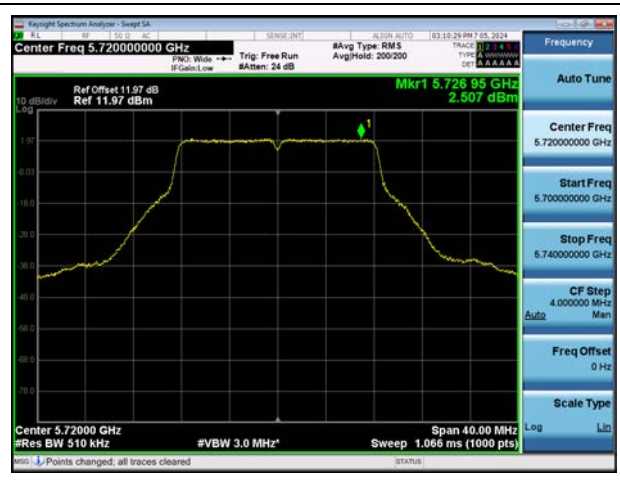


[ANT. 1]
 Test Plots

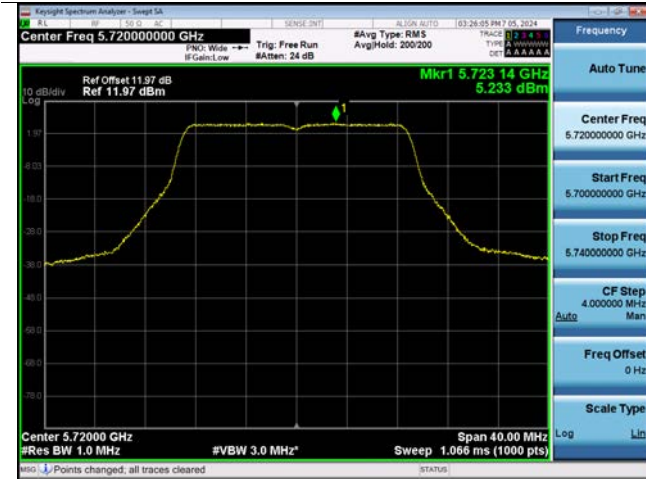
802.11a UNII 2C Band



802.11a UNII 3 Band



802.11n(HT20) UNII 2C Band



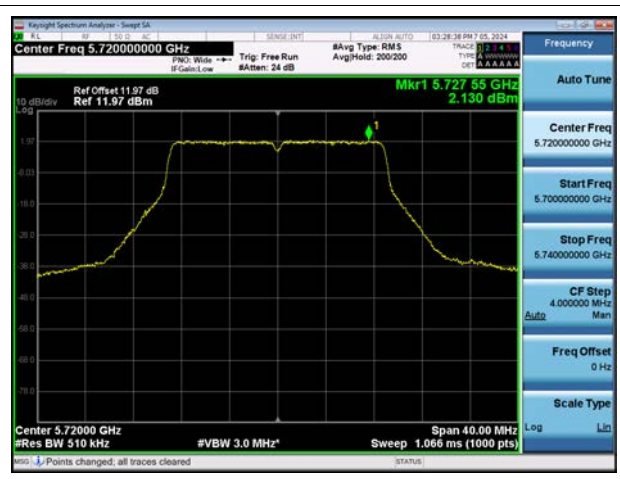
802.11n(HT20) UNII 3 Band



802.11ac(VHT20) UNII 2C Band



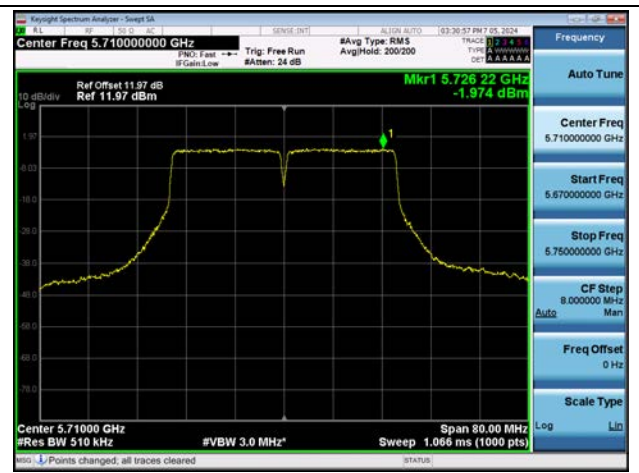
802.11ac(VHT20) UNII 3 Band



802.11n(HT40) UNII 2C Band



802.11n(HT40) UNII 3 Band



802.11ac(VHT40) UNII 2C Band



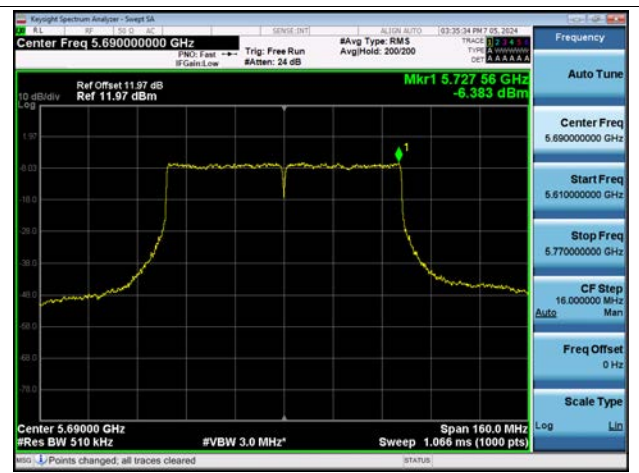
802.11ac(VHT40) UNII 3 Band



802.11ac(VHT80) UNII 2C Band



802.11ac(VHT80) UNII 3 Band



[ANT. 2]

▣ Test Plots

802.11a UNII 2C Band



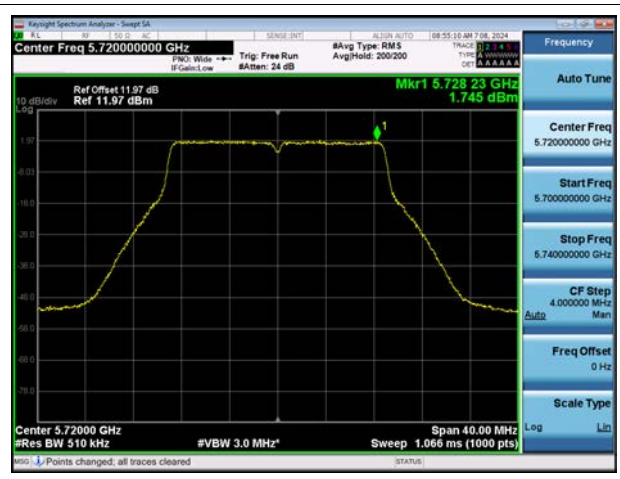
802.11a UNII 3 Band



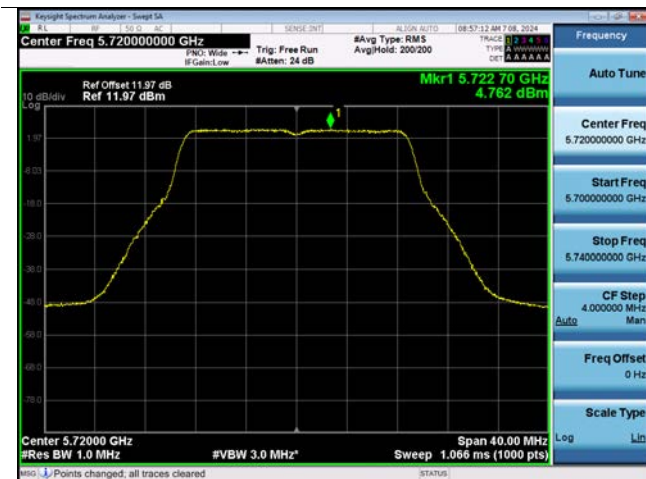
802.11n(HT20) UNII 2C Band



802.11n(HT20) UNII 3 Band



802.11ac(VHT20) UNII 2C Band



802.11ac(VHT20) UNII 3 Band



802.11n(HT40) UNII 2C Band



802.11n(HT40) UNII 3 Band



802.11ac(VHT40) UNII 2C Band



802.11ac(VHT40) UNII 3 Band



802.11ac(VHT80) UNII 2C Band



802.11ac(VHT80) UNII 3 Band



10.8 RADIATED SPURIOUS EMISSIONS

Frequency Range : 9 kHz – 30 MHz

| Frequency | Measured Value | CL+AF+DF-AG | ANT. POL | Total | Limit | Margin |
|-----------|----------------|-------------|----------|----------------|----------------|--------|
| [MHz] | [dB μ V] | [dB/m] | [H/V] | [dB μ V/m] | [dB μ V/m] | [dB] |

No Critical peaks found

Note:

1. The Measured Value of emissions are attenuated more than 20 dB below the permissible limits or the field strength is too small to be measured.
2. Distance extrapolation factor = $40\log(\text{specific distance} / \text{test distance})$ (dB)
3. Limit line = specific Limits (dB μ V) + Distance extrapolation factor

Frequency Range : Below 1 GHz

| Frequency | Measured Value | A.F+C.L | ANT. POL | Total | Limit | Margin |
|-----------|----------------|---------|----------|----------------|----------------|--------|
| [MHz] | [dB μ V] | [dB/m] | [H/V] | [dB μ V/m] | [dB μ V/m] | [dB] |

No Critical peaks found

Note:

1. Radiated emissions measured in frequency range from 30 MHz to 1000 MHz were made with an instrument using Quasi peak detector mode

Frequency Range : Above 1 GHz

[MIMO_CDD(Ant1+Ant2)]

| | |
|---------------------|----------|
| Band : | UNII 1 |
| Operation Mode: | 802.11 a |
| Transfer Rate: | 6 Mbps |
| Operating Frequency | 5180 MHz |
| Channel No. | 36 Ch |

| Frequency [MHz] | Measured Value [dB μ V] | C.L+A.F+ D.F-A.G [dB/m] | POL [H/V] | Total [dB μ V/m] | Limit [dB μ V/m] | Margin [dB] | Measurement Type |
|--------------------|--------------------------------|-------------------------------|--------------|-------------------------|-------------------------|----------------|---------------------|
| 10360 | 48.86 | 5.85 | V | 54.71 | 68.20 | 13.49 | PK |
| 15540 | 47.45 | 7.31 | V | 54.76 | 73.98 | 19.22 | PK |
| 15540 | 34.12 | 7.31 | V | 41.43 | 53.98 | 12.55 | AV |
| 10360 | 48.92 | 5.85 | H | 54.77 | 68.20 | 13.43 | PK |
| 15540 | 47.28 | 7.31 | H | 54.59 | 73.98 | 19.39 | PK |
| 15540 | 33.96 | 7.31 | H | 41.27 | 53.98 | 12.71 | AV |

| | |
|---------------------|----------|
| Band : | UNII 1 |
| Operation Mode: | 802.11 a |
| Transfer Rate: | 6 Mbps |
| Operating Frequency | 5200 MHz |
| Channel No. | 40 Ch |

| Frequency [MHz] | Measured Value [dB μ V] | C.L+A.F+ D.F-A.G [dB/m] | POL [H/V] | Total [dB μ V/m] | Limit [dB μ V/m] | Margin [dB] | Measurement Type |
|--------------------|--------------------------------|-------------------------------|--------------|-------------------------|-------------------------|----------------|---------------------|
| 10400 | 47.59 | 5.47 | V | 53.06 | 68.20 | 15.14 | PK |
| 15600 | 46.46 | 7.10 | V | 53.56 | 73.98 | 20.42 | PK |
| 15600 | 33.93 | 7.10 | V | 41.03 | 53.98 | 12.95 | AV |
| 10400 | 47.73 | 5.47 | H | 53.20 | 68.20 | 15.00 | PK |
| 15600 | 46.27 | 7.10 | H | 53.37 | 73.98 | 20.61 | PK |
| 15600 | 33.80 | 7.10 | H | 40.90 | 53.98 | 13.08 | AV |

| | |
|---------------------|----------|
| Band : | UNII 1 |
| Operation Mode: | 802.11 a |
| Transfer Rate: | 6 Mbps |
| Operating Frequency | 5240 MHz |
| Channel No. | 48 Ch |

| Frequency [MHz] | Measured Value [dB μ V] | C.L+A.F+ D.F-A.G [dB/m] | POL [H/V] | Total [dB μ V/m] | Limit [dB μ V/m] | Margin [dB] | Measurement Type |
|--------------------|--------------------------------|-------------------------------|--------------|-------------------------|-------------------------|----------------|---------------------|
| 10480 | 47.02 | 6.24 | V | 53.26 | 68.20 | 14.94 | PK |
| 15720 | 47.18 | 6.52 | V | 53.70 | 73.98 | 20.28 | PK |
| 15720 | 34.20 | 6.52 | V | 40.72 | 53.98 | 13.26 | AV |
| 10480 | 47.10 | 6.24 | H | 53.34 | 68.20 | 14.86 | PK |
| 15720 | 46.92 | 6.52 | H | 53.44 | 73.98 | 20.54 | PK |
| 15720 | 34.06 | 6.52 | H | 40.58 | 53.98 | 13.40 | AV |

| | |
|---------------------|----------|
| Band : | UNII 2A |
| Operation Mode: | 802.11 a |
| Transfer Rate: | 6 Mbps |
| Operating Frequency | 5260 MHz |
| Channel No. | 52 Ch |

| Frequency [MHz] | Measured Value [dB μ V] | C.L+A.F+ D.F-A.G [dB/m] | POL [H/V] | Total [dB μ V/m] | Limit [dB μ V/m] | Margin [dB] | Measurement Type |
|--------------------|--------------------------------|-------------------------------|--------------|-------------------------|-------------------------|----------------|---------------------|
| 10520 | 48.41 | 5.77 | V | 54.18 | 68.20 | 14.02 | PK |
| 15780 | 47.50 | 6.51 | V | 54.01 | 73.98 | 19.97 | PK |
| 15780 | 34.03 | 6.51 | V | 40.54 | 53.98 | 13.44 | AV |
| 10520 | 48.48 | 5.77 | H | 54.25 | 68.20 | 13.95 | PK |
| 15780 | 47.28 | 6.51 | H | 53.79 | 73.98 | 20.19 | PK |
| 15780 | 34.00 | 6.51 | H | 40.51 | 53.98 | 13.47 | AV |

| | |
|---------------------|----------|
| Band : | UNII 2A |
| Operation Mode: | 802.11 a |
| Transfer Rate: | 6 Mbps |
| Operating Frequency | 5300 MHz |
| Channel No. | 60 Ch |

| Frequency [MHz] | Measured Value [dB μ V] | C.L+A.F+ D.F-A.G [dB/m] | POL [H/V] | Total [dB μ V/m] | Limit [dB μ V/m] | Margin [dB] | Measurement Type |
|--------------------|--------------------------------|-------------------------------|--------------|-------------------------|-------------------------|----------------|---------------------|
| 10600 | 48.84 | 5.94 | V | 54.78 | 73.98 | 19.20 | PK |
| 10600 | 35.24 | 5.94 | V | 41.18 | 53.98 | 12.80 | AV |
| 15900 | 47.30 | 7.95 | V | 55.25 | 73.98 | 18.73 | PK |
| 15900 | 34.12 | 7.95 | V | 42.07 | 53.98 | 11.91 | AV |
| 10600 | 48.81 | 5.94 | H | 54.75 | 73.98 | 19.23 | PK |
| 10600 | 35.19 | 5.94 | H | 41.13 | 53.98 | 12.85 | AV |
| 15900 | 47.06 | 7.95 | H | 55.01 | 73.98 | 18.97 | PK |
| 15900 | 34.03 | 7.95 | H | 41.98 | 53.98 | 12.00 | AV |

| | |
|---------------------|----------|
| Band : | UNII 2A |
| Operation Mode: | 802.11 a |
| Transfer Rate: | 6 Mbps |
| Operating Frequency | 5320 MHz |
| Channel No. | 64 Ch |

| Frequency [MHz] | Measured Value [dB μ V] | C.L+A.F+ D.F-A.G [dB/m] | POL [H/V] | Total [dB μ V/m] | Limit [dB μ V/m] | Margin [dB] | Measurement Type |
|--------------------|--------------------------------|-------------------------------|--------------|-------------------------|-------------------------|----------------|---------------------|
| 10640 | 49.56 | 6.45 | V | 56.01 | 73.98 | 17.97 | PK |
| 10640 | 35.31 | 6.45 | V | 41.76 | 53.98 | 12.22 | AV |
| 15960 | 49.27 | 7.28 | V | 56.55 | 73.98 | 17.43 | PK |
| 15960 | 34.92 | 7.28 | V | 42.20 | 53.98 | 11.78 | AV |
| 10640 | 49.50 | 6.45 | H | 55.95 | 73.98 | 18.03 | PK |
| 10640 | 35.18 | 6.45 | H | 41.63 | 53.98 | 12.35 | AV |
| 15960 | 47.77 | 7.28 | H | 55.05 | 73.98 | 18.93 | PK |
| 15960 | 34.22 | 7.28 | H | 41.50 | 53.98 | 12.48 | AV |

| | |
|---------------------|----------|
| Band : | UNII 2C |
| Operation Mode: | 802.11 a |
| Transfer Rate: | 6 Mbps |
| Operating Frequency | 5500 MHz |
| Channel No. | 100 Ch |

| Frequency [MHz] | Measured Value [dB μ V] | C.L+A.F+ D.F-A.G [dB/m] | POL [H/V] | Total [dB μ V/m] | Limit [dB μ V/m] | Margin [dB] | Measurement Type |
|--------------------|--------------------------------|-------------------------------|--------------|-------------------------|-------------------------|----------------|---------------------|
| 11000 | 48.18 | 6.55 | V | 54.73 | 73.98 | 19.25 | PK |
| 11000 | 35.08 | 6.55 | V | 41.63 | 53.98 | 12.35 | AV |
| 16500 | 47.87 | 8.63 | V | 56.50 | 68.20 | 11.70 | PK |
| 11000 | 47.99 | 6.55 | H | 54.54 | 73.98 | 19.44 | PK |
| 11000 | 35.06 | 6.55 | H | 41.61 | 53.98 | 12.37 | AV |
| 16500 | 47.61 | 8.63 | H | 56.24 | 68.20 | 11.96 | PK |

| | |
|---------------------|----------|
| Band : | UNII 2C |
| Operation Mode: | 802.11 a |
| Transfer Rate: | 6 Mbps |
| Operating Frequency | 5600 MHz |
| Channel No. | 120 Ch |

| Frequency [MHz] | Measured Value [dB μ V] | C.L+A.F+ D.F-A.G [dB/m] | POL [H/V] | Total [dB μ V/m] | Limit [dB μ V/m] | Margin [dB] | Measurement Type |
|--------------------|--------------------------------|-------------------------------|--------------|-------------------------|-------------------------|----------------|---------------------|
| 11200 | 48.45 | 5.59 | V | 54.04 | 73.98 | 19.94 | PK |
| 11200 | 34.98 | 5.59 | V | 40.57 | 53.98 | 13.41 | AV |
| 16800 | 46.25 | 9.89 | V | 56.14 | 68.20 | 12.06 | PK |
| 11200 | 48.80 | 5.59 | H | 54.39 | 73.98 | 19.59 | PK |
| 11200 | 34.99 | 5.59 | H | 40.58 | 53.98 | 13.40 | AV |
| 16800 | 46.32 | 9.89 | H | 56.21 | 68.20 | 11.99 | PK |

| | |
|---------------------|----------|
| Band : | UNII 2C |
| Operation Mode: | 802.11 a |
| Transfer Rate: | 6 Mbps |
| Operating Frequency | 5720 MHz |
| Channel No. | 144 Ch |

| Frequency [MHz] | Measured Value [dB μ V] | C.L+A.F+ D.F-A.G [dB/m] | POL [H/V] | Total [dB μ V/m] | Limit [dB μ V/m] | Margin [dB] | Measurement Type |
|--------------------|--------------------------------|-------------------------------|--------------|-------------------------|-------------------------|----------------|---------------------|
| 11440 | 47.69 | 6.05 | V | 53.74 | 73.98 | 20.24 | PK |
| 11440 | 34.57 | 6.05 | V | 40.62 | 53.98 | 13.36 | AV |
| 17160 | 46.81 | 9.62 | V | 56.43 | 68.20 | 11.77 | PK |
| 11440 | 47.70 | 6.05 | H | 53.75 | 73.98 | 20.23 | PK |
| 11440 | 34.77 | 6.05 | H | 40.82 | 53.98 | 13.16 | AV |
| 17160 | 46.92 | 9.62 | H | 56.54 | 68.20 | 11.66 | PK |

| | |
|---------------------|----------|
| Band : | UNII 3 |
| Operation Mode: | 802.11 a |
| Transfer Rate: | 6 Mbps |
| Operating Frequency | 5745MHz |
| Channel No. | 149 Ch |

| Frequency [MHz] | Measured Value [dB μ V] | C.L+A.F+ D.F-A.G [dB/m] | POL [H/V] | Total [dB μ V/m] | Limit [dB μ V/m] | Margin [dB] | Measurement Type |
|--------------------|--------------------------------|-------------------------------|--------------|-------------------------|-------------------------|----------------|---------------------|
| 11490 | 48.06 | 6.03 | V | 54.09 | 73.98 | 19.89 | PK |
| 11490 | 34.89 | 6.03 | V | 40.92 | 53.98 | 13.06 | AV |
| 17235 | 46.76 | 10.50 | V | 57.26 | 68.20 | 10.94 | PK |
| 11490 | 48.24 | 6.03 | H | 54.27 | 73.98 | 19.71 | PK |
| 11490 | 35.05 | 6.03 | H | 41.08 | 53.98 | 12.90 | AV |
| 17235 | 46.89 | 10.50 | H | 57.39 | 68.20 | 10.81 | PK |

| | |
|---------------------|----------|
| Band : | UNII 3 |
| Operation Mode: | 802.11 a |
| Transfer Rate: | 6 Mbps |
| Operating Frequency | 5785 MHz |
| Channel No. | 157 Ch |

| Frequency [MHz] | Measured Value [dB μ V] | C.L+A.F+ D.F-A.G [dB/m] | POL [H/V] | Total [dB μ V/m] | Limit [dB μ V/m] | Margin [dB] | Measurement Type |
|--------------------|--------------------------------|-------------------------------|--------------|-------------------------|-------------------------|----------------|---------------------|
| 11570 | 47.86 | 6.52 | V | 54.38 | 73.98 | 19.60 | PK |
| 11570 | 35.16 | 6.52 | V | 41.68 | 53.98 | 12.30 | AV |
| 17355 | 46.94 | 11.30 | V | 58.24 | 68.20 | 9.96 | PK |
| 11570 | 48.11 | 6.52 | H | 54.63 | 73.98 | 19.35 | PK |
| 11570 | 35.22 | 6.52 | H | 41.74 | 53.98 | 12.24 | AV |
| 17355 | 47.04 | 11.30 | H | 58.34 | 68.20 | 9.86 | PK |

| | |
|---------------------|----------|
| Band : | UNII 3 |
| Operation Mode: | 802.11 a |
| Transfer Rate: | 6 Mbps |
| Operating Frequency | 5825 MHz |
| Channel No. | 165 Ch |

| Frequency [MHz] | Measured Value [dB μ V] | C.L+A.F+ D.F-A.G [dB/m] | POL [H/V] | Total [dB μ V/m] | Limit [dB μ V/m] | Margin [dB] | Measurement Type |
|--------------------|--------------------------------|-------------------------------|--------------|-------------------------|-------------------------|----------------|---------------------|
| 11650 | 48.96 | 6.10 | V | 55.06 | 73.98 | 18.92 | PK |
| 11650 | 35.59 | 6.10 | V | 41.69 | 53.98 | 12.29 | AV |
| 17475 | 46.85 | 11.71 | V | 58.56 | 68.20 | 9.64 | PK |
| 11650 | 49.22 | 6.10 | H | 55.32 | 73.98 | 18.66 | PK |
| 11650 | 35.65 | 6.10 | H | 41.75 | 53.98 | 12.23 | AV |
| 17475 | 47.11 | 11.71 | H | 58.82 | 68.20 | 9.38 | PK |

| | |
|---------------------|----------|
| Band : | UNII 4 |
| Operation Mode: | 802.11 a |
| Transfer Rate: | 6 Mbps |
| Operating Frequency | 5845 MHz |
| Channel No. | 169 Ch |

| Frequency [MHz] | Measured Value [dB μ V] | C.L+A.F+ D.F-A.G [dB/m] | POL [H/V] | Total [dB μ V/m] | Limit [dB μ V/m] | Margin [dB] | Measurement Type |
|--------------------|--------------------------------|-------------------------------|--------------|-------------------------|-------------------------|----------------|---------------------|
| 11690 | 48.14 | 5.95 | V | 54.09 | 73.98 | 19.89 | PK |
| 11690 | 35.20 | 5.95 | V | 41.15 | 53.98 | 12.83 | AV |
| 17535 | 47.26 | 11.99 | V | 59.25 | 68.20 | 8.95 | PK |
| 11690 | 48.19 | 5.95 | H | 54.14 | 73.98 | 19.84 | PK |
| 11690 | 35.26 | 5.95 | H | 41.21 | 53.98 | 12.77 | AV |
| 17535 | 47.38 | 11.99 | H | 59.37 | 68.20 | 8.83 | PK |

| | |
|---------------------|----------|
| Band : | UNII 4 |
| Operation Mode: | 802.11 a |
| Transfer Rate: | 6 Mbps |
| Operating Frequency | 5865 MHz |
| Channel No. | 173 Ch |

| Frequency [MHz] | Measured Value [dB μ V] | C.L+A.F+ D.F-A.G [dB/m] | POL [H/V] | Total [dB μ V/m] | Limit [dB μ V/m] | Margin [dB] | Measurement Type |
|--------------------|--------------------------------|-------------------------------|--------------|-------------------------|-------------------------|----------------|---------------------|
| 11730 | 48.41 | 6.29 | V | 54.70 | 73.98 | 19.28 | PK |
| 11730 | 35.11 | 6.29 | V | 41.40 | 53.98 | 12.58 | AV |
| 17595 | 48.03 | 12.37 | V | 60.40 | 68.20 | 7.80 | PK |
| 11730 | 48.45 | 6.29 | H | 54.74 | 73.98 | 19.24 | PK |
| 11730 | 35.14 | 6.29 | H | 41.43 | 53.98 | 12.55 | AV |
| 17595 | 48.14 | 12.37 | H | 60.51 | 68.20 | 7.69 | PK |

Band : UNII 4
 Operation Mode: 802.11 a
 Transfer Rate: 6 Mbps
 Operating Frequency 5885 MHz
 Channel No. 177 Ch

| Frequency [MHz] | Measured Value [dBμV] | C.L+A.F+ D.F-A.G [dB/m] | POL [H/V] | Total [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Measurement Type |
|--------------------|--------------------------|-------------------------------|--------------|-------------------|-------------------|----------------|---------------------|
| 11770 | 48.51 | 5.63 | V | 54.14 | 73.98 | 19.84 | PK |
| 11770 | 35.06 | 5.63 | V | 40.69 | 53.98 | 13.29 | AV |
| 17655 | 48.58 | 12.33 | V | 60.91 | 68.20 | 7.29 | PK |
| 11770 | 48.58 | 5.63 | H | 54.21 | 73.98 | 19.77 | PK |
| 11770 | 35.27 | 5.63 | H | 40.90 | 53.98 | 13.08 | AV |
| 17655 | 48.84 | 12.33 | H | 61.17 | 68.20 | 7.03 | PK |

[RSDB]
Scenario 1

Dual Bluetooth DH5_Ch.78 + Ant All(MIMO) 5 GHz 802.11a_Ch.177

| Frequency [MHz] | Measured Value [dB μ V] | C.L+A.F+ D.F-A.G [dB/m] | POL [H/V] | Total [dB μ V/m] | Limit [dB μ V/m] | Margin [dB] | Measurement Type |
|--------------------|--------------------------------|-------------------------------|--------------|-------------------------|-------------------------|----------------|---------------------|
| 11770 | 48.29 | 5.63 | V | 53.92 | 73.98 | 20.06 | PK |
| 11770 | 35.16 | 5.63 | V | 40.79 | 53.98 | 13.19 | AV |
| 17655 | 48.06 | 12.33 | V | 60.39 | 68.20 | 7.81 | PK |
| 11770 | 48.48 | 5.63 | H | 54.11 | 73.98 | 19.87 | PK |
| 11770 | 35.31 | 5.63 | H | 40.94 | 53.98 | 13.04 | AV |
| 17655 | 48.39 | 12.33 | H | 60.72 | 68.20 | 7.48 | PK |

Note : BT RSDB Data refer to [BT] Test Report

Scenario 2

Ant All(MIMO) 2.4 GHz 802.11g_Ch.11_ + Ant All(MIMO) 5 GHz 802.11a_Ch.177

| Frequency [MHz] | Measured Value [dB μ V] | C.L+A.F+ D.F-A.G [dB/m] | POL [H/V] | Total [dB μ V/m] | Limit [dB μ V/m] | Margin [dB] | Measurement Type |
|--------------------|--------------------------------|-------------------------------|--------------|-------------------------|-------------------------|----------------|---------------------|
| 11770 | 47.67 | 5.63 | V | 53.30 | 73.98 | 20.68 | PK |
| 11770 | 34.92 | 5.63 | V | 40.55 | 53.98 | 13.43 | AV |
| 17655 | 48.51 | 12.33 | V | 60.84 | 68.20 | 7.36 | PK |
| 11770 | 48.02 | 5.63 | H | 53.65 | 73.98 | 20.33 | PK |
| 11770 | 35.09 | 5.63 | H | 40.72 | 53.98 | 13.26 | AV |
| 17655 | 48.58 | 12.33 | H | 60.91 | 68.20 | 7.29 | PK |

Note : DTS RSDB Data refer to [DTS] Test Report

Scenario 3

Ant.1 Bluetooth DH5_Ch.78 + Ant.2 2.4 GHz 802.11b_Ch.11 + Ant All(MIMO) 5 GHz 802.11a_Ch.177

| Frequency [MHz] | Measured Value [dB μ V] | C.L+A.F+ D.F-A.G [dB/m] | POL [H/V] | Total [dB μ V/m] | Limit [dB μ V/m] | Margin [dB] | Measurement Type |
|--------------------|--------------------------------|-------------------------------|--------------|-------------------------|-------------------------|----------------|---------------------|
| 11770 | 48.06 | 5.63 | V | 53.69 | 73.98 | 20.29 | PK |
| 11770 | 34.99 | 5.63 | V | 40.62 | 53.98 | 13.36 | AV |
| 17655 | 48.41 | 12.33 | V | 60.74 | 68.20 | 7.46 | PK |
| 11770 | 48.20 | 5.63 | H | 53.83 | 73.98 | 20.15 | PK |
| 11770 | 35.08 | 5.63 | H | 40.71 | 53.98 | 13.27 | AV |
| 17655 | 48.46 | 12.33 | H | 60.79 | 68.20 | 7.41 | PK |

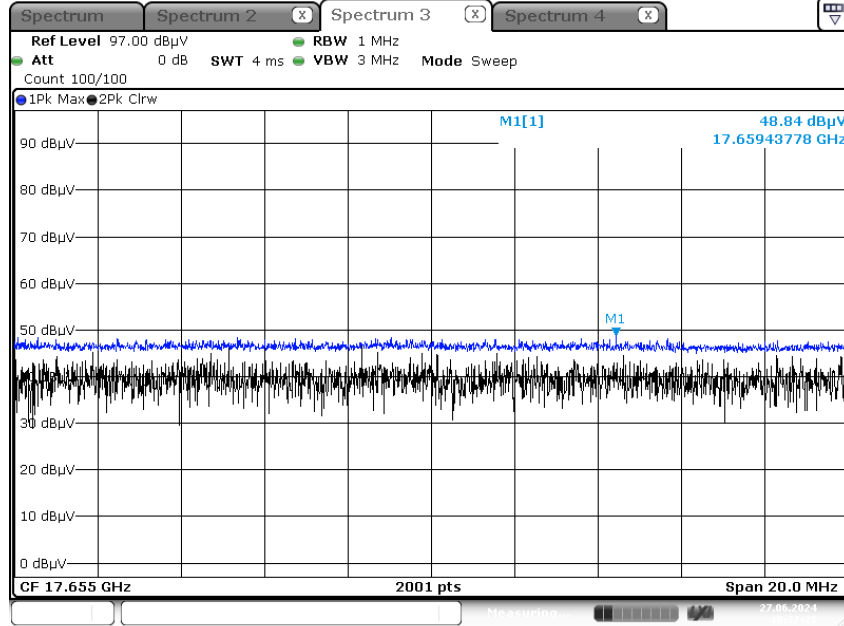
Note : BT, DTS RSDB Data refer to [BT], [DTS] Test Report

▣ Test Plots

Note: Only the worst case plots for Radiated Spurious Emissions.

[MIMO_CDD(Ant1+Ant2)]

Radiated Spurious Emissions plot – Peak Result (802.11a, Ch.177 Spurious Emissions, Z-H)

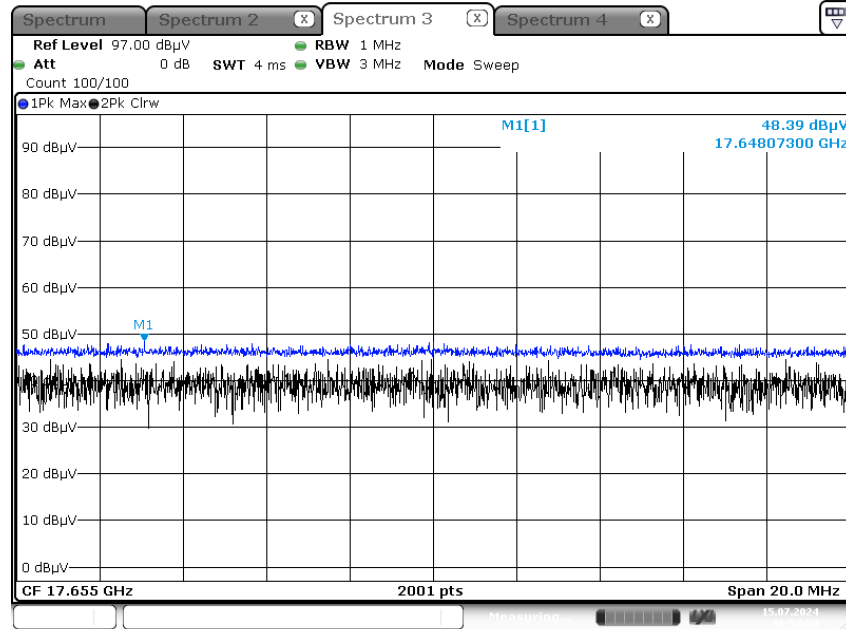


[RSDB]

Scenario 1

Dual Bluetooth DH5_Ch.78 + Ant All(MIMO) 5 GHz 802.11a_Ch.177

Radiated Spurious Emissions plot – Peak Result (802.11a_Ch.177 3rd Harmonic, X-H)

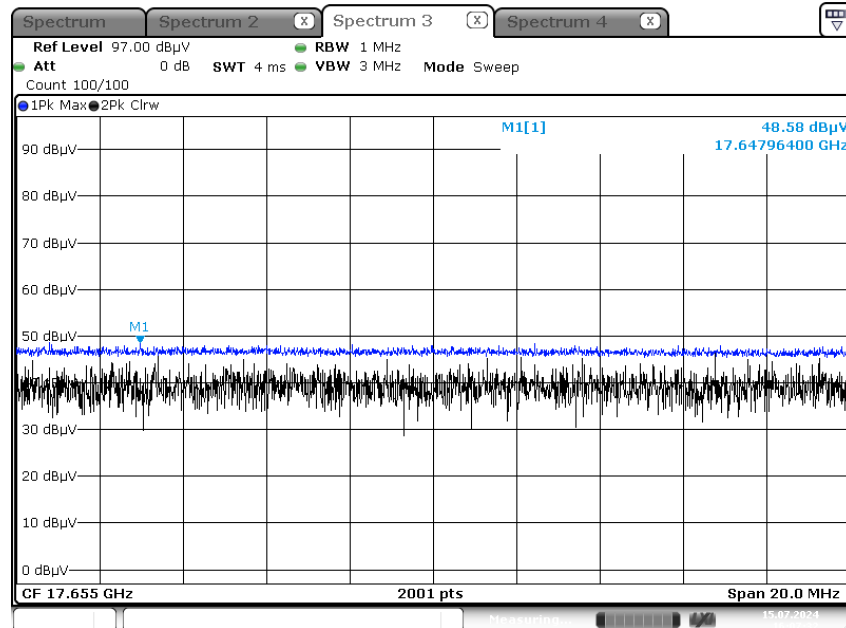


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Scenario 2

Ant All(MIMO) 2.4 GHz 802.11g_Ch.11 + Ant All(MIMO) 5 GHz 802.11a_Ch.177

Radiated Spurious Emissions plot – Peak Result (802.11a_Ch.177 3rd Harmonic, X-H)

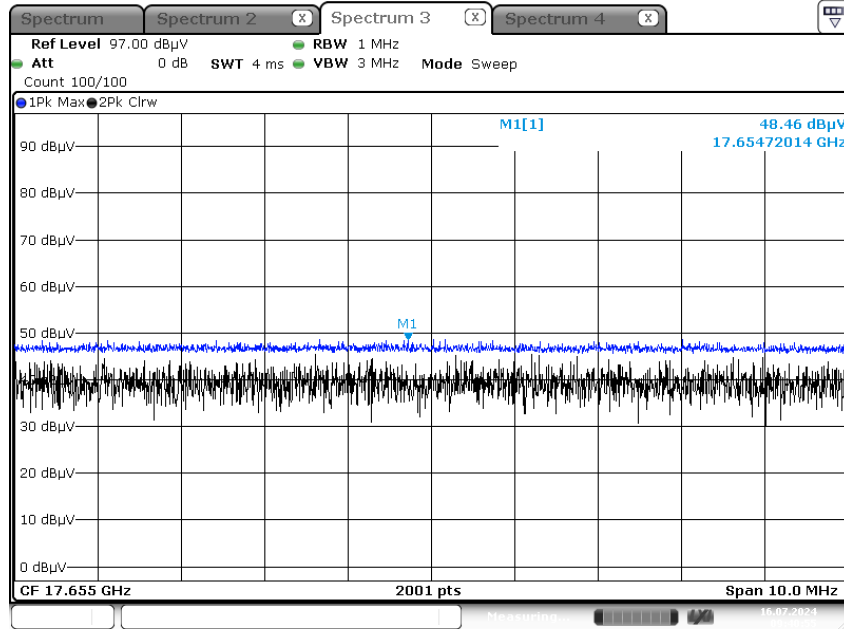


Date: 15.JUL.2024 16:07:32

Scenario 3

Ant.1 Bluetooth DH5_Ch.78 + Ant.2 2.4 GHz 802.11b_Ch.11 + Ant All(MIMO) 5 GHz 802.11a_Ch.177

Radiated Spurious Emissions plot – Peak Result (802.11a_Ch.177 3rd Harmonic, X-H)



10.9 RADIATED RESTRICTED BAND EDGE

[MIMO_CDD(Ant1+Ant2)]

| | |
|---------------------|----------|
| Band : | UNII 1 |
| Operation Mode: | 802.11 a |
| Transfer Rate: | 6 Mbps |
| Operating Frequency | 5180 MHz |
| Channel No. | 36 Ch |

| Frequency | Measured Value | C.L+A.F+ D.F-A.G+ATT | ANT. POL | Total | Limit | Margin | Measurement Type |
|-----------|----------------|-------------------------|----------|----------------|----------------|--------|------------------|
| [MHz] | [dB μ V] | [dB] | [H/V] | [dB μ V/m] | [dB μ V/m] | [dB] | |
| 5150 | 53.28 | - | H | 53.28 | 73.98 | 20.70 | PK |
| 5150 | 42.99 | - | H | 42.99 | 53.98 | 10.99 | AV |
| 5150 | 54.98 | - | V | 54.98 | 73.98 | 19.00 | PK |
| 5150 | 43.10 | - | V | 43.10 | 53.98 | 10.88 | AV |

| | |
|---------------------|----------|
| Band : | UNII 2A |
| Operation Mode: | 802.11 a |
| Transfer Rate: | 6 Mbps |
| Operating Frequency | 5320 MHz |
| Channel No. | 64 Ch |

| Frequency | Measured Value | C.L+A.F+ D.F-A.G+ATT | ANT. POL | Total | Limit | Margin | Measurement Type |
|-----------|----------------|-------------------------|----------|----------------|----------------|--------|------------------|
| [MHz] | [dB μ V] | [dB] | [H/V] | [dB μ V/m] | [dB μ V/m] | [dB] | |
| 5350 | 55.43 | - | H | 55.43 | 73.98 | 18.55 | PK |
| 5350 | 42.45 | - | H | 42.45 | 53.98 | 11.53 | AV |
| 5350 | 55.97 | - | V | 55.97 | 73.98 | 18.01 | PK |
| 5350 | 43.20 | - | V | 43.20 | 53.98 | 10.78 | AV |

| | |
|---------------------|----------|
| Band : | UNII 2C |
| Operation Mode: | 802.11 a |
| Transfer Rate: | 6 Mbps |
| Operating Frequency | 5500 MHz |
| Channel No. | 100 Ch |

| Frequency | Measured Value | C.L+A.F+ D.F-A.G+ATT | ANT. POL | Total | Limit | Margin | Measurement Type |
|-----------|----------------|-------------------------|----------|----------|----------|--------|------------------|
| [MHz] | [dBμV] | [dB] | [H/V] | [dBμV/m] | [dBμV/m] | [dB] | |
| 5460 | 57.10 | - | H | 57.10 | 73.98 | 16.88 | PK |
| 5460 | 43.05 | - | H | 43.05 | 53.98 | 10.93 | AV |
| 5470 | 57.76 | - | H | 57.76 | 68.20 | 10.44 | PK |
| 5460 | 57.11 | - | V | 57.11 | 73.98 | 16.87 | PK |
| 5460 | 43.18 | - | V | 43.18 | 53.98 | 10.80 | AV |
| 5470 | 57.94 | - | V | 57.94 | 68.20 | 10.26 | PK |

| | |
|---------------------|---------------|
| Band : | UNII 1 |
| Operation Mode: | 802.11 n_HT20 |
| Transfer MCS Index: | 0 |
| Operating Frequency | 5180 MHz |
| Channel No. | 36 Ch |

| Frequency | Measured Value | C.L+A.F+ D.F-A.G+ATT | ANT. POL | Total | Limit | Margin | Measurement Type |
|-----------|----------------|-------------------------|----------|----------------|----------------|--------|------------------|
| [MHz] | [dB μ V] | [dB] | [H/V] | [dB μ V/m] | [dB μ V/m] | [dB] | |
| 5150 | 54.85 | - | H | 54.85 | 73.98 | 19.13 | PK |
| 5150 | 42.59 | - | H | 42.59 | 53.98 | 11.39 | AV |
| 5150 | 55.72 | - | V | 55.72 | 73.98 | 18.26 | PK |
| 5150 | 43.02 | - | V | 43.02 | 53.98 | 10.96 | AV |

| | |
|---------------------|---------------|
| Band : | UNII 2A |
| Operation Mode: | 802.11 n_HT20 |
| Transfer MCS Index: | 0 |
| Operating Frequency | 5320 MHz |
| Channel No. | 64 Ch |

| Frequency | Measured Value | C.L+A.F+ D.F-A.G+ATT | ANT. POL | Total | Limit | Margin | Measurement Type |
|-----------|----------------|-------------------------|----------|----------------|----------------|--------|------------------|
| [MHz] | [dB μ V] | [dB] | [H/V] | [dB μ V/m] | [dB μ V/m] | [dB] | |
| 5350 | 55.43 | - | H | 55.43 | 73.98 | 18.55 | PK |
| 5350 | 42.53 | - | H | 42.53 | 53.98 | 11.45 | AV |
| 5350 | 55.87 | - | V | 55.87 | 73.98 | 18.11 | PK |
| 5350 | 42.88 | - | V | 42.88 | 53.98 | 11.10 | AV |

| | |
|---------------------|---------------|
| Band : | UNII 2C |
| Operation Mode: | 802.11 n_HT20 |
| Transfer MCS Index: | 0 |
| Operating Frequency | 5500 MHz |
| Channel No. | 100 Ch |

| Frequency | Measured Value | C.L+A.F+ D.F-A.G+ATT | ANT. POL | Total | Limit | Margin | Measurement Type |
|-----------|----------------|-------------------------|----------|----------|----------|--------|------------------|
| [MHz] | [dBμV] | [dB] | [H/V] | [dBμV/m] | [dBμV/m] | [dB] | |
| 5460 | 56.16 | - | H | 56.16 | 73.98 | 17.82 | PK |
| 5460 | 43.60 | - | H | 43.60 | 53.98 | 10.38 | AV |
| 5470 | 58.77 | - | H | 58.77 | 68.20 | 9.43 | PK |
| 5460 | 56.95 | - | V | 56.95 | 73.98 | 17.03 | PK |
| 5460 | 43.70 | - | V | 43.70 | 53.98 | 10.28 | AV |
| 5470 | 59.09 | - | V | 59.09 | 68.20 | 9.11 | PK |

| | |
|---------------------|-----------------|
| Band : | UNII 1 |
| Operation Mode: | 802.11 ac_VHT20 |
| Transfer MCS Index: | 0 |
| Operating Frequency | 5180 MHz |
| Channel No. | 36 Ch |

| Frequency | Measured Value | C.L+A.F+ D.F-A.G+ATT | ANT. POL | Total | Limit | Margin | Measurement Type |
|-----------|----------------|-------------------------|----------|----------------|----------------|--------|------------------|
| [MHz] | [dB μ V] | [dB] | [H/V] | [dB μ V/m] | [dB μ V/m] | [dB] | |
| 5150 | 55.26 | - | H | 55.26 | 73.98 | 18.72 | PK |
| 5150 | 43.05 | - | H | 43.05 | 53.98 | 10.93 | AV |
| 5150 | 55.74 | - | V | 55.74 | 73.98 | 18.24 | PK |
| 5150 | 43.35 | - | V | 43.35 | 53.98 | 10.63 | AV |

| | |
|---------------------|-----------------|
| Band : | UNII 2A |
| Operation Mode: | 802.11 ac_VHT20 |
| Transfer MCS Index: | 0 |
| Operating Frequency | 5320 MHz |
| Channel No. | 64 Ch |

| Frequency | Measured Value | C.L+A.F+ D.F-A.G+ATT | ANT. POL | Total | Limit | Margin | Measurement Type |
|-----------|----------------|-------------------------|----------|----------------|----------------|--------|------------------|
| [MHz] | [dB μ V] | [dB] | [H/V] | [dB μ V/m] | [dB μ V/m] | [dB] | |
| 5350 | 55.88 | - | H | 55.88 | 73.98 | 18.10 | PK |
| 5350 | 43.16 | - | H | 43.16 | 53.98 | 10.82 | AV |
| 5350 | 56.43 | - | V | 56.43 | 73.98 | 17.55 | PK |
| 5350 | 42.99 | - | V | 42.99 | 53.98 | 10.99 | AV |

| | |
|---------------------|-----------------|
| Band : | UNII 2C |
| Operation Mode: | 802.11 ac_VHT20 |
| Transfer MCS Index: | 0 |
| Operating Frequency | 5500 MHz |
| Channel No. | 100 Ch |

| Frequency | Measured Value | C.L+A.F+ D.F-A.G+ATT | ANT. POL | Total | Limit | Margin | Measurement Type |
|-----------|----------------|-------------------------|----------|----------|----------|--------|------------------|
| [MHz] | [dBμV] | [dB] | [H/V] | [dBμV/m] | [dBμV/m] | [dB] | |
| 5460 | 55.82 | - | H | 55.82 | 73.98 | 18.16 | PK |
| 5460 | 43.67 | - | H | 43.67 | 53.98 | 10.31 | AV |
| 5470 | 58.79 | - | H | 58.79 | 68.20 | 9.41 | PK |
| 5460 | 56.21 | - | V | 56.21 | 73.98 | 17.77 | PK |
| 5460 | 44.02 | - | V | 44.02 | 53.98 | 9.96 | AV |
| 5470 | 59.11 | - | V | 59.11 | 68.20 | 9.09 | PK |

| | |
|---------------------|---------------|
| Band : | UNII 1 |
| Operation Mode: | 802.11 n_HT40 |
| Transfer MCS Index: | 0 |
| Operating Frequency | 5190 MHz |
| Channel No. | 38 Ch |

| Frequency | Measured Value | C.L+A.F+ D.F-A.G+ATT | ANT. POL | Total | Limit | Margin | Measurement Type |
|-----------|----------------|-------------------------|----------|----------------|----------------|--------|------------------|
| [MHz] | [dB μ V] | [dB] | [H/V] | [dB μ V/m] | [dB μ V/m] | [dB] | |
| 5150 | 58.73 | - | H | 58.73 | 73.98 | 15.25 | PK |
| 5150 | 46.82 | - | H | 46.82 | 53.98 | 7.16 | AV |
| 5150 | 58.10 | - | V | 58.10 | 73.98 | 15.88 | PK |
| 5150 | 45.55 | - | V | 45.55 | 53.98 | 8.43 | AV |

| | |
|---------------------|---------------|
| Band : | UNII 2A |
| Operation Mode: | 802.11 n_HT40 |
| Transfer MCS Index: | 0 |
| Operating Frequency | 5310 MHz |
| Channel No. | 62 Ch |

| Frequency | Measured Value | C.L+A.F+ D.F-A.G+ATT | ANT. POL | Total | Limit | Margin | Measurement Type |
|-----------|----------------|-------------------------|----------|----------------|----------------|--------|------------------|
| [MHz] | [dB μ V] | [dB] | [H/V] | [dB μ V/m] | [dB μ V/m] | [dB] | |
| 5350 | 63.25 | - | H | 63.25 | 73.98 | 10.73 | PK |
| 5350 | 49.01 | - | H | 49.01 | 53.98 | 4.97 | AV |
| 5350 | 63.27 | - | V | 63.27 | 73.98 | 10.71 | PK |
| 5350 | 49.83 | - | V | 49.83 | 53.98 | 4.15 | AV |

| | |
|---------------------|---------------|
| Band : | UNII 2C |
| Operation Mode: | 802.11 n_HT40 |
| Transfer MCS Index: | 0 |
| Operating Frequency | 5510 MHz |
| Channel No. | 102 Ch |

| Frequency | Measured Value | C.L+A.F+ D.F-A.G+ATT | ANT. POL | Total | Limit | Margin | Measurement Type |
|-----------|----------------|-------------------------|----------|----------|----------|--------|---------------------|
| [MHz] | [dBμV] | [dB] | [H/V] | [dBμV/m] | [dBμV/m] | [dB] | |
| 5460 | 57.98 | - | H | 57.98 | 73.98 | 16.00 | PK |
| 5460 | 44.64 | - | H | 44.64 | 53.98 | 9.34 | AV |
| 5470 | 60.66 | - | H | 60.66 | 68.20 | 7.54 | PK |
| 5460 | 57.92 | - | V | 57.92 | 73.98 | 16.06 | PK |
| 5460 | 44.63 | - | V | 44.63 | 53.98 | 9.35 | AV |
| 5470 | 61.48 | - | V | 61.48 | 68.20 | 6.72 | PK |

| | |
|---------------------|-----------------|
| Band : | UNII 1 |
| Operation Mode: | 802.11 ac_VHT40 |
| Transfer MCS Index: | 0 |
| Operating Frequency | 5190 MHz |
| Channel No. | 38 Ch |

| Frequency | Measured Value | C.L+A.F+ D.F-A.G+ATT | ANT. POL | Total | Limit | Margin | Measurement Type |
|-----------|----------------|-------------------------|----------|----------------|----------------|--------|------------------|
| [MHz] | [dB μ V] | [dB] | [H/V] | [dB μ V/m] | [dB μ V/m] | [dB] | |
| 5150 | 59.52 | - | H | 59.52 | 73.98 | 14.46 | PK |
| 5150 | 46.63 | - | H | 46.63 | 53.98 | 7.35 | AV |
| 5150 | 58.41 | - | V | 58.41 | 73.98 | 15.57 | PK |
| 5150 | 44.91 | - | V | 44.91 | 53.98 | 9.07 | AV |

| | |
|---------------------|-----------------|
| Band : | UNII 2A |
| Operation Mode: | 802.11 ac_VHT40 |
| Transfer MCS Index: | 0 |
| Operating Frequency | 5310 MHz |
| Channel No. | 62 Ch |

| Frequency | Measured Value | C.L+A.F+ D.F-A.G+ATT | ANT. POL | Total | Limit | Margin | Measurement Type |
|-----------|----------------|-------------------------|----------|----------------|----------------|--------|------------------|
| [MHz] | [dB μ V] | [dB] | [H/V] | [dB μ V/m] | [dB μ V/m] | [dB] | |
| 5350 | 62.54 | - | H | 62.54 | 73.98 | 11.44 | PK |
| 5350 | 49.31 | - | H | 49.31 | 53.98 | 4.67 | AV |
| 5350 | 62.35 | - | V | 62.35 | 73.98 | 11.63 | PK |
| 5350 | 48.58 | - | V | 48.58 | 53.98 | 5.40 | AV |

| | |
|---------------------|-----------------|
| Band : | UNII 2C |
| Operation Mode: | 802.11 ac_VHT40 |
| Transfer MCS Index: | 0 |
| Operating Frequency | 5510 MHz |
| Channel No. | 102 Ch |

| Frequency | Measured Value | C.L+A.F+ D.F-A.G+ATT | ANT. POL | Total | Limit | Margin | Measurement Type |
|-----------|----------------|-------------------------|----------|----------|----------|--------|------------------|
| [MHz] | [dBμV] | [dB] | [H/V] | [dBμV/m] | [dBμV/m] | [dB] | |
| 5460 | 56.47 | - | H | 56.47 | 73.98 | 17.51 | PK |
| 5460 | 44.13 | - | H | 44.13 | 53.98 | 9.85 | AV |
| 5470 | 59.65 | - | H | 59.65 | 68.20 | 8.55 | PK |
| 5460 | 57.35 | - | V | 57.35 | 73.98 | 16.63 | PK |
| 5460 | 45.30 | - | V | 45.30 | 53.98 | 8.68 | AV |
| 5470 | 60.76 | - | V | 60.76 | 68.20 | 7.44 | PK |

| | |
|---------------------|-----------------|
| Band : | UNII 1 |
| Operation Mode: | 802.11 ac_VHT80 |
| Transfer MCS Index: | 0 |
| Operating Frequency | 5210 MHz |
| Channel No. | 42 Ch |

| Frequency | Measured Value | C.L+A.F+ D.F-A.G+ATT | ANT. POL | Total | Limit | Margin | Measurement Type |
|-----------|----------------|-------------------------|----------|----------------|----------------|--------|------------------|
| [MHz] | [dB μ V] | [dB] | [H/V] | [dB μ V/m] | [dB μ V/m] | [dB] | |
| 5150 | 58.30 | - | H | 58.30 | 73.98 | 15.68 | PK |
| 5150 | 46.84 | - | H | 46.84 | 53.98 | 7.14 | AV |
| 5150 | 58.41 | - | V | 58.41 | 73.98 | 15.57 | PK |
| 5150 | 46.85 | - | V | 46.85 | 53.98 | 7.13 | AV |

| | |
|---------------------|-----------------|
| Band : | UNII 2A |
| Operation Mode: | 802.11 ac_VHT80 |
| Transfer MCS Index: | 0 |
| Operating Frequency | 5290 MHz |
| Channel No. | 58 Ch |

| Frequency | Measured Value | C.L+A.F+ D.F-A.G+ATT | ANT. POL | Total | Limit | Margin | Measurement Type |
|-----------|----------------|-------------------------|----------|----------------|----------------|--------|------------------|
| [MHz] | [dB μ V] | [dB] | [H/V] | [dB μ V/m] | [dB μ V/m] | [dB] | |
| 5350 | 59.13 | - | H | 59.13 | 73.98 | 14.85 | PK |
| 5350 | 47.37 | - | H | 47.37 | 53.98 | 6.61 | AV |
| 5350 | 57.79 | - | V | 57.79 | 73.98 | 16.19 | PK |
| 5350 | 47.14 | - | V | 47.14 | 53.98 | 6.84 | AV |

| | |
|---------------------|-----------------|
| Band : | UNII 2C |
| Operation Mode: | 802.11 ac_VHT80 |
| Transfer MCS Index: | 0 |
| Operating Frequency | 5530 MHz |
| Channel No. | 106 Ch |

| Frequency | Measured Value | C.L+A.F+ D.F-A.G+ATT | ANT. POL | Total | Limit | Margin | Measurement Type |
|-----------|----------------|-------------------------|----------|----------|----------|--------|------------------|
| [MHz] | [dBμV] | [dB] | [H/V] | [dBμV/m] | [dBμV/m] | [dB] | |
| 5460 | 59.39 | - | H | 59.39 | 73.98 | 14.59 | PK |
| 5460 | 45.39 | - | H | 45.39 | 53.98 | 8.59 | AV |
| 5470 | 58.13 | - | H | 58.13 | 68.20 | 10.07 | PK |
| 5460 | 57.94 | - | V | 57.94 | 73.98 | 16.04 | PK |
| 5460 | 44.80 | - | V | 44.80 | 53.98 | 9.18 | AV |
| 5470 | 56.01 | - | V | 56.01 | 68.20 | 12.19 | PK |

| | |
|---------------------|-------------------------|
| Band : | UNII 1 & 2A |
| Operation Mode: | 802.11 ac_VHT160(Lower) |
| Transfer MCS Index: | 0 |
| Operating Frequency | 5250 MHz |
| Channel No. | 50 Ch |

| Frequency | Measured Value | C.L+A.F+ D.F-A.G+ATT | ANT. POL | Total | Limit | Margin | Measurement Type |
|-----------|----------------|-------------------------|----------|----------------|----------------|--------|---------------------|
| [MHz] | [dB μ V] | [dB] | [H/V] | [dB μ V/m] | [dB μ V/m] | [dB] | |
| 5150 | 61.37 | - | H | 61.37 | 73.98 | 12.61 | PK |
| 5150 | 45.60 | - | H | 45.60 | 53.98 | 8.38 | AV |
| 5150 | 68.99 | - | V | 68.99 | 73.98 | 4.99 | PK |
| 5150 | 48.80 | - | V | 48.80 | 53.98 | 5.18 | AV |

| | |
|---------------------|-------------------------|
| Band : | UNII 1 & 2A |
| Operation Mode: | 802.11 ac_VHT160(Upper) |
| Transfer MCS Index: | 0 |
| Operating Frequency | 5250 MHz |
| Channel No. | 50 Ch |

| Frequency | Measured Value | C.L+A.F+ D.F-A.G+ATT | ANT. POL | Total | Limit | Margin | Measurement Type |
|-----------|----------------|-------------------------|----------|----------------|----------------|--------|---------------------|
| [MHz] | [dB μ V] | [dB] | [H/V] | [dB μ V/m] | [dB μ V/m] | [dB] | |
| 5350 | 67.26 | - | H | 67.26 | 73.98 | 6.72 | PK |
| 5350 | 50.42 | - | H | 50.42 | 53.98 | 3.56 | AV |
| 5350 | 66.26 | - | V | 66.26 | 73.98 | 7.72 | PK |
| 5350 | 49.19 | - | V | 49.19 | 53.98 | 4.79 | AV |

| | |
|---------------------|------------------|
| Band : | UNII 2C |
| Operation Mode: | 802.11 ac_VHT160 |
| Transfer MCS Index: | 0 |
| Operating Frequency | 5570 MHz |
| Channel No. | 114 Ch |

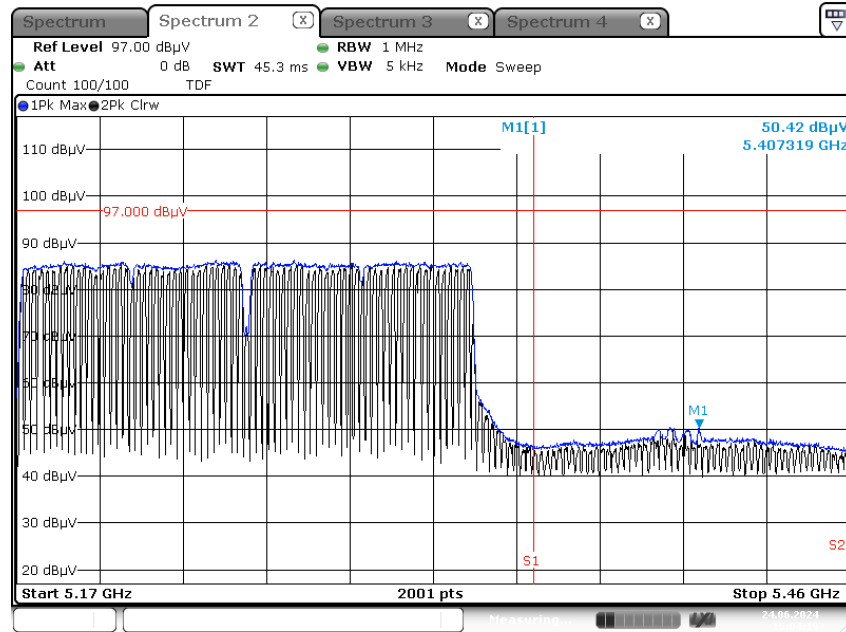
| Frequency | Measured Value | C.L+A.F+ D.F-A.G+ATT | ANT. POL | Total | Limit | Margin | Measurement Type |
|-----------|----------------|-------------------------|----------|----------------|----------------|--------|------------------|
| [MHz] | [dB μ V] | [dB] | [H/V] | [dB μ V/m] | [dB μ V/m] | [dB] | |
| 5460 | 65.54 | - | H | 65.54 | 73.98 | 8.44 | PK |
| 5460 | 49.55 | - | H | 49.55 | 53.98 | 4.43 | AV |
| #5470 | 58.91 | - | H | 58.91 | 68.20 | 9.29 | PK |
| 5460 | 66.64 | - | V | 66.64 | 73.98 | 7.34 | PK |
| 5460 | 50.29 | - | V | 50.29 | 53.98 | 3.69 | AV |
| #5470 | 61.16 | - | V | 61.16 | 68.20 | 7.04 | PK |

Note : # Integration method Used (KDB 789033 D02 v02r01 Section 3) d) (ii)

[MIMO_CDD(Ant1+Ant2)]

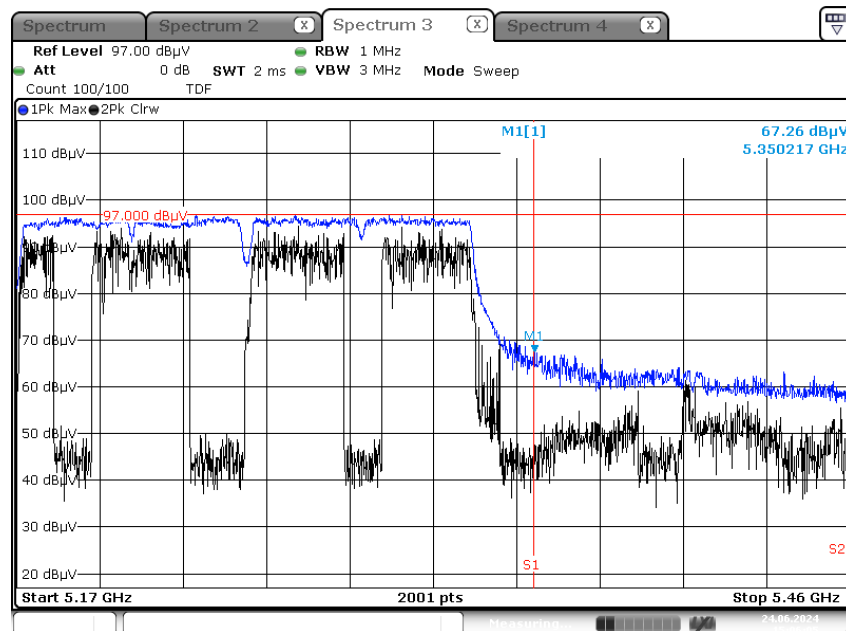
▣ Test Plots(UNII 1, 2A, 2C)

Average Result (802.11 ac_VHT160_MCS0, Ch.50, Z-H)



Date: 24.JUN.2024 15:04:19

Peak Result (802.11 ac_VHT160_MCS0, Ch.50, Z-H)



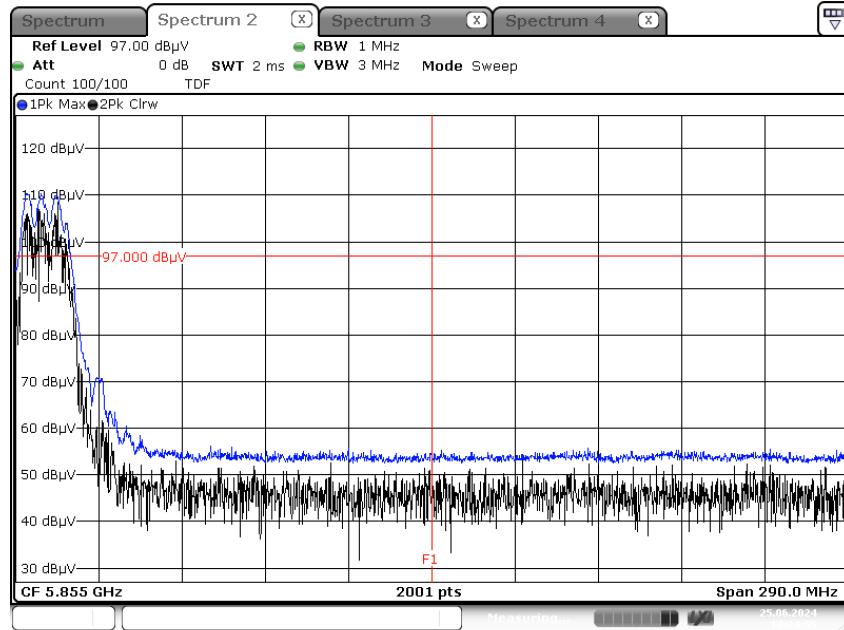
Date: 24.JUN.2024 15:06:05

Note:

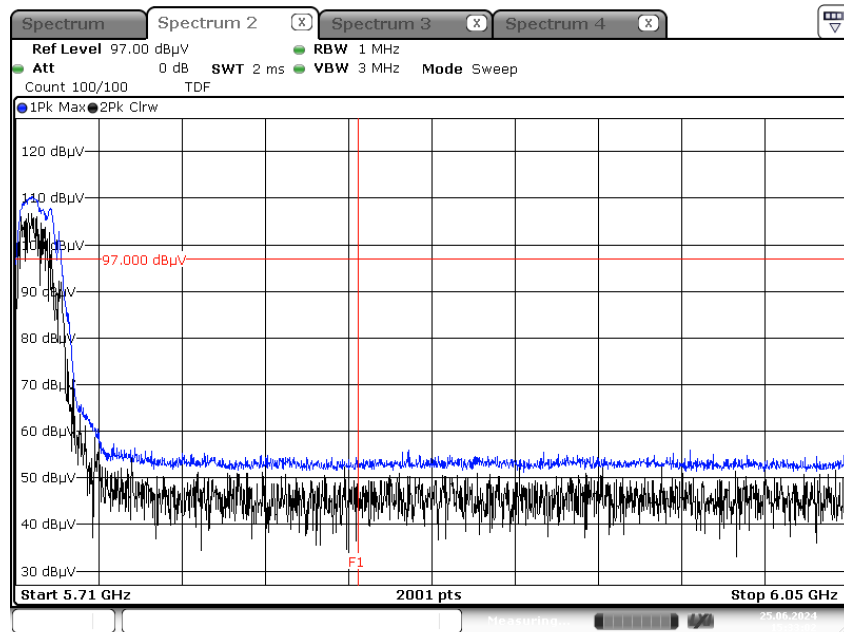
Only the worst case plots for Radiated Restricted Band Edge.

Test Plots(Straddle Channel)

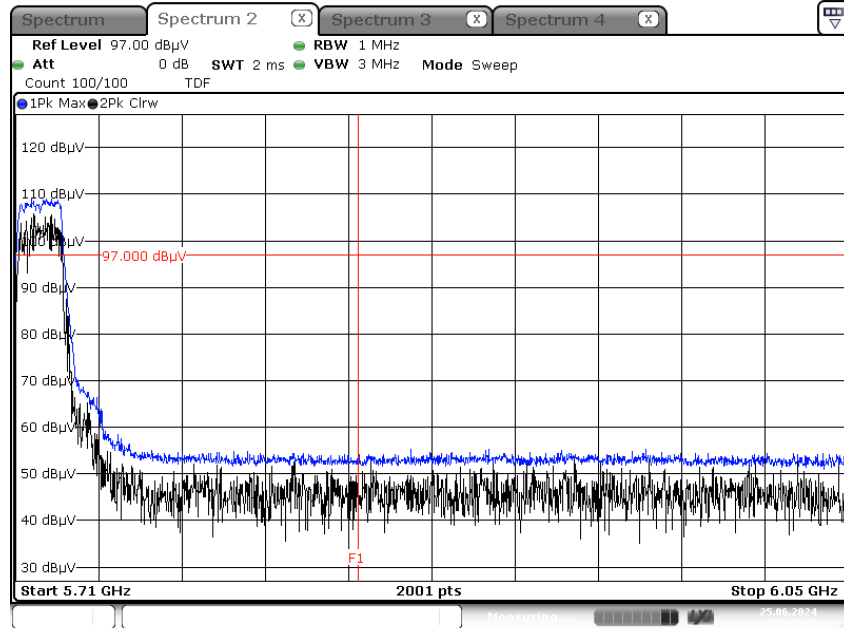
Peak Result (802.11a, Ch.144, Z-H)



Peak Result (802.11n_HT20, Ch.144, Z-H)

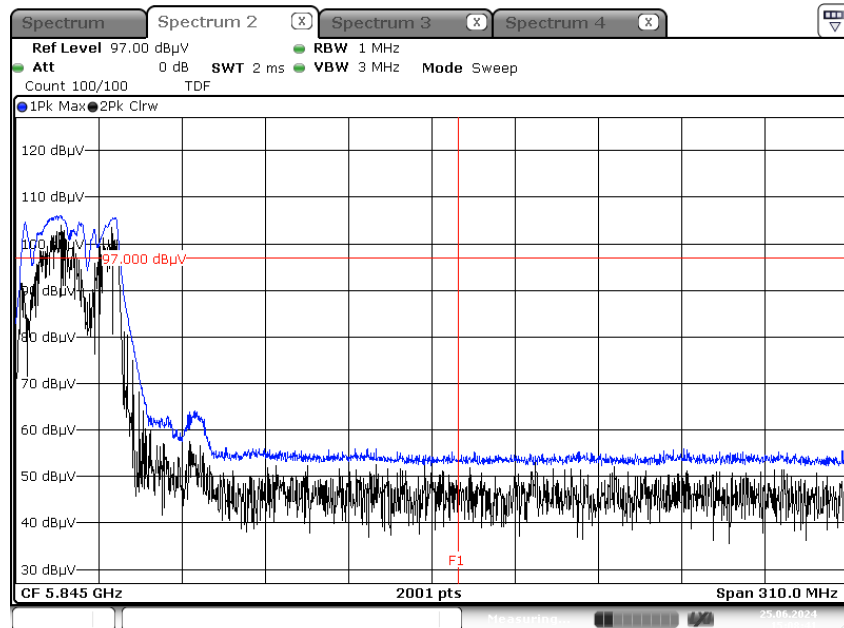


Peak Result (802.11ac_VHT20, Ch.144, Z-H)



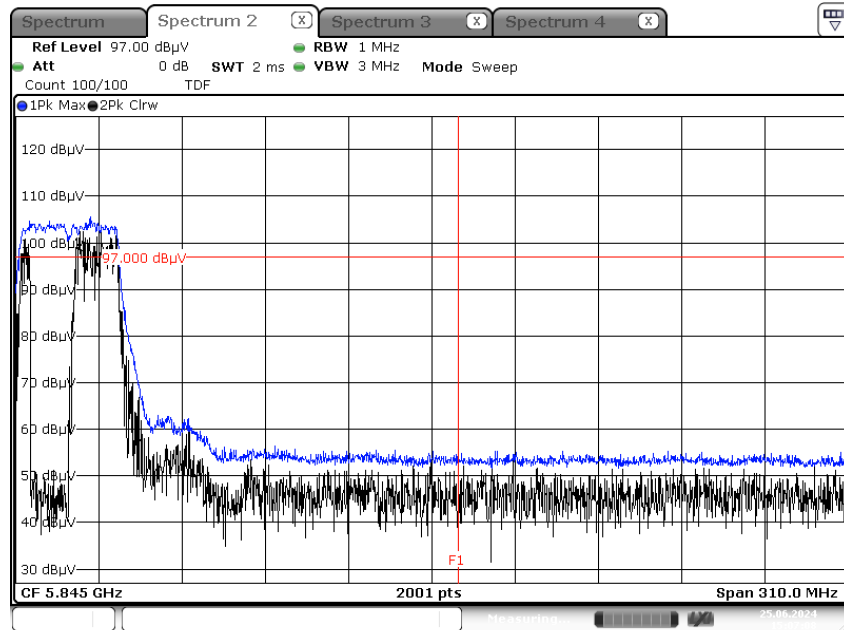
Date: 25.JUN.2024 15:30:37

Peak Result (802.11n_HT40, Ch.142, Z-H)



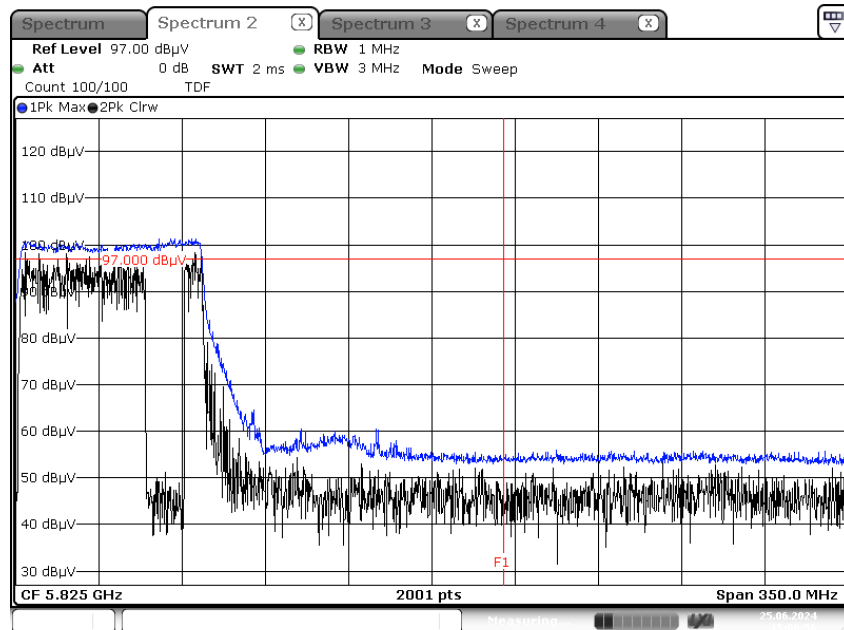
Date: 25.JUN.2024 15:08:41

Peak Result (802.11ac_VHT40, Ch.142, Z-H)



Date: 25.JUN.2024 15:07:09

Peak Result (802.11ac_VHT80, Ch.138, Z-H)



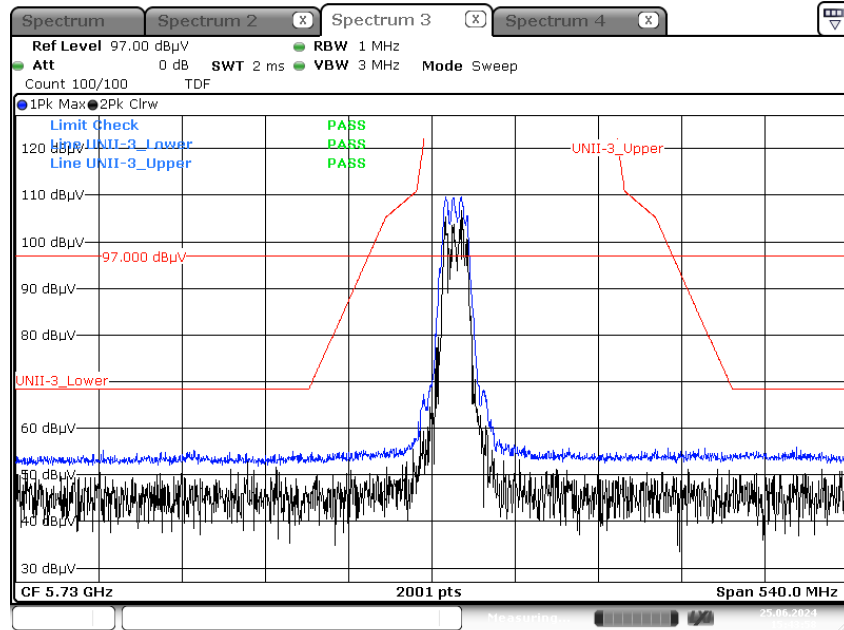
Date: 25.JUN.2024 15:00:57

Note :

1. Only the worst case plots for Radiated Restricted Band Edge.
2. Red line : 5 850 MHz
3. Ambient Noise (Because of ambient noise, We attached only the worst plot without a data table)

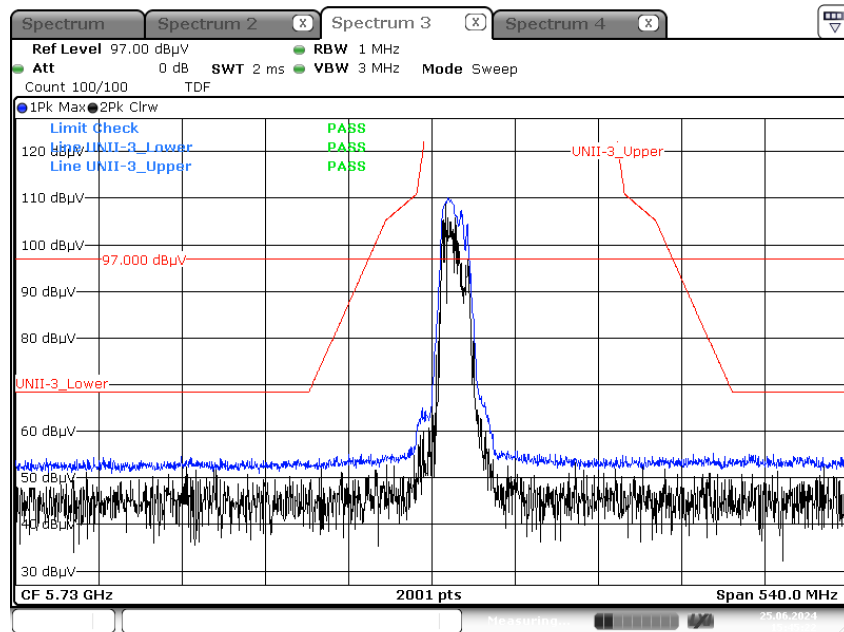
▣ Test Plots(UNII 3)

Peak Result (802.11a, Ch.149, Z-H)



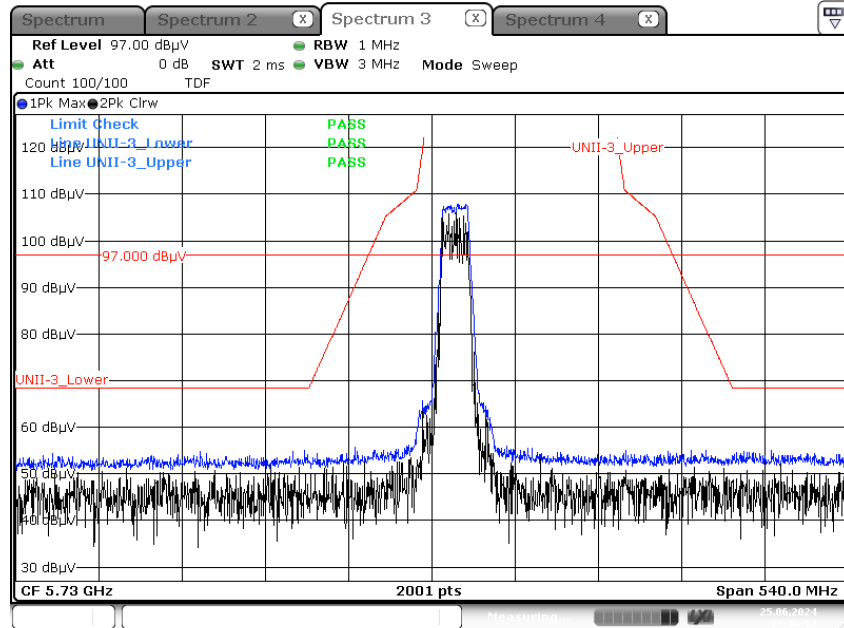
Date: 25 JUN 2024 15:43:58

Peak Result (802.11n_HT20, Ch.149, Z-H)

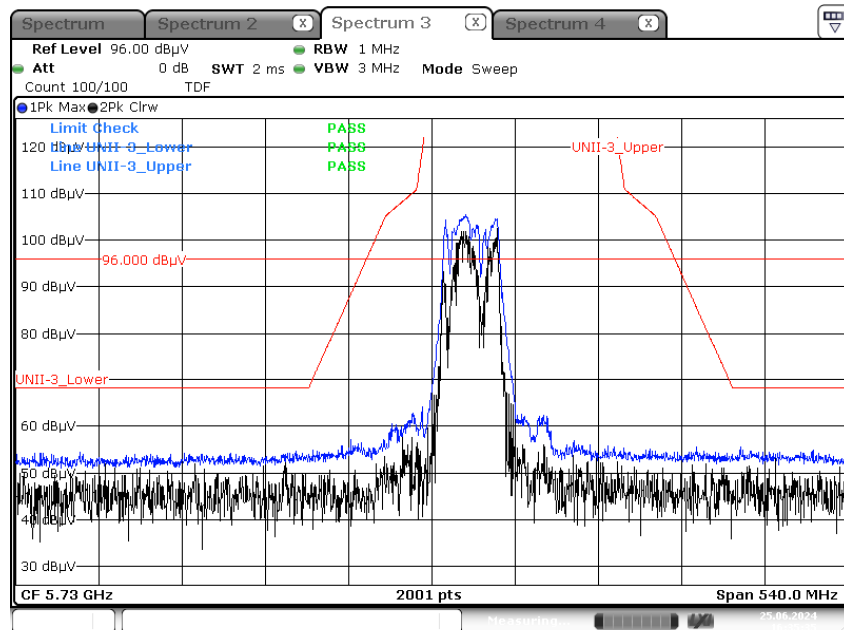


Date: 25 JUN 2024 15:45:22

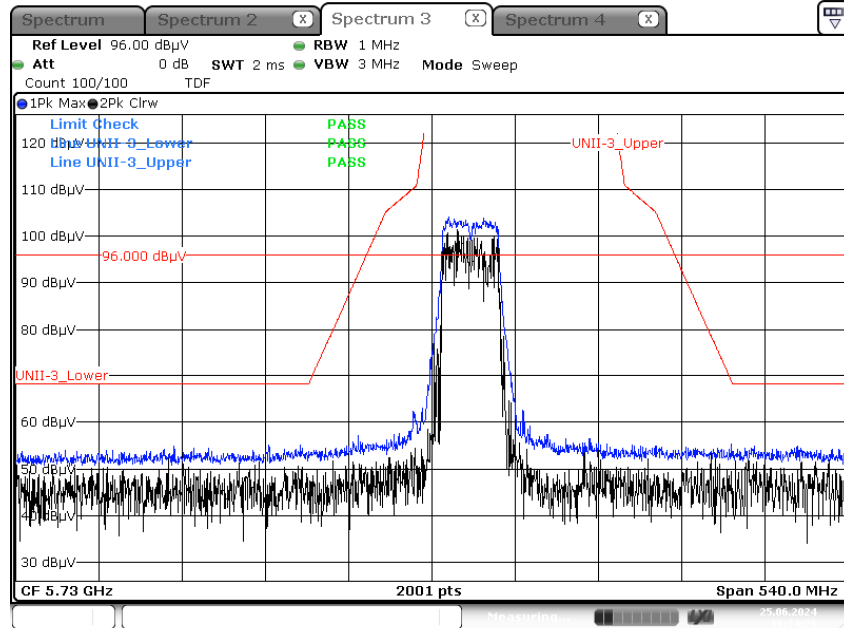
Peak Result (802.11ac_VHT20, Ch.149, Z-H)



Peak Result (802.11n_HT40, Ch.151, Z-H)

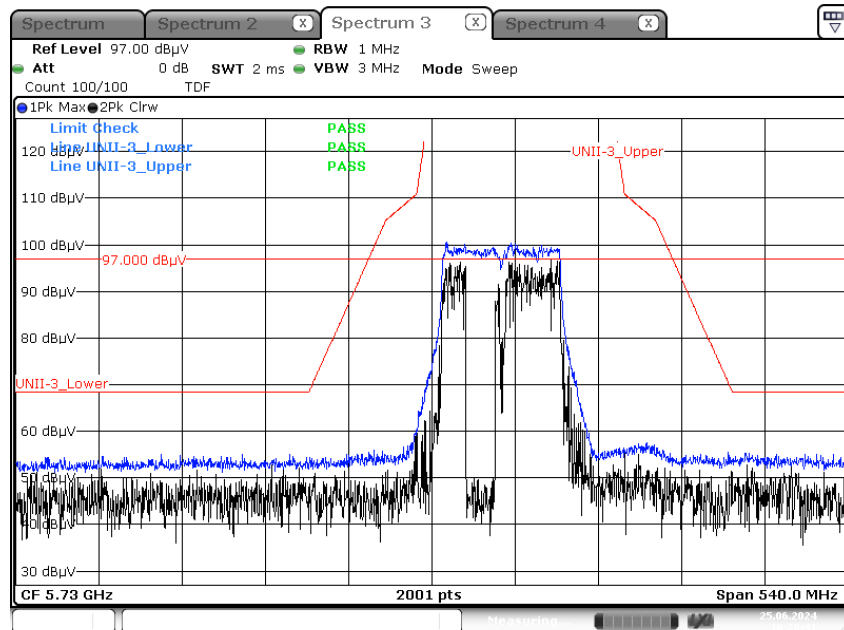


Peak Result (802.11ac_VHT40, Ch.151, Z-H)



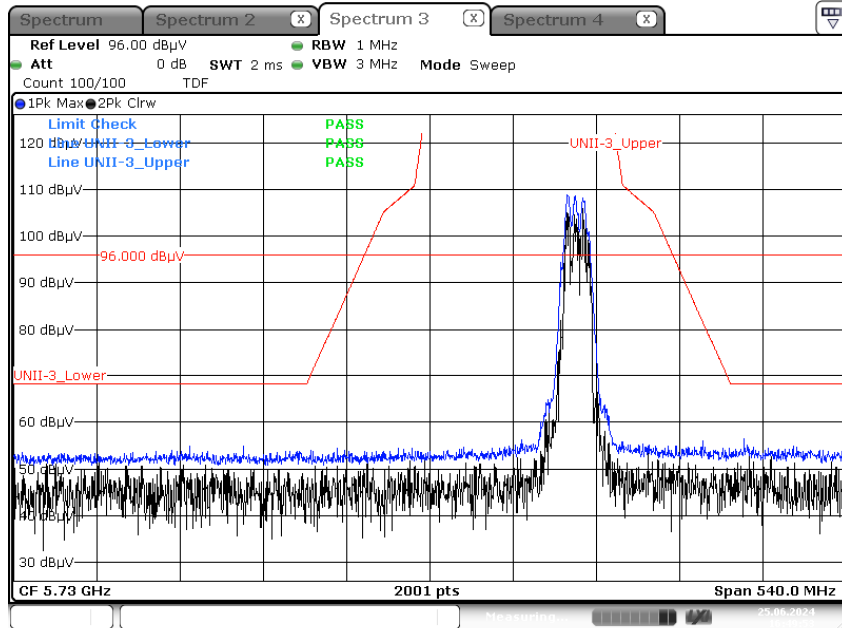
Date: 25.JUN.2024 16:34:26

Peak Result (802.11ac_VHT80, Ch.155, Z-H)



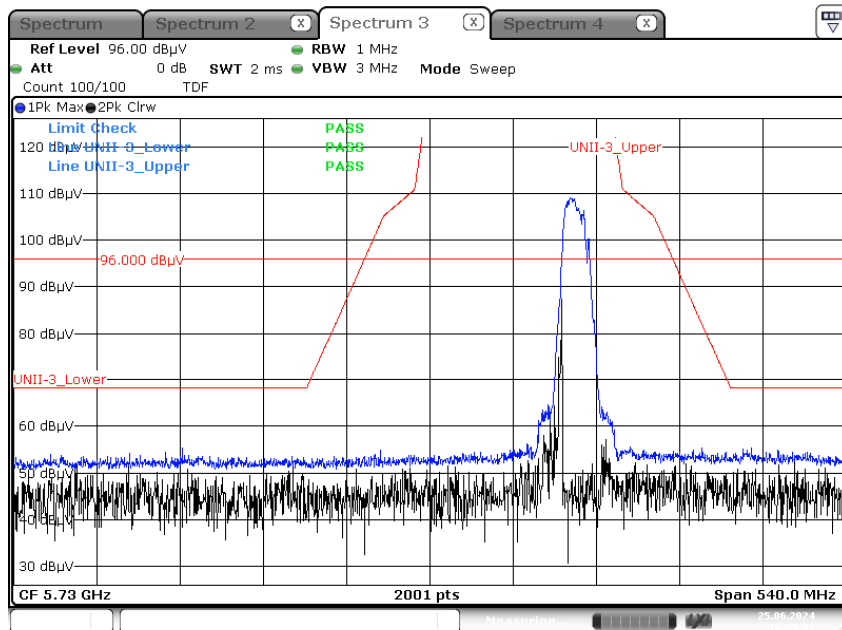
Date: 25.JUN.2024 16:28:31

Peak Result (802.11a, Ch.165, Z-H)



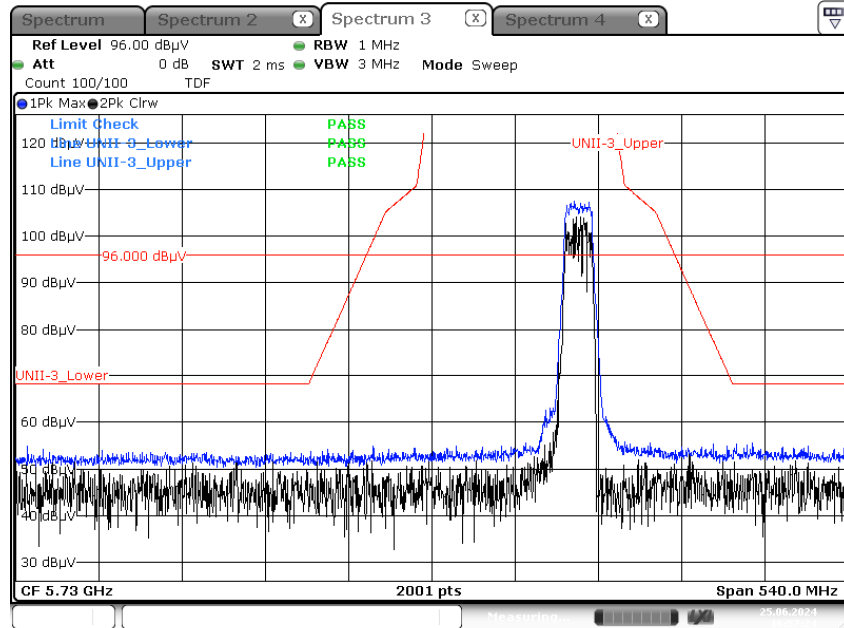
Date: 25 JUN 2024 16:49:53

Peak Result (802.11n_HT20, Ch.165, Z-H)



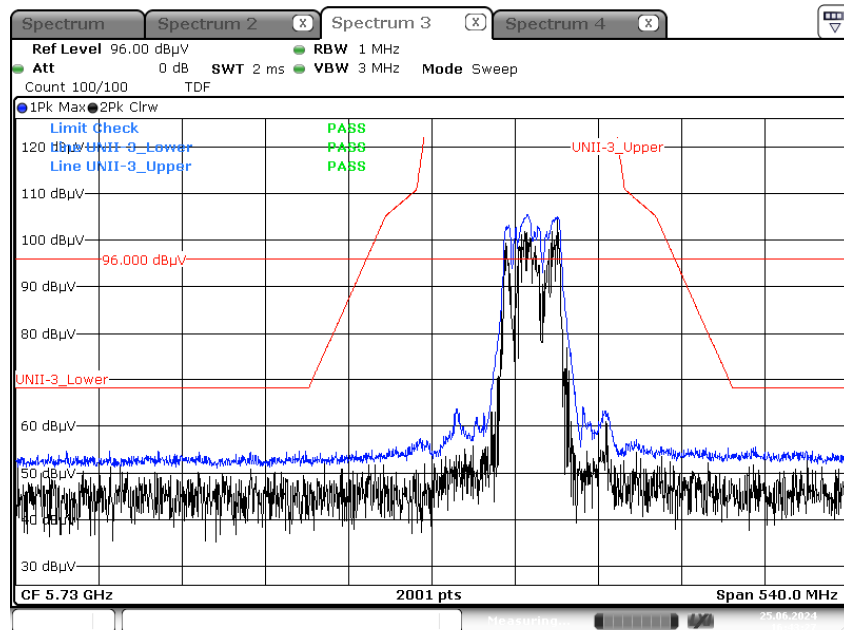
Date: 25 JUN 2024 16:59:02

Peak Result (802.11ac_VHT20, Ch.165, Z-H)



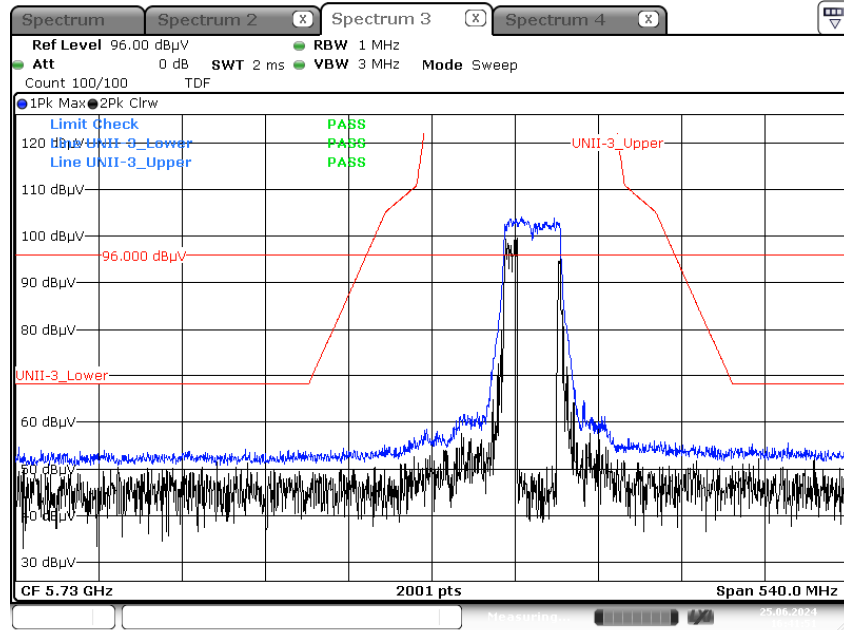
Date: 25.JUN.2024 16:57:24

Peak Result (802.11n_HT40, Ch.159, Z-H)



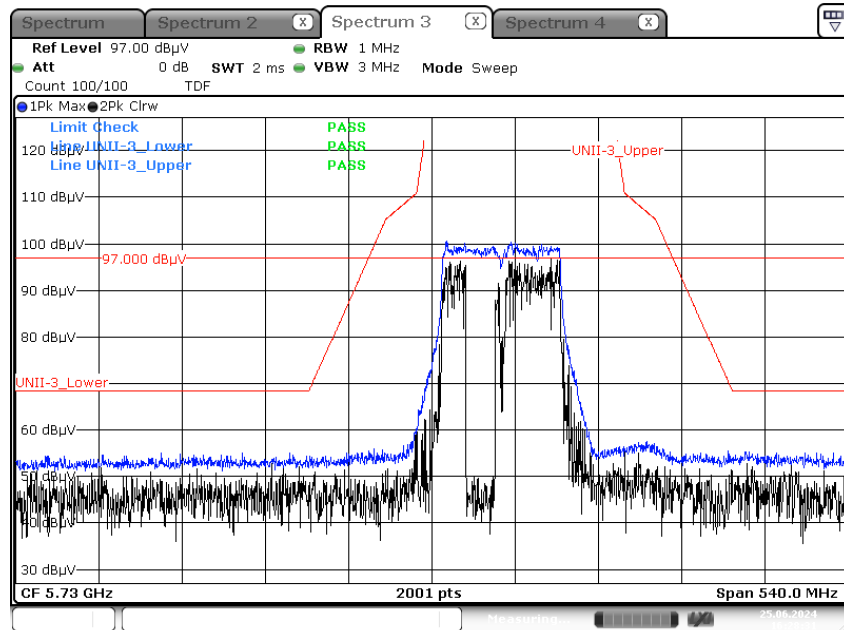
Date: 25.JUN.2024 16:43:28

Peak Result (802.11ac_VHT40, Ch.159, Z-H)



Date: 25.JUN.2024 16:41:51

Peak Result (802.11ac_VHT80, Ch.155, Z-H)



Date: 25.JUN.2024 16:28:31

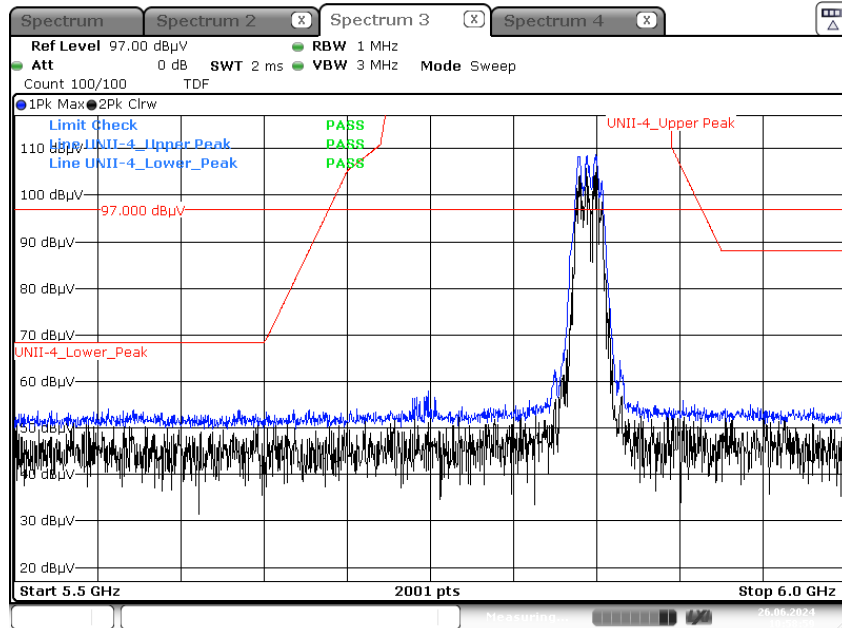
Note :

1. Only the worst case plots for U-NII-3 Out of Band e.i.r.p Emission.
2. U-NII-3 Low & High Band Edge RedLine is Final Test Limit about factor value compensation.

Test Plots(UNII 4) – O.O.B.E

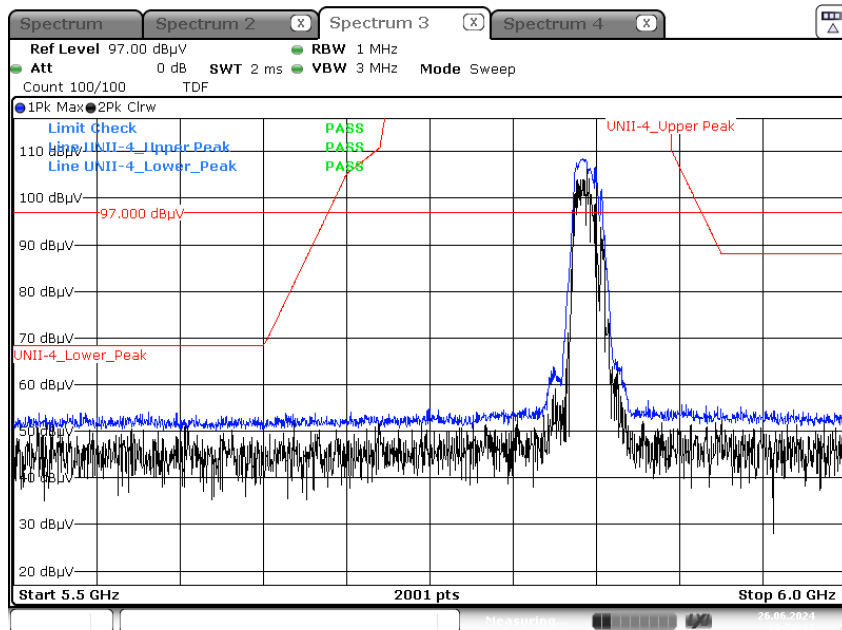
Peak Result

Peak Result (802.11a, Ch.169, Z-H)



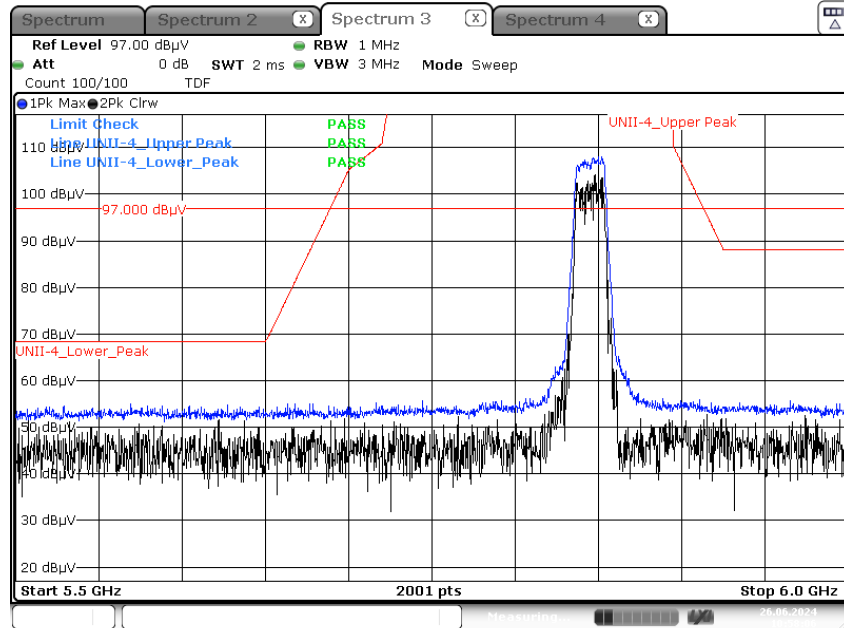
Date: 26.JUN.2024 10:58:59

Peak Result (802.11n_HT20, Ch.169, Z-H)



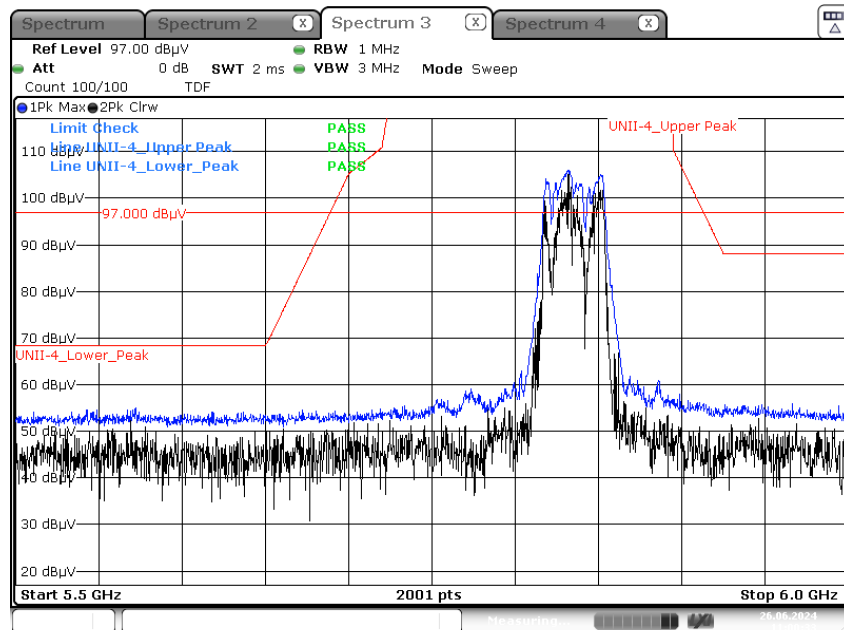
Date: 26.JUN.2024 10:56:32

Peak Result (802.11ac_VHT20, Ch.169, Z-H)



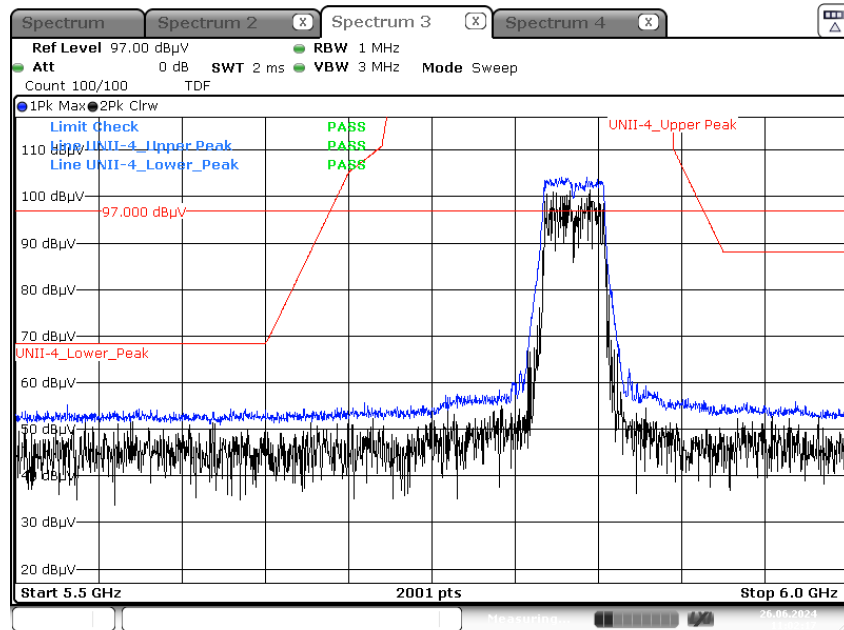
Date: 26.JUN.2024 10:58:06

Peak Result (802.11n_HT40, Ch.167, Z-H)

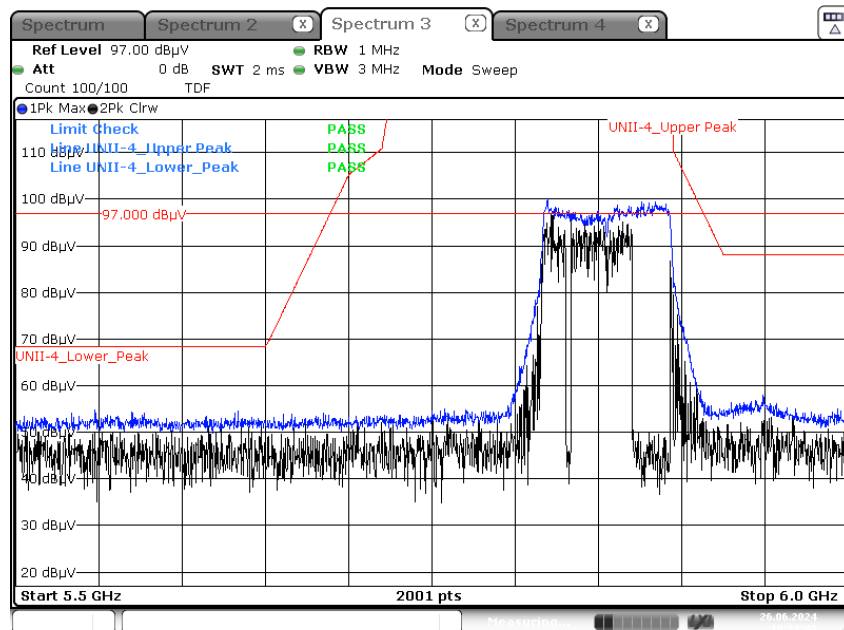


Date: 26.JUN.2024 11:00:33

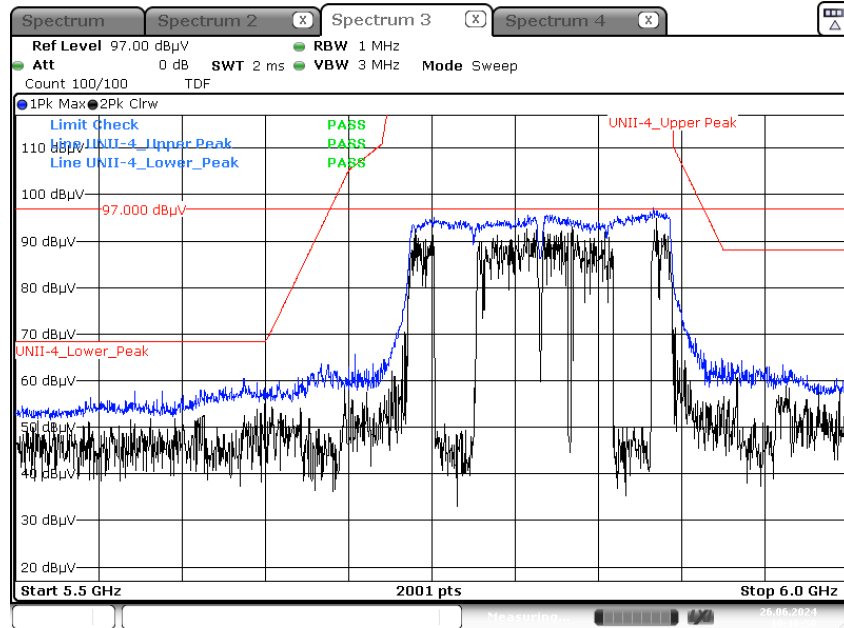
Peak Result (802.11ac_VHT40, Ch.167, Z-H)



Peak Result (802.11ac_VHT80, Ch.171, Z-H)

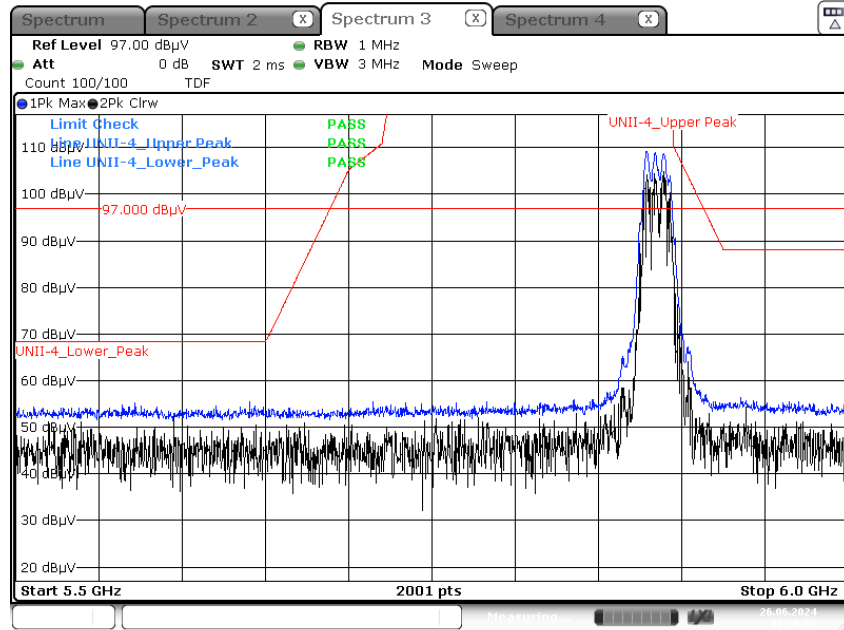


Peak Result (802.11ac_VHT160, Ch.163, Z-H)



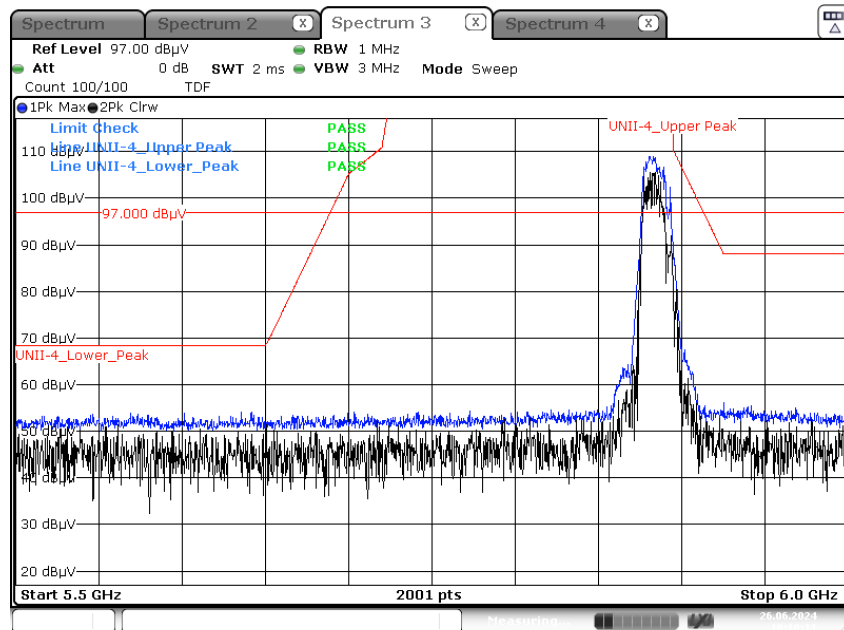
Date: 26 JUN 2024 10:16:50

Peak Result (802.11a, Ch.177, Z-H)



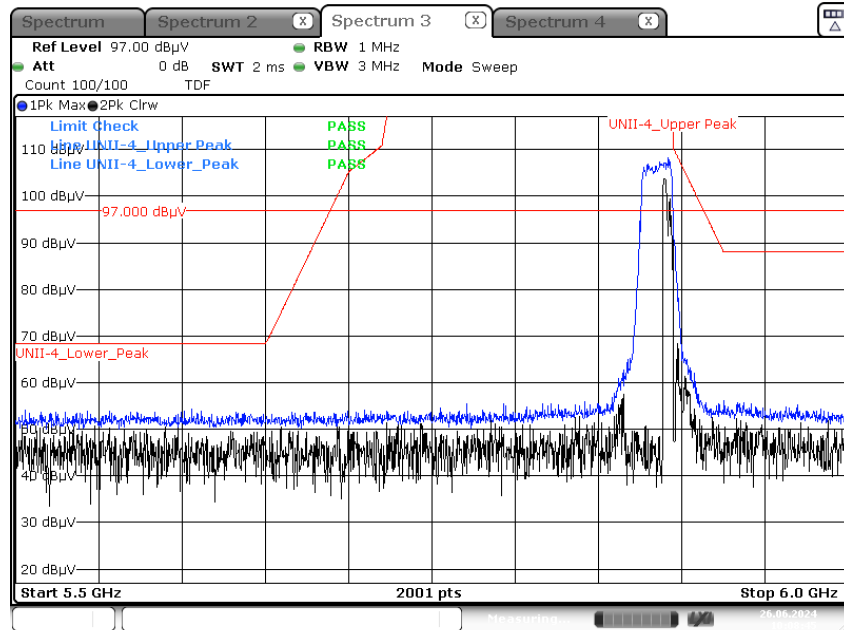
Date: 26 JUN 2024 09:50:03

Peak Result (802.11n_HT20, Ch.177, Z-H)



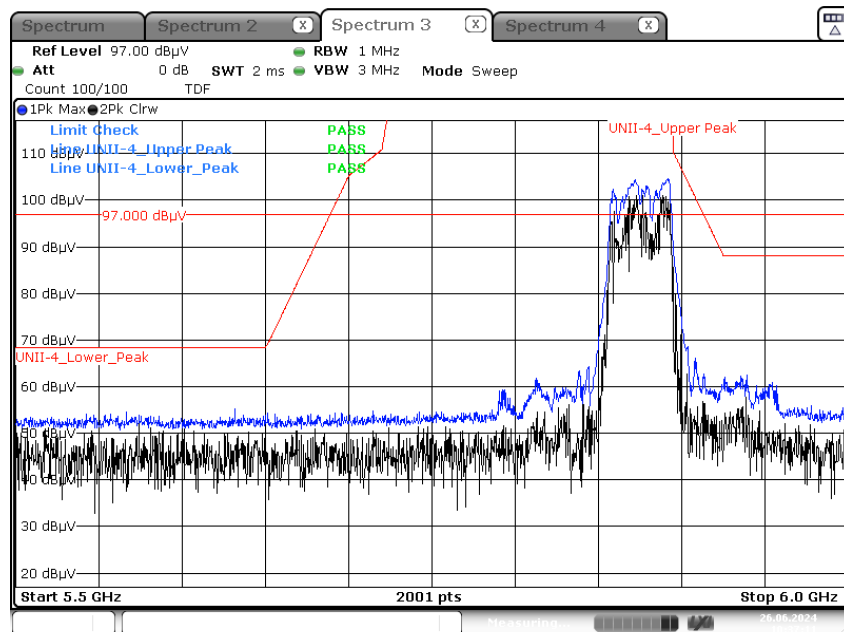
Date: 26 JUN 2024 10:10:11

Peak Result (802.11ac_VHT20, Ch.177, Z-H)



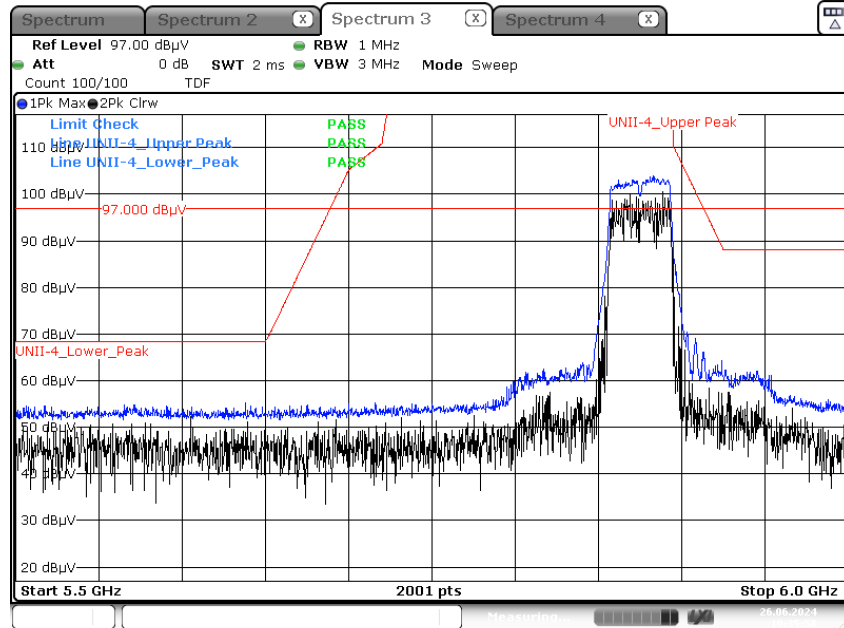
Date: 26.JUN.2024 10:08:45

Peak Result (802.11n_HT40, Ch.175, Z-H)



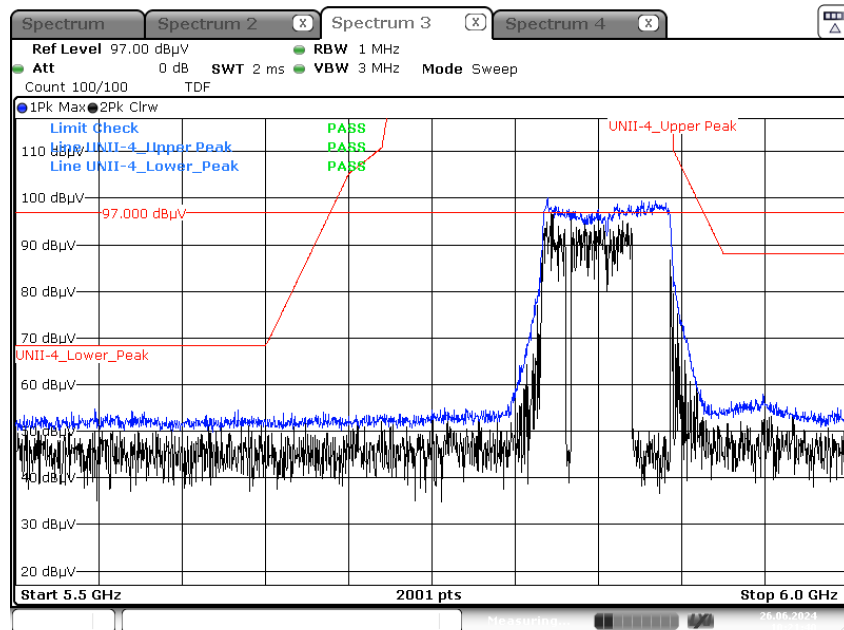
Date: 26.JUN.2024 10:37:11

Peak Result (802.11ac_VHT40, Ch.175, Z-H)



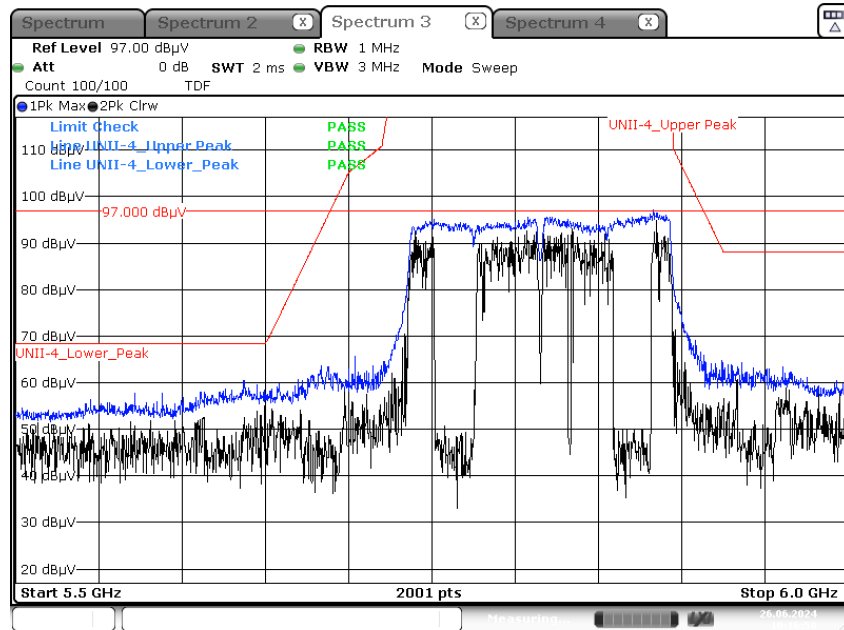
Date: 26.JUN.2024 10:35:59

Peak Result (802.11ac_VHT80, Ch.171, Z-H)



Date: 26.JUN.2024 10:21:40

Peak Result (802.11ac_VHT160, Ch.163, Z-H)



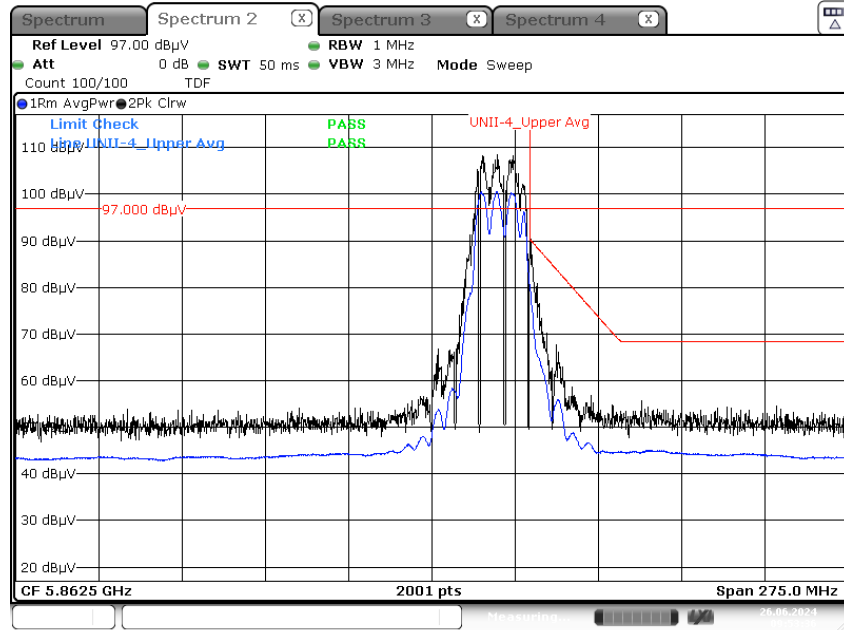
Date: 26.JUN.2024 10:16:50

Note :

1. Only the worst case plots for U-NII-4 O.O.B.E
2. U-NII-4 Low & High O.O.B.E RedLine is Final Test Limit(Peak) about factor value compensation.

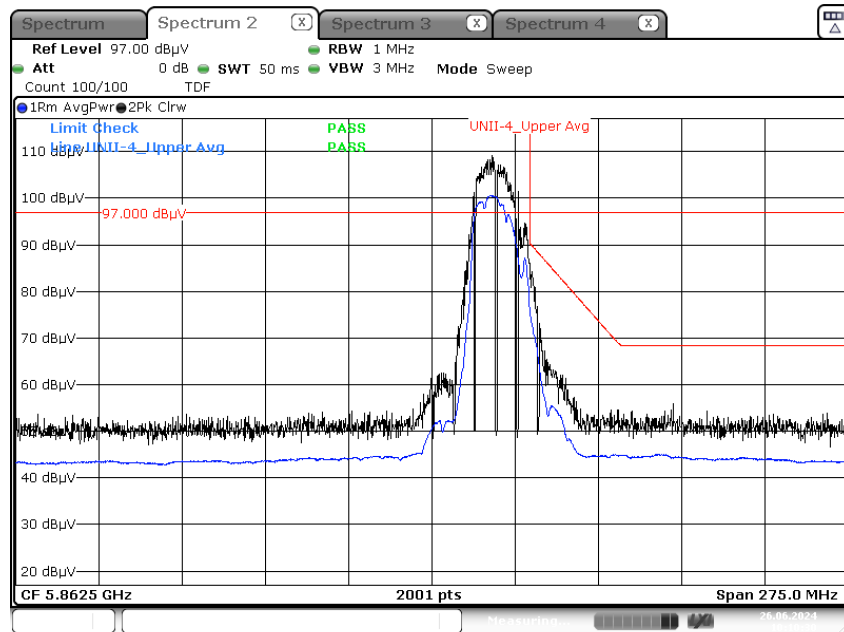
Average Result

Average Result (802.11a, Ch.177, Z-H)



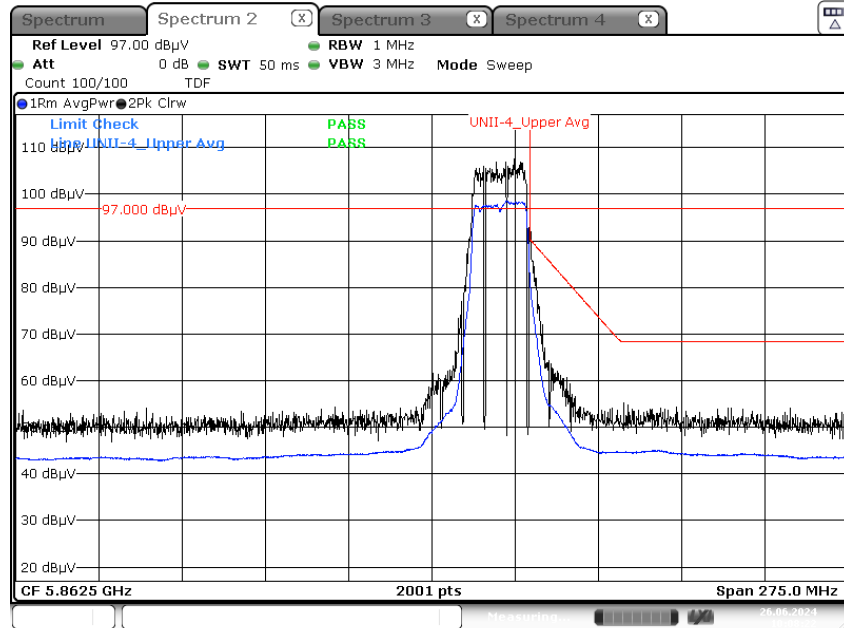
Date: 26.JUN.2024 09:53:36

Average Result (802.11n_HT20, Ch.177, Z-H)

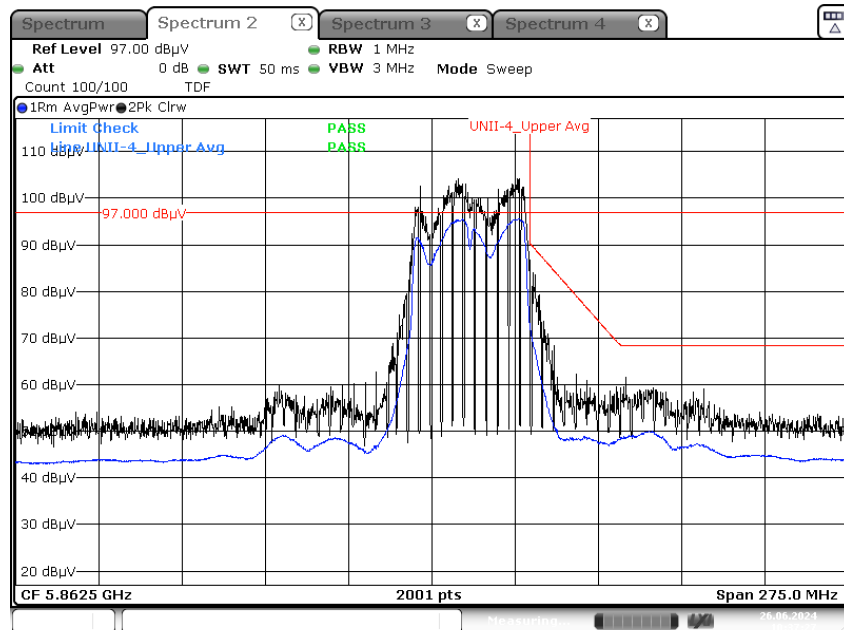


Date: 26.JUN.2024 10:10:31

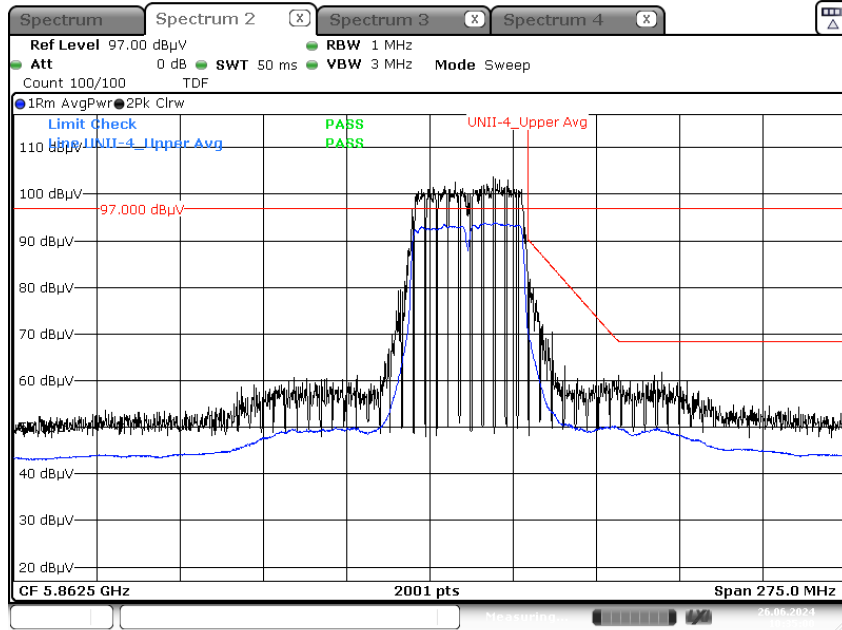
Average Result (802.11ac_VHT20, Ch.177, Z-H)



Average Result (802.11n_HT40, Ch.175, Z-H)

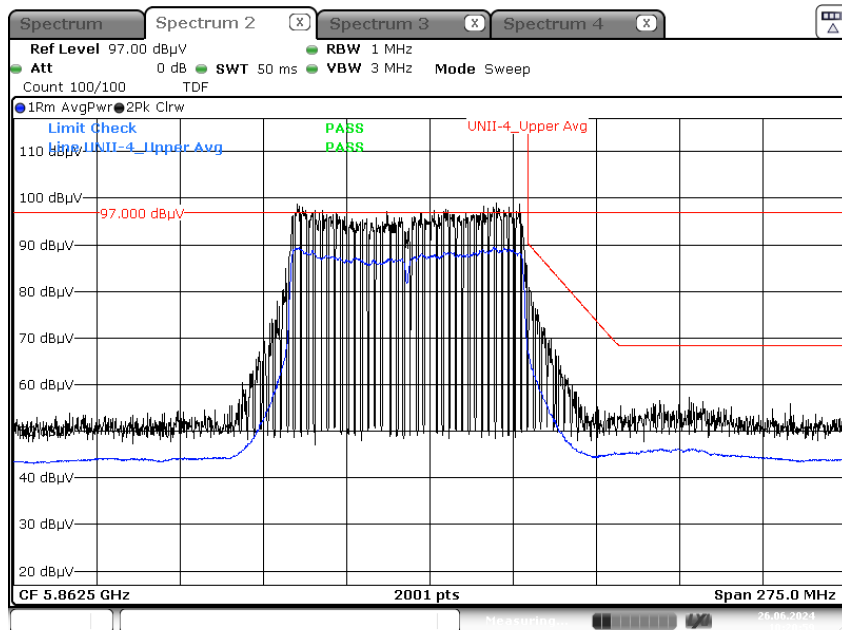


Average Result (802.11ac_VHT40, Ch.175, Z-H)



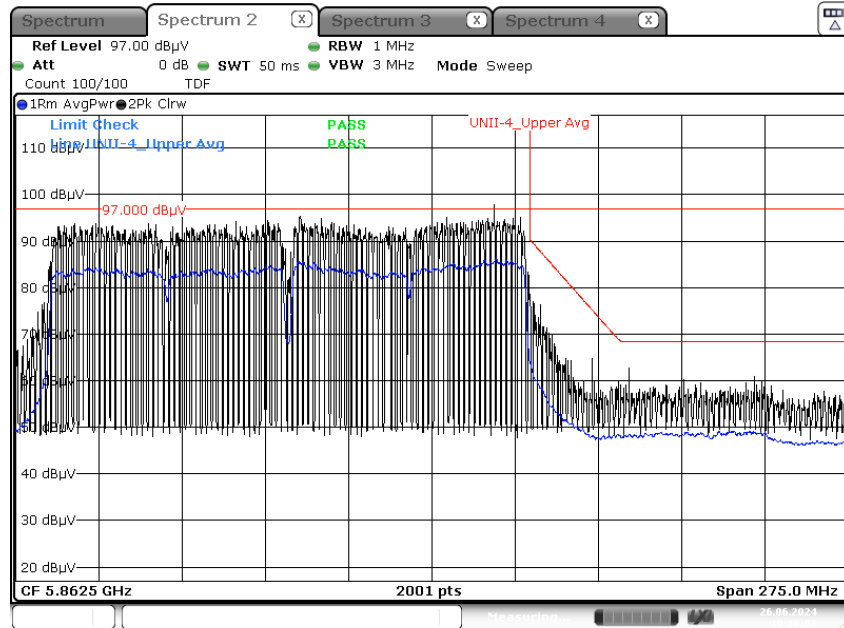
Date: 26.JUN.2024 10:35:00

Average Result (802.11ac_VHT80, Ch.171, Z-H)



Date: 26.JUN.2024 10:20:59

Average Result (802.11ac_VHT160, Ch.163, Z-H)



Note :

1. Only the worst case plots for U-NII-4 O.O.B.E
2. U-NII-4 Low & High O.O.B.E RedLine is Final Test Limit(Average) about factor value compensation.

10.10 POWERLINE CONDUCTED EMISSIONS

Conducted Emissions

Test

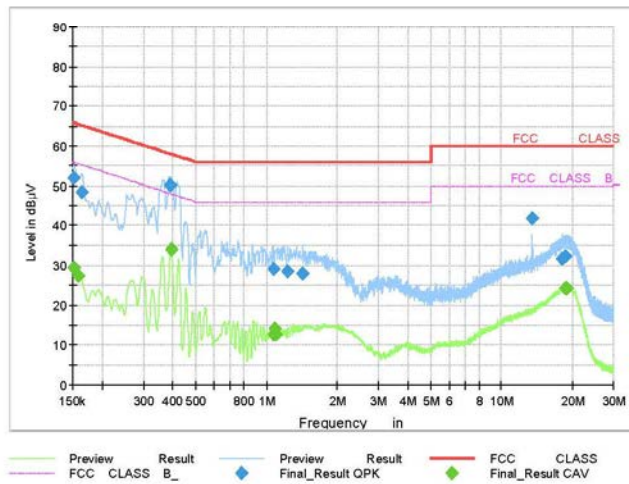
1 / 2

Test Report

Common Information

EUT : SM-S721U
 Operating Conditions : 5G WLAN Mode
 Comment :

Full Spectrum



Final Result QPK

| Frequency (MHz) | QuasiPeak (dBµV) | Limit (dBµV) | Margin (dB) | Bandwidth (kHz) | Line | Corr. (dB) |
|-----------------|------------------|--------------|-------------|-----------------|------|------------|
| 0.1523 | 51.93 | 65.88 | 13.94 | 9.000 | N | 9.6 |
| 0.1635 | 48.45 | 65.28 | 16.84 | 9.000 | N | 9.6 |
| 0.3908 | 50.09 | 58.05 | 7.96 | 9.000 | N | 9.6 |
| 1.0693 | 29.04 | 56.00 | 26.96 | 9.000 | L1 | 9.7 |
| 1.2290 | 28.61 | 56.00 | 27.39 | 9.000 | L1 | 9.7 |
| 1.4248 | 27.98 | 56.00 | 28.02 | 9.000 | L1 | 9.7 |
| 13.5613 | 41.80 | 60.00 | 18.20 | 9.000 | N | 10.2 |
| 18.0770 | 31.81 | 60.00 | 28.19 | 9.000 | L1 | 10.3 |
| 18.7408 | 32.24 | 60.00 | 27.76 | 9.000 | L1 | 10.4 |

2024-07-10

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Test

2 / 2

Final Result CAV

| Frequency (MHz) | CAverage (dB μ V) | Limit (dB μ V) | Margin (dB) | Bandwidth (kHz) | Line | Corr. (dB) |
|-----------------|-----------------------|--------------------|-------------|-----------------|------|------------|
| 0.1523 | 29.55 | 55.88 | 26.32 | 9.000 | N | 9.6 |
| 0.1590 | 27.27 | 55.52 | 28.24 | 9.000 | L1 | 9.6 |
| 0.3930 | 34.09 | 48.00 | 13.91 | 9.000 | N | 9.6 |
| 1.0715 | 12.57 | 46.00 | 33.43 | 9.000 | L1 | 9.7 |
| 1.0850 | 14.26 | 46.00 | 31.74 | 9.000 | N | 9.7 |
| 1.1008 | 12.57 | 46.00 | 33.43 | 9.000 | L1 | 9.7 |
| 18.6260 | 24.19 | 50.00 | 25.81 | 9.000 | L1 | 10.3 |
| 18.7408 | 24.29 | 50.00 | 25.71 | 9.000 | L1 | 10.4 |
| 18.9860 | 24.25 | 50.00 | 25.75 | 9.000 | L1 | 10.4 |

2024-07-10

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11. LIST OF TEST EQUIPMENT

Conducted Test

| Equipment | Model | Manufacturer | Serial No. | Due to Calibration | Calibration Interval |
|--|-----------|-----------------|------------|--------------------|----------------------|
| LISN | ENV216 | Rohde & Schwarz | 102245 | 07/17/2025 | Annual |
| EMI Test Receiver | ESR | Rohde & Schwarz | 101910 | 07/02/2025 | Annual |
| Temperature Chamber | SU-642 | ESPEC | 93008124 | 02/19/2025 | Annual |
| Signal Analyzer | N9030A | Keysight | MY55410508 | 09/04/2024 | Annual |
| Power Meter | N1911A | Agilent | MY45100523 | 02/28/2025 | Annual |
| Power Sensor | N1921A | Agilent | MY57820067 | 02/22/2025 | Annual |
| Directional Coupler | 87300B | Agilent | 3116A03621 | 10/30/2024 | Annual |
| Power Splitter | 11667B | Hewlett Packard | 10545 | 02/06/2025 | Annual |
| DC Power Supply | E3632A | Agilent | KR01009150 | 04/18/2025 | Annual |
| Attenuator(10 dB)(DC-26.5 GHz) | 8493C-010 | Agilent | 08285 | 05/28/2025 | Annual |
| Attenuator(20 dB) | 18N-20dB | Rohde & Schwarz | 8 | 02/20/2025 | Annual |
| Software | EMC32 | Rohde & Schwarz | N/A | N/A | N/A |
| FCC WLAN&BT&BLE Conducted Test Software v3.0 | N/A | HCT CO., LTD. | N/A | N/A | N/A |
| Bluetooth Tester | CBT | Rohde & Schwarz | 100808 | 02/15/2025 | Annual |

Note:

1. Equipment listed above that calibrated during the testing period was set for test after the calibration.
2. Equipment listed above that has a calibration due date during the testing period, the testing is completed before equipment expiration date.

Radiated Test

| Equipment | Model | Manufacturer | Serial No. | Due to Calibration | Calibration Interval |
|-------------------------------------|------------------------------------|------------------------|-------------|--------------------|----------------------|
| Controller(Antenna mast) | CO3000 | Innco system | CO3000-4p | N/A | N/A |
| Antenna Position Tower | MA4640/800-XP-EP | Innco system | S3AM | 08/03/2025 | Biennial |
| Controller | EM2090 | Emco | 060520 | N/A | N/A |
| Turn Table | N/A | Ets | N/A | N/A | N/A |
| Amp & Filter Bank Switch Controller | FBSM-01A | TNM system | 0 | N/A | N/A |
| Loop Antenna | FMZB 1513 | Rohde & Schwarz | 1513-333 | 03/07/2026 | Biennial |
| Hybrid Antenna | VULB 9168 | Schwarzbeck | 9168-0895 | 08/16/2024 | Biennial |
| Horn Antenna | BBHA 9120D | Schwarzbeck | 9120D-1191 | 11/07/2025 | Biennial |
| Horn Antenna(15 GHz ~ 40 GHz) | BBHA9170 | Schwarzbeck | BBHA9170124 | 03/28/2025 | Biennial |
| Band Reject Filter | WRCJV2400/2483.5-2370/2520-60/12SS | Wainwright Instruments | 2 | 01/02/2025 | Annual |
| Band Reject Filter | WRCJV12-4900-5100-5900-6100-50SS | Wainwright Instruments | 5 | 06/04/2025 | Annual |
| Band Reject Filter | WRCJV12-4900-5100-5900-6100-50SS | Wainwright Instruments | 6 | 06/04/2025 | Annual |
| Band Reject Filter | WRCJV5100/5850-40/50-8EEK | Wainwright Instruments | 1 | 02/14/2025 | Annual |
| RF Switching System | FBSR-03A (3G HPF+LNA) | T&M SYSTEM | S3L1 | 11/17/2024 | Annual |
| RF Switching System | FBSR-03A (10dB ATT+LNA) | T&M SYSTEM | S3L2 | 11/17/2024 | Annual |
| RF Switching System | FBSR-03A (7G HPF+LNA) | T&M SYSTEM | S3L3 | 11/17/2024 | Annual |
| RF Switching System | FBSR-03A (3dB ATT+LNA) | T&M SYSTEM | S3L4 | 11/17/2024 | Annual |
| Power Amplifier | CBL18265035 | CERNEX | 22966 | 11/17/2024 | Annual |
| Power Amplifier | CBL26405040 | CERNEX | 25956 | 02/26/2025 | Annual |
| Bluetooth Tester | TC-3000C | TESCOM | 3000C000175 | 03/19/2025 | Annual |
| Spectrum Analyzer | FSV40 (9 kHz ~ 40 GHz) | Rohde & Schwarz | 100900 | 12/06/2024 | Annual |

Note:

1. Equipment listed above that calibrated during the testing period was set for test after the calibration.
2. Equipment listed above that has a calibration due date during the testing period, the testing is completed before equipment expiration date.
3. Especially, all antenna for measurement is calibrated in accordance with the requirements of C63.5(Version : 2017).

12. ANNEX A_ TEST SETUP PHOTO

Please refer to test setup photo file no. as follows;

| No. | Description |
|-----|---------------------|
| 1 | HCT-RF-2407-FC006-P |