



Frequency (MHz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Angle (°)	Height (cm)	Polarisation
11 488.845	43.5	54.0	-10.5	RMS	13.1	11.1	Vertical
11 491.881	54.0	74.0	-20.0	Peak	17.5	18.9	Vertical
11 492.239	49.5	54.0	-4.5	RMS	25.3	13.2	Horizontal
11 492.404	49.2	74.0	-24.8	Peak	24.9	11.7	Horizontal

Table 632 - U-NII-3 - 5745 MHz (CH149), HE20, CDD, Core 0 + Core 1, 1 to 40 GHz

No other emissions found within 10 dB of the limit.

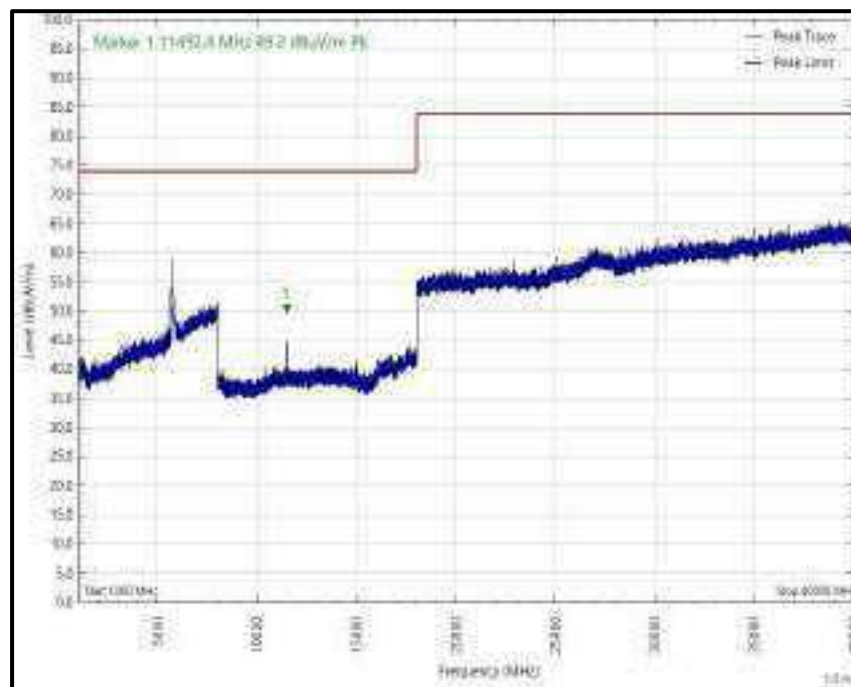


Figure 893 - U-NII-3 - 5745 MHz (CH149), HE20, CDD, Core 0 + Core 1, 1 GHz to 40 GHz, Horizontal (Peak)

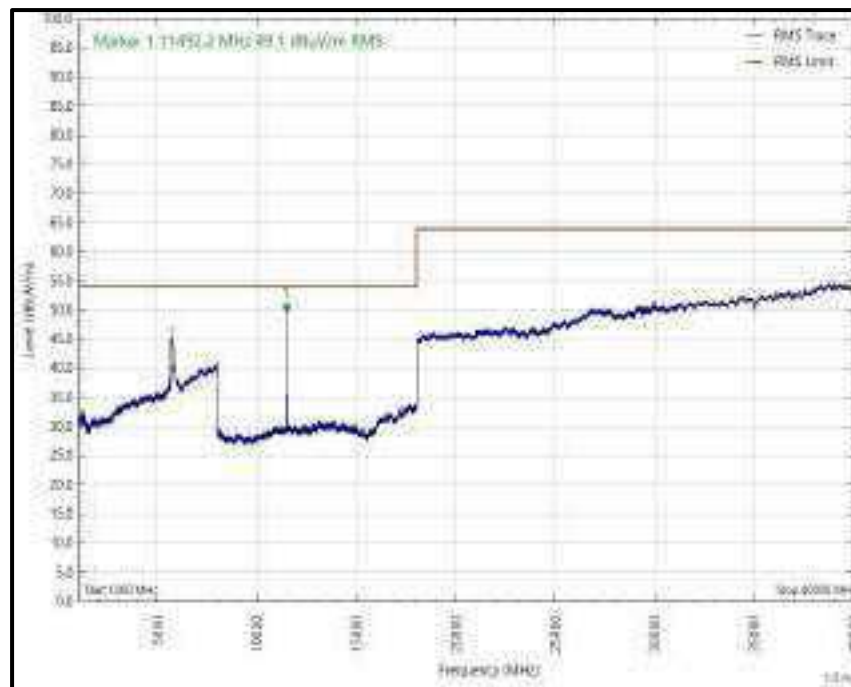


Figure 894 - U-NII-3 - 5745 MHz (CH149), HE20, CDD, Core 0 + Core 1, 1 GHz to 40 GHz, Horizontal (RMS)

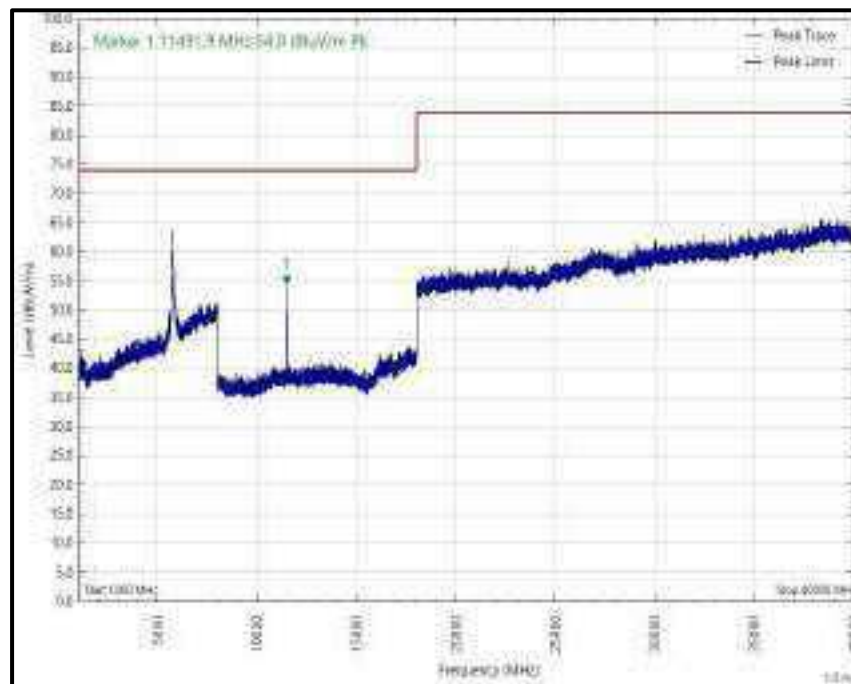


Figure 895 - U-NII-3 - 5745 MHz (CH149), HE20, CDD, Core 0 + Core 1, 1 GHz to 40 GHz, Vertical (Peak)

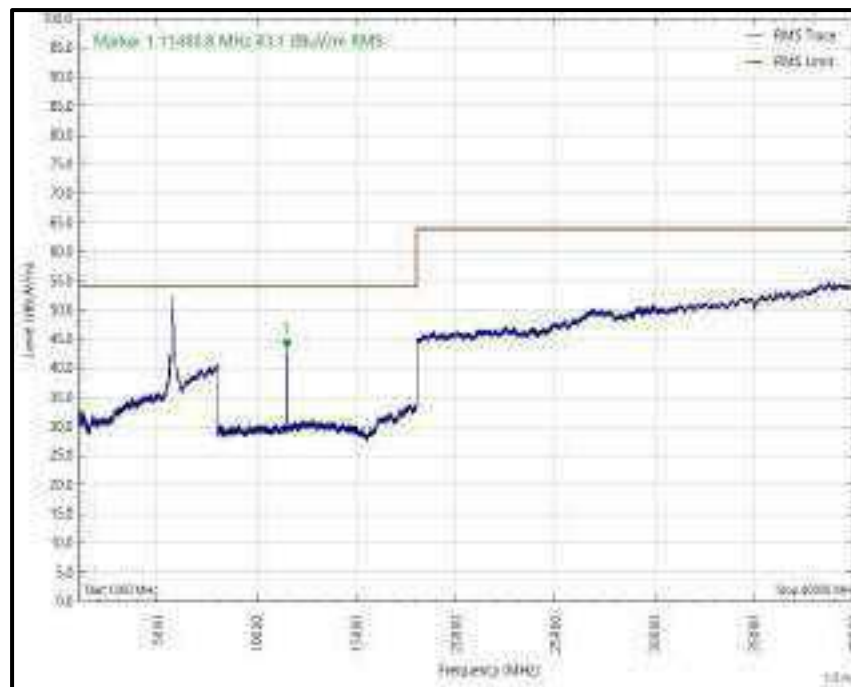


Figure 896 - U-NII-3 - 5745 MHz (CH149), HE20, CDD, Core 0 + Core 1, 1 GHz to 40 GHz, Vertical (RMS)



Frequency (MHz)	Level (dBu v/m)	Limit (dBu v/m)	Margin (dB)	Detector	Angle (°)	Height (cm)	Polarisation
11 649.4 37	44.1	54.0	-9.9	RMS	17.7	15.1	Vertical
11 649.6 20	48.7	74.0	-25.3	Peak	17.9	10.9	Horizontal
11 650.1 25	48.6	54.0	-5.4	RMS	24.0	11.0	Horizontal
11 652.2 83	55.1	74.0	-18.9	Peak	17.8	15.7	Vertical

Table 633 - U-NII-3 - 5825 MHz (CH165), HE20, CDD, Core 0 + Core 1, 30 MHz to 40 GHz

No other emissions found within 10 dB of the limit.

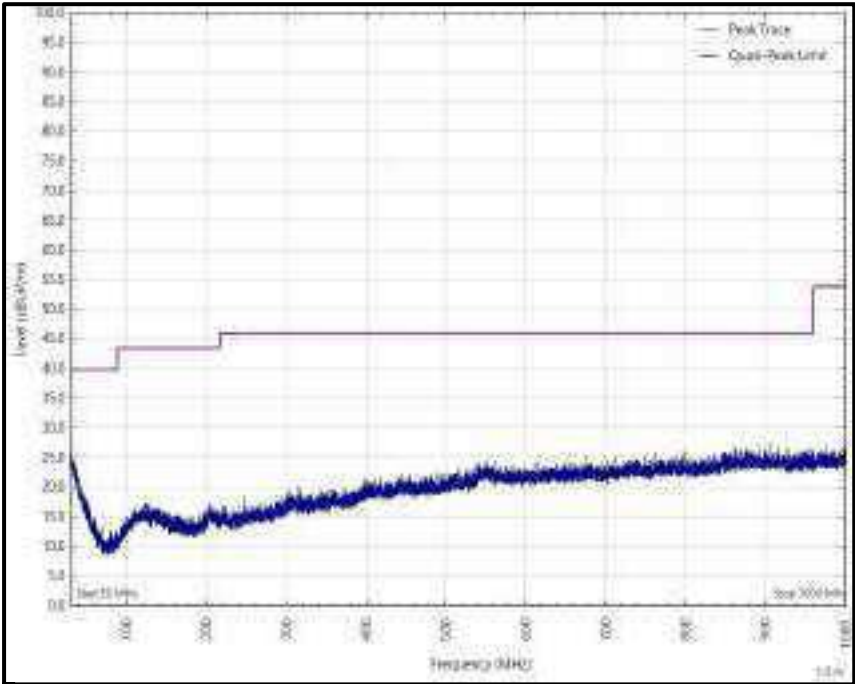


Figure 897 - U-NII-3 - 5825 MHz (CH165), HE20, CDD, Core 0 + Core 1, 30 MHz to 1 GHz, Horizontal (Peak)

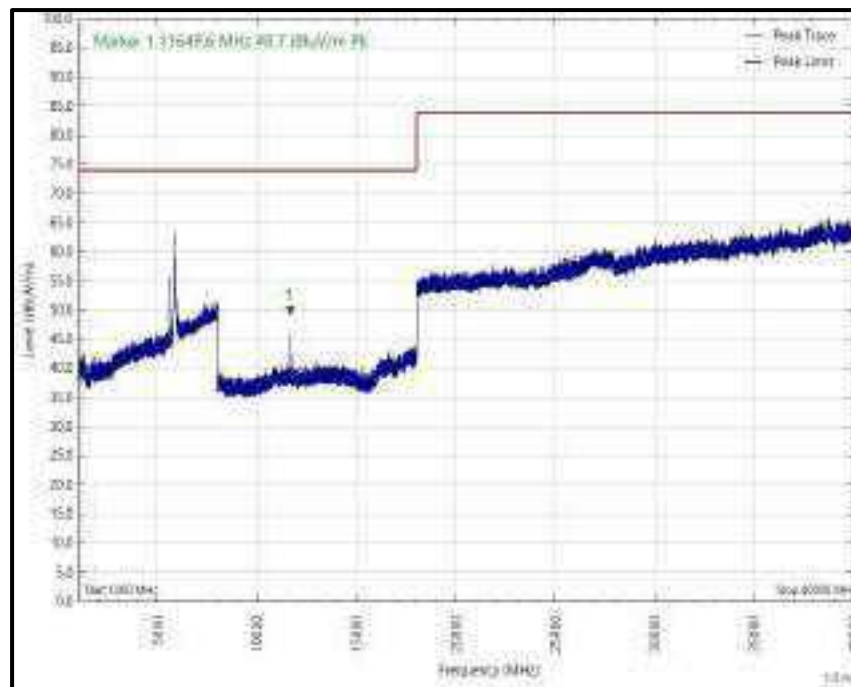


Figure 898 - U-NII-3 - 5825 MHz (CH165), HE20, CDD, Core 0 + Core 1, 1 GHz to 40 GHz, Horizontal (Peak)

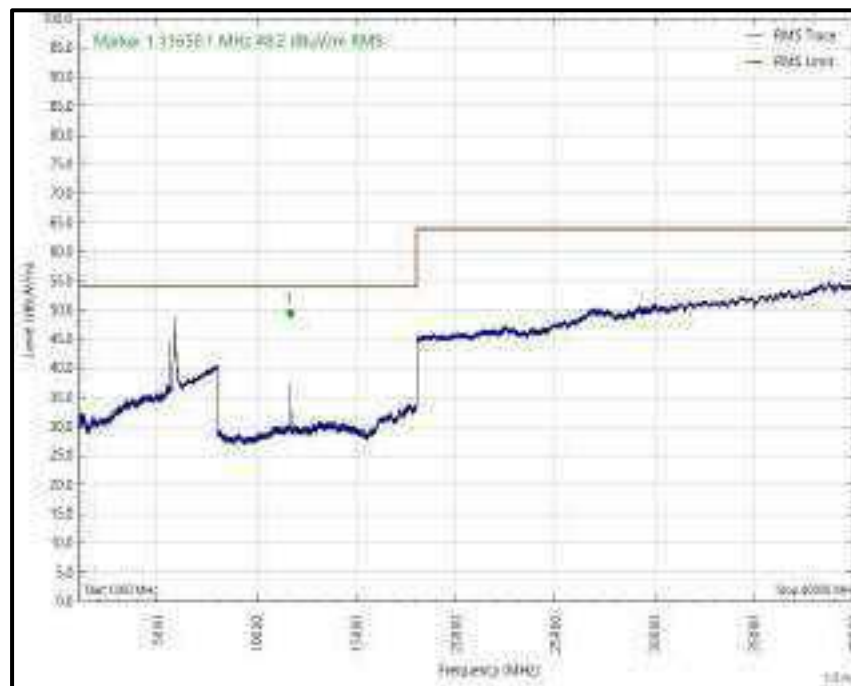


Figure 899 - U-NII-3 - 5825 MHz (CH165), HE20, CDD, Core 0 + Core 1, 1 GHz to 40 GHz, Horizontal (RMS)

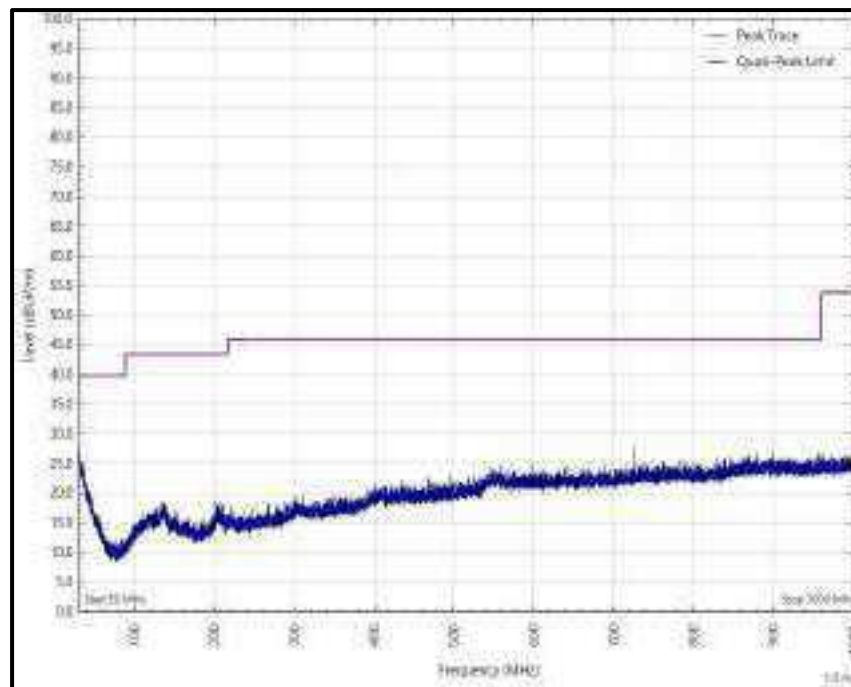


Figure 900 - U-NII-3 - 5825 MHz (CH165), HE20, CDD, Core 0 + Core 1, 30 MHz to 1 GHz, Vertical (Peak)

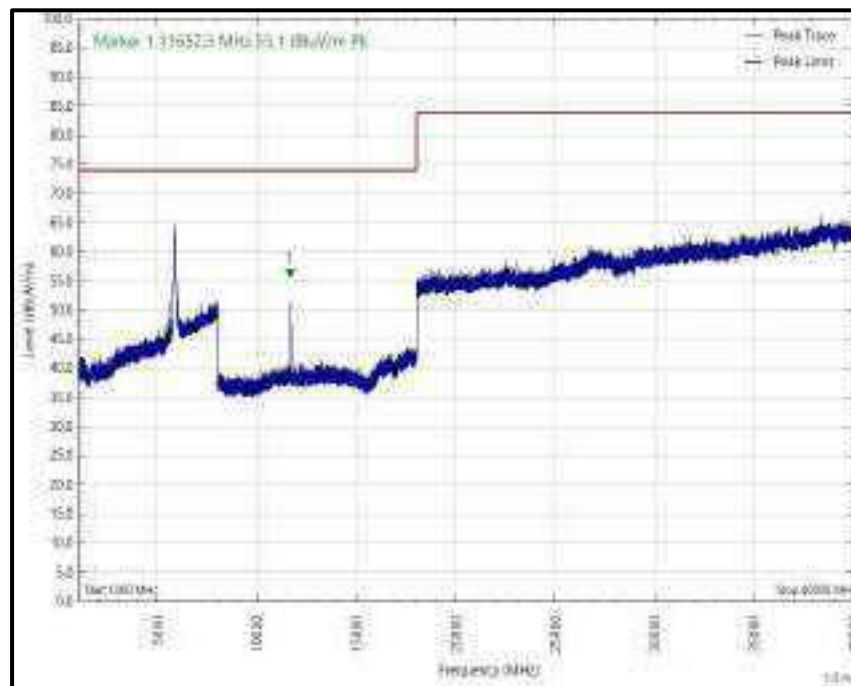


Figure 901 - U-NII-3 - 5825 MHz (CH165), HE20, CDD, Core 0 + Core 1, 1 GHz to 40 GHz, Vertical (Peak)

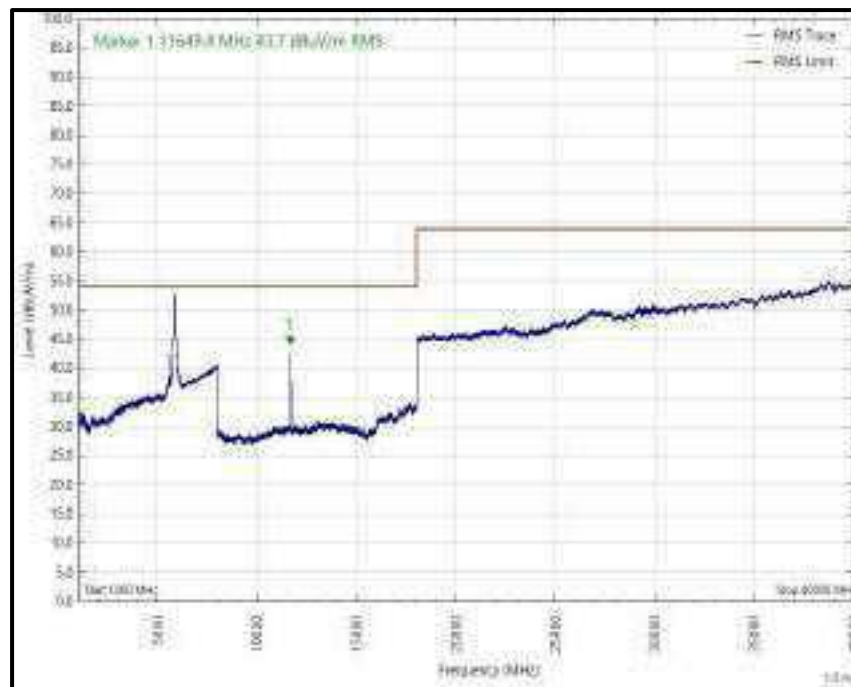


Figure 902 - U-NII-3 - 5825 MHz (CH165), HE20, CDD, Core 0 + Core 1, 1 GHz to 40 GHz, Vertical (RMS)



802.11ax MHz Bandwidth

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

Table 634 - 5180 MHz (CH36), HE20, HE20, RU26-0, Core 0 + Core 1, 1 to 40 GHz

*No emissions found within 6 dB of the limit.

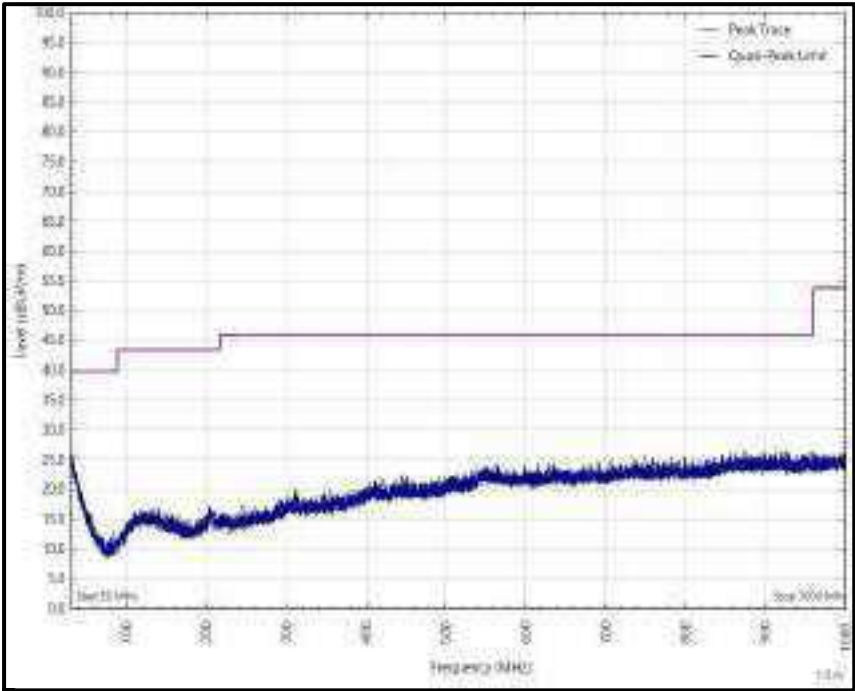


Figure 903 - 5180 MHz (CH36), HE20, RU26-0, Core 0 + Core 1, 30 MHz to 1 GHz, Horizontal (Peak)

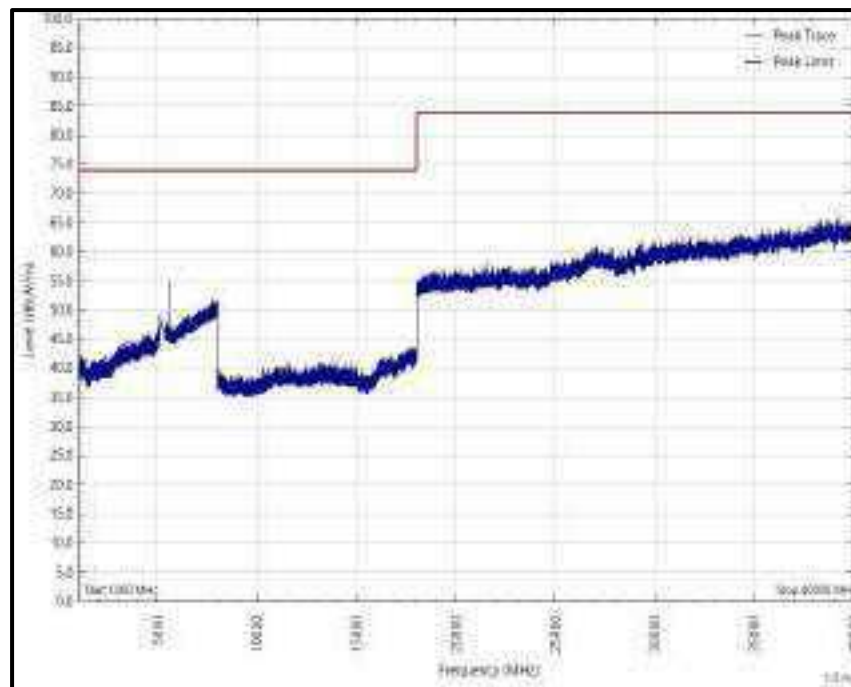


Figure 904 - 5180 MHz (CH36), HE20, RU26-0, Core 0 + Core 1, 1 GHz to 40 GHz, Horizontal (Peak)

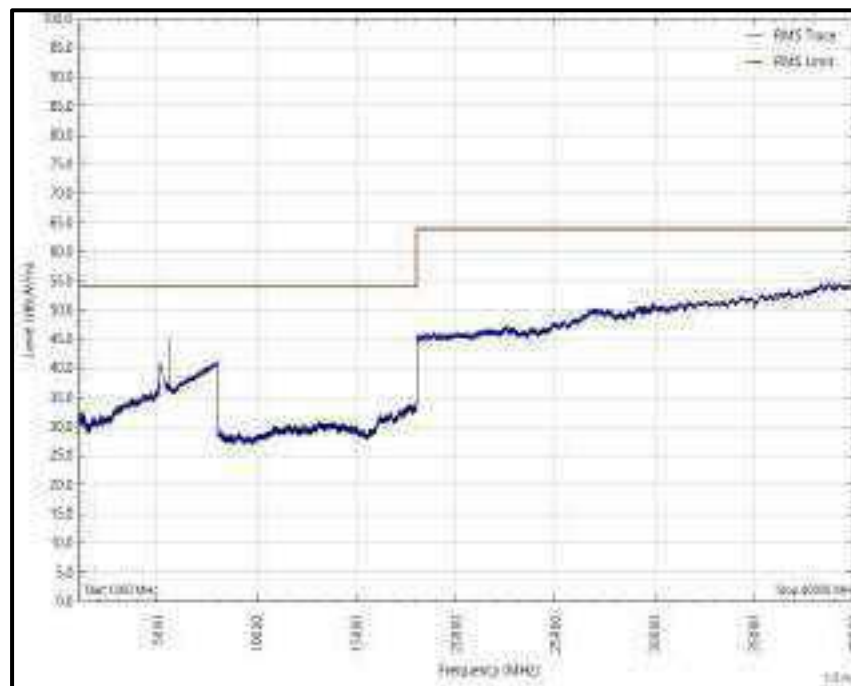


Figure 905 - 5180 MHz (CH36), HE20, RU26-0, Core 0 + Core 1, 1 GHz to 40 GHz, Horizontal (RMS)

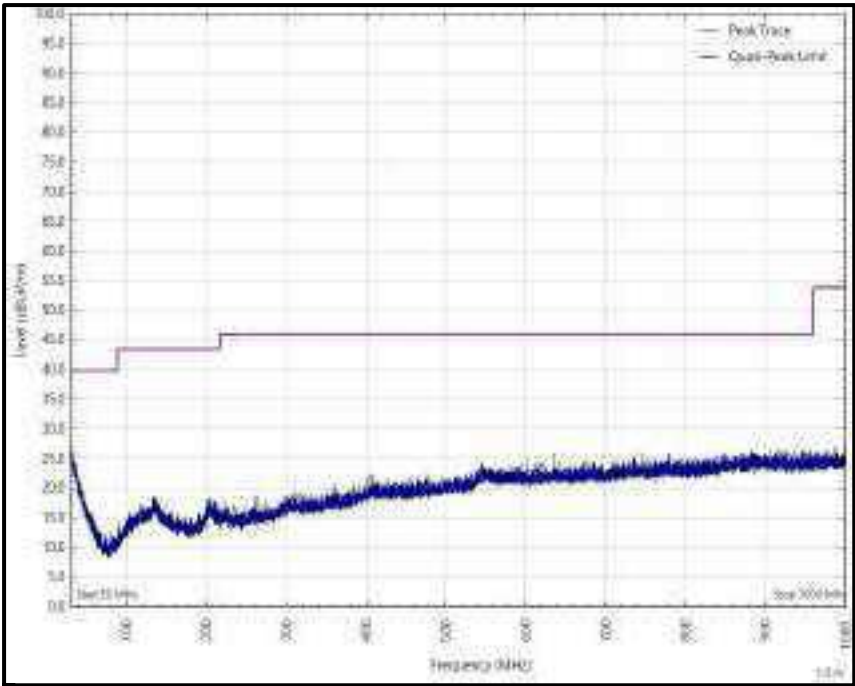


Figure 906 - 5180 MHz (CH36), HE20, RU26-0, Core 0 + Core 1, 30 MHz to 1 GHz, Vertical (Peak)

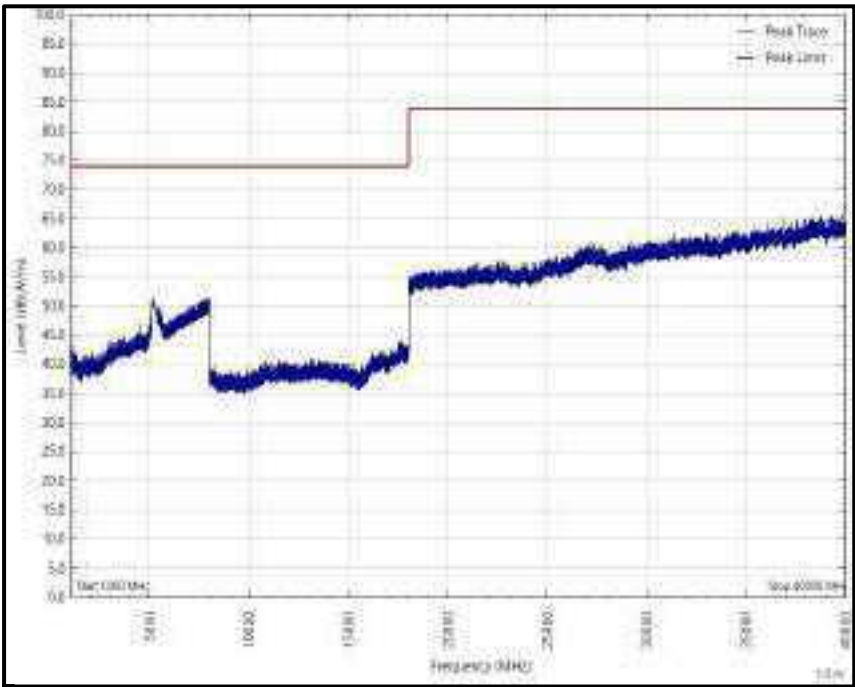


Figure 907 - 5180 MHz (CH36), HE20, RU26-0, Core 0 + Core 1, 1 GHz to 40 GHz, Vertical (Peak)

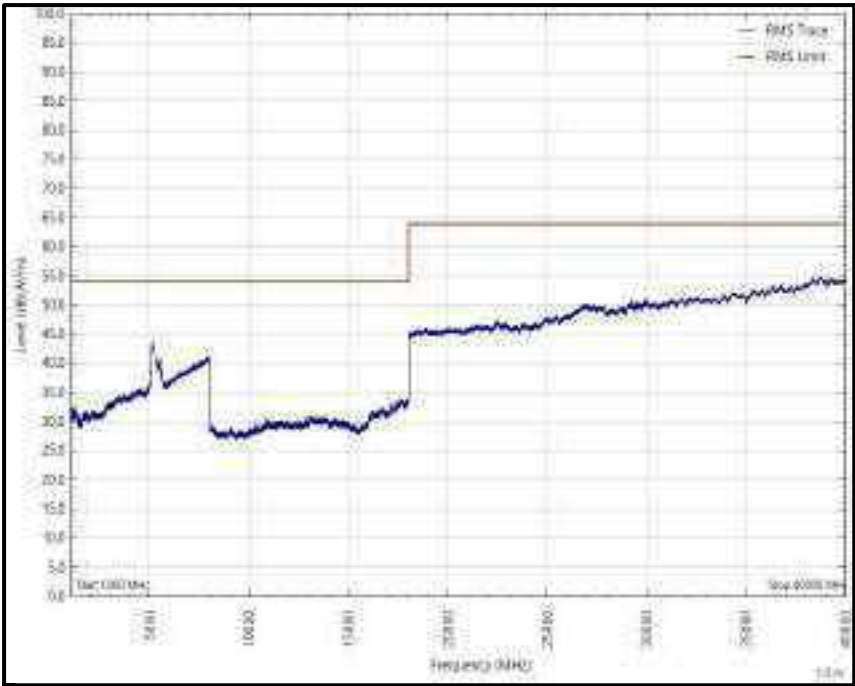


Figure 908 - 5180 MHz (CH36) ,HE20, RU26-0, Core 0 + Core 1, 1 GHz to 40 GHz, Vertical (RMS)



Frequency (MHz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Angle (°)	Height (cm)	Polarisation
11 472.3 03	48.6	74.0	-25.4	Peak	25.1	11.3	Horizontal
11 472.3 30	54.8	74.0	-19.2	Peak	17.6	22.3	Vertical
11 472.5 76	40.1	54.0	-13.9	RMS	17.4	23.7	Vertical
11 473.1 47	50.5	54.0	-3.5	RMS	24.7	10.5	Horizontal

Table 635 - 5745 MHz (CH149), HE20, RU26-0, Core 0 + Core 1, 1 to 40 GHz

No other emissions found within 10 dB of the limit.

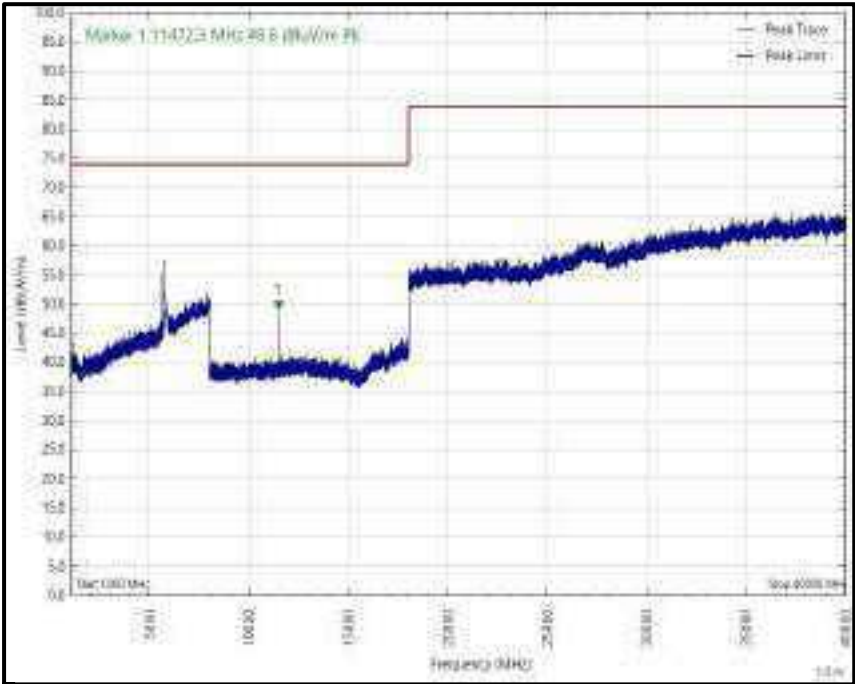


Figure 909 - 5745 MHz (CH149), HE 20, RU26-0, Core 0 + Core 1, 1 GHz to 40 GHz, Horizontal (Peak)

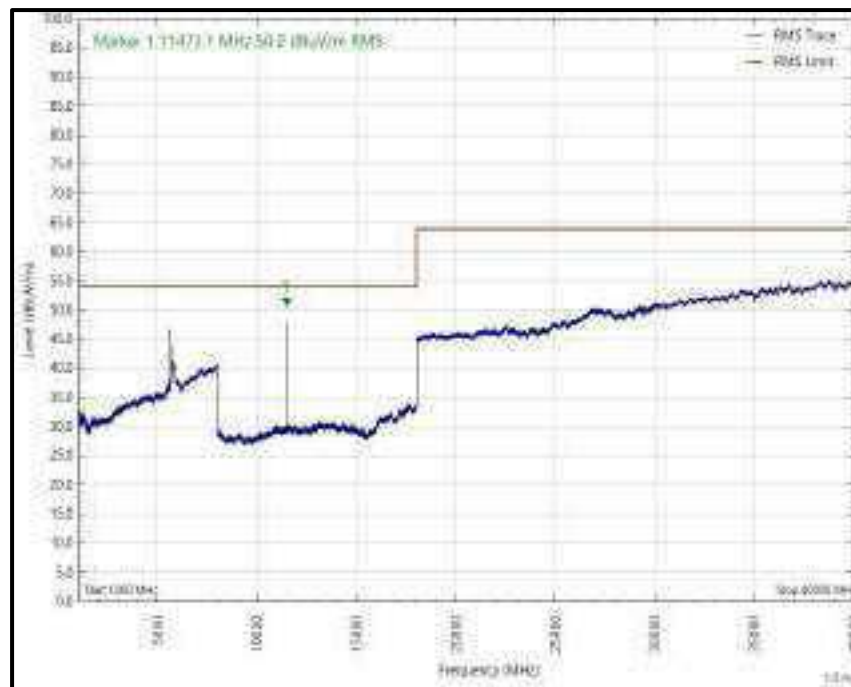


Figure 910 - 5745 MHz (CH149), HE20, RU26-0, Core 0 + Core 1, 1 GHz to 40 GHz, Horizontal (RMS)

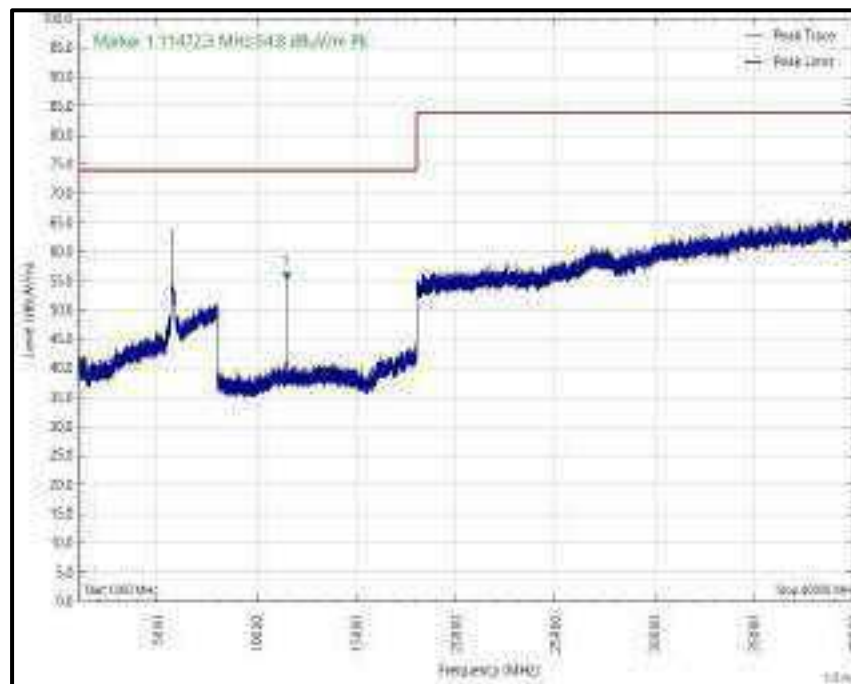


Figure 911 - 5745 MHz (CH149), HE20, RU26-0, Core 0 + Core 1, 1 GHz to 40 GHz, Vertical (Peak)

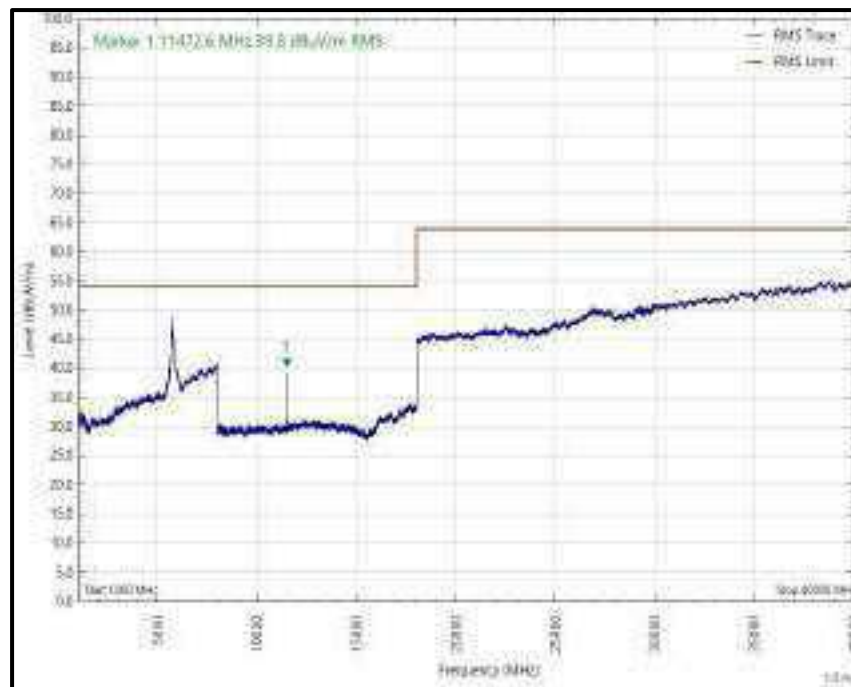


Figure 912 - 5745 MHz (CH149), HE20, RU26-0, Core 0 + Core 1, 1 GHz to 40 GHz, Vertical (RMS)



Frequency (MHz)	Level (dBu v/m)	Limit (dBu v/m)	Margin (dB)	Detector	Angle (°)	Height (cm)	Polarisation
11 632.1 91	41.2	54.0	-12.8	RMS	93	10.0	Vertical
11 632.1 98	57.3	74.0	-16.7	Peak	92	14.0	Vertical
11 632.2 66	39.4	54.0	-15.6	RMS	23.7	11.0	Horizontal
116 32.34 0	51.1	74.0	-22.9	Peak	23.7	14.5	Horizontal

Table 636 - 5825 MHz (CH165), HE20, RU26-0, Core 0 + Core 1, 30 MHz to 40 GHz

No other emissions found within 10 dB of the limit.

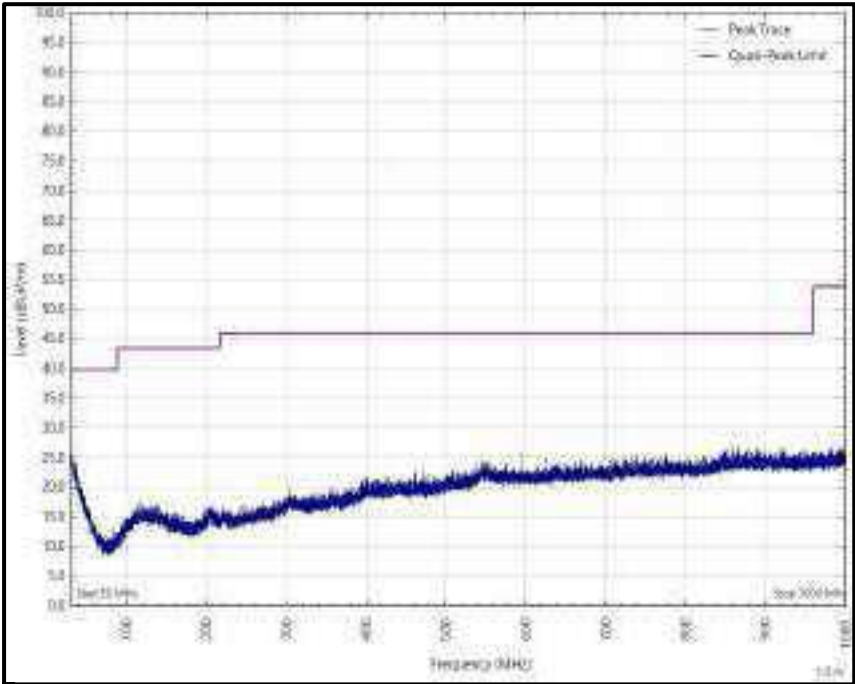


Figure 913 - 5825 MHz (CH165), HE20, RU26-0, Core 0 + Core 1, 30 MHz to 1 GHz, Horizontal (Peak)

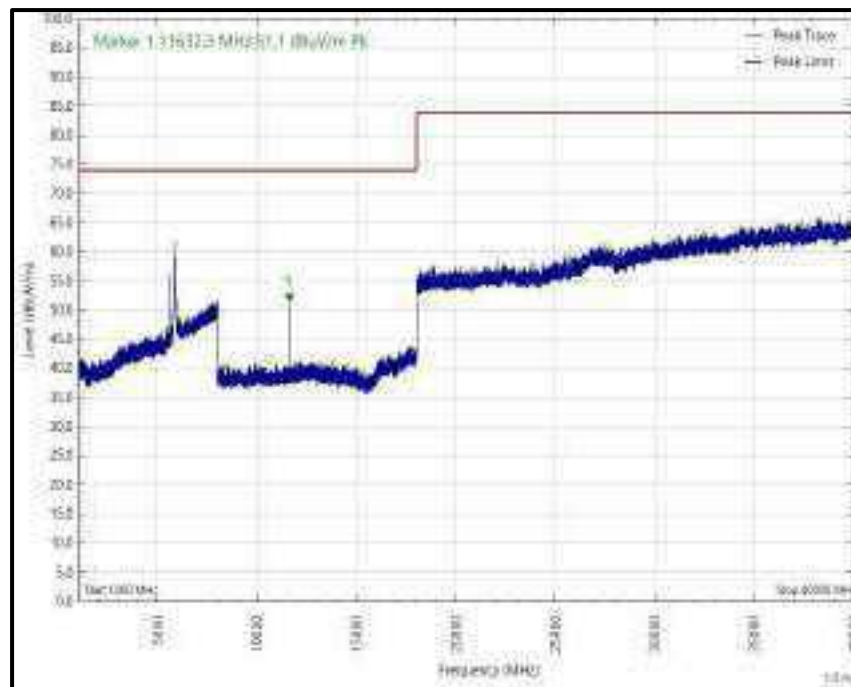


Figure 914 - 5825 MHz (CH165), HE 20, RU26-0, Core 0 + Core 1, 1 GHz to 40 GHz, Horizontal (Peak)

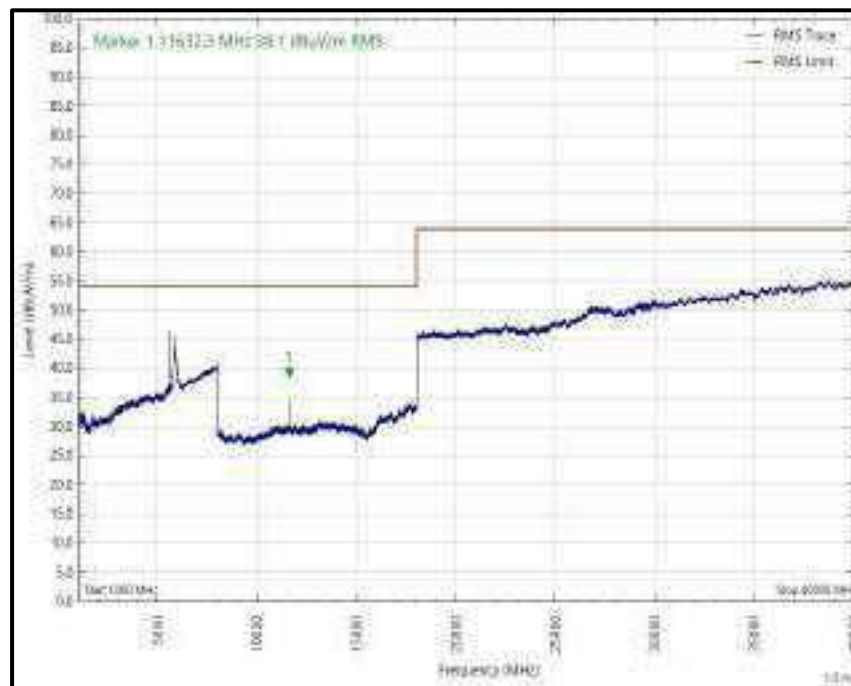


Figure 915 - 5825 MHz (CH165), HE 20, RU26-0, Core 0 + Core 1, 1 GHz to 40 GHz, Horizontal (RMS)

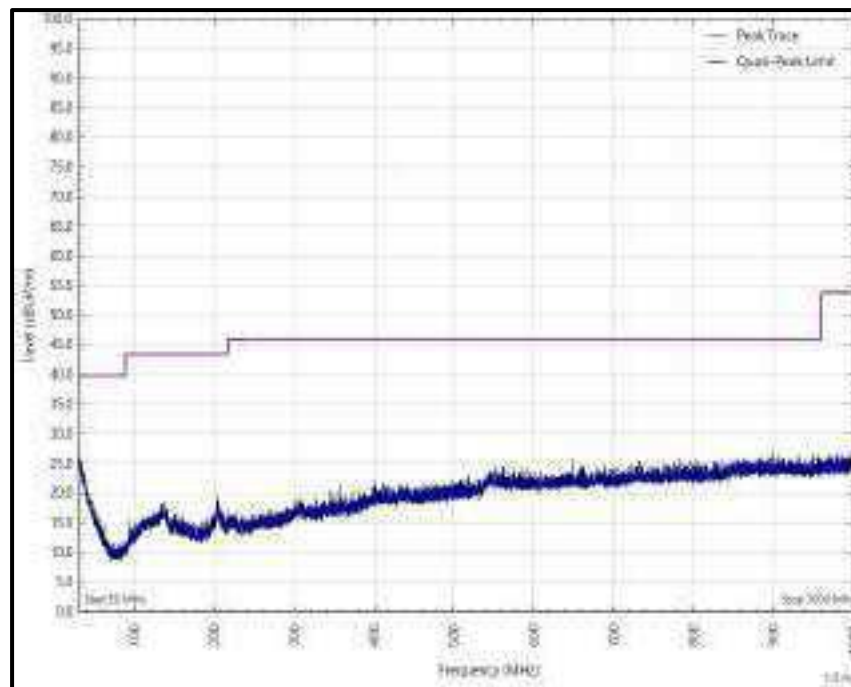


Figure 916 - 5825 MHz (CH165), HE20, RU26-0, Core 0 + Core 1, 30 MHz to 1 GHz, Vertical (Peak)

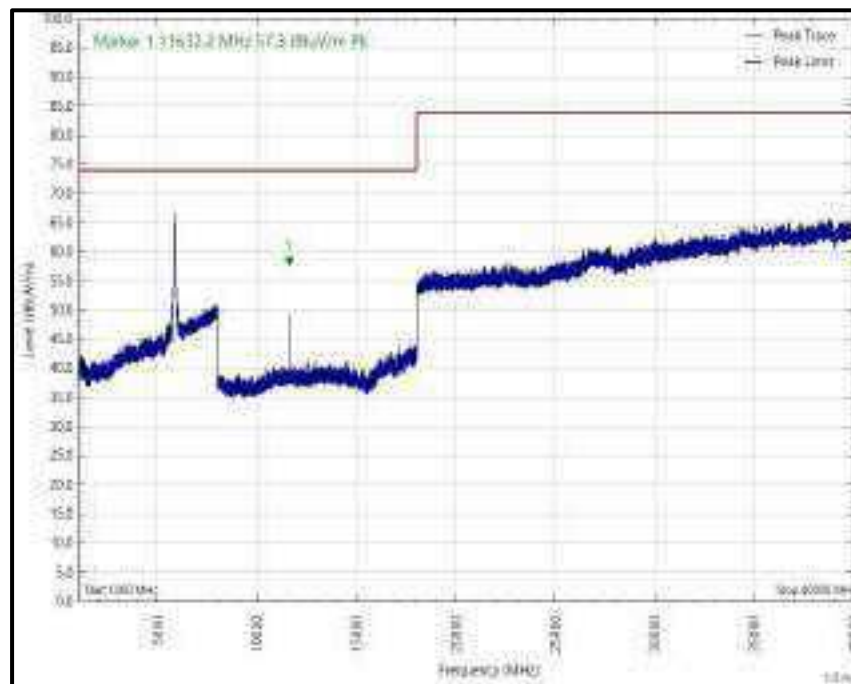


Figure 917 - 5825 MHz (CH165), HE20, RU26-0, Core 0 + Core 1, 1 GHz to 40 GHz, Vertical (Peak)

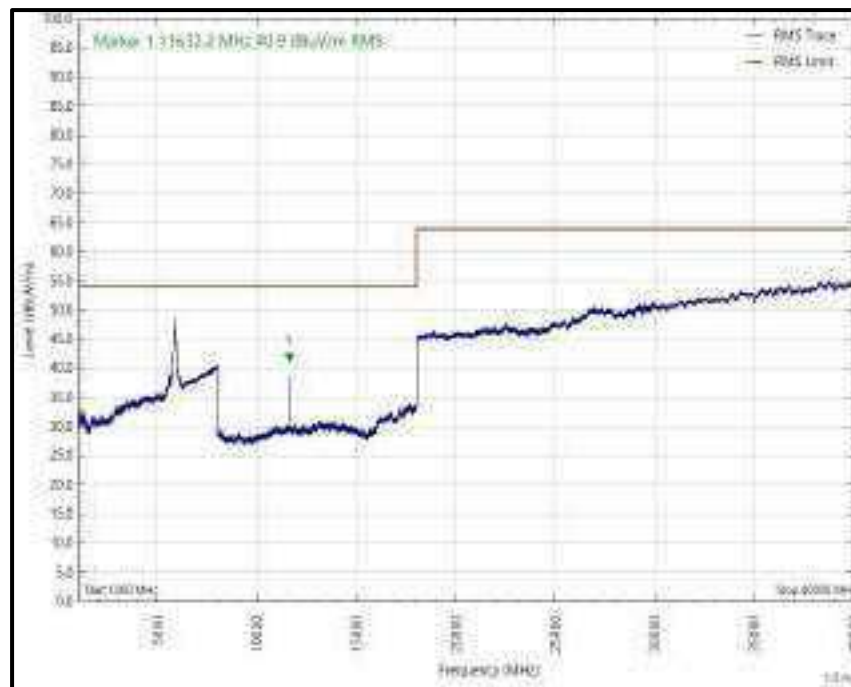


Figure 918 - 5825 MHz (CH165), HE20, RU26-0, Core 0 + Core 1, 1 GHz to 40 GHz, Vertical (RMS)

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 ($\mu\text{V/m}$)	Measurement Distance (m)
0.009 to 0.490	24 000 F (kHz)	300
0.490 to 1.705	24 000 F (kHz)	30
1.705 to 30	30	30
30 to 88	10.0	3
88 to 216	15.0	3
216 to 960	20.0	3
Above 960	50.0	3

Table 637 - 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 $F(\text{kHz})$
0.490 to 1.705	2400 $0.F(\text{kHz})$
1.705 to 30	30
30 to 88	100
88 to 216	150
216 to 960	200
Above 960	500

Table 638 - Radiated Emissions Limit Table (ISED)



24.7 Test Location and Test Equipment Used

This test was carried out in RF Chamber 11.

Instrument	Manufacturer	Type No	T E Nb	Calibration Period (months)	Calibration Due
Power Supply Unit	Fairchild	LB30-4	15 8	-	O/P Mon
Antenna 18-40GHz (Double Ridge Guide)	Link Microtek Ltd	AM180HAK-TU2	23 0	24	27-Jul-2022
Antenna 18-40GHz (Double Ridge Guide)	Q-Par Angus Ltd	QSH 180K	15 11	24	02-Oct-2021
18 GHz - 40 GHz Pre-Amplifier	Phase One	P.S04-0087	15 34	12	18-Feb-2021
Antenna with permanent attenuator (Blog)	Chase	CBL614 3	29 04	24	30-Sep-2021
Band Reject Filter - 5.22 GHz	Weinwright	WRCJV12-51 20-51 50-5290-5320 - 50 SS	50 72	12	24-Sep-2020
Band Reject Filter - 5.28 GHz	Weinwright	WRCJV12-51 80-52 10-5350-5380 - 50 SS	50 74	12	24-Sep-2020
Band Reject Filter - 5.775 GHz	Weinwright	WRCJV10-57 00-57 35-5815-5850 - 50 SS	50 76	12	01-Oct-2020
Band Reject Filter - 5.570 GHz	Weinwright	WRCJV10-54 40-54 90-5650-5700 - 50 SS	50 78	12	02-Oct-2020
Band Reject Filter - 5.690 GHz	Weinwright	WRCJV8-5635 - 56 70-5710-5745 - 50 SS	50 80	12	25-Sep-2020
EMI Test Receiver	Rohde & Schwarz	ESWA 4	50 84	12	28-Nov-2020
Cable (18 GHz)	Rosenberger	LU7-071-1000	51 02	12	06-Oct-2020
Cable (18 GHz)	Rosenberger	LU7-071-1000	51 03	12	06-Oct-2020
Cable (18 GHz)	Rosenberger	LU7-071-1000	51 04	12	09-Dec-2020
Cable (18 GHz)	Rosenberger	LU7-071-1000	51 05	12	06-Oct-2020
EmX Emissions Software	TUVSUD	EmX	51 25	-	Software
Screened Room (11)	Rainford	Rainford	51 36	36	01-Nov-2021
Mast	Maturo	TAM 40-P	51 58	-	TU
Mast and Turntable Controller	Maturo	Maturo NCD	51 59	-	TU
Turntable	Maturo	TT15/WF	51 60	-	TU
Horn Antenna (1-40 GHz)	Schwarzeck	BBHA9120B	52 15	12	10-Mar-2021
DRG Horn Antenna (7.5-18 GHz)	Schwarzeck	HVRD750	52 16	12	10-Mar-2021
Pre Amp 1 - 26.5 GHz	Agilent Technologies	84 49B	54 45	12	06-May-2021
1m K-Type Cable	Junkosha	MVK 241 - 01 000KMSKMS/A	55 12	12	03-Apr-2021
2m SMA Cable	Junkosha	MVK 221 - 02 000AMSAMS/A	55 18	12	01-Apr-2021



Instrument	Manufacturer	Type No	TE Nb	Calibration Period (months)	Calibration Due
8m N Type Cable	Junkosha	MVW 221 - 08 000NM 3NM SB	55 22	12	24 Mar-2021
2m K Type Cable	Junkosha	MVW 241 - 02 000KMSKMS/A	55 24	12	03 Apr-2021
7 GHz High pass Filter	Wainwright	WHKX12-58 50-68 00-1800 080 SS	55 50	12	23 May-20 21
12 00 M Hz Low Pass Filter (02)	Mini-Circuits	VLF -1200+	55 60	12	23 May-20 21
8- 18 GHz Amplifier	Wright Technologies	AP 30 6-0061	55 95	12	25 Aug-2021

Table 639

TU - Traceability Unscheduled

O/P Mon ☒ Output Monitored using calibrated equipment



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

25.1 Specification Reference

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

25.2 Equipment Under Test and Modification State

A2348, S/N: C07CX 00X02H6 - Modification State 0

25.3 Date of Test

09-September-2020 to 10-September-2020

25.4 Test Method

This test was performed in accordance with FCC KDB 905462 D 02, clause 7.8.3.

A computer was connected via an Ethernet cable to the Master device and iPerf was configured to load the channel to >17% from the Client device.

Radar Pulse Type 0 was then transmitted, and the Spectrum monitored. The transmissions from the UUT 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 DF Stest 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.

25.5 Environmental Conditions

Ambient Temperature	22.5 - 23.4 °C
Relative Humidity	41.8 - 60.4 %



25.6 Test Results

5 GHz WLAN

802.11ac 80 MHz Bandwidth

Modulation Coding Scheme: MCS0

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 (µs)	PRI (µs)	Number of Pulses
0	1	14.28	18

Table 640 - Radar Pulse Type 0 Characteristics

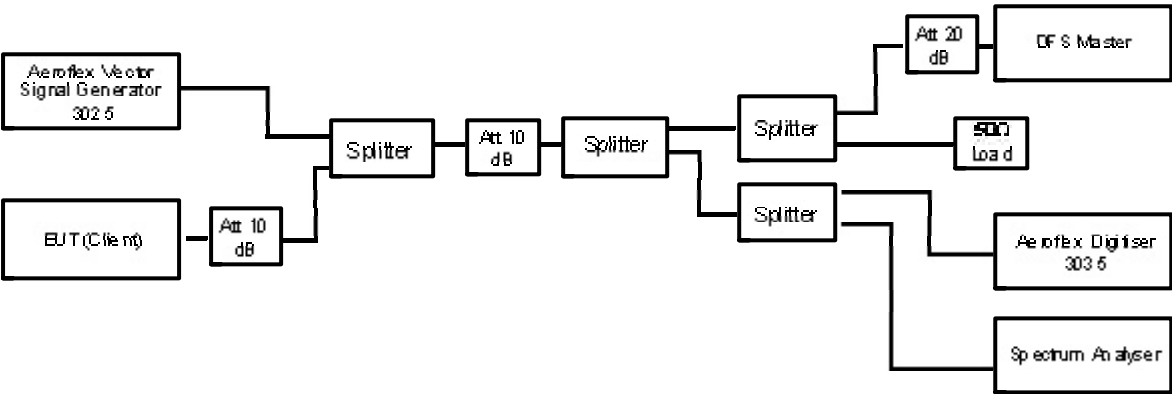


Figure 919 - Test Equipment Setup Diagram for Client without Radar Detection with Injection at the Master



Figure 920 - Verification of Radar Type 0

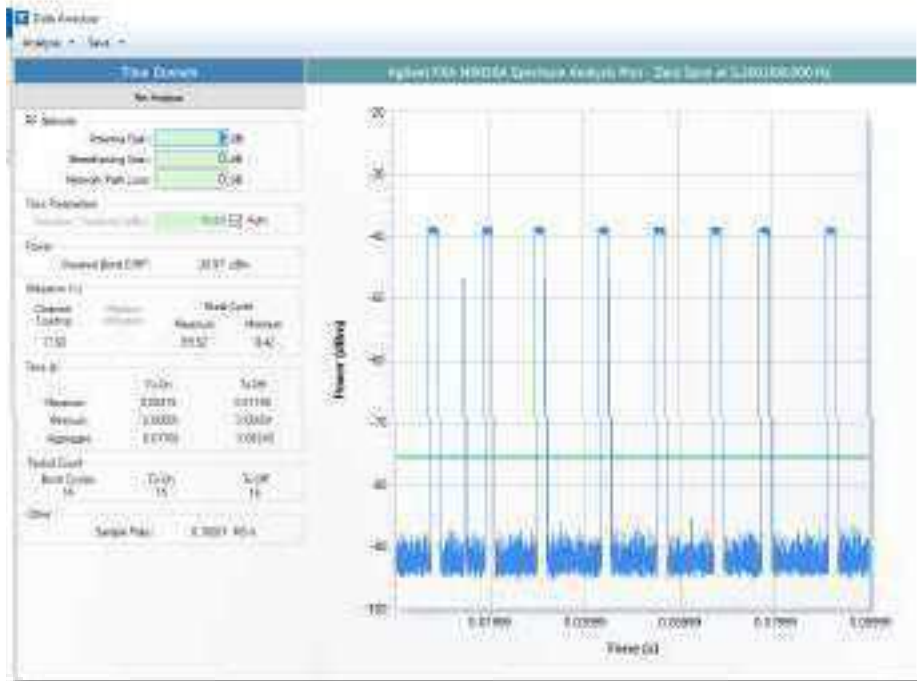


Figure921 - Channel Loading

The channel loading was 17.60%



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 dB receive antenna.	
Note 2: Throughout these test procedures an additional 1 dB has been added to the amplitude of the test transmission wave for RMS 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 641 - DFS Detection Thresholds for Master Devices and Client Devices with Radar Detection

Test Parameter	Result
Channel Move Time	839.3 ms
Channel Closing Time (Aggregate Time During 200 ms)	18.0 ms
Channel Closing Time (Aggregate Time During 200 ms to 10 s)	3.2 ms
Channel Closing Time (Aggregate Time During 10 s)	21.1 ms
Transmission Observed During Non-Occupancy Period	No

Table 642 - In-Service Monitoring Test Results

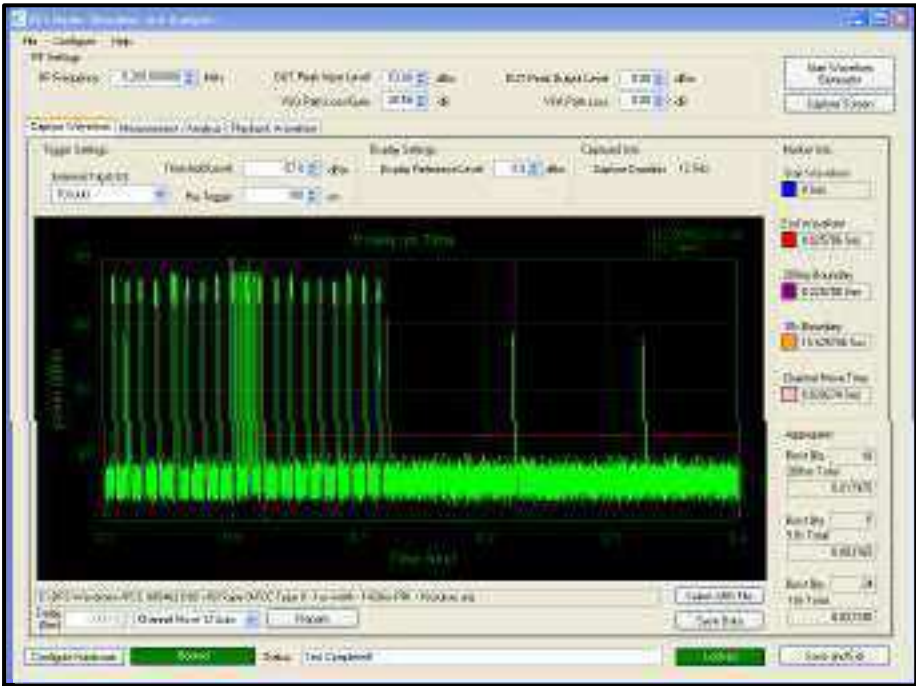


Figure 922 - First 200 ms of Channel Shutdown Period



Figure923 - First 12 s of Channel Shutdown Period

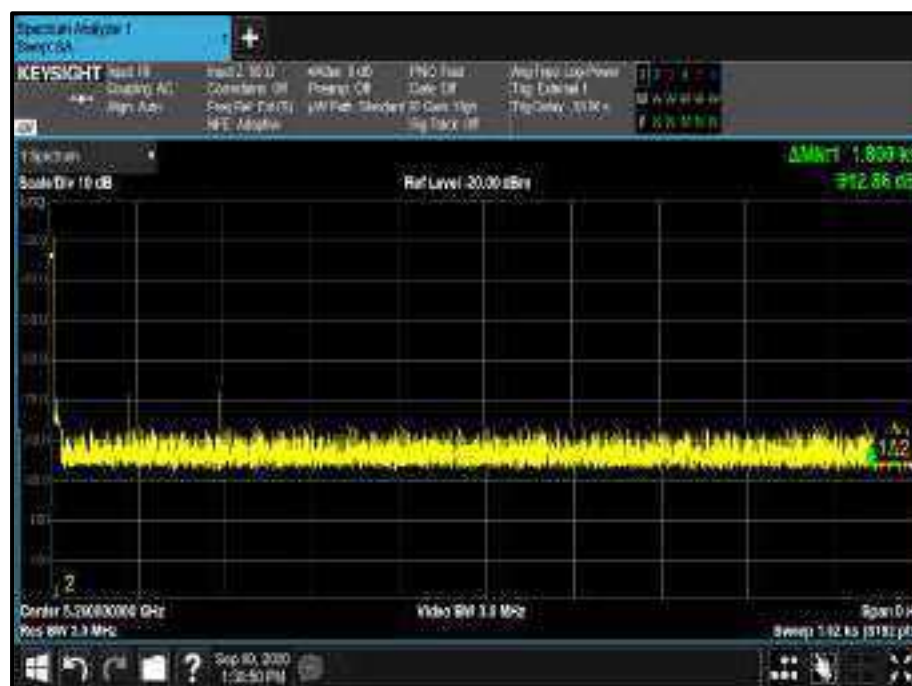


Figure 924 - 30 minute Non-Occupancy Period



5 GHz WLAN - Client to Client

802.11ac 80 MHz Bandwidth

Modulation Coding Scheme: MCS0

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 (µs)	PRI (µs)	Number of Pulses
0	1	14.28	18

Table 643 - Radar Pulse Type 0 Characteristics

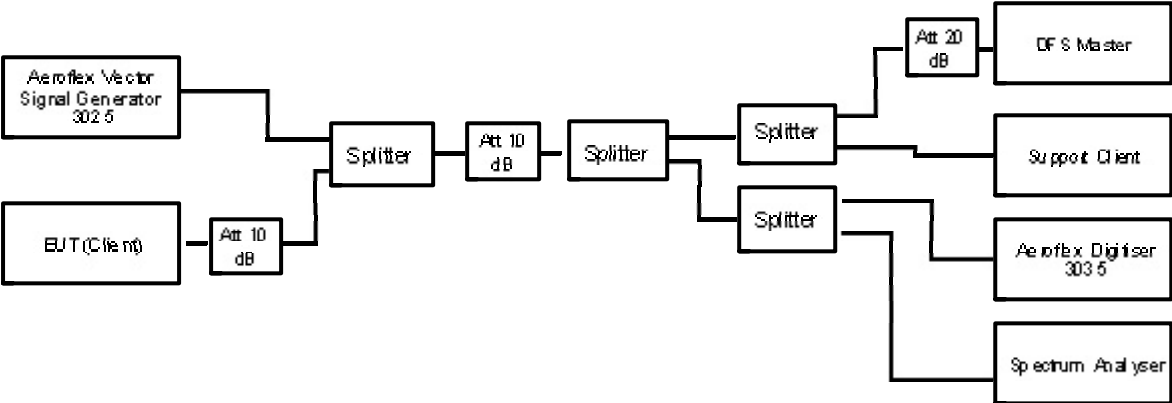


Figure 925 - Test Equipment Setup Diagram for Client without Radar Detection with Injection at the Master



Figure 926 - Verification of Radar Type 0

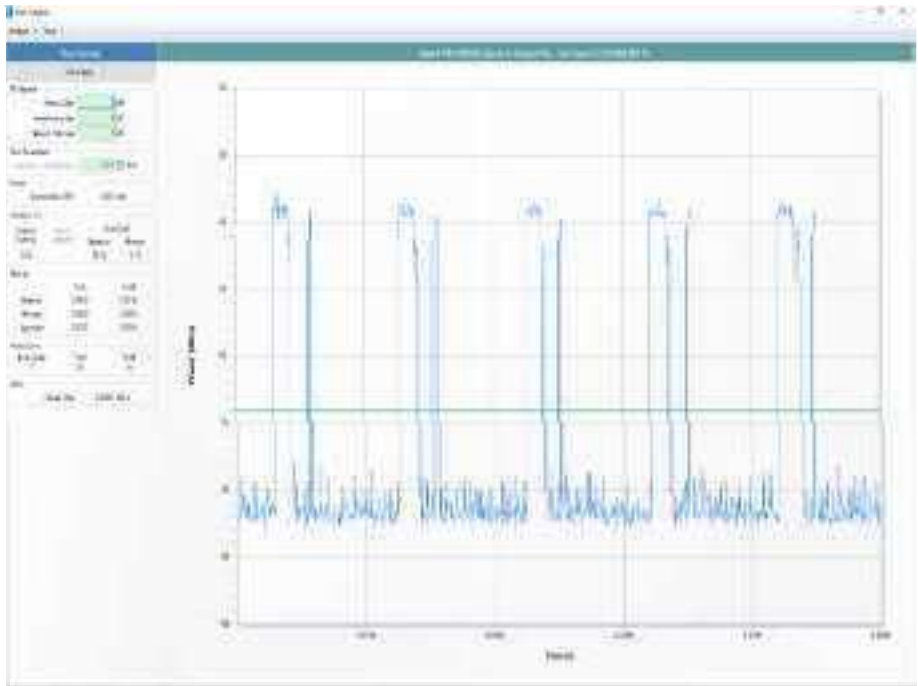


Figure927 - Channel Loading

The channel loading was 18.2 %



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 wave for RMS 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 644 - DFS Detection Thresholds for Master Devices and Client Devices with Radar Detection

Test Parameter	Result
Channel Move Time	0.844 s
Channel Closing Time (Aggregate Time During 200 ms)	16.39 ms
Channel Closing Time (Aggregate Time During 200 ms to 10 s)	3.70 ms
Channel Closing Time (Aggregate Time During 10 s)	20.9 ms
Transmission Observed During Non-Occupancy Period	No

Table 645 - In-Service Monitoring Test Results

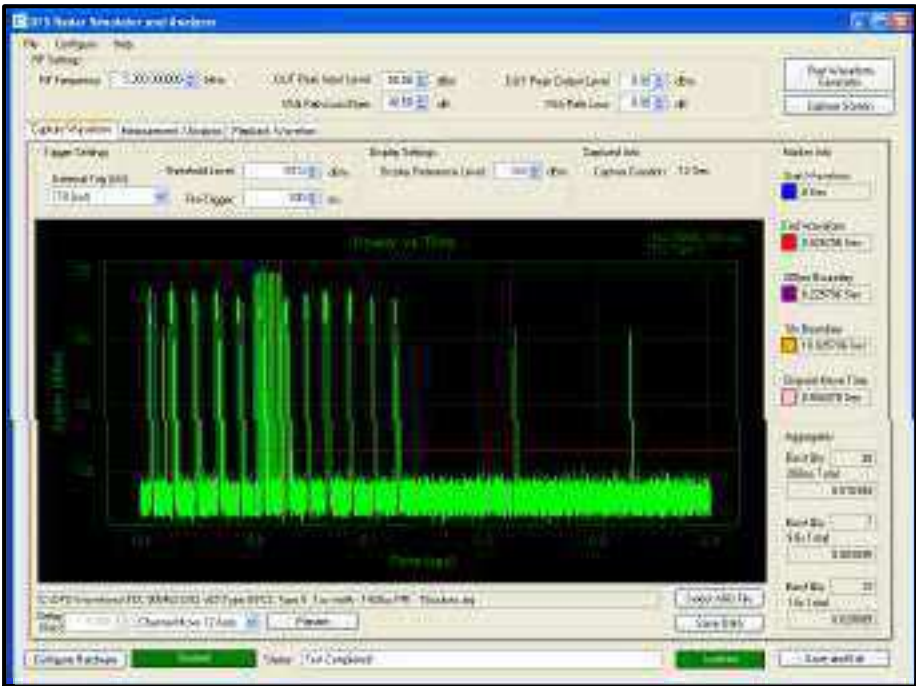


Figure 928 - First 200 ms of Channel Shutdown Period

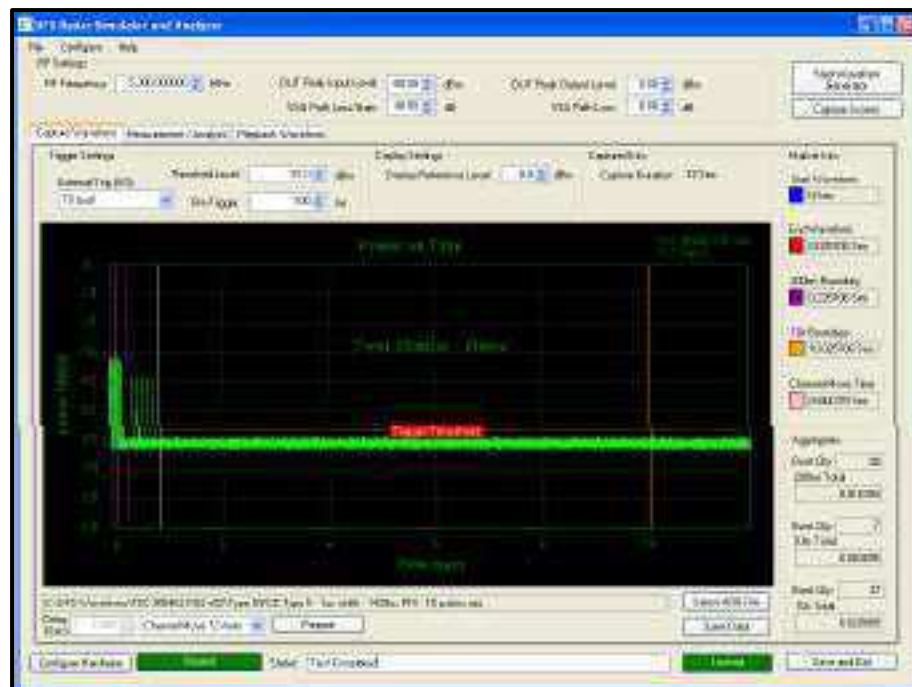


Figure 929 - First 12 s of Channel Shutdown Period

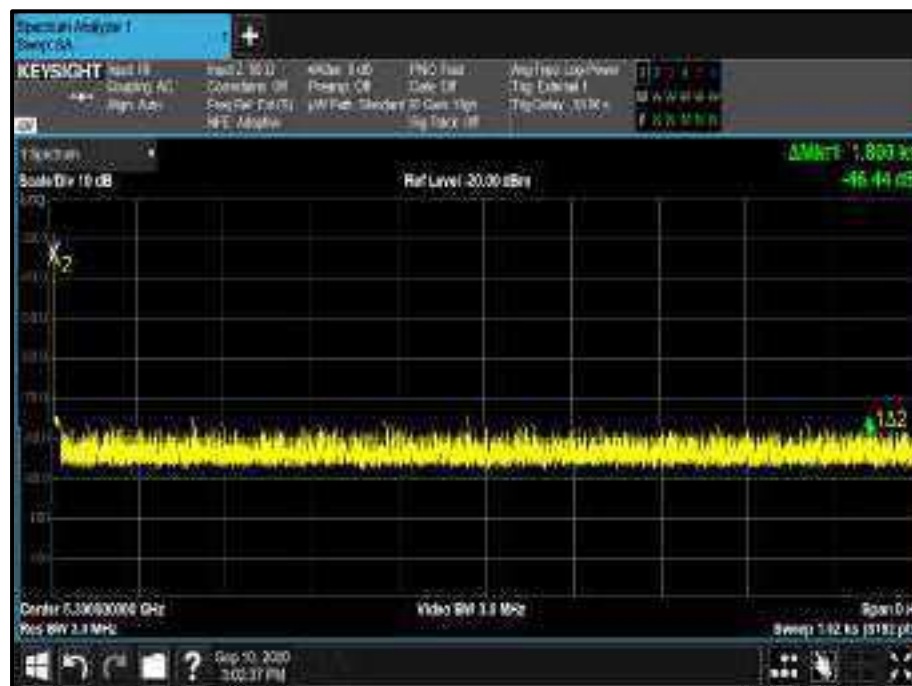


Figure 930 - 30 minute Non-Occupancy Period



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 +200 ms to 10s)	< 60 ms

Table 646 - 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 647 - Non-Occupancy Limit

ISED RSS-247, Limit Clause 6.3.2

Devices shall comply with the following requirements, however, the requirement for in-service monitoring does not apply to slave devices without radar detection.

In-service monitoring: an LE-LAN device shall be able to monitor the operating channel to check that a co-channel radar has not moved or started operation within range of the LE-LAN device. During in-service monitoring, the LE-LAN radar detection function continuously searches for radar signals between normal LE-LAN transmissions.

Channel availability check time: the device shall check whether there is a radar system already operating on the channel before it initiates a transmission on a channel and when it moves to a channel. The device may start using the channel if no radar signal with a power level greater than the interference threshold value specified in Section 6.3.1 above is detected within 60 seconds. This requirement only applies in the master operational mode.

Channel move time: after a radar signal is detected, the device shall cease all transmissions on the operating channel within 10 seconds.

Channel closing transmission time: is comprised of 200 ms starting at the beginning of the channel move time plus any additional intermittent control signals required to facilitate a channel move (an aggregate of 60 ms) over the remaining 10-second period of the channel move time.

Non-occupancy period: a channel that has been flagged as containing a radar signal, either by a channel availability check or in-service monitoring, is subject to a 30-minute non-occupancy period where the channel cannot be used by the LE-LAN device. The non-occupancy period starts from the time that the radar signal is detected.



25.7 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
Hygrometer	Rotronic	I-1000	32 20	12	25-Sep-2020
Network Analyser	Rohde & Schwarz	ZVA 40	35 48	12	11-Dec-2020
PXI RF Digitizer	Aeroflex	30 35	40 12	24	15-Sep-2020
PXI Digital RF Signal Generator	Aeroflex	30 25	40 15	24	15-Sep-2020
1 Metre SMA Cable	Rhopase	3P S-18 01A-10 00-3P S	40 99	12	22-Jun-20 21
Calibration Unit	Rohde & Schwarz	ZV Z54	43 68	12	28-Nov-2020
1 metre K-Type Cable	Florida Labs	KMS-18 0SP-39 .4-KMS	45 20	12	12-Nov-2020
Power Splitter, 2 way	Mini-Circuits	2N 2P D2 -63-S+	52 37	-	O/P Mon
Power Splitter, 2 way	Mini-Circuits	2N 2P D2 -63-S+	52 39	-	O/P Mon
Cable 2.92 m	Junkosha	MVWX24 1-01 000KMS	54 12	12	22-Jun-20 21
Signal Analyzer	Keysight Technologies	P X AN 9 030B	54 32	12	05-Dec-2020
Attenuator 5W 10dB D.C.-18 GHz	Aaren	AT4 0A-4041 -D18-10	54 87	12	14-Apr-2021
Attenuator 5W 20dB D.C.-18 GHz	Aaren	AT4 0A-4041 -D18-20	54 96	12	14-Apr-2021
Attenuator 5W 20dB D.C.-18 GHz	Aaren	AT4 0A-4041 -D18-20	54 98	12	14-Apr-2021
Attenuator 2W 10dB D.C.-10 GHz	Telegartner	J0 1156A 00 31	55 75	-	O/P Mon
Attenuator 2W 10dB D.C.-10 GHz	Telegartner	J0 1156A 00 31	55 78	-	O/P Mon
Attenuator 2W 10dB D.C.-10 GHz	Telegartner	J0 1156A 00 31	55 81	-	O/P Mon

Table 648

O/P Mon – Output Monitored using calibrated equipment



26 Authorised Band Edges

26.1 Specification Reference

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

26.2 Equipment Under Test and Modification State

A2348, S/N: C07D100W02H7 - Modification State 0

26.3 Date of Test

08-July-2020 to 07-August-2020

26.4 Test Method

The test was performed in accordance with ANSI C63.10, clause 6.6.

For U-NII-2C channels, the limit line on the following plots equated to -27 dBm/MHz. EIRP and was converted to field strength at 3 m using the following formula:

Field Strength (dBµV/m at 3 m) = EIRP (dBm) + 95.2 dB

Authorised band edge measurements were performed, with the device operating in SISO and MIMO configurations, across the various modes supported by the device.

The measurements displayed within this report, have been limited to those modes which have been shown to be worst case.

Further measurements are held on file by TÜV SÜD, and are available if required.

26.5 Environmental Conditions

Ambient Temperature	19.7 - 22.2 °C
Relative Humidity	44.9 - 53.5 %

26.6 Test Results

5 GHz WLAN

Mode	Data Rate MCS	Resource size	Resource Index	TX Frequency (MHz)	Band Edge Frequency (MHz)	Level (dBuV/m)
802.11a, Core 0	6 Mbps	-	-	56.00	54.70	57.05
802.11n, HT20 Core 0	MCS7	-	-	56.00	54.70	61.46
802.11a x HE20, Core 0	MCS7	SU	-	56.00	54.70	60.31
802.11a x HE20, Core 0	MCS7	S2	37	56.00	54.70	56.86
802.11a, Core 0	6 Mbps	-	-	57.00	57.25	55.14
802.11n, HT20 Core 0	MCS7	-	-	57.00	57.25	64.37
802.11a x HE20, Core 0	MCS7	SU	-	57.00	57.25	61.66
802.11a x HE20, Core 0	MCS7	S2	40	57.00	57.25	55.30

Table 649 - SISO Authorised Band Edge results

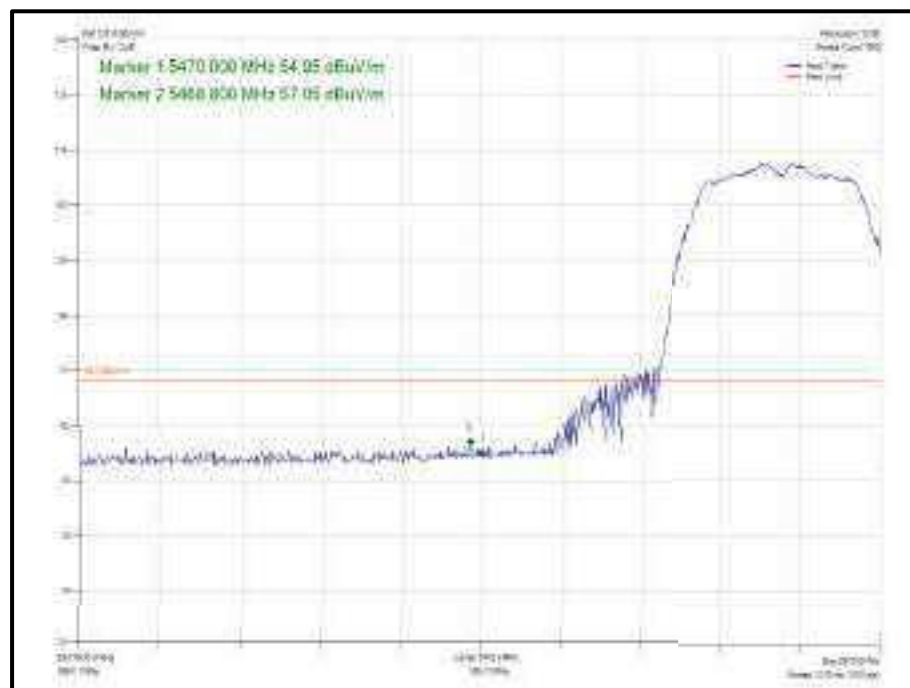
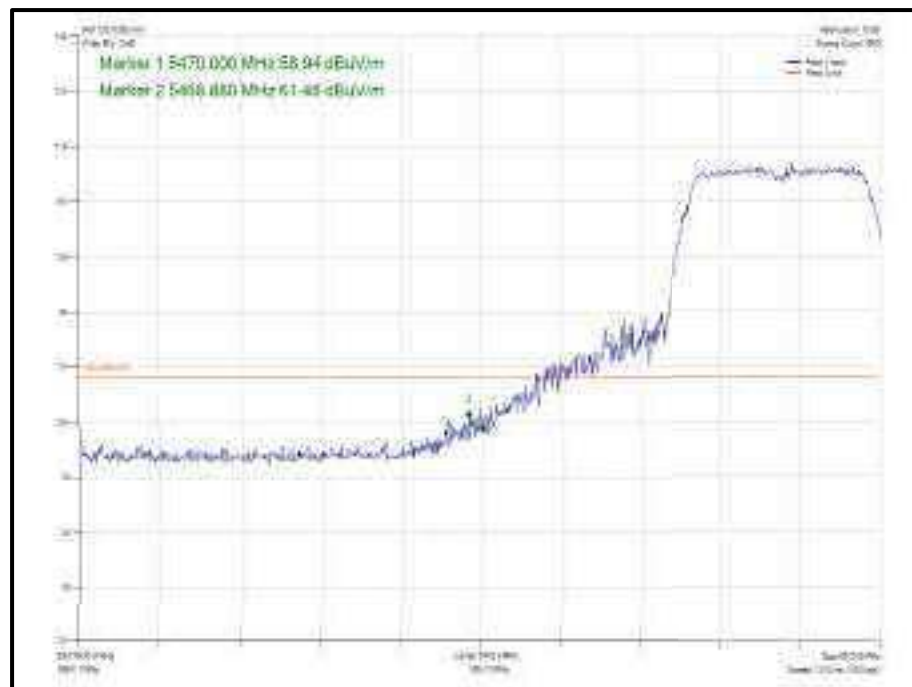
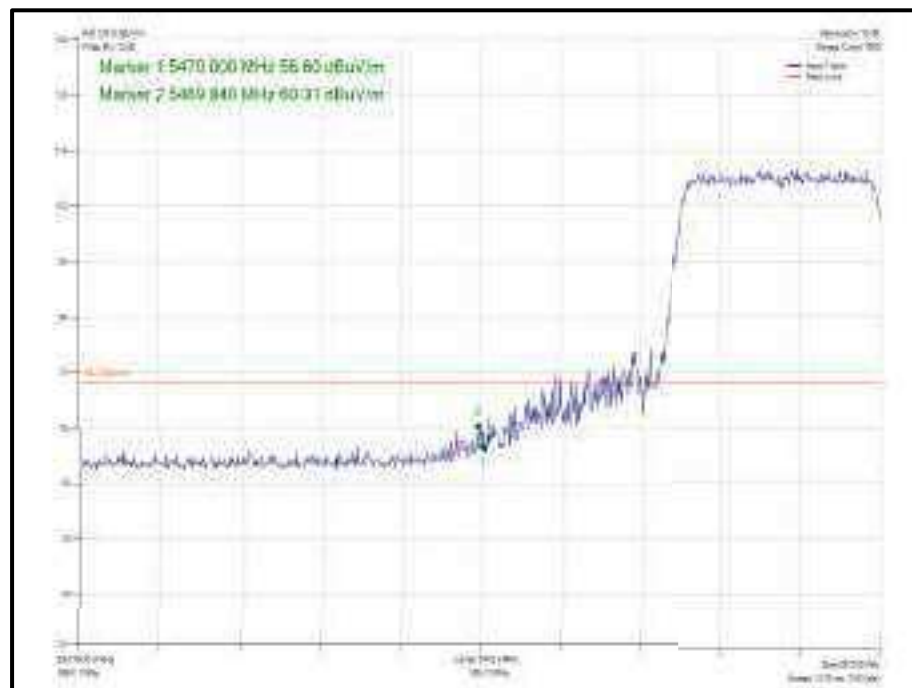


Figure 931 - 802.11 a, Core 0 - 5500 MHz
Band Edge Frequency 5470 MHz



**Figure 932 - 802.11n HT20, Core 0 - 5500 MHz
 Band Edge Frequency 5470 MHz**



**Figure 933 - 802.11ax HE20, Core 0, SU - 5500 MHz
 Band Edge Frequency 5470 MHz**

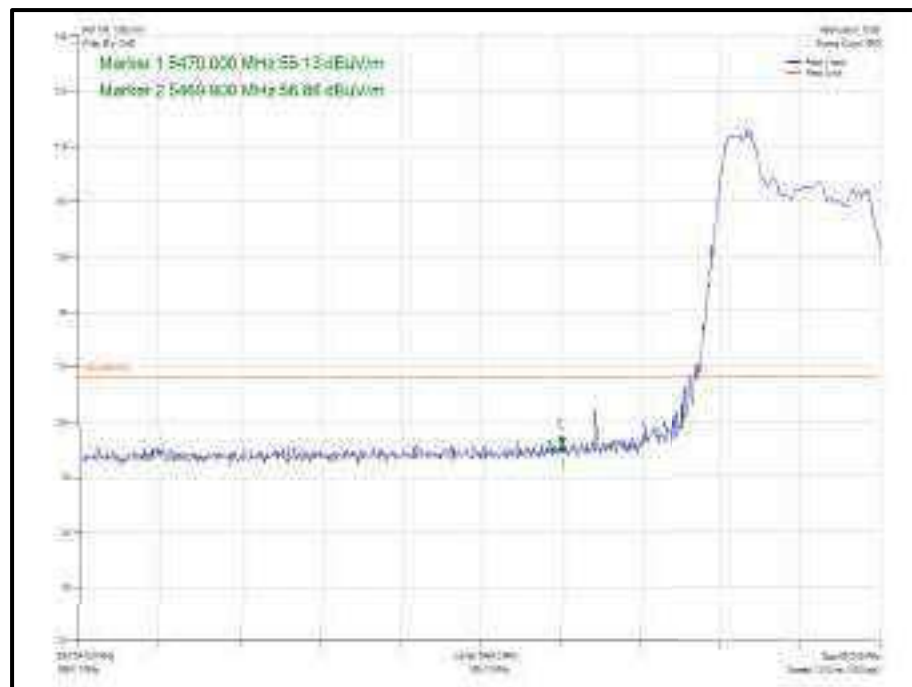


Figure 934 - 802.11 a HE20, Core 0, 52.37 - 5500 MHz
 Band Edge Frequency 5470 MHz

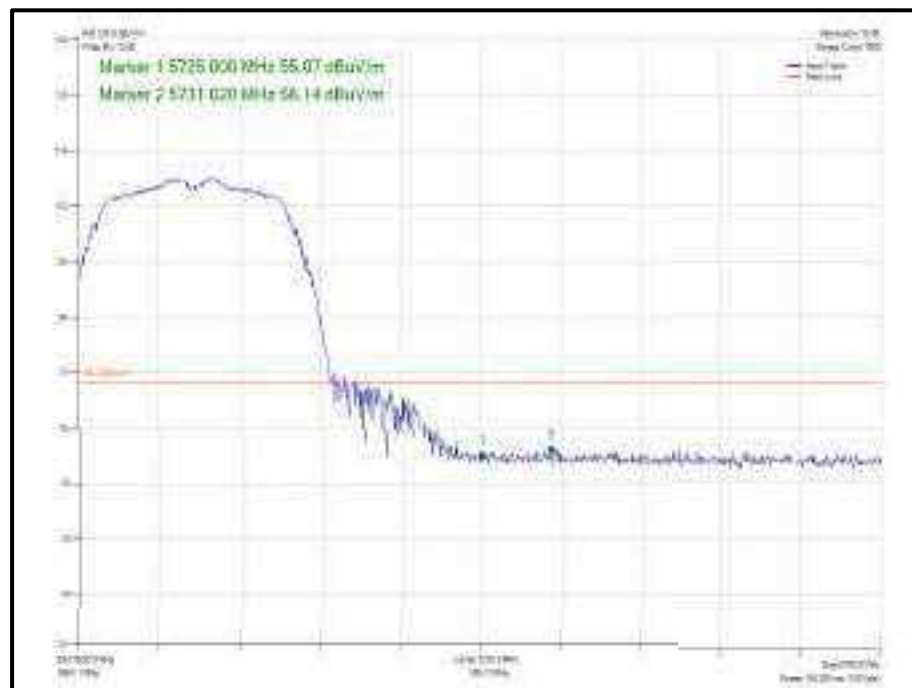
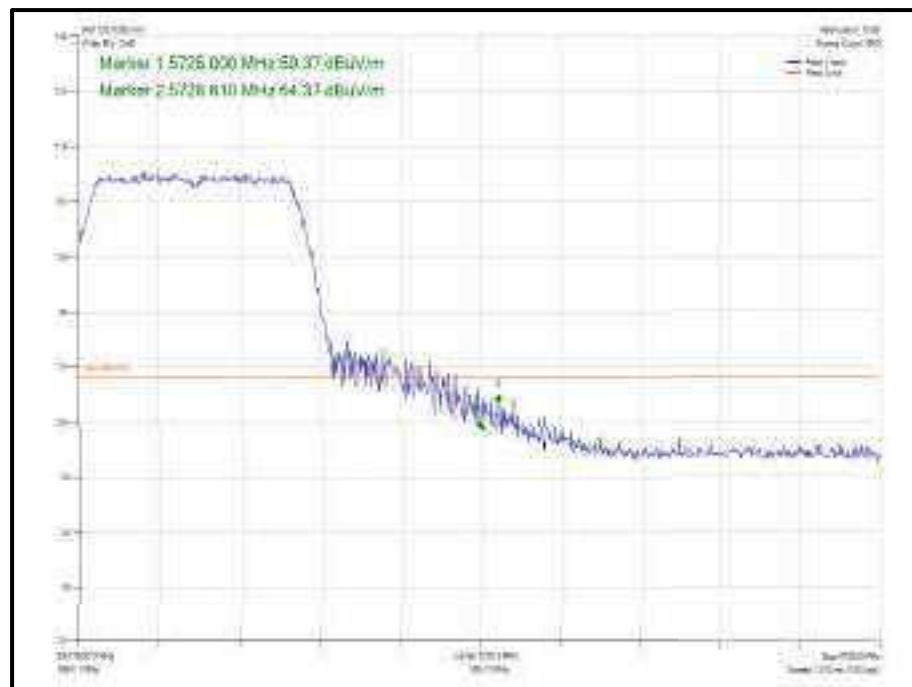
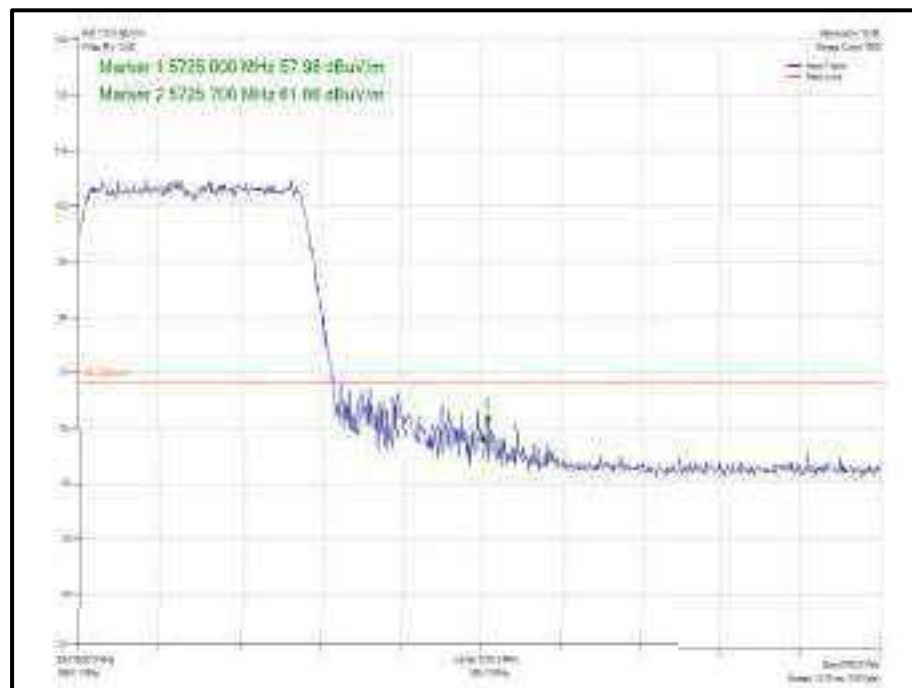


Figure 935 - 802.11a, Core 0 - 5700 MHz
 Band Edge Frequency 5725 MHz



**Figure 936 - 802.11n HT20, Core 0 - 5700 MHz
 Band Edge Frequency 5725 MHz**



**Figure 937 - 802.11ax HE20, Core 0, SU - 5700 MHz
 Band Edge Frequency 5725 MHz**

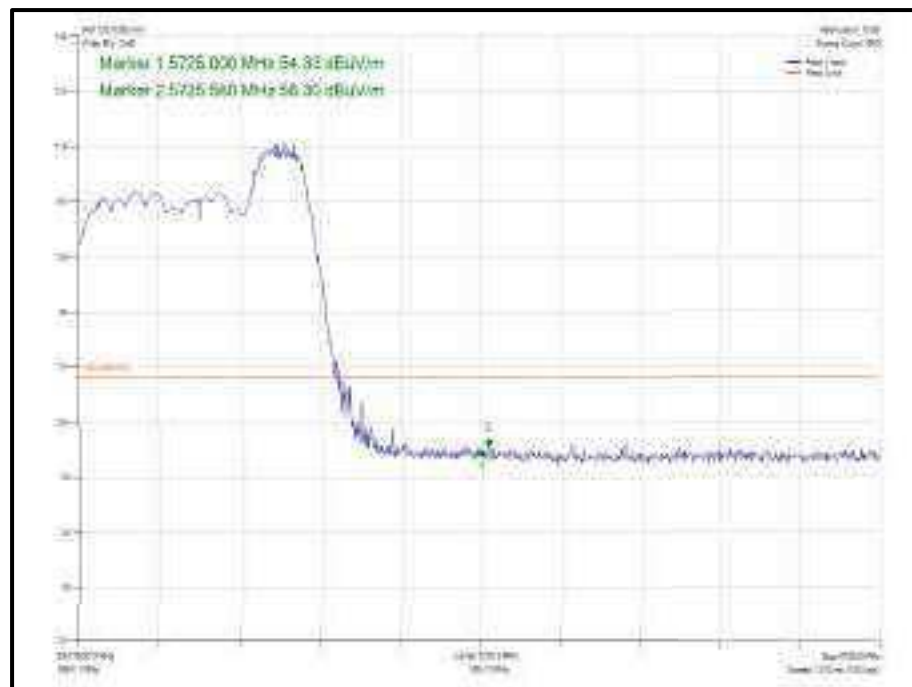
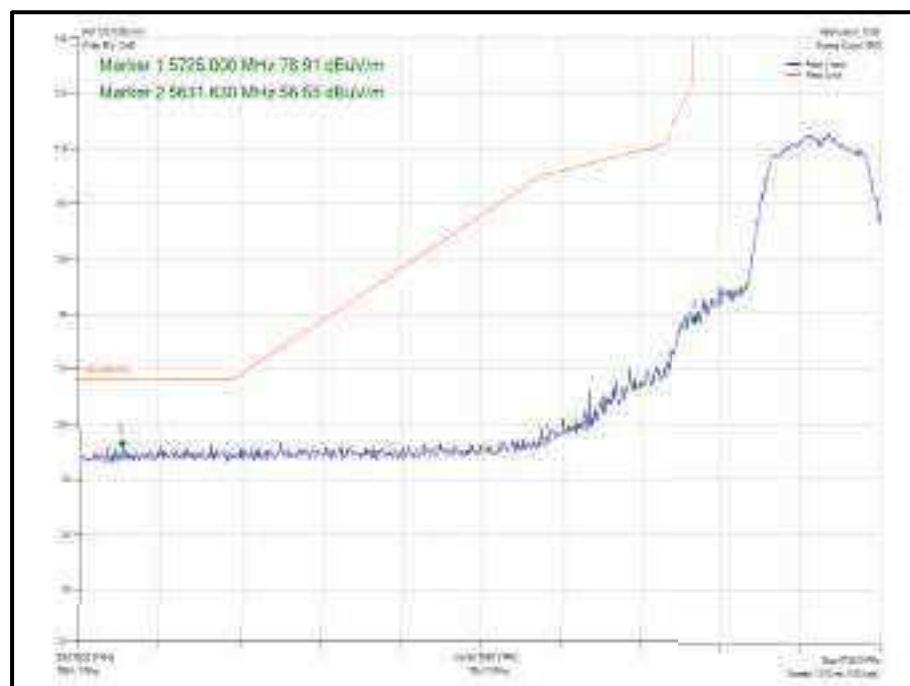


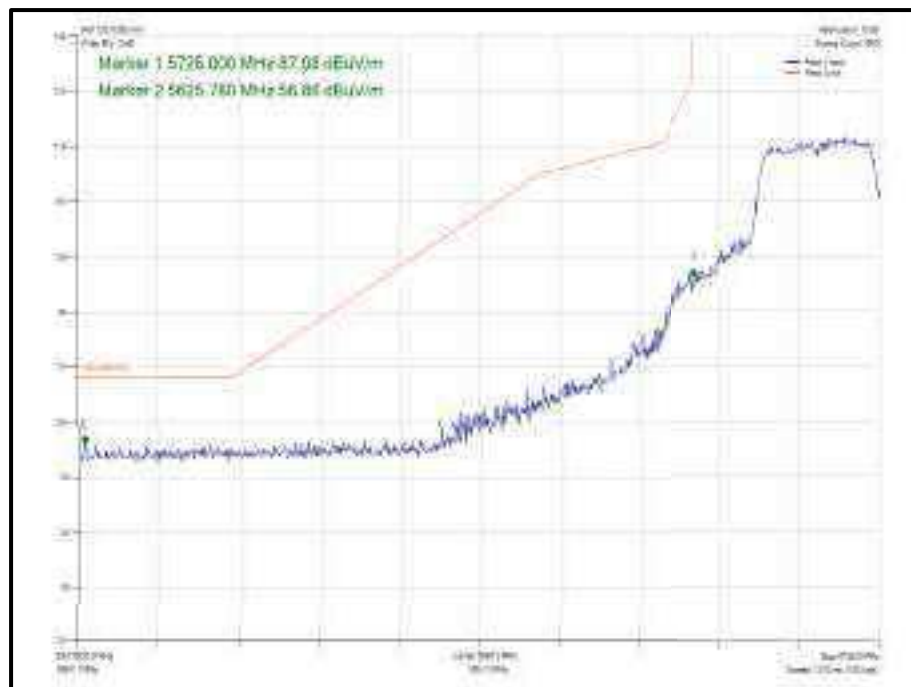
Figure 938 - 802.11 ax HE20, Core 0, 52.40 - 5700 MHz
Band Edge Frequency 5725 MHz

Mode	Data Rate MCS	Resource size	Resource Index	TX Frequency (MHz)	Band Edge Frequency (MHz)	Level (dBuV/m)
802.11a, Core 1	6 Mbps	-	-	5745	5725	-55
802.11n HT20, Core 1	MCS7	-	-	5745	5725	-58
802.11a x HE20, Core 1	MCS7	SU	-	5745	5725	-60
802.11a x HE20, Core 1	MCS7	26	0	5745	5725	-59
802.11a, Core 1	6 Mbps	-	-	5825	5850	-78
802.11n HT20, Core 1	MCS7	-	-	5825	5850	-52
802.11a x HE20, Core 1	MCS7	SU	-	5825	5850	-29
802.11a x HE20, Core 1	MCS7	26	8	5825	5850	-92

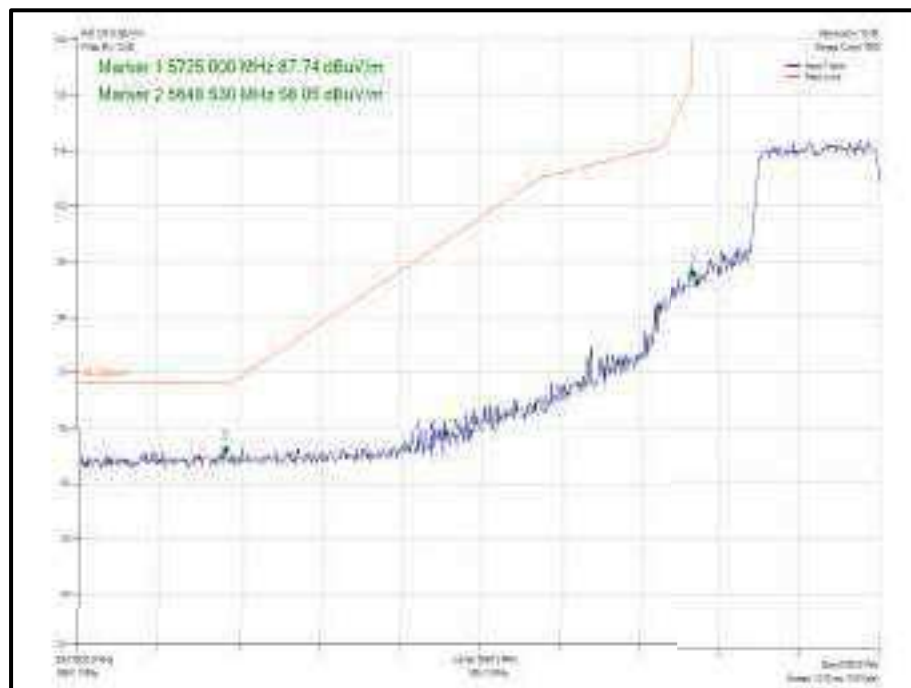
Table 650 - SISO Authorised Band Edge results



**Figure 939 - 802.11 a, Core 1 - 5745 MHz
Band Edge Frequency 5725 MHz**



**Figure 940 - 802.11n HT20, Core 1 - 5745 MHz
 Band Edge Frequency 5725 MHz**



**Figure 941 - 802.11ax HE20, Core 1, SU - 5745 MHz
 Band Edge Frequency 5735 MHz**

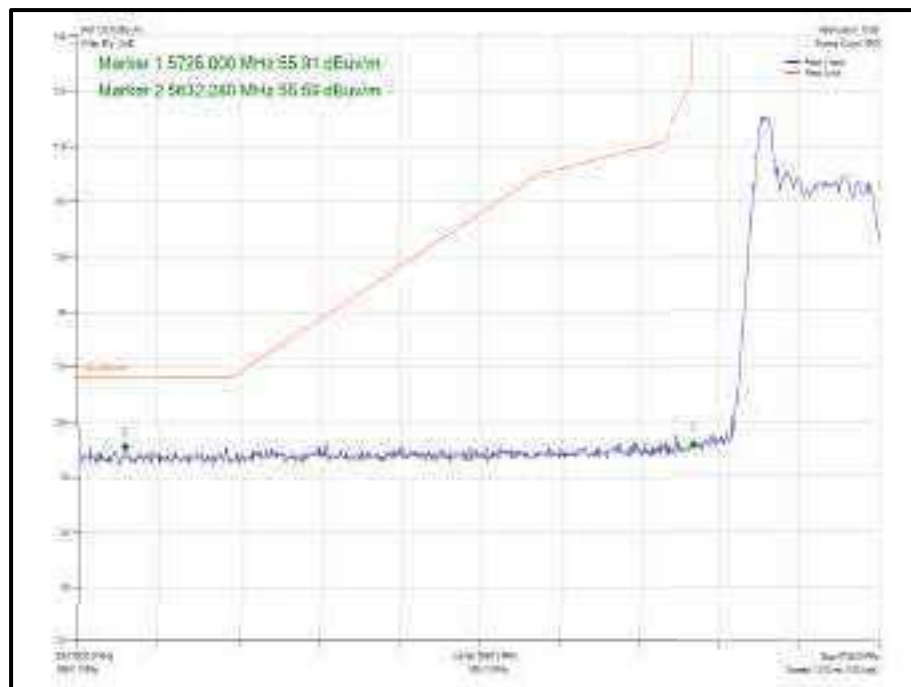


Figure 942- 802.11 a HE20, Core 1, 26.0 - 5745 MHz
 Band Edge Frequency 5735 MHz

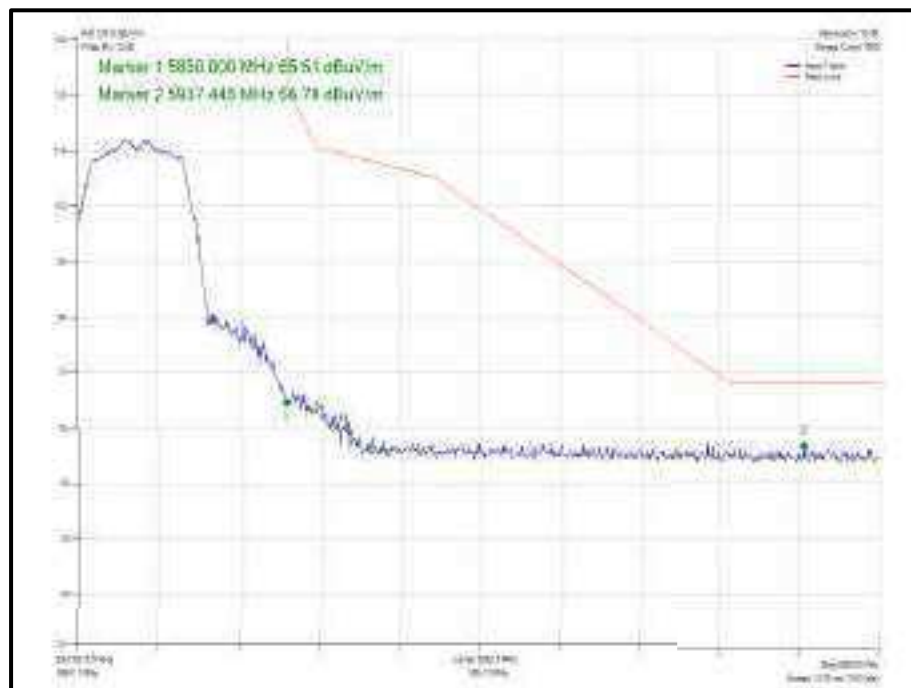


Figure 943 - 802.11 a, Core 1, - 5825 MHz
 Band Edge Frequency 5850 MHz

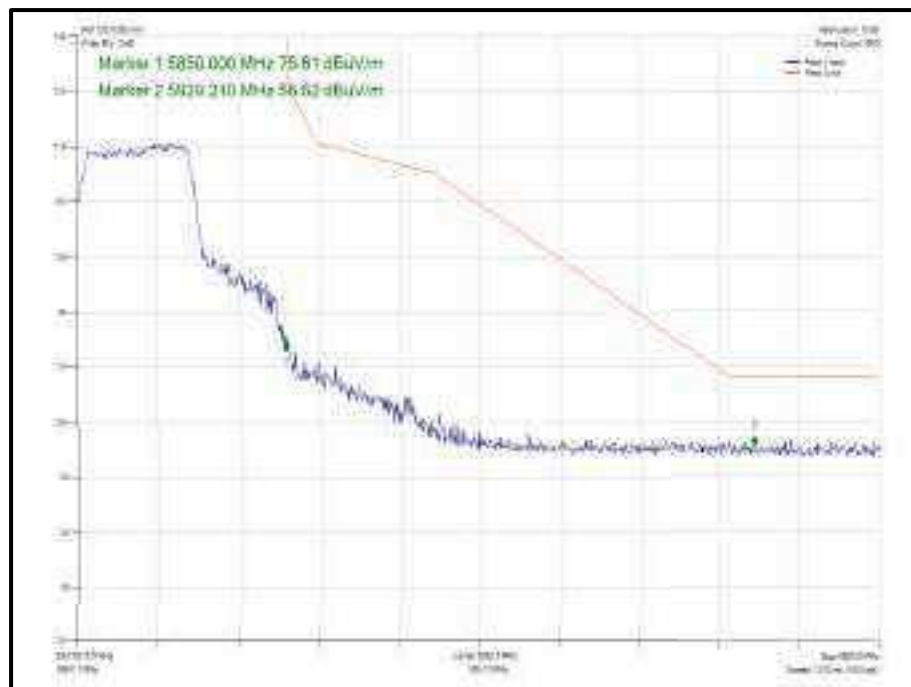


Figure 944 - 802.11n HT20, Core 1 - 5825 MHz
 Band Edge Frequency 5850 MHz

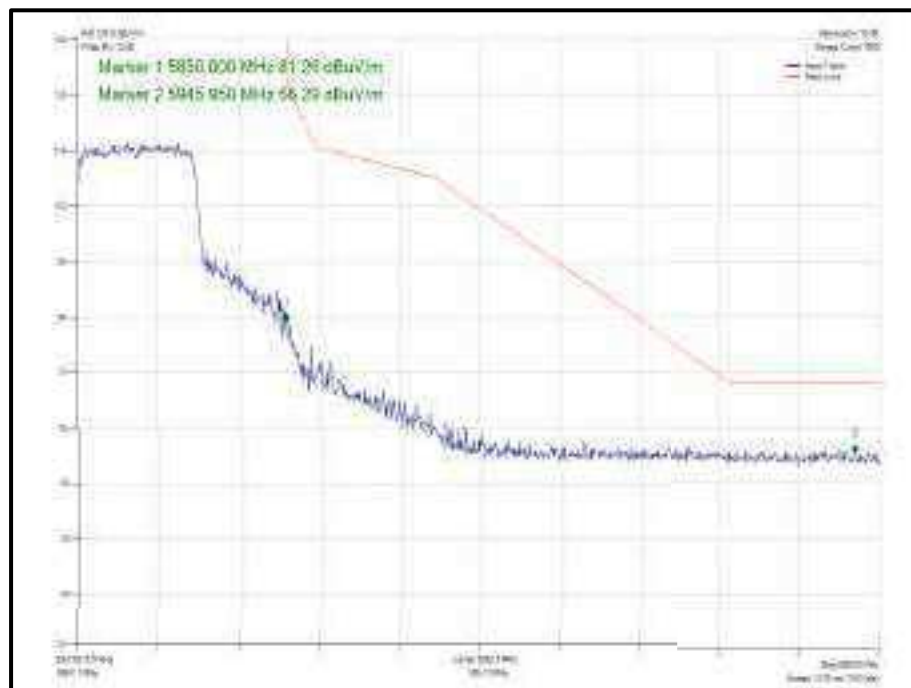


Figure 945 - 802.11ax HE20, Core 1, SU - 5825 MHz
 Band Edge Frequency 5850 MHz

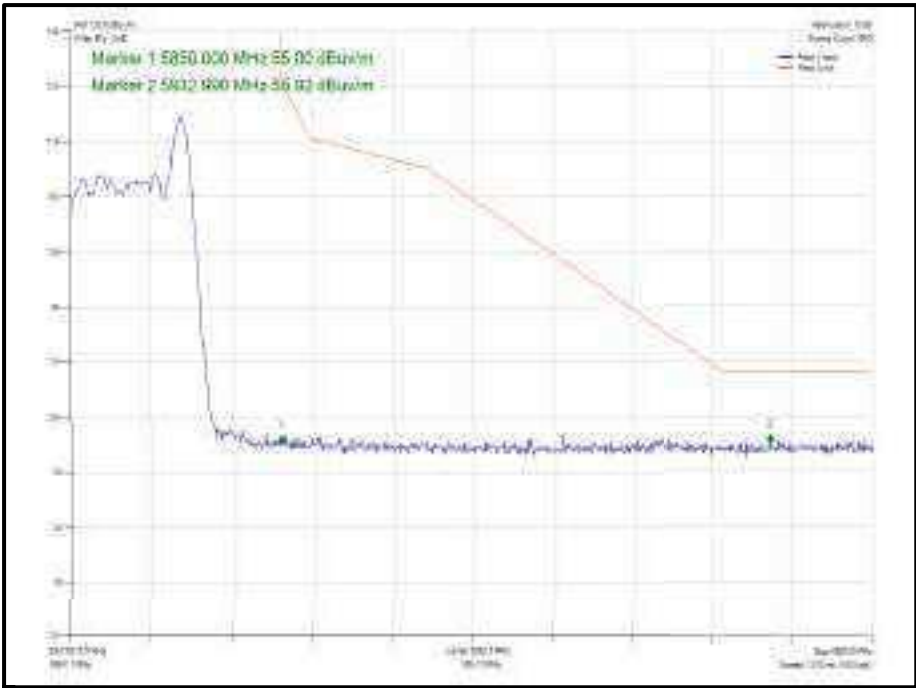
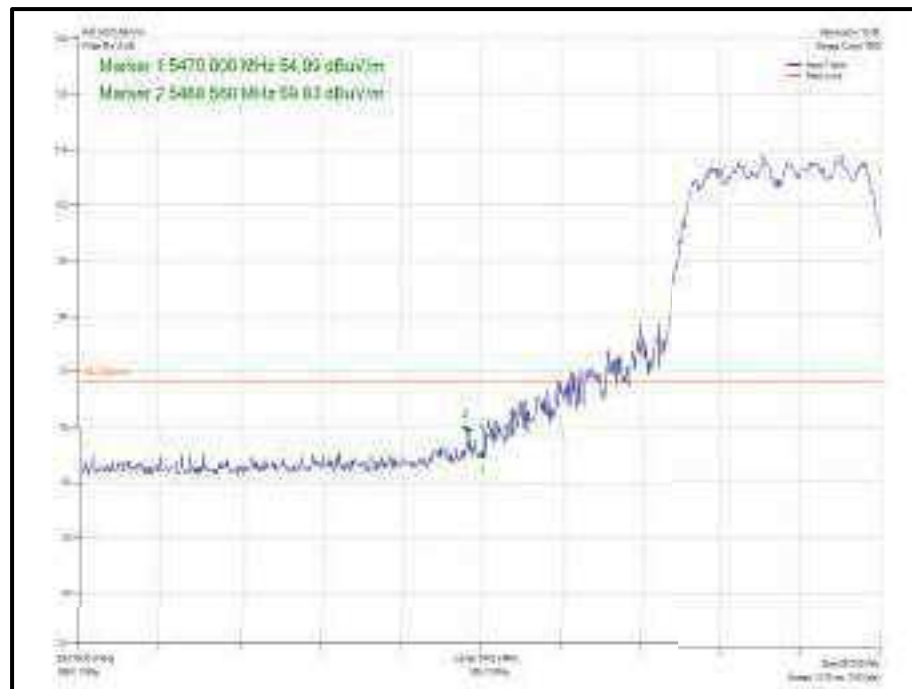


Figure 946- 802.11 a HE20, Core 1, 26-8 - 5825 MHz
Band Edge Frequency 5850 MHz

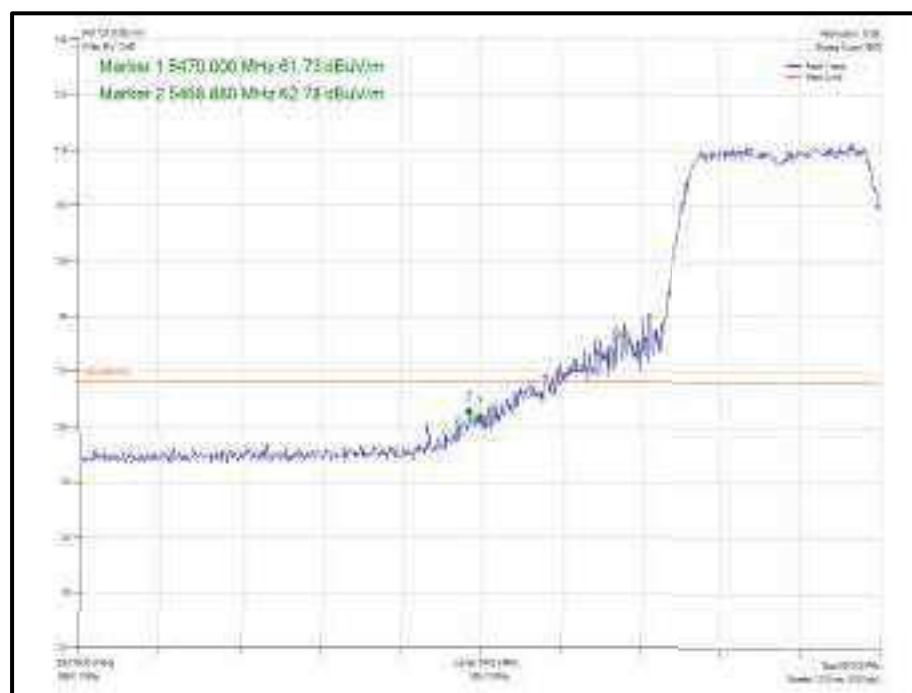


Mode	Data Rate/ MCS	Resource size	Resource Index	TX Frequency (MHz)	Band Edge Frequency (MHz)	Level (dBu/V/m)
802.11n HT20 CDD, Cores 0-4	MCS7	-	-	56.00	54.70	59.63
802.11n HT20 SDM, Cores 0-4	MCS15	-	-	56.00	54.70	62.78
802.11a x HE20 CDD, Cores 0-4	MCS7	SU	-	56.00	54.70	60.48
802.11a x HE20 CDD, Cores 0-4	MCS7	S2	37	56.00	54.70	56.11
802.11a x HE20 SDM, Cores 0-4	MCS7	SU	-	56.00	54.70	59.83
802.11a x HE20 SDM, Cores 0-4	MCS7	S2	37	56.00	54.70	56.87
802.11n HT20 CDD, Cores 0-4	MCS7	-	-	57.00	57.25	63.62
802.11n HT20 SDM, Cores 0-4	MCS15	-	-	57.00	57.25	61.01
802.11a x HE20 CDD, Cores 0-4	MCS7	SU	-	57.00	57.25	62.58
802.11a x HE20 CDD, Cores 0-4	MCS7	S2	40	57.00	57.25	56.72
802.11a x HE20 SDM, Cores 0-4	MCS7	SU	-	57.00	57.25	57.44
802.11a x HE20 SDM, Cores 0-4	MCS7	S2	40	57.00	57.25	56.60
802.11n HT20 CDD, Cores 0-4	MCS7	-	-	57.45	57.25	56.82
802.11n HT20 SDM, Cores 0-4	MCS15	-	-	57.45	57.25	56.60
802.11a x HE20 CDD, Cores 0-4	MCS7	SU	-	57.45	57.25	56.45
802.11a x HE20 CDD, Cores 0-4	MCS7	S2	0	57.45	57.25	56.97
802.11a x HE20 SDM, Cores 0-4	MCS7	SU	-	57.45	57.25	56.37
802.11a x HE20 SDM, Cores 0-4	MCS7	S2	0	57.45	57.25	56.52
802.11n HT20 CDD, Cores 0-4	MCS7	-	-	58.25	58.50	58.79
802.11n HT20 SDM, Cores 0-4	MCS15	-	-	58.25	58.50	57.19
802.11a x HE20 CDD, Cores 0-4	MCS7	SU	-	58.25	58.50	57.56
802.11a x HE20 CDD, Cores 0-4	MCS7	S2	8	58.25	58.50	56.99
802.11a x HE20 SDM, Cores 0-4	MCS7	SU	-	58.25	58.50	57.14
802.11a x HE20 SDM, Cores 0-4	MCS7	S2	8	58.25	58.50	57.23

Table 651 - MIMO 2 TX Authorised Band Edge Results



**Figure 947 - 802.11 n HT20 CDD, Cores 0-1 - 5500 MHz
 Band Edge Frequency 5470 MHz**



**Figure 948 - 802.11 n HT20 SDM, Cores 0-1 - 5500 MHz
 Band Edge Frequency 5470 MHz**

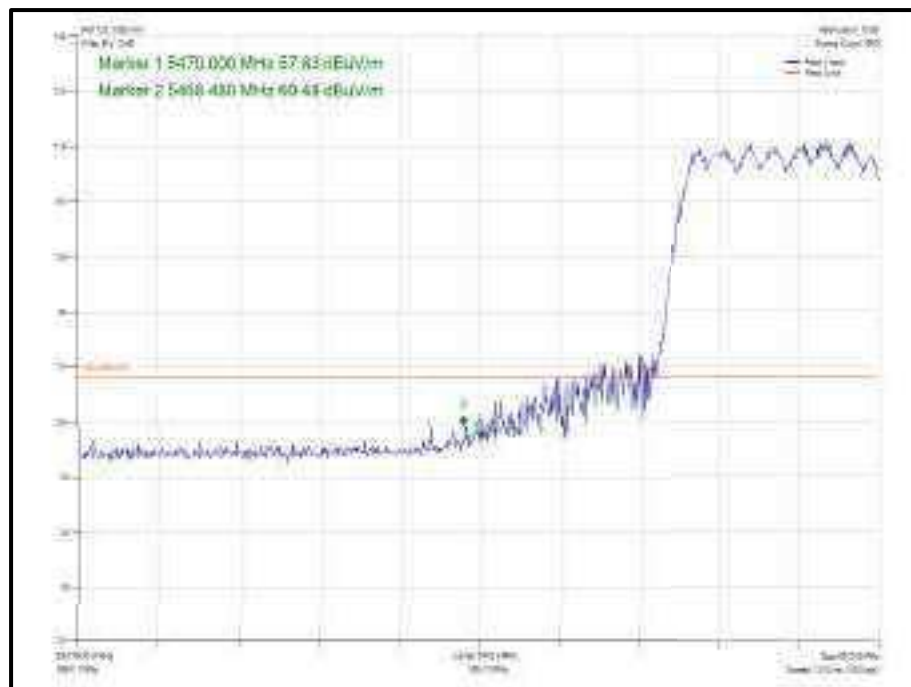


Figure 949 - - 802.11ax HE20 CDD, Cores 0-1, SU - 5500 MHz
 Band Edge Frequency 5470 MHz

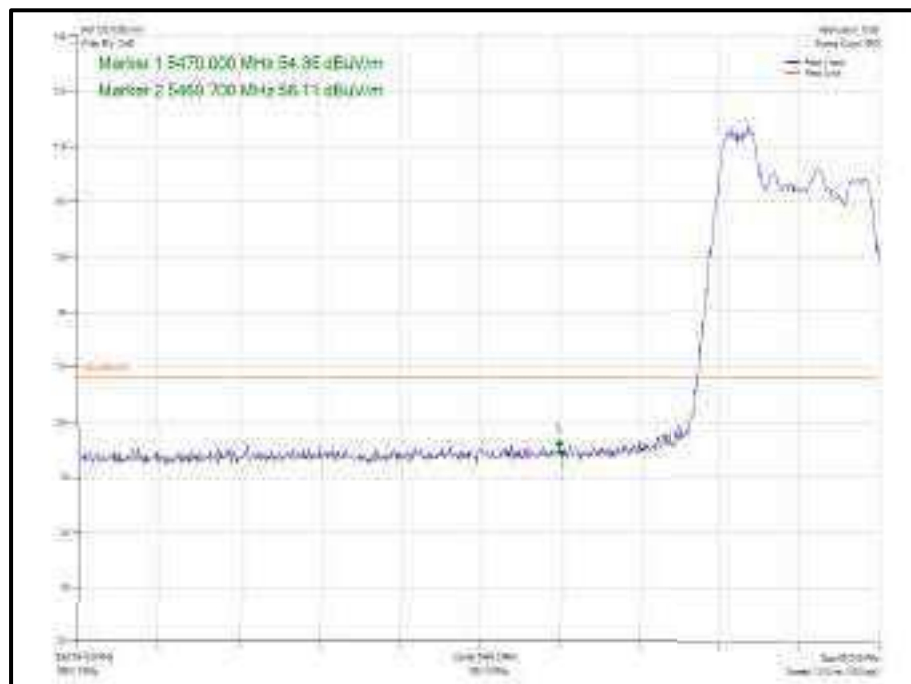
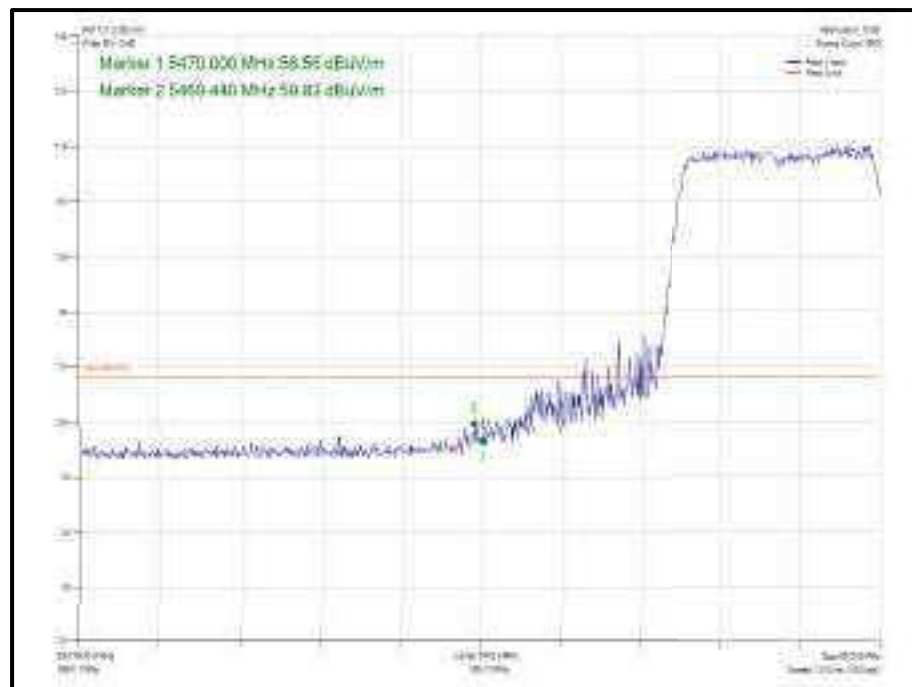
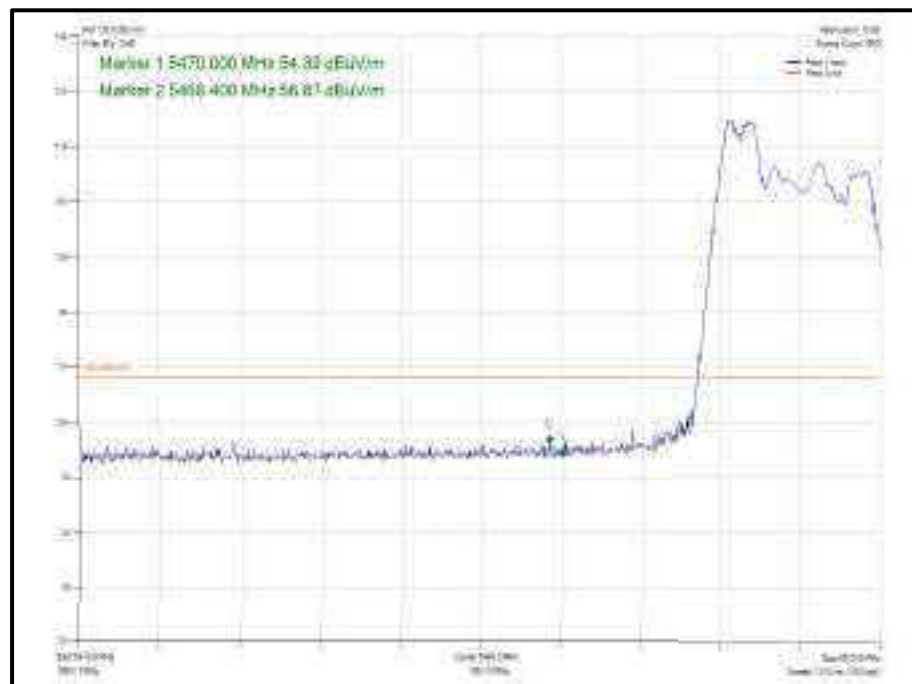


Figure 950 - 802.11ax HE20 CDD, Cores 0-1 52-37 - 5500 MHz
 Band Edge Frequency 5470 MHz



**Figure 951 - - 802.11ax HE20 SDM, Cores 0-1 SU - 550 0 MHz
 Band Edge Frequency 5470 MHz**



**Figure 952 - 802.11ax HE20 SDM, Cores 0-1 26-0 - 550 0 MHz
 Band Edge Frequency 5470 MHz**

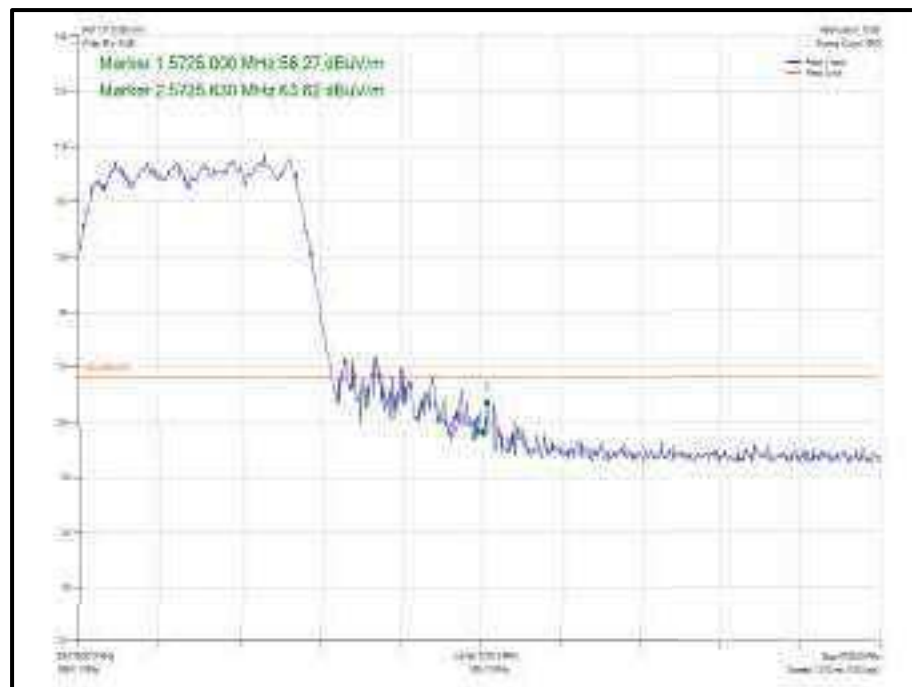


Figure 953 - 802.11 n HT20 CDD, Cores 0-1 - 5700 MHz
 Band Edge Frequency 5725 MHz

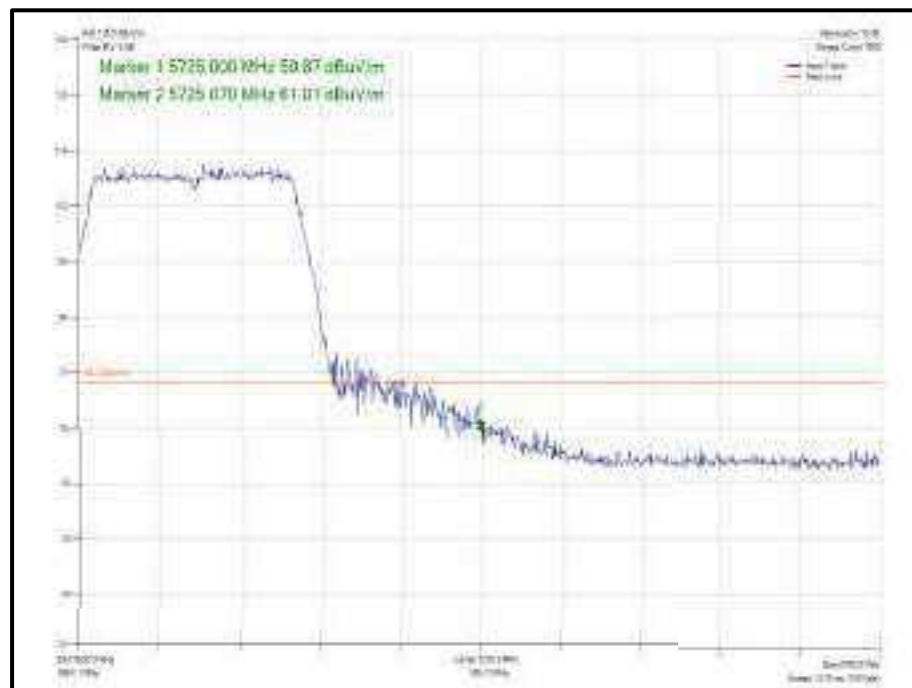


Figure 954 - 802.11 n HT20 SDM, Cores 0-1 - 5700 MHz
 Band Edge Frequency 5725 MHz

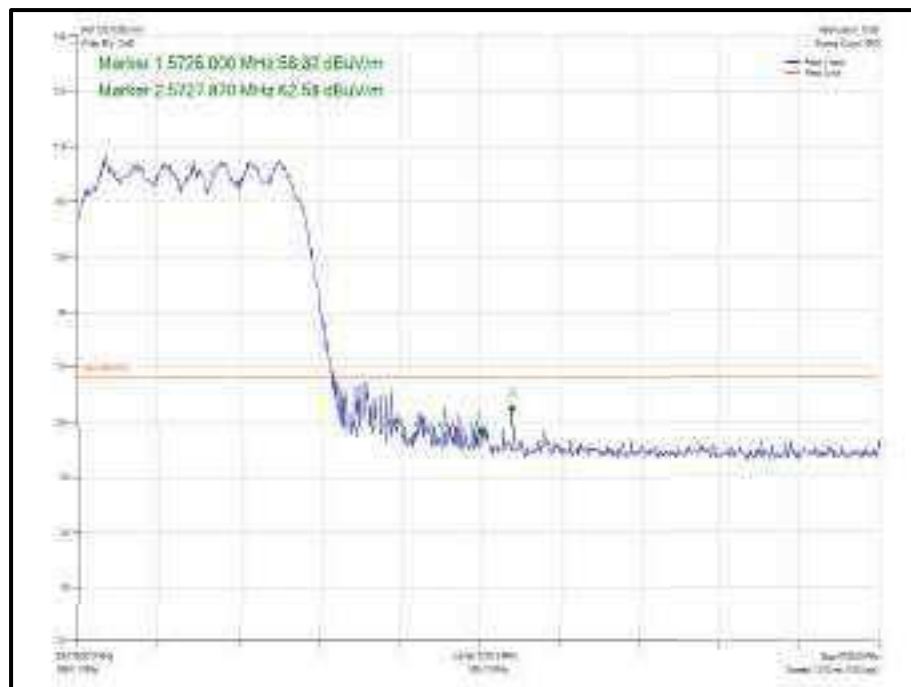


Figure 955 - - 802.11ax HE20 CDD, Cores 0-1, SU - 5700 MHz
 Band Edge Frequency 5725 MHz

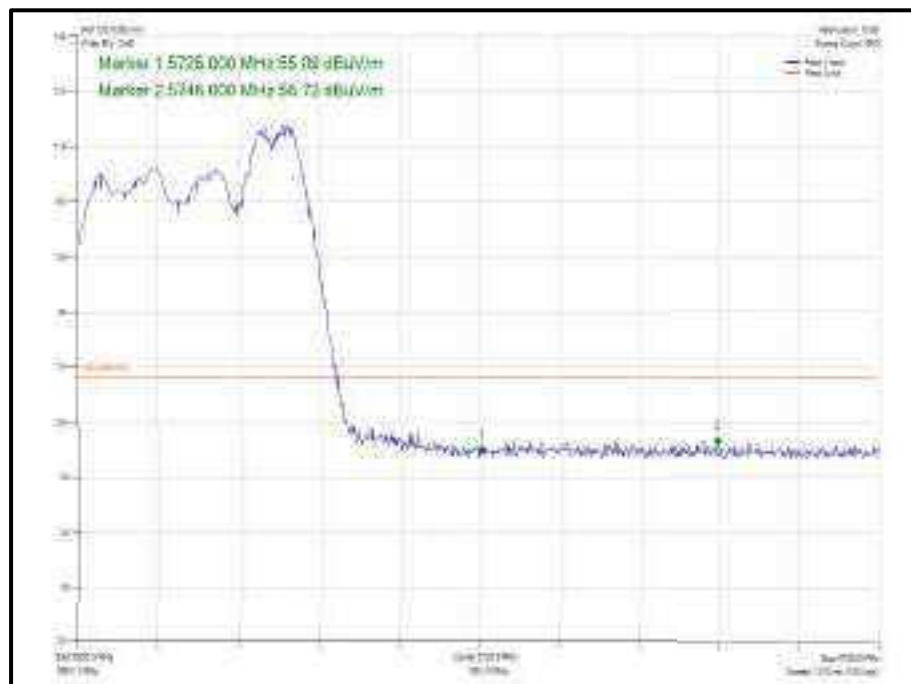


Figure 956 - 802.11ax HE20 CDD, Cores 0-1, 26-8 - 5700 MHz
 Band Edge Frequency 5725 MHz

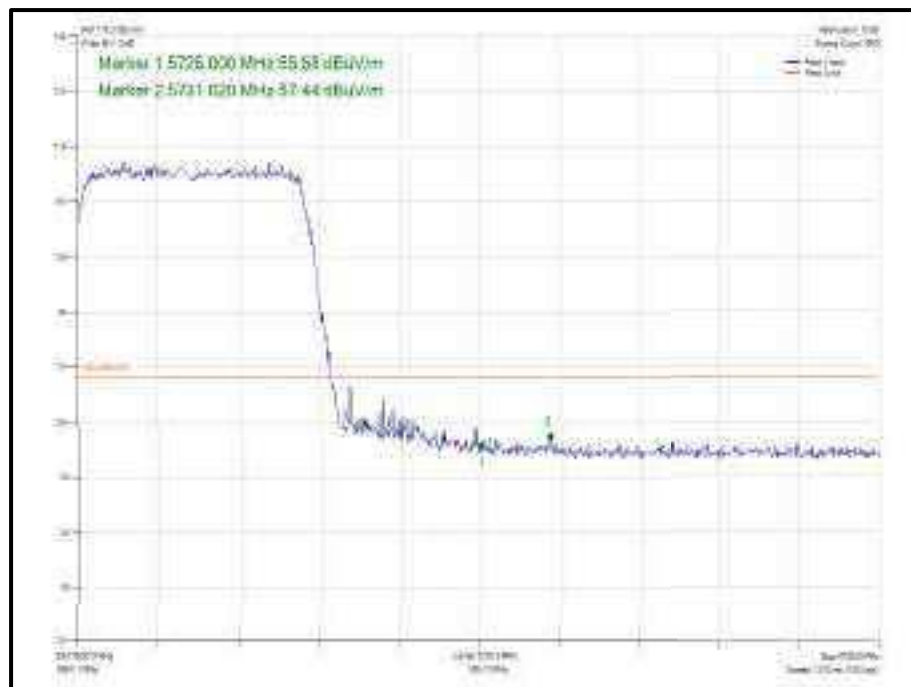


Figure 957 - - 802.11ax HE20 SDM, Cores 0-1, SU - 5700 MHz
 Band Edge Frequency 5725 MHz

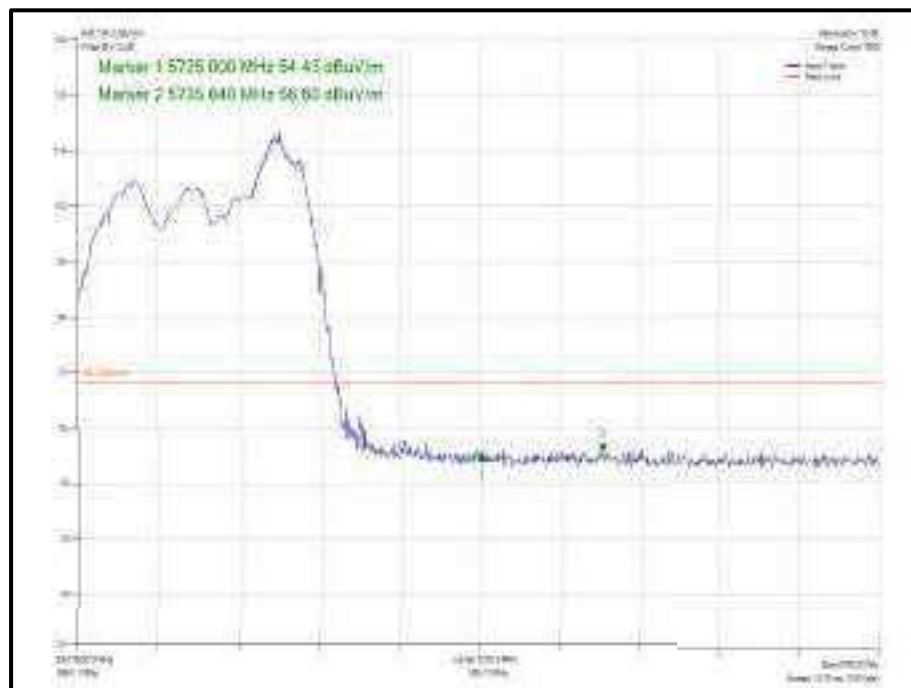
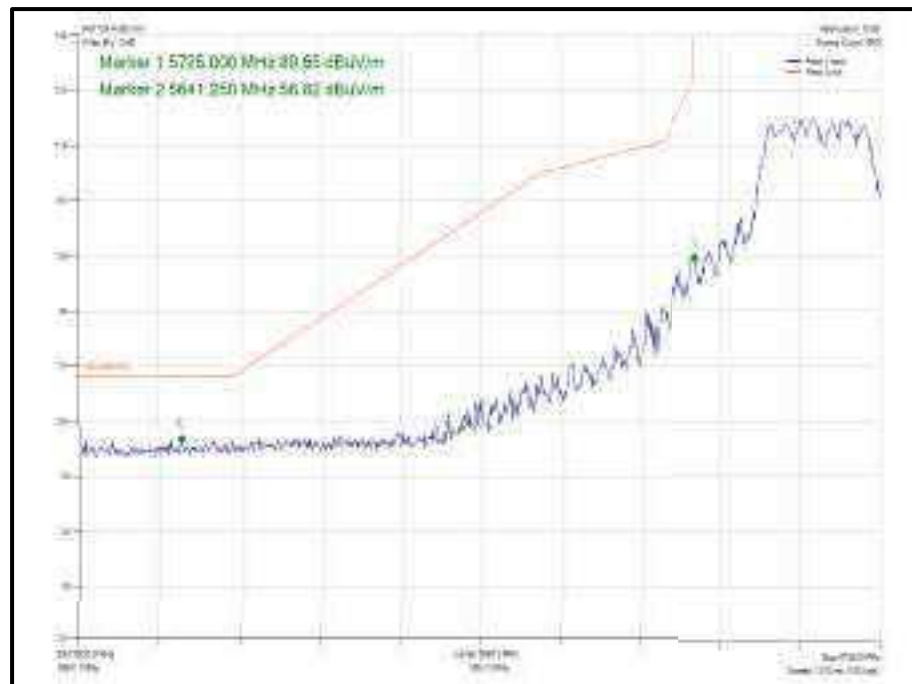
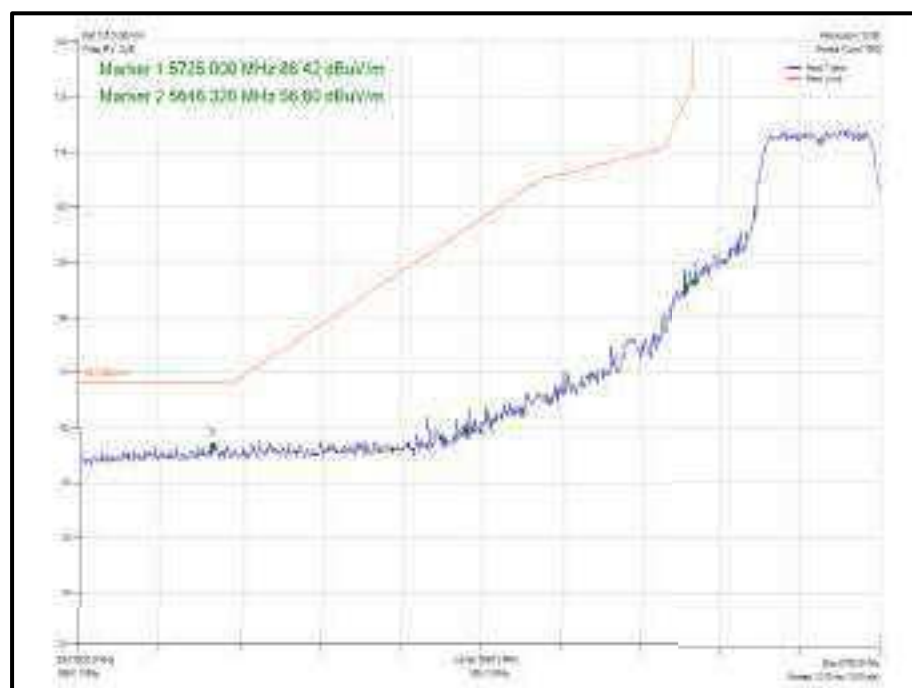


Figure 958 - 802.11ax HE20 SDM, Cores 0-1, 26-8 - 5700 MHz
 Band Edge Frequency 5725 MHz



**Figure 959 - 802.11 n HT20 CDD, Cores 0-1 - 5745 MHz
 Band Edge Frequency 5725 MHz**



**Figure 960 - 802.11 n HT20 SDM, Cores 0-1 - 5745 MHz
 Band Edge Frequency 5725 MHz**

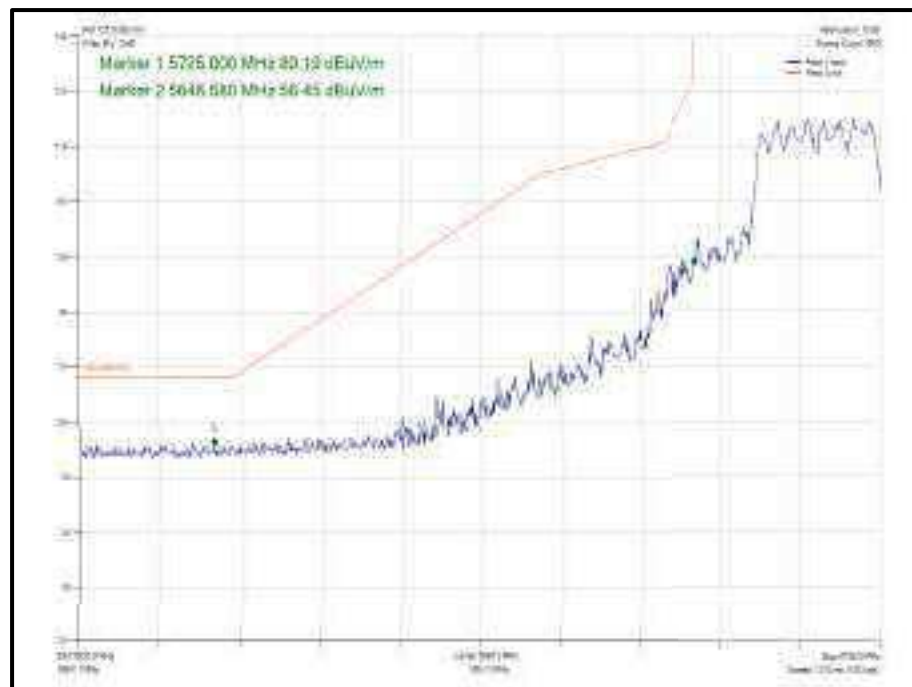


Figure 961 - - 802.11ax HE20 CDD, Cores 0-1, SU - 5745 MHz
 Band Edge Frequency 5725 MHz

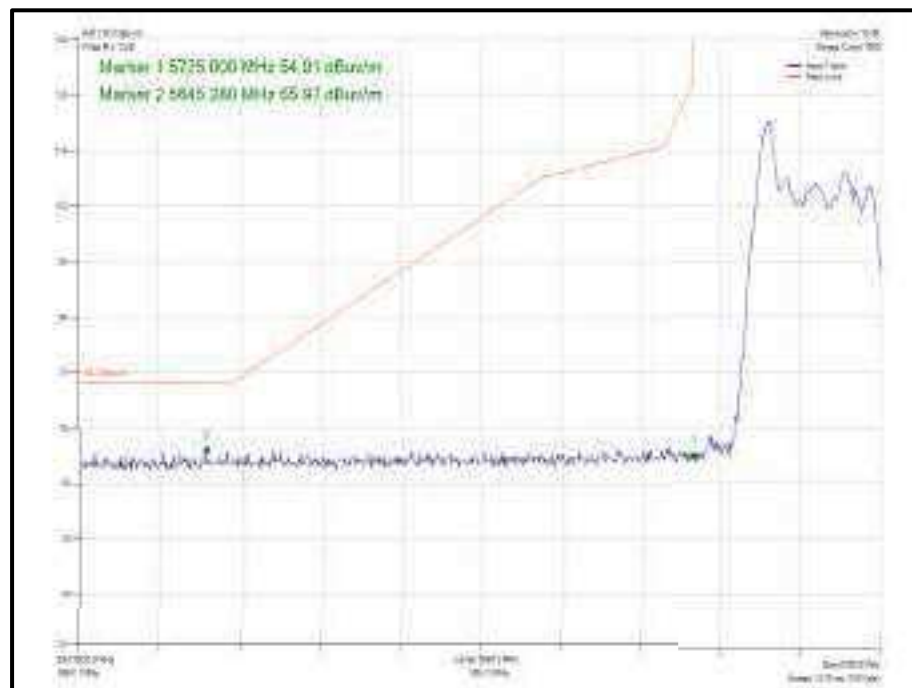


Figure 962 - 802.11ax HE20 CDD, Cores 0-1, 26-0 - 5745 MHz
 Band Edge Frequency 5725 MHz

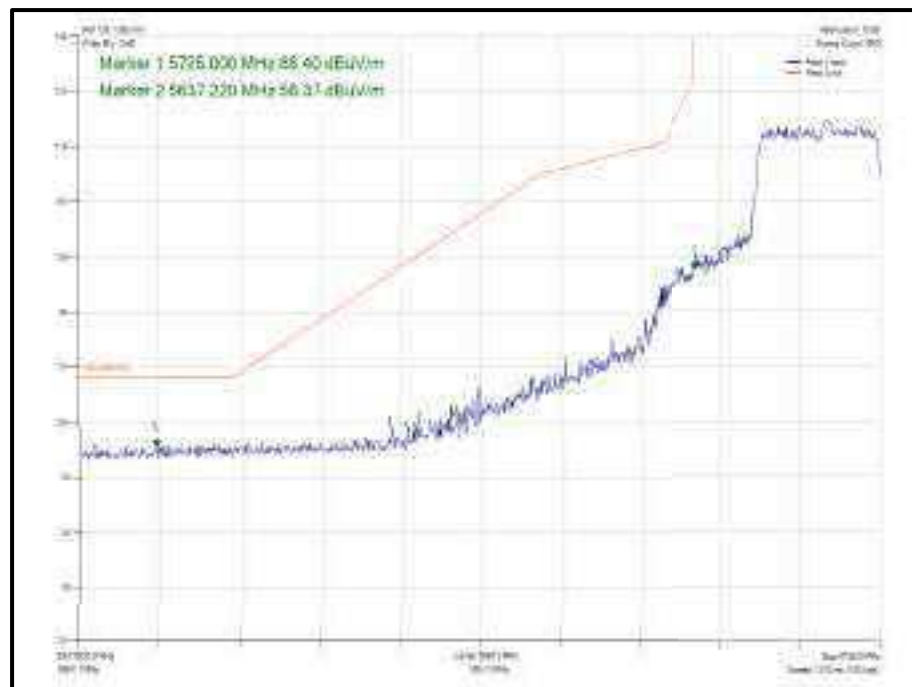


Figure 963 - - 802.11ax HE20 SDM, Cores 0-1, SU - 5745 MHz
 Band Edge Frequency 5725 MHz

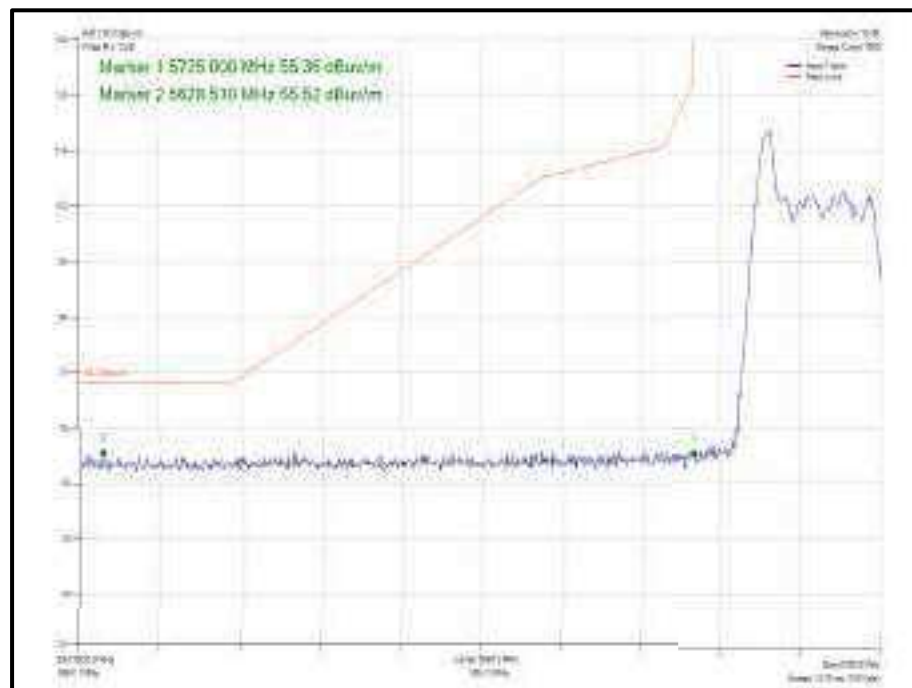


Figure 964 - 802.11ax HE20 SDM, Cores 0-1, 26-0 - 5745 MHz
 Band Edge Frequency 5725 MHz

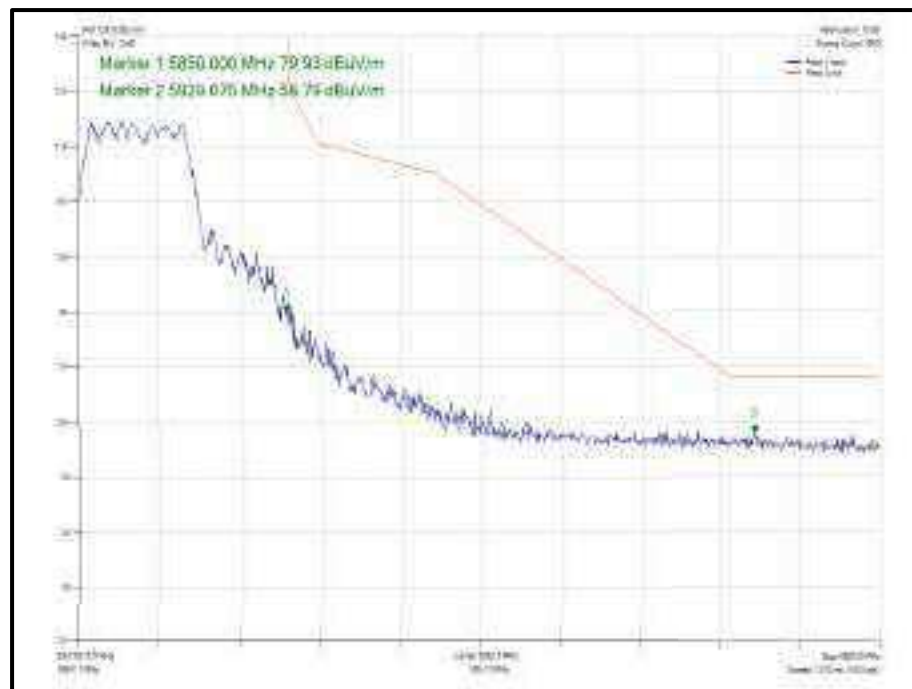


Figure 965 - 802.11 n HT20 CDD, Cores 0-1 - 5825 MHz
 Band Edge Frequency 5850 MHz

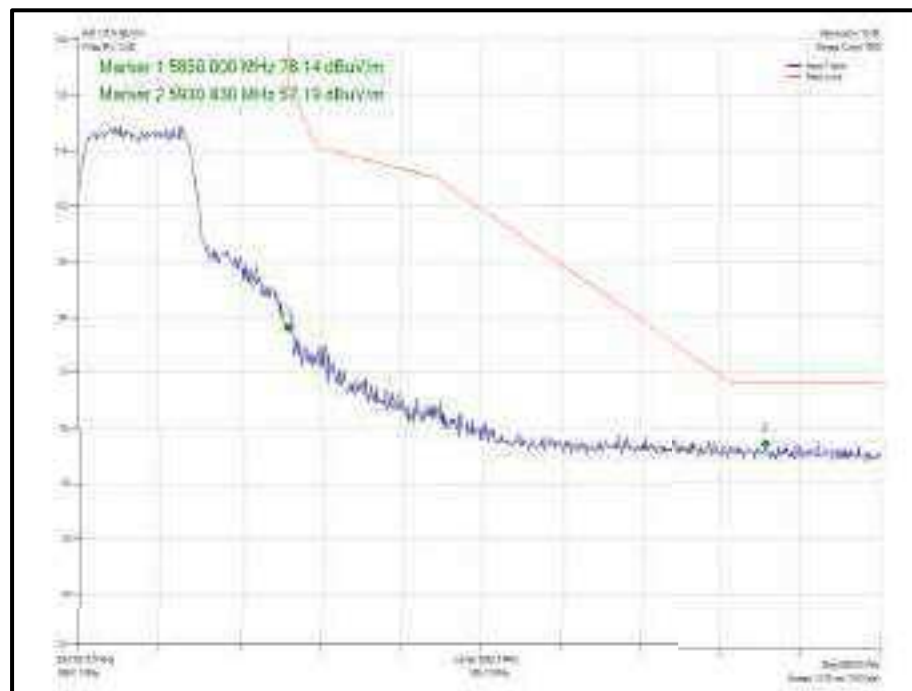


Figure 966 - 802.11 n HT20 SDM, Cores 0-1 - 5825 MHz
 Band Edge Frequency 5850 MHz

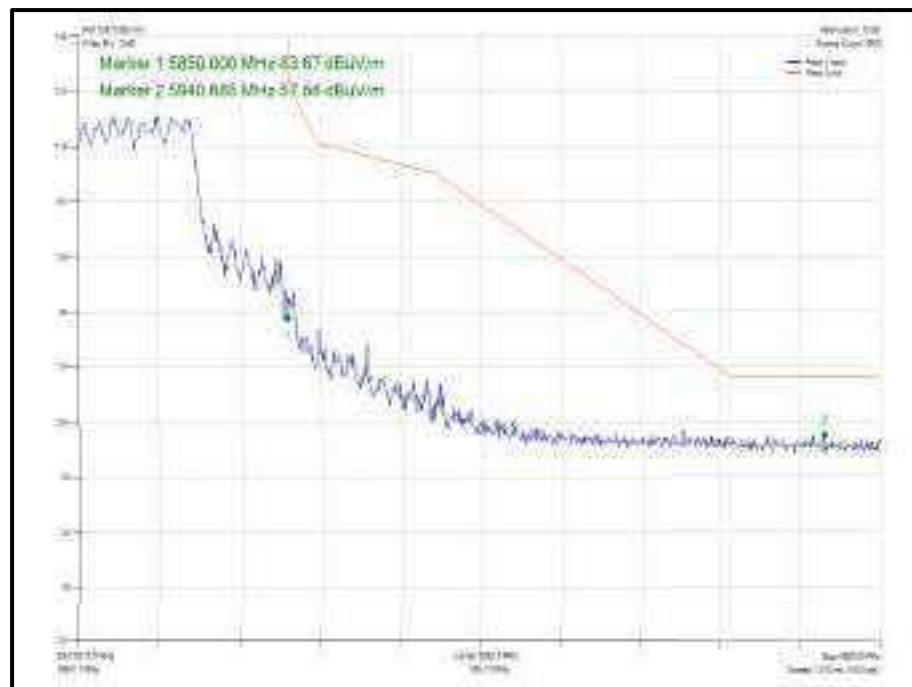


Figure 967 - - 802.11ax HE20 CDD, Cores 0-1, SU - 5825 MHz
 Band Edge Frequency 5850 MHz

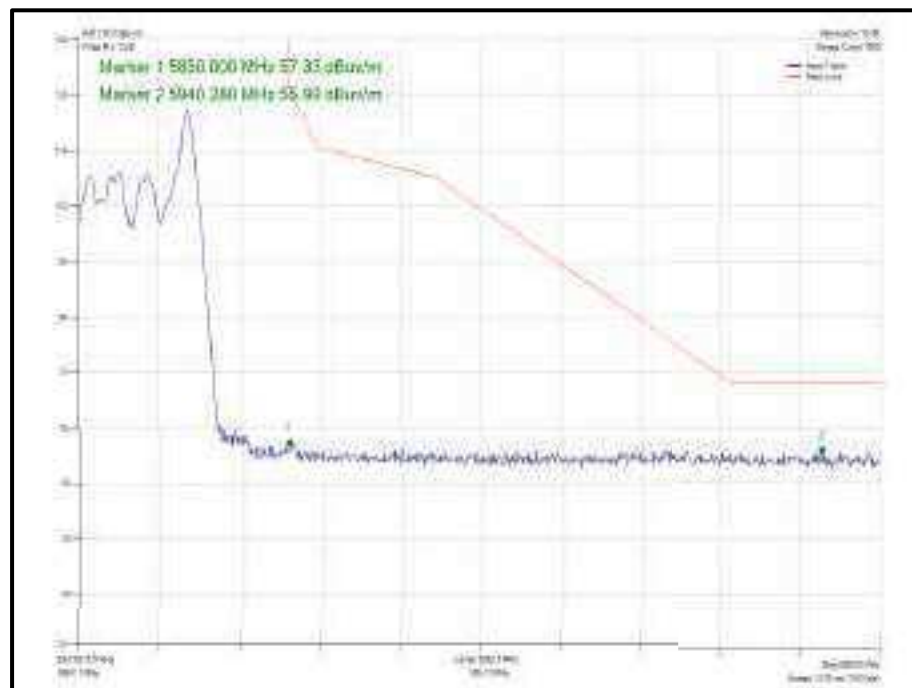


Figure 968 - 802.11ax HE20 CDD, Cores 0-1, 26-8 - 5825 MHz
 Band Edge Frequency 5850 MHz

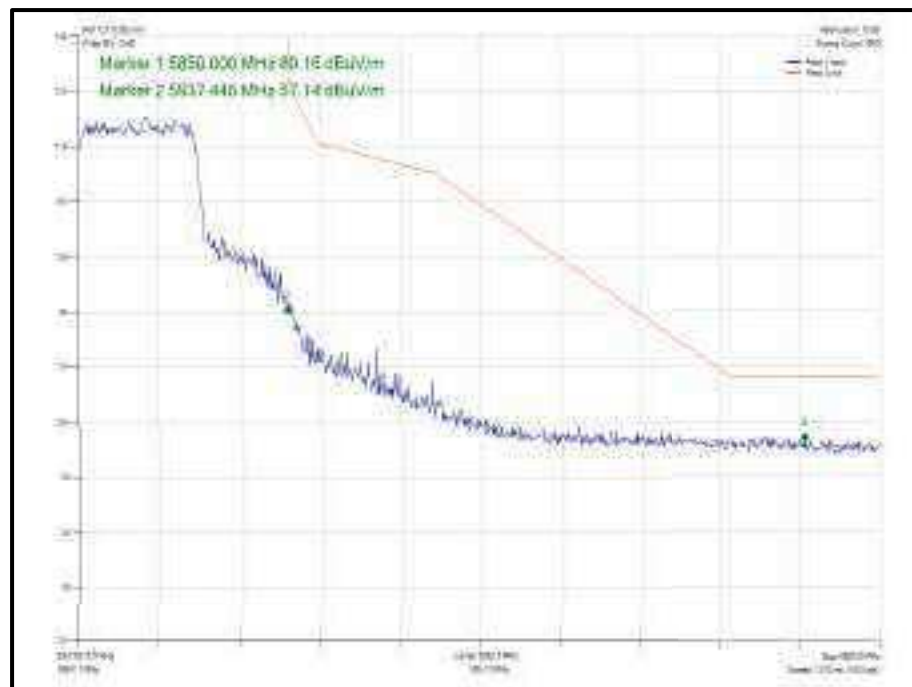


Figure 969 - - 802.11ax HE20 SD M, Cores 0-1, SU - 5825 MHz
 Band Edge Frequency 5850 MHz

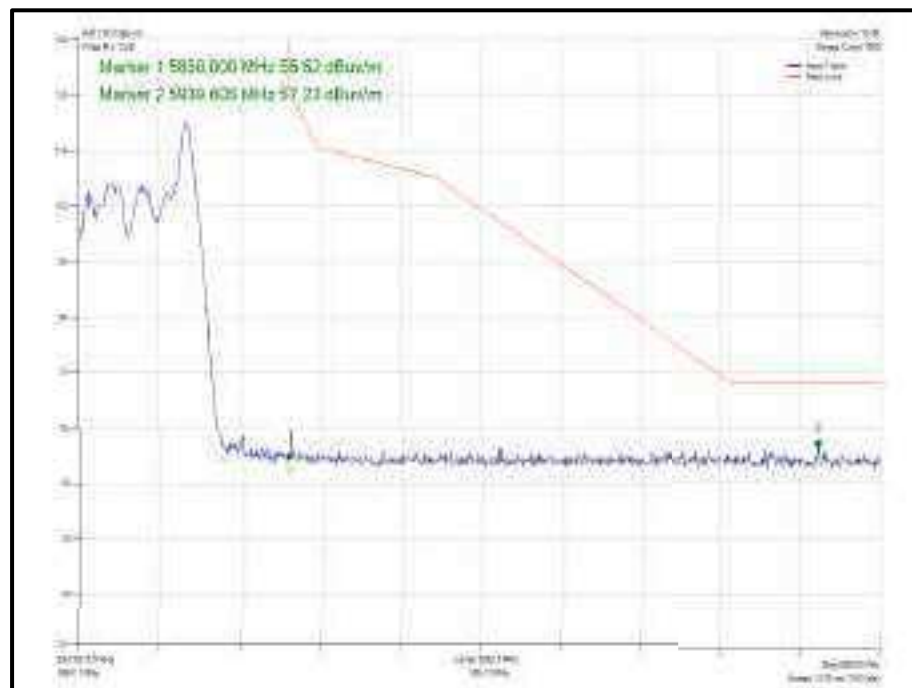


Figure 970 - 802.11ax HE20 SDM, Cores 0-1, 26-8 - 5825 MHz
 Band Edge Frequency 5850 MHz



Mode	Data Rate MCS	Resource size	Resource Index	TX Frequency (MHz)	Band Edge Frequency (MHz)	Level (dBuV/m)
802.11n HT40 , Core 0	MCS7	-	-	5510	5470	65.12
802.11n HT40 , Core 0	MCS7	-	-	5570	5725	63.07
802.11ax HE40, Core 0	MCS7	SU	-	5510	5470	60.82
802.11ax HE40, Core 0	MCS7	S2	37	5510	5470	60.08
802.11ax HE40, Core 0	MCS7	SU	-	5570	5725	60.61
802.11ax HE40, Core 0	MCS7	S2	44	5570	5725	55.63

Table 652 - SISO Authorised Band Edge Results

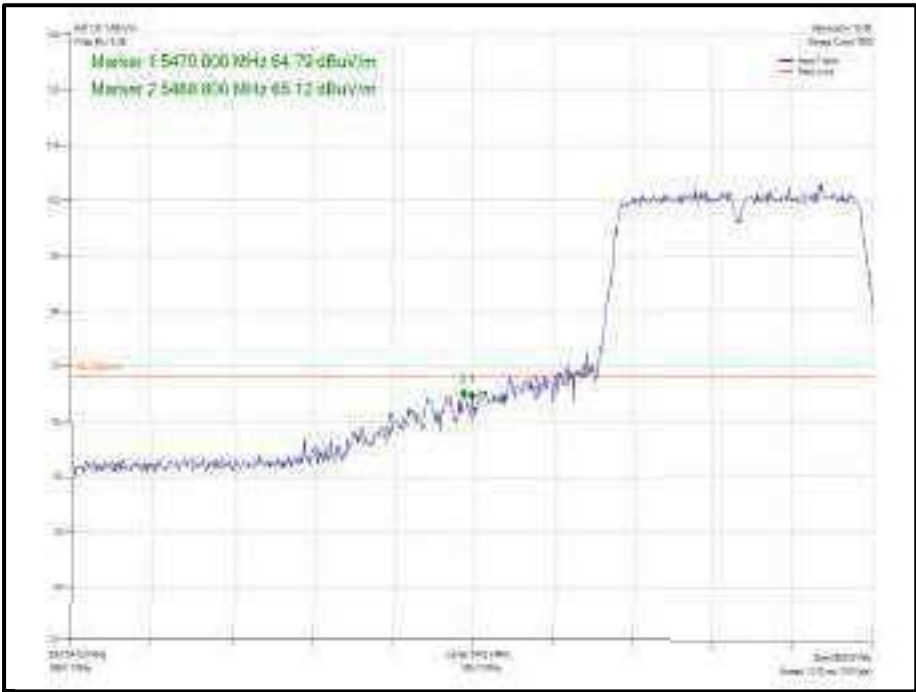


Figure 971 - 802.11n HT40, Core 0 - 5510 MHz
Band Edge Frequency 5470 MHz

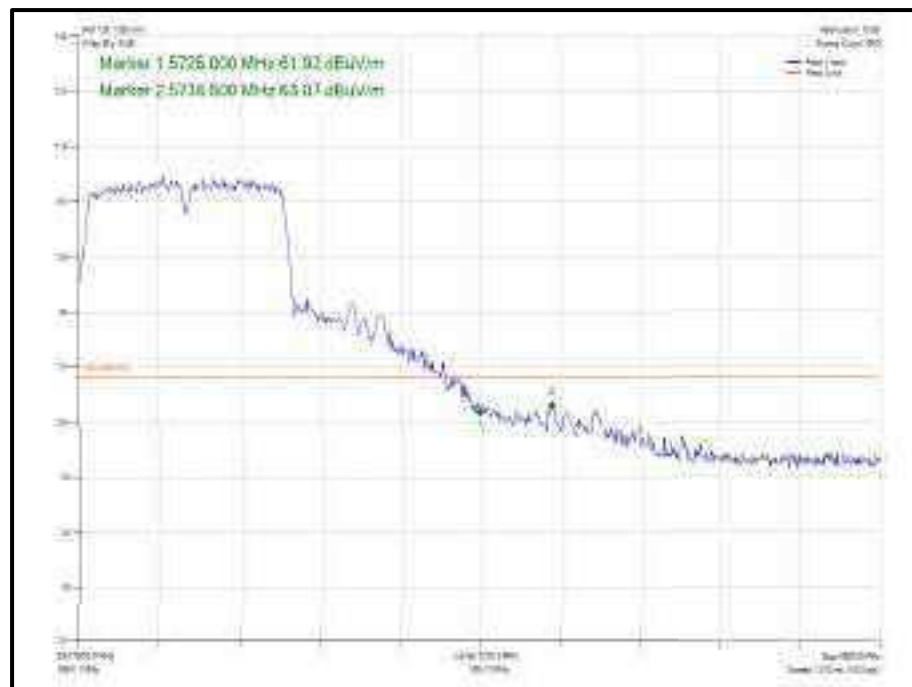


Figure 972 - 802.11n HT40, Core 0 - 5670 MHz
 Band Edge Frequency 5725 MHz

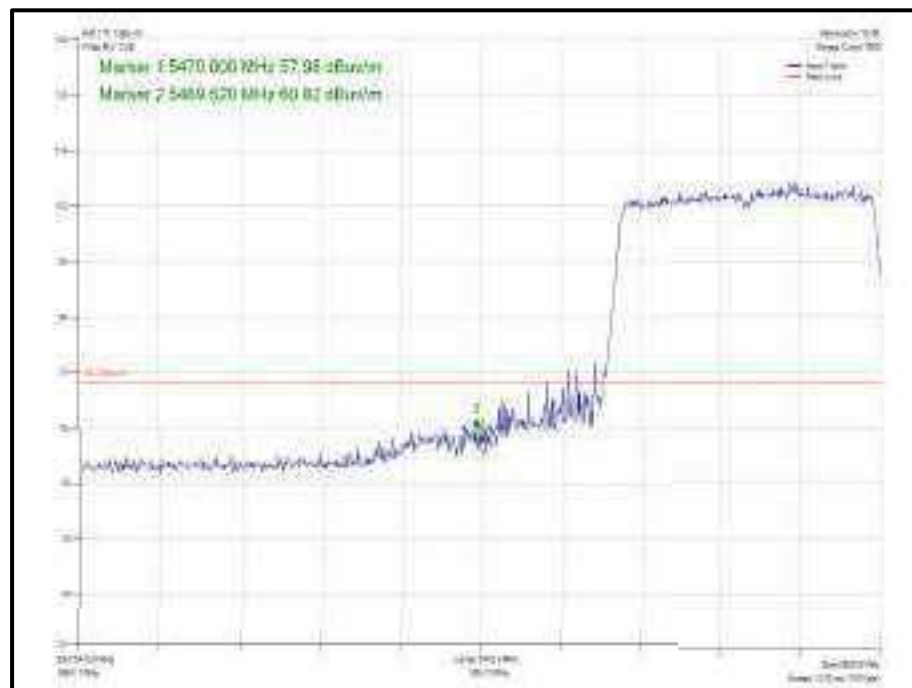
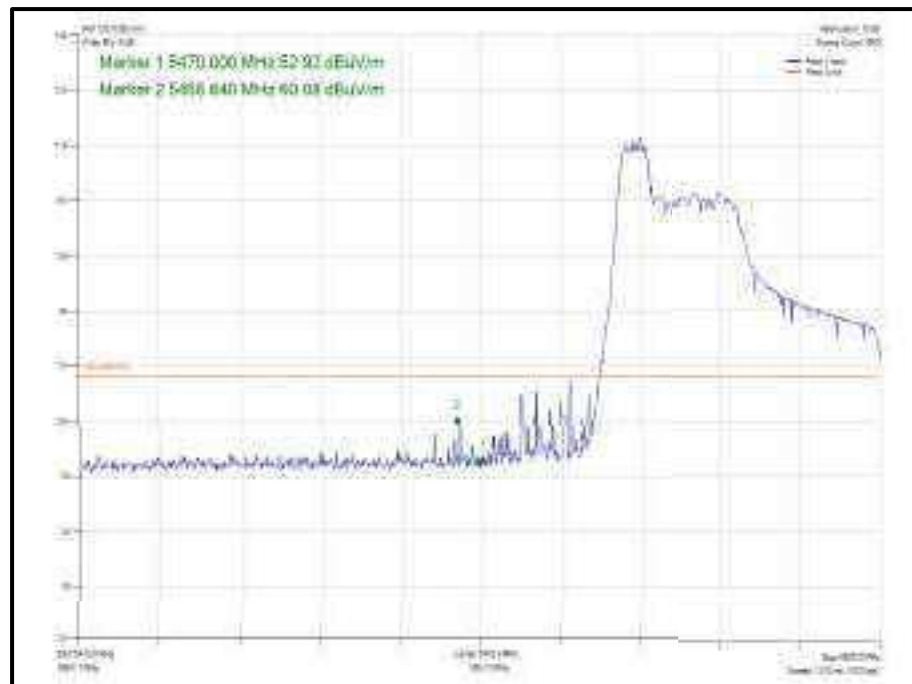
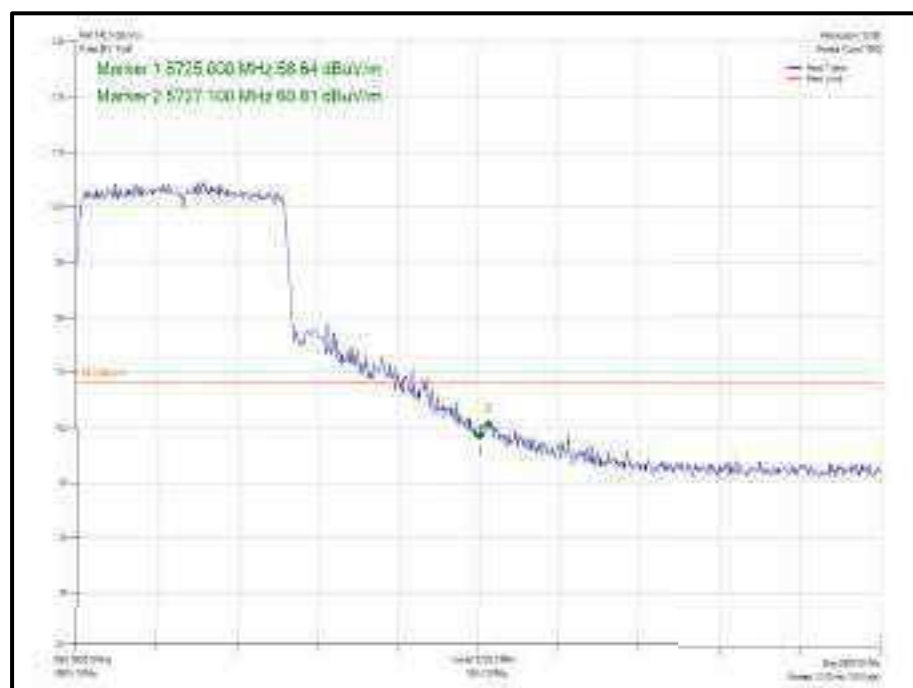


Figure 973 - 802.11ax HE40, Core 0, SU - 5510 MHz
 Band Edge Frequency 5470 MHz



**Figure 974 - 802.11 ax HE40, Core0, 52.37 - 5510 MHz
 Band Edge Frequency 5470 MHz**



**Figure 975 - 802.11 ax HE40, Core 0, SU - 5670 MHz
 Band Edge Frequency 5725 MHz**

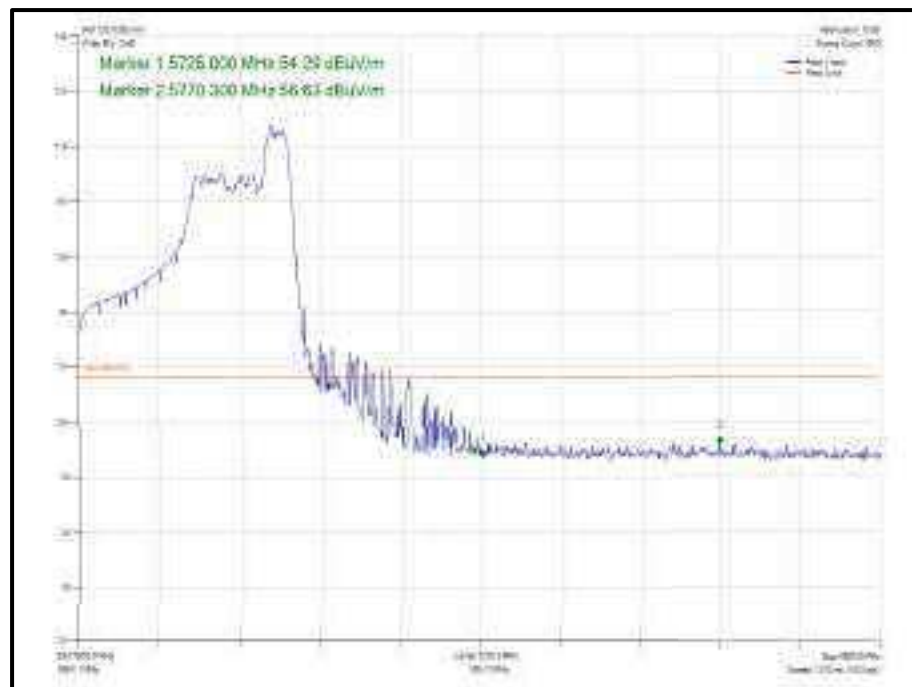


Figure 976 - 802.11 ax HE40, Core 0, 52.44 - 5670 MHz
Band Edge Frequency 5725 MHz



Mode	Data Rate MCS	Resource size	Resource Index	TX Frequency (MHz)	Band Edge Frequency (MHz)	Level (dBuV/m)
802.11n HT40 , Core 1	MCS7	-	-	5755	5725	60.66
802.11n HT40 , Core 1	MCS7	-	-	5795	5850	58.81
802.11a x HE40 , Core 1	MCS7	SU	-	5755	5725	64.58
802.11a x HE40 , Core 1	MCS7	26	0	5755	5725	55.45
802.11a x HE40 , Core 1	MCS7	SU	-	5795	5850	57.02
802.11a x HE40 , Core 1	MCS7	26	17	5795	5850	56.24

Table 653 - SISO Authorised Band Edge Results

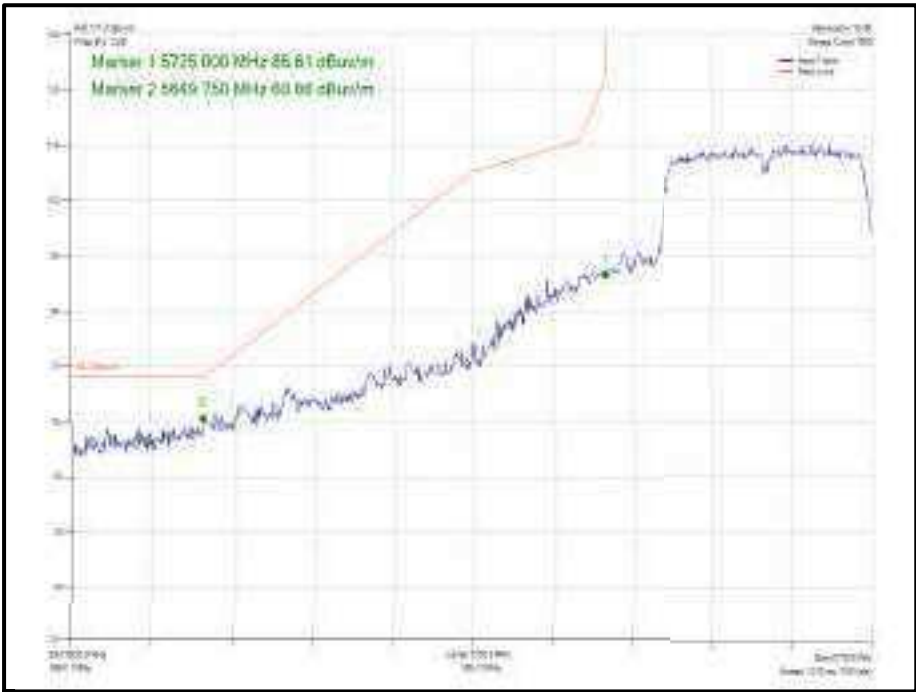


Figure 977 - 802.11n HT40, Core 1 - 5755 MHz
Band Edge Frequency 5725 MHz

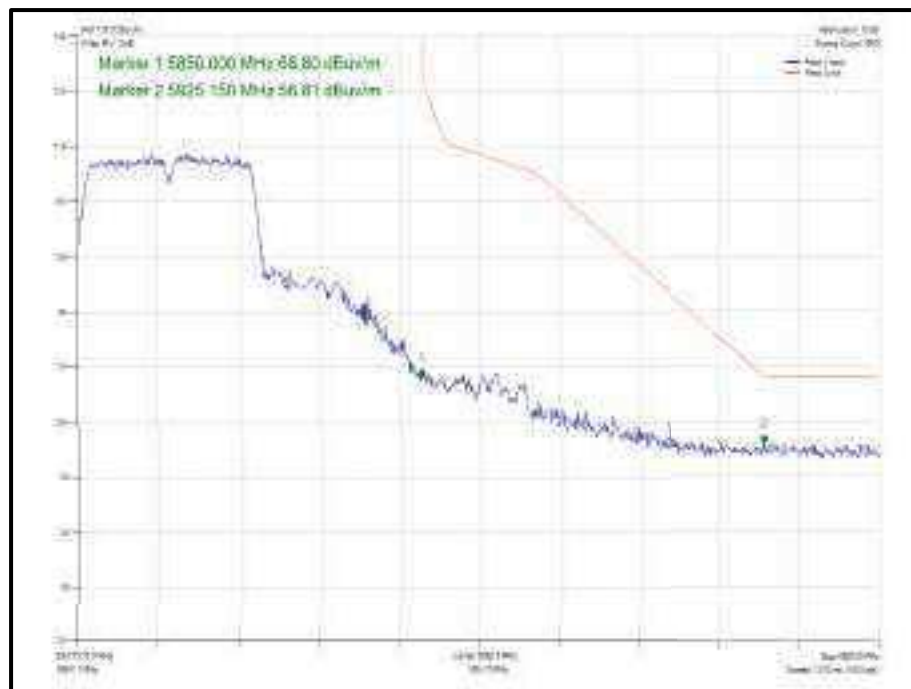


Figure 978 - 802.11n HT40, Core 1 - 5795 MHz
 Band Edge Frequency 5850 MHz

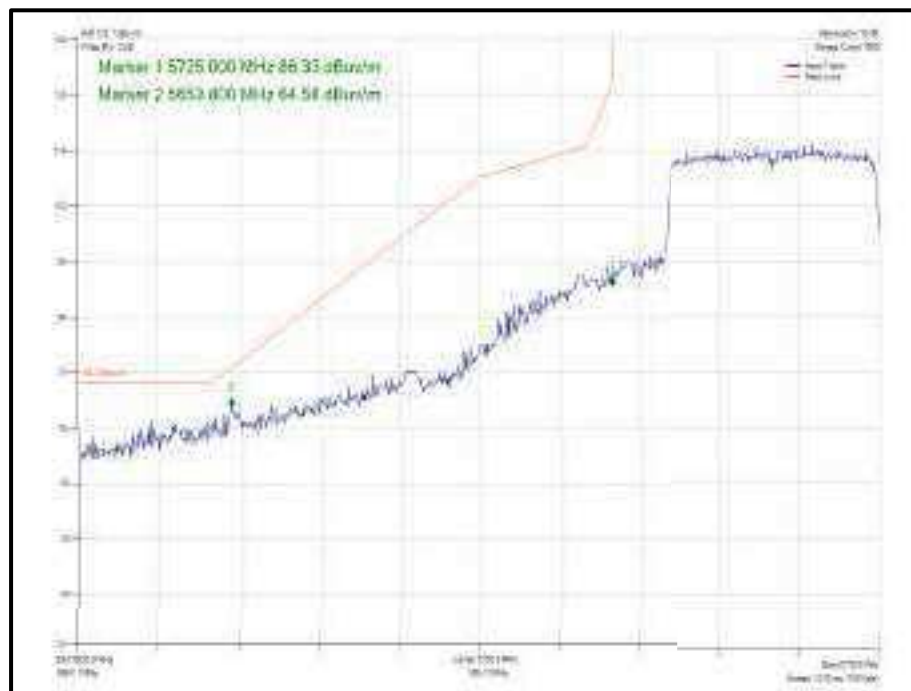


Figure 979 - 802.11ax HE40, Core 1, SU - 5755 MHz
 Band Edge Frequency 5725 MHz

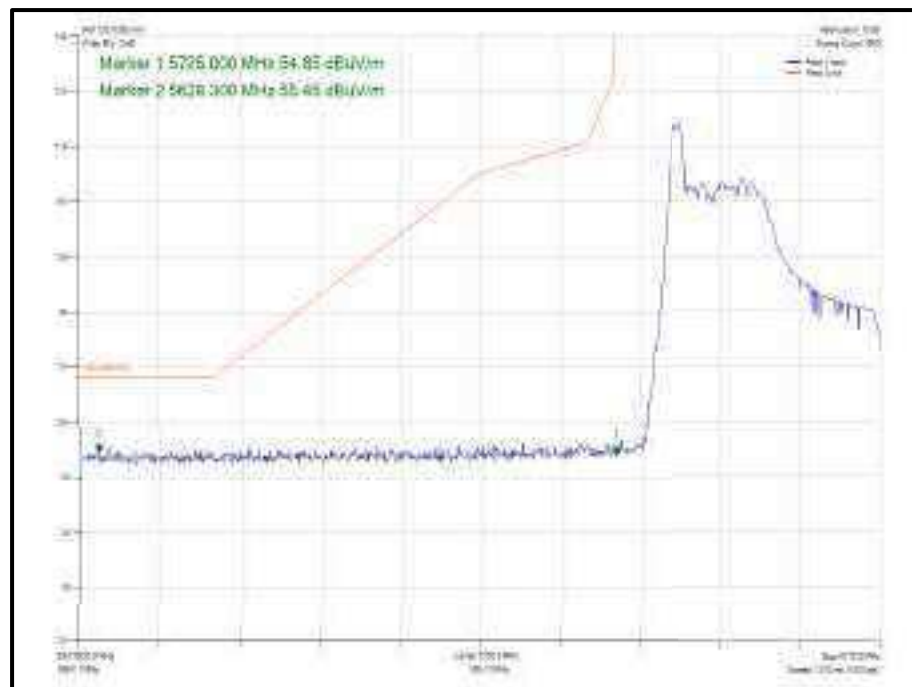


Figure 980 - 802.11 ax HE40, Core 1, 26.0 - 5755 MHz
 Band Edge Frequency 5725 MHz

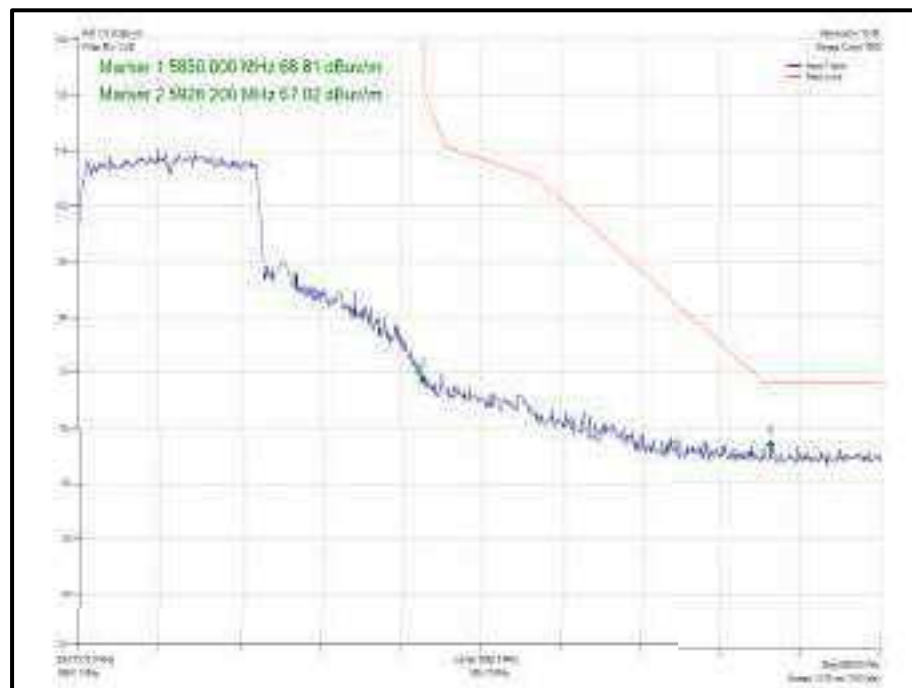


Figure 981 - 802.11 ax HE40, Core 1, SU - 5795 MHz
 Band Edge Frequency 5850 MHz

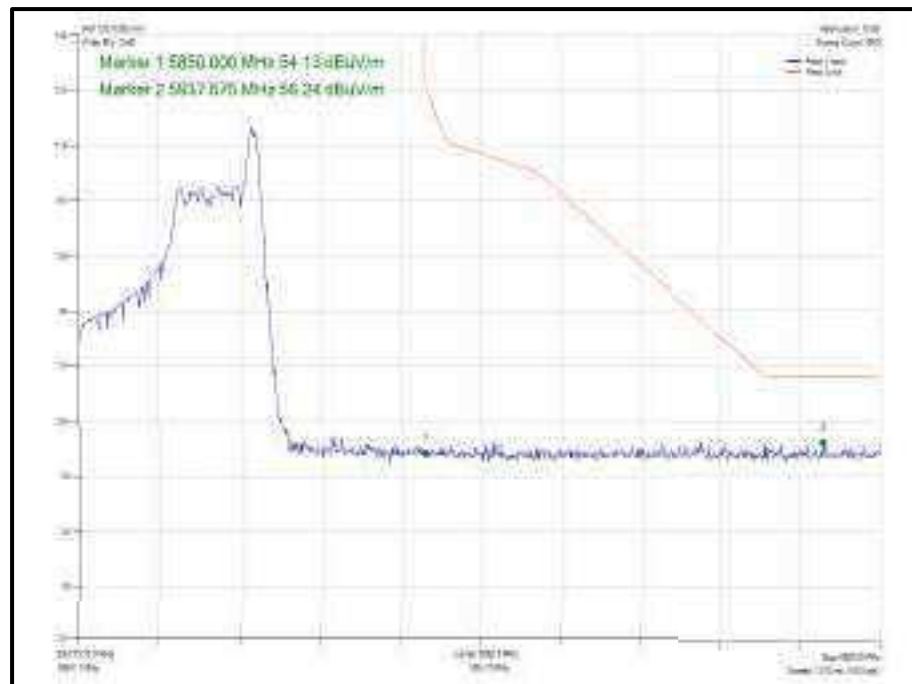
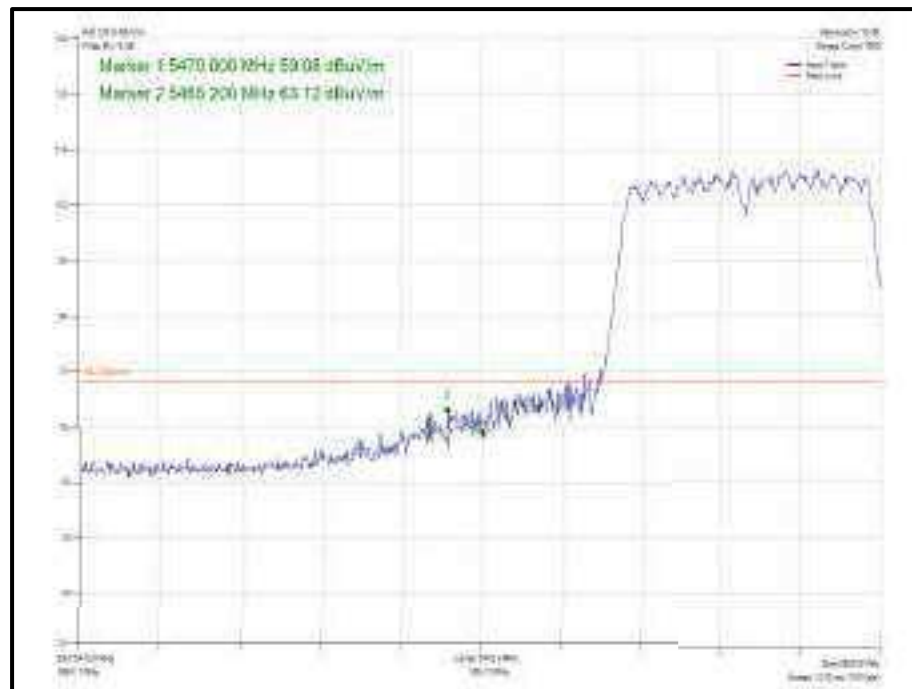


Figure 982 - 802.11 ax HE40, Core 1, 26.17 - 5795 MHz
Band Edge Frequency 5850 MHz

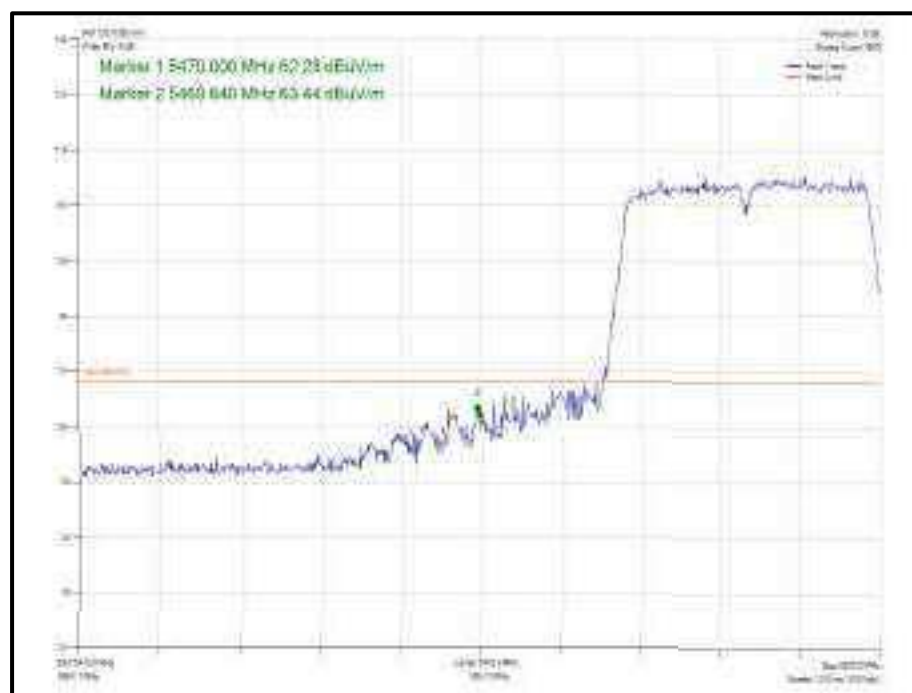


Mode	Data Rate/ MCS	Resource size	Resource Index	TX Frequency (MHz)	Band Edge Frequency (MHz)	Level (dBV/m)
802.11n HT40 CDD, Cores 0-1	MCS7	-	-	5610	5470	63.12
802.11n HT40 SDM, Cores 0-1	MCS15	-	-	5610	5470	63.44
802.11a x HE40 CDD, Cores 0-1	MCS7	SU	-	5610	5470	62.81
802.11a x HE40 CDD, Cores 0-1	MCS7	52	37	5610	5470	56.27
802.11a x HE40 SDM, Cores 0-1	MCS7	SU	-	5610	5470	60.69
802.11a x HE40 SDM, Cores 0-1	MCS7	52	37	5610	5470	56.11
802.11n HT40 CDD, Cores 0-1	MCS7	-	-	5670	5725	63.44
802.11n HT40 SDM, Cores 0-1	MCS15	-	-	5670	5725	63.28
802.11a x HE40 CDD, Cores 0-1	MCS7	SU	-	5670	5725	63.20
802.11a x HE40 CDD, Cores 0-1	MCS7	52	44	5670	5725	56.16
802.11a x HE40 SDM, Cores 0-1	MCS7	SU	-	5670	5725	63.03
802.11a x HE40 SDM, Cores 0-1	MCS7	52	44	5670	5725	56.27
802.11n HT40, CDD Cores 0-1	MCS7	-	-	5755	5725	62.16
802.11n HT40, SDM Cores 0-1	MCS15	-	-	5755	5725	62.72
802.11a x HE40 CDD, Cores 0-1	MCS7	SU	-	5755	5725	65.04
802.11a x HE40 CDD, Cores 0-1	MCS7	26	0	5755	5725	55.27
802.11a x HE40 SDM, Cores 0-1	MCS7	SU	-	5755	5725	61.33
802.11a x HE40 SDM, Cores 0-1	MCS7	26	0	5755	5725	56.53
802.11n HT40 CDD, Cores 0-1	MCS7	-	-	5795	5850	58.52
802.11n HT40 SDM, Cores 0-1	MCS15	-	-	5795	5850	57.44
802.11a x HE40 CDD, Cores 0-1	MCS7	SU	-	5795	5850	57.99
802.11a x HE40 CDD, Cores 0-1	MCS7	26	17	5795	5850	55.57
802.11a x HE40 SDM, Cores 0-1	MCS7	SU	-	5795	5850	57.68
802.11a x HE40 SDM, Cores 0-1	MCS7	26	17	5795	5850	57.00

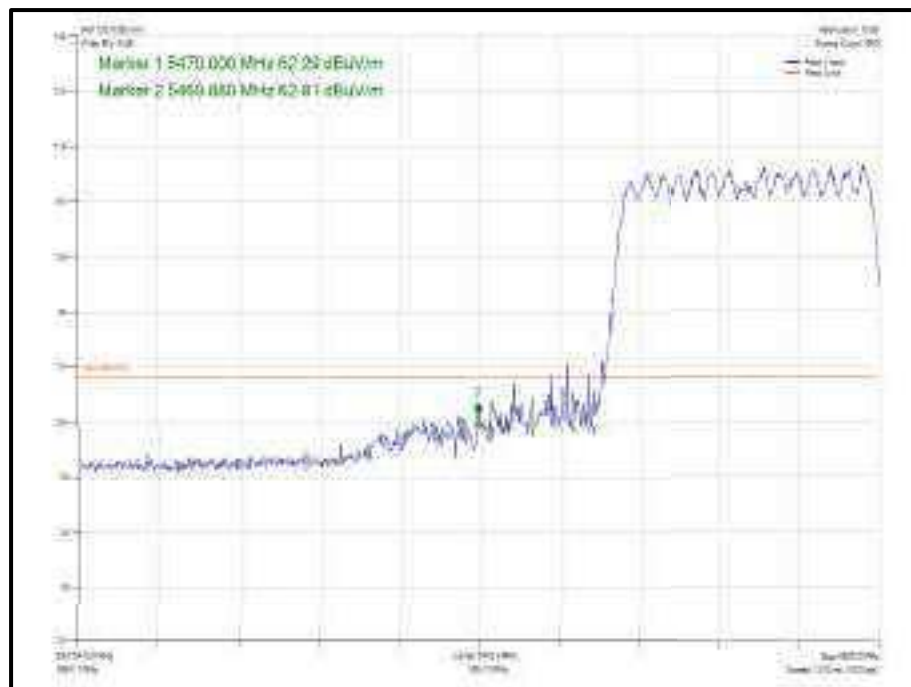
Table 654 - MIMO 2 TX Authorised Band Edge Results



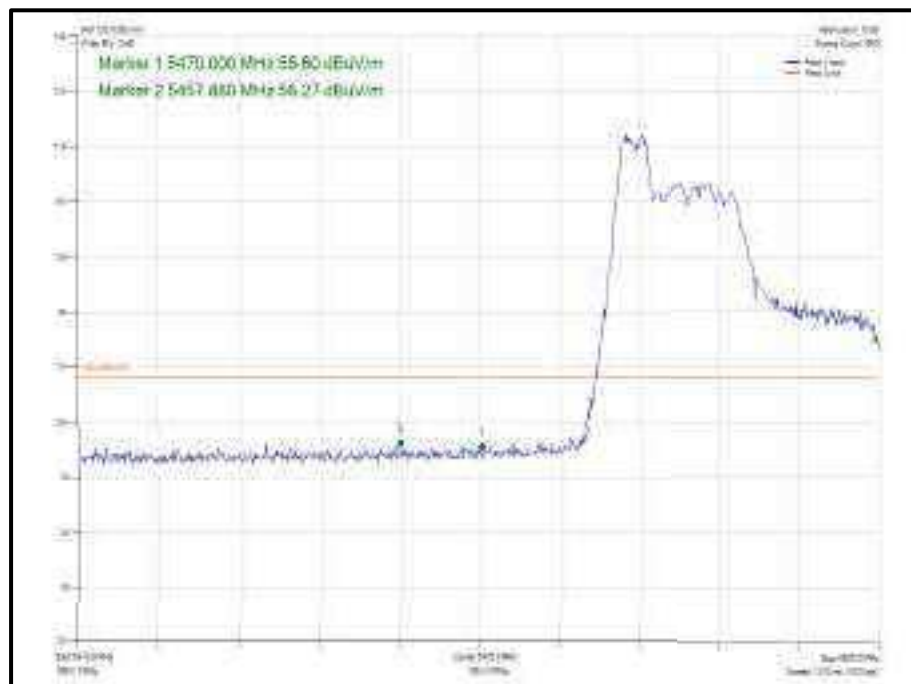
**Figure 983 - 802.11 n HT40 CDD, Cores 0-1 - 5510 MHz
Band Edge Frequency 5470 MHz**



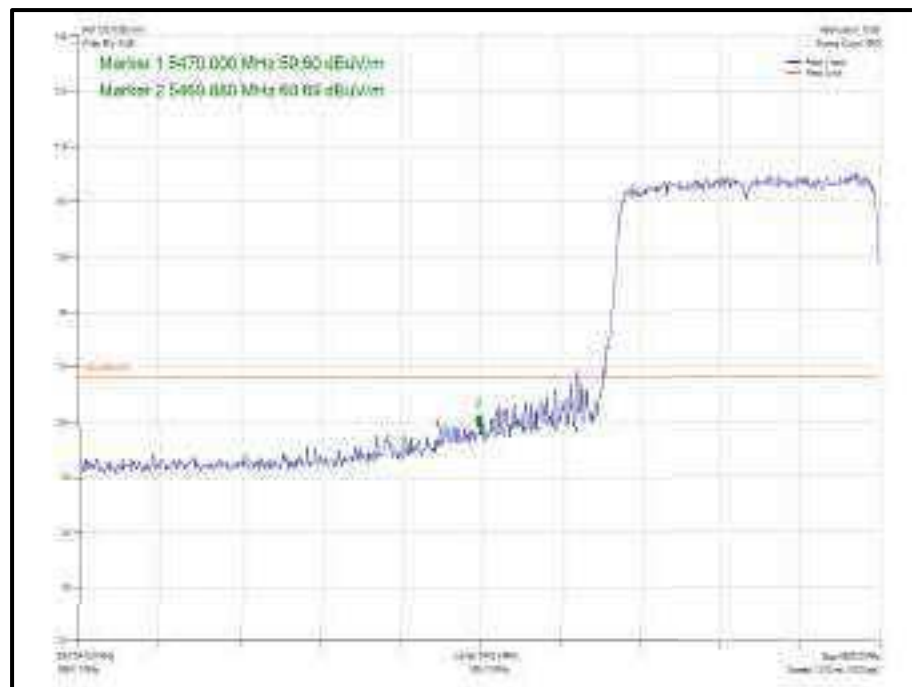
**Figure 984 - 802.11 n HT40 SDM, Cores 0-1 - 5510 MHz
Band Edge Frequency 5470 MHz**



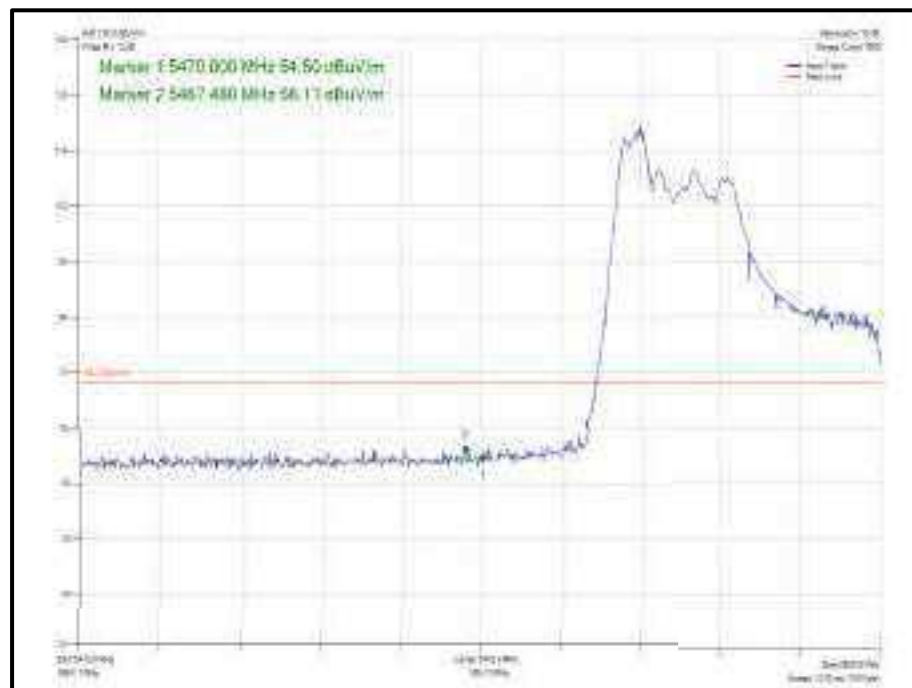
**Figure 985 - 802.11 ax HE40 CDD, Cores 0-1, SU - 5510 MHz
 Band Edge Frequency 5470 MHz**



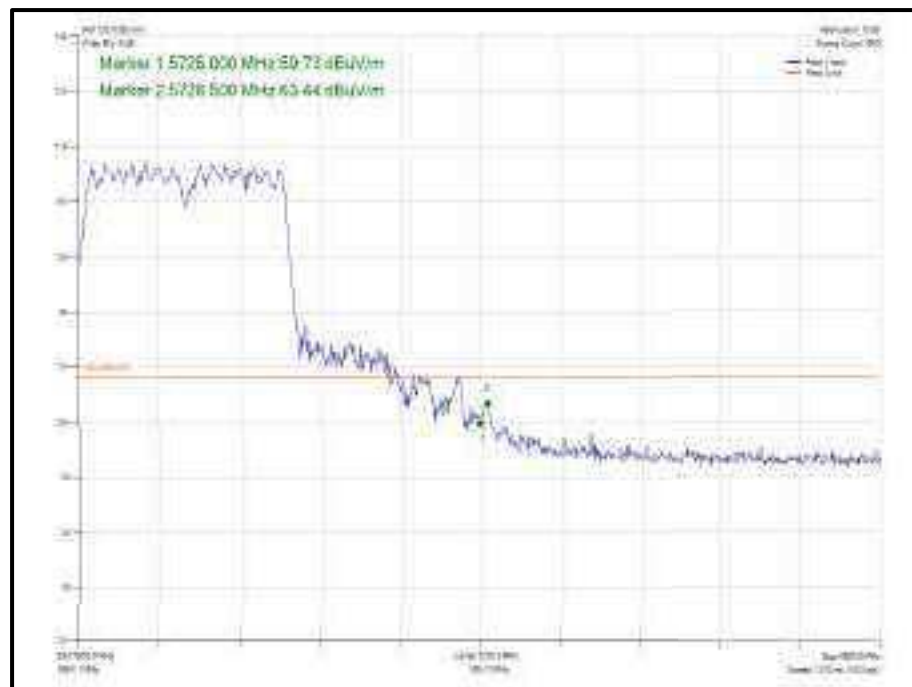
**Figure 986 - 802.11 ax HE40 CDD, Cores 0-1, 52-37 - 5510 MHz
 Band Edge Frequency 5470 MHz**



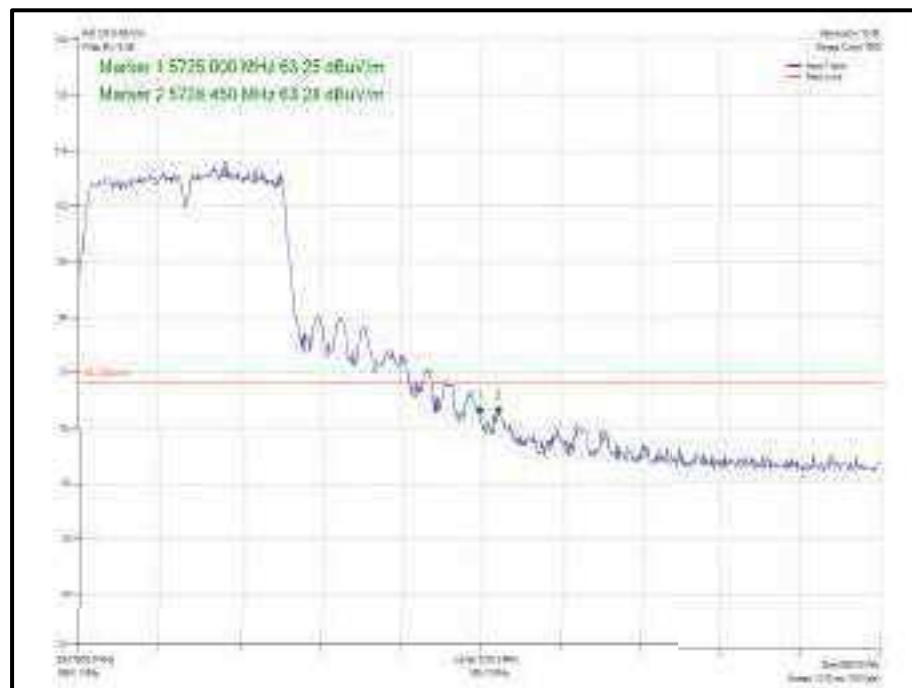
**Figure 987 - 802.11ax HE40 SDM, Cores 0-1, SU - 5510 MHz
 Band Edge Frequency 5470 MHz**



**Figure 988 - 802.11ax HE40 SDM, Cores 0-1, 52-37 - 5510 MHz
 Band Edge Frequency 5470 MHz**



**Figure 989 - 802.11 n HT40 CDD, Cores 0-1 - 5670 MHz
 Band Edge Frequency 5725 MHz**



**Figure 990 - 802.11 n HT40 SDM, Cores 0-1 - 5670 MHz
 Band Edge Frequency 5725 MHz**

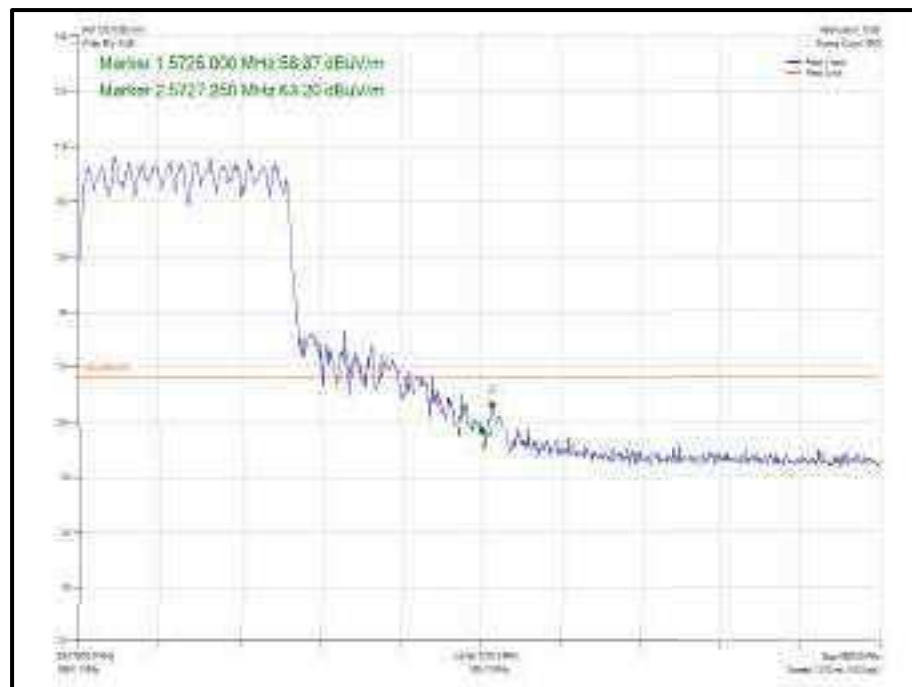


Figure 991 - 802.11ax HE40 CDD, Cores 0-1, SU - 5670 MHz
 Band Edge Frequency 5725 MHz

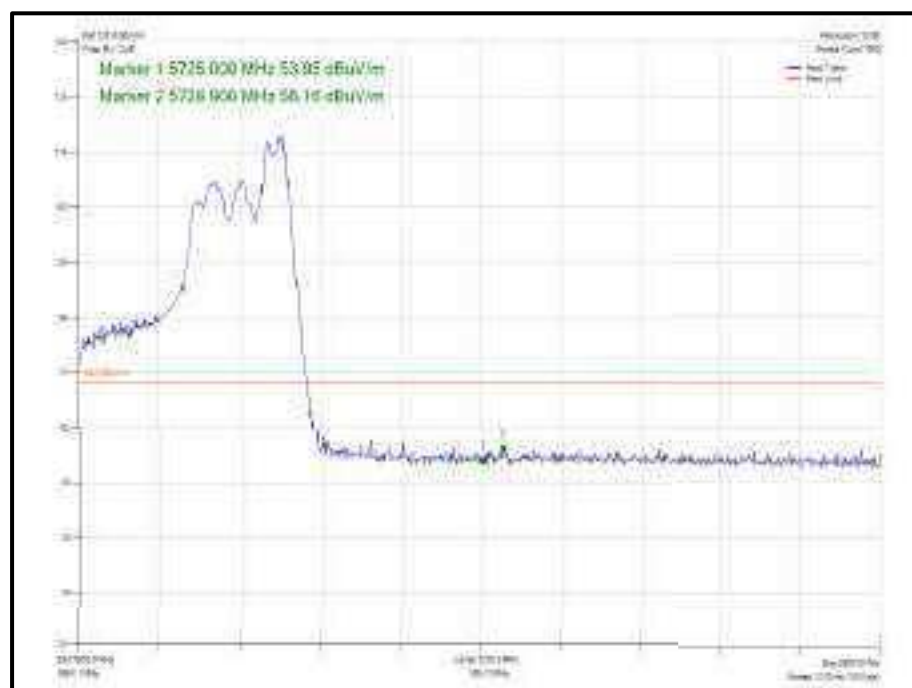
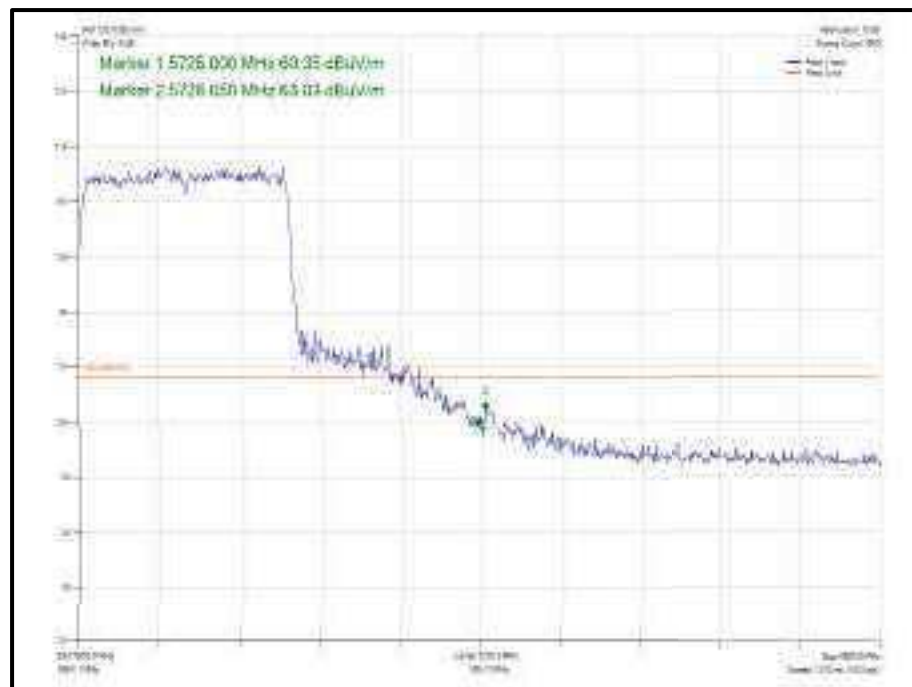
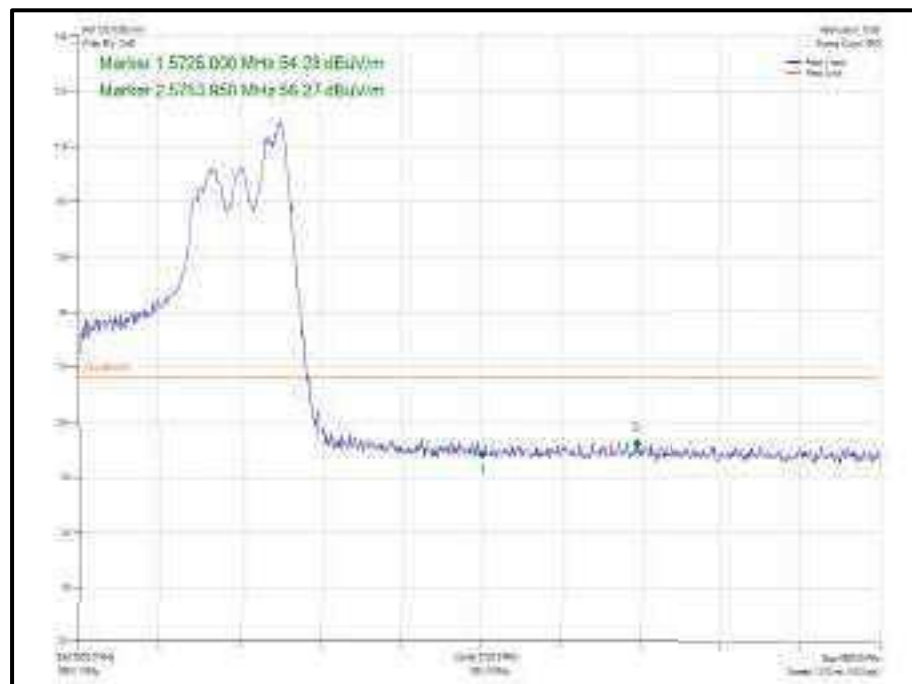


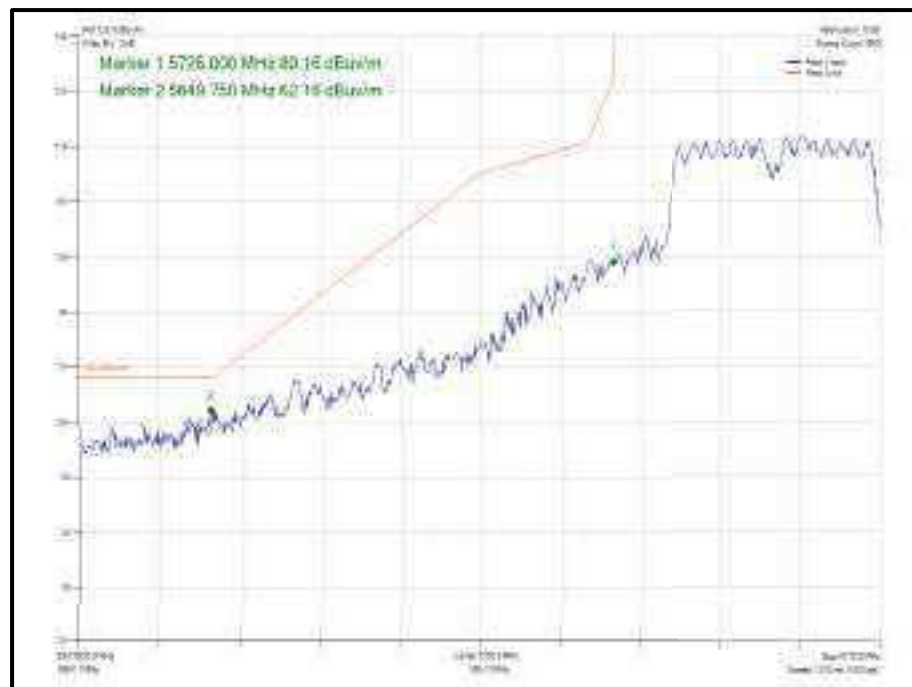
Figure 992 - 802.11ax HE40 CDD, Cores 0-1, 52.44 - 5670 MHz
 Band Edge Frequency 5725 MHz



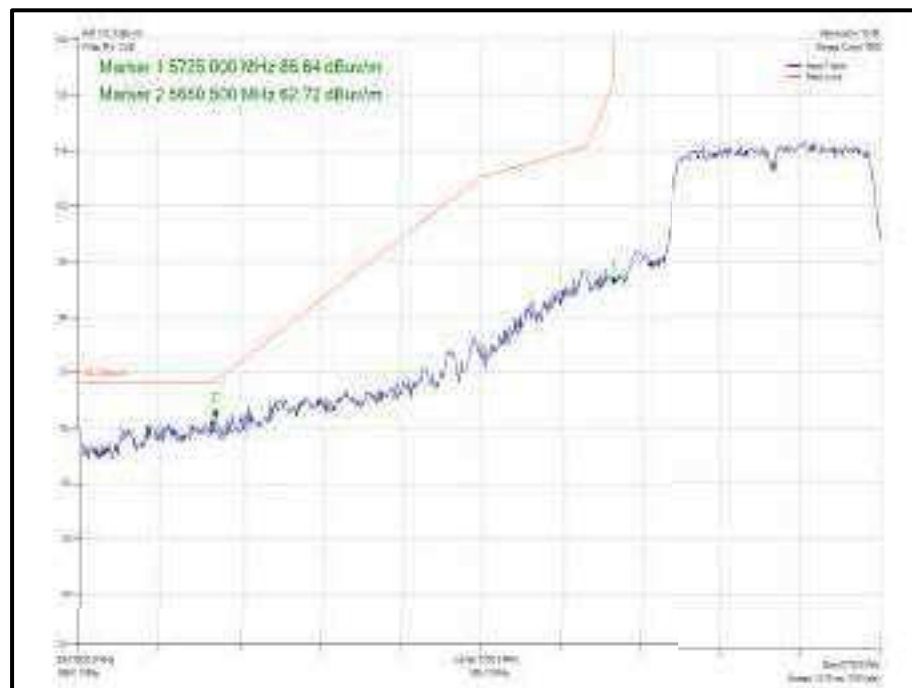
**Figure 993 - 802.11 ax HE40 SDM, Cores 0-1, SU - 5670 MHz
 Band Edge Frequency 5725 MHz**



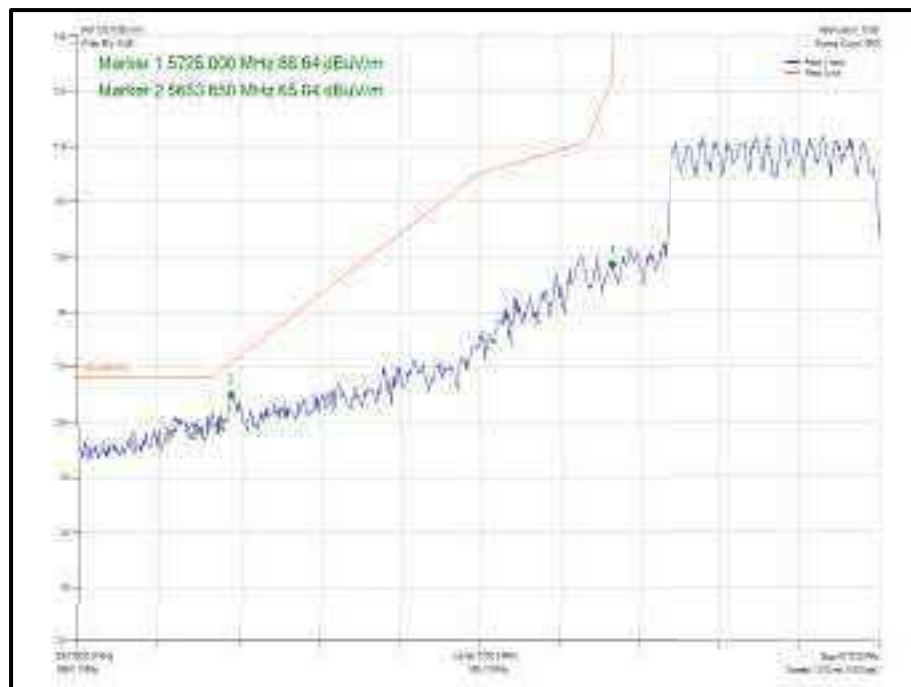
**Figure 994 - 802.11 ax HE40 SDM, Cores 0-1, 52.44 - 5670 MHz
 Band Edge Frequency 5725 MHz**



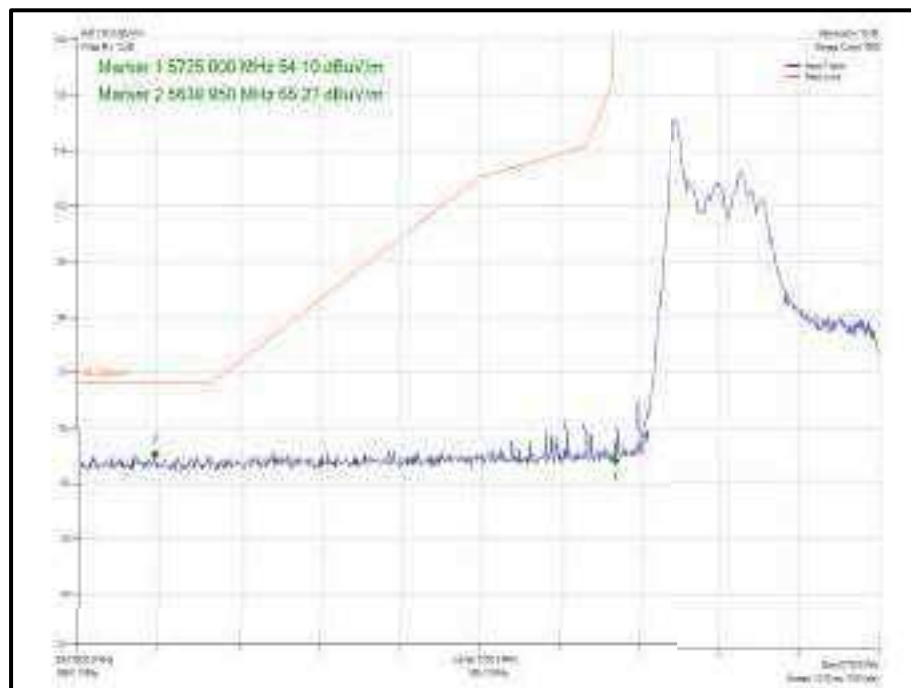
**Figure 995 - 802.11 n HT40 CDD, Cores 0-1 - 5755 MHz
 Band Edge Frequency 5725 MHz**



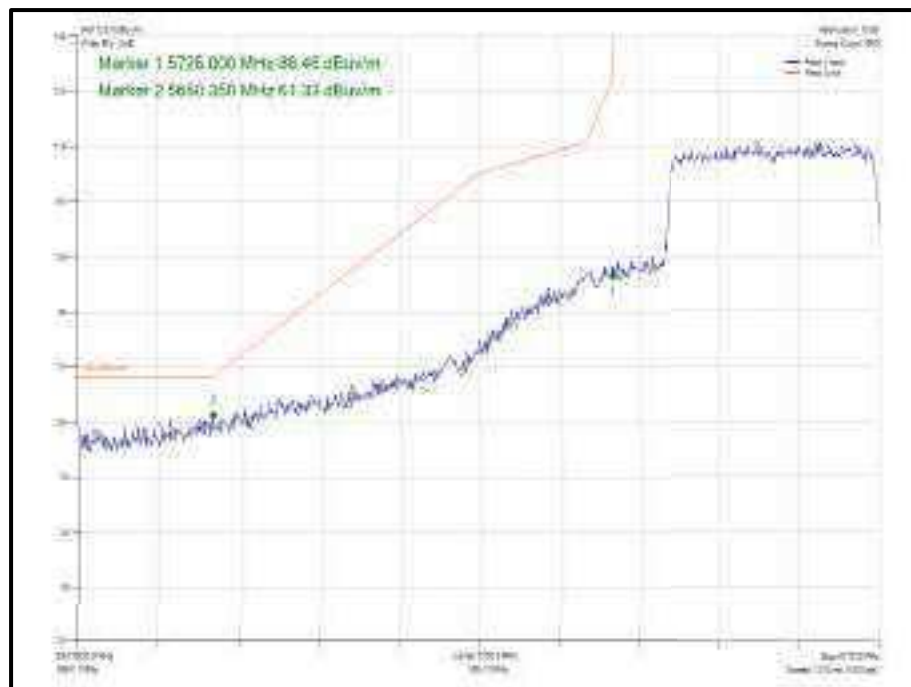
**Figure 996 - 802.11 n HT40 SDM, Cores 0-1 - 5755 MHz
 Band Edge Frequency 5725 MHz**



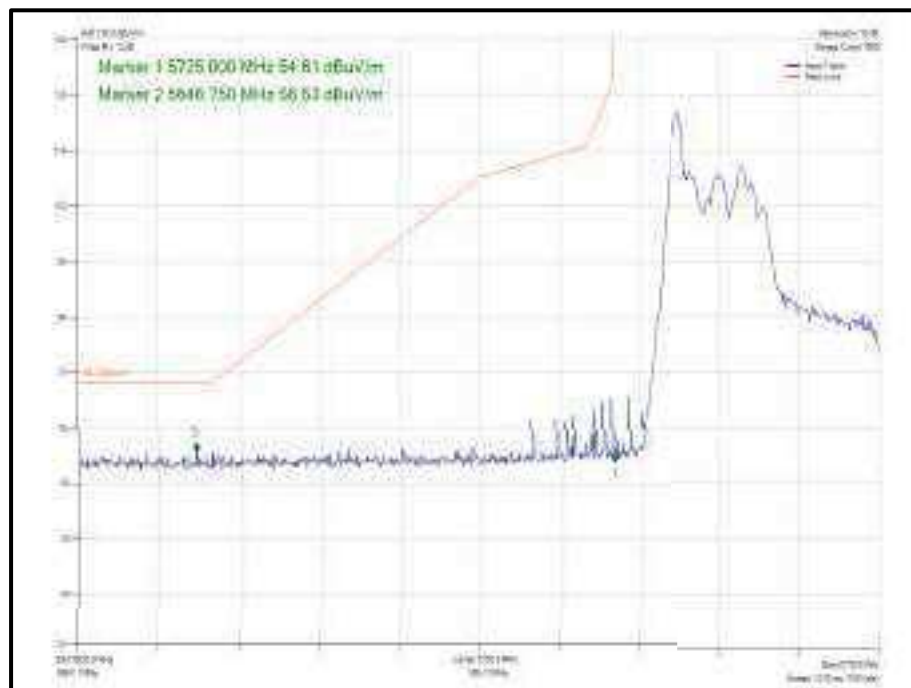
**Figure 997 - 802.11ax HE40 CDD, Cores 0-1, SU - 5755 MHz
 Band Edge Frequency 5725 MHz**



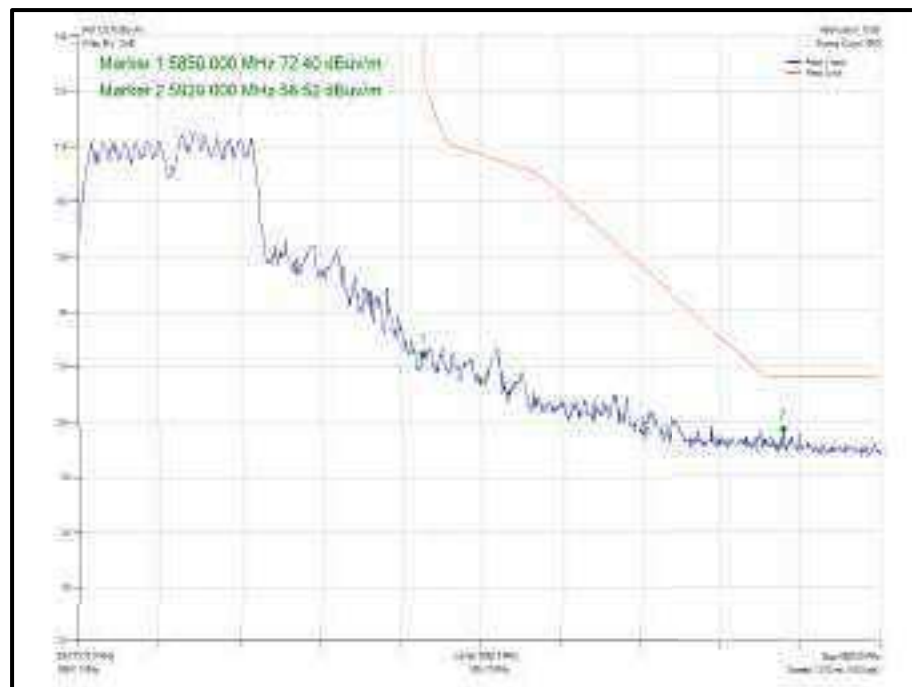
**Figure 998 - 802.11ax HE40 CDD, Cores 0-1, 26-0 - 5755 MHz
 Band Edge Frequency 5725 MHz**



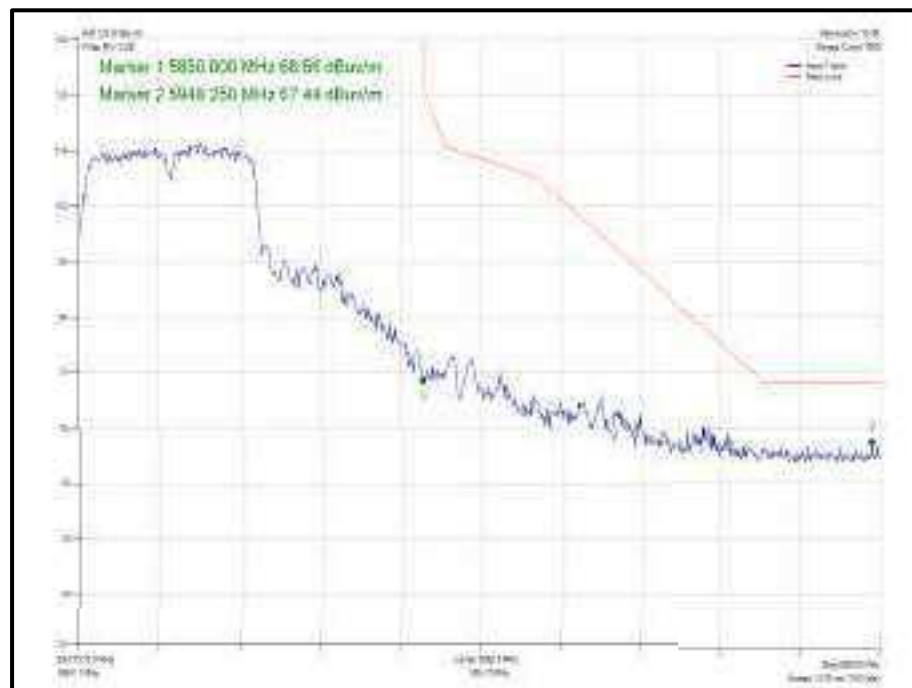
**Figure 999 - 802.11ax HE40 SDM, Cores 0-1, SU - 5755 MHz
 Band Edge Frequency 5725 MHz**



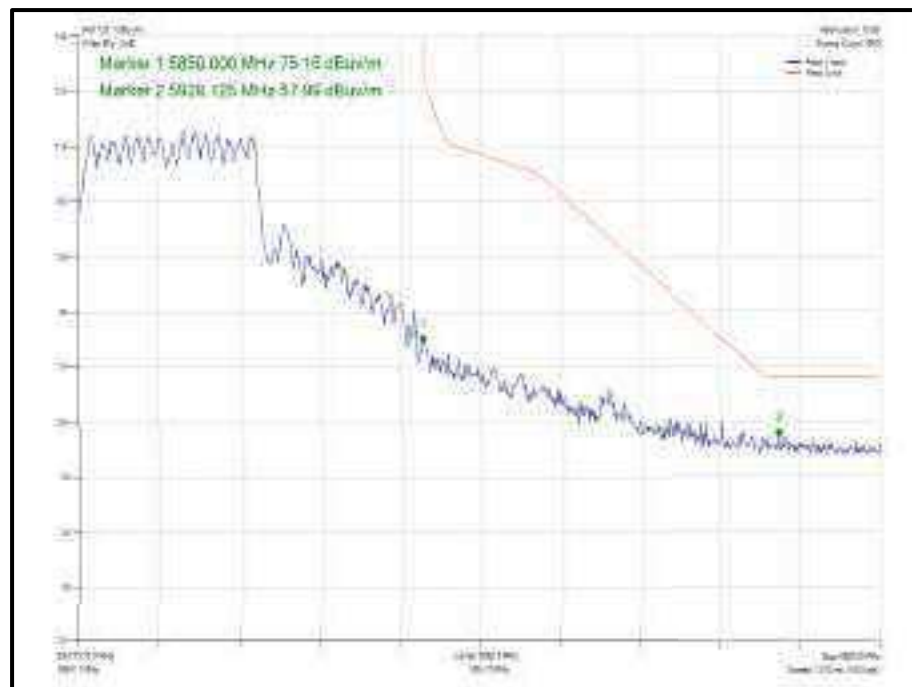
**Figure 1000 - 802.11ax HE40 SDM, Cores 0-1, 26-0 - 5755 MHz
 Band Edge Frequency 5725 MHz**



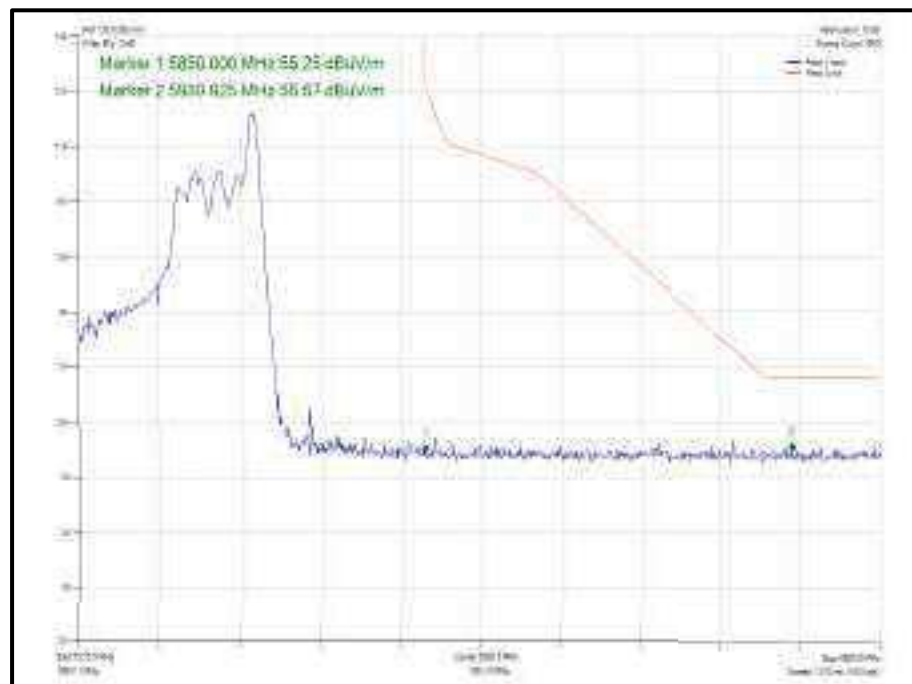
**Figure 1001 - 802.11n HT40 CDD, Cores 0-1 - 5795 MHz z
 Band Edge Frequency 5850 MHz**



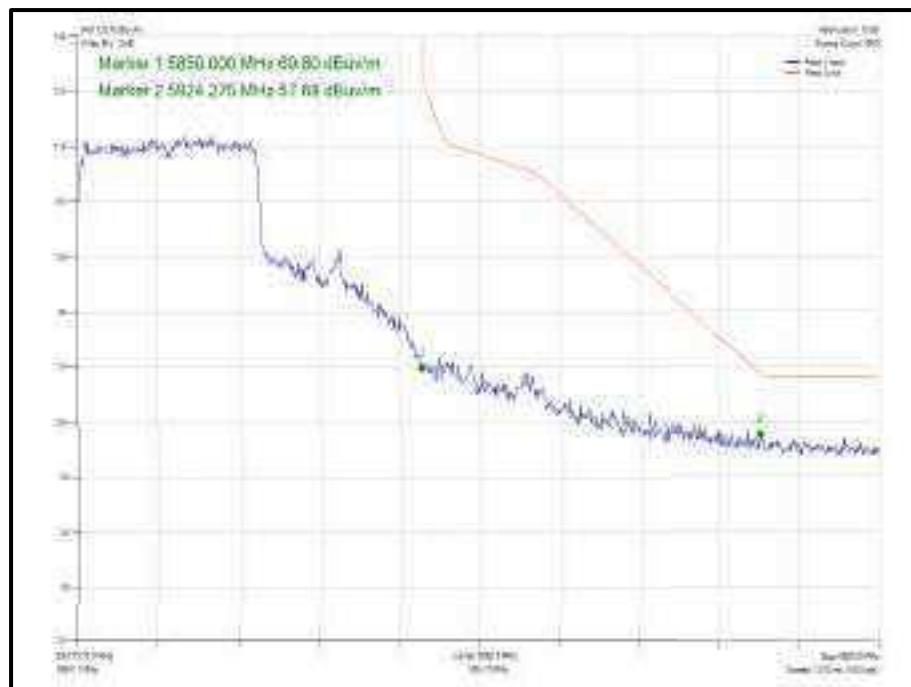
**Figure 1002 - 802.11n HT40 SDM, Cores 0-1 - 5795 MHz z
 Band Edge Frequency 5850 MHz**



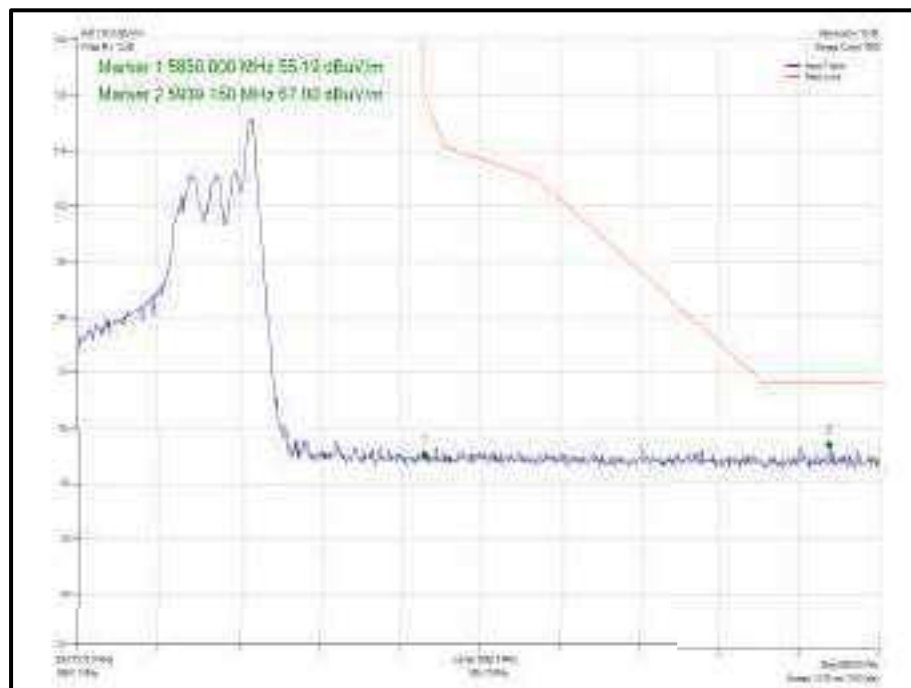
**Figure 1003 - 802.11ax HE40 CDD, Cores 0-1, SU - 5795 MHz
Band Edge Frequency 5850 MHz**



**Figure 1004 - 802.11ax HE40 CDD, Cores 0-1, 26-17 - 5795 MHz
Band Edge Frequency 5850 MHz**



**Figure 1005 - 802.11ax HE40 SDM, Cores 0-1, SU - 5795 MHz
 Band Edge Frequency 5850 MHz**



**Figure 1006 - 802.11ax HE40 SDM, Cores 0-1, 26-17 - 5795 MHz
 Band Edge Frequency 5850 MHz**



Mode	Data Rate MCS	Resource size	Resource Index	TX Frequency (MHz)	Band Edge Frequency (MHz)	Level (dBuV/m)
802.11ac VHT80, Core 0	MCS7x1	-	-	5530	5470	63.54
802.11ac VHT80, Core 0	MCS7x1	-	-	5510	5725	63.26
802.11ax HE80, Core 0	MCS7	SU	-	5530	5470	61.72
802.11ax HE80, Core 0	MCS7	S2	37	5530	5470	63.14
802.11ax HE80, Core 0	MCS7	SU	-	5510	5725	63.17
802.11ax HE80, Core 0	MCS7	S2	36	5510	5725	55.18

Table 655 - SISO Authorised Band Edge Results

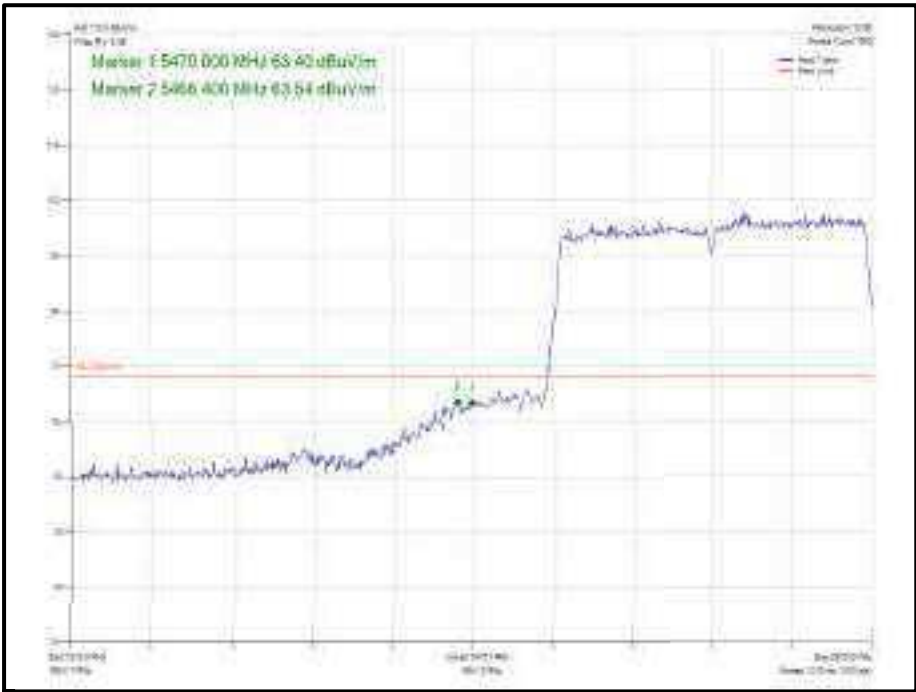
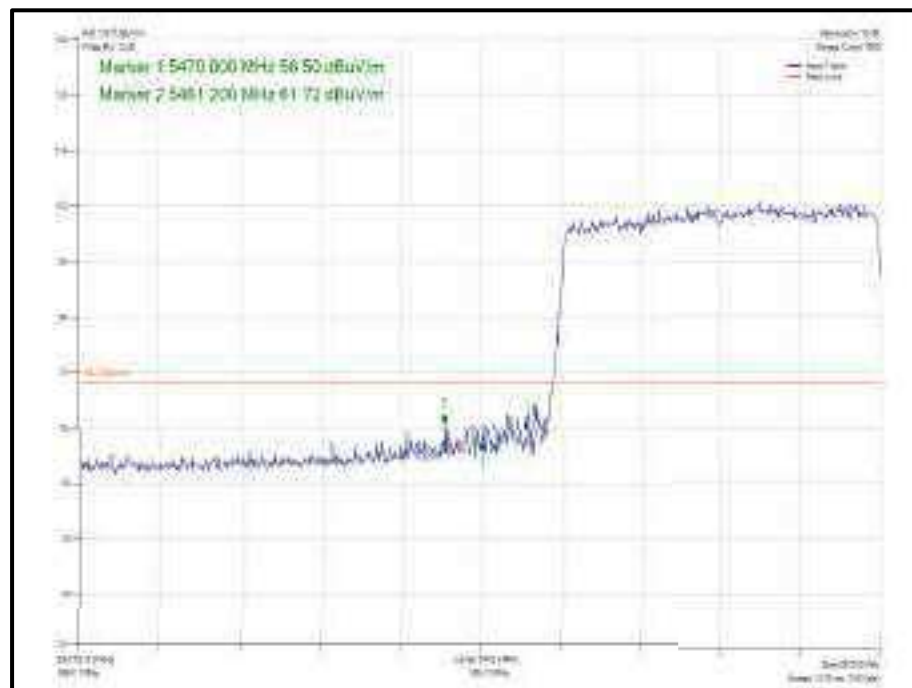
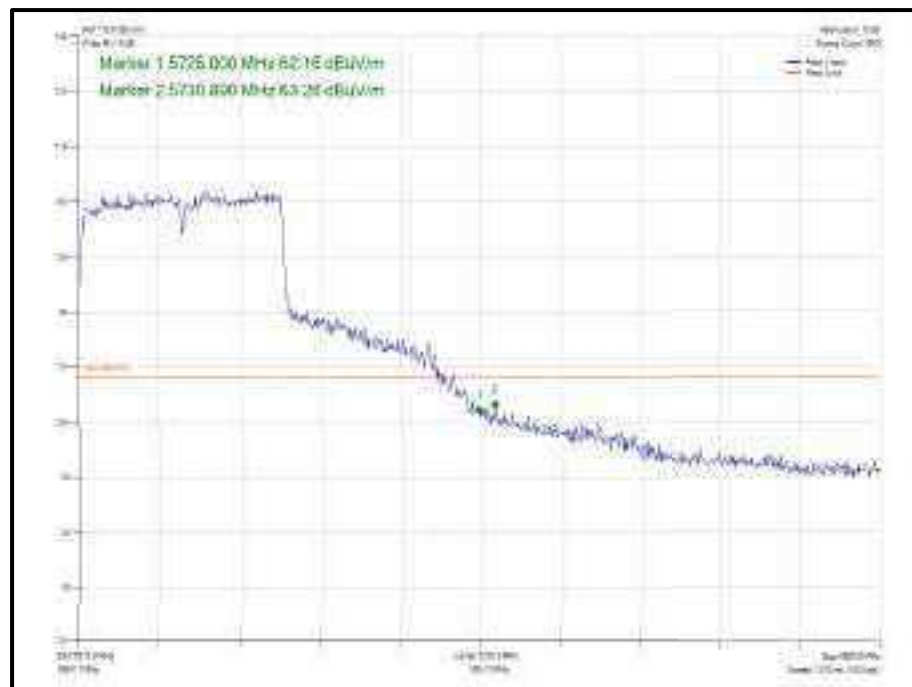
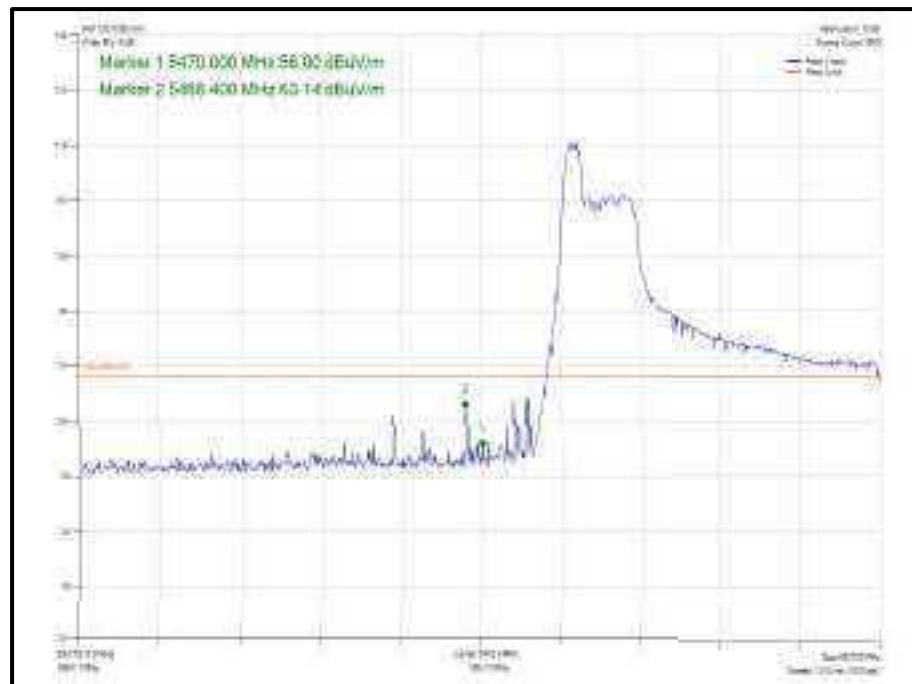
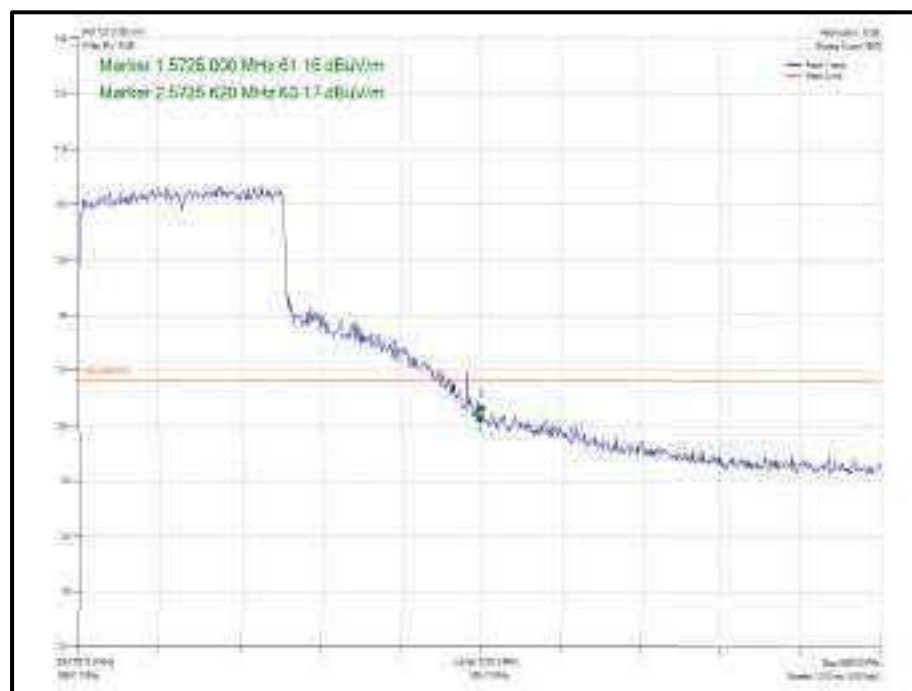


Figure 1007 - 802.11ac VHT80 Core0 - 5530 MHz
Band Edge Frequency 5470 MHz





**Figure 1010 - 802.11ax HE80 Core 052-37 - 5530 MHz
Band Edge Frequency 5470 MHz**



**Figure 1011 - 802.11ax HE80 Core 0 SU - 5610 MHz
Band Edge Frequency 5725 MHz**

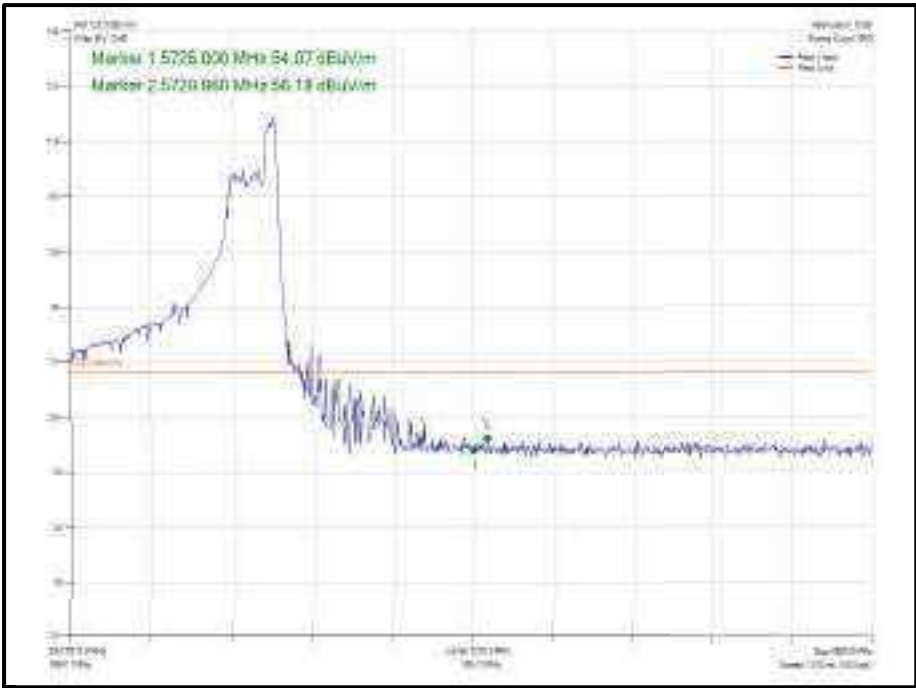


Figure 1012 - 802.11ax HE80 Core 0 52.52 - 5610 MHz
Band Edge Frequency 5725 MHz



Mode	Data Rate MCS	Resource size	Resource Index	TX Frequency (MHz)	Band Edge Frequency (MHz)	Level (dBuV/m)
802.11ac VHT80, Core 1	MCS7x1	-	-	5775	5725	63.12
802.11ac VHT80, Core 1	MCS7x1	-	-	5775	5850	60.88
802.11ax HE80, Core 1	MCS7	SU	-	5775	5725	63.21
802.11ax HE80, Core 1	MCS7	26	0	5775	5725	55.30
802.11ax HE80, Core 1	MCS7	SU	-	5775	5850	61.24
802.11ax HE80, Core 1	MCS7	26	36	5775	5850	55.43

Table 656 - SISO Authorised Band Edge Results

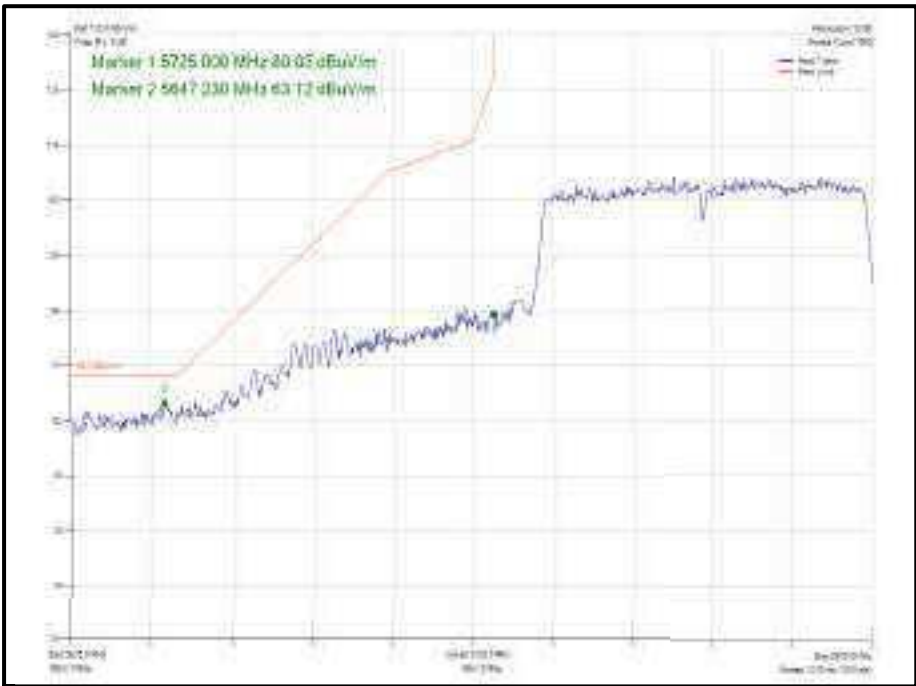


Figure 1013 - 802.11ac VHT80 Core 1 - 5775 MHz
Band Edge Frequency 5725 MHz

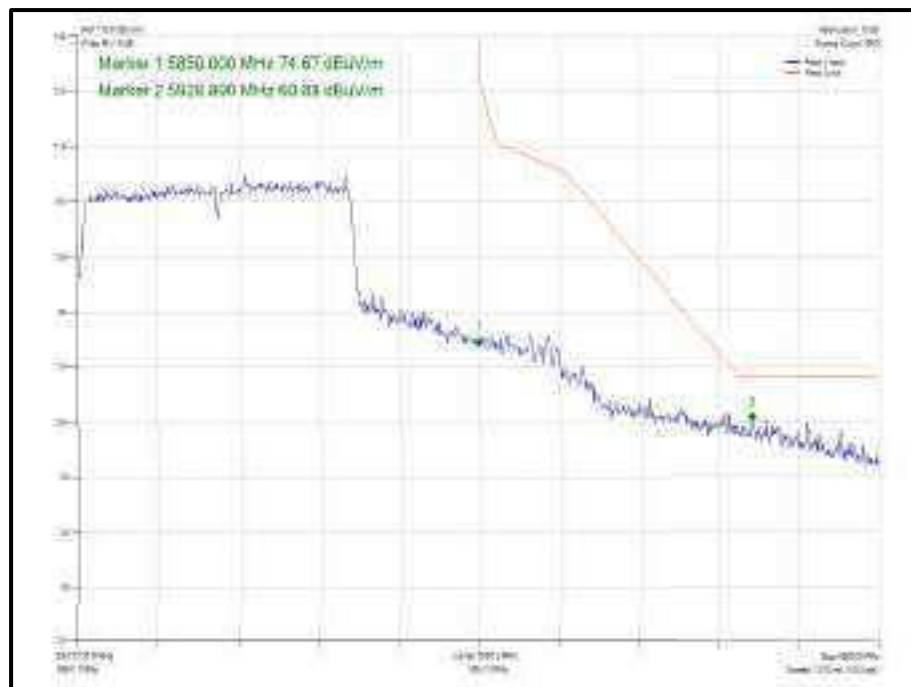


Figure 1014 - 802.11ac VHT80 Core 1 - 5775 MHz
 Band Edge Frequency 5850 MHz

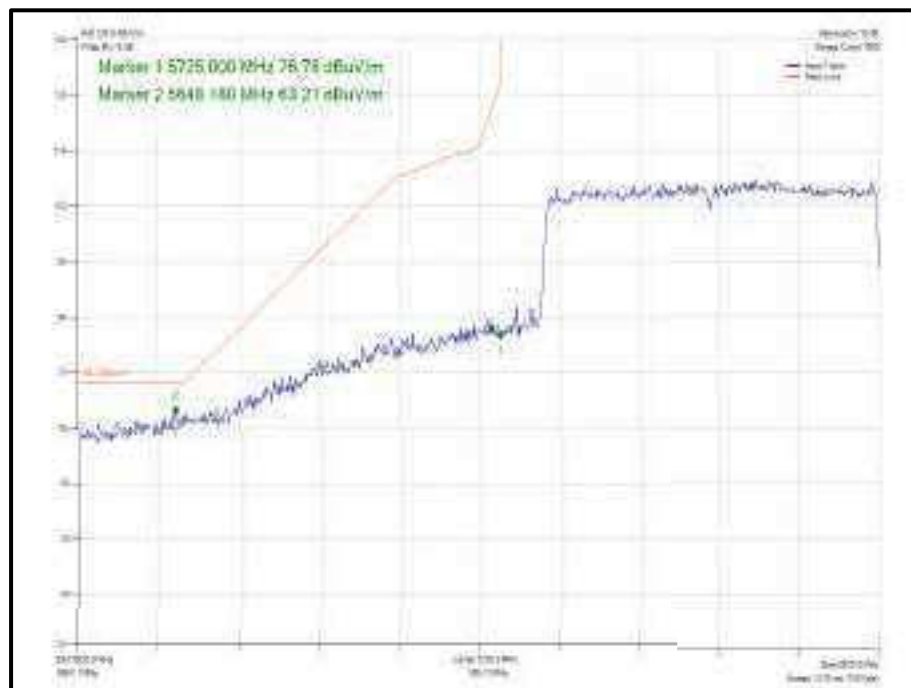
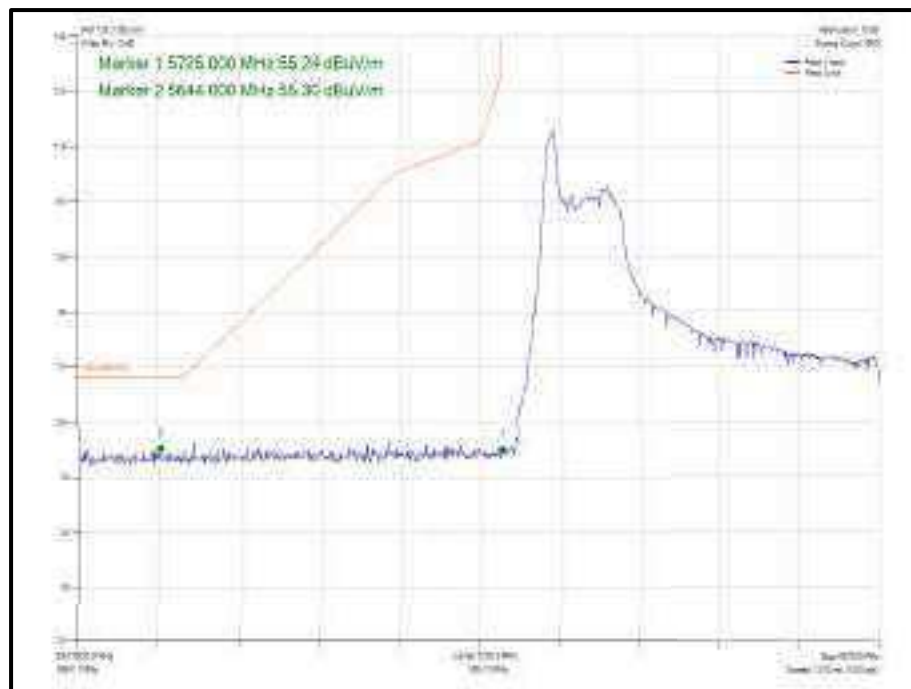
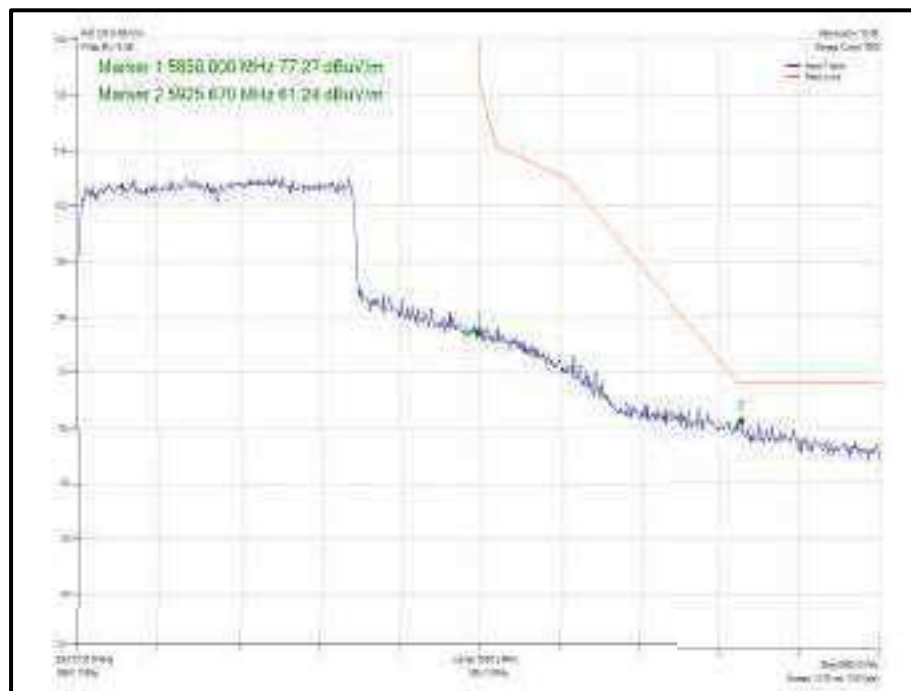


Figure 1015 - 802.11ax HE80 Core 1 SU - 5775 MHz
 Band Edge Frequency 5725 MHz



**Figure 1016 - 802.11ax HE80 Core 126.0 - 5775 MHz
 Band Edge Frequency 5725 MHz**



**Figure 1017 - 802.11ax HE80 Core 1 SU - 5775 MHz
 Band Edge Frequency 5850 MHz**

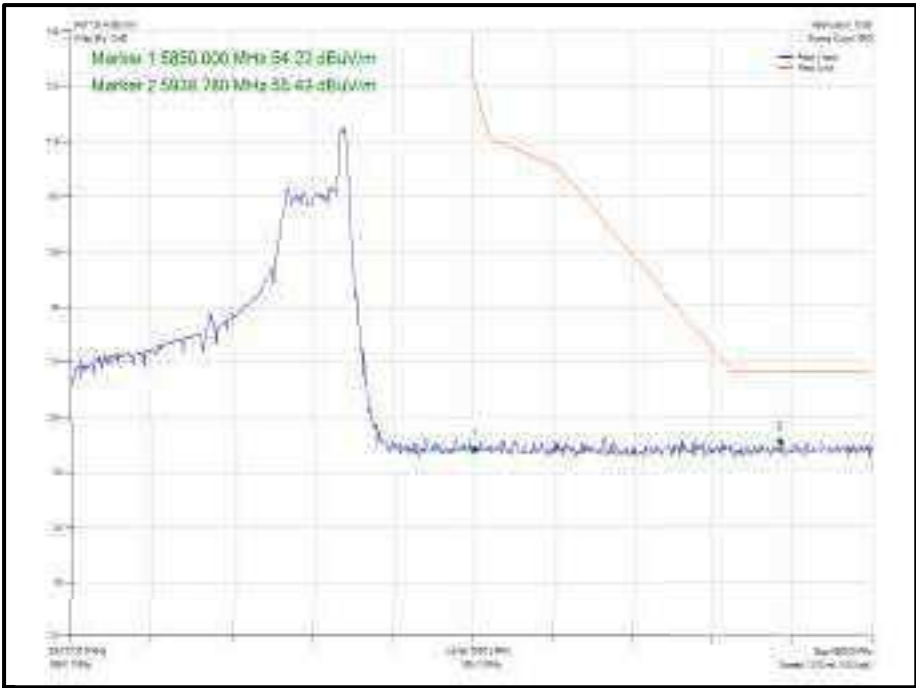
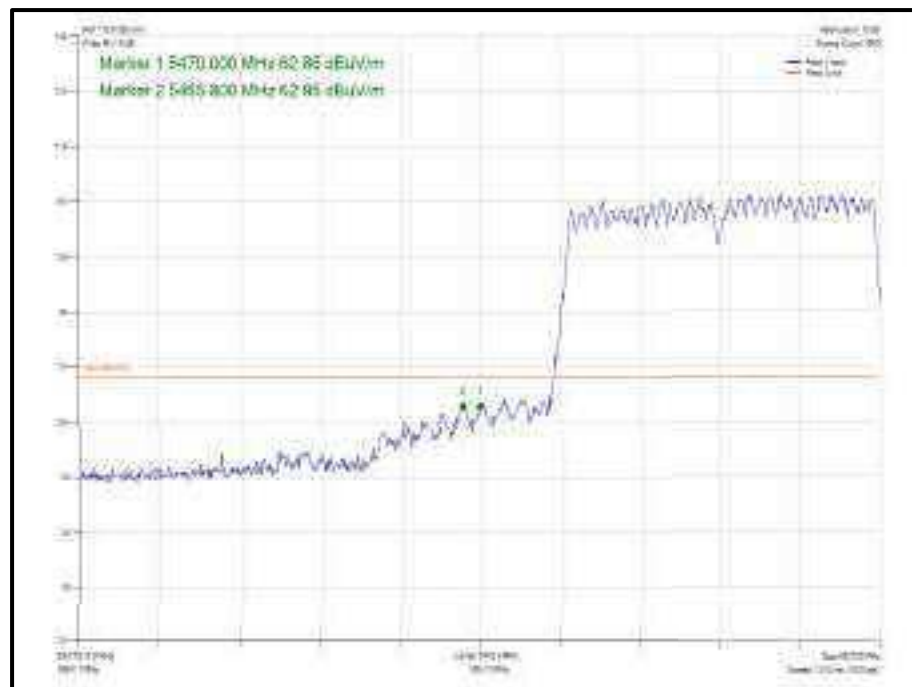


Figure 1018 - 802.11ax HE80 Core 126-36 - 5775 MHz
Band Edge Frequency 5850 MHz

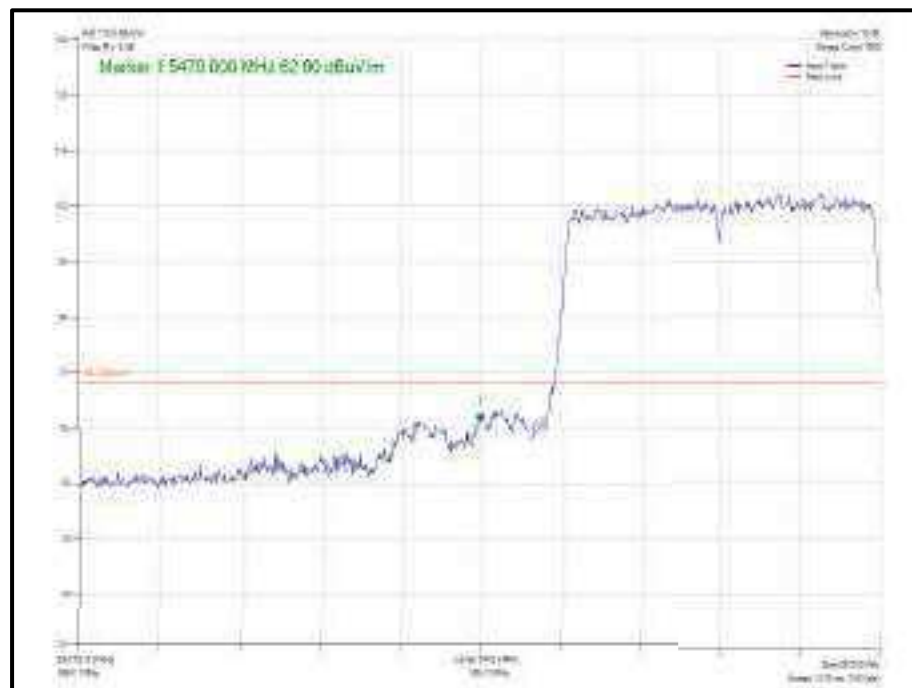


Mode	Data Rate/ MCS	Resource size	Resource Index	TX Frequency (MHz)	Band Edge Frequency (MHz)	Level (dBV/m)
802.11ac VHT80 CDD, Cores 0-1	MCS7x1	-	-	5630	5470	62.95
802.11ac VHT80 SDM, Cores 0-1	MCS7x1	-	-	5630	5470	62.00
802.11ax HE80 CDD, Cores 0-1	MCS7	SU	-	5630	5470	58.60
802.11ax HE80 CDD, Cores 0-1	MCS7	52	37	5630	5470	55.48
802.11ax HE80 SDM, Cores 0-1	MCS7	SU	-	5630	5470	56.54
802.11ax HE80 SDM, Cores 0-1	MCS7	52	37	5630	5470	56.77
802.11ac VHT80 CDD, Cores 0-1	MCS7	-	-	5610	5725	63.11
802.11ac VHT80 SDM, Cores 0-1	MCS7	-	-	5610	5725	68.50
802.11ax HE80 CDD, Cores 0-1	MCS7	SU	-	5610	5725	63.42
802.11ax HE80 CDD, Cores 0-1	MCS7	52	52	5610	5725	55.77
802.11ax HE80 SDM, Cores 0-1	MCS7	SU	-	5610	5725	63.13
802.11ax HE80 SDM, Cores 0-1	MCS7	52	52	5610	5725	56.32
802.11ac VHT80 CDD, Cores 0-1	MCS7	-	-	5775	5725	63.45
802.11ac VHT80 SDM, Cores 0-1	MCS7	-	-	5775	5725	64.00
802.11ax HE80 CDD, Cores 0-1	MCS7	SU	-	5775	5725	63.63
802.11ax HE80 CDD, Cores 0-1	MCS7	26	0	5775	5725	55.32
802.11ax HE80 SDM, Cores 0-1	MCS7	SU	-	5775	5725	62.82
802.11ax HE80 SDM, Cores 0-1	MCS7	26	0	5775	5725	55.08
802.11ac VHT80 CDD, Cores 0-1	MCS7	-	-	5775	5850	62.62
802.11ac VHT80 SDM, Cores 0-1	MCS7	-	-	5775	5850	62.91
802.11ax HE80 CDD, Cores 0-1	MCS7	SU	-	5775	5850	62.85
802.11ax HE80 CDD, Cores 0-1	MCS7	26	36	5775	5850	56.19
802.11ax HE80 SDM, Cores 0-1	MCS7	SU	-	5775	5850	62.43
802.11ax HE80 SDM, Cores 0-1	MCS7	26	36	5775	5850	55.77

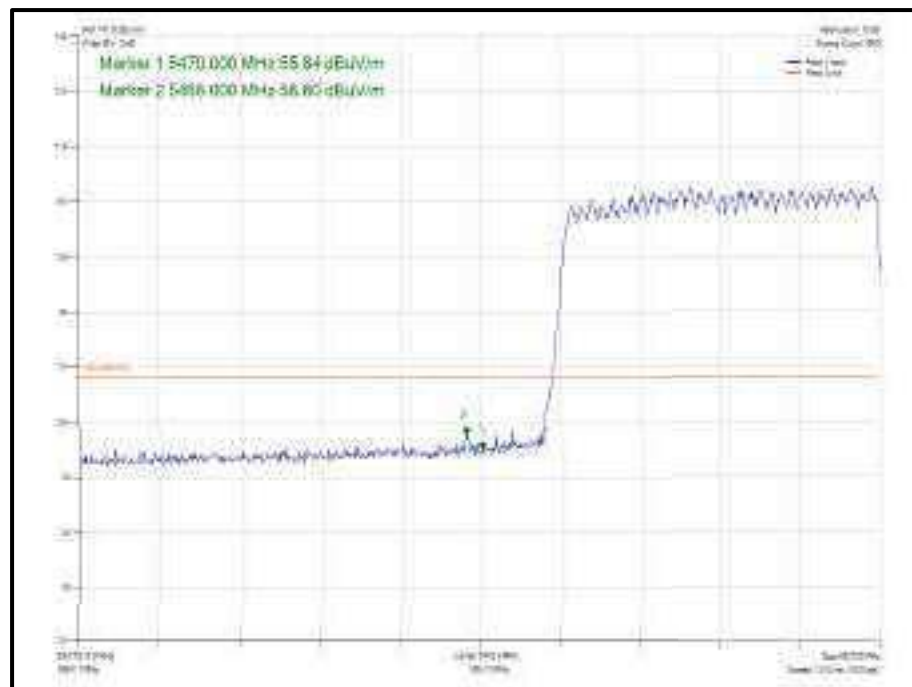
Table 657 - MIMO 2 TX Authorised Band Edge Results



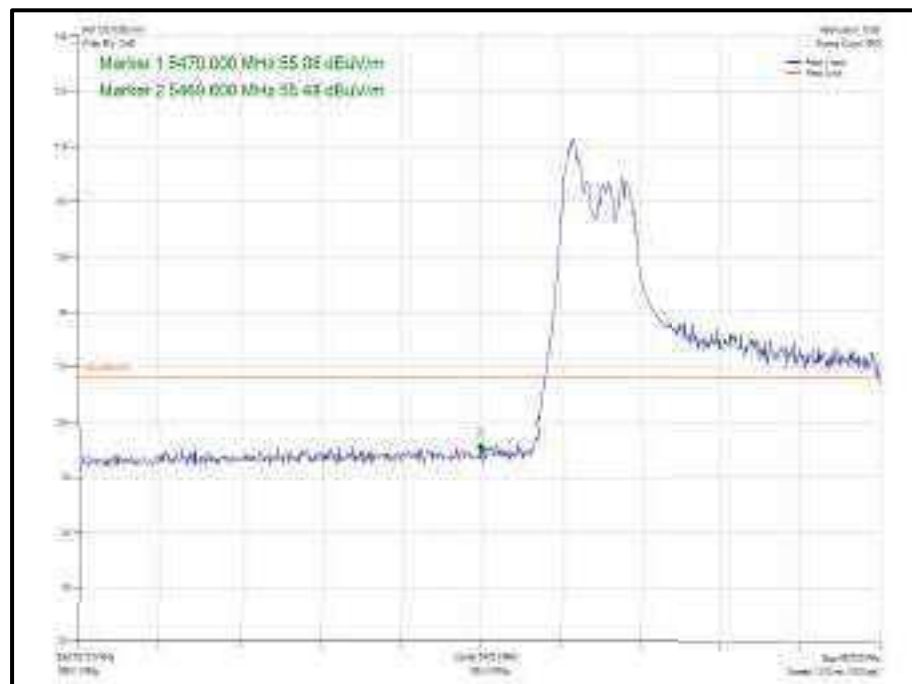
**Figure 1019 - 802.11ac VHT80 CDD, Cores 0-1 - 5530 MHz
 Band Edge Frequency 5470 MHz**



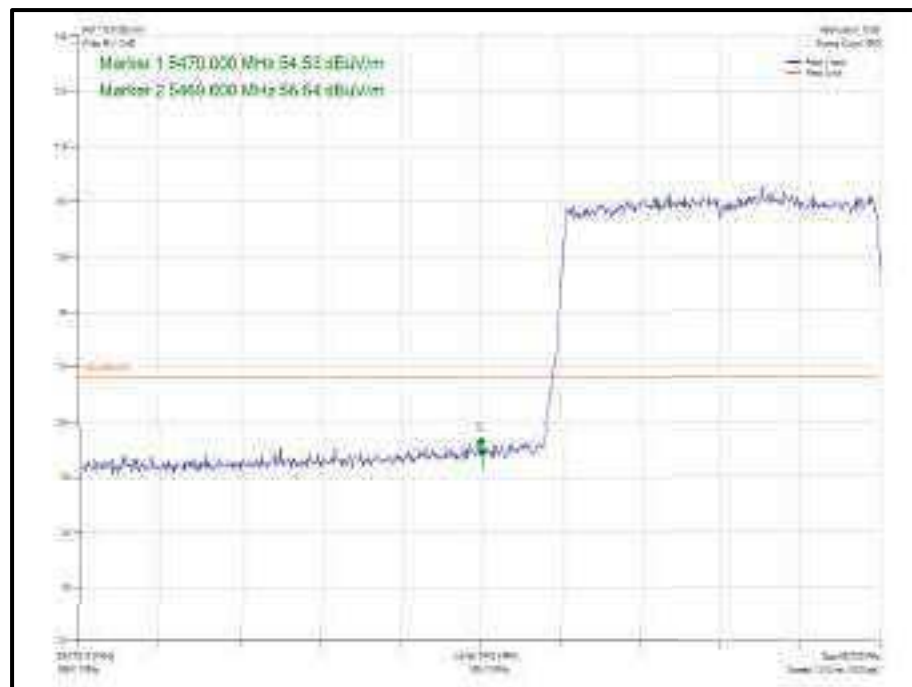
**Figure 1020 - 802.11ac VHT80 SDM, Cores 0-1 - 5530 MHz
 Band Edge Frequency 5470 MHz**



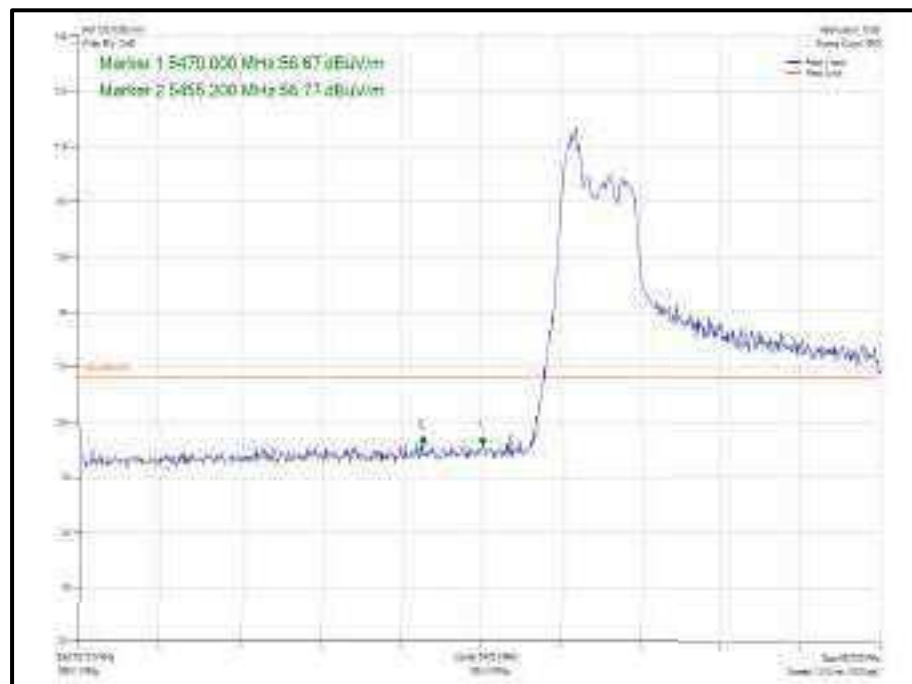
**Figure 1021 - 802.11ax HE80 CDD, Cores 0-1, SU - 5530 MHz
 Band Edge Frequency 5470 MHz**



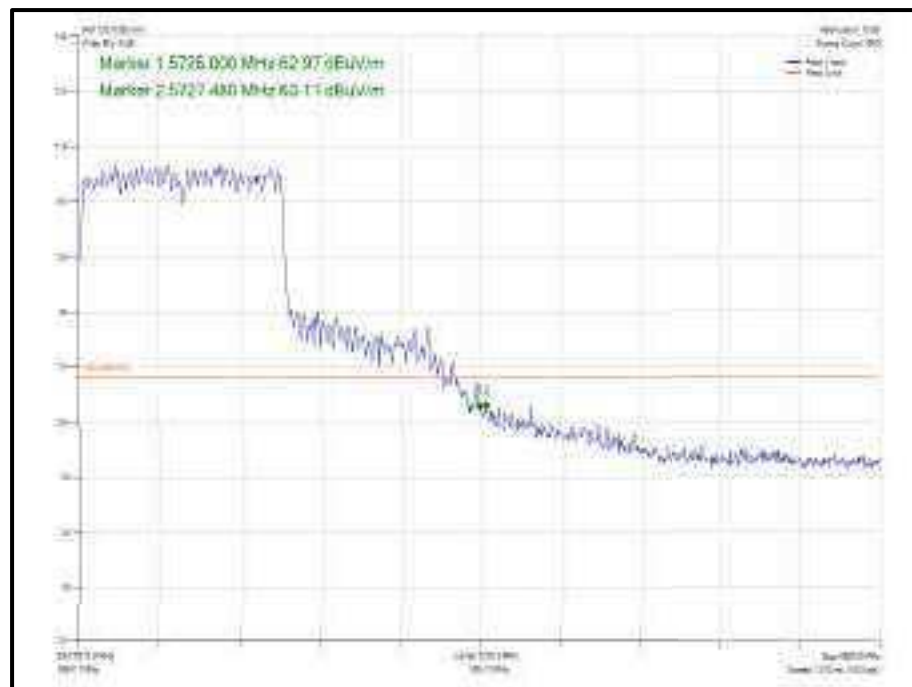
**Figure 1022 - 802.11ax HE80 CDD, Cores 0-1, 52.37-5530 MHz
 Band Edge Frequency 5470 MHz**



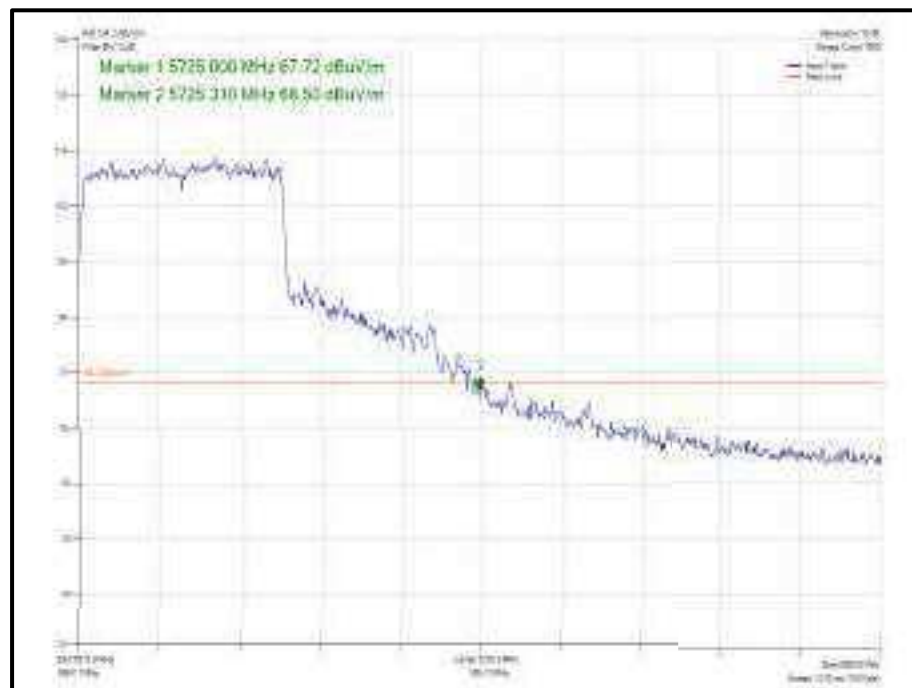
**Figure 1023 - 802.11ax HE80 SDM, Cores 0-1, SU - 5530 MHz
 Band Edge Frequency 5470 MHz**



**Figure 1024 - 802.11ax HE80 SDM, Cores 0-1, 52-37 - 5530 MHz
 Band Edge Frequency 5470 MHz**



**Figure 1025 - 802.11ac VHT80 CDD, Cores 0-1 - 5610 MHz
 Band Edge Frequency 5725 MHz**



**Figure 1026 - 802.11ac VHT80 SDM, Cores 0-1 - 5610 MHz
 Band Edge Frequency 5725 MHz**

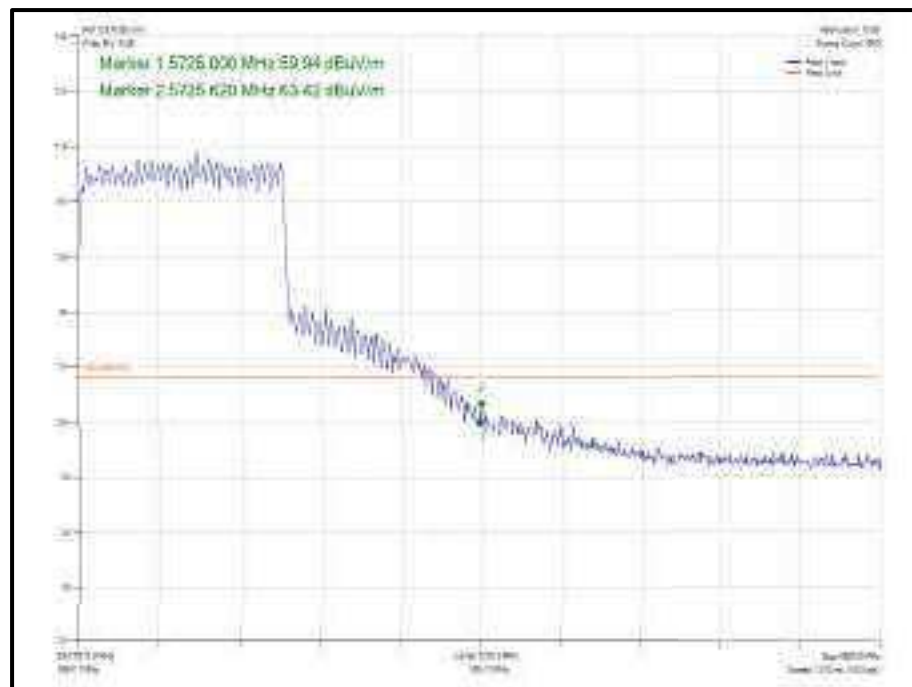


Figure 1027 - 802.11ax HE80 CDD, Cores 0-1, SU - 5610 MHz
 Band Edge Frequency 5725 MHz

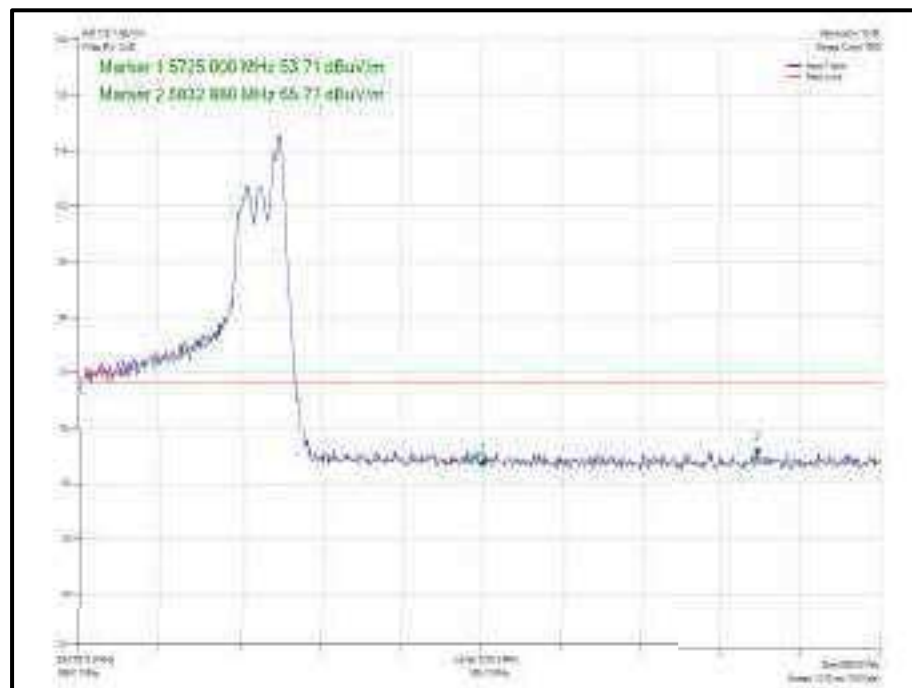


Figure 1028 - 802.11ax HE80 CDD, Cores 0-1, 52-52-5610 MHz
 Band Edge Frequency 5725 MHz

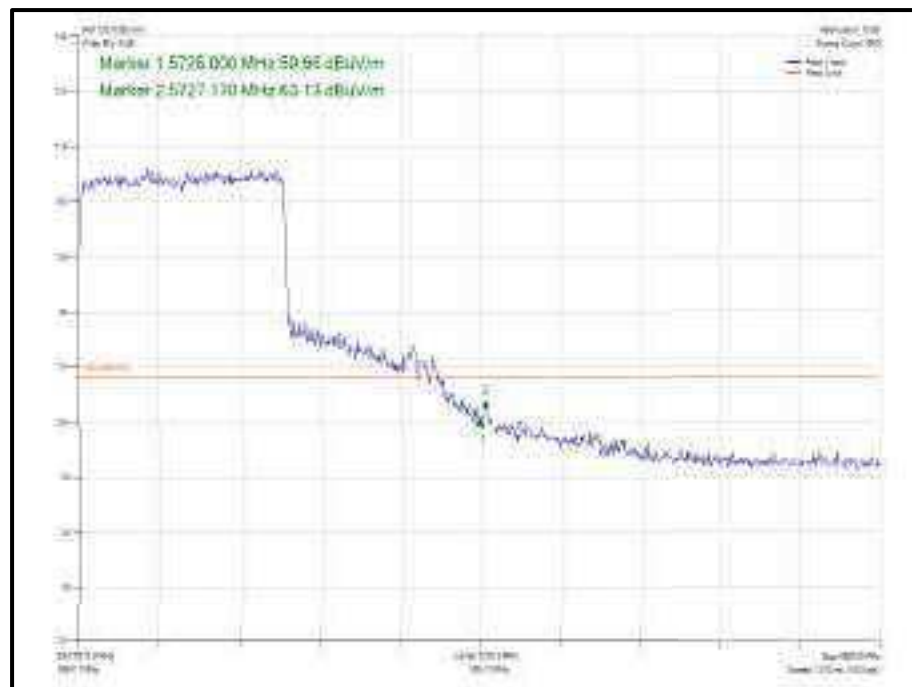


Figure 1029 - 802.11ax HE80 SDM, Cores 0-1, SU - 5610 MHz
 Band Edge Frequency 5725 MHz

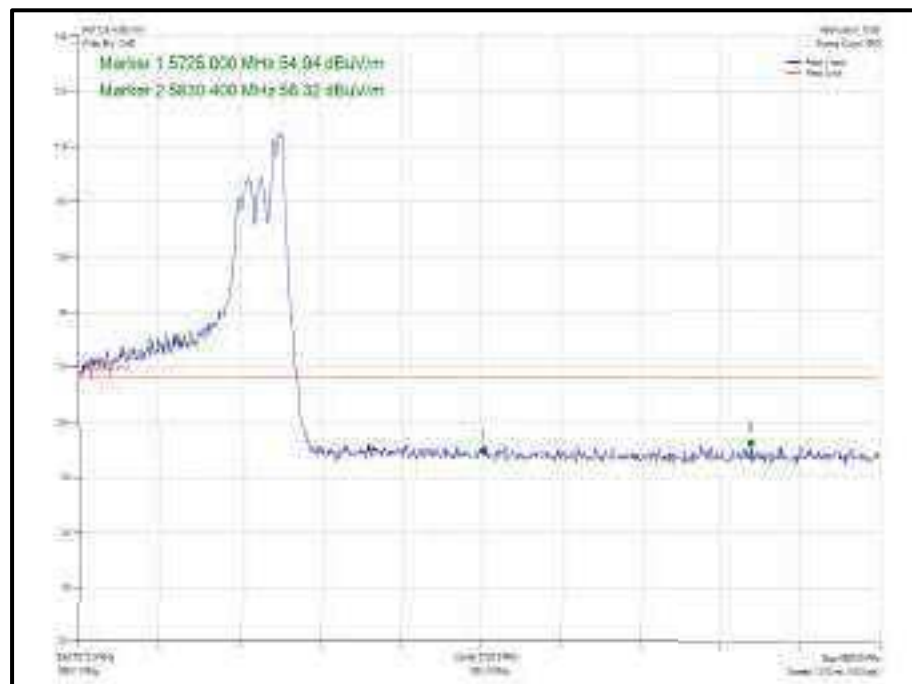


Figure 1030 - 802.11ax HE80 SDM, Cores 0-1, 52-52 - 5610 MHz
 Band Edge Frequency 5725 MHz

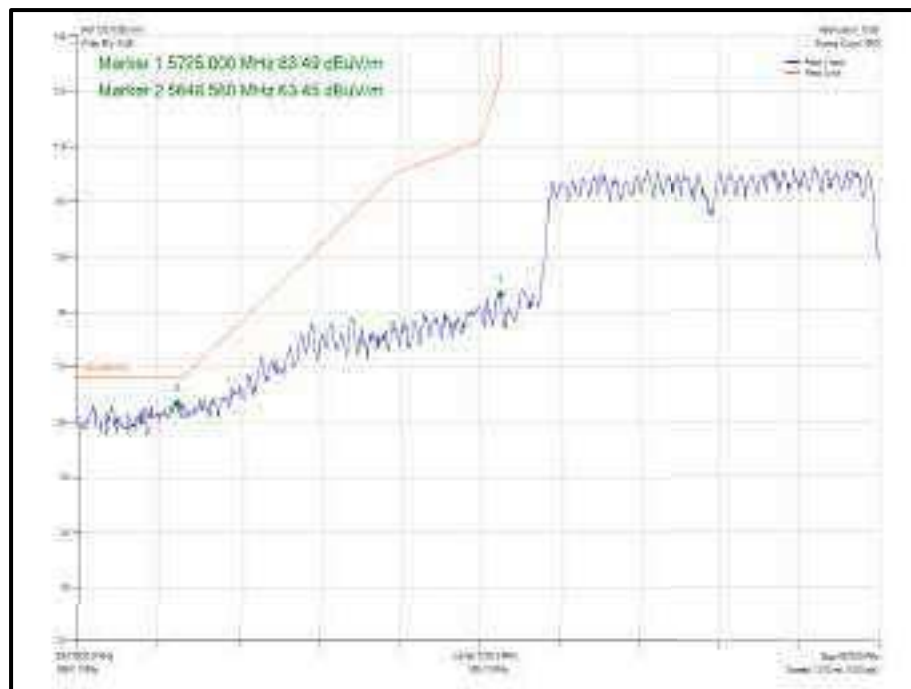


Figure 1031 - 802.11ac VHT80 CDD, Cores 0-1 - 5775 MHz
 Band Edge Frequency 5725 MHz

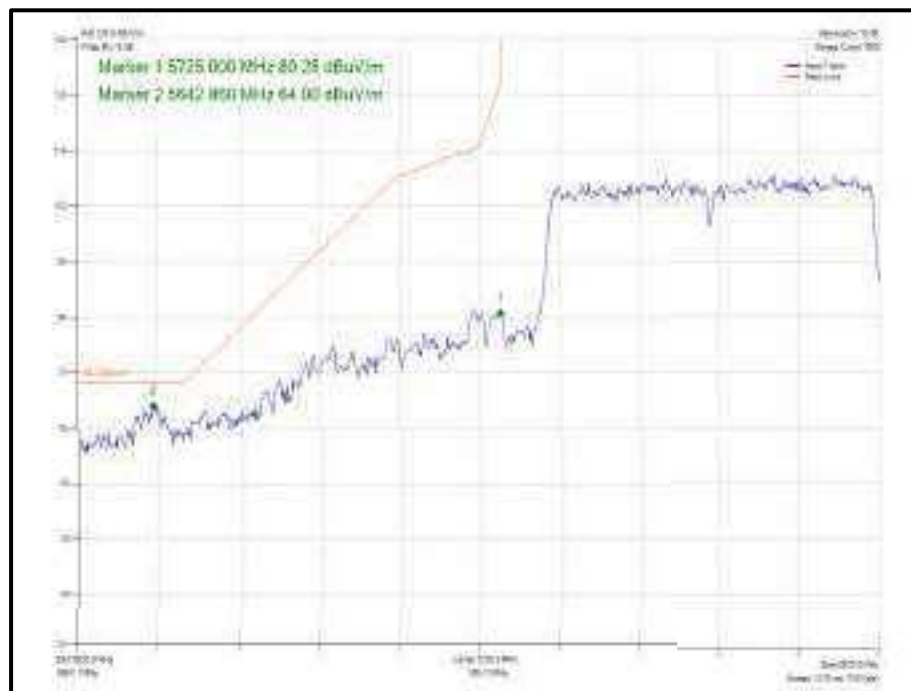
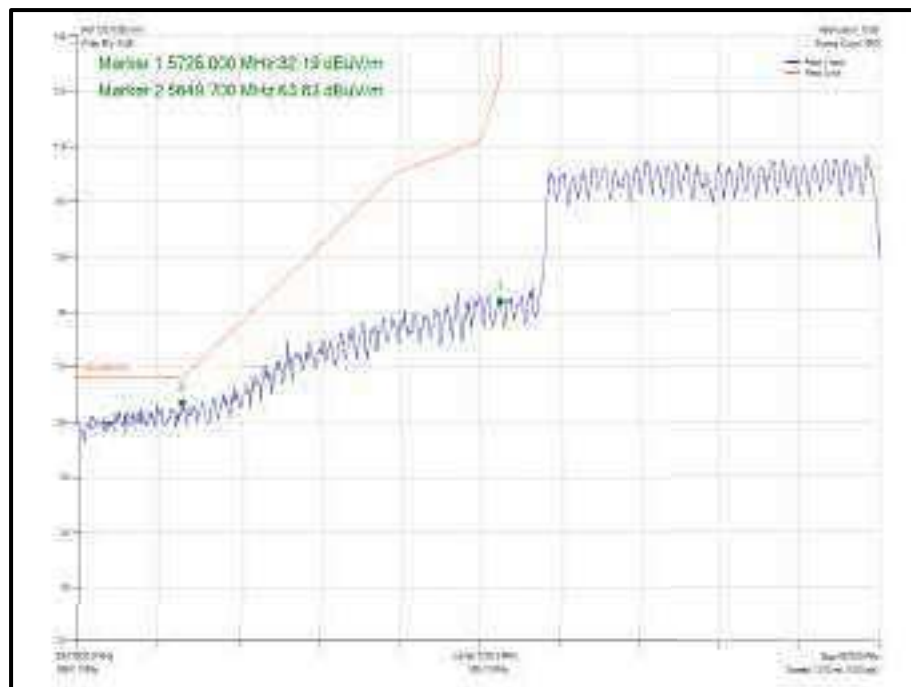
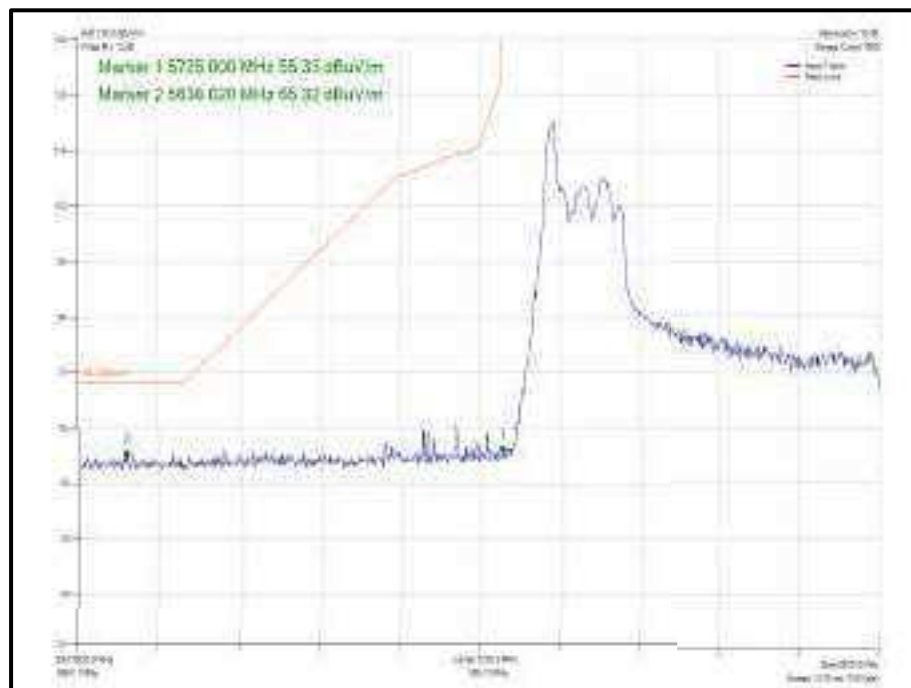


Figure 1032 - 802.11ac VHT80 SDM, Cores 0-1 - 5775 MHz
 Band Edge Frequency 5725 MHz



**Figure 1033 - 802.11ax HE80 CDD, Cores 0-1, SU - 5775 MHz
Band Edge Frequency 5725 MHz**



**Figure 1034 - 802.11ax HE80 CDD, Cores 0-1, 26-0 - 5775 MHz
Band Edge Frequency 5725 MHz**

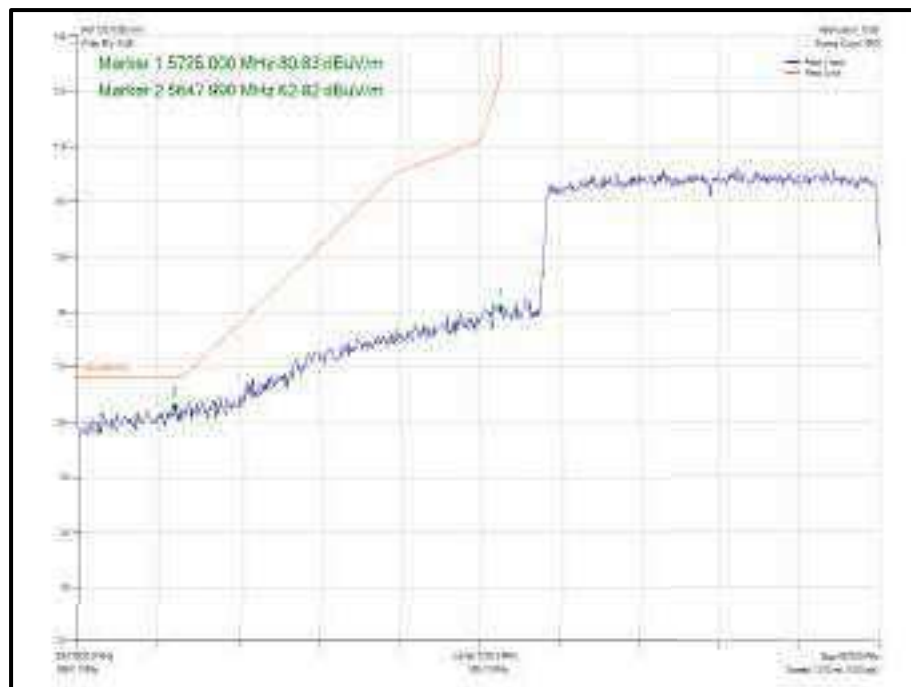


Figure 1035 - 802.11ax HE80 SDM, Cores 0-1, SU - 5775 MHz
 Band Edge Frequency 5725 MHz

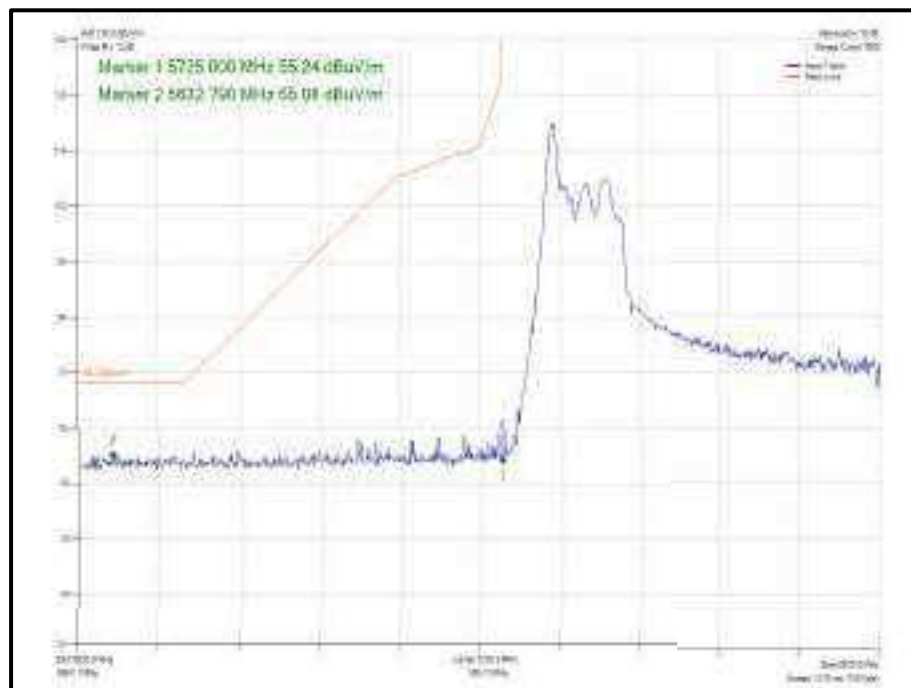


Figure 1036 - 802.11ax HE80 SDM, Cores 0-1, 26-0 - 5775 MHz
 Band Edge Frequency 5725 MHz

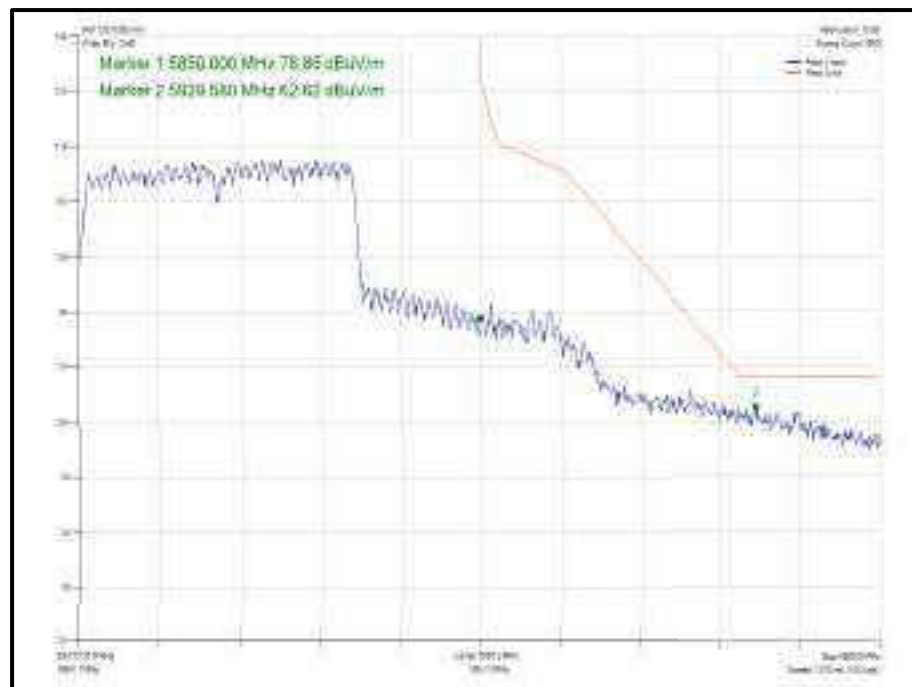


Figure 1037 - 802.11ac VHT80 CDD, Cores 0-1 - 5775 MHz
 Band Edge Frequency 5850 MHz

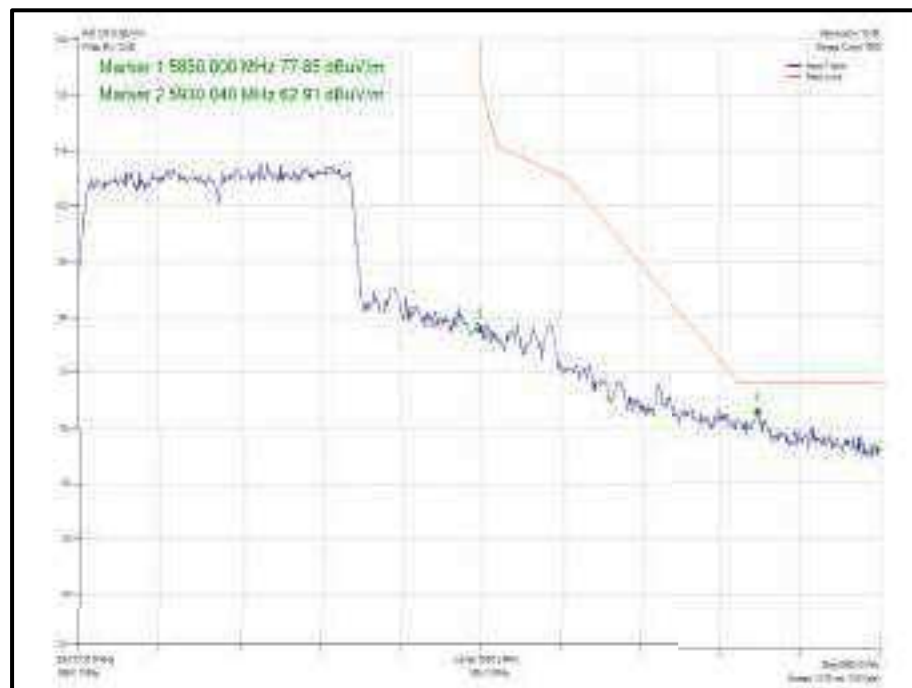
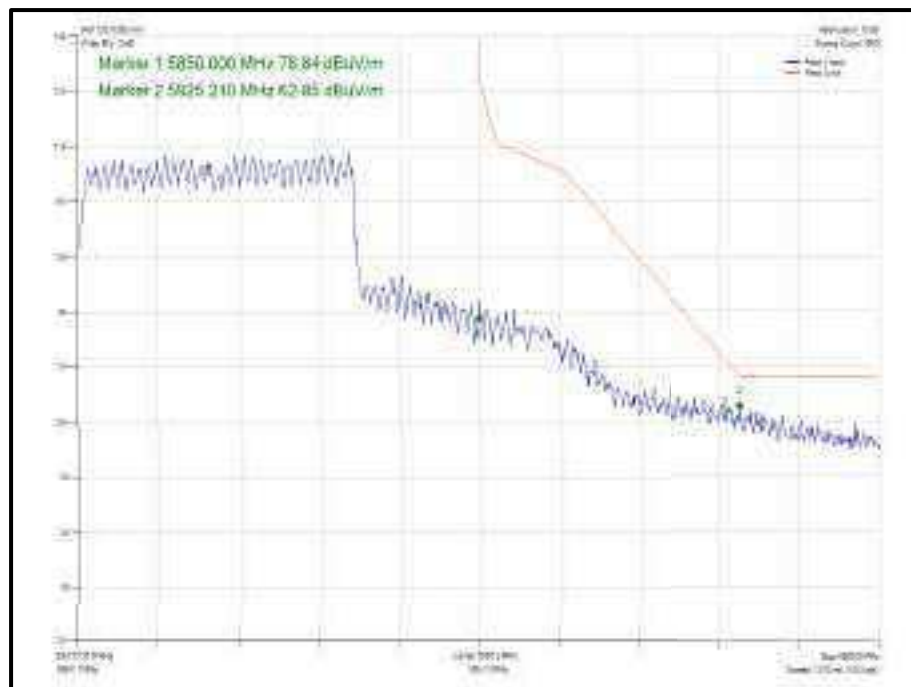
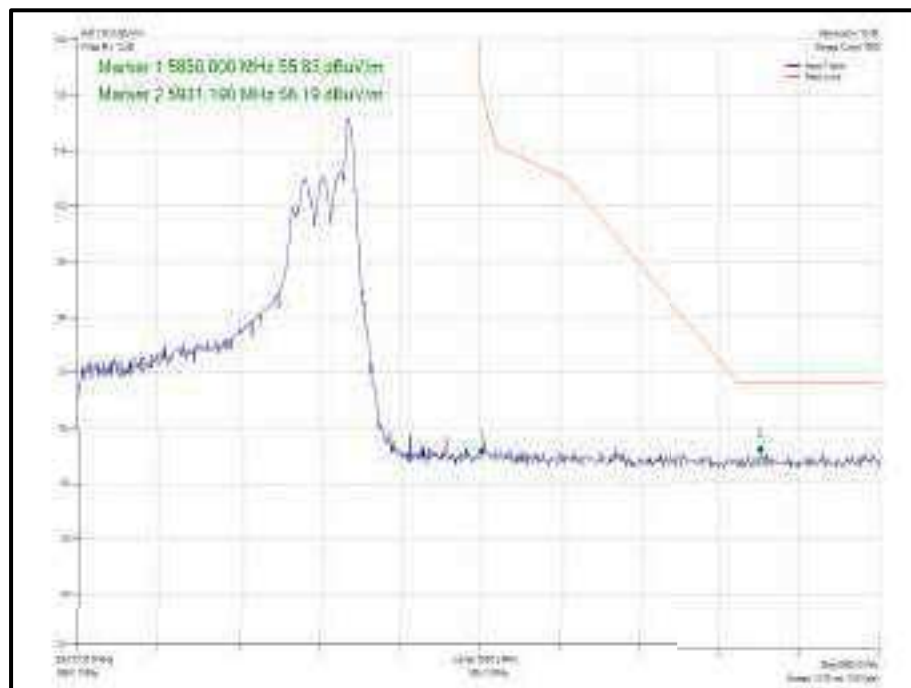


Figure 1038 - 802.11ac VHT80 SD M, Cores 0-1 - 5775 MHz
 Band Edge Frequency 5850 MHz



**Figure 1039 - 802.11ax HE80 CDD, Cores 0-1, SU - 5775 MHz
 Band Edge Frequency 5850 MHz**



**Figure 1040 - 802.11ax HE80 CDD, Cores 0-1, 26-36 - 5775 MHz
 Band Edge Frequency 5850 MHz**

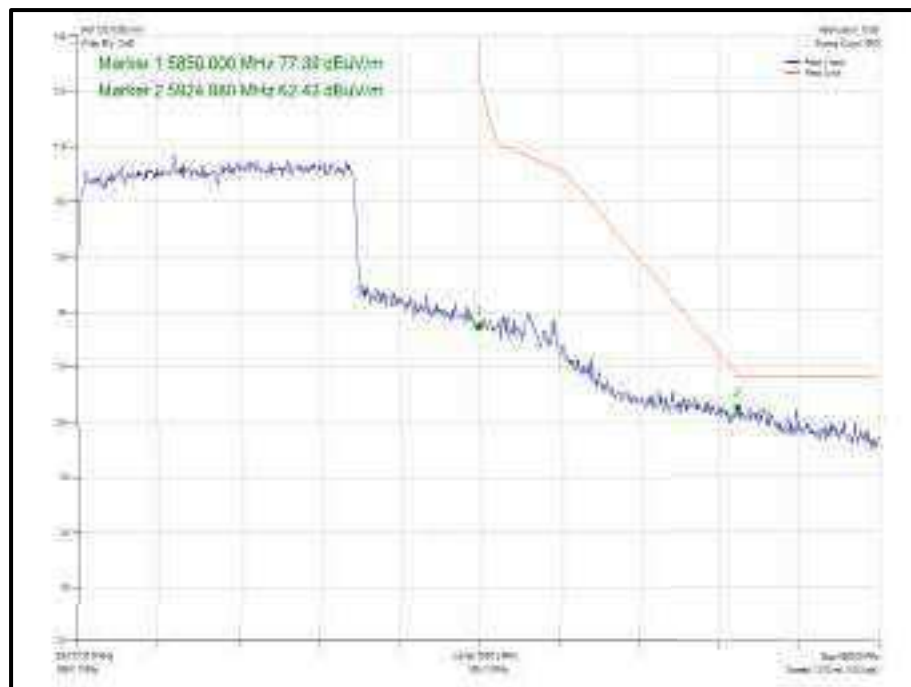


Figure 1041 - 802.11ax HE80 SDM, Cores 0-1, SU -- 5775 MHz
 Band Edge Frequency 5850 MHz

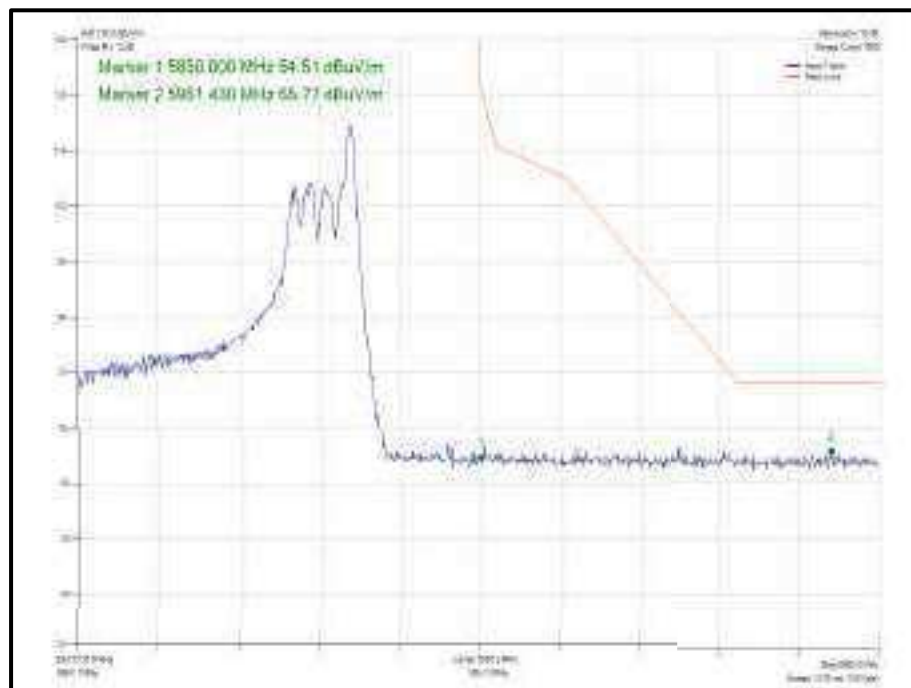


Figure 1042 - 802.11ax HE80 SDM, Cores 0-1, 26-36 - 5775 MHz
 Band Edge Frequency 5850 MHz



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



26.7 Test Location and Test Equipment Used

This test was carried out in EMC Chamber 5.

Instrument	Manufacturer	Type No	TE Nb	Calibration Period (months)	Calibration Due
Screened Room (5)	Rainford	Rainford	1545	36	23-Jan-2021
Turntable Controller	Inn-Co GmbH	CO 100.0	1606	-	TU
Mast Controller	Matturo GmbH	NCD	4810	-	TU
Tilt Antenna Mast	Matturo GmbH	TAM 4.0P	4811	-	TU
Double Ridge Broadband Horn Antenna	Schwarzbeck	BBHA9120B	4848	12	10-Mar-2021
EmX Emissions Software	TUVSUD	EmX	5125	-	Software
Preamplifier (30dB 1GHz to 18GHz)	Schwarzbeck	BBV9718C	5261	12	07-Apr-2021
Thermo-Hygro-Barometer	PCE Instruments	PCE-THB-40	5475	12	17-Mar-2021
Attenuator 9V 10dB DC-18GHz	Aaren	AT40A-4041-D18-10	5494	12	14-Apr-2021
1m SMA Cable	Junkosha	MVW 221 - 01 000AMS AMS/A	5515	12	01-Apr-2021
2m SMA Cable	Junkosha	MVW 221 - 02 000AMS AMS/A	5517	12	01-Apr-2021
8m N Type Cable	Junkosha	MVW 221 - 08 000NM SNM SB	5520	12	24-Mar-2021
EMI Test Receiver	Rohde & Schwarz	ESV44	5527	12	06-Feb-2021

Table 658

TU - Traceability Unscheduled



27 Restricted Band Edges

27.1 Specification Reference

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

27.2 Equipment Under Test and Modification State

A2348, S/N: C07D100W02H7 - Modification State 0

27.3 Date of Test

08-July-2020 to 08-August-2020

27.4 Test Method

The test was performed in accordance with ANSI C63.10, clause 12.7.

Restricted Band Edge measurements were performed with the device operating in SISO and MIMO operation, across the various modes supported by the device.

The measurements displayed within this report have been limited to those modes which have been shown to be worst case.

Where duty cycle corrections were required for average results, these are included in the result tables but are not shown on the plots.

Further measurements are held on file by TÜV SÜD and are available if required.

27.5 Environmental Conditions

Ambient Temperature	19.7 - 22.2 °C
Relative Humidity	44.9 - 53.5 %

27.6 Test Results

5 GHz WLAN

Mode	Data Rate / MCS	Resource Size	Resource Index	TX Frequency (MHz)	Band Edge Frequency (MHz)	Peak Level (dBμV/m)	Average Level (dBμV/m)
802.11a, Core 0	6 Mbps	-	-	5180	5150	57.39	45.11
802.11n HT20, Core 0	MCS7	-	-	5180	5150	57.88	45.01
802.11ax HE20, Core 0	MCS7	SU	-	5180	5150	56.78	45.23
802.11ax HE20, Core 0	MCS7	26	0	5180	5150	54.83	43.10
802.11a, Core 0	6 Mbps	-	-	5320	5350	56.66	45.60
802.11n HT20, Core 0	MCS7	-	-	5320	5350	58.82	45.80
802.11ax HE20, Core 0	MCS7	SU	-	5320	5350	56.94	44.30
802.11ax HE20, Core 0	MCS7	52	40	5320	5350	56.11	44.74
802.11a, Core 0	6 Mbps	-	-	5500	5460	56.06	44.77
802.11n HT20, Core 0	MCS7	-	-	5500	5460	56.66	45.09
802.11ax HE20, Core 0	MCS7	SU	-	5500	5460	55.63	44.93
802.11ax HE20, Core 0	MCS7	52	37	5500	5460	56.56	45.35

Table 659 - SISO Restricted Band Edge Results



Figure 1043 - 802.11a, Core 0 - 5180 MHz, Band Edge Frequency 5150 MHz

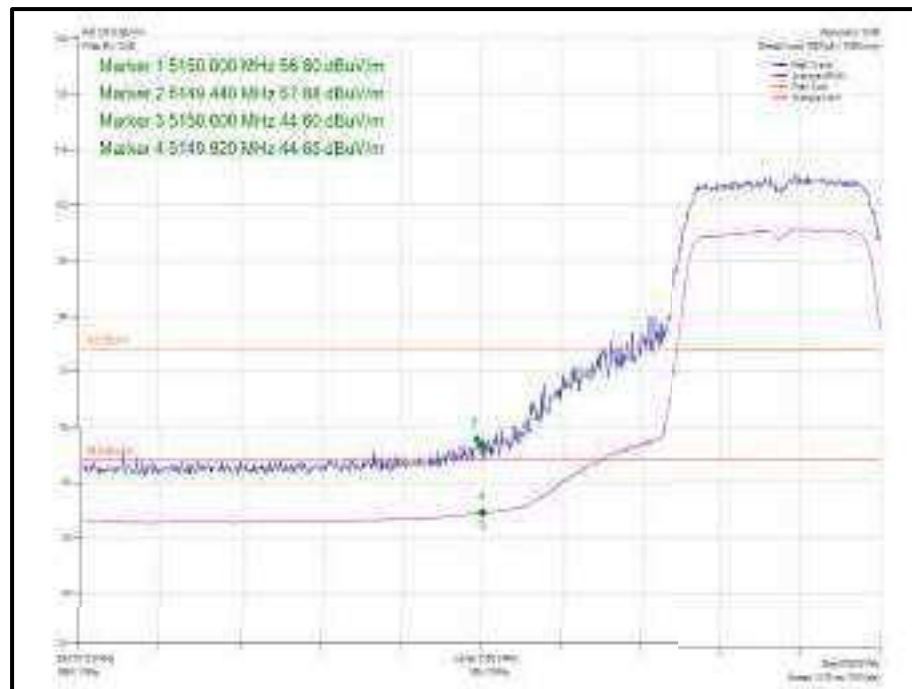


Figure 1044 - 802.11n HT20, Core 0 - 5180 MHz, Band Edge Frequency 5150 MHz

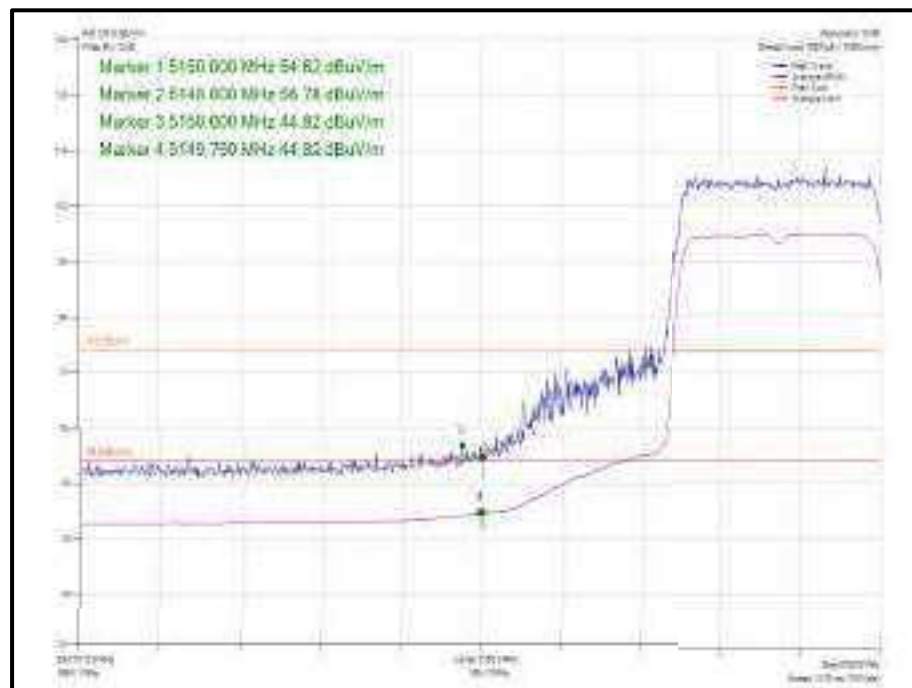


Figure 1045 - 802.11ax HE20, Core0, SU - 5180 MHz, Band Edge Frequency 5150 MHz

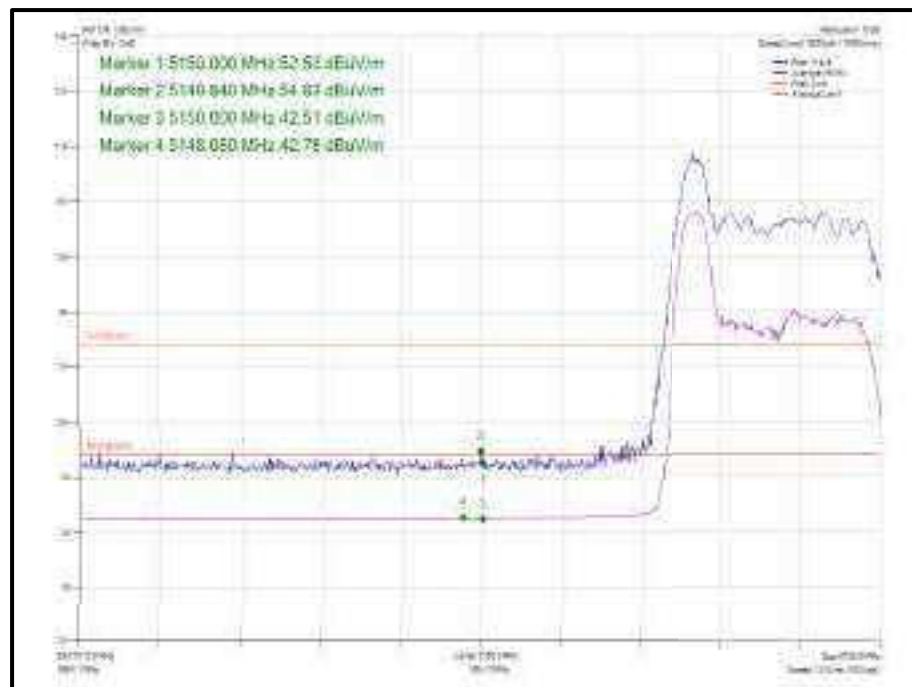


Figure 1046 - 802.11ax HE20, Core0, 26-0 - 5180 MHz, B and E dge Frequency 5150 MHz

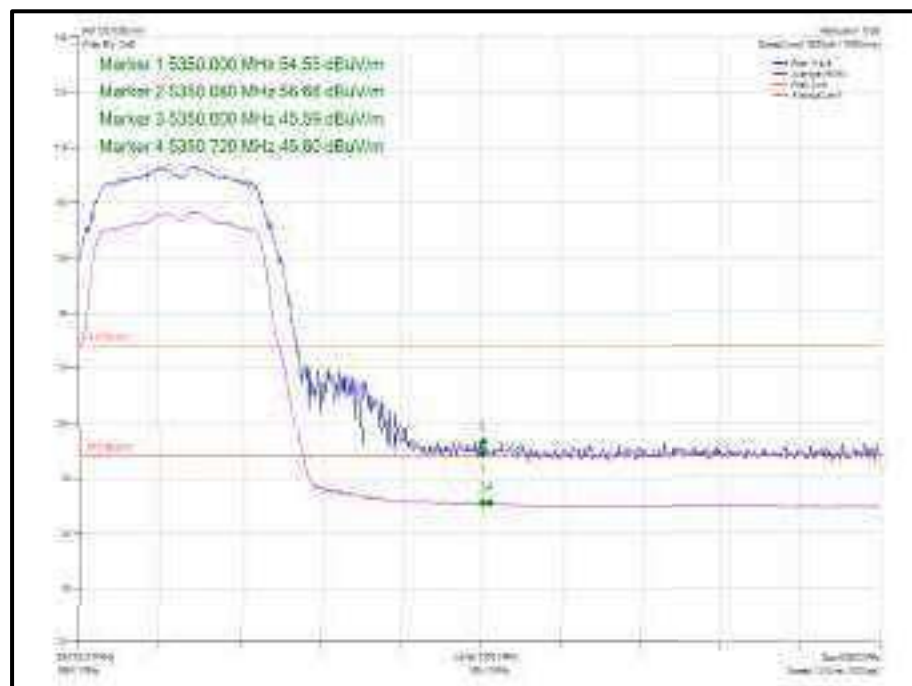


Figure 1047 - 802.11a, Core0 - 5320 MHz, Band Edge Frequency 5350 MHz

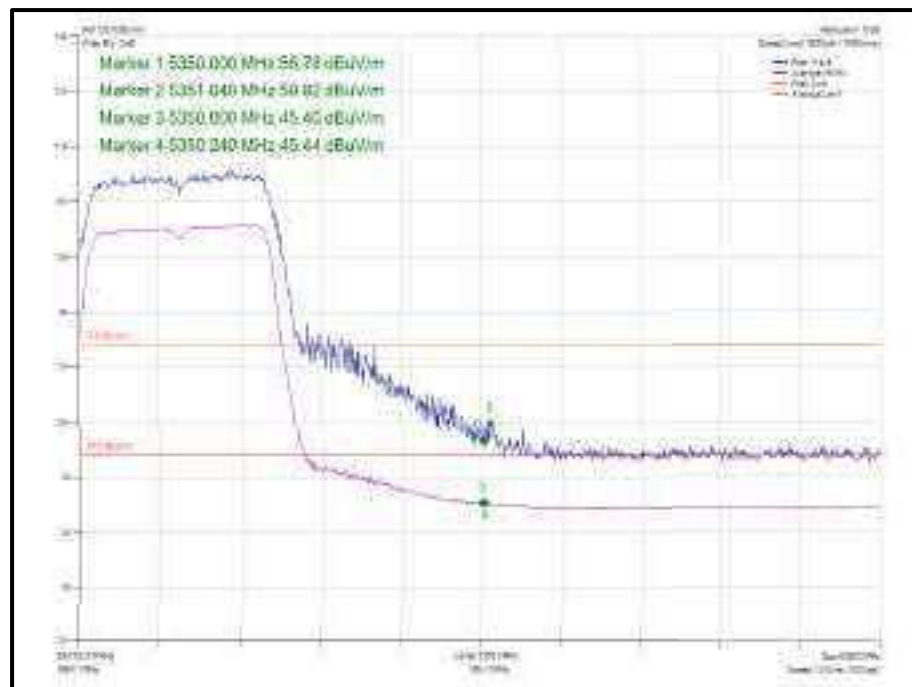


Figure 1048 - 802.11n HT20, Core 0 - 5320 MHz, Band Edge Frequency 5350 MHz

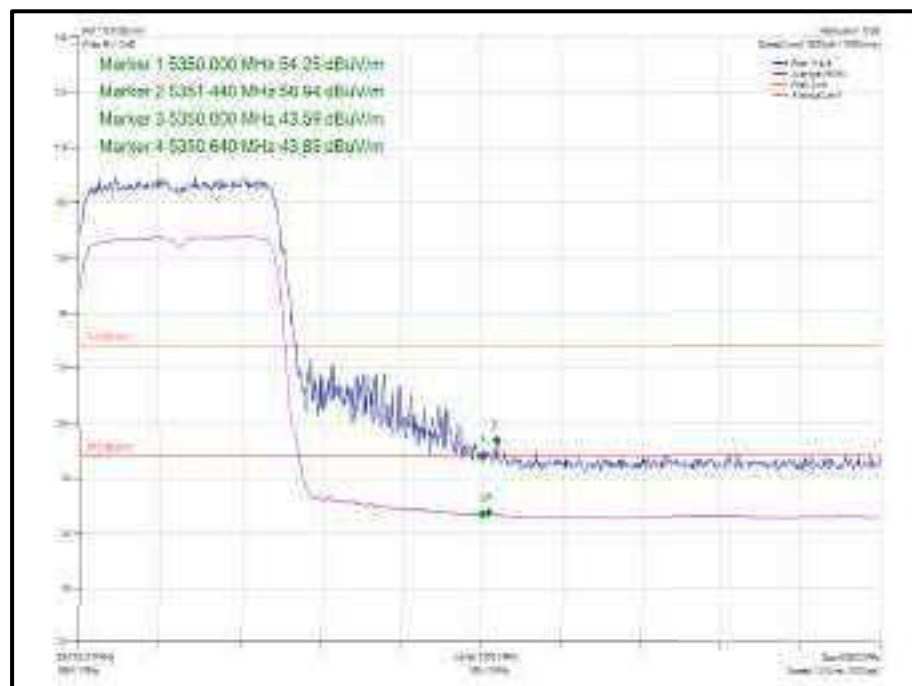


Figure 1049 - 802.11ax HE20, Core0, SU - 5320 MHz, Band Edge Frequency 5350 MHz

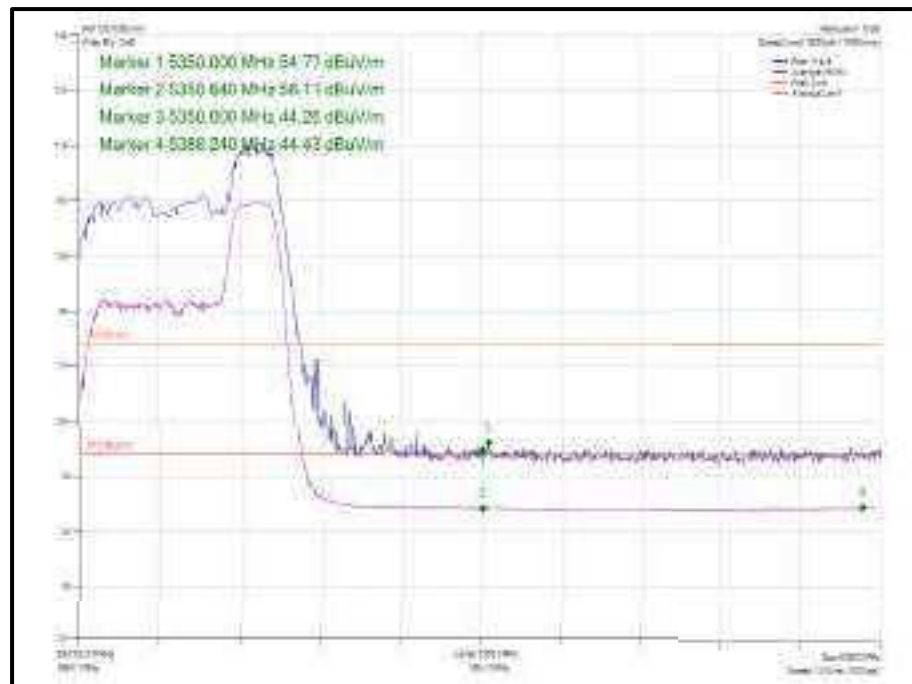


Figure 1050 - 802.11 ax HE20, Core0, 52.40 - 5320 MHz, Band Edge Frequency 5350 MHz

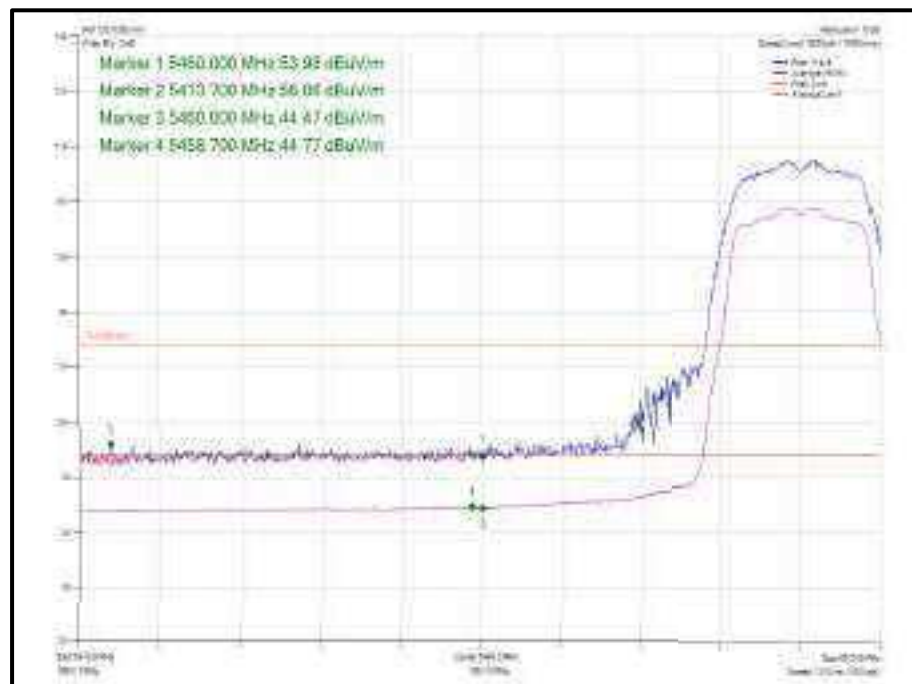


Figure 1051 - 802.11a, Core 0 - 5500 MHz, Band Edge Frequency 5460 MHz

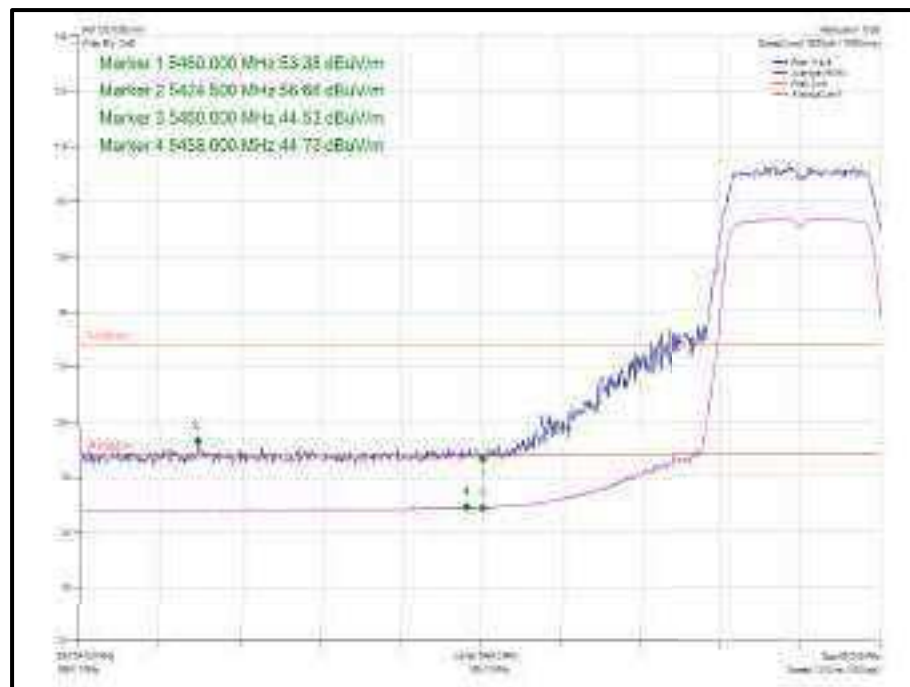


Figure 1052 - 802.11n HT20, Core 0 - 5500 MHz, Band Edge Frequency 5460 MHz

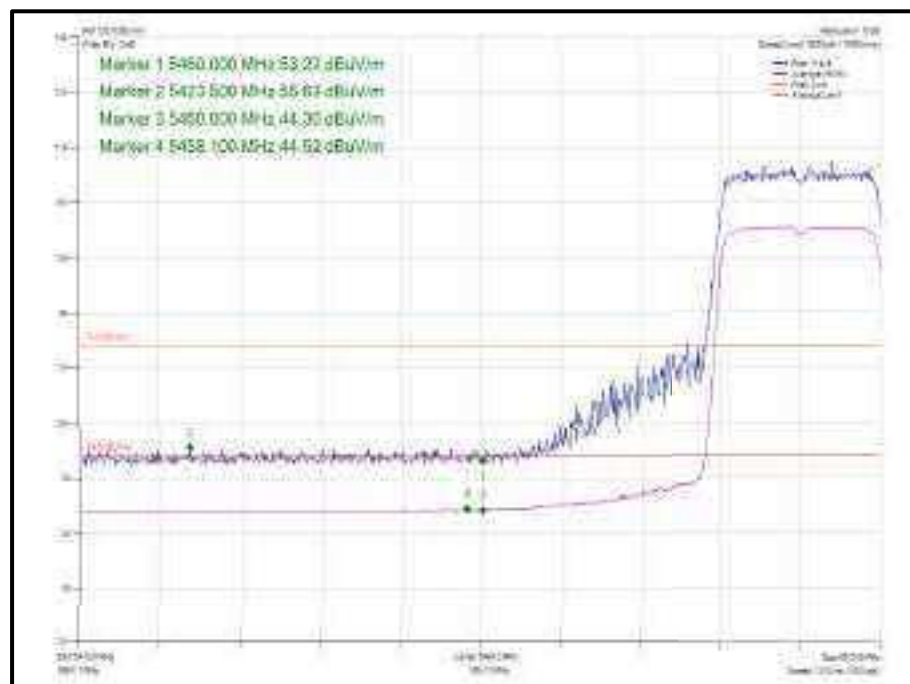


Figure 1053 - 802.11ax HE20, Core0, SU - 5500 MHz, Band Edge Frequency 5460 MHz

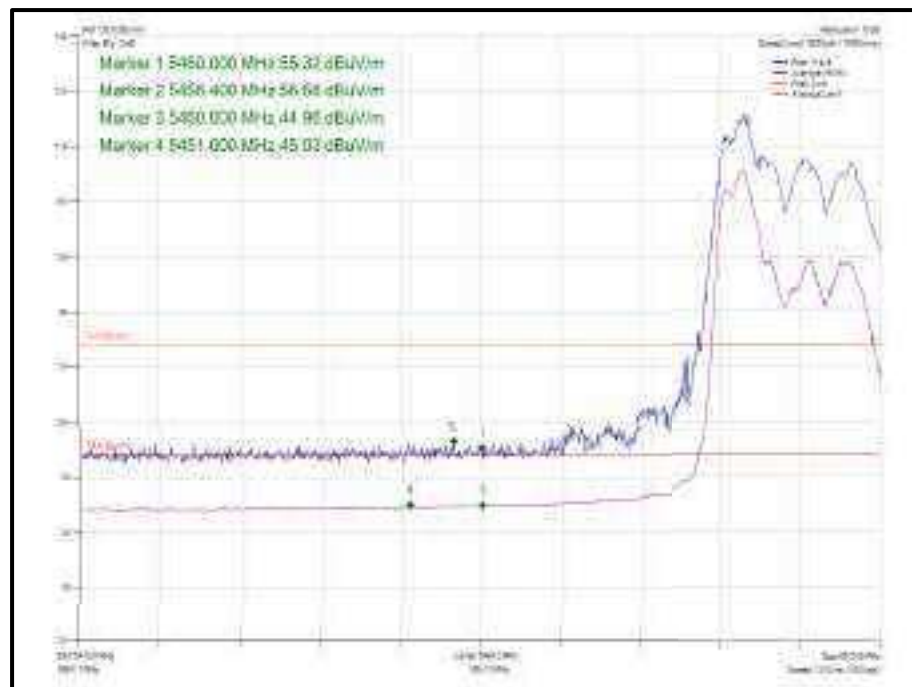


Figure 1054 - 802.11ax HE 20, Core 0, 52-37 - 5500 MHz, Band Edge Frequency 5460 MHz



Mode	Modulation Coding Scheme	Resource size	Resource Index	Frequency (MHz)	Band Edge Frequency (MHz)	Peak Level (dBμV/m)	Average Level (dBμV/m)
802.11n HT20 CDD, Cores 0-4	MCS7	-	-	51.80	51.50	67.05	48.34
802.11n HT20 SDM, Cores 0-1	MCS15	-	-	51.80	51.50	66.07	49.50
802.11ax HE20 CDD Cores 0-1	MCS7	SU	-	51.80	51.50	62.71	46.52
802.11ax HE20 CDD, Cores 0-4	MCS7	26	0	51.80	51.50	54.55	43.23
802.11ax HE20 SDM, Cores 0-1	MCS7	SU	-	51.80	51.50	61.56	46.23
802.11ax HE20 SDM, Cores 0-1	MCS7	26	0	51.80	51.50	54.71	43.42
802.11n HT20 CDD, Cores 0-4	MCS7	-	-	53.20	53.50	63.82	49.18
802.11n HT20 SDM, Cores 0-1	MCS15	-	-	53.20	53.50	62.02	48.76
802.11ax HE20 CDD, Cores 0-4	MCS7	SU	-	53.20	53.50	61.63	47.61
802.11ax HE20 CDD, Cores 0-4	MCS7	52	40	53.20	53.50	55.20	44.80
802.11ax HE20 SDM, Cores 0-1	MCS7	SU	-	53.20	53.50	60.74	48.00
802.11ax HE20 SDM, Cores 0-1	MCS7	52	40	53.20	53.50	55.44	44.86
802.11n HT20 CDD, Cores 0-4	MCS7	-	-	55.00	54.60	55.75	45.29
802.11n HT20 SDM, Cores 0-1	MCS15	-	-	55.00	54.60	57.30	45.64
802.11ax HE20 CDD, Cores 0-4	MCS7	SU	-	55.00	54.60	57.23	44.99
802.11ax HE20 CDD, Cores 0-4	MCS7	52	37	55.00	54.60	55.64	44.81
802.11ax HE20 SDM, Cores 0-1	MCS7	SU	-	55.00	54.60	55.48	44.95
802.11ax HE20 SDM, Cores 0-1	MCS7	52	37	55.00	54.60	55.28	45.02

Table 660 - MIMO 2 TX Restricted Band Edge Results

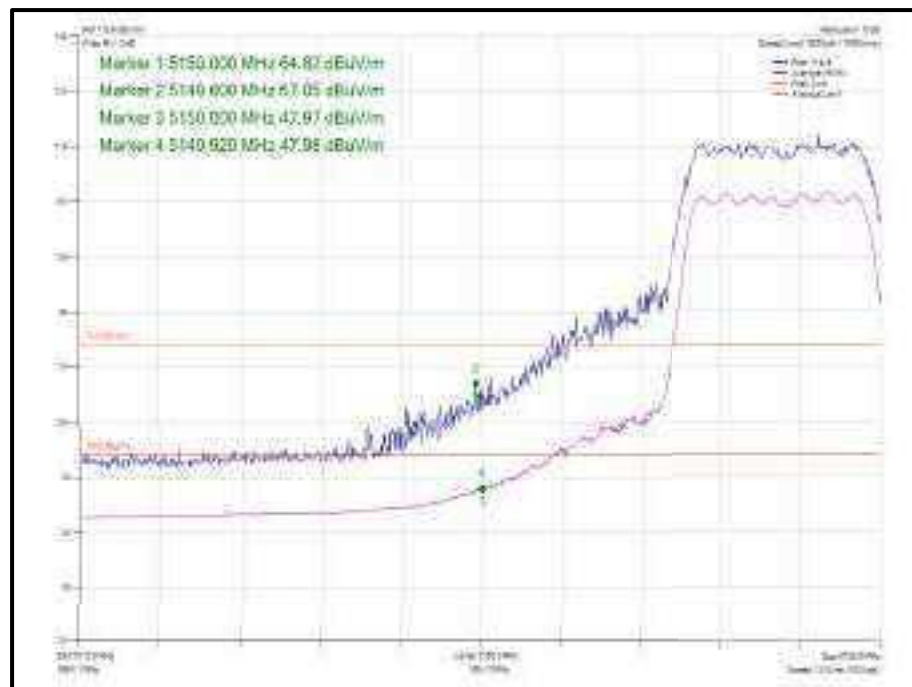


Figure 1055 - 802.11n HT20 CDD, Cores 0-1 - 5180 MHz
 Band Edge Frequency 5150 MHz

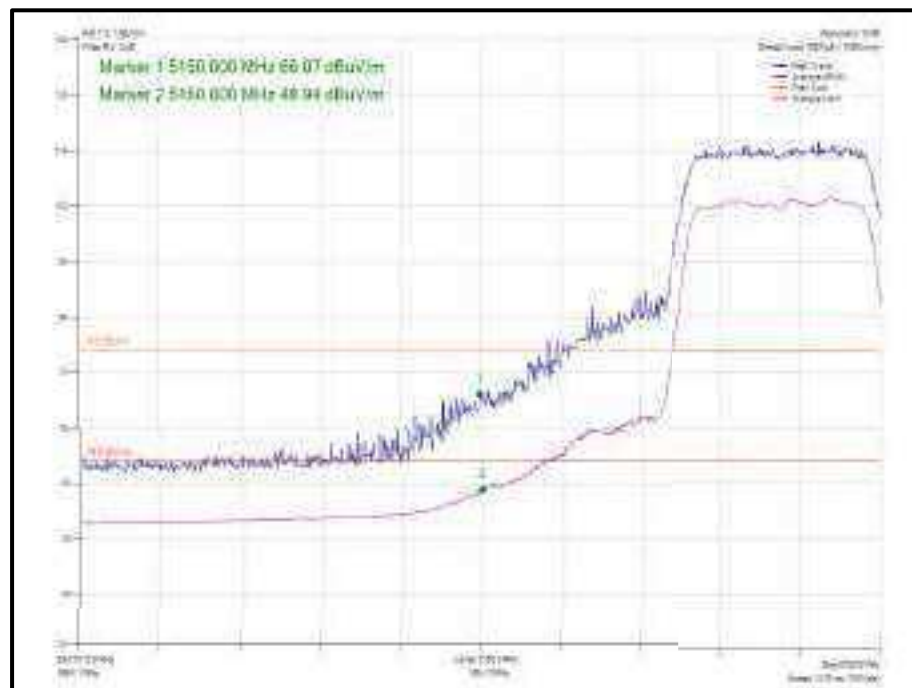


Figure 1056 - 802.11n HT20 SDM, Cores 0-1 - 5180 MHz
 Band Edge Frequency 5150 MHz

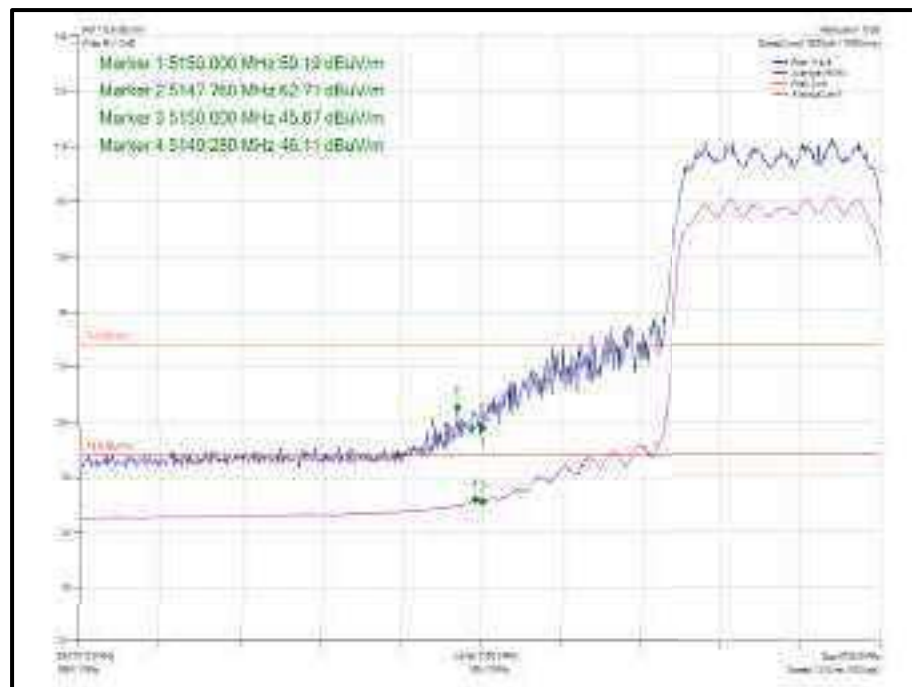


Figure 1057 - 802.11ax HE20 CDD, Cores 0-1 SU - 5180 MHz
Band Edge Frequency 5150 MHz

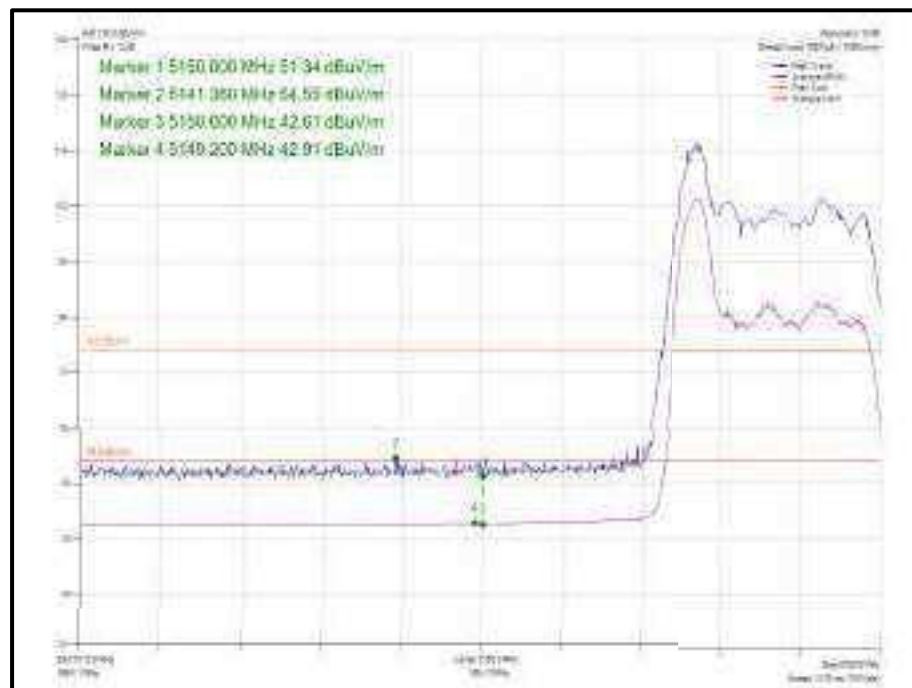


Figure 1058 - 802.11ax HE20 CDD, Cores 0-1, 26-0 - 5180 MHz
Band Edge Frequency 5150 MHz

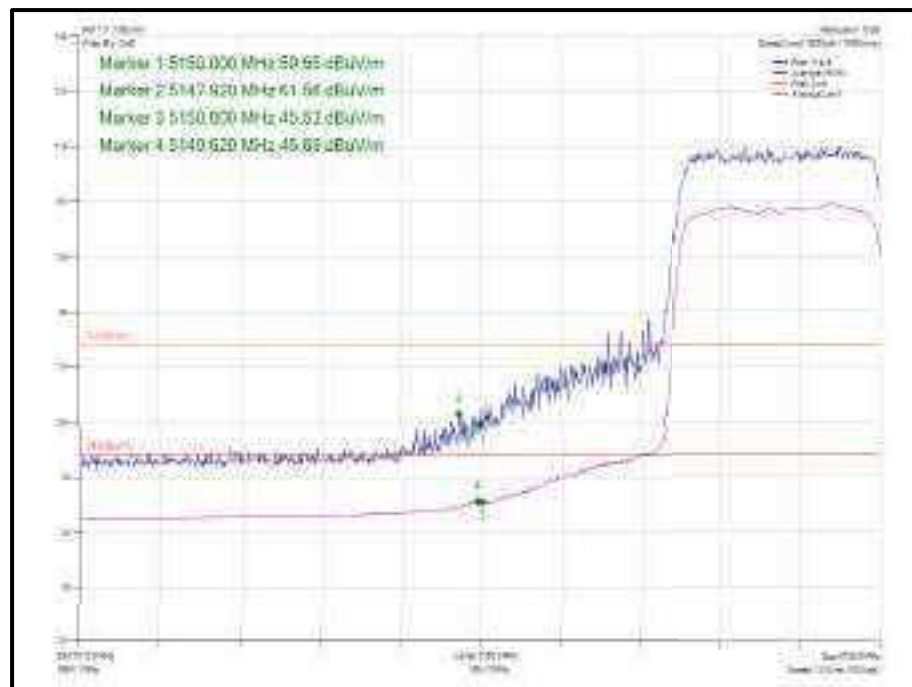


Figure 1059 - 802.11ax HE20 SDM, Cores 0-1, SU - 5180 MHz
 Band Edge Frequency 5150 MHz

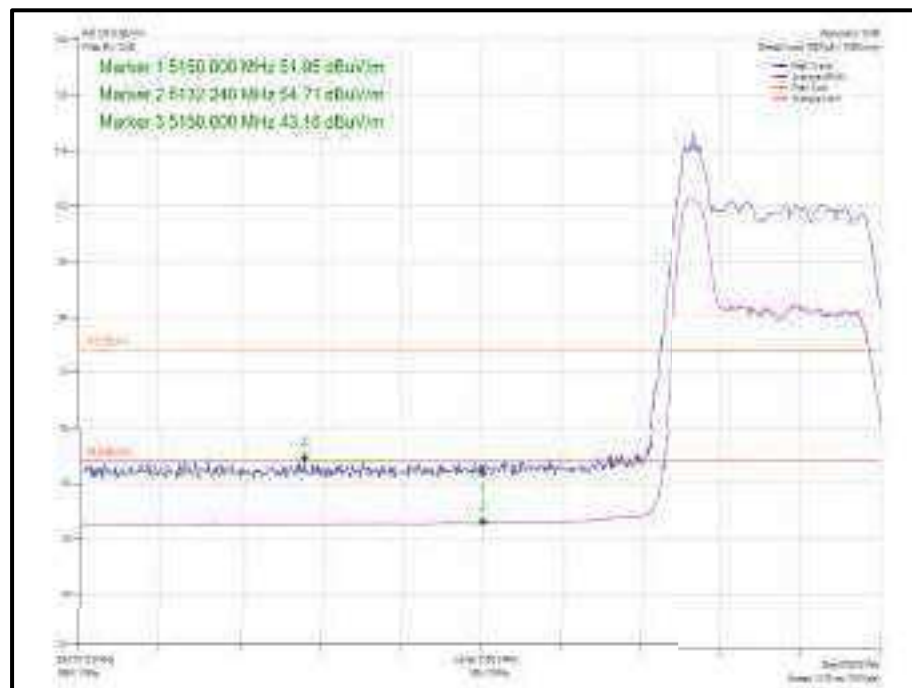


Figure 1060 - 802.11ax HE20 SDM, Cores 0-1, 26-0 - 5180 MHz
 Band Edge Frequency 5150 MHz

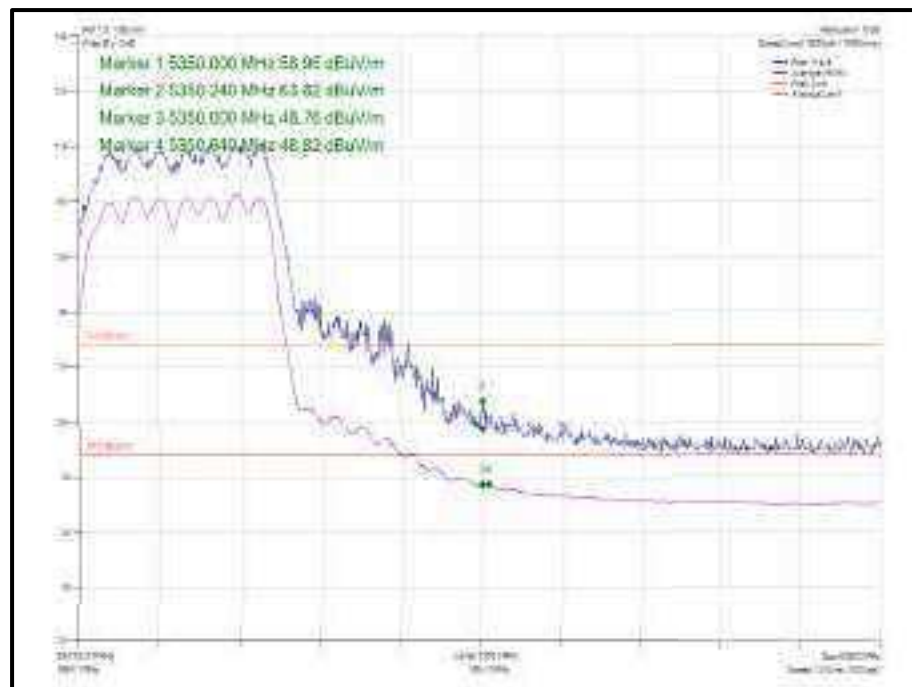


Figure 1061 - 802.11n HT20 CDD, Cores 0-1 - 5320 MHz
 Band Edge Frequency 5350 MHz

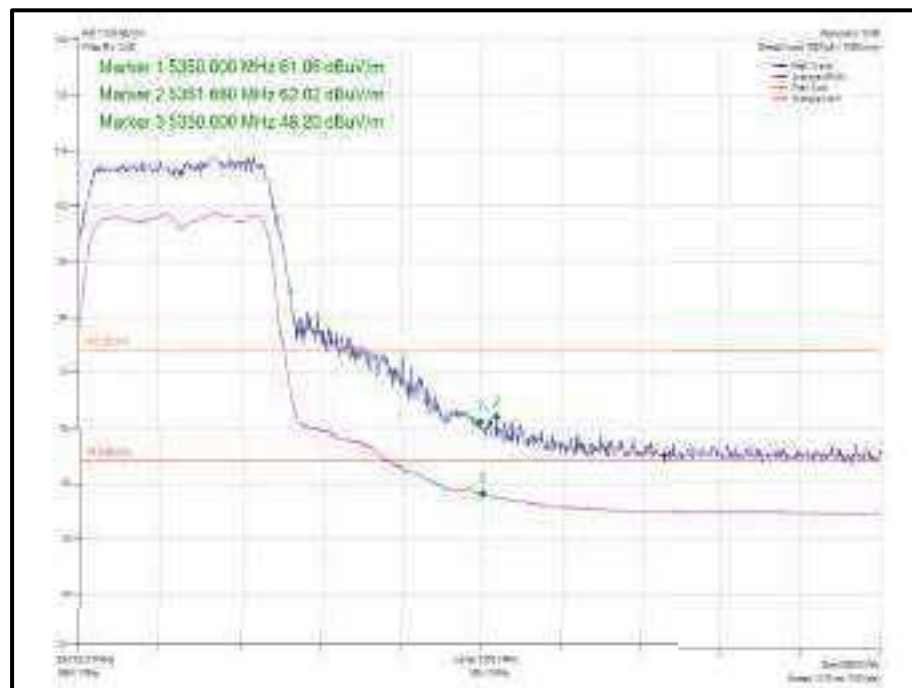


Figure 1062 - 802.11n HT20 SDM, Cores 0-1 - 5320 MHz
 Band Edge Frequency 5350 MHz

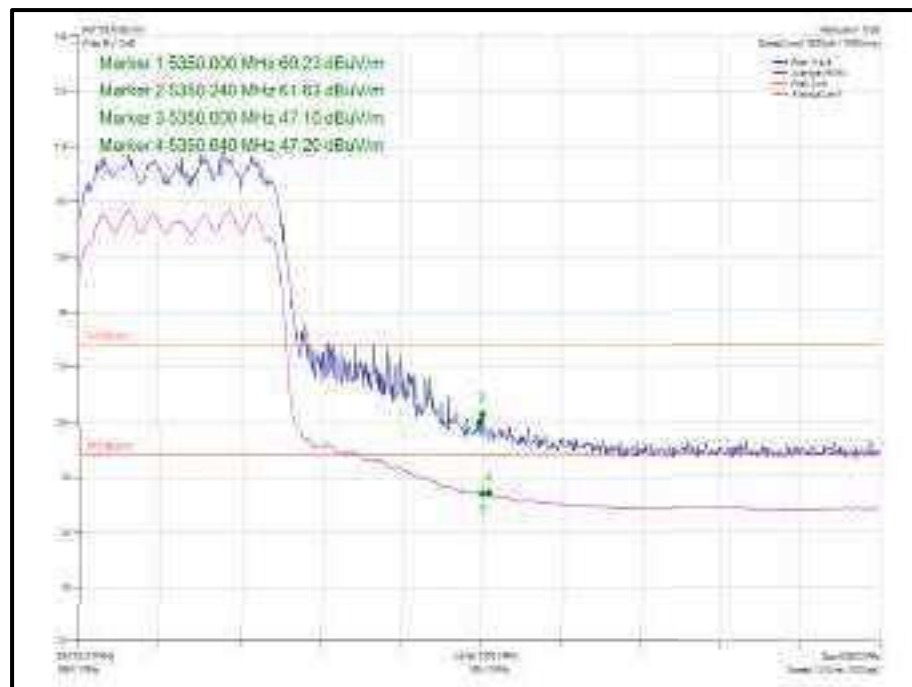


Figure 1063 - 802.11ax HE20 CDD, Cores 0-1, SU - 5320 MHz
 Band Edge Frequency 5350 MHz

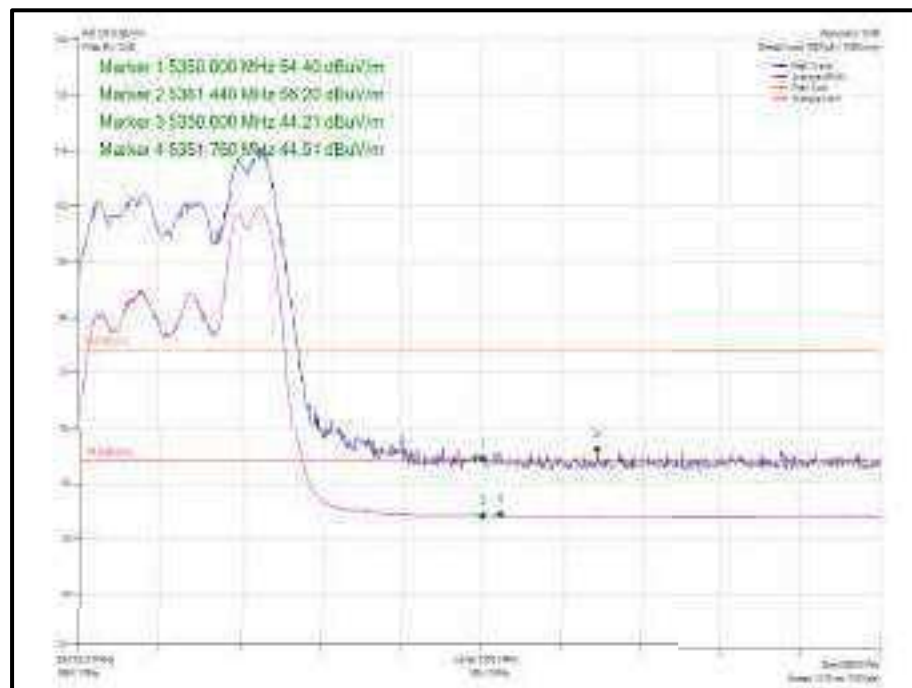
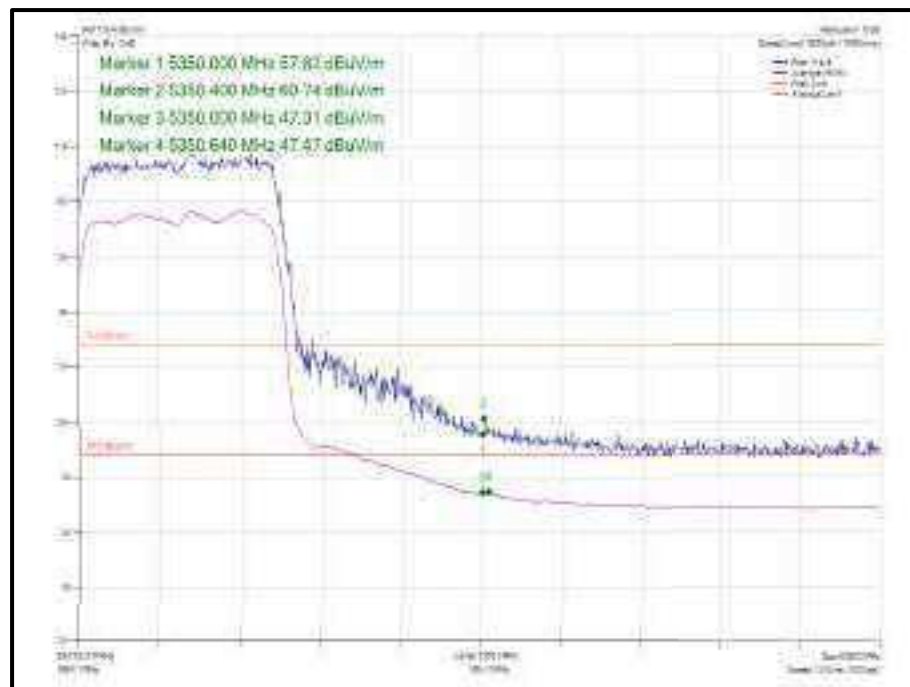
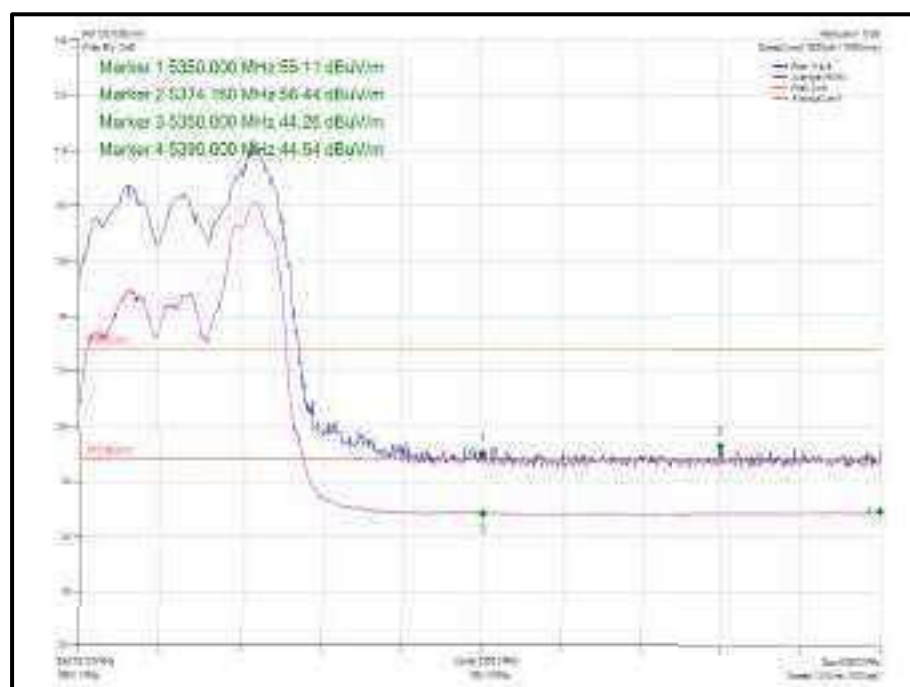


Figure 1064 - 802.11ax HE20 CDD, Cores 0-1, 52-40 - 5320 MHz
 Band Edge Frequency 5350 MHz



**Figure 1065 - 802.11ax HE20 SDM, Cores 0-1, SU - 5320 MHz
 Band Edge Frequency 5350 MHz**



**Figure 1066 - 802.11ax HE20 SDM, Cores 0-1, 26-8 - 5320 MHz
 Band Edge Frequency 5350 MHz**

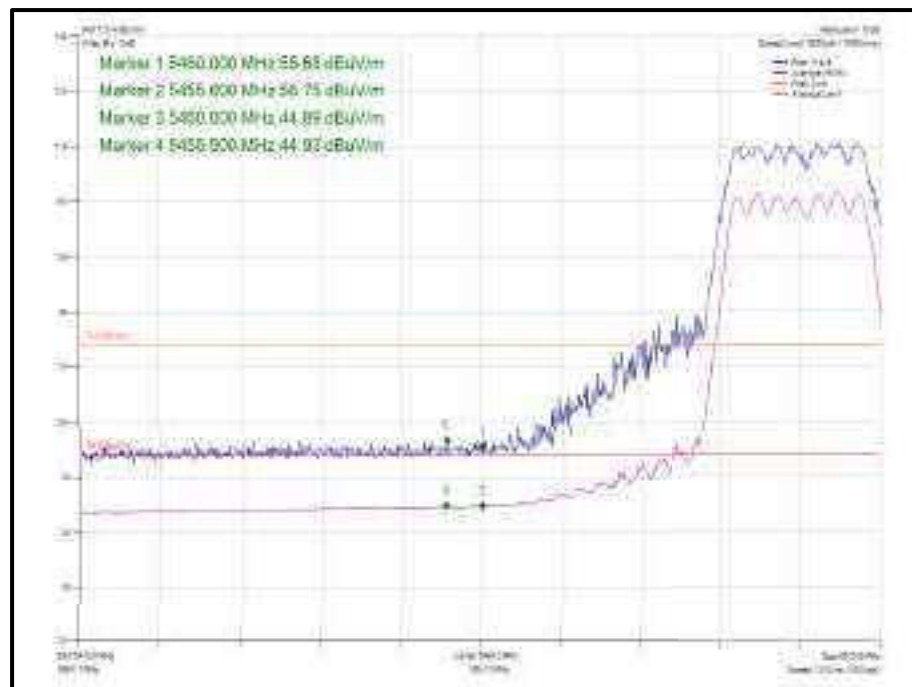
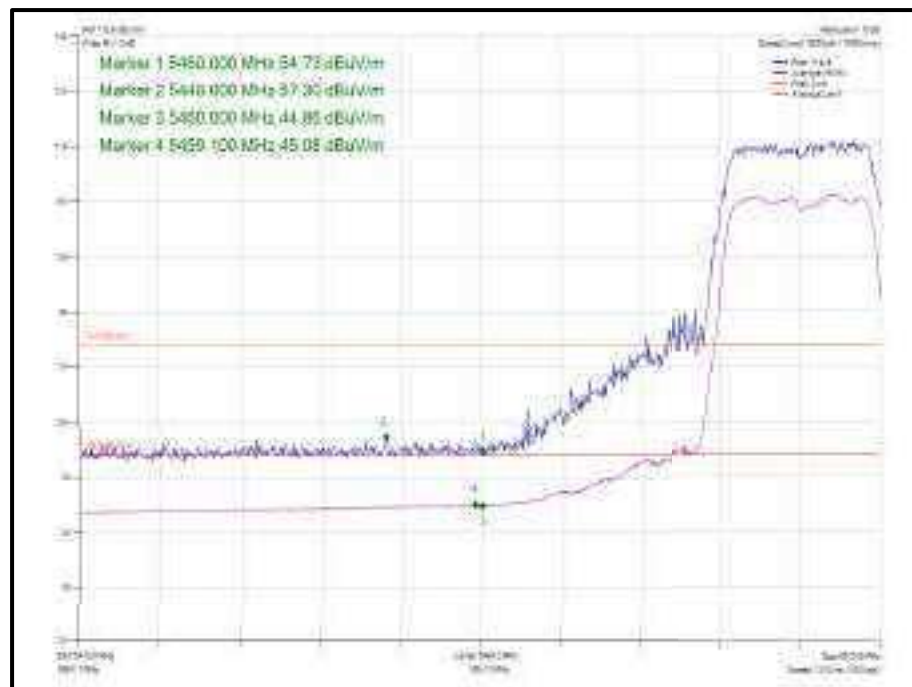
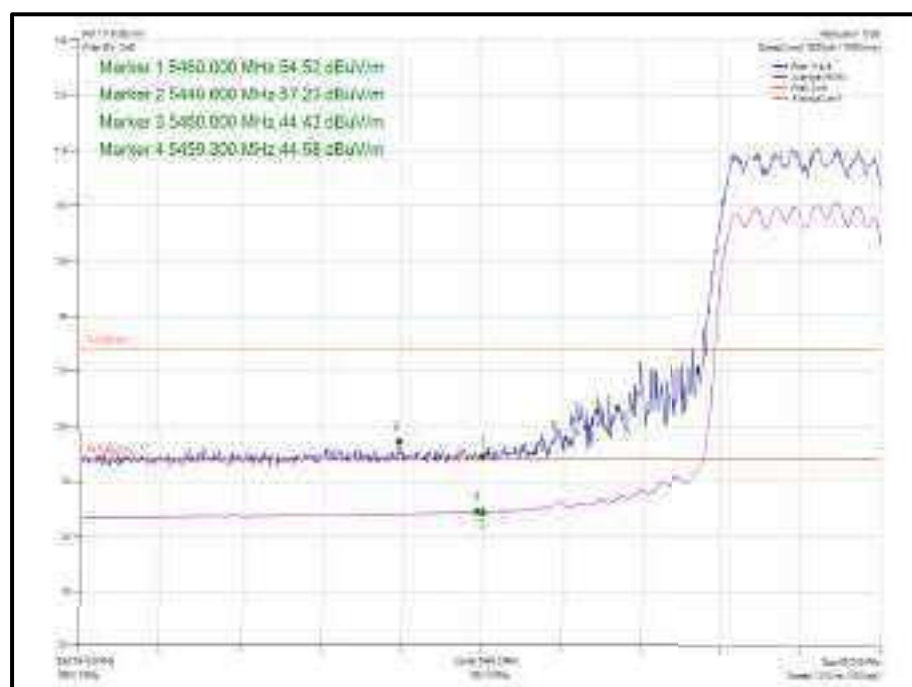


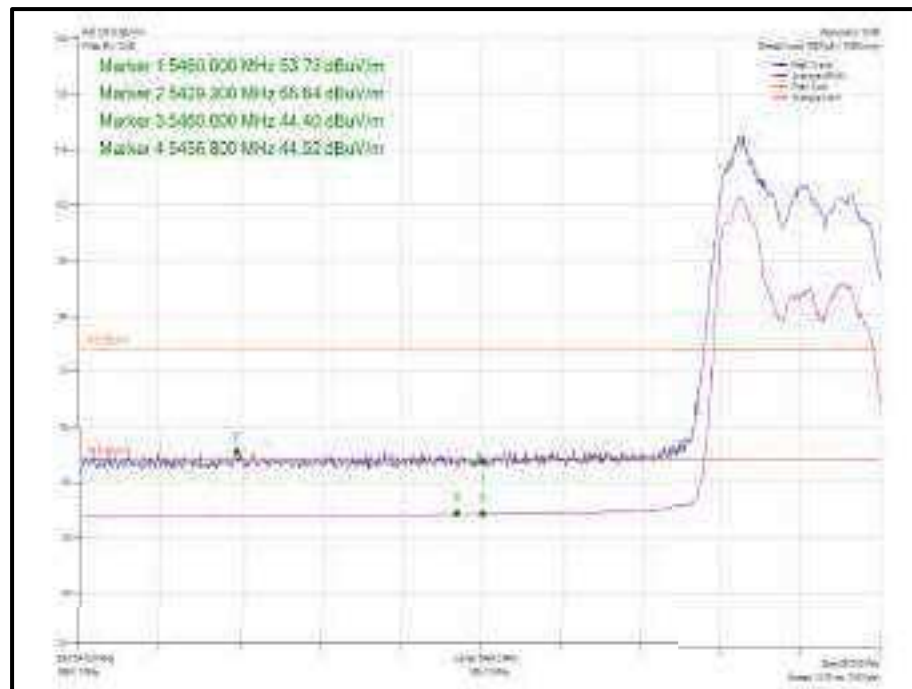
Figure 1067 - 802.11n HT20 CDD, Cores 0-1 - 5500 MHz
Band Edge Frequency 5460 MHz



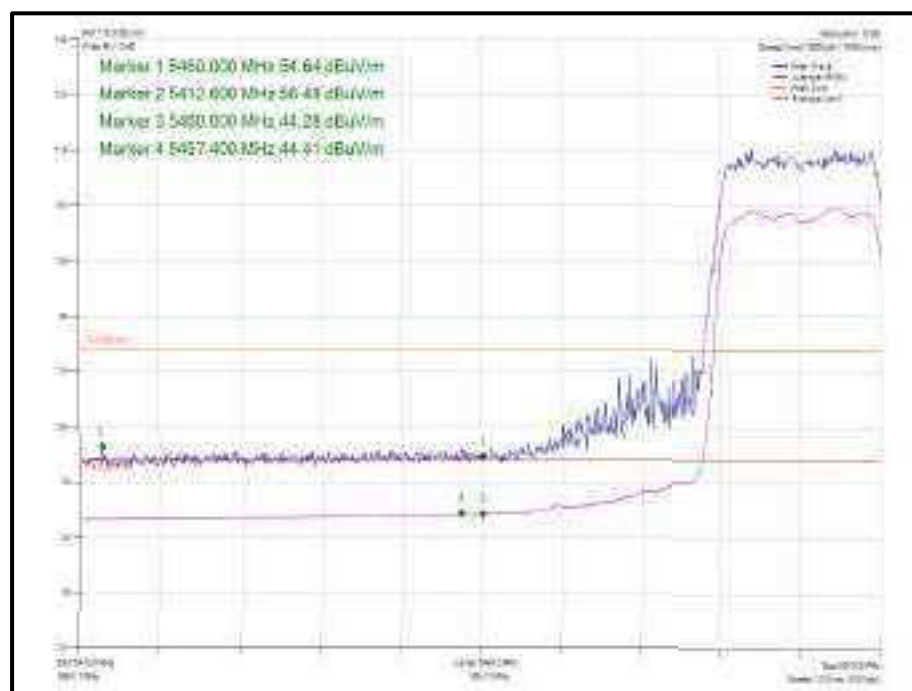
**Figure 1068 - 802.11n HT20 SDM, Cores 0-1 - 5500 MHz
 Band Edge Frequency 5460 MHz**



**Figure 1069 - 802.11ax HE20 CDD, Cores 0-1, SU- 5500 MHz
 Band Edge Frequency 5460 MHz**



**Figure 1070 - 802.11ax HE20 CDD, Cores 0-1, 52-37 - 5500 MHz
Band Edge Frequency 5460 MHz**



**Figure 1071 - 802.11ax HE20 SDM, Cores 0-1, SU- 5500 MHz
Band Edge Frequency 5460 MHz**

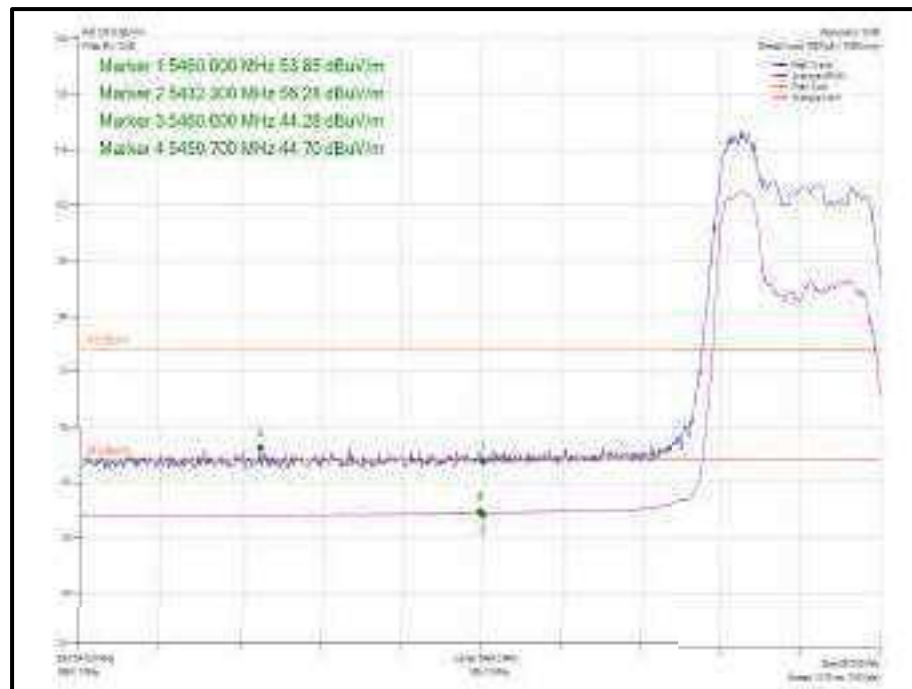


Figure 1072 - 802.11ax HE20 SDM, Cores 0-1, 52-37 - 5500 MHz
Band Edge Frequency 5460 MHz



Mode	Data Rate / MCS	Resource Size	Resource Index	TX Frequency (MHz)	Band Edge Frequency (MHz)	Peak Level (dBuV/m)	Average Level (dBuV/m)
802.11n HT40, Core 0	MCS7	-	-	5190	5150	57.77	45.63
802.11a x HE40, Core 0	MCS7	SU	-	5190	5150	56.38	44.84
802.11a x HE40, Core 0	MCS7	26	0	5190	5150	55.38	44.06
802.11n HT40, Core 0	MCS7	-	-	5310	5350	59.07	44.42
802.11a x HE40, Core 0	MCS7	SU	-	5310	5350	55.38	43.51
802.11a x HE40, Core 0	MCS7	52	44	5310	5350	57.08	44.82
802.11n HT40, Core 0	MCS7	-	-	5510	5460	62.24	46.65
802.11a x HE40, Core 0	MCS7	SU	-	5510	5460	57.88	44.44
802.11a x HE40, Core 0	MCS7	52	37	5510	5460	60.20	46.23

Table 661 - SISO Restricted Band Edge Results

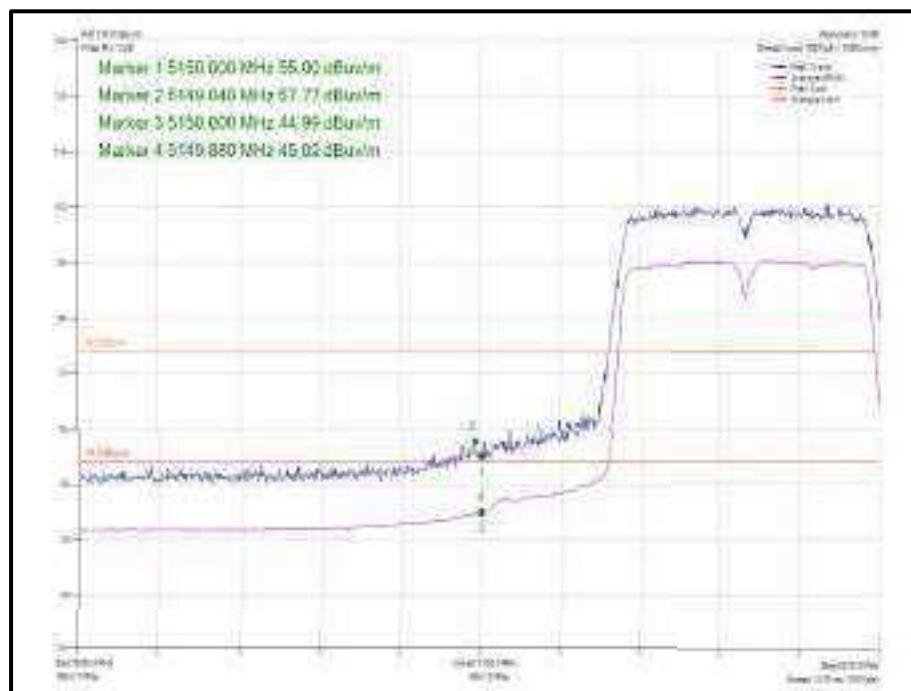


Figure 1073 - 802.11n HT40, Core 0 - 5190 MHz
Band Edge Frequency 5150 MHz

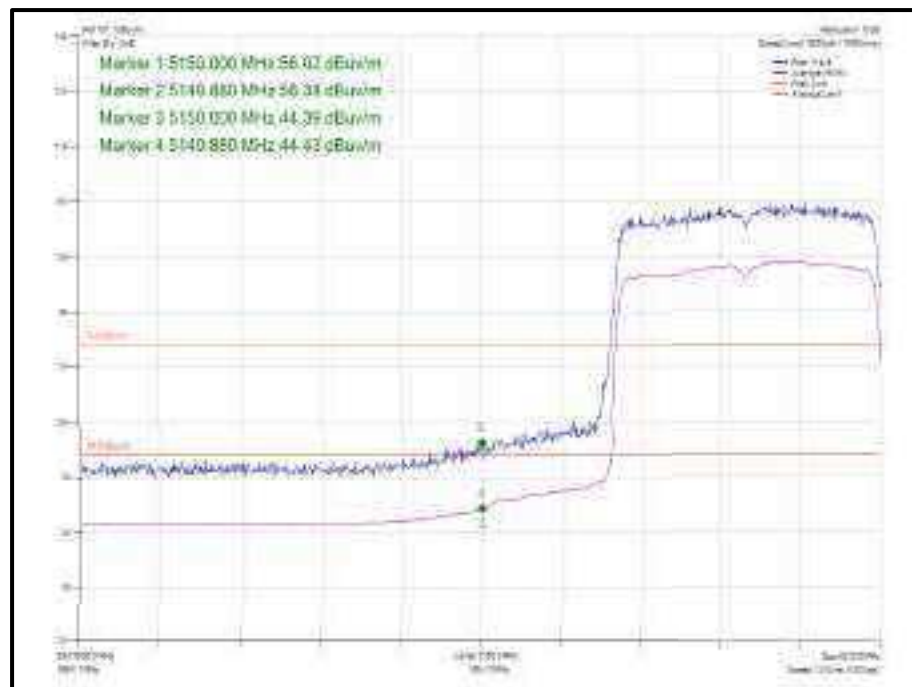


Figure 1074 - 802.11ax HE40, Core 0, SU - 5190 MHz
 Band Edge Frequency 5150 MHz

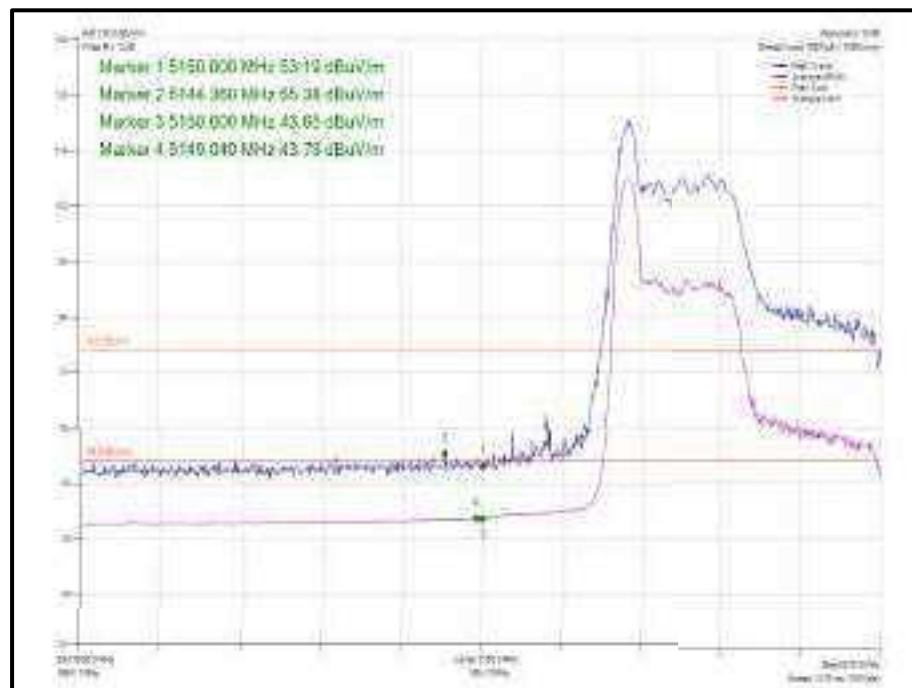
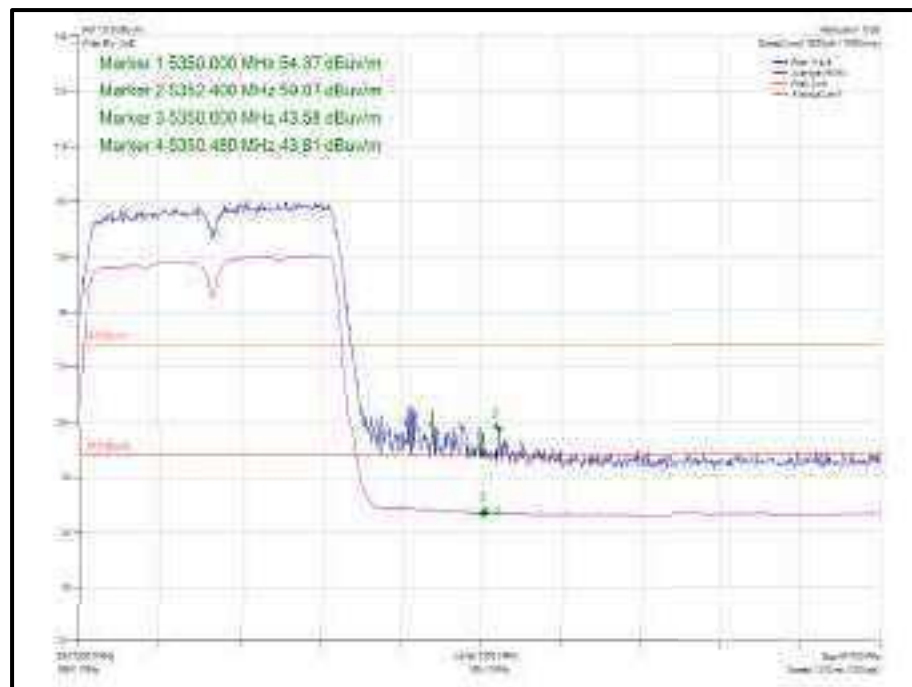
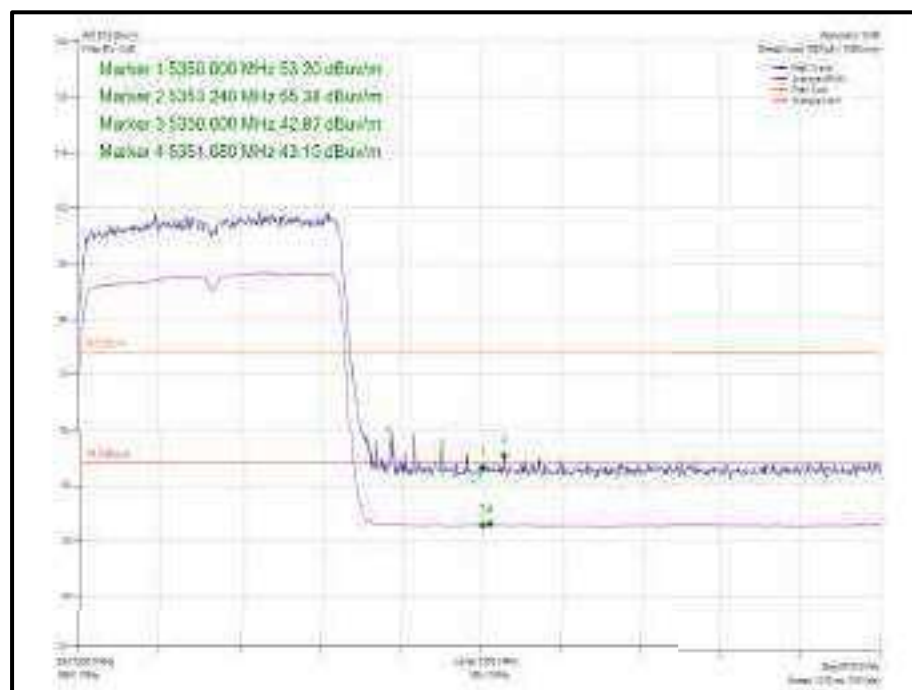


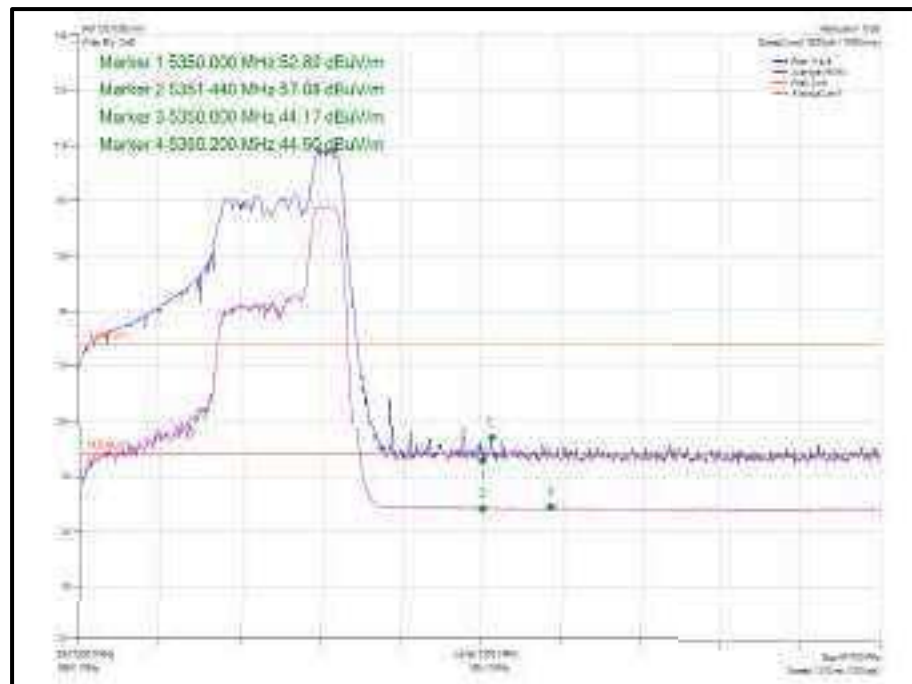
Figure 1075 - 802.11ax HE40, Core 0, 26.0 - 5190 MHz
 Band Edge Frequency 5150 MHz



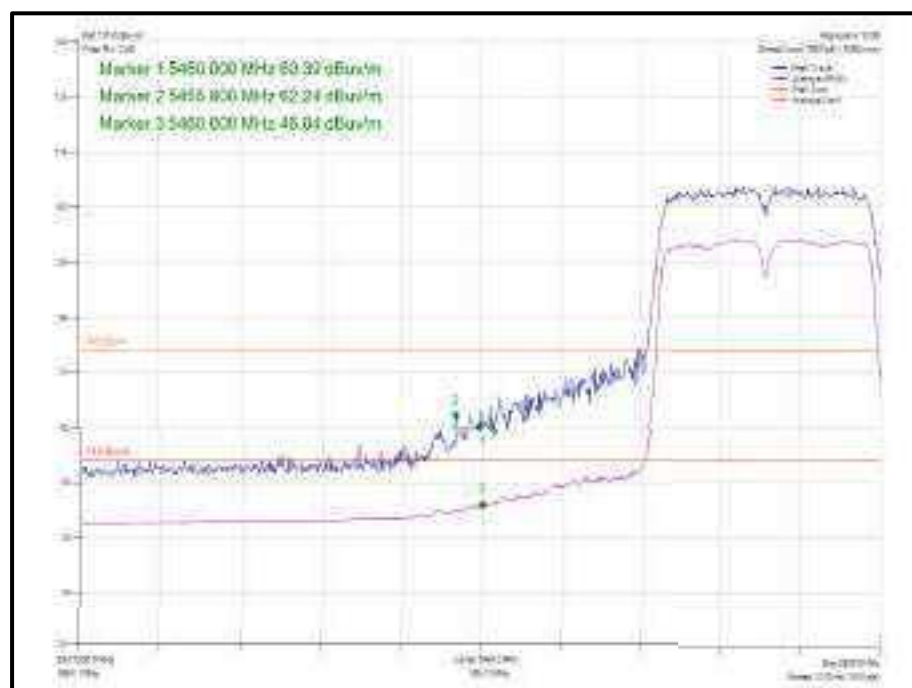
**Figure 1076 - 802.11n HT40, Core0 - 5310 MHz
Band Edge Frequency 5350 MHz**



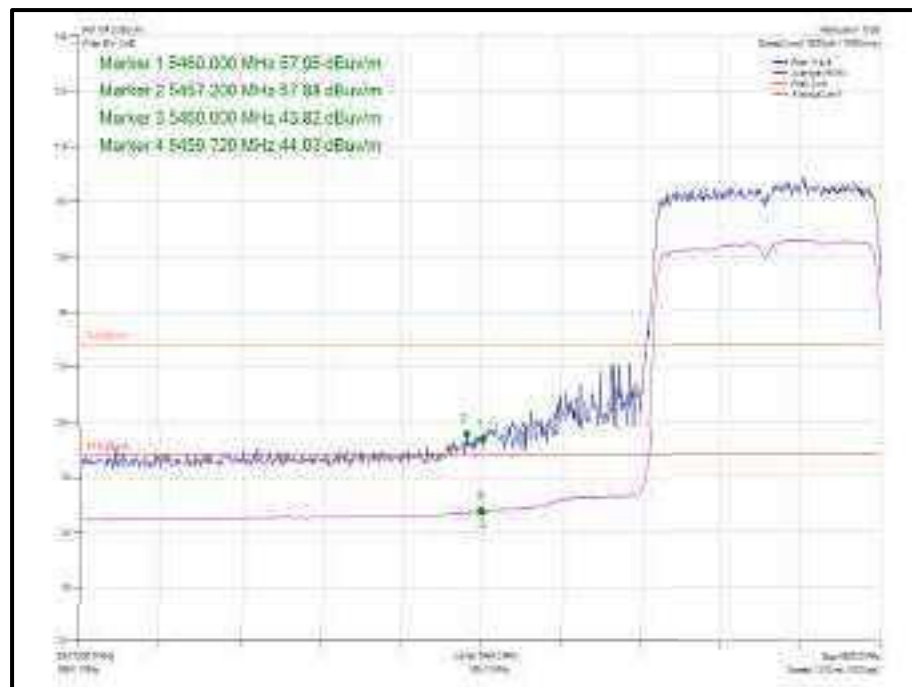
**Figure 1077 - 802.11ax HE40, Core 0, SU - 5310 MHz
Band Edge Frequency 5350 MHz**



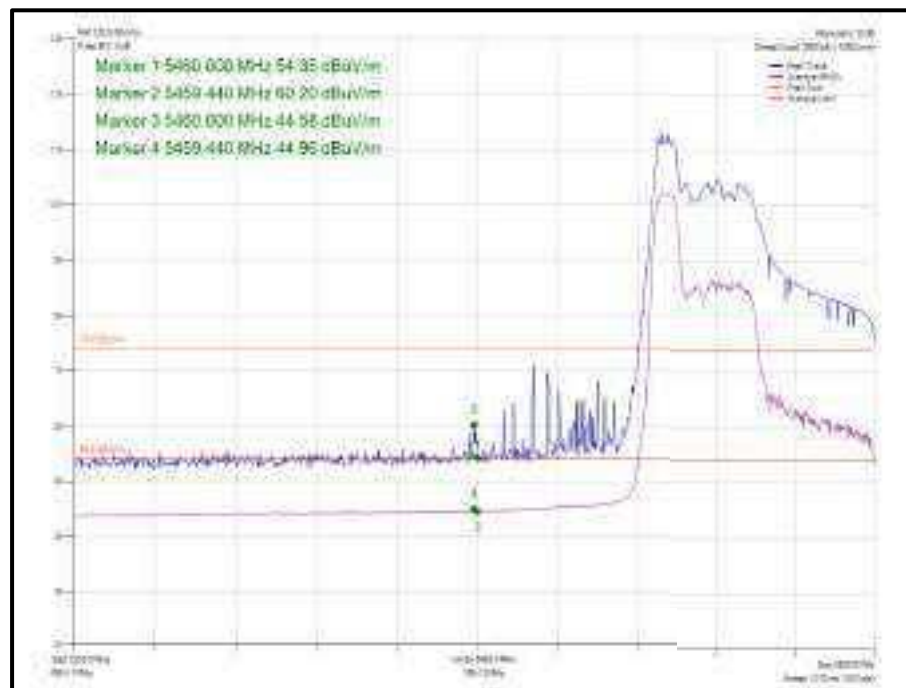
**Figure 1078 - 802.11ax HE40, Core 0, 52.44 - 5310 MHz
 Band Edge Frequency 5350 MHz**



**Figure 1079 - 802.11n HT40, Core 0 - 5510 MHz
 Band Edge Frequency 5460 MHz**



**Figure 1080 - 802.11ax HE40, Core 0, SU - 5510 MHz
 Band Edge Frequency 5460 MHz**



**Figure 1081 - 802.11ax HE40, Core 0, 52-37- 5510 MHz
 Band Edge Frequency 5460 MHz**



Mode	Data Rate / MCS	Resource Size	Resource Index	TX Frequency (MHz)	Band Edge Frequency (MHz)	Peak Level (dBμV/m)	Average Level (dBμV/m)
802.11n HT40 CDD, Cores 0-1	MCS7	-	-	51.90	51.50	62.88	47.45
802.11n HT40 SDM, Cores 0-1	MCS15	-	-	51.90	51.50	63.82	47.30
802.11ax HE40 CDD, Cores 0-1	MCS7	SU	-	51.90	51.50	59.80	45.79
802.11ax HE40 CDD, Cores 0-1	MCS7	26	0	51.90	51.50	54.68	43.53
802.11ax HE40 SDM, Cores 0-1	MCS7	SU	-	51.90	51.50	57.54	45.44
802.11ax HE40 SDM, Cores 0-1	MCS7	26	0	51.90	51.50	54.32	43.38
802.11n HT40 CDD, Cores 0-1	MCS7	-	-	53.10	53.50	64.83	49.86
802.11n HT40 SDM, Cores 0-1	MCS15	-	-	53.10	53.50	64.36	49.37
802.11ax HE40 CDD, Cores 0-1	MCS7	SU	-	53.10	53.50	60.71	48.97
802.11ax HE40 CDD, Cores 0-1	MCS7	52	44	53.10	53.50	55.93	44.78
802.11ax HE40 SDM, Cores 0-1	MCS7	SU	-	53.10	53.50	60.80	48.83
802.11ax HE40 SDM, Cores 0-1	MCS7	52	44	53.10	53.50	56.63	44.84
802.11n HT40 CDD, Cores 0-1	MCS7	-	-	55.10	54.60	65.97	49.64
802.11n HT40 SDM, Cores 0-1	MCS15	-	-	55.10	54.60	64.61	48.82
802.11ax HE40 CDD, Cores 0-1	MCS7	SU	-	55.10	54.60	60.66	45.97
802.11ax HE40 CDD, Cores 0-1	MCS7	52	37	55.10	54.60	55.85	44.83
802.11ax HE40 SDM, Cores 0-1	MCS15	SU	-	55.10	54.60	60.98	45.31
802.11ax HE40 SDM, Cores 0-1	MCS15	52	37	55.10	54.60	56.23	45.10

Table 662 —MIMO 2TX Restricted Band Edge Results

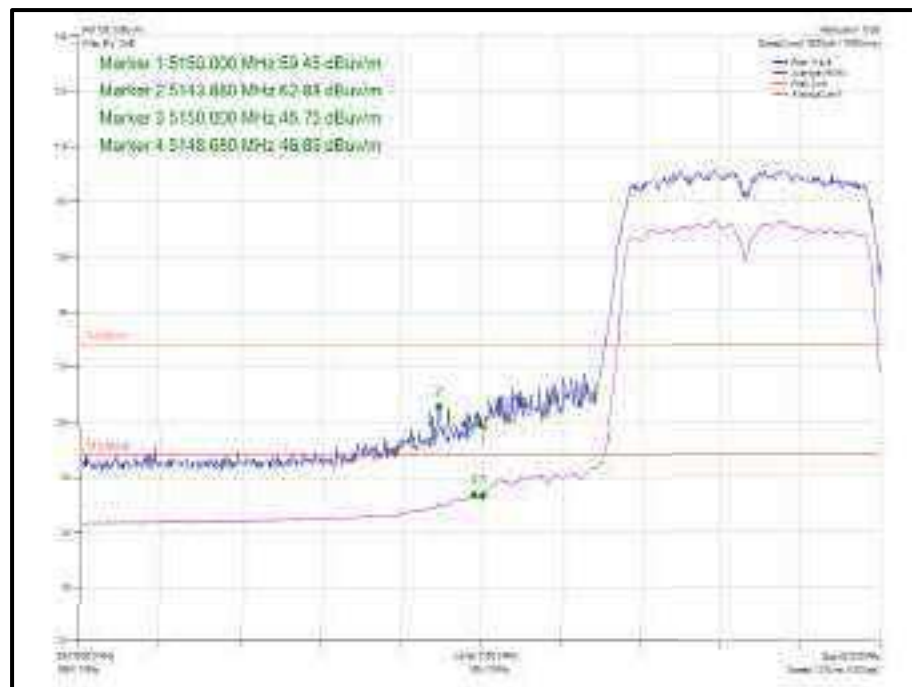


Figure 1082 - 802.11n HT40 CDD Cores 0-1 - 5190 MHz
Band Edge Frequency 5150 MHz

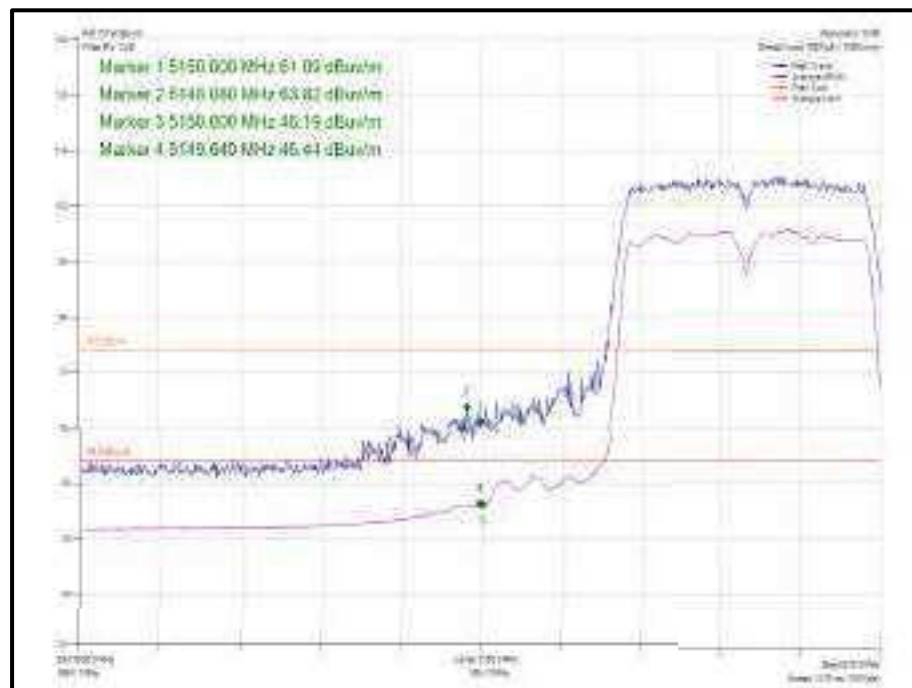
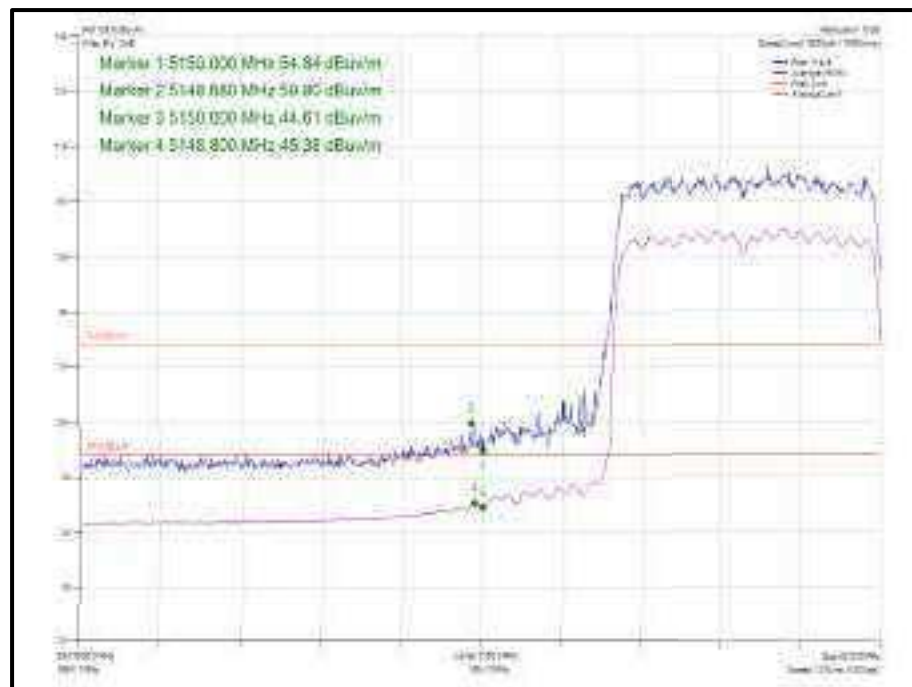
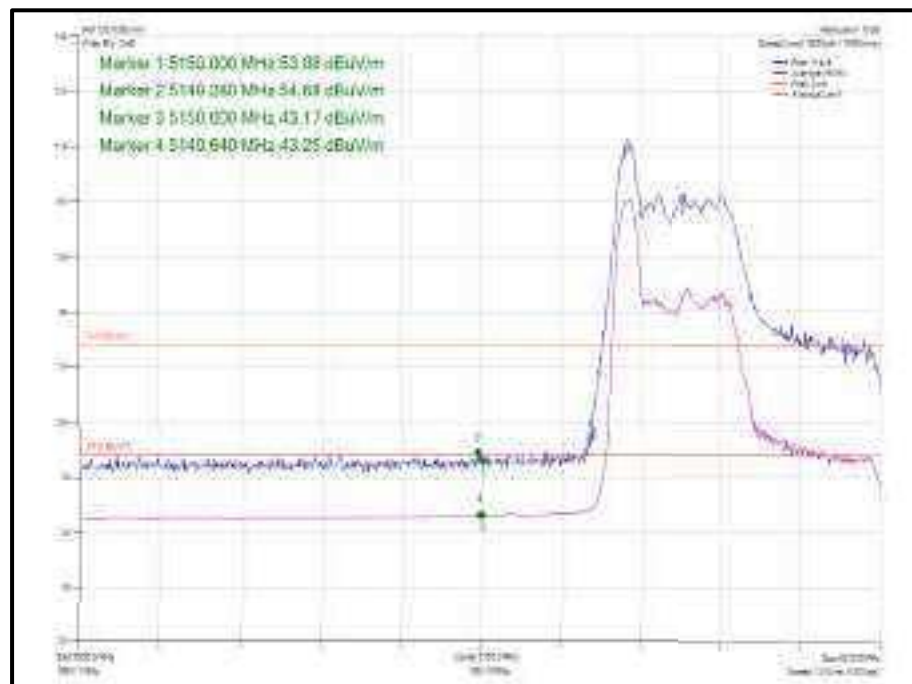


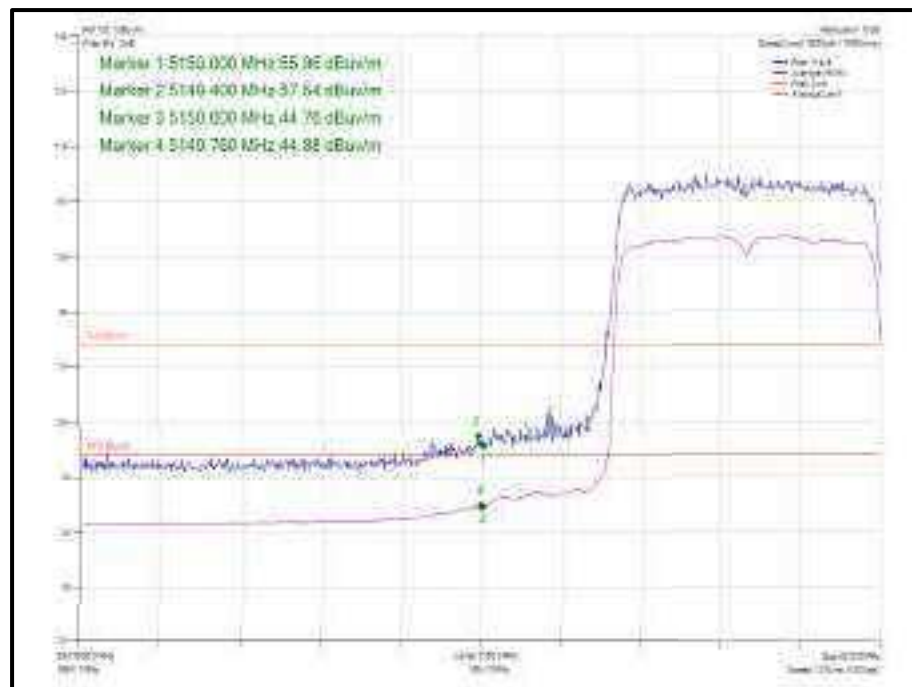
Figure 1083 - 802.11n HT40 SDM Cores 0-1 - 5190 MHz
Band Edge Frequency 5150 MHz



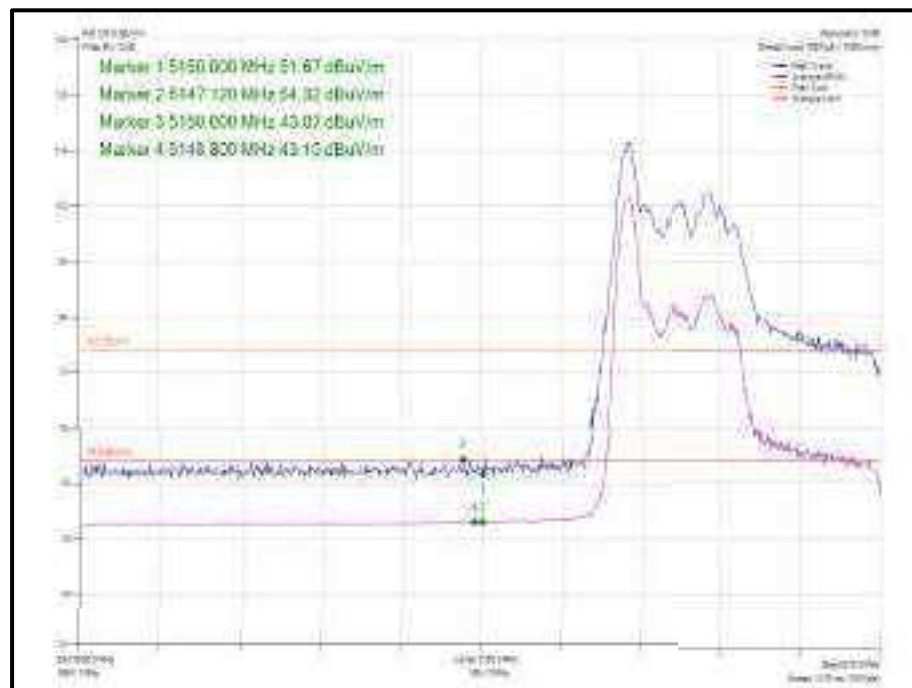
**Figure 1084 - 802.11ax HE40 CDD, Cores 0-1, SU - 5190 MHz
 Band Edge Frequency 5150 MHz**



**Figure 1085 - 802.11ax HE40 CDD, Cores 0-1, 26-0 - 5190 MHz
 Band Edge Frequency 5150 MHz**



**Figure 1086 802.11ax HE40 SDM, Cores 0-1, SU - 5190 MHz
 Band Edge Frequency 5150 MHz**



**Figure 1087 - 802.11ax HE40 SDM, Cores 0-1, 26-0 - 5190 MHz
 Band Edge Frequency 5150 MHz**

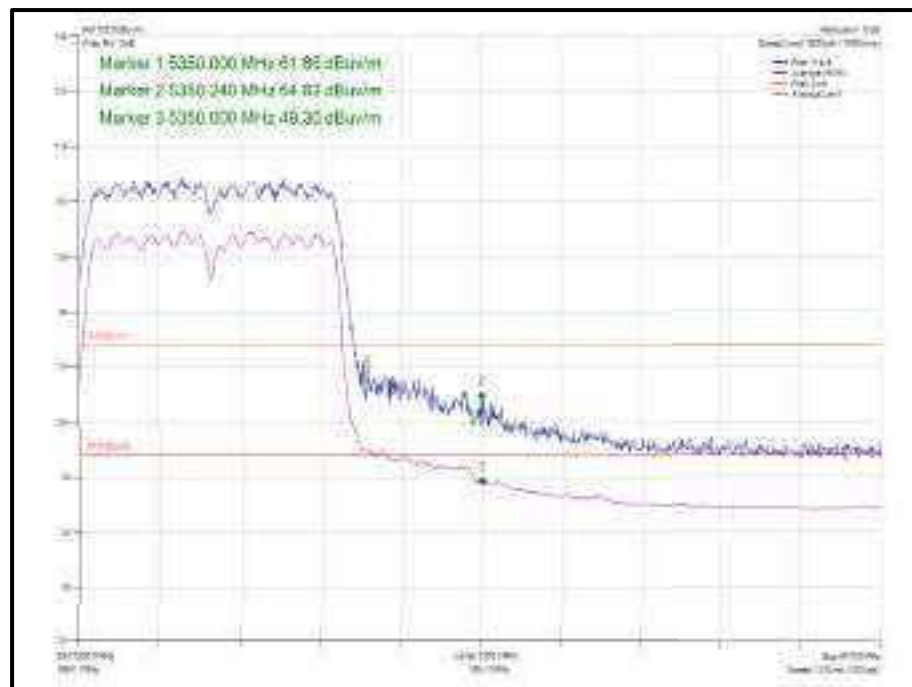


Figure 1088 - 802.11n HT40 CDD, Cores 0-1 - 5310 MHz
Band Edge Frequency 5350 MHz

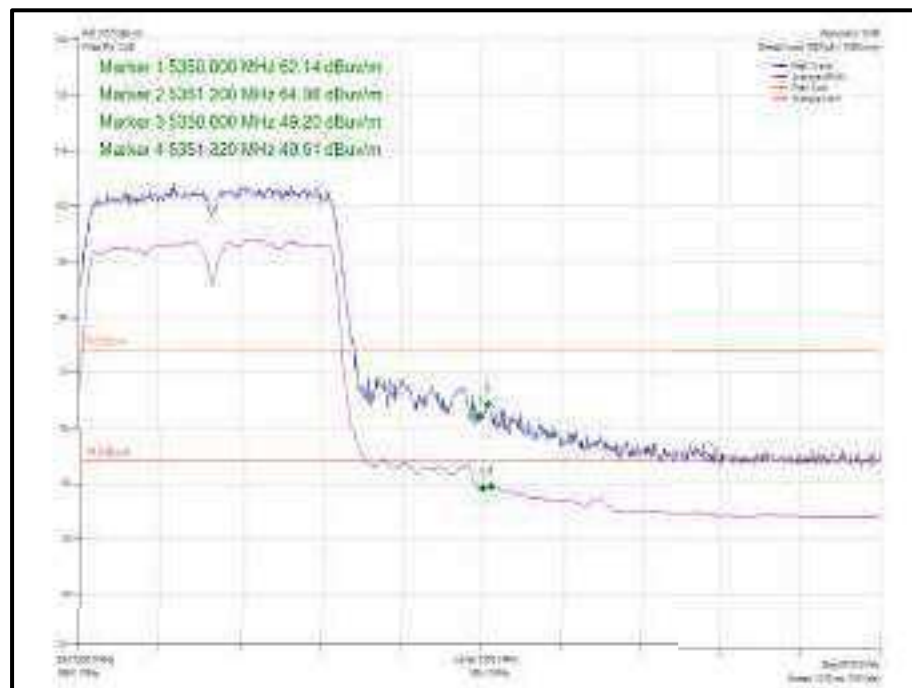


Figure 1089 - 802.11n HT40 SDM, Cores 0-1 - 5310 MHz
Band Edge Frequency 5350 MHz

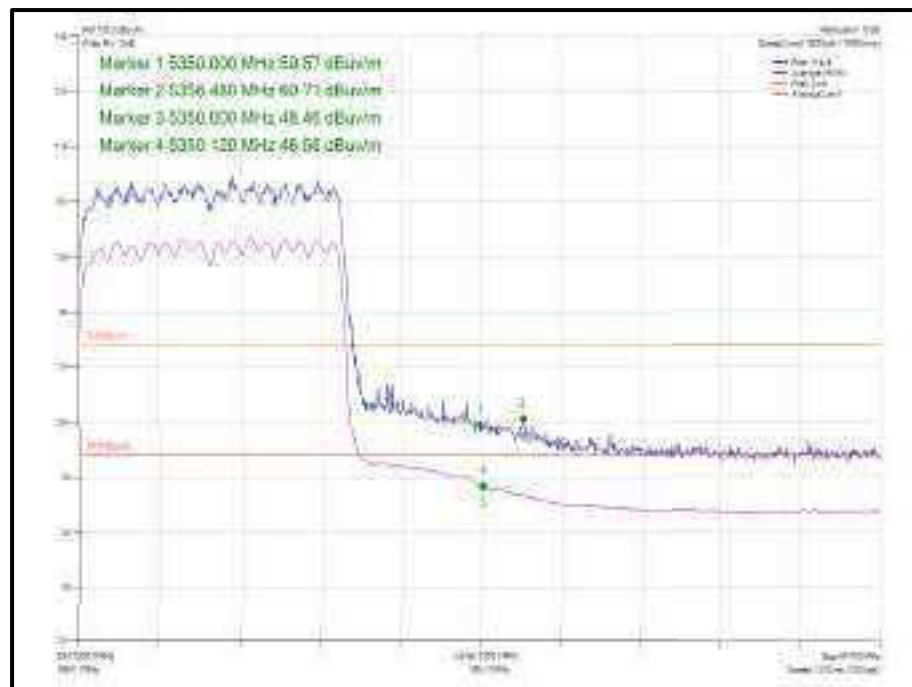


Figure 1090 - 802.11ax HE40 CDD, Cores 0-1, SU - 5310 MHz
Band Edge Frequency 5350 MHz

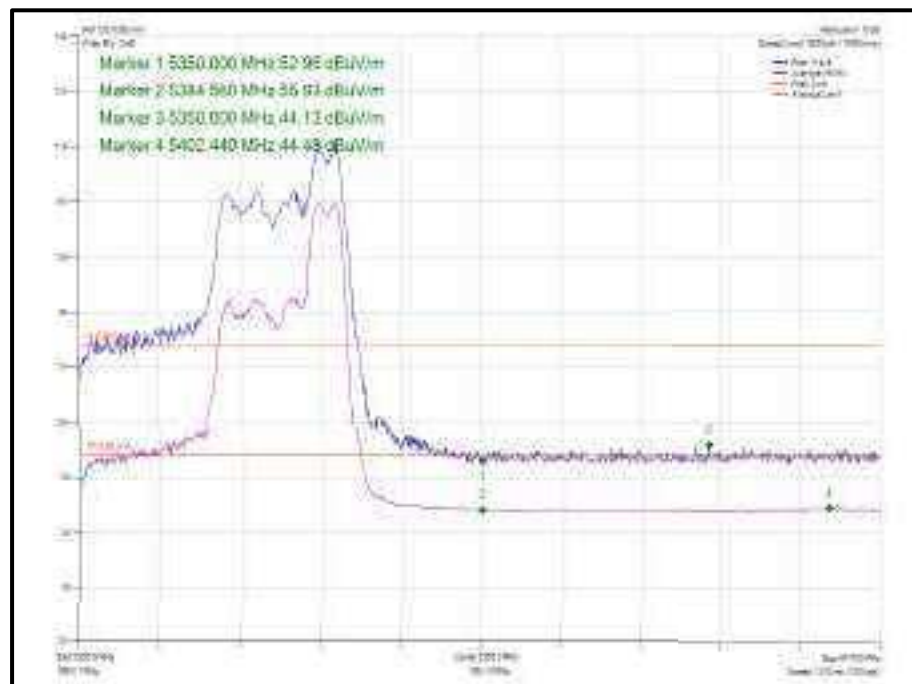


Figure 1091 - 802.11ax HE40 CDD, Cores 0-1, 52.44- 5310 MHz
Band Edge Frequency 5350 MHz

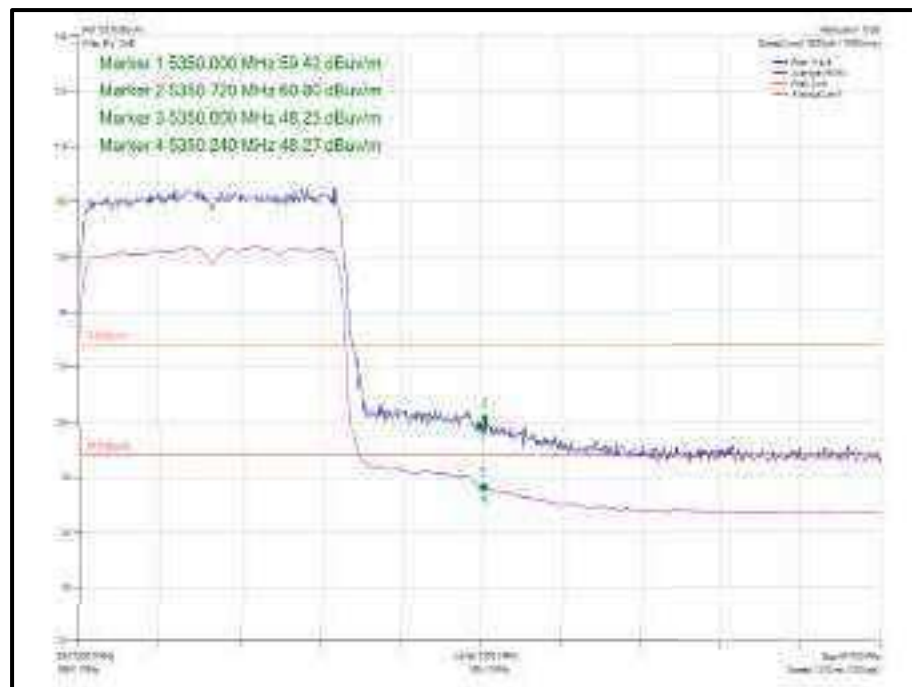


Figure 1092 - 802.11ax HE40 SDM, Cores 0-1, SU - 5310 MHz
 Band Edge Frequency 5350 MHz

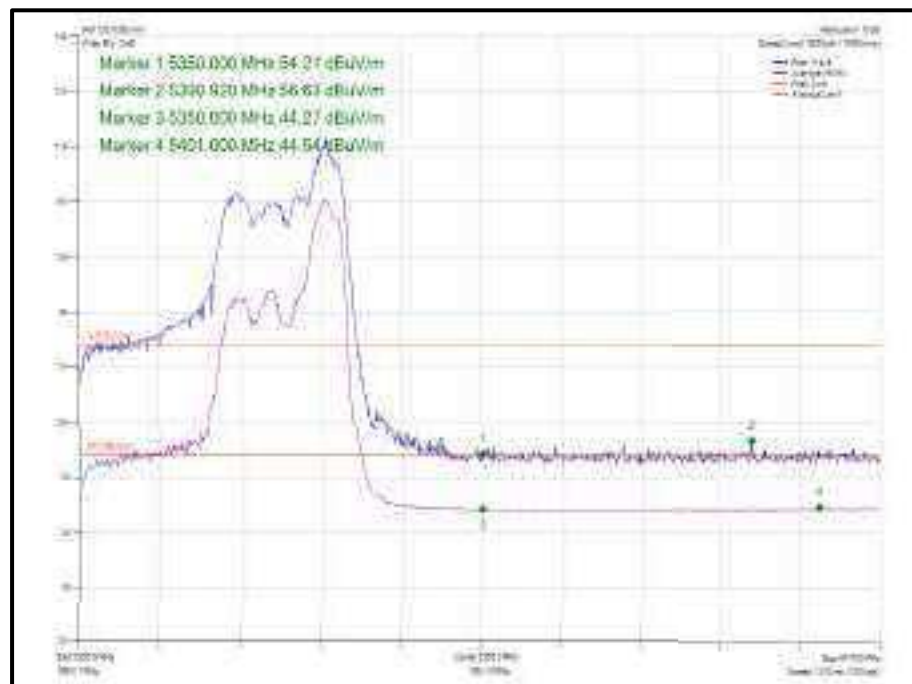


Figure 1093 - 802.11ax HE40 SDM, Cores 0-1, 26-17 - 5310 MHz
 Band Edge Frequency 5350 MHz

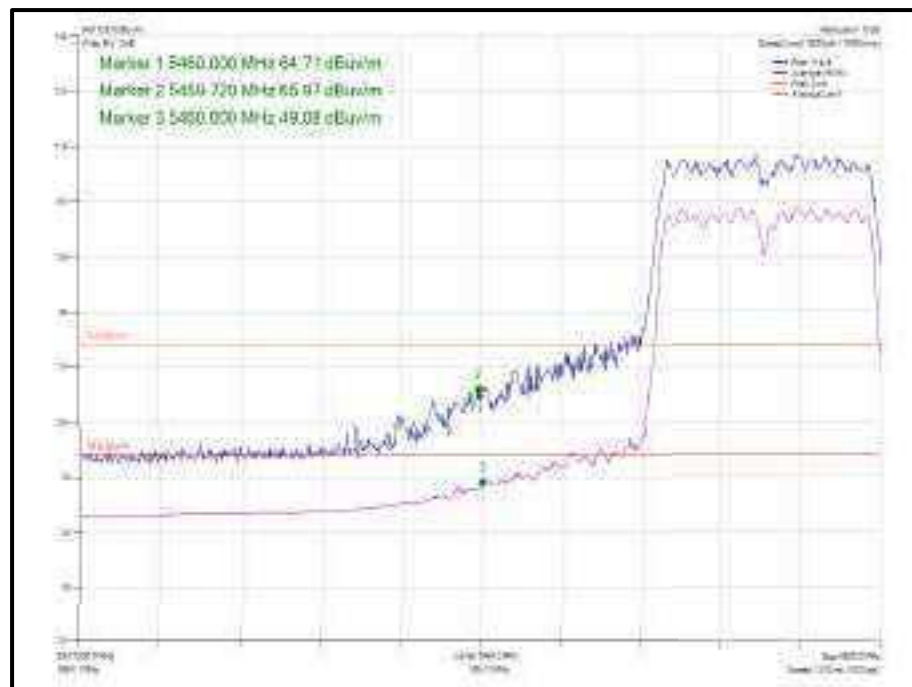


Figure 1094 - 802.11n HT40 CDD, Cores 0-1 - 5510 MHz
 Band Edge Frequency 5460 MHz

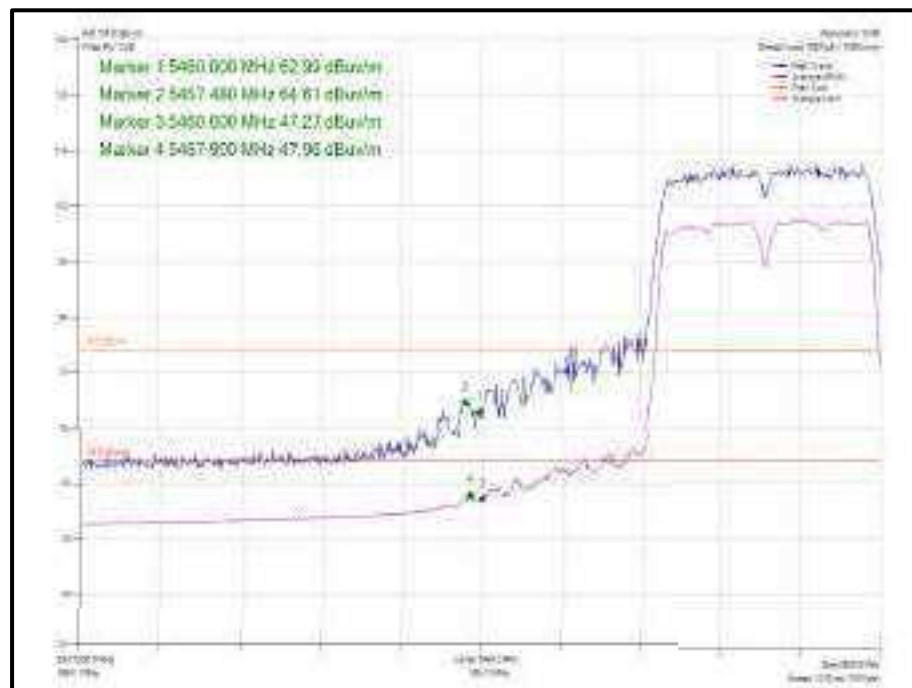


Figure 1095 - 802.11n HT40 SDM, Cores 0-1 - 5510 MHz
 Band Edge Frequency 5460 MHz

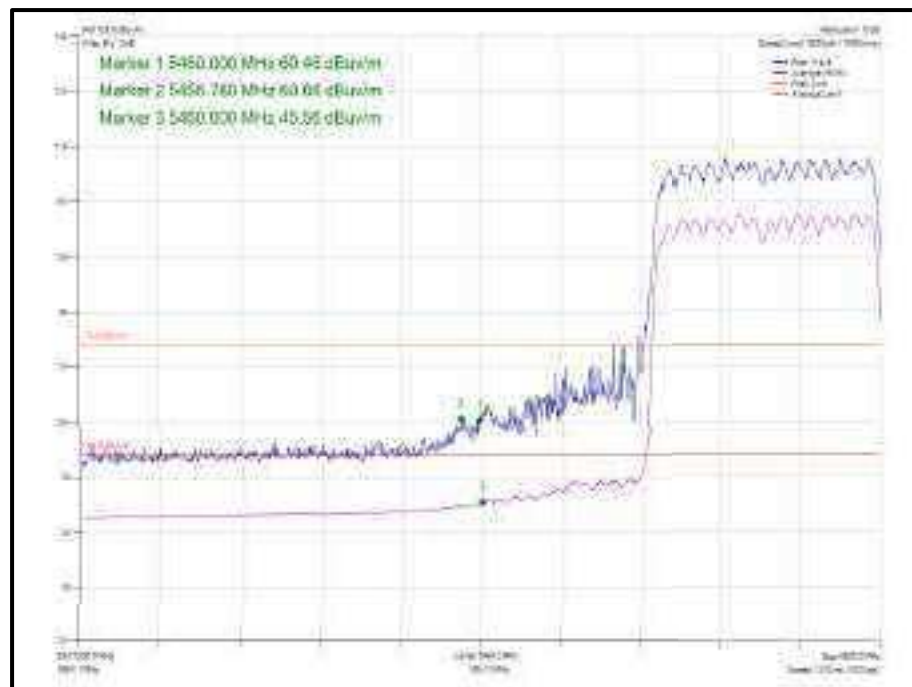


Figure 1096 - 802.11ax HE40 CDD, Cores 0-1, SU - 5510 MHz
 Band Edge Frequency 5460 MHz

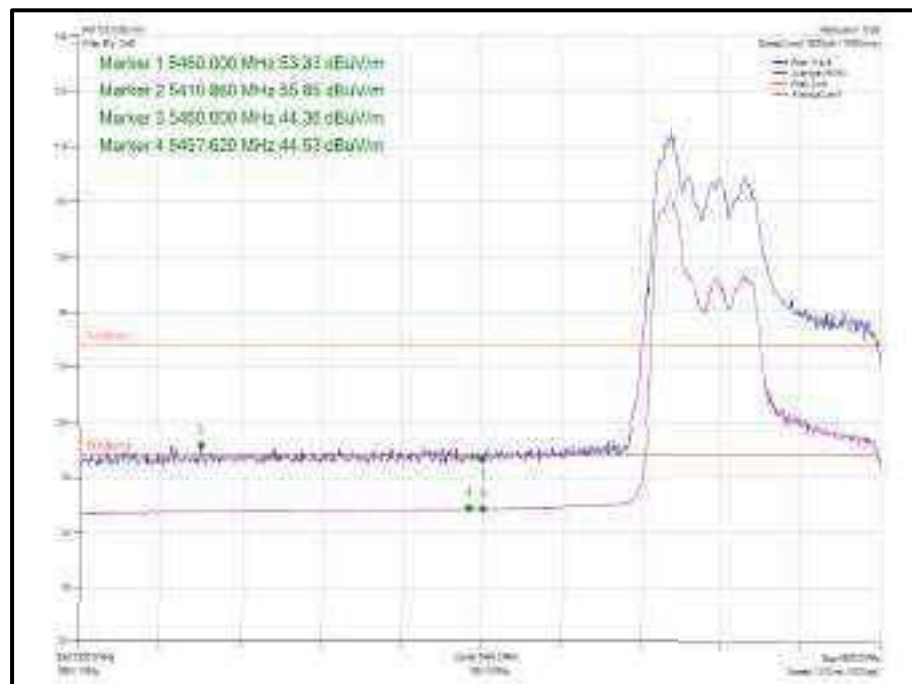
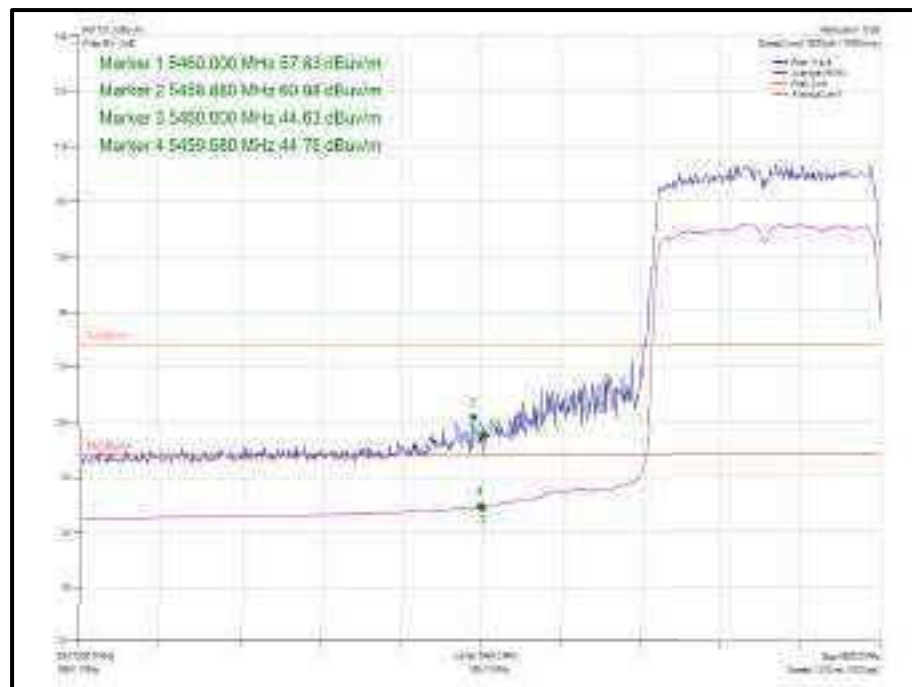
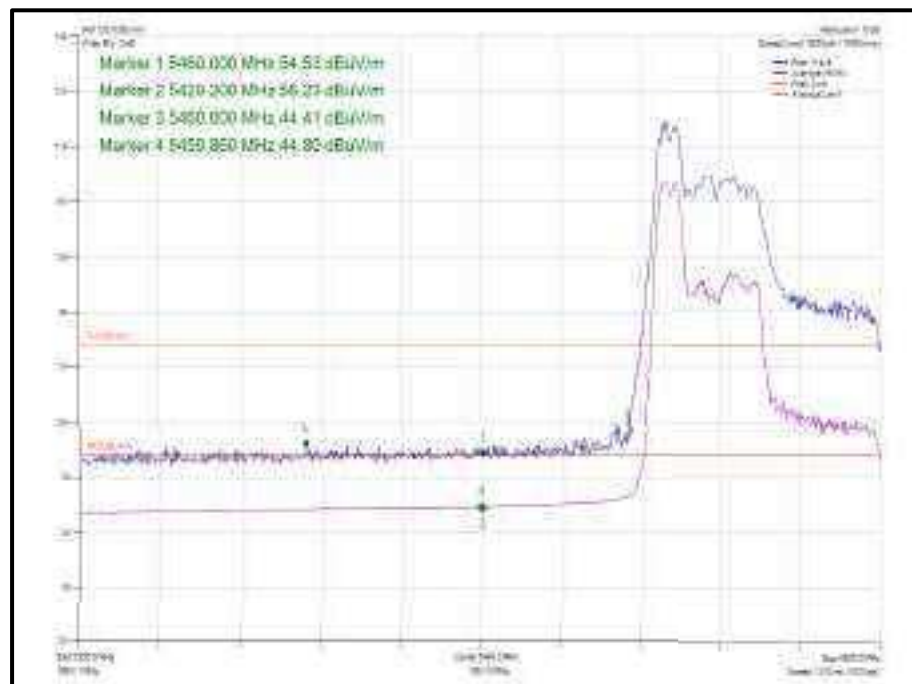


Figure 1097 - 802.11ax HE40 CDD, Cores 0-1, 52-37 - 5510 MHz
 Band Edge Frequency 5460 MHz



**Figure 1098 - 802.11ax HE40 SDM, Cores 0-1, SU - 5510 MHz
Band Edge Frequency 5460 MHz**



**Figure 1099 - 802.11ax HE40 SDM, Cores 0-1, 26-0 - 5510 MHz
Band Edge Frequency 5460 MHz**



Mode	Data Rate / MCS	Resource Size	Resource Index	TX Frequency (MHz)	Band Edge Frequency (MHz)	Peak Level (dBuV/m)	Average Level (dBuV/m)
802.11ac VHT80, Core 0	MCS7x1	-	-	5210	5150	55.93	44.84
802.11ac VHT80, Core 0	MCS7x1	-	-	5290	5350	56.44	44.13
802.11ac VHT80, Core 0	MCS7x1	-	-	5530	5460	63.30	48.02
802.11ax HE80, Core 0	MCS7	SU	-	5210	5150	56.09	45.86
802.11ax HE80, Core 0	MCS7	26	0	5210	5150	57.62	43.96
802.11ax HE80, Core 0	MCS7	SU	-	5290	5350	54.90	43.79
802.11ax HE80, Core 0	MCS7	52	52	5290	5350	55.63	44.70
802.11ax HE80, Core 0	MCS7	SU	-	5530	5460	59.66	44.95
802.11ax HE80, Core 0	MCS7	52	37	5530	5460	64.01	45.19

Table 663 - SISO Restricted Band Edge Results

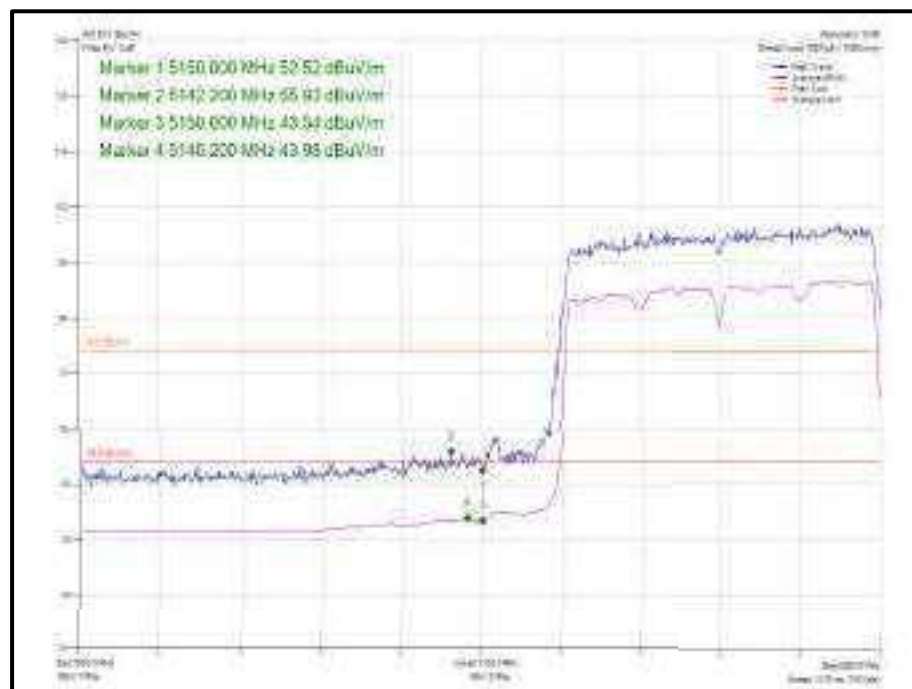


Figure 1100 - 802.11ac VHT80, Core 0 - 5210 MHz
Band Edge Frequency 5150 MHz

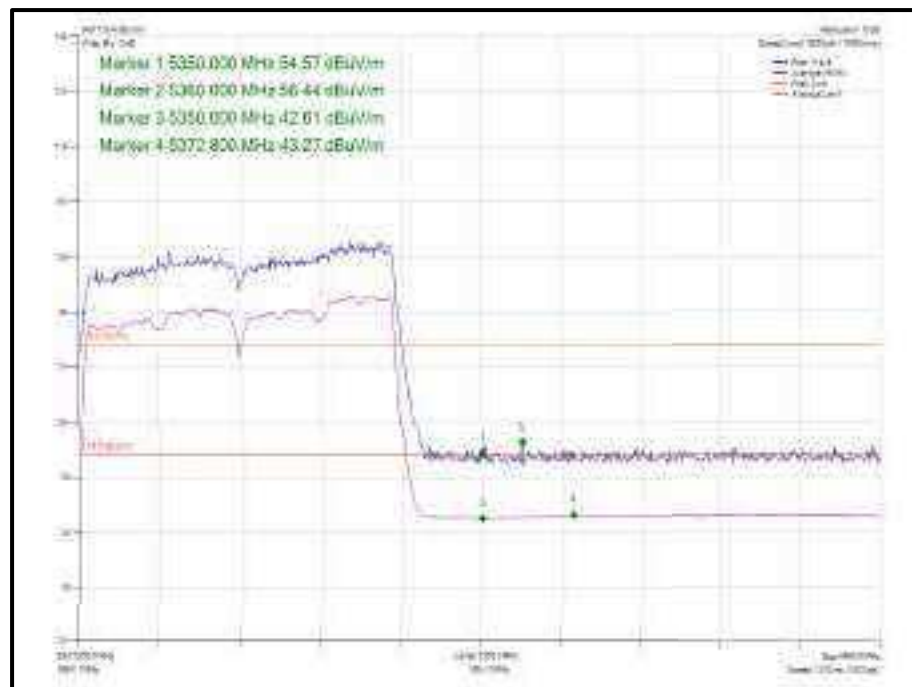


Figure 1101 - 802.11ac VHT80, Core0 - 5290 MHz
 Band Edge Frequency 5350 MHz

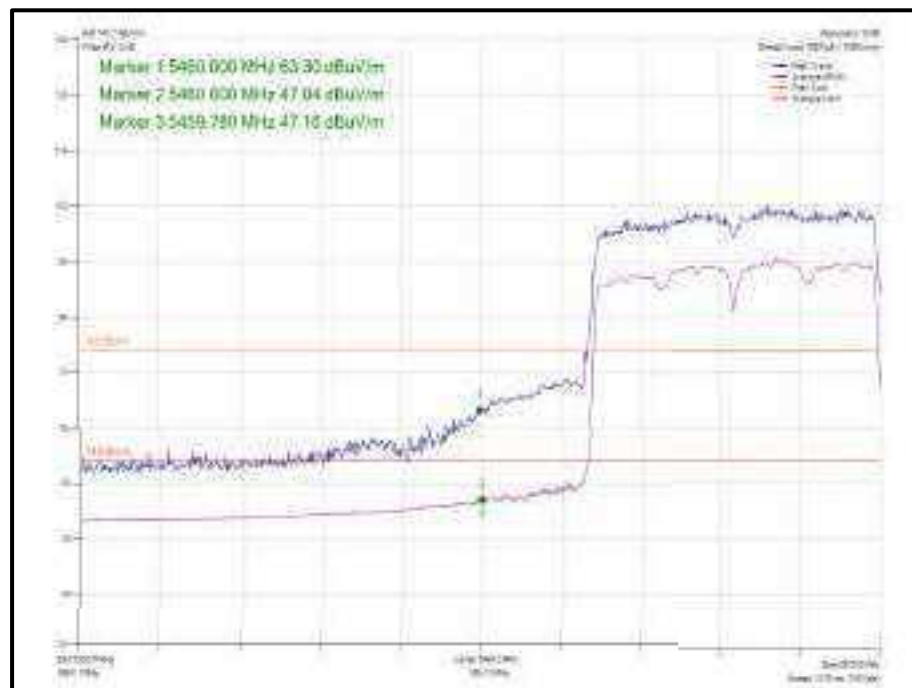


Figure 1102 - 802.11ac VHT80, Core0 - 5530 MHz
 Band Edge Frequency 5530 MHz

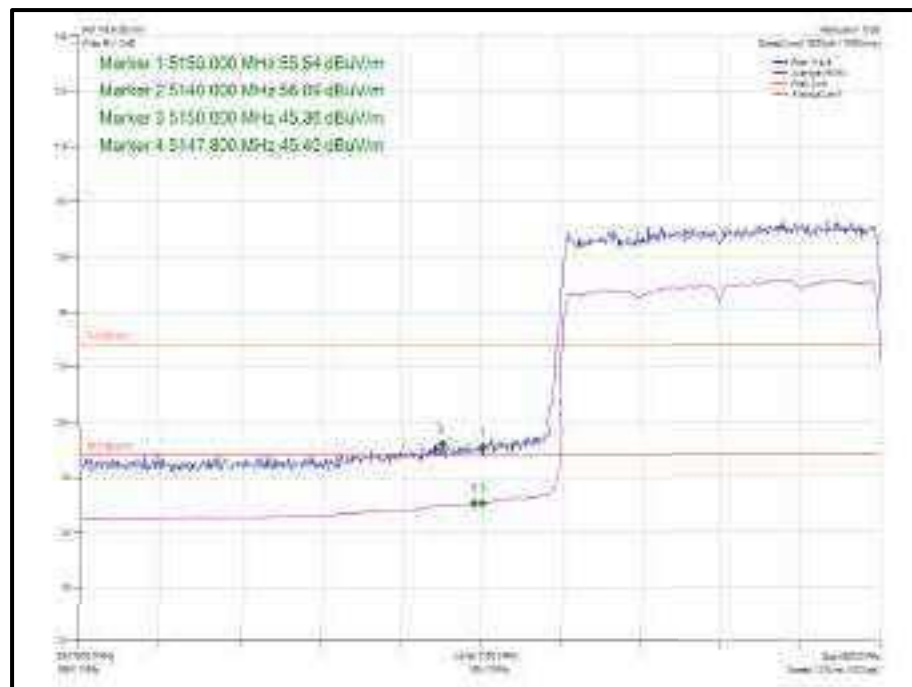


Figure 1103 - 802.11ax HE80, Core 0, SU - 5210 MHz
 Band Edge Frequency 5150 MHz

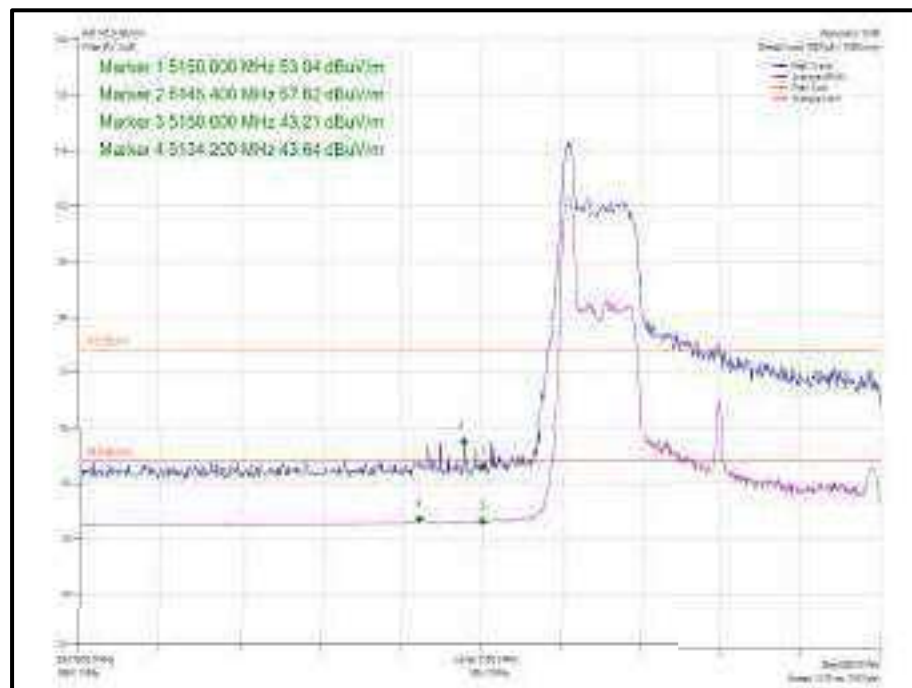


Figure 1104 - 802.11ax HE80, Core 0, 26.0 - 5210 MHz
 Band Edge Frequency 5150 MHz

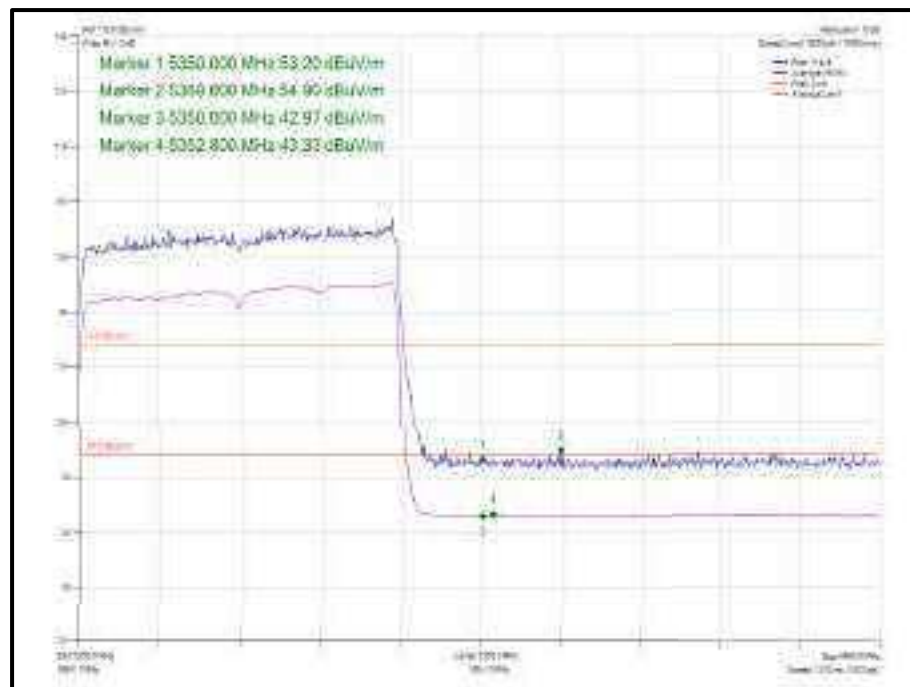


Figure 1105 - 802.11ax HE80, Core 0, SU - 5290 MHz
Band Edge Frequency 5350 MHz

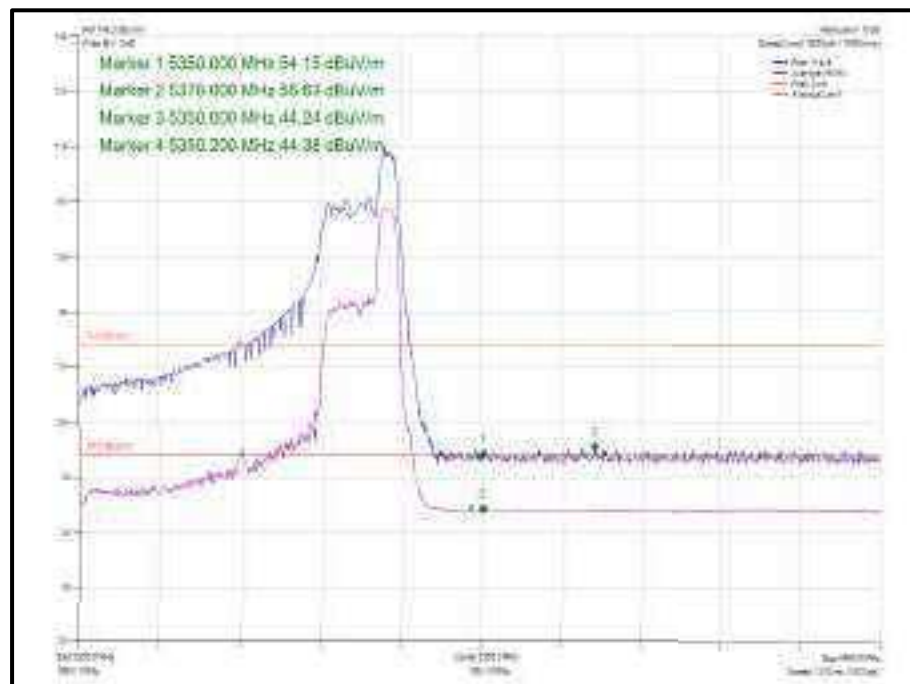
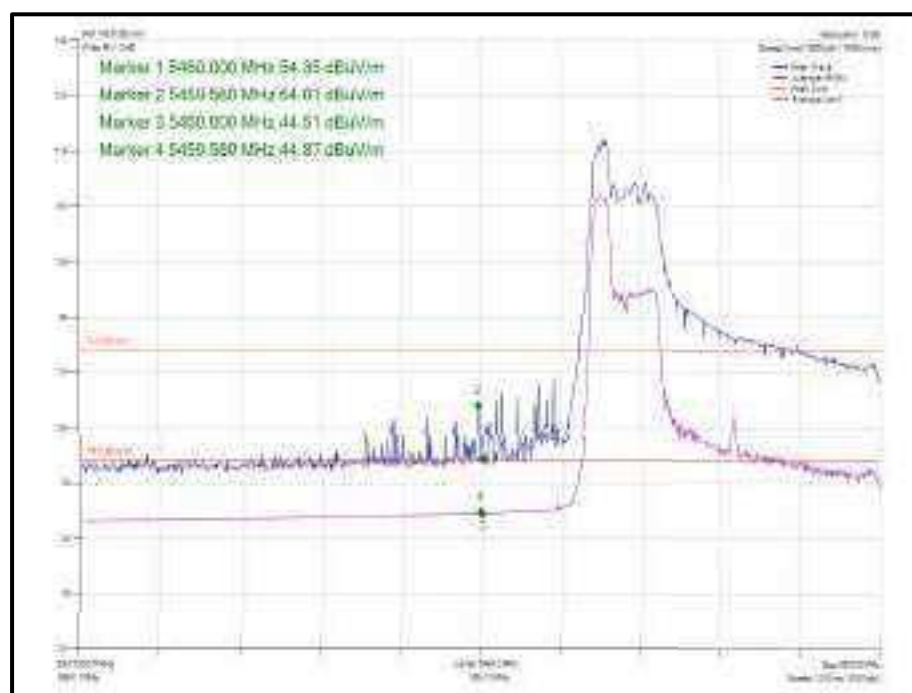
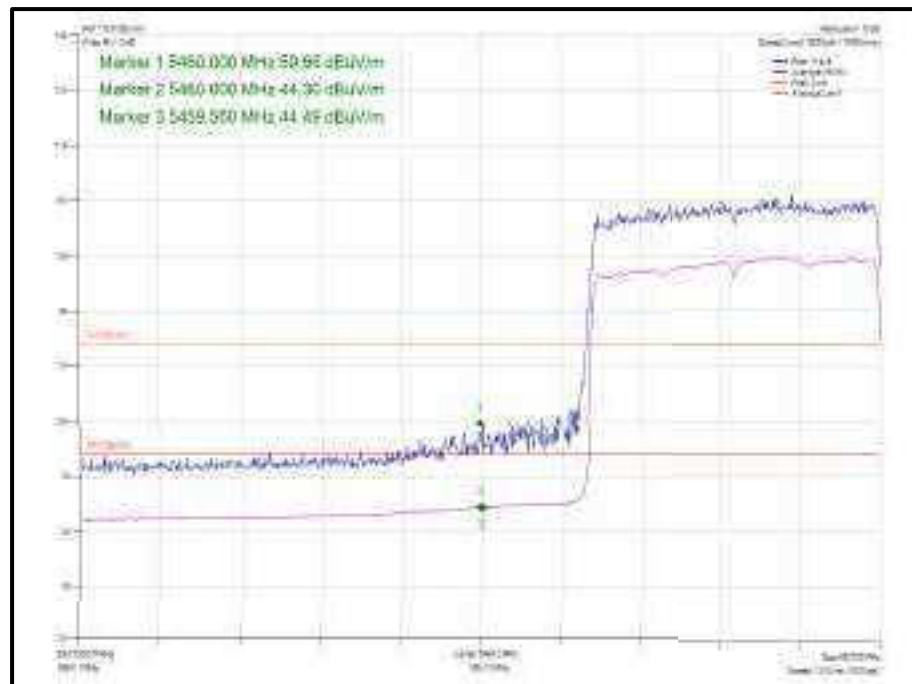


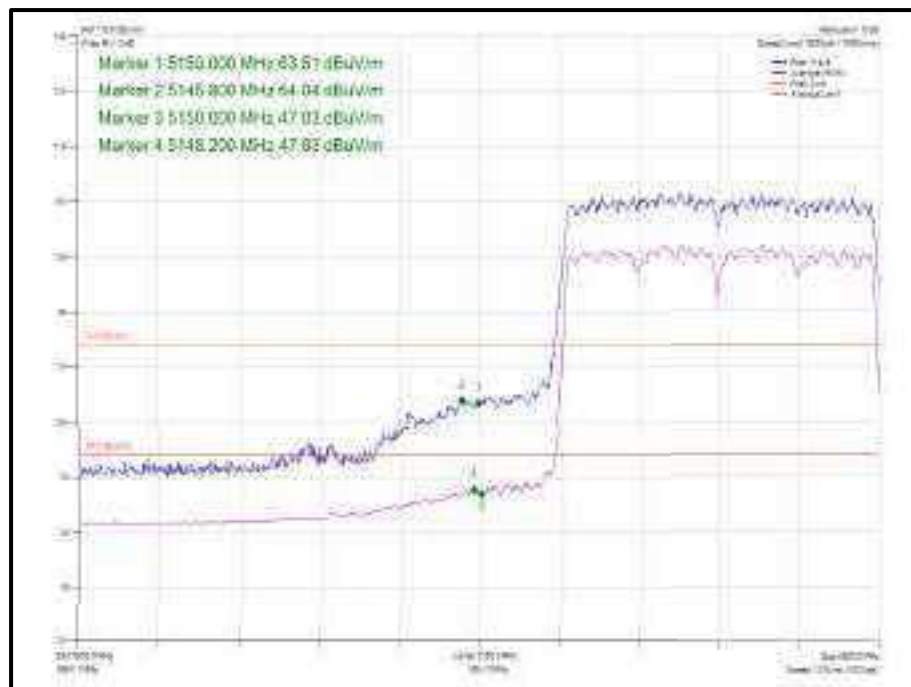
Figure 1106 - 802.11ax HE80, Core 0, 52.52 - 5290 MHz
Band Edge Frequency 5350 MHz



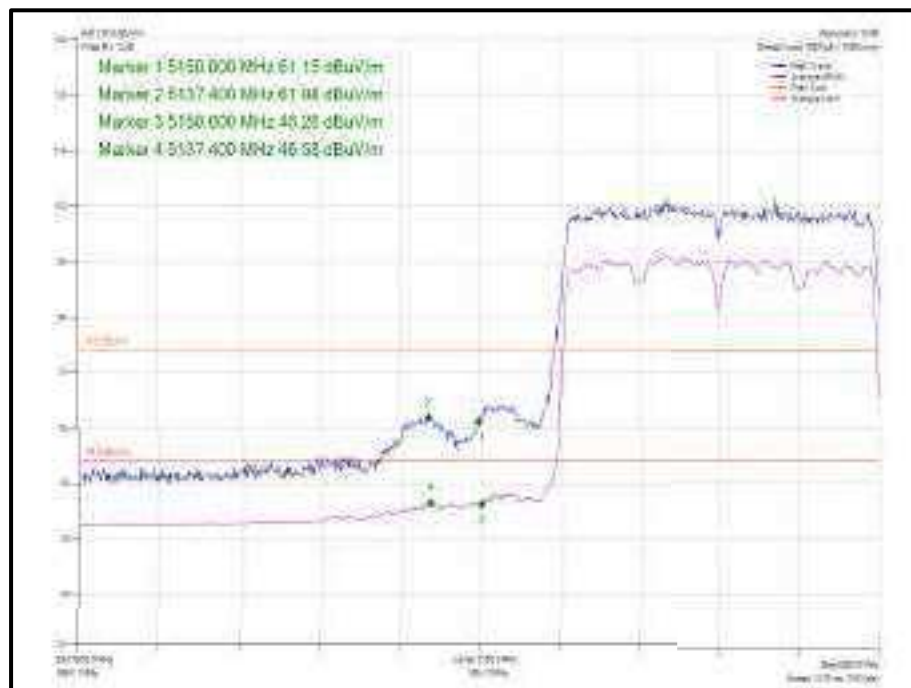


Mode	Data Rate / MCS	Resource Size	Resource Index	TX Frequency (MHz)	Band Edge Frequency (MHz)	Peak Level (dBμV/m)	Average Level (dBμV/m)
802.11ac VHT80 CDD, Cores 0-4	MCS7x1	-	-	52.10	51.50	64.04	48.75
802.11ac VHT80 SDM, Cores 0-1	MCS7x1	-	-	52.10	51.50	61.98	47.66
802.11ax HE80 CDD, Cores 0-4	MCS7	SU	-	52.10	51.50	57.03	45.90
802.11ax HE80 CDD, Cores 0-4	MCS7	26	0	52.10	51.50	54.31	43.44
802.11ax HE80 SDM, Cores 0-1	MCS7	SU	-	52.10	51.50	57.68	45.35
802.11ax HE80 SDM, Cores 0-1	MCS7	26	0	52.10	51.50	55.80	44.03
802.11ac VHT80 CDD, Cores 0-4	MCS7	-	-	52.90	53.50	59.07	47.95
802.11ac VHT80 SDM, Cores 0-1	MCS7	-	-	52.90	53.50	58.25	47.47
802.11ax HE80 CDD, Cores 0-4	MCS7	SU	-	52.90	53.50	59.02	47.21
802.11ax HE80 CDD, Cores 0-4	MCS7	52	52	52.90	53.50	56.06	44.86
802.11ax HE80 SDM, Cores 0-1	MCS7	SU	-	52.90	53.50	58.31	47.03
802.11ax HE80 SDM, Cores 0-1	MCS7	52	52	52.90	53.50	55.50	44.79
802.11ac VHT80 CDD, Cores 0-4	MCS7	-	-	55.30	54.60	62.45	47.14
802.11ac VHT80 SDM, Cores 0-1	MCS7	-	-	55.30	54.60	64.25	48.50
802.11ax HE80 CDD, Cores 0-4	MCS7	SU	-	55.30	54.60	55.51	44.67
802.11ax HE80 CDD, Cores 0-4	MCS7	52	37	55.30	54.60	55.70	45.06
802.11ax HE80 SDM, Cores 0-1	MCS7	SU	-	55.30	54.60	55.55	45.06
802.11ax HE80 SDM, Cores 0-1	MCS7	52	37	55.30	54.60	56.16	45.03

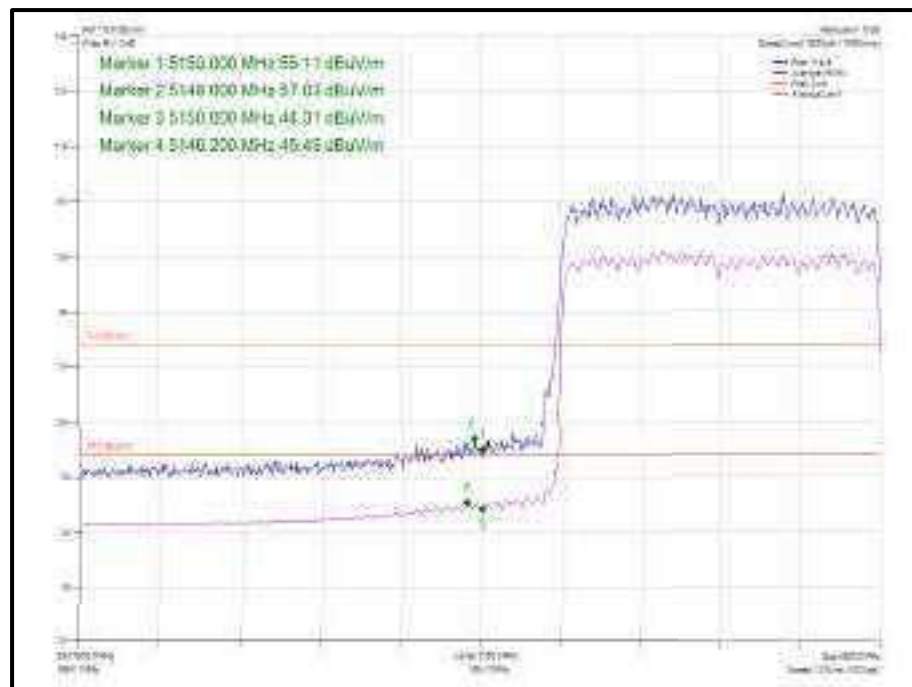
Table 664 - MIMO 2TX Restricted Band Edge Results



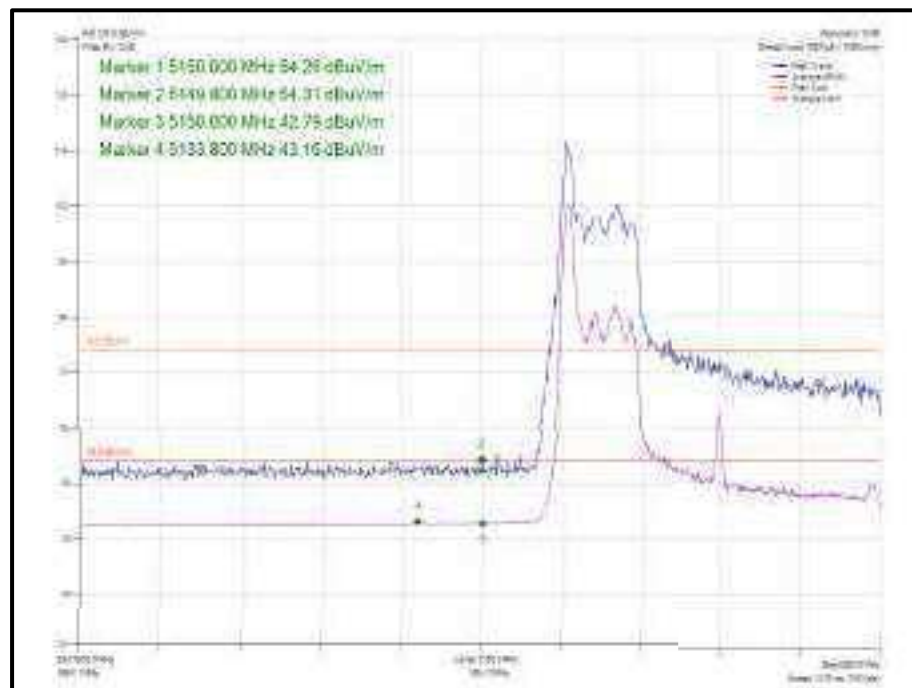
**Figure 1109 - 802.11ac VHT80 CD D, Cores 0.1- 5210 MHz
 Band Edge Frequency 5150 MHz**



**Figure 1110 - 802.11ac VHT80 SDM, Cores 0.1- 5210 MHz
 Band Edge Frequency 5150 MHz**



**Figure 1111 - 802.11ax HE80 CDD, Cores 0-1, SU - 5210 MHz
 Band Edge Frequency 5150 MHz**



**Figure 1112 - 802.11ax HE80 CDD, Cores 0-1, 26-0 - 5210 MHz
 Band Edge Frequency 5150 MHz**

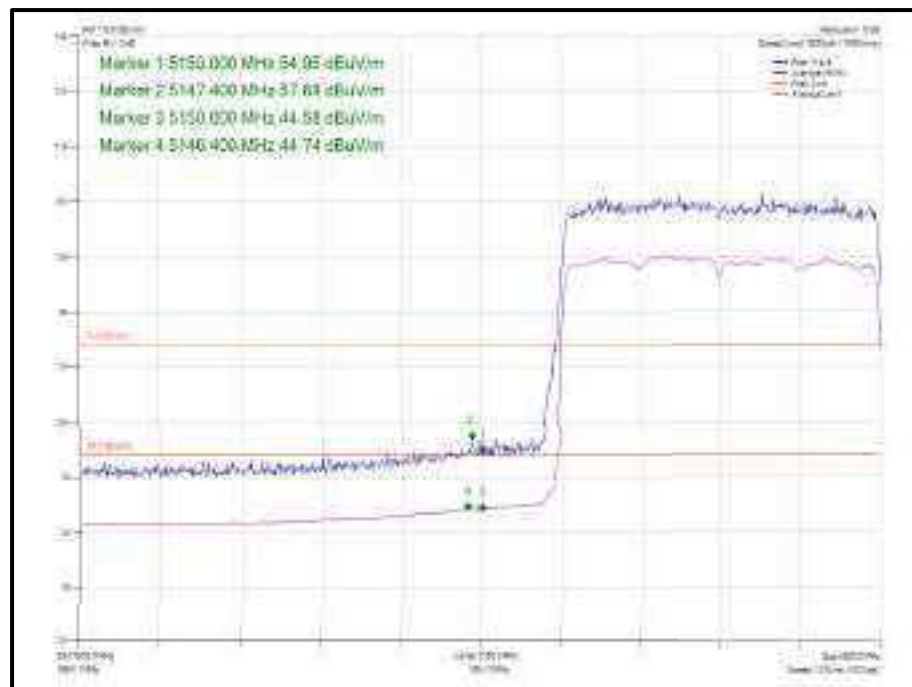


Figure 1113 - 802.11ax HE80 SDM, Cores 0-1, SU - 5210 MHz
Band Edge Frequency 5150 MHz

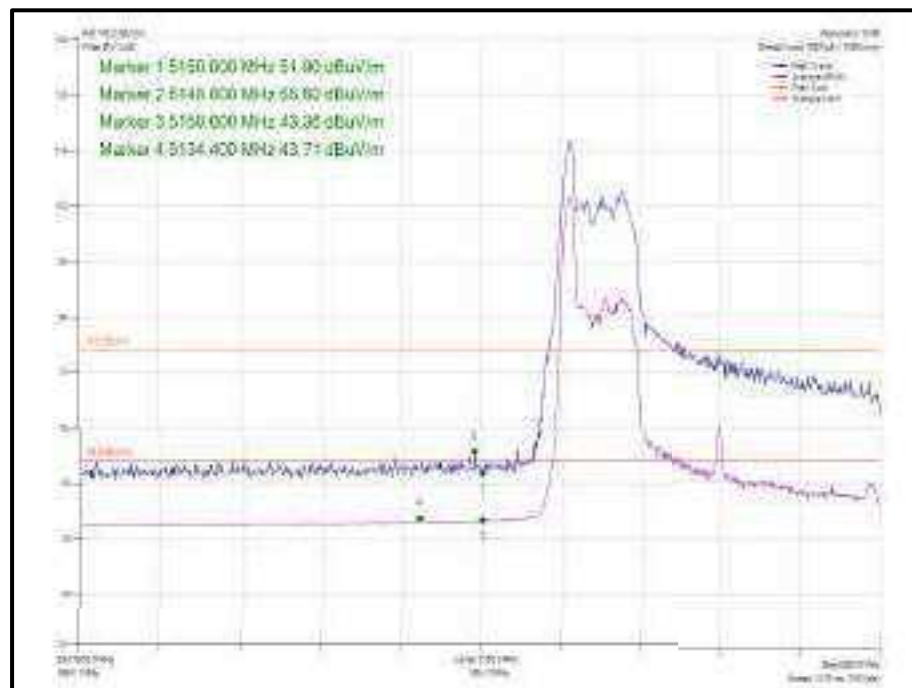


Figure 1114 - 802.11ax HE80 SDM, Cores 0-1, 26-0 - 5210 MHz
Band Edge Frequency 5150 MHz

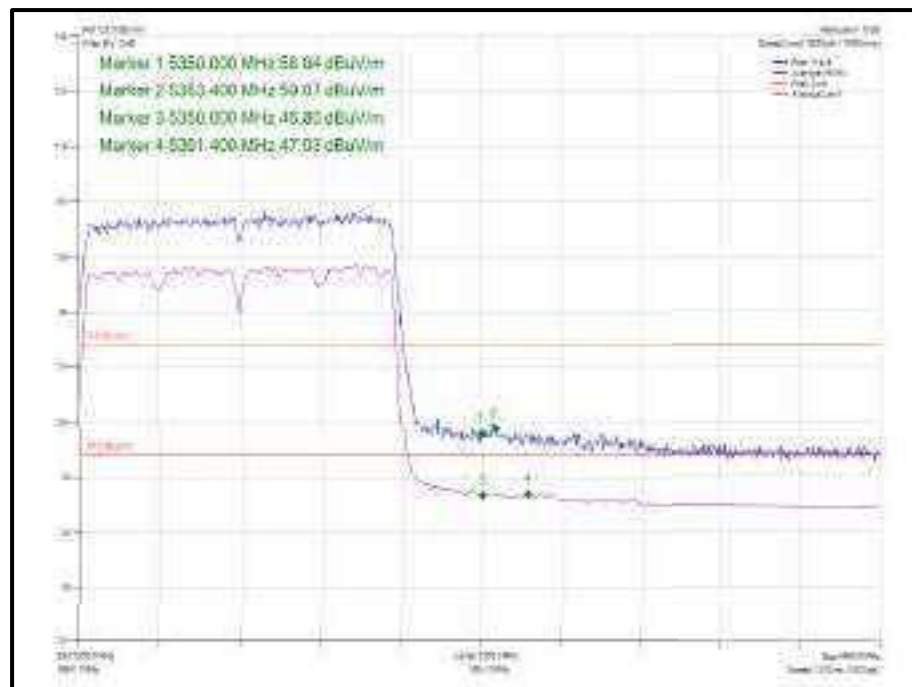


Figure 1115 - 802.11ac VHT80 CD D, Cores 0-1 - 5290 MHz
Band Edge Frequency 5350 MHz

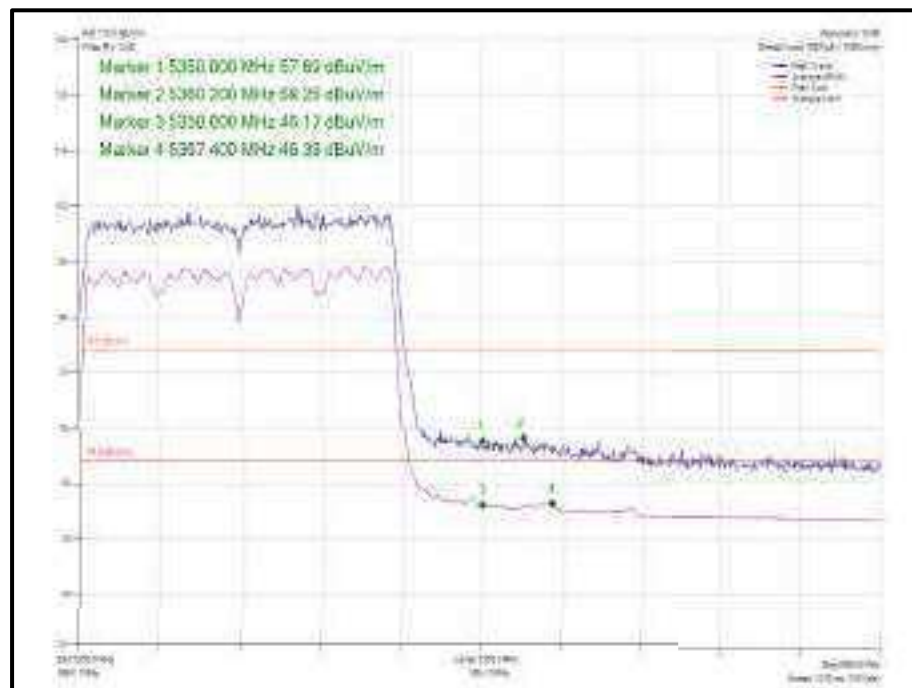
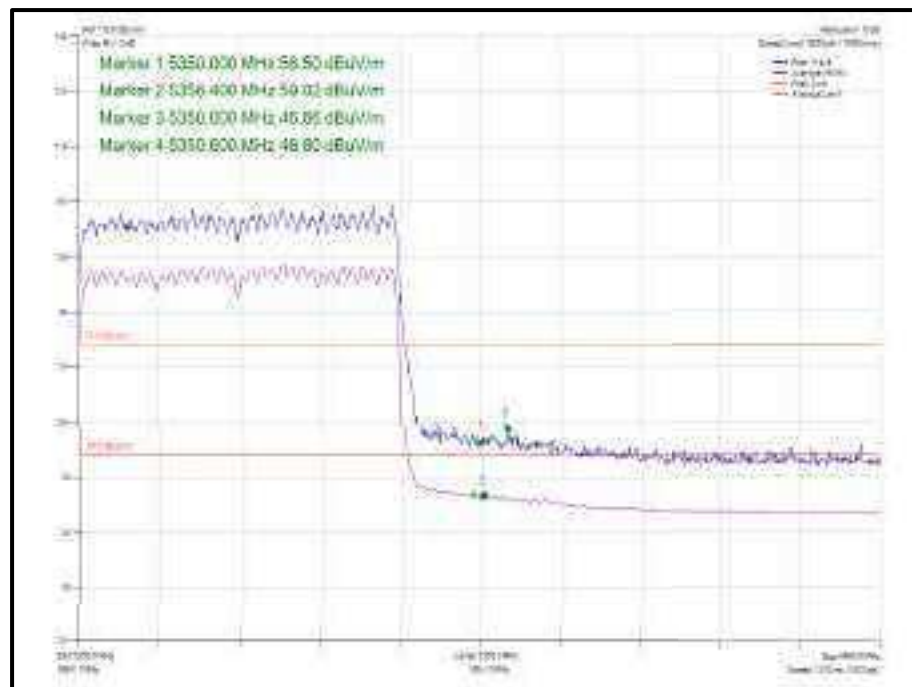
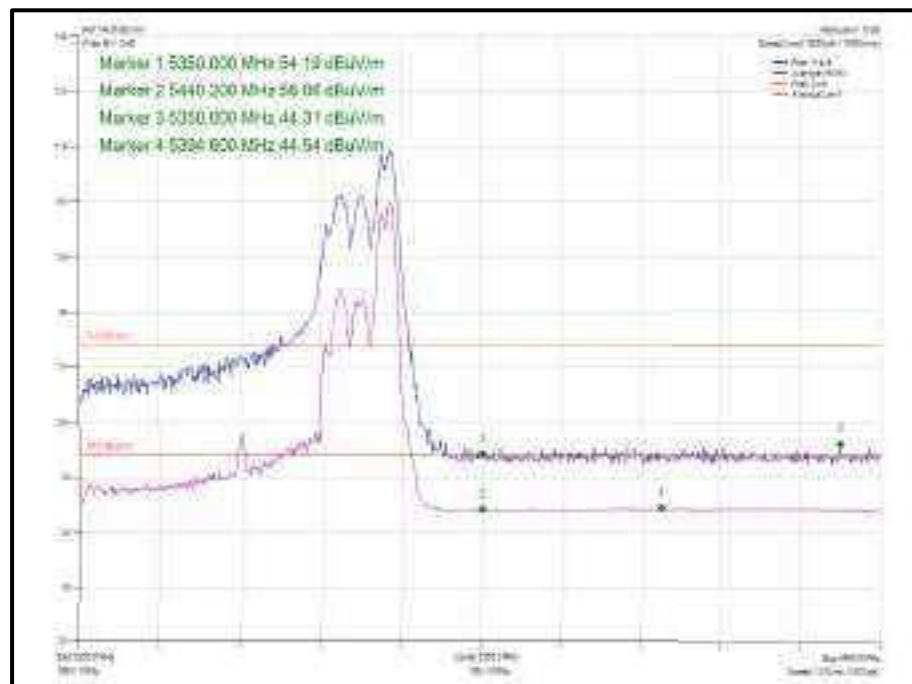


Figure 1116 - 802.11ac VHT80 SDM ,Cores 0-1 - 5290 MHz
Band Edge Frequency 5350 MHz



**Figure 1117 - 802.11ax HE80 CDD, Cores 0-1, SU - 5290 MHz
Band Edge Frequency 5350 MHz**



**Figure 1118 - 802.11ax HE80 CDD, Cores 0-1, 52.52-5290 MHz
Band Edge Frequency 5350 MHz**

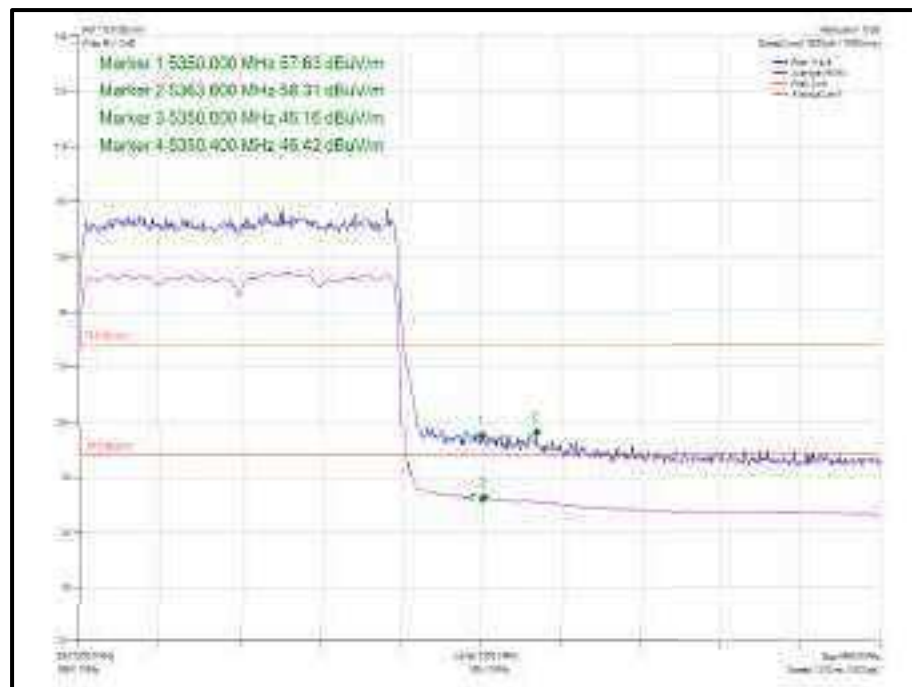


Figure 1119 - 802.11ax HE80 SDM, Cores 0-1, SU - 5290 MHz
 Band Edge Frequency 5350 MHz

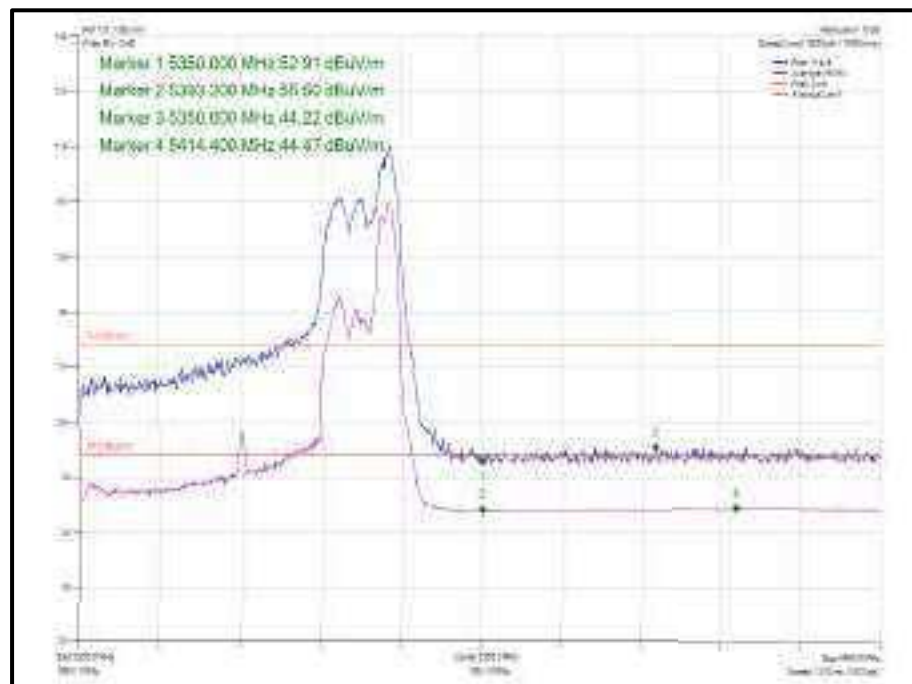


Figure 1120 - 802.11ax HE80 SDM, Cores 0-1, 26-36 - 5290 MHz
 Band Edge Frequency 5350 MHz

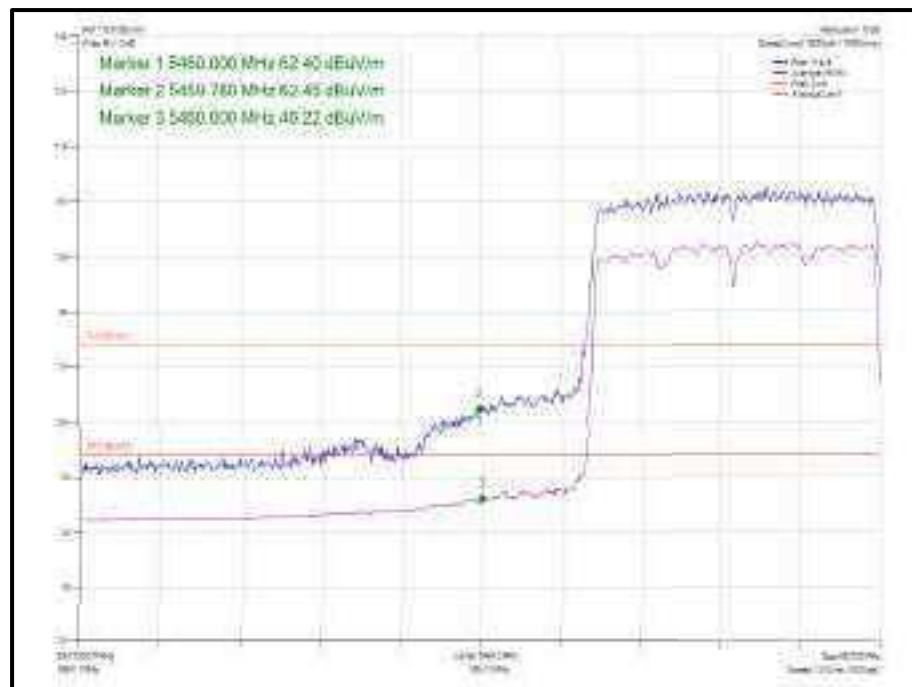


Figure 1121 - 802.11ac VHT80 CDD, Cores 0-1 - 5530 MHz
Band Edge Frequency 5460 MHz

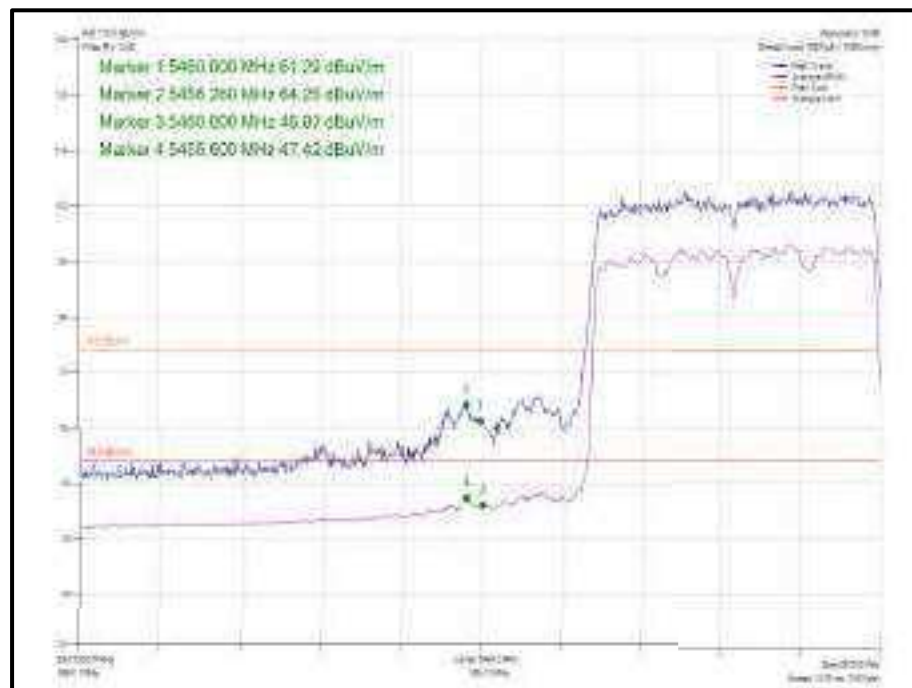


Figure 1122 - 802.11ac VHT80 SDM, Cores 0-1 - 5530 MHz
Band Edge Frequency 5460 MHz

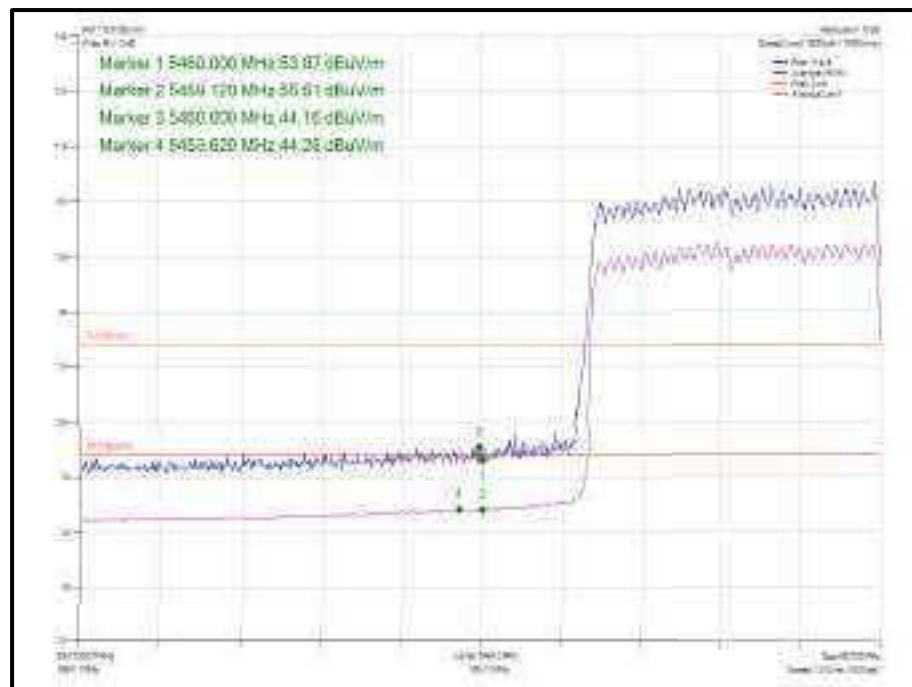


Figure 1123 - 802.11ax HE80 CDD, Cores 0-1, SU - 5530 MHz
Band Edge Frequency 5460 MHz

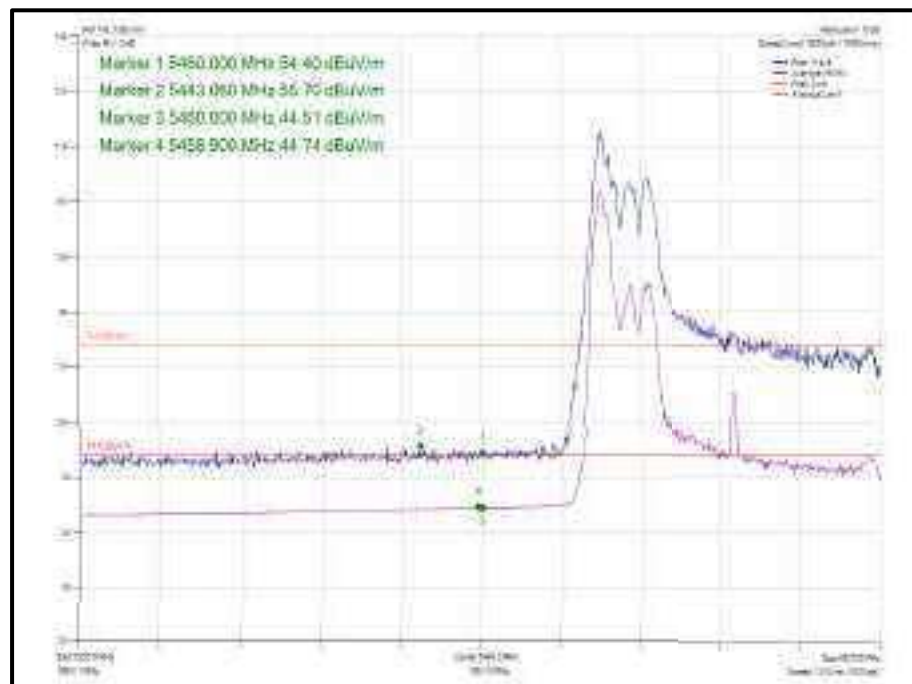


Figure 1124 - 802.11ax HE80 CDD, Cores 0-1, 52-37 - 5530 MHz
Band Edge Frequency 5460 MHz

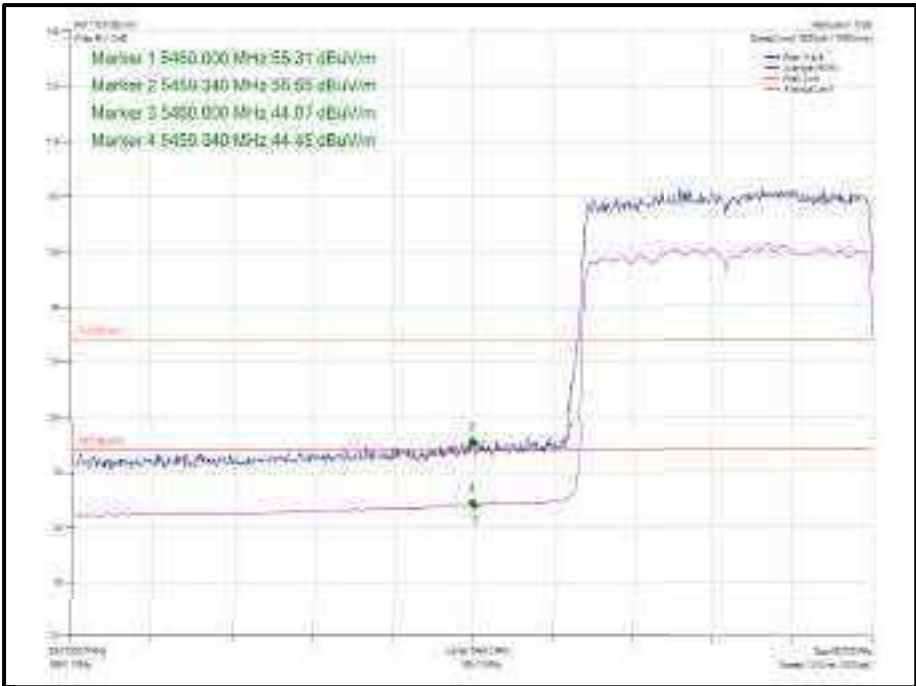


Figure 1125 - 802.11ax HE80 SDM, Cores 0-1, SU - 5530 MHz
Band Edge Frequency 5460 MHz

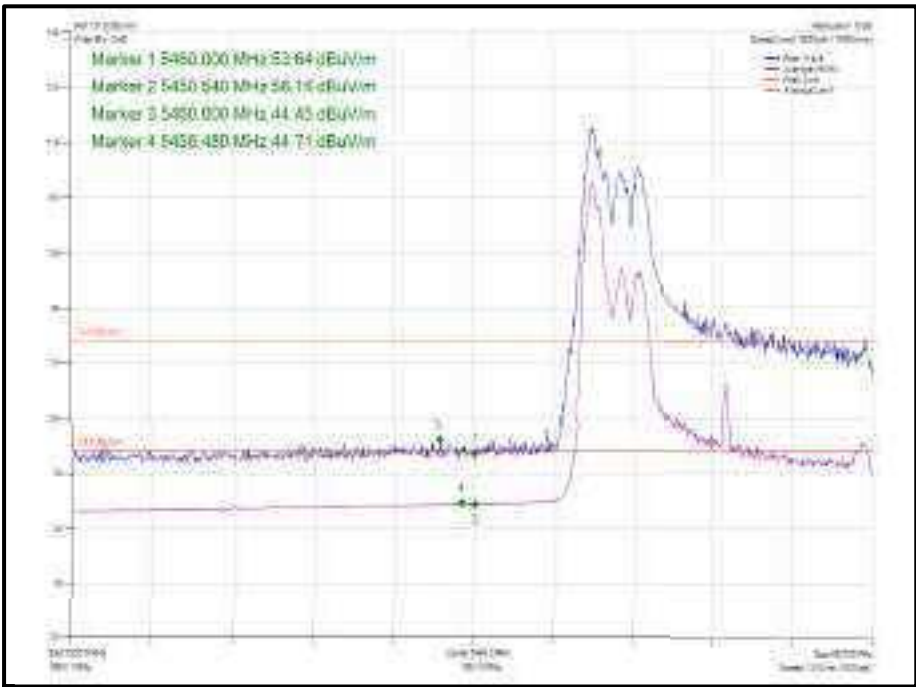


Figure 1126 - 802.11ax HE80 SDM, Cores 0-1, 26-0 - 5530 MHz
Band Edge Frequency 5460 MHz

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

	Peak (dBuV/m)	Average (dBuV/m)
Restricted Bands of Operation	74	54

Table 665 - Restrict ed Band Edge Limit Table



27.7 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	15.45	36	23-Jan-2021
Turntable Controller	In n-Co G mb H	CO 100.0	16.06	-	TU
Mast Controller	Matur o GmbH	NCD	48.10	-	TU
Tilt Antenna Mast	Matur o GmbH	TAM 4.0P	48.11	-	TU
Double Ridge Broadband Horn Antenna	Schwarzbeck	BBHA9120 B	48.48	12	10-Mar-2021
EmX Emissions Software	TUVSUD	EmX	51.25	-	Software
Preamplifier (30dB 1GHz to 18GHz)	Schwarzbeck	BBV9718 C	52.61	12	07-Apr-2021
Thermo-Hygro-Barometer	PCE Instruments	PCE -THB-40	54.75	12	17-Mar-2021
Attenuator 5W 10dB DC - 18GHz	Aaren	AT4 0A-4041 -D18-10	54.94	12	14-Apr-2021
1m SMA Cable	Junkosha	MVW 221 - 010 00AMS/AMS/A	55.15	12	01-Apr-2021
2m SMA Cable	Junkosha	MVW 221 - 02 000AMS/AMS/A	55.17	12	01-Apr-2021
8m N Type Cable	Junkosha	MVW 221 - 08 000NM 5NM 5B	55.20	12	24-Mar-2021
EMI Test Receiver	Rohde & Schwarz	ESW44	55.27	12	06-Feb-2021

Table 666

TU - Traceability Unscheduled



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
Emission Bandwidth	± 1.118 MHz
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
Authorised Band Edges	± 6.3 dB
Restricted Band Edges	± 6.3 dB

Table 667

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.