

LTE B71 10M QPSK						
Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dBi)	ERP (dBm)	ERP (mW)	Lmit (W)
133172	668	22.75	-1.5	19.1	81.28	3
133297	680.5	22.76	-1.5	19.11	81.47	3
133422	693	22.78	-1.5	19.13	81.85	3

LTE B71 10M 16QAM						
Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dBi)	ERP (dBm)	ERP (mW)	Lmit (W)
133172	668	21.83	-1.5	18.18	65.77	3
133297	680.5	21.91	-1.5	18.26	66.99	3
133422	693	21.92	-1.5	18.27	67.14	3

LTE B71 10M 64QAM						
Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dBi)	ERP (dBm)	ERP (mW)	Lmit (W)
133172	668	20.85	-1.5	17.2	52.48	3
133297	680.5	20.79	-1.5	17.14	51.76	3
133422	693	20.78	-1.5	17.13	51.64	3

LTE B71 10M 256QAM						
Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dBi)	ERP (dBm)	ERP (mW)	Lmit (W)
133172	668	17.76	-1.5	14.11	25.76	3
133297	680.5	17.69	-1.5	14.04	25.35	3
133422	693	17.68	-1.5	14.03	25.29	3

LTE B71 15M QPSK						
Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dBi)	ERP (dBm)	ERP (mW)	Lmit (W)
133197	670.5	22.75	-1.5	19.1	81.28	3
133297	680.5	22.72	-1.5	19.07	80.72	3
133397	690.5	22.8	-1.5	19.15	82.22	3

LTE B71 15M 16QAM						
Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dBi)	ERP (dBm)	ERP (mW)	Lmit (W)
133197	670.5	21.83	-1.5	18.18	65.77	3
133297	680.5	21.88	-1.5	18.23	66.53	3
133397	690.5	21.94	-1.5	18.29	67.45	3

LTE B71 15M 64QAM						
Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dBi)	ERP (dBm)	ERP (mW)	Lmit (W)
133197	670.5	20.87	-1.5	17.22	52.72	3
133297	680.5	20.86	-1.5	17.21	52.6	3
133397	690.5	20.76	-1.5	17.11	51.4	3

LTE B71 15M 256QAM						
Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dBi)	ERP (dBm)	ERP (mW)	Lmit (W)
133197	670.5	17.75	-1.5	14.1	25.7	3
133297	680.5	17.7	-1.5	14.05	25.41	3
133397	690.5	17.69	-1.5	14.04	25.35	3

LTE B71 20M QPSK						
Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dBi)	ERP (dBm)	ERP (mW)	Lmit (W)
133222	673	22.78	-1.5	19.13	81.85	3
133322	683	22.81	-1.5	19.16	82.41	3
133372	688	22.91	-1.5	19.26	84.33	3

LTE B71 20M 16QAM						
Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dBi)	ERP (dBm)	ERP (mW)	Lmit (W)
133222	673	21.88	-1.5	18.23	66.53	3
133322	683	21.99	-1.5	18.34	68.23	3
133372	688	21.95	-1.5	18.3	67.61	3

LTE B71 20M 64QAM						
Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dBi)	ERP (dBm)	ERP (mW)	Lmit (W)
133222	673	20.96	-1.5	17.31	53.83	3
133322	683	20.88	-1.5	17.23	52.84	3
133372	688	20.89	-1.5	17.24	52.97	3

LTE B71 20M 256QAM						
Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dBi)	ERP (dBm)	ERP (mW)	Lmit (W)
133222	673	17.79	-1.5	14.14	25.94	3
133322	683	17.78	-1.5	14.13	25.88	3
133372	688	17.77	-1.5	14.12	25.82	3

3.2 FREQUENCY STABILITY MEASUREMENT

3.2.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT

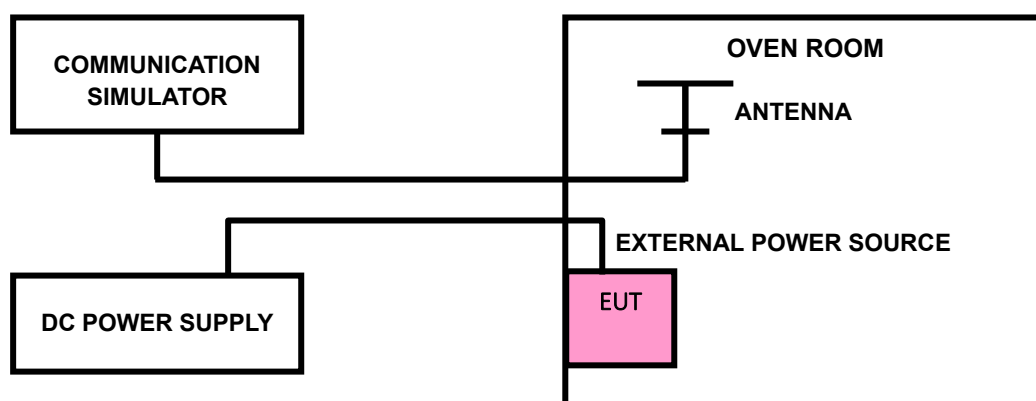
The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.

3.2.2 TEST PROCEDURE

- 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.
- 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.
- The temperature range step is 10 degrees in this test items. All temperature levels shall be hold the $\pm 0.5^{\circ}\text{C}$ 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





Test Report No.: W7L-P24050018RF06

3.2.4 TEST RESULTS

Please Refer to Appendix H.

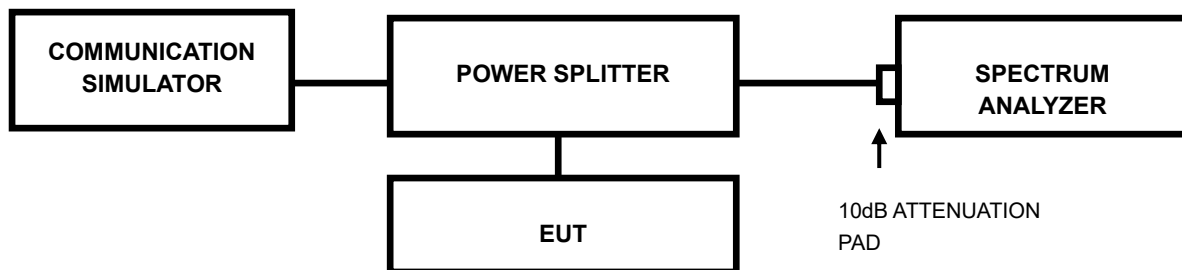
Note: VL = Low voltage(3.6V); VN/NV = Normal voltage(3.7V); VH = High voltage(4.2V);
NT = Normal temperature (25°C)

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

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



Test Report No.: W7L-P24050018RF06

3.3.4 TEST RESULTS

Please Refer to Appendix H.

3.4 BAND EDGE MEASUREMENT

3.4.1 LIMITS OF BAND EDGE MEASUREMENT

According to FCC 27.53(c) specified that For operations in the 746-758 MHz band and 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. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed. In addition, the power of any unwanted emission in an 6.25kHz bandwidth for all frequencies between 763-775 MHz and 793-806 MHz shall be attenuated below the transmitter power, P(dBW), by at least $65 + 10 \log 10p(P)$, dB, for mobile and portable equipment.

According to FCC 27.53(g) specified that 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. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

According to FCC 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.

According to FCC 27.53(a)(4) specified that For mobile and portable stations operating in the 2305-2315 MHz and 2350-2360 MHz bands:

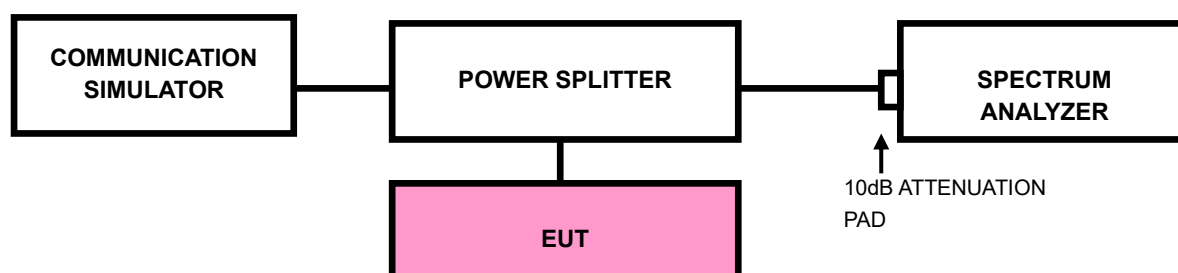
- (i) By a factor of not less than: $43 + 10 \log (P)$ dB on all frequencies between 2305 and 2320 MHz and on all frequencies between 2345 and 2360 MHz that are outside the licensed band(s) of operation, not less than $55 + 10 \log (P)$ dB on all frequencies between 2320 and 2324 MHz and on all frequencies between

2341 and 2345 MHz, not less than $61 + 10 \log (P)$ dB on all frequencies between 2324 and 2328 MHz and on all frequencies between 2337 and 2341 MHz, and not less than $67 + 10 \log (P)$ dB on all frequencies between 2328 and 2337 MHz;

(ii) By a factor of not less than $43 + 10 \log (P)$ dB on all frequencies between 2300 and 2305 MHz, $55 + 10 \log (P)$ dB on all frequencies between 2296 and 2300 MHz, $61 + 10 \log (P)$ dB on all frequencies between 2292 and 2296 MHz, $67 + 10 \log (P)$ dB on all frequencies between 2288 and 2292 MHz, and $70 + 10 \log (P)$ dB below 2288 MHz;

(iii) By a factor of not less than $43 + 10 \log (P)$ dB on all frequencies between 2360 and 2365 MHz, and not less than $70 + 10 \log (P)$ dB above 2365 MHz.

3.4.2 TEST SETUP



3.4.3 TEST PROCEDURES

- a) All measurements were done at low and high operational frequency range
- b) Connect the transmitter to the spectrum analyzer via coaxial cable while ensuring proper impedance matching.
- c) Tune the analyzer to the nominal center frequency of the emission bandwidth
(EBW)
- d) .Set the resolution bandwidth (RBW) $\geq 1\%$ EBW in the 1MHz band immediately outside and adjacent to the band edge.
- e) Beyond the 1MHz band from the band edge, RBW=1MHz was used.
- f) Set the video bandwidth (VBW) to $\geq 3 \times$ RBW.
- g) Select the average power (RMS) display detector.
- h) Set the number of measurement points to ≥ 1001 .
- i) Use auto-coupled sweep time.
- j) Perform the measurement over an interval of time when the transmission is continuous and at its maximum power level.
- k) The RF fundamental frequency should be excluded against the limit line in the operating frequency band and use RBW is 10KHz or 100KHz.
- l) Record the max trace plot into the test report.



Test Report No.: W7L-P24050018RF06

3.4.4 TEST RESULTS

Please Refer to Appendix H.

3.5 CONDUCTED SPURIOUS EMISSIONS

3.5.1 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 .

For: LTE Band7

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

For: LTE Band30

The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least $70 + 10 \log_{10}(P)$ dB. The limit of emission is equal to -40dBm .

47 CFR 27.53(c)(2)

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;

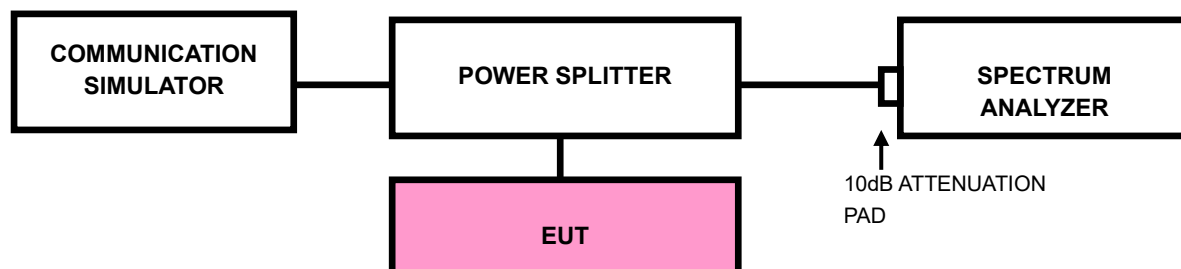
47 CFR 27.53(f)

For operations in the 746–758 MHz, 775–788 MHz, and 805–806 MHz bands, emissions in the band 1559–1610 MHz shall be limited to -70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth. For the purpose of equipment authorization, a transmitter shall be tested with an antenna that is representative of the type that will be used with the equipment in normal operation.

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 H.

3.6 RADIATED EMISSION MEASUREMENT

3.6.1 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 .

For: LTE Band7

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

For: LTE Band30

The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least $70 + 10 \log_{10}(P)$ dB. The limit of emission is equal to -40dBm .

47 CFR 27.53(c)(2)

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;

47 CFR 27.53(f)

For operations in the 746–758 MHz, 775–788 MHz, and 805–806 MHz bands, emissions in the band 1559–1610 MHz shall be limited to -70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth. For the purpose of equipment authorization, a transmitter shall be tested with an antenna that is representative of the type that will be used with the equipment in normal operation..

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



Test Report No.: W7L-P24050018RF06

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,
$$\text{E.R.P power} = \text{E.I.R.P power} - 2.15\text{dBi}.$$

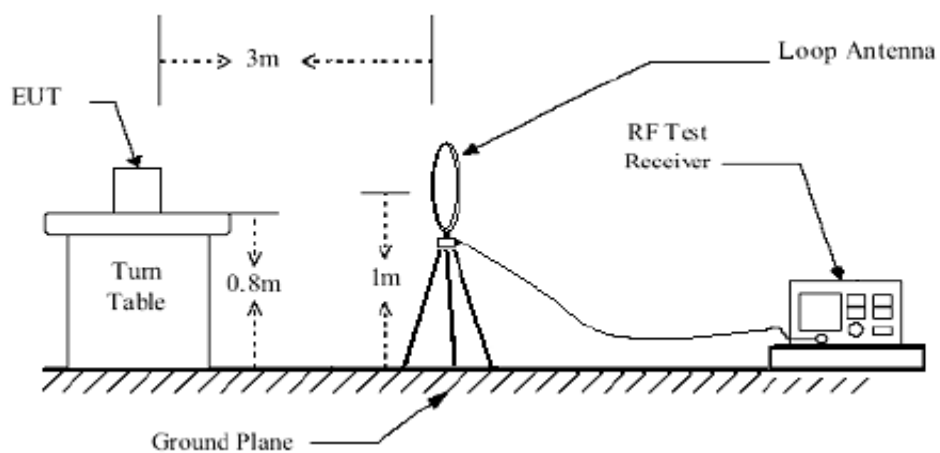
NOTE: The resolution bandwidth of spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz.

3.6.3 DEVIATION FROM TEST STANDARD

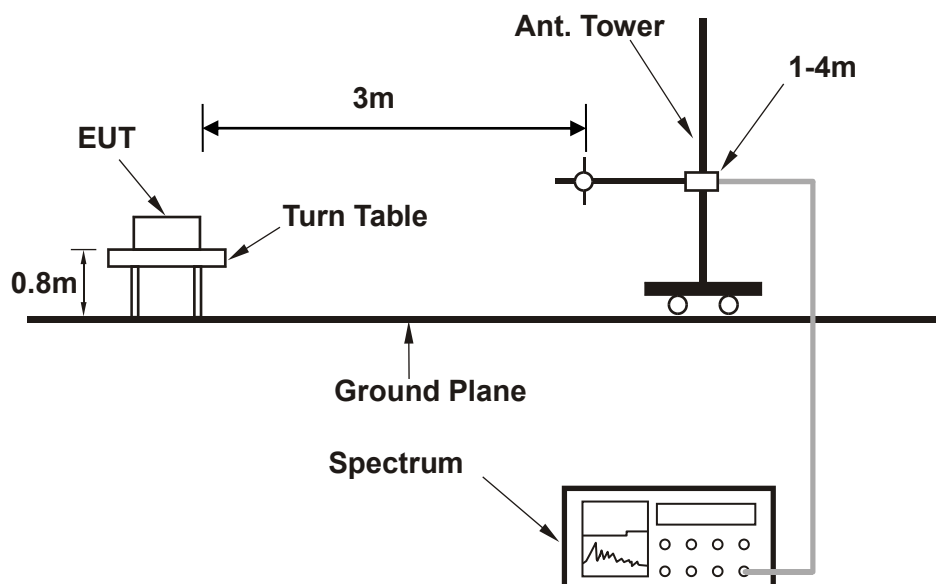
No deviation

3.6.4 TEST SETUP

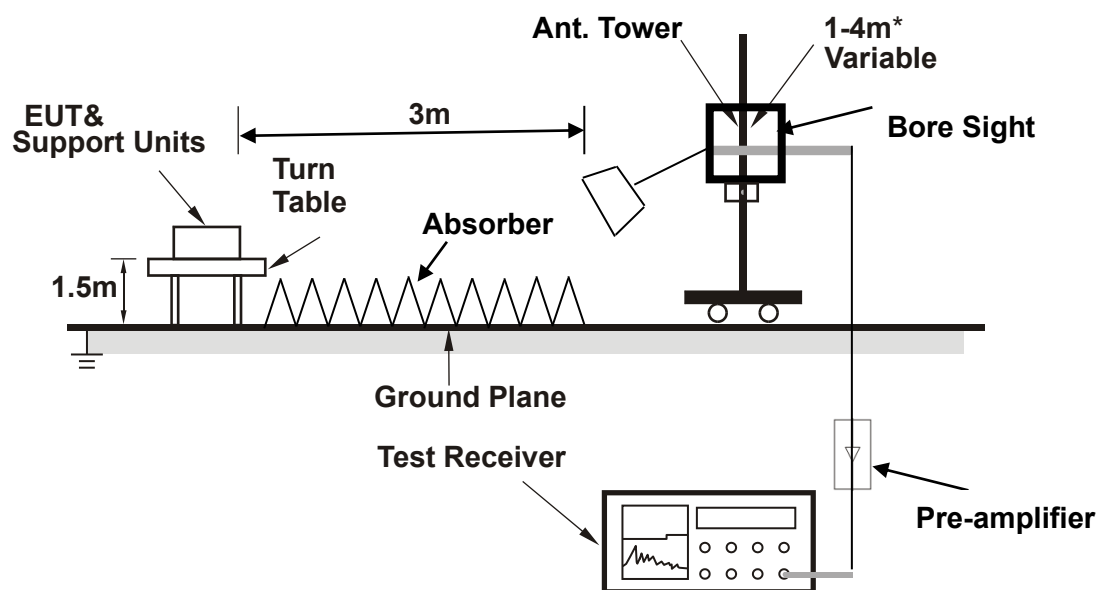
< Frequency Range below 30MHz >



< 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

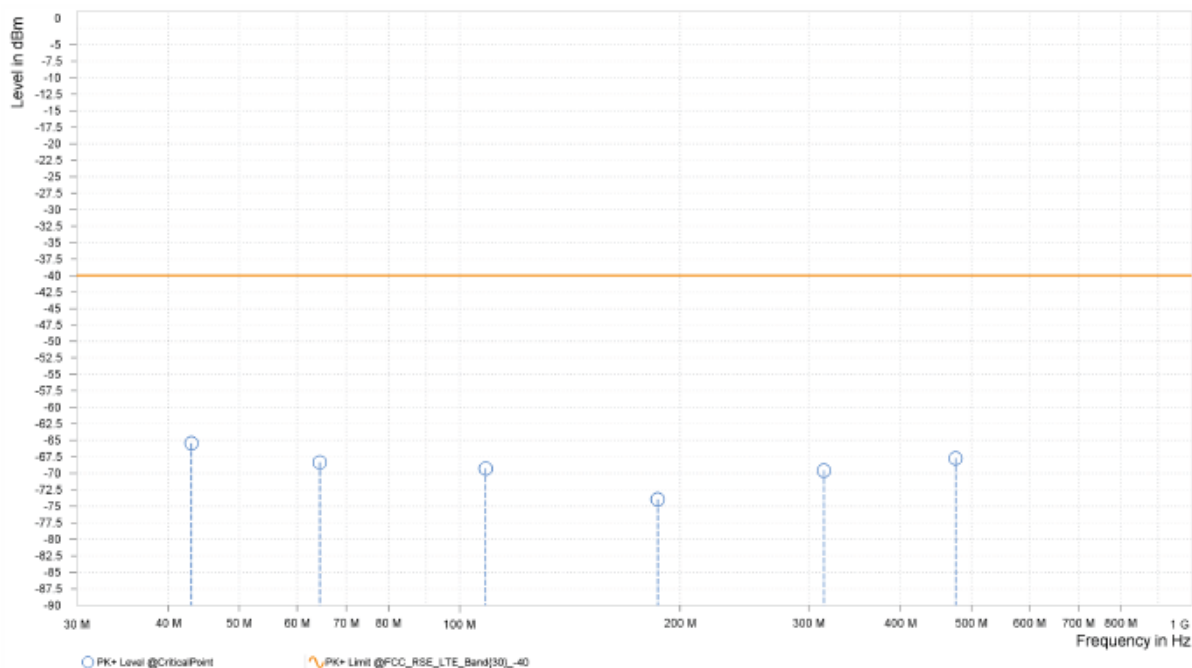
30 MHz – 1GHz data:

LTE Band 30

CHANNEL BANDWIDTH: 10MHz / QPSK

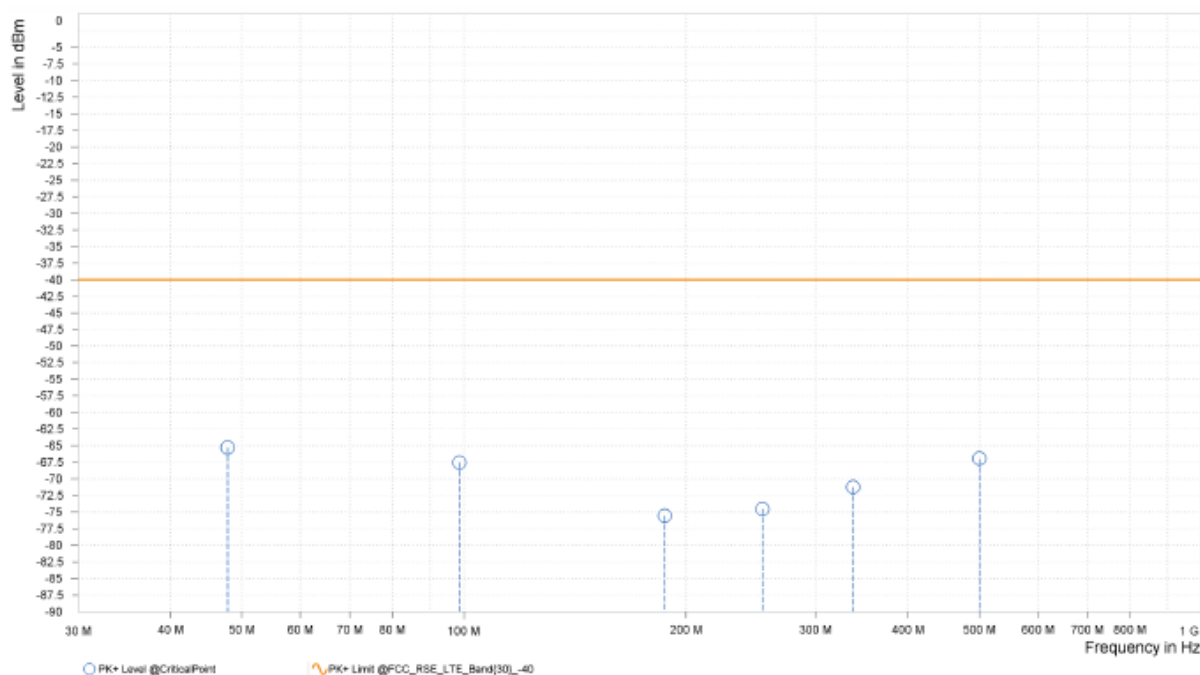
MODE	TX channel 27710	FREQUENCY RANGE	Below 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	43.000	-65.41	-40.00	25.41	3.20	H	132.2	1.00
1	64.450	-68.32	-40.00	28.32	1.63	H	231.5	1.00
1	108.600	-69.29	-40.00	29.29	-0.90	H	126.2	2.00
1	186.450	-73.94	-40.00	33.94	-1.46	H	126.2	2.00
1	314.500	-69.59	-40.00	29.59	5.70	H	126.2	2.00
2	475.896	-67.73	-40.00	27.73	6.27	H	2.2	2.00



MODE	TX channel 27710	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	47.800	-65.29	-40.00	25.29	4.54	V	133.3	1.00
1	98.600	-67.52	-40.00	27.52	5.05	V	24.7	2.00
1	187.150	-75.57	-40.00	35.57	-0.34	V	5	1.00
1	254.150	-74.54	-40.00	34.54	2.96	V	255.3	1.00
1	337.250	-71.25	-40.00	31.25	5.58	V	226.7	2.00
2	500.096	-66.95	-40.00	26.95	6.75	V	76.1	2.00





**BUREAU
VERITAS**

Test Report No.: W7L-P24050018RF06

ABOVE 1GHz

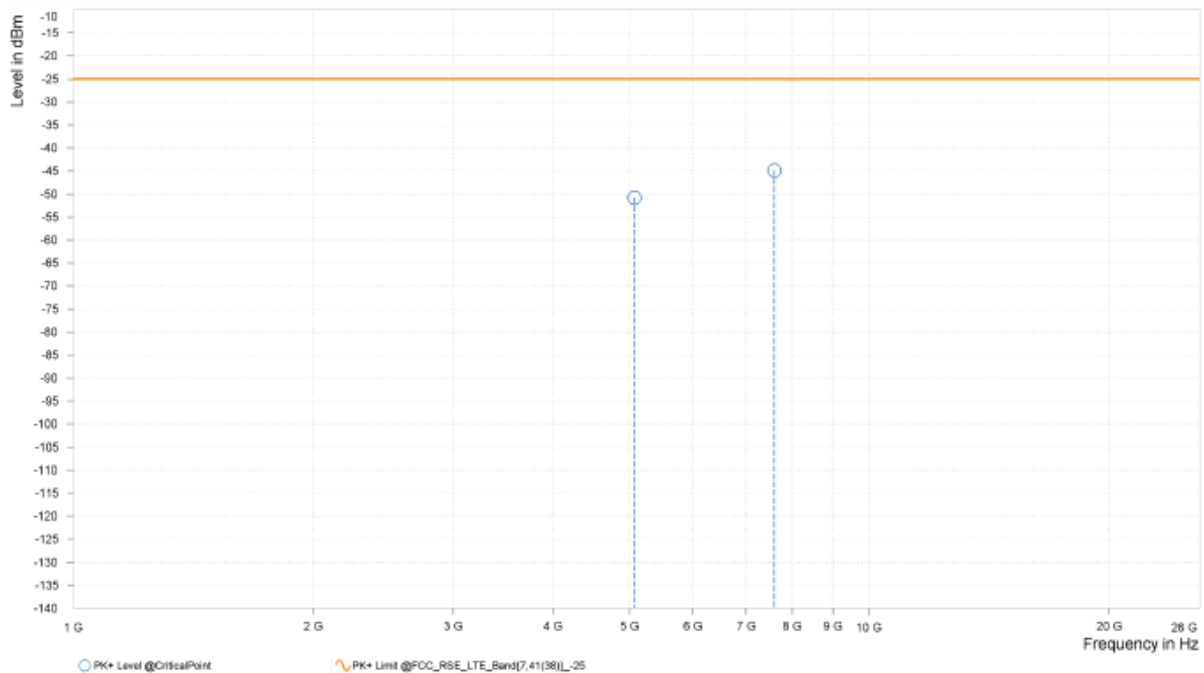
Note: For higher frequency, the emission is too low to be detected.

LTE Band 7

CHANNEL BANDWIDTH: 5MHz / QPSK

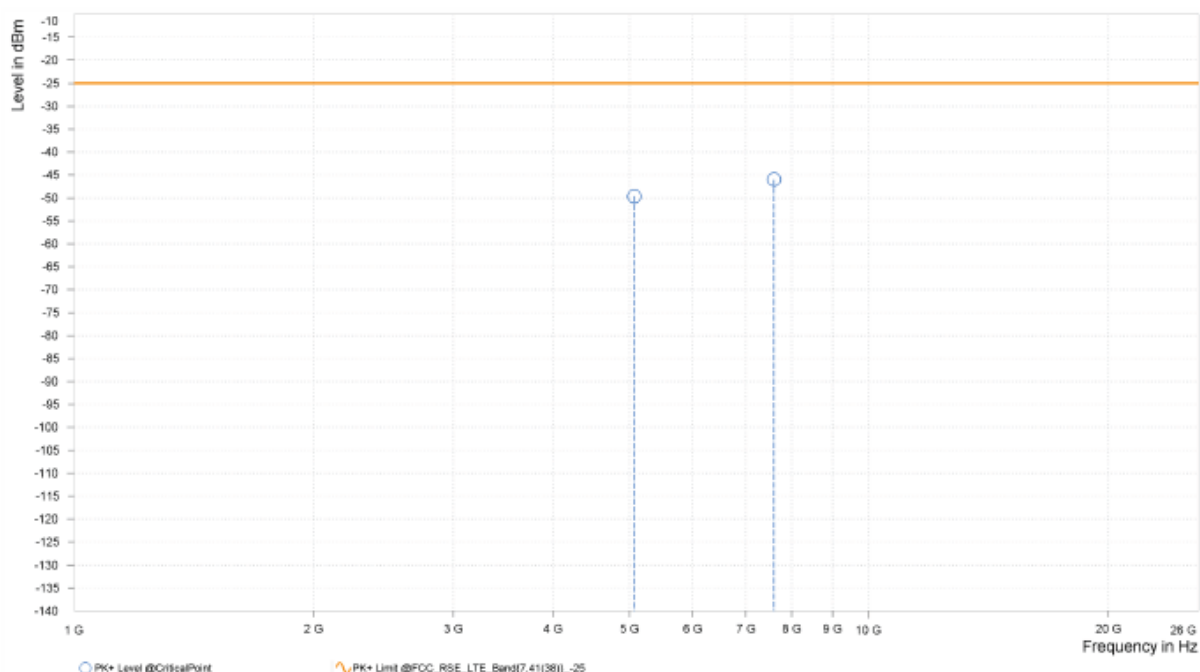
MODE	TX channel 21100	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	5,065.500	-50.81	-25.00	25.81	23.37	H	324	1.00
5	7,598.250	-44.90	-25.00	19.90	26.93	H	237.6	2.00



MODE	TX channel 21100	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			

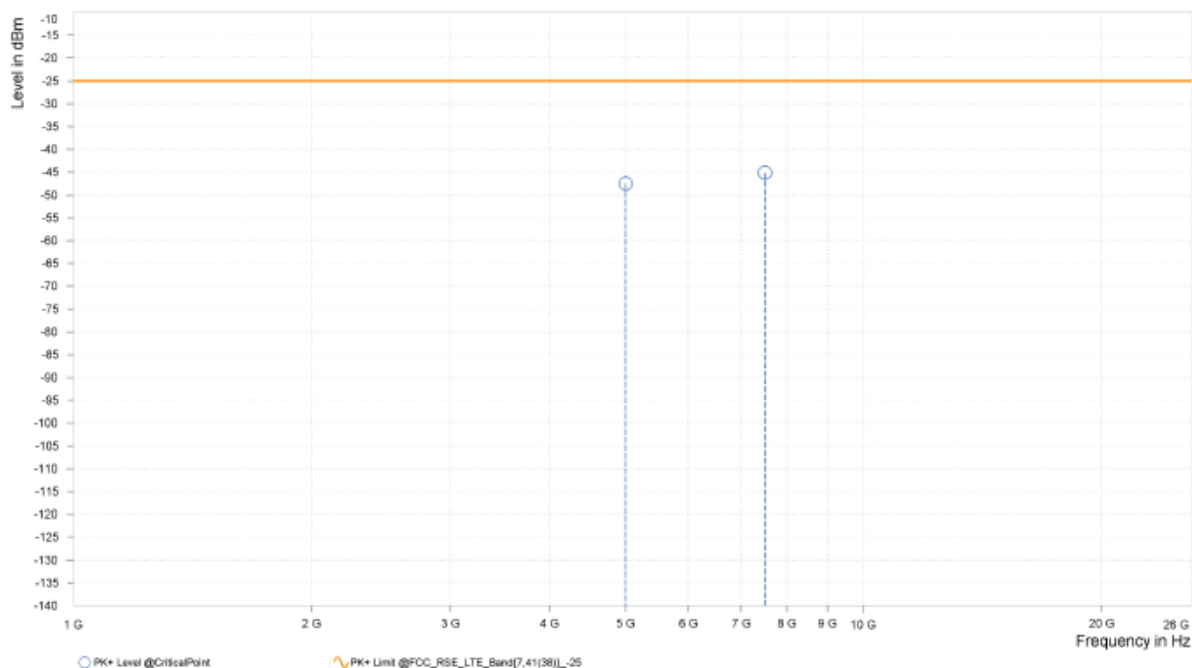
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	5,065.500	-49.64	-25.00	24.64	23.82	V	227.8	1.00
5	7,598.250	-46.02	-25.00	21.02	26.72	V	330.3	1.00



CHANNEL BANDWIDTH: 10MHz / QPSK
CH 20800

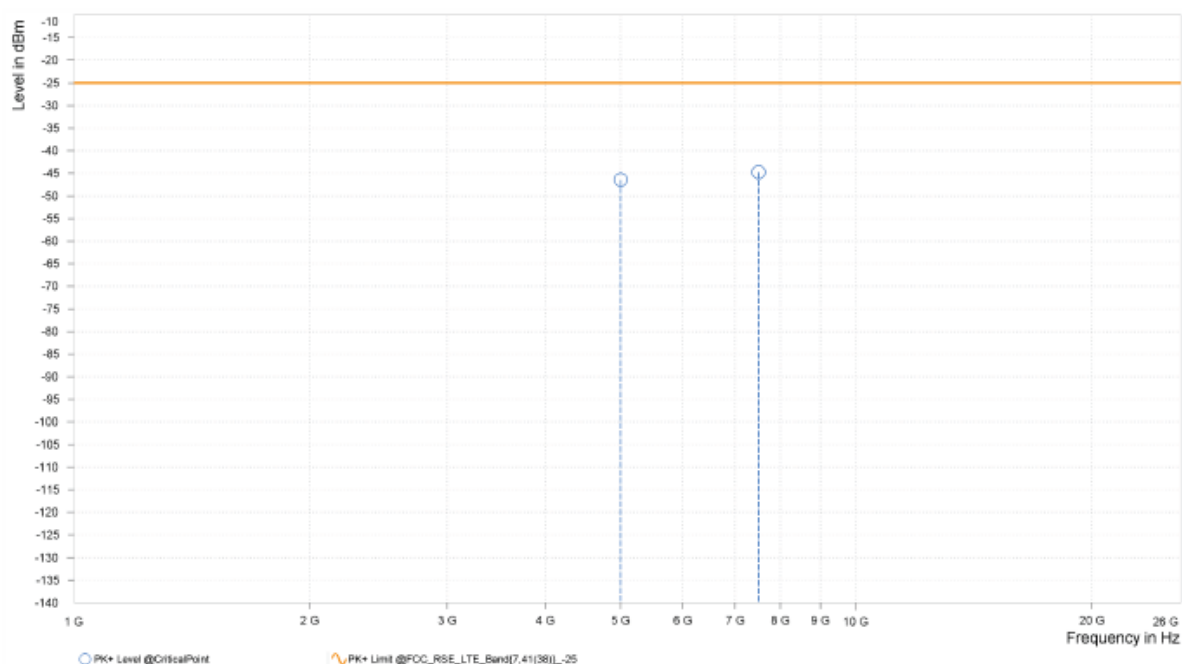
MODE	TX channel 20800	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	5,001.000	-47.53	-25.00	22.53	23.40	H	359	1.00
5	7,501.500	-45.13	-25.00	20.13	27.03	H	21	2.00



MODE	TX channel 20800	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			

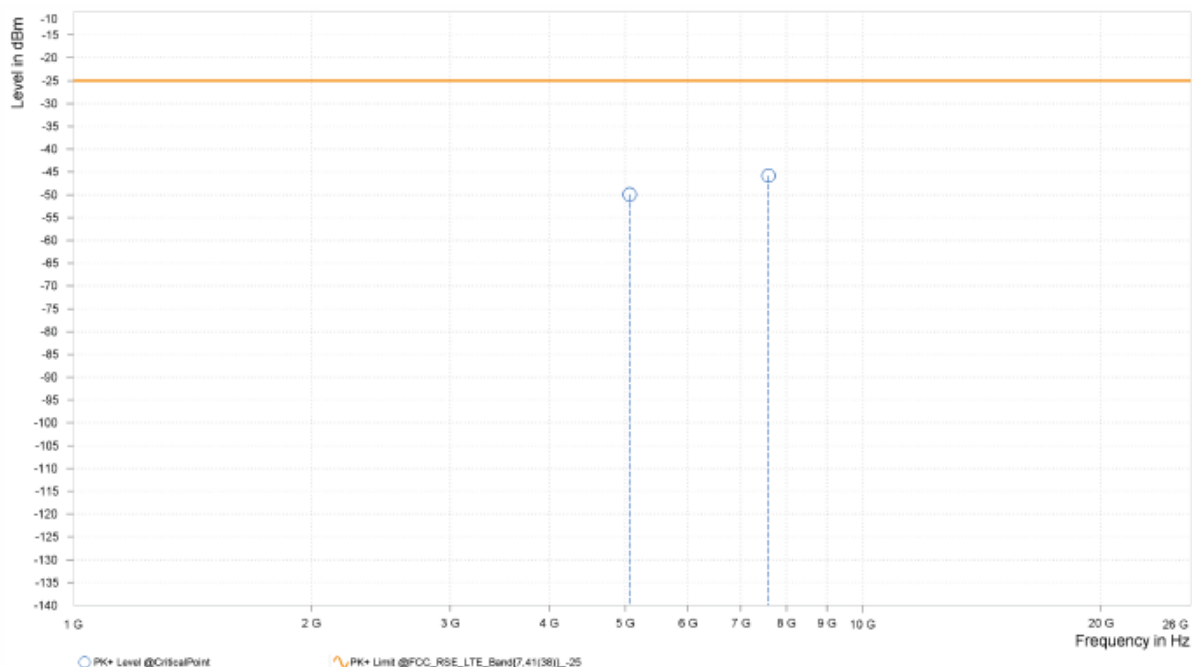
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	5,001.000	-46.44	-25.00	21.44	23.61	V	11.1	2.00
5	7,501.500	-44.77	-25.00	19.77	27.00	V	359	2.00



CH 21100

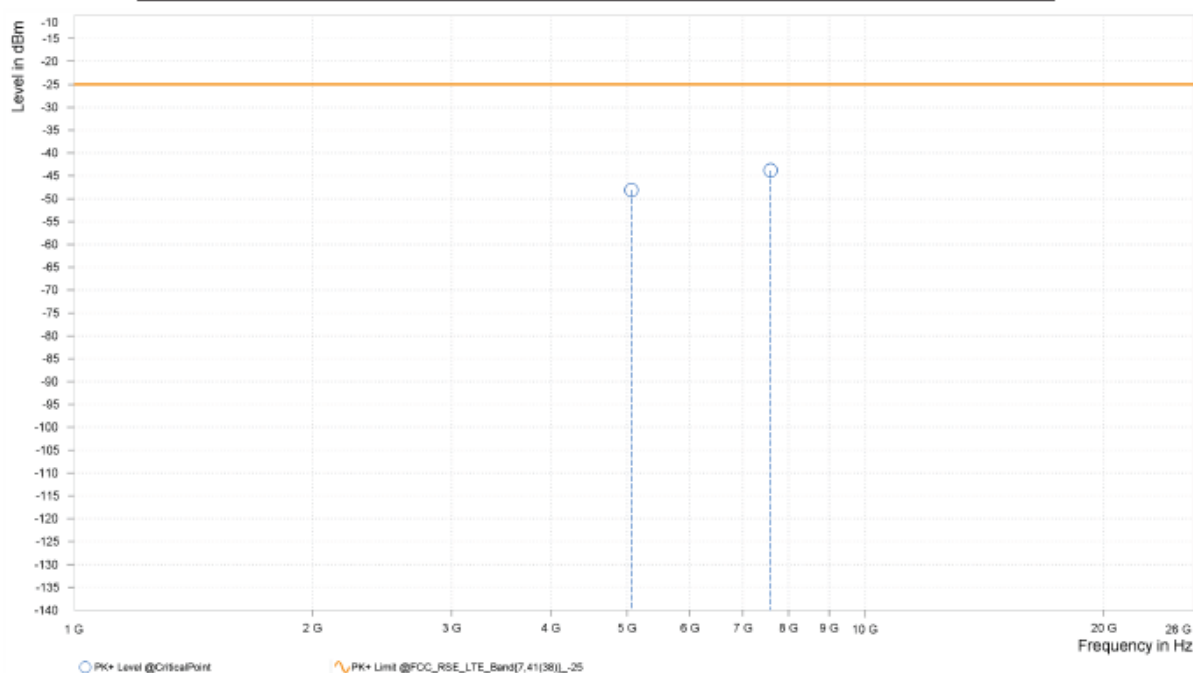
MODE	TX channel 21100	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	5,061.000	-49.93	-25.00	24.93	23.43	H	38.8	2.00
5	7,591.500	-45.84	-25.00	20.84	26.92	H	78.5	2.00



MODE	TX channel 21100	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	5,061.000	-48.15	-25.00	23.15	23.87	V	92.6	1.00
5	7,591.500	-43.82	-25.00	18.82	26.70	V	75.6	2.00





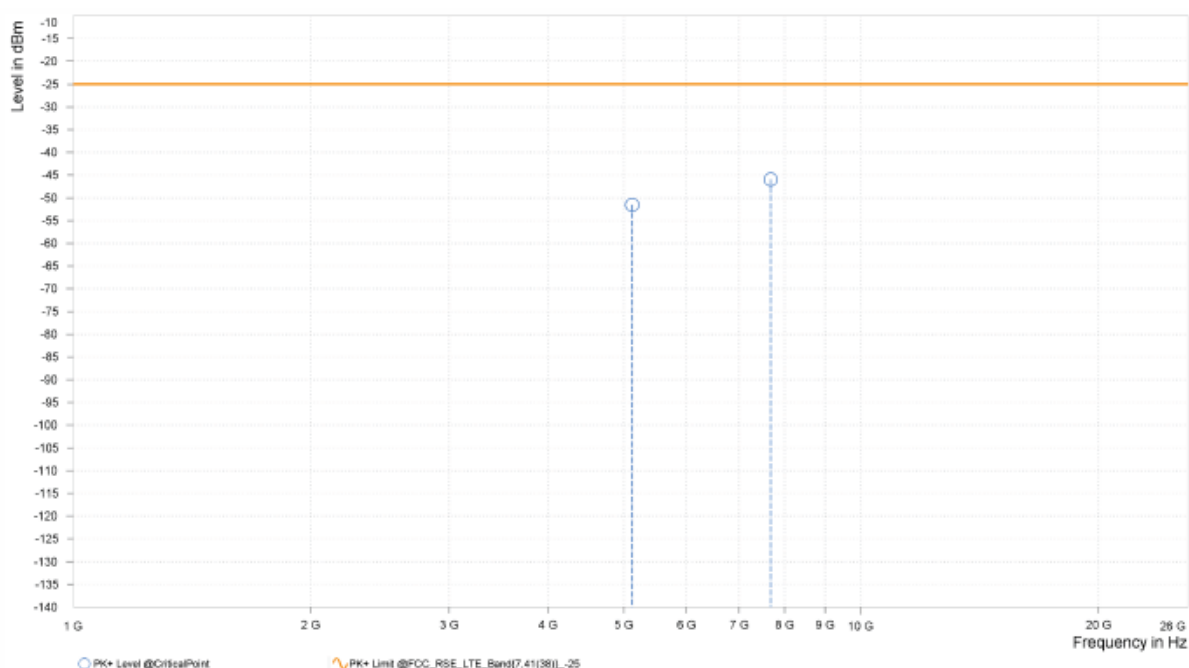
**BUREAU
VERITAS**

Test Report No.: W7L-P24050018RF06

CH 21400

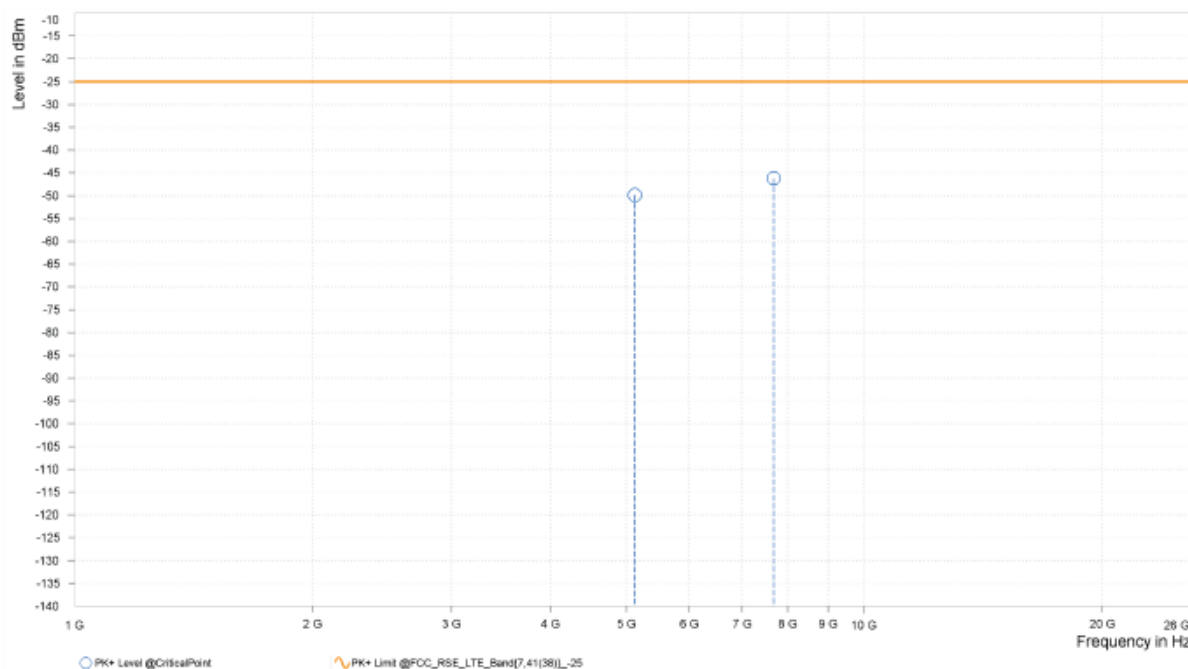
MODE	TX channel 21400	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	5,121.000	-51.52	-25.00	26.52	23.01	H	0.9	2.00
5	7,681.500	-45.97	-25.00	20.97	26.97	H	246.2	1.00



MODE	TX channel 21400	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	5,121.000	-49.86	-25.00	24.86	23.41	V	359	2.00
5	7,681.500	-46.21	-25.00	21.21	26.79	V	0.9	2.00





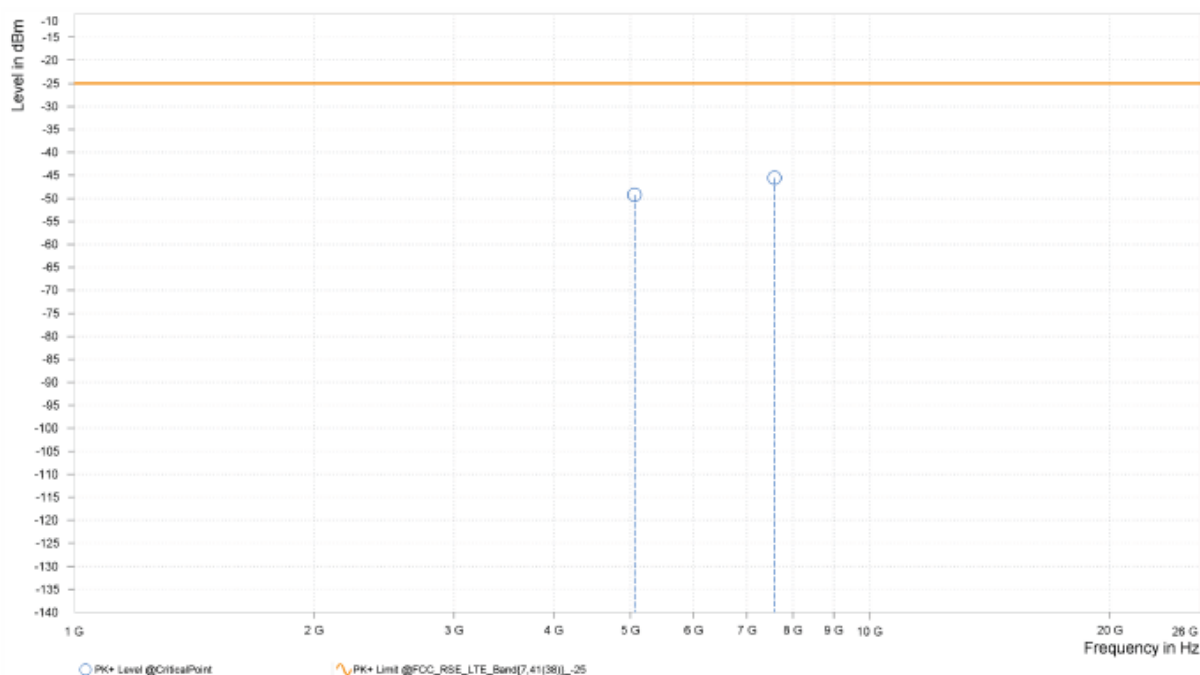
BUREAU
VERITAS

Test Report No.: W7L-P24050018RF06

CHANNEL BANDWIDTH: 15MHz / QPSK

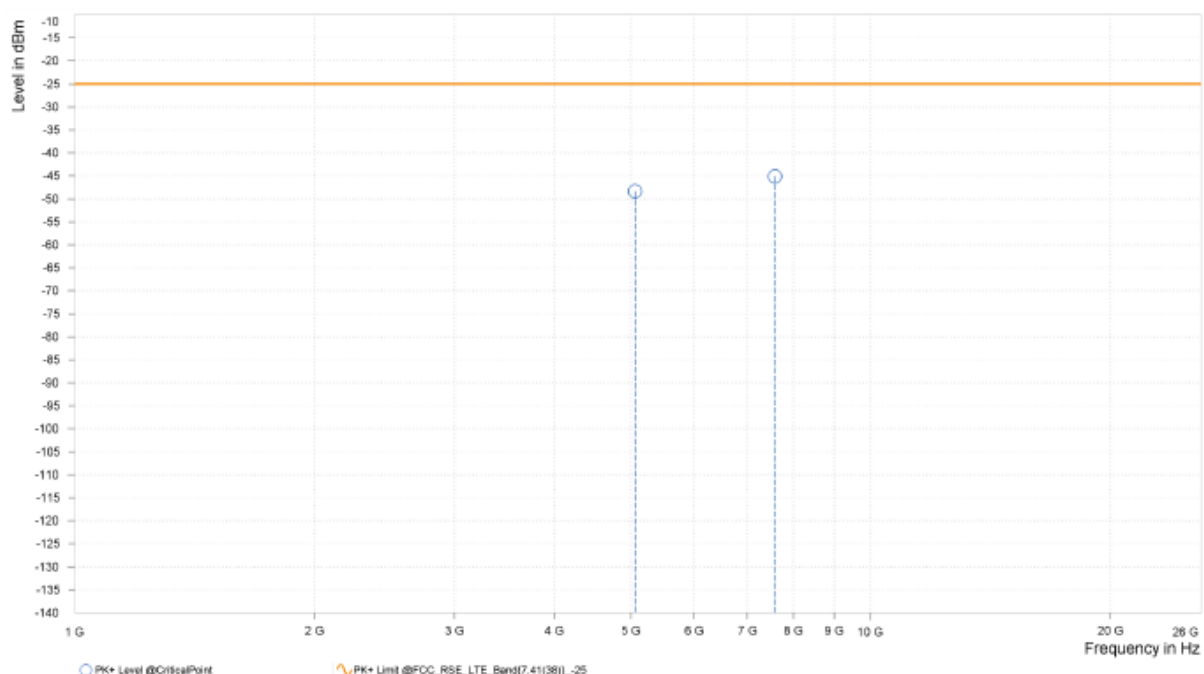
MODE	TX channel 21100	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	5,056.500	-49.24	-25.00	24.24	23.50	H	266	2.00
5	7,584.750	-45.57	-25.00	20.57	26.92	H	71.4	2.00



MODE	TX channel 21100	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			

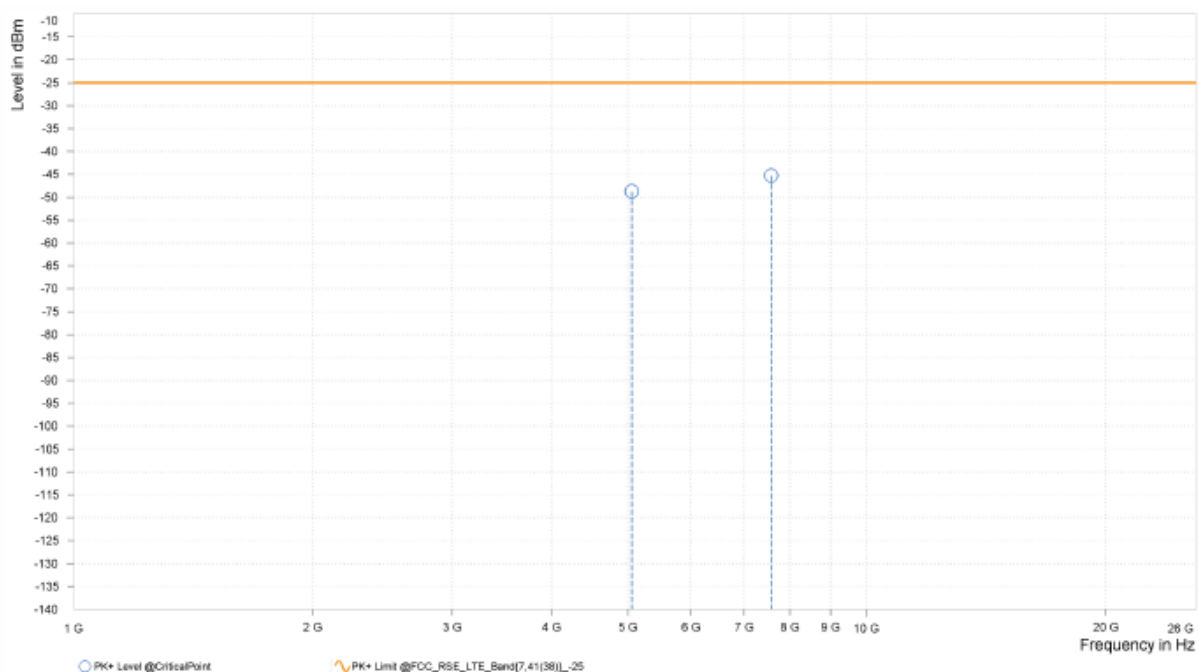
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	5,056.500	-48.40	-25.00	23.40	23.92	V	1	1.00
5	7,584.750	-45.11	-25.00	20.11	26.70	V	188.1	1.00



CHANNEL BANDWIDTH: 20MHz / QPSK

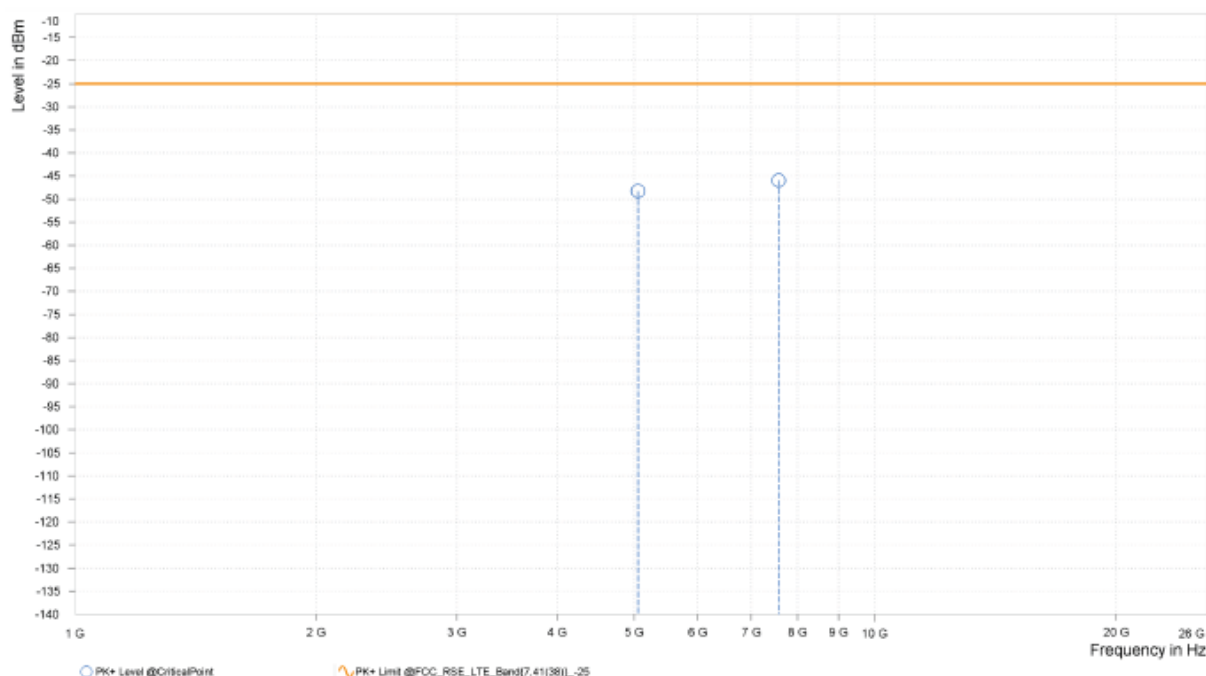
MODE	TX channel 21100	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	5,052.000	-48.76	-25.00	23.76	23.57	H	178.2	2.00
5	7,578.000	-45.27	-25.00	20.27	26.95	H	359.1	1.00



MODE	TX channel 21100	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	5,052.000	-48.33	-25.00	23.33	23.98	V	186	1.00
5	7,578.000	-45.96	-25.00	20.96	26.74	V	356.6	1.00

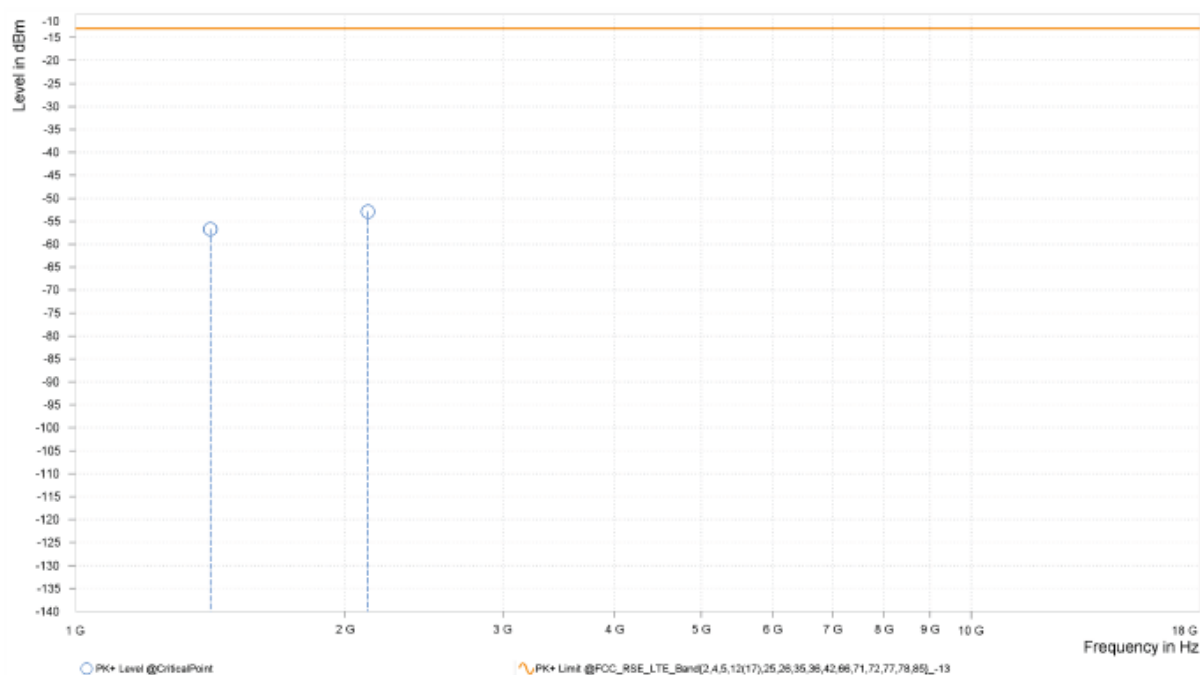


LTE BAND 12

CHANNEL BANDWIDTH: 1.4MHz / QPSK

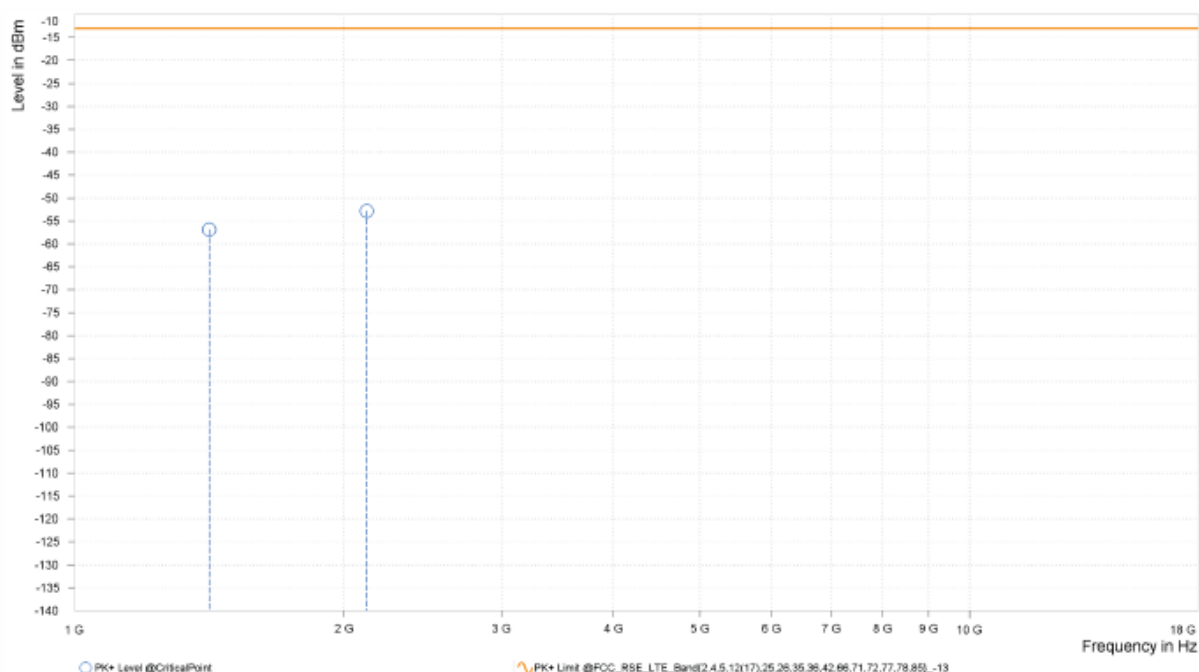
MODE	TX channel 23095	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,413.740	-56.73	-13.00	43.73	13.01	H	326	2.00
2	2,120.610	-52.90	-13.00	39.90	18.12	H	39.4	2.00



MODE	TX channel 23095	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			

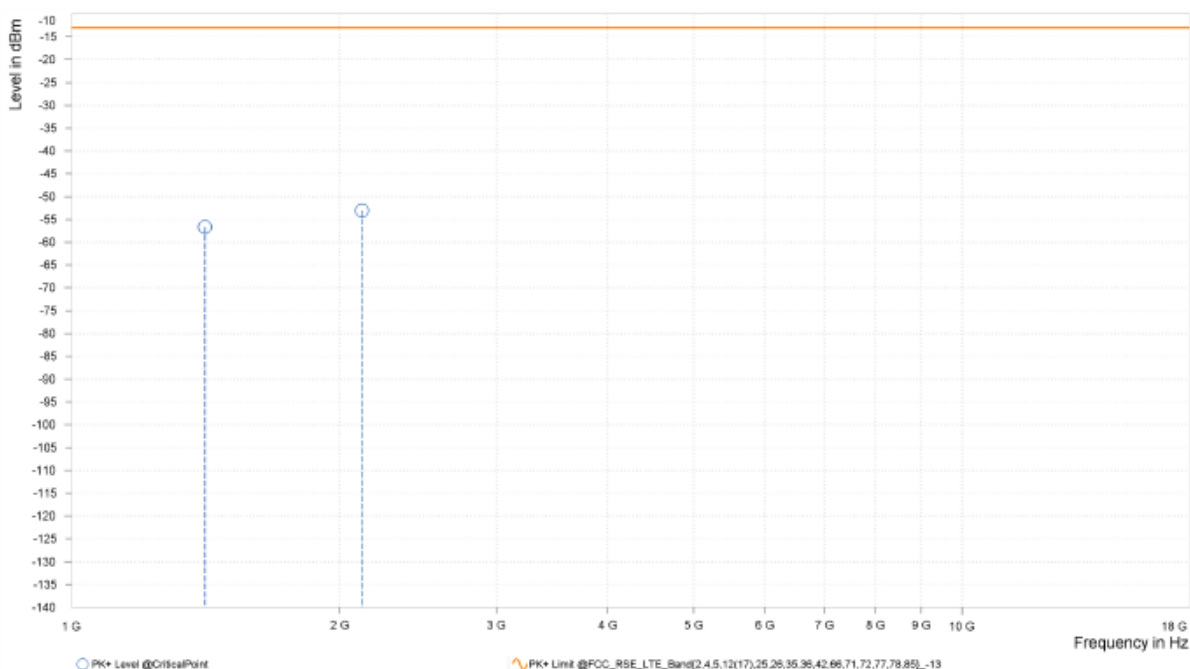
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,413.740	-56.89	-13.00	43.89	12.62	V	267.4	1.00
2	2,120.610	-52.82	-13.00	39.82	18.71	V	359	2.00



CHANNEL BANDWIDTH: 3MHz / QPSK

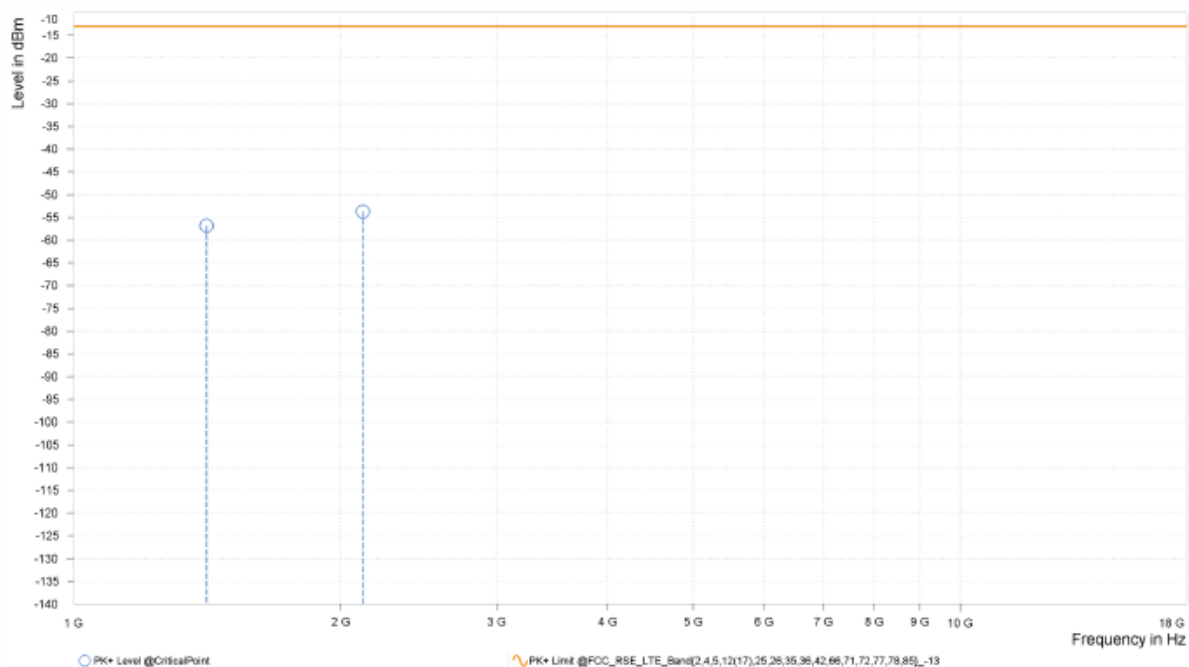
MODE	TX channel 23095	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,412.300	-56.71	-13.00	43.71	12.98	H	224.2	1.00
2	2,118.450	-53.07	-13.00	40.07	18.15	H	169	2.00



MODE	TX channel 23095	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			

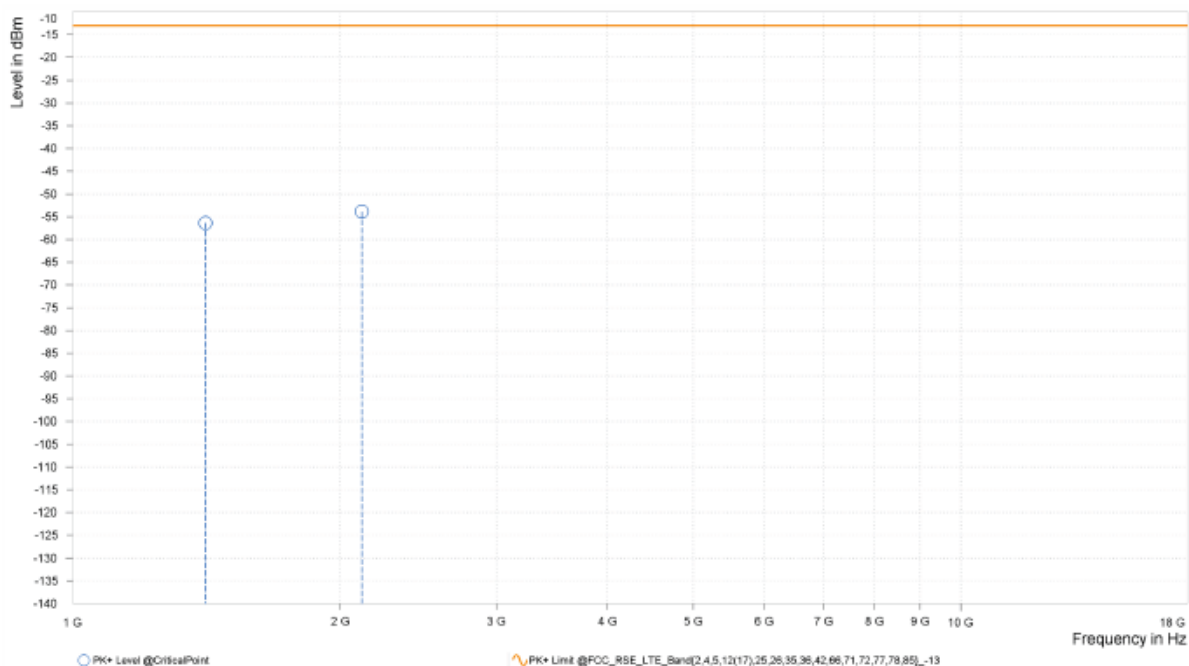
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,412.300	-56.84	-13.00	43.84	12.65	V	229.1	1.00
2	2,118.450	-53.70	-13.00	40.70	18.76	V	359	1.00



CHANNEL BANDWIDTH: 5MHz / QPSK

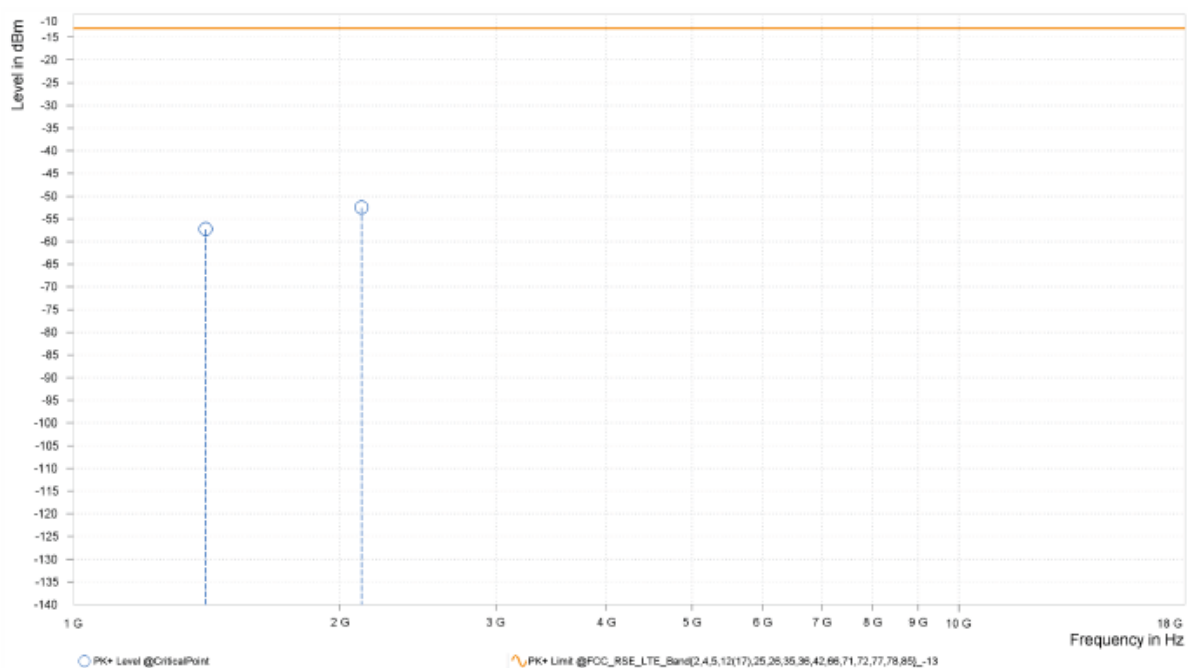
MODE	TX channel 23095	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,410.500	-56.37	-13.00	43.37	12.90	H	219.3	1.00
2	2,115.750	-53.89	-13.00	40.89	18.19	H	45.9	2.00



MODE	TX channel 23095	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]
2	1,410.500	-57.26	-13.00	44.26	12.72	V	33.9	1.00
2	2,115.750	-52.50	-13.00	39.50	18.83	V	90.4	2.00

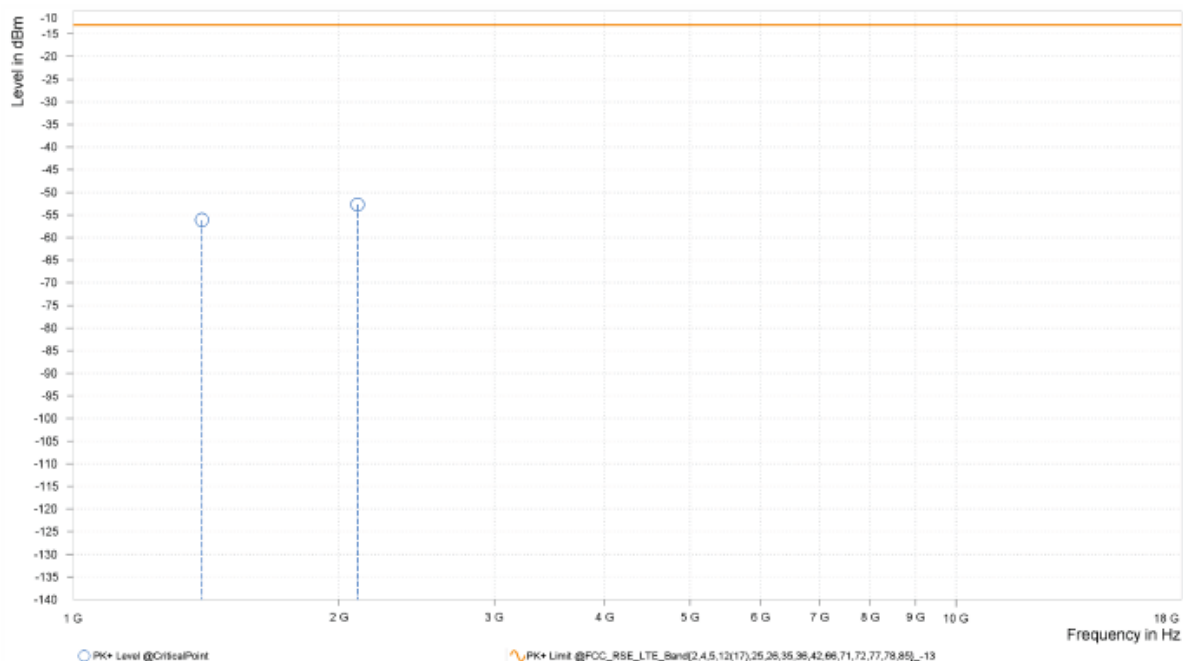


CHANNEL BANDWIDTH: 10MHz / QPSK

CH 23060

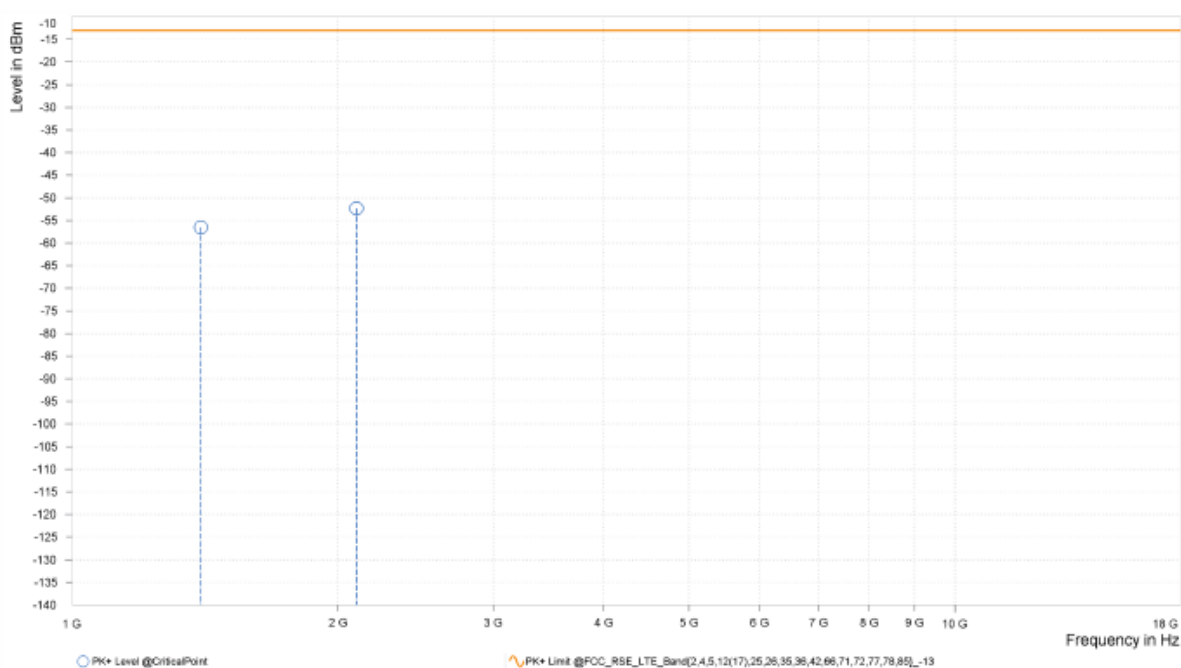
MODE	TX channel 23060	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,399.000	-56.13	-13.00	43.13	12.46	H	37.3	2.00
2	2,098.500	-52.69	-13.00	39.69	17.77	H	37.3	2.00



MODE	TX channel 23060	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			

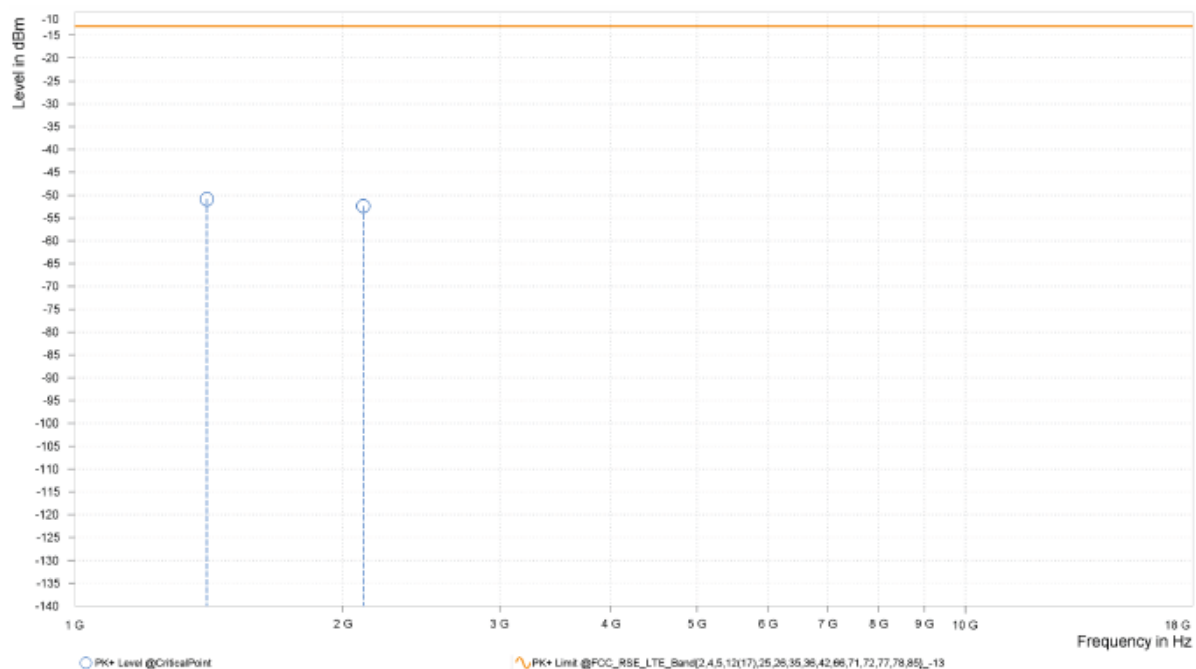
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,399.000	-56.53	-13.00	43.53	12.88	V	359.1	1.00
2	2,098.500	-52.32	-13.00	39.32	18.78	V	178.9	1.00



CH 23095

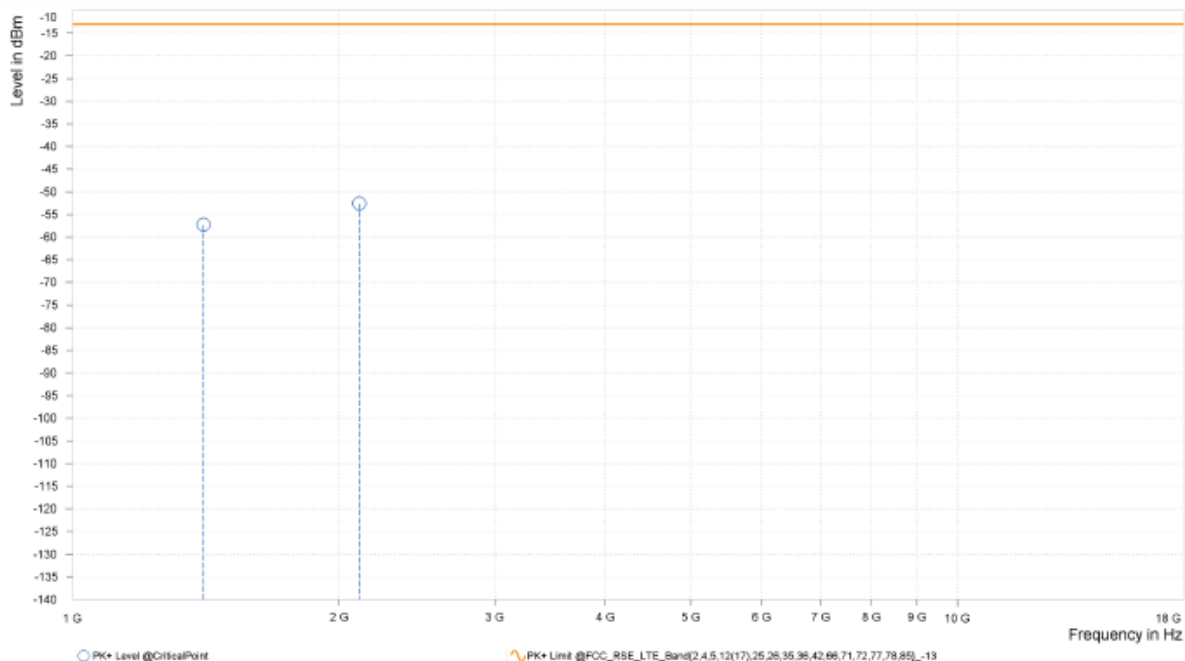
MODE	TX channel 23095	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,406.500	-50.89	-13.00	37.89	12.73	H	266	1.00
2	2,109.000	-52.42	-13.00	39.42	18.25	H	33.9	1.00



MODE	TX channel 23095	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			

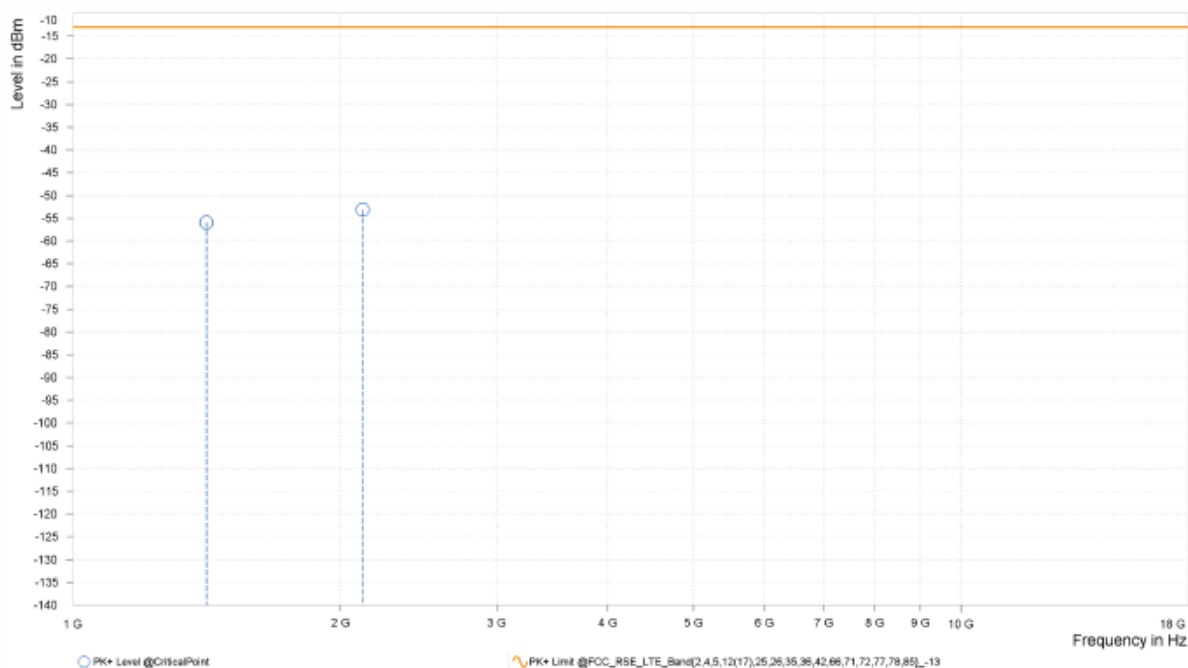
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,406.000	-57.28	-13.00	44.28	12.84	V	359.1	1.00
2	2,109.000	-52.57	-13.00	39.57	18.95	V	265.9	1.00



CH 23130

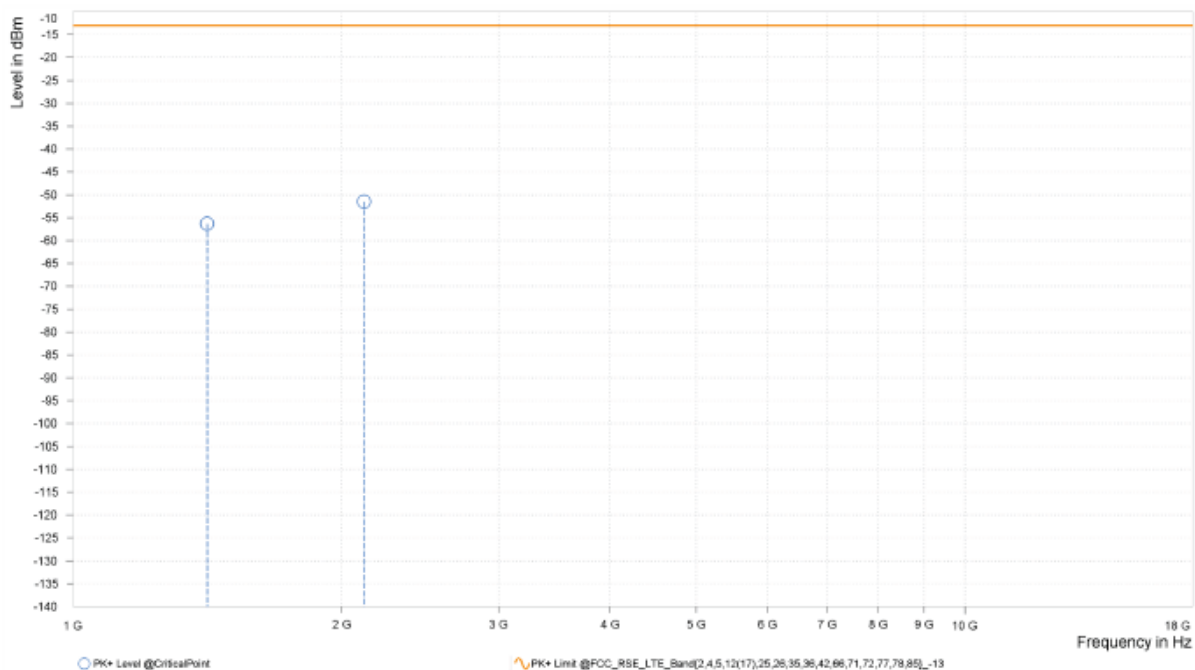
MODE	TX channel 23130	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,413.000	-55.96	-13.00	42.96	12.99	H	170.5	1.00
2	2,119.500	-53.14	-13.00	40.14	18.14	H	1	1.00



MODE	TX channel 23130	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]
2	1,413.000	-56.34	-13.00	43.34	12.64	V	341.7	1.00
2	2,119.500	-51.48	-13.00	38.48	18.74	V	38	2.00



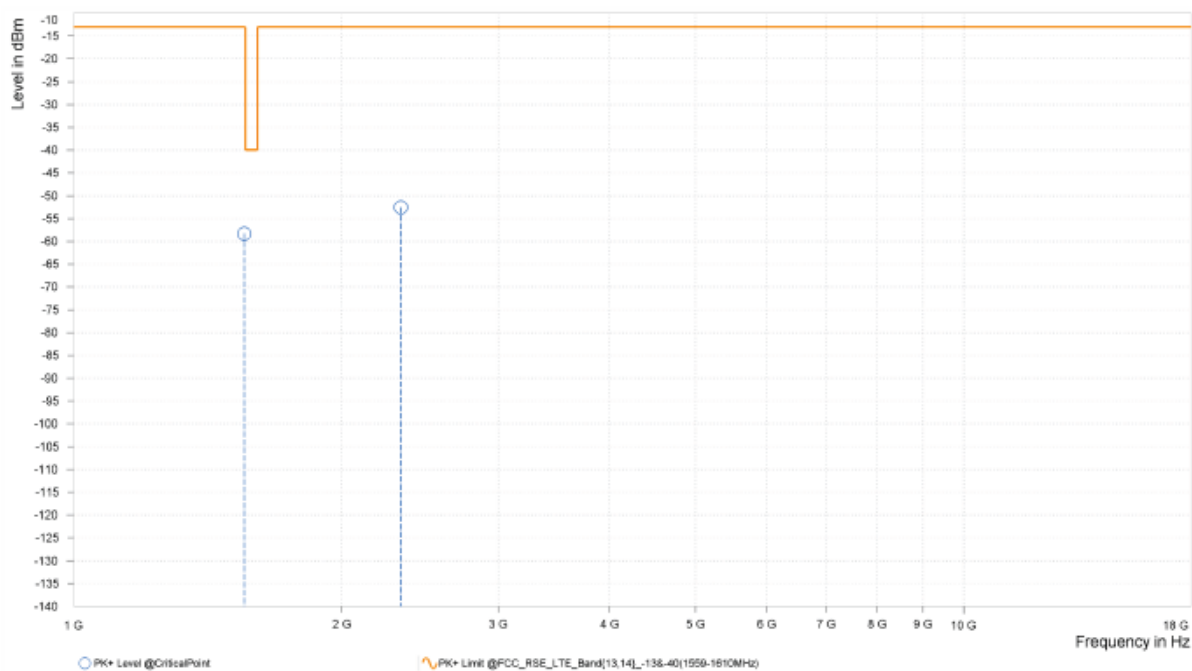
LTE B13

CHANNEL BANDWIDTH: 5MHz / QPSK

CH23205

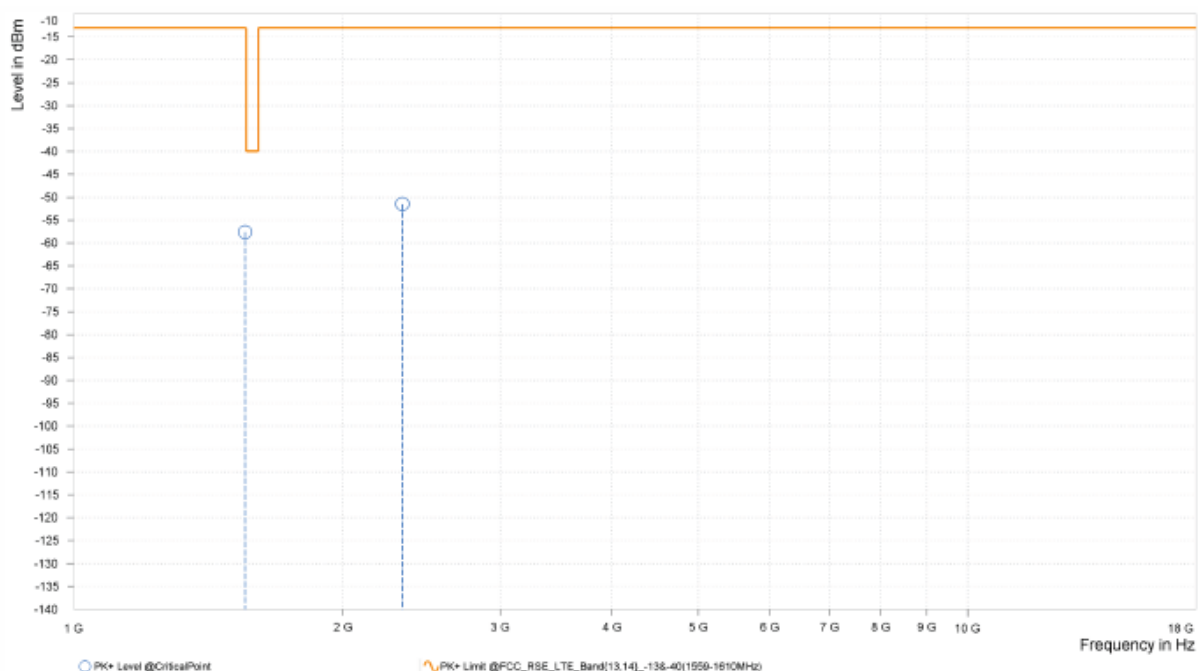
MODE	TX channel 23205	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,554.500	-58.32	-13.00	45.32	12.09	H	275.2	1.00
3	2,331.750	-52.53	-13.00	39.53	18.55	H	229.8	1.00



MODE	TX channel 23205	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]
2	1,554.500	-57.62	-13.00	44.62	13.43	V	326.1	2.00
3	2,331.750	-51.51	-13.00	38.51	19.17	V	1	1.00





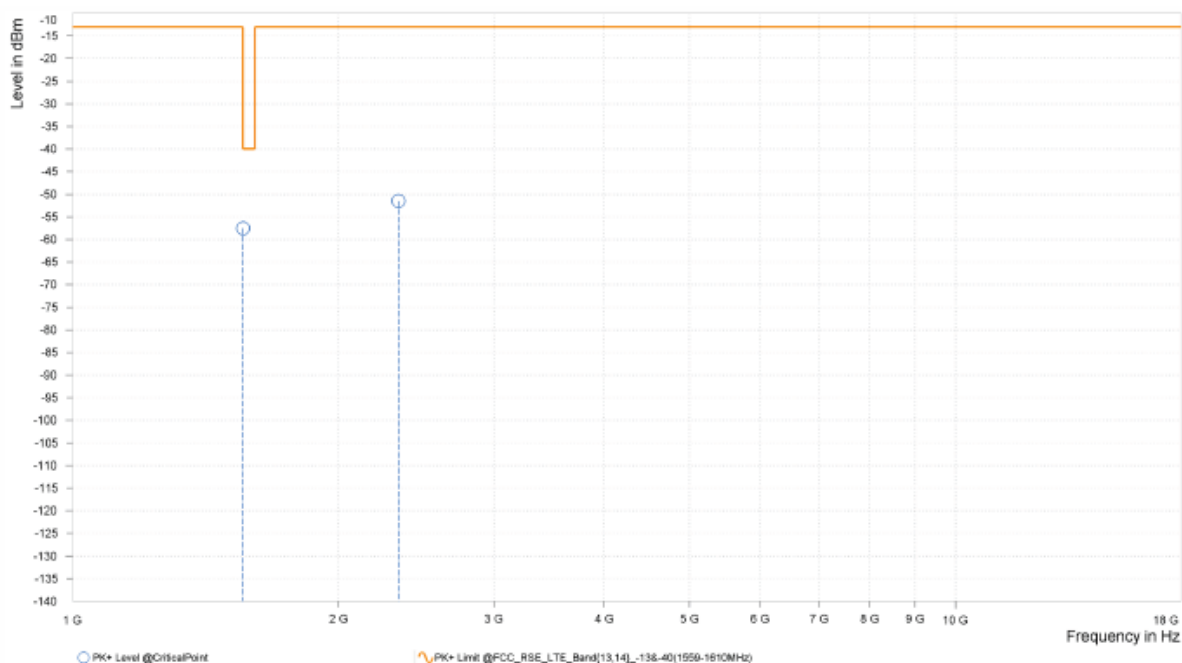
**BUREAU
VERITAS**

Test Report No.: W7L-P24050018RF06

CH 23230

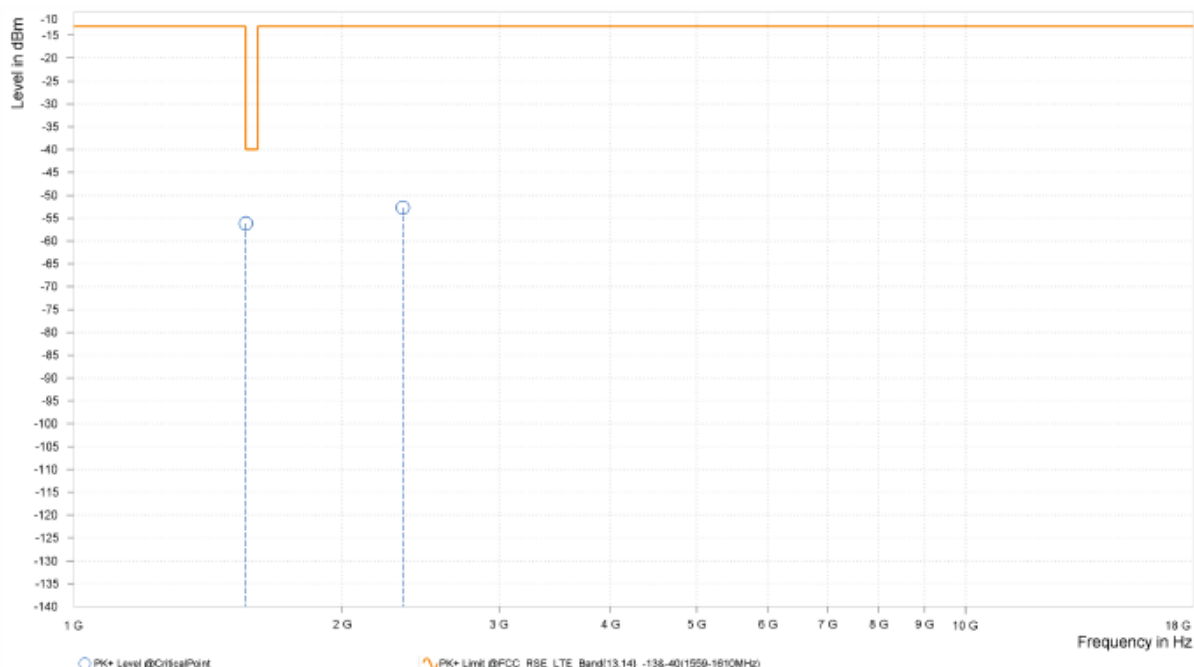
CW-20200			
MODE	TX channel 23230	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,559.500	-57.53	-40.00	17.53	12.10	H	168.3	1.00
3	2,339.250	-51.50	-13.00	38.50	18.80	H	184.5	2.00



MODE	TX channel 23230	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			

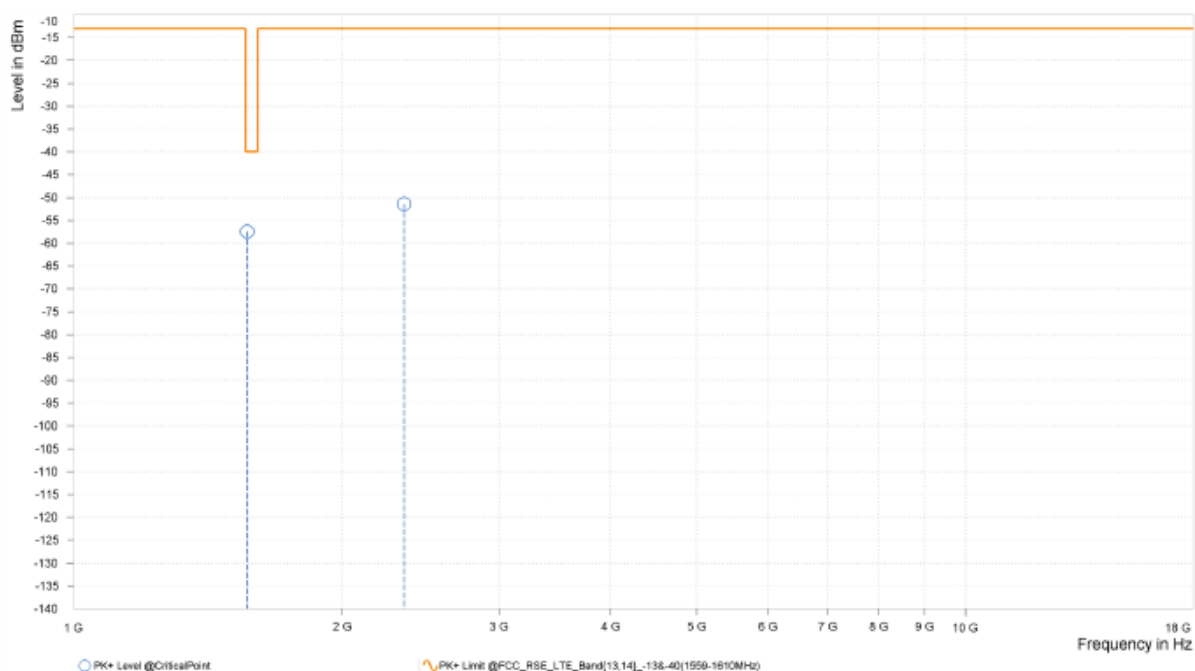
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,559.500	-56.16	-40.00	16.16	13.48	V	33.9	1.00
3	2,339.250	-52.73	-13.00	39.73	19.20	V	79.8	2.00



CH 23255

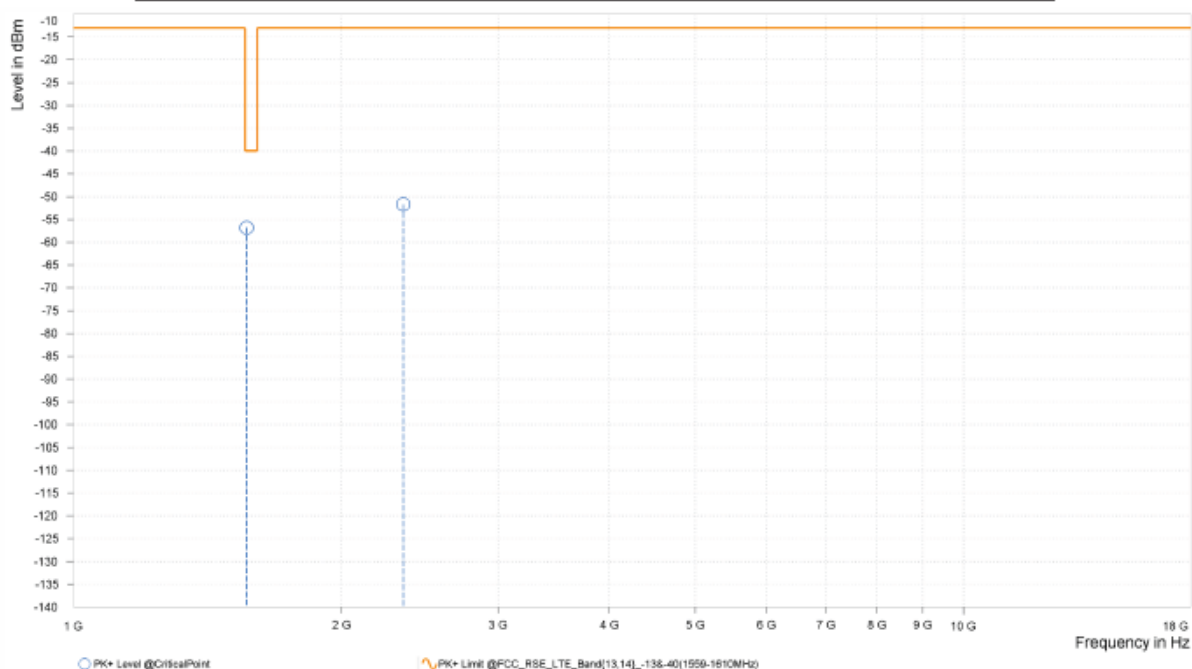
MODE	TX channel 23255	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,564.500	-57.45	-40.00	17.45	12.06	H	1.8	2.00
3	2,346.750	-51.43	-13.00	38.43	19.04	H	1	2.00



MODE	TX channel 23255	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			

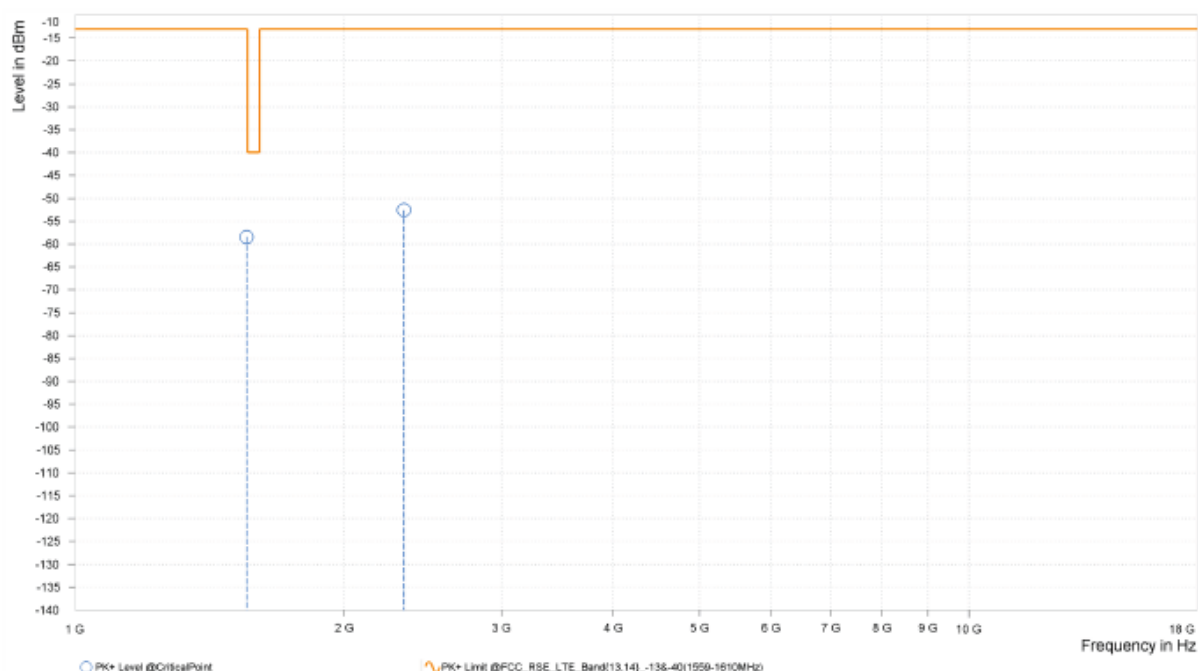
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,564.500	-56.80	-40.00	16.80	13.47	V	33.8	1.00
3	2,346.750	-51.72	-13.00	38.72	19.24	V	81.3	2.00



CHANNEL BANDWIDTH: 10MHz /QPSK

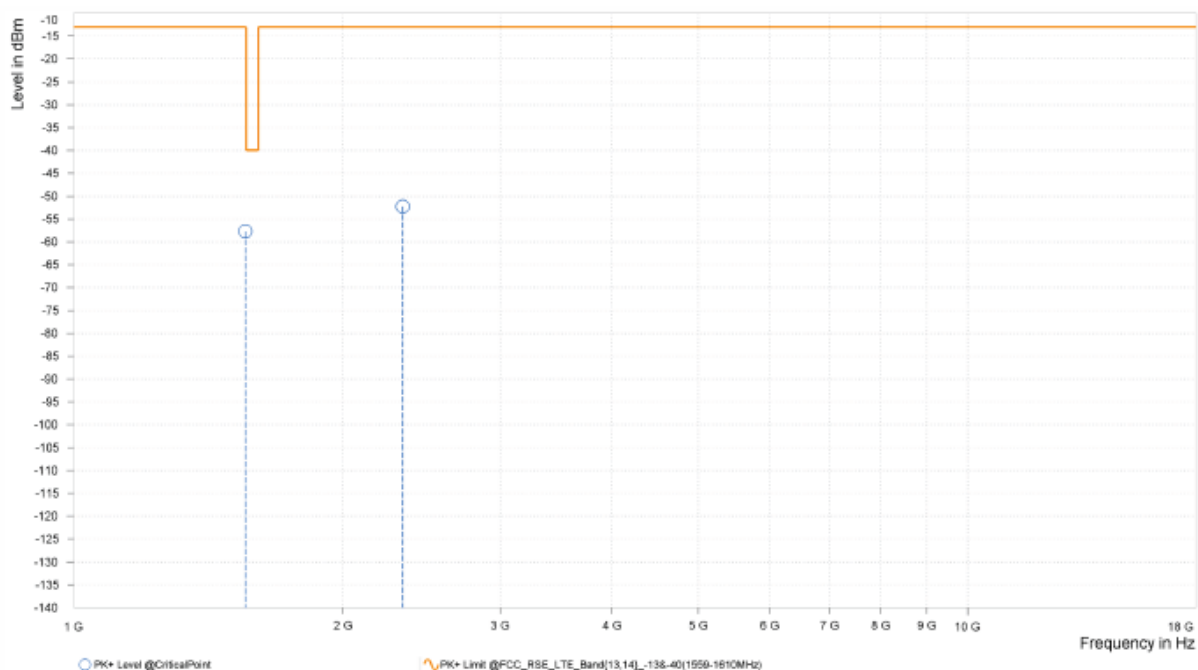
MODE	TX channel 23230	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,555.000	-58.46	-13.00	45.46	12.09	H	359.1	1.00
3	2,332.500	-52.57	-13.00	39.57	18.59	H	356.3	1.00



MODE	TX channel 23230	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]
2	1,555.000	-57.72	-13.00	44.72	13.43	V	83.4	2.00
3	2,332.500	-52.27	-13.00	39.27	19.17	V	64.3	1.00

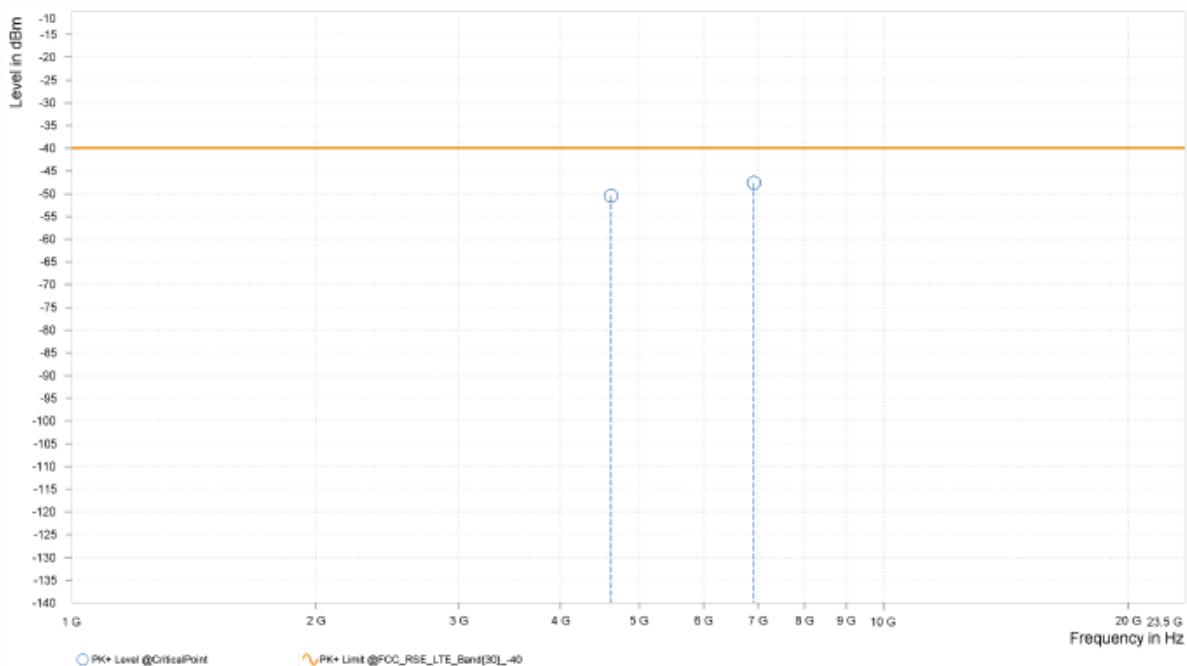


LTE B30

CHANNEL BANDWIDTH: 5MHz / QPSK

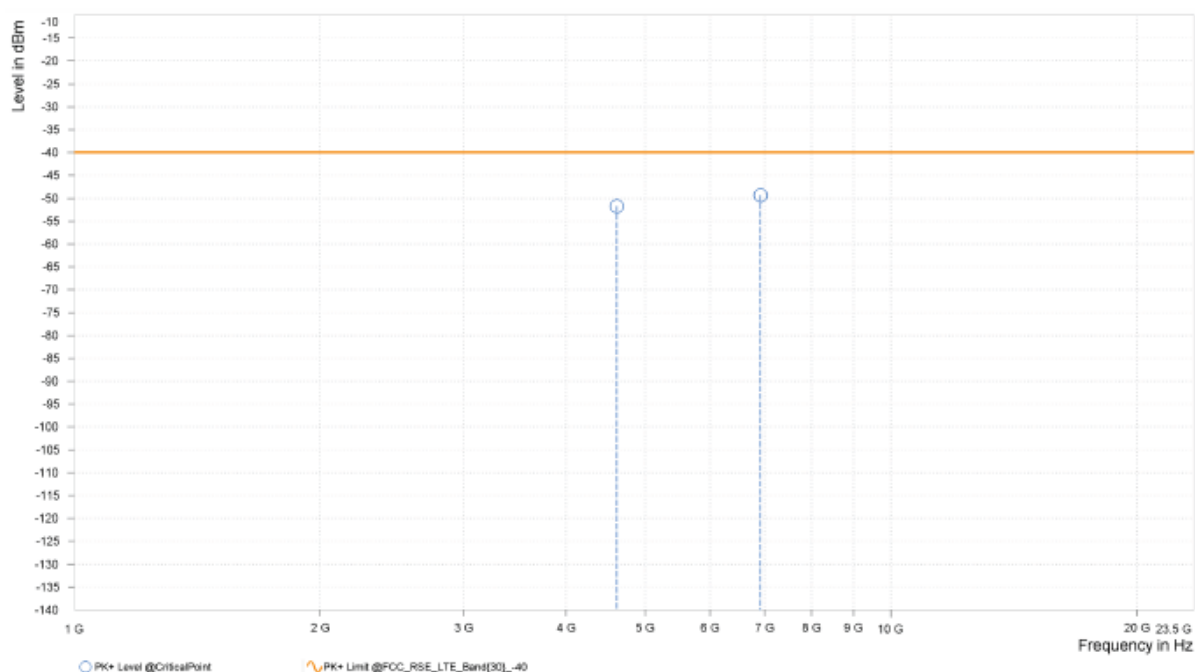
MODE	TX channel 27710	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	4,615.500	-50.47	-40.00	10.47	22.54	H	93.3	2.00
5	6,923.250	-47.61	-40.00	7.61	26.74	H	317	2.00



MODE	TX channel 27710	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			

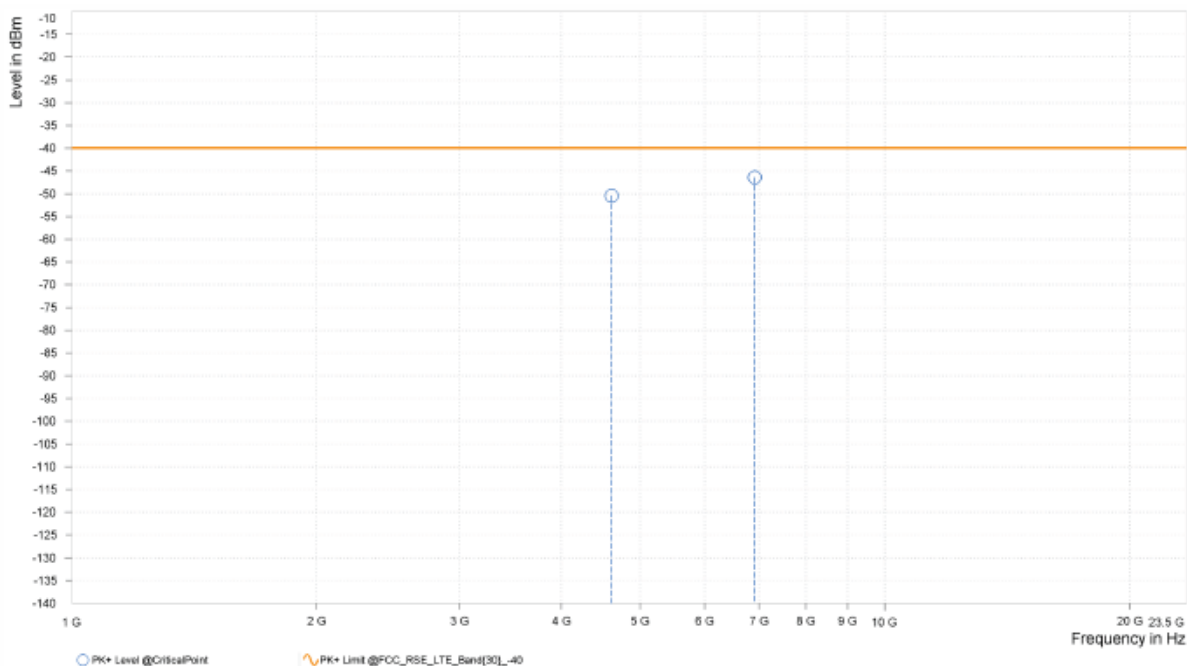
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	4,615.500	-51.75	-40.00	11.75	23.03	V	192.3	1.00
5	6,923.250	-49.35	-40.00	9.35	26.75	V	1	1.00



CHANNEL BANDWIDTH: 10MHz / QPSK

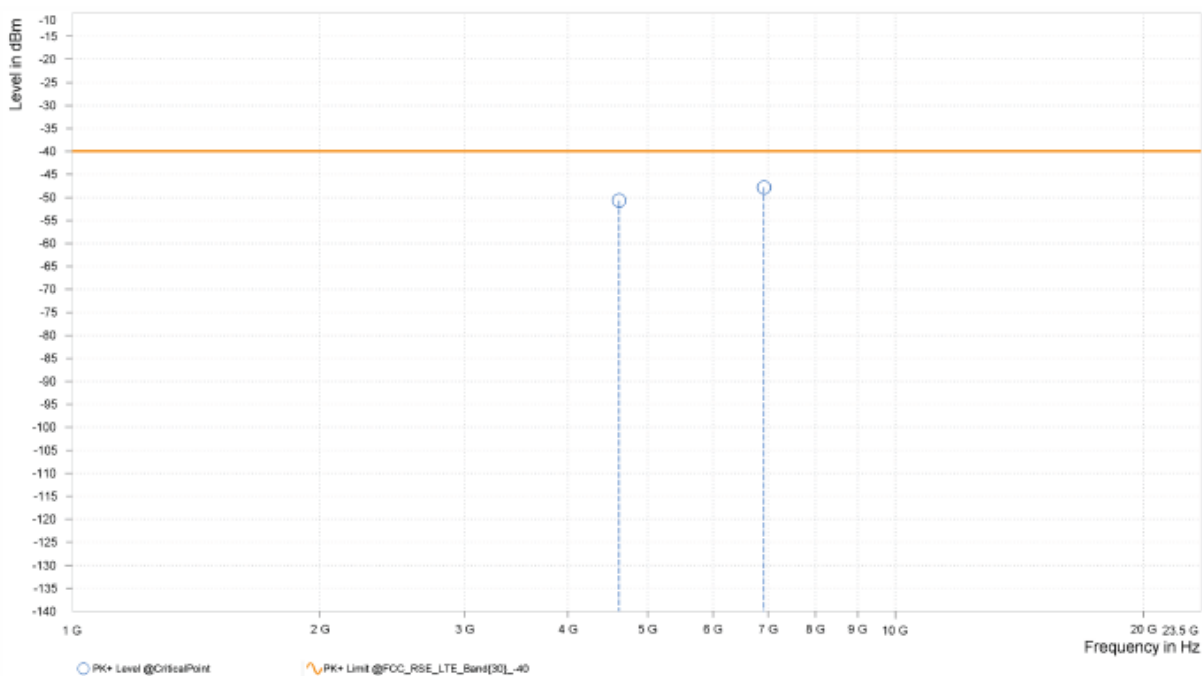
MODE	TX channel 27710	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	4,611.000	-50.46	-40.00	10.46	22.54	H	93.3	1.00
5	6,916.500	-46.40	-40.00	6.40	26.77	H	123	2.00



MODE	TX channel 27710	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	4,611.500	-50.71	-40.00	10.71	23.03	V	359	2.00
5	6,916.250	-47.84	-40.00	7.84	26.75	V	307.8	2.00



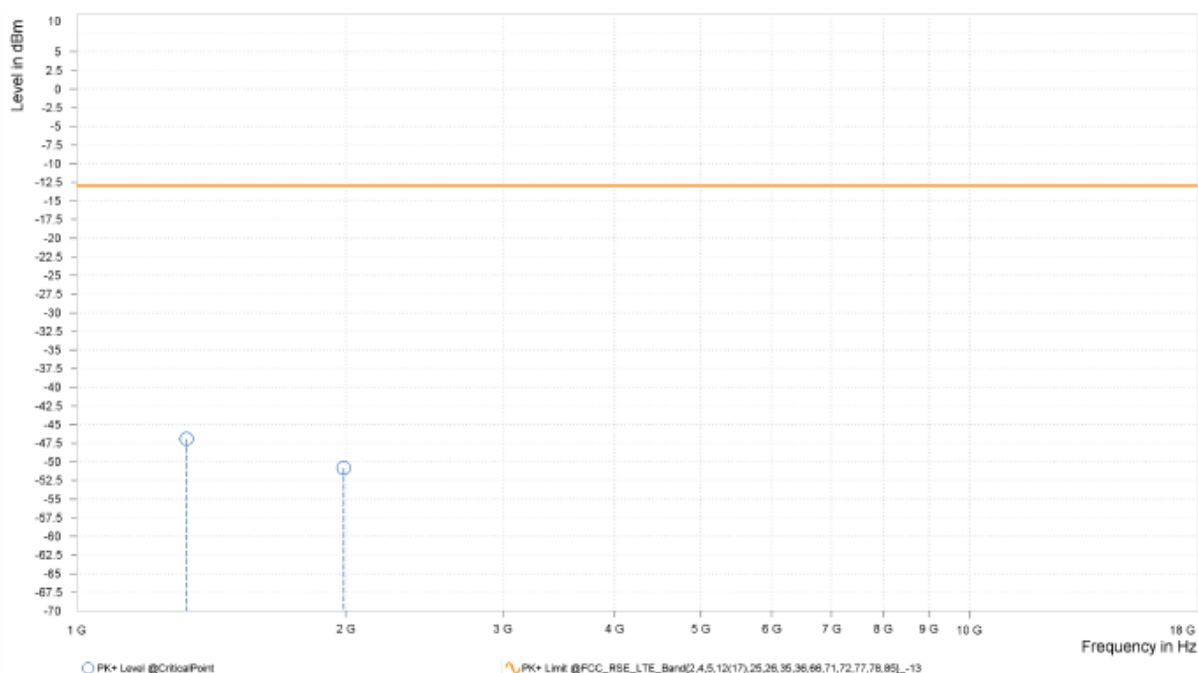
LTE B71

CHANNEL BANDWIDTH: 5MHz / QPSK

CH133147

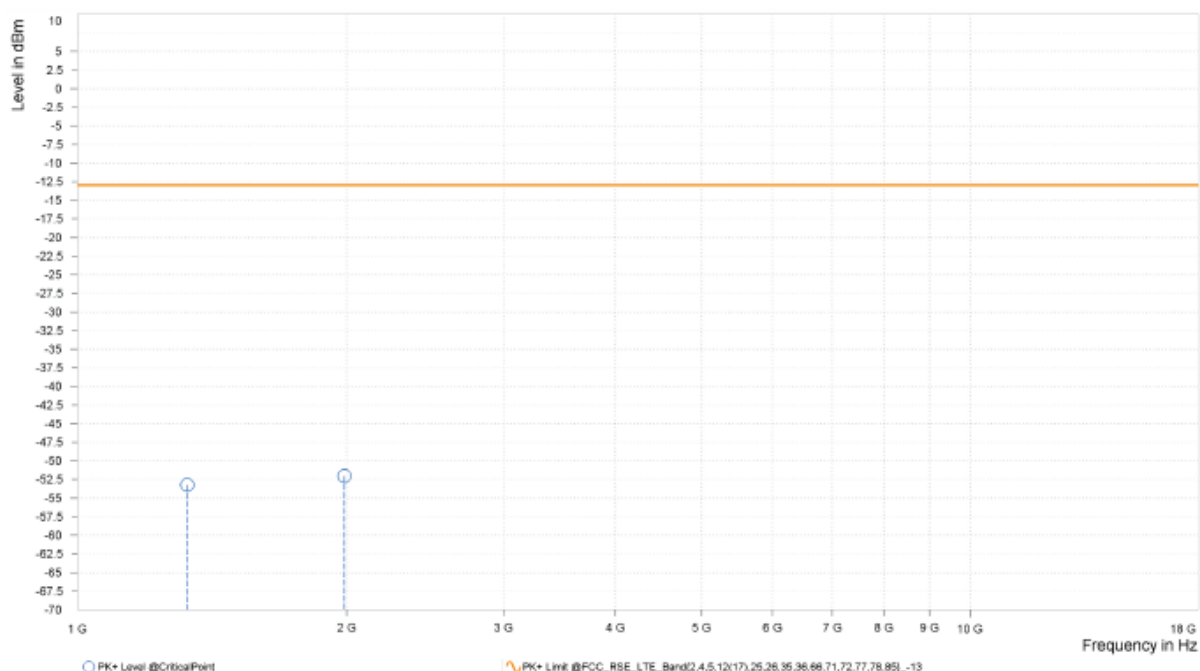
MODE	TX channel 133147	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	1,326.500	-46.94	-13.00	33.94	4.38	H	2.4	2.00
1	1,989.750	-50.83	-13.00	37.83	9.53	H	354.9	2.00



MODE	TX channel 133147	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]
1	1,326.500	-53.25	-13.00	40.25	4.44	V	2.7	2.00
1	1,989.750	-52.04	-13.00	39.04	9.47	V	225.4	1.00

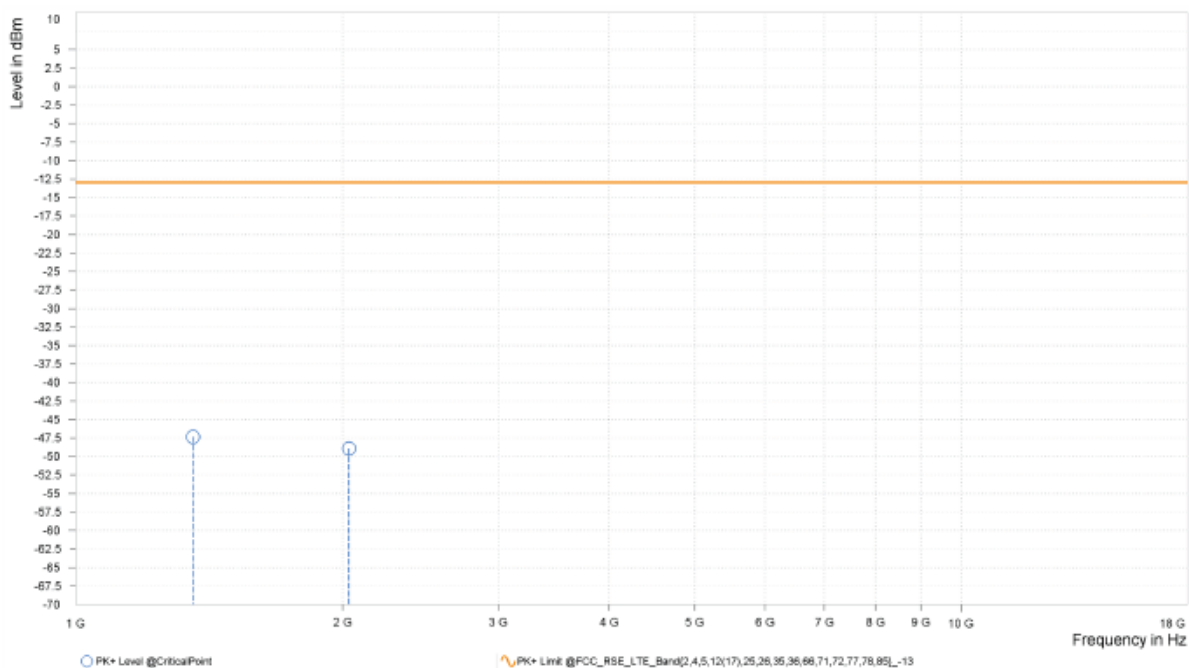


CH133297

CH330201

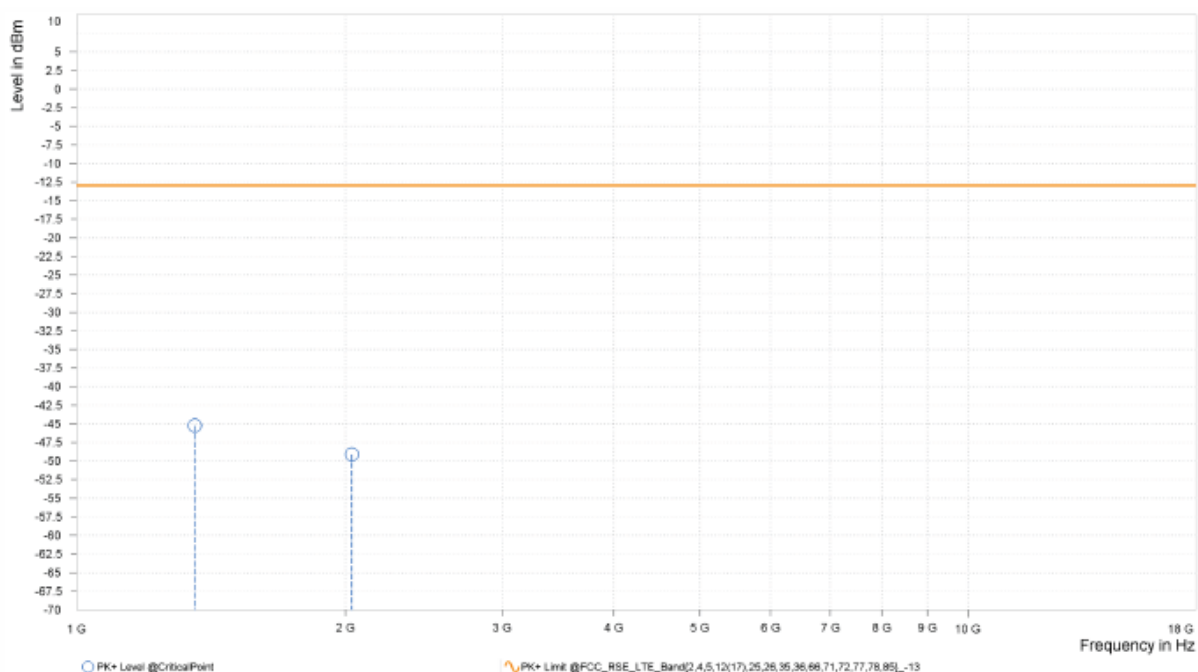
MODE	TX channel 133297	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	1,356.500	-47.35	-13.00	34.35	6.95	H	359	2.00
1	2,034.750	-48.92	-13.00	35.92	11.39	H	330.6	1.00



MODE	TX channel 133297	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]
1	1,356.500	-45.24	-13.00	32.24	7.03	V	5	1.00
1	2,034.750	-49.11	-13.00	36.11	11.93	V	355.6	2.00





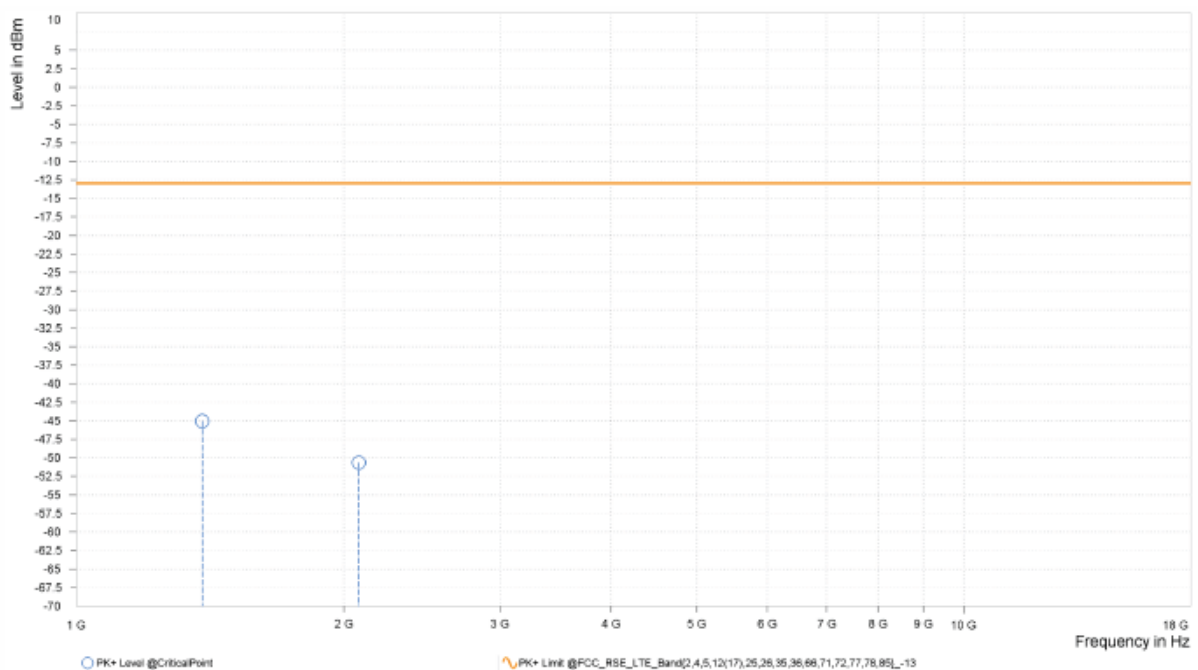
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Test Report No.: W7L-P24050018RF06

CH133447

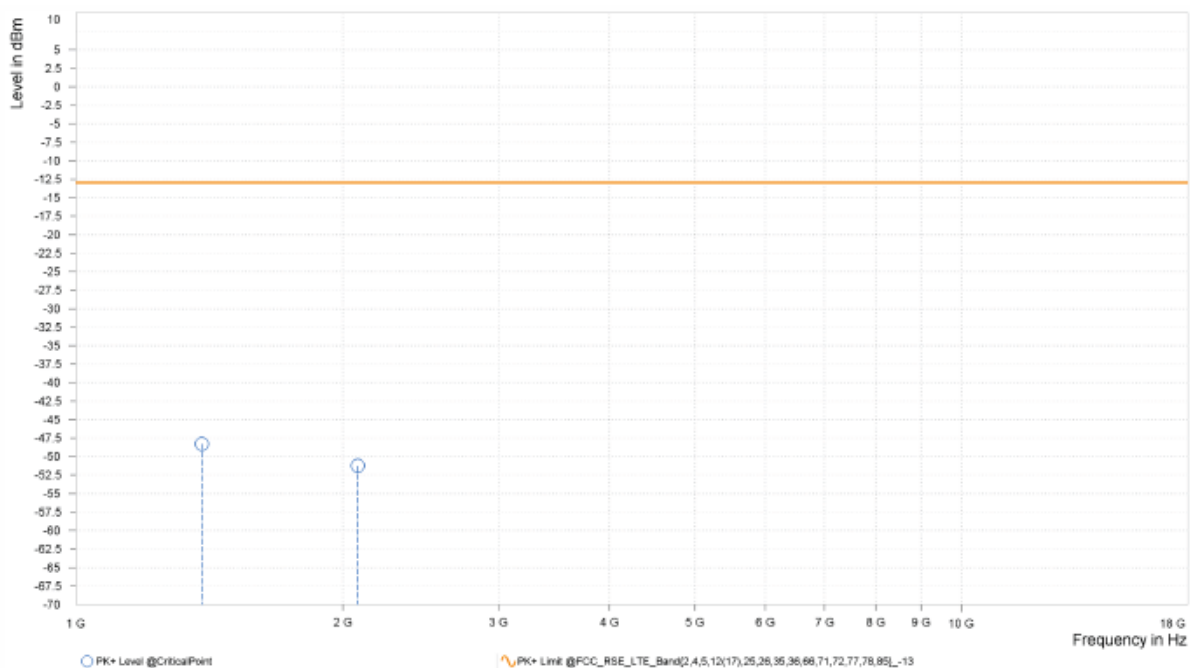
MODE	TX channel 133447	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	1,386.000	-45.04	-13.00	32.04	6.86	H	1	1.00
1	2,079.750	-50.65	-13.00	37.65	9.91	H	4.4	1.00



MODE	TX channel 133447	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			

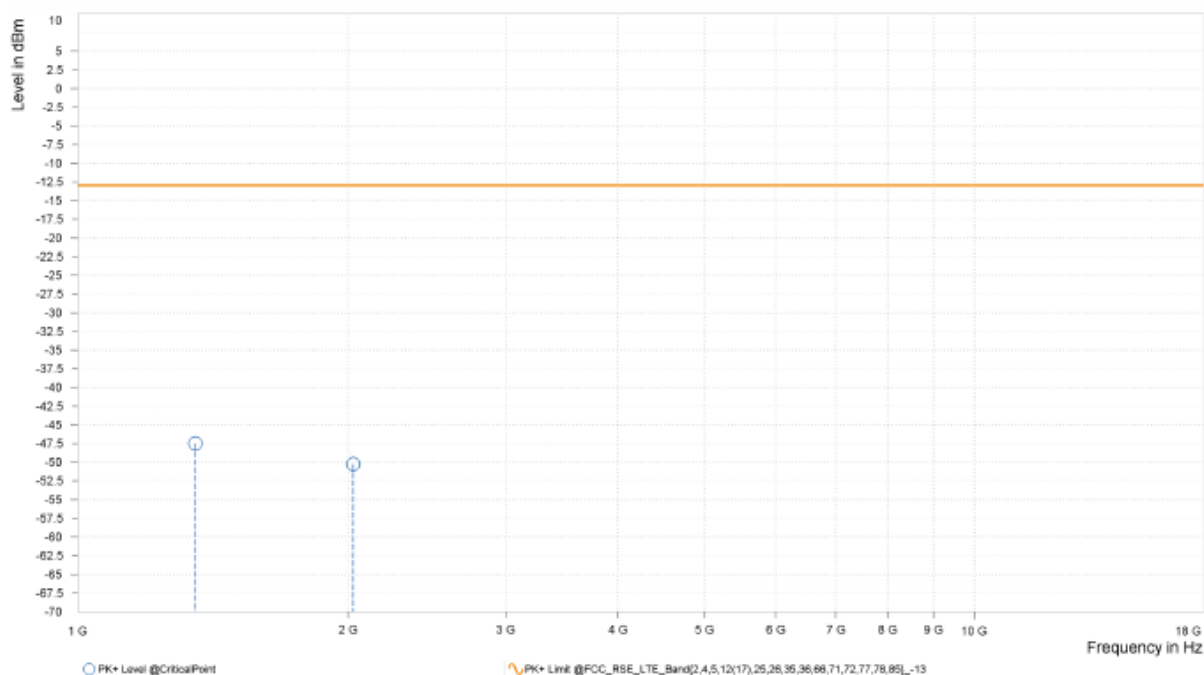
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	1,386.500	-48.28	-13.00	35.28	6.87	V	5.1	1.00
1	2,079.750	-51.24	-13.00	38.24	10.00	V	2.2	2.00



CHANNEL BANDWIDTH: 10MHz / QPSK

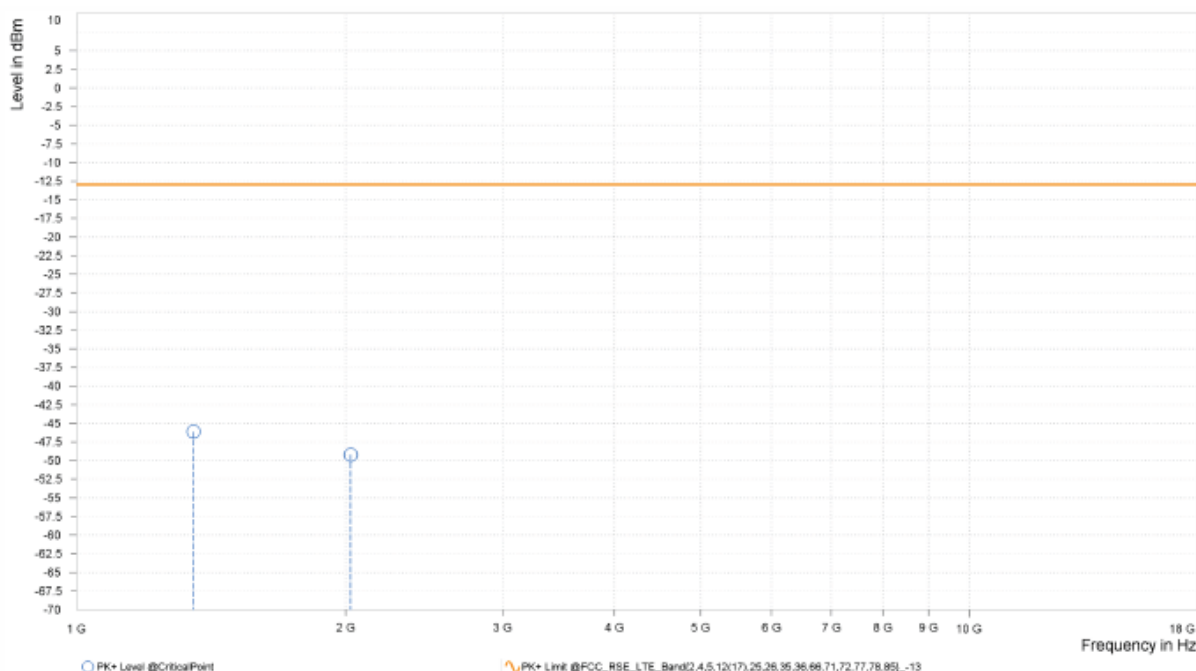
MODE	TX channel 133297	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	1,352.000	-47.49	-13.00	34.49	6.90	H	2.6	2.00
1	2,028.000	-50.27	-13.00	37.27	11.48	H	2.6	2.00



MODE	TX channel 133297	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			

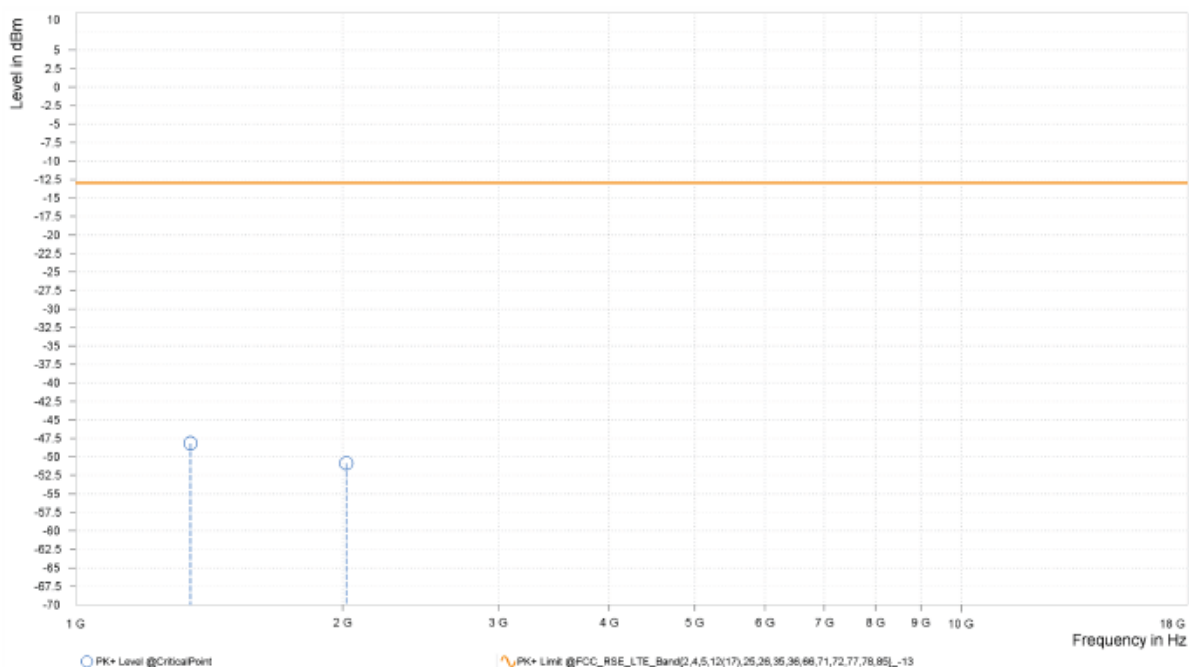
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	1,352.000	-46.13	-13.00	33.13	6.97	V	2.8	2.00
1	2,028.000	-49.22	-13.00	36.22	12.05	V	355.5	2.00



CHANNEL BANDWIDTH: 15MHz / QPSK

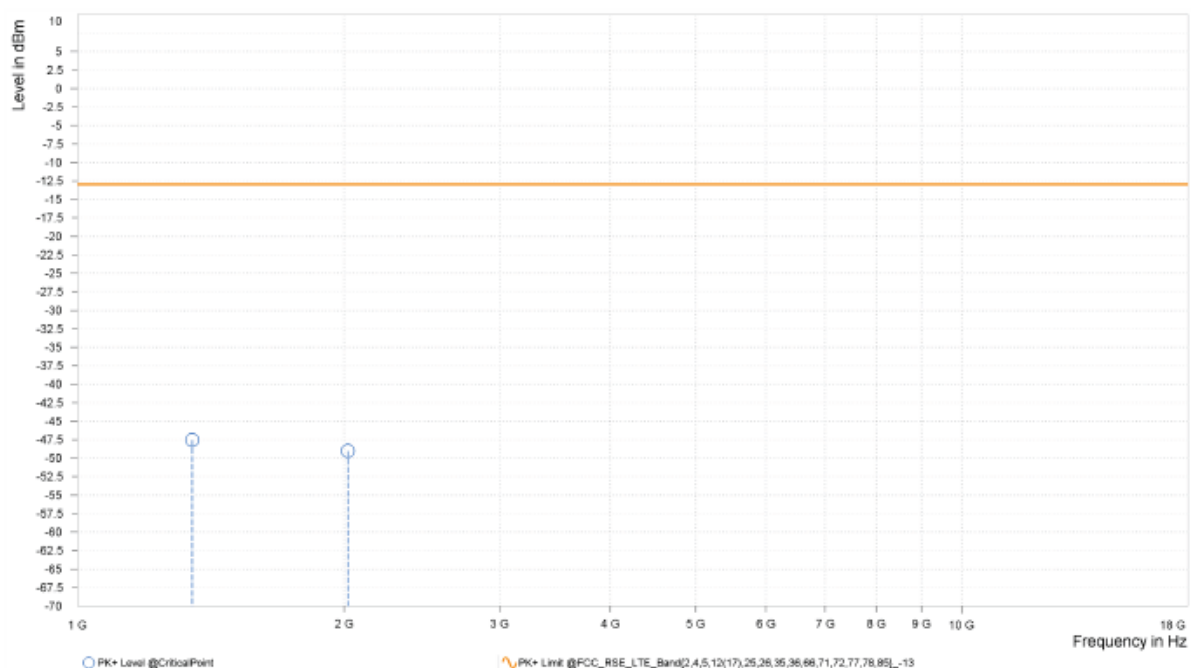
MODE	TX channel 133297	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	1,347.500	-48.18	-13.00	35.18	6.85	H	2.4	2.00
1	2,021.250	-50.88	-13.00	37.88	11.13	H	225.4	1.00



MODE	TX channel 133297	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			

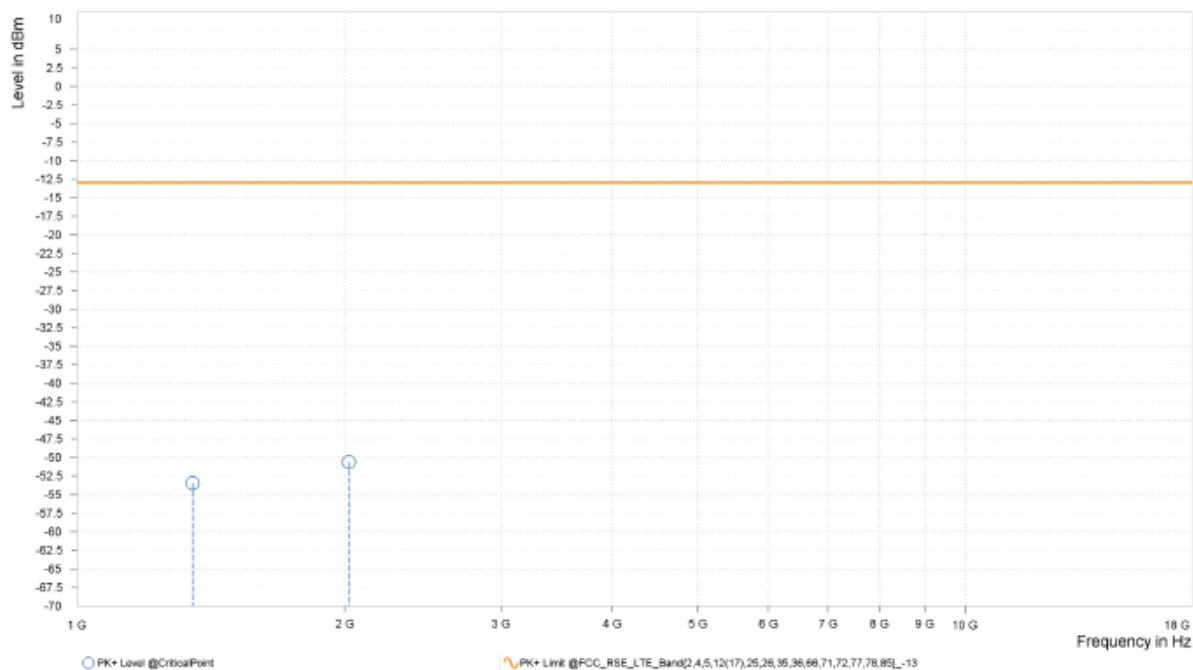
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	1,347.500	-47.55	-13.00	34.55	6.91	V	1	1.00
1	2,021.250	-49.01	-13.00	36.01	11.58	V	225.4	1.00



CHANNEL BANDWIDTH: 20MHz / QPSK

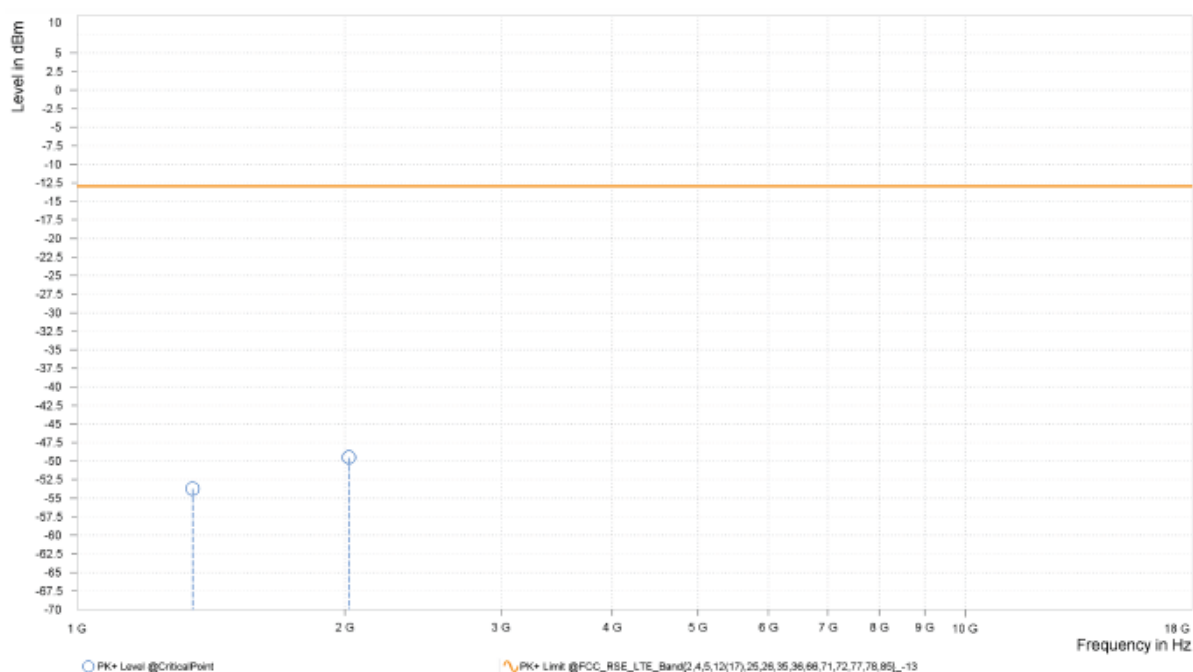
MODE	TX channel 133322	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	1,348.000	-53.47	-13.00	40.47	6.85	H	359	2.00
1	2,022.000	-50.59	-13.00	37.59	11.18	H	5.8	1.00



MODE	TX channel 133322	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]
1	1,348.000	-53.75	-13.00	40.75	6.91	V	1	1.00
1	2,022.000	-49.52	-13.00	36.52	11.65	V	359	2.00

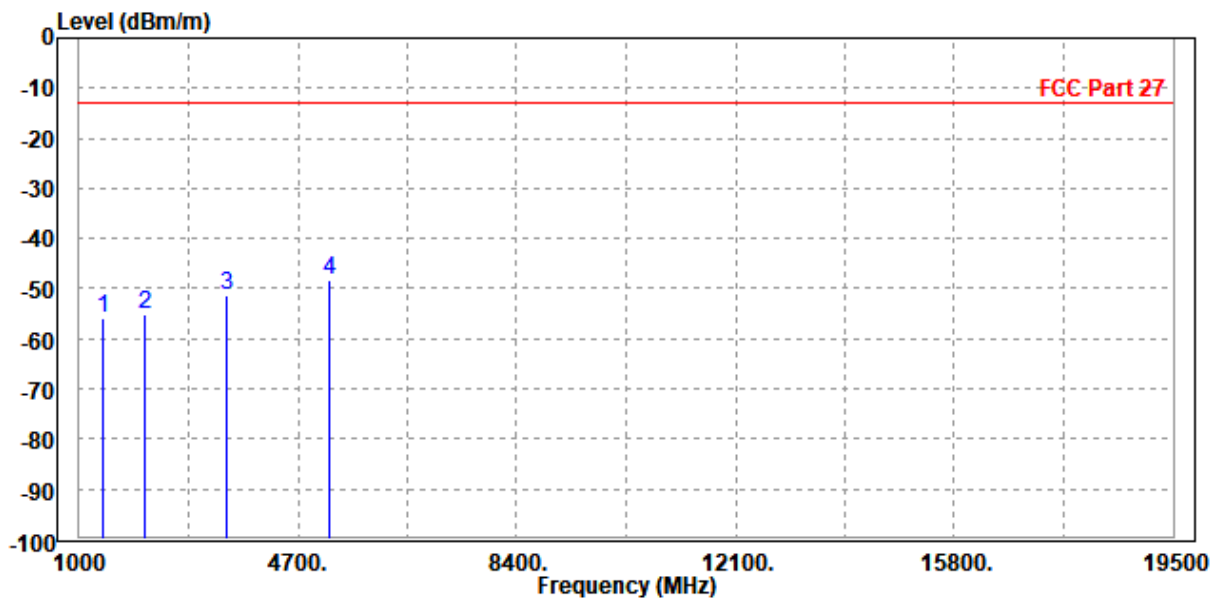


CA_12A-66A:

CHANNEL BANDWIDTH: 10MHz+20MHz / QPSK

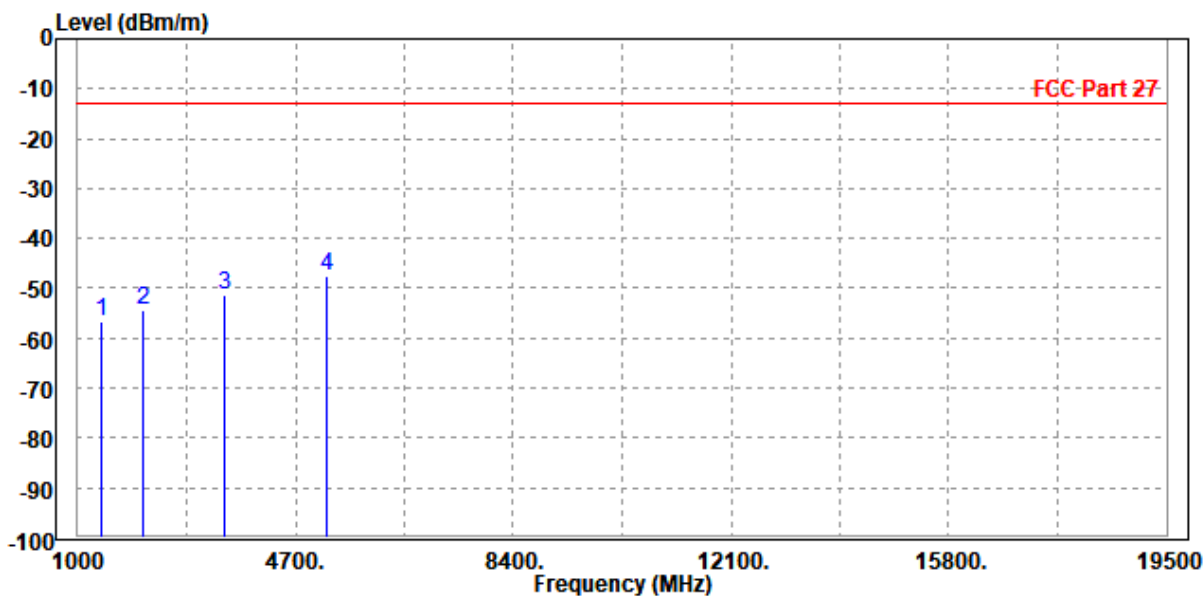
MODE	TX channel 23095/ 132322	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1407.000	-55.96	-58.87	-13.00	-42.96	2.91	Peak	Horizontal
2	2121.000	-54.97	-60.05	-13.00	-41.97	5.08	Peak	Horizontal
3	3490.000	-51.34	-59.89	-13.00	-38.34	8.55	Peak	Horizontal
4 PP	5235.000	-48.36	-59.77	-13.00	-35.36	11.41	Peak	Horizontal



MODE	TX channel 23095/ 132322	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			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1414.000	-56.63	-59.55	-13.00	-43.63	2.92	Peak	Vertical
2	2121.000	-54.34	-58.77	-13.00	-41.34	4.43	Peak	Vertical
3	3497.500	-51.42	-60.06	-13.00	-38.42	8.64	Peak	Vertical
4 PP	5235.000	-47.64	-59.47	-13.00	-34.64	11.83	Peak	Vertical





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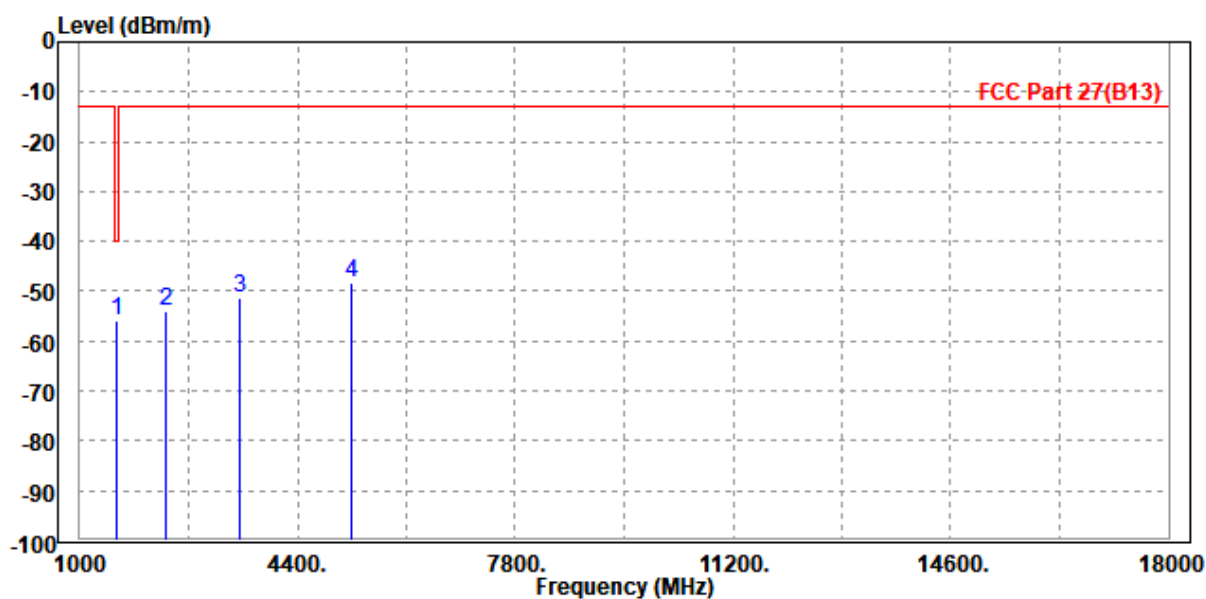
Test Report No.: W7L-P24050018RF06

CA_13A-66A:

CHANNEL BANDWIDTH: 10MHz+20MHz / QPSK

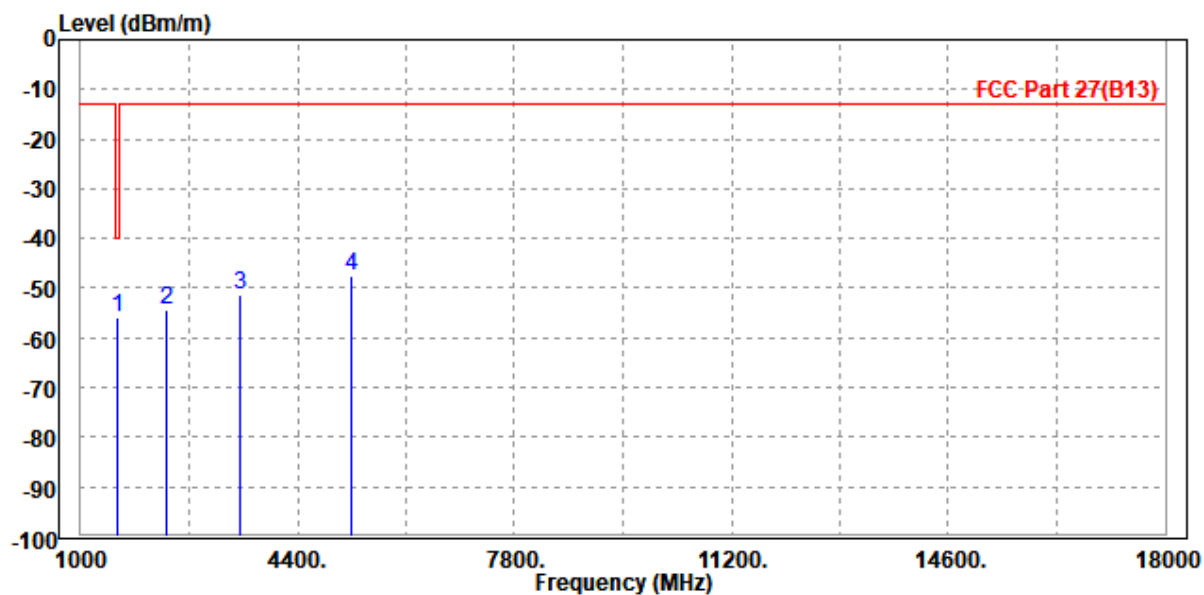
MODE	TX channel 23230/ 132322	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP	1564.000	-55.91	-59.31	-40.00	-15.91	3.40	Peak	Horizontal
2		2343.000	-53.92	-59.60	-13.00	-40.92	5.68	Peak	Horizontal
3		3490.000	-51.22	-59.77	-13.00	-38.22	8.55	Peak	Horizontal
4		5235.000	-48.10	-59.51	-13.00	-35.10	11.41	Peak	Horizontal



MODE	TX channel 23230/ 132322	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			

		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP	1564.000	-55.75	-58.99	-40.00	-15.75	3.24	Peak	Vertical
2		2346.000	-54.18	-59.41	-13.00	-41.18	5.23	Peak	Vertical
3		3490.000	-51.34	-59.98	-13.00	-38.34	8.64	Peak	Vertical
4		5233.000	-47.51	-59.33	-13.00	-34.51	11.82	Peak	Vertical

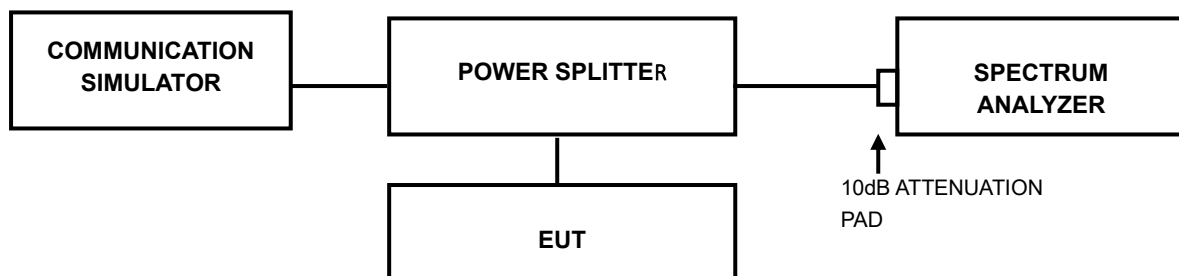


3.7 PEAK TO AVERAGE RATIO

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 $\geq$ 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%.



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3.7.4 TEST RESULTS

Please Refer to Appendix H.



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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.



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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.

---END---

APPENDIX H

LTE BAND 7

PEAK-TO-AVERAGE RATIO(CCDF) TEST RESULT

Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dB)	Limit(dB)	Verdict
Band7	5MHz	QPSK	20775	1RB#0	3.31	13	PASS
Band7	5MHz	QPSK	20775	25RB#0	4.95	13	PASS
Band7	5MHz	QPSK	21100	1RB#0	3.25	13	PASS
Band7	5MHz	QPSK	21100	25RB#0	4.94	13	PASS
Band7	5MHz	QPSK	21425	1RB#0	3.26	13	PASS
Band7	5MHz	QPSK	21425	25RB#0	4.95	13	PASS
Band7	5MHz	16QAM	20775	1RB#0	5.10	13	PASS
Band7	5MHz	16QAM	20775	25RB#0	5.67	13	PASS
Band7	5MHz	16QAM	21100	1RB#0	5.03	13	PASS
Band7	5MHz	16QAM	21100	25RB#0	5.68	13	PASS
Band7	5MHz	16QAM	21425	1RB#0	5.06	13	PASS
Band7	5MHz	16QAM	21425	25RB#0	5.68	13	PASS
Band7	10MHz	QPSK	20800	1RB#0	3.23	13	PASS
Band7	10MHz	QPSK	20800	50RB#0	4.79	13	PASS
Band7	10MHz	QPSK	21100	1RB#0	3.20	13	PASS
Band7	10MHz	QPSK	21100	50RB#0	4.89	13	PASS
Band7	10MHz	QPSK	21400	1RB#0	3.03	13	PASS
Band7	10MHz	QPSK	21400	50RB#0	4.76	13	PASS
Band7	10MHz	16QAM	20800	1RB#0	5.00	13	PASS
Band7	10MHz	16QAM	20800	50RB#0	5.59	13	PASS
Band7	10MHz	16QAM	21100	1RB#0	4.94	13	PASS
Band7	10MHz	16QAM	21100	50RB#0	5.67	13	PASS
Band7	10MHz	16QAM	21400	1RB#0	4.61	13	PASS
Band7	10MHz	16QAM	21400	50RB#0	5.58	13	PASS
Band7	15MHz	QPSK	20825	1RB#0	3.19	13	PASS
Band7	15MHz	QPSK	20825	75RB#0	4.75	13	PASS
Band7	15MHz	QPSK	21100	1RB#0	3.18	13	PASS
Band7	15MHz	QPSK	21100	75RB#0	4.98	13	PASS
Band7	15MHz	QPSK	21375	1RB#0	2.88	13	PASS
Band7	15MHz	QPSK	21375	75RB#0	4.88	13	PASS
Band7	15MHz	16QAM	20825	1RB#0	5.01	13	PASS
Band7	15MHz	16QAM	20825	75RB#0	5.58	13	PASS
Band7	15MHz	16QAM	21100	1RB#0	4.91	13	PASS
Band7	15MHz	16QAM	21100	75RB#0	5.78	13	PASS
Band7	15MHz	16QAM	21375	1RB#0	4.32	13	PASS
Band7	15MHz	16QAM	21375	75RB#0	5.73	13	PASS
Band7	20MHz	QPSK	20850	1RB#0	3.16	13	PASS

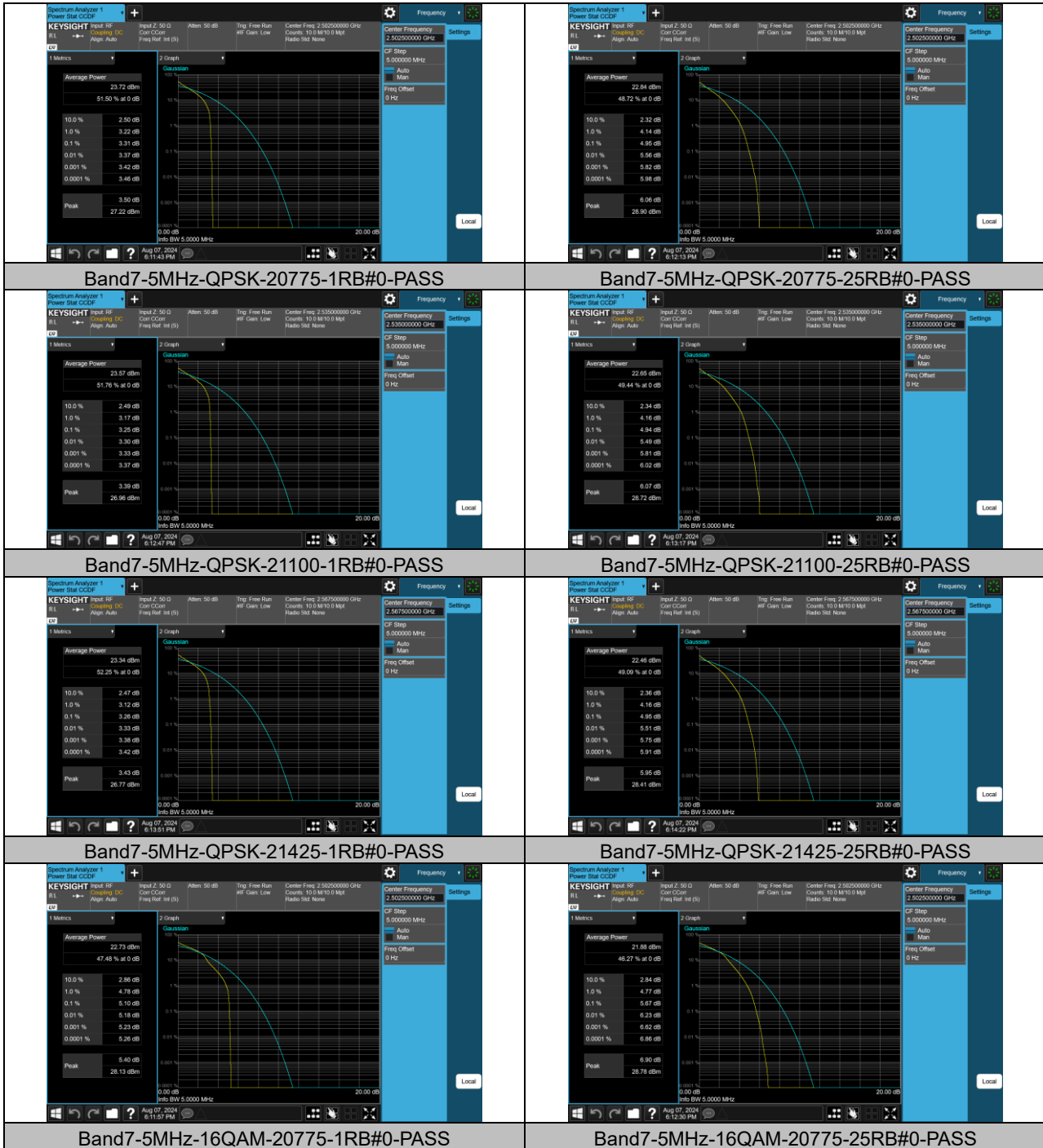


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Reference No.: W7L-P24050018RF06

Band7	20MHz	QPSK	20850	100RB#0	4.58	13	PASS
Band7	20MHz	QPSK	21100	1RB#0	3.16	13	PASS
Band7	20MHz	QPSK	21100	100RB#0	4.92	13	PASS
Band7	20MHz	QPSK	21350	1RB#0	2.57	13	PASS
Band7	20MHz	QPSK	21350	100RB#0	4.44	13	PASS
Band7	20MHz	16QAM	20850	1RB#0	4.87	13	PASS
Band7	20MHz	16QAM	20850	100RB#0	5.40	13	PASS
Band7	20MHz	16QAM	21100	1RB#0	4.75	13	PASS
Band7	20MHz	16QAM	21100	100RB#0	5.65	13	PASS
Band7	20MHz	16QAM	21350	1RB#0	4.40	13	PASS
Band7	20MHz	16QAM	21350	100RB#0	5.24	13	PASS

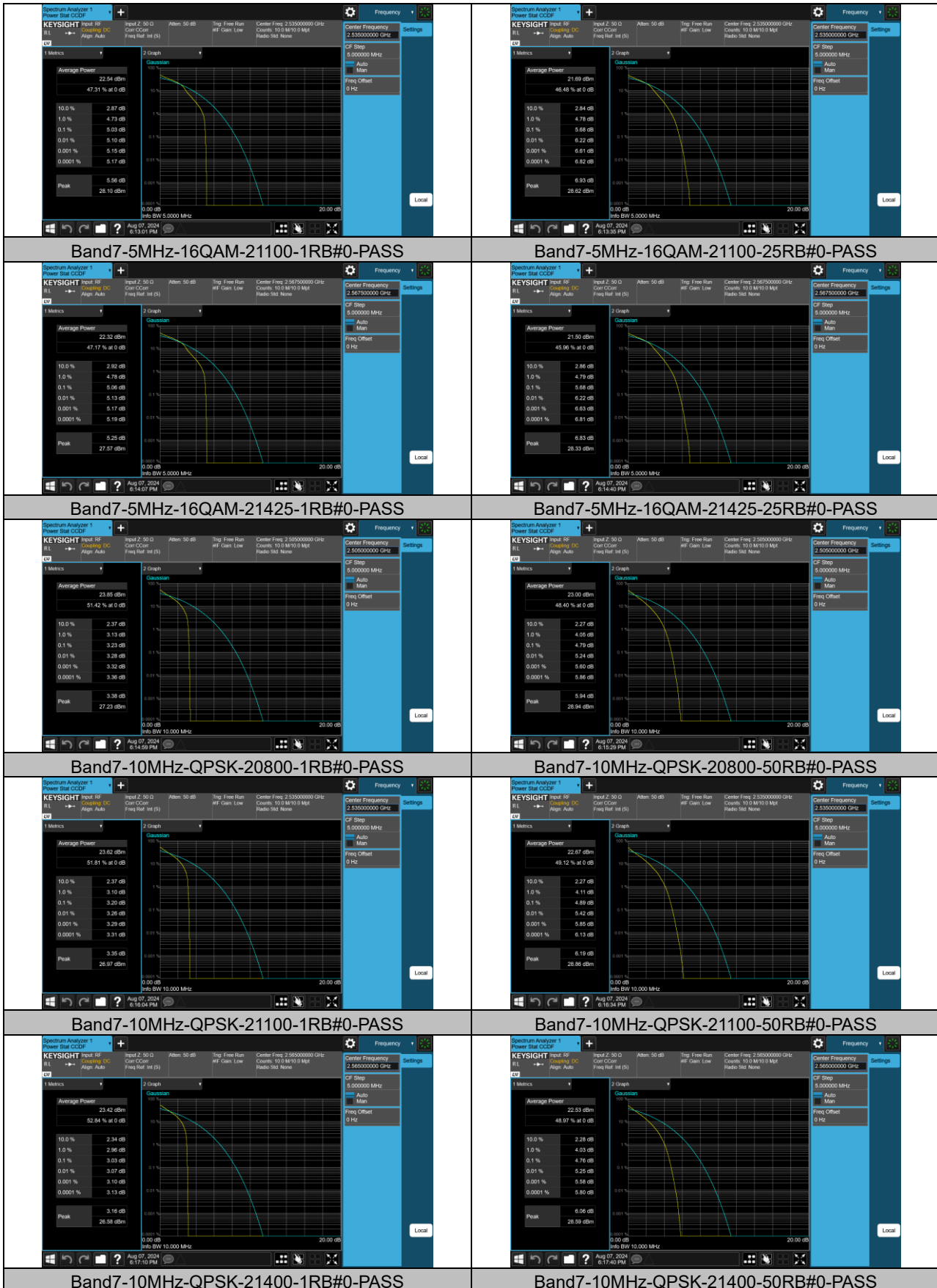
TEST GRAPHS





**BUREAU
VERITAS**

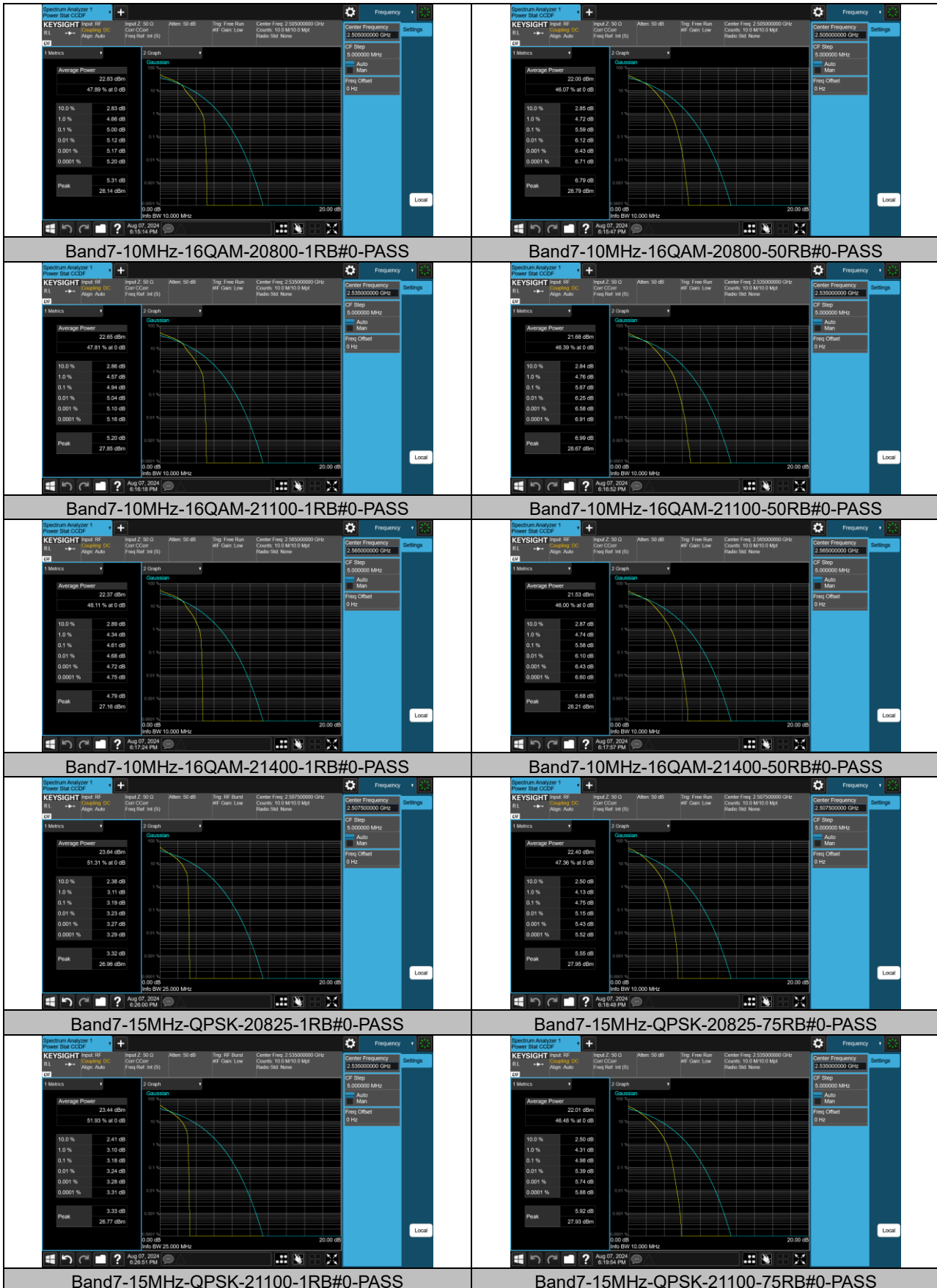
Reference No.: W7L-P24050018RF06





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