

2.6.7 Test Results

5 GHz WLAN

Frequency (MHz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Angle (°)	Height (cm)	Polarisation
37.758	16.4	40.0	-23.6	Q-Peak	262	102	Vertical

Table 598 - U-NII-1 - 5180 MHz (CH36), HT20, CDD, Core 0 + Core 1, 30 MHz to 40 GHz

No other emissions found within 6 dB of the limit.

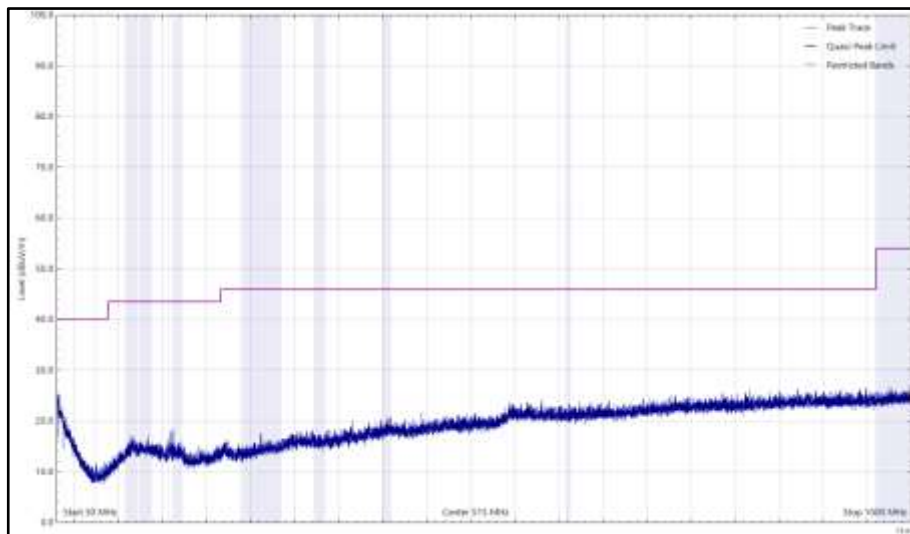


Figure 987 - U-NII-1 - 5180 MHz (CH36), HT20, CDD, Core 0 + Core 1, 30 MHz to 1 GHz, Horizontal (Peak)

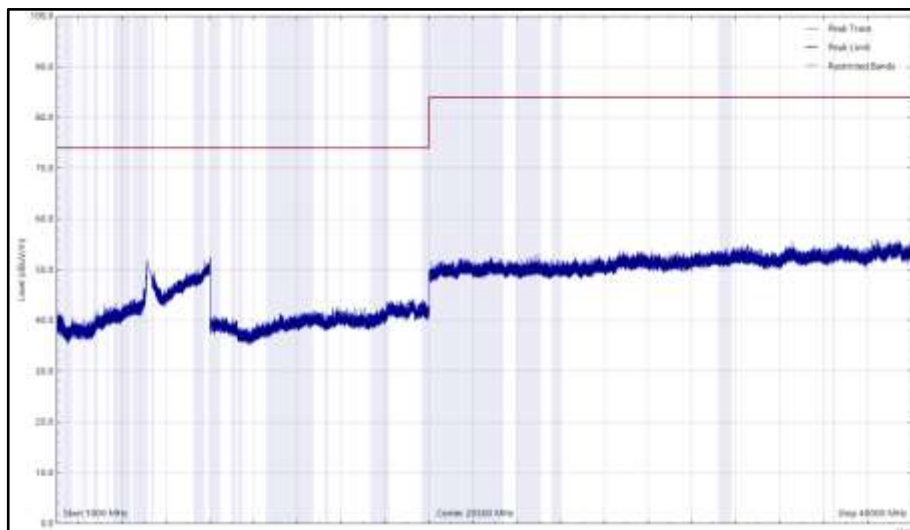


Figure 988 - U-NII-1 - 5180 MHz (CH36), HT20, CDD, Core 0 + Core 1, 1 GHz to 40 GHz, Horizontal (Peak)

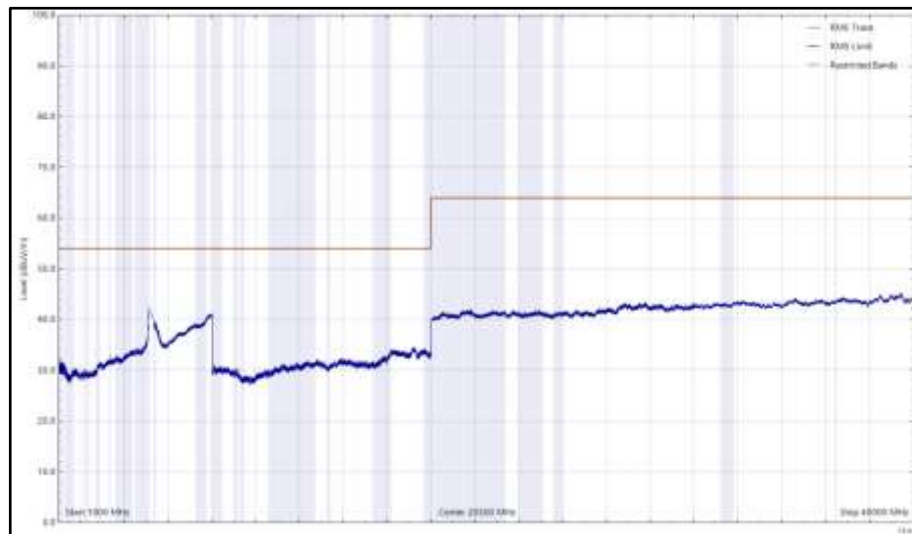


Figure 989 - U-NII-1 - 5180 MHz (CH36), HT20, CDD, Core 0 + Core 1, 1 GHz to 40 GHz, Horizontal (RMS)

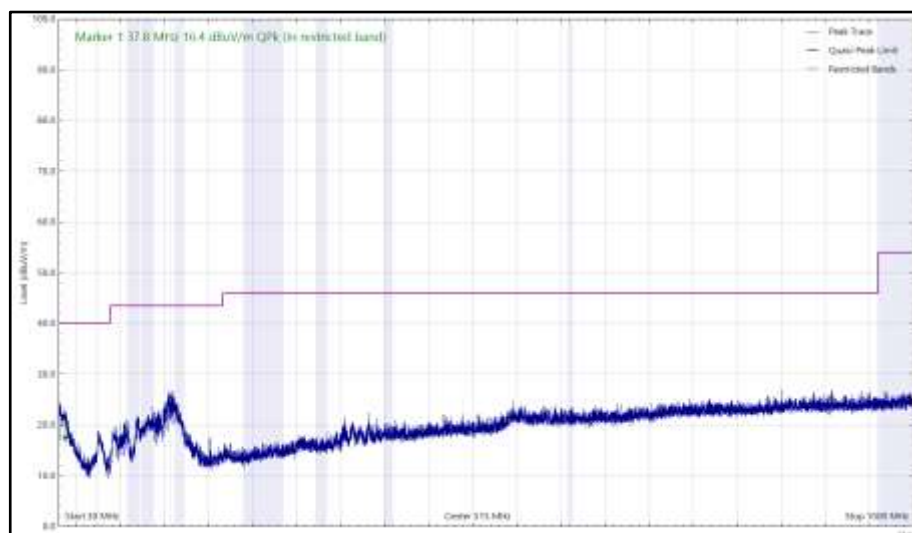


Figure 990 - U-NII-1 - 5180 MHz (CH36), HT20, CDD, Core 0 + Core 1, 30 MHz to 1 GHz, Vertical (Peak)

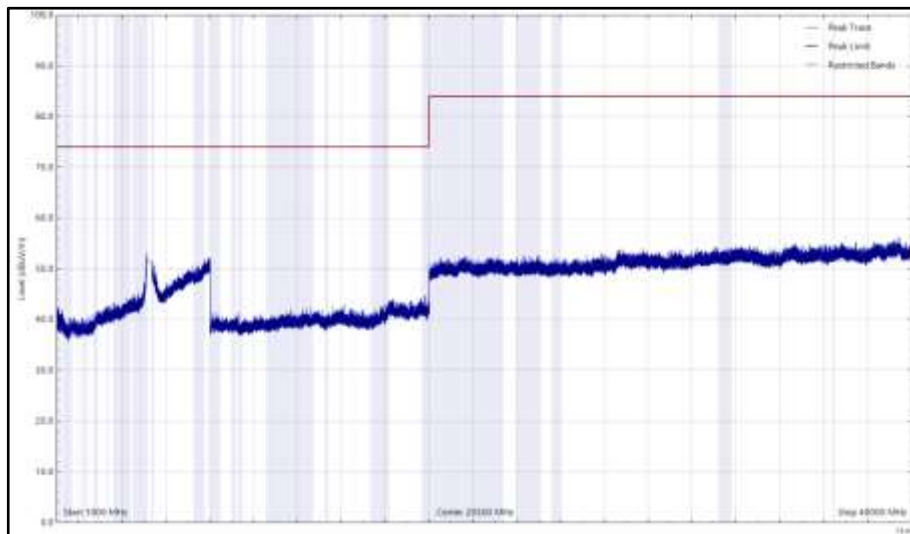


Figure 991 - U-NII-1 - 5180 MHz (CH36), HT20, CDD, Core 0 + Core 1, 1 GHz to 40 GHz, Vertical (Peak)

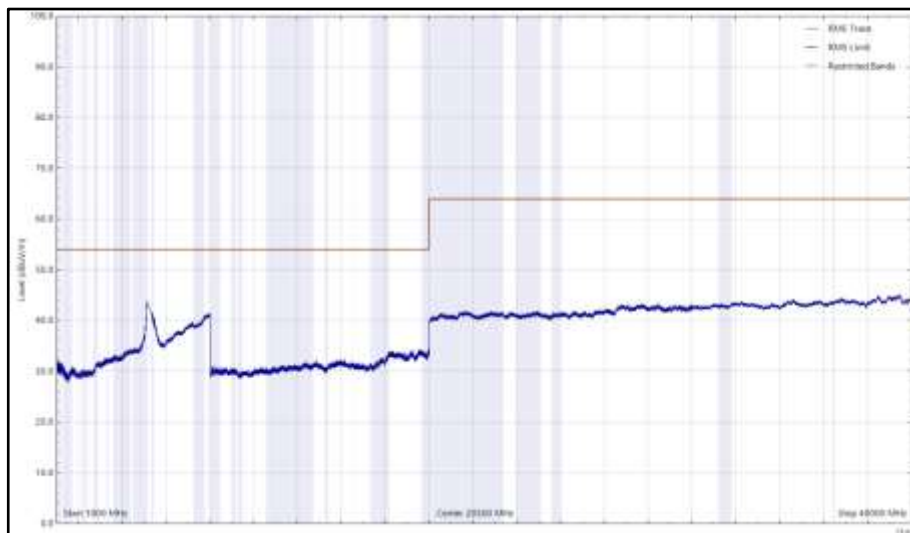


Figure 992 - U-NII-1 - 5180 MHz (CH36), HT20, CDD, Core 0 + Core 1, 1 GHz to 40 GHz, Vertical (RMS)



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

Table 599 - U-NII-2A - 5320 MHz (CH64), HT20, CDD, Core 0 + Core 1, 1 GHz to 40 GHz

*No emissions found within 6 dB of the limit.

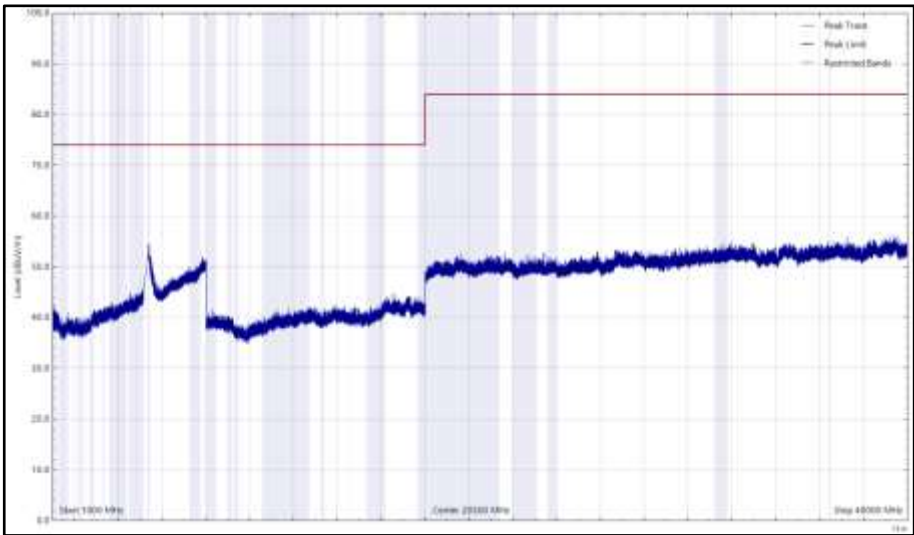


Figure 993 - U-NII-2A - 5320 MHz (CH64), HT20, CDD, Core 0 + Core 1, 1 GHz to 40 GHz, Horizontal (Peak)

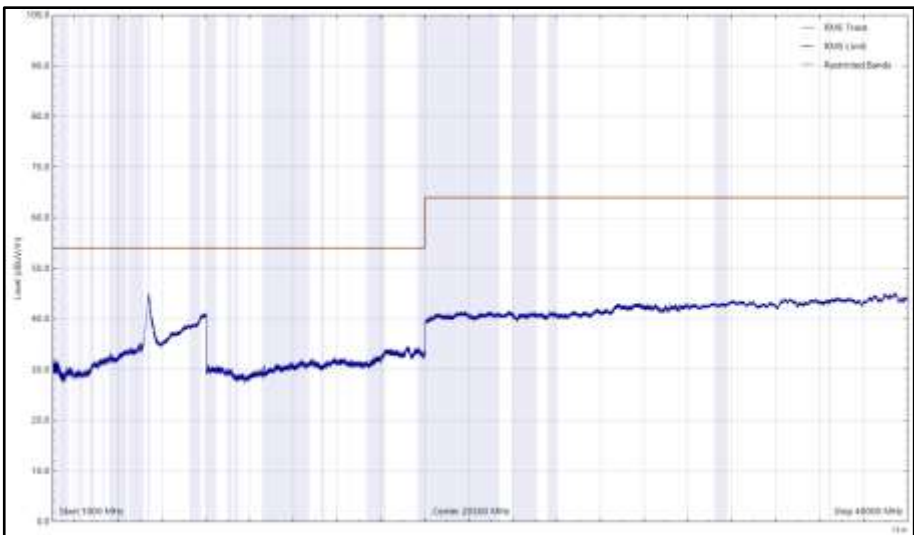


Figure 994 - U-NII-2A - 5320 MHz (CH64), HT20, CDD, Core 0 + Core 1, 1 GHz to 40 GHz, Horizontal (RMS)

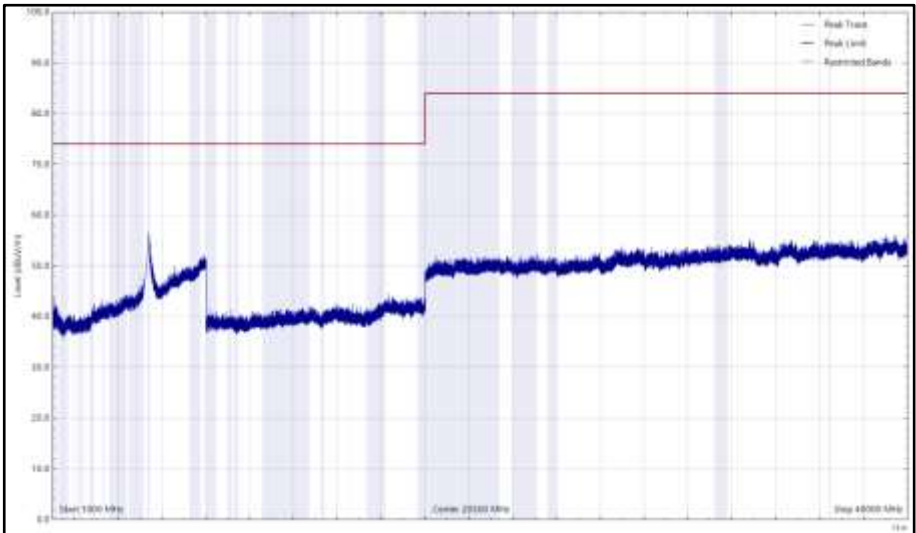


Figure 995 - U-NII-2A - 5320 MHz (CH64), HT20, CDD, Core 0 + Core 1, 1 GHz to 40 GHz, Vertical (Peak)

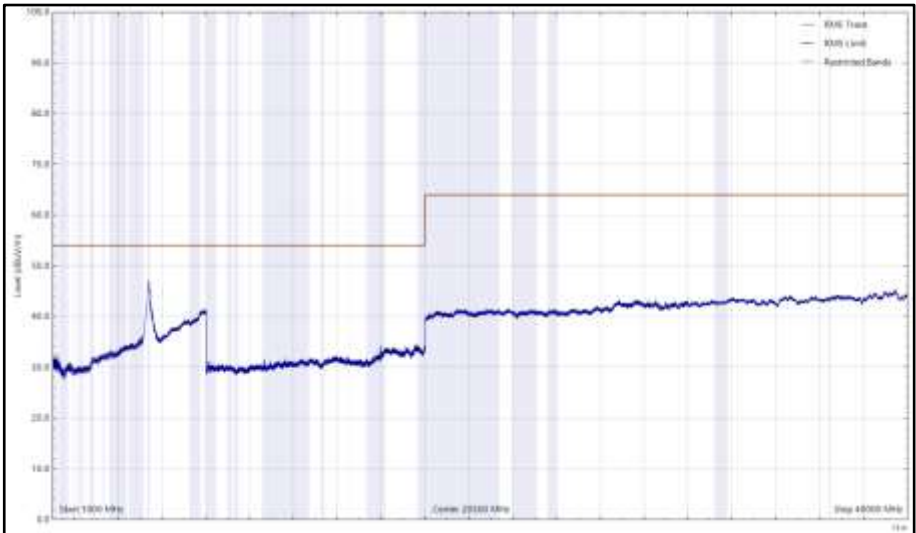


Figure 996 - U-NII-2A - 5320 MHz (CH64), HT20, CDD, Core 0 + Core 1, 1 GHz to 40 GHz, Vertical (RMS)



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

Table 600 - U-NII-2C - 5500 MHz (CH100), HT20, CDD, Core 0 + Core 1, 1 GHz to 40 GHz

*No emissions found within 6 dB of the limit.

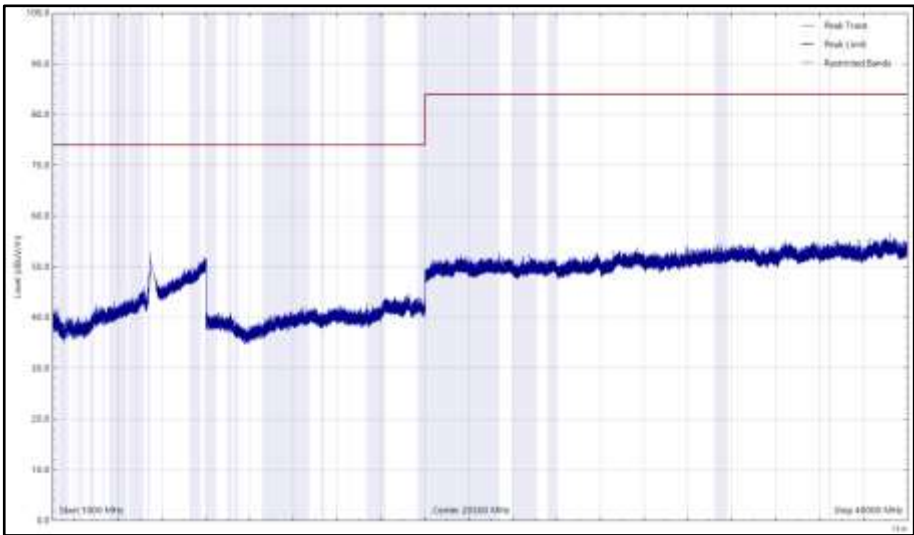


Figure 997 - U-NII-2C - 5500 MHz (CH100), HT20, CDD, Core 0 + Core 1, 1 GHz to 40 GHz, Horizontal (Peak)

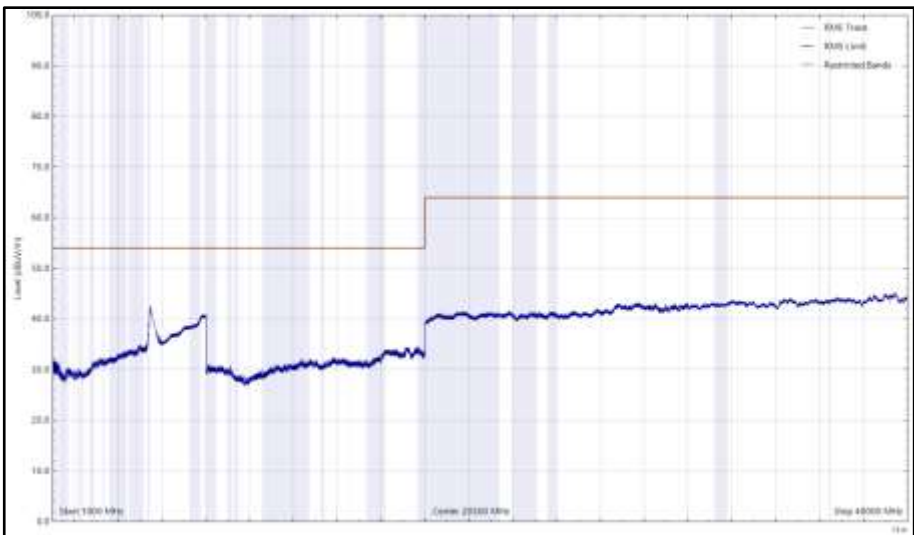


Figure 998 - U-NII-2C - 5500 MHz (CH100), HT20, CDD, Core 0 + Core 1, 1 GHz to 40 GHz, Horizontal (RMS)

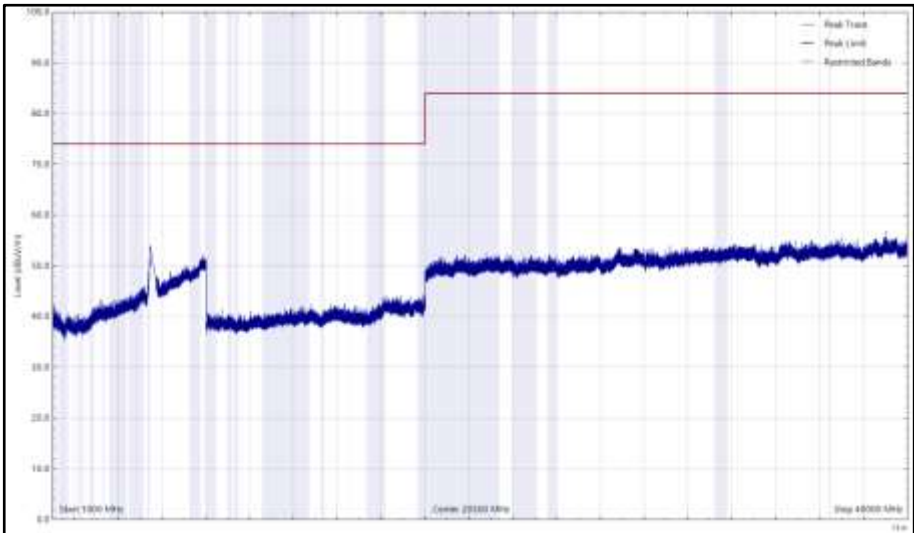


Figure 999 - U-NII-2C - 5500 MHz (CH100), HT20, CDD, Core 0 + Core 1, 1 GHz to 40 GHz, Vertical (Peak)

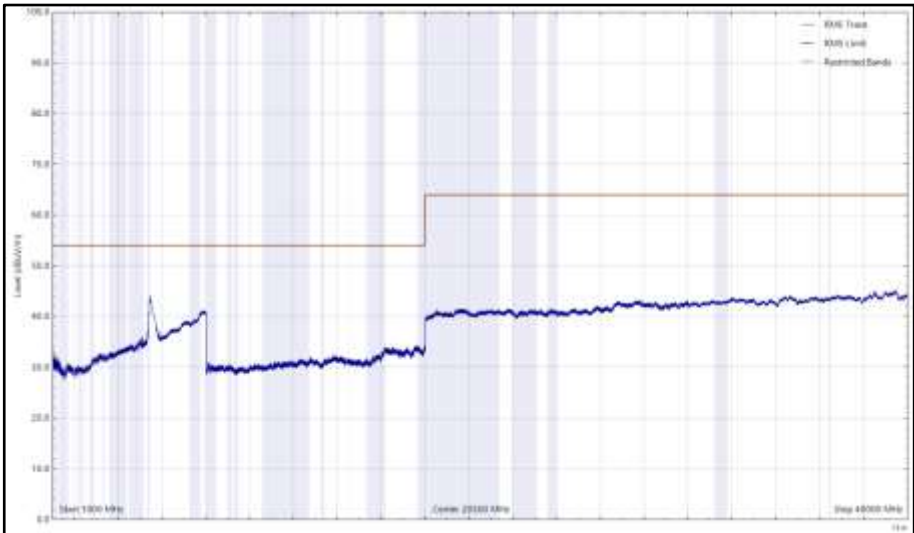


Figure 1000 - U-NII-2C - 5500 MHz (CH100), HT20, CDD, Core 0 + Core 1, 1 GHz to 40 GHz, Vertical (RMS)

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

Table 601 - U-NII-2C - 5700 MHz (CH140), HT20, CDD, Core 0 + Core 1, 1 GHz to 40 GHz

*No emissions found within 6 dB of the limit.

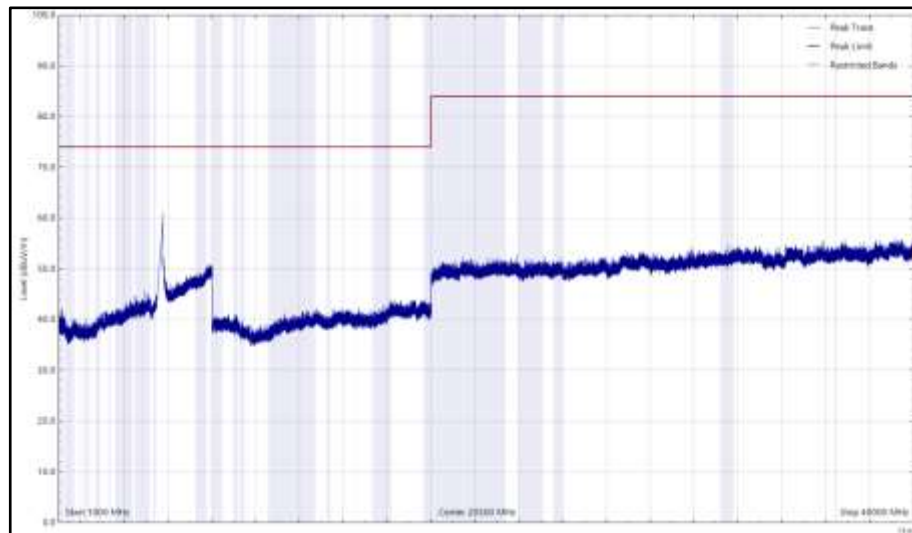


Figure 1001 - U-NII-2C - 5700 MHz (CH140), HT20, CDD, Core 0 + Core 1, 1 GHz to 40 GHz, Horizontal (Peak)

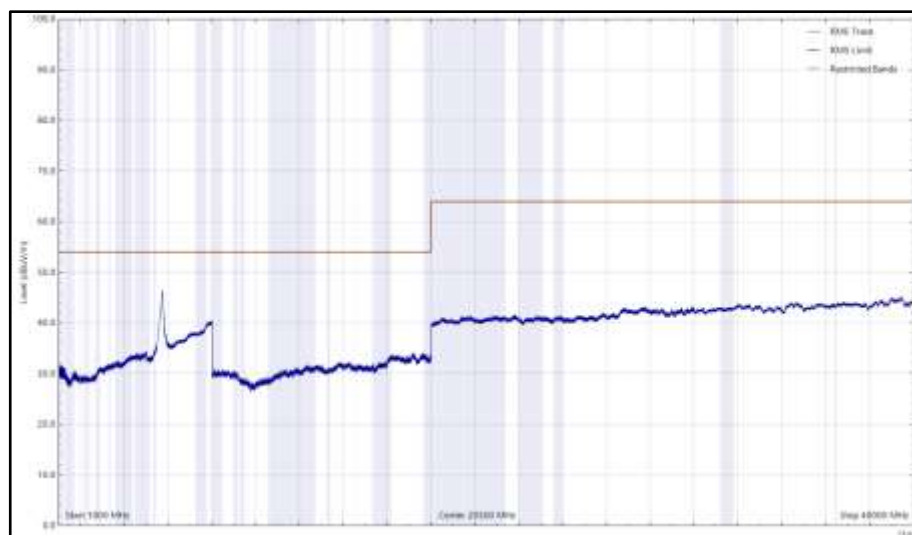


Figure 1002 - U-NII-2C - 5700 MHz (CH140), HT20, CDD, Core 0 + Core 1, 1 GHz to 40 GHz, Horizontal (RMS)

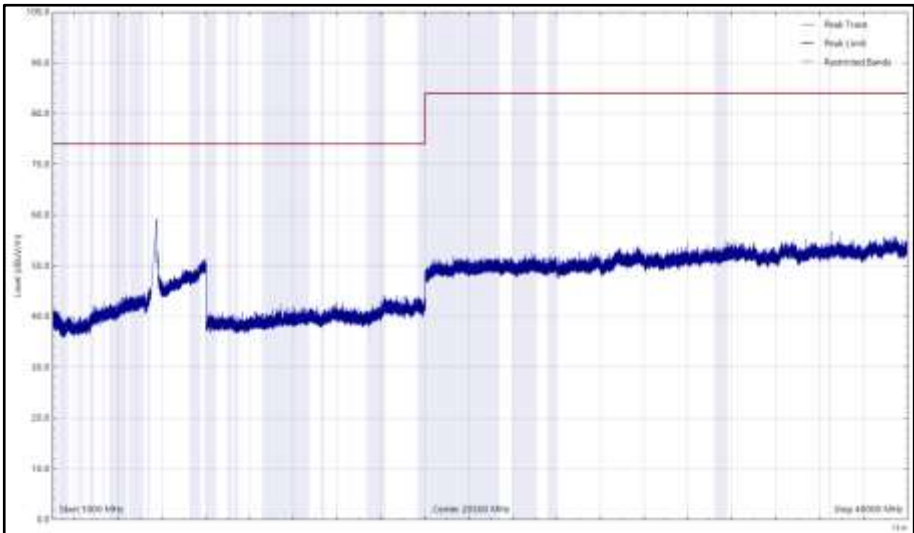


Figure 1003 - U-NII-2C - 5700 MHz (CH140), HT20, CDD, Core 0 + Core 1, 1 GHz to 40 GHz, Vertical (Peak)

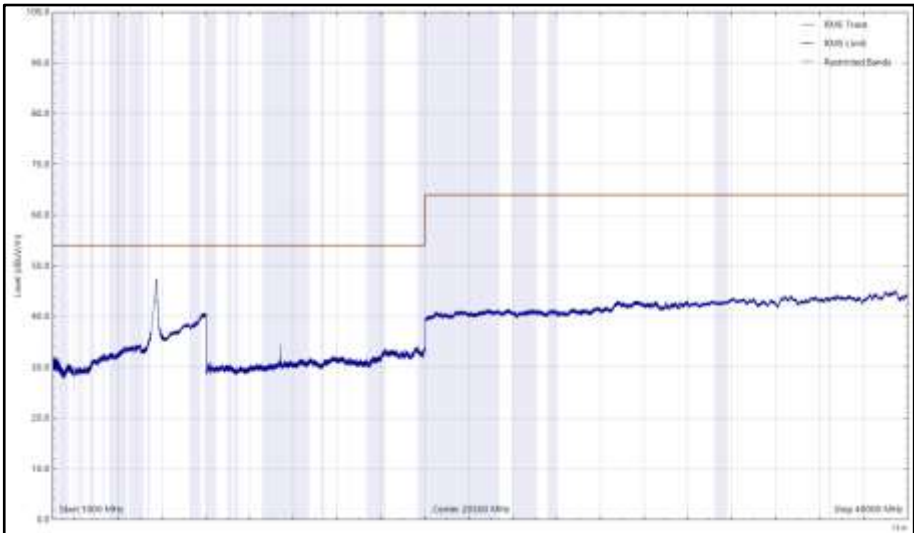


Figure 1004 - U-NII-2C - 5700 MHz (CH140), HT20, CDD, Core 0 + Core 1, 1 GHz to 40 GHz, Vertical (RMS)



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

Table 602 - U-NII-3 - 5745 MHz (CH149), HT20, CDD, Core 0 + Core 1, 1 GHz to 40 GHz

*No emissions found within 6 dB of the limit.

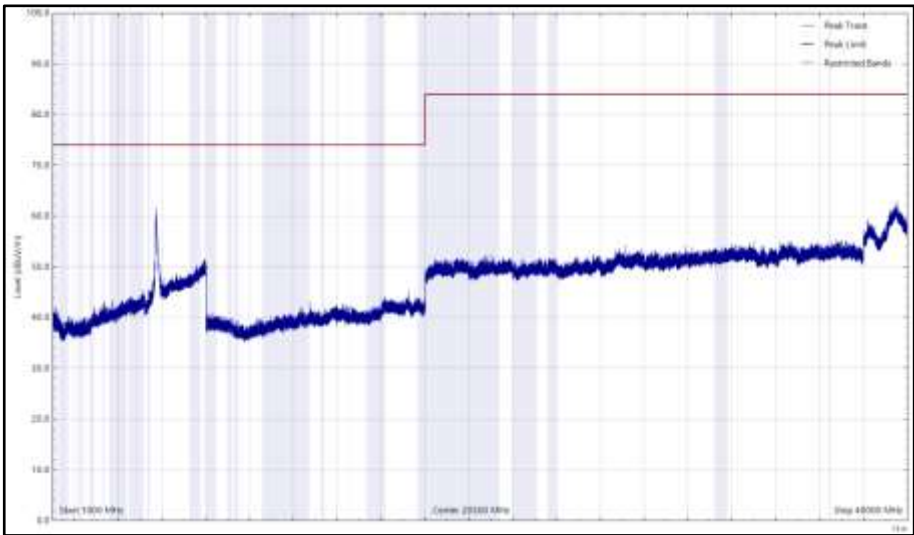


Figure 1005 - U-NII-3 - 5745 MHz (CH149), HT20, CDD, Core 0 + Core 1, 1 GHz to 40 GHz, Horizontal (Peak)

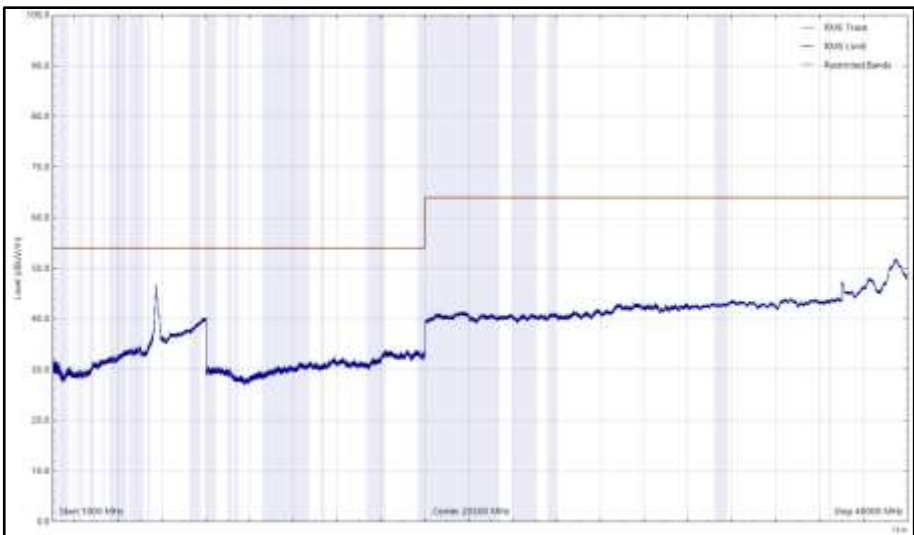


Figure 1006 - U-NII-3 - 5745 MHz (CH149), HT20, CDD, Core 0 + Core 1, 1 GHz to 40 GHz, Horizontal (RMS)

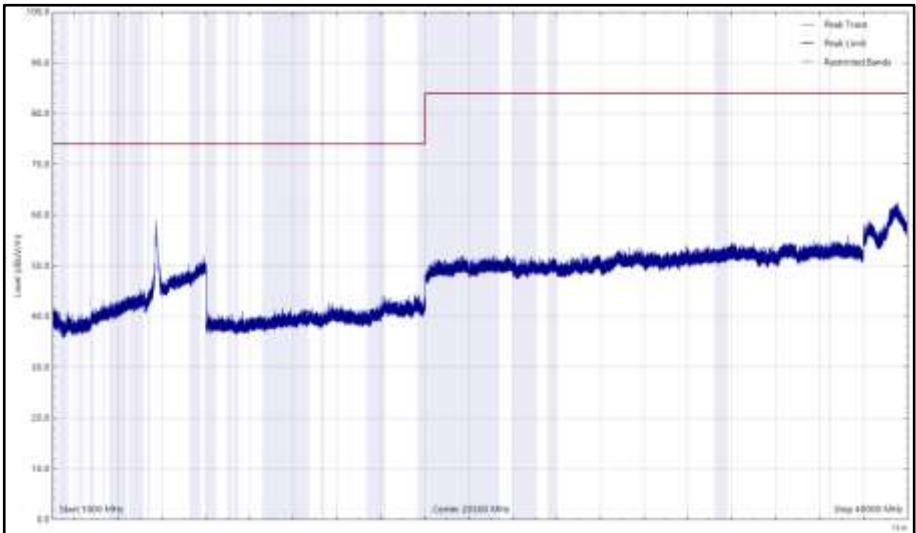


Figure 1007 - U-NII-3 - 5745 MHz (CH149), HT20, CDD, Core 0 + Core 1, 1 GHz to 40 GHz, Vertical (Peak)

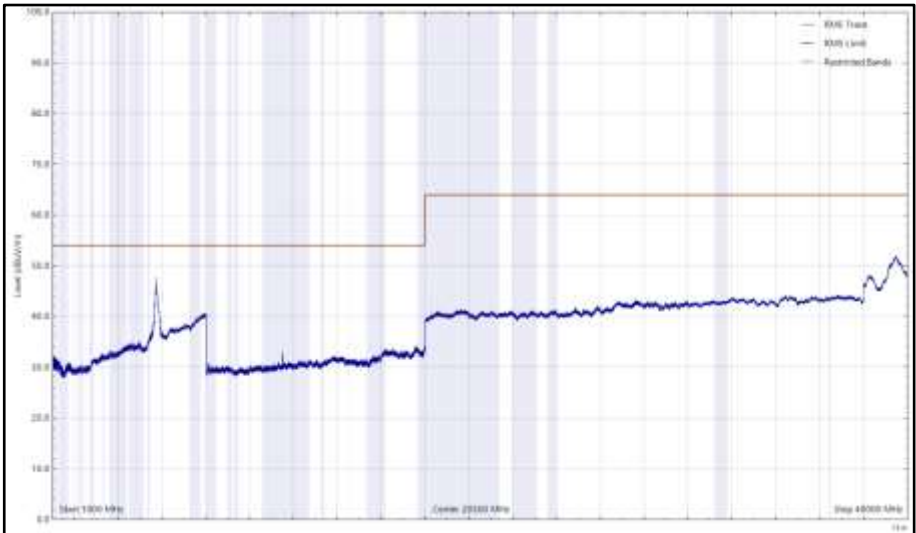


Figure 1008 - U-NII-3 - 5745 MHz (CH149), HT20, CDD, Core 0 + Core 1, 1 GHz to 40 GHz, Vertical (RMS)

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

Table 603 - U-NII-3 - 5825 MHz (CH165), HT20, CDD, Core 0 + Core 1, 30 MHz to 40 GHz

*No emissions found within 6 dB of the limit.

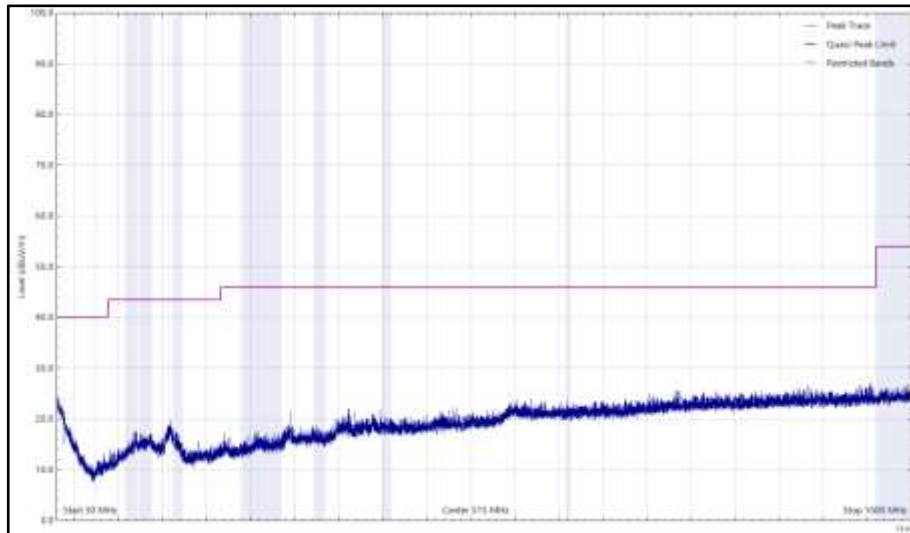


Figure 1009 - U-NII-3 - 5825 MHz (CH165), HT20, CDD, Core 0 + Core 1, 30 MHz to 1 GHz, Horizontal (Peak)

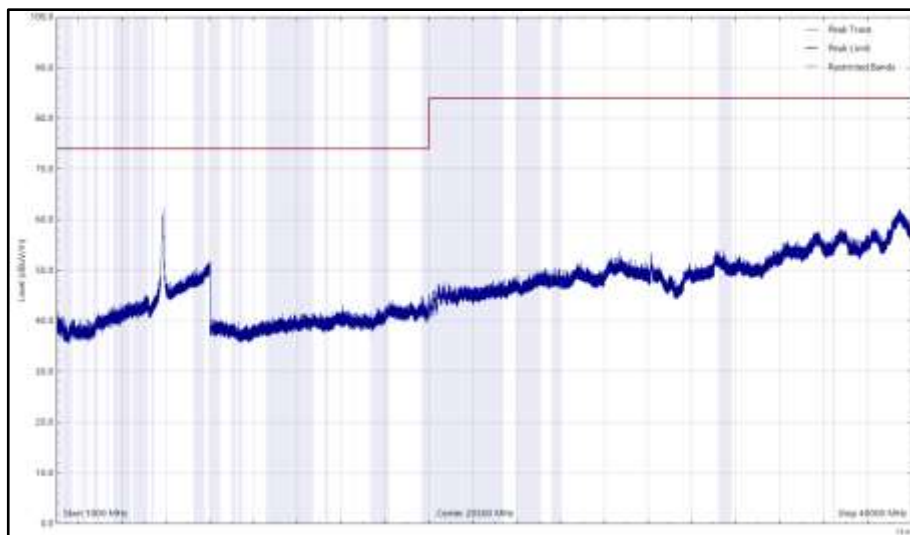


Figure 1010 - U-NII-3 - 5825 MHz (CH165), HT20, CDD, Core 0 + Core 1, 1 GHz to 40 GHz, Horizontal (Peak)

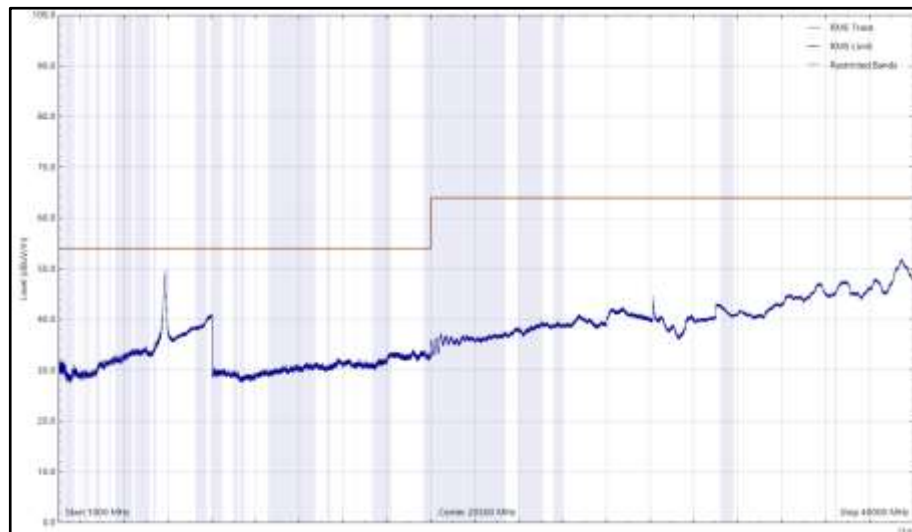


Figure 1011 - U-NII-3 - 5825 MHz (CH165), HT20, CDD, Core 0 + Core 1, 1 GHz to 40 GHz, Horizontal (RMS)

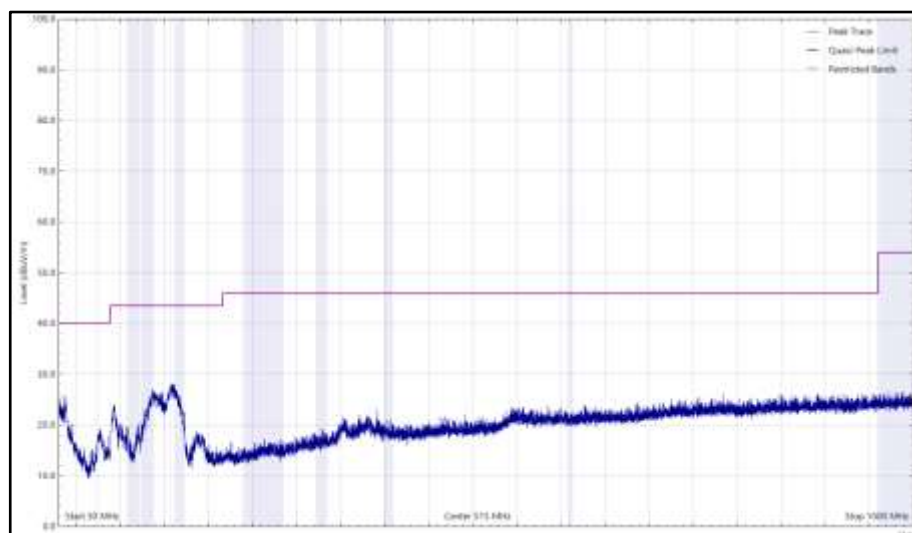


Figure 1012 - U-NII-3 - 5825 MHz (CH165), HT20, CDD, Core 0 + Core 1, 30 MHz to 1 GHz, Vertical (Peak)

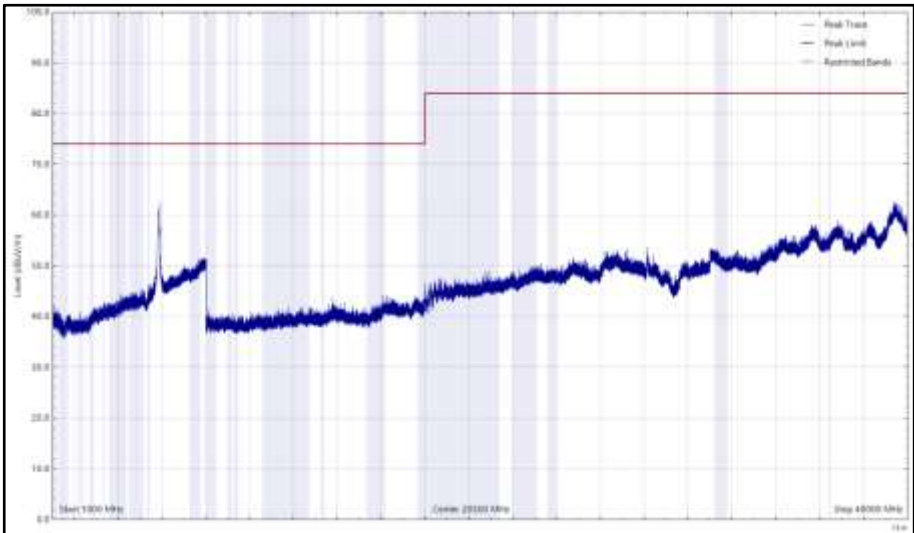


Figure 1013 - U-NII-3 - 5825 MHz (CH165), HT20, CDD, Core 0 + Core 1, 1 GHz to 40 GHz, Vertical (Peak)



Figure 1014 - U-NII-3 - 5825 MHz (CH165), HT20, CDD, Core 0 + Core 1, 1 GHz to 40 GHz, Vertical (RMS)

Frequency (MHz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Angle (°)	Height (cm)	Polarisation
37.567	15.0	40.0	-25.0	Q-Peak	116	257	Horizontal

Table 604 - 5180 MHz (CH36), HE20, RU26-0, Core 0 + Core 1, 30 MHz to 40 GHz

No other emissions found within 6 dB of the limit.

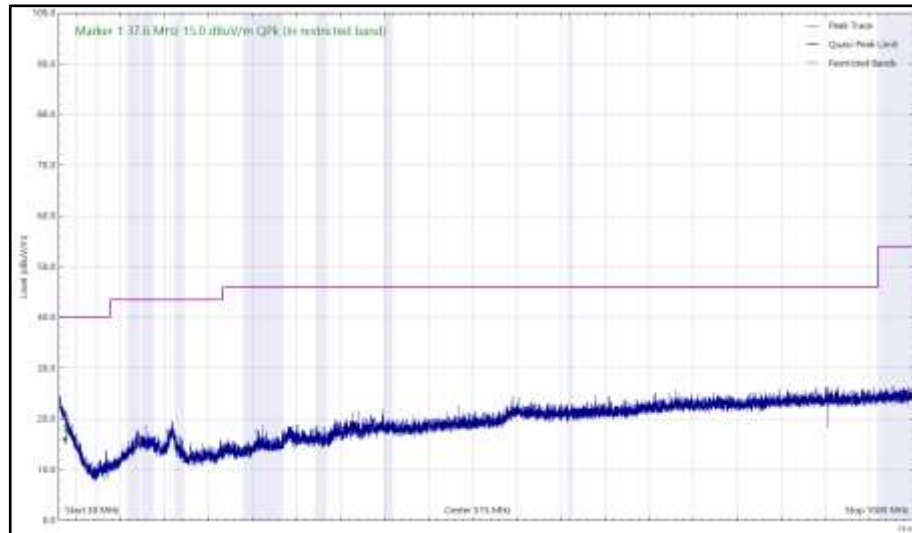


Figure 1015 - 5180 MHz (CH36), HE20, RU26-0, Core 0 + Core 1, 30 MHz to 1 GHz, Horizontal (Peak)

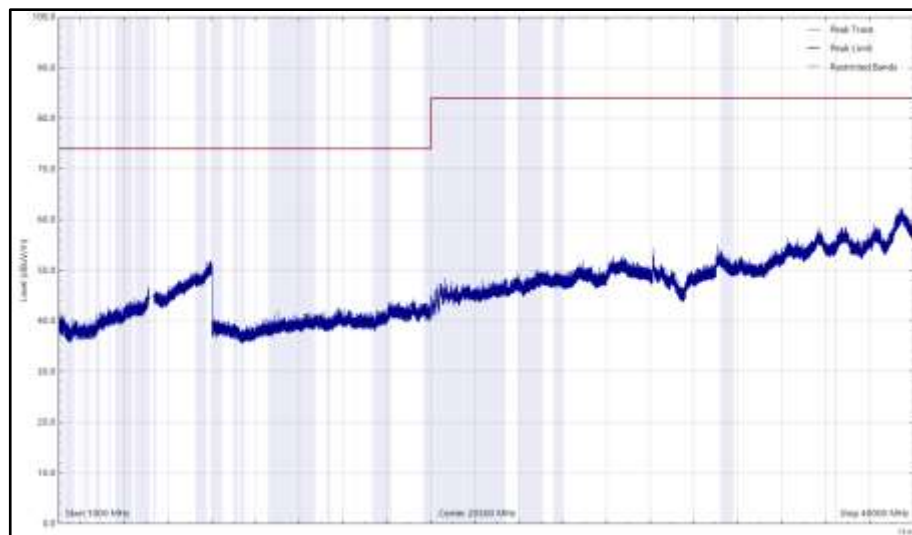


Figure 1016 - 5180 MHz (CH36), HE20, RU26-0, Core 0 + Core 1, 1 GHz to 40 GHz, Horizontal (Peak)

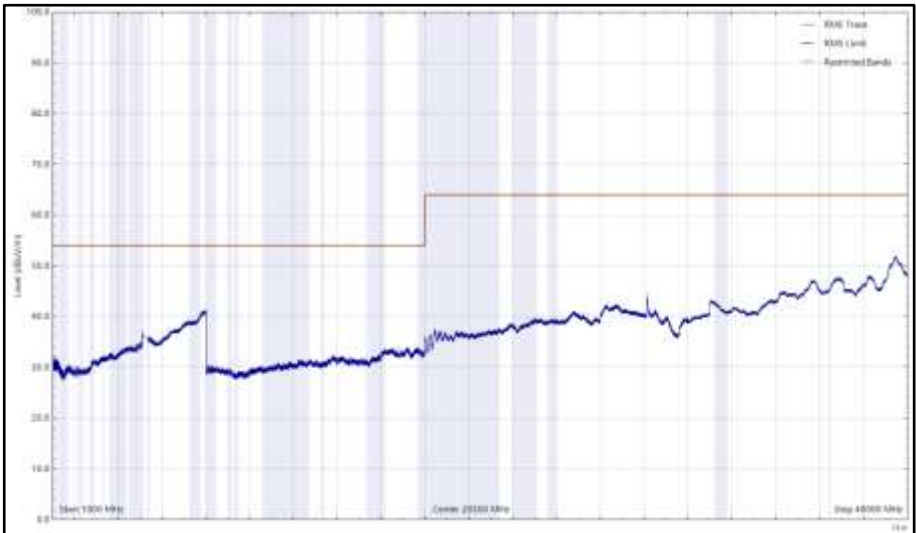


Figure 1017 - 5180 MHz (CH36), HE20, RU26-0, Core 0 + Core 1, 1 GHz to 40 GHz, Horizontal (RMS)

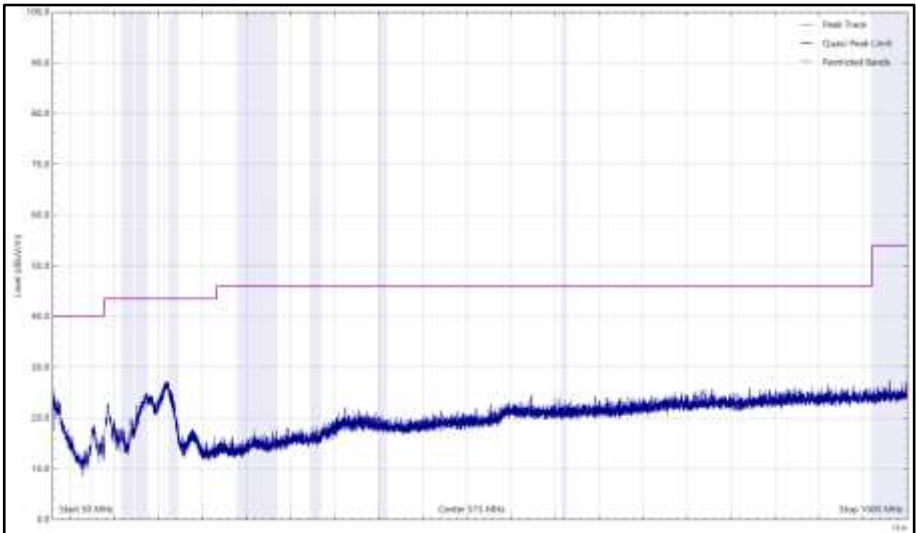


Figure 1018 - 5180 MHz (CH36), HE20, RU26-0, Core 0 + Core 1, 30 MHz to 1 GHz, Vertical (Peak)

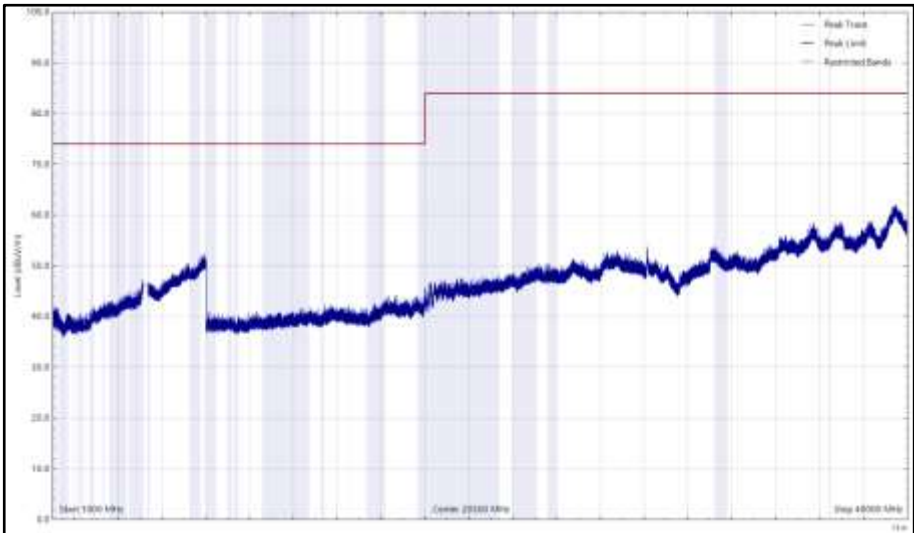


Figure 1019 - 5180 MHz (CH36), HE20, RU26-0, Core 0 + Core 1, 1 GHz to 40 GHz, Vertical (Peak)

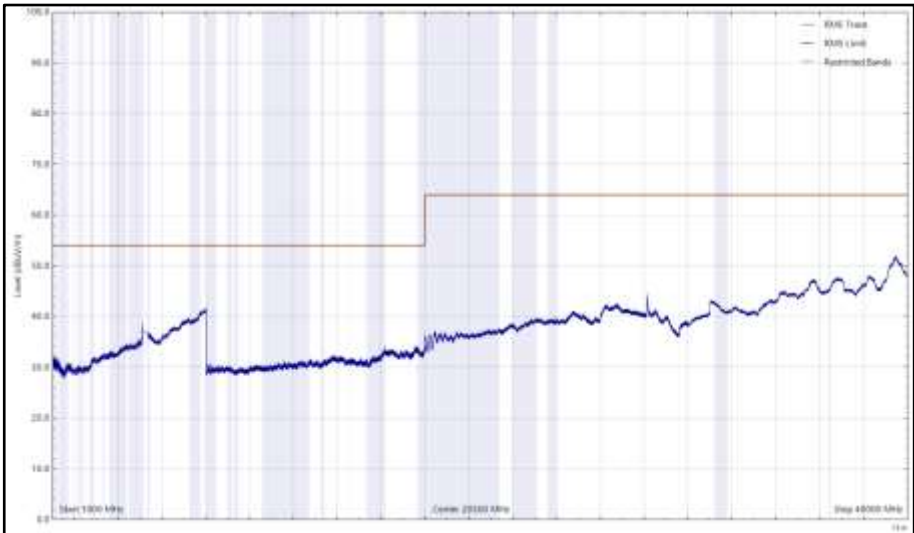


Figure 1020 - 5180 MHz (CH36), HE20, RU26-0, Core 0 + Core 1, 1 GHz to 40 GHz, Vertical (RMS)

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

Table 605 - 5745 MHz (CH149), HE20, RU26-0, Core 0 + Core 1, 1 GHz to 40 GHz

*No emissions found within 6 dB of the limit.

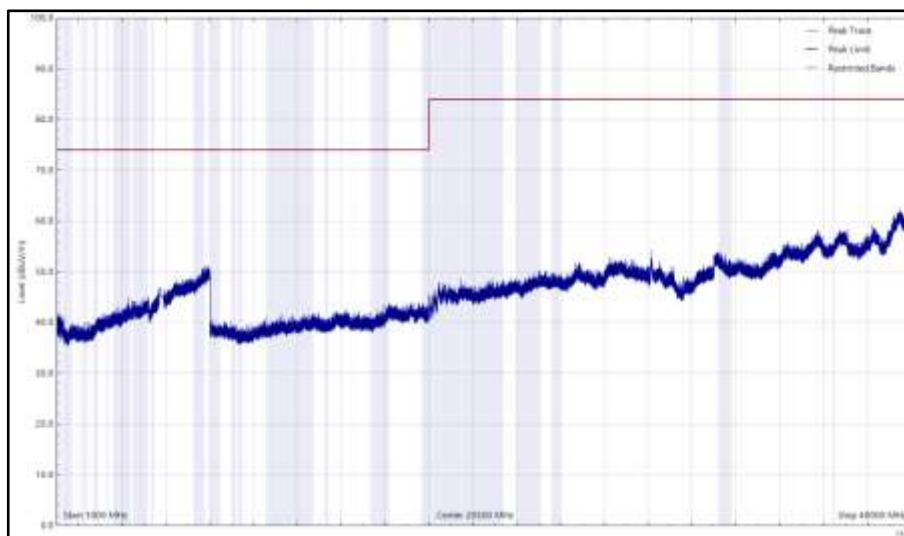


Figure 1021 - 5745 MHz (CH149), HE20, RU26-0, Core 0 + Core 1, 1 GHz to 40 GHz, Horizontal (Peak)

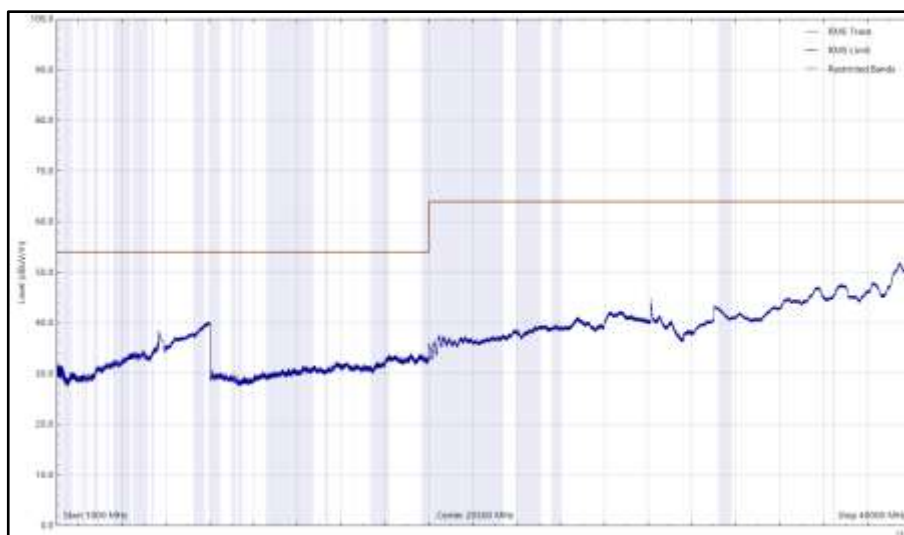


Figure 1022 - 5745 MHz (CH149), HE20, RU26-0, Core 0 + Core 1, 1 GHz to 40 GHz, Horizontal (RMS)

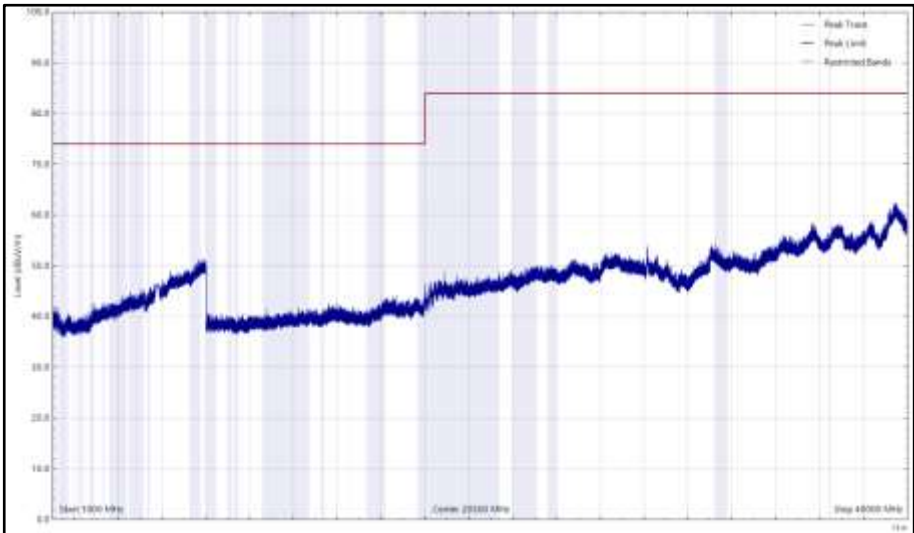


Figure 1023 - 5745 MHz (CH149), HE20, RU26-0, Core 0 + Core 1, 1 GHz to 40 GHz, Vertical (Peak)

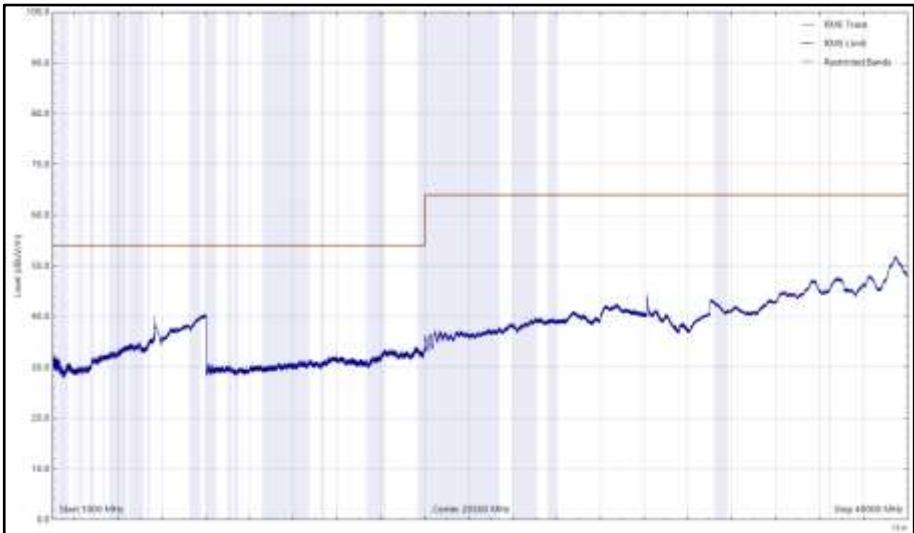


Figure 1024 - 5745 MHz (CH149), HE20, RU26-0, Core 0 + Core 1, 1 GHz to 40 GHz, Vertical (RMS)

Frequency (MHz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Angle (°)	Height (cm)	Polarisation
37.881	14.9	40.0	-25.1	Q-Peak	101	109	Horizontal

Table 606 - 5240 MHz (CH48), HE20, RU26-0, Core 0 + Core 1, 30 MHz to 40 GHz

No other emissions found within 6 dB of the limit.

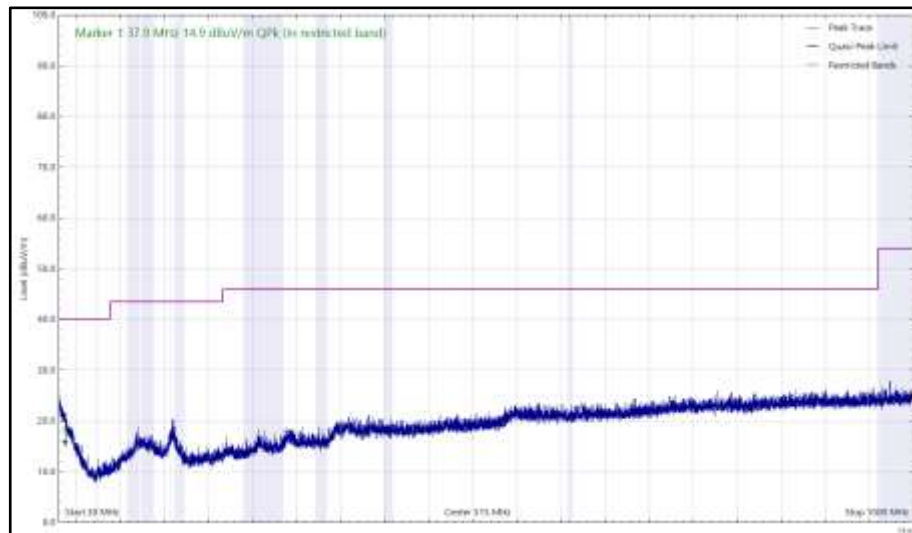


Figure 1025 - 5240 MHz (CH48), HE20, RU26-0, Core 0 + Core 1, 30 MHz to 1 GHz, Horizontal (Peak)

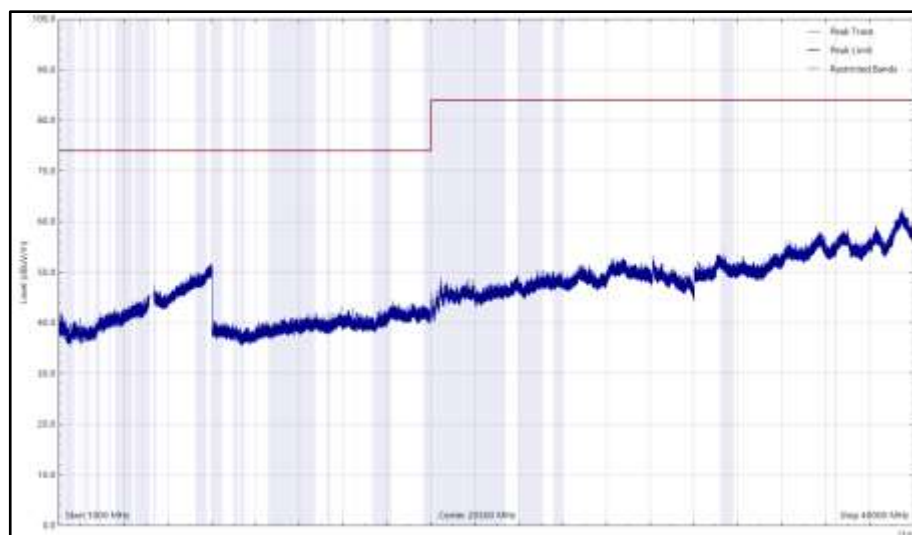


Figure 1026 - 5240 MHz (CH48), HE20, RU26-0, Core 0 + Core 1, 1 GHz to 40 GHz, Horizontal (Peak)

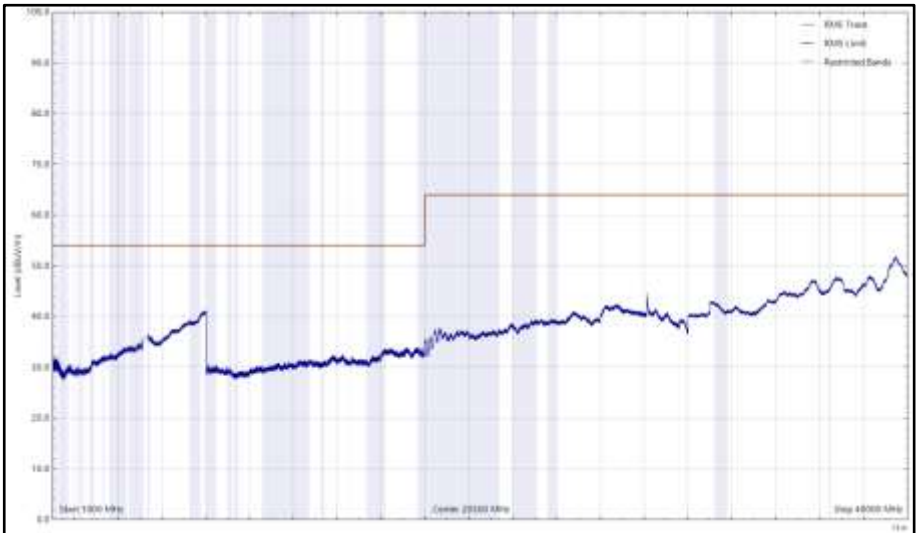


Figure 1027 - 5240 MHz (CH48), HE20, RU26-0, Core 0 + Core 1, 1 GHz to 40 GHz, Horizontal (RMS)

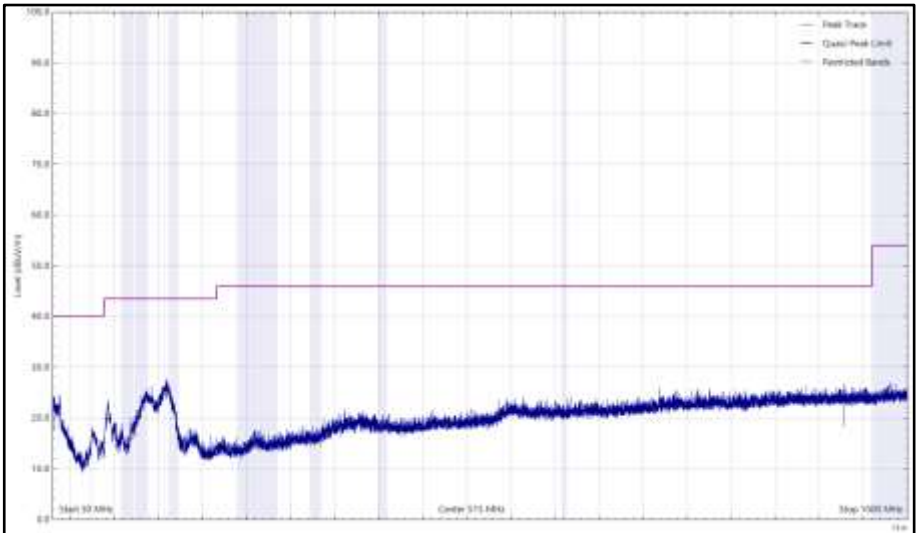


Figure 1028 - 5240 MHz (CH48), HE20, RU26-0, Core 0 + Core 1, 30 MHz to 1 GHz, Vertical (Peak)

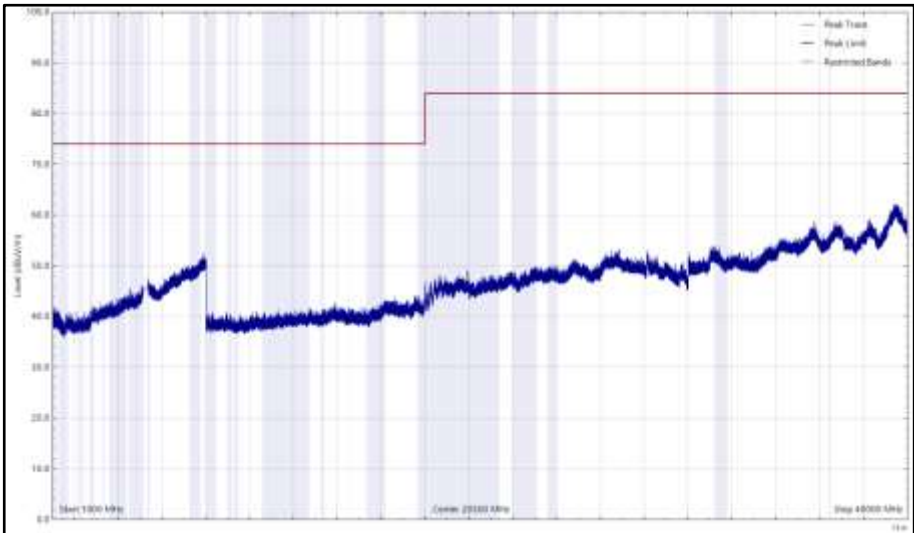


Figure 1029 - 5240 MHz (CH48), HE20, RU26-0, Core 0 + Core 1, 1 GHz to 40 GHz, Vertical (Peak)

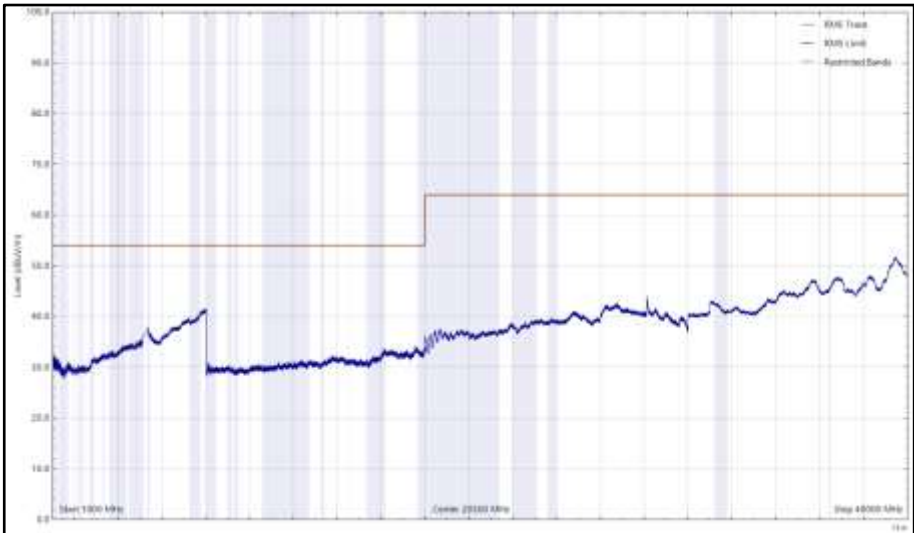


Figure 1030 - 5240 MHz (CH48), HE20, RU26-0, Core 0 + Core 1, 1 GHz to 40 GHz, Vertical (RMS)

Frequency (MHz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Angle (°)	Height (cm)	Polarisation
33.823	16.3	40.0	-23.7	Q-Peak	122	100	Vertical
37.898	14.9	40.0	-25.1	Q-Peak	26	100	Horizontal

Table 607 - 5825 MHz (CH165), HE20, RU26-0, Core 0 + Core 1, 30 MHz to 40 GHz

No other emissions found within 6 dB of the limit.

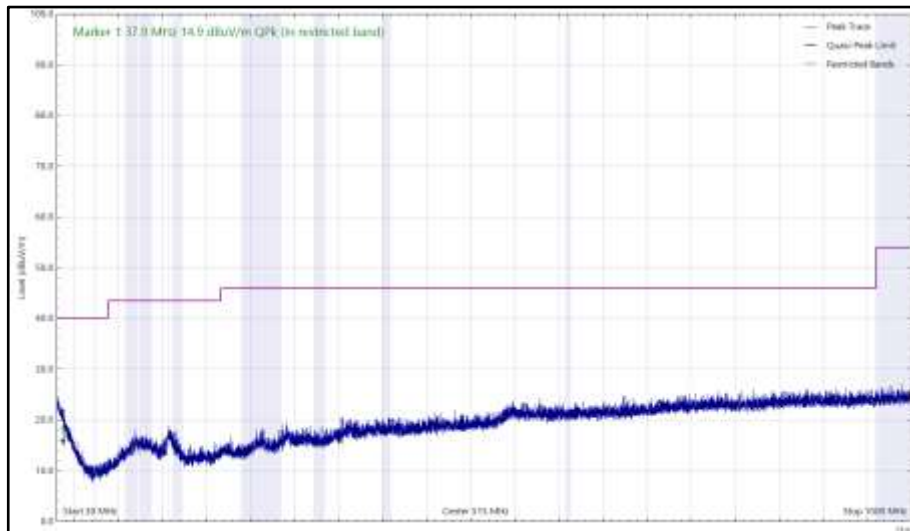


Figure 1031 - 5825 MHz (CH165), HE20, RU26-0, Core 0 + Core 1, 30 MHz to 1 GHz, Horizontal (Peak)

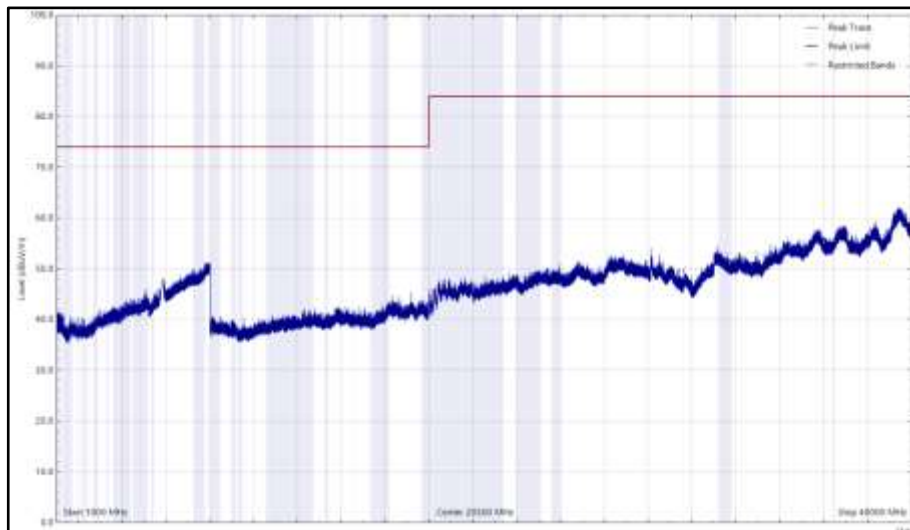


Figure 1032 - 5825 MHz (CH165), HE20, RU26-0, Core 0 + Core 1, 1 GHz to 40 GHz, Horizontal (Peak)

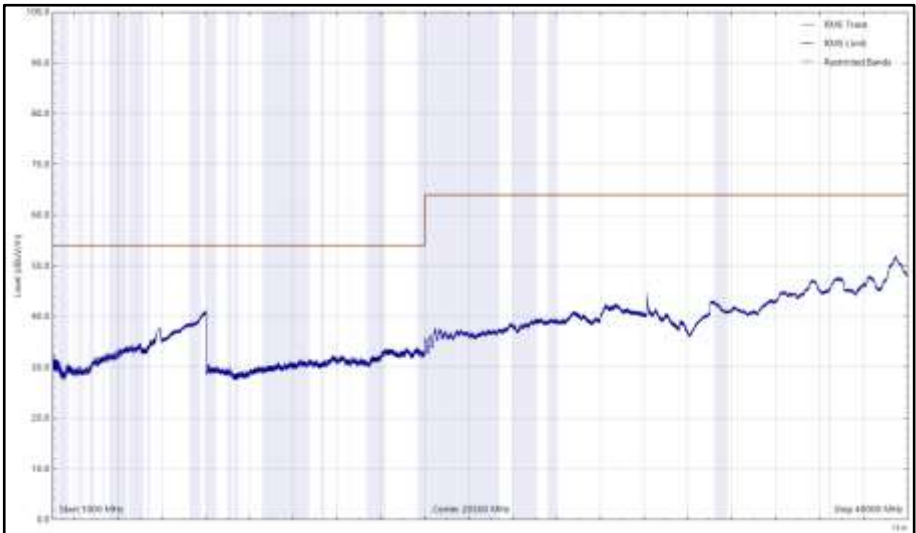


Figure 1033 - 5825 MHz (CH165), HE20, RU26-0, Core 0 + Core 1, 1 GHz to 40 GHz, Horizontal (RMS)

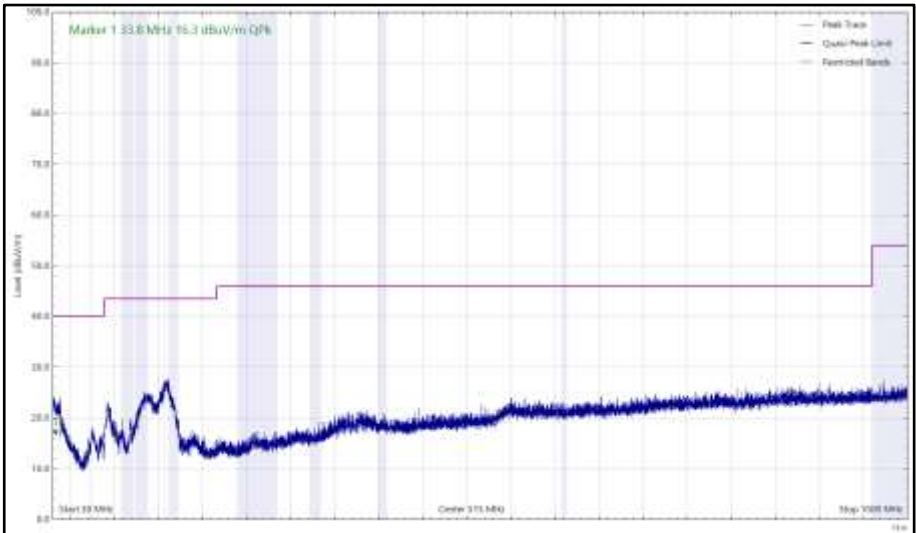


Figure 1034 - 5825 MHz (CH165), HE20, RU26-0, Core 0 + Core 1, 30 MHz to 1 GHz, Vertical (Peak)

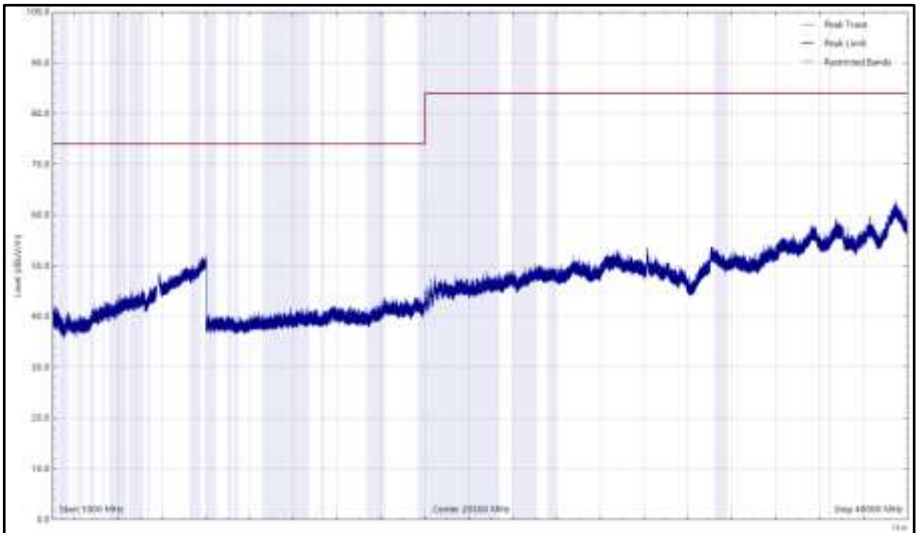


Figure 1035 - 5825 MHz (CH165), HE20, RU26-0, Core 0 + Core 1, 1 GHz to 40 GHz, Vertical (Peak)

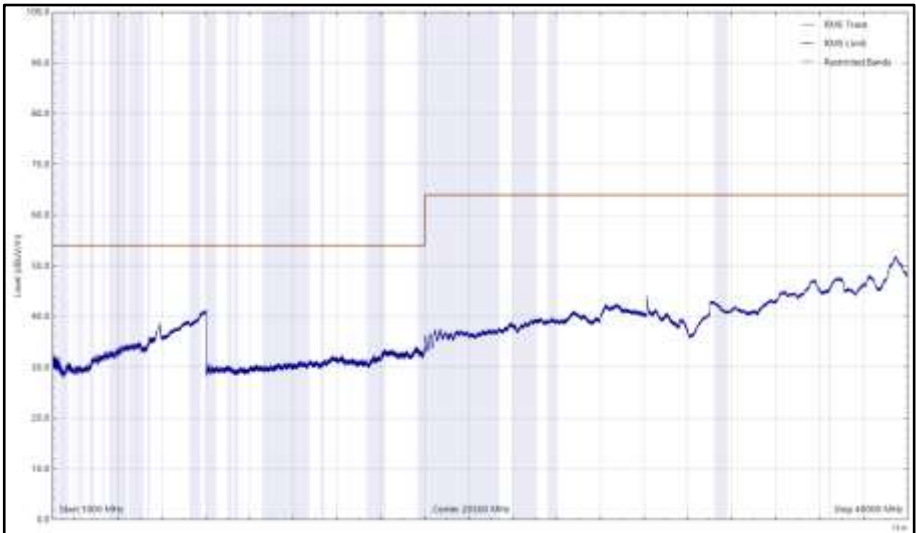


Figure 1036 - 5825 MHz (CH165), HE20, RU26-0, Core 0 + Core 1, 1 GHz to 40 GHz, Vertical (RMS)



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 ($\mu\text{V}/\text{m}$)	Measurement Distance (m)
0.009 to 0.490	2400/F(kHz)	300
0.490 to 1.705	24000/F(kHz)	30
1.705 to 30	30	30
30 to 88	100	3
88 to 216	150	3
216 to 960	200	3
Above 960	500	3

Table 608 - 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 Industry Canada 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 not falling within the restricted bands listed in Industry Canada RSS-GEN, Clause 8.10:

Frequency (MHz)	Field Strength ($\mu\text{V/m}$)
0.009 to 0.490	2400/F(kHz)
0.490 to 1.705	24000/F(kHz)
1.705 to 30	30
30 to 88	100
88 to 216	150
216 to 960	200
Above 960	500

Table 609 - Radiated Emissions Limit Table (ISED)

2.6.8 Test Location and Test Equipment Used

This test was carried out in EMC Chamber 5.

Instrument	Manufacturer	Type No	TE No	Calibration Period (months)	Calibration Due
Screened Room (5)	Rainford	Rainford	1545	36	23-Jan-2021
Turntable Controller	Inn-Co GmbH	CO 1000	1606	-	TU
Antenna with permanent attenuator (Bilog)	Chase	CBL6143	2904	24	30-Sep-2021
Mast Controller	Maturo GmbH	NCD	4810	-	TU
Double Ridge Broadband Horn Antenna	Schwarzbeck	BBHA 9120 B	4848	12	10-Mar-2021



Instrument	Manufacturer	Type No	TE No	Calibration Period (months)	Calibration Due
Band Reject Filter - 5.795 GHz	Wainwright	WRCJV10-5725-5755-5835-5865-50SS	5071	12	26-Sep-2020
Band Reject Filter - 5.22 GHz	Wainwright	WRCJV12-5120-5150-5290-5320-50SS	5073	12	24-Sep-2020
Band Reject Filter - 5.28 GHz	Wainwright	WRCJV12-5180-5210-5350-5380-50SS	5075	12	30-Sep-2021
Band Reject Filter - 5.775 GHz	Wainwright	WRCJV10-5700-5735-5815-5850-50SS	5077	12	01-Oct-2020
Band Reject Filter - 5.570 GHz	Wainwright	WRCJV10-5440-5490-5650-5700-50SS	5079	12	02-Oct-2020
Band Reject Filter - 5.690 GHz	Wainwright	WRCJV8-5635-5670-5710-5745-50SS	5081	12	25-Sep-2020
Cable (18 GHz)	Rosenberger	LU7-071-1000	5103	12	06-Oct-2020
DRG Horn Antenna (7.5-18GHz)	Schwarzbeck	HWRD750	5216	12	10-Mar-2021
Horn Antenna (15-40GHz)	Schwarzbeck	BBHA 9170	5217	12	12-Oct-2020
Preamplifier (30dB 1GHz to 18GHz)	Schwarzbeck	BBV 9718 C	5261	12	07-Apr-2021
1m -SMA Cable	Junkosha	MWX221-01000AMSAMS/A	5514	12	01-Apr-2021
2m SMA Cable	Junkosha	MWX221-02000AMSAMS/A	5517	12	01-Apr-2021
8m N-Type Cable	Junkosha	MWX221-08000NMSNMS/B	5520	12	24-Mar-2021
2 m K Type Cable	Junkosha	MWX241-02000KMSKMS/A	5523	12	03-Apr-2021
EMI Test Receiver	Rohde & Schwarz	ESW44	5527	12	06-Feb-2021
3 GHz High pass Filter	Wainwright	WHKX12-2580-3000-18000-80SS	5548	12	05-May-2021
7 GHz High pass Filter	Wainwright	WHKX12-5850-6800-18000-80SS	5549	12	23-May-2021
1200 MHz Low Pass Filter (01)	Mini-Circuits	VLF-1200+	5559	12	23-May-2021
8 - 18 GHz Amplifier	Wright Technologies	APS06-0061	5595	12	25-Aug-2021

Table 610

TU - Traceability Unscheduled



2.7 Channel Move Time, Channel Closing Transmission Time and Non-Occupancy Period

2.7.1 Specification Reference

FCC 47 CFR Part 15E, Clause 15.407 (h)(2)(iii)(iv)
ISED RSS-247, Clause 6.3.2(c)(d)(e)

2.7.2 Equipment Under Test and Modification State

A2169, S/N: C07CM0EKQ4TG - Modification State 0

2.7.3 Date of Test

14-July-2020 to 09-February-2021

2.7.4 Test Method

This test was performed in accordance with FCC KDB 905462 D02, clause 7.8.3.

The EUT was configured to run iPerf, transmitting UDP to the client laptop, via the master router. The Bandwidth was adjusted to achieve the correct Channel Loading levels.

Radar Pulse Type 0 was then transmitted, and the Spectrum monitored. The transmissions from the EUT were observed for a period of 12 seconds after the final injected Radar Pulse.

It was checked that all transmissions stopped within the 10 second period defined from the point of the end of the final Radar pulse + 10 seconds. In addition, the aggregate on time during the first 200ms and the following 9.8 seconds of the Channel Move Time was computed by the Aeroflex DFS Software.

The markers on the trace data correspond to the following time periods:

Red - End Of Radar Burst, (T0)
Purple - End Of 200ms Period, (T0 + 200 ms)
Orange - End Of Channel Move Time, (T0 + 10 seconds)

To verify the non-occupancy period, the PXI digitiser was replaced with a spectrum analyser. The external trigger from the Aeroflex DFS test system was used to trigger a 30-minute sweep from the moment the radar burst sequence was injected. It was verified that no transmissions occurred on the test channel during this time period.

2.7.5 Environmental Conditions

Ambient Temperature	21.3 - 22.7 °C
Relative Humidity	19.7 - 59.2 %

2.7.6 Test Results

5 GHz WLAN

802.11ac VHT80

The equipment was set up as shown in the diagram below. The EUT was configured to run iPerf, transmitting UDP to the client laptop. The channel loading was set to >17% by adjusting the bandwidth specified in the iPerf UDP transfer.

To calibrate the level of the radar at the input to the companion device, the companion device was replaced by the spectrum analyser and the output of the PXI RF generator adjusted to give -62 dBm.

Radar Type	Pulse Width (μ s)	PRI (μ s)	Number of Pulses
0	1	1428	18

Table 611 - Radar Pulse Type 0 Characteristics

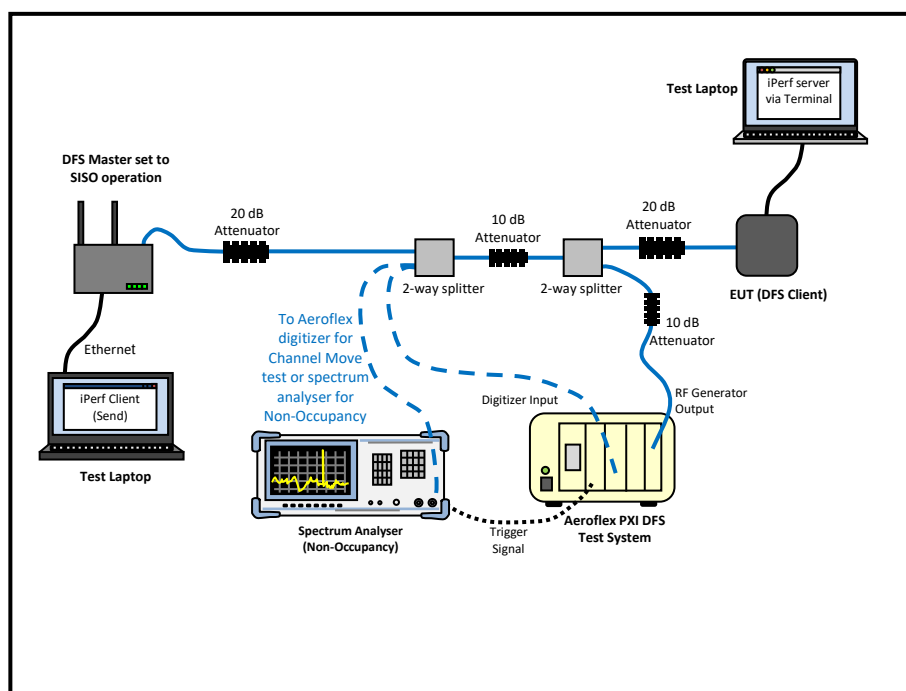


Figure 1037 - Test Equipment Setup Diagram for Client without Radar Detection with Injection at the Master



Figure 1038 - Channel Loading



Figure 1039 - Verification of Radar Type 0

The channel loading was 17.72 %

Maximum Transmit Power	Value (Notes 1 and 2)
≥ 200 milliwatt	-64 dBm
< 200 milliwatt	-62 dBm
Note 1: This is the level at the input of the receiver assuming a 0 dBi receive antenna. Note 2: Throughout these test procedures an additional 1 dB has been added to the amplitude of the test transmission waveforms to account for variations in measurement equipment. This will ensure that the test signal is at or above the detection threshold level to trigger a DFS response.	

Table 612 - DFS Detection Thresholds for Master Devices and Client Devices with Radar Detection

Test Parameter	Result
Channel Move Time	959.9 ms
Channel Closing Time (Aggregate Time During 200 ms)	33.6 ms
Channel Closing Time (Aggregate Time During 200 ms to 10 s)	7.5 ms
Channel Closing Time (Aggregate Time During 10 s)	41.0 ms
Transmission Observed During Non-Occupancy Period	No

Table 613 - In-Service Monitoring Test Results

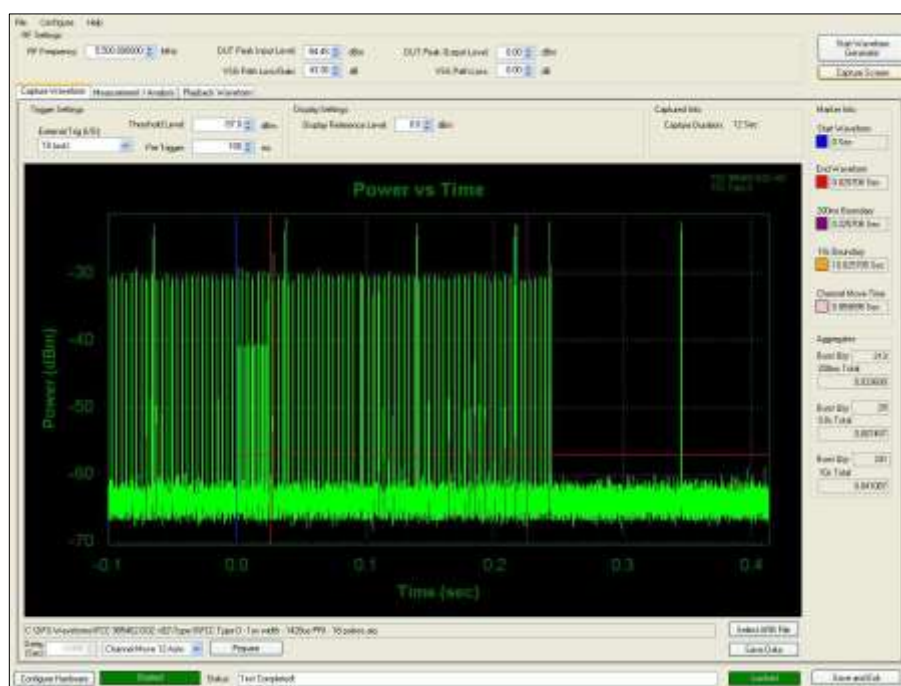


Figure 1040 - First 200 ms of Channel Shutdown Period

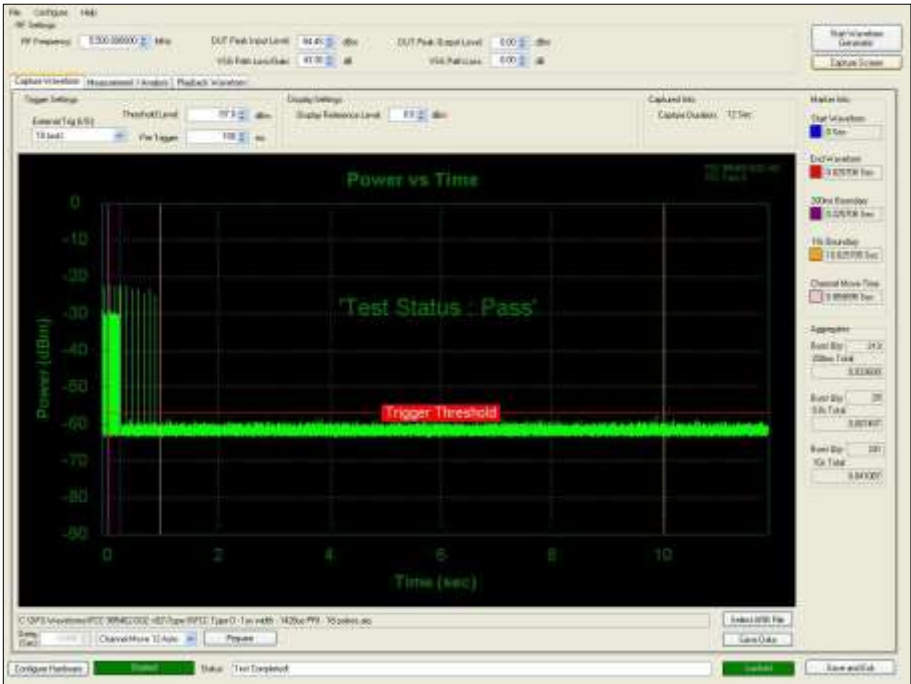


Figure 1041 - First 12 s of Channel Shutdown Period

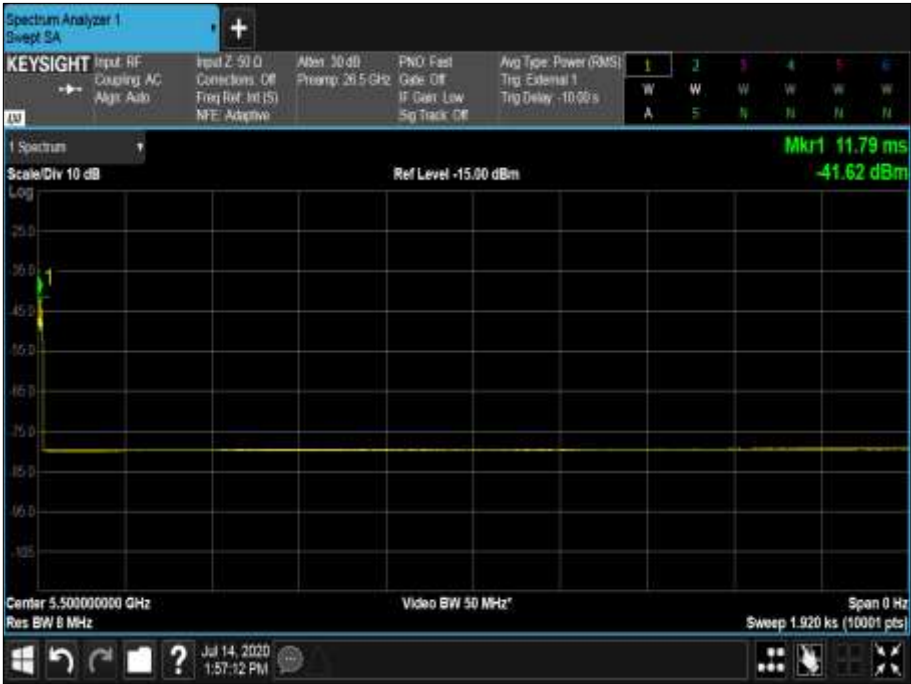


Figure 1042 - 30 minute Non-Occupancy Period

5 GHz WLAN (Client to Client)

802.11ac VHT80

The EUT could operate a direct client-to-client mode and so this was also tested as required by KDB 905462 D03 v01r02 clause (b)3.

The equipment was set up as shown in the diagram below. The second client was configured to screencast its display (showing video playback), directly to the EUT using the AirPlay transfer protocol. A spectrum analyser was used to measure the channel loading was >17 %. It was also used to verify the mode of operation was correctly transmitting directly from one client to the other client, with the DFS Master only doing occasional signalling and not re-transmitting the data.

To calibrate the level of the radar at the input to the DFS Master, the DFS Master was replaced by the spectrum analyser and the output of the PXI RF generator adjusted to give -62 dBm.

Due to the buffering of the video playback, the channel loading was measured over a longer 500 ms period to produce consistent results.

Radar Type	Pulse Width (μ s)	PRI (μ s)	Number of Pulses
0	1	1428	18

Table 614 - Radar Pulse Type 0 Characteristics

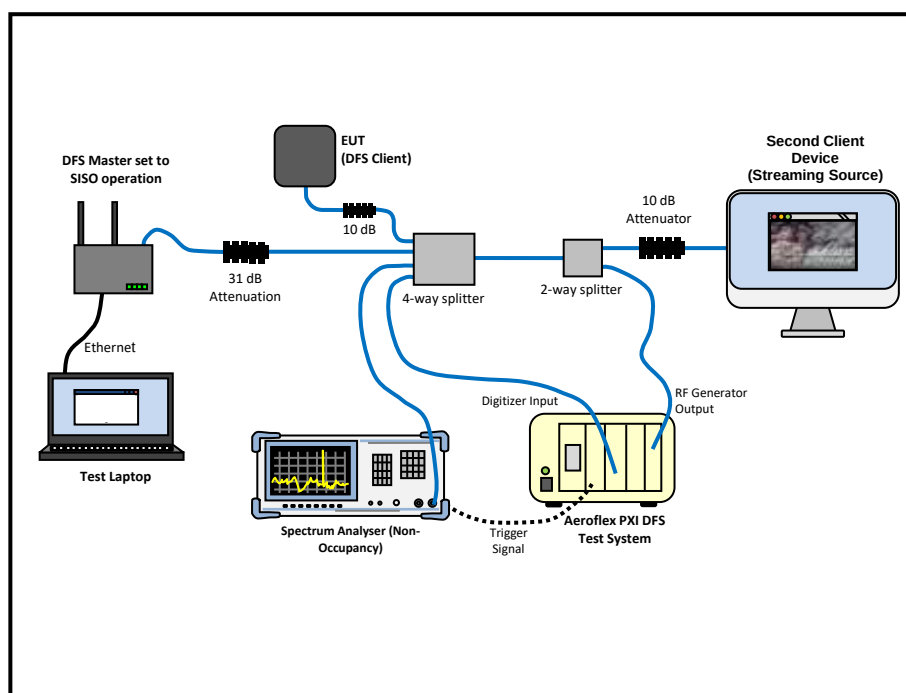


Figure 1043 - Test Equipment Setup Diagram for Client without Radar Detection with Injection at the Master



Figure 1044 - Verification of Radar Type 0



Figure 1045 - Channel Loading

The channel loading was 27.57 %



Maximum Transmit Power	Value (Notes 1 and 2)
≥ 200 milliwatt	-64 dBm
< 200 milliwatt	-62 dBm
Note 1: This is the level at the input of the receiver assuming a 0 dBi receive antenna.	
Note 2: Throughout these test procedures an additional 1 dB has been added to the amplitude of the test transmission waveforms to account for variations in measurement equipment. This will ensure that the test signal is at or above the detection threshold level to trigger a DFS response.	

Table 615 - DFS Detection Thresholds for Master Devices and Client Devices with Radar Detection

Test Parameter	Result
Channel Move Time	4.089 s
Channel Closing Time (Aggregate Time During 200 ms)	0.194 ms
Channel Closing Time (Aggregate Time During 200 ms to 10 s)	7.772 ms
Channel Closing Time (Aggregate Time During 10 s)	7.966 ms
Transmission Observed During Non-Occupancy Period	No

Table 616 - In-Service Monitoring Test Results

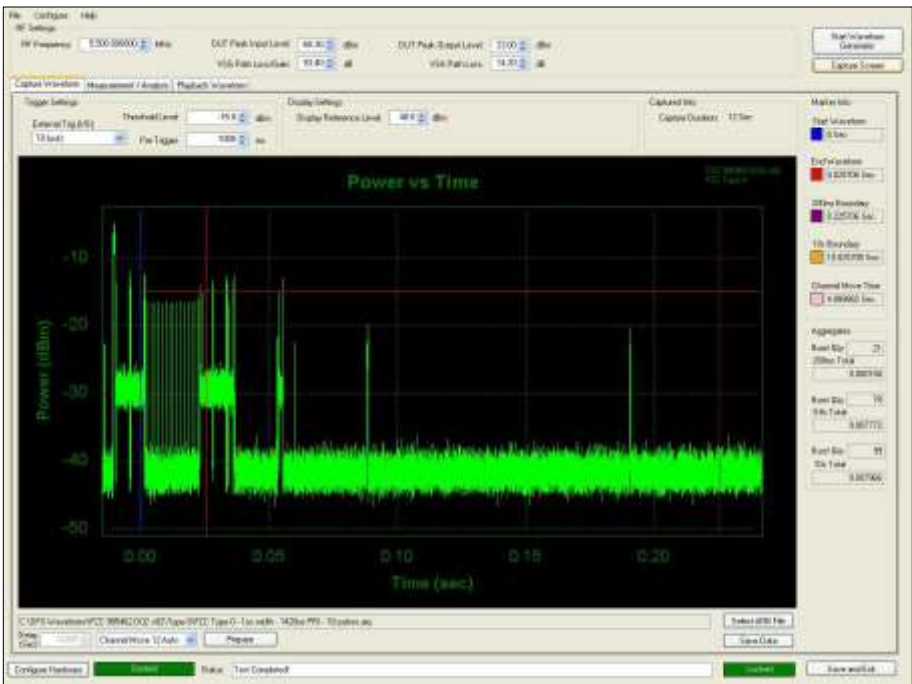


Figure 1046 - First 200 ms of Channel Shutdown Period

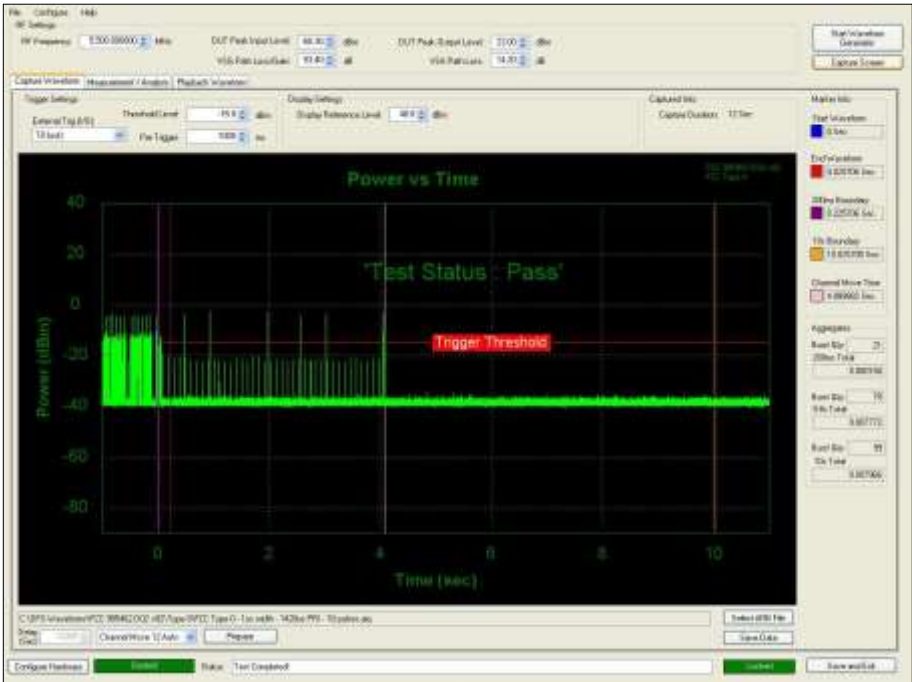


Figure 1047 - First 12 s of Channel Shutdown Period



Figure 1048 - 30 minute Non-Occupancy Period



FCC 47 CFR Part 15, Limit Clause 15.407 (h)(2)(iii)

Channel Move Time	<10 seconds
Channel Closing Time (Aggregate Time During 200ms)	<200 ms
Channel Closing Time (Aggregate Time During +200ms to 10s)	<60 ms

Table 617 - Channel Move Time and Channel Closing Transmission Time Limit

FCC 47 CFR Part 15, Limit Clause 15.407 (h)(2)(iv)

Non-occupancy Period	> 30 minutes
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Table 618 - Non-Occupancy Limit



2.7.7 Test Location and Test Equipment Used

This test was carried out in RF Laboratory 1.

Instrument	Manufacturer	Type No	TE No	Calibration Period (months)	Calibration Due
RF Coupler	TUV SUD	RFC1	414	-	TU
20dB/2W Attenuator	Narda	4772-20	462	-	TU
Attenuator (1dB,1W)	Midwest Microwave	444	545	-	O/P Mon
Rubidium Standard	Rohde & Schwarz	XSRM	1316	6	08-Nov-2020
Attenuator (20dB, 1W)	Sealectro	60-674-1020-89	1520	-	O/P Mon
Hygrometer	Rotronic	I-1000	3220	12	25-Sep-2020
PXI RF Digitizer	Aeroflex	3025	4012	24	15-Sep-2020
PXI RF Synthesizer	Aeroflex	3010	4013	24	12-Nov-2022
PXI RF Synthesizer	Aeroflex	3011	4014	24	12-Nov-2022
PXI Digital RF Signal Generator	Aeroflex	3025	4015	24	15-Sep-2020
Frequency Standard	Spectracom	SecureSync 1200-0408-0601	4393	6	08-Nov-2020
2 metre SMA Cable	Florida Labs	SMS-235SP-78.8-SMS	4517	12	22-Jun-2021
Power splitter - 2 port	Mini-Circuits	ZN2PD-63-S+	4742	12	15-Jan-2022
Power splitter - 4 port	Mini-Circuits	ZN4PD1-63-S+	4744	12	22-Oct-2021
1 metre K-Type Cable	Florida Labs	KMS-180SP-39.4-KMS	4520	12	12-Nov-2020
Wireless Cable & Fibre Router - AC 1900, Dual-band	Asus	RT-AC68U	4881	-	TU
EXA	Keysight Technologies	N9010B	4969	24	03-Feb-2022
Cable (40 GHz)	Rosenberger	LU1-001-2000	5020	12	07-Jan-2022
Cable (18 GHz)	Rosenberger	LU7-071-1000	5100	12	13-Dec-2020
Power Splitter, 2 way	Mini-Circuits	ZN2PD2-63-S+	5237	-	O/P Mon
Power Splitter, 2 way	Mini-Circuits	ZN2PD2-63-S+	5239	-	O/P Mon
Cable 2.92m	Junkosha	MWX241-01000KMS	5413	12	22-Jun-2021
2.92mm 1m cable	Junkosha	MWX211/B	5415	12	22-Jun-2021
3.5 mm 2m Cable	Junkosha	MWX221-02000DMS	5430	12	22-Jun-2021
Attenuator 5W 10dB DC-18GHz	Aaren	AT40A-4041-D18-10	5487	12	14-Apr-2021
Attenuator 5W 30dB DC-18GHz	Aaren	AT40A-4041-D18-30	5505	12	15-Apr-2021



Instrument	Manufacturer	Type No	TE No	Calibration Period (months)	Calibration Due
MXA Signal Analyser	Keysight Technologies	N9020B	5529	24	04-Mar-2022
Attenuator 2W 10dB DC-10GHz	Telegartner	J01156A0031	5576	-	O/P Mon
Attenuator 2W 10dB DC-10GHz	Telegartner	J01156A0031	5578	-	O/P Mon
Attenuator 2W 10dB DC-10GHz	Telegartner	J01156A0031	5579	-	O/P Mon
Attenuator 2W 10dB DC-10GHz	Telegartner	J01156A0031	5581	-	O/P Mon

Table 619

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
Maximum Conducted Output Power	± 3.2 dB
Maximum Conducted Power Spectral Density	± 3.2 dB
Authorised Band Edges	± 6.3 dB
Restricted Band Edges	± 6.3 dB
Emission Bandwidth	± 293.626 kHz
Spurious Radiated Emissions	30 MHz to 1 GHz: ± 5.2 dB 1 GHz to 40 GHz: ± 6.3 dB
Channel Move Time, Channel Closing Transmission Time and Non-Occupancy Period	Time: ± 0.47 % Power: ± 1.29 dB

Table 620

Measurement Uncertainty Decision Rule

Determination of conformity with the specification limits is based on the decision rule according to IEC Guide 115: 2007, clause 4.4.3 and 4.5.1