	20°C/Max Voltage	-0.00019	-0.00257
20MHz	-30°C/Normal Voltage	0.00097	0.00105
	-20°C/Normal Voltage	0.00070	-0.00010
	-10°C/Normal Voltage	-0.00097	0.00055
	0°C/Normal Voltage	0.00018	0.00120
	10°C/Normal Voltage	0.00127	0.00183
	20°C/Normal Voltage	0.00077	-0.00006
	30°C/Normal Voltage	0.00202	-0.00279
	40°C/Normal Voltage	0.00037	0.00268
	55°C/Normal Voltage	-0.00082	0.00194
	20°C/Min Voltage	-0.00184	-0.00281
	20°C/Max Voltage	0.00237	0.00046

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4.7 Spurious Emissions at Antenna Terminals

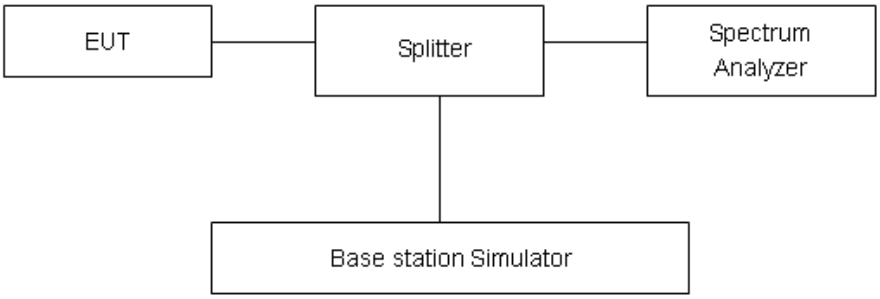
Ambient condition

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. Set RBW 1MHz and VBW3MHz， Sweep is set to ATUO.
Of those disturbances below (limit – 20 dB), the mark is not required for the EUT.

Test setup



Limits

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

Rule Part 27.53(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.

WCDMA Band IV /LTE -4 Limit	-13 dBm
LTE -7 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

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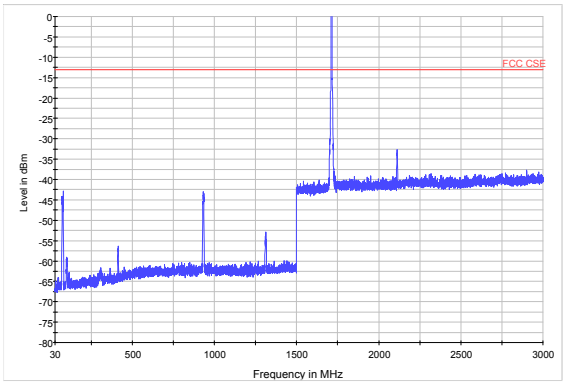
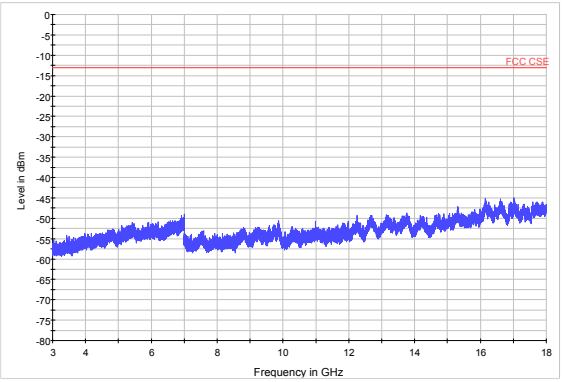
Test Result: PASS

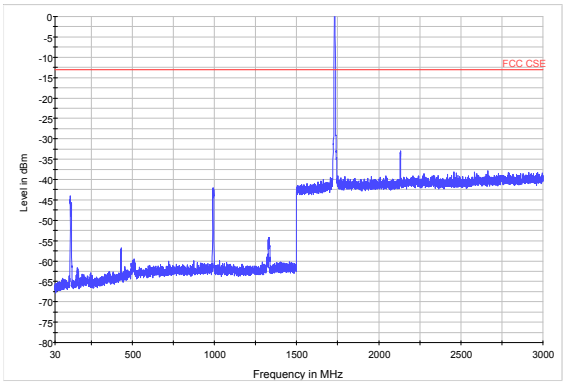
WCDMA Band IV CH-Low 30MHz~3GHz



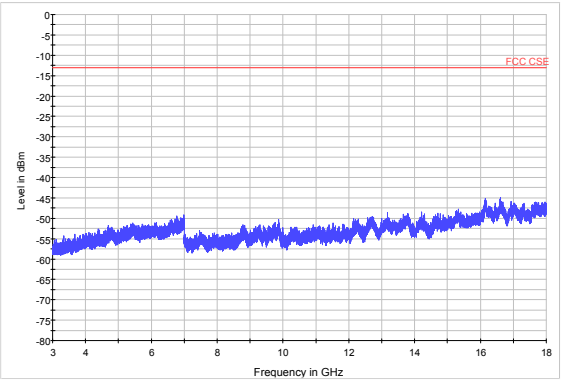
WCDMA Band IV CH-Low 3GHz ~18GHz



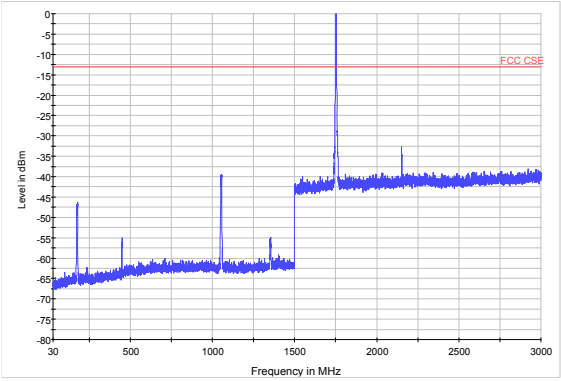
WCDMA Band IV CH-Middle 30MHz~3GHz



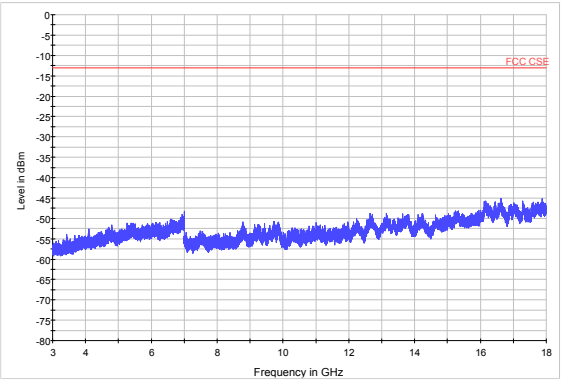
WCDMA Band IV CH-Middle 3GHz ~18GHz



WCDMA Band IV CH-High 30MHz~3GHz



WCDMA Band IV CH-High 3GHz ~18GHz



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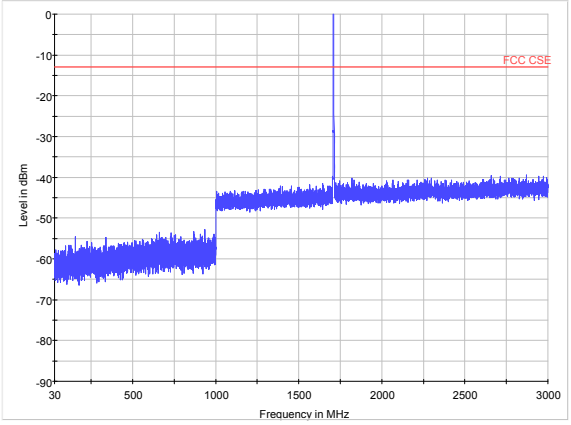
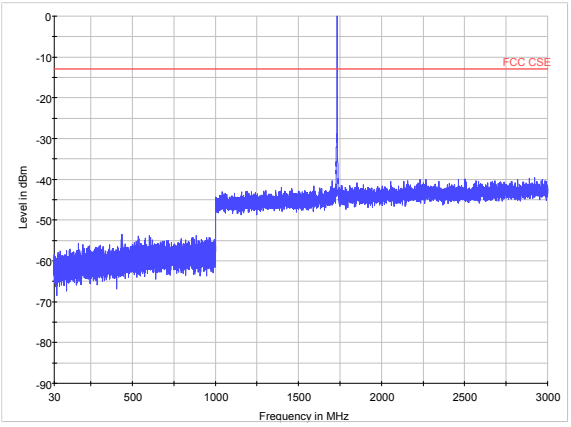
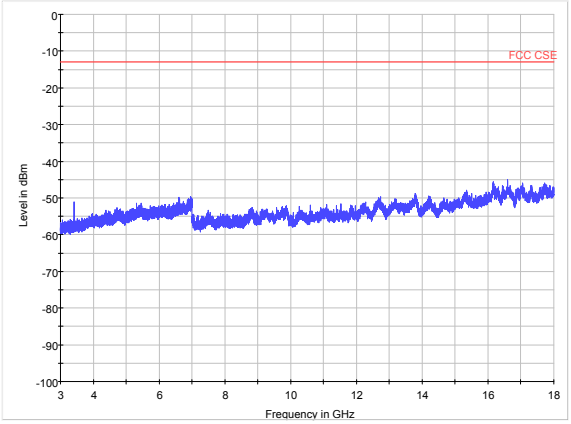


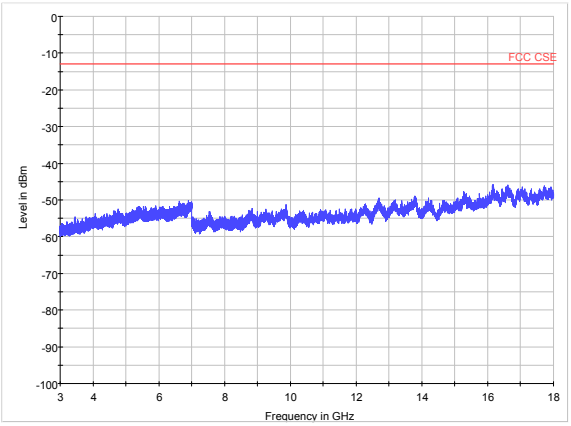
LTE Band 4 1.4MHz CH19957 30MHz~3GHz



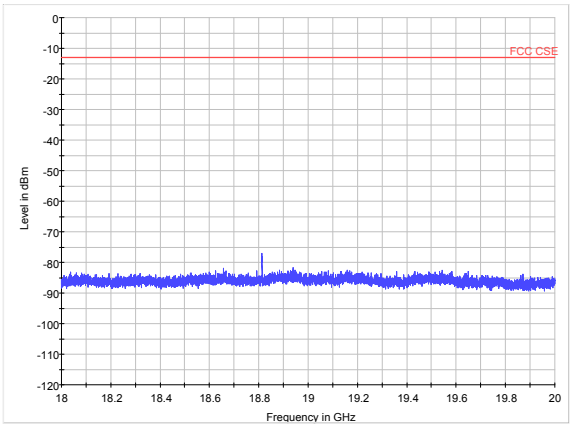
LTE Band 4 1.4MHz CH20175 30MHz~3GHz



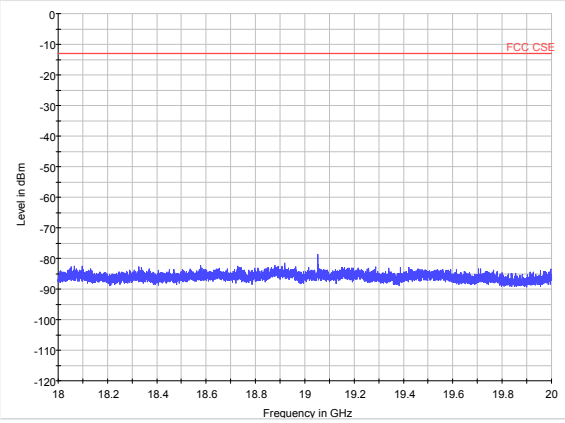
LTE Band 4 1.4MHz CH19957 3GHz~18GHz



LTE Band 4 1.4MHz CH20175 3GHz~18GHz



LTE Band 4 1.4MHz CH19957 18GHz~20GHz



LTE Band 4 1.4MHz CH20175 18GHz~20GHz

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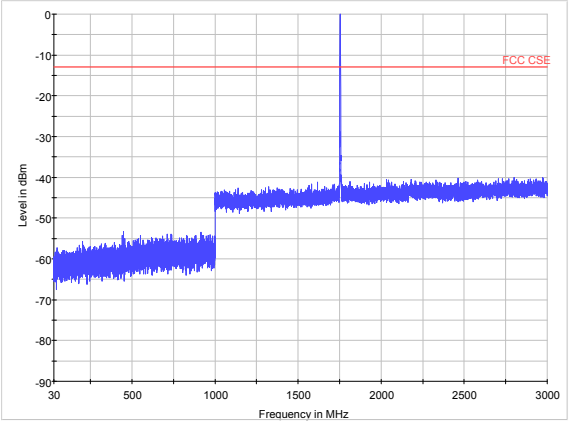
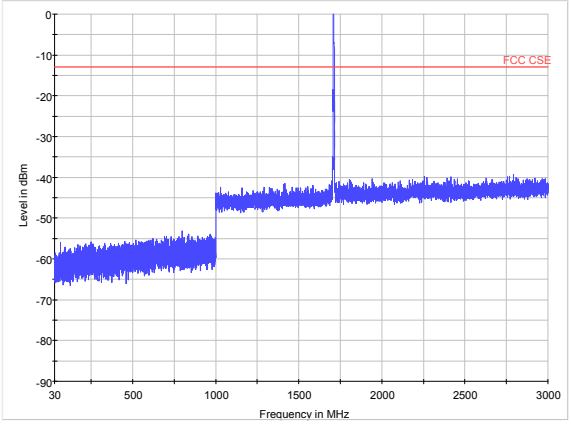
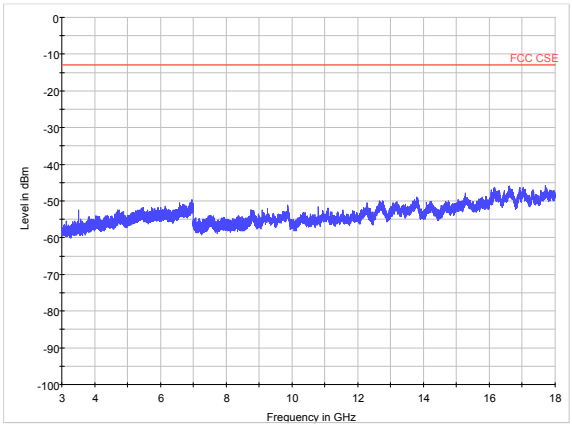


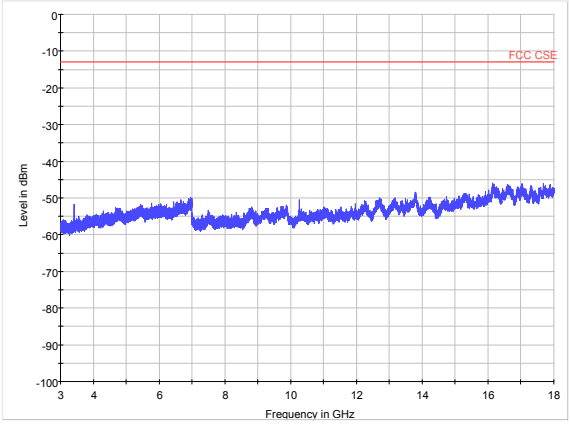
LTE Band 4 1.4MHz CH20393 30MHz~3GHz



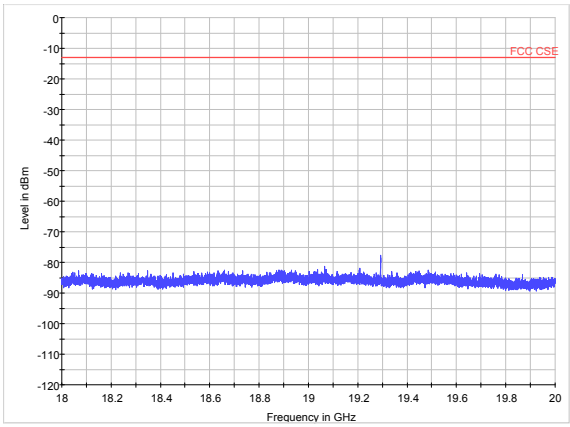
LTE Band 4 3MHz CH19965 30MHz~3GHz



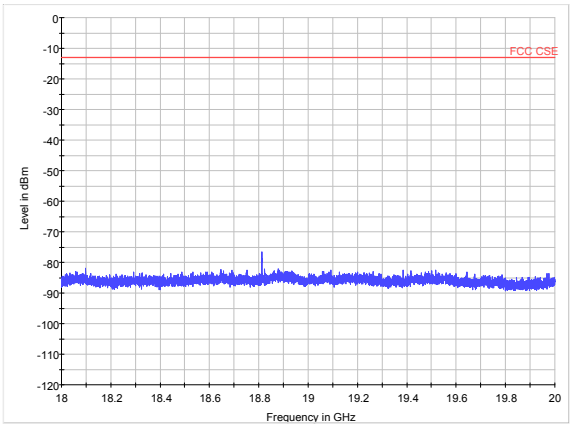
LTE Band 4 1.4MHz CH20393 3GHz~18GHz



LTE Band 4 3MHz CH19965 3GHz~18GHz



LTE Band 4 1.4MHz CH20393 18GHz~20GHz



LTE Band 4 3MHz CH19965 18GHz~20GHz

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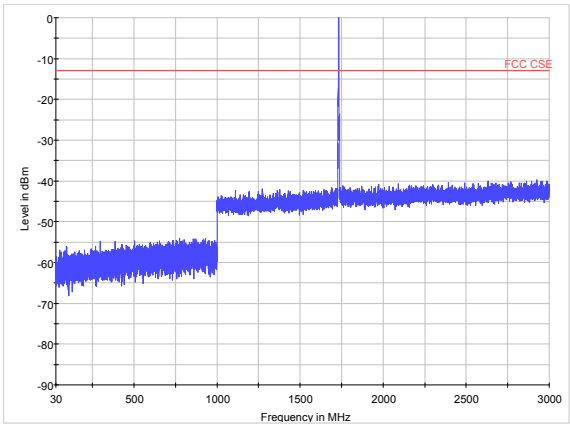
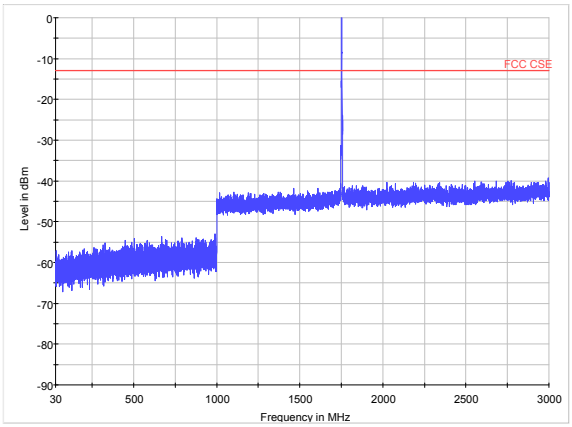
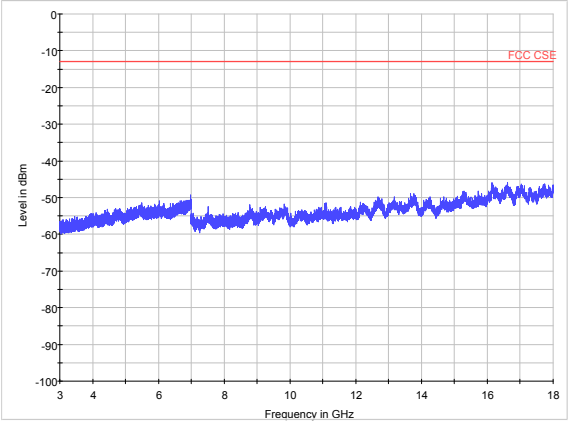


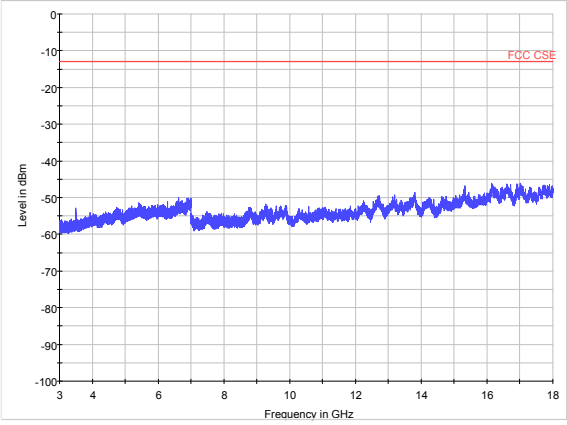
LTE Band 4 3MHz CH20175 30MHz~3GHz



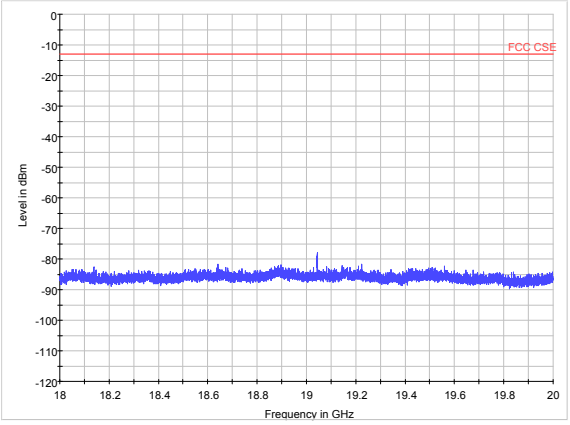
LTE Band 4 3MHz CH20385 30MHz~3GHz



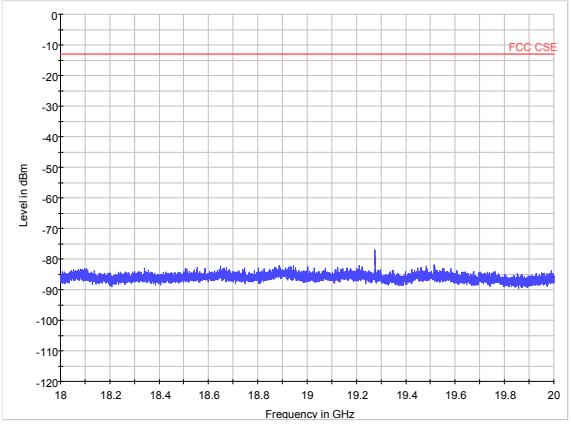
LTE Band 4 3MHz CH20175 3GHz~18GHz



LTE Band 4 3MHz CH20385 3GHz~18GHz



LTE Band 4 3MHz CH20175 18GHz~20GHz



LTE Band 4 3MHz CH20385 18GHz~20GHz

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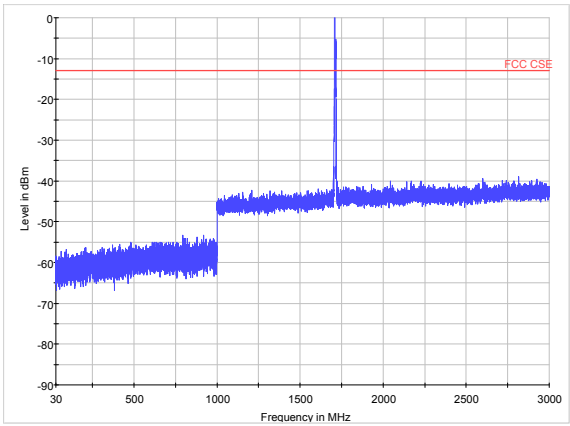
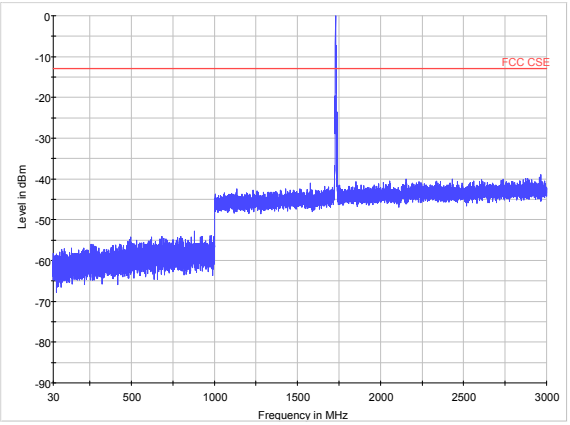
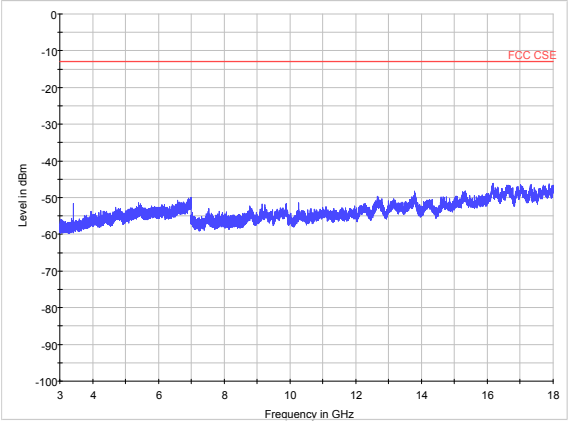


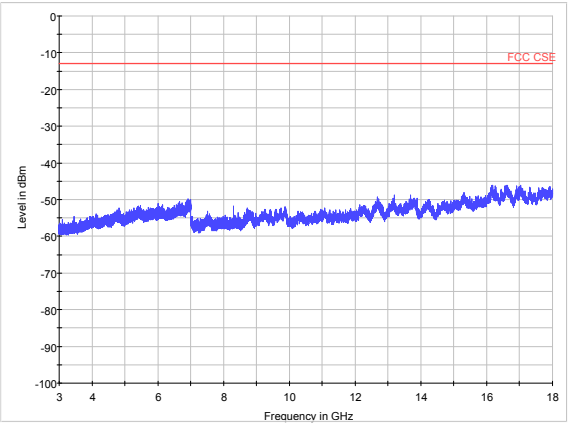
LTE Band 4 5MHz CH19975 30MHz~3GHz



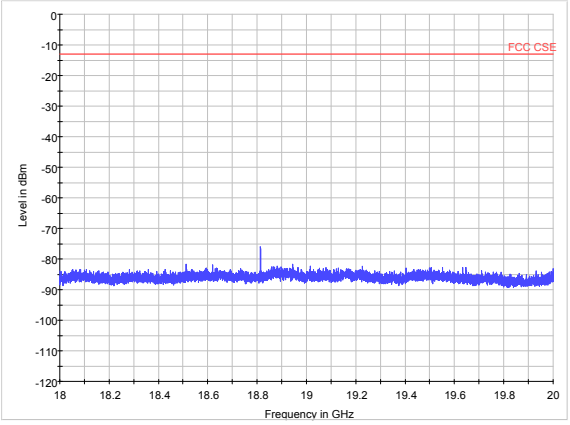
LTE Band 4 5MHz CH20175 30MHz~3GHz



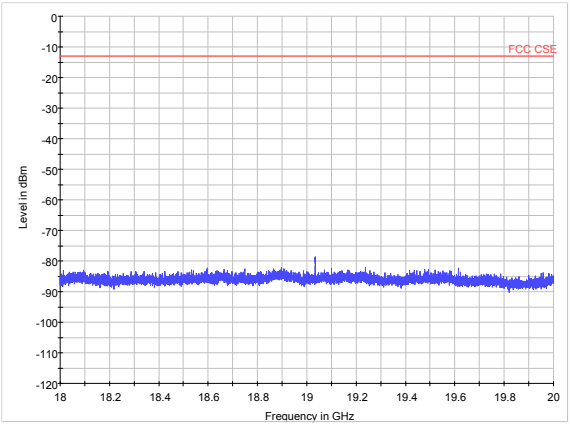
LTE Band 4 5MHz CH19975 3GHz~18GHz



LTE Band 4 5MHz CH20175 3GHz~18GHz



LTE Band 4 5MHz CH19975 18GHz~20GHz



LTE Band 4 5MHz CH20175 18GHz~20GHz

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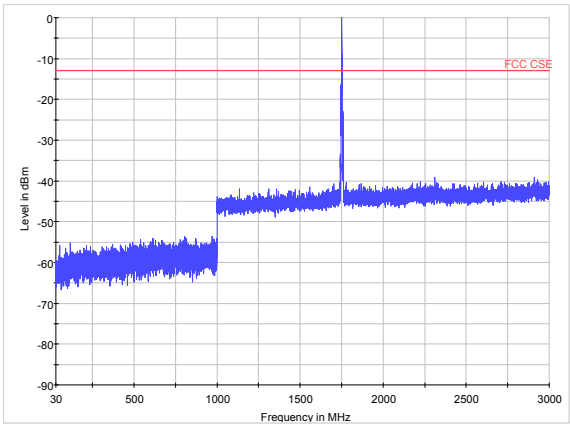
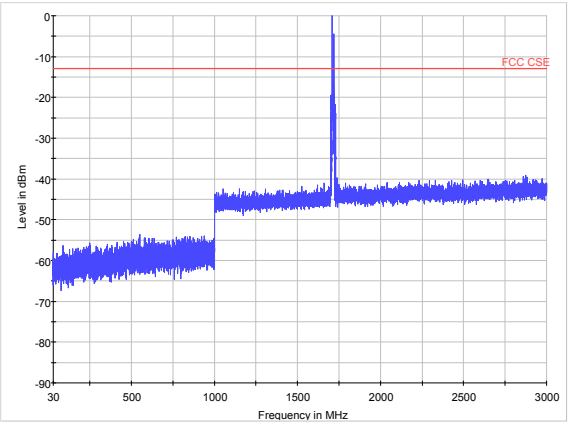
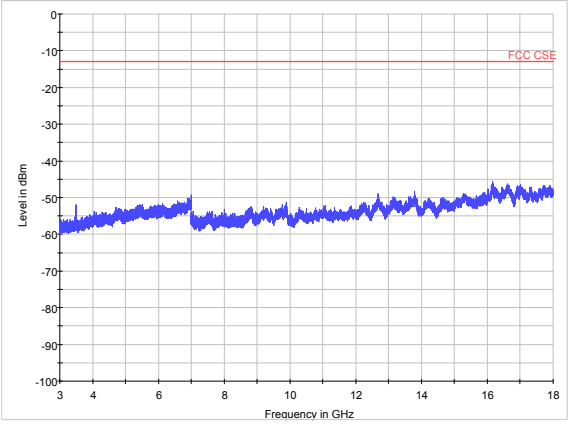


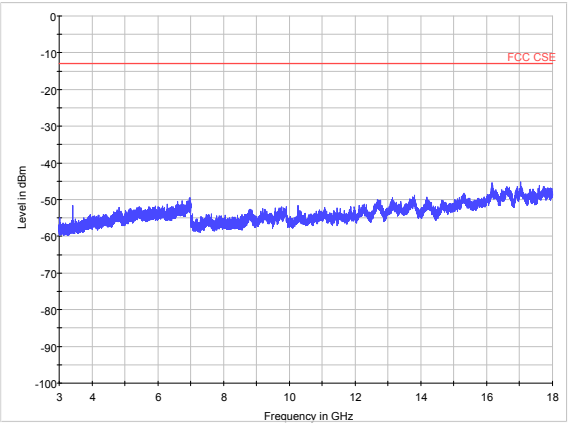
LTE Band 4 5MHz CH20375 30MHz~3GHz



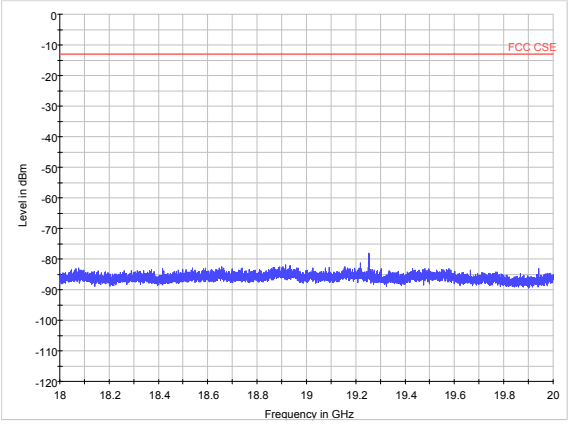
LTE Band 4 10MHz CH20000 30MHz~3GHz



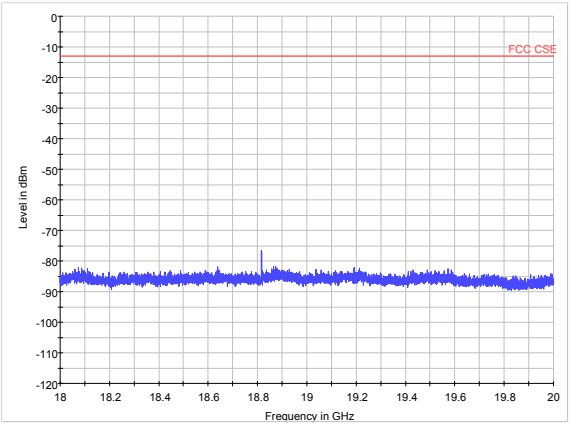
LTE Band 4 5MHz CH20375 3GHz~18GHz



LTE Band 4 10MHz CH20000 3GHz~18GHz



LTE Band 4 5MHz CH20375 18GHz~20GHz



LTE Band 4 10MHz CH20000 18GHz~20GHz

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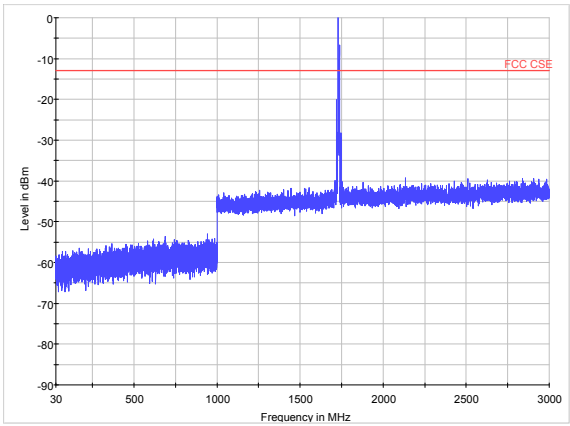
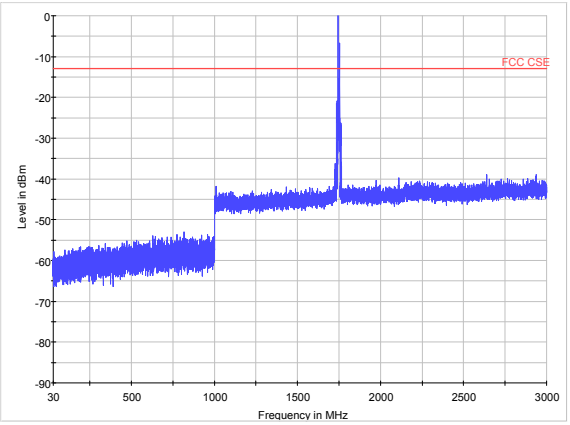
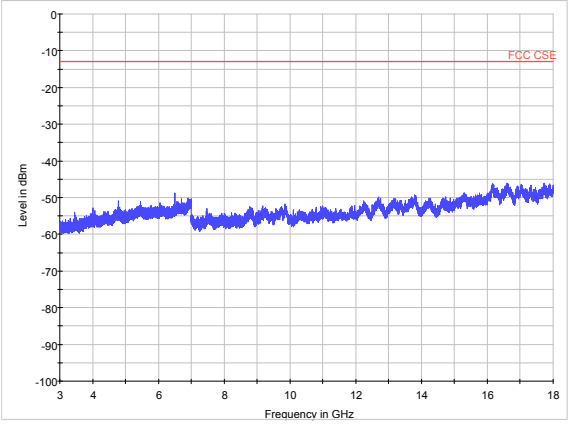


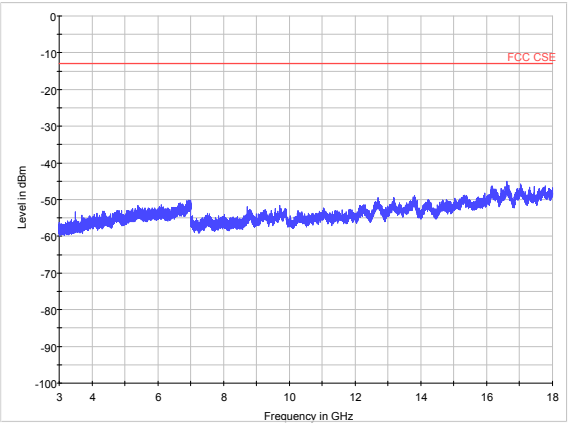
LTE Band 4 10MHz CH20175 30MHz~3GHz



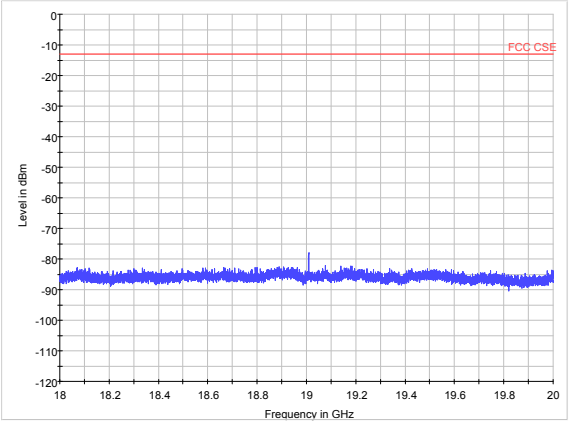
LTE Band 4 10MHz CH20350 30MHz~3GHz



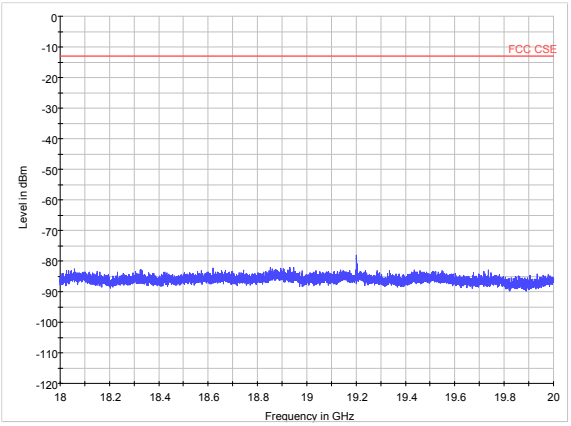
LTE Band 4 10MHz CH20175 3GHz~18GHz



LTE Band 4 10MHz CH20350 3GHz~18GHz



LTE Band 4 10MHz CH20175 18GHz~20GHz



LTE Band 4 10MHz CH20350 18GHz~20GHz

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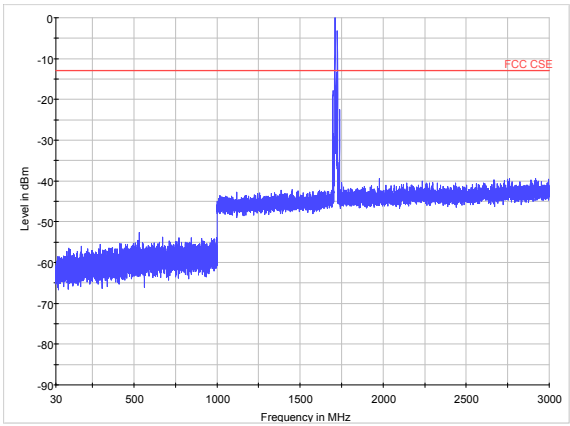
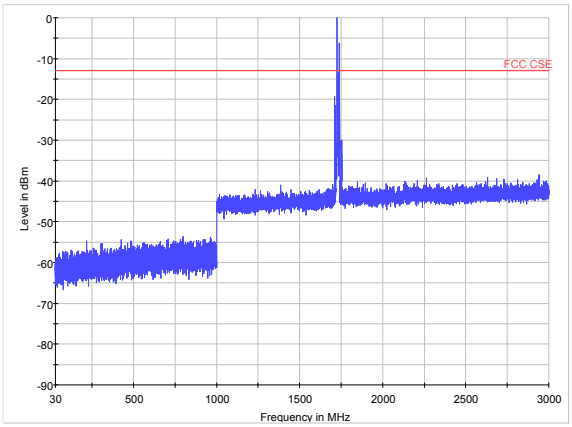
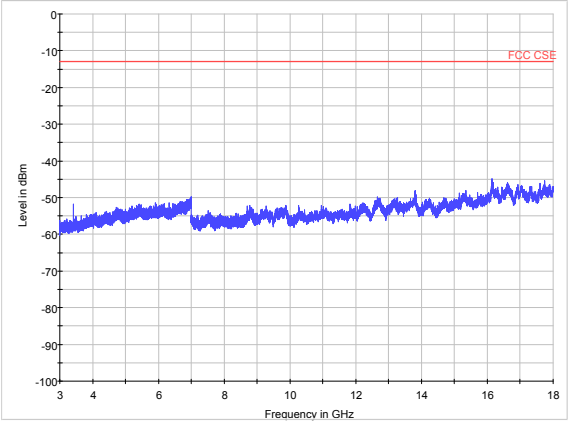


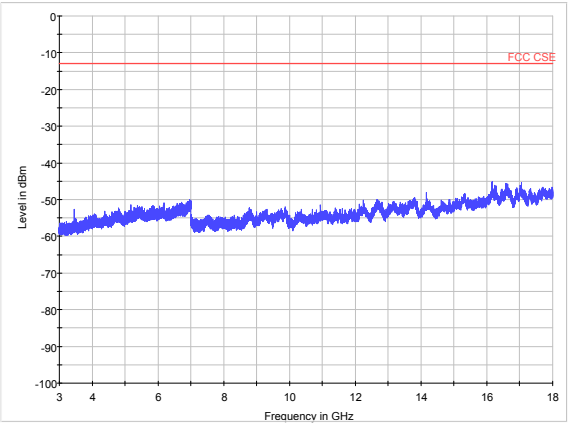
LTE Band 4 15MHz CH20025 30MHz~3GHz



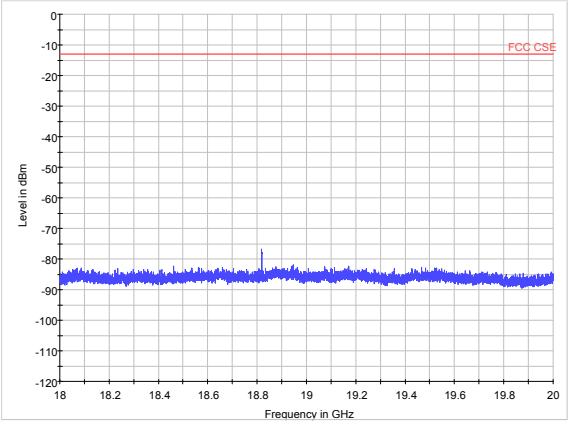
LTE Band 4 15MHz CH20175 30MHz~3GHz



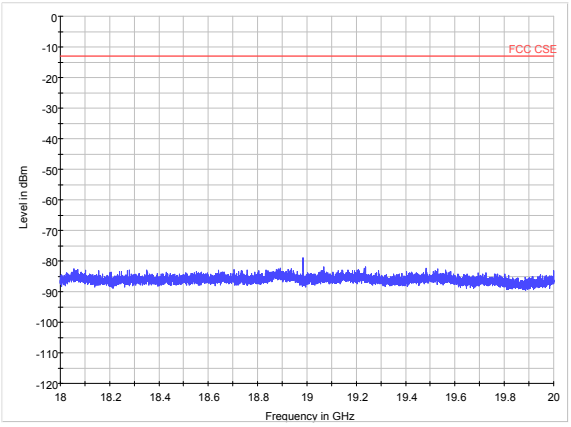
LTE Band 4 15MHz CH20025 3GHz~18GHz



LTE Band 4 15MHz CH20175 3GHz~18GHz



LTE Band 4 15MHz CH20025 18GHz~20GHz



LTE Band 4 15MHz CH20175 18GHz~20GHz

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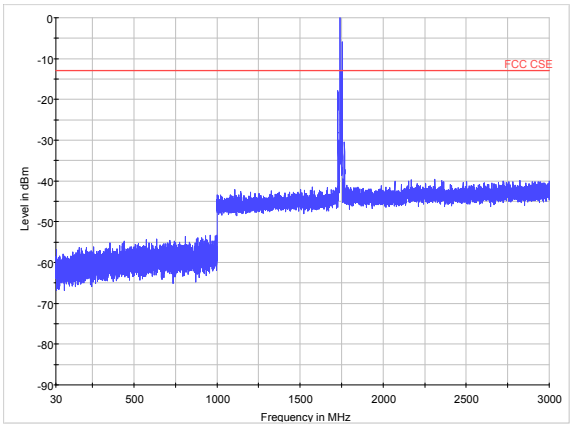
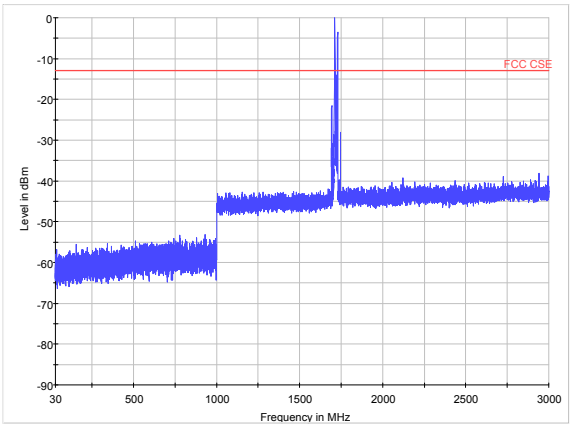
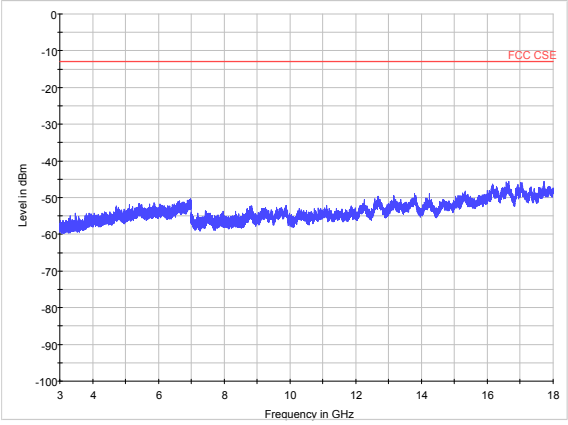


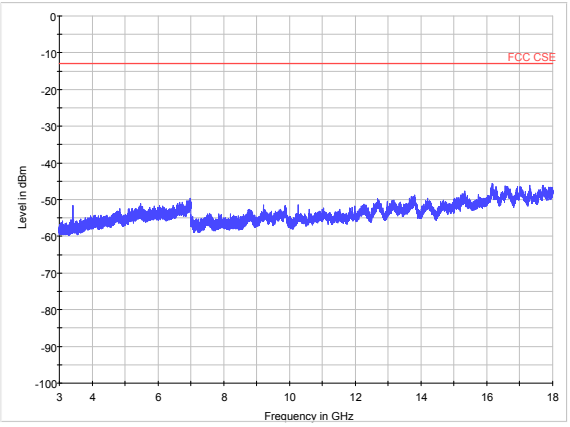
LTE Band 4 15MHz CH20325 30MHz~3GHz



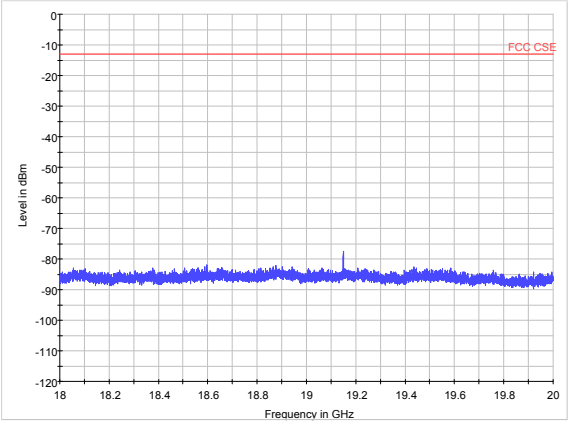
LTE Band 4 20MHz CH20050 30MHz~3GHz



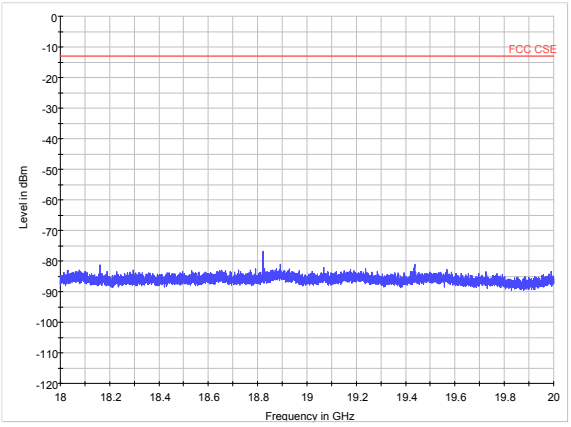
LTE Band 4 15MHz CH20325 3GHz~18GHz



LTE Band 4 20MHz CH20050 3GHz~18GHz



LTE Band 4 15MHz CH20325 18GHz~20GHz



LTE Band 4 20MHz CH20050 18GHz~20GHz

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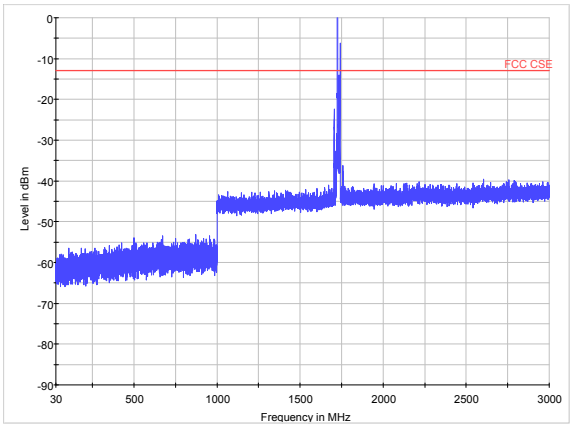
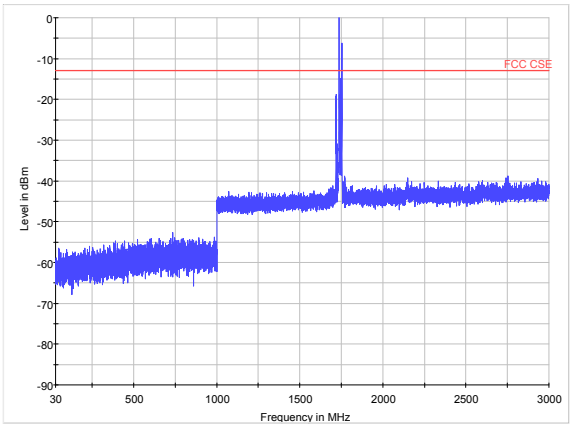
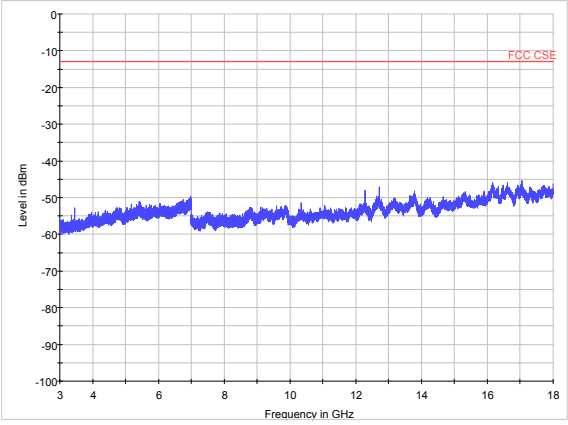


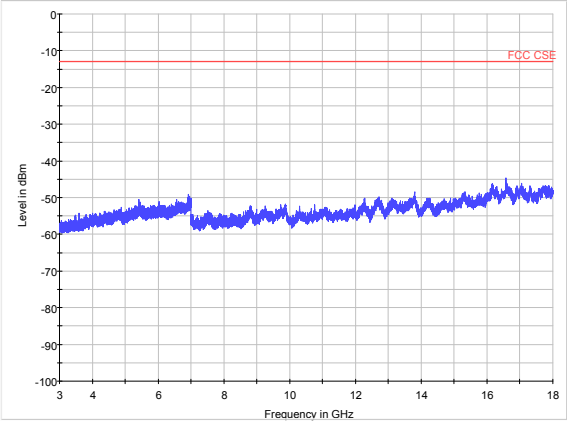
LTE Band 4 20MHz CH20175 30MHz~3GHz



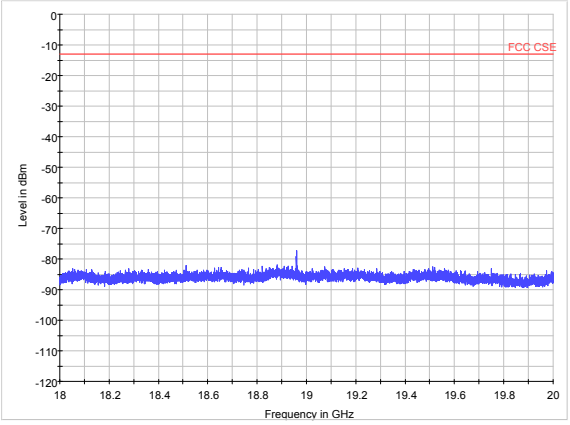
LTE Band 4 20MHz CH20300 30MHz~3GHz



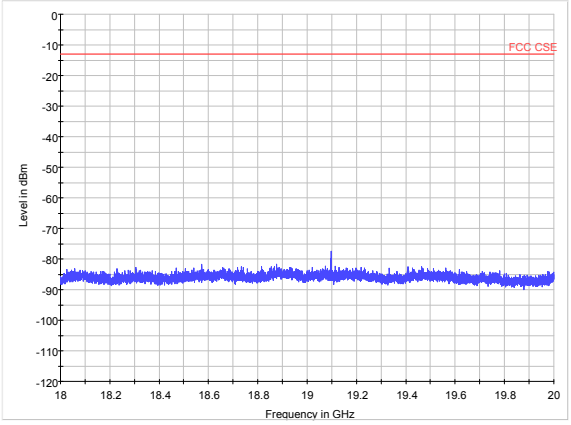
LTE Band 4 20MHz CH20175 3GHz~18GHz



LTE Band 4 20MHz CH20300 3GHz~18GHz



LTE Band 4 20MHz CH20175 18GHz~20GHz



LTE Band 4 20MHz CH20300 18GHz~20GHz

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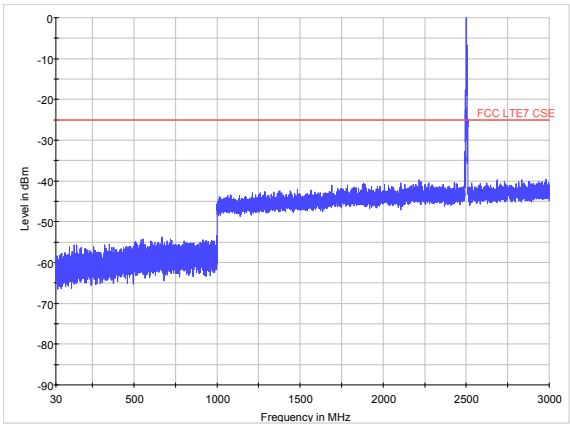
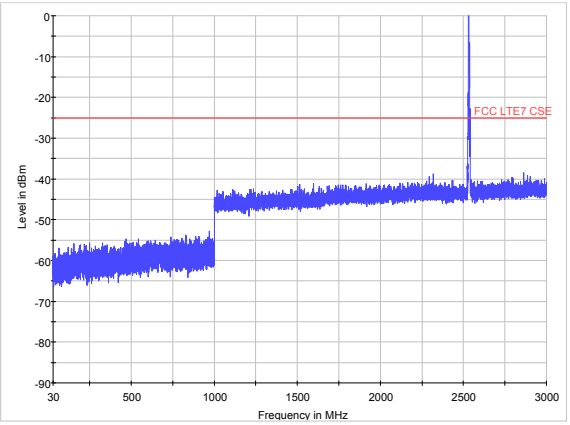
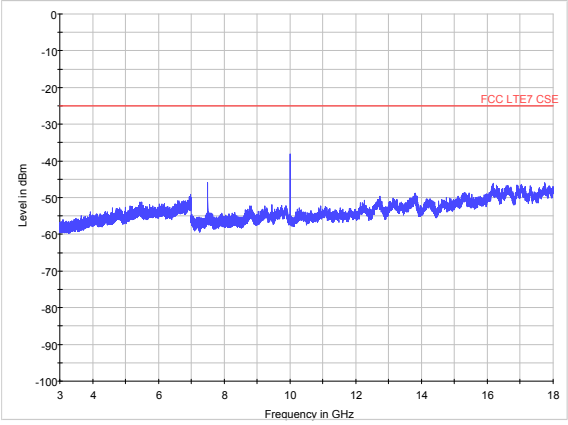


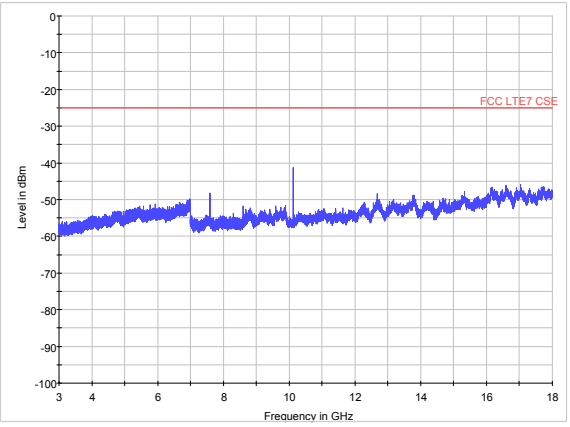
LTE Band 7 5MHz CH20775 30MHz~3GHz



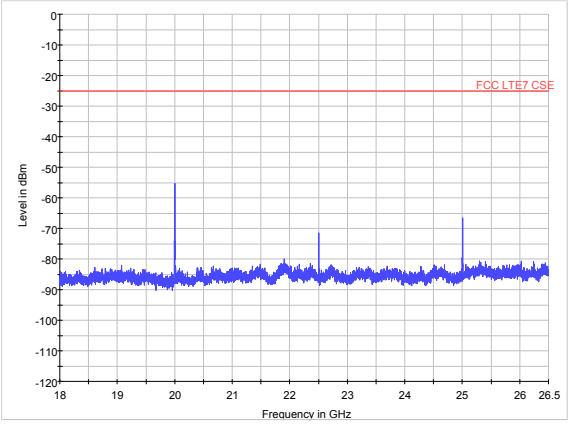
LTE Band 7 5MHz CH21100 30MHz~3GHz



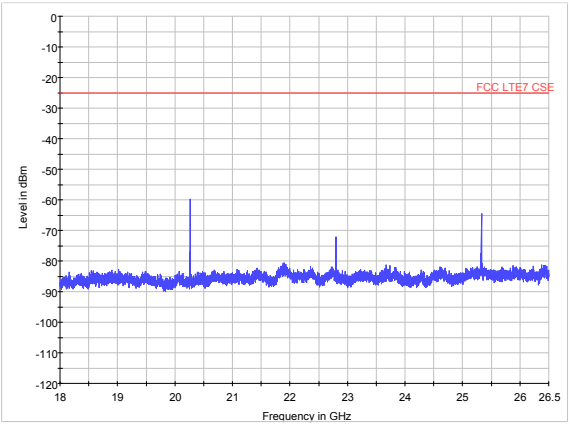
LTE Band 7 5MHz CH20775 3GHz~18GHz



LTE Band 7 5MHz CH21100 3GHz~18GHz



LTE Band 7 5MHz CH20775 18GHz~26.5GHz



LTE Band 7 5MHz CH21100 18GHz~26.5GHz

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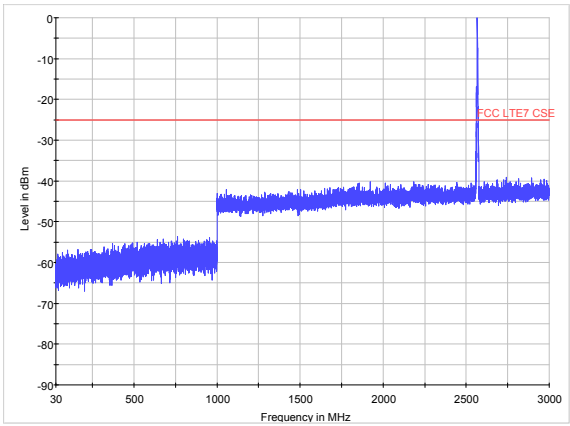
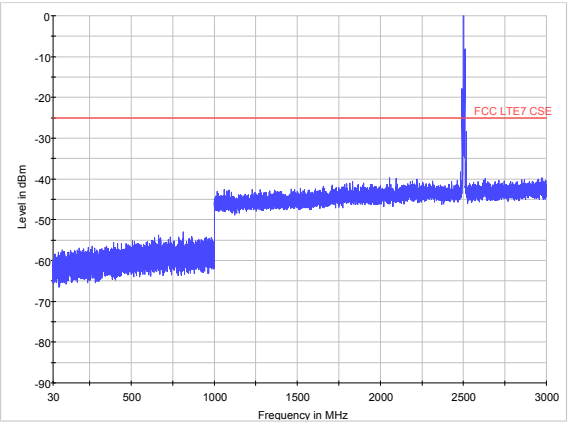
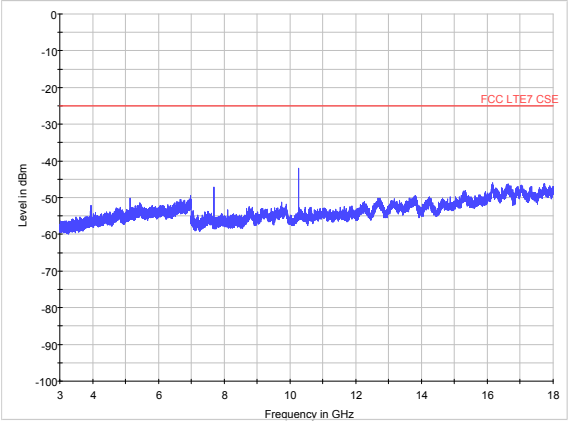


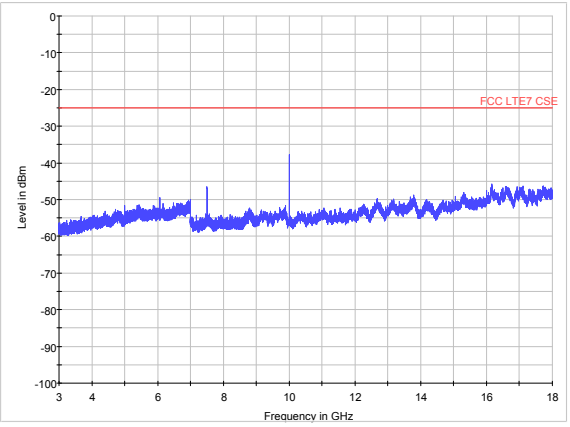
LTE Band 7 5MHz CH21425 30MHz~3GHz



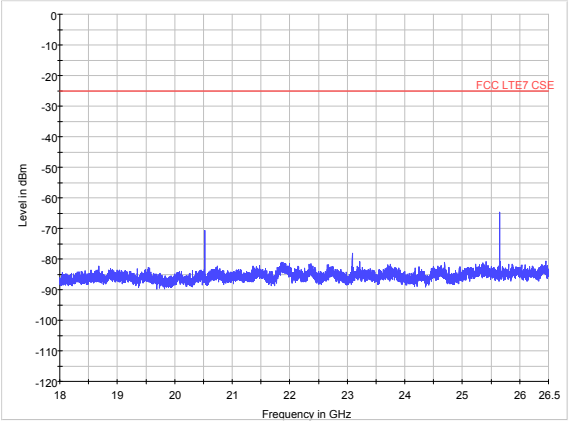
LTE Band 7 10MHz CH39700 30MHz~3GHz



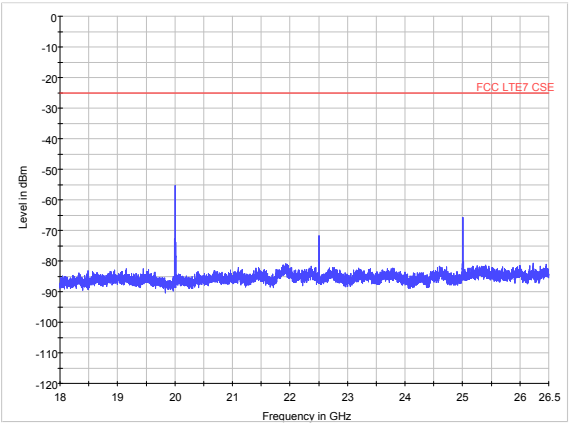
LTE Band 7 5MHz CH21425 3GHz~18GHz



LTE Band 7 10MHz CH39700 3GHz~18GHz



LTE Band 7 5MHz CH21425 18GHz~26.5GHz



LTE Band 7 10MHz CH39700 18GHz~26.5GHz

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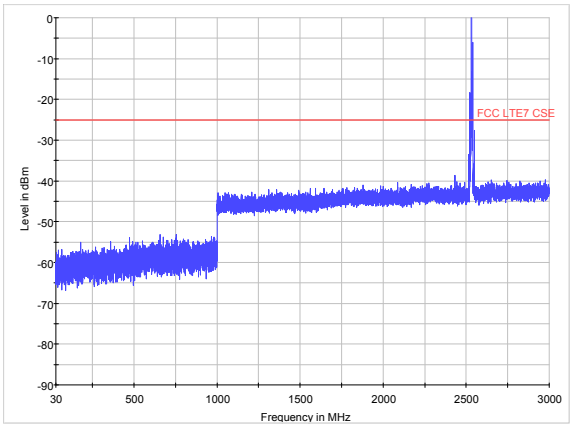
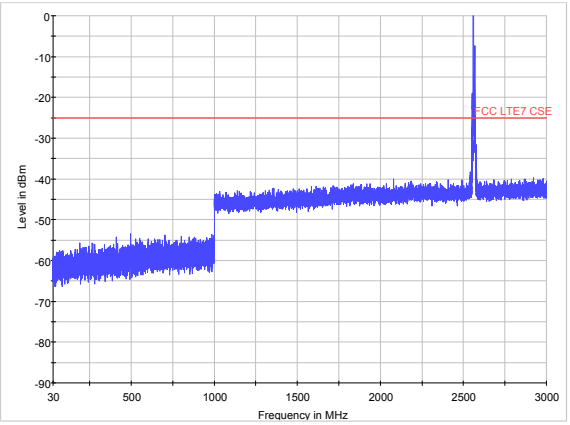
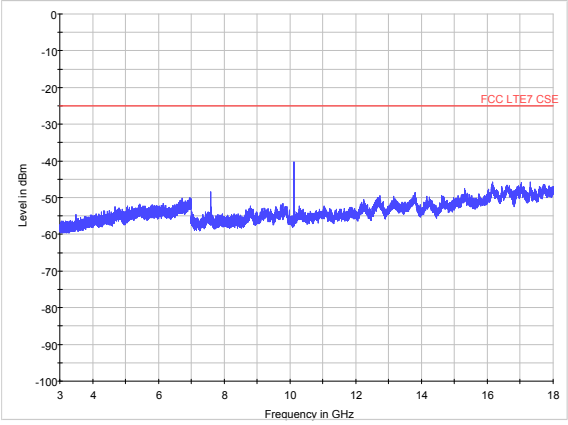


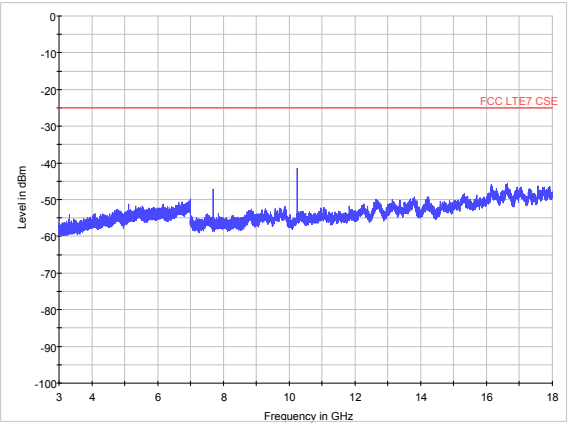
LTE Band 7 10MHz CH21100 30MHz~3GHz



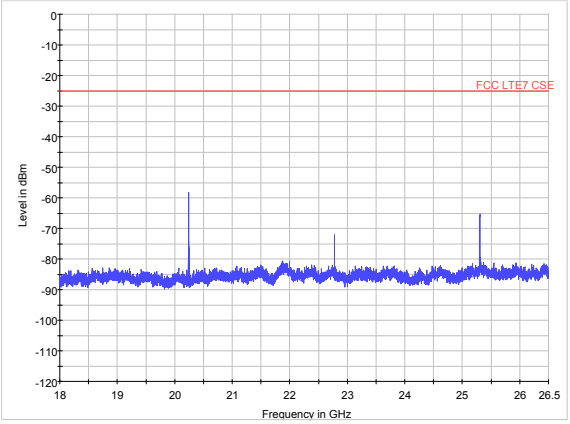
LTE Band 7 10MHz CH41540 30MHz~3GHz



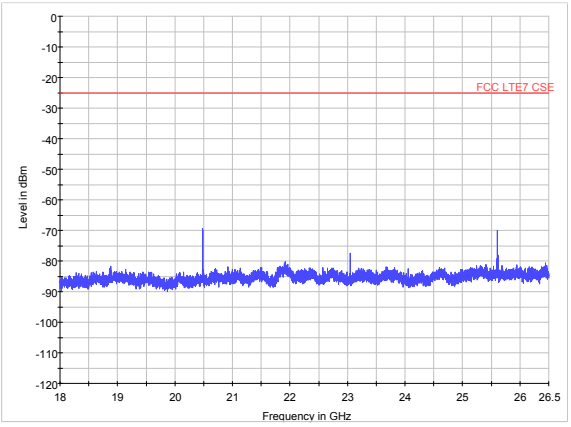
LTE Band 7 10MHz CH21100 3GHz~18GHz



LTE Band 7 10MHz CH41540 3GHz~18GHz



LTE Band 7 10MHz CH21100 18GHz~26.5GHz



LTE Band 710MHz CH41540 18GHz~26.5GHz

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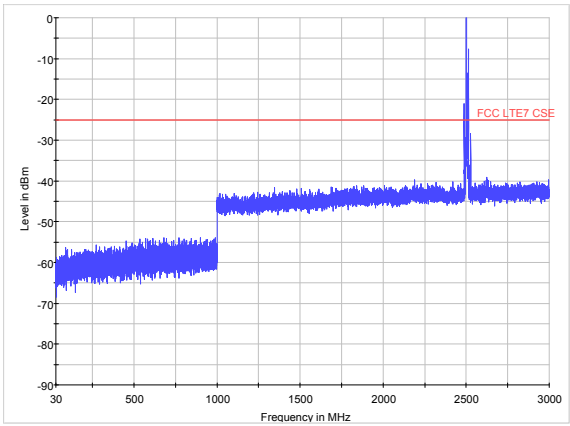
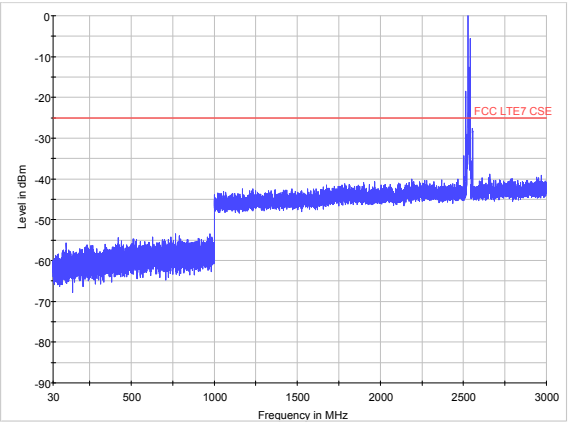
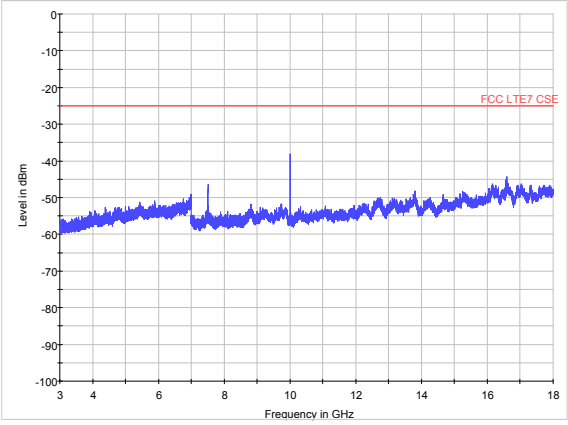


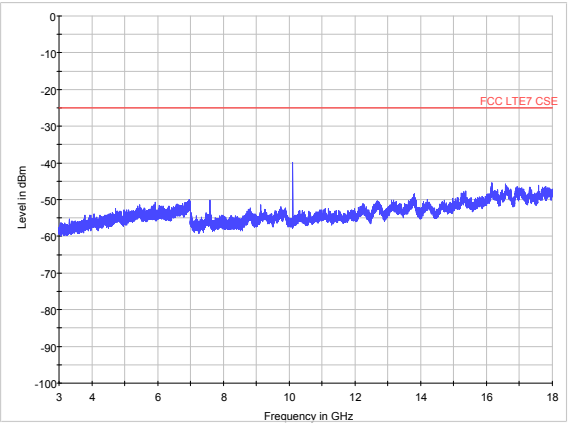
LTE Band 7 15MHz CH39725 30MHz~3GHz



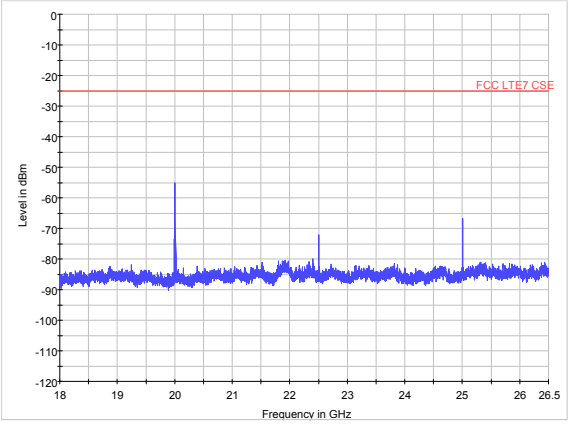
LTE Band 7 15MHz CH21100 30MHz~3GHz



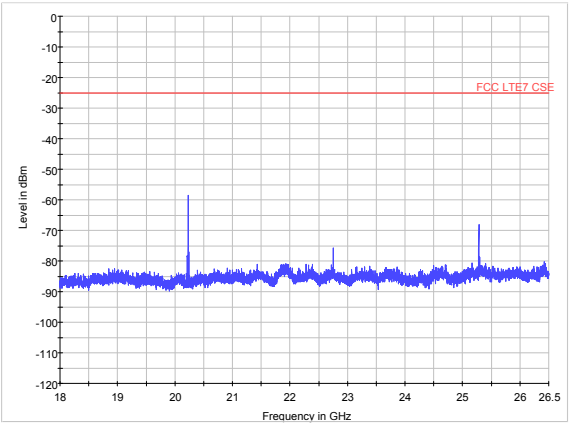
LTE Band 7 15MHz CH39725 3GHz~18GHz



LTE Band 7 15MHz CH21100 3GHz~18GHz



LTE Band 7 15MHz CH39725 18GHz~26.5GHz



LTE Band 7 15MHz CH21100 18GHz~26.5GHz

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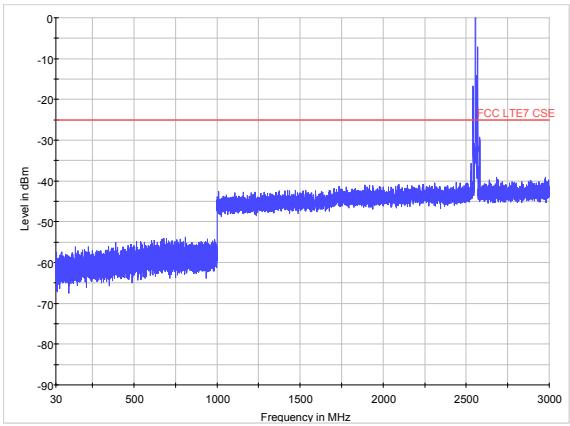
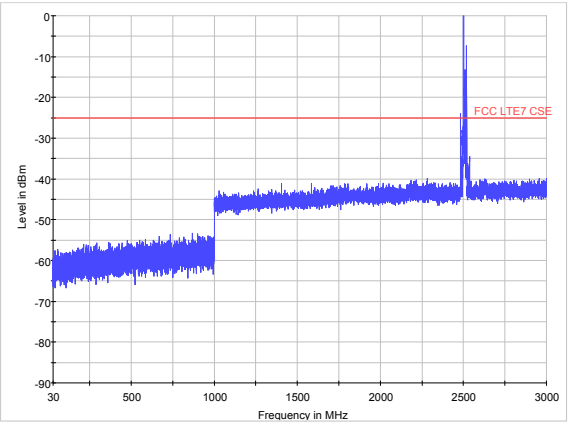
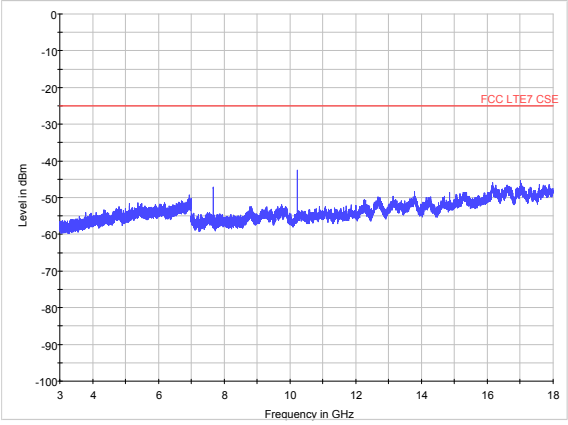


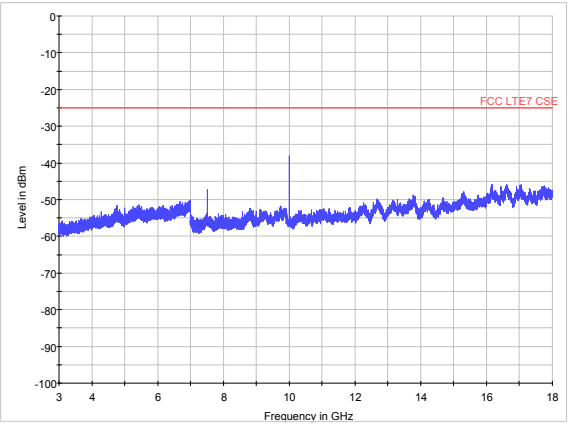
LTE Band 7 15MHz CH41515 30MHz~3GHz



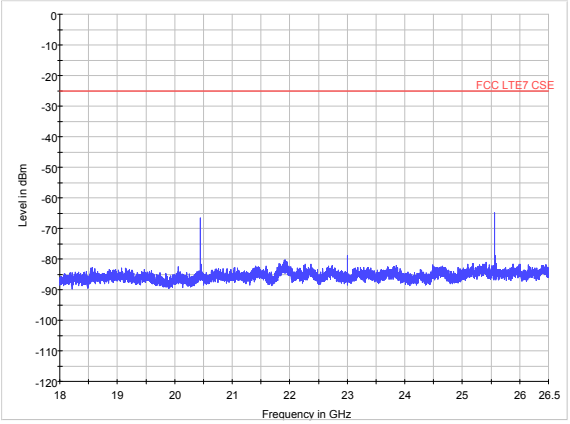
LTE Band 7 20MHz CH39750 30MHz~3GHz



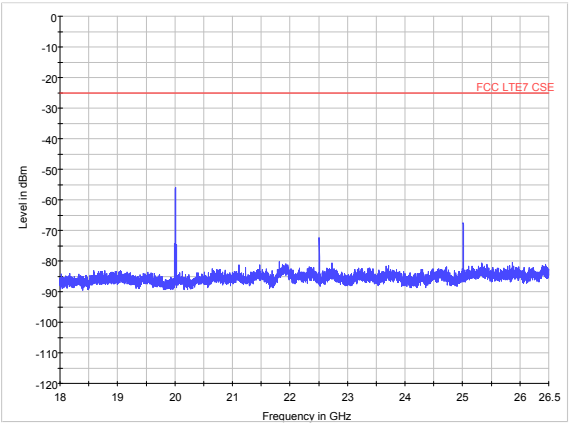
LTE Band 7 15MHz CH41515 3GHz~18GHz



LTE Band 7 20MHz CH39750 3GHz~18GHz



LTE Band 7 15MHz CH41515 18GHz~26.5GHz



LTE Band 7 20MHz CH39750 18GHz~26.5GHz

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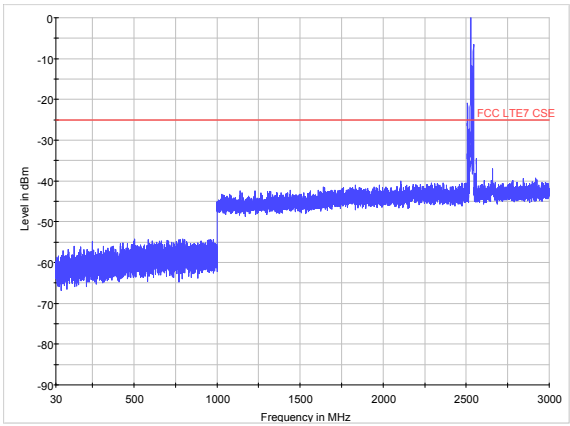
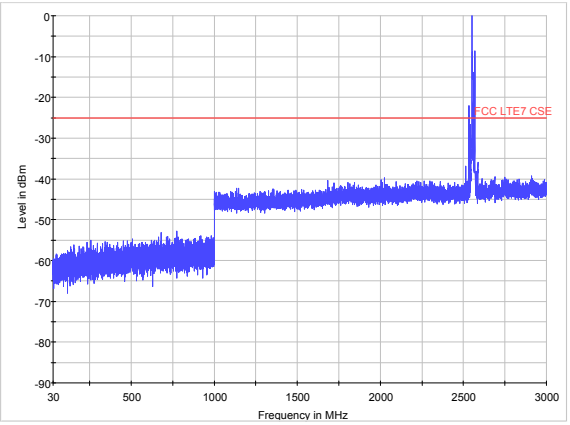
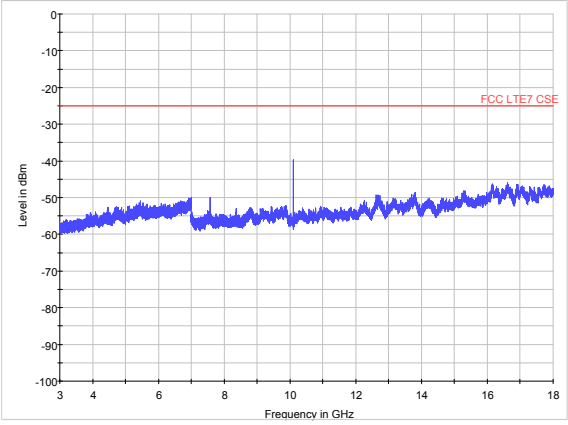


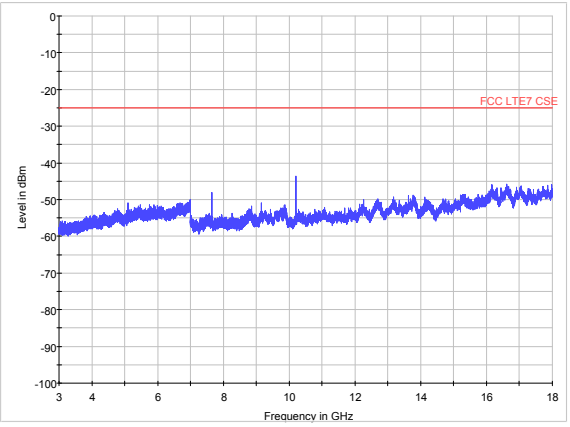
LTE Band 7 20MHz CH21100 30MHz~3GHz



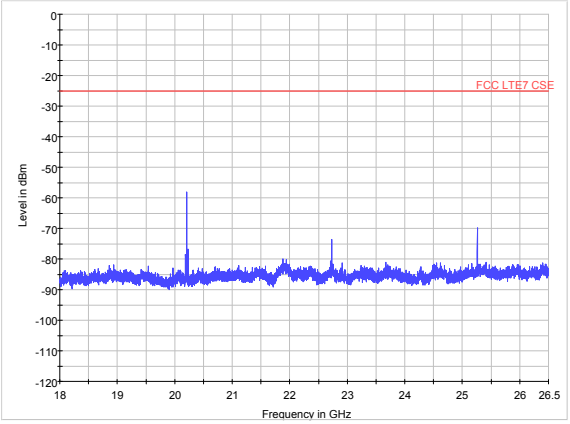
LTE Band 7 20MHz CH41490 30MHz~3GHz



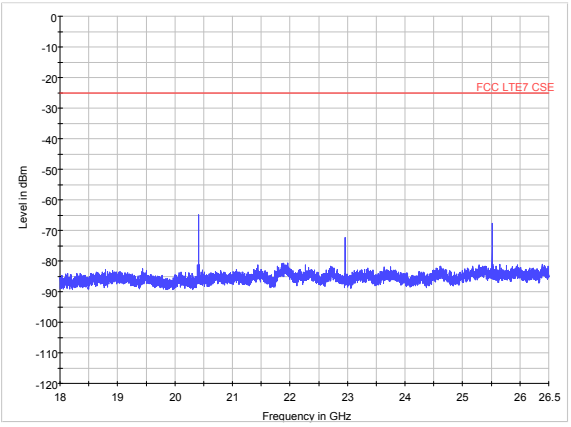
LTE Band 7 20MHz CH21100 3GHz~18GHz



LTE Band 7 20MHz CH41490 3GHz~18GHz



LTE Band 7 20MHz CH21100 18GHz~26.5GHz



LTE Band 7 20MHz CH41490 18GHz~26.5GHz

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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.

Mode	Frequency	Peak (dBm)	Limit (dBm)	Margin (dB)
LTE B7_5M_CHLOW_RB1_3-18GHz	1000.1	-38.07	-25.00	13.07
LTE B7_5M_CHMID_RB1_3-18GHz	10130.6	-41.40	-25.00	16.40
LTE B7_5M_CHHIGH_RB1_3-18GHz	10261.1	-42.10	-25.00	17.10
LTE B7_10M_CHLOW_RB1_3-18GHz	1000.2	-37.70	-25.00	12.70
LTE B7_10M_CHMID_RB1_3-18GHz	10121.6	-40.25	-25.00	15.25
LTE B7_10M_CHHIGH_RB1_3-18GHz	10242.0	-41.48	-25.00	16.48
LTE B7_15M_CHLOW_RB1_3-18GHz	1002.4	-38.16	-25.00	13.16
LTE B7_15M_CHMID_RB1_3-18GHz	10112.6	-39.88	-25.00	14.88
LTE B7_15M_CHHIGH_RB1_3-18GHz	10222.9	-42.48	-25.00	17.48
LTE B7_20M_CHLOW_RB1_3-18GHz	10035.0	-38.45	-25.00	13.45
LTE B7_20M_CHMID_RB1_3-18GHz	10104.8	-40.98	-25.00	15.98
LTE B7_20M_CHHIGH_RB1_3-18GHz	10203.8	-43.95	-25.00	18.95

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4.8 Radiates Spurious Emission

Ambient condition

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

Method of Measurement

1. The testing follows ANSI C63.26 (2015) Section 5.5.2.3.
2. Above 30MHz：The EUT is placed on a turntable 0.8 meters above the ground in the chamber, 3 meter away from the antenna. The maximal emission value is acquired by adjusting the antenna height, polarisation and turntable azimuth. Normally, the height range of antenna is 1 m to 4 m, the azimuth range of turntable is 0° to 360°, and the receive antenna has two polarizations Vertical (V) and Horizontal (H). Above 1GHz: (Note: the FCC's permission to use 1.5m as an alternative per TCBC Conf call of Dec. 2, 2014.) The EUT is placed on a turntable 1.5 meters above the ground in the chamber, 3 meter away from the antenna. The maximal emission value is acquired by adjusting the antenna height, polarisation and turntable azimuth. Normally, the height range of antenna is 1 m to 4 m, the azimuth range of turntable is 0° to 360°, and the receive antenna has two polarizations Vertical (V) and Horizontal (H).
3. A log-periodic antenna or double-ridged waveguide horn antenna shall be substituted in place of the EUT. The log-periodic antenna will be driven by a signal generator and the level will be adjusted till the same power value on the spectrum analyzer or receiver. The level of the spurious emissions can be calculated through the level of the signal generator, cable loss, the gain of the substitution antenna and the reading of the spectrum analyzer or receiver.
4. The EUT is then put into continuously transmitting mode at its maximum power level during the test.Set Test Receiver or Spectrum RBW=1MHz,VBW=3MHz, And the maximum value of the receiver should be recorded as (Pr).
5. The EUT shall be replaced by a substitution antenna. In the chamber, an substitution antenna for the frequency band of interest is placed at the reference point of the chamber. An RF Signal source for the frequency band of interest is connected to the substitution antenna with a cable that has been constructed to not interfere with the radiation pattern of the antenna. A power (PMea) is applied to the input of the substitution antenna, and adjust the level of the signal generator output until the value of the receiver reach the previously recorded (Pr). The power of signal source (PMea) is recorded. The test should be performed by rotating the test item and adjusting the receiving antenna polarization.
6. A amplifier should be connected to the Signal Source output port. And the cable should be connect between the Amplifier and the Substitution Antenna. The cable loss (Pcl) ,the Substitution Antenna Gain (Ga) and the Amplifier Gain (PAg) should be recorded after test.
7. The measurement results are obtained as described below:
Power(EIRP)=PMea- PAg - Pcl + Ga
The measurement results are amend as described below:
Power(EIRP)=PMea- Pcl + Ga
8. This value is EIRP since the measurement is calibrated using an antenna of known gain (2.15 dBi) and known input power. ERP can be calculated from EIRP by subtracting the gain of the dipole, ERP = EIRP-2.15dBi.

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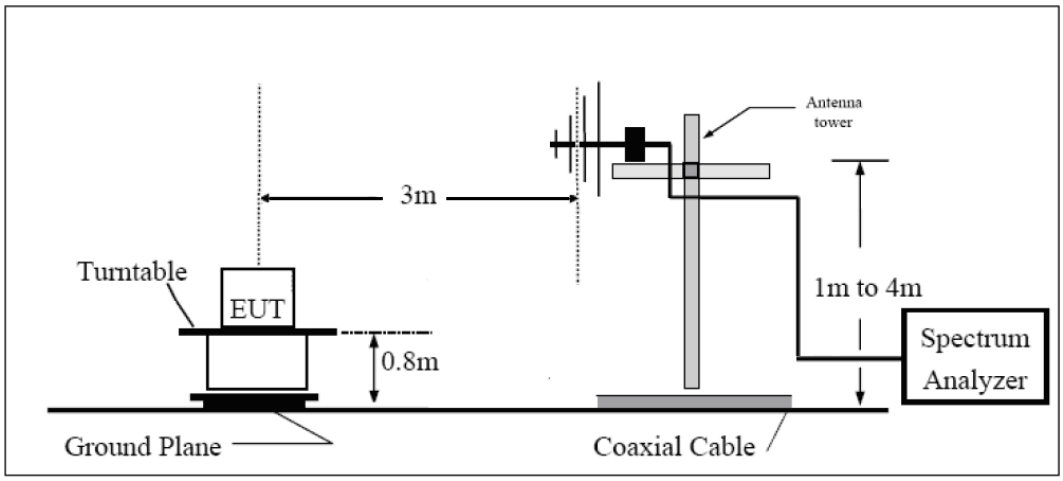
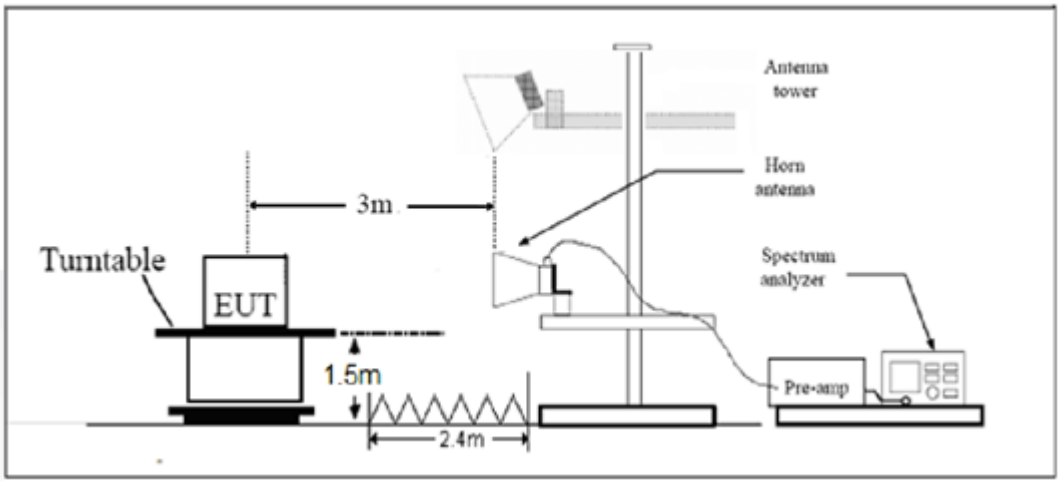
Test setup

30MHz~~~ 1GHz



Above 1GHz



Note: Area side:2.4mX3.6m

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

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Limits

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

Rule Part 27.53(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.

WCDMA Band IV /LTE -4 Limit	-13 dBm
LTE -7 Limit	-25 dBm

Measurement Uncertainty

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

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Test Result

WCDMA Band IV CH-Low

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3424.8	-61.35	2.6	10.15	Vertical	-53.8	-13.0	40.8	318
3	5137.2	-62.45	2.4	11.35	Vertical	-53.5	-13.0	40.5	270
4	6849.6	-57.55	4.5	10.85	Vertical	-51.2	-13.0	38.2	45
5	8562.0	-56.25	5.1	11.35	Vertical	-50.0	-13.0	37.0	0
6	10274.4	-56.65	5.3	11.95	Vertical	-50.0	-13.0	37.0	135
7	11986.8	-54.95	5.5	13.55	Vertical	-46.9	-13.0	33.9	90
8	13699.2	-53.25	6.3	13.75	Vertical	-45.8	-13.0	32.8	45
9	15411.6	-51.65	6.7	13.85	Vertical	-44.5	-13.0	31.5	180
10	17124.0	-48.85	6.8	14.25	Vertical	-41.4	-13.0	28.4	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.

WCDMA Band IV CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3465.2	-61.35	2.6	10.75	Vertical	-53.2	-13.0	40.2	45
3	5197.8	-61.85	2.4	11.05	Vertical	-53.2	-13.0	40.2	225
4	6930.4	-58.05	4.5	11.15	Vertical	-51.4	-13.0	38.4	90
5	8663.0	-52.85	5.1	11.35	Vertical	-46.6	-13.0	33.6	45
6	10395.6	-55.65	5.3	11.95	Vertical	-49.0	-13.0	36.0	180
7	12128.2	-56.45	5.5	13.55	Vertical	-48.4	-13.0	35.4	45
8	13860.8	-55.05	6.3	13.75	Vertical	-47.6	-13.0	34.6	0
9	15593.4	-51.25	6.7	13.85	Vertical	-44.1	-13.0	31.1	270
10	17326.0	-48.25	6.8	14.25	Vertical	-40.8	-13.0	27.8	318

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.

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WCDMA Band IV CH-High

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3505.2	-60.9	2.6	10.15	Vertical	-53.35	-13	40.35	45
3	5257.8	-61.27	2.4	11.05	Vertical	-52.62	-13	39.62	180
4	7010.4	-56.71	4.5	11.15	Vertical	-50.06	-13	37.06	90
5	8763.0	-58.84	5.1	11.35	Vertical	-52.59	-13	39.59	225
6	10515.6	-55.32	5.3	11.95	Vertical	-48.67	-13	35.67	270
7	12268.2	-52.3	5.5	13.55	Vertical	-44.25	-13	31.25	180
8	14020.8	-52.55	6.3	13.75	Vertical	-45.10	-13	32.10	135
9	15773.4	-48.25	6.7	13.85	Vertical	-41.10	-13	28.10	270
10	17526.0	-49.8	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 1.4MHz CH-Low, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3421.4	-61.15	2.6	10.15	Vertical	-53.6	-13.0	40.6	45
3	5132.1	-53.25	2.4	11.35	Vertical	-44.3	-13.0	31.3	0
4	6842.8	-53.75	4.5	10.85	Vertical	-47.4	-13.0	34.4	270
5	8553.5	-54.05	5.1	11.35	Vertical	-47.8	-13.0	34.8	318
6	10264.2	-52.55	5.3	11.95	Vertical	-45.9	-13.0	32.9	270
7	11974.9	-54.65	5.5	13.55	Vertical	-46.6	-13.0	33.6	45
8	13685.6	-52.45	6.3	13.75	Vertical	-45.0	-13.0	32.0	0
9	15396.3	-49.15	6.7	13.85	Vertical	-42.0	-13.0	29.0	135
10	17107.0	-48.65	6.8	14.25	Vertical	-41.2	-13.0	28.2	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.

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

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3465.0	-63.45	2.6	10.75	Vertical	-55.3	-13.0	42.3	180
3	5197.5	-60.65	2.4	11.05	Vertical	-52.0	-13.0	39.0	270
4	6930.0	-58.05	4.5	11.15	Vertical	-51.4	-13.0	38.4	45
5	8662.5	-54.55	5.1	11.35	Vertical	-48.3	-13.0	35.3	90
6	10395.0	-56.15	5.3	11.95	Vertical	-49.5	-13.0	36.5	135
7	12127.5	-56.15	5.5	13.55	Vertical	-48.1	-13.0	35.1	225
8	13860.0	-54.75	6.3	13.75	Vertical	-47.3	-13.0	34.3	90
9	15592.5	-52.75	6.7	13.85	Vertical	-45.6	-13.0	32.6	45
10	17325.0	-50.05	6.8	14.25	Vertical	-42.6	-13.0	29.6	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 1.4MHz CH-High, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3508.6	-61.95	2.6	10.15	Vertical	-54.4	-13.0	41.4	45
3	5262.9	-59.85	2.4	11.05	Vertical	-51.2	-13.0	38.2	180
4	7017.2	-52.05	4.5	11.15	Vertical	-45.4	-13.0	32.4	270
5	8771.5	-54.35	5.1	11.35	Vertical	-48.1	-13.0	35.1	45
6	10525.8	-55.35	5.3	11.95	Vertical	-48.7	-13.0	35.7	90
7	12280.1	-55.35	5.5	13.55	Vertical	-47.3	-13.0	34.3	0
8	14034.4	-52.95	6.3	13.75	Vertical	-45.5	-13.0	32.5	135
9	15788.7	-50.75	6.7	13.85	Vertical	-43.6	-13.0	30.6	90
10	17543.0	-48.95	6.8	14.25	Vertical	-41.5	-13.0	28.5	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.

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

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3423.0	-60.25	2.6	10.15	Vertical	-52.7	-13.0	39.7	45
3	5134.5	-60.15	2.4	11.35	Vertical	-51.2	-13.0	38.2	0
4	6846.0	-52.45	4.5	10.85	Vertical	-46.1	-13.0	33.1	270
5	8557.5	-55.15	5.1	11.35	Vertical	-48.9	-13.0	35.9	318
6	10269.0	-52.15	5.3	11.95	Vertical	-45.5	-13.0	32.5	270
7	11980.5	-55.05	5.5	13.55	Vertical	-47.0	-13.0	34.0	45
8	13692.0	-52.85	6.3	13.75	Vertical	-45.4	-13.0	32.4	0
9	15403.5	-49.55	6.7	13.85	Vertical	-42.4	-13.0	29.4	135
10	17115.0	-47.25	6.8	14.25	Vertical	-39.8	-13.0	26.8	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 3MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3465.0	-61.75	2.6	10.75	Vertical	-53.6	-13.0	40.6	45
3	5197.5	-55.15	2.4	11.05	Vertical	-46.5	-13.0	33.5	180
4	6930.0	-51.75	4.5	11.15	Vertical	-45.1	-13.0	32.1	45
5	8662.5	-53.85	5.1	11.35	Vertical	-47.6	-13.0	34.6	0
6	10395.0	-54.85	5.3	11.95	Vertical	-48.2	-13.0	35.2	270
7	12127.5	-55.15	5.5	13.55	Vertical	-47.1	-13.0	34.1	318
8	13860.0	-52.55	6.3	13.75	Vertical	-45.1	-13.0	32.1	270
9	15592.5	-50.05	6.7	13.85	Vertical	-42.9	-13.0	29.9	45
10	17325.0	-48.55	6.8	14.25	Vertical	-41.1	-13.0	28.1	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.

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

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3507.0	-61.15	2.6	10.15	Vertical	-53.6	-13.0	40.6	90
3	5260.5	-58.35	2.4	11.05	Vertical	-49.7	-13.0	36.7	45
4	7014.0	-52.25	4.5	11.15	Vertical	-45.6	-13.0	32.6	180
5	8767.5	-53.75	5.1	11.35	Vertical	-47.5	-13.0	34.5	90
6	10521.0	-55.55	5.3	11.95	Vertical	-48.9	-13.0	35.9	90
7	12274.5	-53.75	5.5	13.55	Vertical	-45.7	-13.0	32.7	45
8	14028.0	-51.95	6.3	13.75	Vertical	-44.5	-13.0	31.5	180
9	15781.5	-48.95	6.7	13.85	Vertical	-41.8	-13.0	28.8	270
10	17535.0	-48.75	6.8	14.25	Vertical	-41.3	-13.0	28.3	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 5MHz CH-Low, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3425.0	-61.15	2.6	10.15	Vertical	-53.6	-13.0	40.6	318
3	5137.5	-50.05	2.4	11.35	Vertical	-41.1	-13.0	28.1	270
4	6850.0	-53.95	4.5	10.85	Vertical	-47.6	-13.0	34.6	45
5	8562.5	-55.55	5.1	11.35	Vertical	-49.3	-13.0	36.3	0
6	10275.0	-52.95	5.3	11.95	Vertical	-46.3	-13.0	33.3	135
7	11987.5	-55.55	5.5	13.55	Vertical	-47.5	-13.0	34.5	90
8	13700.0	-53.25	6.3	13.75	Vertical	-45.8	-13.0	32.8	45
9	15412.5	-50.95	6.7	13.85	Vertical	-43.8	-13.0	30.8	180
10	17125.0	-49.15	6.8	14.25	Vertical	-41.7	-13.0	28.7	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.

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

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3465.0	-62.35	2.6	10.75	Vertical	-54.2	-13.0	41.2	180
3	5197.5	-61.25	2.4	11.05	Vertical	-52.6	-13.0	39.6	270
4	6930.0	-51.95	4.5	11.15	Vertical	-45.3	-13.0	32.3	45
5	8662.5	-54.65	5.1	11.35	Vertical	-48.4	-13.0	35.4	90
6	10395.0	-56.55	5.3	11.95	Vertical	-49.9	-13.0	36.9	135
7	12127.5	-54.55	5.5	13.55	Vertical	-46.5	-13.0	33.5	225
8	13860.0	-53.55	6.3	13.75	Vertical	-46.1	-13.0	33.1	90
9	15592.5	-48.15	6.7	13.85	Vertical	-41.0	-13.0	28.0	45
10	17325.0	-48.95	6.8	14.25	Vertical	-41.5	-13.0	28.5	180

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.
2. The worst emission was found in the antenna is vertical position.

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

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3505.0	-60.45	2.6	10.15	Vertical	-52.9	-13.0	39.9	45
3	5257.5	-55.95	2.4	11.05	Vertical	-47.3	-13.0	34.3	180
4	7010.0	-52.45	4.5	11.15	Vertical	-45.8	-13.0	32.8	270
5	8762.5	-54.05	5.1	11.35	Vertical	-47.8	-13.0	34.8	45
6	10515.0	-54.95	5.3	11.95	Vertical	-48.3	-13.0	35.3	90
7	12267.5	-54.65	5.5	13.55	Vertical	-46.6	-13.0	33.6	0
8	14020.0	-51.05	6.3	13.75	Vertical	-43.6	-13.0	30.6	135
9	15772.5	-48.05	6.7	13.85	Vertical	-40.9	-13.0	27.9	90
10	17525.0	-49.25	6.8	14.25	Vertical	-41.8	-13.0	28.8	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.

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

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3430.0	-61.35	2.6	10.15	Vertical	-53.8	-13.0	40.8	90
3	5145.0	-59.95	2.4	11.35	Vertical	-51.0	-13.0	38.0	45
4	6860.0	-53.85	4.5	10.85	Vertical	-47.5	-13.0	34.5	180
5	8575.0	-54.15	5.1	11.35	Vertical	-47.9	-13.0	34.9	45
6	10290.0	-51.55	5.3	11.95	Vertical	-44.9	-13.0	31.9	0
7	12005.0	-54.75	5.5	13.55	Vertical	-46.7	-13.0	33.7	270
8	13720.0	-52.65	6.3	13.75	Vertical	-45.2	-13.0	32.2	318
9	15435.0	-49.65	6.7	13.85	Vertical	-42.5	-13.0	29.5	270
10	17150.0	-48.65	6.8	14.25	Vertical	-41.2	-13.0	28.2	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 10MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3465.0	-61.55	2.6	10.75	Vertical	-53.4	-13.0	40.4	135
3	5197.5	-59.75	2.4	11.05	Vertical	-51.1	-13.0	38.1	90
4	6930.0	-52.85	4.5	11.15	Vertical	-46.2	-13.0	33.2	45
5	8662.5	-56.35	5.1	11.35	Vertical	-50.1	-13.0	37.1	180
6	10395.0	-53.45	5.3	11.95	Vertical	-46.8	-13.0	33.8	90
7	12127.5	-55.95	5.5	13.55	Vertical	-47.9	-13.0	34.9	45
8	13860.0	-53.05	6.3	13.75	Vertical	-45.6	-13.0	32.6	180
9	15592.5	-51.35	6.7	13.85	Vertical	-44.2	-13.0	31.2	270
10	17325.0	-47.15	6.8	14.25	Vertical	-39.7	-13.0	26.7	45

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.
2. The worst emission was found in the antenna is vertical position.

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

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3500.0	-62.35	2.6	10.15	Vertical	-54.8	-13.0	41.8	318
3	5250.0	-58.05	2.4	11.05	Vertical	-49.4	-13.0	36.4	270
4	7000.0	-52.35	4.5	11.15	Vertical	-45.7	-13.0	32.7	45
5	8750.0	-54.05	5.1	11.35	Vertical	-47.8	-13.0	34.8	0
6	10500.0	-55.25	5.3	11.95	Vertical	-48.6	-13.0	35.6	135
7	12250.0	-48.15	5.5	13.55	Vertical	-40.1	-13.0	27.1	90
8	14000.0	-52.65	6.3	13.75	Vertical	-45.2	-13.0	32.2	45
9	15750.0	-48.55	6.7	13.85	Vertical	-41.4	-13.0	28.4	180
10	17500.0	-48.35	6.8	14.25	Vertical	-40.9	-13.0	27.9	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 15MHz CH Low, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3435.0	-61.05	2.6	10.15	Vertical	-53.5	-13.0	40.5	180
3	5152.5	-61.25	2.4	11.35	Vertical	-52.3	-13.0	39.3	270
4	6870.0	-53.05	4.5	10.85	Vertical	-46.7	-13.0	33.7	45
5	8587.5	-54.55	5.1	11.35	Vertical	-48.3	-13.0	35.3	90
6	10305.0	-52.05	5.3	11.95	Vertical	-45.4	-13.0	32.4	135
7	12022.5	-54.55	5.5	13.55	Vertical	-46.5	-13.0	33.5	225
8	13740.0	-53.05	6.3	13.75	Vertical	-45.6	-13.0	32.6	90
9	15457.5	-48.05	6.7	13.85	Vertical	-40.9	-13.0	27.9	45
10	17175.0	-49.25	6.8	14.25	Vertical	-41.8	-13.0	28.8	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.

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

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3465.0	-63.05	2.6	10.75	Vertical	-54.9	-13.0	41.9	45
3	5197.5	-52.15	2.4	11.05	Vertical	-43.5	-13.0	30.5	180
4	6930.0	-55.95	4.5	11.15	Vertical	-49.3	-13.0	36.3	270
5	8662.5	-56.05	5.1	11.35	Vertical	-49.8	-13.0	36.8	45
6	10395.0	-54.95	5.3	11.95	Vertical	-48.3	-13.0	35.3	90
7	12127.5	-55.55	5.5	13.55	Vertical	-47.5	-13.0	34.5	0
8	13860.0	-53.35	6.3	13.75	Vertical	-45.9	-13.0	32.9	135
9	15592.5	-51.05	6.7	13.85	Vertical	-43.9	-13.0	30.9	90
10	17325.0	-48.25	6.8	14.25	Vertical	-40.8	-13.0	27.8	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 15MHz CH-High, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3495.0	-61.55	2.6	10.15	Vertical	-54.0	-13.0	41.0	90
3	5242.5	-60.05	2.4	11.05	Vertical	-51.4	-13.0	38.4	45
4	6990.0	-51.15	4.5	11.15	Vertical	-44.5	-13.0	31.5	180
5	8737.5	-55.45	5.1	11.35	Vertical	-49.2	-13.0	36.2	45
6	10485.0	-53.45	5.3	11.95	Vertical	-46.8	-13.0	33.8	0
7	12232.5	-52.75	5.5	13.55	Vertical	-44.7	-13.0	31.7	270
8	13980.0	-52.45	6.3	13.75	Vertical	-45.0	-13.0	32.0	318
9	15727.5	-49.85	6.7	13.85	Vertical	-42.7	-13.0	29.7	270
10	17475.0	-48.45	6.8	14.25	Vertical	-41.0	-13.0	28.0	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.

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

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3440.0	-61.55	2.6	10.15	Vertical	-54.4	-13.0	41.4	135
3	5160.0	-60.05	2.4	11.35	Vertical	-50.8	-13.0	37.8	90
4	6880.0	-51.15	4.5	10.85	Vertical	-45.8	-13.0	32.8	45
5	8600.0	-55.45	5.1	11.35	Vertical	-42.7	-13.0	29.7	90
6	10320.0	-53.45	5.3	11.95	Vertical	-43.9	-13.0	30.9	45
7	12040.0	-52.75	5.5	13.55	Vertical	-47.9	-13.0	34.9	180
8	13760.0	-52.45	6.3	13.75	Vertical	-46.3	-13.0	33.3	270
9	15480.0	-49.85	6.7	13.85	Vertical	-44.3	-13.0	31.3	45
10	17200.0	-48.45	6.8	14.25	Vertical	-40.5	-13.0	27.5	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 20MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3465.0	-62.85	2.6	10.75	Vertical	-54.7	-13.0	41.7	270
3	5197.5	-61.05	2.4	11.05	Vertical	-52.4	-13.0	39.4	45
4	6930.0	-51.55	4.5	11.15	Vertical	-44.9	-13.0	31.9	0
5	8662.5	-53.25	5.1	11.35	Vertical	-47.0	-13.0	34.0	135
6	10395.0	-54.85	5.3	11.95	Vertical	-48.2	-13.0	35.2	90
7	12127.5	-54.95	5.5	13.55	Vertical	-46.9	-13.0	33.9	45
8	13860.0	-54.25	6.3	13.75	Vertical	-46.8	-13.0	33.8	180
9	15592.5	-50.65	6.7	13.85	Vertical	-43.5	-13.0	30.5	270
10	17325.0	-47.55	6.8	14.25	Vertical	-40.1	-13.0	27.1	45

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.
2. The worst emission was found in the antenna is vertical position.

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

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3490.0	-61.25	2.6	10.15	Vertical	-53.7	-13.0	40.7	90
3	5235.0	-59.85	2.4	11.05	Vertical	-51.2	-13.0	38.2	135
4	6980.0	-51.25	4.5	11.15	Vertical	-44.6	-13.0	31.6	225
5	8725.0	-52.65	5.1	11.35	Vertical	-46.4	-13.0	33.4	90
6	10470.0	-53.05	5.3	11.95	Vertical	-46.4	-13.0	33.4	45
7	12215.0	-54.65	5.5	13.55	Vertical	-46.6	-13.0	33.6	180
8	13960.0	-52.25	6.3	13.75	Vertical	-44.8	-13.0	31.8	45
9	15705.0	-49.95	6.7	13.85	Vertical	-42.8	-13.0	29.8	0
10	17450.0	-48.75	6.8	14.25	Vertical	-41.3	-13.0	28.3	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 5MHz CH-Low, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5000.6	-54.35	2.00	9.15	Vertical	-47.2	-25.0	22.2	45
3	7501.1	-47.25	2.50	11.35	Vertical	-38.4	-25.0	13.4	90
4	10001.3	-42.55	4.20	12.05	Vertical	-34.7	-25.0	9.7	0
5	12512.5	-53.45	5.20	12.85	Vertical	-45.8	-25.0	20.8	135
6	15015.0	-53.33	5.50	14.23	Vertical	-44.6	-25.0	19.6	90
7	17517.5	-50.65	5.70	14.15	Vertical	-42.2	-25.0	17.2	45
8	20002.4	-49.06	6.30	13.76	Vertical	-41.6	-25.0	16.6	90
9	22502.7	-48.35	6.80	14.05	Vertical	-41.1	-25.0	16.1	45
10	25003.0	-48.44	6.90	14.84	Vertical	-40.5	-25.0	15.5	180

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is vertical position.

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LTE Band 7 QPSK 5MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5065.8	-55.25	2.00	9.15	Vertical	-48.1	-25.0	23.1	0
3	7598.6	-52.35	2.50	11.35	Vertical	-43.5	-25.0	18.5	270
4	10130.6	-42.65	4.20	12.05	Vertical	-34.8	-25.0	9.8	318
5	12675.0	-53.15	5.20	12.85	Vertical	-45.5	-25.0	20.5	270
6	15210.0	-52.73	5.50	14.23	Vertical	-44.0	-25.0	19.0	45
7	17745.0	-49.85	5.70	14.15	Vertical	-41.4	-25.0	16.4	0
8	20280.0	-47.66	6.30	13.76	Vertical	-40.2	-25.0	15.2	135
9	22815.0	-45.85	6.80	14.05	Vertical	-38.6	-25.0	13.6	90
10	25350.0	-46.04	6.90	14.84	Vertical	-38.1	-25.0	13.1	45

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is vertical position.

LTE Band 7 QPSK 5MHz CH-High, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5130.8	-53.45	2.00	9.15	Vertical	-46.3	-25.0	21.3	45
3	7696.1	-48.35	2.50	11.35	Vertical	-39.5	-25.0	14.5	180
4	10261.1	-43.75	4.20	12.05	Vertical	-35.9	-25.0	10.9	270
5	12837.5	-53.05	5.20	12.85	Vertical	-45.4	-25.0	20.4	45
6	15405.0	-53.03	5.50	14.23	Vertical	-44.3	-25.0	19.3	90
7	17972.5	-50.05	5.70	14.15	Vertical	-41.6	-25.0	16.6	135
8	20540.0	-48.46	6.30	13.76	Vertical	-41.0	-25.0	16.0	225
9	23107.5	-47.85	6.80	14.05	Vertical	-40.6	-25.0	15.6	90
10	25675.0	-47.44	6.90	14.84	Vertical	-39.5	-25.0	14.5	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.

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LTE Band 7 QPSK 10MHz CH-Low, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5001.0	-54.35	2.00	9.15	Vertical	-47.2	-25.0	22.2	90
3	7515.0	-45.35	2.50	11.35	Vertical	-36.5	-25.0	11.5	45
4	10002.4	-42.65	4.20	12.05	Vertical	-34.8	-25.0	9.8	180
5	12525.0	-53.45	5.20	12.85	Vertical	-45.8	-25.0	20.8	270
6	15030.0	-53.33	5.50	14.23	Vertical	-44.6	-25.0	19.6	45
7	17535.0	-50.55	5.70	14.15	Vertical	-42.1	-25.0	17.1	90
8	20040.0	-48.46	6.30	13.76	Vertical	-41.0	-25.0	16.0	0
9	22545.0	-47.75	6.80	14.05	Vertical	-40.5	-25.0	15.5	135
10	25050.0	-47.54	6.90	14.84	Vertical	-39.6	-25.0	14.6	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 10MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5070.0	-54.05	2.00	9.15	Vertical	-46.9	-25.0	21.9	45
3	75915.0	-49.45	2.50	11.35	Vertical	-40.6	-25.0	15.6	180
4	10140.0	-42.25	4.20	12.05	Vertical	-34.4	-25.0	9.4	45
5	12675.0	-53.55	5.20	12.85	Vertical	-45.9	-25.0	20.9	0
6	15210.0	-51.43	5.50	14.23	Vertical	-42.7	-25.0	17.7	270
7	17745.0	-49.55	5.70	14.15	Vertical	-41.1	-25.0	16.1	318
8	20280.0	-48.06	6.30	13.76	Vertical	-40.6	-25.0	15.6	270
9	22815.0	-46.75	6.80	14.05	Vertical	-39.5	-25.0	14.5	45
10	25350.0	-47.04	6.90	14.84	Vertical	-39.1	-25.0	14.1	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.

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LTE Band 7 QPSK 10MHz CH-High, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5121.4	-54.05	2.00	10.15	Vertical	-45.9	-25.0	20.9	90
3	7681.9	-47.95	2.50	11.35	Vertical	-39.1	-25.0	14.1	45
4	10242.0	-44.25	4.20	12.05	Vertical	-36.4	-25.0	11.4	90
5	12825.0	-55.65	5.20	14.85	Vertical	-46.0	-25.0	21.0	45
6	15390.0	-52.13	5.50	13.23	Vertical	-44.4	-25.0	19.4	180
7	17955.0	-48.55	5.70	12.15	Vertical	-42.1	-25.0	17.1	270
8	20520.0	-49.06	6.30	13.76	Vertical	-41.6	-25.0	16.6	45
9	23085.0	-47.75	6.80	14.05	Vertical	-40.5	-25.0	15.5	90
10	25650.0	-46.54	6.90	14.84	Vertical	-38.6	-25.0	13.6	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 7 QPSK 15MHz CH-Low, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5001.8	-53.65	2.00	10.15	Vertical	-45.5	-25.0	20.5	45
3	7502.6	-47.95	2.50	11.35	Vertical	-39.1	-25.0	14.1	0
4	1000.4	-40.65	4.20	12.05	Vertical	-32.8	-25.0	7.8	135
5	12537.5	-55.45	5.20	14.85	Vertical	-45.8	-25.0	20.8	90
6	15045.0	-51.53	5.50	13.23	Vertical	-43.8	-25.0	18.8	45
7	17552.5	-48.75	5.70	12.15	Vertical	-42.3	-25.0	17.3	180
8	20060.0	-48.96	6.30	13.76	Vertical	-41.5	-25.0	16.5	270
9	22567.5	-48.85	6.80	14.05	Vertical	-41.6	-25.0	16.6	45
10	25075.0	-49.14	6.90	14.84	Vertical	-41.2	-25.0	16.2	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.

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LTE Band 7 QPSK 15MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5056.9	-52.45	2.00	10.15	Vertical	-44.3	-25.0	19.3	90
3	7584.8	-50.15	2.50	11.35	Vertical	-41.3	-25.0	16.3	135
4	10140.0	-45.55	4.20	12.05	Vertical	-37.7	-25.0	12.7	225
5	12675.0	-55.65	5.20	14.85	Vertical	-46.0	-25.0	21.0	90
6	15210.0	-50.83	5.50	13.23	Vertical	-43.1	-25.0	18.1	45
7	17745.0	-47.85	5.70	12.15	Vertical	-41.4	-25.0	16.4	180
8	20280.0	-47.96	6.30	13.76	Vertical	-40.5	-25.0	15.5	45
9	22815.0	-46.85	6.80	14.05	Vertical	-39.6	-25.0	14.6	0
10	25350.0	-47.04	6.90	14.84	Vertical	-39.1	-25.0	14.1	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 15MHz CH-High, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5112.0	-54.05	2.00	10.15	Vertical	-45.9	-25.0	20.9	45
3	7667.3	-47.25	2.50	11.35	Vertical	-38.4	-25.0	13.4	90
4	10250.0	-48.95	4.20	12.05	Vertical	-41.1	-25.0	16.1	0
5	12812.5	-55.55	5.20	14.85	Vertical	-45.9	-25.0	20.9	135
6	15375.0	-51.23	5.50	13.23	Vertical	-43.5	-25.0	18.5	90
7	17937.5	-47.95	5.70	12.15	Vertical	-41.5	-25.0	16.5	45
8	20500.0	-47.96	6.30	13.76	Vertical	-40.5	-25.0	15.5	90
9	23062.5	-47.35	6.80	14.05	Vertical	-40.1	-25.0	15.1	45
10	25625.0	-47.54	6.90	14.84	Vertical	-39.6	-25.0	14.6	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.

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LTE Band 7 QPSK 20MHz CH-Low, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5002.5	-54.05	2.00	10.15	Vertical	-45.9	-25.0	20.9	0
3	7503.4	-48.95	2.50	11.35	Vertical	-40.1	-25.0	15.1	270
4	10040.0	-40.65	4.20	12.05	Vertical	-32.8	-25.0	7.8	318
5	12550.0	-55.75	5.20	14.85	Vertical	-46.1	-25.0	21.1	270
6	15060.0	-50.33	5.50	13.23	Vertical	-42.6	-25.0	17.6	45
7	17570.0	-47.65	5.70	12.15	Vertical	-41.2	-25.0	16.2	0
8	20080.0	-47.96	6.30	13.76	Vertical	-40.5	-25.0	15.5	135
9	22590.0	-46.85	6.80	14.05	Vertical	-39.6	-25.0	14.6	90
10	25100.0	-47.04	6.90	14.84	Vertical	-39.1	-25.0	14.1	45

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.
2. The worst emission was found in the antenna is vertical position.

LTE Band 7 QPSK 20MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5052.0	-53.55	2.00	10.15	Vertical	-45.4	-25.0	20.4	180
3	7578.0	-51.75	2.50	11.35	Vertical	-42.9	-25.0	17.9	270
4	10140.0	-45.25	4.20	12.05	Vertical	-37.4	-25.0	12.4	45
5	12675.0	-55.45	5.20	14.85	Vertical	-45.8	-25.0	20.8	90
6	15210.0	-49.43	5.50	13.23	Vertical	-41.7	-25.0	16.7	135
7	17745.0	-46.95	5.70	12.15	Vertical	-40.5	-25.0	15.5	225
8	20280.0	-47.06	6.30	13.76	Vertical	-39.6	-25.0	14.6	90
9	22815.0	-46.35	6.80	14.05	Vertical	-39.1	-25.0	14.1	45
10	25350.0	-46.44	6.90	14.84	Vertical	-38.5	-25.0	13.5	180

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.
2. The worst emission was found in the antenna is vertical position.

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LTE Band 7 QPSK 20MHz CH-High, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5102.3	-54.55	2.00	10.15	Vertical	-46.4	-25.0	21.4	45
3	7653.4	-49.65	2.50	11.35	Vertical	-40.8	-25.0	15.8	180
4	10240.0	-48.55	4.20	12.05	Vertical	-40.7	-25.0	15.7	270
5	12800.0	-54.85	5.20	14.85	Vertical	-45.2	-25.0	20.2	45
6	15360.0	-49.63	5.50	13.23	Vertical	-41.9	-25.0	16.9	90
7	17920.0	-46.95	5.70	12.15	Vertical	-40.5	-25.0	15.5	0
8	20480.0	-47.56	6.30	13.76	Vertical	-40.1	-25.0	15.1	135
9	23040.0	-47.25	6.80	14.05	Vertical	-40.0	-25.0	15.0	90
10	25600.0	-47.44	6.90	14.84	Vertical	-39.5	-25.0	14.5	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.

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5 Main Test Instruments

Name	Manufacturer	Type	Serial Number	Calibration Date	Expiration Time
Base Station Simulator	R&S	CMW500	113645	2017-05-14	2018-05-13
Power Splitter	Hua Xiang	SHX-GF2-2-13	10120101	2017-05-14	2018-05-13
Universal Radio Communication Tester	Agilent	E5515C	MY48367192	2017-05-14	2018-05-13
Spectrum Analyzer	Agilent	N9010A	MY47191109	2017-05-14	2018-05-13
Signal Analyzer	R&S	FSV30	100815	2016-12-16	2017-12-15
Signal generator	R&S	SMB 100A	102594	2017-05-14	2018-05-13
EMI Test Receiver	R&S	ESCI	100948	2017-05-20	2018-05-19
Trilog Antenna	SCHWARZBECK	VUBL 9163	9163-201	2014-12-06	2017-12-05
Horn Antenna	R&S	HF907	100126	2014-12-06	2017-12-05
Horn Antenna	ETS-Lindgren	3160-09	00102643	2015-01-30	2018-01-29
Climatic Chamber	Re Ce	PT-30B	20101891	2015-07-18	2018-07-17
RF Cable	Agilent	SMA 15cm	0001	2017-08-04	2018-02-03
Preampflier	R&S	SCU18	102327	2017-06-18	2018-06-17

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ANNEX A: EUT Appearance and Test Setup

A.1 EUT Appearance

Front Side

Back Side

a: EUT

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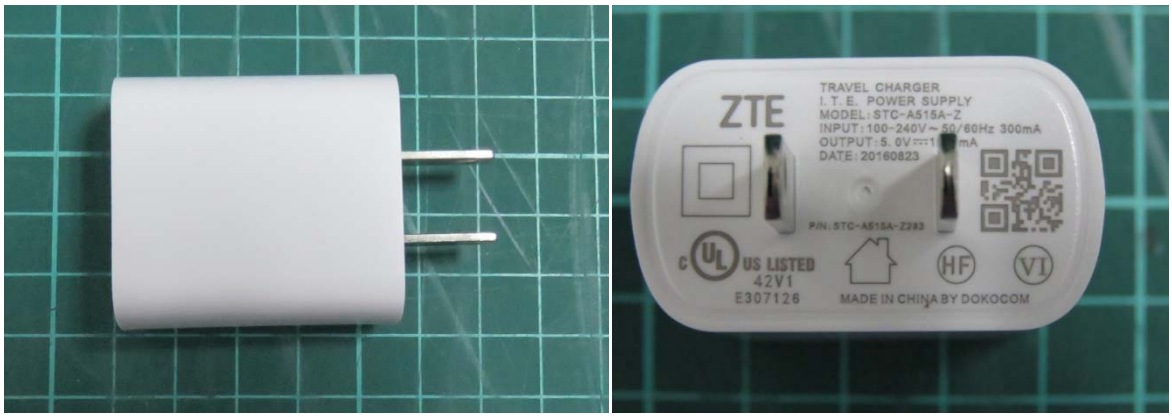
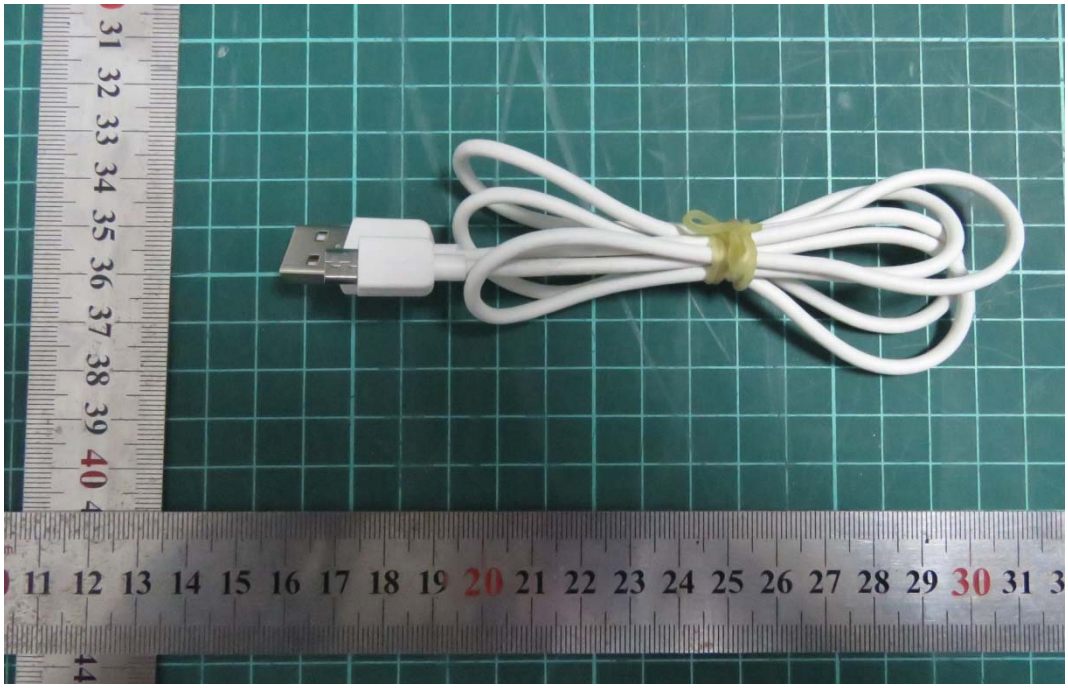


b: Adapter



c: USB Cable

Picture 1 EUT and Accessory

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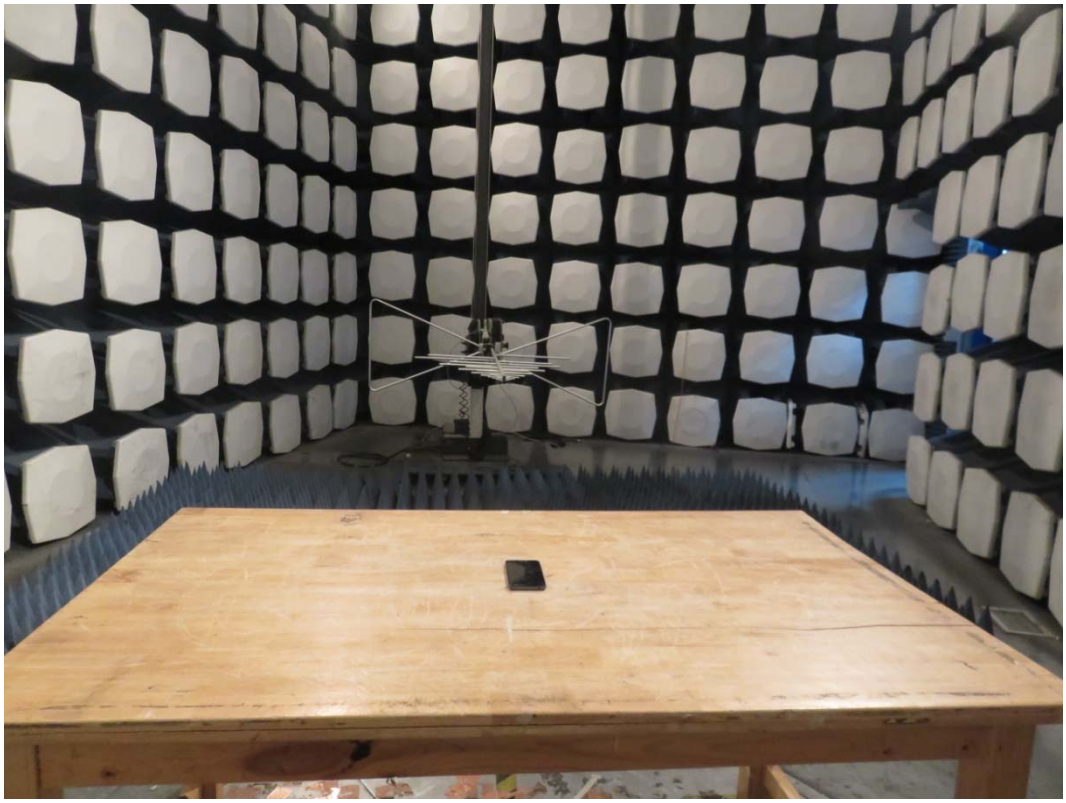
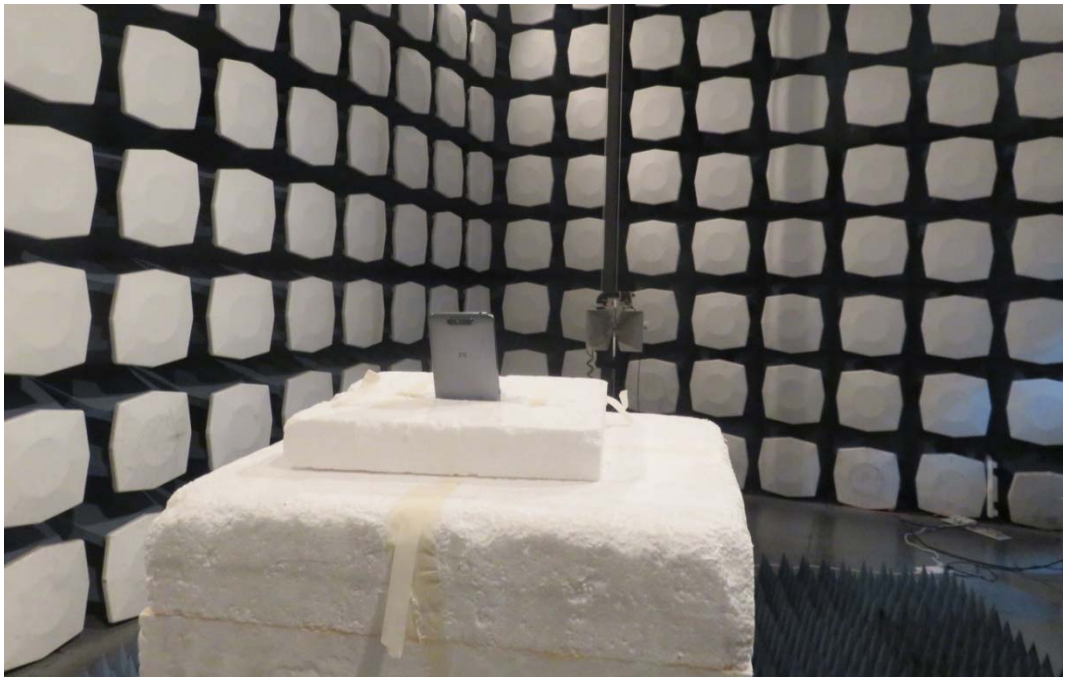
A.2 Test Setup





Picture 2: Radiated Spurious Emissions Test setup

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