



**BUREAU  
VERITAS**

**Test Report No.: W7L-P23030003RF07**

### 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.



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### 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  $-13\text{dBm}$ .

For: Band41

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

#### 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.  $\text{EIRP} = \text{Output power level of S.G} - \text{TX cable loss} + \text{Antenna gain of substitution horn}$ .
- d. E.R.P power can be calculated form E.I.R.P power by subtracting the gain of dipole,  $\text{E.R.P power} = \text{E.I.P.R power} - 2.15\text{dBi}$ .

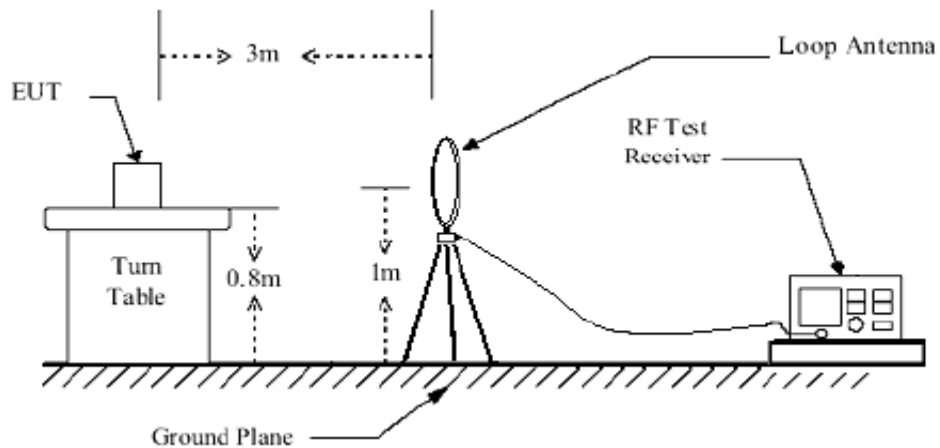
**NOTE:** The resolution bandwidth of spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz.

#### 3.6.3 DEVIATION FROM TEST STANDARD

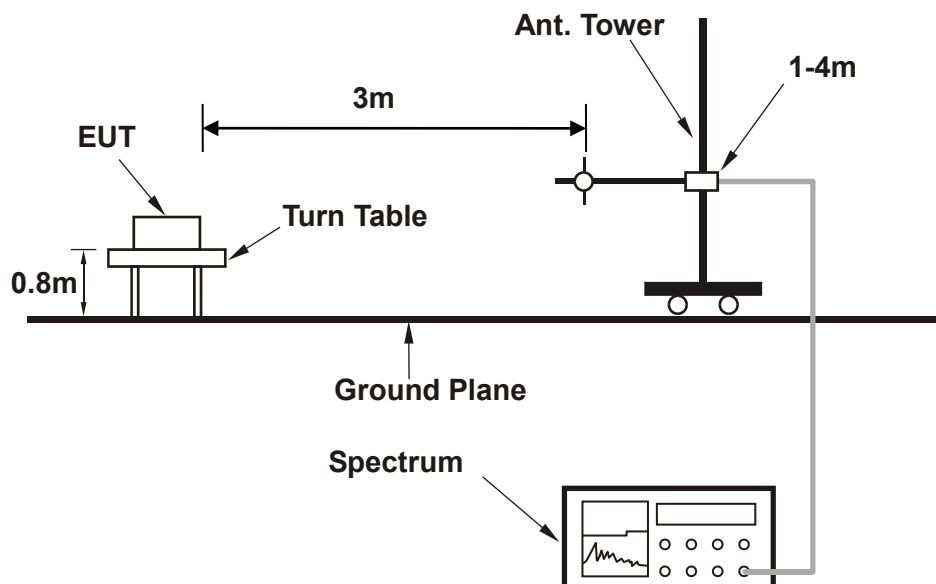
No deviation

### 3.6.4 TEST SETUP

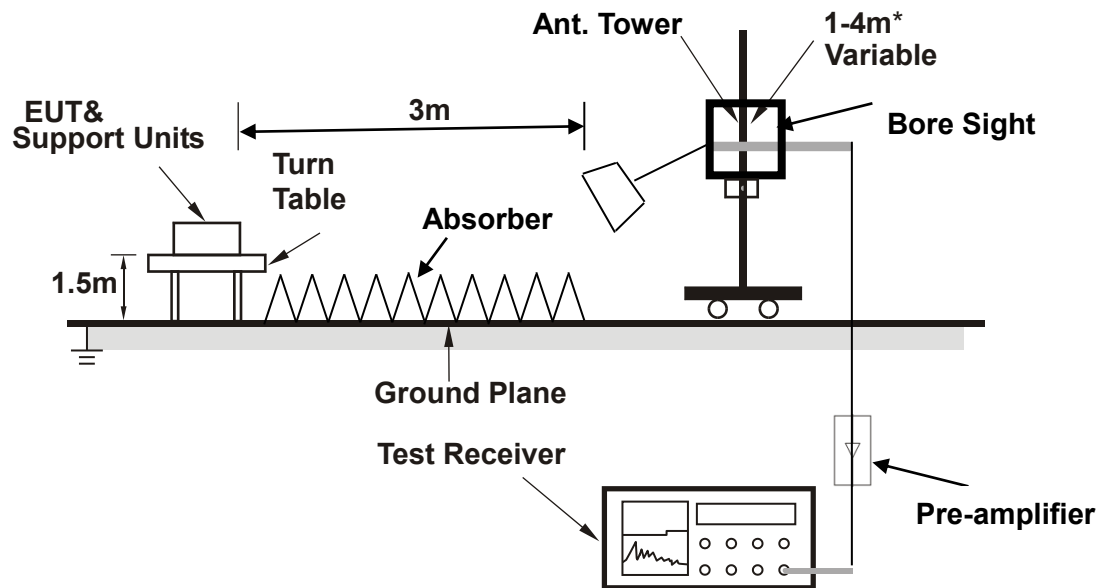
#### < Frequency Range below 30MHz >



#### < 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 41(Ant4)

CHANNEL BANDWIDTH: 20MHz / QPSK

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

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	54.000	-68.25	-25.00	43.25	-5.26	H	1	1
1	123.400	-73.97	-25.00	48.97	-10.05	H	4.5	1
1	199.550	-69.42	-25.00	44.42	-9.75	H	159.6	2
1	296.050	-64.91	-25.00	39.91	-4.85	H	4.5	1
2	464.621	-74.96	-25.00	49.96	-0.63	H	359.1	1
2	754.929	-74.78	-25.00	49.78	3.67	H	1	1

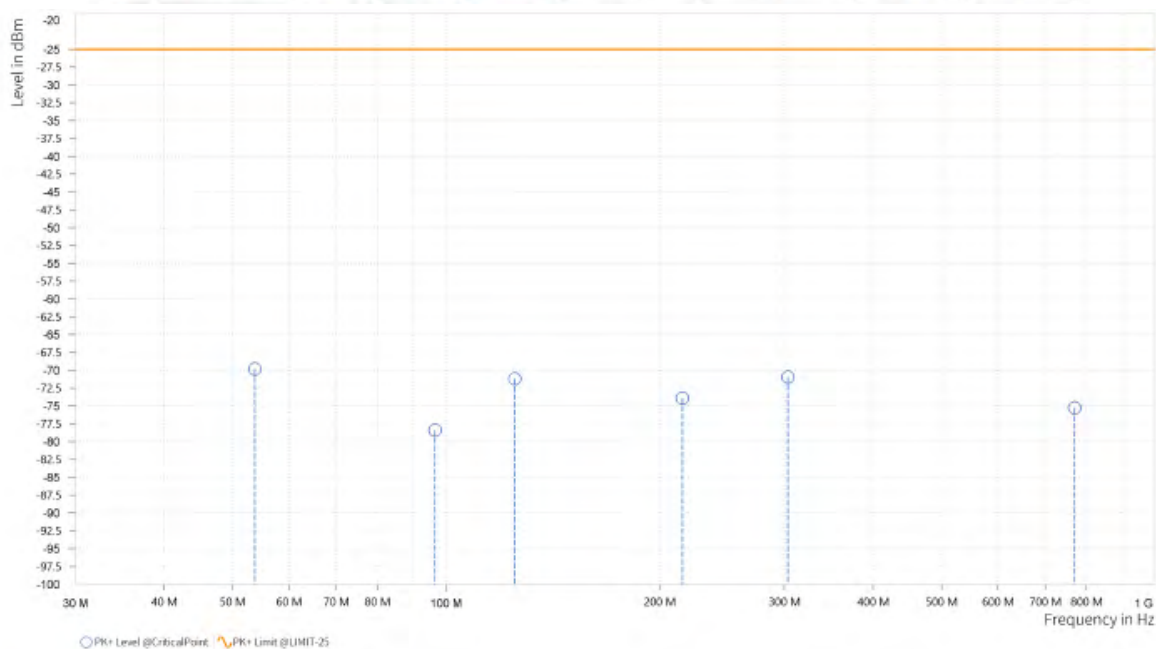




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<b>MODE</b>	TX channel 40620	<b>FREQUENCY RANGE</b>	Below 1000MHz
<b>ENVIRONMENTAL CONDITIONS</b>	23deg. C, 70%RH	<b>INPUT POWER</b>	AC 120V/60HZ
<b>TESTED BY</b>	Jace Hu		
<b>ANTENNA POLARITY &amp; TEST DISTANCE: VERTICAL AT 3 M</b>			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	53.750	-69.81	-25.00	44.81	-5.17	V	354.9	2
1	96.500	-78.42	-25.00	53.42	-8.70	V	359	2
1	125.000	-71.20	-25.00	46.20	-9.65	V	1	2
1	215.450	-73.92	-25.00	48.92	-9.05	V	5	2
1	303.400	-70.98	-25.00	45.98	-6.46	V	158.4	2
2	769.963	-75.24	-25.00	50.24	2.16	V	111.9	1





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**ABOVE 1GHz**

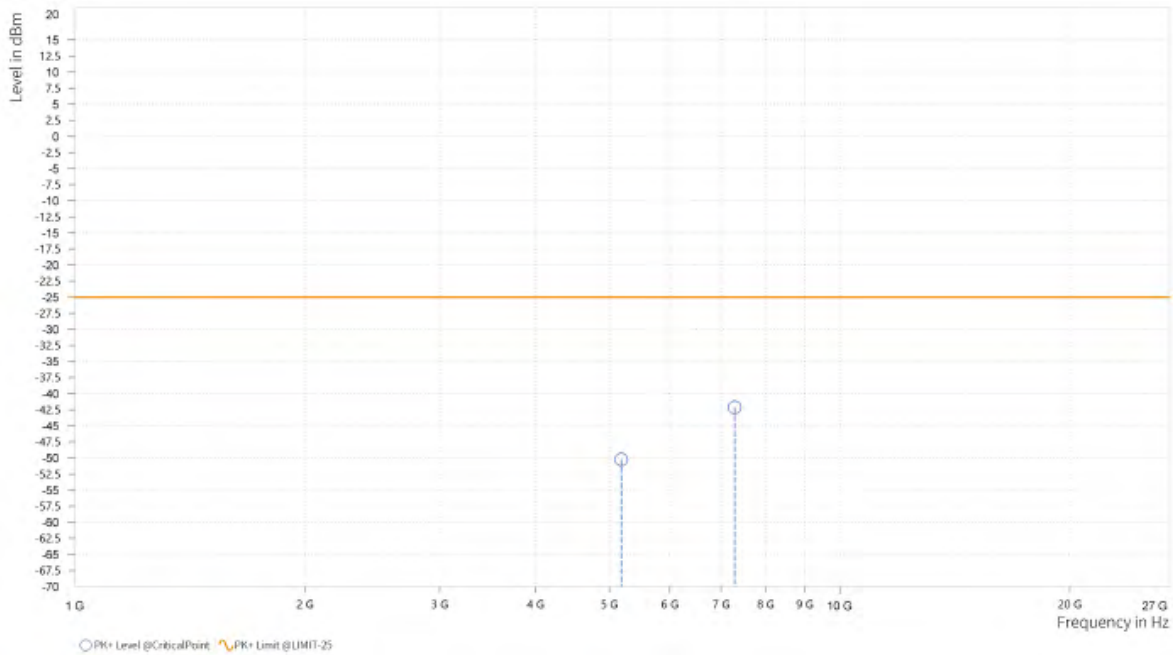
**Note:** For higher frequency, the emission is too low to be detected.

**LTE BAND 41(Ant4)**

**CHANNEL BANDWIDTH: 5MHz / QPSK**

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

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

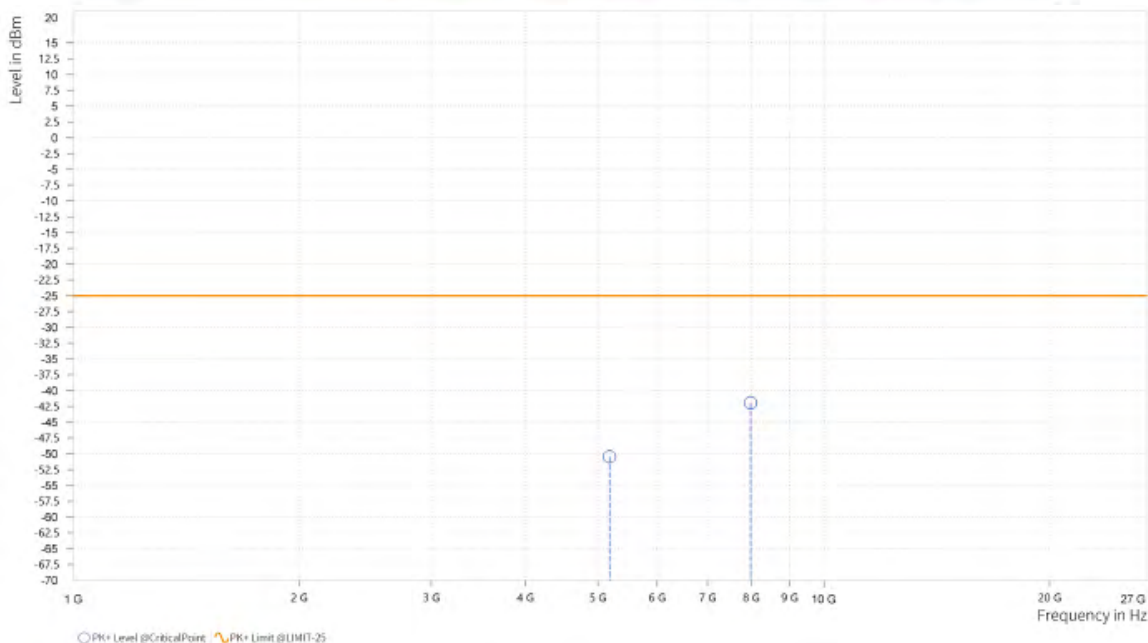




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<b>MODE</b>	TX channel 40620	<b>FREQUENCY RANGE</b>	Above 1000MHz
<b>ENVIRONMENTAL CONDITIONS</b>	23deg. C, 70%RH	<b>INPUT POWER</b>	AC 120V/60Hz
<b>TESTED BY</b>	Jace Hu		
<b>ANTENNA POLARITY &amp; TEST DISTANCE: VERTICAL AT 3 M</b>			

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





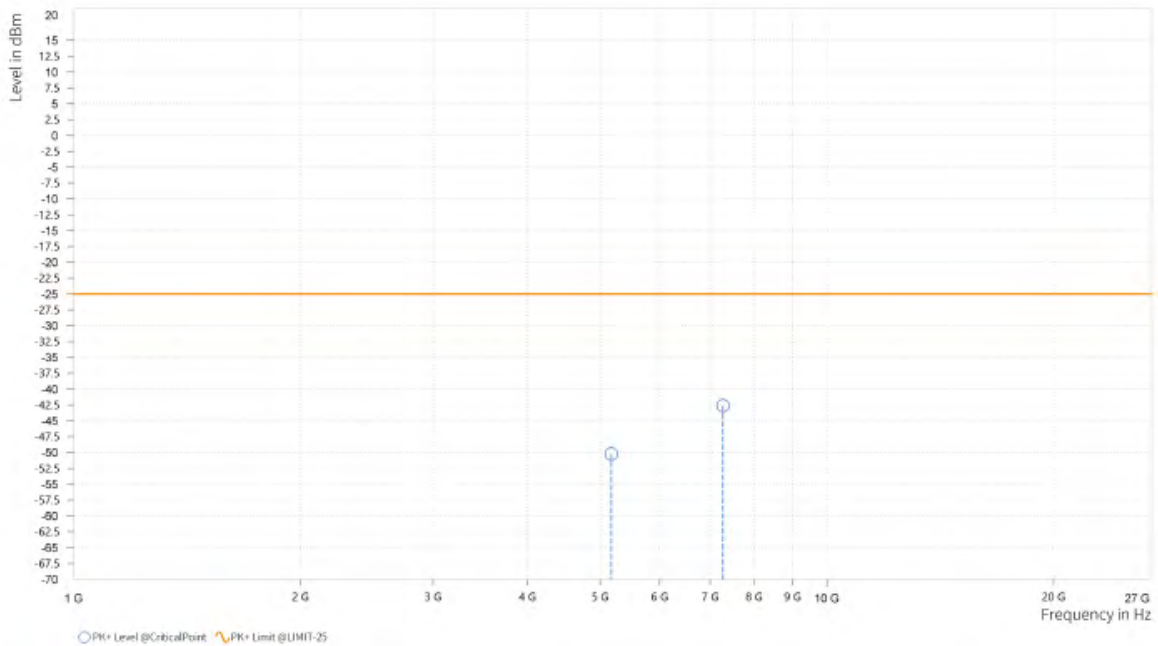


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**CHANNEL BANDWIDTH: 10MHz / QPSK**

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

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

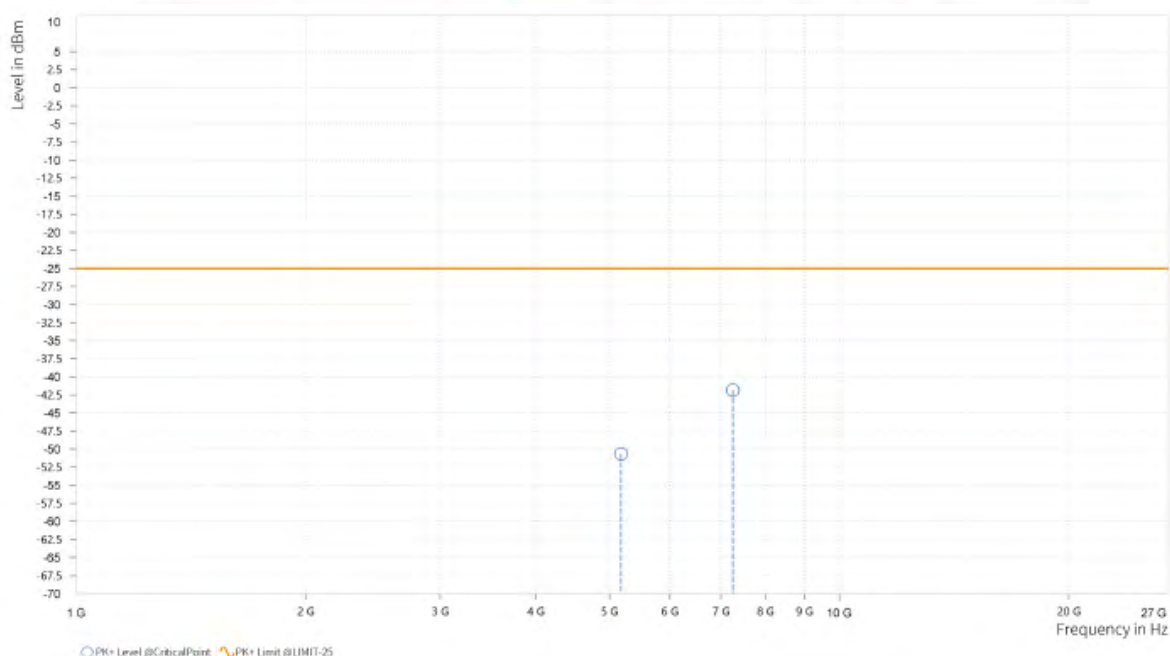




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<b>MODE</b>	TX channel 40620	<b>FREQUENCY RANGE</b>	Above 1000MHz
<b>ENVIRONMENTAL CONDITIONS</b>	23deg. C, 70%RH	<b>INPUT POWER</b>	AC 120V/60Hz
<b>TESTED BY</b>	Jace Hu		
<b>ANTENNA POLARITY &amp; TEST DISTANCE: VERTICAL AT 3 M</b>			

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



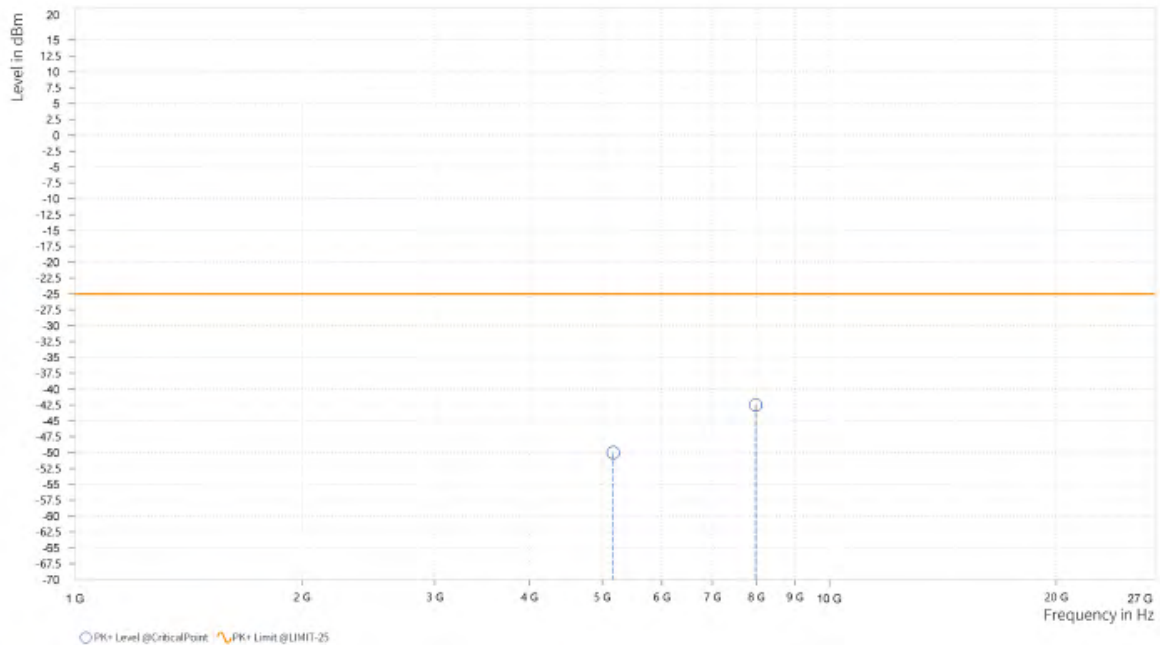


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**CHANNEL BANDWIDTH: 15MHz / QPSK**

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

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

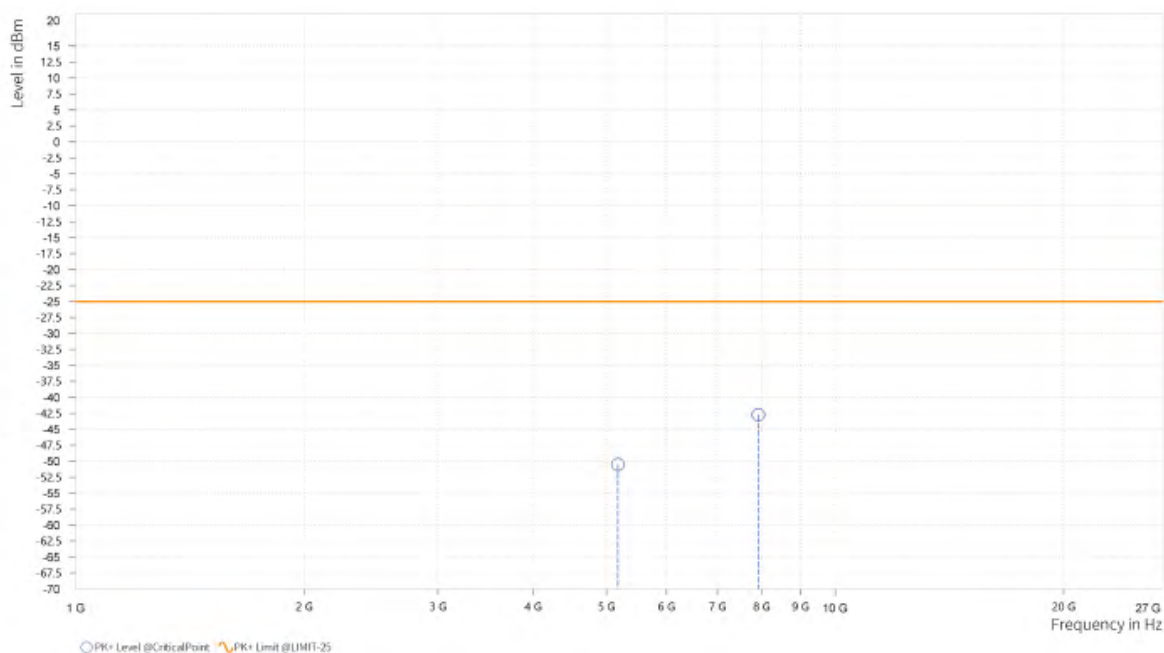




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<b>MODE</b>	TX channel 40620	<b>FREQUENCY RANGE</b>	Above 1000MHz
<b>ENVIRONMENTAL CONDITIONS</b>	23deg. C, 70%RH	<b>INPUT POWER</b>	AC 120V/60Hz
<b>TESTED BY</b>	Jace Hu		
<b>ANTENNA POLARITY &amp; TEST DISTANCE: VERTICAL AT 3 M</b>			

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





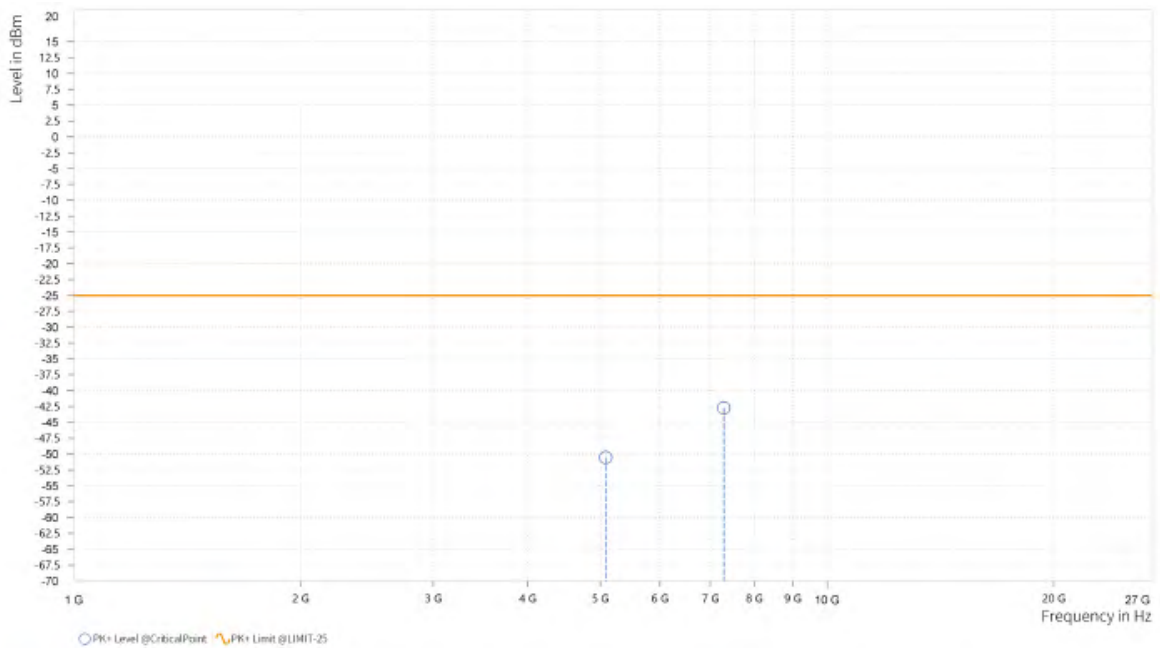
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CHANNEL BANDWIDTH: 20MHz / QPSK

CH39750

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

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

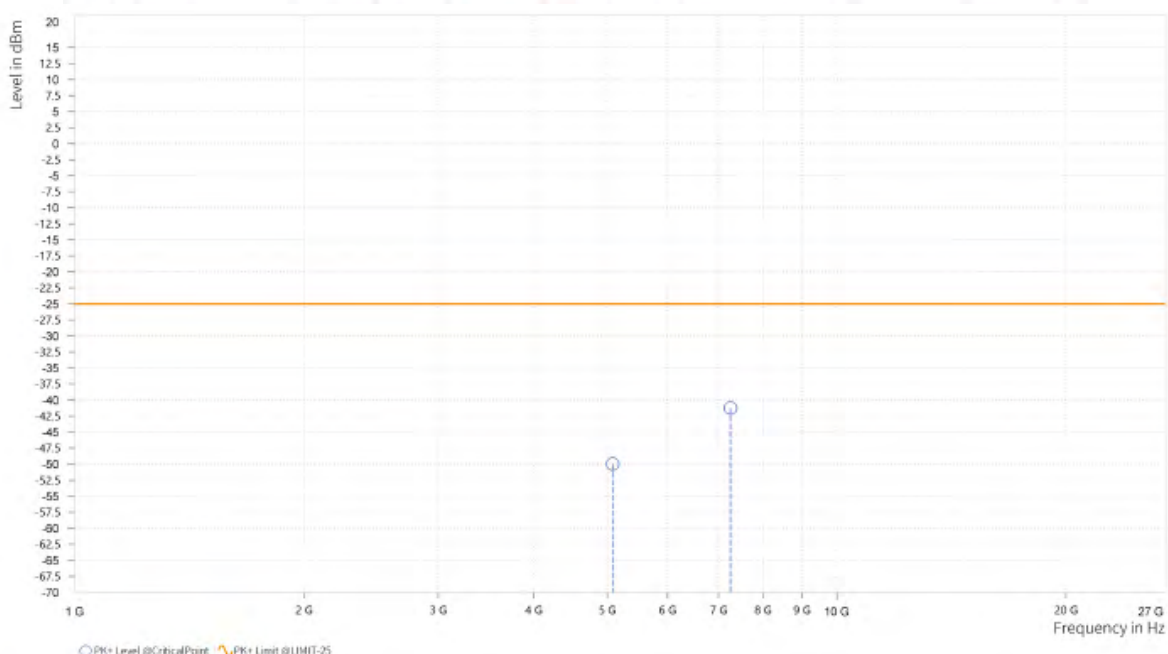




Test Report No.: W7L-P23030003RF07

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

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





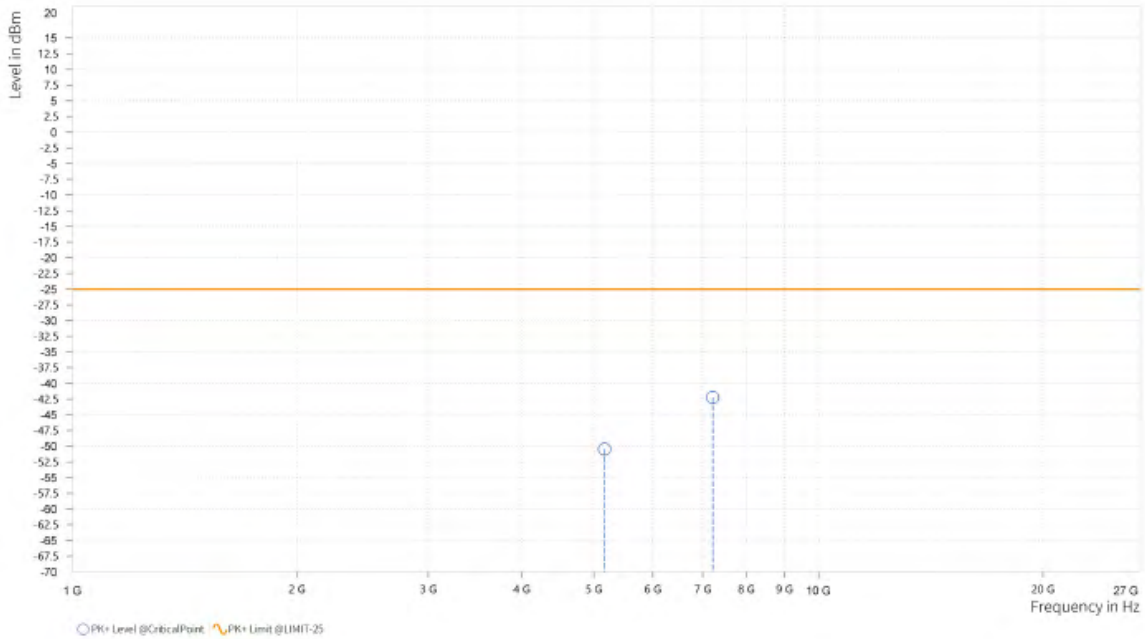
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CH40620

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

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	5,167.000	-50.46	-25.00	25.46	27.58	H	167.9	2
5	7,214.000	-42.23	-25.00	17.23	33.98	H	359	2

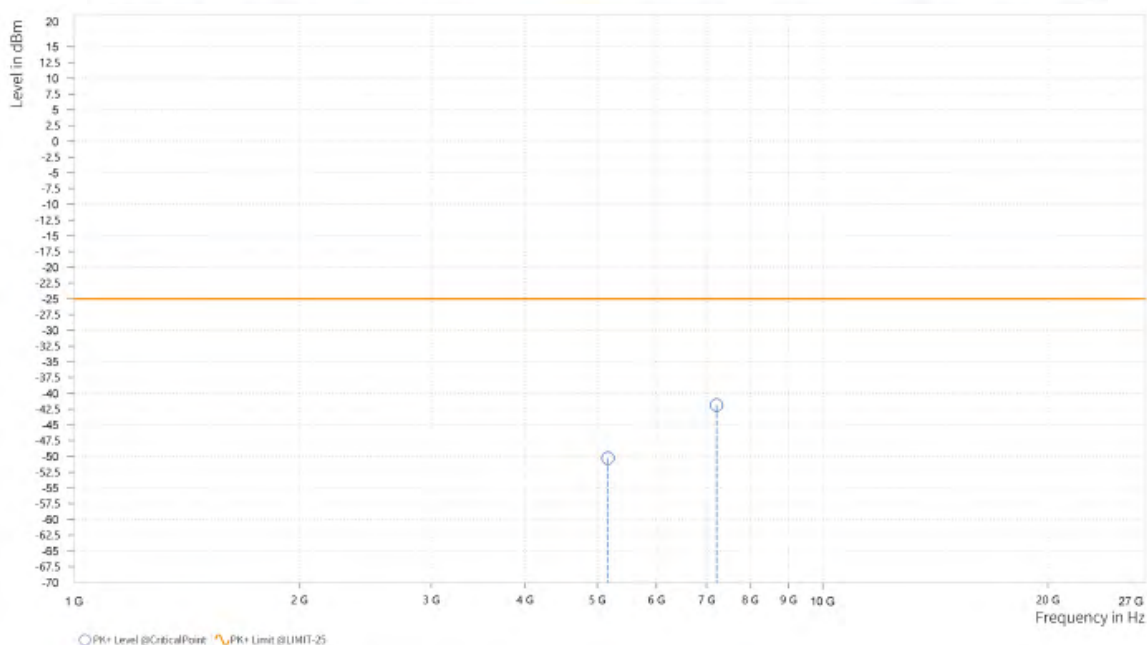




Test Report No.: W7L-P23030003RF07

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

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	5,168.000	-50.28	-25.00	25.28	27.45	V	359.1	1
5	7,218.000	-41.88	-25.00	16.88	34.10	V	0.9	2





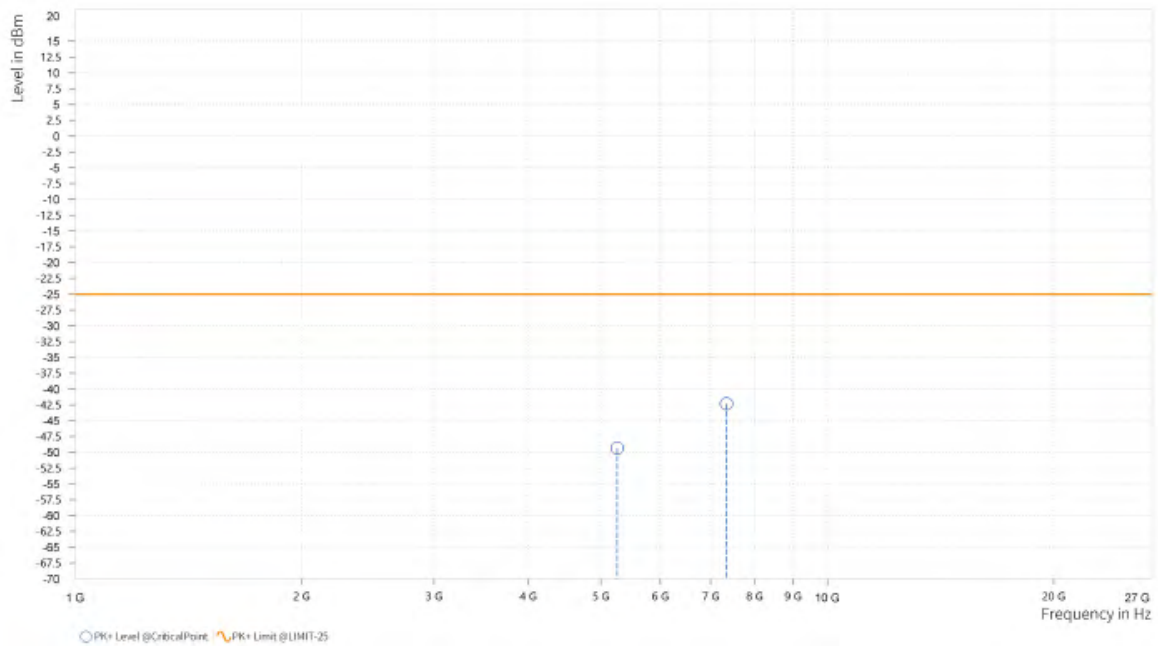


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CH41490

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

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

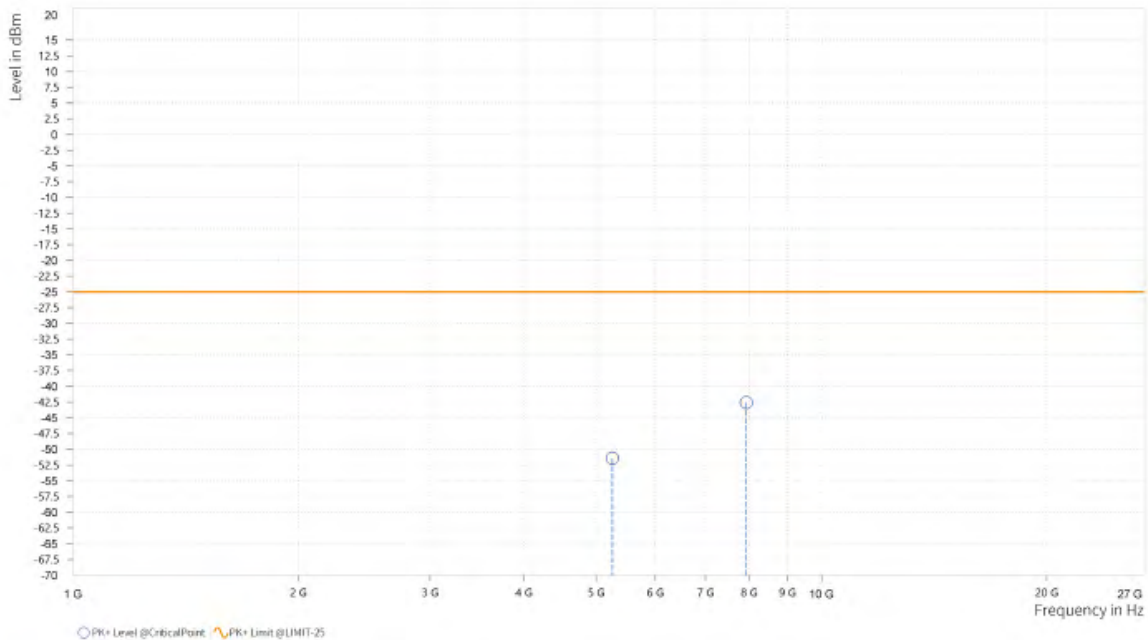




Test Report No.: W7L-P23030003RF07

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

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





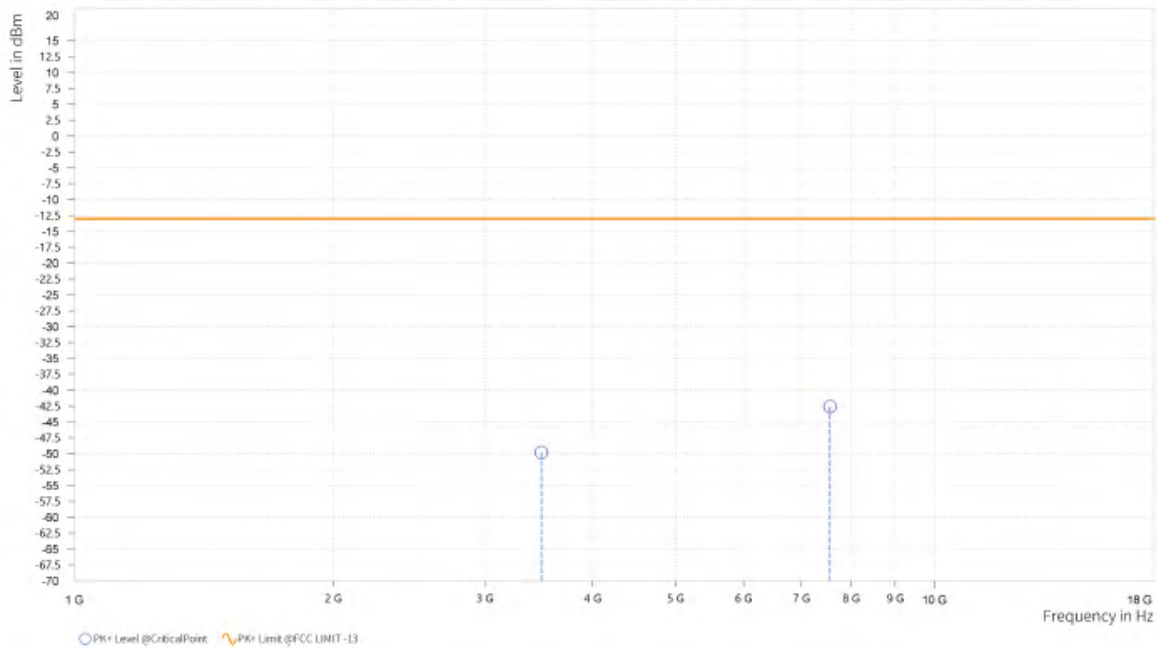
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LTE B66(Ant0)

CHANNEL BANDWIDTH: 1.4MHz / QPSK

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

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	3,490.000	-49.78	-13.00	36.78	23.15	H	1	2
5	7,561.000	-42.59	-13.00	29.59	33.59	H	270.9	1

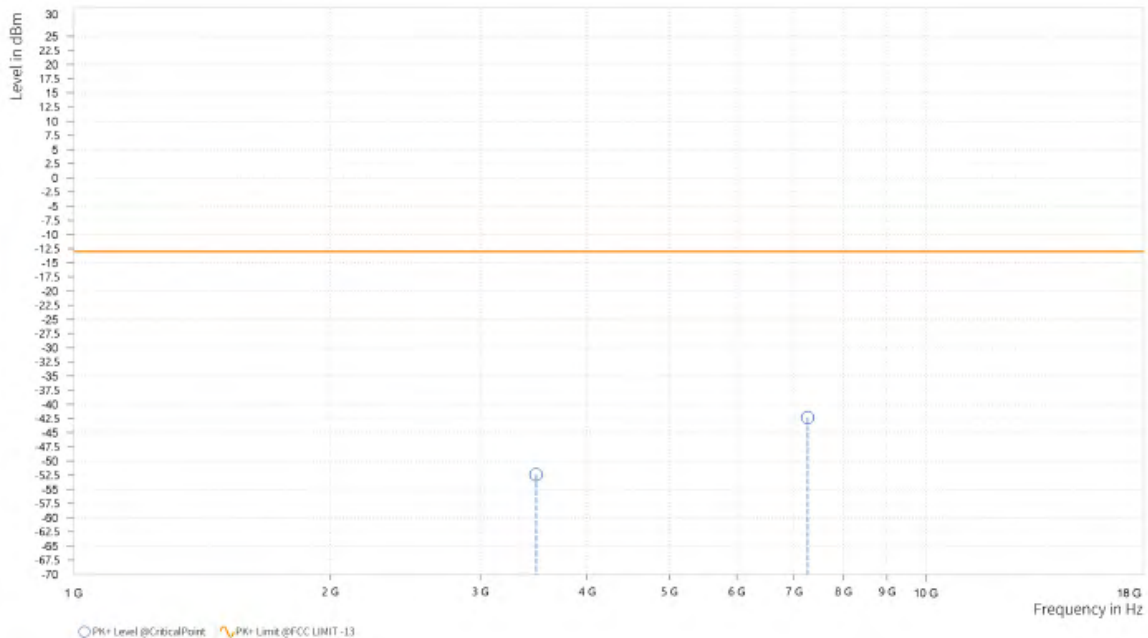




Test Report No.: W7L-P23030003RF07

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

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	3,489.500	-52.41	-13.00	39.41	23.23	V	1	2
5	7,267.000	-42.33	-13.00	29.33	34.22	V	359	2



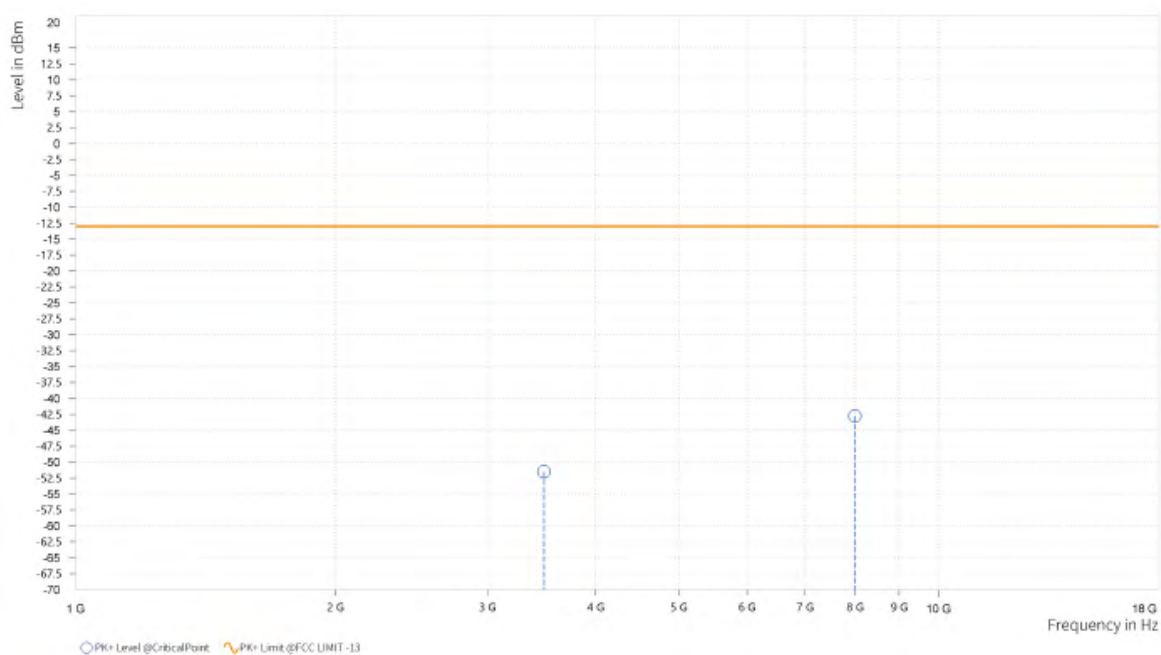


Test Report No.: W7L-P23030003RF07

**CHANNEL BANDWIDTH: 3MHz / QPSK**

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

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	3,488.000	-51.48	-13.00	38.48	23.12	H	1	1
5	7,997.500	-42.79	-13.00	29.79	34.47	H	359.1	1

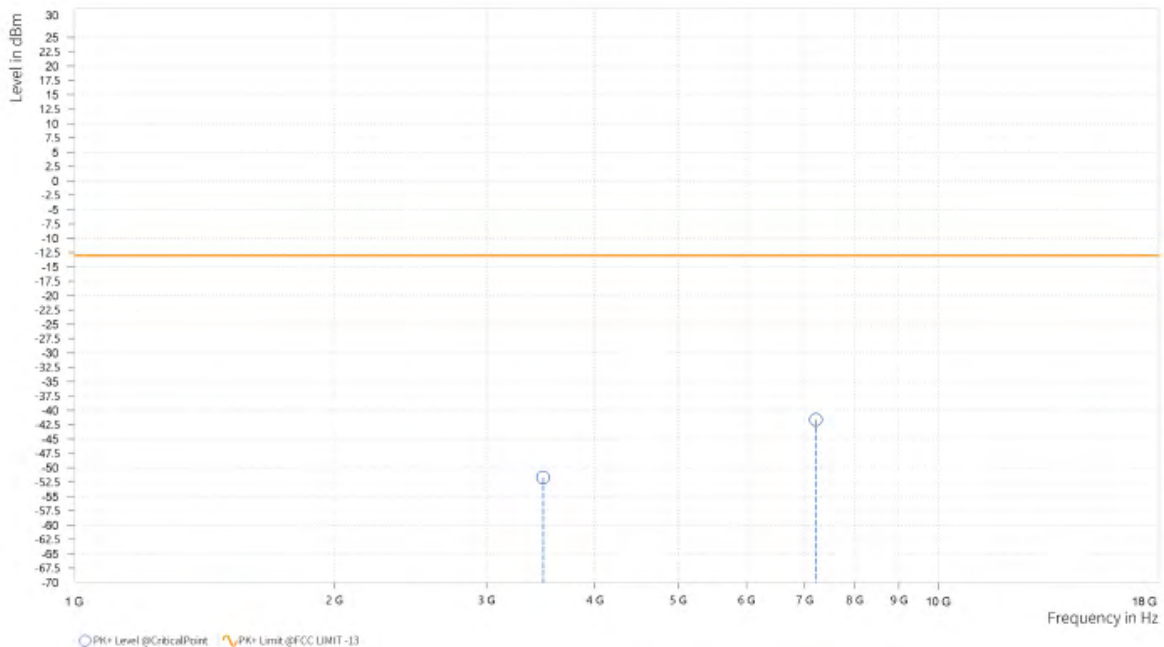




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<b>MODE</b>	TX channel 132322	<b>FREQUENCY RANGE</b>	Above 1000MHz
<b>ENVIRONMENTAL CONDITIONS</b>	23deg. C, 70%RH	<b>INPUT POWER</b>	AC 120V/60HZ
<b>TESTED BY</b>	Jace Hu		
<b>ANTENNA POLARITY &amp; TEST DISTANCE: VERTICAL AT 3 M</b>			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	3,488.500	-51.72	-13.00	38.72	23.22	V	160.7	2
5	7,215.500	-41.62	-13.00	28.62	34.07	V	359	1



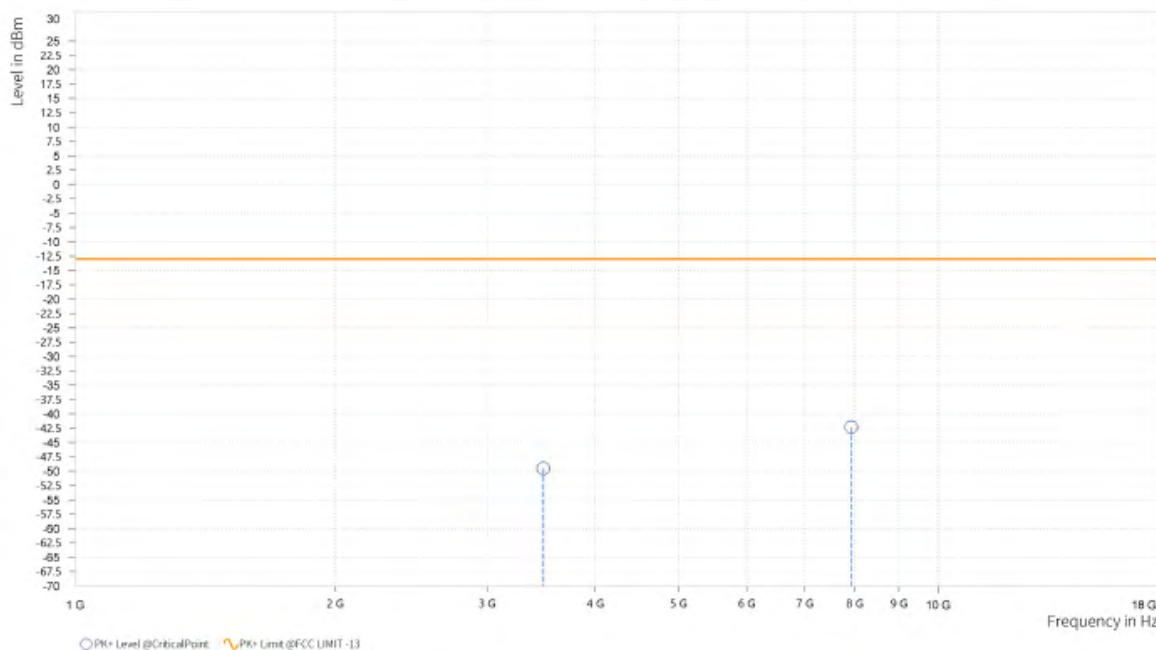


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**CHANNEL BANDWIDTH: 5MHz / QPSK**

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

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	3,485.500	-49.50	-13.00	36.50	23.09	H	1	1
5	7,925.500	-42.32	-13.00	29.32	34.16	H	272.2	1

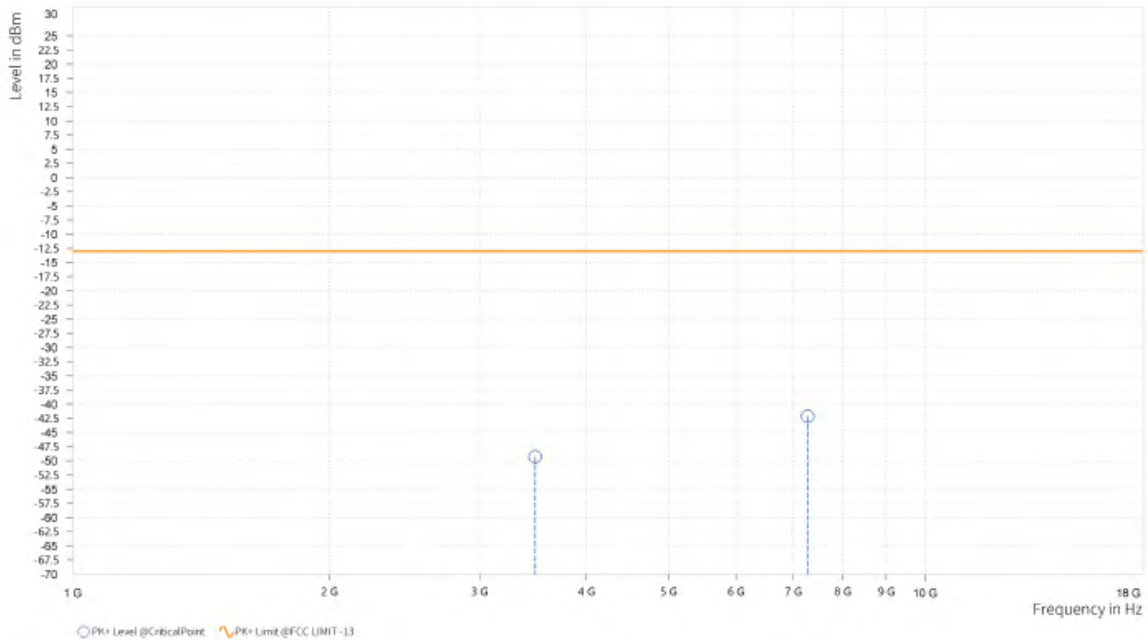




Test Report No.: W7L-P23030003RF07

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

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	3,485.500	-49.26	-13.00	36.26	23.17	V	359	2
5	7,280.000	-42.16	-13.00	29.16	34.15	V	330.6	1







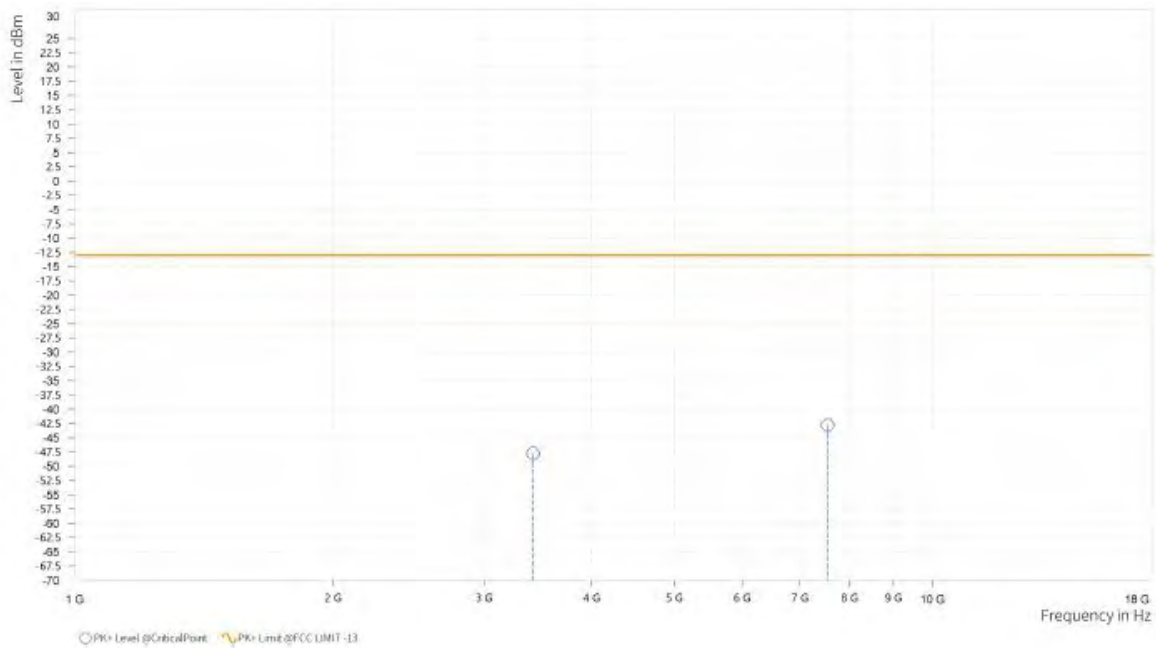
Test Report No.: W7L-P23030003RF07

CHANNEL BANDWIDTH: 10MHz / QPSK

CH132022

MODE	TX channel 132022	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
<b>ANTENNA POLARITY &amp; TEST DISTANCE: HORIZONTAL AT 3 M</b>			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	3,421.000	-47.75	-13.00	34.75	22.91	H	1	1
5	7,543.500	-42.83	-13.00	29.83	33.58	H	359.1	1

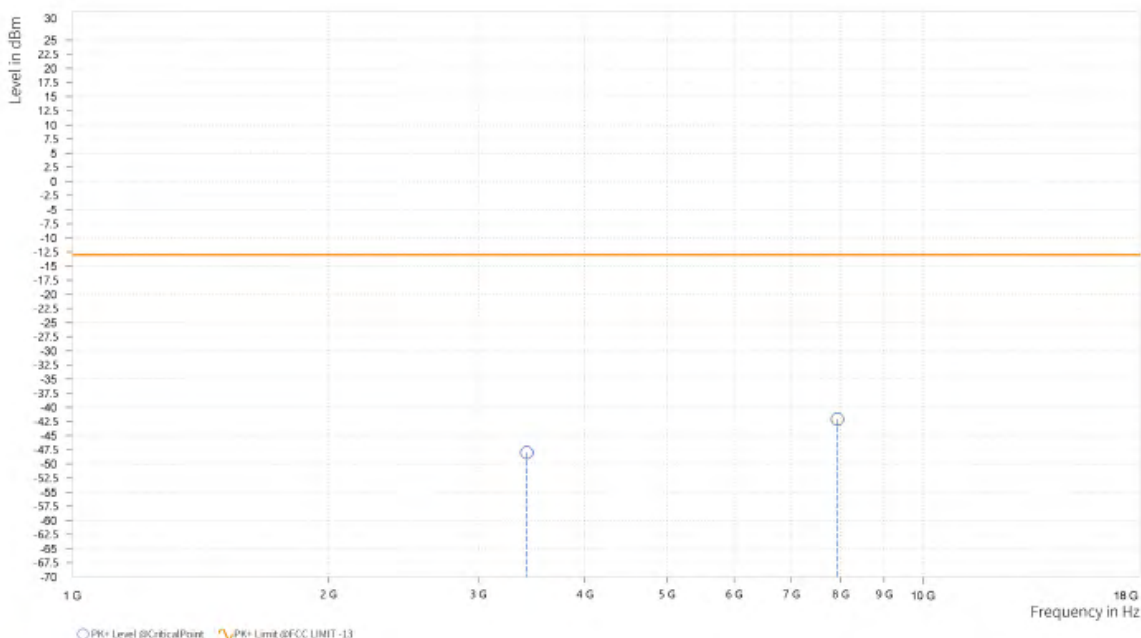




Test Report No.: W7L-P23030003RF07

<b>MODE</b>	TX channel 132022	<b>FREQUENCY RANGE</b>	Above 1000MHz
<b>ENVIRONMENTAL CONDITIONS</b>	23deg. C, 70%RH	<b>INPUT POWER</b>	AC 120V/60HZ
<b>TESTED BY</b>	Jace Hu		
<b>ANTENNA POLARITY &amp; TEST DISTANCE: VERTICAL AT 3 M</b>			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	3,421.000	-48.03	-13.00	35.03	22.99	V	1	2
5	7,932.000	-42.11	-13.00	29.11	34.34	V	280.6	1



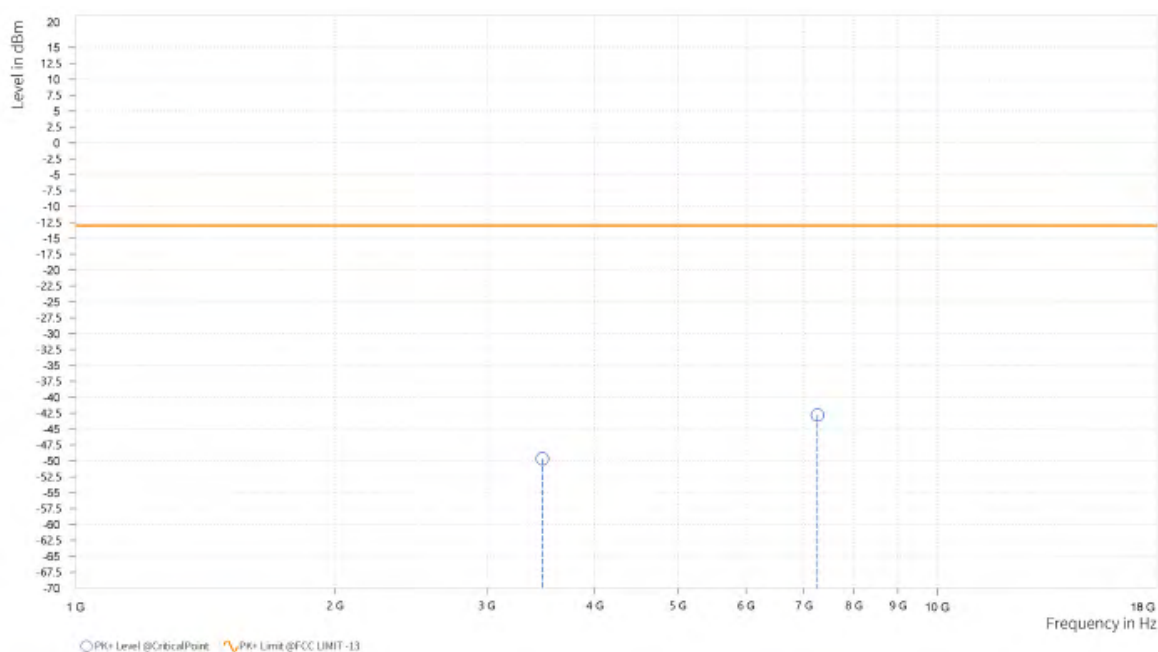


Test Report No.: W7L-P23030003RF07

CH132322

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

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	3,481.000	-49.68	-13.00	36.68	23.03	H	172.7	2
5	7,262.000	-42.80	-13.00	29.80	34.07	H	359	2

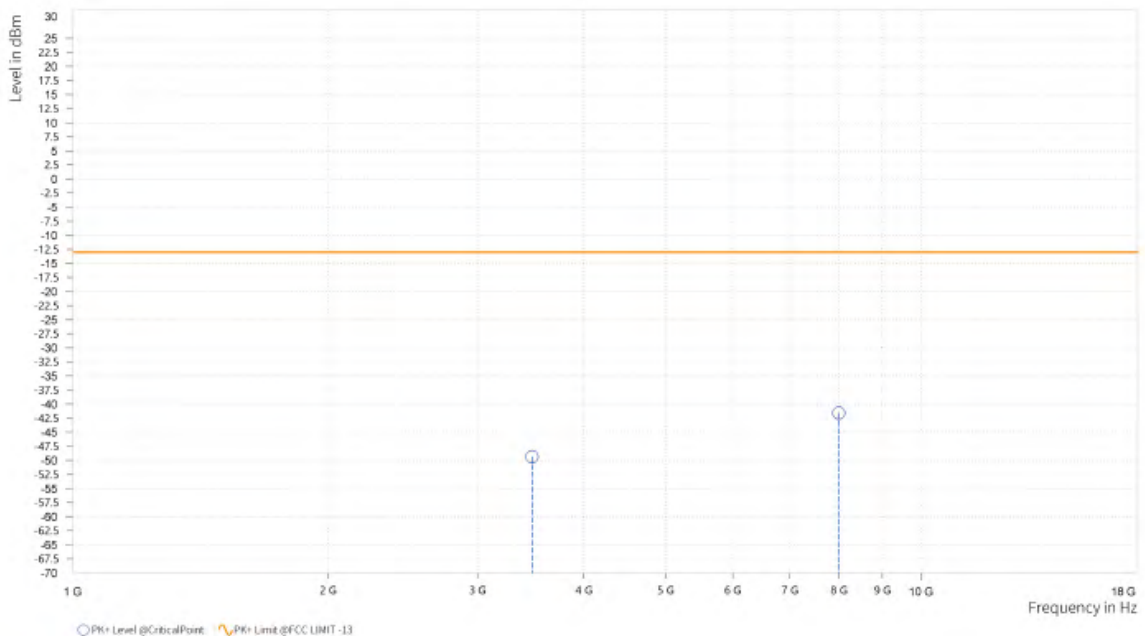




Test Report No.: W7L-P23030003RF07

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

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	3,480.500	-49.36	-13.00	36.36	23.10	V	359	2
5	7,997.000	-41.59	-13.00	28.59	34.67	V	1	1



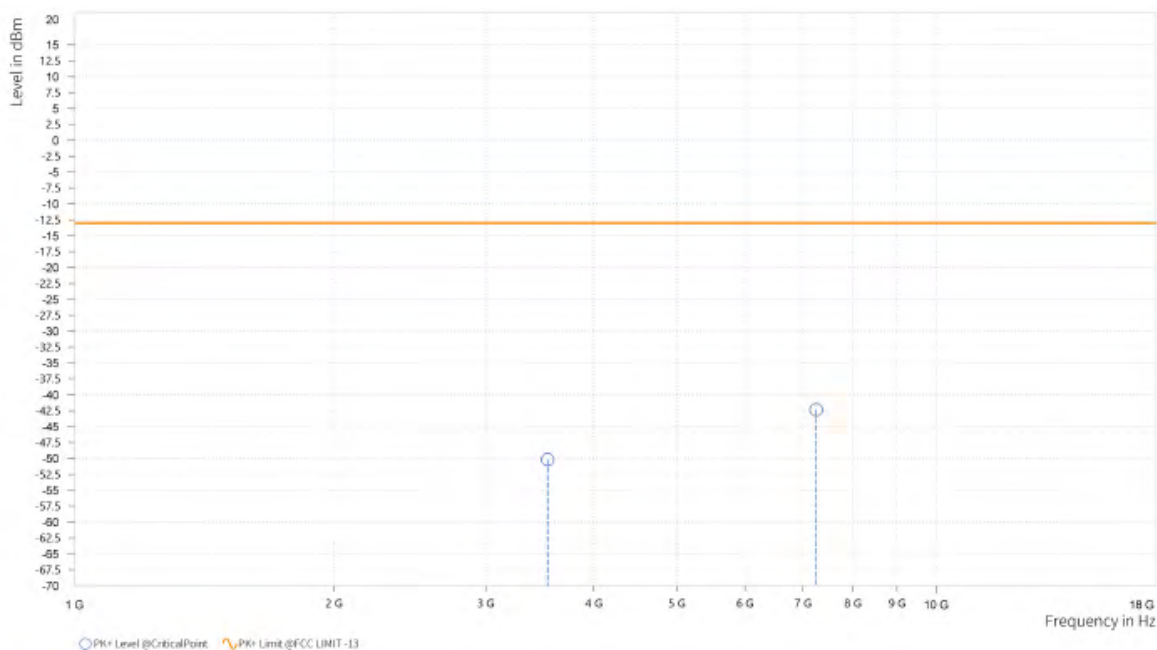


Test Report No.: W7L-P23030003RF07

CH132622

<b>MODE</b>	TX channel 132622	<b>FREQUENCY RANGE</b>	Above 1000MHz
<b>ENVIRONMENTAL CONDITIONS</b>	23deg. C, 70%RH	<b>INPUT POWER</b>	AC 120V/60HZ
<b>TESTED BY</b>	Jace Hu		
<b>ANTENNA POLARITY &amp; TEST DISTANCE: HORIZONTAL AT 3 M</b>			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	3,541.000	-50.16	-13.00	37.16	23.33	H	0.9	2
5	7,258.000	-42.36	-13.00	29.36	34.10	H	93.8	2

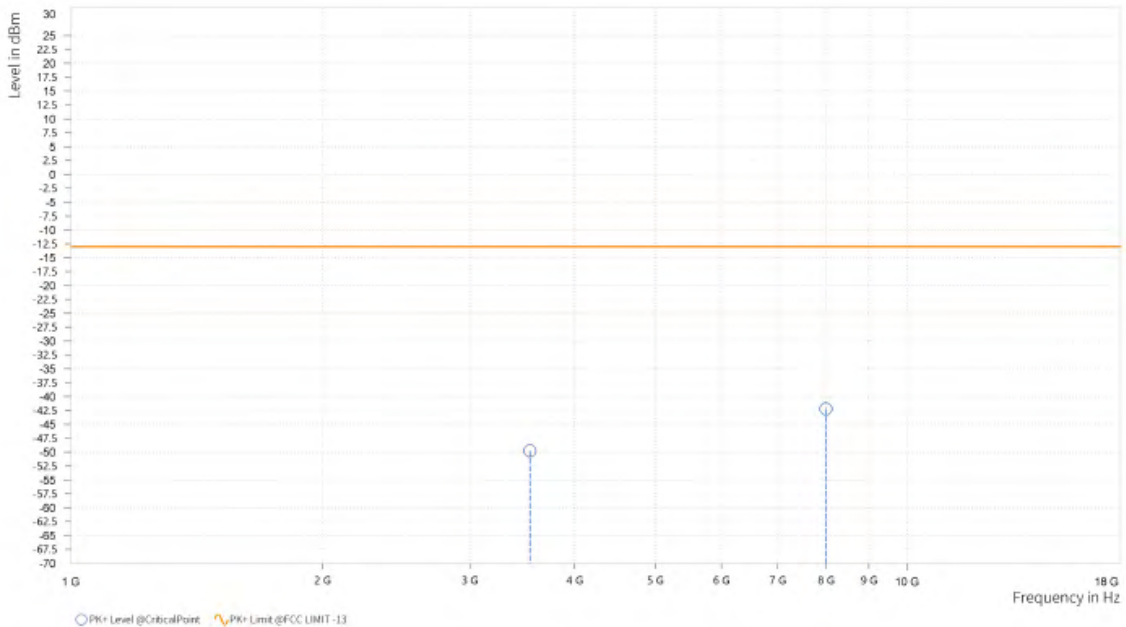




Test Report No.: W7L-P23030003RF07

<b>MODE</b>	TX channel 132622	<b>FREQUENCY RANGE</b>	Above 1000MHz
<b>ENVIRONMENTAL CONDITIONS</b>	23deg. C, 70%RH	<b>INPUT POWER</b>	AC 120V/60HZ
<b>TESTED BY</b>	Jace Hu		
<b>ANTENNA POLARITY &amp; TEST DISTANCE: VERTICAL AT 3 M</b>			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	3,541.000	-49.79	-13.00	36.79	23.50	V	359	2
5	7,998.500	-42.21	-13.00	29.21	34.68	V	92.6	2



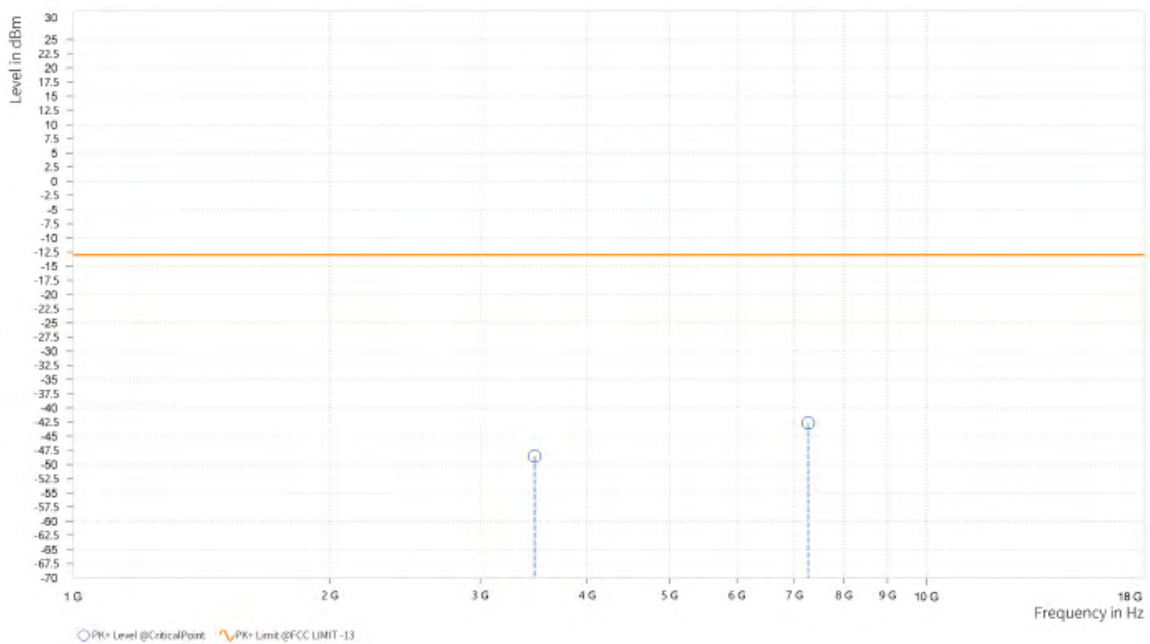


Test Report No.: W7L-P23030003RF07

**CHANNEL BANDWIDTH: 15MHz / QPSK**

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

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	3,476.000	-48.55	-13.00	35.55	22.96	H	1	1
5	7,270.000	-42.66	-13.00	29.66	34.00	H	359	1

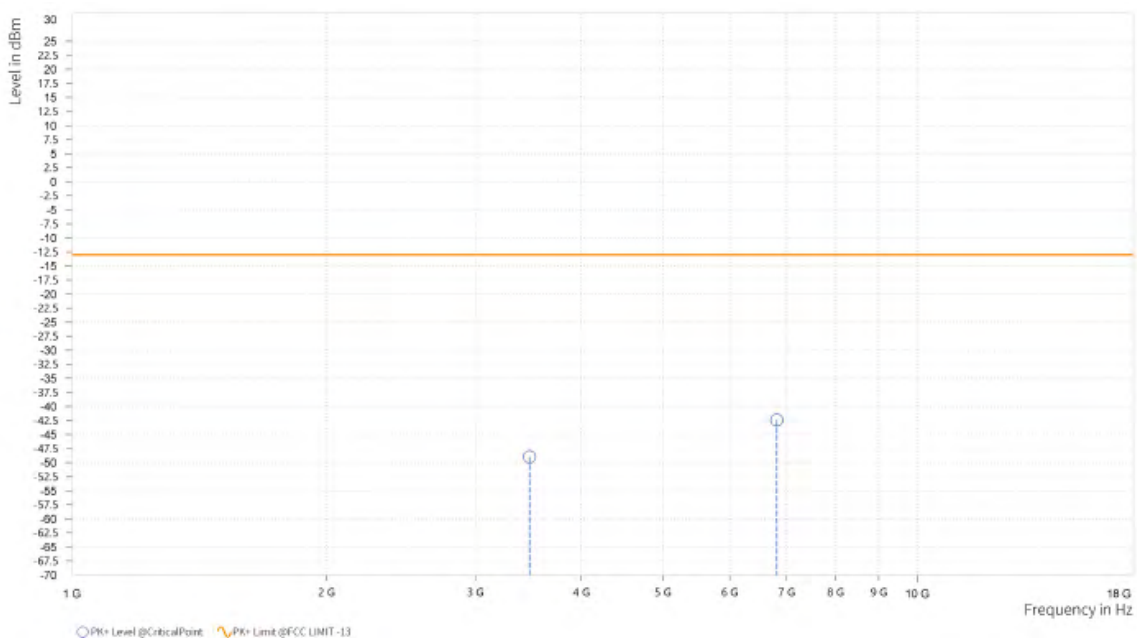




Test Report No.: W7L-P23030003RF07

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

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	3,477.000	-48.96	-13.00	35.96	23.05	V	359	2
5	6,818.500	-42.43	-13.00	29.43	32.98	V	359	1





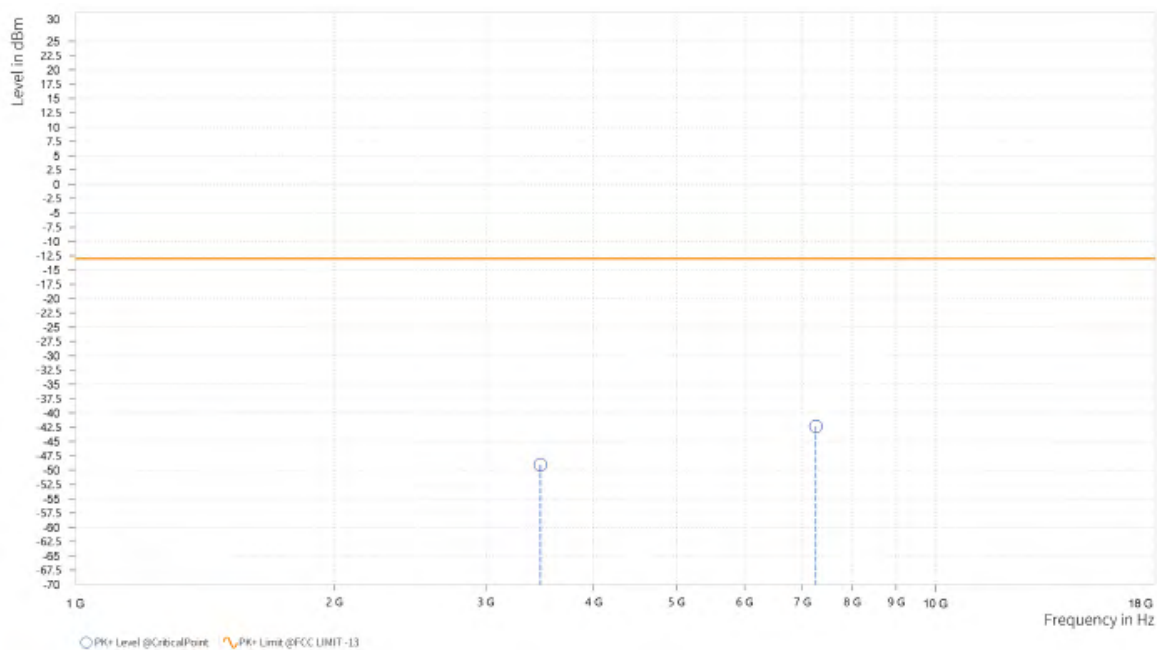


Test Report No.: W7L-P23030003RF07

**CHANNEL BANDWIDTH: 20MHz / QPSK**

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

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	3,472.000	-49.08	-13.00	36.08	22.91	H	1	1
5	7,260.000	-42.36	-13.00	29.36	34.08	H	1	2

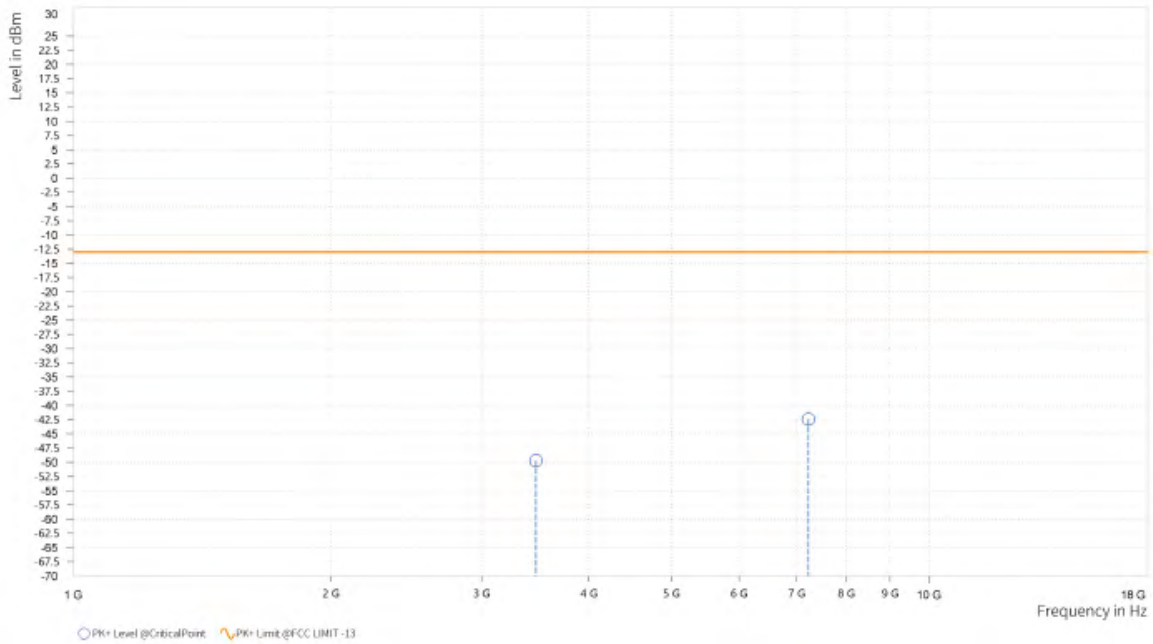




Test Report No.: W7L-P23030003RF07

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

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	3,472.000	-49.74	-13.00	36.74	22.97	V	359	2
5	7,228.000	-42.42	-13.00	29.42	34.21	V	1	1

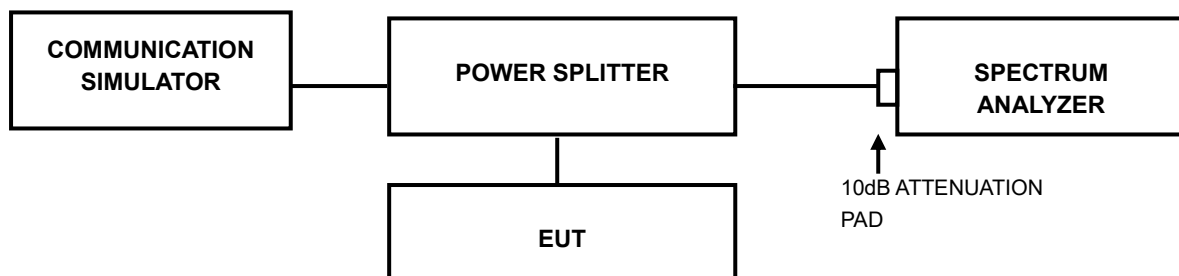


### 3.7 PEAK TO AVERAGE RATIO

#### 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  $\geq$  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 Of this test report.



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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](mailto:customerservice.sw@cn.bureauveritas.com)

**Web Site:** [www.adt.com.tw](http://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.



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## 6 APPENDIX

### LTE BAND41 (INCLUDING 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

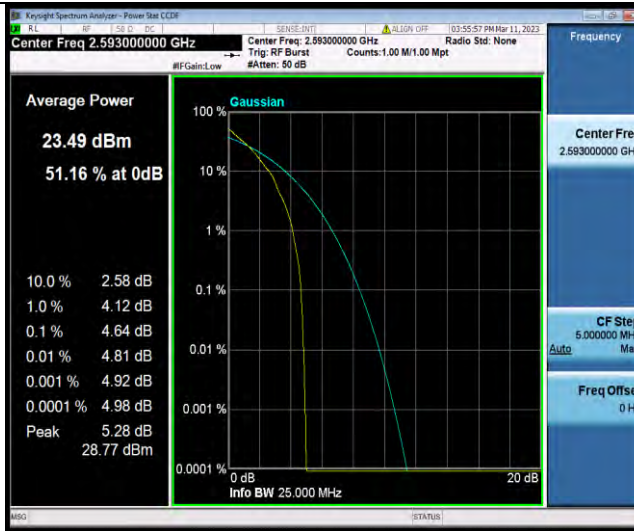




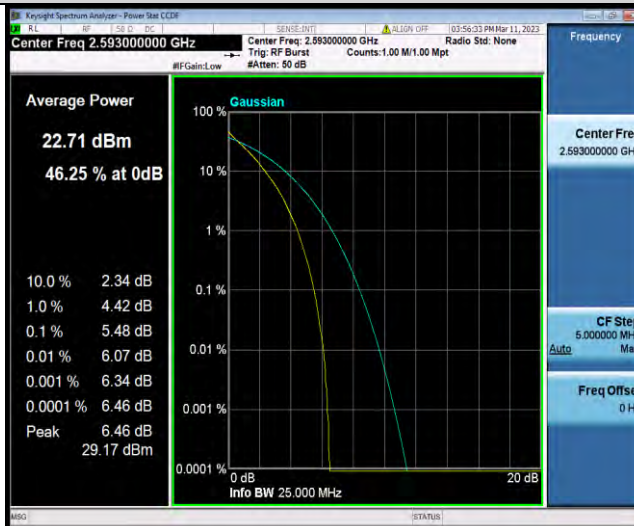


BUREAU VERITAS

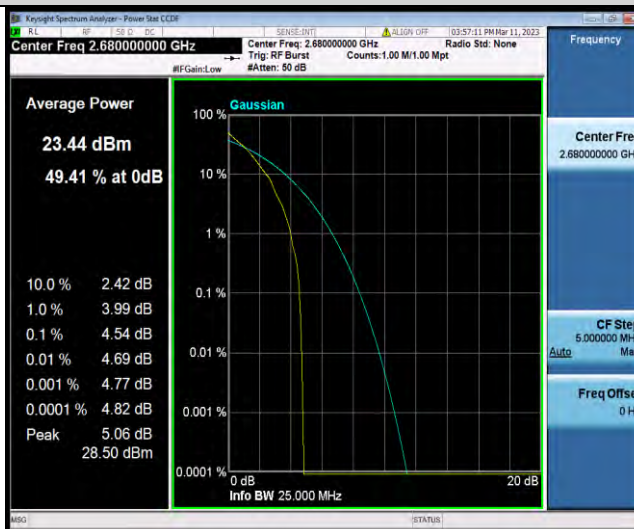
Test Report No.: W7L-P23030003RF07



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



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

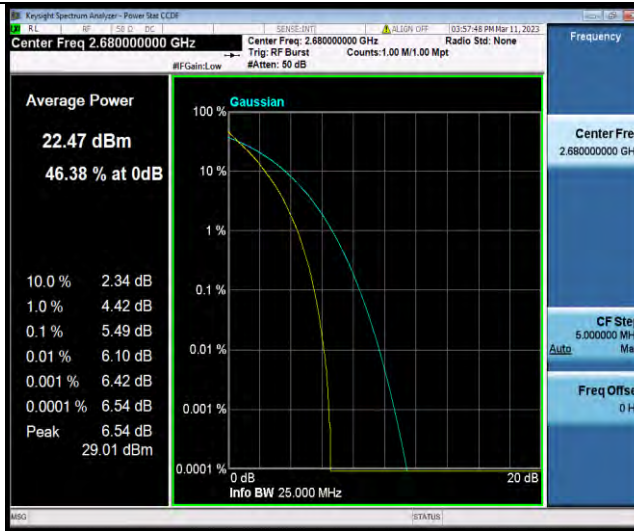


Band41-20MHz-QPSK-41490-100RB#0

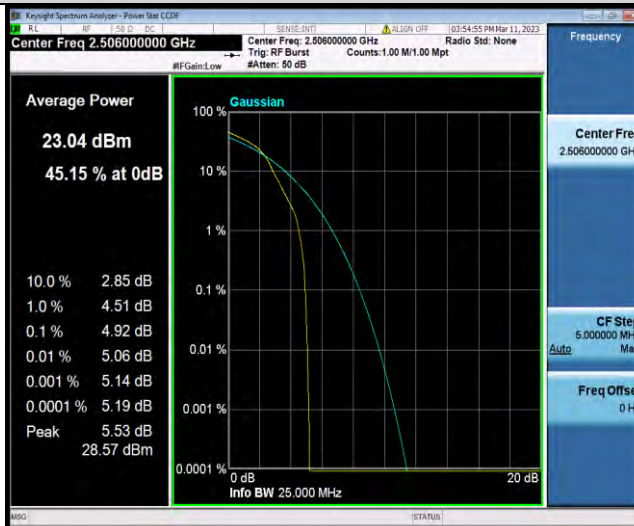


BUREAU VERITAS

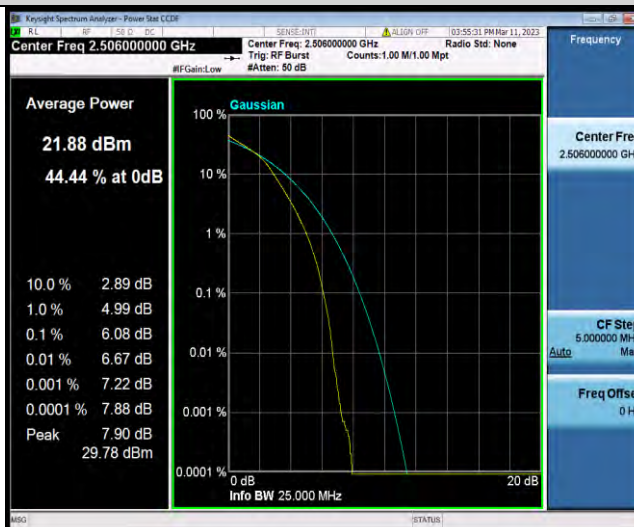
Test Report No.: W7L-P23030003RF07



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



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

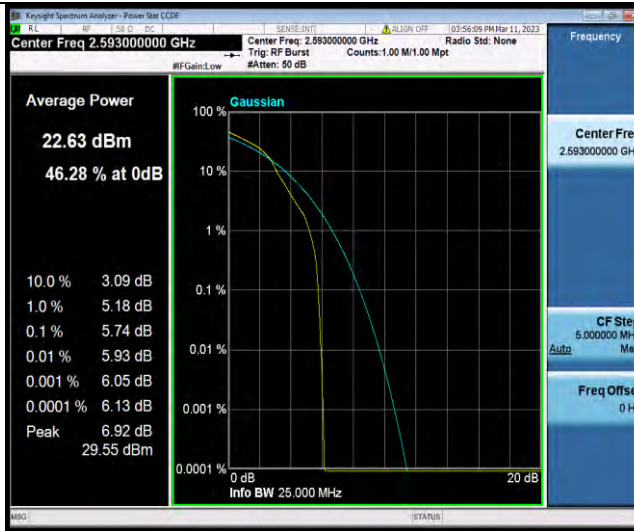


Band41-20MHz-16QAM-40620-1RB#0

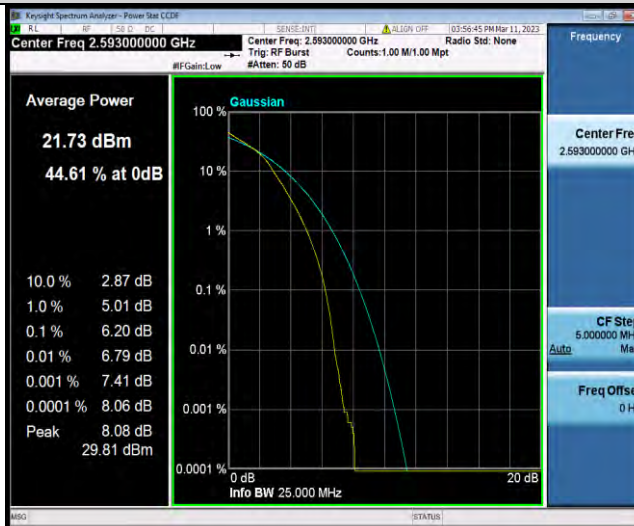


BUREAU VERITAS

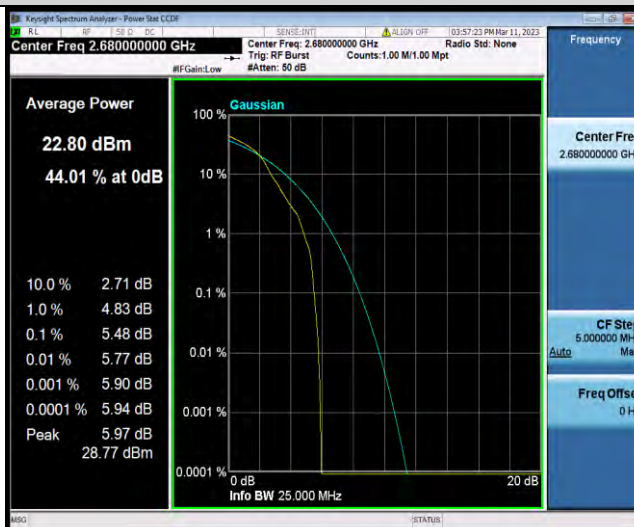
Test Report No.: W7L-P23030003RF07



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



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

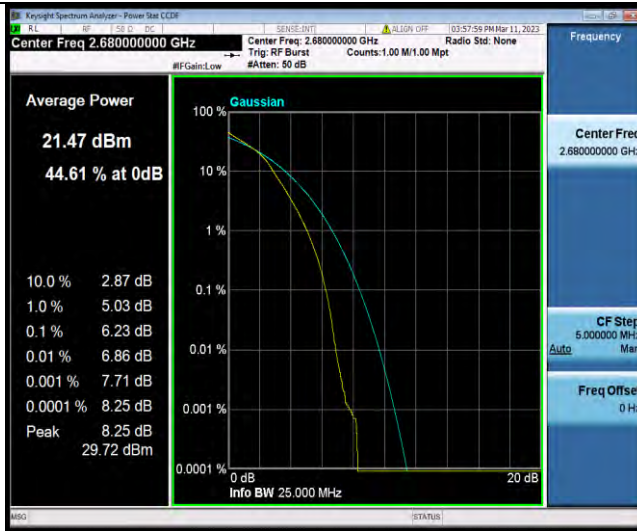


Band41-20MHz-16QAM-41490-100RB#0

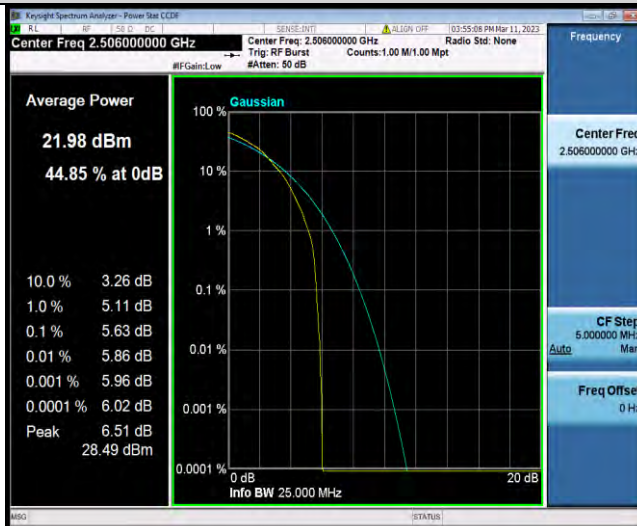


BUREAU VERITAS

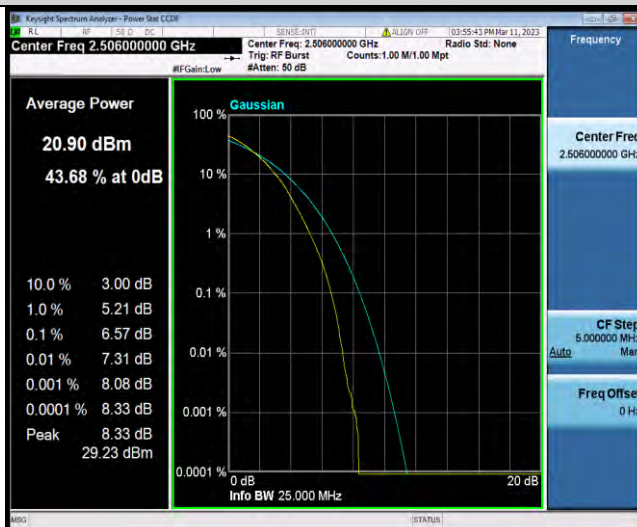
Test Report No.: W7L-P23030003RF07



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



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

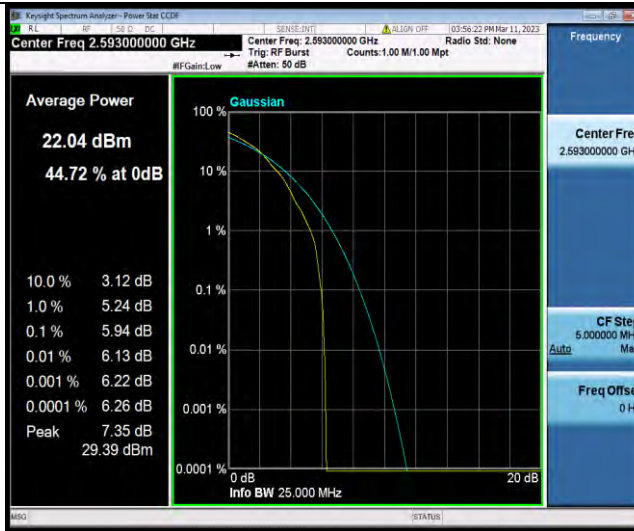


Band41-20MHz-64QAM-40620-1RB#0

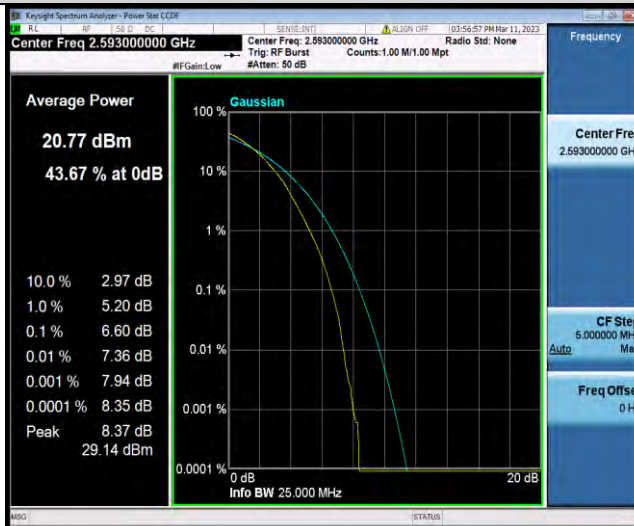


BUREAU  
VERITAS

Test Report No.: W7L-P23030003RF07



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



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

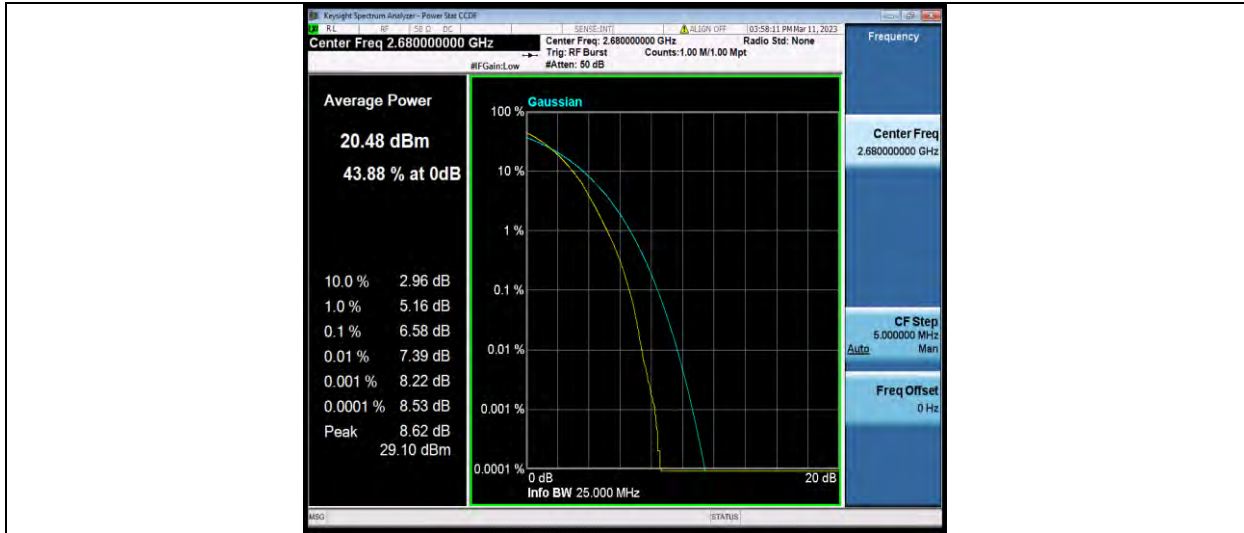


Band41-20MHz-64QAM-41490-100RB#0



BUREAU VERITAS

Test Report No.: W7L-P23030003RF07





Test Report No.: W7L-P23030003RF07

## 26DB BANDWIDTH AND OCCUPIED BANDWIDTH

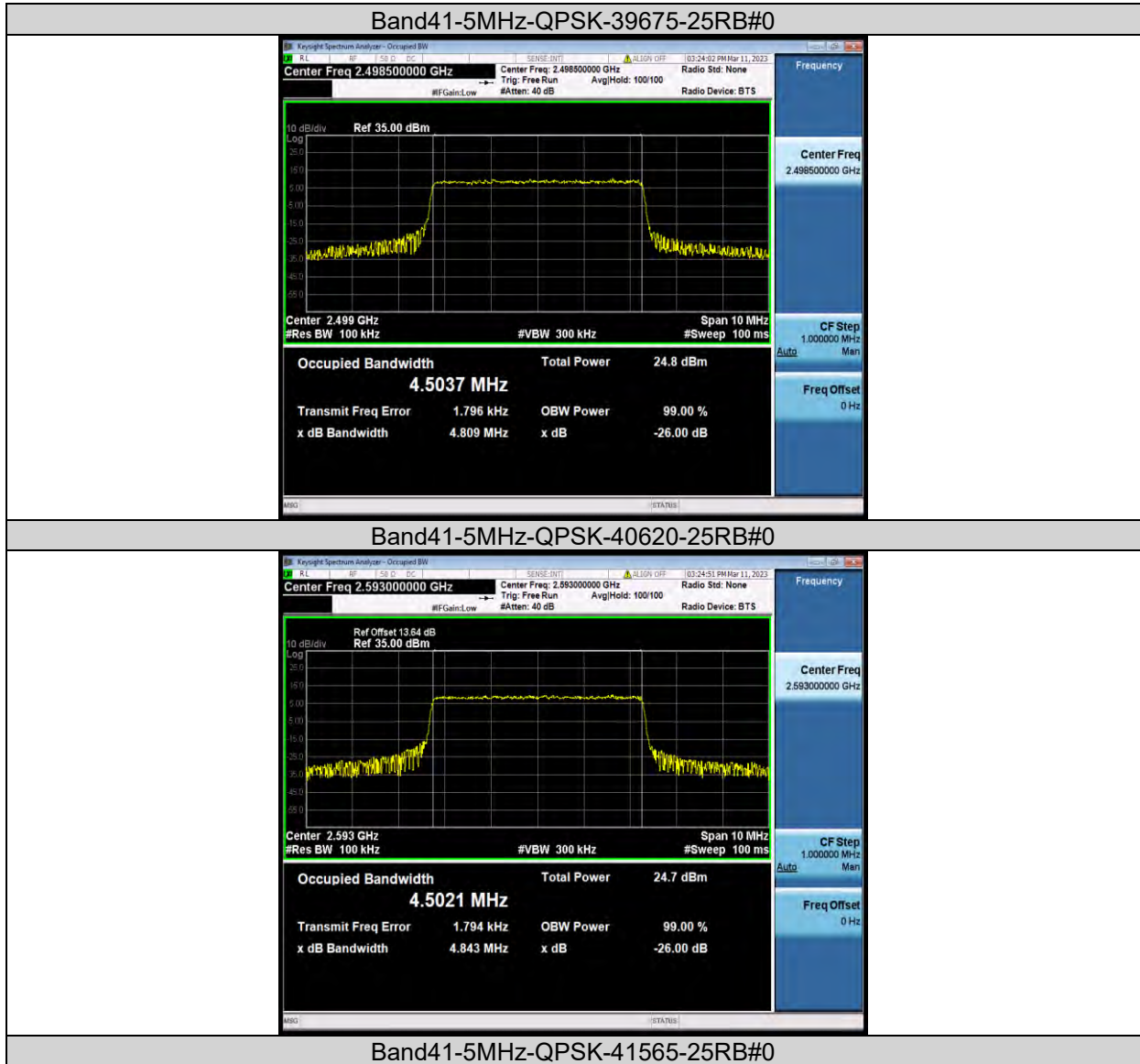
### Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
Band41	5MHz	QPSK	39675	25RB#0	4.5037	4.809	PASS
Band41	5MHz	QPSK	40620	25RB#0	4.5021	4.843	PASS
Band41	5MHz	QPSK	41565	25RB#0	4.4954	4.839	PASS
Band41	5MHz	16QAM	39675	25RB#0	4.4863	4.771	PASS
Band41	5MHz	16QAM	40620	25RB#0	4.4857	4.758	PASS
Band41	5MHz	16QAM	41565	25RB#0	4.4866	4.769	PASS
Band41	5MHz	64QAM	39675	25RB#0	4.5068	4.771	PASS
Band41	5MHz	64QAM	40620	25RB#0	4.5071	4.775	PASS
Band41	5MHz	64QAM	41565	25RB#0	4.5038	4.773	PASS
Band41	10MHz	QPSK	39700	50RB#0	8.9751	9.491	PASS
Band41	10MHz	QPSK	40620	50RB#0	8.9699	9.467	PASS
Band41	10MHz	QPSK	41540	50RB#0	8.9811	9.474	PASS
Band41	10MHz	16QAM	39700	50RB#0	8.9796	9.504	PASS
Band41	10MHz	16QAM	40620	50RB#0	8.9738	9.503	PASS
Band41	10MHz	16QAM	41540	50RB#0	8.9789	9.494	PASS
Band41	10MHz	64QAM	39700	50RB#0	8.9734	9.485	PASS
Band41	10MHz	64QAM	40620	50RB#0	8.9906	9.506	PASS
Band41	10MHz	64QAM	41540	50RB#0	8.9747	9.486	PASS
Band41	15MHz	QPSK	39725	75RB#0	13.477	14.23	PASS
Band41	15MHz	QPSK	40620	75RB#0	13.467	14.25	PASS
Band41	15MHz	QPSK	41515	75RB#0	13.458	14.22	PASS
Band41	15MHz	16QAM	39725	75RB#0	13.468	14.26	PASS
Band41	15MHz	16QAM	40620	75RB#0	13.464	14.25	PASS
Band41	15MHz	16QAM	41515	75RB#0	13.481	14.23	PASS
Band41	15MHz	64QAM	39725	75RB#0	13.462	14.23	PASS
Band41	15MHz	64QAM	40620	75RB#0	13.469	14.23	PASS
Band41	15MHz	64QAM	41515	75RB#0	13.463	14.21	PASS
Band41	20MHz	QPSK	39750	100RB#0	17.928	18.96	PASS
Band41	20MHz	QPSK	40620	100RB#0	17.940	18.99	PASS
Band41	20MHz	QPSK	41490	100RB#0	17.940	18.96	PASS
Band41	20MHz	16QAM	39750	100RB#0	17.932	18.93	PASS
Band41	20MHz	16QAM	40620	100RB#0	17.924	18.94	PASS
Band41	20MHz	16QAM	41490	100RB#0	17.926	18.94	PASS
Band41	20MHz	64QAM	39750	100RB#0	17.945	18.96	PASS
Band41	20MHz	64QAM	40620	100RB#0	17.958	18.93	PASS
Band41	20MHz	64QAM	41490	100RB#0	17.949	18.95	PASS



Test Report No.: W7L-P23030003RF07

### Test Graphs







BUREAU VERITAS

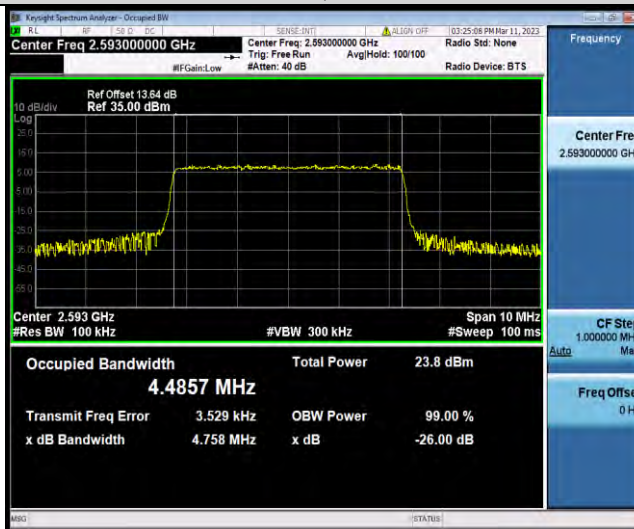
Test Report No.: W7L-P23030003RF07



Band41-5MHz-16QAM-39675-25RB#0



Band41-5MHz-16QAM-40620-25RB#0



Band41-5MHz-16QAM-41565-25RB#0

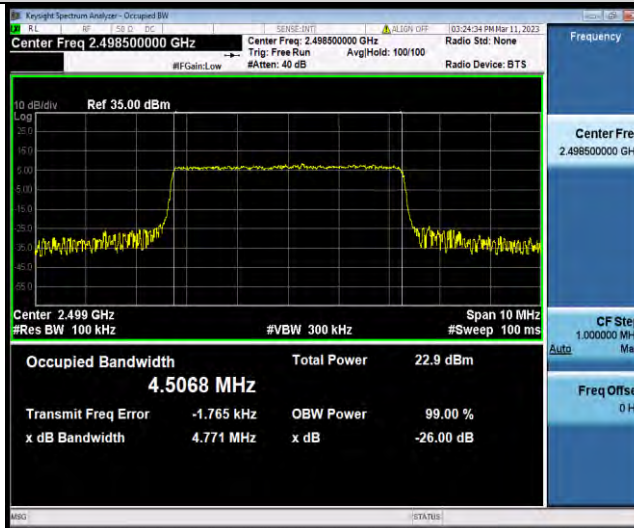


BUREAU VERITAS

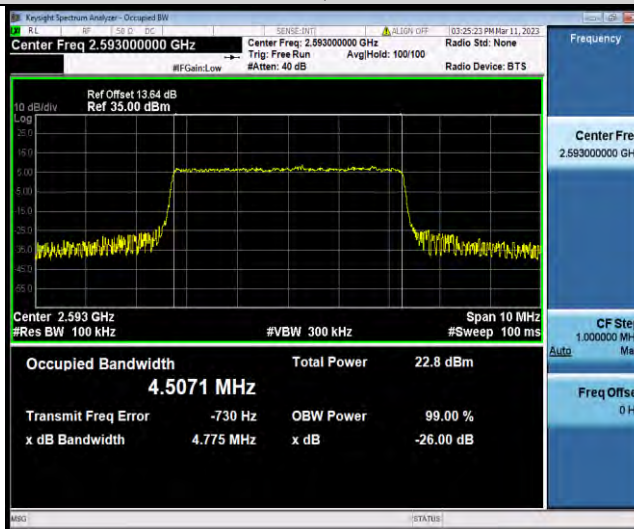
Test Report No.: W7L-P23030003RF07



Band41-5MHz-64QAM-39675-25RB#0



Band41-5MHz-64QAM-40620-25RB#0



Band41-5MHz-64QAM-41565-25RB#0



BUREAU VERITAS

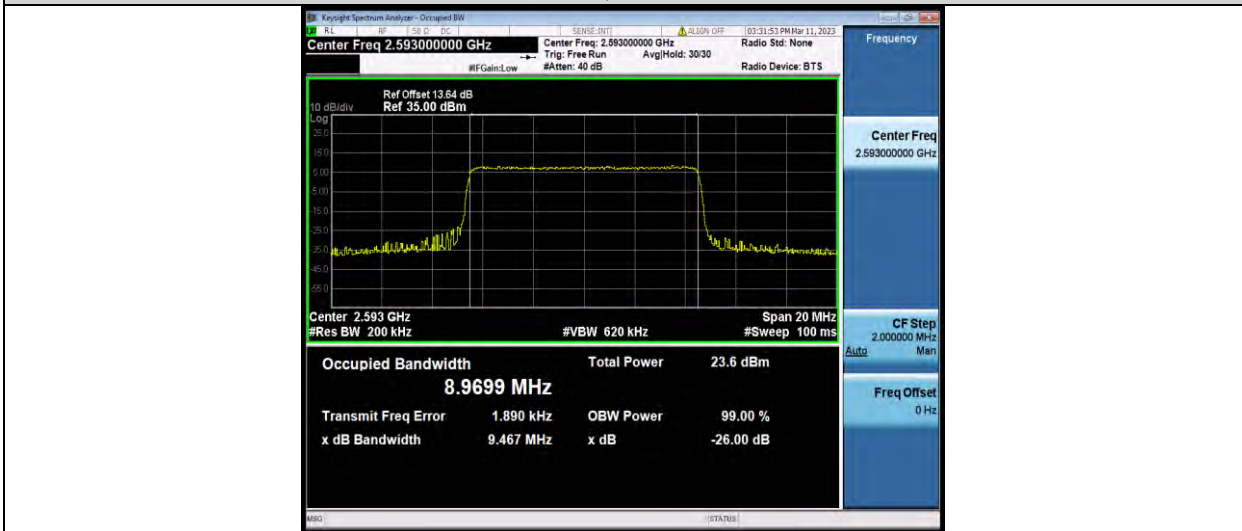
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Band41-10MHz-QPSK-39700-50RB#0



Band41-10MHz-QPSK-40620-50RB#0

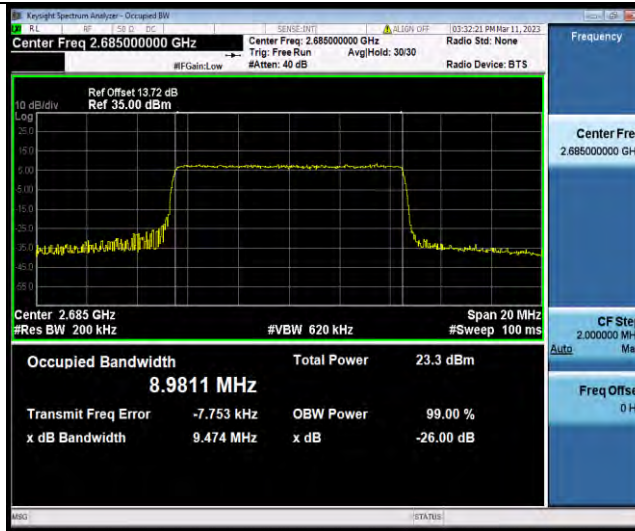


Band41-10MHz-QPSK-41540-50RB#0



BUREAU VERITAS

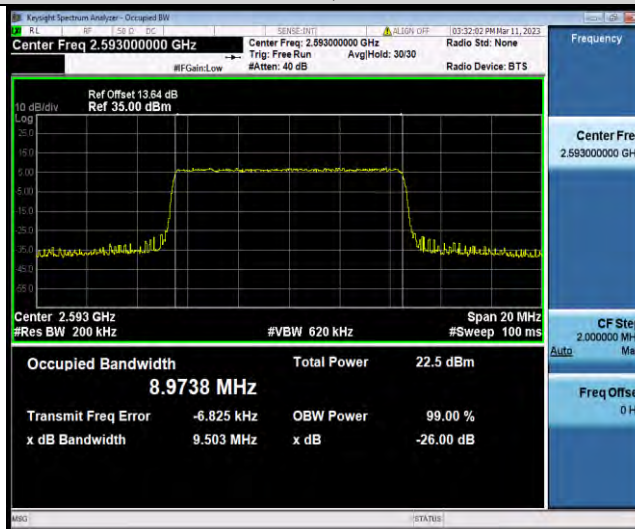
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Band41-10MHz-16QAM-39700-50RB#0



Band41-10MHz-16QAM-40620-50RB#0



Band41-10MHz-16QAM-41540-50RB#0



BUREAU VERITAS

Test Report No.: W7L-P23030003RF07



Band41-10MHz-64QAM-39700-50RB#0



Band41-10MHz-64QAM-40620-50RB#0



Band41-10MHz-64QAM-41540-50RB#0