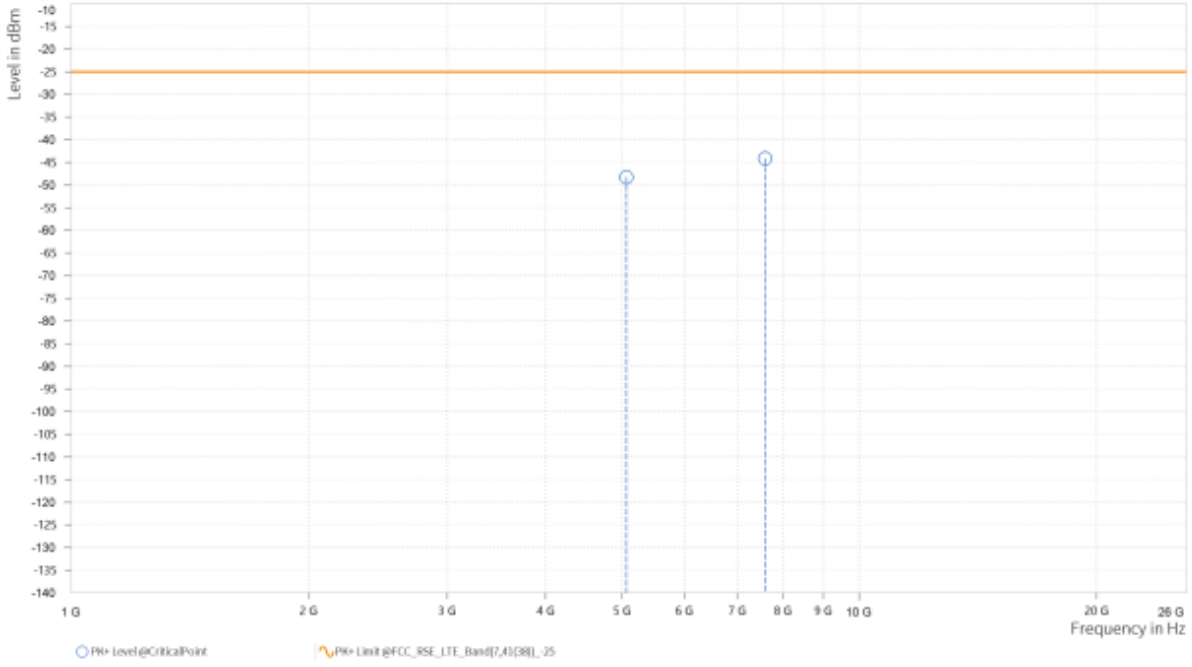
MODE	TX channel 21100	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

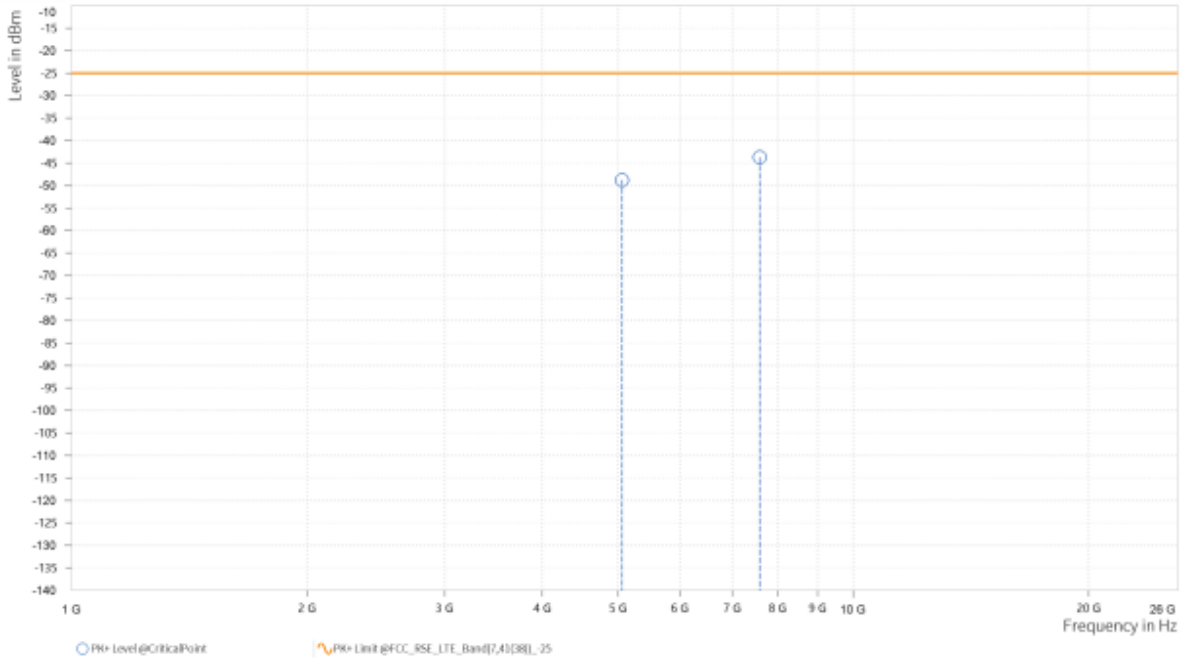
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	5,065.500	-48.26	-25.00	23.26	25.82	V	35.4	2
5	7,598.250	-44.16	-25.00	19.16	29.18	V	21.5	2



CHANNEL BANDWIDTH: 10MHz / QPSK

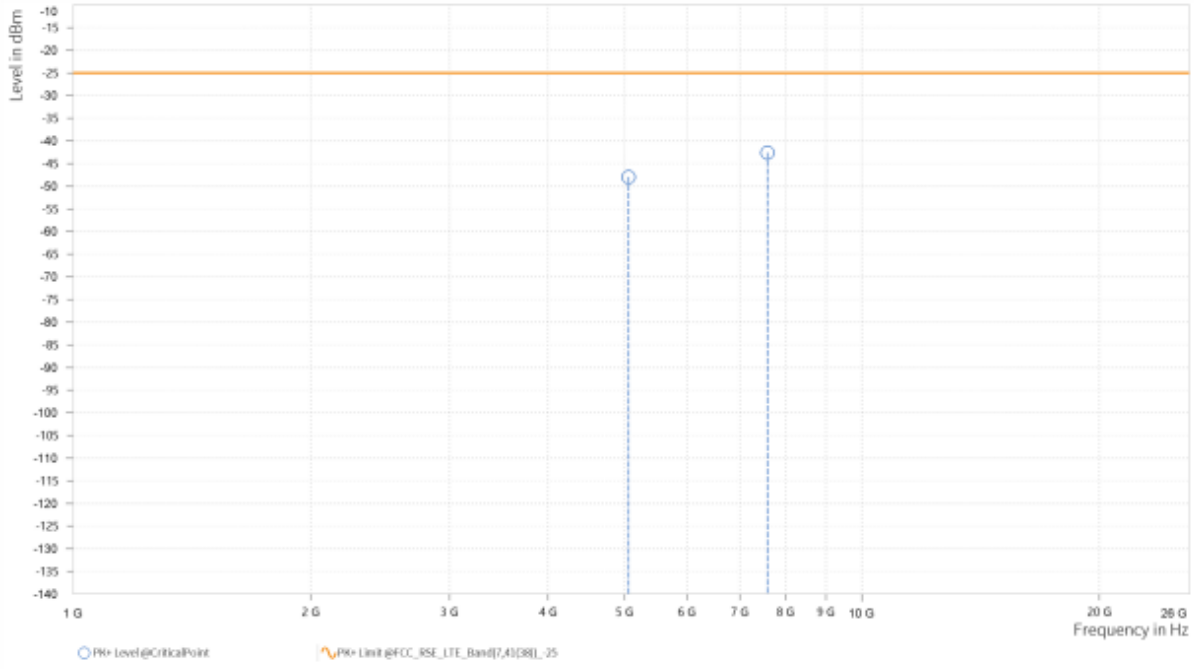
MODE	TX channel 21100	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	5,061.000	-48.76	-25.00	23.76	25.47	H	328.1	1
5	7,591.500	-43.71	-25.00	18.71	29.34	H	155	2



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			

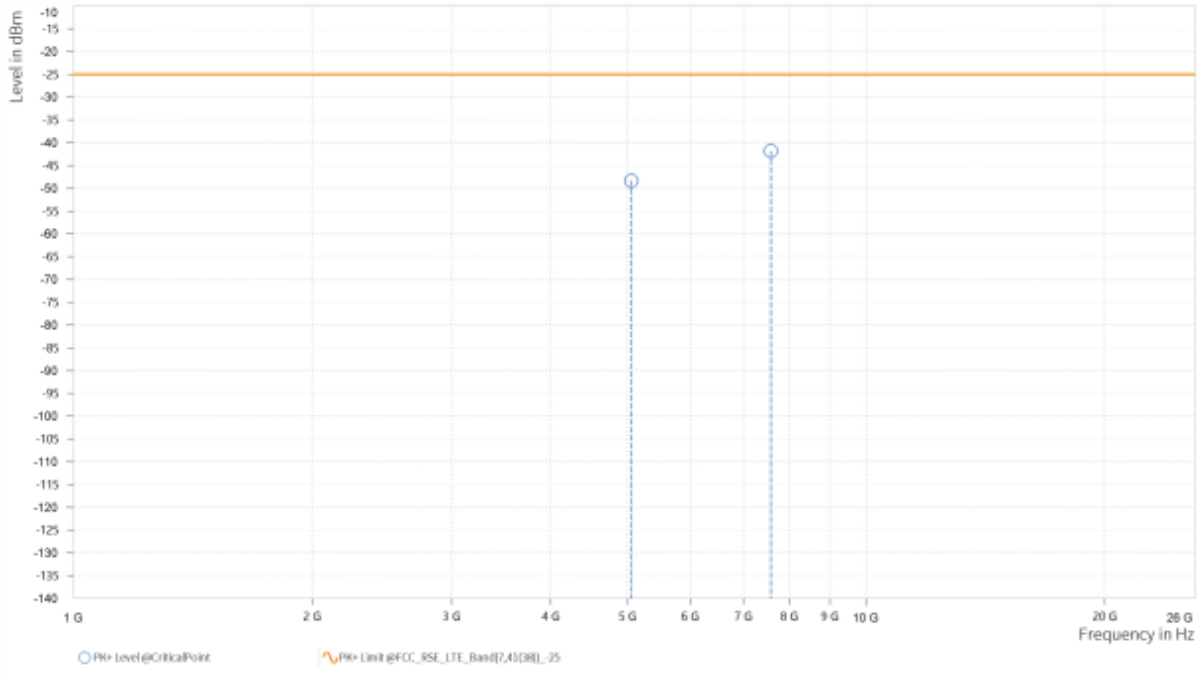
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	5,061.000	-47.96	-25.00	22.96	25.91	V	153.4	1
5	7,591.500	-42.61	-25.00	17.61	29.12	V	331.6	1



CHANNEL BANDWIDTH: 15MHz / QPSK

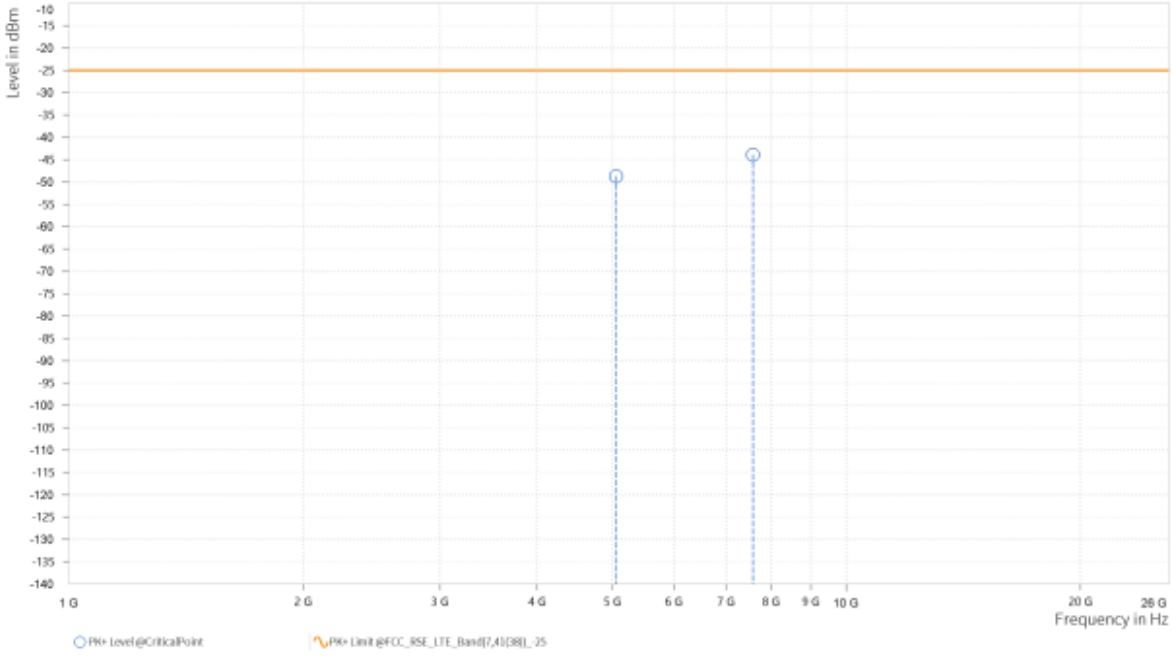
MODE	TX channel 21100	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	5,056.500	-48.34	-25.00	23.34	25.54	H	35.4	2
5	7,584.750	-41.84	-25.00	16.84	29.30	H	354.6	1



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			

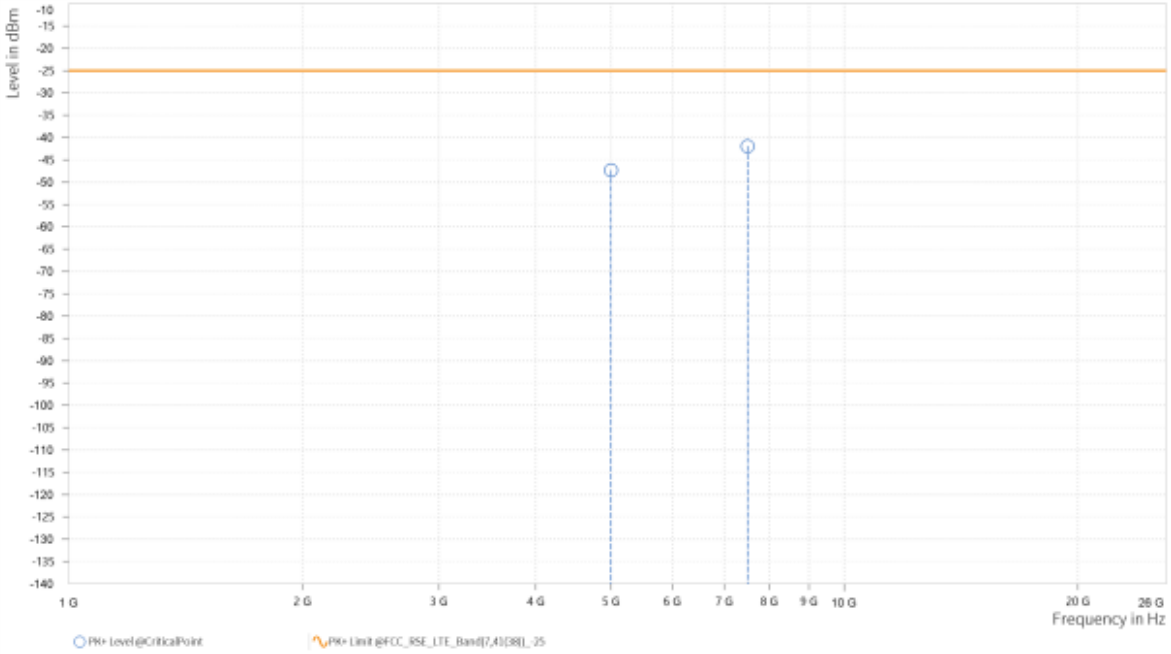
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	5,056.500	-48.68	-25.00	23.68	25.96	V	165.4	1
5	7,584.750	-43.90	-25.00	18.90	29.08	V	349.3	1



CHANNEL BANDWIDTH: 20MHz / QPSK
CH 20850

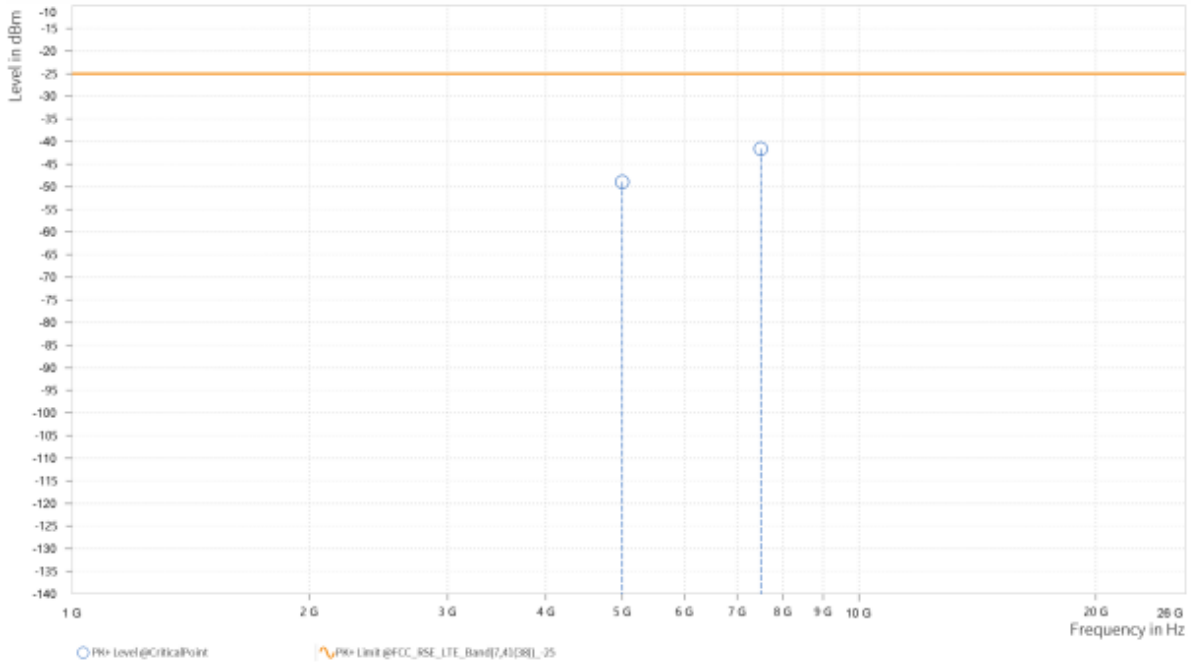
MODE	TX channel 20850	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	5,002.000	-47.32	-25.00	22.32	25.27	H	1	1
5	7,503.000	-41.92	-25.00	16.92	29.19	H	1	2



MODE	TX channel 20850	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			

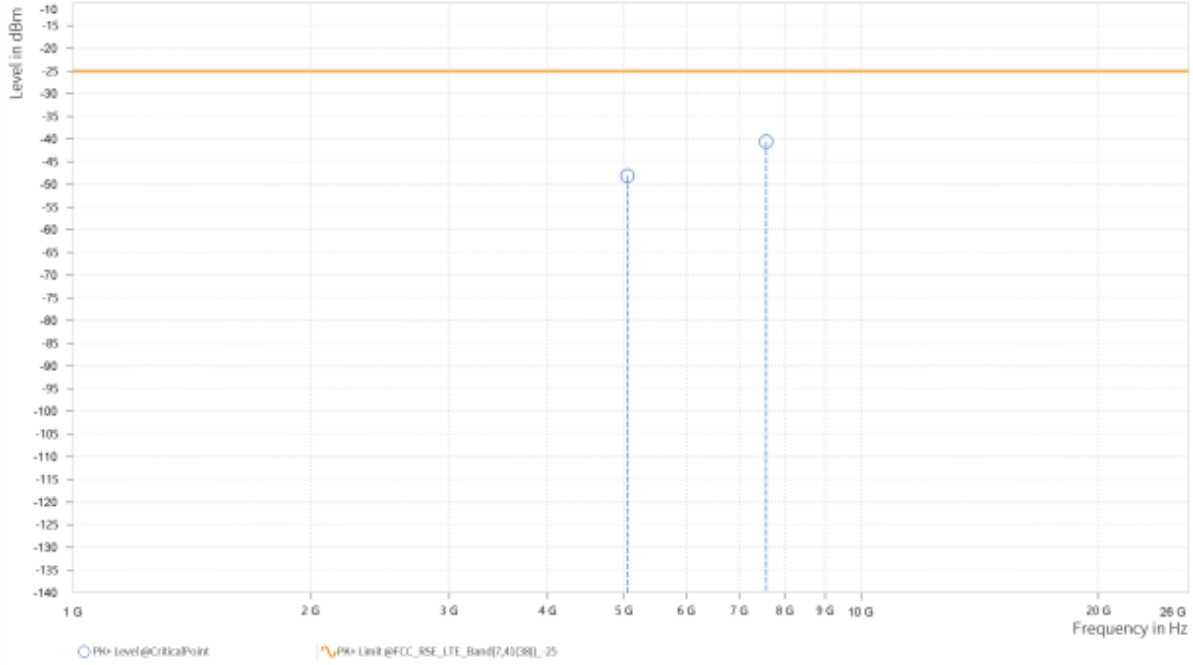
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	5,002.000	-48.95	-25.00	23.95	25.49	V	24.7	2
5	7,503.000	-41.61	-25.00	16.61	29.17	V	218.1	1



CH 21100

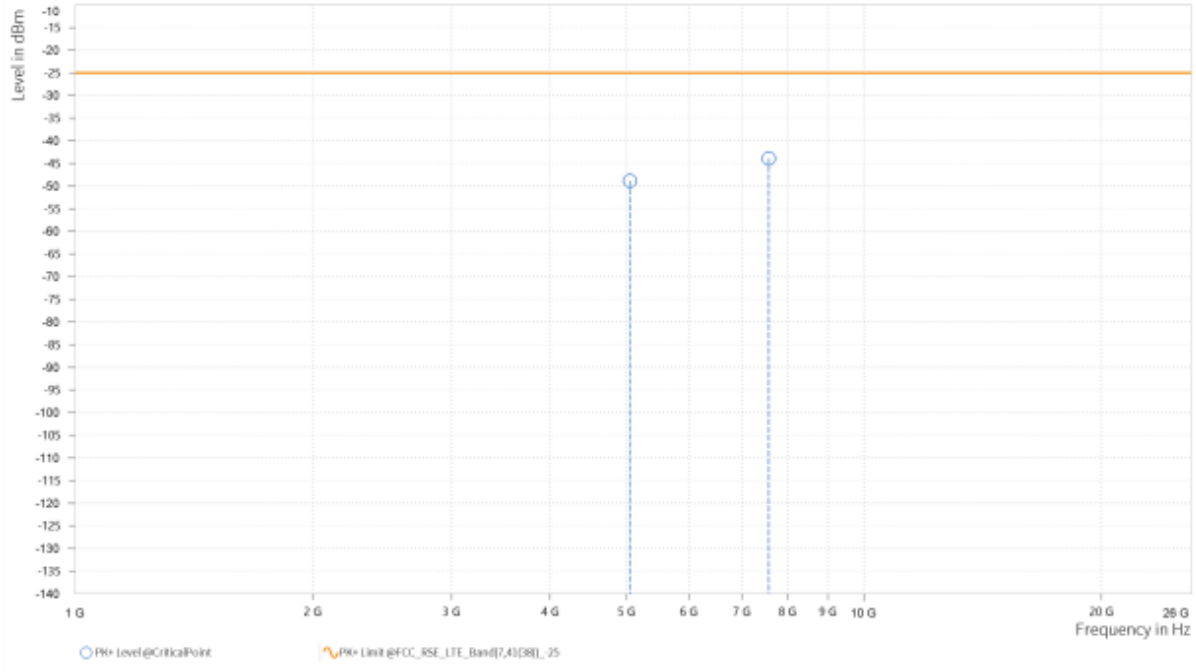
MODE	TX channel 21100	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	5,052.000	-48.13	-25.00	23.13	25.59	H	202.9	2
5	7,578.000	-40.59	-25.00	15.59	29.30	H	1	2



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			

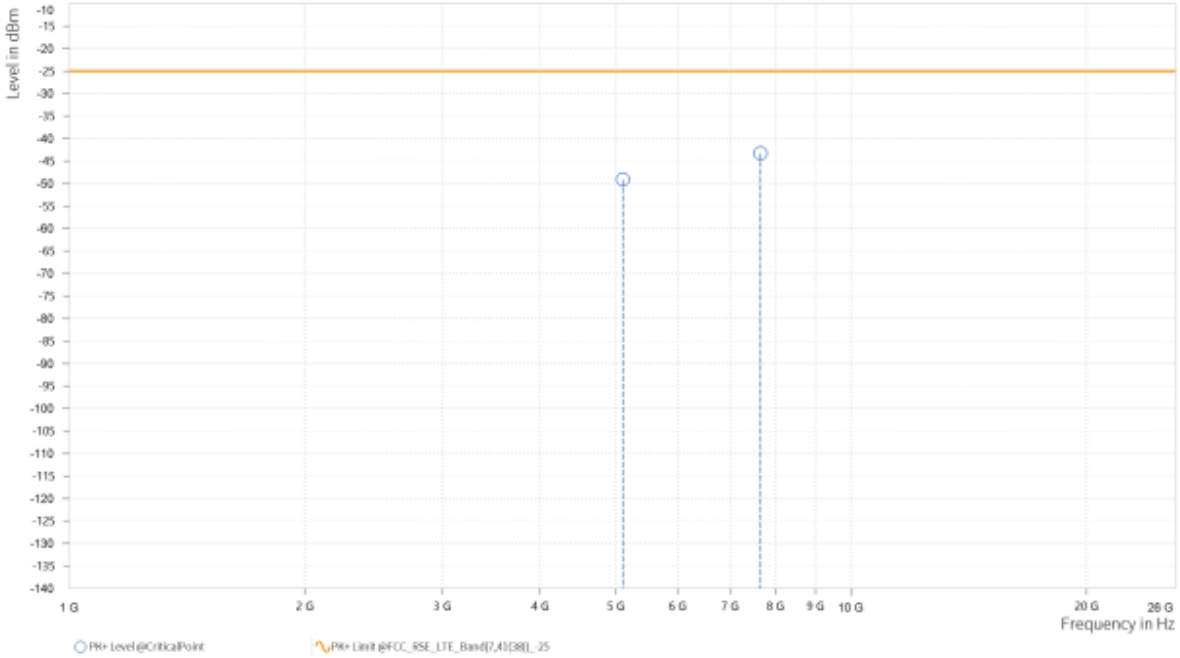
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	5,052.000	-48.87	-25.00	23.87	26.00	V	187.3	2
5	7,578.000	-43.91	-25.00	18.91	29.10	V	359	1



CH 21350

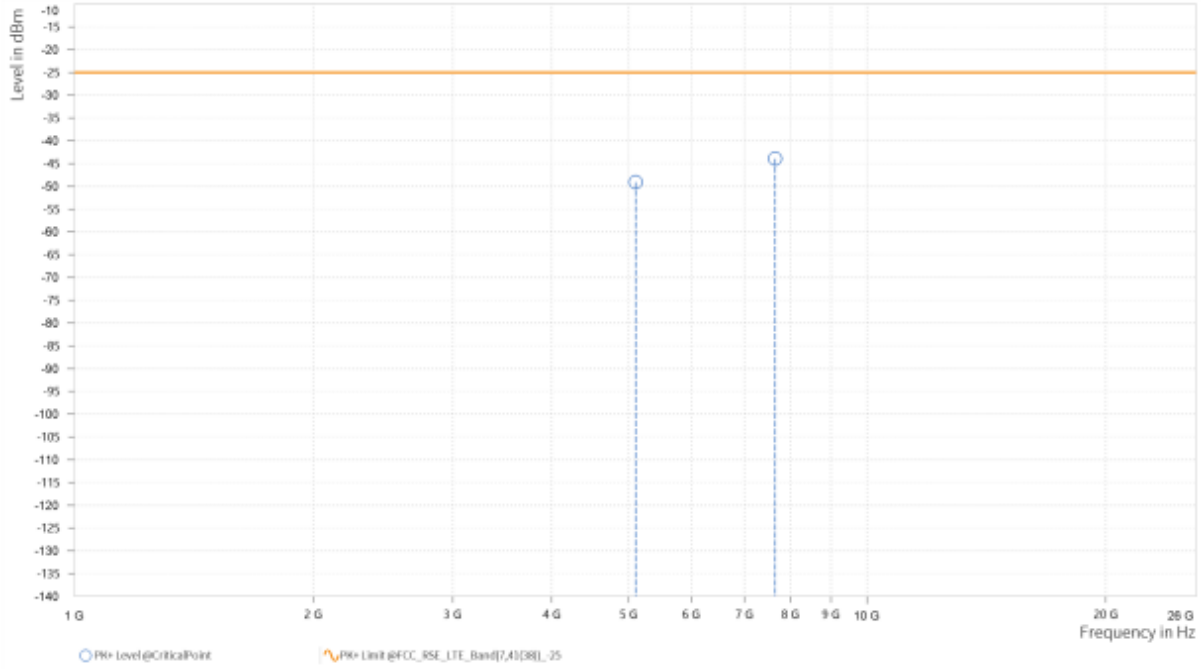
MODE	TX channel 21350	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	5,102.000	-49.10	-25.00	24.10	24.83	H	1	1
5	7,653.000	-43.29	-25.00	18.29	29.19	H	1	1



MODE	TX channel 21350	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	5,102.000	-49.09	-25.00	24.09	25.35	V	343	1
5	7,653.000	-43.95	-25.00	18.95	29.04	V	359.1	1



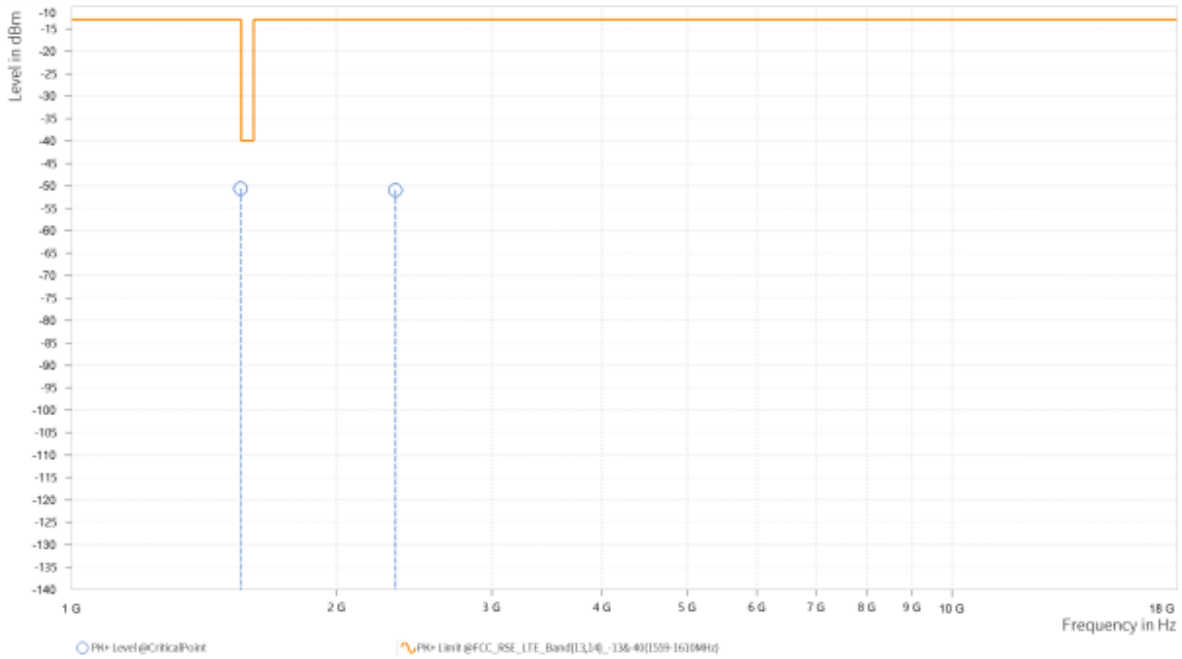
LTE B13(Ant0) (DOWN):

CHANNEL BANDWIDTH: 5MHz / QPSK

CH23205

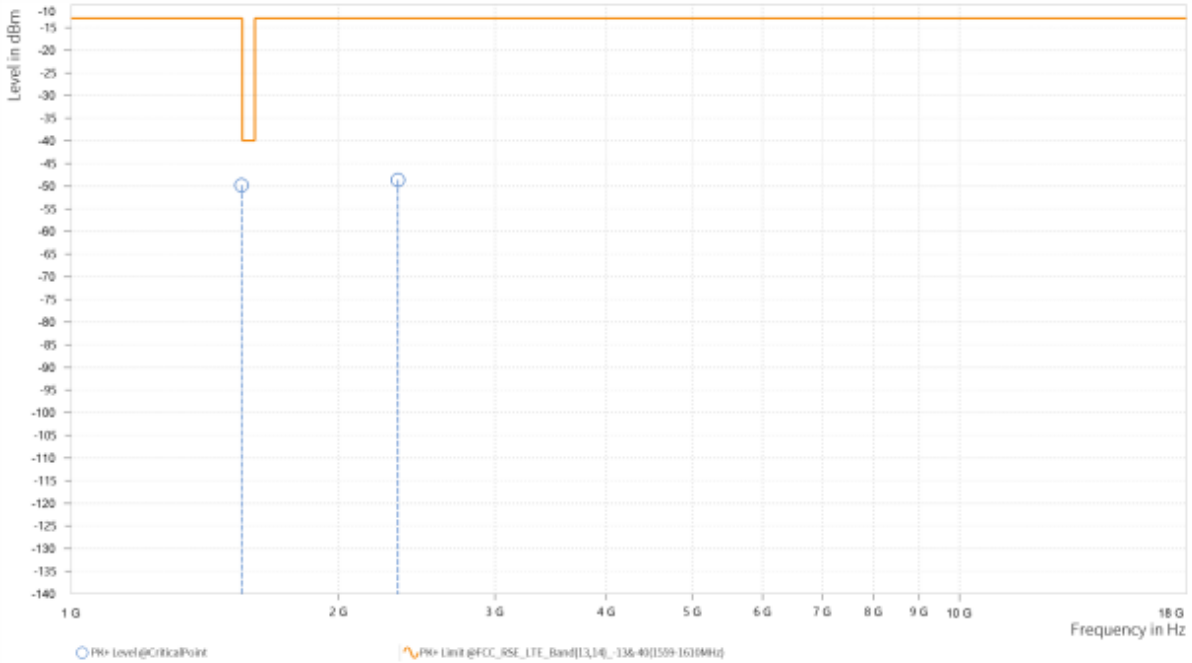
MODE	TX channel 23205	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,554.500	-50.59	-13.00	37.59	13.36	H	72.6	2
3	2,331.750	-50.95	-13.00	37.95	20.14	H	1.9	2



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			

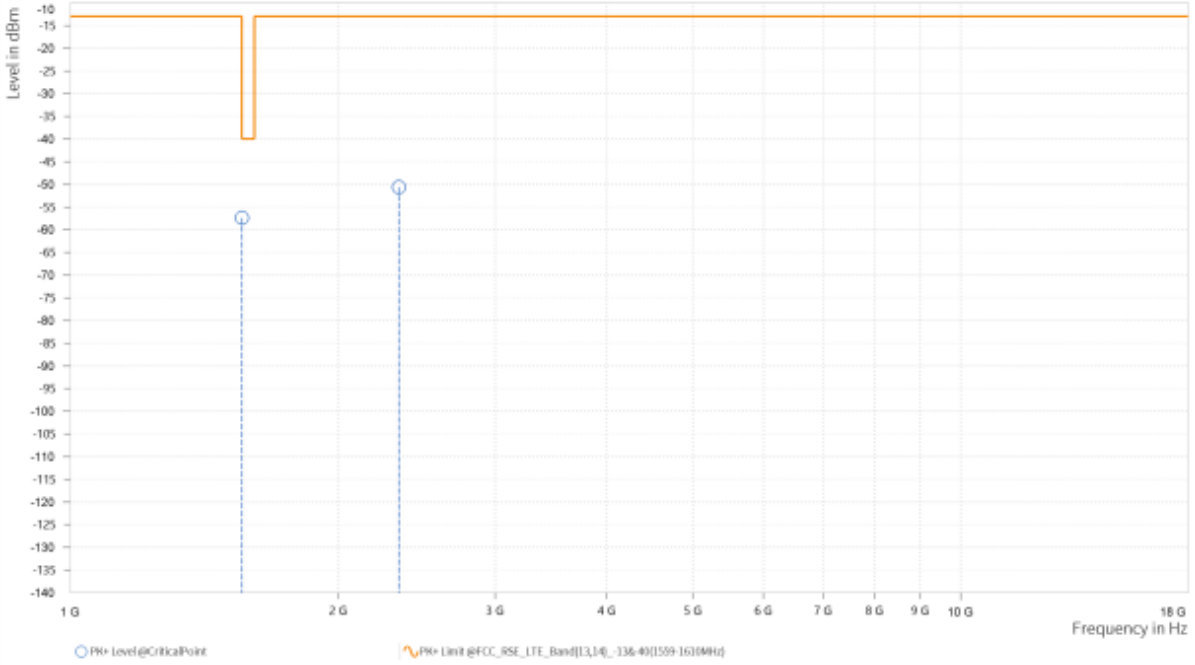
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,554.500	-49.78	-13.00	36.78	14.69	V	359	2
3	2,331.750	-48.62	-13.00	35.62	20.75	V	348.8	1



CH23230

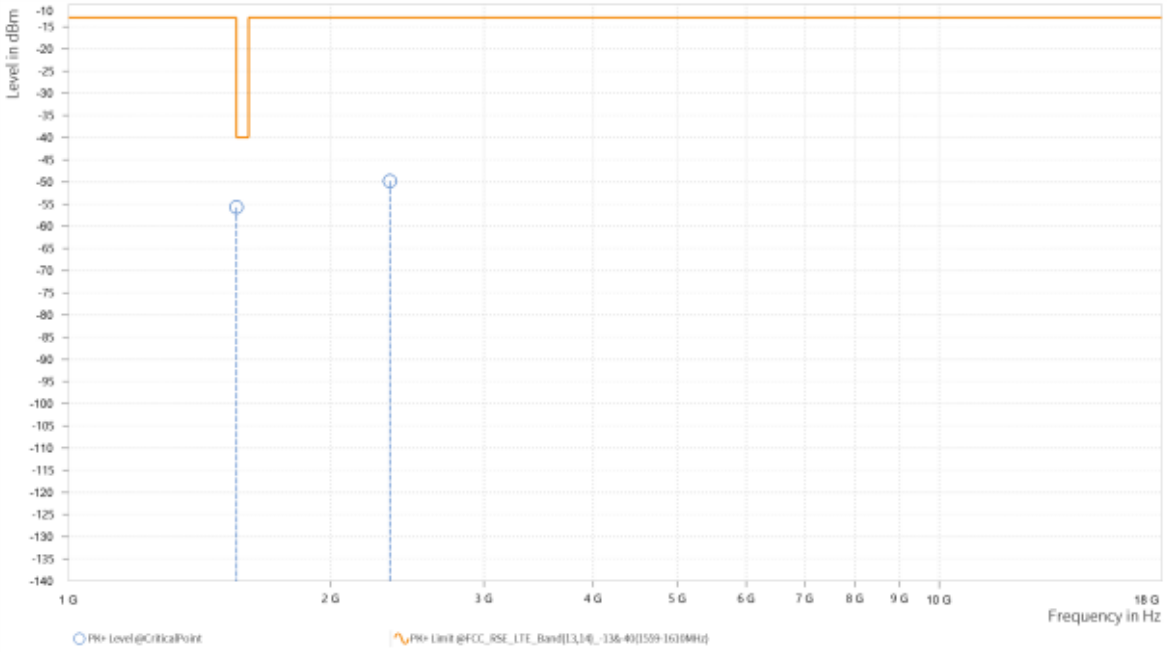
MODE	TX channel 23230	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,559.500	-57.38	-40.00	17.38	13.33	H	0.9	2
3	2,339.250	-50.62	-13.00	37.62	20.38	H	359.1	1



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			

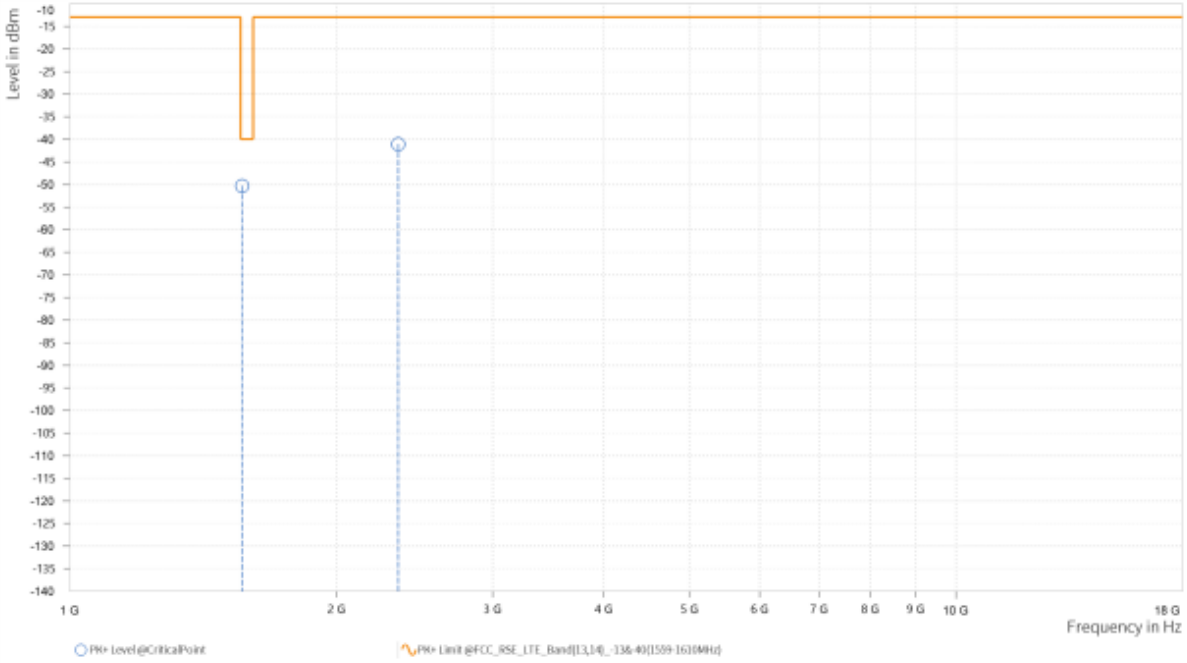
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,559.500	-55.72	-40.00	15.72	14.72	V	288.6	1
3	2,339.250	-49.79	-13.00	36.79	20.79	V	256.6	2



CH23255

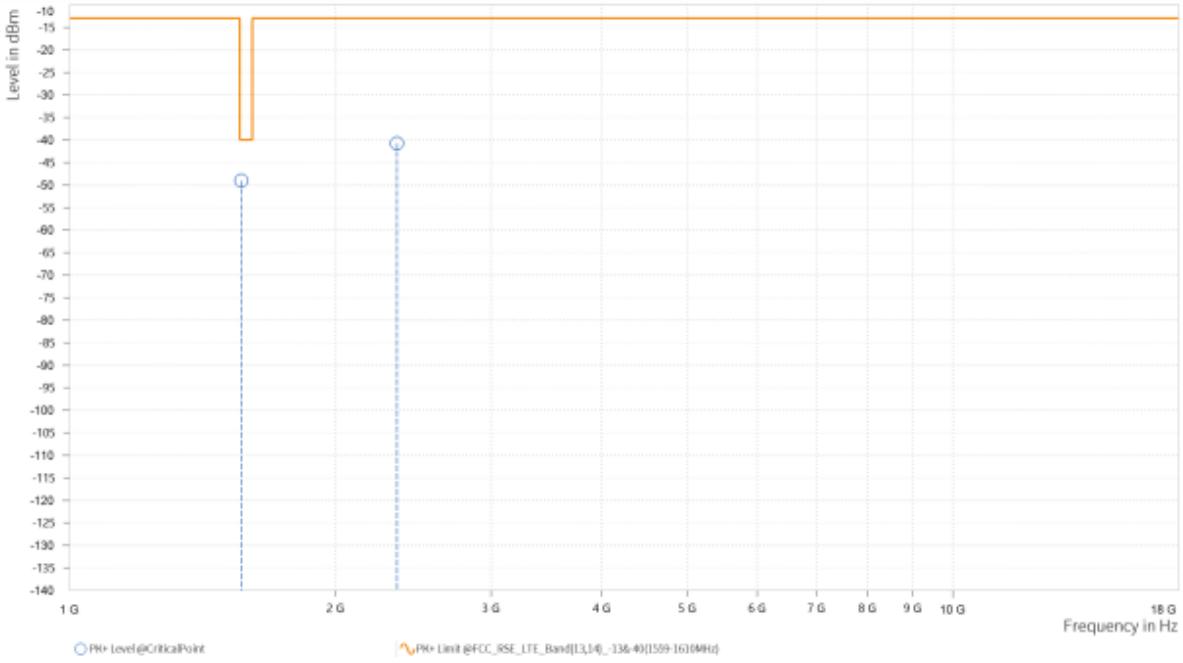
MODE	TX channel 23255	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,564.500	-50.27	-40.00	10.27	13.31	H	66.6	2
3	2,346.500	-41.08	-13.00	28.08	20.68	H	52.3	2



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			

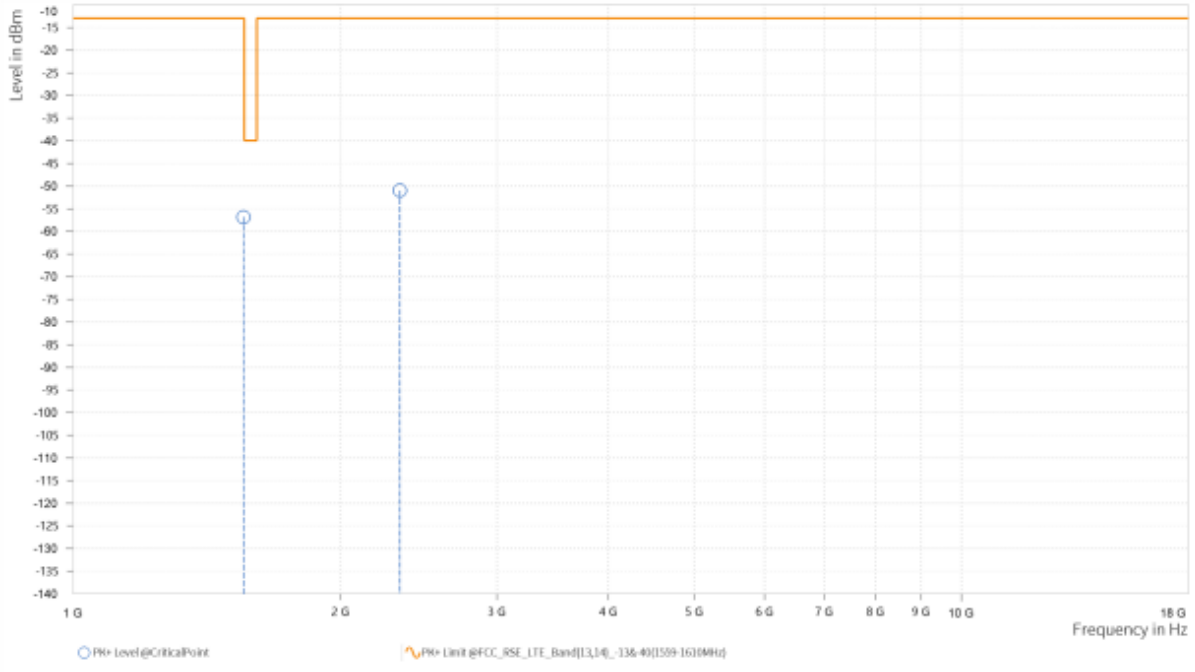
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,564.500	-49.04	-40.00	9.04	14.73	V	1	1
3	2,346.500	-40.75	-13.00	27.75	20.88	V	1.8	2



CHANNEL BANDWIDTH: 10MHz /QPSK

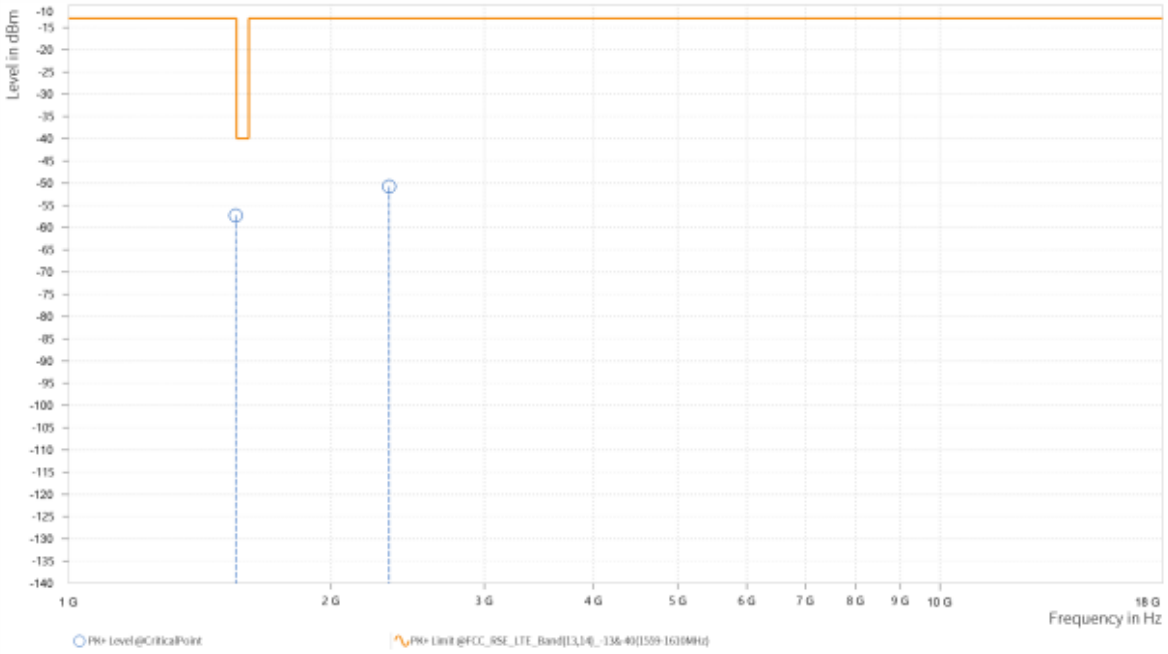
MODE	TX channel 23230	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,555.000	-56.81	-13.00	43.81	13.36	H	65.4	2
3	2,332.500	-50.98	-13.00	37.98	20.17	H	1	1



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	-57.26	-13.00	44.26	14.70	V	359.1	1
3	2,332.500	-50.75	-13.00	37.75	20.76	V	328	1

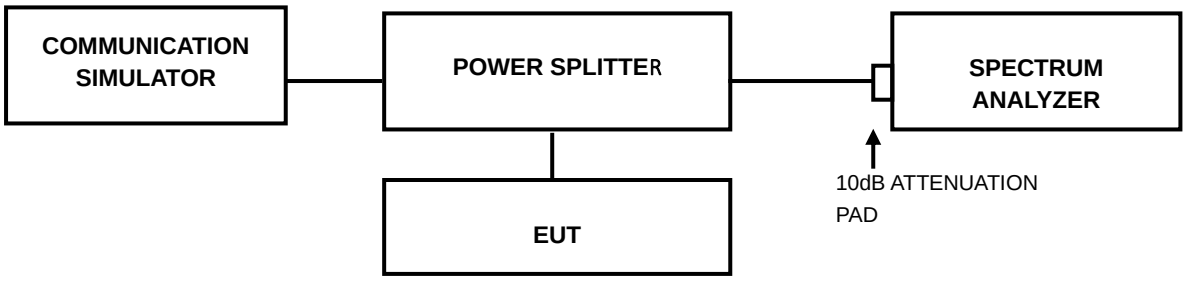


3.7 PEAK TO AVERAGE RATIO

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 PHOTOGRAPHS OF THE TEST CONFIGURATION

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

5 INFORMATION ON THE TESTING LABORATORIES

We, **Huarui 7layers High Technology (Suzhou) Co., Ltd.** were founded in 2020 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:

Suzhou EMC/RF Lab:

Tel: +86 (0557) 368 1008

6 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.

7 APPENDIX

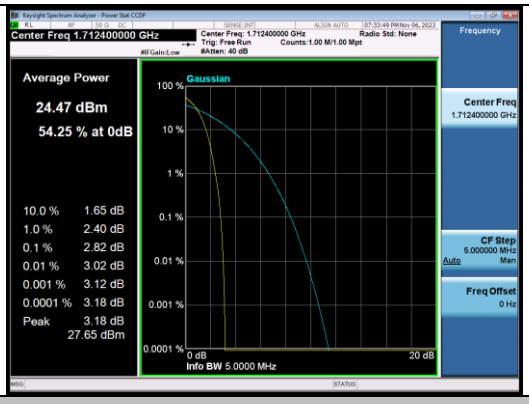
WCDMA-B4

PEAK-TO-AVERAGE RATIO

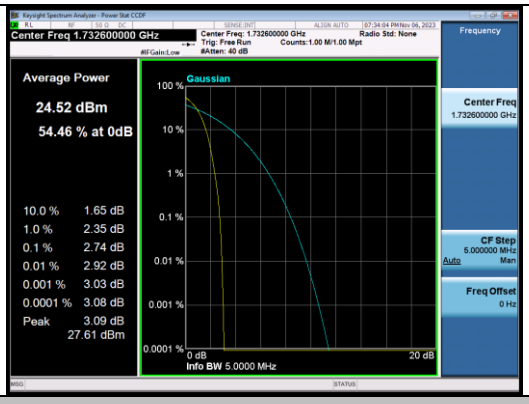
TEST RESULT

Band	Channel	Peak-to-Average Ratio(dB)	Limit(dBm)	Verdict
Band4	1312	2.82	13	PASS
Band4	1413	2.74	13	PASS
Band4	1513	2.77	13	PASS

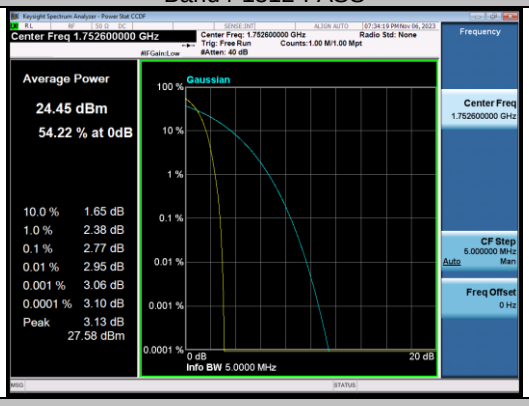
TEST GRAPHS



Band4-1312-PASS



Band4-1413-PASS



Band4-1513-PASS

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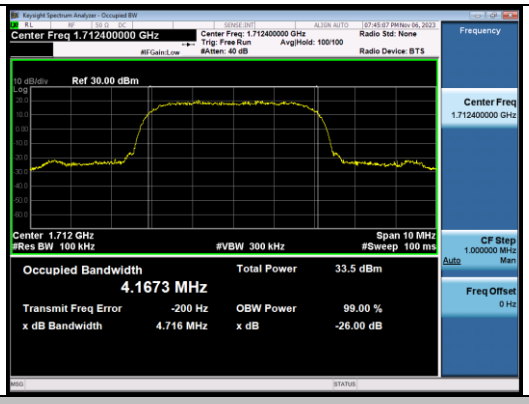
26DB BANDWIDTH AND OCCUPIED BANDWIDTH

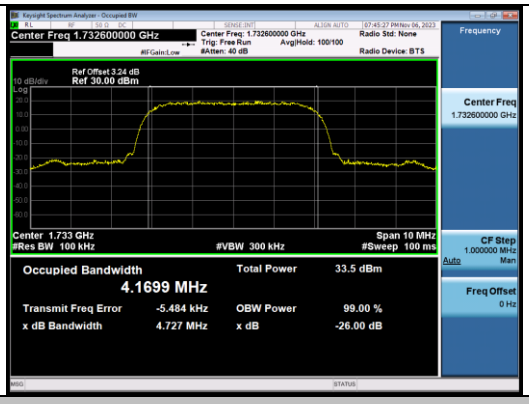
TEST RESULT

Band	Channel	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Limit(kHz)	Verdict
Band4	1312	4.1673	4.716	---	PASS
Band4	1413	4.1699	4.727	---	PASS
Band4	1513	4.1606	4.714	---	PASS

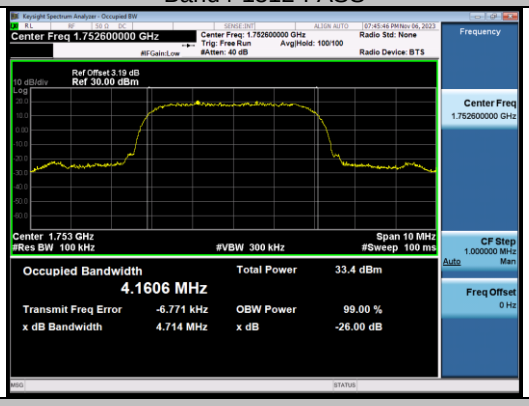
TEST GRAPHS



Band4-1312-PASS



Band4-1413-PASS



Band4-1513-PASS

/

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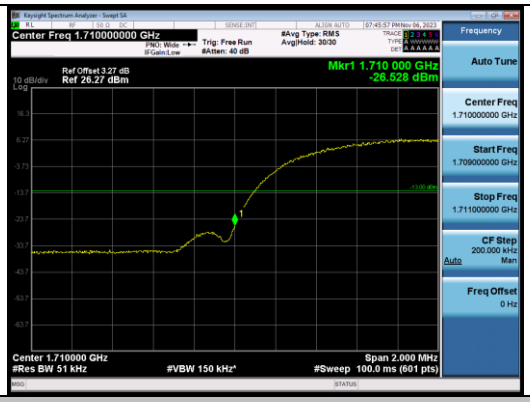
BAND EDGE

TEST RESULT

Band	Channel	Frequency (MHz)	Result (dBm)	Limit(dBm)	Verdict
Band4	1312	1710.00	-26.53	-13	PASS
Band4	1513	1755.00	-26.97	-13	PASS

TEST GRAPHS

	
Band4-1312-PASS	Band4-1513-PASS

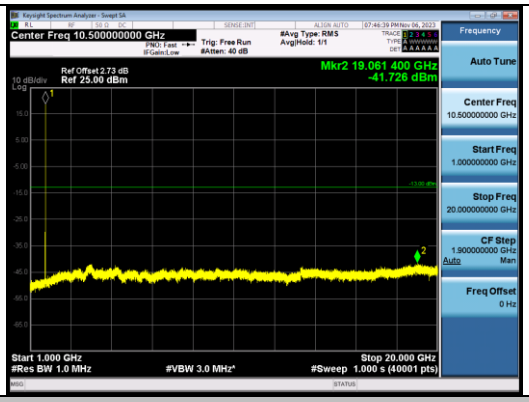
CONDUCTED SPURIOUS EMISSION

TEST RESULT

Band	Channel	Frequency Range (Mhz)	Frequency (dBm)	Result (dBm)	Limit (dBm)	Verdict
Band4	1312	30~1000MHz	896.7	-50.04	-13	PASS
Band4	1312	1000~20000MHz	19061.4	-41.73	-13	PASS
Band4	1413	30~1000MHz	870.51	-50.07	-13	PASS
Band4	1413	1000~20000MHz	3829.58	-41.64	-13	PASS
Band4	1513	30~1000MHz	916.1	-50.1	-13	PASS
Band4	1513	1000~20000MHz	19448.53	-41.71	-13	PASS

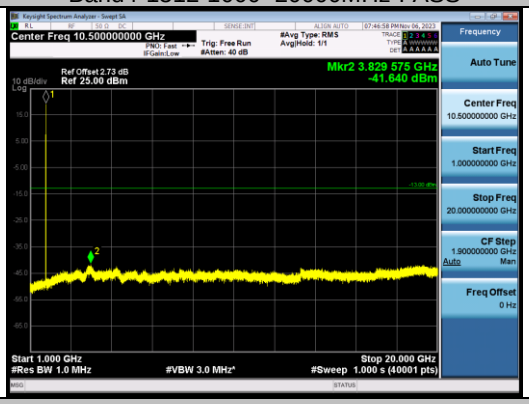
TEST GRAPHS

Band4-1312-30~1000MHz-PASS



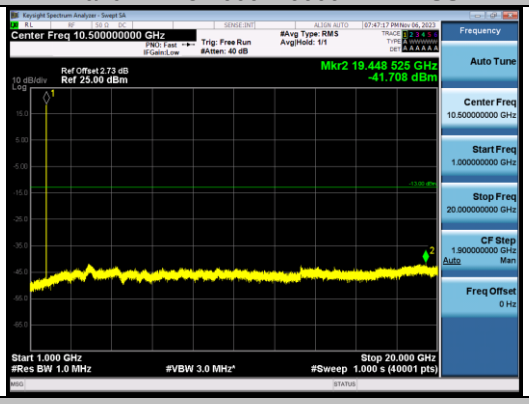
Band4-1312-1000~20000MHz-PASS

Band4-1413-30~1000MHz-PASS



Band4-1413-1000~20000MHz-PASS

Band4-1513-30~1000MHz-PASS



Band4-1513-1000~20000MHz-PASS

FREQUENCY STABILITY

TEST RESULT

Voltage							
Band	Channel	Voltage (Vdc)	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band4	1312	VN	NT	-14.95	-0.008730	±2.5	PASS
Band4	1312	VL	NT	-14.10	-0.008234	±2.5	PASS
Band4	1312	VH	NT	-12.95	-0.007562	±2.5	PASS
Band4	1413	VN	NT	-12.07	-0.006966	±2.5	PASS
Band4	1413	VL	NT	-9.58	-0.005529	±2.5	PASS
Band4	1413	VH	NT	-12.63	-0.007290	±2.5	PASS
Band4	1513	VN	NT	-7.87	-0.004490	±2.5	PASS
Band4	1513	VL	NT	-11.21	-0.006396	±2.5	PASS
Band4	1513	VH	NT	-8.27	-0.004719	±2.5	PASS

Temperature							
Band	Channel	Voltage (Vdc)	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band4	1312	NV	-30	-12.22	-0.007136	±2.5	PASS
Band4	1312	NV	-20	-10.79	-0.006301	±2.5	PASS
Band4	1312	NV	-10	-10.19	-0.005951	±2.5	PASS
Band4	1312	NV	0	-11.77	-0.006873	±2.5	PASS
Band4	1312	NV	10	-12.01	-0.007014	±2.5	PASS
Band4	1312	NV	20	-11.77	-0.006873	±2.5	PASS
Band4	1312	NV	30	-9.16	-0.005349	±2.5	PASS
Band4	1312	NV	40	-9.24	-0.005396	±2.5	PASS
Band4	1312	NV	50	-10.76	-0.006284	±2.5	PASS
Band4	1413	NV	-30	-10.58	-0.006106	±2.5	PASS
Band4	1413	NV	-20	-10.09	-0.005824	±2.5	PASS
Band4	1413	NV	-10	-10.60	-0.006118	±2.5	PASS
Band4	1413	NV	0	-10.77	-0.006216	±2.5	PASS
Band4	1413	NV	10	-9.59	-0.005535	±2.5	PASS
Band4	1413	NV	20	-10.24	-0.005910	±2.5	PASS
Band4	1413	NV	30	-9.90	-0.005714	±2.5	PASS
Band4	1413	NV	40	-11.43	-0.006597	±2.5	PASS
Band4	1413	NV	50	-10.37	-0.005985	±2.5	PASS
Band4	1513	NV	-30	-6.97	-0.003977	±2.5	PASS
Band4	1513	NV	-20	-9.13	-0.005209	±2.5	PASS
Band4	1513	NV	-10	-8.65	-0.004936	±2.5	PASS
Band4	1513	NV	0	-8.78	-0.005010	±2.5	PASS
Band4	1513	NV	10	-7.64	-0.004359	±2.5	PASS
Band4	1513	NV	20	-9.73	-0.005552	±2.5	PASS
Band4	1513	NV	30	-6.64	-0.003789	±2.5	PASS
Band4	1513	NV	40	-8.88	-0.005067	±2.5	PASS
Band4	1513	NV	50	-6.87	-0.003920	±2.5	PASS

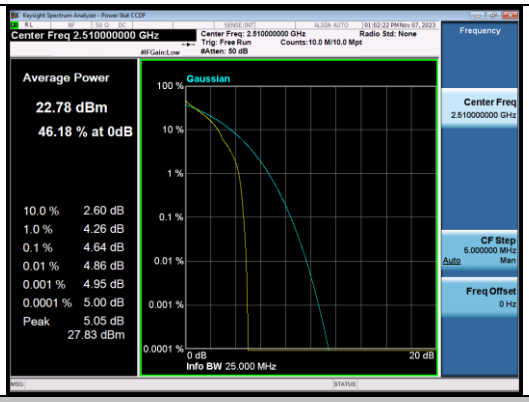
LTE-B7

PEAK-TO-AVERAGE RATIO(CCDF)

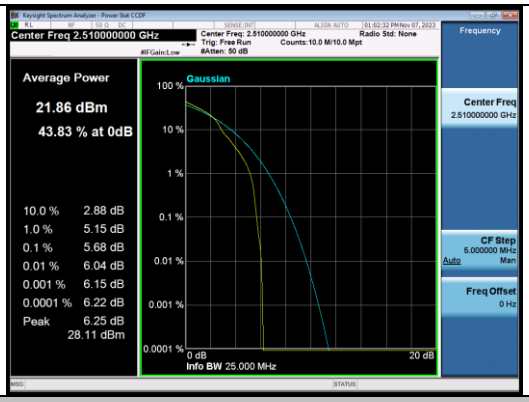
TEST RESULT

Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dB)	Limit(dB)	Verdict
Band7	20MHz	QPSK	20850	1RB#0	4.64	13	PASS
Band7	20MHz	16QAM	20850	1RB#0	5.68	13	PASS
Band7	20MHz	64QAM	20850	1RB#0	6.27	13	PASS
Band7	20MHz	QPSK	20850	100RB#0	5.62	13	PASS
Band7	20MHz	16QAM	20850	100RB#0	6.38	13	PASS
Band7	20MHz	64QAM	20850	100RB#0	6.04	13	PASS
Band7	20MHz	QPSK	21100	1RB#0	4.15	13	PASS
Band7	20MHz	16QAM	21100	1RB#0	4.90	13	PASS
Band7	20MHz	64QAM	21100	1RB#0	5.82	13	PASS
Band7	20MHz	QPSK	21100	100RB#0	5.36	13	PASS
Band7	20MHz	16QAM	21100	100RB#0	6.21	13	PASS
Band7	20MHz	64QAM	21100	100RB#0	5.93	13	PASS
Band7	20MHz	QPSK	21350	1RB#0	4.18	13	PASS
Band7	20MHz	16QAM	21350	1RB#0	5.24	13	PASS
Band7	20MHz	64QAM	21350	1RB#0	6.14	13	PASS
Band7	20MHz	QPSK	21350	100RB#0	5.32	13	PASS
Band7	20MHz	16QAM	21350	100RB#0	6.11	13	PASS
Band7	20MHz	64QAM	21350	100RB#0	5.64	13	PASS

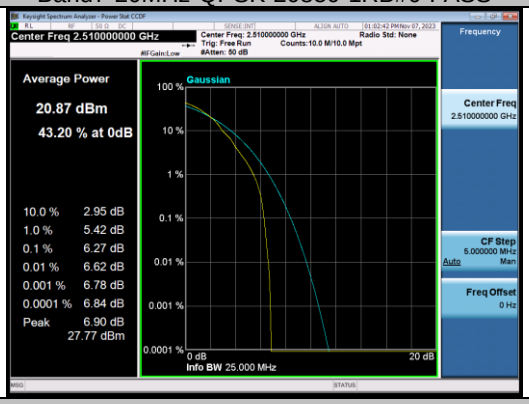
TEST GRAPHS



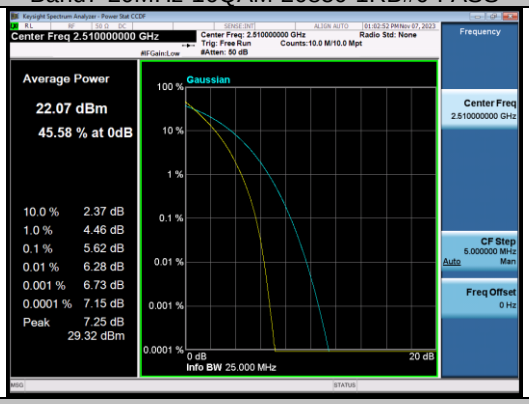
Band7-20MHz-QPSK-20850-1RB#0-PASS



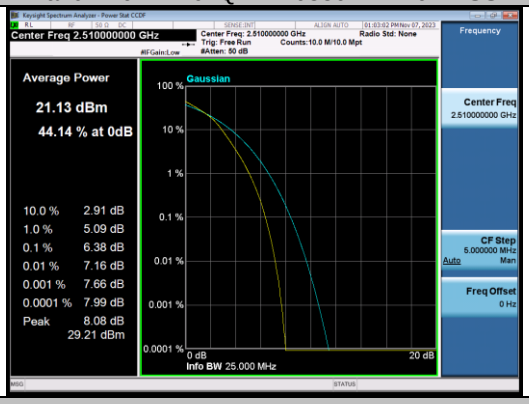
Band7-20MHz-16QAM-20850-1RB#0-PASS



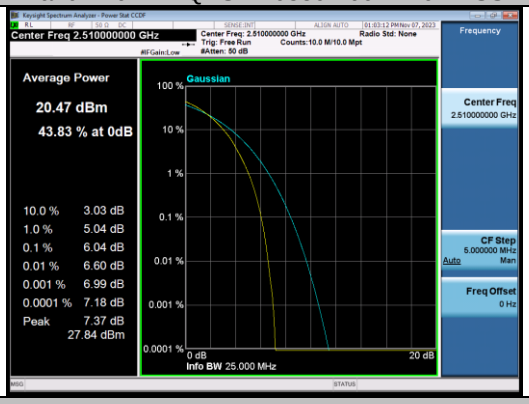
Band7-20MHz-64QAM-20850-1RB#0-PASS



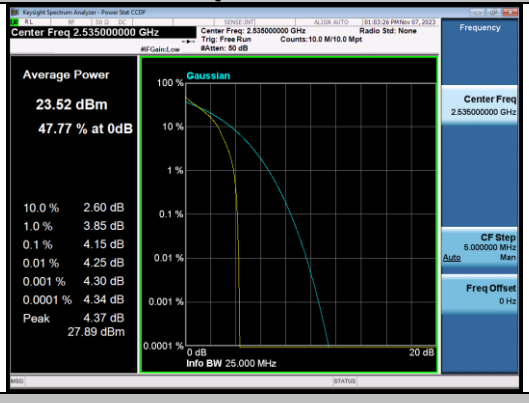
Band7-20MHz-QPSK-20850-100RB#0-PASS



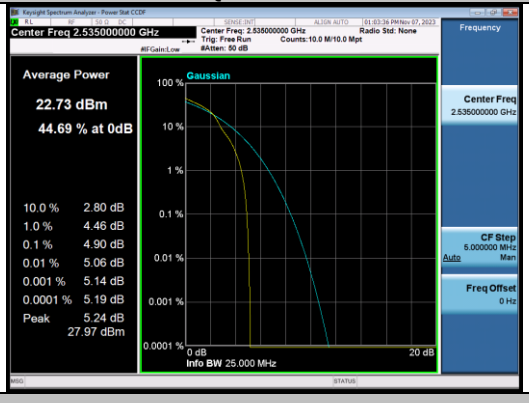
Band7-20MHz-16QAM-20850-100RB#0-PASS



Band7-20MHz-64QAM-20850-100RB#0-PASS



Band7-20MHz-QPSK-21100-1RB#0-PASS



Band7-20MHz-16QAM-21100-1RB#0-PASS