



### 3.5 CONDUCTED SPURIOUS EMISSIONS

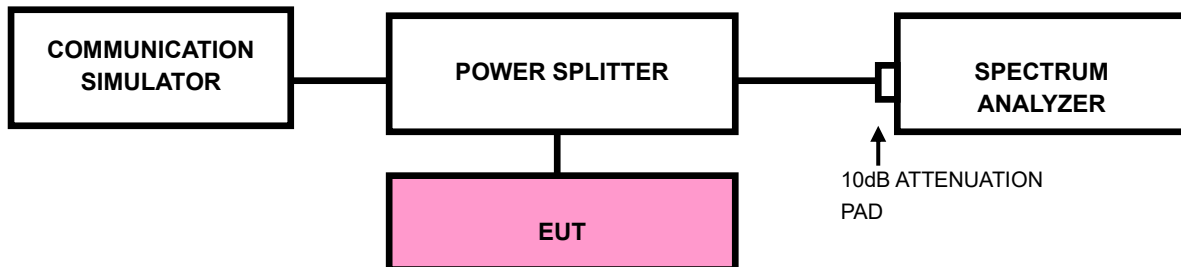
#### 3.5.1 LIMITS OF CONDUCTED SPURIOUS EMISSIONS MEASUREMENT

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 is equal to  $-13\text{dBm}$ .

#### 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 30MHz up to a frequency including its 10<sup>th</sup> harmonic. 10dB attenuation pad is connected with spectrum. RBW=1MHz and VBW=3MHz is used for conducted emission measurement.

#### 3.5.3 TEST SETUP





**BUREAU**  
**VERITAS**

**Test Report No.: W7L-P23080006RF05**

### 3.5.4 TEST RESULTS

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

Please Refer to Appendix Of this test report.



### 3.6 RADIATED EMISSION MEASUREMENT

#### 3.6.1 LIMITS OF RADIATED EMISSION MEASUREMENT

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 is equal to  $-13\text{dBm}$ .

#### 3.6.2 TEST PROCEDURES

- a. The substitute 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 exports the CW signal to the substitution antenna via a TX cable. Rotated the Turn Table and moved the 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.  $\text{EIRP} = \text{Output power level of S.G} - \text{TX cable loss} + \text{Antenna gain of substitution horn}$ .

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

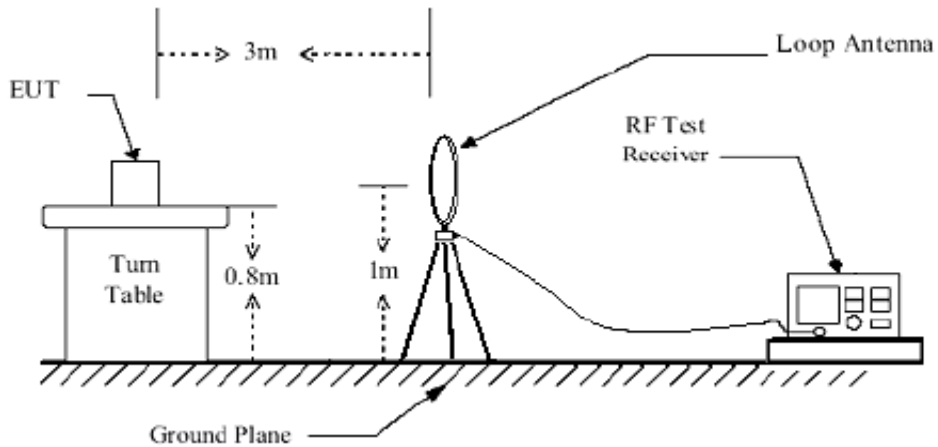
#### 3.6.3 DEVIATION FROM TEST STANDARD

No deviation

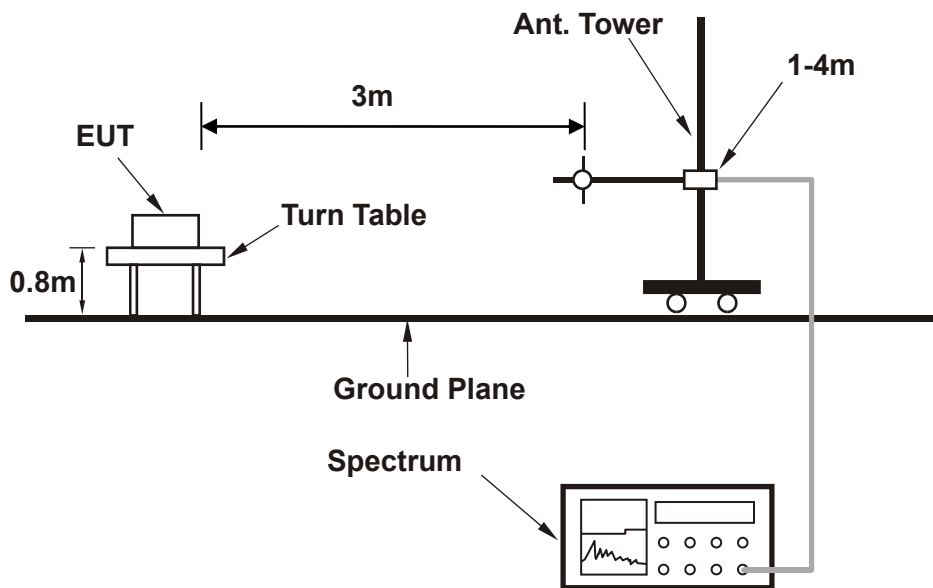


### 3.6.4 TEST SETUP

#### < Frequency Range below 30MHz >

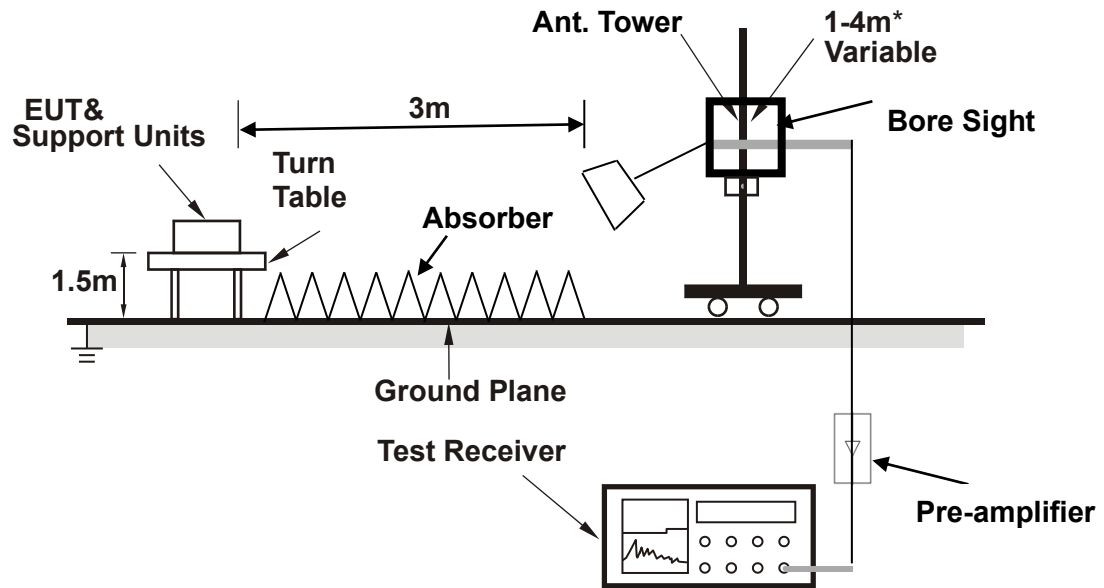


#### < Frequency Range 30MHz~1GHz >





<Frequency Range above 1GHz>



**Note:** Above 1G is a directional antenna

Depending 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).



**BUREAU  
VERITAS**

**Test Report No.: W7L-P23080006RF05**

### 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

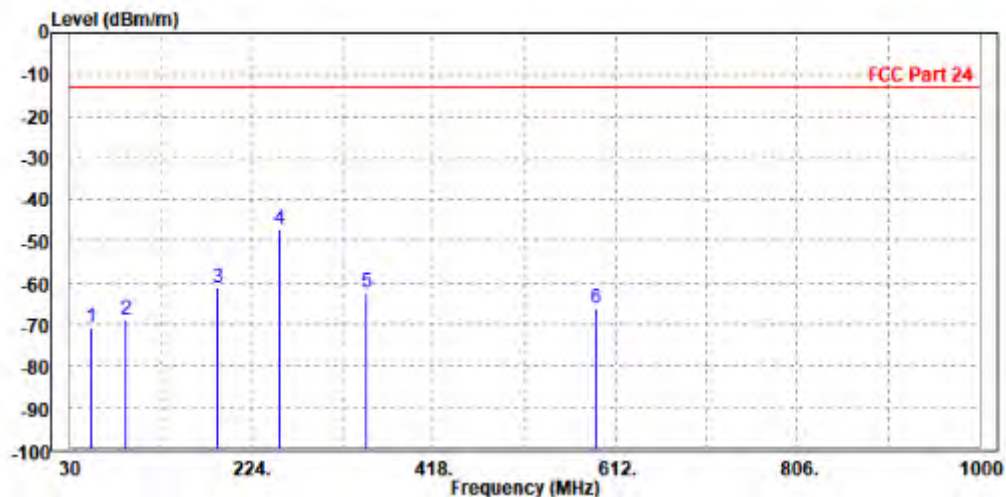
30 MHz – 1GHz data:

GSM1900(Ant0) (UP):

CHANNEL BANDWIDTH: 512 ~ 810

<b>MODE</b>	TX channel 661	<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>			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	52.310	-70.68	-53.31	-13.00	-57.68	-17.37	Peak	Horizontal
2	89.170	-68.92	-47.93	-13.00	-55.92	-20.99	Peak	Horizontal
3	188.110	-61.30	-42.65	-13.00	-48.30	-18.65	Peak	Horizontal
4 PP	254.070	-47.22	-35.69	-13.00	-34.22	-11.53	Peak	Horizontal
5	346.220	-62.45	-51.11	-13.00	-49.45	-11.34	Peak	Horizontal
6	591.630	-66.35	-61.95	-13.00	-53.35	-4.40	Peak	Horizontal



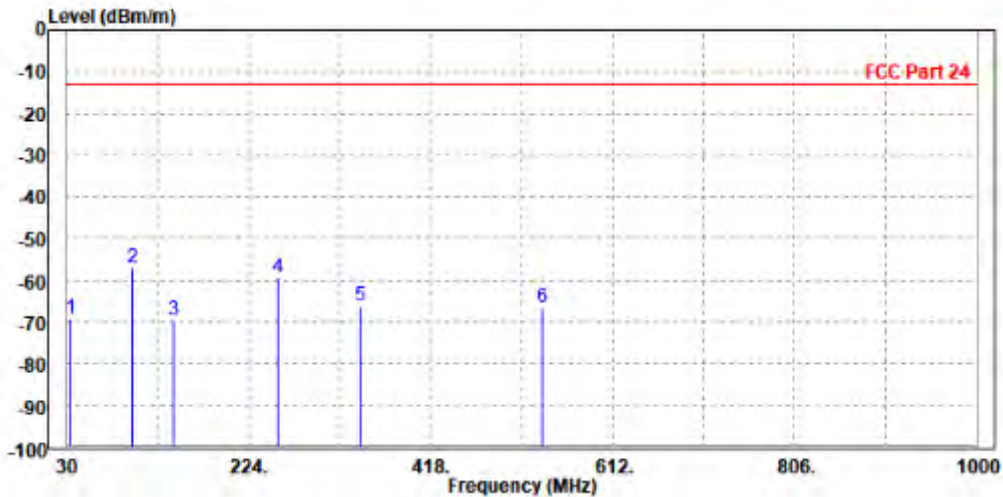


**BUREAU  
VERITAS**

**Test Report No.: W7L-P23080006RF05**

<b>MODE</b>	TX channel 661	<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>			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	33.880	-69.18	-49.42	-13.00	-56.18	-19.76	Peak	Vertical
2 PP	99.840	-57.19	-50.68	-13.00	-44.19	-6.51	Peak	Vertical
3	143.490	-69.46	-54.69	-13.00	-56.46	-14.77	Peak	Vertical
4	255.040	-59.21	-45.89	-13.00	-46.21	-13.32	Peak	Vertical
5	342.340	-66.31	-56.26	-13.00	-53.31	-10.05	Peak	Vertical
6	536.340	-66.44	-59.07	-13.00	-53.44	-7.37	Peak	Vertical





BUREAU VERITAS

Test Report No.: W7L-P23080006RF05

ABOVE 1GHz DATA

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

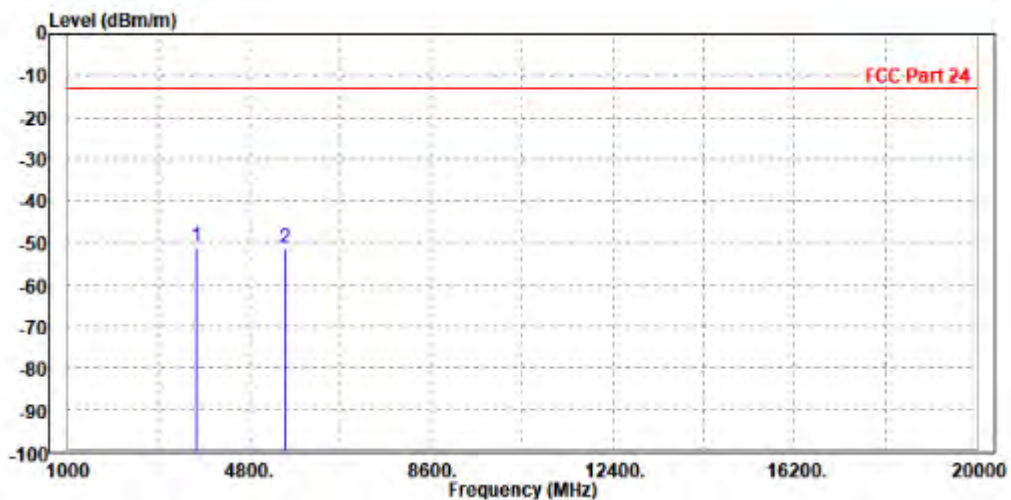
WORST-CASE DATA

GSM 1900(Ant0) (UP):

CH 512

MODE	TX channel 512	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>			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP 3700.400	-50.96	-58.80	-13.00	-37.96	7.84	Peak	Horizontal
2	5560.000	-51.42	-62.01	-13.00	-38.42	10.59	Peak	Horizontal





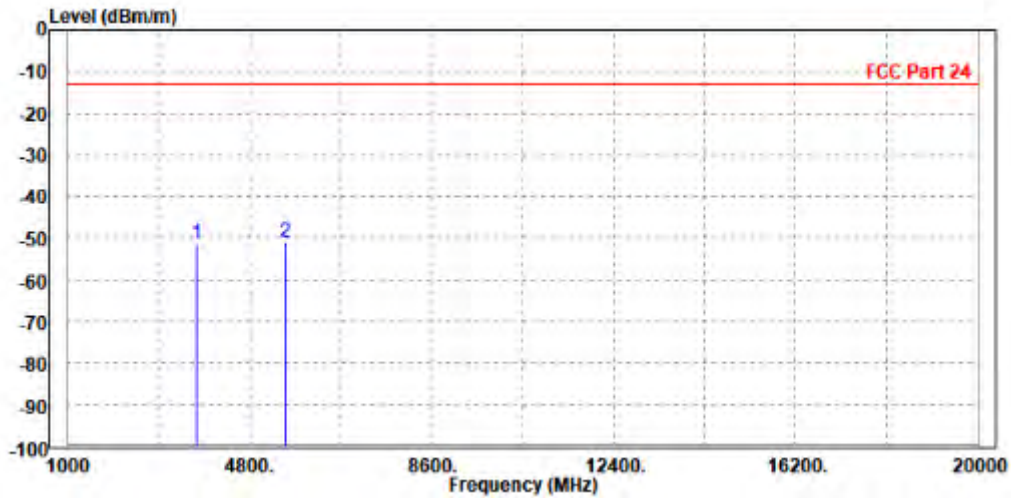


**BUREAU  
VERITAS**

Test Report No.: W7L-P23080006RF05

<b>MODE</b>	TX channel 512	<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>			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3698.000	-51.14	-58.75	-13.00	-38.14	7.61	Peak	Vertical
2 PP	5550.600	-51.00	-61.87	-13.00	-38.00	10.87	Peak	Vertical





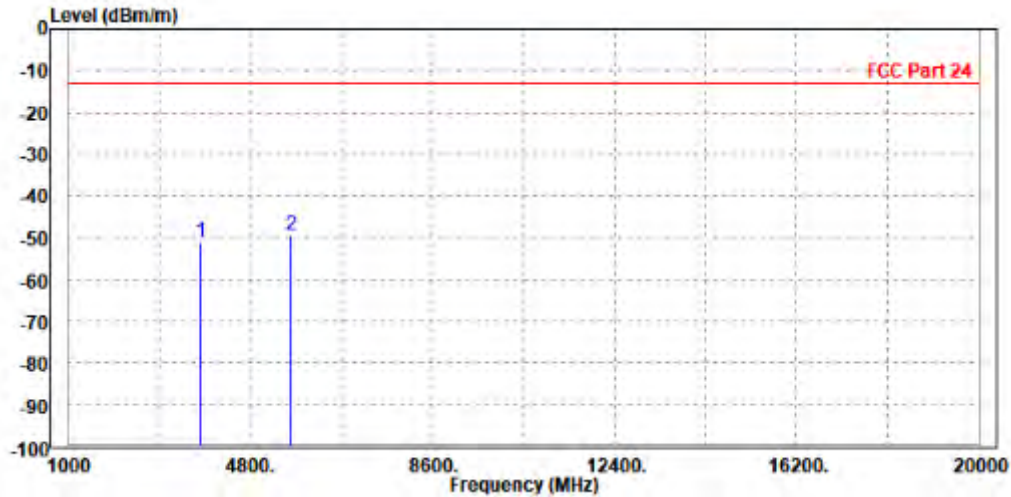
**BUREAU  
VERITAS**

Test Report No.: W7L-P23080006RF05

**CH 661**

<b>MODE</b>	TX channel 661	<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>			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3755.000	-50.95	-58.93	-13.00	-37.95	7.98	Peak	Horizontal
2 PP	5640.000	-49.30	-60.04	-13.00	-36.30	10.74	Peak	Horizontal



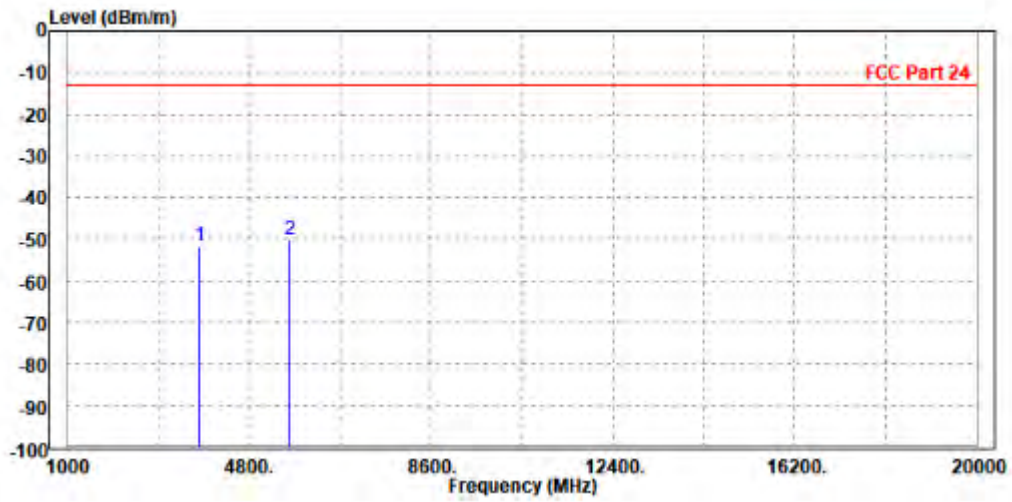


**BUREAU  
VERITAS**

**Test Report No.: W7L-P23080006RF05**

<b>MODE</b>	TX channel 661	<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>			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3760.000	-51.80	-59.50	-13.00	-38.80	7.70	Peak	Vertical
2 PP	5636.000	-50.29	-61.41	-13.00	-37.29	11.12	Peak	Vertical





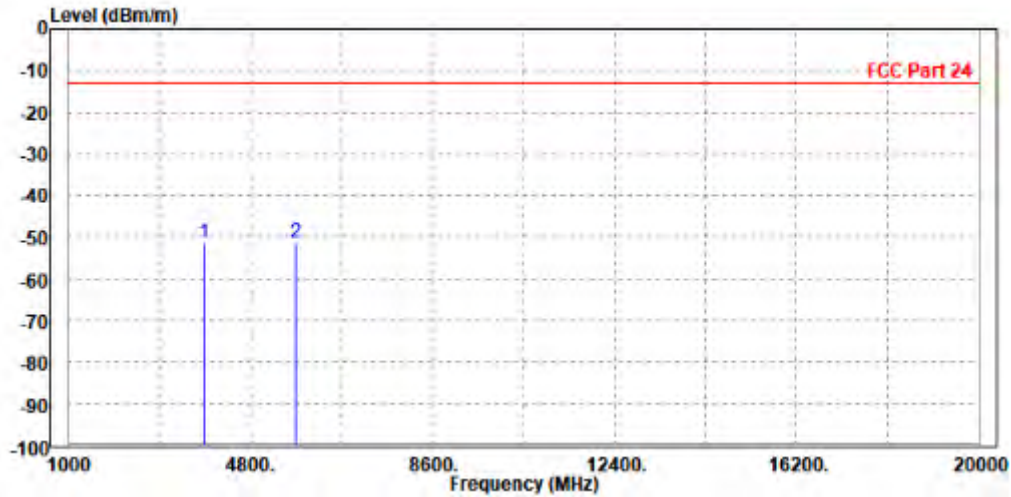
**BUREAU  
VERITAS**

Test Report No.: W7L-P23080006RF05

**CH 810**

<b>MODE</b>	TX channel 810	<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>			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3812.000	-51.42	-59.54	-13.00	-38.42	8.12	Peak	Horizontal
2 PP	5729.400	-51.23	-62.14	-13.00	-38.23	10.91	Peak	Horizontal



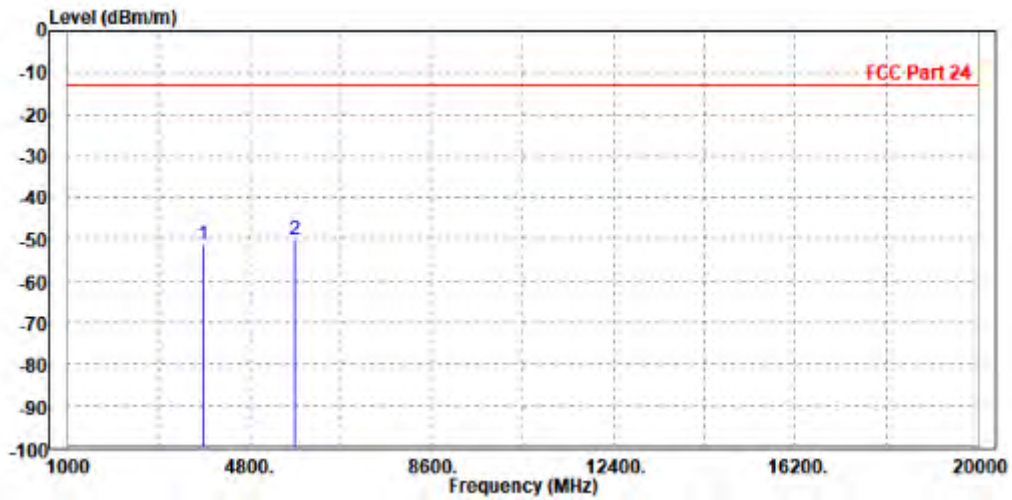


**BUREAU  
VERITAS**

**Test Report No.: W7L-P23080006RF05**

<b>MODE</b>	TX channel 810	<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>			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3819.600	-51.28	-59.06	-13.00	-38.28	7.78	Peak	Vertical
2 PP	5731.000	-50.37	-61.76	-13.00	-37.37	11.39	Peak	Vertical





**BUREAU  
VERITAS**

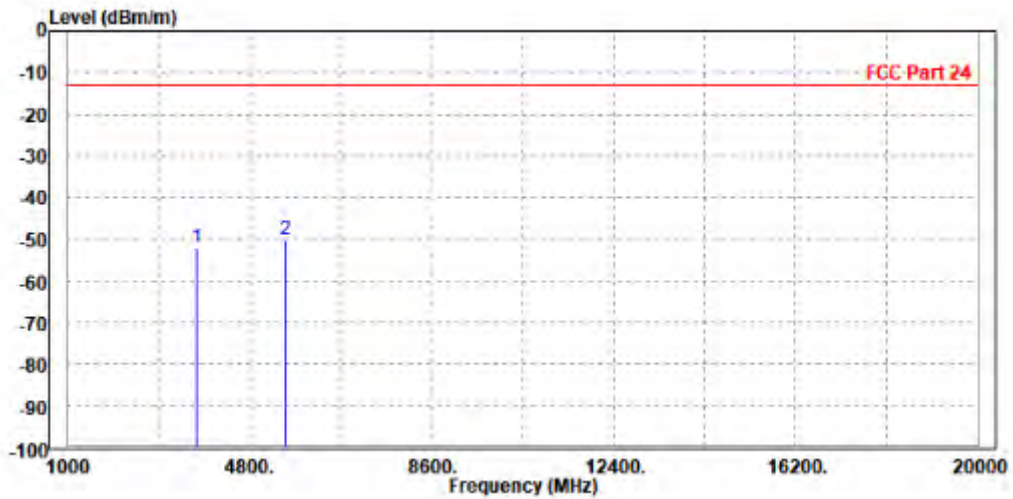
Test Report No.: W7L-P23080006RF05

EDGE 1900(Ant1) (DOWN):

CH 512

<b>MODE</b>	TX channel 512	<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>			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3700.400	-51.99	-59.83	-13.00	-38.99	7.84	Peak	Horizontal
2 PP	5560.000	-50.01	-60.60	-13.00	-37.01	10.59	Peak	Horizontal



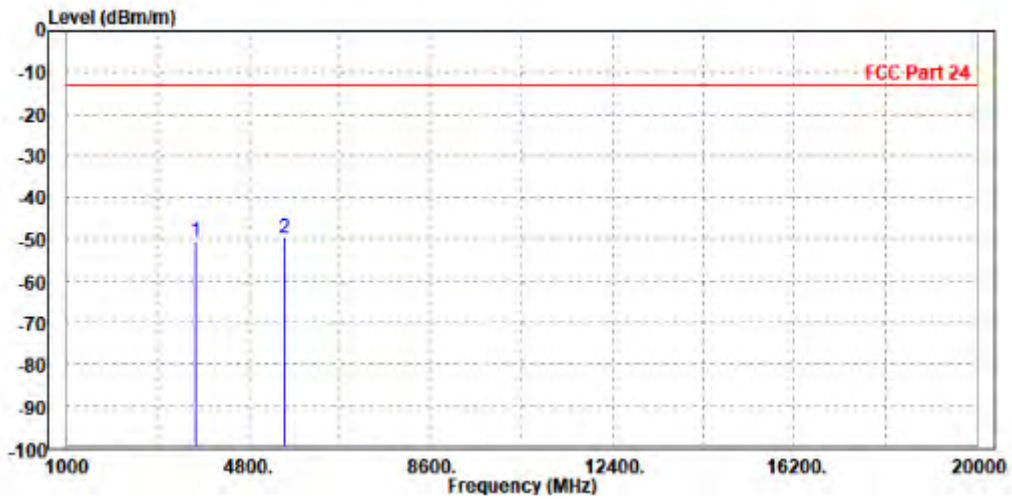


**BUREAU  
VERITAS**

Test Report No.: W7L-P23080006RF05

<b>MODE</b>	TX channel 512	<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>			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3698.000	-50.63	-58.24	-13.00	-37.63	7.61	Peak	Vertical
2 PP	5550.600	-49.89	-60.76	-13.00	-36.89	10.87	Peak	Vertical





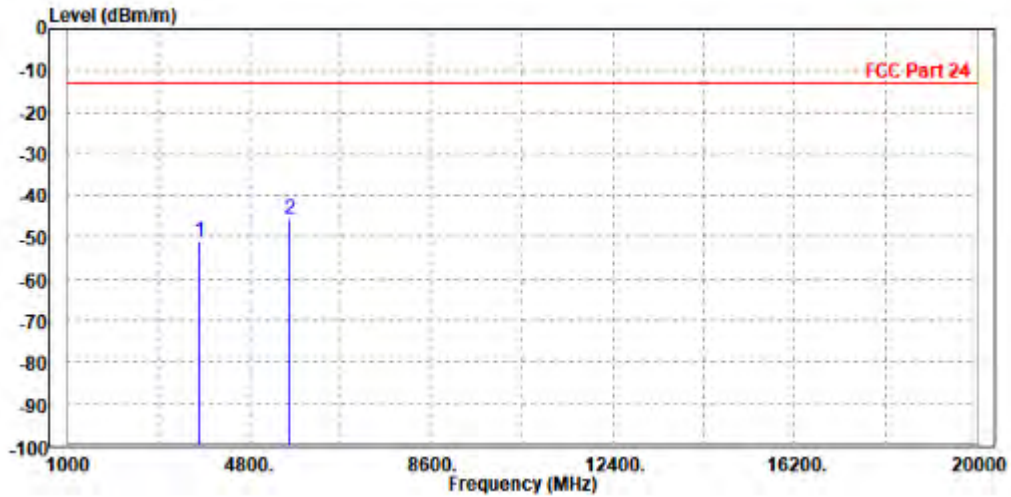
**BUREAU  
VERITAS**

Test Report No.: W7L-P23080006RF05

**CH 661**

<b>MODE</b>	TX channel 661	<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>			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3760.000	-50.96	-58.95	-13.00	-37.96	7.99	Peak	Horizontal
2	PP 5636.000	-45.57	-56.30	-13.00	-32.57	10.73	Peak	Horizontal





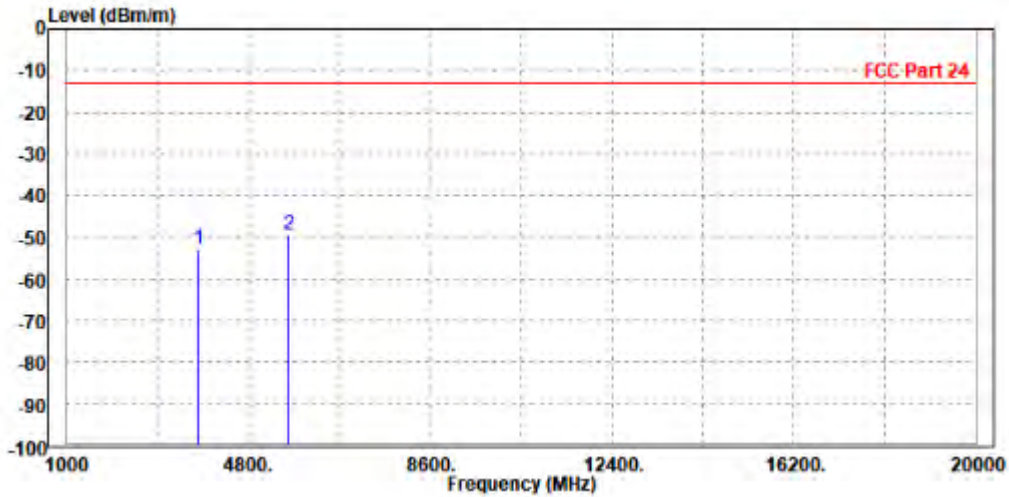


**BUREAU  
VERITAS**

**Test Report No.: W7L-P23080006RF05**

<b>MODE</b>	TX channel 661	<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>			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3755.000	-52.85	-60.54	-13.00	-39.85	7.69	Peak	Vertical
2 PP	5640.000	-49.51	-60.64	-13.00	-36.51	11.13	Peak	Vertical





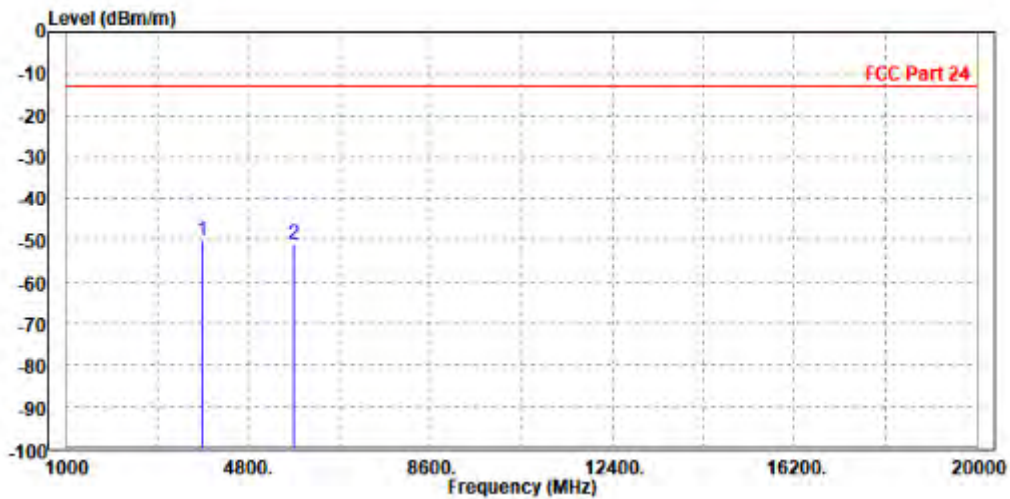
**BUREAU  
VERITAS**

Test Report No.: W7L-P23080006RF05

**CH 810**

<b>MODE</b>	TX channel 810	<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>			

	Freq	Level	Read Level	Limit	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP 3812.000	-50.23	-58.35	-13.00	-37.23	8.12	Peak	Horizontal
2	5729.400	-50.88	-61.79	-13.00	-37.88	10.91	Peak	Horizontal



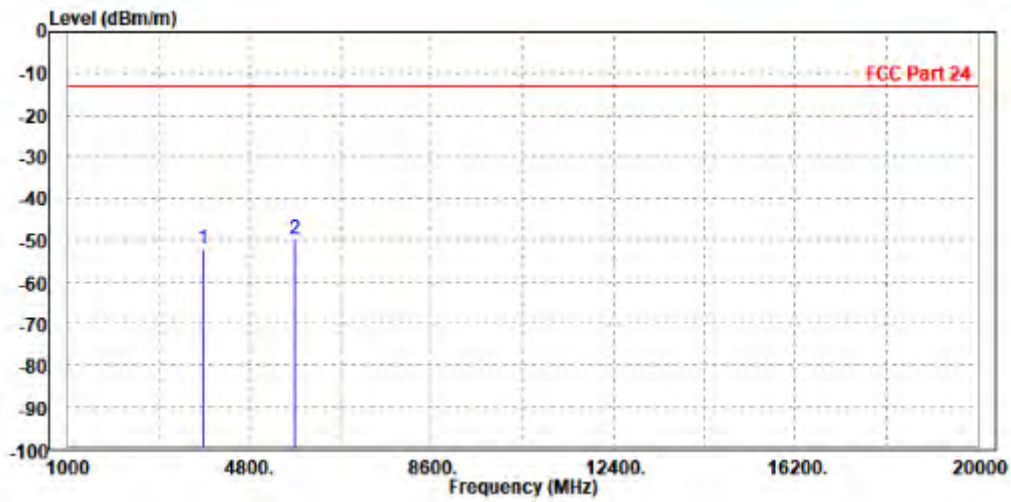


**BUREAU  
VERITAS**

Test Report No.: W7L-P23080006RF05

<b>MODE</b>	TX channel 810	<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>			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3819.600	-52.17	-59.95	-13.00	-39.17	7.78	Peak	Vertical
2 PP	5731.000	-49.85	-61.24	-13.00	-36.85	11.39	Peak	Vertical





**BUREAU  
VERITAS**

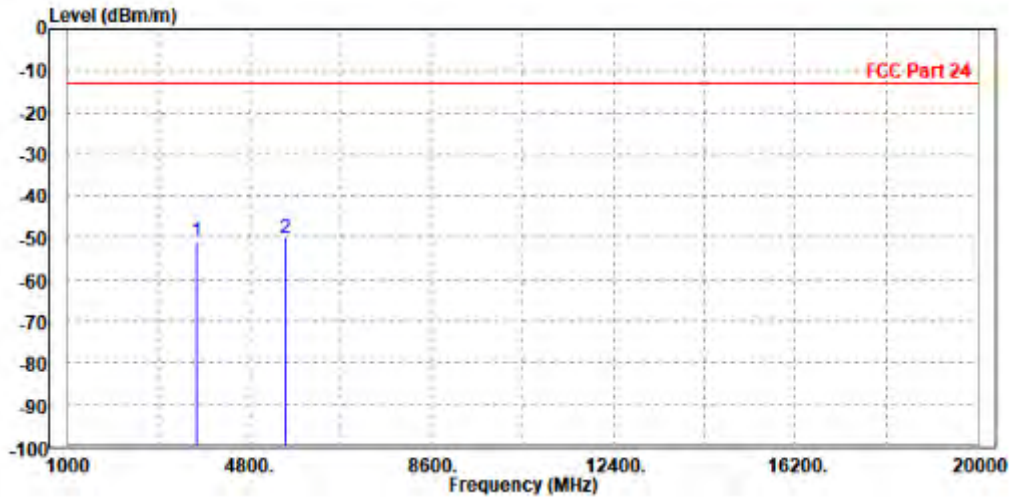
Test Report No.: W7L-P23080006RF05

WCDMA Band II(Ant1) (DOWN):

CH 9262

<b>MODE</b>	TX channel 9262	<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>			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3698.000	-50.89	-58.72	-13.00	-37.89	7.83	Peak	Horizontal
2	PP 5557.200	-50.10	-60.68	-13.00	-37.10	10.58	Peak	Horizontal



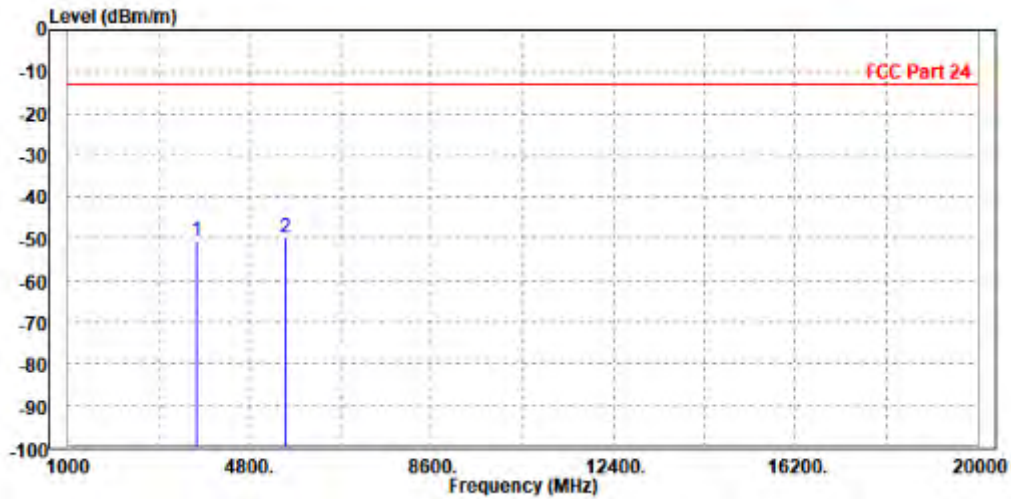


**BUREAU  
VERITAS**

Test Report No.: W7L-P23080006RF05

<b>MODE</b>	TX channel 9262	<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>			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3704.800	-50.50	-58.12	-13.00	-37.50	7.62	Peak	Vertical
2 PP	5560.000	-49.91	-60.81	-13.00	-36.91	10.90	Peak	Vertical





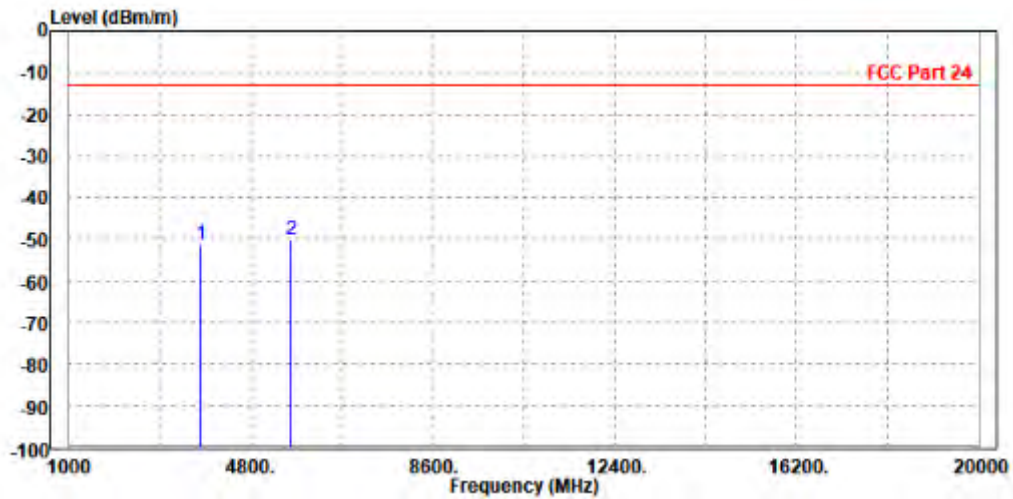
BUREAU  
VERITAS

Test Report No.: W7L-P23080006RF05

CH 9400

MODE	TX channel 9400	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>			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3760.000	-51.48	-59.47	-13.00	-38.48	7.99	Peak	Horizontal
2 PP	5636.000	-50.20	-60.93	-13.00	-37.20	10.73	Peak	Horizontal



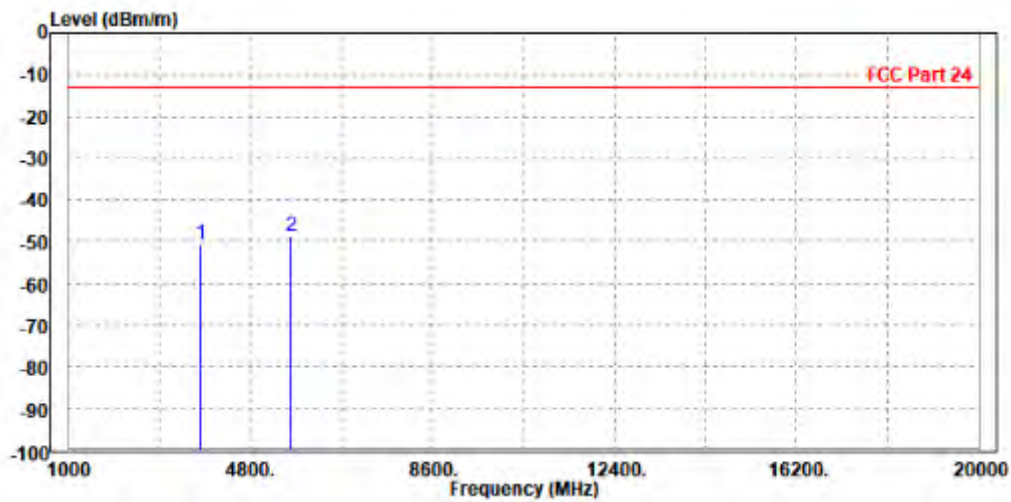


**BUREAU  
VERITAS**

Test Report No.: W7L-P23080006RF05

<b>MODE</b>	TX channel 9400	<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>			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3755.000	-50.61	-58.30	-13.00	-37.61	7.69	Peak	Vertical
2 PP	5640.000	-48.69	-59.82	-13.00	-35.69	11.13	Peak	Vertical





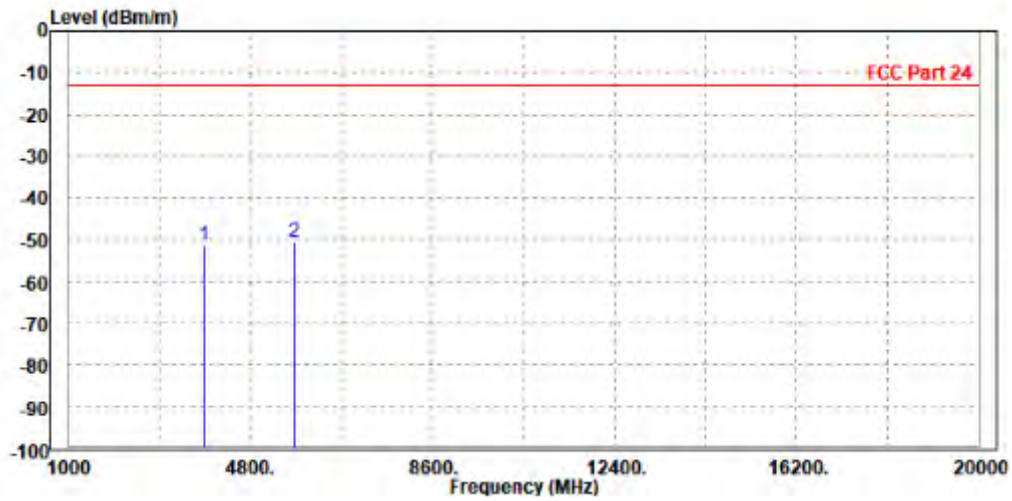
**BUREAU  
VERITAS**

Test Report No.: W7L-P23080006RF05

**CH 9538**

<b>MODE</b>	TX channel 9538	<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>			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3812.000	-51.31	-59.43	-13.00	-38.31	8.12	Peak	Horizontal
2 PP	5722.800	-50.65	-61.55	-13.00	-37.65	10.90	Peak	Horizontal





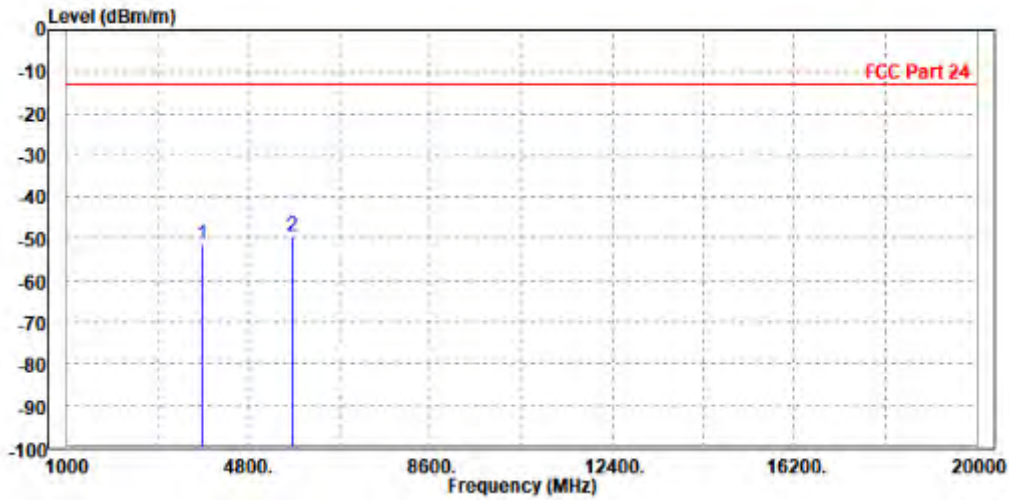


**BUREAU  
VERITAS**

Test Report No.: W7L-P23080006RF05

<b>MODE</b>	TX channel 9538	<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>			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3812.000	-51.15	-58.92	-13.00	-38.15	7.77	Peak	Vertical
2 PP	5722.800	-49.55	-60.91	-13.00	-36.55	11.36	Peak	Vertical





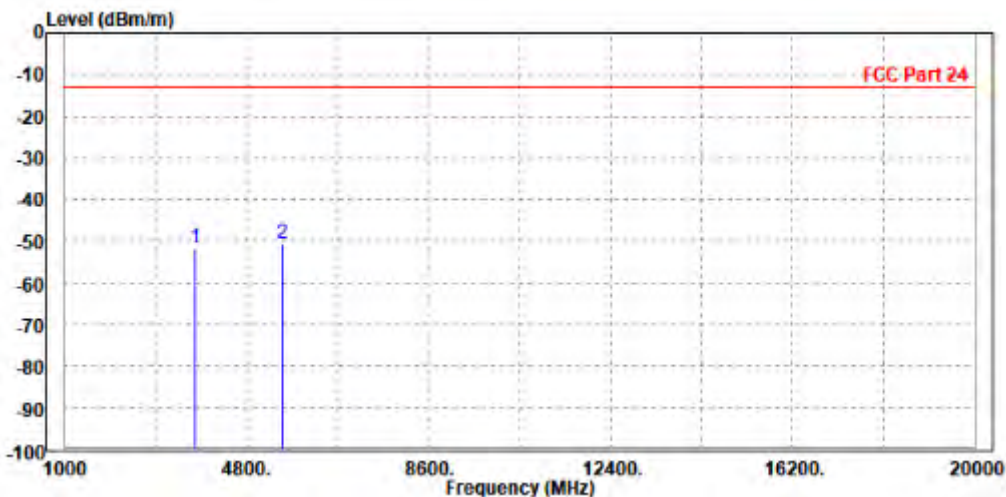
LTE Band 2(Ant1) (DOWN):

CHANNEL BANDWIDTH: 1.4MHz / QPSK

CH18607

MODE	TX channel 18607	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>			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3717.000	-51.55	-59.43	-13.00	-38.55	7.88	Peak	Horizontal
2 PP	5552.100	-50.59	-61.16	-13.00	-37.59	10.57	Peak	Horizontal



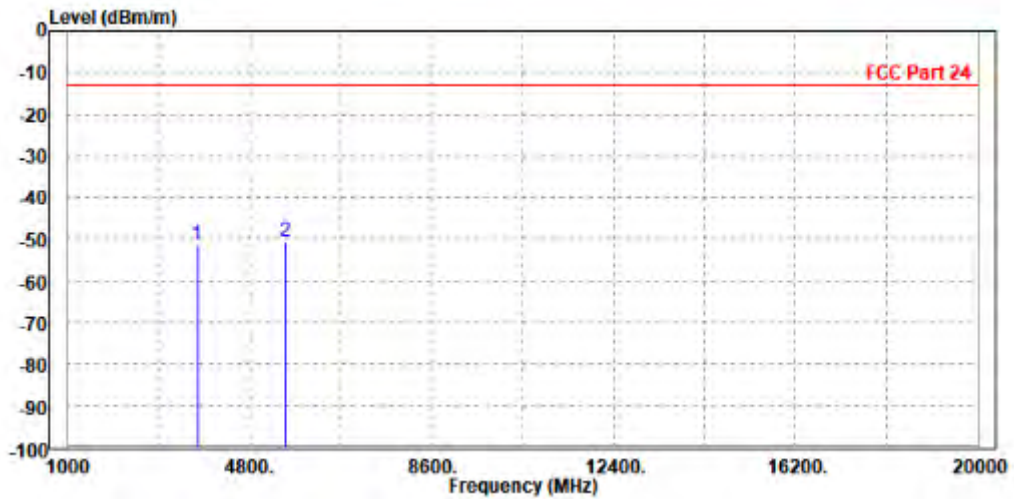


**BUREAU  
VERITAS**

**Test Report No.: W7L-P23080006RF05**

<b>MODE</b>	TX channel 18607	<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>			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3710.400	-51.18	-58.80	-13.00	-38.18	7.62	Peak	Vertical
2 PP	5560.000	-50.41	-61.31	-13.00	-37.41	10.90	Peak	Vertical

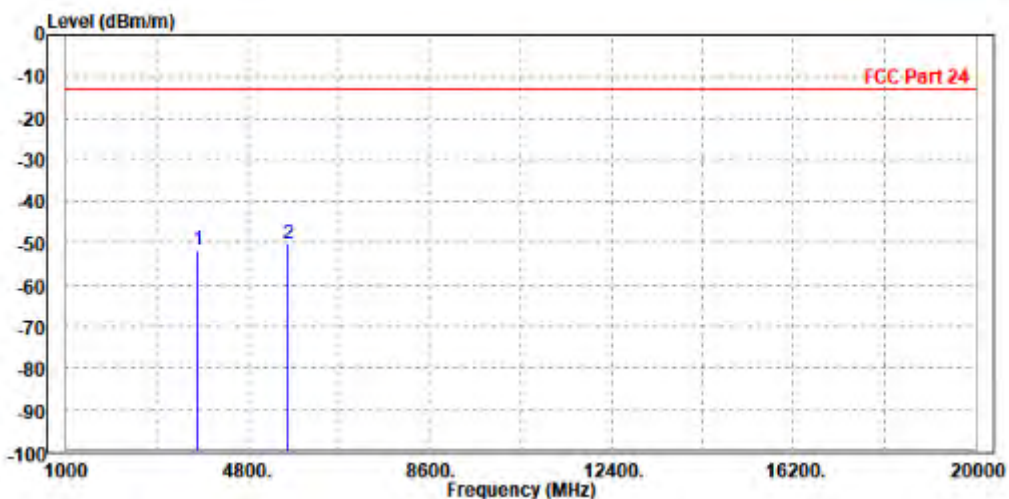




CH18900

<b>MODE</b>	TX channel 18900	<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>			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3760.000	-51.67	-59.66	-13.00	-38.67	7.99	Peak	Horizontal
2 PP	5636.000	-50.34	-61.07	-13.00	-37.34	10.73	Peak	Horizontal



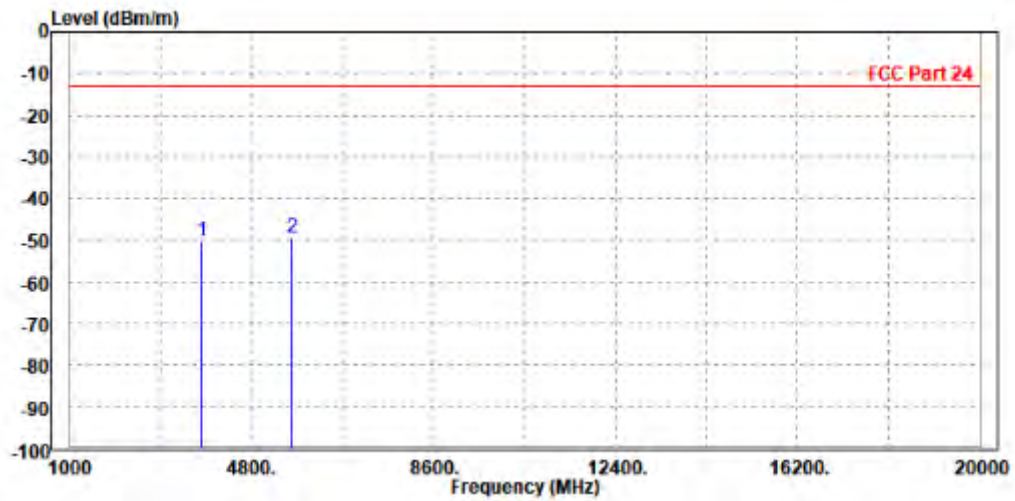


**BUREAU  
VERITAS**

Test Report No.: W7L-P23080006RF05

<b>MODE</b>	TX channel 18900	<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>			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3755.000	-50.32	-58.01	-13.00	-37.32	7.69	Peak	Vertical
2 PP	5640.000	-49.29	-60.42	-13.00	-36.29	11.13	Peak	Vertical





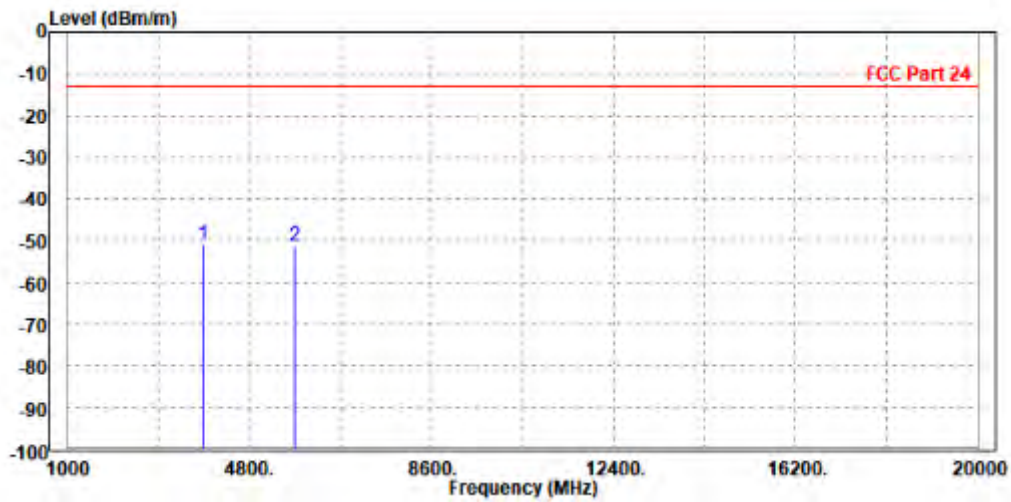
**BUREAU  
VERITAS**

Test Report No.: W7L-P23080006RF05

CH19193

<b>MODE</b>	TX channel 19193	<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>			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP 3818.600	-51.11	-59.25	-13.00	-38.11	8.14	Peak	Horizontal
2	5731.000	-51.14	-62.05	-13.00	-38.14	10.91	Peak	Horizontal



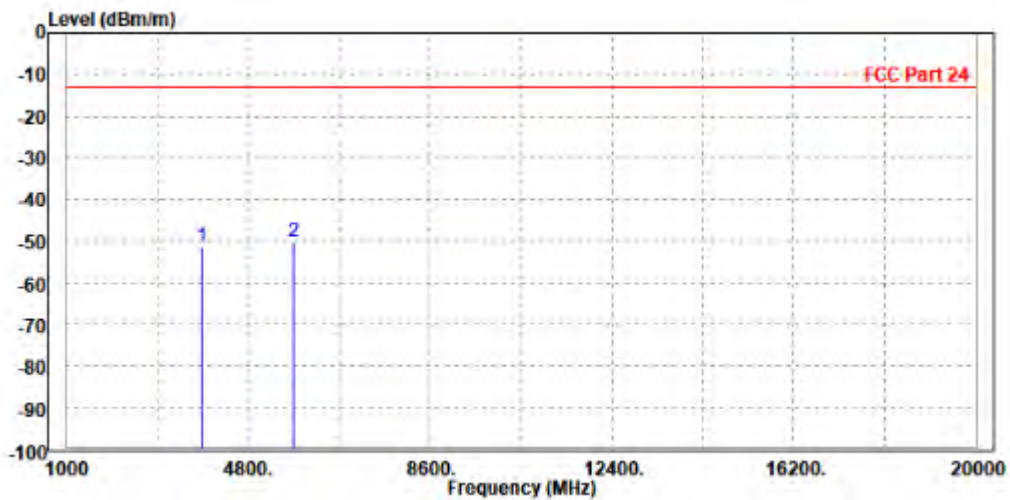


**BUREAU  
VERITAS**

**Test Report No.: W7L-P23080006RF05**

<b>MODE</b>	TX channel 19193	<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>			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3812.000	-51.38	-59.15	-13.00	-38.38	7.77	Peak	Vertical
2 PP	5727.900	-50.36	-61.74	-13.00	-37.36	11.38	Peak	Vertical





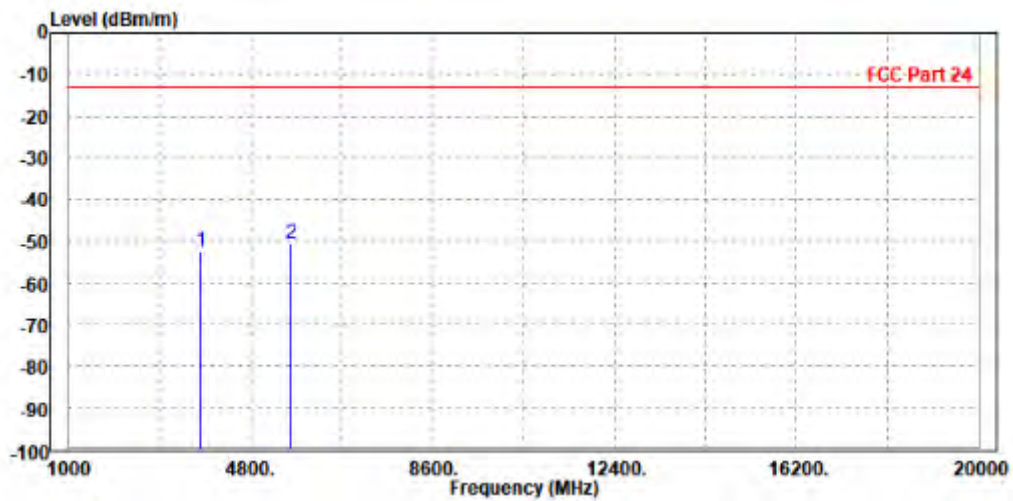
**BUREAU  
VERITAS**

Test Report No.: W7L-P23080006RF05

**CHANNEL BANDWIDTH: 3MHz / QPSK**

<b>MODE</b>	TX channel 18900	<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>			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3755.000	-52.50	-60.48	-13.00	-39.50	7.98	Peak	Horizontal
2 PP	5640.000	-50.58	-61.32	-13.00	-37.58	10.74	Peak	Horizontal





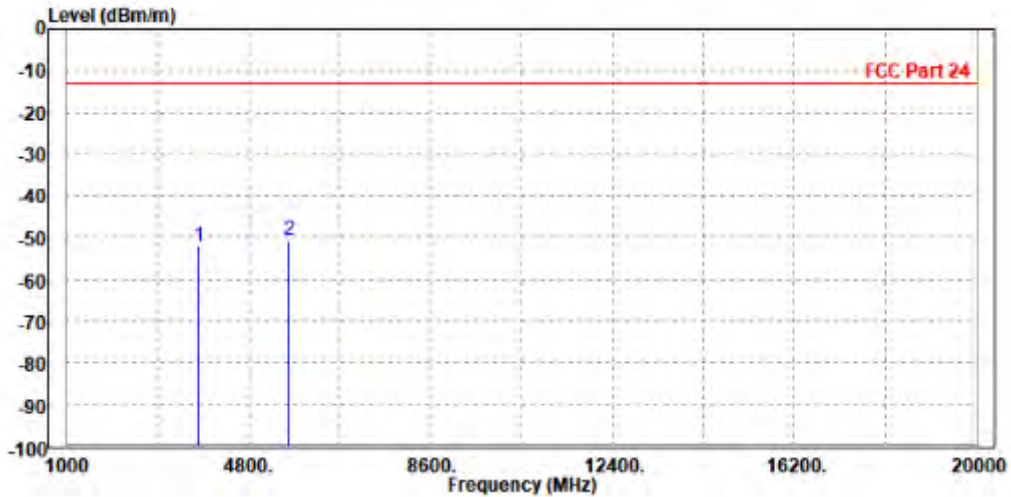


**BUREAU  
VERITAS**

**Test Report No.: W7L-P23080006RF05**

<b>MODE</b>	TX channel 18900	<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>			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3760.000	-51.93	-59.63	-13.00	-38.93	7.70	Peak	Vertical
2 PP	5636.000	-50.55	-61.67	-13.00	-37.55	11.12	Peak	Vertical





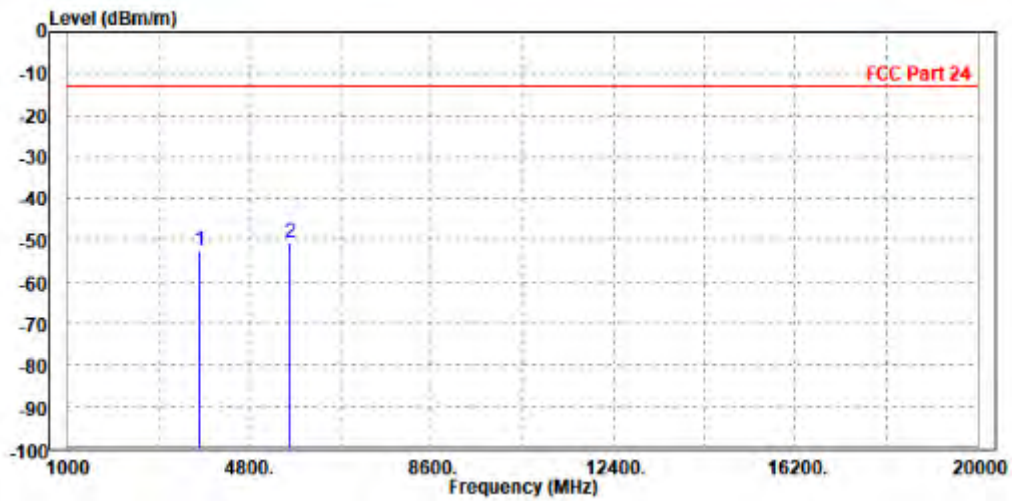
**BUREAU  
VERITAS**

Test Report No.: W7L-P23080006RF05

**CHANNEL BANDWIDTH: 5MHz / QPSK**

<b>MODE</b>	TX channel 18900	<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>			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3760.000	-52.64	-60.63	-13.00	-39.64	7.99	Peak	Horizontal
2 PP	5636.000	-50.72	-61.45	-13.00	-37.72	10.73	Peak	Horizontal



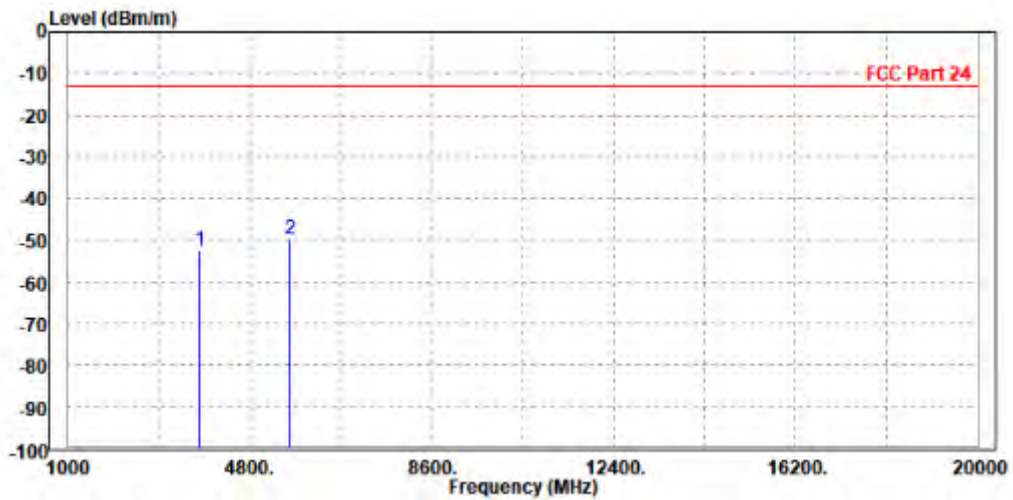


**BUREAU  
VERITAS**

**Test Report No.: W7L-P23080006RF05**

<b>MODE</b>	TX channel 18900	<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>			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3755.000	-52.51	-60.20	-13.00	-39.51	7.69	Peak	Vertical
2 PP	5640.000	-49.77	-60.90	-13.00	-36.77	11.13	Peak	Vertical





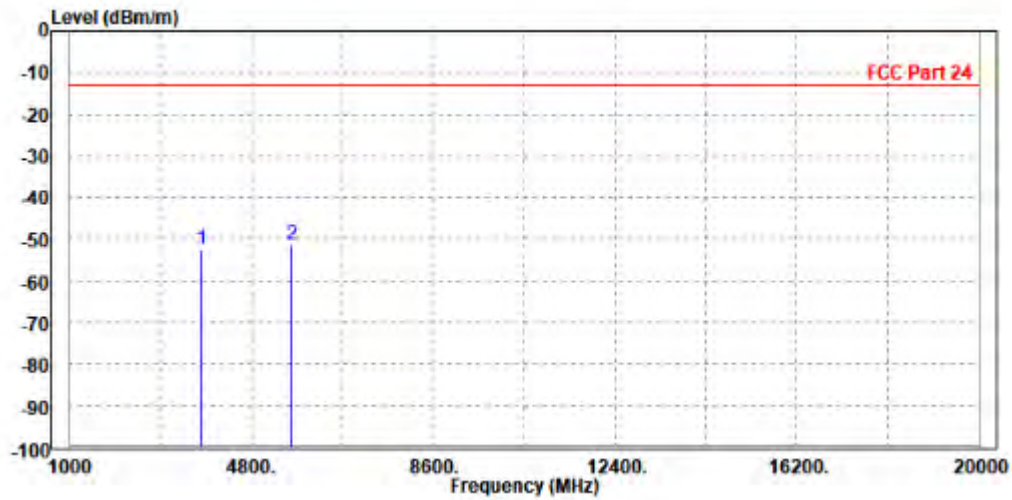
**BUREAU  
VERITAS**

Test Report No.: W7L-P23080006RF05

**CHANNEL BANDWIDTH: 10MHz / QPSK**

<b>MODE</b>	TX channel 18900	<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>			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3760.000	-52.49	-60.48	-13.00	-39.49	7.99	Peak	Horizontal
2	5636.000	-51.18	-61.91	-13.00	-38.18	10.73	Peak	Horizontal



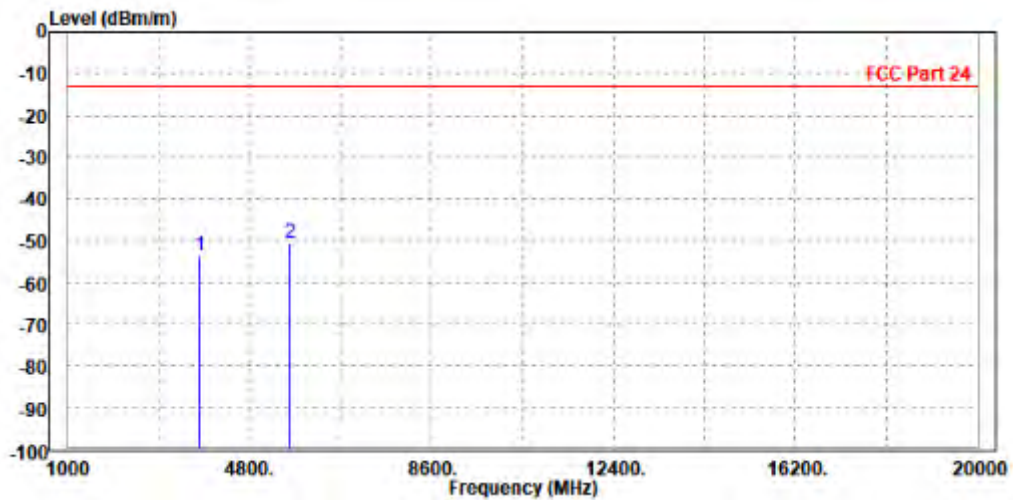


**BUREAU  
VERITAS**

Test Report No.: W7L-P23080006RF05

<b>MODE</b>	TX channel 18900	<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>			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3755.000	-53.50	-61.19	-13.00	-40.50	7.69	Peak	Vertical
2 PP	5640.000	-50.66	-61.79	-13.00	-37.66	11.13	Peak	Vertical





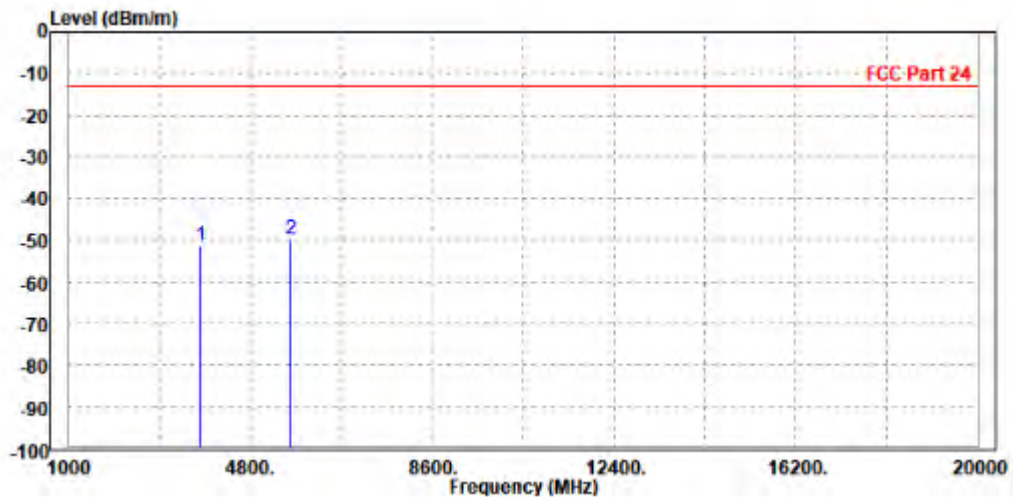
**BUREAU  
VERITAS**

Test Report No.: W7L-P23080006RF05

**CHANNEL BANDWIDTH: 15MHz / QPSK**

<b>MODE</b>	TX channel 18900	<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>			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3755.000	-51.42	-59.40	-13.00	-38.42	7.98	Peak	Horizontal
2 PP	5640.000	-49.96	-60.70	-13.00	-36.96	10.74	Peak	Horizontal



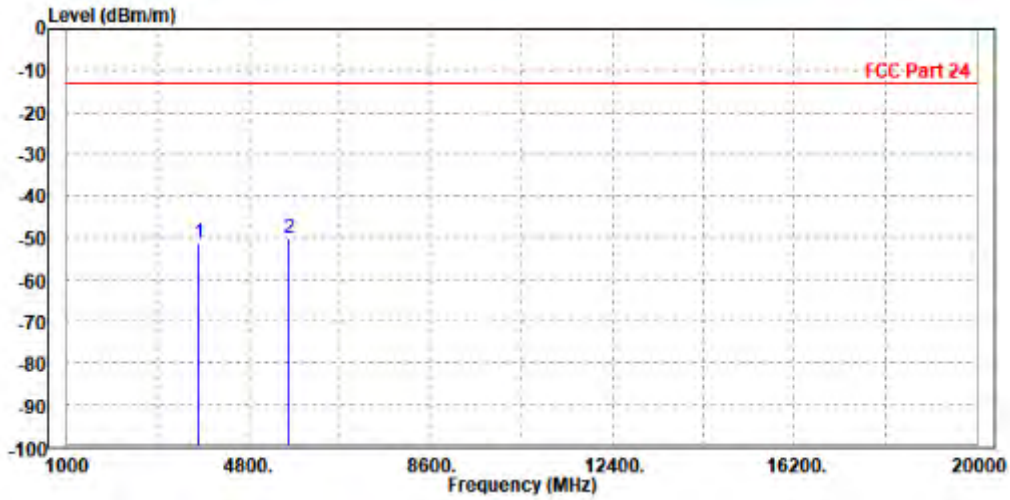


**BUREAU  
VERITAS**

Test Report No.: W7L-P23080006RF05

<b>MODE</b>	TX channel 18900	<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>			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3760.000	-51.41	-59.11	-13.00	-38.41	7.70	Peak	Vertical
2 PP	5636.000	-50.33	-61.45	-13.00	-37.33	11.12	Peak	Vertical





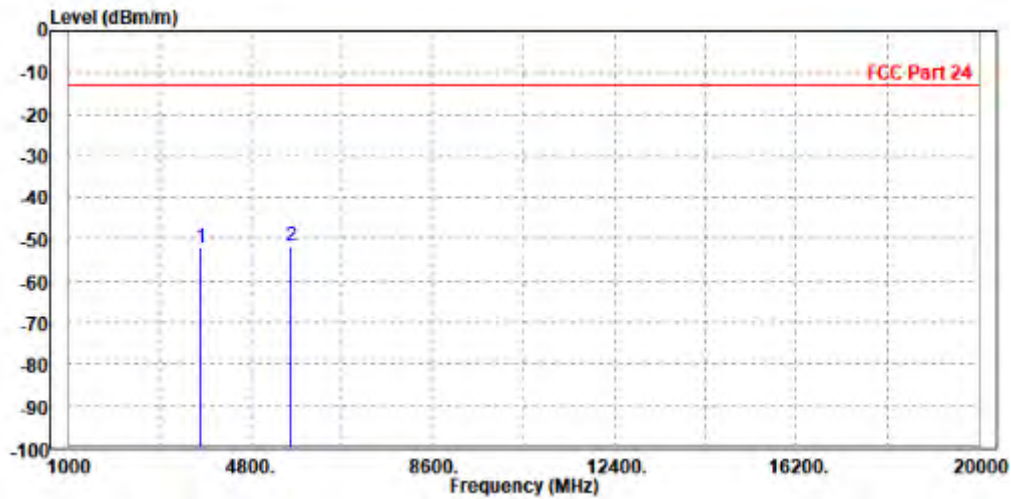
**BUREAU  
VERITAS**

Test Report No.: W7L-P23080006RF05

**CHANNEL BANDWIDTH: 20MHz / QPSK**

<b>MODE</b>	TX channel 18900	<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>			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3760.000	-51.94	-59.93	-13.00	-38.94	7.99	Peak	Horizontal
2 PP	5636.000	-51.65	-62.38	-13.00	-38.65	10.73	Peak	Horizontal





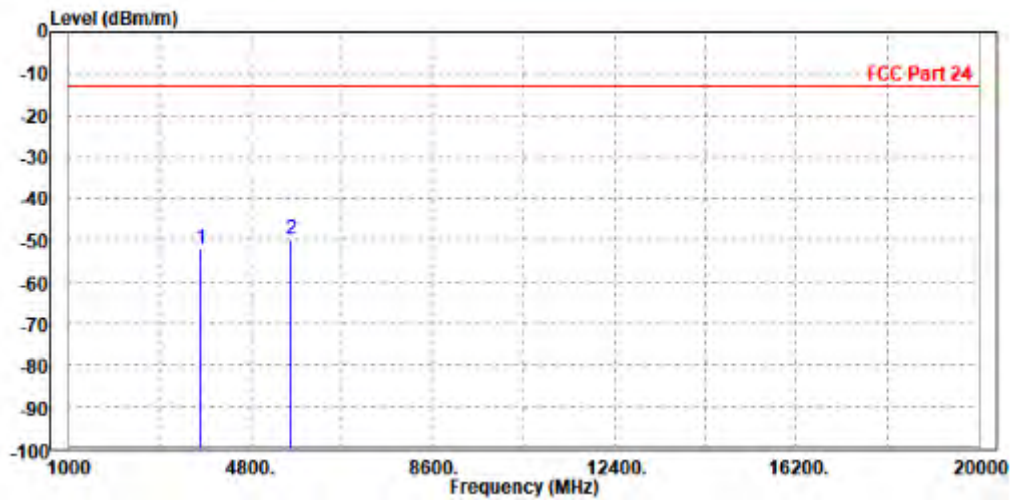


**BUREAU  
VERITAS**

**Test Report No.: W7L-P23080006RF05**

<b>MODE</b>	TX channel 18900	<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>			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3755.000	-52.28	-59.97	-13.00	-39.28	7.69	Peak	Vertical
2 PP	5640.000	-50.00	-61.13	-13.00	-37.00	11.13	Peak	Vertical



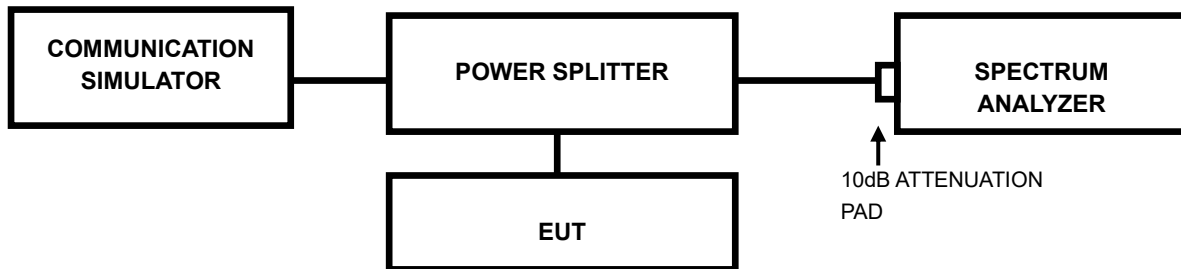


### 3.7 PEAK TO AVERAGE RATIO

#### 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%.



**BUREAU**  
**VERITAS**

**Test Report No.: W7L-P23080006RF05**

### 3.7.4 TEST RESULTS

Please Refer to Appendix Of this test report.



**BUREAU  
VERITAS**

Test Report No.: W7L-P23080006RF05

## 4 PHOTOGRAPHS OF THE TEST CONFIGURATION

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



**BUREAU  
VERITAS**

Test Report No.: W7L-P23080006RF05

## 5 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@bureauveritas.com](mailto:customerservice.sw@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.



Test Report No.: W7L-P23080006RF05

## 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.



**BUREAU**  
**VERITAS**

Test Report No.: W7L-P23080006RF05

## 7 APPENDIX

### GSM1900

#### PEAK-TO-AVERAGE RATIO(CCDF)

#### Test Result

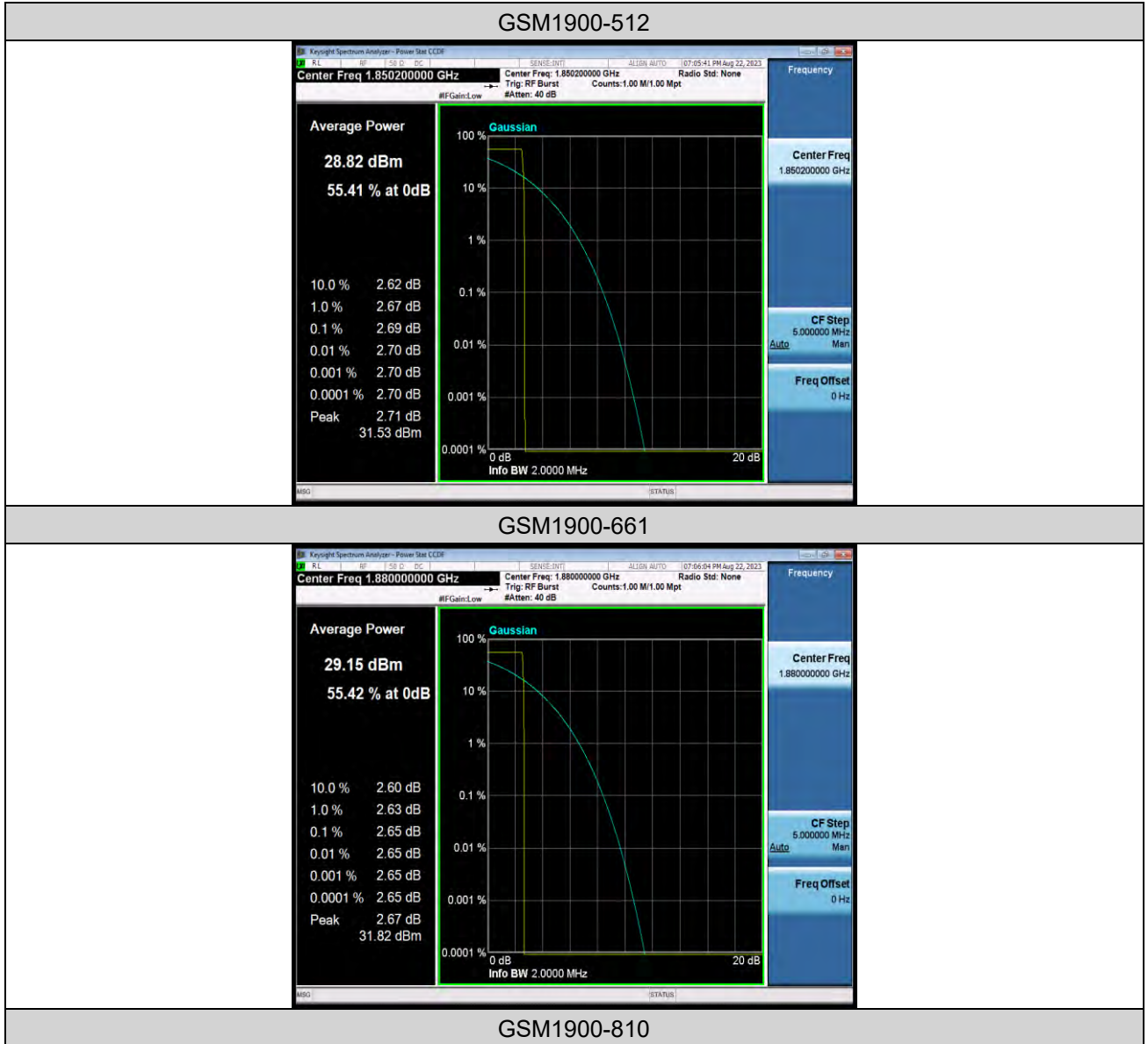
Band	Channel	Result(dB)	Limit(dB)	Verdict
GSM1900	512	2.69	13	PASS
GSM1900	661	2.65	13	PASS
GSM1900	810	2.62	13	PASS
EGPRS1900	512	6.14	13	PASS
EGPRS1900	661	6.14	13	PASS
EGPRS1900	810	6.07	13	PASS



BUREAU  
VERITAS

Test Report No.: W7L-P23080006RF05

## Test Graphs





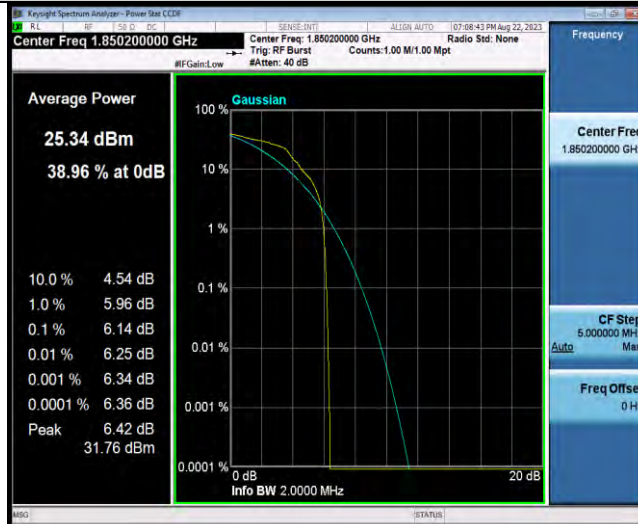


BUREAU  
VERITAS

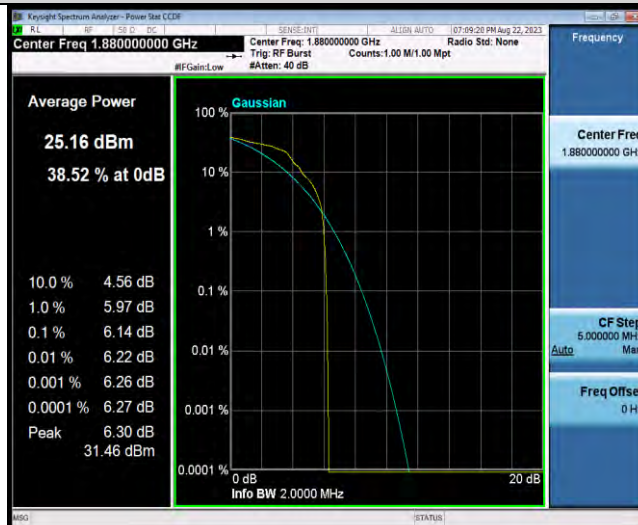
Test Report No.: W7L-P23080006RF05



EGPRS1900-512



EGPRS1900-661



EGPRS1900-810



BUREAU  
VERITAS

Test Report No.: W7L-P23080006RF05

