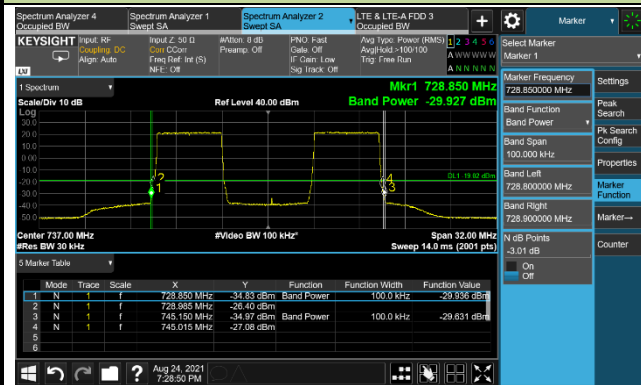
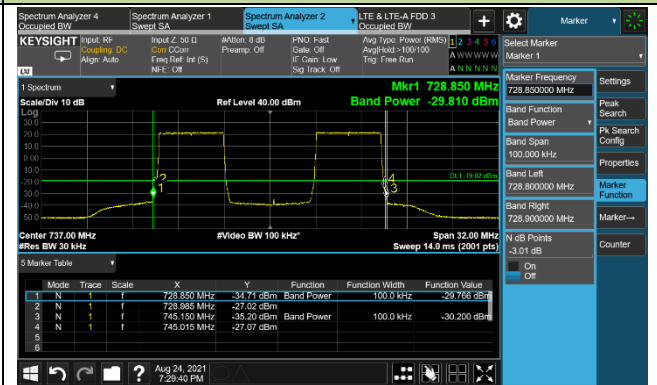


5 + GAP6 + 5MHz Channel Bandwidth - Middle Channel

Ant 1

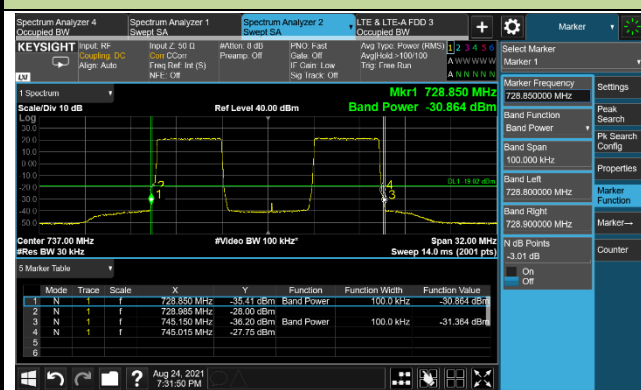


Ant 2

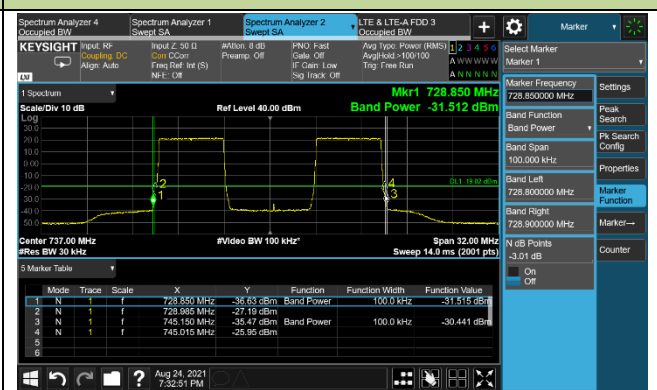


5 + GAP6 + 5MHz Channel Bandwidth - Middle Channel

Ant 3

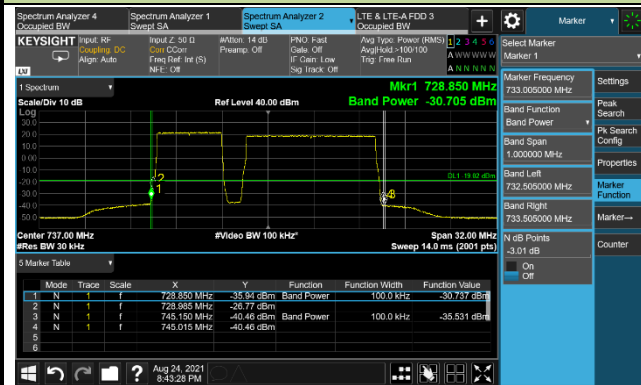


Ant 4

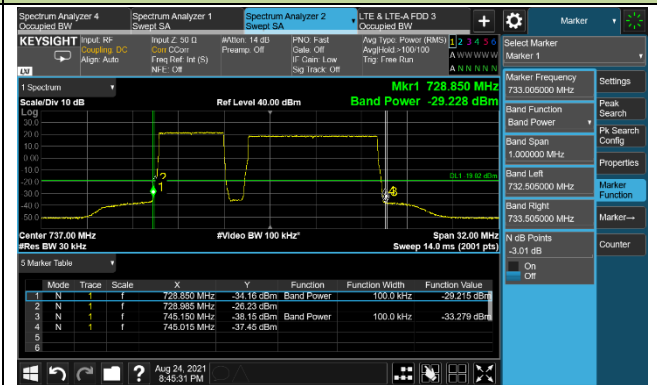


5 + GAP1 + 10MHz Channel Bandwidth - Middle Channel

Ant 1

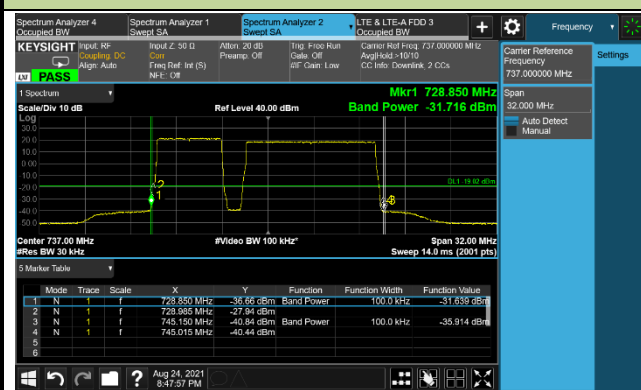


Ant 2

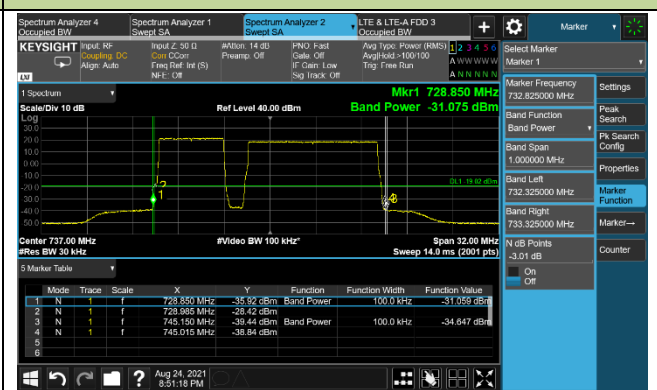


5 + GAP1 + 10MHz Channel Bandwidth - Middle Channel

Ant 3



Ant 4



4.6. Conducted Spurious Emissions

4.6.1. Test Limit

In the FCC 27.53(g), on any frequency outside a licensee's frequency block, the power of any emission shall be attenuated below the transmitter power (P) at least $43 + 10 \cdot \log(P)$ dB, the emission limit equal to -13dBm.

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 limit is adjusted to $-13\text{dBm} - 10 \cdot \log(4) = -19.02\text{dBm}$

4.6.2. Test Procedure Used

KDB 971168 D01v03r01 - Section 6

ANSI C63.26-2015 - Section 6.4.4.2

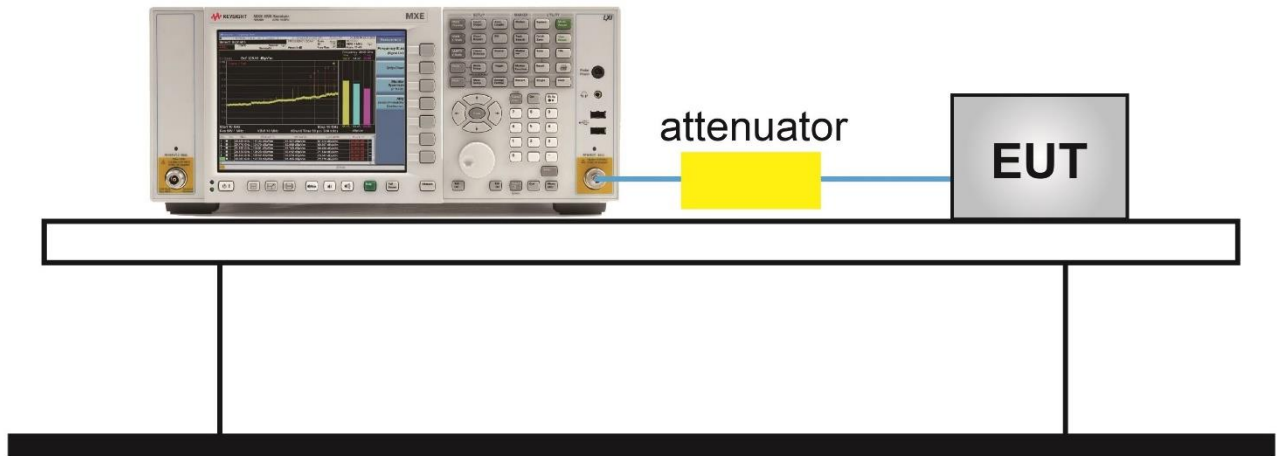
4.6.3. Test Setting

1. Set the analyzer frequency to low or high channel.
2. RBW = 100kHz
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.

4.6.4. Test Setup

Spectrum Analyzer



4.6.5. Test Result

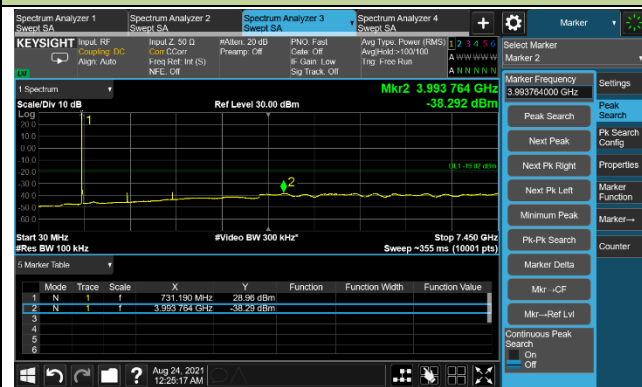
Product	B12 4T4R 160W Radio Unit	Test Engineer	Larry Yan
Test Site	WZ-SR6	Test Date	2021/08/24
Test Configuration	LTE Band 12 (Single Carrier), QPSK		

Frequency (MHz)	Channel Bandwidth (MHz)	Frequency Range (MHz)	Max Spurious Emissions (dBm/100kHz)	Limit (dBm/100kHz)	Result
731.5	5	30 ~ 7450	-38.29	≤ -19.02	Pass
737.0	5	30 ~ 7450	-38.02	≤ -19.02	Pass
742.5	5	30 ~ 7450	-36.63	≤ -19.02	Pass
734.0	10	30 ~ 7450	-38.29	≤ -19.02	Pass
737.0	10	30 ~ 7450	-38.13	≤ -19.02	Pass
740.0	10	30 ~ 7450	-38.44	≤ -19.02	Pass
736.5	15	30 ~ 7450	-33.86	≤ -19.02	Pass
737.0	15	30 ~ 7450	-34.95	≤ -19.02	Pass
737.5	15	30 ~ 7450	-34.18	≤ -19.02	Pass
731.5+736.5	5 + 5	30 ~ 7450	-40.37	≤ -19.02	Pass
734.5+739.5	5 + 5	30 ~ 7450	-38.04	≤ -19.02	Pass
737.5 +742.5	5 + 5	30 ~ 7450	-38.42	≤ -19.02	Pass
731.5+739.0	5 + 10	30 ~ 7450	-37.89	≤ -19.02	Pass
732.5+739.5	5 + 10	30 ~ 7450	-37.66	≤ -19.02	Pass
732.5+740.0	5 + 10	30 ~ 7450	-37.79	≤ -19.02	Pass
731.5+742.5	5 + GAP6 + 5	30 ~ 7450	-38.44	≤ -19.02	Pass
731.5+740.0	5 + GAP1 + 10	30 ~ 7450	-38.29	≤ -19.02	Pass

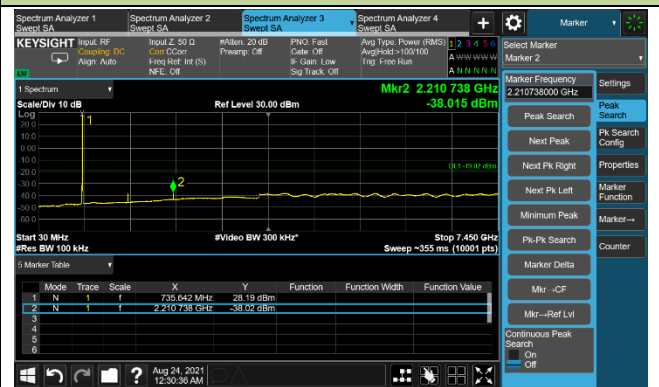
Note: The amplitude of spurious emissions which are attenuated more than 20 dB below the permissible value need not be reported.

5MHz Channel Bandwidth

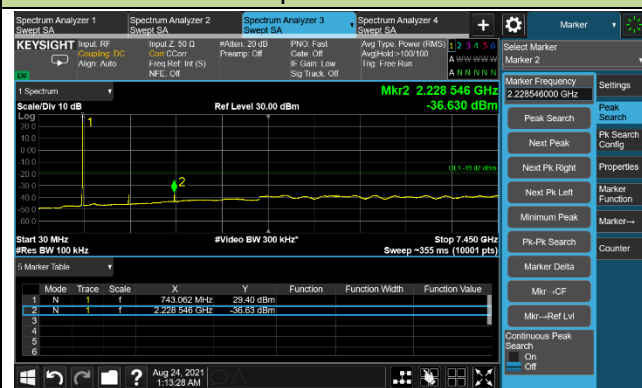
Bottom Channel



Middle Channel

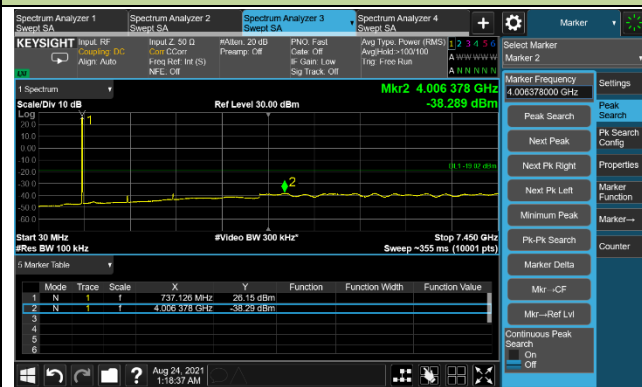


Top Channel

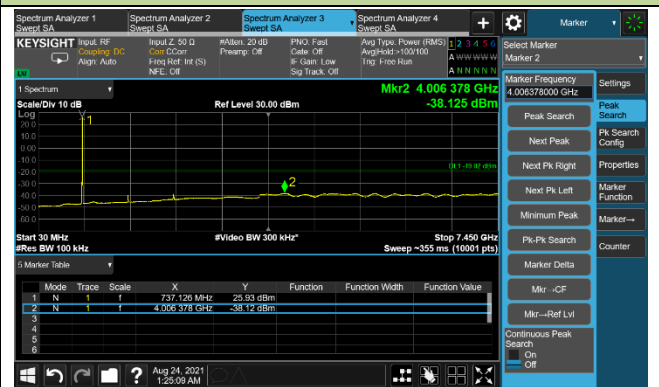


10MHz Channel Bandwidth

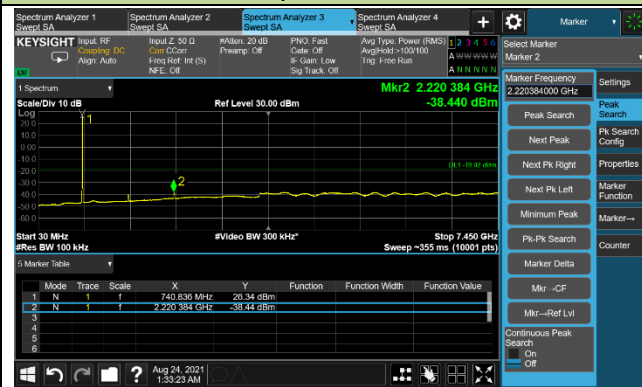
Bottom Channel



Middle Channel

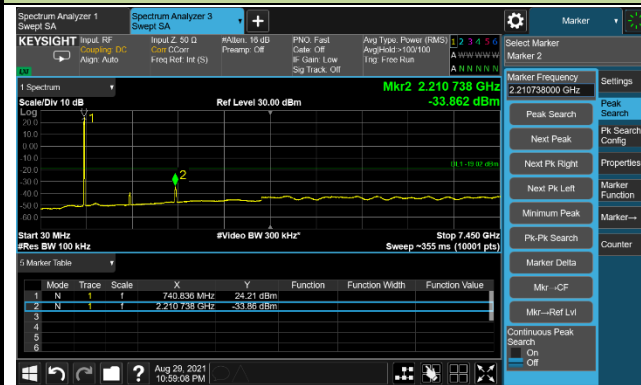


Top Channel

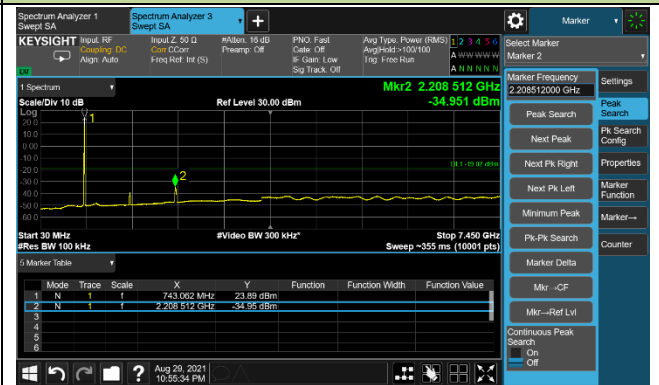


15MHz Channel Bandwidth

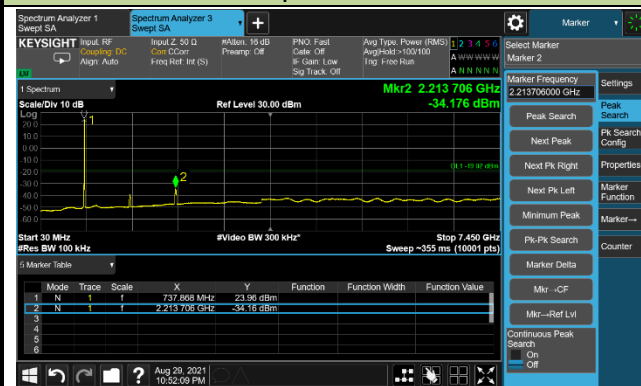
Bottom Channel



Middle Channel

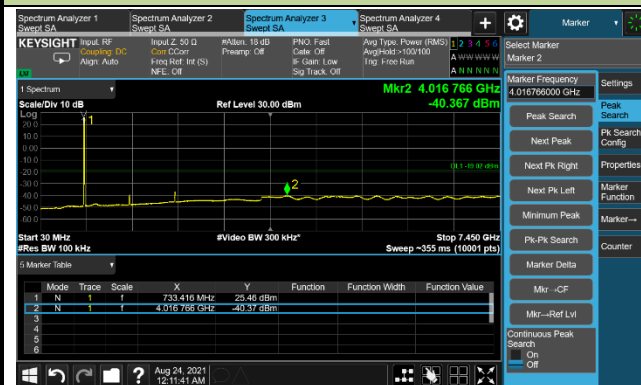


Top Channel

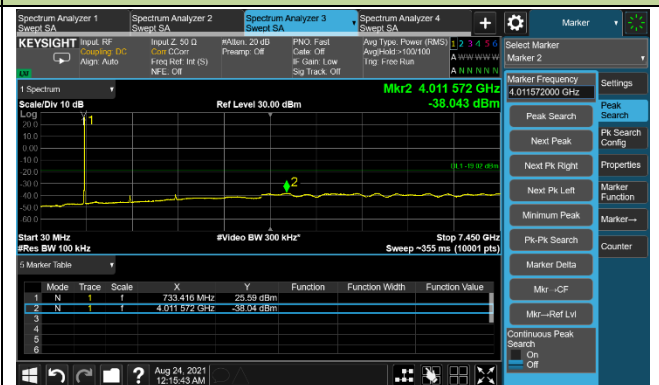


5+5MHz Channel Bandwidth

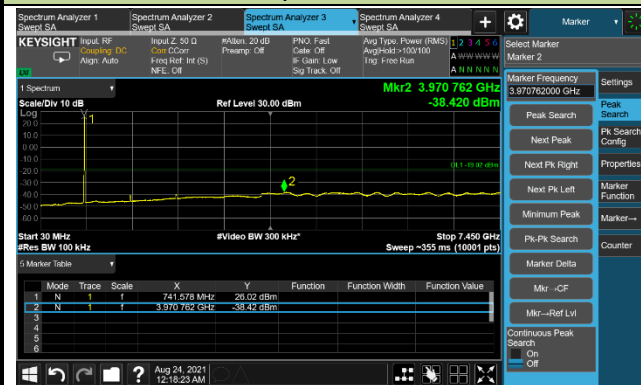
Bottom Channel



Middle Channel

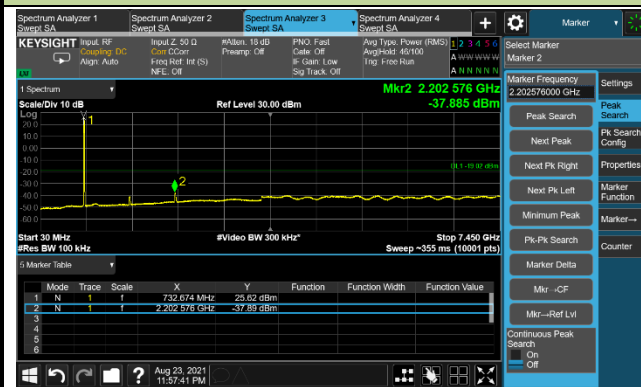


Top Channel

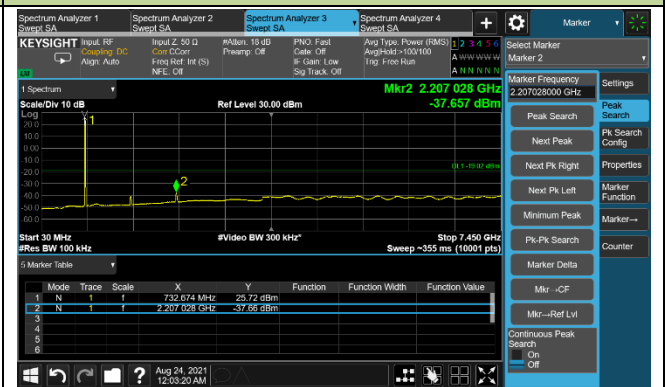


5+10MHz Channel Bandwidth

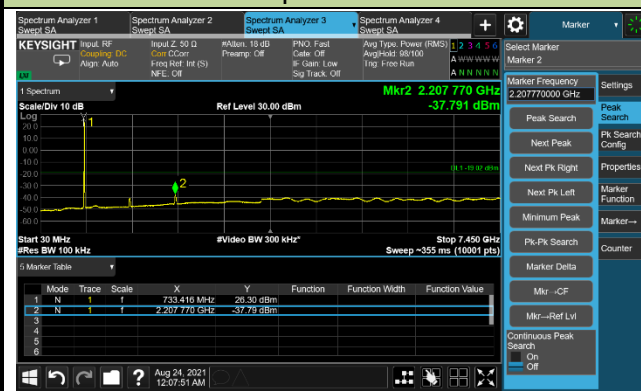
Bottom Channel



Middle Channel

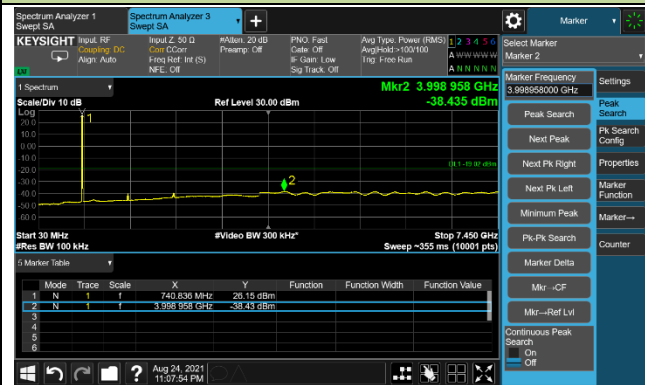


Top Channel



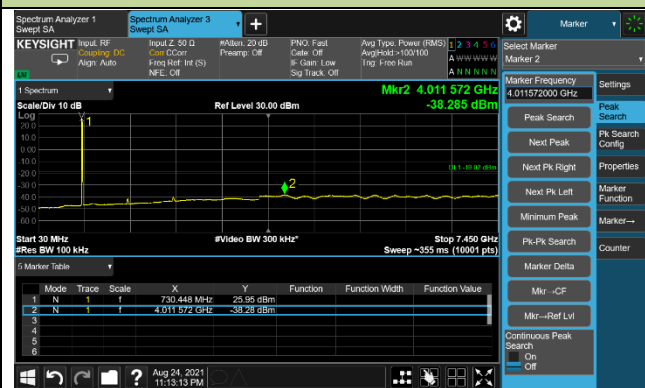
5 + GAP6 + 5MHz Channel Bandwidth

Middle Channel



5 + GAP1 + 10MHz Channel Bandwidth

Middle Channel



4.7. Radiated Spurious Emissions Measurements

4.7.1. Test Limit

Out of band emissions: 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 equal to -13dBm.

$E \text{ (dB}\mu\text{V/m)} = \text{EIRP (dBm)} - 20 \log D + 104.8$; where D is the measurement distance in meters. The emission limit equal to 82.3dB μ V/m.

4.7.2. Test Procedure Used

KDB 971168 D01v03r01 - Section 5.8 & 7

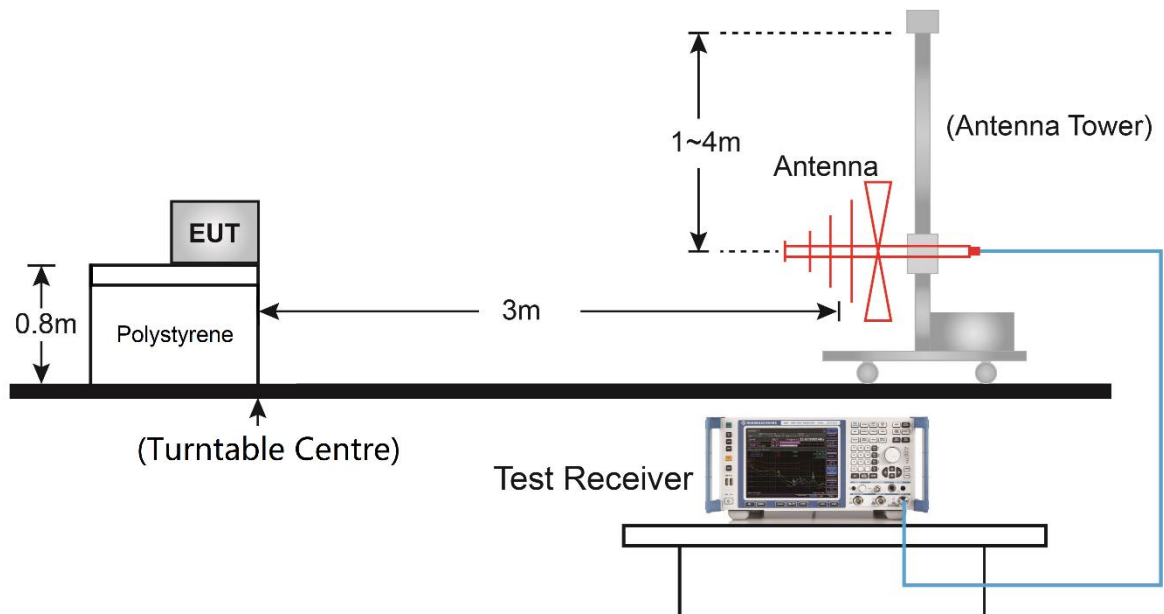
ANSI C63.26-2015 - Section 5.2.7 & 5.5

4.7.3. Test Setting

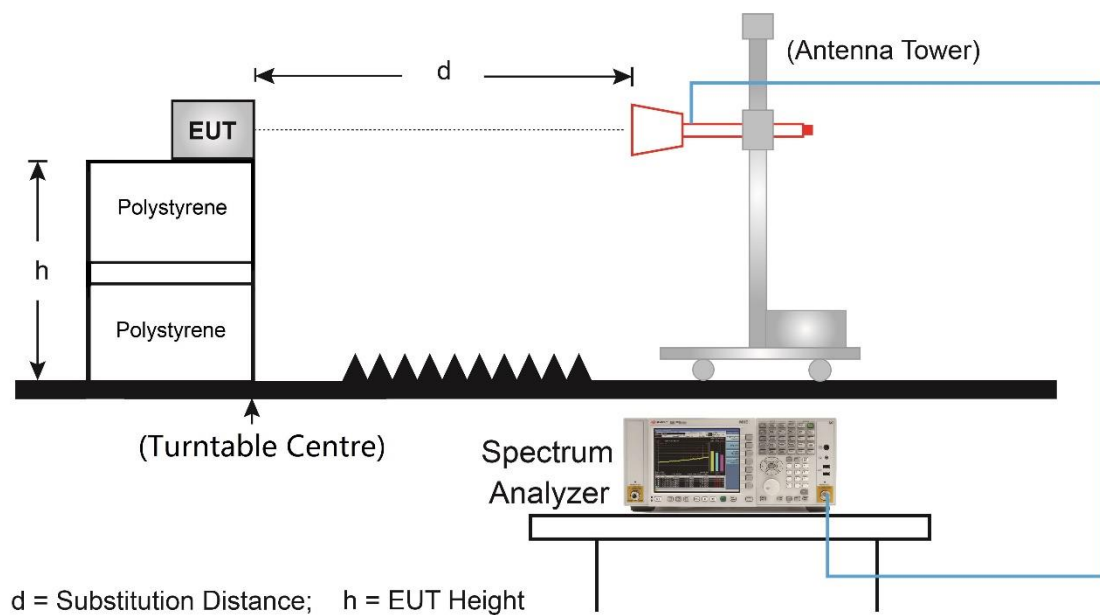
1. RBW = 100kHz or 1MHz
2. VBW $\geq 3 \times$ RBW
3. Sweep time $\geq 10 \times$ (number of points in sweep) $\times$ (transmission symbol period)
4. Detector = Peak
5. Trace mode = max hold
6. The trace was allowed to stabilize

4.7.4. Test Setup

Below 1GHz Test Setup:



Above 1GHz Test Setup:



4.7.5. Test Result

Product	B12 4T4R 160W Radio Unit	Test Engineer	Joker Li
Test Site	WZ-AC2	Test Date	2021/09/05
Test Configuration	LTE Band 12 QPSK, BW = 5MHz		

Frequency (MHz)	Reading Level (dBμV)	Factor (dB/m)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
Bottom Channel							
437.400	14.1	23.7	37.8	82.3	-44.5	Peak	Horizontal
812.790	8.7	30.2	38.9	82.3	-43.4	Peak	Horizontal
30.000	17.4	16.7	34.1	82.3	-48.2	Peak	Vertical
562.530	10.5	26.2	36.7	82.3	-45.6	Peak	Vertical
5156.500	44.9	4.8	49.7	82.3	-32.6	Peak	Horizontal
10316.000	41.8	16.5	58.3	82.3	-24.0	Peak	Horizontal
3686.000	44.5	0.5	45.0	82.3	-37.3	Peak	Vertical
10316.000	37.7	16.5	54.2	82.3	-28.1	Peak	Vertical
Middle Channel							
374.835	15.9	22.6	38.5	82.3	-43.8	Peak	Horizontal
812.790	7.0	30.2	37.2	82.3	-45.1	Peak	Horizontal
32.910	15.9	17.5	33.4	82.3	-48.9	Peak	Vertical
562.530	10.7	26.2	36.9	82.3	-45.4	Peak	Vertical
5122.500	41.5	4.8	46.3	82.3	-36.0	Peak	Horizontal
10316.000	40.9	16.5	57.4	82.3	-24.9	Peak	Horizontal
1935.000	47.9	-3.6	44.3	82.3	-38.0	Peak	Vertical
10316.000	37.1	16.5	53.6	82.3	-28.7	Peak	Vertical
Top Channel							
437.400	14.5	23.7	38.2	82.3	-44.1	Peak	Horizontal
812.790	7.1	30.2	37.3	82.3	-45.0	Peak	Horizontal
31.940	16.7	17.2	33.9	82.3	-48.4	Peak	Vertical
687.660	7.7	28.7	36.4	82.3	-45.9	Peak	Vertical
1892.500	53.1	-3.9	49.2	82.3	-33.1	Peak	Horizontal
10316.000	42.3	16.5	58.8	82.3	-23.5	Peak	Horizontal
4451.000	41.7	2.9	44.6	82.3	-37.7	Peak	Vertical
10316.000	38.1	16.5	54.6	82.3	-27.7	Peak	Vertical

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

5. CONCLUSION

The data collected relate only the item(s) tested and show that the **B12 4T4R 160W Radio Unit** is compliance with FCC Rules.

The End

Appendix A - Test Setup Photograph

Refer to “2108RSU044-UT” file.

Appendix B - EUT Photograph

Refer to “2108RSU044-UE” file.