

4.7 Conducted Spurious Emissions

4.7.1 Limits of Conducted Spurious Emissions Measurement

For WCDMA Band 4, LTE Band 4, LTE Band 66:

In the FCC 27.53(h), On any frequency outside a licensee's frequency block, The power of any emission shall be attenuated below the transmitter power (P) by at least $43 + 10 \log (P)$ dB. The emission limit equal to -13dBm .

For LTE Band 13:

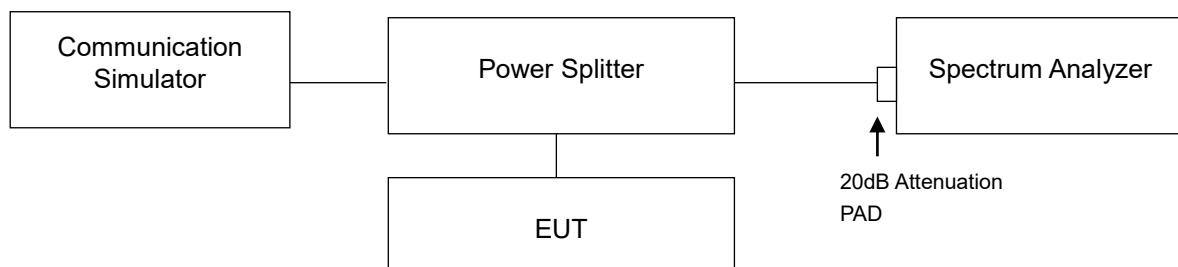
According to FCC 27.53(c)(2) for on any frequency outside the 776-788 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least $43 + 10 \log (P)$ dB.

According to FCC 27.53(f) for operations in the 775-788 MHz, emissions in the band 1559-1610MHz shall be limited to -70 dBW/MHz . The limit of emissions is equal to -40 dBm

For LTE Band 12, LTE Band 71:

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.

4.7.2 Test Setup



4.7.3 Test Procedure

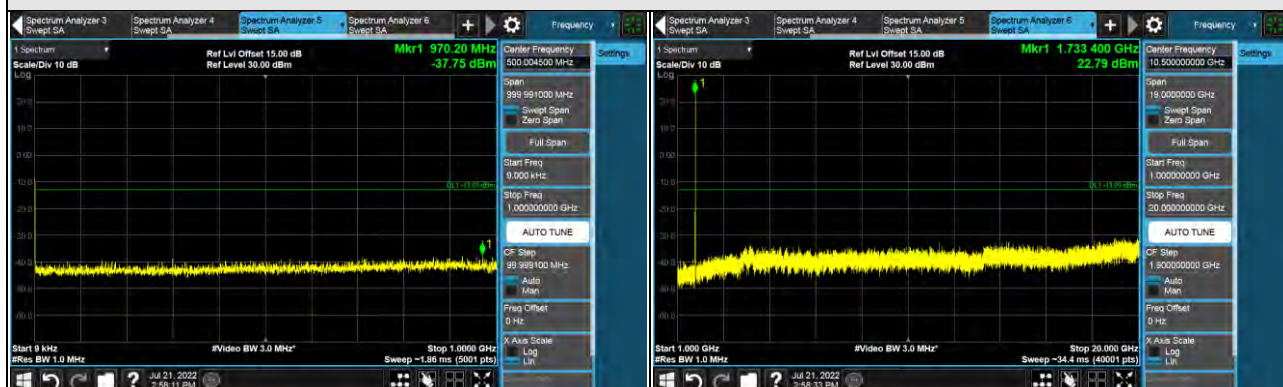
- All measurements were done at low and high channels operational frequency range.
- The detector of the spectrum is RMS, and if the device can be configured to transmit continuously (duty cycle $\geq 98\%$), set the (sweep time) $> (\text{number of points in sweep}) \times (\text{symbol period})$ (e.g., by a factor of $10 \times \text{symbol period} \times \text{number of points}$). Increasing the sweep time (i.e., slowing the sweep speed) will allow for averaging over multiple symbols.
- Measuring frequency range is from 9kHz to 1GHz. 20dB attenuation pad is connected with spectrum. RBW=1MHz and VBW=3MHz are used for WCDMA / HSDPA / HSUPA Band 4, LTE Band 4, LTE Band 12, LTE Band 13, LTE Band 66, and LTE Band 71 conducted emission measurement.
- Measuring frequency range is from 1GHz to 7GHz / 8GHz / 9GHz / 18GHz / 20GHz. 20dB attenuation pad is connected with spectrum. RBW=1MHz and VBW=3MHz are used for conducted emission measurement.

4.7.4 Test Results

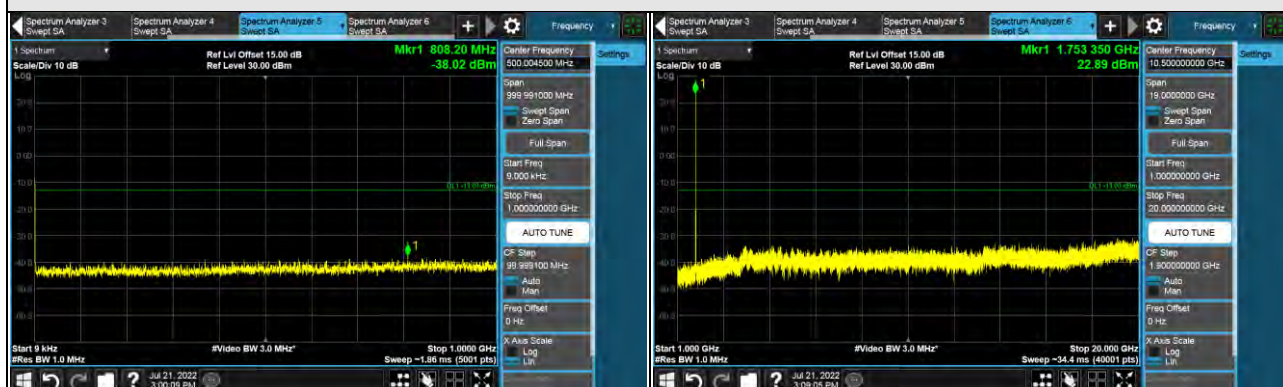
WCDMA



Channel 1312 (1712.4MHz)



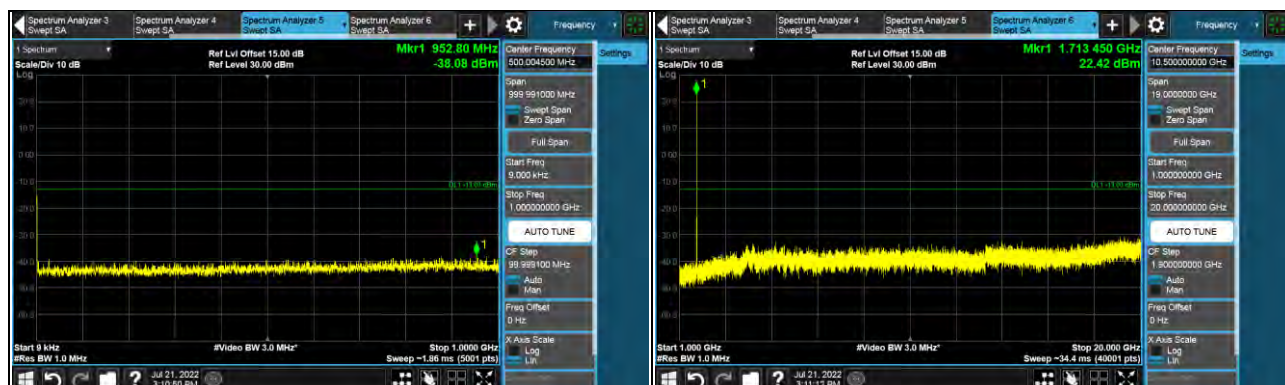
Channel 1413 (1732.6MHz)



Channel 1513 (1752.6MHz)

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

HSDPA



Channel 1312 (1712.4MHz)



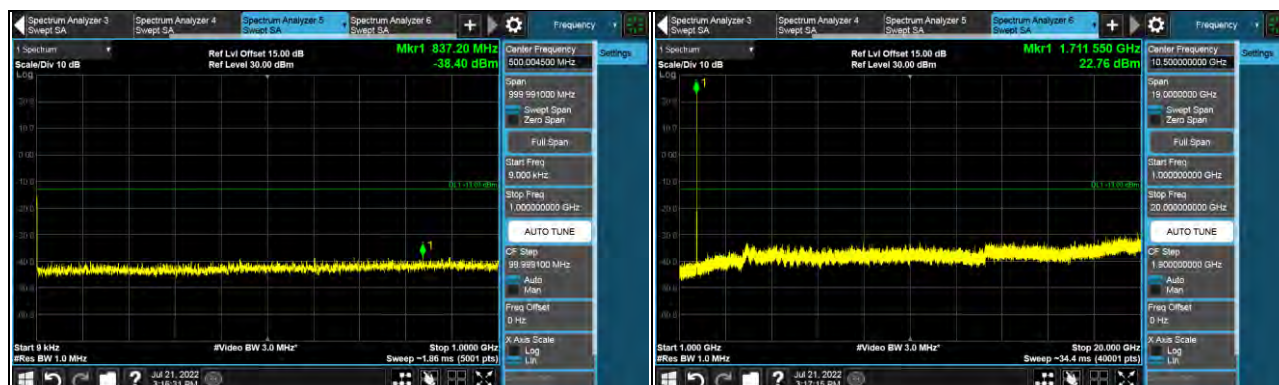
Channel 1413 (1732.6MHz)



Channel 1513 (1752.6MHz)

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

HSUPA



Channel 1312 (1712.4MHz)



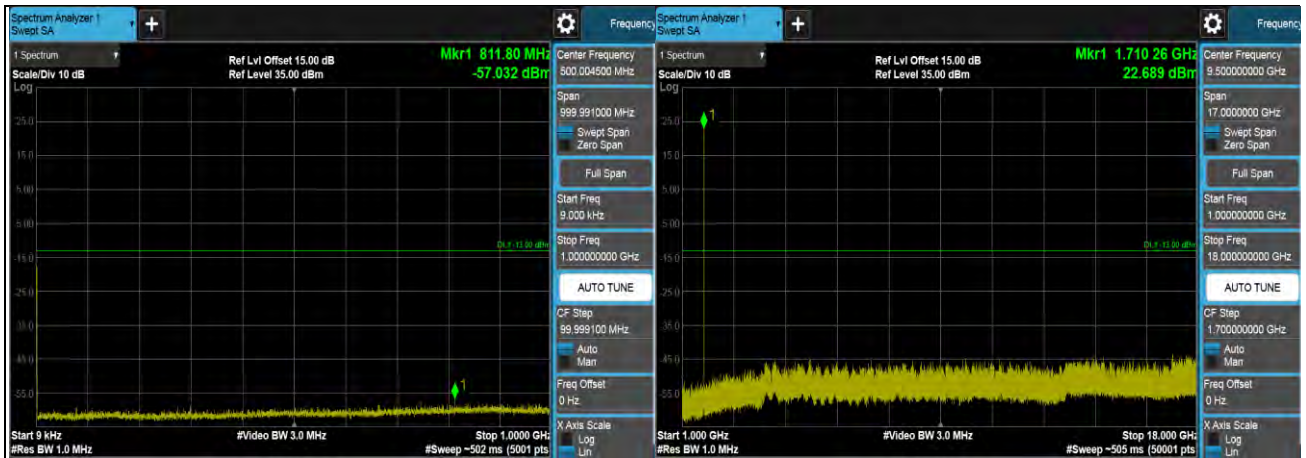
Channel 1413 (1732.6MHz)



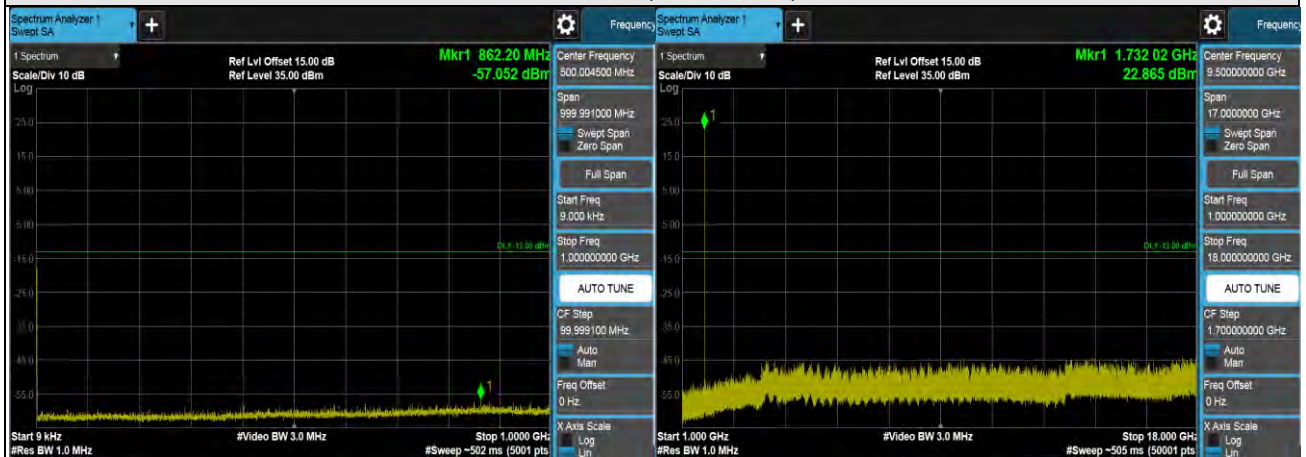
Channel 1513 (1752.6MHz)

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

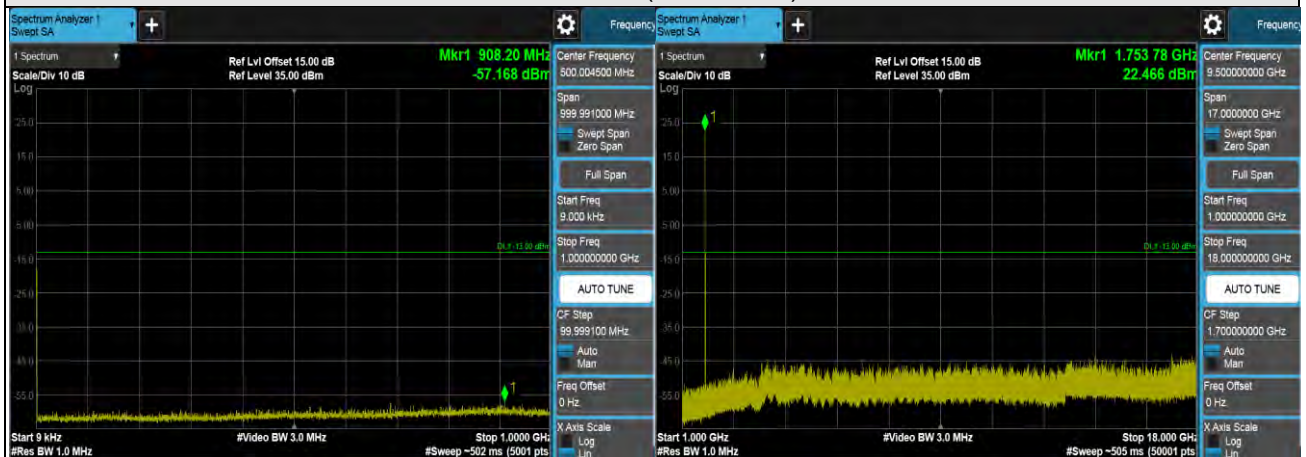
LTE Band 4 (Channel Bandwidth 1.4MHz)



CH 19957 (1710.7MHz)



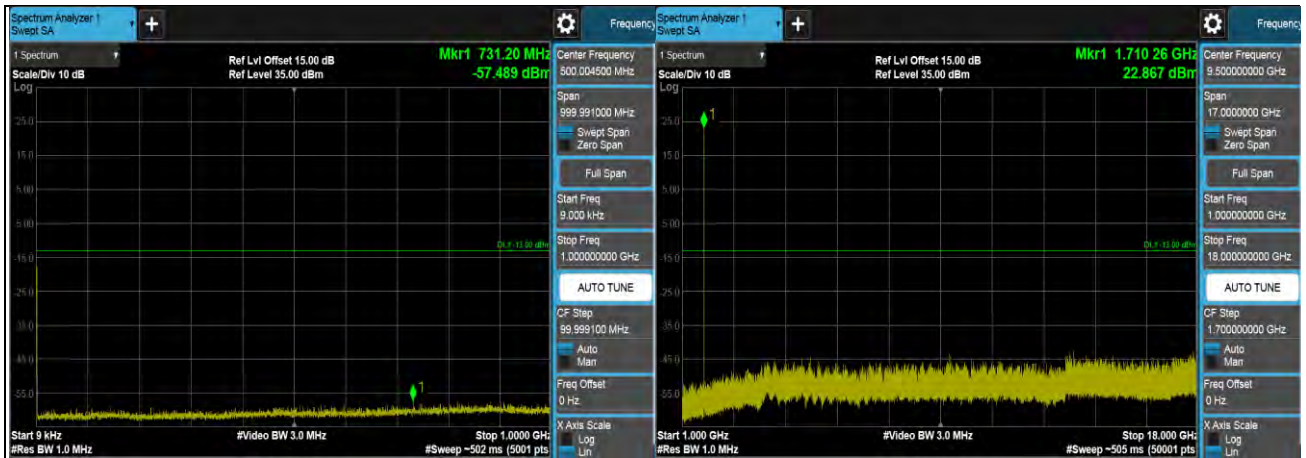
CH 20175 (1732.5MHz)



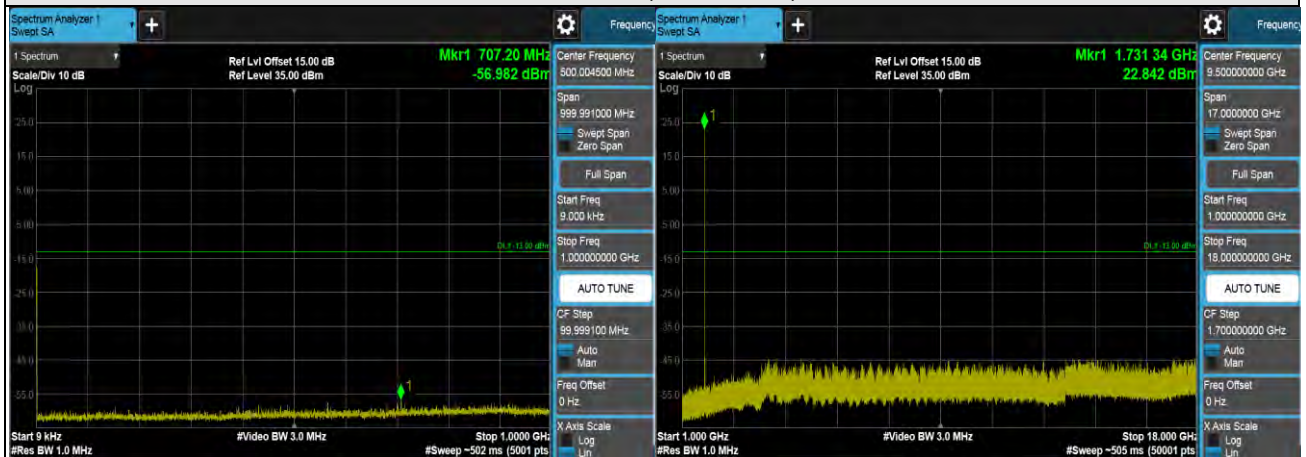
CH 20393 (1754.3MHz)

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

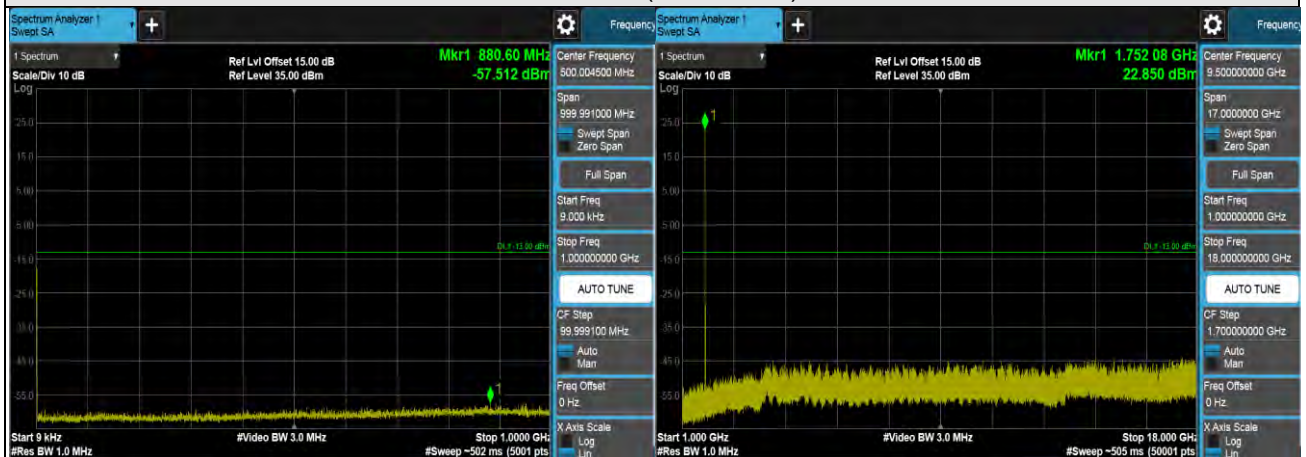
LTE Band 4 (Channel Bandwidth 3MHz)



CH 19965 (1711.5MHz)



CH 20175 (1732.5MHz)



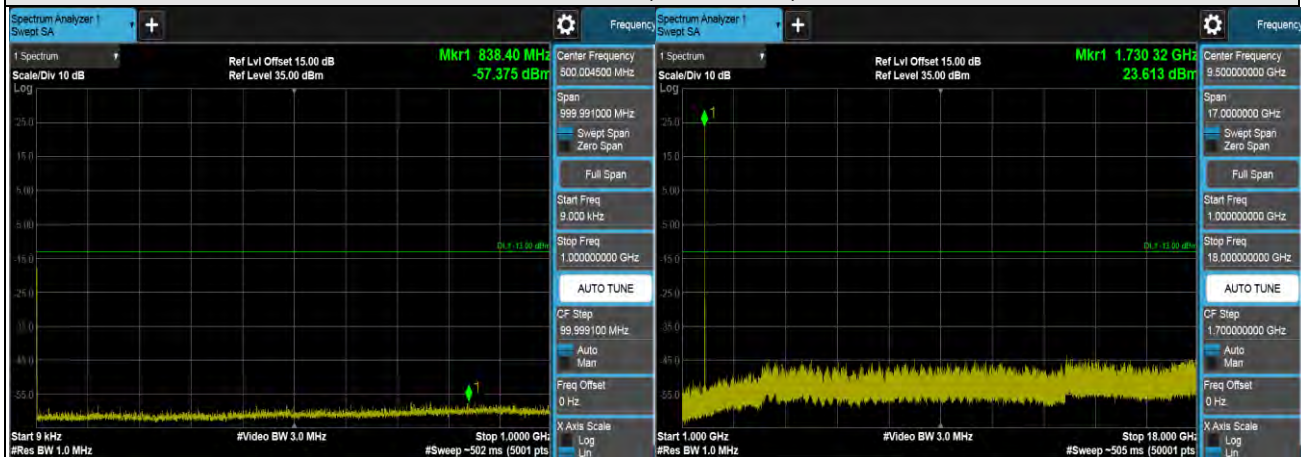
CH 20385 (1753.5MHz)

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

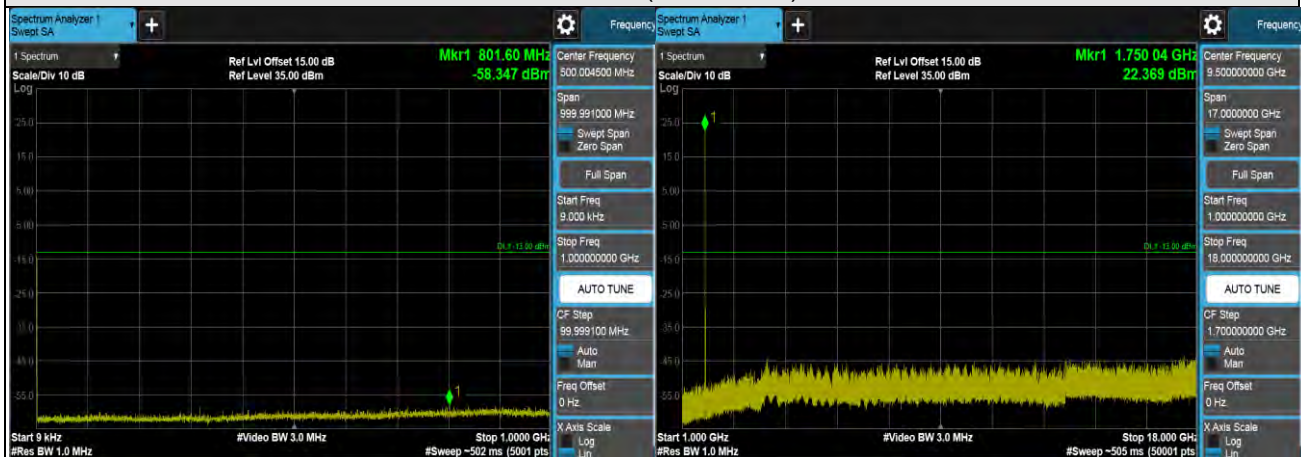
LTE Band 4 (Channel Bandwidth 5MHz)



CH 19975 (1712.5MHz)



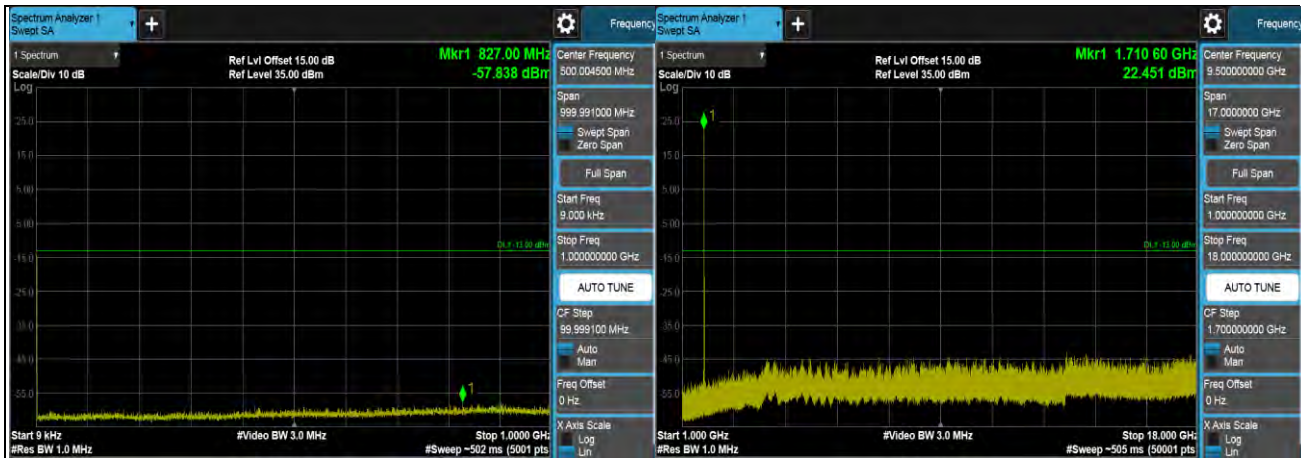
CH 20175 (1732.5MHz)



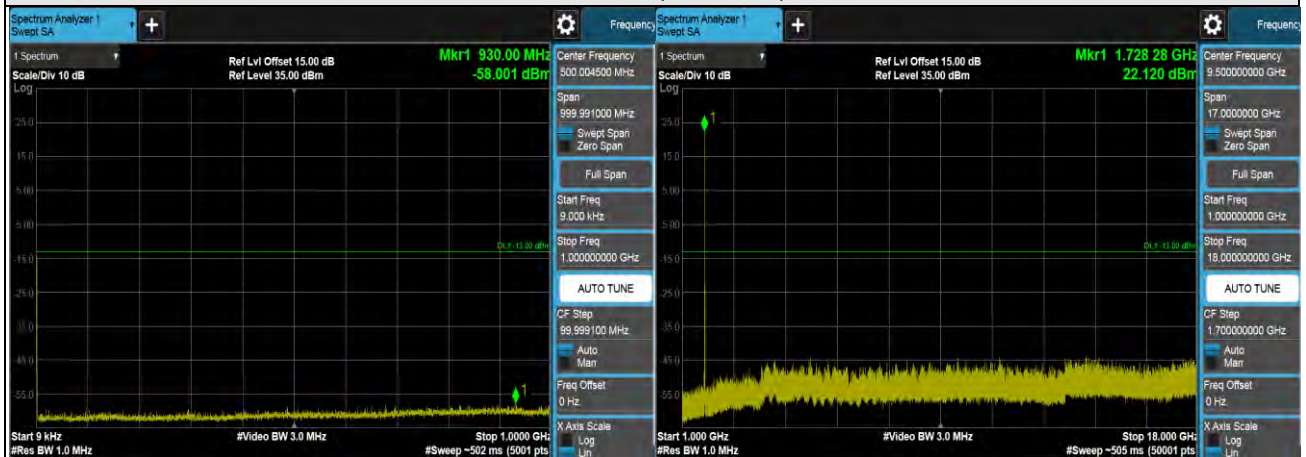
CH 20375 (1752.5MHz)

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

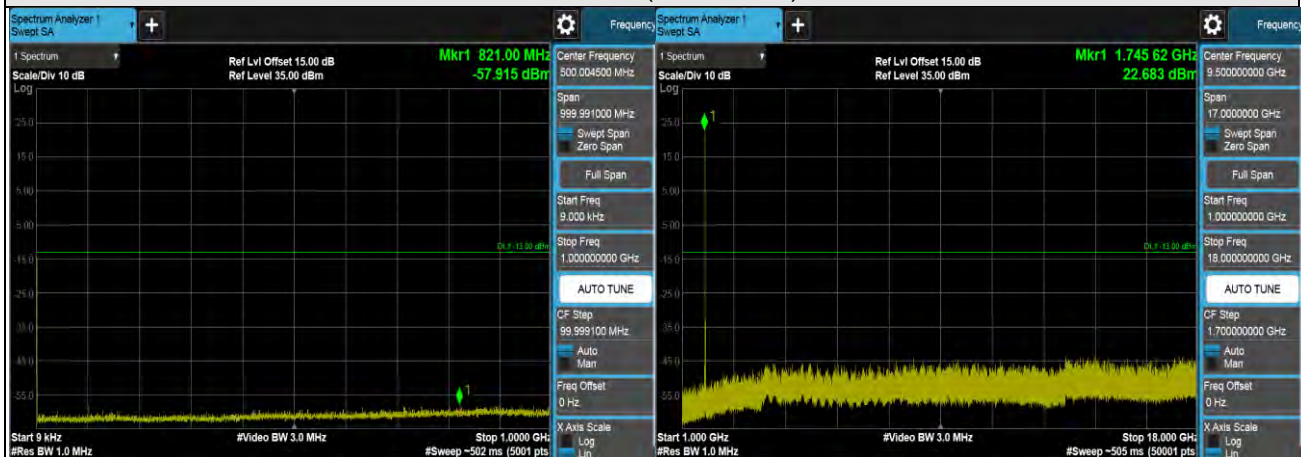
LTE Band 4 (Channel Bandwidth 10MHz)



CH 2000 (1715MHz)



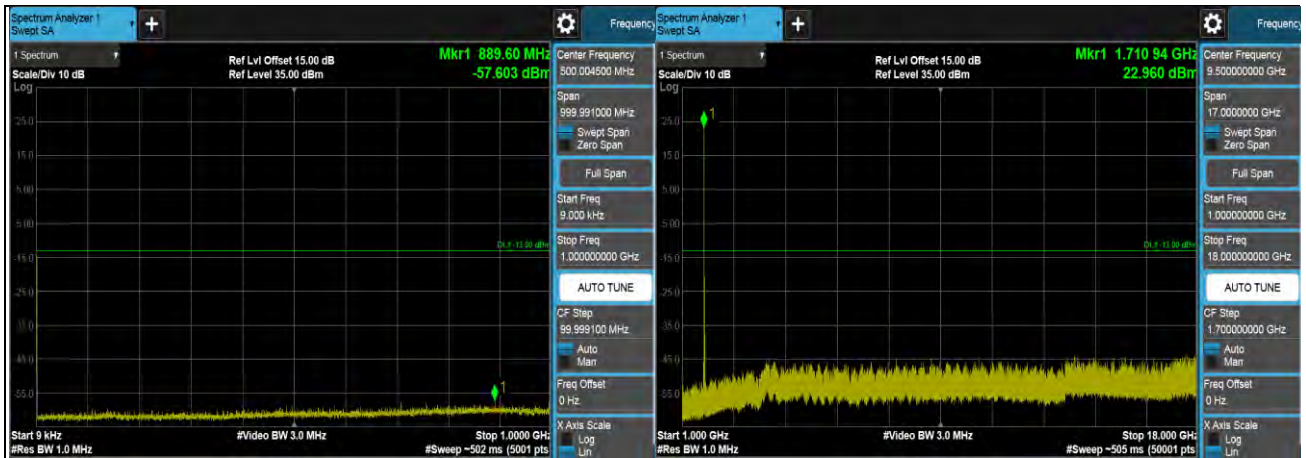
CH 20175 (1732.5MHz)



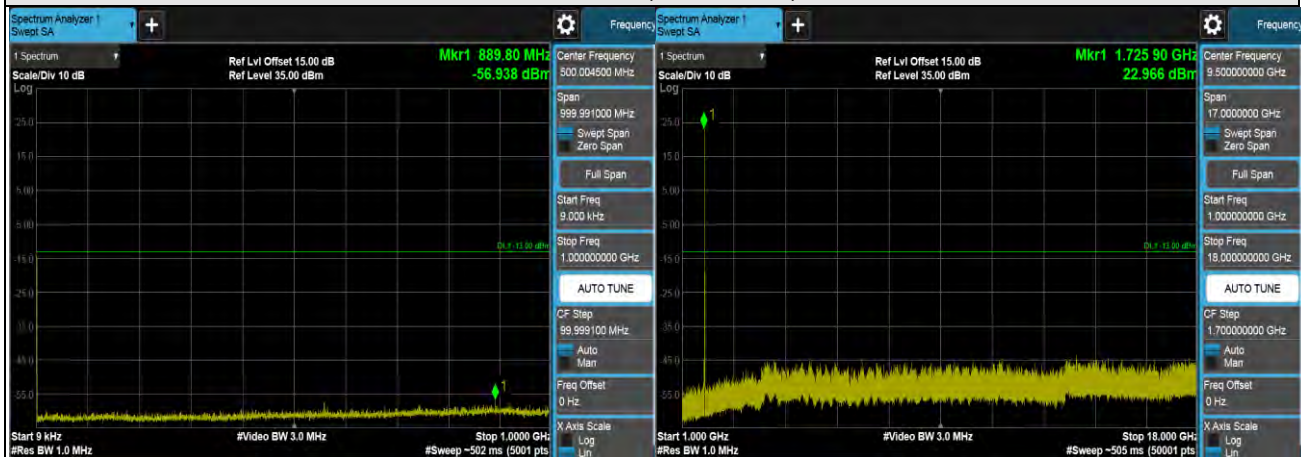
CH 20350 (1750MHz)

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

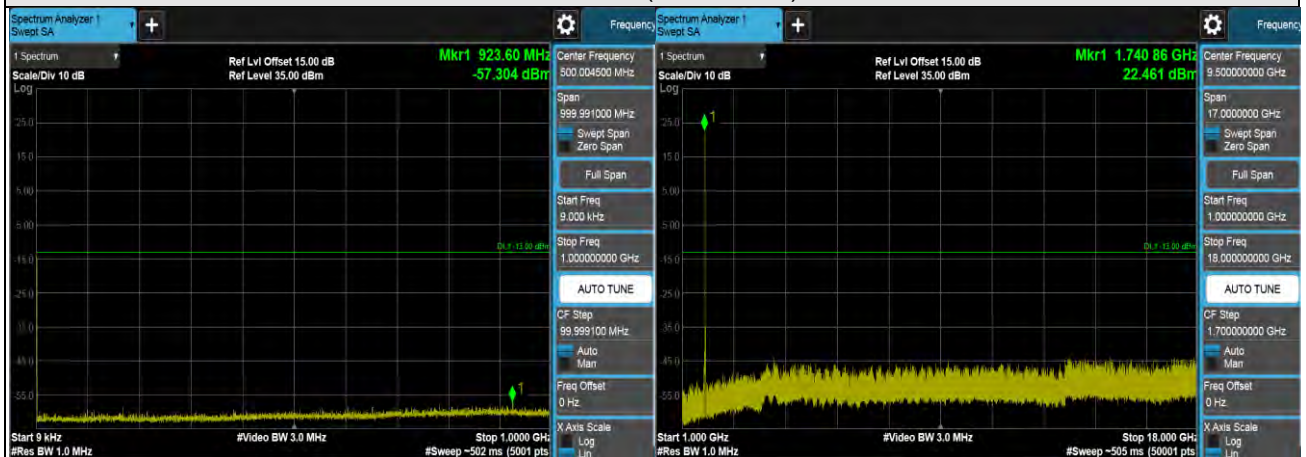
LTE Band 4 (Channel Bandwidth 15MHz)



CH 20025 (1717.5MHz)



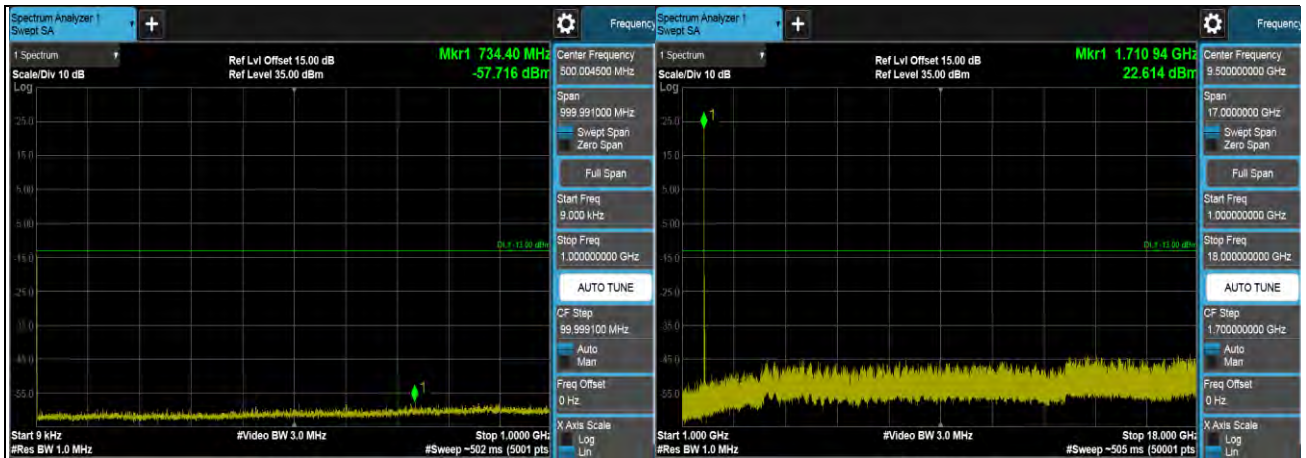
CH 20175 (1732.5MHz)



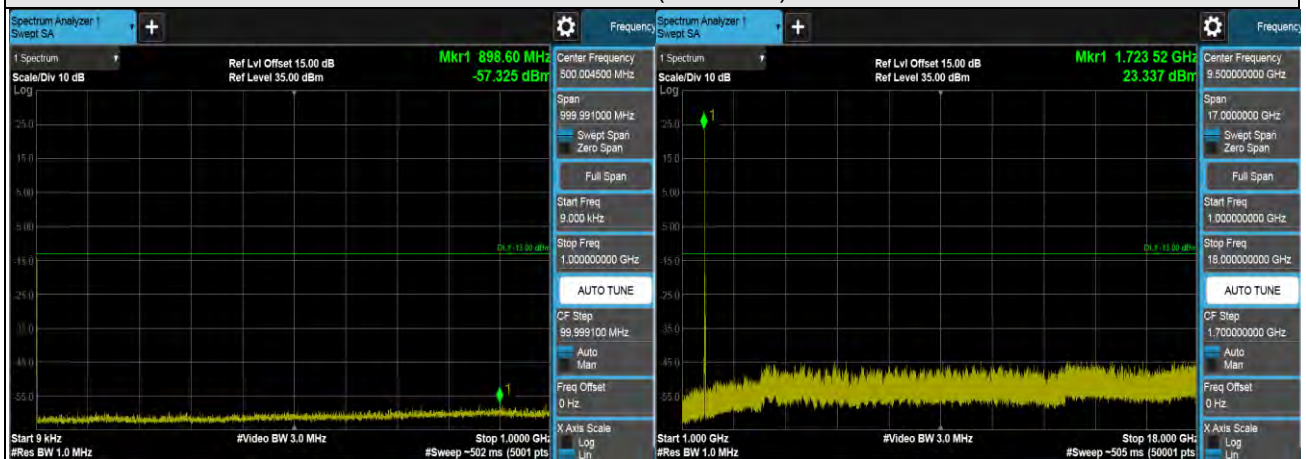
CH 20325 (1747.5MHz)

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

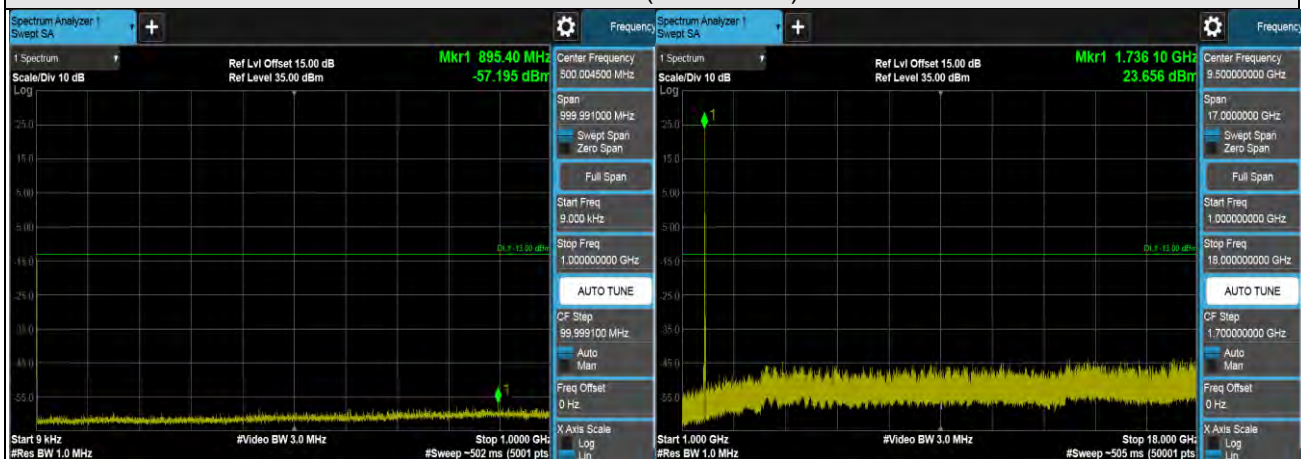
LTE Band 4 (Channel Bandwidth 20MHz)



CH 20050 (1720MHz)



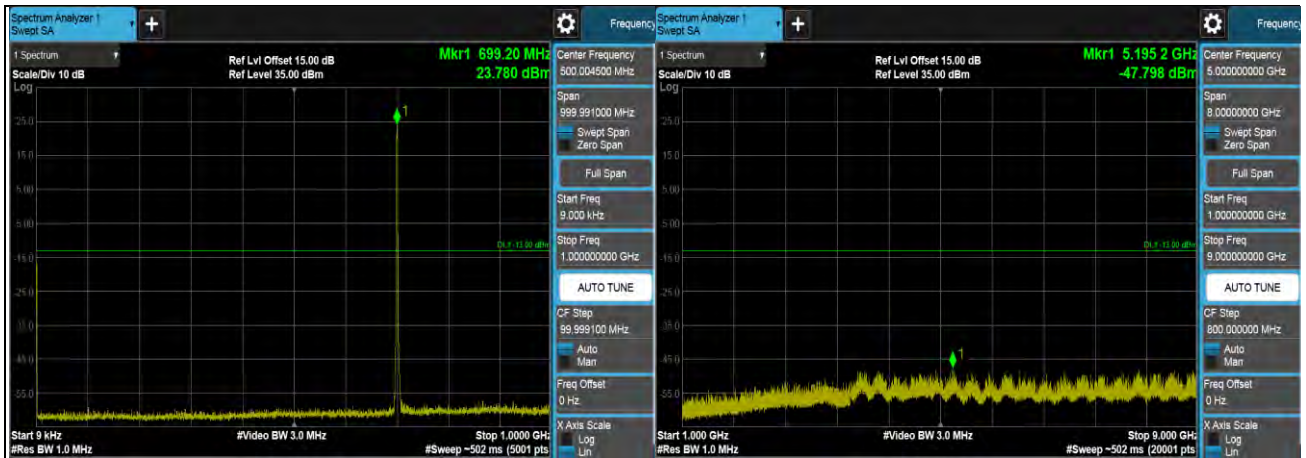
CH 20175 (1732.5MHz)



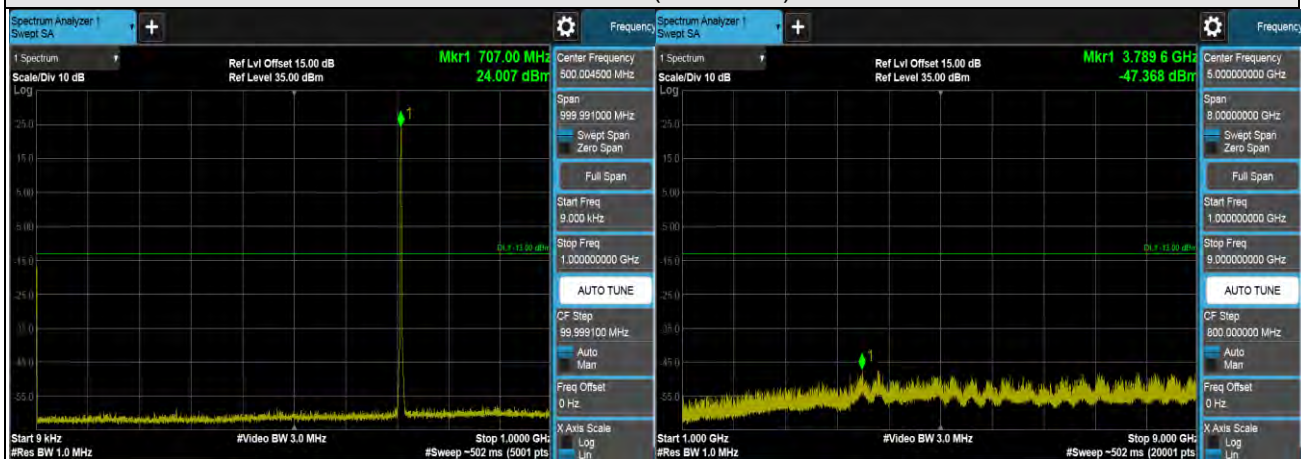
CH 20300 (1745MHz)

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

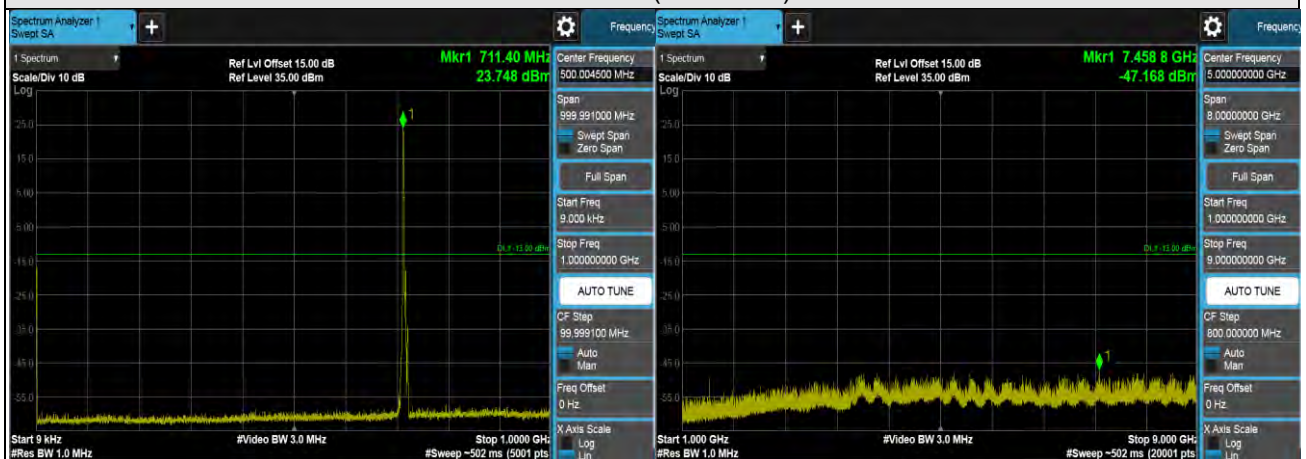
LTE Band 12 (Channel Bandwidth 1.4MHz)



CH 23017 (699.7MHz)



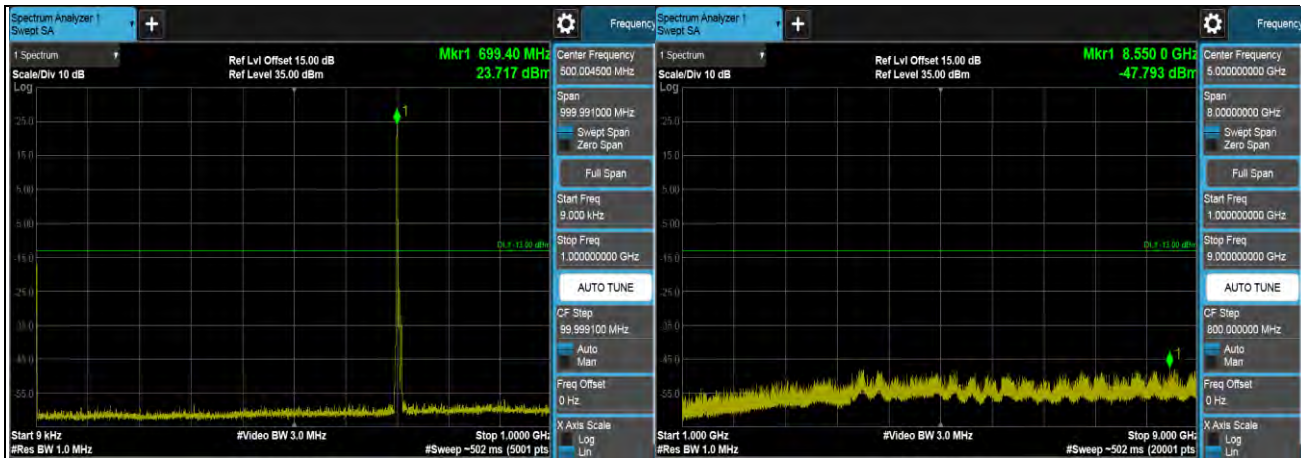
CH 23095 (707.5MHz)



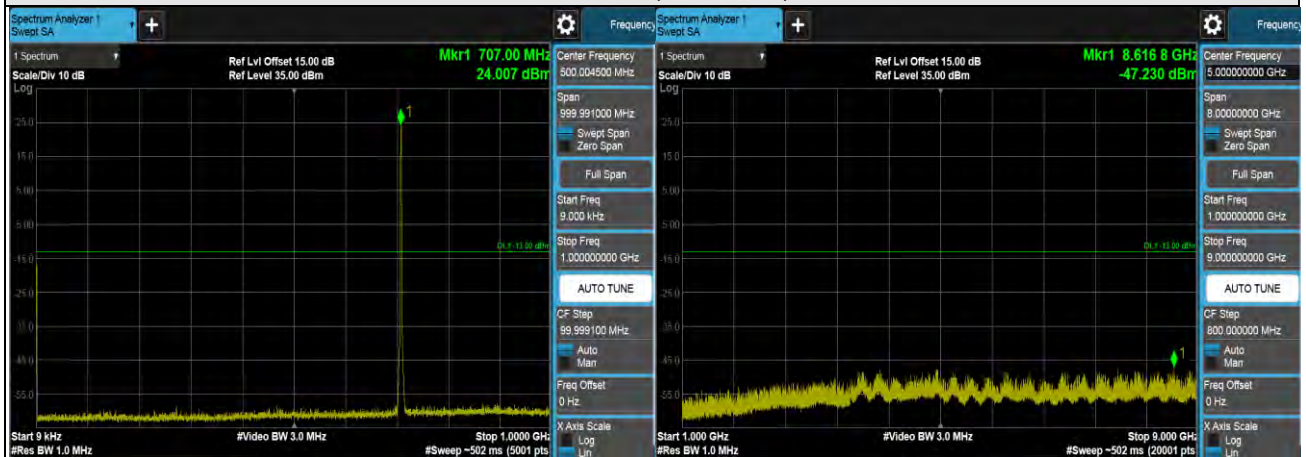
CH 23173 (715.3MHz)

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

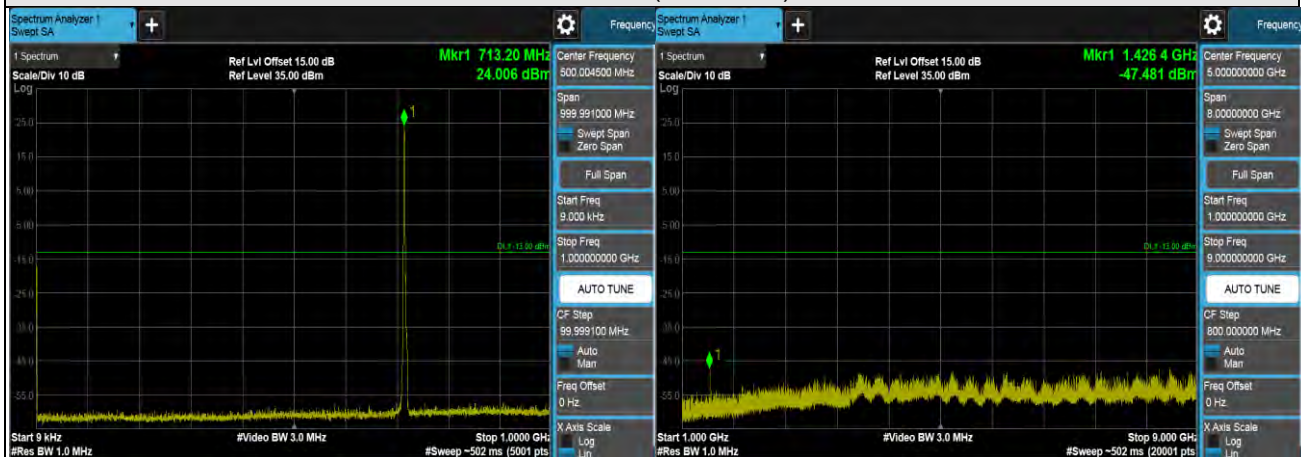
LTE Band 12 (Channel Bandwidth 3MHz)



CH 23025 (700.5MHz)



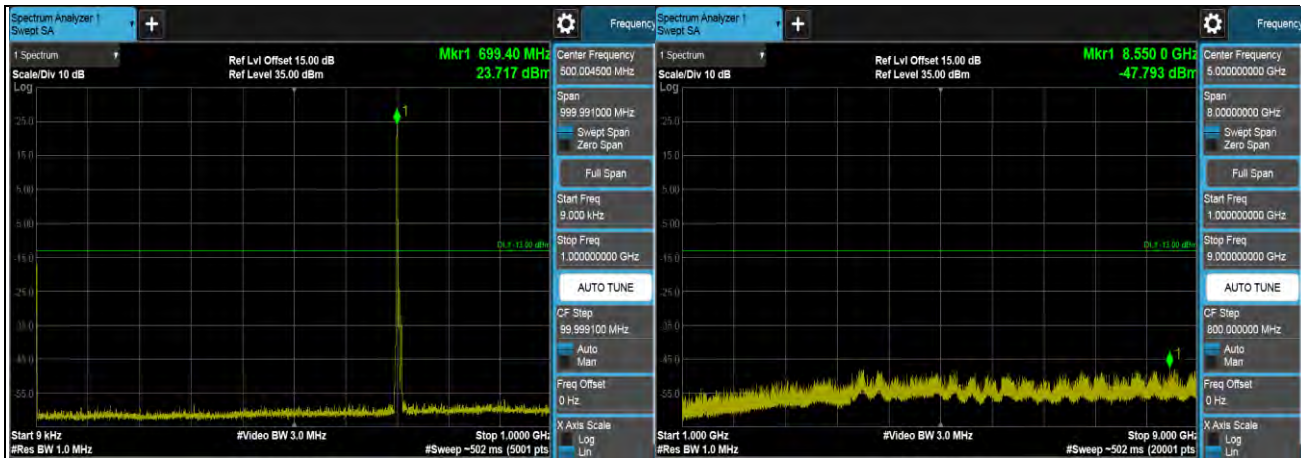
CH 23095 (707.5MHz)



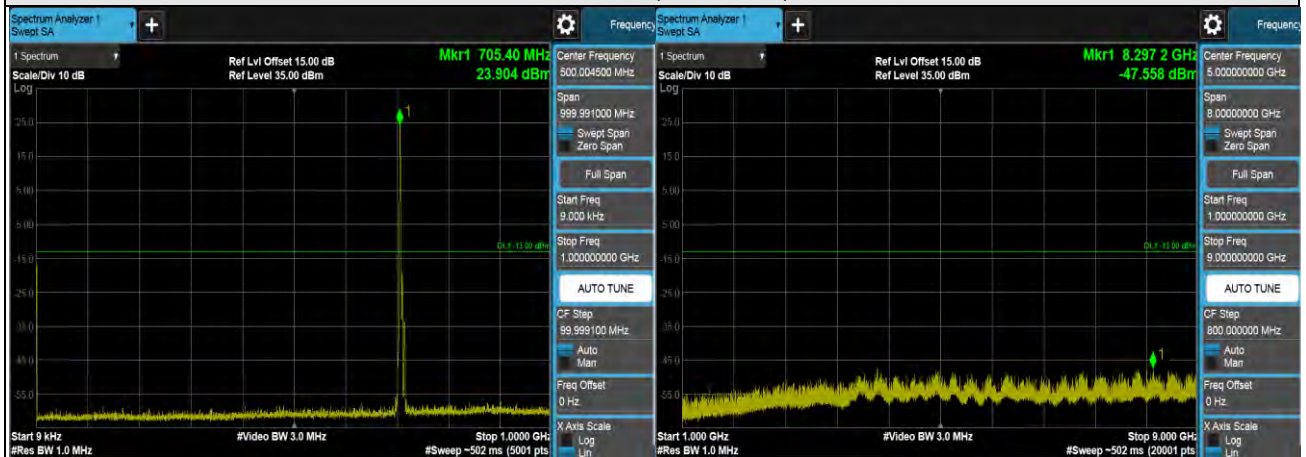
CH 23165 (714.5MHz)

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

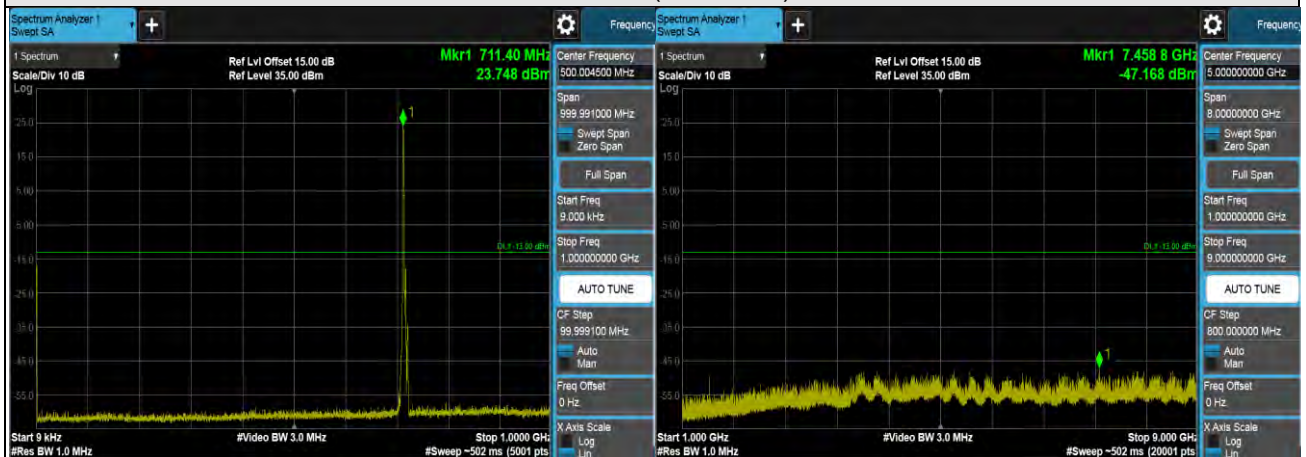
LTE Band 12 (Channel Bandwidth 5MHz)



CH 23035 (701.5MHz)



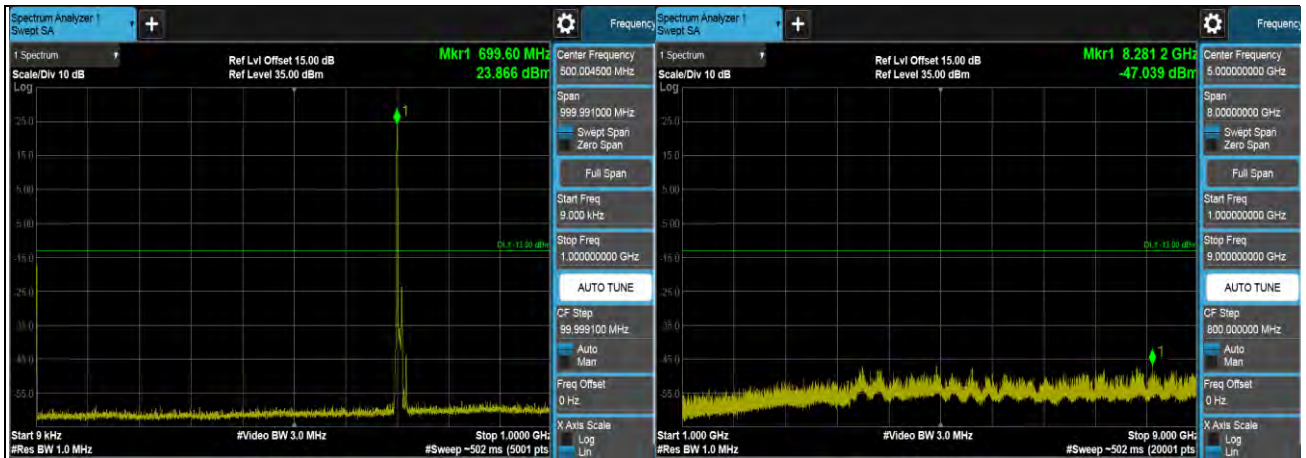
CH 23095 (707.5MHz)



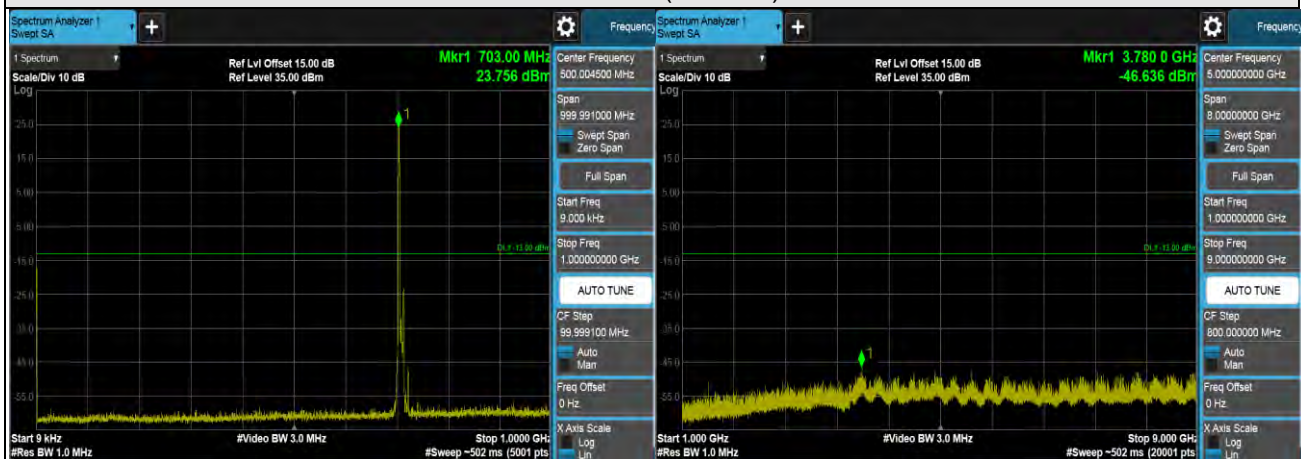
CH 23155 (713.5MHz)

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

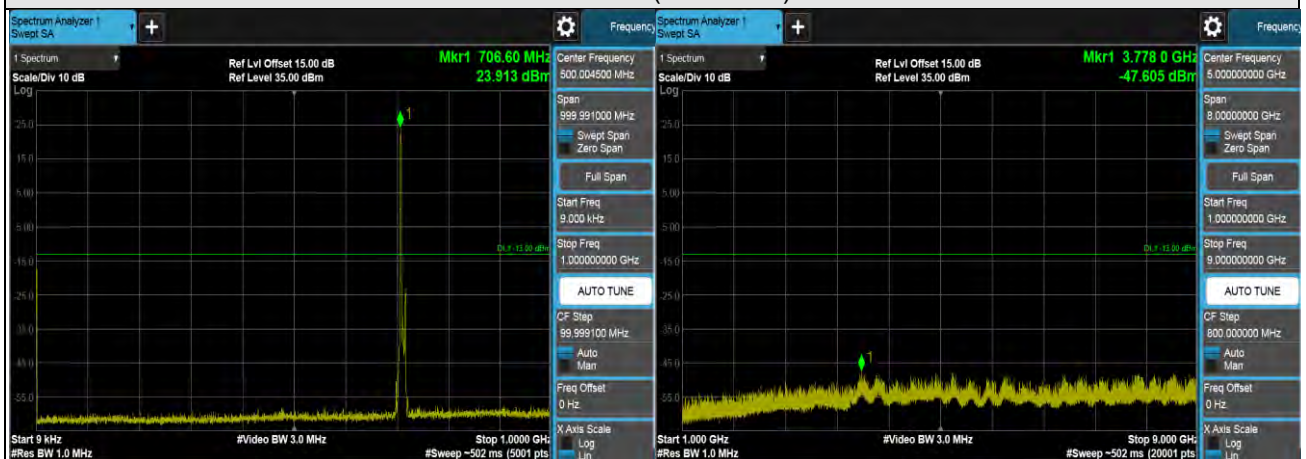
LTE Band 12 (Channel Bandwidth 10MHz)



CH 23060 (704MHz)



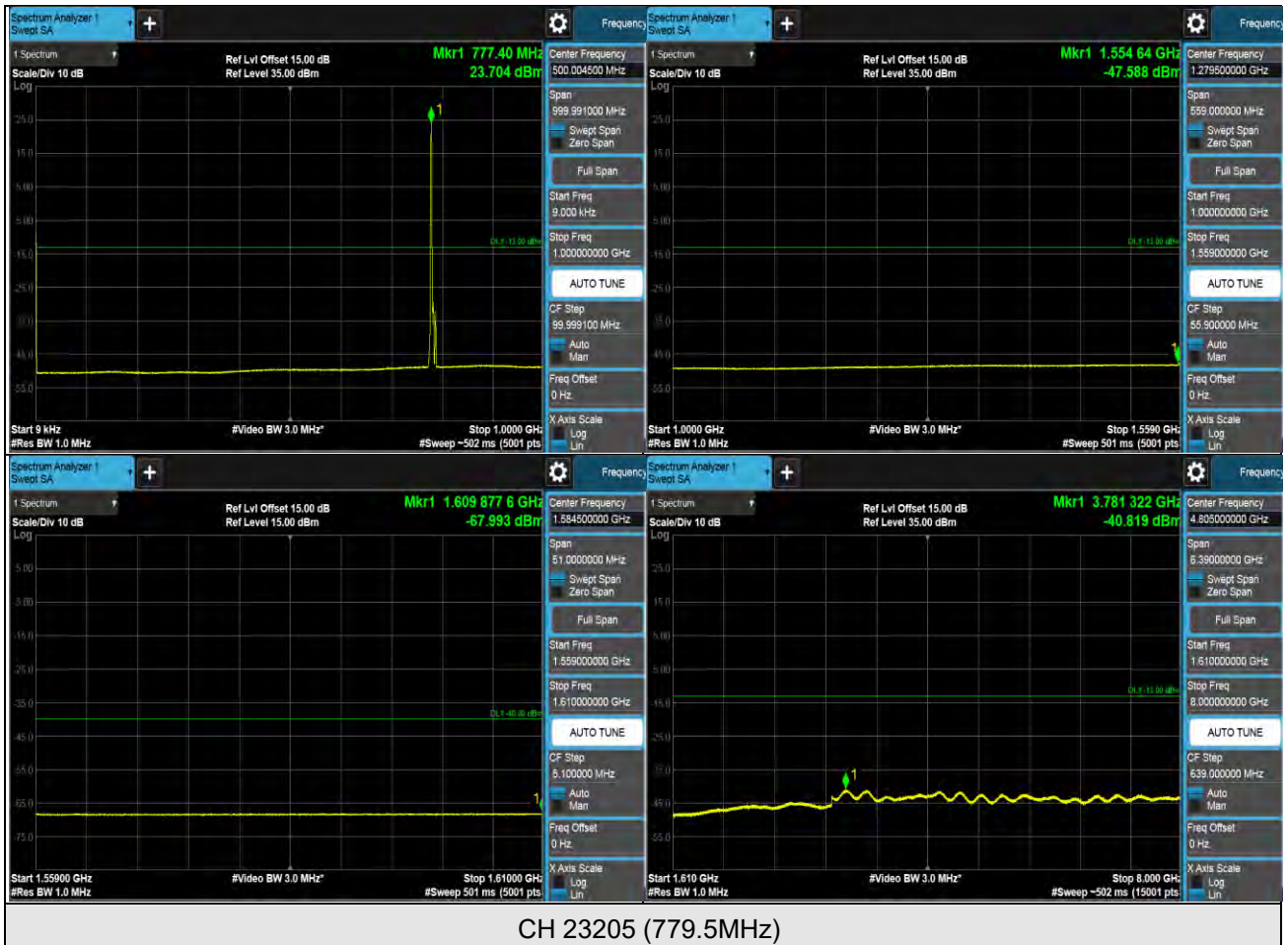
CH 23095 (707.5MHz)



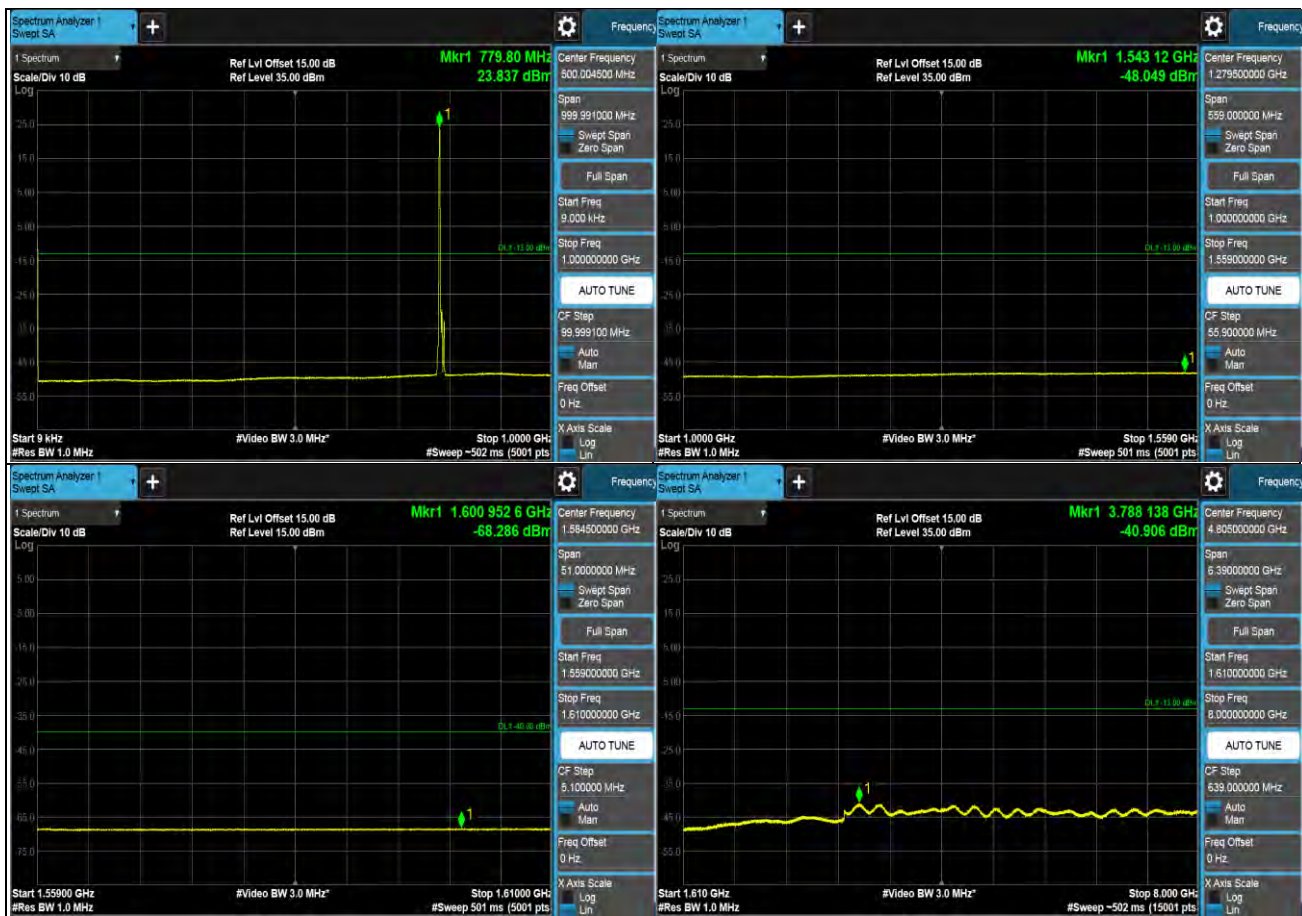
CH 23130 (711MHz)

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

LTE Band 13 (Channel Bandwidth 5MHz)



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



CH 23230 (782MHz)

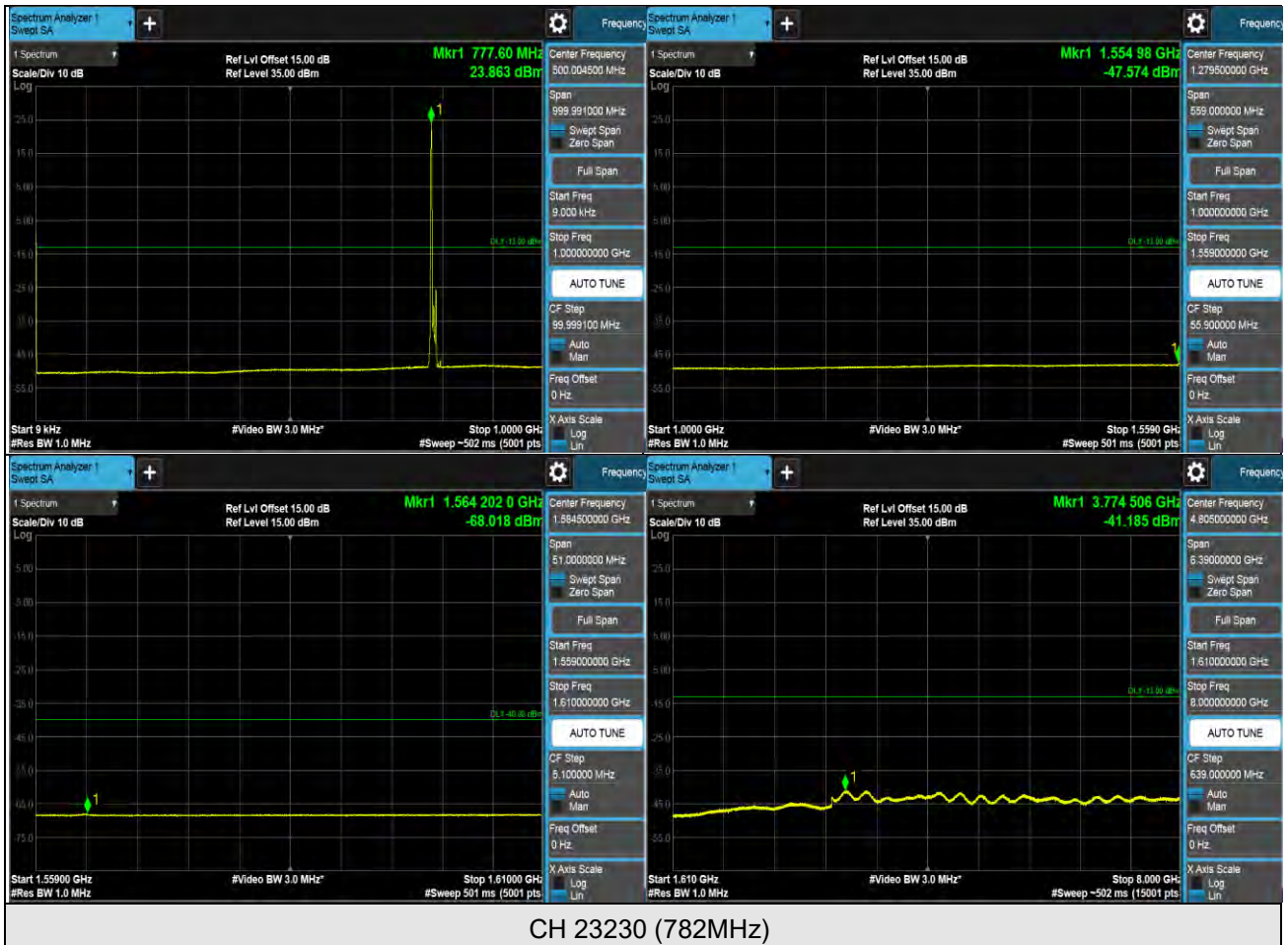
*The 9kHz signal over the limit is from Spectrum.



CH 23255 (784.5MHz)

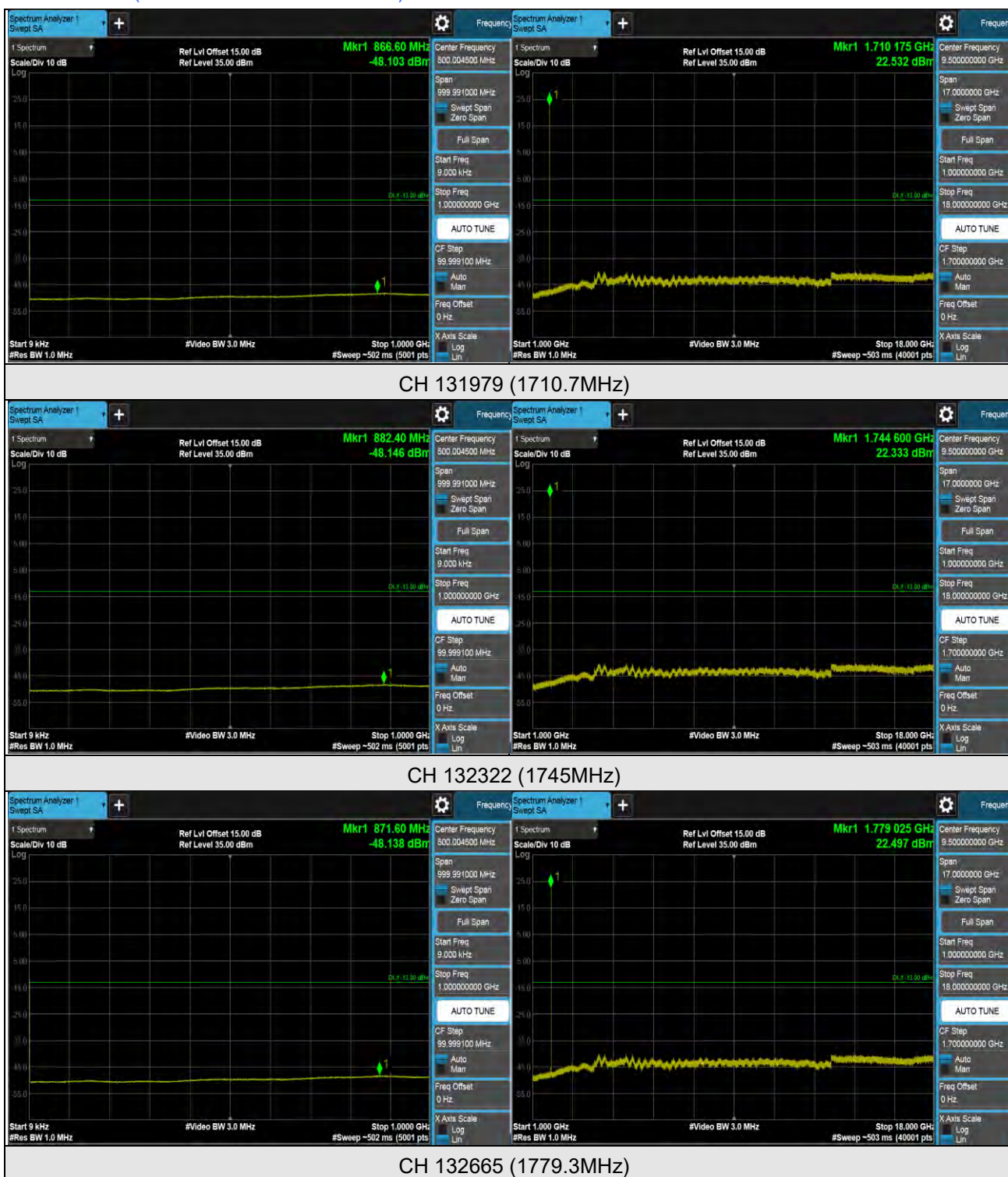
*The 9kHz signal over the limit is from Spectrum.

LTE Band 13 (Channel Bandwidth 10MHz)



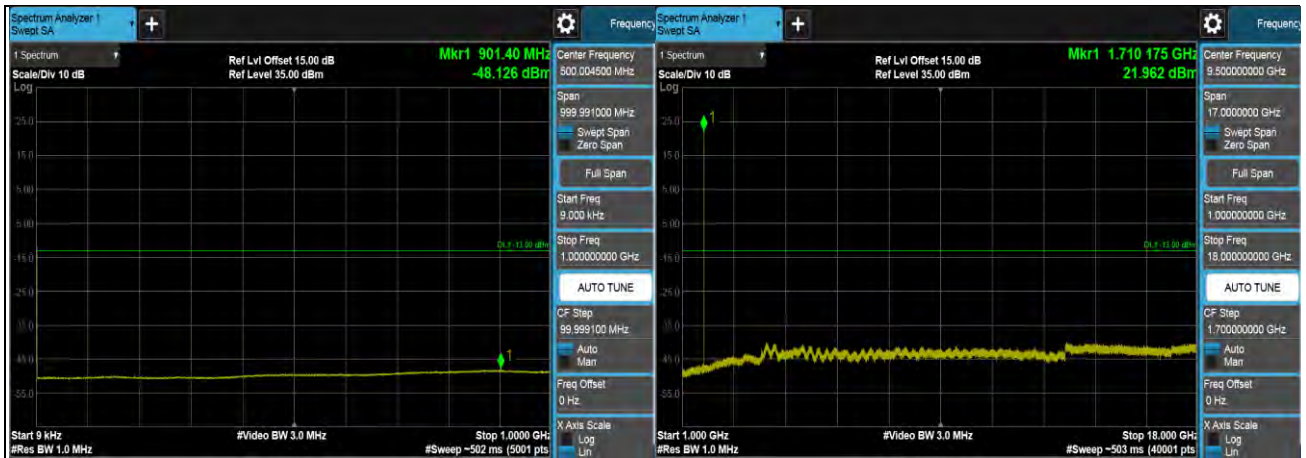
*The 9kHz signal over the limit is from Spectrum.

LTE Band 66 (Channel Bandwidth 1.4MHz)



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

LTE Band 66 (Channel Bandwidth 3MHz)



CH 131987 (1711.5MHz)



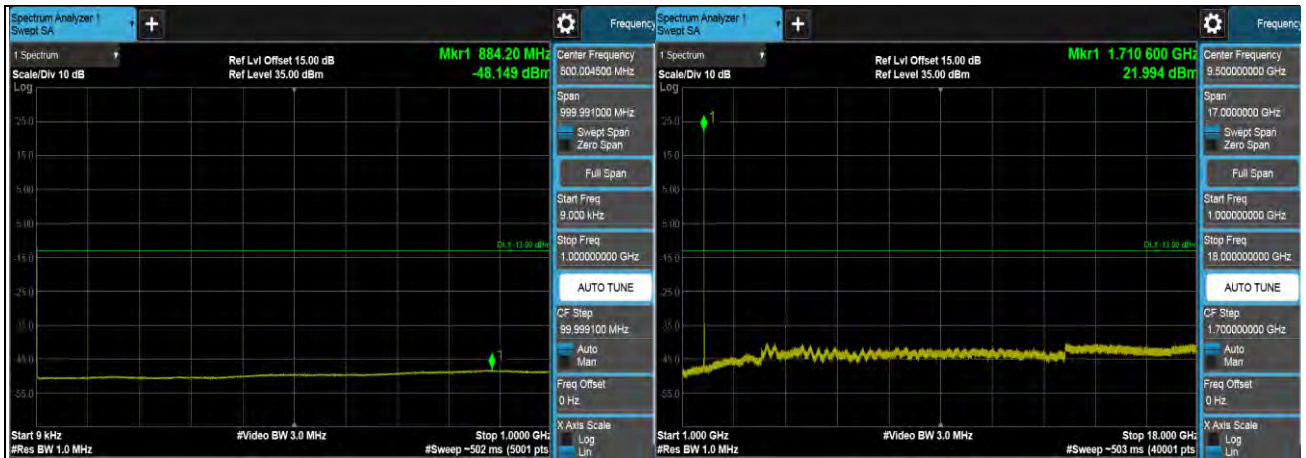
CH 132322 (1745MHz)



CH 132657 (1778.5MHz)

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

LTE Band 66 (Channel Bandwidth 5MHz)



CH 131997 (1712.5MHz)



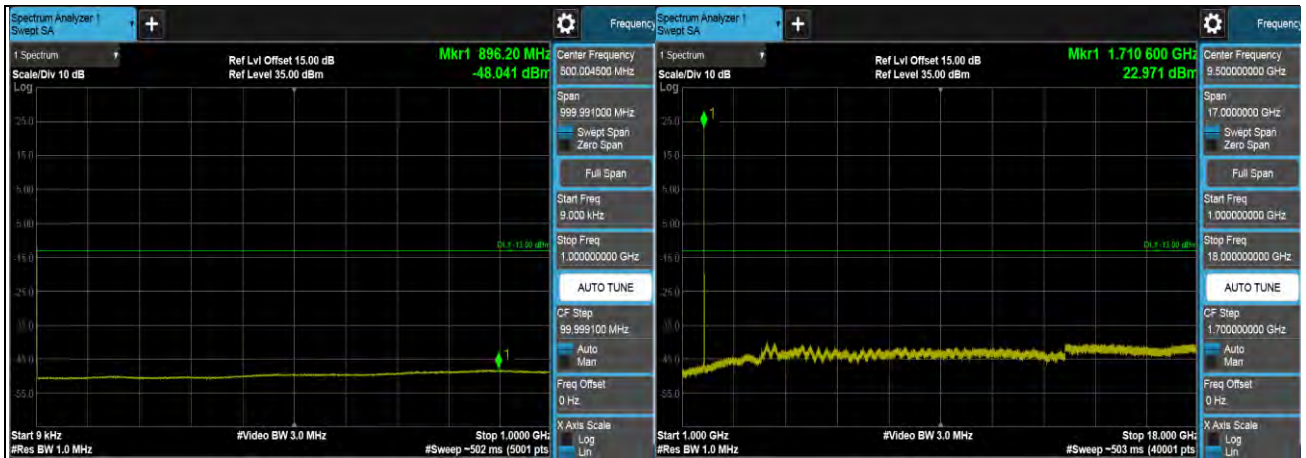
CH 132322 (1745MHz)



CH 132647 (1777.5MHz)

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

LTE Band 66 (Channel Bandwidth 10MHz)



CH 132022 (1715MHz)



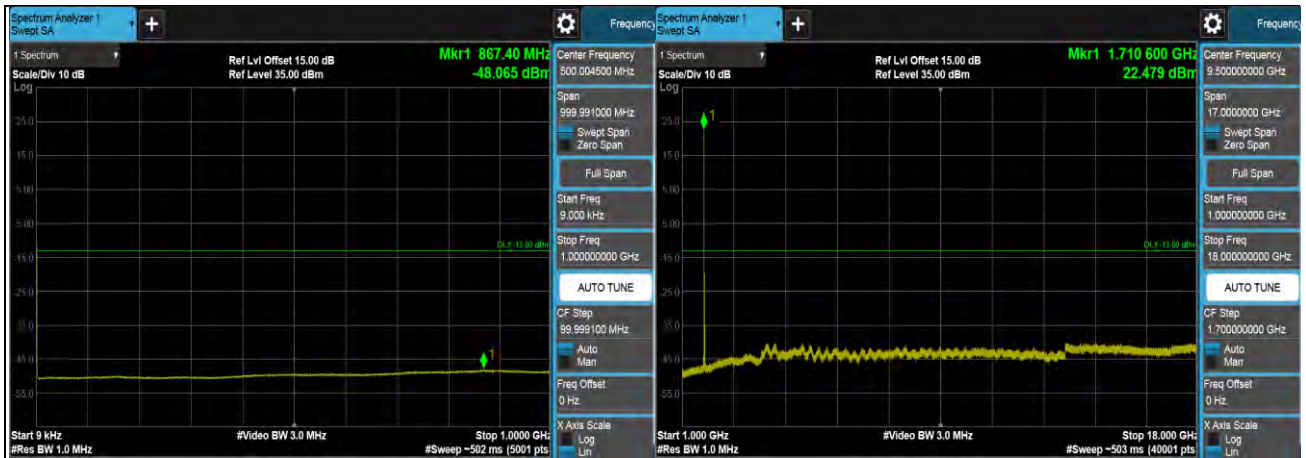
CH 132322 (1745MHz)



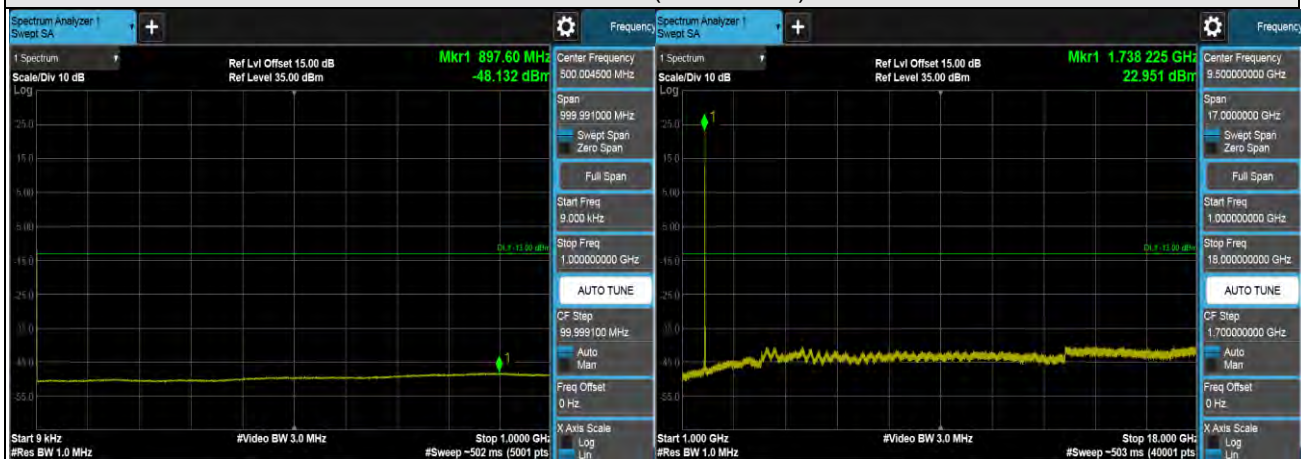
CH 132622 (1775MHz)

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

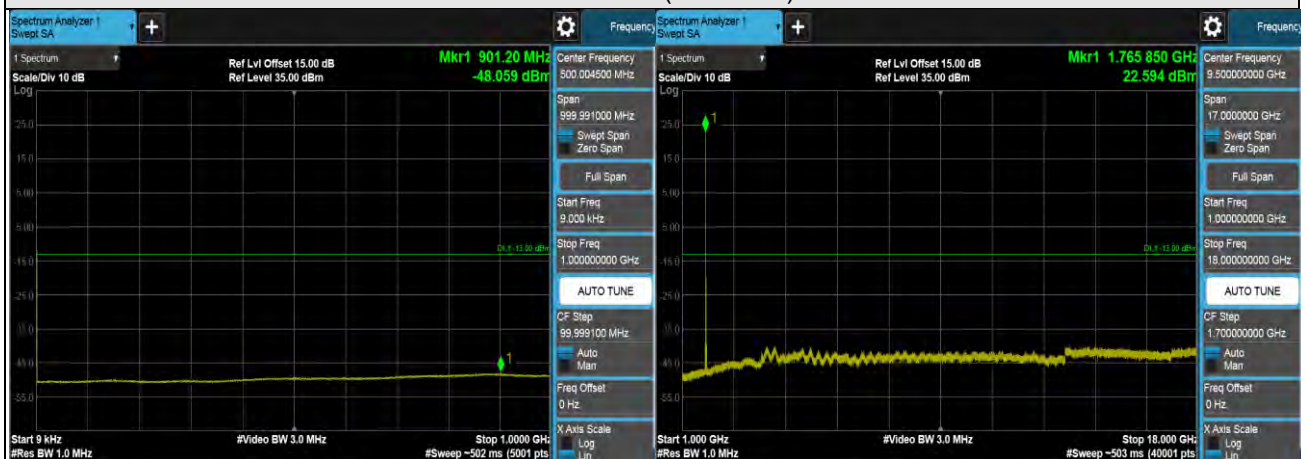
LTE Band 66 (Channel Bandwidth 15MHz)



CH 132047 (1717.5MHz)



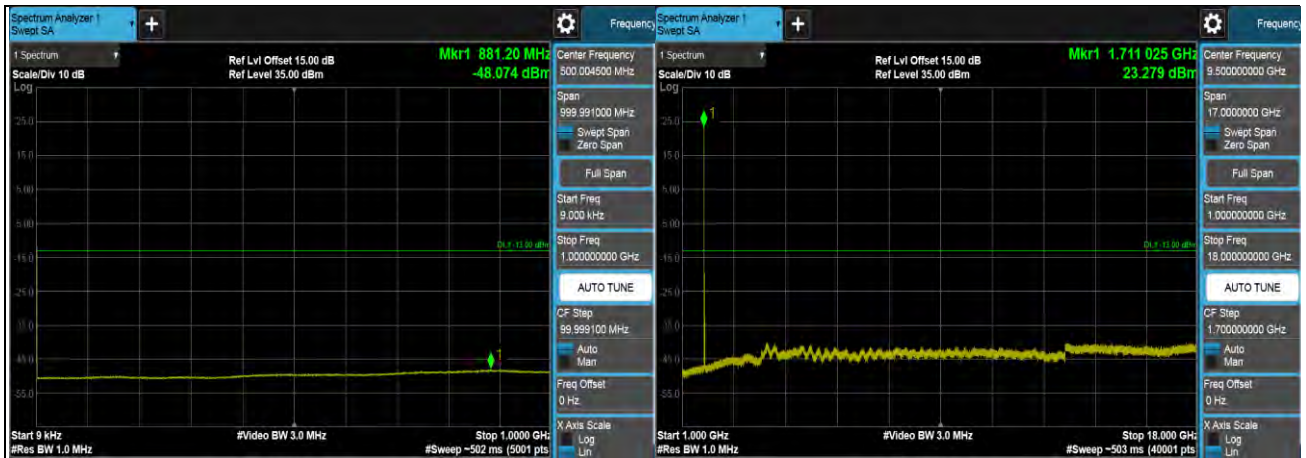
CH 132322 (1745MHz)



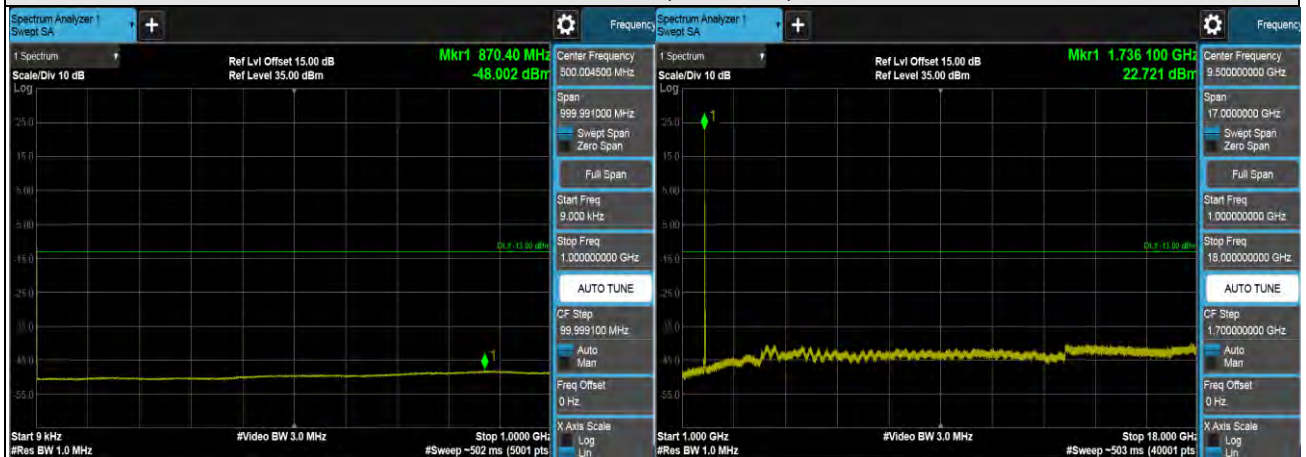
CH 132597 (1772.5MHz)

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

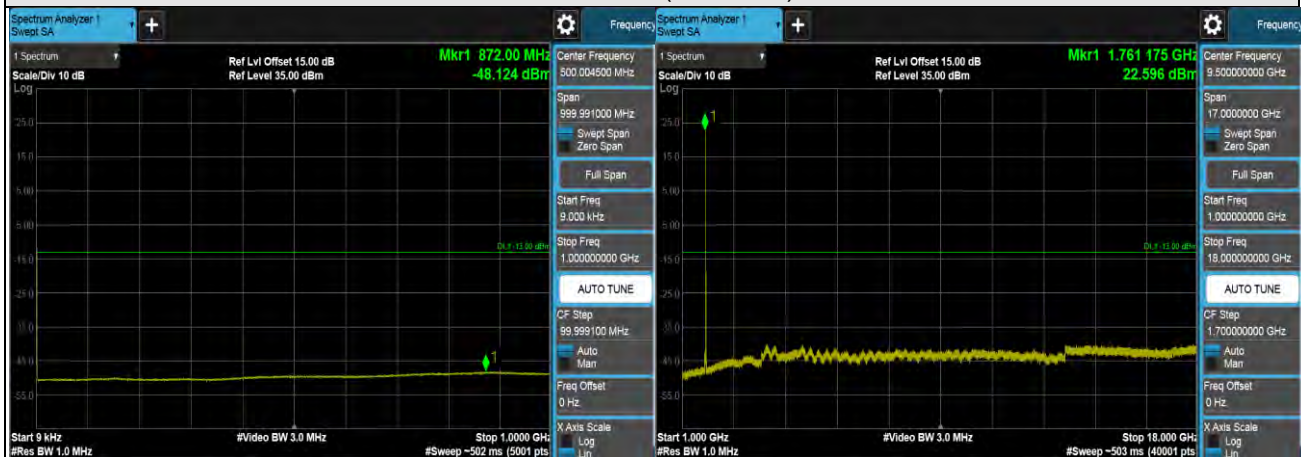
LTE Band 66 (Channel Bandwidth 20MHz)



CH 132072 (1720MHz)



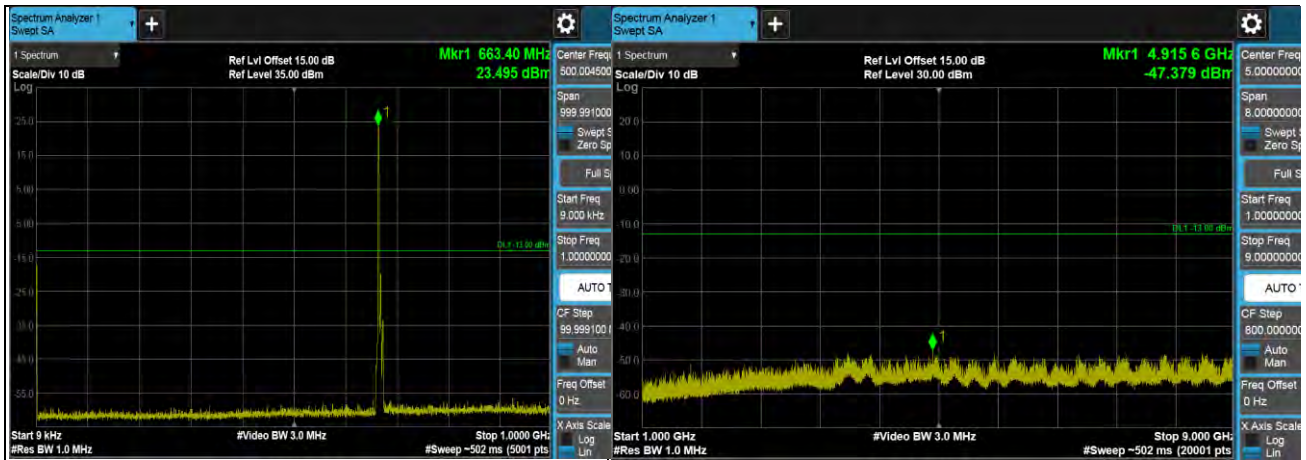
CH 132322 (1745MHz)



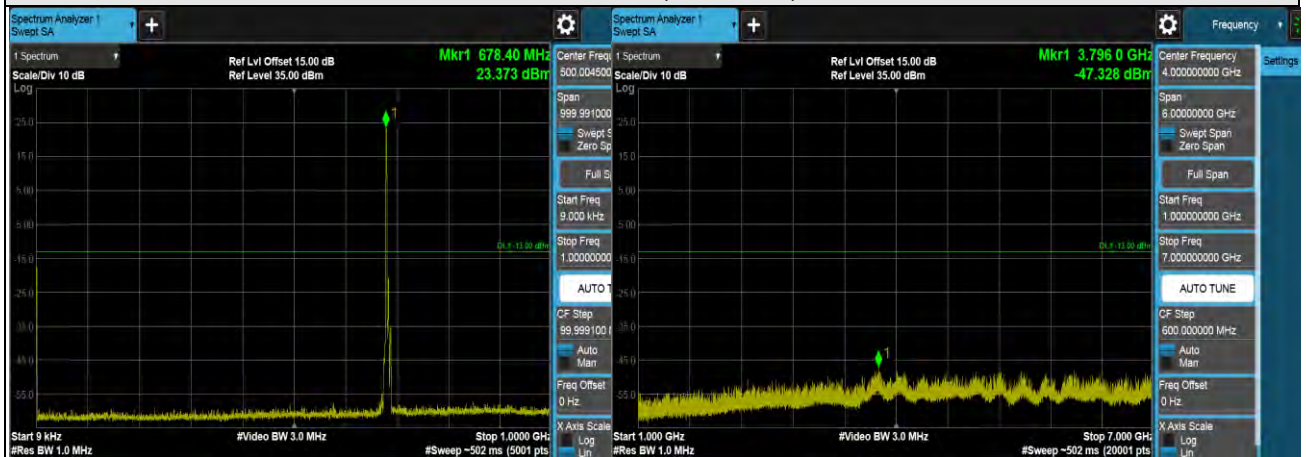
CH 132572 (1770MHz)

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

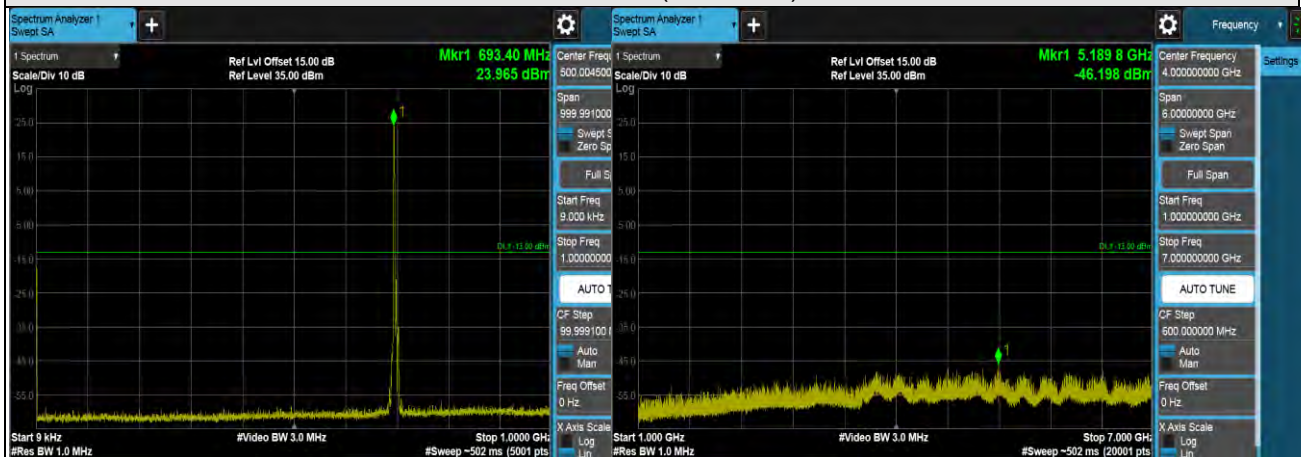
LTE Band 71 (Channel Bandwidth 5MHz)



CH 133147 (665.5MHz)



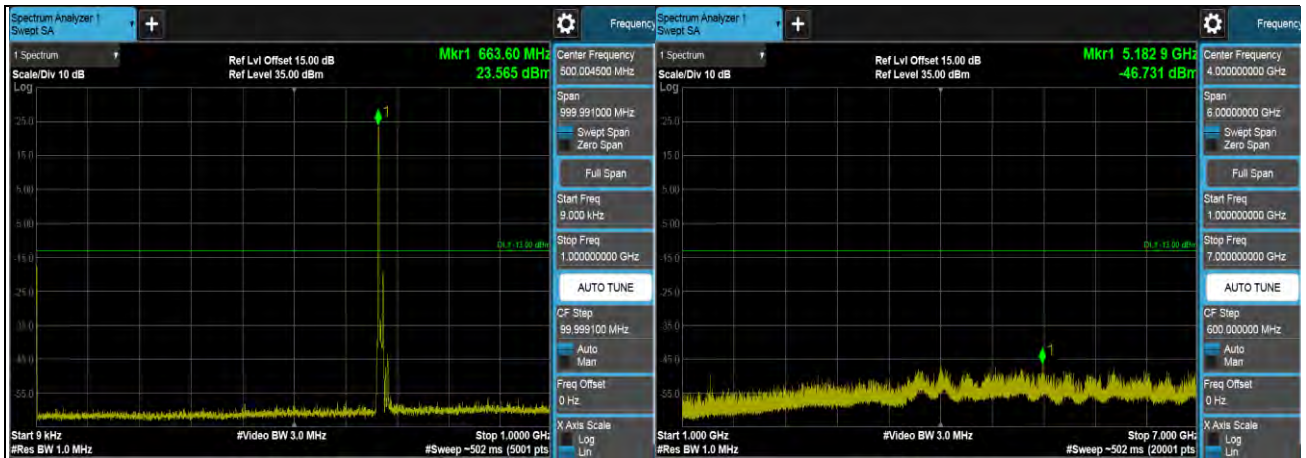
CH 133297 (680.5MHz)



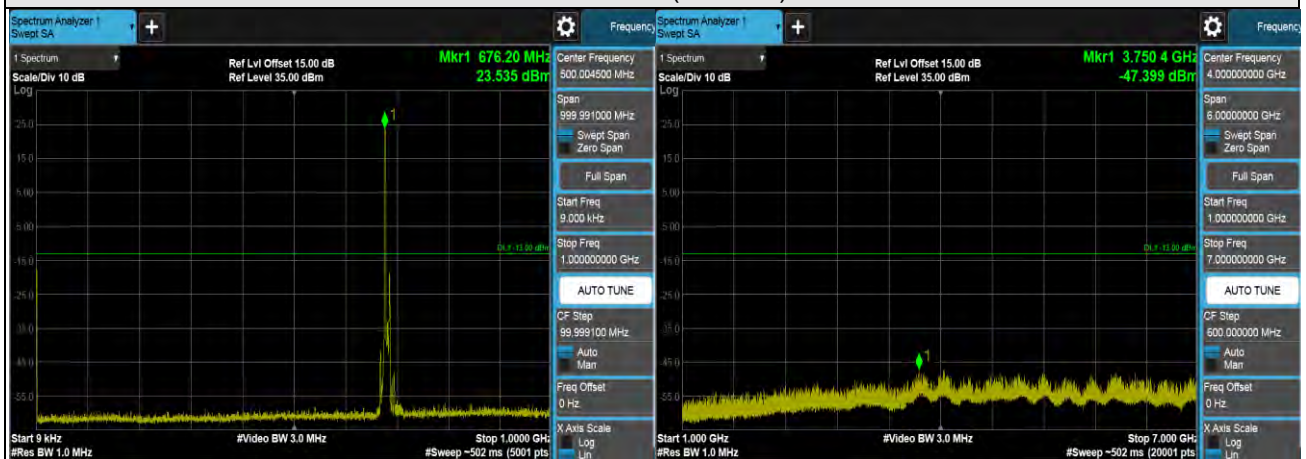
CH 133447 (695.5MHz)

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

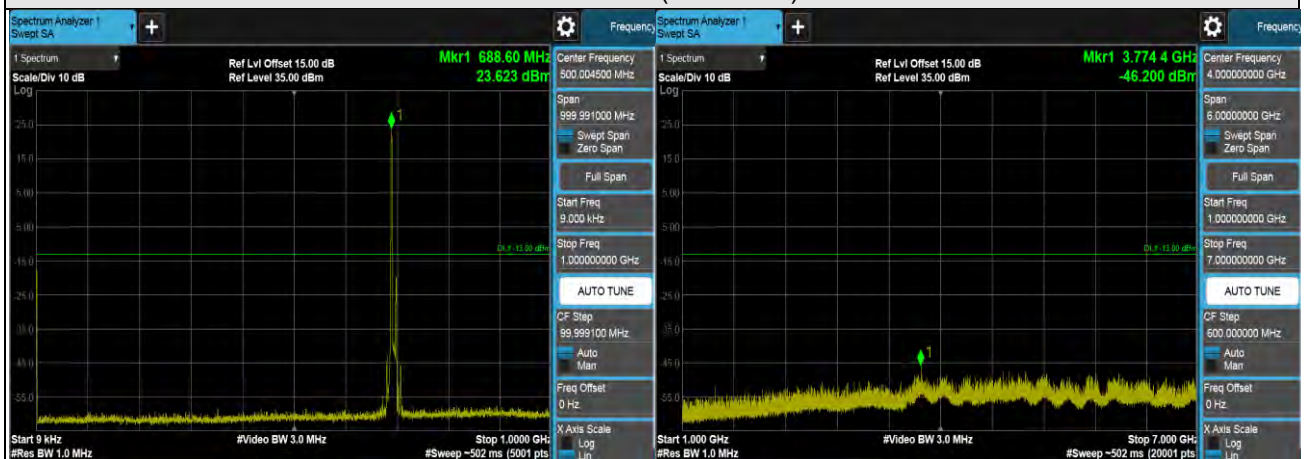
LTE Band 71 (Channel Bandwidth 10MHz)



CH 133172 (668MHz)



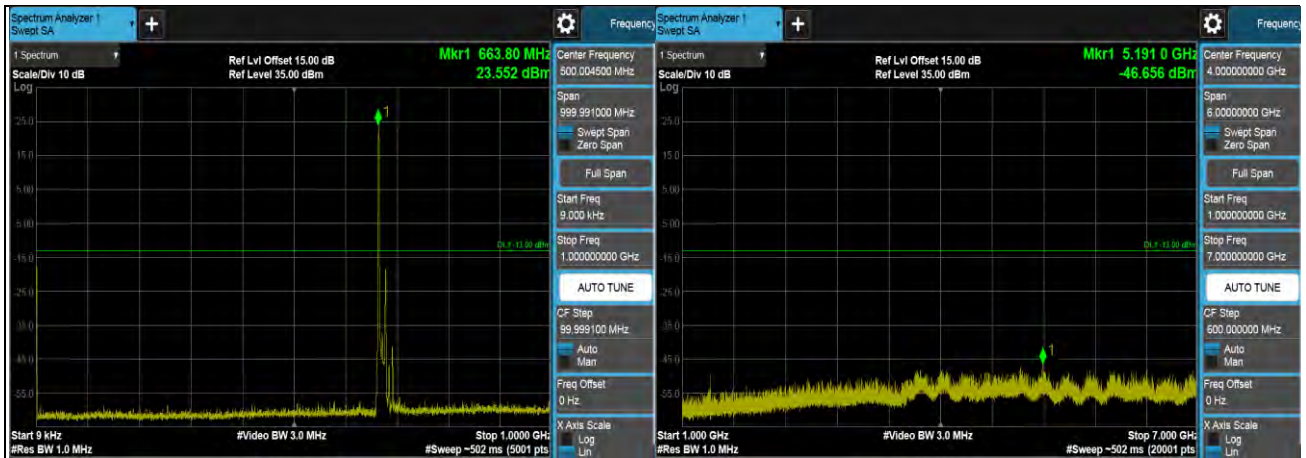
CH 133297 (680.5MHz)



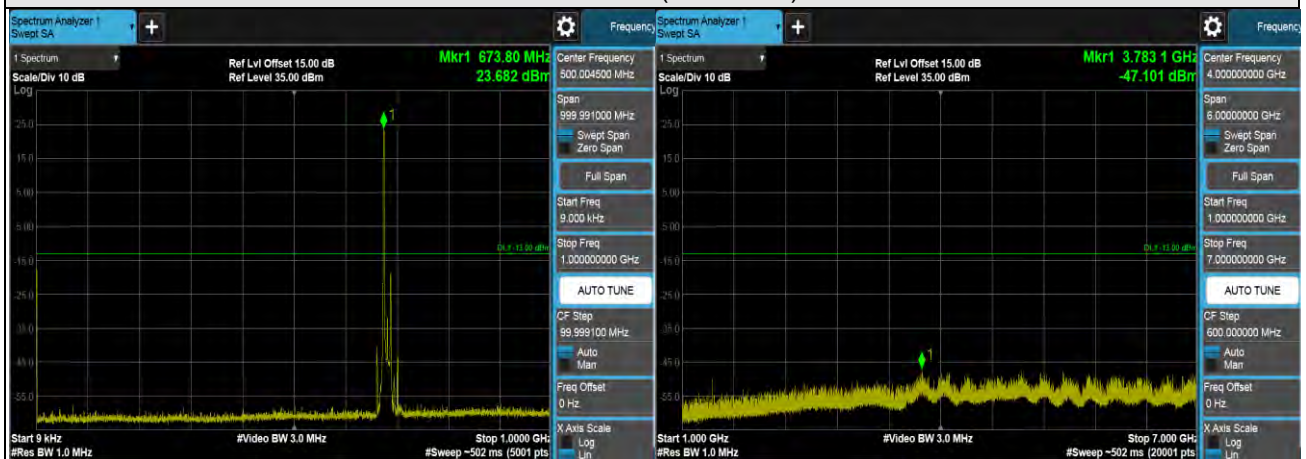
CH 133422 (693MHz)

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

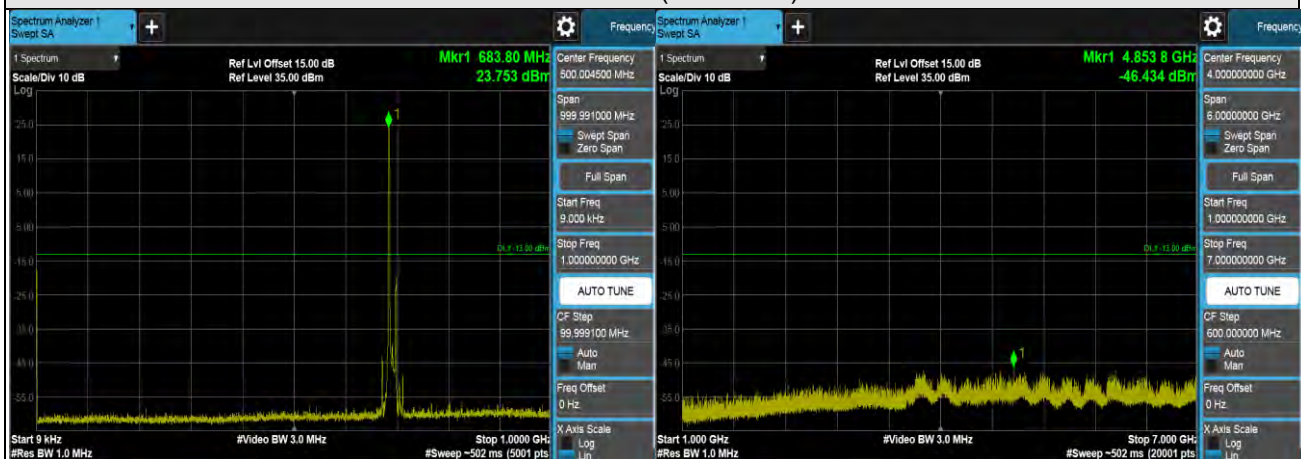
LTE Band 71 (Channel Bandwidth 15MHz)



CH 133197 (670.5MHz)



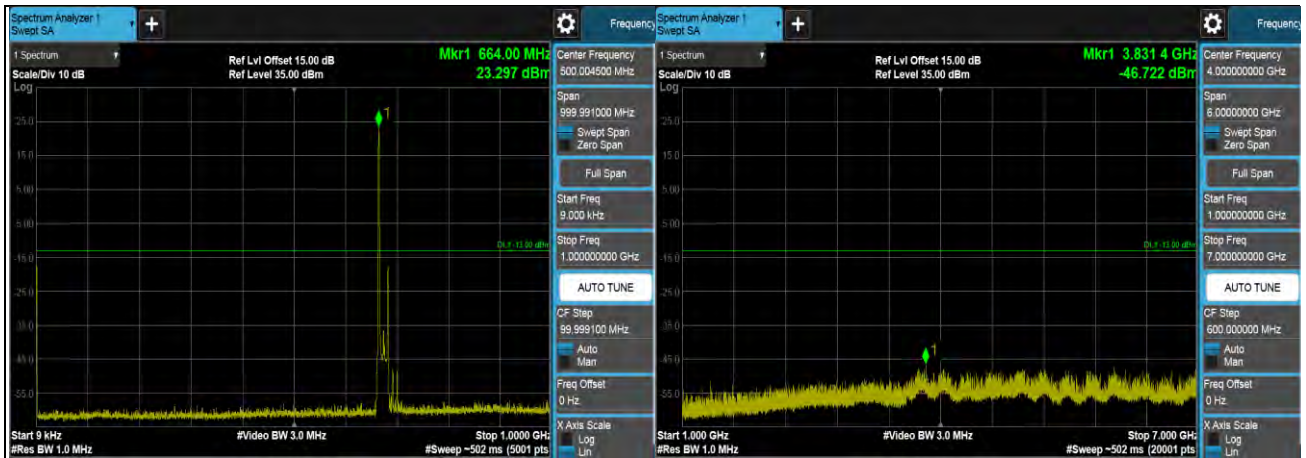
CH 133297 (680.5MHz)



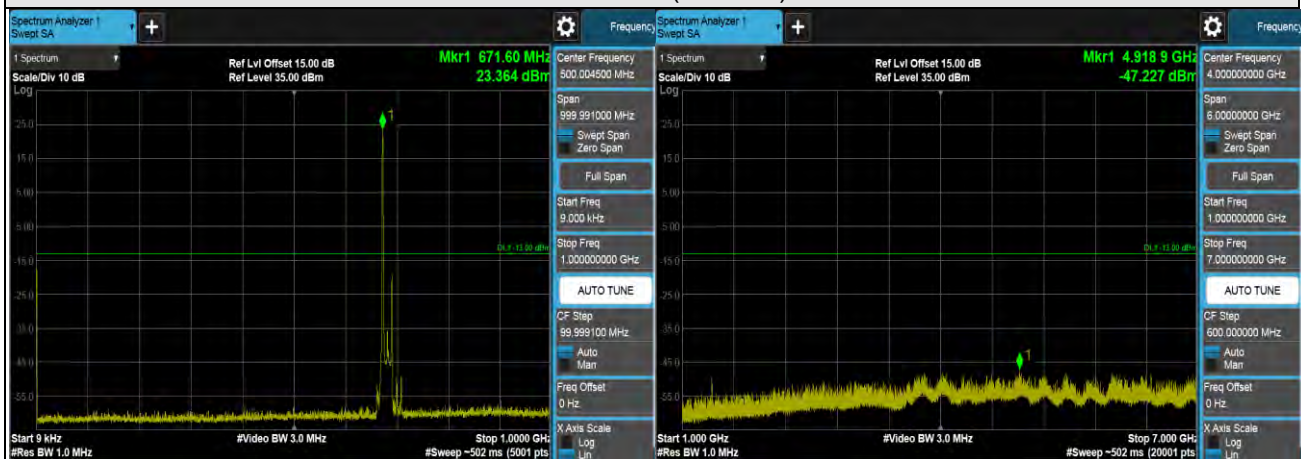
CH 133397 (690.5MHz)

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

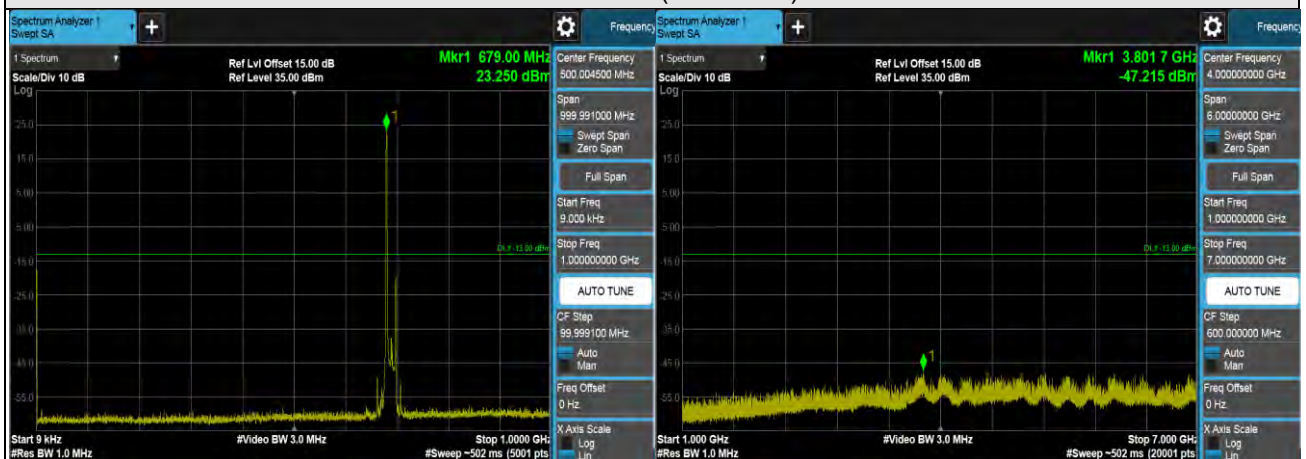
LTE Band 71 (Channel Bandwidth 20MHz)



CH 133222 (673MHz)



CH 133297 (680.5MHz)



CH 133372 (688MHz)

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

4.8 Radiated Emission Measurement

4.8.1 Limits of Radiated Emission Measurement

For WCDMA Band 4, LTE Band 4, 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.

For LTE Band 12, LTE Band 71:

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 13:

According to FCC 27.53(c)(2) for on any frequency outside the 776-788 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least $43 + 10 \log (P)$ dB.

According to FCC 27.53(f) for operations in the 775-788 MHz, emissions in the band 1559-1610MHz shall be limited to -70 dBW/MHz. The limit of emissions is equal to -40 dBm

4.8.2 Test Procedure

- a. 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
 - $EIRP (dBm) = E (dB\mu V/m) + 20\log(D) - 104.8$; where D is the measurement distance (in the far field region) in m.
 - $ERP (dBm) = E (dB\mu V/m) + 20\log(D) - 104.8 - 2.15$; where D is the measurement distance (in the far field region) in m.

Note:

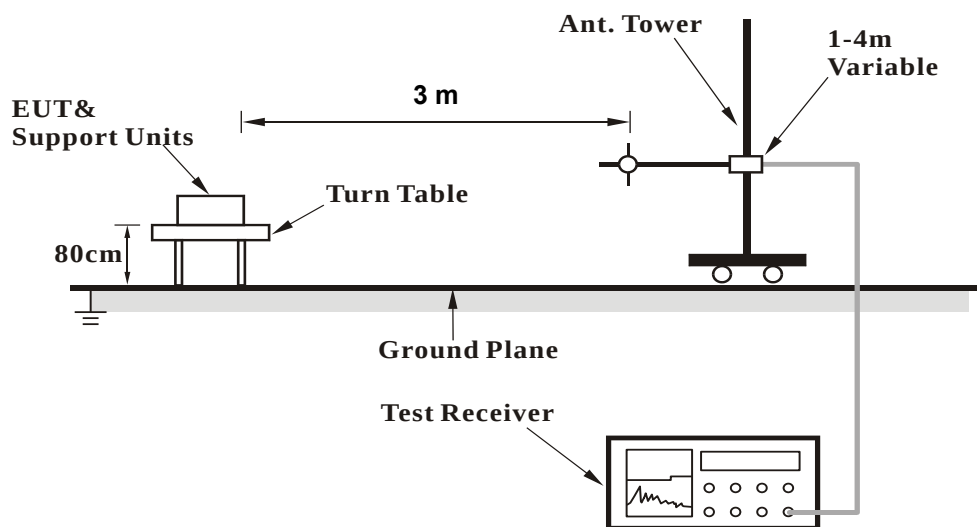
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1MHz/3MHz.
2. The emission levels were against the limit of frequency range 9 kHz ~ 30 MHz:
The amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required to be report.

4.8.3 Deviation from Test Standard

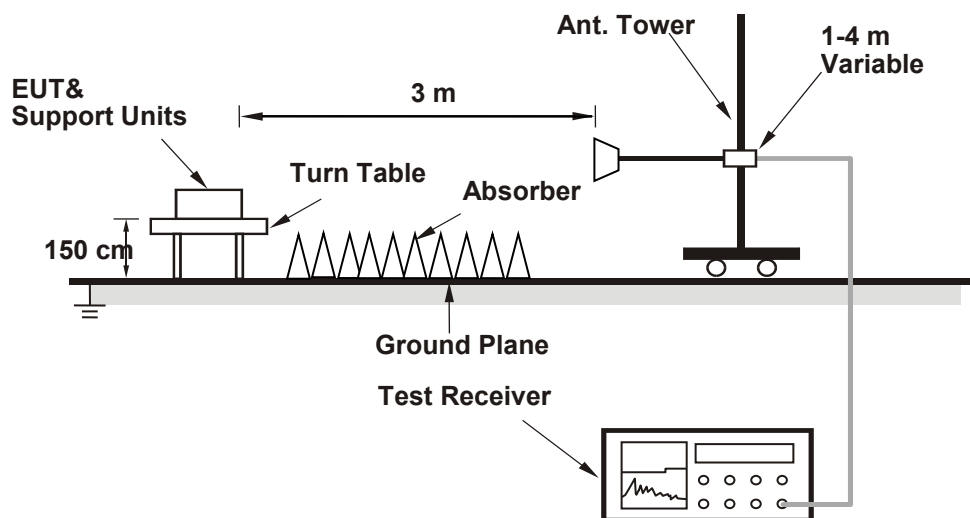
No deviation.

4.8.4 Test Setup

<Radiated Emission below or equal 1 GHz>



<Radiated Emission above 1 GHz>



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

4.8.5 Test Results

Below 1GHz

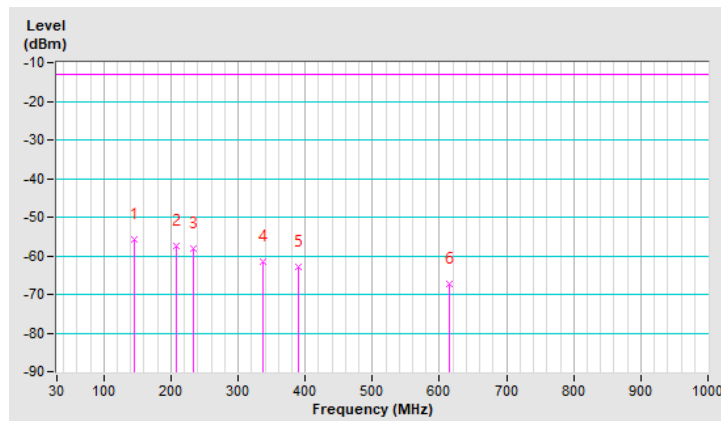
WCDMA Band 4

Mode	TX channel 1413 (1732.6MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	26deg. C, 62%RH	Input Power	120Vac, 60Hz
Tested By	Charles Hsiao		

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	145.55	-55.62	-13.00	-42.62	1.53 H	222	57.37	-112.99
2	208.87	-57.41	-13.00	-44.41	1.54 H	209	58.76	-116.17
3	233.45	-58.16	-13.00	-45.16	1.98 H	115	56.96	-115.12
4	337.87	-61.45	-13.00	-48.45	1.53 H	161	49.92	-111.37
5	390.60	-62.80	-13.00	-49.80	1.15 H	149	47.39	-110.19
6	614.35	-67.37	-13.00	-54.37	1.01 H	181	38.07	-105.44

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.

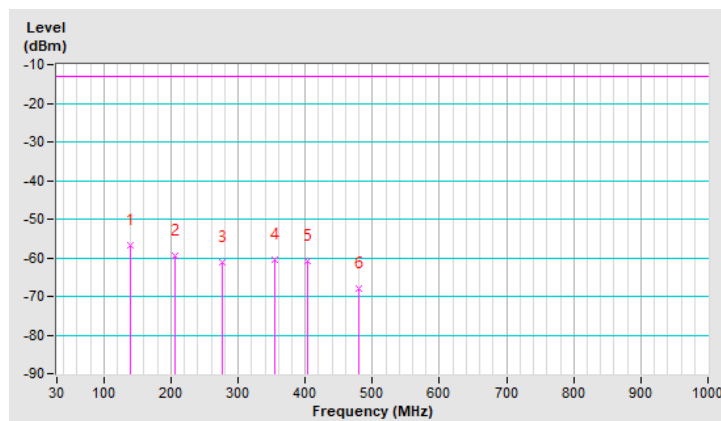


Mode	TX channel 1413 (1732.6MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	26deg. C, 62%RH	Input Power	120Vac, 60Hz
Tested By	Charles Hsiao		

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	138.57	-56.72	-13.00	-43.72	1.18 V	181	56.66	-113.38
2	205.20	-59.40	-13.00	-46.40	1.15 V	211	56.86	-116.26
3	275.64	-61.20	-13.00	-48.20	1.45 V	0	51.98	-113.18
4	354.55	-60.64	-13.00	-47.64	1.15 V	245	50.52	-111.16
5	403.32	-60.84	-13.00	-47.84	1.17 V	77	49.09	-109.93
6	479.90	-68.08	-13.00	-55.08	1.52 V	255	40.11	-108.19

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.



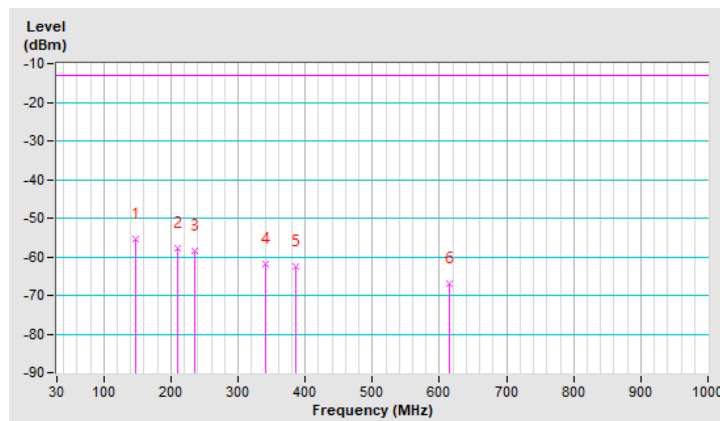
LTE Band 4, Channel Bandwidth 20MHz

Mode	TX channel 20175 (1732.5MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	26deg. C, 62%RH	Input Power	120Vac, 60Hz
Tested By	Charles Hsiao		

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	146.60	-55.38	-13.00	-42.38	1.76 H	140	57.48	-112.86
2	209.82	-57.84	-13.00	-44.84	1.14 H	104	58.31	-116.15
3	235.56	-58.36	-13.00	-45.36	1.18 H	196	56.50	-114.86
4	340.70	-61.74	-13.00	-48.74	1.61 H	337	49.63	-111.37
5	385.56	-62.45	-13.00	-49.45	1.34 H	150	47.82	-110.27
6	615.52	-66.99	-13.00	-53.99	1.18 H	241	38.45	-105.44

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.

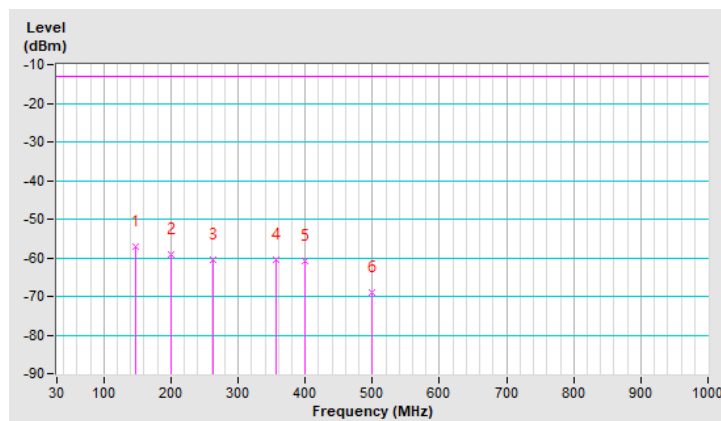


Mode	TX channel 20175 (1732.5MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	26deg. C, 62%RH	Input Power	120Vac, 60Hz
Tested By	Charles Hsiao		

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	146.68	-57.22	-13.00	-44.22	1.75 V	199	55.63	-112.85
2	200.00	-59.26	-13.00	-46.26	1.35 V	206	56.98	-116.24
3	263.50	-60.47	-13.00	-47.47	1.18 V	185	53.33	-113.80
4	356.80	-60.39	-13.00	-47.39	1.63 V	115	50.75	-111.14
5	399.52	-60.89	-13.00	-47.89	1.57 V	4	49.11	-110.00
6	498.85	-69.05	-13.00	-56.05	1.73 V	325	38.94	-107.99

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.



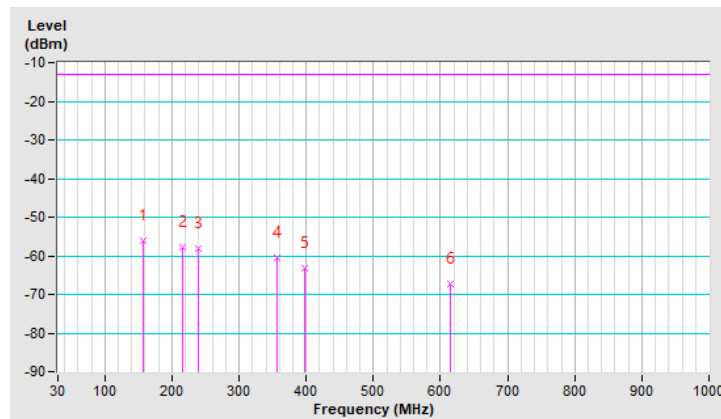
LTE Band 12, Channel Bandwidth 1.4MHz

Mode	TX channel 23017 (699.7MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	26deg. C, 62%RH	Input Power	120Vac, 60Hz
Tested By	Charles Hsiao		

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	157.55	-56.00	-13.00	-43.00	1.59 H	64	58.87	-114.87
2	215.52	-57.74	-13.00	-44.74	1.15 H	122	60.42	-118.16
3	238.56	-58.09	-13.00	-45.09	1.65 H	222	58.69	-116.78
4	356.64	-60.66	-13.00	-47.66	1.55 H	264	52.63	-113.29
5	398.50	-63.12	-13.00	-50.12	1.15 H	169	49.06	-112.18
6	615.60	-67.33	-13.00	-54.33	1.16 H	296	40.26	-107.59

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.

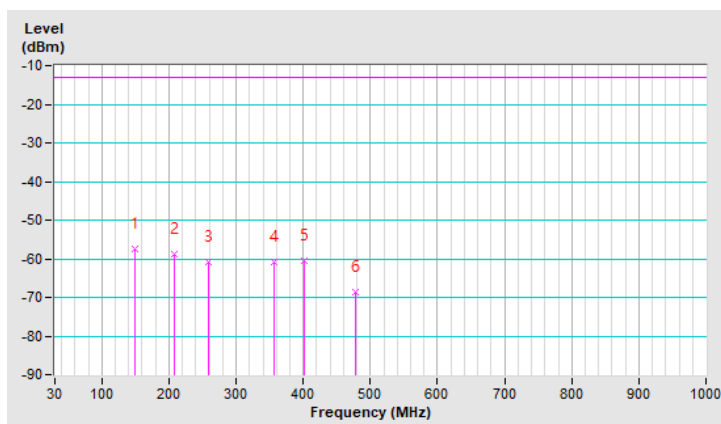


Mode	TX channel 23017 (699.7MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	26deg. C, 62%RH	Input Power	120Vac, 60Hz
Tested By	Charles Hsiao		

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	148.55	-57.31	-13.00	-44.31	1.97 V	186	57.73	-115.04
2	208.70	-58.82	-13.00	-45.82	1.89 V	230	59.51	-118.33
3	258.89	-60.70	-13.00	-47.70	1.15 V	164	55.44	-116.14
4	356.90	-60.77	-13.00	-47.77	1.15 V	180	52.52	-113.29
5	402.22	-60.64	-13.00	-47.64	1.15 V	178	51.46	-112.10
6	478.82	-68.59	-13.00	-55.59	1.68 V	59	41.76	-110.35

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.



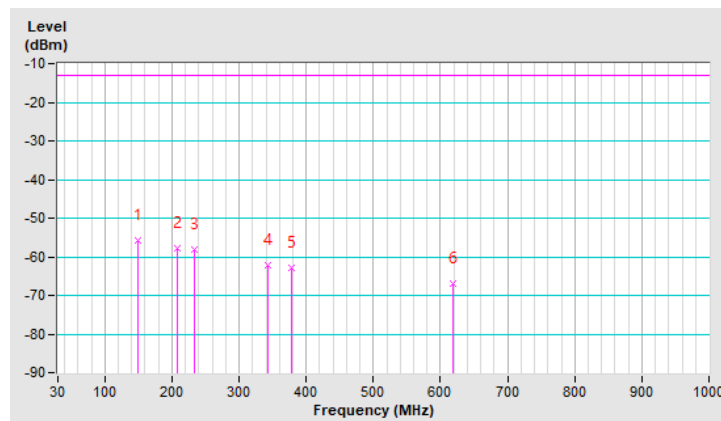
LTE Band 13, Channel Bandwidth 5MHz

Mode	TX channel 23205 (779.5MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	26deg. C, 62%RH	Input Power	120Vac, 60Hz
Tested By	Charles Hsiao		

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	148.85	-55.64	-13.00	-42.64	1.75 H	104	57.24	-112.88
2	208.52	-57.63	-13.00	-44.63	1.55 H	263	58.55	-116.18
3	234.14	-58.20	-13.00	-45.20	1.05 H	116	56.83	-115.03
4	342.30	-62.10	-13.00	-49.10	1.15 H	161	49.28	-111.38
5	378.85	-62.72	-13.00	-49.72	1.56 H	324	47.73	-110.45
6	617.85	-67.08	-13.00	-54.08	1.37 H	1	38.35	-105.43

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.

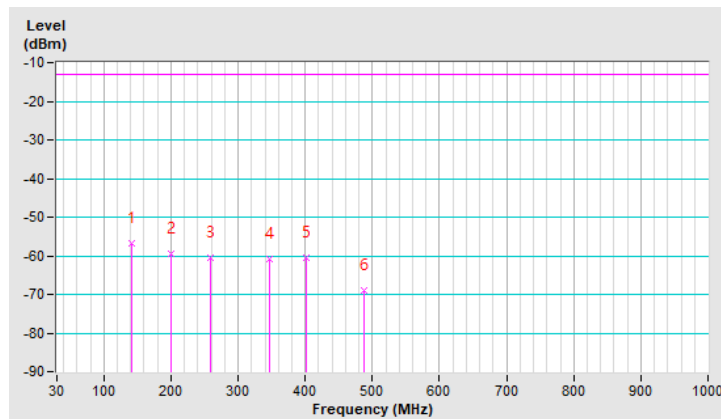


Mode	TX channel 23205 (779.5MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	26deg. C, 62%RH	Input Power	120Vac, 60Hz
Tested By	Charles Hsiao		

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	142.28	-56.85	-13.00	-43.85	1.79 V	138	56.29	-113.14
2	199.85	-59.45	-13.00	-46.45	1.14 V	137	56.79	-116.24
3	258.63	-60.63	-13.00	-47.63	1.85 V	127	53.38	-114.01
4	346.80	-60.72	-13.00	-47.72	1.60 V	285	50.63	-111.35
5	401.45	-60.53	-13.00	-47.53	1.47 V	185	49.43	-109.96
6	488.00	-68.95	-13.00	-55.95	1.28 V	82	39.15	-108.10

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.



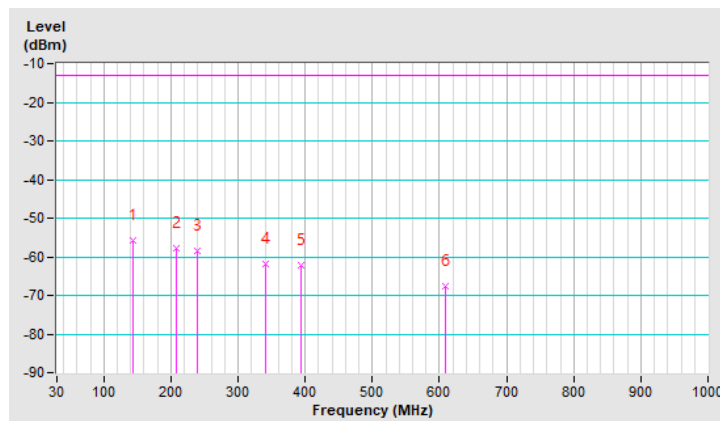
LTE Band 66, Channel Bandwidth 5MHz

Mode	TX channel 132647 (1777.5MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	26deg. C, 62%RH	Input Power	120Vac, 60Hz
Tested By	Charles Hsiao		

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	142.52	-55.82	-13.00	-42.82	1.76 H	138	57.30	-113.12
2	208.52	-57.66	-13.00	-44.66	1.68 H	209	58.52	-116.18
3	238.85	-58.33	-13.00	-45.33	1.19 H	341	56.28	-114.61
4	341.44	-61.84	-13.00	-48.84	1.61 H	119	49.53	-111.37
5	394.55	-62.15	-13.00	-49.15	1.48 H	168	47.98	-110.13
6	608.50	-67.63	-13.00	-54.63	1.02 H	228	37.83	-105.46

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.

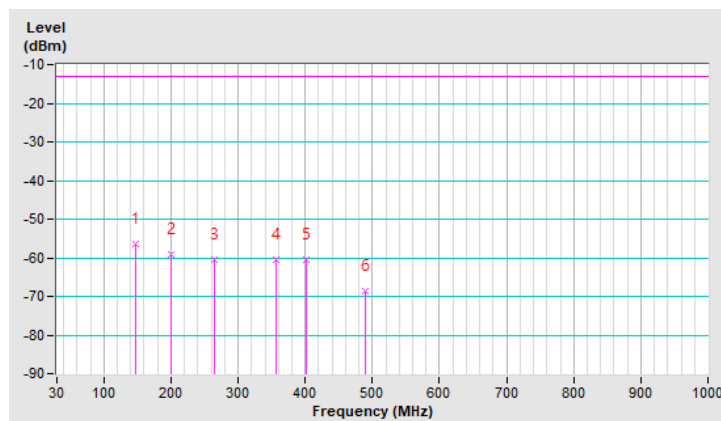


Mode	TX channel 132647 (1777.5MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	26deg. C, 62%RH	Input Power	120Vac, 60Hz
Tested By	Charles Hsiao		

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	148.17	-56.42	-13.00	-43.42	1.39 V	339	56.49	-112.91
2	200.00	-59.23	-13.00	-46.23	1.57 V	107	57.01	-116.24
3	265.56	-60.47	-13.00	-47.47	1.83 V	287	53.22	-113.69
4	355.85	-60.60	-13.00	-47.60	1.87 V	7	50.55	-111.15
5	401.45	-60.37	-13.00	-47.37	1.64 V	167	49.59	-109.96
6	488.80	-68.57	-13.00	-55.57	1.28 V	184	39.53	-108.10

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.



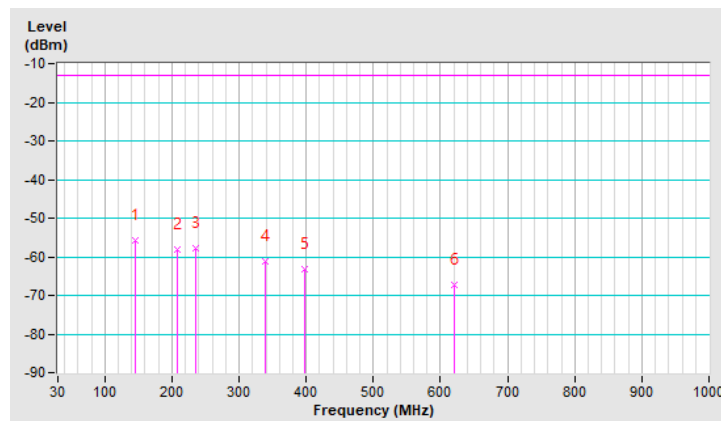
LTE Band 71, Channel Bandwidth 5MHz

Mode	TX channel 133297 (680.5MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	26deg. C, 62%RH	Input Power	120Vac, 60Hz
Tested By	Charles Hsiao		

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	145.52	-55.68	-13.00	-42.68	1.98 H	117	59.46	-115.14
2	207.89	-58.06	-13.00	-45.06	1.45 H	5	60.29	-118.35
3	235.50	-57.64	-13.00	-44.64	1.15 H	217	59.38	-117.02
4	338.85	-61.19	-13.00	-48.19	1.62 H	229	52.33	-113.52
5	397.80	-63.20	-13.00	-50.20	1.16 H	344	48.99	-112.19
6	620.50	-67.19	-13.00	-54.19	1.15 H	123	40.37	-107.56

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.

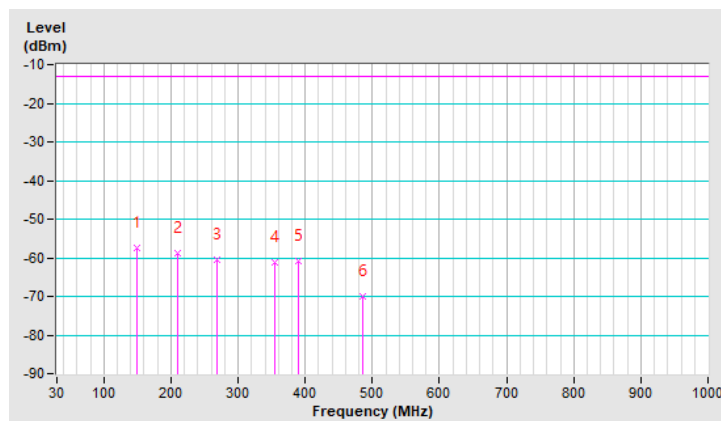


Mode	TX channel 133297 (680.5MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	26deg. C, 62%RH	Input Power	120Vac, 60Hz
Tested By	Charles Hsiao		

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	148.71	-57.36	-13.00	-44.36	1.15 V	241	57.67	-115.03
2	210.00	-58.82	-13.00	-45.82	1.15 V	230	59.48	-118.30
3	267.80	-60.49	-13.00	-47.49	1.15 V	244	55.22	-115.71
4	355.38	-61.08	-13.00	-48.08	1.80 V	317	52.22	-113.30
5	389.90	-60.88	-13.00	-47.88	1.15 V	170	51.47	-112.35
6	485.50	-69.88	-13.00	-56.88	1.50 V	355	40.39	-110.27

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.



Above 1GHz
WCDMA Band 4

Mode	TX channel 1312 (1712.4MHz)	Frequency Range	1GHz ~ 10GHz
Environmental Conditions	25deg. C, 60%RH	Input Power	120Vac, 60Hz
Tested By	Karl Lee		

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	3420.00	-52.31	-13.00	-39.31	1.84 H	273	34.52	-86.83
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	3420.00	-52.18	-13.00	-39.18	1.98 V	204	34.65	-86.83

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 1413 (1732.6MHz)	Frequency Range	1GHz ~ 10GHz
Environmental Conditions	25deg. C, 60%RH	Input Power	120Vac, 60Hz
Tested By	Karl Lee		

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	3465.00	-52.13	-13.00	-39.13	1.53 H	14	34.75	-86.88
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	3465.00	-51.54	-13.00	-38.54	2.62 V	215	35.34	-86.88

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 1513 (1752.6MHz)	Frequency Range	1GHz ~ 10GHz
Environmental Conditions	25deg. C, 60%RH	Input Power	120Vac, 60Hz
Tested By	Karl Lee		

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	3510.00	-52.83	-13.00	-39.83	1.25 H	44	33.98	-86.81
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	3510.00	-52.92	-13.00	-39.92	2.85 V	164	33.89	-86.81

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.

LTE Band 4, Channel Bandwidth 1.4MHz

Mode	TX channel 19957 (1710.7MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	25deg. C, 60%RH	Input Power	120Vac, 60Hz
Tested By	Karl Lee		

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	-50.98	-13.00	-37.98	2.85 H	106	35.85	-86.83
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	-52.81	-13.00	-39.81	1.21 V	262	34.02	-86.83

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 20175 (1732.5MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	25deg. C, 60%RH	Input Power	120Vac, 60Hz
Tested By	Karl Lee		

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	3465.00	-52.44	-13.00	-39.44	3.01 H	187	34.44	-86.88
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	3465.00	-52.40	-13.00	-39.40	2.25 V	186	34.48	-86.88

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 20393 (1754.3MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	25deg. C, 60%RH	Input Power	120Vac, 60Hz
Tested By	Karl Lee		

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	3508.60	-51.59	-13.00	-38.59	1.58 H	156	35.22	-86.81
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	3508.60	-52.14	-13.00	-39.14	1.77 V	23	34.67	-86.81

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.

LTE Band 4, Channel Bandwidth 5MHz

Mode	TX channel 19975 (1712.5MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	25deg. C, 60%RH	Input Power	120Vac, 60Hz
Tested By	Karl Lee		

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	-51.56	-13.00	-38.56	2.27 H	163	35.29	-86.85
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	-51.66	-13.00	-38.66	1.65 V	238	35.19	-86.85

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 20175 (1732.5MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	25deg. C, 60%RH	Input Power	120Vac, 60Hz
Tested By	Karl Lee		

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	3465.00	-52.68	-13.00	-39.68	2.24 H	38	34.20	-86.88
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	3465.00	-52.54	-13.00	-39.54	1.82 V	14	34.34	-86.88

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 20375 (1752.5MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	25deg. C, 60%RH	Input Power	120Vac, 60Hz
Tested By	Karl Lee		

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	3505.00	-52.36	-13.00	-39.36	1.75 H	235	34.45	-86.81
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	3505.00	-51.86	-13.00	-38.86	1.12 V	149	34.95	-86.81

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.

LTE Band 4, Channel Bandwidth 20MHz

Mode	TX channel 20050 (1720.0MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	25deg. C, 60%RH	Input Power	120Vac, 60Hz
Tested By	Karl Lee		

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	-51.10	-13.00	-38.10	1.48 H	43	35.77	-86.87
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	-50.99	-13.00	-37.99	2.94 V	106	35.88	-86.87

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 20175 (1732.5MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	25deg. C, 60%RH	Input Power	120Vac, 60Hz
Tested By	Karl Lee		

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	3465.00	-52.79	-13.00	-39.79	1.94 H	135	34.09	-86.88
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	3465.00	-51.62	-13.00	-38.62	2.05 V	83	35.26	-86.88

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 20300 (1745.0MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	25deg. C, 60%RH	Input Power	120Vac, 60Hz
Tested By	Karl Lee		

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	-52.95	-13.00	-39.95	1.38 H	21	33.88	-86.83
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	-52.31	-13.00	-39.31	2.69 V	162	34.52	-86.83

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 12, Channel Bandwidth 1.4MHz

Mode	TX channel 23017 (699.7MHz)	Frequency Range	1GHz ~ 8GHz
Environmental Conditions	25deg. C, 60%RH	Input Power	120Vac, 60Hz
Tested By	Karl Lee		

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	1399.40	-57.40	-13.00	-44.40	2.06 H	154	40.10	-97.50
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	1399.40	-57.59	-13.00	-44.59	2.16 V	58	39.91	-97.50

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 23095 (707.5MHz)	Frequency Range	1GHz ~ 8GHz
Environmental Conditions	25deg. C, 60%RH	Input Power	120Vac, 60Hz
Tested By	Karl Lee		

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	-58.35	-13.00	-45.35	1.62 H	34	39.27	-97.62
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	-58.71	-13.00	-45.71	1.97 V	4	38.91	-97.62

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 23173 (715.3MHz)	Frequency Range	1GHz ~ 8GHz
Environmental Conditions	25deg. C, 60%RH	Input Power	120Vac, 60Hz
Tested By	Karl Lee		

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	1430.60	-59.04	-13.00	-46.04	3.25 H	181	38.72	-97.76
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	1430.60	-57.74	-13.00	-44.74	2.64 V	317	40.02	-97.76

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 12, Channel Bandwidth 5MHz

Mode	TX channel 23035 (701.5MHz)	Frequency Range	1GHz ~ 8GHz
Environmental Conditions	25deg. C, 60%RH	Input Power	120Vac, 60Hz
Tested By	Karl Lee		

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	-58.47	-13.00	-45.47	2.14 H	61	39.06	-97.53
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	-59.33	-13.00	-46.33	1.23 V	178	38.20	-97.53

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 23095 (707.5MHz)	Frequency Range	1GHz ~ 8GHz
Environmental Conditions	25deg. C, 60%RH	Input Power	120Vac, 60Hz
Tested By	Karl Lee		

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	-58.91	-13.00	-45.91	1.17 H	146	38.71	-97.62
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	-59.27	-13.00	-46.27	2.25 V	196	38.35	-97.62

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 23155 (713.5MHz)	Frequency Range	1GHz ~ 8GHz
Environmental Conditions	25deg. C, 60%RH	Input Power	120Vac, 60Hz
Tested By	Karl Lee		

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	-59.26	-13.00	-46.26	2.41 H	138	38.46	-97.72
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	-59.22	-13.00	-46.22	2.23 V	182	38.50	-97.72

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 12, Channel Bandwidth 10MHz

Mode	TX channel 23060 (704.0MHz)	Frequency Range	1GHz ~ 8GHz
Environmental Conditions	25deg. C, 60%RH	Input Power	120Vac, 60Hz
Tested By	Karl Lee		

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	1408.00	-59.38	-13.00	-46.38	1.48 H	45	38.19	-97.57
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	1408.00	-58.07	-13.00	-45.07	2.05 V	181	39.50	-97.57

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 23095 (707.5MHz)	Frequency Range	1GHz ~ 8GHz
Environmental Conditions	25deg. C, 60%RH	Input Power	120Vac, 60Hz
Tested By	Karl Lee		

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	-59.04	-13.00	-46.04	1.17 H	262	38.58	-97.62
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	-58.28	-13.00	-45.28	2.38 V	102	39.34	-97.62

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 23130 (711.0MHz)	Frequency Range	1GHz ~ 8GHz
Environmental Conditions	25deg. C, 60%RH	Input Power	120Vac, 60Hz
Tested By	Karl Lee		

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	1422.00	-58.77	-13.00	-45.77	1.68 H	341	38.91	-97.68
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	1422.00	-58.98	-13.00	-45.98	2.53 V	108	38.70	-97.68

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 13, Channel Bandwidth 5MHz

Mode	TX channel 23205 (779.5MHz)	Frequency Range	1GHz ~ 8GHz
Environmental Conditions	25deg. C, 60%RH	Input Power	120Vac, 60Hz
Tested By	Karl Lee		

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	1559.00	-57.39	-40.00	-17.39	2.35 H	108	38.03	-95.42
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	1559.00	-58.94	-40.00	-18.94	1.12 V	167	36.48	-95.42

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 23230 (782.0MHz)	Frequency Range	1GHz ~ 8GHz
Environmental Conditions	25deg. C, 60%RH	Input Power	120Vac, 60Hz
Tested By	Karl Lee		

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	1564.00	-58.23	-40.00	-18.23	2.08 H	134	37.15	-95.38
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	1564.00	-58.33	-40.00	-18.33	1.26 V	94	37.05	-95.38

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 23255 (784.5MHz)	Frequency Range	1GHz ~ 8GHz
Environmental Conditions	25deg. C, 60%RH	Input Power	120Vac, 60Hz
Tested By	Karl Lee		

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	1569.00	-57.48	-40.00	-17.48	2.11 H	145	37.86	-95.34
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	1569.00	-59.33	-40.00	-19.33	1.27 V	53	36.01	-95.34

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 13, Channel Bandwidth 10MHz

Mode	TX channel 23230 (782.0MHz)	Frequency Range	1GHz ~ 8GHz
Environmental Conditions	25deg. C, 60%RH	Input Power	120Vac, 60Hz
Tested By	Karl Lee		

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	1564.00	-58.42	-40.00	-18.42	2.10 H	83	36.96	-95.38
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	1564.00	-58.82	-40.00	-18.82	1.75 V	321	36.56	-95.38

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, 60%RH	Input Power	120Vac, 60Hz
Tested By	Karl Lee		

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	-52.47	-13.00	-39.47	1.09 H	31	34.36	-86.83
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	-52.31	-13.00	-39.31	1.59 V	271	34.52	-86.83

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, 60%RH	Input Power	120Vac, 60Hz
Tested By	Karl Lee		

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	-52.17	-13.00	-39.17	2.12 H	179	34.66	-86.83
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	-54.84	-13.00	-41.84	2.42 V	103	31.99	-86.83

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, 60%RH	Input Power	120Vac, 60Hz
Tested By	Karl Lee		

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	-52.18	-13.00	-39.18	2.36 H	196	34.48	-86.66
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	-51.27	-13.00	-38.27	1.31 V	148	35.39	-86.66

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, 60%RH	Input Power	120Vac, 60Hz
Tested By	Karl Lee		

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	-52.35	-13.00	-39.35	2.21 H	109	34.50	-86.85
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	-52.12	-13.00	-39.12	1.65 V	181	34.73	-86.85

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, 60%RH	Input Power	120Vac, 60Hz
Tested By	Karl Lee		

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	-52.83	-13.00	-39.83	2.11 H	52	34.00	-86.83
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	-53.01	-13.00	-40.01	1.36 V	60	33.82	-86.83

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, 60%RH	Input Power	120Vac, 60Hz
Tested By	Karl Lee		

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	-52.23	-13.00	-39.23	2.08 H	131	34.46	-86.69
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	-49.74	-13.00	-36.74	1.08 V	189	36.95	-86.69

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, 60%RH	Input Power	120Vac, 60Hz
Tested By	Karl Lee		

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	-52.00	-13.00	-39.00	2.26 H	198	34.87	-86.87
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	-52.84	-13.00	-39.84	1.62 V	21	34.03	-86.87

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, 60%RH	Input Power	120Vac, 60Hz
Tested By	Karl Lee		

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	-53.09	-13.00	-40.09	1.51 H	40	33.74	-86.83
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	-51.84	-13.00	-38.84	1.07 V	149	34.99	-86.83

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, 60%RH	Input Power	120Vac, 60Hz
Tested By	Karl Lee		

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	-52.00	-13.00	-39.00	1.58 H	211	34.76	-86.76
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	-51.99	-13.00	-38.99	1.67 V	132	34.77	-86.76

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 71, Channel Bandwidth 5MHz

Mode	TX channel 133147 (665.5MHz)	Frequency Range	1GHz ~ 7GHz
Environmental Conditions	25deg. C, 60%RH	Input Power	120Vac, 60Hz
Tested By	Karl Lee		

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	1331.00	-59.44	-13.00	-46.44	1.34 H	172	37.67	-97.11
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	1331.00	-58.80	-13.00	-45.80	1.85 V	314	38.31	-97.11

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 133297 (680.5MHz)	Frequency Range	1GHz ~ 7GHz
Environmental Conditions	25deg. C, 60%RH	Input Power	120Vac, 60Hz
Tested By	Karl Lee		

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	1361.00	-54.65	-13.00	-41.65	2.01 H	198	42.77	-97.42
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	1361.00	-57.69	-13.00	-44.69	2.07 V	153	39.73	-97.42

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 133447 (695.5MHz)	Frequency Range	1GHz ~ 7GHz
Environmental Conditions	25deg. C, 60%RH	Input Power	120Vac, 60Hz
Tested By	Karl Lee		

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	1391.00	-58.94	-13.00	-45.94	2.78 H	105	38.54	-97.48
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	1391.00	-58.76	-13.00	-45.76	1.02 V	337	38.72	-97.48

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 71, Channel Bandwidth 20MHz

Mode	TX channel 133222 (673.0MHz)	Frequency Range	1GHz ~ 7GHz
Environmental Conditions	25deg. C, 60%RH	Input Power	120Vac, 60Hz
Tested By	Karl Lee		

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	1346.00	-58.27	-13.00	-45.27	1.75 H	321	39.07	-97.34
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	1346.00	-58.25	-13.00	-45.25	1.37 V	185	39.09	-97.34

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 133297 (680.5MHz)	Frequency Range	1GHz ~ 7GHz
Environmental Conditions	25deg. C, 60%RH	Input Power	120Vac, 60Hz
Tested By	Karl Lee		

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	1361.00	-58.52	-13.00	-45.52	2.56 H	104	38.90	-97.42
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	1361.00	-58.25	-13.00	-45.25	2.01 V	189	39.17	-97.42

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 133372 (688.0MHz)	Frequency Range	1GHz ~ 7GHz
Environmental Conditions	25deg. C, 60%RH	Input Power	120Vac, 60Hz
Tested By	Karl Lee		

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	1376.00	-58.43	-13.00	-45.43	1.17 H	262	39.02	-97.45
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	1376.00	-59.48	-13.00	-46.48	1.05 V	323	37.97	-97.45

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.

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 according to ISO/IEC 17025.

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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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