CHANNEL BANDWIDTH: 10MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
37800	2575.0	23.92	2.21	26.13	410.2	2
38000	2595.0	23.99	2.21	26.2	416.87	2
38200	2615.0	24.01	2.21	26.22	418.79	2

CHANNEL BANDWIDTH: 10MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
37800	2575.0	22.65	2.21	24.86	306.2	2
38000	2595.0	22.66	2.21	24.87	306.9	2
38200	2615.0	22.76	2.21	24.97	314.05	2

CHANNEL BANDWIDTH: 10MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
37800	2575	21.66	2.21	23.87	243.78	2
38000	2595	21.77	2.21	23.98	250.03	2
38200	2615	21.71	2.21	23.92	246.6	2

CHANNEL BANDWIDTH: 15MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
37825	2577.5	23.96	2.21	26.17	414	2
38000	2595.0	23.94	2.21	26.15	412.1	2
38175	2612.5	24	2.21	26.21	417.83	2

CHANNEL BANDWIDTH: 15MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
37825	2577.5	22.69	2.21	24.9	309.03	2
38000	2595.0	22.65	2.21	24.86	306.2	2
38175	2612.5	22.8	2.21	25.01	316.96	2

CHANNEL BANDWIDTH: 15MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
37825	2577.5	21.71	2.21	23.92	246.6	2
38000	2595	21.77	2.21	23.98	250.03	2
38175	2612.5	21.66	2.21	23.87	243.78	2

CHANNEL BANDWIDTH: 20MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
37850	2580.0	24	2.21	26.21	417.83	2
38000	2595.0	24.03	2.21	26.24	420.73	2
38150	2610.0	24.06	2.21	26.27	423.64	2

CHANNEL BANDWIDTH: 20MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
37850	2580.0	22.73	2.21	24.94	311.89	2
38000	2595.0	22.75	2.21	24.96	313.33	2
38150	2610.0	22.83	2.21	25.04	319.15	2

CHANNEL BANDWIDTH: 20MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
37850	2580	21.74	2.21	23.95	248.31	2
38000	2595	21.81	2.21	24.02	252.35	2
38150	2610	21.76	2.21	23.97	249.46	2

LTE BAND 41

CHANNEL BANDWIDTH: 5MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
39675	2498.5	24.04	5.21	29.25	841.4	2
40620	2593.0	24.07	5.21	29.28	847.23	2
41565	2687.5	23.98	5.21	29.19	829.85	2

CHANNEL BANDWIDTH: 5MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
39675	2498.5	22.75	5.21	27.96	625.17	2
40620	2593.0	22.85	5.21	28.06	639.73	2
41565	2687.5	22.76	5.21	27.97	626.61	2

CHANNEL BANDWIDTH: 5MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
39675	2498.5	21.77	5.21	26.98	498.88	2
40620	2593.0	21.81	5.21	27.02	503.5	2
41565	2687.5	21.71	5.21	26.92	492.04	2

CHANNEL BANDWIDTH: 10MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
39700	2501.0	24.04	5.21	29.25	841.4	2
40620	2593.0	24.08	5.21	29.29	849.18	2
41540	2685.0	24.03	5.21	29.24	839.46	2

CHANNEL BANDWIDTH: 10MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
39700	2501.0	22.8	5.21	28.01	632.41	2
40620	2593.0	22.88	5.21	28.09	644.17	2
41540	2685.0	22.75	5.21	27.96	625.17	2

CHANNEL BANDWIDTH: 10MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
39700	2501.0	21.82	5.21	27.03	504.66	2
40620	2593.0	21.85	5.21	27.06	508.16	2
41540	2685.0	21.71	5.21	26.92	492.04	2

CHANNEL BANDWIDTH: 15MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
39725	2503.5	24.02	5.21	29.23	837.53	2
40620	2593.0	24.03	5.21	29.24	839.46	2
41515	2682.5	24.03	5.21	29.24	839.46	2

CHANNEL BANDWIDTH: 15MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
39725	2503.5	22.79	5.21	28	630.96	2
40620	2593.0	22.88	5.21	28.09	644.17	2
41515	2682.5	22.76	5.21	27.97	626.61	2

CHANNEL BANDWIDTH: 15MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
39725	2503.5	21.83	5.21	27.04	505.82	2
40620	2593.0	21.82	5.21	27.03	504.66	2
41515	2682.5	21.72	5.21	26.93	493.17	2

CHANNEL BANDWIDTH: 20MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
39750	2506.0	24.09	5.21	29.3	851.14	2
40620	2593.0	24.06	5.21	29.27	845.28	2
41490	2680.0	24.05	5.21	29.26	843.33	2

CHANNEL BANDWIDTH: 20MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
39750	2506.0	22.83	5.21	28.04	636.8	2
40620	2593.0	22.9	5.21	28.11	647.14	2
41490	2680.0	22.78	5.21	27.99	629.51	2

CHANNEL BANDWIDTH: 20 MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
39750	2506.0	21.85	5.21	27.06	508.16	2
40620	2593.0	21.87	5.21	27.08	510.5	2
41490	2680.0	21.76	5.21	26.97	497.74	2

REMARKS: EIRP Output Power (dBm) = EIRP (dBm) -2.15(dB).

3.2 FREQUENCY STABILITY MEASUREMENT

3.2.1 LIMITS OF FREQUENCY STABILIITY MEASUREMENT

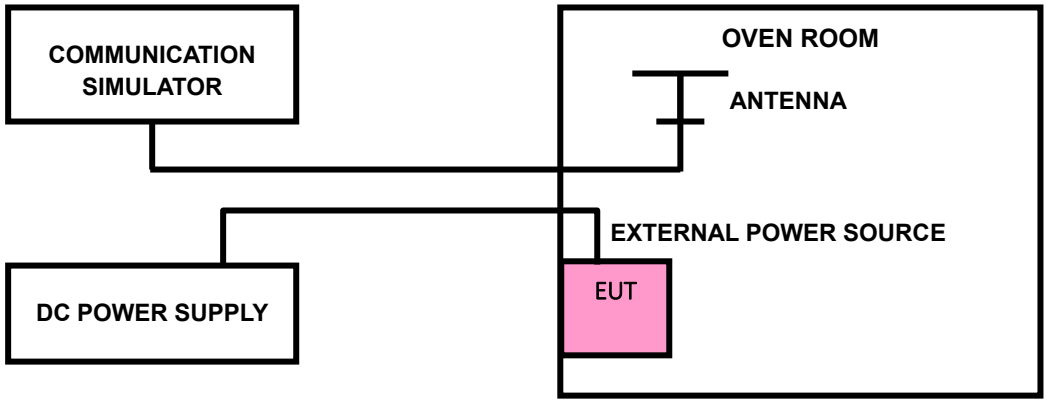
The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.

3.2.2 TEST PROCEDURE

a. Device is placed at the oven room. The oven room could control the temperatures and humidity. Power warm up is at least 15 min and power applied should perform before recording frequency error.
b. EUT is connected the external power supply to control the DC input power. The test voltage range is from minimum to maximum working voltage. Each step shall be record the frequency error rate.
c. The temperature range step is 10 degrees in this test items. All temperature levels shall be hold the ±0.5℃ during the measurement testing. The each temperature step shall be at least 0.5 hours, consider the EUT could be test under the stability condition.

NOTE: The frequency error was recorded frequency error from the communication simulator.

3.2.3 TEST SETUP



3.2.4 TEST RESULTS

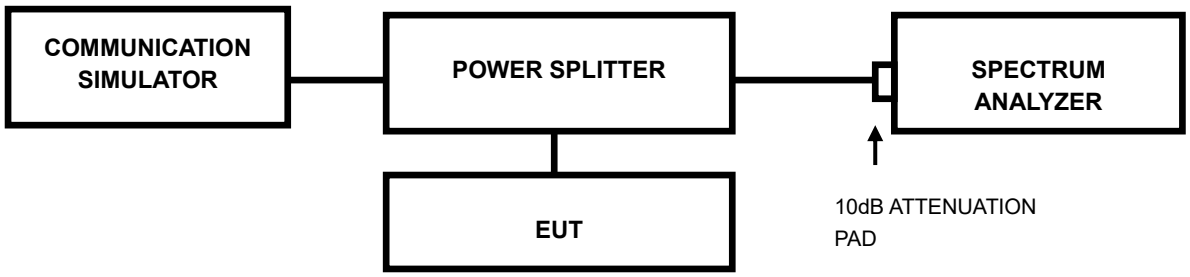
Please Refer to Appendix Of this test report.

3.3 OCCUPIED BANDWIDTH MEASUREMENT

3.3.1 LIMITS OF OCCUPIED BANDWIDTH MEASUREMENT

The width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5 %of the total mean power of a given emission.

3.3.2 TEST SETUP



3.3.3 TEST PROCEDURES

a. The conducted occupied bandwidth used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer.
b. Use OBW measurement function of Spectrum analyzer to measure 99 % occupied bandwidth.

3.3.4 TEST RESULTS

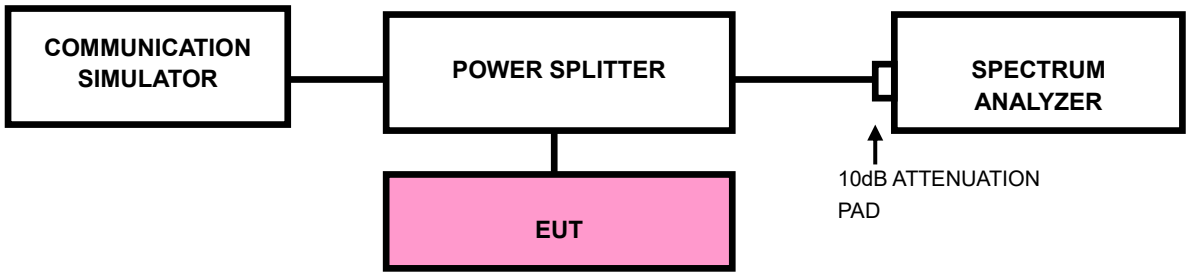
Please Refer to Appendix Of this test report.

3.4 BAND EDGE MEASUREMENT

3.4.1 LIMITS OF BAND EDGE MEASUREMENT

According to FCC Part 27.53(m)(4) specified that For mobile digital stations, the attenuation factor shall be not less than 40 + 10 log (P) dB on all frequencies between the channel edge and 5 megahertz from the channel edge, 43 + 10 log (P) dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and 55 + 10 log (P) dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less that 43 + 10 log (P) dB on all frequencies between 2490.5 MHz and 2496 MHz and 55 + 10 log (P) dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees. For mobile digital stations, in the 1 megahertz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least two percent may be employed

3.4.2 TEST SETUP



3.4.3 TEST PROCEDURES

a) Connect the transmitter to the spectrum analyzer via coaxial cable while ensuring proper impedance matching.

b) Tune the analyzer to the nominal center frequency of the emission bandwidth (EBW).

c) Set the resolution bandwidth (RBW) ≧ 1% EBW in the 1MHz band immediately outside and adjacent to the band edge.

d) Beyond the 1MHz band from the band edge, RBW=1MHz was used.

e) Set the video bandwidth (VBW) to ≧3 x RBW.

f) Select the average power (RMS) display detector.

g) Set the number of measurement points to ≧ 1001.

h) Use auto-coupled sweep time.

i) Perform the measurement over an interval of time when the transmission is continuous and at its maximum power level.

j) The RF fundamental frequency should be excluded against the limit line in the operating frequency band and use RBW is 10KHz or 100KHz.

k) Record the max trace plot into the test report.

3.4.4 TEST RESULTS

Please Refer to Appendix Of this test report.

3.5 CONDUCTED SPURIOUS EMISSIONS

3.5.1 LIMITS OF CONDUCTED SPURIOUS EMISSIONS MEASUREMENT

.

For: Band41

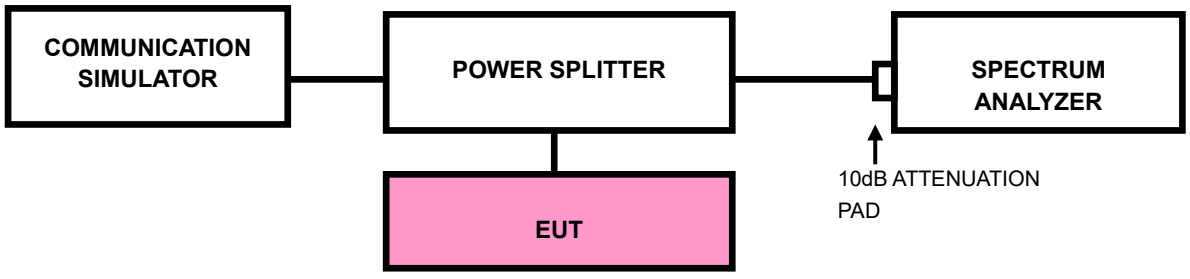
The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least 55 +10 log10(P) dB. The limit of emission is equal to -25dBm.

3.5.2 TEST PROCEDURE

a. The EUT makes a phone call to the communication simulator. All measurements were done at low, middle and high operational frequency range.

b. Measuring frequency range is from 9kHz up to a frequency including its 10th harmonic. 10dB attenuation pad is connected with spectrum. RBW=1MHz and VBW=3MHz is used for conducted emission measurement.

3.5.3 TEST SETUP



3.5.4 TEST RESULTS

NOTE：The 9K~30MHz amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required in the report.

Please Refer to Appendix Of this test report.

3.6 RADIATED EMISSION MEASUREMENT

3.6.1 LIMITS OF RADIATED EMISSION MEASUREMENT

For: Band41

The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least 55 +10 log10(P) dB. The limit of emission is equal to -25dBm.

.

3.6.2 TEST PROCEDURES

a. Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8m 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 substitution horn 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 a. Record the power level of S.G.
c. EIRP = Output power level of S.G – TX cable loss + Antenna gain of substitution horn.
d. E.R.P power can be calculated form E.I.R.P power by subtracting the gain of dipole, E.R.P power = E.I.P.R power - 2.15dBi.

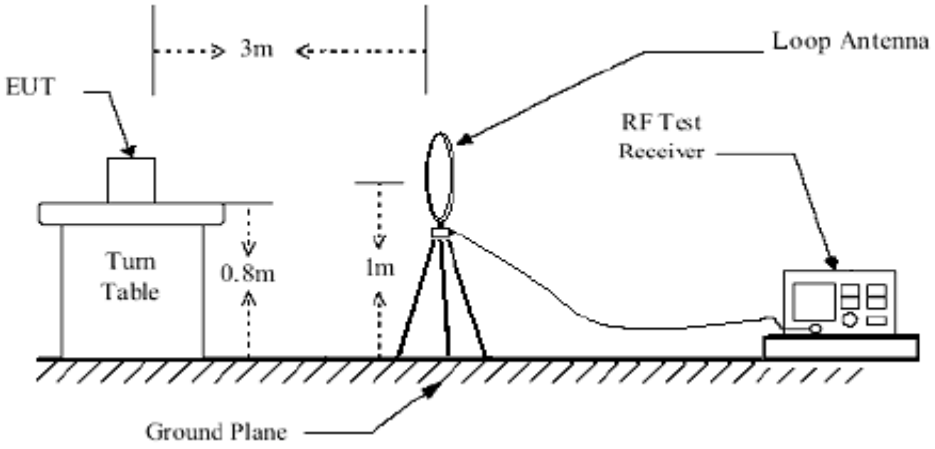
NOTE: The resolution bandwidth of spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz.

3.6.3 DEVIATION FROM TEST STANDARD

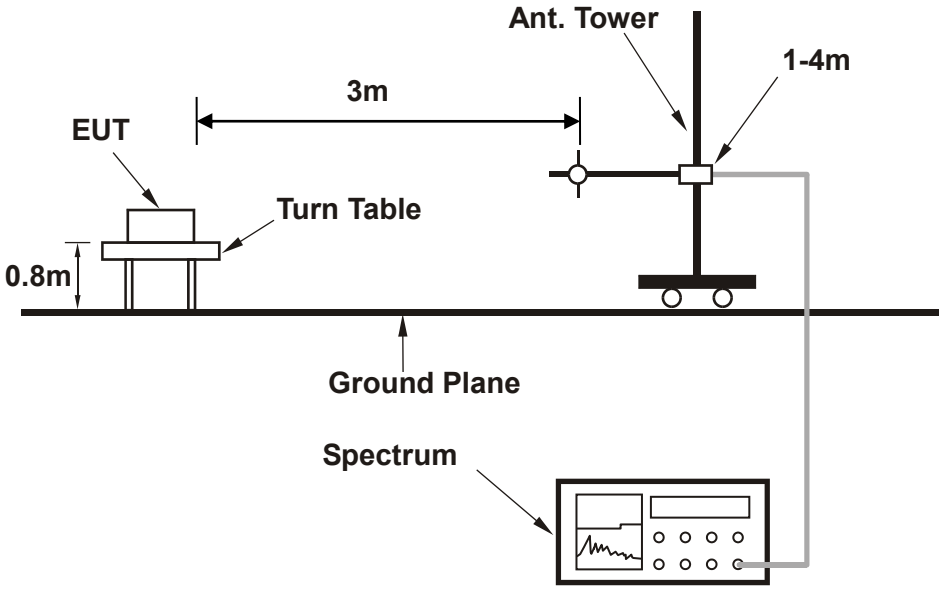
No deviation

3.6.4 TEST SETUP

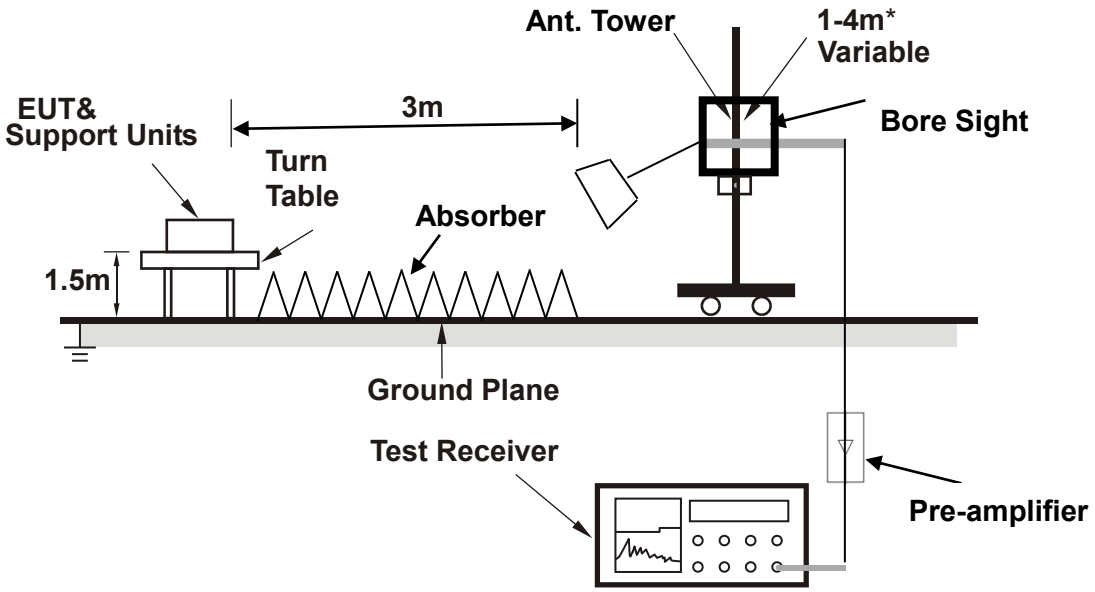
< Frequency Range below 30MHz >



< Frequency Range 30MHz~1GHz >



<Frequency Range above 1GHz>



Note: Above 1G is a directional antenna depends on the EUT height and the antenna 3dB beamwidth both, refer to section 7.3 of CISPR 16-2-3.

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

3.6.5 TEST RESULTS

NOTE： The 9K~30MHz amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required in the report.

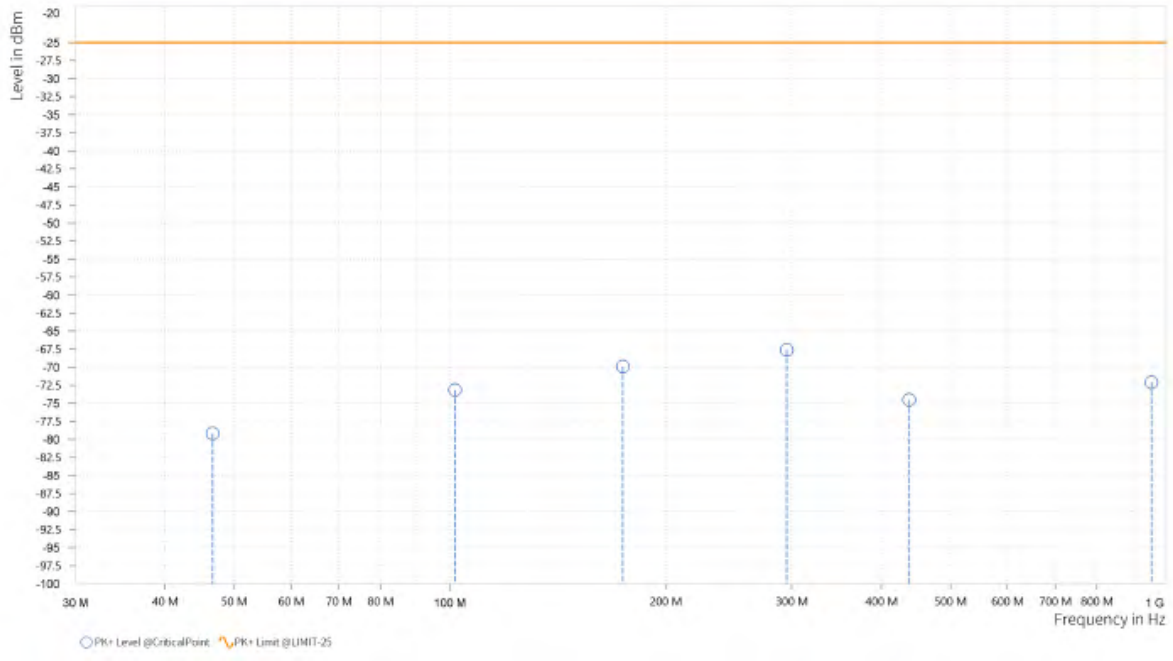
BELOW 1GHz WORST-CASE DATA

30 MHz – 1GHz data:

LTE Band 41(Ant4)
CHANNEL BANDWIDTH: 20MHz / QPSK

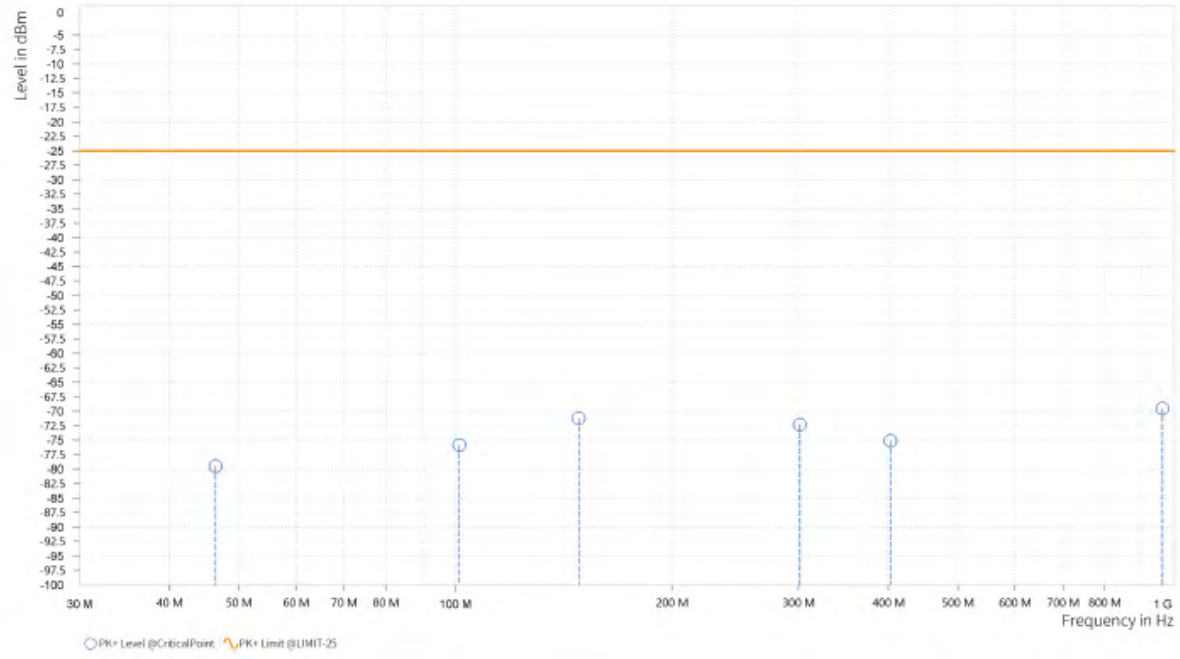
MODE	TX channel 40620	**FREQUENCY RANGE**	Below 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	46.650	-79.18	-25.00	54.18	-5.52	H	183.6	1
1	101.650	-73.16	-25.00	48.16	-10.41	H	176.3	2
1	174.350	-69.88	-25.00	44.88	-10.97	H	176.3	2
1	295.400	-67.60	-25.00	42.60	-4.80	H	355.5	2
1	437.500	-74.52	-25.00	49.52	-0.82	H	4.5	1
2	953.433	-72.09	-25.00	47.09	6.68	H	358.9	1



MODE	TX channel 40620	FREQUENCY RANGE	Below 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	46.400	-79.51	-25.00	54.51	-6.32	V	159.5	2
1	101.300	-75.82	-25.00	50.82	-8.44	V	159.5	2
1	148.450	-71.20	-25.00	46.20	-11.58	V	351	2
1	301.400	-72.31	-25.00	47.31	-6.34	V	359	2
1	402.750	-75.13	-25.00	50.13	-3.43	V	5.2	1
2	962.692	-69.53	-25.00	44.53	10.43	V	257.8	1



ABOVE 1GHz

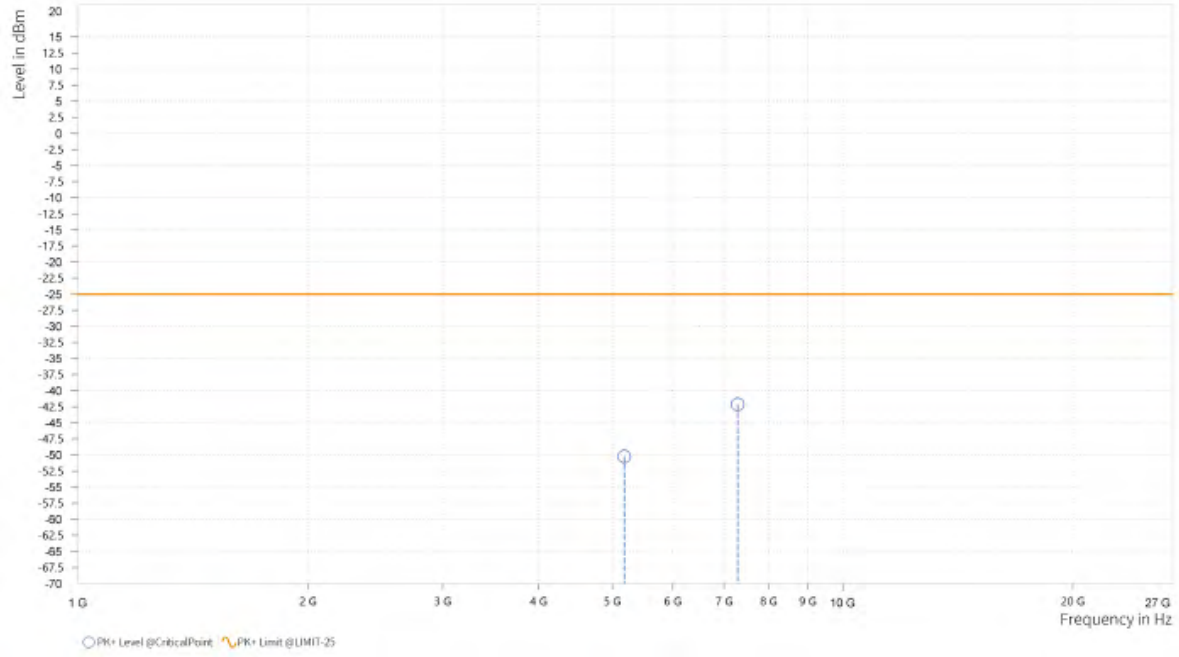
Note: For higher frequency, the emission is too low to be detected.

LTE BAND 41(Ant4)

CHANNEL BANDWIDTH: 5MHz / QPSK

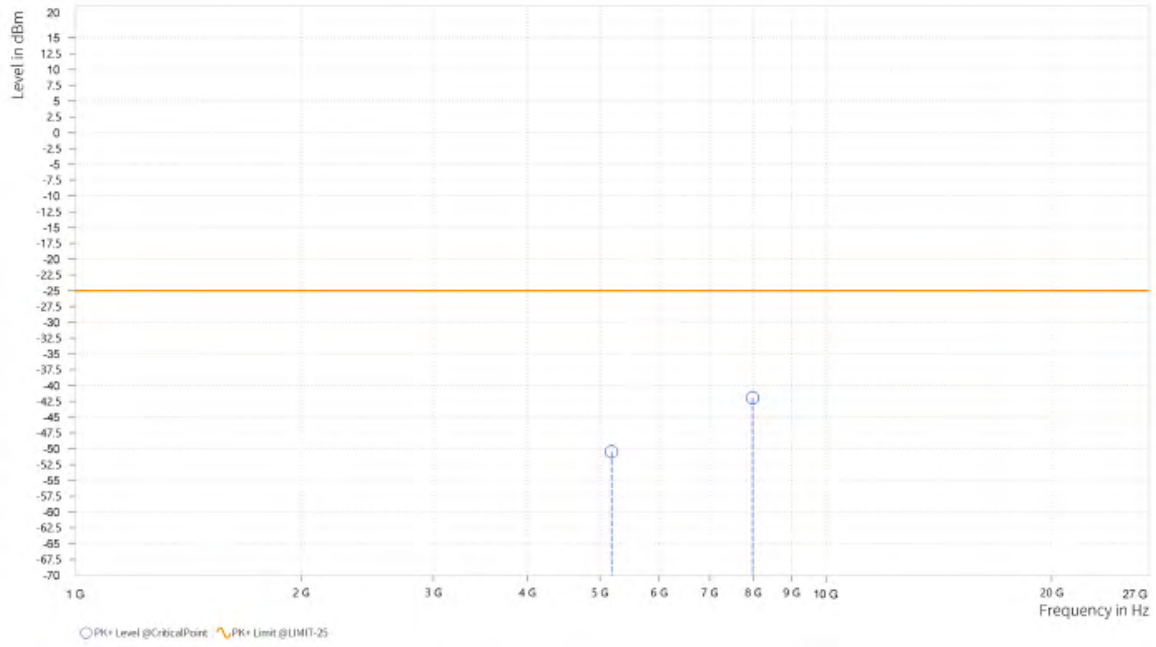
MODE	TX channel 40620	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	5,182.500	-50.26	-25.00	25.26	27.57	H	1	2
5	7,291.500	-42.12	-25.00	17.12	33.82	H	1	1



MODE	TX channel 40620	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

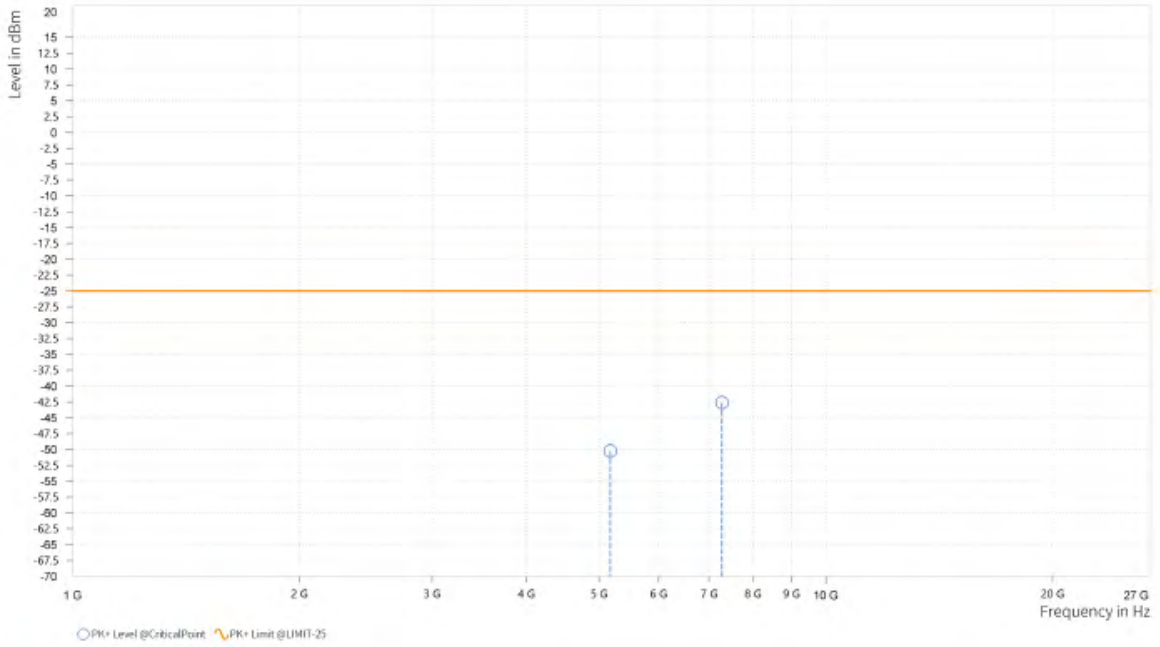
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	5,182.000	-50.49	-25.00	25.49	27.37	V	1	2
5	7,985.500	-41.94	-25.00	16.94	34.61	V	1	2



CHANNEL BANDWIDTH: 10MHz / QPSK

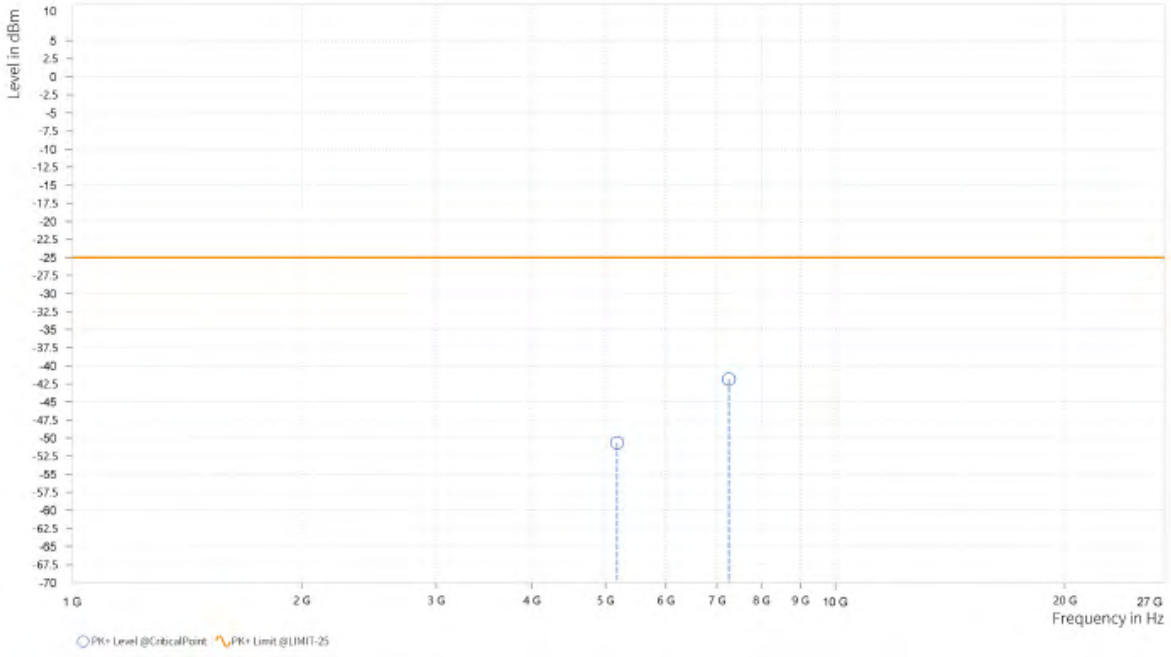
MODE	TX channel 40620	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	5,176.500	-50.24	-25.00	25.24	27.57	H	359	1
5	7,280.500	-42.61	-25.00	17.61	33.91	H	275.8	1



MODE	TX channel 40620	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

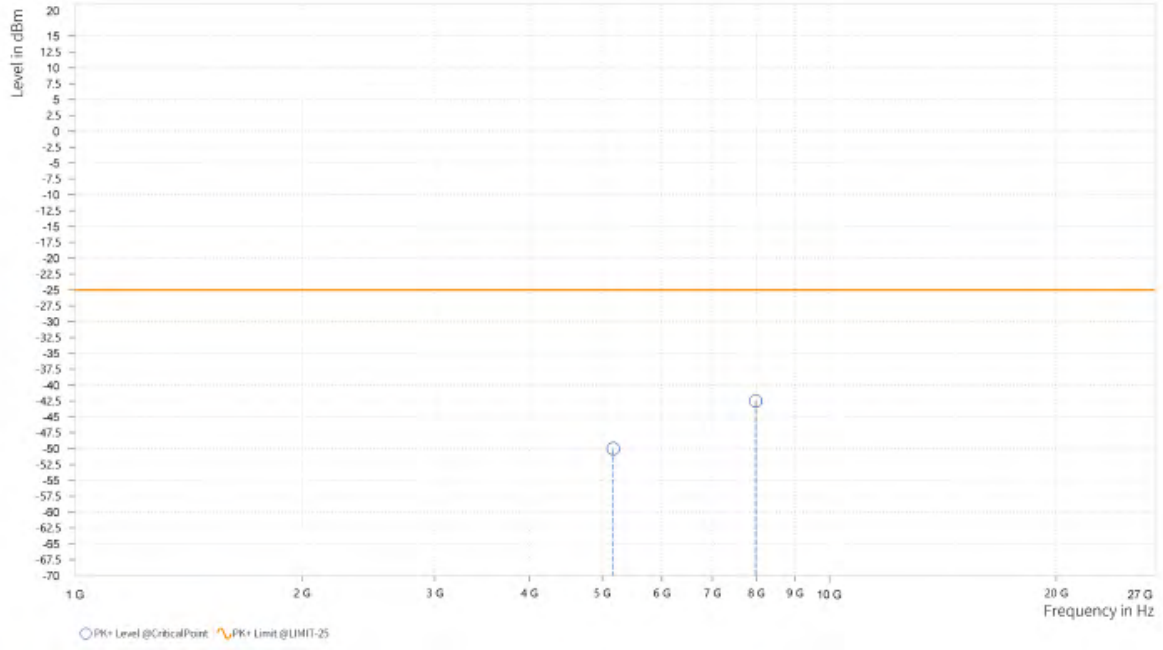
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	5,177.000	-50.67	-25.00	25.67	27.40	V	359	2
5	7,251.000	-41.88	-25.00	16.88	34.31	V	84.2	2



CHANNEL BANDWIDTH: 15MHz / QPSK

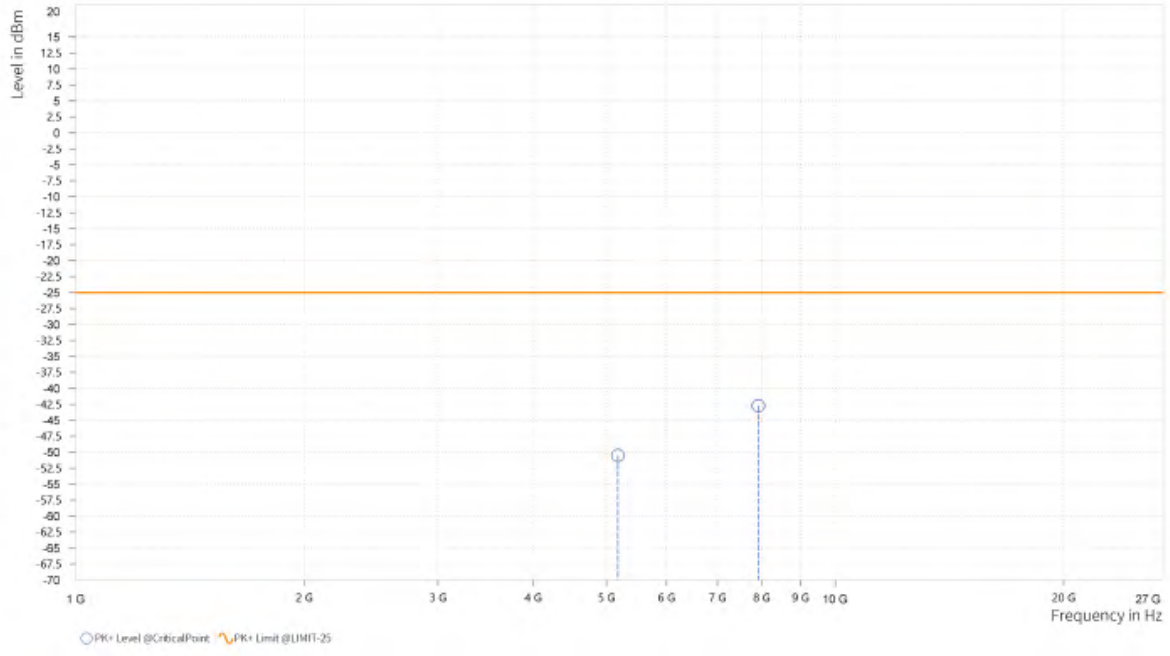
MODE	TX channel 40620	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	5,173.000	-50.04	-25.00	25.04	27.58	H	169.1	2
5	7,990.000	-42.50	-25.00	17.50	34.40	H	83.1	2



MODE	TX channel 40620	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	5,173.500	-50.52	-25.00	25.52	27.42	V	359	2
5	7,924.000	-42.74	-25.00	17.74	34.30	V	84.2	2

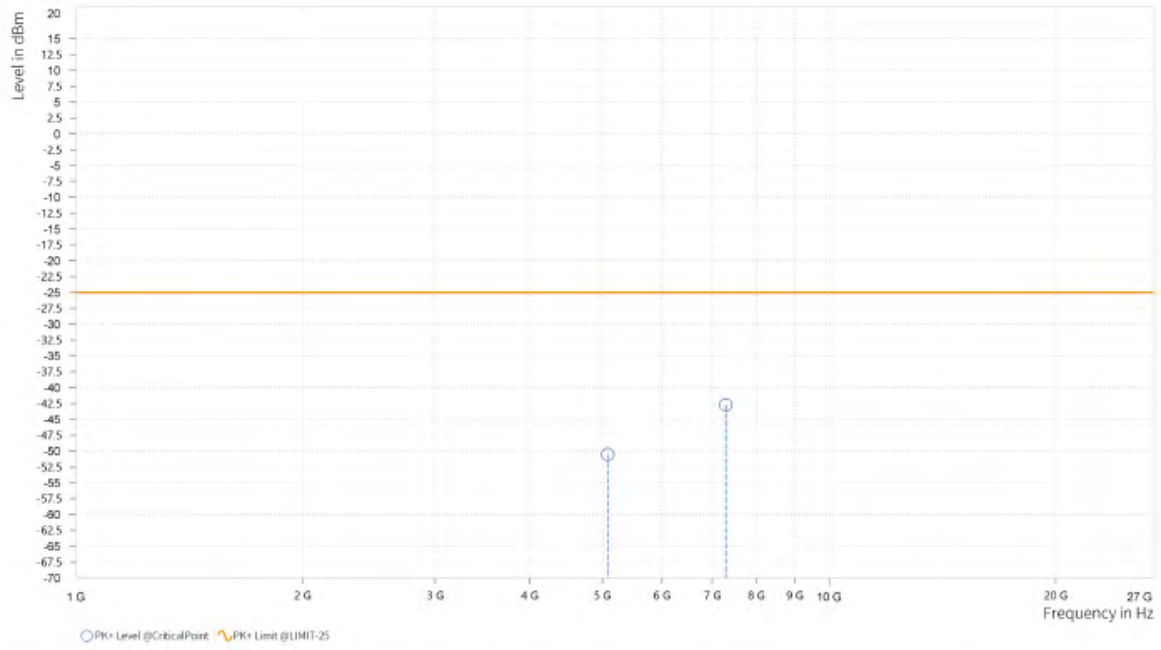


CHANNEL BANDWIDTH: 20MHz / QPSK

CH39750

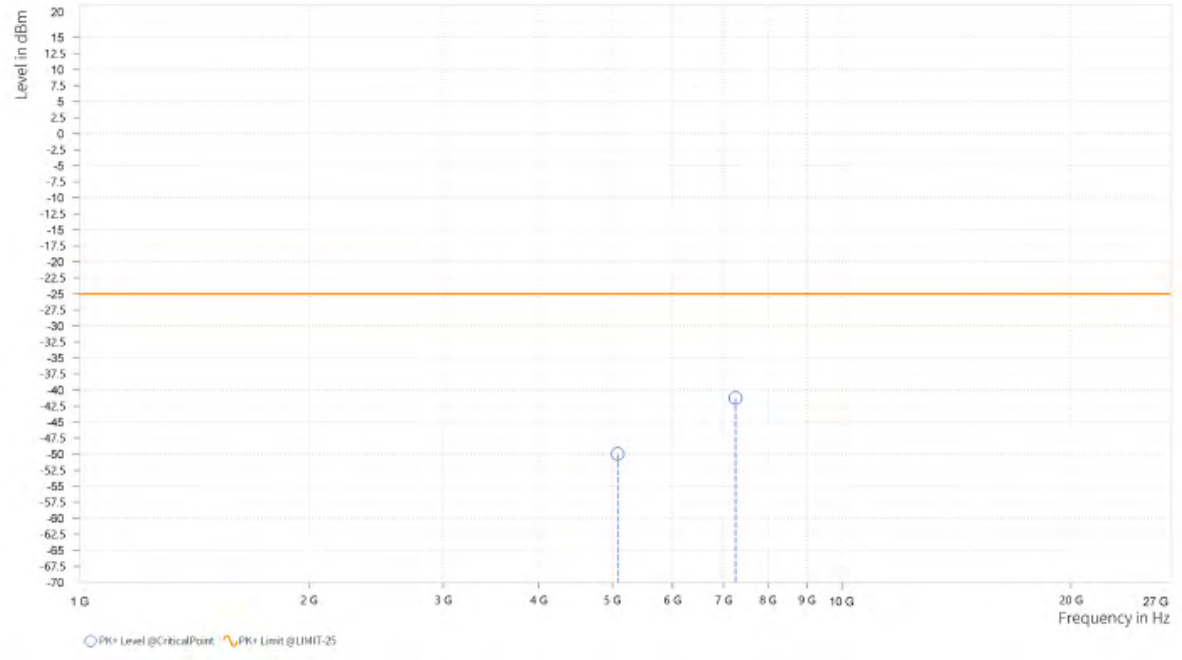
MODE	TX channel 39750	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	5,080.500	-50.54	-25.00	25.54	27.03	H	189.6	1
5	7,288.000	-42.73	-25.00	17.73	33.85	H	359.1	1



MODE	TX channel 39750	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

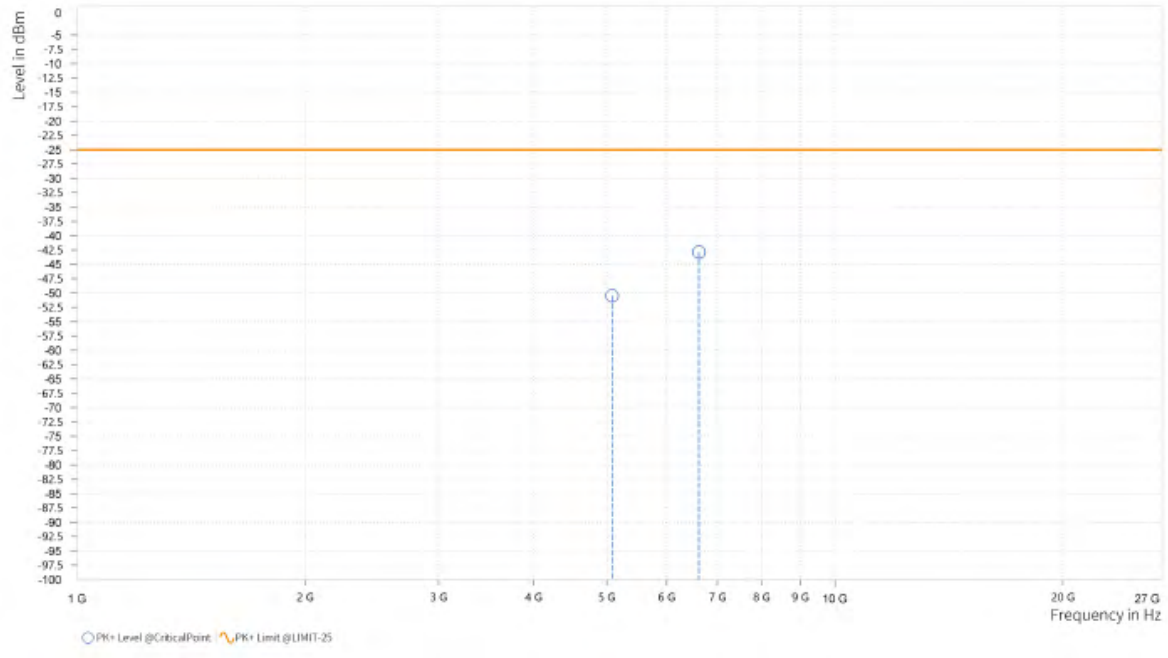
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	5,082.500	-49.98	-25.00	24.98	27.06	V	359	2
5	7,253.000	-41.27	-25.00	16.27	34.30	V	359.1	1



CH40620

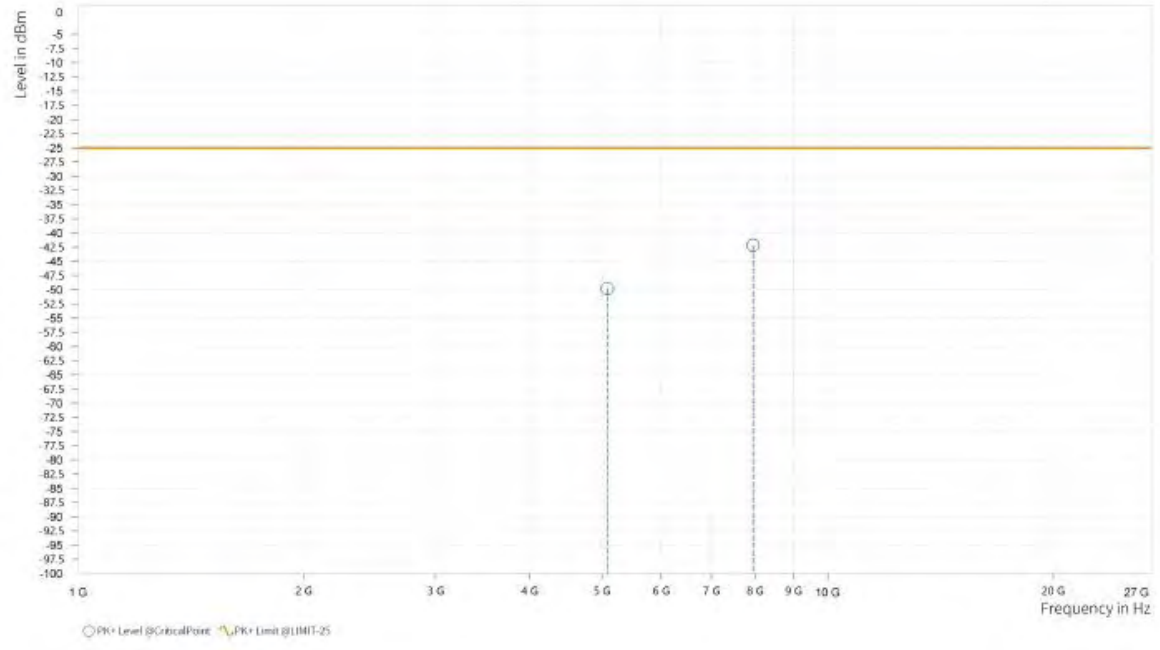
MODE	TX channel 40620	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	5,081.000	-50.47	-25.00	25.47	27.03	H	0.9	2
5	6,614.000	-42.88	-25.00	17.88	32.66	H	359.1	1



MODE	TX channel 40620	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

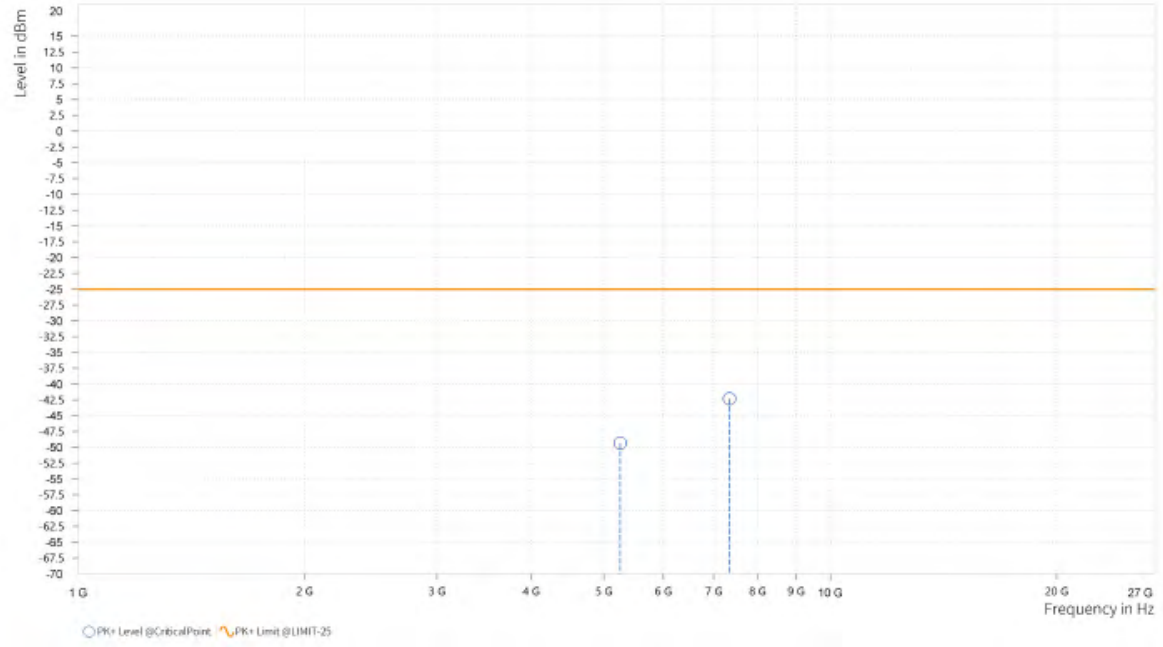
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	5,081.000	-49.81	-25.00	24.81	27.04	V	0.9	2
5	7,950.500	-42.19	-25.00	17.19	34.43	V	84.3	2



CH41490

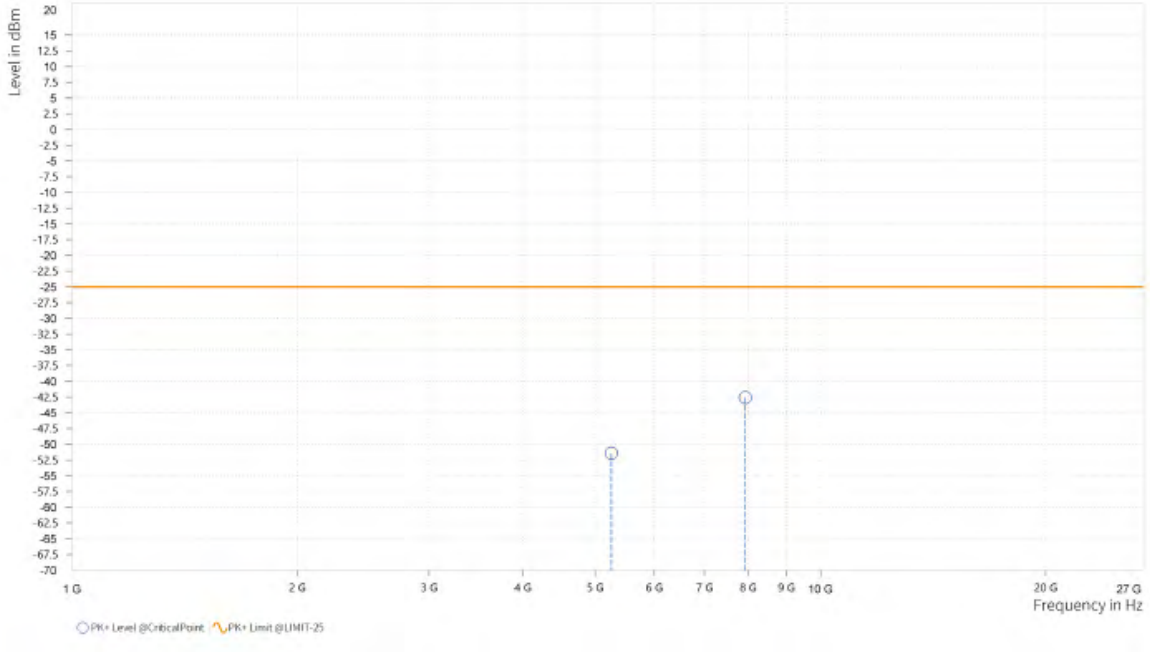
MODE	TX channel 41490	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	5,256.000	-49.36	-25.00	24.36	27.75	H	359	2
5	7,344.000	-42.31	-25.00	17.31	33.52	H	278.2	1



MODE	TX channel 41490	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	5,256.000	-51.41	-25.00	26.41	27.47	V	0.9	2
5	7,934.500	-42.58	-25.00	17.58	34.35	V	53.3	2

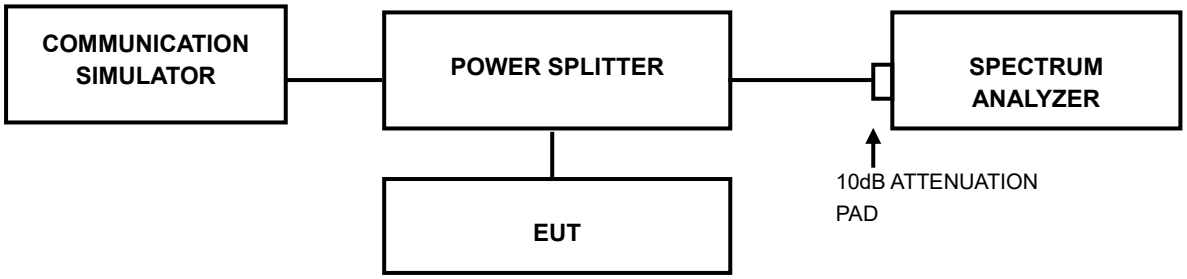


3.7 PEAK TO AVERAGE RATIO

3.7.1 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

3.7.2 TEST SETUP



3.7.3 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%.

3.7.4 TEST RESULTS

Please Refer to Appendix Of this test report.

4 INFORMATION ON THE TESTING LABORATORIES

We, BV 7LAYERS COMMUNICATIONS TECHNOLOGY (SHENZHEN) CO. LTD., were founded in 2015 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:

Shenzhen EMC/RF Lab:
Tel: +86-755-88696566
Fax: +86-755-88696577

Email: customerservice.sw@cn.bureauveritas.com
Web Site: www.adt.com.tw

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

5 MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB

No any modifications are made to the EUT by the lab during the test.

6 APPENDIX

LTE BAND41 (INDCLUDING LTE BAND38)

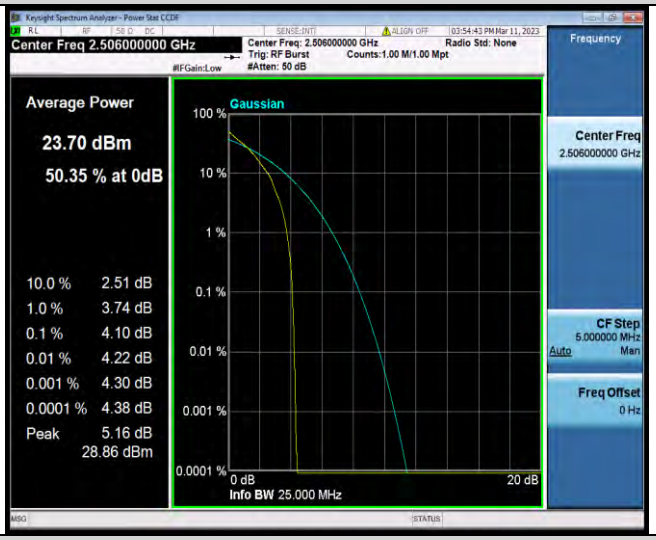
PEAK-TO-AVERAGE RATIO(CCDF)

Test Result

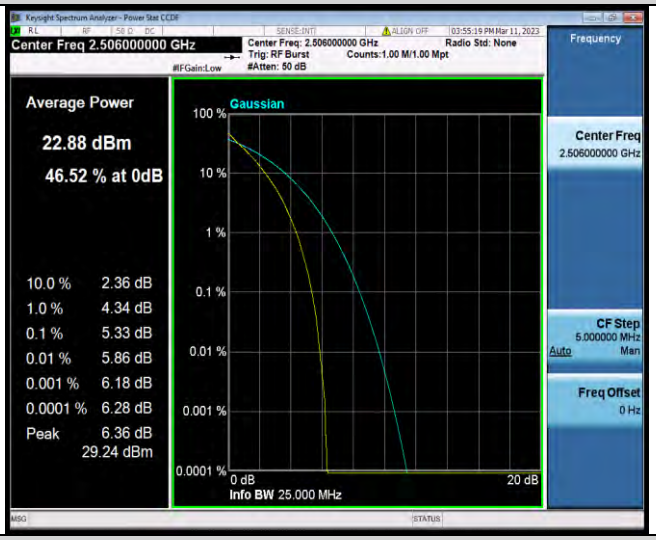
Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dB)	Limit(dB)	Verdict
Band41	20MHz	QPSK	39750	1RB#0	4.10	13	PASS
Band41	20MHz	QPSK	39750	100RB#0	5.33	13	PASS
Band41	20MHz	QPSK	40620	1RB#0	4.64	13	PASS
Band41	20MHz	QPSK	40620	100RB#0	5.48	13	PASS
Band41	20MHz	QPSK	41490	1RB#0	4.54	13	PASS
Band41	20MHz	QPSK	41490	100RB#0	5.49	13	PASS
Band41	20MHz	16QAM	39750	1RB#0	4.92	13	PASS
Band41	20MHz	16QAM	39750	100RB#0	6.08	13	PASS
Band41	20MHz	16QAM	40620	1RB#0	5.74	13	PASS
Band41	20MHz	16QAM	40620	100RB#0	6.20	13	PASS
Band41	20MHz	16QAM	41490	1RB#0	5.48	13	PASS
Band41	20MHz	16QAM	41490	100RB#0	6.23	13	PASS
Band41	20MHz	64QAM	39750	1RB#0	5.63	13	PASS
Band41	20MHz	64QAM	39750	100RB#0	6.57	13	PASS
Band41	20MHz	64QAM	40620	1RB#0	5.94	13	PASS
Band41	20MHz	64QAM	40620	100RB#0	6.60	13	PASS
Band41	20MHz	64QAM	41490	1RB#0	6.58	13	PASS
Band41	20MHz	64QAM	41490	100RB#0	6.58	13	PASS

Test Graphs

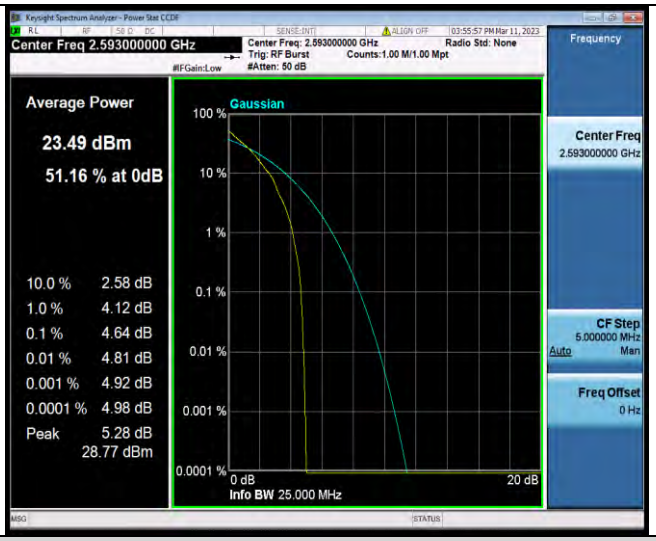
Band41-20MHz-QPSK-39750-1RB#0



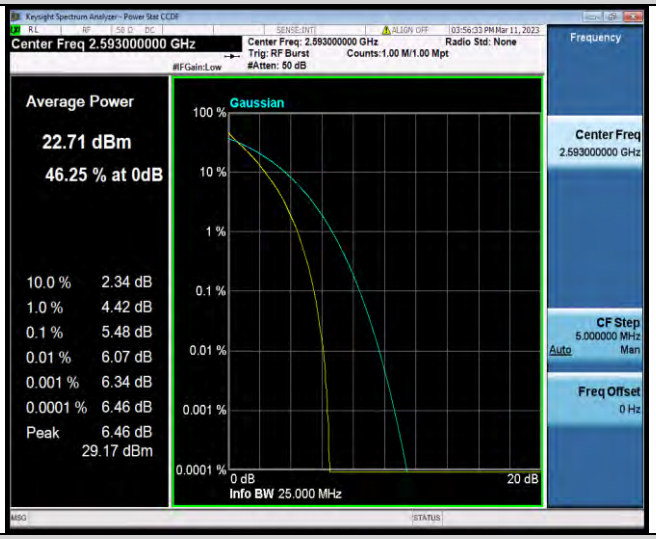
Band41-20MHz-QPSK-39750-100RB#0



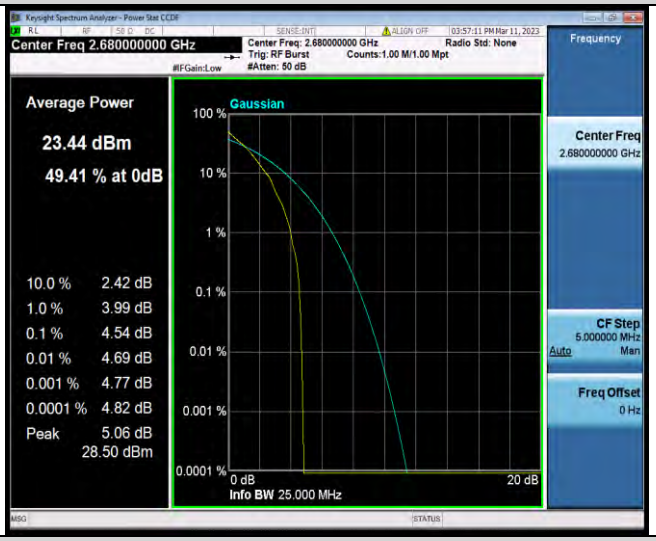
Band41-20MHz-QPSK-40620-1RB#0



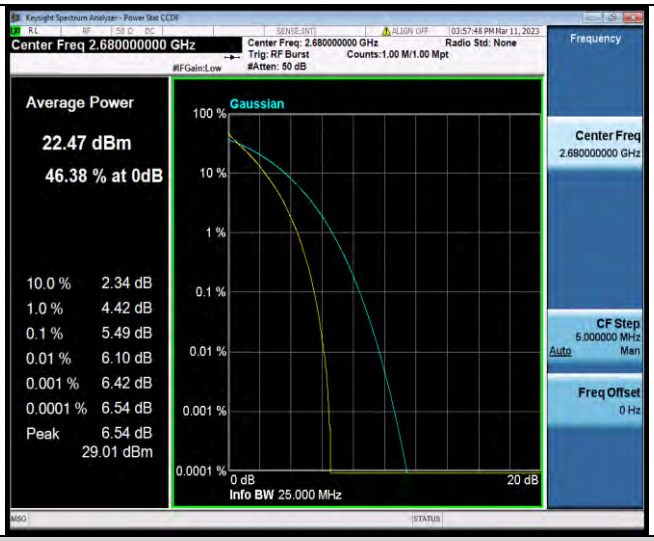
Band41-20MHz-QPSK-40620-100RB#0



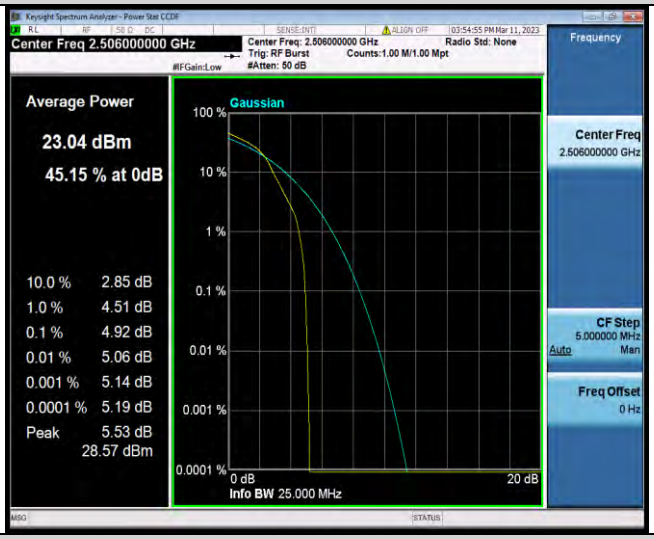
Band41-20MHz-QPSK-41490-1RB#0



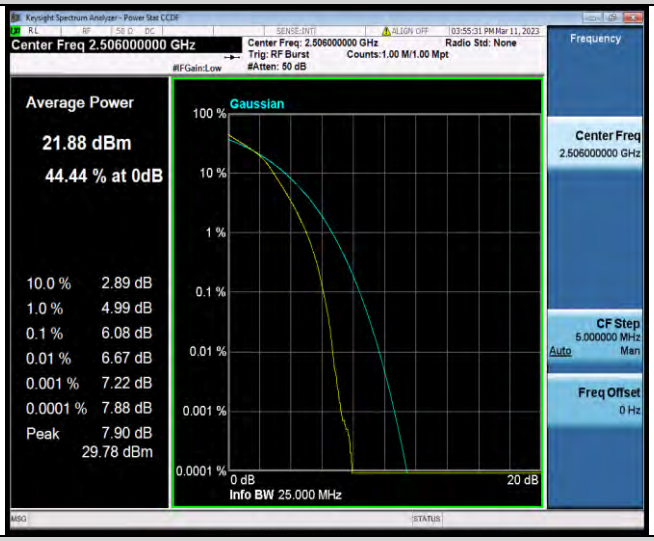
Band41-20MHz-QPSK-41490-100RB#0



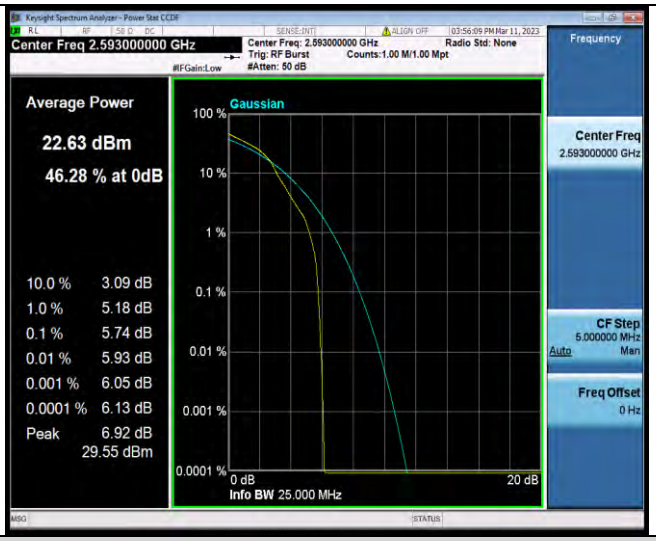
Band41-20MHz-16QAM-39750-1RB#0



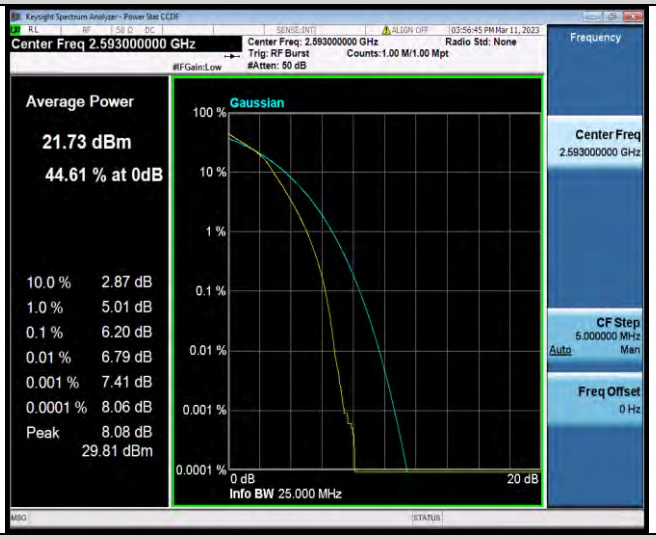
Band41-20MHz-16QAM-39750-100RB#0



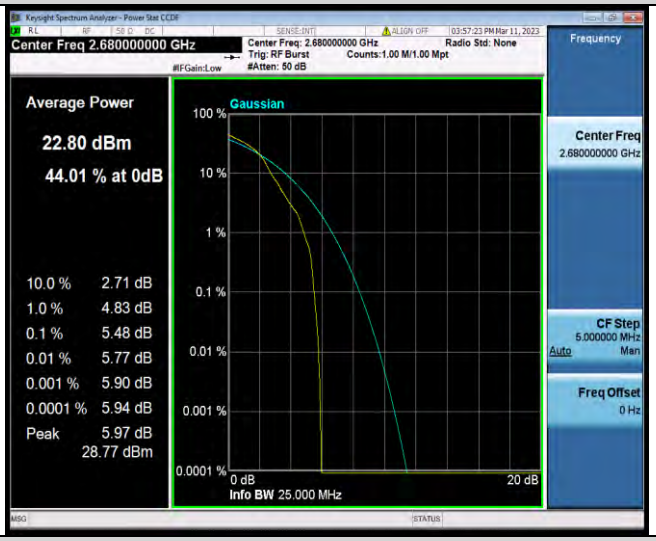
Band41-20MHz-16QAM-40620-1RB#0



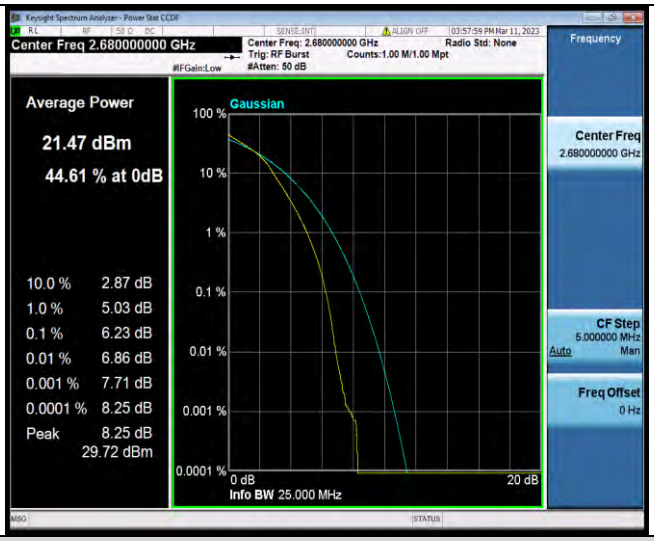
Band41-20MHz-16QAM-40620-100RB#0



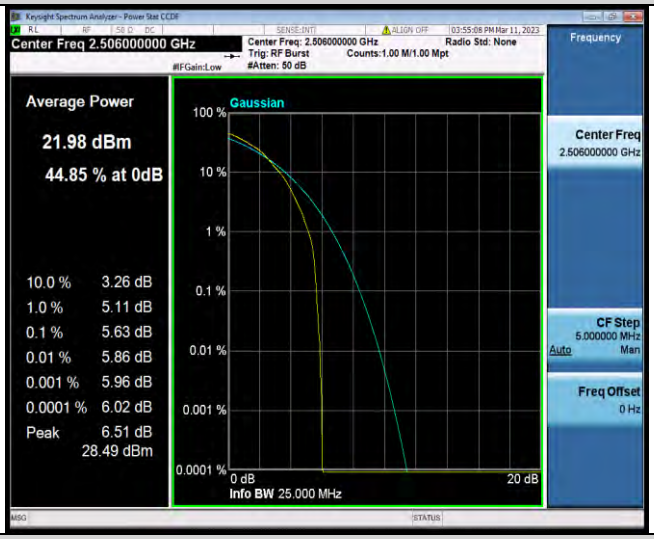
Band41-20MHz-16QAM-41490-1RB#0



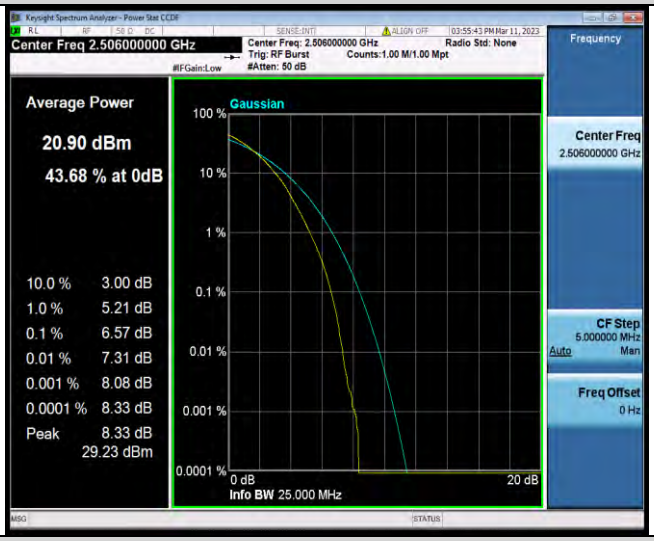
Band41-20MHz-16QAM-41490-100RB#0



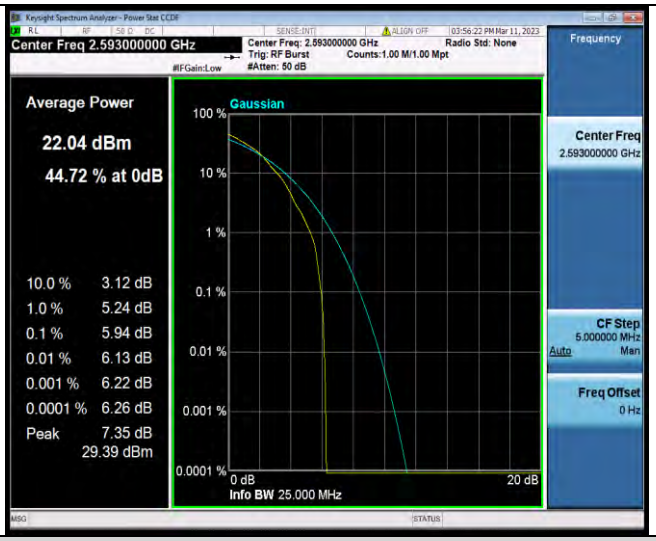
Band41-20MHz-64QAM-39750-1RB#0



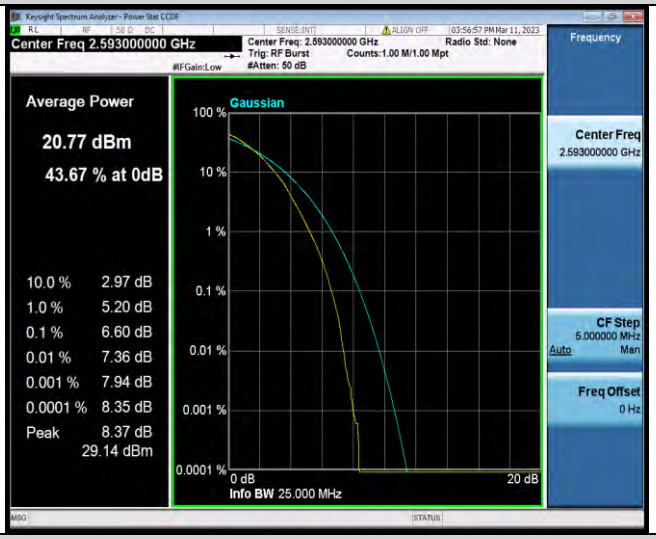
Band41-20MHz-64QAM-39750-100RB#0



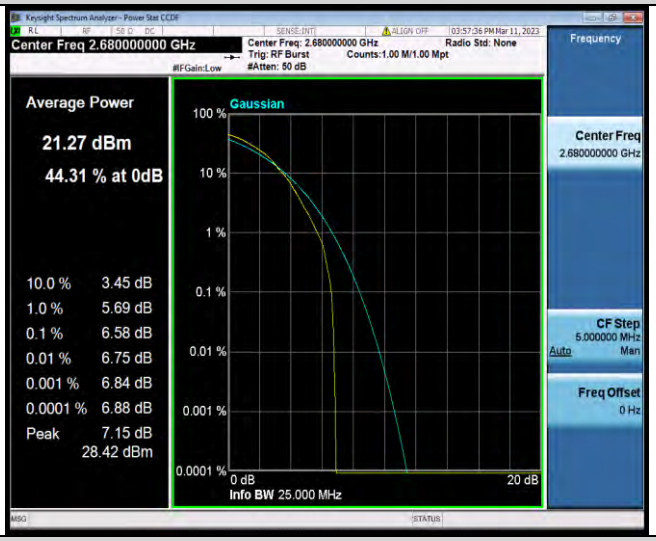
Band41-20MHz-64QAM-40620-1RB#0



Band41-20MHz-64QAM-40620-100RB#0



Band41-20MHz-64QAM-41490-1RB#0



Band41-20MHz-64QAM-41490-100RB#0