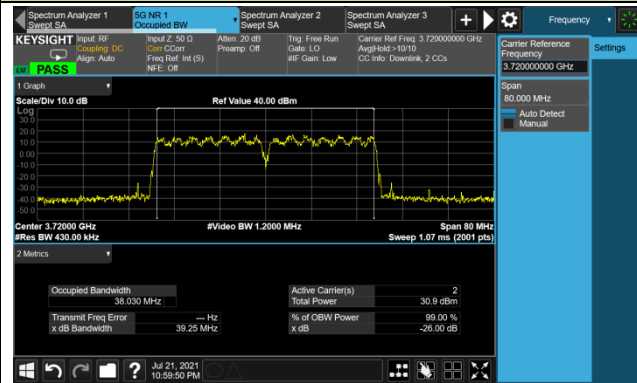
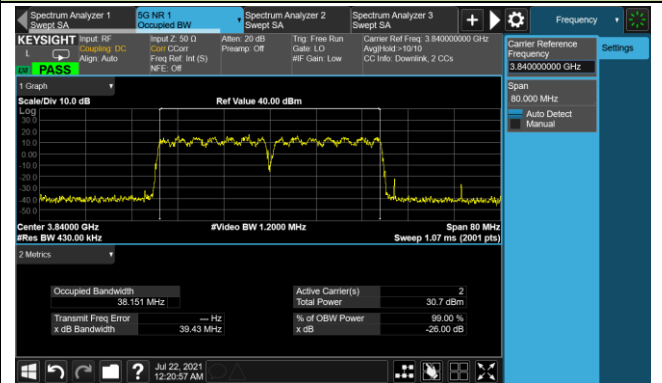


20+20 MHz Channel Bandwidth - 16QAM

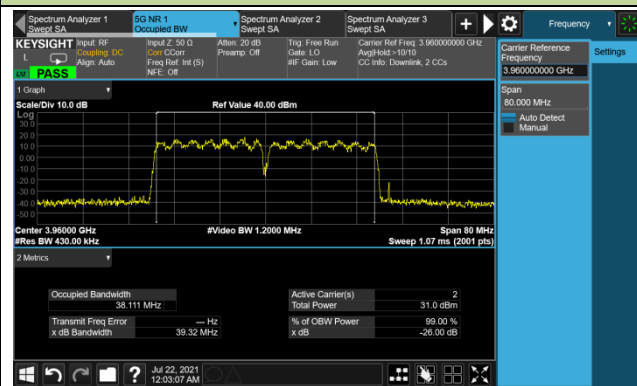
3710+3730 MHz



3830+3850 MHz

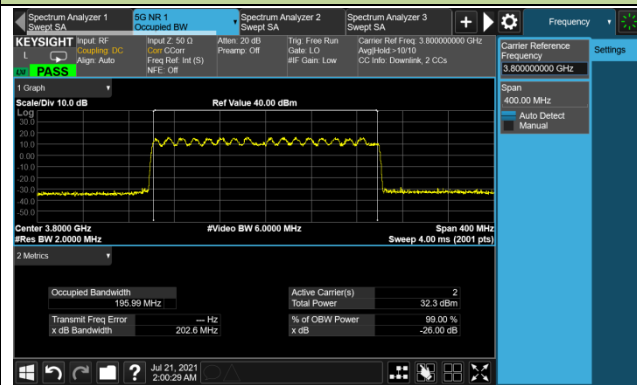


3950+3970 MHz

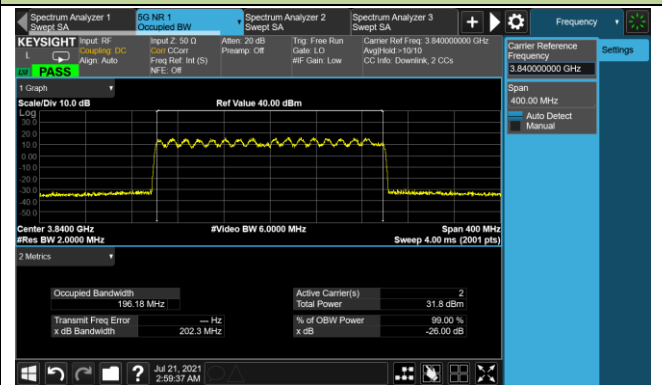


100+100 MHz Channel Bandwidth - 16QAM

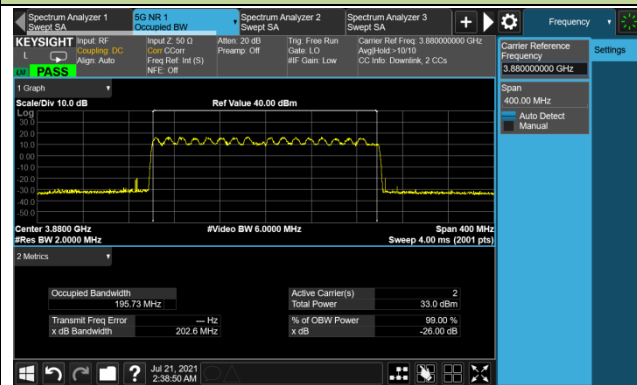
3750+3850 MHz



3790+3890 MHz

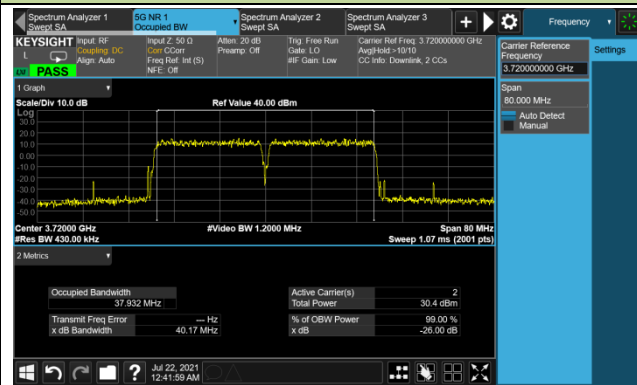


3983+3930 MHz

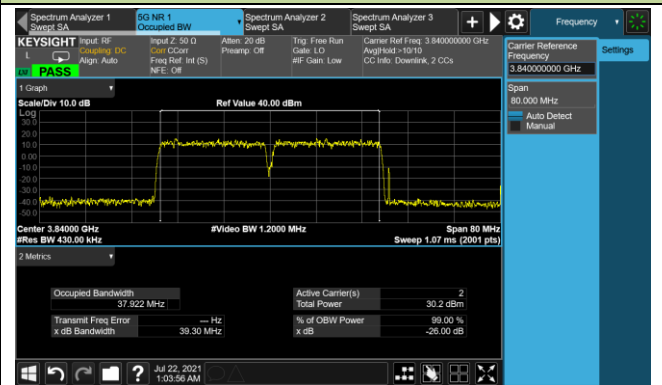


20+20 MHz Channel Bandwidth - 64QAM

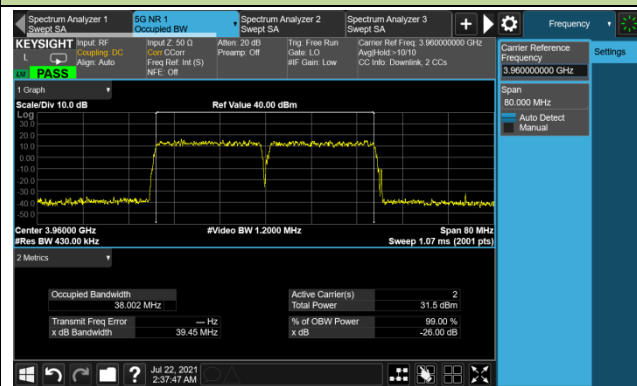
3710+3730 MHz



3830+3850 MHz

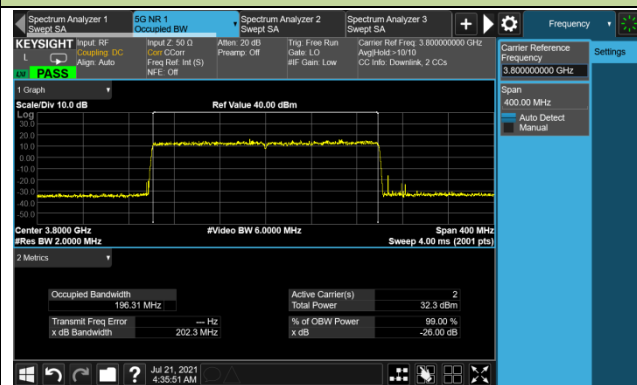


3950+3970 MHz

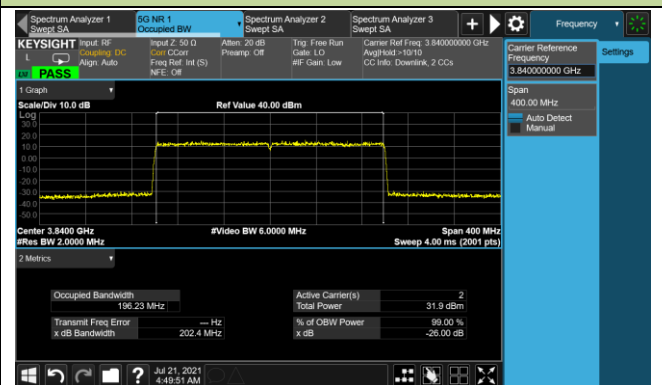


100+100 MHz Channel Bandwidth - 64QAM

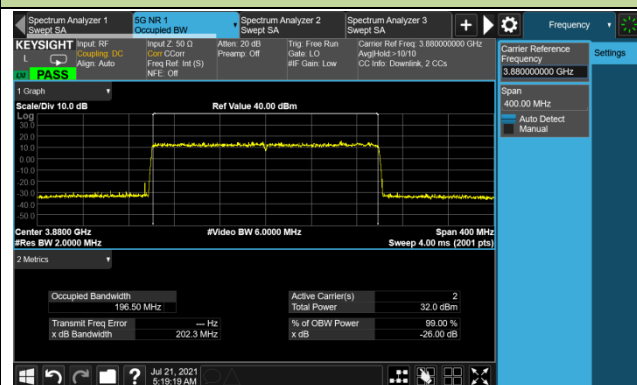
3750+3850 MHz



3790+3890 MHz

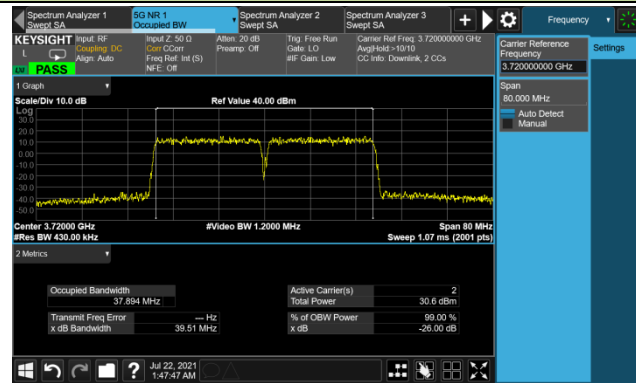


3983+3930 MHz

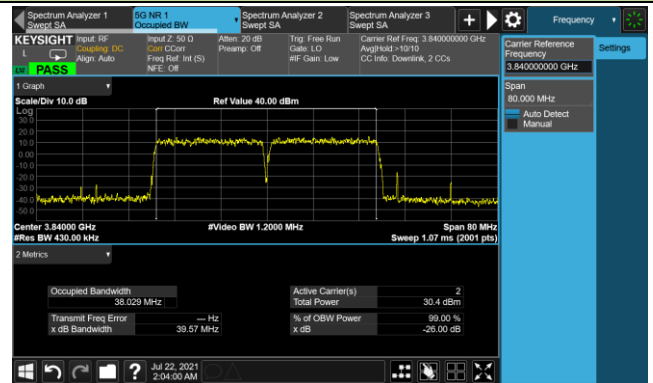


20+20 MHz Channel Bandwidth - 256QAM

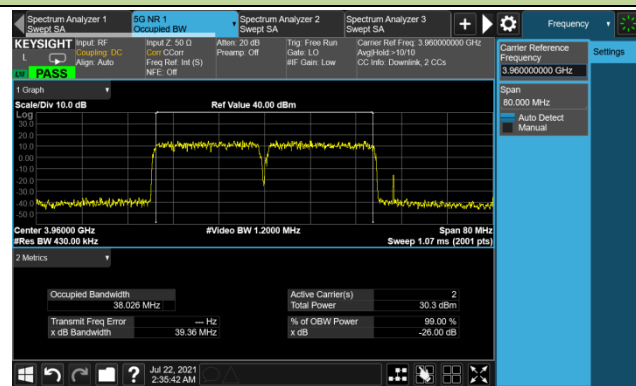
3710+3730 MHz



3830+3850 MHz

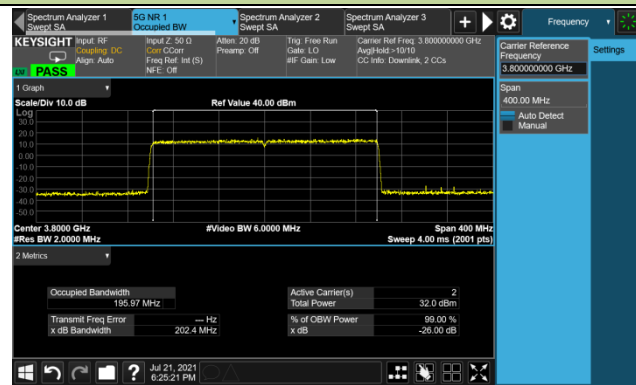


3950 + 3970 MHz

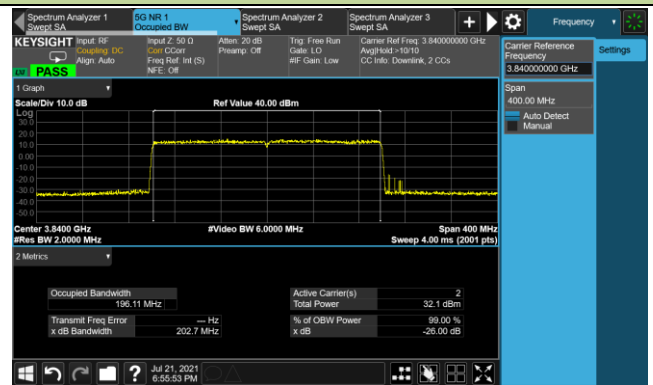


100+100 MHz Channel Bandwidth - 256QAM

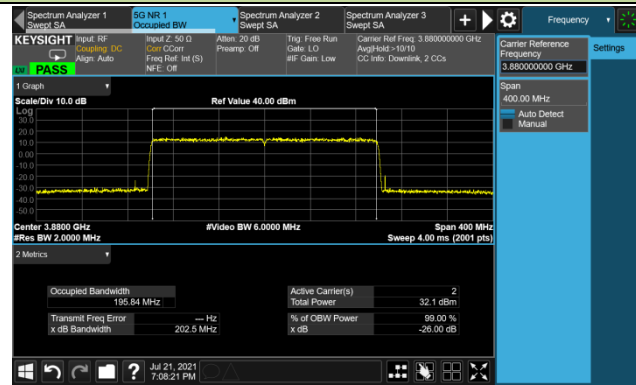
3750+3850 MHz



3790+3890 MHz



3983+3930 MHz



5.5. Peak to Average Ratio Measurement

5.5.1. Test Limit

A peak to average ratio measurement is performed at the conducted port of the EUT. The spectrum analyzers Complementary Cumulative Distribution Function (CCDF) measurement profile is used to determine the largest deviation between the average and the peak power of the EUT in a given bandwidth. The CCDF curve shows how much time the peak waveform spends at or above a given average power level. The percent of time the signal spends at or above the level defines the probability for that particular power level.

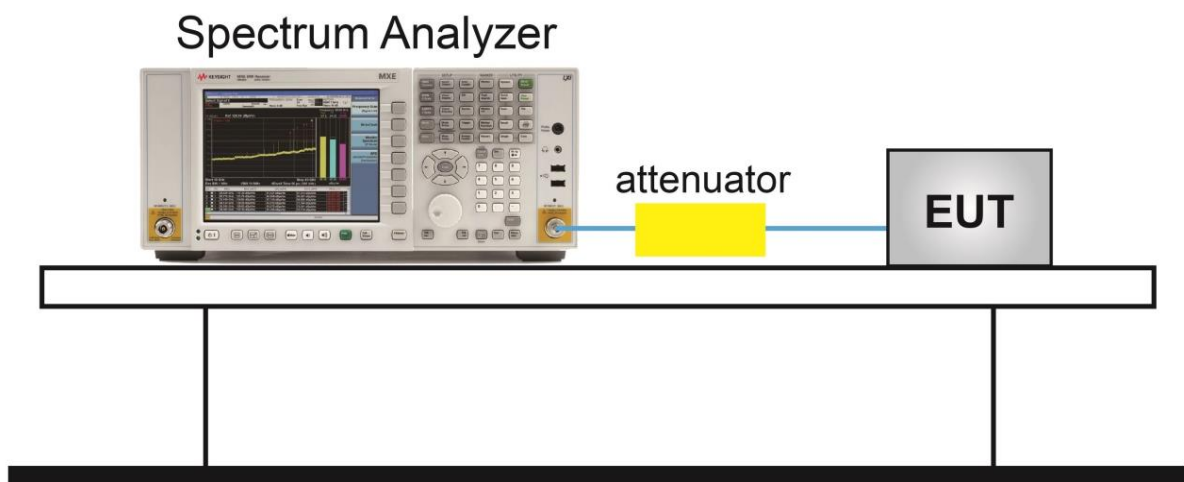
5.5.2. Test Procedure Used

ANSI C63.26-2015 - Section 5.2.3.4 (CCDF).

5.5.3. 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%

5.5.4. Test Setup



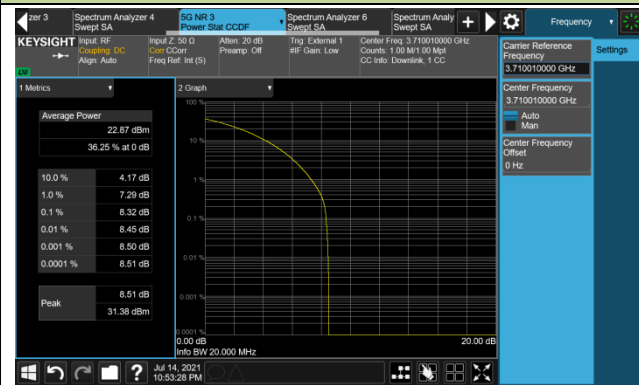
5.5.5. Test Result

| | | | |
|---------------|-------------------------|--------------------|-----|
| Test Engineer | Peter Xu | Test Site | SR2 |
| Test Date | 2021/07/14 ~ 2021/07/19 | Test Configuration | n77 |

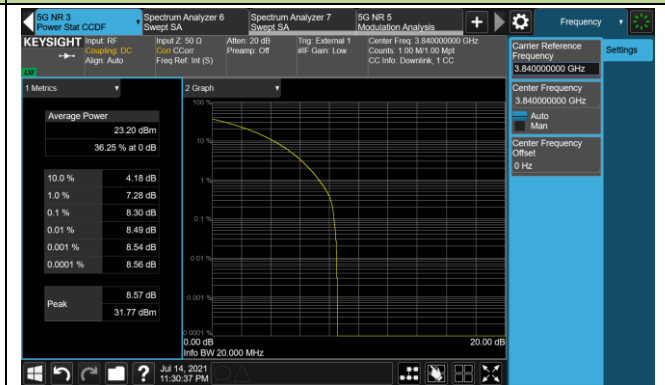
| Frequency (MHz) | Channel Bandwidth (MHz) | Peak to Average Ratio (dB) | Limit (dB) | Result |
|-----------------|-------------------------|----------------------------|------------|--------|
| 3710.01 | 20 | 8.32 | ≤ 13.00 | Pass |
| 3840.00 | 20 | 8.30 | ≤ 13.00 | Pass |
| 3969.99 | 20 | 8.33 | ≤ 13.00 | Pass |
| 3720.00 | 40 | 8.28 | ≤ 13.00 | Pass |
| 3840.00 | 40 | 8.22 | ≤ 13.00 | Pass |
| 3960.00 | 40 | 8.34 | ≤ 13.00 | Pass |
| 3730.02 | 60 | 8.37 | ≤ 13.00 | Pass |
| 3840.00 | 60 | 8.29 | ≤ 13.00 | Pass |
| 3949.98 | 60 | 8.35 | ≤ 13.00 | Pass |
| 3740.01 | 80 | 8.38 | ≤ 13.00 | Pass |
| 3840.00 | 80 | 8.30 | ≤ 13.00 | Pass |
| 3939.99 | 80 | 8.32 | ≤ 13.00 | Pass |
| 3750.00 | 100 | 8.44 | ≤ 13.00 | Pass |
| 3840.00 | 100 | 8.32 | ≤ 13.00 | Pass |
| 3930.00 | 100 | 8.39 | ≤ 13.00 | Pass |

20MHz Channel Bandwidth

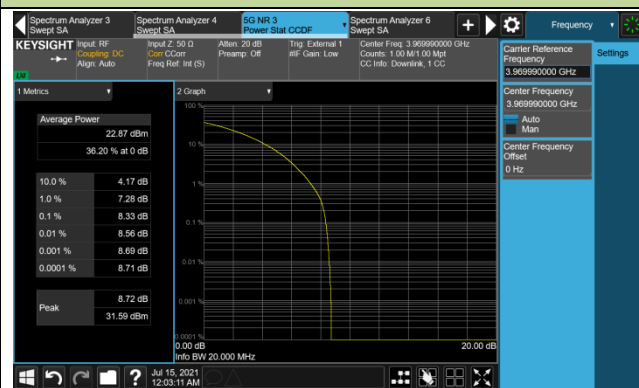
3710.01 MHz



3840.00 MHz

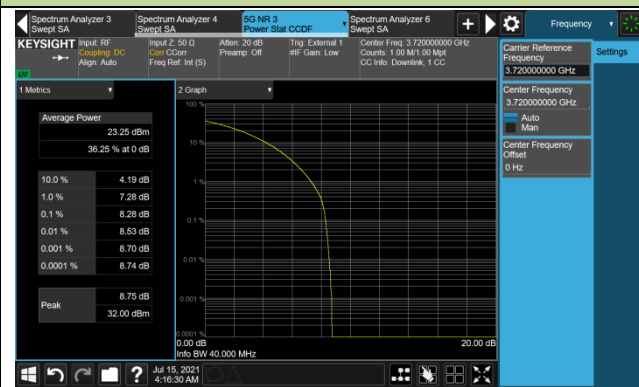


3969.99 MHz

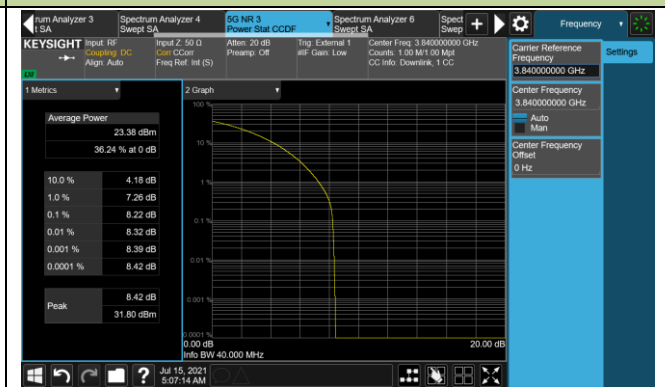


40MHz Channel Bandwidth

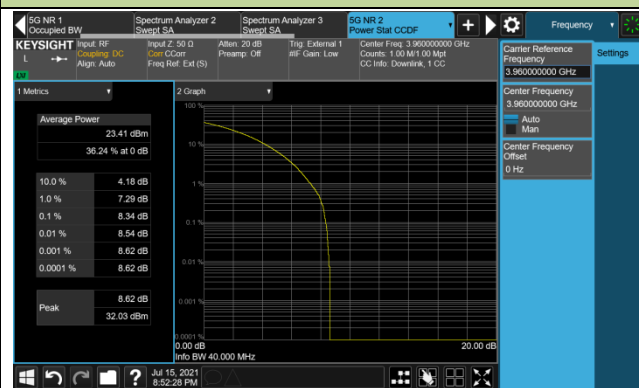
3720.00 MHz



3840.00 MHz



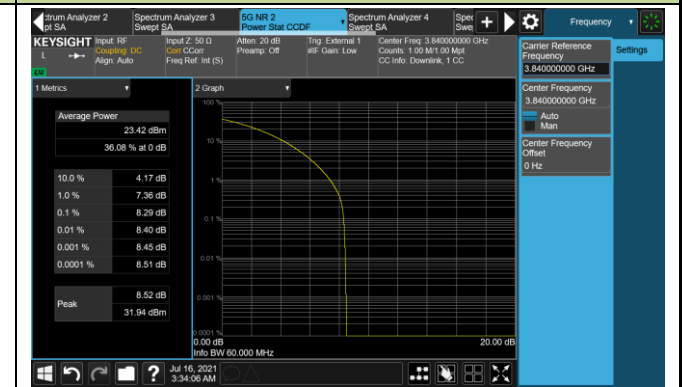
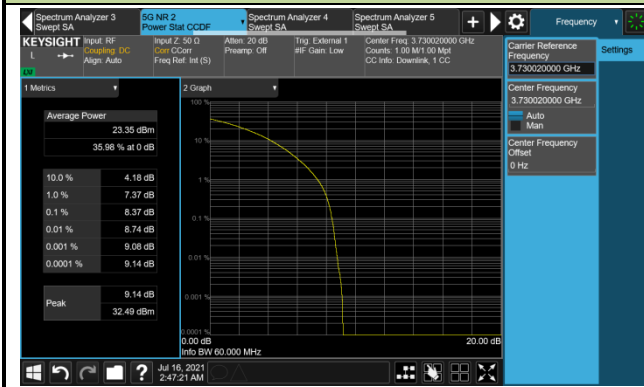
3960.00 MHz



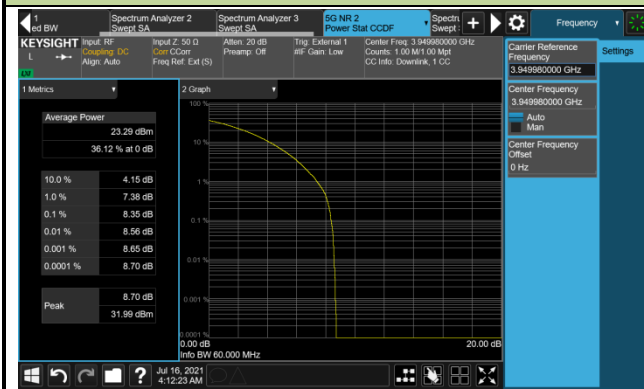
60MHz Channel Bandwidth

3730.02 MHz

3840.00 MHz



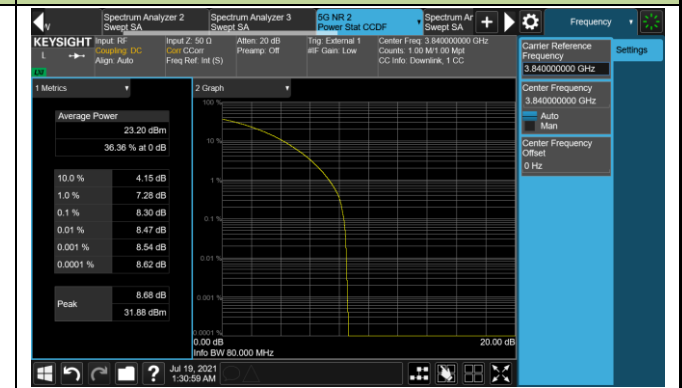
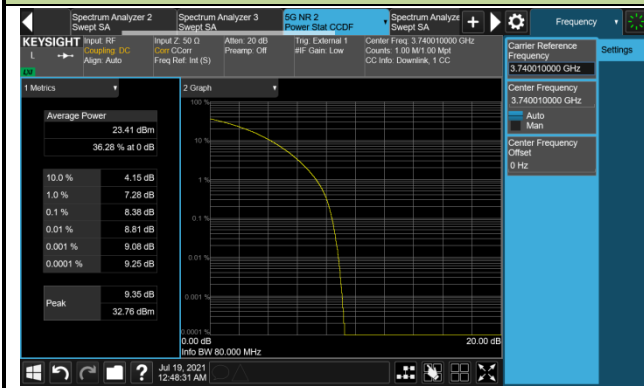
3949.98 MHz



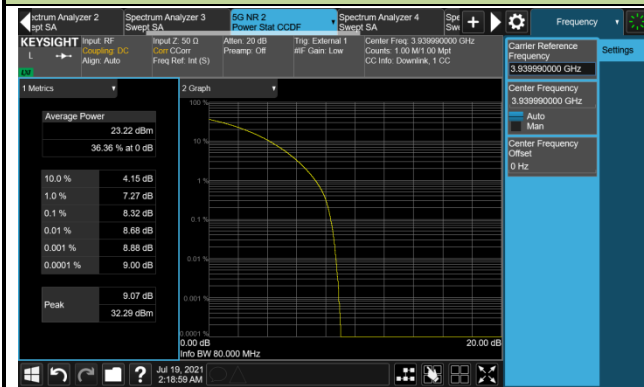
80MHz Channel Bandwidth

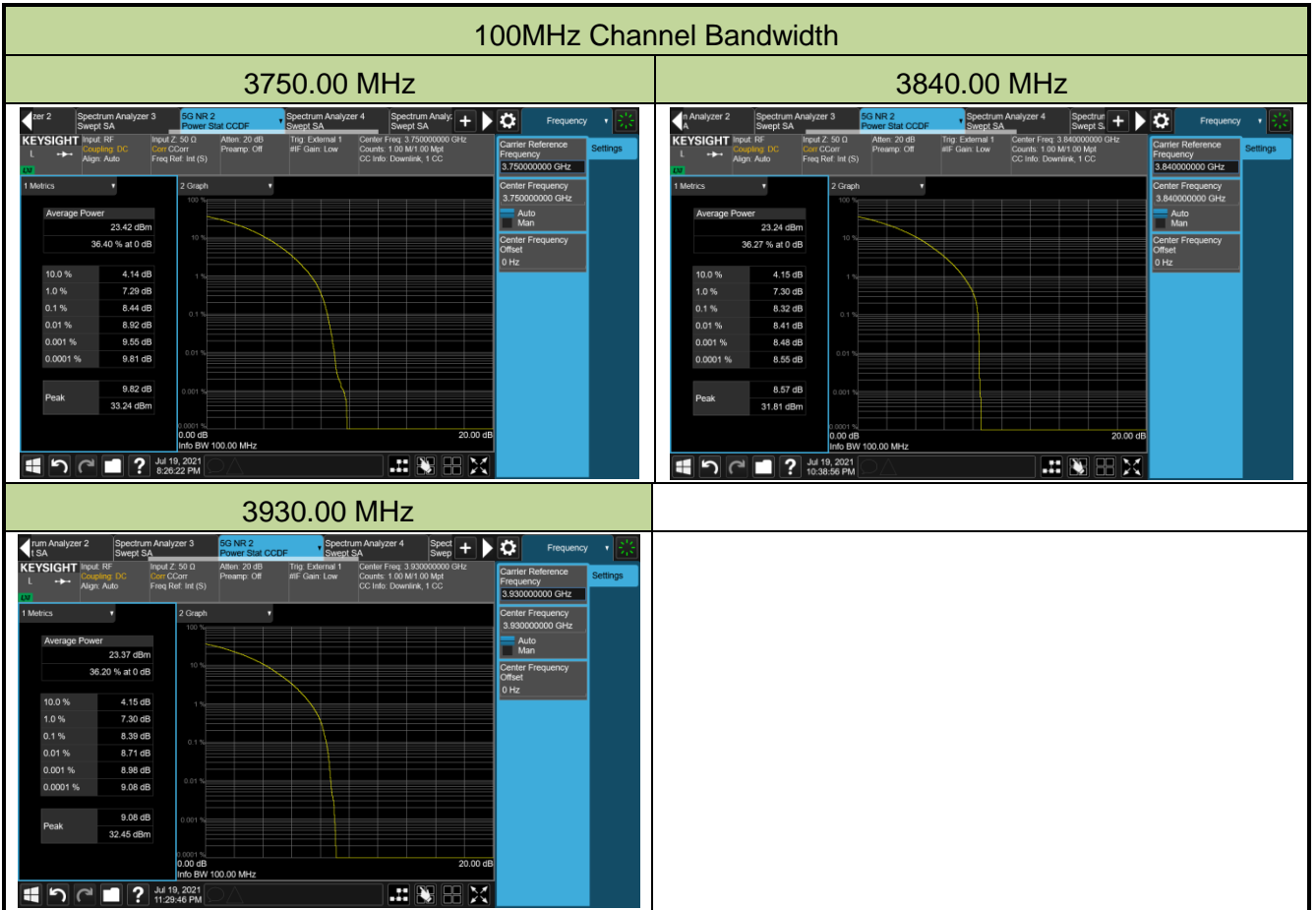
3740.01 MHz

3840.00 MHz



3939.99 MHz





5.6. Transmitter Unwanted Emission (Band Edge) Measurement

5.6.1. Test Limit

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.

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

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

5.6.2. Test Procedure Used

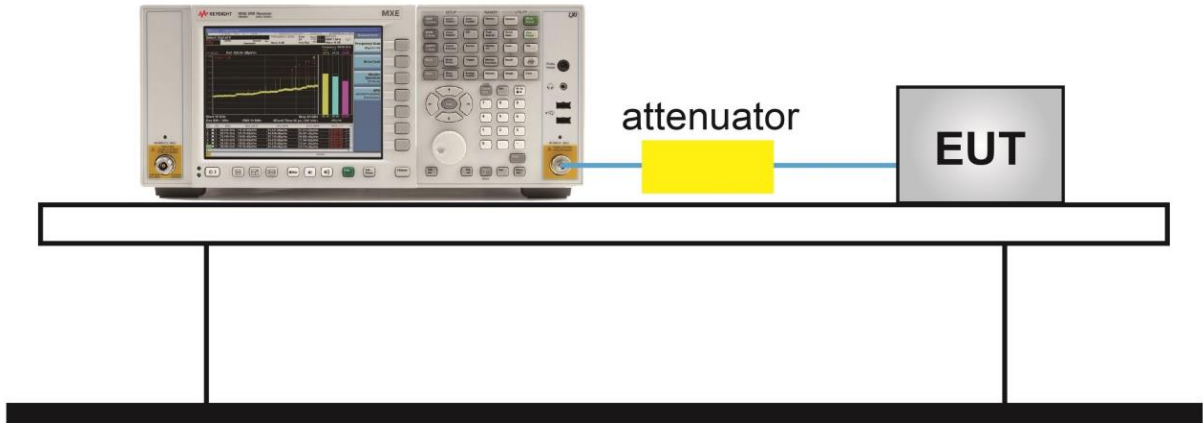
ANSI C63.26-2015 - Section 5.7

5.6.3. Test Setting

1. Set the analyzer frequency to low or high channel.
2. RBW = The nominal RBW shall be in the range of 1% of the anticipated OBW;
3. VBW $\geq 3 \cdot$ RBW
4. Sweep time = auto
5. Detector = power averaging (rms)
6. Set sweep trigger to "free run."
7. User gate triggered such that the analyzer only sweeps when the device is transmitting at full power
8. 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.
9. Used power integration when using a measurement bandwidth smaller than the specified bandwidth.

5.6.4. Test Setup

Spectrum Analyzer



5.6.5. Test Result

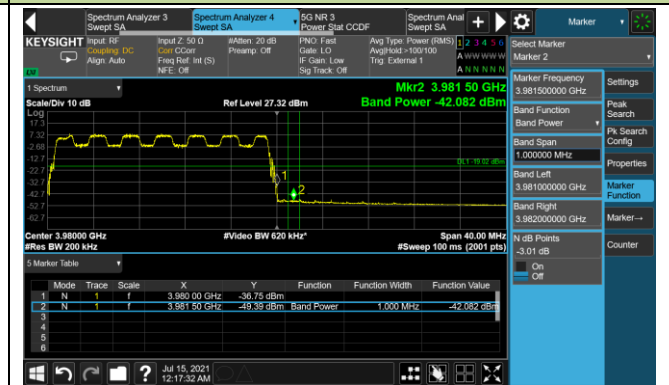
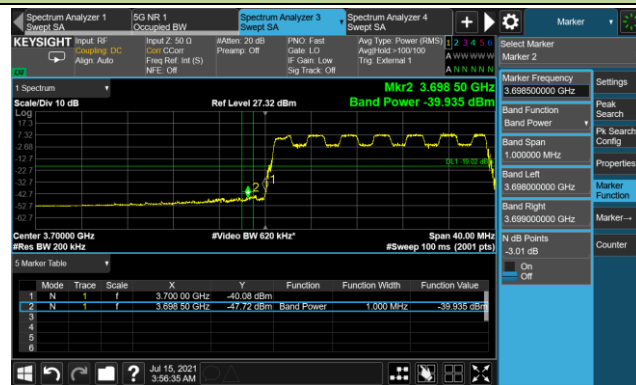
| | | | |
|---------------|-------------------------|--------------------|----------------------|
| Test Engineer | Peter Xu | Test Site | SR2 |
| Test Date | 2021/07/15 ~ 2021/07/19 | Test Configuration | n77 (Single Carrier) |

Unwanted Emission - Ant 1

20MHz Channel Bandwidth

3710.01 MHz

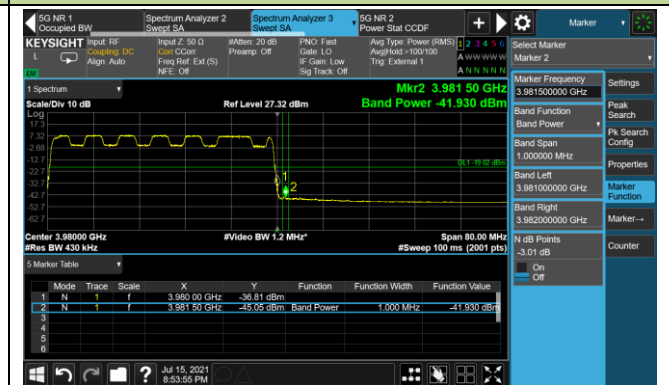
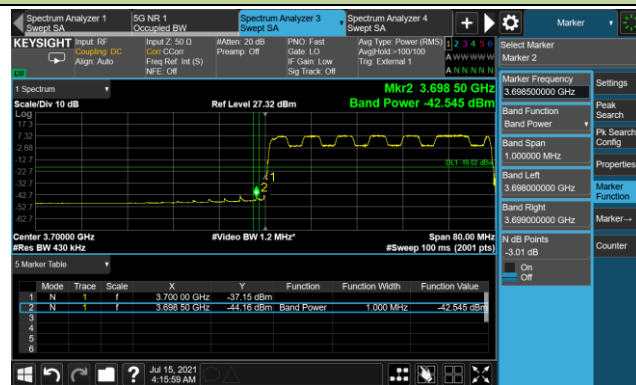
3969.99 MHz



40MHz Channel Bandwidth

3720.00 MHz

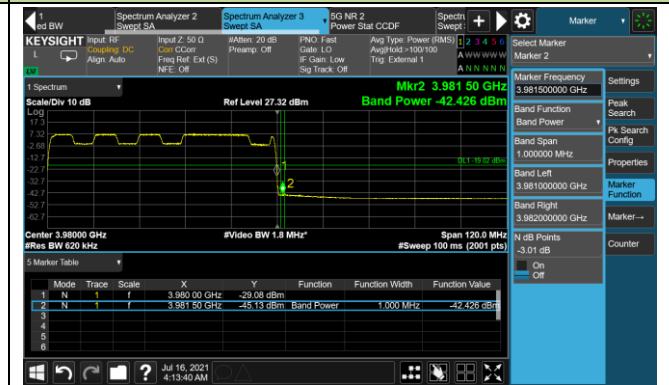
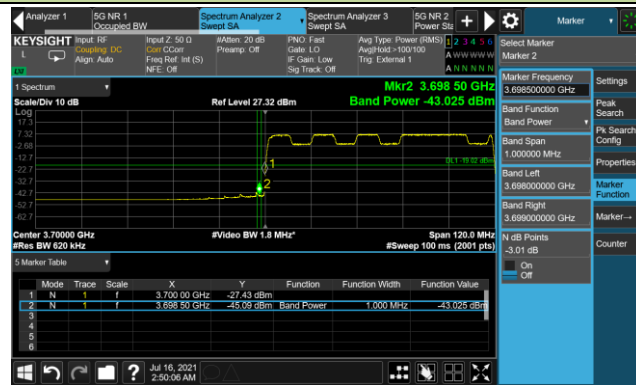
3960.00 MHz



60MHz Channel Bandwidth

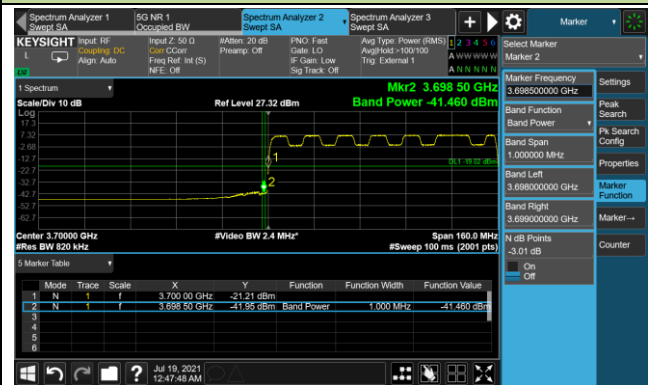
3730.02 MHz

3949.98 MHz

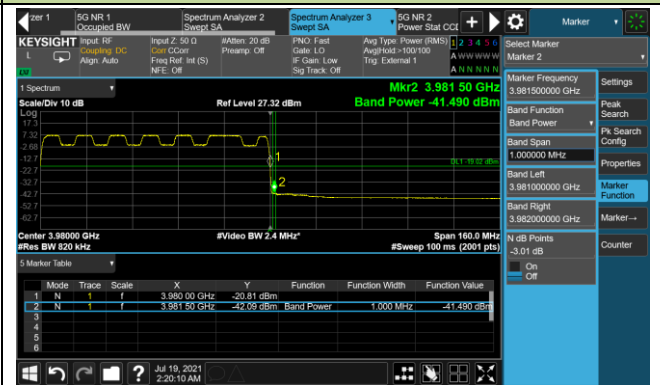


80MHz Channel Bandwidth

3740.01 MHz

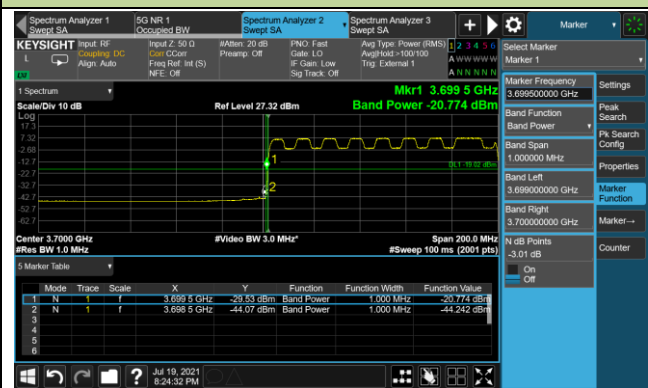


3939.99 MHz

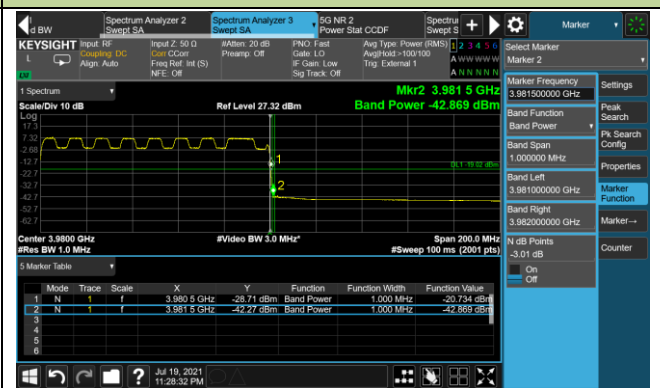


100MHz Channel Bandwidth

3750.00 MHz



3930.00 MHz



Unwanted Emission - Ant 2

20MHz Channel Bandwidth

3710.01 MHz

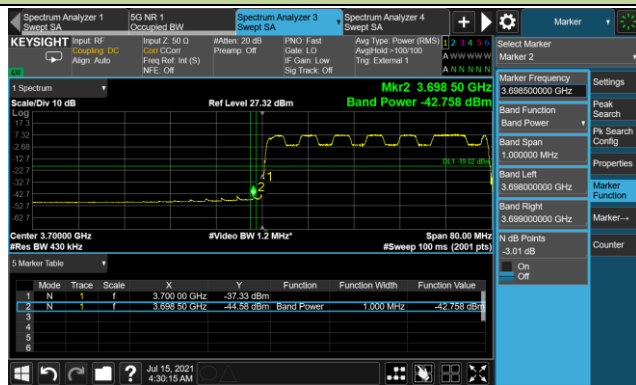


3969.99 MHz

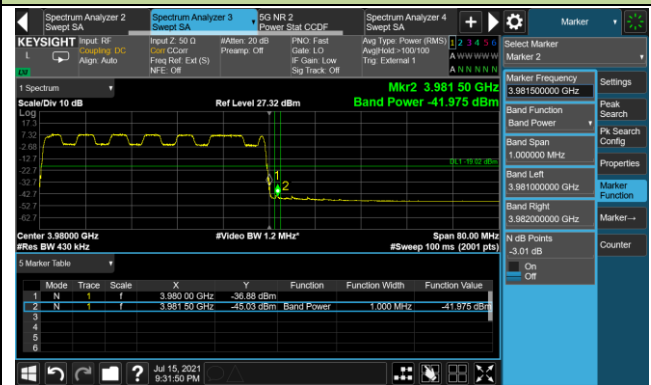


40MHz Channel Bandwidth

3720.00 MHz

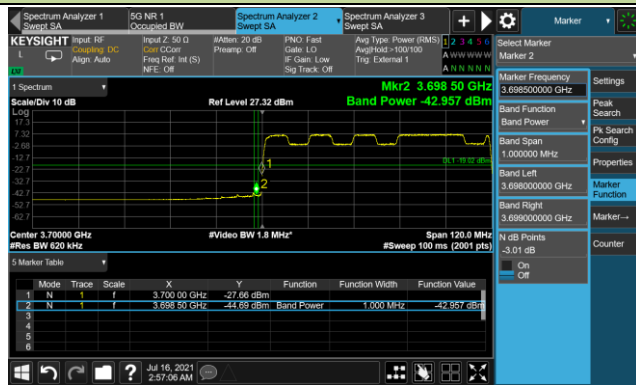


3960.00 MHz

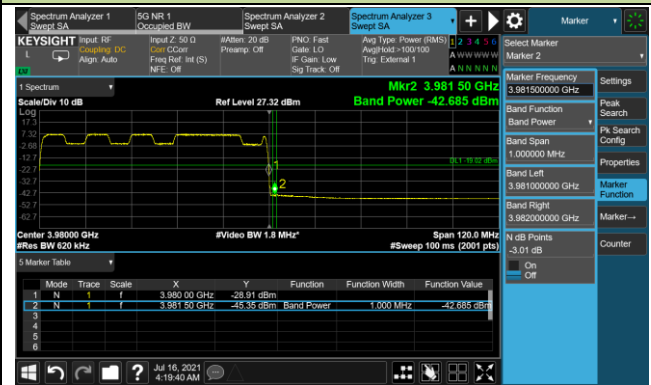


60MHz Channel Bandwidth

3730.02 MHz

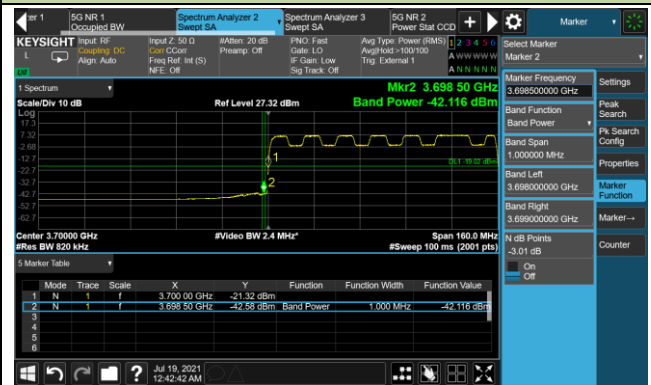


3949.98 MHz

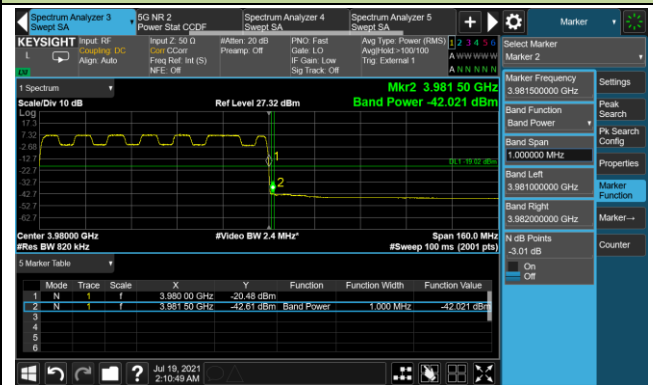


80MHz Channel Bandwidth

3740.01 MHz

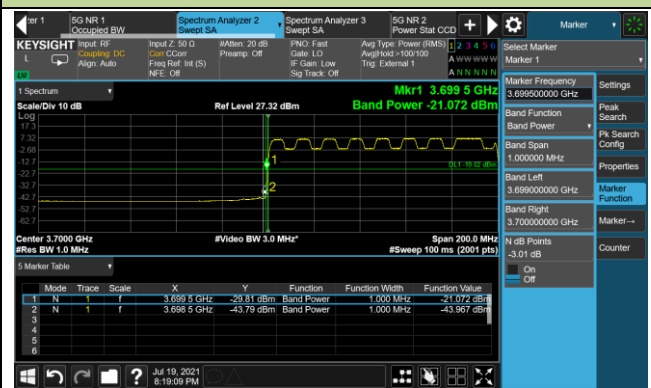


3939.99 MHz

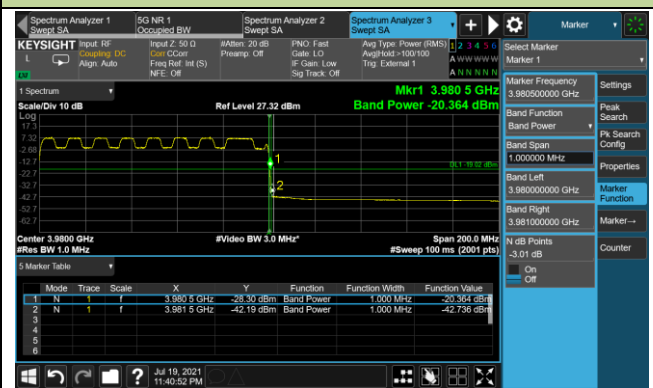


100MHz Channel Bandwidth

3750.00 MHz



3930.00 MHz



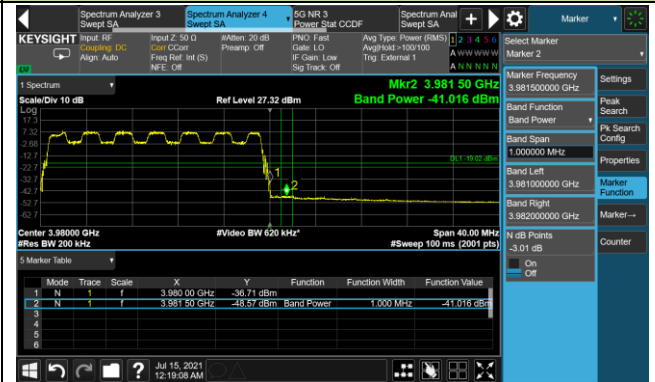
Unwanted Emission - Ant 3

20MHz Channel Bandwidth

3710.01 MHz

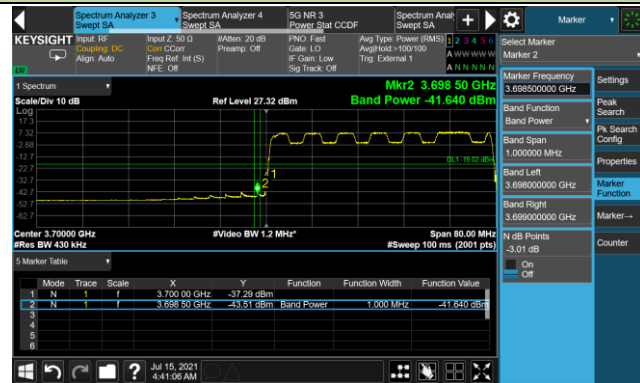


3969.99 MHz



40MHz Channel Bandwidth

3720.00 MHz

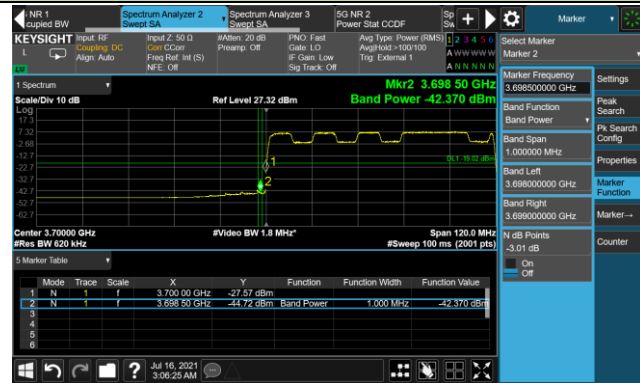


3960.00 MHz



60MHz Channel Bandwidth

3730.02 MHz

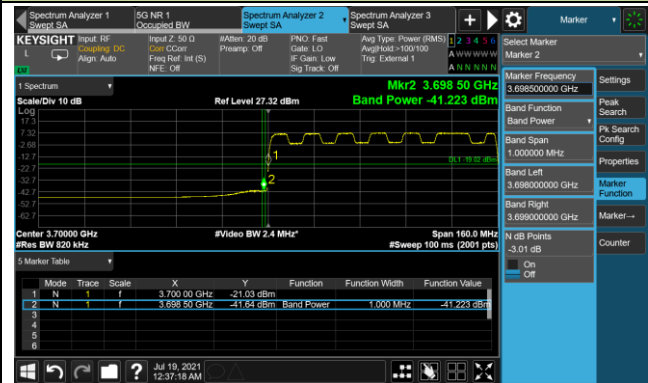


3949.98 MHz

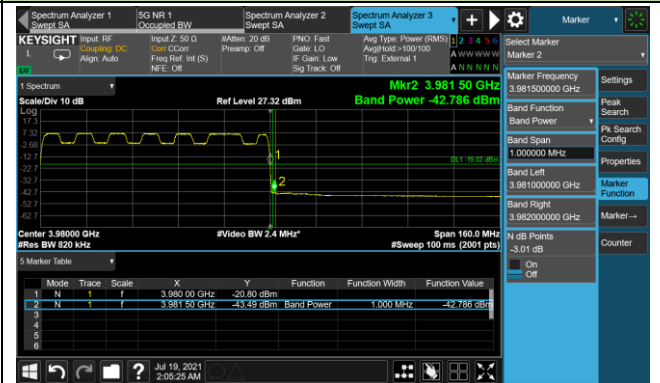


80MHz Channel Bandwidth

3740.01 MHz

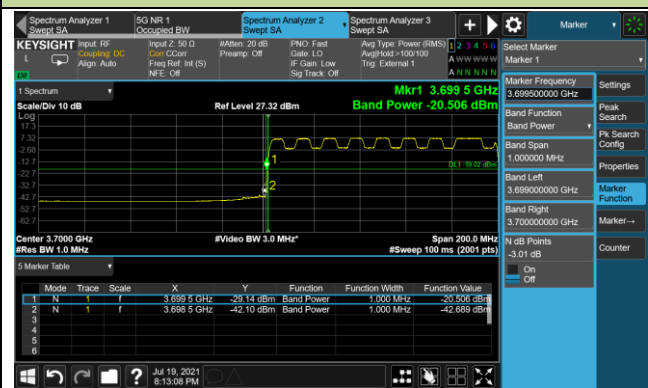


3939.99 MHz

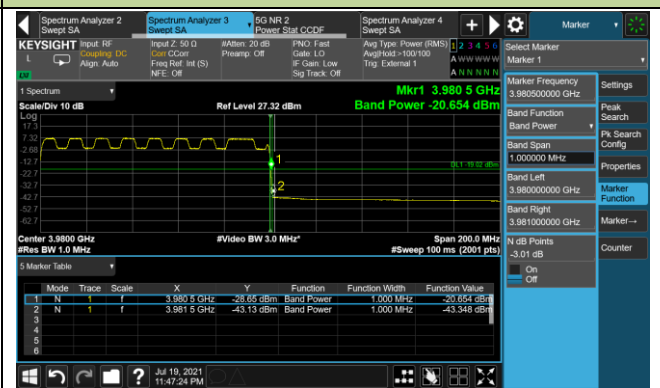


100MHz Channel Bandwidth

3750.00 MHz



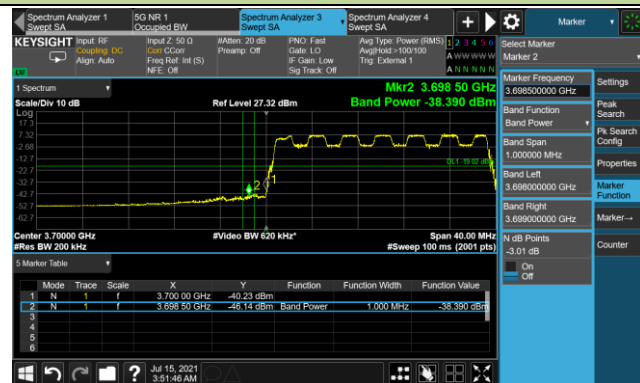
3930.00 MHz



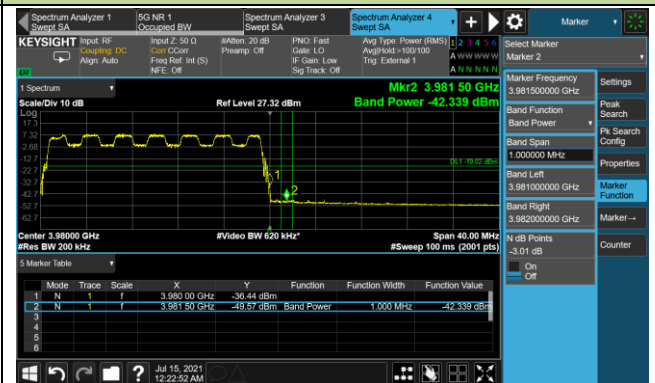
Unwanted Emission - Ant 4

20MHz Channel Bandwidth

3710.01 MHz

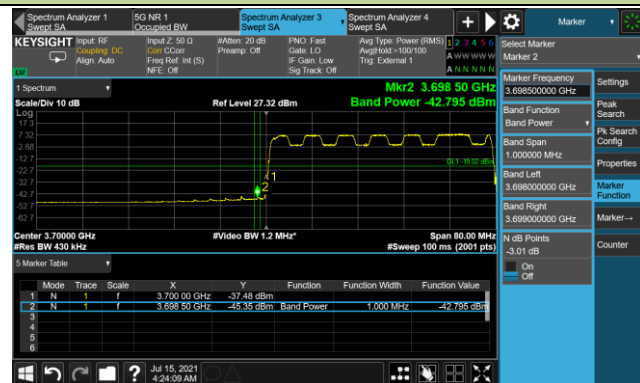


3969.99 MHz



40MHz Channel Bandwidth

3720.00 MHz

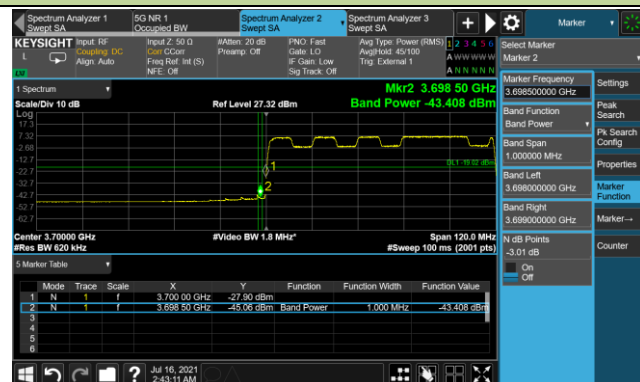


3960.00 MHz

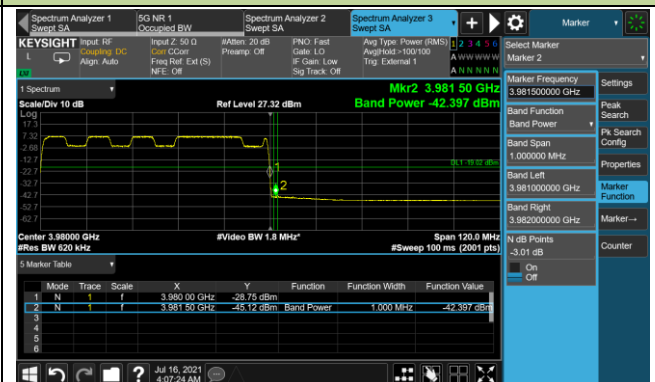


60MHz Channel Bandwidth

3730.02 MHz

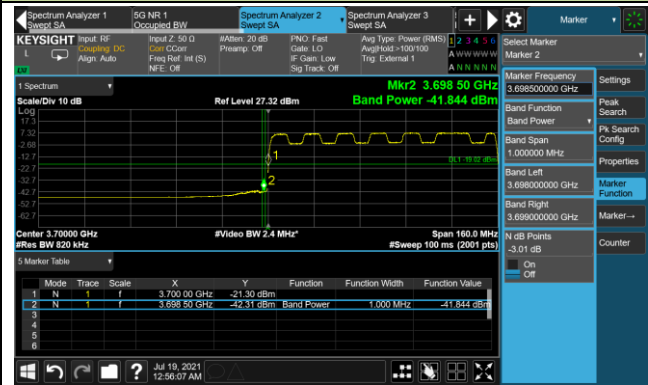


3949.98 MHz

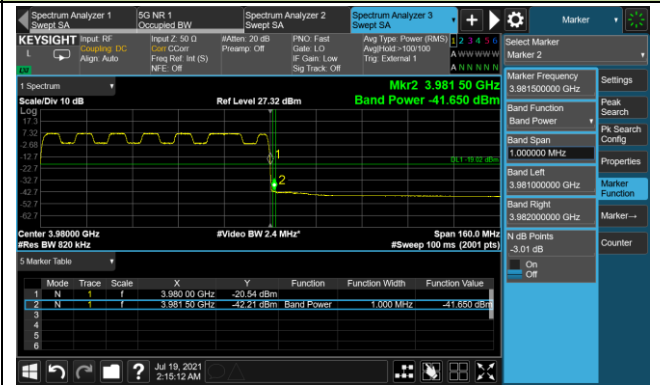


80MHz Channel Bandwidth

3740.01 MHz

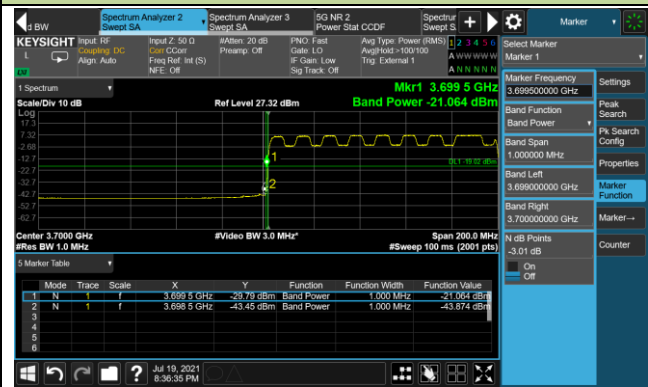


3939.99 MHz



100MHz Channel Bandwidth

3750.00 MHz



3930.00 MHz

