

Figure 148 - 802.11ac, VHT40, TxBF, Core 0-1 - 5310 MHz, Band Edge Frequency 5350 MHz

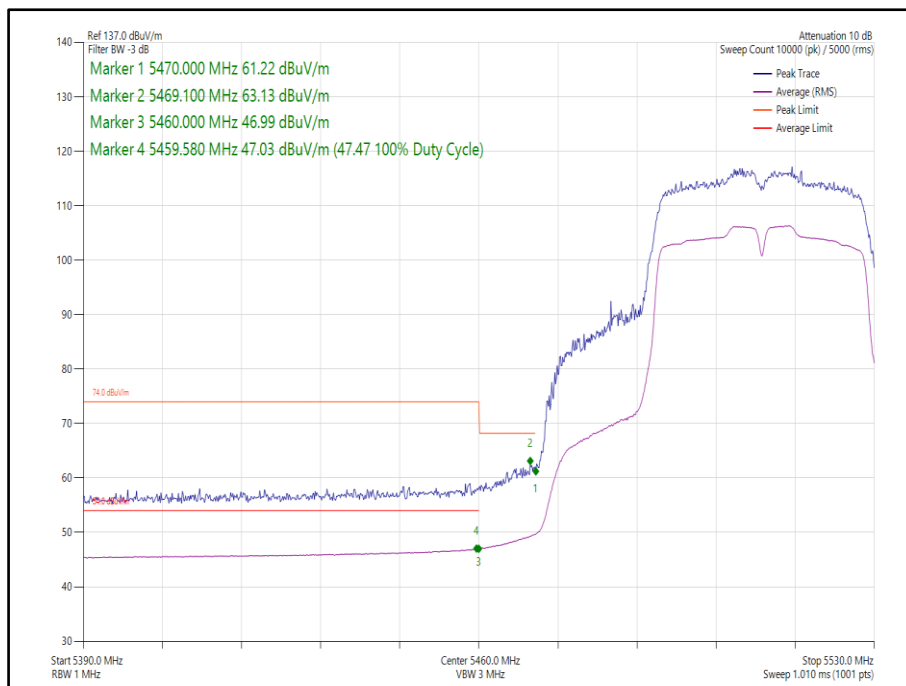


Figure 149 - 802.11ac, VHT40, TxBF, Core 0-1 - 5510 MHz, Band Edge Frequency 5460 MHz



80 MHz Bandwidth - Core 0 (SISO)

| Mode | Data Rate/ MCS | Resource Size | Resource Index | TX Frequency (MHz) | Band Edge Frequency (MHz) | Peak Level (dBμV/m) | Average Level (dBμV/m) |
|----------------|-------------------|------------------|-------------------|--------------------------|---------------------------------|------------------------|------------------------------|
| 802.11ac VHT80 | MCS2x1 | - | - | 5210 | 5150 | 62.77 | 51.49 |
| 802.11ax HE80 | MCS4x1 | SU | - | 5210 | 5150 | 63.21 | 51.39 |
| 802.11ax HE80 | MCS11x1 | 52 | 37 | 5210 | 5150 | 69.32 | 50.05 |
| 802.11ac VHT80 | MCS2x1 | - | - | 5290 | 5350 | 63.09 | 51.38 |
| 802.11ax HE80 | MCS2x1 | SU | - | 5290 | 5350 | 63.02 | 51.40 |
| 802.11ax HE80 | MCS11x1 | 52 | 37 | 5290 | 5350 | 64.60 | 51.37 |
| 802.11ac VHT80 | MCS2x1 | - | - | 5530 | 5460 | 63.38 | 51.34 |
| 802.11ax HE80 | MCS2x1 | SU | - | 5530 | 5460 | 63.68 | 51.34 |
| 802.11ax HE80 | MCS11x1 | 106 | 53 | 5530 | 5460 | 63.55 | 47.69 |

Table 17 - SISO Restricted Band Edge Results

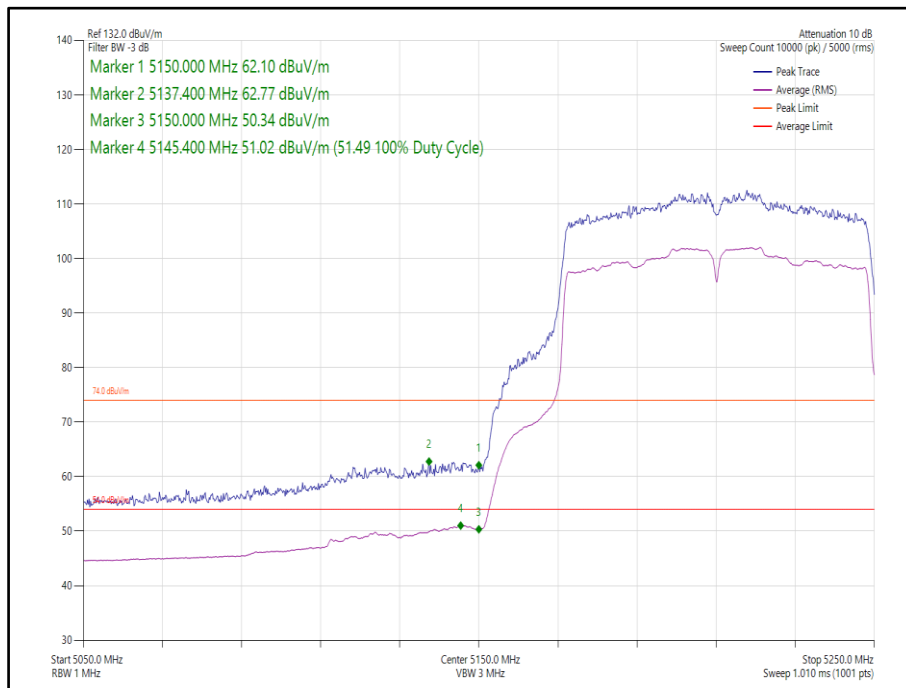
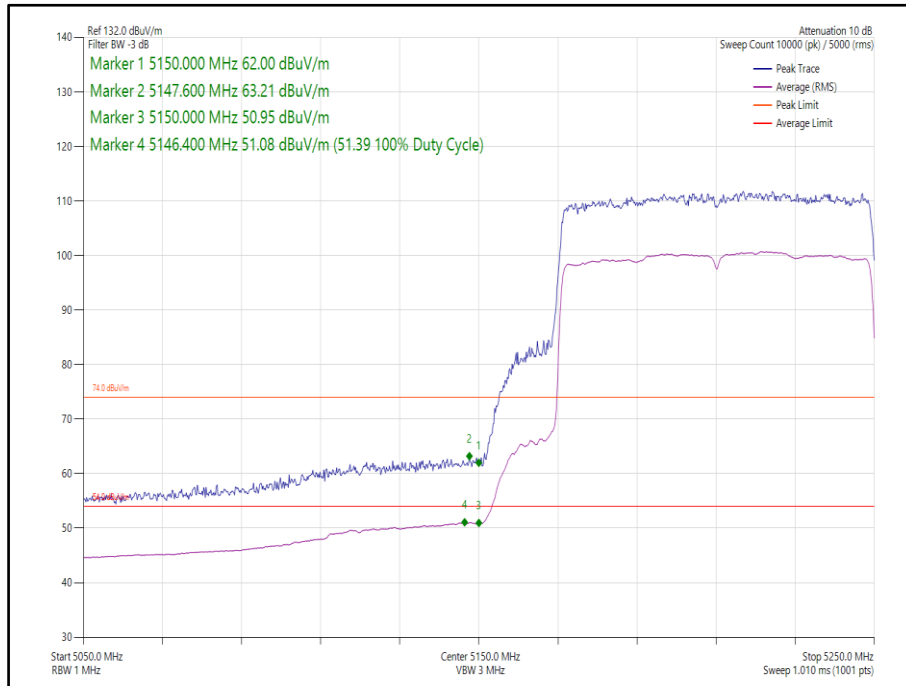
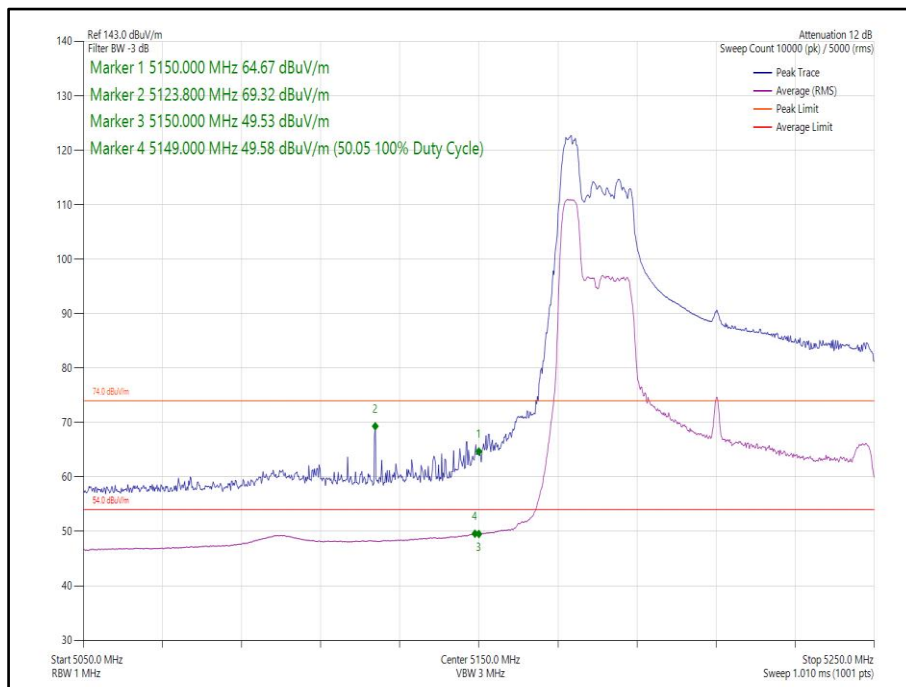


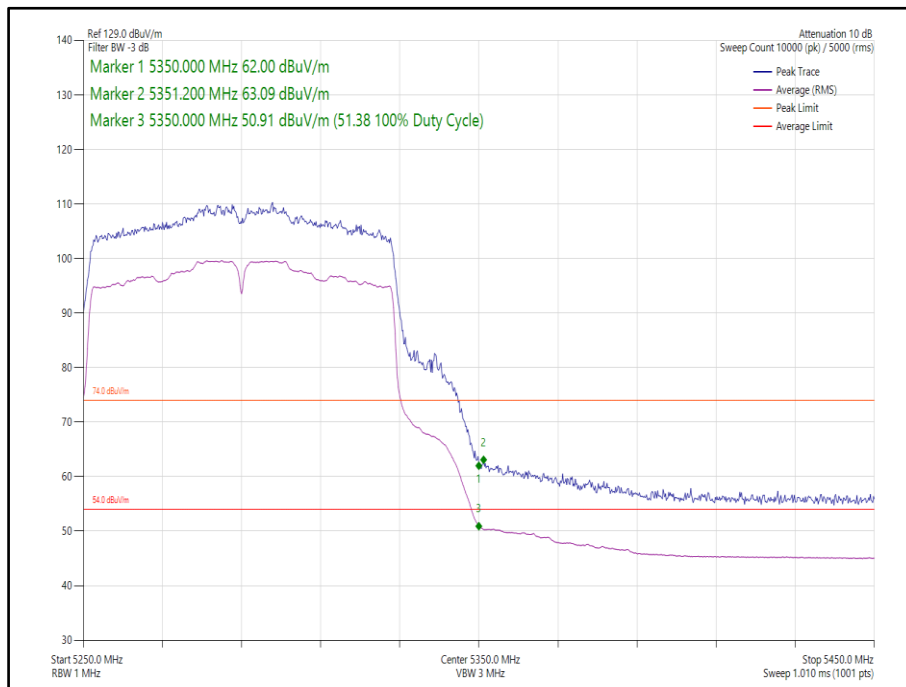
Figure 150 - 802.11ac, VHT80, SISO, Core 0 - 5210 MHz,
 Band Edge Frequency 5150 MHz



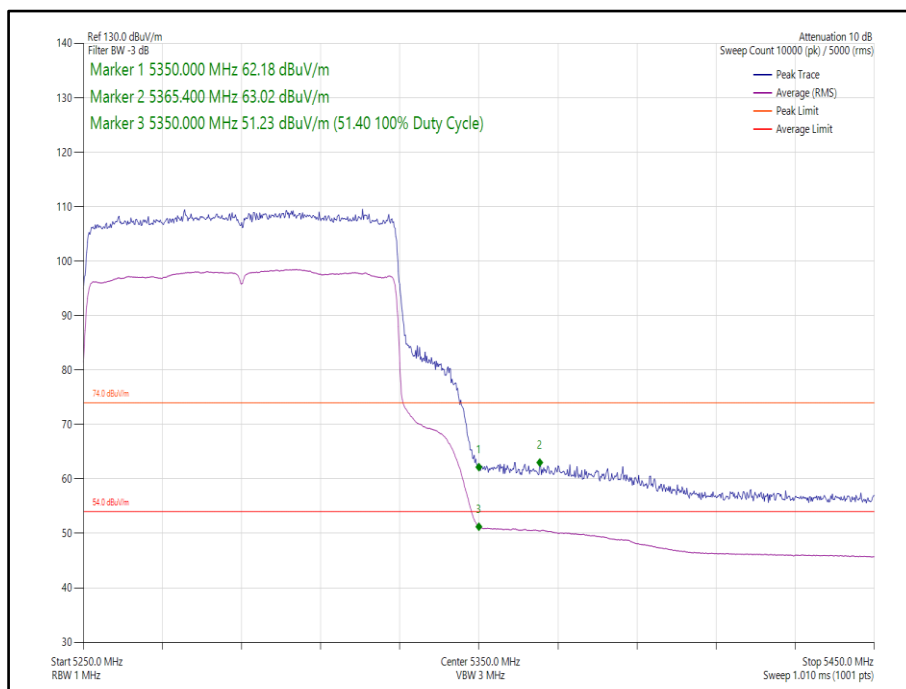
**Figure 151 - 802.11ax, HE80, SU, SISO, Core 0 - 5210 MHz,
Band Edge Frequency 5150 MHz**



**Figure 152 - 802.11ax, HE80, RU 52-37, SISO, Core 0 - 5210 MHz,
Band Edge Frequency 5150 MHz**



**Figure 153 - 802.11ac, VHT80, SISO, Core 0 - 5290 MHz,
Band Edge Frequency 5350 MHz**



**Figure 154 - 802.11ax, HE80, SU, SISO, Core 0 - 5290 MHz,
Band Edge Frequency 5350 MHz**

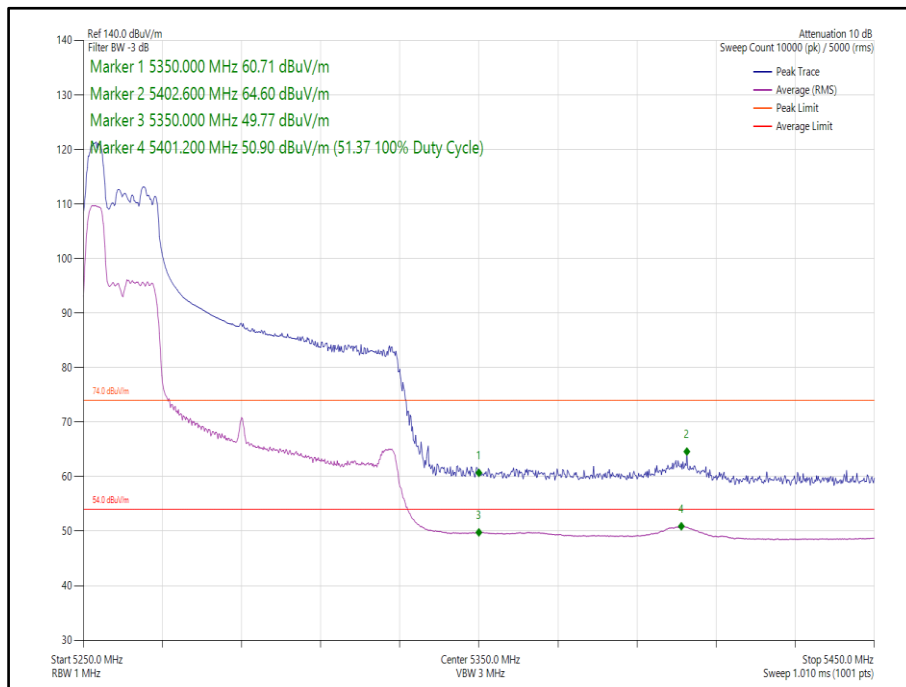


Figure 155 - 802.11ax, HE80, RU 52-37, SISO, Core 0 - 5290 MHz,
Band Edge Frequency 5350 MHz

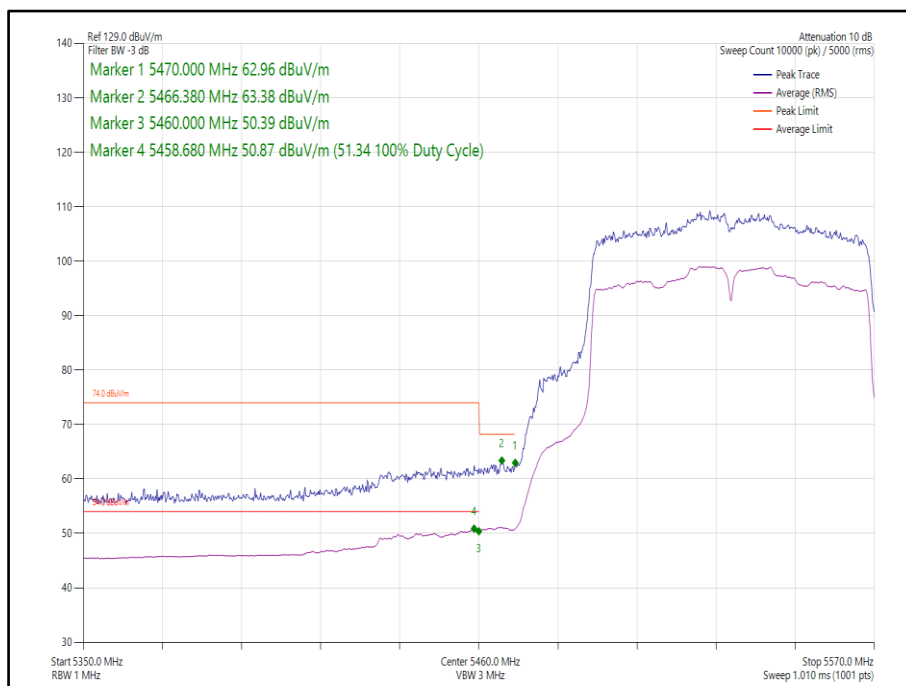
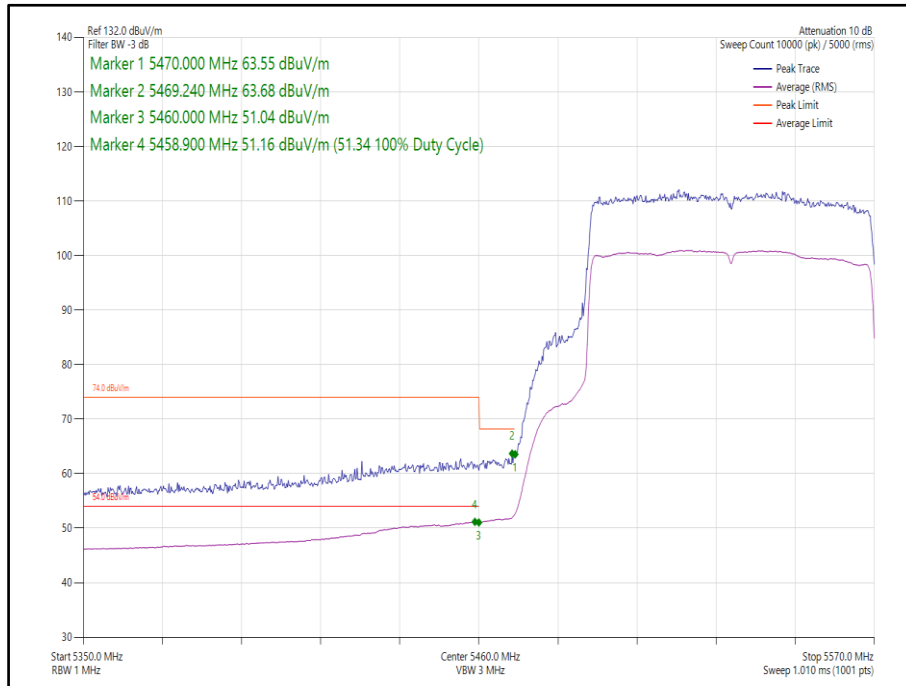
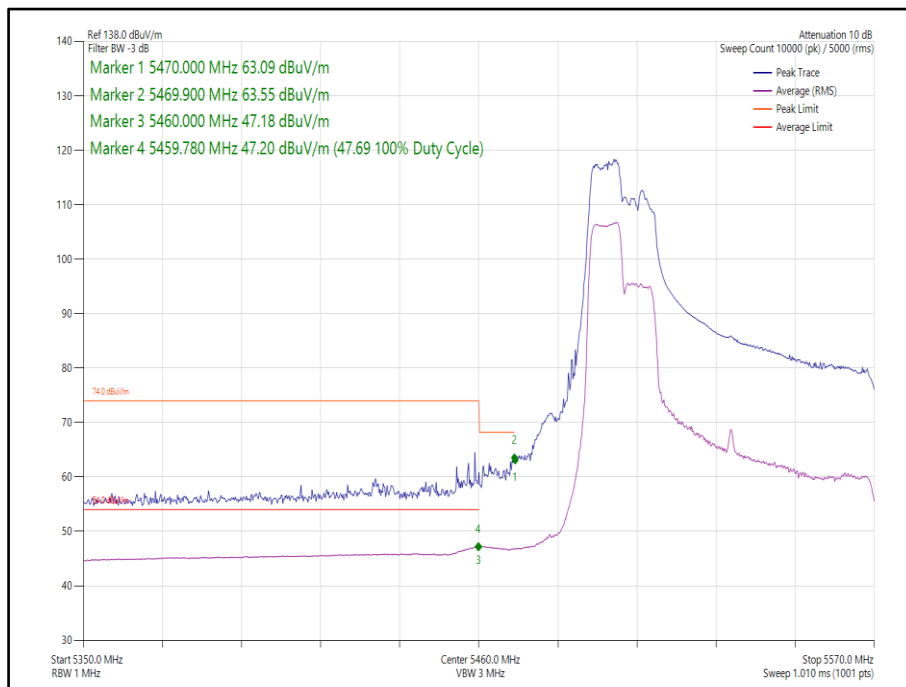


Figure 156 - 802.11ac, VHT80, SISO, Core 0 - 5530 MHz,
Band Edge Frequency 5460 MHz



**Figure 157 - 802.11ax, HE80, SU, SISO, Core 0 - 5530 MHz,
Band Edge Frequency 5460 MHz**



**Figure 158 - 802.11ax, HE80, RU 106-53, SISO, Core 0 - 5530 MHz,
Band Edge Frequency 5460 MHz**



80 MHz Bandwidth - Core 1 (SISO)

| Mode | Data Rate/ MCS | Resource Size | Resource Index | TX Frequency (MHz) | Band Edge Frequency (MHz) | Peak Level (dBμV/m) | Average Level (dBμV/m) |
|----------------|-------------------|------------------|-------------------|--------------------------|---------------------------------|------------------------|------------------------------|
| 802.11ac VHT80 | MCS4x1 | - | - | 5210 | 5150 | 62.01 | 51.47 |
| 802.11ax HE80 | MCS4x1 | SU | - | 5210 | 5150 | 63.23 | 51.44 |
| 802.11ax HE80 | MCS11x1 | 26 | - | 5210 | 5150 | 69.44 | 50.90 |
| 802.11ac VHT80 | MCS7x1 | - | - | 5290 | 5350 | 64.93 | 51.33 |
| 802.11ax HE80 | MCS2x1 | SU | - | 5290 | 5350 | 63.43 | 51.39 |
| 802.11ax HE80 | MCS11x1 | 52 | 52 | 5290 | 5350 | 69.47 | 49.55 |
| 802.11ac VHT80 | MCS2x1 | - | - | 5530 | 5460 | 63.24 | 49.46 |
| 802.11ax HE80 | MCS4x1 | SU | - | 5530 | 5460 | 63.41 | 49.25 |
| 802.11ax HE80 | MCS11x1 | 106 | 53 | 5530 | 5460 | 63.55 | 49.21 |

Table 18 - SISO Restricted Band Edge Results

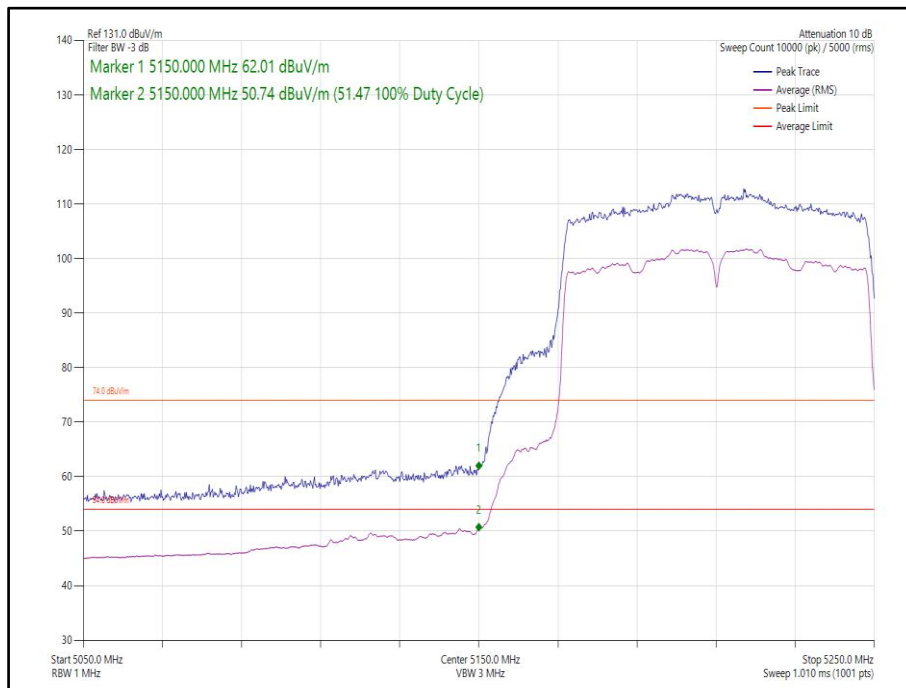


Figure 159 - 802.11ac, VHT80, SISO, Core 1 - 5210 MHz, Band Edge Frequency 5150 MHz

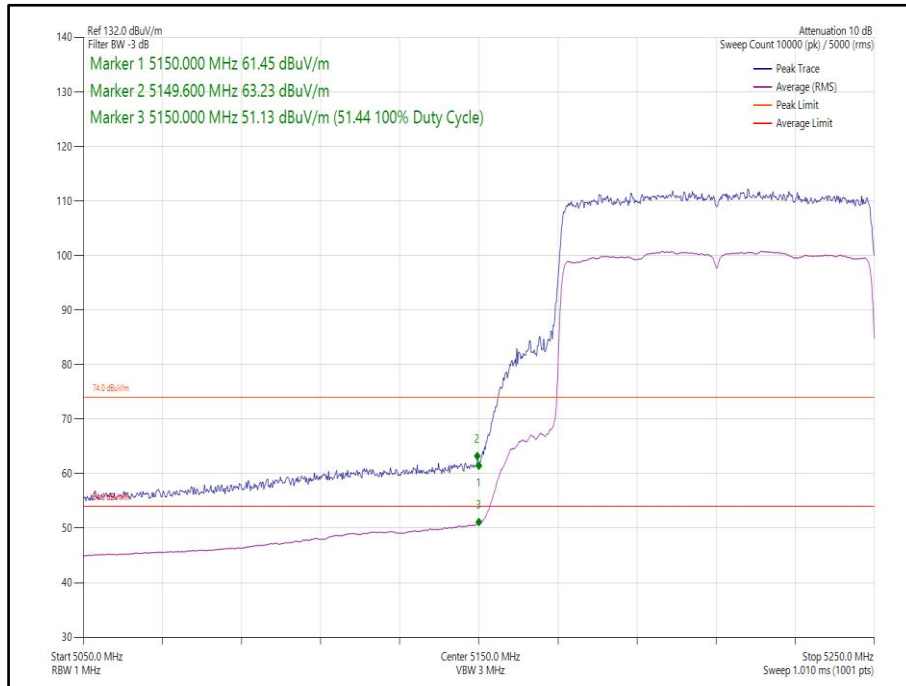


Figure 160 - 802.11ax, HE80, SU, SISO, Core 1 - 5210 MHz,
Band Edge Frequency 5150 MHz

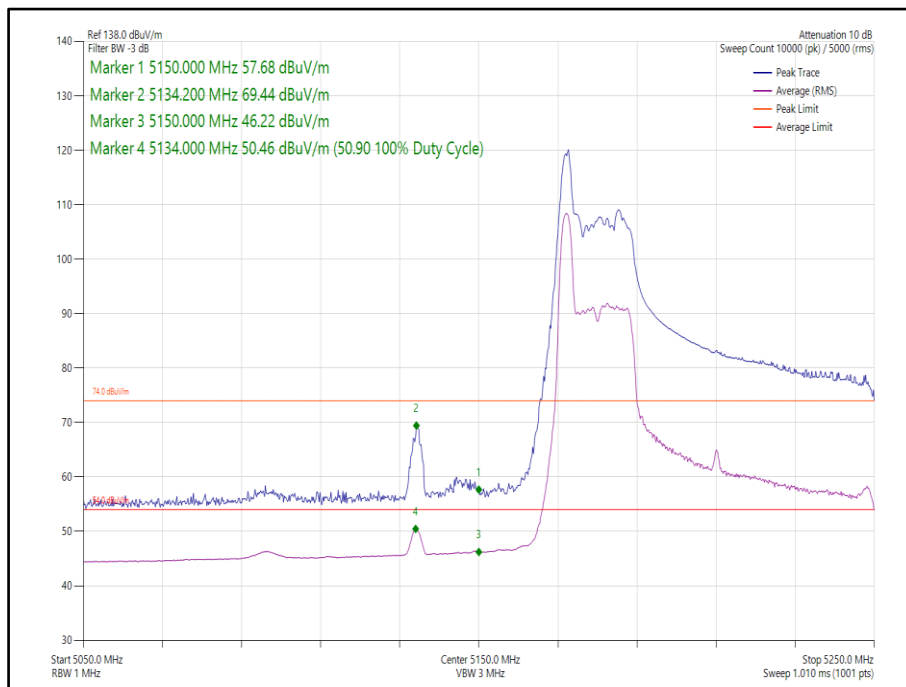
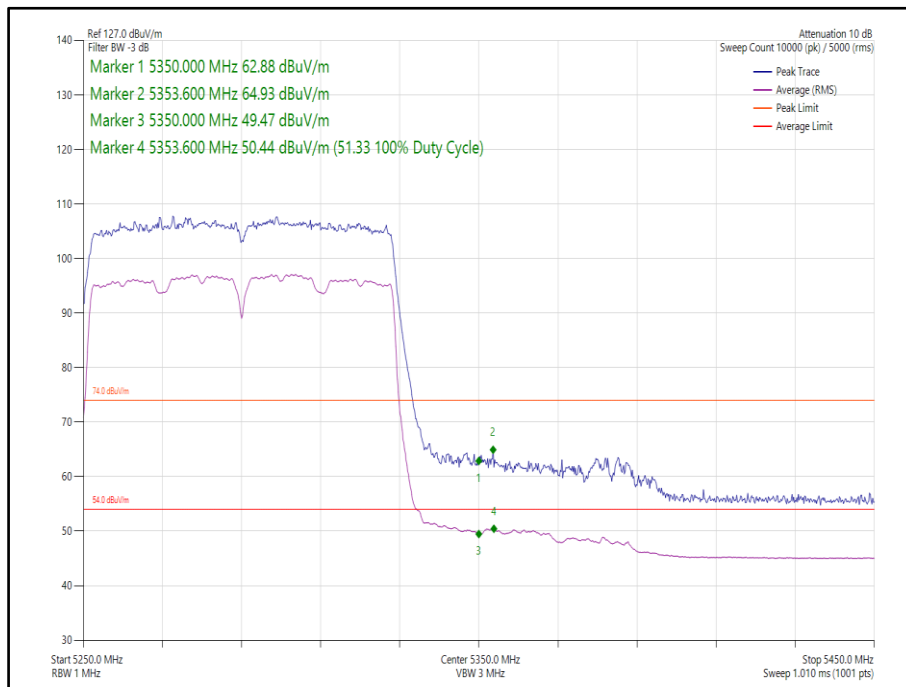
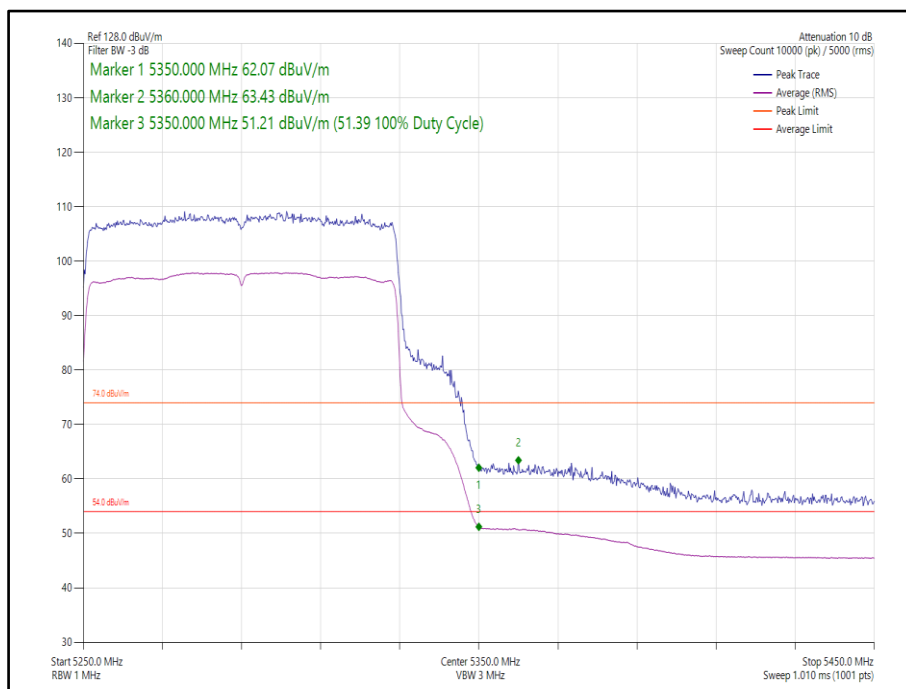


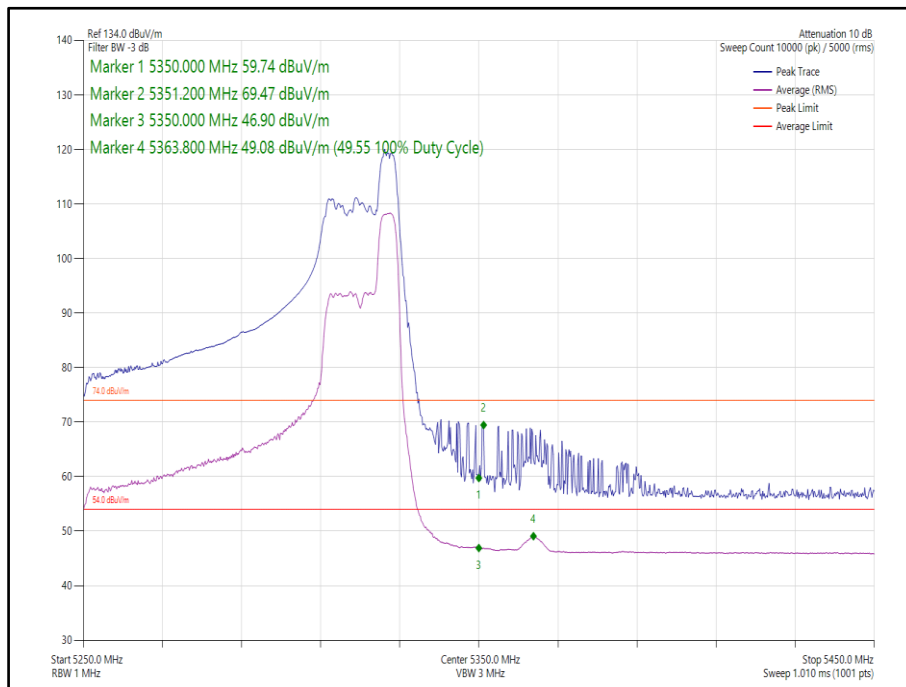
Figure 161 - 802.11ax, HE80, RU 26-0, SISO, Core 1 - 5210 MHz,
Band Edge Frequency 5150 MHz



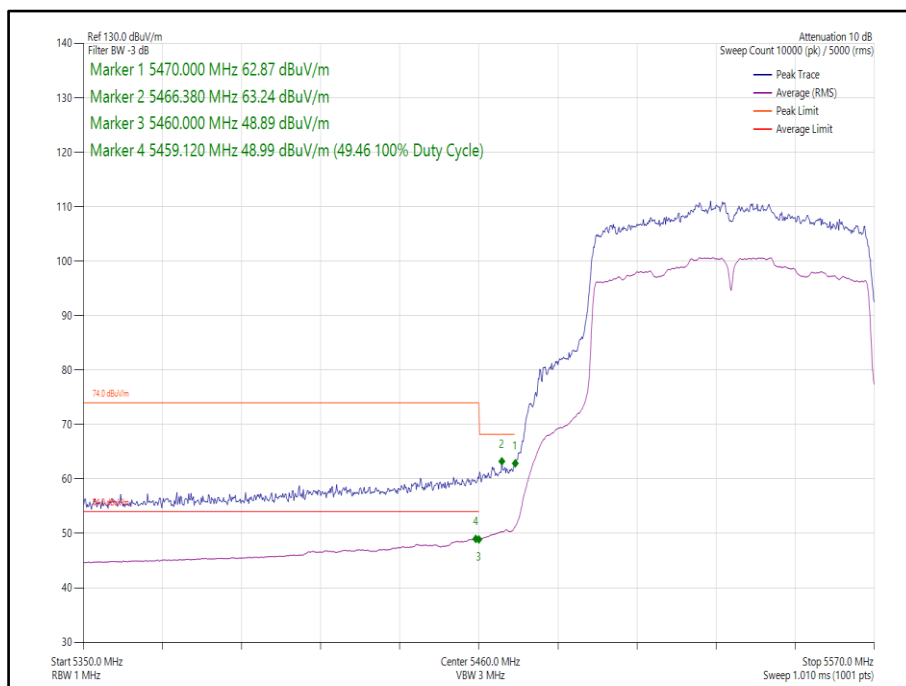
**Figure 162 - 802.11ac, VHT80, SISO, Core 1 - 5290 MHz,
Band Edge Frequency 5350 MHz**



**Figure 163 - 802.11ax, HE80, SU, SISO, Core 1 - 5290 MHz,
Band Edge Frequency 5350 MHz**



**Figure 164 - 802.11ax, HE80, RU 52-52, SISO, Core 1 - 5290 MHz,
Band Edge Frequency 5350 MHz**



**Figure 165 - 802.11ac, VHT80, SISO, Core 1 - 5530 MHz,
Band Edge Frequency 5460 MHz**

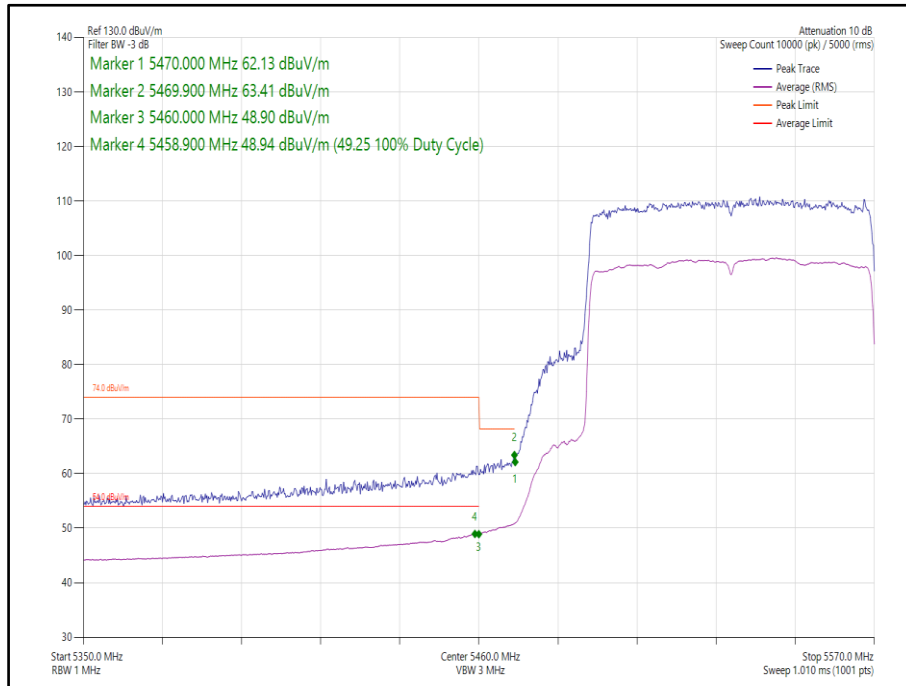


Figure 166 - 802.11ax, HE80, SU, SISO, Core 1 - 5530 MHz,
Band Edge Frequency 5460 MHz

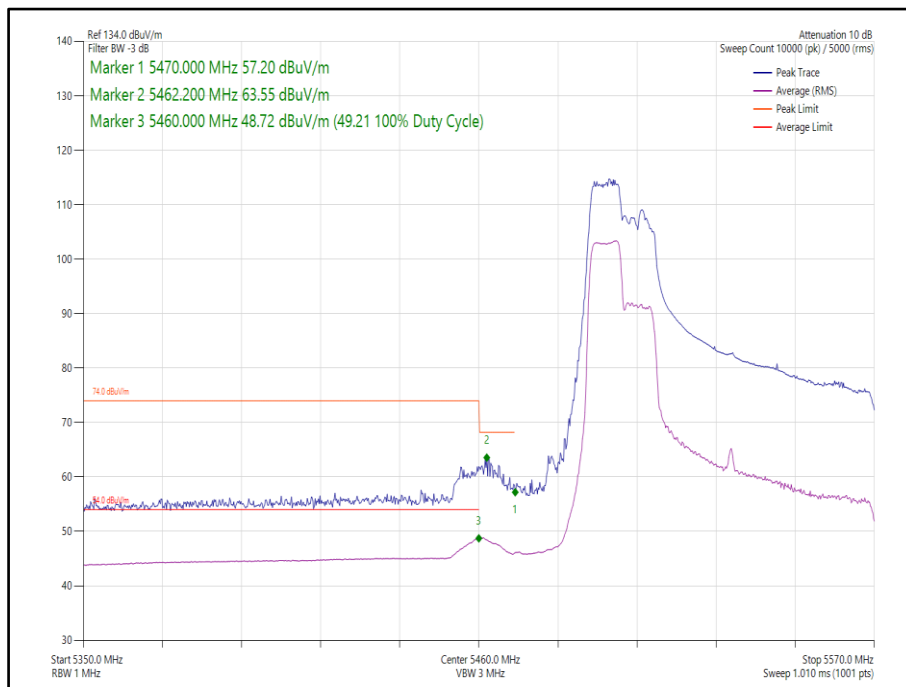


Figure 167 - 802.11ax, HE80, RU 106-53, SISO, Core 1 - 5530 MHz,
Band Edge Frequency 5460 MHz



80 MHz Bandwidth - Core 0-1 (CDD)

| Mode | Data Rate/ MCS | Resource Size | Resource Index | TX Frequency (MHz) | Band Edge Frequency (MHz) | Peak Level (dBμV/m) | Average Level (dBμV/m) |
|----------------|-------------------|------------------|-------------------|--------------------------|---------------------------------|------------------------|------------------------------|
| 802.11ac VHT80 | MCS2x1 | - | - | 5210 | 5150 | 63.06 | 51.43 |
| 802.11ax HE80 | MCS4x1 | SU | - | 5210 | 5150 | 63.69 | 51.32 |
| 802.11ax HE80 | MCS11x1 | 106 | 53 | 5210 | 5150 | 64.97 | 51.50 |
| 802.11ac VHT80 | MCS4x1 | - | - | 5290 | 5350 | 63.28 | 51.33 |
| 802.11ax HE80 | MCS4x1 | SU | - | 5290 | 5350 | 63.73 | 51.50 |
| 802.11ax HE80 | MCS11x1 | 106 | 53 | 5290 | 5350 | 63.18 | 51.43 |
| 802.11ac VHT80 | MCS4x1 | - | - | 5530 | 5460 | 63.44 | 50.47 |
| 802.11ax HE80 | MCS2x1 | SU | - | 5530 | 5460 | 63.68 | 50.41 |
| 802.11ax HE80 | MCS11x1 | 106 | 53 | 5530 | 5460 | 63.58 | 50.00 |

Table 19 - CDD Restricted Band Edge Results

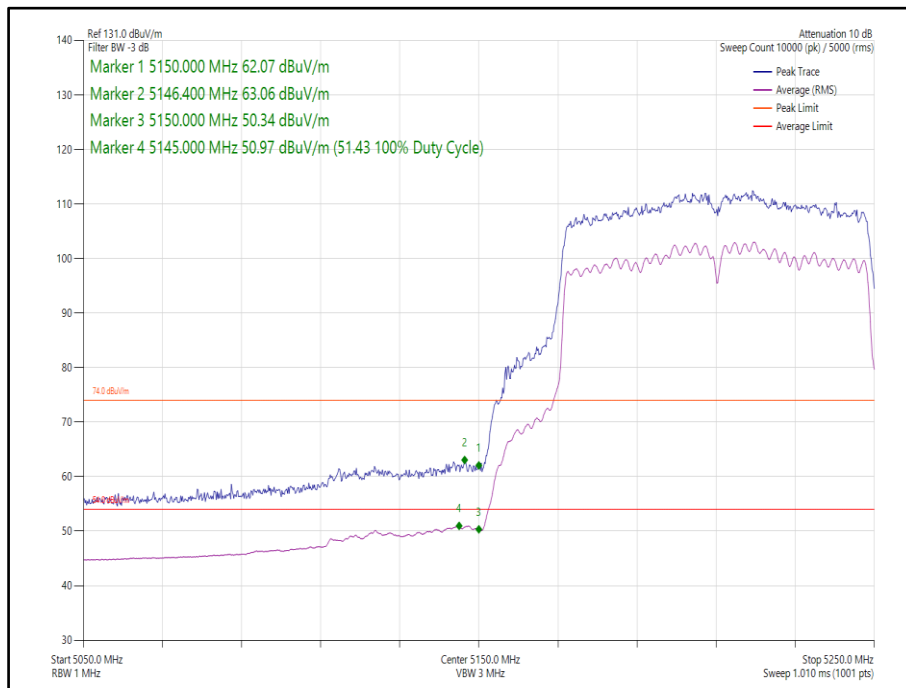
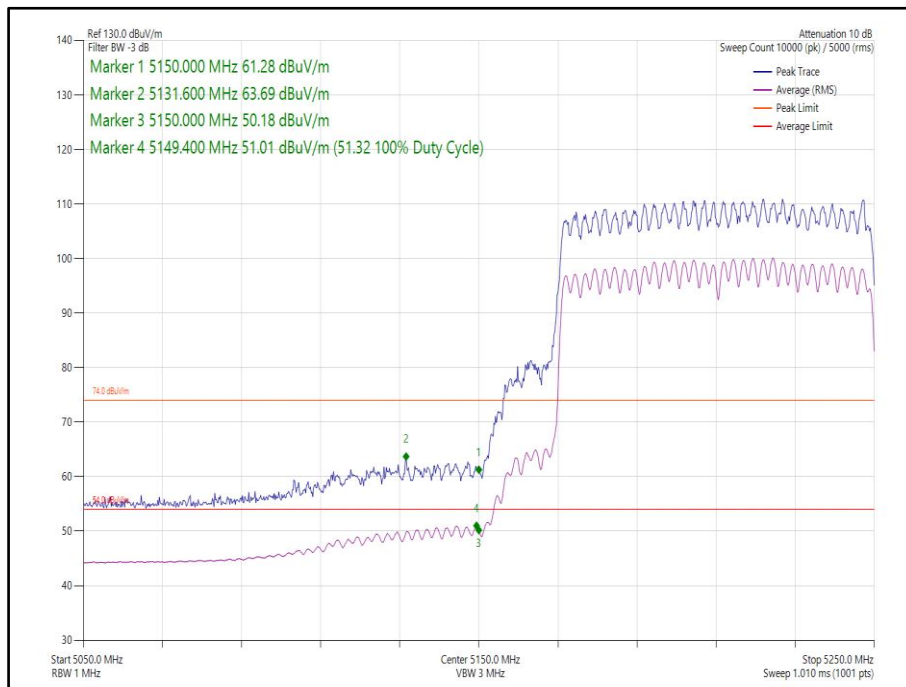
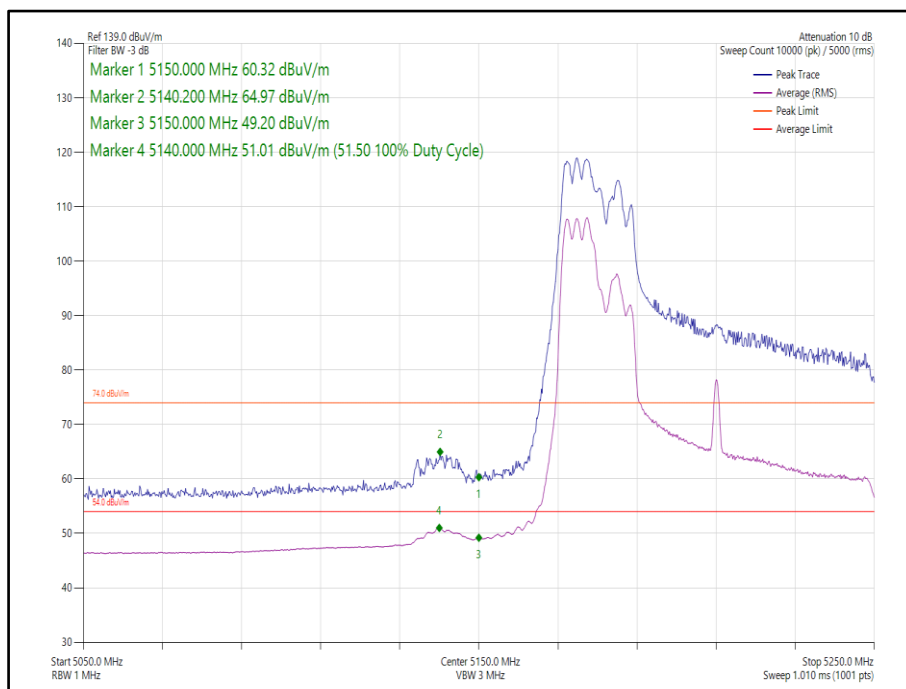


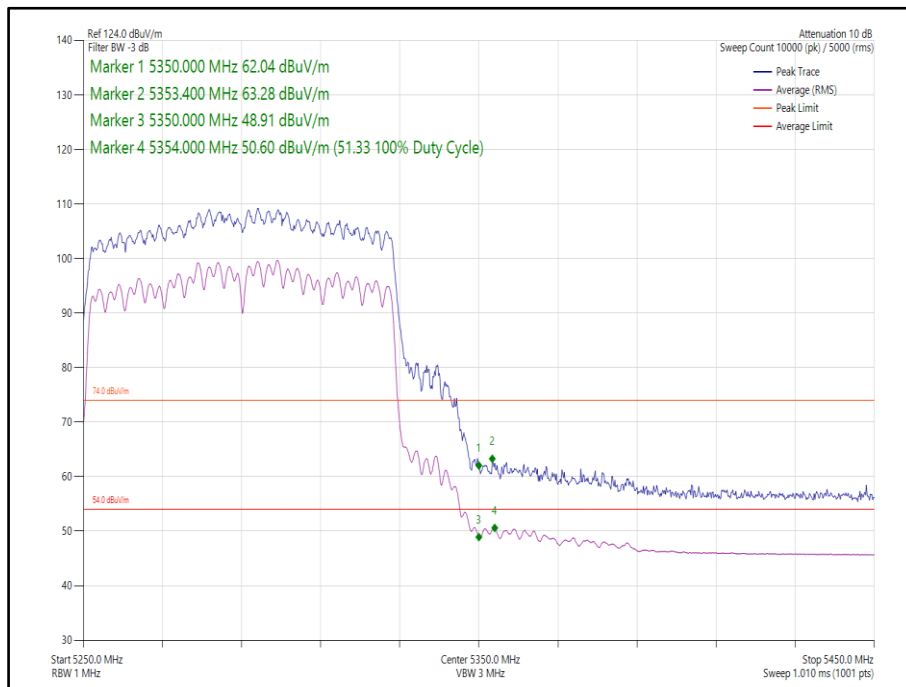
Figure 168 - 802.11ac, VHT80, CDD, Core 0-1 - 5210 MHz,
 Band Edge Frequency 5150 MHz



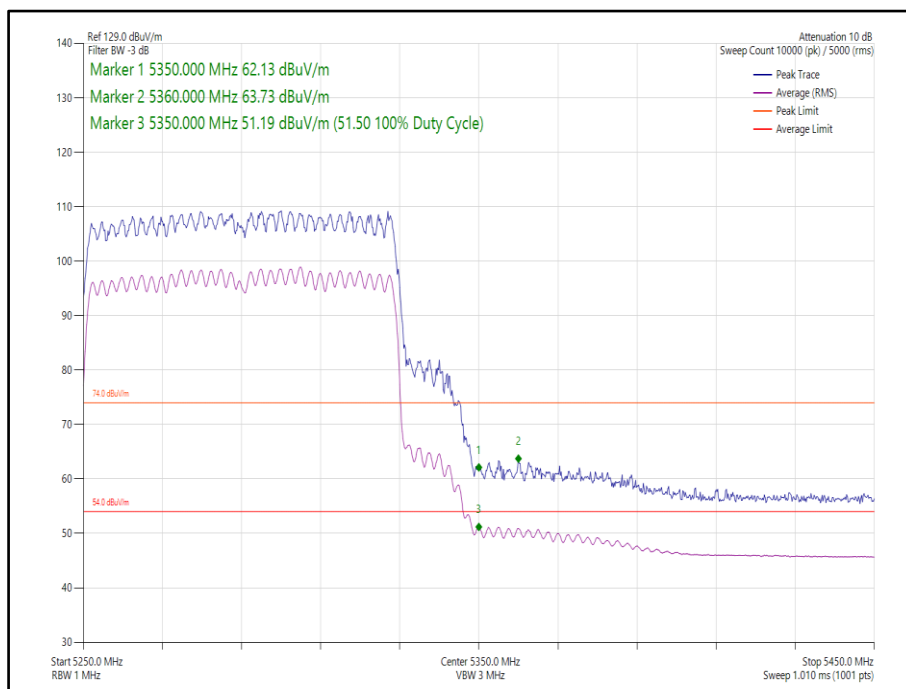
**Figure 169 - 802.11ax, HE80, SU, CDD, Core 0-1 - 5210 MHz,
Band Edge Frequency 5150 MHz**



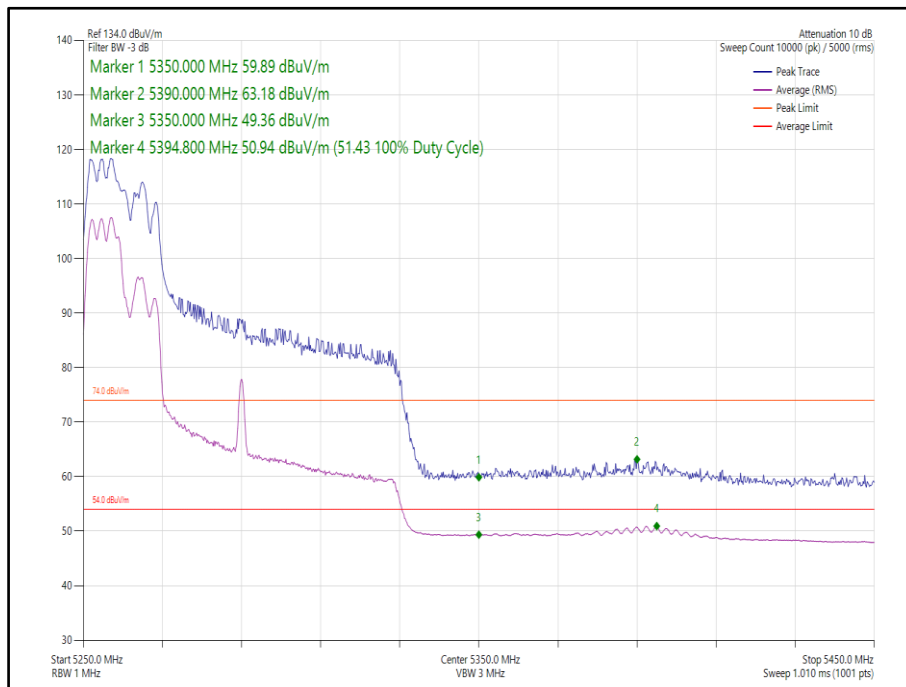
**Figure 170 - 802.11ax, HE80, RU 106-53, CDD, Core 0-1 - 5210 MHz,
Band Edge Frequency 5150 MHz**



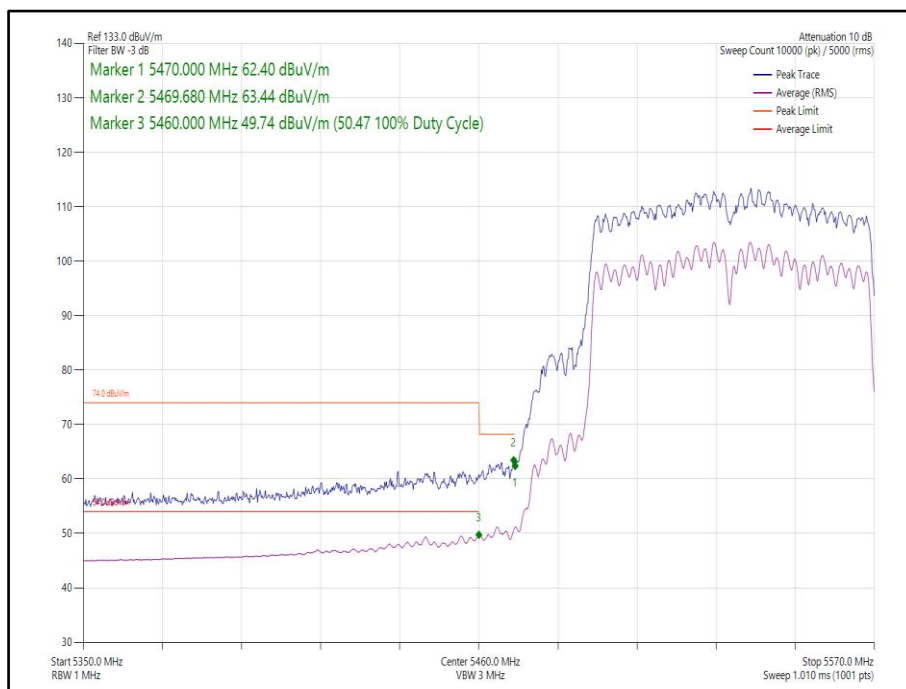
**Figure 171 - 802.11ac, VHT80, CDD, Core 0-1 - 5290 MHz,
Band Edge Frequency 5350 MHz**



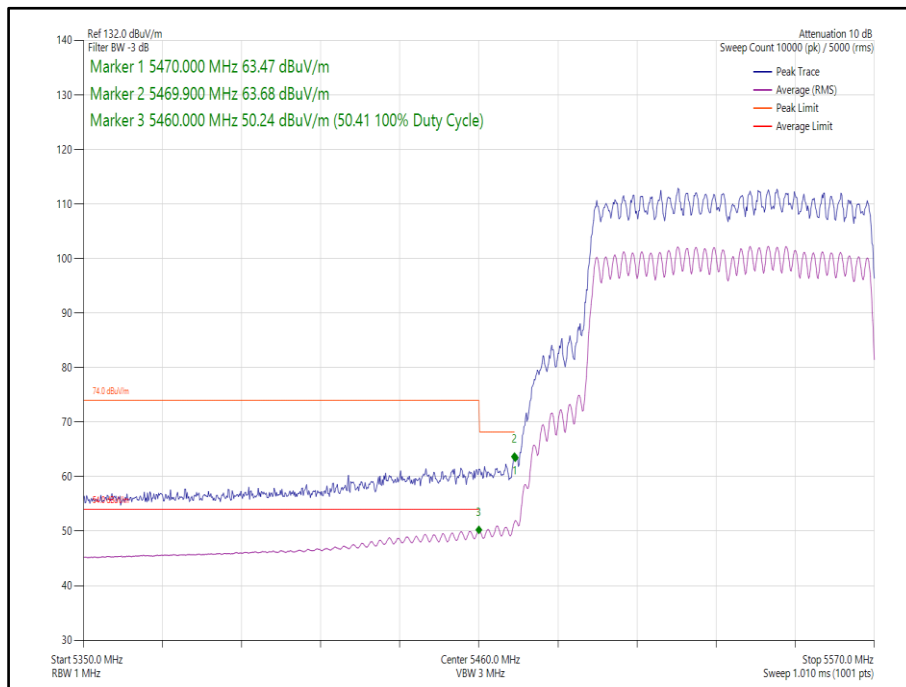
**Figure 172 - 802.11ax, HE80, SU, CDD, Core 0-1 - 5290 MHz,
Band Edge Frequency 5350 MHz**



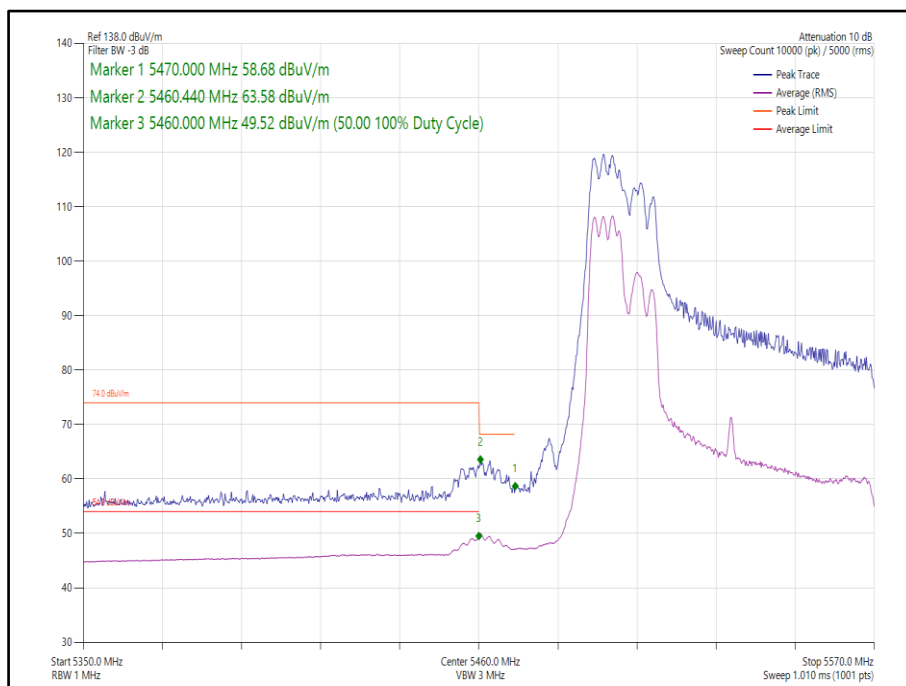
**Figure 173 - 802.11ax, HE80, RU 106-53, CDD, Core 0-1 - 5290 MHz,
Band Edge Frequency 5350 MHz**



**Figure 174 - 802.11ac, VHT80, CDD, Core 0-1 - 5530 MHz,
Band Edge Frequency 5460 MHz**



**Figure 175 - 802.11ax, HE80, SU, CDD, Core 0-1 - 5530 MHz,
Band Edge Frequency 5460 MHz**



**Figure 176 - 802.11ax, HE80, RU 106-53, CDD, Core 0-1 - 5530 MHz,
Band Edge Frequency 5460 MHz**



80 MHz Bandwidth - Core 0-1 (SDM)

| Mode | Data Rate/MCS | Resource Size | Resource Index | TX Frequency (MHz) | Band Edge Frequency (MHz) | Peak Level (dBμV/m) | Average Level (dBμV/m) |
|----------------|---------------|---------------|----------------|--------------------|---------------------------|---------------------|------------------------|
| 802.11ac VHT80 | MCS4x2 | - | - | 5210 | 5150 | 62.96 | 51.47 |
| 802.11ax HE80 | MCS2x2 | SU | - | 5210 | 5150 | 63.35 | 51.23 |
| 802.11ax HE80 | MCS11x2 | 106 | 53 | 5210 | 5150 | 65.70 | 51.49 |
| 802.11ac VHT80 | MCS2x2 | - | - | 5290 | 5350 | 62.28 | 51.39 |
| 802.11ax HE80 | MCS2x2 | SU | - | 5290 | 5350 | 63.50 | 51.23 |
| 802.11ax HE80 | MCS11x2 | 106 | 60 | 5290 | 5350 | 66.53 | 51.50 |
| 802.11ac VHT80 | MCS4x2 | - | - | 5530 | 5460 | 62.76 | 51.21 |
| 802.11ax HE80 | MCS2x2 | SU | - | 5530 | 5460 | 63.58 | 51.40 |
| 802.11ax HE80 | MCS11x2 | 106 | 53 | 5530 | 5460 | 63.70 | 49.92 |

Table 20 - SDM Restricted Band Edge Results

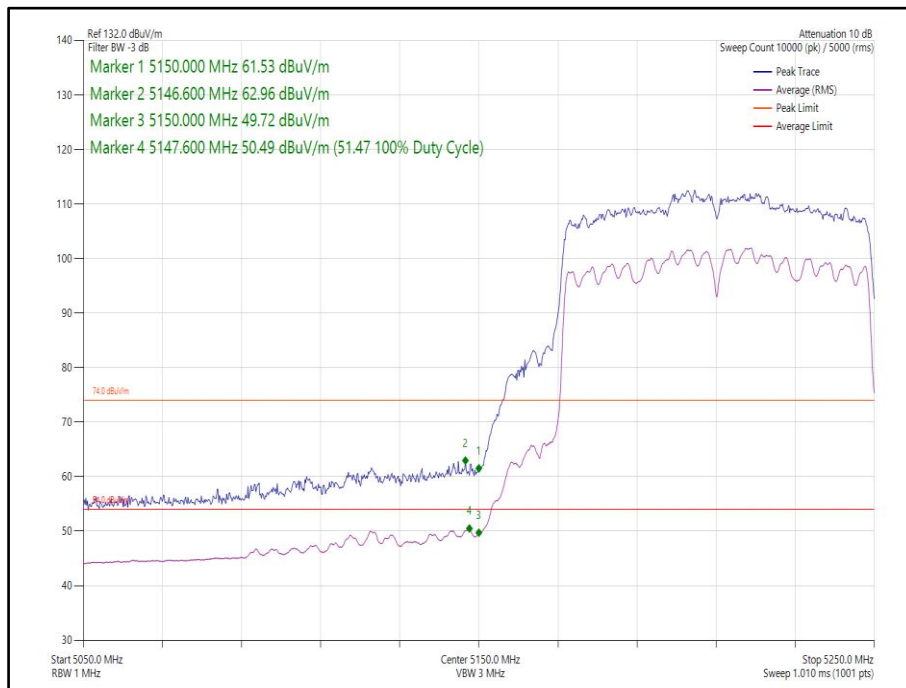
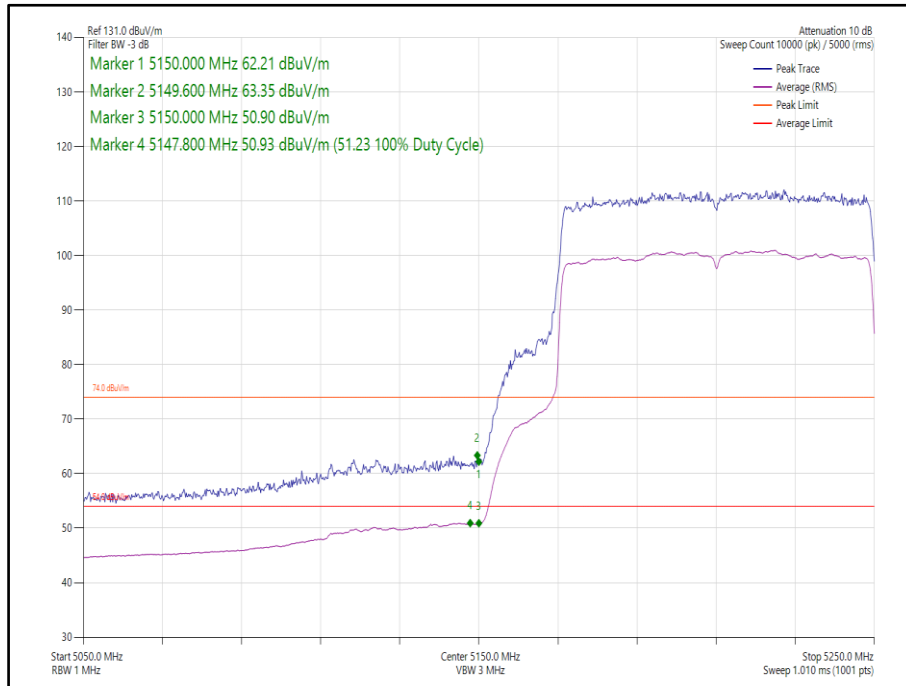
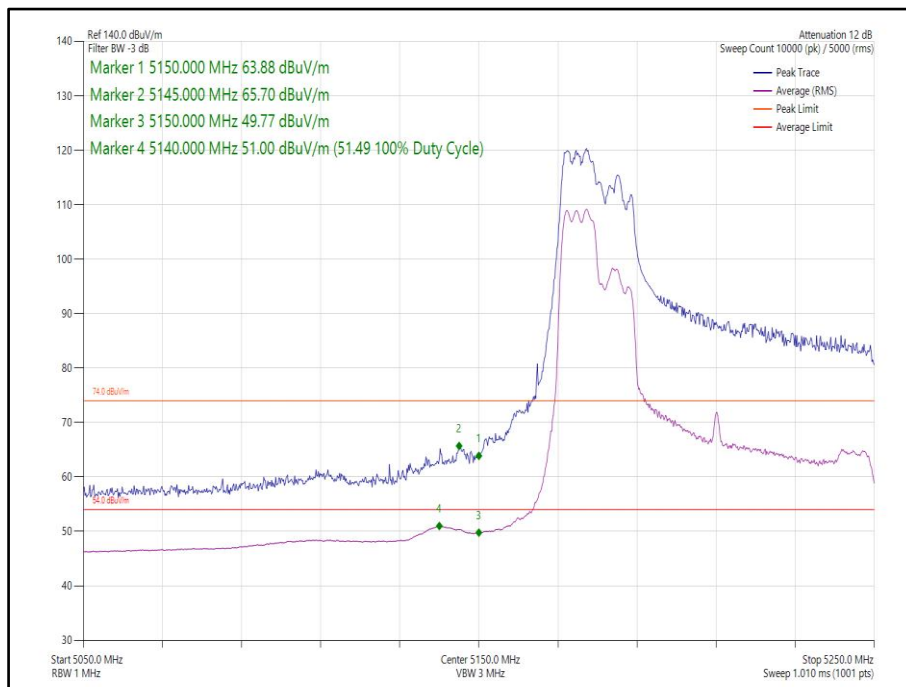


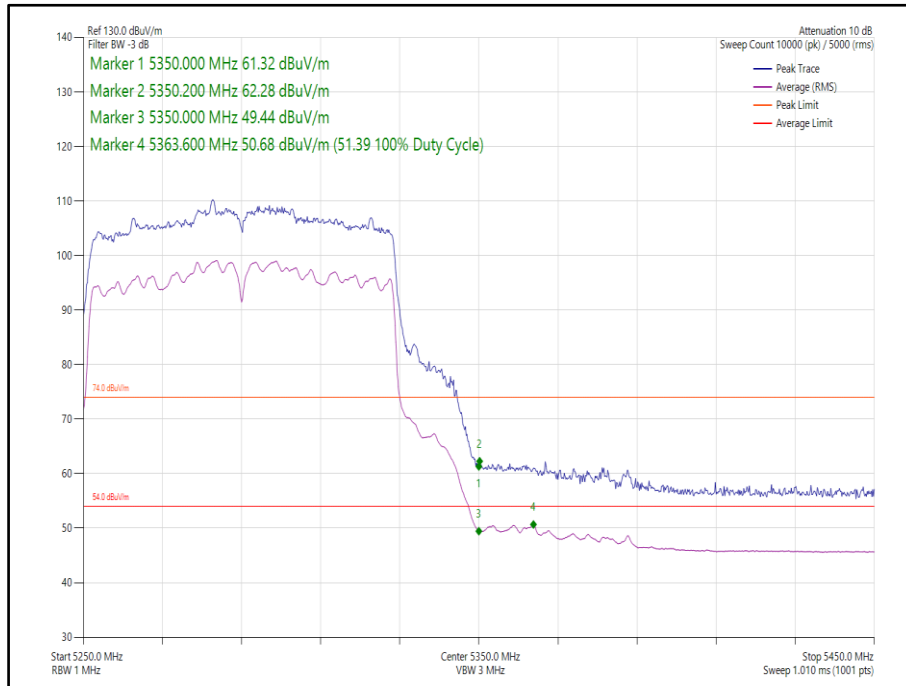
Figure 177 - 802.11ac, VHT80, SDM, Core 0-1 - 5210 MHz, Band Edge Frequency 5150 MHz



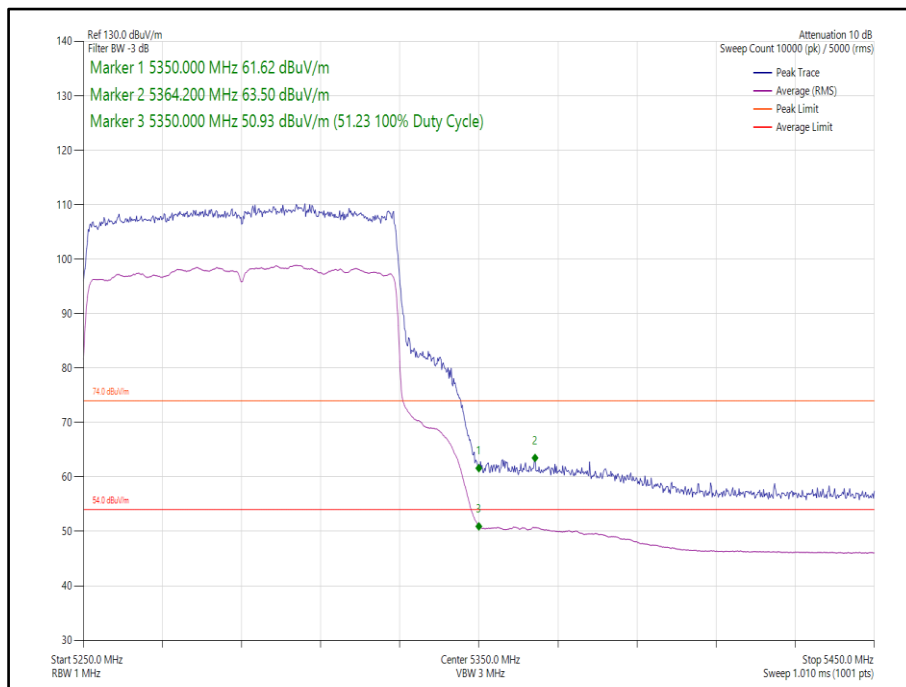
**Figure 178 - 802.11ax, HE80, SU, SDM, Core 0-1 - 5210 MHz,
Band Edge Frequency 5150 MHz**



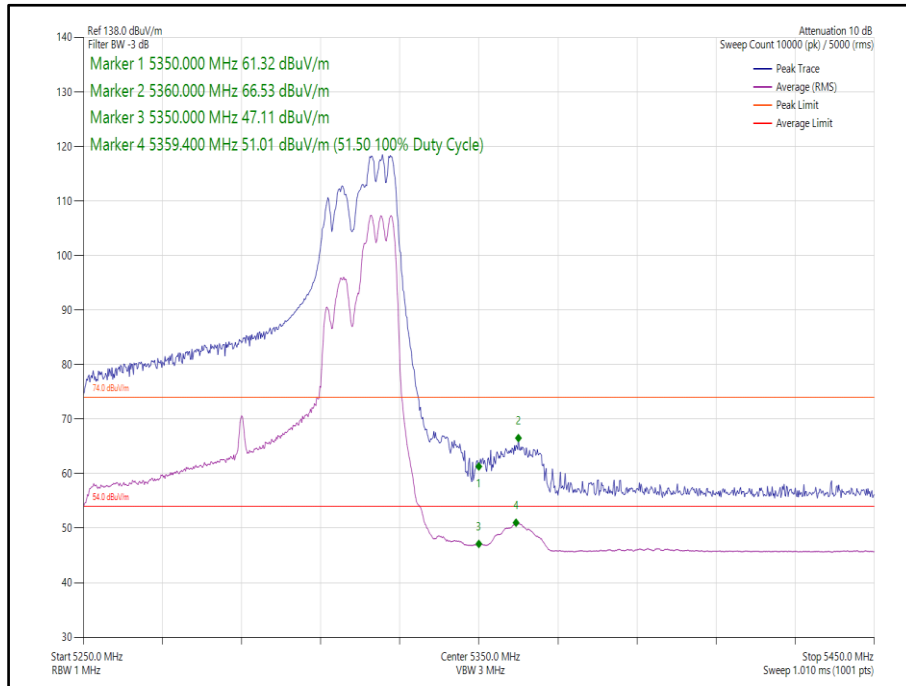
**Figure 179 - 802.11ax, HE80, RU 106-53, SDM, Core 0-1 - 5210 MHz,
Band Edge Frequency 5150 MHz**



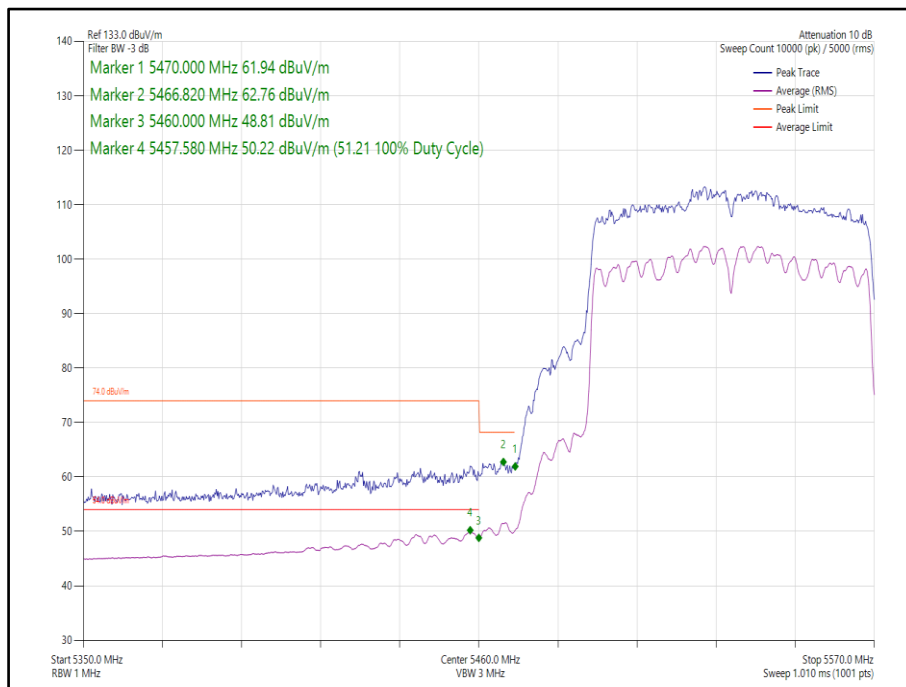
**Figure 180 - 802.11ac, VHT80, SDM, Core 0-1 - 5290 MHz,
Band Edge Frequency 5350 MHz**



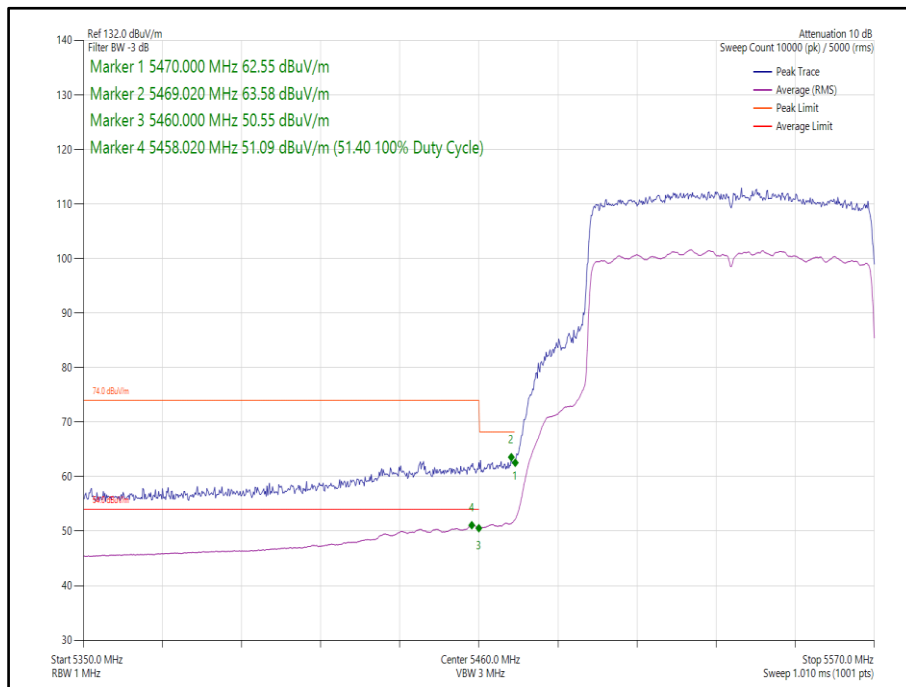
**Figure 181 - 802.11ax, HE80, SU, SDM, Core 0-1 - 5290 MHz,
Band Edge Frequency 5350 MHz**



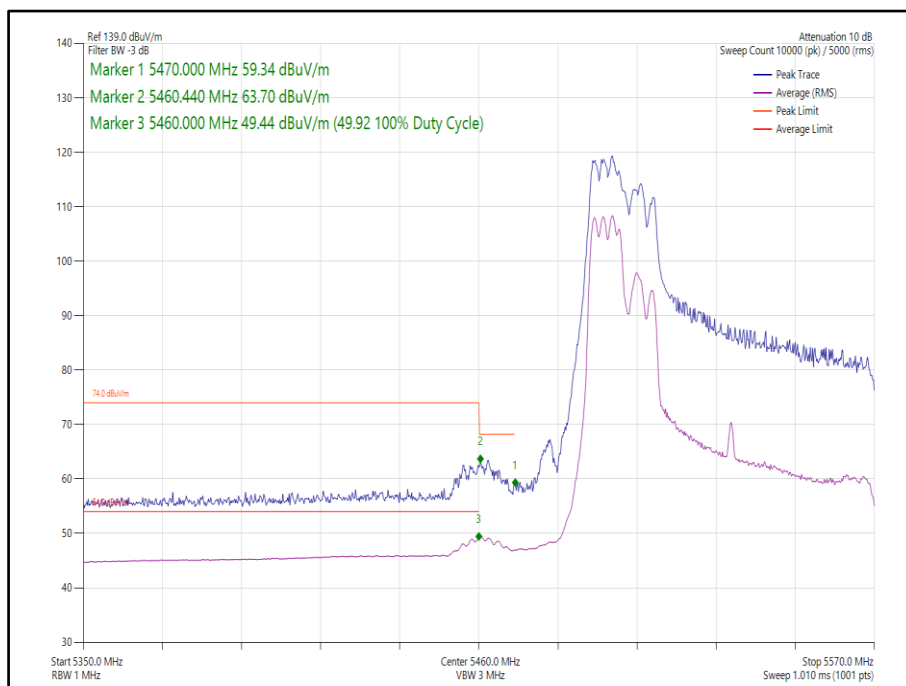
**Figure 182 - 802.11ax, HE80, RU 106-60, SDM, Core 0-1 - 5290 MHz,
Band Edge Frequency 5350 MHz**



**Figure 183 - 802.11ac, VHT80, SDM, Core 0-1 - 5530 MHz,
Band Edge Frequency 5460 MHz**



**Figure 184 - 802.11ax, HE80, SU, SDM, Core 0-1 - 5530 MHz,
Band Edge Frequency 5460 MHz**



**Figure 185 - 802.11ax, HE80, RU 106-53, SDM, Core 0-1 - 5530 MHz,
Band Edge Frequency 5460 MHz**



80 MHz Bandwidth - Core 0-1 (TxBF)

| Mode | Data Rate/MCS | Resource Size | Resource Index | TX Frequency (MHz) | Band Edge Frequency (MHz) | Peak Level (dB μ V/m) | Average Level (dB μ V/m) |
|----------------|---------------|---------------|----------------|--------------------|---------------------------|---------------------------|------------------------------|
| 802.11ac VHT80 | MCS2x1 | - | - | 5210 | 5150 | 58.75 | 47.47 |
| 802.11ac VHT80 | MCS2x1 | - | - | 5290 | 5350 | 59.11 | 47.71 |
| 802.11ac VHT80 | MCS2x1 | - | - | 5530 | 5460 | 63.41 | 49.14 |

Table 21 - TxBF Restricted Band Edge Results

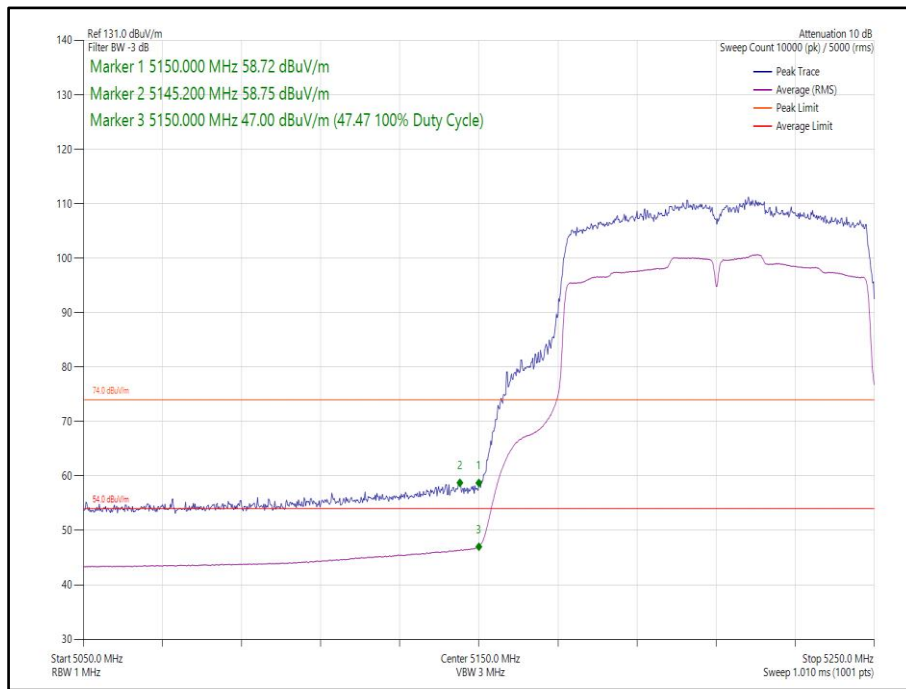


Figure 186 - 802.11ac, VHT80, TxBF, Core 0-1 - 5210 MHz, Band Edge Frequency 5150 MHz

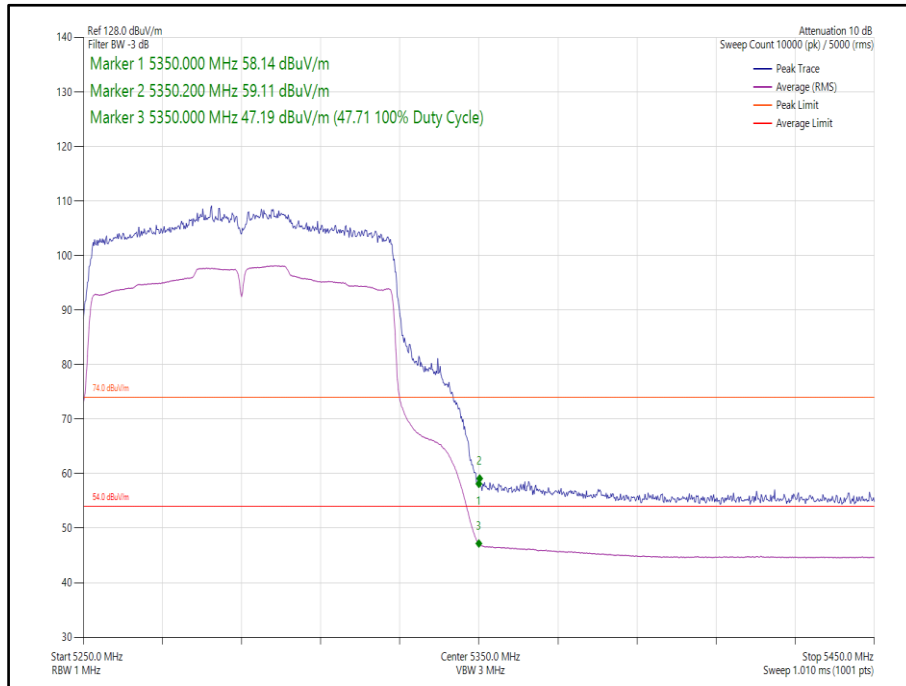


Figure 187 - 802.11ac, VHT80, TxBF, Core 0-1 - 5290 MHz, Band Edge Frequency 5350 MHz

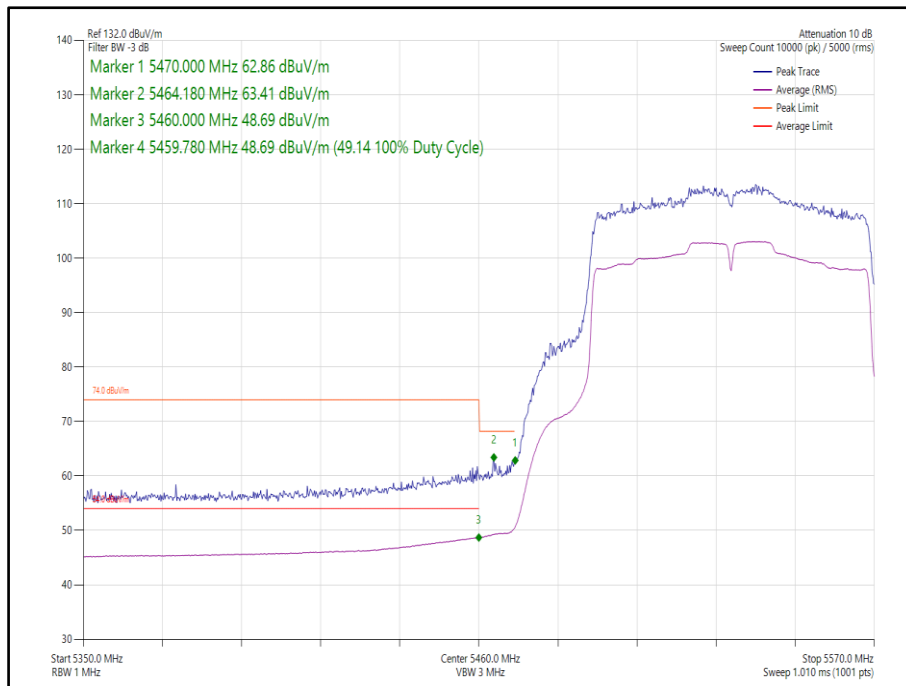


Figure 188 - 802.11ac, VHT80, TxBF, Core 0-1 - 5530 MHz, Band Edge Frequency 5460 MHz

FCC 47 CFR Part 15, Limit Clause 15.205 and ISED RSS-GEN Limit Clause 8.10



| | Peak (dB μ V/m) | Average (dB μ V/m) |
|-------------------------------|---------------------|------------------------|
| Restricted Bands of Operation | 74 | 54 |

Table 22 - Restricted Band Edge Limit Table



2.1.7 Test Location and Test Equipment Used

This test was carried out in RF Chamber 15.

| Instrument | Manufacturer | Type No. | TE No. | Calibration Period (months) | Calibration Expiry Date |
|---|----------------------|----------------------|--------|-----------------------------|-------------------------|
| Emissions Software | TUV SUD | EmX V3.1.10 | 5125 | - | Software |
| EMI Test Receiver | Rohde & Schwarz | ESW44 | 5911 | 12 | 24-Mar-2023 |
| Pre Amp 1 - 26.5 GHz | Agilent Technologies | 8449B | 5445 | 12 | 12-May-2023 |
| 1500W (300V 12A) AC Power Supply | iTech | IT7324 | 5956 | - | O/P Mon |
| 5m Semi-Anechoic Chamber (Dual-Axis) | Albatross Projects | RF Chamber 15 | 5963 | 36 | 28-Apr-2025 |
| Mast & Turntable Controller | Maturo Gmbh | FCU3.0 | 5966 | - | TU |
| Tilt Antenna Mast | Maturo Gmbh | BAM4.5-P | 5967 | - | TU |
| Turntable | Maturo Gmbh | TT1.5SI | 5968 | - | TU |
| Cable (SMA to SMA 1m) | Junkosha | MWX221-01000AMSAMS/A | 5996 | 12 | 06-Jun-2023 |
| Cable (SMA to SMA 1m) | Junkosha | MWX221-01000AMSAMS/A | 6007 | 12 | 06-Jun-2023 |
| Cable (SMA to SMA 6.5m) | Junkosha | MWX221-06500AMSAMS/B | 6014 | 12 | 07-Jun-2023 |
| Horn Antenna (1-10 GHz) | Schwarzbeck | BBHA9120B | 6140 | 12 | 21-Jun-2023 |
| Digital Multimeter | Fluke | 115 | 6147 | 12 | 16-Jun-2023 |
| Humidity & Temperature meter | R.S Components | 1364 | 6150 | 12 | 17-Jun-2023 |
| Coaxial Fixed Attenuator DC-18GHz 5W 10dB | RF-Lambda | RFS5G18B10SMP | 6178 | 12 | 17-Jul-2023 |

Table 23

TU - Traceability Unscheduled

O/P Mon – Output Monitored using calibrated equipment



2.2 Emission Bandwidth

2.2.1 Specification Reference

FCC 47 CFR Part 15E, Clause 15.407 (a)
ISED RSS-247, Clause 6.2

2.2.2 Equipment Under Test and Modification State

A2941, S/N: GMHG MQ4FCN - Modification State 0
A2941, S/N: GF6K93M959 - Modification State 0

2.2.3 Date of Test

08-March-2023 to 10-March-2023

2.2.4 Test Method

The test was performed in accordance with ANSI C63.10, clause 12.5.1 and 12.5.2 and ISED RSS-GEN, clause 4.6.1 and 4.6.2.

For modes of operation using multiple cores, measurements were made on each core but only the worst-case results are reported. Worst case was considered as the narrowest results for 6 dB bandwidth and the widest result for 26 dB bandwidth and 99% occupied bandwidth.

2.2.5 Environmental Conditions

| | |
|---------------------|----------------|
| Ambient Temperature | 22.2 - 23.1 °C |
| Relative Humidity | 26.2 - 29.1 % |



2.2.6 Test Results

5 GHz WLAN

SISO

| Protocol | 26 dB Bandwidth (MHz) | |
|------------------|-----------------------|---------|
| | Minimum | Maximum |
| 802.11a | 20.700 | 21.420 |
| 802.11n HT20 | 20.820 | 22.620 |
| 802.11n HT40 | 41.400 | 44.760 |
| 802.11ac VHT80 | 82.940 | 90.200 |
| 802.11ax HE20 SU | 21.240 | 26.340 |
| 802.11ax HE40 SU | 41.880 | 48.360 |
| 802.11ax HE80 SU | 84.700 | 97.680 |

Table 24 - 26 dB Bandwidth Summary Results – SISO

| Protocol | 6 dB Bandwidth (MHz) | |
|------------------|----------------------|---------|
| | Minimum | Maximum |
| 802.11a | 16.080 | 16.140 |
| 802.11n HT20 | 17.580 | 17.640 |
| 802.11n HT40 | 35.520 | 35.880 |
| 802.11ac VHT80 | 75.680 | 75.680 |
| 802.11ax HE20 SU | 19.080 | 19.140 |
| 802.11ax HE40 SU | 38.280 | 38.400 |
| 802.11ax HE80 SU | 78.320 | 78.320 |

Table 25 - 6 dB Bandwidth Summary Results – SISO

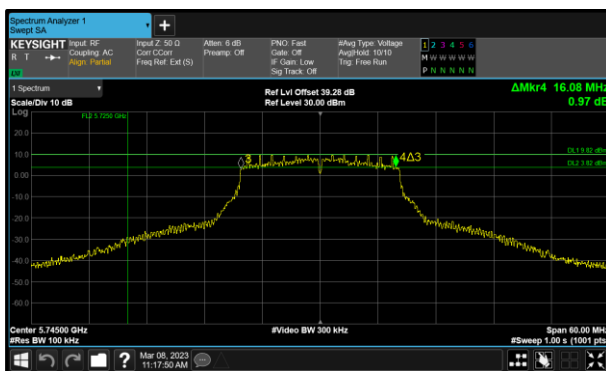


Figure 189 - 802.11a Minimum 6 dB EBW

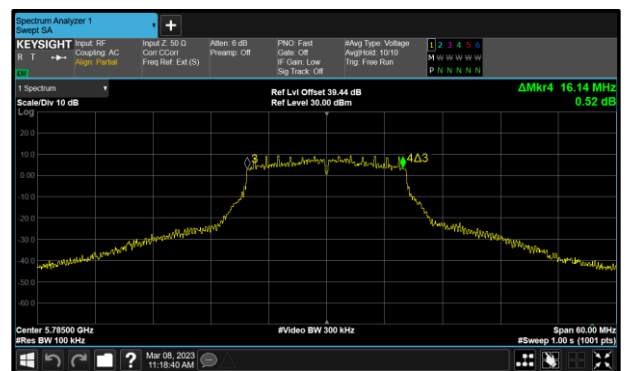


Figure 190 - 802.11a Maximum 6 dB EBW

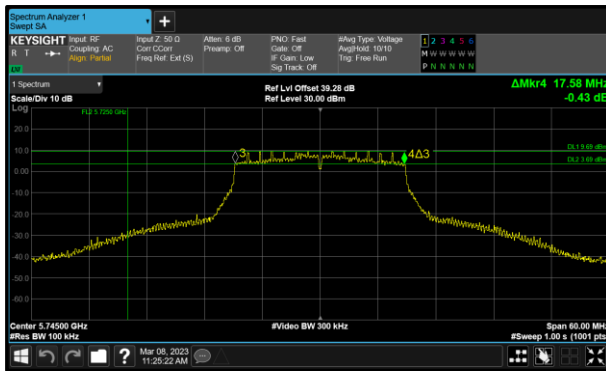


Figure 191 - 802.11n HT20 Minimum 6 dB EBW

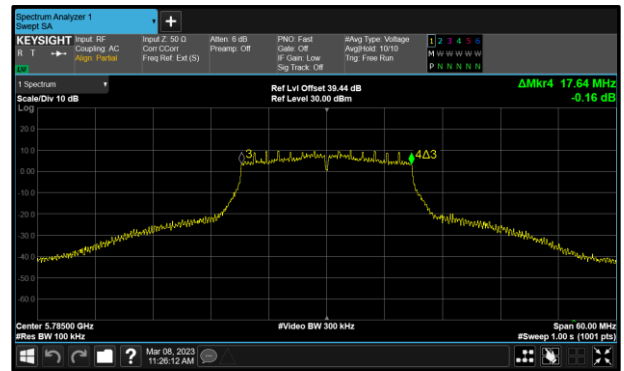


Figure 192 - 802.11n HT20 Maximum 6 dB EBW

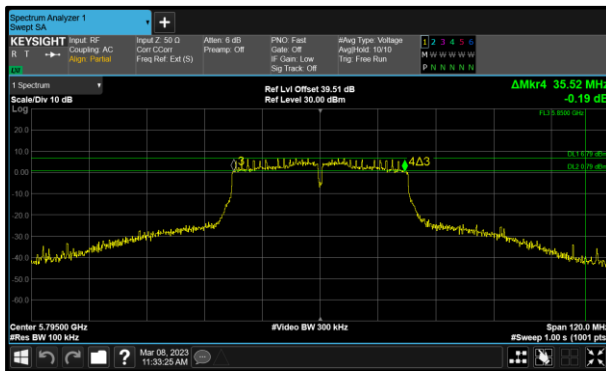


Figure 193 - 802.11n HT40 Minimum 6 dB EBW

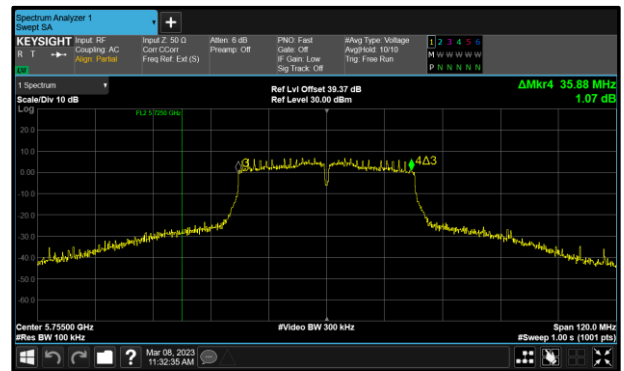


Figure 194 - 802.11n HT40 Maximum 6 dB EBW

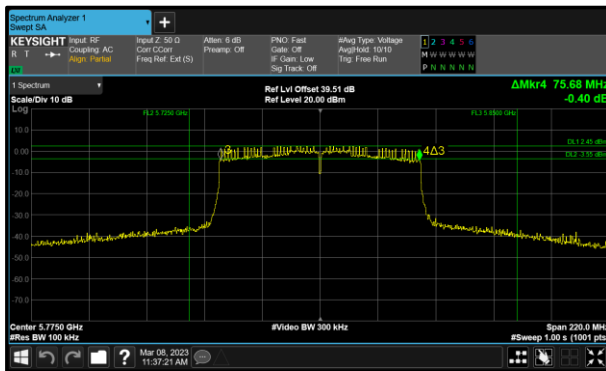


Figure 195 - 802.11ac VHT80 Minimum 6 dB EBW

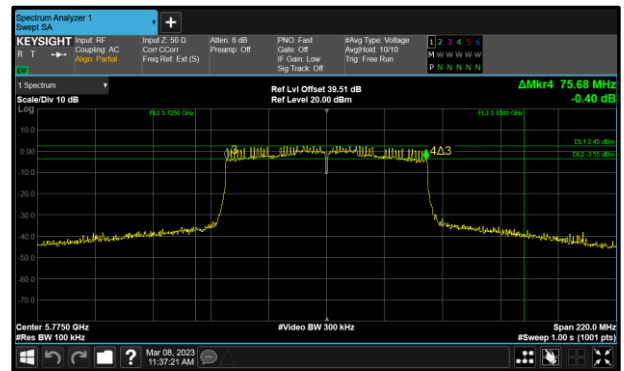


Figure 196 - 802.11ac VHT80 Maximum 6 dB EBW

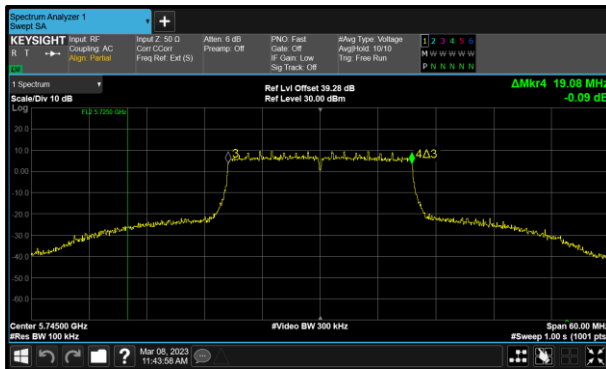


Figure 197 - 802.11ax HE20 SU
 Minimum 6 dB EBW

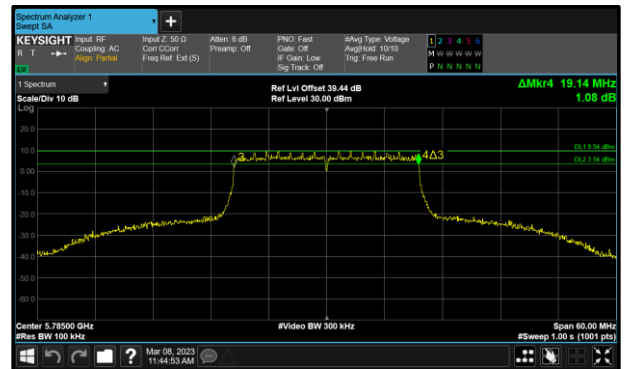


Figure 198 - 802.11ax HE20 SU
 Maximum 6 dB EBW

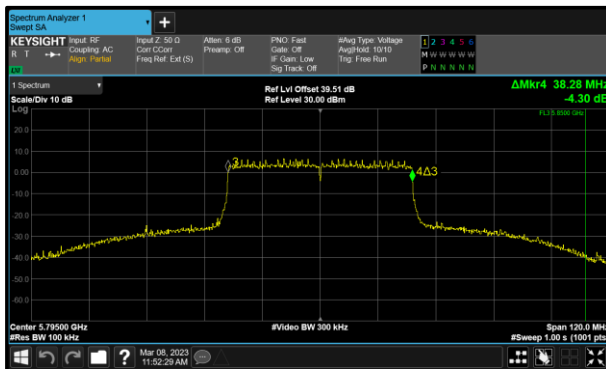


Figure 199 - 802.11ax HE40 SU
 Minimum 6 dB EBW

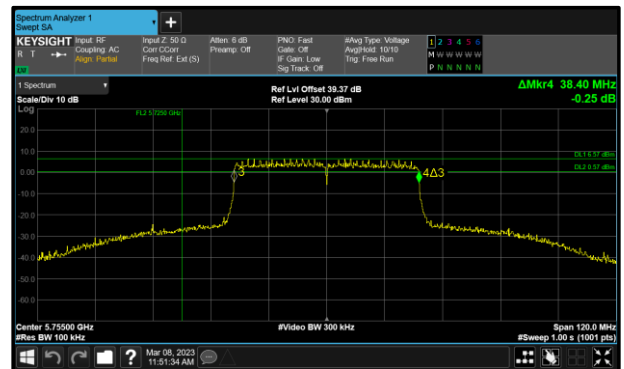


Figure 200 - 802.11ax HE40 SU
 Maximum 6 dB EBW

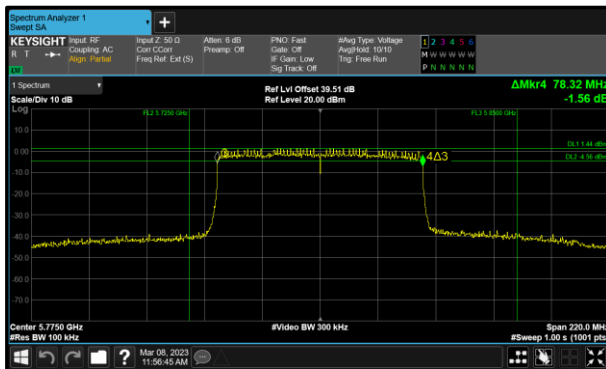


Figure 201 - 802.11ax HE80 SU
 Minimum 6 dB EBW

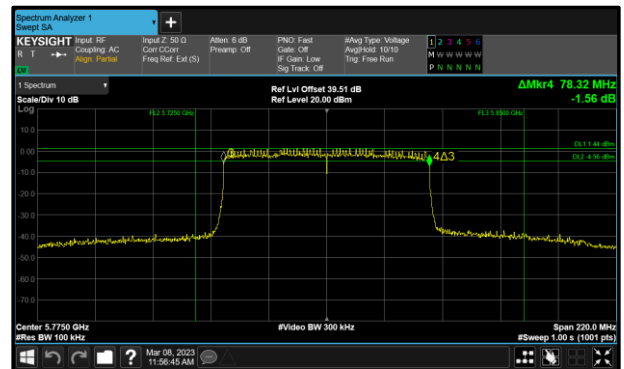


Figure 202 - 802.11ax HE80 SU
 Maximum 6 dB EBW