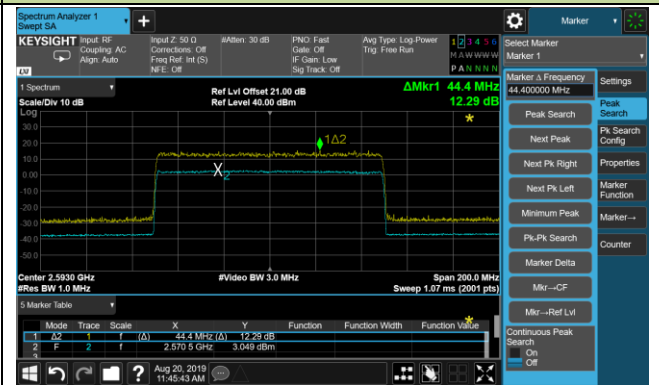


Peak to Average Ratio - Ant 3 (256QAM)

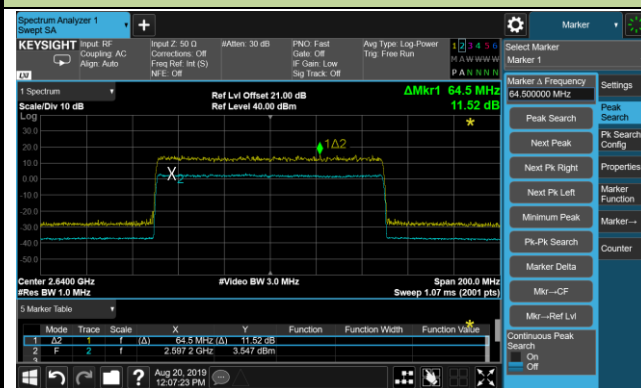
2546.0MHz



2593.0MHz



2640.0MHz



Product	AirScale Indoor Radio ASiR 5G-pRRH	Test Engineer	Larry Yan
Test Site	SR5	Test Date	2019/12/20
Test Item	Peak to Average Ratio, 60MHz Bandwidth		

Frequency (MHz)	Channel Bandwidth (MHz)	Peak to Average Ratio (dB)				Limit (dBm)	Result
		Ant 0	Ant 1	Ant 2	Ant 3		
QPSK							
2526.0	60	11.83	11.25	11.73	11.27	≤ 13.00	Pass
2593.0	60	11.97	11.61	12.28	12.18	≤ 13.00	Pass
2660.0	60	11.55	11.66	11.05	11.78	≤ 13.00	Pass
16QAM							
2526.0	60	11.72	11.47	12.07	11.71	≤ 13.00	Pass
2593.0	60	11.70	11.54	11.23	12.01	≤ 13.00	Pass
2660.0	60	11.86	11.92	11.94	11.31	≤ 13.00	Pass
64QAM							
2526.0	60	12.18	12.21	12.21	12.16	≤ 13.00	Pass
2593.0	60	11.99	11.81	12.17	12.03	≤ 13.00	Pass
2660.0	60	11.73	12.18	12.10	11.80	≤ 13.00	Pass
256QAM							
2526.0	60	11.37	11.55	11.87	11.65	≤ 13.00	Pass
2593.0	60	11.72	11.51	11.72	11.36	≤ 13.00	Pass
2660.0	60	11.64	11.55	11.58	11.53	≤ 13.00	Pass

Peak to Average Ratio - Ant 0 (QPSK)

2526.0MHz



2593.0MHz

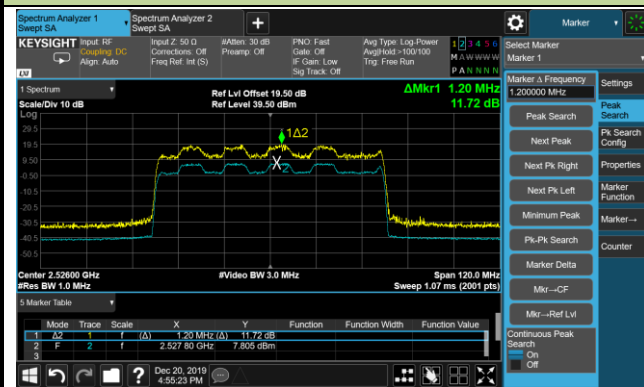


2660.0MHz



Peak to Average Ratio - Ant 0 (16QAM)

2526.0MHz



2593.0MHz

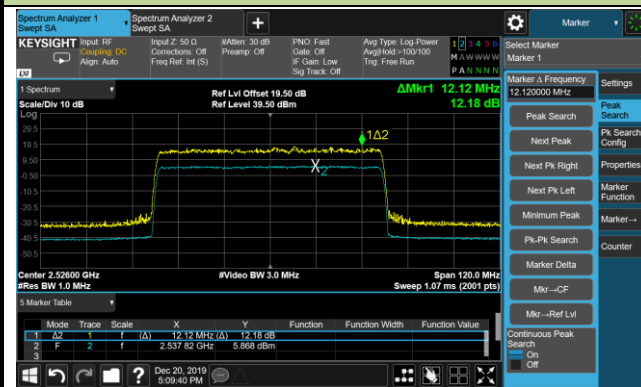


2660.0MHz

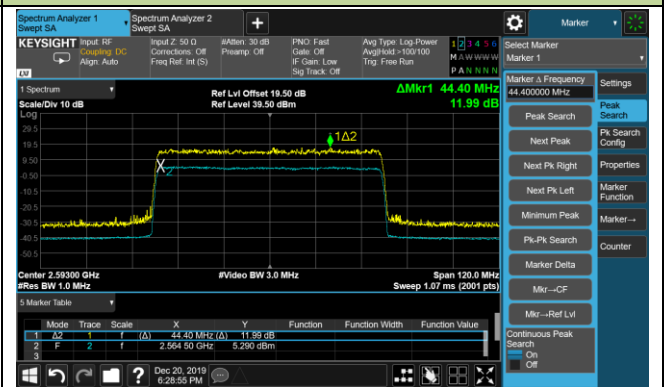


Peak to Average Ratio - Ant 0 (64QAM)

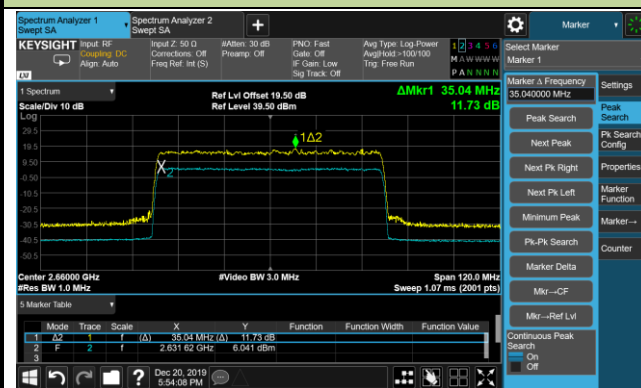
2526.0MHz



2593.0MHz

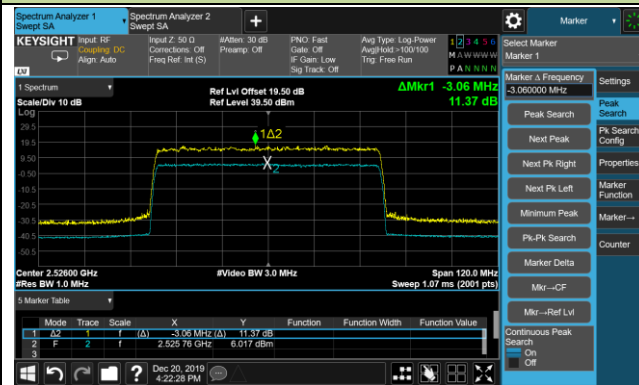


2660.0MHz

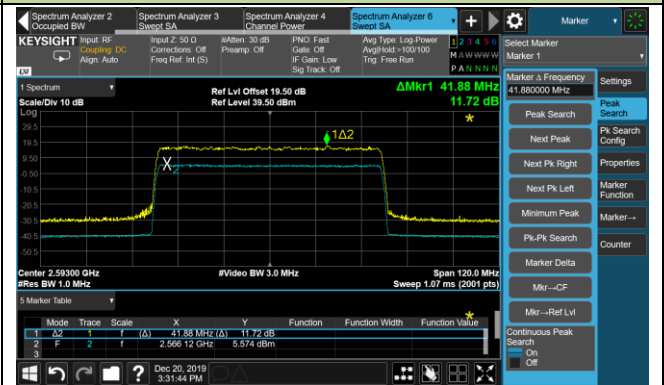


Peak to Average Ratio - Ant 0 (256QAM)

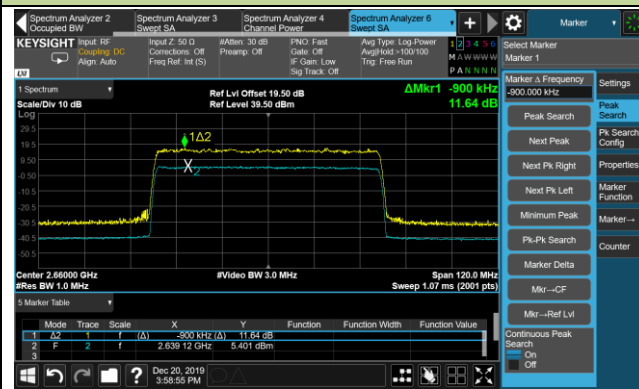
2526.0MHz



2593.0MHz



2660.0MHz



Peak to Average Ratio - Ant 1 (QPSK)

2526.0MHz



2593.0MHz

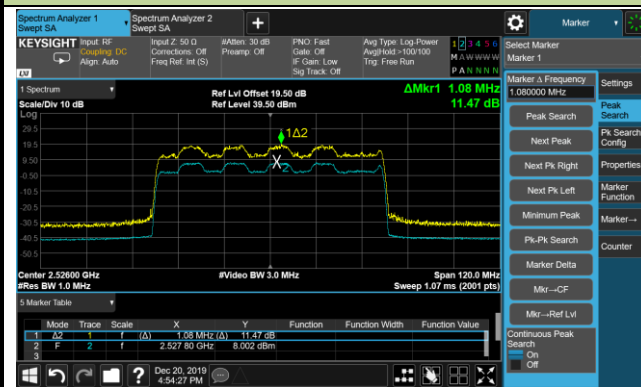


2660.0MHz



Peak to Average Ratio - Ant 1 (16QAM)

2526.0MHz



2593.0MHz

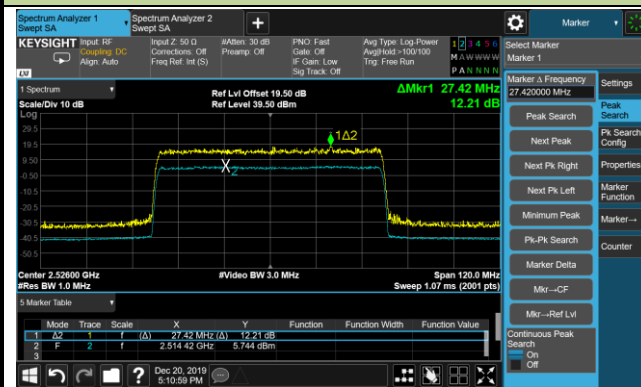


2660.0MHz



Peak to Average Ratio - Ant 1 (64QAM)

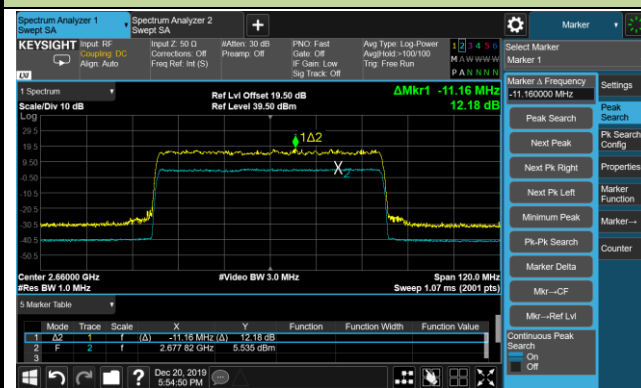
2526.0MHz



2593.0MHz

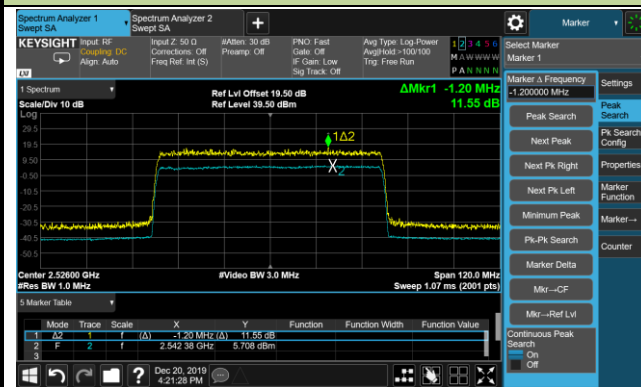


2660.0MHz

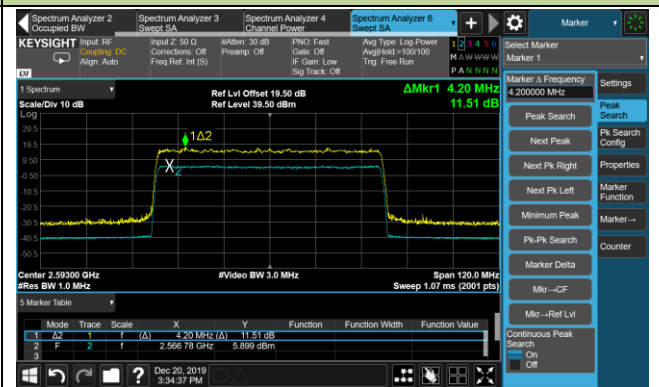


Peak to Average Ratio - Ant 1 (256QAM)

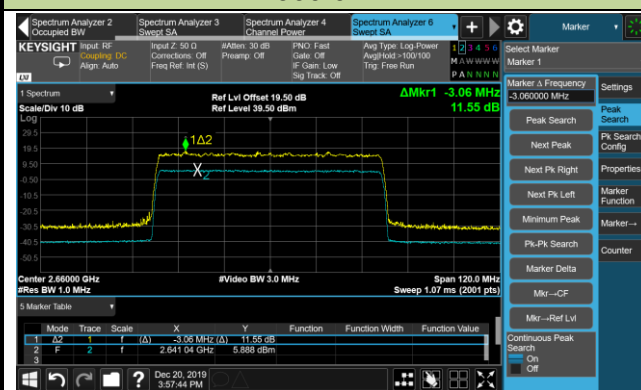
2526.0MHz



2593.0MHz



2660.0MHz



Peak to Average Ratio - Ant 2 (QPSK)

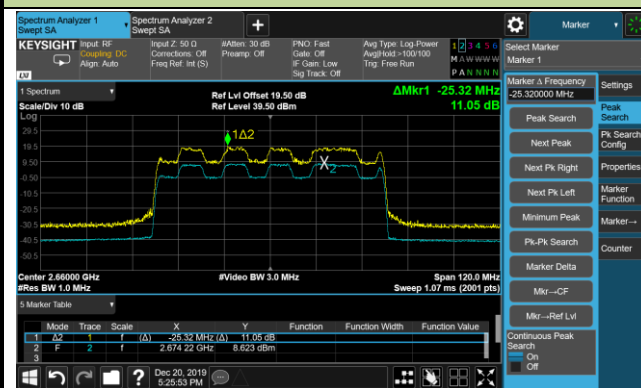
2526.0MHz



2593.0MHz



2660.0MHz



Peak to Average Ratio - Ant 2 (16QAM)

2526.0MHz



2593.0MHz

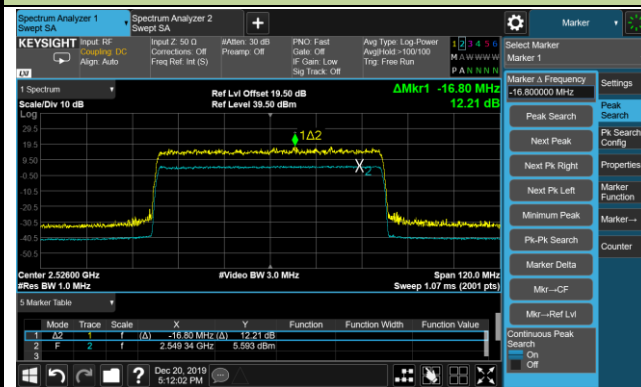


2660.0MHz



Peak to Average Ratio - Ant 2 (64QAM)

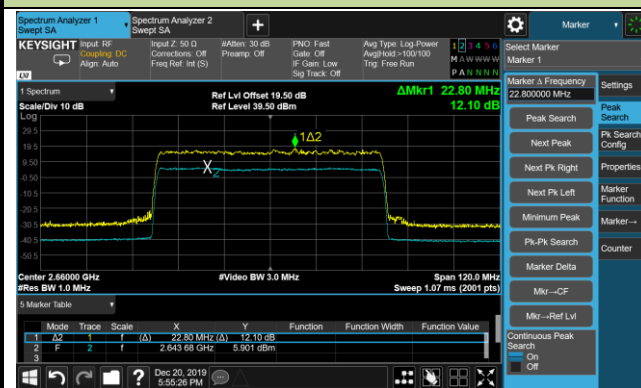
2526.0MHz



2593.0MHz



2660.0MHz



Peak to Average Ratio - Ant 2 (256QAM)

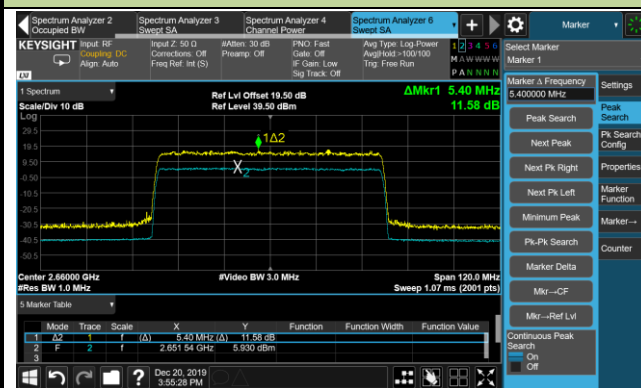
2526.0MHz



2593.0MHz

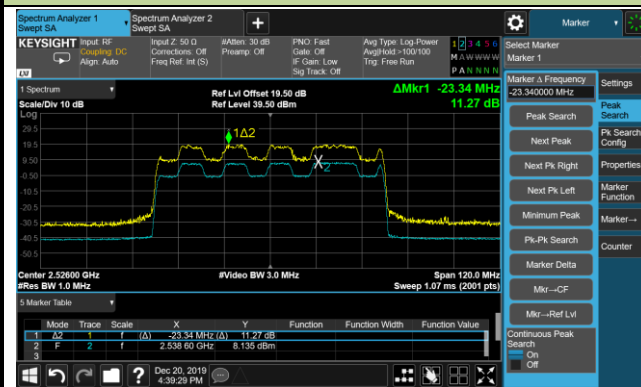


2660.0MHz



Peak to Average Ratio - Ant 3 (QPSK)

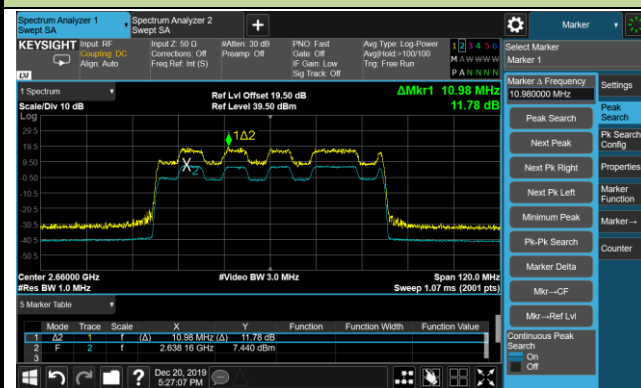
2526.0MHz



2593.0MHz



2660.0MHz



Peak to Average Ratio - Ant 3 (16QAM)

2526.0MHz



2593.0MHz



2660.0MHz



Peak to Average Ratio - Ant 3 (64QAM)

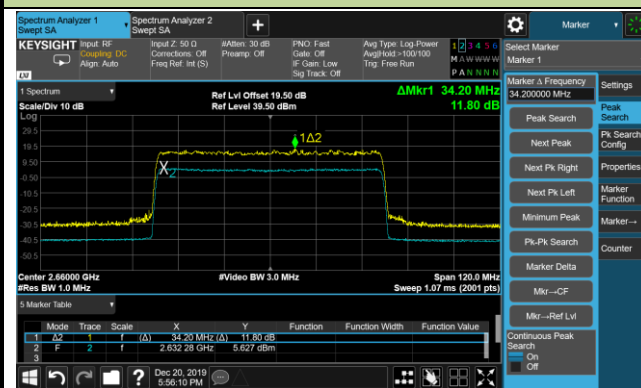
2526.0MHz



2593.0MHz

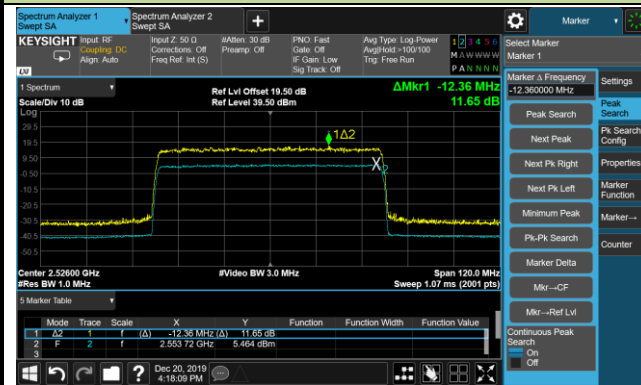


2660.0MHz

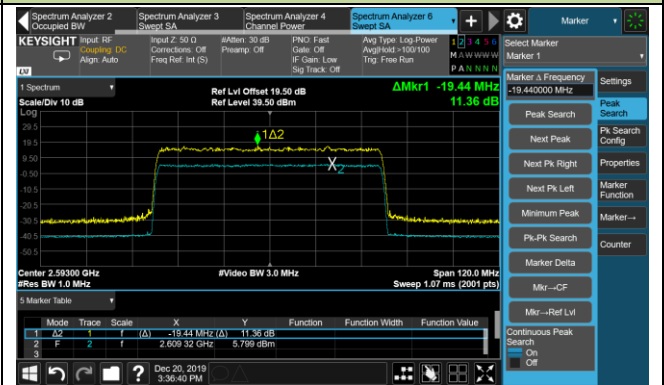


Peak to Average Ratio - Ant 3 (256QAM)

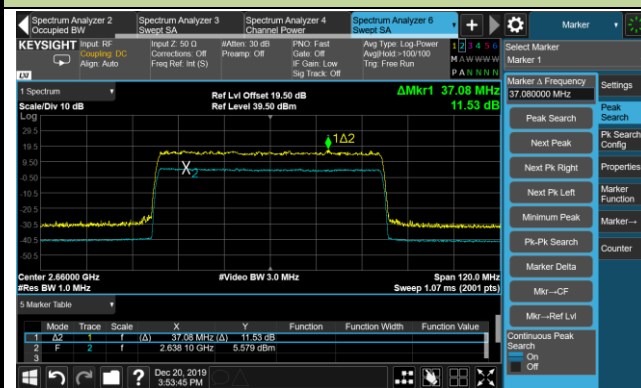
2526.0MHz



2593.0MHz



2660.0MHz



6.7. Conducted Spurious Emissions

6.7.1. Test Limit

For all fixed digital user stations, the attenuation factor shall be not less than $43 + 10 \log (P)$ dB at the channel edge.

Note: This device can be implement MIMO function, so the limit os spurious emissions needs to be reduced $10 \cdot \log(\text{Numbers}_{\text{Ant}})$ according to FCC KDB 662911 D01 guidance.

The UUT can operate in either 2*2 or 4*4 MIMO mode. The 4X4 MIMO limit is applied in this test report and is adjusted to $-13 \text{ dBm} - 10 \cdot \log (4) = -19.02 \text{ dBm}$, since it is more stringent than the 2*2 MIMO limit.

6.7.2. Test Procedure Used

KDB 971168 D01v03r01 - Section 6

ANSI C63.26-2015 - Section 6.4.4.2

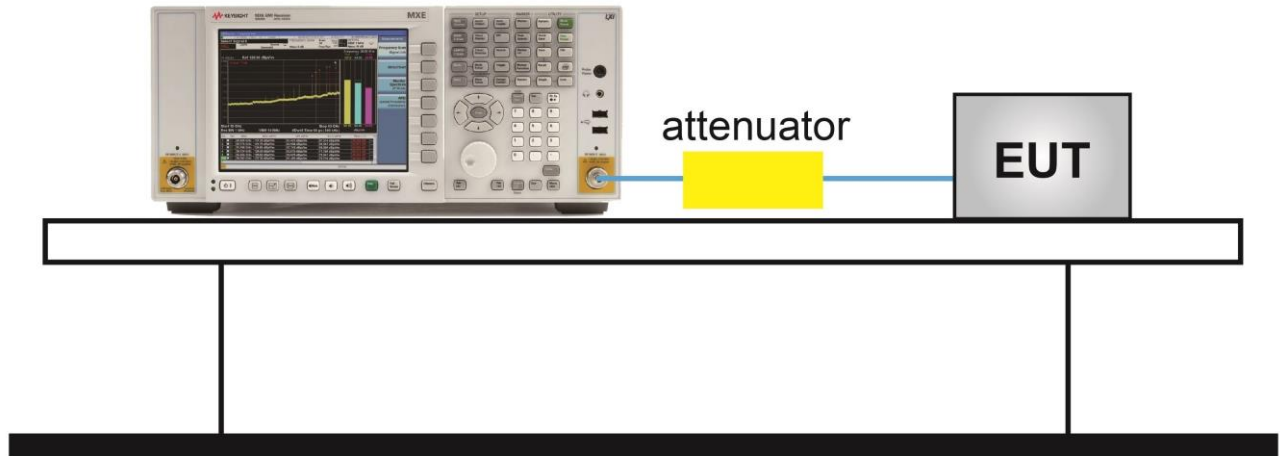
6.7.3. Test Setting

1. Set the analyzer frequency to low or high channel.
2. RBW = 100kHz or 1MHz
3. VBW $\geq 3 \cdot \text{RBW}$
4. Sweep time = auto
5. Detector = power averaging (rms)
6. Set sweep trigger to "free run."
7. Trace average at least 100 traces in power averaging (rms) mode if sweep is set to auto-couple.

To accurately determine the average power over the on and off time of the transmitter, it can be necessary to increase the number of traces to be averaged above 100, or if using a manually configured sweep time, increase the sweep time.

6.7.4.Test Setup

Spectrum Analyzer



6.7.5. Test Result

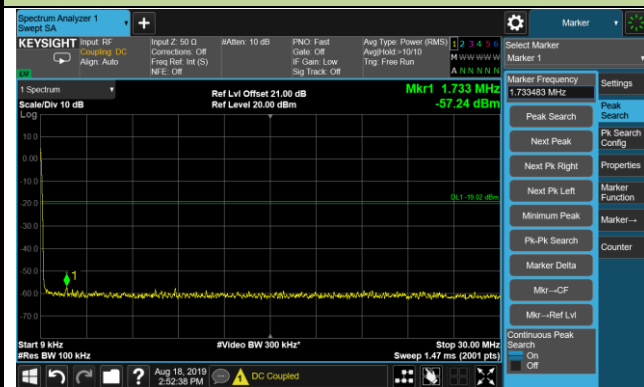
Product	AirScale Indoor Radio ASiR 5G-pRRH	Test Engineer	Peter Xu
Test Site	SR2	Test Date	2019/08/18 ~ 2019/08/19
Test Item	Conducted Spurious Emissions, 100MHz Bandwidth		

Frequency (MHz)	Channel Bandwidth (MHz)	Frequency Range (MHz)	Max Spurious Emissions (dBm)				Limit (dBm)	Result
			Ant 0	Ant 1	Ant 2	Ant 3		
QPSK								
2546.0	100	0.009 ~ 30	-57.24	-58.26	-55.40	-56.55	≤ -19.02	Pass
		30 ~ 27000	-31.40	-31.60	-32.97	-32.02	≤ -19.02	Pass
2593.0	100	0.009 ~ 30	-56.22	-57.99	-57.86	-56.67	≤ -19.02	Pass
		30 ~ 27000	-32.52	-31.43	-31.98	-31.93	≤ -19.02	Pass
2640.0	100	0.009 ~ 30	-56.06	-57.08	-56.78	-57.04	≤ -19.02	Pass
		30 ~ 27000	-32.91	-31.09	-32.17	-30.91	≤ -19.02	Pass
16QAM								
2546.0	100	0.009 ~ 30	-56.44	-55.69	-57.78	-56.98	≤ -19.02	Pass
		30 ~ 27000	-30.99	-32.99	-32.54	-32.01	≤ -19.02	Pass
2593.0	100	0.009 ~ 30	-57.08	-56.60	-57.61	-56.19	≤ -19.02	Pass
		30 ~ 27000	-32.50	-32.41	-33.17	-32.78	≤ -19.02	Pass
2640.0	100	0.009 ~ 30	-57.63	-56.58	-57.75	-57.95	≤ -19.02	Pass
		30 ~ 27000	-31.98	-31.76	-32.29	-32.80	≤ -19.02	Pass
64QAM								
2546.0	100	0.009 ~ 30	-57.53	-58.46	-57.76	-56.71	≤ -19.02	Pass
		30 ~ 27000	-32.13	-31.72	-31.50	-32.17	≤ -19.02	Pass
2593.0	100	0.009 ~ 30	-55.96	-57.91	-57.85	-56.82	≤ -19.02	Pass
		30 ~ 27000	-32.38	-31.19	-32.31	-32.63	≤ -19.02	Pass
2640.0	100	0.009 ~ 30	-58.27	-58.29	-57.67	-57.76	≤ -19.02	Pass
		30 ~ 27000	-32.49	-32.55	-31.38	-31.62	≤ -19.02	Pass
256QAM								
2546.0	100	0.009 ~ 30	-55.41	-57.15	-55.11	-56.99	≤ -19.02	Pass
		30 ~ 27000	-32.10	-31.80	-33.22	-32.39	≤ -19.02	Pass
2593.0	100	0.009 ~ 30	-55.03	-57.44	-55.20	-58.09	≤ -19.02	Pass
		30 ~ 27000	-31.86	-31.86	-32.85	-32.00	≤ -19.02	Pass
2640.0	100	0.009 ~ 30	-59.54	-58.18	-57.52	-58.03	≤ -19.02	Pass
		30 ~ 27000	-33.47	-32.81	-32.21	-31.98	≤ -19.02	Pass

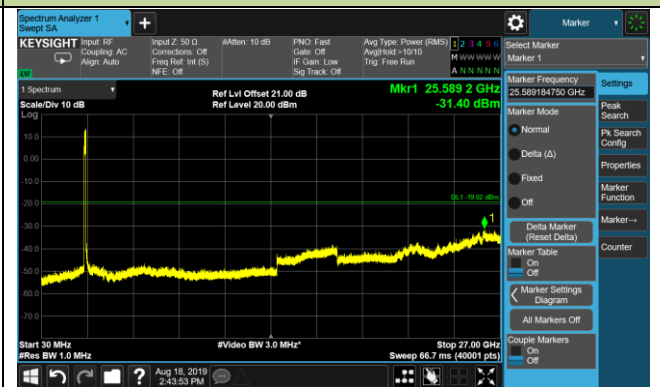
Conducted Spurious Emissions - Ant 0 (QPSK)

2546.0MHz

9kHz ~ 30MHz

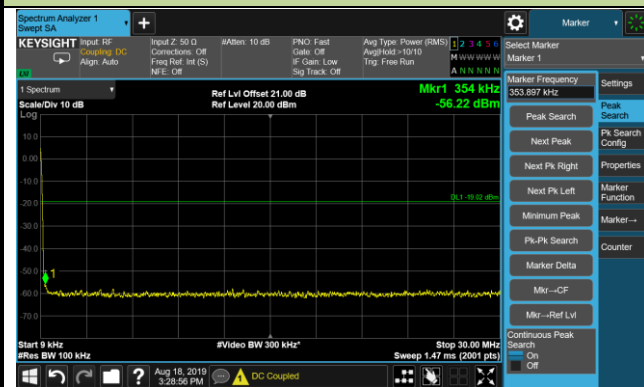


30MHz ~ 27.0GHz



2593.0MHz

9kHz ~ 30MHz

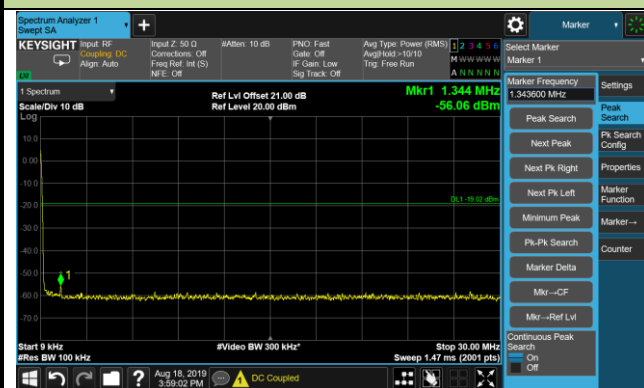


30MHz ~ 27.0GHz



2640.0MHz

9kHz ~ 30MHz



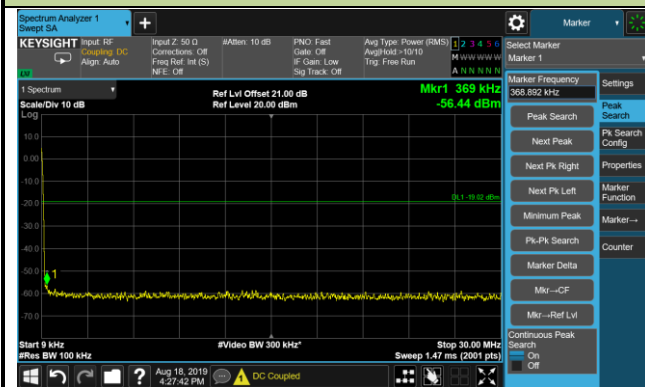
30MHz ~ 27.0GHz



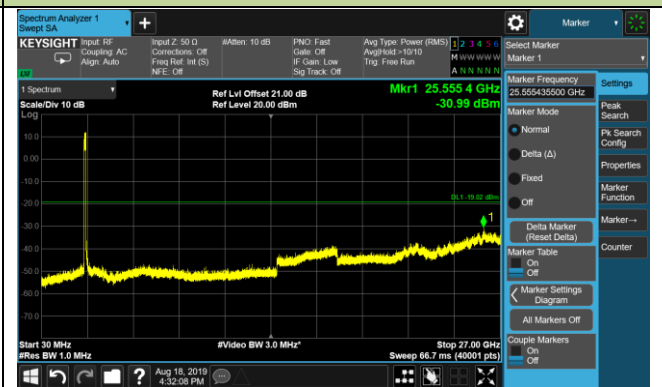
Conducted Spurious Emissions - Ant 0 (16QAM)

2546.0MHz

9kHz ~ 30MHz

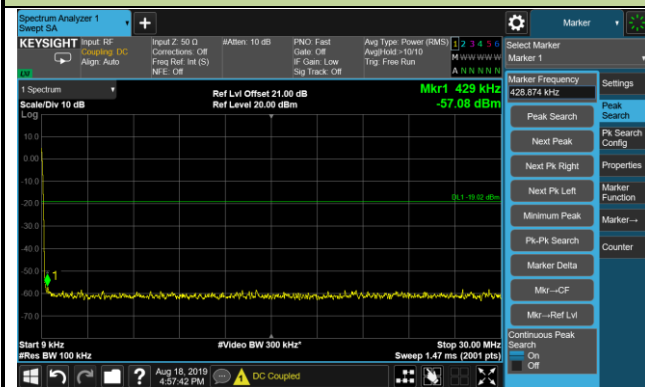


30MHz ~ 27.0GHz

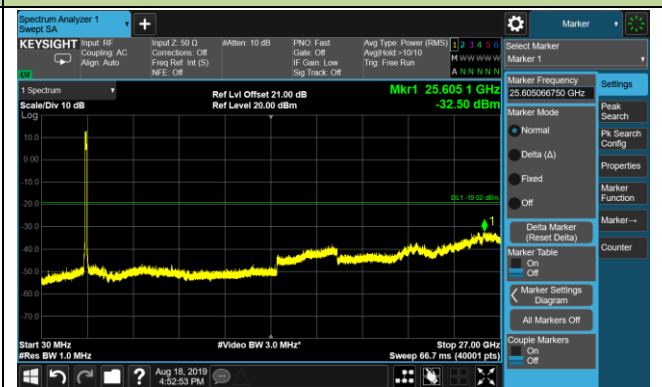


2593.0MHz

9kHz ~ 30MHz

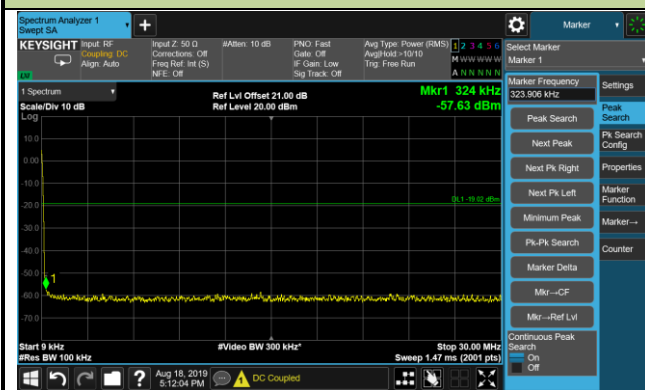


30MHz ~ 27.0GHz



2640.0MHz

9kHz ~ 30MHz



30MHz ~ 27.0GHz

