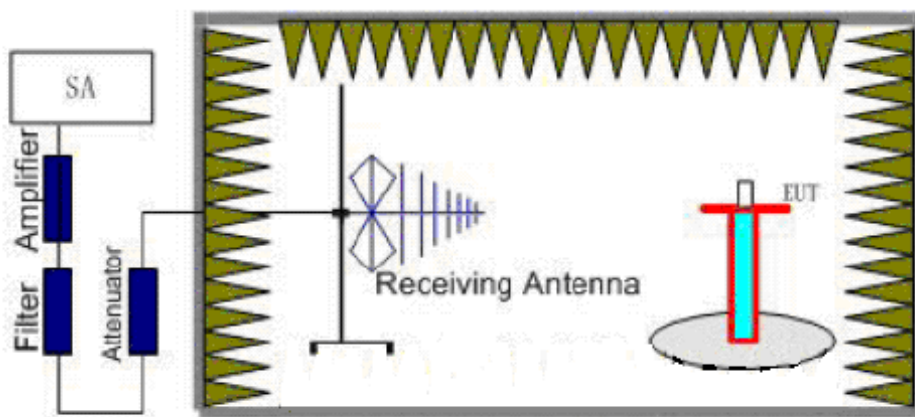
The spectrum was scanned from 30 MHz to the 10th harmonic of the highest frequency generated within the equipment.

The emissions less than 20 dB below the permissible value are reported.

The procedure of Radiates Spurious Emission is as follows:

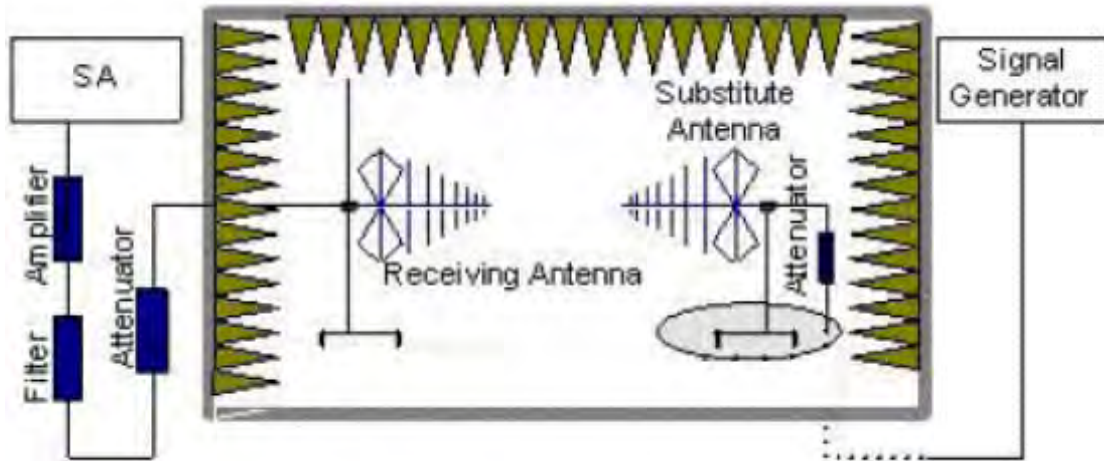
Step 1:

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.



$E.R.P \text{ (peak power)} = S.G. - Tx \text{ Cable loss} + \text{Substitution antenna gain} - 2.15.$

$EIRP = E.R.P + 2.15$

The field strength of spurious emission was measured in the following position: EUT stand-up position (Z axis), lie-down position (X, Y axis). Receiver antenna polarization(horizontal and vertical ), The worst emission was found in position (Z axis, vertical polarization) and the worst case was recorded.

### Limits

Rule Part 27.53(h) specifies that “the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least  $43 + 10 \log_{10}(P)$  dB.”

Limit	-13 dBm
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### Measurement Uncertainty

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

**Test Result**
**WCDMA Band IV CH1312**

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3424.8	-56.41	2.6	10.15	Vertical	-51.01	-13	38.01	135
3	5137.2	-60.04	2.4	11.35	Vertical	-53.24	-13	40.24	0
4	6849.6	-57.17	4.5	10.85	Vertical	-52.97	-13	39.97	45
5	8562.0	-57.53	5.1	11.35	Vertical	-53.43	-13	40.43	180
6	10274.4	-54.04	5.3	11.95	Vertical	-49.54	-13	36.54	90
7	11986.8	-51.88	5.5	13.55	Vertical	-45.98	-13	32.98	180
8	13699.2	-49.60	6.3	13.75	Vertical	-44.30	-13	31.30	270
9	15411.6	-48.98	6.7	13.85	Vertical	-43.98	-13	30.98	135
10	17124.0	-46.42	6.8	14.25	Vertical	-41.12	-13	28.12	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 vertical position.

**WCDMA Band IV CH1413**

Harmonic	TX ch.1413 Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3465.2	-58.10	2.6	10.75	Vertical	-52.10	-13	39.10	0
3	5197.8	-57.85	2.4	11.05	Vertical	-51.35	-13	38.35	270
4	6930.4	-58.24	4.5	11.15	Vertical	-53.74	-13	40.74	315
5	8663.0	-58.03	5.1	11.35	Vertical	-53.93	-13	40.93	225
6	10395.6	-50.60	5.3	11.95	Vertical	-46.10	-13	33.10	135
7	12128.2	-51.58	5.5	13.55	Vertical	-45.68	-13	32.68	270
8	13860.8	-47.40	6.3	13.75	Vertical	-42.10	-13	29.10	0
9	15593.4	-49.54	6.7	13.85	Vertical	-44.54	-13	31.54	135
10	17326.0	-48.97	6.8	14.25	Vertical	-43.67	-13	30.67	0

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.

**WCDMA Band IV CH1513**

Harmonic	TX ch.1513 Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3505.2	-58.75	2.6	10.15	Vertical	-53.35	-13	40.35	45
3	5257.8	-59.12	2.4	11.05	Vertical	-52.62	-13	39.62	180
4	7010.4	-54.56	4.5	11.15	Vertical	-50.06	-13	37.06	90
5	8763.0	-56.69	5.1	11.35	Vertical	-52.59	-13	39.59	225
6	10515.6	-53.17	5.3	11.95	Vertical	-48.67	-13	35.67	270
7	12268.2	-50.15	5.5	13.55	Vertical	-44.25	-13	31.25	180
8	14020.8	-50.40	6.3	13.75	Vertical	-45.10	-13	32.10	135
9	15773.4	-46.10	6.7	13.85	Vertical	-41.10	-13	28.10	270
10	17526.0	-47.65	6.8	14.25	Vertical	-42.35	-13	29.35	0

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 4 QPSK Bandwidth = 1.4MHz CH19957, RB 1**

Harmonic	CH19957 Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3421.4	-64.16	2.6	10.15	Vertical	-58.76	-13	45.76	270
3	5132.1	-68.59	2.4	11.35	Vertical	-61.79	-13	48.79	0
4	6842.8	-65.78	4.5	10.85	Vertical	-61.58	-13	48.58	90
5	8553.5	-66.62	5.1	11.35	Vertical	-62.52	-13	49.52	315
6	10264.2	-67.12	5.3	11.95	Vertical	-62.62	-13	49.62	180
7	11974.9	-67.13	5.5	13.55	Vertical	-61.23	-13	48.23	45
8	13685.6	-63.55	6.3	13.75	Vertical	-58.25	-13	45.25	90
9	15396.3	-60.42	6.7	13.85	Vertical	-55.42	-13	42.42	225
10	17107.0	-60.78	6.8	14.25	Vertical	-55.48	-13	42.48	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 vertical position.

LTE Band 4 QPSK Bandwidth = 1.4MHz CH20175, RB 1

Harmonic	CH20175 Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3465.0	-68.00	2.6	10.75	Vertical	-62.00	-13	49.00	180
3	5197.5	-60.70	2.4	11.05	Vertical	-54.20	-13	41.20	135
4	6930.0	-65.33	4.5	11.15	Vertical	-60.83	-13	47.83	270
5	8662.5	-65.02	5.1	11.35	Vertical	-60.92	-13	47.92	0
6	10395.0	-66.47	5.3	11.95	Vertical	-61.97	-13	48.97	90
7	12127.5	-67.58	5.5	13.55	Vertical	-61.68	-13	48.68	315
8	13860.0	-63.46	6.3	13.75	Vertical	-58.16	-13	45.16	180
9	15592.5	-61.47	6.7	13.85	Vertical	-56.47	-13	43.47	45
10	17325.0	-59.08	6.8	14.25	Vertical	-53.78	-13	40.78	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 vertical position.

LTE Band 4 QPSK Bandwidth = 1.4MHz CH20393, RB 1

Harmonic	CH20393 Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3508.6	-64.12	2.6	10.15	Vertical	-58.72	-13	45.72	135
3	5262.9	-63.17	2.4	11.05	Vertical	-56.67	-13	43.67	0
4	7017.2	-66.95	4.5	11.15	Vertical	-62.45	-13	49.45	45
5	8771.5	-64.36	5.1	11.35	Vertical	-60.26	-13	47.26	90
6	10525.8	-67.15	5.3	11.95	Vertical	-62.65	-13	49.65	225
7	12280.1	-67.29	5.5	13.55	Vertical	-61.39	-13	48.39	270
8	14034.4	-63.98	6.3	13.75	Vertical	-58.68	-13	45.68	180
9	15788.7	-60.44	6.7	13.85	Vertical	-55.44	-13	42.44	135
10	17543.0	-58.89	6.8	14.25	Vertical	-53.59	-13	40.59	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 vertical position.

LTE Band 4 QPSK Bandwidth = 3MHz CH19965, RB 1

Harmonic	CH19965 Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3423.0	-63.86	2.6	10.15	Vertical	-58.46	-13	45.46	0
3	5134.5	-67.30	2.4	11.35	Vertical	-60.50	-13	47.50	90
4	6846.0	-66.18	4.5	10.85	Vertical	-61.98	-13	48.98	315
5	8557.5	-66.76	5.1	11.35	Vertical	-62.66	-13	49.66	180
6	10269.0	-67.22	5.3	11.95	Vertical	-62.72	-13	49.72	45
7	11980.5	-67.24	5.5	13.55	Vertical	-61.34	-13	48.34	90
8	13692.0	-63.83	6.3	13.75	Vertical	-58.53	-13	45.53	225
9	15403.5	-61.62	6.7	13.85	Vertical	-56.62	-13	43.62	270
10	17115.0	-60.14	6.8	14.25	Vertical	-54.84	-13	41.84	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 vertical position.

LTE Band 4 QPSK Bandwidth = 3MHz CH20175, RB 1

Harmonic	CH20175 Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3465.0	-68.29	2.6	10.75	Vertical	-62.29	-13	49.29	135
3	5197.5	-60.95	2.4	11.05	Vertical	-54.45	-13	41.45	270
4	6930.0	-65.69	4.5	11.15	Vertical	-61.19	-13	48.19	0
5	8662.5	-63.79	5.1	11.35	Vertical	-59.69	-13	46.69	90
6	10395.0	-66.31	5.3	11.95	Vertical	-61.81	-13	48.81	315
7	12127.5	-67.38	5.5	13.55	Vertical	-61.48	-13	48.48	225
8	13860.0	-62.88	6.3	13.75	Vertical	-57.58	-13	44.58	180
9	15592.5	-61.12	6.7	13.85	Vertical	-56.12	-13	43.12	45
10	17325.0	-58.97	6.8	14.25	Vertical	-53.67	-13	40.67	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 vertical position.



LTE Band 4 QPSK Bandwidth = 3MHz CH20385, RB 1

Harmonic	CH20385 Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3507.0	-63.61	2.6	10.15	Vertical	-58.21	-13	45.21	135
3	5260.5	-63.52	2.4	11.05	Vertical	-57.02	-13	44.02	0
4	7014.0	-67.21	4.5	11.15	Vertical	-62.71	-13	49.71	45
5	8767.5	-64.98	5.1	11.35	Vertical	-60.88	-13	47.88	90
6	10521.0	-66.91	5.3	11.95	Vertical	-62.41	-13	49.41	225
7	12274.5	-66.51	5.5	13.55	Vertical	-60.61	-13	47.61	270
8	14028.0	-63.59	6.3	13.75	Vertical	-58.29	-13	45.29	180
9	15781.5	-60.90	6.7	13.85	Vertical	-55.90	-13	42.90	135
10	17535.0	-59.05	6.8	14.25	Vertical	-53.75	-13	40.75	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 vertical position.

LTE Band 4 QPSK Bandwidth = 5MHz CH19975, RB 1

Harmonic	CH19975 Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3425.0	-64.45	2.6	10.15	Vertical	-59.05	-13	46.05	0
3	5137.5	-68.45	2.4	11.35	Vertical	-61.65	-13	48.65	90
4	6850.0	-66.15	4.5	10.85	Vertical	-61.95	-13	48.95	45
5	8562.5	-67.44	5.1	11.35	Vertical	-63.34	-13	50.34	90
6	10275.0	-67.37	5.3	11.95	Vertical	-62.87	-13	49.87	225
7	11987.5	-67.83	5.5	13.55	Vertical	-61.93	-13	48.93	270
8	13700.0	-63.74	6.3	13.75	Vertical	-58.44	-13	45.44	180
9	15412.5	-61.71	6.7	13.85	Vertical	-56.71	-13	43.71	135
10	17125.0	-63.15	6.8	14.25	Vertical	-57.85	-13	44.85	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 vertical position.

LTE Band 4 QPSK Bandwidth = 5MHz CH20175, RB 1

Harmonic	CH20175 Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3465.0	-68.64	2.6	10.75	Vertical	-62.64	-13	49.64	0
3	5197.5	-62.13	2.4	11.05	Vertical	-55.63	-13	42.63	90
4	6930.0	-65.99	4.5	11.15	Vertical	-61.49	-13	48.49	315
5	8662.5	-64.59	5.1	11.35	Vertical	-60.49	-13	47.49	225
6	10395.0	-66.87	5.3	11.95	Vertical	-62.37	-13	49.37	180
7	12127.5	-67.71	5.5	13.55	Vertical	-61.81	-13	48.81	45
8	13860.0	-63.30	6.3	13.75	Vertical	-58.00	-13	45.00	90
9	15592.5	-61.43	6.7	13.85	Vertical	-56.43	-13	43.43	135
10	17325.0	-58.38	6.8	14.25	Vertical	-53.08	-13	40.08	0

- 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 4 QPSK Bandwidth = 5MHz CH20375, RB 1

Harmonic	CH20375 Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3505.0	-63.60	2.6	10.15	Vertical	-58.20	-13	45.20	45
3	5257.5	-64.43	2.4	11.05	Vertical	-57.93	-13	44.93	90
4	7010.0	-67.18	4.5	11.15	Vertical	-62.68	-13	49.68	45
5	8762.5	-65.58	5.1	11.35	Vertical	-61.48	-13	48.48	45
6	10515.0	-66.91	5.3	11.95	Vertical	-62.41	-13	49.41	90
7	12267.5	-66.89	5.5	13.55	Vertical	-60.99	-13	47.99	225
8	14020.0	-63.54	6.3	13.75	Vertical	-58.24	-13	45.24	90
9	15772.5	-61.29	6.7	13.85	Vertical	-56.29	-13	43.29	270
10	17525.0	-58.53	6.8	14.25	Vertical	-53.23	-13	40.23	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 vertical position.

LTE Band 4 QPSK Bandwidth = 10MHz CH20000, RB 1

Harmonic	CH20000 Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3430.0	-64.39	2.6	10.15	Vertical	-58.99	-13	45.99	270
3	5145.0	-68.06	2.4	11.35	Vertical	-61.26	-13	48.26	45
4	6860.0	-65.76	4.5	10.85	Vertical	-61.56	-13	48.56	270
5	8575.0	-67.24	5.1	11.35	Vertical	-63.14	-13	50.14	0
6	10290.0	-67.25	5.3	11.95	Vertical	-62.75	-13	49.75	270
7	12005.0	-68.37	5.5	13.55	Vertical	-62.47	-13	49.47	180
8	13720.0	-63.50	6.3	13.75	Vertical	-58.20	-13	45.20	135
9	15435.0	-62.15	6.7	13.85	Vertical	-57.15	-13	44.15	45
10	17150.0	-59.85	6.8	14.25	Vertical	-54.55	-13	41.55	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 vertical position.

LTE Band 4 QPSK Bandwidth = 10MHz CH20175, RB 1

Harmonic	CH20175 Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3465.0	-66.93	2.6	10.75	Vertical	-60.93	-13	47.93	270
3	5197.5	-61.07	2.4	11.05	Vertical	-54.57	-13	41.57	225
4	6930.0	-64.96	4.5	11.15	Vertical	-60.46	-13	47.46	180
5	8662.5	-63.31	5.1	11.35	Vertical	-59.21	-13	46.21	45
6	10395.0	-66.37	5.3	11.95	Vertical	-61.87	-13	48.87	90
7	12127.5	-67.20	5.5	13.55	Vertical	-61.30	-13	48.30	135
8	13860.0	-63.45	6.3	13.75	Vertical	-58.15	-13	45.15	0
9	15592.5	-61.53	6.7	13.85	Vertical	-56.53	-13	43.53	45
10	17325.0	-59.03	6.8	14.25	Vertical	-53.73	-13	40.73	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 vertical position.

LTE Band 4 QPSK Bandwidth = 10MHz CH20350, RB 1

Harmonic	CH20350 Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3500.0	-63.37	2.6	10.15	Vertical	-57.97	-13	44.97	45
3	5250.0	-62.76	2.4	11.05	Vertical	-56.26	-13	43.26	45
4	7000.0	-66.12	4.5	11.15	Vertical	-61.62	-13	48.62	90
5	8750.0	-64.47	5.1	11.35	Vertical	-60.37	-13	47.37	225
6	10500.0	-67.05	5.3	11.95	Vertical	-62.55	-13	49.55	90
7	12250.0	-66.72	5.5	13.55	Vertical	-60.82	-13	47.82	270
8	14000.0	-63.58	6.3	13.75	Vertical	-58.28	-13	45.28	315
9	15750.0	-61.04	6.7	13.85	Vertical	-56.04	-13	43.04	270
10	17500.0	-59.23	6.8	14.25	Vertical	-53.93	-13	40.93	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 vertical position.

LTE Band 4 QPSK Bandwidth = 15MHz CH20025, RB 1

Harmonic	CH20025 Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3435.0	-63.92	2.6	10.15	Vertical	-58.52	-13	45.52	270
3	5152.5	-68.37	2.4	11.35	Vertical	-61.57	-13	48.57	0
4	6870.0	-66.07	4.5	10.85	Vertical	-61.87	-13	48.87	270
5	8587.5	-66.86	5.1	11.35	Vertical	-62.76	-13	49.76	270
6	10305.0	-68.03	5.3	11.95	Vertical	-63.53	-13	50.53	0
7	12022.5	-68.34	5.5	13.55	Vertical	-62.44	-13	49.44	270
8	13740.0	-63.42	6.3	13.75	Vertical	-58.12	-13	45.12	180
9	15457.5	-61.74	6.7	13.85	Vertical	-56.74	-13	43.74	135
10	17175.0	-59.56	6.8	14.25	Vertical	-54.26	-13	41.26	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 vertical position.

LTE Band 4 QPSK Bandwidth = 15MHz CH20175, RB 1

Harmonic	CH20175 Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3465.0	-66.18	2.6	10.75	Vertical	-60.18	-13	47.18	315
3	5197.5	-62.74	2.4	11.05	Vertical	-56.24	-13	43.24	270
4	6930.0	-64.83	4.5	11.15	Vertical	-60.33	-13	47.33	225
5	8662.5	-63.89	5.1	11.35	Vertical	-59.79	-13	46.79	180
6	10395.0	-65.98	5.3	11.95	Vertical	-61.48	-13	48.48	45
7	12127.5	-67.76	5.5	13.55	Vertical	-61.86	-13	48.86	90
8	13860.0	-63.38	6.3	13.75	Vertical	-58.08	-13	45.08	135
9	15592.5	-61.55	6.7	13.85	Vertical	-56.55	-13	43.55	0
10	17325.0	-58.52	6.8	14.25	Vertical	-53.22	-13	40.22	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 vertical position.

LTE Band 4 QPSK Bandwidth = 15MHz CH20325, RB 1

Harmonic	CH20325 Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3495.0	-63.98	2.6	10.15	Vertical	-58.58	-13	45.58	90
3	5242.5	-61.33	2.4	11.05	Vertical	-54.83	-13	41.83	45
4	6990.0	-65.38	4.5	11.15	Vertical	-60.88	-13	47.88	270
5	8737.5	-64.60	5.1	11.35	Vertical	-60.50	-13	47.50	90
6	10485.0	-67.52	5.3	11.95	Vertical	-63.02	-13	50.02	270
7	12232.5	-66.92	5.5	13.55	Vertical	-61.02	-13	48.02	0
8	13980.0	-63.59	6.3	13.75	Vertical	-58.29	-13	45.29	270
9	15727.5	-60.83	6.7	13.85	Vertical	-55.83	-13	42.83	45
10	17475.0	-59.75	6.8	14.25	Vertical	-54.45	-13	41.45	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 vertical position.

LTE Band 4 QPSK Bandwidth = 20MHz CH20050, RB 1

Harmonic	CH20050 Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3440.0	-69.67	2.6	10.15	Vertical	-64.27	-13	51.27	90
3	5160.0	-73.05	2.4	11.35	Vertical	-66.25	-13	53.25	225
4	6880.0	-68.06	4.5	10.85	Vertical	-63.86	-13	50.86	90
5	8600.0	-67.78	5.1	11.35	Vertical	-63.68	-13	50.68	270
6	10320.0	-67.46	5.3	11.95	Vertical	-62.96	-13	49.96	315
7	12040.0	-68.25	5.5	13.55	Vertical	-62.35	-13	49.35	270
8	13760.0	-63.30	6.3	13.75	Vertical	-58.00	-13	45.00	45
9	15480.0	-61.57	6.7	13.85	Vertical	-56.57	-13	43.57	270
10	17200.0	-59.54	6.8	14.25	Vertical	-54.24	-13	41.24	0

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 4 QPSK Bandwidth = 20MHz CH20175, RB 1

Harmonic	CH20175 Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3465.0	-72.65	2.6	10.75	Vertical	-66.65	-13	53.65	270
3	5197.5	-72.07	2.4	11.05	Vertical	-65.57	-13	52.57	180
4	6930.0	-67.69	4.5	11.15	Vertical	-63.19	-13	50.19	135
5	8662.5	-67.94	5.1	11.35	Vertical	-63.84	-13	50.84	45
6	10395.0	-66.76	5.3	11.95	Vertical	-62.26	-13	49.26	90
7	12127.5	-67.93	5.5	13.55	Vertical	-62.03	-13	49.03	225
8	13860.0	-63.26	6.3	13.75	Vertical	-57.96	-13	44.96	270
9	15592.5	-61.82	6.7	13.85	Vertical	-56.82	-13	43.82	180
10	17325.0	-58.60	6.8	14.25	Vertical	-53.30	-13	40.30	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 vertical position.

LTE Band 4 QPSK Bandwidth = 20MHz CH20300, RB 1

Harmonic	CH20300 Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3490.0	-72.19	2.6	10.15	Vertical	-66.79	-13	53.79	270
3	5235.0	-72.08	2.4	11.05	Vertical	-65.58	-13	52.58	0
4	6980.0	-67.41	4.5	11.15	Vertical	-62.91	-13	49.91	90
5	8725.0	-67.43	5.1	11.35	Vertical	-63.33	-13	50.33	180
6	10470.0	-67.41	5.3	11.95	Vertical	-62.91	-13	49.91	90
7	12215.0	-66.82	5.5	13.55	Vertical	-60.92	-13	47.92	225
8	13960.0	-63.63	6.3	13.75	Vertical	-58.33	-13	45.33	270
9	15705.0	-60.92	6.7	13.85	Vertical	-55.92	-13	42.92	135
10	17450.0	-59.81	6.8	14.25	Vertical	-54.51	-13	41.51	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 vertical position.

LTE Band 7 QPSK Bandwidth = 5MHz CH20775, RB 1

Harmonic	CH20775 Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5005.0	-29.13	-31.7	-63.01	Vertical	-62.59	-13	49.59	225
3	7507.5	-28.32	-29.2	-61.40	Vertical	-62.67	-13	49.67	135
4	10010.0	-24.95	-24.9	-59.40	Vertical	-61.60	-13	48.60	270
5	12512.5	-22.76	-24.2	-59.63	Vertical	-60.34	-13	47.34	0
6	15015.0	-18.39	-22.5	-58.38	Vertical	-56.42	-13	43.42	135
7	17517.5	-15.07	-20.5	-57.45	Vertical	-54.17	-13	41.17	0
8	20020.0	-62.13	-50.7	-65.74	Vertical	-79.32	-13	66.32	45
9	22522.5	-64.61	-52.2	-65.95	Vertical	-80.51	-13	67.51	90
10	25025.0	-62.03	-51.3	-65.56	Vertical	-78.44	-13	65.44	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 vertical position.

LTE Band 7 QPSK Bandwidth = 5MHz CH21100, RB 1

Harmonic	CH21100 Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5070.0	-28.56	-31.2	-63.07	Vertical	-62.58	-13	49.58	45
3	7605.0	-28.36	-29.0	-61.25	Vertical	-62.76	-13	49.76	45
4	10140.0	-23.91	-24.3	-59.45	Vertical	-61.21	-13	48.21	90
5	12675.0	-22.83	-24.5	-59.66	Vertical	-60.14	-13	47.14	225
6	15210.0	-18.24	-22.3	-58.36	Vertical	-56.45	-13	43.45	90
7	17745.0	-14.07	-21.7	-58.08	Vertical	-52.60	-13	39.60	270
8	20280.0	-61.51	-51.5	-66.16	Vertical	-78.32	-13	65.32	315
9	22815.0	-63.32	-51.2	-65.25	Vertical	-79.52	-13	66.52	270
10	25350.0	-60.94	-51.3	-65.85	Vertical	-77.64	-13	64.64	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 vertical position.

LTE Band 7 QPSK Bandwidth = 5MHz CH21425, RB 1

Harmonic	CH21425 Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5130.0	-32.34	-31.2	-63.25	Vertical	-66.54	-13	53.54	270
3	7695.0	-29.28	-28.5	-60.98	Vertical	-63.91	-13	50.91	0
4	10260.0	-28.09	-27.5	-59.57	Vertical	-62.31	-13	49.31	270
5	12825.0	-23.17	-24.7	-59.68	Vertical	-60.30	-13	47.30	270
6	15390.0	-19.18	-23.4	-58.06	Vertical	-55.99	-13	42.99	0
7	17955.0	-14.70	-19.2	-57.80	Vertical	-55.45	-13	42.45	270
8	20520.0	-60.85	-51.1	-65.58	Vertical	-77.48	-13	64.48	180
9	23085.0	-58.97	-51.5	-65.65	Vertical	-75.27	-13	62.27	135
10	25650.0	-64.68	-50.9	-65.66	Vertical	-81.59	-13	68.59	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 vertical position.



LTE Band 7 QPSK Bandwidth = 10MHz CH20800, RB 1

Harmonic	CH20800 Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5010.0	-33.68	-31.7	-63.01	Vertical	-67.14	-13	54.14	315
3	7515.0	-29.77	-29.2	-61.40	Vertical	-64.12	-13	51.12	270
4	10020.0	-25.73	-24.9	-59.40	Vertical	-62.38	-13	49.38	315
5	12525.0	-23.27	-24.2	-59.63	Vertical	-60.85	-13	47.85	270
6	15030.0	-18.89	-22.5	-58.38	Vertical	-56.92	-13	43.92	45
7	17535.0	-14.41	-20.5	-57.45	Vertical	-53.51	-13	40.51	270
8	20040.0	-63.47	-50.7	-65.74	Vertical	-80.66	-13	67.66	0
9	22545.0	-65.12	-52.2	-65.95	Vertical	-81.02	-13	68.02	270
10	25050.0	-65.60	-51.3	-65.56	Vertical	-82.01	-13	69.01	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 vertical position.

LTE Band 7 QPSK Bandwidth = 10MHz CH21100, RB 1

Harmonic	CH21100 Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5070.0	-32.91	-31.2	-63.07	Vertical	-66.93	-13	53.93	135
3	7605.0	-30.17	-29.0	-61.25	Vertical	-64.57	-13	51.57	45
4	10140.0	-24.38	-24.3	-59.45	Vertical	-61.68	-13	48.68	90
5	12675.0	-22.41	-24.5	-59.66	Vertical	-59.72	-13	46.72	225
6	15210.0	-18.38	-22.3	-58.36	Vertical	-56.59	-13	43.59	270
7	17745.0	-15.26	-21.7	-58.08	Vertical	-53.79	-13	40.79	180
8	20280.0	-61.06	-51.5	-66.16	Vertical	-77.87	-13	64.87	135
9	22815.0	-65.58	-51.2	-65.25	Vertical	-81.78	-13	68.78	270
10	25350.0	-62.68	-51.3	-65.85	Vertical	-79.38	-13	66.38	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 vertical position.

LTE Band 7 QPSK Bandwidth = 10MHz CH21400, RB 1

Harmonic	CH21400 Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5130.0	-32.43	-31.2	-63.25	Vertical	-66.63	-13	53.63	270
3	7695.0	-29.79	-28.5	-60.98	Vertical	-64.42	-13	51.42	0
4	10260.0	-28.77	-27.5	-59.57	Vertical	-62.99	-13	49.99	135
5	12825.0	-23.49	-24.7	-59.68	Vertical	-60.62	-13	47.62	0
6	15390.0	-19.84	-23.4	-58.06	Vertical	-56.65	-13	43.65	45
7	17955.0	-13.12	-19.2	-57.80	Vertical	-53.87	-13	40.87	90
8	20520.0	-58.64	-51.1	-65.58	Vertical	-75.27	-13	62.27	180
9	23085.0	-60.58	-51.5	-65.65	Vertical	-76.88	-13	63.88	45
10	25650.0	-63.89	-50.9	-65.66	Vertical	-80.80	-13	67.80	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 vertical position.

LTE Band 7 QPSK Bandwidth = 15MHz CH20825, RB 1

Harmonic	CH20825 Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5015.0	-33.63	-31.7	-63.01	Vertical	-67.09	-13	54.09	90
3	7522.5	-30.14	-29.2	-61.40	Vertical	-64.49	-13	51.49	225
4	10030.0	-25.62	-24.9	-59.40	Vertical	-62.27	-13	49.27	90
5	12537.5	-23.13	-24.2	-59.63	Vertical	-60.71	-13	47.71	270
6	15045.0	-18.70	-22.5	-58.38	Vertical	-56.73	-13	43.73	315
7	17552.5	-14.46	-20.5	-57.45	Vertical	-53.56	-13	40.56	270
8	20060.0	-62.26	-50.7	-65.74	Vertical	-79.45	-13	66.45	45
9	22567.5	-66.04	-52.2	-65.95	Vertical	-81.94	-13	68.94	270
10	25075.0	-64.60	-51.3	-65.56	Vertical	-81.01	-13	68.01	0

- 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 7 QPSK Bandwidth = 15MHz CH21100, RB 1

Harmonic	CH21100 Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5070.0	-32.50	-31.2	-63.07	Vertical	-66.52	-13	53.52	270
3	7605.0	-30.16	-29.0	-61.25	Vertical	-64.56	-13	51.56	270
4	10140.0	-24.50	-24.3	-59.45	Vertical	-61.80	-13	48.80	0
5	12675.0	-23.68	-24.5	-59.66	Vertical	-60.99	-13	47.99	270
6	15210.0	-18.56	-22.3	-58.36	Vertical	-56.77	-13	43.77	180
7	17745.0	-15.57	-21.7	-58.08	Vertical	-54.10	-13	41.10	135
8	20280.0	-62.42	-51.5	-66.16	Vertical	-79.23	-13	66.23	45
9	22815.0	-59.06	-51.2	-65.25	Vertical	-75.26	-13	62.26	315
10	25350.0	-60.26	-51.3	-65.85	Vertical	-76.96	-13	63.96	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 vertical position.

LTE Band 7 QPSK Bandwidth = 15MHz CH21375, RB 1

Harmonic	CH21375 Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5125.0	-32.30	-31.2	-63.25	Vertical	-66.50	-13	53.50	315
3	7687.5	-29.98	-28.5	-60.98	Vertical	-64.61	-13	51.61	270
4	10250.0	-28.83	-27.5	-59.57	Vertical	-63.05	-13	50.05	45
5	12812.5	-22.97	-24.7	-59.68	Vertical	-60.10	-13	47.10	270
6	15375.0	-19.93	-23.4	-58.06	Vertical	-56.74	-13	43.74	0
7	17937.5	-13.54	-19.2	-57.80	Vertical	-54.29	-13	41.29	270
8	20500.0	-65.21	-51.1	-65.58	Vertical	-81.84	-13	68.84	180
9	23062.5	-61.99	-51.5	-65.65	Vertical	-78.29	-13	65.29	135
10	25625.0	-59.94	-50.9	-65.66	Vertical	-76.85	-13	63.85	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 vertical position.

LTE Band 7 QPSK Bandwidth = 20MHz CH20850, RB 1

Harmonic	CH20850 Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5020.0	-33.19	-31.7	-63.01	Vertical	-66.65	-13	53.65	180
3	7530.0	-30.14	-29.2	-61.40	Vertical	-64.49	-13	51.49	135
4	10040.0	-25.57	-24.9	-59.40	Vertical	-62.22	-13	49.22	270
5	12550.0	-23.13	-24.2	-59.63	Vertical	-60.71	-13	47.71	0
6	15060.0	-18.59	-22.5	-58.38	Vertical	-56.62	-13	43.62	90
7	17570.0	-14.35	-20.5	-57.45	Vertical	-53.45	-13	40.45	315
8	20080.0	-65.09	-50.7	-65.74	Vertical	-82.28	-13	69.28	180
9	22590.0	-61.70	-52.2	-65.95	Vertical	-77.60	-13	64.60	45
10	25100.0	-63.41	-51.3	-65.56	Vertical	-79.82	-13	66.82	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 vertical position.

LTE Band 7 QPSK Bandwidth = 20MHz CH21100, RB 1

Harmonic	CH21100 Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5070.0	-32.64	-31.2	-63.07	Vertical	-66.66	-13	53.66	225
3	7605.0	-29.98	-29.0	-61.25	Vertical	-64.38	-13	51.38	270
4	10140.0	-24.99	-24.3	-59.45	Vertical	-62.29	-13	49.29	180
5	12675.0	-23.35	-24.5	-59.66	Vertical	-60.66	-13	47.66	135
6	15210.0	-18.19	-22.3	-58.36	Vertical	-56.40	-13	43.40	270
7	17745.0	-15.50	-21.7	-58.08	Vertical	-54.03	-13	41.03	0
8	20280.0	-63.78	-51.5	-66.16	Vertical	-80.59	-13	67.59	90
9	22815.0	-60.67	-51.2	-65.25	Vertical	-76.87	-13	63.87	315
10	25350.0	-63.63	-51.3	-65.85	Vertical	-80.33	-13	67.33	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 vertical position.

LTE Band 7 QPSK Bandwidth = 20MHz CH21350, RB 1

Harmonic	CH21350 Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5120.0	-32.32	-31.2	-63.25	Vertical	-66.52	-13	53.52	45
3	7680.0	-30.37	-28.5	-60.98	Vertical	-65.00	-13	52.00	90
4	10240.0	-28.75	-27.5	-59.57	Vertical	-62.97	-13	49.97	135
5	12800.0	-23.19	-24.7	-59.68	Vertical	-60.32	-13	47.32	0
6	15360.0	-19.65	-23.4	-58.06	Vertical	-56.46	-13	43.46	270
7	17920.0	93.89	-19.2	-57.80	Vertical	53.14	-13	-66.14	180
8	20480.0	-62.09	-51.1	-65.58	Vertical	-78.72	-13	65.72	135
9	23040.0	-63.51	-51.5	-65.65	Vertical	-79.81	-13	66.81	45
10	25600.0	-65.15	-50.9	-65.66	Vertical	-82.06	-13	69.06	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 vertical position.

## 5 Main Test Equipment

Name of Equipment	Type/ Model	Manufacturer	Serial Number	Last Cal.	Cal. Due Date
Base Station Simulator	CMU200	R&S	118133	2015-05-22	2016-05-21
Power Splitter	SHX-GF2-2-13	Hua Xiang	10120101	NA	NA
Spectrum Analyzer	E4445A	Agilent	MY46181146	2015-05-22	2016-05-21
Universal Radio Communication Tester	E5515C	Agilent	MY48367192	2013-12-18	2015-12-17
Spectrum Analyzer	N9010A	Agilent	MY47191109	2015-05-22	2016-05-21
Signal Analyzer	FSV30	R&S	100815	2014-12-17	2015-12-16
Signal generator	SMB 100A	R&S	102594	2015-05-06	2016-05-05
EMI Test Receiver	ESCI	R&S	100948	2015-05-25	2016-05-24
Trilog Antenna	VUBL 9163	SCHWARZBECK	9163-201	2013-11-25	2016-11-24
Horn Antenna	HF907	R&S	100126	2015-07-01	2018-06-30
Climatic Chamber	PT-30B	Re Ce	20101891	2015-07-18	2018-07-17
RF Cable	SMA 15cm	Agilent	0001	2015-11-09	2016-01-08

## ANNEX A: The EUT Appearance and Test Configuration

### A.1 EUT Appearance



Front Side



Back Side

a: EUT



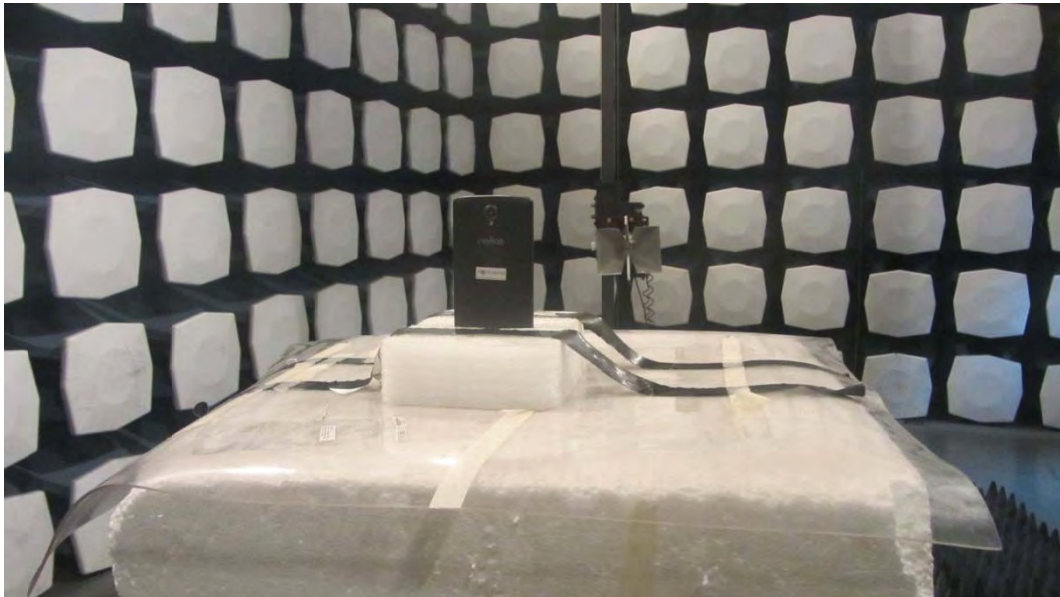


b: Battery

Picture 1 Constituents of EUT



## A.2 Test Setup



Picture 2 Radiated Spurious Emissions Test Setup