

FCC and ISED Test Report

Apple Inc
Model: A2941

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



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FCC ID: BCGA2941

IC: 579C-A2941

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Document 75957632-12 Issue 01

SIGNATURE

NAME	JOB TITLE	RESPONSIBLE FOR	ISSUE DATE
Phil Harrison	Chief Engineer	Authorised Signatory	28 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	28 March 2023	

FCC Accreditation

90987 Octagon House, Fareham Test Laboratory

ISED Accreditation

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.



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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	28-March-2023

Table 1

1.2 Introduction

Applicant	Apple Inc
Manufacturer	Apple Inc
Model Number(s)	A2941
Serial Number(s)	C32NK60GJ3, HGQQL724XY, GF6K93M959, GMHGMQ4FCN and FQP4FCF32N
Hardware Version(s)	REV 1.0
Software Version(s)	22E11180I, 22E11180t, 22E11181e, 22E179 and 22E11180I
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)
Start of Test	09-December-2022
Finish of Test	17-March-2023
Name of Engineer(s)	Elliot Callender, James Woods, Mohammad Malik, Taha Shafique, Thomas Biddlecombe, Daniel Cameron and Stefan Gilfedder
Related Document(s)	ANSI C63.10 (2020) KDB 662911 D01 v02r01 ANSI C63.10 (2013) 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	-	Emission Bandwidth	Pass	
2.3	15.407 (a)	6.2	-	Maximum Conducted Output Power	Pass	
2.4	15.407 (a)	6.2	-	Maximum Conducted Power Spectral Density	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	

Table 2



1.4 Product Information

1.4.1 Technical Description

The equipment under test (EUT) was an Apple laptop computer with Bluetooth®, Bluetooth® Low Energy and IEEE 802.11 a/b/g/n/ac/ax Wi-Fi capabilities in the 2.4 GHz and 5 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 support 20 MHz, 40 MHz and 80 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 52 subcarriers, up to the maximum allowed, dependent on channel bandwidth. Additionally RU-26 is supported in U-NII-1 and U-NII-3.

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):

- 802.11a – 12 Mbps
- 802.11n HT20 – MCS2
- 802.11n HT40 – MCS2
- 802.11ac VHT80 – MCS2x1
- 802.11ax HE20 SU – MCS2x1
- 802.11ax HE40 SU – MCS2x1
- 802.11ax HE80 SU – MCS2x1
- 802.11ax HE20 MU RU26/52/106 – MCS2x1

2x2 MIMO Modes (Core 0+1):

- 802.11n/ac (V)HT20 - CDD (MCS2), SDM (MCS10) and TxBF (MCS2x1)
- 802.11n/ac (V)HT40 - CDD (MCS2), SDM (MCS10) and TxBF (MCS2x1)
- 802.11ac VHT80 – CDD (MCS2x1), SDM (MCS2x2) and TxBF (MCS2x1)
- 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 HE20 MU RU26/52/106 – CDD (MCS2x1) and SDM (MCS2x2)

*Notes: 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. HT (802.11n) modes were used for CDD and SDM and VHT (802.11ac) modes were used for TxBF.



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. 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	7.70	1.10
	5250 to 5350	7.72	1.10
	5470 to 5725	6.86	1.20
	5725 to 5850	8.13	1.20
Core 1	5150 to 5250	7.14	1.10
	5250 to 5350	6.46	1.10
	5470 to 5725	5.06	1.20
	5725 to 5850	7.26	1.20

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: A2941, Serial Number: FQP4FCF32N			
0	As supplied by the customer	Not Applicable	Not Applicable
Model: A2941, Serial Number: GMHGMQ4FCN			
0	As supplied by the customer	Not Applicable	Not Applicable
Model: A2941, Serial Number: GF6K93M959			
0	As supplied by the customer	Not Applicable	Not Applicable
Model: A2941, Serial Number: HGQQL724XY			
0	As supplied by the customer	Not Applicable	Not Applicable
Model: A2941, Serial Number: C32NK60GJ3			
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	Mohammad Malik, Elliot Callender, James Woods and Taha Shafique	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	Thomas Biddlecombe and Daniel Cameron	UKAS
Spurious Radiated Emissions	James Woods, Taha Shafique, Mohammad Malik and Elliot Callender	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 15.407 (b)
ISED RSS-247, Clause 6.2

2.1.2 Equipment Under Test and Modification State

A2941, S/N: C32NK60GJ3 - Modification State 0

2.1.3 Date of Test

09-December-2022 to 17-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.

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

2.1.5 Environmental Conditions

Ambient Temperature	19.1 - 22.0 °C
Relative Humidity	34.1 - 49.0 %



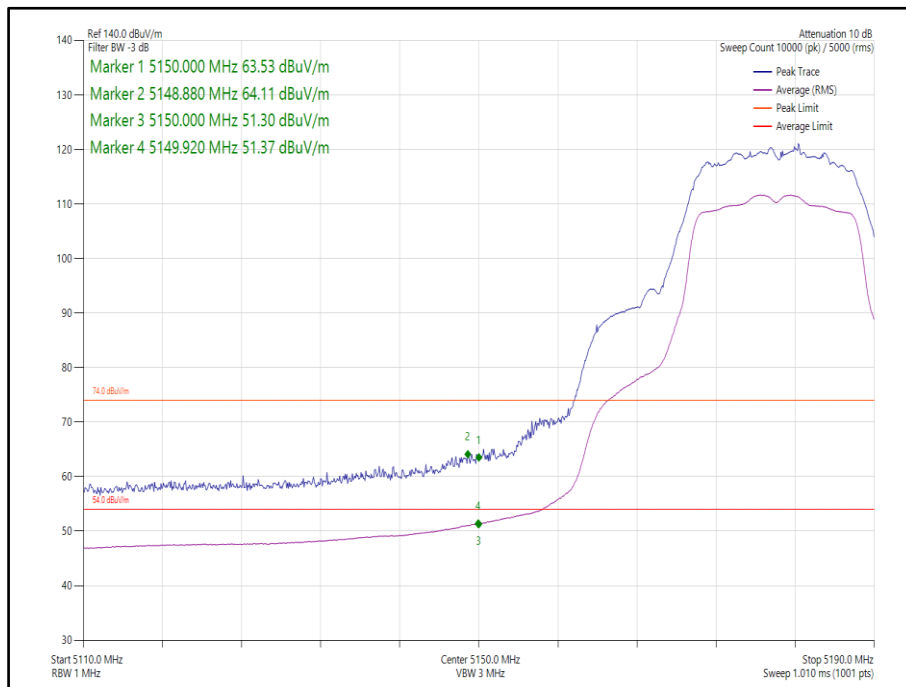
2.1.6 Test Results

5 GHz WLAN

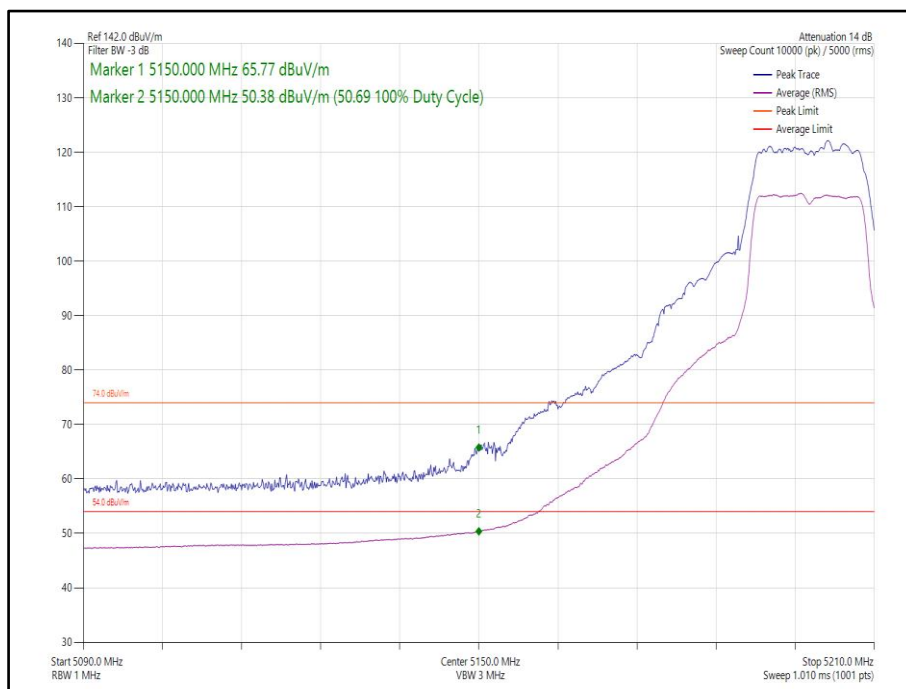
20 MHz Bandwidth - Core 0 (SISO)

Mode	Data Rate/ MCS	Resource Size	Resource Index	TX Frequency (MHz)	Band Edge Frequency (MHz)	Peak Level (dB μ V/m)	Average Level (dB μ V/m)
802.11a	12 Mbps	-	-	5180	5150	64.11	51.37
802.11a	54 Mbps	-	-	5200	5150	65.77	50.69
802.11n HT20	MCS2	-	-	5180	5150	63.00	51.19
802.11n HT20	MCS7	-	-	5200	5150	69.30	51.31
802.11ax HE20	MCS2x1	SU	-	5180	5150	64.61	51.44
802.11ax HE20	MCS11x1	106	54	5180	5150	69.33	48.91
802.11ax HE20	MCS11x1	SU	-	5200	5150	68.96	49.41
802.11a	54 Mbps	-	-	5300	5350	65.09	51.72
802.11a	12 Mbps	-	-	5320	5350	63.49	51.36
802.11n HT20	MCS2	-	-	5300	5350	63.46	51.40
802.11n HT20	MCS7	-	-	5320	5350	69.33	49.75
802.11ax HE20	MCS2x1	SU	-	5300	5350	63.73	51.22
802.11ax HE20	MCS4x1	SU	-	5320	5350	67.11	51.47
802.11ax HE20	MCS11x1	106	54	5320	5350	68.22	50.37
802.11a	24 Mbps	-	-	5500	5460	63.52	47.20
802.11a	54 Mbps	-	-	5520	5460	60.88	48.08
802.11n HT20	MCS7	-	-	5500	5460	63.65	46.89
802.11n HT20	MCS7	-	-	5520	5460	61.14	47.57
802.11ax HE20	MCS4x1	SU	-	5500	5460	63.39	47.98
802.11ax HE20	MCS11x1	106	54	5500	5460	63.65	46.96
802.11ax HE20	MCS11x1	SU	-	5520	5460	63.00	47.37

Table 7 - SISO Restricted Band Edge Results



**Figure 1 - 802.11a, SISO, Core 0 - 5180 MHz,
Band Edge Frequency 5150 MHz**



**Figure 2 - 802.11a, SISO, Core 0 - 5200 MHz,
Band Edge Frequency 5150 MHz**

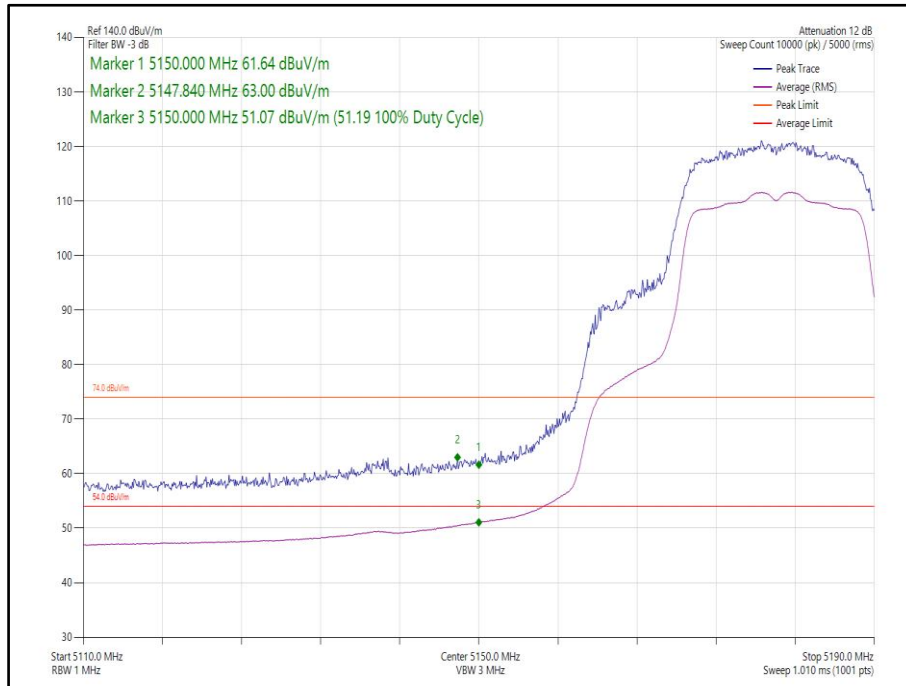


Figure 3 - 802.11n, HT20, SISO, Core 0 - 5180 MHz,
Band Edge Frequency 5150 MHz

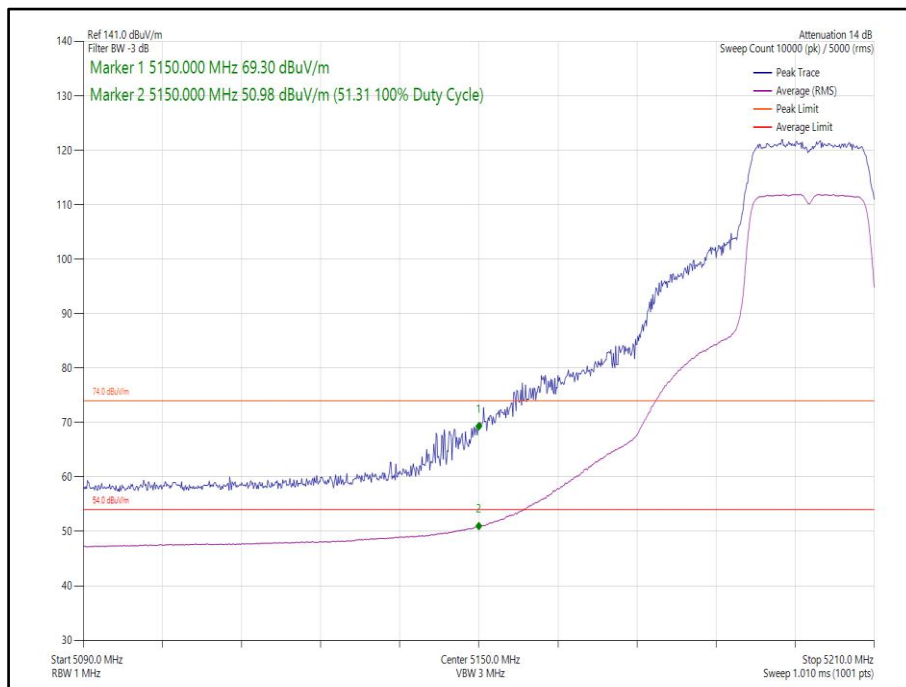


Figure 4 - 802.11n, HT20, SISO, Core 0 - 5200 MHz,
Band Edge Frequency 5150 MHz

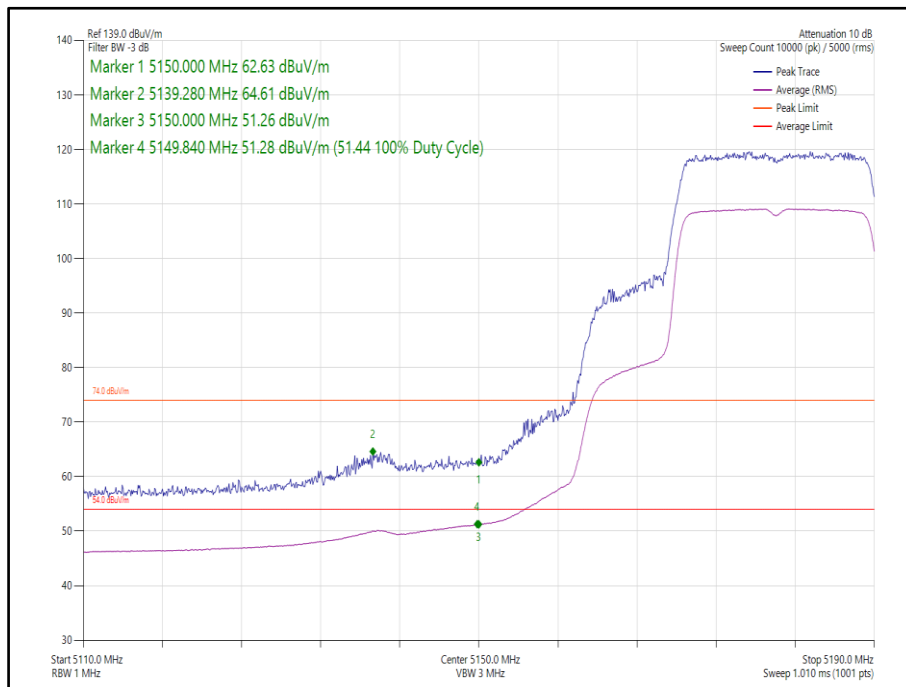


Figure 5 - 802.11ax, HE20, SU, SISO, Core 0 - 5180 MHz,
Band Edge Frequency 5150 MHz

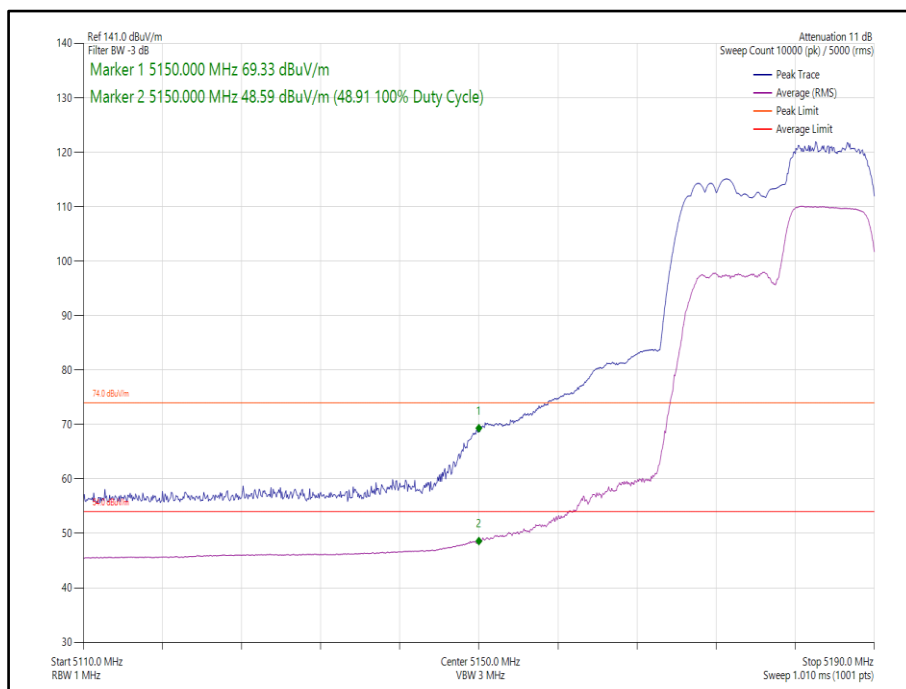
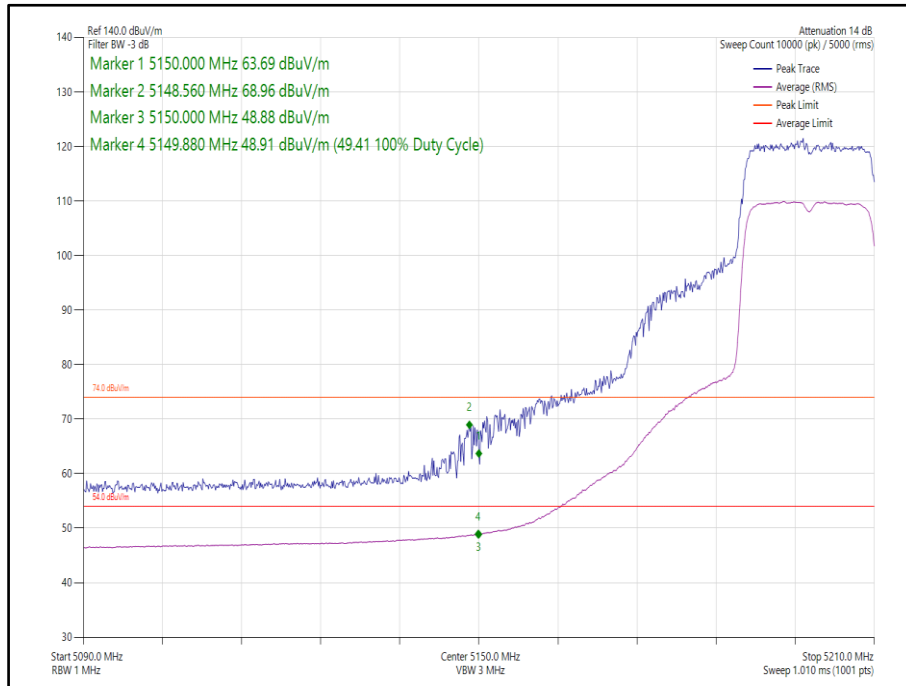
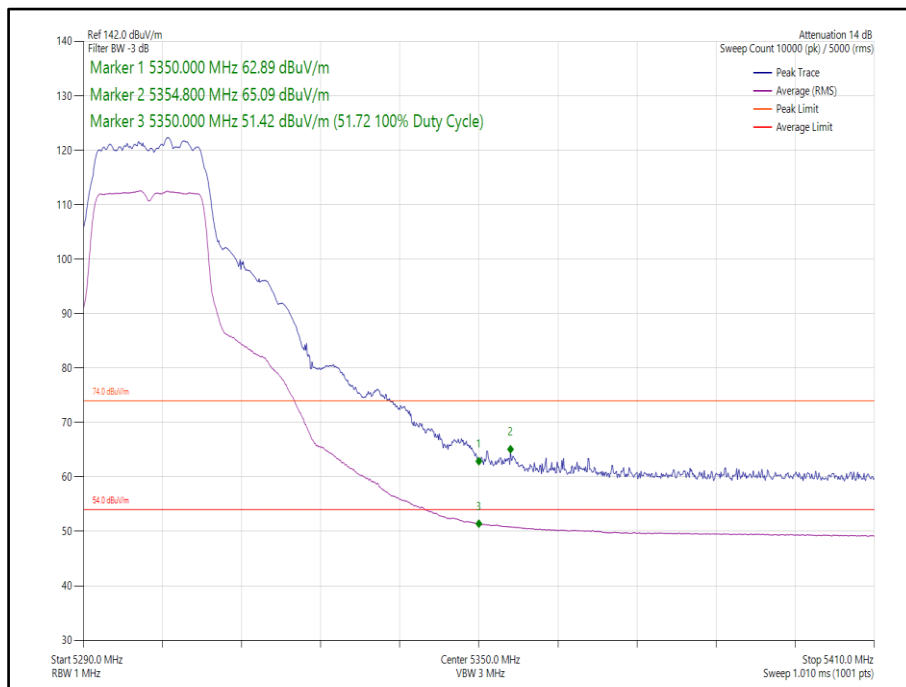


Figure 6 - 802.11ax, HE20, RU 106-54, SISO, Core 0 - 5180 MHz,
Band Edge Frequency 5150 MHz



**Figure 7 - 802.11ax, HE20, SU, SISO, Core 0 - 5200 MHz,
Band Edge Frequency 5150 MHz**



**Figure 8 - 802.11a, SISO, Core 0 - 5300 MHz,
Band Edge Frequency 5350 MHz**

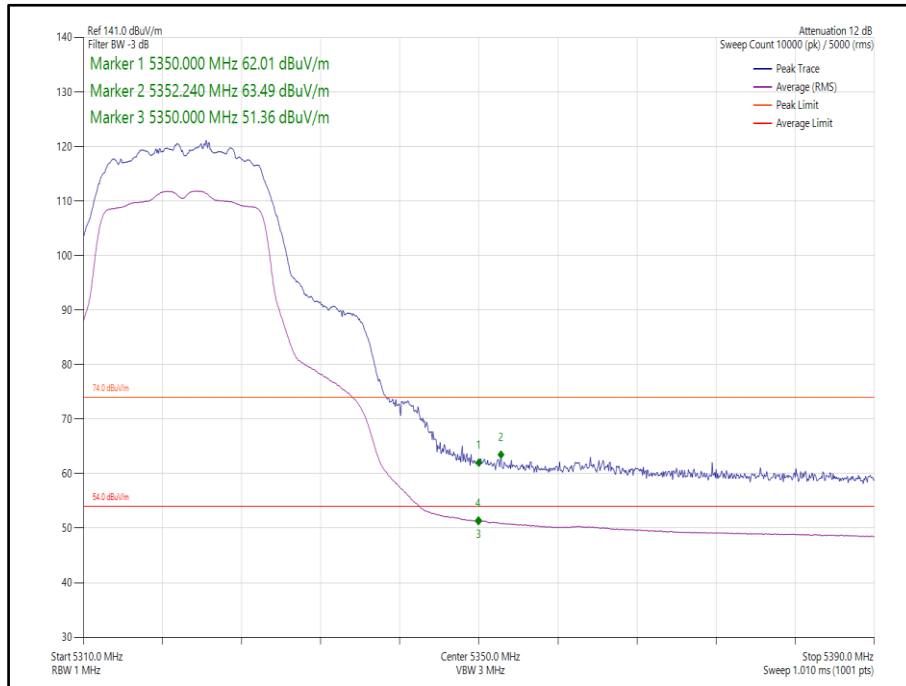


Figure 9 - 802.11a, SISO, Core 0 - 5320 MHz,
Band Edge Frequency 5350 MHz

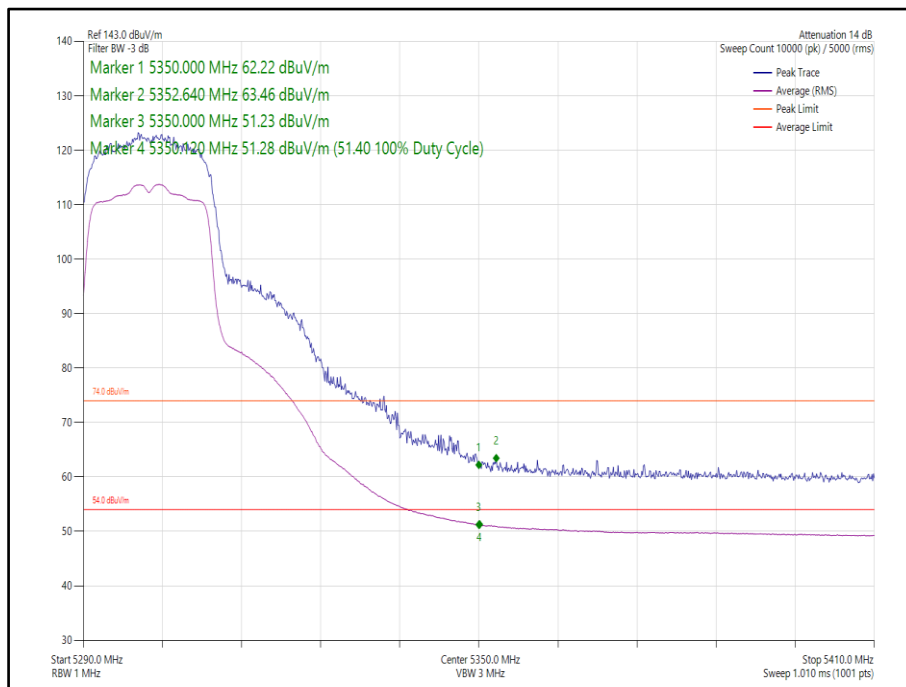


Figure 10 - 802.11n, HT20, SISO, Core 0 - 5300 MHz,
Band Edge Frequency 5350 MHz

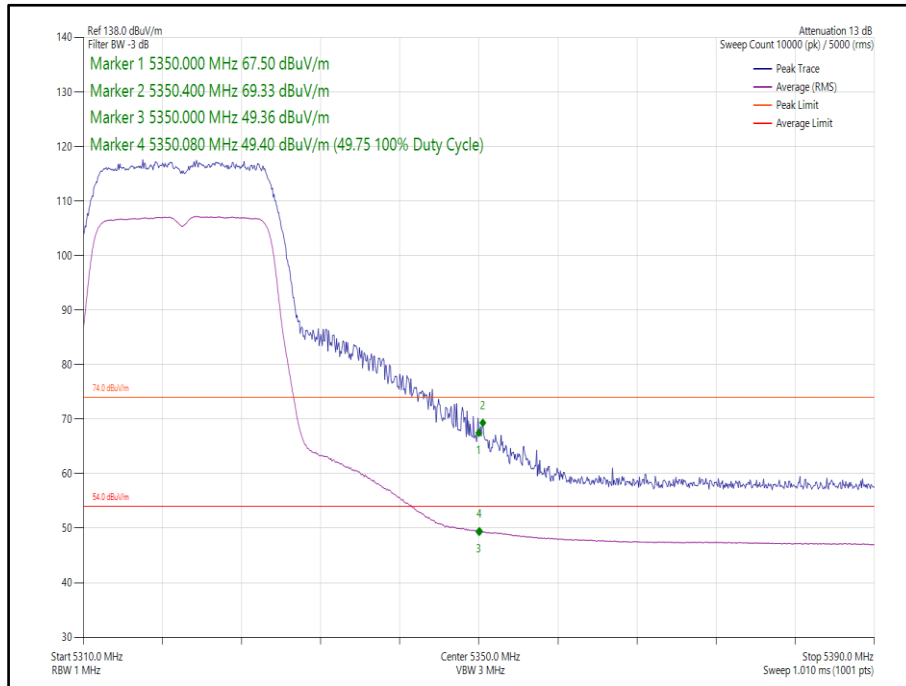


Figure 11 - 802.11n, HT20, SISO, Core 0 - 5320 MHz,
Band Edge Frequency 5350 MHz

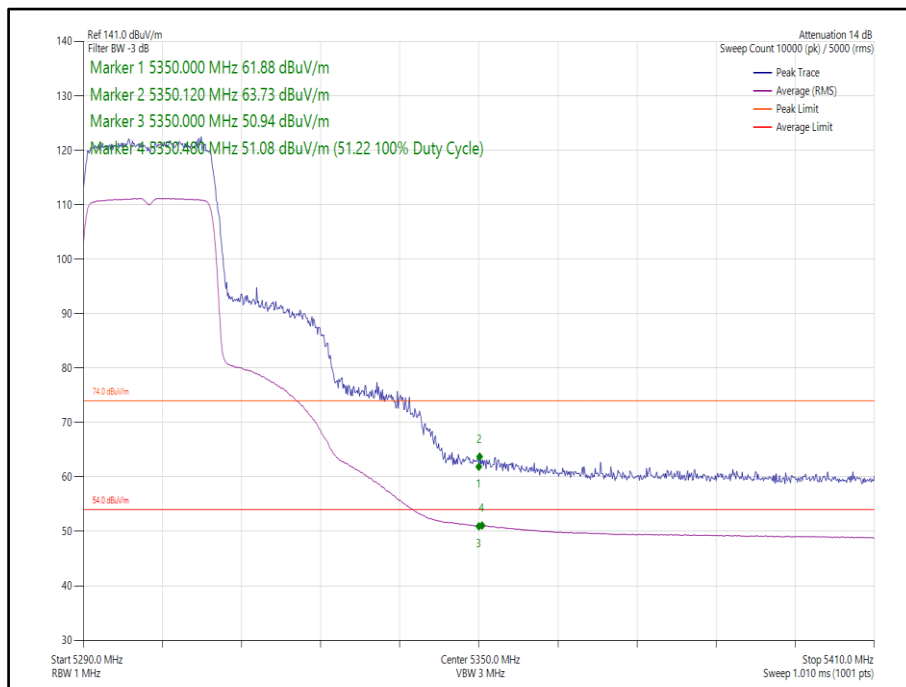


Figure 12 - 802.11ax, HE20, SU, SISO, Core 0 - 5300 MHz,
Band Edge Frequency 5350 MHz

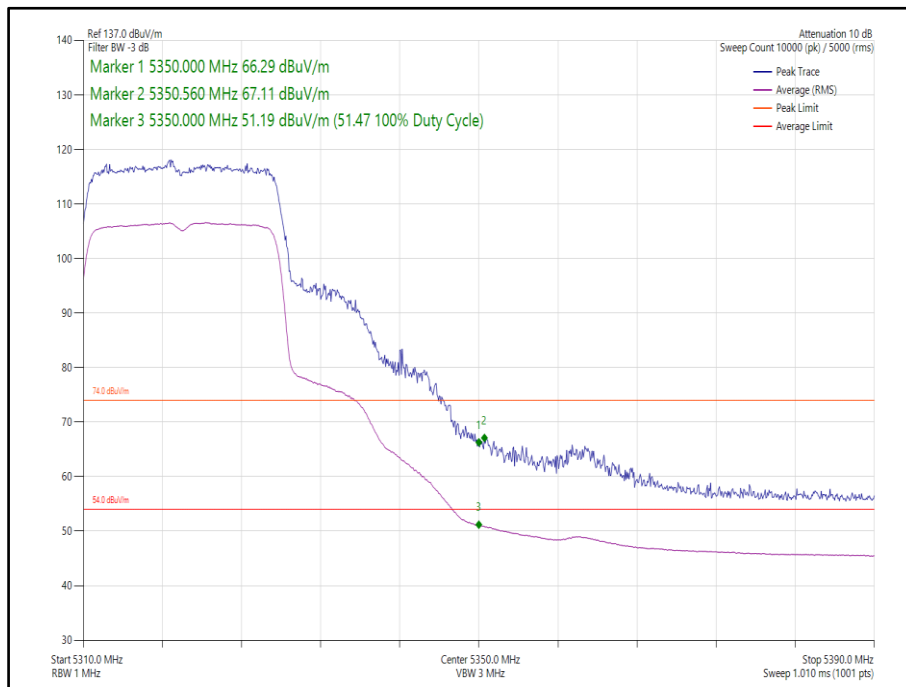


Figure 13 - 802.11ax, HE20, SU, SISO, Core 0 - 5320 MHz,
Band Edge Frequency 5350 MHz

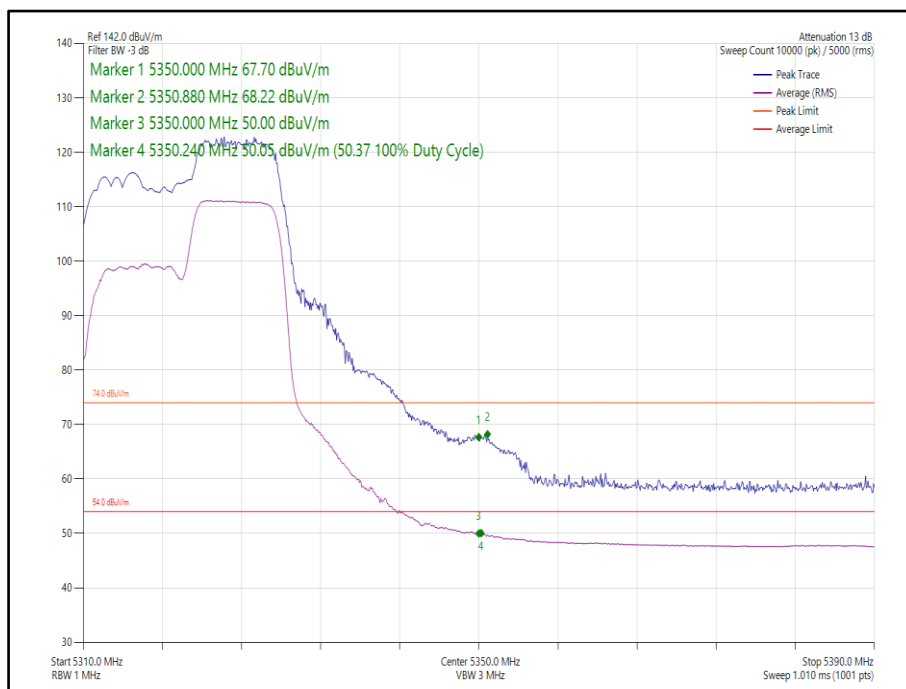
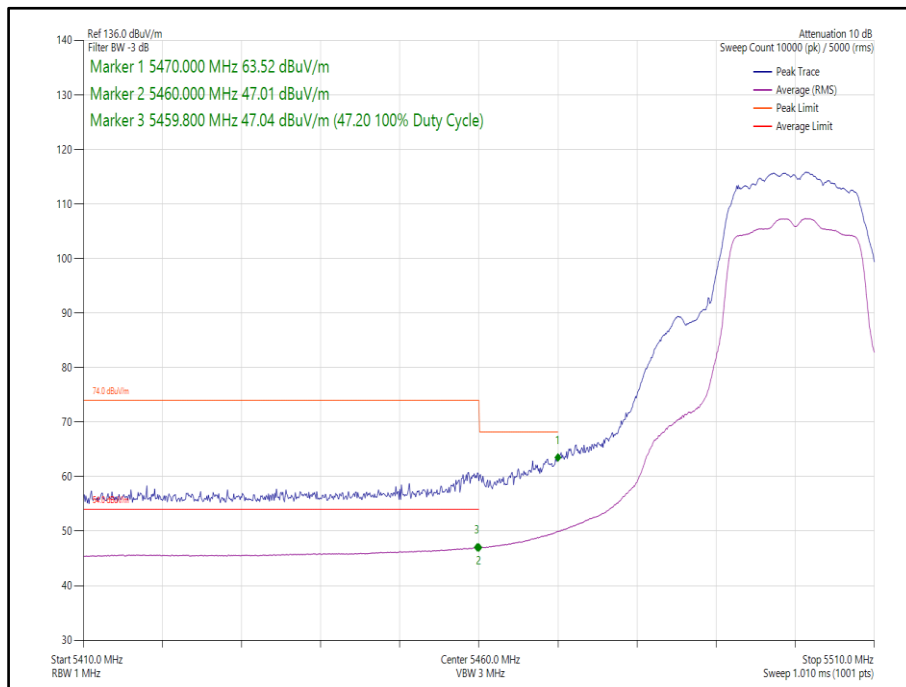
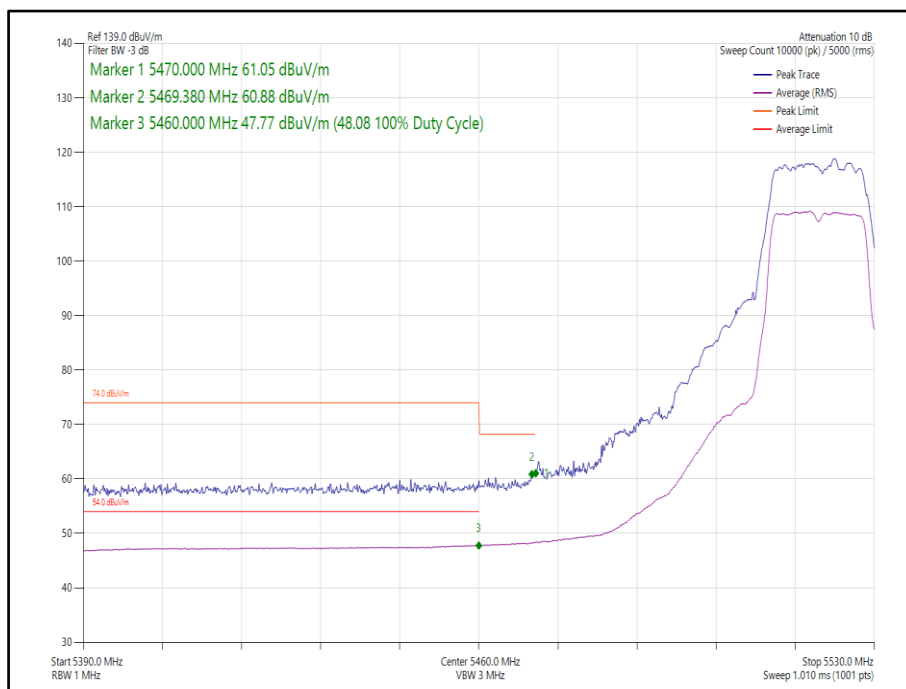


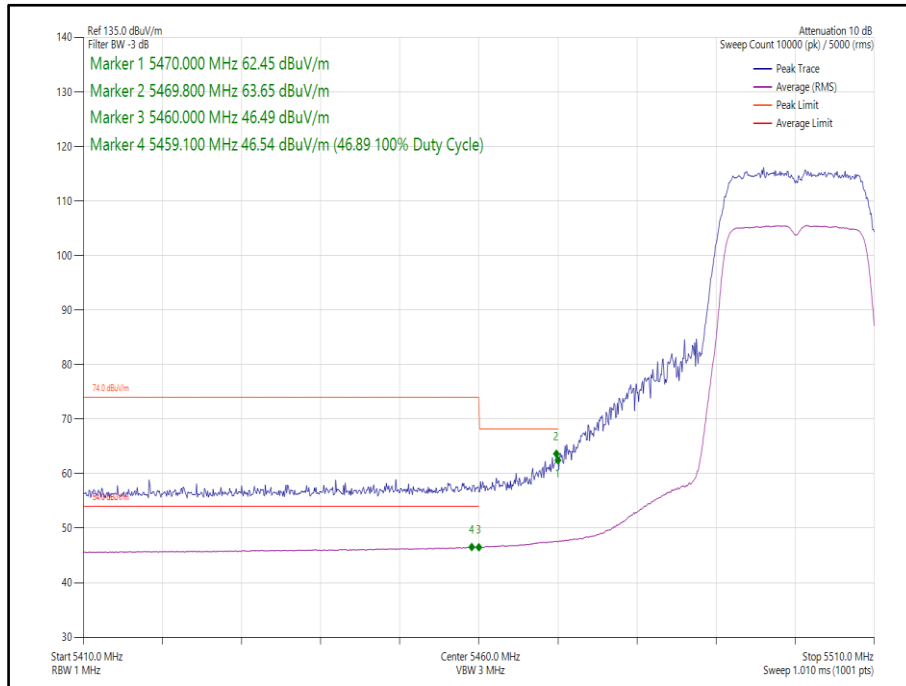
Figure 14 - 802.11ax, HE20, RU 106-54, SISO, Core 0 - 5320 MHz,
Band Edge Frequency 5350 MHz



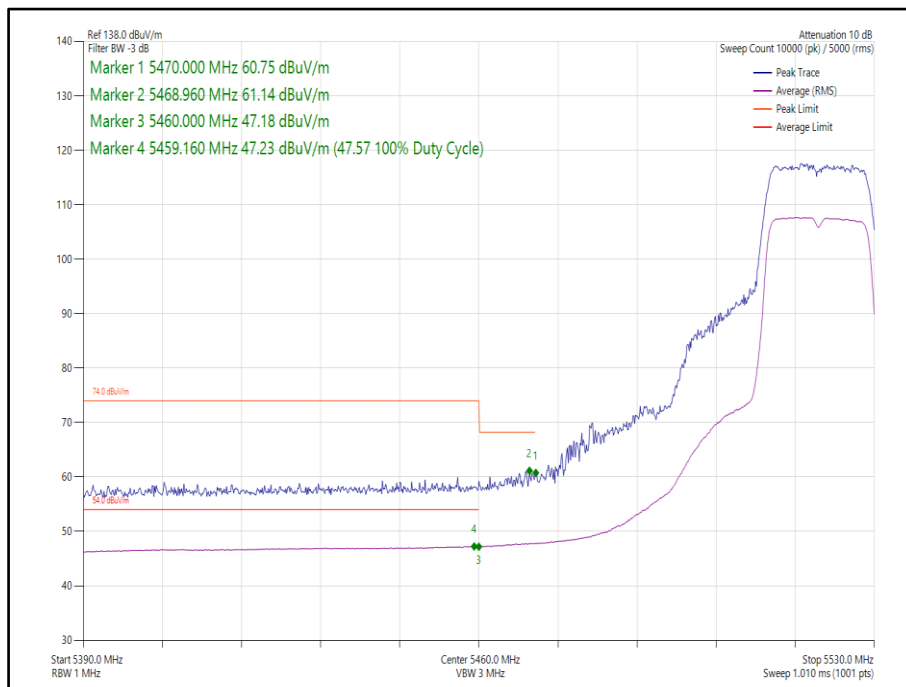
**Figure 15 - 802.11a, SISO, Core 0 - 5500 MHz,
Band Edge Frequency 5460 MHz**



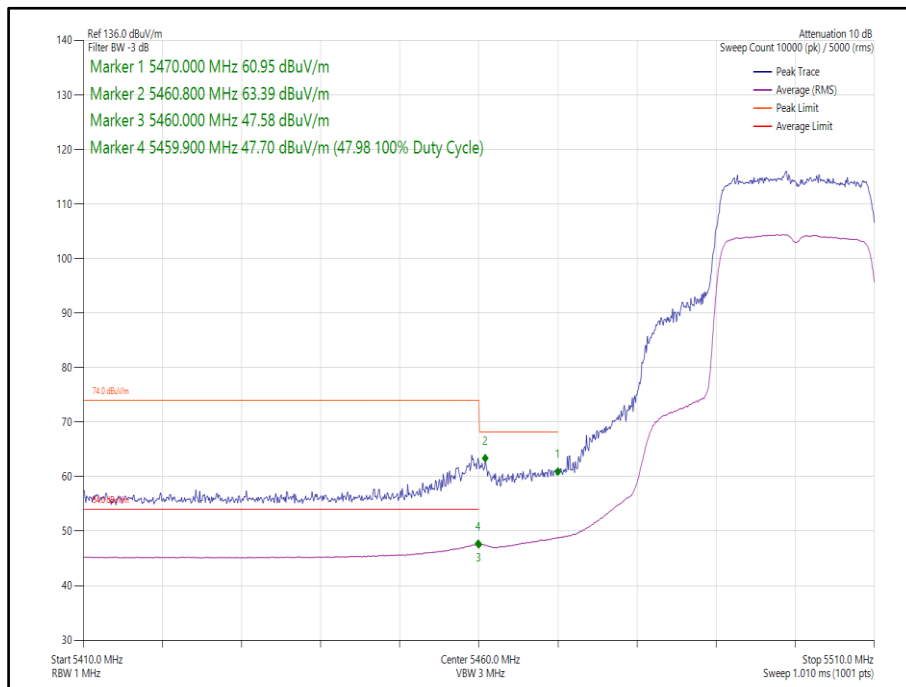
**Figure 16 - 802.11a, SISO, Core 0 - 5520 MHz,
Band Edge Frequency 5460 MHz**



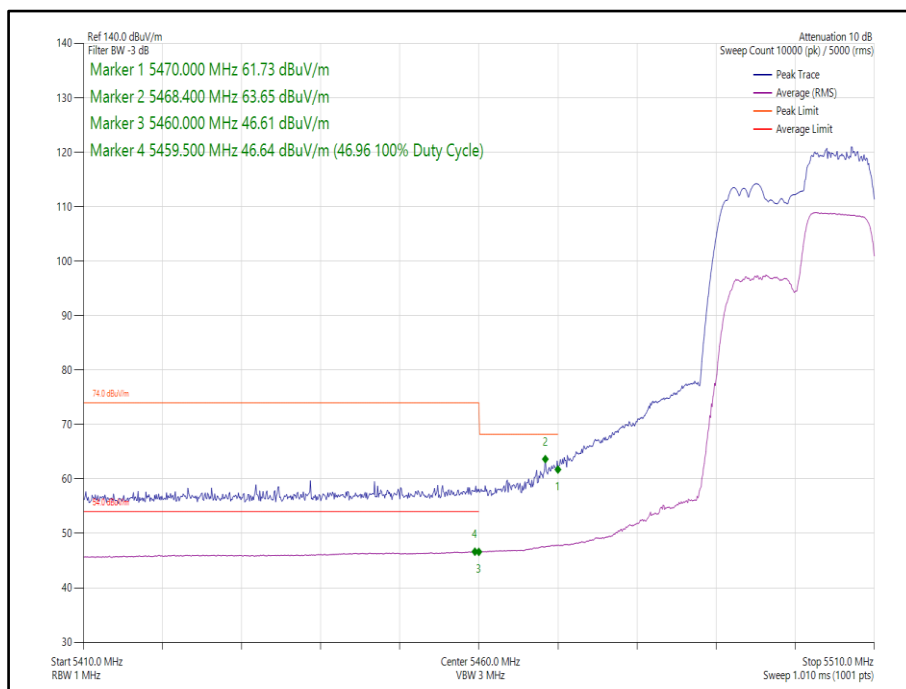
**Figure 17 - 802.11n, HT20, SISO, Core 0 - 5500 MHz,
Band Edge Frequency 5460 MHz**



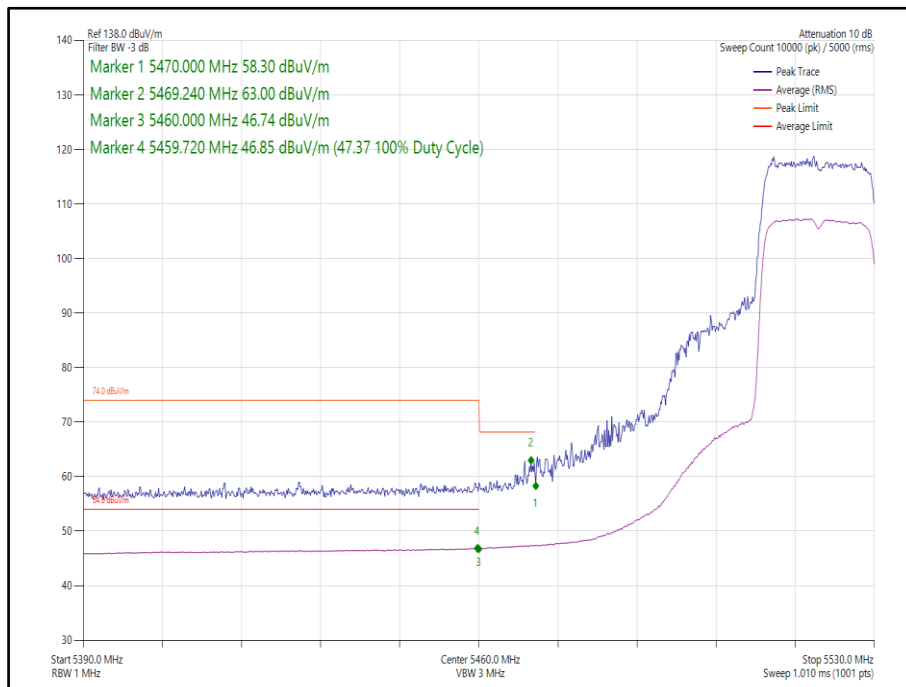
**Figure 18 - 802.11n, HT20, SISO, Core 0 - 5520 MHz,
Band Edge Frequency 5460 MHz**



**Figure 19 - 802.11ax, HE20, SU, SISO, Core 0 - 5500 MHz,
Band Edge Frequency 5460 MHz**



**Figure 20 - 802.11ax, HE20, RU 106-54, SISO, Core 0 - 5500 MHz,
Band Edge Frequency 5460 MHz**



**Figure 21 - 802.11ax, HE20, SU, SISO, Core 0 - 5520 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 (dB μ V/m)	Average Level (dB μ V/m)
802.11a	24 Mbps	-	-	5180	5150	63.82	51.17
802.11a	54 Mbps	-	-	5200	5150	63.15	49.51
802.11n HT20	MCS2	-	-	5180	5150	63.81	51.39
802.11n HT20	MCS7	-	-	5200	5150	65.30	49.12
802.11ax HE20	MCS4x1	SU	-	5180	5150	65.81	51.18
802.11ax HE20	MCS11x1	106	53	5180	5150	69.40	48.87
802.11ax HE20	MCS11x1	SU	-	5200	5150	68.75	48.99
802.11a	54 Mbps	-	-	5300	5350	62.98	49.32
802.11a	12 Mbps	-	-	5320	5350	63.71	51.41
802.11n HT20	MCS7	-	-	5300	5350	62.93	48.49
802.11n HT20	MCS7	-	-	5320	5350	69.44	50.77
802.11ax HE20	MCS4x1	SU	-	5300	5350	66.45	49.87
802.11ax HE20	MCS4x1	SU	-	5320	5350	66.77	51.49
802.11ax HE20	MCS11x1	106	54	5320	5350	69.08	48.89
802.11a	24 Mbps	-	-	5500	5460	63.22	47.37
802.11a	54 Mbps	-	-	5520	5460	59.96	46.77
802.11n HT20	MCS7	-	-	5500	5460	63.60	45.39
802.11n HT20	MCS7	-	-	5520	5460	61.64	46.52
802.11ax HE20	MCS4x1	SU	-	5500	5460	63.62	48.10
802.11ax HE20	MCS11x1	106	53	5500	5460	61.99	46.11
802.11ax HE20	MCS4x1	SU	-	5520	5460	62.29	46.87

Table 8 - SISO Restricted Band Edge Results

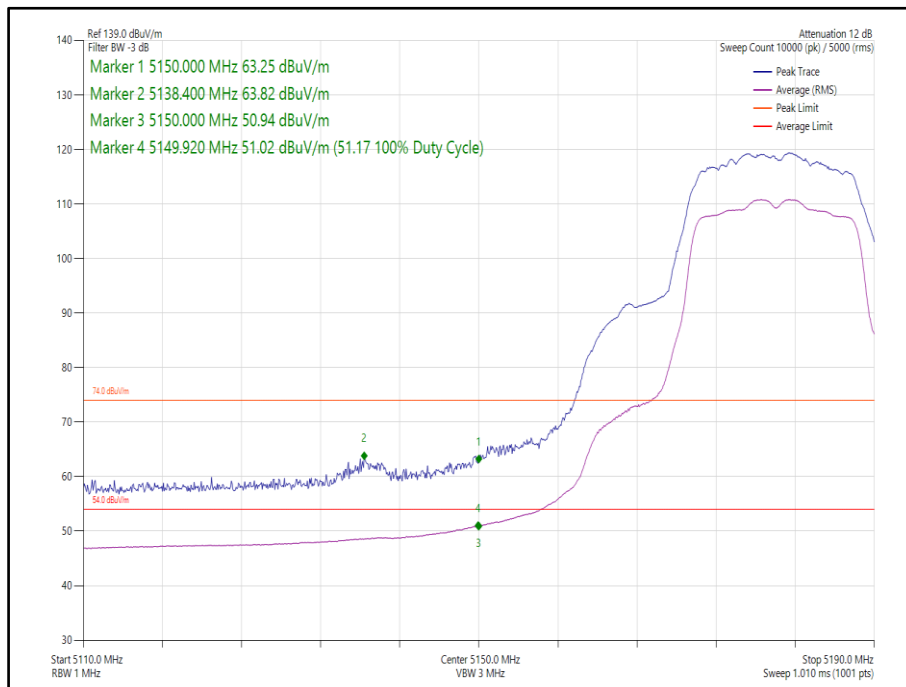


Figure 22 - 802.11a, SISO, Core 1 - 5180 MHz,
Band Edge Frequency 5150 MHz

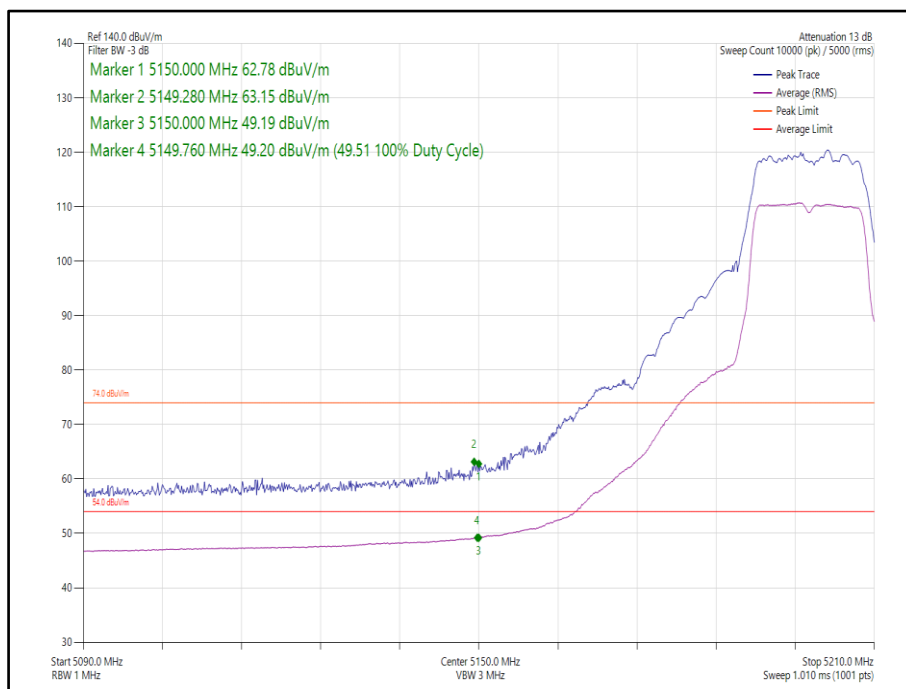
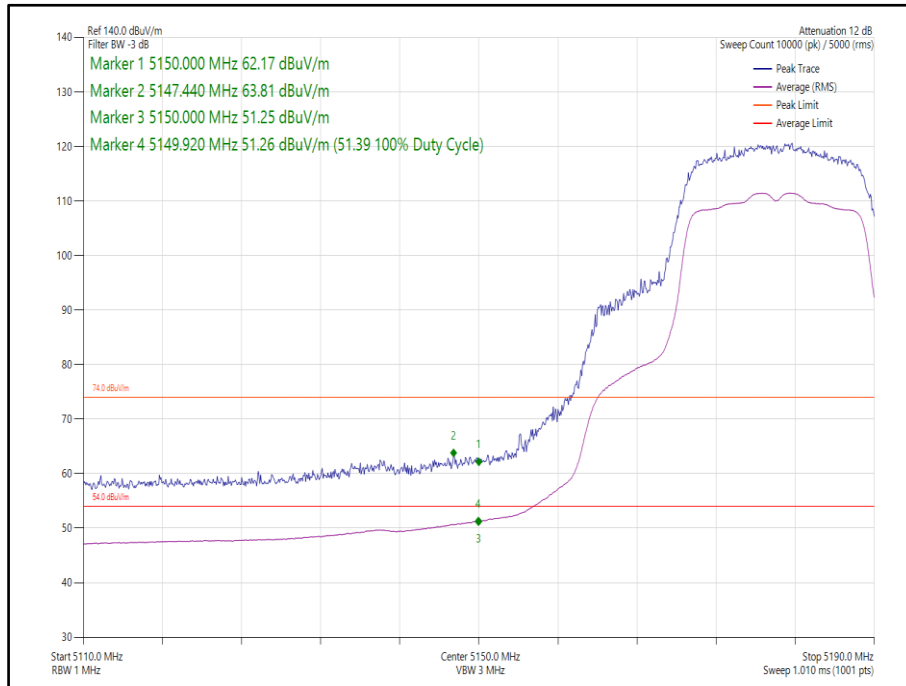
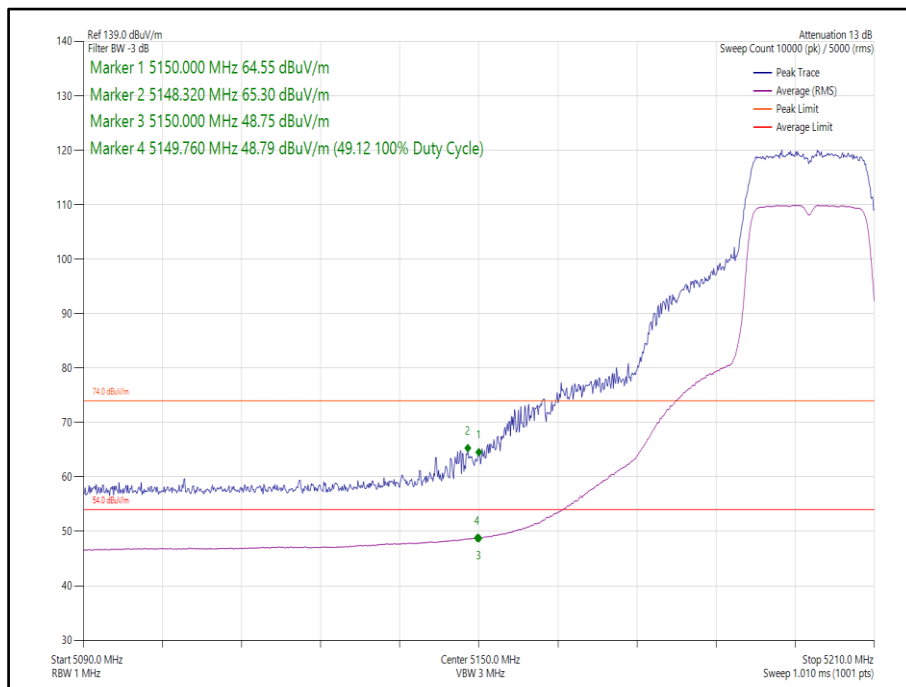


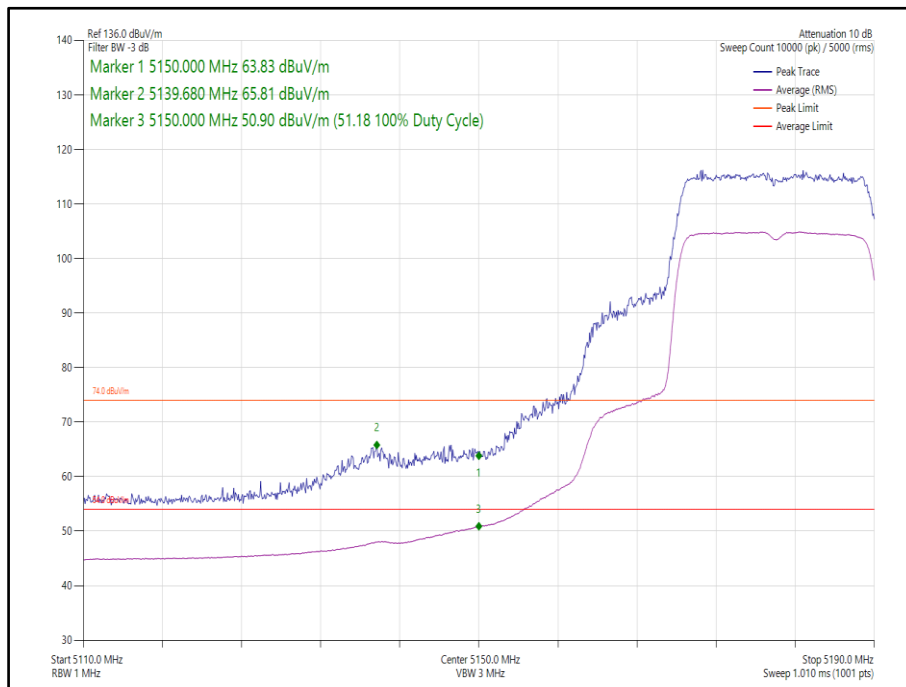
Figure 23 - 802.11a, SISO, Core 1 - 5200 MHz,
Band Edge Frequency 5150 MHz



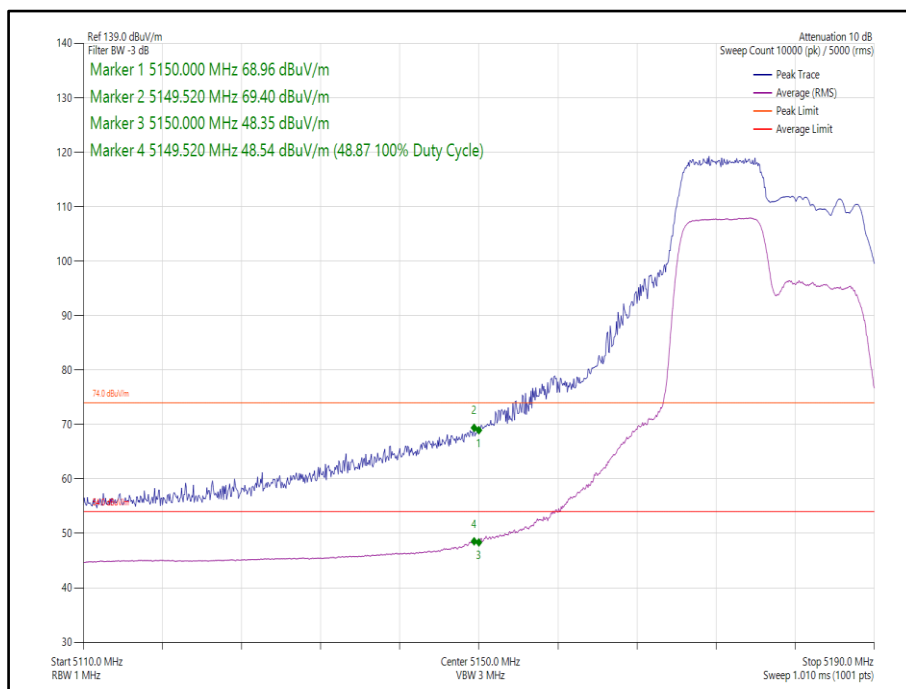
**Figure 24 - 802.11n, HT20, SISO, Core 1 - 5180 MHz,
Band Edge Frequency 5150 MHz**



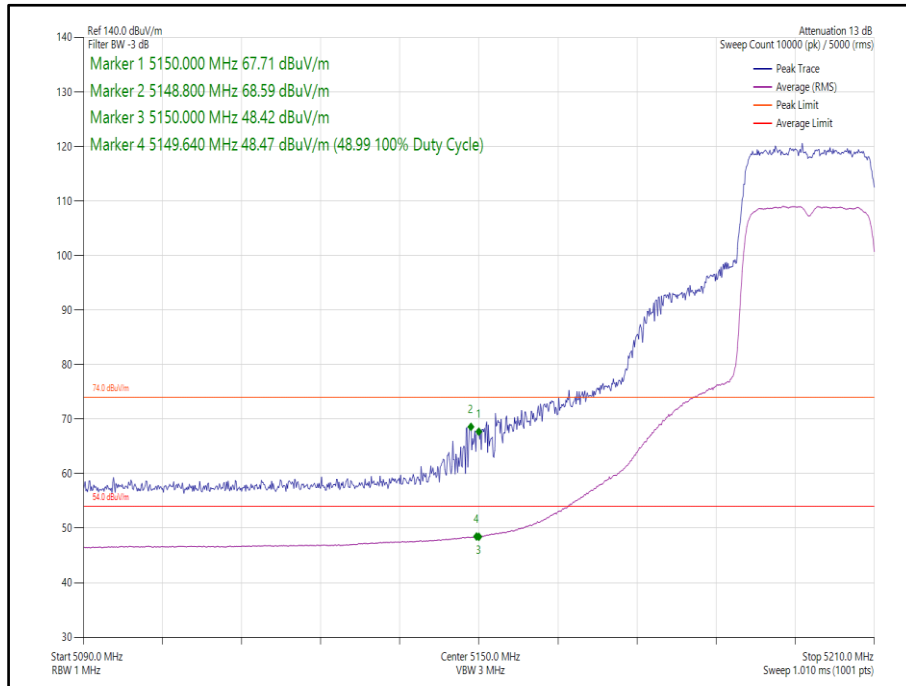
**Figure 25 - 802.11n, HT20, SISO, Core 1 - 5200 MHz,
Band Edge Frequency 5150 MHz**



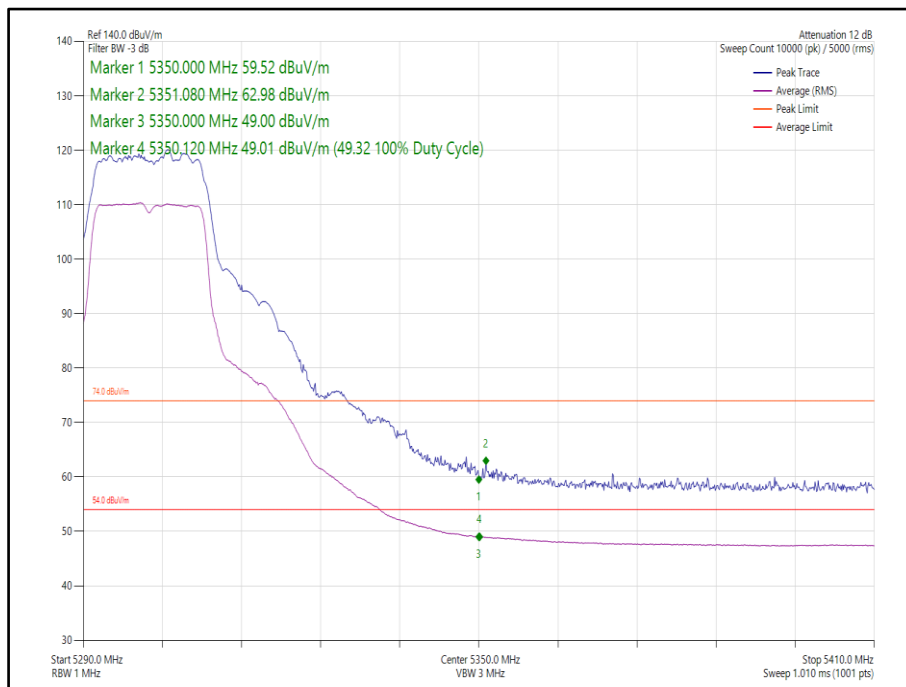
**Figure 26 - 802.11ax, HE20, SU, SISO, Core 1 - 5180 MHz,
Band Edge Frequency 5150 MHz**



**Figure 27 - 802.11ax, HE20, RU 106-53, SISO, Core 1 - 5180 MHz,
Band Edge Frequency 5150 MHz**



**Figure 28 - 802.11ax, HE20, SU, SISO, Core 1 - 5200 MHz,
Band Edge Frequency 5150 MHz**



**Figure 29 - 802.11a, SISO, Core 1 - 5300 MHz,
Band Edge Frequency 5350 MHz**

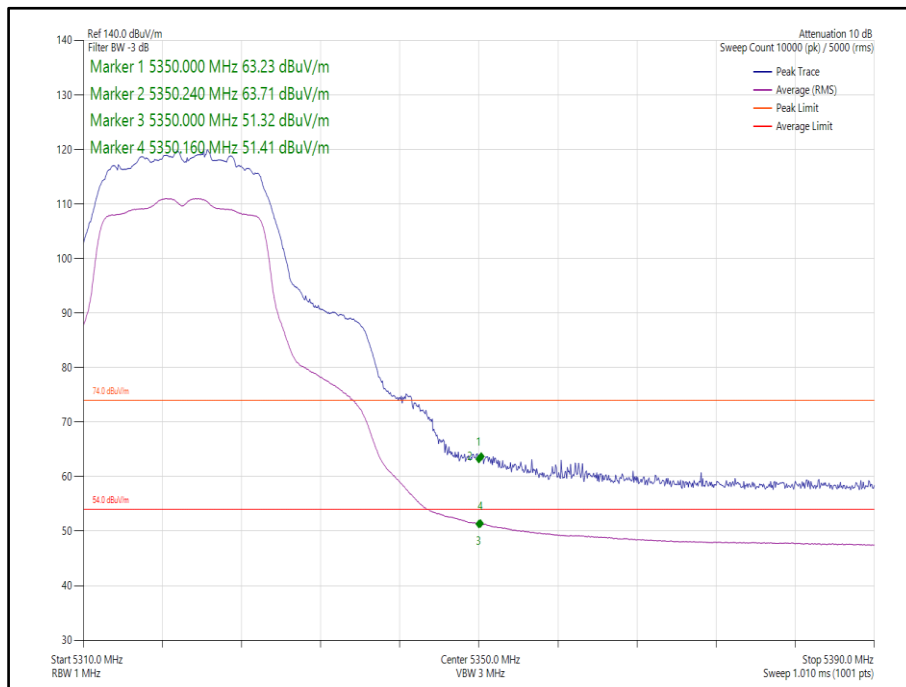


Figure 30 - 802.11a, SISO, Core 1 - 5320 MHz,
Band Edge Frequency 5350 MHz

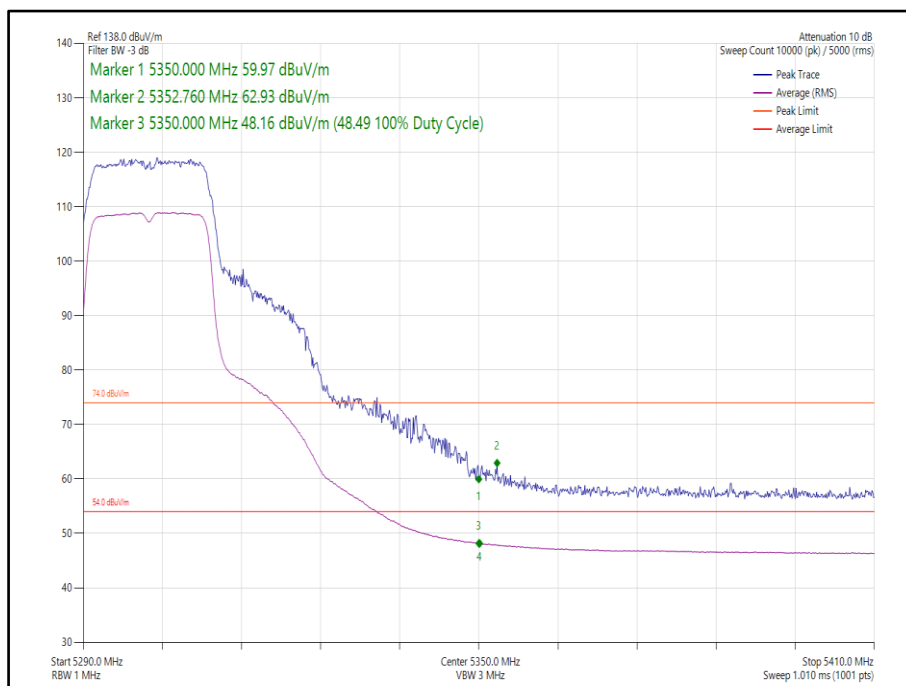
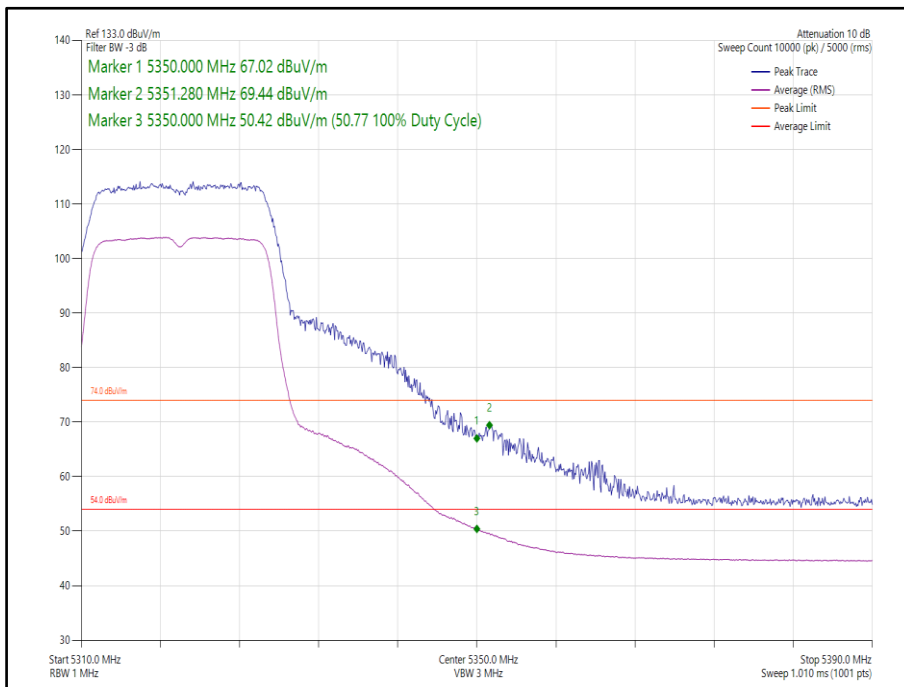
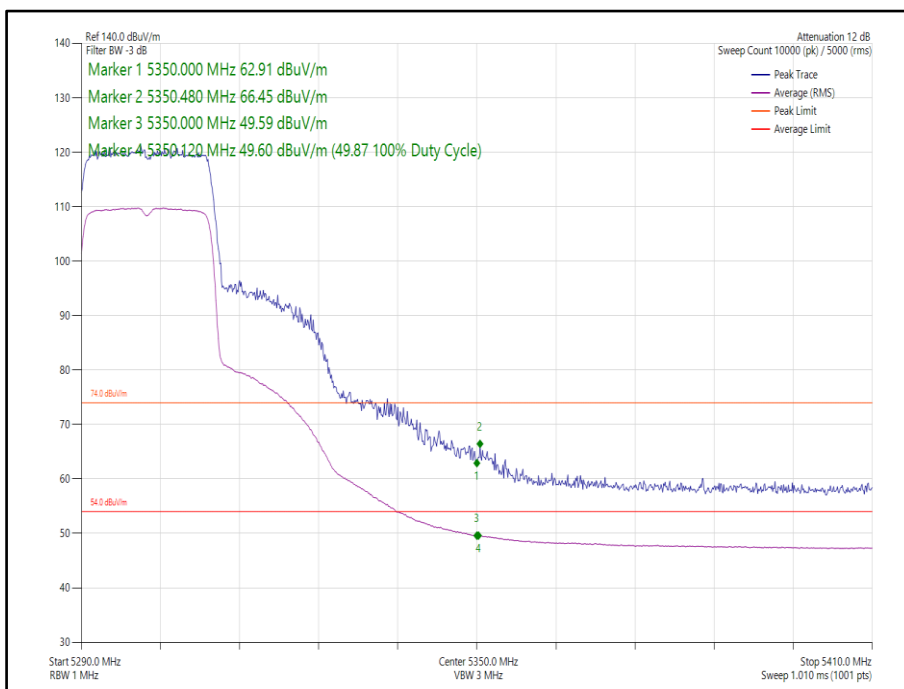


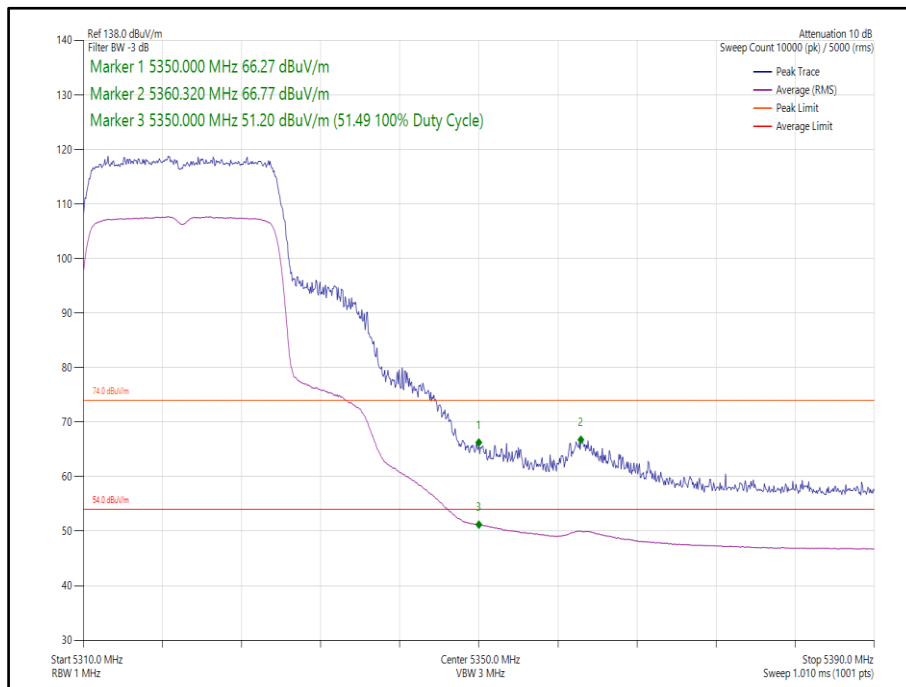
Figure 31 - 802.11n, HT20, SISO, Core 1 - 5300 MHz,
Band Edge Frequency 5350 MHz



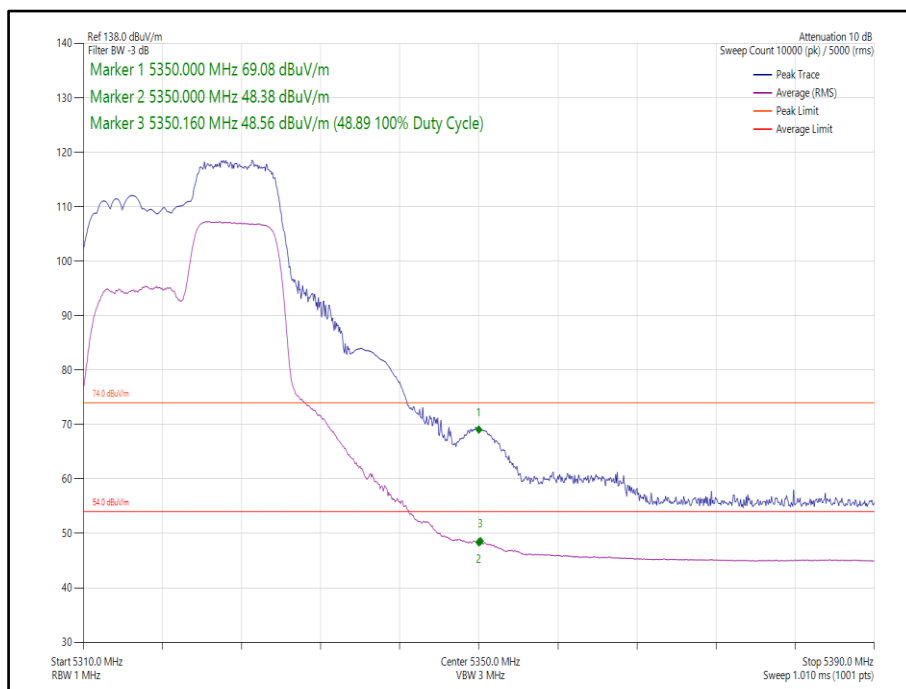
**Figure 32 - 802.11n, HT20, SISO, Core 1 - 5320 MHz,
Band Edge Frequency 5350 MHz**



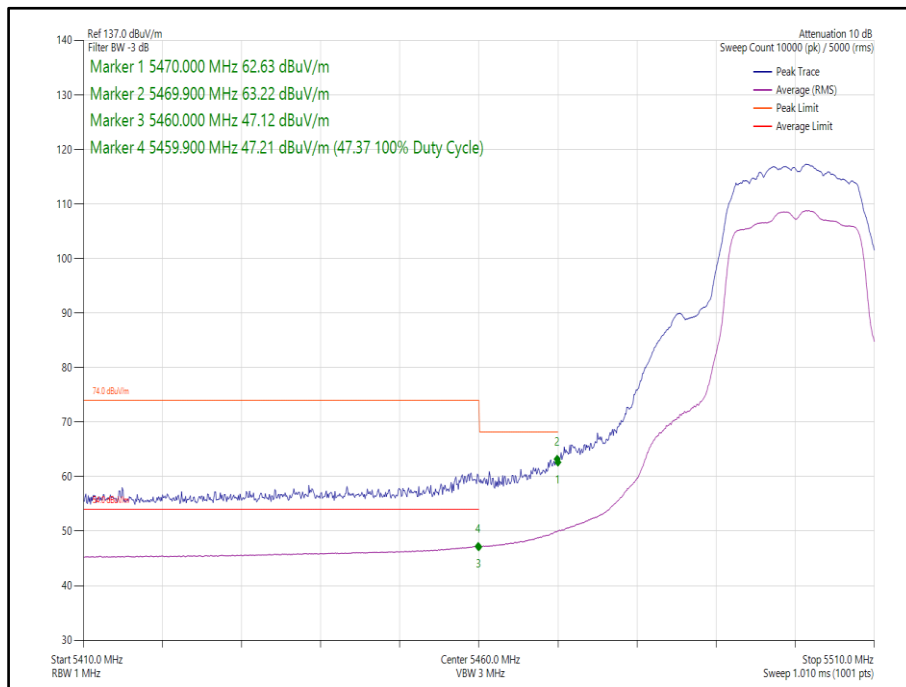
**Figure 33 - 802.11ax, HE20, SU, SISO, Core 1 - 5300 MHz,
Band Edge Frequency 5350 MHz**



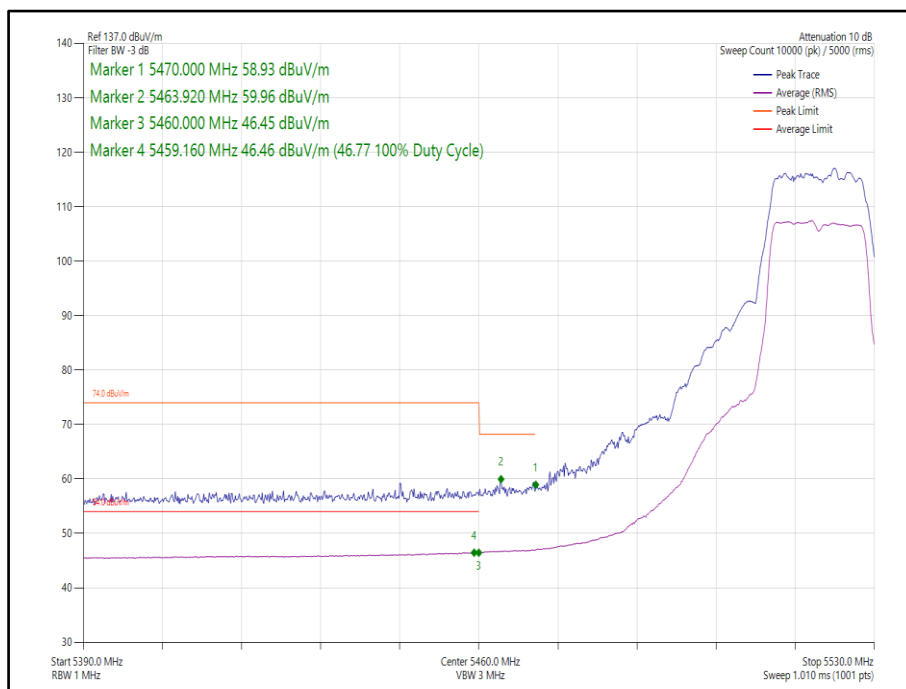
**Figure 34 - 802.11ax, HE20, SU, SISO, Core 1 - 5320 MHz,
Band Edge Frequency 5350 MHz**



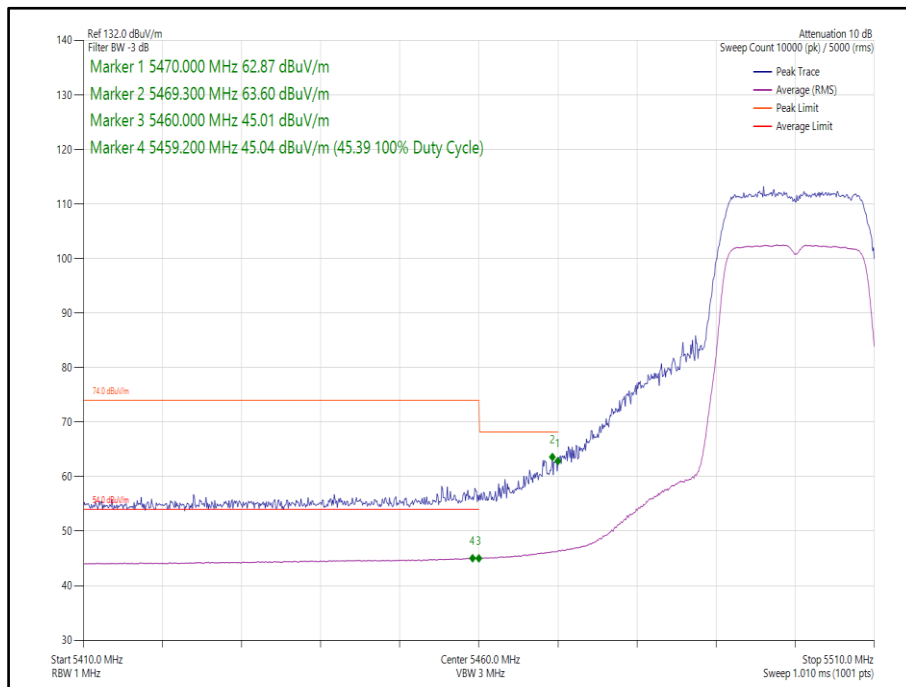
**Figure 35 - 802.11ax, HE20, RU 106-54, SISO, Core 1 - 5320 MHz,
Band Edge Frequency 5350 MHz**



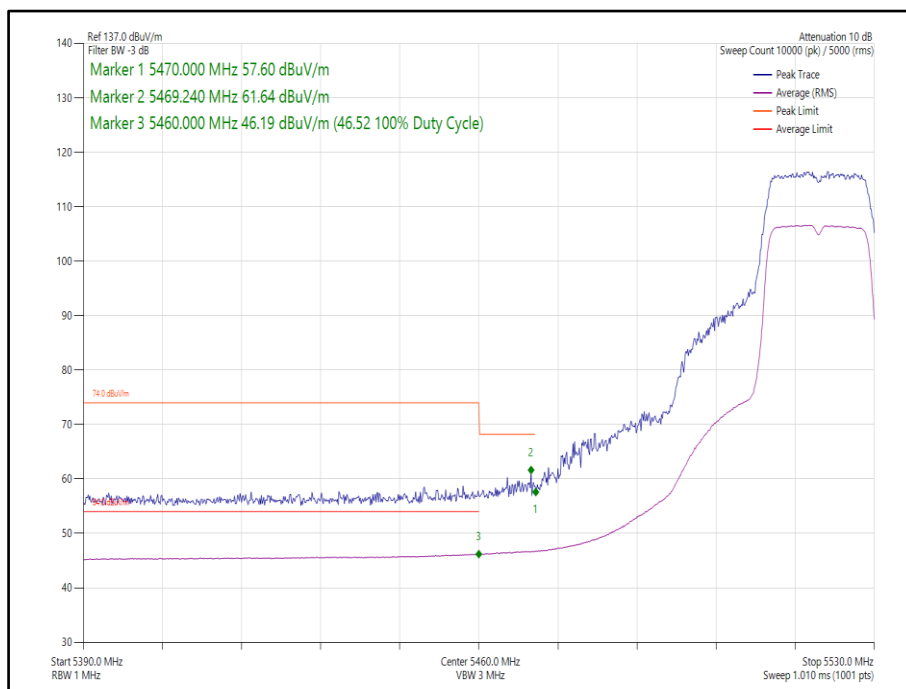
**Figure 36 - 802.11a, SISO, Core 1 - 5500 MHz,
Band Edge Frequency 5460 MHz**



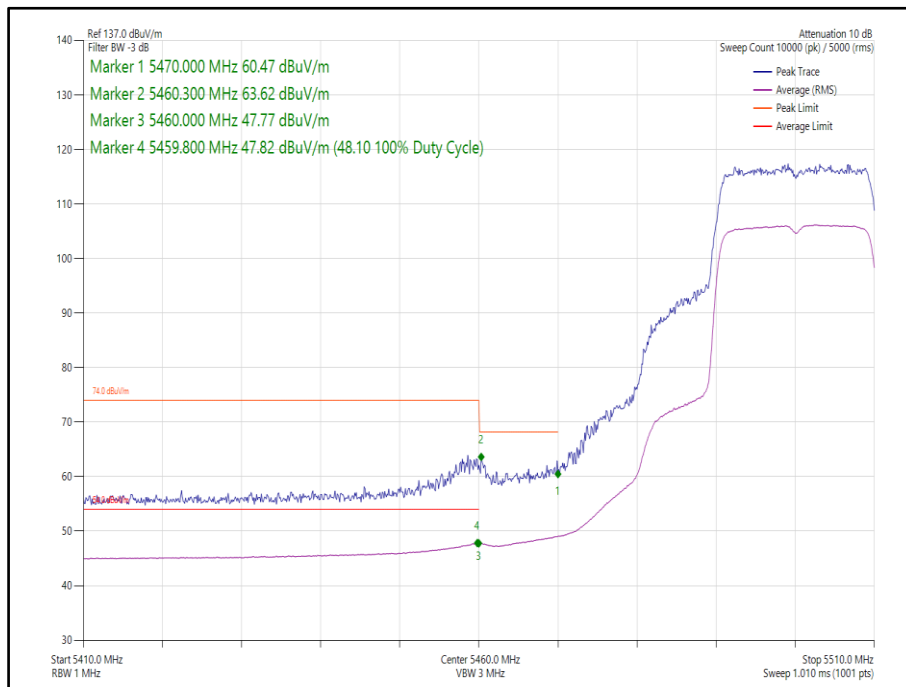
**Figure 37 - 802.11a, SISO, Core 1 - 5520 MHz,
Band Edge Frequency 5460 MHz**



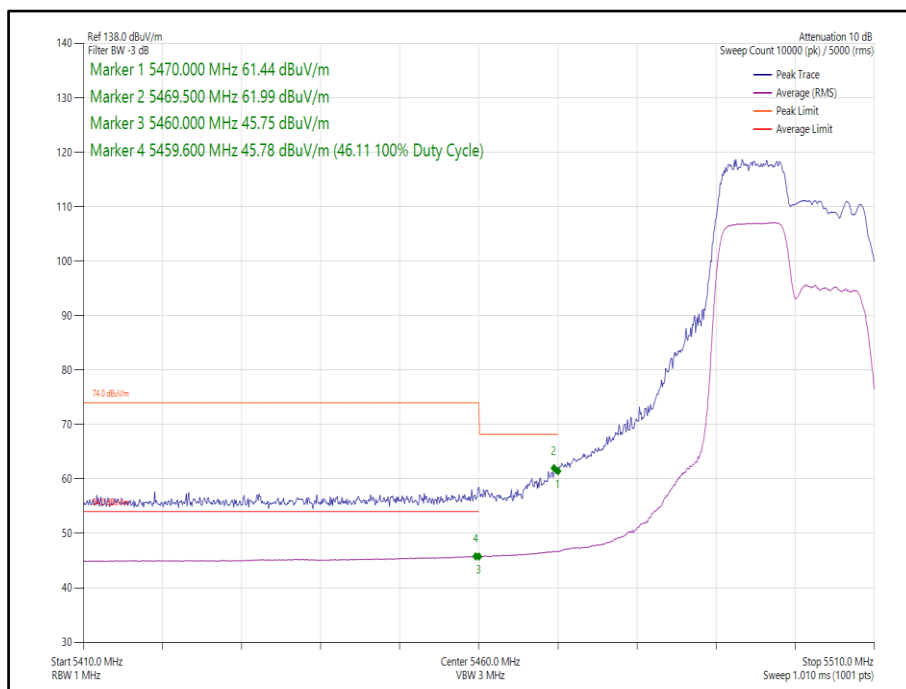
**Figure 38 - 802.11n, HT20, SISO, Core 1 - 5500 MHz,
Band Edge Frequency 5460 MHz**



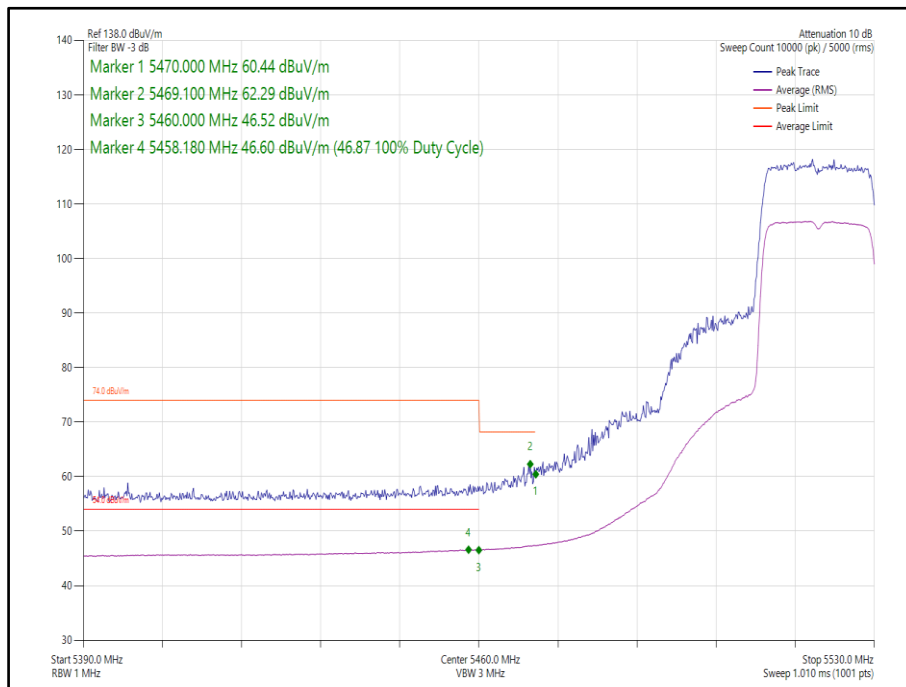
**Figure 39 - 802.11n, HT20, SISO, Core 1 - 5520 MHz,
Band Edge Frequency 5460 MHz**



**Figure 40 - 802.11ax, HE20, SU, SISO, Core 1 - 5500 MHz,
Band Edge Frequency 5460 MHz**



**Figure 41 - 802.11ax, HE20, RU 106-53, SISO, Core 1 - 5500 MHz,
Band Edge Frequency 5460 MHz**



**Figure 42 - 802.11ax, HE20, SU, SISO, Core 1 - 5520 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 (dBμV/m)
802.11n HT20	MCS7	-	-	5180	5150	69.43	49.99
802.11n HT20	MCS7	-	-	5200	5150	68.57	51.23
802.11ax HE20	MCS11x1	SU	-	5180	5150	69.40	49.21
802.11ax HE20	MCS11x1	106	54	5180	5150	69.38	49.90
802.11ax HE20	MCS11x1	SU	-	5200	5150	69.24	49.76
802.11ax HE20	MCS11x1	106	53	5200	5150	62.17	48.84
802.11n HT20	MCS7	-	-	5300	5350	65.80	51.19
802.11n HT20	MCS7	-	-	5320	5350	68.63	51.48
802.11ax HE20	MCS4x1	SU	-	5300	5350	65.73	51.23
802.11ax HE20	MCS2x1	SU	-	5320	5350	64.34	51.44
802.11ax HE20	MCS11x1	106	54	5320	5350	69.32	50.47
802.11n HT20	MCS4	-	-	5500	5460	63.68	49.63
802.11n HT20	MCS7	-	-	5520	5460	63.09	48.90
802.11ax HE20	MCS2x1	SU	-	5500	5460	63.67	50.50
802.11ax HE20	MCS11x1	106	53	5500	5460	63.36	46.30
802.11ax HE20	MCS11x1	SU	-	5520	5460	63.50	48.13

Table 9 - CDD Restricted Band Edge Results

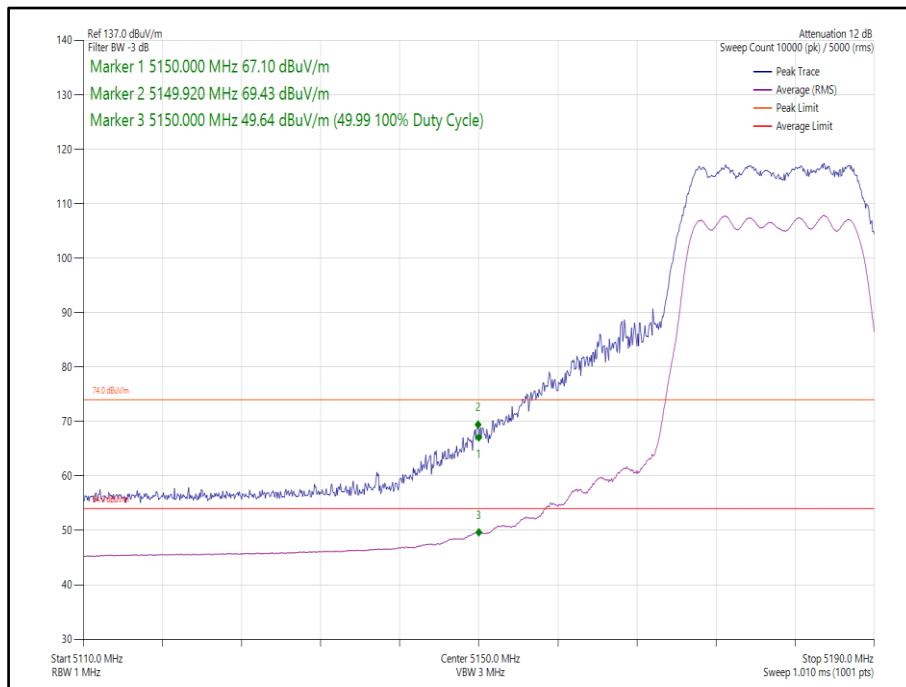
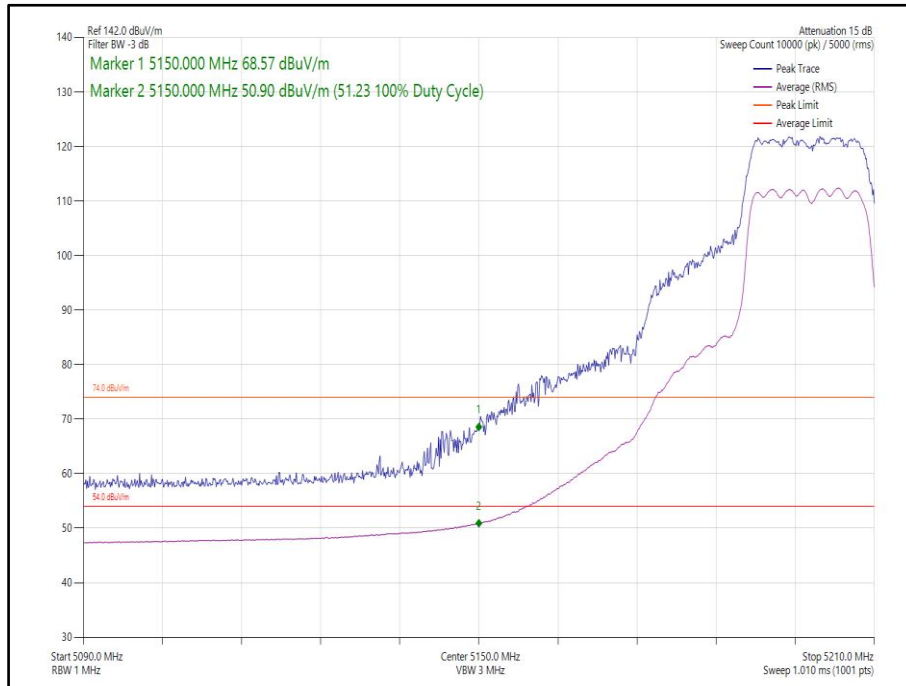
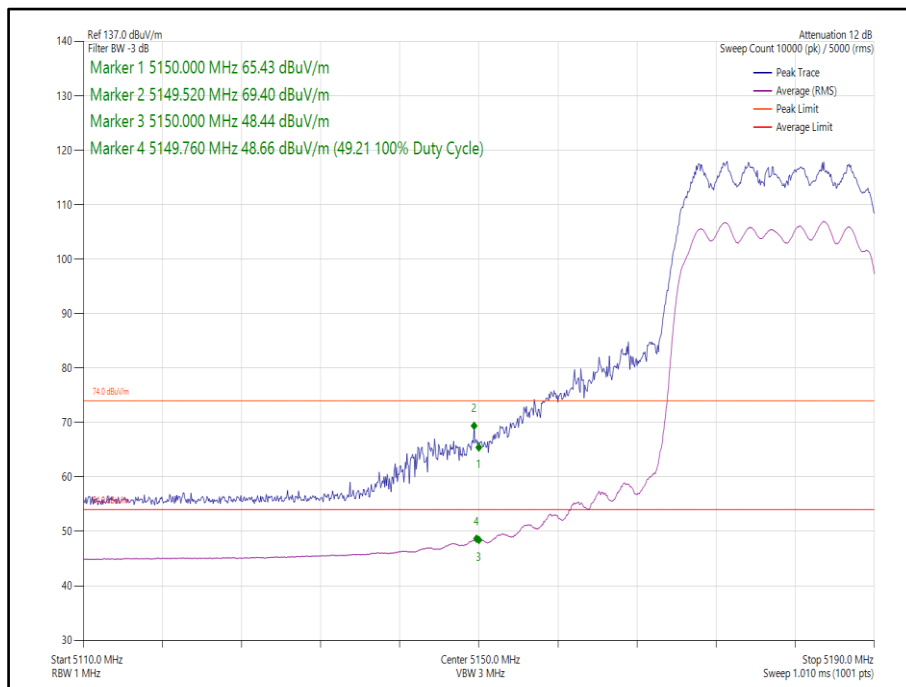


Figure 43 - 802.11n, HT20, CDD, Core 0-1 - 5180 MHz, Band Edge Frequency 5150 MHz



**Figure 44 - 802.11n, HT20, CDD, Core 0-1 - 5200 MHz,
Band Edge Frequency 5150 MHz**



**Figure 45 - 802.11ax, HE20, SU, CDD, Core 0-1 - 5180 MHz,
Band Edge Frequency 5150 MHz**

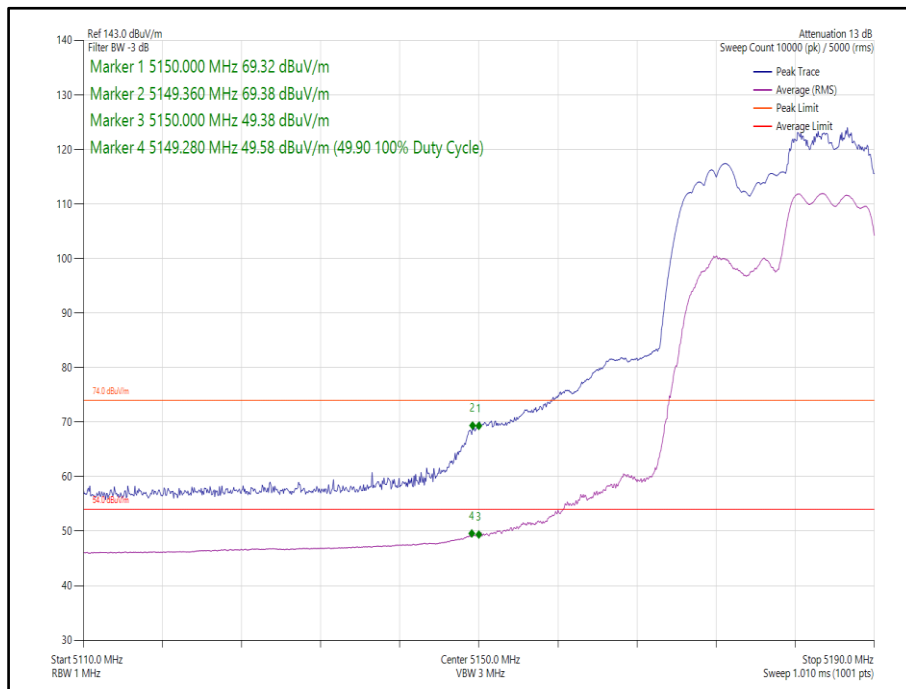


Figure 46 - 802.11ax, HE20, RU 106-54, CDD, Core 0-1 - 5180 MHz, Band Edge Frequency 5150 MHz

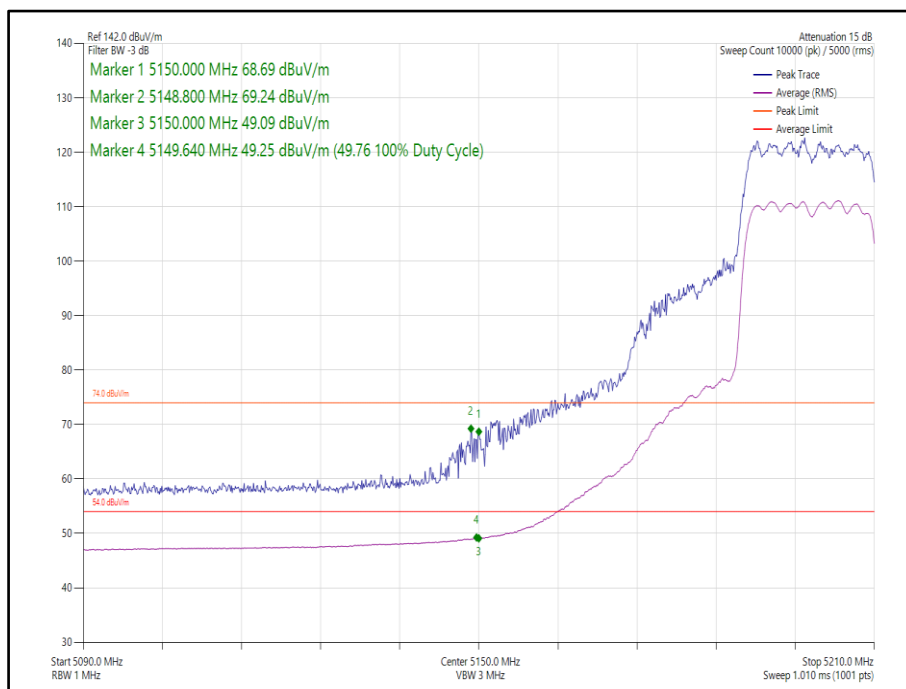


Figure 47 - 802.11ax, HE20, SU, CDD, Core 0-1 - 5200 MHz, Band Edge Frequency 5150 MHz