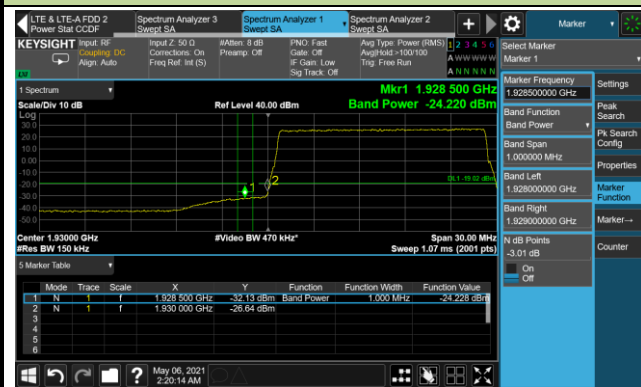
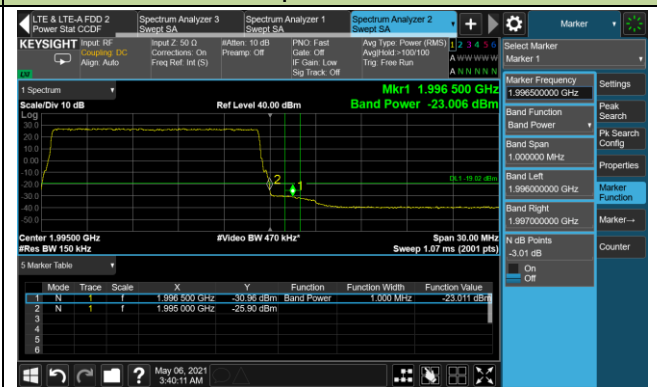


15MHz Channel Bandwidth - Ant 1

Bottom Channel

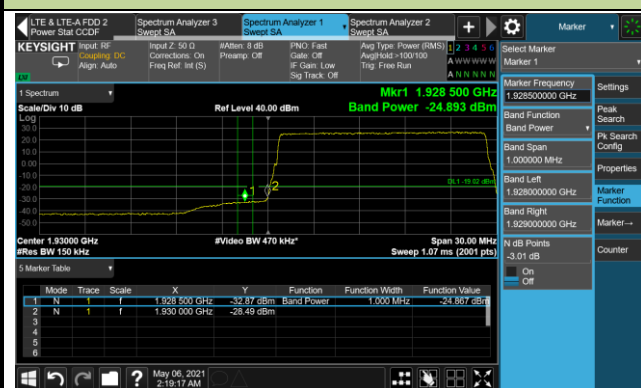


Top Channel

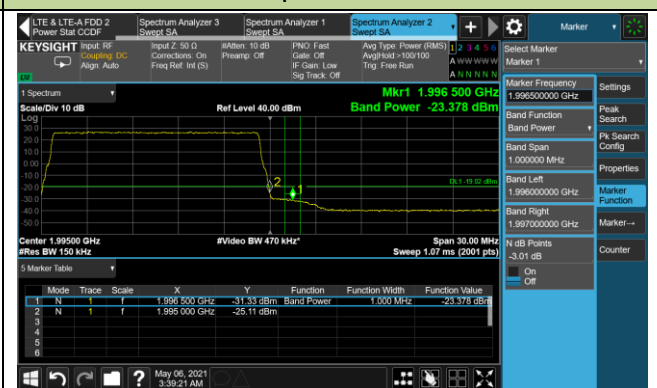


15MHz Channel Bandwidth - Ant 2

Bottom Channel

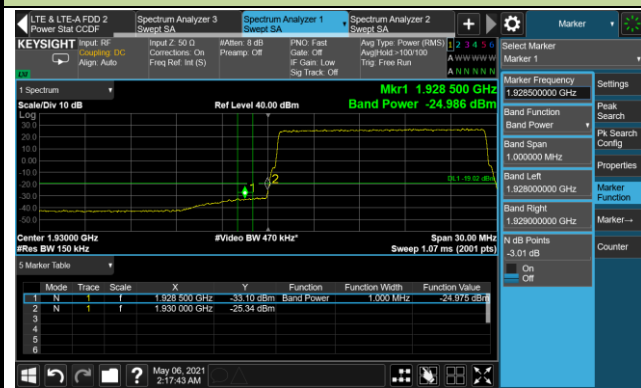


Top Channel

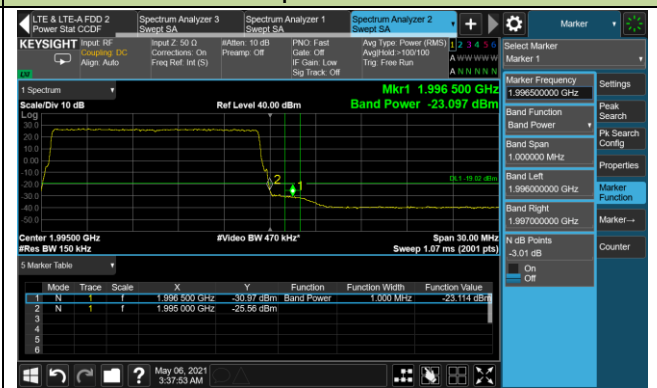


15MHz Channel Bandwidth - Ant 3

Bottom Channel

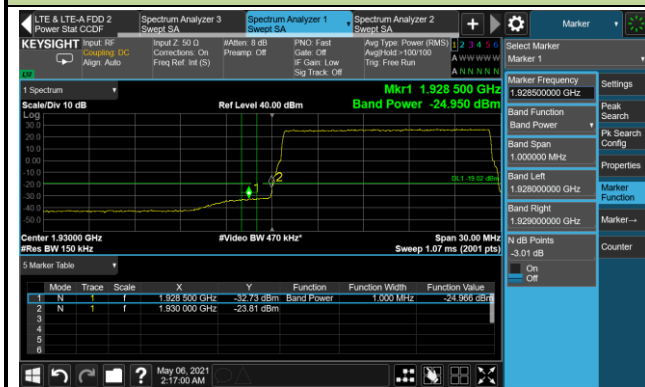


Top Channel

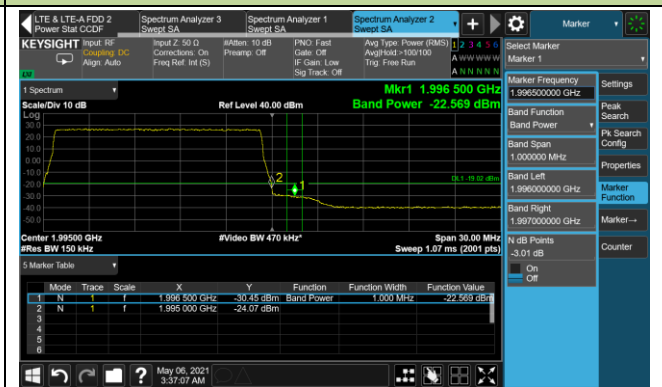


15MHz Channel Bandwidth - Ant 4

Bottom Channel

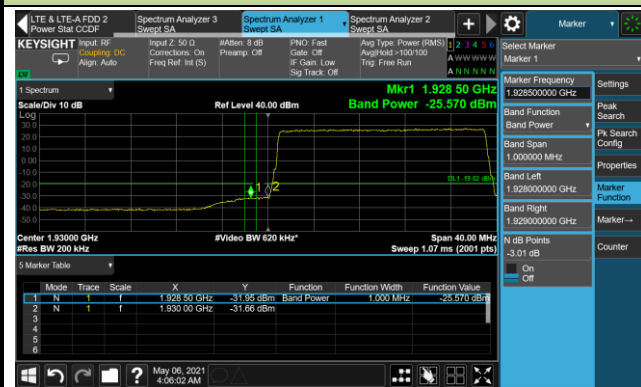


Top Channel

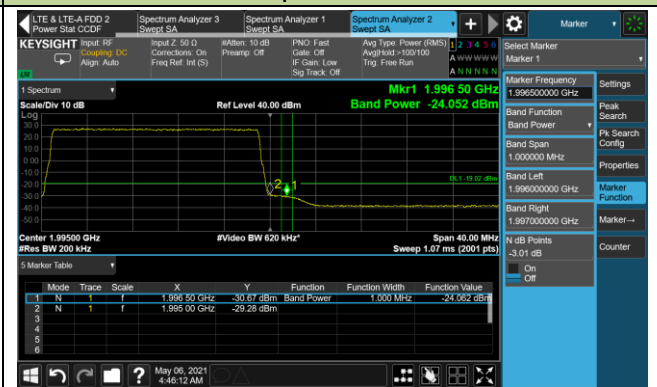


20MHz Channel Bandwidth - Ant 1

Bottom Channel

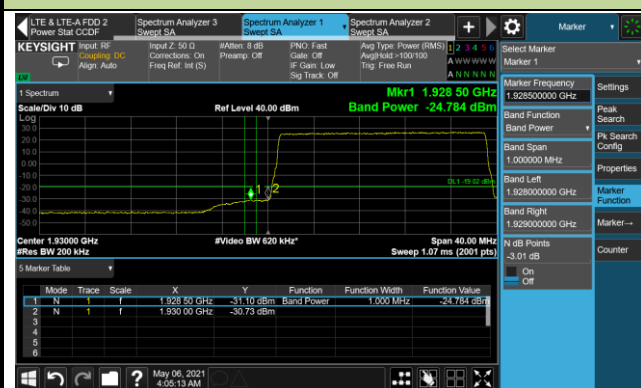


Top Channel

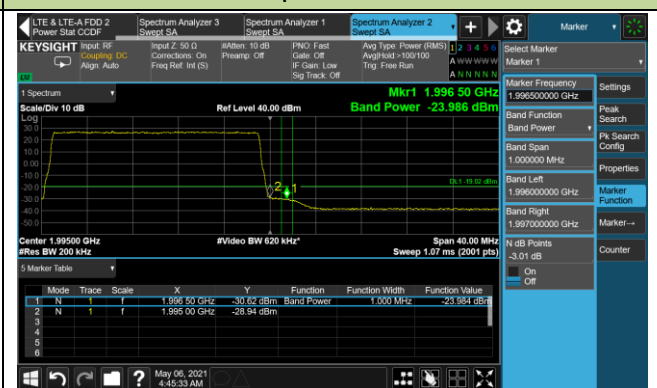


20MHz Channel Bandwidth - Ant 2

Bottom Channel

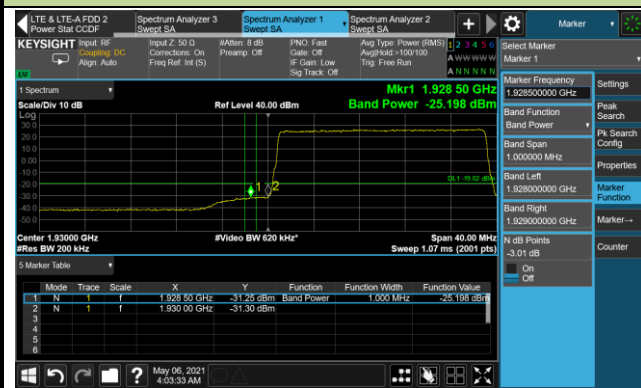


Top Channel

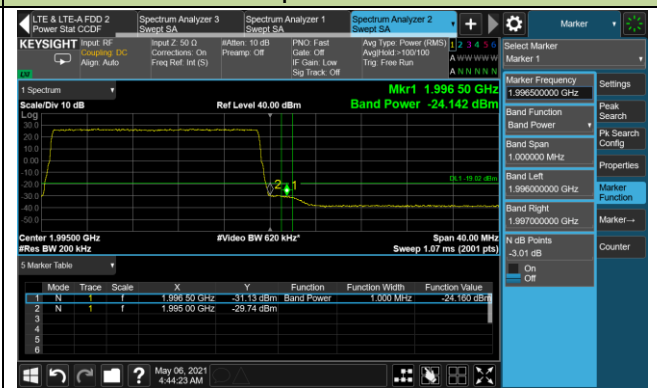


20MHz Channel Bandwidth - Ant 3

Bottom Channel

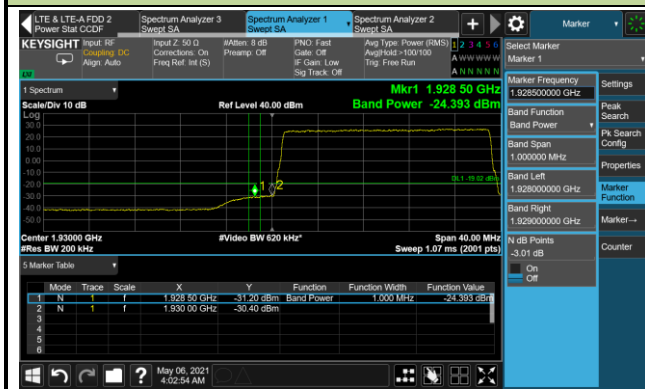


Top Channel

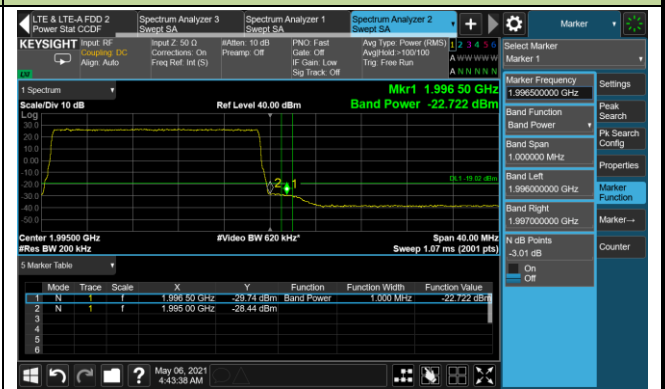


20MHz Channel Bandwidth - Ant 4

Bottom Channel



Top Channel



4.6. Peak to Average Ratio

4.6.1. Test Limit

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.

4.6.2. Test Procedure Used

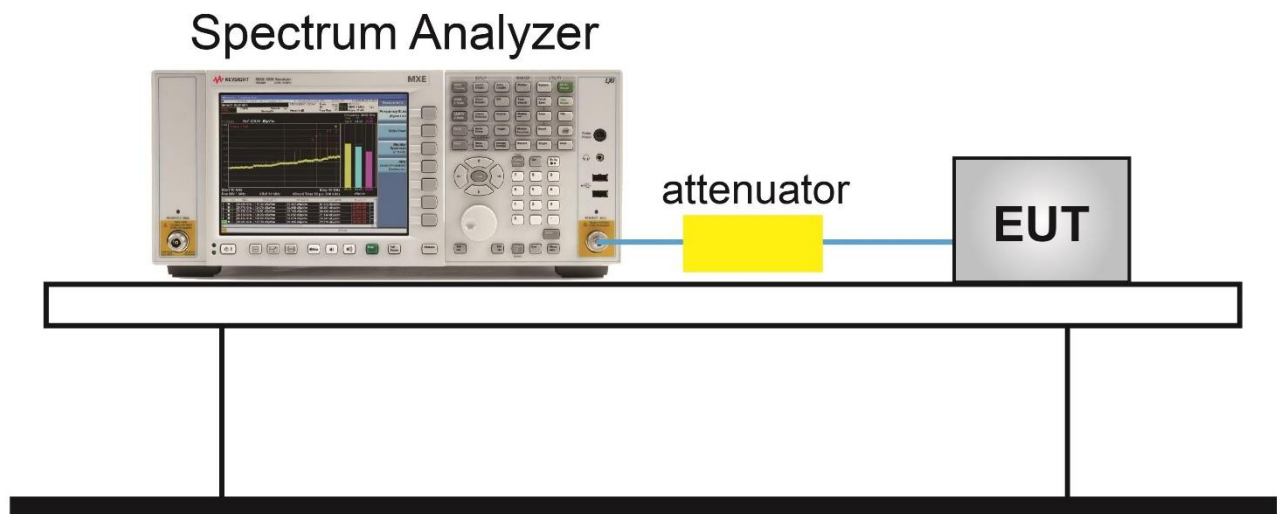
KDB 971168 D01v03r01 - Section 5.7

ANSI C63.26-2015 - Section 5.2.6

4.6.3. Test Setting

1. Set the 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 PARR level associated with a probability of 0.1%.

4.6.4. Test Setup



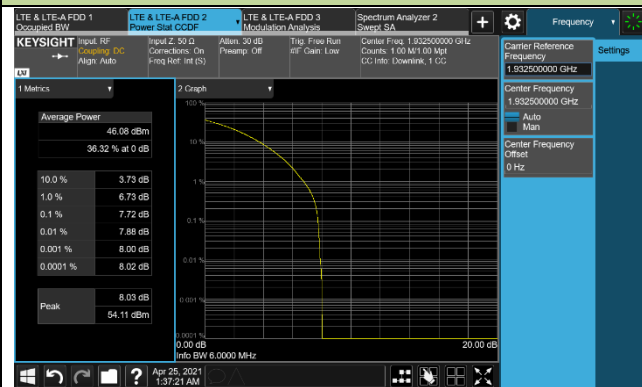
4.6.5. Test Result

Product	B25 4T4R 160W Radio Unit	Test Engineer	Larry Yan
Test Site	WZ-TR3	Test Date	2021/05/06
Test Configuration	LTE Band 25 (Single Carrier), QPSK		

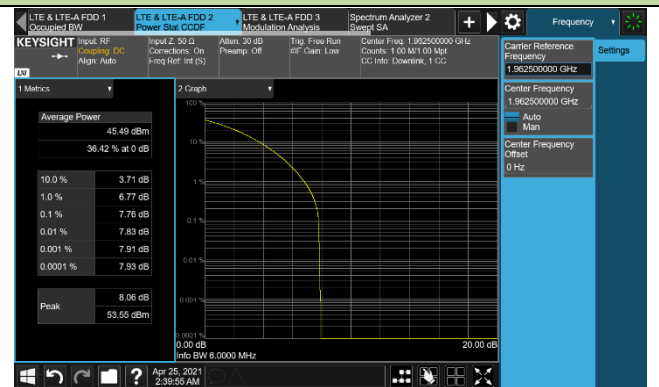
Frequency (MHz)	Bandwidth (MHz)	Peak to Average Ratio (dB)	Limit (dB)	Result
1932.5	5	7.72	≤ 13.00	Pass
1962.5	5	7.76	≤ 13.00	Pass
1992.5	5	7.76	≤ 13.00	Pass
1935.0	10	7.76	≤ 13.00	Pass
1962.5	10	7.70	≤ 13.00	Pass
1990.0	10	7.70	≤ 13.00	Pass
1937.5	15	7.74	≤ 13.00	Pass
1962.5	15	7.66	≤ 13.00	Pass
1987.5	15	7.73	≤ 13.00	Pass
1940.0	20	7.84	≤ 13.00	Pass
1962.5	20	7.68	≤ 13.00	Pass
1985.0	20	7.75	≤ 13.00	Pass

5MHz Channel Bandwidth

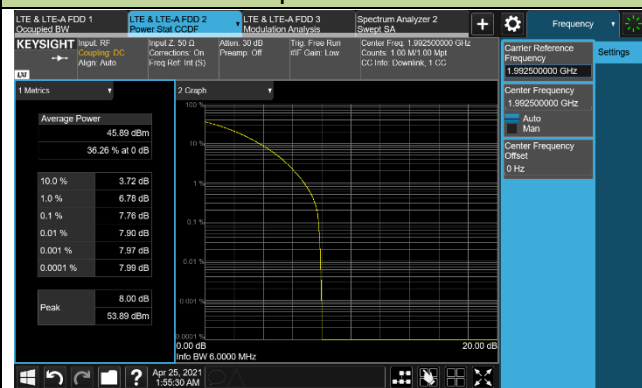
Bottom Channel



Middle Channel

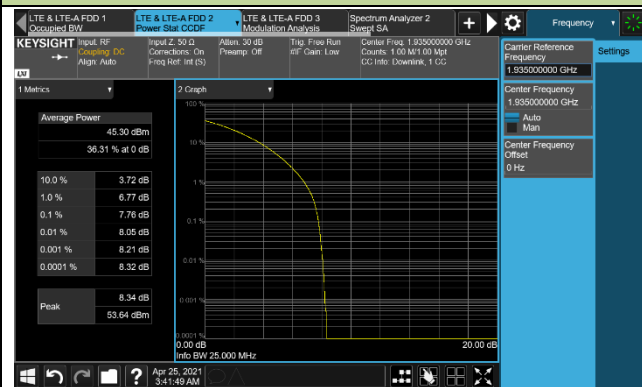


Top Channel

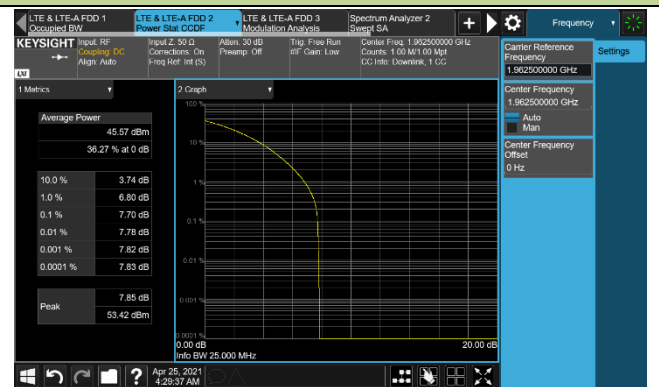


10MHz Channel Bandwidth

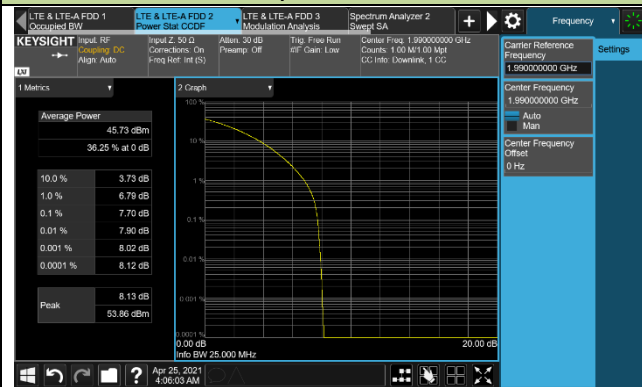
Bottom Channel



Middle Channel

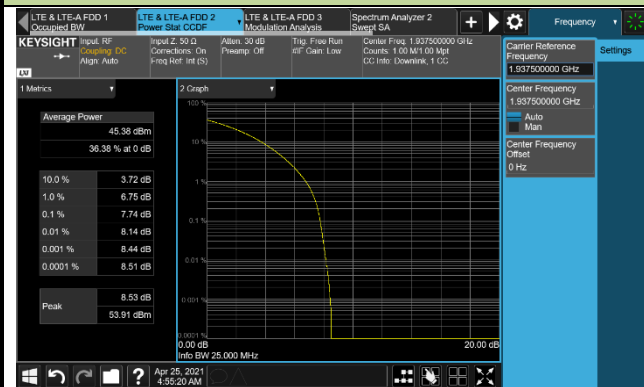


Top Channel

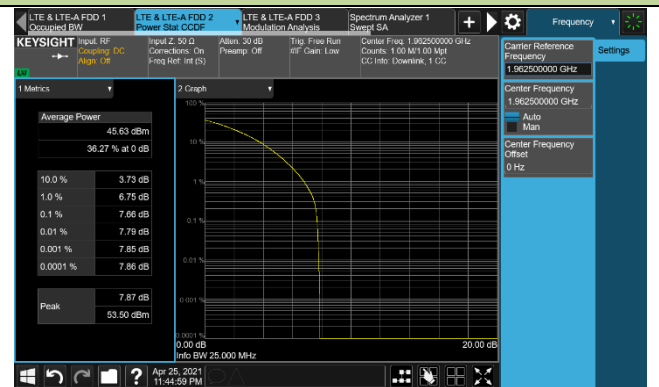


15MHz Channel Bandwidth

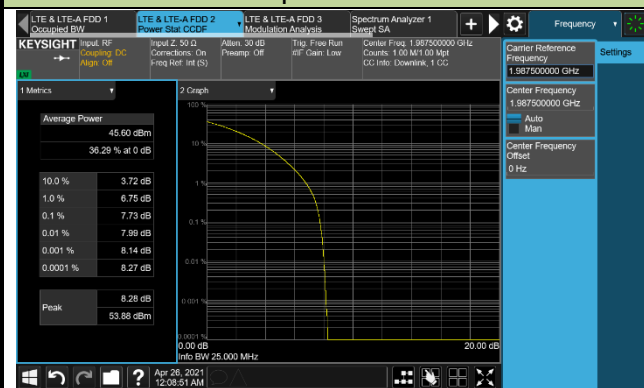
Bottom Channel



Middle Channel

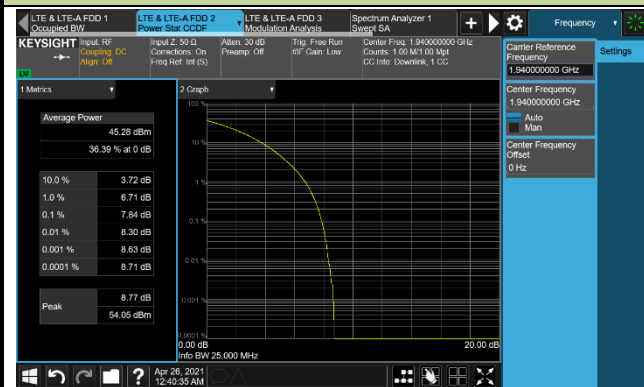


Top Channel

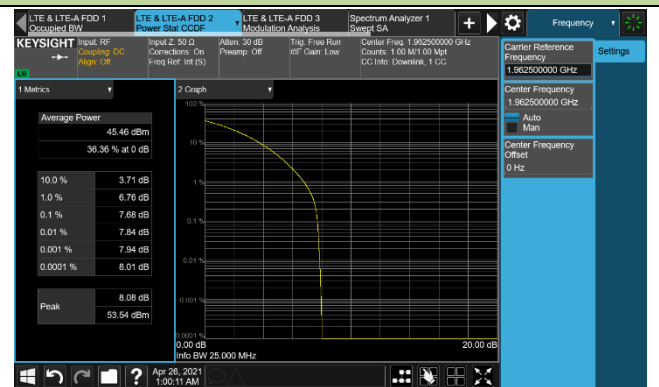


20MHz Channel Bandwidth

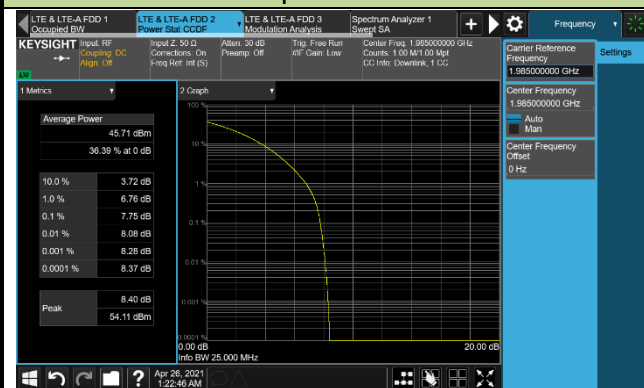
Bottom Channel



Middle Channel



Top Channel



4.7. Conducted Spurious Emissions

4.7.1. Test Limit

In the FCC 24.238, 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 $-13\text{dBm} - 10 \cdot \log(4) = -19.02\text{dBm}$

4.7.2. Test Procedure Used

KDB 971168 D01v03r01 - Section 6

ANSI C63.26-2015 - Section 6.4.4.2

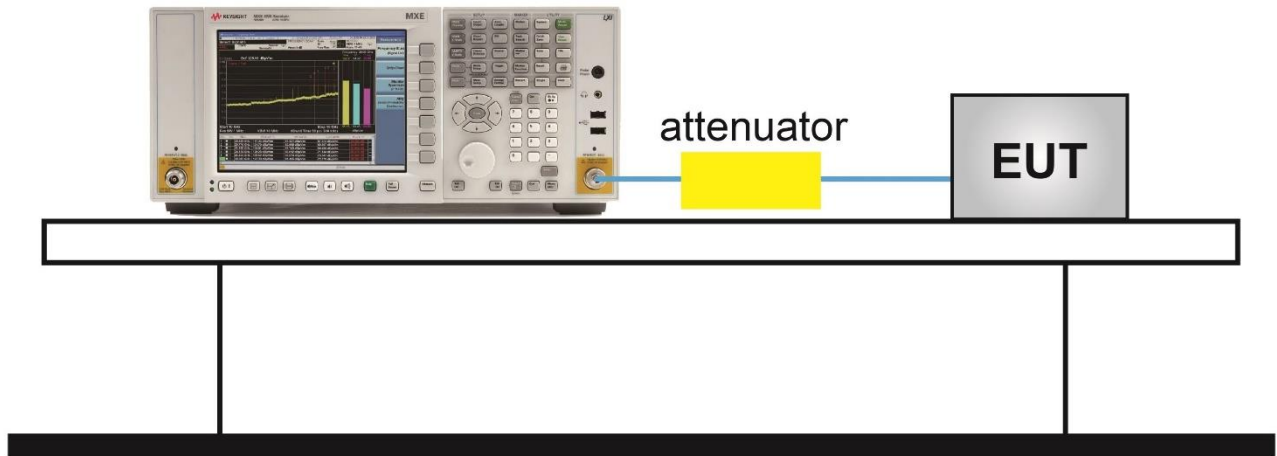
4.7.3. Test Setting

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.

4.7.4. Test Setup

Spectrum Analyzer



6.7.5. Test Result

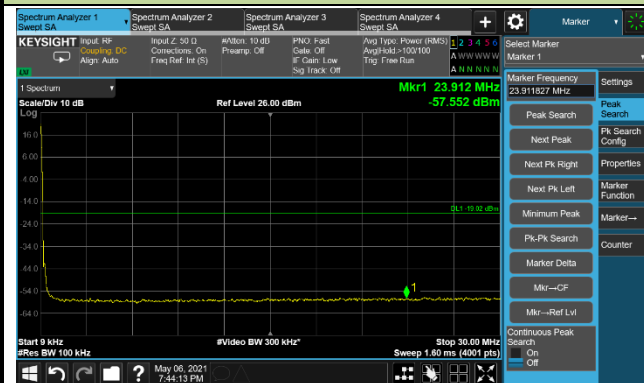
Product	B25 4T4R 160W Radio Unit	Test Engineer	Larry Yan
Test Site	WZ-TR3	Test Date	2021/05/07
Test Configuration	LTE Band 25 (Single Carrier), QPSK		

Frequency (MHz)	Channel BW (MHz)	Frequency Range (MHz)	Max Spurious Emissions (dBm)	Limit (dBm)	Result
1932.5	5	0.009 ~ 30	-57.55	≤ -19.02	Pass
		30 ~ 20000	-32.96	≤ -19.02	Pass
1962.5	5	0.009 ~ 30	-57.91	≤ -19.02	Pass
		30 ~ 20000	-32.39	≤ -19.02	Pass
1992.5	5	0.009 ~ 30	-58.32	≤ -19.02	Pass
		30 ~ 20000	-32.92	≤ -19.02	Pass
1935.0	10	0.009 ~ 30	-58.14	≤ -19.02	Pass
		30 ~ 20000	-29.66	≤ -19.02	Pass
1962.5	10	0.009 ~ 30	-57.41	≤ -19.02	Pass
		30 ~ 20000	-29.05	≤ -19.02	Pass
1990.0	10	0.009 ~ 30	-57.49	≤ -19.02	Pass
		30 ~ 20000	-30.59	≤ -19.02	Pass
1937.5	15	0.009 ~ 30	-58.87	≤ -19.02	Pass
		30 ~ 20000	-25.59	≤ -19.02	Pass
1962.5	15	0.009 ~ 30	-58.10	≤ -19.02	Pass
		30 ~ 20000	-28.64	≤ -19.02	Pass
1987.5	15	0.009 ~ 30	-57.68	≤ -19.02	Pass
		30 ~ 20000	-29.50	≤ -19.02	Pass
1940.0	20	0.009 ~ 30	-59.23	≤ -19.02	Pass
		30 ~ 20000	-23.77	≤ -19.02	Pass
1962.5	20	0.009 ~ 30	-58.13	≤ -19.02	Pass
		30 ~ 20000	-34.81	≤ -19.02	Pass
1985.0	20	0.009 ~ 30	-57.95	≤ -19.02	Pass
		30 ~ 20000	-34.75	≤ -19.02	Pass

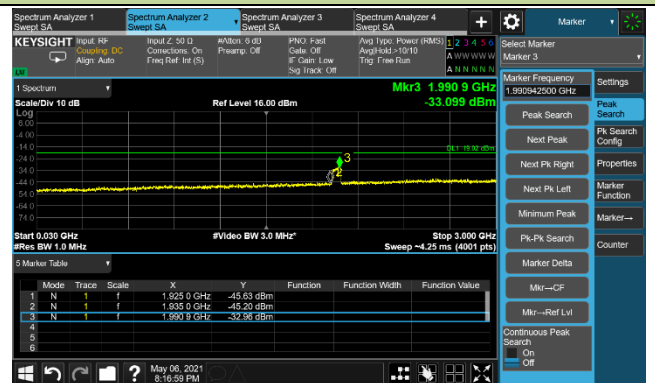
5MHz Channel Bandwidth

Bottom Channel

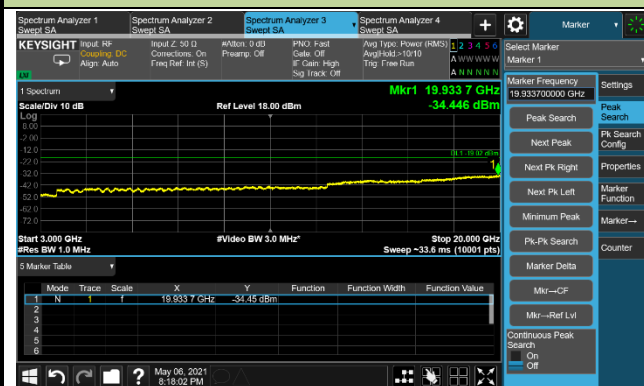
9kHz ~ 30MHz



30MHz ~ 3.0GHz

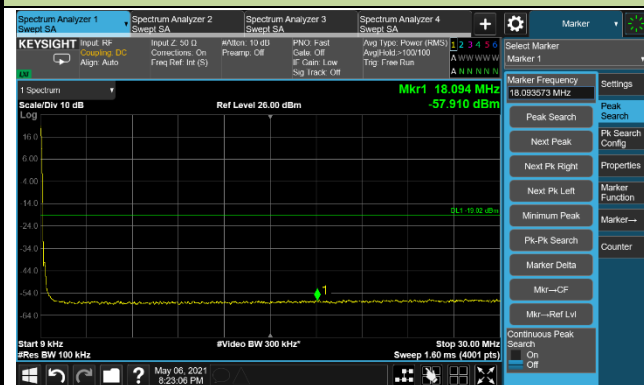


3.0GHz ~ 20.0GHz

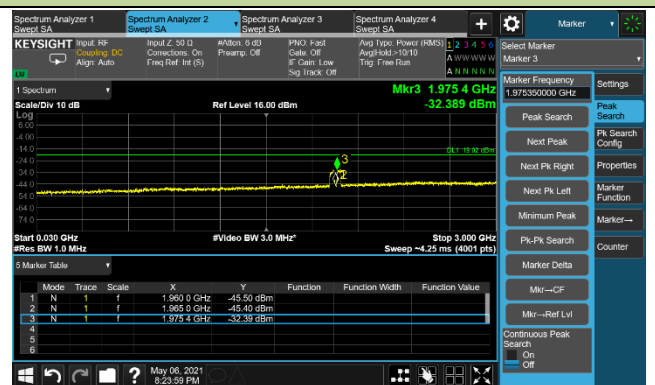


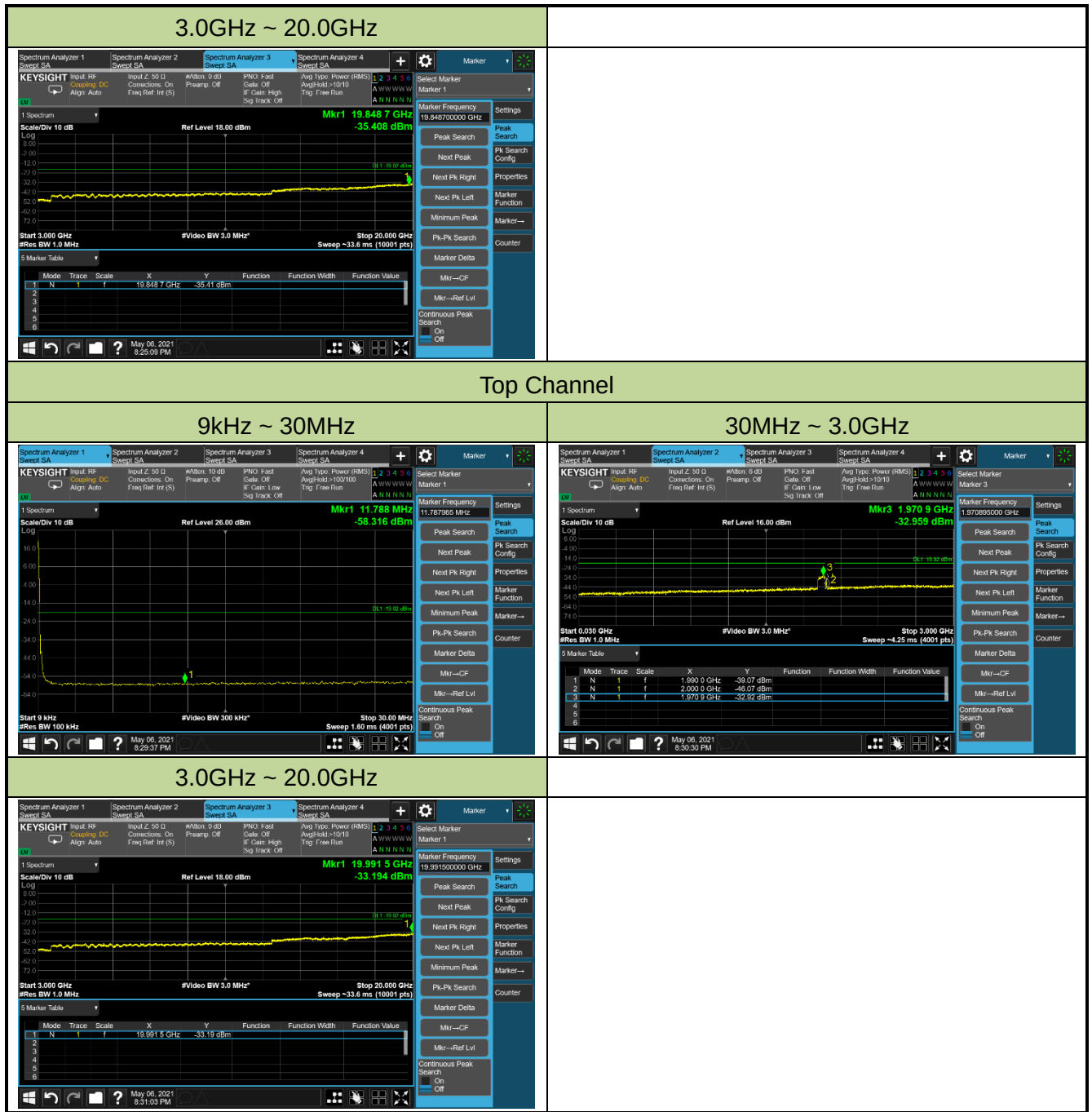
Middle Channel

9kHz ~ 30MHz



30MHz ~ 3.0GHz

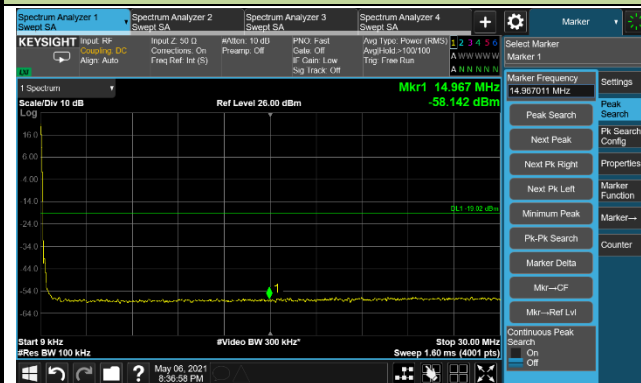




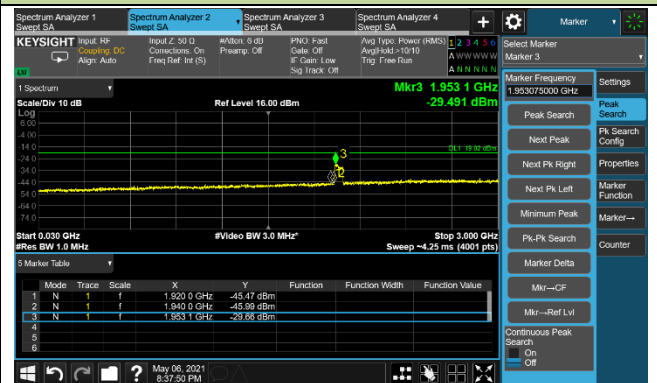
10MHz Channel Bandwidth

Bottom Channel

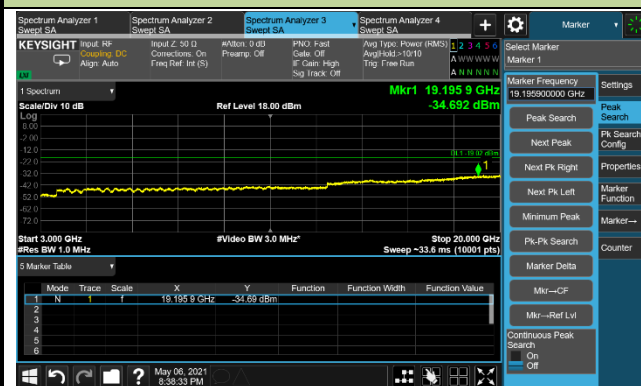
9kHz ~ 30MHz



30MHz ~ 3.0GHz

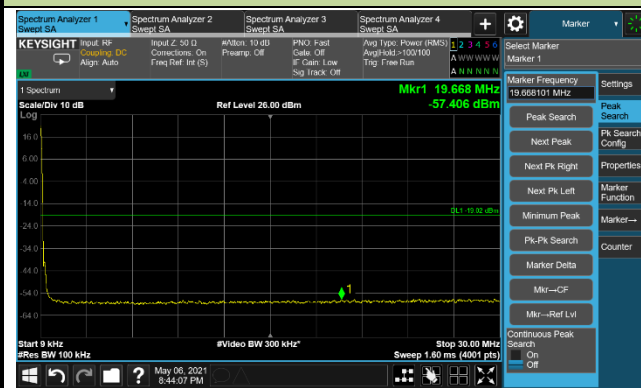


3.0GHz ~ 20.0GHz

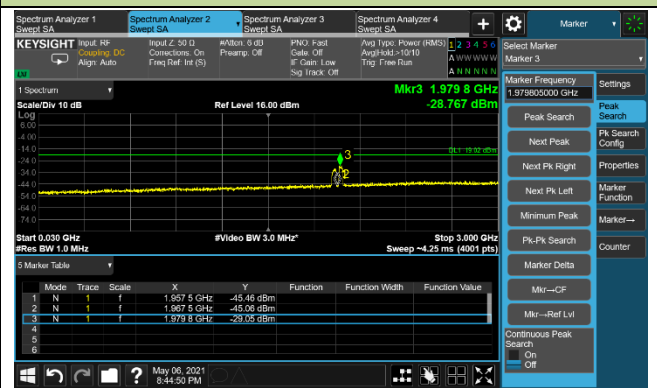


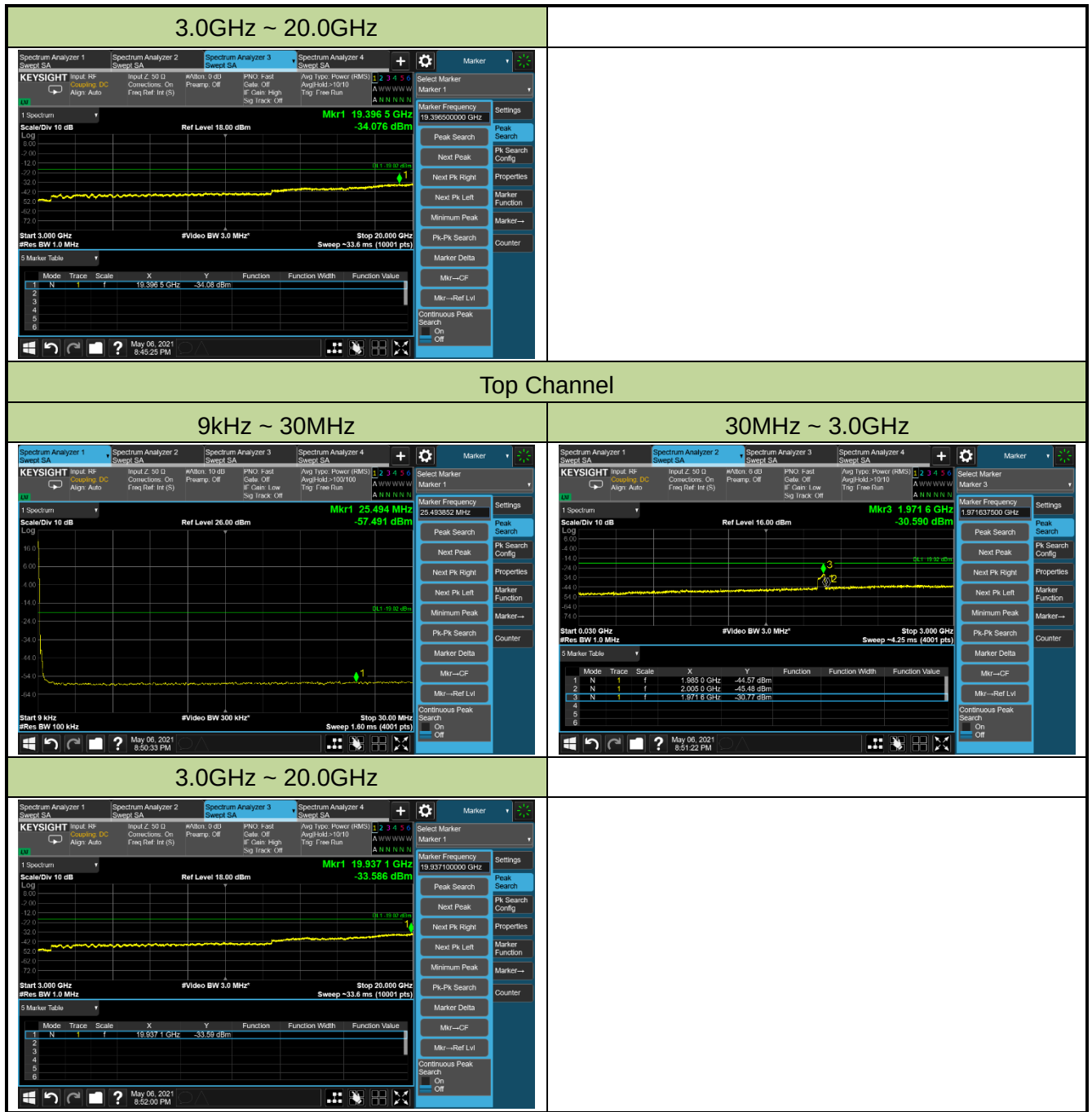
Middle Channel

9kHz ~ 30MHz



30MHz ~ 3.0GHz

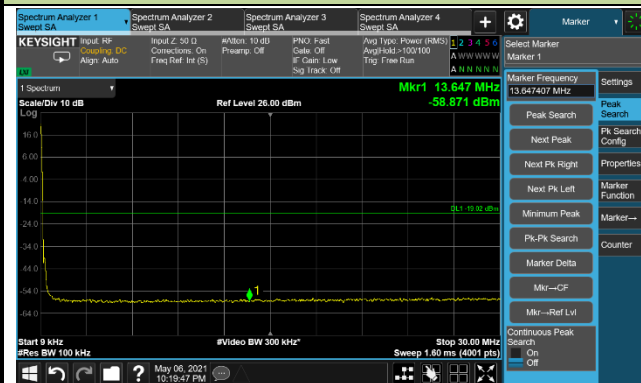




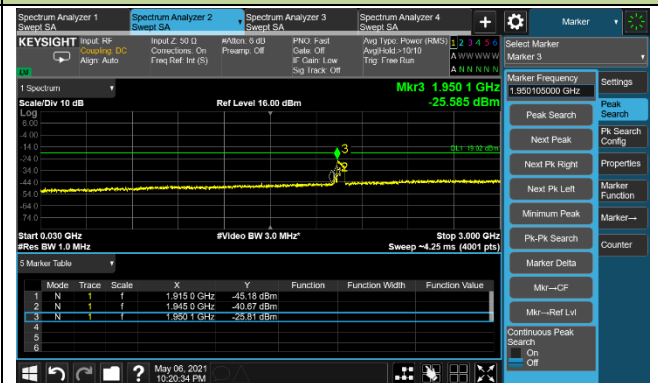
15MHz Channel Bandwidth

Bottom Channel

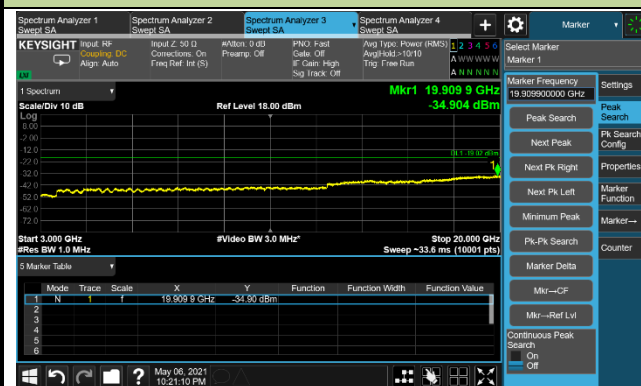
9kHz ~ 30MHz



30MHz ~ 3.0GHz

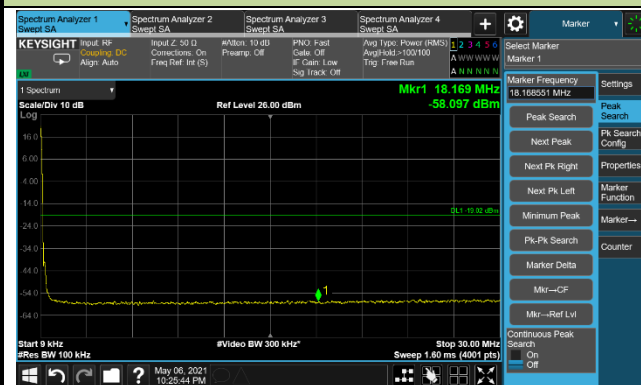


3.0GHz ~ 20.0GHz

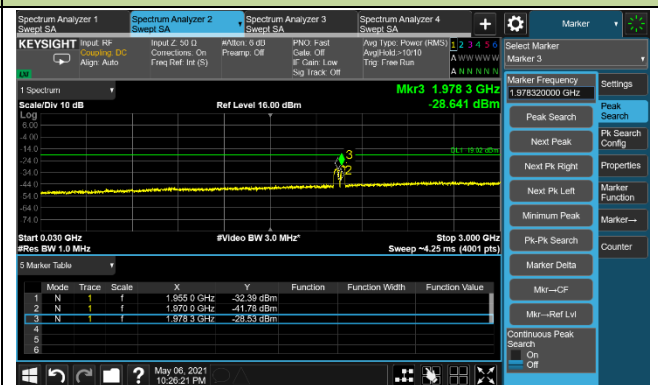


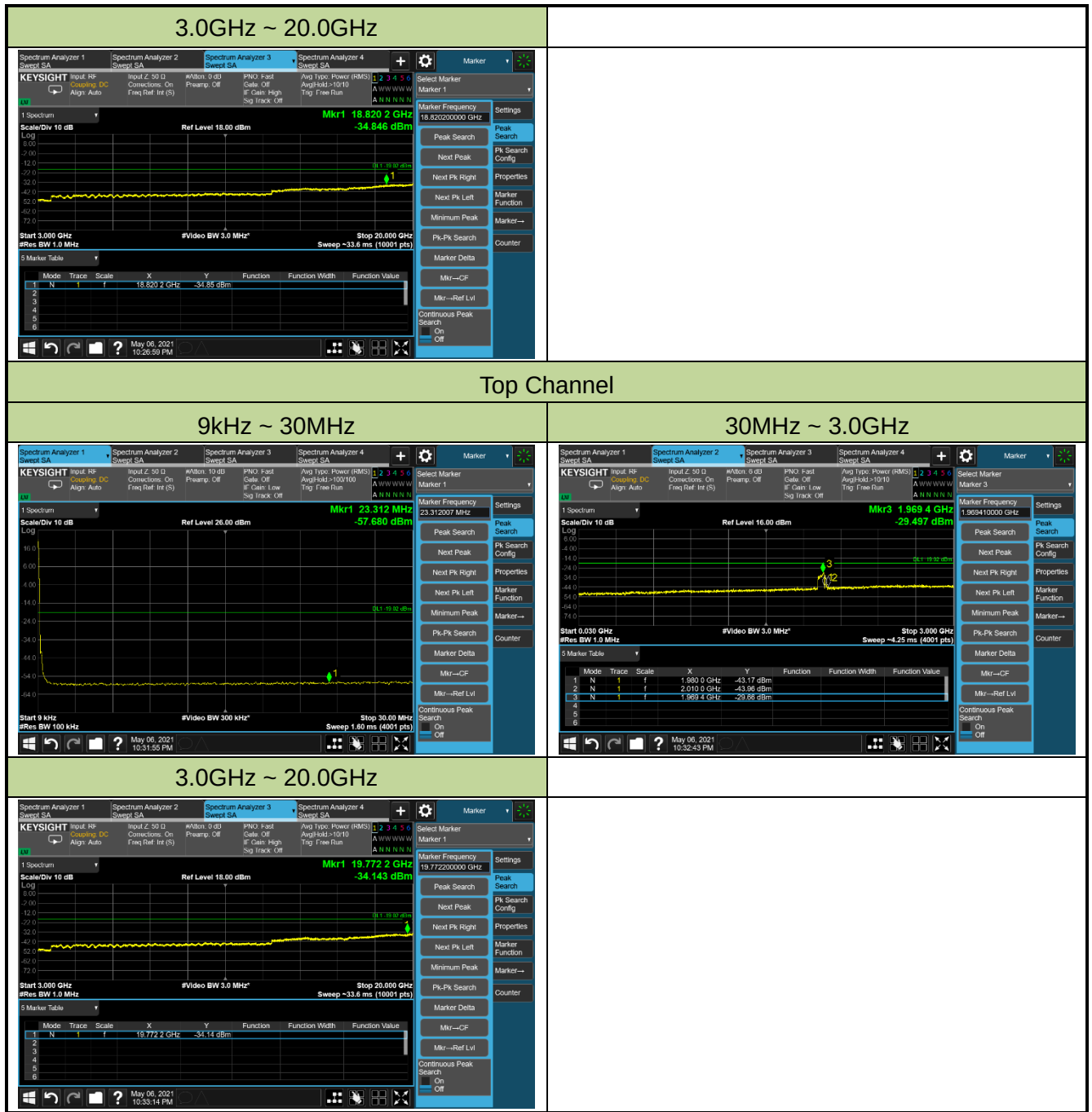
Middle Channel

9kHz ~ 30MHz



30MHz ~ 3.0GHz





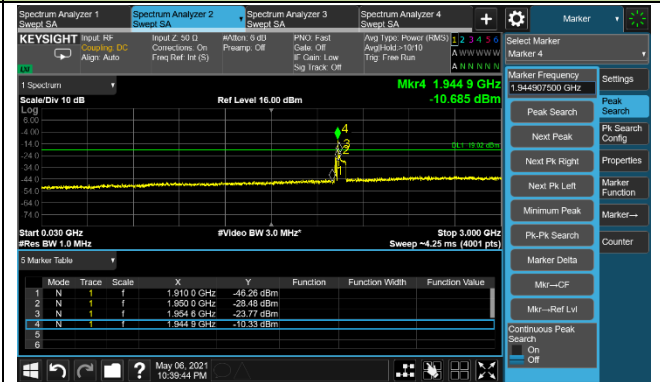
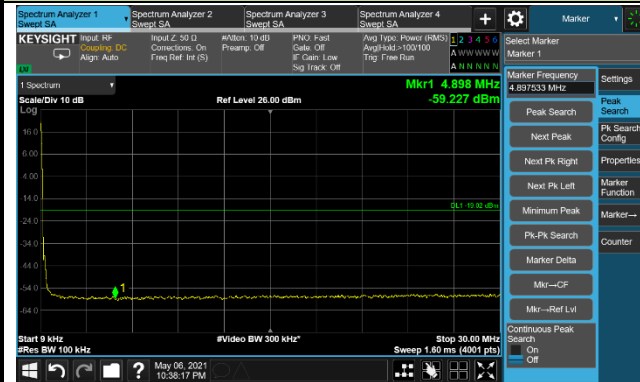
20MHz Channel Bandwidth

Bottom Channel

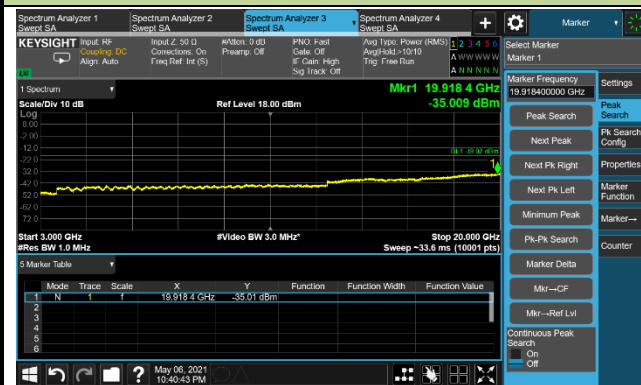
9kHz ~ 30MHz

30MHz ~ 3.0GHz

(Point4 is fundamental frequency)



3.0GHz ~ 20.0GHz

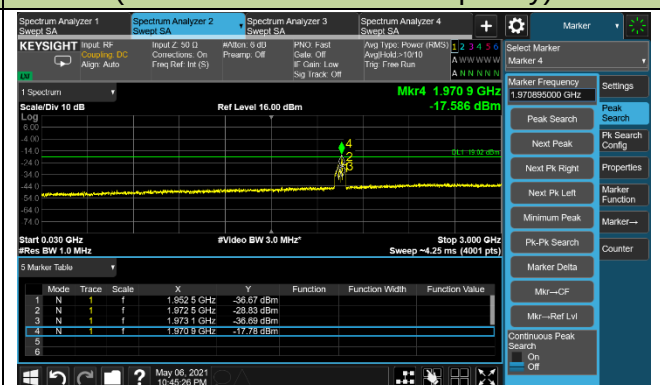
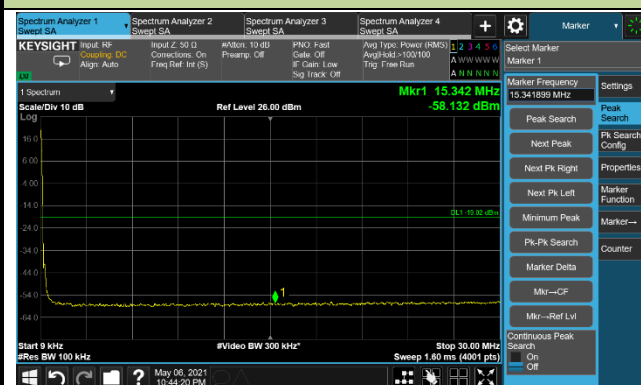


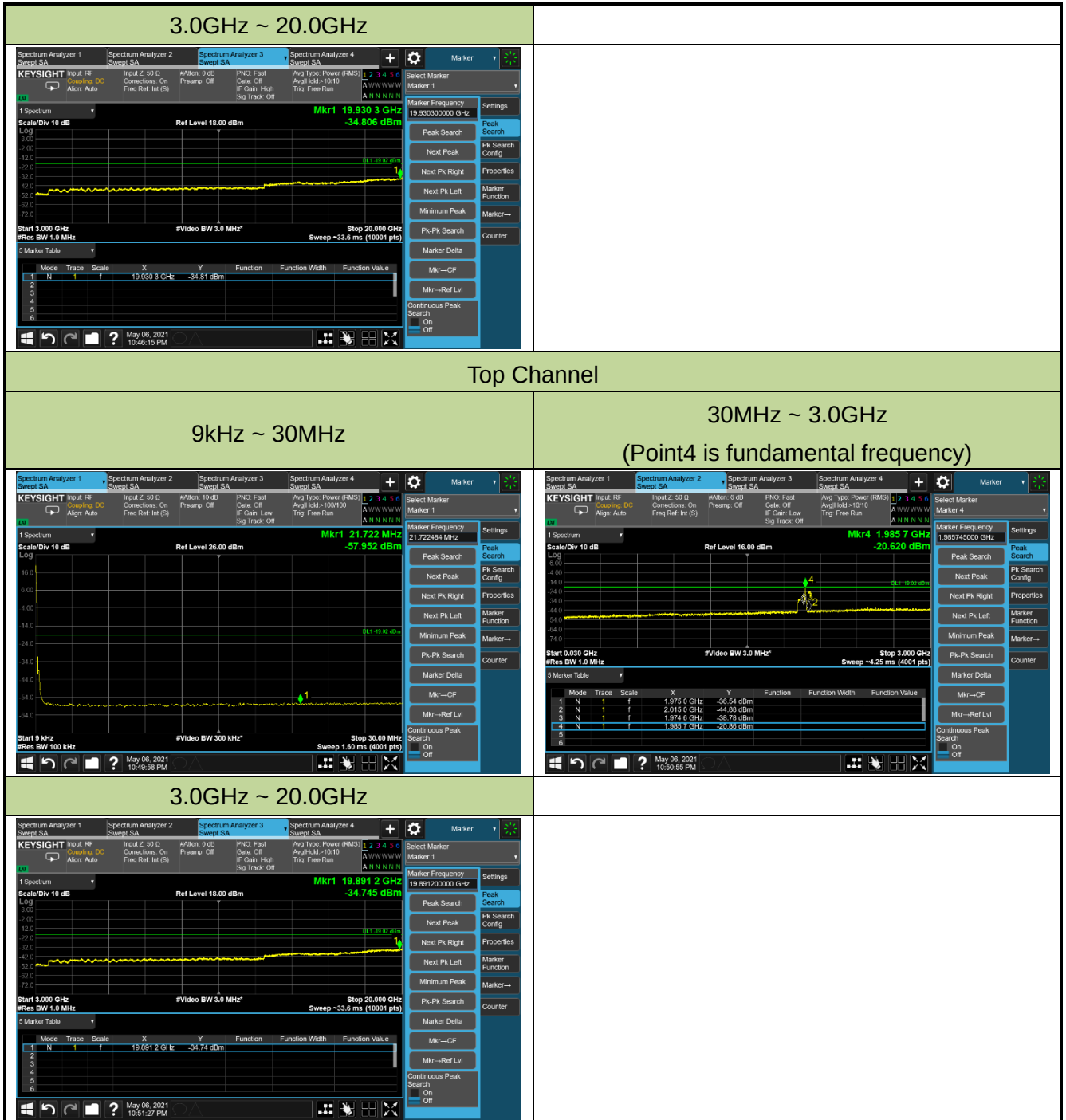
Middle Channel

9kHz ~ 30MHz

30MHz ~ 3.0GHz

(Point4 is fundamental frequency)





4.8. Radiated Spurious Emissions Measurements

4.8.1. 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.

4.8.2. Test Procedure Used

KDB 971168 D01v03r01 - Section 5.8 & 7

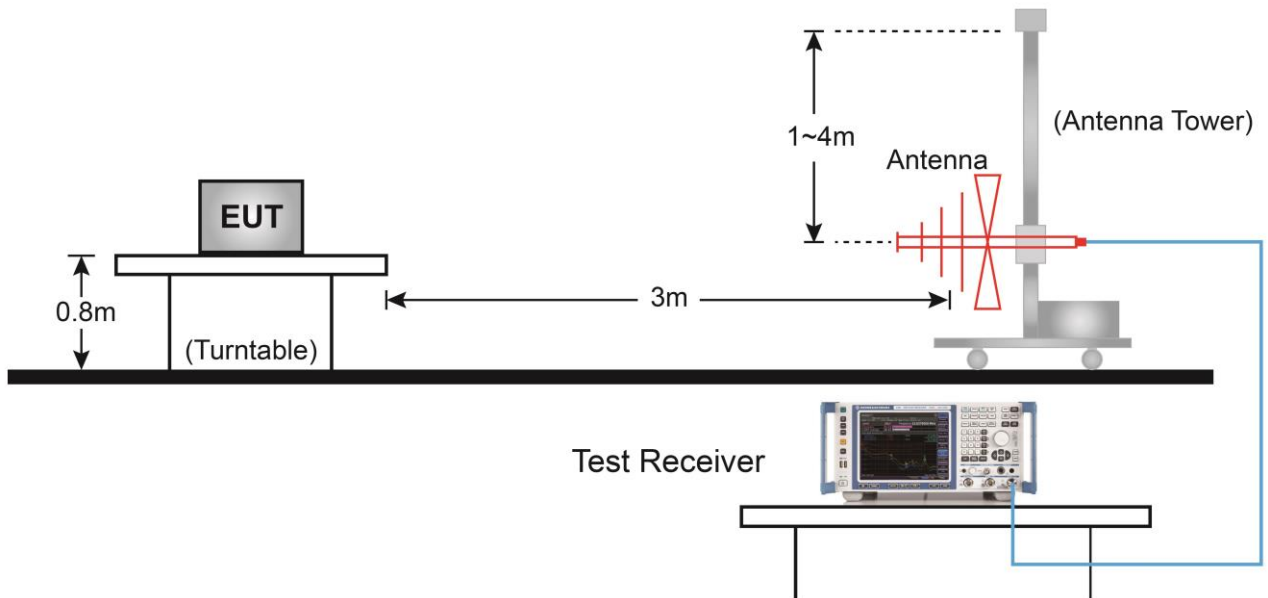
ANSI C63.26-2015 - Section 5.2.7 & 5.5

4.8.3. Test Setting

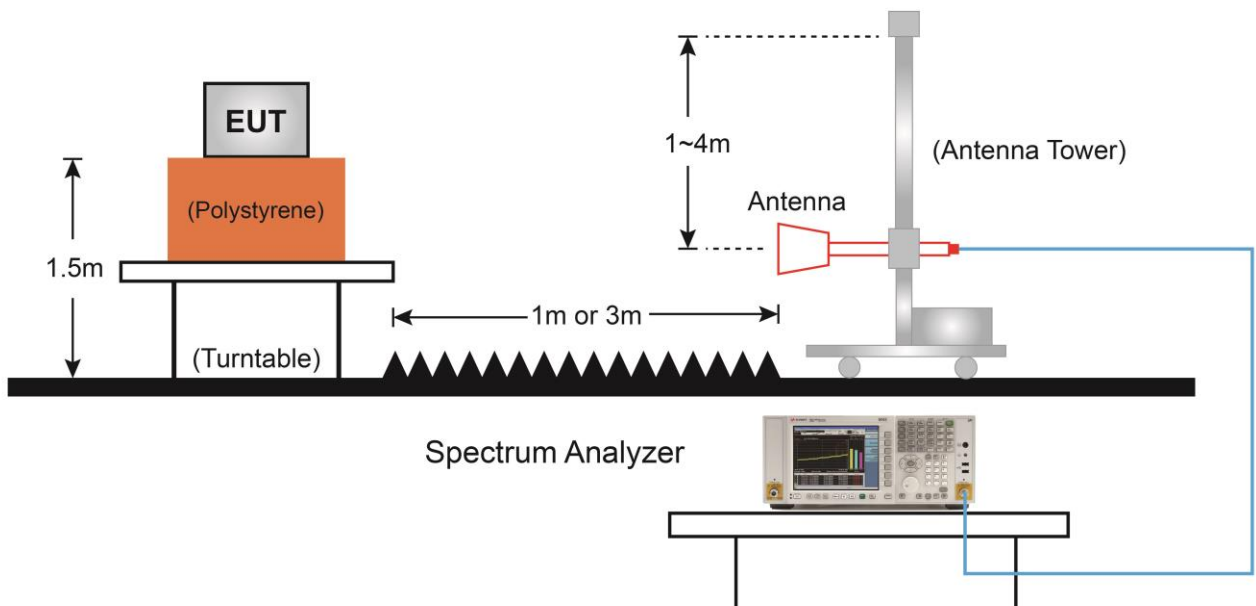
1. RBW = 100kHz or 1MHz
2. VBW $\geq 3 \times$ RBW
3. Sweep time $\geq 10 \times$ (number of points in sweep) $\times$ (transmission symbol period)
4. Detector = Peak
5. Trace mode = max hold
6. The trace was allowed to stabilize

4.8.4. Test Setup

Below 1GHz Test Setup:



Above 1GHz Test Setup:



4.8.5. Test Result

Product	B25 4T4R 160W Radio Unit	Test Engineer	Kevin Ker
Test Site	WZ-AC1	Test Date	2021/05/13
Test Configuration	LTE Band 25 (Single Carrier), QPSK, BW = 5MHz		

Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
Bottom Channel							
437.40	23.94	22.21	46.15	82.30	-36.15	Peak	Horizontal
812.31	17.65	28.91	46.56	82.30	-35.74	Peak	Horizontal
54.25	28.81	18.00	46.81	82.30	-35.49	Peak	Vertical
750.23	16.11	28.54	44.65	82.30	-37.65	Peak	Vertical
5794.00	58.65	6.17	64.82	82.30	-17.48	Peak	Horizontal
9661.50	49.10	14.93	64.03	82.30	-18.27	Peak	Horizontal
5794.00	57.92	6.17	64.09	82.30	-18.21	Peak	Vertical
9661.50	49.74	14.93	64.67	82.30	-17.63	Peak	Vertical
Middle Channel							
437.40	23.78	22.21	45.99	82.30	-36.31	Peak	Horizontal
812.31	17.48	28.91	46.39	82.30	-35.91	Peak	Horizontal
54.25	28.71	18.00	46.71	82.30	-35.59	Peak	Vertical
78.99	31.57	13.93	45.50	82.30	-36.80	Peak	Vertical
3924.00	62.77	0.87	63.64	82.30	-18.66	Peak	Horizontal
9814.50	47.43	15.31	62.74	82.30	-19.56	Peak	Horizontal
7851.00	51.60	12.17	63.77	82.30	-18.53	Peak	Vertical
9814.50	52.21	15.31	67.52	82.30	-14.78	Peak	Vertical
Top Channel							
437.40	23.79	22.21	46.00	82.30	-36.30	Peak	Horizontal
833.65	21.54	29.18	50.72	82.30	-31.58	Peak	Horizontal
49.89	29.29	18.08	47.37	82.30	-34.93	Peak	Vertical
78.50	31.81	14.10	45.91	82.30	-36.39	Peak	Vertical
7970.00	50.83	12.44	63.27	82.30	-19.03	Peak	Horizontal
9967.50	49.96	15.61	65.57	82.30	-16.73	Peak	Horizontal
3983.50	64.21	1.01	65.22	82.30	-17.08	Peak	Vertical
9959.00	49.20	15.55	64.75	82.30	-17.55	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)

Product	B25 4T4R 160W Radio Unit	Test Engineer	Kevin Ker
Test Site	WZ-AC1	Test Date	2021/05/11
Test Configuration	LTE Band 25 (Single Carrier), QPSK, BW = 20MHz		

Frequency (MHz)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
Bottom Channel							
350.10	17.54	19.72	37.26	82.30	-45.04	Peak	Horizontal
437.40	19.01	22.21	41.22	82.30	-41.08	Peak	Horizontal
49.89	27.80	18.08	45.88	82.30	-36.42	Peak	Vertical
113.42	28.80	15.35	44.15	82.30	-38.15	Peak	Vertical
3916.50	57.18	0.85	58.03	82.30	-24.27	Peak	Horizontal
9825.50	41.37	15.29	56.66	82.30	-25.64	Peak	Horizontal
7859.00	47.28	12.16	59.44	82.30	-22.86	Peak	Vertical
9816.00	46.18	15.31	61.49	82.30	-20.81	Peak	Vertical
Middle Channel							
350.10	18.18	19.72	37.90	82.30	-44.40	Peak	Horizontal
437.40	18.36	22.21	40.57	82.30	-41.73	Peak	Horizontal
49.89	27.31	18.08	45.39	82.30	-36.91	Peak	Vertical
113.42	30.52	15.35	45.87	82.30	-36.43	Peak	Vertical
3878.50	58.68	0.85	59.53	82.30	-22.77	Peak	Horizontal
5807.00	50.36	6.20	56.56	82.30	-25.74	Peak	Horizontal
3888.00	57.73	0.83	58.56	82.30	-23.74	Peak	Vertical
5807.00	50.61	6.20	56.81	82.30	-25.49	Peak	Vertical
Top Channel							
350.10	17.09	19.72	36.81	82.30	-45.49	Peak	Horizontal
437.40	19.61	22.21	41.82	82.30	-40.48	Peak	Horizontal
49.89	27.19	18.08	45.27	82.30	-37.03	Peak	Vertical
115.36	28.41	15.49	43.90	82.30	-38.40	Peak	Vertical
7935.00	47.10	12.33	59.43	82.30	-22.87	Peak	Horizontal
9930.00	44.84	15.39	60.23	82.30	-22.07	Peak	Horizontal
7935.00	49.67	12.33	62.00	82.30	-20.30	Peak	Vertical
9930.00	45.68	15.39	61.07	82.30	-21.23	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 **B25 4T4R 160W Radio Unit** is compliance with FCC Rules.

The End

Appendix A - Test Setup Photograph

Refer to “2104RSU074-UT” file.

Appendix B - EUT Photograph

Refer to “2104RSU074-UE” file.