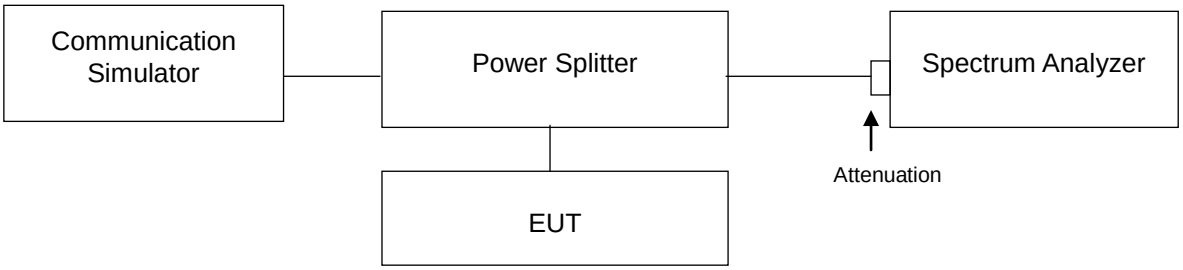
4.5 Peak to Average Ratio

4.5.1 Limits of Peak to Average Ratio Measurement

In measuring transmissions in this band using an average power technique, the peak to-average ratio (PAR) of the transmission may not exceed 13 dB

4.5.2 Test Setup



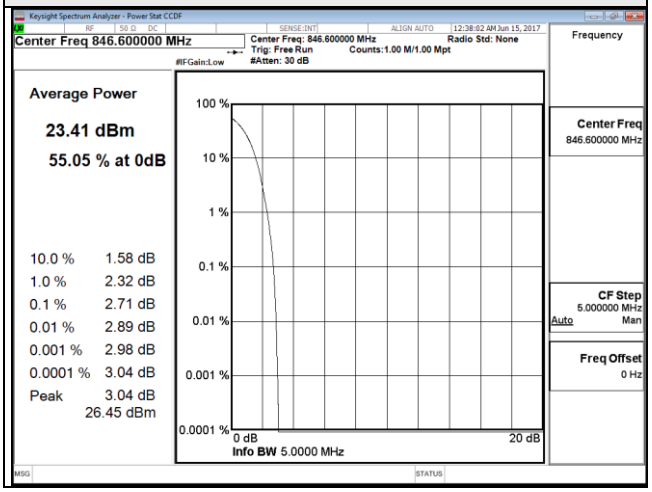
4.5.3 Test Procedures

1. Set resolution/measurement bandwidth ≥ signal's occupied bandwidth;
2. Set the number of counts to a value that stabilizes the measured CCDF curve;
3. Record the maximum PAPR level associated with a probability of 0.1%.

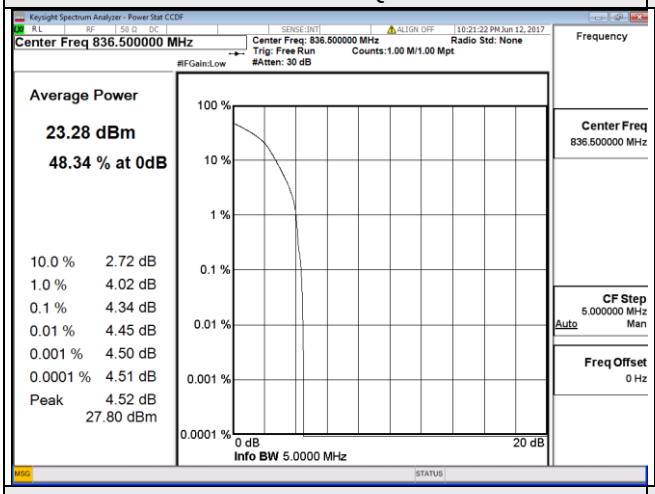
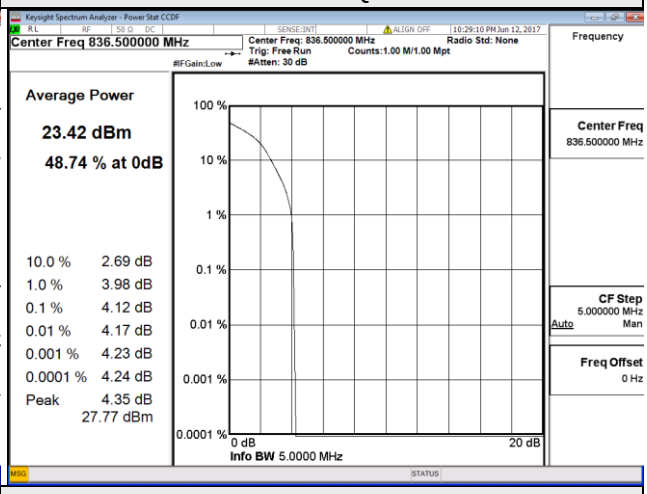
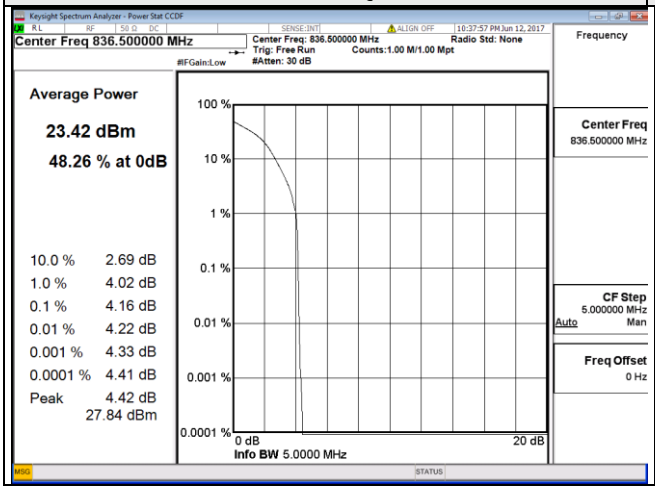
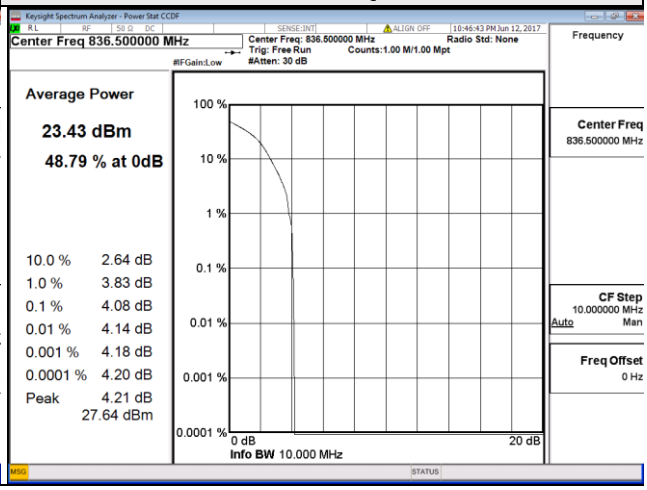
4.5.4 Test Results (Subcontract Item)

Channel	Freq. (MHz)	Peak to Average Ratio (dB)
		WCDMA
4132	826.4	2.54
4183	836.6	2.65
4233	846.6	2.71

Spectrum Plot of Worst Value
WCDMA



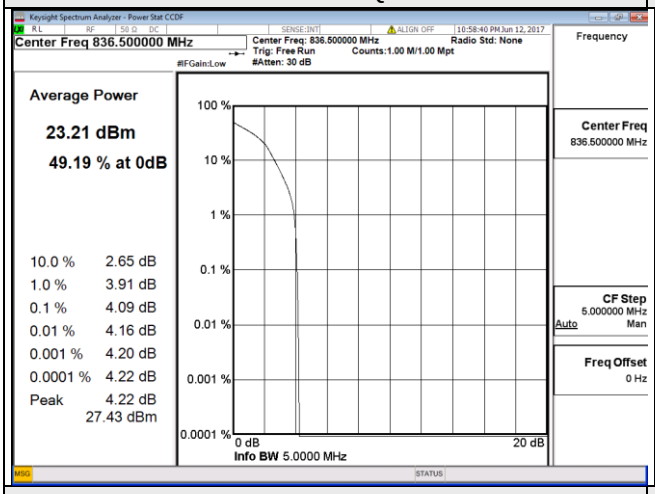
LTE Band 5							
Channel Bandwidth 1.4MHz				Channel Bandwidth 3MHz			
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		Channel	Frequency (MHz)	Peak To Average Ratio (dB)	
		QPSK	16QAM			QPSK	16QAM
20407	824.7	3.42	4.10	20415	825.5	3.35	4.01
20525	836.5	3.51	4.34	20525	836.5	3.40	4.12
20643	848.3	3.27	3.99	20635	847.5	3.17	3.89
Channel Bandwidth 5MHz				Channel Bandwidth 10MHz			
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		Channel	Frequency (MHz)	Peak To Average Ratio (dB)	
		QPSK	16QAM			QPSK	16QAM
20425	826.5	3.40	4.07	20450	829	3.24	3.98
20525	836.5	3.43	4.16	20525	836.5	3.39	4.08
20625	846.5	3.26	4.00	20600	844	3.35	4.11

Spectrum Plot of Worst Value	
1.4MHz / 16QAM	3MHz / 16QAM
	
5MHz / 16QAM	10MHz / 16QAM
	

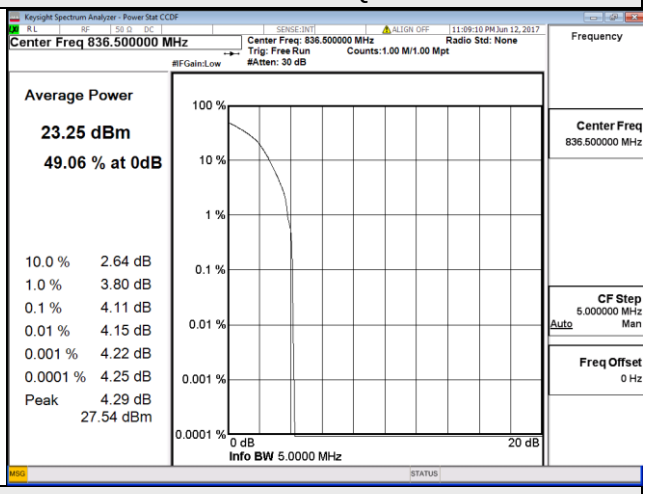
LTE Band 26							
Channel Bandwidth 1.4MHz				Channel Bandwidth 3MHz			
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		Channel	Frequency (MHz)	Peak To Average Ratio (dB)	
		QPSK	16QAM			QPSK	16QAM
26797	824.7	3.29	3.99	26805	825.5	3.21	3.98
26915	836.5	3.42	4.09	26915	836.5	3.32	4.11
27033	848.3	3.12	3.96	27025	847.5	3.23	3.86
Channel Bandwidth 5MHz				Channel Bandwidth 10MHz			
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		Channel	Frequency (MHz)	Peak To Average Ratio (dB)	
		QPSK	16QAM			QPSK	16QAM
26815	826.5	3.27	3.88	26840	829	3.13	3.81
26915	836.5	3.33	4.13	26915	836.5	3.34	3.98
27015	846.5	3.17	3.92	26990	844	3.30	3.85
Channel Bandwidth 15MHz							
Channel	Frequency (MHz)	Peak To Average Ratio (dB)					
		QPSK	16QAM				
26865	831.5	3.08	3.90				
26915	836.5	3.26	3.79				
26965	841.5	3.15	3.91				

Spectrum Plot of Worst Value

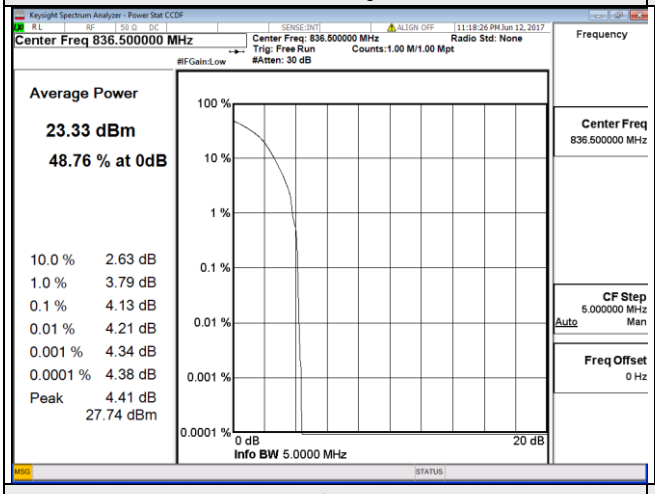
1.4MHz / 16QAM



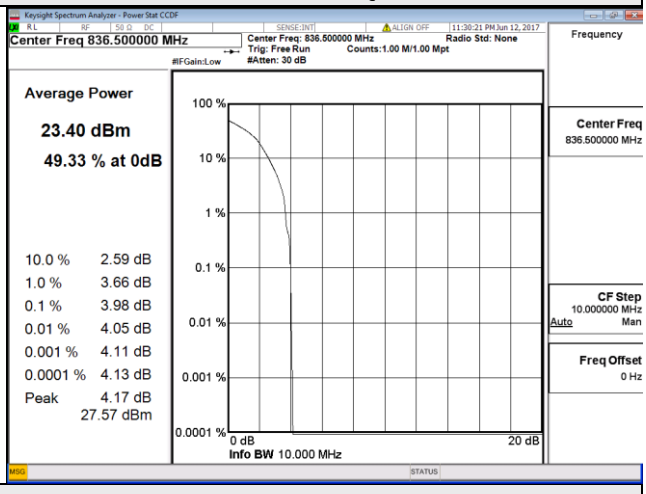
3MHz / 16QAM



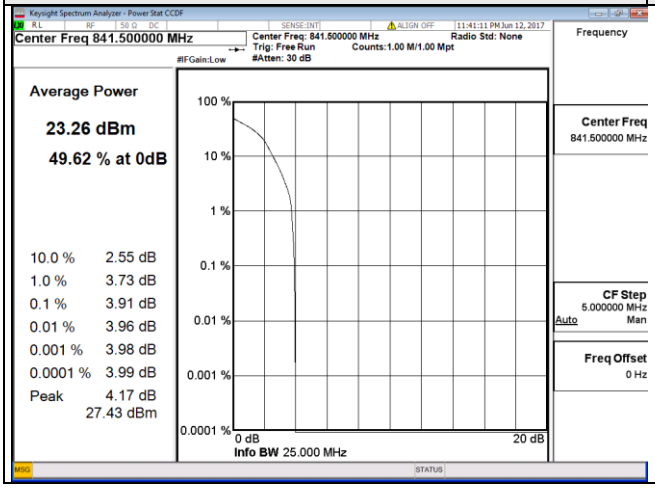
5MHz / 16QAM



10MHz / 16QAM



15MHz / 16QAM

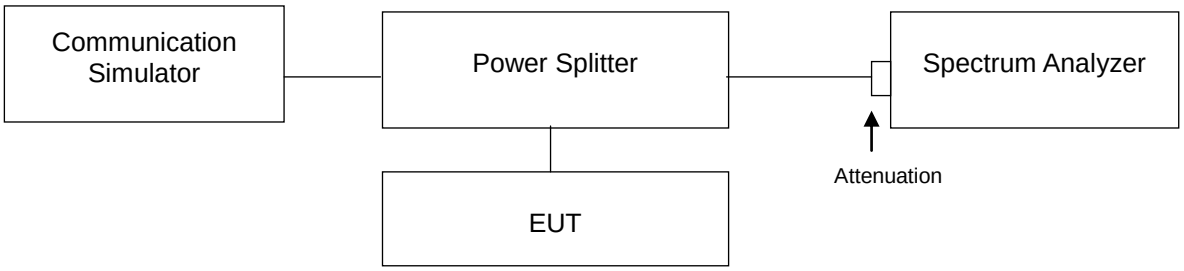


4.6 Conducted Spurious Emissions

4.6.1 Limits of Conducted Spurious Emissions Measurement

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 –13dBm.

4.6.2 Test Setup

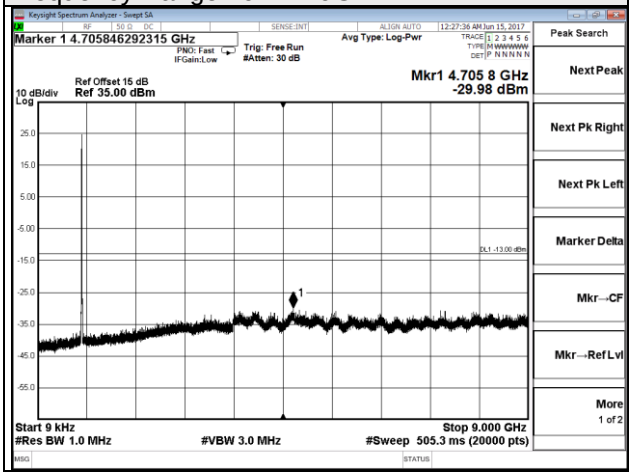


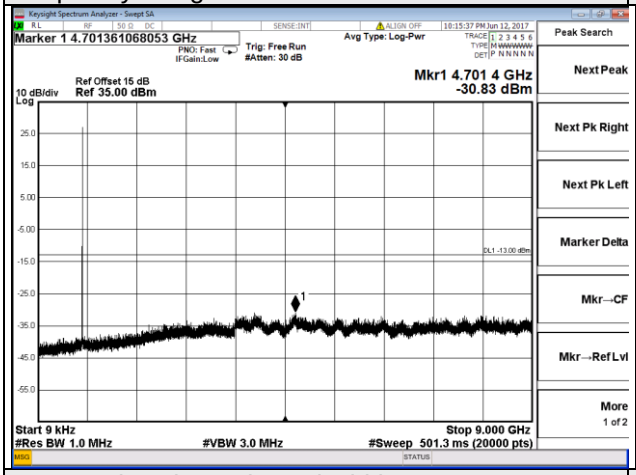
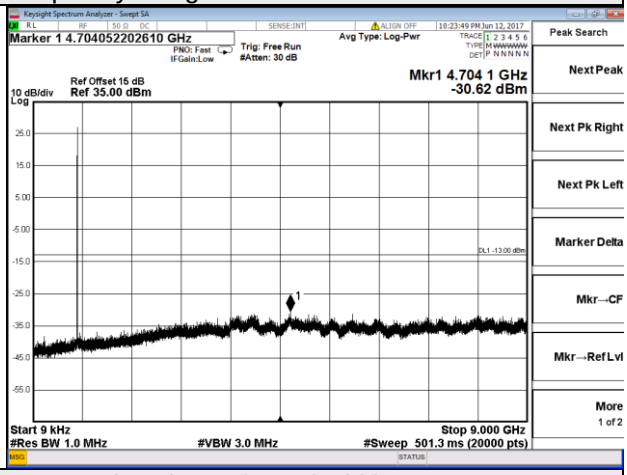
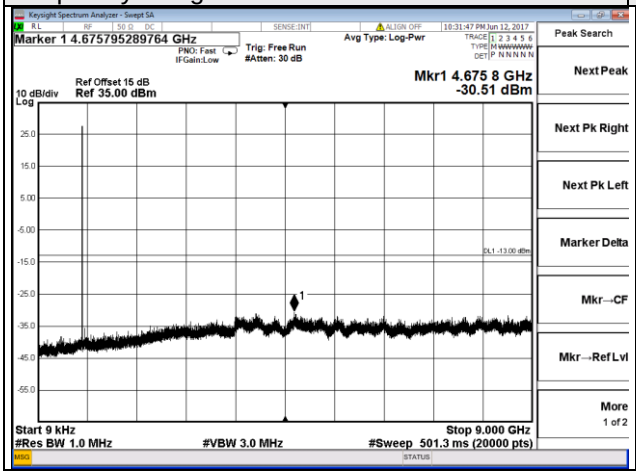
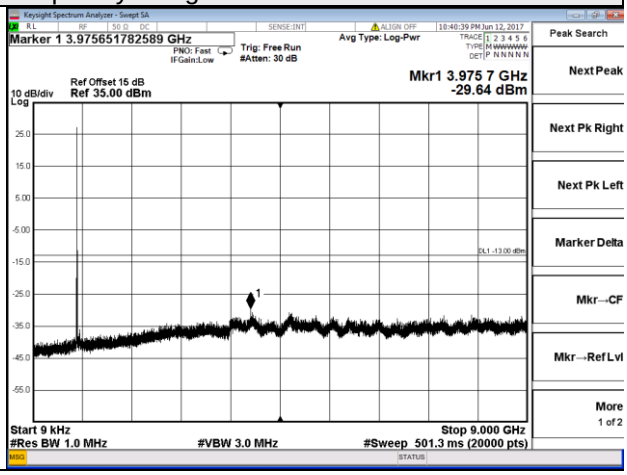
4.6.3 Test Procedure

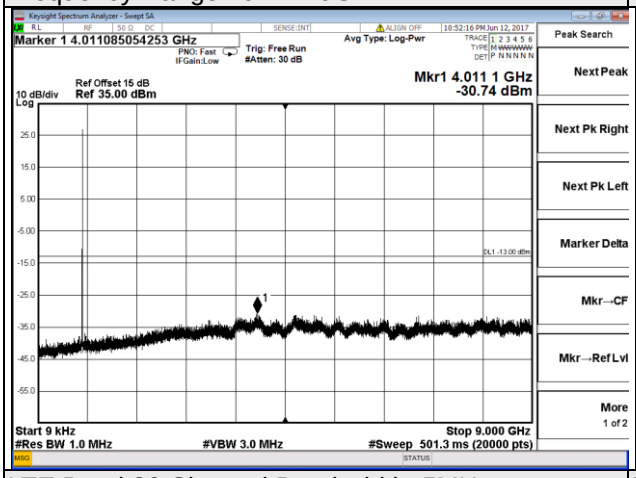
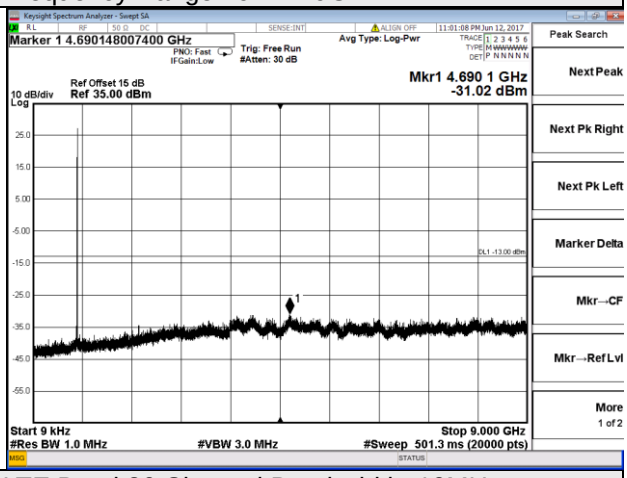
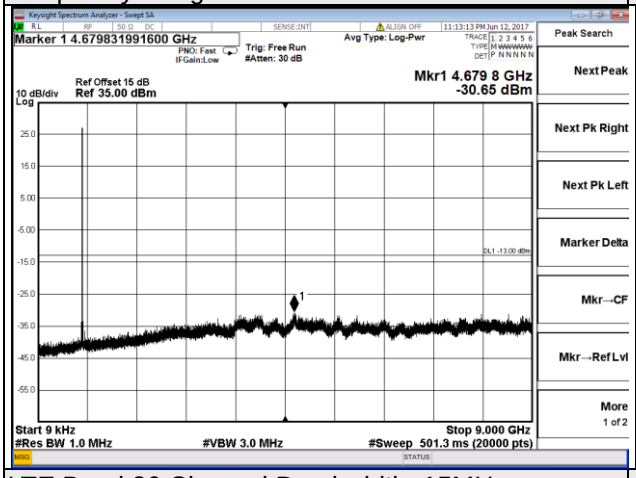
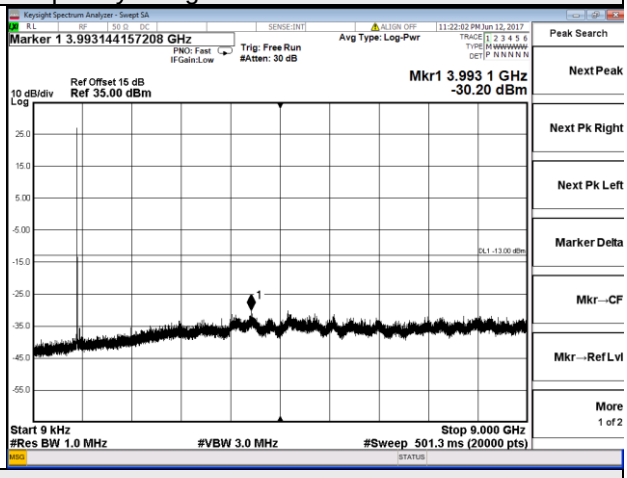
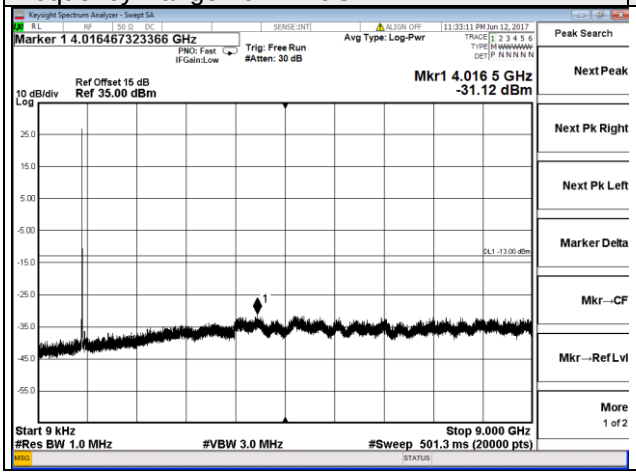
a. All measurements were done at middle operational frequency range.
b. Measuring frequency range is from 9 kHz to 9GHz. RBW:1 MHz and VBW=3*RBW is used for measurement.

4.6.4 Test Results (Subcontract Item)

WCDMA
Channel 4182
Frequency Range : 9kHz~9GHz



LTE Band 5 Channel Band width: 1.4MHz	LTE Band 5 Channel Band width: 3MHz
Channel 20525	Channel 20525
Frequency Range : 9kHz~9GHz	Frequency Range : 9kHz~9GHz
	
LTE Band 5 Channel Band width: 5MHz	LTE Band 5 Channel Band width: 10MHz
Channel 20525	Channel 20525
Frequency Range : 9kHz~9GHz	Frequency Range : 9kHz~9GHz
	

LTE Band 26 Channel Band width: 1.4MHz	LTE Band 26 Channel Band width: 3MHz
Channel 26915	Channel 26915
Frequency Range : 9kHz~9GHz	Frequency Range : 9kHz~9GHz
	
LTE Band 26 Channel Band width: 5MHz	LTE Band 26 Channel Band width: 10MHz
Channel 26915	Channel 26915
Frequency Range : 9kHz~9GHz	Frequency Range : 9kHz~9GHz
	
LTE Band 26 Channel Band width: 15MHz	
Channel 26915	
Frequency Range : 9kHz~9GHz	
	

4.7 Radiated Emission Measurement

4.7.1 Limits of Radiated Emission Measurement

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 –13dBm.

4.7.2 Test Procedure

a. The power was measured with Spectrum Analyzer.

b. Substitution method is used for EIRP measurement. In the semi-anechoic chamber, EUT placed on the 0.8m/1.5m 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.

c. The substitution antenna is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a TX cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to “Read Value “ of step b. Record the power level of S.G

d. EIRP = Output power level of S.G – TX cable loss + Antenna gain of substitution antenna.

e. ERP power can be calculated form EIRP power by subtracting the gain of dipole, ERP power = EIRP power - 2.15dBi.

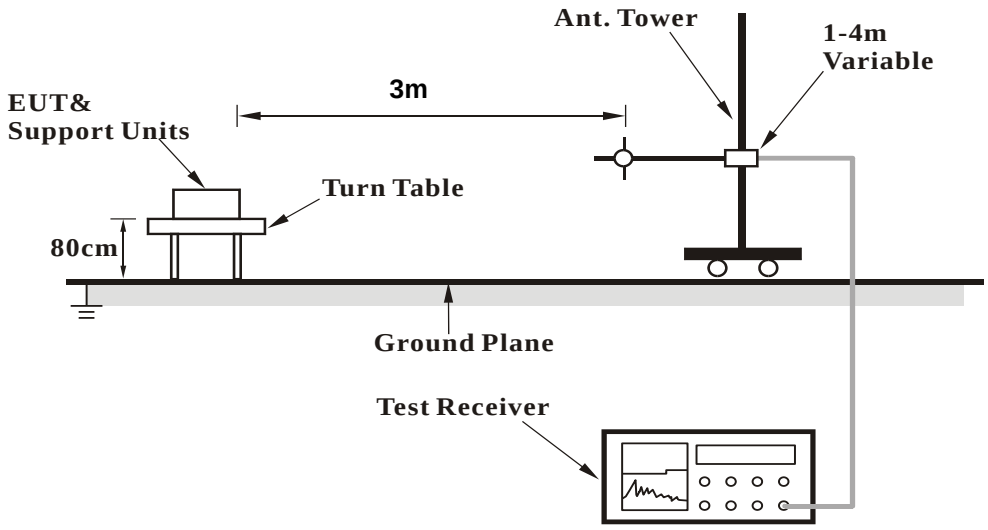
NOTE: The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 100kHz/300kHz.

4.7.3 Deviation from Test Standard

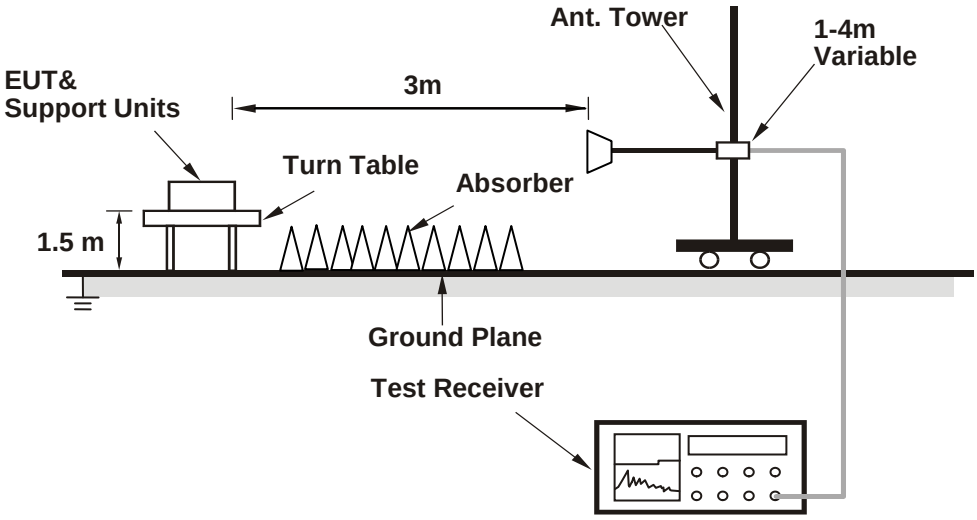
No deviation.

4.7.4 Test Setup

For Below 1GHz



For Above 1GHz:



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

4.7.5 Test Results

BELOW 1GHz

WCDMA:

Mode	TX channel 4182	Frequency Range	Below 1000 MHz

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Emission Value (dBm)	Limit (dBm)	Margin (dB)
1	92.31	36.14	-55.77	-1.04	-56.82	-13	-43.82
2	238.03	36.51	-58.85	3.84	-55.01	-13	-42.01
3	288.62	34.53	-60.94	3.78	-57.15	-13	-44.15
4	345.29	34.85	-62.84	3.61	-59.23	-13	-46.23
5	469.8	37.17	-60.01	2.84	-57.17	-13	-44.17
6	737.51	31.75	-64.62	1.02	-63.59	-13	-50.59
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Emission Value (dBm)	Limit (dBm)	Margin (dB)
1	68.34	32.43	-55.20	-4.91	-60.11	-13	-47.11
2	94.07	34.69	-57.11	-1.00	-58.12	-13	-45.12
3	129.41	29.24	-62.11	-1.23	-63.35	-13	-50.35
4	238.25	32.79	-62.57	3.82	-58.75	-13	-45.75
5	509.65	34.84	-60.55	2.81	-57.74	-13	-44.74
6	608.64	35.40	-59.29	1.78	-57.51	-13	-44.51

Remarks:
1. Emission Value (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

LTE Band 5: 1.4MHz

Mode	TX channel 20525	Frequency Range	Below 1000 MHz

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Emission Value (dBm)	Limit (dBm)	Margin (dB)
1	84.96	35.91	-56.00	-1.04	-57.05	-13	-44.05
2	137.75	36.07	-59.29	3.84	-55.45	-13	-42.45
3	289.23	34.45	-61.02	3.78	-57.23	-13	-44.23
4	344.89	34.07	-63.62	3.61	-60.01	-13	-47.01
5	471.22	36.16	-61.02	2.84	-58.18	-13	-45.18
6	736.44	31.07	-65.30	1.02	-64.27	-13	-51.27
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Emission Value (dBm)	Limit (dBm)	Margin (dB)
1	67.82	30.22	-57.41	-4.91	-62.32	-13	-49.32
2	93.28	33.76	-58.04	-1.00	-59.05	-13	-46.05
3	129.26	26.79	-64.56	-1.23	-65.80	-13	-52.80
4	238.34	30.87	-64.49	3.82	-60.67	-13	-47.67
5	509.58	33.12	-62.27	2.81	-59.46	-13	-46.46
6	609.57	33.87	-60.82	1.78	-59.04	-13	-46.04

Remarks:
1. Emission Value (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

LTE Band 5: 3MHz

Mode	TX channel 20525	Frequency Range	Below 1000 MHz

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Emission Value (dBm)	Limit (dBm)	Margin (dB)
1	84.68	34.88	-57.03	-1.04	-58.08	-13	-45.08
2	137.46	35.80	-59.56	3.84	-55.72	-13	-42.72
3	289	34.13	-61.34	3.78	-57.55	-13	-44.55
4	346.5	32.77	-64.92	3.61	-61.31	-13	-48.31
5	470.38	35.07	-62.11	2.84	-59.27	-13	-46.27
6	737.4	30.24	-66.13	1.02	-65.10	-13	-52.10
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Emission Value (dBm)	Limit (dBm)	Margin (dB)
1	67.48	30.92	-56.71	-4.91	-61.62	-13	-48.62
2	92.7	32.83	-58.97	-1.00	-59.98	-13	-46.98
3	129.99	26.85	-64.50	-1.23	-65.74	-13	-52.74
4	239.26	32.15	-63.21	3.82	-59.39	-13	-46.39
5	509.73	33.44	-61.95	2.81	-59.14	-13	-46.14
6	609.97	32.86	-61.83	1.78	-60.05	-13	-47.05

Remarks:
1. Emission Value (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

LTE Band 5: 5MHz

Mode	TX channel 20525	Frequency Range	Below 1000 MHz

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Emission Value (dBm)	Limit (dBm)	Margin (dB)
1	84.34	35.58	-56.33	-1.04	-57.38	-13	-44.38
2	136.79	35.36	-60.00	3.84	-56.16	-13	-43.16
3	289.14	33.30	-62.17	3.78	-58.38	-13	-45.38
4	345.82	33.47	-64.22	3.61	-60.61	-13	-47.61
5	469.97	36.08	-61.10	2.84	-58.26	-13	-45.26
6	736.32	30.87	-65.50	1.02	-64.47	-13	-51.47
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Emission Value (dBm)	Limit (dBm)	Margin (dB)
1	66.91	30.64	-56.99	-4.91	-61.90	-13	-48.90
2	94.22	33.67	-58.13	-1.00	-59.14	-13	-46.14
3	129.57	27.41	-63.94	-1.23	-65.18	-13	-52.18
4	237.69	30.81	-64.55	3.82	-60.73	-13	-47.73
5	509.72	33.52	-61.87	2.81	-59.06	-13	-46.06
6	608.6	32.77	-61.92	1.78	-60.14	-13	-47.14

Remarks:
1. Emission Value (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

LTE Band 5: 10MHz

Mode	TX channel 20525	Frequency Range	Below 1000 MHz

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Emission Value (dBm)	Limit (dBm)	Margin (dB)
1	85.78	34.42	-57.49	-1.04	-58.54	-13	-45.54
2	137	35.48	-59.88	3.84	-56.04	-13	-43.04
3	288.86	33.33	-62.14	3.78	-58.35	-13	-45.35
4	345	32.70	-64.99	3.61	-61.38	-13	-48.38
5	469.78	34.67	-62.51	2.84	-59.67	-13	-46.67
6	736.12	30.07	-66.30	1.02	-65.27	-13	-52.27
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Emission Value (dBm)	Limit (dBm)	Margin (dB)
1	67.49	30.81	-56.82	-4.91	-61.73	-13	-48.73
2	93.16	33.73	-58.07	-1.00	-59.08	-13	-46.08
3	129.88	26.86	-64.49	-1.23	-65.73	-13	-52.73
4	239.02	31.61	-63.75	3.82	-59.93	-13	-46.93
5	510.02	33.30	-62.09	2.81	-59.28	-13	-46.28
6	610.16	33.38	-61.31	1.78	-59.53	-13	-46.53

Remarks:
1. Emission Value (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

LTE Band 26: 1.4MHz

Mode	TX channel 26915	Frequency Range	Below 1000 MHz

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Emission Value (dBm)	Limit (dBm)	Margin (dB)
1	84.3	35.42	-56.49	-1.04	-57.54	-13	-44.54
2	136.81	35.69	-59.67	3.84	-55.83	-13	-42.83
3	289.12	34.24	-61.23	3.78	-57.44	-13	-44.44
4	345.99	33.45	-64.24	3.61	-60.63	-13	-47.63
5	469.97	35.47	-61.71	2.84	-58.87	-13	-45.87
6	736.34	30.55	-65.82	1.02	-64.79	-13	-51.79
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Emission Value (dBm)	Limit (dBm)	Margin (dB)
1	67.08	30.50	-57.13	-4.91	-62.04	-13	-49.04
2	92.56	33.13	-58.67	-1.00	-59.68	-13	-46.68
3	129.81	27.50	-63.85	-1.23	-65.09	-13	-52.09
4	237.59	30.81	-64.55	3.82	-60.73	-13	-47.73
5	509.38	33.10	-62.29	2.81	-59.48	-13	-46.48
6	608.99	33.65	-61.04	1.78	-59.26	-13	-46.26

Remarks:
1. Emission Value (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

LTE Band 26: 3MHz

Mode	TX channel 26915	Frequency Range	Below 1000 MHz

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Emission Value (dBm)	Limit (dBm)	Margin (dB)
1	68.43	30.03	-57.60	-4.91	-62.51	-13	-49.51
2	92.9	33.02	-58.78	-1.00	-59.79	-13	-46.79
3	128.5	27.58	-63.77	-1.23	-65.01	-13	-52.01
4	238.01	31.61	-63.75	3.82	-59.93	-13	-46.93
5	509.23	33.12	-62.27	2.81	-59.46	-13	-46.46
6	609.29	33.61	-61.08	1.78	-59.30	-13	-46.30
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Emission Value (dBm)	Limit (dBm)	Margin (dB)
1	68.43	30.03	-57.60	-4.91	-62.51	-13	-49.51
2	92.9	33.02	-58.78	-1.00	-59.79	-13	-46.79
3	128.5	27.58	-63.77	-1.23	-65.01	-13	-52.01
4	238.01	31.61	-63.75	3.82	-59.93	-13	-46.93
5	509.23	33.12	-62.27	2.81	-59.46	-13	-46.46
6	609.29	33.61	-61.08	1.78	-59.30	-13	-46.30

Remarks:
1. Emission Value (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

LTE Band 26: 5MHz

Mode	TX channel 26915	Frequency Range	Below 1000 MHz

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Emission Value (dBm)	Limit (dBm)	Margin (dB)
1	84.34	35.58	-56.33	-1.04	-57.38	-13	-44.38
2	136.79	35.36	-60.00	3.84	-56.16	-13	-43.16
3	289.14	33.30	-62.17	3.78	-58.38	-13	-45.38
4	345.82	33.47	-64.22	3.61	-60.61	-13	-47.61
5	469.97	36.08	-61.10	2.84	-58.26	-13	-45.26
6	736.32	30.87	-65.50	1.02	-64.47	-13	-51.47
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Emission Value (dBm)	Limit (dBm)	Margin (dB)
1	66.91	30.64	-56.99	-4.91	-61.90	-13	-48.90
2	94.22	33.67	-58.13	-1.00	-59.14	-13	-46.14
3	129.57	27.41	-63.94	-1.23	-65.18	-13	-52.18
4	237.69	30.81	-64.55	3.82	-60.73	-13	-47.73
5	509.72	33.52	-61.87	2.81	-59.06	-13	-46.06
6	608.6	32.77	-61.92	1.78	-60.14	-13	-47.14

Remarks:
1. Emission Value (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

LTE Band 26: 10MHz

Mode	TX channel 26915	Frequency Range	Below 1000 MHz

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Emission Value (dBm)	Limit (dBm)	Margin (dB)
1	85.78	34.42	-57.49	-1.04	-58.54	-13	-45.54
2	137	35.48	-59.88	3.84	-56.04	-13	-43.04
3	288.86	33.33	-62.14	3.78	-58.35	-13	-45.35
4	345	32.70	-64.99	3.61	-61.38	-13	-48.38
5	469.78	34.67	-62.51	2.84	-59.67	-13	-46.67
6	736.12	30.07	-66.30	1.02	-65.27	-13	-52.27
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Emission Value (dBm)	Limit (dBm)	Margin (dB)
1	67.49	30.81	-56.82	-4.91	-61.73	-13	-48.73
2	93.16	33.73	-58.07	-1.00	-59.08	-13	-46.08
3	129.88	26.86	-64.49	-1.23	-65.73	-13	-52.73
4	239.02	31.61	-63.75	3.82	-59.93	-13	-46.93
5	510.02	33.30	-62.09	2.81	-59.28	-13	-46.28
6	610.16	33.38	-61.31	1.78	-59.53	-13	-46.53

Remarks:
1. Emission Value (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

LTE Band 26: 15MHz

Mode	TX channel 26740	Frequency Range	Below 1000 MHz

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Emission Value (dBm)	Limit (dBm)	Margin (dB)
1	66.71	30.94	-56.69	-4.91	-61.60	-13	-48.60
2	91.99	32.94	-58.86	-1.00	-59.87	-13	-46.87
3	130.26	26.75	-64.60	-1.23	-65.84	-13	-52.84
4	239.01	31.71	-63.65	3.82	-59.83	-13	-46.83
5	509.16	33.16	-62.23	2.81	-59.42	-13	-46.42
6	610.31	33.15	-61.54	1.78	-59.76	-13	-46.76
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Emission Value (dBm)	Limit (dBm)	Margin (dB)
1	84.19	35.79	-56.12	-1.04	-57.17	-13	-44.17
2	136.83	34.21	-61.15	3.84	-57.31	-13	-44.31
3	288.97	32.61	-62.86	3.78	-59.07	-13	-46.07
4	346.04	32.77	-64.92	3.61	-61.31	-13	-48.31
5	469.85	34.84	-62.34	2.84	-59.50	-13	-46.50
6	737.82	28.72	-67.65	1.02	-66.62	-13	-53.62

Remarks:
1. Emission Value (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

ABOVE 1GHz

WCDMA:

Mode	TX channel 4182	Frequency Range	Above 1000MHz

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Emission Value (dBm)	Limit (dBm)	Margin (dB)
1	1672.8	46.78	-55.85	6.31	-49.54	-13	-36.54
2	2509.2	42.33	-56.18	6.64	-49.53	-13	-36.53
3	3345.6	35.85	-67.16	7.63	-59.53	-13	-46.53
4	4182	38.72	-66.12	7.44	-58.68	-13	-45.68
5	5018.4	40.01	-64.23	7.00	-57.24	-13	-44.24
6	5854.8	41.35	-63.08	6.92	-56.16	-13	-43.16
7	6691.2	43.33	-60.00	5.56	-54.43	-13	-41.43
8	7527.6	44.49	-58.13	4.52	-53.61	-13	-40.61
9	8364	47.68	-54.94	4.18	-50.76	-13	-37.76
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Emission Value (dBm)	Limit (dBm)	Margin (dB)
1	1672.8	41.51	-61.12	6.31	-54.81	-13	-41.81
2	2509.2	40.85	-57.66	6.64	-51.01	-13	-38.01
3	3345.6	36.44	-66.57	7.63	-58.94	-13	-45.94
4	4182	37.55	-67.29	7.44	-59.85	-13	-46.85
5	5018.4	38.26	-65.98	7.00	-58.99	-13	-45.99
6	5854.8	38.61	-65.82	6.92	-58.90	-13	-45.90
7	6691.2	42.31	-61.02	5.56	-55.45	-13	-42.45
8	7527.6	43.66	-58.96	4.52	-54.44	-13	-41.44
9	8364	46.21	-56.41	4.18	-52.23	-13	-39.23

Remarks:

1. Emission Value (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

LTE Band 5: 1.4 MHz

Mode	TX channel 20525	Frequency Range	Above 1000MHz

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Emission Value (dBm)	Limit (dBm)	Margin (dB)
1	1673	45.97	-56.66	6.31	-50.35	-13	-37.35
2	2509.5	42.81	-55.70	6.64	-49.05	-13	-36.05
3	3346	36.78	-66.23	7.63	-58.60	-13	-45.60
4	4182.5	39.03	-65.81	7.44	-58.37	-13	-45.37
5	5019	39.99	-64.25	7.00	-57.26	-13	-44.26
6	5855.5	41.44	-62.99	6.92	-56.07	-13	-43.07
7	6692	42.48	-60.84	5.56	-55.28	-13	-42.28
8	7528.5	45.03	-57.59	4.52	-53.07	-13	-40.07
9	8365	47.43	-55.19	4.18	-51.01	-13	-38.01
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Emission Value (dBm)	Limit (dBm)	Margin (dB)
1	1673	41.64	-60.99	6.31	-54.68	-13	-41.68
2	2509.5	40.34	-58.17	6.64	-51.52	-13	-38.52
3	3346	36.42	-66.59	7.63	-58.96	-13	-45.96
4	4182.5	36.77	-68.07	7.44	-60.63	-13	-47.63
5	5019	38.95	-65.29	7.00	-58.30	-13	-45.30
6	5855.5	39.22	-65.21	6.92	-58.29	-13	-45.29
7	6692	41.65	-61.67	5.56	-56.11	-13	-43.11
8	7528.5	42.91	-59.71	4.52	-55.19	-13	-42.19
9	8365	46.67	-55.95	4.18	-51.77	-13	-38.77

Remarks:
1. Emission Value (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

LTE Band 5: 3 MHz

Mode	TX channel 20525	Frequency Range	Above 1000MHz

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Emission Value (dBm)	Limit (dBm)	Margin (dB)
1	1673	46.28	-56.35	6.31	-50.04	-13	-37.04
2	2509.5	42.40	-56.11	6.64	-49.46	-13	-36.46
3	3346	36.27	-66.74	7.63	-59.11	-13	-46.11
4	4182.5	38.11	-66.73	7.44	-59.29	-13	-46.29
5	5019	39.57	-64.67	7.00	-57.68	-13	-44.68
6	5855.5	42.09	-62.34	6.92	-55.42	-13	-42.42
7	6692	42.94	-60.38	5.56	-54.82	-13	-41.82
8	7528.5	44.57	-58.05	4.52	-53.53	-13	-40.53
9	8365	47.17	-55.45	4.18	-51.27	-13	-38.27
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Emission Value (dBm)	Limit (dBm)	Margin (dB)
1	1673	41.25	-61.38	6.31	-55.07	-13	-42.07
2	2509.5	40.48	-58.03	6.64	-51.38	-13	-38.38
3	3346	36.44	-66.57	7.63	-58.94	-13	-45.94
4	4182.5	38.11	-66.73	7.44	-59.29	-13	-46.29
5	5019	38.13	-66.11	7.00	-59.12	-13	-46.12
6	5855.5	38.74	-65.69	6.92	-58.77	-13	-45.77
7	6692	42.04	-61.28	5.56	-55.72	-13	-42.72
8	7528.5	43.39	-59.23	4.52	-54.71	-13	-41.71
9	8365	46.56	-56.06	4.18	-51.88	-13	-38.88

Remarks:
1. Emission Value (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

LTE Band 5: 5 MHz

Mode	TX channel 20525	Frequency Range	Above 1000MHz

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Emission Value (dBm)	Limit (dBm)	Margin (dB)
1	1673	47.05	-55.58	6.31	-49.27	-13	-36.27
2	2509.5	43.04	-55.47	6.64	-48.82	-13	-35.82
3	3346	36.16	-66.85	7.63	-59.22	-13	-46.22
4	4182.5	38.51	-66.33	7.44	-58.89	-13	-45.89
5	5019	40	-64.24	7.00	-57.25	-13	-44.25
6	5855.5	41.78	-62.65	6.92	-55.73	-13	-42.73
7	6692	43.75	-59.57	5.56	-54.01	-13	-41.01
8	7528.5	44.57	-58.05	4.52	-53.53	-13	-40.53
9	8365	46.99	-55.63	4.18	-51.45	-13	-38.45
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Emission Value (dBm)	Limit (dBm)	Margin (dB)
1	1673	41.78	-60.85	6.31	-54.54	-13	-41.54
2	2509.5	41.35	-57.16	6.64	-50.51	-13	-37.51
3	3346	35.78	-67.23	7.63	-59.60	-13	-46.60
4	4182.5	37.03	-67.81	7.44	-60.37	-13	-47.37
5	5019	38.12	-66.12	7.00	-59.13	-13	-46.13
6	5855.5	38.78	-65.65	6.92	-58.73	-13	-45.73
7	6692	42.34	-60.98	5.56	-55.42	-13	-42.42
8	7528.5	43.15	-59.47	4.52	-54.95	-13	-41.95
9	8365	46.93	-55.69	4.18	-51.51	-13	-38.51

Remarks:
1. Emission Value (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

LTE Band 5: 10 MHz

Mode	TX channel 20525	Frequency Range	Above 1000MHz

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Emission Value (dBm)	Limit (dBm)	Margin (dB)
1	1673	46.81	-55.82	6.31	-49.51	-13	-36.51
2	**2509.5**	**44.01**	**-54.50**	**6.64**	**-47.85**	**-13**	**-34.85**
3	3346	35.58	-67.43	7.63	-59.80	-13	-46.80
4	4182.5	37.96	-66.88	7.44	-59.44	-13	-46.44
5	5019	39.07	-65.17	7.00	-58.18	-13	-45.18
6	5855.5	41.39	-63.04	6.92	-56.12	-13	-43.12
7	6692	43.13	-60.19	5.56	-54.63	-13	-41.63
8	7528.5	44.87	-57.75	4.52	-53.23	-13	-40.23
9	8365	46.81	-55.81	4.18	-51.63	-13	-38.63
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Emission Value (dBm)	Limit (dBm)	Margin (dB)
1	1673	41.66	-60.97	6.31	-54.66	-13	-41.66
2	2509.5	40.67	-57.84	6.64	-51.19	-13	-38.19
3	3346	35.26	-67.75	7.63	-60.12	-13	-47.12
4	4182.5	37.17	-67.67	7.44	-60.23	-13	-47.23
5	5019	37.69	-66.55	7.00	-59.56	-13	-46.56
6	5855.5	38.74	-65.69	6.92	-58.77	-13	-45.77
7	6692	42.95	-60.37	5.56	-54.81	-13	-41.81
8	7528.5	43.79	-58.83	4.52	-54.31	-13	-41.31
9	8365	45.52	-57.10	4.18	-52.92	-13	-39.92

Remarks:
1. Emission Value (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

LTE Band 26: 1.4 MHz

Mode	TX channel 26915	Frequency Range	Above 1000MHz

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Emission Value (dBm)	Limit (dBm)	Margin (dB)
1	1673	48.49	-54.14	6.31	-47.83	-13	-34.83
2	2509.5	41.89	-56.62	6.64	-49.97	-13	-36.97
3	3346	35.82	-67.19	7.63	-59.56	-13	-46.56
4	4182.5	38.52	-66.32	7.44	-58.88	-13	-45.88
5	5019	40.21	-64.03	7.00	-57.04	-13	-44.04
6	5855.5	41.95	-62.48	6.92	-55.56	-13	-42.56
7	6692	43.29	-60.03	5.56	-54.47	-13	-41.47
8	7528.5	44.61	-58.01	4.52	-53.49	-13	-40.49
9	8365	48.67	-53.95	4.18	-49.77	-13	-36.77
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Emission Value (dBm)	Limit (dBm)	Margin (dB)
1	1673	40.06	-62.57	6.31	-56.26	-13	-43.26
2	2509.5	41.08	-57.43	6.64	-50.78	-13	-37.78
3	3346	35.85	-67.16	7.63	-59.53	-13	-46.53
4	4182.5	37.45	-67.39	7.44	-59.95	-13	-46.95
5	5019	39.79	-64.45	7.00	-57.46	-13	-44.46
6	5855.5	37.57	-66.86	6.92	-59.94	-13	-46.94
7	6692	40.67	-62.65	5.56	-57.09	-13	-44.09
8	7528.5	44.25	-58.37	4.52	-53.85	-13	-40.85
9	8365	46.87	-55.75	4.18	-51.57	-13	-38.57

Remarks:
1. Emission Value (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

LTE Band 26: 3 MHz

Mode	TX channel 26915	Frequency Range	Above 1000MHz

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Emission Value (dBm)	Limit (dBm)	Margin (dB)
1	1673	48.36	-54.27	6.31	-47.96	-13	-34.96
2	2509.5	41.67	-56.84	6.64	-50.19	-13	-37.19
3	3346	36.11	-66.90	7.63	-59.27	-13	-46.27
4	4182.5	37.79	-67.05	7.44	-59.61	-13	-46.61
5	5019	40.39	-63.85	7.00	-56.86	-13	-43.86
6	5855.5	41.11	-63.32	6.92	-56.40	-13	-43.40
7	6692	44.18	-59.14	5.56	-53.58	-13	-40.58
8	7528.5	44.5	-58.12	4.52	-53.60	-13	-40.60
9	8365	48.1	-54.52	4.18	-50.34	-13	-37.34
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Emission Value (dBm)	Limit (dBm)	Margin (dB)
1	1673	39.58	-63.05	6.31	-56.74	-13	-43.74
2	2509.5	40.4	-58.11	6.64	-51.46	-13	-38.46
3	3346	34.95	-68.06	7.63	-60.43	-13	-47.43
4	4182.5	36.47	-68.37	7.44	-60.93	-13	-47.93
5	5019	39.5	-64.74	7.00	-57.75	-13	-44.75
6	5855.5	37.4	-67.03	6.92	-60.11	-13	-47.11
7	6692	40.85	-62.47	5.56	-56.91	-13	-43.91
8	7528.5	44.92	-57.70	4.52	-53.18	-13	-40.18
9	8365	46.26	-56.36	4.18	-52.18	-13	-39.18

Remarks:
1. Emission Value (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

LTE Band 26: 5 MHz

Mode	TX channel 26915	Frequency Range	Above 1000MHz

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Emission Value (dBm)	Limit (dBm)	Margin (dB)
1	1673	47.81	-54.82	6.31	-48.51	-13	-35.51
2	2509.5	42.88	-55.63	6.64	-48.98	-13	-35.98
3	3346	35.21	-67.80	7.63	-60.17	-13	-47.17
4	4182.5	39.09	-65.75	7.44	-58.31	-13	-45.31
5	5019	40.22	-64.02	7.00	-57.03	-13	-44.03
6	5855.5	41.48	-62.95	6.92	-56.03	-13	-43.03
7	6692	43.38	-59.94	5.56	-54.38	-13	-41.38
8	7528.5	43.97	-58.65	4.52	-54.13	-13	-41.13
9	8365	49.01	-53.61	4.18	-49.43	-13	-36.43
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Emission Value (dBm)	Limit (dBm)	Margin (dB)
1	1673	39.77	-62.86	6.31	-56.55	-13	-43.55
2	2509.5	40.14	-58.37	6.64	-51.72	-13	-38.72
3	3346	35.16	-67.85	7.63	-60.22	-13	-47.22
4	4182.5	37.7	-67.14	7.44	-59.70	-13	-46.70
5	5019	39.25	-64.99	7.00	-58.00	-13	-45.00
6	5855.5	37.04	-67.39	6.92	-60.47	-13	-47.47
7	6692	41.22	-62.10	5.56	-56.54	-13	-43.54
8	7528.5	43.42	-59.20	4.52	-54.68	-13	-41.68
9	8365	47.29	-55.33	4.18	-51.15	-13	-38.15

Remarks:
1. Emission Value (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

LTE Band 26: 10 MHz

Mode	TX channel 26915	Frequency Range	Above 1000MHz

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Emission Value (dBm)	Limit (dBm)	Margin (dB)
1	1673	48.13	-54.50	6.31	-48.19	-13	-35.19
2	2509.5	42.02	-56.49	6.64	-49.84	-13	-36.84
3	3346	36.46	-66.55	7.63	-58.92	-13	-45.92
4	4182.5	38.36	-66.48	7.44	-59.04	-13	-46.04
5	5019	40.21	-64.03	7.00	-57.04	-13	-44.04
6	5855.5	41.28	-63.15	6.92	-56.23	-13	-43.23
7	6692	43.84	-59.48	5.56	-53.92	-13	-40.92
8	7528.5	44	-58.62	4.52	-54.10	-13	-41.10
9	8365	48.02	-54.60	4.18	-50.42	-13	-37.42
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Emission Value (dBm)	Limit (dBm)	Margin (dB)
1	1673	39.2	-63.43	6.31	-57.12	-13	-44.12
2	2509.5	40.83	-57.68	6.64	-51.03	-13	-38.03
3	3346	35.4	-67.61	7.63	-59.98	-13	-46.98
4	4182.5	37.76	-67.08	7.44	-59.64	-13	-46.64
5	5019	40.34	-63.90	7.00	-56.91	-13	-43.91
6	5855.5	37.26	-67.17	6.92	-60.25	-13	-47.25
7	6692	40.28	-63.04	5.56	-57.48	-13	-44.48
8	7528.5	44.99	-57.63	4.52	-53.11	-13	-40.11
9	8365	47.56	-55.06	4.18	-50.88	-13	-37.88

Remarks:
1. Emission Value (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

LTE Band 26: 15 MHz

Mode	TX channel 26915	Frequency Range	Above 1000MHz

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Emission Value (dBm)	Limit (dBm)	Margin (dB)
1	1673	48.79	-53.84	6.31	-47.53	-13	-34.53
2	2509.5	42.12	-56.39	6.64	-49.74	-13	-36.74
3	3346	35.48	-67.53	7.63	-59.90	-13	-46.90
4	4182.5	39.5	-65.34	7.44	-57.90	-13	-44.90
5	5019	40.45	-63.79	7.00	-56.80	-13	-43.80
6	5855.5	42.1	-62.33	6.92	-55.41	-13	-42.41
7	6692	42.8	-60.52	5.56	-54.96	-13	-41.96
8	7528.5	43.97	-58.65	4.52	-54.13	-13	-41.13
9	8365	47.98	-54.64	4.18	-50.46	-13	-37.46
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Emission Value (dBm)	Limit (dBm)	Margin (dB)
1	1673	39.18	-63.45	6.31	-57.14	-13	-44.14
2	2509.5	41.08	-57.43	6.64	-50.78	-13	-37.78
3	3346	36.13	-66.88	7.63	-59.25	-13	-46.25
4	4182.5	38.41	-66.43	7.44	-58.99	-13	-45.99
5	5019	39.25	-64.99	7.00	-58.00	-13	-45.00
6	5855.5	37.88	-66.55	6.92	-59.63	-13	-46.63
7	6692	40.25	-63.07	5.56	-57.51	-13	-44.51
8	7528.5	44.43	-58.19	4.52	-53.67	-13	-40.67
9	8365	47.07	-55.55	4.18	-51.37	-13	-38.37

Remarks:
1. Emission Value (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

5 Pictures of Test Arrangements

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

Appendix – Information on 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 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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