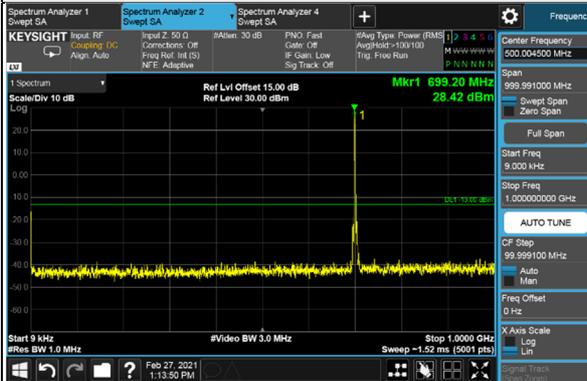


### 4.7.4 Test Results

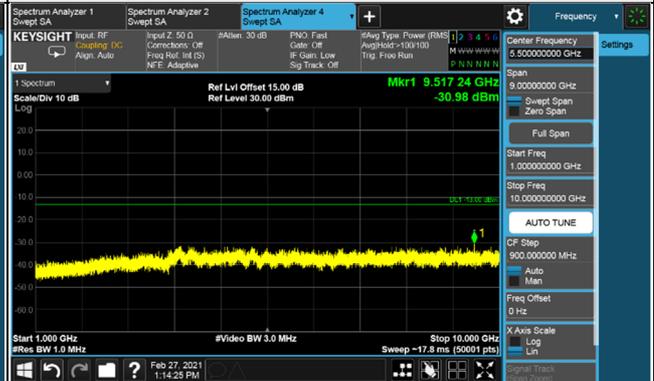
n12, Channel Bandwidth 5MHz

Channel 140300 (701.5MHz)

Frequency Range : 9kHz ~ 1GHz

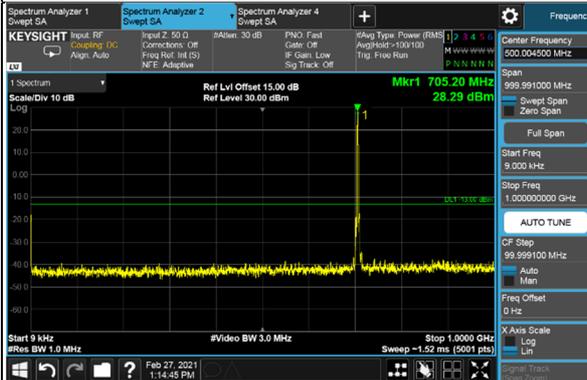


Frequency Range : 1GHz ~ 10GHz

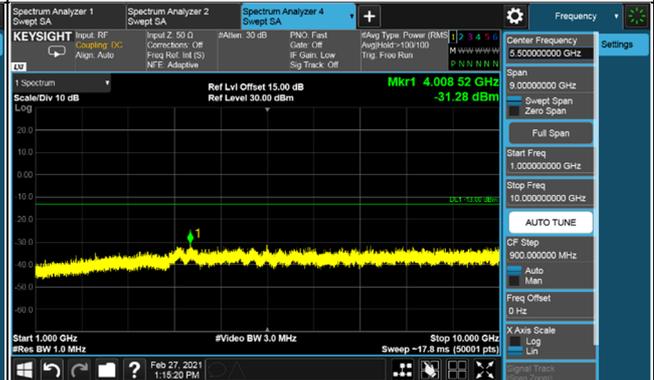


Channel 141500 (707.5MHz)

Frequency Range : 9kHz ~ 1GHz



Frequency Range : 1GHz ~ 10GHz

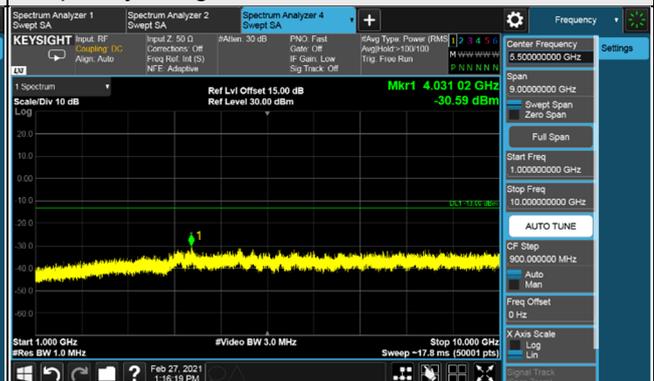


Channel 142700 (713.5MHz)

Frequency Range : 9kHz ~ 1GHz



Frequency Range : 1GHz ~ 10GHz

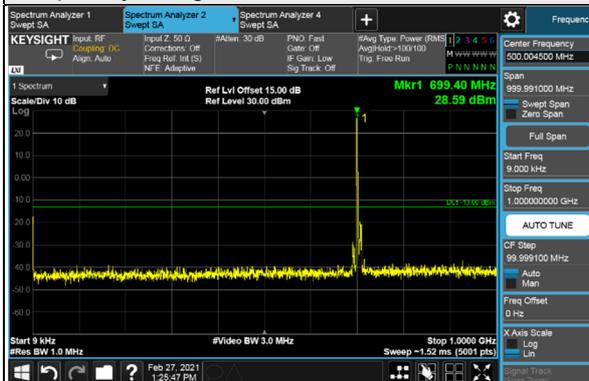


\*The 9kHz signal over the limit is from Spectrum.

n12, Channel Bandwidth 10MHz

Channel 140800 (704.0MHz)

Frequency Range : 9kHz ~ 1GHz

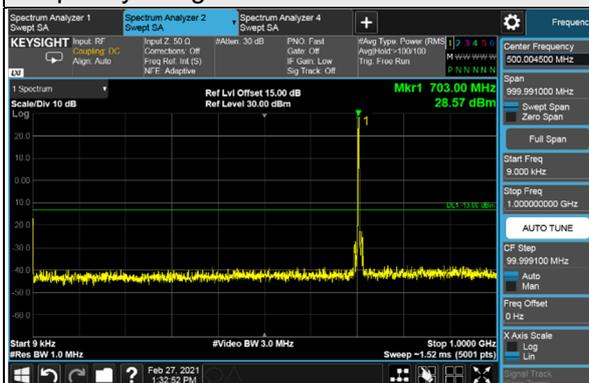


Frequency Range : 1GHz ~ 10GHz

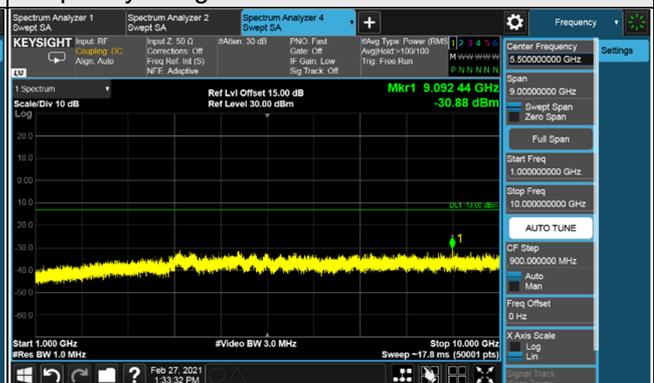


Channel 141500 (707.5MHz)

Frequency Range : 9kHz ~ 1GHz



Frequency Range : 1GHz ~ 10GHz

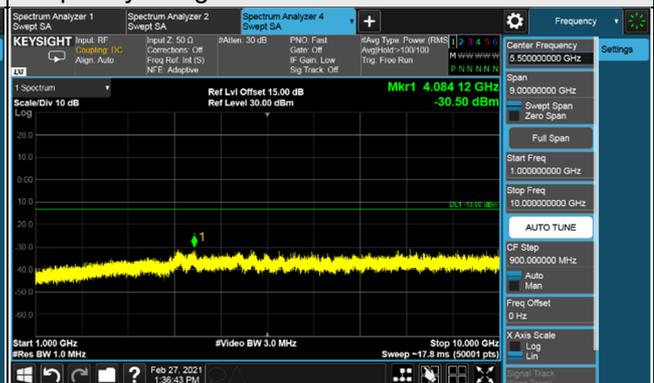


Channel 142200 (711.0MHz)

Frequency Range : 9kHz ~ 1GHz



Frequency Range : 1GHz ~ 10GHz

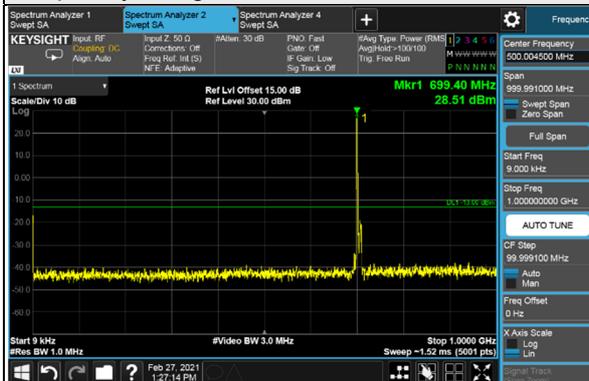


\*The 9kHz signal over the limit is from Spectrum.

n12, Channel Bandwidth 15MHz

Channel 141300 (706.5MHz)

Frequency Range : 9kHz ~ 1GHz

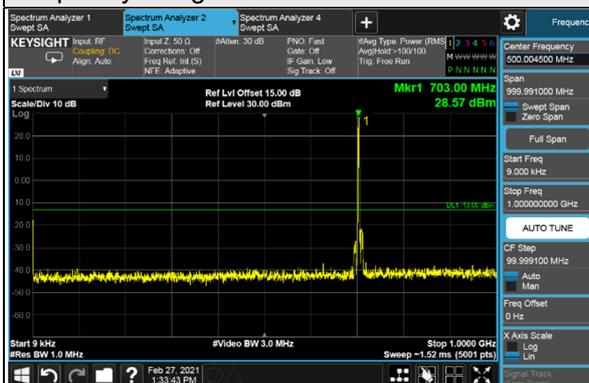


Frequency Range : 1GHz ~ 10GHz



Channel 141500 (707.5MHz)

Frequency Range : 9kHz ~ 1GHz



Frequency Range : 1GHz ~ 10GHz

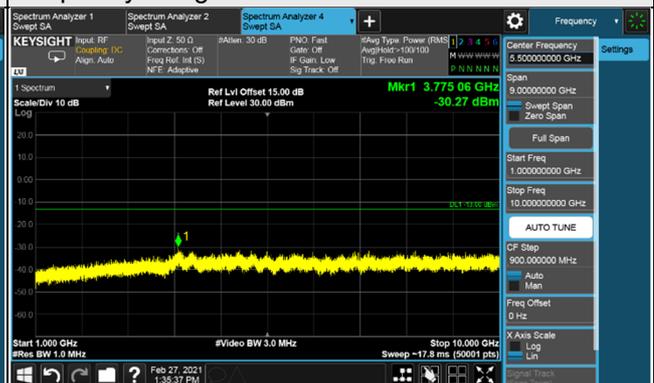


Channel 141700 (708.5MHz)

Frequency Range : 9kHz ~ 1GHz



Frequency Range : 1GHz ~ 10GHz



\*The 9kHz signal over the limit is from Spectrum.

## 4.8 Radiated Emission Measurement

### 4.8.1 Limits of Radiated Emission Measurement

For n12:

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

For LTE Band 2:

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least  $43 + 10 \log(P)$  dB. The emission limit equal to  $-13\text{dBm}$ .

For LTE Band 66:

According to FCC 27.53(h) for operations in the 1695-1710MHz, 1710-1755MHz, 1755-1780 MHz, 1915-1920MHz, 1995-2000 MHz, 2000-2020MHz, 2110-2155MHz, 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  $43 + 10 \log(P)$  dB.

### 4.8.2 Test Procedure

- a. Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8m(below or equal 1GHz) and/or 1.5m(above 1GHz) height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The "Read Value" is the spectrum reading the maximum power value.
- b. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- c. Perform a field strength measurement and record the worse read value, is the field strength value via a spectrum reading obtained corrected for antenna factor, cable loss and pre-amplifier factor and then mathematically convert the measured field strength level to EIRP/ERP level.
- d. Following C63.26 section 5.5 and 5.2.7
  - $\text{EIRP (dBm)} = E (\text{dB}\mu\text{V/m}) + 20\log(D) - 104.8$ ; where D is the measurement distance (in the far field region) in m.
  - $\text{ERP (dBm)} = E (\text{dB}\mu\text{V/m}) + 20\log(D) - 104.8 - 2.15$ ; where D is the measurement distance (in the far field region) in m.

Note:

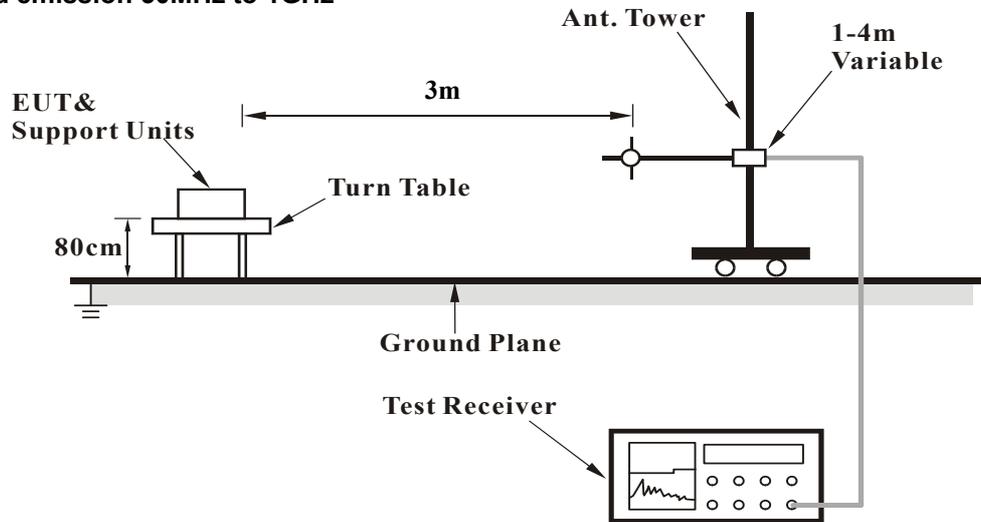
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1MHz/3MHz.
2. The emission levels were against the limit of frequency range 9 kHz ~ 30 MHz:  
The amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required to be report.

### 4.8.3 Deviation from Test Standard

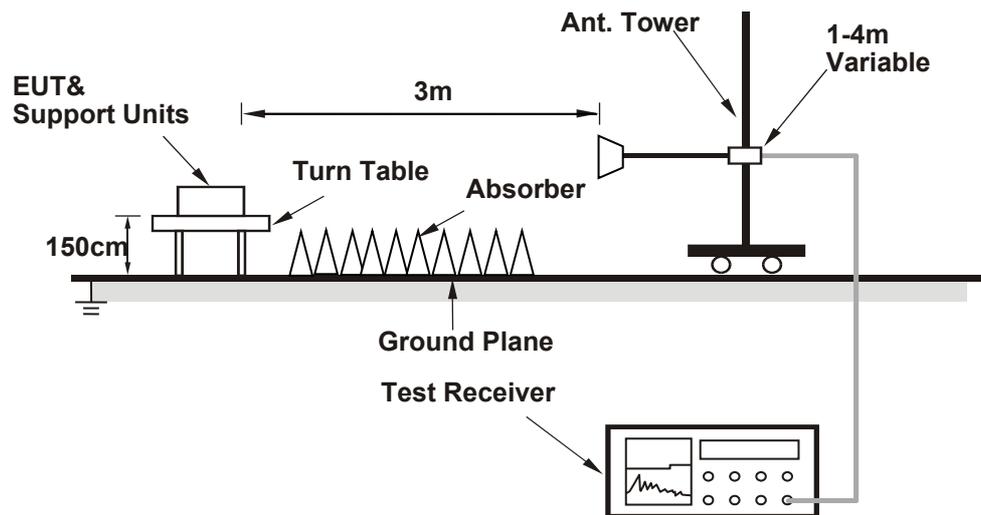
No deviation.

#### 4.8.4 Test Setup

For radiated emission 30MHz to 1GHz



For radiated emission above 1GHz



For the actual test configuration, please refer to the attached file (Test Setup Photo).

### 4.8.5 Test Results

Below 1GHz

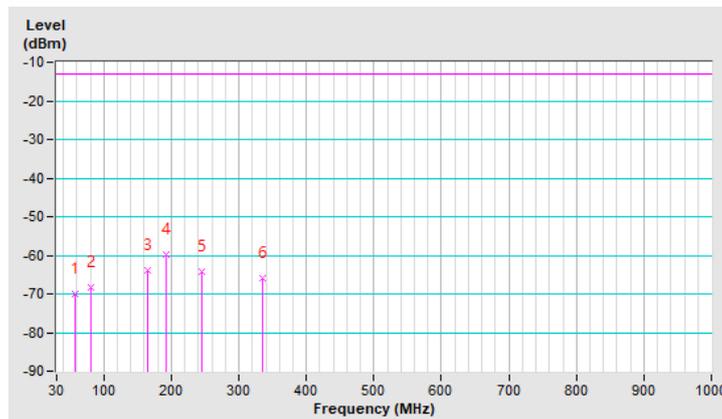
n12, Channel Bandwidth 15MHz

Mode	TX channel 141700 (708.5MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Adair Peng		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	58.13	-70.16	-13.00	-57.16	1.50 H	265	46.37	-116.53
2	81.41	-68.30	-13.00	-55.30	1.00 H	152	53.01	-121.31
3	165.80	-63.79	-13.00	-50.79	1.50 H	154	51.96	-115.75
4	192.96	-59.91	-13.00	-46.91	1.00 H	52	58.89	-118.80
5	245.34	-64.32	-13.00	-51.32	1.00 H	47	52.68	-117.00
6	334.58	-66.07	-13.00	-53.07	1.50 H	18	47.96	-114.03

Remarks:

1.  $ERP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2.  $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8 - 2.15$
3.  $Margin\ value = ERP - Limit\ value$
4. The other ERP levels were very low against the limit.

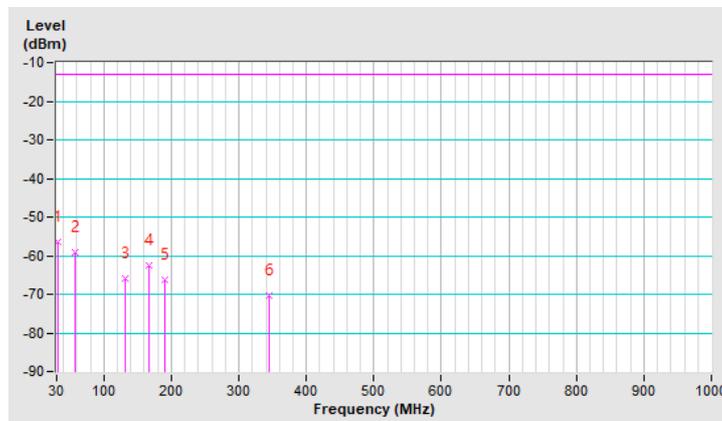


Mode	TX channel 141700 (708.5MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Adair Peng		

Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	32.91	-56.30	-13.00	-43.30	1.00 V	260	60.90	-117.20
2	57.16	-59.26	-13.00	-46.26	1.00 V	59	57.28	-116.54
3	131.85	-66.03	-13.00	-53.03	1.00 V	58	50.79	-116.82
4	166.77	-62.41	-13.00	-49.41	1.50 V	267	53.31	-115.72
5	190.05	-66.34	-13.00	-53.34	1.00 V	155	52.04	-118.38
6	344.28	-70.27	-13.00	-57.27	1.50 V	274	43.72	-113.99

Remarks:

1.  $ERP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2.  $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8 - 2.15$
3.  $Margin\ value = ERP - Limit\ value$
4. The other ERP levels were very low against the limit.



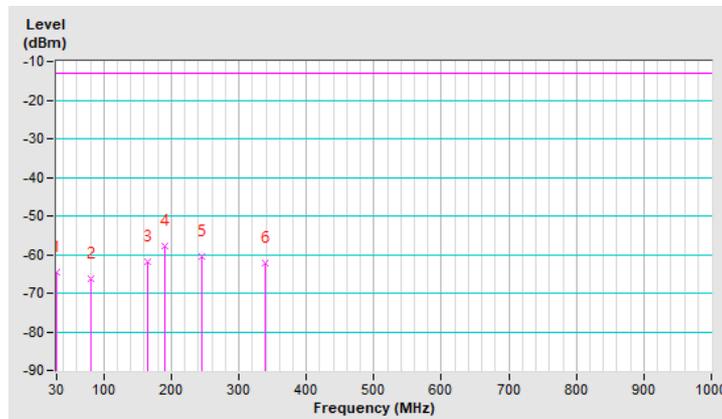
LTE Band 2, Channel Bandwidth 1.4MHz

Mode	TX channel 19193 (1909.3MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Adair Peng		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	30.97	-64.53	-13.00	-51.53	1.00 H	152	50.70	-115.23
2	80.44	-66.15	-13.00	-53.15	1.00 H	158	52.78	-118.93
3	165.80	-61.78	-13.00	-48.78	1.50 H	171	51.82	-113.60
4	191.02	-57.74	-13.00	-44.74	1.00 H	210	58.59	-116.33
5	245.34	-60.37	-13.00	-47.37	1.00 H	53	54.48	-114.85
6	339.43	-62.36	-13.00	-49.36	2.00 H	178	49.45	-111.81

Remarks:

1.  $EIRP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2.  $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8$
3.  $Margin\ value = EIRP - Limit\ value$
4. The other EIRP levels were very low against the limit.

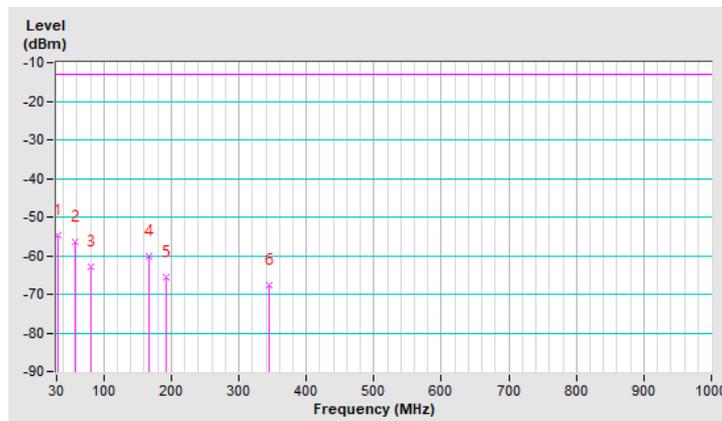


Mode	TX channel 19193 (1909.3MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Adair Peng		

Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	31.94	-54.74	-13.00	-41.74	1.50 V	359	60.23	-114.97
2	58.13	-56.57	-13.00	-43.57	1.00 V	48	57.81	-114.38
3	80.44	-62.92	-13.00	-49.92	1.00 V	294	56.01	-118.93
4	167.74	-60.33	-13.00	-47.33	2.00 V	95	53.36	-113.69
5	192.96	-65.46	-13.00	-52.46	1.50 V	138	51.19	-116.65
6	344.28	-67.71	-13.00	-54.71	1.00 V	282	44.13	-111.84

Remarks:

1.  $EIRP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2.  $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8$
3.  $Margin\ value = EIRP - Limit\ value$
4. The other EIRP levels were very low against the limit.



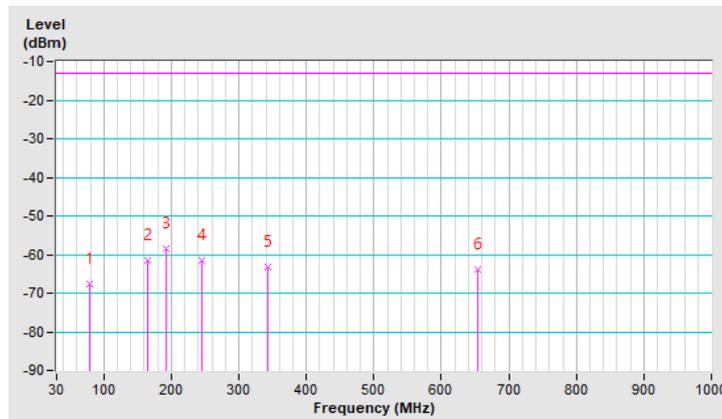
LTE Band 66, Channel Bandwidth 20MHz

Mode	TX channel 132572 (1770.0MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Adair Peng		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	79.47	-67.58	-13.00	-54.58	1.00 H	142	51.07	-118.65
2	165.80	-61.56	-13.00	-48.56	1.00 H	115	52.04	-113.60
3	191.99	-58.49	-13.00	-45.49	2.00 H	36	58.08	-116.57
4	245.34	-61.42	-13.00	-48.42	1.00 H	80	53.43	-114.85
5	343.31	-63.23	-13.00	-50.23	1.50 H	185	48.61	-111.84
6	654.68	-63.84	-13.00	-50.84	1.00 H	341	41.19	-105.03

Remarks:

1.  $EIRP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2.  $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8$
3.  $Margin\ value = EIRP - Limit\ value$
4. The other EIRP levels were very low against the limit.

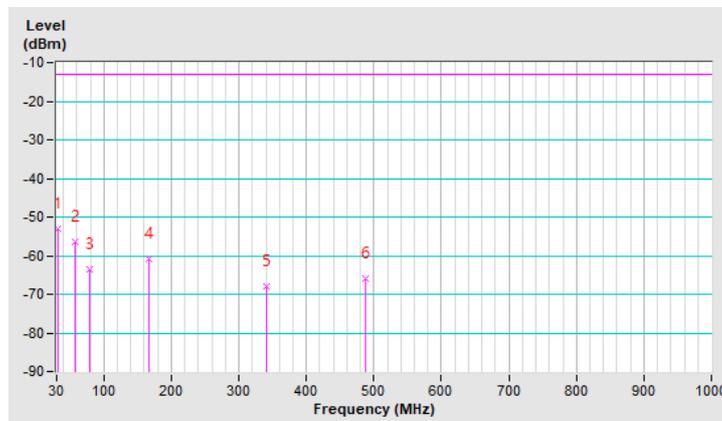


Mode	TX channel 132572 (1770.0MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Adair Peng		

Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	31.94	-53.04	-13.00	-40.04	1.50 V	155	61.93	-114.97
2	58.13	-56.39	-13.00	-43.39	1.00 V	260	57.99	-114.38
3	78.50	-63.51	-13.00	-50.51	1.00 V	302	54.91	-118.42
4	167.74	-60.84	-13.00	-47.84	1.50 V	152	52.85	-113.69
5	341.37	-68.03	-13.00	-55.03	1.00 V	264	43.79	-111.82
6	487.84	-66.06	-13.00	-53.06	2.00 V	305	42.25	-108.31

Remarks:

1.  $EIRP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2.  $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8$
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.



Above 1GHz

n12, Channel Bandwidth 5MHz

Mode	TX channel 140300 (701.5MHz)	Frequency Range	1GHz ~ 10GHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Tank Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1403.00	-53.80	-13.00	-40.80	2.46 H	227	45.20	-99.00
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1403.00	-54.10	-13.00	-41.10	3.84 V	282	44.90	-99.00

Remarks:

1.  $ERP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2.  $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8 - 2.15$
3. Margin value = ERP – Limit value
4. The other ERP levels were very low against the limit.

Mode	TX channel 141500 (707.5MHz)	Frequency Range	1GHz ~ 10GHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Tank Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1415.00	-54.80	-13.00	-41.80	2.31 H	196	44.20	-99.00
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1415.00	-55.10	-13.00	-42.10	3.71 V	273	43.90	-99.00

Remarks:

1.  $ERP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2.  $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8 - 2.15$
3. Margin value = ERP – Limit value
4. The other ERP levels were very low against the limit.

Mode	TX channel 142700 (713.5MHz)	Frequency Range	1GHz ~ 10GHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Tank Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1427.00	-53.20	-13.00	-40.20	2.39 H	201	45.80	-99.00
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1427.00	-53.20	-13.00	-40.20	3.52 V	291	45.80	-99.00

Remarks:

1.  $ERP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2.  $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8 - 2.15$
3.  $Margin\ value = ERP - Limit\ value$
4. The other ERP levels were very low against the limit.

n12, Channel Bandwidth 15MHz

Mode	TX channel 141300 (706.5MHz)	Frequency Range	1GHz ~ 10GHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Tank Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1413.00	-53.40	-13.00	-40.40	2.36 H	207	45.60	-99.00
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1413.00	-53.80	-13.00	-40.80	3.44 V	268	45.20	-99.00

Remarks:

1.  $ERP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2.  $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8 - 2.15$
3.  $Margin\ value = ERP - Limit\ value$
4. The other ERP levels were very low against the limit.

Mode	TX channel 141500 (707.5MHz)	Frequency Range	1GHz ~ 10GHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Tank Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1415.00	-54.90	-13.00	-41.90	2.49 H	203	44.10	-99.00
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1415.00	-55.20	-13.00	-42.20	3.57 V	276	43.80	-99.00

Remarks:

1.  $ERP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2.  $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8 - 2.15$
3.  $Margin\ value = ERP - Limit\ value$
4. The other ERP levels were very low against the limit.

Mode	TX channel 141700 (708.5MHz)	Frequency Range	1GHz ~ 10GHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Tank Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1417.00	-52.80	-13.00	-39.80	2.41 H	211	46.20	-99.00
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1417.00	-53.50	-13.00	-40.50	3.49 V	283	45.50	-99.00

Remarks:

1.  $ERP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2.  $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8 - 2.15$
3.  $Margin\ value = ERP - Limit\ value$
4. The other ERP levels were very low against the limit.

LTE Band 2, Channel Bandwidth 1.4MHz

Mode	TX channel 18607 (1850.7MHz)	Frequency Range	1GHz ~ 20GHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Tank Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3701.40	-45.90	-13.00	-32.90	1.96 H	170	43.60	-89.50
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3701.40	-46.60	-13.00	-33.60	1.71 V	304	42.90	-89.50

Remarks:

1.  $EIRP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2.  $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8$
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

Mode	TX channel 18900 (1880.0MHz)	Frequency Range	1GHz ~ 20GHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Tank Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3760.00	-45.80	-13.00	-32.80	1.93 H	180	43.60	-89.40
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3760.00	-46.30	-13.00	-33.30	1.69 V	314	43.10	-89.40

Remarks:

1.  $EIRP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2.  $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8$
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

Mode	TX channel 19193 (1909.3MHz)	Frequency Range	1GHz ~ 20GHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Tank Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3818.60	-45.40	-13.00	-32.40	1.96 H	172	43.60	-89.00
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3818.60	-46.10	-13.00	-33.10	1.59 V	308	42.90	-89.00

Remarks:

1.  $EIRP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2.  $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8$
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

LTE Band 2, Channel Bandwidth 5MHz

Mode	TX channel 18625 (1852.5MHz)	Frequency Range	1GHz ~ 20GHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Tank Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3705.00	-45.90	-13.00	-32.90	1.93 H	158	43.60	-89.50
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3705.00	-46.70	-13.00	-33.70	1.79 V	298	42.80	-89.50

Remarks:

1.  $EIRP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2.  $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8$
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

Mode	TX channel 18900 (1880.0MHz)	Frequency Range	1GHz ~ 20GHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Tank Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3760.00	-45.70	-13.00	-32.70	1.96 H	188	43.70	-89.40
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3760.00	-46.20	-13.00	-33.20	1.96 V	328	43.20	-89.40

Remarks:

1.  $EIRP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2.  $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8$
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

Mode	TX channel 19175 (1907.5MHz)	Frequency Range	1GHz ~ 20GHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Tank Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3815.00	-45.70	-13.00	-32.70	2.07 H	175	43.30	-89.00
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3815.00	-46.40	-13.00	-33.40	1.59 V	328	42.60	-89.00

Remarks:

1.  $EIRP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2.  $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8$
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

LTE Band 2, Channel Bandwidth 20MHz

Mode	TX channel 18700 (1860.0MHz)	Frequency Range	1GHz ~ 20GHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Tank Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3720.00	-46.20	-13.00	-33.20	2.08 H	166	43.30	-89.50
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3720.00	-46.90	-13.00	-33.90	1.82 V	311	42.60	-89.50

Remarks:

1.  $EIRP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2.  $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8$
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

Mode	TX channel 18900 (1880.0MHz)	Frequency Range	1GHz ~ 20GHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Tank Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3760.00	-45.50	-13.00	-32.50	2.09 H	177	43.90	-89.40
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3760.00	-46.30	-13.00	-33.30	1.75 V	308	43.10	-89.40

Remarks:

1.  $EIRP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2.  $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8$
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

Mode	TX channel 19100 (1900.0MHz)	Frequency Range	1GHz ~ 20GHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Tank Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3800.00	-45.70	-13.00	-32.70	2.16 H	183	43.50	-89.20
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3800.00	-46.40	-13.00	-33.40	1.69 V	321	42.80	-89.20

Remarks:

1.  $EIRP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2.  $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8$
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

LTE Band 66, Channel Bandwidth 1.4MHz

Mode	TX channel 131979 (1710.7MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Tank Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3421.40	-47.60	-13.00	-34.60	1.67 H	144	43.20	-90.80
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3421.40	-47.90	-13.00	-34.90	1.23 V	312	42.90	-90.80

Remarks:

1.  $EIRP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2.  $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8$
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

Mode	TX channel 132322 (1745.0MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Tank Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3490.00	-46.90	-13.00	-33.90	1.71 H	153	43.50	-90.40
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3490.00	-47.40	-13.00	-34.40	1.32 V	298	43.00	-90.40

Remarks:

1.  $EIRP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2.  $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8$
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

Mode	TX channel 132665 (1779.3MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Tank Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3558.60	-46.70	-13.00	-33.70	1.68 H	159	43.20	-89.90
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3558.60	-47.10	-13.00	-34.10	1.41 V	308	42.80	-89.90

Remarks:

1.  $EIRP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2.  $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8$
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

LTE Band 66, Channel Bandwidth 5MHz

Mode	TX channel 131997 (1712.5MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Tank Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3425.00	-47.60	-13.00	-34.60	1.66 H	157	43.20	-90.80
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3425.00	-48.20	-13.00	-35.20	1.52 V	321	42.60	-90.80

Remarks:

1.  $EIRP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2.  $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8$
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

Mode	TX channel 132322 (1745.0MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Tank Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3490.00	-47.50	-13.00	-34.50	1.73 H	144	42.90	-90.40
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3490.00	-47.80	-13.00	-34.80	1.57 V	315	42.60	-90.40

Remarks:

1.  $EIRP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2.  $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8$
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

Mode	TX channel 132647 (1777.5MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Tank Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3555.00	-46.70	-13.00	-33.70	1.79 H	166	43.20	-89.90
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3555.00	-47.10	-13.00	-34.10	1.33 V	293	42.80	-89.90

Remarks:

1.  $EIRP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2.  $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8$
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

LTE Band 66, Channel Bandwidth 20MHz

Mode	TX channel 132072 (1720.0MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Tank Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3440.00	-47.30	-13.00	-34.30	1.62 H	152	43.50	-90.80
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3440.00	-47.70	-13.00	-34.70	1.42 V	318	43.10	-90.80

Remarks:

1.  $EIRP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2.  $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8$
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

Mode	TX channel 132322 (1745.0MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Tank Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3490.00	-46.70	-13.00	-33.70	1.68 H	136	43.70	-90.40
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3490.00	-47.30	-13.00	-34.30	1.44 V	302	43.10	-90.40

Remarks:

1.  $EIRP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2.  $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8$
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

Mode	TX channel 132572 (1770.0MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Tank Wu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3540.00	-46.50	-13.00	-33.50	1.75 H	146	43.60	-90.10
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3540.00	-46.80	-13.00	-33.80	1.37 V	292	43.30	-90.10

Remarks:

1.  $EIRP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2.  $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8$
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

## 5 Pictures of Test Arrangements

Please refer to the attached file (Test Setup Photo).

## Appendix – Information of the Testing Laboratories

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are FCC recognized accredited test firms and accredited and approved according to ISO/IEC 17025.

If you have any comments, please feel free to contact us at the following:

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The address and road map of all our labs can be found in our web site also.

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