TUV SUD Limited
Digitally signed by TUV SUD Limited
Date: 2024.10.16 07:56:00 +01'00'

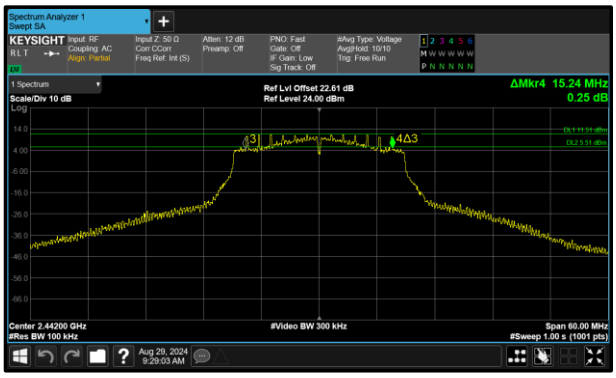

Figure 131 - 802.11n HT20 Minimum 6 dB EBW

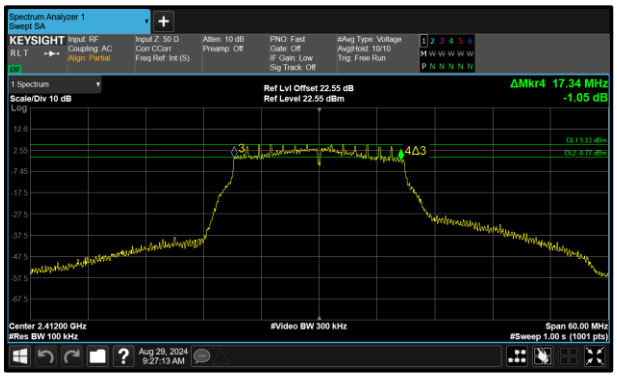

Figure 132 - 802.11n HT20 Maximum 6 dB EBW

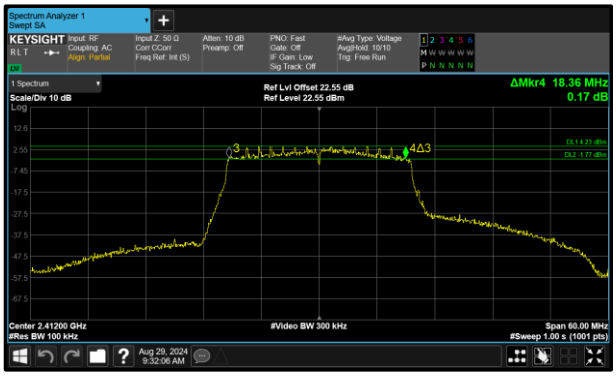

Figure 133 - 802.11ax HE20 SU Minimum 6 dB EBW

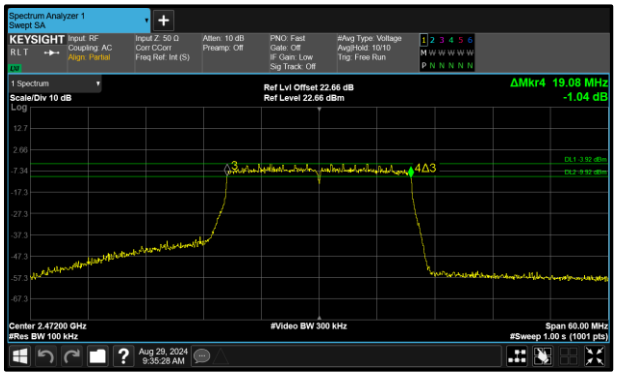

Figure 134 - 802.11ax HE20 SU Maximum 6 dB EBW

Protocol	99% Bandwidth (MHz)	
	Minimum	Maximum
802.11b	12.900	12.960
802.11g	16.380	16.620
802.11n HT20	17.580	17.700
802.11ax HE20 SU	18.900	18.960

Table 13 - 99% Bandwidth Summary Results - SISO

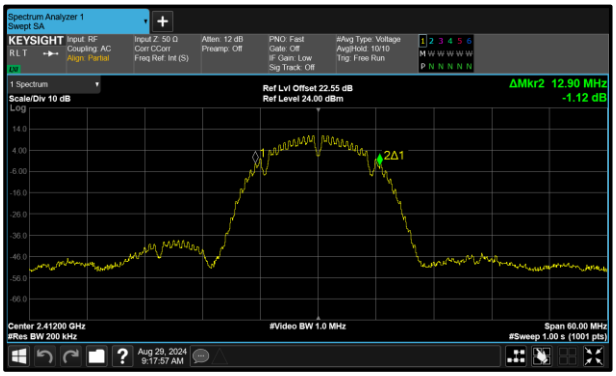

Figure 135 - 802.11b Minimum 99% OBW

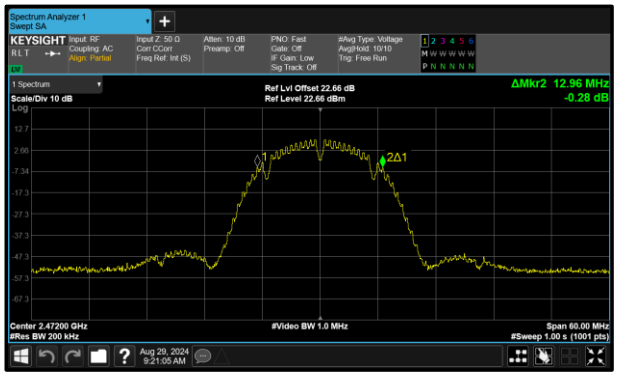

Figure 136 - 802.11b Maximum 99% OBW

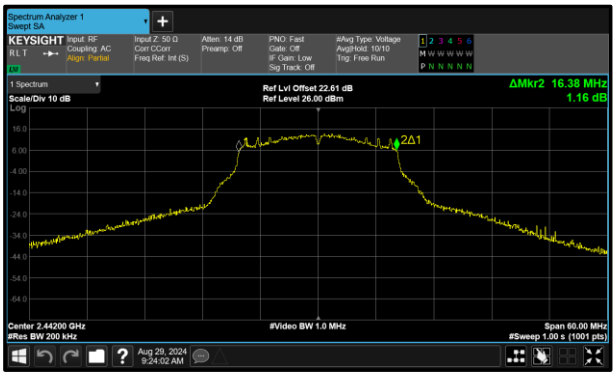

Figure 137 - 802.11g Minimum 99% OBW

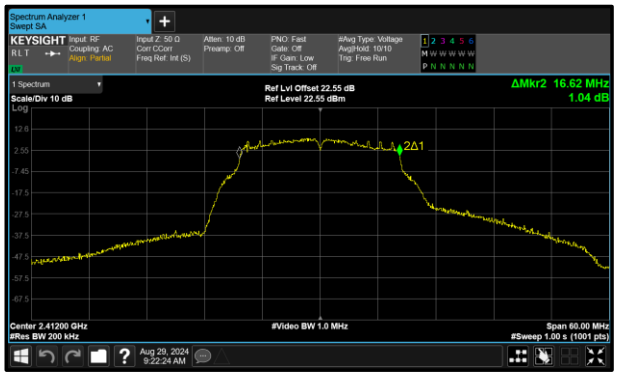

Figure 138 - 802.11g Maximum 99% OBW

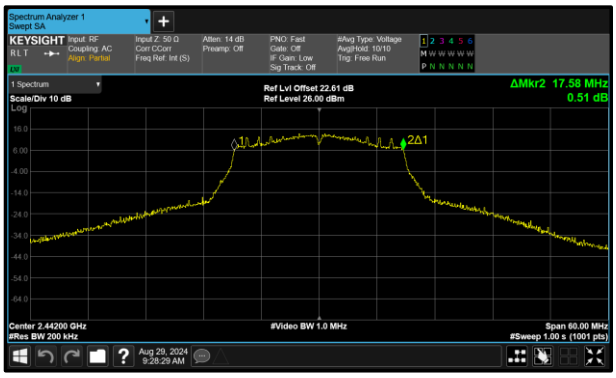

Figure 139 - 802.11n HT20 Minimum 99% OBW

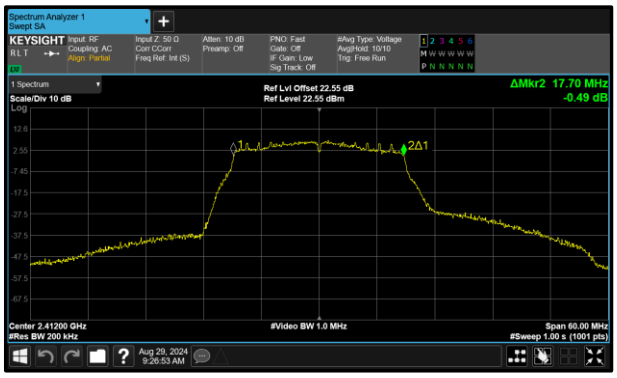

Figure 140 - 802.11n HT20 Maximum 99% OBW

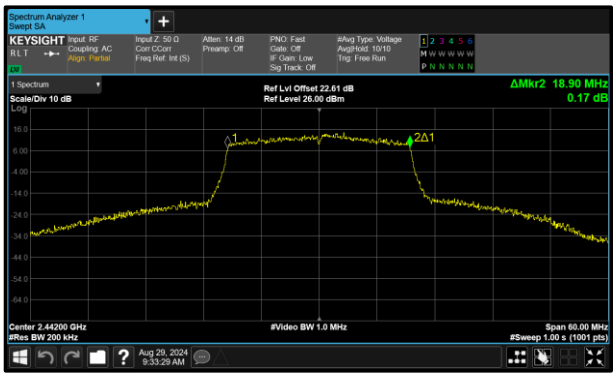

Figure 141 - 802.11ax HE20 SU Minimum 99% OBW

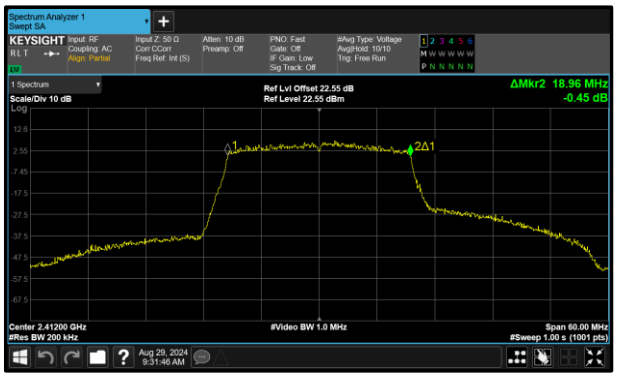

Figure 142 - 802.11ax HE20 SU Maximum 99% OBW

MIMO CDD

Protocol	6 dB Bandwidth (MHz)	
	Minimum	Maximum
802.11n HT20	15.240	17.520
802.11ax HE20 SU	18.120	19.080

Table 14 - 6 dB Bandwidth Summary Results - MIMO CDD

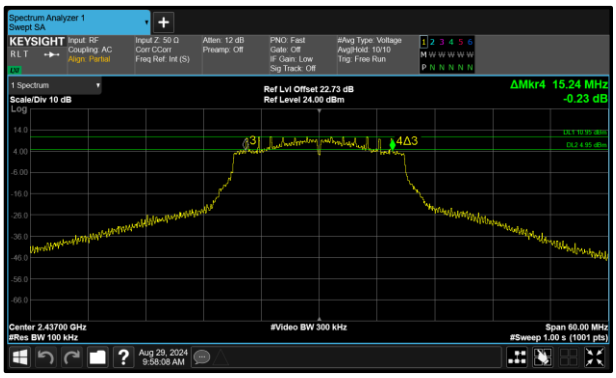

Figure 143 - 802.11n HT20 Minimum 6 dB EBW

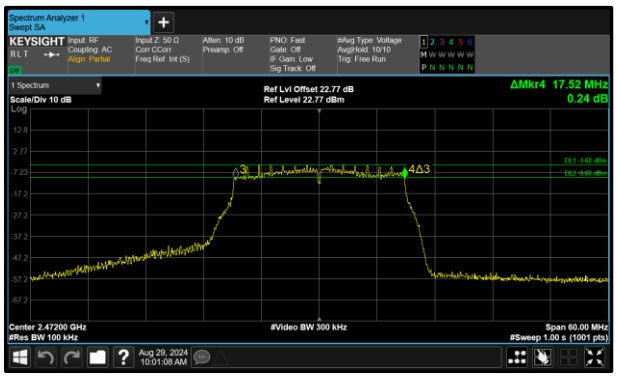

Figure 144 - 802.11n HT20 Maximum 6 dB EBW

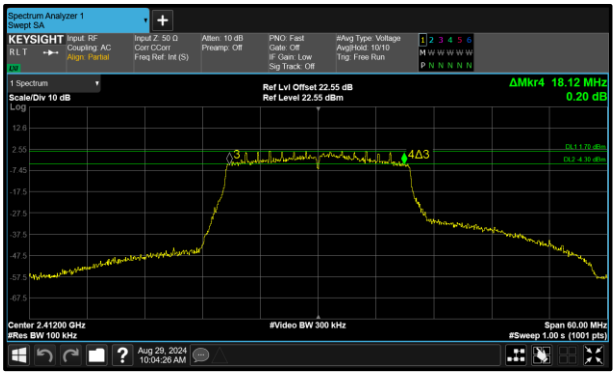

Figure 145 - 802.11ax HE20 SU Minimum 6 dB EBW

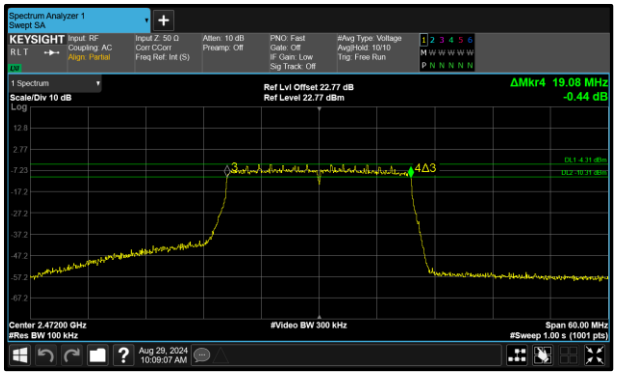

Figure 146 - 802.11ax HE20 SU Maximum 6 dB EBW

Protocol	99% Bandwidth (MHz)	
	Minimum	Maximum
802.11n HT20	17.520	17.700
802.11ax HE20 SU	18.900	19.020

Table 15 - 99% Bandwidth Summary Results - MIMO CDD

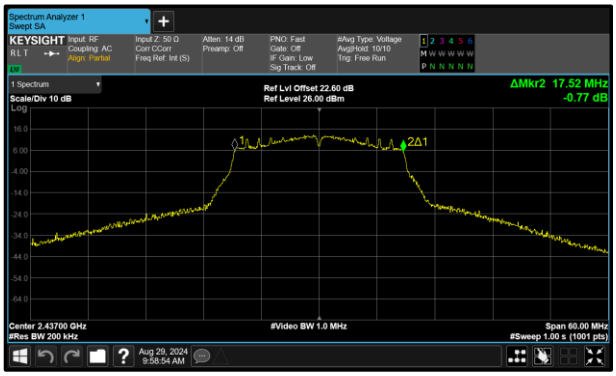

Figure 147 - 802.11n HT20 Minimum 99% OBW

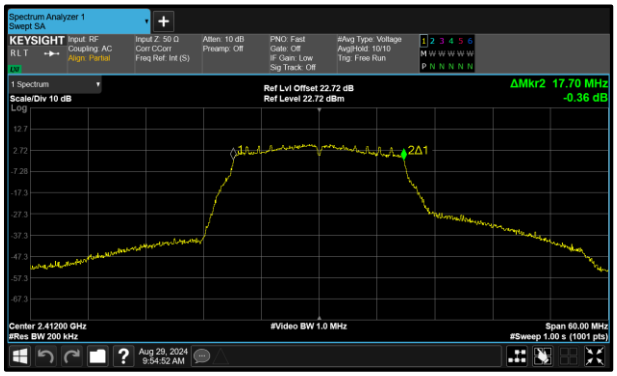

Figure 148 - 802.11n HT20 Maximum 99% OBW

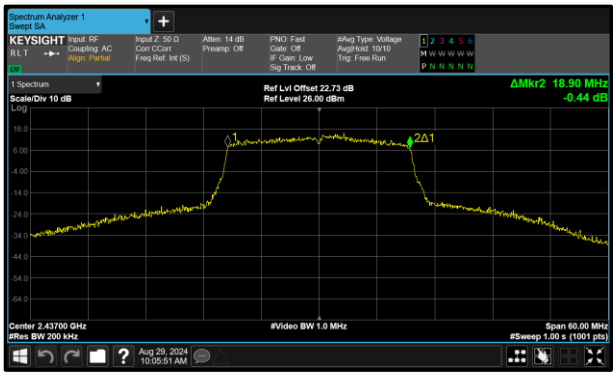

Figure 149 - 802.11ax HE20 SU Minimum 99% OBW

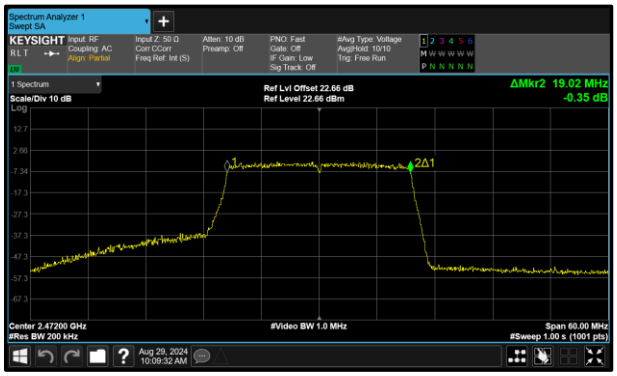

Figure 150 - 802.11ax HE20 SU Maximum 99% OBW

SISO

Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	15.247 (a)(2) RSS-247 5.2 a)	Test Method(s):	C63.10 6.9.3 C63.10 11.8.1
Additional Reference(s):	-		

DUT Configuration			
Mode:	802.11b	Duty Cycle (%):	-
Data Rate:	1 Mbps	DCCF (dB):	-
Antenna Configuration:	SISO	Peak Antenna Gain (dBi):	-
Active Port(s):	B (Core 1)	Active Chain(s):	1

Test Frequency (MHz)	6 dB Bandwidth (MHz)				Limit (kHz)
	A	B	C	D	
2412	-	8.640	-	-	≥500.0
2442	-	8.640	-	-	≥500.0
2472	-	9.120	-	-	≥500.0

Table 16 - 6 dB Bandwidth Results

Test Frequency (MHz)	99% Bandwidth (MHz)				Limit (kHz)
	A	B	C	D	
2412	-	12.900	-	-	-
2442	-	12.900	-	-	-
2472	-	12.960	-	-	-

Table 17 - 99% Bandwidth Results

Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	15.247 (a)(2) RSS-247 5.2 a)	Test Method(s):	C63.10 6.9.3 C63.10 11.8.1
Additional Reference(s):	-		

DUT Configuration			
Mode:	802.11g	Duty Cycle (%):	-
Data Rate:	12 Mbps	DCCF (dB):	-
Antenna Configuration:	SISO	Peak Antenna Gain (dBi):	-
Active Port(s):	B (Core 1)	Active Chain(s):	1

Test Frequency (MHz)	6 dB Bandwidth (MHz)				Limit (kHz)
	A	B	C	D	
2412	-	15.540	-	-	≥500.0
2442	-	15.480	-	-	≥500.0
2472	-	16.440	-	-	≥500.0

Table 18 - 6 dB Bandwidth Results

Test Frequency (MHz)	99% Bandwidth (MHz)				Limit (kHz)
	A	B	C	D	
2412	-	16.620	-	-	-
2442	-	16.380	-	-	-
2472	-	16.500	-	-	-

Table 19 - 99% Bandwidth Results

Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	15.247 (a)(2) RSS-247 5.2 a)	Test Method(s):	C63.10 6.9.3 C63.10 11.8.1
Additional Reference(s):	-		

DUT Configuration			
Mode:	802.11n HT20	Duty Cycle (%):	-
Modulation Coding Scheme:	MCS2	DCCF (dB):	-
Antenna Configuration:	SISO	Peak Antenna Gain (dBi):	-
Active Port(s):	B (Core 1)	Active Chain(s):	1

Test Frequency (MHz)	6 dB Bandwidth (MHz)				Limit (kHz)
	A	B	C	D	
2412	-	17.340	-	-	≥500.0
2442	-	15.240	-	-	≥500.0
2472	-	17.100	-	-	≥500.0

Table 20 - 6 dB Bandwidth Results

Test Frequency (MHz)	99% Bandwidth (MHz)				Limit (kHz)
	A	B	C	D	
2412	-	17.700	-	-	-
2442	-	17.580	-	-	-
2472	-	17.700	-	-	-

Table 21 - 99% Bandwidth Results

Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	15.247 (a)(2) RSS-247 5.2 a)	Test Method(s):	C63.10 6.9.3 C63.10 11.8.1
Additional Reference(s):	-		

DUT Configuration			
Mode:	802.11ax HE20 SU	Duty Cycle (%):	-
Modulation Coding Scheme:	MCS2x1	DCCF (dB):	-
Antenna Configuration:	SISO	Peak Antenna Gain (dBi):	-
Active Port(s):	B (Core 1)	Active Chain(s):	1

Test Frequency (MHz)	6 dB Bandwidth (MHz)				Limit (kHz)
	A	B	C	D	
2412	-	18.360	-	-	≥500.0
2442	-	18.840	-	-	≥500.0
2472	-	19.080	-	-	≥500.0

Table 22 - 6 dB Bandwidth Results

Test Frequency (MHz)	99% Bandwidth (MHz)				Limit (kHz)
	A	B	C	D	
2412	-	18.960	-	-	-
2442	-	18.900	-	-	-
2472	-	18.960	-	-	-

Table 23 - 99% Bandwidth Results

MIMO CDD

Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	15.247 (a)(2) RSS-247 5.2 a)	Test Method(s):	C63.10 6.9.3 C63.10 11.8.1
Additional Reference(s):	-		

DUT Configuration			
Mode:	802.11n HT20	Duty Cycle (%):	-
Modulation Coding Scheme:	MCS2	DCCF (dB):	-
Antenna Configuration:	MIMO CDD	Peak Antenna Gain (dBi):	-
Active Port(s):	A+B (Core 0 + Core 1)	Active Chain(s):	0+1

Test Frequency (MHz)	6 dB Bandwidth (MHz)				Limit (kHz)
	A	B	C	D	
2412	16.140	16.140	-	-	≥500.0
2437	15.240	15.300	-	-	≥500.0
2472	17.520	17.400	-	-	≥500.0

Table 24 - 6 dB Bandwidth Results

Test Frequency (MHz)	99% Bandwidth (MHz)				Limit (kHz)
	A	B	C	D	
2412	17.700	17.700	-	-	-
2437	17.580	17.520	-	-	-
2472	17.700	17.700	-	-	-

Table 25 - 99% Bandwidth Results

Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	15.247 (a)(2) RSS-247 5.2 a)	Test Method(s):	C63.10 6.9.3 C63.10 11.8.1
Additional Reference(s):	-		

DUT Configuration			
Mode:	802.11ax HE20 SU	Duty Cycle (%):	-
Modulation Coding Scheme:	MCS2x1	DCCF (dB):	-
Antenna Configuration:	MIMO CDD	Peak Antenna Gain (dBi):	-
Active Port(s):	A+B (Core 0 + Core 1)	Active Chain(s):	0+1

Test Frequency (MHz)	6 dB Bandwidth (MHz)				Limit (kHz)
	A	B	C	D	
2412	18.480	18.120	-	-	≥500.0
2437	18.780	18.900	-	-	≥500.0
2472	19.080	19.080	-	-	≥500.0

Table 26 - 6 dB Bandwidth Results

Test Frequency (MHz)	99% Bandwidth (MHz)				Limit (kHz)
	A	B	C	D	
2412	18.960	18.960	-	-	-
2437	18.900	18.900	-	-	-
2472	18.900	19.020	-	-	-

Table 27 - 99% Bandwidth Results

FCC 47 CFR Part 15, Limit Clause 15.247(a)(2)

The minimum 6 dB Bandwidth shall be at least 500 kHz.

2.2.7 Test Location and Test Equipment Used

This test was carried out in RF Chamber 18.

Instrument	Manufacturer	Type No.	TE No.	Calibration Period (months)	Calibration Expiry Date
Hygrometer	Rotronic	I-1000	3068	12	07-Nov-2024
AC Programmable Power Supply	iTech	IT7324	5225	-	O/P Mon
MXA Signal Analyser	Keysight Technologies	N9020B	5529	24	13-Dec-2024
Digital Multimeter	Fluke	115	6145	12	06-Jun-2025
Signal Conditioning Unit	TUV SUD	SPECTRUM_SCU001	6426	12	07-Feb-2025
SCU Cable Assembly	TUV SUD	SPECTRUM_SCU_CA	6752	12	06-Feb-2025
SCU Cable Assembly	TUV SUD	SPECTRUM_SCU_CA	6753	12	06-Feb-2025

Table 28

O/P Mon - Output Monitored using calibrated equipment

2.3 Maximum Conducted Output Power

2.3.1 Specification Reference

FCC 47 CFR Part 15C, Clause 15.247 (b)

2.3.2 Equipment Under Test and Modification State

A3186, S/N: LXXD3YHT0L - Modification State 0

2.3.3 Date of Test

29-August-2024

2.3.4 Test Method

The test was performed in accordance with ANSI C63.10 clause 11.9.2.3.2 Method AVGPM-G.

MIMO output port summing was performed in accordance with KDB 662911 D01 v02r01 F)2)f)(i) and 662911 D01 v02r01 E)1).

2.3.5 Environmental Conditions

Ambient Temperature	21.3 °C
Relative Humidity	58.3 %

2.3.6 Test Results

2.4 GHz WLAN

SISO

Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	15.247 (b)(3) RSS-247 5.4 d)	Test Method(s):	C63.10 11.9.2.3.2
Additional Reference(s):	-		

DUT Configuration			
Mode:	802.11b	Duty Cycle (%):	99.4
Data Rate:	1 Mbps	DCCF (dB):	-
Antenna Configuration:	SISO	Peak Antenna Gain (dBi):	6.30
Active Port(s):	B (Core 1)	Active Chain(s):	1

Test Frequency (MHz)	Maximum Conducted Output Power (dBm)					Limit (dBm)	Margin (dB)
	A	B	C	D	∑		
2412	-	18.87	-	-	18.87	29.70	-10.83
2442	-	18.61	-	-	18.61	29.70	-11.09
2472	-	15.64	-	-	15.64	29.70	-14.06

Table 29 - FCC Maximum Conducted (average) Output Power Results

Test Frequency (MHz)	Maximum Conducted Output Power (dBm)					Limit (dBm)	Margin (dB)	EIRP (dBm)	EIRP Limit (dBm)	EIRP Margin (dB)
	A	B	C	D	∑					
2412	-	18.87	-	-	18.87	30.00	-11.13	25.17	36.00	-10.83
2442	-	18.61	-	-	18.61	30.00	-11.39	24.91	36.00	-11.09
2472	-	15.64	-	-	15.64	30.00	-14.36	21.94	36.00	-14.06

Table 30 - ISED Maximum Conducted (average) Output Power Results

Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	15.247 (b)(3) RSS-247 5.4 d)	Test Method(s):	C63.10 11.9.2.3.2
Additional Reference(s):	-		

DUT Configuration			
Mode:	802.11g	Duty Cycle (%):	97.8
Data Rate:	12 Mbps	DCCF (dB):	-
Antenna Configuration:	SISO	Peak Antenna Gain (dBi):	6.30
Active Port(s):	B (Core 1)	Active Chain(s):	1

Test Frequency (MHz)	Maximum Conducted Output Power (dBm)					Limit (dBm)	Margin (dB)
	A	B	C	D	∑		
2412	-	17.22	-	-	17.22	29.70	-12.48
2442	-	22.22	-	-	22.22	29.70	-7.48
2472	-	8.93	-	-	8.93	29.70	-20.77

Table 31 - FCC Maximum Conducted (average) Output Power Results

Test Frequency (MHz)	Maximum Conducted Output Power (dBm)					Limit (dBm)	Margin (dB)	EIRP (dBm)	EIRP Limit (dBm)	EIRP Margin (dB)
	A	B	C	D	∑					
2412	-	17.22	-	-	17.22	30.00	-12.78	23.52	36.00	-12.48
2442	-	22.22	-	-	22.22	30.00	-7.78	28.52	36.00	-7.48
2472	-	8.93	-	-	8.93	30.00	-21.07	15.23	36.00	-20.77

Table 32 - ISED Maximum Conducted (average) Output Power Results

Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	15.247 (b)(3) RSS-247 5.4 d)	Test Method(s):	C63.10 11.9.2.3.2
Additional Reference(s):	-		

DUT Configuration			
Mode:	802.11n HT20	Duty Cycle (%):	97.0
Modulation Coding Scheme:	MCS2	DCCF (dB):	-
Antenna Configuration:	SISO	Peak Antenna Gain (dBi):	6.30
Active Port(s):	B (Core 1)	Active Chain(s):	1

Test Frequency (MHz)	Maximum Conducted Output Power (dBm)					Limit (dBm)	Margin (dB)
	A	B	C	D	∑		
2412	-	16.15	-	-	16.15	29.70	-13.55
2442	-	22.43	-	-	22.43	29.70	-7.27
2472	-	8.16	-	-	8.16	29.70	-21.54

Table 33 - FCC Maximum Conducted (average) Output Power Results

Test Frequency (MHz)	Maximum Conducted Output Power (dBm)					Limit (dBm)	Margin (dB)	EIRP (dBm)	EIRP Limit (dBm)	EIRP Margin (dB)
	A	B	C	D	∑					
2412	-	16.15	-	-	16.15	30.00	-13.85	22.45	36.00	-13.55
2442	-	22.43	-	-	22.43	30.00	-7.57	28.73	36.00	-7.27
2472	-	8.16	-	-	8.16	30.00	-21.84	14.46	36.00	-21.54

Table 34 - ISED Maximum Conducted (average) Output Power Results

Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	15.247 (b)(3) RSS-247 5.4 d)	Test Method(s):	C63.10 11.9.2.3.2
Additional Reference(s):	-		

DUT Configuration			
Mode:	802.11ax HE20 SU	Duty Cycle (%):	96.3
Modulation Coding Scheme:	MCS2x1	DCCF (dB):	-
Antenna Configuration:	SISO	Peak Antenna Gain (dBi):	6.30
Active Port(s):	B (Core 1)	Active Chain(s):	1

Test Frequency (MHz)	Maximum Conducted Output Power (dBm)					Limit (dBm)	Margin (dB)
	A	B	C	D	∑		
2412	-	15.35	-	-	15.35	29.70	-14.35
2442	-	22.39	-	-	22.39	29.70	-7.31
2472	-	7.50	-	-	7.50	29.70	-22.20

Table 35 - FCC Maximum Conducted (average) Output Power Results

Test Frequency (MHz)	Maximum Conducted Output Power (dBm)					Limit (dBm)	Margin (dB)	EIRP (dBm)	EIRP Limit (dBm)	EIRP Margin (dB)
	A	B	C	D	∑					
2412	-	15.35	-	-	15.35	30.00	-14.65	21.65	36.00	-14.35
2442	-	22.39	-	-	22.39	30.00	-7.61	28.69	36.00	-7.31
2472	-	7.50	-	-	7.50	30.00	-22.50	13.80	36.00	-22.20

Table 36 - ISED Maximum Conducted (average) Output Power Results

Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	15.247 (b)(3) RSS-247 5.4 d)	Test Method(s):	C63.10 11.9.2.3.2
Additional Reference(s):	-		

DUT Configuration			
Mode:	802.11ax HE20 RU26	Duty Cycle (%):	96.6
Modulation Coding Scheme:	MCS2x1	DCCF (dB):	-
Antenna Configuration:	SISO	Peak Antenna Gain (dBi):	6.30
Active Port(s):	B (Core 1)	Active Chain(s):	1

Test Frequency (MHz)	Maximum Conducted Output Power (dBm)					Limit (dBm)	Margin (dB)
	A	B	C	D	∑		
2412	-	14.40	-	-	14.40	29.70	-15.30
2442	-	14.38	-	-	14.38	29.70	-15.32
2472	-	-5.39	-	-	-5.39	29.70	-35.09

Table 37 - FCC Maximum Conducted (average) Output Power Results

Test Frequency (MHz)	Maximum Conducted Output Power (dBm)					Limit (dBm)	Margin (dB)	EIRP (dBm)	EIRP Limit (dBm)	EIRP Margin (dB)
	A	B	C	D	∑					
2412	-	14.40	-	-	14.40	30.00	-15.60	20.70	36.00	-15.30
2442	-	14.38	-	-	14.38	30.00	-15.62	20.68	36.00	-15.32
2472	-	-5.39	-	-	-5.39	30.00	-35.39	0.91	36.00	-35.09

Table 38 - ISED Maximum Conducted (average) Output Power Results

Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	15.247 (b)(3) RSS-247 5.4 d)	Test Method(s):	C63.10 11.9.2.3.2
Additional Reference(s):	-		

DUT Configuration			
Mode:	802.11ax HE20 RU52	Duty Cycle (%):	96.5
Modulation Coding Scheme:	MCS2x1	DCCF (dB):	-
Antenna Configuration:	SISO	Peak Antenna Gain (dBi):	6.30
Active Port(s):	B (Core 1)	Active Chain(s):	1

Test Frequency (MHz)	Maximum Conducted Output Power (dBm)					Limit (dBm)	Margin (dB)
	A	B	C	D	∑		
2412	-	17.49	-	-	17.49	29.70	-12.21
2442	-	17.37	-	-	17.37	29.70	-12.33
2472	-	-2.50	-	-	-2.50	29.70	-32.20

Table 39 - FCC Maximum Conducted (average) Output Power Results

Test Frequency (MHz)	Maximum Conducted Output Power (dBm)					Limit (dBm)	Margin (dB)	EIRP (dBm)	EIRP Limit (dBm)	EIRP Margin (dB)
	A	B	C	D	∑					
2412	-	17.49	-	-	17.49	30.00	-12.51	23.79	36.00	-12.21
2442	-	17.37	-	-	17.37	30.00	-12.63	23.67	36.00	-12.33
2472	-	-2.50	-	-	-2.50	30.00	-32.50	3.80	36.00	-32.20

Table 40 - ISED Maximum Conducted (average) Output Power Results

Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	15.247 (b)(3) RSS-247 5.4 d)	Test Method(s):	C63.10 11.9.2.3.2
Additional Reference(s):	-		

DUT Configuration			
Mode:	802.11ax HE20 RU106	Duty Cycle (%):	98.0
Modulation Coding Scheme:	MCS2x1	DCCF (dB):	-
Antenna Configuration:	SISO	Peak Antenna Gain (dBi):	6.30
Active Port(s):	B (Core 1)	Active Chain(s):	1

Test Frequency (MHz)	Maximum Conducted Output Power (dBm)					Limit (dBm)	Margin (dB)
	A	B	C	D	∑		
2412	-	17.00	-	-	17.00	29.70	-12.70
2442	-	20.47	-	-	20.47	29.70	-9.23
2472	-	-1.31	-	-	-1.31	29.70	-31.01

Table 41 - FCC Maximum Conducted (average) Output Power Results

Test Frequency (MHz)	Maximum Conducted Output Power (dBm)					Limit (dBm)	Margin (dB)	EIRP (dBm)	EIRP Limit (dBm)	EIRP Margin (dB)
	A	B	C	D	∑					
2412	-	17.00	-	-	17.00	30.00	-13.00	23.30	36.00	-12.70
2442	-	20.47	-	-	20.47	30.00	-9.53	26.77	36.00	-9.23
2472	-	-1.31	-	-	-1.31	30.00	-31.31	4.99	36.00	-31.01

Table 42 - ISED Maximum Conducted (average) Output Power Results

MIMO CDD:

Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	15.247 (b)(3) RSS-247 5.4 d)	Test Method(s):	C63.10 11.9.2.3.2
Additional Reference(s):	662911 D01 v02r01 F)2)f)(i), 662911 D01 v02r01 E)1)		

DUT Configuration			
Mode:	802.11n HT20	Duty Cycle (%):	96.5
Modulation Coding Scheme:	MCS2	DCCF (dB):	-
Antenna Configuration:	MIMO CDD	Peak Antenna Gain (dBi):	6.30
Active Port(s):	A+B (Core 0 + Core 1)	Active Chain(s):	0+1

Test Frequency (MHz)	Maximum Conducted Output Power (dBm)					Limit (dBm)	Margin (dB)
	A	B	C	D	∑		
2412	14.53	14.64	-	-	17.60	29.70	-12.10
2437	22.02	22.15	-	-	25.10	29.70	-4.60
2472	7.83	7.35	-	-	10.60	29.70	-19.10

Table 43 - FCC Maximum Conducted (average) Output Power Results

Test Frequency (MHz)	Maximum Conducted Output Power (dBm)					Limit (dBm)	Margin (dB)	EIRP (dBm)	EIRP Limit (dBm)	EIRP Margin (dB)
	A	B	C	D	∑					
2412	14.53	14.64	-	-	17.60	30.00	-12.40	23.90	36.00	-12.10
2437	22.02	22.15	-	-	25.10	30.00	-4.90	31.40	36.00	-4.60
2472	7.83	7.35	-	-	10.60	30.00	-19.40	16.90	36.00	-19.10

Table 44 - ISED Maximum Conducted (average) Output Power Results

Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	15.247 (b)(3) RSS-247 5.4 d)	Test Method(s):	C63.10 11.9.2.3.2
Additional Reference(s):	662911 D01 v02r01 F)2)f)(i), 662911 D01 v02r01 E)1)		

DUT Configuration			
Mode:	802.11ax HE20 SU	Duty Cycle (%):	95.8
Modulation Coding Scheme:	MCS2x1	DCCF (dB):	-
Antenna Configuration:	MIMO CDD	Peak Antenna Gain (dBi):	6.30
Active Port(s):	A+B (Core 0 + Core 1)	Active Chain(s):	0+1

Test Frequency (MHz)	Maximum Conducted Output Power (dBm)					Limit (dBm)	Margin (dB)
	A	B	C	D	∑		
2412	12.55	12.61	-	-	15.59	29.70	-14.11
2437	22.00	22.14	-	-	25.08	29.70	-4.62
2472	7.18	6.62	-	-	9.92	29.70	-19.78

Table 45 - FCC Maximum Conducted (average) Output Power Results

Test Frequency (MHz)	Maximum Conducted Output Power (dBm)					Limit (dBm)	Margin (dB)	EIRP (dBm)	EIRP Limit (dBm)	EIRP Margin (dB)
	A	B	C	D	∑					
2412	12.55	12.61	-	-	15.59	30.00	-14.41	21.89	36.00	-14.11
2437	22.00	22.14	-	-	25.08	30.00	-4.92	31.38	36.00	-4.62
2472	7.18	6.62	-	-	9.92	30.00	-20.08	16.22	36.00	-19.78

Table 46 - ISED Maximum Conducted (average) Output Power Results

Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	15.247 (b)(3) RSS-247 5.4 d)	Test Method(s):	C63.10 11.9.2.3.2
Additional Reference(s):	662911 D01 v02r01 F)2)f)(i), 662911 D01 v02r01 E)1)		

DUT Configuration			
Mode:	802.11ax HE20 RU26	Duty Cycle (%):	96.5
Modulation Coding Scheme:	MCS2x1	DCCF (dB):	-
Antenna Configuration:	MIMO CDD	Peak Antenna Gain (dBi):	6.30
Active Port(s):	A+B (Core 0 + Core 1)	Active Chain(s):	0+1

Test Frequency (MHz)	Maximum Conducted Output Power (dBm)					Limit (dBm)	Margin (dB)
	A	B	C	D	∑		
2412	14.34	14.47	-	-	17.42	29.70	-12.28
2442	14.28	14.23	-	-	17.27	29.70	-12.43
2472	-9.00	-9.68	-	-	-6.31	29.70	-36.01

Table 47 - FCC Maximum Conducted (average) Output Power Results

Test Frequency (MHz)	Maximum Conducted Output Power (dBm)					Limit (dBm)	Margin (dB)	EIRP (dBm)	EIRP Limit (dBm)	EIRP Margin (dB)
	A	B	C	D	∑					
2412	14.34	14.47	-	-	17.42	30.00	-12.58	23.72	36.00	-12.28
2442	14.28	14.23	-	-	17.27	30.00	-12.73	23.57	36.00	-12.43
2472	-9.00	-9.68	-	-	-6.31	30.00	-36.31	-0.01	36.00	-36.01

Table 48 - ISED Maximum Conducted (average) Output Power Results

Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	15.247 (b)(3) RSS-247 5.4 d)	Test Method(s):	C63.10 11.9.2.3.2
Additional Reference(s):	662911 D01 v02r01 F)2)f)(i), 662911 D01 v02r01 E)1)		

DUT Configuration			
Mode:	802.11ax HE20 RU52	Duty Cycle (%):	96.3
Modulation Coding Scheme:	MCS2x1	DCCF (dB):	-
Antenna Configuration:	MIMO CDD	Peak Antenna Gain (dBi):	6.30
Active Port(s):	A+B (Core 0 + Core 1)	Active Chain(s):	0+1

Test Frequency (MHz)	Maximum Conducted Output Power (dBm)					Limit (dBm)	Margin (dB)
	A	B	C	D	∑		
2412	15.91	15.91	-	-	18.92	29.70	-10.78
2442	17.38	17.19	-	-	20.29	29.70	-9.41
2472	-6.74	-7.44	-	-	-4.06	29.70	-33.76

Table 49 - FCC Maximum Conducted (average) Output Power Results

Test Frequency (MHz)	Maximum Conducted Output Power (dBm)					Limit (dBm)	Margin (dB)	EIRP (dBm)	EIRP Limit (dBm)	EIRP Margin (dB)
	A	B	C	D	∑					
2412	15.91	15.91	-	-	18.92	30.00	-11.08	25.22	36.00	-10.78
2442	17.38	17.19	-	-	20.29	30.00	-9.71	26.59	36.00	-9.41
2472	-6.74	-7.44	-	-	-4.06	30.00	-34.06	2.24	36.00	-33.76

Table 50 - ISED Maximum Conducted (average) Output Power Results

Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	15.247 (b)(3) RSS-247 5.4 d)	Test Method(s):	C63.10 11.9.2.3.2
Additional Reference(s):	662911 D01 v02r01 F)2)f)(i), 662911 D01 v02r01 E)1)		

DUT Configuration			
Mode:	802.11ax HE20 RU106	Duty Cycle (%):	97.8
Modulation Coding Scheme:	MCS2x1	DCCF (dB):	-
Antenna Configuration:	MIMO CDD	Peak Antenna Gain (dBi):	6.30
Active Port(s):	A+B (Core 0 + Core 1)	Active Chain(s):	0+1

Test Frequency (MHz)	Maximum Conducted Output Power (dBm)					Limit (dBm)	Margin (dB)
	A	B	C	D	∑		
2412	15.83	15.85	-	-	18.85	29.70	-10.85
2442	20.34	20.09	-	-	23.23	29.70	-6.47
2472	-3.75	-4.29	-	-	-1.00	29.70	-30.70

Table 51 - FCC Maximum Conducted (average) Output Power Results

Test Frequency (MHz)	Maximum Conducted Output Power (dBm)					Limit (dBm)	Margin (dB)	EIRP (dBm)	EIRP Limit (dBm)	EIRP Margin (dB)
	A	B	C	D	∑					
2412	15.83	15.85	-	-	18.85	30.00	-11.15	25.15	36.00	-10.85
2442	20.34	20.09	-	-	23.23	30.00	-6.77	29.53	36.00	-6.47
2472	-3.75	-4.29	-	-	-1.00	30.00	-31.00	5.30	36.00	-30.70

Table 52 - ISED Maximum Conducted (average) Output Power Results

<u>FCC 47 CFR Part 15, Limit Clause 15.247 (b)(3)</u>

For systems using digital modulation in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands: 1 Watt.

2.3.7 Test Location and Test Equipment Used

This test was carried out in RF Chamber 18.

Instrument	Manufacturer	Type No.	TE No.	Calibration Period (months)	Calibration Expiry Date
Hygrometer	Rotronic	I-1000	3068	12	07-Nov-2024
AC Programmable Power Supply	iTech	IT7324	5225	-	O/P Mon
USB Power Sensor	Boonton	RTP5008	5820	12	07-Feb-2025
USB Power Sensor	Boonton	RTP5008	5821	12	07-Feb-2025
Digital Multimeter	Fluke	115	6145	12	06-Jun-2025
Signal Conditioning Unit	TUV SUD	SPECTRUM_SCU001	6426	12	07-Feb-2025
SCU Cable Assembly	TUV SUD	SPECTRUM_SCU_CA	6752	12	06-Feb-2025
SCU Cable Assembly	TUV SUD	SPECTRUM_SCU_CA	6753	12	06-Feb-2025

Table 53

O/P Mon - Output Monitored using calibrated equipment

2.4 Authorised Band Edges

2.4.1 Specification Reference

FCC 47 CFR Part 15C, Clause 15.247 (d)

2.4.2 Equipment Under Test and Modification State

A3186, S/N: FQHPMW6WWW - Modification State 0
A3186, S/N: GQFXQXKN7J - Modification State 0

2.4.3 Date of Test

09-July-2024 to 17-August-2024

2.4.4 Test Method

The test was performed in accordance with ANSI C63.10, clause 6.10.4.

2.4.5 Environmental Conditions

Ambient Temperature	21.2 - 23.2 °C
Relative Humidity	41.2 - 46.2 %

2.4.6 Test Results

2.4 GHz WLAN

20 MHz Bandwidth - Core 0 (SISO)

Mode	Data Rate/ MCS	Resource Size	Resource Index	TX Frequency (MHz)	Band Edge Frequency (MHz)	Level (dBc)
802.11b	1 Mbps	-	-	2412	2400	-50.82
802.11b	1 Mbps	-	-	2417	2400	-52.39
802.11b	1 Mbps	-	-	2422	2400	-57.45
802.11g	24 Mbps	-	-	2412	2400	-34.51
802.11g	54 Mbps	-	-	2417	2400	-35.07
802.11g	54 Mbps	-	-	2422	2400	-40.47
802.11g	54 Mbps	-	-	2427	2400	-47.07
802.11g	54 Mbps	-	-	2432	2400	-48.76
802.11n HT20	MCS 7	-	-	2412	2400	-34.52
802.11n HT20	MCS 7	-	-	2417	2400	-35.06
802.11n HT20	MCS 7	-	-	2422	2400	-37.38
802.11n HT20	MCS 7	-	-	2427	2400	-44.99
802.11n HT20	MCS 7	-	-	2432	2400	-48.55
802.11ax HE20	MCS 4x1	SU	-	2412	2400	-34.57
802.11ax HE20	MCS 9x1	106	53	2412	2400	-37.69
802.11ax HE20	MCS 9x1	SU	-	2417	2400	-34.60
802.11ax HE20	MCS 9x1	106	53	2417	2400	-47.15
802.11ax HE20	MCS 9x1	SU	-	2422	2400	-34.80
802.11ax HE20	MCS 9x1	SU	-	2427	2400	-43.78
802.11ax HE20	MCS 9x1	SU	-	2432	2400	-47.78

Table 54 - SISO Authorised Band Edge Results

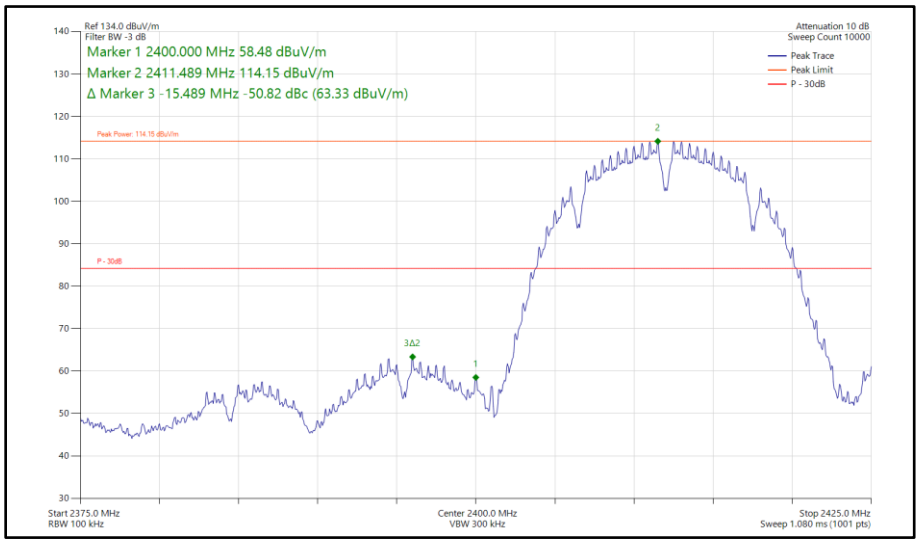

Figure 151 - 802.11b, SISO, Core 0 - 2412 MHz
Band Edge Frequency 2400 MHz

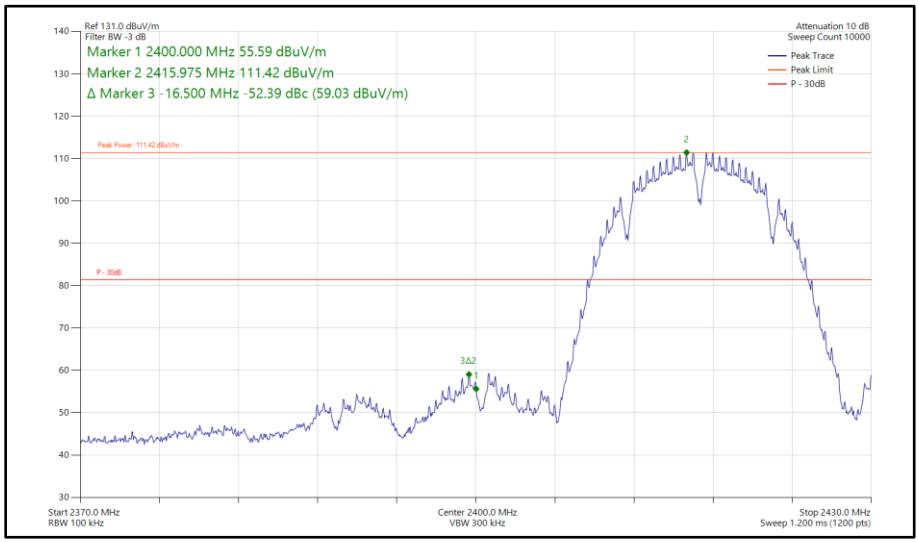

Figure 152 - 802.11b, SISO, Core 0 - 2417 MHz
Band Edge Frequency 2400 MHz

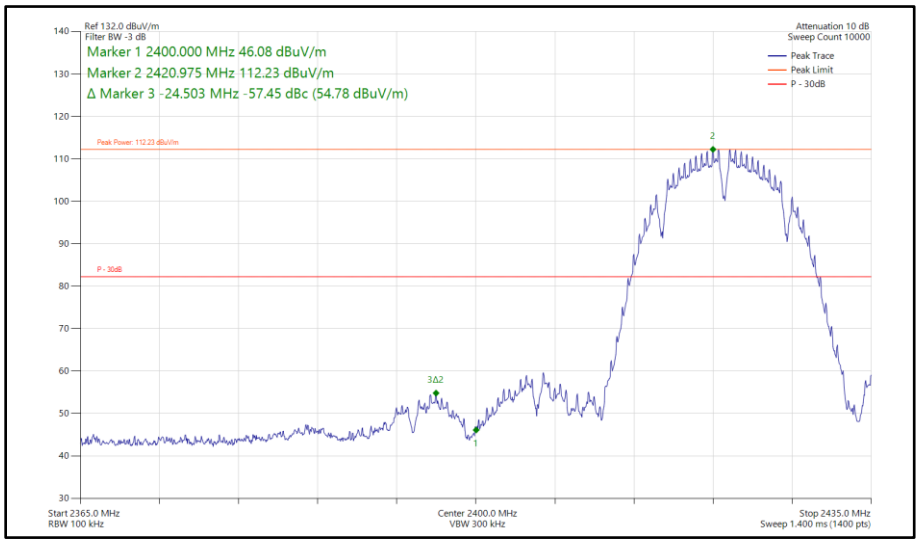

Figure 153 - 802.11b, SISO, Core 0 - 2422 MHz
Band Edge Frequency 2400 MHz

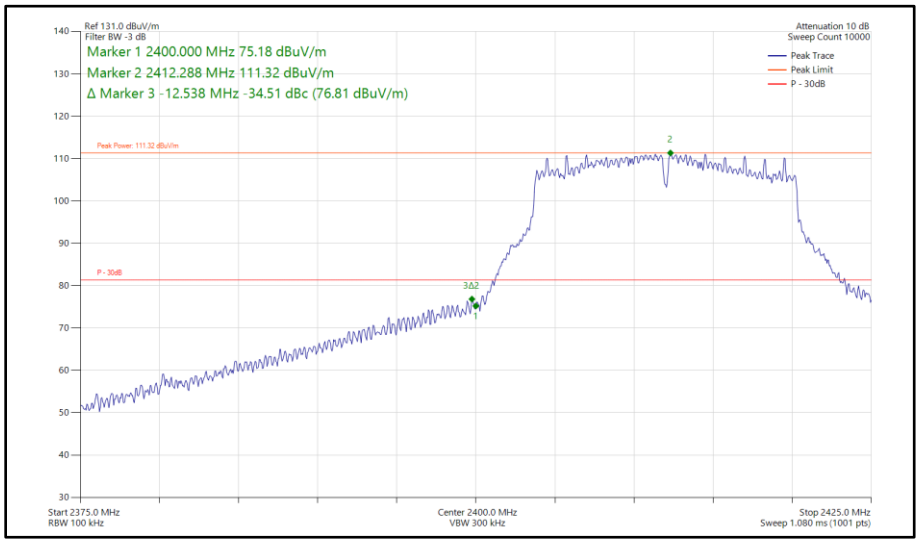

Figure 154 - 802.11g, SISO, Core 0 - 2412 MHz
Band Edge Frequency 2400 MHz

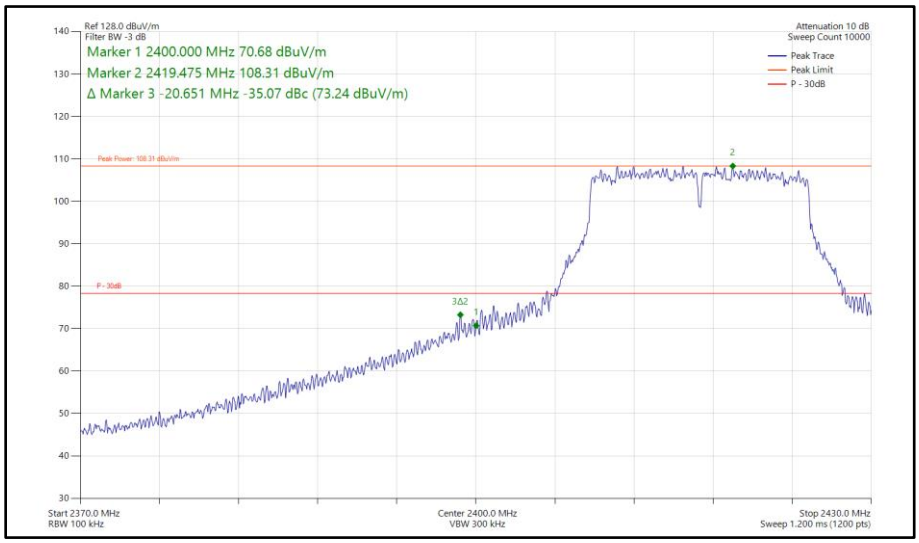

Figure 155 - 802.11g, SISO, Core 0 - 2417 MHz
Band Edge Frequency 2400 MHz

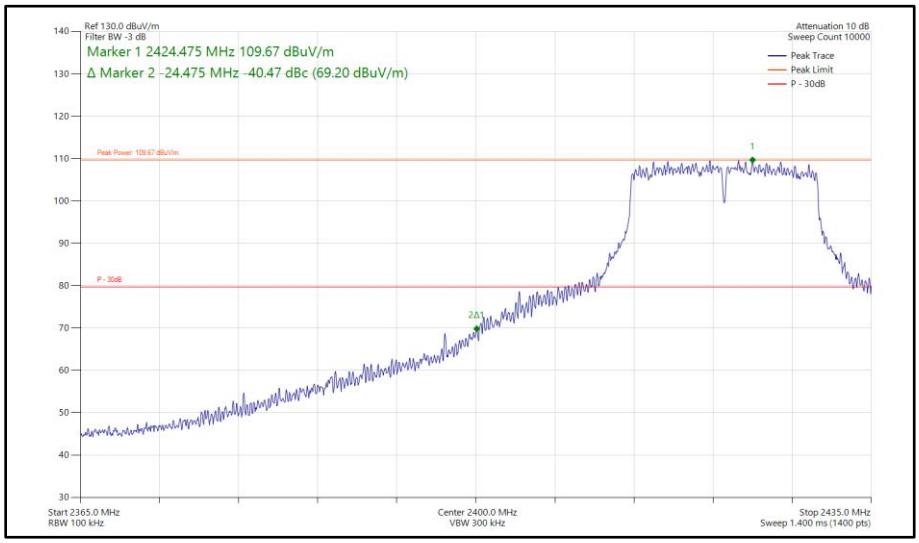

Figure 156 - 802.11g, SISO, Core 0 - 2422 MHz
Band Edge Frequency 2400 MHz

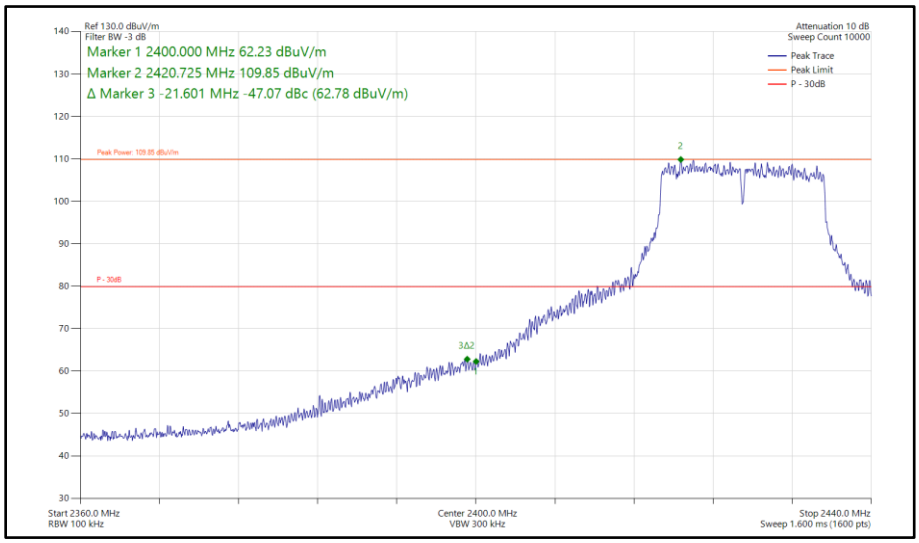

Figure 157 - 802.11g, SISO, Core 0 - 2427 MHz
Band Edge Frequency 2400 MHz

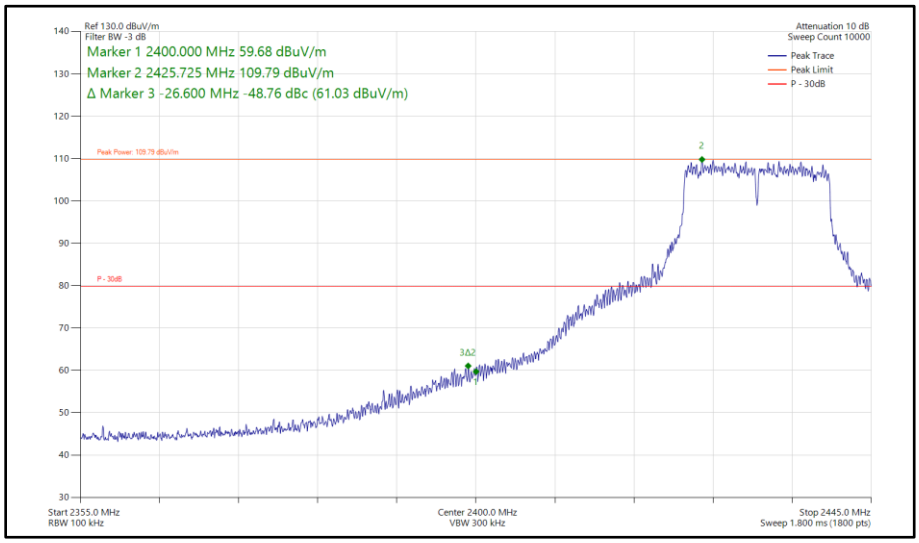

Figure 158 - 802.11g, SISO, Core 0 - 2432 MHz
Band Edge Frequency 2400 MHz

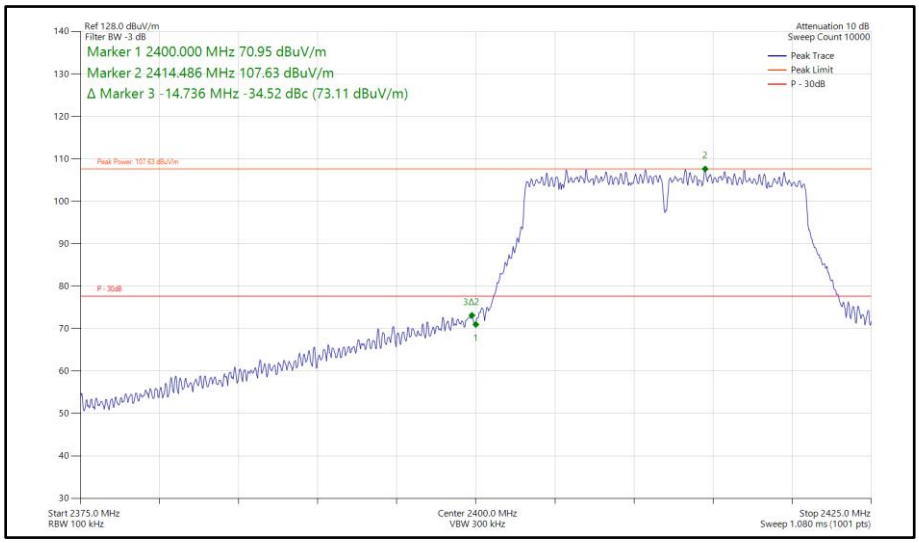

Figure 159 - 802.11n HT20, SISO, Core 0 - 2412 MHz
Band Edge Frequency 2400 MHz

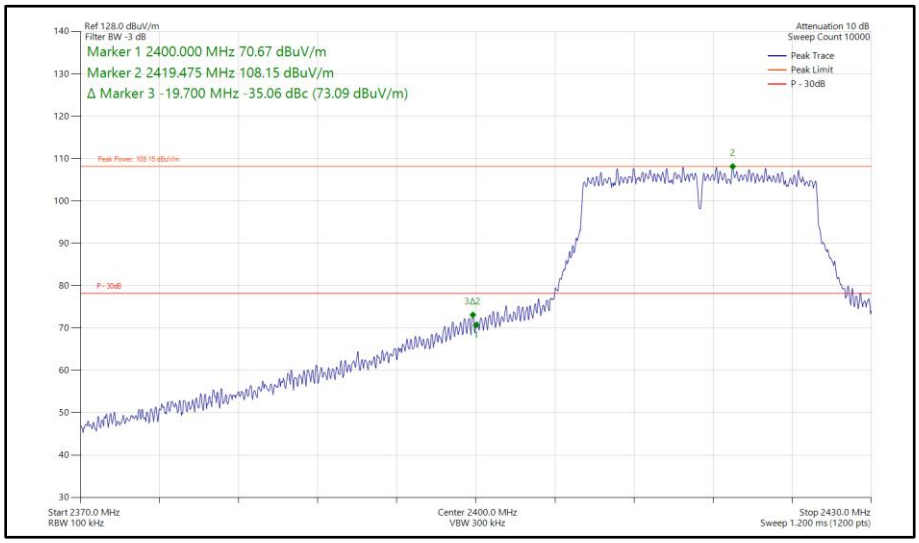

Figure 160 - 802.11n HT20, SISO, Core 0 - 2417 MHz
Band Edge Frequency 2400 MHz

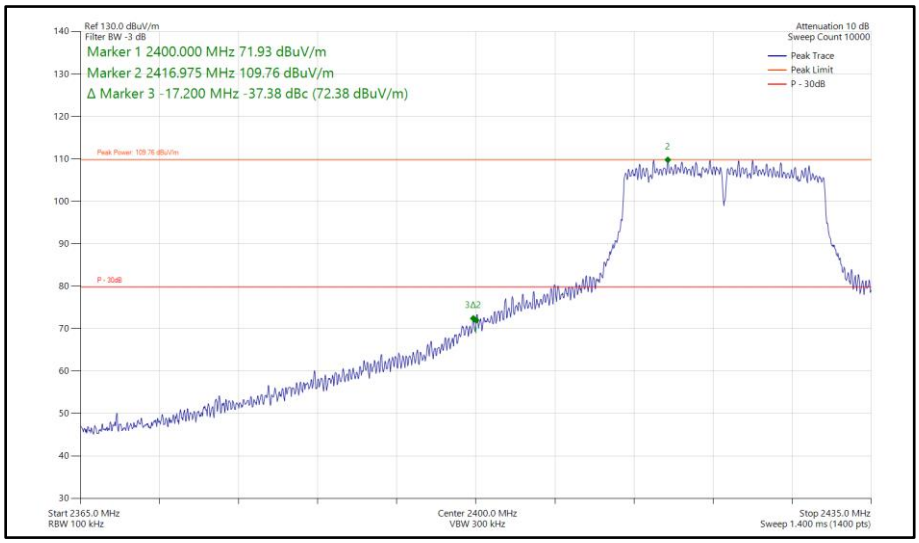

Figure 161 - 802.11n HT20, SISO, Core 0 - 2422 MHz
Band Edge Frequency 2400 MHz

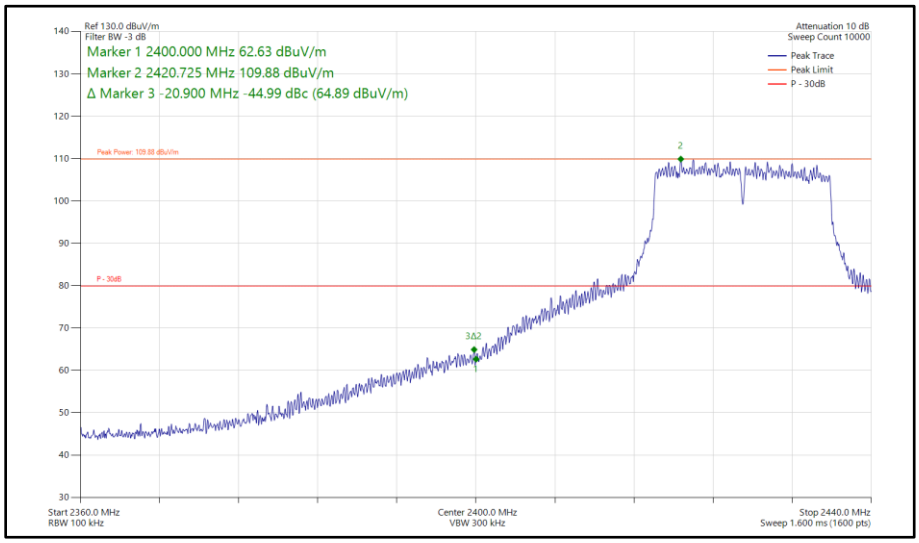

Figure 162 - 802.11n HT20, SISO, Core 0 - 2427 MHz
Band Edge Frequency 2400 MHz

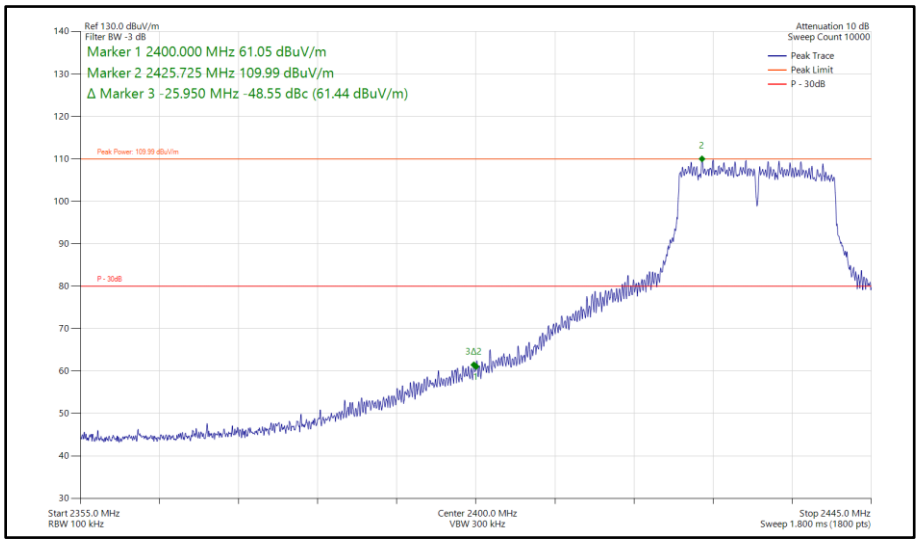

Figure 163 - 802.11n HT20, SISO, Core 0 - 2432 MHz
Band Edge Frequency 2400 MHz

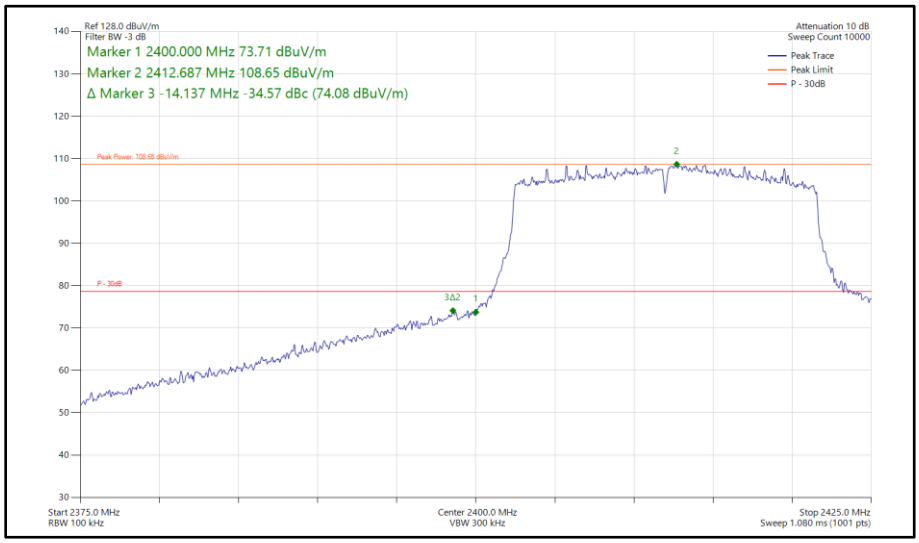

Figure 164 - 802.11ax HE20, SU, SISO, Core 0 - 2412 MHz
Band Edge Frequency 2400 MHz

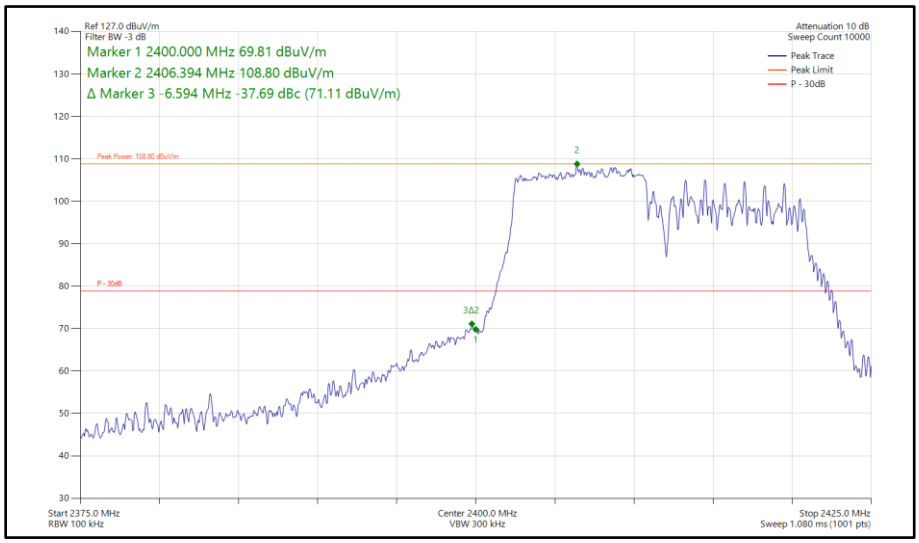

Figure 165 - 802.11ax HE20, RU 106-53, SISO, Core 0 - 2412 MHz Band Edge Frequency 2400 MHz

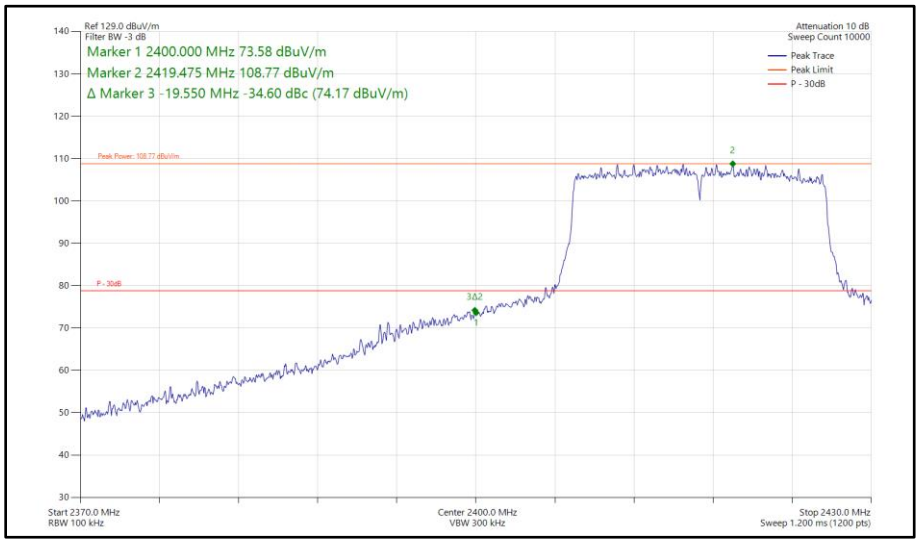

Figure 166 - 802.11ax HE20, SU, SISO, Core 0 - 2417 MHz Band Edge Frequency 2400 MHz

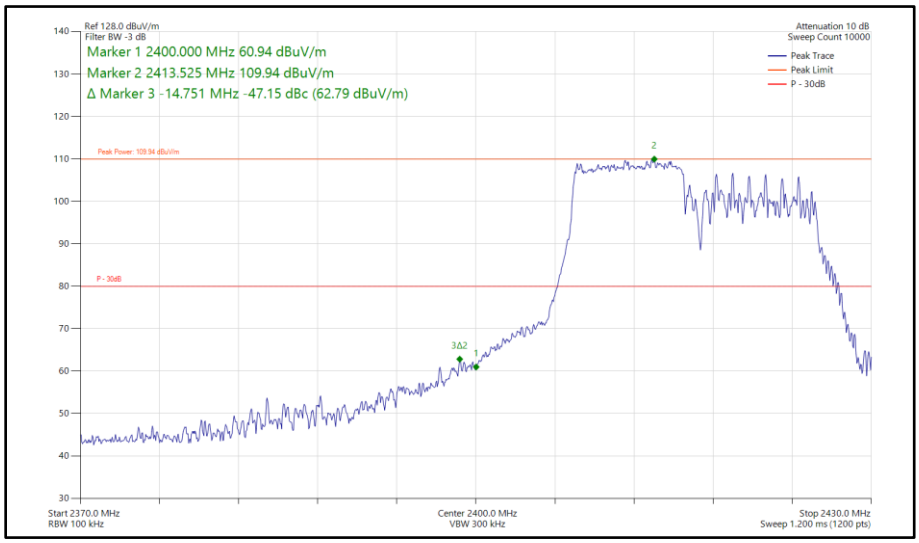

Figure 167 - 802.11ax HE20, RU 106-53, SISO, Core 0 - 2417 MHz Band Edge Frequency 2400 MHz

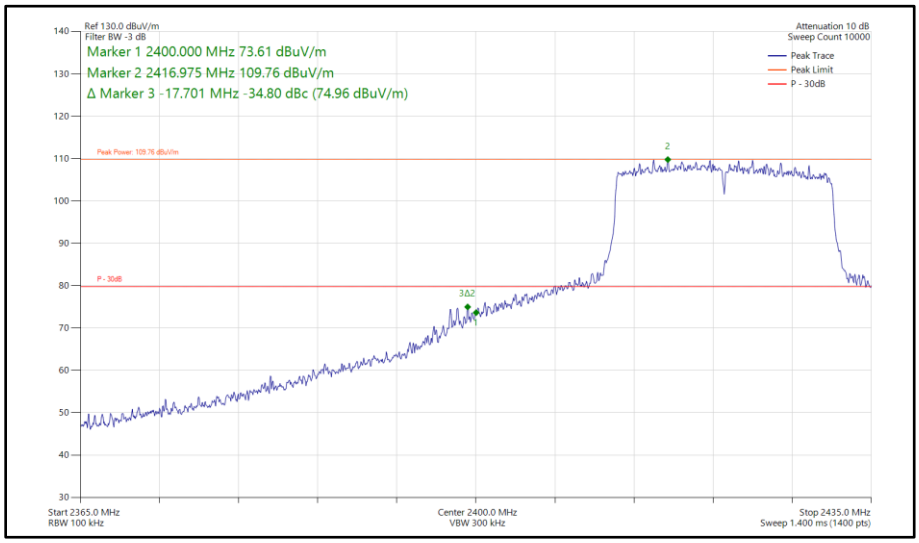

Figure 168 - 802.11ax HE20, SU, SISO, Core 0 - 2422 MHz Band Edge Frequency 2400 MHz

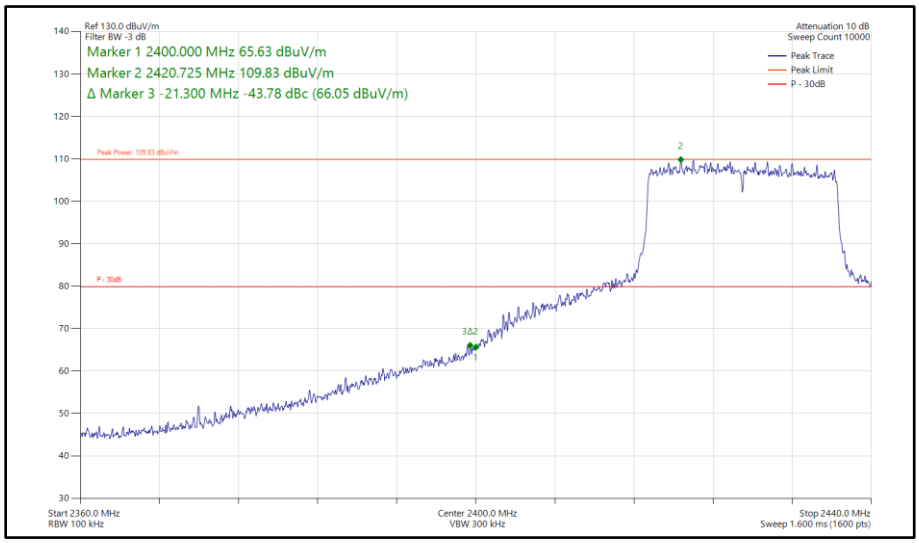

Figure 169 - 802.11ax HE20, SU, SISO, Core 0 - 2427 MHz Band Edge Frequency 2400 MHz

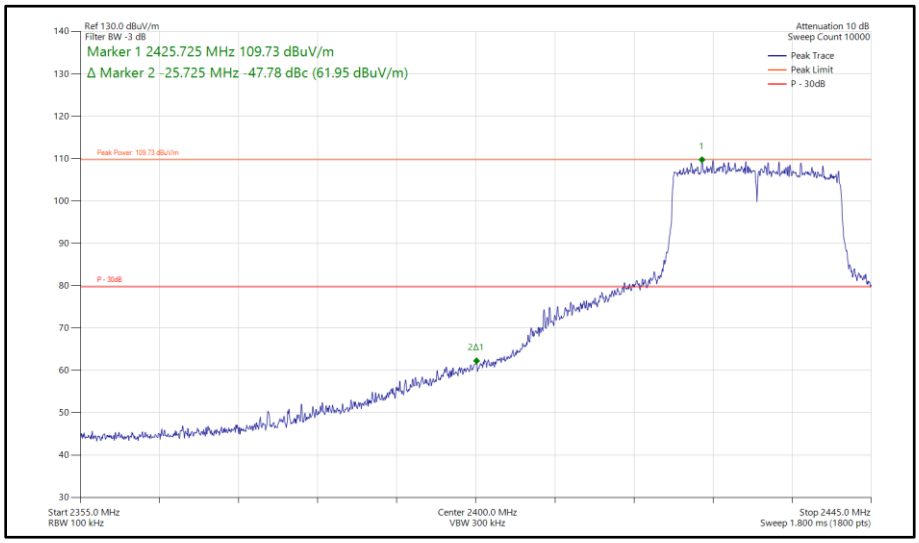

Figure 170 - 802.11ax HE20, SU, SISO, Core 0 - 2432 MHz Band Edge Frequency 2400 MHz

20 MHz Bandwidth - Core 1 (SISO)

Mode	Data Rate/ MCS	Resource Size	Resource Index	TX Frequency (MHz)	Band Edge Frequency (MHz)	Level (dBc)
802.11b	1 Mbps	-	-	2412	2400	-49.66
802.11b	1 Mbps	-	-	2417	2400	-51.97
802.11g	24 Mbps	-	-	2412	2400	-34.57
802.11g	54 Mbps	-	-	2417	2400	-35.11
802.11g	54 Mbps	-	-	2422	2400	-40.85
802.11g	54 Mbps	-	-	2427	2400	-46.16
802.11g	54 Mbps	-	-	2432	2400	-50.08
802.11n HT20	MCS 4	-	-	2412	2400	-34.55
802.11n HT20	MCS 7	-	-	2417	2400	-35.32
802.11n HT20	MCS 7	-	-	2422	2400	-38.37
802.11n HT20	MCS 7	-	-	2427	2400	-45.55
802.11n HT20	MCS 7	-	-	2432	2400	-47.73
802.11ax HE20	MCS 9x1	SU	-	2412	2400	-34.60
802.11ax HE20	MCS 9x1	106	53	2412	2400	-41.01
802.11ax HE20	MCS 9x1	SU	-	2417	2400	-35.12
802.11ax HE20	MCS 9x1	106	54	2417	2400	-49.34
802.11ax HE20	MCS 9x1	SU	-	2422	2400	-35.01
802.11ax HE20	MCS 9x1	SU	-	2427	2400	-43.64
802.11ax HE20	MCS 9x1	SU	-	2432	2400	-47.40

Table 55 - SISO Authorised Band Edge Results

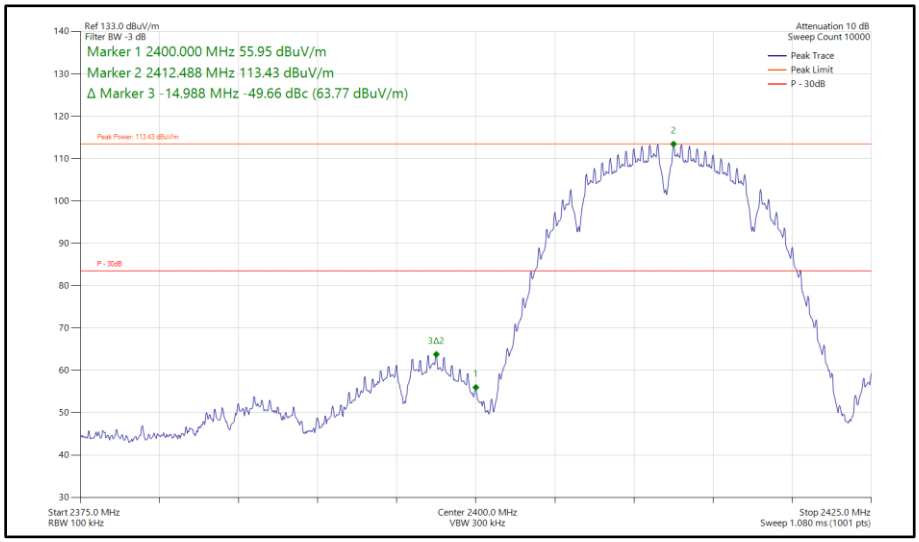

Figure 171 - 802.11b, SISO, Core 1 - 2412 MHz
Band Edge Frequency 2400 MHz

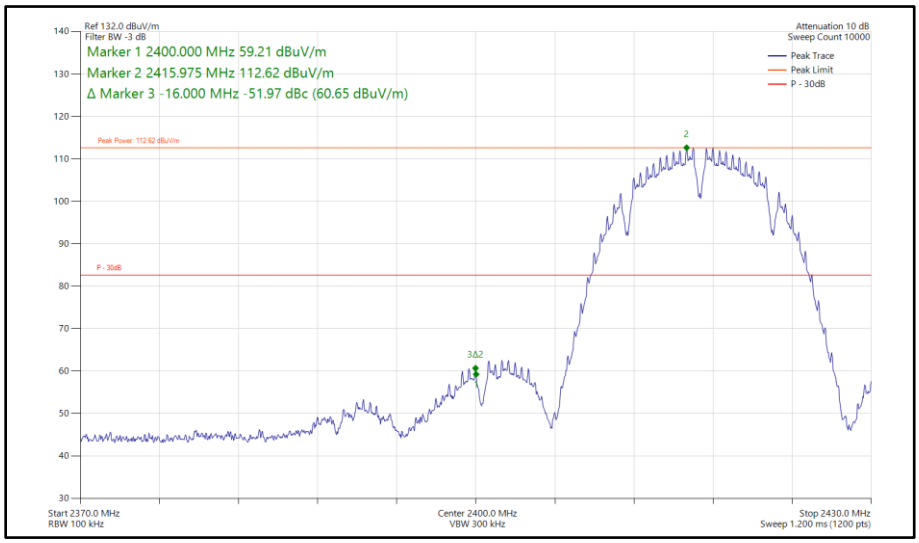

Figure 172 - 802.11b, SISO, Core 1 - 2417 MHz
Band Edge Frequency 2400 MHz

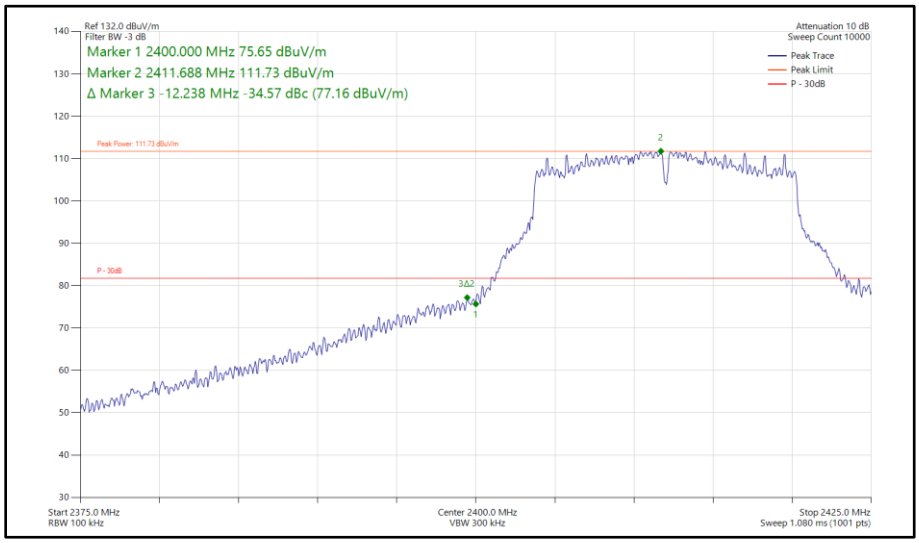

Figure 173 - 802.11g, SISO, Core 1 - 2412 MHz
Band Edge Frequency 2400 MHz

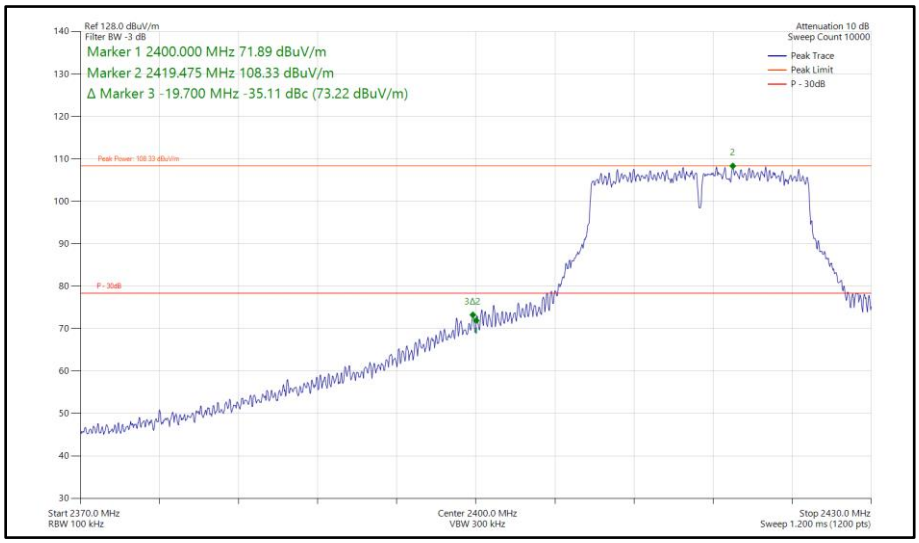

Figure 174 - 802.11g, SISO, Core 1 - 2417 MHz
Band Edge Frequency 2400 MHz

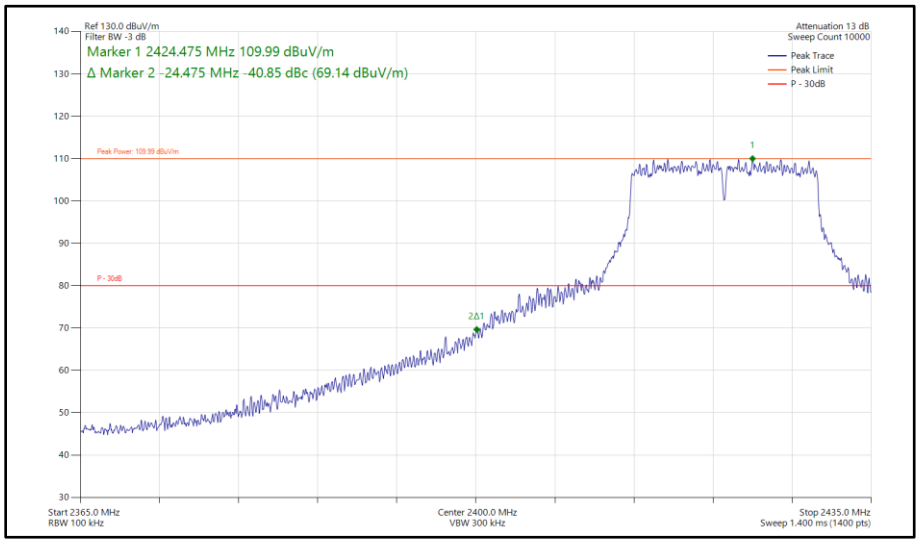

Figure 175 - 802.11g, SISO, Core 1 - 2422 MHz
Band Edge Frequency 2400 MHz

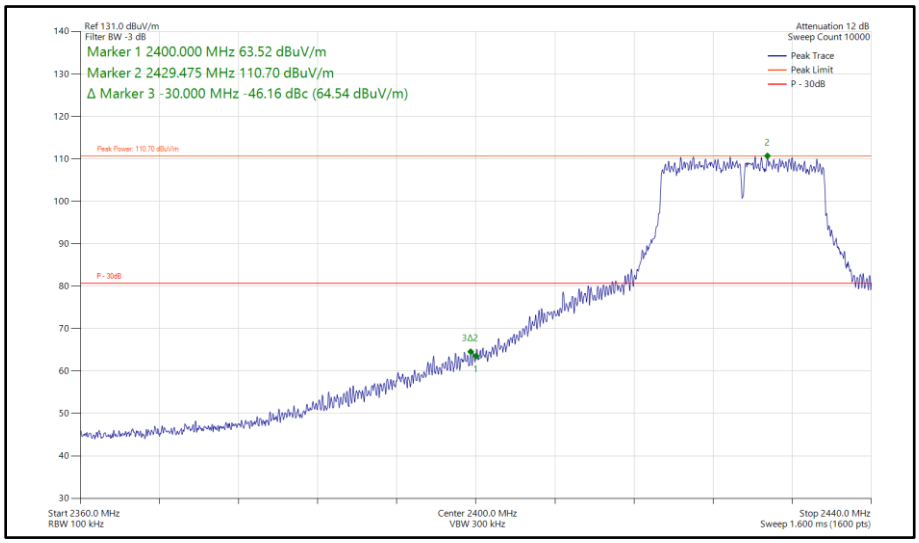

Figure 176 - 802.11g, SISO, Core 1 - 2427 MHz
Band Edge Frequency 2400 MHz

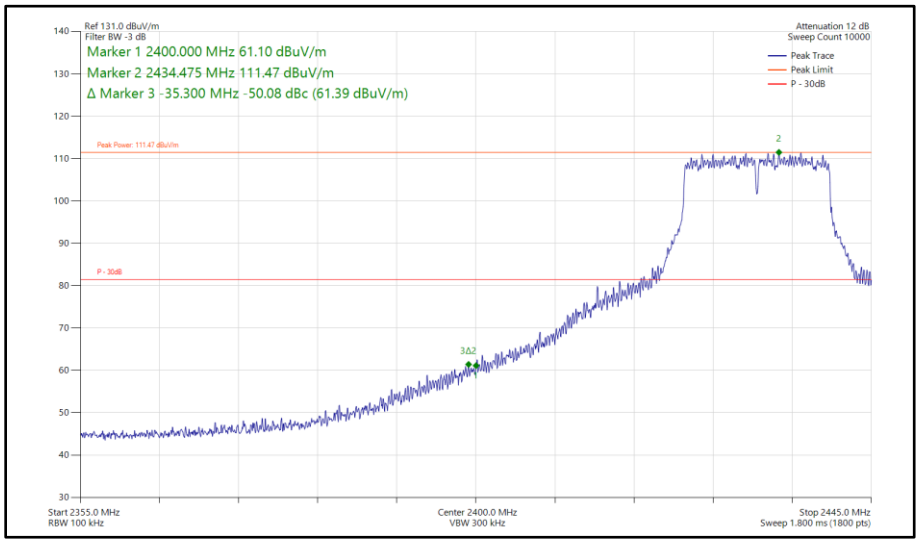

Figure 177 - 802.11g, SISO, Core 1 - 2432 MHz
Band Edge Frequency 2400 MHz

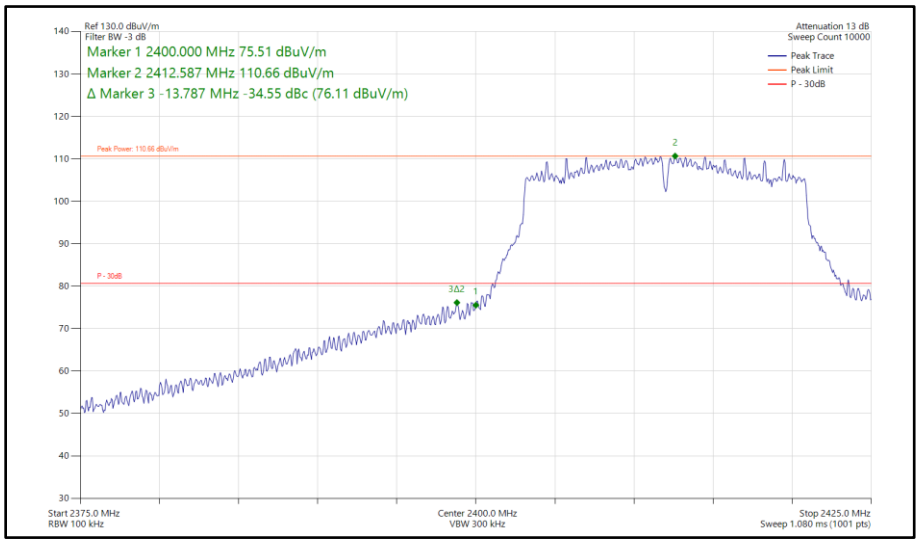

Figure 178 - 802.11n HT20, SISO, Core 1 - 2412 MHz
Band Edge Frequency 2400 MHz

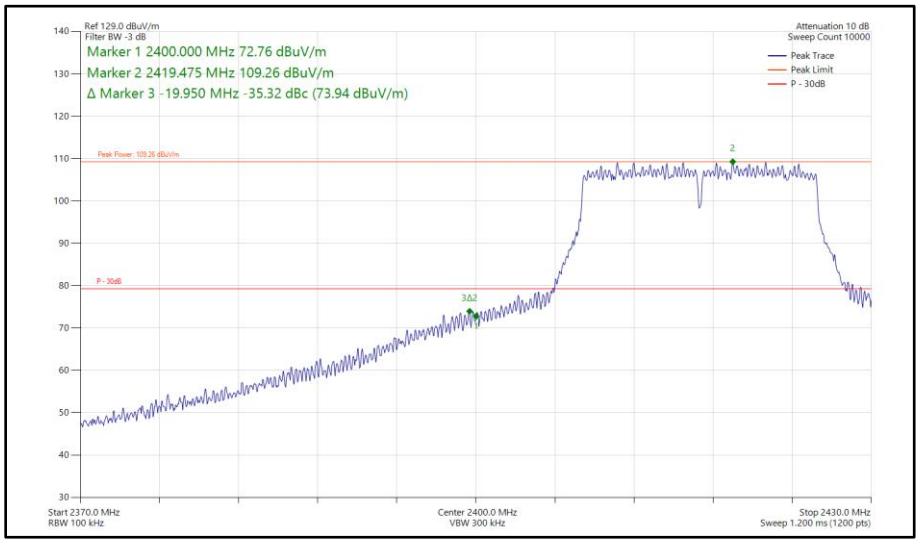

Figure 179 - 802.11n HT20, SISO, Core 1 - 2417 MHz
Band Edge Frequency 2400 MHz

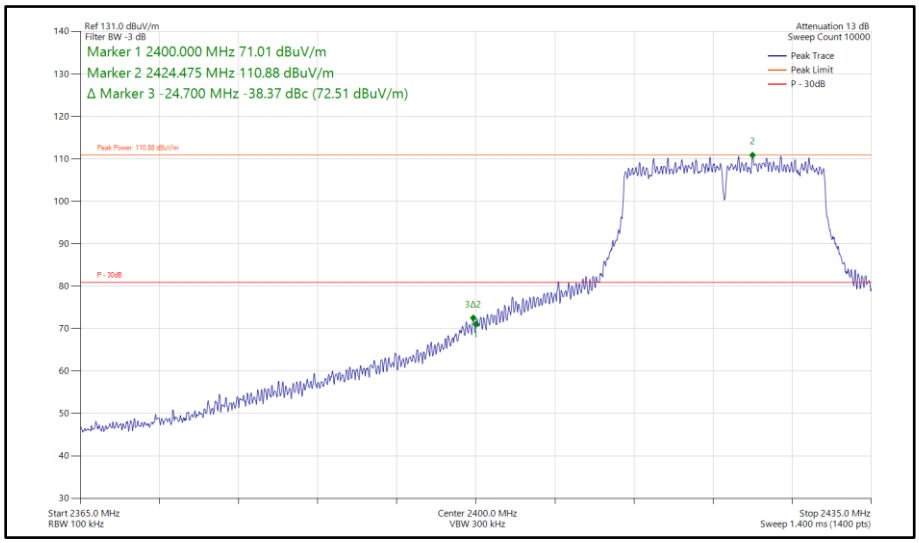

Figure 180 - 802.11n HT20, SISO, Core 1 - 2422 MHz
Band Edge Frequency 2400 MHz

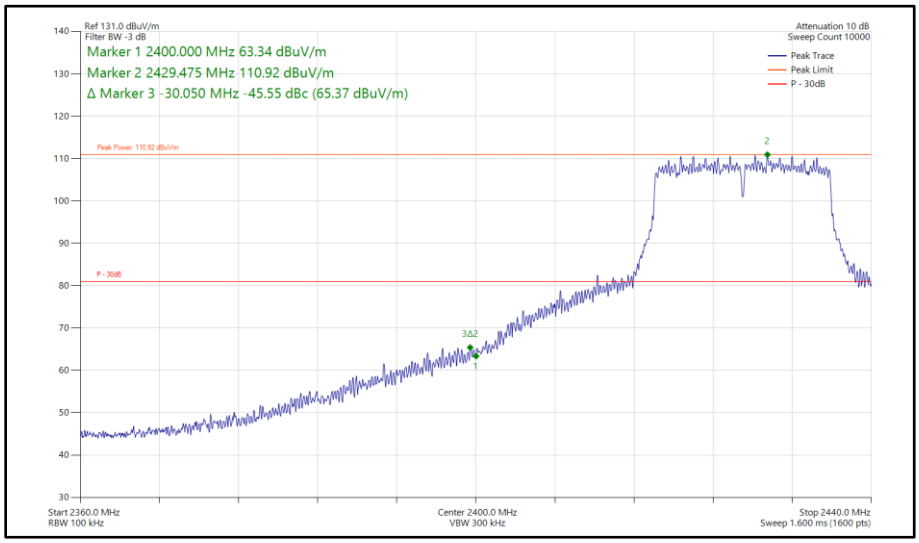

Figure 181 - 802.11n HT20, SISO, Core 1 - 2427 MHz
Band Edge Frequency 2400 MHz

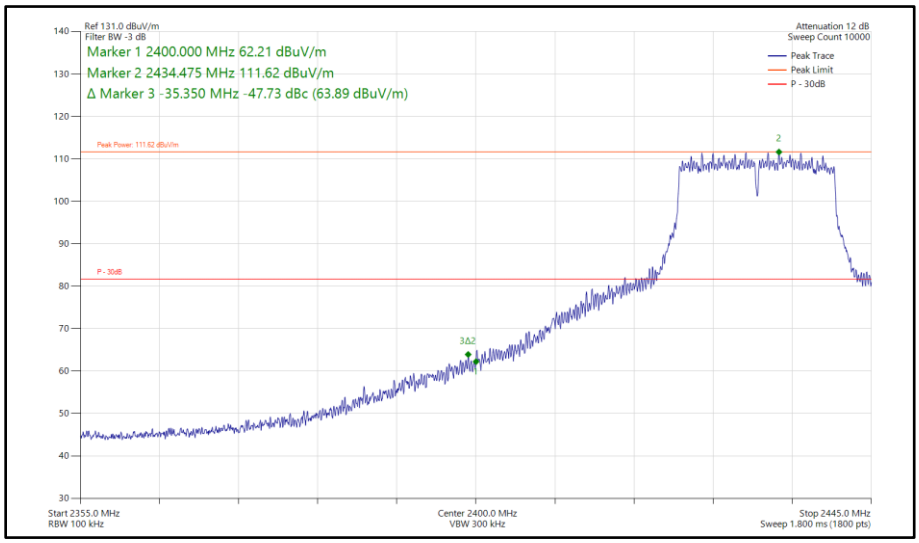

Figure 182 - 802.11n HT20, SISO, Core 1 - 2432 MHz
Band Edge Frequency 2400 MHz

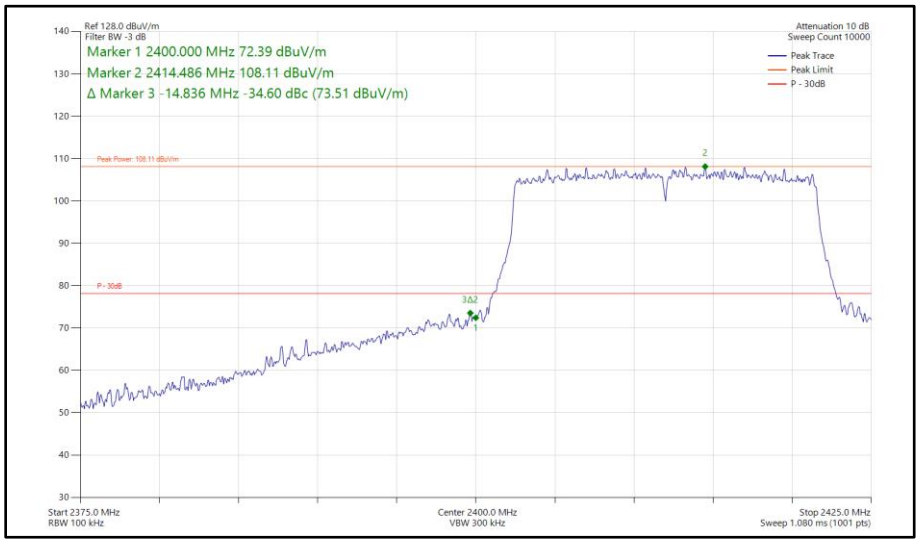

Figure 183 - 802.11ax HE20, SU, SISO, Core 1 - 2412 MHz
Band Edge Frequency 2400 MHz

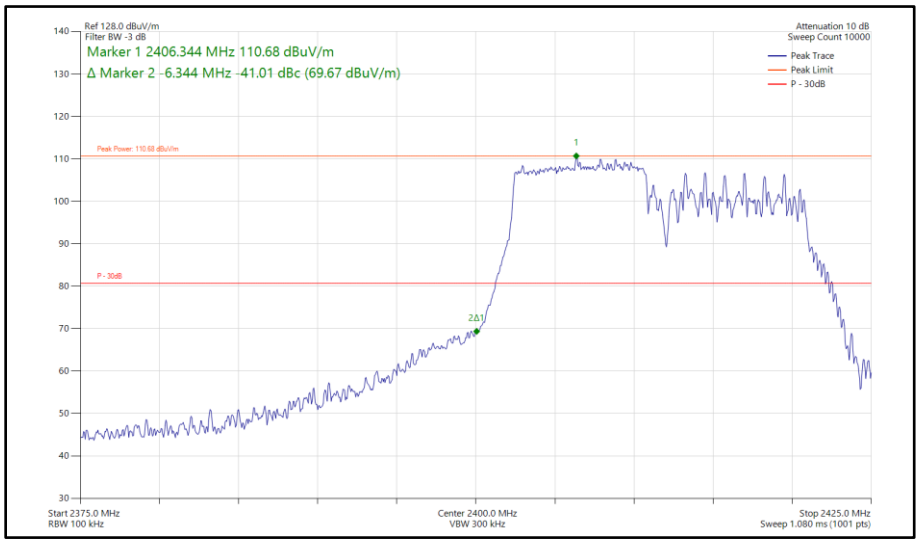

Figure 184 - 802.11ax HE20, RU 106-53, SISO, Core 1 - 2412 MHz Band Edge Frequency 2400 MHz

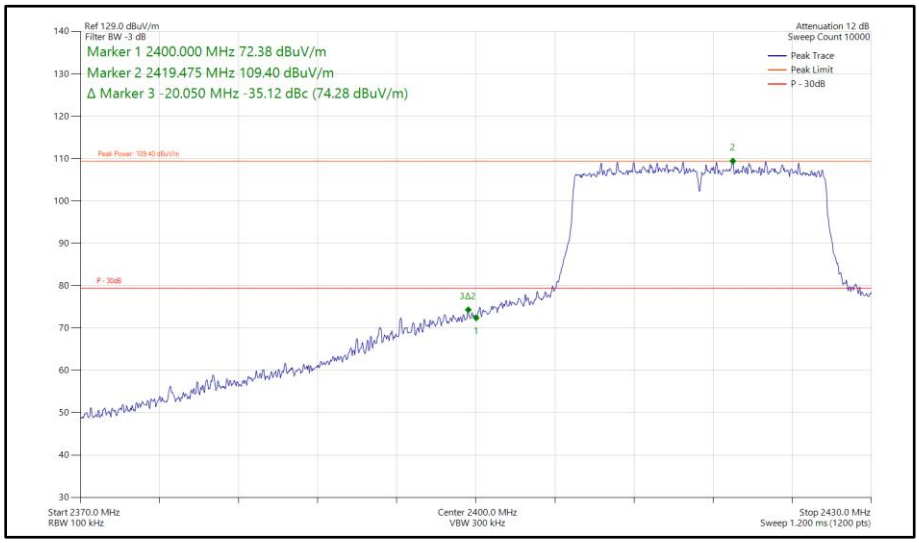

Figure 185 - 802.11ax HE20, SU, SISO, Core 1 - 2417 MHz Band Edge Frequency 2400 MHz

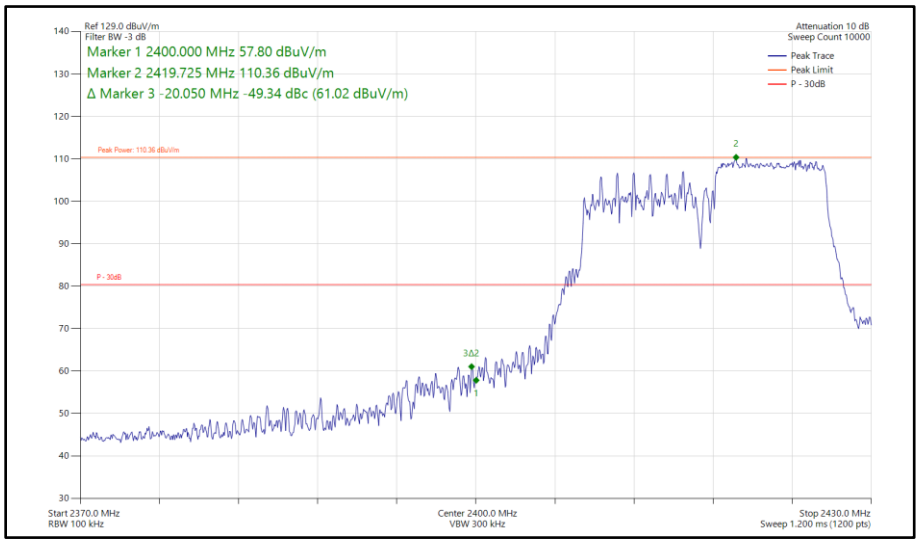

Figure 186 - 802.11ax HE20, RU 106-54, SISO, Core 1 - 2417 MHz Band Edge Frequency 2400 MHz

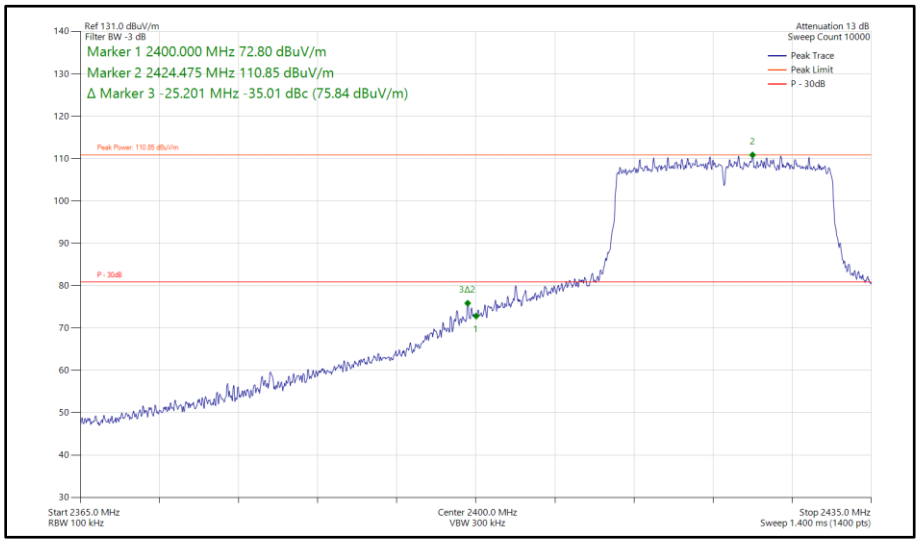

Figure 187 - 802.11ax HE20, SU, SISO, Core 1 - 2422 MHz Band Edge Frequency 2400 MHz

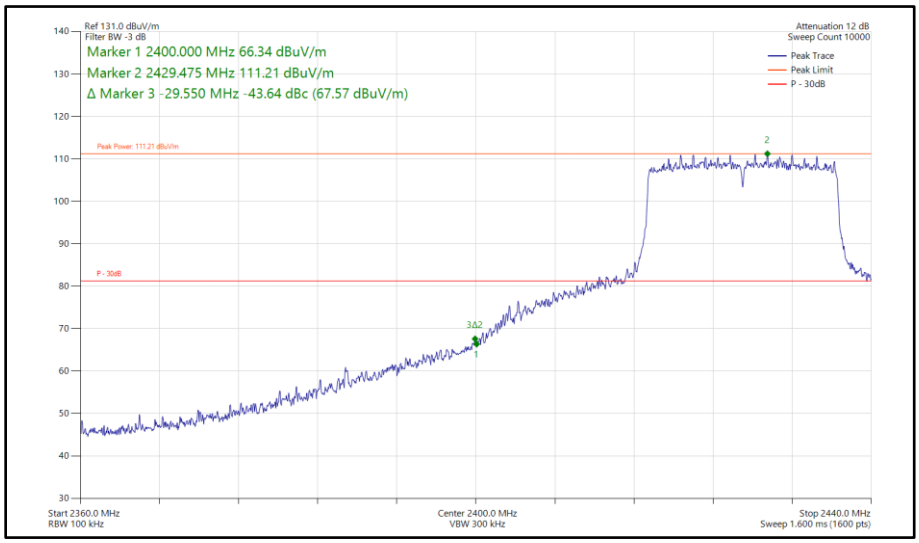

Figure 188 - 802.11ax HE20, SU, SISO, Core 1 - 2427 MHz Band Edge Frequency 2400 MHz

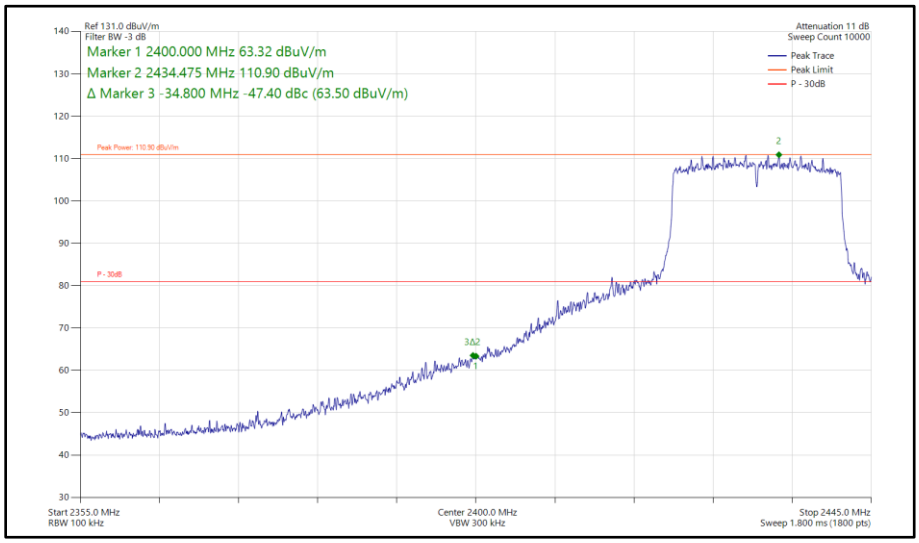

Figure 189 - 802.11ax HE20, SU, SISO, Core 1 - 2432 MHz Band Edge Frequency 2400 MHz

20 MHz Bandwidth - Core 0 - Core 1 (CDD)

Mode	Data Rate/ MCS	Resource Size	Resource Index	TX Frequency (MHz)	Band Edge Frequency (MHz)	Level (dBc)
802.11n HT20	MCS 7	-	-	2412	2400	-34.81
802.11n HT20	MCS 7	-	-	2417	2400	-35.35
802.11n HT20	MCS 7	-	-	2422	2400	-40.95
802.11n HT20	MCS 7	-	-	2427	2400	-46.11
802.11n HT20	MCS 7	-	-	2432	2400	-49.03
802.11ax HE20	MCS 9x1	SU	-	2412	2400	-35.02
802.11ax HE20	MCS 9x1	106	53	2412	2400	-40.24
802.11ax HE20	MCS 9x1	SU	-	2417	2400	-34.54
802.11ax HE20	MCS 9x1	106	53	2417	2400	-48.56
802.11ax HE20	MCS 9x1	SU	-	2422	2400	-36.24
802.11ax HE20	MCS 9x1	106	54	2422	2400	-52.86
802.11ax HE20	MCS 9x1	SU	-	2427	2400	-45.97
802.11ax HE20	MCS 9x1	SU	-	2432	2400	-47.90

Table 56 - CDD Authorised Band Edge Results

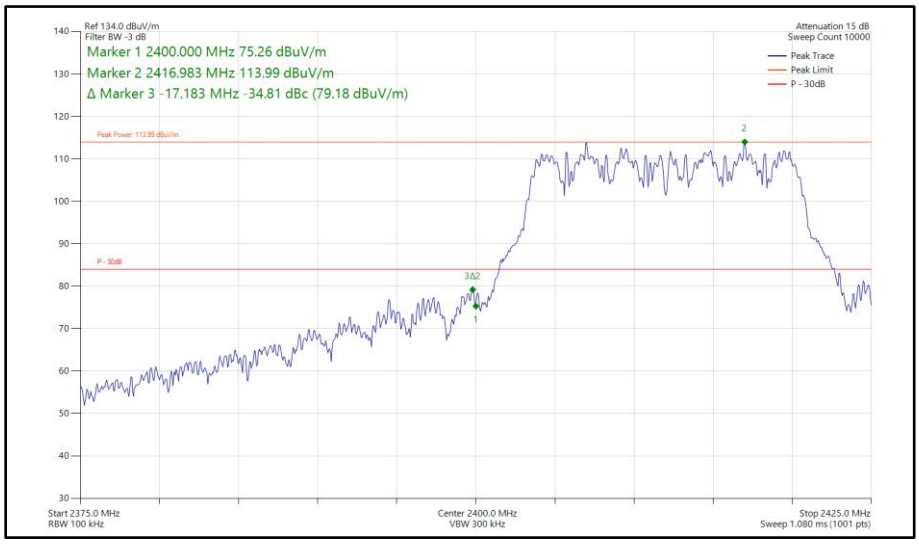

Figure 190 - 802.11n HT20, CDD, Core 0 - Core 1 - 2412 MHz Band Edge Frequency 2400 MHz

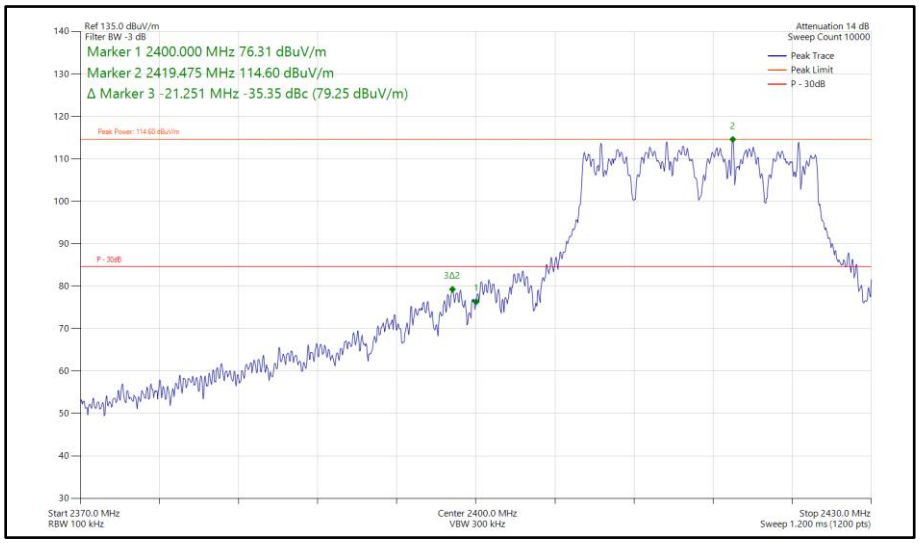

Figure 191 - 802.11n HT20, CDD, Core 0 - Core 1 - 2417 MHz Band Edge Frequency 2400 MHz

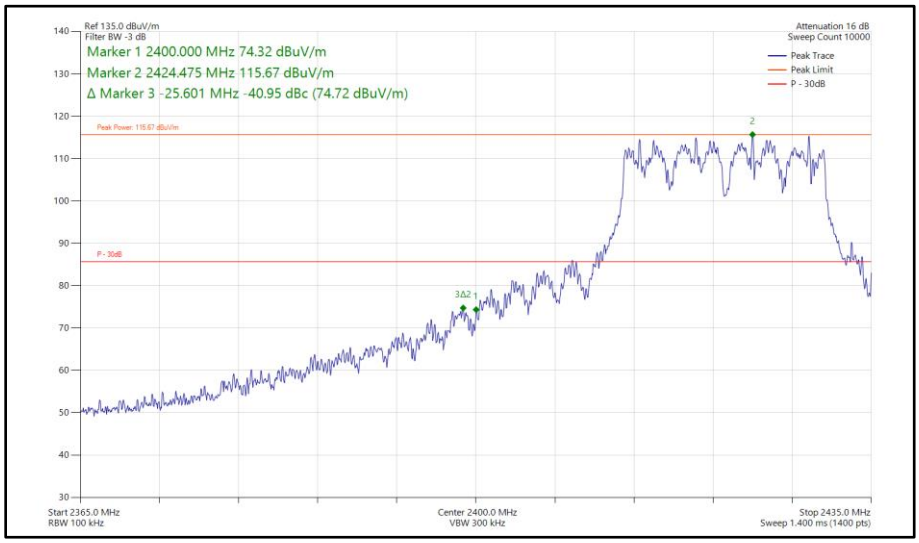

Figure 192 - 802.11n HT20, CDD, Core 0 - Core 1 - 2422 MHz Band Edge Frequency 2400 MHz

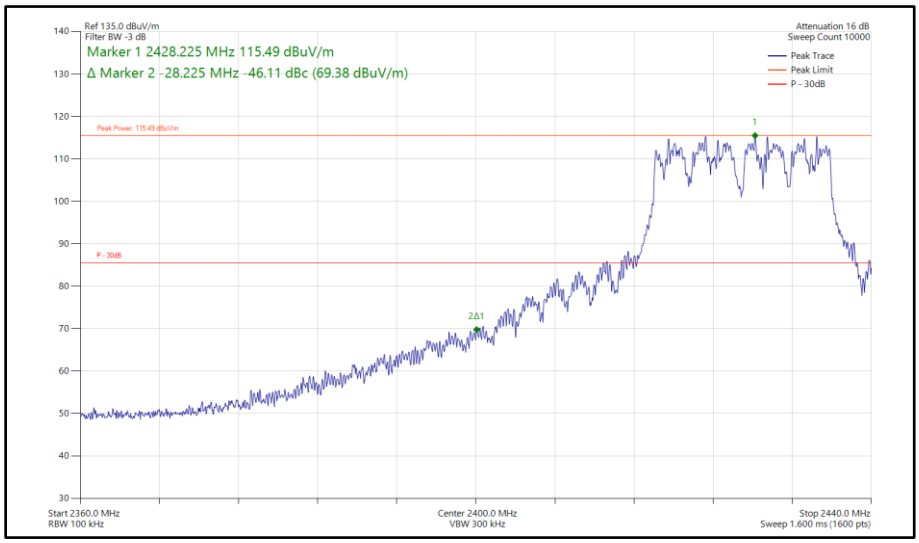

Figure 193 - 802.11n HT20, CDD, Core 0 - Core 1 - 2427 MHz Band Edge Frequency 2400 MHz

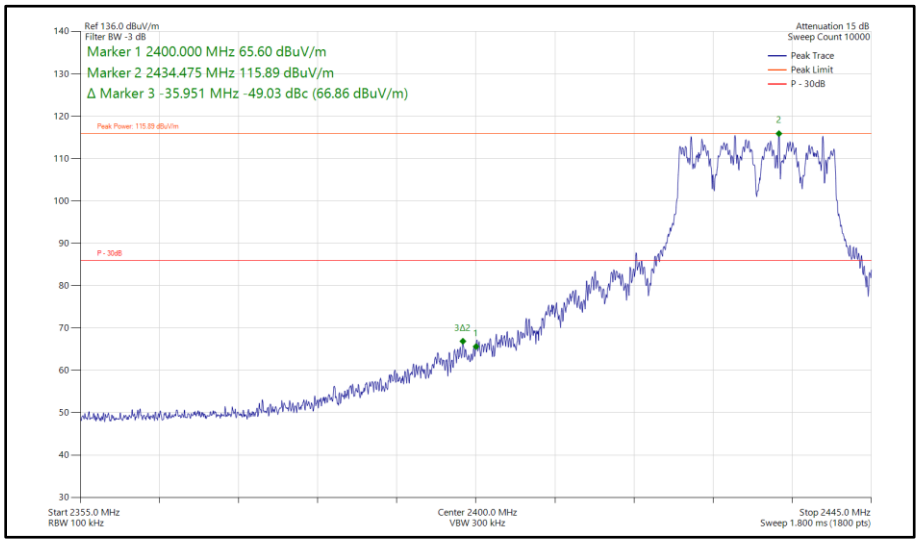

Figure 194 - 802.11n HT20, CDD, Core 0 - Core 1 - 2432 MHz Band Edge Frequency 2400 MHz

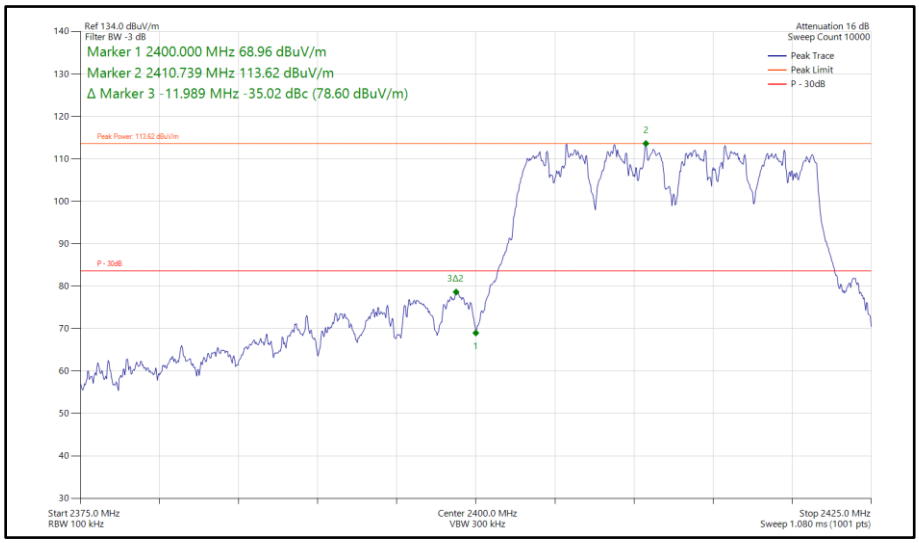

Figure 195 - 802.11ax HE20, SU, CDD, Core 0 - Core 1 - 2412 MHz Band Edge Frequency 2400 MHz

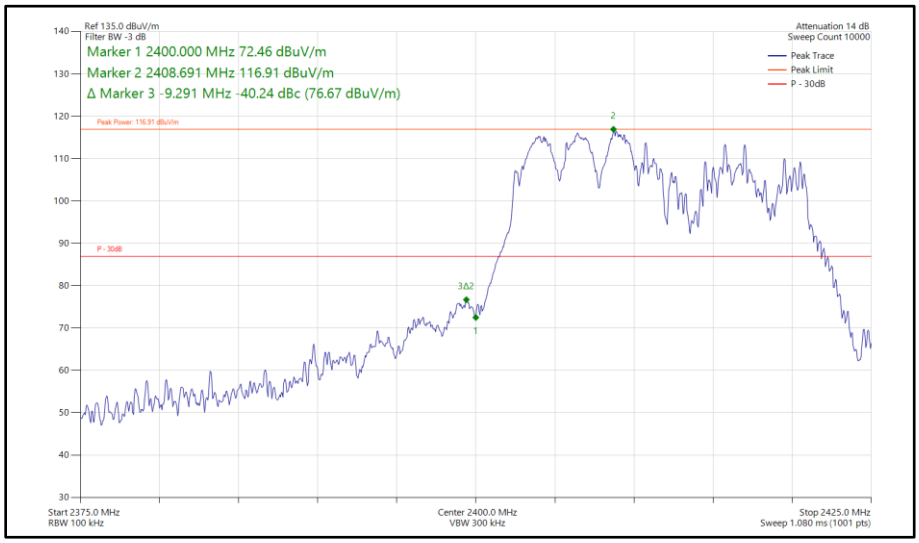

Figure 196 - 802.11ax HE20, RU 106-53, CDD, Core 0 - Core 1 - 2412 MHz Band Edge Frequency 2400 MHz

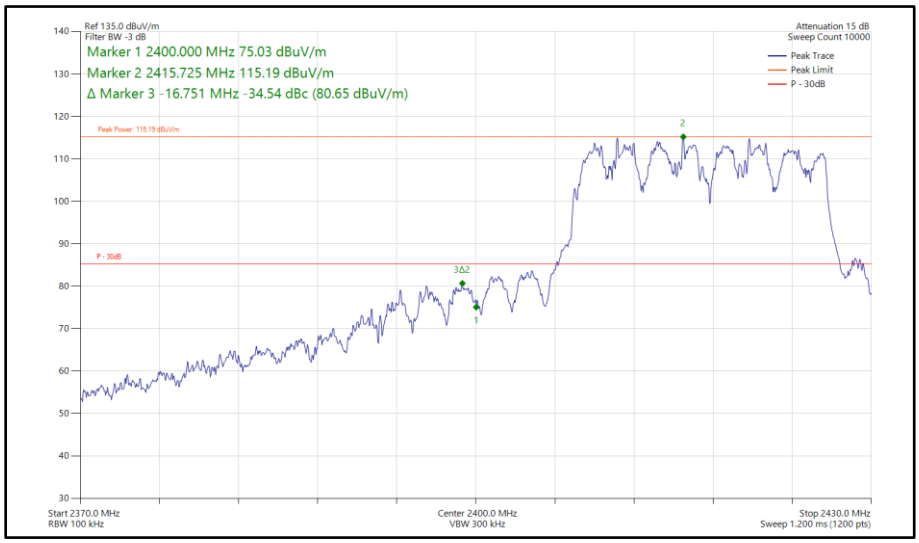

Figure 197 - 802.11ax HE20, SU, CDD, Core 0 - Core 1 - 2417 MHz Band Edge Frequency 2400 MHz

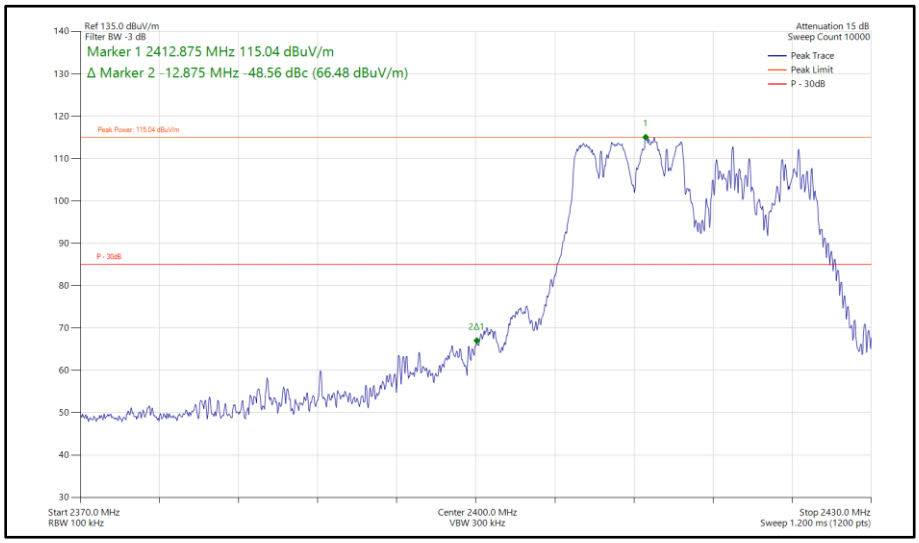

Figure 198 - 802.11ax HE20, RU 106-53, CDD, Core 0 - Core 1 - 2417 MHz Band Edge Frequency 2400 MHz

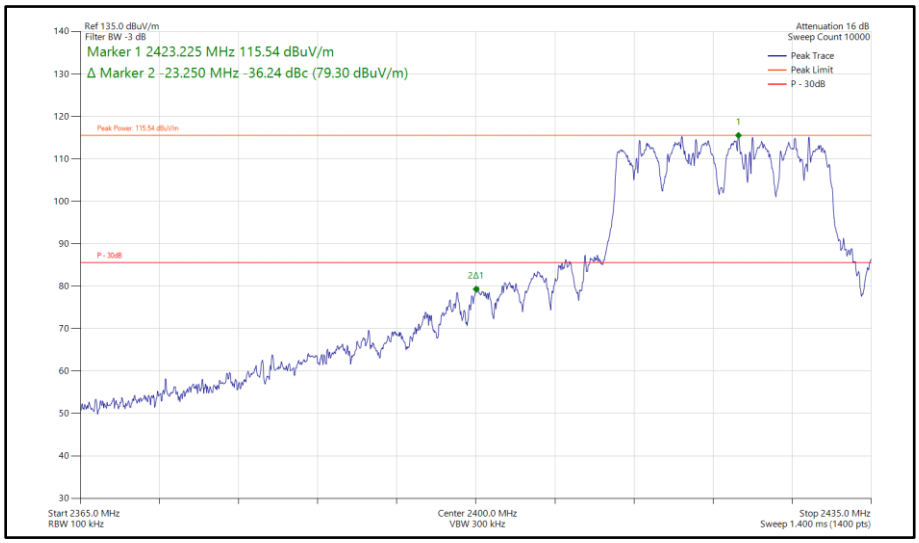

Figure 199 - 802.11ax HE20, SU, CDD, Core 0 - Core 1 - 2422 MHz Band Edge Frequency 2400 MHz

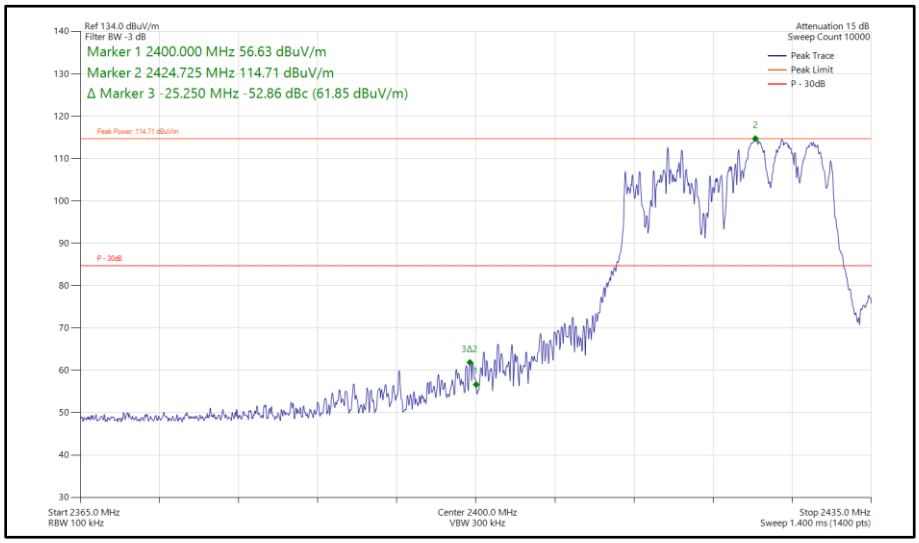

Figure 200 - 802.11ax HE20, RU 106-54, CDD, Core 0 - Core 1 - 2422 MHz Band Edge Frequency 2400 MHz