TUV SUD Limited Digitally signed by TUV SUD Limited Date: 2022.12.13 10:02:05 Z

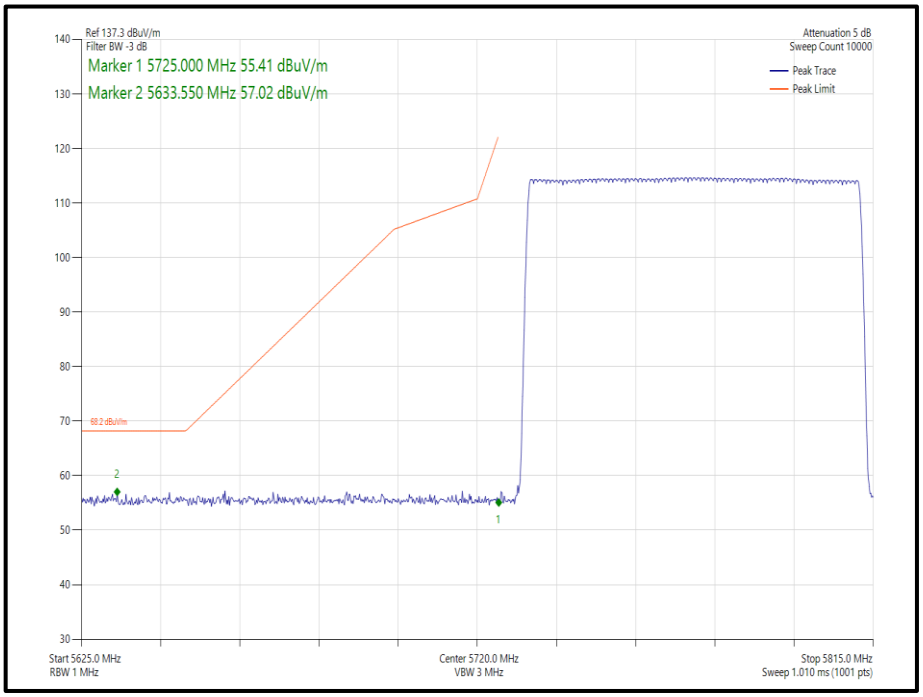


**Figure 216 - Hopping - GFSK/DH5 - Band Edge Frequency 5725 MHz**

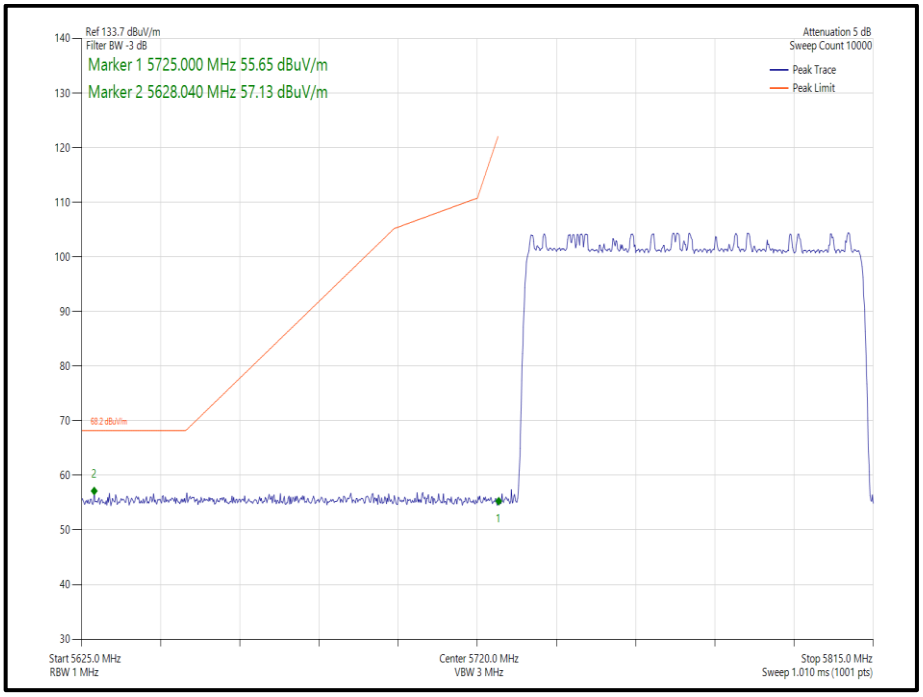


**Figure 217 - Hopping - π/4 DQPSK/4-DH5 - Band Edge Frequency 5725 MHz**

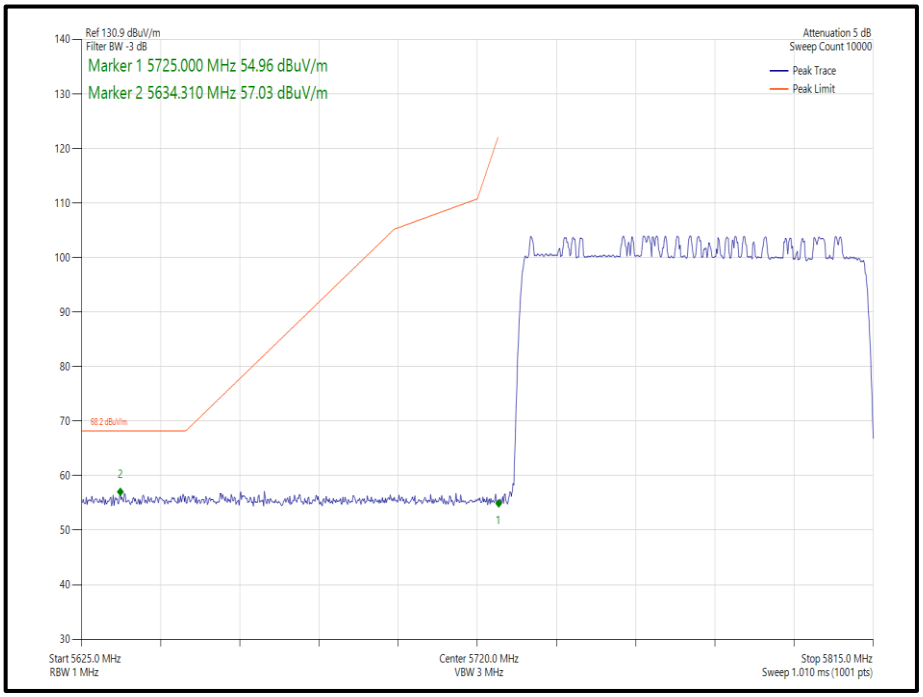


**Figure 218 - Hopping - π/4 DQPSK/8-DH5 - Band Edge Frequency 5725 MHz**

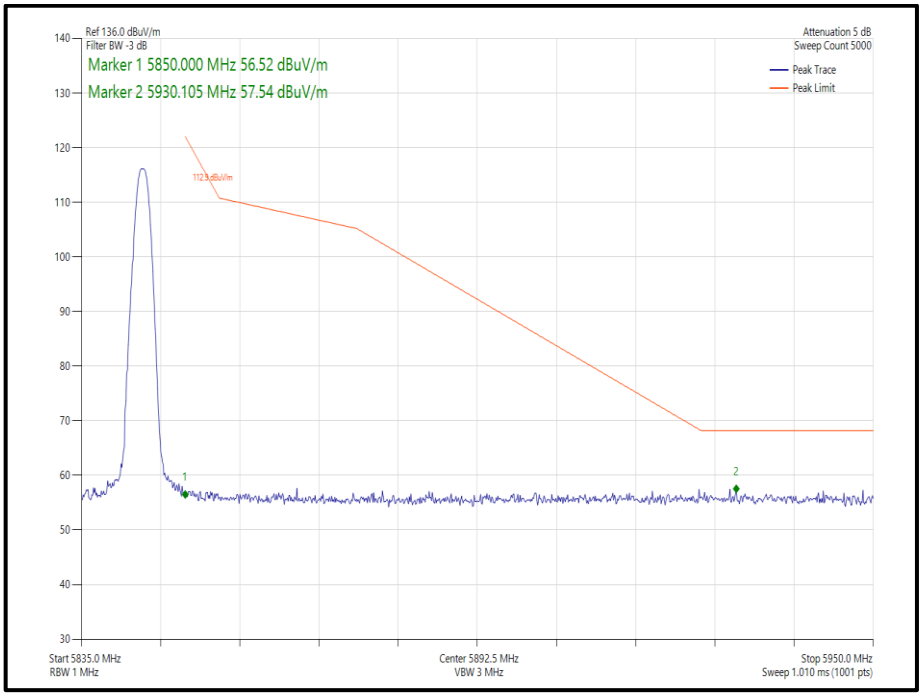


**Figure 219 - Static - GFSK/DH5 - 5844 MHz - Band Edge Frequency 5850 MHz**

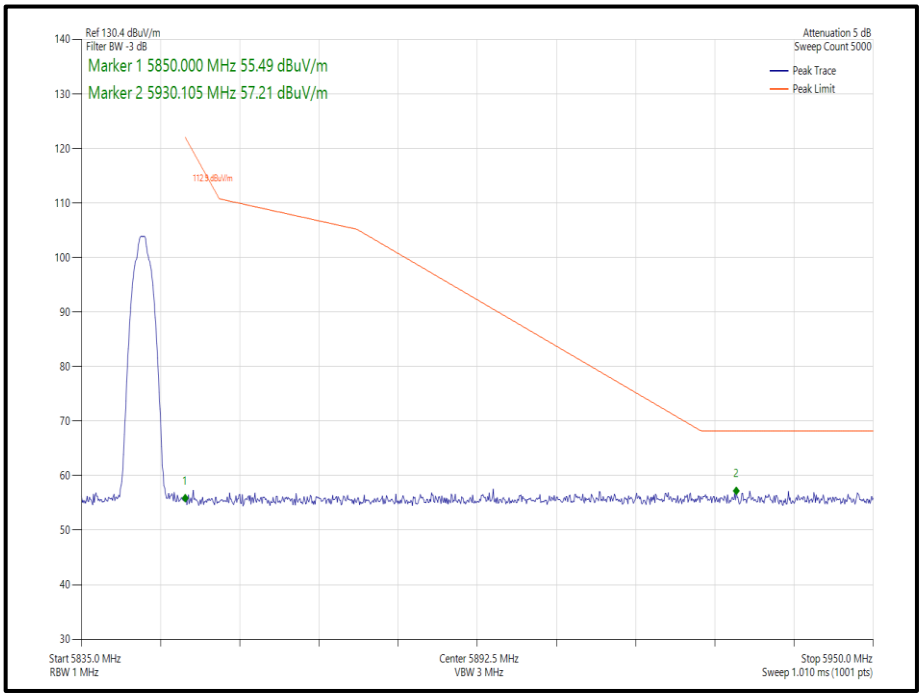


**Figure 220 - Static - π/4 DQPSK/4-DH5 - 5844 MHz - Band Edge Frequency 5850 MHz**

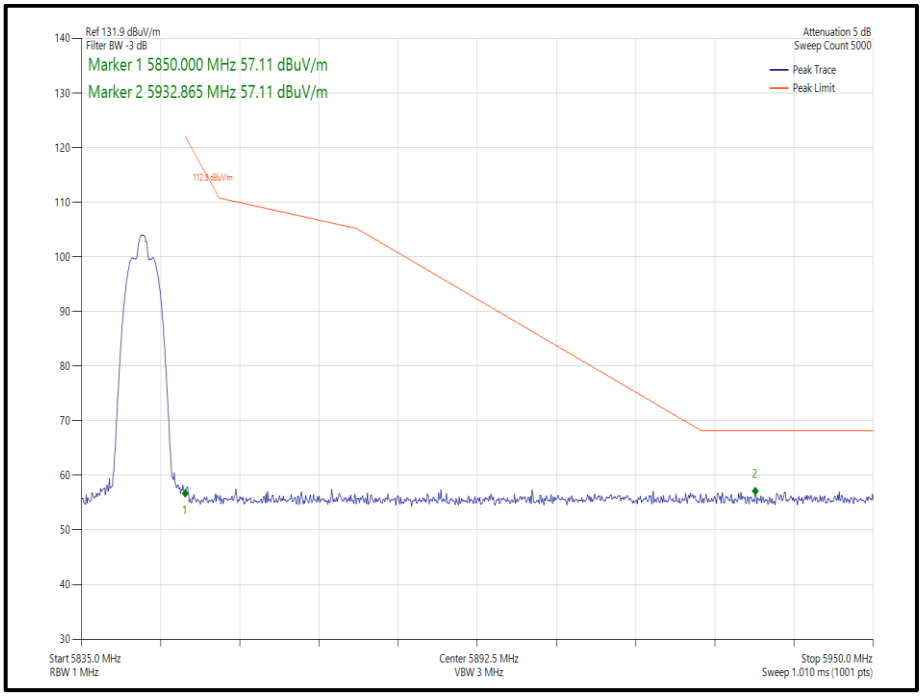


**Figure 221 - Static - π/4 DQPSK/8-DH5 - 5844 MHz - Band Edge Frequency 5850 MHz**

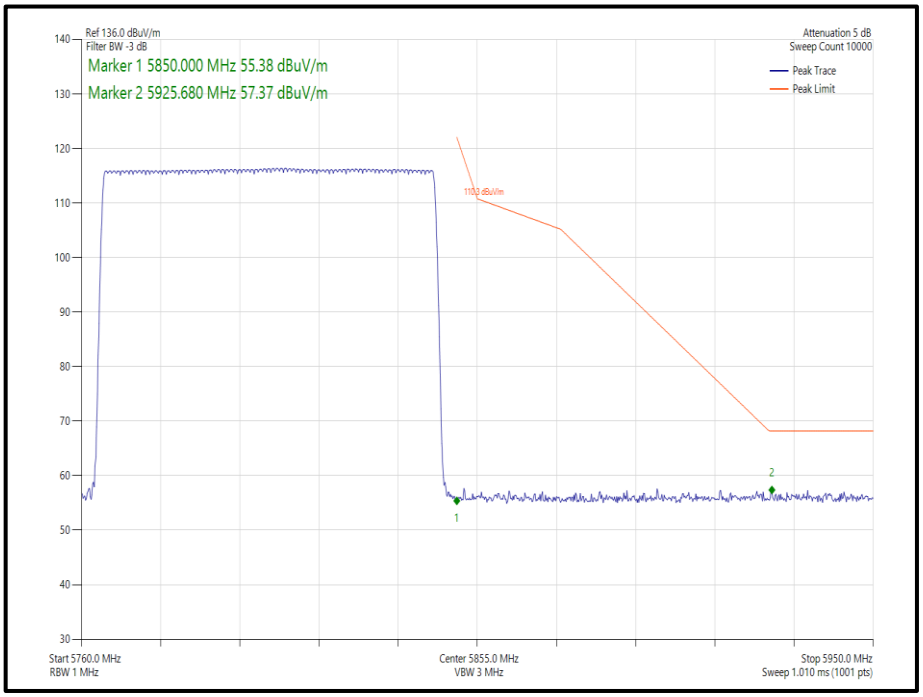


**Figure 222 - Hopping - GFSK/DH5 - Band Edge Frequency 5850 MHz**

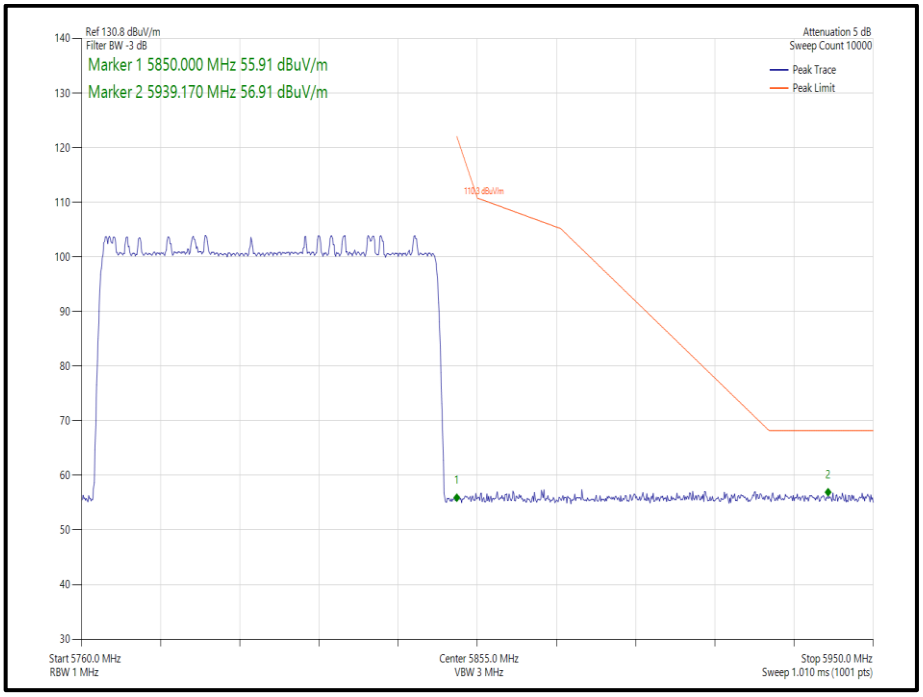


**Figure 223 - Hopping - π/4 DQPSK/4-DH5 - Band Edge Frequency 5850 MHz**

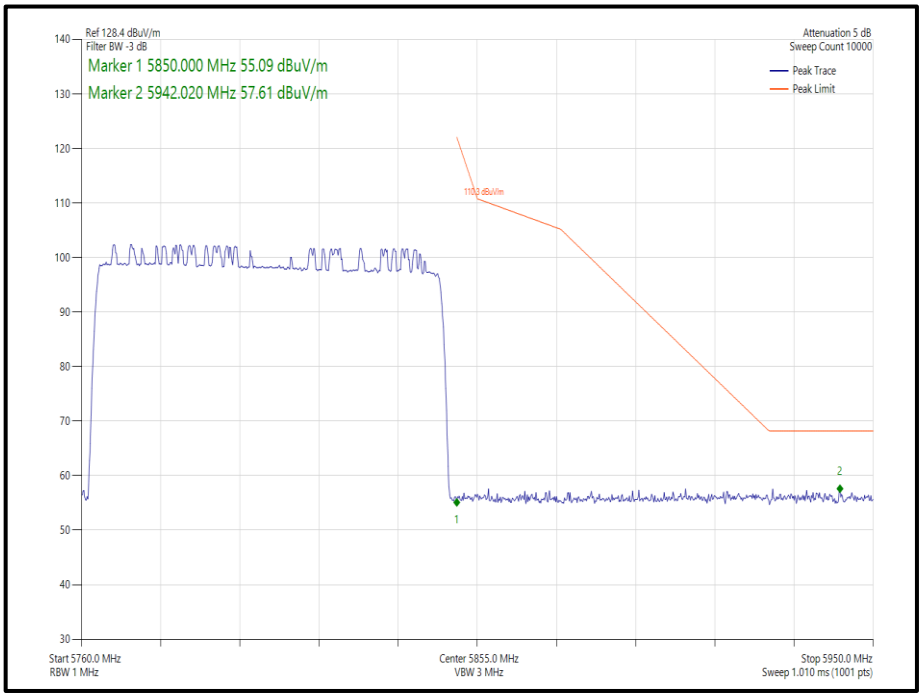


**Figure 224 - Hopping - π/4 DQPSK/8-DH5 - Band Edge Frequency 5850 MHz**

ePA - SISO

| Mode | Modulation | Core | Packet Type | Tx Frequency (MHz) | Band Edge Frequency (MHz) | Level (dBµV/m) |
|---|---|---|---|---|---|---|
| Static | π/4 DQPSK | 1 | 4-DH5 | 5733 | 5725 | 57.33 |
| Static | π/4 DQPSK | 1 | 8-DH5 | 5733 | 5725 | 58.46 |
| Hopping | π/4 DQPSK | 1 | 4-DH5 | - | 5725 | 57.95 |
| Hopping | π/4 DQPSK | 1 | 8-DH5 | - | 5725 | 57.02 |
| Static | π/4 DQPSK | 1 | 4-DH5 | 5844 | 5850 | 57.82 |
| Static | π/4 DQPSK | 1 | 8-DH5 | 5844 | 5850 | 57.58 |
| Hopping | π/4 DQPSK | 1 | 4-DH5 | - | 5850 | 58.39 |
| Hopping | π/4 DQPSK | 1 | 8-DH5 | - | 5850 | 57.48 |

**Table 172 - Authorised Band Edge Results**

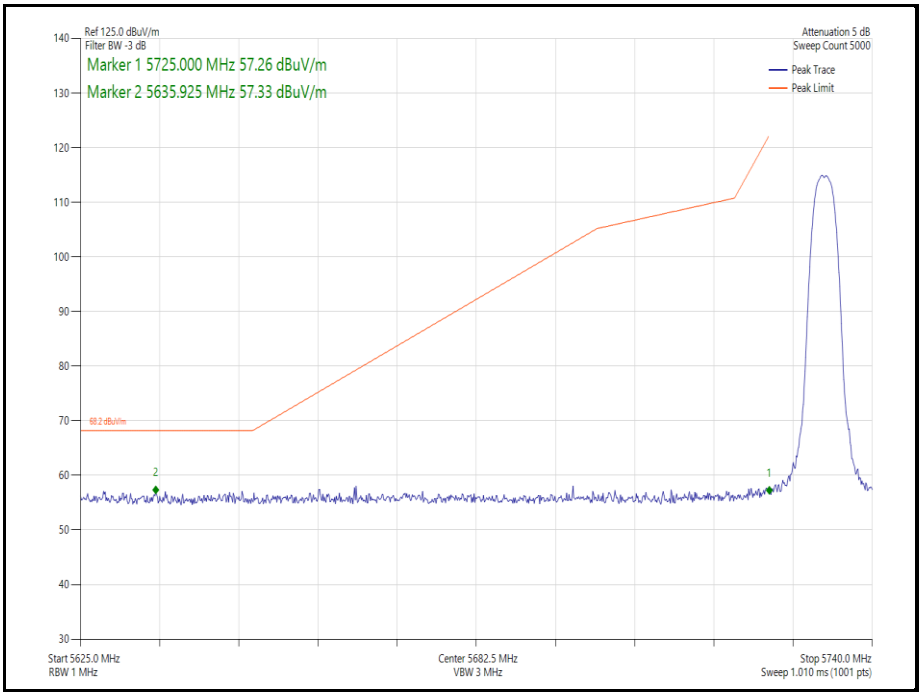


**Figure 225 - Static - π/4 DQPSK/4-DH5 - 5733 MHz - Band Edge Frequency 5725 MHz**

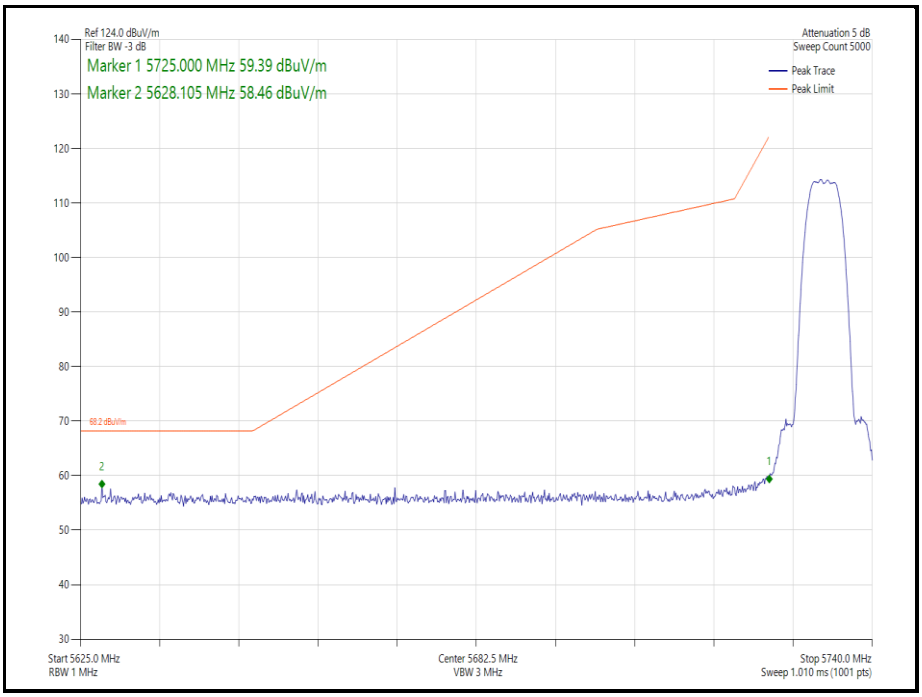


**Figure 226 - Static - π/4 DQPSK/8-DH5 - 5733 MHz - Band Edge Frequency 5725 MHz**

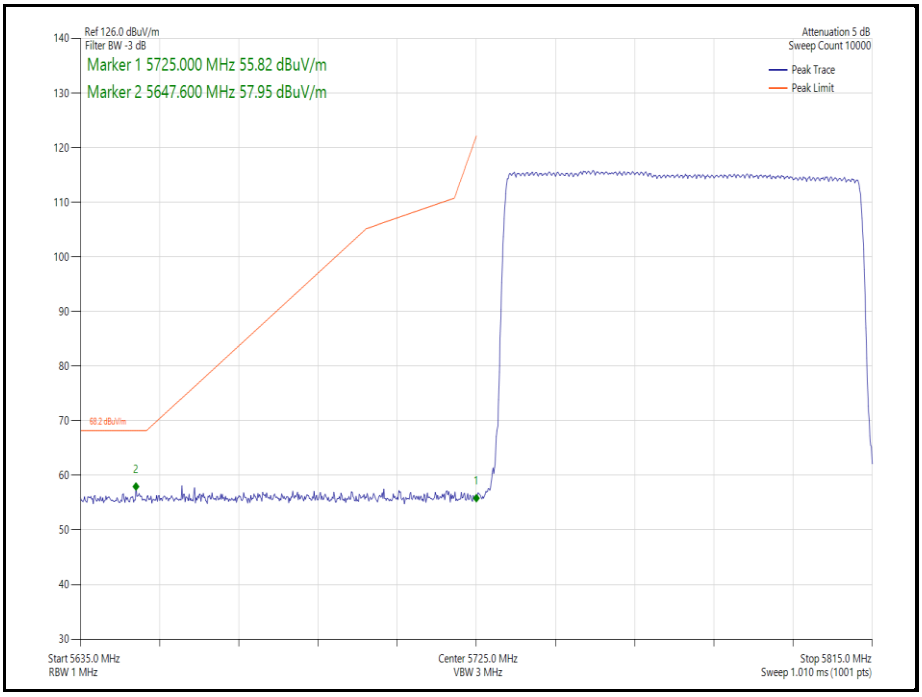


**Figure 227 - Hopping - π/4 DQPSK/4-DH5 - Band Edge Frequency 5725 MHz**

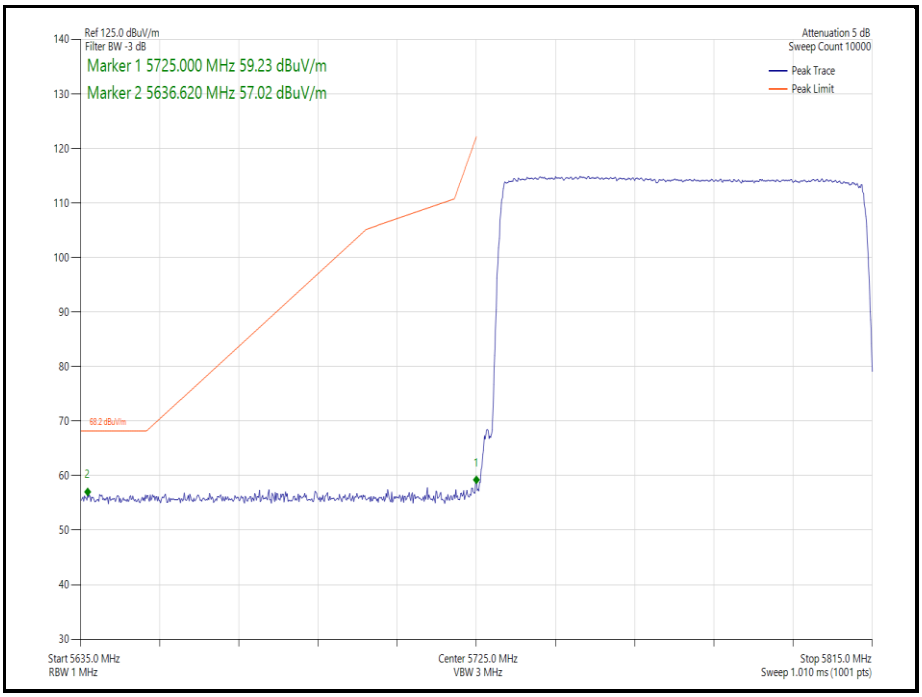


**Figure 228 - Hopping - π/4 DQPSK/8-DH5 - Band Edge Frequency 5725 MHz**

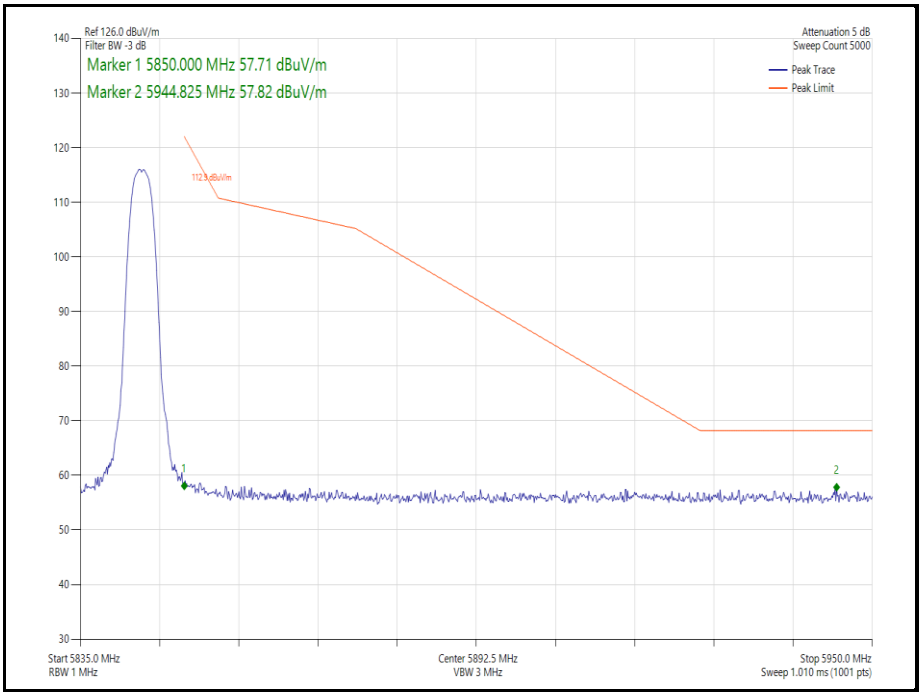


**Figure 229 - Static - π/4 DQPSK/4-DH5 - 5844 MHz - Band Edge Frequency 5850 MHz**

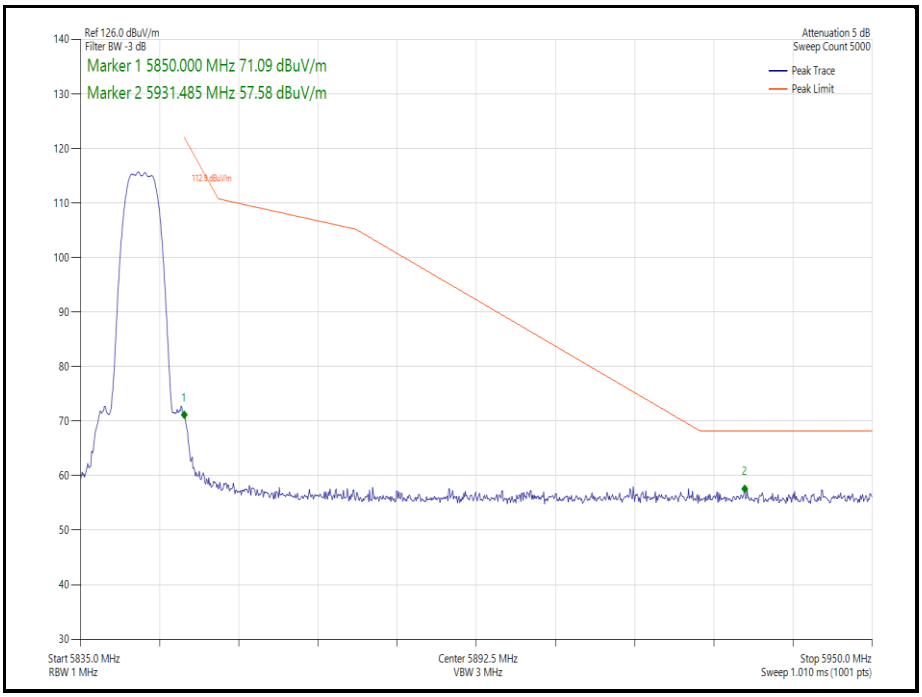


**Figure 230 - Static - π/4 DQPSK/8-DH5 - 5844 MHz - Band Edge Frequency 5850 MHz**

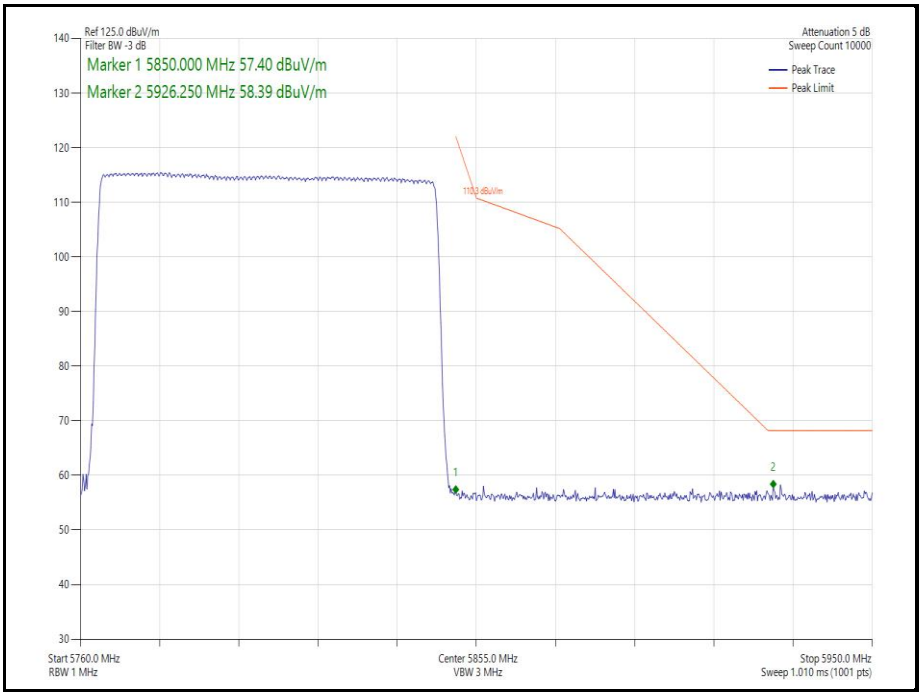


**Figure 231 - Hopping - π/4 DQPSK/4-DH5 - Band Edge Frequency 5850 MHz**

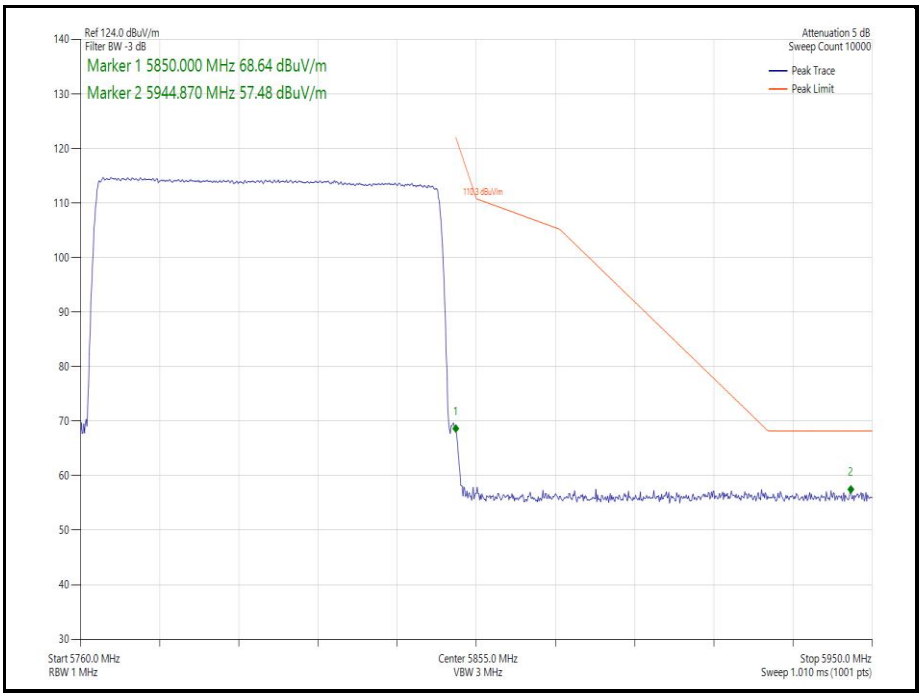


**Figure 232 - Hopping - π/4 DQPSK/8-DH5 - Band Edge Frequency 5850 MHz**

ePA – TXBF

| Mode | Modulation | Core | Packet Type | Tx Frequency (MHz) | Band Edge Frequency (MHz) | Level (dBµV/m) |
|---|---|---|---|---|---|---|
| Static | π/4 DQPSK | 0-1 | 4-DH5 | 5733 | 5725 | 56.72 |
| Static | π/4 DQPSK | 0-1 | 8-DH5 | 5733 | 5725 | 58.10 |
| Hopping | π/4 DQPSK | 0-1 | 4-DH5 | - | 5725 | 56.85 |
| Hopping | π/4 DQPSK | 0-1 | 8-DH5 | - | 5725 | 57.21 |
| Static | π/4 DQPSK | 0-1 | 4-DH5 | 5844 | 5850 | 57.52 |
| Static | π/4 DQPSK | 0-1 | 8-DH5 | 5844 | 5850 | 57.59 |
| Hopping | π/4 DQPSK | 0-1 | 4-DH5 | - | 5850 | 57.99 |
| Hopping | π/4 DQPSK | 0-1 | 8-DH5 | - | 5850 | 57.29 |

**Table 173 - Authorised Band Edge Results**

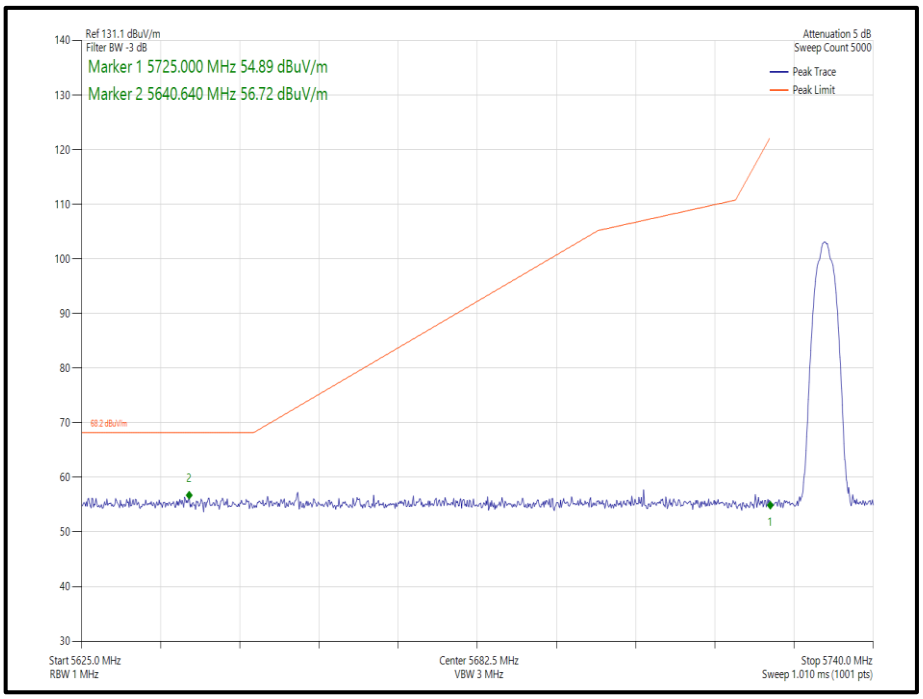


**Figure 233 - Static - π/4 DQPSK/4-DH5 - 5733 MHz - Band Edge Frequency 5725 MHz**

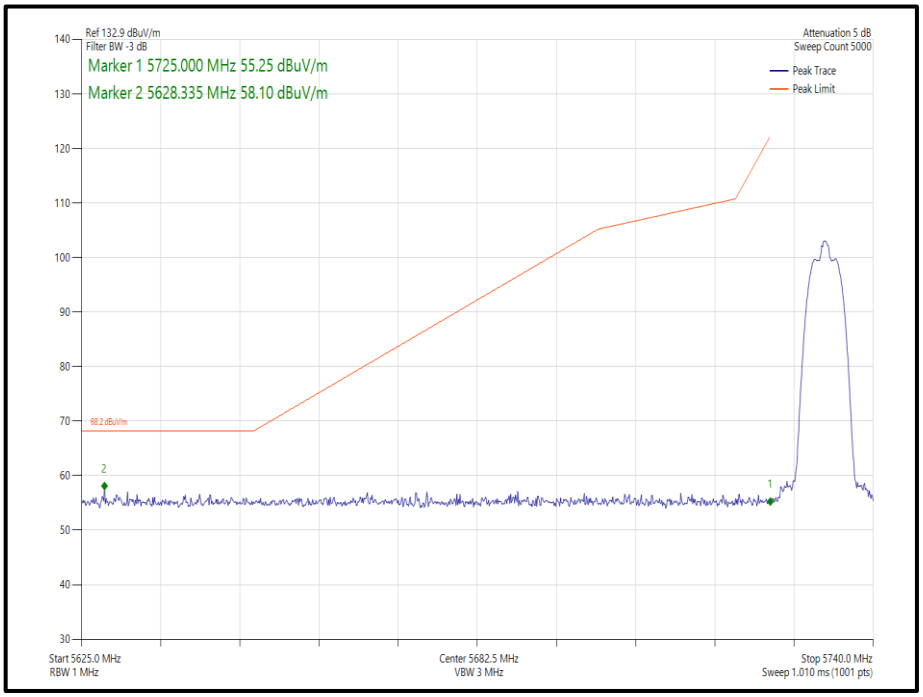


**Figure 234 - Static - π/4 DQPSK/8-DH5 - 5733 MHz - Band Edge Frequency 5725 MHz**

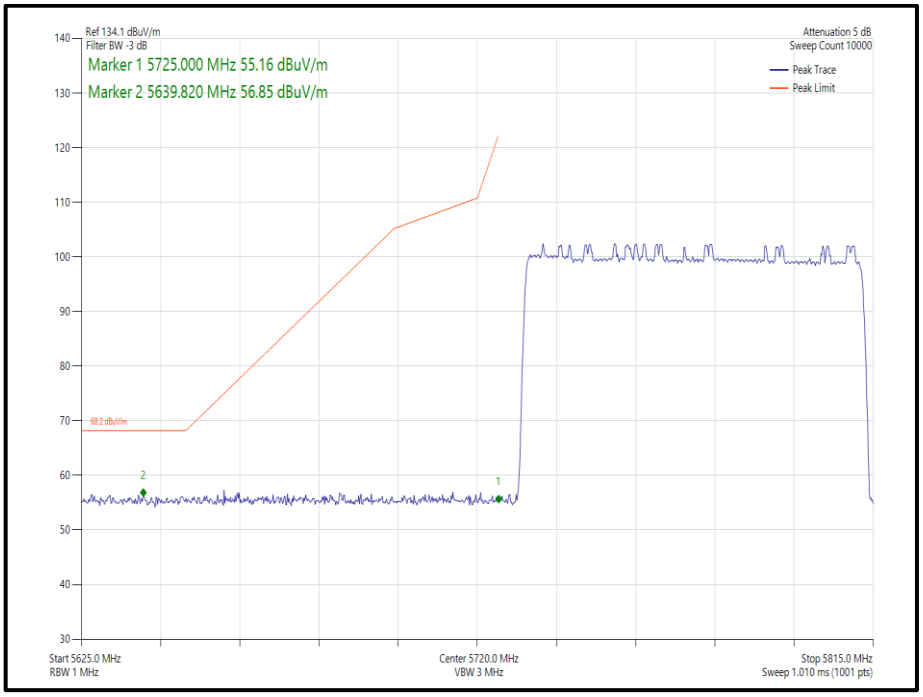


**Figure 235 - Hopping - π/4 DQPSK/4-DH5 - Band Edge Frequency 5725 MHz**

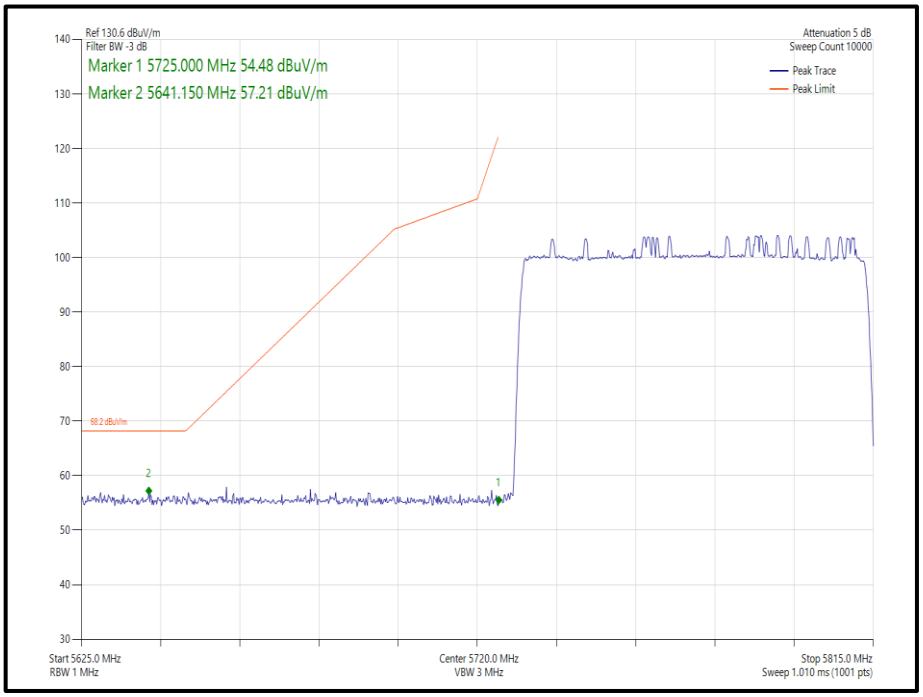


**Figure 236 - Hopping - π/4 DQPSK/8-DH5 - Band Edge Frequency 5725 MHz**

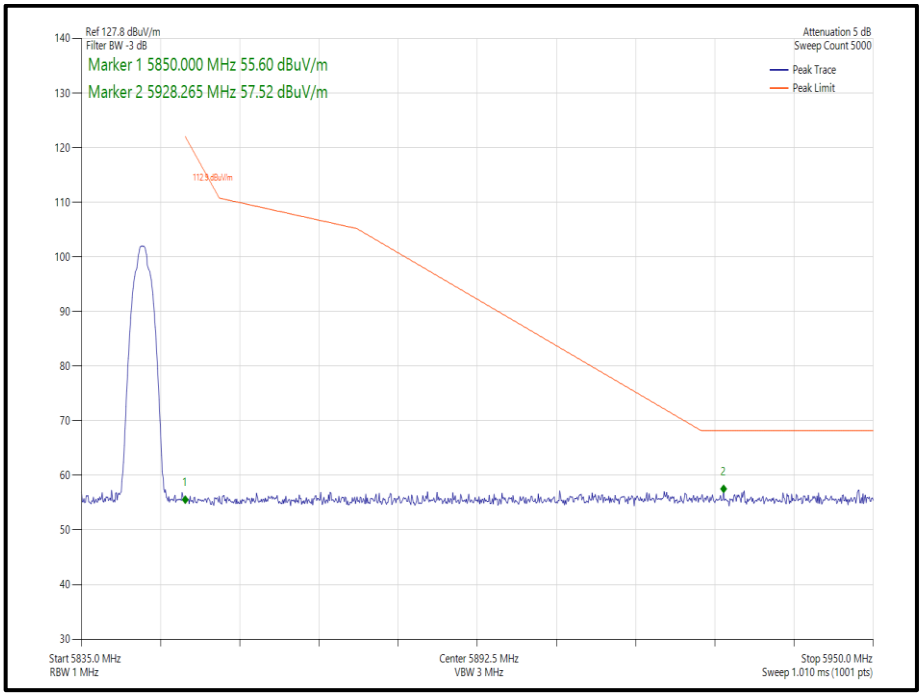


**Figure 237 - Static - π/4 DQPSK/4-DH5 - 5844 MHz - Band Edge Frequency 5850 MHz**

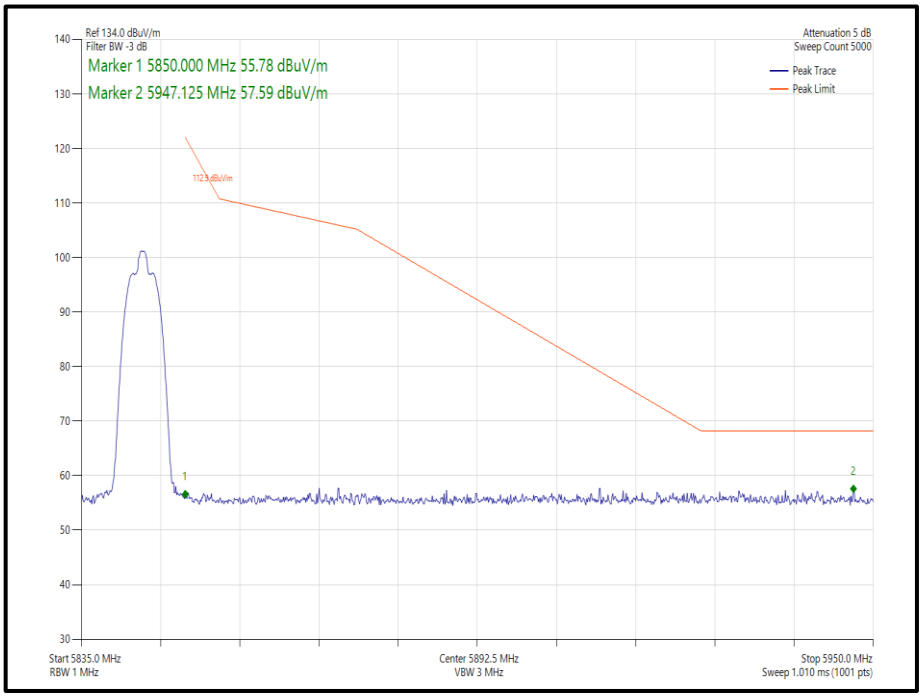


**Figure 238 - Static - π/4 DQPSK/8-DH5 - 5844 MHz - Band Edge Frequency 5850 MHz**

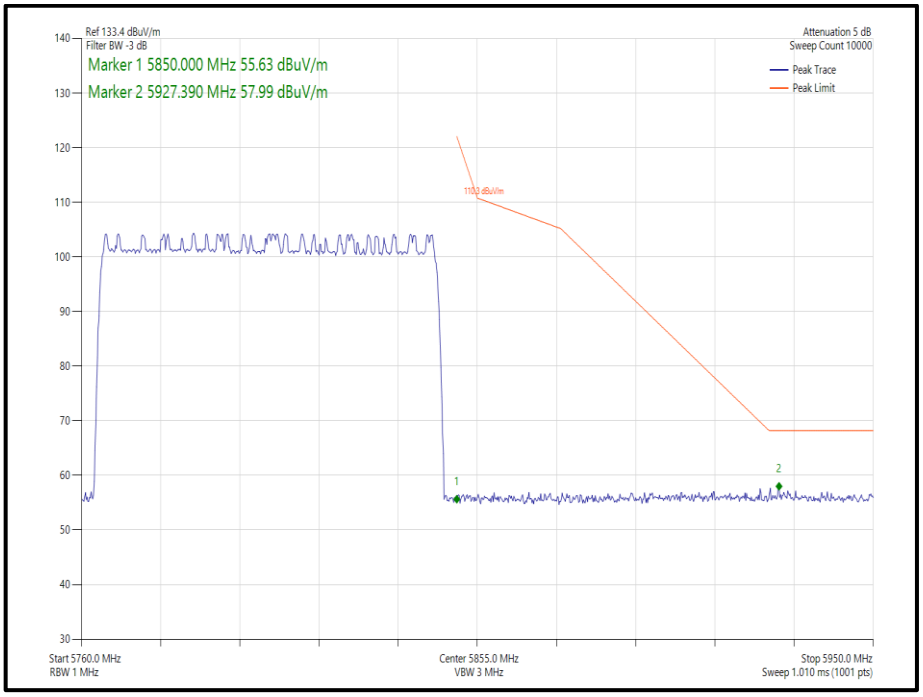


**Figure 239 - Hopping - π/4 DQPSK/4-DH5 - Band Edge Frequency 5850 MHz**

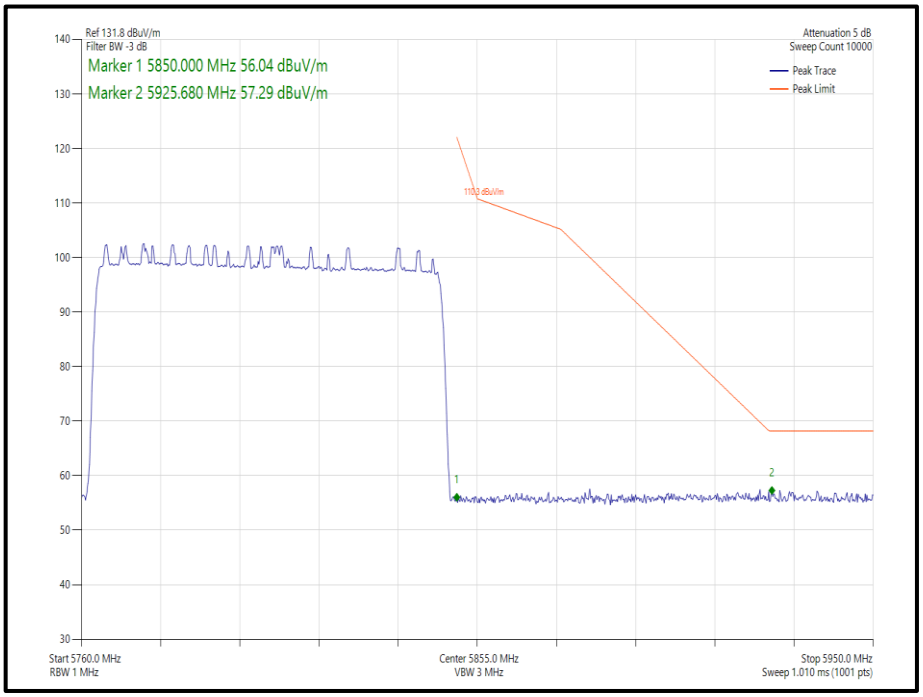


**Figure 240 - Hopping - π/4 DQPSK/8-DH5 - Band Edge Frequency 5850 MHz**

FCC 47 CFR Part 15E, Limit Clause 15.407(b)(1)(2)(3)(4)

For transmitters operating in the 5.15-5.25 GHz band: ≤-27 dBm/MHz outside 5150-5350 MHz.

For transmitters operating in the 5.25-5.35 GHz band: ≤-27 dBm/MHz outside 5150-5350 MHz.

For transmitters operating in the 5.47-5.725 GHz band: ≤-27 dBm/MHz outside 5470-5725 MHz

For transmitters operating in the 5.725-5.85 GHz band: All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

ISED RSS-247, Limit Clause 6.2.1.2, 6.2.2.2, 6.2.3.2 and 6.2.4.2

For transmitters with operating frequencies in the band 5150-5250 MHz, all emissions outside the band 5150-5350 MHz shall not exceed -27 dBm/MHz e.i.r.p. Any unwanted emissions that fall into the band 5250-5350 MHz shall be attenuated below the channel power by at least 26 dB.

For transmitters with operating frequencies in the bands 5250-5350 MHz and 5470-5725 MHz, all emissions outside the band 5250-5350 MHz and 5470-5725 MHz shall not exceed -27 dBm/MHz e.i.r.p.

Devices operating in the band 5725-5850 MHz shall have e.i.r.p. of unwanted emissions comply with the following:

a) 27 dBm/MHz at frequencies from the band edges decreasing linearly to 15.6 dBm/MHz at 5 MHz above or below the band edges;

b) 15.6 dBm/MHz at 5 MHz above or below the band edges decreasing linearly to 10 dBm/MHz at 25 MHz above or below the band edges;

c) 10 dBm/MHz at 25 MHz above or below the band edges decreasing linearly to -27 dBm/MHz at 75 MHz above or below the band edges; and

-27 dBm/MHz at frequencies more than 75 MHz above or below the band edges.

### 2.5.7 Test Location and Test Equipment Used

This test was carried out in RF Chamber 14.

| Instrument | Manufacturer | Type No. | TE No. | Calibration Period (months) | Calibration Expiry Date |
|---|---|---|---|---|---|
| EMI Test Receiver | Rohde & Schwarz | ESW44 | 5912 | 12 | 17-Feb-2023 |
| DRG Horn Antenna (7.5-18GHz) | Schwarzbeck | HWRD750 | 5941 | 12 | 29-May-2023 |
| 1500W (300V 12A) AC Power Supply | iTech | IT7324 | 5955 | - | O/P Mon |
| 5m Semi-Anechoic Chamber (Dual-Axis) | Albatross Projects | RF Chamber 14 | 5958 | 36 | 26-Apr-2025 |
| Compact Antenna Mast | Maturo Gmbh | CAM4.0-P | 5959 | - | TU |
| Mast & Turntable Controller | Maturo Gmbh | FCU3.0 | 5960 | - | TU |
| Tilt Antenna Mast | Maturo Gmbh | BAM4.5-P | 5961 | - | TU |
| Turntable | Maturo Gmbh | TT1.5SI | 5962 | - | TU |
| Cable (SMA to SMA 1m) | Junkosha | MWX221-01000AMSAMS/A | 5996 | 12 | 06-Jun-2023 |
| Cable (SMA to SMA 1m) | Junkosha | MWX221-01000AMSAMS/A | 5997 | 12 | 06-Jun-2023 |
| Cable (SMA to SMA 6.5m) | Junkosha | MWX221-06500AMSAMS/B | 6003 | 12 | 07-Jun-2023 |
| Cable (N to N 7m) | Junkosha | MWX221-07000NMSNMS/B | 6005 | 12 | 05-Jun-2023 |
| Cable (N to N 8m) | Junkosha | MWX221-08000NMSNMS/A | 6006 | 12 | 05-Jun-2023 |
| Cable (SMA to SMA 1m) | Junkosha | MWX221-01000AMSAMS/A | 6007 | 12 | 06-Jun-2023 |
| Cable (SMA to SMA 1m) | Junkosha | MWX221-01000AMSAMS/A | 6008 | 12 | 06-Jun-2023 |
| Cable (N to N 1m) | Junkosha | MWX221-01000NMSNMS/B | 6010 | 12 | 05-Jun-2023 |
| Cable (SMA to SMA 6.5m) | Junkosha | MWX221-06500AMSAMS/B | 6014 | 12 | 07-Jun-2023 |
| Horn Antenna (1-10 GHz) | Schwarzbeck | BBHA9120B | 6141 | 12 | 21-Jun-2023 |
| Digital Multimeter | Fluke | 115 | 6146 | 12 | 16-Jun-2023 |
| Humidity & Temperature meter | R.S Components | 1364 | 6149 | 12 | 17-Jun-2023 |
| 8GHz Highpass Filter | Wainwright | WHKX 7150 8000 18000 50SS | 6194 | 12 | 15-Jul-2023 |
| Pre Amp 8 - 18 GHz | Wright Technologies | APS06 0061 | 6199 | 12 | 19-Jul-2023 |
| Cable (SMA to SMA 20cm) | TUV SUD | MH-FH 8-18 | 6215 | 12 | 25-Jul-2023 |

**Table 174**

TU – Traceability Unscheduled
O/P Mon – Output Monitored using calibrated equipment

## 2.6 Spurious Radiated Emissions

### 2.6.1 Specification Reference

FCC 47 CFR Part 15E, Clause 15.209 and 15.407 (b
ISED RSS-247, Clause 6.2
ISED RSS-GEN, Clause 6.13, 8.9

### 2.6.2 Equipment Under Test and Modification State

A2779, S/N: JM67M9K770 - Modification State 0

### 2.6.3 Date of Test

05-October-2022 to 09-October-2022

### 2.6.4 Test Method

Testing was performed in accordance with ANSI C63.10, clause 6.3, 6.5 and 6.6.

Tests were performed in HT20 CDD in 3TX MIMO mode on the Main Radio, with measurements undertaken from 30 MHz to 40 GHz, on channel 36 (5180 MHz) and channel 165 (5825 MHz).

All testing was performed using the lowest data rate/modulation scheme for the applicable mode since this was declared worst case by the customer.

For the purpose of this testing, spurious emissions were limited to 1 GHz to 40 GHz on all other test channels.

Tests on the AUX radio were limited to 1 GHz to 40 GHz, as measurement's below 1 GHz on the main radio were considered to be worst case.

Plots for average measurements were taken in accordance with ANSI C63.10, clause 12.7.7.2 with max-hold trace to characterize the EUT. Where emissions were detected, final average measurements were taken using trace averaging.

The plots shown are the characterization of the EUT. The limits on the plots represent the most stringent case for restricted bands, (54/74 dBuV/m @ 3 m and 64/84 dBuV/m @ 1m) when compared to -27 dBm/MHz EIRP outside restricted bands. The limits shown have been used as a threshold to determine where further measurements are necessary. Where results are within 10dB of the limits shown on the plots, further investigation was carried out and reported in results tables.

The following conversion can be applied to convert from dBµV/m to µV/m:
10^(Field Strength in dBµV/m/20).

EIRP was converted to field strength at 3m using the following formula:
Field Strength (dBµV/m at 3 m) = EIRP (dBm) + 95.2 Db

### 2.6.5 Test Setup Diagram

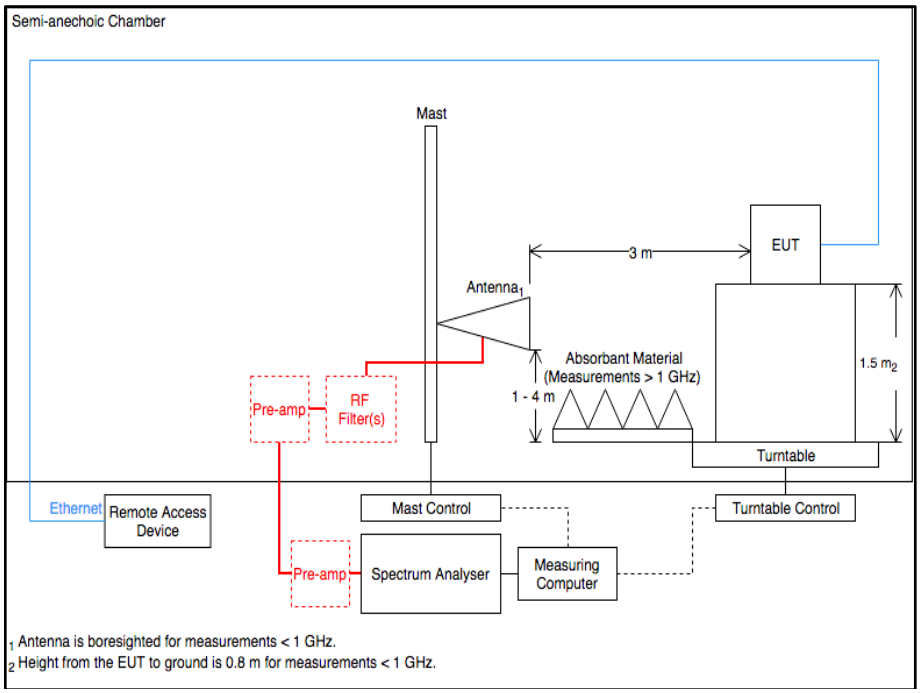


**Figure 241**

### 2.6.6 Environmental Conditions

| | |
|---|---|
| Ambient Temperature | 21.2 - 23.0 °C |
| Relative Humidity | 48.7 - 52.7 % |

### 2.6.7 Test Results

NarrowBand

| Frequency (MHz) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Angle (°) | Height (cm) | Polarisation |
|---|---|---|---|---|---|---|---|
| 4731.852 | 35.41 | 54.00 | -18.59 | RMS | 261 | 186 | Vertical |

**Table 175 - 5162 MHz, DH5, iPA, Core 0 + Core 1, 1 GHz to 40 GHz**

No other emissions found within 10 dB of the limit.

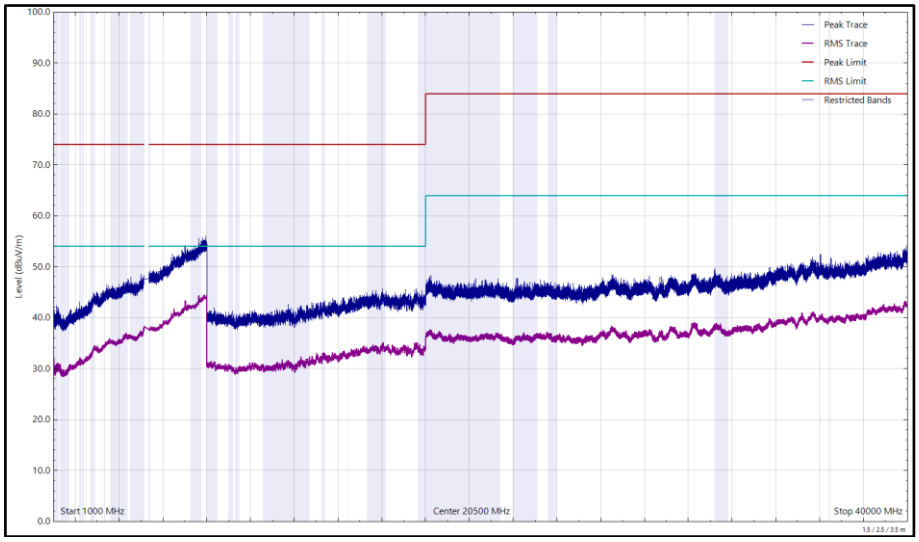


**Figure 242 - 5162 MHz, DH5, iPA, Core 0 + Core 1, 1 GHz to 40 GHz, Horizontal**

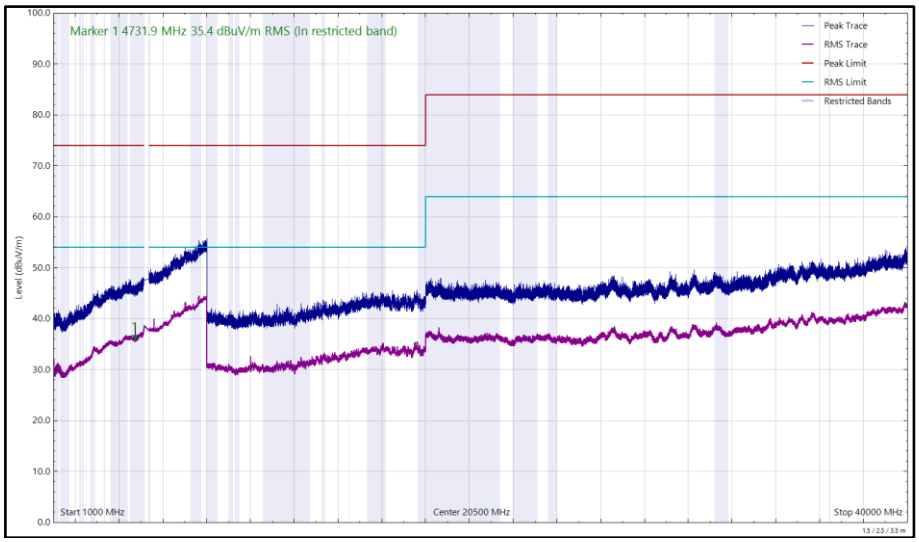


**Figure 243 - 5162 MHz, DH5, iPA, Core 0 + Core 1, 1 GHz to 40 GHz, Vertical**

| Frequency (MHz) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Angle (°) | Height (cm) | Polarisation |
|---|---|---|---|---|---|---|---|
| 4769.327 | 37.79 | 54.00 | -16.21 | RMS | 118 | 247 | Vertical |

**Table 176 - 5203 MHz, DH5, iPA, Core 0 + Core 1, 30 MHz to 40 GHz**

No other emissions found within 10 dB of the limit.

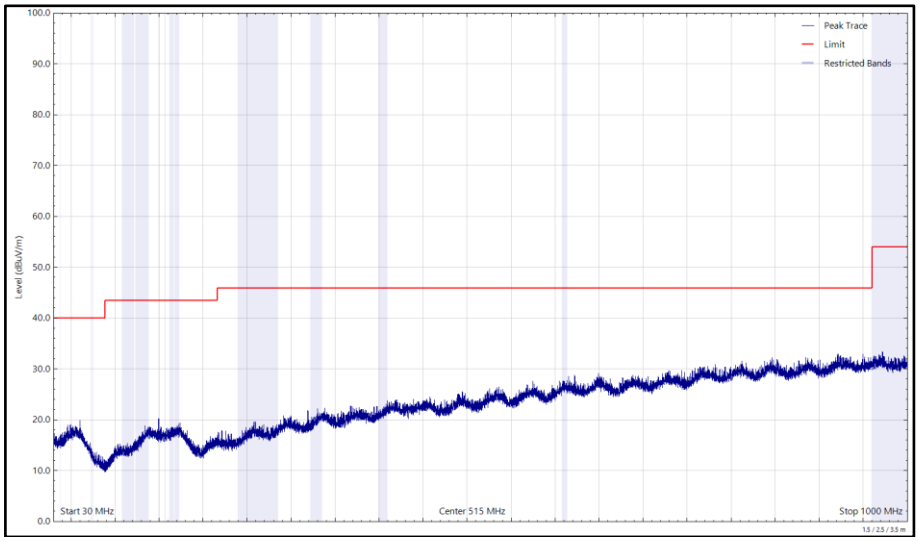


**Figure 244 - 5203 MHz, DH5, iPA, Core 0 + Core 1, 30 MHz to 1 GHz, Horizontal (Peak)**

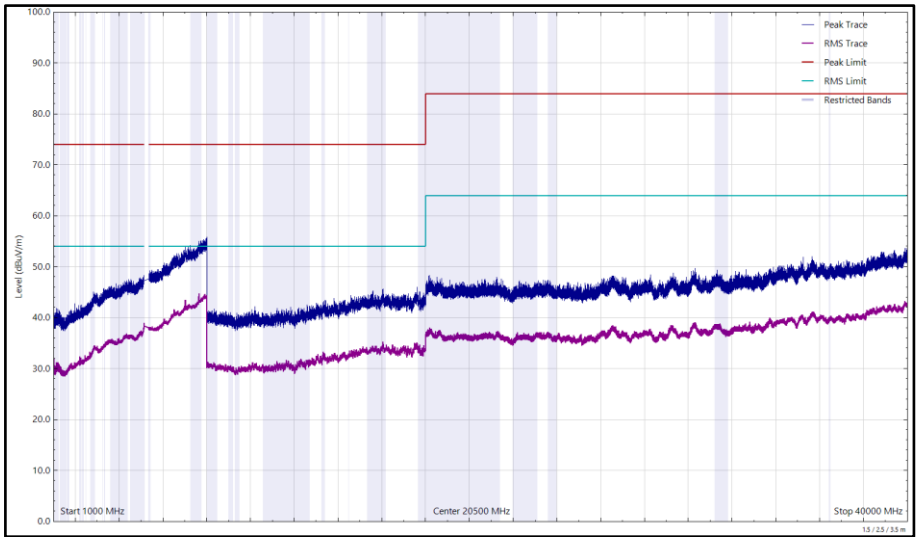


**Figure 245 - 5203 MHz, DH5, iPA, Core 0 + Core 1, 1 GHz to 40 GHz, Horizontal**

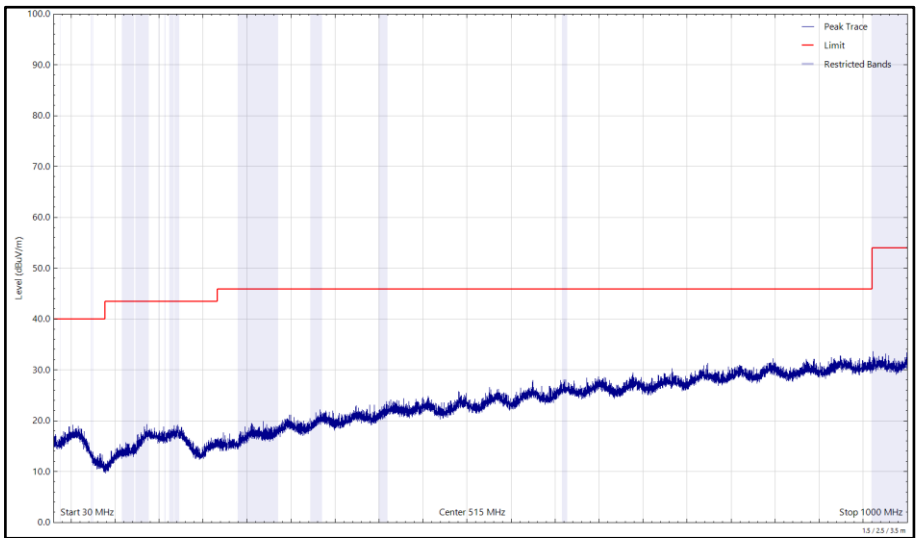


**Figure 246 - 5203 MHz, DH5, iPA, Core 0 + Core 1, 30 MHz to 1 GHz, Vertical (Peak)**

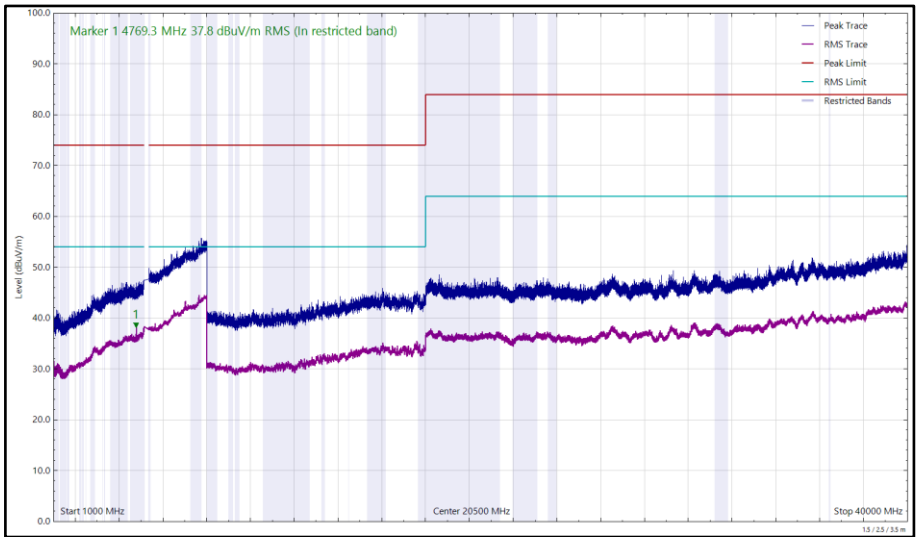


**Figure 247 - 5203 MHz, DH5, iPA, Core 0 + Core 1, 1 GHz to 40 GHz, Vertical**

| Frequency (MHz) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Angle (°) | Height (cm) | Polarisation |
|---|---|---|---|---|---|---|---|
| 4807.894 | 38.53 | 54.00 | -15.47 | RMS | 112 | 289 | Vertical |

**Table 177 - 5245 MHz, DH5, iPA, Core 0 + Core 1, 1 GHz to 40 GHz**

No other emissions found within 10 dB of the limit.

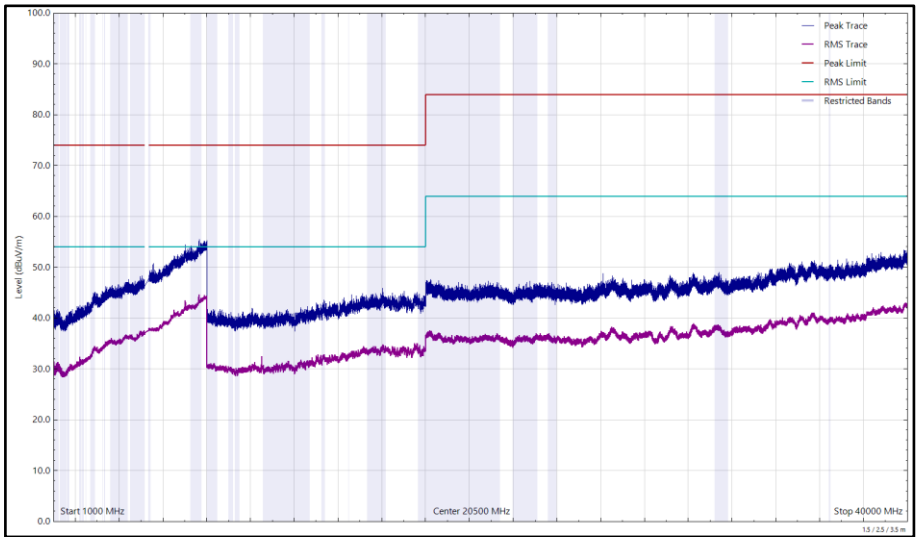


**Figure 248 - 5245 MHz, DH5, iPA, Core 0 + Core 1, 1 GHz to 40 GHz, Horizontal**

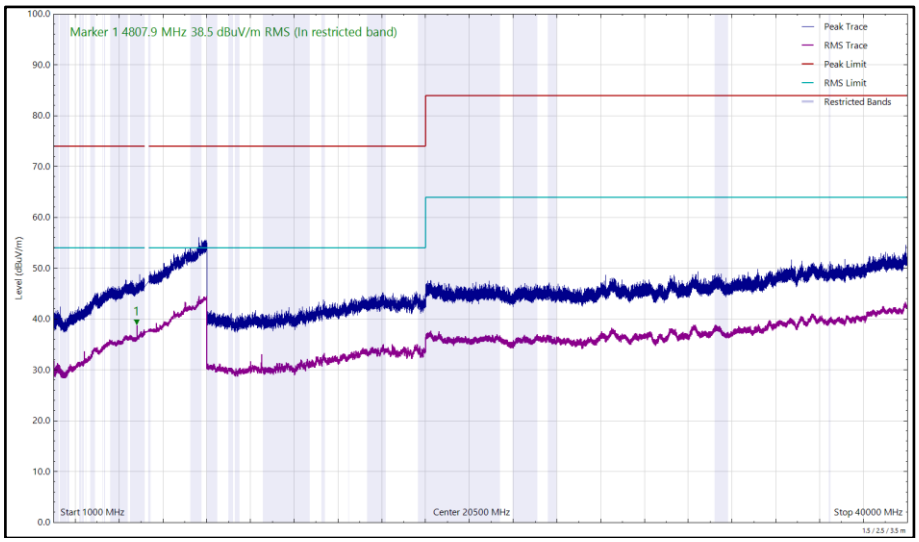


**Figure 249 - 5245 MHz, DH5, iPA, Core 0 + Core 1, 1 GHz to 40 GHz, Vertical**

| Frequency (MHz) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Angle (°) | Height (cm) | Polarisation |
|---|---|---|---|---|---|---|---|
| 5323.181 | 54.23 | 74.00 | -19.77 | Peak | 110 | 314 | Vertical |
| 11465.797 | 34.22 | 54.00 | -19.78 | RMS | 244 | 313 | Horizontal |
| 11465.961 | 38.44 | 54.00 | -15.56 | RMS | 239 | 150 | Vertical |

**Table 178 - 5733 MHz, DH5, iPA, Core 0 + Core 1, 1 GHz to 40 GHz**

No other emissions found within 10 dB of the limit.

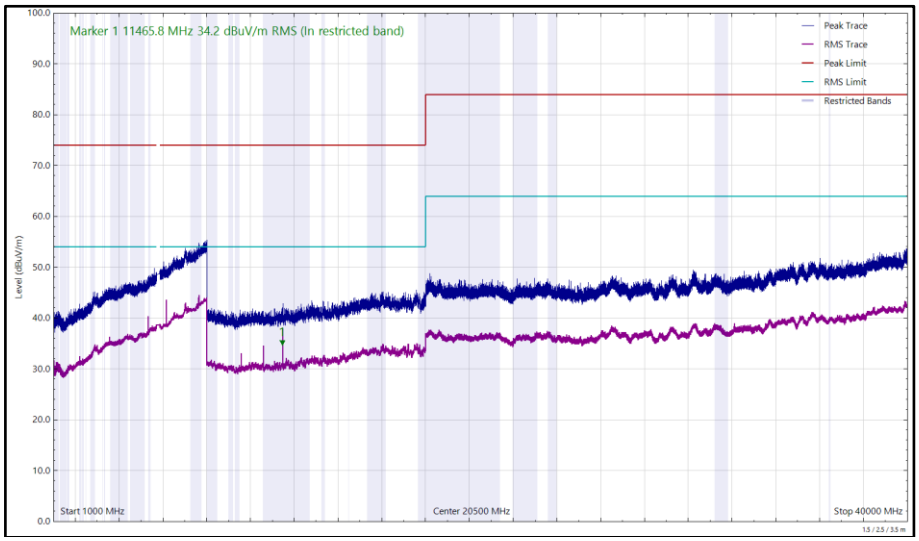


**Figure 250 - 5733 MHz, DH5, iPA, Core 0 + Core 1, 1 GHz to 40 GHz, Horizontal**

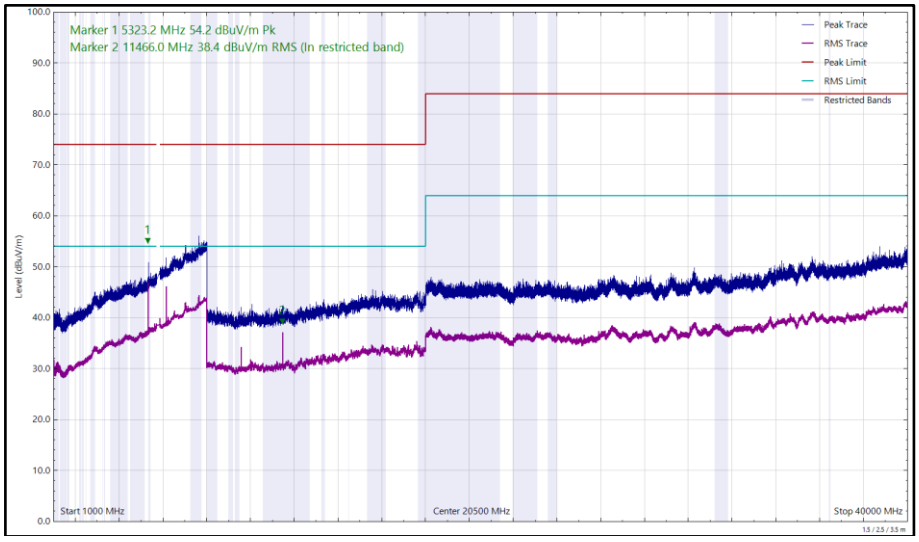


**Figure 251 - 5733 MHz, DH5, iPA, Core 0 + Core 1, 1 GHz to 40 GHz, Vertical**

| Frequency (MHz) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Angle (°) | Height (cm) | Polarisation |
|---|---|---|---|---|---|---|---|
| 5374.543 | 48.88 | 54.00 | -5.12 | RMS | 114 | 327 | Vertical |
| 5374.593 | 40.72 | 54.00 | -13.28 | RMS | 42 | 392 | Horizontal |
| 11575.873 | 35.97 | 54.00 | -18.03 | RMS | 231 | 264 | Horizontal |
| 11575.958 | 34.94 | 54.00 | -19.06 | RMS | 182 | 214 | Vertical |

**Table 179 - 5788 MHz, DH5, iPA, Core 0 + Core 1, 30 MHz to 40 GHz**

No other emissions found within 10 dB of the limit.

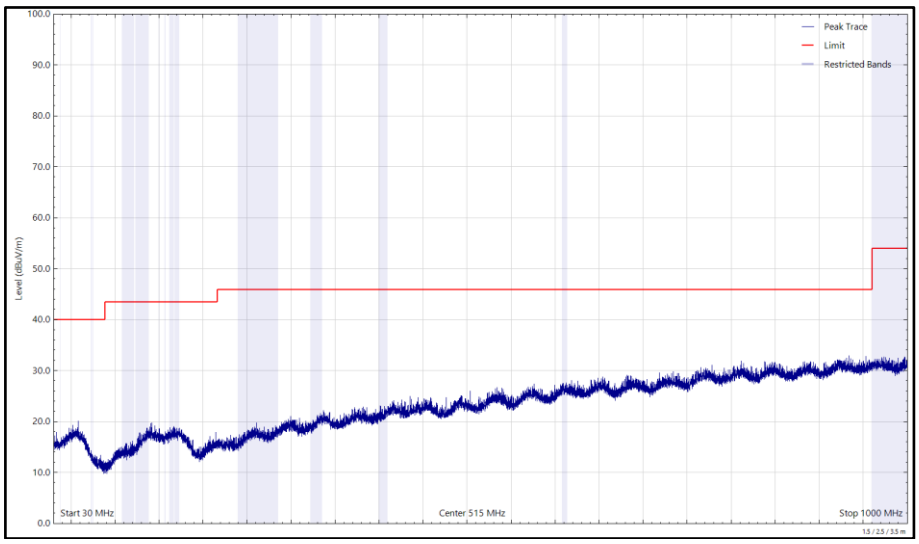


**Figure 252 - 5788 MHz, DH5, iPA, Core 0 + Core 1, 30 MHz to 1 GHz, Horizontal (Peak)**

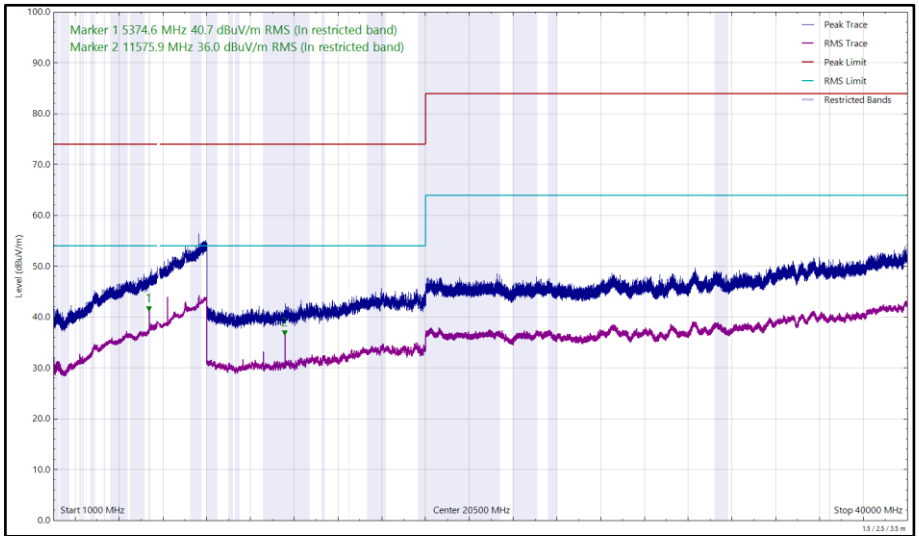


**Figure 253 - 5788 MHz, DH5, iPA, Core 0 + Core 1, 1 GHz to 40 GHz, Horizontal**

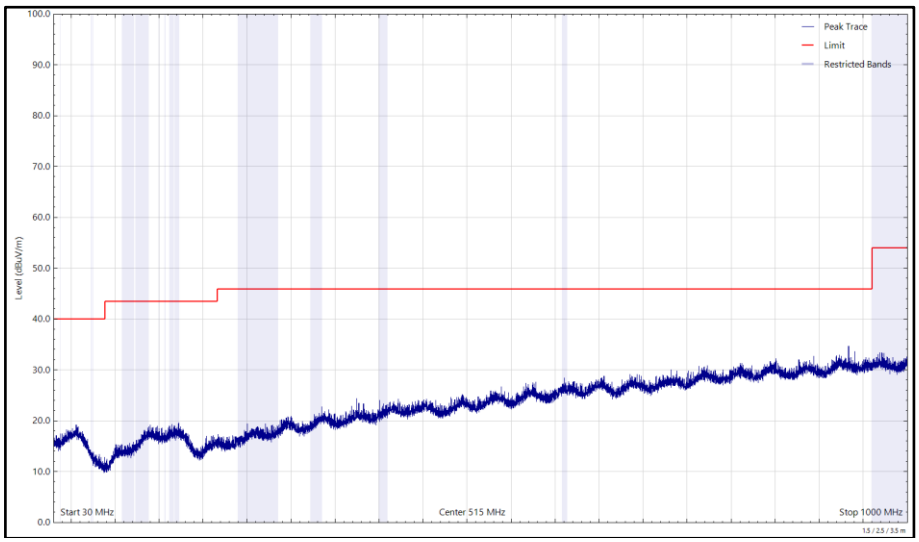


**Figure 254 - 5788 MHz, DH5, iPA, Core 0 + Core 1, 30 MHz to 1 GHz, Vertical (Peak)**

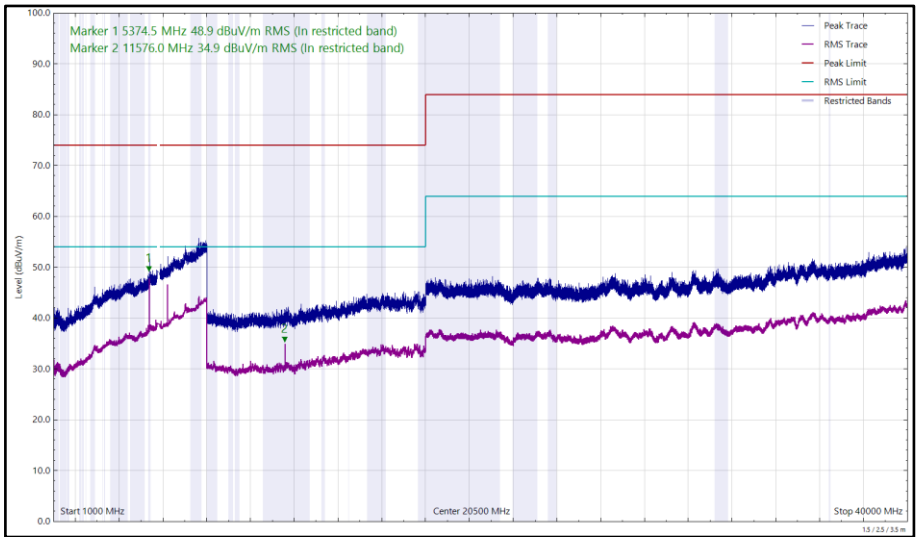


**Figure 255 - 5788 MHz, DH5, iPA, Core 0 + Core 1, 1 GHz to 40 GHz, Vertical**

| Frequency (MHz) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Angle (°) | Height (cm) | Polarisation |
|---|---|---|---|---|---|---|---|
| 5426.518 | 48.83 | 54.00 | -5.17 | RMS | 113 | 326 | Vertical |
| 5426.533 | 42.83 | 54.00 | -11.17 | RMS | 54 | 377 | Horizontal |
| 11687.847 | 32.97 | 54.00 | -21.03 | RMS | 232 | 225 | Horizontal |
| 11687.894 | 33.98 | 54.00 | -20.02 | RMS | 235 | 179 | Vertical |

**Table 180 - 5844 MHz, DH5, iPA, Core 0 + Core 1, 1 GHz to 40 GHz**

No other emissions found within 10 dB of the limit.

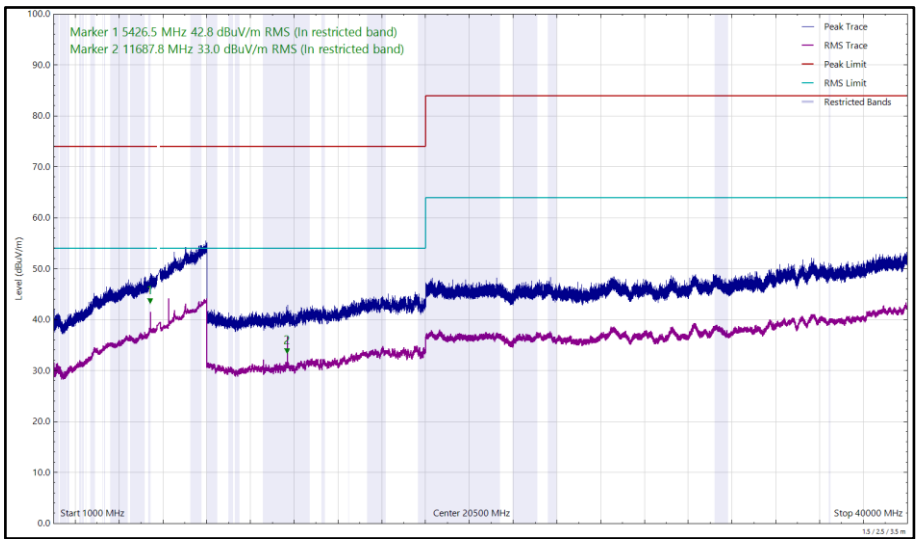


**Figure 256 - 5844 MHz, DH5, iPA, Core 0 + Core 1, 1 GHz to 40 GHz, Horizontal**

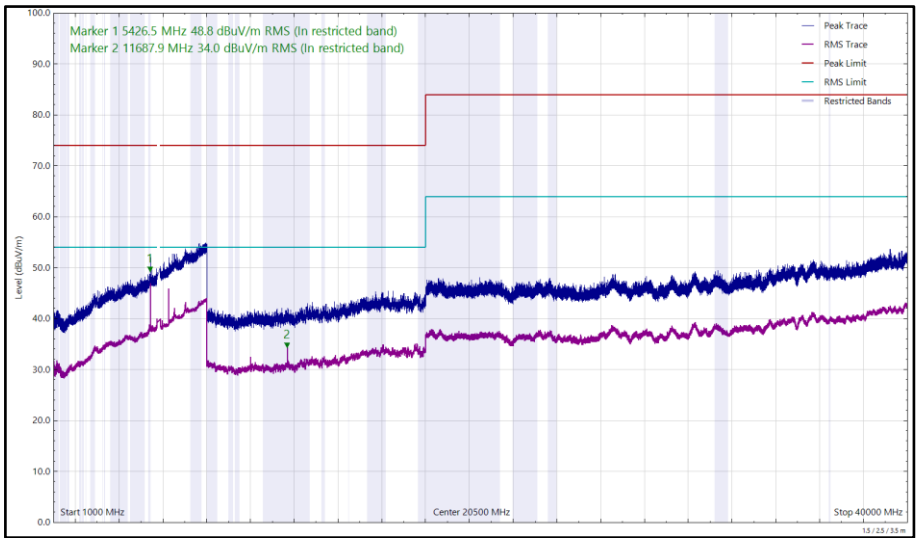


**Figure 257 - 5844 MHz, DH5, iPA, Core 0 + Core 1, 1 GHz to 40 GHz, Vertical**

| Frequency (MHz) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Angle (°) | Height (cm) | Polarisation |
|---|---|---|---|---|---|---|---|
| * | | | | | | | |

**Table 181 - 5162 MHz, HDR4, ePA, Core 0 + Core 1, 1 GHz to 40 GHz**

*No emissions found within 10 dB of the limit.

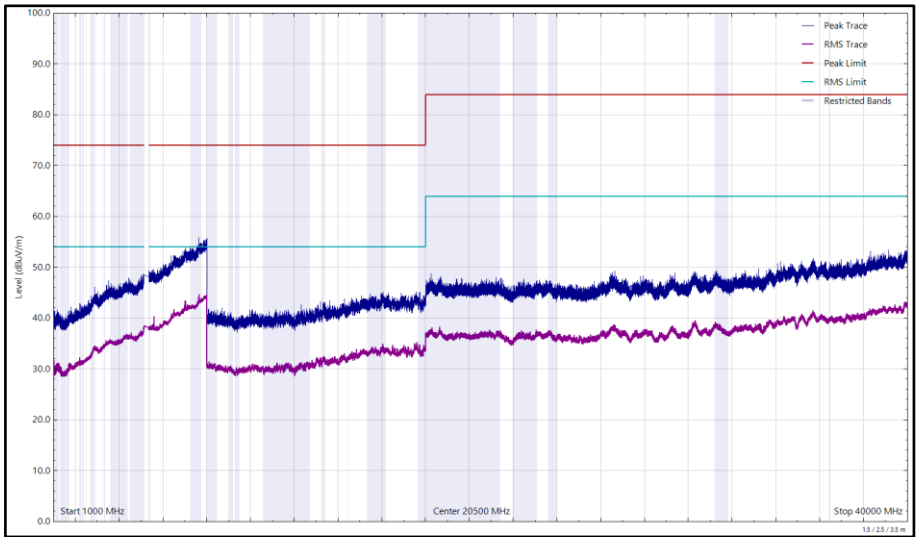


**Figure 258 - 5162 MHz, HDR4, ePA, Core 0 + Core 1, 1 GHz to 40 GHz, Horizontal**

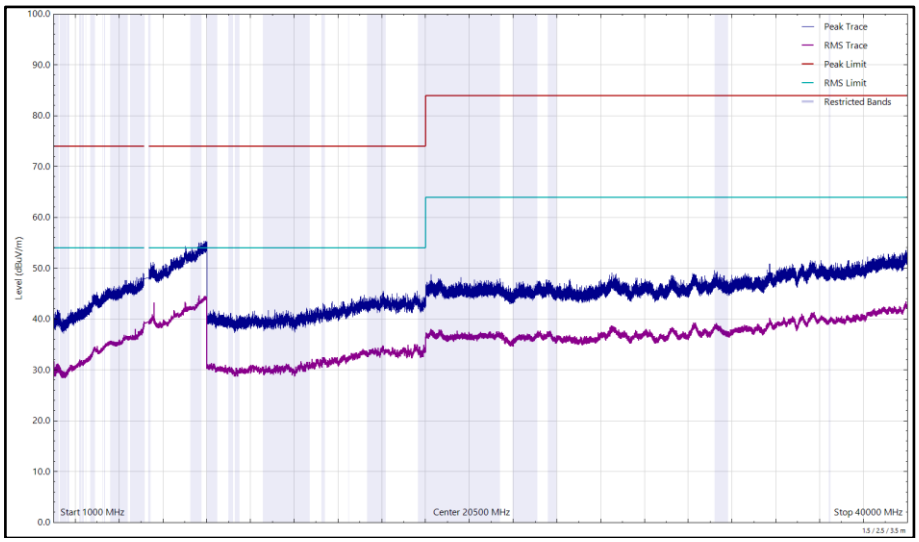


**Figure 259 - 5162 MHz, HDR4, ePA, Core 0 + Core 1, 1 GHz to 40 GHz, Vertical**

| Frequency (MHz) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Angle (°) | Height (cm) | Polarisation |
|---|---|---|---|---|---|---|---|
| * | | | | | | | |

**Table 182 - 5203 MHz, HDR4, ePA, Core 0 + Core 1, 30 MHz to 40 GHz**

*No emissions found within 10 dB of the limit.

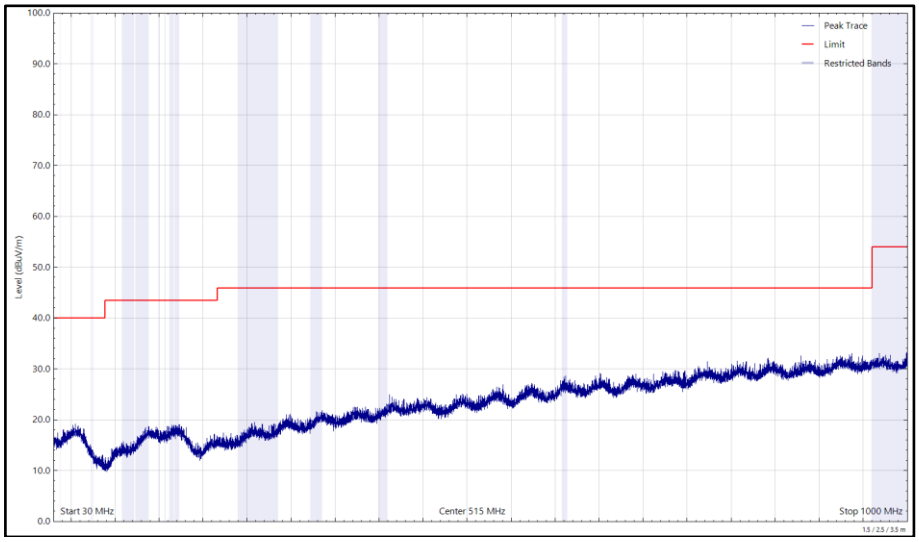


**Figure 260 - 5203 MHz, HDR4, ePA, Core 0 + Core 1, 30 MHz to 1 GHz, Horizontal (Peak)**

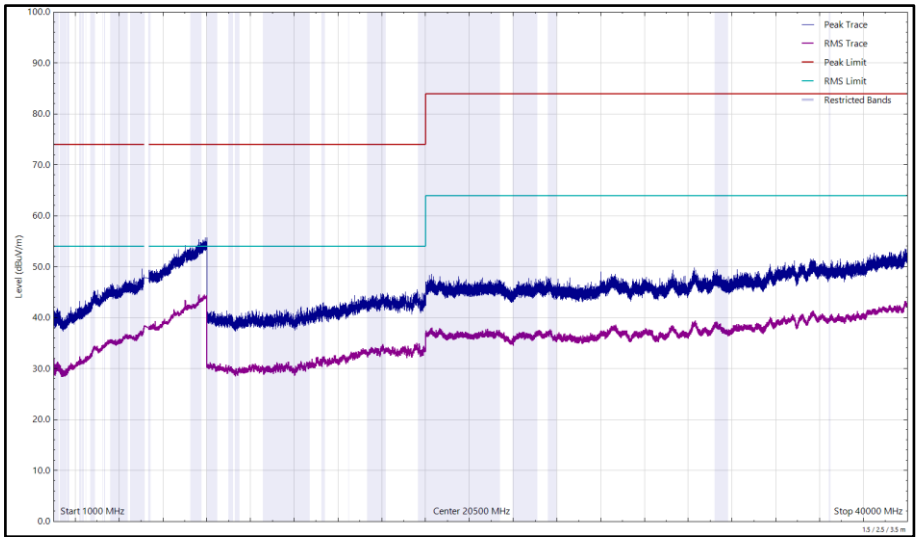


**Figure 261 - 5203 MHz, HDR4, ePA, Core 0 + Core 1, 1 GHz to 40 GHz, Horizontal**

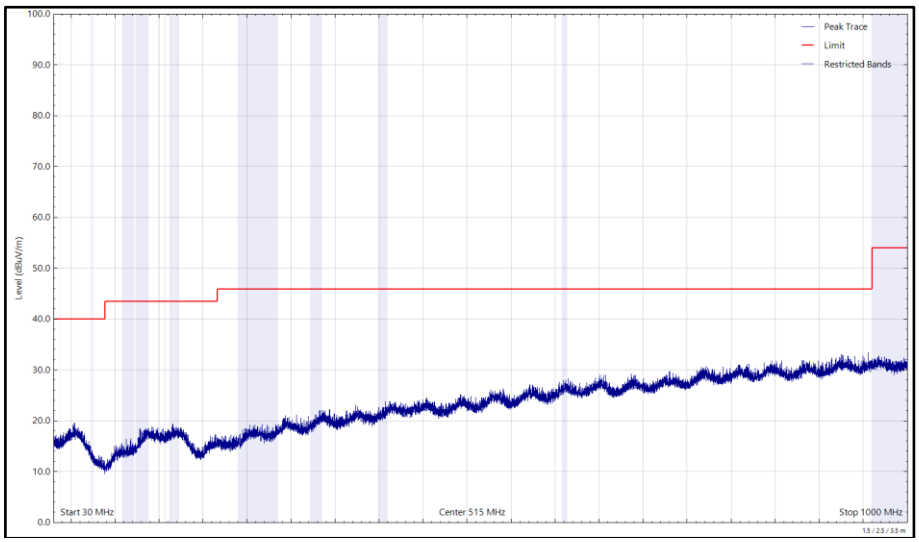


**Figure 262 - 5203 MHz, HDR4, ePA, Core 0 + Core 1, 30 MHz to 1 GHz, Vertical (Peak)**

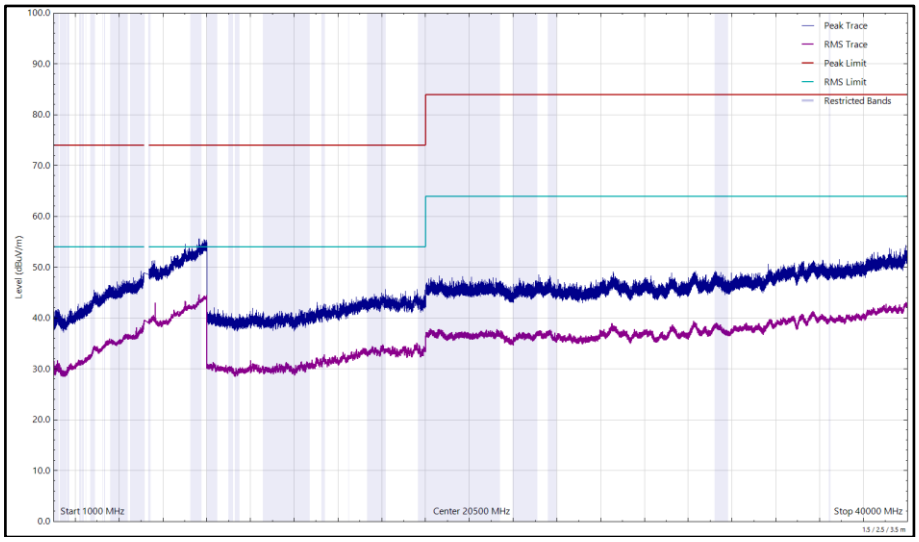


**Figure 263 - 5203 MHz, HDR4, ePA, Core 0 + Core 1, 1 GHz to 40 GHz, Vertical**

| Frequency (MHz) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Angle (°) | Height (cm) | Polarisation |
|---|---|---|---|---|---|---|---|
| 4807.894 | 38.12 | 54.00 | -15.88 | RMS | 147 | 283 | Vertical |

**Table 183 - 5245 MHz, HDR4, ePA, Core 0 + Core 1, 1 GHz to 40 GHz**

No other emissions found within 10 dB of the limit.

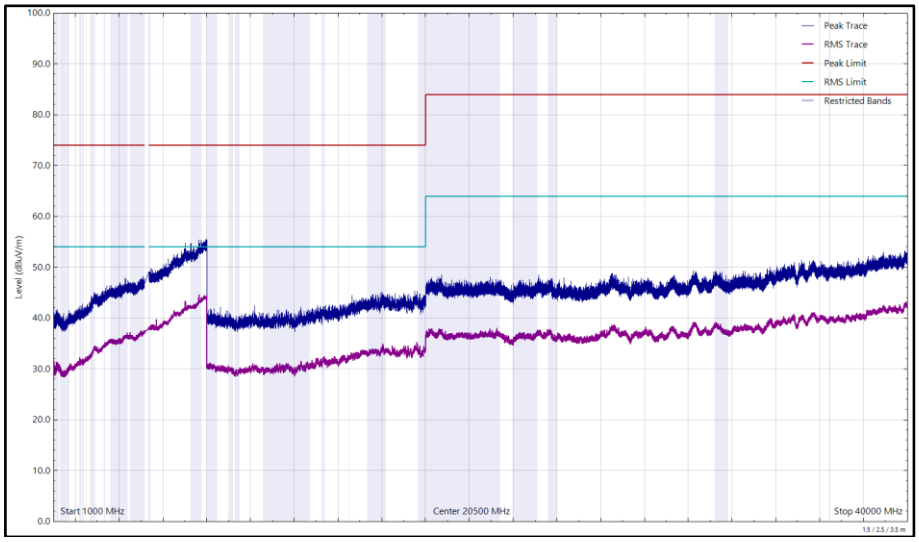


**Figure 264 - 5245 MHz, HDR4, ePA, Core 0 + Core 1, 1 GHz to 40 GHz, Horizontal**

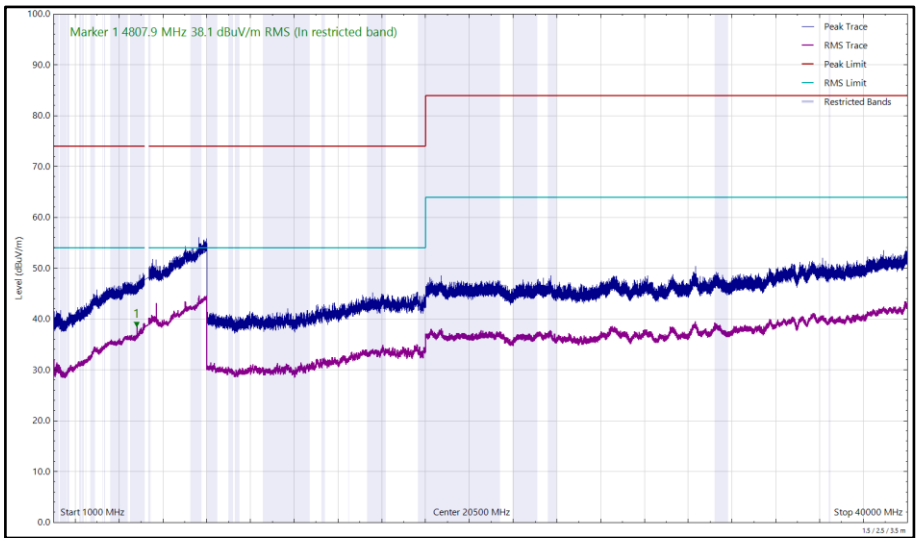


**Figure 265 - 5245 MHz, HDR4, ePA, Core 0 + Core 1, 1 GHz to 40 GHz, Vertical**

| Frequency (MHz) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Angle (°) | Height (cm) | Polarisation |
|---|---|---|---|---|---|---|---|
| * | | | | | | | |

**Table 184 - 5733 MHz, HDR4, ePA, Core 0 + Core 1, 1 GHz to 40 GHz**

*No emissions found within 10 dB of the limit.

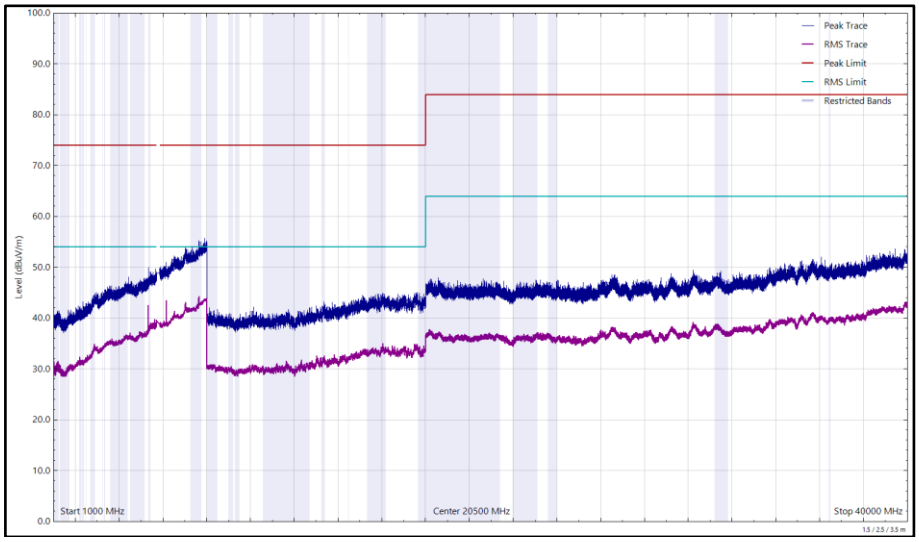


**Figure 266 - 5733 MHz, HDR4, ePA, Core 0 + Core 1, 1 GHz to 40 GHz, Horizontal**

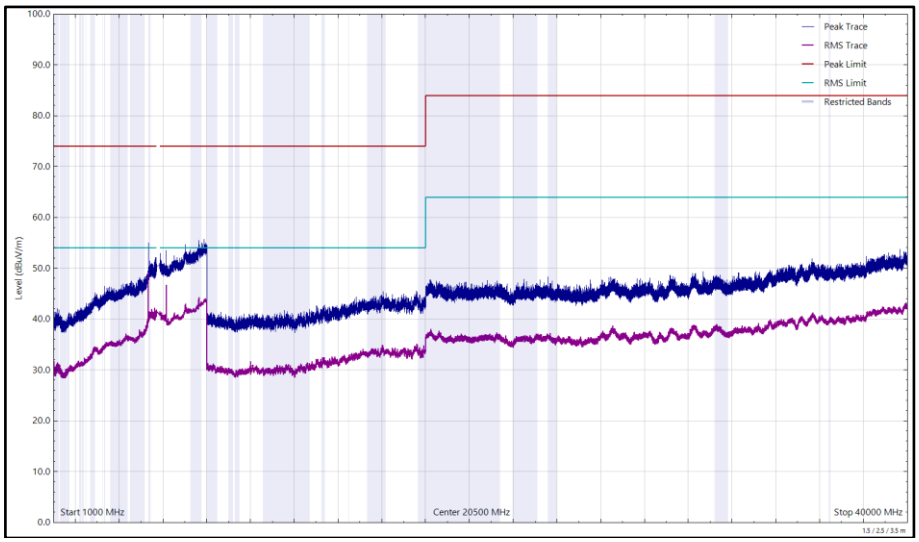


**Figure 267 - 5733 MHz, HDR4, ePA, Core 0 + Core 1, 1 GHz to 40 GHz, Vertical**

| Frequency (MHz) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Angle (°) | Height (cm) | Polarisation |
|---|---|---|---|---|---|---|---|
| 5374.413 | 41.40 | 54.00 | -12.60 | RMS | 72 | 389 | Horizontal |
| 5374.548 | 55.00 | 74.00 | -19.00 | Peak | 152 | 282 | Vertical |
| 5374.601 | 46.95 | 54.00 | -7.05 | RMS | 152 | 282 | Vertical |

**Table 185 - 5788 MHz, HDR4, ePA, Core 0 + Core 1, 30 MHz to 40 GHz**

No other emissions found within 10 dB of the limit.

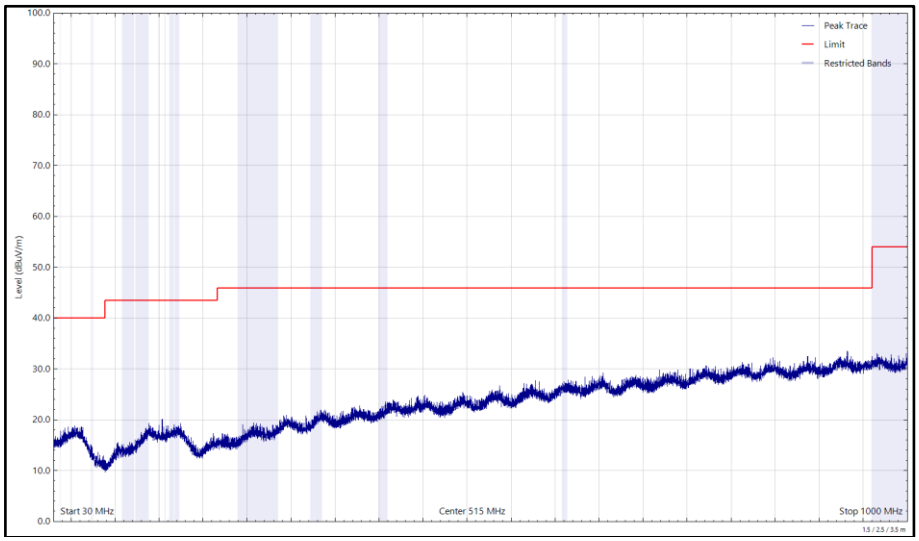


**Figure 268 - 5788 MHz, HDR4, ePA, Core 0 + Core 1, 30 MHz to 1 GHz, Horizontal (Peak)**

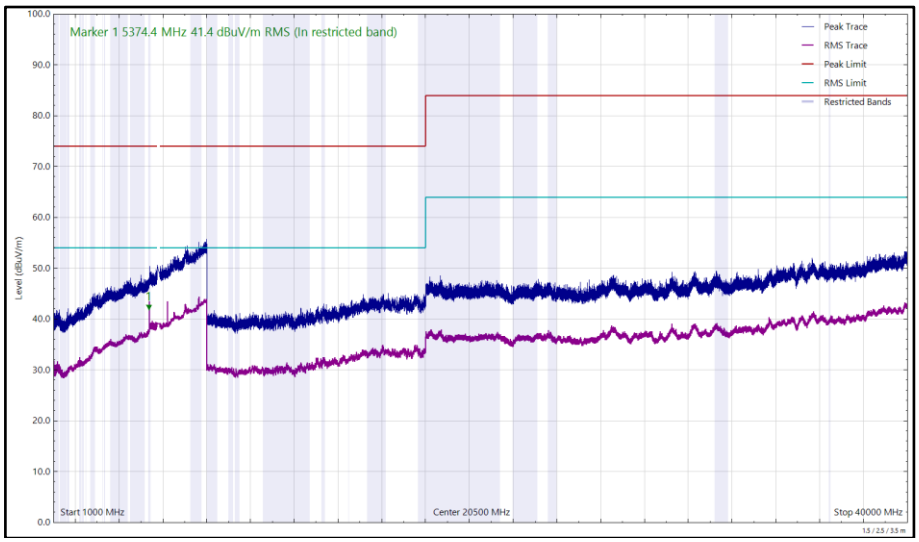


**Figure 269 - 5788 MHz, HDR4, ePA, Core 0 + Core 1, 1 GHz to 40 GHz, Horizontal**

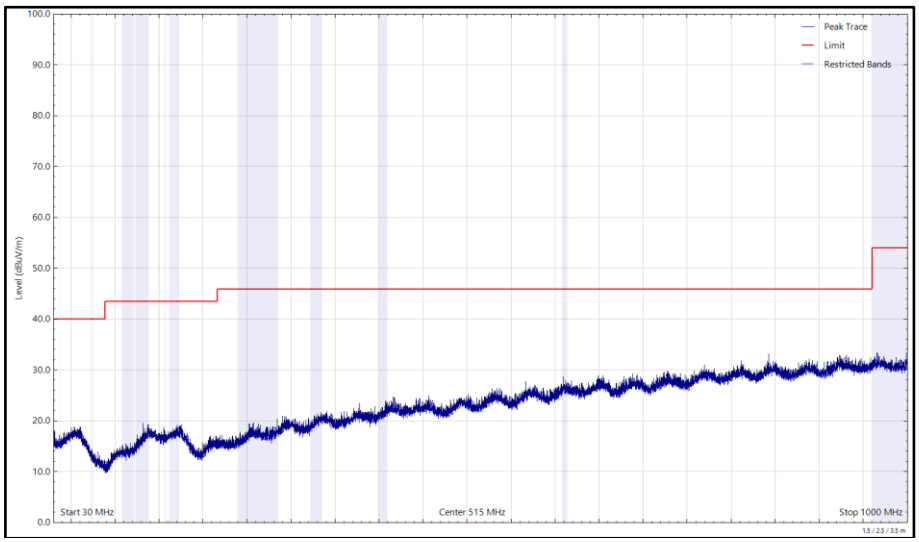


**Figure 270 - 5788 MHz, HDR4, ePA, Core 0 + Core 1, 30 MHz to 1 GHz, Vertical (Peak)**

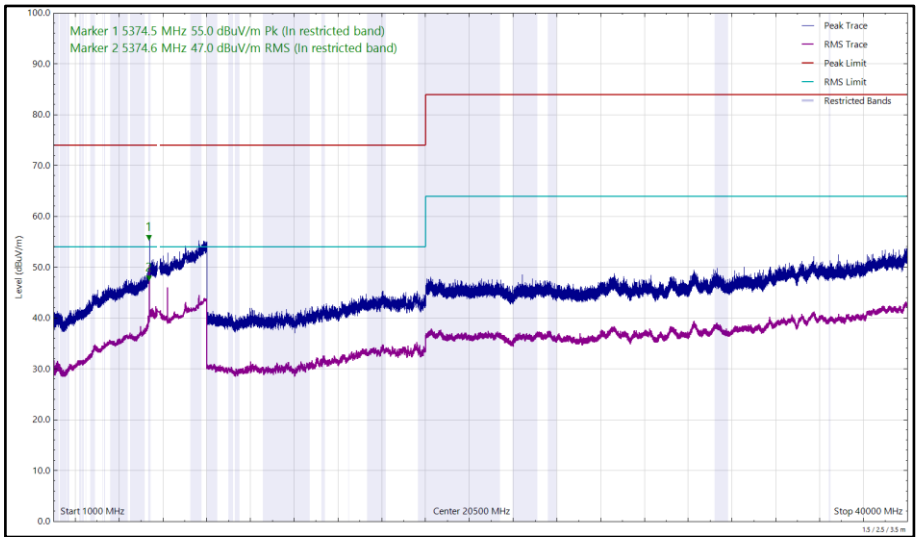


**Figure 271 - 5788 MHz, HDR4, ePA, Core 0 + Core 1, 1 GHz to 40 GHz, Vertical**

| Frequency (MHz) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Angle (°) | Height (cm) | Polarisation |
|---|---|---|---|---|---|---|---|
| 5426.358 | 55.95 | 74.00 | -18.05 | Peak | 74 | 306 | Vertical |
| 5426.493 | 45.13 | 54.00 | -8.87 | RMS | 62 | 400 | Horizontal |
| 5426.531 | 47.86 | 54.00 | -6.14 | RMS | 74 | 306 | Vertical |

**Table 186 - 5844 MHz, HDR4, ePA, Core 0 + Core 1, 1 GHz to 40 GHz**

No other emissions found within 10 dB of the limit.

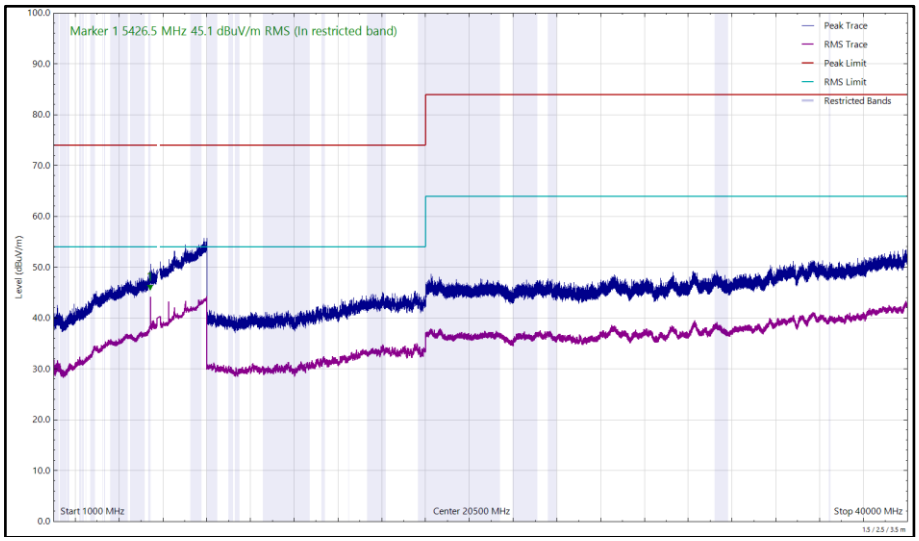


**Figure 272 - 5844 MHz, HDR4, ePA, Core 0 + Core 1, 1 GHz to 40 GHz, Horizontal**

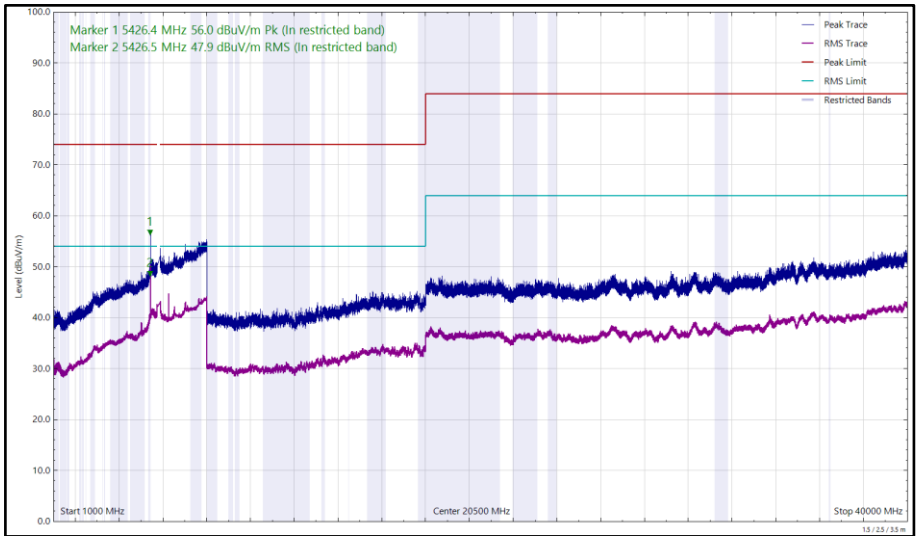


**Figure 273 - 5844 MHz, HDR4, ePA, Core 0 + Core 1, 1 GHz to 40 GHz, Vertical**

FCC 47 CFR Part 15, Limit Clause 15.407(b)(1)(2)(3)(4)

Emissions not falling within the restricted bands listed in FCC 47 CFR Part 15.209:

For transmitters operating in the 5.15-5.25 GHz band: ≤-27 dBm/MHz outside 5150-5350 MHz.

For transmitters operating in the 5.25-5.35 GHz band: ≤-27 dBm/MHz outside 5150-5350 MHz.

For transmitters operating in the 5.47-5.725 GHz band: ≤-27 dBm/MHz outside 5470-5725 MHz

For transmitters operating in the 5.725-5.85 GHz band: All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

Emissions within the restricted bands listed in FCC 47 CFR Part 15.209:

| Frequency (MHz) | Field Strength (µV/m)at 3m | Field Strength Limit (dBµV/m) at 3m |
|---|---|---|
| 30 to 88 | 100 | 40.00 |
| 88 to 216 | 150 | 43.52 |
| 216 to 960 | 200 | 46.02 |
| Above 960 | 500 | 53.98 |

**Table 187 - Radiated Emissions Limit Table (FCC)**

ISED RSS-247, Limit Clause 6.2.1.2, 6.2.2.2, 6.2.3.2 and 6.2.4.2 and ISED RSS-GEN, Limit Clause 8.9

Emissions not falling within the restricted bands listed in ISED RSS-GEN, Clause 8.10:

For transmitters with operating frequencies in the band 5150-5250 MHz, all emissions outside the band 5150-5350 MHz shall not exceed -27 dBm/MHz e.i.r.p. Any unwanted emissions that fall into the band 5250-5350 MHz shall be attenuated below the channel power by at least 26 dB.

For transmitters with operating frequencies in the bands 5250-5350 MHz and 5470-5725 MHz, all emissions outside the band 5250-5350 MHz and 5470-5725 MHz shall not exceed -27 dBm/MHz e.i.r.p.

Devices operating in the band 5725-5850 MHz shall have e.i.r.p. of unwanted emissions comply with the following:

a) 27 dBm/MHz at frequencies from the band edges decreasing linearly to 15.6 dBm/MHz at 5 MHz above or below the band edges;
b) 15.6 dBm/MHz at 5 MHz above or below the band edges decreasing linearly to 10 dBm/MHz at 25 MHz above or below the band edges;
c) 10 dBm/MHz at 25 MHz above or below the band edges decreasing linearly to -27 dBm/MHz at 75 MHz above or below the band edges; and
d) -27 dBm/MHz at frequencies more than 75 MHz above or below the band edges.

Emissions falling within the restricted bands listed in ISED RSS-GEN, Clause 8.10:

| Frequency (MHz) | Field Strength (µV/m)at 3m | Field Strength Limit (dBµV/m) at 3m |
|---|---|---|
| 30 to 88 | 100 | 40.00 |
| 88 to 216 | 150 | 43.52 |
| 216 to 960 | 200 | 46.02 |
| Above 960 | 500 | 53.98 |

**Table 188 - Radiated Emissions Limit Table (ISED)**

### 2.6.8 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 | V3.1.6 | 5125 | - | Software |
| EMI Test Receiver | Rohde & Schwarz | ESW44 | 5911 | 12 | 24-Feb-2023 |
| Cable (K Type 2m) | Junkosha | MWX241-02000KMSKMS/B | 5937 | 12 | 14-May-2023 |
| DRG Horn Antenna (7.5-18GHz) | Schwarzbeck | HWRD750 | 5939 | 12 | 29-May-2023 |
| DRG Horn Antenna (7.5-18GHz) | Schwarzbeck | HWRD750 | 5941 | 12 | 29-May-2023 |
| TRILOG Super Broadband Test Antenna | Schwarzbeck | VULB 9168 | 5944 | 24 | 03-Feb-2024 |
| 1500W (300V 12A) AC Power Supply | iTech | IT7324 | 5956 | - | O/P Mon |
| 5m Semi-Anechoic Chamber | Albatross Projects | RF Chamber 15 | 5963 | 36 | 28-Apr-2025 |

| Instrument | Manufacturer | Type No. | TE No. | Calibration Period (months) | Calibration Expiry Date |
|---|---|---|---|---|---|
| (Dual-Axis) | | | | | |
| Compact Antenna Mast | Maturo Gmbh | CAM4.0-P | 5964 | - | TU |
| Tilt Antenna Mast | Maturo Gmbh | BAM4.5-P | 5967 | - | TU |
| Cable (SMA to SMA 1m) | Junkosha | MWX221-01000AMSAMS/A | 5996 | 12 | 06-Jun-2023 |
| Cable (N to N 1m) | Junkosha | MWX221-01000NMSNMS/B | 5999 | 12 | 05-Jun-2023 |
| Cable (N to N 7m) | Junkosha | MWX221-07000NMSNMS/B | 6005 | 12 | 05-Jun-2023 |
| Cable (N to N 8m) | Junkosha | MWX221-08000NMSNMS/A | 6006 | 12 | 05-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 |
| Cable (SMA to SMA 1m) | Junkosha | MWX221-01000AMSAMS/B | 6019 | 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 |
| Double Ridge Active Horn Antenna (18-40 GHz) | Com-Power | AHA-840 | 6188 | 24 | 02-Jun-2024 |
| SAC Switch Unit | TUV SUD | TUV_SSU_001 | 6191 | 12 | 15-Jul-2023 |
| 8GHz Highpass Filter | Wainwright | WHKX 7150 8000 18000 50SS | 6194 | 12 | 15-Jul-2023 |
| 8GHz Highpass Filter | Wainwright | WHKX 7150 8000 18000 50SS | 6195 | 12 | 15-Jul-2023 |
| Attenuator 4dB | Pasternack | PE7074-4 | 6203 | 24 | 16-Jul-2024 |
| Cable SMA to SMA 20cm) | TUV SUD | MH-FH 8-18 | 6214 | 12 | 25-Jul-2023 |

**Table 189**

TU – Traceability Unscheduled
O/P Mon – Output Monitored using calibrated equipment

# 3 Measurement Uncertainty

For a 95% confidence level, the measurement uncertainties for defined systems are:

| Test Name | Measurement Uncertainty |
|---|---|
| Restricted Band Edges | ± 6.3 dB |
| Emission Bandwidth | ± 73.60 kHz |
| Maximum Conducted Output Power | ± 1.38 dB |
| Maximum Conducted Power Spectral Density | ± 1.49 dB |
| Authorised Band Edges | ± 6.3 dB |
| Spurious Radiated Emissions | 30 MHz to 1 GHz: ± 5.2 dB<br>1 GHz to 40 GHz: ± 6.3 dB |

**Table 190**

Measurement Uncertainty Decision Rule – Accuracy Method

Determination of conformity with the specification limits is based on the decision rule according to IEC Guide 115:2021, Clause 4.4.3 (Procedure 2). The measurement results are directly compared with the test limit to determine conformance with the requirements of the standard.

Risk: The uncertainty of measurement about the measured result is negligible with regard to the final pass/fail decision. The measurement result can be directly compared with the test limit to determine conformance with the requirement (compare IEC Guide 115). The level of risk to falsely accept and falsely reject items is further described in ILAC-G8.