

## 4.7 RADIATED EMISSION MEASUREMENT

### 4.7.1 LIMITS OF RADIATED EMISSION MEASUREMENT

The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least  $43 + 10 \log_{10}(P)$  dB. The limit of emission equal to  $-13\text{dBm}$

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

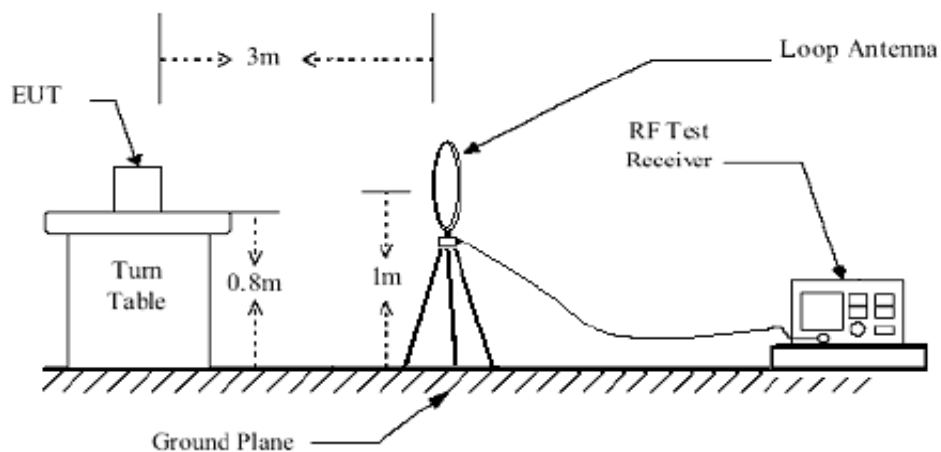
**NOTE:** The resolution bandwidth of spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz.

### 4.7.3 DEVIATION FROM TEST STANDARD

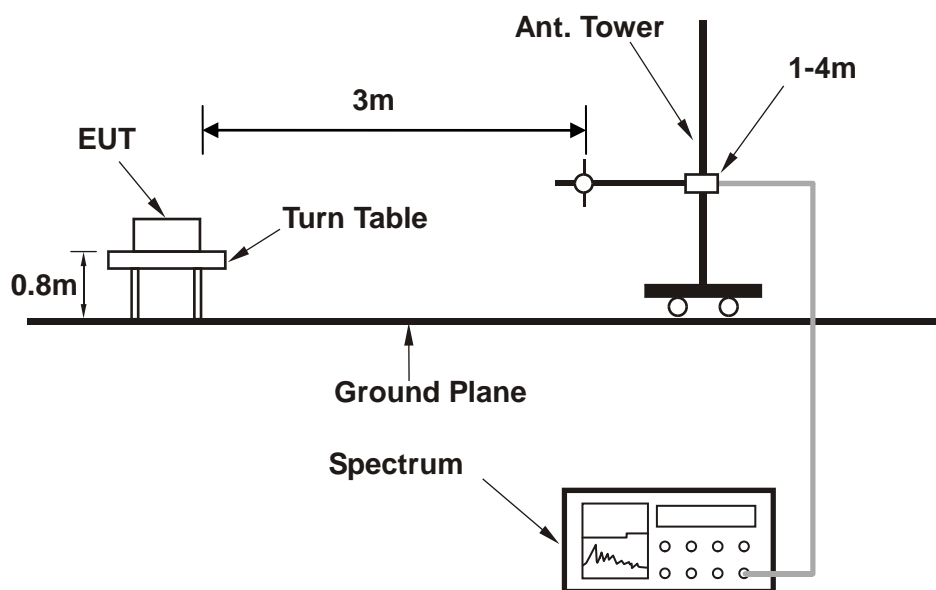
No deviation

## 4.7.4 TEST SETUP

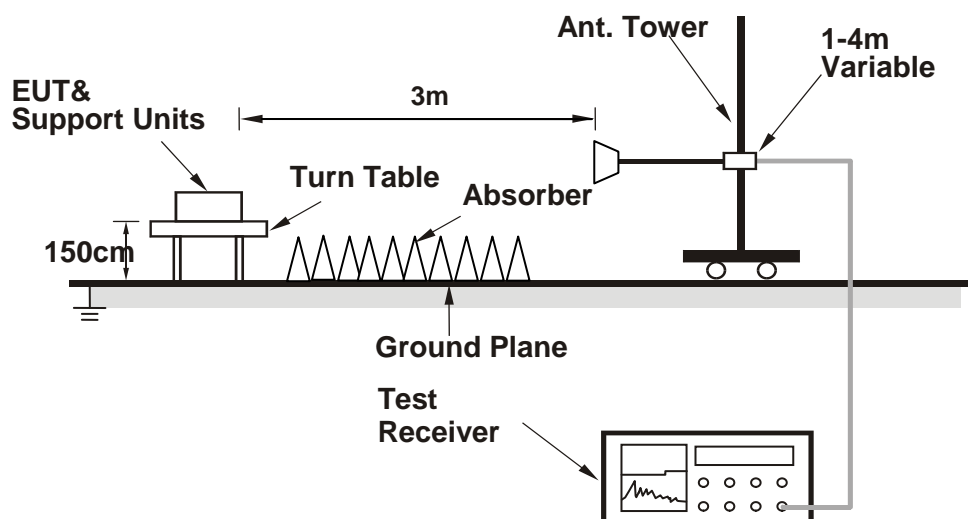
### <Below 30MHz>



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



< Frequency Range above 1GHz >



For the actual test configuration, please refer to the attached file (Test Setup Photo).

## 4.7.5 TEST RESULTS

### BELOW 1GHz WORST-CASE DATA

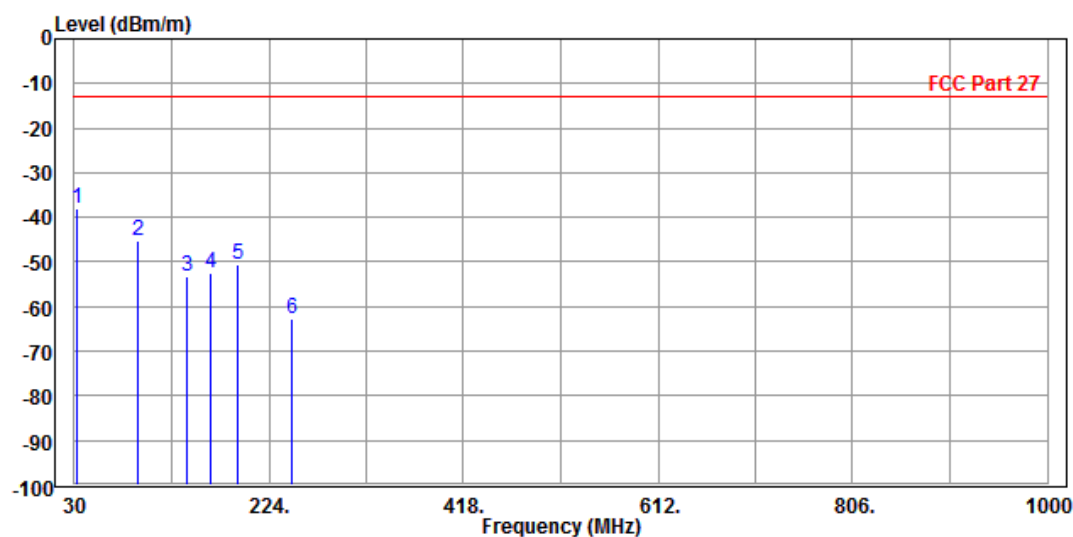
**9 KHz – 30 KHz data:** the amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required in the report.

**30 MHz – 1GHz data:**

**LTE Band 17:**

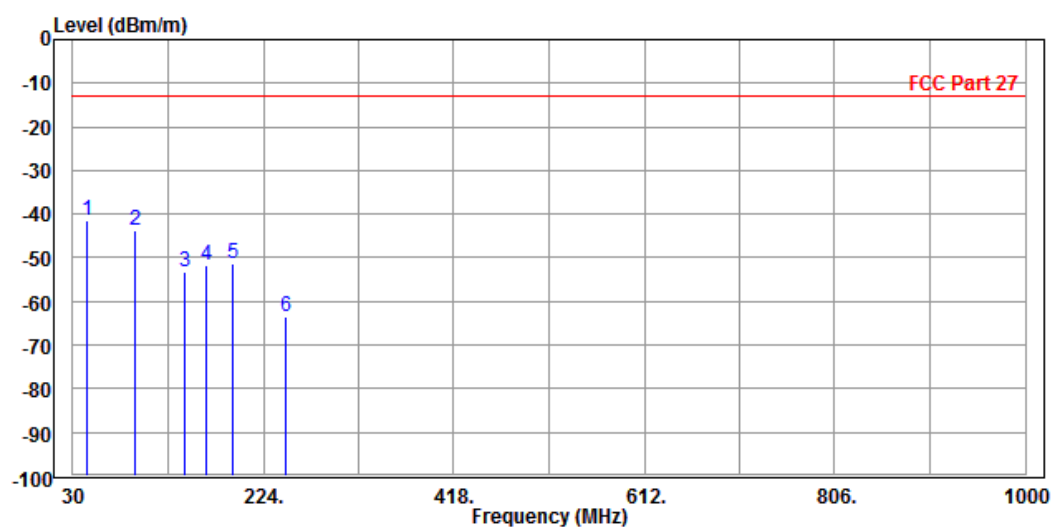
MODE	TX channel 23790	FREQUENCY RANGE	Below 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5/9V from adapter
TESTED BY	Simon Yang		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1 PP	31.940	-38.06	-54.73	-13.00	-25.06	16.67	Peak	Horizontal
2	93.050	-45.40	-35.71	-13.00	-32.40	-9.69	Peak	Horizontal
3	142.520	-53.40	-34.19	-13.00	-40.40	-19.21	Peak	Horizontal
4	165.800	-52.64	-34.38	-13.00	-39.64	-18.26	Peak	Horizontal
5	192.960	-50.66	-33.24	-13.00	-37.66	-17.42	Peak	Horizontal
6	246.310	-62.67	-46.32	-13.00	-49.67	-16.35	Peak	Horizontal



MODE	TX channel 23790	FREQUENCY RANGE	Below 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5/9V from adapter
TESTED BY	Simon Yang		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1 PP	44.550	-41.37	-38.36	-13.00	-28.37	-3.01	Peak	Vertical
2	93.050	-43.56	-32.98	-13.00	-30.56	-10.58	Peak	Vertical
3	143.490	-53.17	-37.21	-13.00	-40.17	-15.96	Peak	Vertical
4	165.800	-51.73	-37.07	-13.00	-38.73	-14.66	Peak	Vertical
5	192.960	-51.45	-39.92	-13.00	-38.45	-11.53	Peak	Vertical
6	247.280	-63.57	-52.10	-13.00	-50.57	-11.47	Peak	Vertical



## ABOVE 1GHz

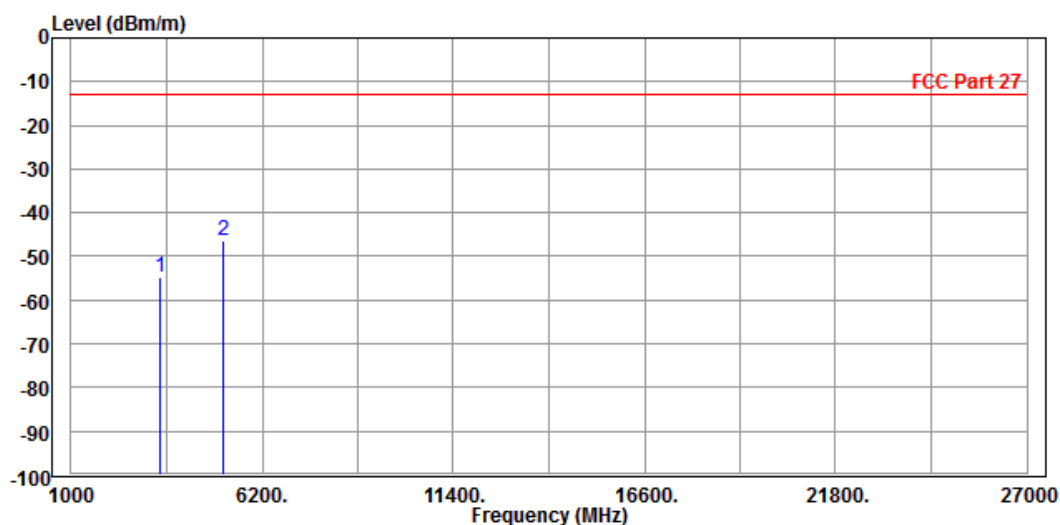
**Note:** For higher frequency, the emission is too low to be detected.

## WCDMA Band IV:

### CH 1312

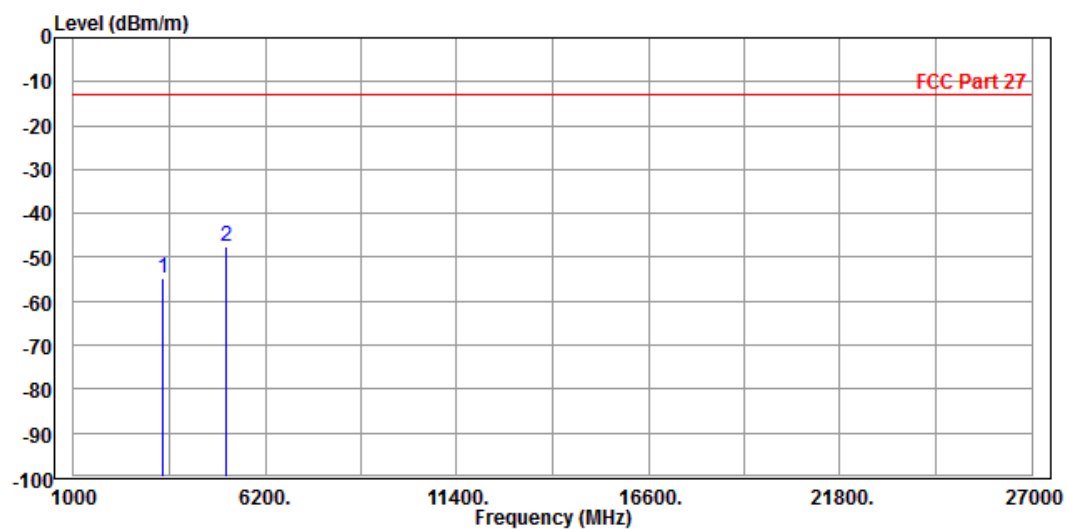
MODE	TX channel 1312	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5/9V from adapter
TESTED BY	Simon Yang		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3418.000	-54.91	-56.76	-13.00	-41.91	1.85	Peak	Horizontal
2 PP	5137.200	-46.46	-55.00	-13.00	-33.46	8.54	Peak	Horizontal



MODE	TX channel 1312	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5/9V from adapter
TESTED BY	Simon Yang		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

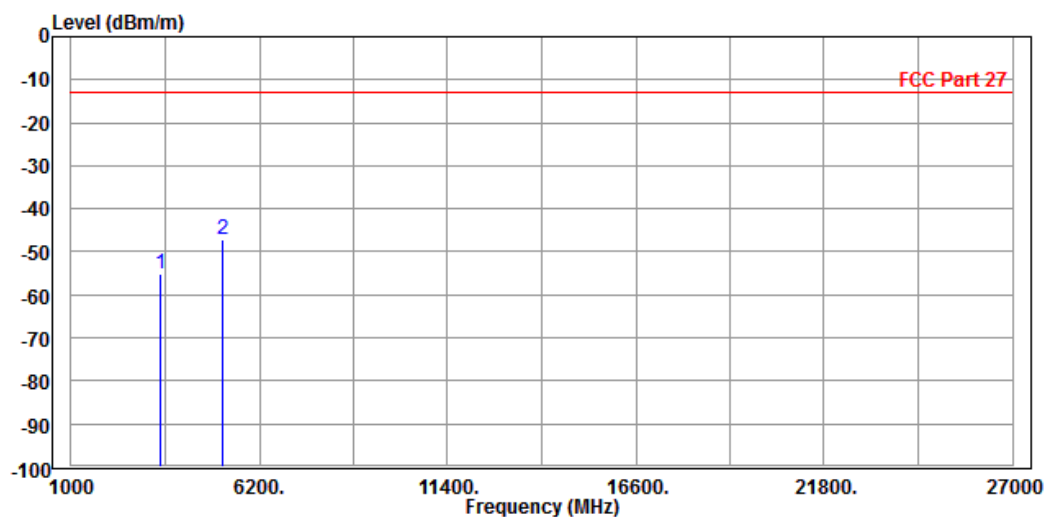
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3418.000	-54.70	-57.17	-13.00	-41.70	2.47	Peak	Vertical
2 PP	5137.200	-47.71	-55.70	-13.00	-34.71	7.99	Peak	Vertical



# CH 1413

MODE	TX channel 1413	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5/9V from adapter
TESTED BY	Simon Yang		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

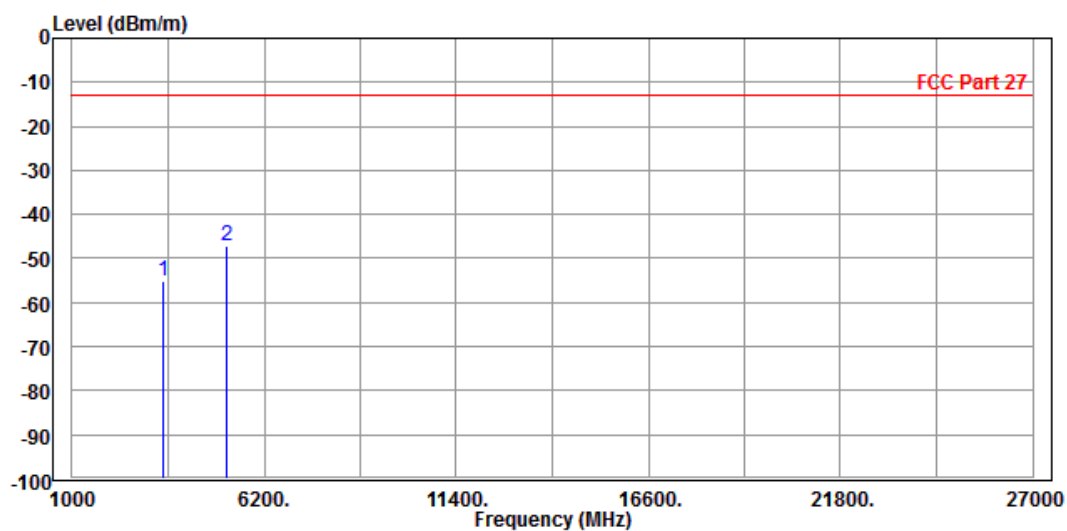
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3470.000	-54.96	-57.01	-13.00	-41.96	2.05	Peak	Horizontal
2 PP	5197.800	-46.96	-55.57	-13.00	-33.96	8.61	Peak	Horizontal





MODE	TX channel 1413	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5/9V from adapter
TESTED BY	Simon Yang		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

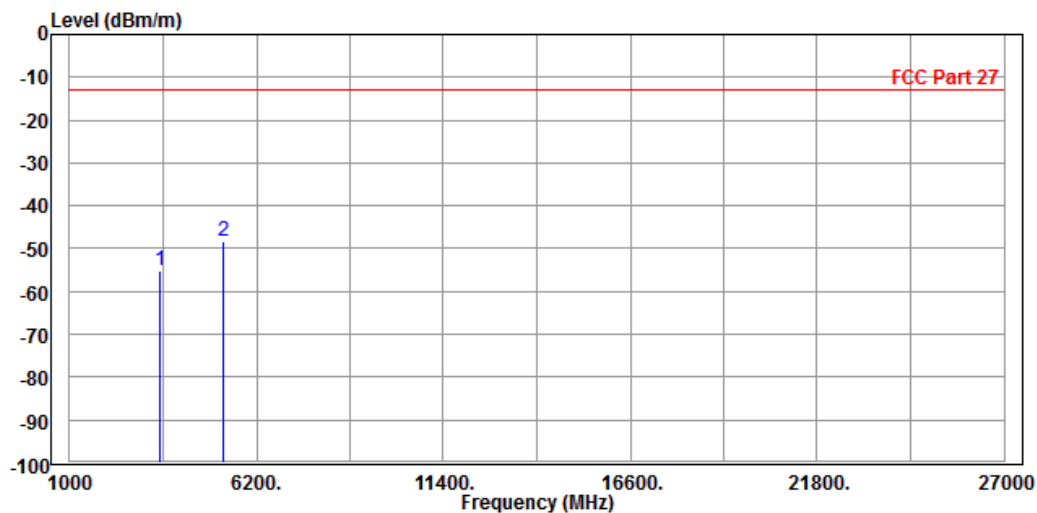
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3470.000	-55.12	-57.65	-13.00	-42.12	2.53	Peak	Vertical
2 PP	5197.800	-47.19	-55.17	-13.00	-34.19	7.98	Peak	Vertical



# CH 1513

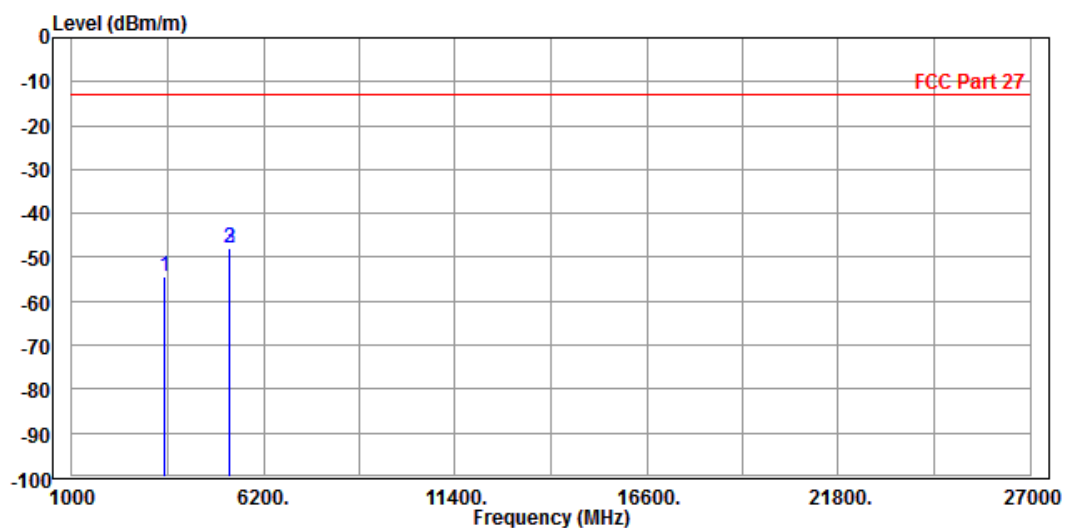
MODE	TX channel 1513	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5/9V from adapter
TESTED BY	Simon Yang		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3496.000	-55.11	-57.26	-13.00	-42.11	2.15	Peak	Horizontal
2 PP	5257.800	-48.19	-56.87	-13.00	-35.19	8.68	Peak	Horizontal



MODE	TX channel 1513	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5/9V from adapter
TESTED BY	Simon Yang		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3496.000	-54.21	-56.77	-13.00	-41.21	2.56	Peak	Vertical
2 PP	5257.800	-48.09	-56.07	-13.00	-35.09	7.98	Peak	Vertical
3	5264.000	-48.09	-56.07	-13.00	-35.09	7.98	Peak	Vertical

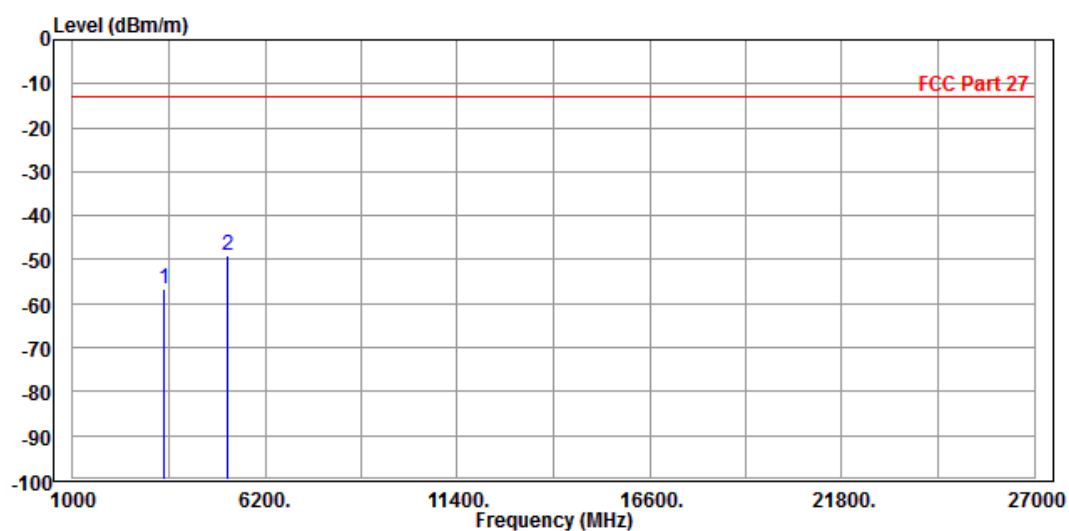


## LTE BAND 4

CHANNEL BANDWIDTH: 1.4MHz / QPSK

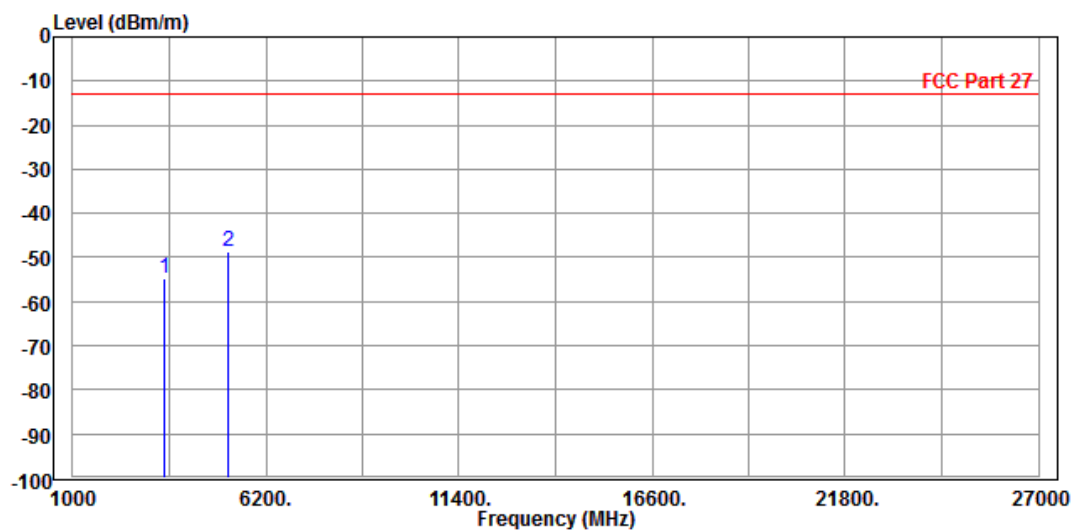
MODE	TX channel 20175	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5/9V from adapter
TESTED BY	Simon Yang		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3470.000	-56.58	-58.63	-13.00	-43.58	2.05	Peak	Horizontal
2 PP	5197.000	-49.11	-57.72	-13.00	-36.11	8.61	Peak	Horizontal



MODE	TX channel 20175	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5/9V from adapter
TESTED BY	Simon Yang		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

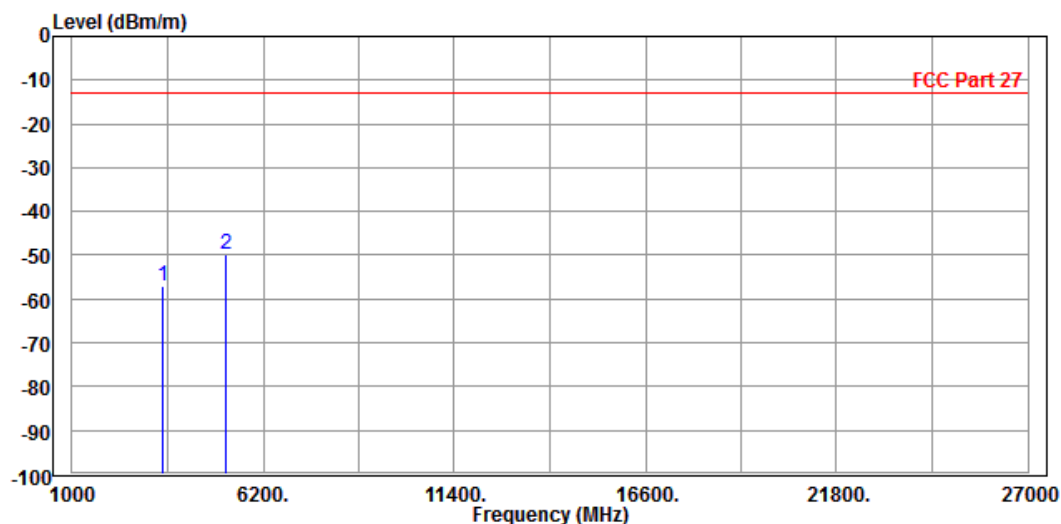
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3470.000	-54.71	-57.24	-13.00	-41.71	2.53	Peak	Vertical
2 PP	5197.000	-48.82	-56.80	-13.00	-35.82	7.98	Peak	Vertical



# CHANNEL BANDWIDTH: 3MHz / QPSK

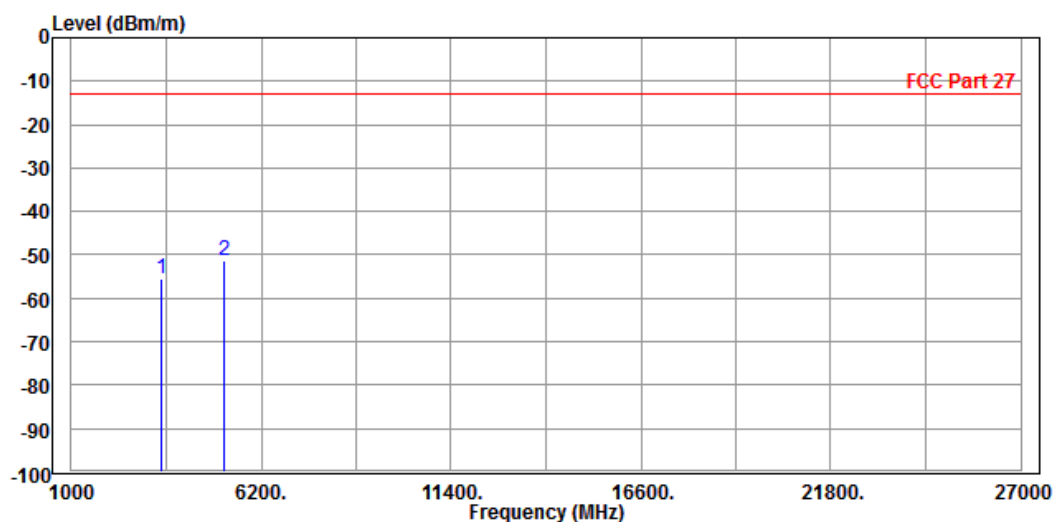
MODE	TX channel 20175	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5/9V from adapter
TESTED BY	Simon Yang		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3470.000	-57.01	-59.06	-13.00	-44.01	2.05	Peak	Horizontal
2 PP	5197.000	-49.89	-58.50	-13.00	-36.89	8.61	Peak	Horizontal



MODE	TX channel 20175	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5/9V from adapter
TESTED BY	Simon Yang		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

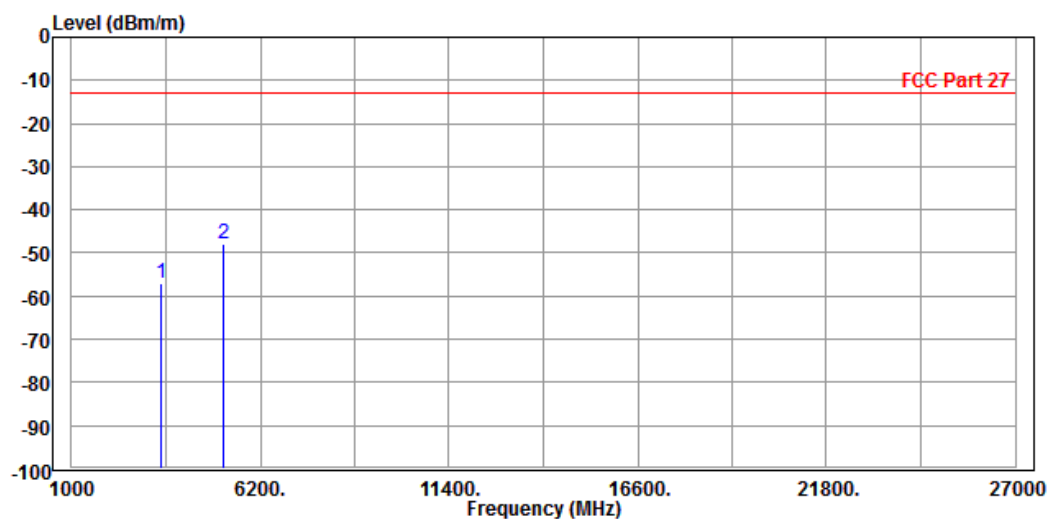
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3470.000	-55.35	-57.88	-13.00	-42.35	2.53	Peak	Vertical
2 PP	5197.000	-51.33	-59.31	-13.00	-38.33	7.98	Peak	Vertical



# CHANNEL BANDWIDTH: 5MHz / QPSK

MODE	TX channel 20175	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5/9V from adapter
TESTED BY	Simon Yang		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

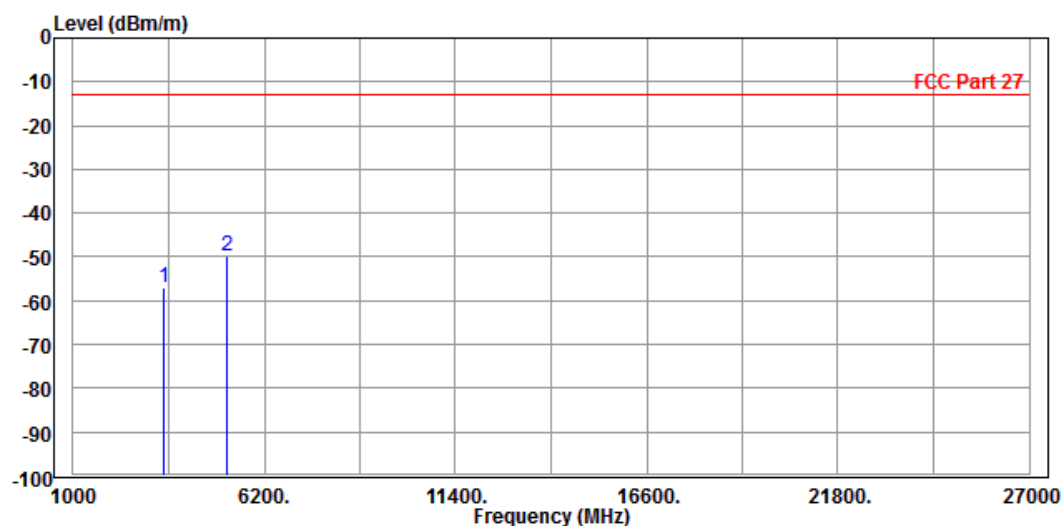
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3470.000	-57.19	-59.24	-13.00	-44.19	2.05	Peak	Horizontal
2 PP	5197.000	-47.82	-56.43	-13.00	-34.82	8.61	Peak	Horizontal





MODE	TX channel 20175	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5/9V from adapter
TESTED BY	Simon Yang		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3470.000	-57.03	-59.56	-13.00	-44.03	2.53	Peak	Vertical
2 PP	5197.000	-49.73	-57.71	-13.00	-36.73	7.98	Peak	Vertical

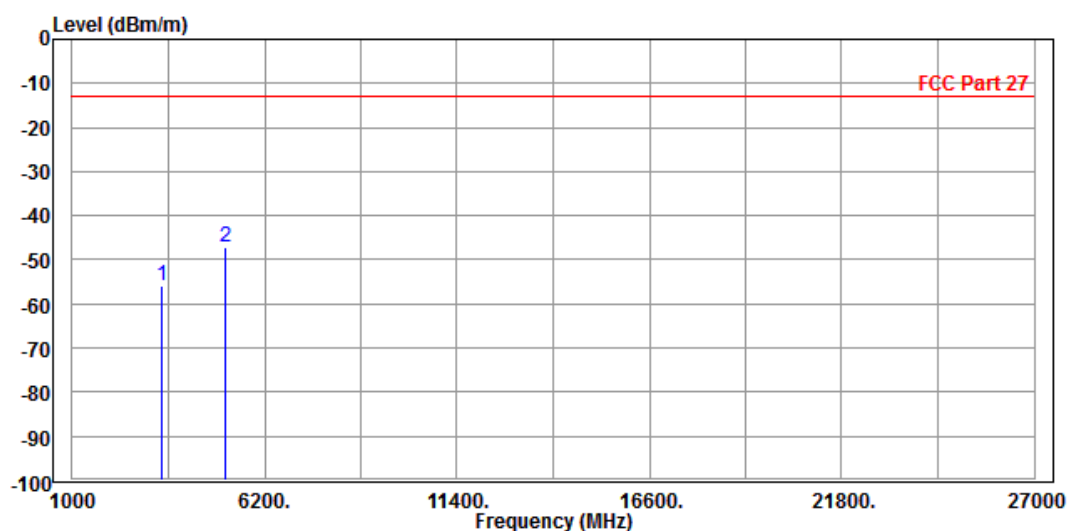


CHANNEL BANDWIDTH: 10MHz / QPSK

CH 20000

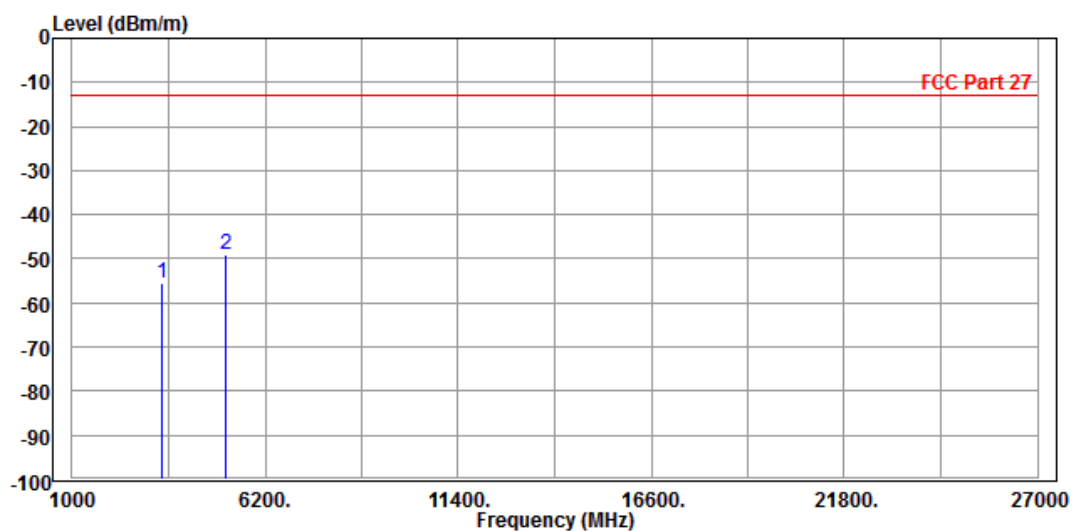
MODE	TX channel 20000	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5/9V from adapter
TESTED BY	Simon Yang		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3418.000	-56.03	-57.88	-13.00	-43.03	1.85	Peak	Horizontal
2 PP	5134.000	-47.18	-55.71	-13.00	-34.18	8.53	Peak	Horizontal



MODE	TX channel 20000	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5/9V from adapter
TESTED BY	Simon Yang		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

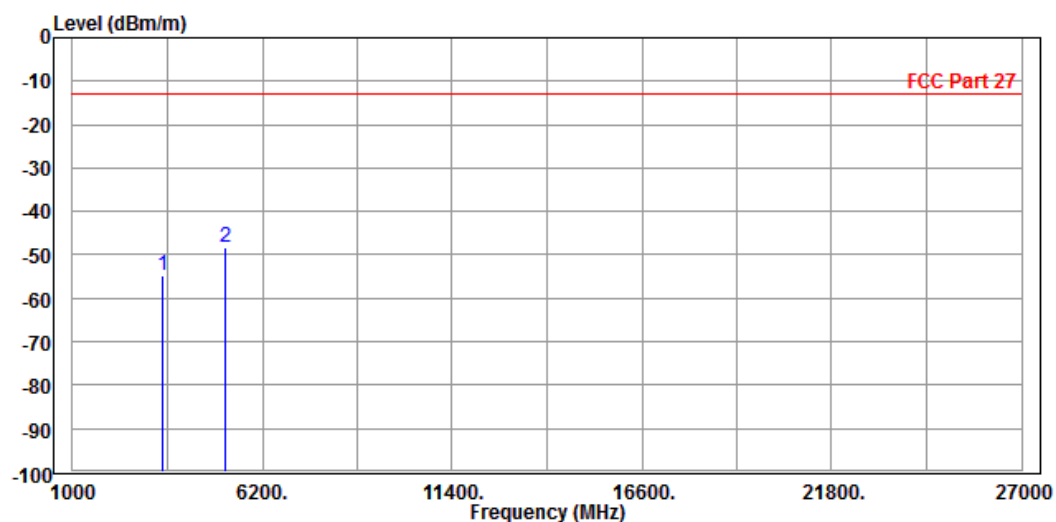
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3418.000	-55.65	-58.12	-13.00	-42.65	2.47	Peak	Vertical
2 PP	5134.000	-49.13	-57.12	-13.00	-36.13	7.99	Peak	Vertical



# CH 20175

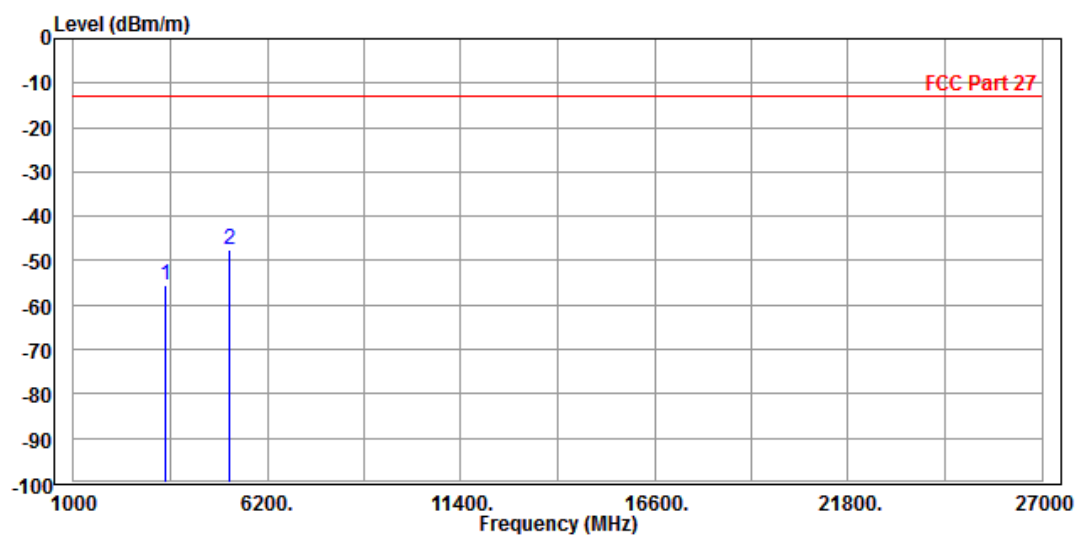
MODE	TX channel 20175	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5/9V from adapter
TESTED BY	Simon Yang		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3470.000	-54.81	-56.86	-13.00	-41.81	2.05	Peak	Horizontal
2 PP	5197.000	-48.13	-56.74	-13.00	-35.13	8.61	Peak	Horizontal



MODE	TX channel 20175	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5/9V from adapter
TESTED BY	Simon Yang		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

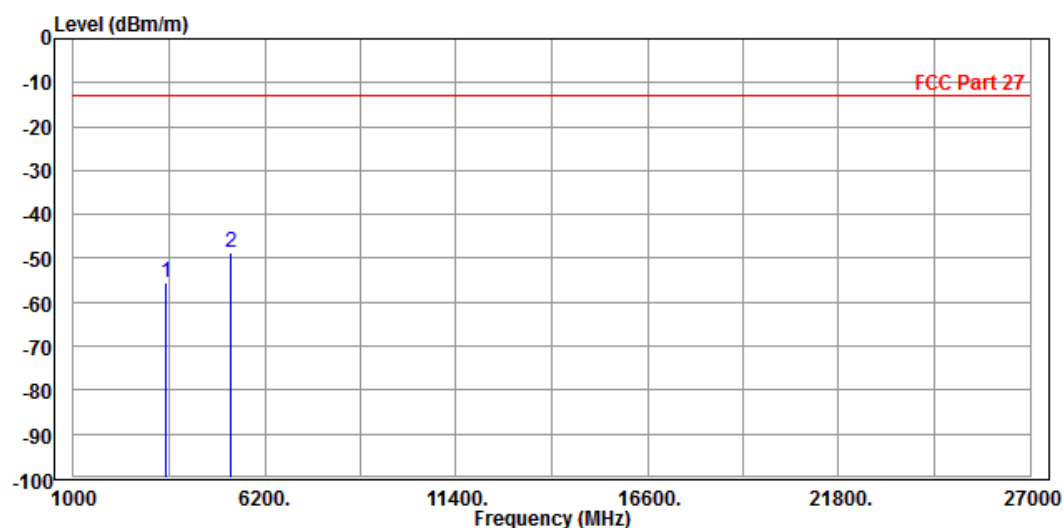
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3470.000	-55.39	-57.92	-13.00	-42.39	2.53	Peak	Vertical
2 PP	5197.000	-47.52	-55.50	-13.00	-34.52	7.98	Peak	Vertical



# CH 20350

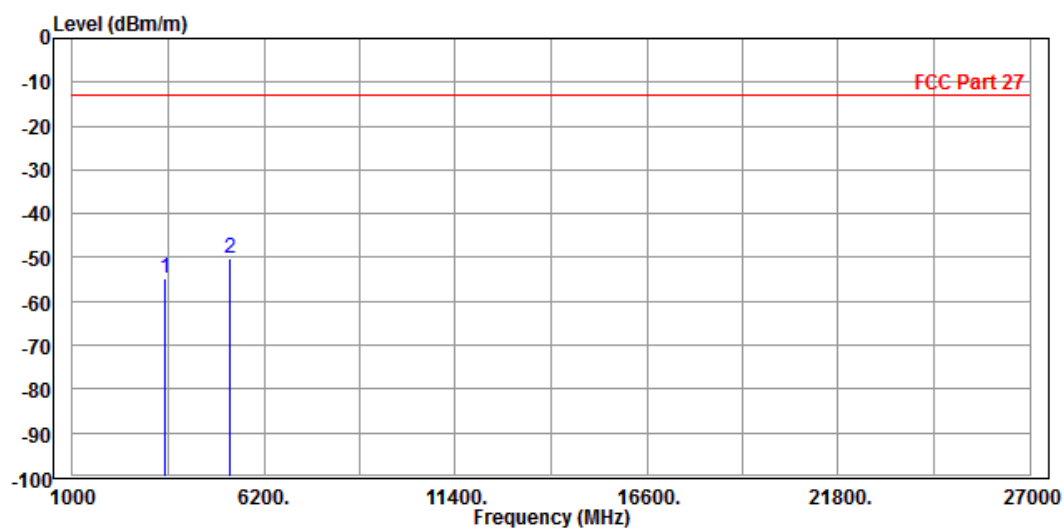
MODE	TX channel 20350	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5/9V from adapter
TESTED BY	Simon Yang		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3496.000	-55.49	-57.64	-13.00	-42.49	2.15	Peak	Horizontal
2 PP	5260.000	-48.68	-57.36	-13.00	-35.68	8.68	Peak	Horizontal



MODE	TX channel 20350	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5/9V from adapter
TESTED BY	Simon Yang		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

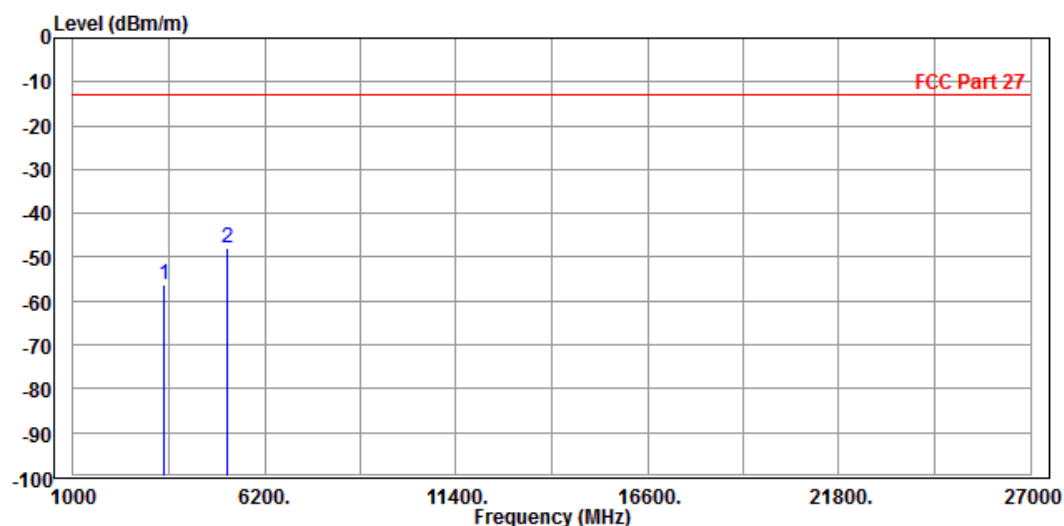
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3496.000	-54.80	-57.36	-13.00	-41.80	2.56	Peak	Vertical
2 PP	5260.000	-50.11	-58.09	-13.00	-37.11	7.98	Peak	Vertical



# CHANNEL BANDWIDTH: 15MHz / QPSK

MODE	TX channel 20175	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5/9V from adapter
TESTED BY	Simon Yang		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

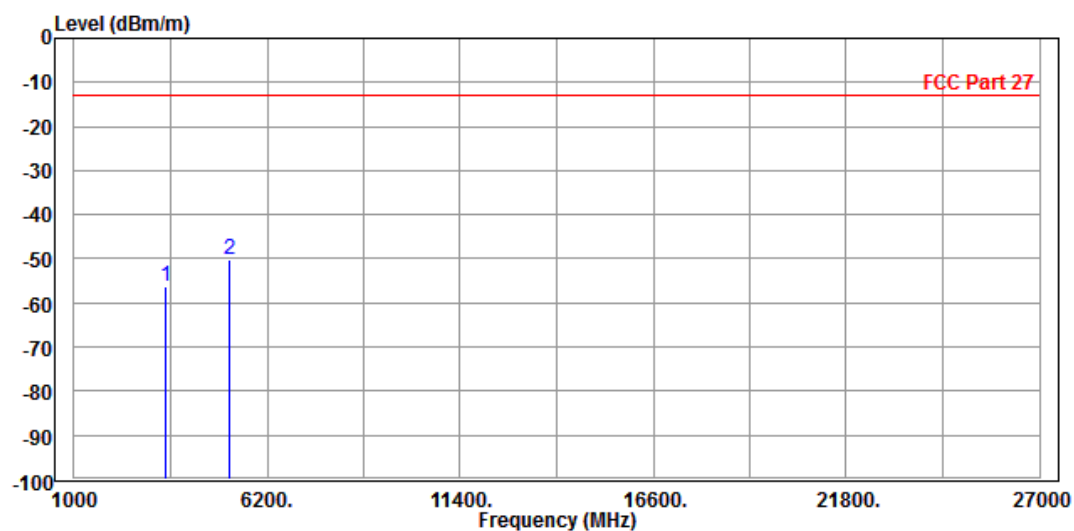
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3470.000	-56.13	-58.18	-13.00	-43.13	2.05	Peak	Horizontal
2 PP	5197.000	-47.98	-56.59	-13.00	-34.98	8.61	Peak	Horizontal





MODE	TX channel 20175	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5/9V from adapter
TESTED BY	Simon Yang		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

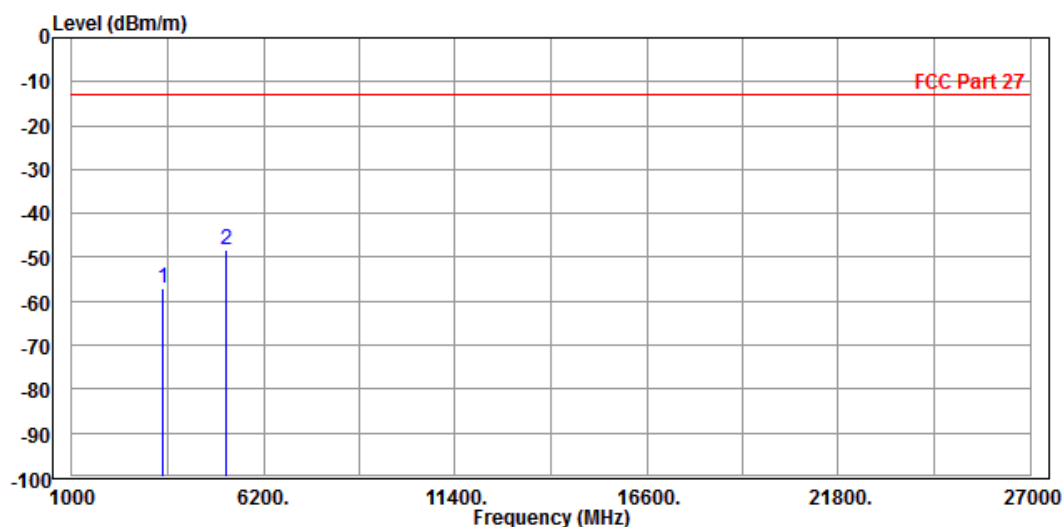
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3470.000	-56.31	-58.84	-13.00	-43.31	2.53	Peak	Vertical
2 PP	5197.000	-50.11	-58.09	-13.00	-37.11	7.98	Peak	Vertical



CHANNEL BANDWIDTH: 20MHz / QPSK

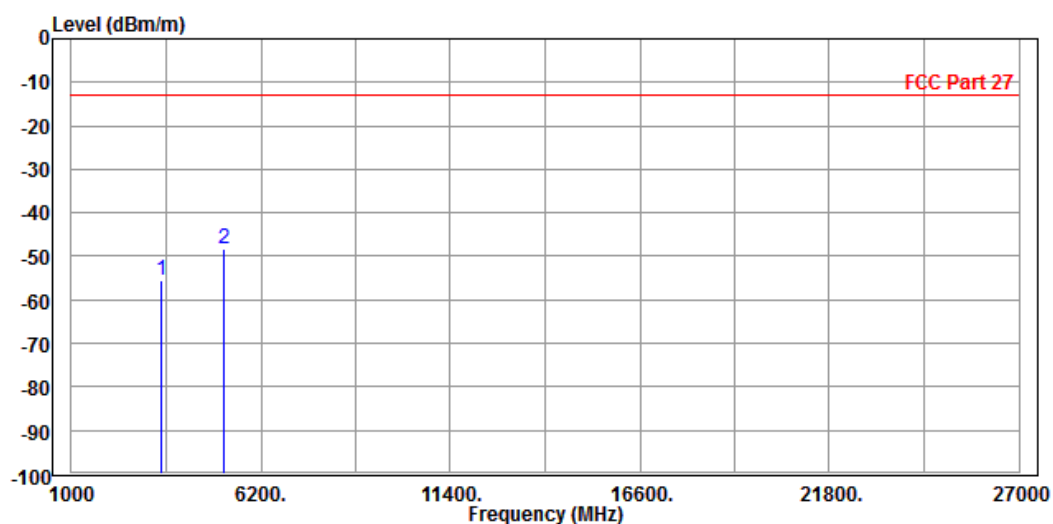
MODE	TX channel 20175	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5/9V from adapter
TESTED BY	Simon Yang		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3470.000	-57.03	-59.08	-13.00	-44.03	2.05	Peak	Horizontal
2 PP	5197.000	-48.20	-56.81	-13.00	-35.20	8.61	Peak	Horizontal



MODE	TX channel 20175	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5/9V from adapter
TESTED BY	Simon Yang		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3470.000	-55.43	-57.96	-13.00	-42.43	2.53	Peak	Vertical
2 PP	5197.000	-48.31	-56.29	-13.00	-35.31	7.98	Peak	Vertical

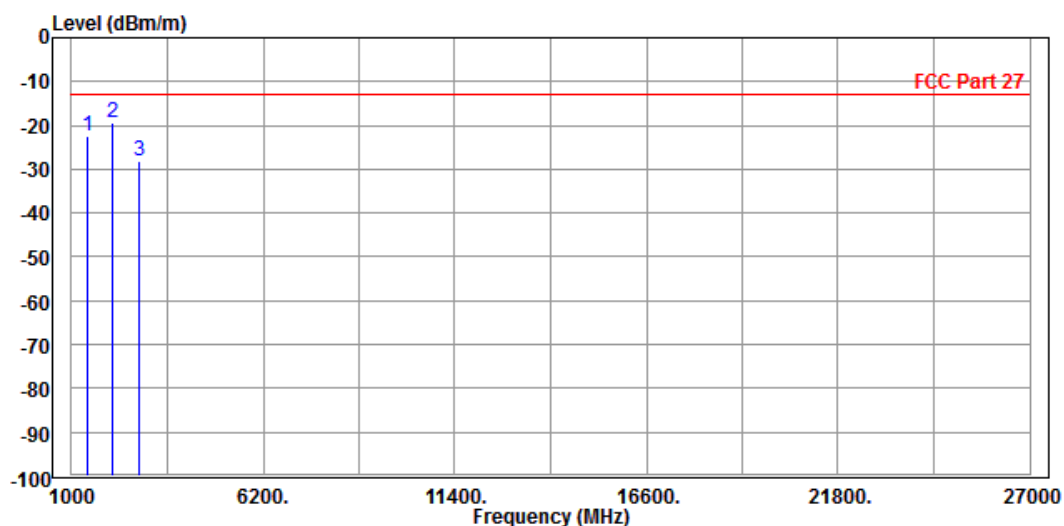


## LTE BAND 12

### CHANNEL BANDWIDTH: 1.4MHz / QPSK

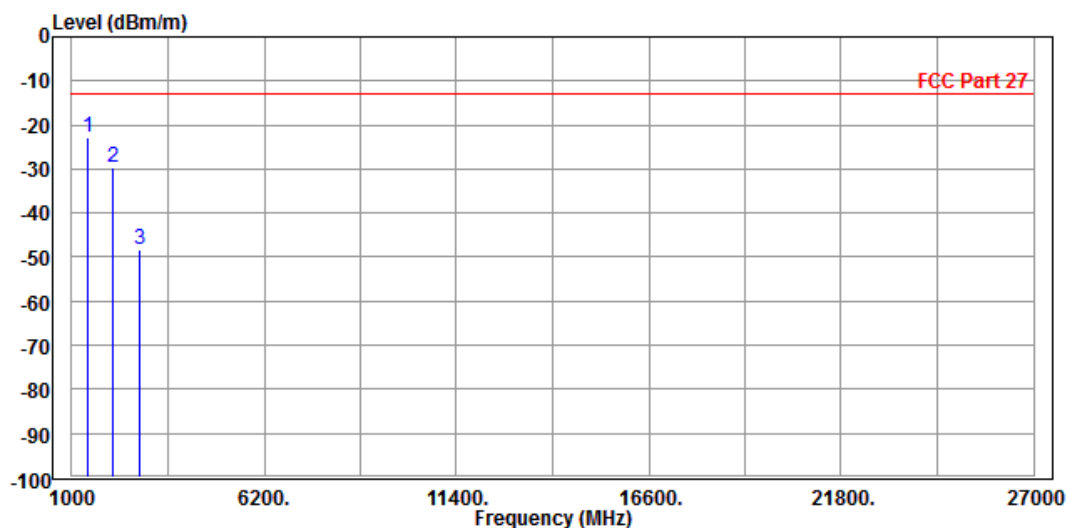
MODE	TX channel 23095	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5/9V from adapter
TESTED BY	Simon Yang		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1416.000	-22.62	-15.90	-13.00	-9.62	-6.72	Peak	Horizontal
2 PP	2118.000	-19.30	-17.36	-13.00	-6.30	-1.94	Peak	Horizontal
3	2820.000	-28.03	-27.60	-13.00	-15.03	-0.43	Peak	Horizontal



MODE	TX channel 23095	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5/9V from adapter
TESTED BY	Simon Yang		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

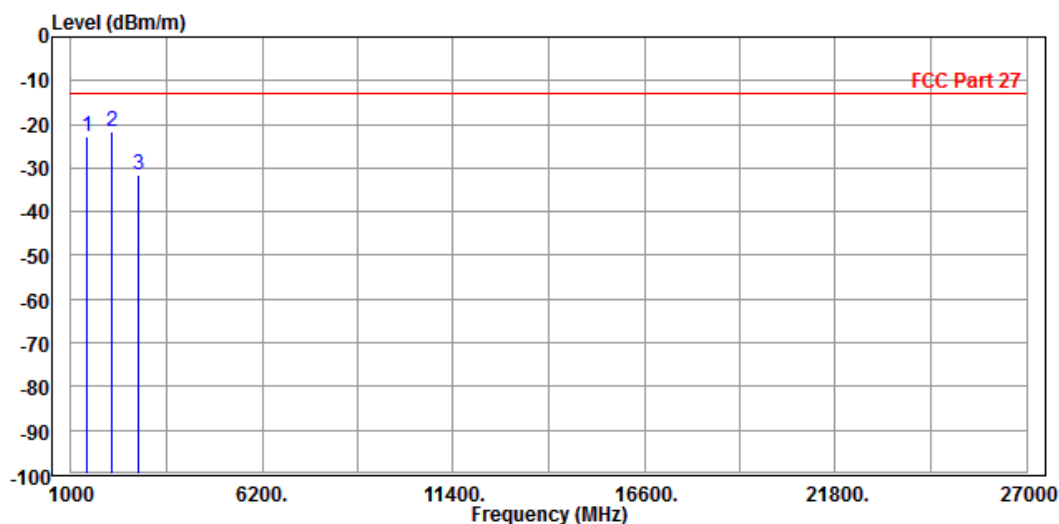
		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP	1416.000	-22.85	-17.41	-13.00	-9.85	-5.44	Peak	Vertical
2		2118.000	-29.51	-29.27	-13.00	-16.51	-0.24	Peak	Vertical
3		2820.000	-48.22	-49.40	-13.00	-35.22	1.18	Peak	Vertical



# CHANNEL BANDWIDTH: 3MHz / QPSK

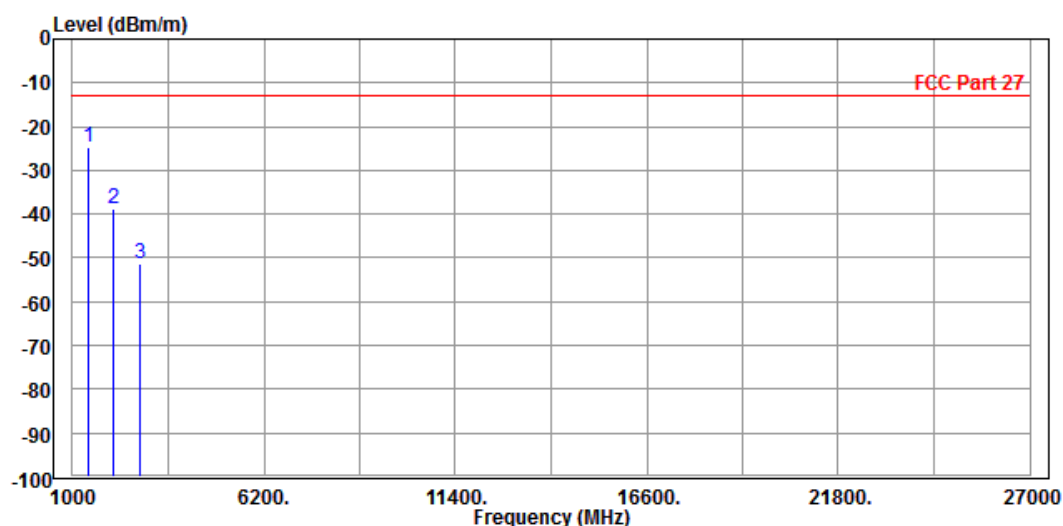
MODE	TX channel 23095	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5/9V from adapter
TESTED BY	Simon Yang		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1416.000	-22.65	-15.93	-13.00	-9.65	-6.72	Peak	Horizontal
2 PP	2118.000	-21.67	-19.73	-13.00	-8.67	-1.94	Peak	Horizontal
3	2820.000	-31.42	-30.99	-13.00	-18.42	-0.43	Peak	Horizontal



MODE	TX channel 23095	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5/9V from adapter
TESTED BY	Simon Yang		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

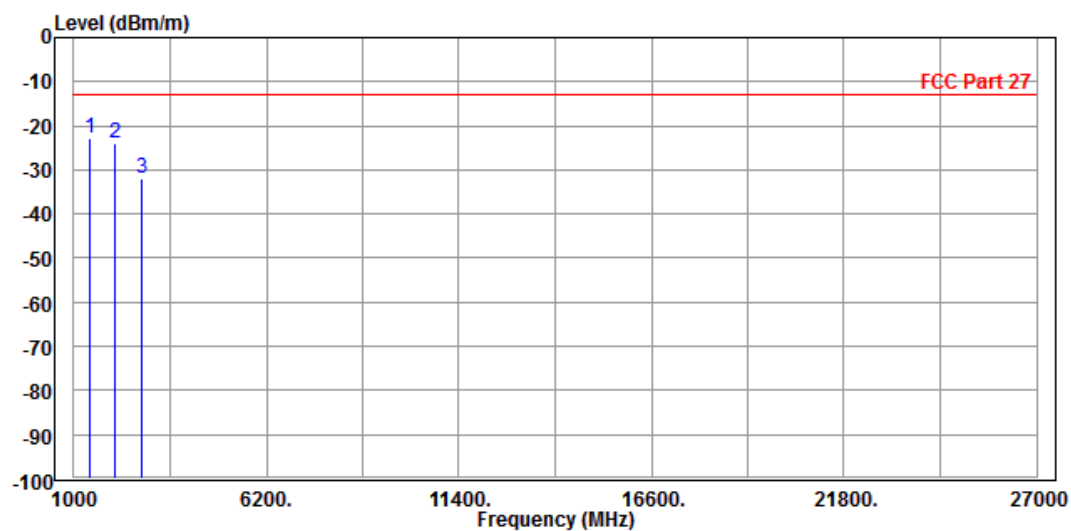
		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP	1416.000	-24.81	-19.37	-13.00	-11.81	-5.44	Peak	Vertical
2		2118.000	-38.85	-38.61	-13.00	-25.85	-0.24	Peak	Vertical
3		2820.000	-51.36	-52.54	-13.00	-38.36	1.18	Peak	Vertical



# CHANNEL BANDWIDTH: 5MHz / QPSK

MODE	TX channel 23095	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5/9V from adapter
TESTED BY	Simon Yang		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

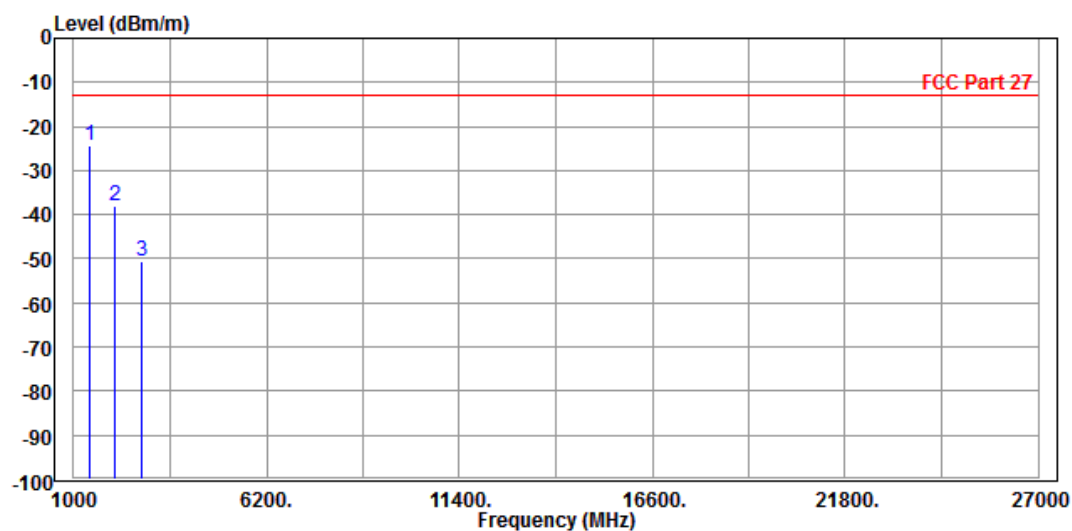
		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP	1416.000	-22.67	-15.95	-13.00	-9.67	-6.72	Peak	Horizontal
2		2118.000	-23.85	-21.91	-13.00	-10.85	-1.94	Peak	Horizontal
3		2820.000	-32.07	-31.64	-13.00	-19.07	-0.43	Peak	Horizontal





MODE	TX channel 23095	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5/9V from adapter
TESTED BY	Simon Yang		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

			Read	Limit	Over			
	Freq	Level	Level	Line	Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1 PP	1416.000	-24.35	-18.91	-13.00	-11.35	-5.44	Peak	Vertical
2	2118.000	-38.18	-37.94	-13.00	-25.18	-0.24	Peak	Vertical
3	2820.000	-50.64	-51.82	-13.00	-37.64	1.18	Peak	Vertical

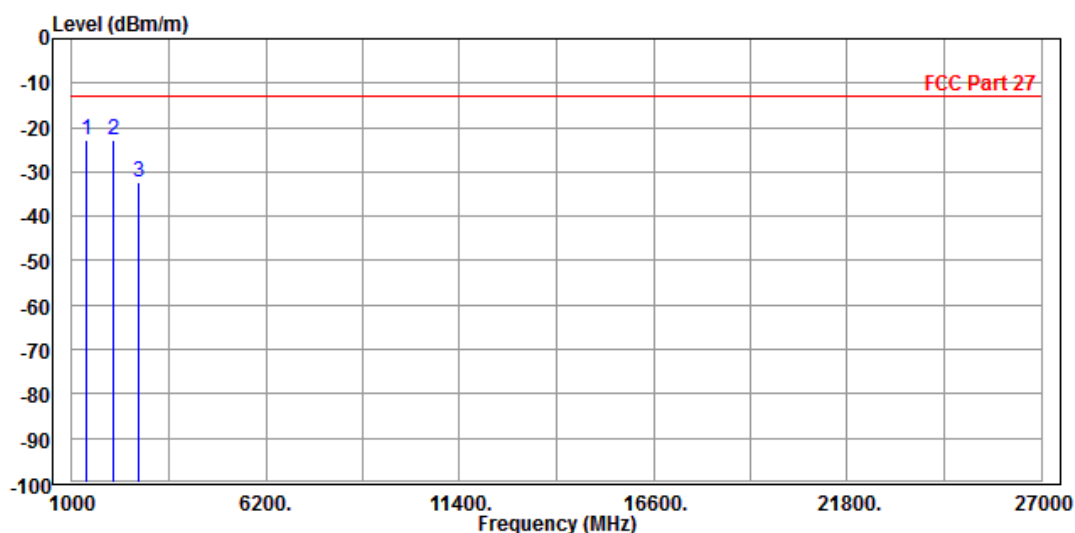


CHANNEL BANDWIDTH: 10MHz / QPSK

CH 23060

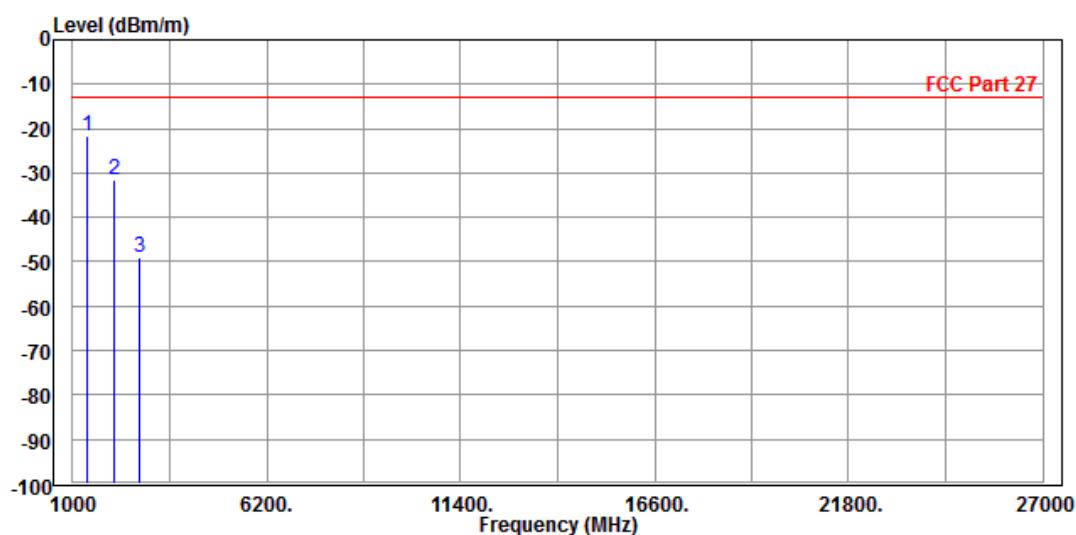
MODE	TX channel 23060	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5/9V from adapter
TESTED BY	Simon Yang		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP	1390.000	-22.72	-15.84	-13.00	-9.72	-6.88	Peak	Horizontal
2		2092.000	-22.95	-20.99	-13.00	-9.95	-1.96	Peak	Horizontal
3		2794.000	-32.15	-31.62	-13.00	-19.15	-0.53	Peak	Horizontal



MODE	TX channel 23060	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5/9V from adapter
TESTED BY	Simon Yang		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

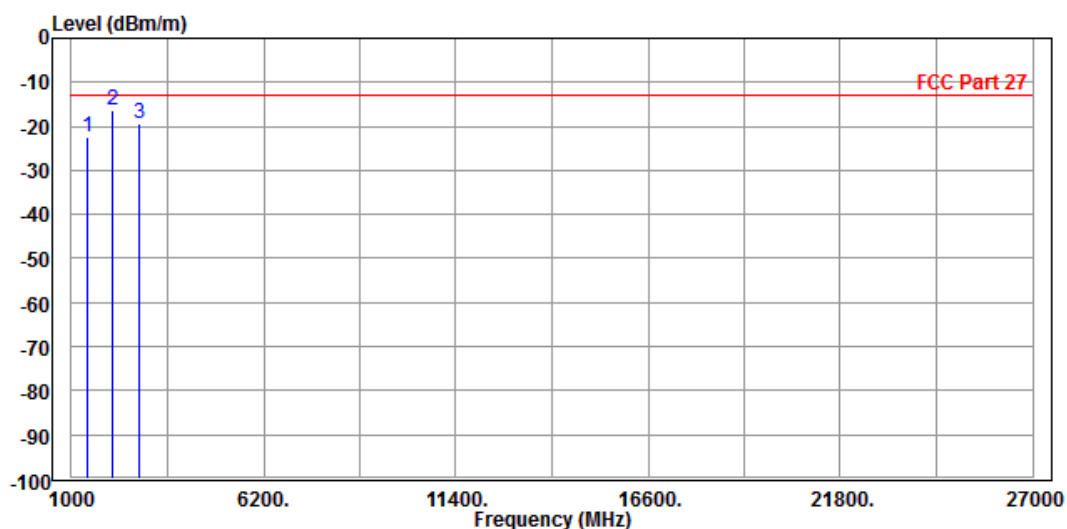
		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP	1390.000	-21.69	-16.09	-13.00	-8.69	-5.60	Peak	Vertical
2		2092.000	-31.53	-31.28	-13.00	-18.53	-0.25	Peak	Vertical
3		2794.000	-49.19	-50.26	-13.00	-36.19	1.07	Peak	Vertical



# CH 23095

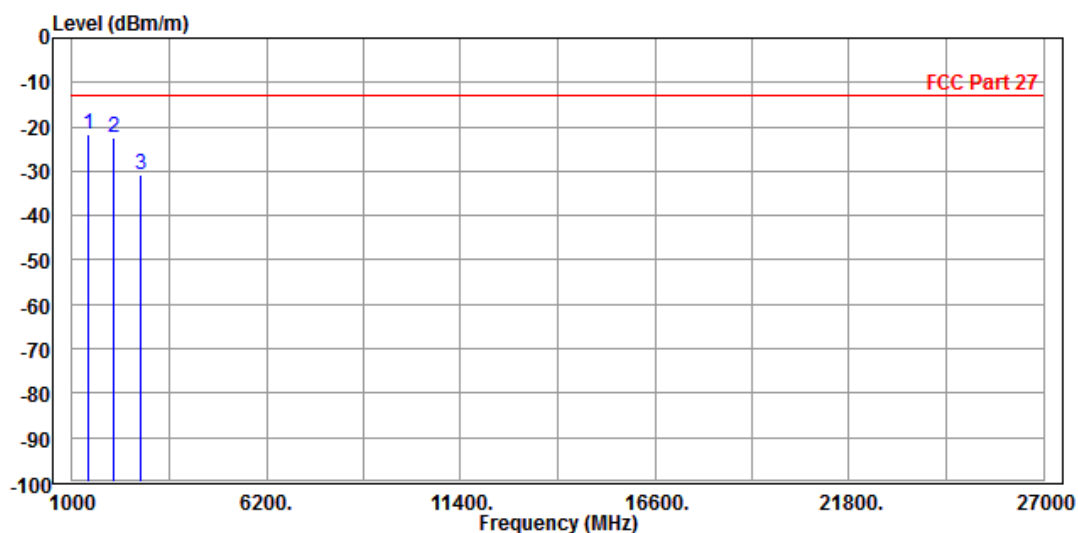
MODE	TX channel 23095	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5/9V from adapter
TESTED BY	Simon Yang		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1416.000	-22.61	-15.89	-13.00	-9.61	-6.72	Peak	Horizontal
2 PP	2118.000	-16.39	-14.45	-13.00	-3.39	-1.94	Peak	Horizontal
3	2820.000	-19.34	-18.91	-13.00	-6.34	-0.43	Peak	Horizontal



MODE	TX channel 23095	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5/9V from adapter
TESTED BY	Simon Yang		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

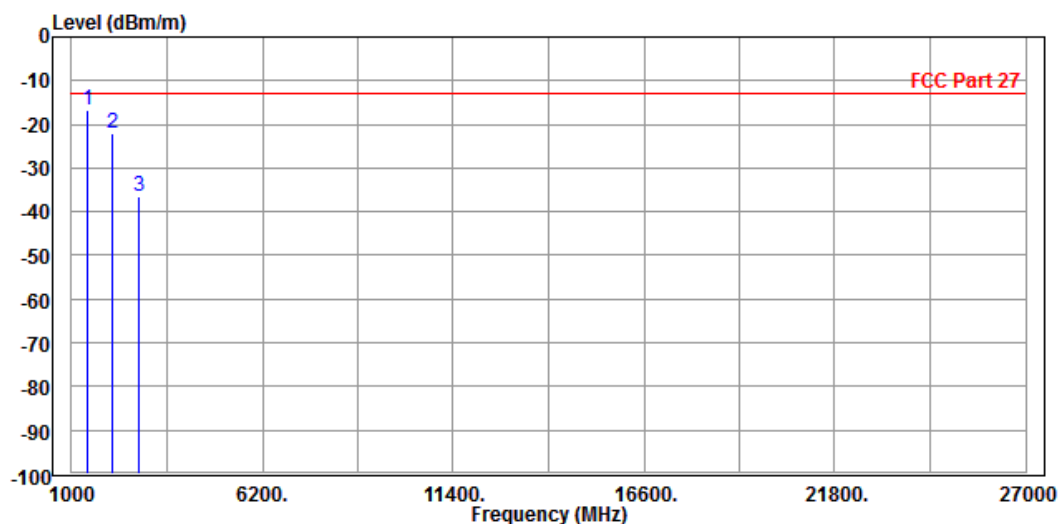
		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP	1416.000	-21.53	-16.09	-13.00	-8.53	-5.44	Peak	Vertical
2		2118.000	-22.57	-22.33	-13.00	-9.57	-0.24	Peak	Vertical
3		2820.000	-30.74	-31.92	-13.00	-17.74	1.18	Peak	Vertical



# CH 23130

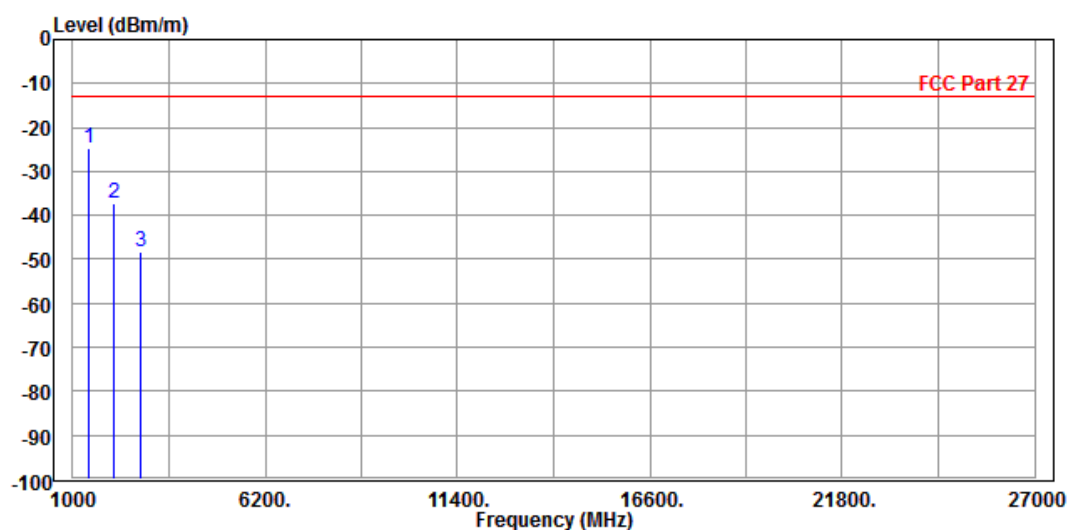
MODE	TX channel 23130	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5/9V from adapter
TESTED BY	Simon Yang		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1 PP	1416.000	-16.69	-9.97	-13.00	-3.69	-6.72	Peak	Horizontal
2	2118.000	-21.87	-19.93	-13.00	-8.87	-1.94	Peak	Horizontal
3	2820.000	-36.32	-35.89	-13.00	-23.32	-0.43	Peak	Horizontal



MODE	TX channel 23130	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5/9V from adapter
TESTED BY	Simon Yang		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP	1416.000	-24.76	-19.32	-13.00	-11.76	-5.44	Peak	Vertical
2		2118.000	-37.14	-36.90	-13.00	-24.14	-0.24	Peak	Vertical
3		2820.000	-48.47	-49.65	-13.00	-35.47	1.18	Peak	Vertical



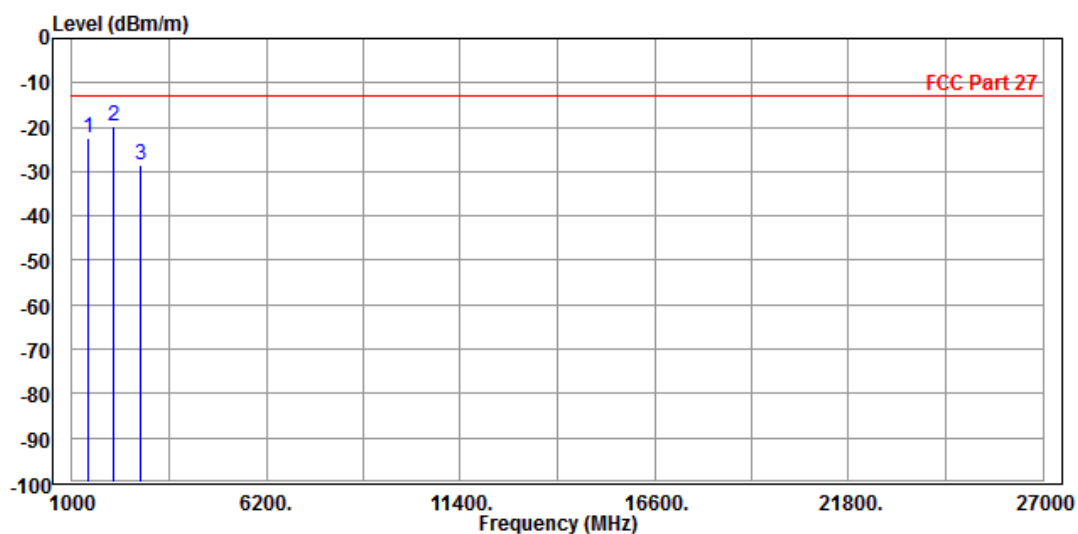
LTE Band 17

CHANNEL BANDWIDTH: 5MHz / QPSK

CH 23755

MODE	TX channel 23755	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5/9V from adapter
TESTED BY	Simon Yang		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

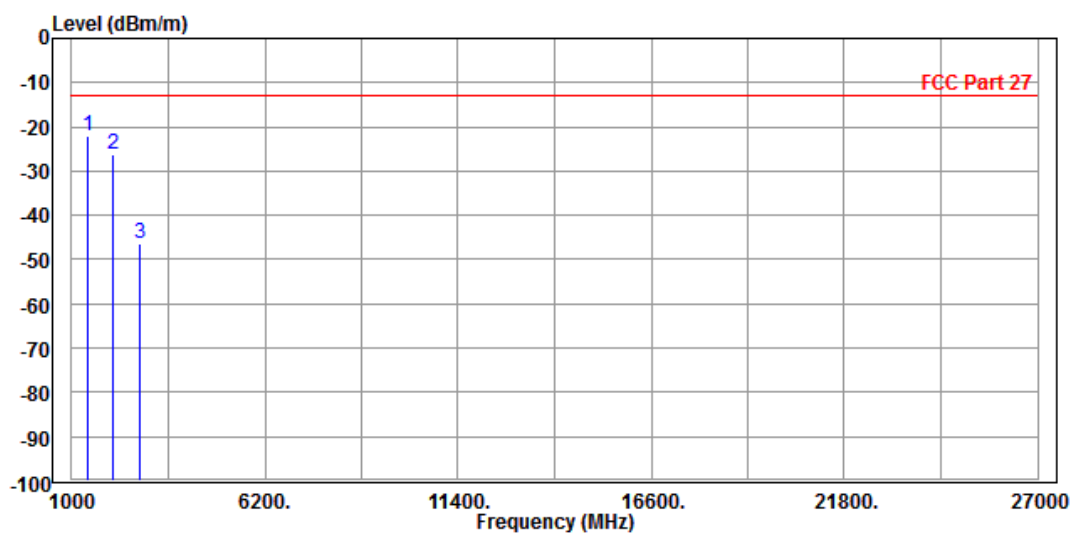
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1416.000	-22.53	-15.81	-13.00	-9.53	-6.72	Peak	Horizontal
2 PP	2118.000	-19.89	-17.95	-13.00	-6.89	-1.94	Peak	Horizontal
3	2820.000	-28.35	-27.92	-13.00	-15.35	-0.43	Peak	Horizontal





MODE	TX channel 23755	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5/9V from adapter
TESTED BY	Simon Yang		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

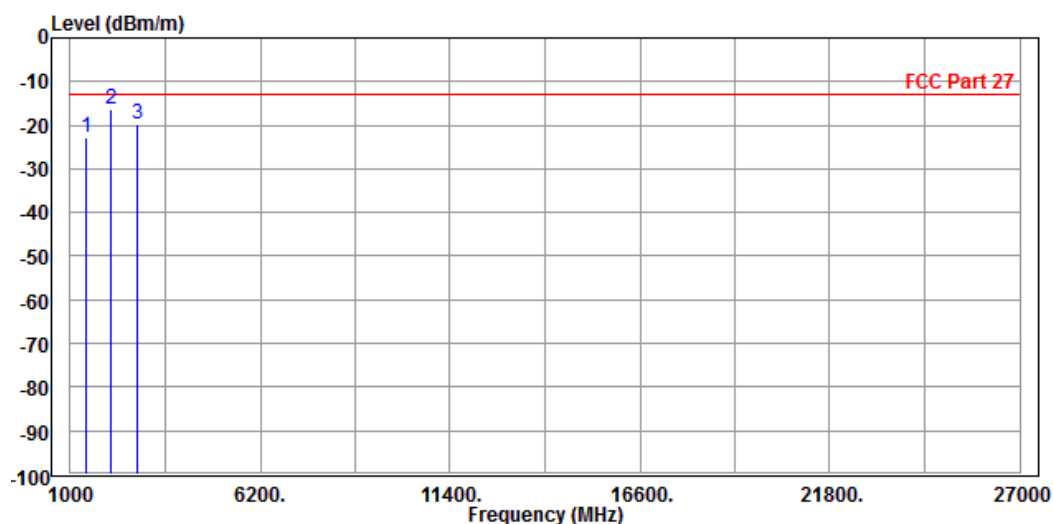
		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP	1416.000	-22.17	-16.73	-13.00	-9.17	-5.44	Peak	Vertical
2		2118.000	-26.17	-25.93	-13.00	-13.17	-0.24	Peak	Vertical
3		2820.000	-46.43	-47.61	-13.00	-33.43	1.18	Peak	Vertical



# CH 23790

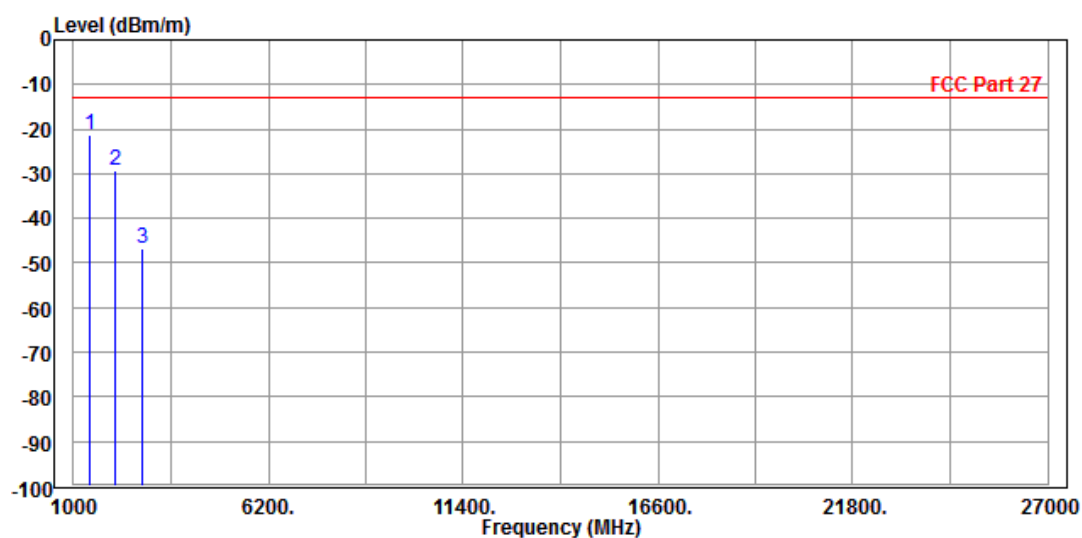
MODE	TX channel 23790	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5/9V from adapter
TESTED BY	Simon Yang		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1416.000	-22.65	-15.93	-13.00	-9.65	-6.72	Peak	Horizontal
2 PP	2118.000	-16.46	-14.52	-13.00	-3.46	-1.94	Peak	Horizontal
3	2820.000	-19.77	-19.34	-13.00	-6.77	-0.43	Peak	Horizontal



MODE	TX channel 23790	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5/9V from adapter
TESTED BY	Simon Yang		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

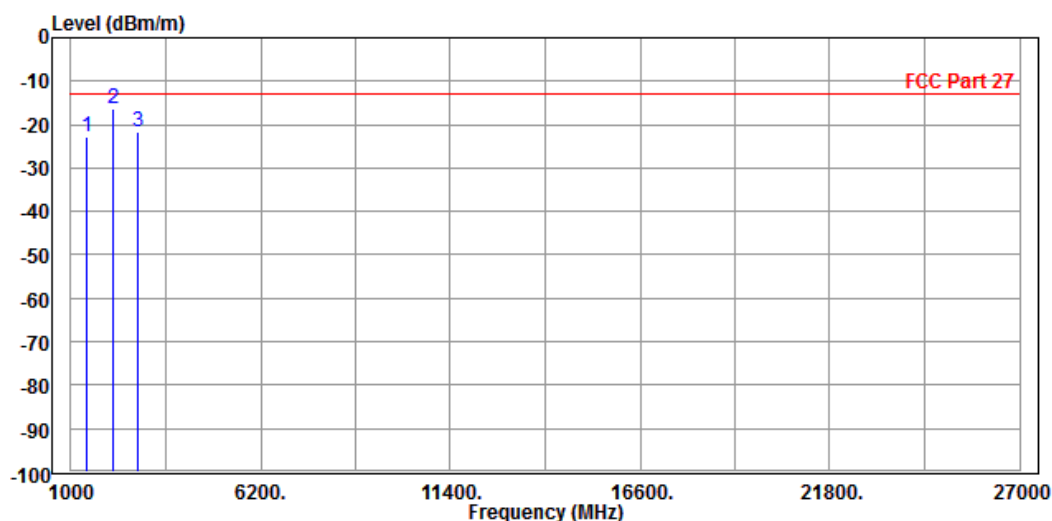
			Read	Limit	Over			
	Freq	Level	Level	Line	Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1 PP	1416.000	-21.40	-15.96	-13.00	-8.40	-5.44	Peak	Vertical
2	2118.000	-29.28	-29.04	-13.00	-16.28	-0.24	Peak	Vertical
3	2820.000	-46.69	-47.87	-13.00	-33.69	1.18	Peak	Vertical



# CH 23825

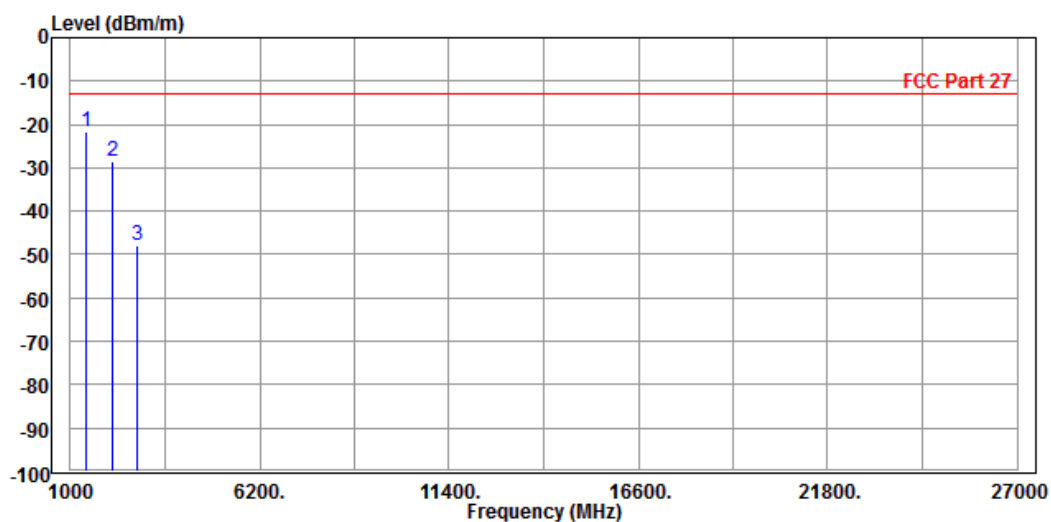
MODE	TX channel 23825	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5/9V from adapter
TESTED BY	Simon Yang		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1416.000	-22.66	-15.94	-13.00	-9.66	-6.72	Peak	Horizontal
2 PP	2144.000	-16.29	-14.37	-13.00	-3.29	-1.92	Peak	Horizontal
3	2846.000	-21.62	-21.29	-13.00	-8.62	-0.33	Peak	Horizontal



MODE	TX channel 23825	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5/9V from adapter
TESTED BY	Simon Yang		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

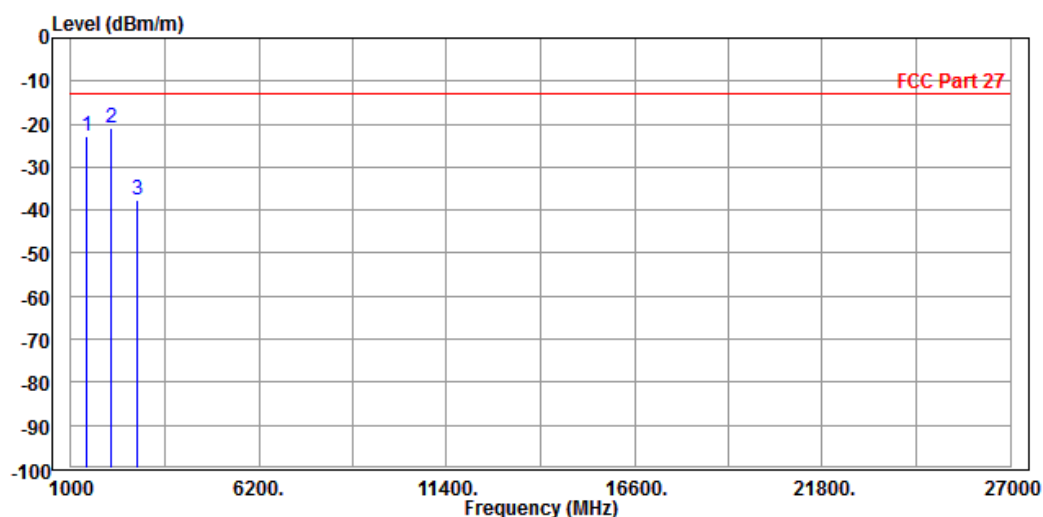
		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP	1416.000	-21.66	-16.22	-13.00	-8.66	-5.44	Peak	Vertical
2		2144.000	-28.49	-28.25	-13.00	-15.49	-0.24	Peak	Vertical
3		2846.000	-48.03	-49.31	-13.00	-35.03	1.28	Peak	Vertical



# CHANNEL BANDWIDTH: 10MHz / QPSK

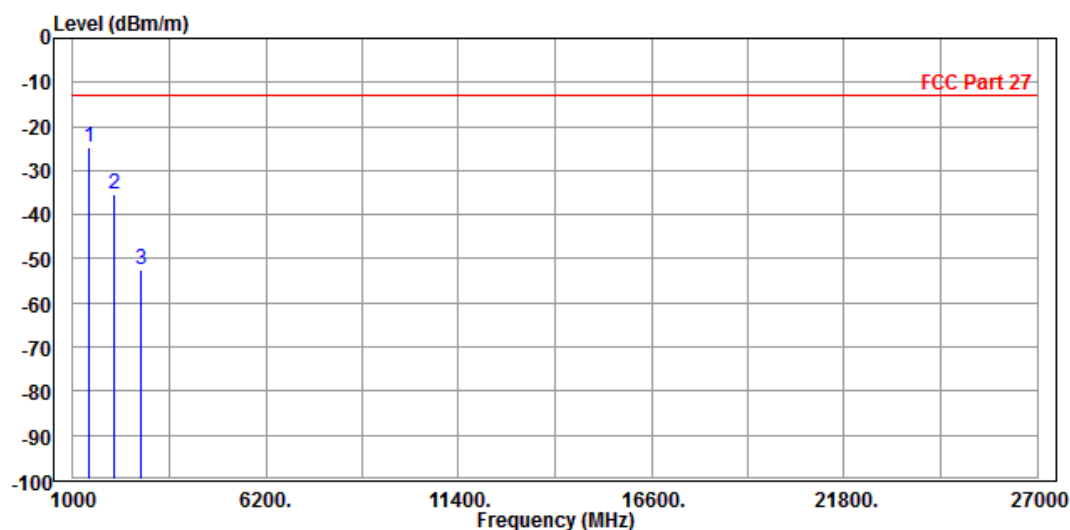
MODE	TX channel 23790	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5/9V from adapter
TESTED BY	Simon Yang		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1416.000	-22.63	-15.91	-13.00	-9.63	-6.72	Peak	Horizontal
2 PP	2118.000	-20.98	-19.04	-13.00	-7.98	-1.94	Peak	Horizontal
3	2820.000	-37.76	-37.33	-13.00	-24.76	-0.43	Peak	Horizontal



MODE	TX channel 23790	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 5/9V from adapter
TESTED BY	Simon Yang		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP	1416.000	-24.74	-19.30	-13.00	-11.74	-5.44	Peak	Vertical
2		2118.000	-35.26	-35.02	-13.00	-22.26	-0.24	Peak	Vertical
3		2820.000	-52.50	-53.68	-13.00	-39.50	1.18	Peak	Vertical



Note: The test, calibration and test results are compliance with the A2LA (Certificate # 3939.01).

## 5 INFORMATION ON THE TESTING LABORATORIES

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are FCC recognized accredited test firms and accredited according to ISO/IEC 17025.

If you have any comments, please feel free to contact us at the following:

**Linko EMC/RF Lab**

Tel: 886-2-26052180

Fax: 886-2-26051924

**Hsin Chu EMC/RF/Telecom Lab**

Tel: 886-3-6668565

Fax: 886-3-6668323

**Hwa Ya EMC/RF/Safety**

Tel: 886-3-3183232

Fax: 886-3-3270892

**Email:** [service.adt@tw.bureauveritas.com](mailto:service.adt@tw.bureauveritas.com)

**Web Site:** [www.bureauveritas-adt.com](http://www.bureauveritas-adt.com)

The address and road map of all our labs can be found in our web site also.



## **6 APPENDIX A – MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB**

No modifications were made to the EUT by the lab during the test.

**---END---**