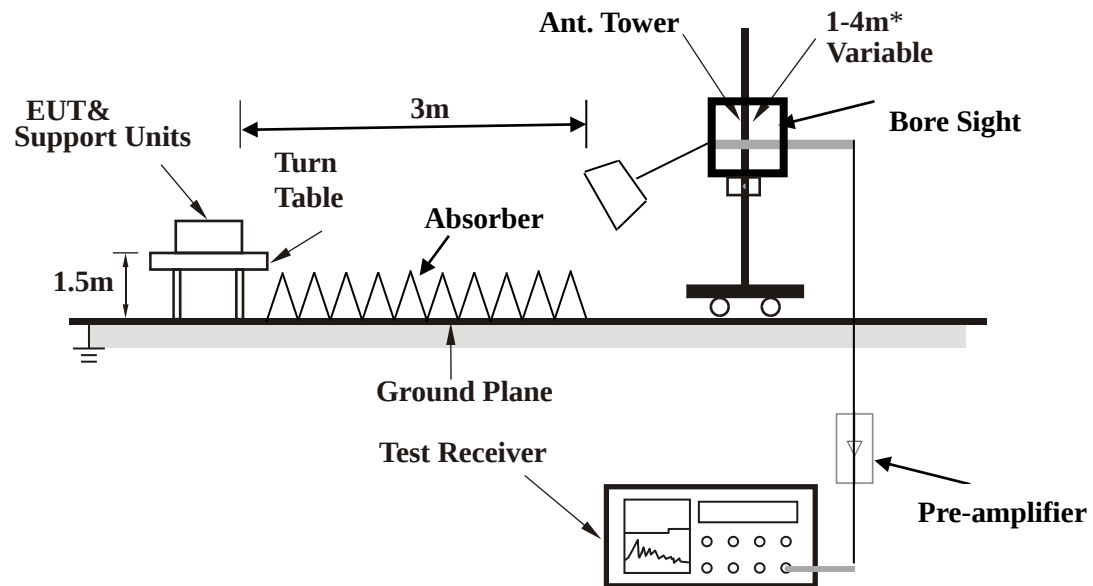




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Test Report No.: W7L-P23010024RF05

<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).



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Test Report No.: W7L-P23010024RF05

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

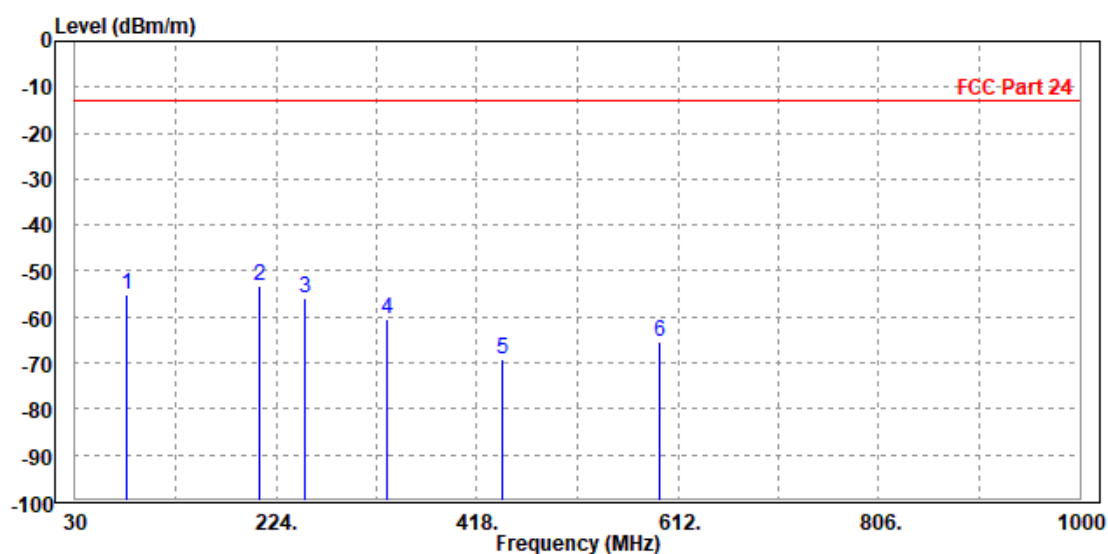
30 MHz – 1GHz data:

WCDMA Band II:

CHANNEL BANDWIDTH: 9262 ~ 9538

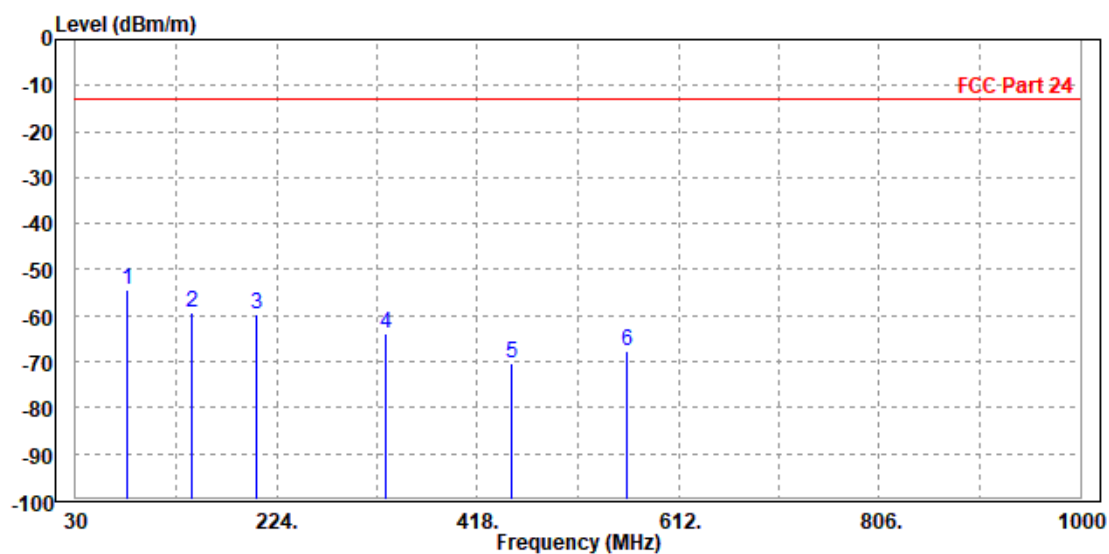
MODE	TX channel 9538	FREQUENCY RANGE	Below 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 56%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	80.440	-55.01	-33.47	-13.00	-42.01	-21.54	Peak	Horizontal
2 PP	207.510	-53.26	-36.73	-13.00	-40.26	-16.53	Peak	Horizontal
3	251.160	-55.90	-44.42	-13.00	-42.90	-11.48	Peak	Horizontal
4	330.700	-60.52	-48.80	-13.00	-47.52	-11.72	Peak	Horizontal
5	443.220	-69.20	-59.94	-13.00	-56.20	-9.26	Peak	Horizontal
6	593.570	-65.25	-60.94	-13.00	-52.25	-4.31	Peak	Horizontal



MODE	TX channel 9538	FREQUENCY RANGE	Below 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 56%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
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	80.440	-54.25	-35.25	-13.00	-41.25	-19.00	Peak	Vertical
2		142.520	-59.41	-45.16	-13.00	-46.41	-14.25	Peak	Vertical
3		204.600	-59.66	-42.04	-13.00	-46.66	-17.62	Peak	Vertical
4		328.760	-63.84	-53.55	-13.00	-50.84	-10.29	Peak	Vertical
5		450.980	-70.15	-61.62	-13.00	-57.15	-8.53	Peak	Vertical
6		562.530	-67.60	-60.73	-13.00	-54.60	-6.87	Peak	Vertical





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Test Report No.: W7L-P23010024RF05

ABOVE 1GHz DATA

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

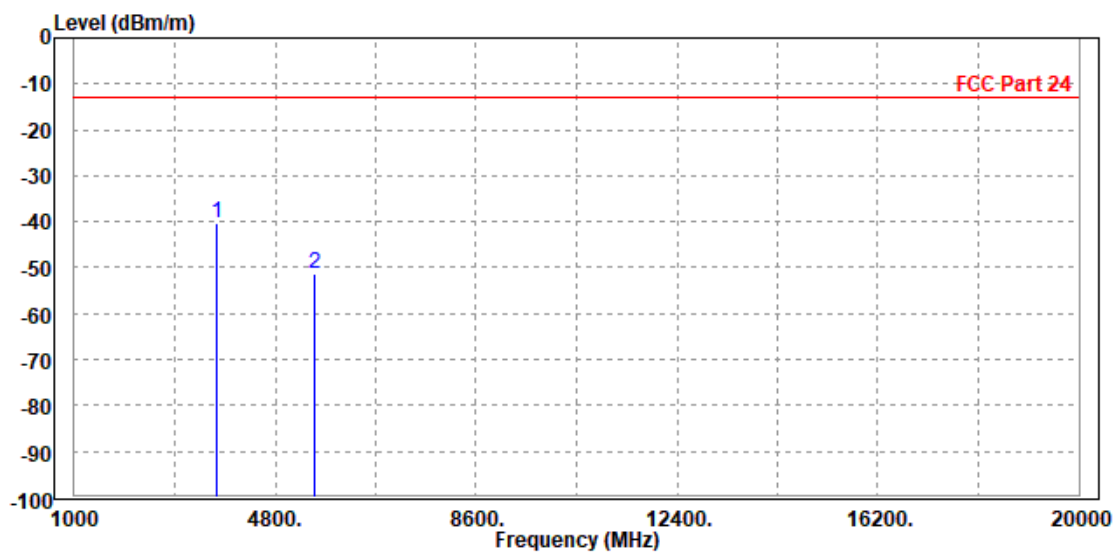
WORST-CASE DATA

WCDMA Band II

CH 9262

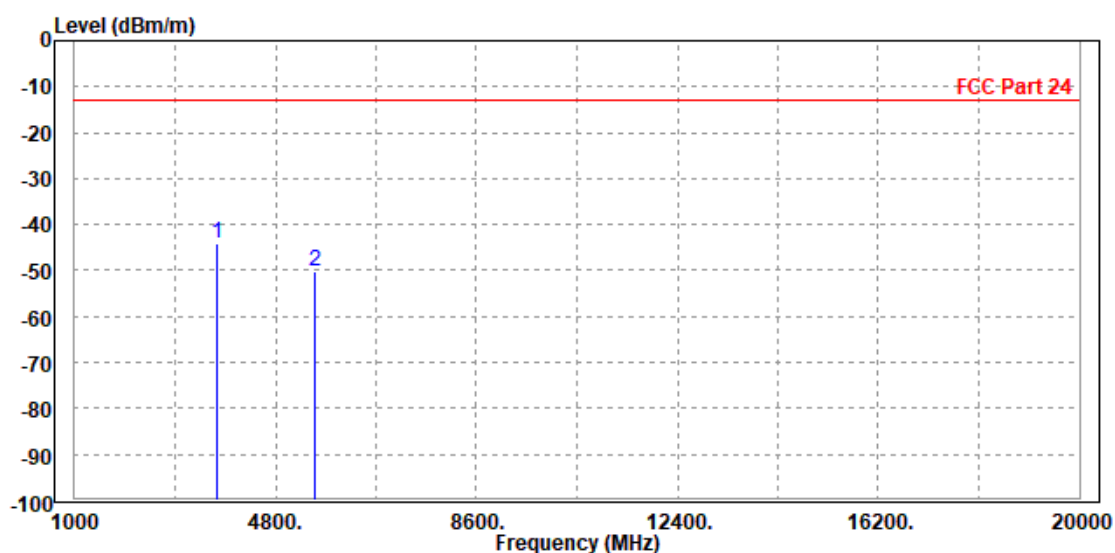
MODE	TX channel 9262	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 56%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP	3698.000	-40.46	-48.29	-13.00	-27.46	7.83	Peak	Horizontal
2		5557.200	-51.23	-61.81	-13.00	-38.23	10.58	Peak	Horizontal



MODE	TX channel 9262	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 56%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

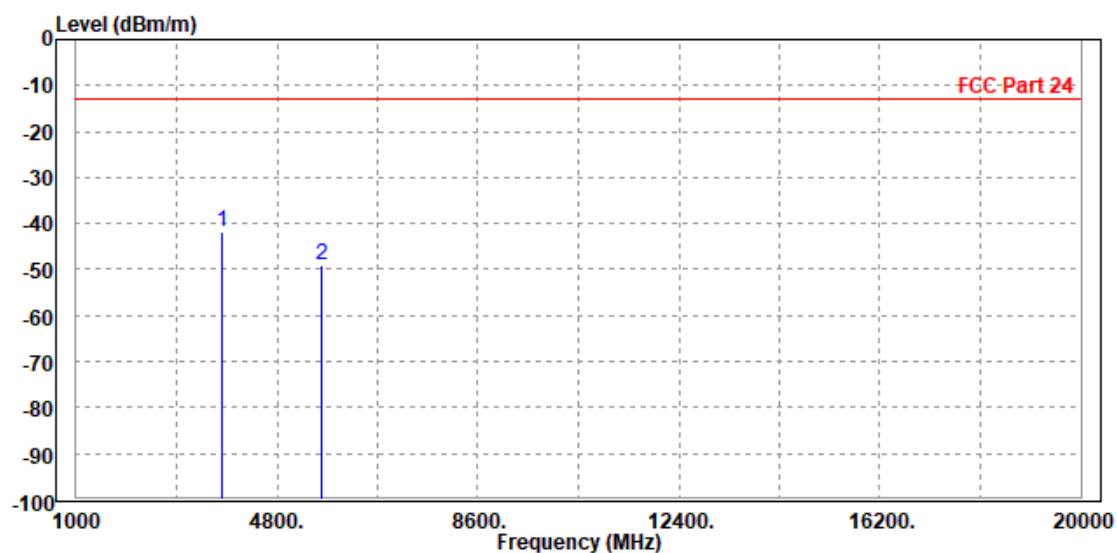
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1 PP	3704.800	-44.24	-51.86	-13.00	-31.24	7.62	Peak	Vertical
2	5560.000	-50.25	-61.15	-13.00	-37.25	10.90	Peak	Vertical



CH 9400

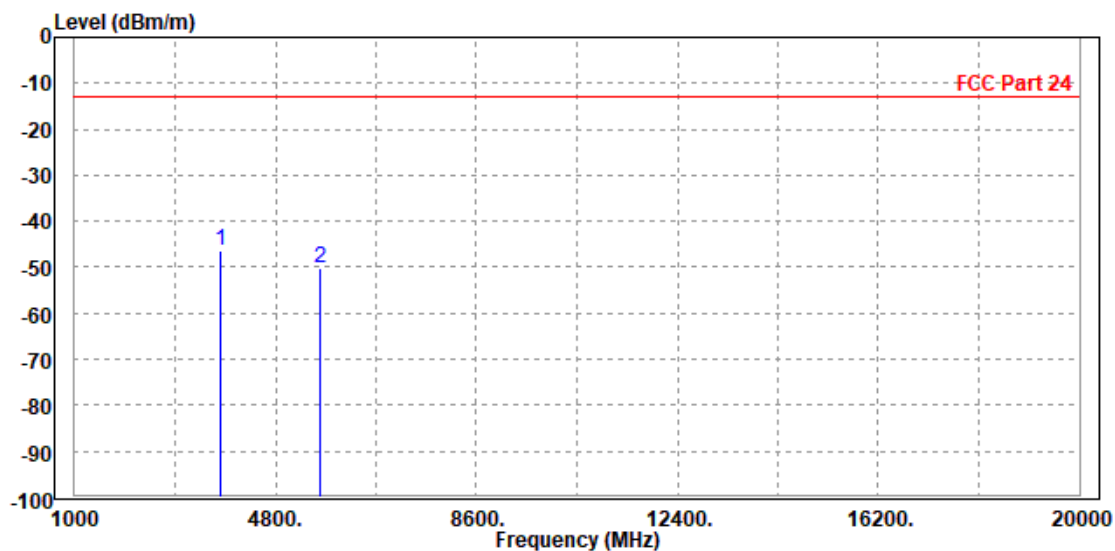
MODE	TX channel 9400	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 56%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1 PP	3760.000	-41.84	-49.83	-13.00	-28.84	7.99	Peak	Horizontal
2	5636.000	-49.13	-59.86	-13.00	-36.13	10.73	Peak	Horizontal



MODE	TX channel 9400	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 56%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

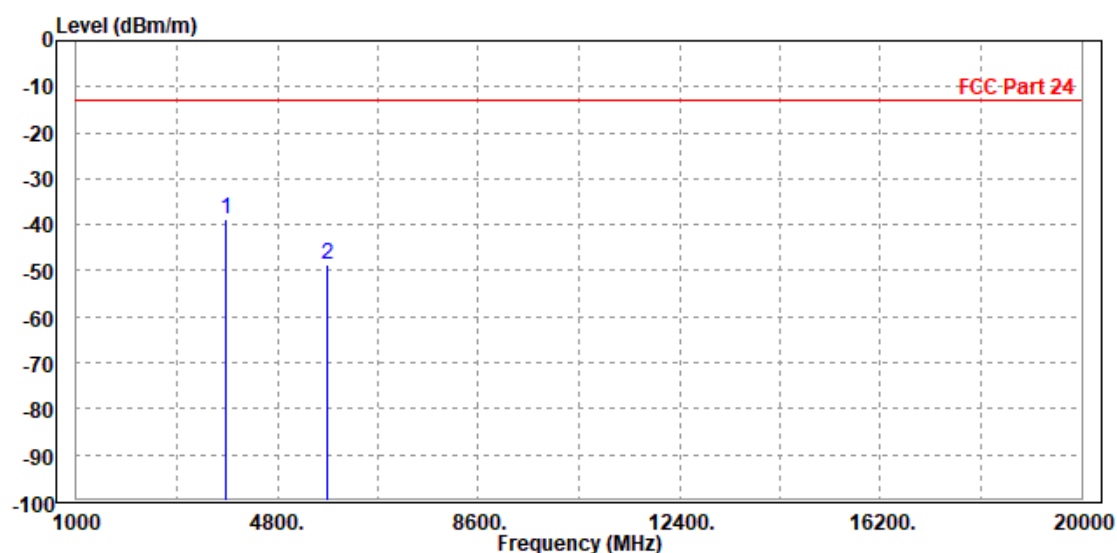
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP 3755.000	-46.44	-54.13	-13.00	-33.44	7.69	Peak	Vertical
2	5640.000	-50.08	-61.21	-13.00	-37.08	11.13	Peak	Vertical



CH 9538

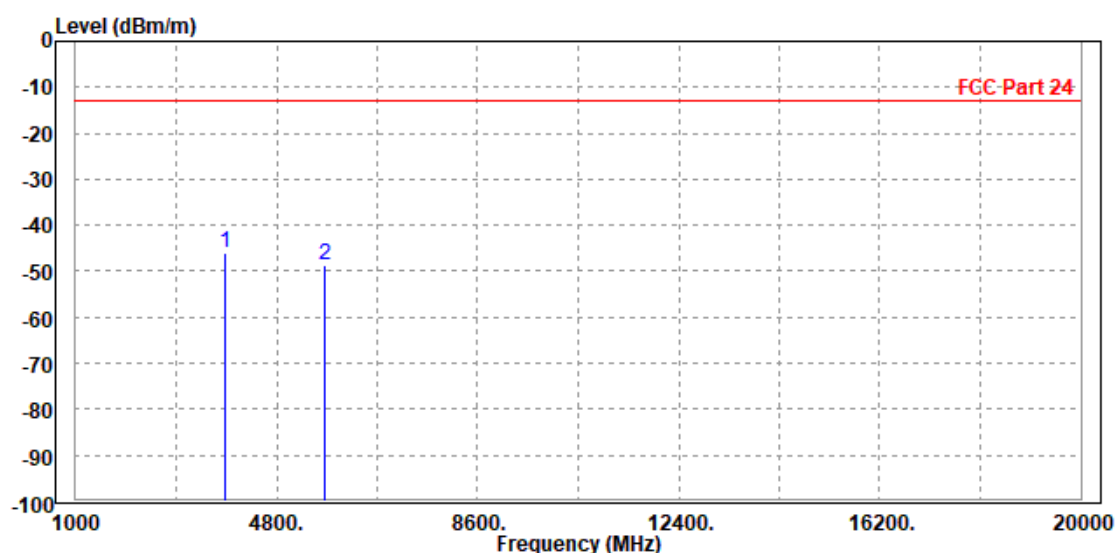
MODE	TX channel 9538	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 56%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP	3815.200	-38.73	-46.86	-13.00	-25.73	8.13	Peak	Horizontal
2		5731.000	-48.63	-59.54	-13.00	-35.63	10.91	Peak	Horizontal



MODE	TX channel 9538	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 56%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
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	3812.000	-45.84	-53.61	-13.00	-32.84	7.77	Peak	Vertical
2	5722.800	-48.80	-60.16	-13.00	-35.80	11.36	Peak	Vertical

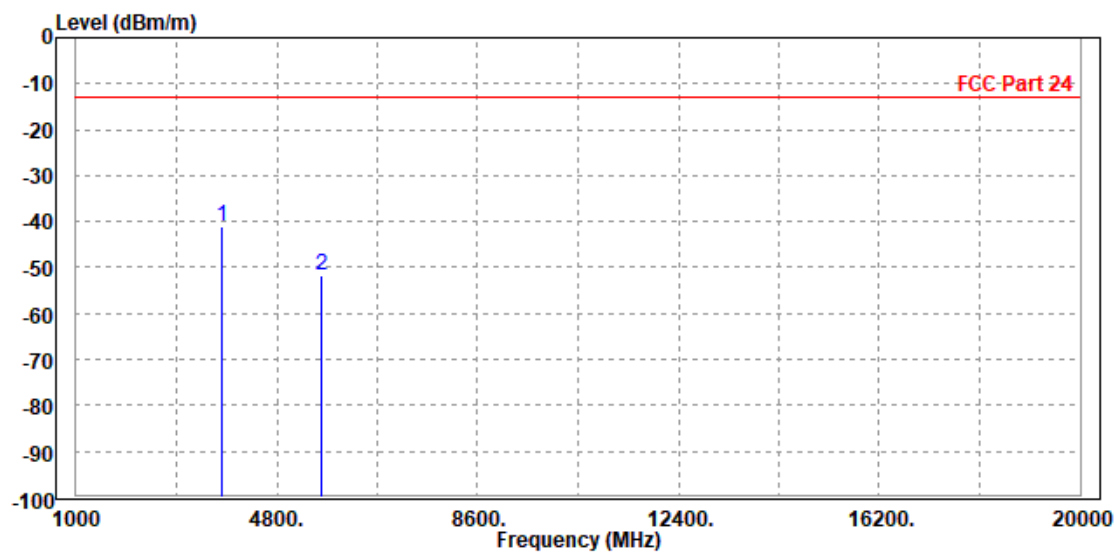


LTE Band 2

CHANNEL BANDWIDTH: 1.4MHz / QPSK

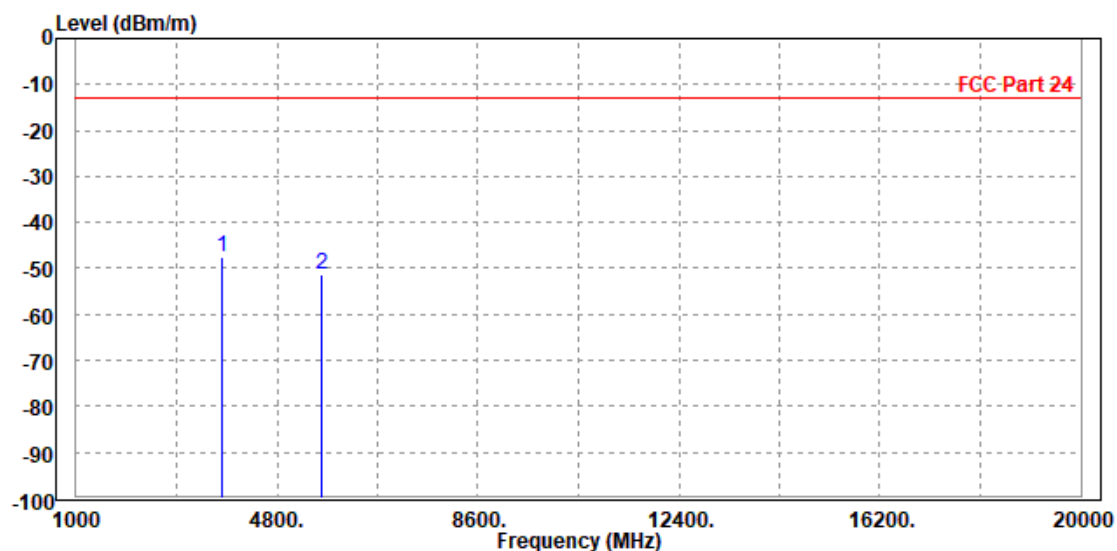
MODE	TX channel 18900	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 56%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1 PP	3760.000	-41.05	-49.04	-13.00	-28.05	7.99	Peak	Horizontal
2	5636.000	-51.87	-62.60	-13.00	-38.87	10.73	Peak	Horizontal



MODE	TX channel 18900	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 56%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
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	3755.000	-47.55	-55.24	-13.00	-34.55	7.69	Peak	Vertical
2		5640.000	-51.32	-62.45	-13.00	-38.32	11.13	Peak	Vertical





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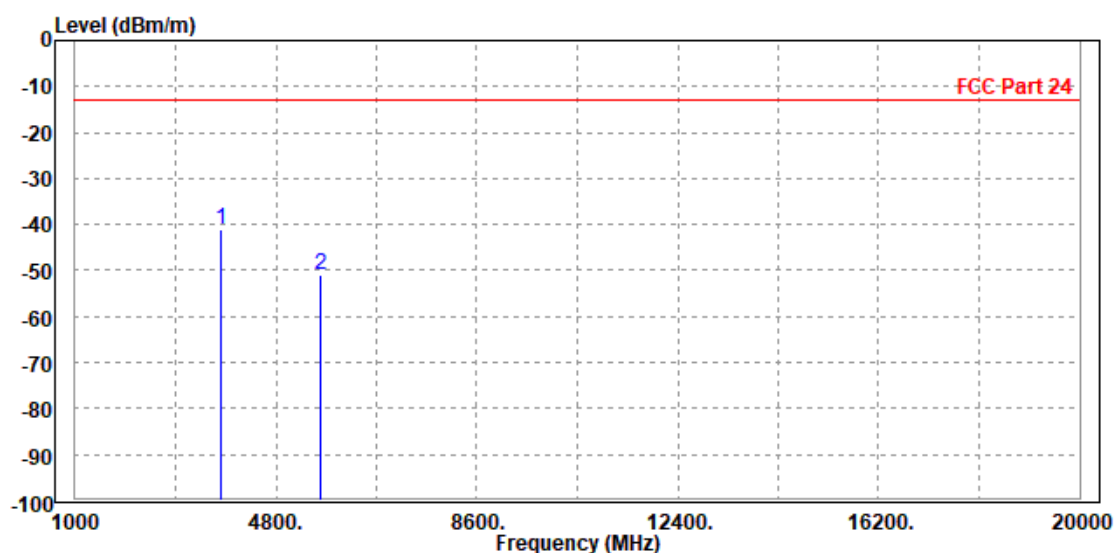
Test Report No.: W7L-P23010024RF05

CHANNEL BANDWIDTH: 3MHz / QPSK

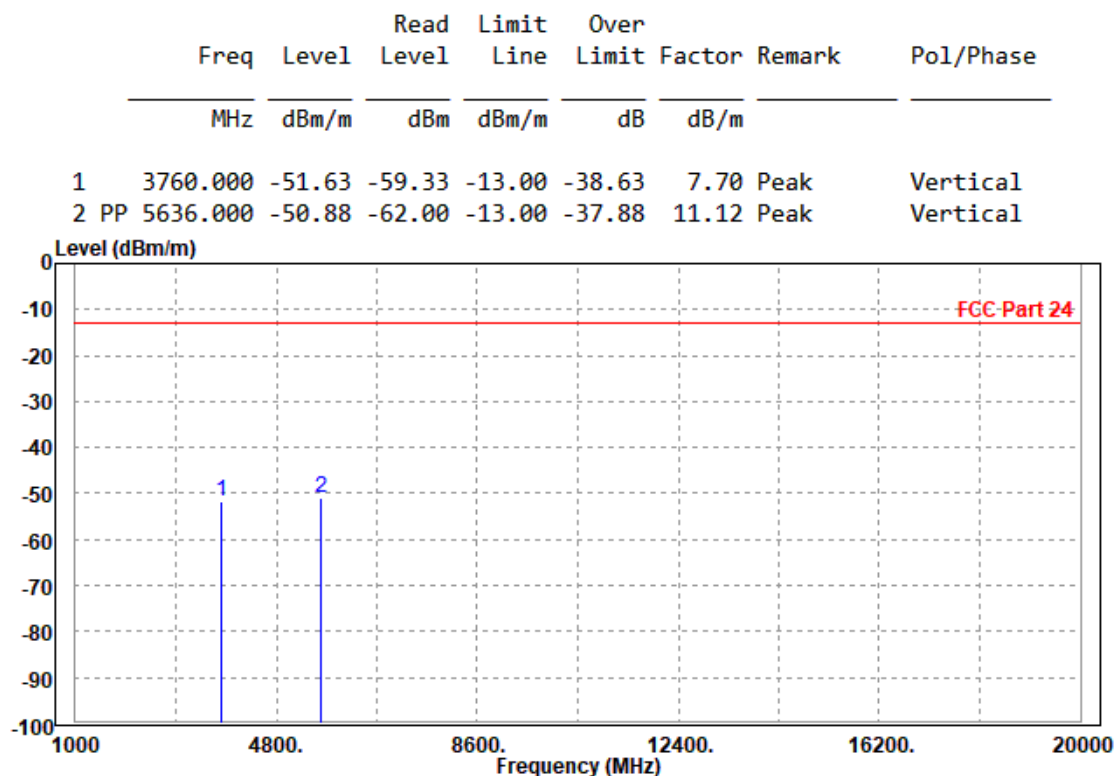
CH18900

MODE	TX channel 18900	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 56%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
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 3755.000	-40.94	-48.92	-13.00	-27.94	7.98	Peak	Horizontal
2	5640.000	-50.97	-61.71	-13.00	-37.97	10.74	Peak	Horizontal



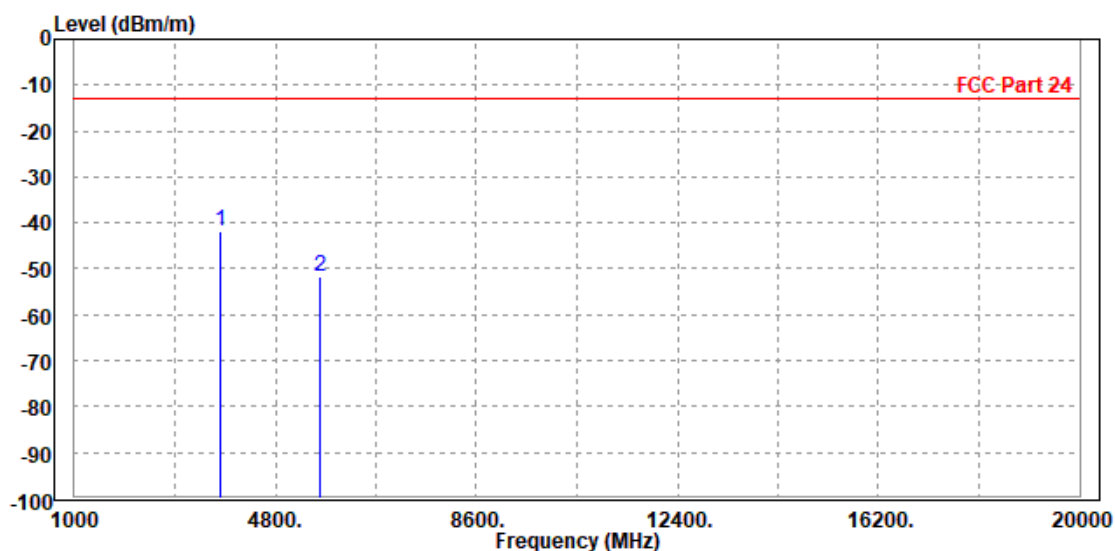
MODE	TX channel 18900	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 56%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			



CHANNEL BANDWIDTH: 5MHz / QPSK

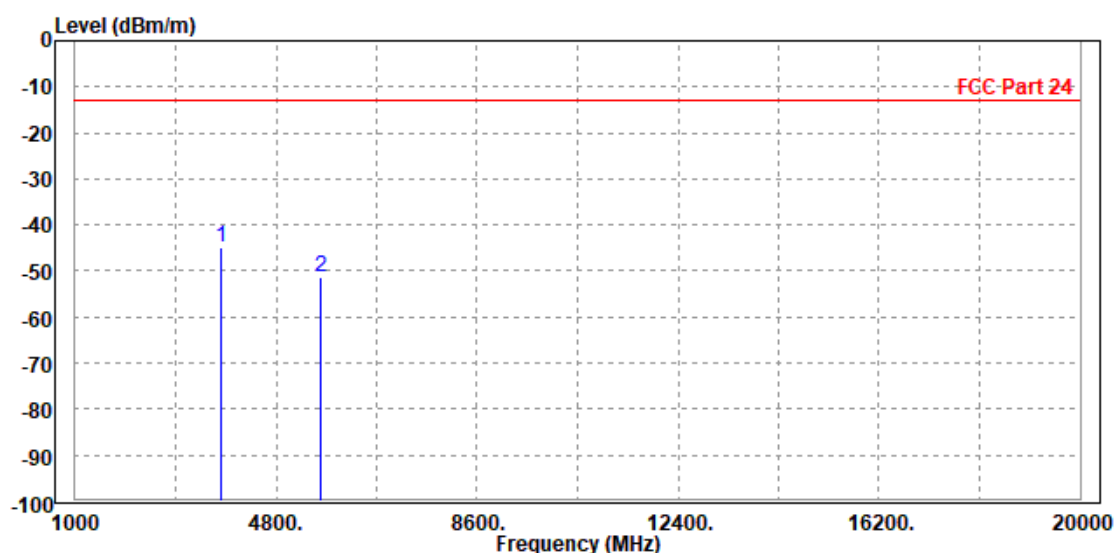
MODE	TX channel 18900	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 56%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP 3760.000	-41.85	-49.84	-13.00	-28.85	7.99	Peak	Horizontal
2	5636.000	-51.72	-62.45	-13.00	-38.72	10.73	Peak	Horizontal



MODE	TX channel 18900	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 56%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
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	3760.000	-44.70	-52.40	-13.00	-31.70	7.70	Peak	Vertical
2	5636.000	-51.19	-62.31	-13.00	-38.19	11.12	Peak	Vertical





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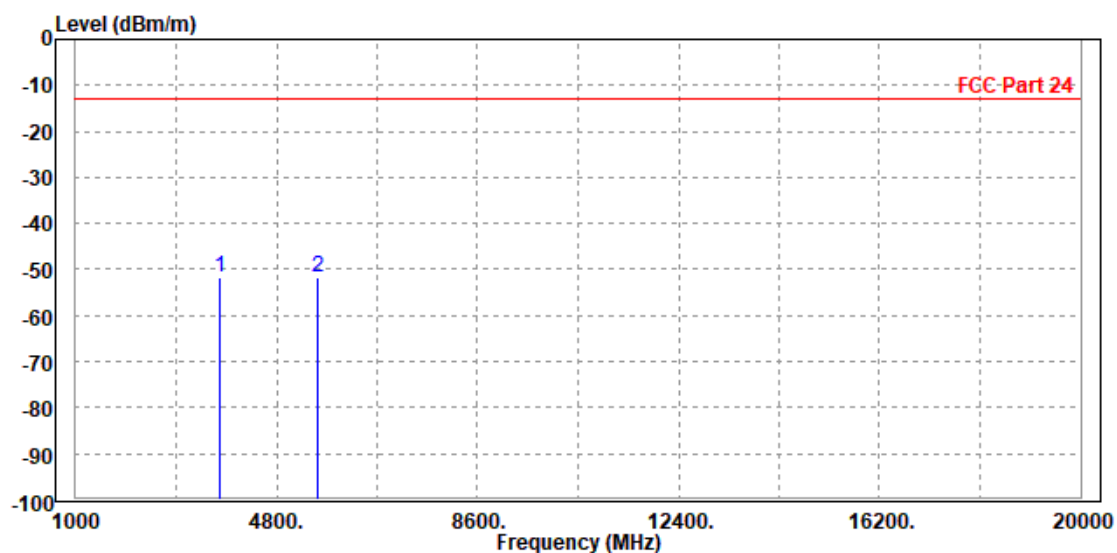
Test Report No.: W7L-P23010024RF05

CHANNEL BANDWIDTH: 10MHz / QPSK

CH 18650

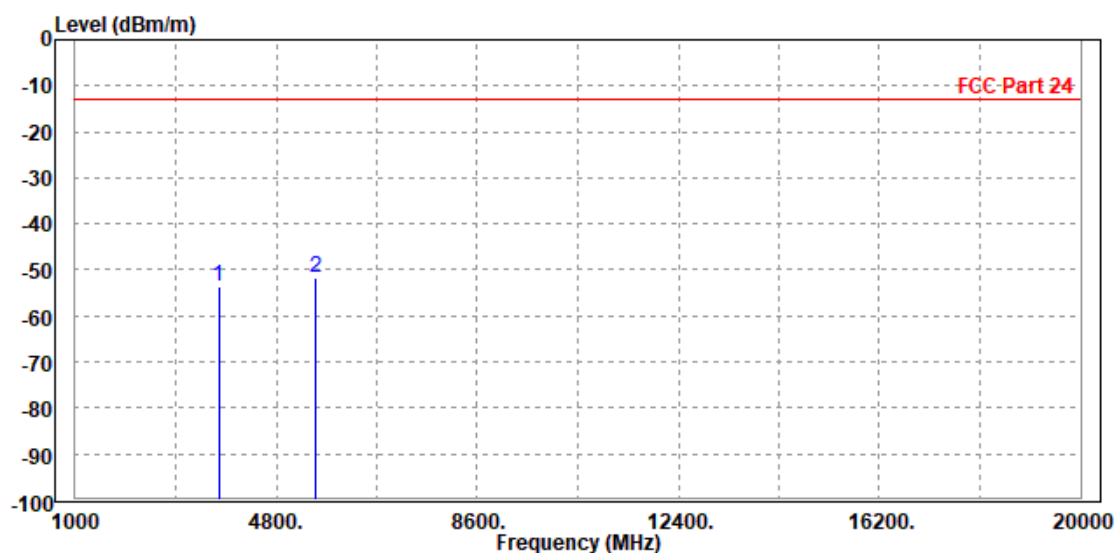
MODE	TX channel 18650	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 56%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP	3717.000	-51.66	-59.54	-13.00	-38.66	7.88	Peak	Horizontal
2		5565.000	-51.80	-62.40	-13.00	-38.80	10.60	Peak	Horizontal



MODE	TX channel 18650	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 56%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

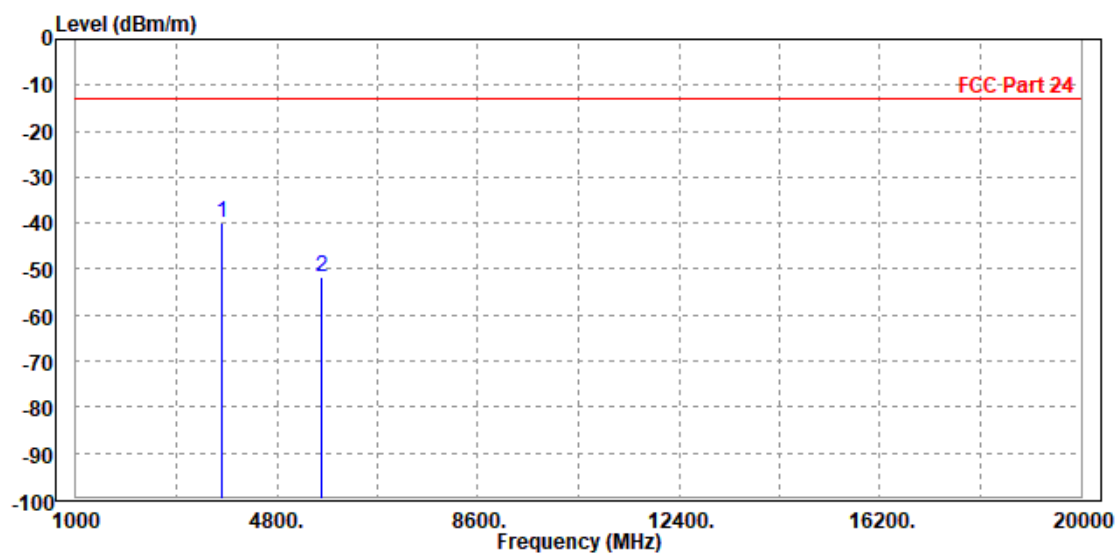
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3710.000	-53.68	-61.30	-13.00	-40.68	7.62	Peak	Vertical
2 PP	5560.000	-51.60	-62.50	-13.00	-38.60	10.90	Peak	Vertical



CH 18900

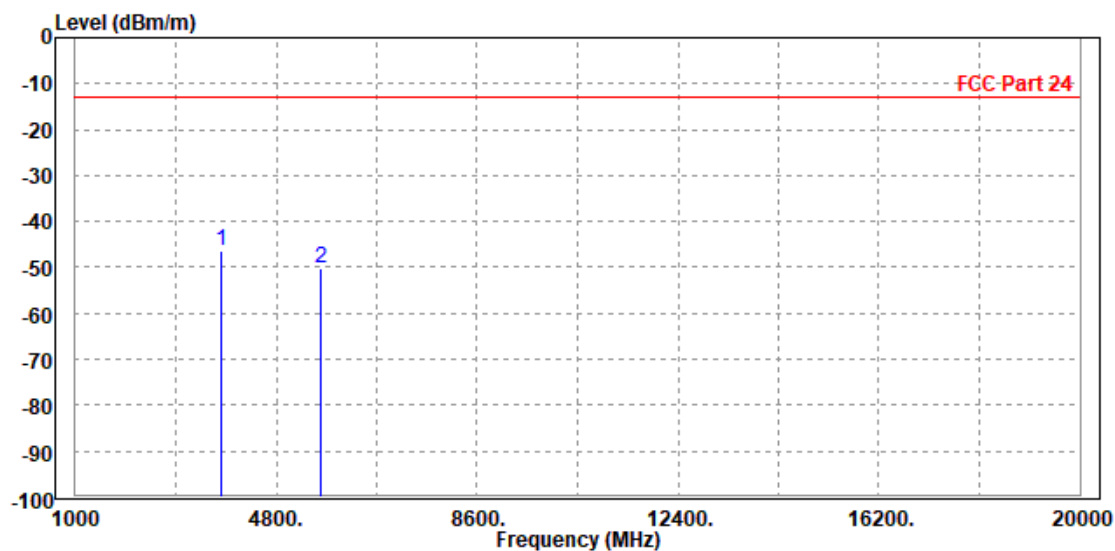
MODE	TX channel 18900	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 56%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP	3760.000	-39.79	-47.78	-13.00	-26.79	7.99	Peak	Horizontal
2		5636.000	-51.74	-62.47	-13.00	-38.74	10.73	Peak	Horizontal



MODE	TX channel 18900	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 56%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
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	3755.000	-46.21	-53.90	-13.00	-33.21	7.69	Peak	Vertical
2		5640.000	-50.21	-61.34	-13.00	-37.21	11.13	Peak	Vertical





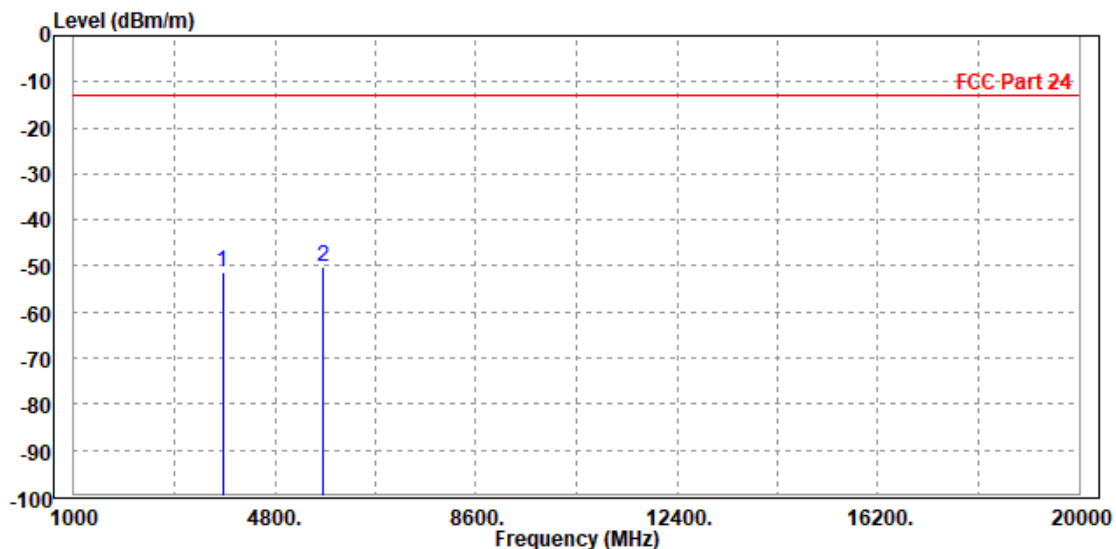
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Test Report No.: W7L-P23010024RF05

CH 19150

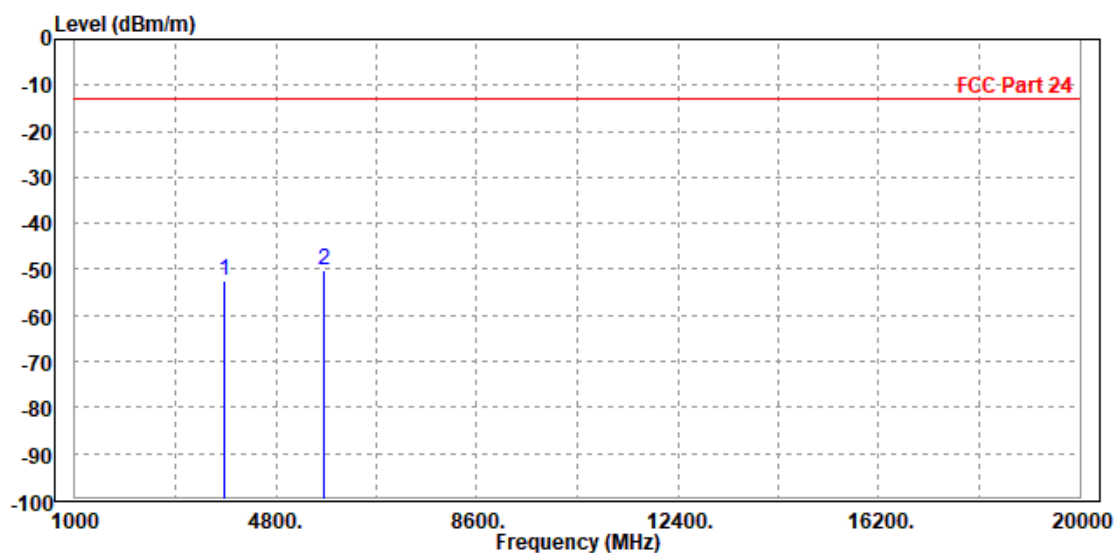
MODE	TX channel 19150	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 56%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	3810.000	-51.44	-59.56	-13.00	-38.44	8.12	Peak	Horizontal
2 PP	5712.000	-50.01	-60.89	-13.00	-37.01	10.88	Peak	Horizontal



MODE	TX channel 19150	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 56%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
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	3812.000	-52.43	-60.20	-13.00	-39.43	7.77	Peak	Vertical
2 PP	5715.000	-50.18	-61.52	-13.00	-37.18	11.34	Peak	Vertical





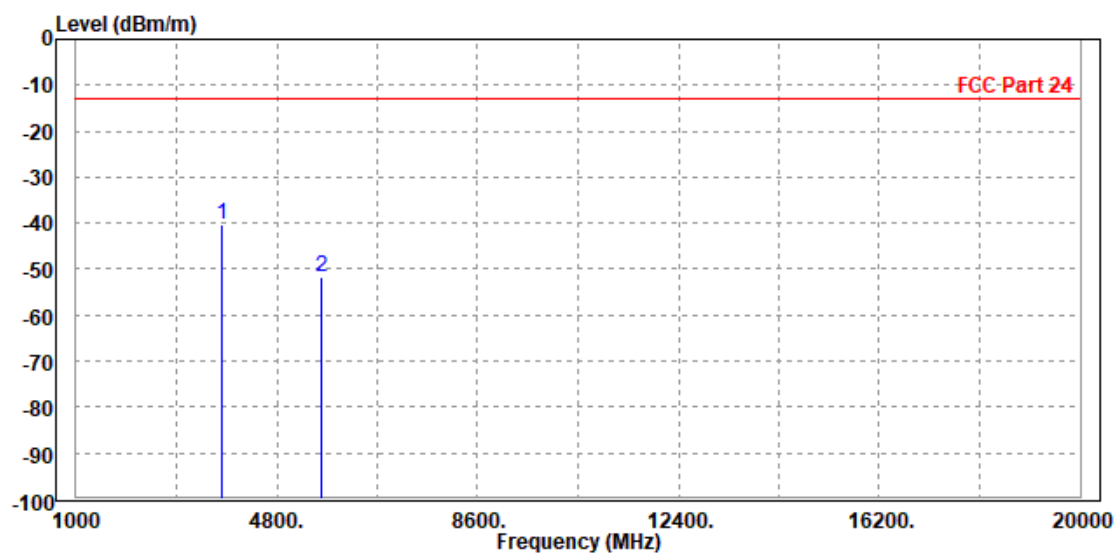
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Test Report No.: W7L-P23010024RF05

CHANNEL BANDWIDTH: 15MHz / QPSK

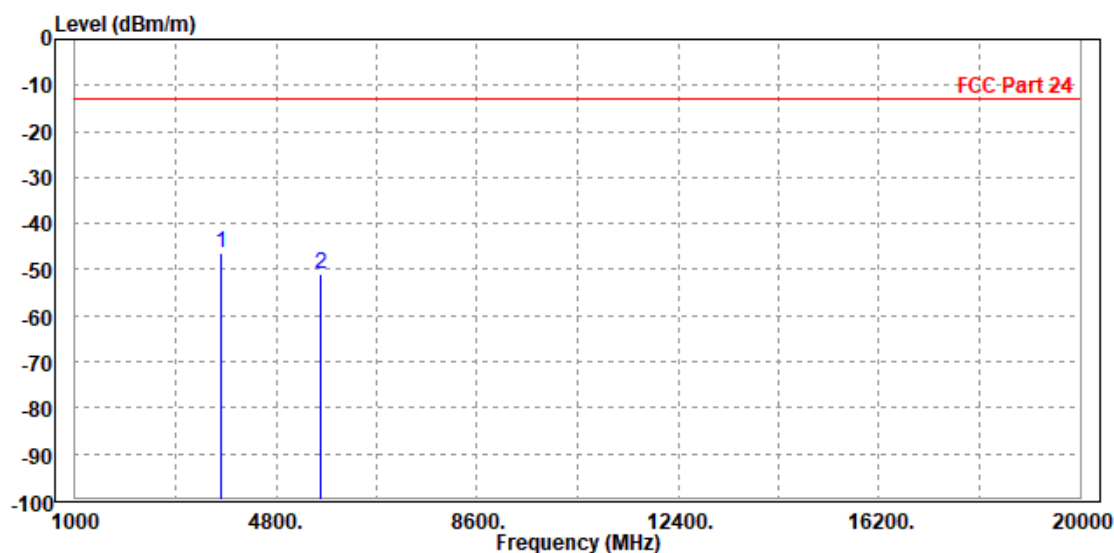
MODE	TX channel 18900	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 56%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

		Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
		MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP	3760.000	-40.16	-48.15	-13.00	-27.16	7.99	Peak	Horizontal
2		5636.000	-51.79	-62.52	-13.00	-38.79	10.73	Peak	Horizontal



MODE	TX channel 18900	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 56%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

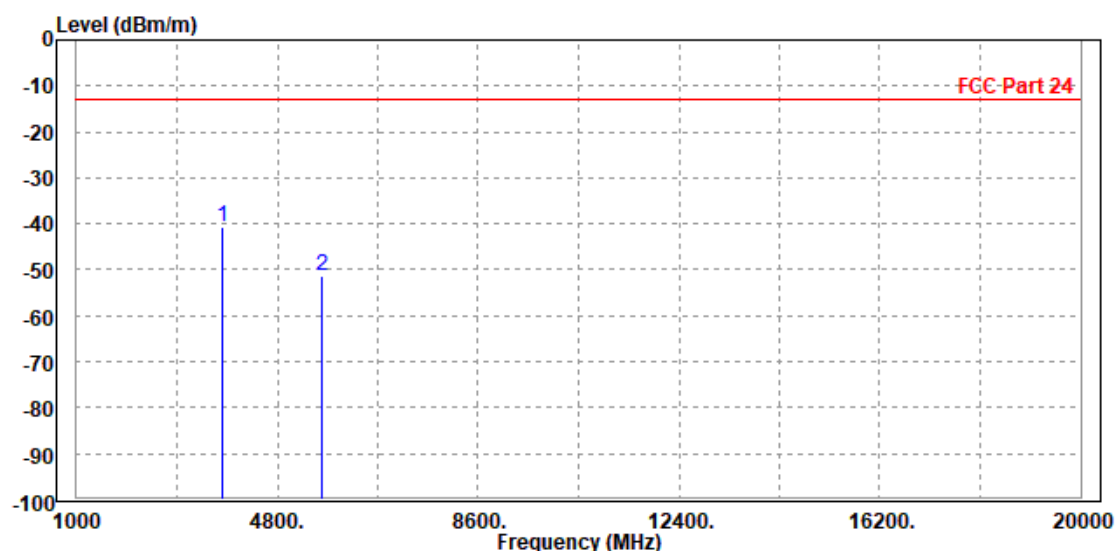
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1 PP	3755.000	-46.51	-54.20	-13.00	-33.51	7.69	Peak	Vertical
2	5640.000	-51.01	-62.14	-13.00	-38.01	11.13	Peak	Vertical



CHANNEL BANDWIDTH: 20MHz / QPSK

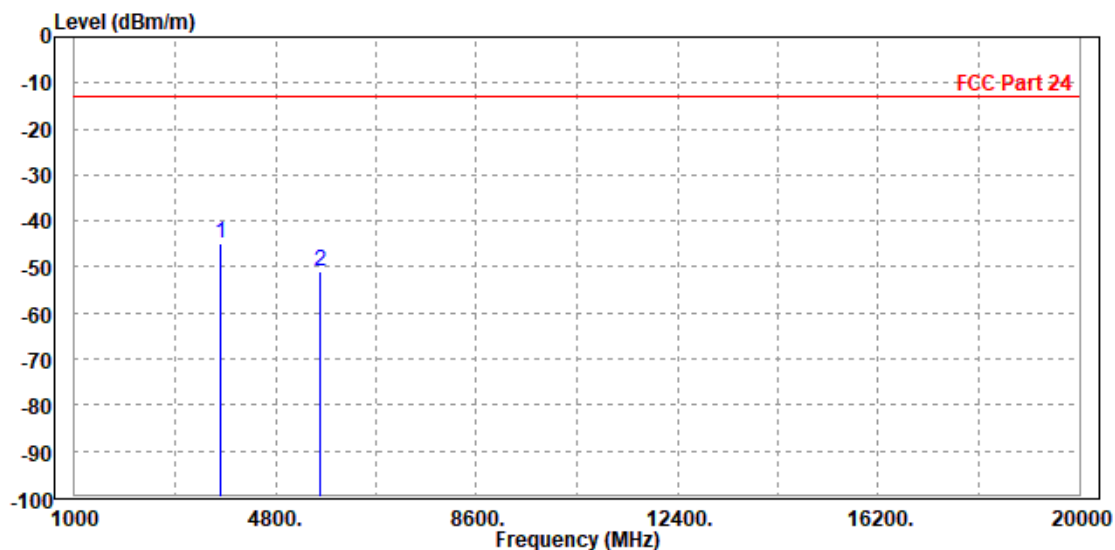
MODE	TX channel 18900	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 56%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP 3755.000	-40.67	-48.65	-13.00	-27.67	7.98	Peak	Horizontal
2	5640.000	-51.50	-62.24	-13.00	-38.50	10.74	Peak	Horizontal



MODE	TX channel 18900	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 56%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
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	3760.000	-44.70	-52.40	-13.00	-31.70	7.70	Peak	Vertical
2	5636.000	-51.02	-62.14	-13.00	-38.02	11.12	Peak	Vertical

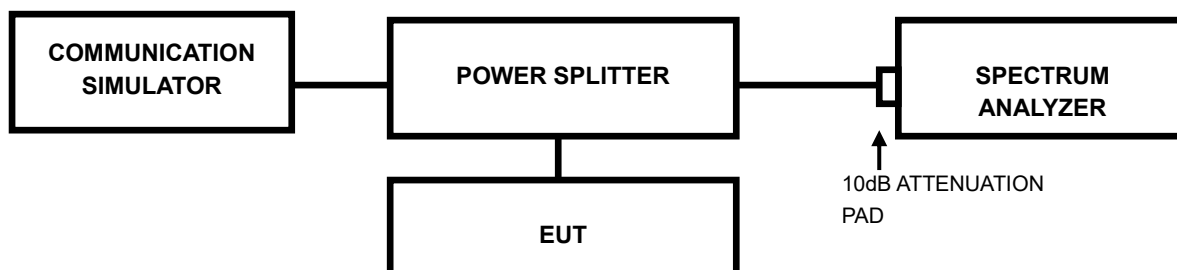


3.7 PEAK TO AVERAGE RATIO

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%.



Test Report No.: W7L-P23010024RF05

3.7.4 TEST RESULTS

Please Refer to Appendix Of this test report.



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Test Report No.: W7L-P23010024RF05

4 INFORMATION ON THE TESTING LABORATORIES

We, BV 7LAYERS COMMUNICATIONS TECHNOLOGY (SHENZHEN) CO. LTD., were founded in 2015 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved according to ISO/IEC 17025.

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

Shenzhen EMC/RF Lab:

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



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5 MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB

No any modifications are made to the EUT by the lab during the test.



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6 Appendix

WDCMA BAND2

PEAK-TO-AVERAGE RATIO

Test Result

Band	Channel	Peak-to-Average Ratio(dB)	Limit(dBm)	Verdict
Band2	9262	2.99	13	PASS
Band2	9400	3	13	PASS
Band2	9538	2.95	13	PASS

Test Graphs





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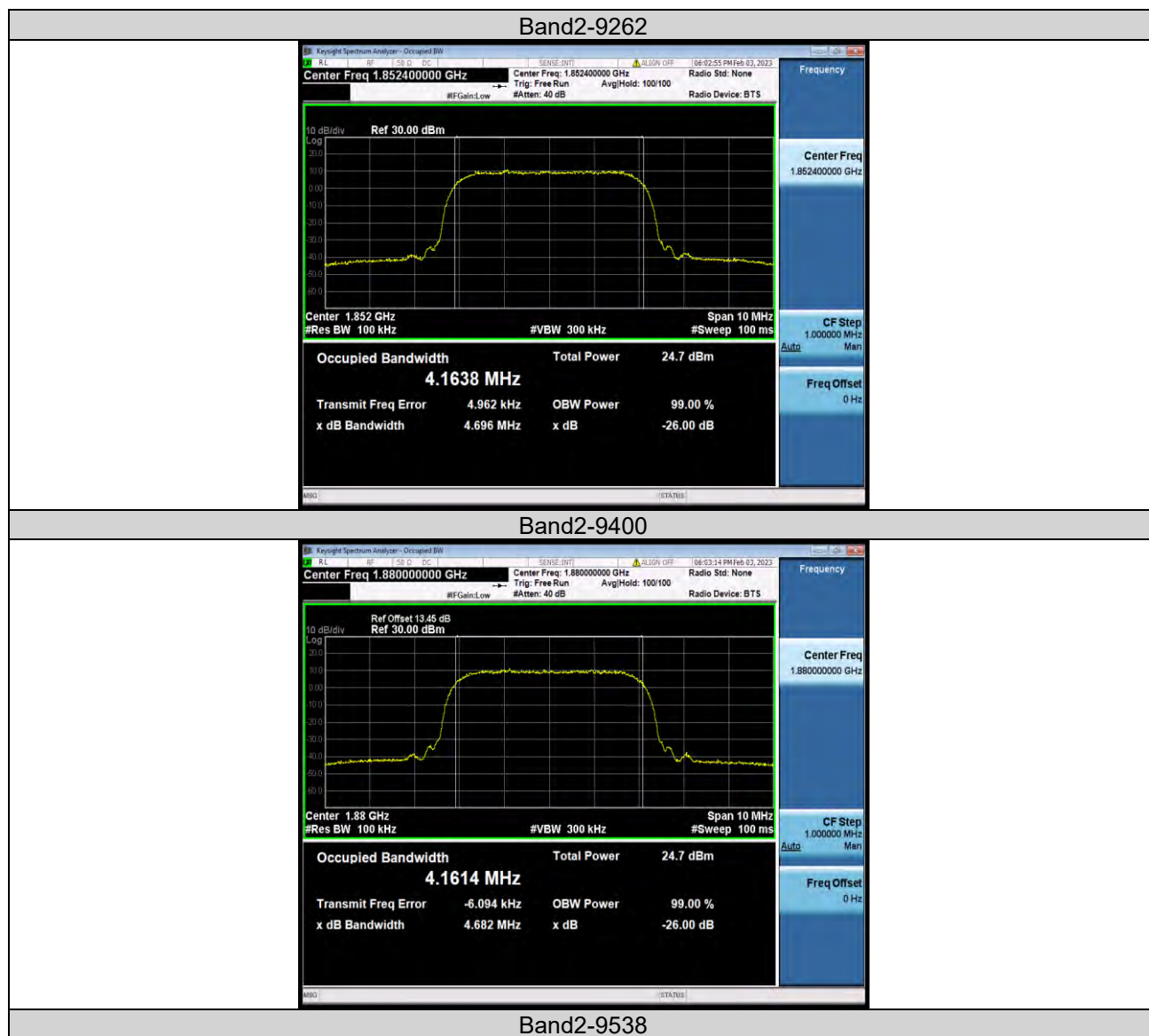


26DB BANDWIDTH AND OCCUPIED BANDWIDTH

Test Result

Band	Channel	Occupied Bandwidth (kHz)	26dB Bandwidth (kHz)	Limit(kHz)	Verdict
Band2	9262	4.1638	4.696	---	PASS
Band2	9400	4.1614	4.682	---	PASS
Band2	9538	4.1609	4.691	---	PASS

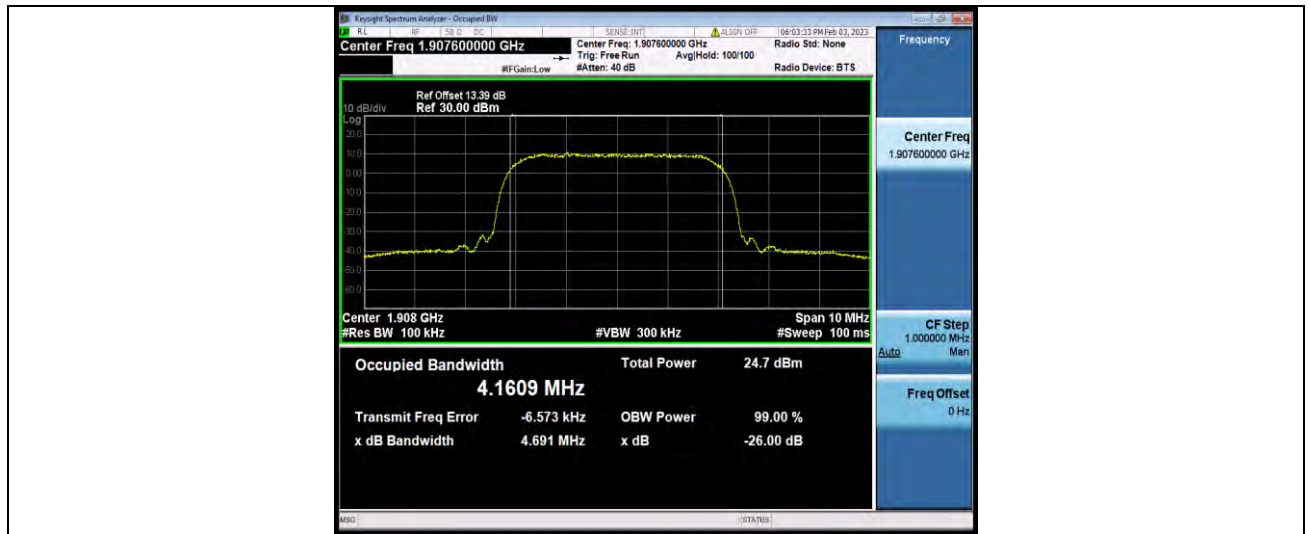
Test Graphs





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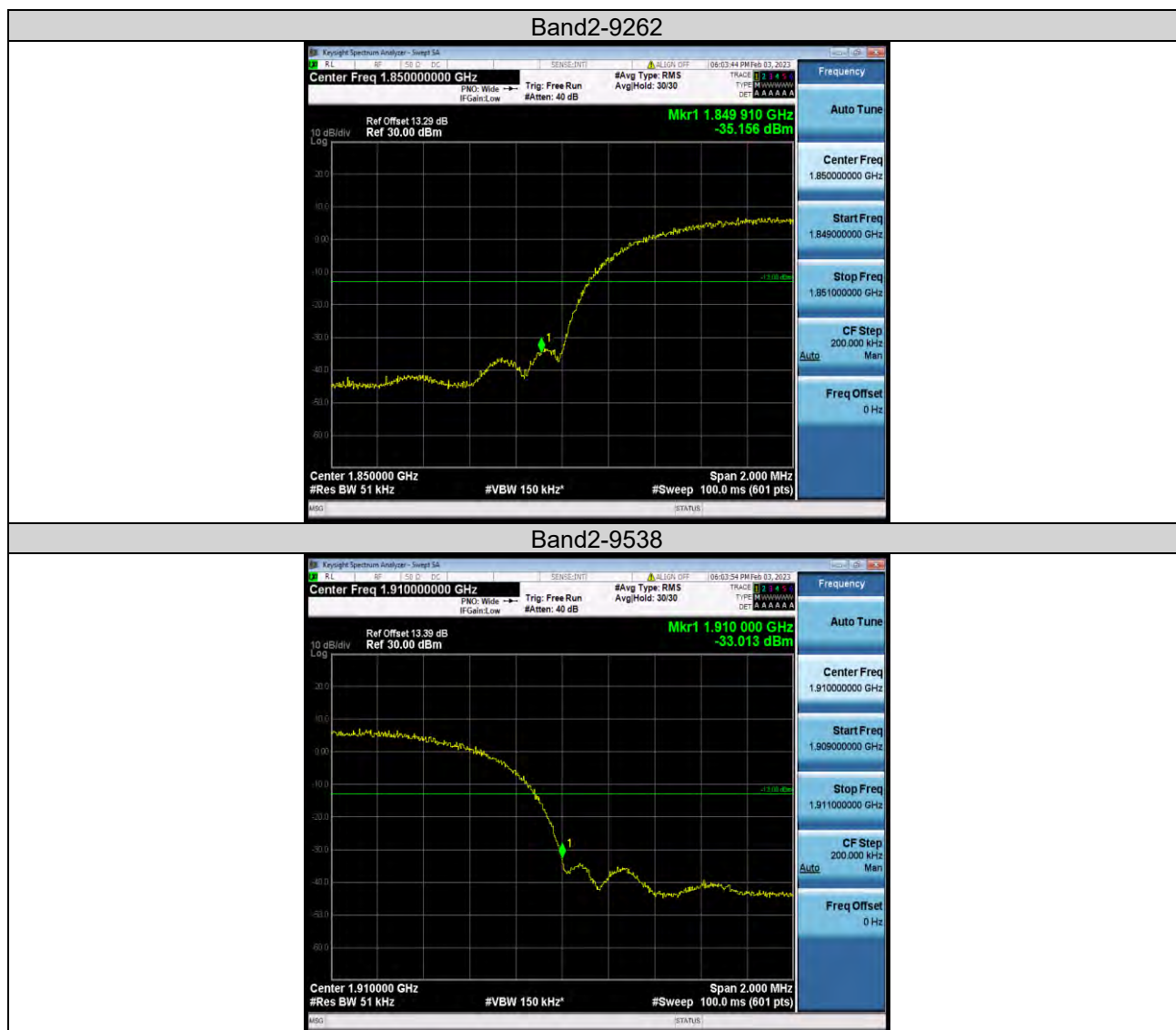
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BAND EDGE

Test Result

Band	Channel	Frequency (MHz)	Result (dBm)	Limit(dBm)	Verdict
Band2	9262	1849.91	-33.27	-13	PASS
Band2	9538	1910.00	-33.01	-13	PASS

Test Graphs

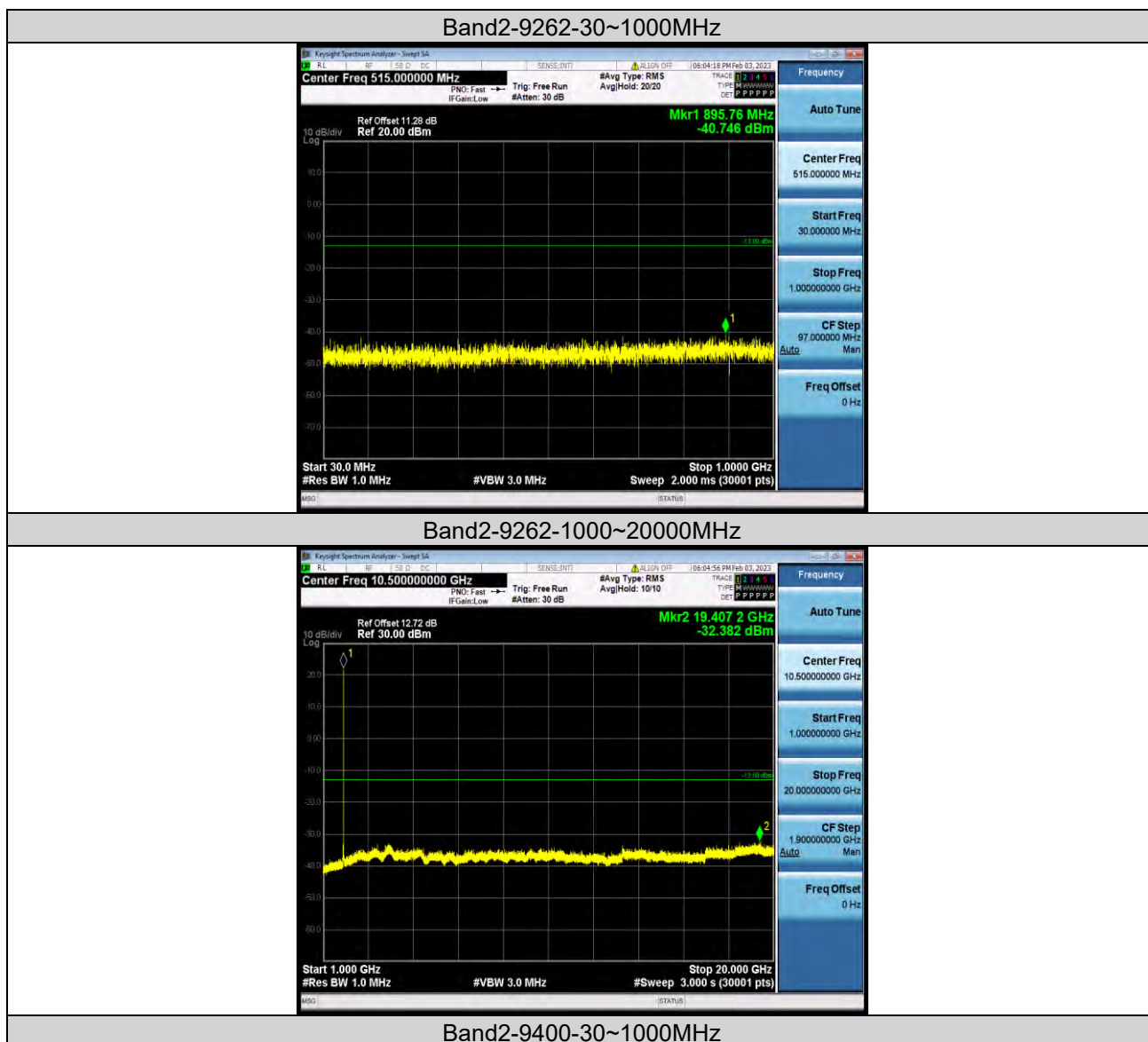


CONDUCTED SPURIOUS EMISSION

Test Result

Band	Channel	Frequency Range (Mhz)	Frequency (dBm)	Result (dBm)	Limit (dBm)	Verdict
Band2	9262	30~1000MHz	895.76	-40.75	-13	PASS
Band2	9262	1000~20000MHz	19407.2	-32.38	-13	PASS
Band2	9400	30~1000MHz	848.29	-40.58	-13	PASS
Band2	9400	1000~20000MHz	3893.7	-32.41	-13	PASS
Band2	9538	30~1000MHz	803.74	-41.1	-13	PASS
Band2	9538	1000~20000MHz	19278	-32.56	-13	PASS

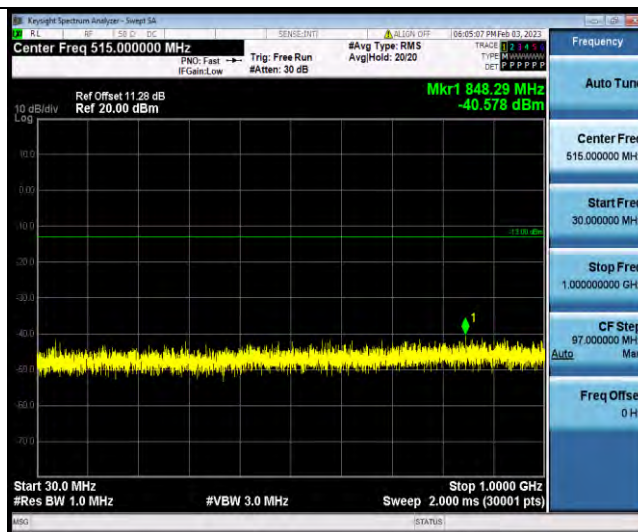
Test Graphs



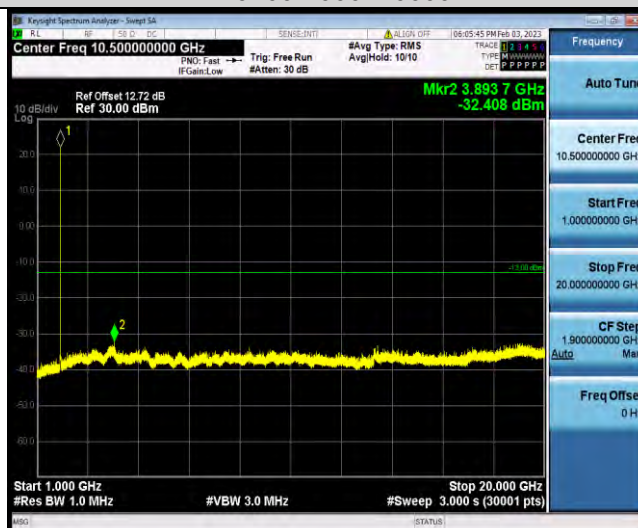


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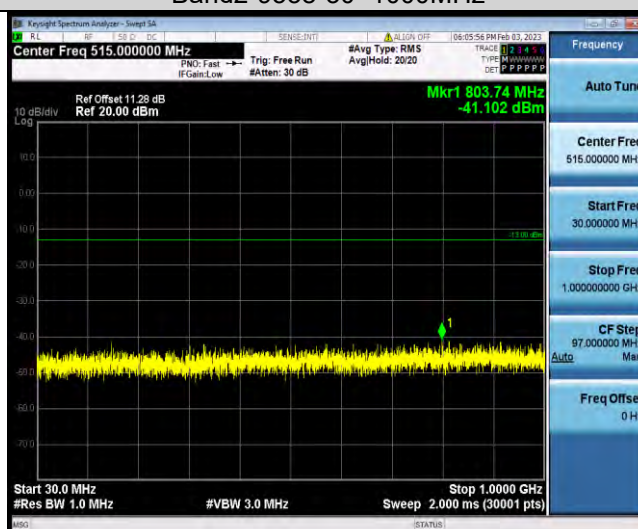
Test Report No.: W7L-P23010024RF05



Band2-9400-1000~20000MHz



Band2-9538-30~1000MHz



Band2-9538-1000~20000MHz