



Date: 11 February 2025

**I.T.L. Product Testing Ltd.
FCC/IC Radio Test Report
for**

AeroScout Inc.

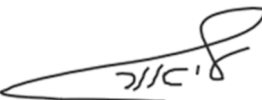
Equipment under test:

Infant Protection System

TAG-HGS-1000B

FCC ID: Q3HTAGHGS1000B

IC: 5115A-TAGHGS1000B

Tested by: 
L. Tenenbaum

Approved by: 
M. Zohar

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This report concerns: Original Grant

Equipment type: FCC: (DTS) Digital Transmission System

IC: Spread Spectrum Digital Device (2400-2483.5)

Limits used: 47CFR15 Section 15.247

RSS-247, Issue 2, February 2017, Section 5

RSS-Gen, Issue 5, April 2018

Measurement procedure used: KDB 558074 D01 v03r05

ANSI C63.10:2013

Prepared by:

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1. General Information

1.1 Administrative Information

Manufacturer:	AeroScout Inc.
Manufacturer's Address:	Same as applicant Tel: +972.8.936.9301
Equipment Under Test (E.U.T):	Infant Protection System
Equipment PMN:	TAG-HGS-1000B
Equipment Serial No.:	N/A
Date of Receipt of E.U.T:	16 Sep. 2024
Start of Test:	16 Sep. 2024
End of Test:	20 Oct., 2024
Test Laboratory Location:	I.T.L Product Testing Ltd. 3 HaOreg Street, Modi'in 7177909, Israel
Test Specifications:	FCC Part 15, Subpart C RSS-247, Issue 3, August 2023 RSS-Gen, Issue 5, April 2018, Amendment 2 (February 2021)

1.2 List of Accreditations

The EMC laboratory of I.T.L. is accredited by the following bodies:

1. The American Association for Laboratory Accreditation (A2LA) (U.S.A.), Certificate No. 1152.01.
2. The Federal Communications Commission (FCC) (U.S.A.), FCC Designation No. IL1005.
3. Department of Innovation, Science and Economic Development (ISED) Canada, CAB identifier: IL1002

I.T.L. Product Testing Ltd. is accredited by the American Association for Laboratory Accreditation (A2LA) and the results shown in this test report have been determined in accordance with I.T.L.'s terms of accreditation unless stated otherwise in the report.

1.3 E.U.T. Description

Description (short)		Infant Protection System		
Description (full)		The Hugs Tag with BabySense™ functionality is part of the Hugs infant protection system. The Hugs Tag is applied to the infant using a tamper-proof band. From the moment it is activated, the tag begins to send “check in” messages indicating that it is OK. The infant is automatically enrolled in the system and protected against abduction.		
Brand name		AeroScout Inc.		
Model number		TAG-HGS-1000B		
Serial number		N/A (proto)		
Type	☐	Stand Alone		
	☒	Combined/integrated		
	☐	Plug-in		
Category	☐	Fixed (distance from human ≥ 200 cm)		
	☒	Portable (distance from human ≤ 20 cm)		
	☐	Mobile (distance from human ≥ 20 cm)		
Assigned frequency band/s		802.11b/g/n, BLE		
Operational frequencies		802.11: 2412-2472MHz, BLE: 2402-2480MHz		
Maximum rated output power		At transmitter's 50 Ω RF output connector (dBm)		+21dBm
		E.I.R.P. (for eut with no RF connector)		+20dBm
Antenna	☐ Unique Coupling	☐ Standard Connection	☒ Integral	
	☐ Temporary RF connector	Gain (peak): -1, (average= -3dBi)		
Operating channel bandwidth		20MHz		
Modulation type		CCK, OFDM , BLE		
Bitrate		802.11b:1,2,5.5,11MBPS,802.11g:6,9,12,18,24,36,48,54MBPS, 802.11n (MCS0-MCS7): 6.5,13,19.5, 26,39,52,58.5,65MBPS, BLE: 125KHz,500KHz,1MHz,2MHz		
Transmitter	Max. duty cycle:	0.03%		
	Power source	☐ AC	Nominal rated voltage	
		☐ DC		
		☒ Battery		3.7V
Receiver Class				
Extreme temperature conditions		0c to +50C		



1.4 Test Methodology

Both conducted and radiated testing was performed according to the procedures in KDB 558074 D01 v03r05 and ANSI C63.10: 2013.

Radiated testing was performed at an antenna-to-EUT distance of three meters.

1.5 Test Facility

Emissions tests were performed at I.T.L.'s testing facility in Modi'in, Israel.

1.6 Measurement Uncertainty

Conducted Emission

Conducted Emission (CISPR 11, EN 55011, CISPR 22, EN 55022, ANSI C63.4)

0.15 – 30 MHz:

Expanded Uncertainty (95% Confidence, K=2):

± 3.44 dB

Radiated Emission

Radiated Emission (CISPR 11, EN 55011, CISPR 22, EN 55022, ANSI C63.4) for open site:

30-1000MHz:

Expanded Uncertainty (95% Confidence, K=2):

± 4.96 dB

1 GHz to 6 GHz

Expanded Uncertainty (95% Confidence, K=2):

±5.19 dB

>6 GHz

Expanded Uncertainty (95% Confidence, K=2):

±5.51 dB

2. System Test Configuration

2.1 Justification

1. The E.U.T. contains two optional transceivers: IEEE 802.15.1 (BLE), and IEEE 802.11b/g/n (Wi-Fi) with 20MHz CBW.
 - a. For BLE: the unit was evaluated while transmitting at the low channel (2402 MHz), the mid channel (2426 MHz), and the high channel (2480 MHz).
 - b. For Wi-Fi b/g/n: the unit was evaluated while transmitting at the low channel (2412 MHz), the mid channel (2437 MHz), and the high channel (2462 MHz).
2. Conducted emission tests were performed with the E.U.T. antenna terminal connected by an RF cable to the Spectrum Analyzer, through a 30dB external attenuator.
3. The final Wi-Fi radiated emission tests were performed using the lowest and highest bit rates for each protocol type. The bit rates for each protocol type are described in the table below:

Protocol Type	"Worst Case" Bit Rate
Wi-Fi/b	1,11 Mbit/s
Wi-Fi/g	6,54 Mbit/s
Wi-Fi/n	6.5, 65 Mbit/s (MCS0, MCS7)

4. Final radiated emission tests were performed after exploratory emission testing that was performed in three orthogonal polarities, to determine the "worst case" radiation which was found to be at the Z axis. See the result tables below.

Orientation	Frequency	2 nd Harmonic	3 rd Harmonic
	(MHz)	(dBuV/m)	(dBuV/m)
Z axis	2402.0	45.3	--
	2426.0	46.7	--
	2480.0	46.6	--

Figure 1. Screening Results BLE mode

Orientation	Frequency	2 nd Harmonic	3 rd Harmonic
	(MHz)	(dBuV/m)	(dBuV/m)
Z axis	2412.0	62.4	62.5
	2437.0	62.6	61.7
	2462.0	63.0	60.1

Figure 2. Screening Results wifi mode

2.2 EUT Exercise Software

N/A

2.3 Special Accessories

N/A

2.4 Equipment Modifications

No modifications were necessary to achieve compliance.

2.5 Configuration of the Tested System

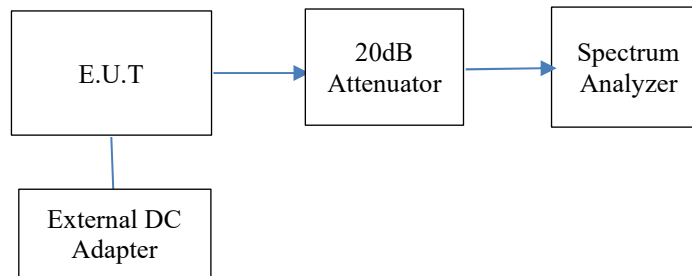


Figure 3. Configuration of the Tested System - Conducted



Figure 4. Configuration of the Tested System - Radiated

3. 6 dB Minimum Bandwidth

3.1 Test Specification

FCC Part 15, Subpart C, Section 247(a)(2)

RSS-247, Issue 2, Section 5.2(a)

3.2 Test Procedure

(Temperature (20°C)/ Humidity (52%RH))

The E.U.T operation mode and test set-up are as described in Section 2 of this report. The E.U.T. antenna terminal was connected to the Spectrum Analyzer through an external attenuator and an appropriate coaxial cable (total loss=11.3dB). Special attention was taken to prevent Spectrum Analyzer RF input overload.

The spectrum bandwidth of the E.U.T. at the point of 6 dB below maximum peak power was measured and recorded.

The RBW was set to 100 kHz.

3.3 Test Limit

Systems using digital modulation techniques may operate in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

3.4 Test Results

3.4.1 BLE

Operation Frequency	Reading	Limit
(MHz)	(kHz)	(kHz)
2402	689.0	>500.0
2426	689.0	>500.0
2480	699.0	>500.0

3.4.2 Wi-Fi

Protocol Type	Operation Frequency	Reading	Limit
	(MHz)	(kHz)	(kHz)
b(1Mbit/s)	2412.0	8320.0	>500.0
	2437.0	10200.0	>500.0
	2462.0	10760.0	>500.0
b(11Mbit/s)	2412.0	9040.0	>500.0
	2437.0	10040.0	>500.0
	2462.0	10040.0	>500.0

Protocol Type	Operation Frequency	Reading	Limit
	(MHz)	(kHz)	(kHz)
g(6Mbit/s)	2412.0	16720.0	>500.0
	2437.0	17080.0	>500.0
	2462.0	16720.0	>500.0
g(54Mbit/s)	2412.0	16760.0	>500.0
	2437.0	16720.0	>500.0
	2462.0	16720.0	>500.0
n(6.5Mbit/s) Mcs0	2412.0	17920.0	>500.0
	2437.0	17840.0	>500.0
	2462.0	17920.0	>500.0
n(65Mbit/s) Mcs7	2412.0	17920.0	>500.0
	2437.0	17920.0	>500.0
	2462.0	17920.0	>500.0

Figure 5 6 dB Minimum Bandwidth

JUDGEMENT: Pass

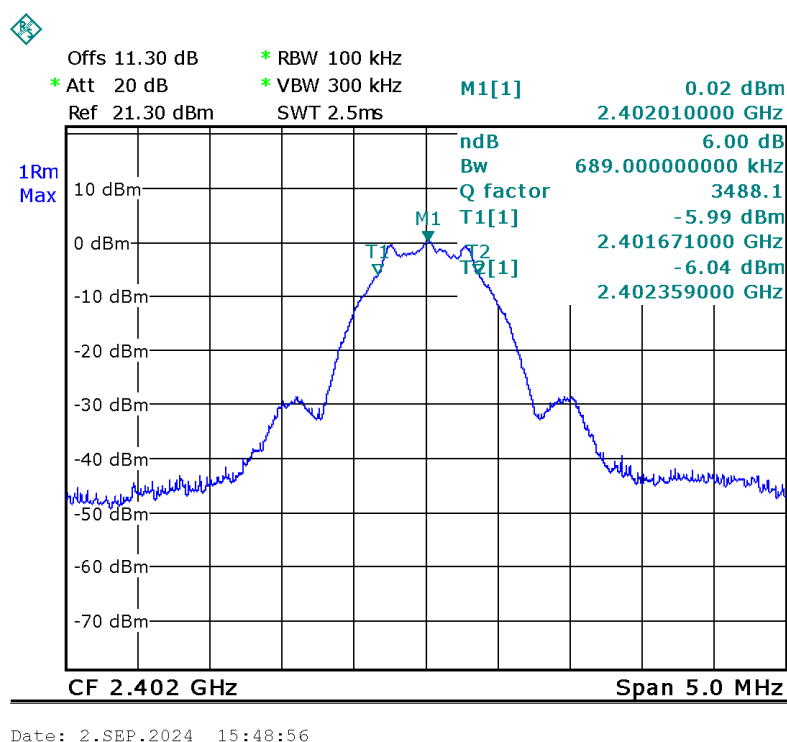


Figure 6. 2402.0 MHz, BLE

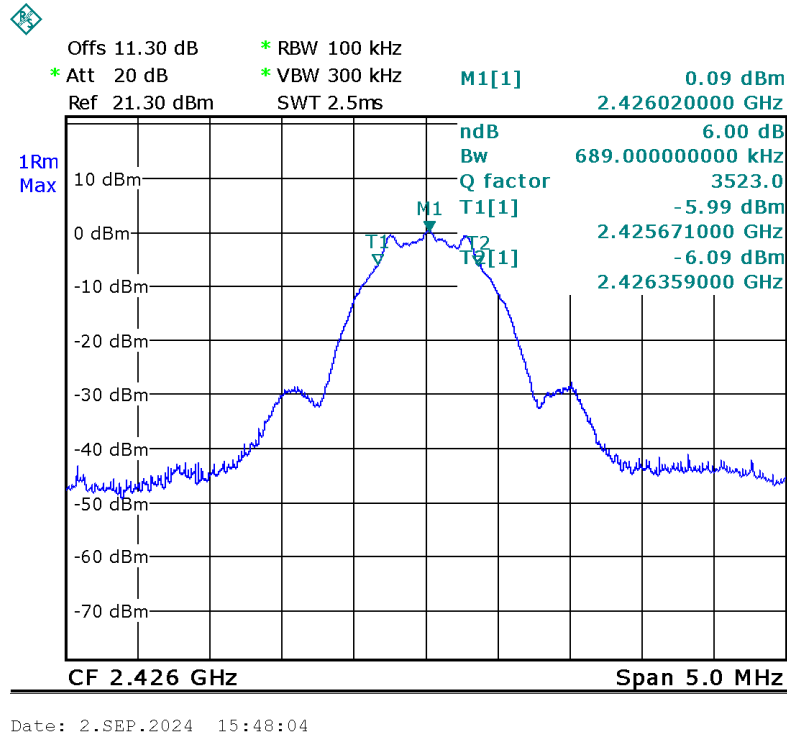


Figure 7. 2426.0 MHz, BLE

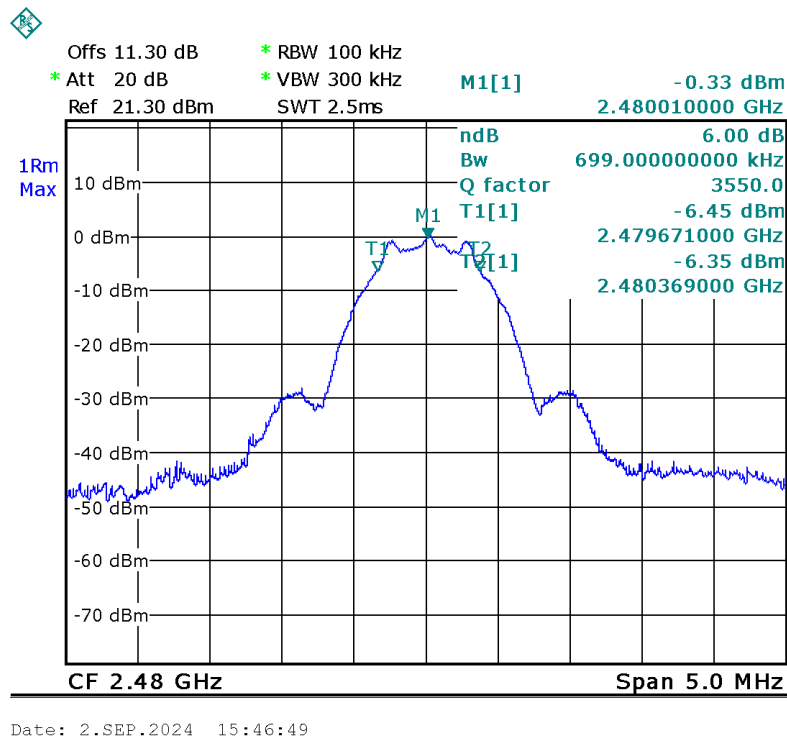
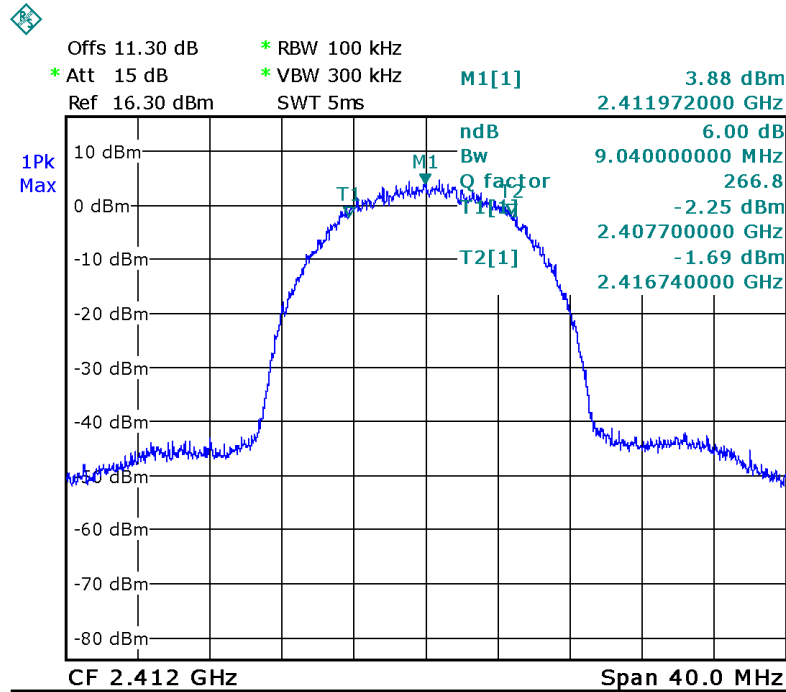
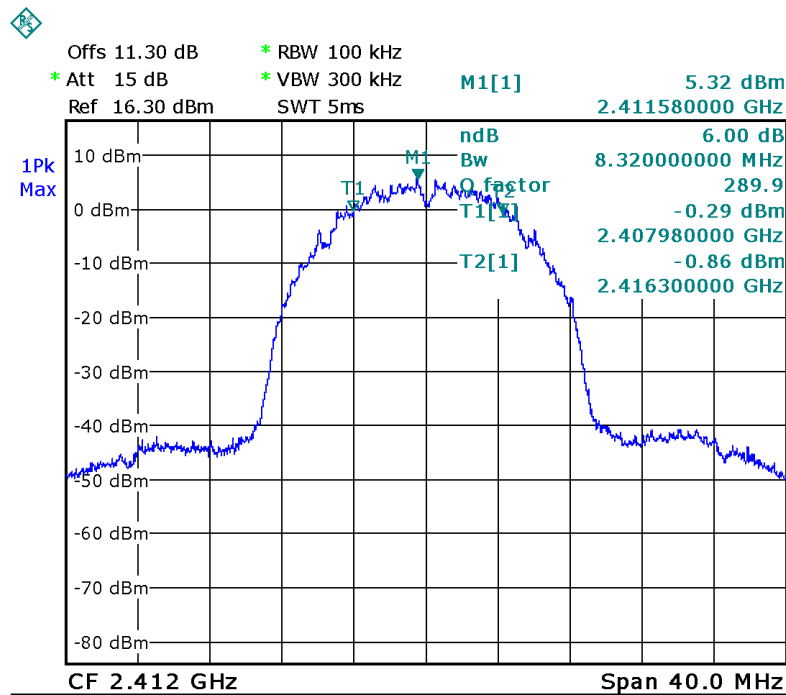


Figure 8. 2480.0 MHz, BLE



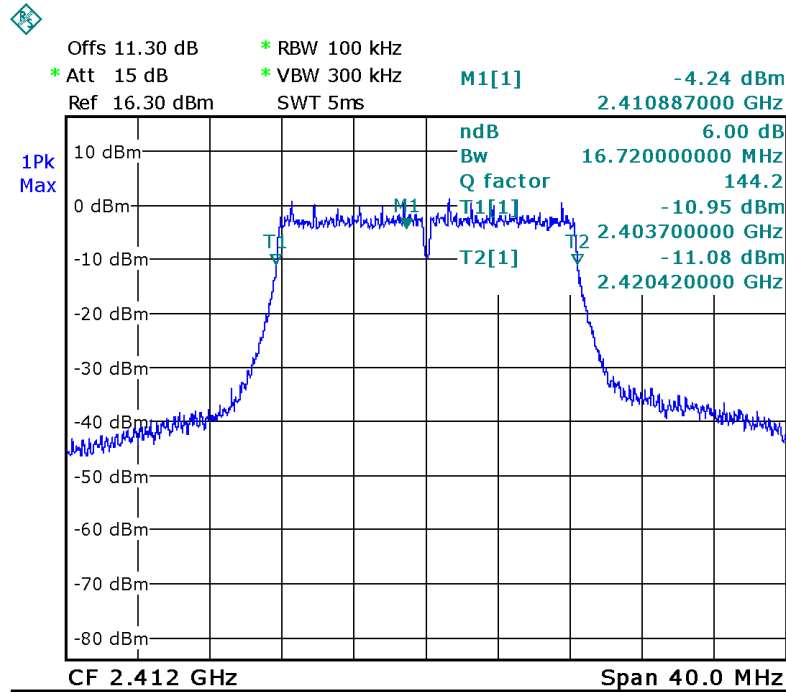
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Figure 9. 2412.0 MHz, Wi-fi/b(11Mbit/s)



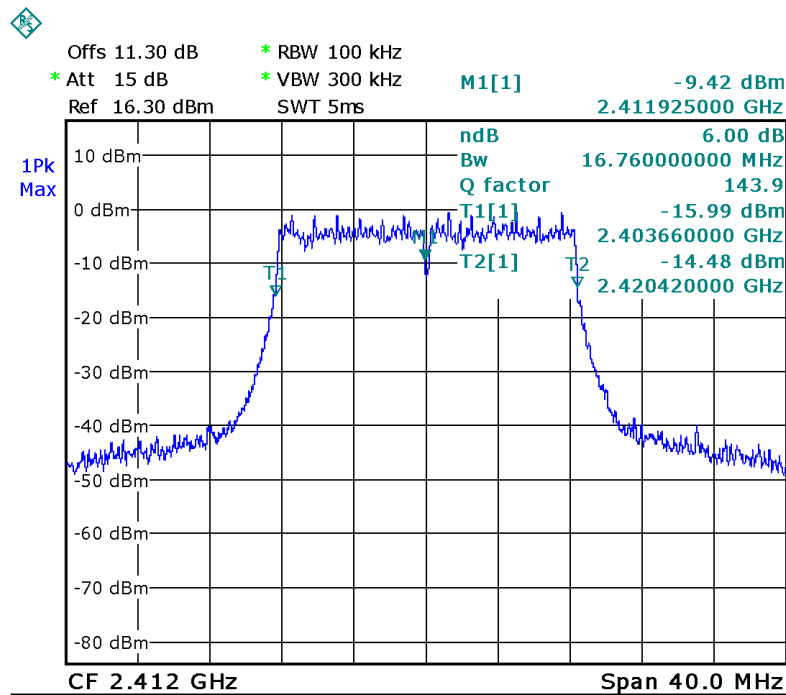
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Figure 10. 2412.0 MHz, Wi-fi/b(1Mbit/s)



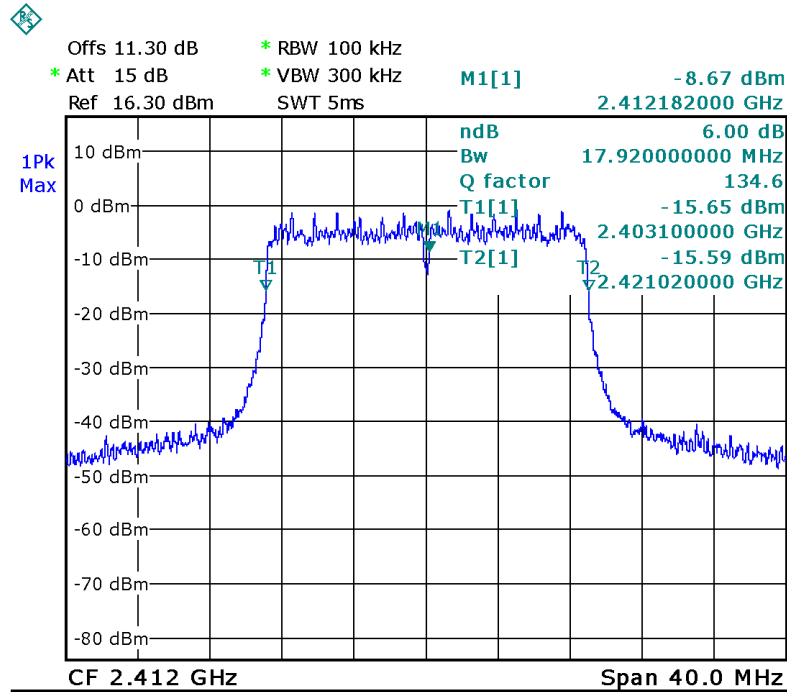
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Figure 11. 2412.0 MHz, Wi-fi/g(6Mbit/s)



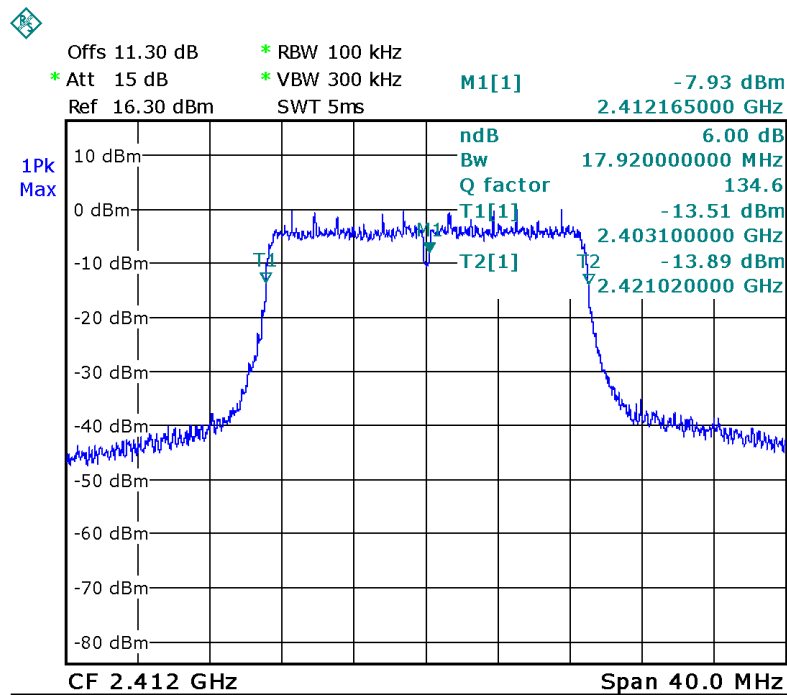
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Figure 12. 2412.0 MHz, Wi-fi/g(54Mbit/s)



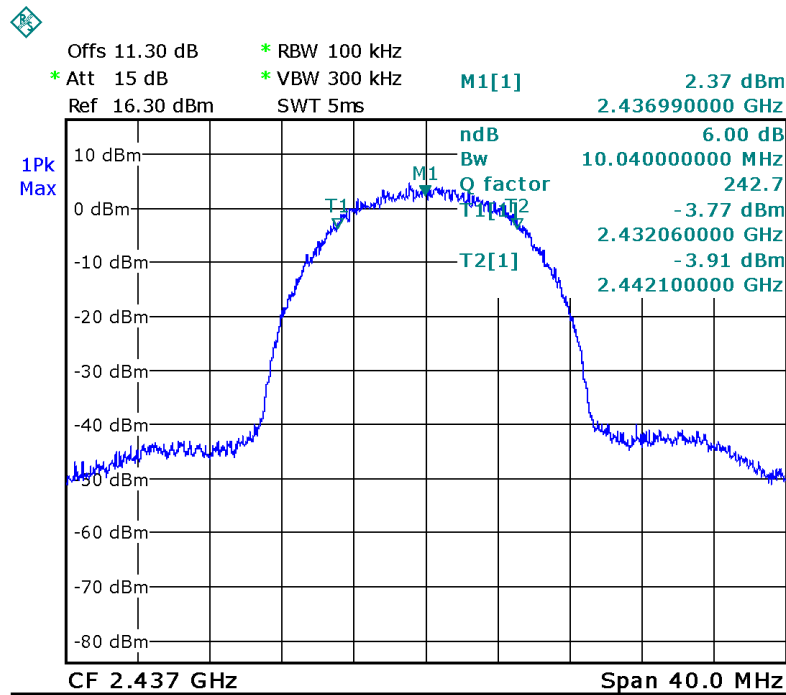
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Figure 13. 2412.0 MHz, Wi-fi/n(65Mbit/s)



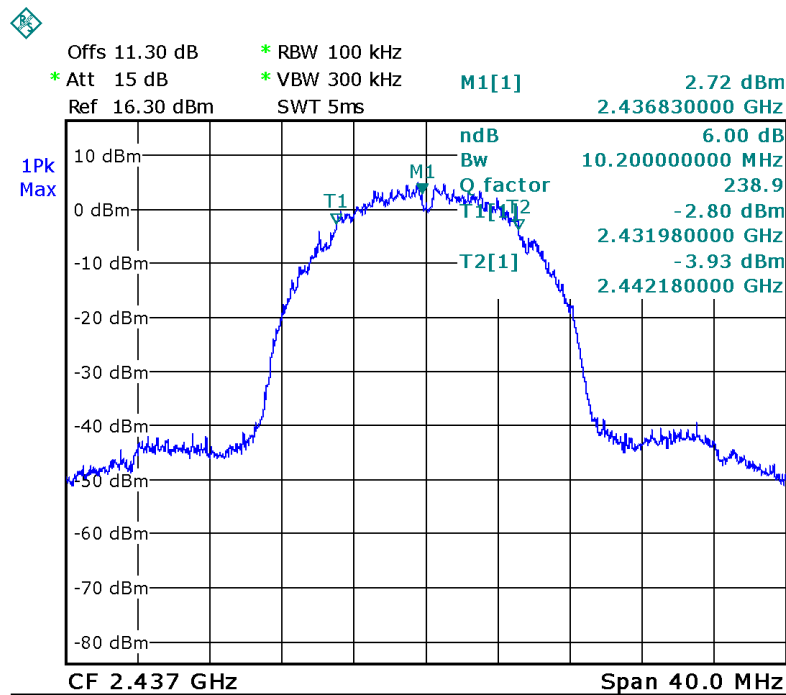
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Figure 14. 2412.0 MHz, Wi-fi/n(6.5Mbit/s)



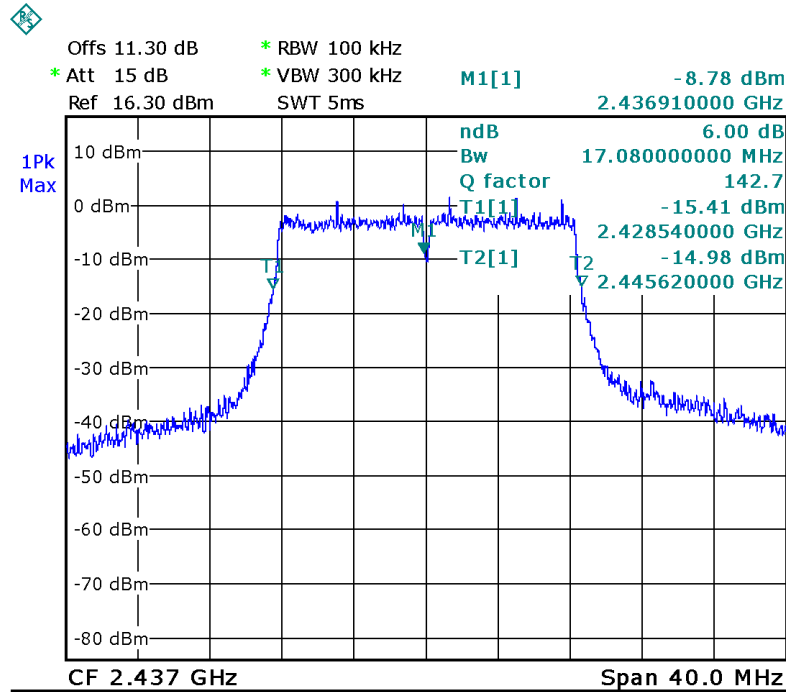
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Figure 15. 2437.0 MHz, Wi-fi/b(11Mbit/s)



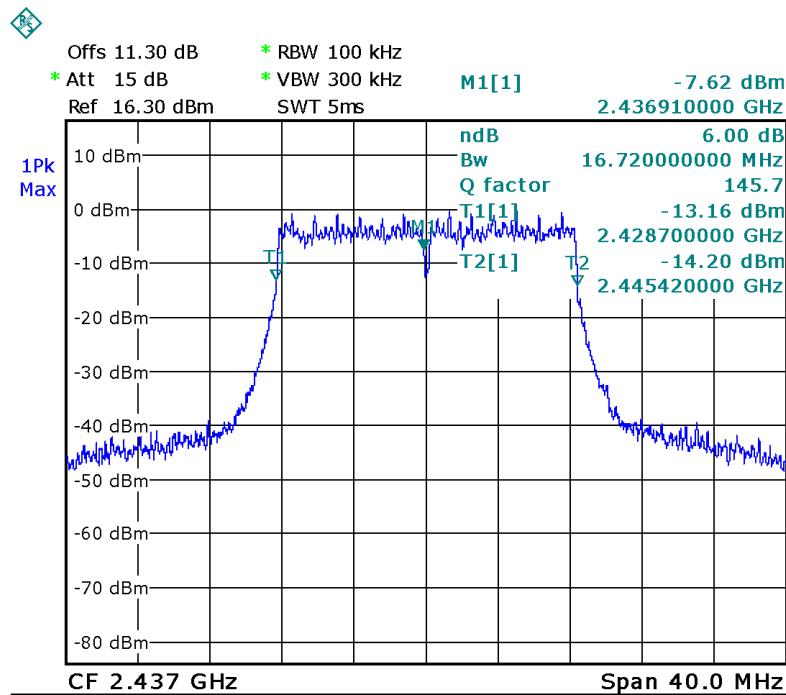
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Figure 16. 2437.0 MHz, Wi-fi/b(1Mbit/s)



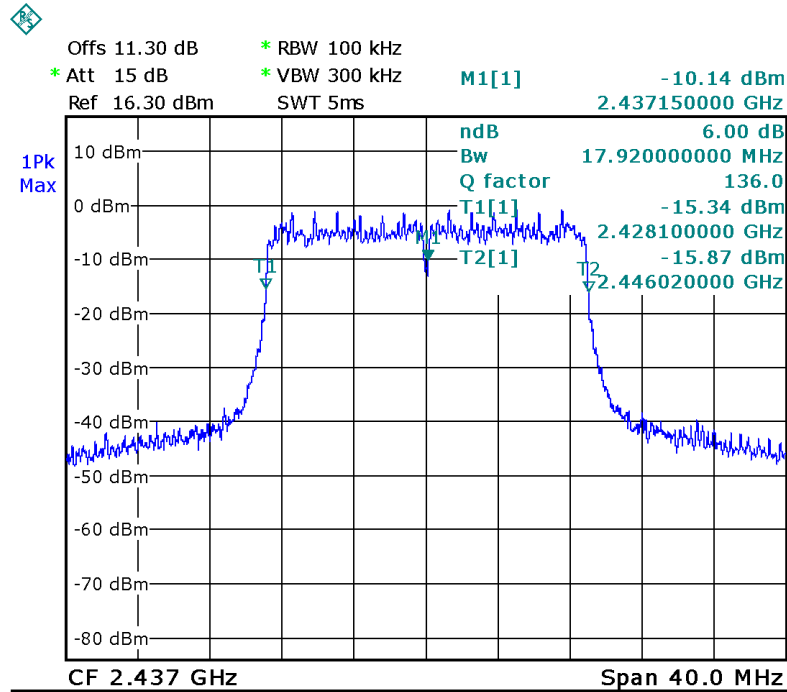
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Figure 17. 2437.0 MHz, Wi-fi/g(6Mbit/s)



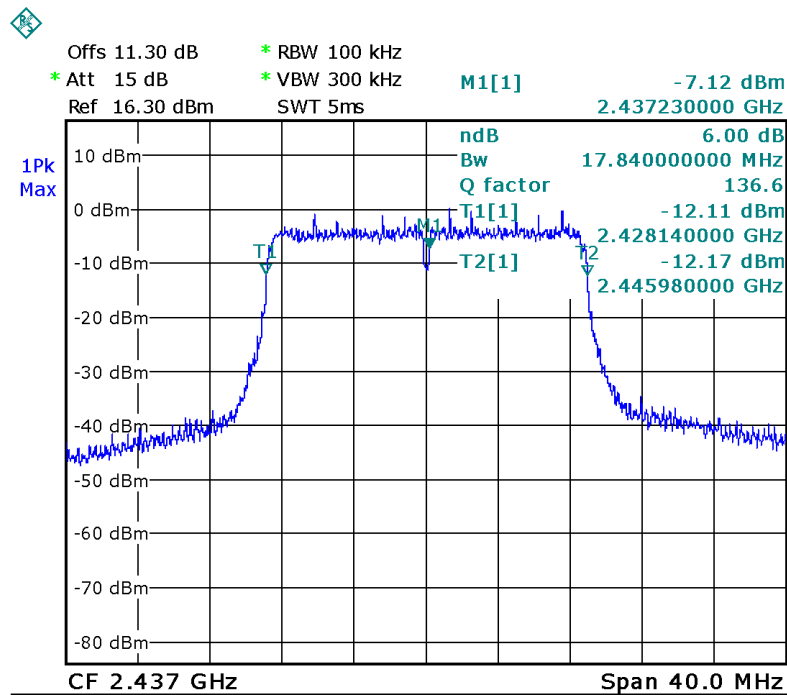
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Figure 18. 2437.0 MHz, Wi-fi/g(54Mbit/s)



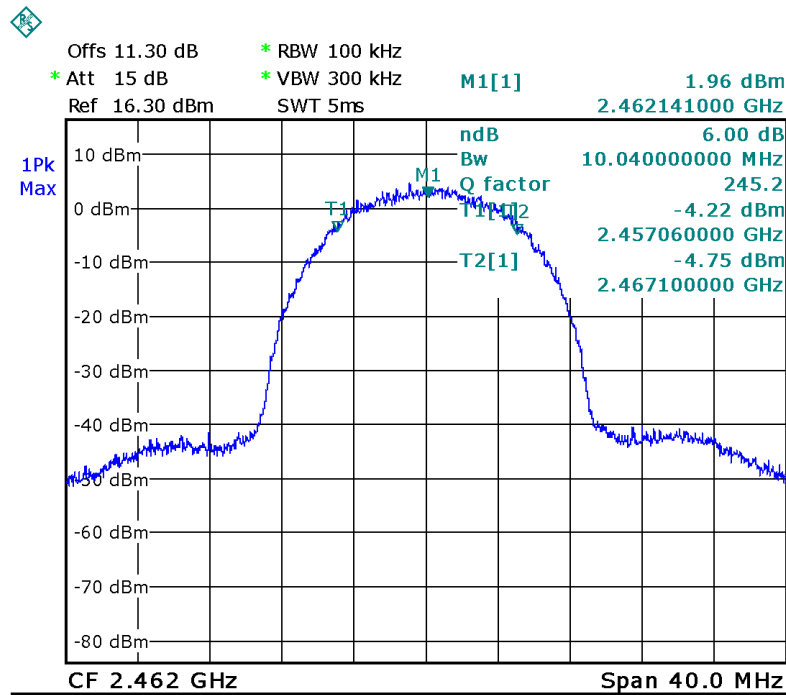
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Figure 19. 2437.0 MHz, Wi-fi/n(65Mbit/s)



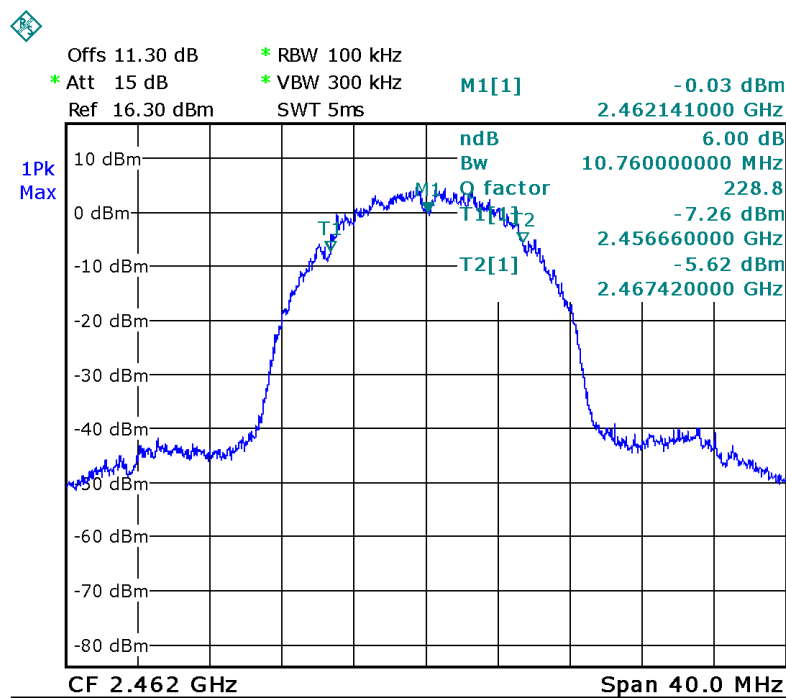
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Figure 20. 2437.0 MHz, Wi-fi/n(6.5Mbit/s)



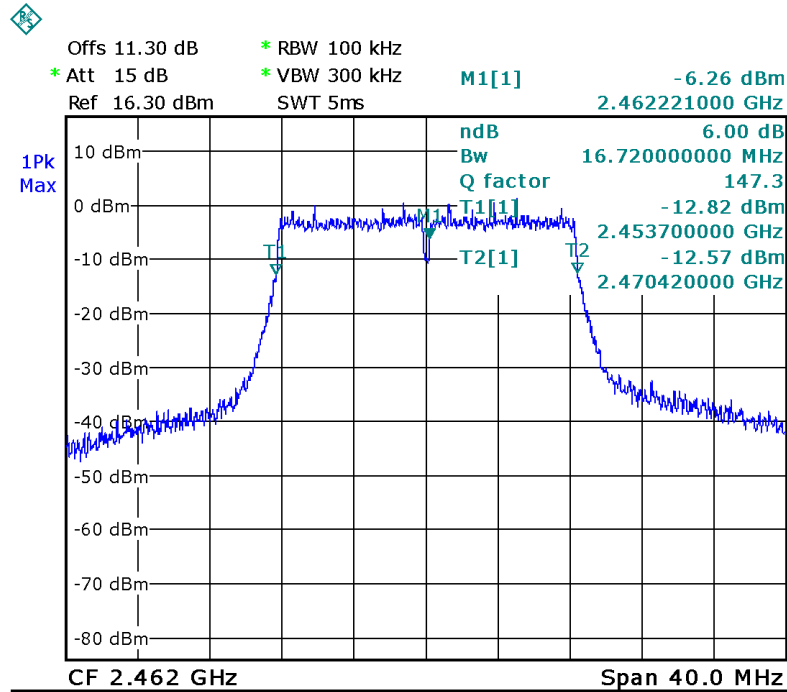
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Figure 21. 2462.0 MHz, Wi-fi/b(11Mbit/s)



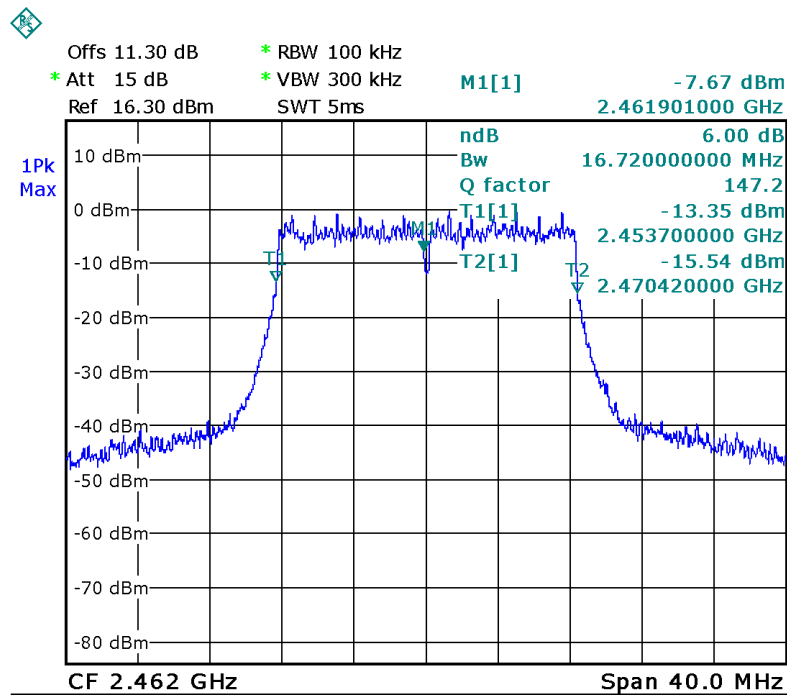
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Figure 22. 2462.0 MHz, Wi-fi/b(1Mbit/s)



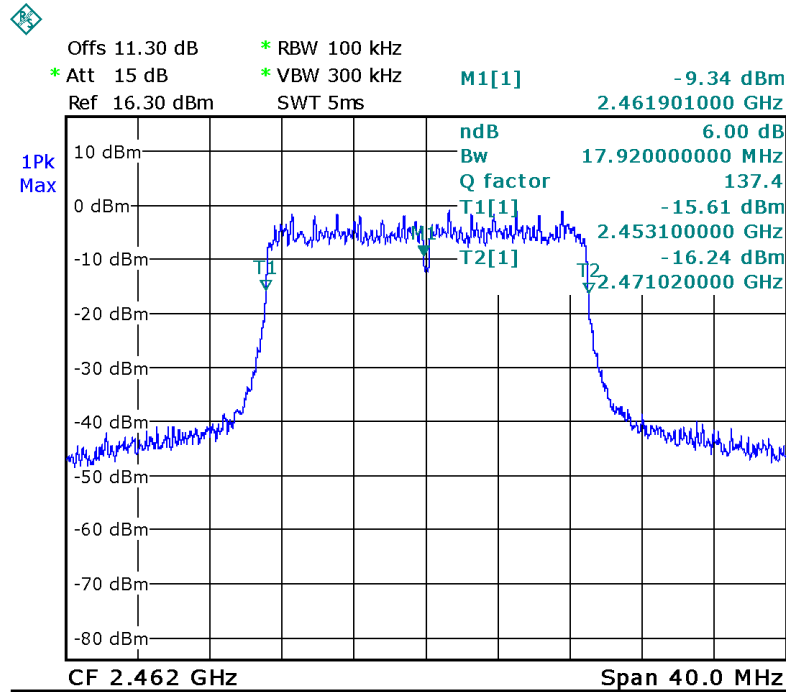
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Figure 23. 2462.0 MHz, Wi-fi/g(6Mbit/s)



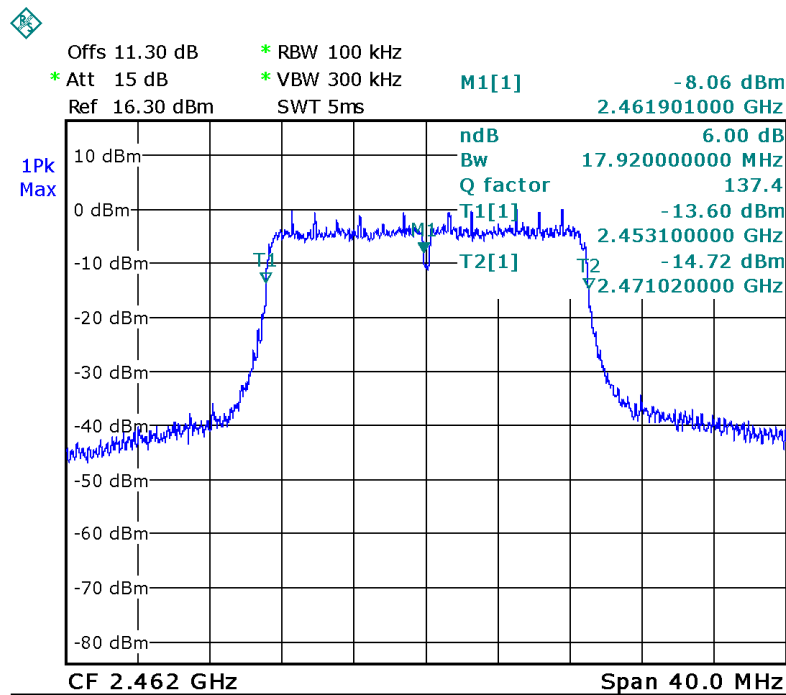
Date: 3.SEP.2024 09:08:35

Figure 24. 2462.0 MHz, Wi-fi/g(54Mbit/s)



Date: 3.SEP.2024 09:11:18

Figure 25. 2462.0 MHz, Wi-fi/n(65Mbit/s)



Date: 3.SEP.2024 09:10:39

Figure 26. 2462.0 MHz, Wi-fi/n(6.5Mbit/s)



3.5 Test Equipment Used; 6dB Bandwidth

ITL #	Instrument	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
1499	Spectrum Analyzer	Rohde & Schwarz	FSL6	100194	5 Feb 2024	5 Feb 2025
1699	Low Loss cable	Huber Suhner	Sucoflex	27502/4PEA	7 Jun 2023	31 Oct 2024
1986	10dB attenuator (round)	Midwest Microwave Solutions	-	-	16 May 2022	16 May 2023

Figure 27 Test Equipment Used

4. Maximum Conducted Output Power

4.1 Test Specification

FCC, Part 15, Subpart C, Section 247(b)(3)

RSS-247, Issue 3, Section 5.4(d)

4.2 Test Procedure

(Temperature (20°C)/ Humidity (51%RH))

The E.U.T operation mode and test set-up are as described in Section 2 of this report. The E.U.T. antenna terminal was connected to the Spectrum Analyzer through an external attenuator and an appropriate coaxial cable (total loss=11.3 dB). Special attention was taken to prevent Spectrum Analyzer RF input overload.

4.3 Test Limit

The maximum peak conducted output power of the intentional radiator for systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 Watt.

4.4 Test Results

4.4.1 BLE

Protocol Type	Operation Frequency	Power	Power	Limit	Margin
	(MHz)	(dBm)	(mW)	(mW)	(mW)
BLE	2402.0	7.22	5.3	1000.0	-994.7
	2426.0	6.90	4.9	1000.0	-995.1
	2480.0	6.77	4.8	1000.0	-995.2

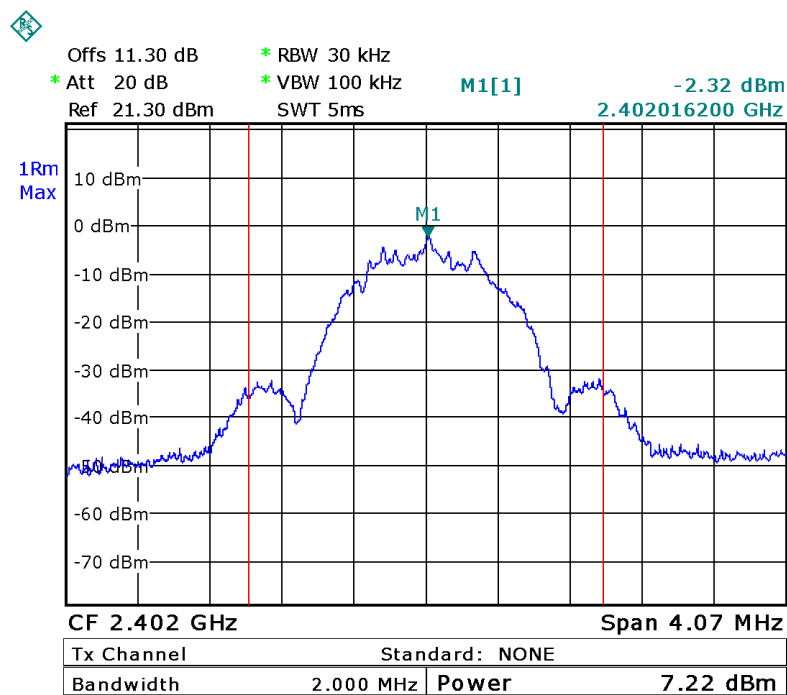
4.4.2 Wi-Fi

Protocol Type	Operation Frequency	Power	Power	Limit	Margin
	(MHz)	(dBm)	(mW)	(mW)	(mW)
b(1Mbit/s)	2412.0	19.37	86.5	1000.0	-913.5
	2437.0	19.23	83.8	1000.0	-916.2
	2462.0	19.07	80.7	1000.0	-919.3
b(11Mbit/s)	2412.0	19.23	83.8	1000.0	-916.2
	2437.0	19.05	80.4	1000.0	-919.6
	2462.0	18.99	79.3	1000.0	-920.7
g(6Mbit/s)	2412.0	20.12	102.8	1000.0	-897.2
	2437.0	19.88	97.3	1000.0	-902.7

	2462.0	19.74	94.2	1000.0	-905.8
g(54Mbit/s)	2412.0	18.60	72.4	1000.0	-927.6
	2437.0	18.43	69.7	1000.0	-930.3
	2462.0	18.32	67.9	1000.0	-932.1
n(6.5Mbit/s)	2412.0	19.01	79.6	1000.0	-920.4
	2437.0	18.75	75.0	1000.0	-925.0
	2462.0	18.64	73.1	1000.0	-926.9
n(65Mbit/s)	2412.0	18.01	63.2	1000.0	-936.8
	2437.0	17.63	57.9	1000.0	-942.1
	2462.0	17.61	57.7	1000.0	-942.3

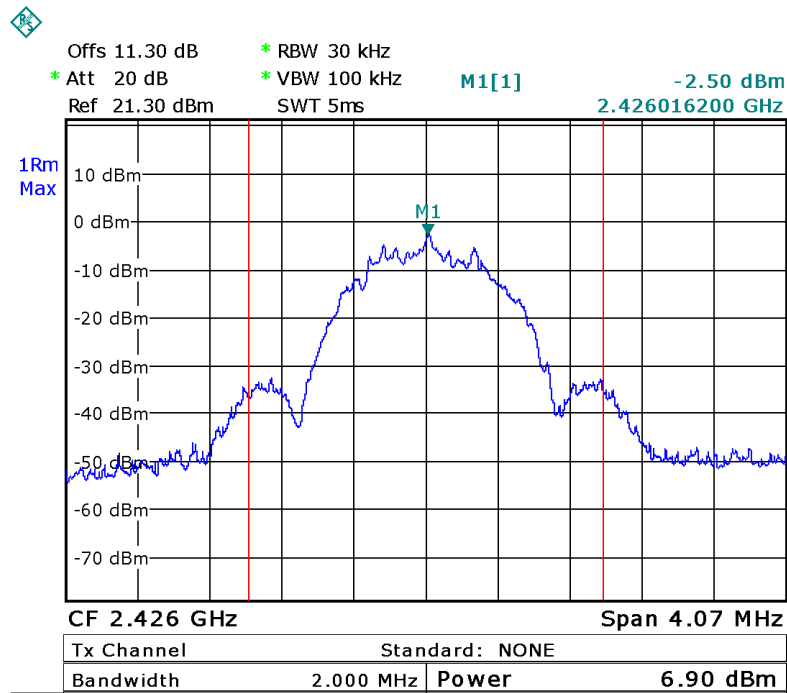
Figure 28 Maximum Peak Power Output

JUDGEMENT: PASS



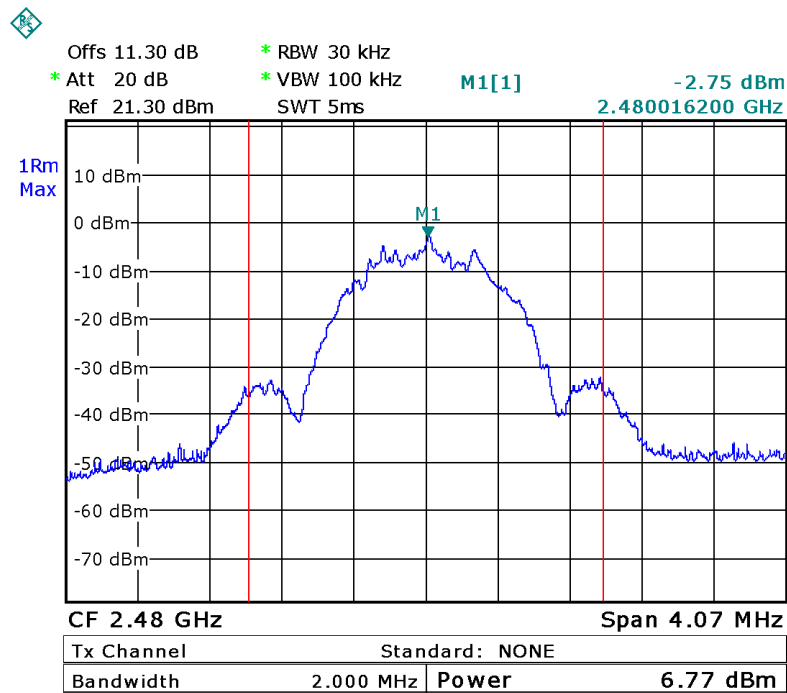
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Figure 29. 2402.0 MHz, BLE



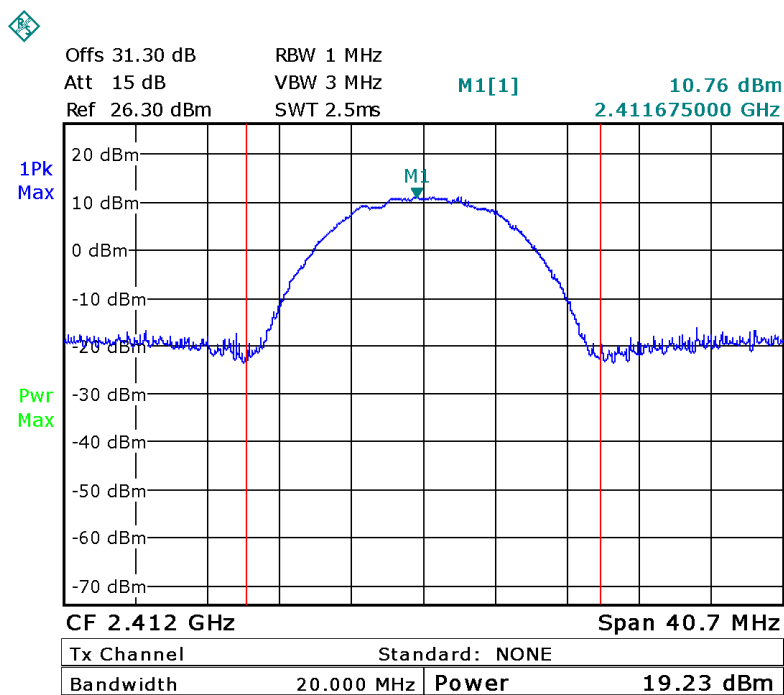
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Figure 30. 2426.0 MHz, BLE



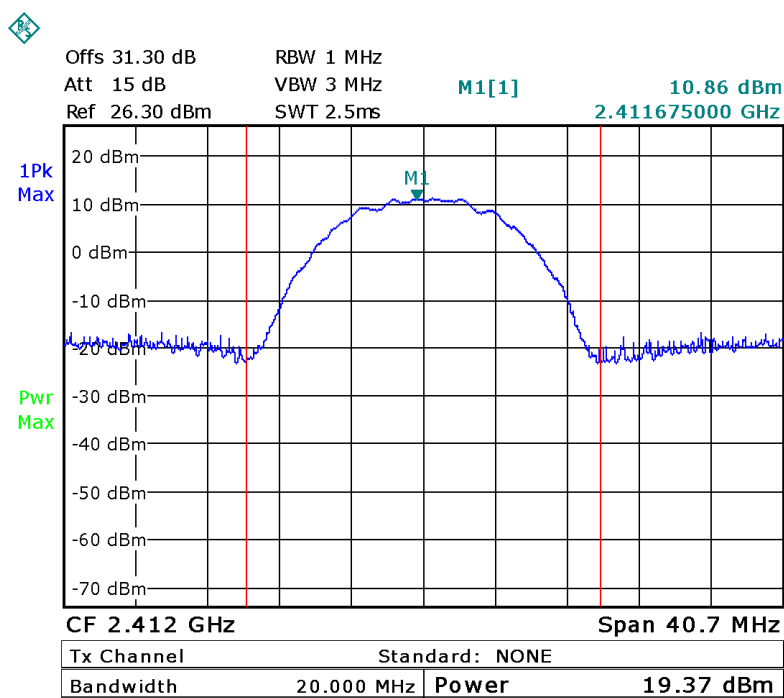
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Figure 31. 2480.0 MHz, BLE



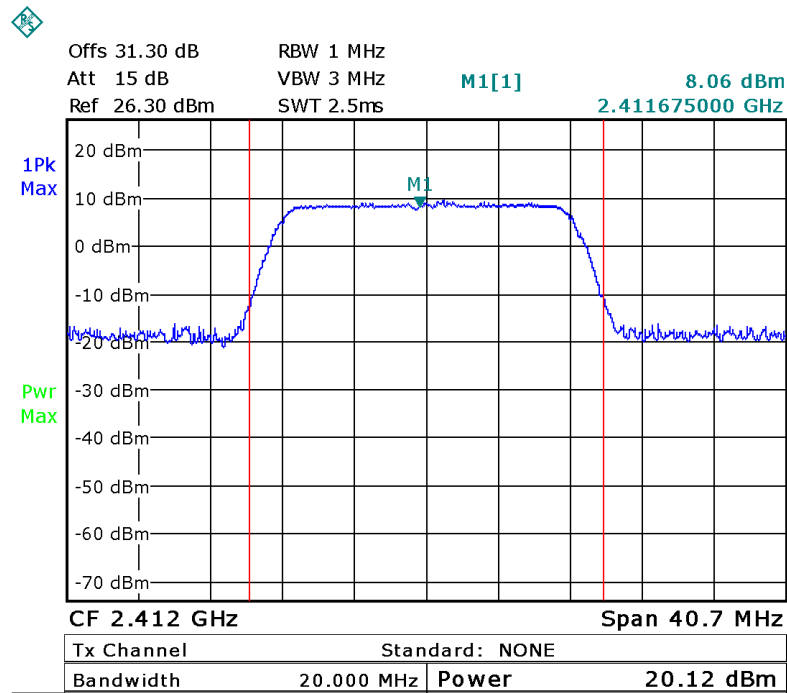
Date: 28.AUG.2024 06:32:28

Figure 32. 2412.0 MHz, Wi-fi/b(11Mbit/s)



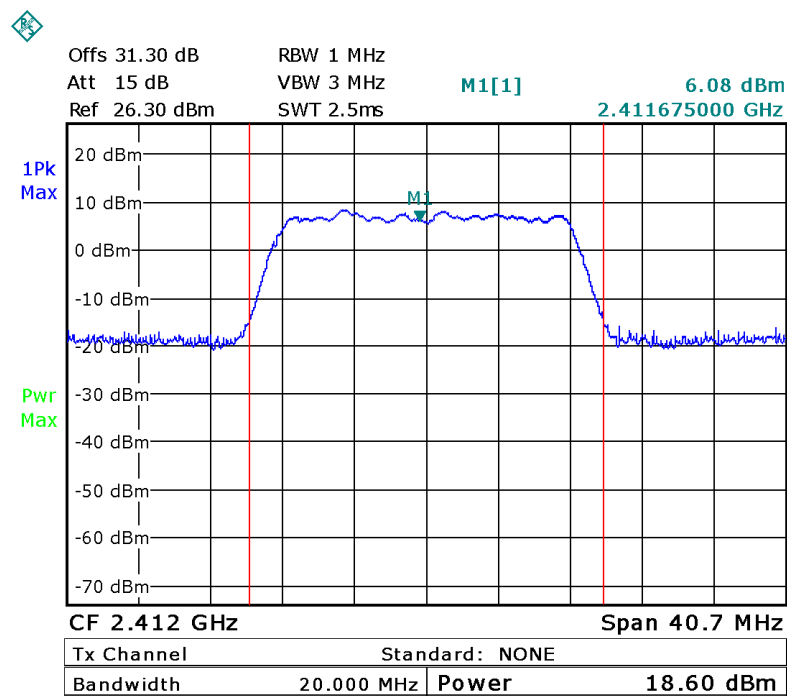
Date: 28.AUG.2024 06:33:07

Figure 33. 2412.0 MHz, Wi-fi/b(11Mbit/s)



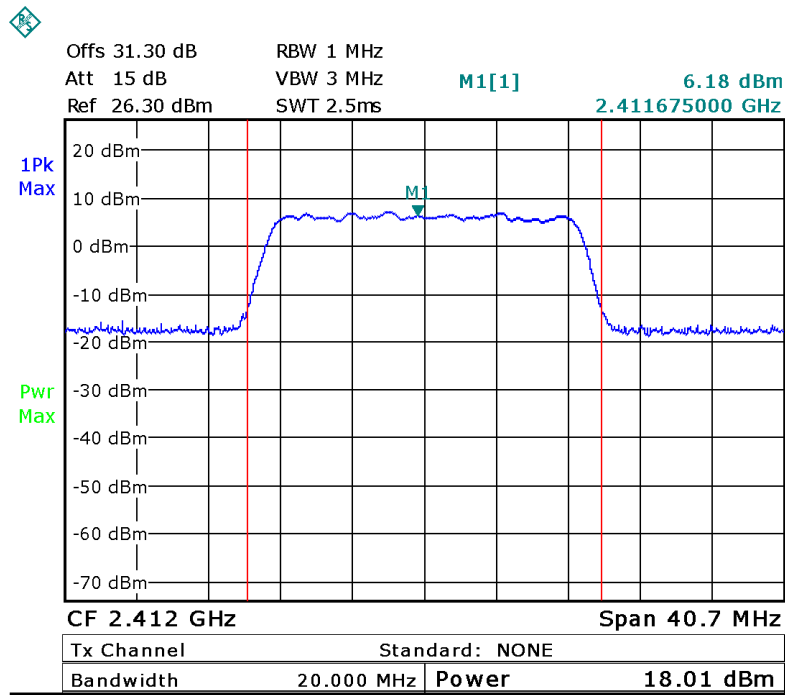
Date: 28.AUG.2024 06:31:41

Figure 34. 2412.0 MHz, Wi-fi/g(6Mbit/s)



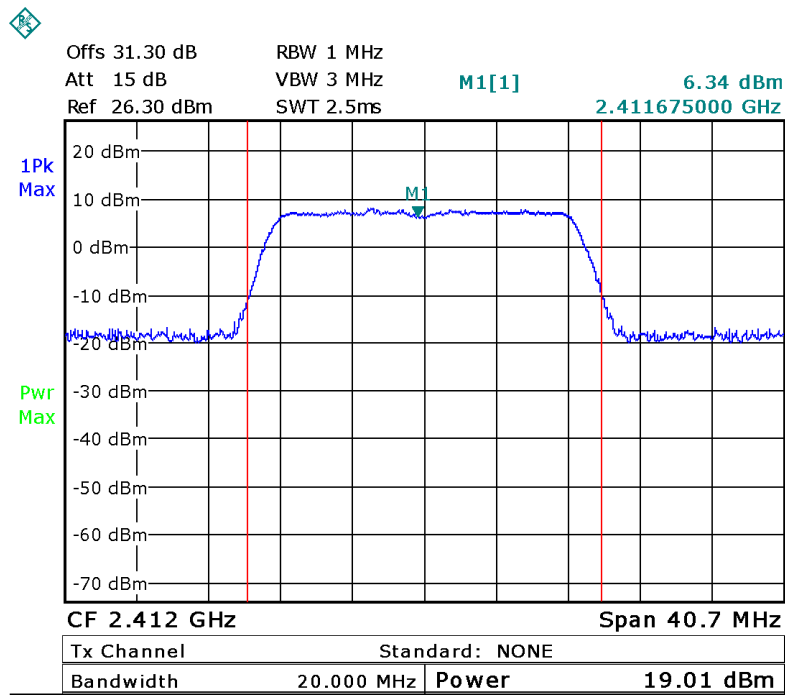
Date: 28.AUG.2024 06:30:48

Figure 35. 2412.0 MHz, Wi-fi/g(54Mbit/s)



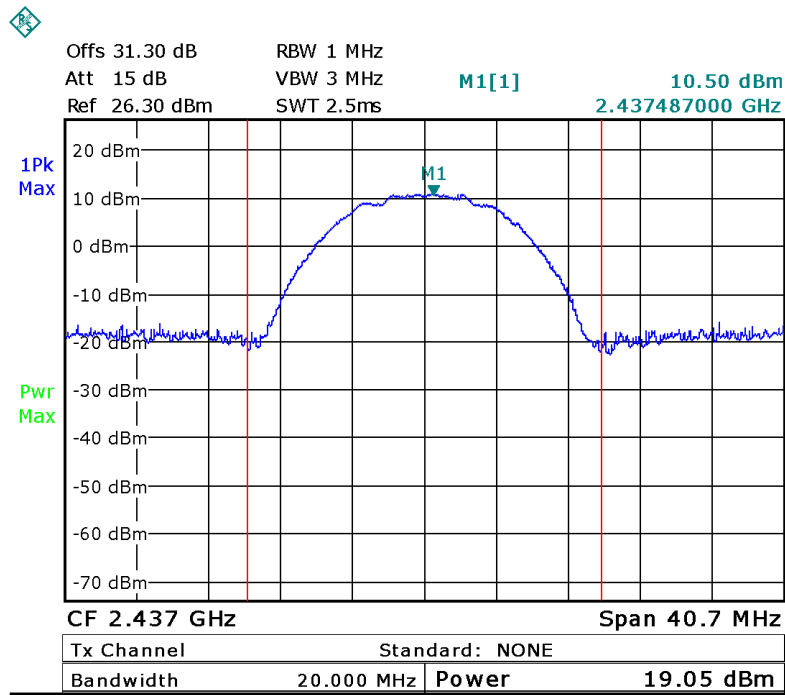
Date: 28.AUG.2024 06:28:45

Figure 36. 2412.0 MHz, Wi-fi/n(65Mbit/s)



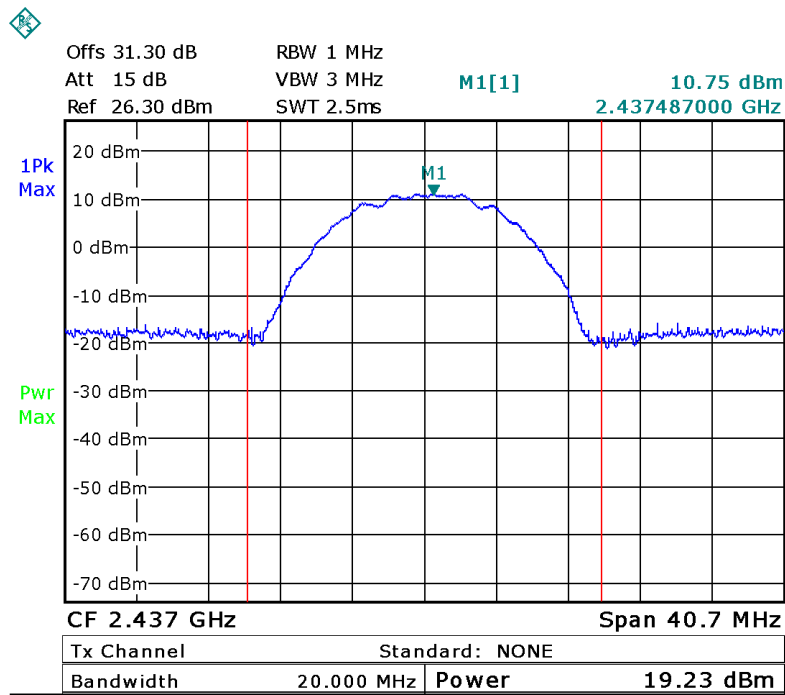
Date: 28.AUG.2024 06:29:47

Figure 37. 2412.0 MHz, Wi-fi/n(6.5Mbit/s)



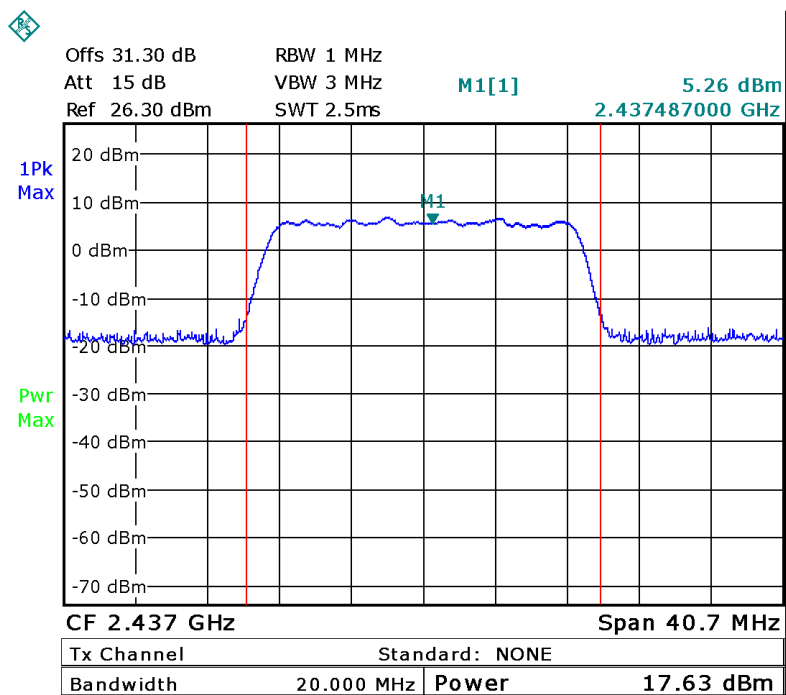
Date: 28.AUG.2024 06:42:33

Figure 38. 2437.0 MHz, Wi-fi/b(11Mbit/s)



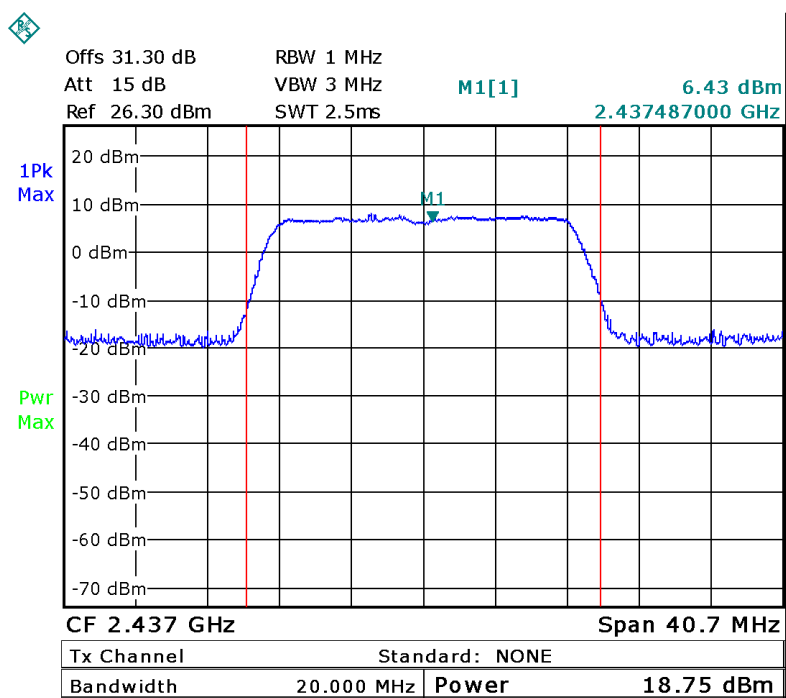
Date: 28.AUG.2024 06:41:36

Figure 39. 2437.0 MHz, Wi-fi/b(11Mbit/s)



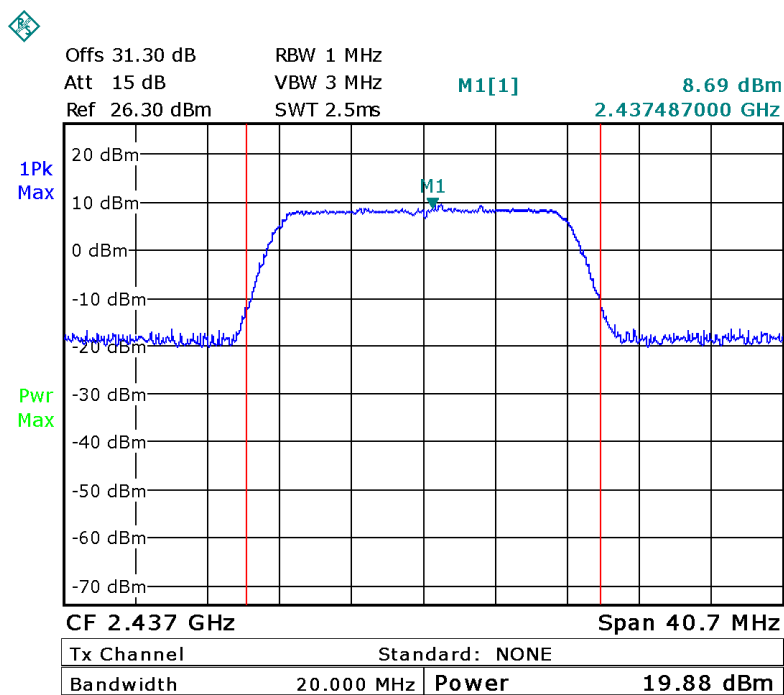
Date: 28.AUG.2024 06:47:54

Figure 40. 2437.0 MHz, Wi-fi/n(65Mbit/s)



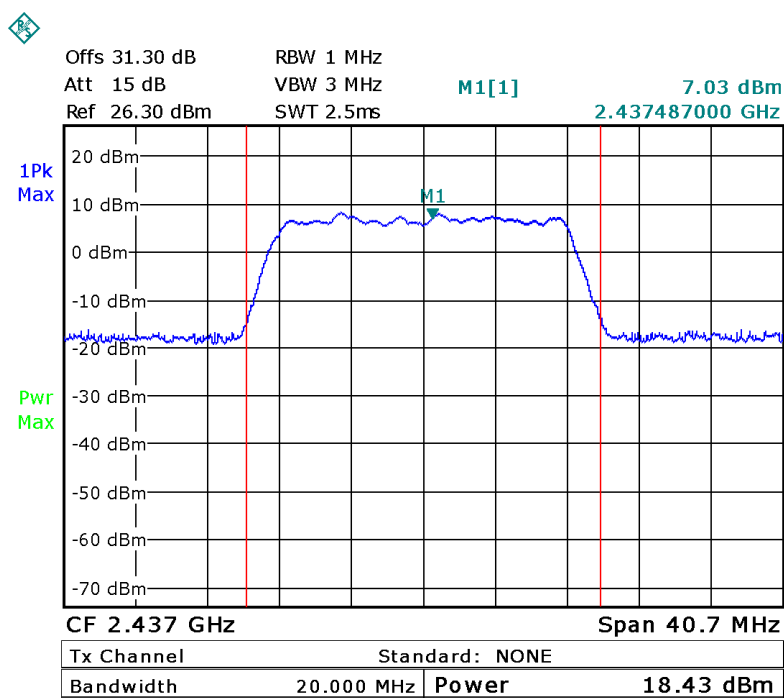
Date: 28.AUG.2024 06:46:52

Figure 41. 2437.0 MHz, Wi-fi/n(6.5Mbit/s)



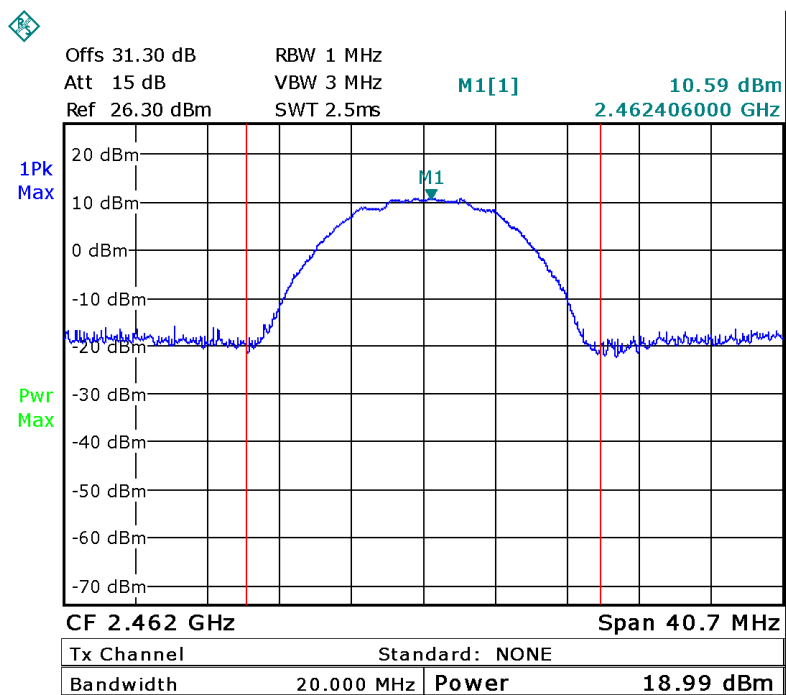
Date: 28.AUG.2024 06:44:11

Figure 42. 2437.0 MHz, Wi-fi/g(6Mbit/s)



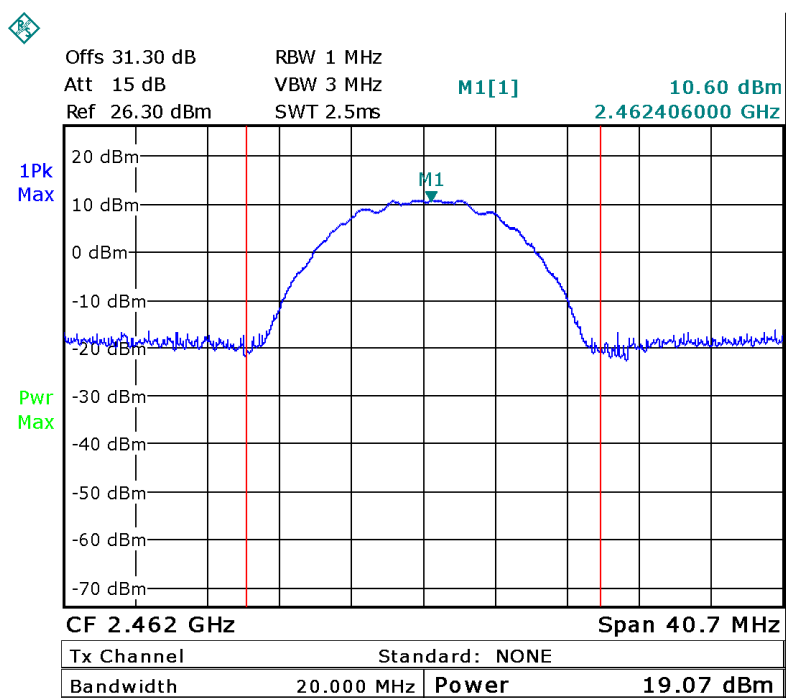
Date: 28.AUG.2024 06:45:55

Figure 43. 2437.0 MHz, Wi-fi/g(54Mbit/s)



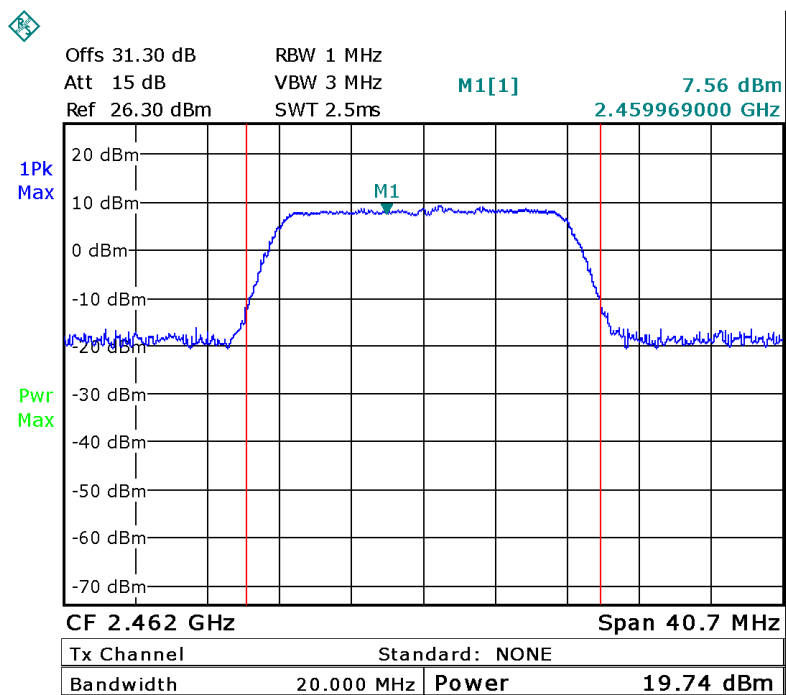
Date: 28.AUG.2024 06:54:43

Figure 44. 2462.0 MHz, Wi-fi/b(11Mbit/s)



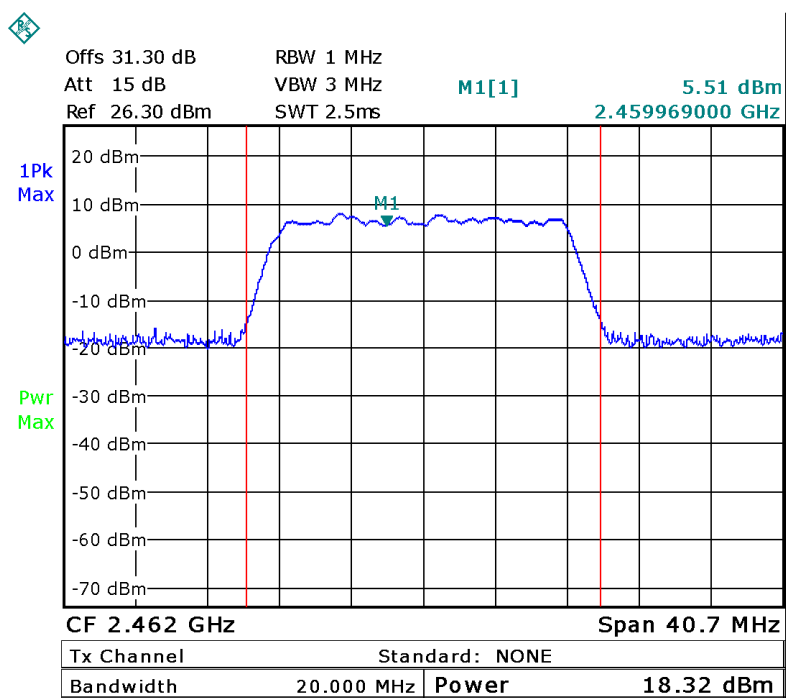
Date: 28.AUG.2024 06:55:24

Figure 45. 2462.0 MHz, Wi-fi/b(11Mbit/s)



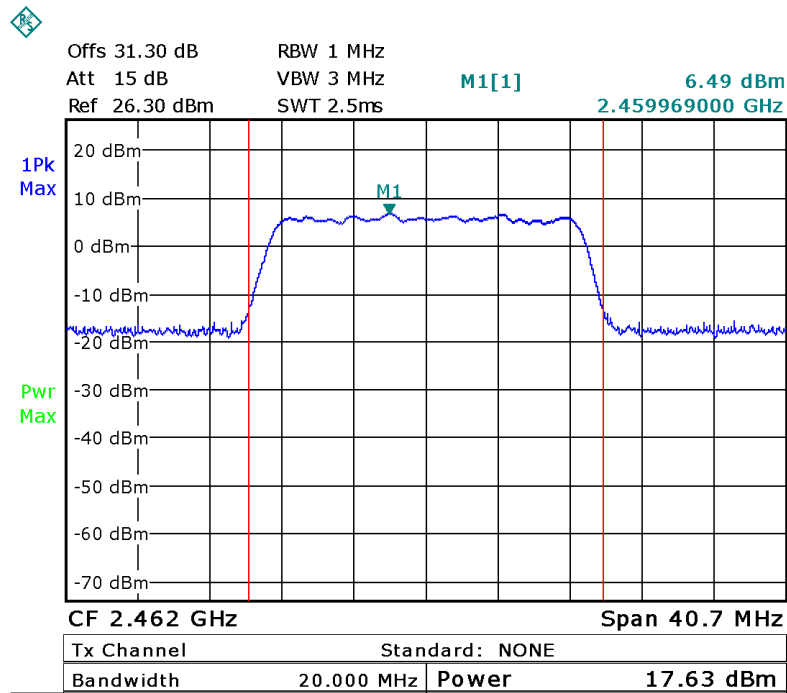
Date: 28.AUG.2024 06:53:51

Figure 46. 2462.0 MHz, Wi-fi/g(6Mbit/s)



Date: 28.AUG.2024 06:53:14

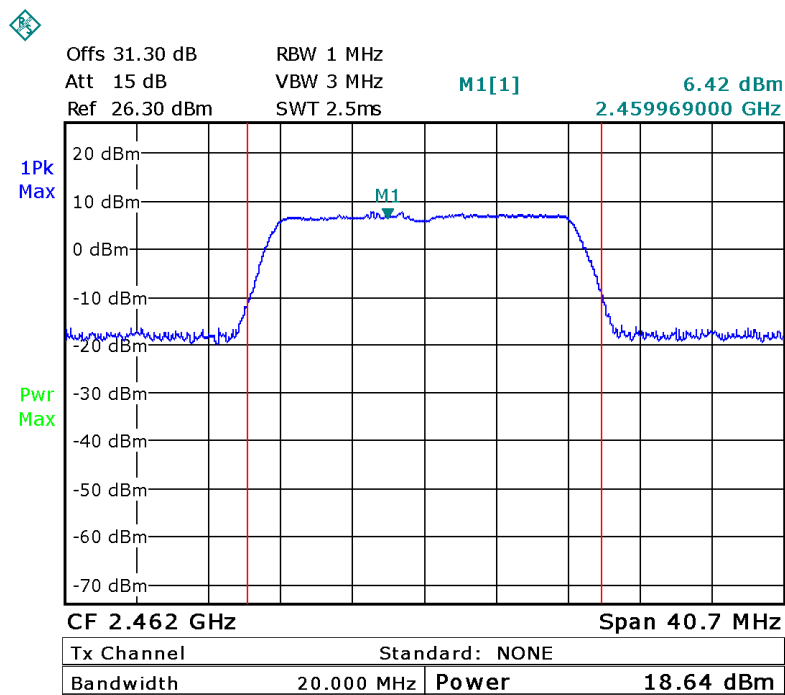
Figure 47. 2462.0 MHz, Wi-fi/g(54Mbit/s)



Date: 28.AUG.2024 06:50:51

D

Figure 48. 2462.0 MHz, Wi-fi/n(65Mbit/s)



Date: 28.AUG.2024 06:52:07

Figure 49. 2462.0 MHz, Wi-fi/n(6.5Mbit/s)



4.5 Test Equipment

ITL #	Instrument	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
1499	Spectrum Analyzer	Rohde & Schwarz	FSL6	100194	5 Feb 2024	5 Feb 2025
1699	Low Loss cable	Huber Suhner	Sucoflex	27502/4PEA	7 Jun 2023	30 Oct 2024
1848	Attenuator 20dB 2W DC 8.0GHz	Midwest Microwave Solutions	ATT-0217- 20-NNN-02	-	6 Jun 2023	31 Oct 2024
1986	10dB attenuator (round)	Midwest Microwave Solutions	-	-	16 May 2022	16 May 2023

Figure 50 Test Equipment

5. Band Edge Spectrum

5.1 Test Specification

FCC, Part 15, Subpart C, Section 247(d)

RSS-247, Issue 2, Section 5.5

5.2 Test Procedure

(Temperature (20°C)/ Humidity (51%RH))

The E.U.T operation mode and test set-up are as described in Section 2 of this report. The E.U.T. antenna terminal was connected to the Spectrum Analyzer through an external attenuator and an appropriate coaxial cable (loss=11.3 dB). Special attention was taken to prevent Spectrum Analyzer RF input overload.

The RBW was set to 100 kHz.

5.3 Test Limit

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be more than 20 dBc in the 100 kHz bandwidth within the band that contains the highest level of the desired power.

5.4 Test Results

5.4.1 BLE

Operation Frequency (MHz)	Band Edge Frequency (MHz)	Spectrum Level (dBm)	Limit (dBm)	Margin (dB)
2402.0	2400.0	-45.9	-20.2	-25.7
2480.0	2483.5	-47.2	-20.2	-27.0

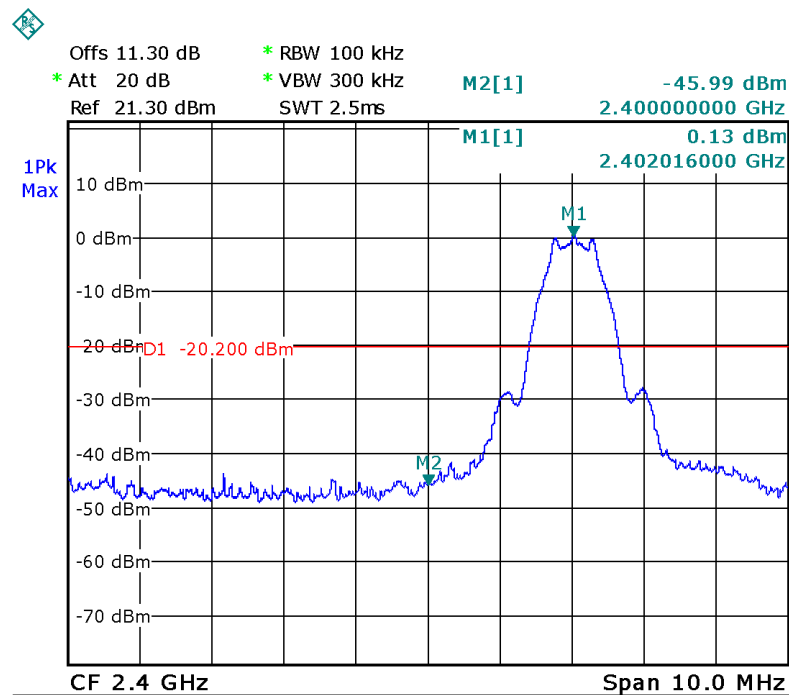
5.4.2 Wi-Fi

Protocol Type	Operation Frequency (MHz)	Band Edge Frequency (MHz)	Spectrum Level (dBm)	Limit (dBm)	Margin (dB)
	(MHz)	(MHz)	(dBm)	(dBm)	(dB)
b(1Mbit/s)	2412.0	2400.0	-44.1	-16.5	-27.6
	2462.0	2483.5	-50.2	-16.5	-33.7
b(11Mbit/s)	2412.0	2400.0	-44.3	-16.5	-27.8
	2462.0	2483.5	-48.7	-16.5	-32.2
g(6Mbit/s)	2412.0	2400.0	-40.8	-20.0	-20.8
	2462.0	2483.5	-44.8	-21.5	-23.3

Protocol Type	Operation Frequency	Band Edge Frequency	Spectrum Level	Limit	Margin
	(MHz)	(MHz)	(dBm)	(dBm)	(dB)
g(54Mbit/s)	2412.0	2400.0	-42.0	-21.0	-21.0
	2462.0	2483.5	-47.8	-21.5	-26.3
n(6.5Mbit/s)	2412.0	2400.0	-40.2	-21.0	-19.2
	2462.0	2483.5	-45.2	-21.5	-23.7
n(65Mbit/s)	2412.0	2400.0	-43.1	-21.5	-21.6
	2462.0	2483.5	-49.2	-21.5	-27.7

Figure 51 Band Edge Spectrum

JUDGEMENT: PASS



Date: 2.SEP.2024 15:58:02

Figure 52. 2402.0 MHz, BLE

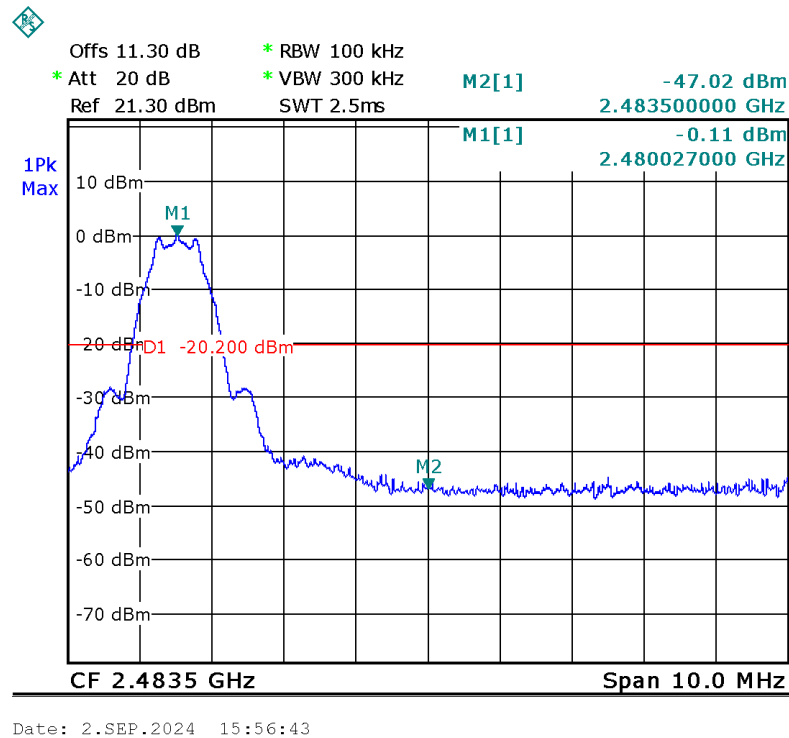


Figure 53. 2480.0 MHz, BLE

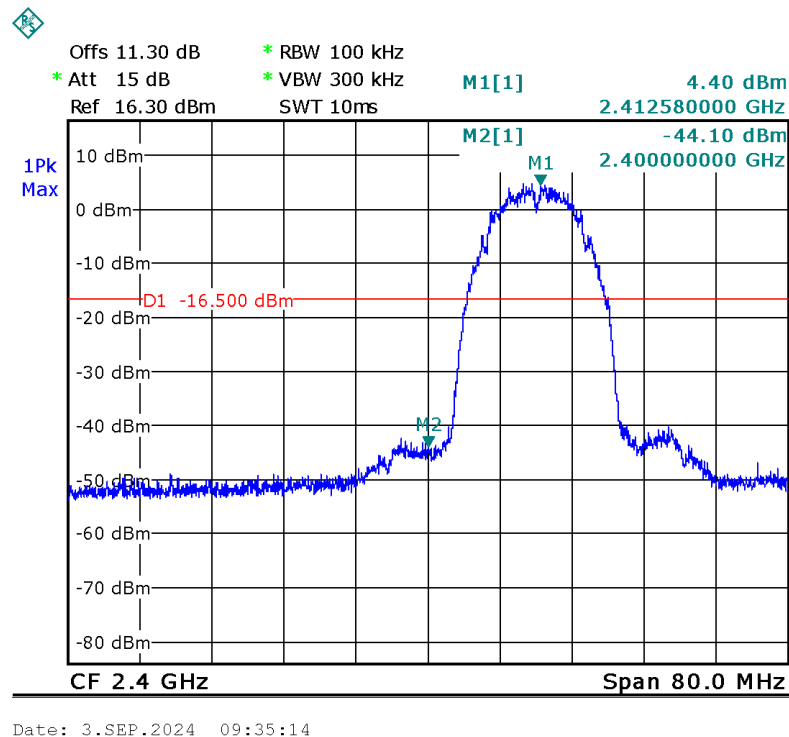
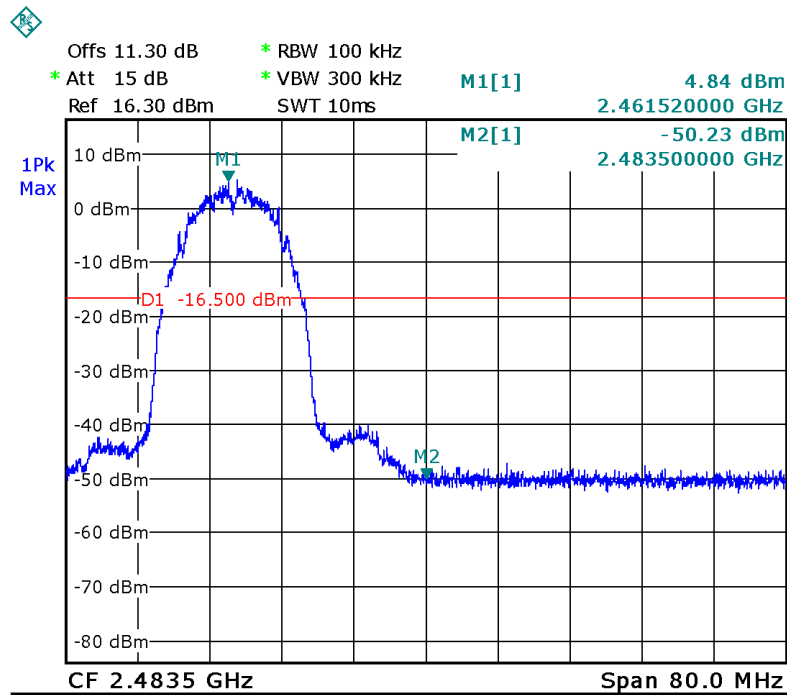
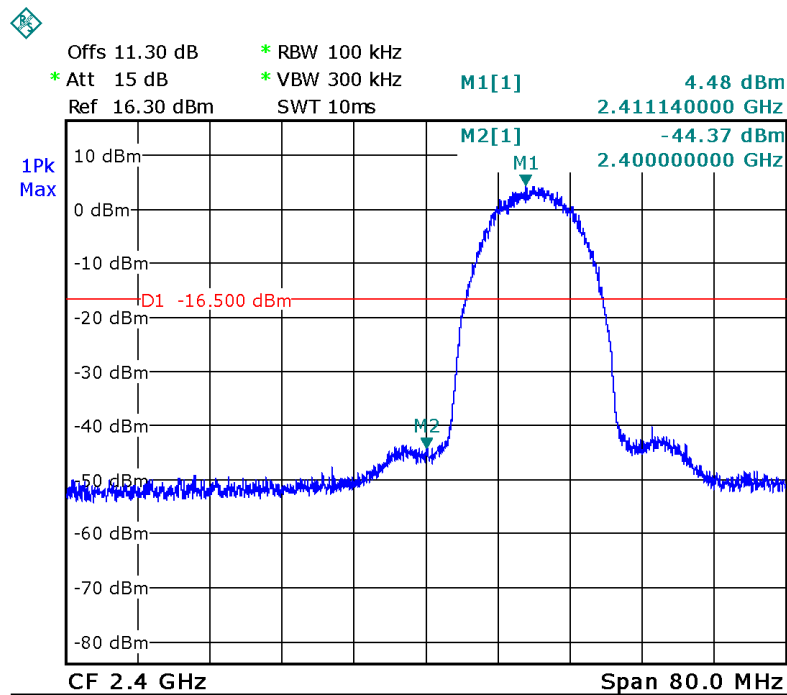


Figure 54. 2412.0 MHz, Wi-fi/b(1Mbit/s)



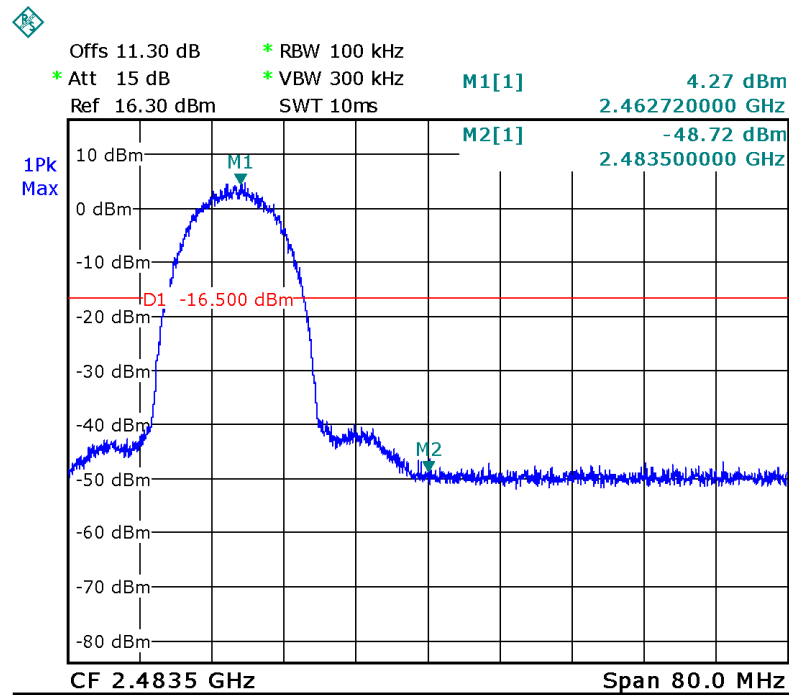
Date: 3.SEP.2024 09:32:52

Figure 55. 2462.0 MHz, Wi-fi/b(1Mbit/s)



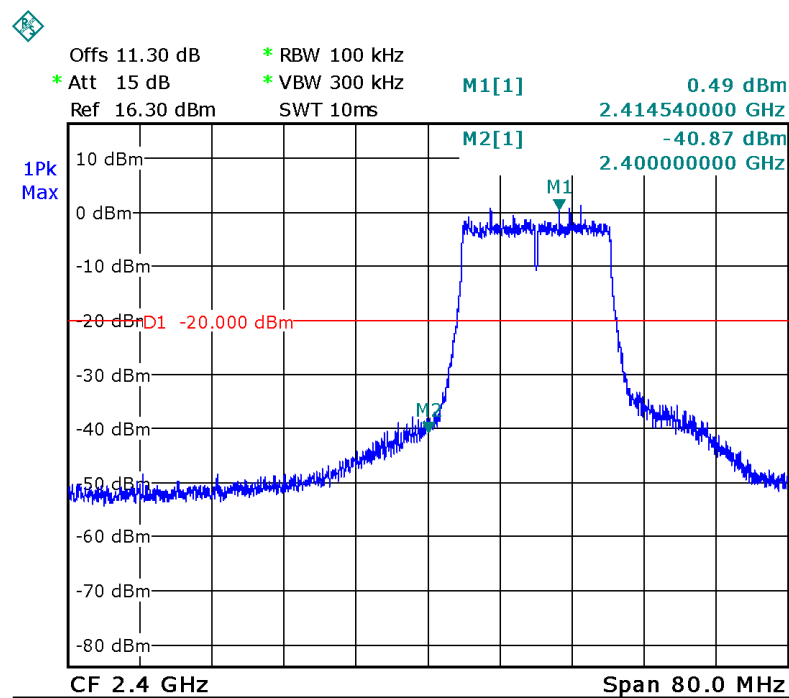
Date: 3.SEP.2024 09:36:41

Figure 56. 2412.0 MHz, Wi-fi/b(11Mbit/s)



Date: 3.SEP.2024 09:32:02

Figure 57. 2462.0 MHz, Wi-fi/b(11Mbit/s)



Date: 3.SEP.2024 09:38:00

Figure 58. 2412.0 MHz, Wi-fi/g(6Mbit/s)

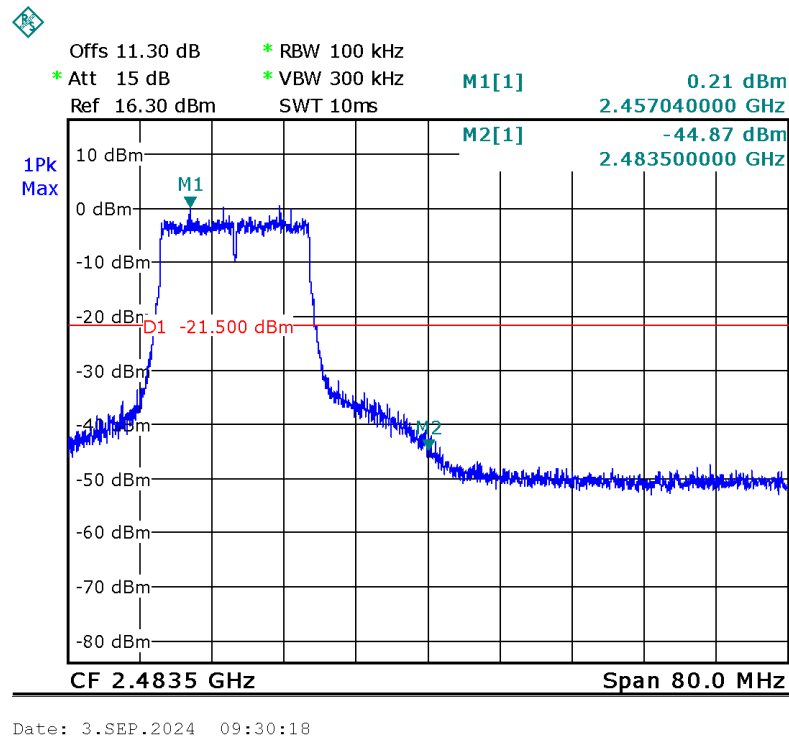


Figure 59. 2462.0 MHz, Wi-fi/g(6Mbit/s)

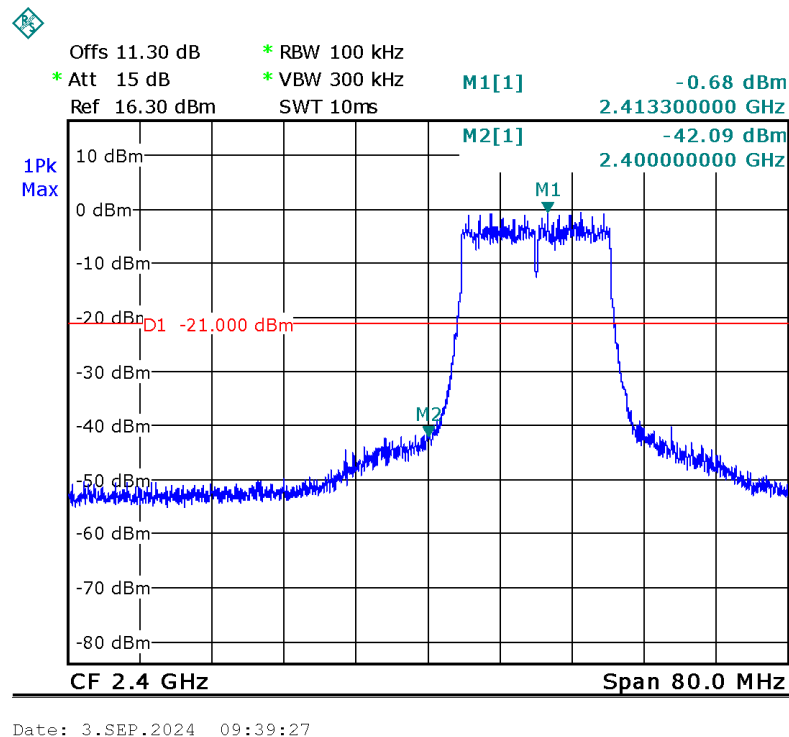
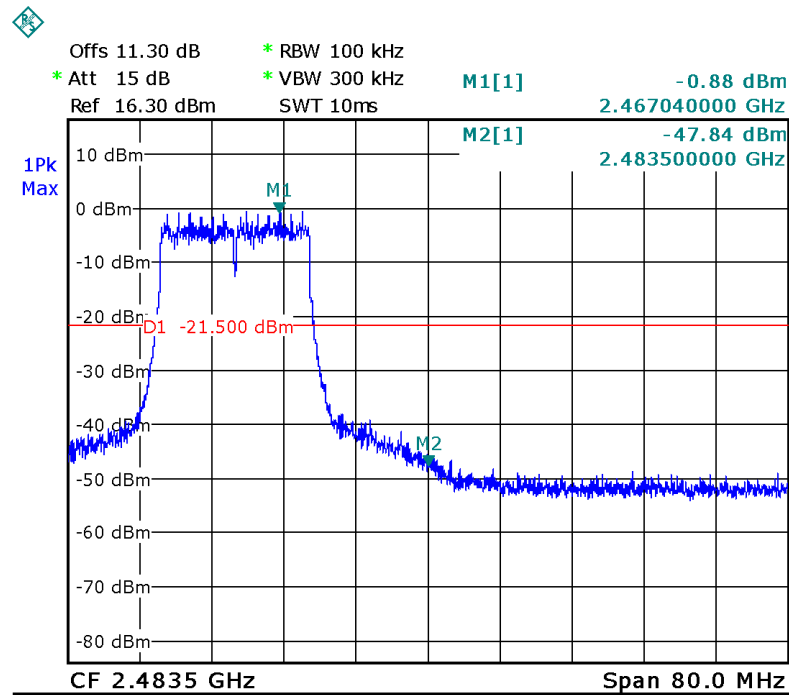
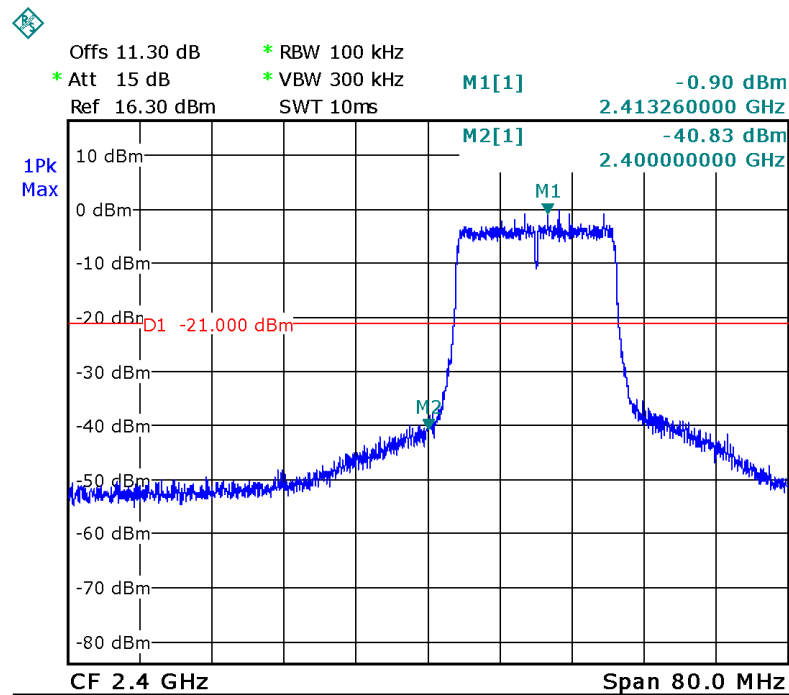


Figure 60. 2412.0 MHz, Wi-fi/g(54Mbit/s)



Date: 3.SEP.2024 09:29:26

Figure 61. 2462.0 MHz, Wi-fi/g(54Mbit/s)



Date: 3.SEP.2024 09:41:12

Figure 62. 2412.0 MHz, Wi-fi/n(6.5Mbit/s)

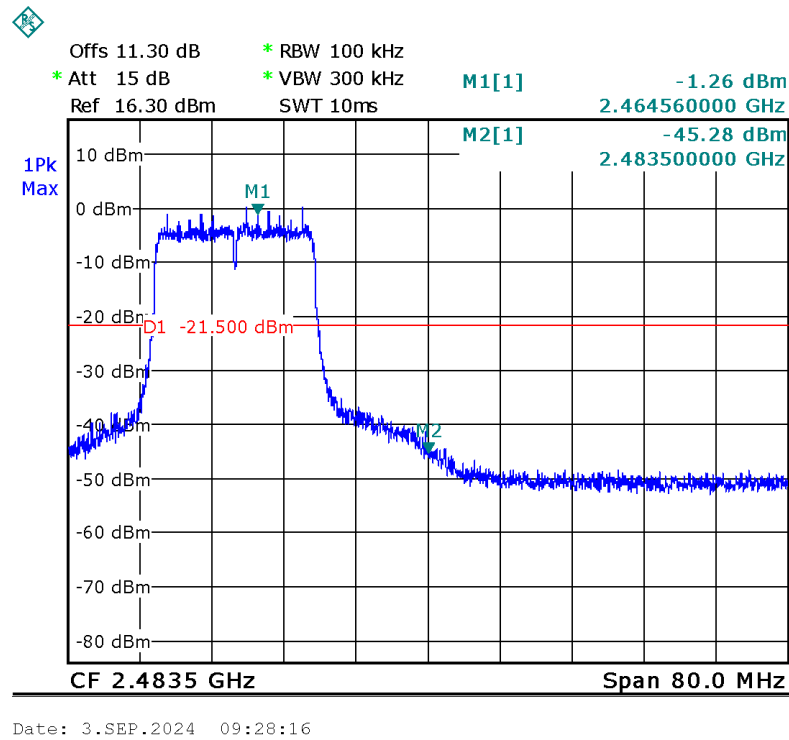


Figure 63. 2462.0 MHz, Wi-fi/n(6.5Mbit/s)

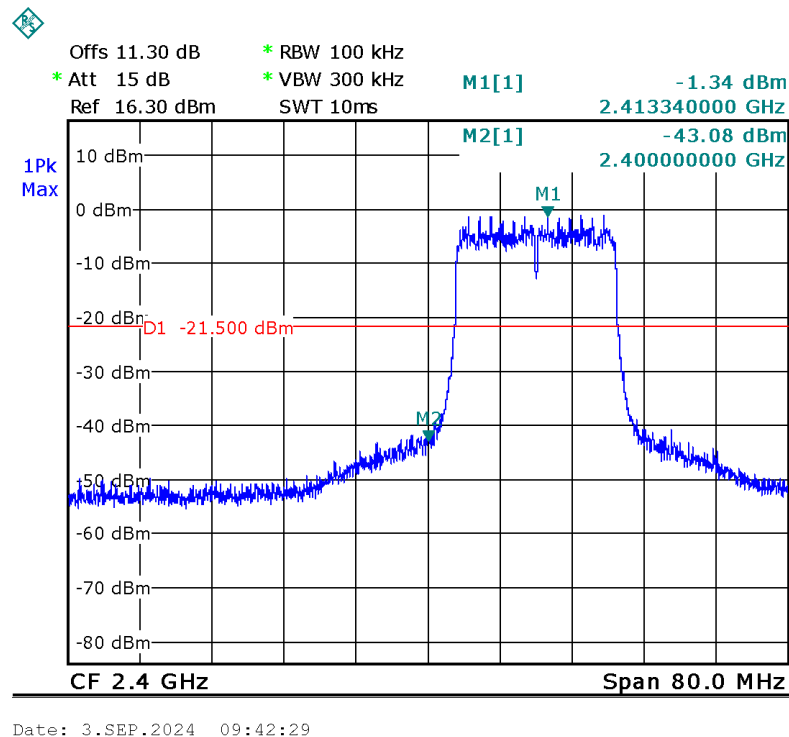


Figure 64. 2412.0 MHz, Wi-fi/n(6.5Mbit/s)

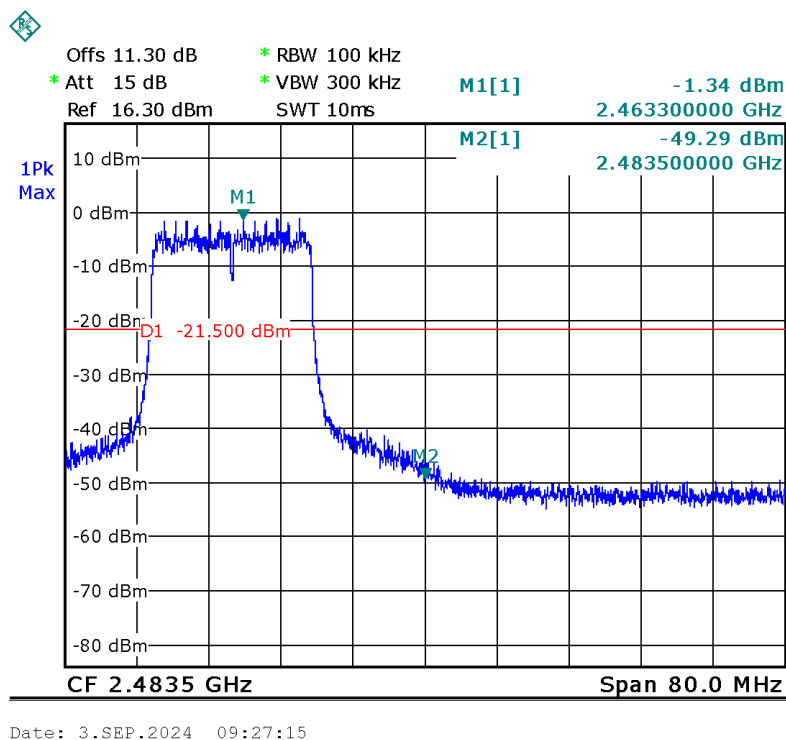


Figure 65. 2462.0 MHz, Wi-fi/n(65Mbit/s)

5.5 Test Equipment

ITL #	Instrument	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
1499	Spectrum Analyzer	Rohde & Schwarz	FSL6	100194	5 Feb 2024	5 Feb 2025
1699	Low Loss cable	Huber Suhner	Sucoflex	27502/4PEA	7 Jun 2023	31 Oct 2024
1986	10dB attenuator (round)	Midwest Microwave Solutions	-	-	16 May 2022	16 May 2023

Figure 66 Test Equipment Used

6. Transmitted Power Density

6.1 Test Specification

FCC, Part 15, Subpart C, Section 247(e)

RSS-247, Issue 2, Section 5.2(b)

6.2 Test Procedure

(Temperature (20°C)/ Humidity (52%RH))

The E.U.T operation mode and test set-up are as described in Section 2 of this report. The E.U.T. antenna terminal was connected to the Spectrum Analyzer through an external attenuator and an appropriate coaxial cable (total loss= 21.5dB). Special attention was taken to prevent Spectrum Analyzer RF input overload.

The spectrum analyzer was set to 3 kHz RBW.

6.3 Test Limit

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

6.4 Test Results

6.4.1 BLE

Operation Frequency	PSD Reading	Limit	Margin
(MHz)	(dBm)	(dBm)	(dB)
2402.0	-16.3	8.0	-24.3
2426.0	-16.6	8.0	-24.6
2480.0	-17.0	8.0	-25.0

6.4.2 Wi-Fi

Protocol Type	Operation Frequency	PSD Reading	Limit	Margin
	(MHz)	(dBm)	(dBm)	(dB)
b(1Mbit/s)	2412.0	-9.1	8.0	-17.1
	2437.0	-9.0	8.0	-17
	2462.0	-9.9	8.0	-17.9
b(11Mbit/s)	2412.0	-10.6	8.0	-18.6
	2437.0	-10.3	8.0	-18.3
	2462.0	-9.9	8.0	-17.9
g(6Mbit/s)	2412.0	-12.8	8.0	-20.8

Protocol Type	Operation Frequency	PSD Reading	Limit	Margin
	(MHz)	(dBm)	(dBm)	(dB)
	2437.0	-12.5	8.0	-20.5
	2462.0	-12.3	8.0	-20.3
	2412.0	-15.3	8.0	-23.3
g(54Mbit/s)	2437.0	-15.0	8.0	-23
	2462.0	-15.3	8.0	-23.3
	2412.0	-13.1	8.0	-21.1
n(6.5Mbit/s)	2437.0	-13.1	8.0	-21.1
	2462.0	-14.6	8.0	-22.6
	2412.0	-15.5	8.0	-23.5
n(65Mbit/s)	2437.0	-15.3	8.0	-23.3
	2462.0	-15.3	8.0	-23.3
	2412.0	-15.3	8.0	-23.3

Figure 67 Test Results

JUDGEMENT: PASS

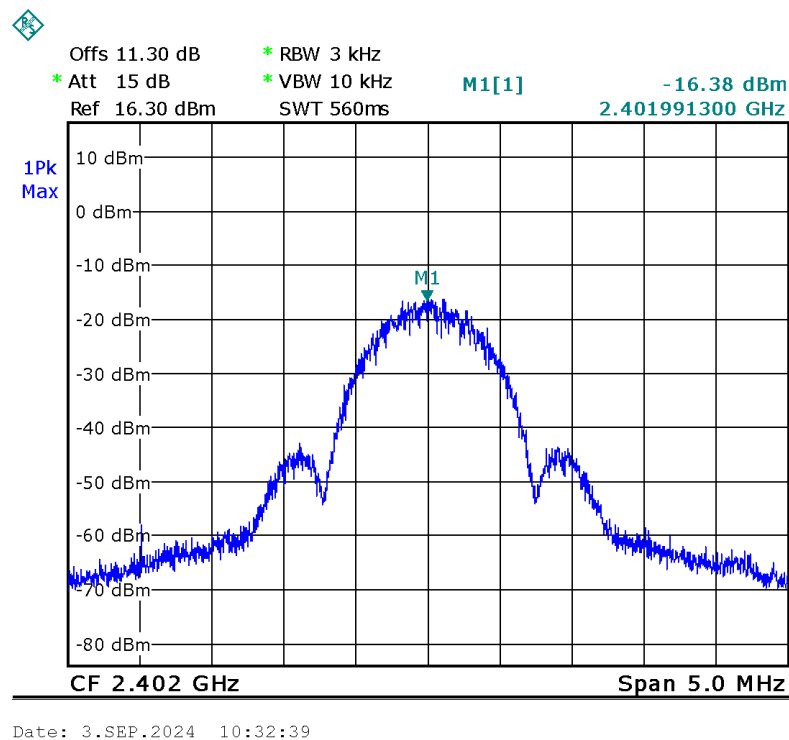
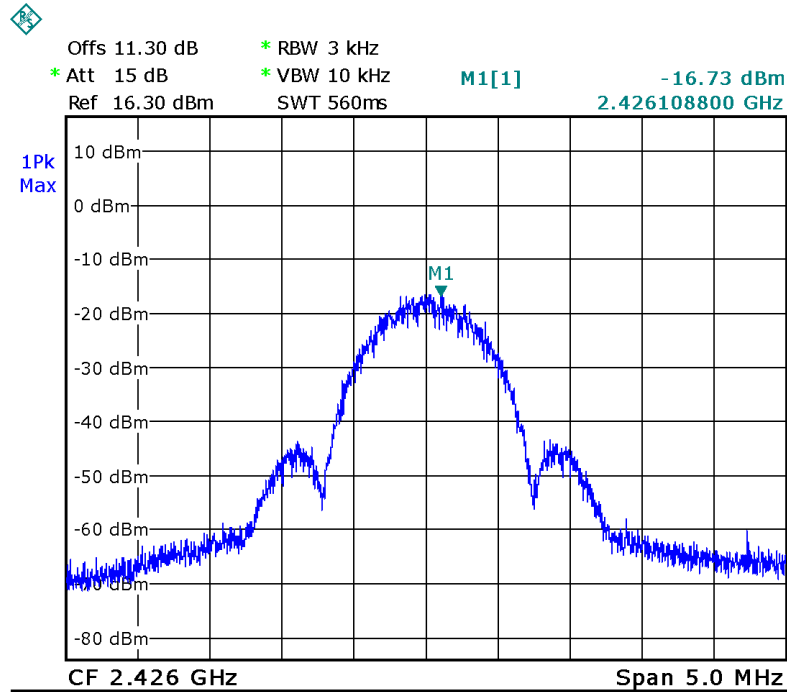
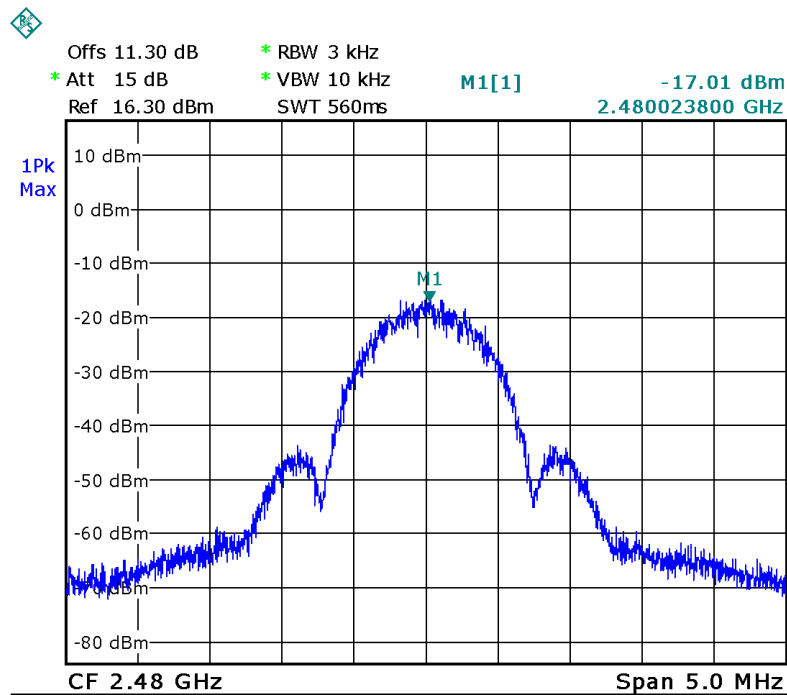


Figure 68. 2402.0 MHz, BLE



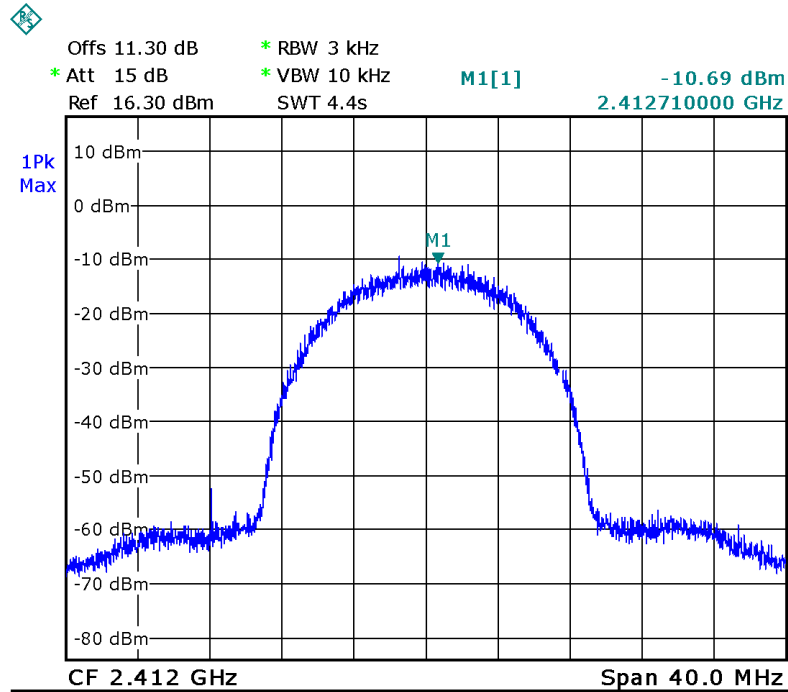
Date: 3.SEP.2024 10:33:26

Figure 69. 2426.0 MHz, BLE



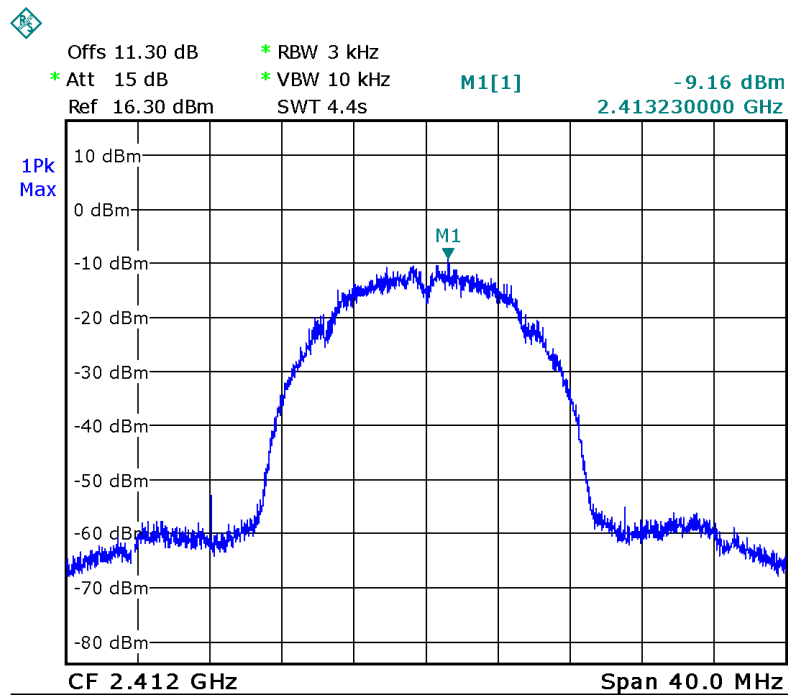
Date: 3.SEP.2024 10:34:05

Figure 70. 2480.0 MHz, BLE



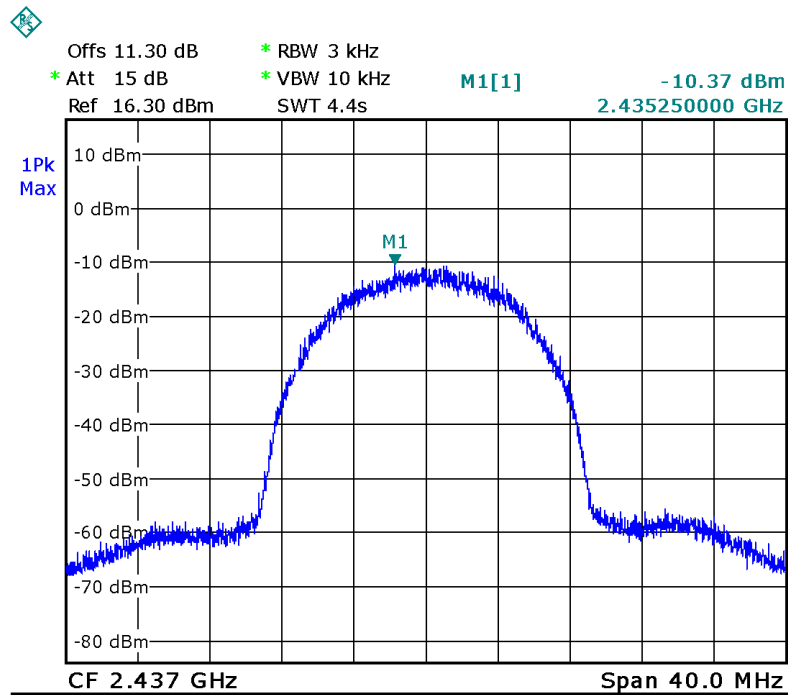
Date: 3.SEP.2024 09:55:12

Figure 71. 2412.0 MHz, Wi-fi/b(11Mbit/s)



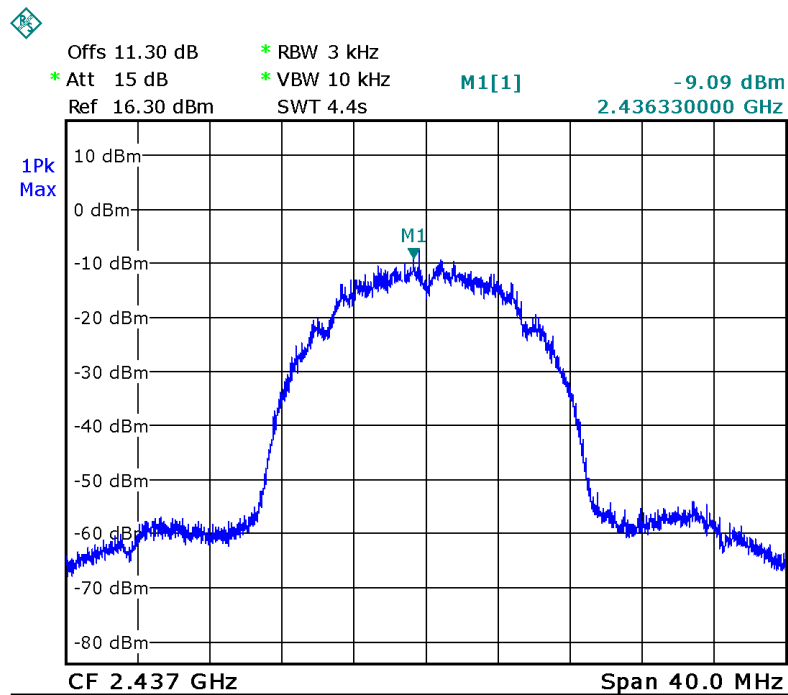
Date: 3.SEP.2024 09:57:28

Figure 72. 2412.0 MHz, Wi-fi/b(1Mbit/s)



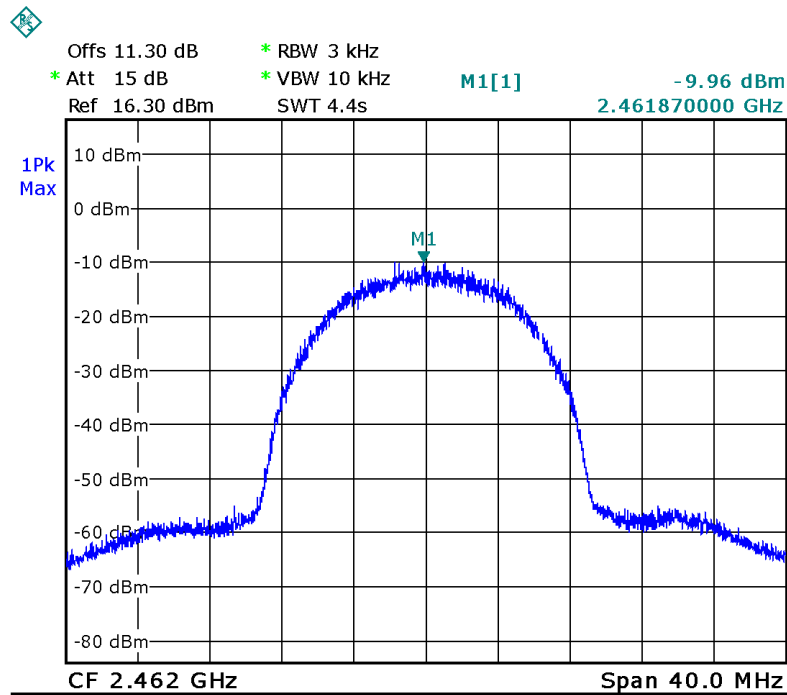
Date: 3.SEP.2024 10:00:36

Figure 73. 2437.0 MHz, Wi-fi/b(11Mbit/s)



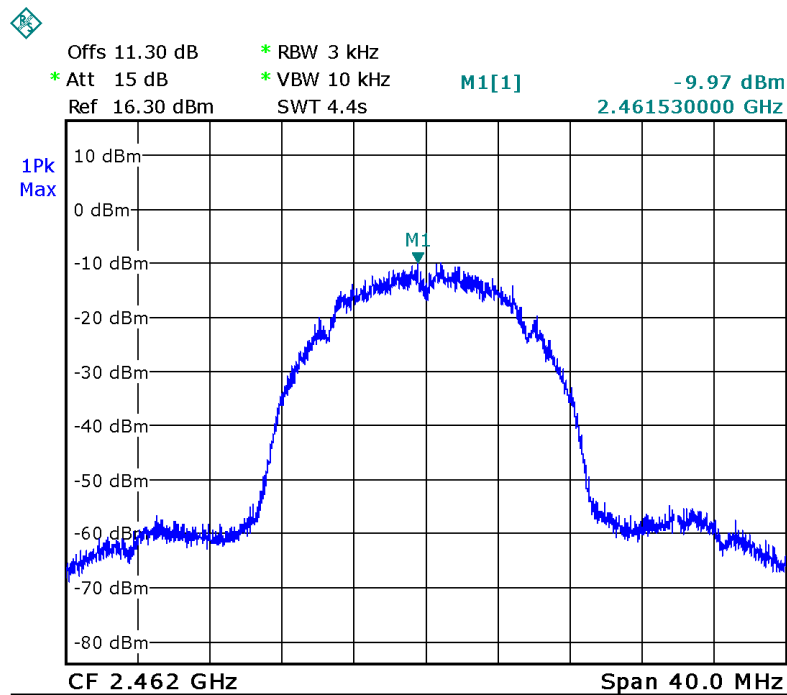
Date: 3.SEP.2024 09:59:30

Figure 74. 2437.0 MHz, Wi-fi/b(1Mbit/s)



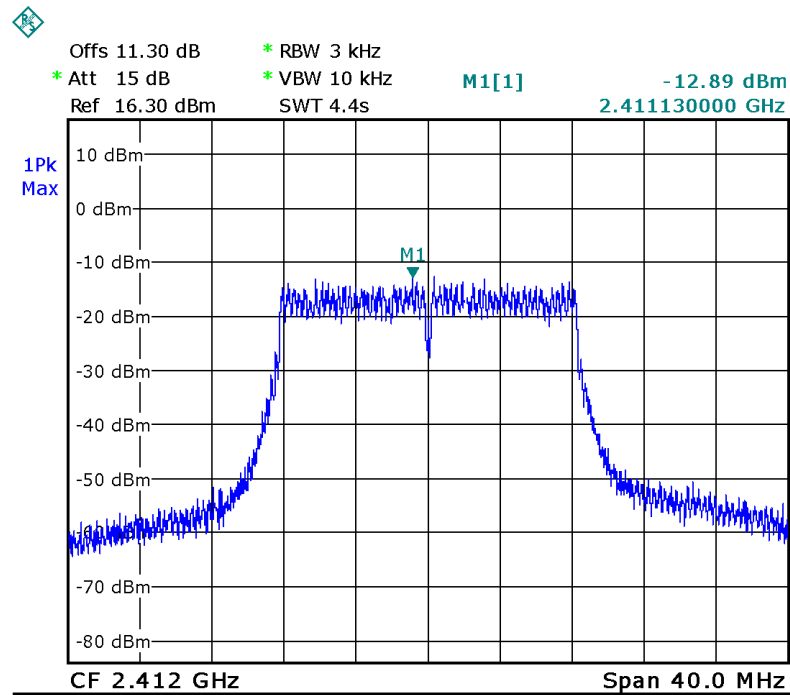
Date: 3.SEP.2024 10:19:56

Figure 75. 2462.0 MHz, Wi-fi/b(11Mbit/s)



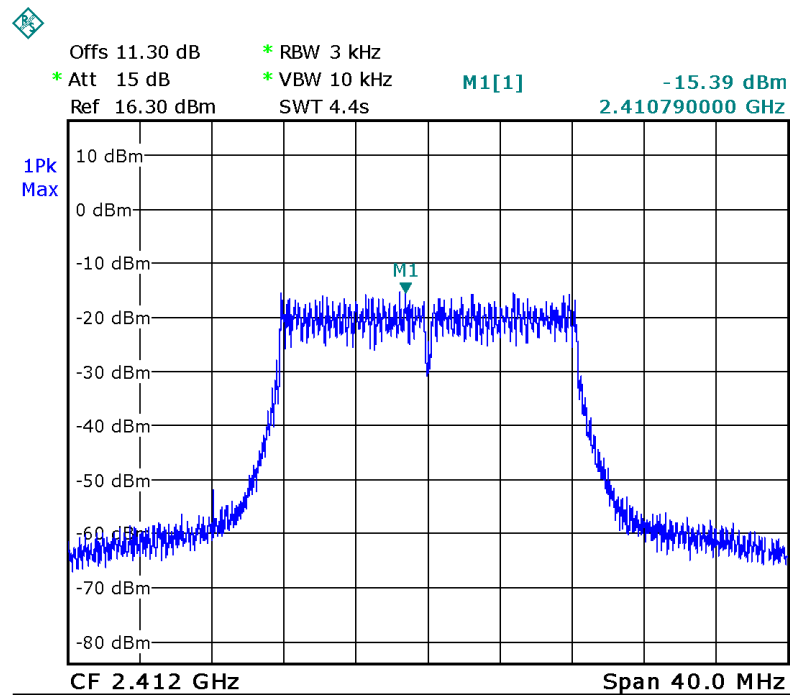
Date: 3.SEP.2024 10:21:10

Figure 76. 2462.0 MHz, Wi-fi/b(11Mbit/s)



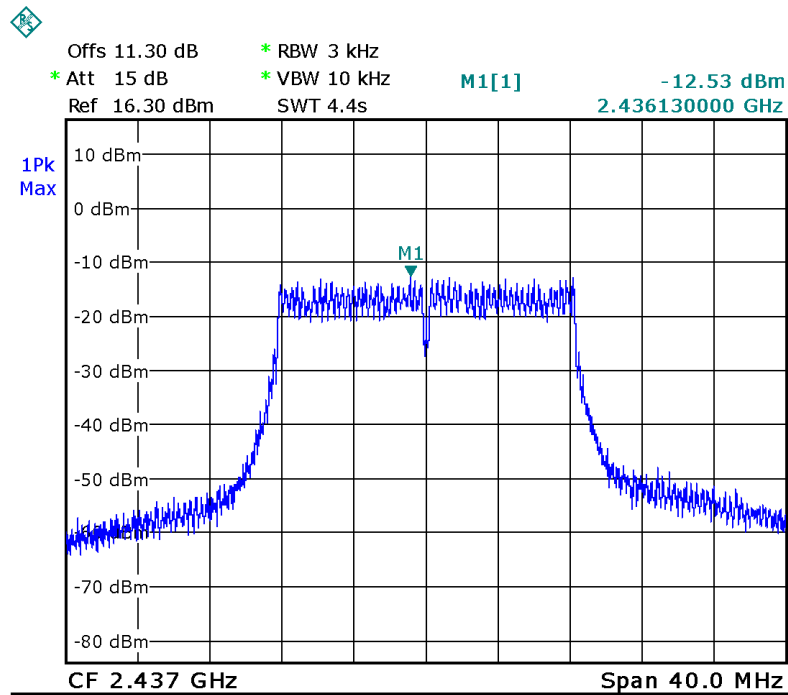
Date: 3.SEP.2024 09:54:12

Figure 77. 2412.0 MHz, Wi-fi/g(6Mbit/s)



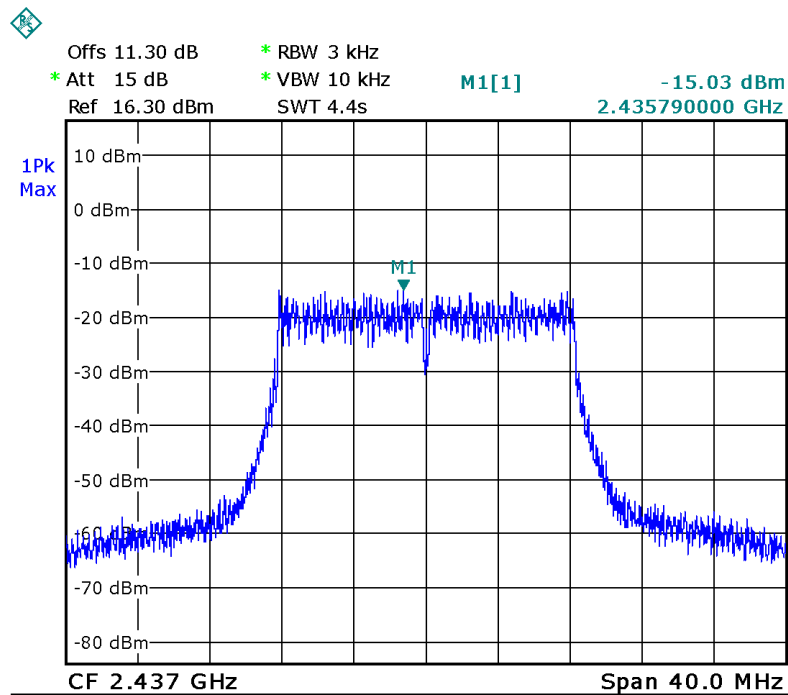
Date: 3.SEP.2024 09:52:54

Figure 78. 2412.0 MHz, Wi-fi/g(54Mbit/s)



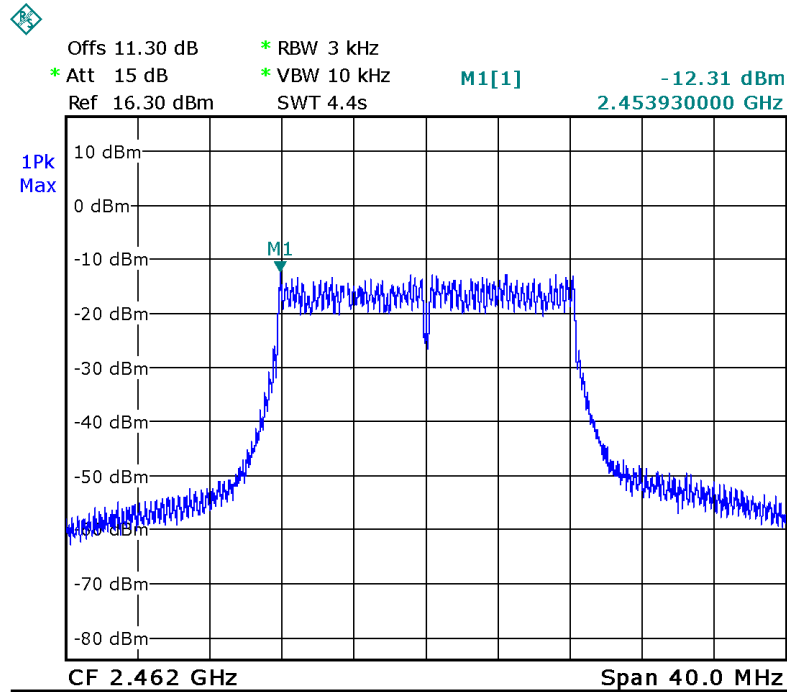
Date: 3.SEP.2024 10:01:37

Figure 79. 2437.0 MHz, Wi-fi/g(6Mbit/s)



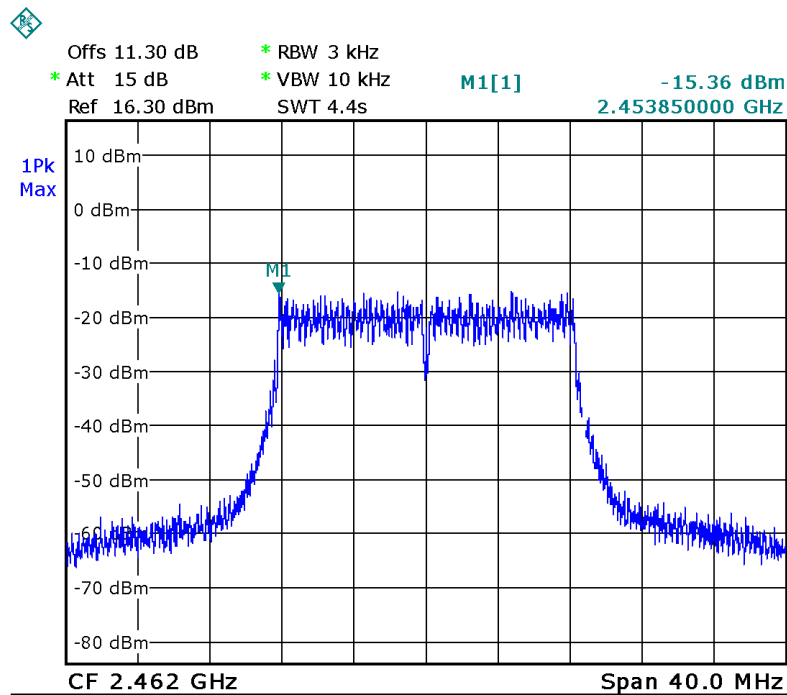
Date: 3.SEP.2024 10:03:06

Figure 80. 2437.0 MHz, Wi-fi/g(54Mbit/s)



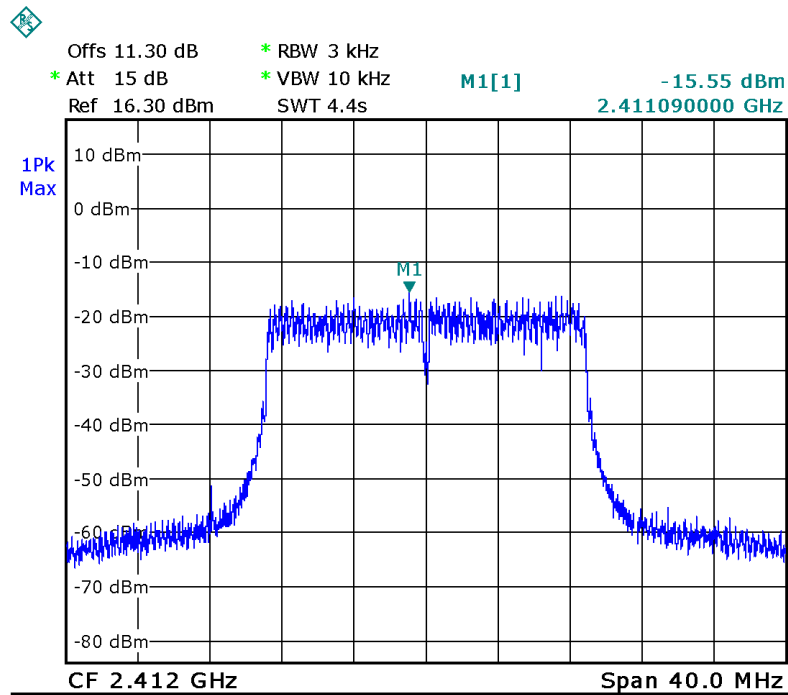
Date: 3.SEP.2024 10:13:42

Figure 81. 2462.0 MHz, Wi-fi/g(6Mbit/s)



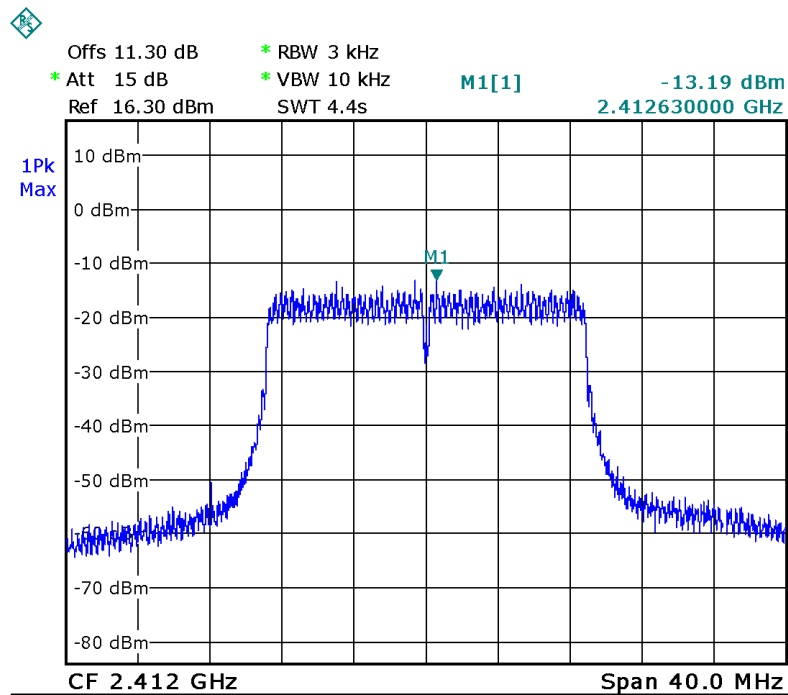
Date: 3.SEP.2024 10:09:26

Figure 82. 2462.0 MHz, Wi-fi/g(54Mbit/s)



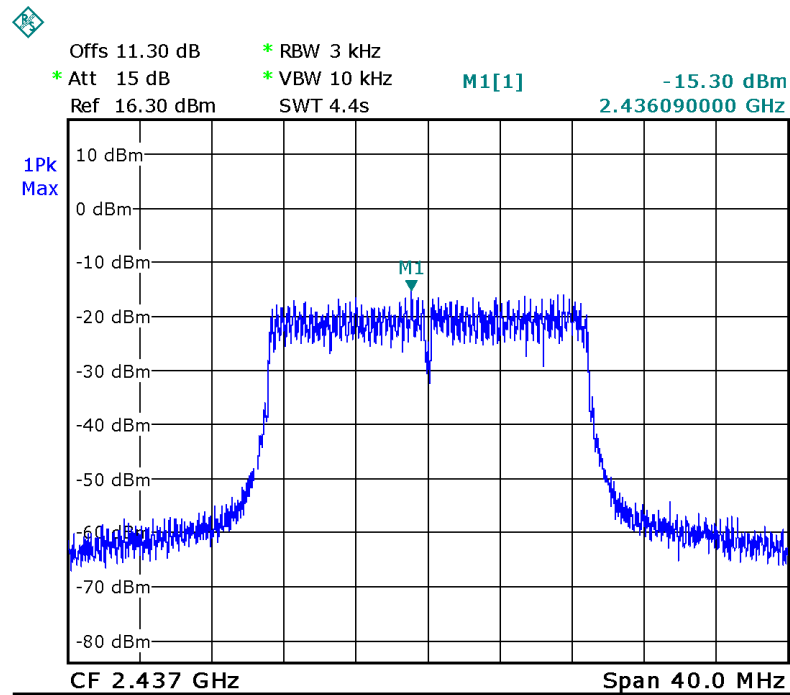
Date: 3.SEP.2024 09:49:16

Figure 83. 2412.0 MHz, Wi-fi/n(65Mbit/s)



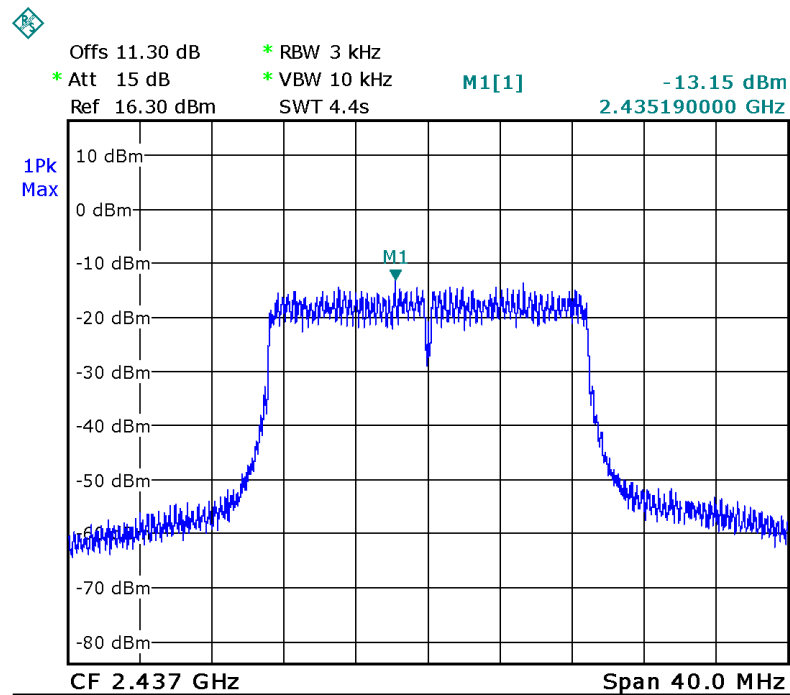
Date: 3.SEP.2024 09:51:34

Figure 84. 2412.0 MHz, Wi-fi/n(6.5Mbit/s)



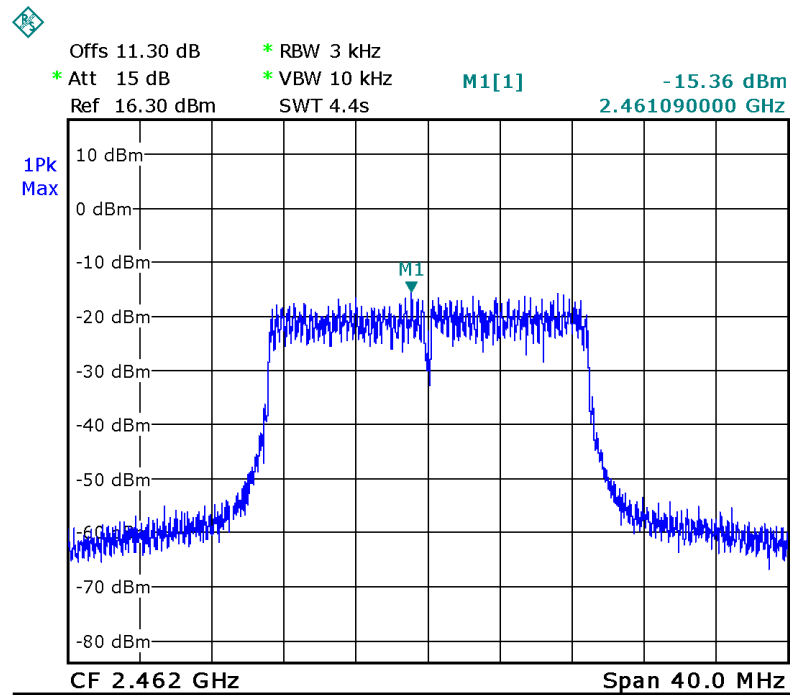
Date: 3.SEP.2024 10:05:31

Figure 85. 2437.0 MHz, Wi-fi/n(65Mbit/s)



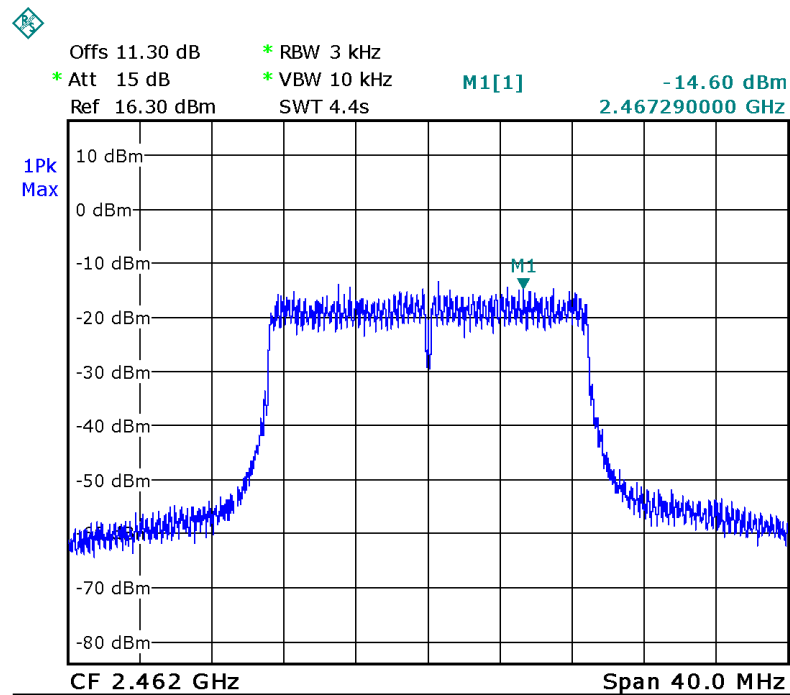
Date: 3.SEP.2024 10:04:25

Figure 86. 2437.0 MHz, Wi-fi/n(6.5Mbit/s)



Date: 3.SEP.2024 10:07:16

Figure 87. 2462.0 MHz, Wi-fi/n(65Mbit/s)



Date: 3.SEP.2024 10:08:16

Figure 88. 2462.0 MHz, Wi-fi/n(6.5Mbit/s)



6.5 Test Equipment

ITL #	Instrument	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
1499	Spectrum Analyzer	Rohde & Schwarz	FSL6	100194	5 Feb 2024	5 Feb 2025
1699	Low Loss cable	Huber Suhner	Sucoflex	27502/4PEA	7 Jun 2023	31 Oct 2024
1986	10dB attenuator (round)	Midwest Microwave Solutions	-	-	16 May 2022	16 May 2023

Figure 89 Test Equipment Used



7. Occupied Bandwidth

7.1 Test Specification

FCC, Part 2, Sub part J, Section 2.1049

RSS-Gen, Issue 5: 2014, Section 6.6

7.2 Test Procedure

(Temperature (21°C)/ Humidity (53%RH))

The E.U.T. operation mode and test set-up are as described in Section 2 .

The E.U.T. antenna terminal was connected to the Spectrum Analyzer through an external attenuator and an appropriate coaxial cable (total loss= 31.5dB). Special attention was taken to prevent Spectrum Analyzer RF input overload.

The RBW set to the range of 1% to 5% of the OBW.

The span was set between 1.5 to 5 times of the OBW.

99% occupied bandwidth function was set on.

7.3 Test Limit

N/A

7.4 Test Results

JUDGEMENT: Pass

7.4.1 BLE

Operation Frequency	Reading
(MHz)	(MHz)
2402.0	1.06
2426.0	1.06
2480.0	1.07

7.4.2 Wi-Fi

Protocol Type	Operation Frequency	Reading
	(MHz)	(MHz)
Wi-fi/b(1Mbit/s)	2412.0	13.1
	2437.0	13.1
	2462.0	13.1
Wi-fi/b(11Mbit/s)	2412.0	13.0
	2437.0	13.0
	2462.0	13.0

Protocol Type	Operation Frequency	Reading
	(MHz)	(MHz)
Wi-fi/g(6Mbit/s)	2412.0	16.5
	2437.0	16.6
	2462.0	16.6
Wi-fi/g(54Mbit/s)	2412.0	16.5
	2437.0	16.5
	2462.0	16.5
Wi-fi/n(6.5Mbit/s)	2412.0	17.5
	2437.0	17.6
	2462.0	17.6
Wi-fi/n(65Mbit/s)	2412.0	17.5
	2437.0	17.5
	2462.0	17.6

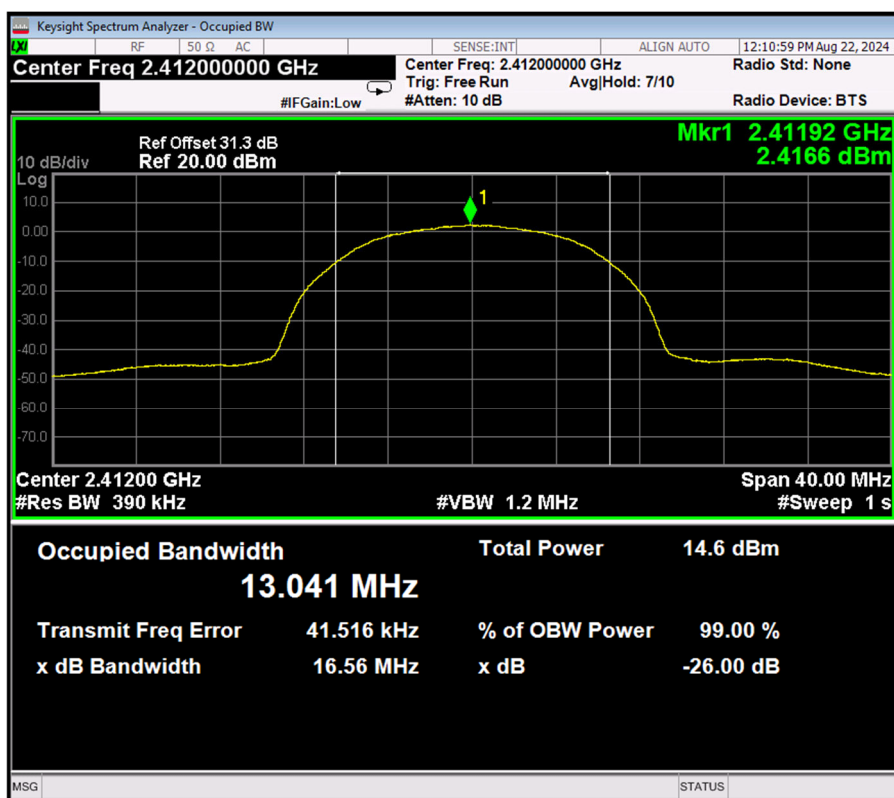


Figure 90. 2412.0 MHz, Wi-fi/b(11Mbit/s)

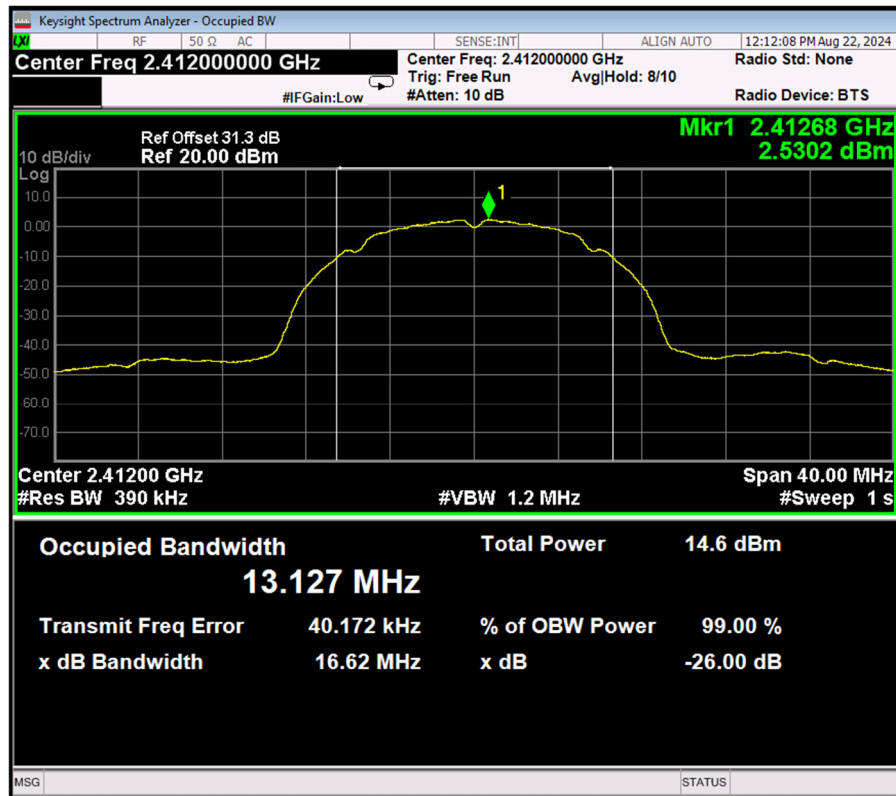


Figure 91. 2412.0 MHz, Wi-fi/b(1Mbit/s)

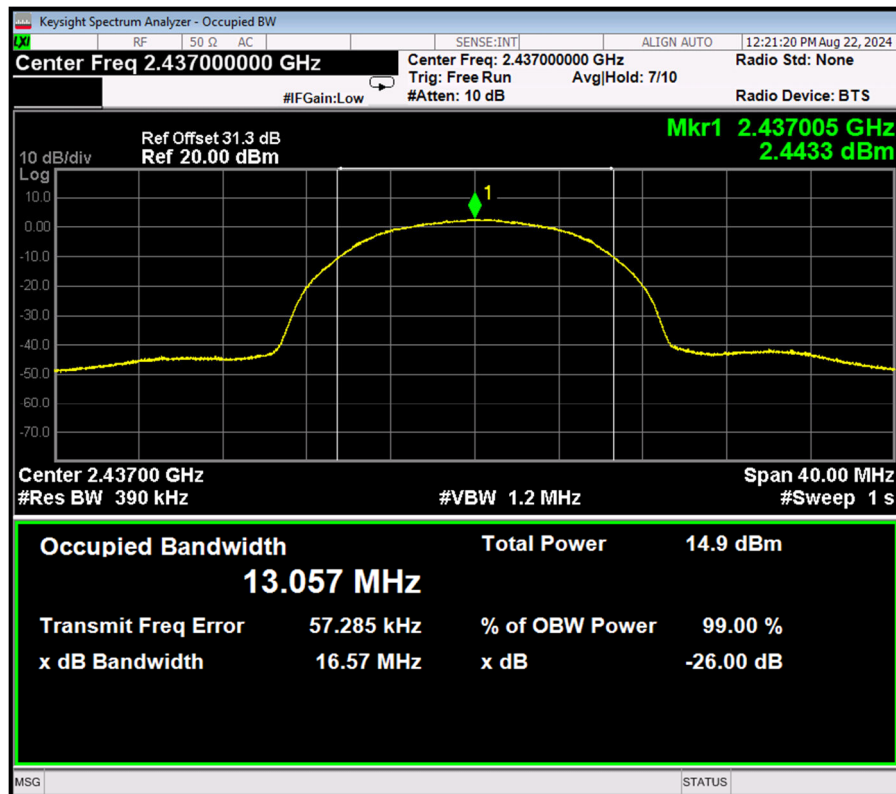


Figure 92. 2437.0 MHz, Wi-fi/b(11Mbit/s)