



Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	15.247 (a)(2)	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	-	15.300	-	-	≥500.0
2472	-	17.700	-	-	≥500.0

Table 19 - 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 20 - 99% Bandwidth Results



Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	15.247 (a)(2)	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	-	18.720	-	-	≥500.0
2442	-	18.780	-	-	≥500.0
2472	-	19.080	-	-	≥500.0

Table 21 - 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 22 - 99% Bandwidth Results

MIMO CDD

Protocol	6 dB Bandwidth (MHz)	
	Minimum	Maximum
802.11n HT20	15.300	17.760
802.11ax HE20 SU	18.360	19.080

Table 23 - 6 dB Bandwidth Summary Results - MIMO CDD

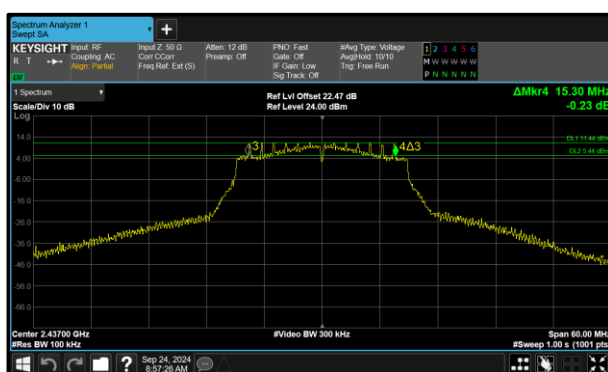


Figure 69 - 802.11n HT20 Minimum 6 dB EBW

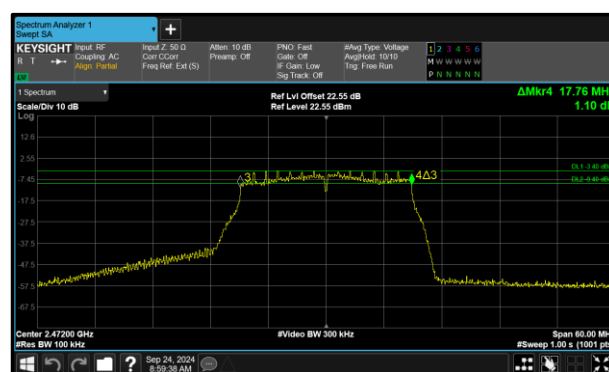


Figure 70 - 802.11n HT20 Maximum 6 dB EBW

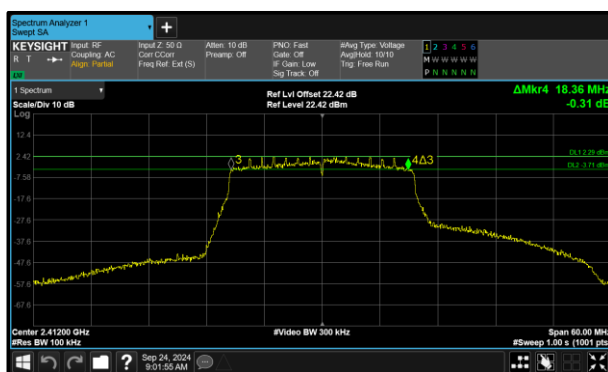


Figure 71 - 802.11ax HE20 SU Minimum 6 dB EBW

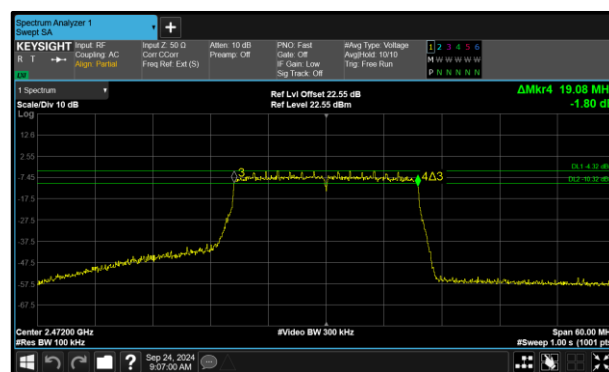


Figure 72 - 802.11ax HE20 SU Maximum 6 dB EBW



Protocol	99% Bandwidth (MHz)	
	Minimum	Maximum
802.11n HT20	17.580	17.700
802.11ax HE20 SU	18.900	19.020

Table 24 - 99% Bandwidth Summary Results - MIMO CDD

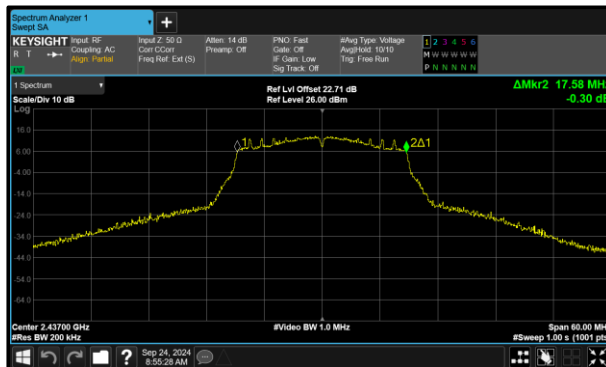


Figure 73 - 802.11n HT20 Minimum 99% OBW

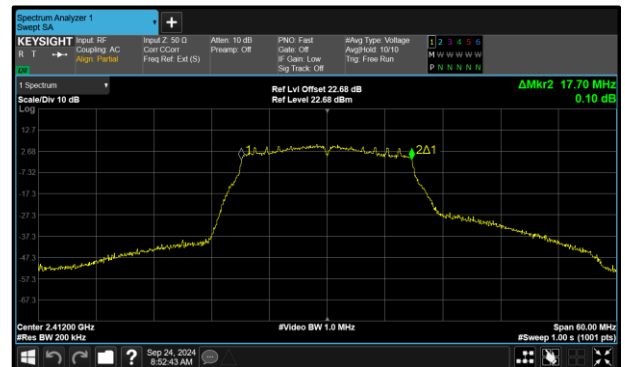


Figure 74 - 802.11n HT20 Maximum 99% OBW

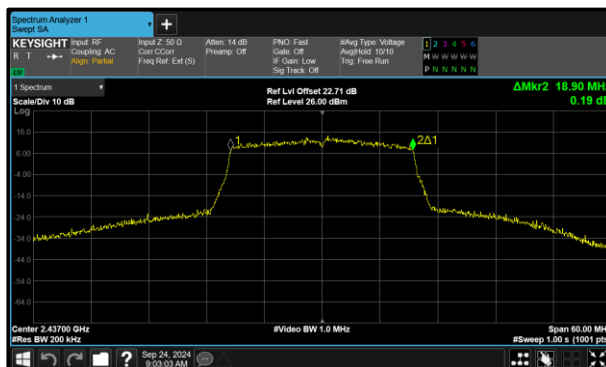


Figure 75 - 802.11ax HE20 SU Minimum 99% OBW

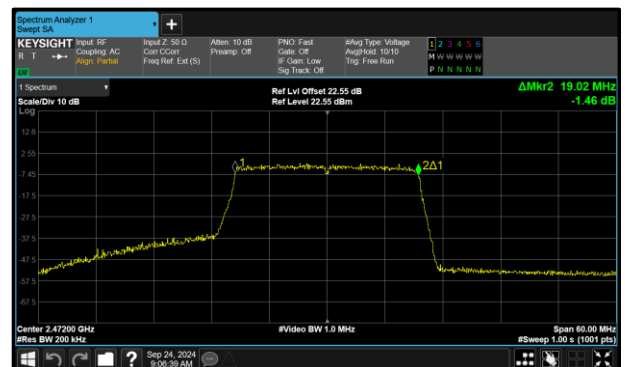


Figure 76 - 802.11ax HE20 SU Maximum 99% OBW



Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	15.247 (a)(2)	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	16.440	-	-	≥500.0
2437	15.480	15.300	-	-	≥500.0
2472	17.700	17.760	-	-	≥500.0

Table 25 - 6 dB Bandwidth Results

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

Table 26 - 99% Bandwidth Results



Test Configuration			
Frequency Range:	2400-2483.5 MHz	Band:	2.4 GHz
Limit Clause(s):	15.247 (a)(2)	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	18.780	18.360	-	-	≥500.0
2437	19.020	18.960	-	-	≥500.0
2472	19.020	19.080	-	-	≥500.0

Table 27 - 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	18.960	19.020	-	-	-

Table 28 - 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 SAR Chamber 2.

Instrument	Manufacturer	Type No.	TE No.	Calibration Period (months)	Calibration Expiry Date
True RMS Multimeter	Fluke	79 Series III	411	12	12-Jan-2025
Hygrometer	Rotronic	Hygropalm 0	3028	12	12-Aug-2025
1 MHz / 10 MHz reference	Quartzlock	E10-X	4973	12	03-Sep-2025
AC Programmable Power Supply	iTech	IT7324	5226	-	O/P Mon
MXA Signal Analyser	Keysight Technologies	N9020B	5528	24	18-Sep-2025
Signal Conditioning Unit	TUV SUD	SPECTRUM_SCU001	6350	12	02-Aug-2025
SCU Cable Assembly	TUV SUD	SPECTRUM_SCU_CA	6530	12	16-Feb-2025
SCU Cable Assembly	TUV SUD	SPECTRUM_SCU_CA	6638	12	02-Aug-2025
SCU Cable Assembly	TUV SUD	SPECTRUM_SCU_CA	6639	12	02-Aug-2025

Table 29

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

A3403, S/N: M7J9X1XPGD - Modification State 0

2.3.3 Date of Test

24-September-2024 to 25-September-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 20.9 - 22.7 °C

Relative Humidity 58.6 - 59.0 %



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) 15.247 (b)(4)	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	Σ		
2412	-	18.50	-	-	-	29.70	-11.20
2442	-	18.51	-	-	-	29.70	-11.19
2472	-	15.62	-	-	-	29.70	-14.08

Table 30 - FCC 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) 15.247 (b)(4)	Test Method(s):	C63.10 11.9.2.3.2
Additional Reference(s):	-		

DUT Configuration			
Mode:	802.11g	Duty Cycle (%):	97.5
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	Σ		
2412	-	17.13	-	-	-	29.70	-12.57
2442	-	22.02	-	-	-	29.70	-7.68
2472	-	8.93	-	-	-	29.70	-20.77

Table 31 - FCC 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) 15.247 (b)(4)	Test Method(s):	C63.10 11.9.2.3.2
Additional Reference(s):	-		

DUT Configuration			
Mode:	802.11n HT20	Duty Cycle (%):	96.4
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	Σ		
2412	-	16.36	-	-	-	29.70	-13.34
2442	-	22.40	-	-	-	29.70	-7.30
2472	-	8.18	-	-	-	29.70	-21.52

Table 32 - FCC 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) 15.247 (b)(4)	Test Method(s):	C63.10 11.9.2.3.2
Additional Reference(s):	-		

DUT Configuration			
Mode:	802.11ax HE20 SU	Duty Cycle (%):	95.7
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	Σ		
2412	-	15.29	-	-	-	29.70	-14.41
2442	-	22.22	-	-	-	29.70	-7.48
2472	-	7.66	-	-	-	29.70	-22.04

Table 33 - FCC 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) 15.247 (b)(4)	Test Method(s):	C63.10 11.9.2.3.2
Additional Reference(s):	-		

DUT Configuration			
Mode:	802.11ax HE20 RU26	Duty Cycle (%):	94.7
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	Σ		
2412	-	14.34	-	-	-	29.70	-15.36
2442	-	14.32	-	-	-	29.70	-15.38
2472	-	-5.30	-	-	-	29.70	-35.00

Table 34 - FCC 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) 15.247 (b)(4)	Test Method(s):	C63.10 11.9.2.3.2
Additional Reference(s):	-		

DUT Configuration			
Mode:	802.11ax HE20 RU52	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	Σ		
2412	-	17.06	-	-	-	29.70	-12.64
2442	-	17.28	-	-	-	29.70	-12.42
2472	-	-2.37	-	-	-	29.70	-32.07

Table 35 - FCC 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) 15.247 (b)(4)	Test Method(s):	C63.10 11.9.2.3.2
Additional Reference(s):	-		

DUT Configuration			
Mode:	802.11ax HE20 RU106	Duty Cycle (%):	97.7
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	Σ		
2412	-	16.73	-	-	-	29.70	-12.97
2442	-	20.47	-	-	-	29.70	-9.23
2472	-	-1.39	-	-	-	29.70	-31.09

Table 36 - FCC 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) 15.247 (b)(4)	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 (%):	96.4
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	Σ		
2412	14.20	14.55	-	-	17.39	29.70	-12.31
2437	21.91	22.22	-	-	25.07	29.70	-4.63
2472	7.98	7.80	-	-	10.89	29.70	-18.81

Table 37 - FCC 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) 15.247 (b)(4)	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 (%):	95.6
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	Σ		
2412	12.82	12.83	-	-	15.83	29.70	-13.87
2437	21.55	22.01	-	-	24.79	29.70	-4.91
2472	6.85	6.81	-	-	9.83	29.70	-19.87

Table 38 - FCC 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) 15.247 (b)(4)	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 (%):	96.7
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	Σ		
2412	14.05	14.42	-	-	17.24	29.70	-12.46
2442	14.40	14.42	-	-	17.40	29.70	-12.30
2472	-8.87	-8.61	-	-	-5.73	29.70	-35.43

Table 39 - FCC 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) 15.247 (b)(4)	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	Σ		
2412	15.99	15.96	-	-	18.98	29.70	-10.72
2442	17.44	17.34	-	-	20.37	29.70	-9.33
2472	-6.57	-7.25	-	-	-3.88	29.70	-33.58

Table 40 - FCC 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) 15.247 (b)(4)	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 (%):	97.7
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	Σ		
2412	15.58	15.82	-	-	18.70	29.70	-11.00
2442	20.36	20.29	-	-	23.29	29.70	-6.41
2472	-3.88	-4.47	-	-	-1.16	29.70	-30.86

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

FCC 47 CFR Part 15, Limit Clause 15.247 (b)(3)

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 SAR Chamber 2.

Instrument	Manufacturer	Type No.	TE No.	Calibration Period (months)	Calibration Expiry Date
True RMS Multimeter	Fluke	79 Series III	411	12	12-Jan-2025
Hygrometer	Rotronic	Hygropalm 0	3028	12	12-Aug-2025
1 MHz / 10 MHz reference	Quartzlock	E10-X	4973	12	03-Sep-2025
AC Programmable Power Supply	iTech	IT7324	5226	-	O/P Mon
USB Power Sensor	Boonton	RTP5008	5833	12	26-Jul-2025
USB Power Sensor	Boonton	RTP5008	5834	12	26-Jul-2025
SCU Cable Assembly	TUV SUD	SPECTRUM_SCU_CA	6530	12	16-Feb-2025
SCU Cable Assembly	TUV SUD	SPECTRUM_SCU_CA	6638	12	02-Aug-2025
SCU Cable Assembly	TUV SUD	SPECTRUM_SCU_CA	6639	12	02-Aug-2025

Table 42

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

A3403, S/N: JF4T7PYJ66 - Modification State 0

2.4.3 Date of Test

03-September-2024 to 19-September-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 22.3 - 23.2 °C

Relative Humidity 49.0 - 59.3 %

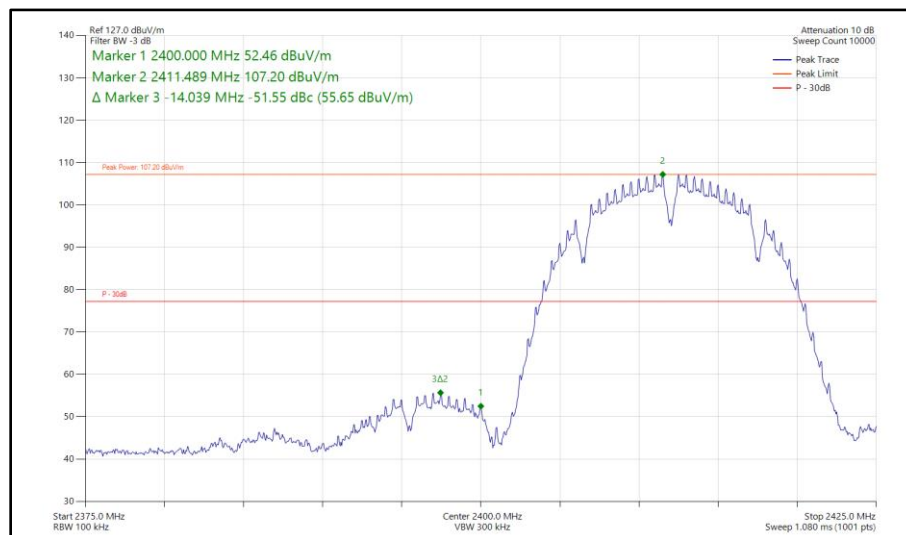
2.4.6 Test Results

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	-51.55
802.11g	54 Mbps	-	-	2412	2400	-42.22
802.11n HT20	MCS 7	-	-	2412	2400	-42.67
802.11ax HE20	MCS 2x1	SU	-	2412	2400	-43.64
802.11ax HE20	MCS 9x1	106	53	2412	2400	-44.90

Table 43 - SISO Authorised Band Edge Results



**Figure 77 - 802.11b, SISO, Core 0 - 2412 MHz
Band Edge Frequency 2400 MHz**

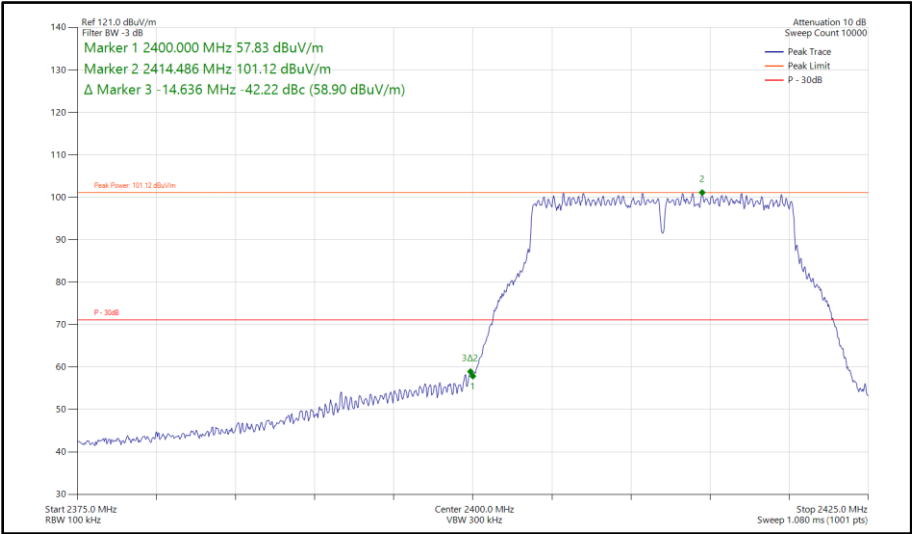


Figure 78 - 802.11g, SISO, Core 0 - 2412 MHz
Band Edge Frequency 2400 MHz

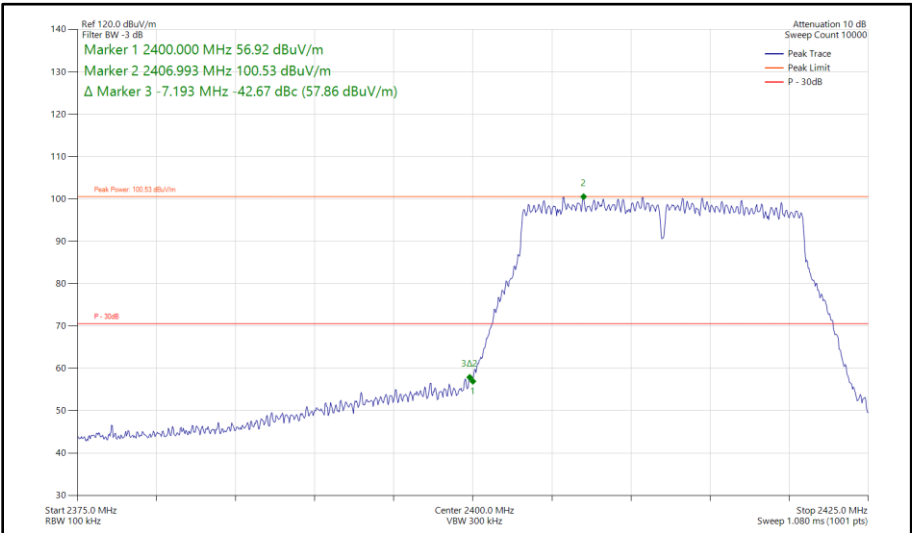


Figure 79 - 802.11n HT20, SISO, Core 0 - 2412 MHz
Band Edge Frequency 2400 MHz

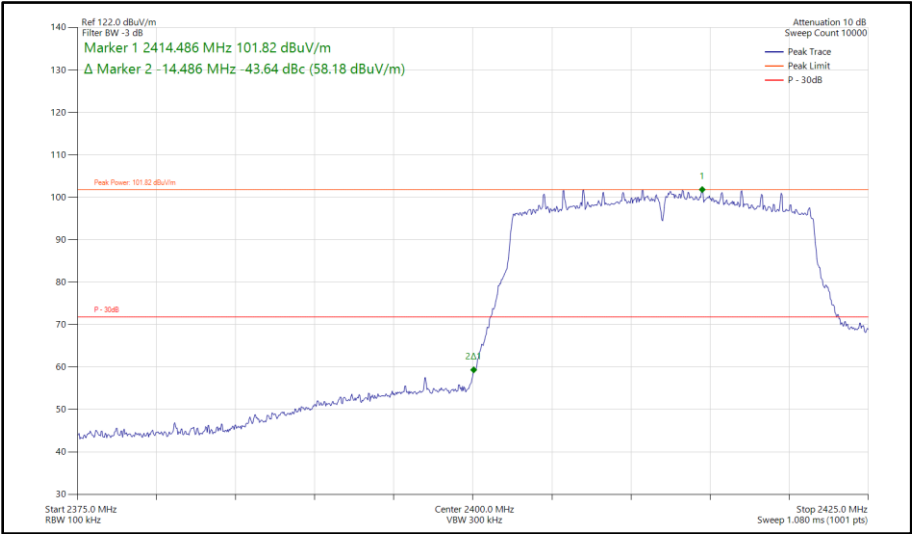


Figure 80 - 802.11ax HE20, SU, SISO, Core 0 - 2412 MHz
Band Edge Frequency 2400 MHz

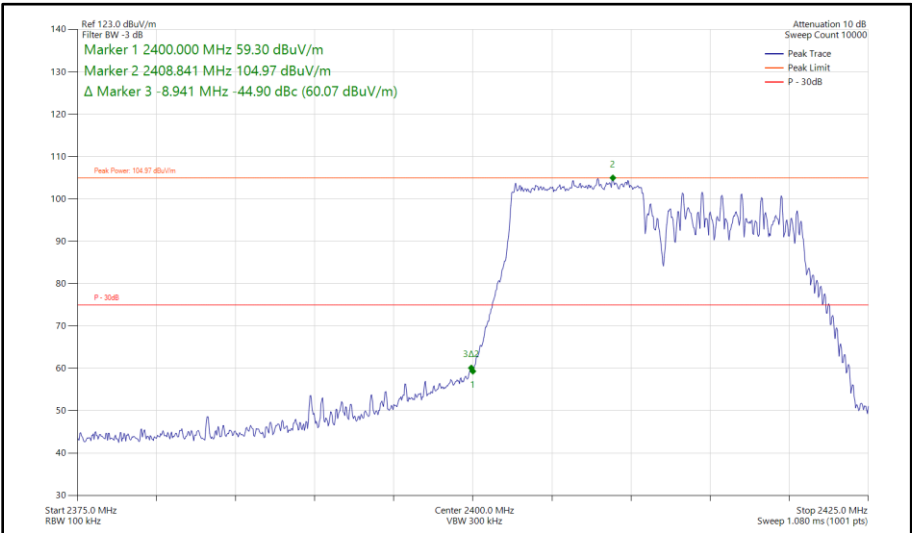
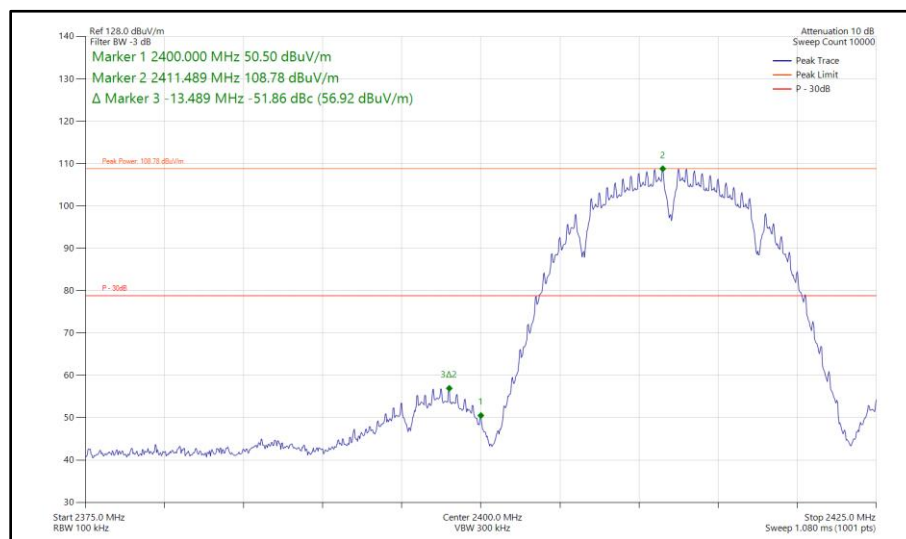


Figure 81 - 802.11ax HE20, RU 106-53, SISO, Core 0 - 2412 MHz
Band Edge Frequency 2400 MHz

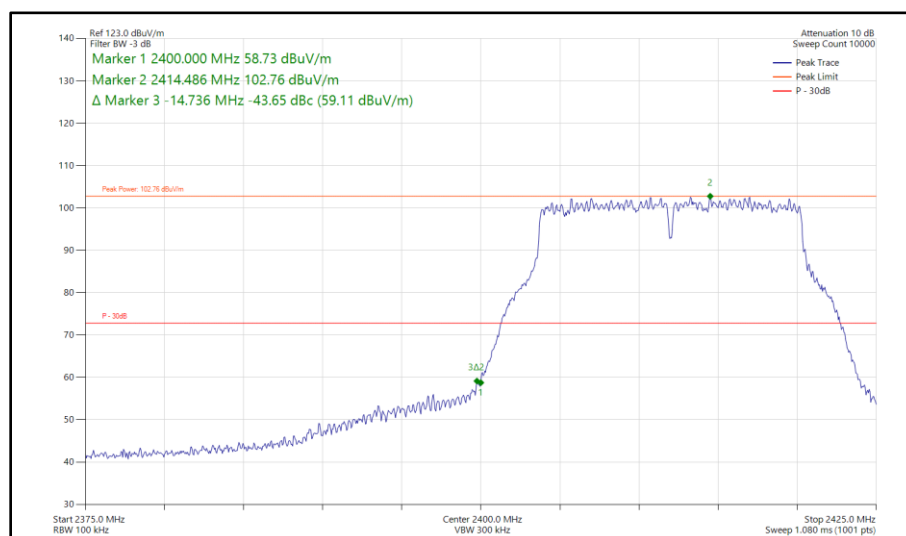
20 MHz Bandwidth - Core 1 (SISO)

Mode	Data Rate/ MCS	Resource Size	Resource Index	TX Frequency (MHz)	Band Edge Frequency (MHz)	Level (dBc)
802.11b	1 Mbps	-	-	2412	2400	-51.86
802.11g	54 Mbps	-	-	2412	2400	-43.65
802.11n HT20	MCS 2	-	-	2412	2400	-43.01
802.11ax HE20	MCS 2x1	SU	-	2412	2400	-41.33
802.11ax HE20	MCS 9x1	106	53	2412	2400	-45.48

Table 44 - SISO Authorised Band Edge Results



**Figure 82 - 802.11b, SISO, Core 1 - 2412 MHz
Band Edge Frequency 2400 MHz**



**Figure 83 - 802.11g, SISO, Core 1 - 2412 MHz
Band Edge Frequency 2400 MHz**

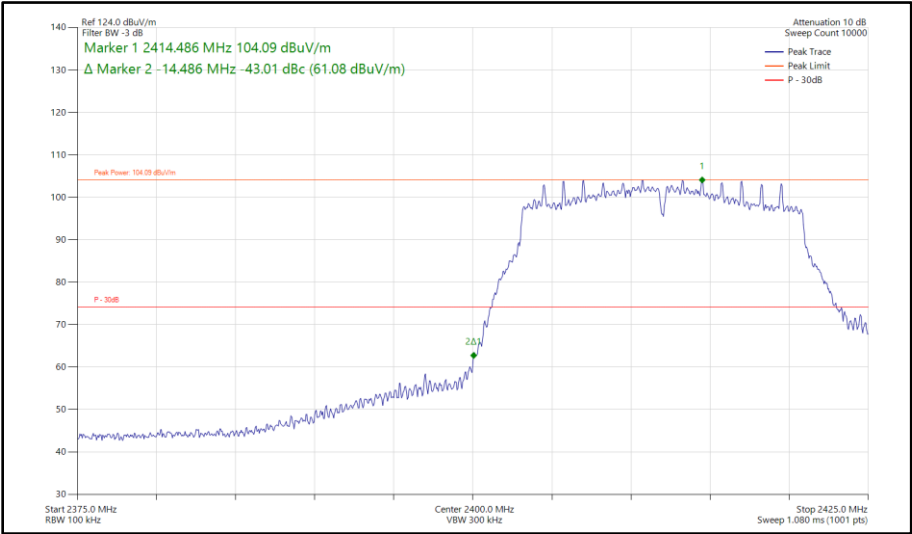


Figure 84 - 802.11n HT20, SISO, Core 1 - 2412 MHz
Band Edge Frequency 2400 MHz

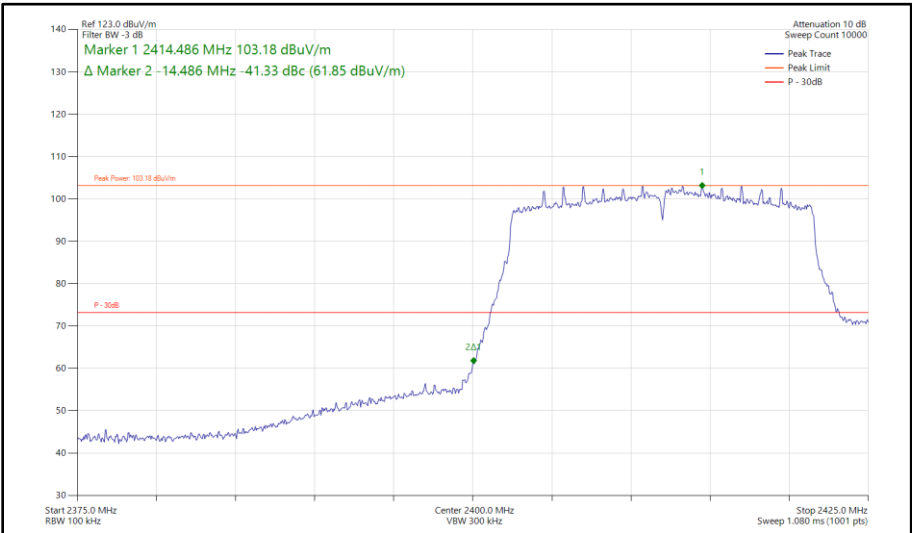


Figure 85 - 802.11ax HE20, SU, SISO, Core 1 - 2412 MHz
Band Edge Frequency 2400 MHz

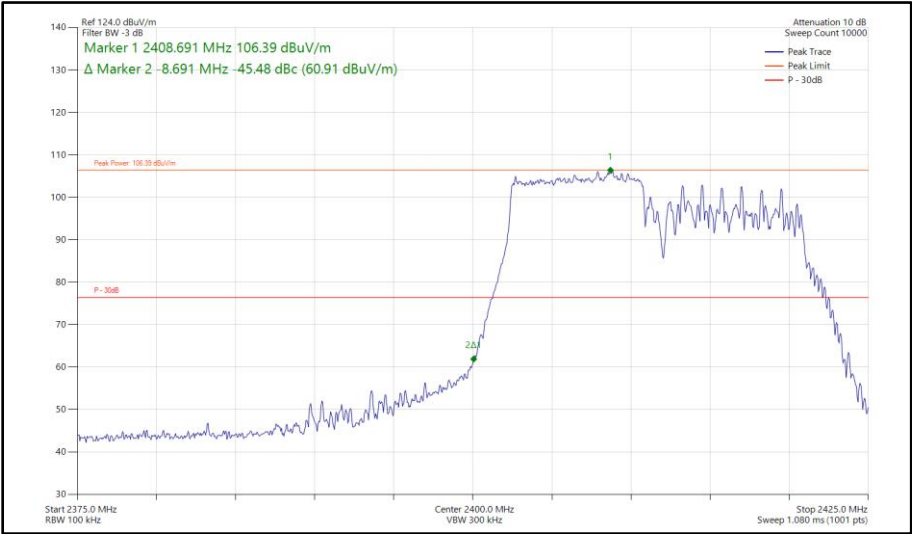


Figure 86 - 802.11ax HE20, RU 106-53, SISO, Core 1 - 2412 MHz
Band Edge Frequency 2400 MHz

Mode	Data Rate/ MCS	Resource Size	Resource Index	TX Frequency (MHz)	Band Edge Frequency (MHz)	Level (dBc)
802.11n HT20	MCS 7	-	-	2412	2400	-45.18
802.11ax HE20	MCS 9x1	SU	-	2412	2400	-34.95
802.11ax HE20	MCS 9x1	106	53	2412	2400	-46.28

Ref 125.0 dBuV/m
Filter BW -3 dB

Marker 1 2400.000 MHz 59.08 dBuV/m
Marker 2 2413.237 MHz 104.77 dBuV/m
Δ Marker 3 -13.737 MHz -45.18 dBc (59.59 dBuV/m)

Peak Power 104.77 dBuV/m
P - 30dB

Start 2375.0 MHz
Center 2400.0 MHz
Stop 2425.0 MHz
RBW 100 kHz
VBW 300 kHz
Sweep 1.080 ms (1001 pts)

Attenuation 10 dB
Sweep Count 10000

Legend:
— Peak Trace
— Peak Limit
— P - 30dB

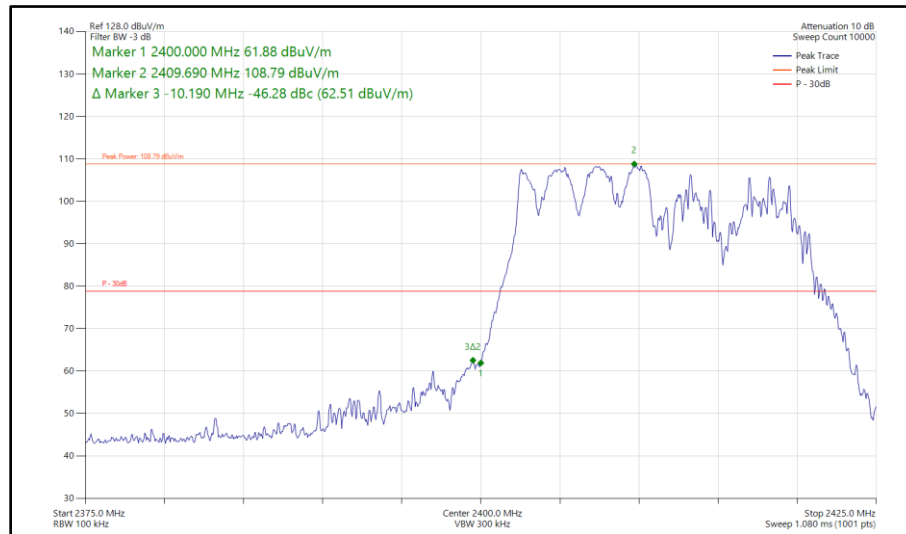
Ref 133.0 dBuV/m
Filter BW -3 dB
Attenuation 18 dB
Sweep Count 10000

Marker 1 2400.000 MHz 77.73 dBuV/m
Marker 2 2416.983 MHz 113.75 dBuV/m
Δ Marker 3 -17.283 MHz -34.95 dBc (78.80 dBuV/m)

Peak Power: 113.75 dBuV/m
P - 30dB

Start 2375.0 MHz
RBW 100 kHz
Center 2400.0 MHz
VBW 300 kHz
Stop 2425.0 MHz
Sweep 1.080 ms (1001 pts)

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**Figure 89 - 802.11ax HE20, RU 106-53, CDD, Core 0 - Core 1 - 2412 MHz
Band Edge Frequency 2400 MHz**

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

20 dB below the fundamental measured in a 100 kHz bandwidth using a peak detector. If the transmitter complies with the conducted power limits, based on the use of RMS averaging over a time interval, the attenuation required shall be 30 dB below the fundamental instead of 20 dB.



2.4.7 Test Location and Test Equipment Used

This test was carried out in RF Chamber 17.

Instrument	Manufacturer	Type No.	TE No.	Calibration Period (months)	Calibration Expiry Date
1500W (300V 12A) AC Power Supply	iTech	IT7324	5957	-	O/P Mon
Emissions Software	TUV SUD	EmX V3.4.2	5125	-	Software
Test Receiver	Rohde & Schwarz	ESW44	5379	12	12-Dec-2024
SAC Switch Unit	TUV SUD	TUV_SSU_001	6144	12	11-Dec-2024
Digital Multimeter	Fluke	115	6146	12	06-Jun-2025
Cable (SMA to SMA 1m)	Junkosha	MWX221-01000AMSAMS/A	6315	12	04-Feb-2025
Humidity and Temperature Meter	R.S Components	1364	6346	12	06-Mar-2025
Horn Antenna (1–8 GHz)	Schwarzbeck	BBHA 9120 B	6457	12	05-May-2025
AC Power Supply	iTech	IT7324	6657	-	O/P Mon
3m Semi-Anechoic Chamber	Albatross Projects	RF Chamber 17	6658	36	28-Jan-2026
Mast and Turntable Controller	Maturo Gmbh	FCU3.0	6659	-	TU
Tilt Antenna Mast	Maturo Gmbh	BAM4.5-P	6660	-	TU
Turntable	Maturo Gmbh	TT1.5SI	6661	-	TU
1m Cable	Junkosha	MWX241-01000AMSAMS/B	6740	12	01-Feb-2025
8m Cable	Junkosha	MWX221-08000AMSAMS/B	6748	12	01-Feb-2025

Table 46

TU - Traceability Unscheduled

O/P Mon - Output Monitored using calibrated equipment



2.5 Spurious Radiated Emissions

2.5.1 Specification Reference

FCC 47 CFR Part 15C, Clause 15.209 and 15.247 (d)

2.5.2 Equipment Under Test and Modification State

A3403, S/N: JF4T7PYJ66 - Modification State 0
A3403, S/N: LJHWN3N9XQ - Modification State 0

2.5.3 Date of Test

26-August-2024 to 11-September-2024

2.5.4 Test Method

This test was performed in accordance with ANSI C63.10, clause 6.3, 6.5 and 6.6.

Ports on the EUT were terminated with loads as described in ANSI C63.10 clause 6.2.3.

The EUT was placed on the non-conducting platform in a manner typical of a normal installation.

In the 30 MHz to 1 GHz range pre-scans were only performed on the mid channel (2442 MHz) only.

For frequencies > 1 GHz, plots for average measurements were taken in accordance with ANSI C63.10, clause 11.12.2.5.2.

The plots shown are the characterisation of the EUT. The limits on the plots represent the most stringent case for restricted bands, (74/54 dBuV/m) when compared to 30 dBc outside restricted bands. The limits shown have been used as a threshold to determine where further measurements are necessary. Where results are within 10 dB of the limits shown on the plots, further investigation was carried out and reported in results tables.

The following conversion can be applied to convert from dBuV/m to uV/m:
 $10^{(\text{Field Strength in dBuV/m}/20)}$.

Above 18 GHz, the measurement distance was reduced to 1 m. The limit line was increased by $20 \cdot \text{LOG}(3/1) = 9.54$ dB.

Where formal measurements have been necessary, the results have been presented in the emissions table.

2.5.5 Example Test Setup Diagram

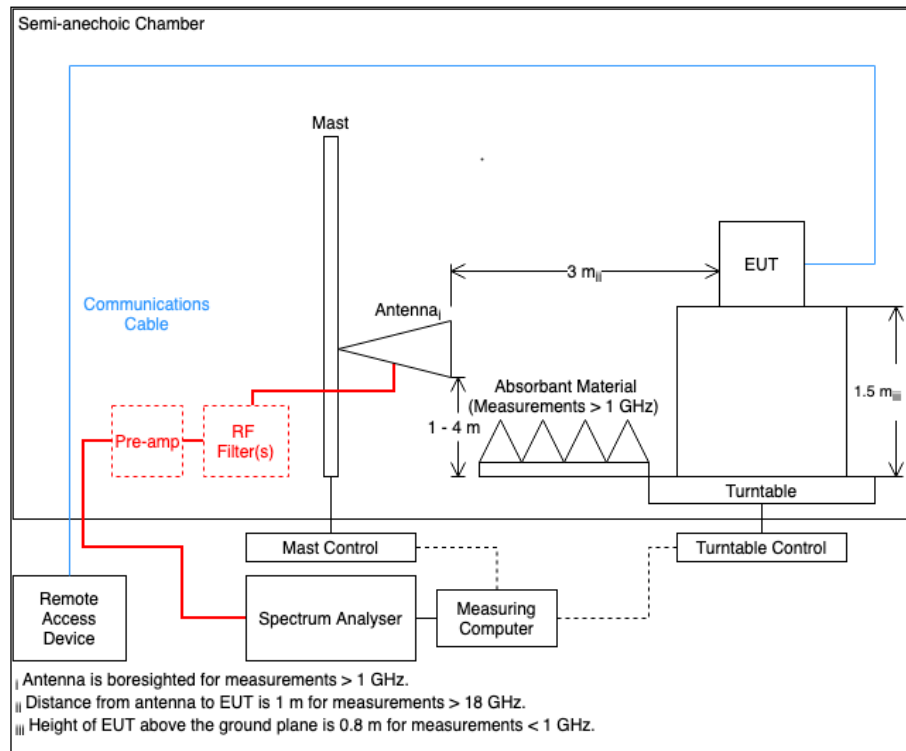


Figure 90

2.5.6 Environmental Conditions

Ambient Temperature	22.1 - 23.6 °C
Relative Humidity	41.8 - 57.6 %

2.5.7 Test Results

2.4 GHz WLAN

Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Angle (°)	Height (cm)	Polarisation
2389.946	35.83	54.00	-18.17	RMS	350	378	Vertical
2489.702	34.39	54.00	-19.61	RMS	350	389	Vertical

Table 47 - 2442 MHz (CH7), 802.11b, Core 0, 30 MHz to 26 GHz

No other emissions found within 10 dB of the limit.

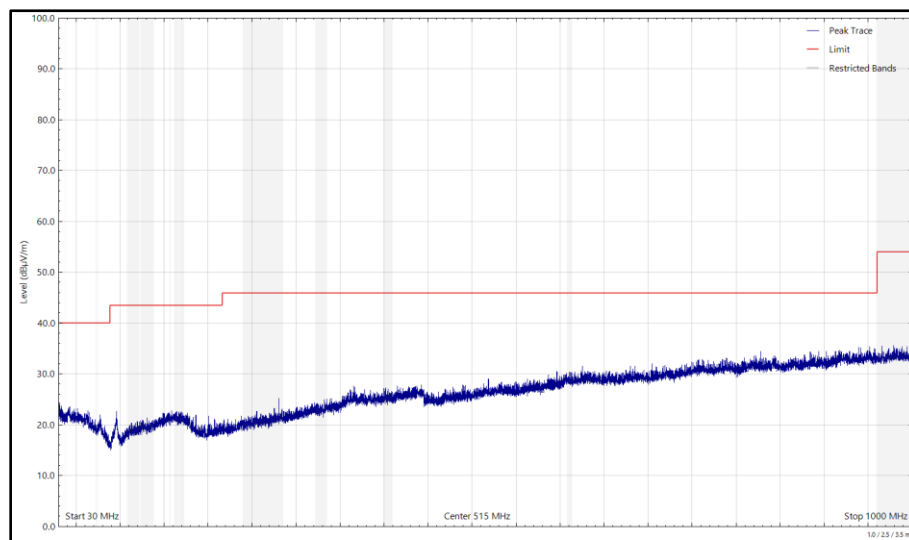


Figure 91 - 2442 MHz (CH7), 802.11b, Core 0, 30 MHz to 1 GHz, Horizontal (Peak)

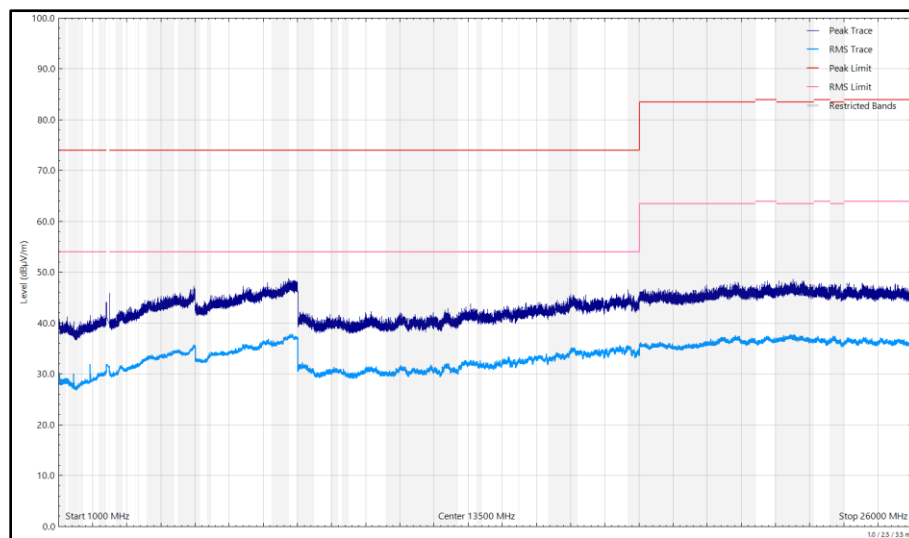


Figure 92 - 2442 MHz (CH7), 802.11b, Core 0, 1 GHz to 26 GHz, Horizontal

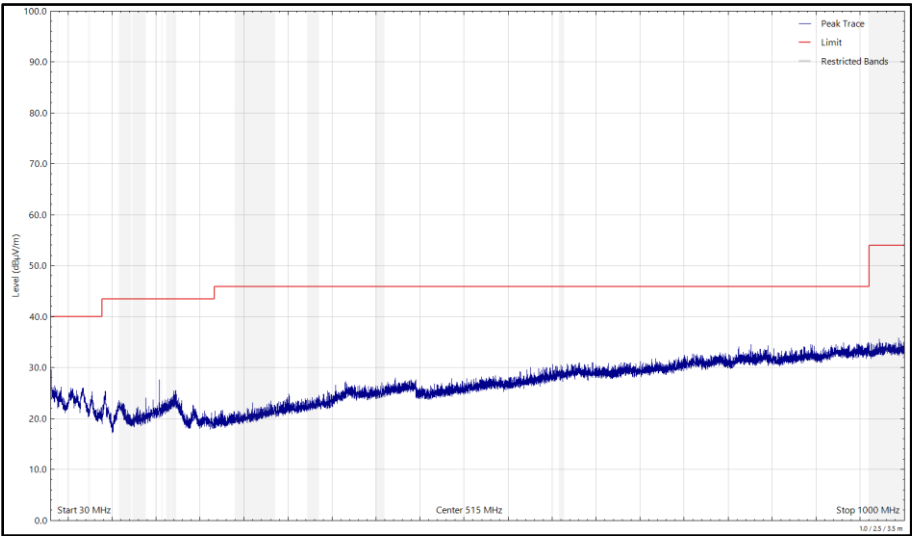


Figure 93 - 2442 MHz (CH7), 802.11b, Core 0, 30 MHz to 1 GHz, Vertical (Peak)

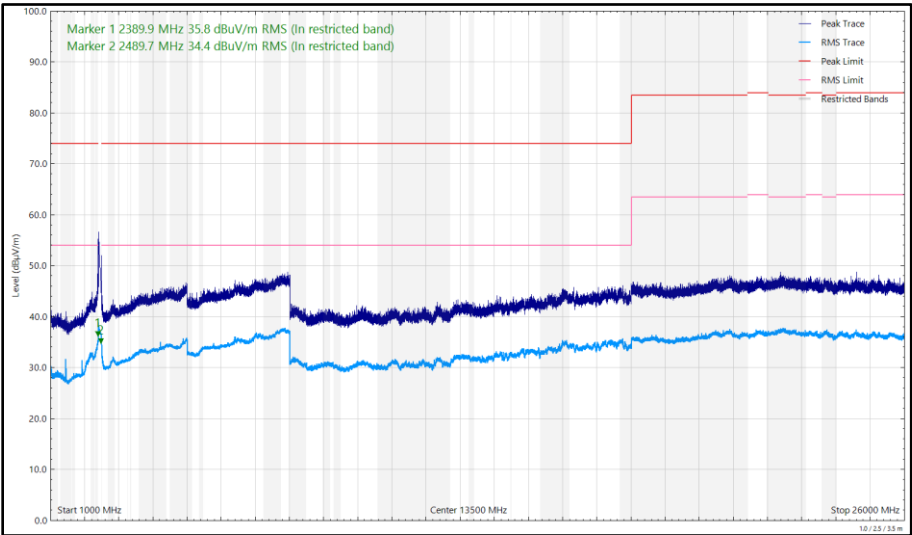


Figure 94 - 2442 MHz (CH7), 802.11b, Core 0, 1 GHz to 26 GHz, Vertical

Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Angle (°)	Height (cm)	Polarisation
2389.898	35.73	54.00	-18.27	RMS	2	375	Vertical
2483.641	59.00	74.00	-15.00	Peak	23	400	Vertical
2483.720	38.12	54.00	-15.88	RMS	30	308	Vertical
4212.018	34.08	54.00	-19.92	RMS	46	392	Vertical

Table 48 - 2442 MHz (CH7), 802.11b, Core 1, 30 MHz to 26 GHz

No other emissions found within 10 dB of the limit.

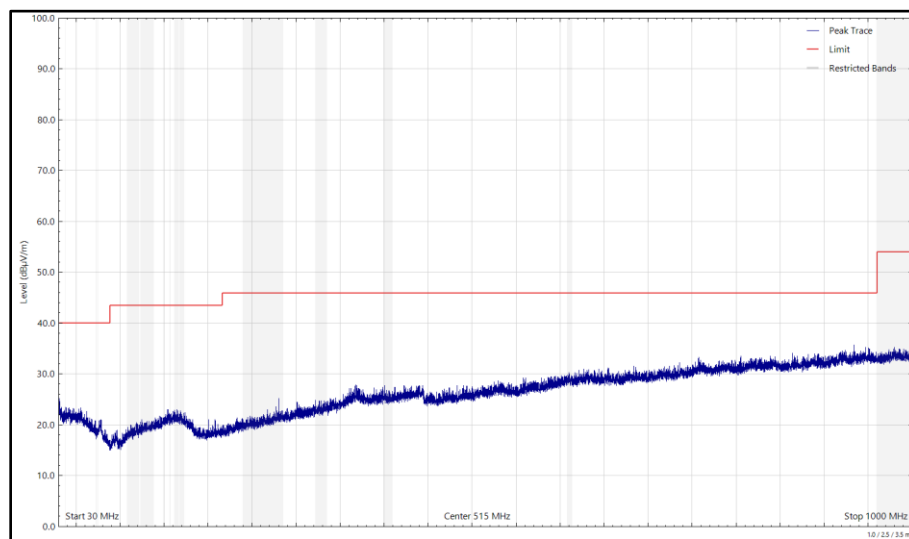


Figure 95 - 2442 MHz (CH7), 802.11b, Core 1, 30 MHz to 1 GHz, Horizontal (Peak)

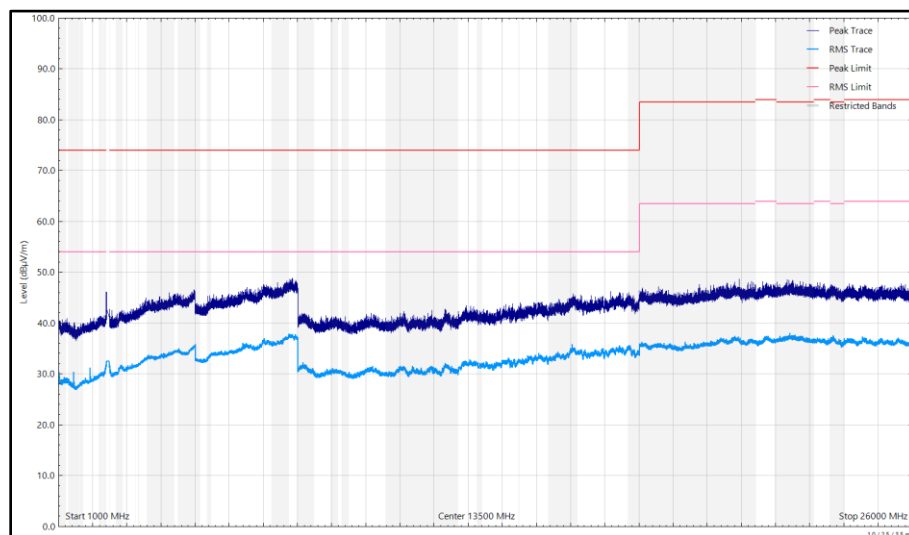


Figure 96 - 2442 MHz (CH7), 802.11b, Core 1, 1 GHz to 26 GHz, Horizontal

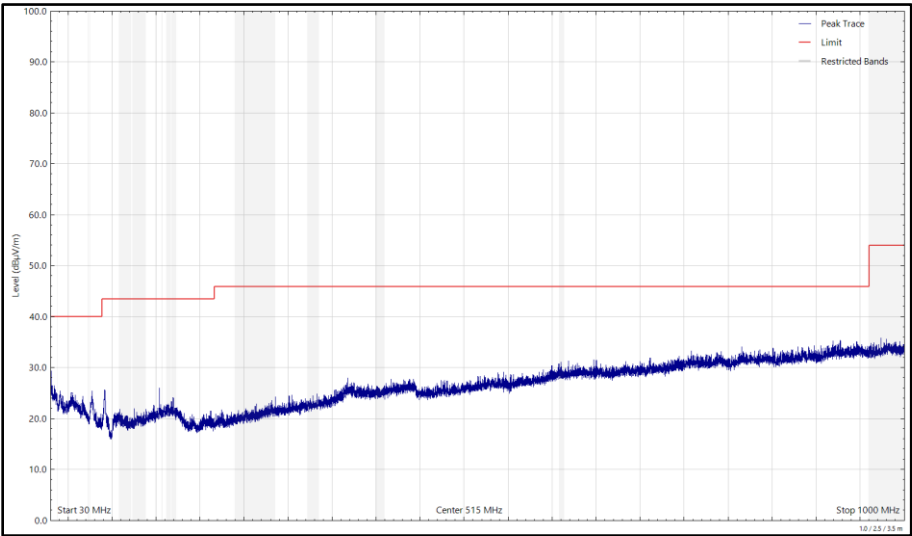


Figure 97 - 2442 MHz (CH7), 802.11b, Core 1, 30 MHz to 1 GHz, Vertical (Peak)

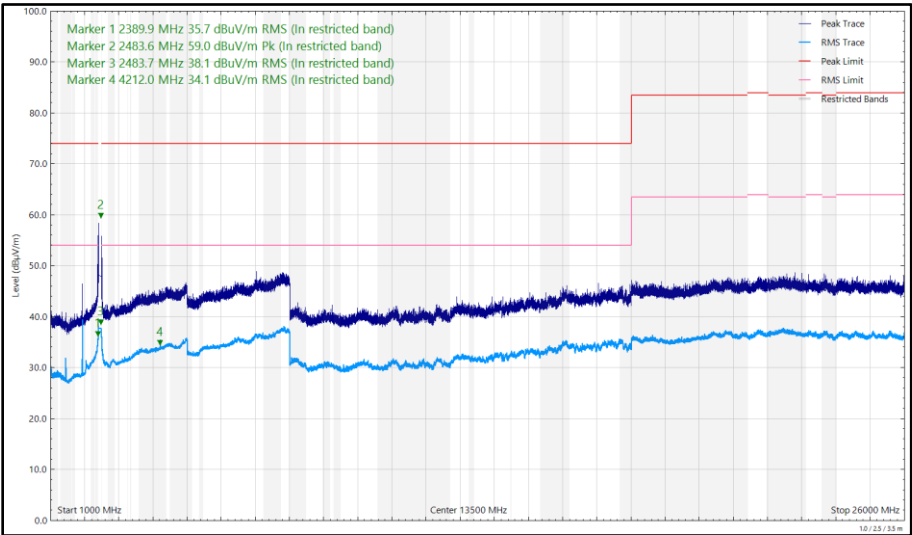


Figure 98 - 2442 MHz (CH7), 802.11b, Core 1, 1 GHz to 26 GHz, Vertical

Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Angle (°)	Height (cm)	Polarisation
2389.826	55.08	74.00	-18.92	Peak	0	386	Vertical
2389.859	40.37	54.00	-13.63	RMS	0	335	Vertical
2483.577	60.96	74.00	-13.04	Peak	337	349	Vertical
2483.599	37.11	54.00	-16.89	RMS	51	388	Horizontal
2483.669	43.27	54.00	-10.73	RMS	335	315	Vertical
4211.973	34.03	54.00	-19.97	RMS	36	225	Vertical

Table 49 - 2442 MHz (CH7), 802.11g, Core 0, 30 MHz to 26 GHz

No other emissions found within 10 dB of the limit.

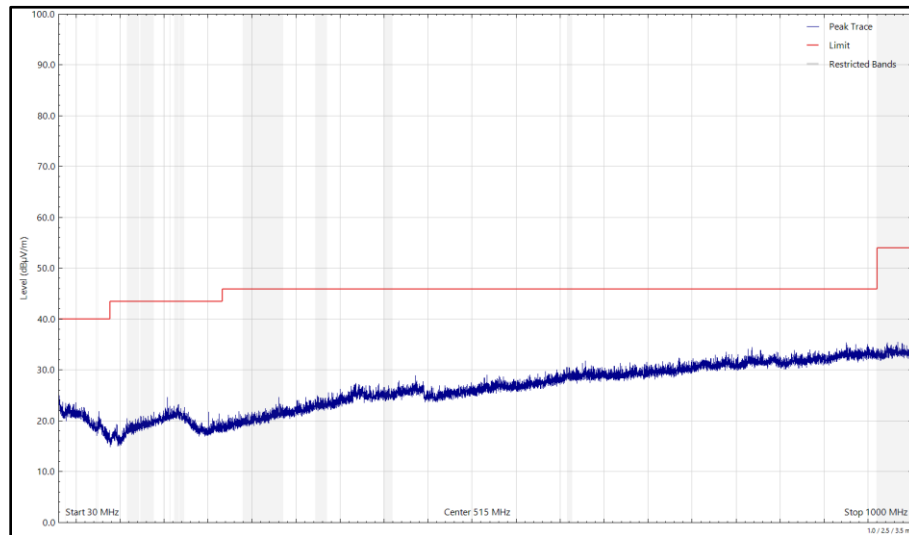


Figure 99 - 2442 MHz (CH7), 802.11g, Core 0, 30 MHz to 1 GHz, Horizontal (Peak)

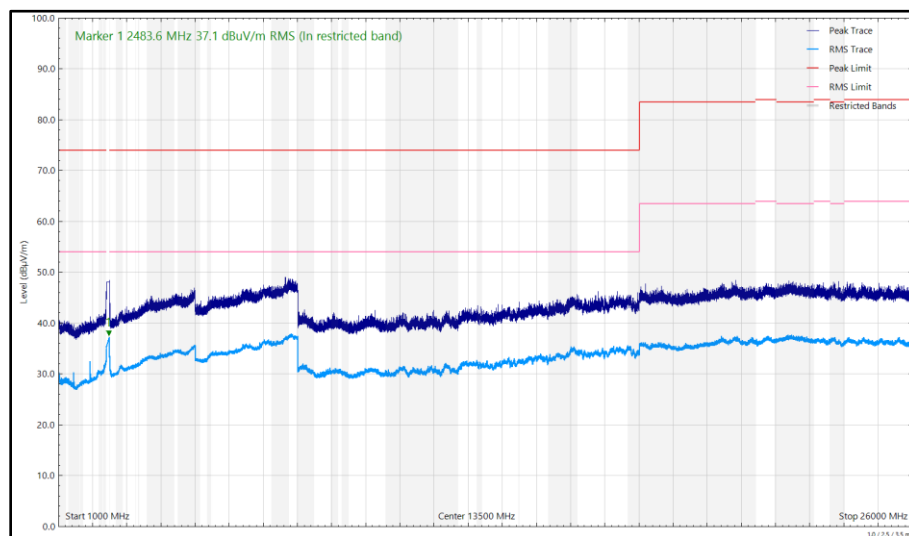


Figure 100 - 2442 MHz (CH7), 802.11g, Core 0, 1 GHz to 26 GHz, Horizontal

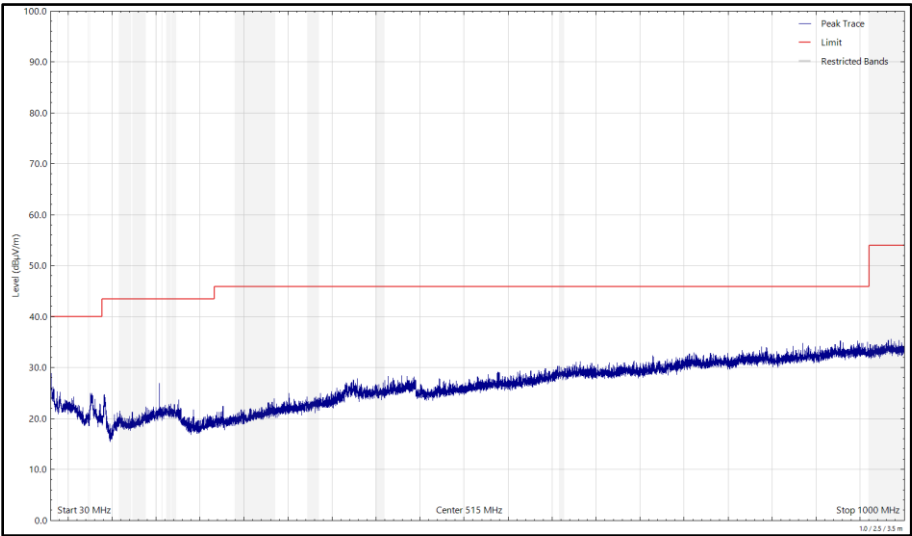


Figure 101 - 2442 MHz (CH7), 802.11g, Core 0, 30 MHz to 1 GHz, Vertical (Peak)

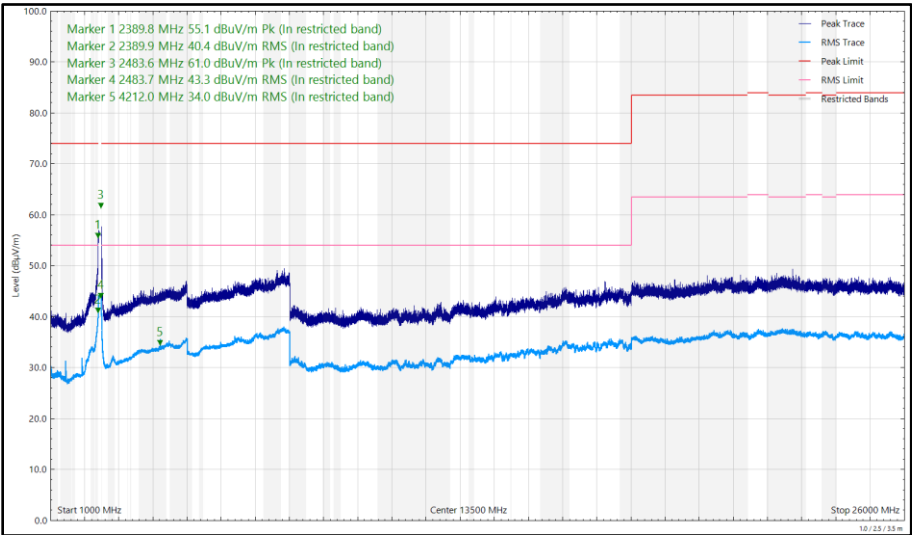


Figure 102 - 2442 MHz (CH7), 802.11g, Core 0, 1 GHz to 26 GHz, Vertical

Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Angle (°)	Height (cm)	Polarisation
2389.877	58.51	74.00	-15.49	Peak	0	327	Vertical
2389.969	40.86	54.00	-13.14	RMS	0	393	Vertical
2389.994	36.26	54.00	-17.74	RMS	60	393	Horizontal
2398.231	58.30	74.00	-15.70	Peak	61	388	Horizontal
2483.504	46.02	54.00	-7.98	RMS	24	397	Vertical
2483.516	62.91	74.00	-11.09	Peak	22	309	Vertical
2483.534	40.59	54.00	-13.41	RMS	57	390	Horizontal

Table 50 - 2442 MHz (CH7), 802.11g, Core 1, 30 MHz to 26 GHz

No other emissions found within 10 dB of the limit.

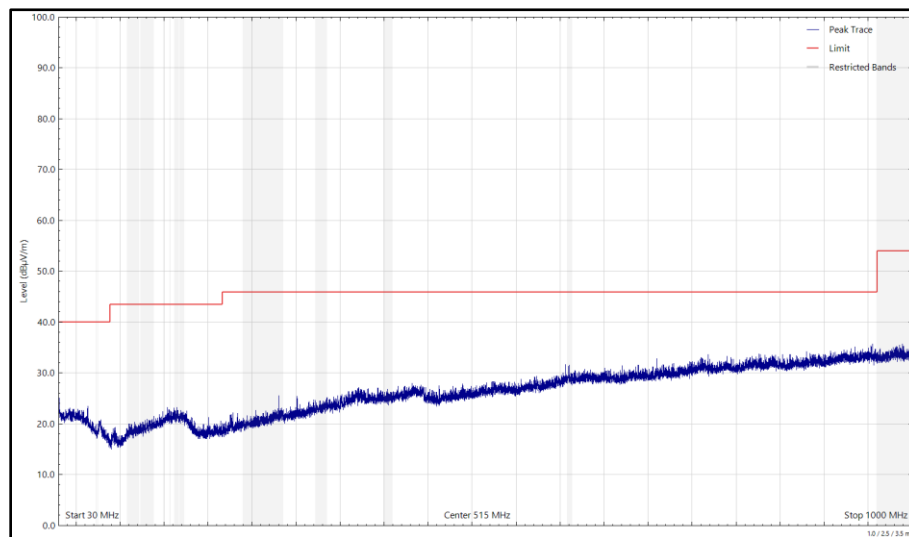


Figure 103 - 2442 MHz (CH7), 802.11g, Core 1, 30 MHz to 1 GHz, Horizontal (Peak)

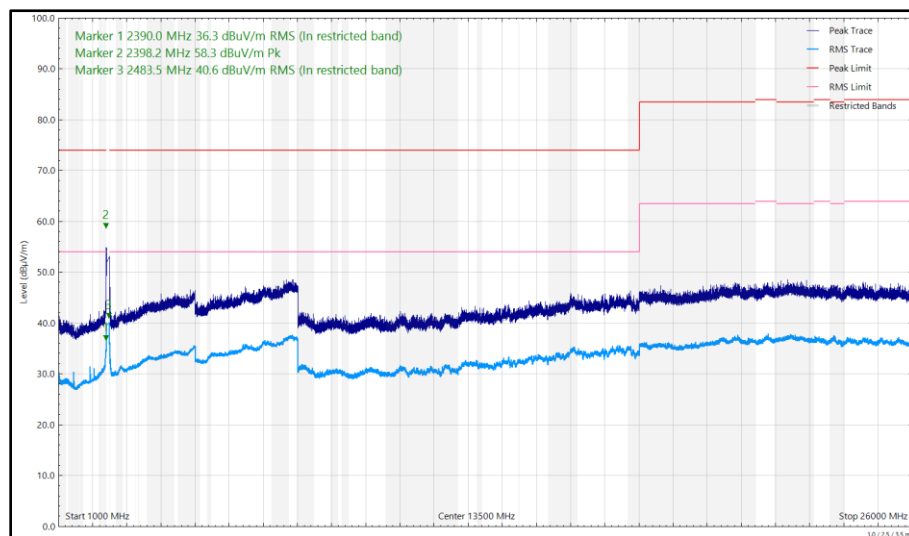


Figure 104 - 2442 MHz (CH7), 802.11g, Core 1, 1 GHz to 26 GHz, Horizontal

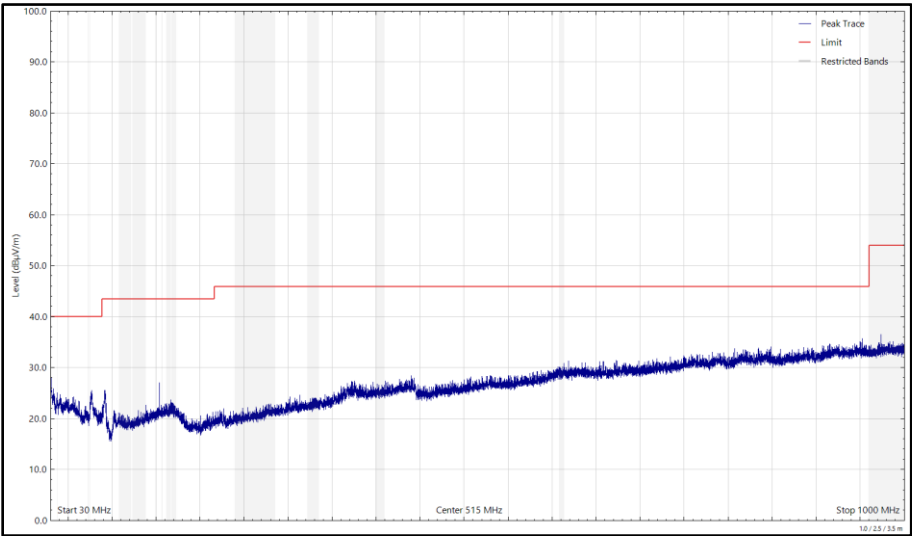


Figure 105 - 2442 MHz (CH7), 802.11g, Core 1, 30 MHz to 1 GHz, Vertical (Peak)

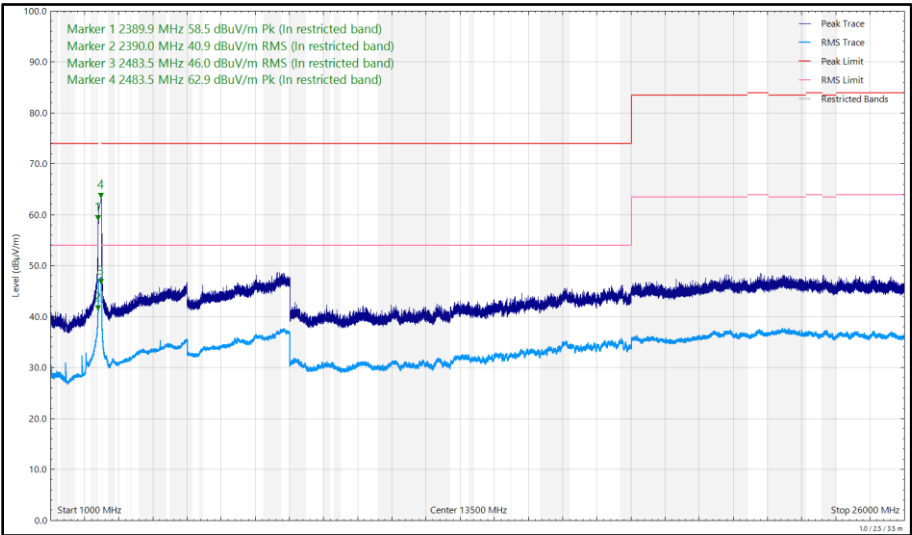


Figure 106 - 2442 MHz (CH7), 802.11g, Core 1, 1 GHz to 26 GHz, Vertical

Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Angle (°)	Height (cm)	Polarisation
2389.744	42.58	54.00	-11.42	RMS	23	380	Vertical
2389.901	35.82	54.00	-18.18	RMS	55	397	Horizontal
2389.959	62.30	74.00	-11.70	Peak	18	389	Vertical
2394.614	65.87	74.00	-8.13	Peak	15	378	Vertical
2483.633	62.59	74.00	-11.41	Peak	35	400	Vertical
2483.676	42.77	54.00	-11.23	RMS	26	391	Vertical
2483.759	35.35	54.00	-18.65	RMS	58	400	Horizontal
7299.165	40.61	54.00	-13.39	RMS	10	257	Vertical
7299.175	57.13	74.00	-16.87	Peak	45	277	Vertical
7299.255	39.26	54.00	-14.74	RMS	82	394	Horizontal

Table 51 - 2442 MHz (CH7), HE20, RU26-0, CDD, Core 0 + Core 1, 30 MHz to 26 GHz

No other emissions found within 10 dB of the limit.

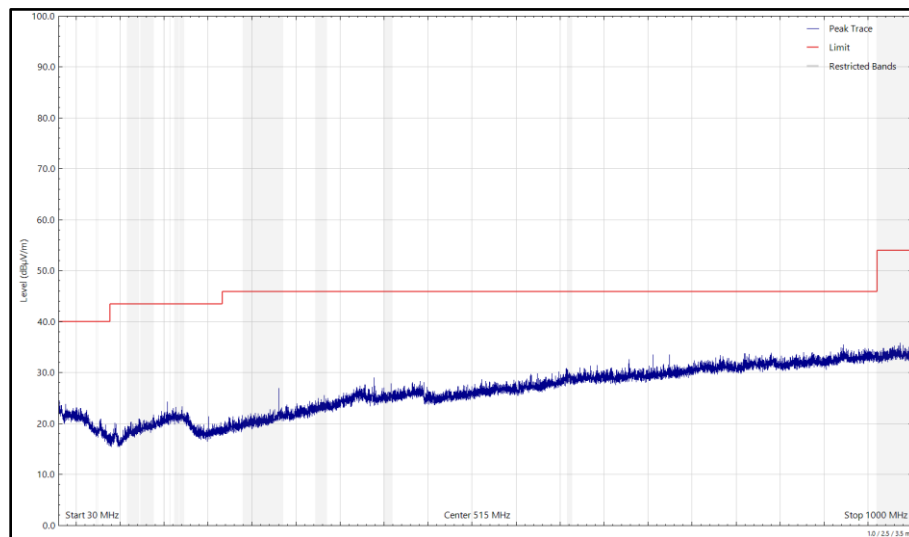


Figure 107 - 2442 MHz (CH7), HE20, RU26-0, CDD, Core 0 + Core 1, 30 MHz to 1 GHz, Horizontal (Peak)

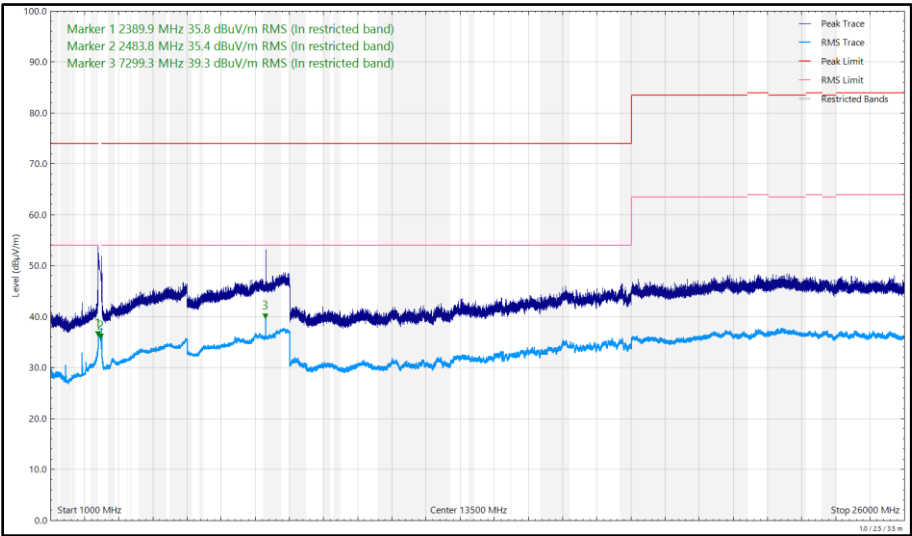


Figure 108 - 2442 MHz (CH7), HE20, RU26-0, CDD, Core 0 + Core 1, 1 GHz to 26 GHz, Horizontal

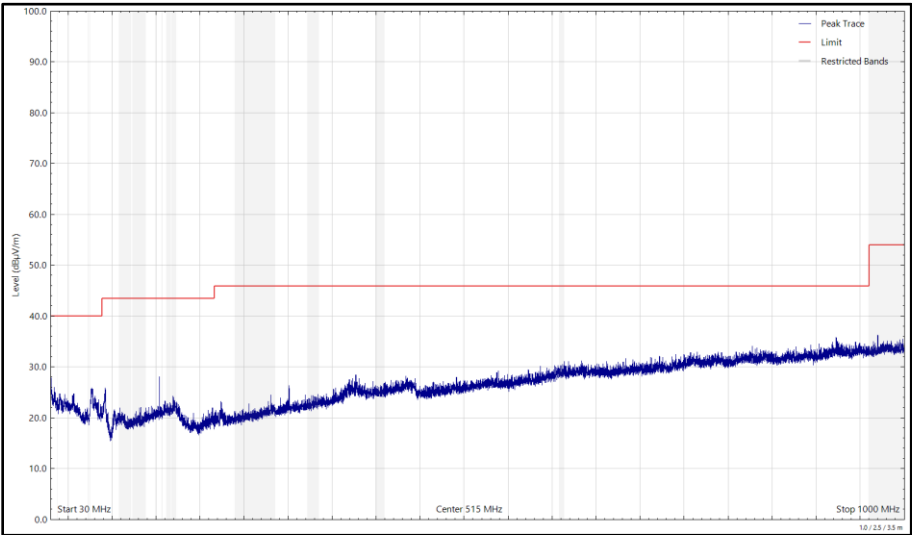


Figure 109 - 2442 MHz (CH7), HE20, RU26-0, CDD, Core 0 + Core 1, 30 MHz to 1 GHz, Vertical (Peak)

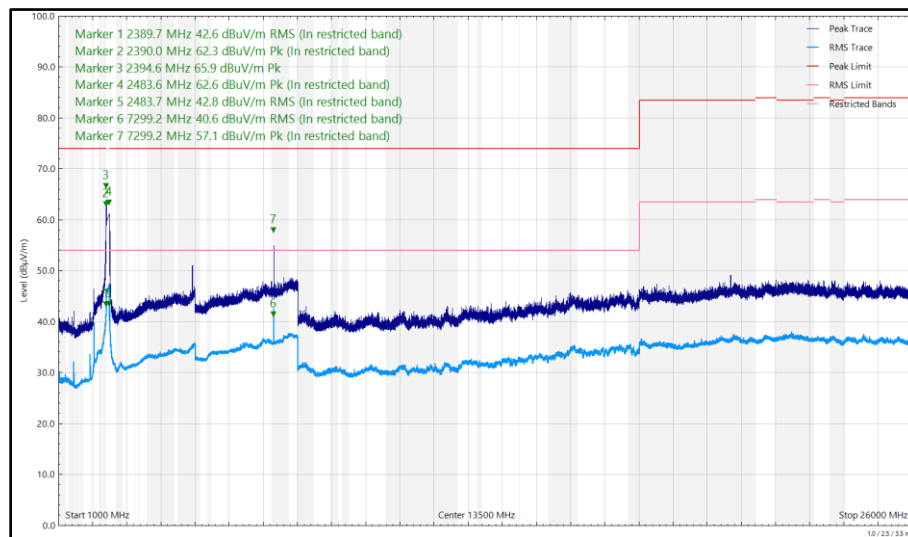


Figure 110 - 2442 MHz (CH7), HE20, RU26-0, CDD, Core 0 + Core 1, 1 GHz to 26 GHz, Vertical

Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Angle (°)	Height (cm)	Polarisation
2353.467	35.38	54.00	-18.62	RMS	10	400	Vertical

Table 52 - 2412 MHz (CH1), 802.11b, Core 0, 1 GHz to 26 GHz

No other emissions found within 10 dB of the limit.

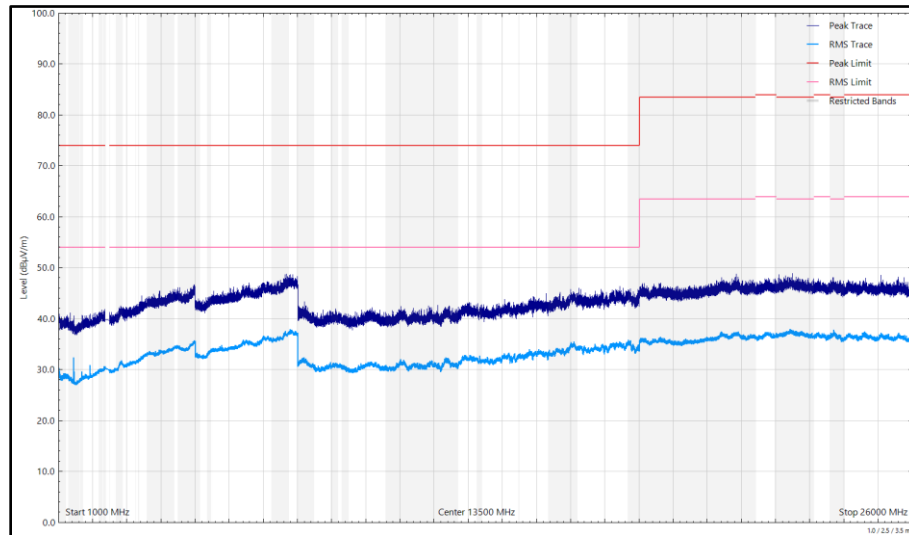


Figure 111 - 2412 MHz (CH1), 802.11b, Core 0, 1 GHz to 26 GHz, Horizontal

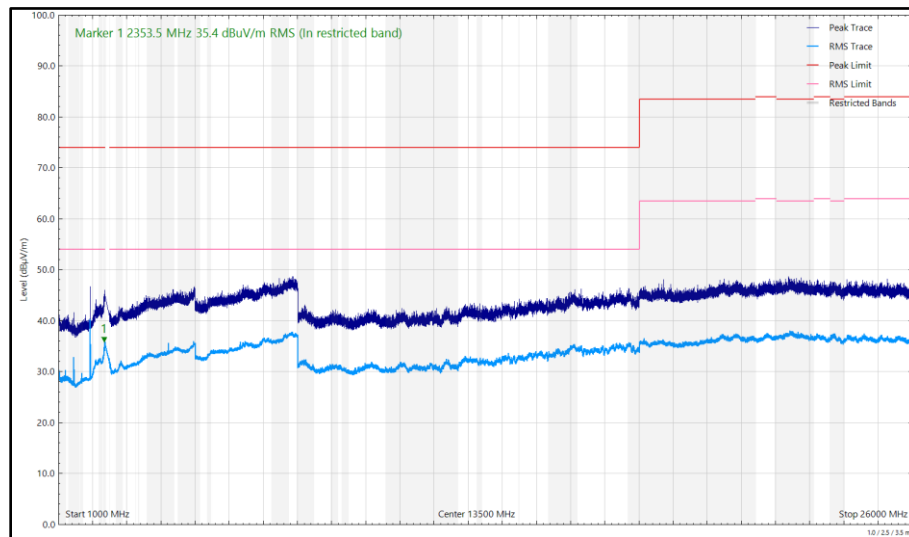


Figure 112 - 2412 MHz (CH1), 802.11b, Core 0, 1 GHz to 26 GHz, Vertical

Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Angle (°)	Height (cm)	Polarisation
2389.698	34.60	54.00	-19.40	RMS	344	375	Vertical

Table 53 - 2472 MHz (CH13), 802.11b, Core 0, 1 GHz to 26 GHz

No other emissions found within 10 dB of the limit.

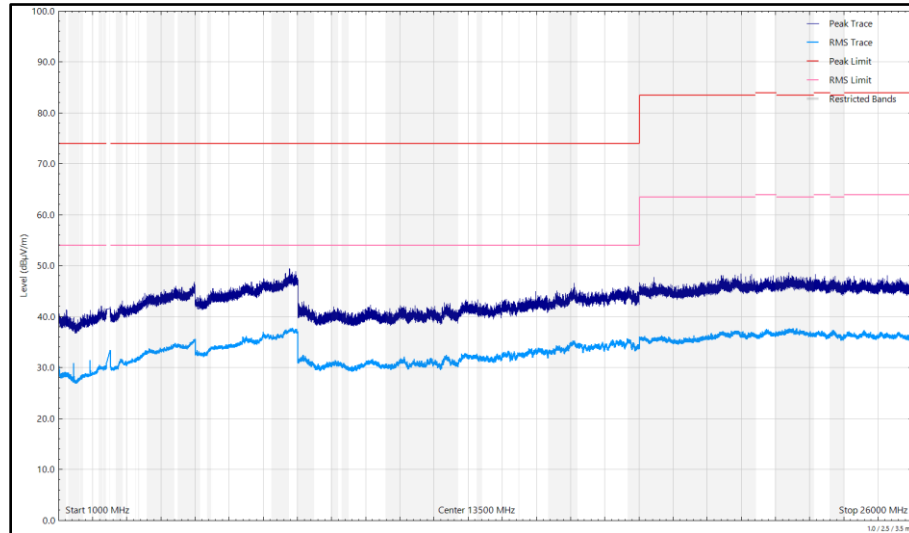


Figure 113 - 2472 MHz (CH13), 802.11b, Core 0, 1 GHz to 26 GHz, Horizontal

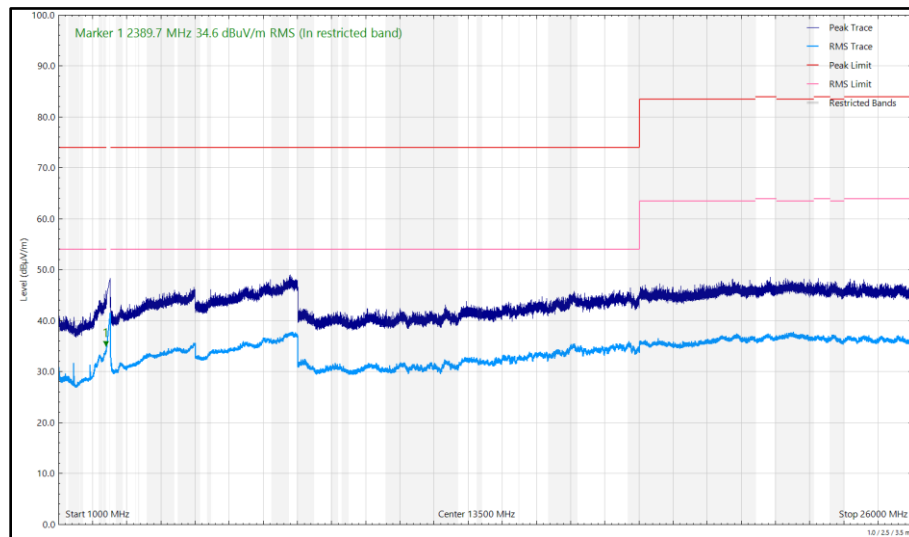


Figure 114 - 2472 MHz (CH13), 802.11b, Core 0, 1 GHz to 26 GHz, Vertical

Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Angle (°)	Height (cm)	Polarisation
2354.588	34.28	54.00	-19.72	RMS	29	342	Vertical

Table 54 - 2412 MHz (CH1), 802.11b, Core 1, 1 GHz to 26 GHz

No other emissions found within 10 dB of the limit.

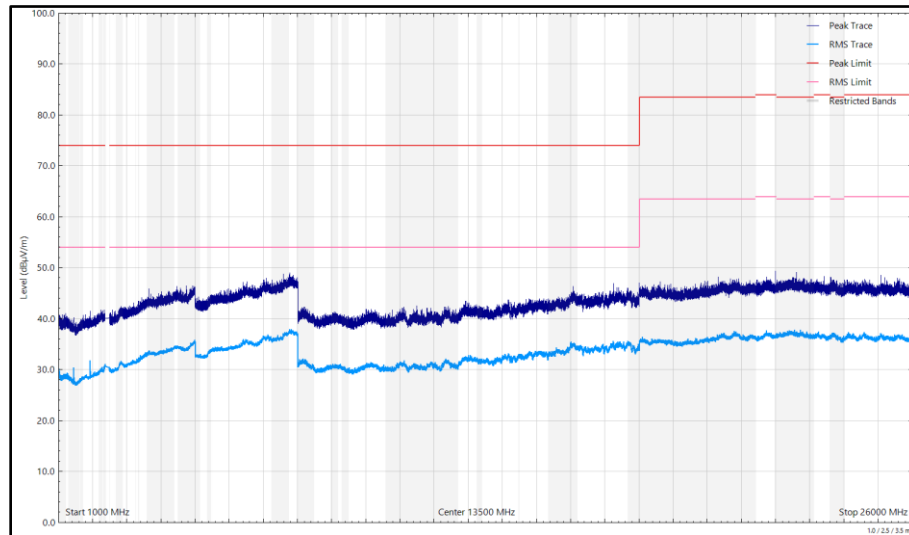


Figure 115 - 2412 MHz (CH1), 802.11b, Core 1, 1 GHz to 26 GHz, Horizontal

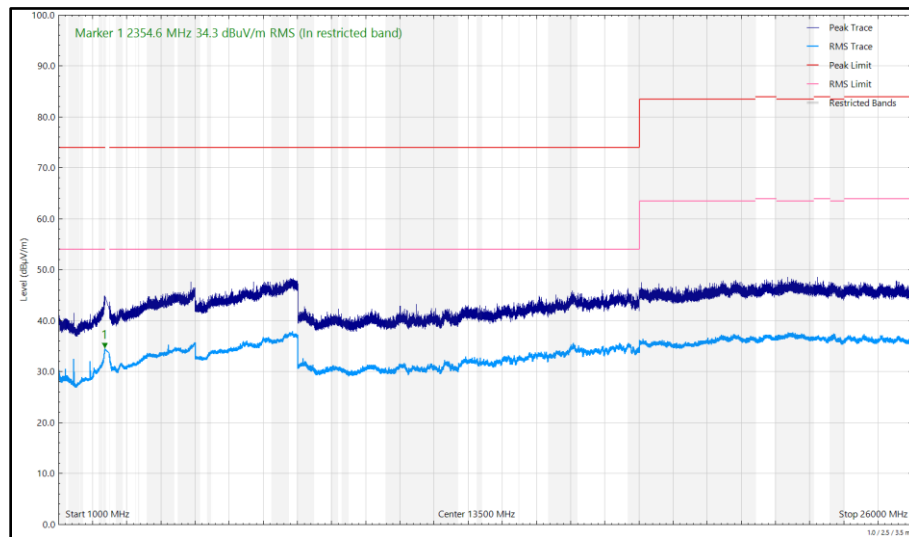


Figure 116 - 2412 MHz (CH1), 802.11b, Core 1, 1 GHz to 26 GHz, Vertical

Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Angle (°)	Height (cm)	Polarisation
2385.945	33.88	54.00	-20.12	RMS	360	380	Vertical
4211.853	33.18	54.00	-20.82	RMS	22	205	Vertical

Table 55 - 2472 MHz (CH13), 802.11b, Core 1, 1 GHz to 26 GHz

No other emissions found within 10 dB of the limit.

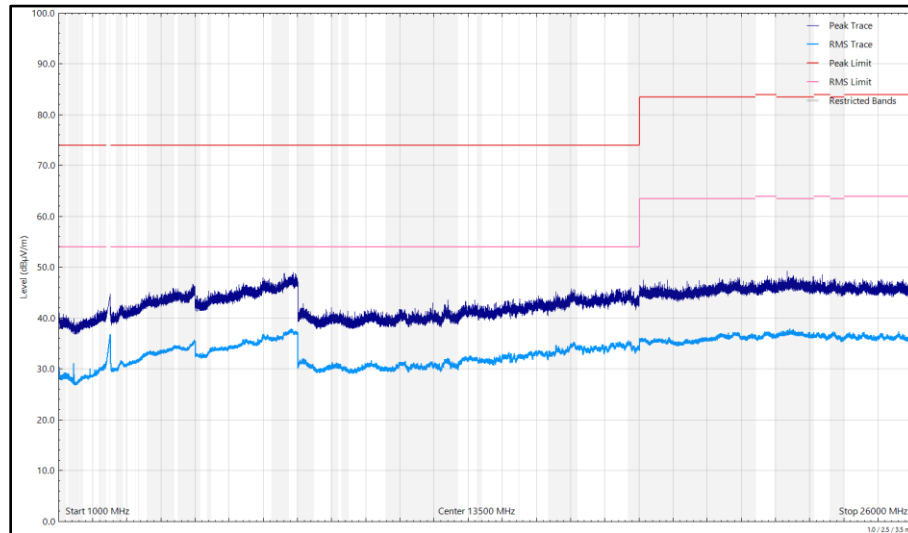


Figure 117 - 2472 MHz (CH13), 802.11b, Core 1, 1 GHz to 26 GHz, Horizontal

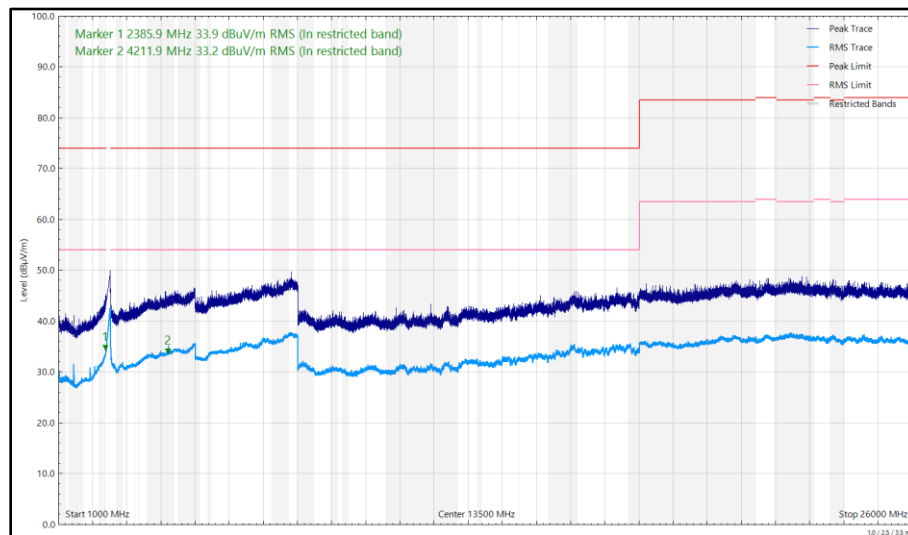


Figure 118 - 2472 MHz (CH13), 802.11b, Core 1, 1 GHz to 26 GHz, Vertical

Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Angle (°)	Height (cm)	Polarisation
2354.971	39.42	54.00	-14.58	RMS	15	388	Vertical
2483.612	34.11	54.00	-19.89	RMS	347	302	Vertical

Table 56 - 2412 MHz (CH1), 802.11g, Core 0, 1 GHz to 26 GHz

No other emissions found within 10 dB of the limit.

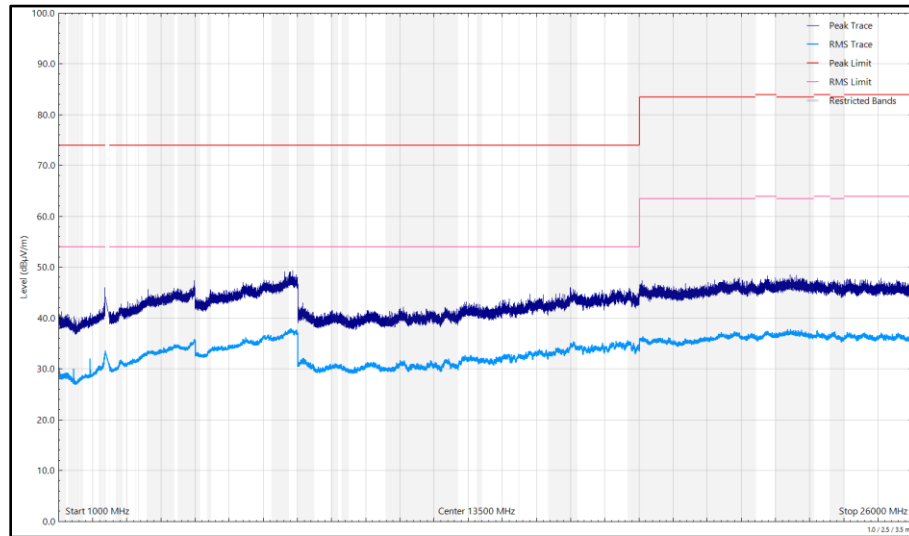


Figure 119 - 2412 MHz (CH1), 802.11g, Core 0, 1 GHz to 26 GHz, Horizontal

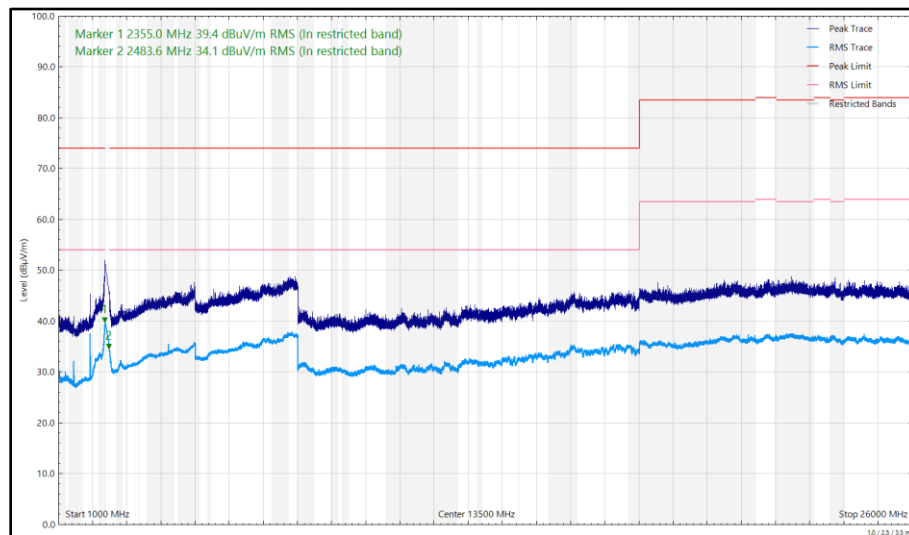


Figure 120 - 2412 MHz (CH1), 802.11g, Core 0, 1 GHz to 26 GHz, Vertical

Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Angle (°)	Height (cm)	Polarisation
2389.920	37.37	54.00	-16.63	RMS	345	289	Vertical

Table 57 - 2472 MHz (CH13), 802.11g, Core 0, 1 GHz to 26 GHz

No other emissions found within 10 dB of the limit.

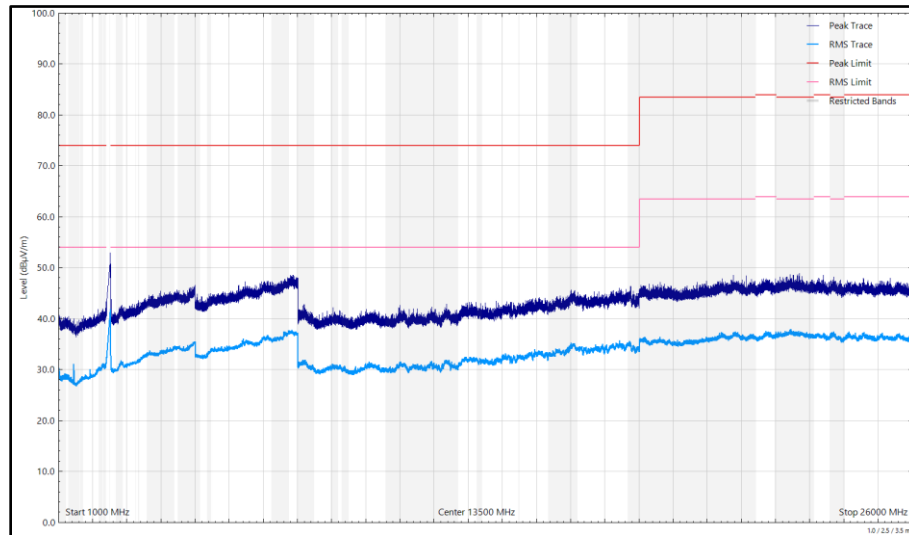


Figure 121 - 2472 MHz (CH13), 802.11g, Core 0, 1 GHz to 26 GHz, Horizontal

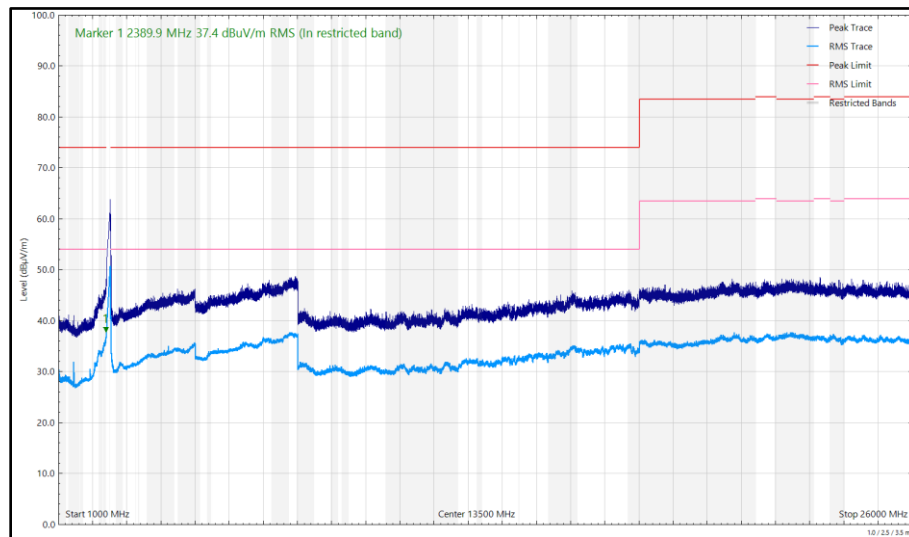


Figure 122 - 2472 MHz (CH13), 802.11g, Core 0, 1 GHz to 26 GHz, Vertical

Frequency (MHz)	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Detector	Angle (°)	Height (cm)	Polarisation
2354.967	39.07	54.00	-14.93	RMS	358	385	Vertical
2483.836	36.88	54.00	-17.12	RMS	360	388	Vertical

Table 58 - 2412 MHz (CH1), 802.11g, Core 1, 1 GHz to 26 GHz

No other emissions found within 10 dB of the limit.

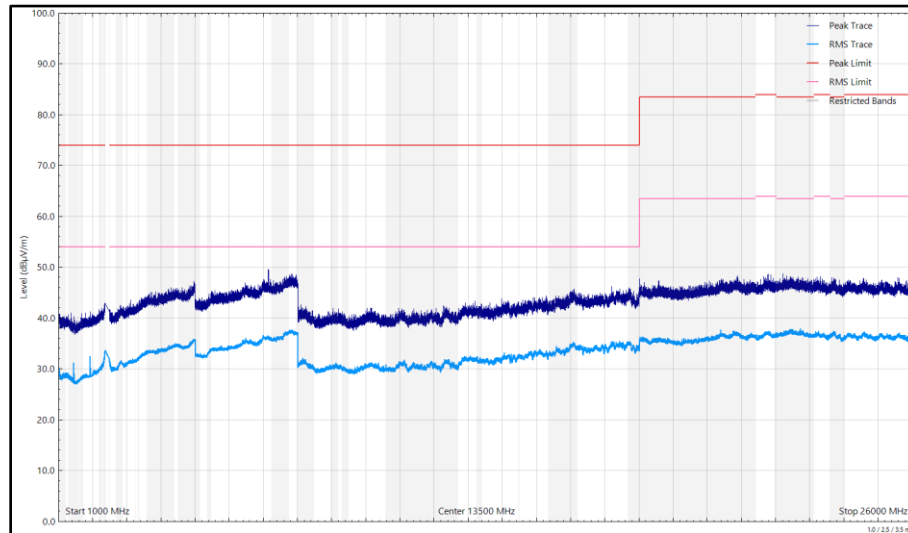


Figure 123 - 2412 MHz (CH1), 802.11g, Core 1, 1 GHz to 26 GHz, Horizontal

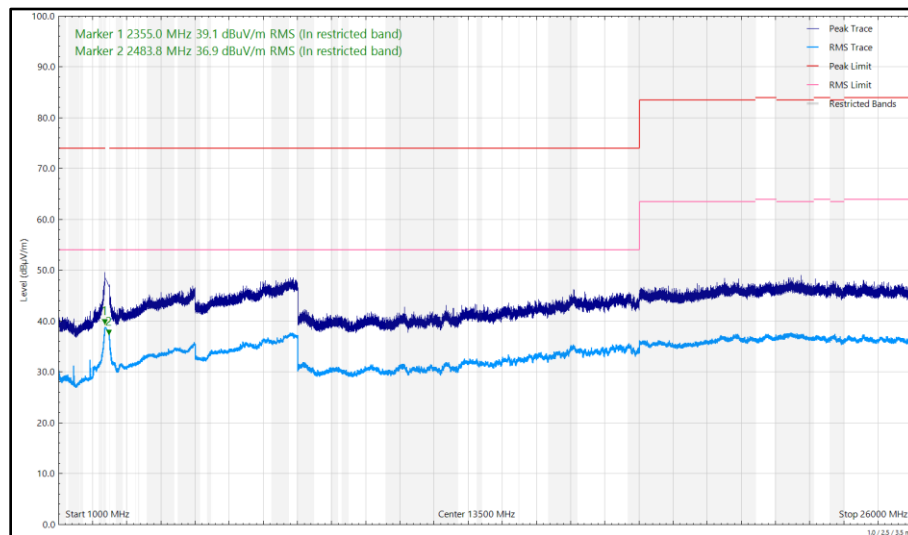


Figure 124 - 2412 MHz (CH1), 802.11g, Core 1, 1 GHz to 26 GHz, Vertical

Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Angle (°)	Height (cm)	Polarisation
2389.938	36.74	54.00	-17.26	RMS	33	308	Vertical
2508.722	67.47	80.00	-12.53	Peak	36	391	Vertical

Table 59 - 2472 MHz (CH13), 802.11g, Core 1, 1 GHz to 26 GHz

No other emissions found within 10 dB of the limit.

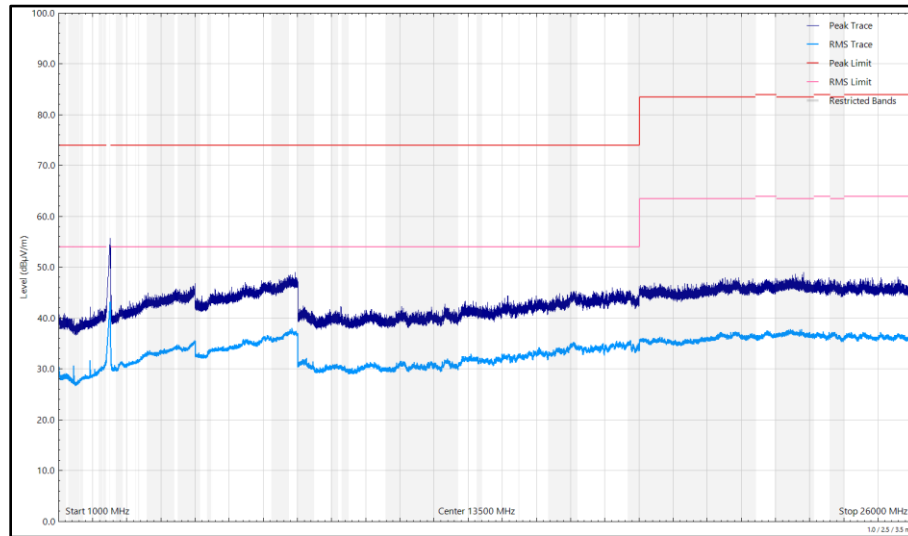


Figure 125 - 2472 MHz (CH13), 802.11g, Core 1, 1 GHz to 26 GHz, Horizontal

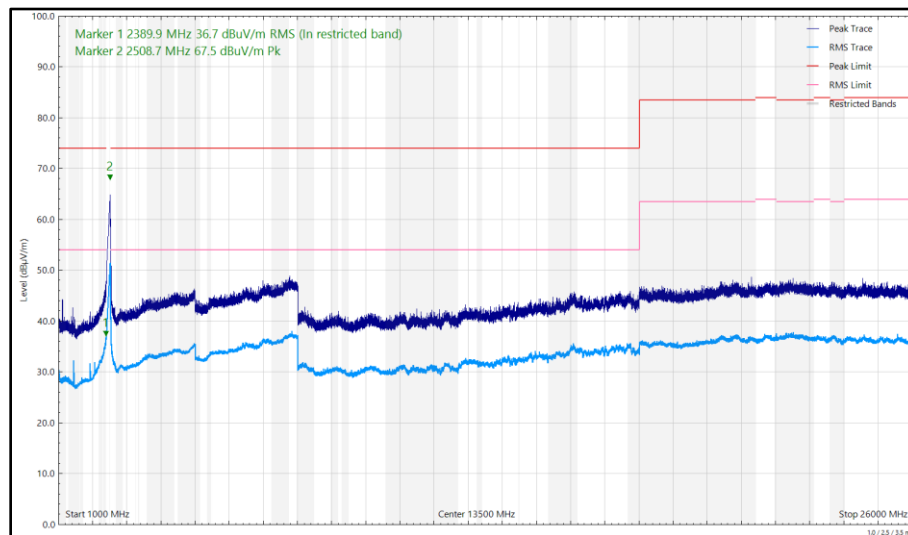


Figure 126 - 2472 MHz (CH13), 802.11g, Core 1, 1 GHz to 26 GHz, Vertical

Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Angle (°)	Height (cm)	Polarisation
2354.859	57.15	74.00	-16.85	Peak	8	400	Vertical
2354.953	35.68	54.00	-18.32	RMS	60	390	Horizontal
2354.964	42.41	54.00	-11.59	RMS	18	395	Vertical
2483.507	38.67	54.00	-15.33	RMS	30	346	Vertical

Table 60 - 2412 MHz (CH1), HT20, CDD, Core 0 + Core 1, 1 GHz to 26 GHz

No other emissions found within 10 dB of the limit.

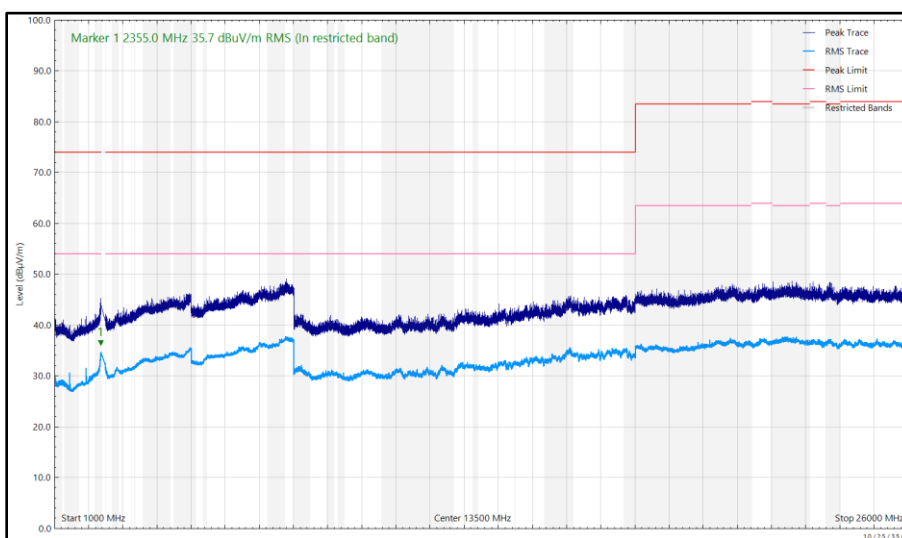


Figure 127 - 2412 MHz (CH1), HT20, CDD, Core 0 + Core 1, 1 GHz to 26 GHz, Horizontal

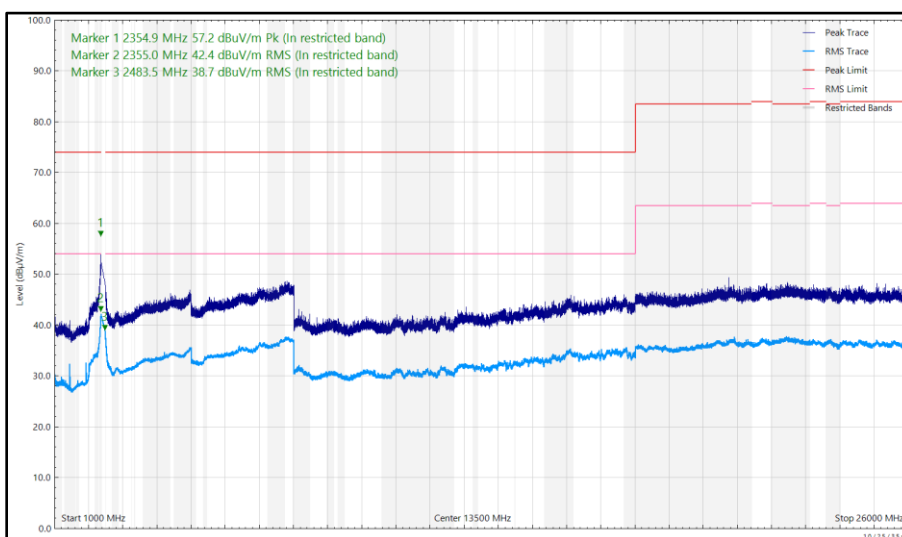


Figure 128 - 2412 MHz (CH1), HT20, CDD, Core 0 + Core 1, 1 GHz to 26 GHz, Vertical

Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Angle (°)	Height (cm)	Polarisation
2389.856	36.94	54.00	-17.06	RMS	59	393	Horizontal
2389.951	42.64	54.00	-11.36	RMS	32	292	Vertical
2398.790	62.57	74.00	-11.43	Peak	345	393	Vertical
2483.529	42.62	54.00	-11.38	RMS	50	400	Horizontal
2484.531	46.54	54.00	-7.46	RMS	7	352	Vertical
2484.712	59.42	74.00	-14.58	Peak	57	400	Horizontal
2484.953	64.84	74.00	-9.16	Peak	17	395	Vertical

Table 61 - 2442 MHz (CH7), HT20, CDD, Core 0 + Core 1, 30 MHz to 26 GHz

No other emissions found within 10 dB of the limit.

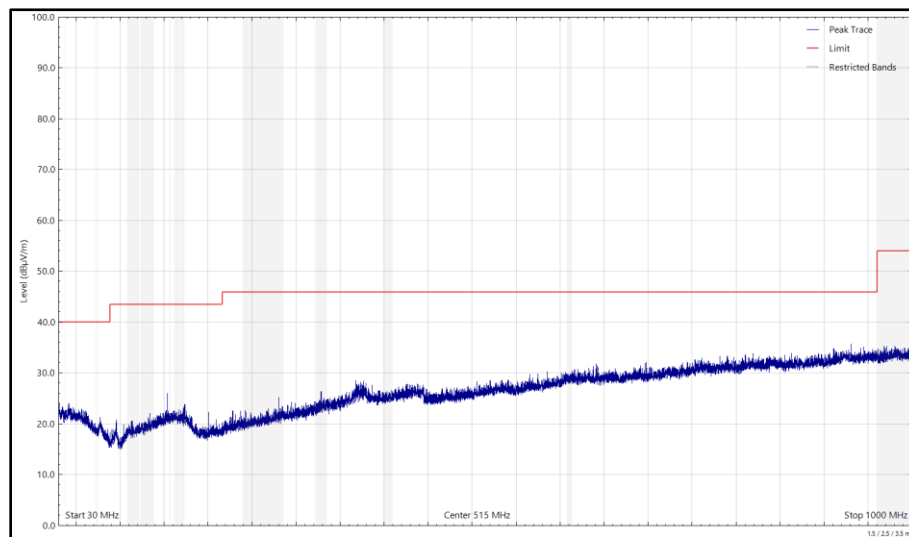


Figure 129 - 2442 MHz (CH7), HT20, CDD, Core 0 + Core 1, 30 MHz to 1 GHz, Horizontal (Peak)

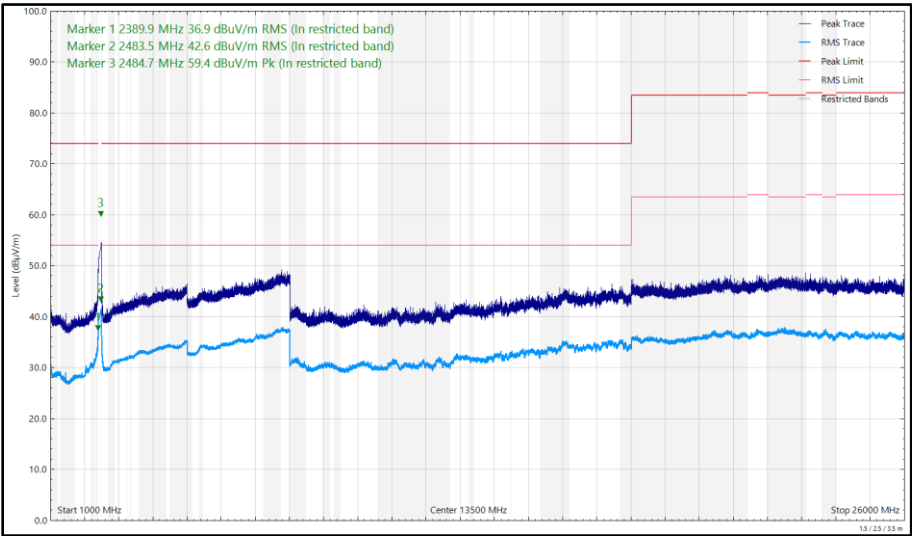


Figure 130 - 2442 MHz (CH7), HT20, CDD, Core 0 + Core 1, 1 GHz to 26 GHz, Horizontal

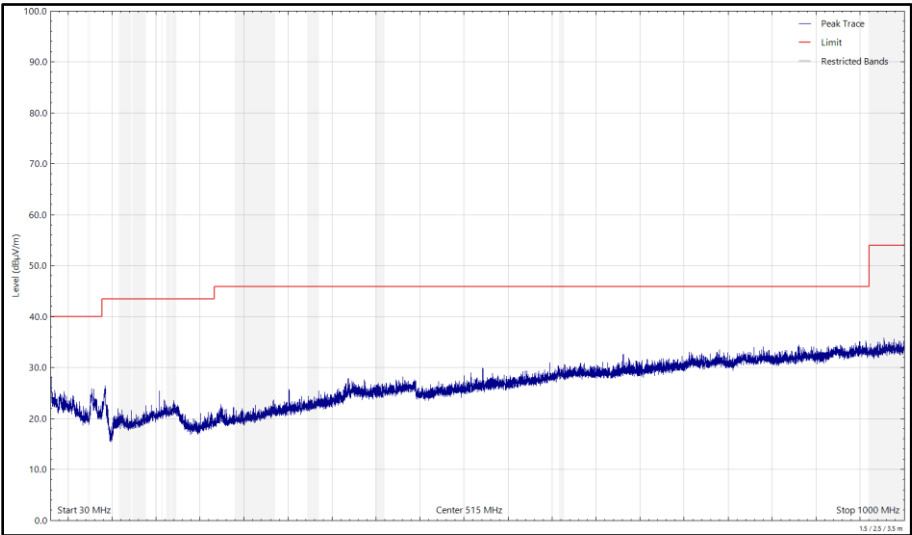


Figure 131 - 2442 MHz (CH7), HT20, CDD, Core 0 + Core 1, 30 MHz to 1 GHz, Vertical (Peak)

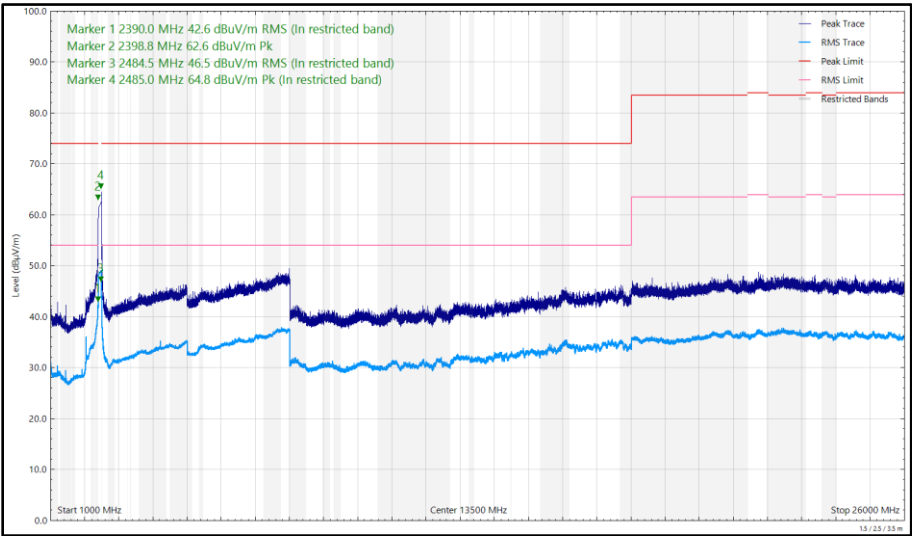


Figure 132 - 2442 MHz (CH7), HT20, CDD, Core 0 + Core 1, 1 GHz to 26 GHz, Vertical