

Bandwidth	Test status	LTE Band 7 Channel 21100 Test Results (ppm)		
		QPSK	16QAM	Conclusion
5MHz	55°C/3.85 V	0.00010	0.00037	PASS
	50°C/3.85 V	-0.00011	-0.00023	PASS
	40°C/3.85 V	-0.00046	0.00030	PASS
	30°C/3.85 V	0.00005	-0.00026	PASS
	20°C/3.85 V	0.00033	-0.00019	PASS
	10°C/3.85 V	-0.00018	0.00065	PASS
	0°C/3.85 V	0.00053	0.00069	PASS
	-10°C/3.85 V	0.00008	0.00009	PASS
	20°C/4.4 V	-0.00015	0.00042	PASS
	20°C/3.4 V	0.00046	-0.00058	PASS
10MHz	55°C/3.85 V	-0.00051	0.00005	PASS
	50°C/3.85 V	-0.00004	0.00041	PASS
	40°C/3.85 V	-0.00054	0.00007	PASS
	30°C/3.85 V	0.00070	-0.00020	PASS
	20°C/3.85 V	-0.00042	0.00048	PASS
	10°C/3.85 V	-0.00045	0.00042	PASS
	0°C/3.85 V	0.00044	0.00003	PASS
	-10°C/3.85 V	0.00012	0.00065	PASS
	20°C/4.4 V	0.00032	0.00031	PASS
	20°C/3.4 V	0.00025	0.00027	PASS
15MHz	55°C/3.85 V	0.00016	-0.00016	PASS
	50°C/3.85 V	-0.00020	0.00036	PASS
	40°C/3.85 V	-0.00011	0.00026	PASS
	30°C/3.85 V	-0.00030	0.00032	PASS
	20°C/3.85 V	0.00003	0.00003	PASS
	10°C/3.85 V	0.00002	0.00018	PASS
	0°C/3.85 V	-0.00014	-0.00023	PASS
	-10°C/3.85 V	0.00007	0.00033	PASS
	20°C/4.4 V	-0.00039	0.00024	PASS
	20°C/3.4 V	0.00028	0.00035	PASS
20MHz	55°C/3.85 V	0.00022	0.00071	PASS
	50°C/3.85 V	0.00087	0.00066	PASS
	40°C/3.85 V	0.00005	0.00016	PASS
	30°C/3.85 V	0.00018	0.00007	PASS
	20°C/3.85 V	0.00075	0.00033	PASS
	10°C/3.85 V	-0.00026	0.00018	PASS
	0°C/3.85 V	0.00040	0.00057	PASS



	-10°C/3.85 V	0.00089	-0.00022	PASS
	20°C/4.4 V	0.00027	0.00035	PASS
	20°C/3.4 V	0.00020	0.00051	PASS

Bandwidth	Test status	LTE Band 12 Channel 23095 Test Results (ppm)		
		QPSK	16QAM	Conclusion
1.4M	55°C/3.85 V	0.00081	0.00099	PASS
	50°C/3.85 V	-0.00001	0.00028	PASS
	40°C/3.85 V	0.00119	-0.00055	PASS
	30°C/3.85 V	0.00225	-0.00037	PASS
	20°C/3.85 V	0.00088	0.00033	PASS
	10°C/3.85 V	-0.00116	0.00155	PASS
	0°C/3.85 V	0.00123	-0.00061	PASS
	-10°C/3.85 V	0.00151	0.00122	PASS
	20°C/4.4 V	-0.00028	-0.00116	PASS
	20°C/3.4 V	-0.00130	-0.00154	PASS
3M	55°C/3.85 V	-0.00024	-0.00175	PASS
	50°C/3.85 V	-0.00189	-0.00088	PASS
	40°C/3.85 V	-0.00013	-0.00151	PASS
	30°C/3.85 V	0.00048	-0.00034	PASS
	20°C/3.85 V	-0.00131	-0.00140	PASS
	10°C/3.85 V	0.00075	0.00105	PASS
	0°C/3.85 V	-0.00090	0.00085	PASS
	-10°C/3.85 V	0.00095	-0.00196	PASS
	20°C/4.4 V	0.00051	-0.00276	PASS
	20°C/3.4 V	-0.00072	-0.00196	PASS
5MHz	55°C/3.85 V	-0.00062	-0.00071	PASS
	50°C/3.85 V	-0.00105	-0.00130	PASS
	40°C/3.85 V	-0.00164	-0.00079	PASS
	30°C/3.85 V	-0.00003	-0.00085	PASS
	20°C/3.85 V	-0.00083	-0.00083	PASS
	10°C/3.85 V	-0.00081	-0.00055	PASS
	0°C/3.85 V	-0.00028	-0.00090	PASS
	-10°C/3.85 V	-0.00081	-0.00102	PASS
	20°C/4.4 V	-0.00105	-0.00076	PASS
	20°C/3.4 V	-0.00069	-0.00033	PASS
10MHz	55°C/3.85 V	-0.00008	-0.00047	PASS
	50°C/3.85 V	-0.00141	-0.00140	PASS
	40°C/3.85 V	0.00052	-0.00062	PASS



	30°C/3.85 V	-0.00081	-0.00147	PASS
	20°C/3.85 V	-0.00071	-0.00253	PASS
	10°C/3.85 V	-0.00010	-0.00051	PASS
	0°C/3.85 V	-0.00075	-0.00076	PASS
	-10°C/3.85 V	-0.00192	-0.00058	PASS
	20°C/4.4 V	-0.00105	-0.00062	PASS
	20°C/3.4 V	-0.00117	0.00023	PASS

Bandwidth	Test status	LTE Band 17 Channel 23790 Test Results (ppm)		
		QPSK	16QAM	Conclusion
5MHz	55°C/3.85 V	-0.00055	-0.00107	PASS
	50°C/3.85 V	0.00035	-0.00135	PASS
	40°C/3.85 V	0.00005	-0.00023	PASS
	30°C/3.85 V	0.00011	-0.00136	PASS
	20°C/3.85 V	-0.00004	-0.00071	PASS
	10°C/3.85 V	-0.00049	-0.00115	PASS
	0°C/3.85 V	-0.00075	-0.00140	PASS
	-10°C/3.85 V	-0.00100	-0.00016	PASS
	20°C/4.4 V	-0.00017	-0.00036	PASS
	20°C/3.4 V	-0.00011	0.00064	PASS
10MHz	55°C/3.85 V	0.00061	-0.00117	PASS
	50°C/3.85 V	-0.00077	-0.00035	PASS
	40°C/3.85 V	-0.00100	-0.00089	PASS
	30°C/3.85 V	-0.00149	0.00025	PASS
	20°C/3.85 V	-0.00061	-0.00113	PASS
	10°C/3.85 V	-0.00037	0.00032	PASS
	0°C/3.85 V	-0.00144	-0.00007	PASS
	-10°C/3.85 V	-0.00117	-0.00044	PASS
	20°C/4.4 V	0.00023	-0.00083	PASS
	20°C/3.4 V	-0.00004	0.00075	PASS

Bandwidth	Test status	LTE Band 41 Channel 40620 Test Results (ppm)		
		QPSK	16QAM	Conclusion
5MHz	55°C/3.85 V	-0.00239	-0.00073	PASS
	50°C/3.85 V	-0.00166	-0.00139	PASS
	40°C/3.85 V	0.00143	-0.00081	PASS
	30°C/3.85 V	0.00359	0.00262	PASS
	20°C/3.85 V	-0.00243	-0.00177	PASS



	10°C/3.85 V	0.00405	0.00135	PASS
	0°C/3.85 V	-0.00270	0.00262	PASS
	-10°C/3.85 V	0.00255	0.00397	PASS
	20°C/4.4 V	0.00212	0.00282	PASS
	20°C/3.4 V	0.00247	0.00370	PASS
10MHz	55°C/3.85 V	0.00089	0.00239	PASS
	50°C/3.85 V	0.00162	0.00332	PASS
	40°C/3.85 V	-0.00139	0.00548	PASS
	30°C/3.85 V	-0.00297	0.00316	PASS
	20°C/3.85 V	-0.00170	0.00336	PASS
	10°C/3.85 V	-0.00444	0.00212	PASS
	0°C/3.85 V	-0.00301	0.00251	PASS
	-10°C/3.85 V	-0.00382	0.00478	PASS
	20°C/4.4 V	-0.00424	0.00224	PASS
	20°C/3.4 V	-0.00332	0.00297	PASS
15MHz	55°C/3.85 V	-0.00517	0.00274	PASS
	50°C/3.85 V	-0.00390	0.00355	PASS
	40°C/3.85 V	-0.00255	0.00347	PASS
	30°C/3.85 V	-0.00166	0.00189	PASS
	20°C/3.85 V	-0.00301	0.00251	PASS
	10°C/3.85 V	-0.00382	0.00478	PASS
	0°C/3.85 V	-0.00424	0.00224	PASS
	-10°C/3.85 V	-0.00332	0.00297	PASS
	20°C/4.4 V	-0.00517	0.00274	PASS
	20°C/3.4 V	-0.00390	0.00355	PASS
20MHz	55°C/3.85 V	-0.00255	0.00347	PASS
	50°C/3.85 V	-0.00166	0.00189	PASS
	40°C/3.85 V	-0.00305	0.00247	PASS
	30°C/3.85 V	0.00594	-0.00204	PASS
	20°C/3.85 V	0.00505	-0.00305	PASS
	10°C/3.85 V	-0.00258	0.00251	PASS
	0°C/3.85 V	0.00216	0.00239	PASS
	-10°C/3.85 V	-0.00328	0.00301	PASS
	20°C/4.4 V	0.00243	-0.00201	PASS
	20°C/3.4 V	0.00440	0.00447	PASS

### 4.7 Spurious Emissions at Antenna Terminals

#### Ambient condition

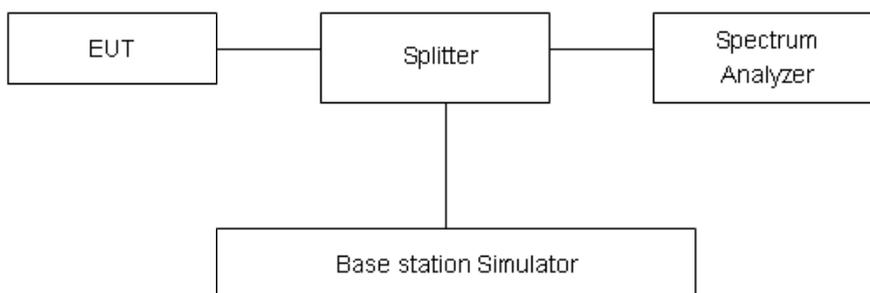
Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

#### 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

LTE -4/12/17 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.”  
 LTE -7/41 Rule Part 27.53(m) 55 + 10 log (P) dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(4) of this section.

LTE -4/12/17 Limit	-13 dBm
LTE -7/41 Limit	-25 dBm

#### Measurement Uncertainty

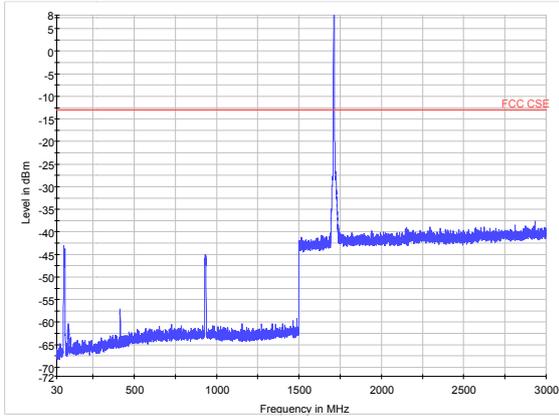
The assessed measurement uncertainty to ensure 99.75% confidence level for the normal distribution is with the coverage factor  $k = 1.96$ .

Frequency	Uncertainty
100kHz-2GHz	0.684 dB
2GHz-12.75GHz	1.407 dB

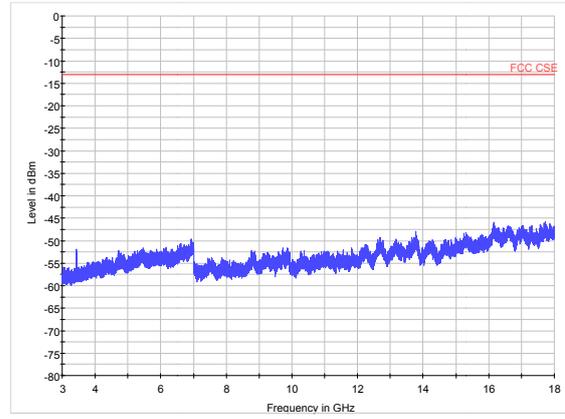
**Test Result: PASS**

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

**WCDMA Band IV CH1312**

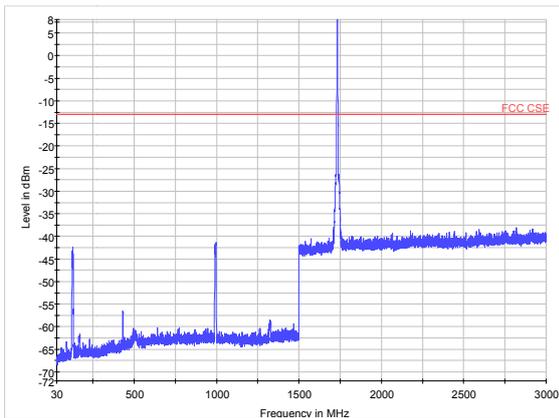


WCDMA Band IV Channel1312 30MHz~3GHz

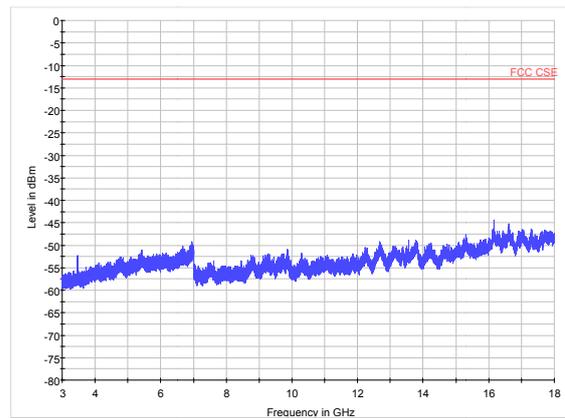


WCDMA Band IV Channel1312 3GHz ~18GHz

**WCDMA Band IV CH1413**

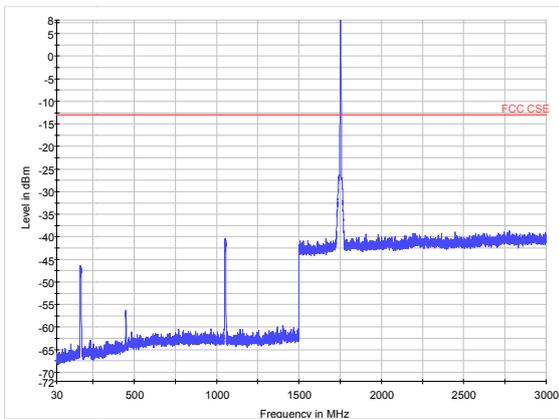


WCDMA Band IV Channel1413 30MHz~3GHz

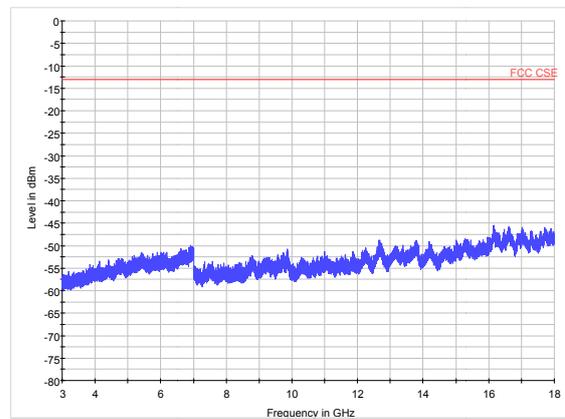


WCDMA Band IV Channel1413 3GHz ~18GHz

**WCDMA Band IV CH1513**



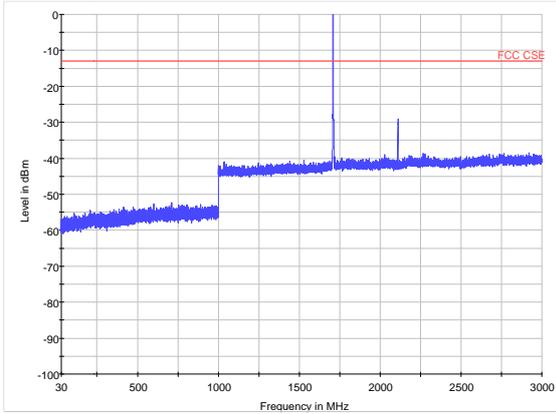
WCDMA Band IV Channel1513 30MHz~3GHz



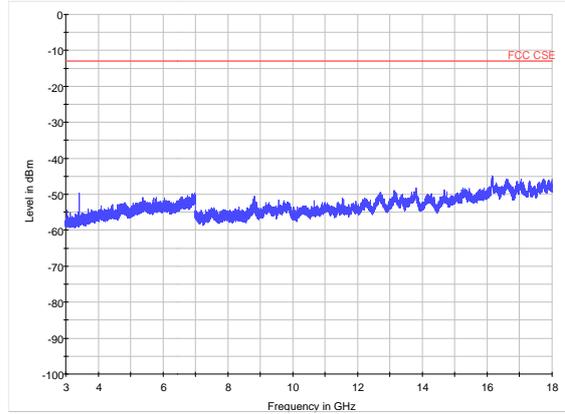
WCDMA Band IV Channel1513 3GHz ~18GHz



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

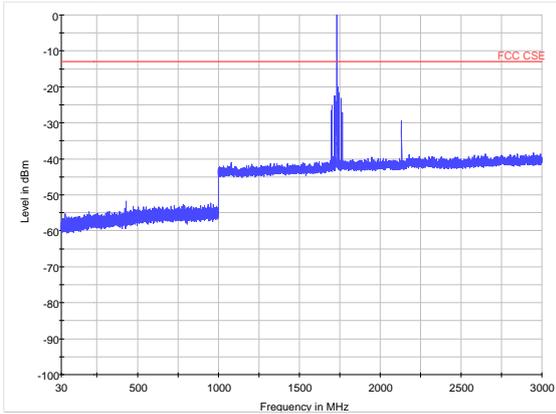


LTE Band 4 CH19957 30MHz~3GHz

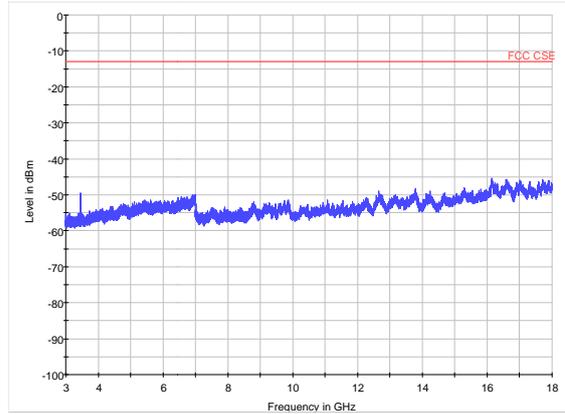


LTE Band 4 CH19957 3GHz~18GHz

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

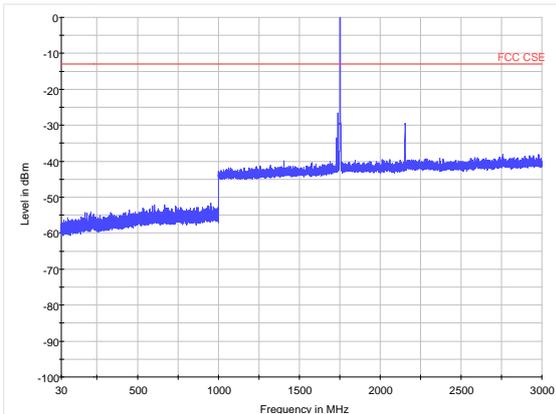


LTE Band 4 CH20175 30MHz~3GHz

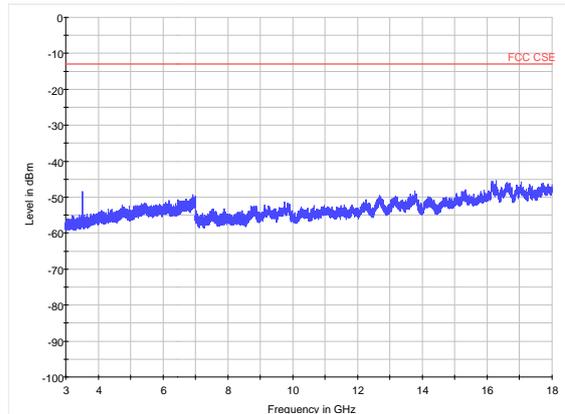


LTE Band 4 CH20175 3GHz~18GHz

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



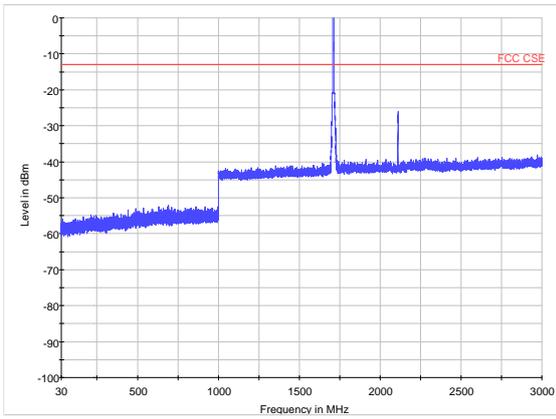
LTE Band 4 CH20393 30MHz~3GHz



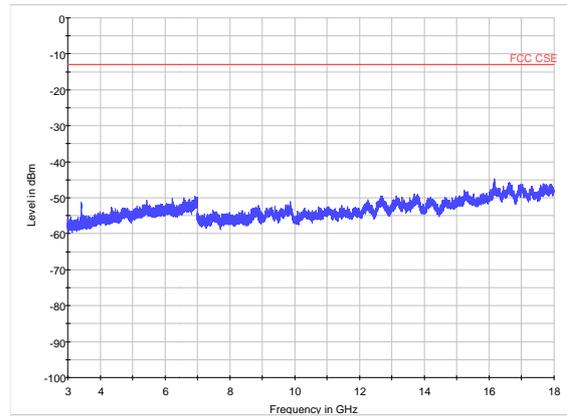
LTE Band 4 CH20393 3GHz~18GHz



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

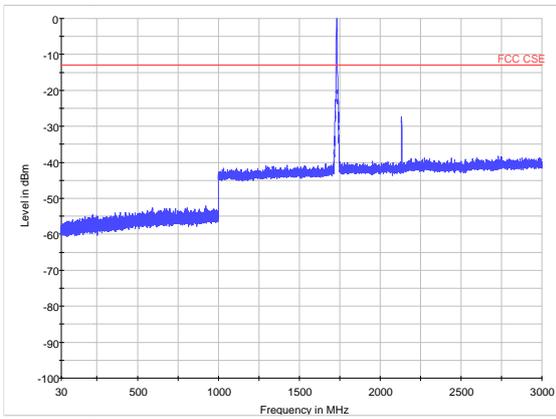


LTE Band 4 CH19965 30MHz~3GHz

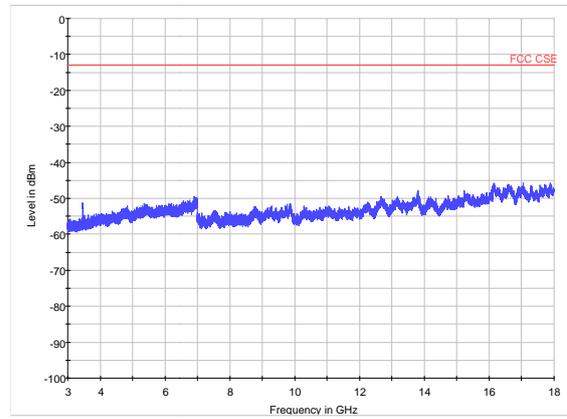


LTE Band 4 CH19965 3GHz~18GHz

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

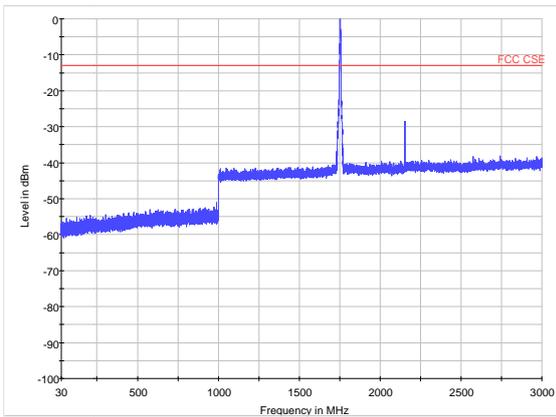


LTE Band 4 CH20175 30MHz~3GHz

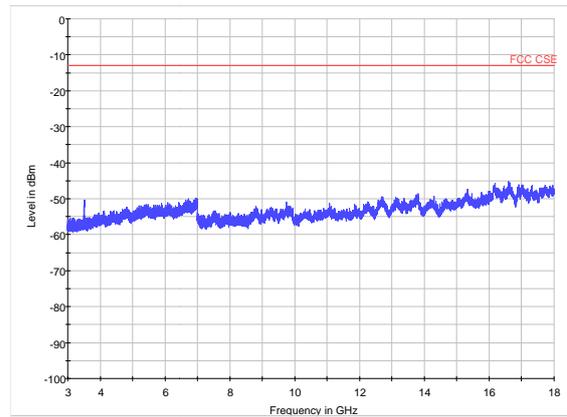


LTE Band 4 CH20175 3GHz~18GHz

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



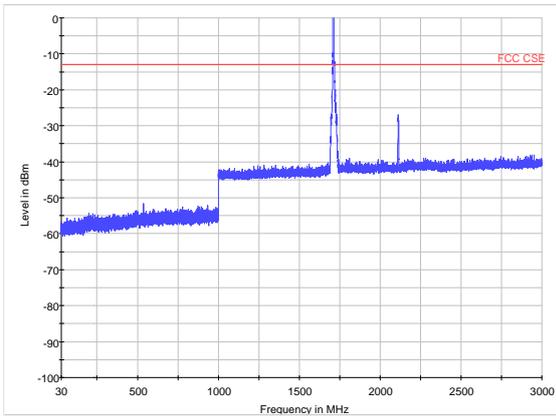
LTE Band 4 CH20385 30MHz~3GHz



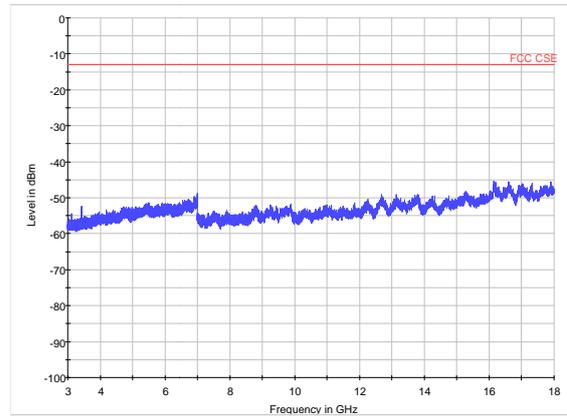
LTE Band 4 CH20385 3GHz~18GHz



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

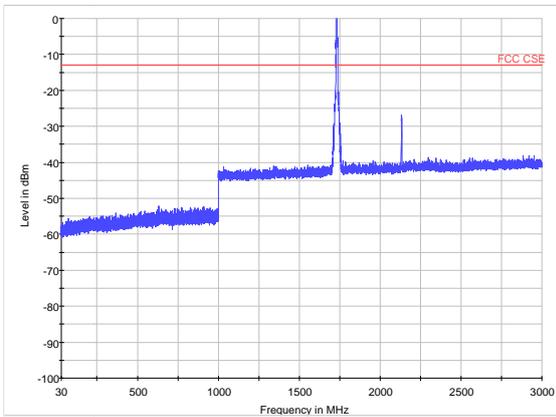


LTE Band 4 CH19975 30MHz~3GHz

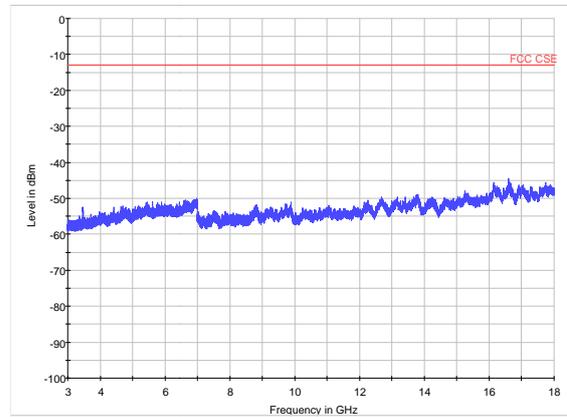


LTE Band 4 CH19975 3GHz~18GHz

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

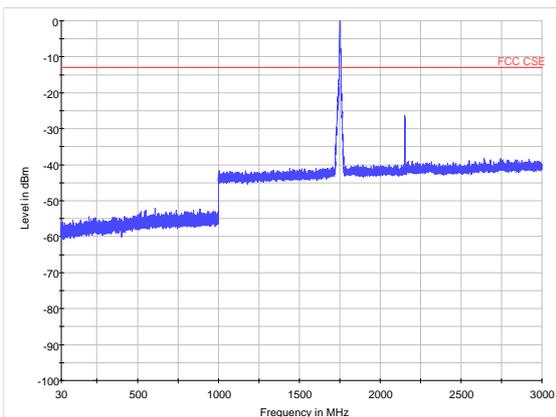


LTE Band 4 CH20175 30MHz~3GHz

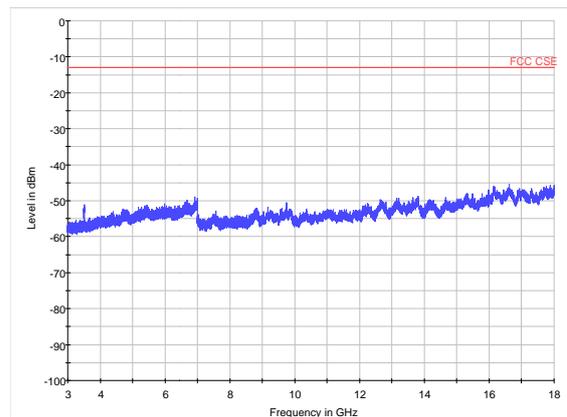


LTE Band 4 CH20175 3GHz~18GHz

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



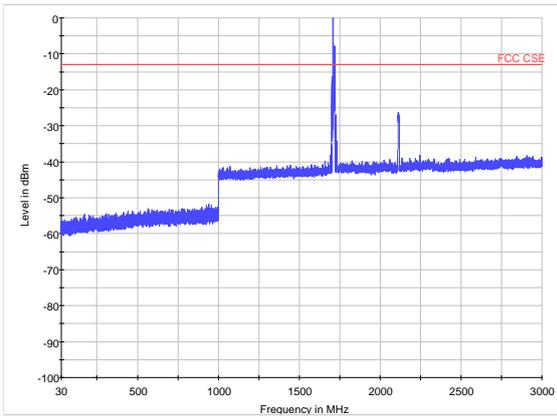
LTE Band 4 CH20375 30MHz~3GHz



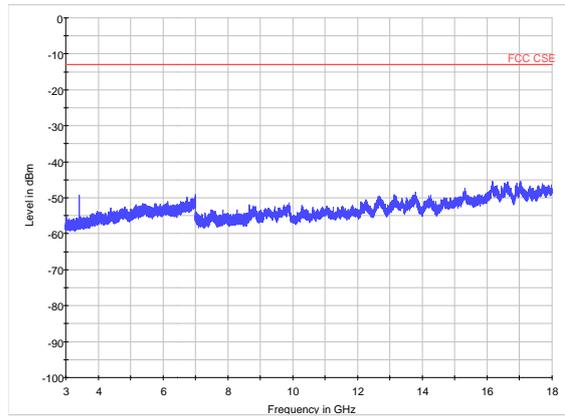
LTE Band 4 CH20375 3GHz~18GHz



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

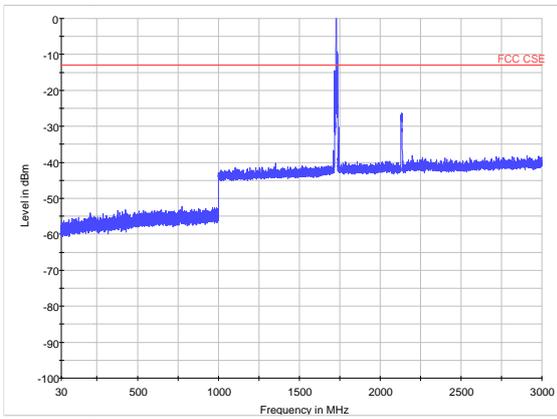


LTE Band 4 CH20000 30MHz~3GHz

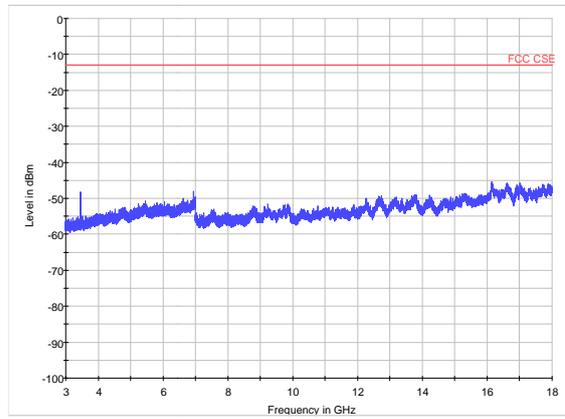


LTE Band 4 CH20000 3GHz~18GHz

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

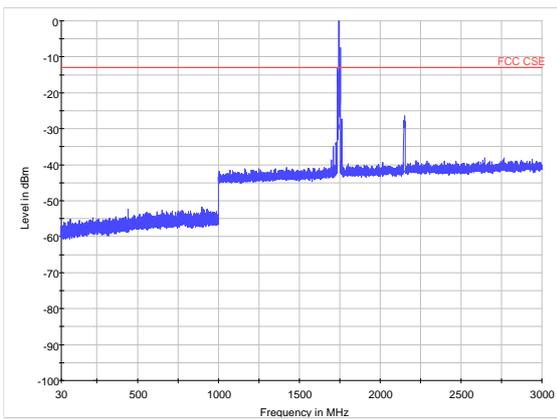


LTE Band 4 CH20175 30MHz~3GHz

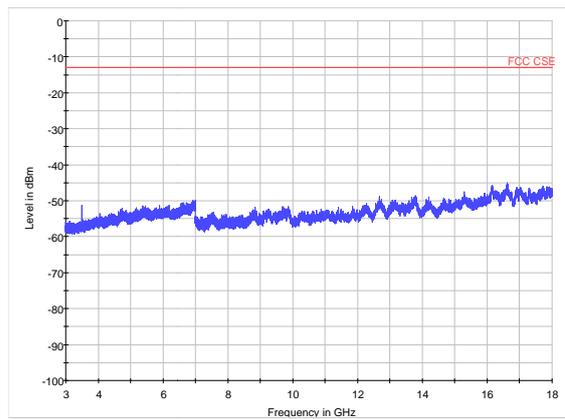


LTE Band 4 CH20175 3GHz~18GHz

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



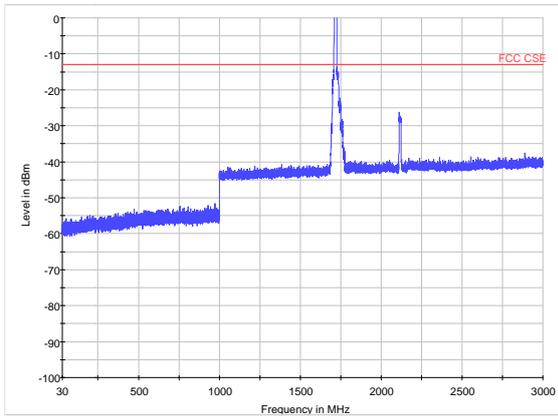
LTE Band 4 CH20350 30MHz~3GHz



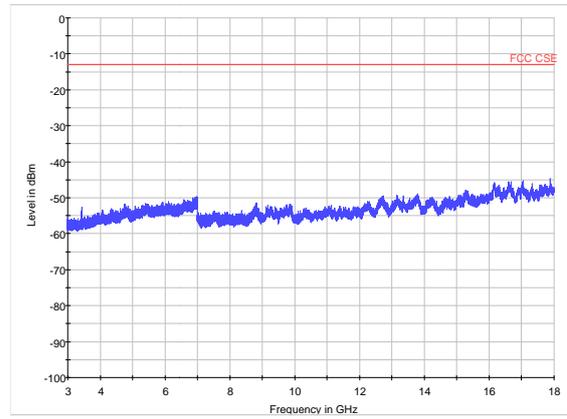
LTE Band 4 CH20350 3GHz~18GHz



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

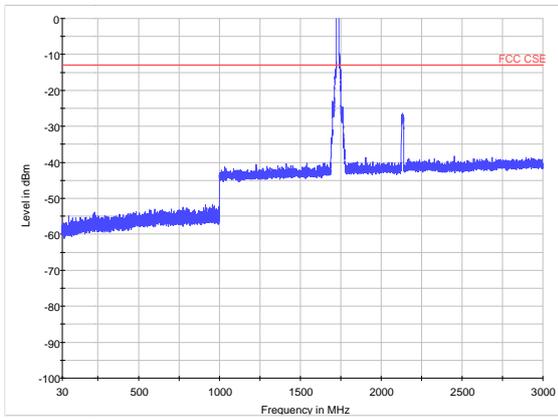


LTE Band 4 CH20025 30MHz~3GHz

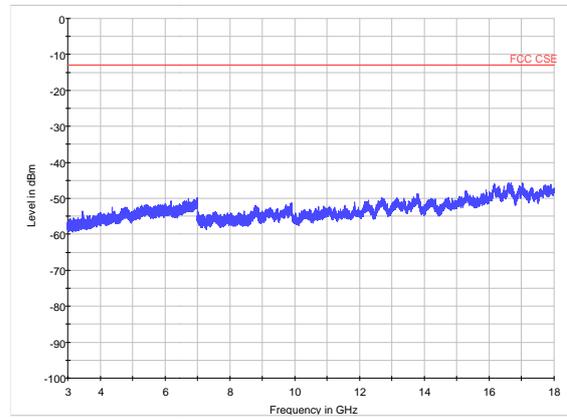


LTE Band 4 CH20025 3GHz~18GHz

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

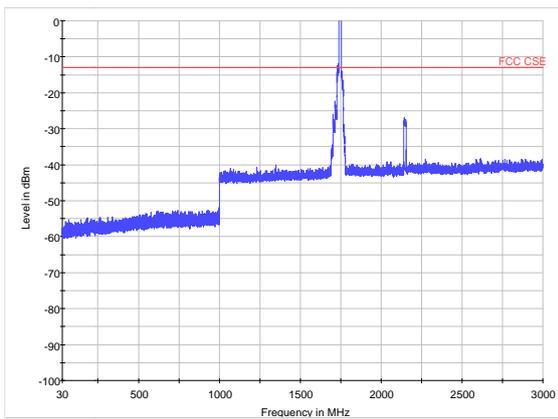


LTE Band 4 CH20175 30MHz~3GHz

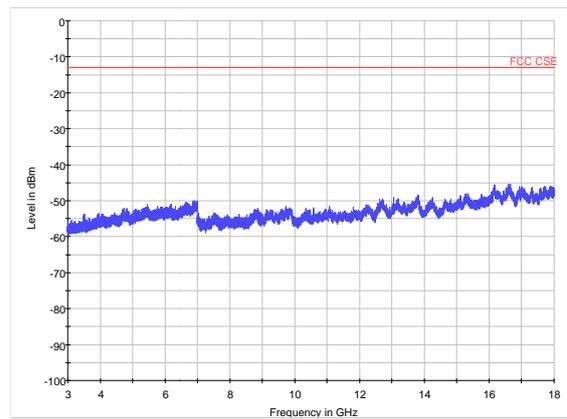


LTE Band 4 CH20175 3GHz~18GHz

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



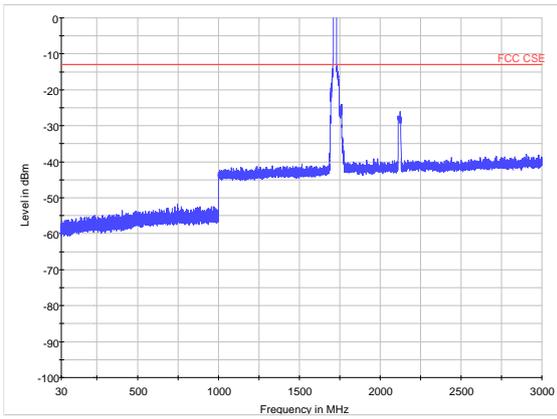
LTE Band 4 CH20325 30MHz~3GHz



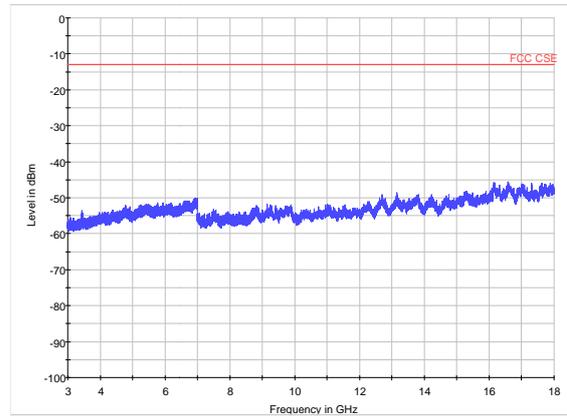
LTE Band 4 CH20325 3GHz~18GHz



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

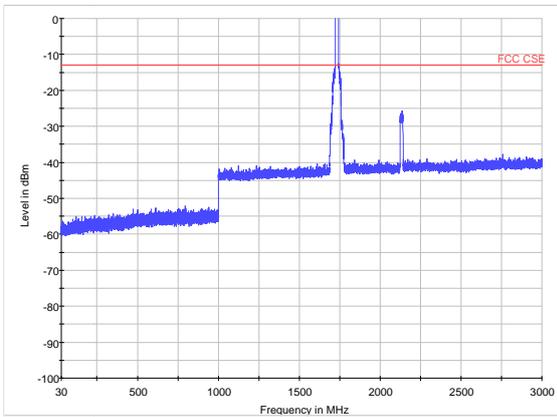


LTE Band 4 CH20050 30MHz~3GHz

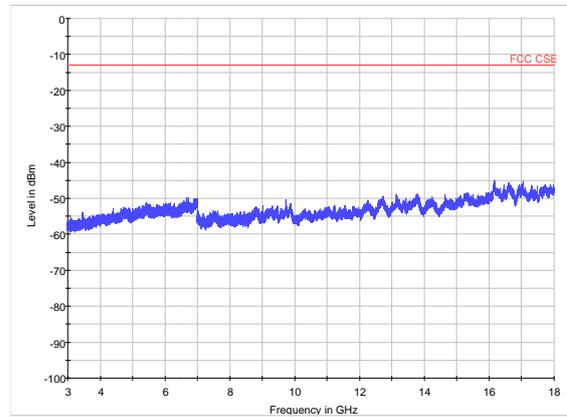


LTE Band 4 CH20050 3GHz~18GHz

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

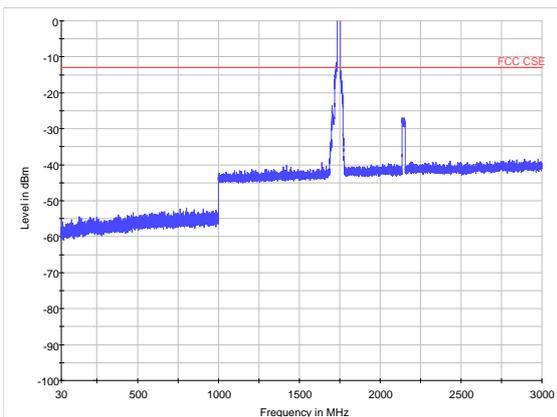


LTE Band 4 CH20175 30MHz~3GHz

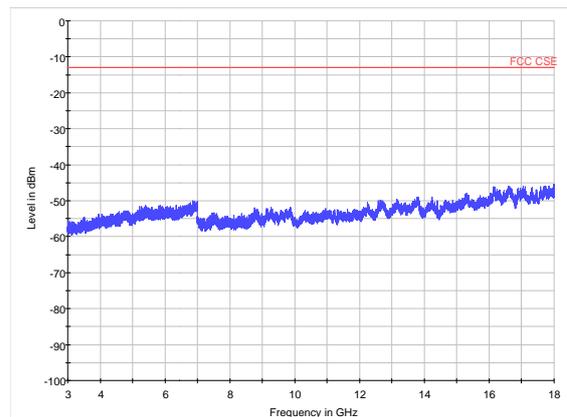


LTE Band 4 CH20175 3GHz~18GHz

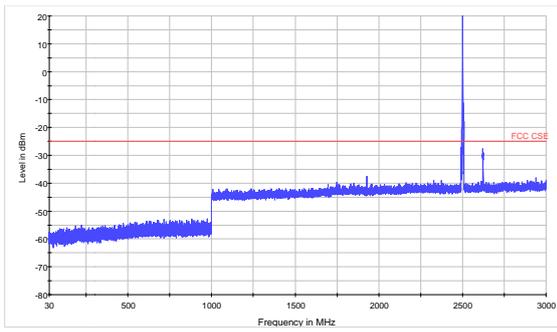
LTE Band 4 QPSK Bandwidth = 20MHz CH20300, RB 1



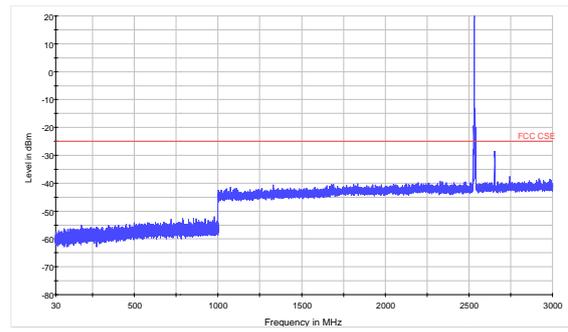
LTE Band 4 CH20300 30MHz~3GHz



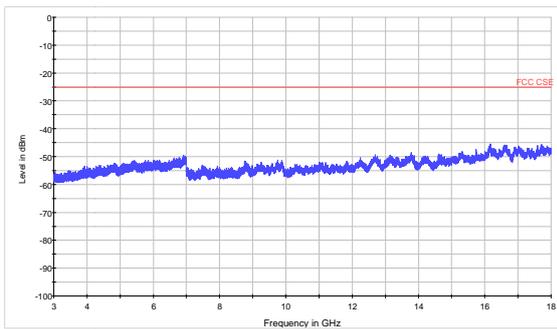
LTE Band 4 CH20300 3GHz~18GHz



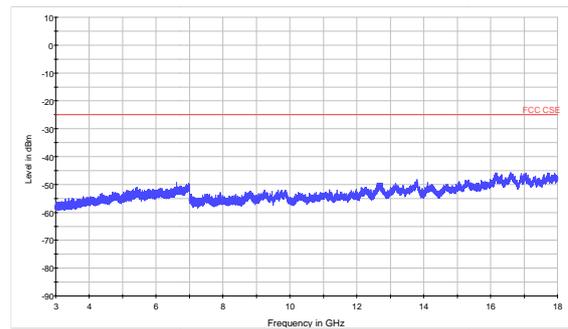
LTE Band 7 5MHz CH20775 30MHz~3GHz



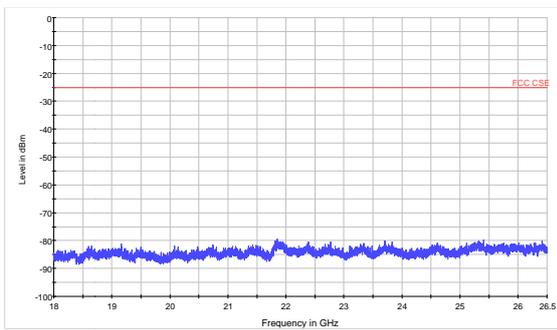
LTE Band 7 5MHz CH21100 30MHz~3GHz



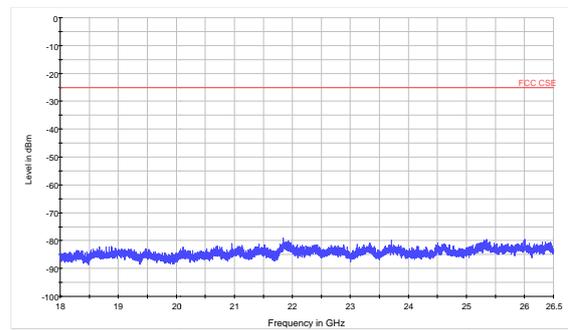
LTE Band 7 5MHz CH20775 3GHz~18GHz



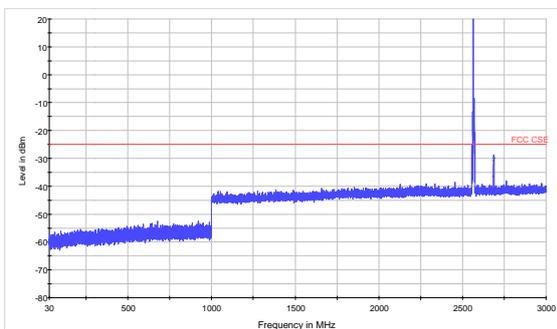
LTE Band 7 5MHz CH21100 3GHz~18GHz



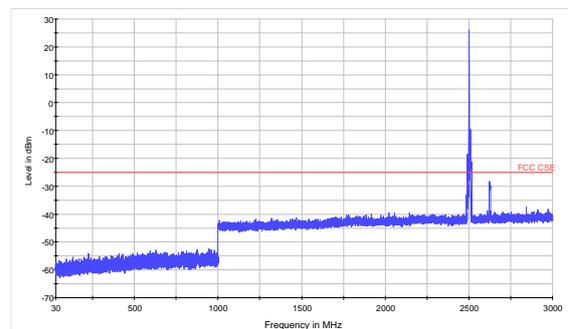
LTE Band 7 5MHz CH20775 18GHz~26.5GHz



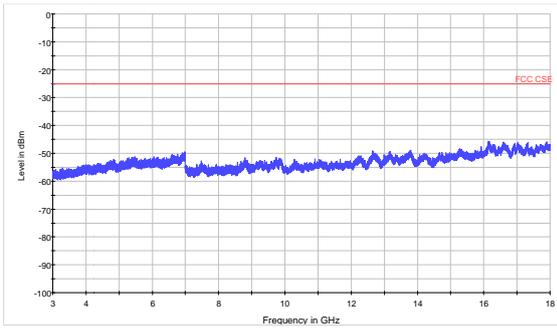
LTE Band 7 5MHz CH21100 18GHz~26.5GHz



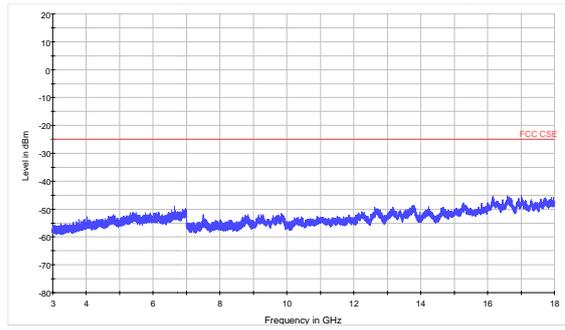
LTE Band 7 5MHz CH21425 30MHz~3GHz



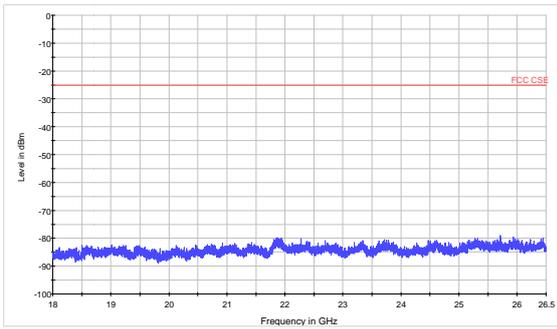
LTE Band 7 10MHz CH39700 30MHz~3GHz



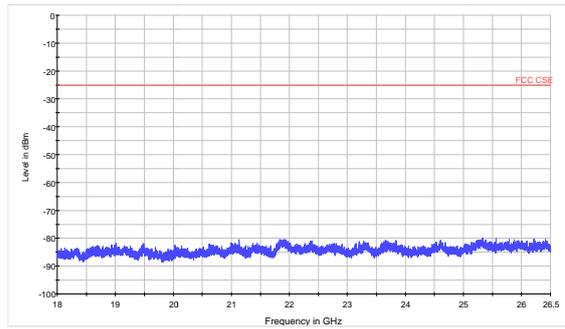
LTE Band 7 5MHz CH21425 3GHz~18GHz



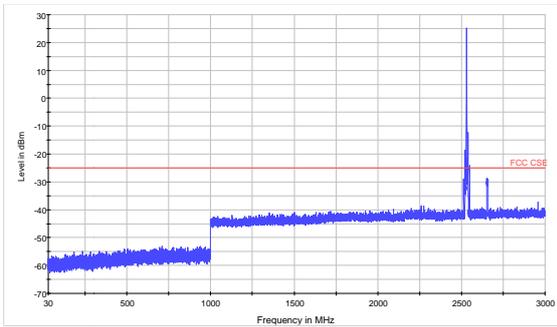
LTE Band 7 10MHz CH39700 3GHz~18GHz



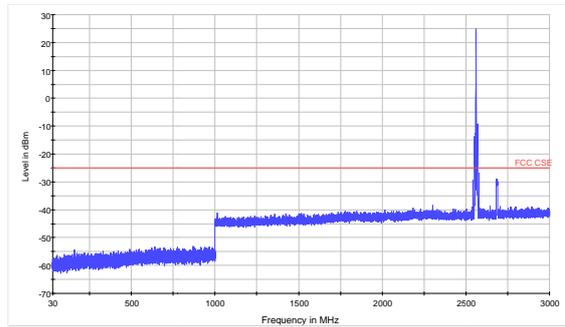
LTE Band 7 5MHz CH21425 18GHz~26.5GHz



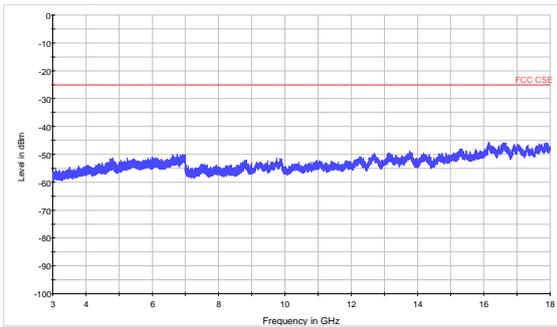
LTE Band 7 10MHz CH39700 18GHz~26.5GHz



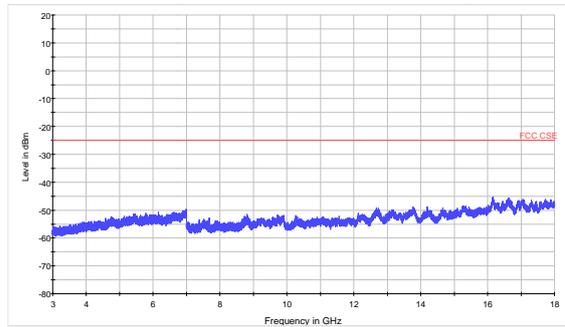
LTE Band 7 10MHz CH21100 30MHz~3GHz



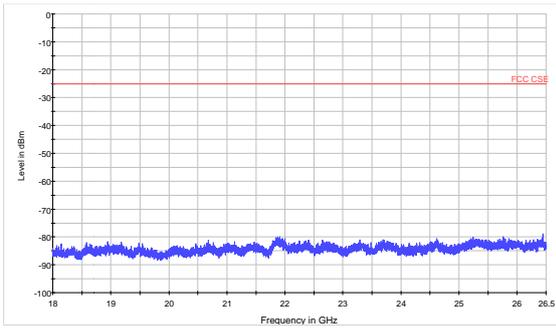
LTE Band 7 10MHz CH41540 30MHz~3GHz



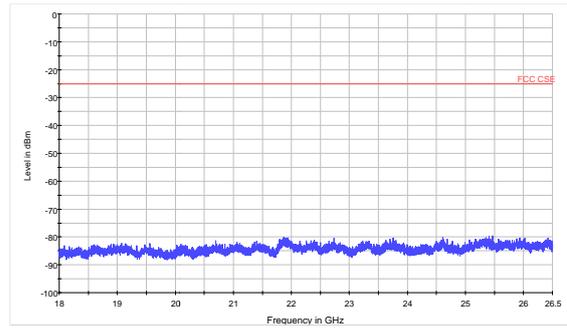
LTE Band 7 10MHz CH21100 3GHz~18GHz



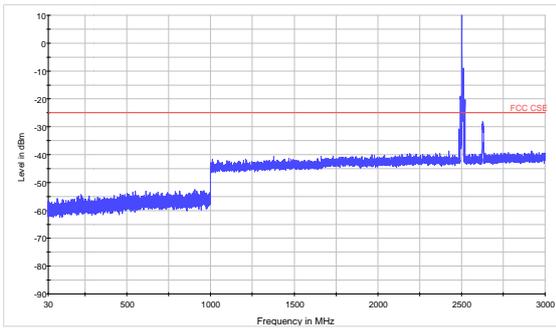
LTE Band 7 10MHz CH41540 3GHz~18GHz



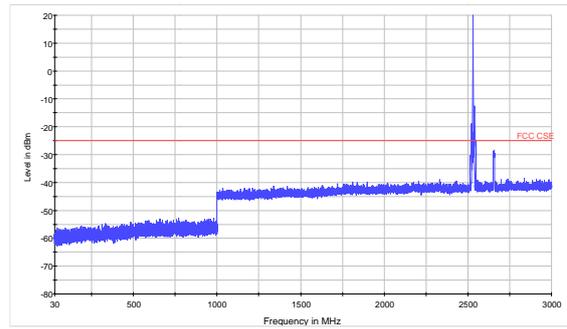
LTE Band 7 10MHz CH21100 18GHz~26.5GHz



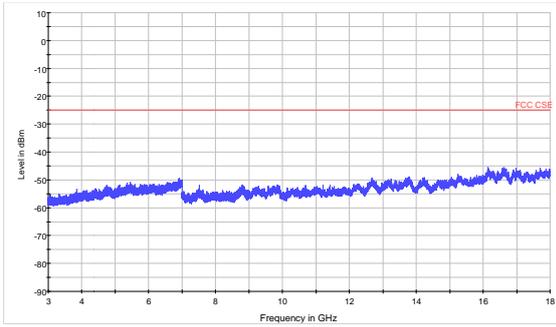
LTE Band 710MHz CH41540 18GHz~26.5GHz



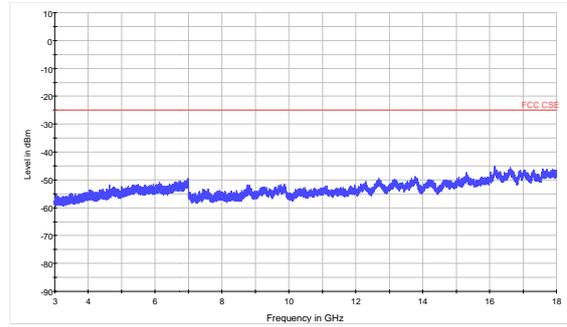
LTE Band 7 15MHz CH39725 30MHz~3GHz



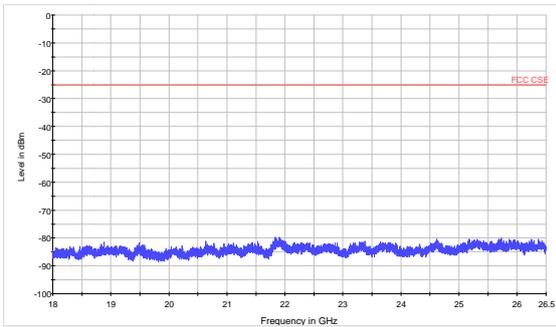
LTE Band 7 15MHz CH21100 30MHz~3GHz



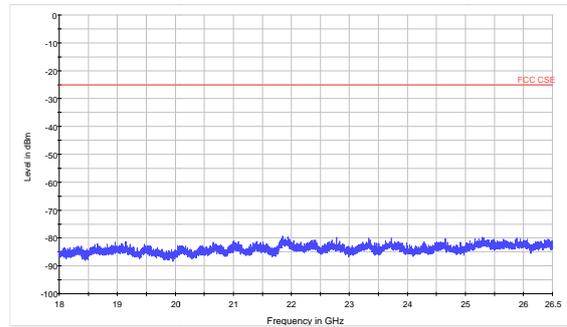
LTE Band 7 15MHz CH39725 3GHz~18GHz



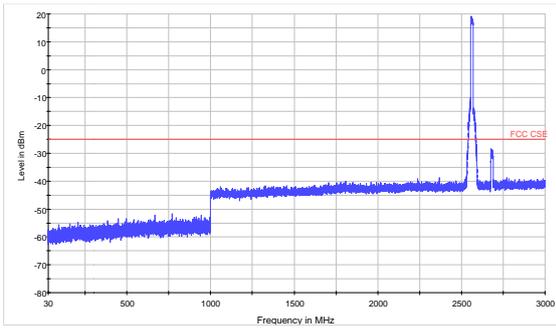
LTE Band 7 15MHz CH21100 3GHz~18GHz



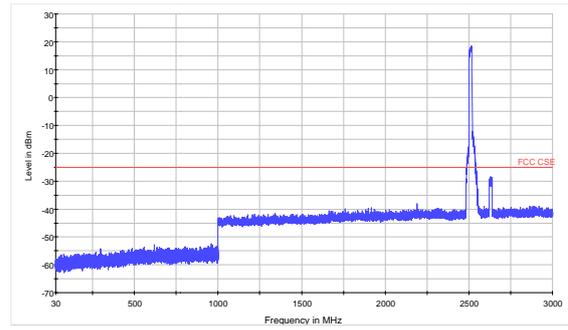
LTE Band 7 15MHz CH39725 18GHz~26.5GHz



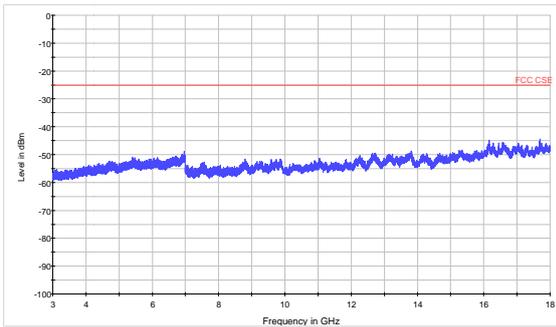
LTE Band 7 15MHz CH21100 18GHz~26.5GHz



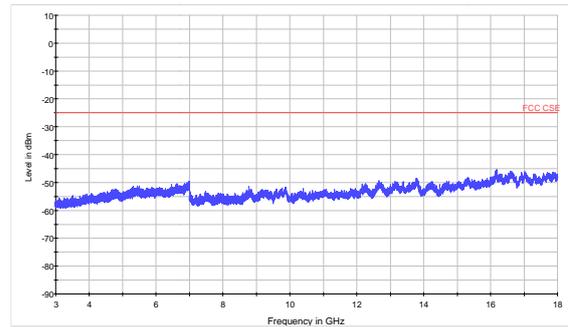
LTE Band 7 15MHz CH41515 30MHz~3GHz



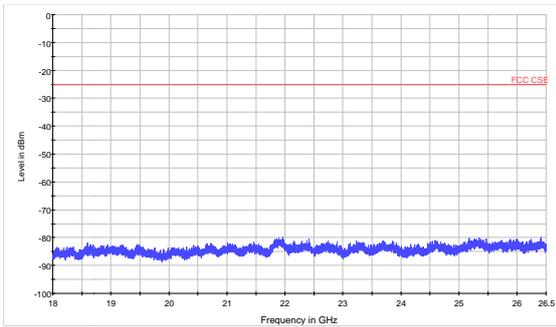
LTE Band 7 20MHz CH39750 30MHz~3GHz



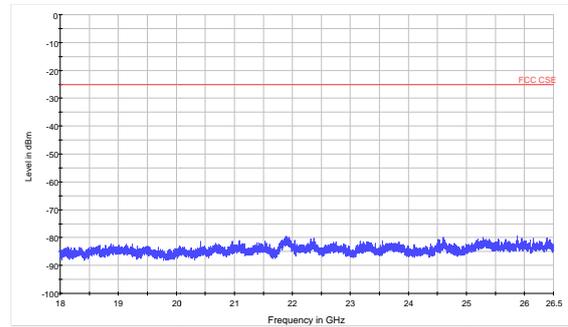
LTE Band 7 15MHz CH41515 3GHz~18GHz



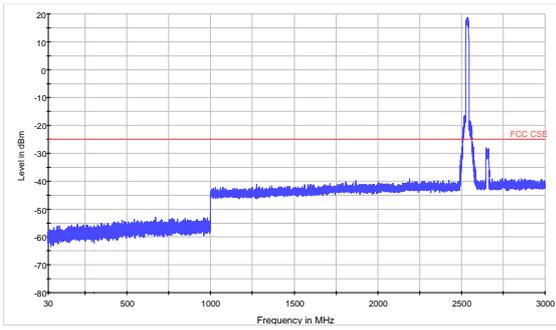
LTE Band 7 20MHz CH39750 3GHz~18GHz



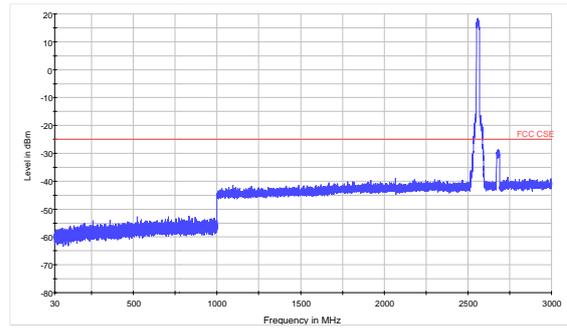
LTE Band 7 15MHz CH41515 18GHz~26.5GHz



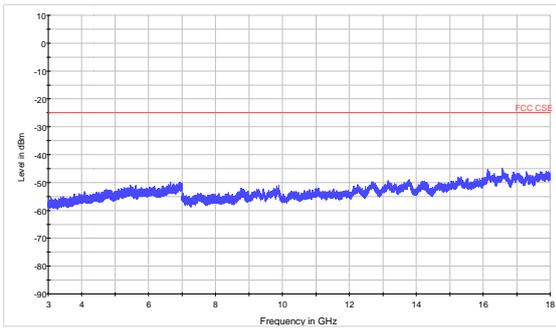
LTE Band 7 20MHz CH39750 18GHz~26.5GHz



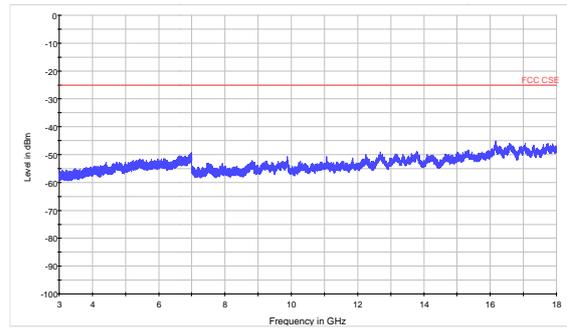
LTE Band 7 20MHz CH21100 30MHz~3GHz



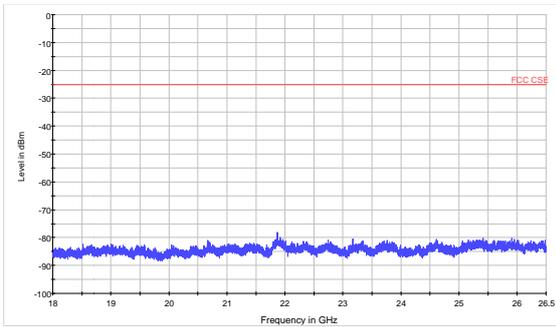
LTE Band 7 20MHz CH41490 30MHz~3GHz



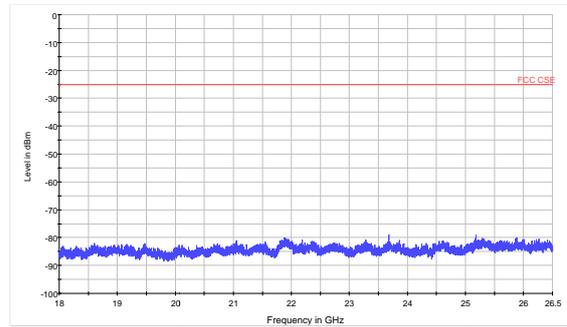
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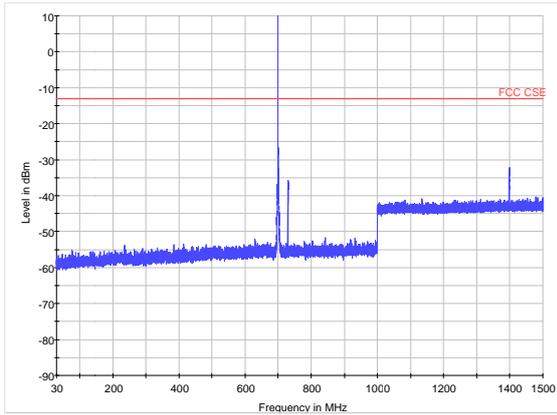
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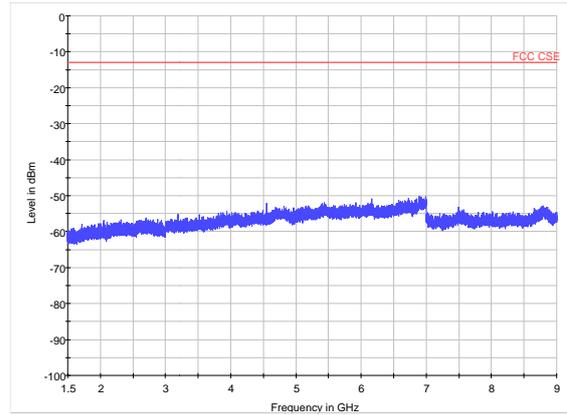
LTE Band 7 20MHz CH21100 18GHz~26.5GHz



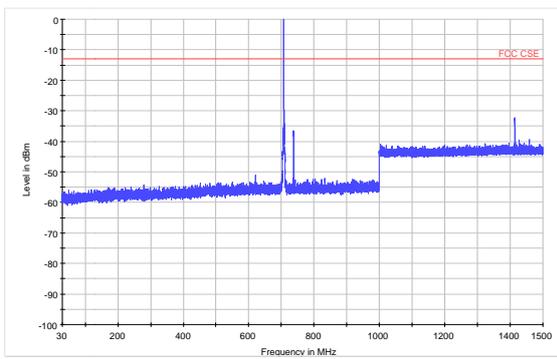
LTE Band 7 20MHz CH41490 18GHz~26.5GHz



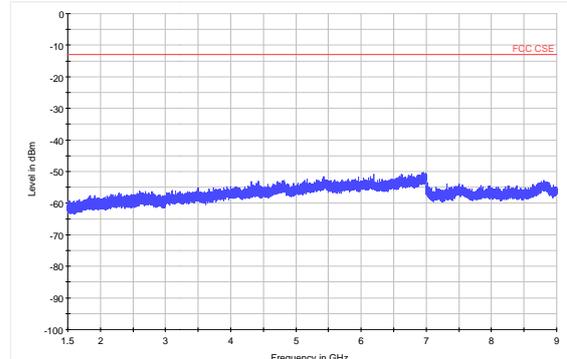
LTE Band 12 1.4MHz CH23017 30MHz~1.5GHz



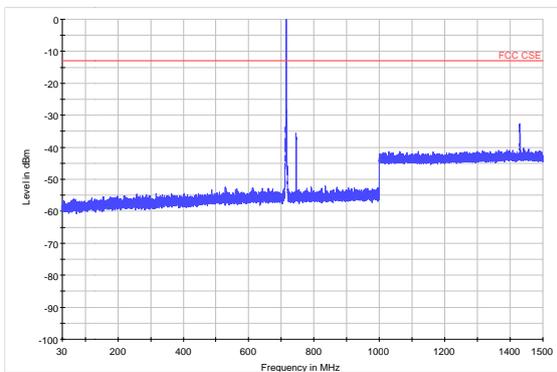
LTE Band 12 1.4MHz CH23017 1.5GHz~9GHz



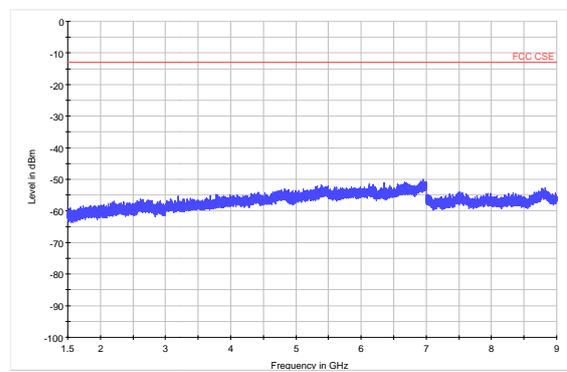
LTE Band 12 1.4MHz CH23095 30MHz~1.5GHz



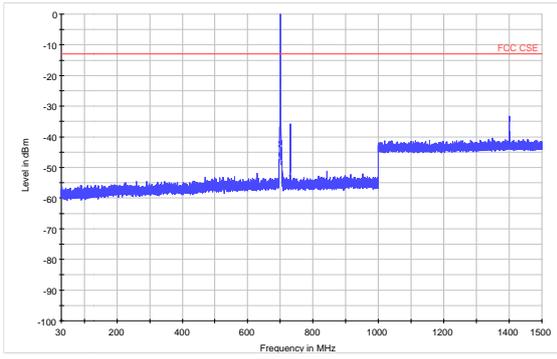
LTE Band 12 1.4MHz CH23095 1.5GHz~9GHz



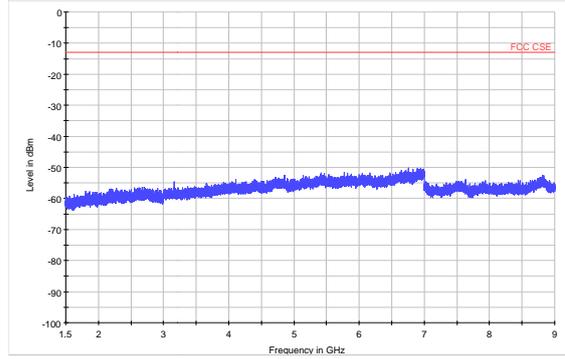
LTE Band 12 1.4MHz CH23173 30MHz~1.5GHz



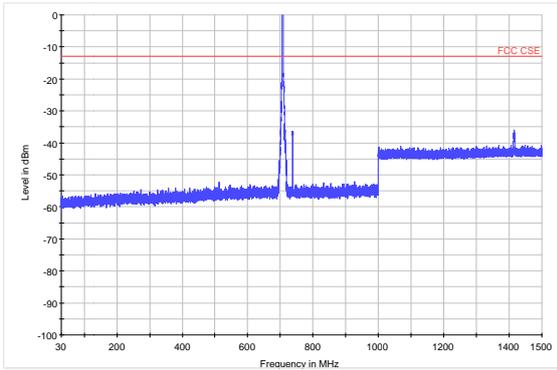
LTE Band 12 1.4MHz CH23173 1.5GHz~9GHz



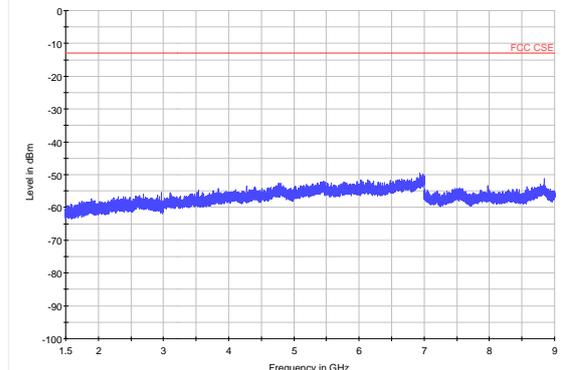
LTE Band 12 3MHz CH23025 30MHz~1.5GHz



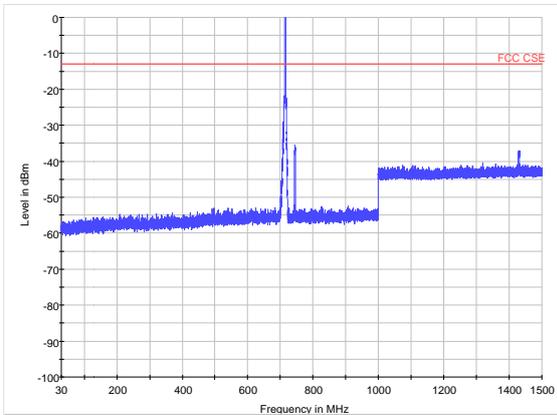
LTE Band 12 3MHz CH23025 1.5GHz~9GHz



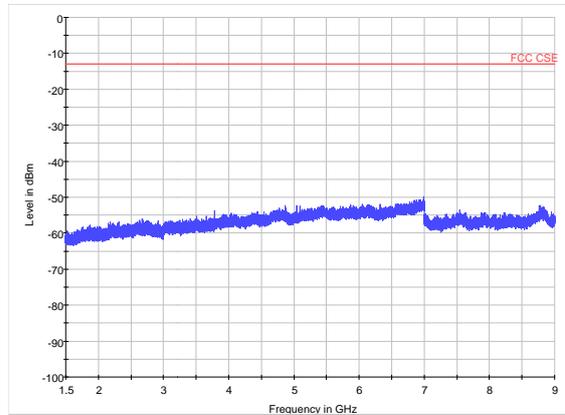
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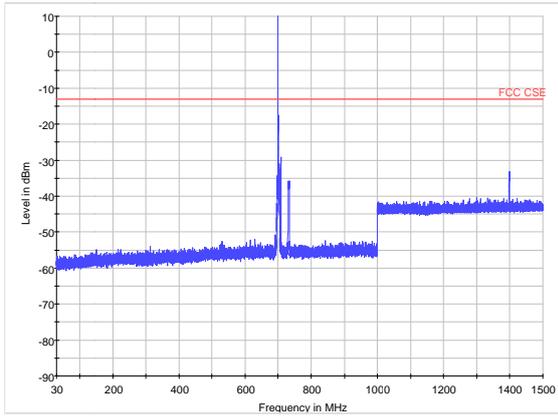
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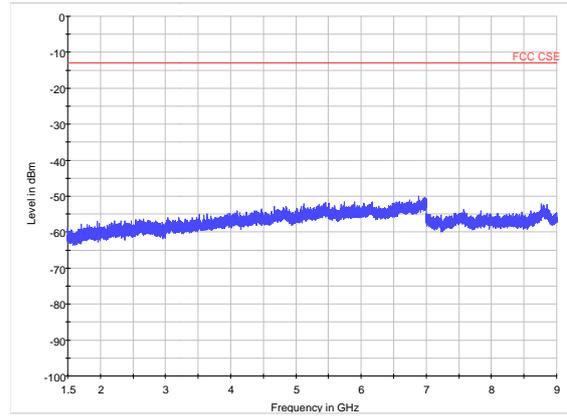
LTE Band 12 3MHz CH23165 30MHz~1.5GHz



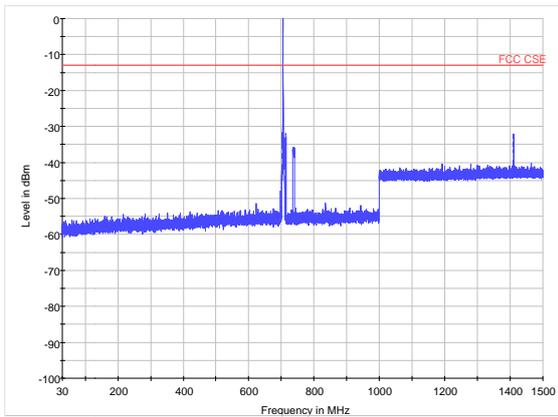
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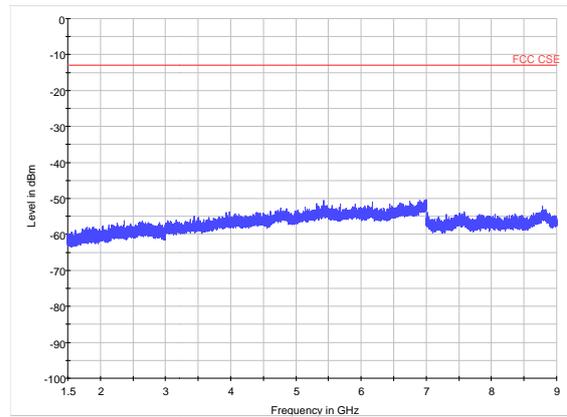
LTE Band 12 5MHz CH23035 30MHz~1.5GHz



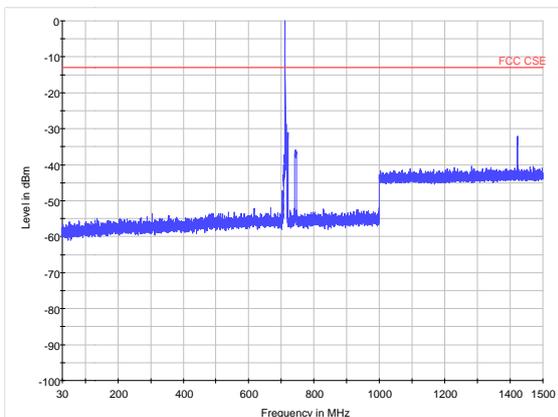
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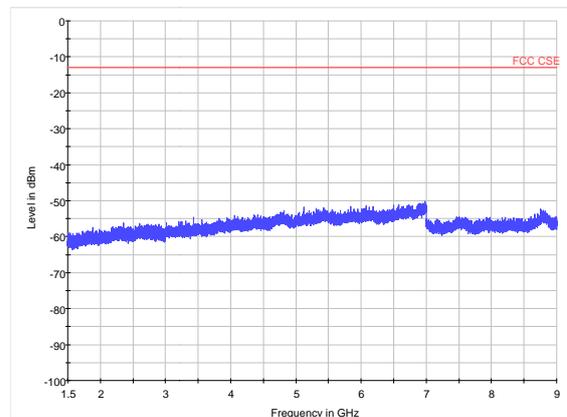
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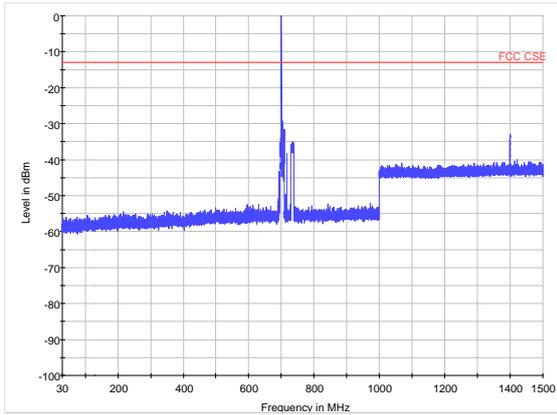
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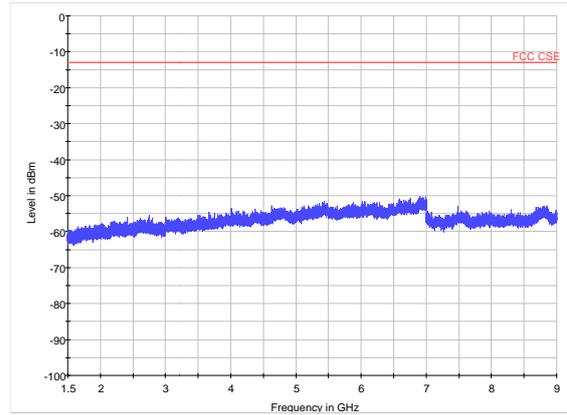
LTE Band 12 5MHz CH23155 30MHz~1.5GHz



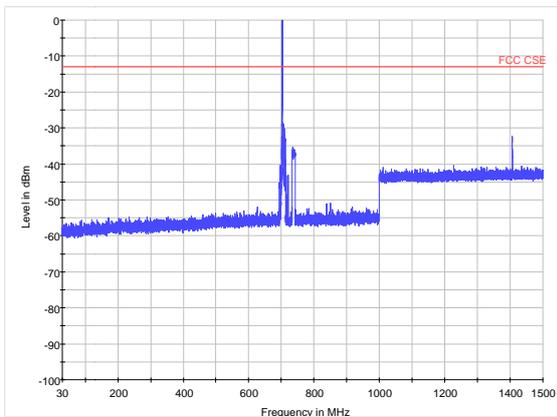
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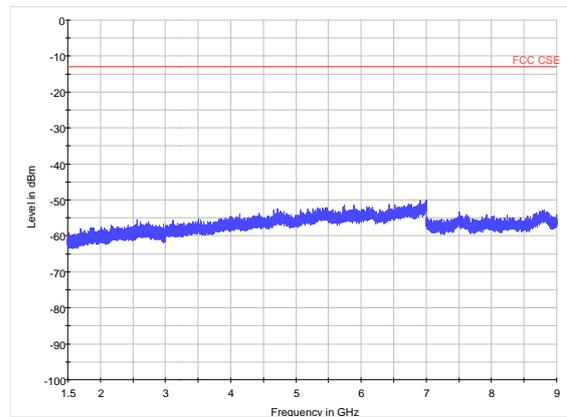
LTE Band 12 10MHz CH23060 30MHz~1.5GHz



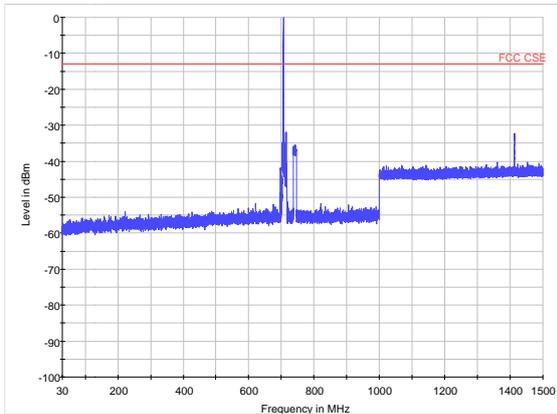
LTE Band 12 10MHz CH23060 1.5GHz~9GHz



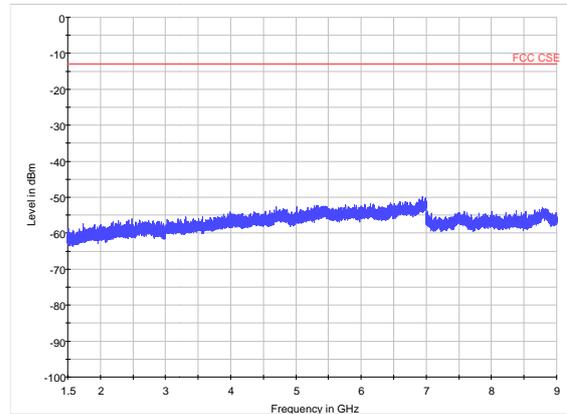
LTE Band 12 10MHz CH23095 30MHz~1.5GHz



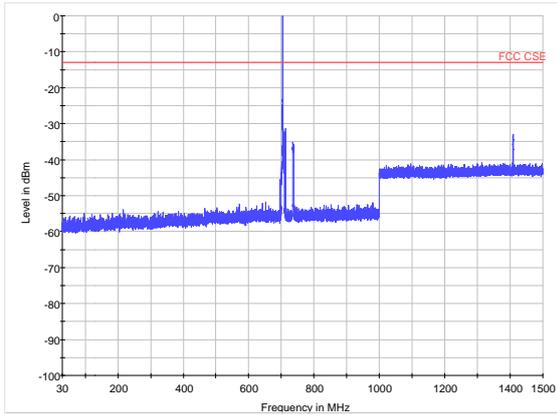
LTE Band 12 10MHz CH23095 1.5GHz~9GHz



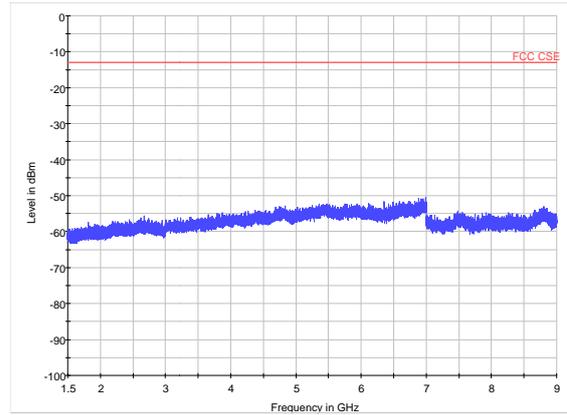
LTE Band 12 10MHz CH23130 30MHz~1.5GHz



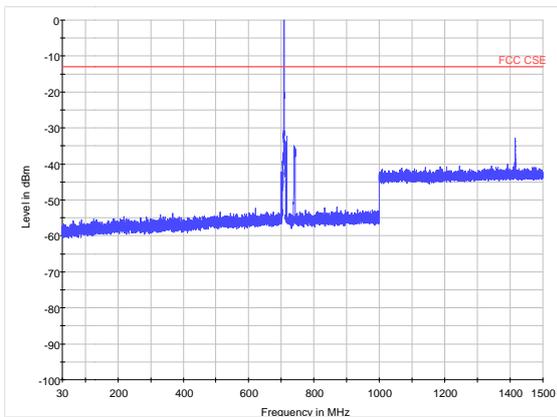
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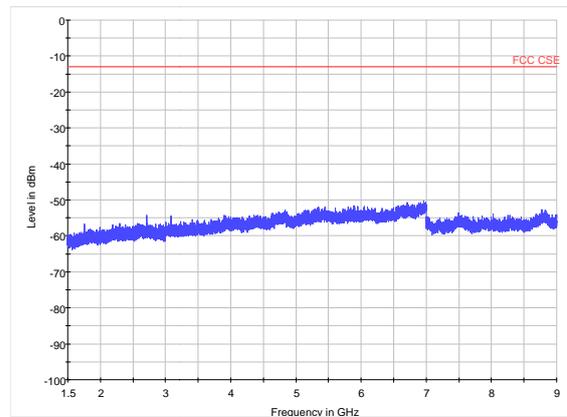
LTE Band 17 5MHz CH23755 30MHz~1.5GHz



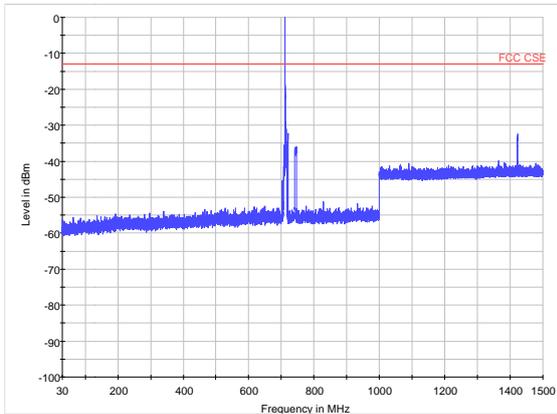
LTE Band 17 5MHz CH23755 1.5GHz~9GHz



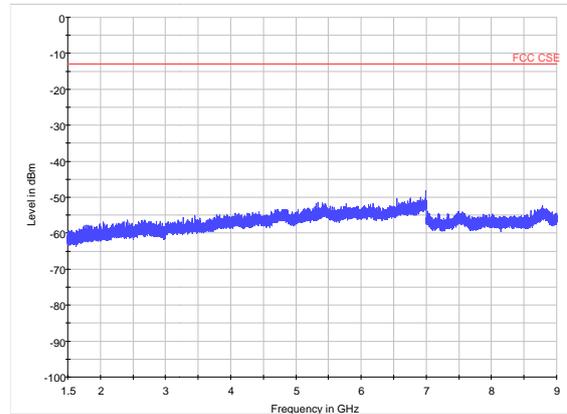
LTE Band 17 5MHz CH23790 30MHz~1.5GHz



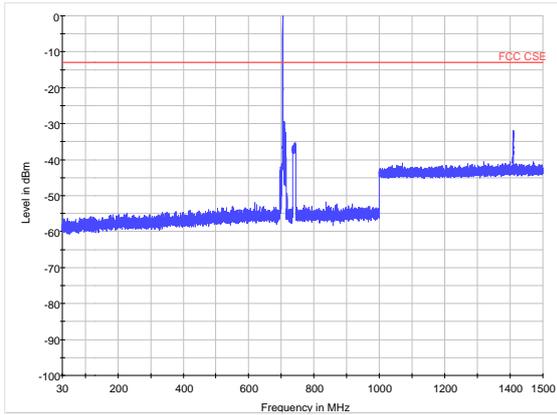
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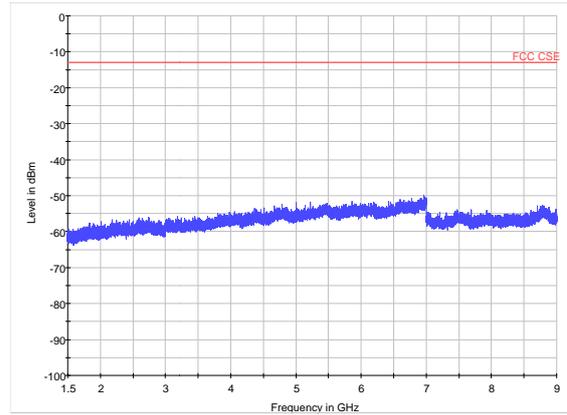
LTE Band 17 5MHz CH23825 30MHz~1.5GHz



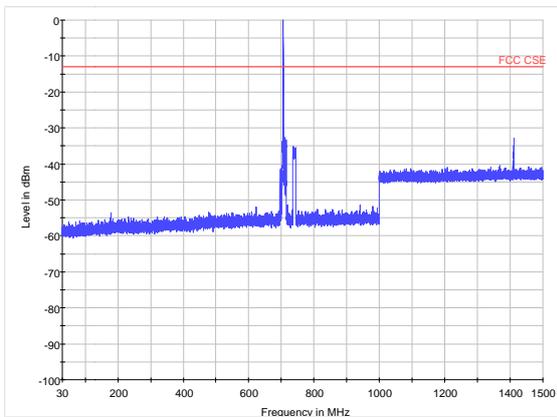
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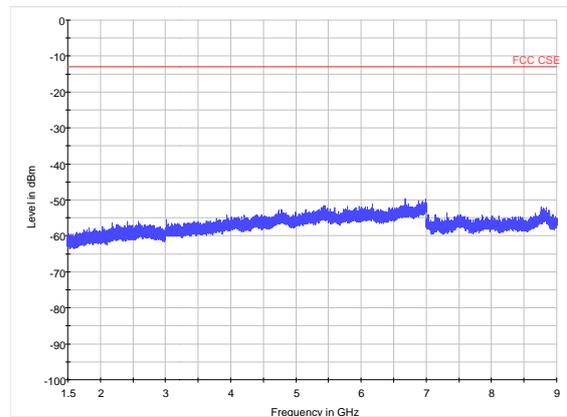
LTE Band 17 10MHz CH23780 30MHz~1.5GHz



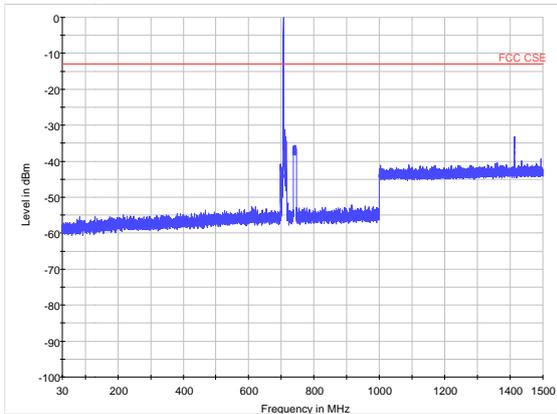
LTE Band 17 10MHz CH23780 1.5GHz~9GHz



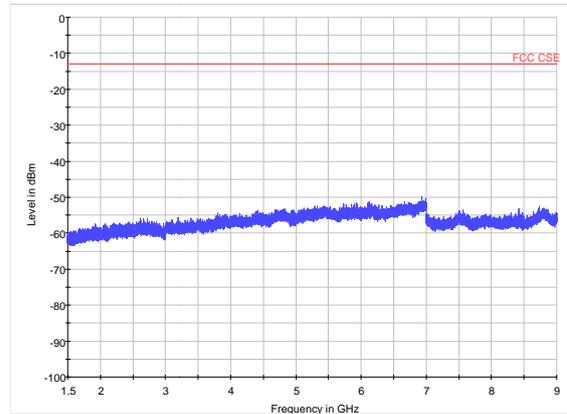
LTE Band 17 10MHz CH23790 30MHz~1.5GHz



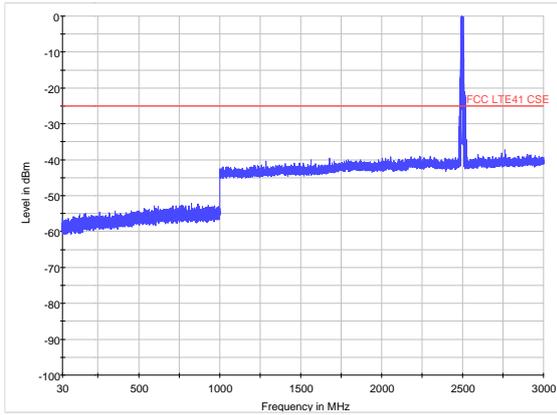
LTE Band 17 10MHz CH23790 1.5GHz~9GHz



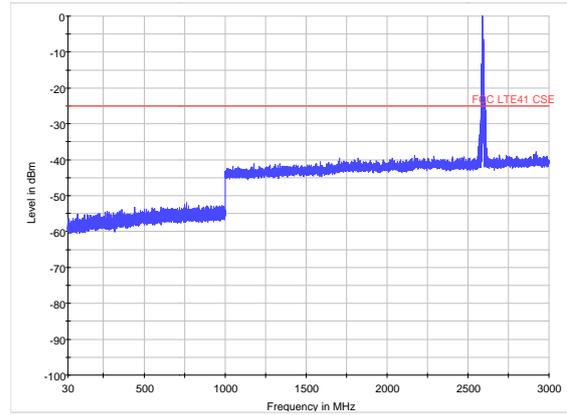
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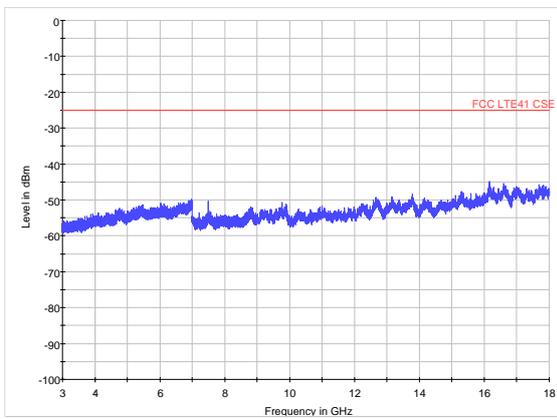
LTE Band 17 10MHz CH23800 1.5GHz~9GHz



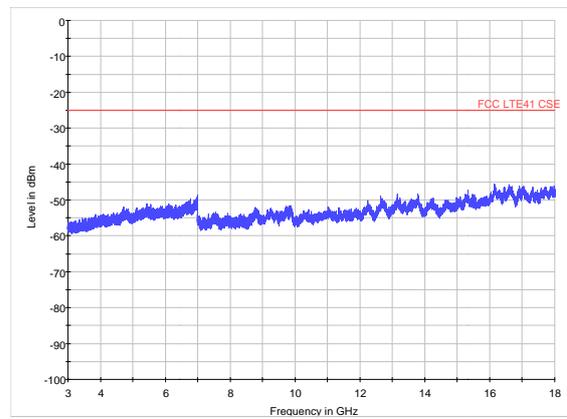
LTE Band 41 5MHz CH39675 30MHz~3GHz



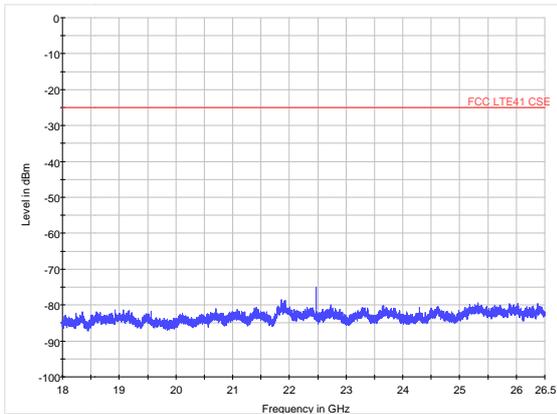
LTE Band 41 5MHz CH40620 30MHz~3GHz



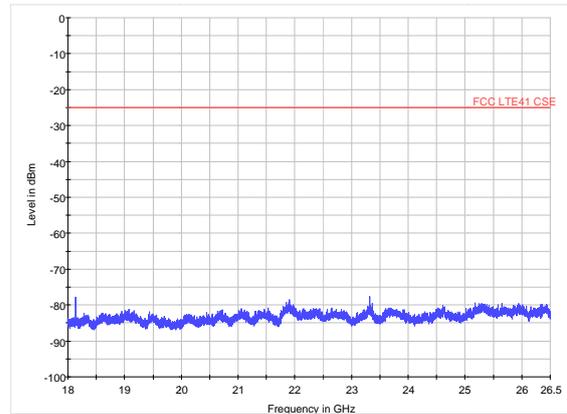
LTE Band 41 5MHz CH39675 3GHz~18GHz



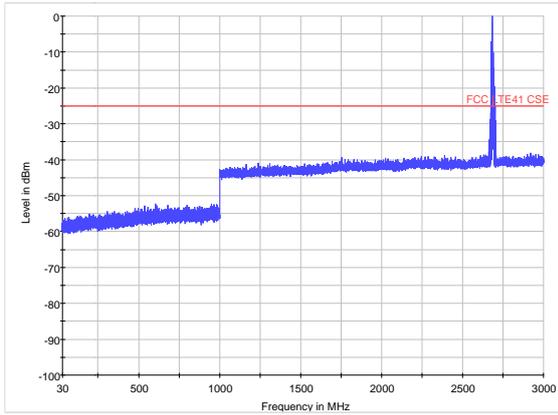
LTE Band 41 5MHz CH40620 3GHz~18GHz



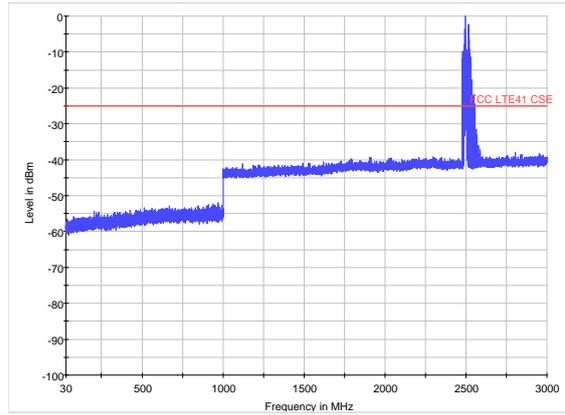
LTE Band 41 5MHz CH39675 18GHz~30GHz



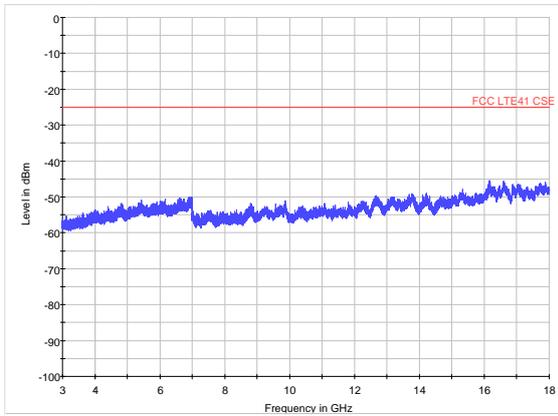
LTE Band 41 5MHz CH40620 18GHz~30GHz



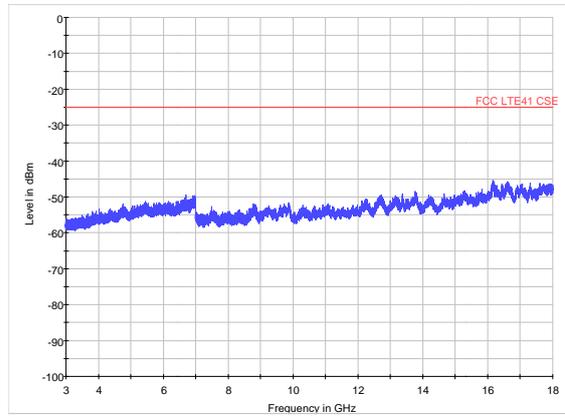
LTE Band 41 5MHz CH41565 30MHz~3GHz



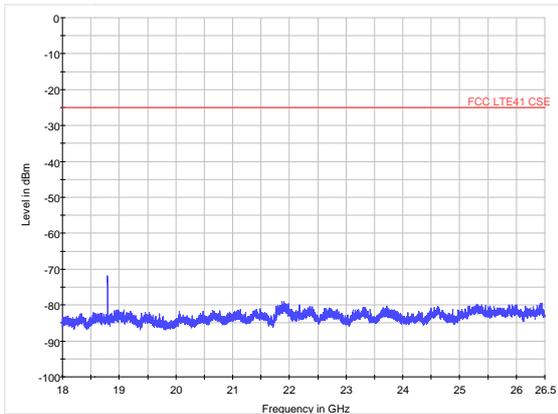
LTE Band 41 10MHz CH39700 30MHz~3GHz



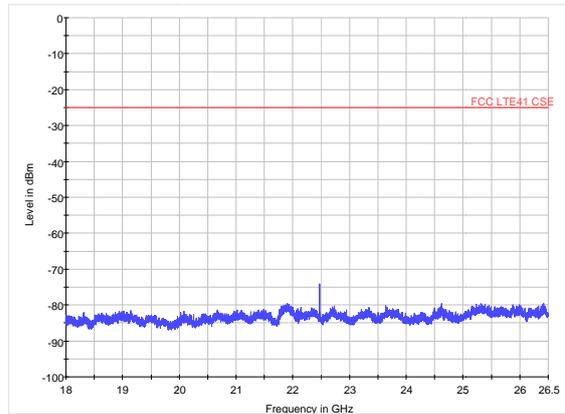
LTE Band 41 5MHz CH41565 3GHz~18GHz



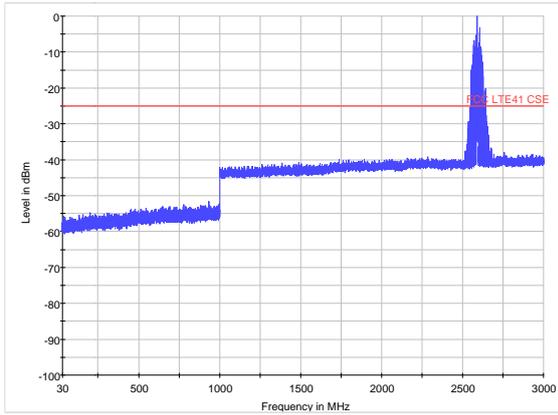
LTE Band 41 10MHz CH39700 3GHz~18GHz



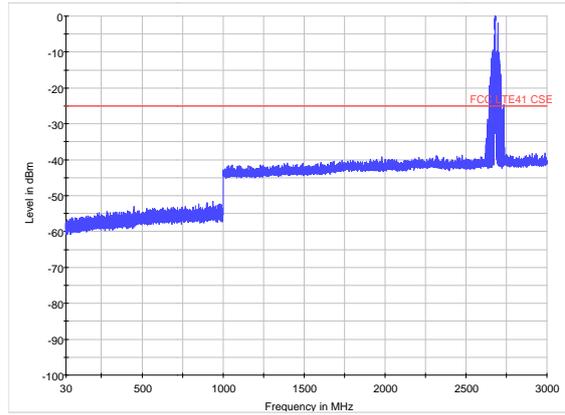
LTE Band 41 5MHz CH41565 18GHz~30GHz



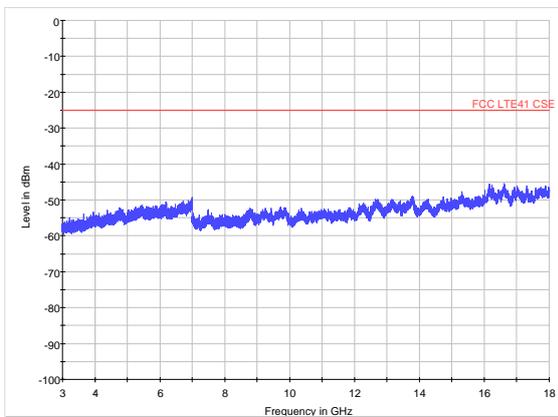
LTE Band 41 10MHz CH39700 18GHz~30GHz



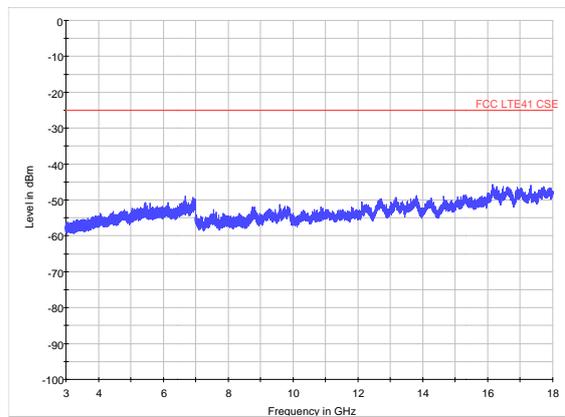
LTE Band 41 10MHz CH40620 30MHz~3GHz



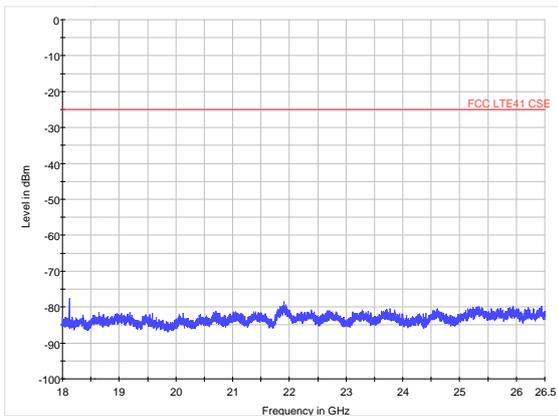
LTE Band 41 10MHz CH41540 30MHz~3GHz



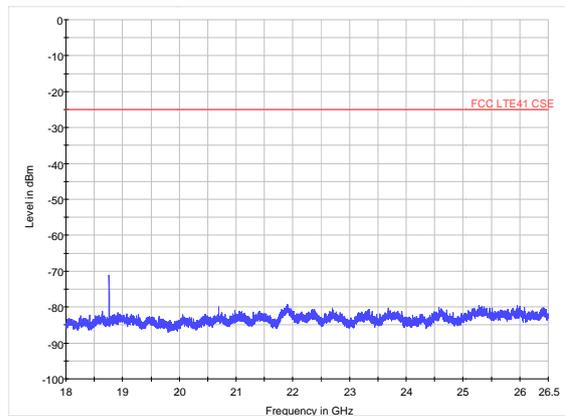
LTE Band 41 10MHz CH40620 3GHz~18GHz



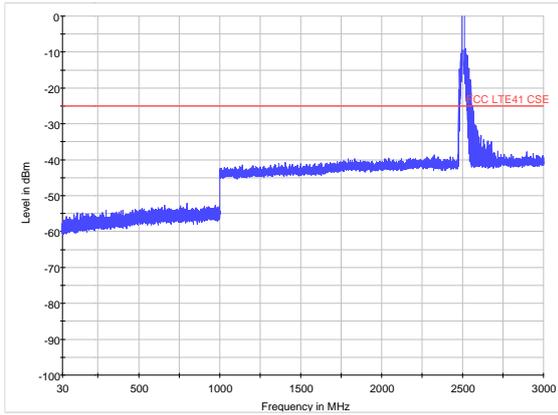
LTE Band 41 10MHz CH41540 3GHz~18GHz



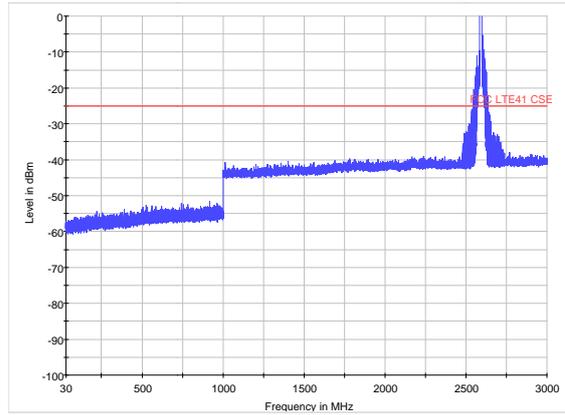
LTE Band 41 10MHz CH40620 18GHz~30GHz



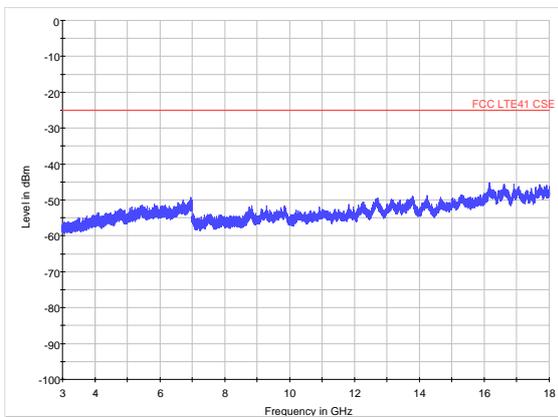
LTE Band 41 10MHz CH41540 18GHz~30GHz



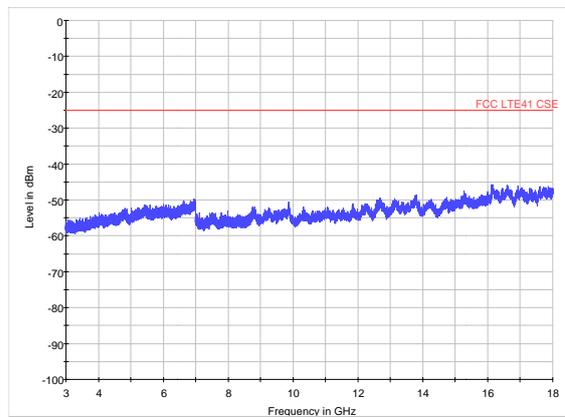
LTE Band 41 15MHz CH39725 30MHz~3GHz



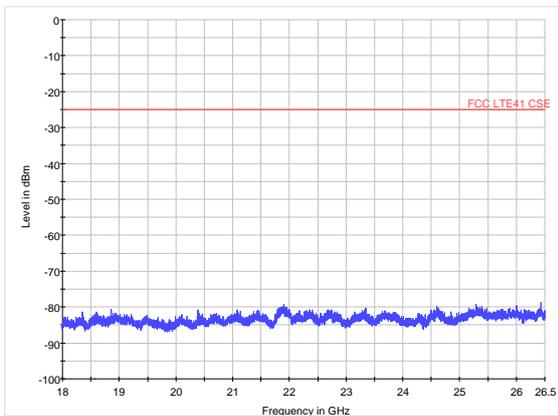
LTE Band 41 15MHz CH40620 30MHz~3GHz



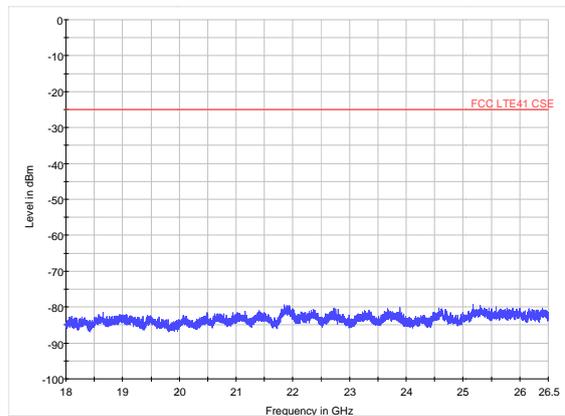
LTE Band 41 15MHz CH39725 3GHz~18GHz



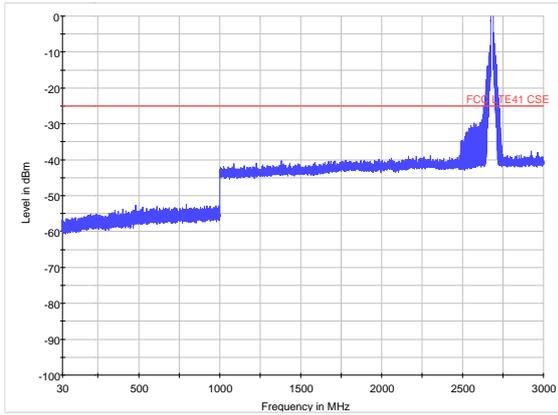
LTE Band 41 15MHz CH40620 3GHz~18GHz



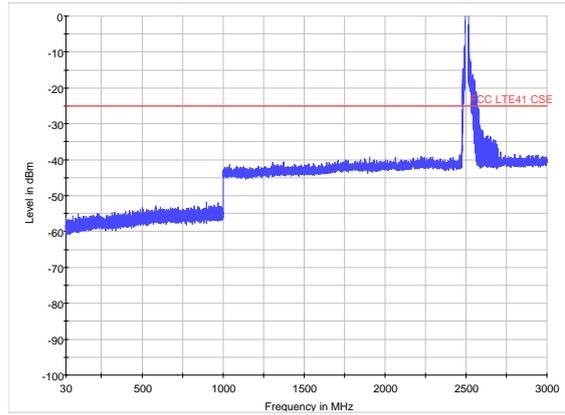
LTE Band 41 15MHz CH39725 18GHz~30GHz



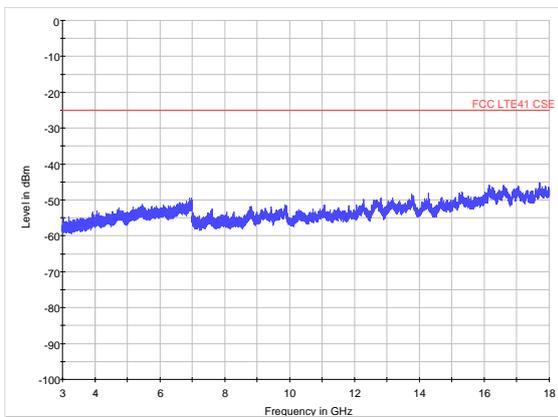
LTE Band 41 15MHz CH40620 18GHz~30GHz



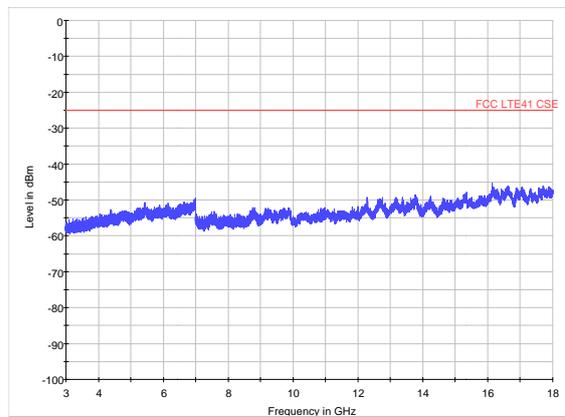
LTE Band 41 15MHz CH41515 30MHz~3GHz



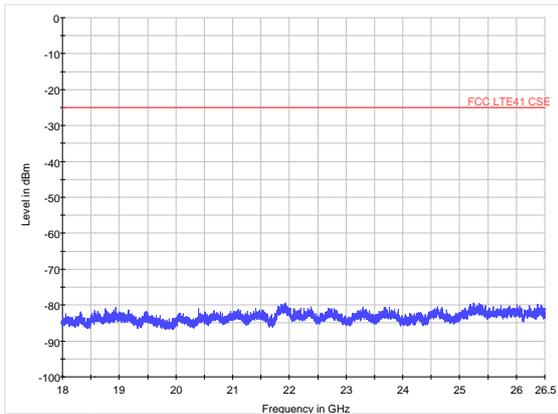
LTE Band 41 20MHz CH39750 30MHz~3GHz



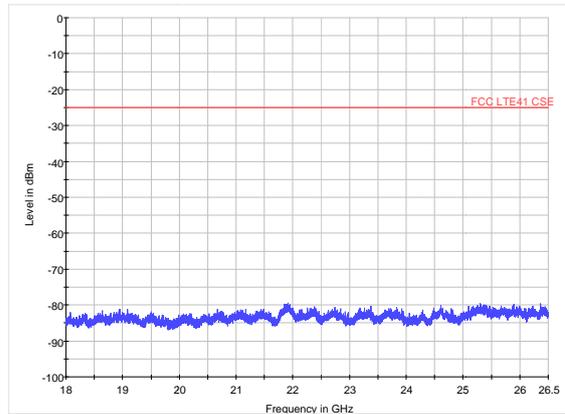
LTE Band 41 15MHz CH41515 3GHz~18GHz



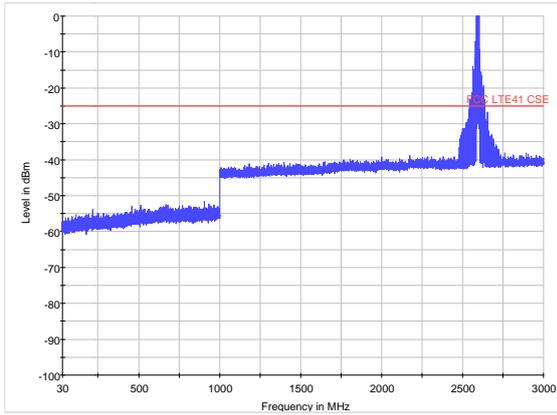
LTE Band 41 20MHz CH39750 3GHz~18GHz



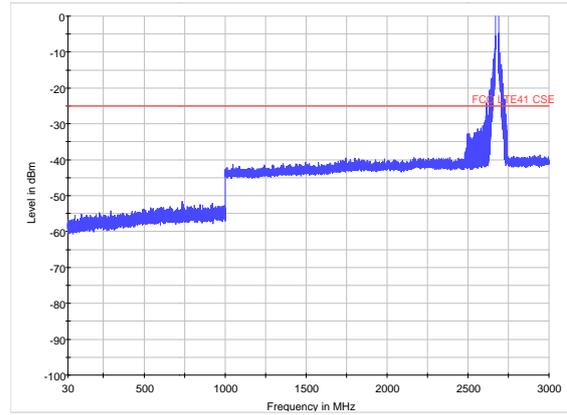
LTE Band 41 15MHz CH41515 18GHz~30GHz



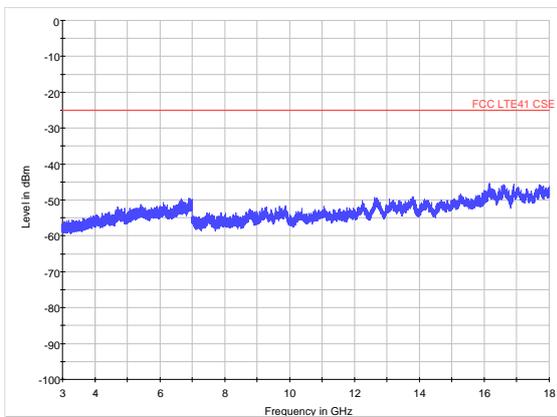
LTE Band 41 20MHz CH39750 18GHz~30GHz



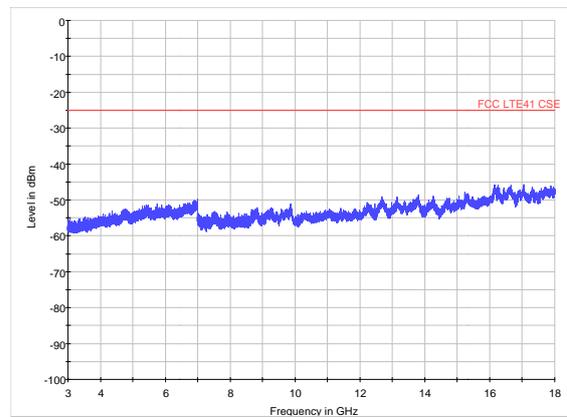
LTE Band 41 20MHz CH40620 30MHz~3GHz



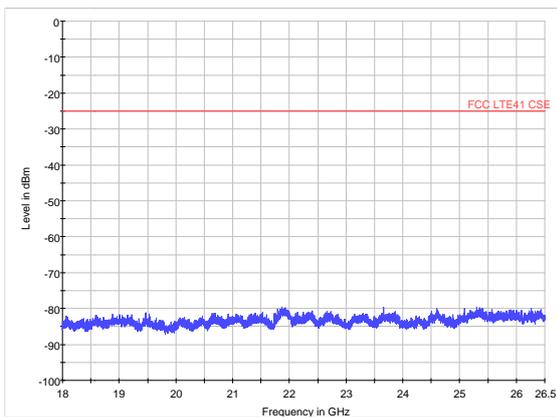
LTE Band 41 20MHz CH41490 30MHz~3GHz



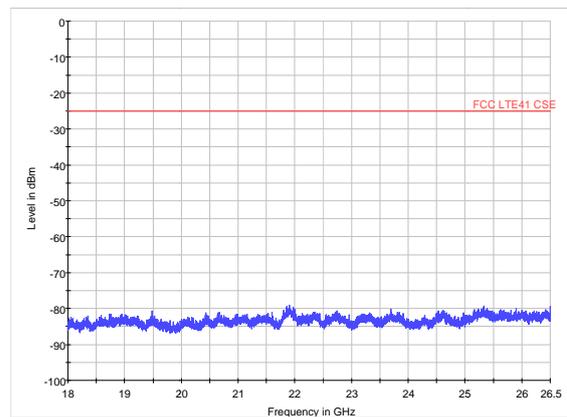
LTE Band 41 20MHz CH40620 3GHz~18GHz



LTE Band 41 20MHz CH41490 3GHz~18GHz



LTE Band 41 20MHz CH40620 18GHz~30GHz



LTE Band 41 20MHz CH41490 18GHz~30GHz

## 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 TIA -603-D are used.

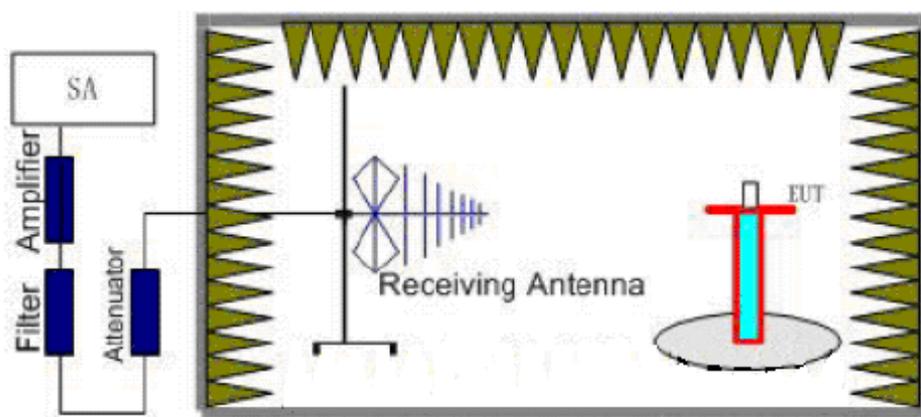
The spectrum was scanned from 30 MHz to the 10th harmonic of the highest frequency generated within the equipment.

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

The procedure of Radiates Spurious Emission is as follows:

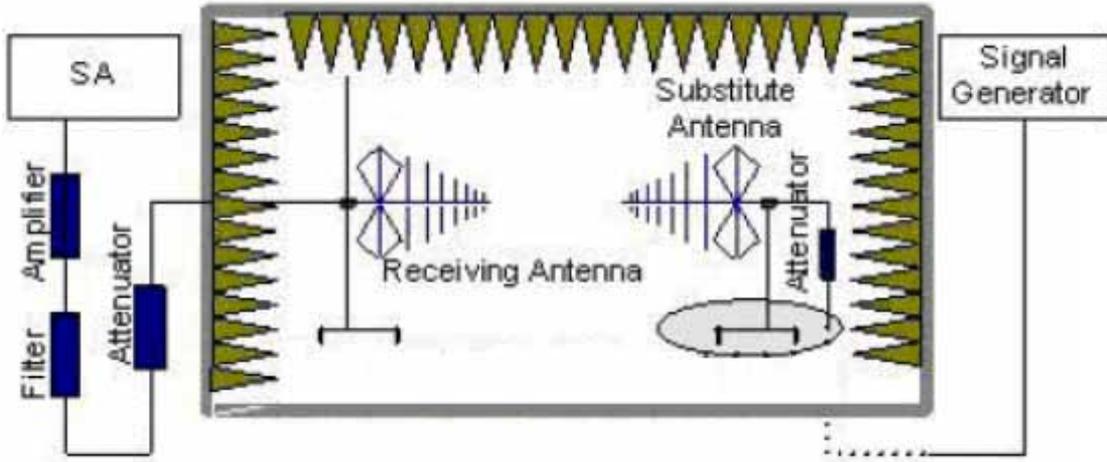
Step 1:

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 1MHz. 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**

LTE -4/12/17 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.”  
 LTE -7/41 Rule Part 27.53(m) 55 + 10 log (P) dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(4) of this section.

LTE -4/12/17 Limit	-13 dBm
LTE -7/41 Limit	-25 dBm

**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.