

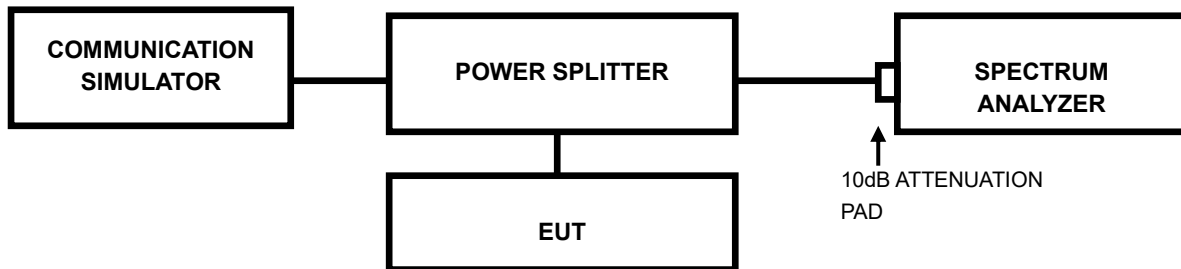


### 3.3 OCCUPIED BANDWIDTH MEASUREMENT

#### 3.3.1 LIMITS OF OCCUPIED BANDWIDTH MEASUREMENT

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

#### 3.3.2 TEST SETUP



#### 3.3.3 TEST PROCEDURES

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



Test Report No.: W7L-240618W001RF05

### 3.3.4 TEST RESULTS

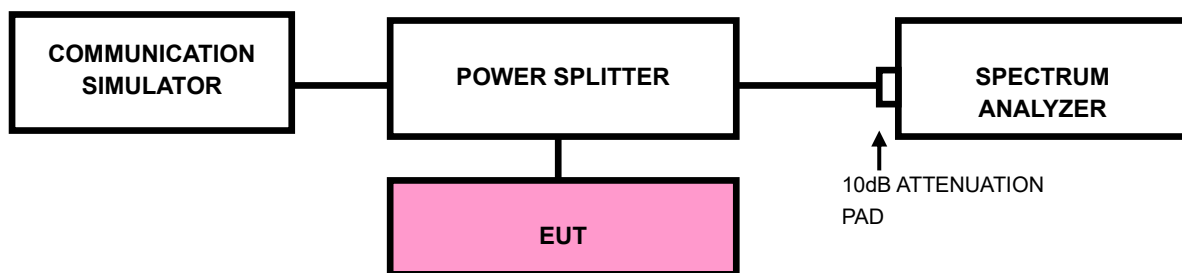
Please Refer to Appendix Of this test report.

### 3.4 BAND EDGE MEASUREMENT

#### 3.4.1 LIMITS OF BAND EDGE MEASUREMENT

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. In the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

#### 3.4.2 TEST SETUP





### 3.4.3 TEST PROCEDURES

- a) All measurements were done at low and high operational frequency range
- b) Connect the transmitter to the spectrum analyzer via coaxial cable while ensuring proper impedance matching.
- c) Tune the analyzer to the nominal center frequency of the emission bandwidth (EBW)
- d) Set the resolution bandwidth (RBW)  $\geq 1\%$  EBW in the 1MHz band immediately outside and adjacent to the band edge.
- e) Beyond the 1MHz band from the band edge, RBW=1MHz was used.
- f) Set the video bandwidth (VBW) to  $\geq 3 \times$  RBW.
- g) Select the average power (RMS) display detector.
- h) Set the number of measurement points to  $\geq 1001$ .
- i) Use auto-coupled sweep time.
- j) Perform the measurement over an interval of time when the transmission is continuous and at its maximum power level.
- k) The RF fundamental frequency should be excluded against the limit line in the operating frequency band and use RBW is 5KHz or 10KHz or 100KHz.
- l) Record the max trace plot into the test report.



**BUREAU  
VERITAS**

**Test Report No.: W7L-240618W001RF05**

### 3.4.4 TEST RESULTS

Please Refer to Appendix Of this test report.



### 3.5 CONDUCTED SPURIOUS EMISSIONS

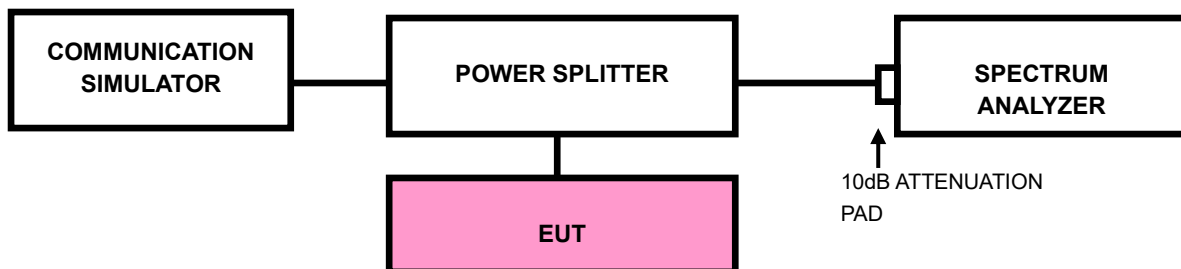
#### 3.5.1 LIMITS OF CONDUCTED SPURIOUS EMISSIONS MEASUREMENT

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  $-13$ dBm.

#### 3.5.2 TEST PROCEDURE

- The EUT makes a phone call to the communication simulator. All measurements were done at low, middle, and high operational frequency range.
- Measuring frequency range is from 9kHz 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-240618W001RF05**

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

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

#### 3.6.3 DEVIATION FROM TEST STANDARD

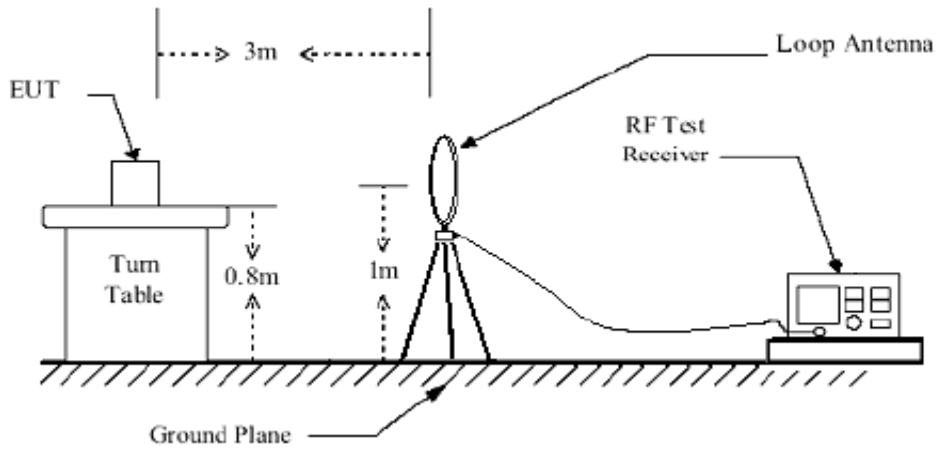
No deviation



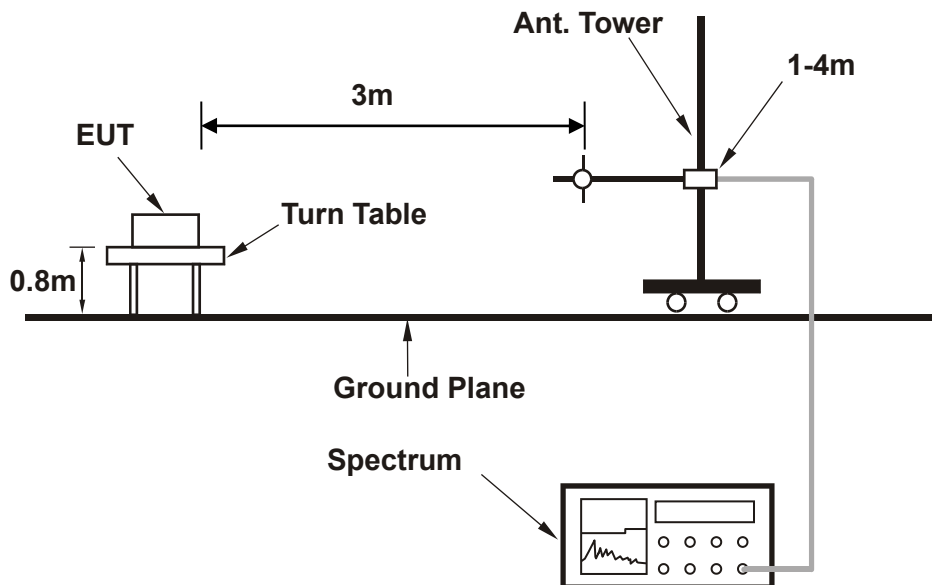


### 3.6.4 TEST SETUP

#### < Frequency Range below 30MHz >

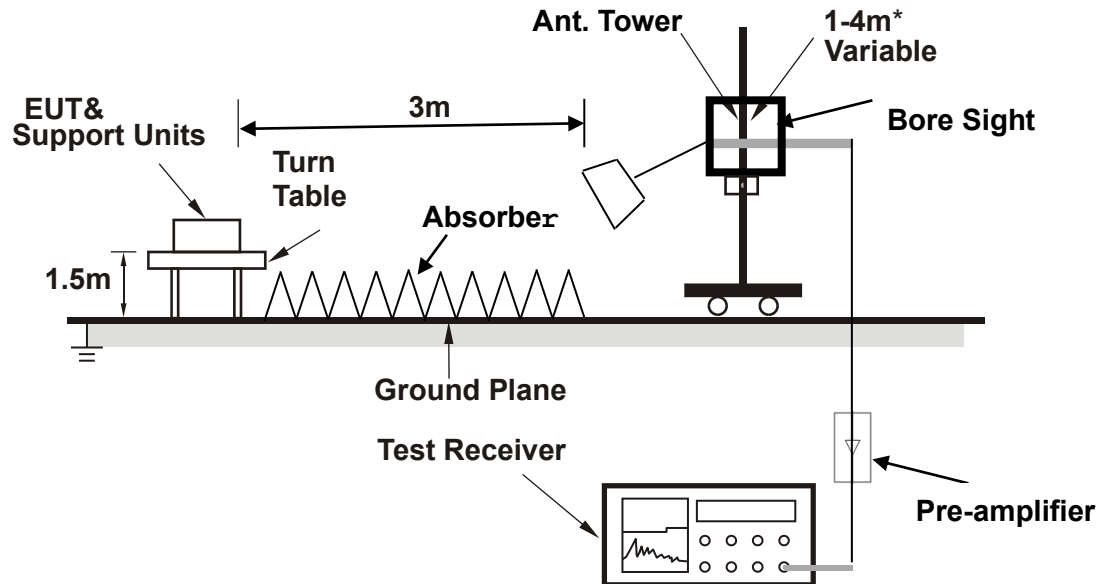


#### < Frequency Range 30MHz~1GHz >





<Frequency Range above 1GHz>



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

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**

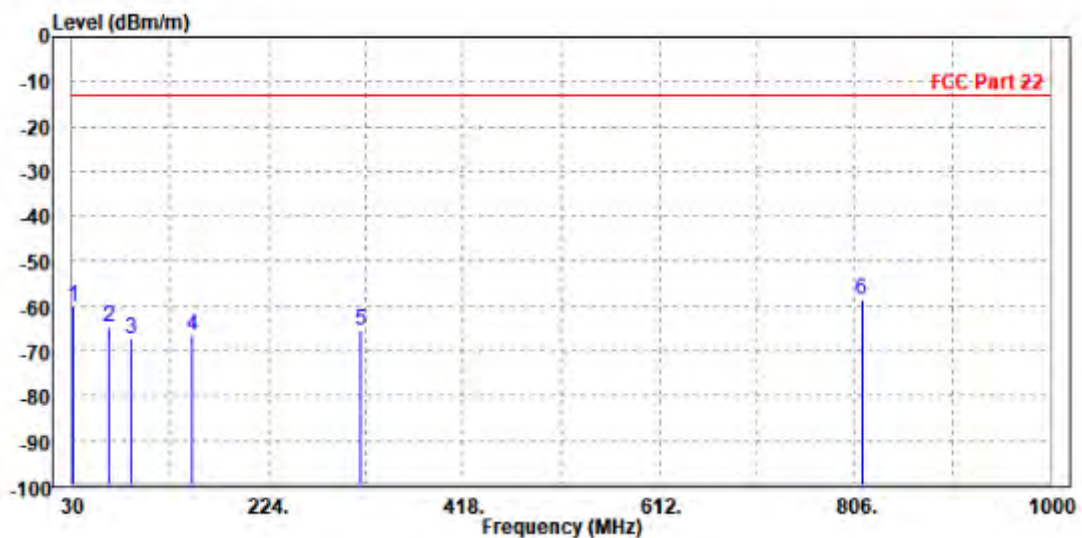
**30 MHz – 1GHz data:**

**EDGE 850(Ant4) (UP):**

**CHANNEL BANDWIDTH: 128 ~ 251**

<b>MODE</b>	TX channel 189	<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	30.970	-60.22	-57.71	-13.00	-47.22	-2.51	Peak	Horizontal
2	65.890	-64.70	-52.39	-13.00	-51.70	-12.31	Peak	Horizontal
3	88.200	-67.30	-54.57	-13.00	-54.30	-12.73	Peak	Horizontal
4	149.310	-66.64	-52.28	-13.00	-53.64	-14.36	Peak	Horizontal
5	315.180	-65.26	-56.74	-13.00	-52.26	-8.52	Peak	Horizontal
6 PP	812.790	-58.52	-63.14	-13.00	-45.52	4.62	Peak	Horizontal



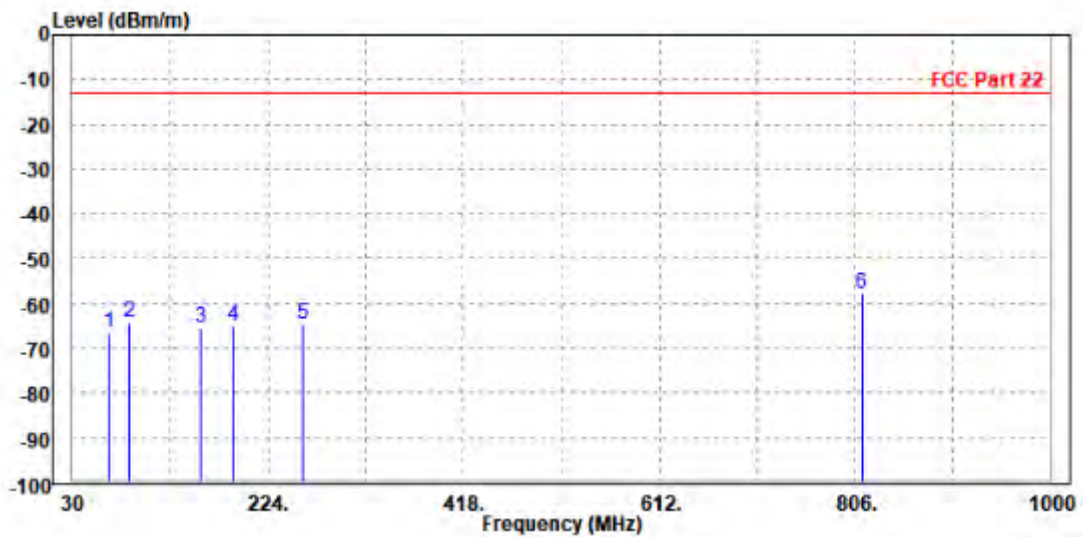


**BUREAU  
VERITAS**

**Test Report No.: W7L-240618W001RF05**

<b>MODE</b>	TX channel 189	<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	65.890	-66.43	-46.81	-13.00	-53.43	-19.62	Peak	Vertical
2	87.230	-64.07	-46.25	-13.00	-51.07	-17.82	Peak	Vertical
3	157.070	-65.55	-54.31	-13.00	-52.55	-11.24	Peak	Vertical
4	190.050	-65.00	-58.47	-13.00	-52.00	-6.53	Peak	Vertical
5	258.920	-64.53	-60.85	-13.00	-51.53	-3.68	Peak	Vertical
6 PP	812.790	-57.89	-63.81	-13.00	-44.89	5.92	Peak	Vertical





**BUREAU  
VERITAS**

**Test Report No.: W7L-240618W001RF05**

**ABOVE 1GHz DATA**

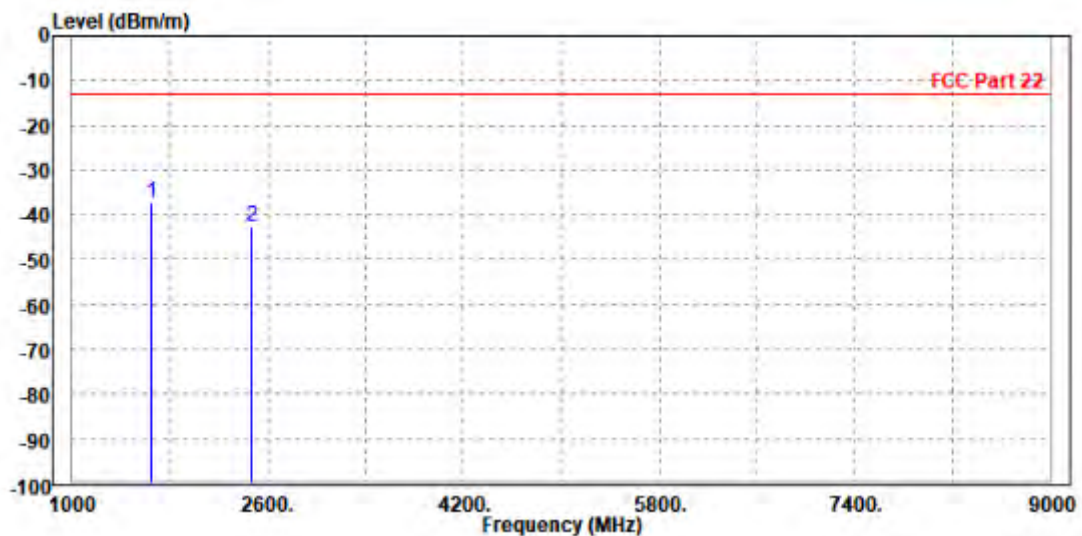
**Note:** For higher frequency, the emission is too low to be detected.

**GSM 850(Ant4) (UP):**

**CH 128:**

<b>MODE</b>	TX channel 128	<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>			

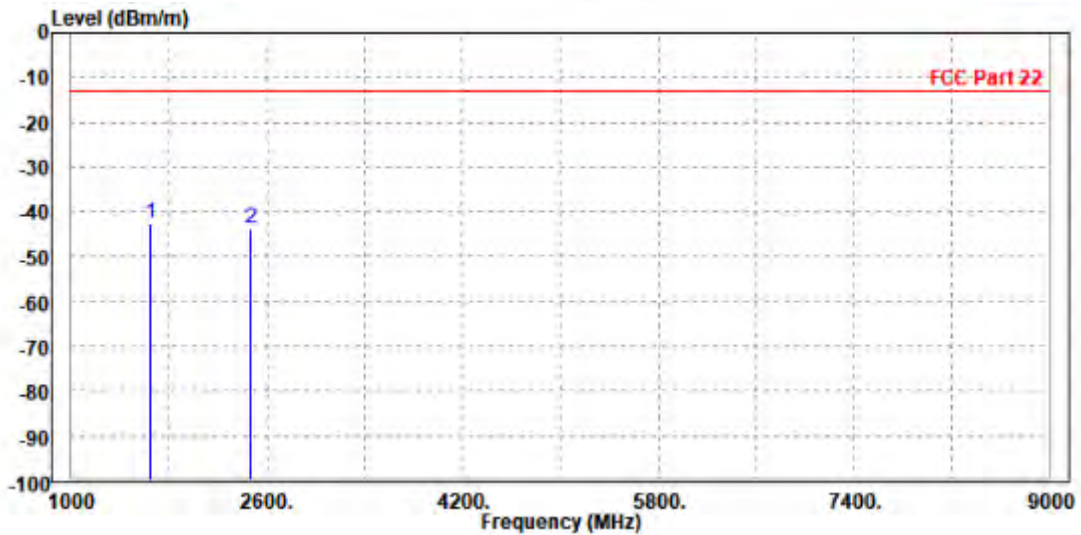
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP 1648.000	-37.08	-40.74	-13.00	-24.08	3.66	Peak	Horizontal
2	2472.000	-42.77	-48.79	-13.00	-29.77	6.02	Peak	Horizontal





MODE	TX channel 128	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: 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	PP 1648.000	-42.59	-45.98	-13.00	-29.59	3.39	Peak	Vertical
2	2472.000	-43.64	-49.32	-13.00	-30.64	5.68	Peak	Vertical







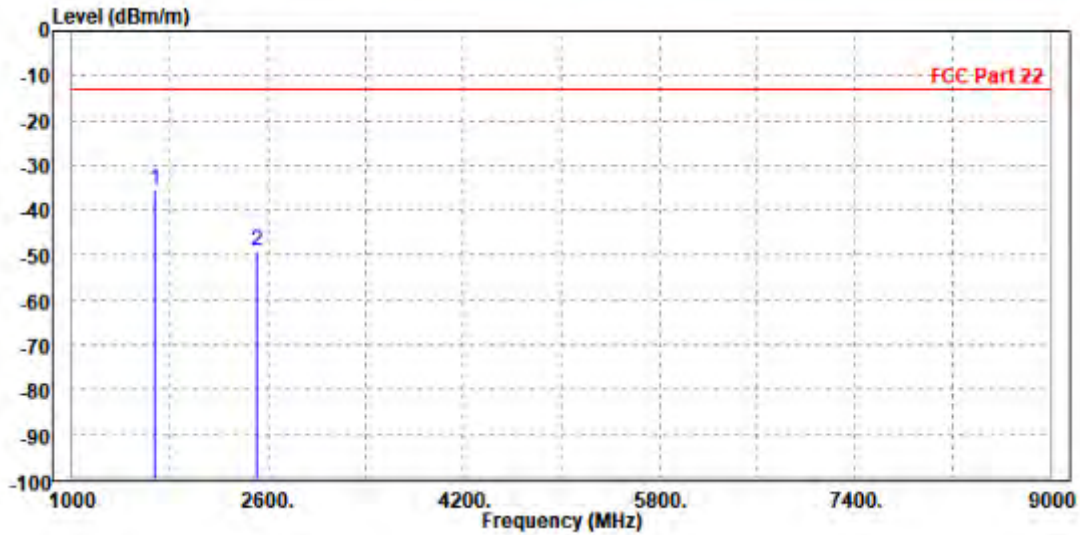
**BUREAU  
VERITAS**

**Test Report No.: W7L-240618W001RF05**

**CH 189:**

<b>MODE</b>	TX channel 189	<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	1672.000	-35.46	-39.19	-13.00	-22.46	3.73	Peak	Horizontal
2	2512.000	-48.93	-55.08	-13.00	-35.93	6.15	Peak	Horizontal



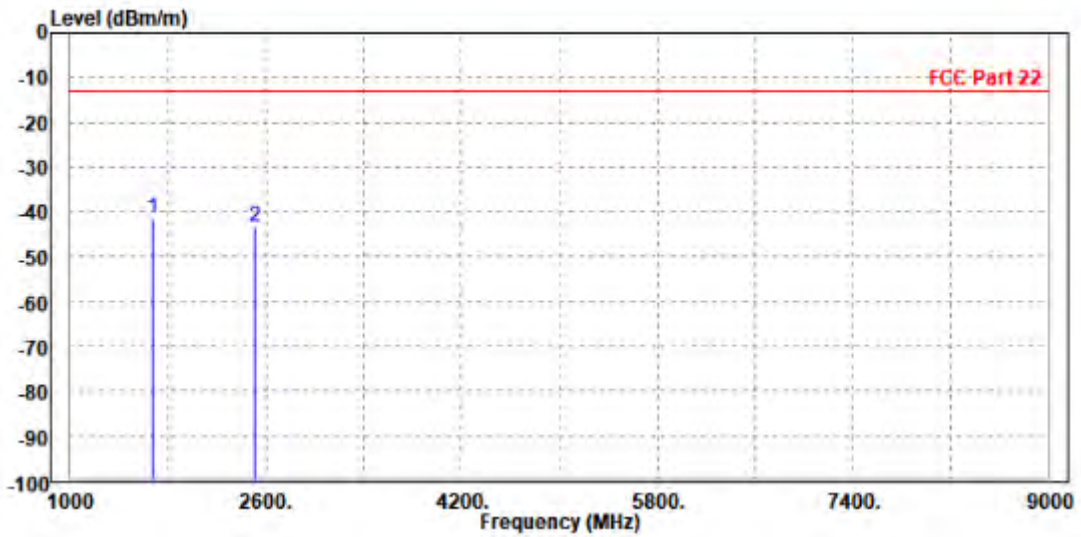


BUREAU VERITAS

Test Report No.: W7L-240618W001RF05

MODE	TX channel 189	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: 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	PP 1672.000	-41.45	-44.88	-13.00	-28.45	3.43	Peak	Vertical
2	2512.000	-43.37	-49.22	-13.00	-30.37	5.85	Peak	Vertical







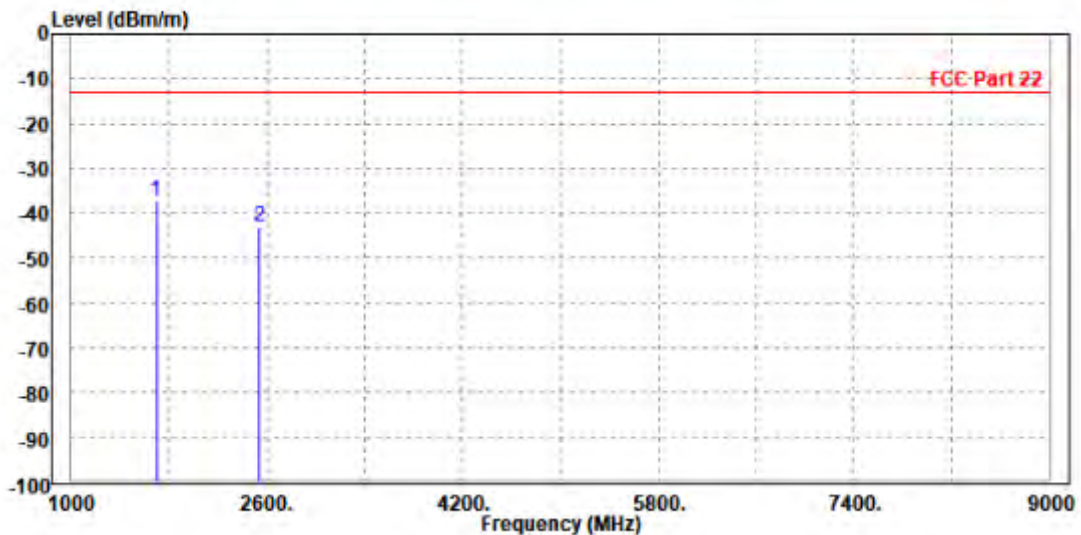
**BUREAU  
VERITAS**

Test Report No.: W7L-240618W001RF05

CH 251:

<b>MODE</b>	TX channel 251	<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 1696.000	-37.26	-41.07	-13.00	-24.26	3.81	Peak	Horizontal
2	2544.000	-43.14	-49.43	-13.00	-30.14	6.29	Peak	Horizontal



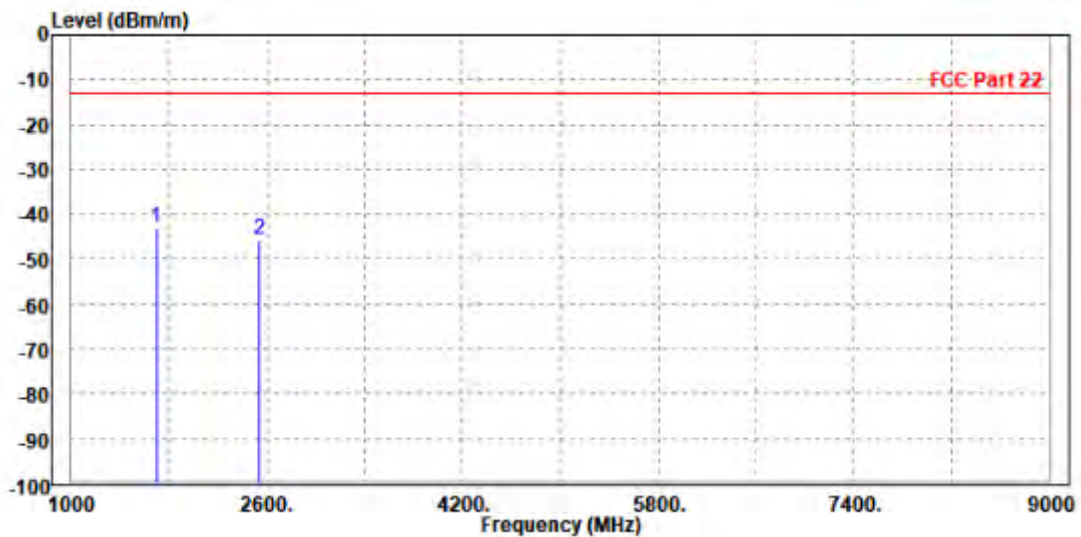


**BUREAU  
VERITAS**

**Test Report No.: W7L-240618W001RF05**

<b>MODE</b>	TX channel 251	<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	PP 1696.000	-43.15	-46.62	-13.00	-30.15	3.47	Peak	Vertical
2	2544.000	-45.50	-51.55	-13.00	-32.50	6.05	Peak	Vertical



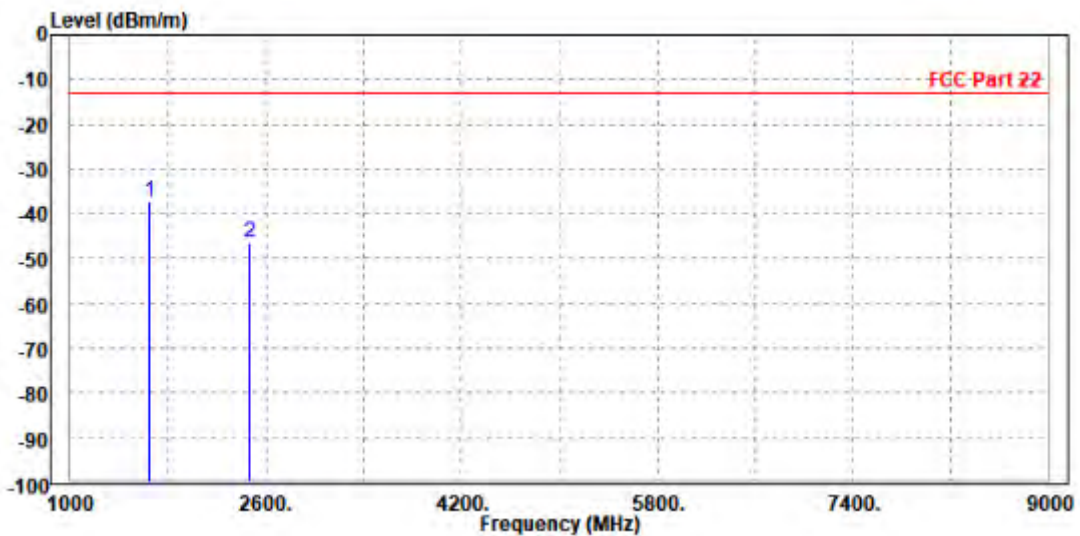


**EDGE 850(Ant4) (UP):**

**CH 128:**

<b>MODE</b>	TX channel 128	<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 1648.000	-37.38	-41.04	-13.00	-24.38	3.66	Peak	Horizontal
2	2472.000	-46.37	-52.39	-13.00	-33.37	6.02	Peak	Horizontal



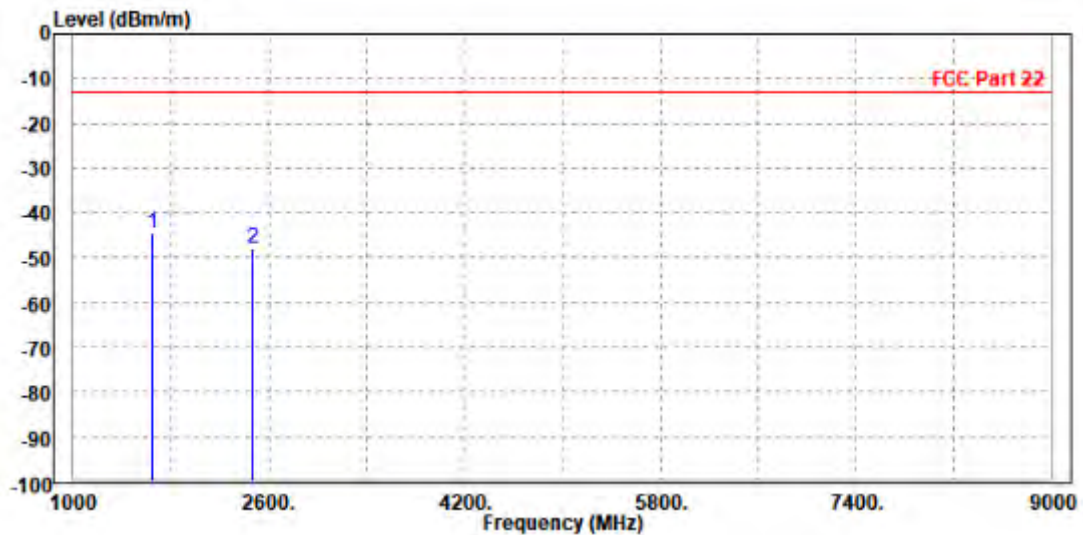


**BUREAU  
VERITAS**

**Test Report No.: W7L-240618W001RF05**

<b>MODE</b>	TX channel 128	<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	PP 1648.000	-44.57	-47.96	-13.00	-31.57	3.39	Peak	Vertical
2	2472.000	-47.87	-53.55	-13.00	-34.87	5.68	Peak	Vertical





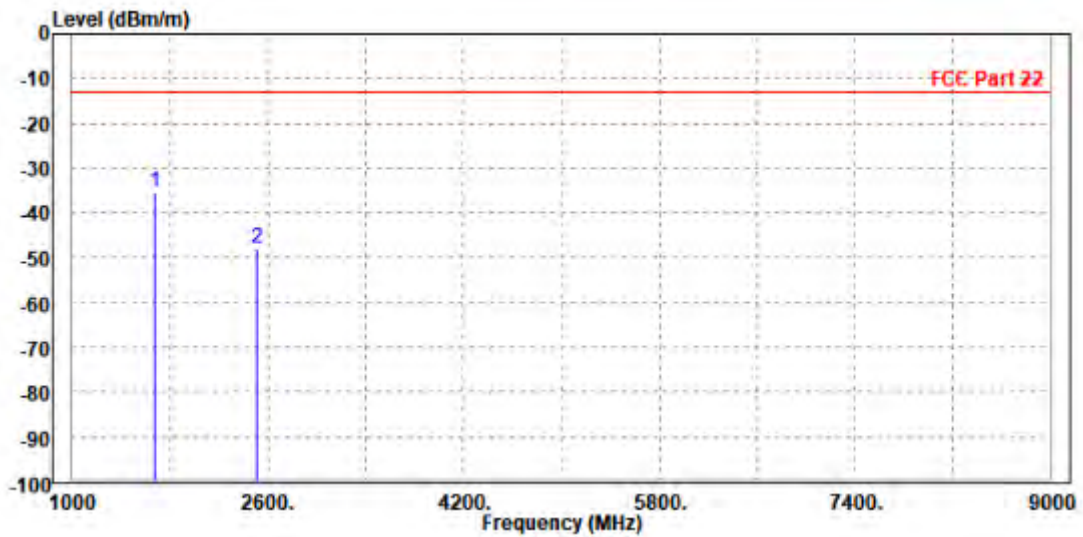
BUREAU VERITAS

Test Report No.: W7L-240618W001RF05

CH 189:

<b>MODE</b>	TX channel 189	<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 1672.000	-35.27	-39.00	-13.00	-22.27	3.73	Peak	Horizontal
2	2512.000	-47.89	-54.04	-13.00	-34.89	6.15	Peak	Horizontal





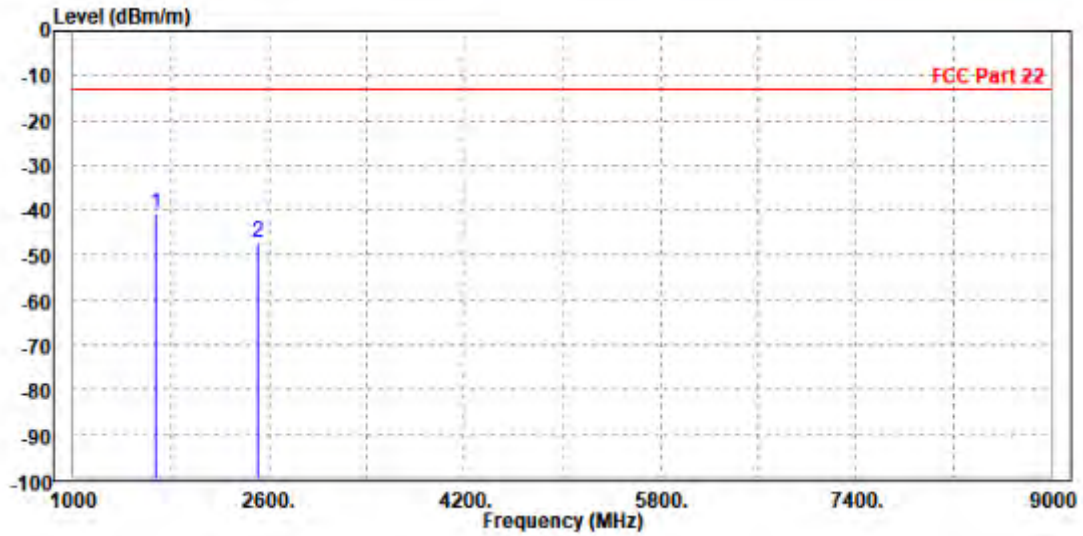


BUREAU VERITAS

Test Report No.: W7L-240618W001RF05

MODE	TX channel 189	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: 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	PP 1672.000	-40.79	-44.22	-13.00	-27.79	3.43	Peak	Vertical
2	2512.000	-47.09	-52.94	-13.00	-34.09	5.85	Peak	Vertical





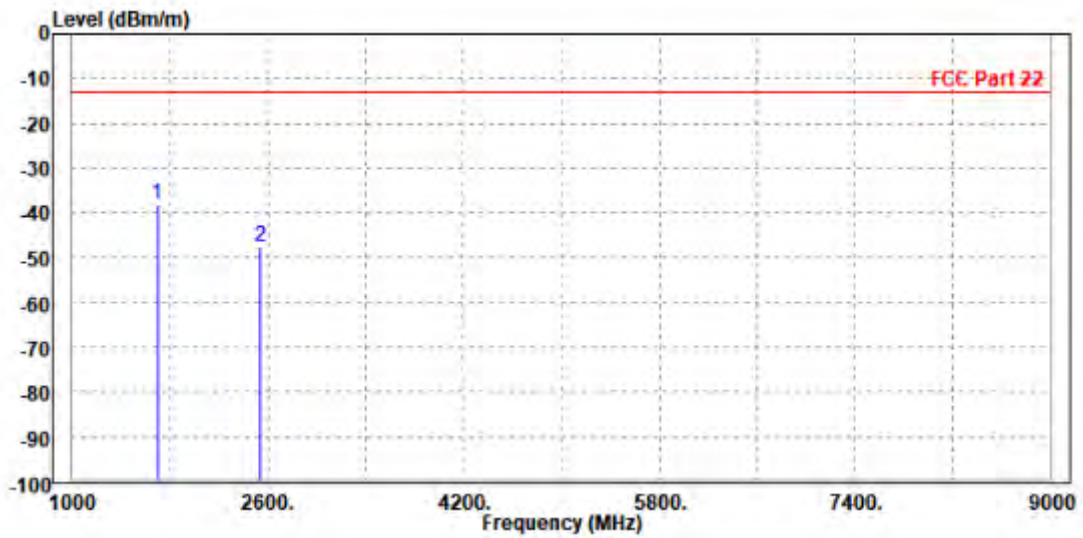
**BUREAU  
VERITAS**

**Test Report No.: W7L-240618W001RF05**

**CH 251:**

<b>MODE</b>	TX channel 251	<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 1696.000	-37.84	-41.65	-13.00	-24.84	3.81	Peak	Horizontal
2	2544.000	-47.43	-53.72	-13.00	-34.43	6.29	Peak	Horizontal



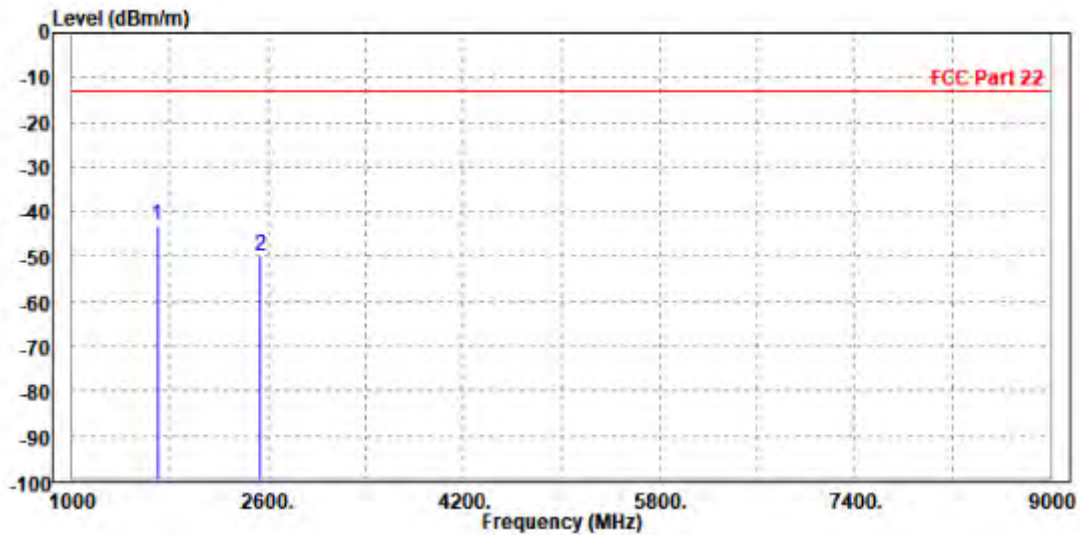


BUREAU VERITAS

Test Report No.: W7L-240618W001RF05

MODE	TX channel 251	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: 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	PP 1696.000	-42.89	-46.36	-13.00	-29.89	3.47	Peak	Vertical
2	2544.000	-49.87	-55.92	-13.00	-36.87	6.05	Peak	Vertical





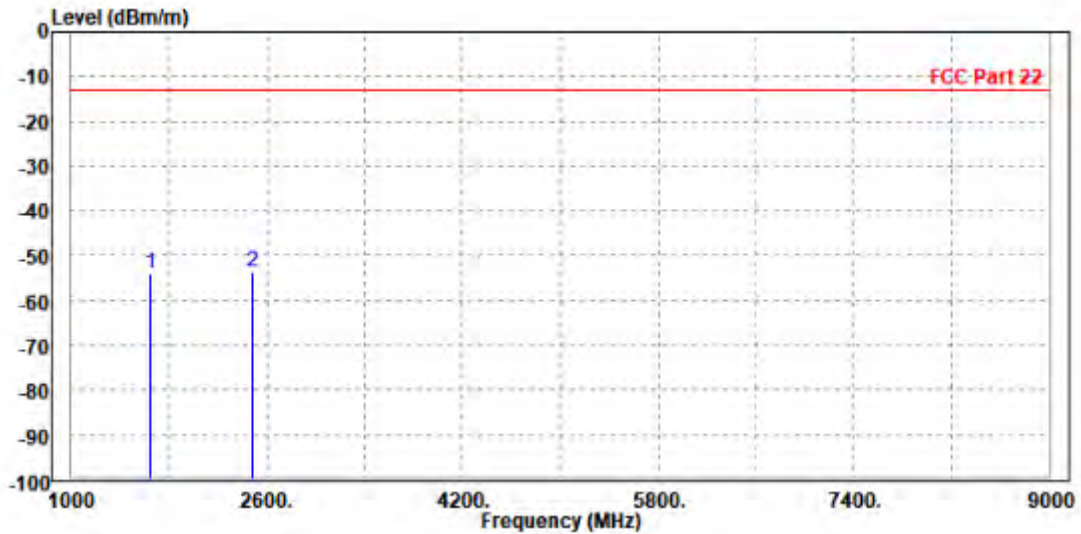


**WCDMA Band V(Ant4) (UP):**

**CH 4132:**

<b>MODE</b>	TX channel 4132	<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	1652.800	-54.03	-57.70	-13.00	-41.03	3.67	Peak	Horizontal
2 PP	2480.000	-53.50	-59.55	-13.00	-40.50	6.05	Peak	Horizontal



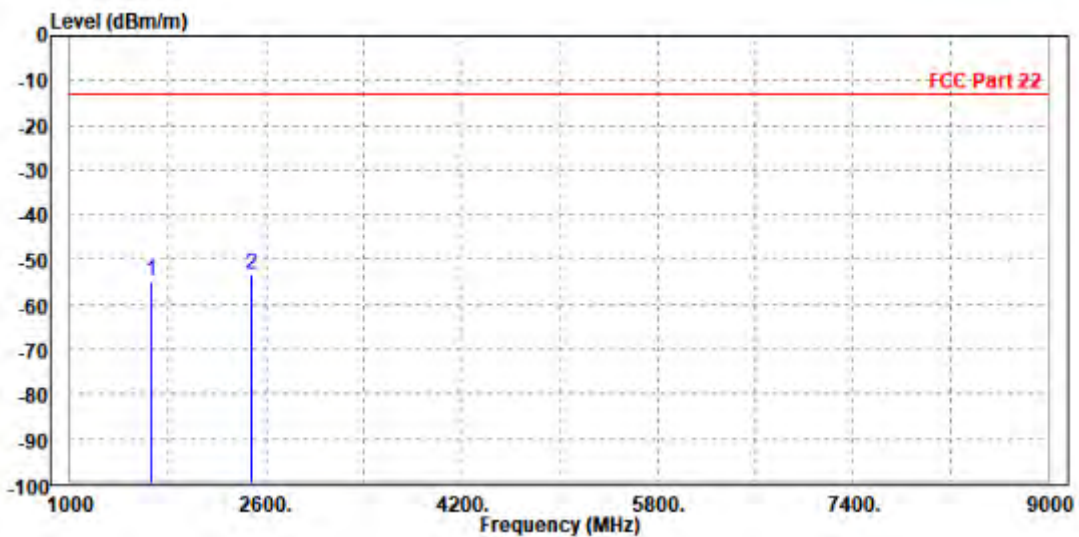


**BUREAU  
VERITAS**

**Test Report No.: W7L-240618W001RF05**

<b>MODE</b>	TX channel 4132	<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	1656.000	-54.80	-58.20	-13.00	-41.80	3.40	Peak	Vertical
2 PP	2479.200	-53.14	-58.85	-13.00	-40.14	5.71	Peak	Vertical

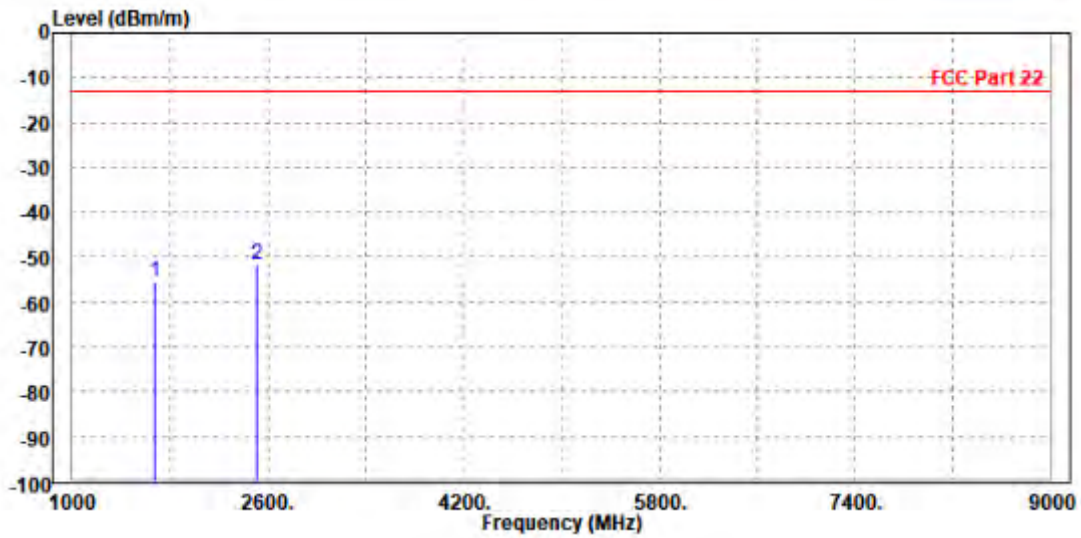




**CH 4182:**

<b>MODE</b>	TX channel 4182	<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	1672.000	-55.57	-59.30	-13.00	-42.57	3.73	Peak	Horizontal
2 PP	2509.200	-51.60	-57.74	-13.00	-38.60	6.14	Peak	Horizontal



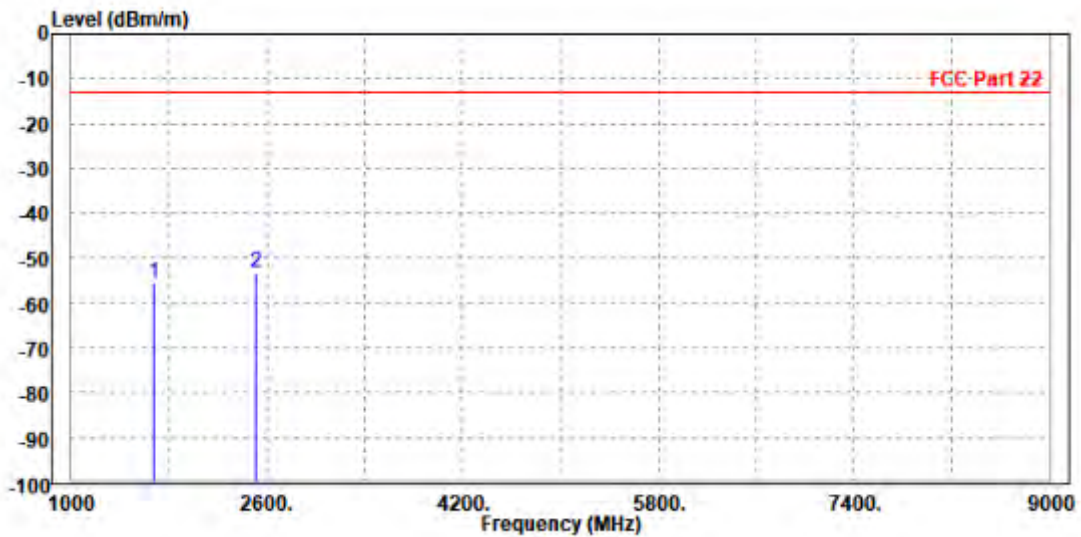


**BUREAU  
VERITAS**

**Test Report No.: W7L-240618W001RF05**

<b>MODE</b>	TX channel 4182	<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	1672.800	-55.35	-58.78	-13.00	-42.35	3.43	Peak	Vertical
2 PP	2512.000	-53.07	-58.92	-13.00	-40.07	5.85	Peak	Vertical

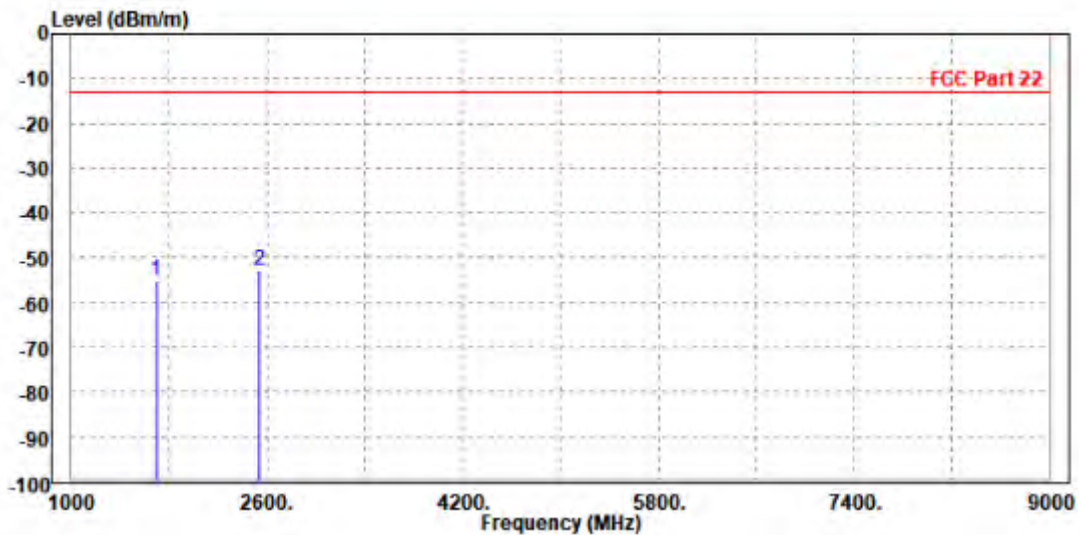




**CH 4233:**

<b>MODE</b>	TX channel 4233	<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	1696.000	-55.31	-59.12	-13.00	-42.31	3.81	Peak	Horizontal
2 PP	2539.800	-52.72	-58.99	-13.00	-39.72	6.27	Peak	Horizontal

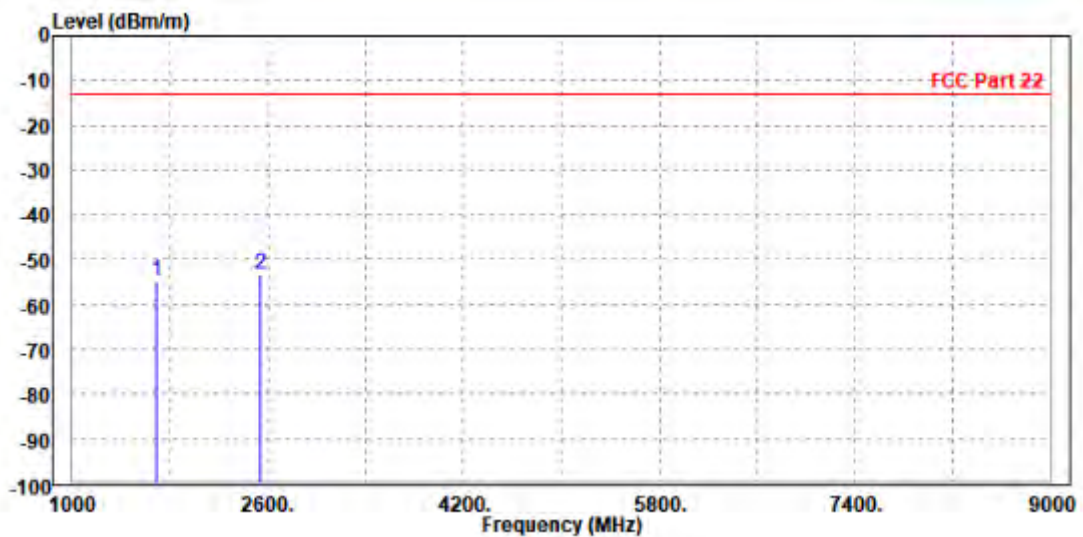






<b>MODE</b>	TX channel 4233	<b>FREQUENCY RANGE</b>	Above 1000MHz
<b>ENVIRONMENTAL CONDITIONS</b>	23deg. C, 70%RH	<b>INPUT POWER</b>	AC 120V/60HZ
<b>TESTED BY</b>	Jace Hu		
<b>ANTENNA POLARITY &amp; TEST DISTANCE: VERTICAL AT 3 M</b>			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1693.200	-54.89	-58.36	-13.00	-41.89	3.47	Peak	Vertical
2 PP	2536.000	-53.05	-59.05	-13.00	-40.05	6.00	Peak	Vertical





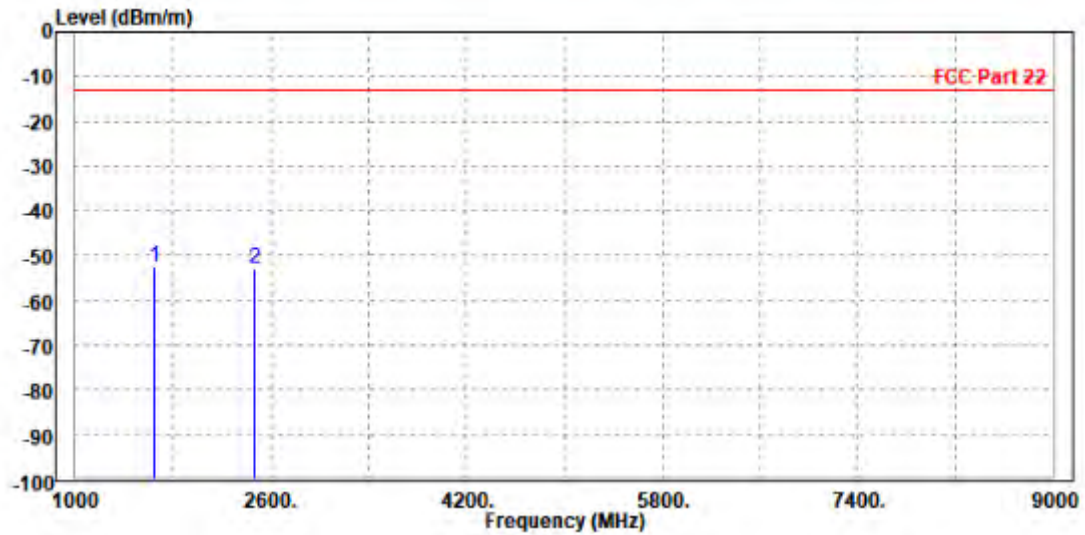
LTE Band 26(Ant1) (DOWN):

CHANNEL BANDWIDTH: 1.4MHz / QPSK

CH26797

MODE	TX channel 26797	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 1648.000	-52.58	-56.24	-13.00	-39.58	3.66	Peak	Horizontal
2	2472.000	-52.75	-58.77	-13.00	-39.75	6.02	Peak	Horizontal



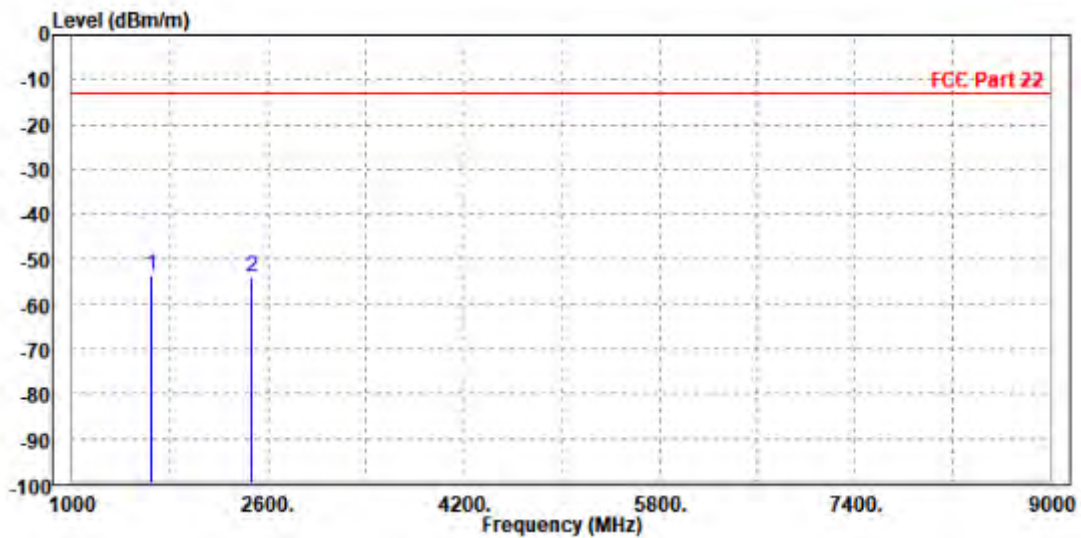


**BUREAU  
VERITAS**

Test Report No.: W7L-240618W001RF05

<b>MODE</b>	TX channel 26797	<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	PP 1648.000	-53.50	-56.89	-13.00	-40.50	3.39	Peak	Vertical
2	2472.000	-53.94	-59.62	-13.00	-40.94	5.68	Peak	Vertical







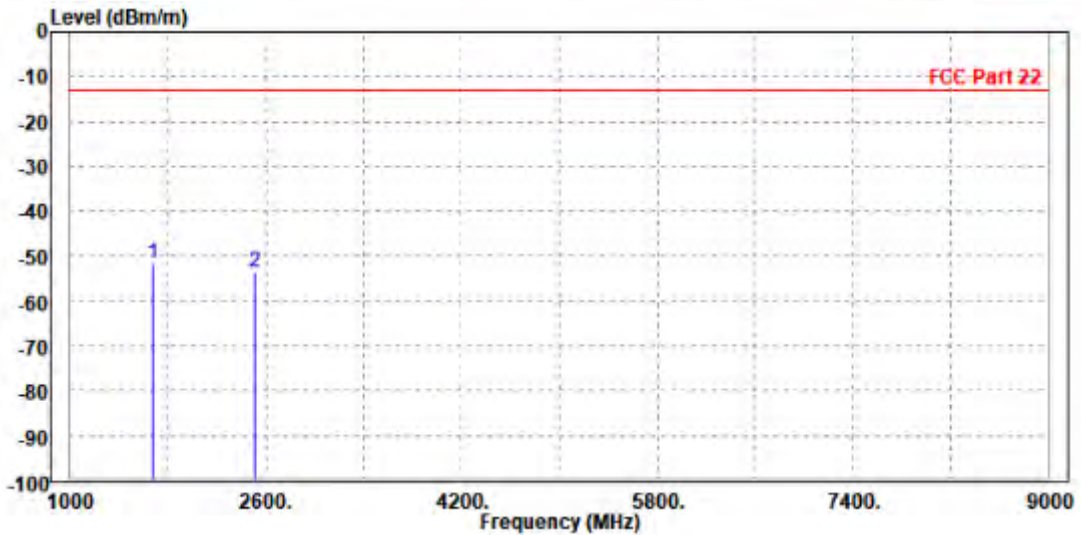
**BUREAU  
VERITAS**

Test Report No.: W7L-240618W001RF05

CH26915

<b>MODE</b>	TX channel 26915	<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 1672.000	-51.81	-55.54	-13.00	-38.81	3.73	Peak	Horizontal
2	2508.000	-53.50	-59.63	-13.00	-40.50	6.13	Peak	Horizontal



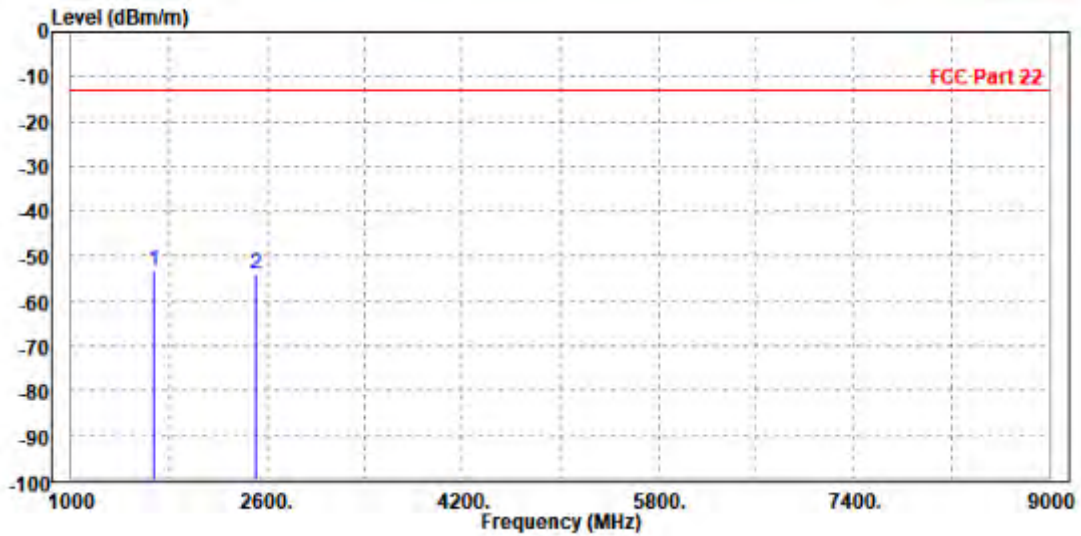


**BUREAU  
VERITAS**

**Test Report No.: W7L-240618W001RF05**

<b>MODE</b>	TX channel 26915	<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	PP 1672.000	-53.21	-56.64	-13.00	-40.21	3.43	Peak	Vertical
2	2504.000	-53.83	-59.63	-13.00	-40.83	5.80	Peak	Vertical

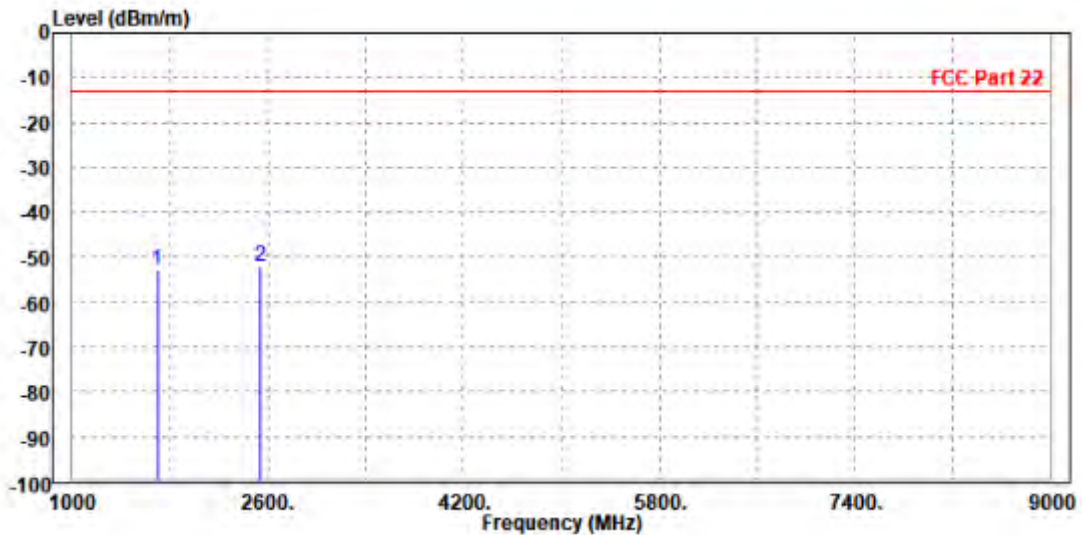




**CH27033**

<b>MODE</b>	TX channel 27033	<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>			

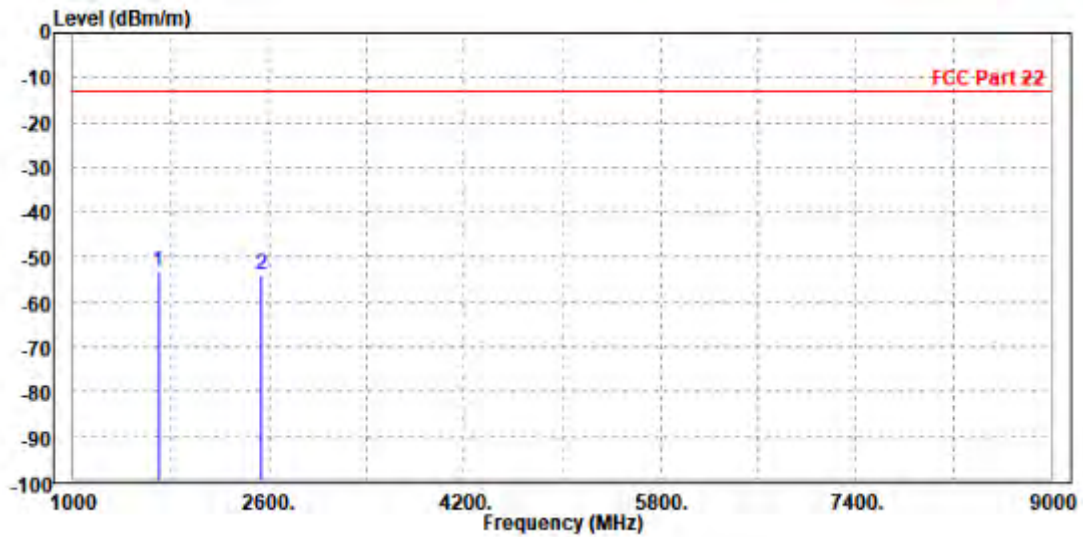
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1696.000	-52.94	-56.75	-13.00	-39.94	3.81	Peak	Horizontal
2 PP	2544.000	-52.14	-58.43	-13.00	-39.14	6.29	Peak	Horizontal





<b>MODE</b>	TX channel 27033	<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	PP 1696.000	-53.22	-56.69	-13.00	-40.22	3.47	Peak	Vertical
2	2544.000	-53.90	-59.95	-13.00	-40.90	6.05	Peak	Vertical

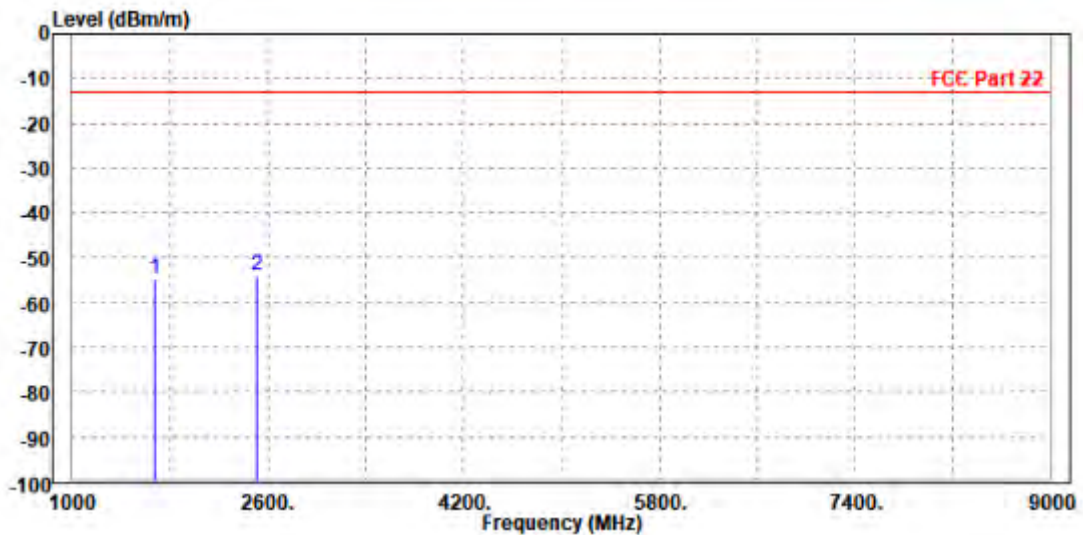




CHANNEL BANDWIDTH: 3MHz / QPSK

MODE	TX channel 26915	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	1672.000	-54.71	-58.44	-13.00	-41.71	3.73	Peak	Horizontal
2 PP	2504.000	-54.11	-60.23	-13.00	-41.11	6.12	Peak	Horizontal

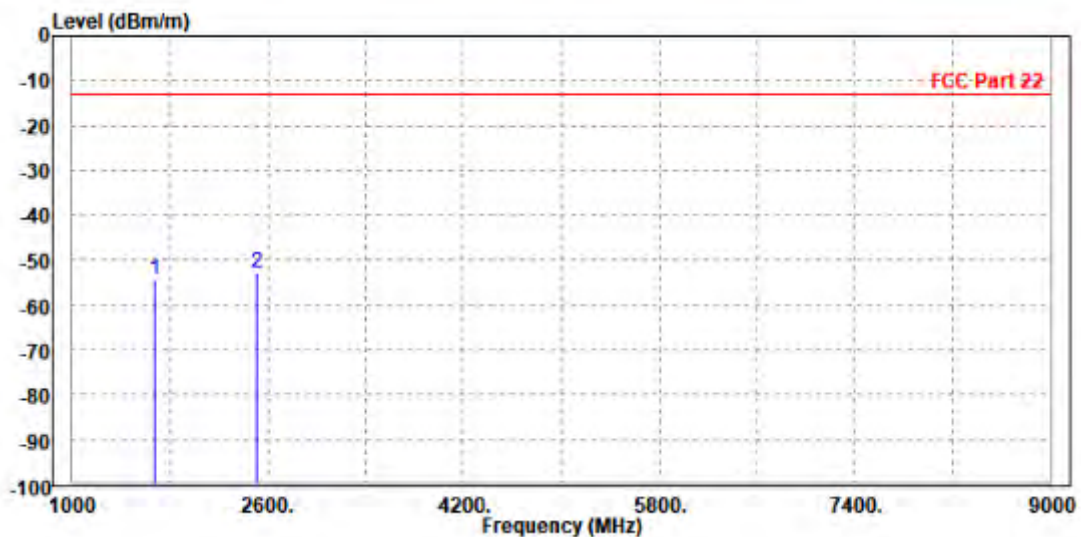






<b>MODE</b>	TX channel 26915	<b>FREQUENCY RANGE</b>	Above 1000MHz
<b>ENVIRONMENTAL CONDITIONS</b>	23deg. C, 70%RH	<b>INPUT POWER</b>	AC 120V/60HZ
<b>TESTED BY</b>	Jace Hu		
<b>ANTENNA POLARITY &amp; TEST DISTANCE: VERTICAL AT 3 M</b>			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1672.000	-54.31	-57.74	-13.00	-41.31	3.43	Peak	Vertical
2 PP	2508.000	-52.77	-58.60	-13.00	-39.77	5.83	Peak	Vertical

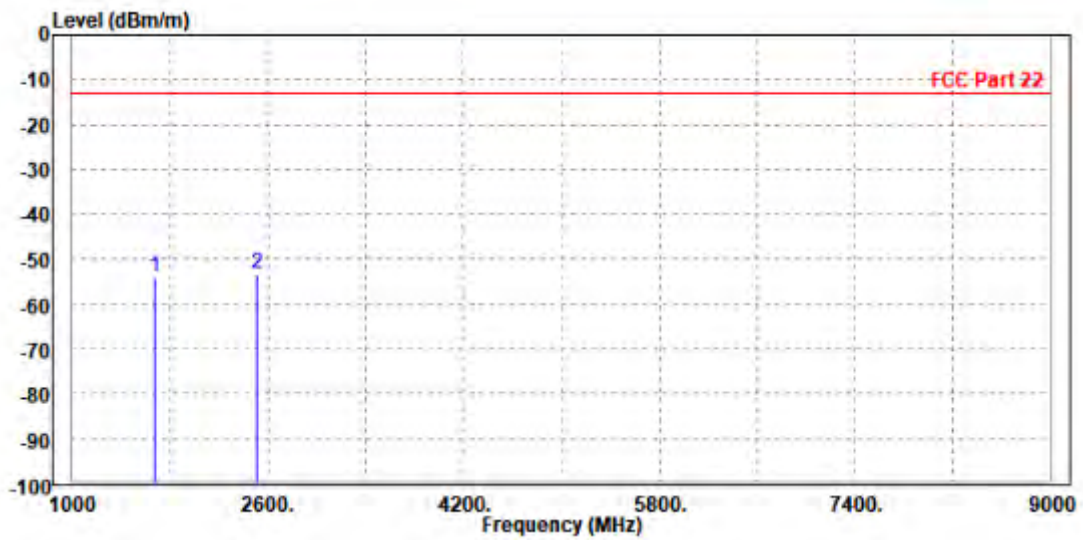




**CHANNEL BANDWIDTH: 5MHz / QPSK**

<b>MODE</b>	TX channel 26915	<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	1672.000	-54.08	-57.81	-13.00	-41.08	3.73	Peak	Horizontal
2 PP	2508.000	-53.18	-59.31	-13.00	-40.18	6.13	Peak	Horizontal



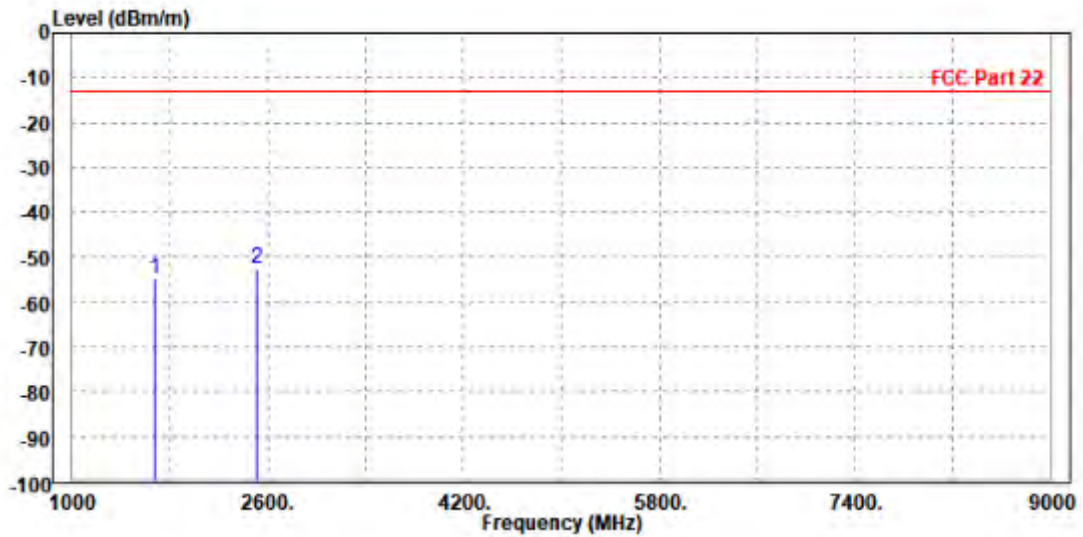


**BUREAU  
VERITAS**

**Test Report No.: W7L-240618W001RF05**

<b>MODE</b>	TX channel 26915	<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	1672.000	-54.76	-58.19	-13.00	-41.76	3.43	Peak	Vertical
2 PP	2504.000	-52.37	-58.17	-13.00	-39.37	5.80	Peak	Vertical



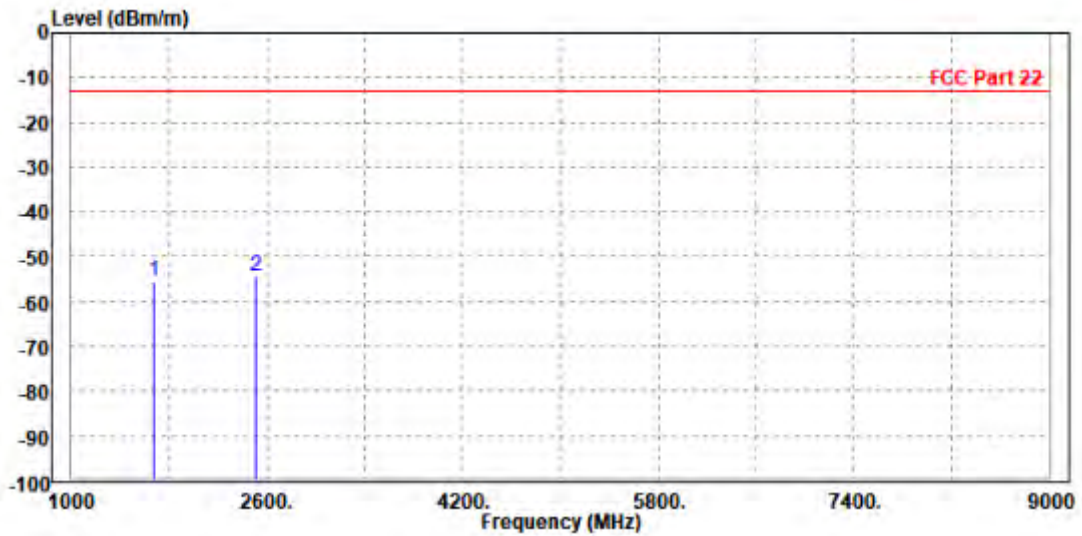




CHANNEL BANDWIDTH: 10MHz / QPSK

MODE	TX channel 26915	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	1672.000	-55.41	-59.14	-13.00	-42.41	3.73	Peak	Horizontal
2 PP	2504.000	-54.41	-60.53	-13.00	-41.41	6.12	Peak	Horizontal



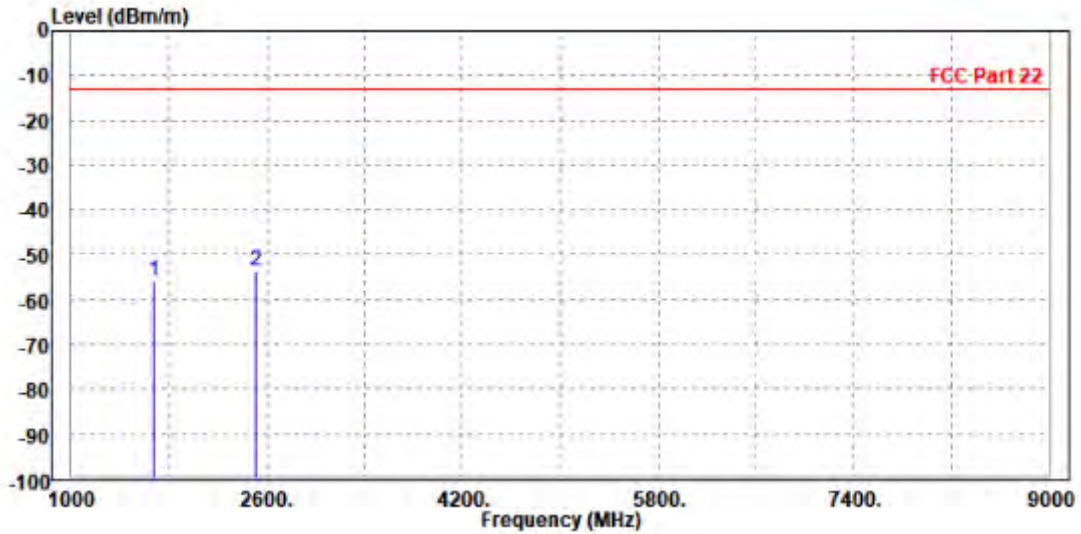


**BUREAU  
VERITAS**

**Test Report No.: W7L-240618W001RF05**

<b>MODE</b>	TX channel 26915	<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	1672.000	-56.03	-59.46	-13.00	-43.03	3.43	Peak	Vertical
2	PP 2508.000	-53.79	-59.62	-13.00	-40.79	5.83	Peak	Vertical

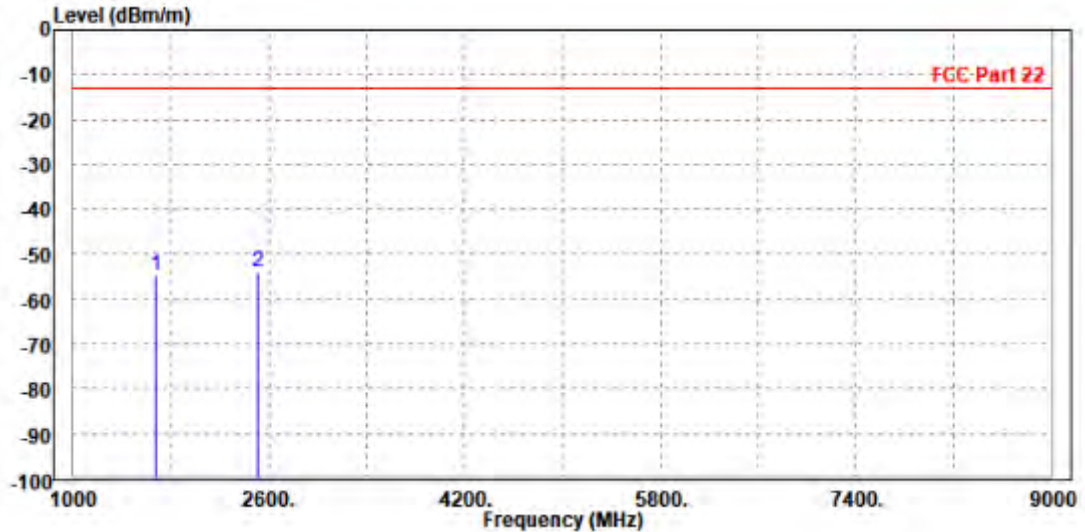




CHANNEL BANDWIDTH: 15MHz / QPSK

MODE	TX channel 26915	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	1672.000	-54.90	-58.63	-13.00	-41.90	3.73	Peak	Horizontal
2 PP	2508.000	-53.97	-60.10	-13.00	-40.97	6.13	Peak	Horizontal



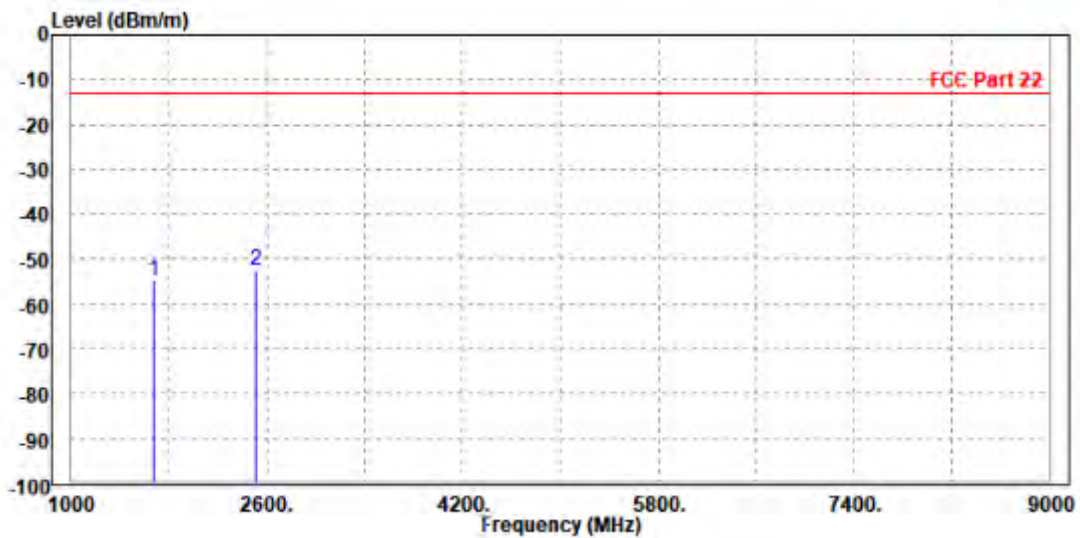


**BUREAU  
VERITAS**

**Test Report No.: W7L-240618W001RF05**

<b>MODE</b>	TX channel 26915	<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	1672.000	-54.85	-58.28	-13.00	-41.85	3.43	Peak	Vertical
2 PP	2504.000	-52.41	-58.21	-13.00	-39.41	5.80	Peak	Vertical

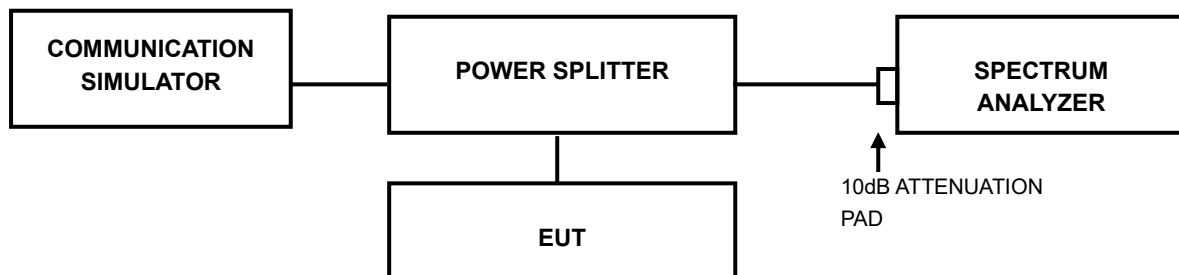


### 3.7 PEAK TO AVERAGE RATIO

#### 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-240618W001RF05**

### 3.7.4 TEST RESULTS

Please Refer to Appendix Of this test report.





**BUREAU**  
**VERITAS**

Test Report No.: W7L-240618W001RF05

## 4 PHOTOGRAPHS OF THE TEST CONFIGURATION

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



**BUREAU  
VERITAS**

Test Report No.: W7L-240618W001RF05

## 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.



**BUREAU  
VERITAS**

Test Report No.: W7L-240618W001RF05

## **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

### GSM 850

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

##### Test Result

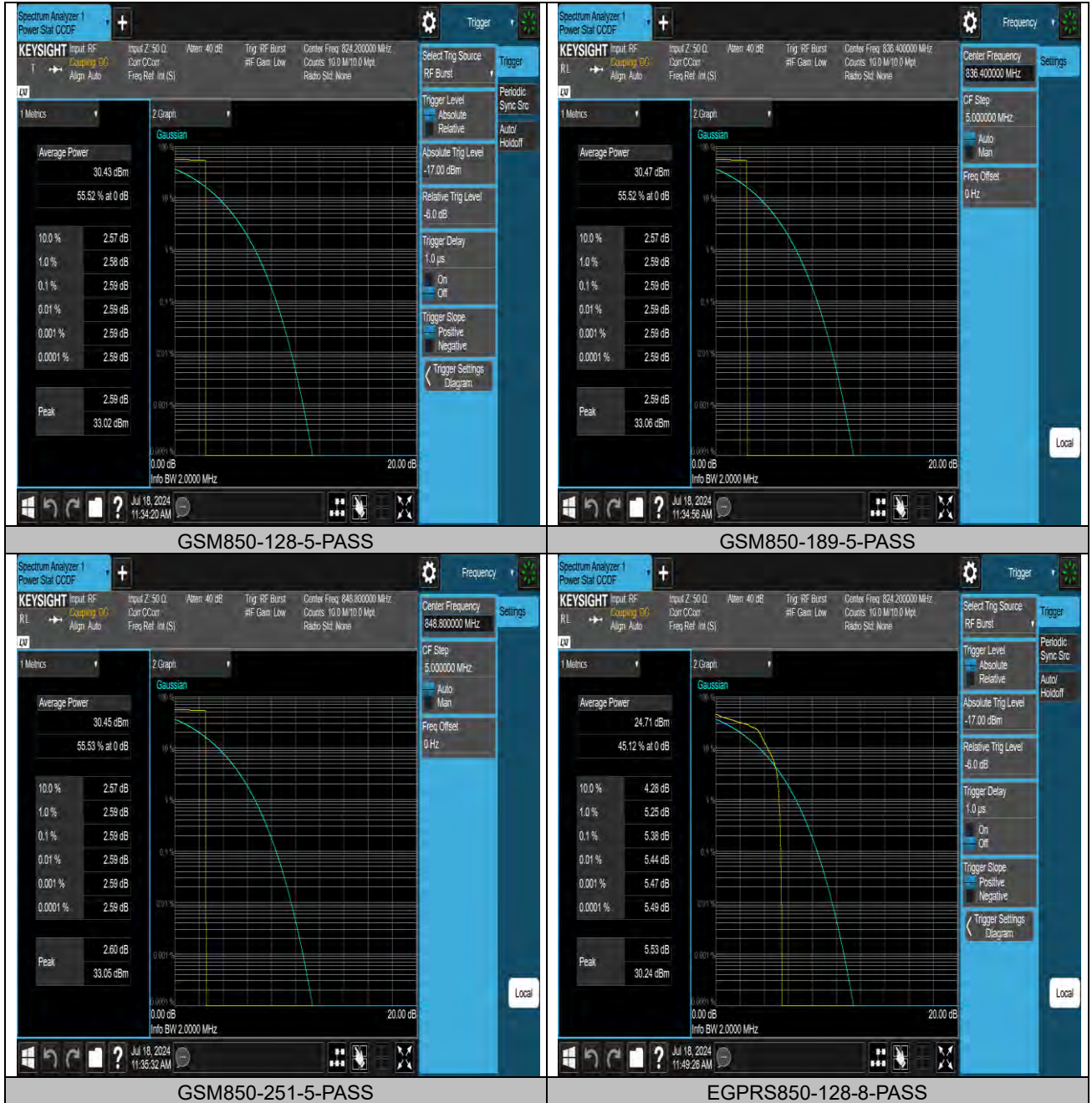
Band	Channel	Result(dB)	Limit(dB)	Verdict
GSM850	128	2.59	13	PASS
GSM850	189	2.59	13	PASS
GSM850	251	2.59	13	PASS
EGPRS850	128	5.38	13	PASS
EGPRS850	189	5.38	13	PASS
EGPRS850	251	5.38	13	PASS



BUREAU VERITAS

Test Report No.: W7L-240618W001RF05

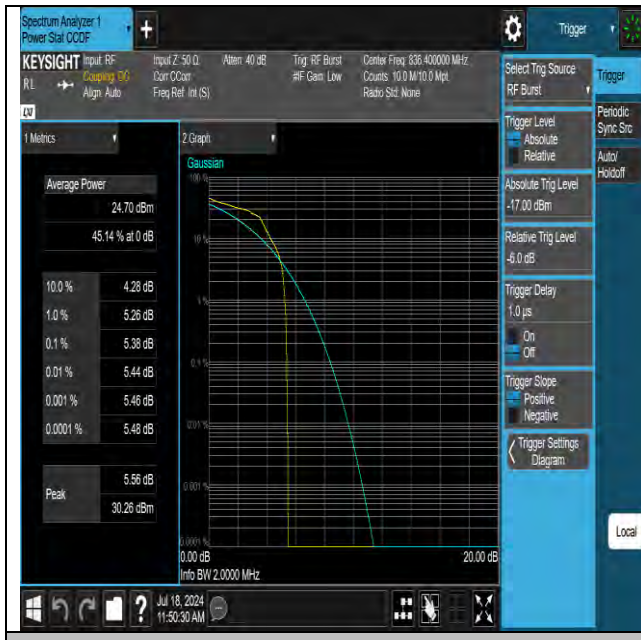
### Test Graphs





BUREAU VERITAS

Test Report No.: W7L-240618W001RF05



EGPRS850-189-8-PASS



EGPRS850-251-8-PASS





## 26DB BANDWIDTH AND OCCUPIED BANDWIDTH

### Test Result

Band	Channel	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Limit (MHz)	Verdict
GSM850	128	0.24569	0.3138	---	PASS
GSM850	189	0.24638	0.3195	---	PASS
GSM850	251	0.24419	0.3159	---	PASS
EGPRS850	128	0.24994	0.3283	---	PASS
EGPRS850	189	0.25405	0.3184	---	PASS
EGPRS850	251	0.24997	0.3222	---	PASS



### Test Graphs

