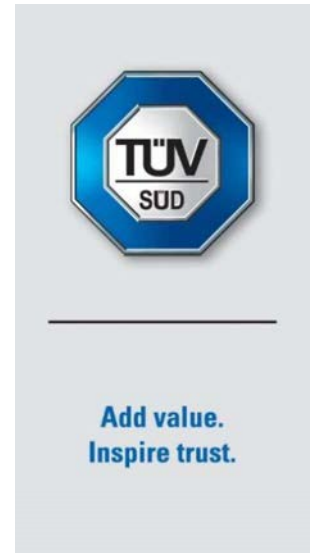# FCC and ISED Test Report

Apple Inc
Model: A2787

In accordance with FCC 47 CFR Part 15E, ISED RSS-247 and ISED RSS-GEN (5 GHz WLAN)

Prepared for: Apple Inc
One Apple Park Way
Cupertino
California
95014,
USA

FCC ID: BCGA2787   IC: 579C-A2787

COMMERCIAL-IN-CONFIDENCE

Document 75955427-09 Issue 01

SIGNATURE			
P.J.Harrison			
NAME	**JOB TITLE**	**RESPONSIBLE FOR**	**ISSUE DATE**
Phil Harrison	Chief Engineer	Authorised Signatory	13 March 2023

Signatures in this approval box have checked this document in line with the requirements of TÜV SÜD document control rules.

ENGINEERING STATEMENT

The measurements shown in this report were made in accordance with the procedures described on test pages. All reported testing was carried out on a sample equipment to demonstrate limited compliance with FCC 47 CFR Part 15E, ISED RSS-247 and ISED RSS-GEN. The sample tested was found to comply with the requirements defined in the applied rules.

RESPONSIBLE FOR	NAME	DATE	SIGNATURE
Report Generation	Lauren Walters	13 March 2023	*(signature)*

FCC Accreditation	ISED Accreditation
90987 Octagon House, Fareham Test Laboratory	12669A Octagon House, Fareham Test Laboratory

EXECUTIVE SUMMARY

A sample of this product was tested and found to be compliant with FCC 47 CFR Part 15E: 2021, ISED RSS-247: Issue 2 (2017-02) and ISED RSS-GEN: Issue 5 (2018-04) + A2 (2021-02) for the tests detailed in section 1.3.

TÜV SÜD

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Contents

1 Report Summary

1.1 Report Modification Record

Alterations and additions to this report will be issued to the holders of each copy in the form of a complete document.

Issue	Description of Change	Date of Issue
1	First Issue	??

Table 1

1.2 Introduction

Applicant	Apple Inc
Manufacturer	Apple Inc
Model Number(s)	A2787
Serial Number(s)	V32VYX9RJ6, C2VL734Q54, G796QL75F9, CR6T255FVT and GC220CG697
Hardware Version(s)	REV 1.0
Software Version(s)	22E51010k, 22E71580u, 22E184, 22E51010k and 22E209
Number of Samples Tested	5
Test Specification/Issue/Date	FCC 47 CFR Part 15E: 2021 ISED RSS-247: Issue 2 (2017-02) ISED RSS-GEN: Issue 5 (2018-04) + A2 (2021-02)
Order Number	0540246998
Start of Test	06-November-2022
Finish of Test	28-February-2023
Name of Engineer(s)	Stefan Gilfedder, Thomas Biddlecombe, Daniel Cameron, Colin Brain, Thomas Randall, Ioan-Alexandru Bogatu, Ian Hart, Danial Shafique, Taha Shafique, James Woods and Mohammad Malik
Related Document(s)	ANSI C63.10 (2013) ANSI C63.10 (2020) KDB 662911 D01 v02r01 KDB 905462 D02 v02 KDB 905462 D03 v01r02 KDB 789033 D02 v02r01

1.3 Brief Summary of Results

A brief summary of the tests carried out in accordance with FCC 47 CFR Part 15E, ISED RSS-247 and ISED RSS-GEN is shown below.

Section	Specification Clause			Test Description	Result	Comments/Base Standard
	FCC Part 15E	RSS-247	RSS-GEN			
Configuration and Mode: 5 GHz WLAN						
-	15.203	-	-	Antenna Requirement	N/T	The device complies with the provisions of this section, as it uses permanently attached integral antennas.
2.1	15.205	-	8.10	Restricted Band Edges	Pass	
2.2	15.407 (a)	6.2	-	Maximum Conducted Output Power	Pass	
2.3	15.407 (a)	6.2	-	Maximum Conducted Power Spectral Density	Pass	
2.4	15.407 (a)	6.2	-	Emission Bandwidth	Pass	
2.5	15.407 (b)	6.2	-	Authorised Band Edges	Pass	
2.6	15.209 and 15.407 (b)	6.2	6.13 and 8.9	Spurious Radiated Emissions	Pass	
2.7	15.407 (h)(2)(iii)(iv)	6.3.2(c)(d)(e)	-	Channel Move Time, Channel Closing Transmission Time and Non-Occupancy Period	Pass	
Configuration and Mode: 5 GHz WLAN - Client to Client						
2.7	15.407 (h)(2)(iii)(iv)	6.3.2(c)(d)(e)	-	Channel Move Time, Channel Closing Transmission Time and Non-Occupancy Period	Pass	

Table 2

1.4 Product Information

1.4.1 Technical Description

The equipment under test was a rack mounted Apple computer, with Bluetooth® and IEEE 802.11 a/b/g/n/ac/ax Wi-Fi capabilities in the 2.4 GHz, 5 GHz and 6 GHz bands.

1.4.2 Test Modes

The EUT's 5 GHz 802.11 radio supported Single Input/Single Output (SISO) and 2x2 Multiple Input/Multiple Output (MIMO) modes. 802.11a supports 20 MHz bandwidth only. 802.11n supports 20 MHz and 40 MHz bandwidths and 802.11ac, and ax supports 20 MHz, 40 MHz, 80 MHz and 160 MHz bandwidths.

802.11a mode supports SISO operation only. 802.11n, ac and ax support SISO, Cyclic Delay Diversity (CDD) and Space Division Multiplexing (SDM). 802.11n and ac also additionally support Transmit Beamforming (TxBF) mode. The EUT supports 802.11ax Single User (SU) and Multi-User (MU) with all Resource Unit (RU) sizes from 26 subcarriers, up to the maximum allowed, dependent on channel bandwidth other than in U-NII-2A and U-NII-2C where RU-26 is not supported.

The EUT uses different output powers dependent on how many cores are active. The EUT also uses different power tables for Cyclic Delay Diversity (CDD), Space Division Multiplexing (SDM) and Transmit Beamforming (TxBF) modes. It uses the same conducted power across all cores in any given mode, but due to the different antenna gains the radiated powers per core differ.

US and CA country codes changed the power table used for U-NII band 1. Therefore U-NII-1 channels were tested using both power settings for each country's respective limits.

Band edge testing was performed in all modes with multiple modulation types, with only the worst-case reported. After band edge and additional preliminary investigations were performed to find worst-case operation, the EUT was tested in the following supported transmit modes:

SISO Modes (Core 0 for U-NII-1 / 2C and Core 1 for U-NII-2A / 3):
- 802.11a – 12 Mbps
- 802.11n HT20 – MCS2
- 802.11n HT40 – MCS2
- 802.11ac VHT80 – MCS2x1
- 802.11ac VHT160 – MCS2x1
- 802.11ax HE20 SU – MCS2x1
- 802.11ax HE40 SU – MCS2x1
- 802.11ax HE80 SU – MCS2x1
- 802.11ax HE160 SU – MCS2x1
- 802.11ax HE20 MU RU26/52/106 – MCS2x1

2x2 MIMO Modes (Core 0+1 for U-NII-1 / 2A / 2C / 3):
- 802.11n HT20 - CDD (MCS2), SDM (MCS10) and TxBF (MCS2)
- 802.11n HT40 - CDD (MCS2), SDM (MCS10) and TxBF (MCS2)
- 802.11ac VHT80 – CDD (MCS2x1), SDM (MCS2x2) and TxBF (MCS2x1)
- 802.11ac VHT160 – CDD (MCS2x1) and SDM (MCS2x2)
- 802.11ax HE20 SU – CDD (MCS2x1) and SDM (MCS2x2)
- 802.11ax HE40 SU – CDD (MCS2x1) and SDM (MCS2x2)
- 802.11ax HE80 SU – CDD (MCS2x1) and SDM (MCS2x2)
- 802.11ax HE160 SU – CDD (MCS2x2) and SDM (MCS2x2)
- 802.11ax HE20 MU RU26/52/106 – CDD (MCS2x1) and SDM (MCS2x2)

*Note: The RU offset for bottom and middle channels were placed in the lowest position and on the top channel, the offset was placed in the upper most position.

Reduced output power is used on the narrower RU26/52/106 size 802.11ax multi-user (MU) modes to meet PSD and Band Edge limits. Therefore, only single user (SU) modes are reported for output power tests since these are always worst-case. All SU and the above MU RU sizes are reported for PSD.

1.4.3 Test Setup

For conducted tests the EUT antennas were disconnected and replaced with U.FL to SMA test cables to enable conducted testing on each core. The loss of these test cables were known and compensated for in any conducted measurements.

For all testing except DFS the EUT was put into a continuous transmit test mode with the chipset manufacturer's test commands via a script running in the EUTs terminal application. The EUT then transmitted the required type of packeted 802.11 data frames of fixed length, containing the standard headers and with pseudo-random data content, ensuring the measured signals were representative and contained all the symbols at the highest power control level.

The test setup used for DFS is described in the test result section of the present document.

1.4.4 Antenna Gain Table

Antenna Port	Frequency Range (MHz)	Peak Gain (dBi)	Conducted Cable Loss (dB)
Core 0	5150 to 5250	9.65	1.20
	5250 to 5350	8.17	1.20
	5470 to 5725	10.69	1.20
	5725 to 5850	8.43	1.30
Core 1	5150 to 5250	6.85	1.20
	5250 to 5350	8.99	1.20
	5470 to 5725	9.57	1.20
	5725 to 5850	9.22	1.30

Table 3

1.5 Deviations from the Standard

No deviations from the applicable test standard were made during testing.

1.6 EUT Modification Record

The table below details modifications made to the EUT during the test programme.

The modifications incorporated during each test are recorded on the appropriate test pages.

Modification State	Description of Modification still fitted to EUT	Modification Fitted By	Date Modification Fitted
Model: A2787, Serial Number: CR6T255FVT			
0	As supplied by the customer	Not Applicable	Not Applicable
Model: A2787, Serial Number: V32VYX9RJ6			
0	As supplied by the customer	Not Applicable	Not Applicable
Model: A2787, Serial Number: C2VL734Q54			
0	As supplied by the customer	Not Applicable	Not Applicable
Model: A2787, Serial Number: G796QL75F9			
0	As supplied by the customer	Not Applicable	Not Applicable
Model: A2787, Serial Number: GC220CG697			
0	As supplied by the customer	Not Applicable	Not Applicable

Table 4

1.7 Test Location

TÜV SÜD conducted the following tests at our Octagon House Test Laboratory.

Test Name	Name of Engineer(s)	Accreditation
Configuration and Mode: 5 GHz WLAN		
Channel Move Time, Channel Closing Transmission Time and Non-Occupancy Period	Stefan Gilfedder	UKAS
Configuration and Mode: 5 GHz WLAN - Client to Client		
Channel Move Time, Channel Closing Transmission Time and Non-Occupancy Period	Stefan Gilfedder	UKAS

Table 5

Office Address:

TÜV SÜD
Octagon House
Concorde Way
Fareham
Hampshire
PO15 5RL
United Kingdom

TÜV SÜD conducted the following tests at our Concorde Park Test Laboratory.

Test Name	Name of Engineer(s)	Accreditation
Configuration and Mode: 5 GHz WLAN		
Restricted Band Edges	Colin Brain, Thomas Randall, Ioan-Alexandru Bogatu, Danial Shafique, Ian Hart, Taha Shafique, James Woods and Mohammad Malik	UKAS
Emission Bandwidth	Thomas Biddlecombe and Daniel Cameron	UKAS
Maximum Conducted Output Power	Thomas Biddlecombe and Daniel Cameron	UKAS
Maximum Conducted Power Spectral Density	Thomas Biddlecombe and Daniel Cameron	UKAS
Authorised Band Edges	Colin Brain, Thomas Randall, Ioan-Alexandru Bogatu, Danial Shafique, Ian Hart, Taha Shafique and James Woods	UKAS
Spurious Radiated Emissions	Danial Shafique, Colin Brain, Thomas Randall and Ian Hart	UKAS

Table 6

Office Address:

TÜV SÜD
Concorde Park
Concorde Way
Fareham
Hampshire
PO15 5FG
United Kingdom

2   Test Details

2.1   Restricted Band Edges

2.1.1   Specification Reference

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

2.1.2   Equipment Under Test and Modification State

A2787, S/N: CR6T255FVT - Modification State 0

2.1.3   Date of Test

06-November-2022 to 28-February-2023

2.1.4   Test Method

The test was performed in accordance with ANSI C63.10, clause 6.10.5.

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.

2.1.5   Environmental Conditions

Ambient Temperature   19.9 - 21.8 °C
Relative Humidity   46.8 - 57.3 %

2.1.6   Test Results

5 GHz WLAN

20 MHz Bandwidth - Core 0 (SISO)

| Mode	Data Rate/ MCS	Resource Size	Resource Index	TX Frequency (MHz)	Band Edge Frequency (MHz)	Peak Level (dBµV/m)	Average Level (dBuV/m)
802.11a	24 Mbps	-	-	5180	5150	65.78	51.28
802.11n, HT20	MCS7	-	-	5180	5150	69.34	51.32
802.11ax, HE20	MCS4x1	SU	-	5180	5150	66.66	51.18
802.11ax, HE20	MCS11x1	106	54	5180	5150	69.30	51.25
802.11a	54 Mbps	-	-	5320	5350	66.74	51.23
802.11n, HT20	MCS2	-	-	5320	5350	65.06	51.43
802.11ax, HE20	MCS2x1	SU	-	5320	5350	64.47	51.23
802.11ax, HE20	MCS11x1	52	37	5320	5350	58.15	46.70
802.11a	54 Mbps	-	-	5500	5460	63.64	46.90
802.11n, HT20	MCS7	-	-	5500	5460	63.65	46.17
802.11ax, HE20	MCS11x1	SU	-	5500	5460	63.33	45.88
802.11ax, HE20	MCS11x1	106	54	5500	5460	63.46	46.87

Table 7 - SISO Restricted Band Edge Results
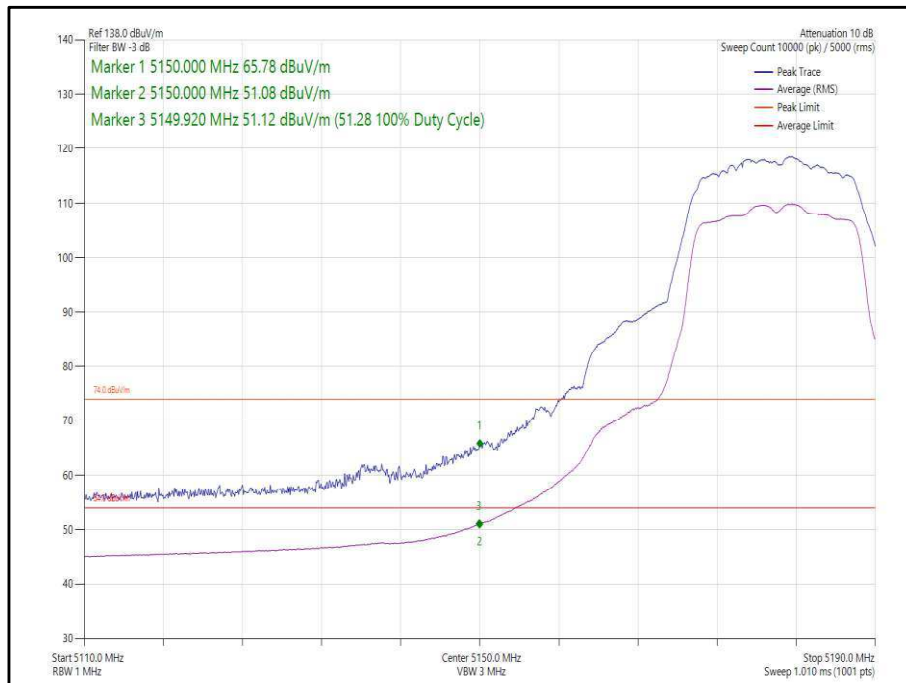
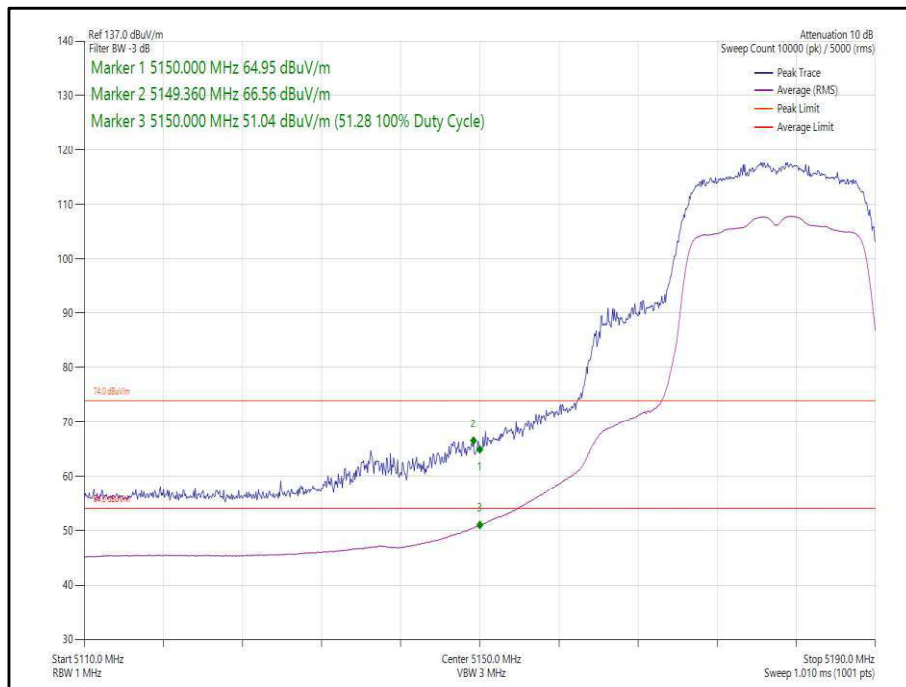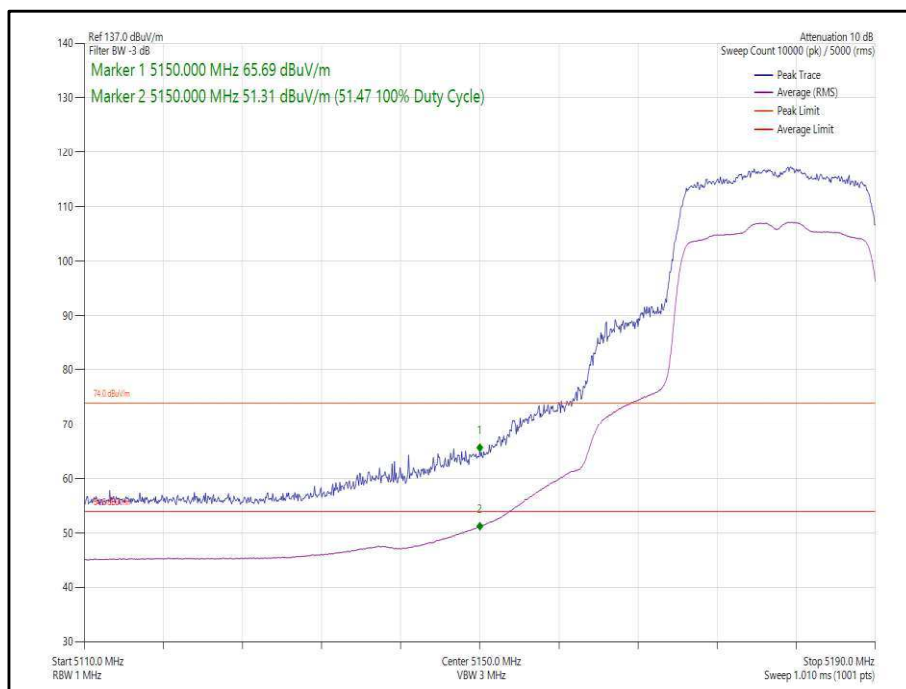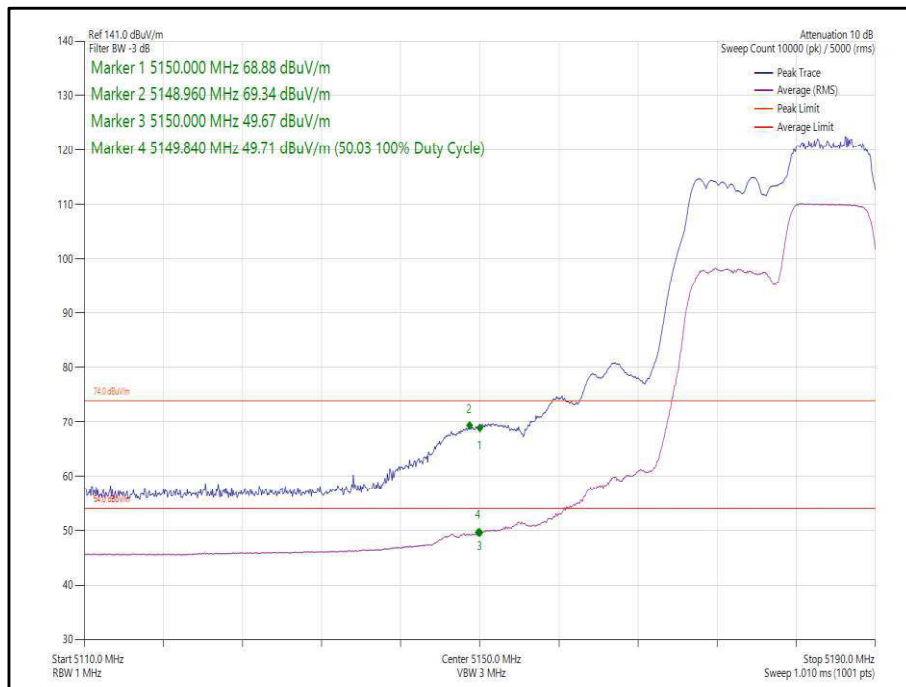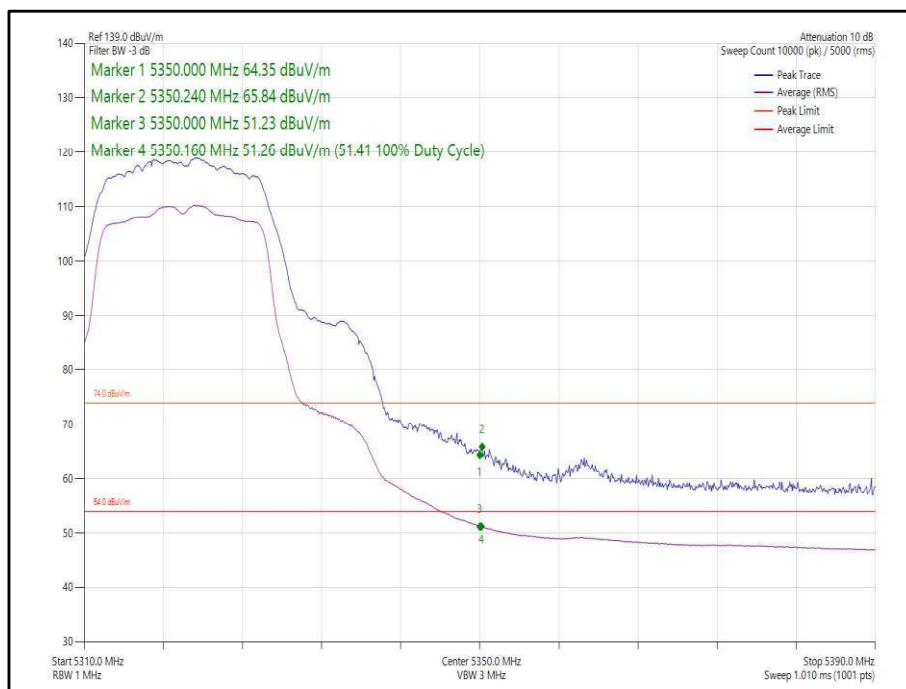**Figure 1 - 802.11a, SISO, Core 0 - 5180 MHz,
Band Edge Frequency 5150 MHz**
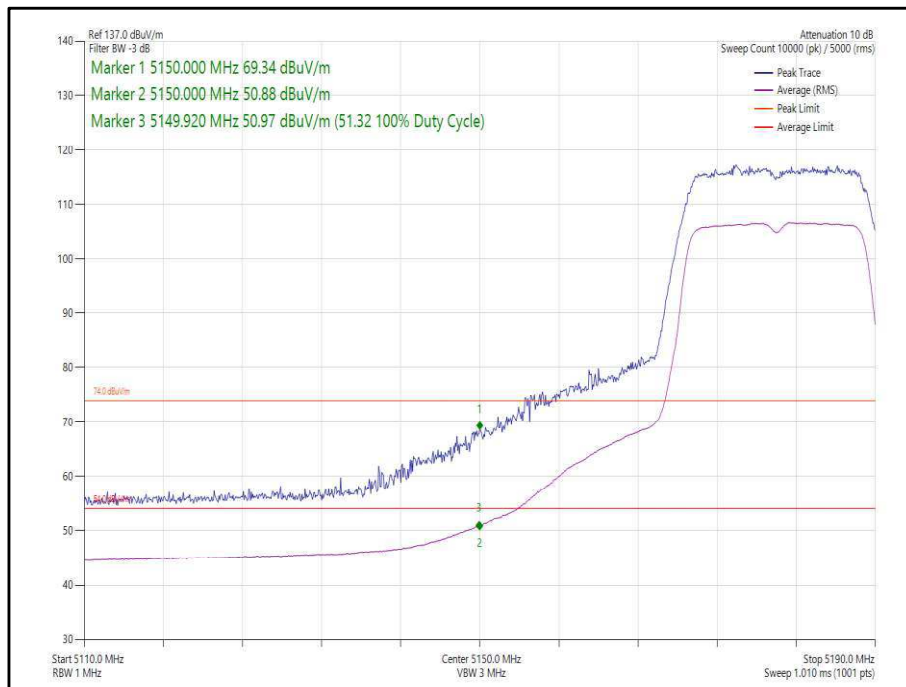
**Figure 2 - 802.11n, HT20, SISO, Core 0 - 5180 MHz,
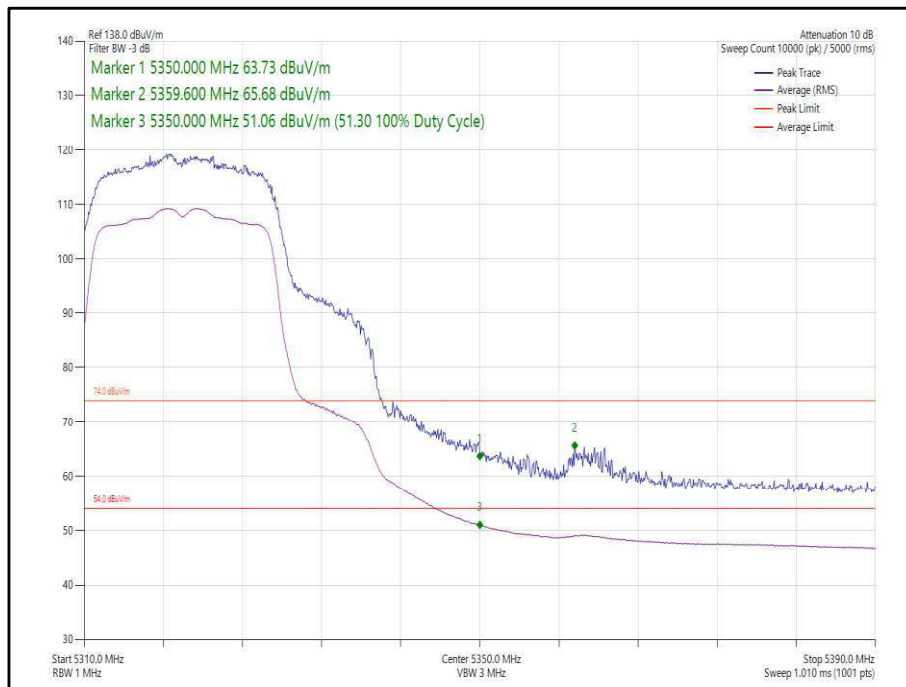Band Edge Frequency 5150 MHz**
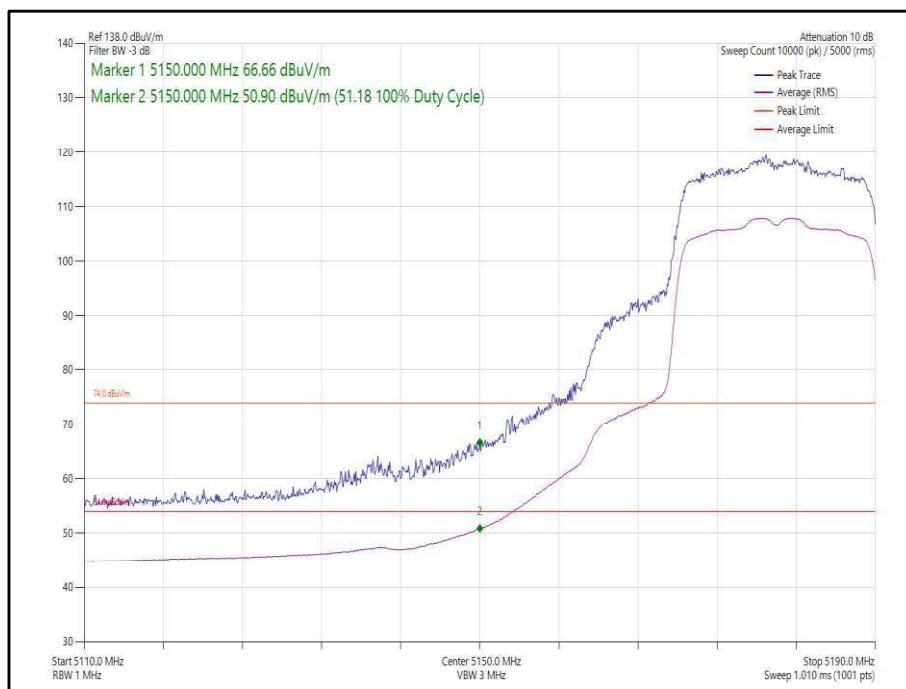
**Figure 3 - 802.11ax, HE20, SU, SISO, Core 0 - 5180 MHz,
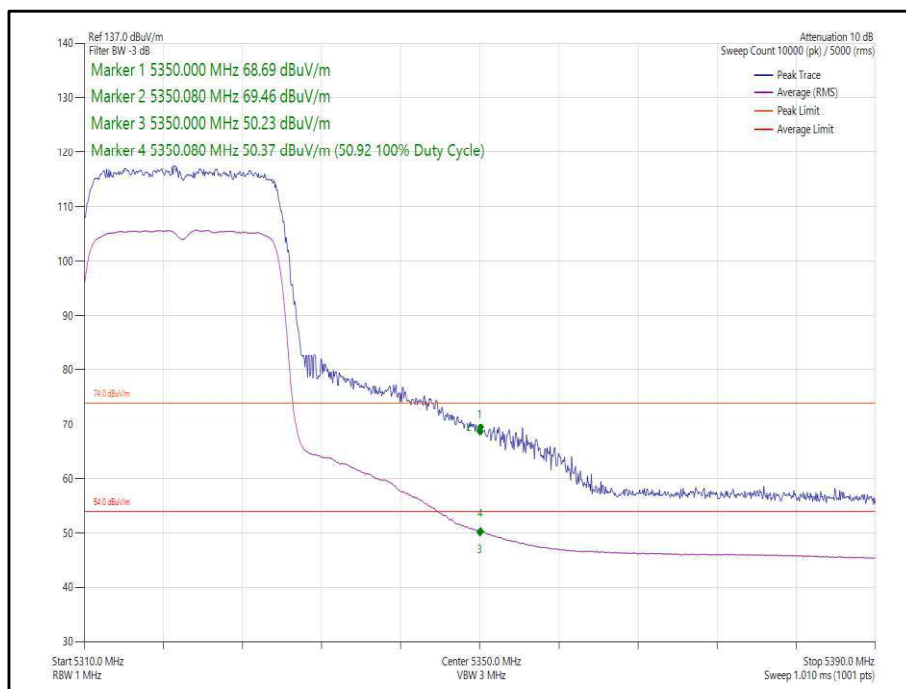Band Edge Frequency 5150 MHz**
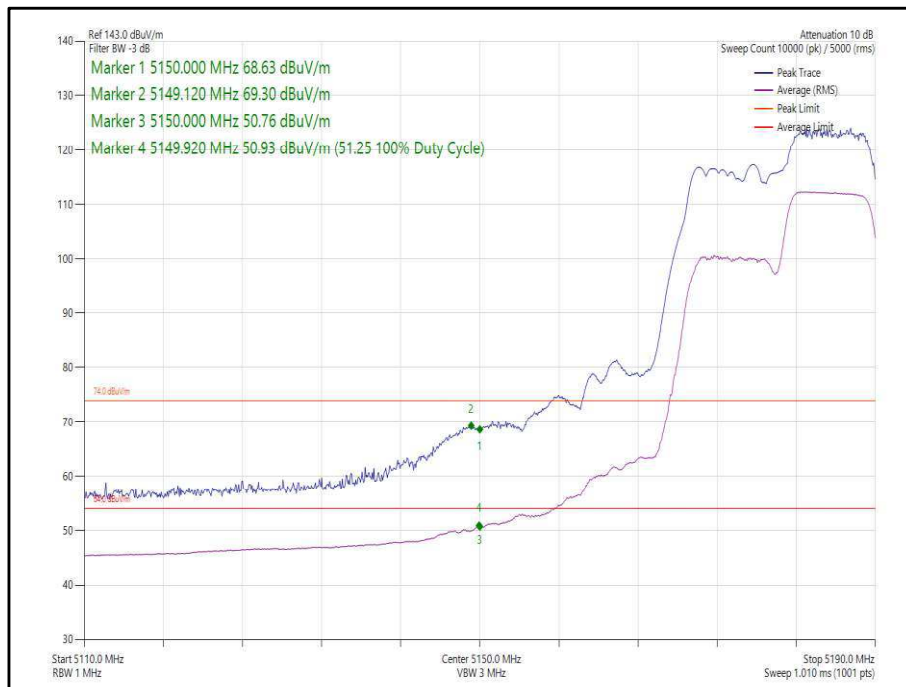
**Figure 4 - 802.11ax, HE20, RU 106-54, SISO, Core 0 - 5180 MHz,
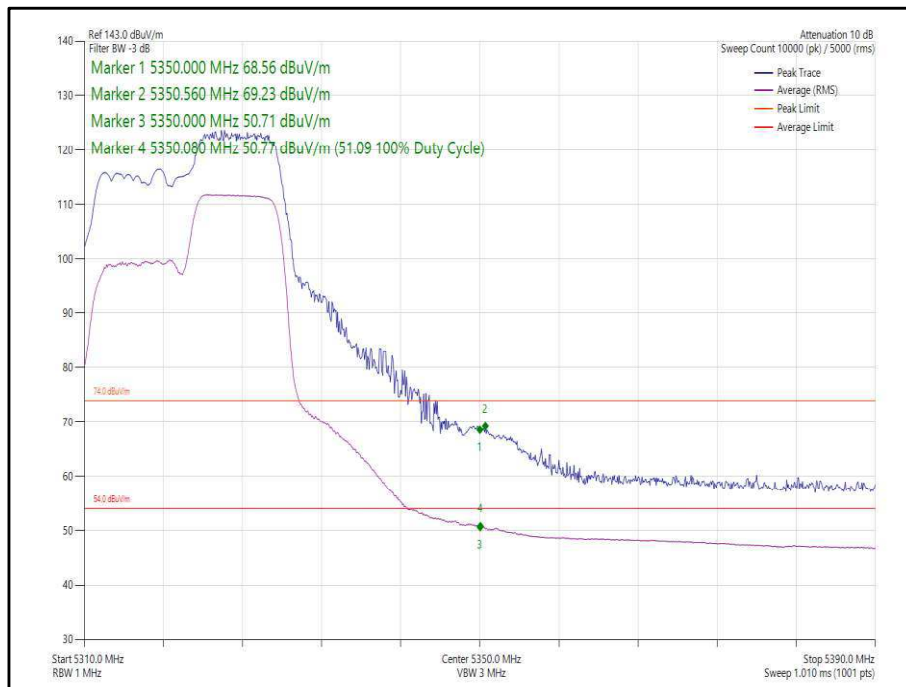Band Edge Frequency 5150 MHz**
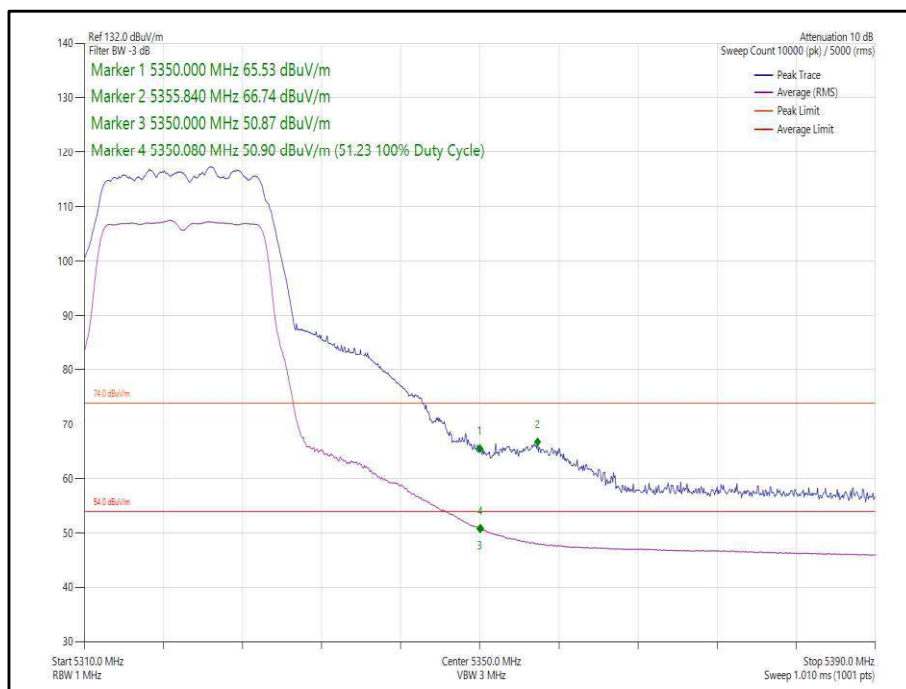
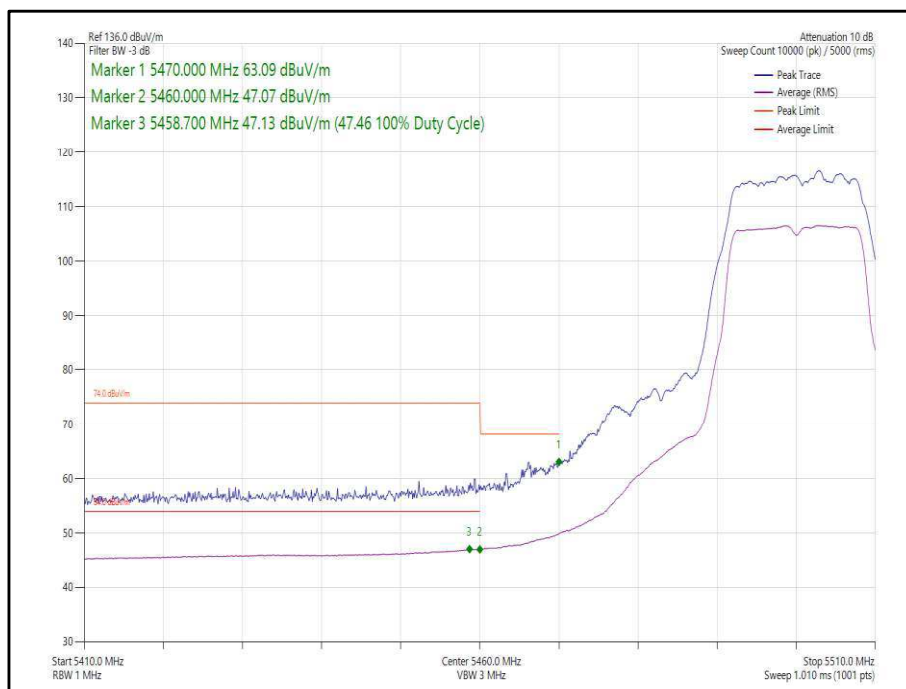**Figure 5 - 802.11a, SISO, Core 0 - 5320 MHz,
Band Edge Frequency 5350 MHz**
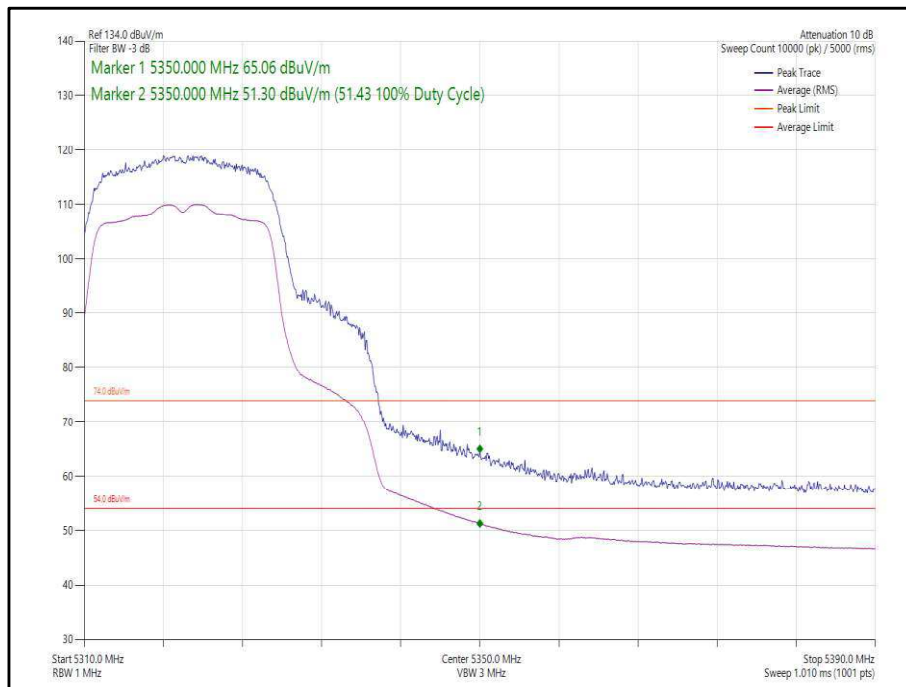
Figure 6 - 802.11n, HT20, SISO, Core 0 - 5320 MHz,
Band Edge Frequency 5350 MHz
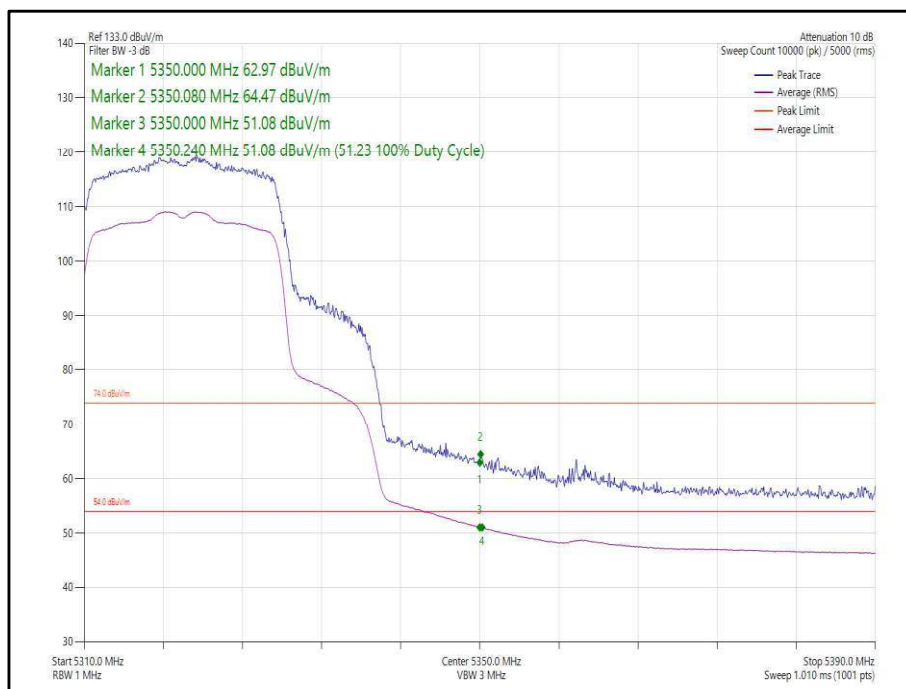
Figure 7 - 802.11ax, HE20, SU, SISO, Core 0 - 5320 MHz,
Band Edge Frequency 5350 MHz
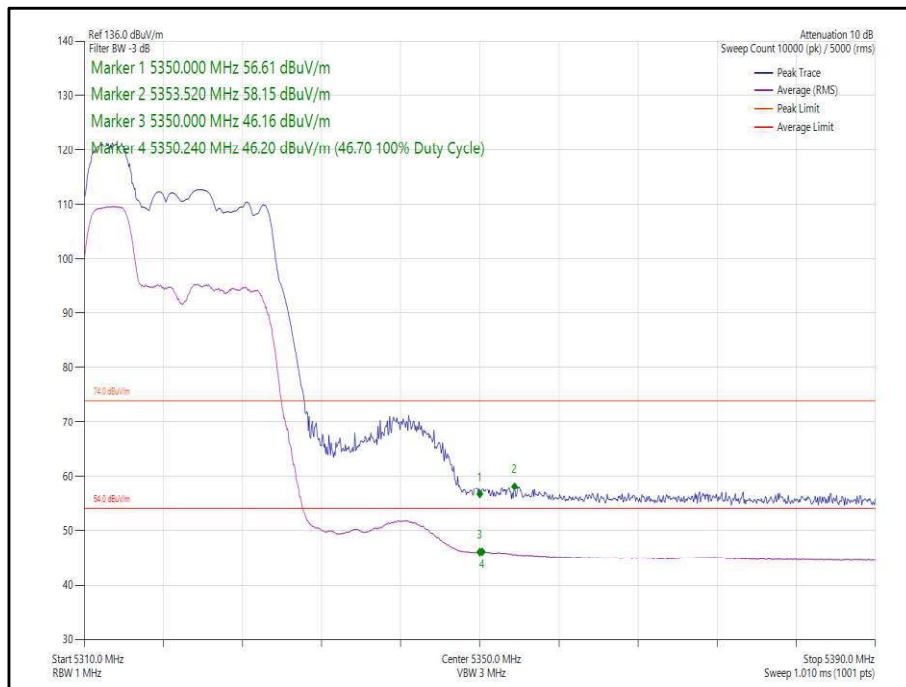
**Figure 8 - 802.11ax, HE20, RU 52-37, SISO, Core 0 - 5320 MHz,
Band Edge Frequency 5350 MHz**
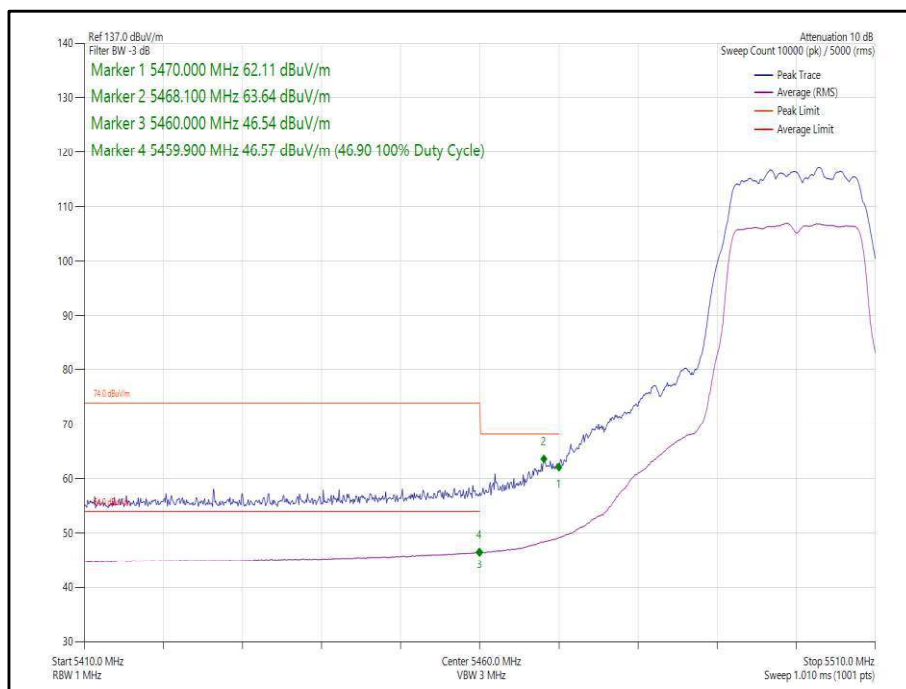
**Figure 9 - 802.11a, SISO, Core 0 - 5500 MHz,
Band Edge Frequency 5460 MHz**
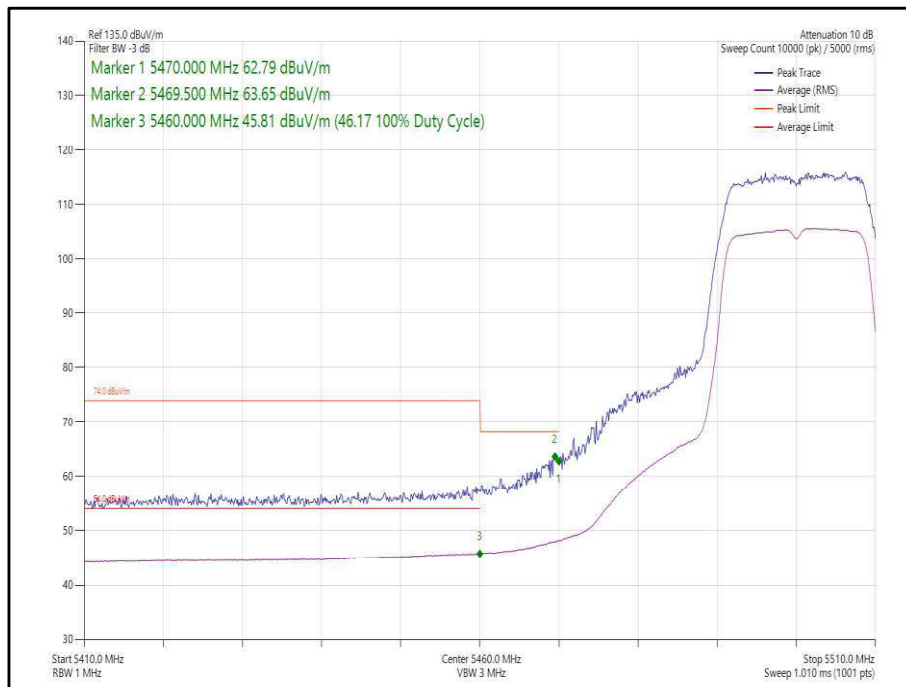
**Figure 10 - 802.11n, HT20, SISO, Core 0 - 5500 MHz,
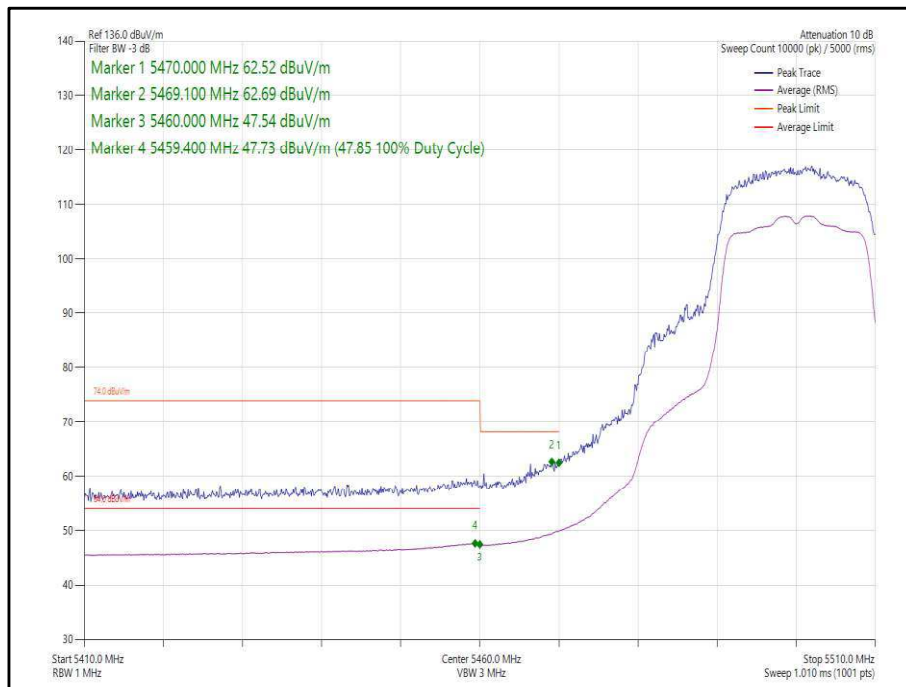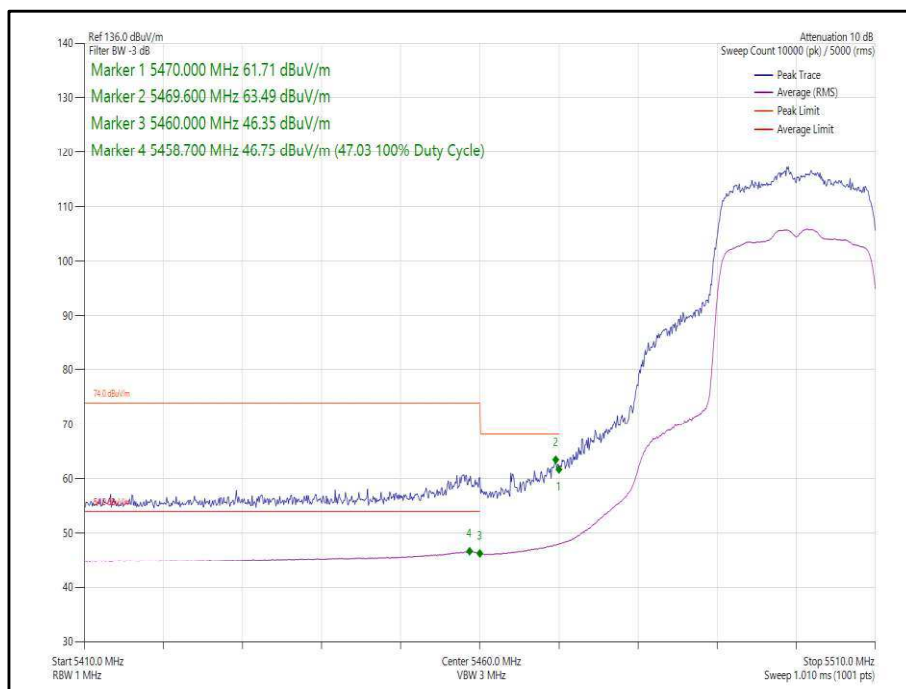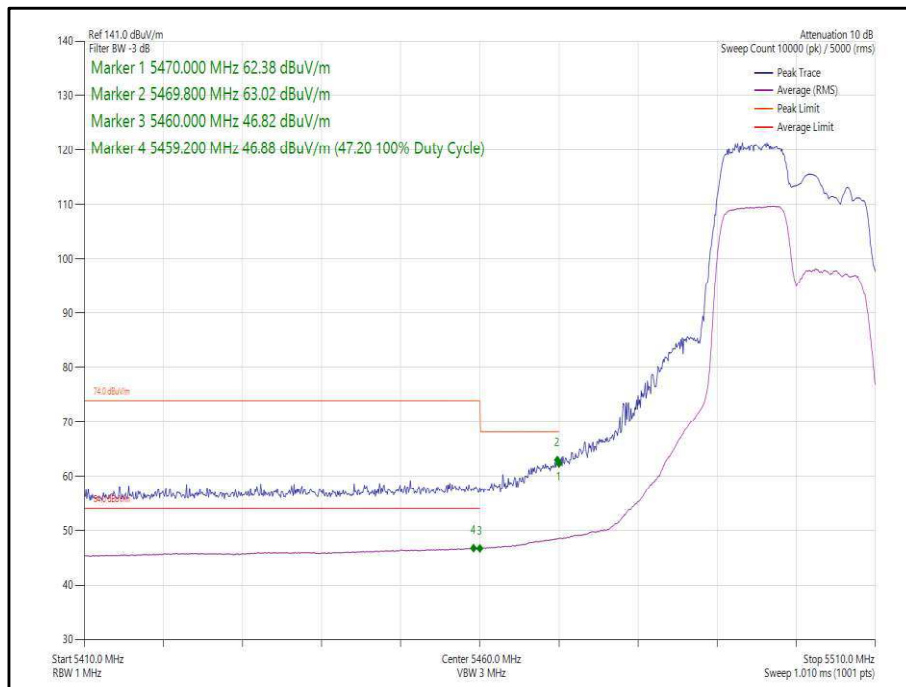Band Edge Frequency 5460 MHz**
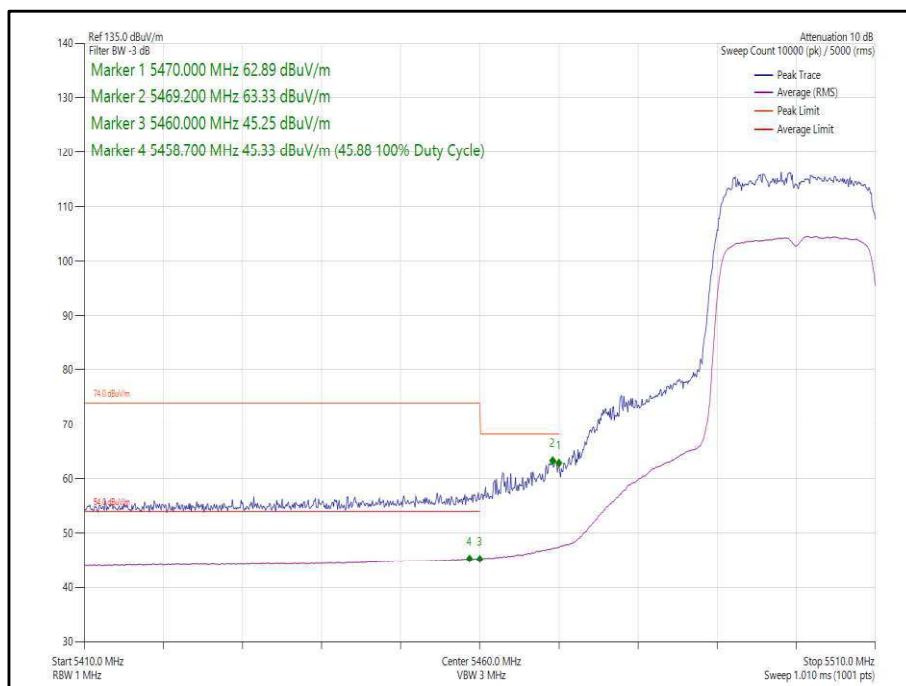
**Figure 11 - 802.11ax, HE20, SU, SISO, Core 0 - 5500 MHz,
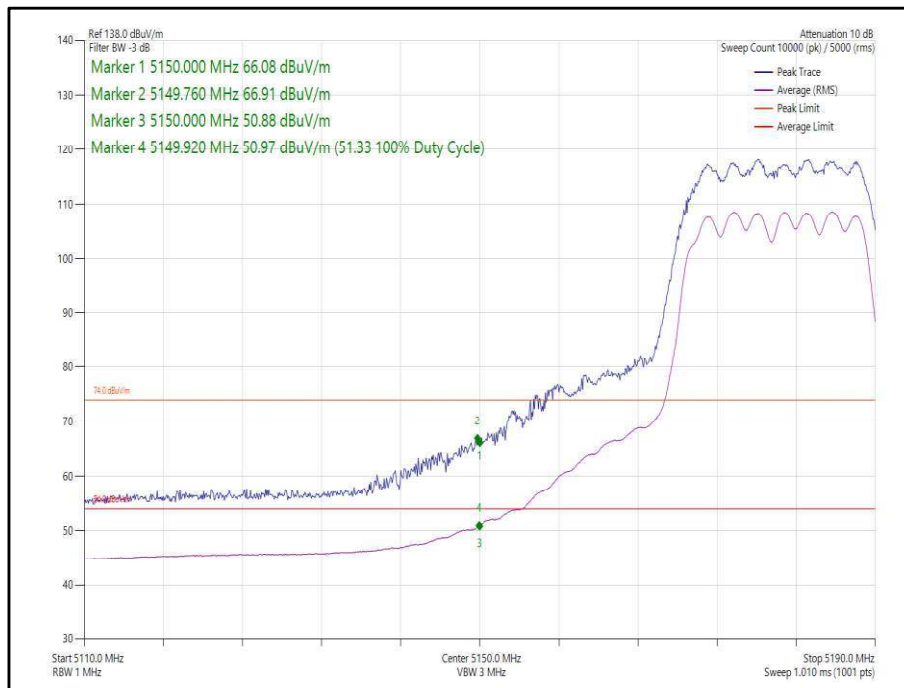Band Edge Frequency 5460 MHz**
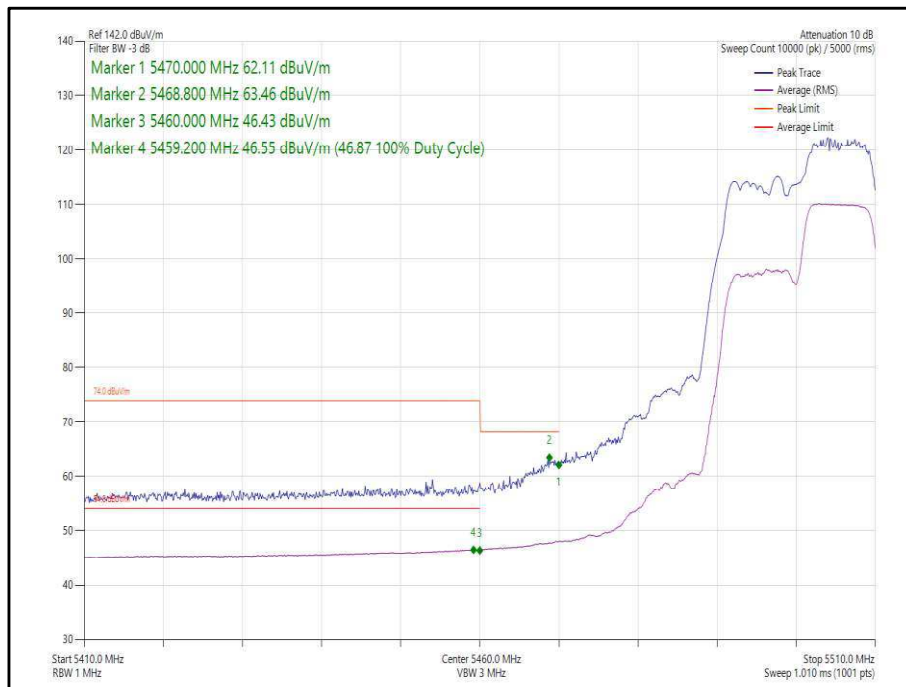
**Figure 12 - 802.11ax, HE20, RU 106-54, SISO, Core 0 - 5500 MHz,
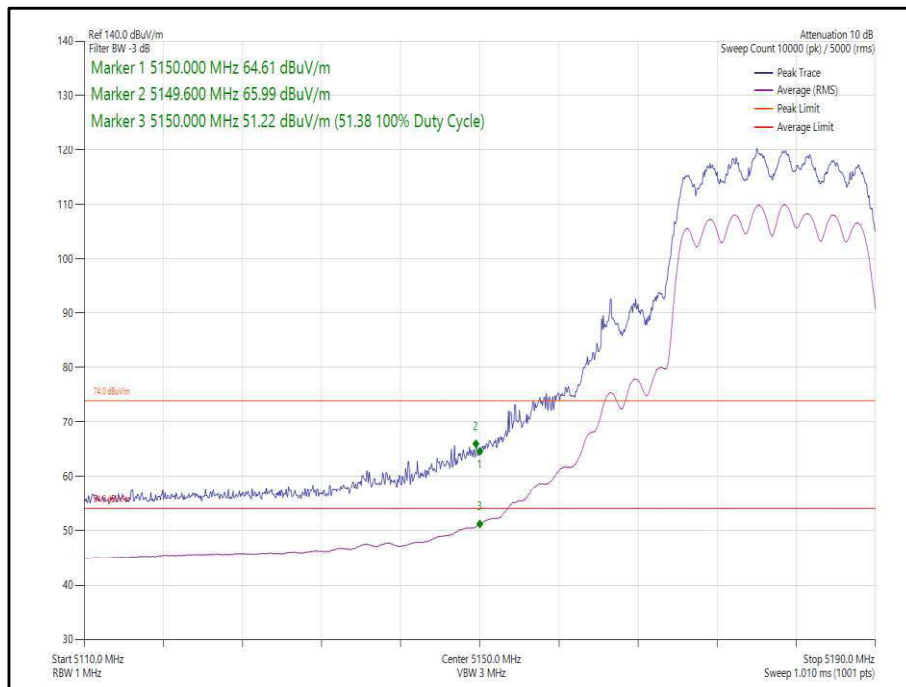Band Edge Frequency 5460 MHz**

20 MHz Bandwidth - Core 1 (SISO)

Mode	Data Rate/ MCS	Resource Size	Resource Index	TX Frequency (MHz)	Band Edge Frequency (MHz)	Peak Level (dBµV/m)	Average Level (dBuV/m)
802.11a	24 Mbps	-	-	5180	5150	66.77	51.22
802.11n, HT20	MCS4	-	-	5180	5150	66.56	51.28
802.11ax, HE20	MCS2x1	SU	-	5180	5150	65.69	51.47
802.11ax, HE20	MCS11x1	106	54	5180	5150	69.34	50.03
802.11a	24 Mbps	-	-	5320	5350	65.84	51.41
802.11n, HT20	MCS4	-	-	5320	5350	65.68	51.30
802.11ax, HE20	MCS11x1	SU	-	5320	5350	69.46	50.92
802.11ax, HE20	MCS11x1	106	54	5320	5350	69.23	51.09
802.11a	54 Mbps	-	-	5500	5460	63.09	47.46
802.11n, HT20	MCS2	-	-	5500	5460	62.69	47.85
802.11ax, HE20	MCS4x1	SU	-	5500	5460	63.49	47.03
802.11ax, HE20	MCS11x1	106	53	5500	5460	63.02	47.20

Table 8 - SISO Restricted Band Edge Results
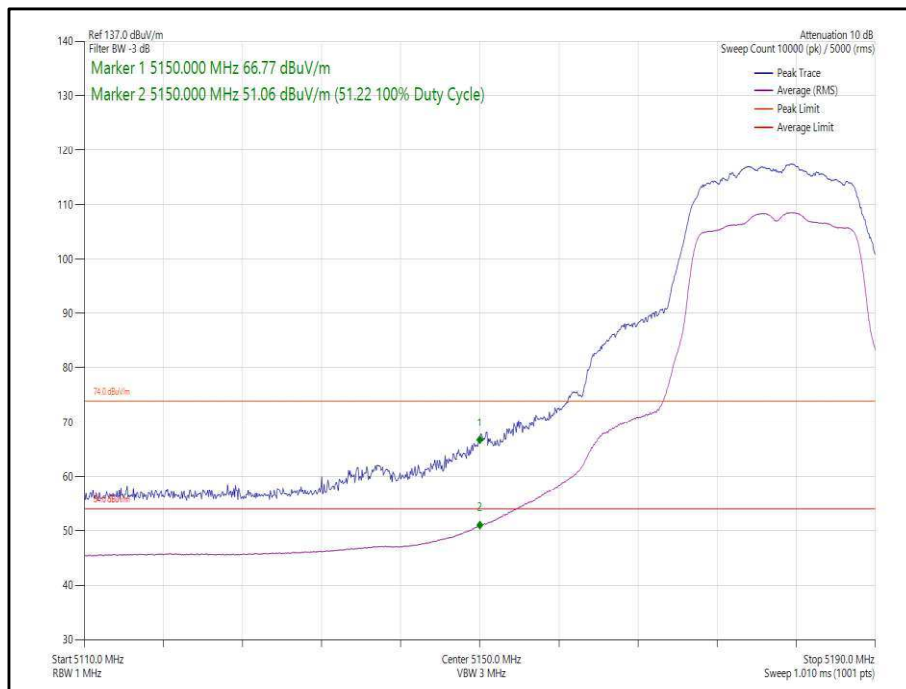
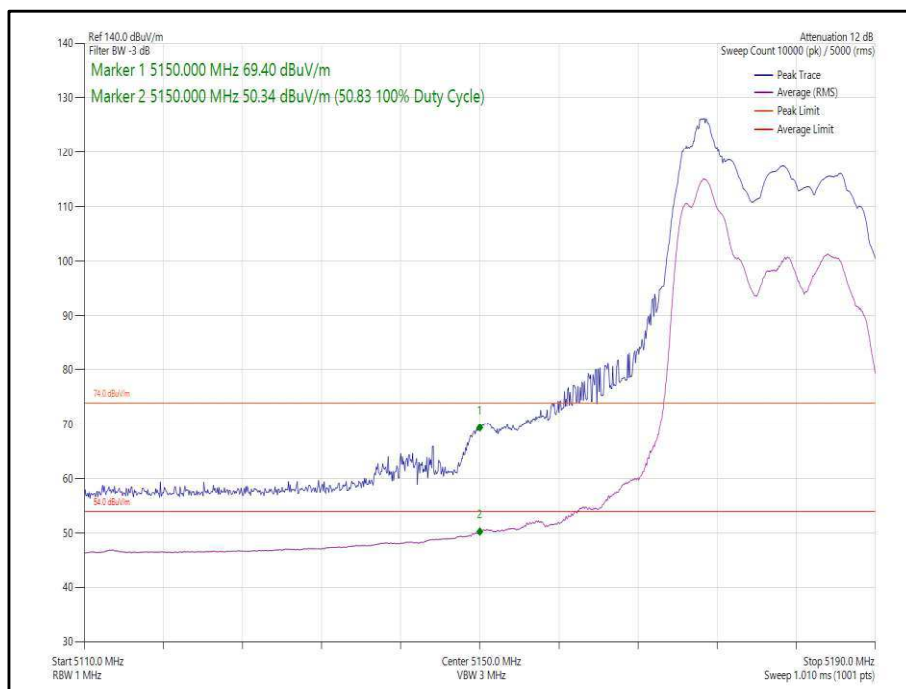**Figure 13 - 802.11a, SISO, Core 1 - 5180 MHz,
Band Edge Frequency 5150 MHz**

**Figure 14 - 802.11n, HT20, SISO, Core 1 - 5180 MHz,
Band Edge Frequency 5150 MHz**


**Figure 15 - 802.11ax, HE20, SU, SISO, Core 1 - 5180 MHz,
Band Edge Frequency 5150 MHz**

Figure 16 - 802.11ax, HE20, RU 106-54, SISO, Core 1 - 5180 MHz, Band Edge Frequency 5150 MHz

Figure 17 - 802.11a, SISO, Core 1 - 5320 MHz, Band Edge Frequency 5350 MHz

**Figure 18 - 802.11n, HT20, SISO, Core 1 - 5320 MHz,
Band Edge Frequency 5350 MHz**

**Figure 19 - 802.11ax, HE20, SU, SISO, Core 1 - 5320 MHz,
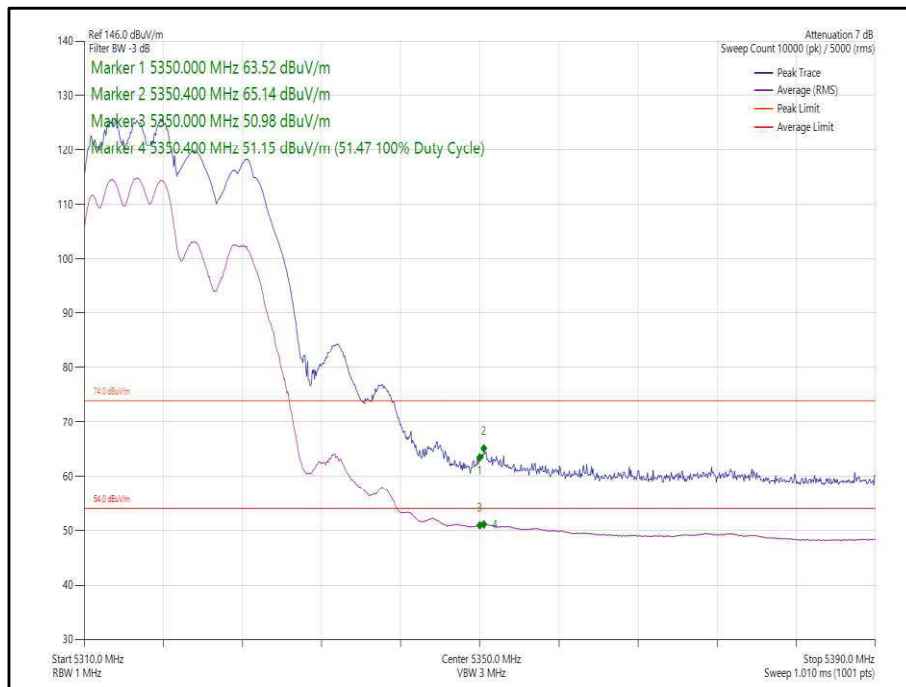Band Edge Frequency 5350 MHz**

**Figure 20 - 802.11ax, HE20, RU 106-54, SISO, Core 1 - 5320 MHz,
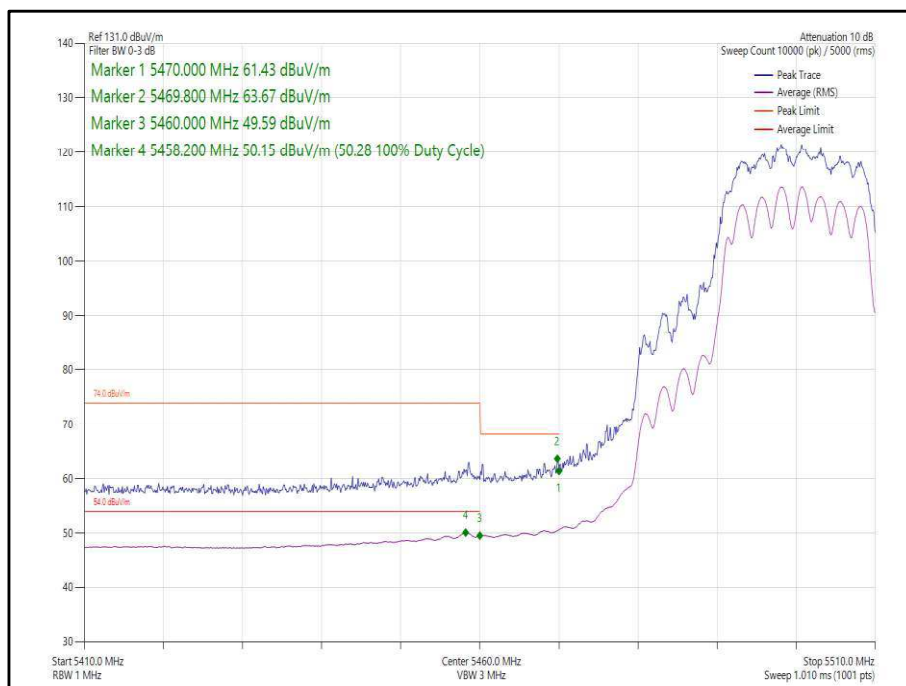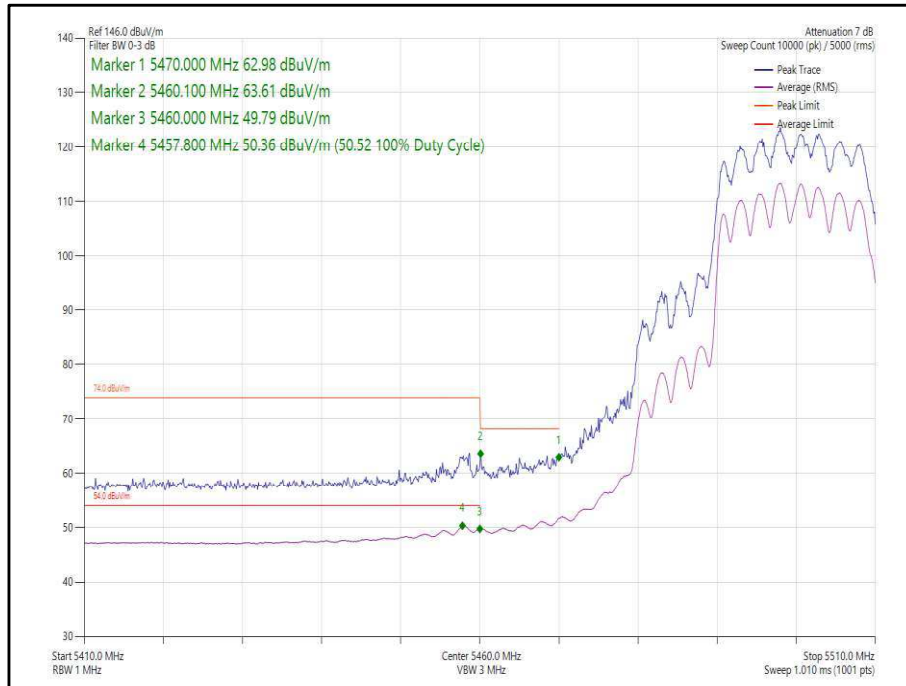Band Edge Frequency 5350 MHz**

**Figure 21 - 802.11a, SISO, Core 1 - 5500 MHz,
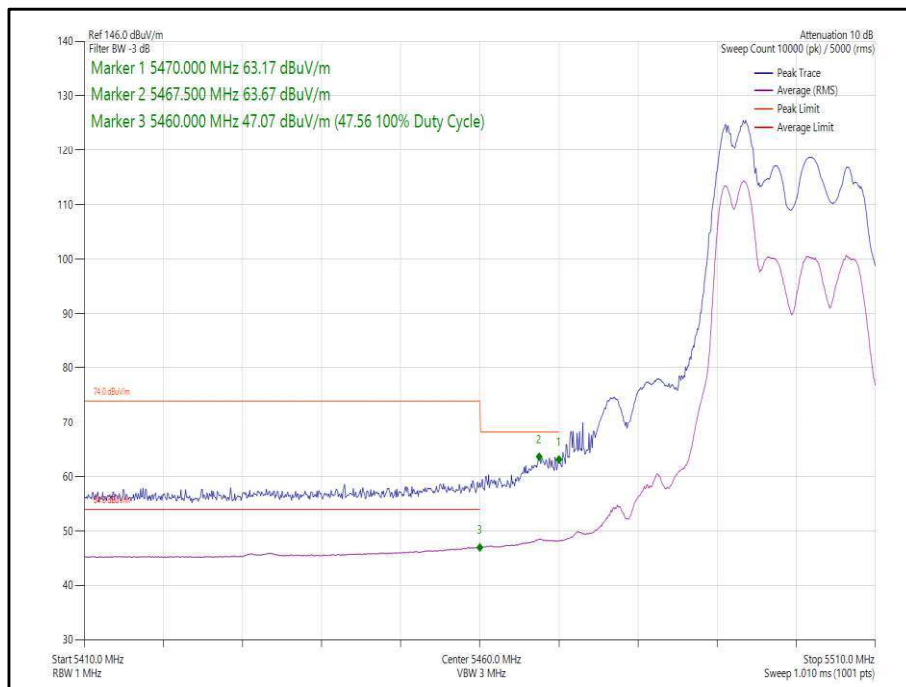Band Edge Frequency 5460 MHz**

Figure 22 - 802.11n, HT20, SISO, Core 1 - 5500 MHz, Band Edge Frequency 5460 MHz

Figure 23 - 802.11ax, HE20, SU, SISO, Core 1 - 5500 MHz, Band Edge Frequency 5460 MHz

**Figure 24 - 802.11ax, HE20, RU 106-53, SISO, Core 1 - 5500 MHz,
Band Edge Frequency 5460 MHz**

20 MHz Bandwidth - Core 0-1 (CDD)

Mode	Data Rate/ MCS	Resource Size	Resource Index	TX Frequency (MHz)	Band Edge Frequency (MHz)	Peak Level (dBμV/m)	Average Level (dBuV/m)
802.11n, HT20	MCS7	-	-	5180	5150	66.91	51.33
802.11ax, HE20	MCS2x1	SU	-	5180	5150	65.99	51.38
802.11ax, HE20	MCS11x1	52	37	5180	5150	69.40	50.83
802.11n, HT20	MCS4	-	-	5320	5350	67.94	51.37
802.11ax, HE20	MCS4x1	SU	-	5320	5350	65.96	51.40
802.11ax, HE20	MCS11x1	106	53	5320	5350	65.14	51.47
802.11n, HT20	MCS2	-	-	5500	5460	63.67	50.28
802.11ax, HE20	MCS2x1	SU	-	5500	5460	63.61	50.52
802.11ax, HE20	MCS11x1	52	37	5500	5460	63.67	47.56

**Table 9 - CDD Restricted Band Edge Results**

Figure 25 - 802.11n, HT20, CDD, Core 0-1 - 5180 MHz, Band Edge Frequency 5150 MHz

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

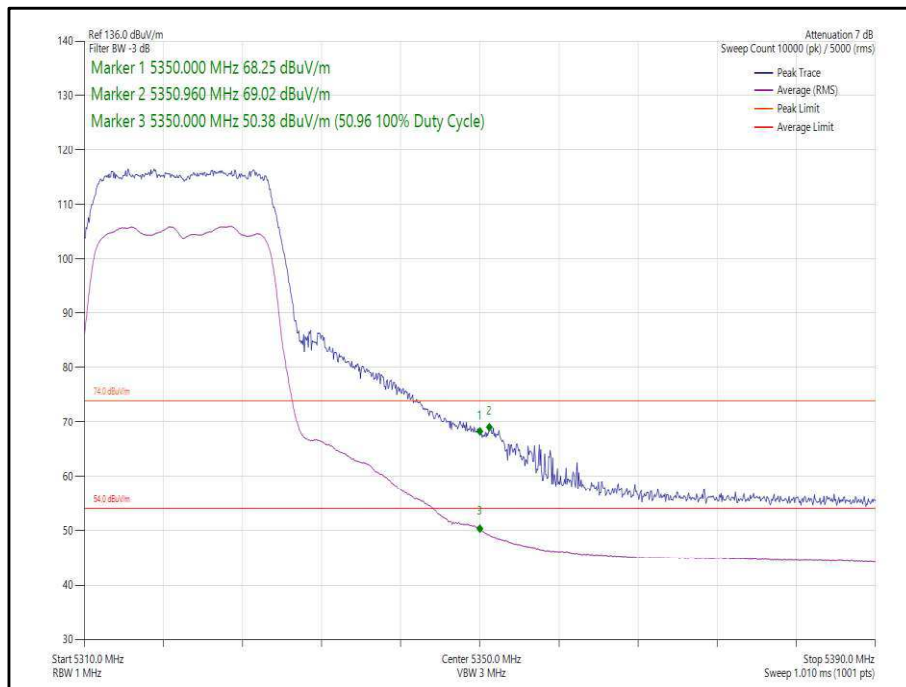**Figure 27 - 802.11ax, HE20, RU 52-37, CDD, Core 0-1 - 5180 MHz, Band Edge Frequency 5150 MHz**
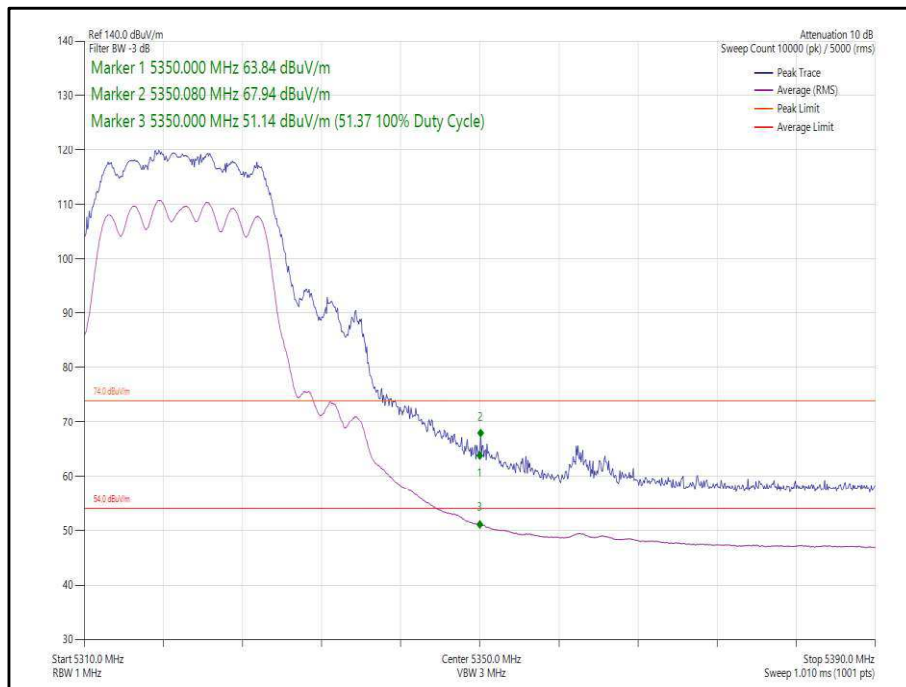
**Figure 28 - 802.11n, HT20, CDD, Core 0-1 - 5320 MHz,
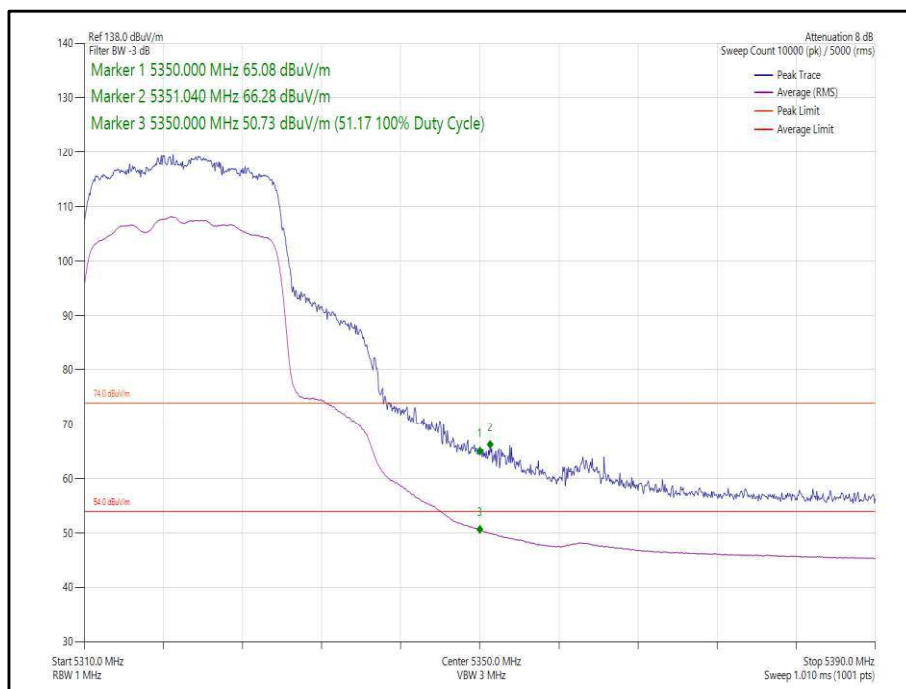Band Edge Frequency 5350 MHz**
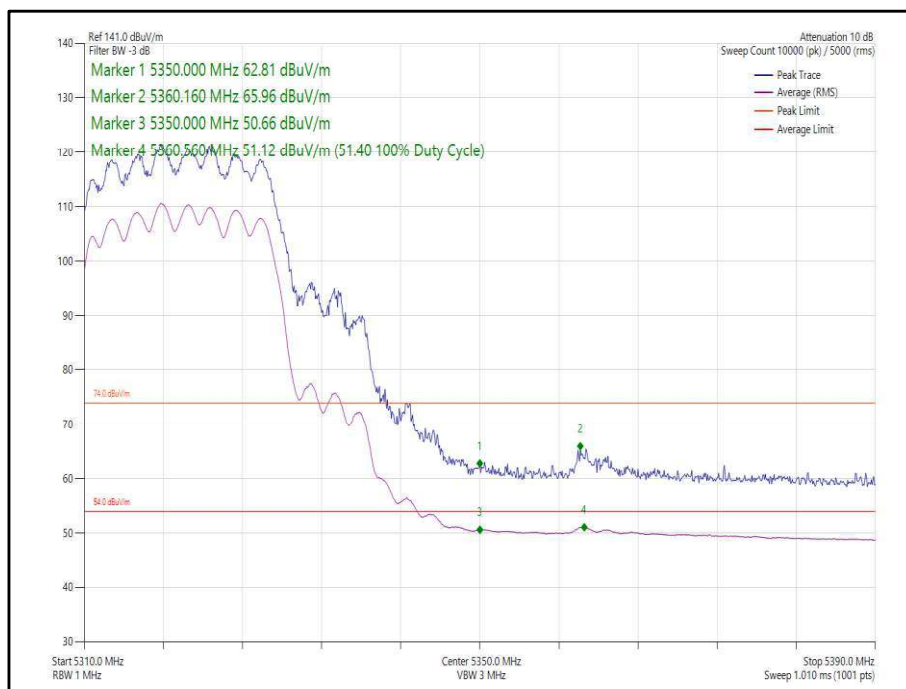
**Figure 29 - 802.11ax, HE20, SU, CDD, Core 0-1 - 5320 MHz,
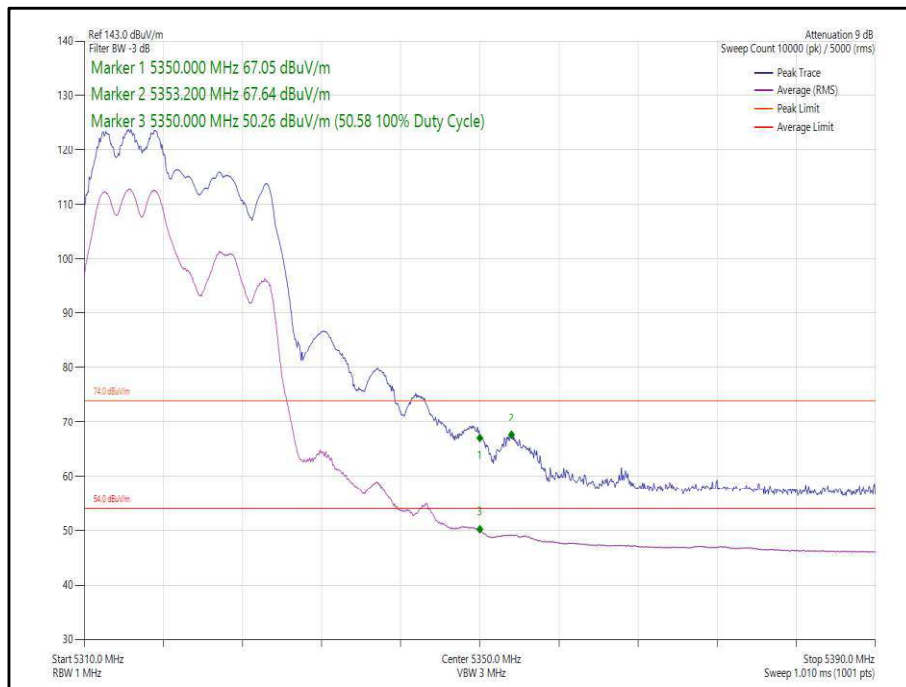Band Edge Frequency 5350 MHz**

**Figure 30 - 802.11ax, HE20, RU 106-53, CDD, Core 0-1 - 5320 MHz,
Band Edge Frequency 5350 MHz**

**Figure 31 - 802.11n, HT20, CDD, Core 0-1 - 5500 MHz,
Band Edge Frequency 5460 MHz**

**Figure 32 - 802.11ax, HE20, SU, CDD, Core 0-1 - 5500 MHz,
Band Edge Frequency 5460 MHz**

**Figure 33 - 802.11ax, HE20, RU 52-37, CDD, Core 0-1 - 5500 MHz,
Band Edge Frequency 5460 MHz**

20 MHz Bandwidth - Core 0-1 (SDM)

Mode	Data Rate/ MCS	Resource Size	Resource Index	TX Frequency (MHz)	Band Edge Frequency (MHz)	Peak Level (dBμV/m)	Average Level (dBuV/m)
802.11n, HT20	MCS10	-	-	5180	5150	66.06	51.31
802.11ax, HE20	MCS11x2	SU	-	5180	5150	68.95	51.26
802.11ax, HE20	MCS11x2	106	54	5180	5150	68.52	51.19
802.11n, HT20	MCS15	-	-	5320	5350	69.02	50.96
802.11ax, HE20	MCS4x2	SU	-	5320	5350	66.28	51.17
802.11ax, HE20	MCS11x2	106	53	5320	5350	67.64	50.58
802.11n, HT20	MCS10	-	-	5500	5460	63.55	46.78
802.11ax, HE20	MCS4x2	SU	-	5500	5460	63.52	46.27
802.11ax, HE20	MCS11x2	106	54	5500	5460	63.25	47.34

Table 10 - SDM Restricted Band Edge Results
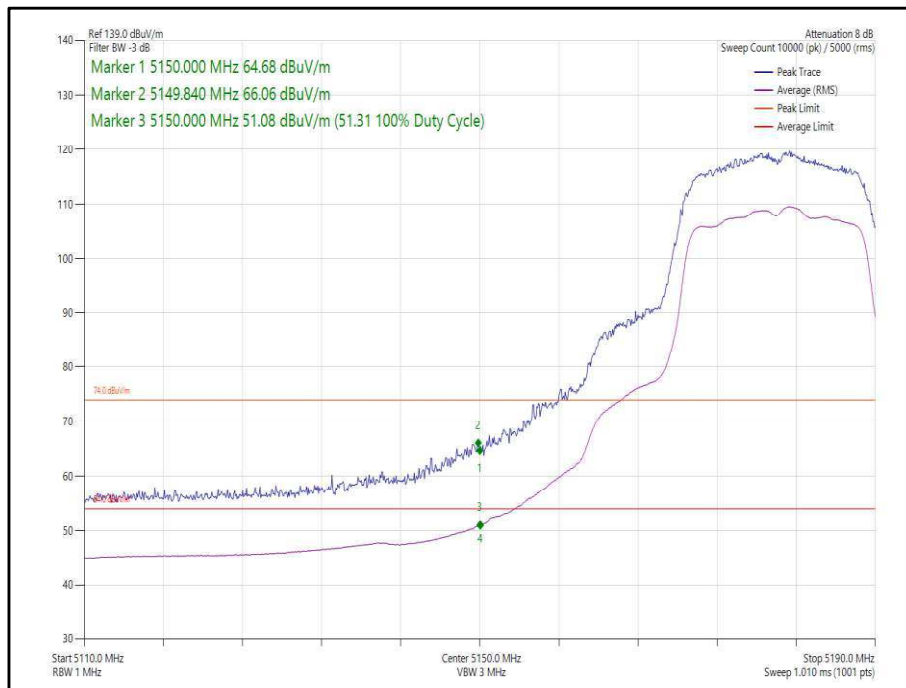
**Figure 34 - 802.11n, HT20, SDM, Core 0-1 - 5180 MHz,
Band Edge Frequency 5150 MHz**
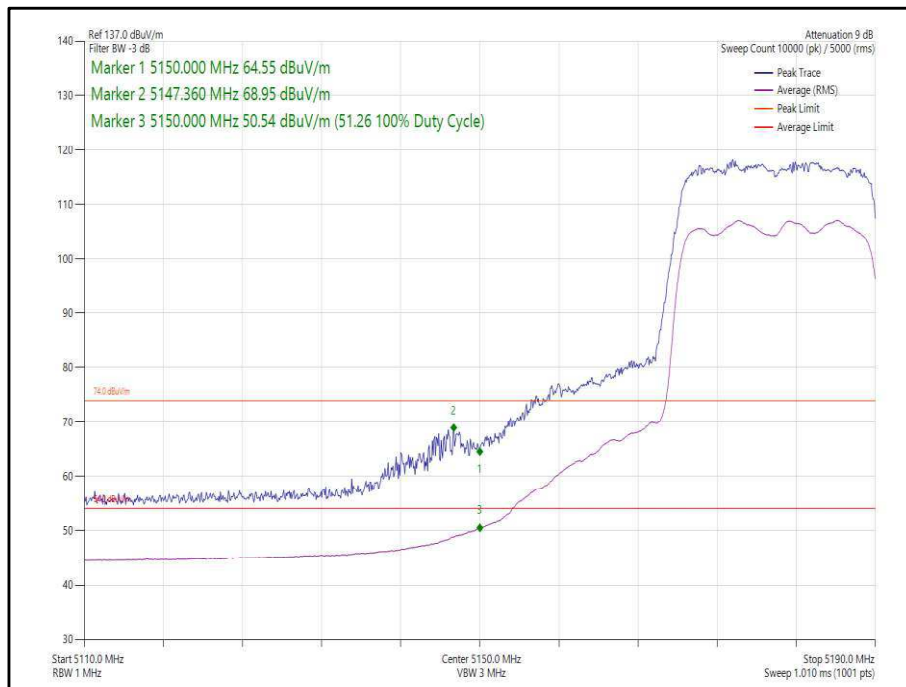
**Figure 35 - 802.11ax, HE20, SU, SDM, Core 0-1 - 5180 MHz,
Band Edge Frequency 5150 MHz**
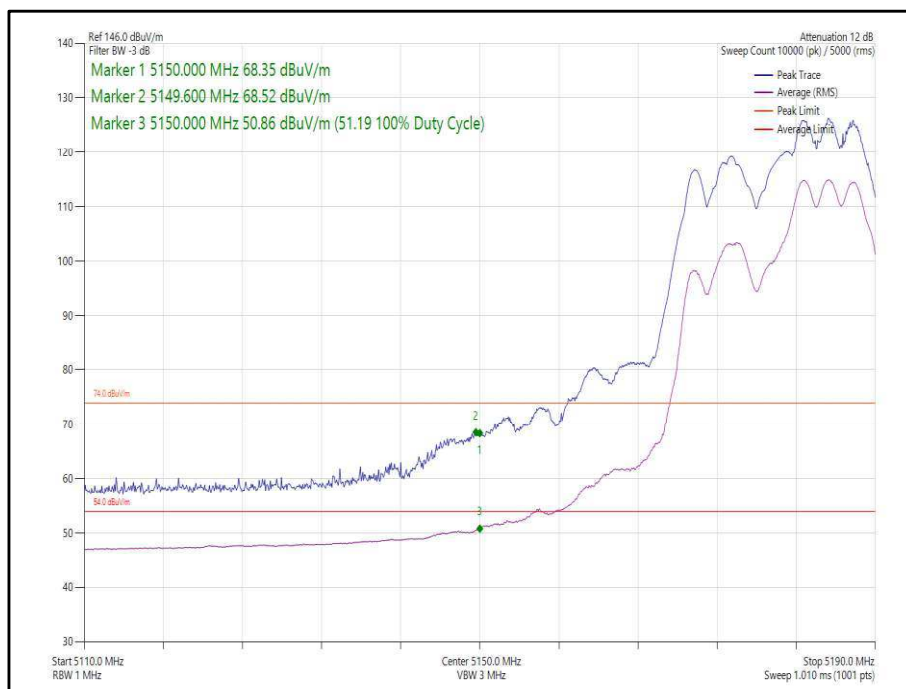
**Figure 36 - 802.11ax, HE20, RU 106-54, SDM, Core 0-1 - 5180 MHz,
Band Edge Frequency 5150 MHz**

**Figure 37 - 802.11n, HT20, SDM, Core 0-1 - 5320 MHz,
Band Edge Frequency 5350 MHz**

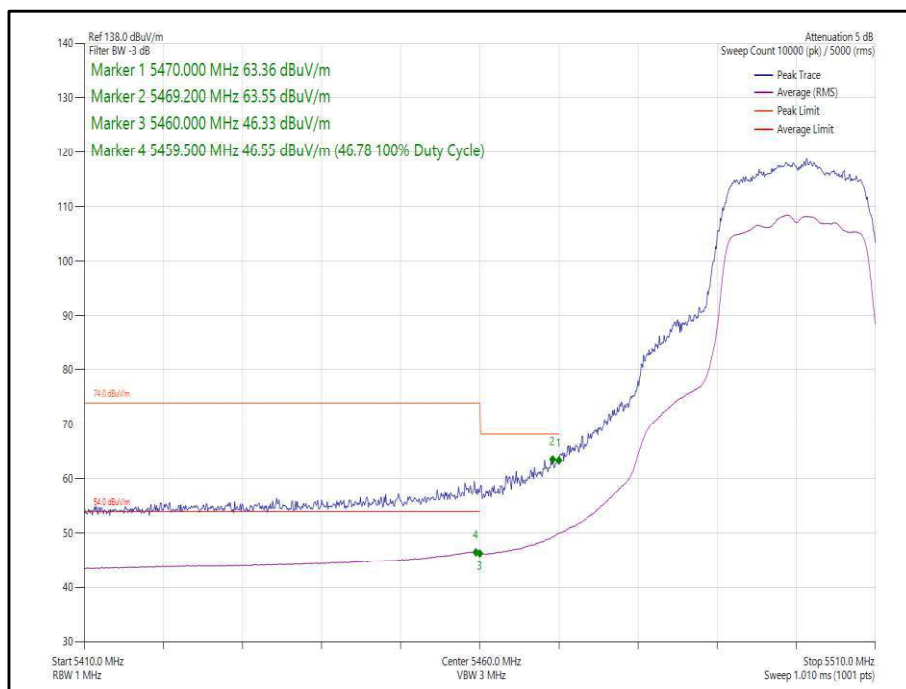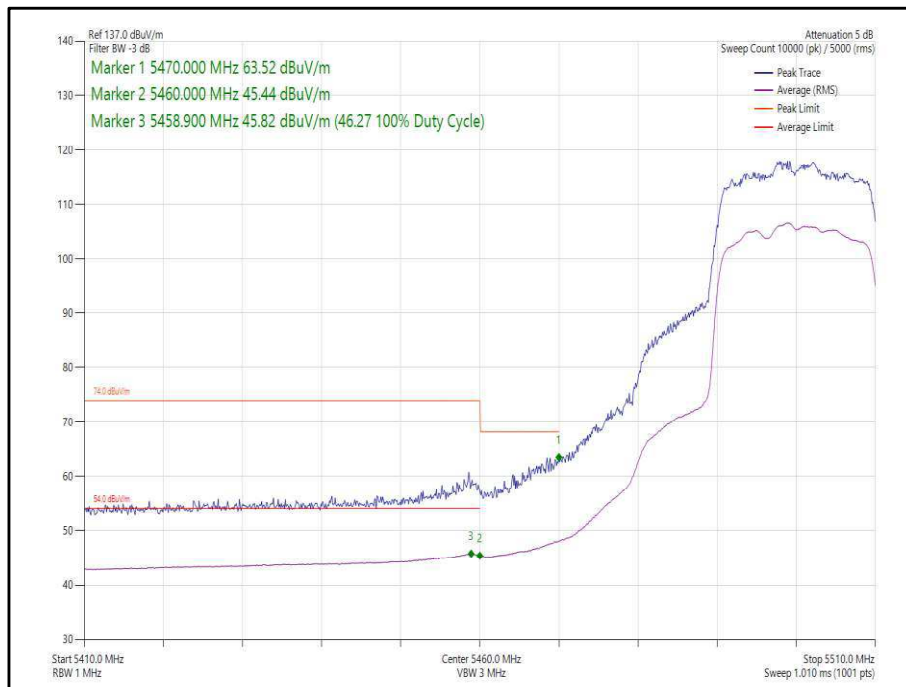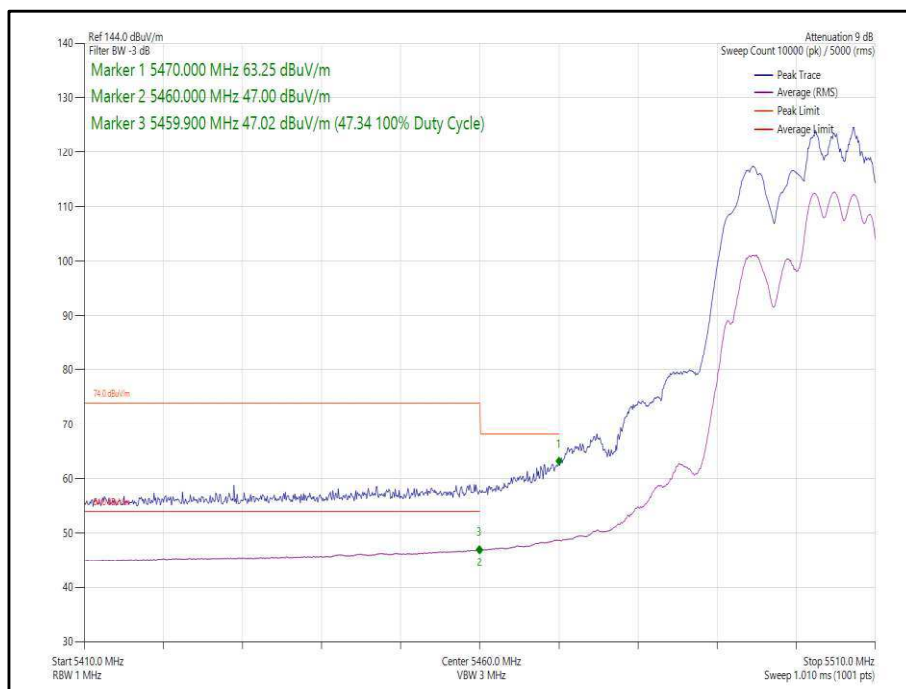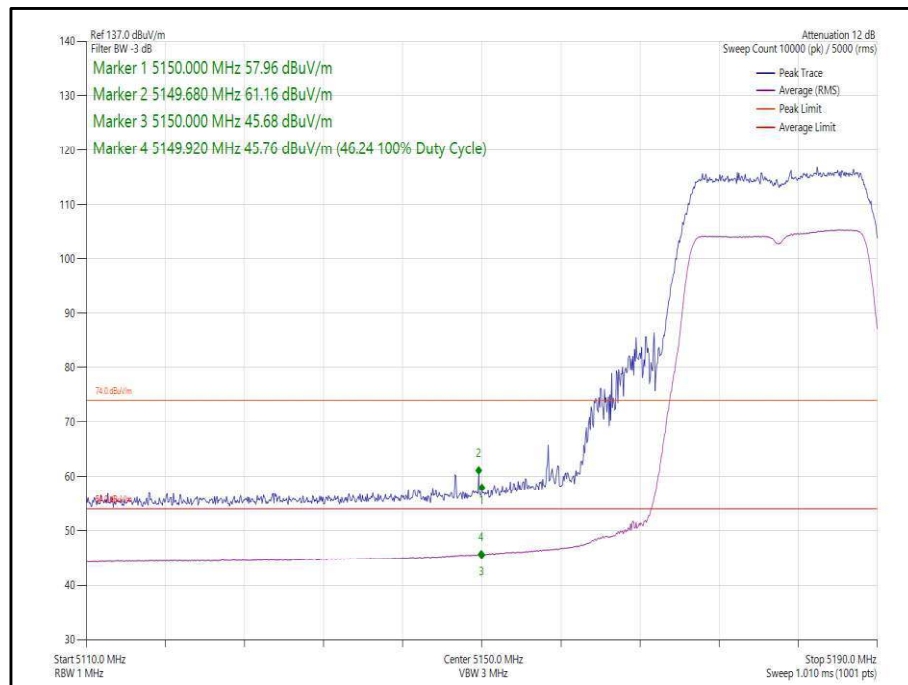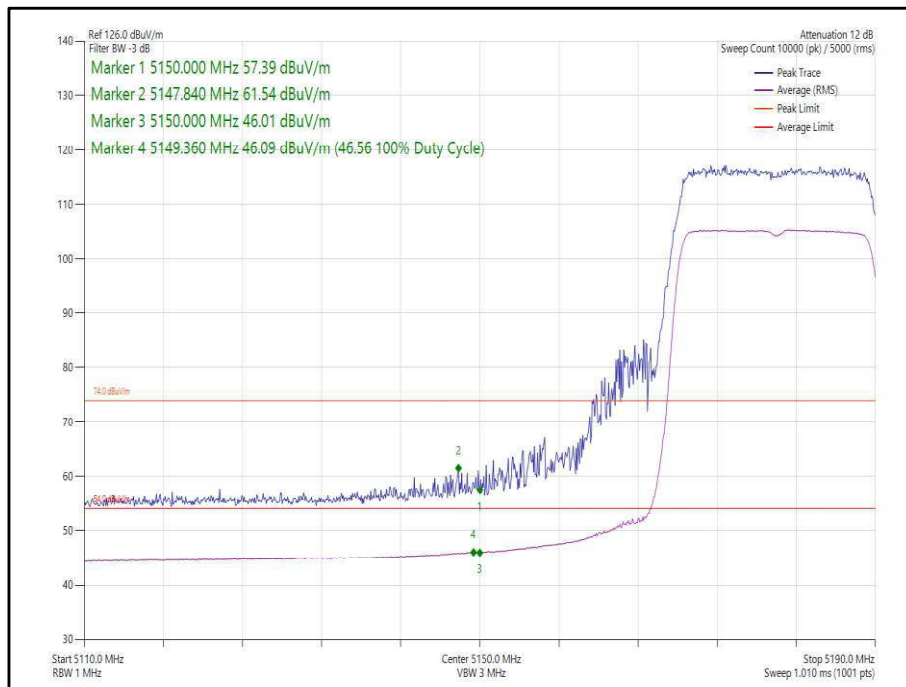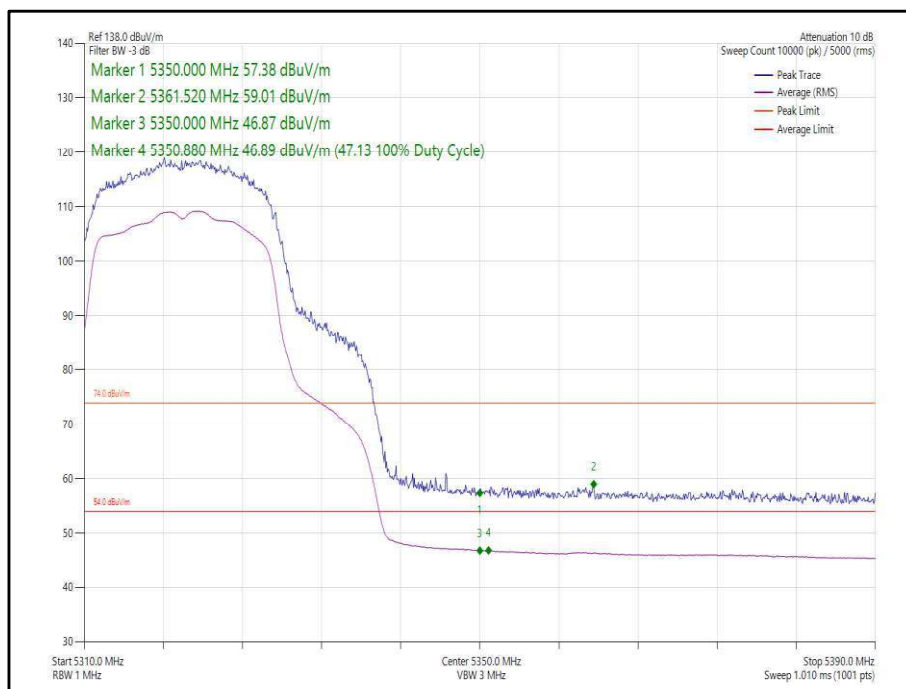**Figure 38 - 802.11ax, HE20, SU, SDM, Core 0-1 - 5320 MHz,
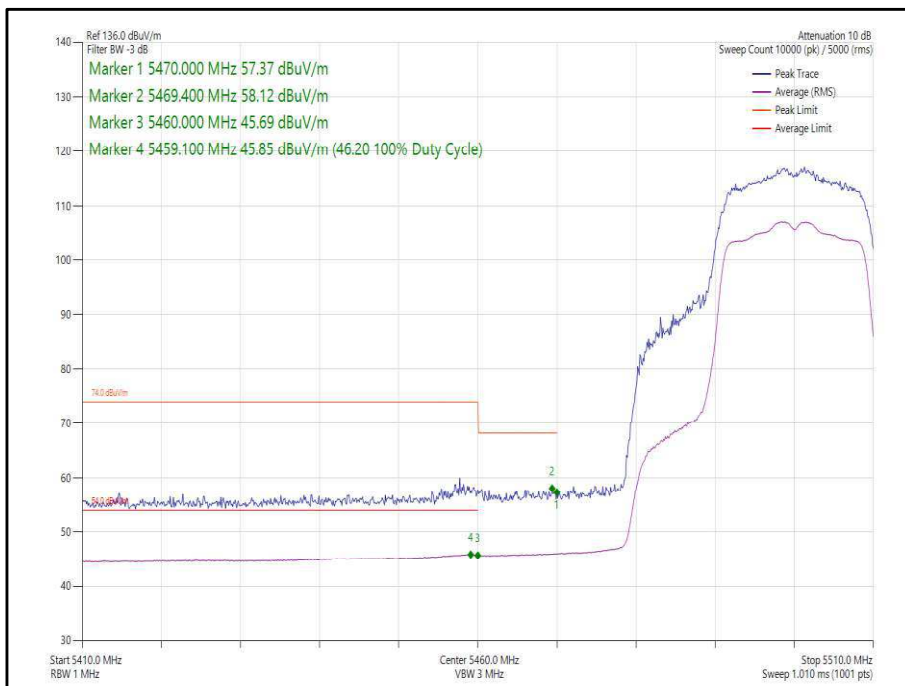Band Edge Frequency 5350 MHz**

**Figure 39 - 802.11ax, HE20, RU 106-53, SDM, Core 0-1 - 5320 MHz,
Band Edge Frequency 5350 MHz**

**Figure 40 - 802.11n, HT20, SDM, Core 0-1 - 5500 MHz,
Band Edge Frequency 5460 MHz**

**Figure 41 - 802.11ax, HE20, SU, SDM, Core 0-1 - 5500 MHz,
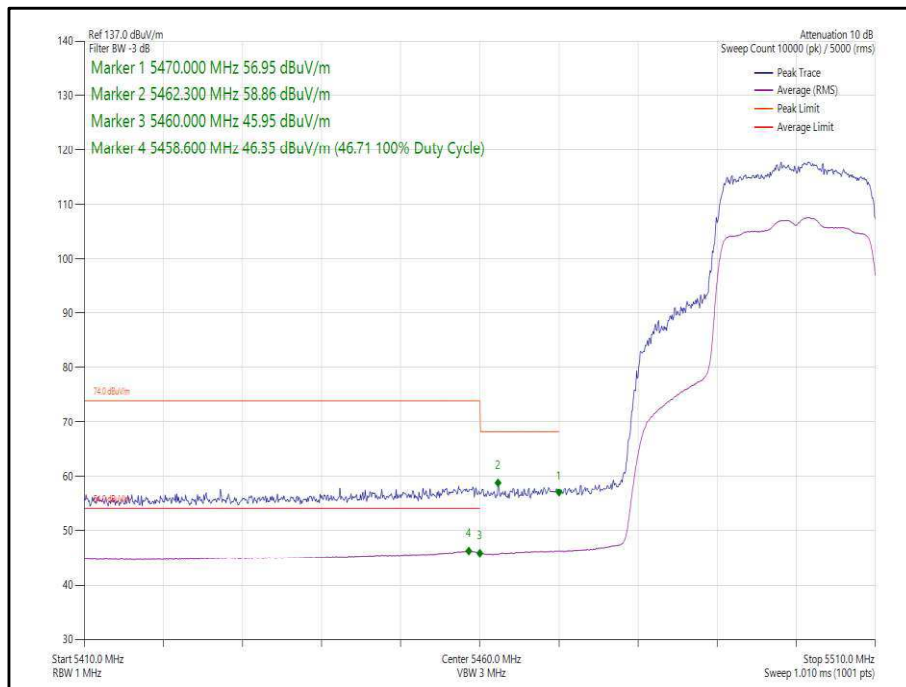Band Edge Frequency 5460 MHz**

**Figure 42 - 802.11ax, HE20, RU 106-54, SDM, Core 0-1 - 5500 MHz,
Band Edge Frequency 5460 MHz**

20 MHz Bandwidth - Core 0-1 (TxBF)

Mode	Data Rate/ MCS	Resource Size	Resource Index	TX Frequency (MHz)	Band Edge Frequency (MHz)	Peak Level (dBμV/m)	Average Level (dBuV/m)
802.11n, HT20	MCS7	-	-	5180	5150	61.16	46.24
802.11ax, HE20	MCS11x1	SU	-	5180	5150	61.54	46.56
802.11n, HT20	MCS2	-	-	5320	5350	59.01	47.13
802.11ax, HE20	MCS11x1	SU	-	5320	5350	58.93	47.16
802.11n, HT20	MCS4	-	-	5500	5460	58.12	46.20
802.11ax, HE20	MCS2x1	SU	-	5500	5460	58.86	46.71

Table 11 - TxBF Restricted Band Edge Results

Figure 43 - 802.11n, HT20, TxBF, Core 0-1 - 5180 MHz,
Band Edge Frequency 5150 MHz

**Figure 44 - 802.11ax, HE20, SU, TxBF, Core 0-1 - 5180 MHz,
Band Edge Frequency 5150 MHz**


**Figure 45 - 802.11n, HT20, TxBF, Core 0-1 - 5320 MHz,
Band Edge Frequency 5350 MHz**

**Figure 46 - 802.11ax, HE20, SU, TxBF, Core 0-1 - 5320 MHz,
Band Edge Frequency 5350 MHz**

**Figure 47 - 802.11n, HT20, TxBF, Core 0-1 - 5500 MHz,
Band Edge Frequency 5460 MHz**

**Figure 48 - 802.11ax, HE20, SU, TxBF, Core 0-1 - 5500 MHz,
Band Edge Frequency 5460 MHz**

40 MHz Bandwidth - Core 0 (SISO)

Mode	Data Rate/ MCS	Resource Size	Resource Index	TX Frequency (MHz)	Band Edge Frequency (MHz)	Peak Level (dBµV/m)	Average Level (dBuV/m)
802.11n, HT40,	MCS7	-	-	5190	5150	69.32	50.69
802.11ax, HE40,	MCS11x1	SU	-	5190	5150	68.89	51.17
802.11ax, HE40,	MCS11x1	106	56	5190	5150	65.62	51.45
802.11n, HT40,	MCS4	-	-	5310	5350	64.18	51.29
802.11ax, HE40,	MCS2x1	SU	-	5310	5350	63.85	50.89
802.11ax, HE40,	MCS11x1	52	44	5310	5350	69.35	47.69
802.11n, HT40,	MCS7	-	-	5510	5460	63.21	48.08
802.11ax, HE40,	MCS4x1	SU	-	5510	5460	63.44	49.52
802.11ax, HE40,	MCS11x1	52	44	5510	5460	63.70	48.38

Table 12 - SISO Restricted Band Edge Results
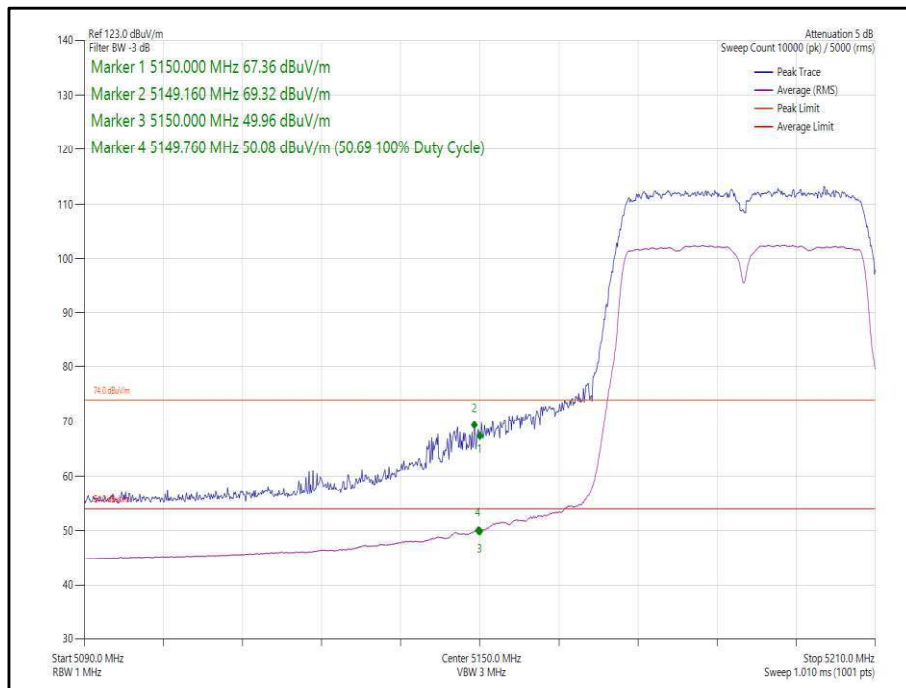
Figure 49 - 802.11n, HT40, SISO, Core 0 - 5190 MHz, Band Edge Frequency 5150 MHz
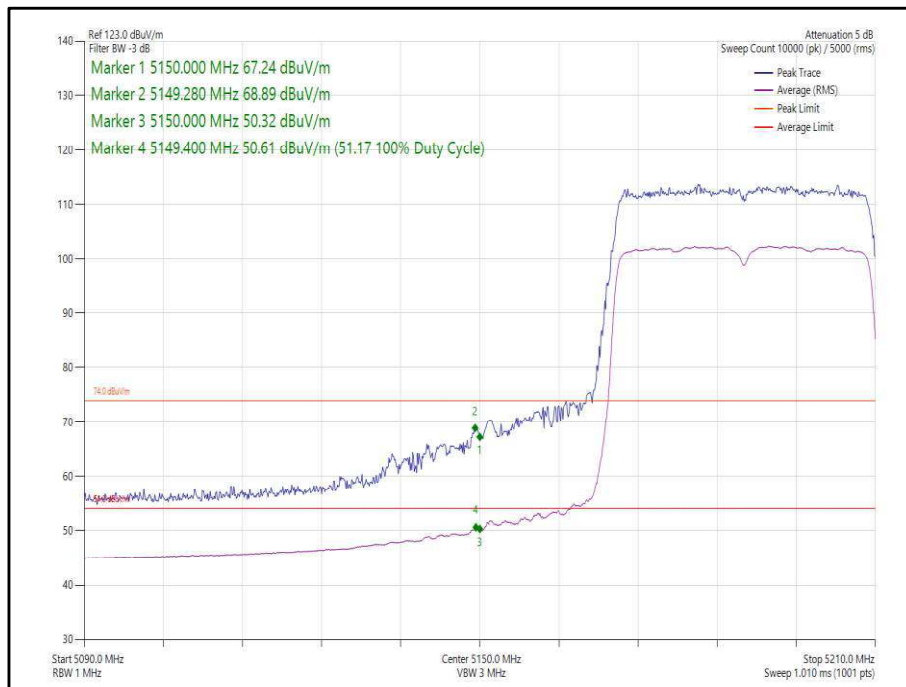
**Figure 50 - 802.11ax, HE40, SU, SISO, Core 0 - 5190 MHz,
Band Edge Frequency 5150 MHz**
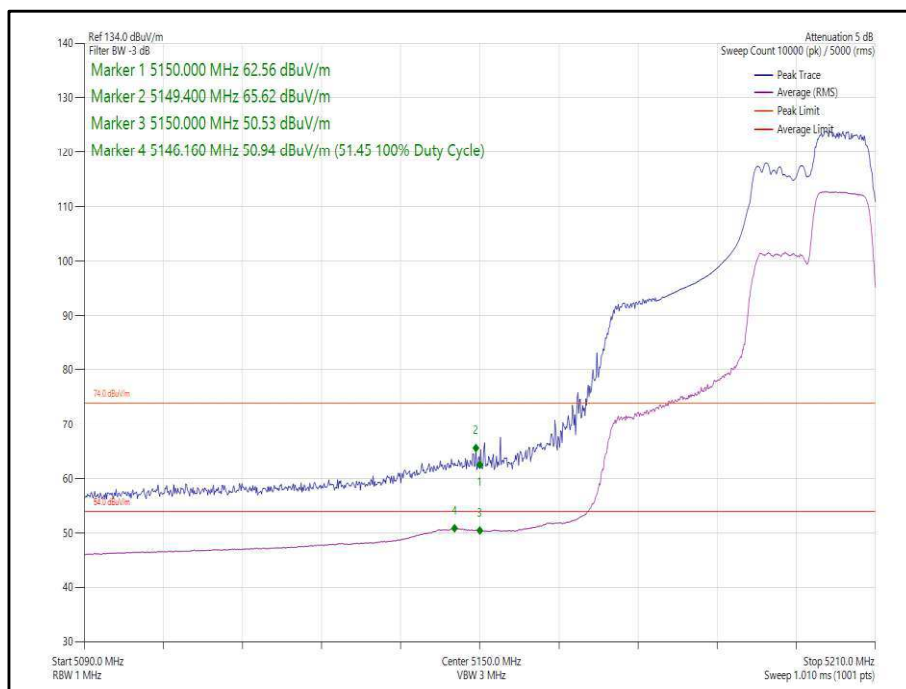
**Figure 51 - 802.11ax, HE40, RU 106-56, SISO, Core 0 - 5190 MHz,
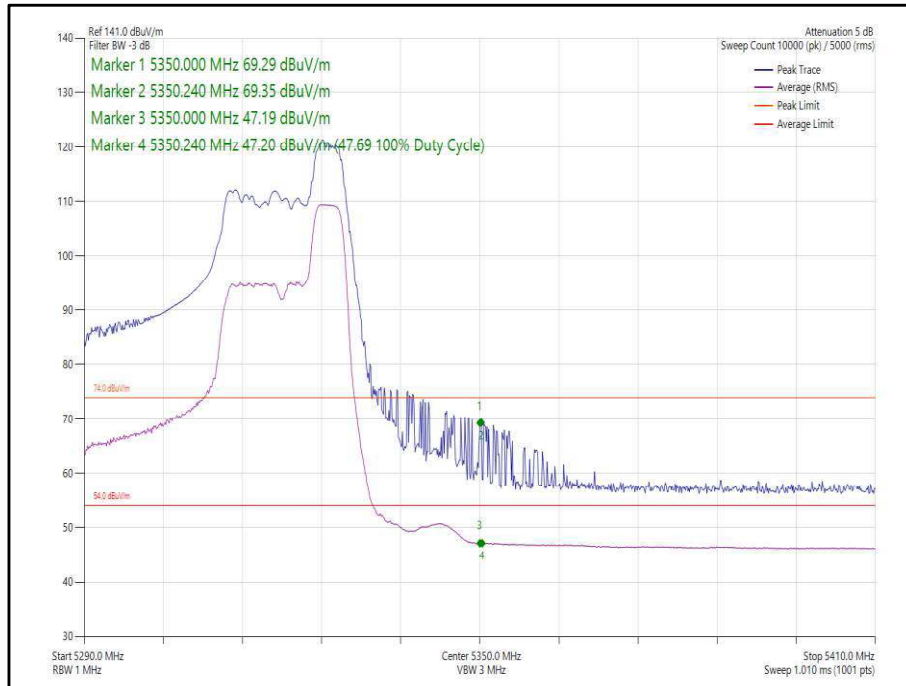Band Edge Frequency 5150 MHz**
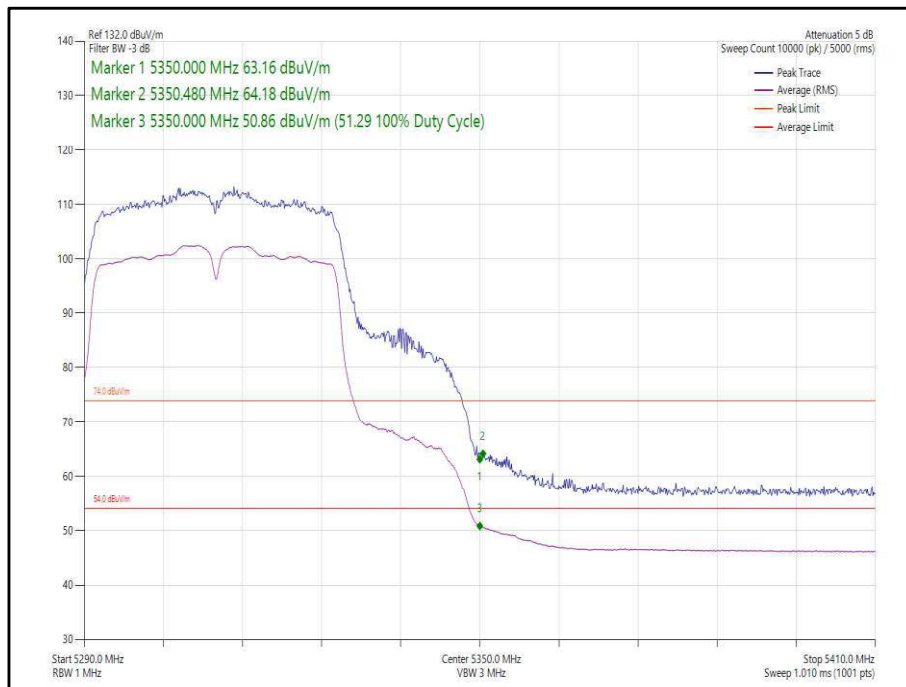
**Figure 52 - 802.11n, HT40, SISO, Core 0 - 5310 MHz,
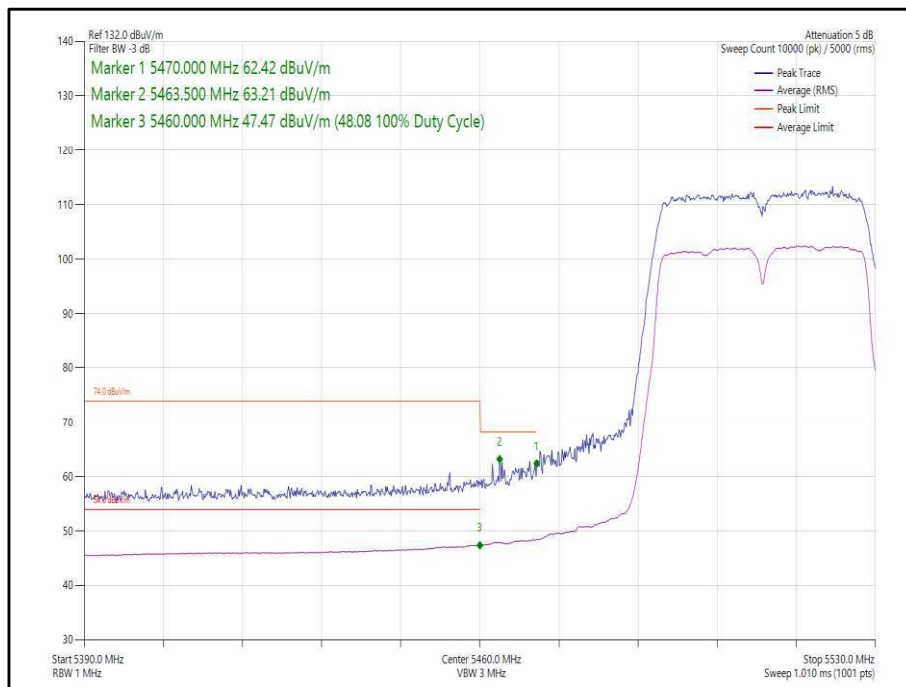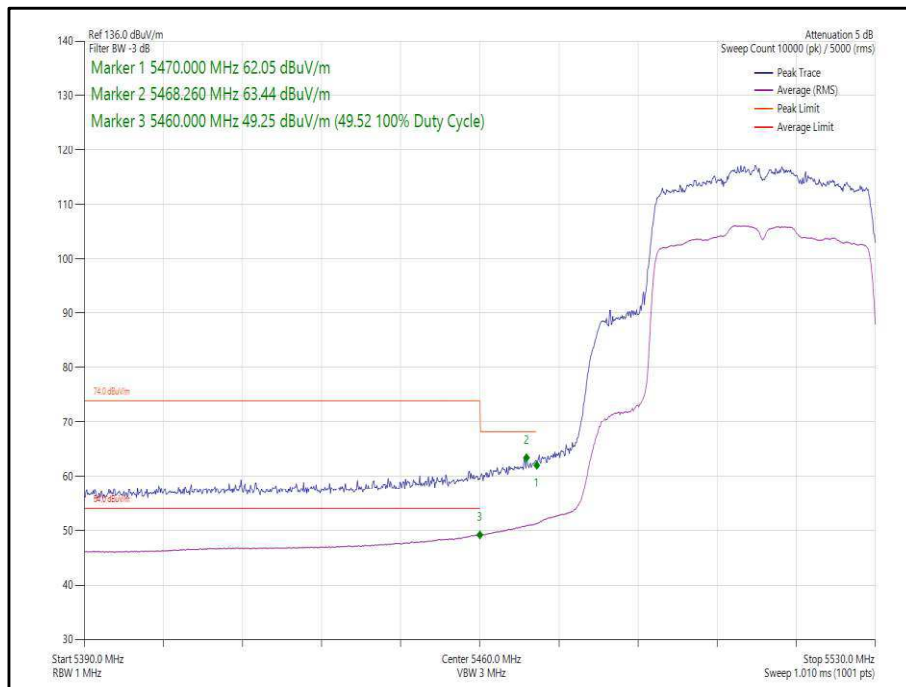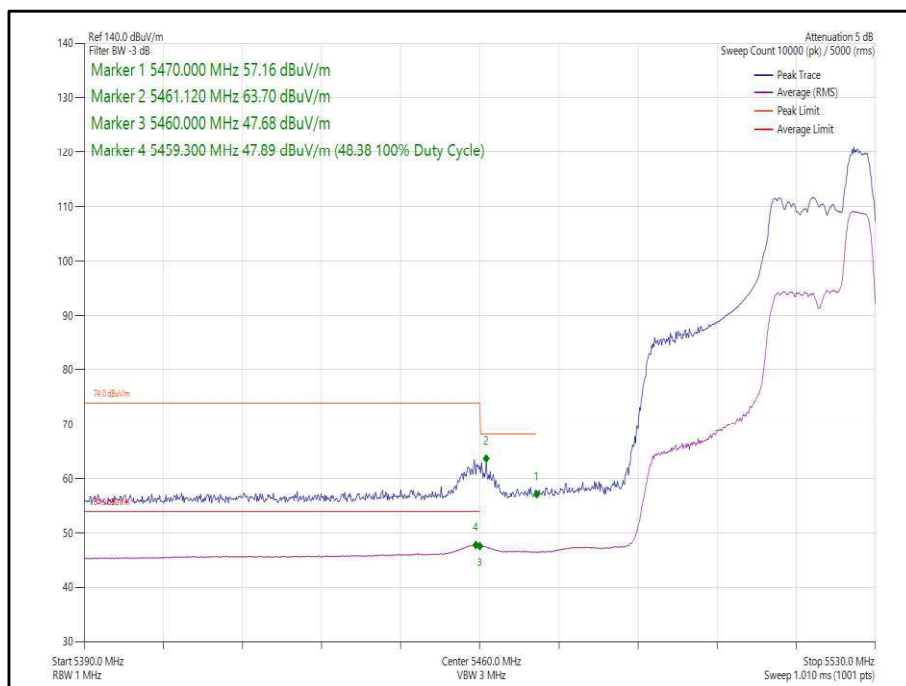Band Edge Frequency 5350 MHz**
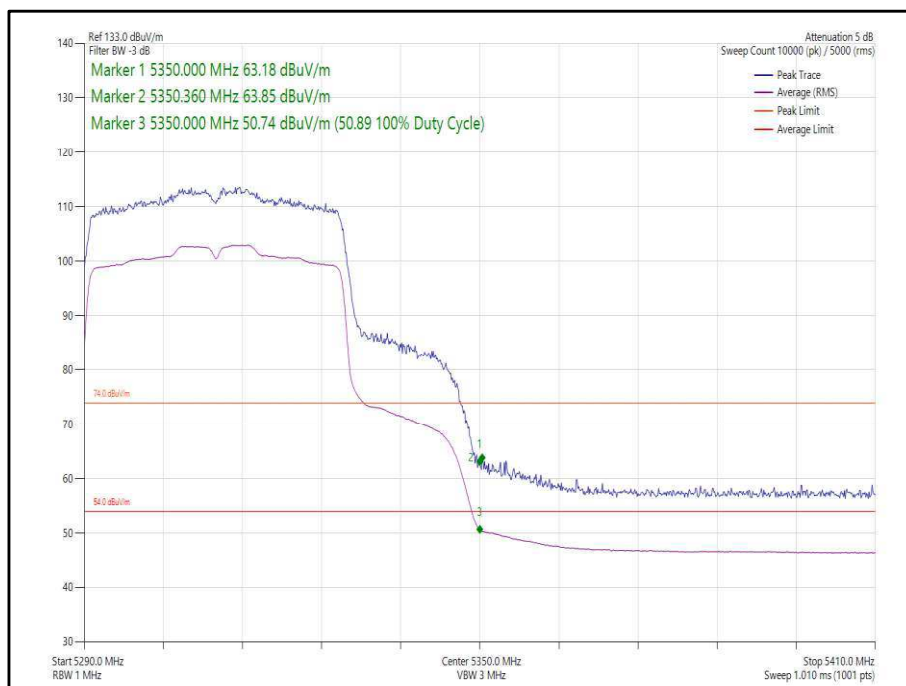
**Figure 53 - 802.11ax, HE40, SU, SISO, Core 0 - 5310 MHz,
Band Edge Frequency 5350 MHz**

**Figure 54 - 802.11ax, HE40, RU 52-44, SISO, Core 0 - 5310 MHz,
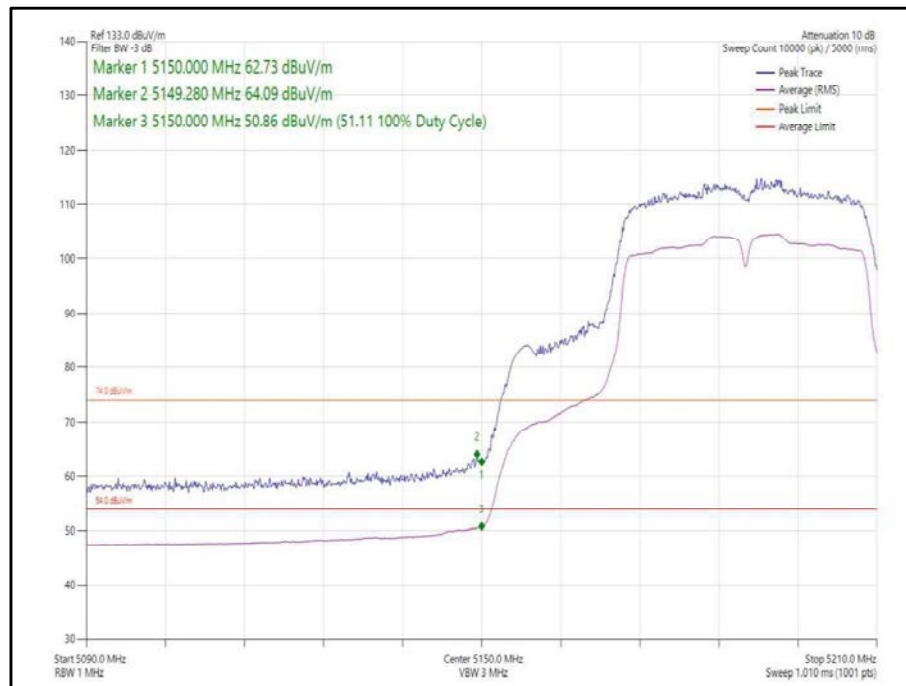Band Edge Frequency 5350 MHz**

**Figure 55 - 802.11n, HT40, SISO, Core 0 - 5510 MHz,
Band Edge Frequency 5460 MHz**

**Figure 56 - 802.11ax, HE40, SU, SISO, Core 0 - 5510 MHz,
Band Edge Frequency 5460 MHz**

**Figure 57 - 802.11ax, HE40, RU 52-44, SISO, Core 0 - 5510 MHz,
Band Edge Frequency 5460 MHz**

40 MHz Bandwidth - Core 1 (SISO)

Mode	Data Rate/ MCS	Resource Size	Resource Index	TX Frequency (MHz)	Band Edge Frequency (MHz)	Peak Level (dBµV/m)	Average Level (dBuV/m)
802.11n, HT40	MCS2	-	-	5190	5150	64.09	51.11
802.11ax, HE40	MCS2x1	SU	-	5190	5150	64.25	51.35
802.11ax, HE40	MCS11x1	106	56	5190	5150	63.43	50.49
802.11n, HT40	MCS2	-	-	5310	5350	63.57	51.31
802.11ax, HE40	MCS4x1	SU	-	5310	5350	64.72	51.43
802.11ax, HE40	MCS11x1	52	37	5310	5350	69.48	49.78
802.11n, HT40	MCS2	-	-	5510	5460	63.55	49.10
802.11ax, HE40	MCS2x1	SU	-	5510	5460	63.52	49.34
802.11ax, HE40	MCS11x1	52	44	5510	5460	63.52	48.80

Table 13 - SISO Restricted Band Edge Results

**Figure 58 - 802.11n, HT40, SISO, Core 1 - 5190 MHz,
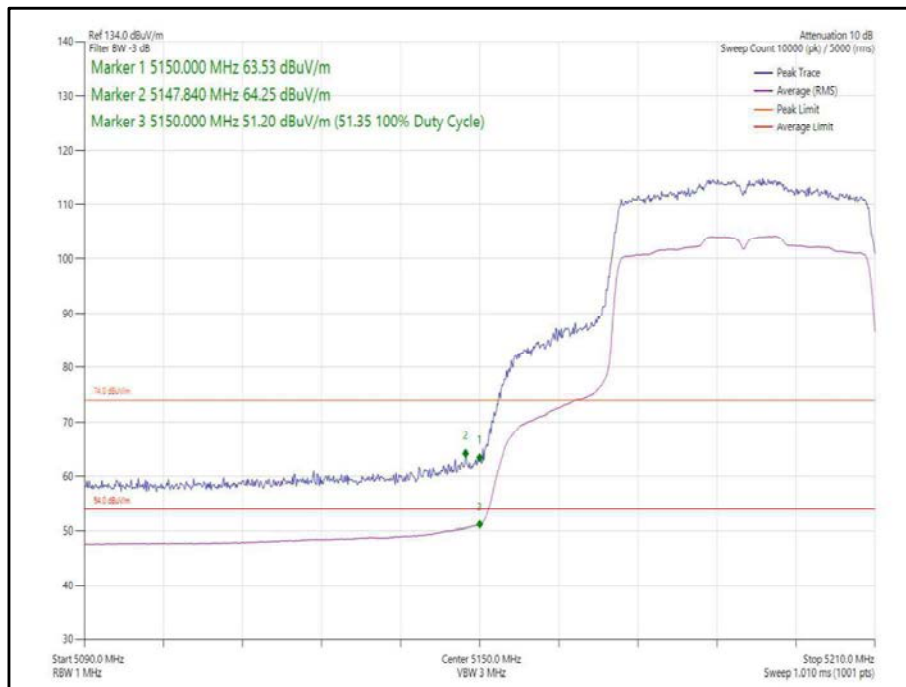Band Edge Frequency 5150 MHz**

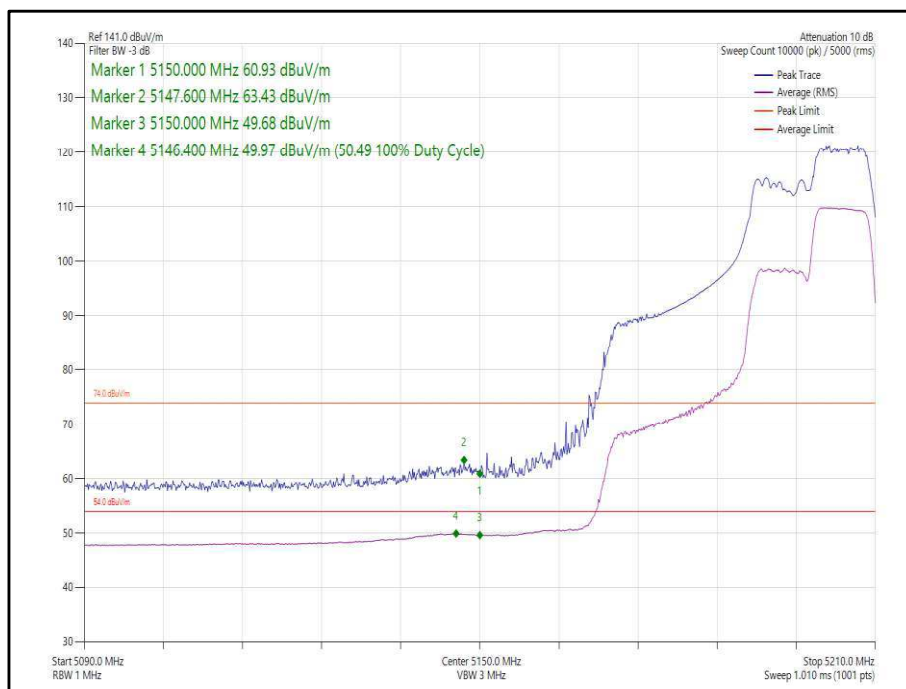**Figure 59 - 802.11ax, HE40, SU, SISO, Core 1 - 5190 MHz,
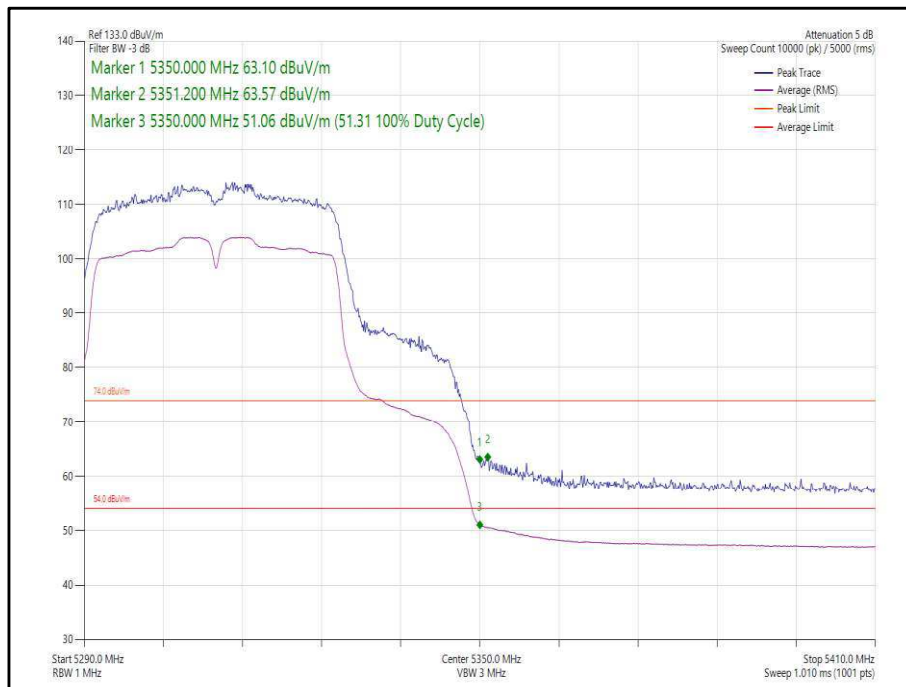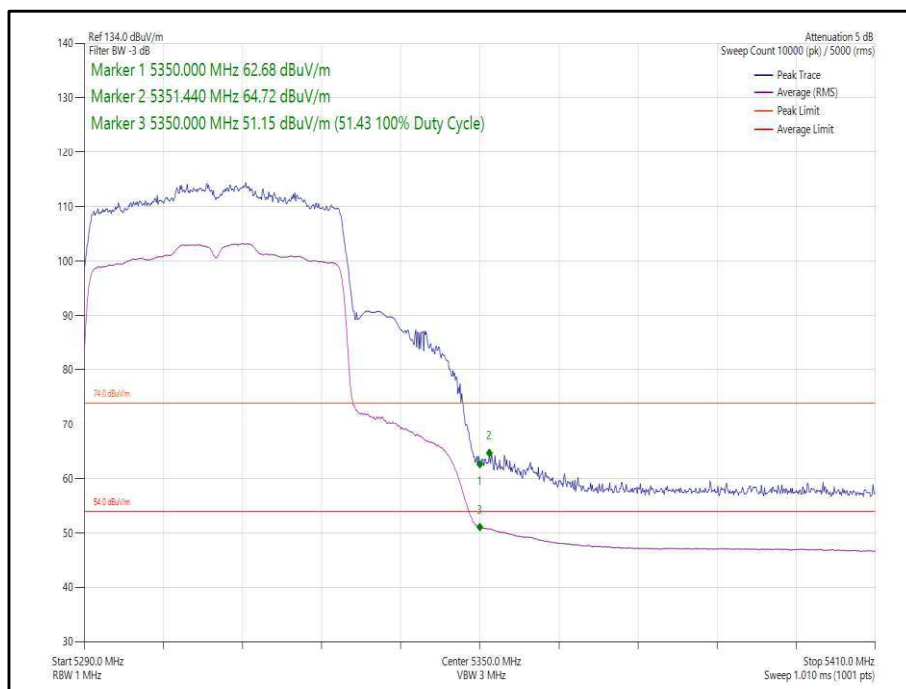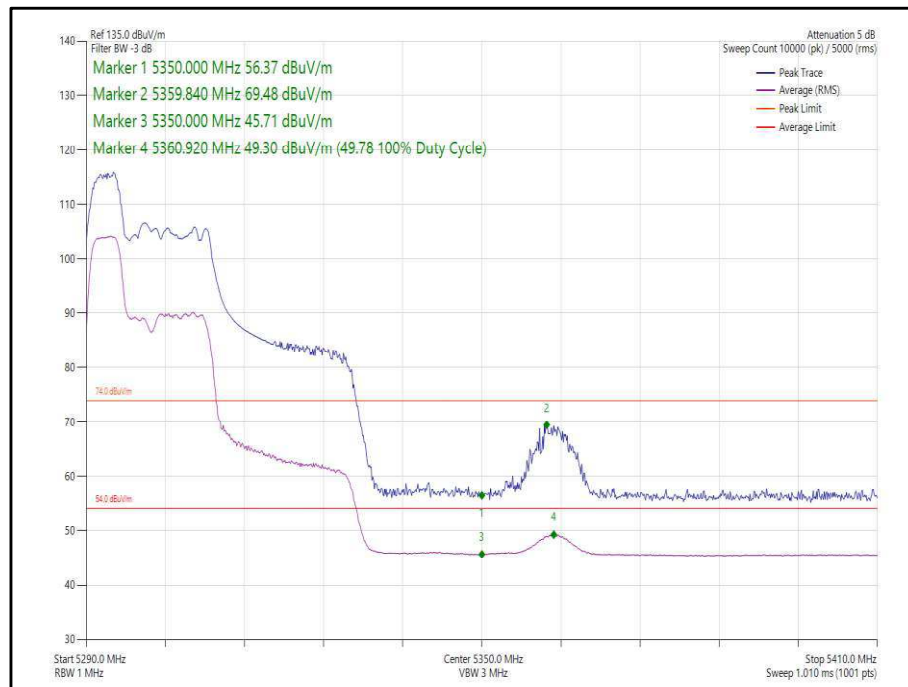Band Edge Frequency 5150 MHz**

**Figure 60 - 802.11ax, HE40, RU 106-56, SISO, Core 1 - 5190 MHz,
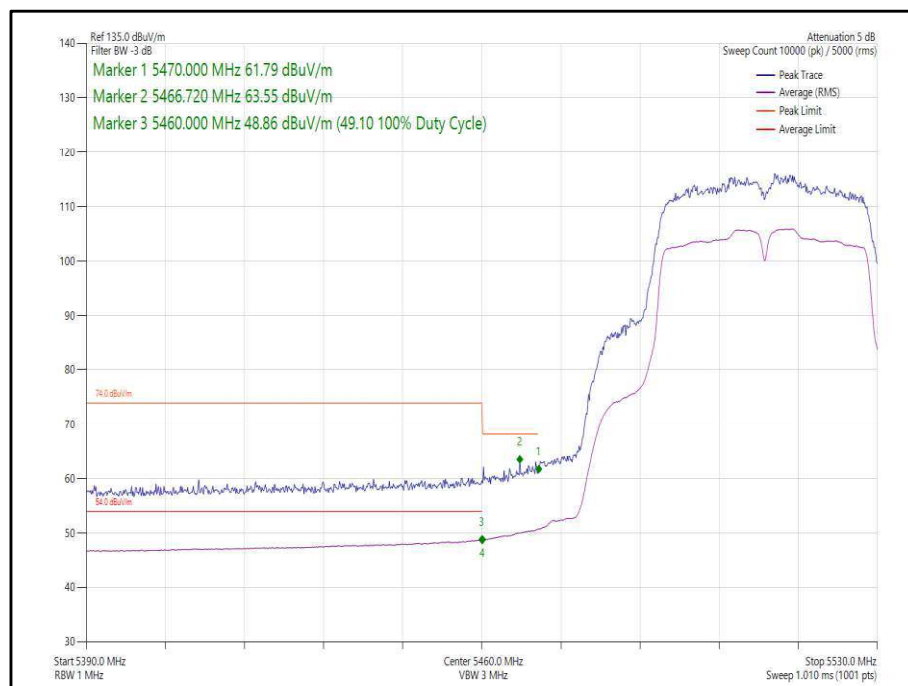Band Edge Frequency 5150 MHz**

**Figure 61 - 802.11n, HT40, SISO, Core 1 - 5310 MHz,
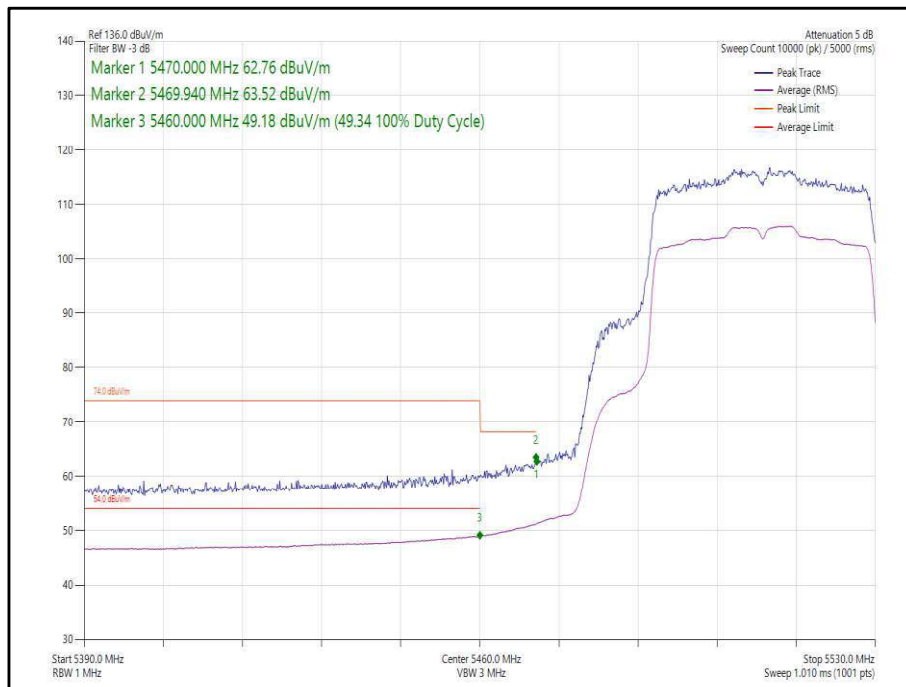Band Edge Frequency 5350 MHz**

**Figure 62 - 802.11ax, HE40, SU, SISO, Core 1 - 5310 MHz,
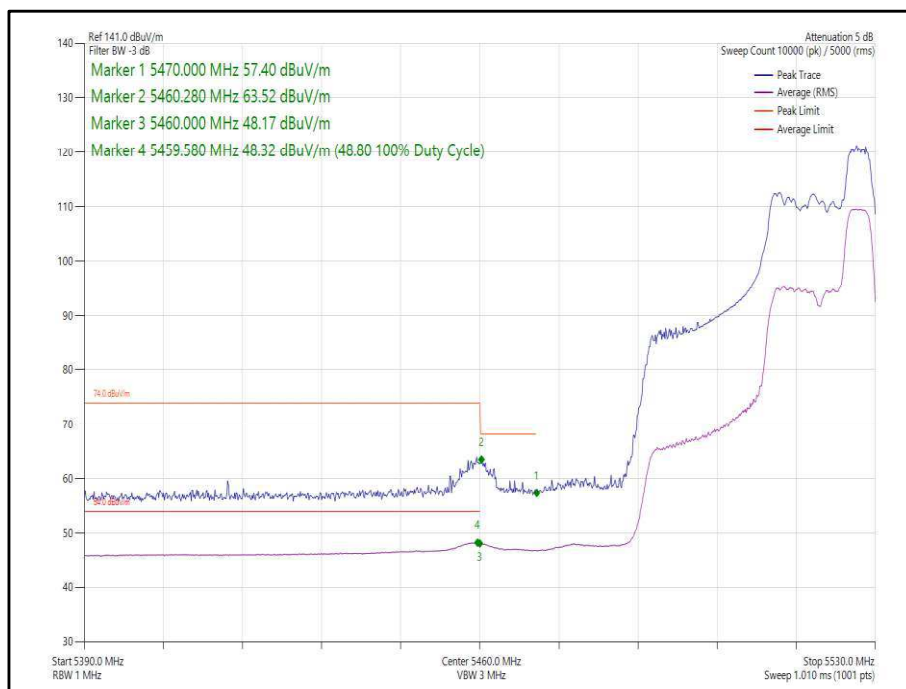Band Edge Frequency 5350 MHz**

**Figure 63 - 802.11ax, HE40, RU 52-37, SISO, Core 1 - 5310 MHz,
Band Edge Frequency 5350 MHz**

**Figure 64 - 802.11n, HT40, SISO, Core 1 - 5510 MHz,
Band Edge Frequency 5460 MHz**

**Figure 65 - 802.11ax, HE40, SU, SISO, Core 1 - 5510 MHz,
Band Edge Frequency 5460 MHz**

**Figure 66 - 802.11ax, HE40, RU 52-44, SISO, Core 1 - 5510 MHz,
Band Edge Frequency 5460 MHz**

40 MHz Bandwidth - Core 0-1 (CDD)

| Mode	Data Rate/ MCS	Resource Size	Resource Index	TX Frequency (MHz)	Band Edge Frequency (MHz)	Peak Level (dBµV/m)	Average Level (dBuV/m)
802.11n, HT40	MCS7	-	-	5190	5150	66.15	51.39
802.11ax, HE40	MCS2x1	SU	-	5190	5150	64.20	51.40
802.11ax, HE40	MCS11x1	26	17	5190	5150	68.27	51.46
802.11n, HT40	MCS7	-	-	5310	5350	65.66	51.46
802.11ax, HE40	MCS11x1	SU	-	5310	5350	64.96	51.30
802.11ax, HE40	MCS11x1	52	37	5310	5350	69.47	51.46
802.11n, HT40	MCS4	-	-	5510	5460	63.57	49.06
802.11ax, HE40	MCS11x1	SU	-	5510	5460	63.69	48.54
802.11ax, HE40	MCS11x1	52	44	5510	5460	63.58	49.77

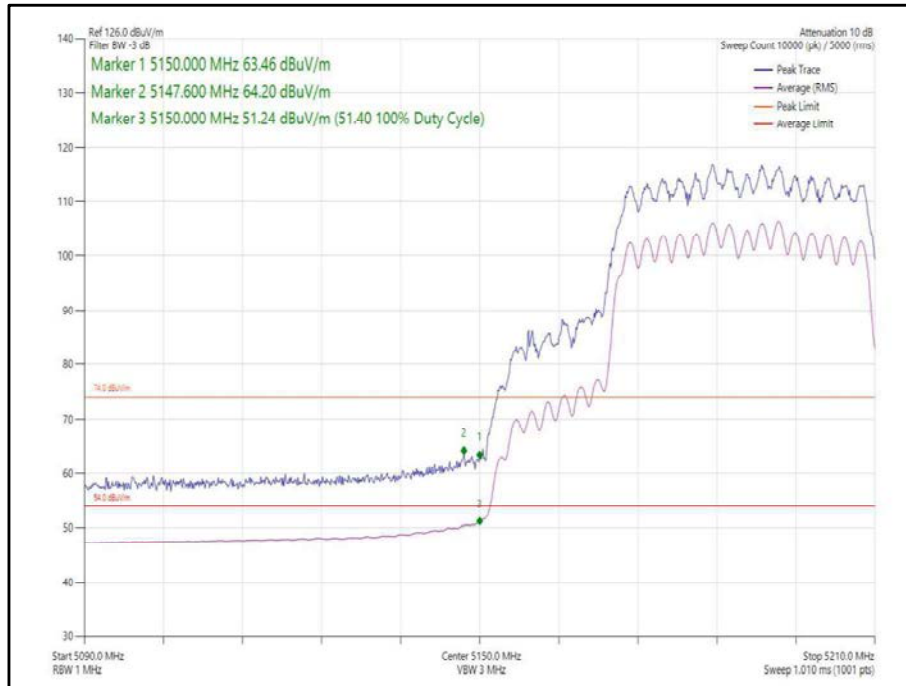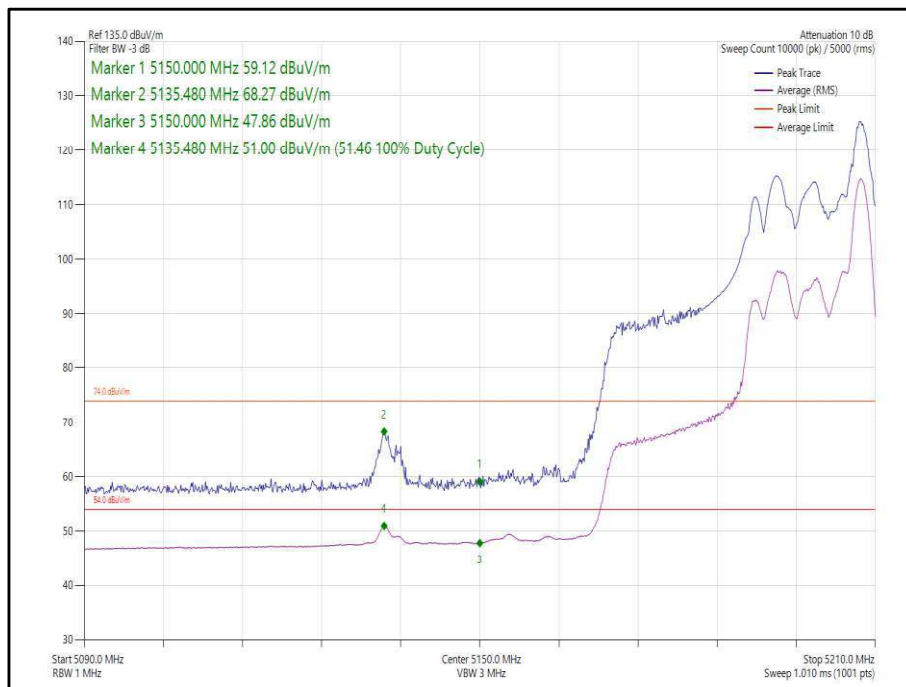**Table 14 - CDD Restricted Band Edge Results**
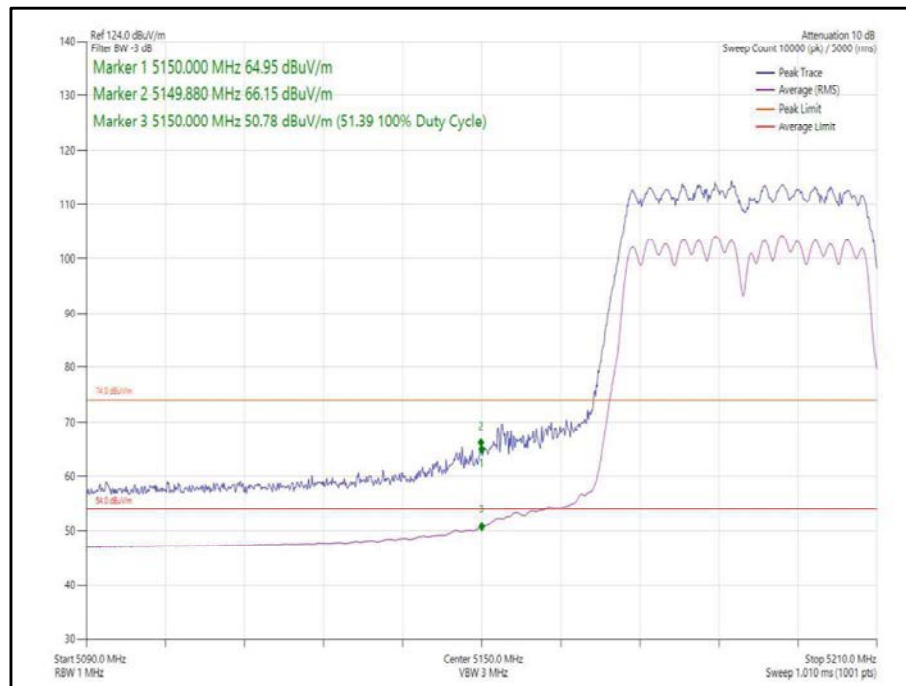
**Figure 67 - 802.11n, HT40, CDD, Core 0-1 - 5190 MHz,
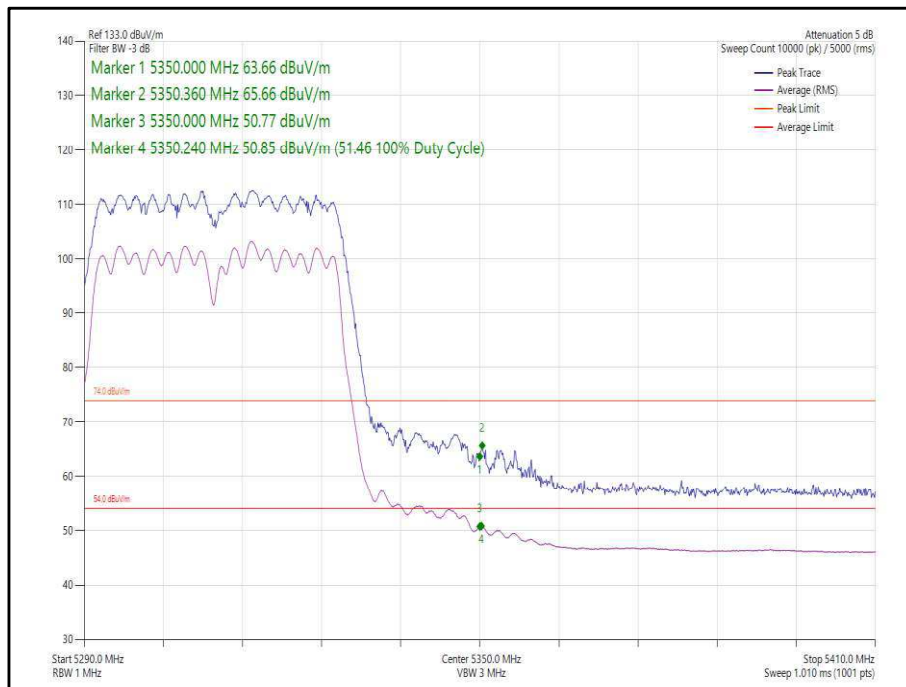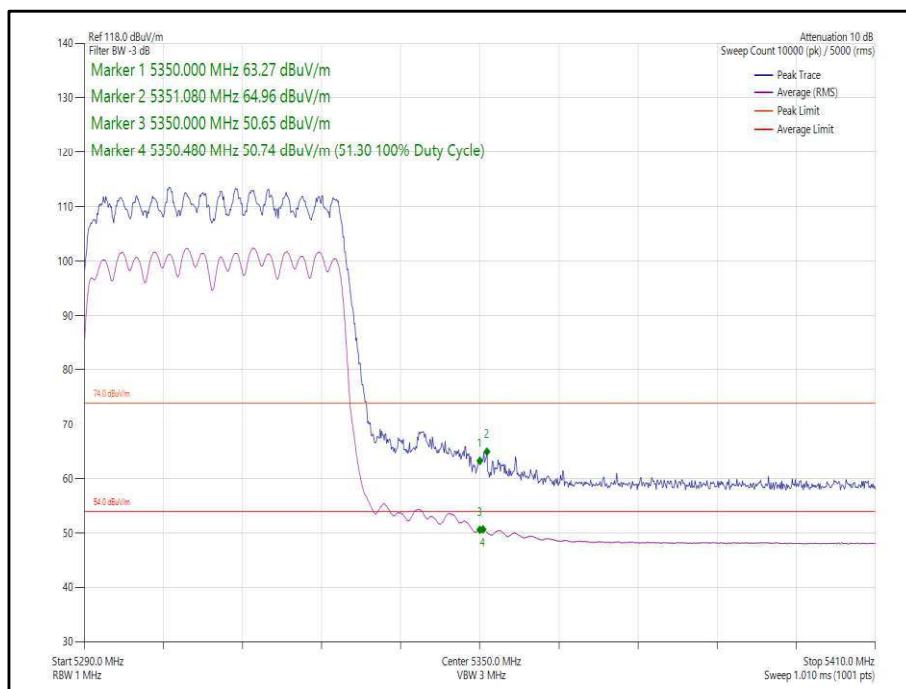Band Edge Frequency 5150 MHz**

**Figure 68 - 802.11ax, HE40, SU, CDD, Core 0-1 - 5190 MHz,
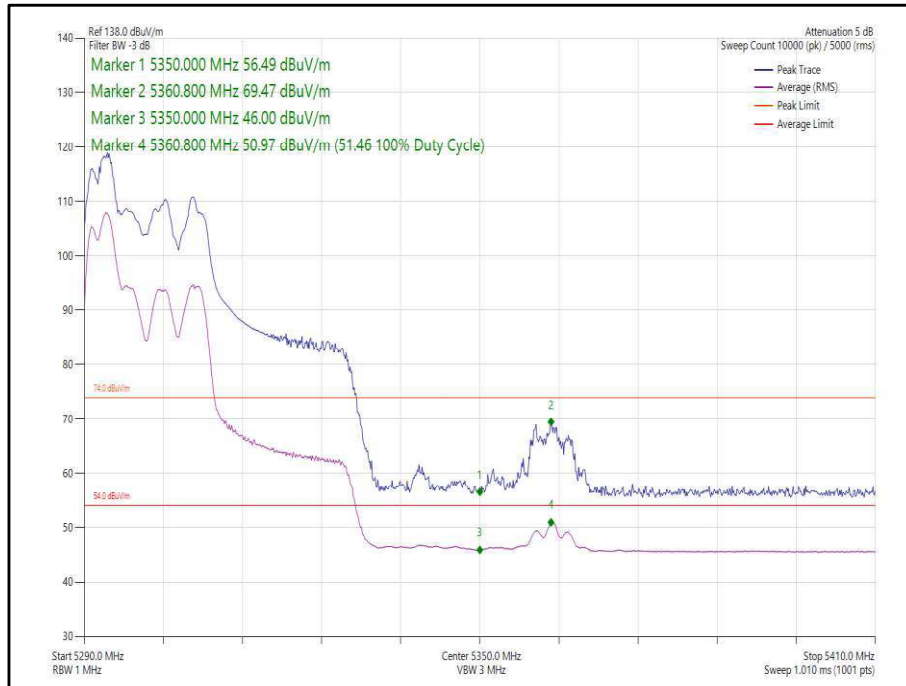Band Edge Frequency 5150 MHz**

**Figure 69 - 802.11ax, HE40, RU 26-17, CDD, Core 0-1 - 5190 MHz,
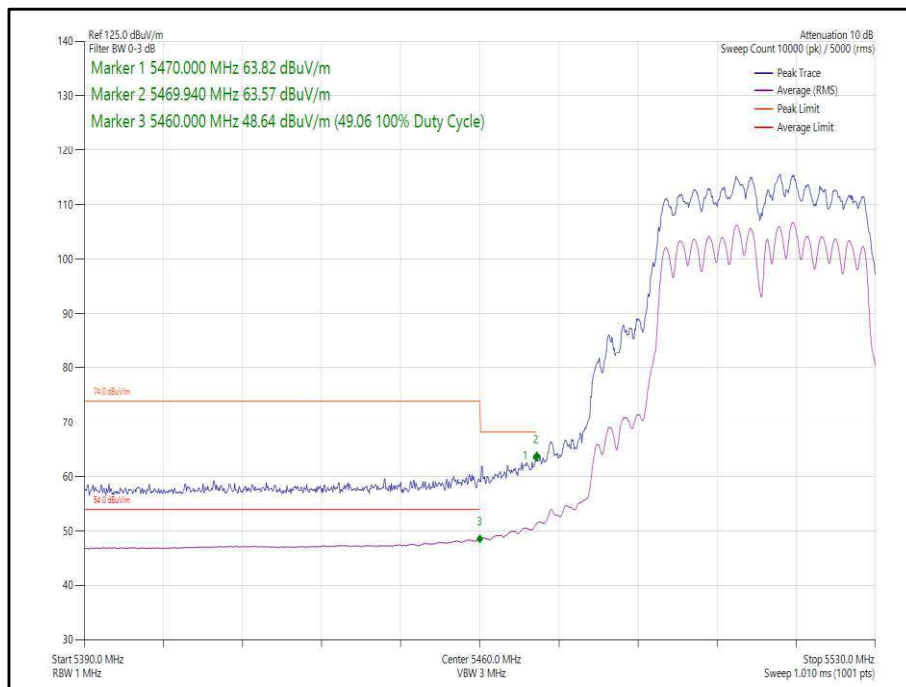Band Edge Frequency 5150 MHz**

**Figure 70 - 802.11n, HT40, CDD, Core 0-1 - 5310 MHz,
Band Edge Frequency 5350 MHz**

**Figure 71 - 802.11ax, HE40, SU, CDD, Core 0-1 - 5310 MHz,
Band Edge Frequency 5350 MHz**

Figure 72 - 802.11ax, HE40, RU 52-37, CDD, Core 0-1 - 5310 MHz, Band Edge Frequency 5350 MHz

Figure 73 - 802.11n, HT40, CDD, Core 0-1 - 5510 MHz, Band Edge Frequency 5460 MHz