

Prüfbericht - Nr.:		ULR-TC568819300000031F 001		Seite 1 von 77 Page 1 of 77	
<i>Test Report No.:</i>					
Auftraggeber: <i>Client:</i>	ABMRC LLC 239 FAIRCHILD ST DANIEL ISLAND SOUTH CAROLINA USA - 29492 Ph: +1 843 830 2233				
Gegenstand der Prüfung: <i>Test item:</i>	BiWaze Cough				
Bezeichnung: <i>Identification:</i>	DVM-007	Serien-Nr.: <i>Serial No.</i>	2037351818-1395		
Wareneingangs-Nr.: <i>Receipt No.:</i>	166148550	Eingangsdatum: <i>Date of receipt:</i>	27.06.2019		
Prüfort: <i>Testing location:</i>	Refer Page 5 of 77 for Test site details				
Prüfgrundlage: <i>Test specification:</i>	FCC Part 15 Subpart C 15.247 ANSI C63.10 2013				
Prüfergebnis: <i>Test Result:</i>	Der Prüfgegenstand entspricht oben genannter Prüfgrundlage(n). <i>The test items passed the test specification(s).</i>				
Prüflaboratorium: <i>Testing Laboratory:</i>	TÜV Rheinland (India) Pvt. Ltd. 27/B, 2nd Cross Road, Electronic City Phase1, Bangalore – 560 100, India FCC Test Site Registration No.: 496599				
geprüft / tested by:		kontrolliert / reviewed by:			
27.06.2019	Pramod Sharma R Engineer		26.07.2019	Mahammadgouse Kaladagi Senior Engineer	
Datum <i>Date</i>	Name/Stellung <i>Name/Position</i>	Unterschrift <i>Signature</i>	Datum <i>Date</i>	Name/Stellung <i>Name/Position</i>	Unterschrift <i>Signature</i>
Sonstiges / Other Aspects: On receipt equipment was in good condition. FCC ID:2ATX9-1395					
Abkürzungen:		Abbreviations:			
P(ass) = entspricht Prüfgrundlage F(ail) = entspricht nicht Prüfgrundlage N/A = nicht anwendbar N/T = nicht getestet		P(ass) = passed F(ail) = failed N/A = not applicable N/T = not tested			
Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens. <i>This test report relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any safety mark on this or similar products.</i>					

TEST SUMMARY

Test Item	Clause	Result
Maximum Conducted Output Power	15.247 (b) (3)	Pass
6 dB / DTS Bandwidth	15.247 (a) (2)	Pass
Maximum Power Spectral Density	15.247 (e)	Pass
Emissions in non – restricted band	15.247 (d)	Pass
Conducted Spurious Emissions	15.247 (a)(1)	Pass
Radiated spurious emissions and emissions in Restricted bands of operation	15.247 (d) / (15.209 & 15.205)	Pass
Conducted Emissions on A.C. Power Lines	15.207	Pass

Product Category: Electronics Testing
Test Discipline: EMC Test Facility

Note: Measurements were made as per KDB 558074 D01 DTS Measurement Guidance v05r02.

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1 GENERAL REMARKS

1.1 Complimentary Materials

All attachments are integral part of this test report. This applies especially to the following appendix:

- 1: Test Setup Photo
- 2: EUT External Photo
- 3: EUT Internal Photo
- 4: FCC Label and Label Location
- 5: Block Diagram
- 6: Specification of EUT
- 7: Schematic Diagrams
- 8: Bill of Material
- 9: User Manual
- 10: Maximum Permissible Exposure Information

2 TEST SITES

2.1 Testing Facilities

TÜV Rheinland (India) Pvt.Ltd.,
27/B, 2nd Cross,
ElectronicCityPhase1
Bangalore – 560 100,
India

TUV Rheinland (India) Private Limited
108 , Beside ISBR Business School,
Electronic city Phase I
Bangalore - 560 100.
India

2.2 List of Test and Measurement Instruments

Table 1: List of test and measurement instruments

Equipment	Manufacturer	Model Name	Serial Number	Calibration Due Date	Periodicity	Used for Test Items
Spectrum Analyser	Agilent Technologies	E4407B	US41192772	28-03-2020	Yearly	Antenna - Port Measurements
USB Wideband Power Sensor	AIMIL Ltd	55006	10231	22-12-2019	Yearly	
EMI Test Receiver	Rohde & Schwarz	ESW 44	101733	19-09-2019	Yearly	Radiated Spurious Emission
EMI Test Receiver	Rohde & Schwarz	ESU 40	100288	11-10-2019	Yearly	
Active loop antenna	Frankonia	LAX-10	LAX-10-800	15-01-2020	Yearly	
Biconical Antenna	Schwarzbeck mess-elektronik	VHBB-9124 / BBA-9106	9124-656	16-01-2020	Yearly	
Log-Periodic Antenna	Schwarzbeck	FMZB 1519 B	1519B-00111	16-01-2020	Yearly	
Broadband Horn Antenna	Frankonia	BBHA 9120 D	9120D-1944	16-01-2020	Yearly	
Semi Anechoic Chamber	Frankonia	-	-	-	-	
Fully Anechoic Chamber	Albatross	-	-	-	-	
EMI Receiver	Rohde & Schwarz	ESR7	101133	16-01-2020	Yearly	AC Power line conducted emission
LISN	Rohde & Schwarz	ENV 216	100022	18-10-2019	Yearly	
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100811	09-08-2019	Yearly	

3 GENERAL PRODUCT INFORMATION

3.1 Product Function and Intended Use

The BiWaze Cough device helps to clear bronchopulmonary secretions from the respiratory system. The device applies positive airway pressure to expand the lungs and suddenly shifting to negative pressure to pull the air out of lungs. This rapid shift in pressure during different phases replicates a cough.

This device is designed for use on patients unable to cough or clear secretions effectively due to reduced peak cough expiratory flow, resulting from high spinal cord injuries, neuromuscular deficits or severe fatigue associated with intrinsic lung disease. It may be used either with a facemask, mouthpiece, or an adapter to a patient's endotracheal tube or tracheostomy tube. For use in hospital, institutional setting, or in home. For use on adult patients and pediatric patients 3 years old and up.

3.2 Ratings and System Details

Table 2: Ratings and System Details

Operating Frequency Range	2400MHz – 2483.5MHz	
Radio Protocol	Wi-Fi	BLE
No. of Channel	11	40
Channel Spacing	5MHz	2MHz
Modulation	802.11b: DSSS 802.11g: OFDM 802.11n: OFDM	GFSK
Data rate	1Mbps to 65Mbps	1Mbps
Number of antennas	1	
Antenna Gain & Type	Chip Antenna (2dBi)	
Supply Voltage to Product	Mains 100 to 230 V - AC MCB Voltage : 24 Volts Battery Voltage : 25.9 Volts UIB Voltage (Wi-Fi/BT/BLE Module) : 5 Volts	
Dimensions	275 mm L x 237.5 mm W x 94.5 mm H	
Environmental conditions	Storage Conditions: Temperature:-20°C to 60 °C Relative Humidity: 15 to 95% (non-condensing)	Operational Conditions: Temperature : 5°C to 35°C Relative Humidi:15 to 95% (non-condensing)

3.3 Measurement Uncertainty:

Table 3: Measurement Uncertainty

Parameter		Uncertainty
Occupied Channel Bandwidth		±5 %
RF output power, conducted		±1.5 dB
Power Spectral Density, conducted		±3 dB
Unwanted Emissions, conducted		±3 dB
SAC, radiated measurement		±6 dB
FAC, radiated measurement	1 GHz to 6 GHz	±5.18 dB
	6 GHz to 18 GHz	±5.48 dB
Temperature		±3 °C
Supply Voltages		±3 %
Time		±5 %

Note: The listed uncertainties are the worst case uncertainty for the entire range of measurements and are for the reporting purpose only and are not used in determining the PASS/FAIL of the results.

4 TEST SET-UP AND OPERATION MODE

4.1 Principle of Configuration Selection

Transmission was enabled with highest possible duty cycle transmission on low, mid and high channel.

4.2 Test Operation and Test Software

BT/BLE module Firmware version (TlInit_11.8.32.bts) : 11.8.32
Wifi module Firmware version (wl18xx-fw-4.bin) : 8.9.0.0.76
Main Control Board Firmware version : 1.1.5
User Interface Board Software version : 1.2.3.1
Test Hardware : HW Version – MCB – 3.1
PMB – 3.2
UIB – 3.0
Sensor Board – 1.1
Switch Board – 1.2

4.3 Special Accessories and Auxiliary Equipment

- None

4.4 Countermeasures to achieve EMC Compliance

- None

4.5 Test modes – data rates and modulations

For the antenna port measurement and Radiated spurious emissions, the tests were performed for worst cases and same are reported in the test report.

4.6 List of frequencies

Frequency Band	Channel No.	Frequency (MHz)
2400 - 2483.5 MHz	1	2412
	2	2417
	3	2422
	4	2427
	5	2432
	6	2437
	7	2437
	8	2447
	9	2452
	10	2457
	11	2462

Table 4: List of Wi-Fi center Frequencies

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Frequency Band (MHz)	Channel No.	Channel Frequency (MHz)
2400 – 2483.5	0	2402
	1	2404
	2	2406
	3	2408
	:	:
	:	:
	18	2438
	19	2440
	20	2437
	:	:
	:	:
	36	2474
	37	2476
	38	2478
	39	2480

Table 5: List of BLE Center frequencies

Note: TUV Sample Identification number : A000947997-001 (Conducted and Radiated Sample)

5 TEST METHODOLOGY

5.1 Radiated Emission Test

The radiated emission measurement was performed according to the procedures in ANSI C63.10-2013. The equipment under test (EUT) was placed at the middle of the 80 cm high turntable for below 1 GHz & 1.5 m height for above 1 GHz measurement, and the EUT is 3 meters far from the measuring antenna. The turntable was rotated 360° for obtaining the maximum emission. The height of the measuring antennas was scanned between 1 m and 4 m, and the antenna rotated to repeat the measurements for both the horizontal and vertical antenna polarizations. Repeat the measurement steps until the maximum emissions were obtained. The measurement above 1000 MHz was performed by horn antenna, The measurement below 30 MHz was performed by loop antenna, Measurement from 30 MHz to 200 MHz was performed by Baloon and Biconical Antenna, and mesurement from 200 MHz to 1 GHz was performed by Log-Periodic Antenna.

The EUT was rotated around the X-, Y-, and Z-Axis and the results from worst case axis are recorded.

5.1.1 Test Setup Configuration

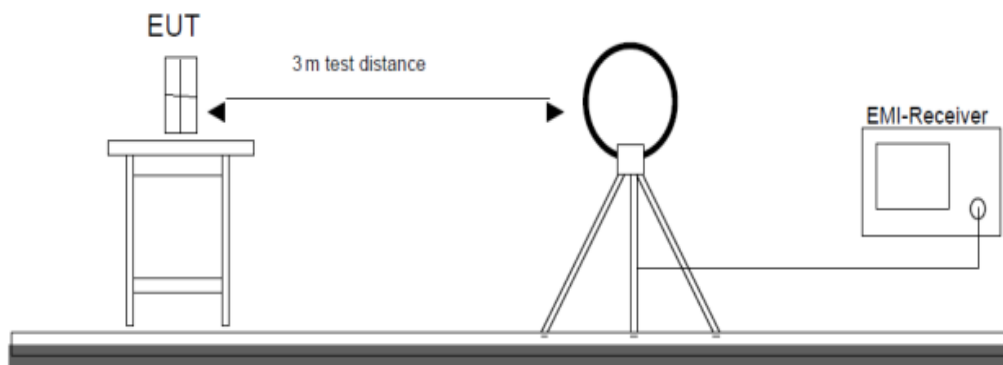


Figure 1: Frequency Range 9 kHz- 30 MHz

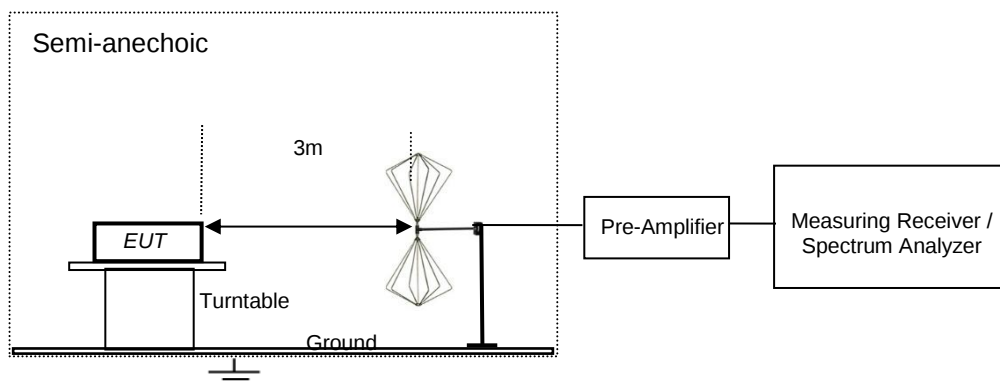


Figure 2: Frequency Range 30 MHz – 200 MHz

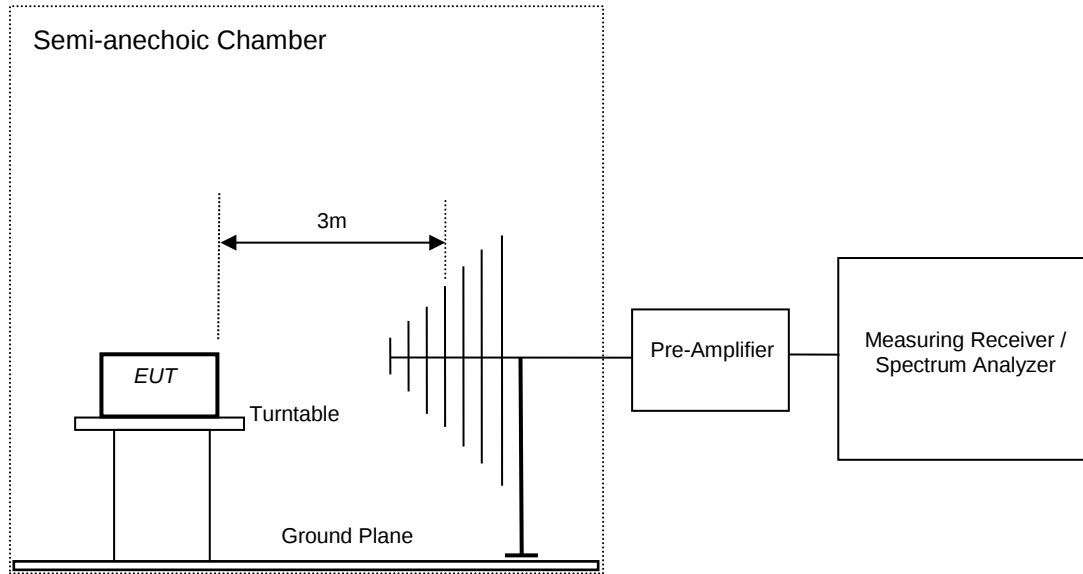


Figure 3: Frequency Range 200 MHz - 1GHz

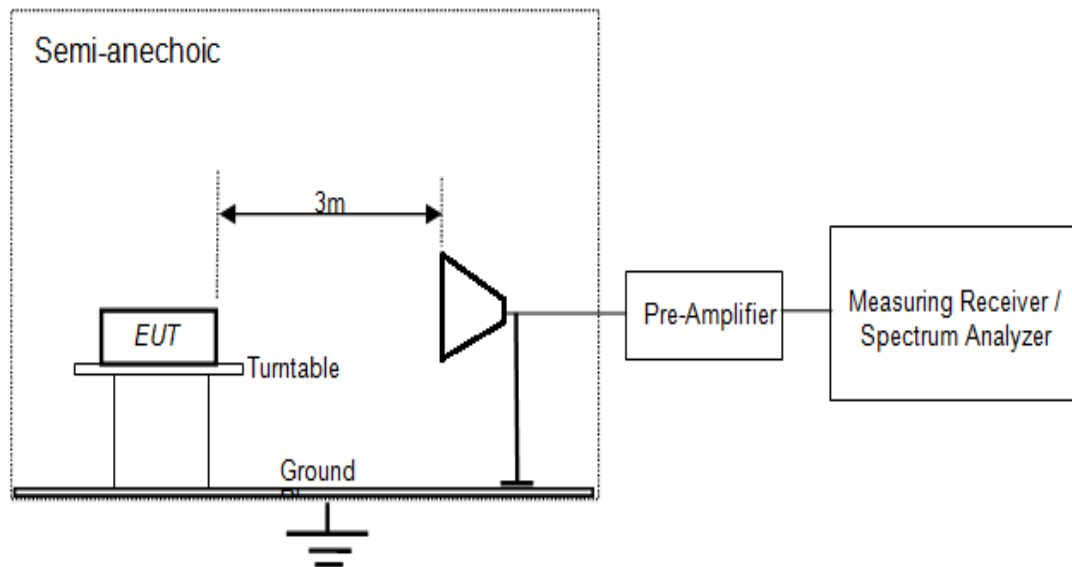


Figure 4: Frequency Range above 1 GHz

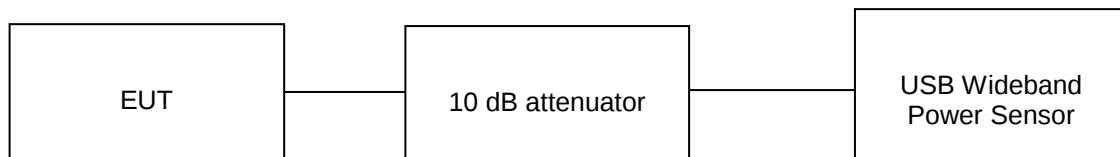
6 TEST RESULTS FOR Wi-Fi

6.1 Maximum Peak Conducted Output Power

Result

Pass

Test Specification	FCC Part 15 Subpart C 15.247 (b) (3)
Measurement Bandwidth	1 MHz
Detector	Peak
Requirement	≤ 1 W (30 dBm)



Test results:

Note:

Measurements were made as per section 8.3.1.3 in 558074 D01 15.247 Measurement Guidance v05r02.

10 dB attenuator + 0.5 dB Cable loss = 10.5 dB offset is considered in below results

Table 6: Maximum peak conducted output power verified Test Results

Mode	Data Rate (Mbps)	Channel Frequency (MHz)	Maximum Peak Conducted Output Power (dBm)	Limit (dBm)
802.11b	1	2412	15.87	30
		2442	15.69	30
		2462	15.36	30
802.11g	6	2412	18.52	30
		2442	18.69	30
		2462	17.88	30
802.11n_HT20	MCS0	2412	18.42	30
		2442	18.57	30
		2462	18.09	30
802.11n_HT40	MCS0	2422	18.74	30
		2442	18.52	30
		2457	18.26	30

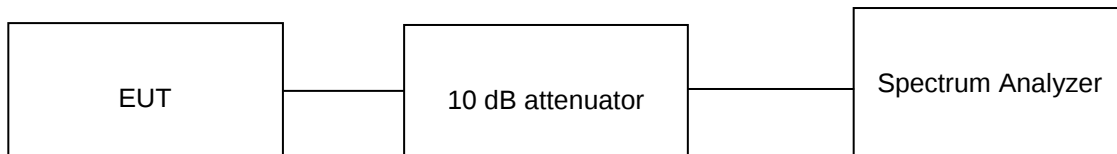
6.2 Maximum Power Spectral Density

Result

Pass

Test Specification	FCC Part 15 Subpart C Section 15.247 (e)
Detector Function	Peak
Port of testing	Antenna port
Requirement	For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm.

Test Method:



Test results:

Note:

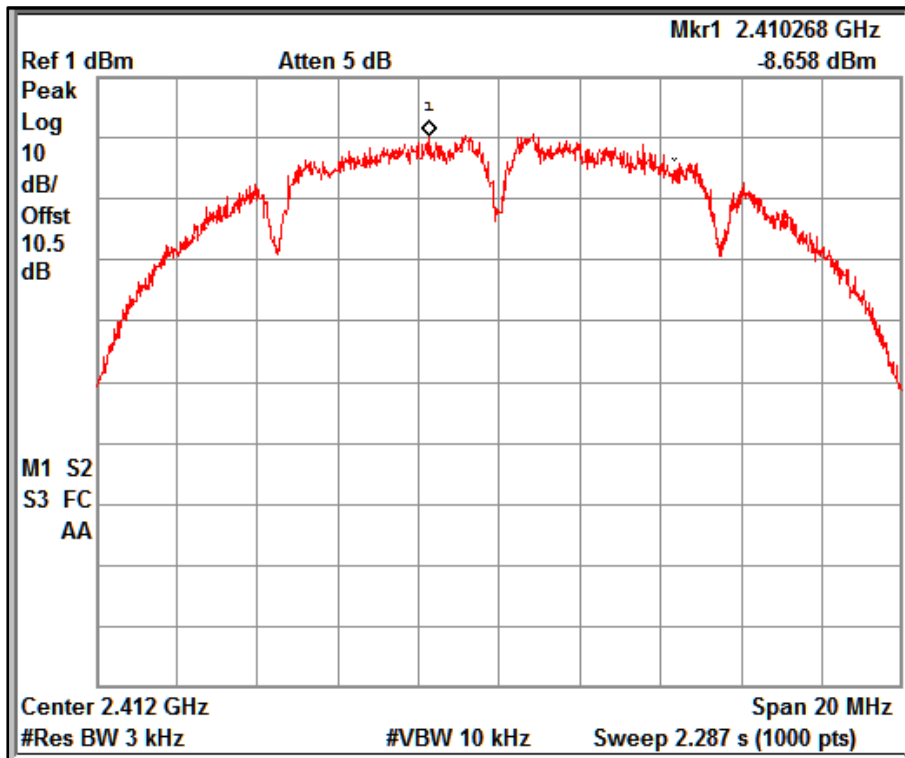
Measurements were made as per section 8.4 in 558074 D01 15.247 Measurement Guidance v05r02.

10 dB attenuator + 0.5 dB Cable loss = 10.5 dB offset is considered in below results

Table 7: Maximum power spectral density verified Test Results

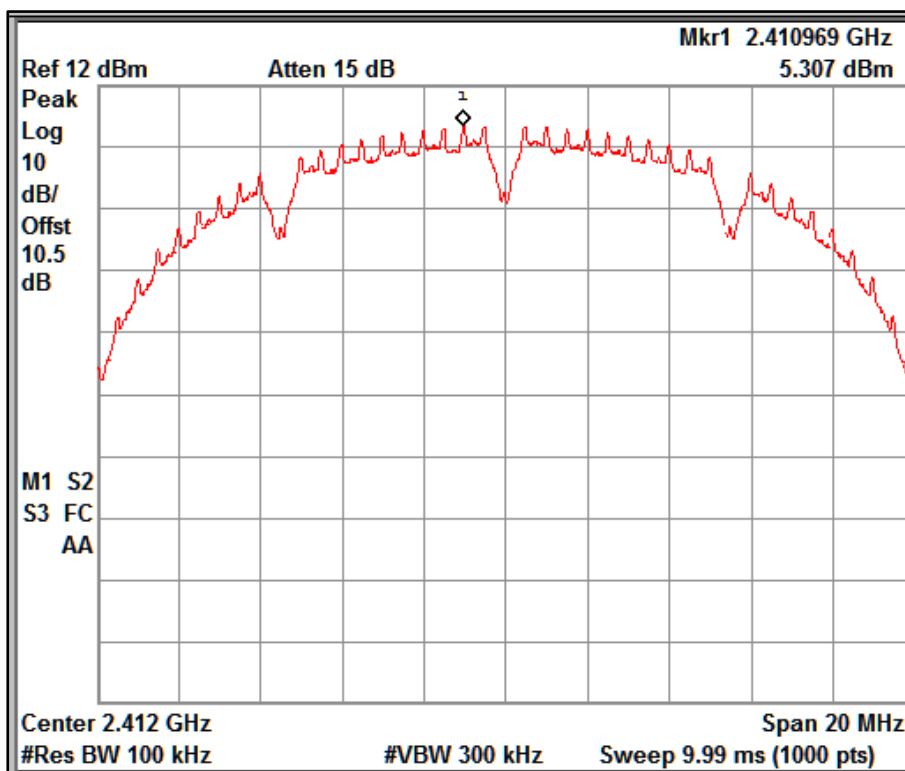
Mode: 802.11b

Data rate (Mbps)	Channel Frequency (MHz)	PSD (dBm/kHz)		Limit (dBm/3kHz)
		For 3kHz	For 100kHz	
1	2412	-8.65	5.30	8
	2442	-8.51	4.97	8
	2462	-9.23	4.68	8



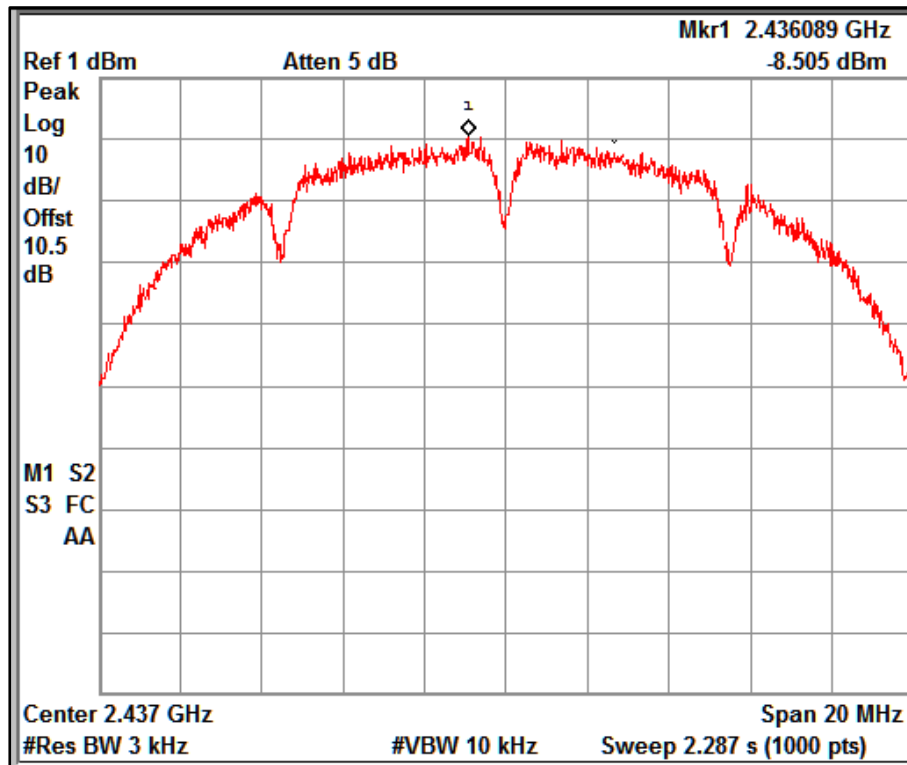
Channel Frequency: 2412 MHz

RBW :3kHz



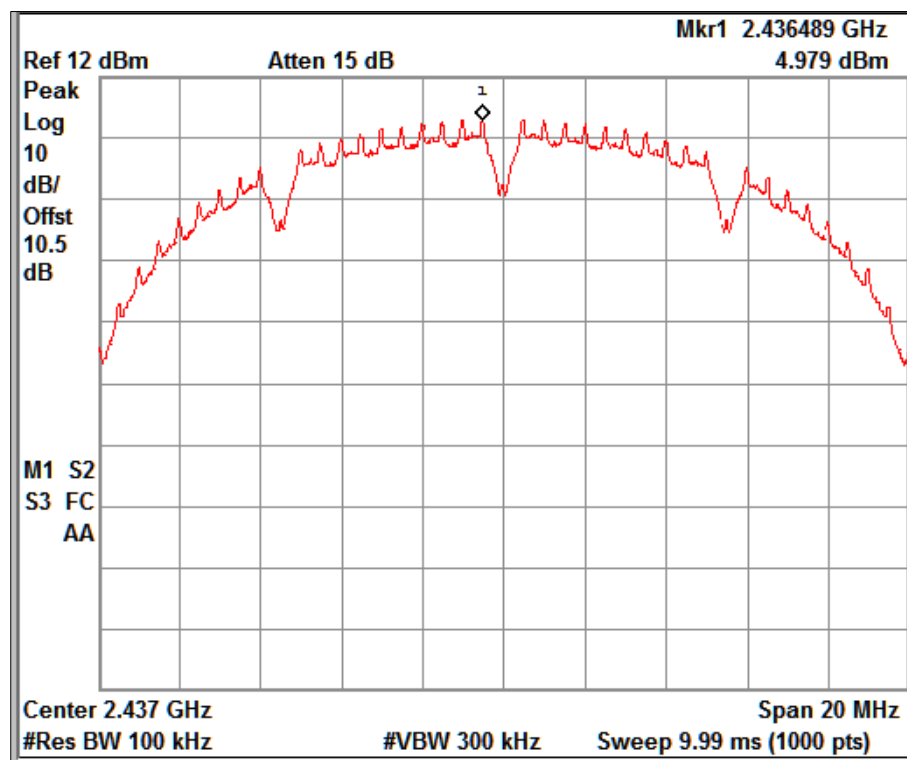
Channel Frequency: 2412 MHz

RBW: 100kHz



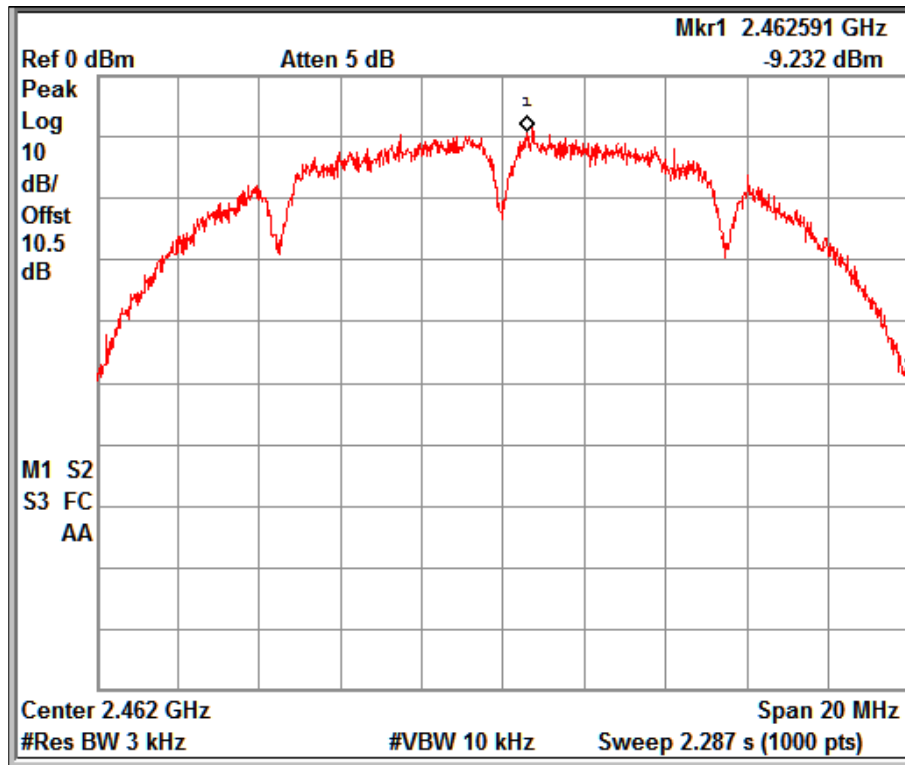
Channel Frequency: 2437 MHz

RBW: 3kHz



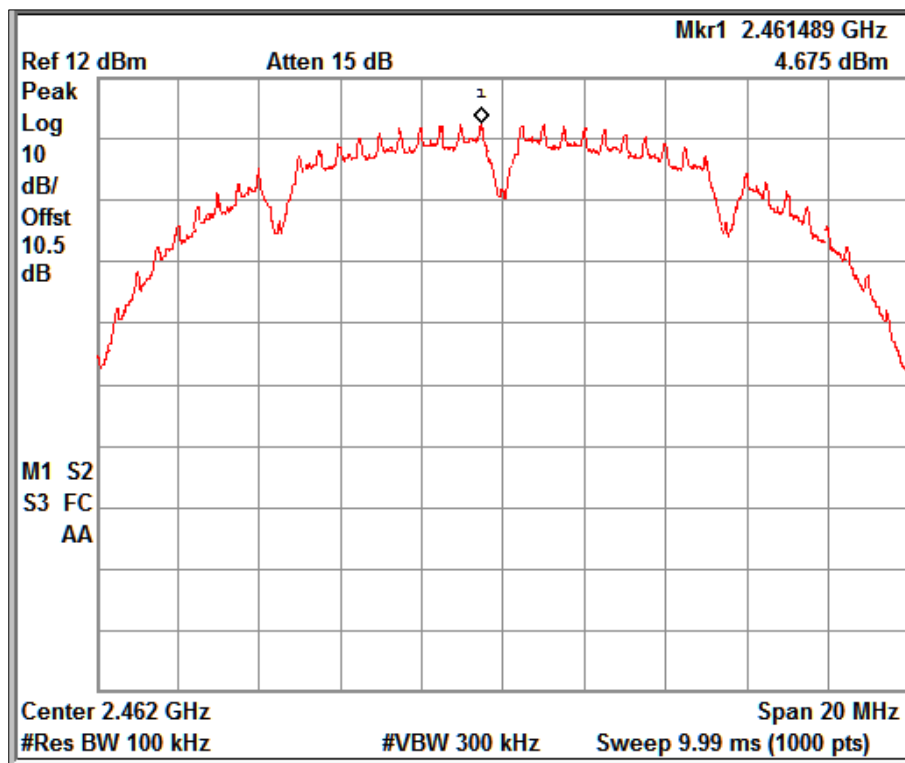
Channel Frequency: 2437 MHz

RBW:100kHz



Channel Frequency: 2462 MHz

RBW: 3kHz

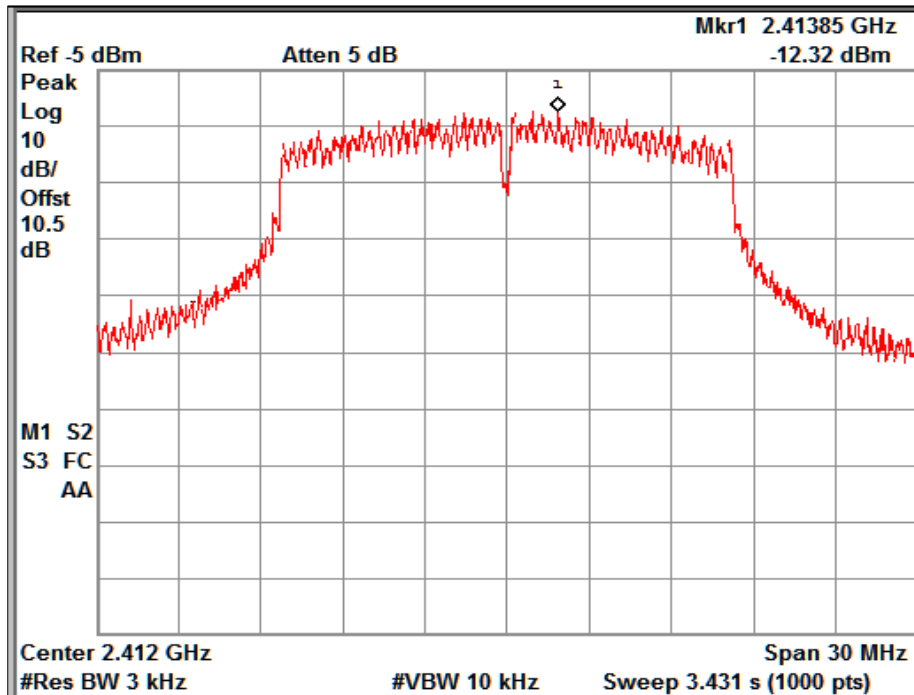


Channel Frequency: 2462 MHz

RBW: 100kHz

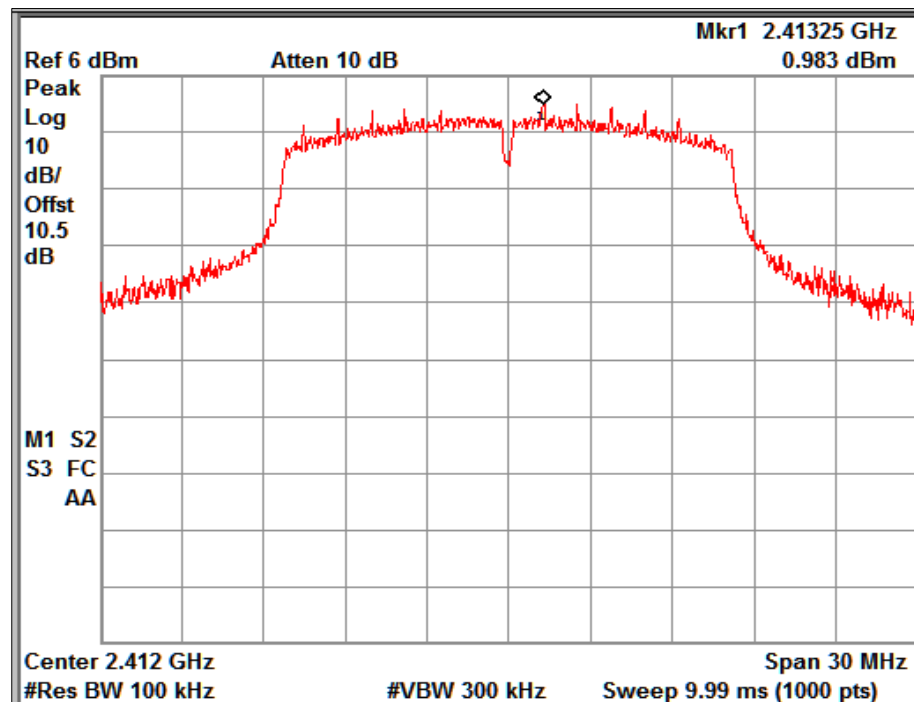
Mode: 802.11g

Data Rate (Mbps)	Channel Frequency (MHz)	PSD (dBm/3kHz)	PSD (dBm/100kHz)	Limit (dBm/3kHz)
6	2412	-12.32	0.98	8
	2442	-10.08	3.89	8
	2462	-13.11	0.41	8



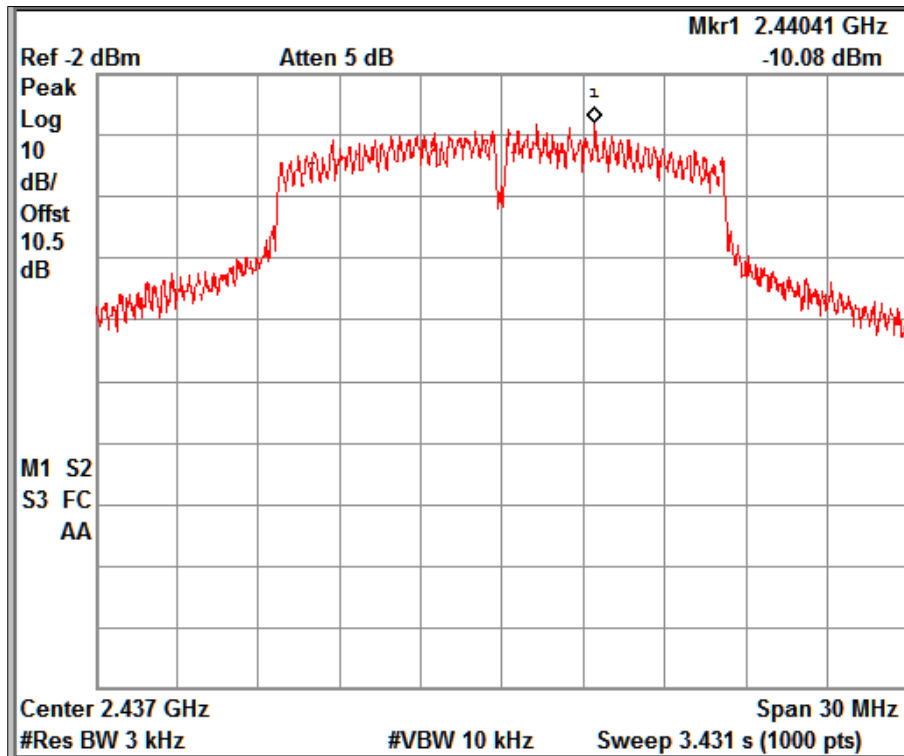
Channel Frequency: 2412 MHz

RBW: 3kHz



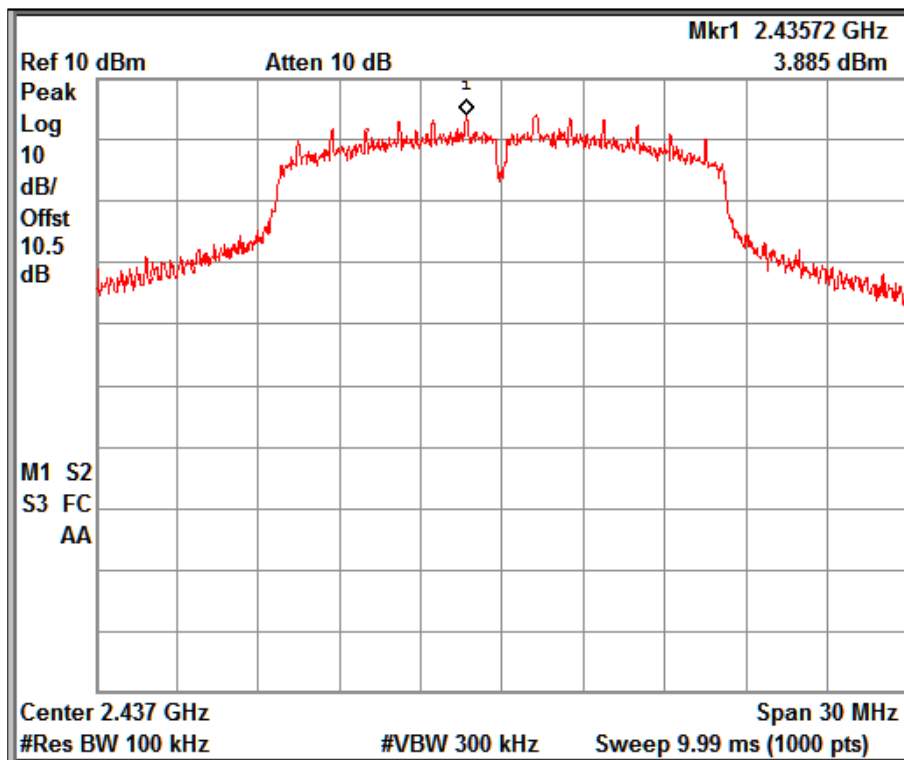
Channel Frequency: 2412 MHz

RBW: 100kHz



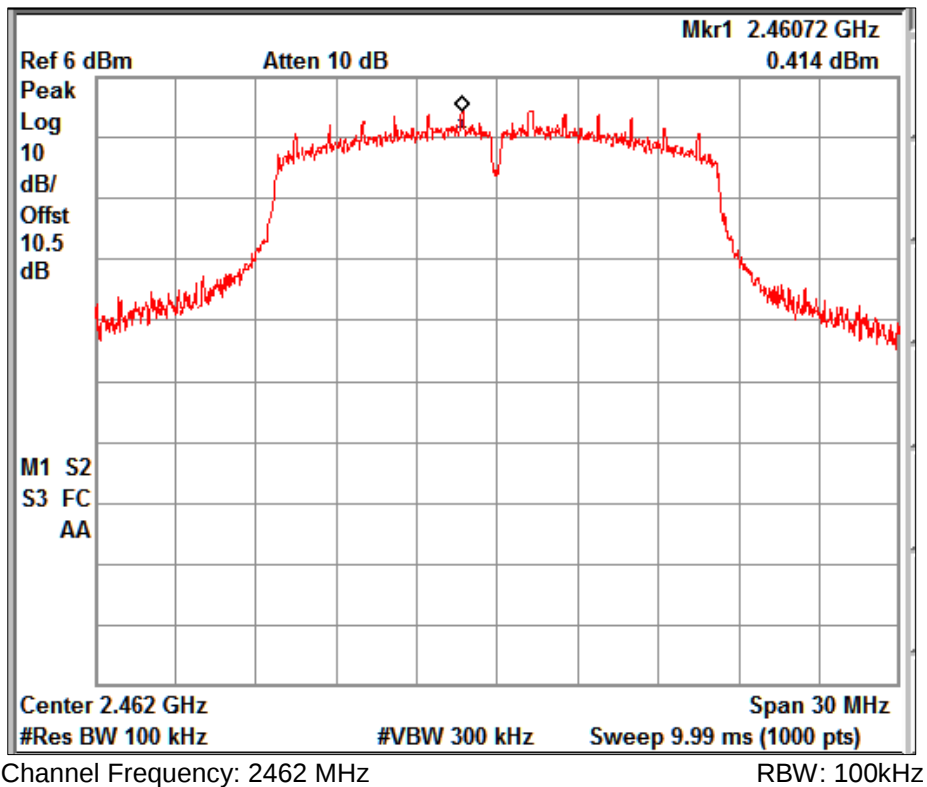
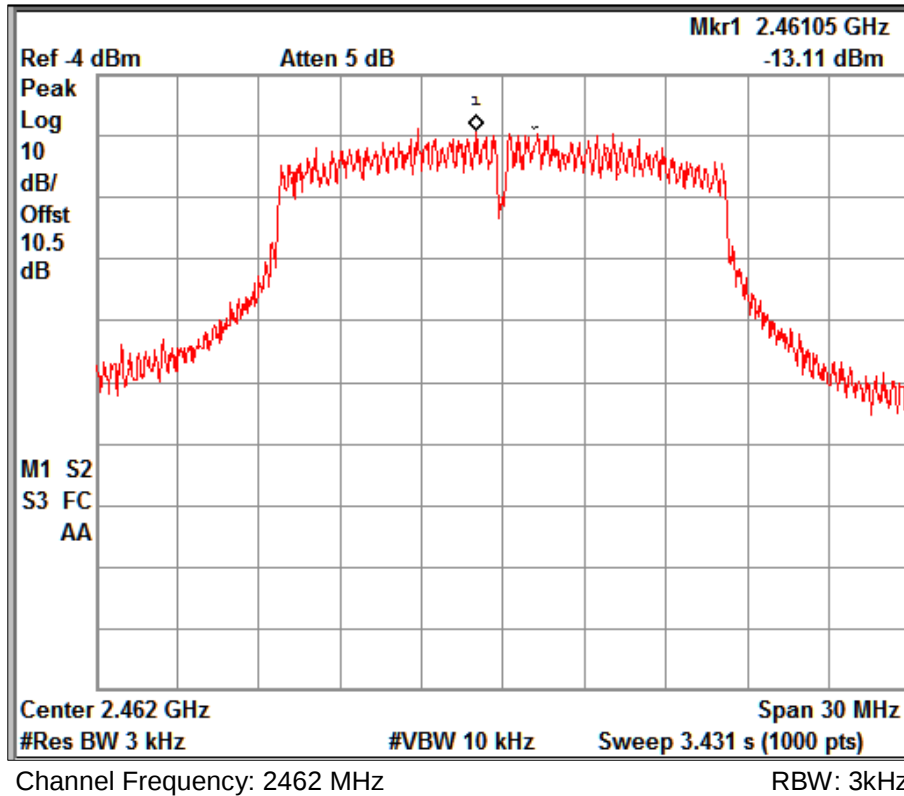
Channel Frequency: 2437 MHz

RBW: 3kHz



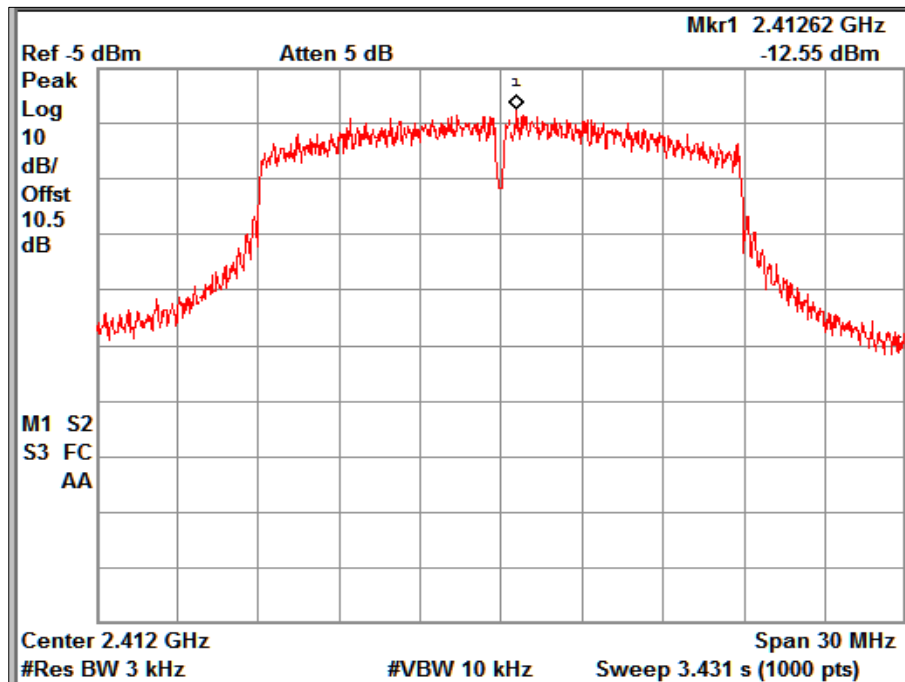
Channel Frequency: 2437 MHz

RBW: 100kHz



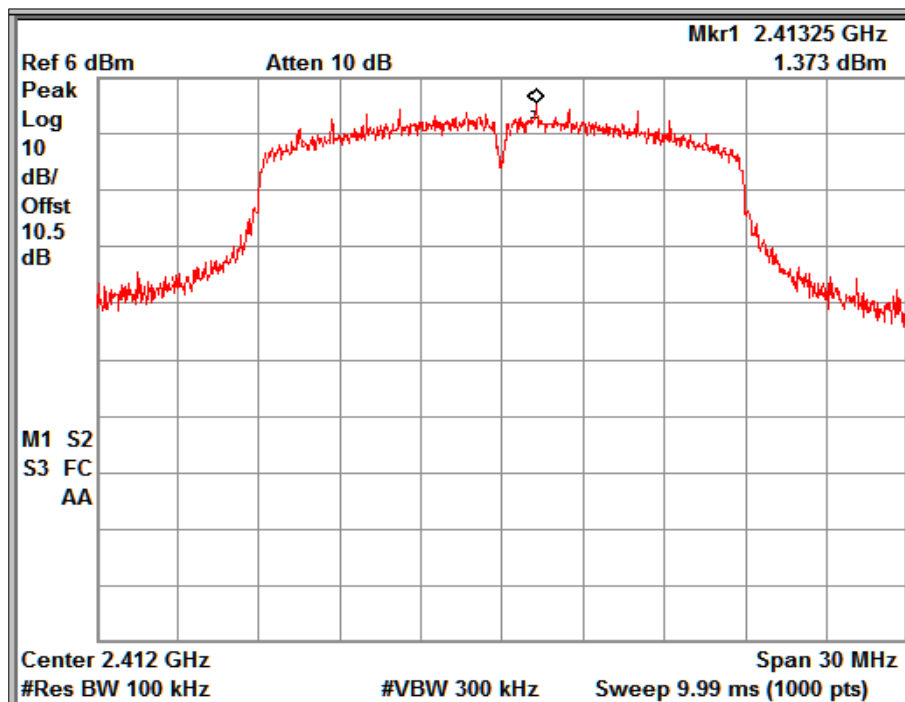
Mode: 802.11n_HT20

Data Rate	Channel Frequency (MHz)	PSD (dBm/3kHz)	PSD (dBm/100kHz)	Limit (dBm/3kHz)
MCS0	2412	-12.55	1.37	8
	2442	-11.81	3.33	8
	2462	-13.32	0.85	8



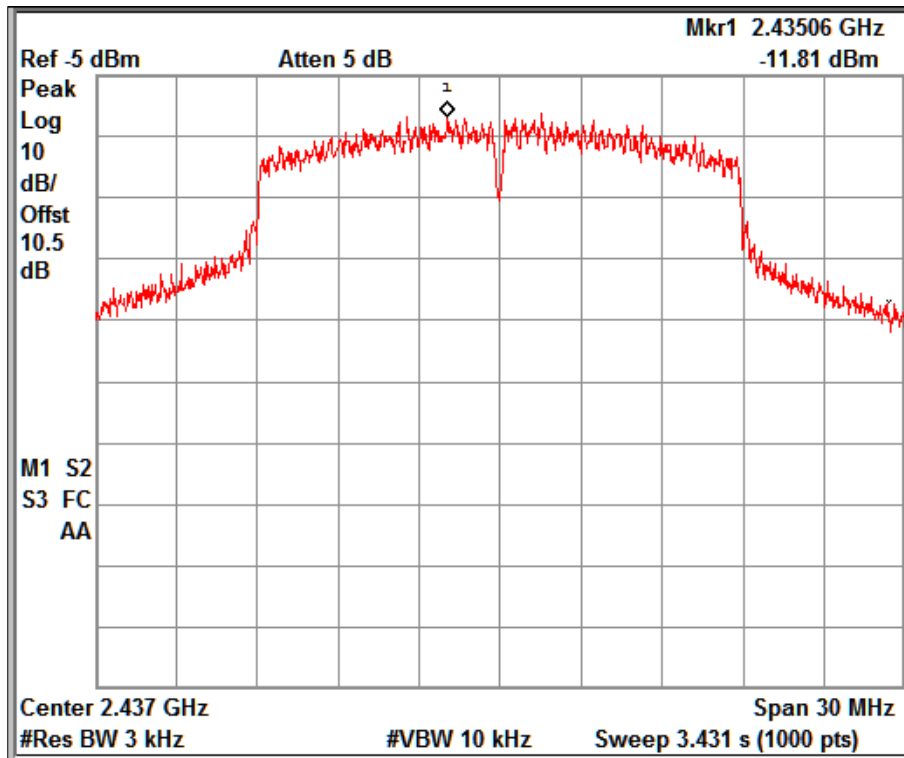
Channel Frequency: 2412 MHz

RBW: 3kHz



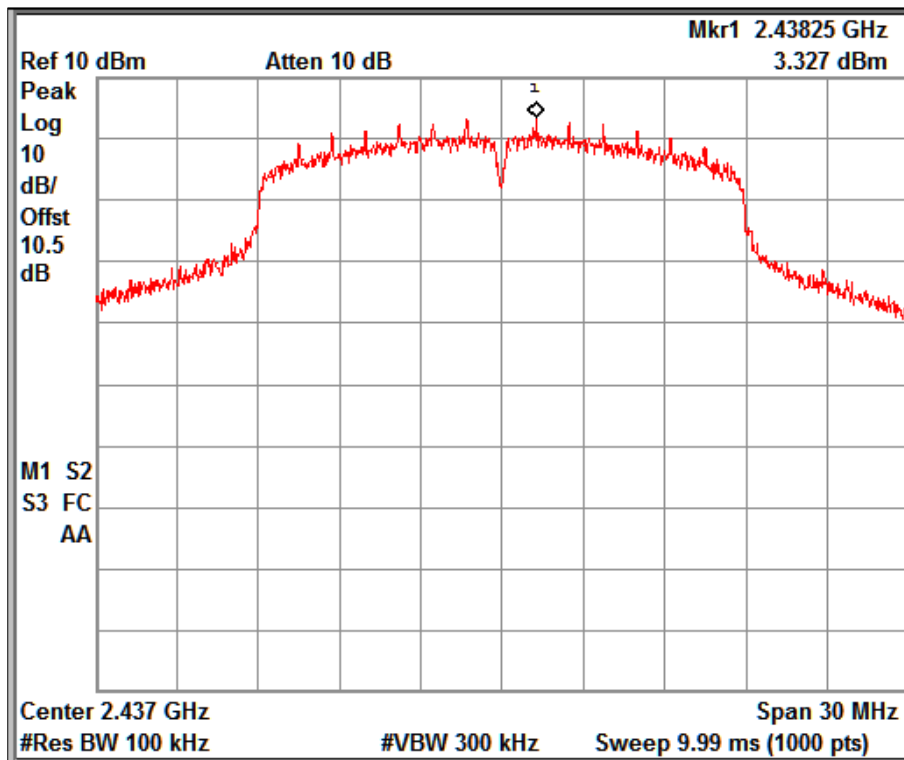
Channel Frequency: 2412 MHz

RBW: 100kHz



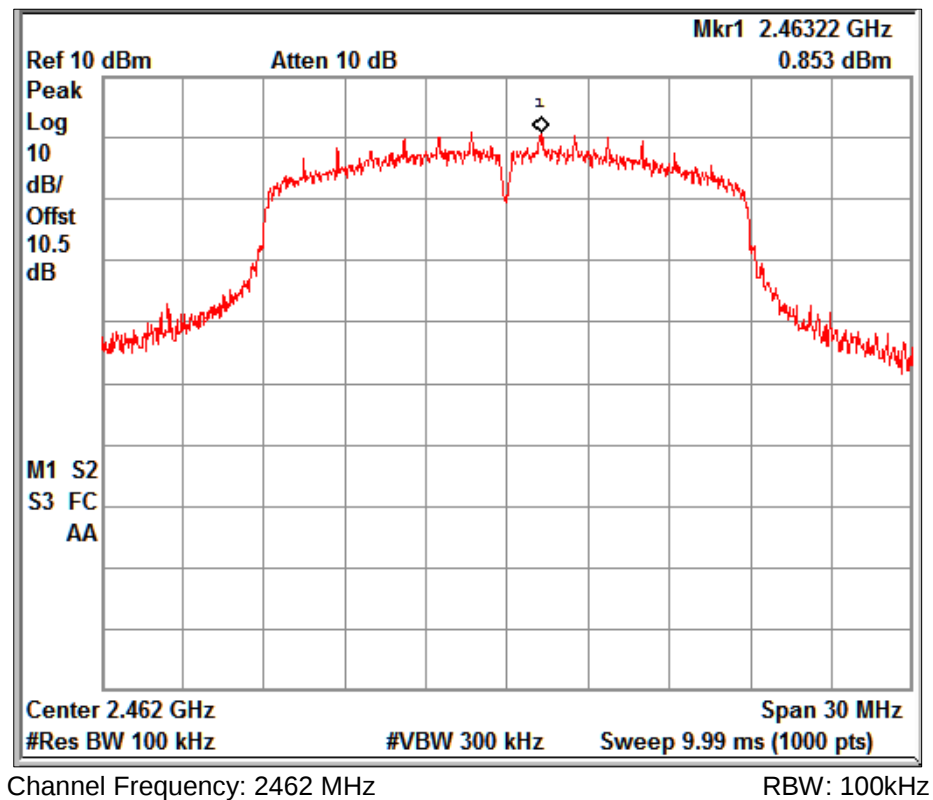
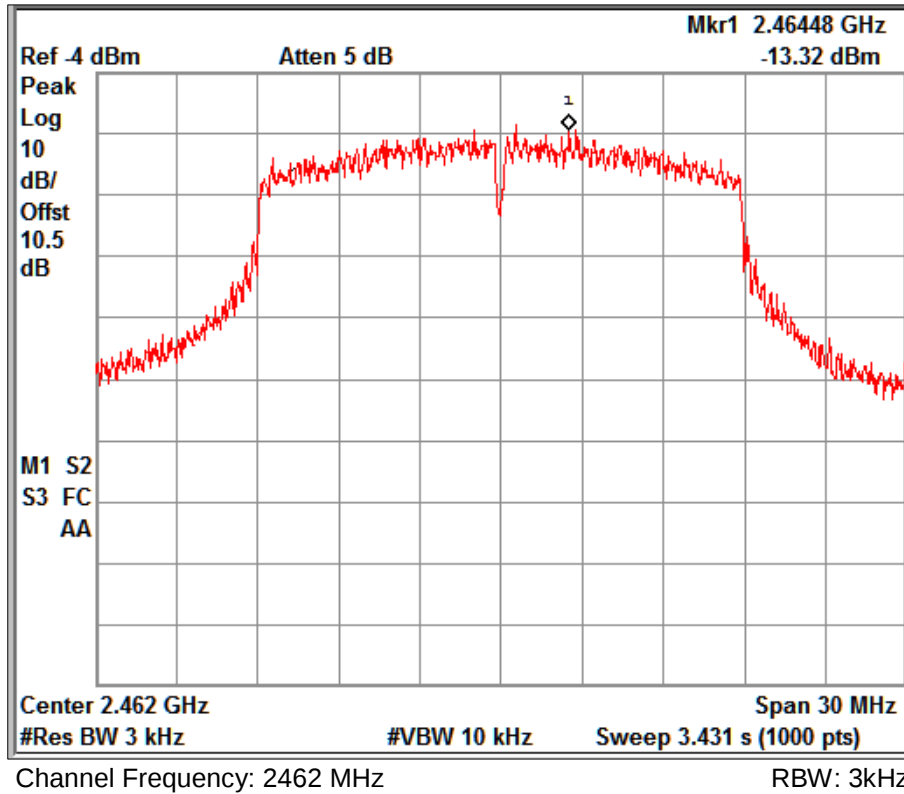
Channel Frequency: 2437 MHz

RBW: 3kHz



Channel Frequency: 2437 MHz

RBW: 100kHz



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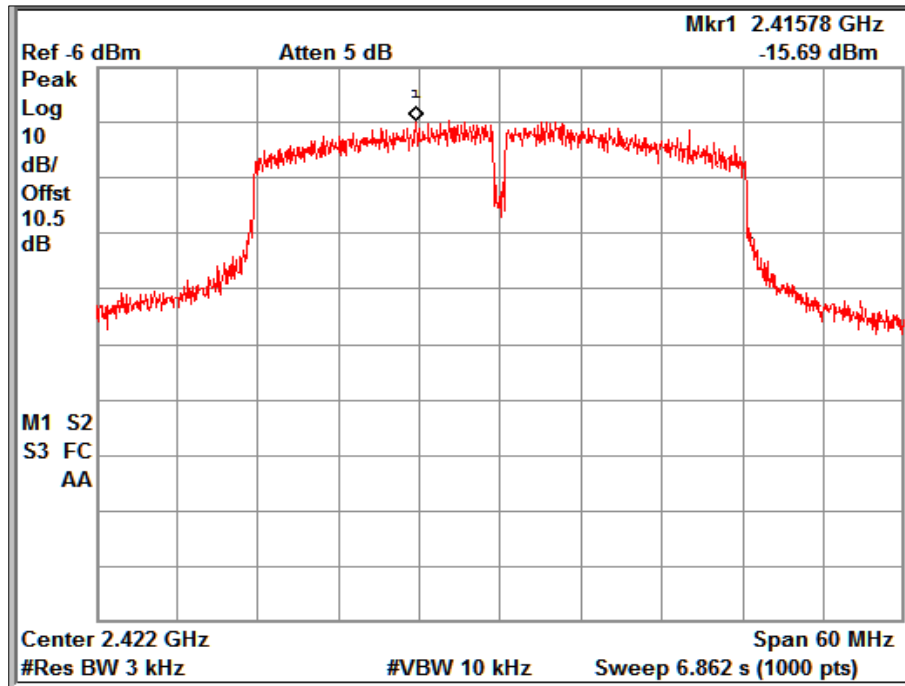
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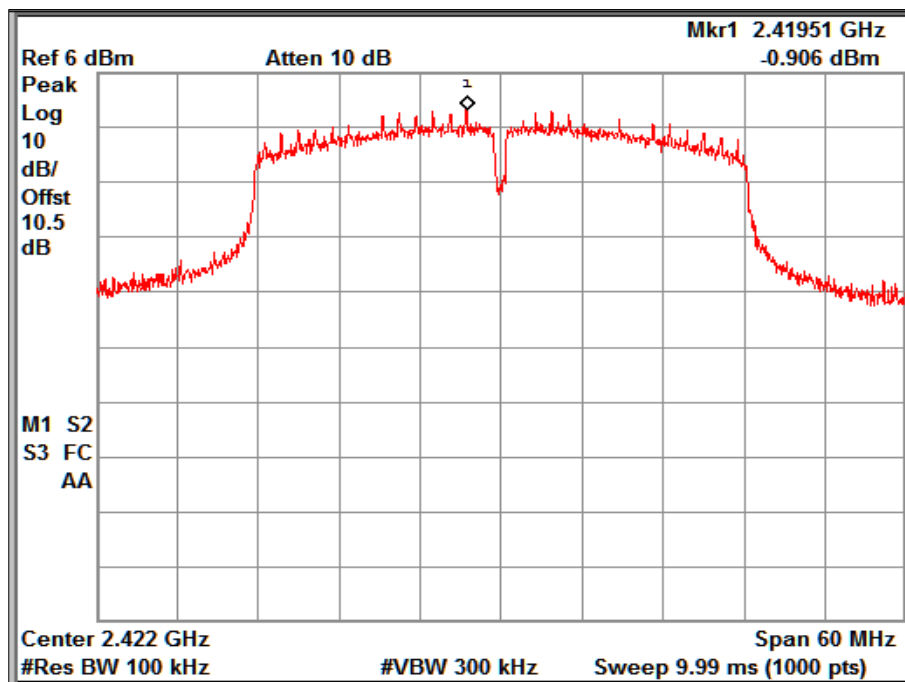
Mode: 802.11n_HT40

Data Rate	Channel Frequency (MHz)	PSD (dBm/3kHz)	PSD (dBm/100kHz)	Limit (dBm/3kHz)
MCS0	2422	-15.69	-0.91	8
	2442	-15.96	-1.54	8
	2457	-15.22	-1.61	8



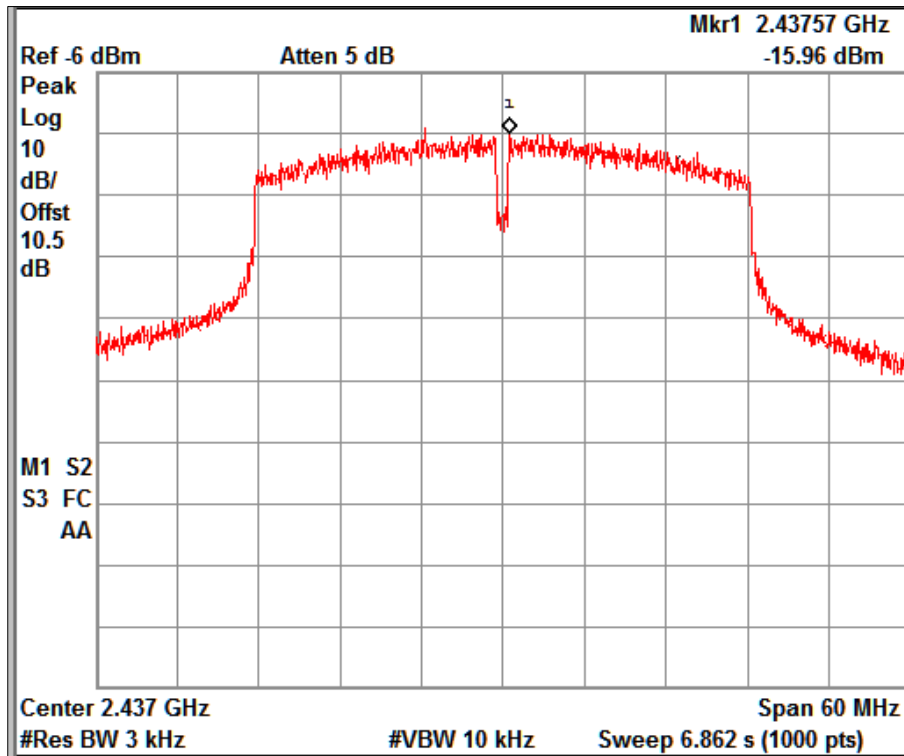
Channel Frequency: 2422 MHz

RBW: 3kHz



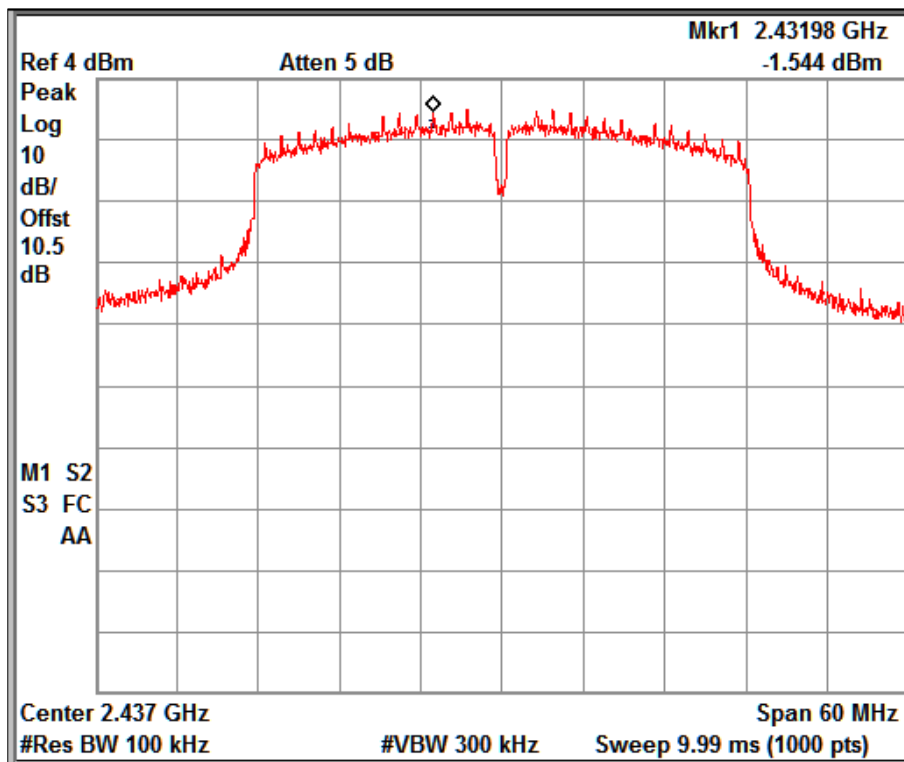
Channel Frequency: 2422 MHz

RBW: 100kHz



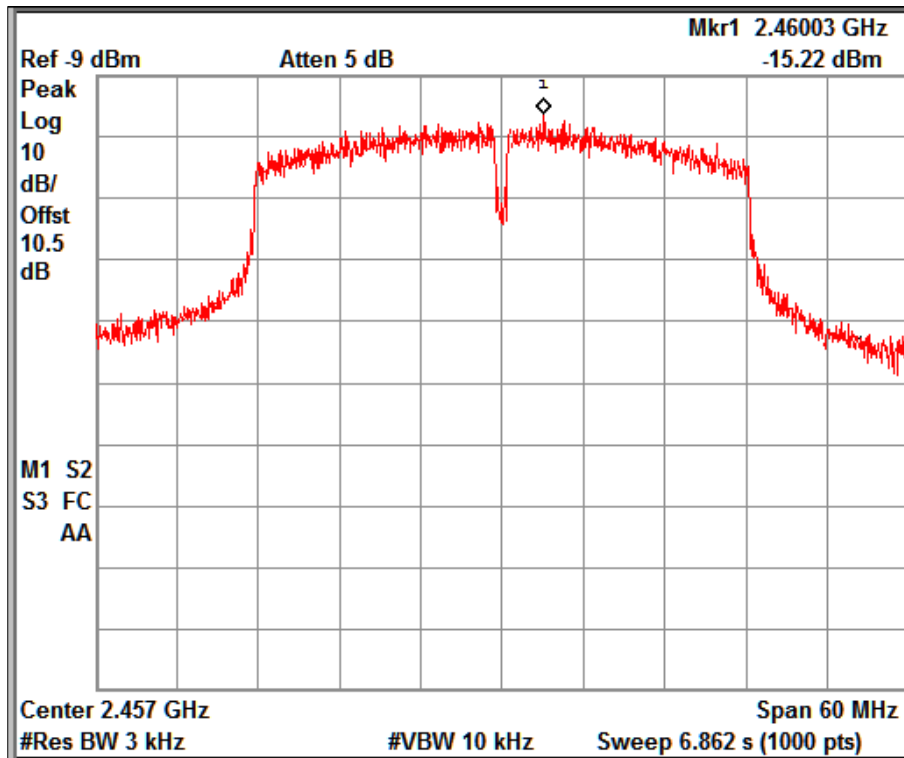
Channel Frequency: 2437 MHz

RBW: 3kHz



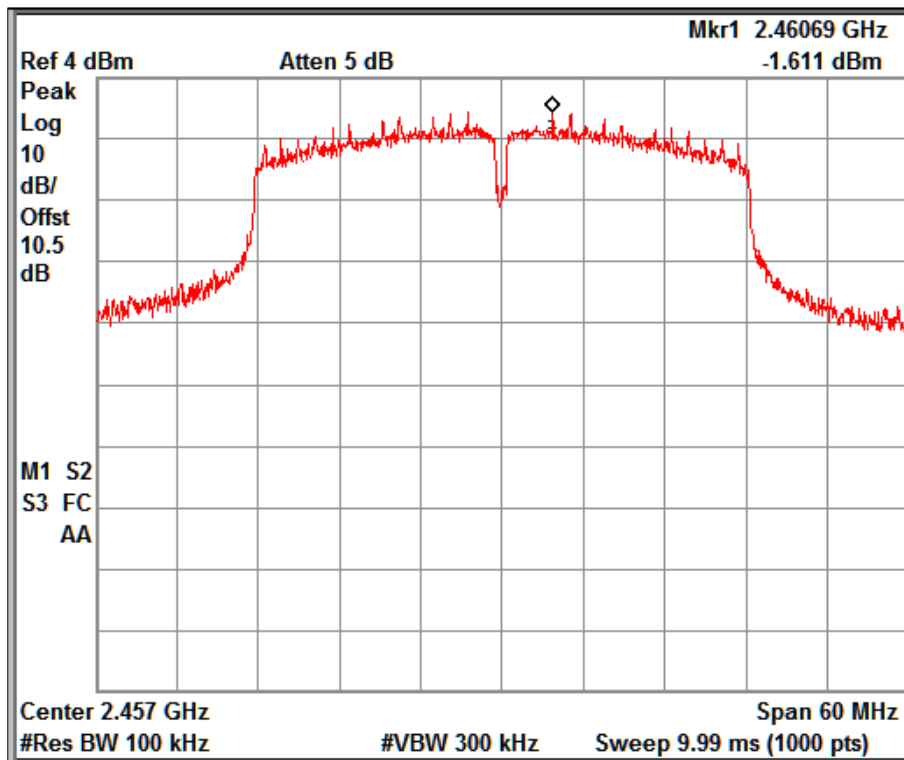
Channel Frequency: 2437 MHz

RBW: 100kHz



Channel Frequency: 2457 MHz

RBW: 3kHz



Channel Frequency: 2457 MHz

RBW: 100kHz

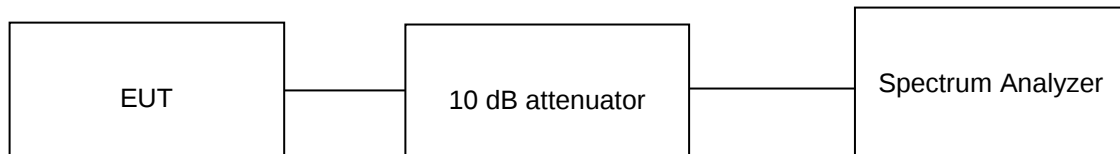
6.3 DTS Bandwidth

Result

Pass

Test Specification	FCC Part 15 Subpart C Section 15.247 (a)(2)
Detector	Peak
Port of testing	Antenna Port
Requirement	The minimum 6 dB bandwidth shall be at least 500 kHz.

Test Method:



Test results:

Note:

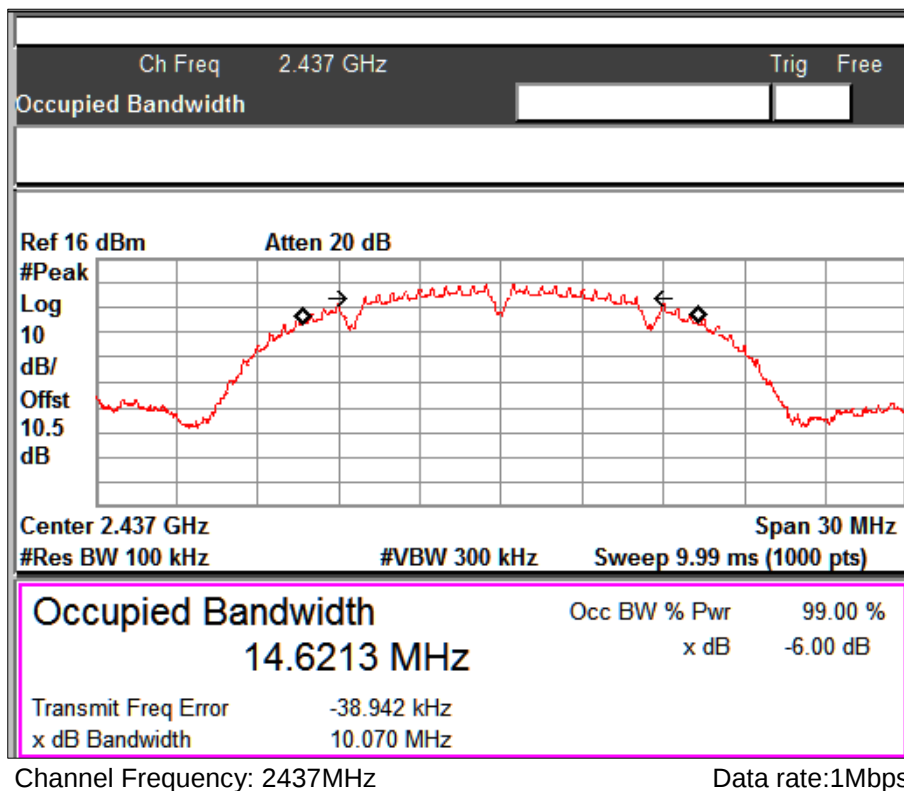
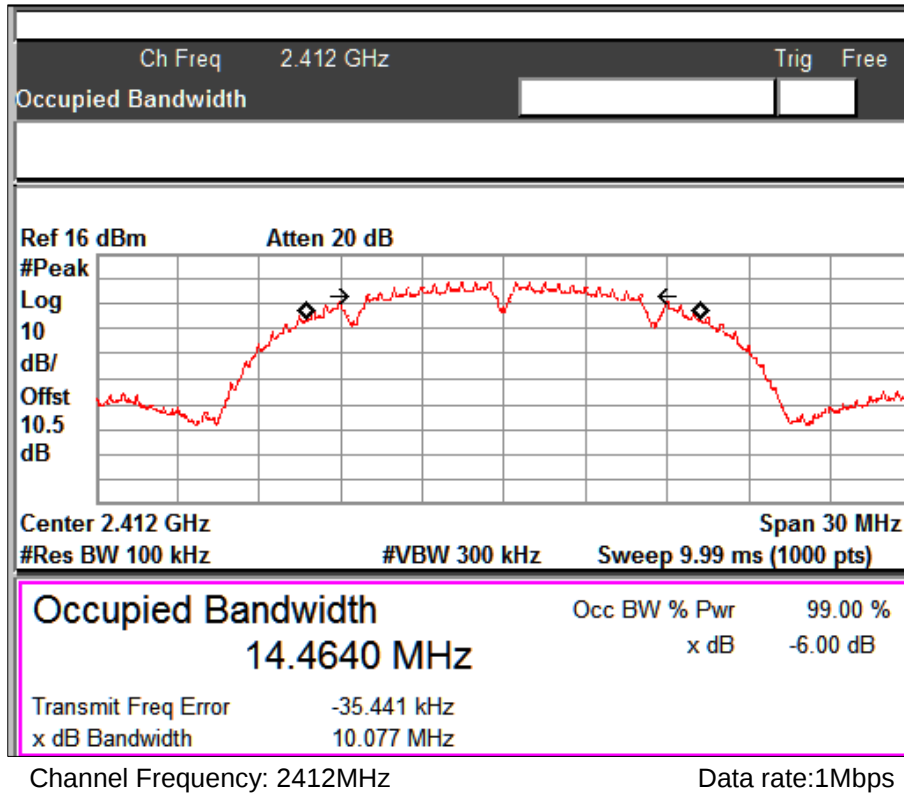
Measurements were made as per section 8.2 in 558074 D01 15.247 Measurement Guidance v05r02.

10 dB attenuator + 0.5 dB Cable loss = 10.5 dB offset is considered in below result.

Table 8: DTS Bandwidth verified Test Results

Mode: 802.11b

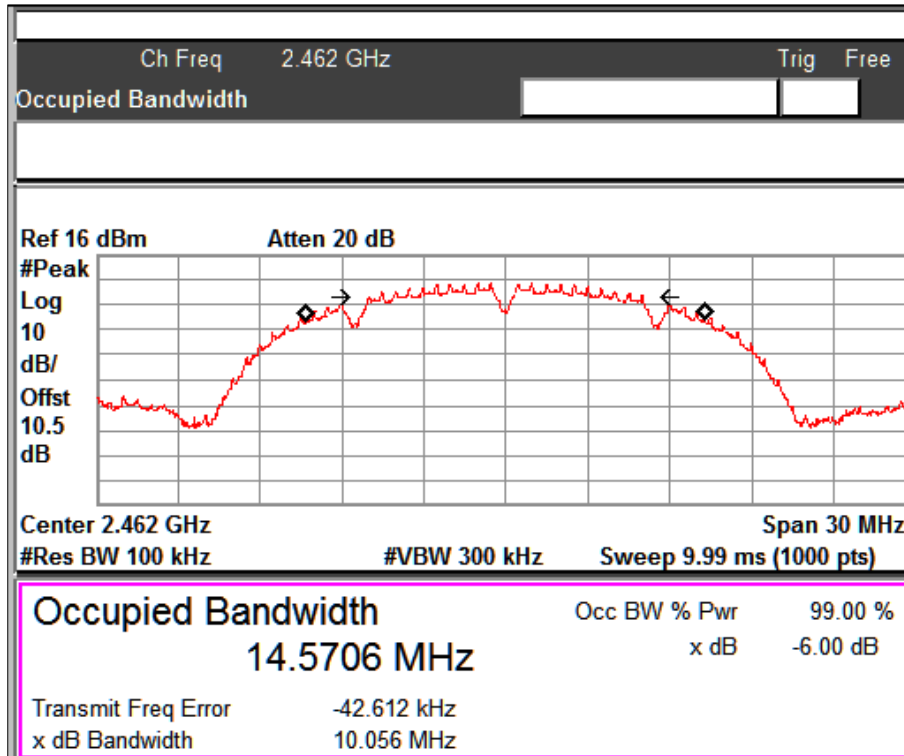
Data Rate (Mbps)	Channel Frequency (MHz)	6dB Bandwidth (MHz)	99% OBW (MHz)
1	2412	10.07	14.46
	2442	10.07	14.62
	2462	10.05	14.57



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Channel Frequency: 2462MHz

Data rate:1Mbps

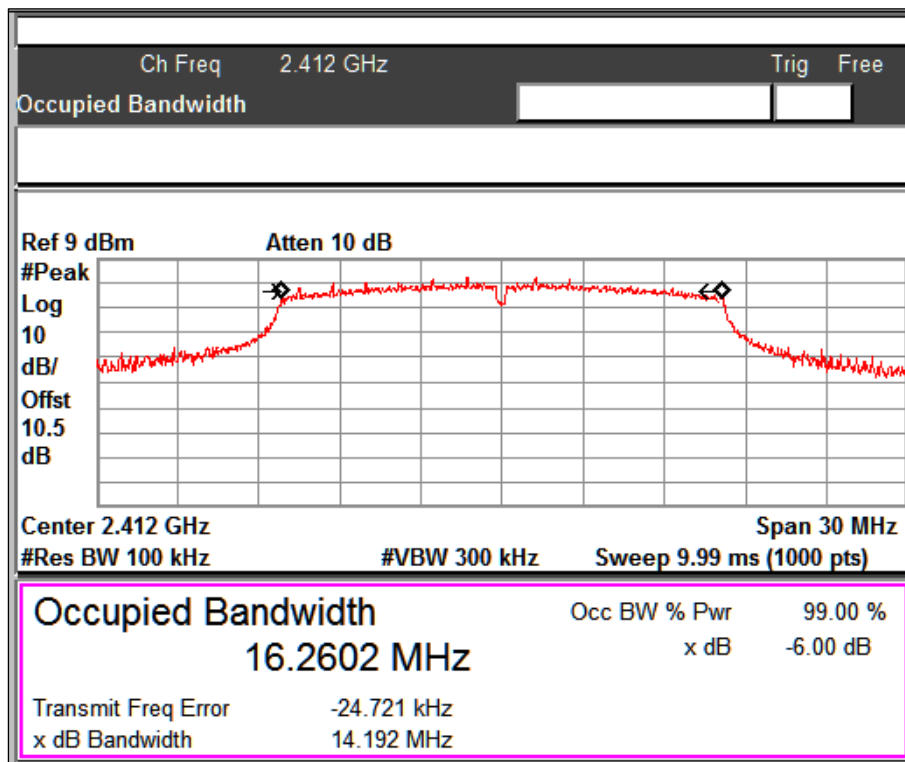
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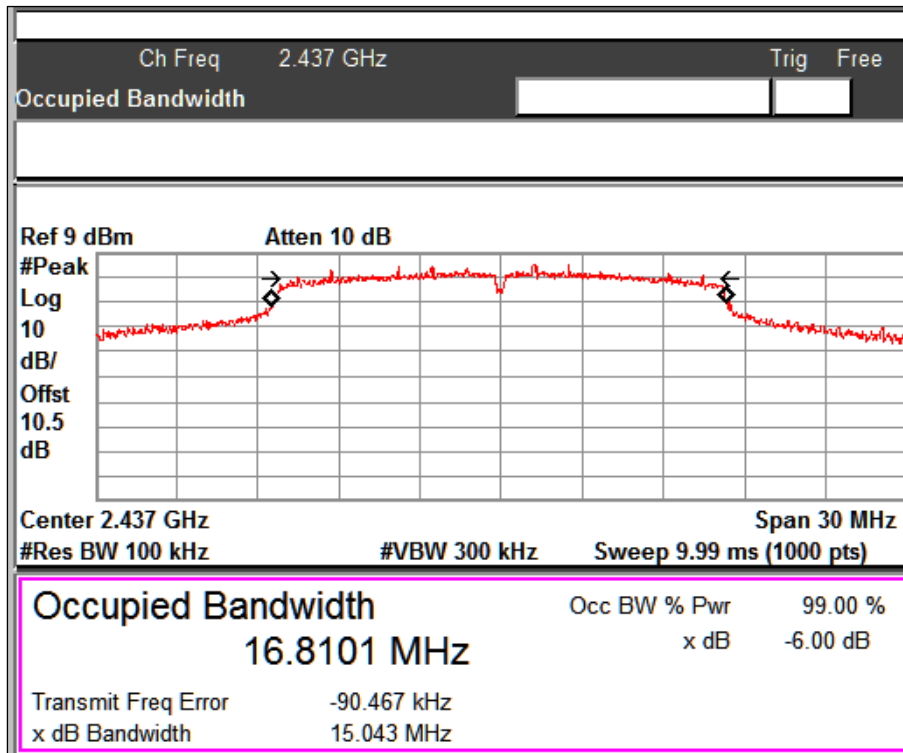
Mode: 802.11g

Data Rate (Mbps)	Channel Frequency (MHz)	6dB Bandwidth (MHz)	99% OBW (MHz)
6	2412	14.19	16.26
	2442	15.04	16.81
	2462	15.08	16.24



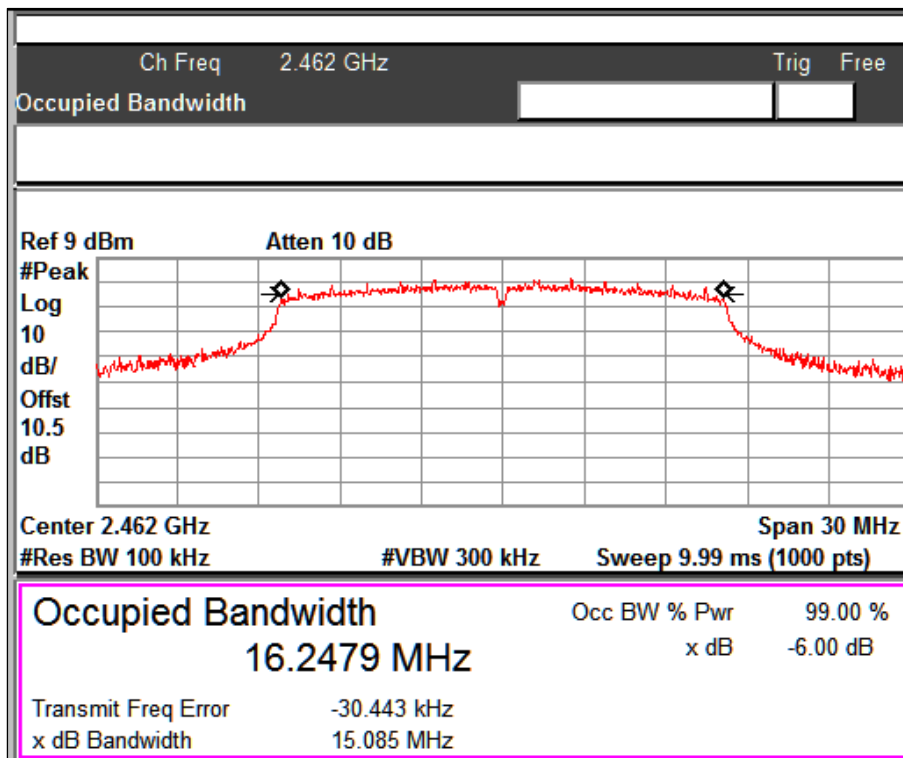
Channel Frequency: 2412MHz

Data rate:6Mbps



Channel Frequency: 2437MHz

Data rate: 6Mbps



Channel Frequency: 2462MHz

Data rate: 6Mbps

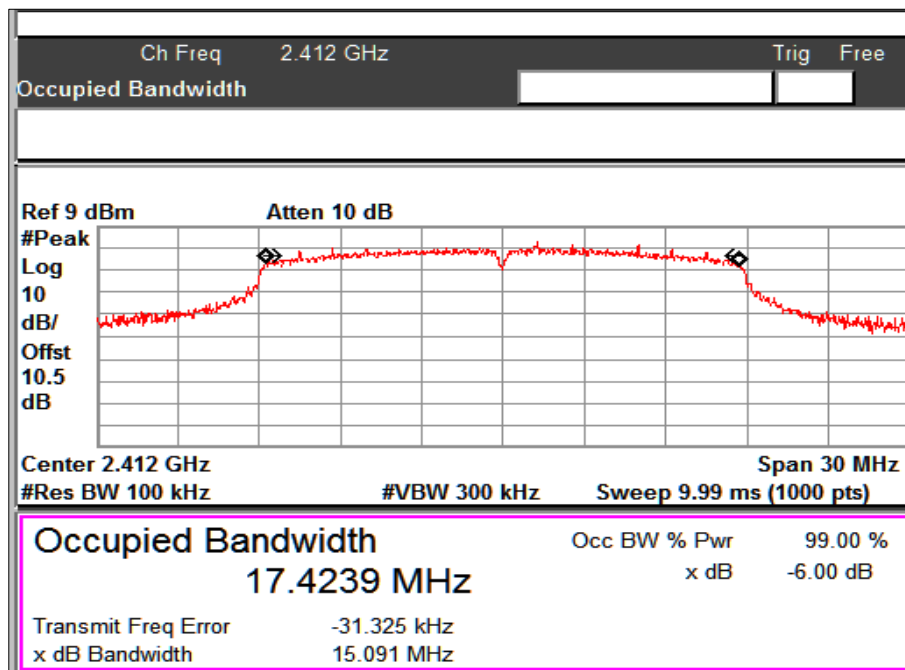
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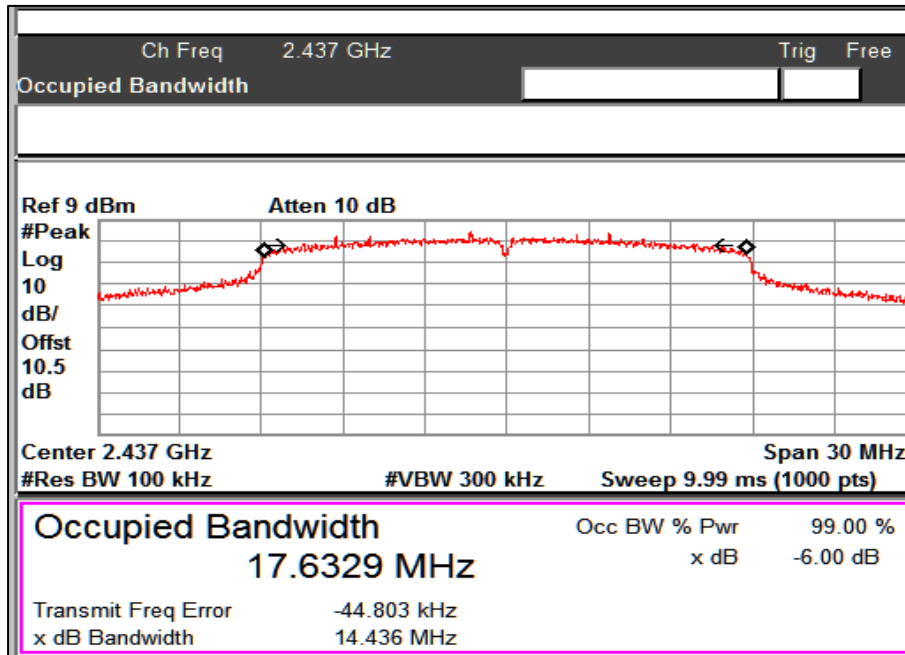
Mode: 802.11n_HT20

Data Rate (Mbps)	Channel Frequency (MHz)	6dB Bandwidth (MHz)	99% OBW (MHz)
MCS0	2412	15.09	17.42
	2442	14.43	17.63
	2462	13.99	17.40



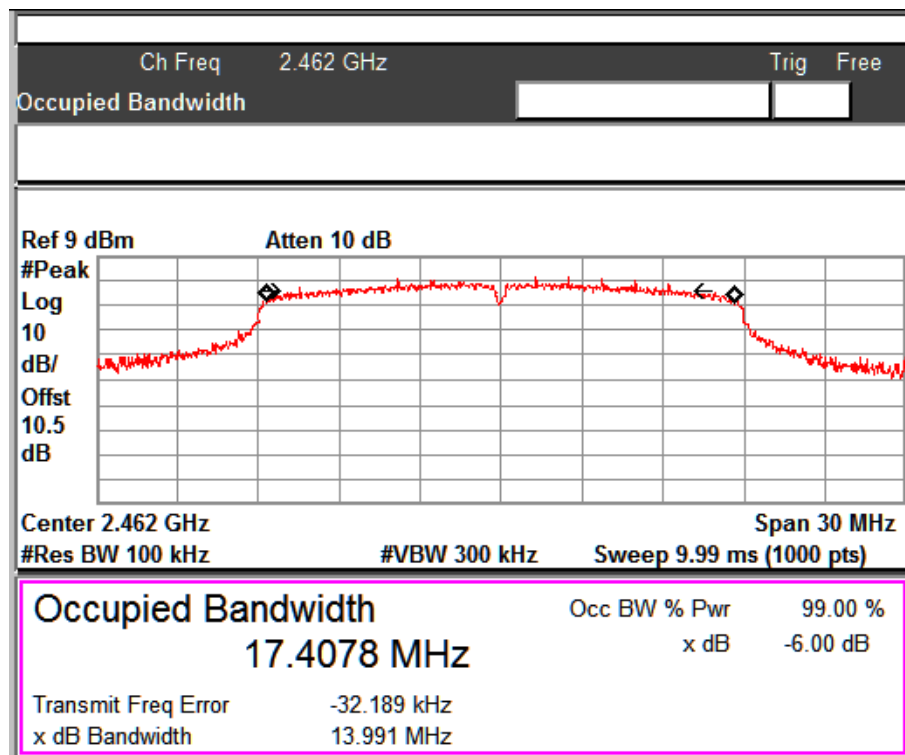
Channel Frequency: 2412MHz

Data rate:MCS0



Channel Frequency: 2437MHz

Data rate:MCS0



Channel Frequency: 2462MHz

Data rate:MCS0

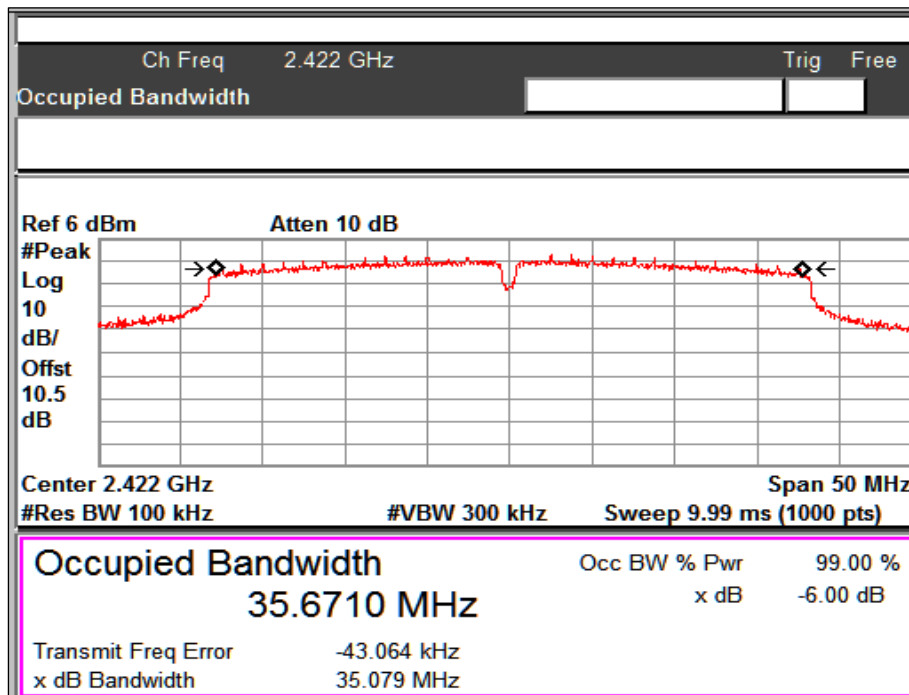
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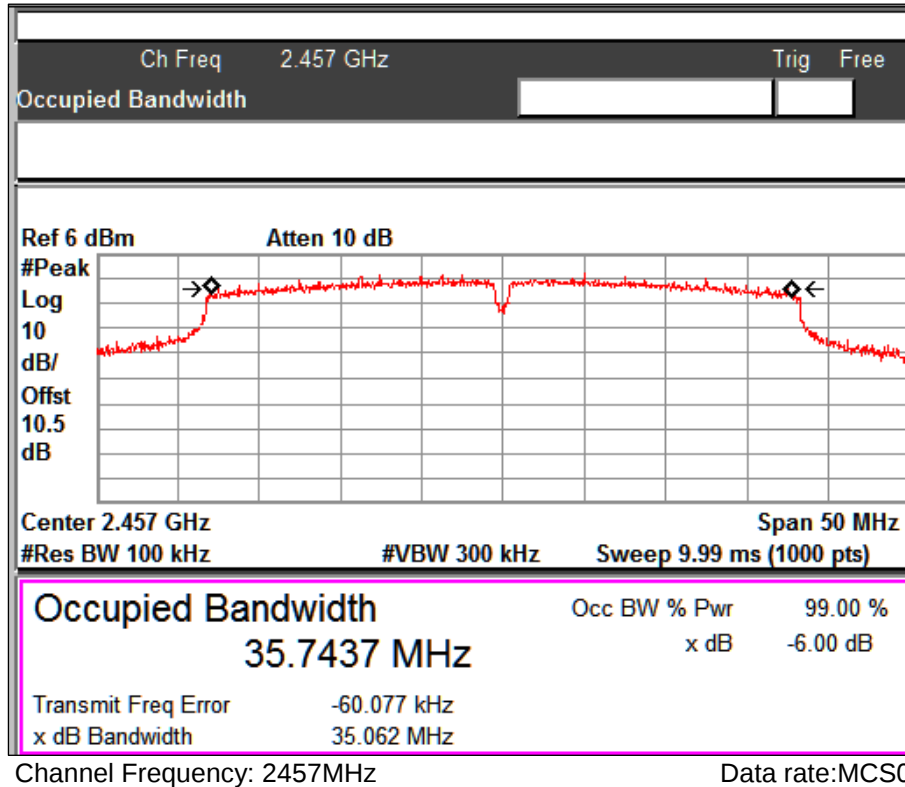
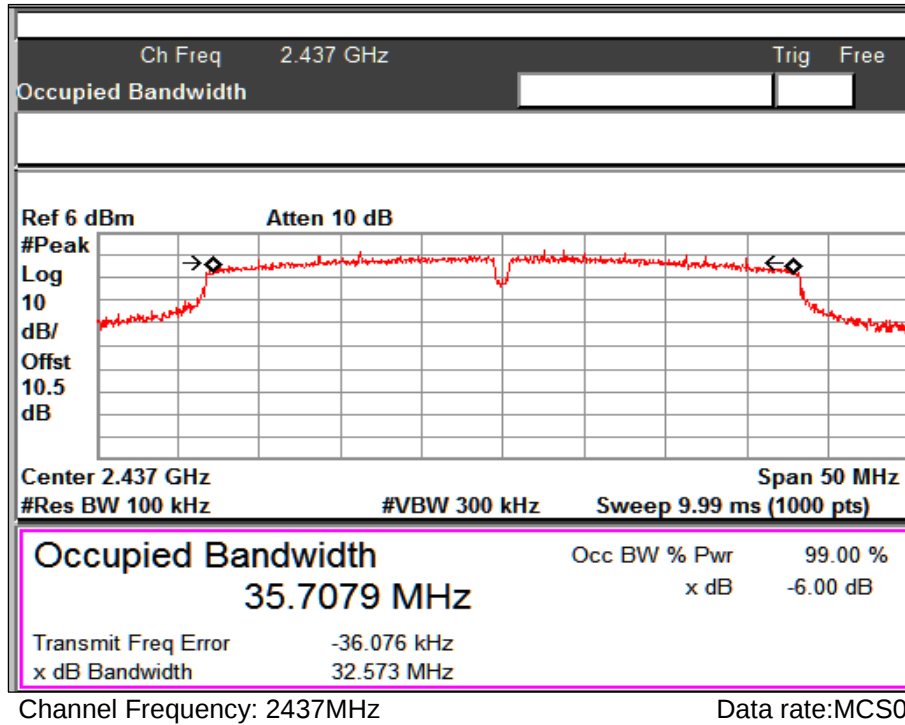
Mode: 802.11n_HT40

Data Rate (Mbps)	Channel Frequency (MHz)	6dB Bandwidth (MHz)	99% OBW (MHz)
MCS0	2422	35.07	35.67
	2442	32.57	35.70
	2457	35.06	35.74



Channel Frequency: 2422MHz

Data rate:MCS0



6.4 Emissions in non-restricted frequency bands and Conducted Spurious Emission

Result

Pass

Test Specification
Detector Function
Port of testing
Requirement

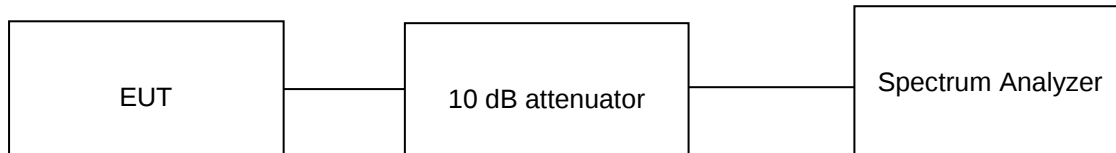
FCC Part 15 Subpart C Section 15.247 (d)

Peak

Antenna port

In any 100kHz 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 at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits.

Test Method:



Test results:

Note:

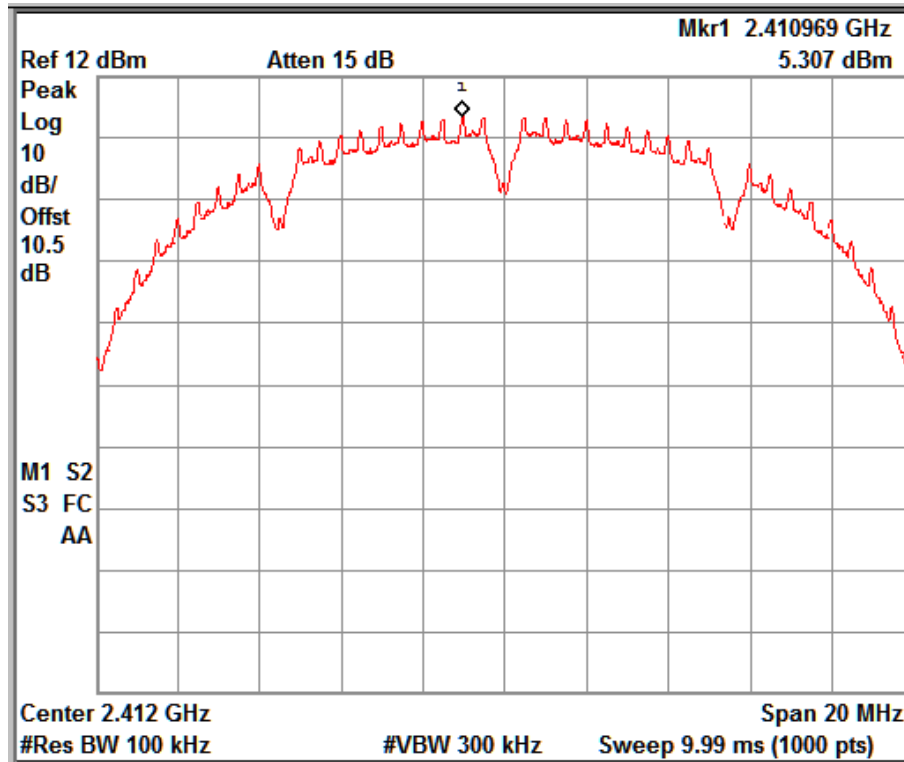
Measurements were made as per section 8.5 in 558074 D01 15.247 Measurement Guidance v05r02.

10 dB attenuator + 0.5 dB Cable loss = 10.5 dB offset is considered in below result

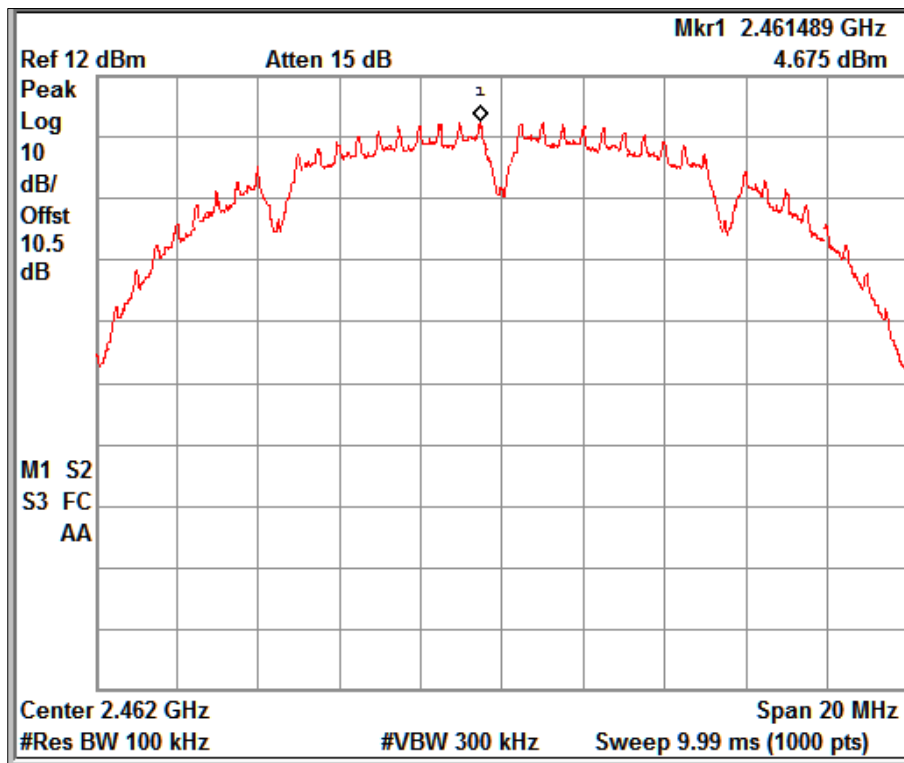
Table 9: Verified Test Results of Emissions in non-restricted frequency bands

Mode: 802.11b

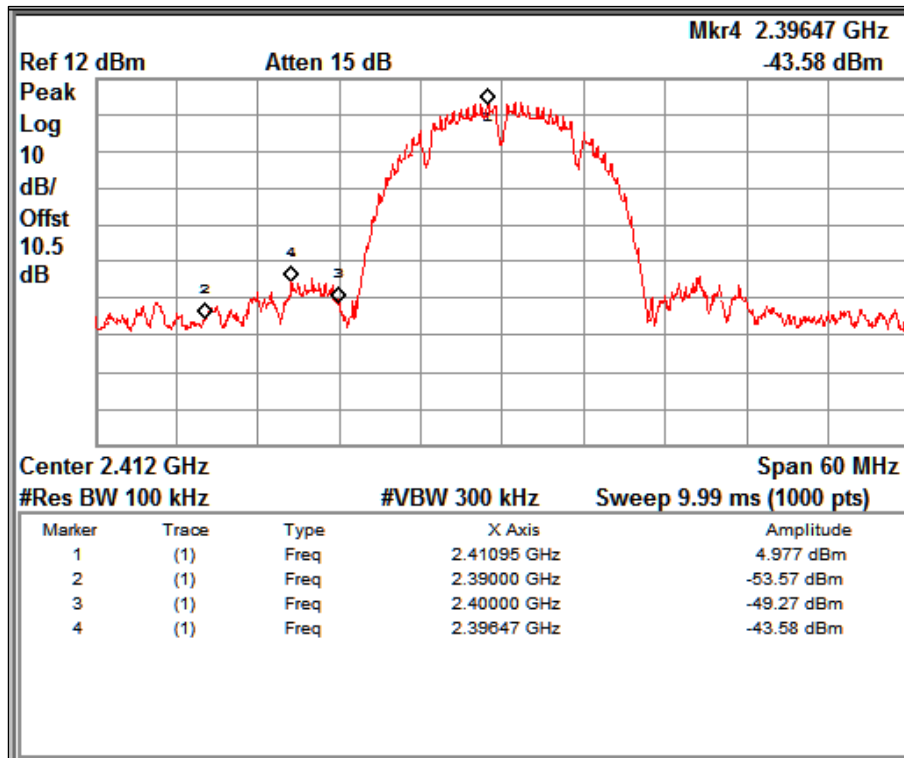
Data Rate (Mbps)	Channel Frequency (MHz)	Value at the Band Edge		Reference Value B (dBm)	Band Edge Value A-B (dBc)	Limit (dBc)
		Frequency (MHz)	Value A (dBm)			
1	2412	2400	-43.58	5.30	48.88	20
	2462	2483.5	-51.13	4.68	55.81	20



Reference Plot for Channel Frequency: 2412

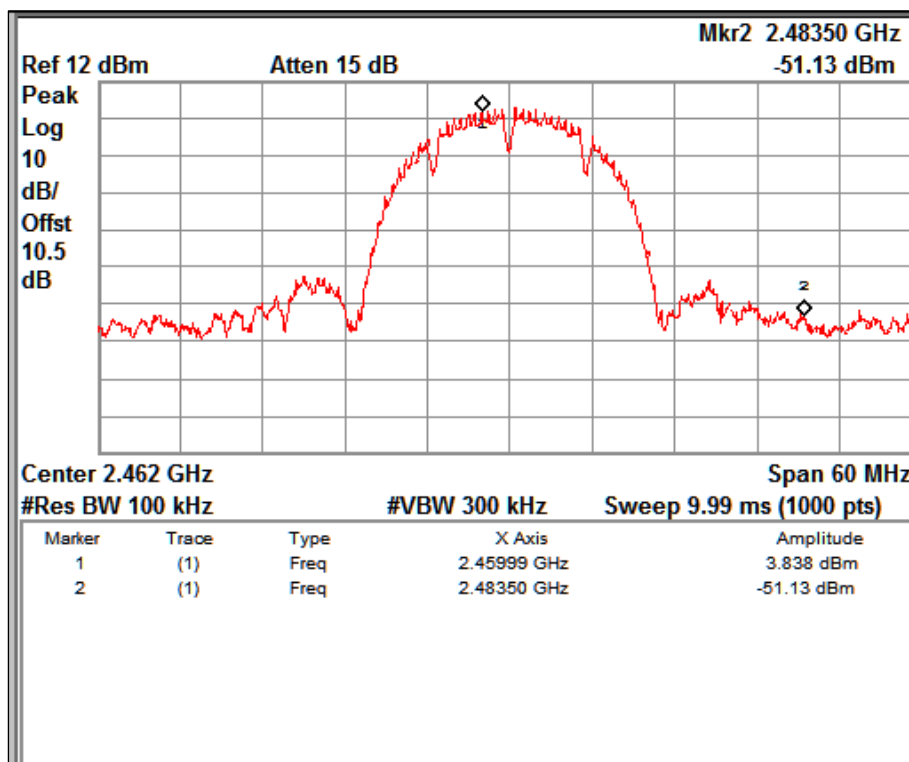


Reference Plot for Channel Frequency: 2462



Channel Frequency: 2412MHz

Data rate: 1Mbps



Channel Frequency: 2462MHz

Data rate: 1Mbps

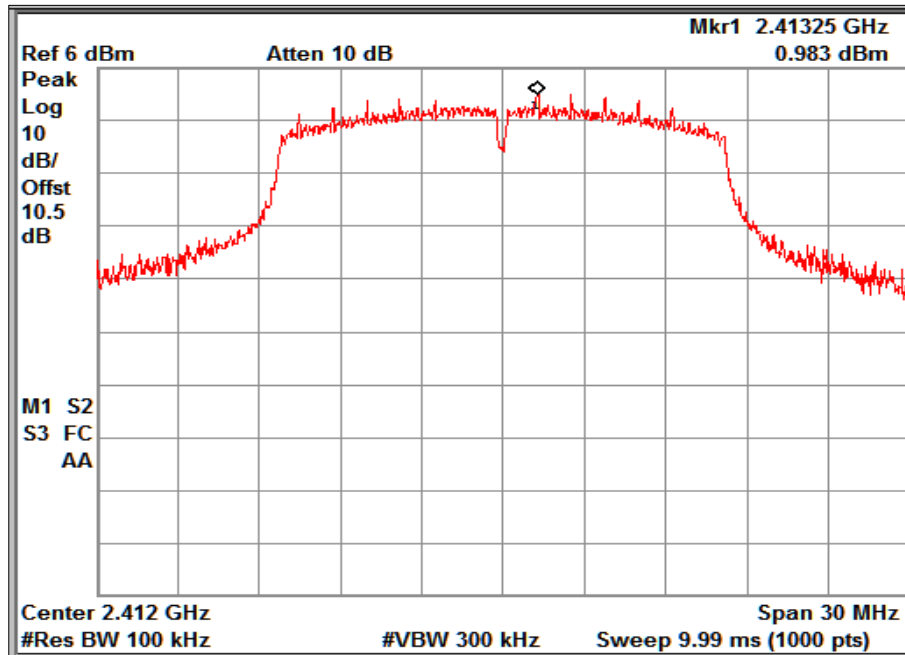
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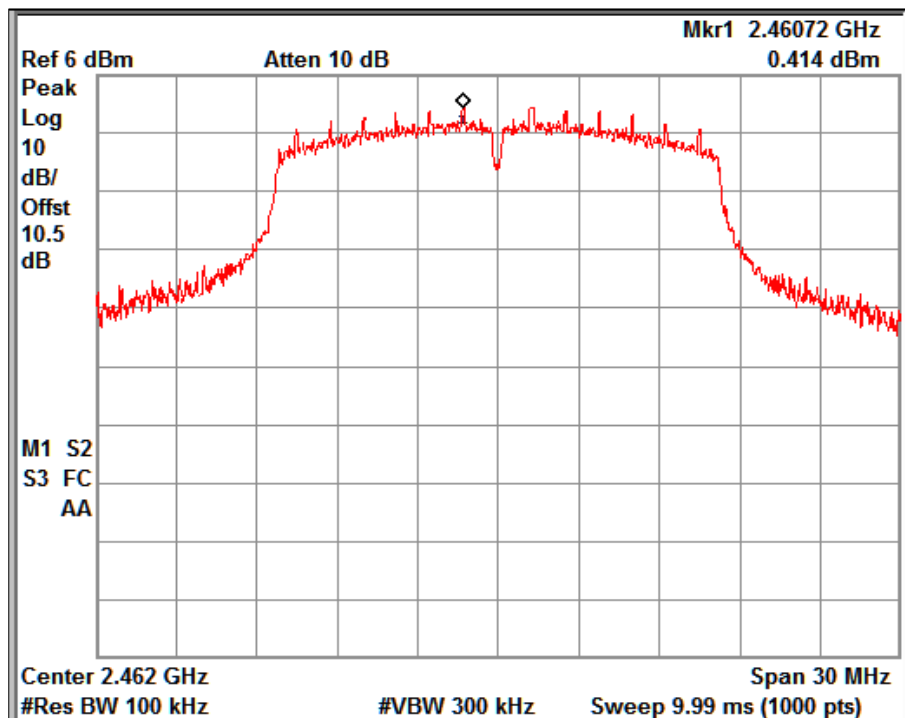
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Mode: 802.11g

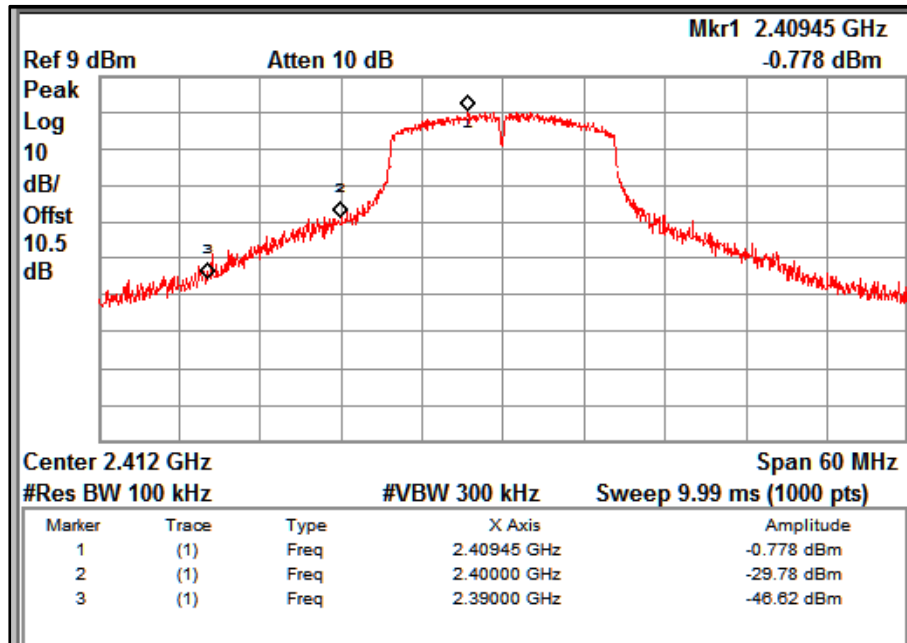
Data Rate (Mbps)	Channel Frequency (MHz)	Value at the Band Edge		Reference Value B (dBm)	Band Edge Value A-B (dBc)	Limit (dBc)
		Frequency (MHz)	Value A (dBm)			
6	2412	2400	-29.78	0.98	30.76	20
	2462	2483.5	-44.02	0.41	44.43	20



Reference Plot for Channel Frequency: 2412

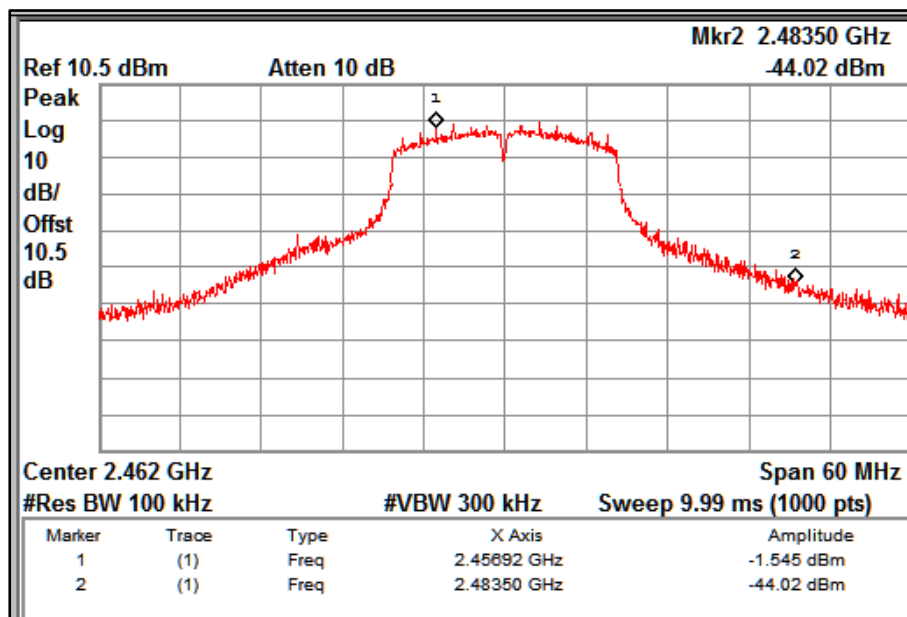


Reference Plot for Channel Frequency: 2462



Channel Frequency: 2412MHz

Data rate: 6Mbps



Channel Frequency: 2462MHz

Data rate: 6Mbps

Prüfbericht - Nr.:

Test Report No.:

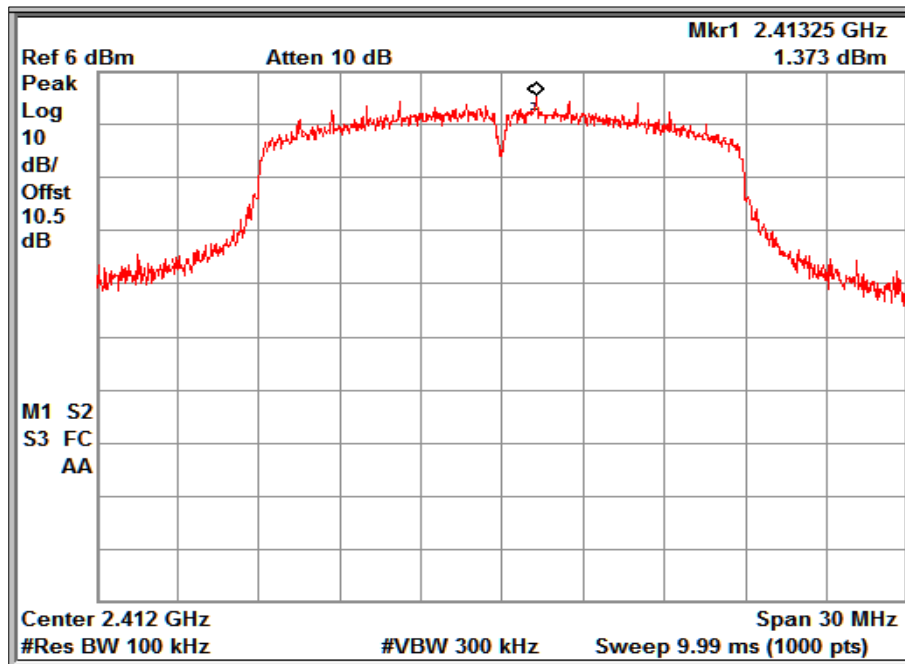
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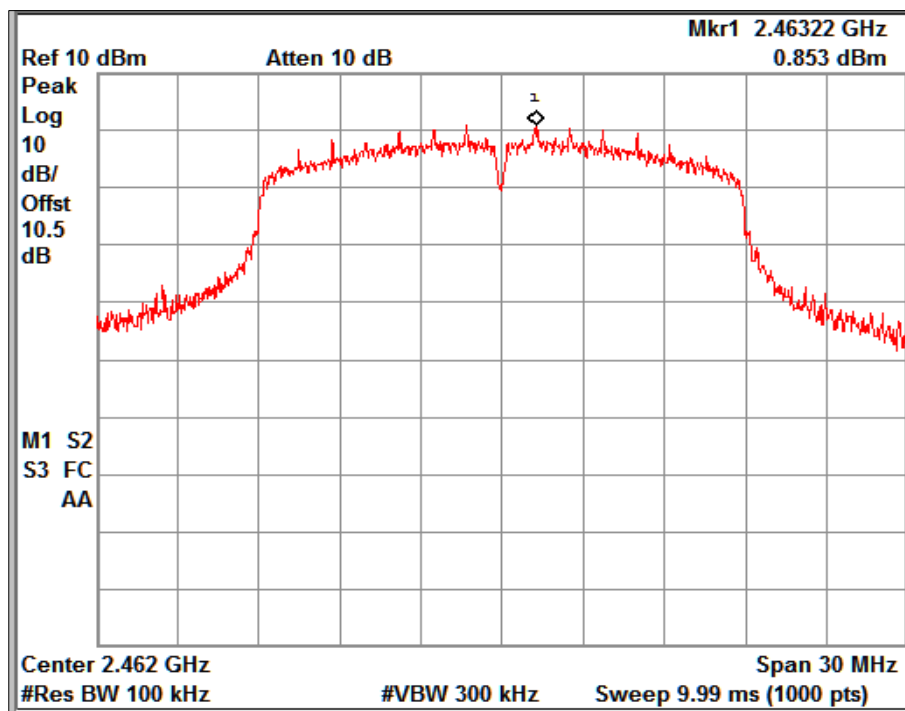
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Mode: 802.11n_HT20

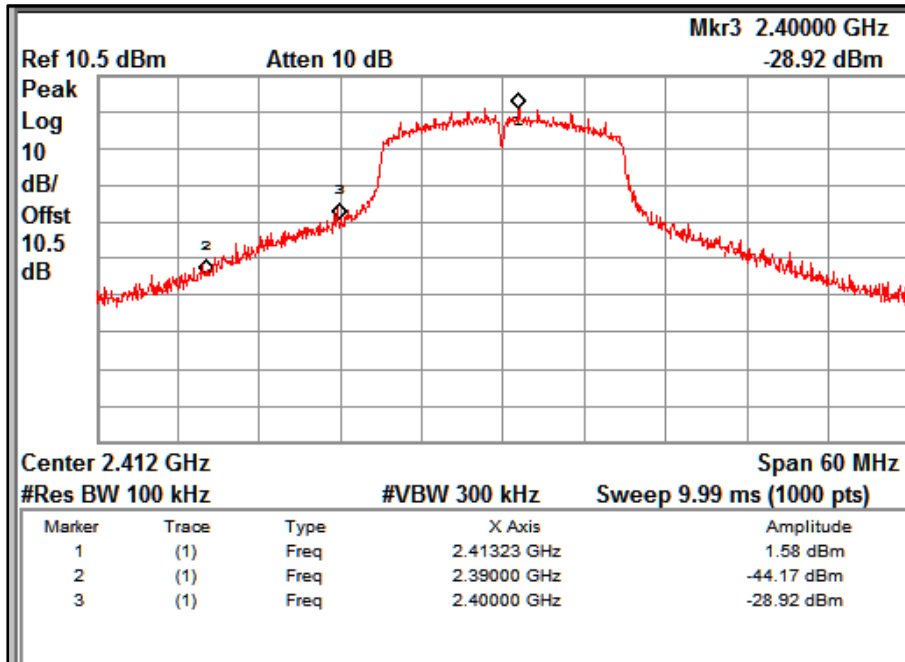
Data Rate (Mbps)	Channel Frequency (MHz)	Value at the Band Edge		Reference Value B (dBm)	Band Edge Value A-B (dBc)	Limit (dBc)
		Frequency (MHz)	Value A (dBm)			
MCS0	2412	2400	-28.92	1.37	30.29	20
	2462	2483.5	-44.16	0.85	45.01	20



Reference Plot for Channel Frequency: 2412

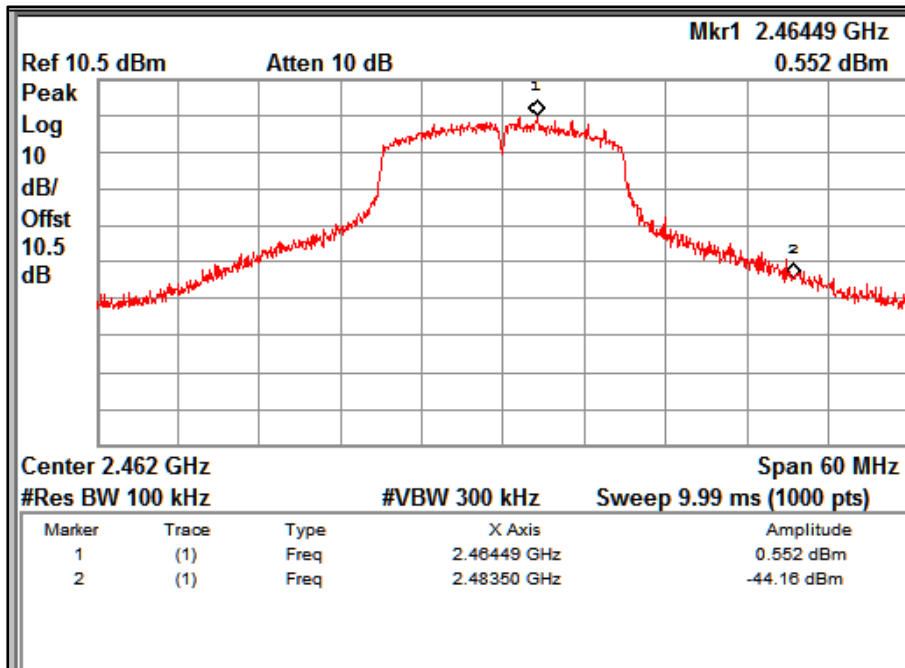


Reference Plot for Channel Frequency: 2462



Channel Frequency: 2412MHz

Data rate: MCS0



Channel Frequency: 2462MHz

Data rate: MCS0

Prüfbericht - Nr.:

Test Report No.:

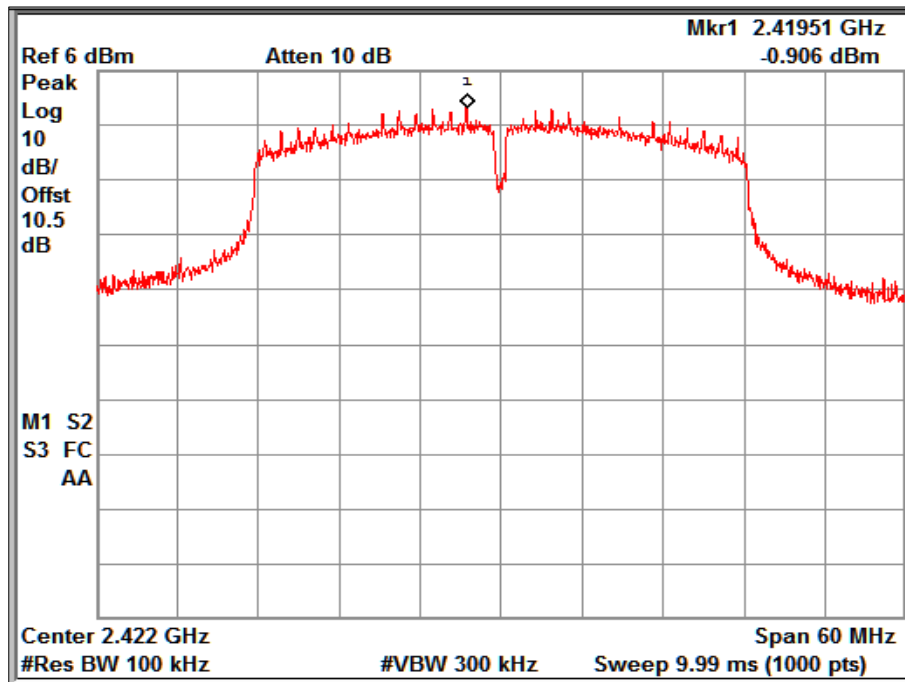
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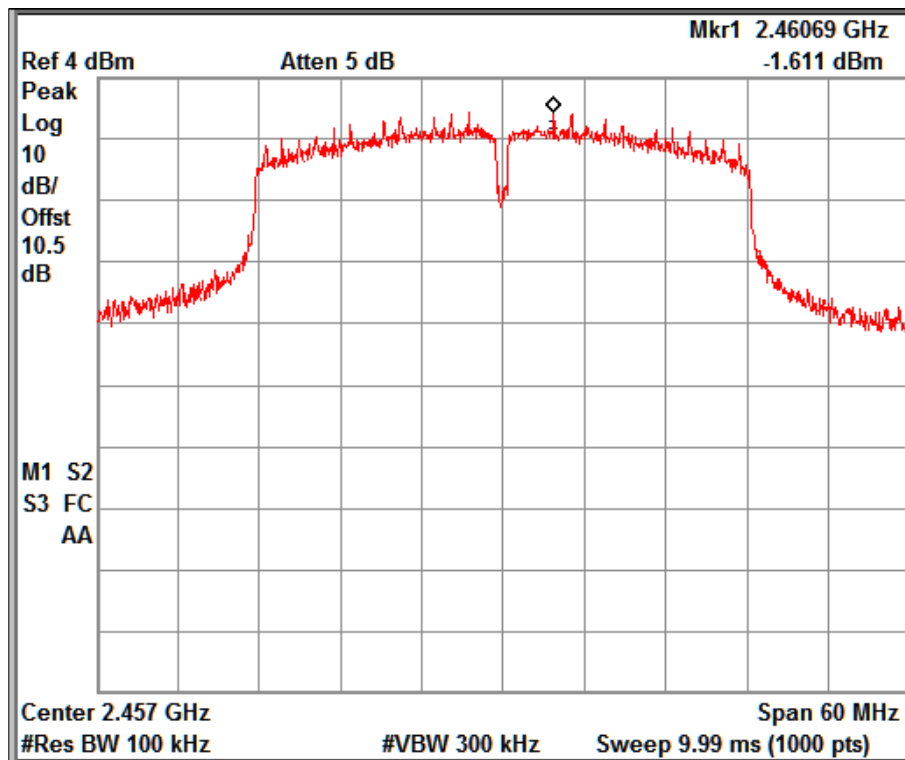
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Mode: 802.11n_HT40

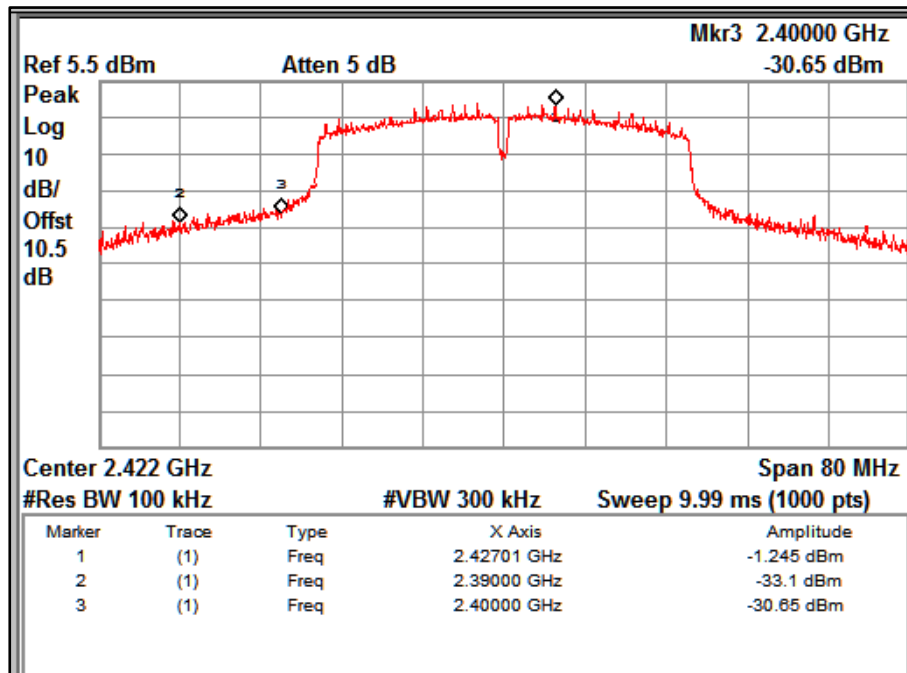
Data Rate (Mbps)	Channel Frequency (MHz)	Value at the Band Edge		Reference Value B (dBm)	Band Edge Value A-B (dBc)	Limit (dBc)
		Frequency (MHz)	Value A (dBm)			
MCS0	2422	2400	-30.65	-0.91	29.74	20
	2457	2483.5	-34.33	-1.61	32.72	20



Reference Plot for Channel Frequency: 2422

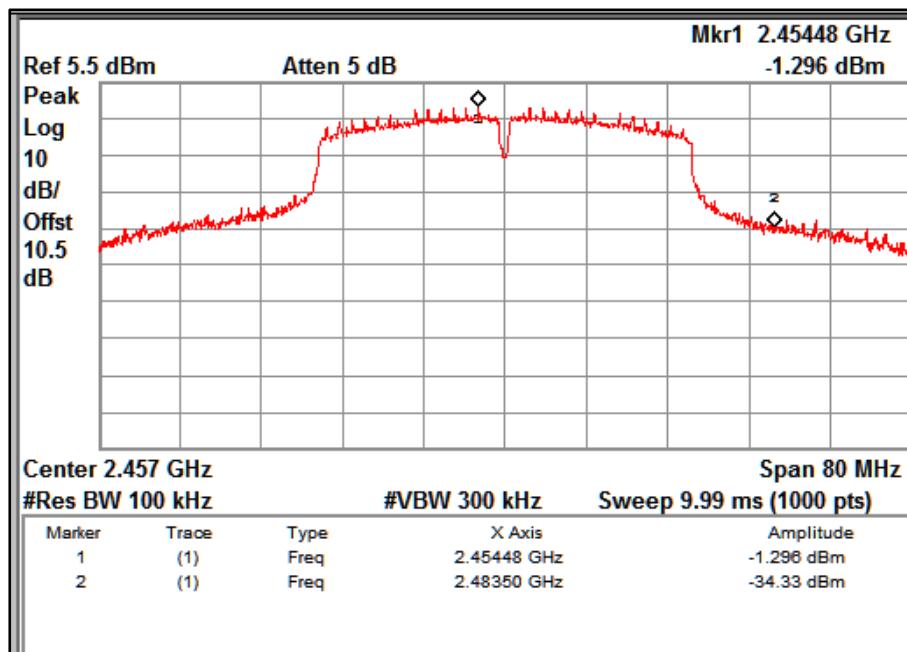


Reference Plot for Channel Frequency: 2457



Channel Frequency: 2422MHz

Data rate: MCS0



Channel Frequency: 2457MHz

Data rate: MCS0

Prüfbericht - Nr.:

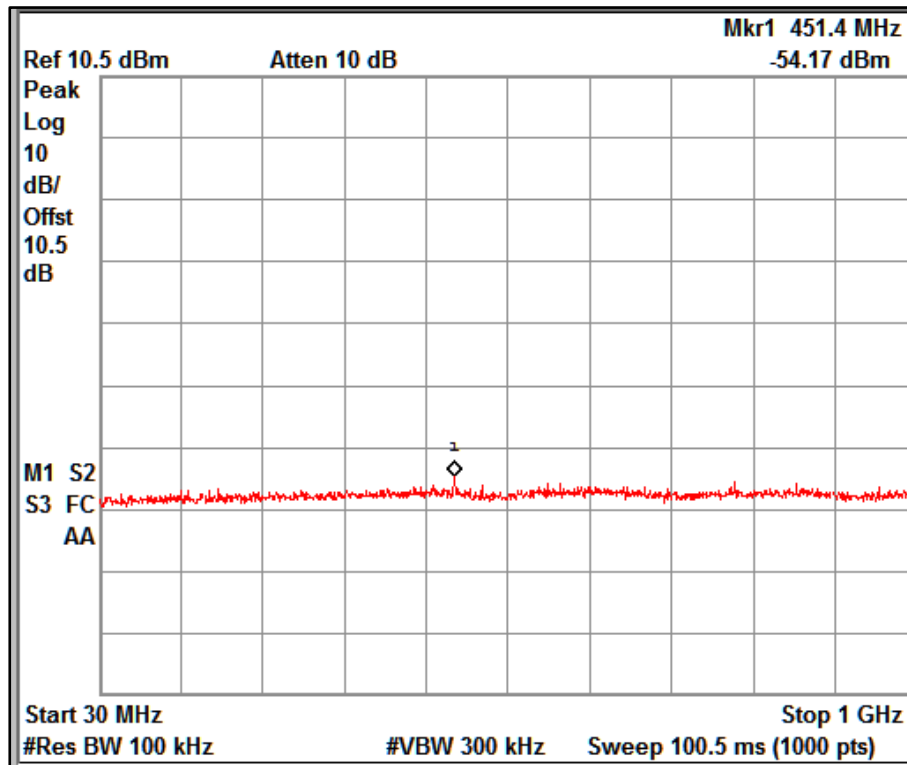
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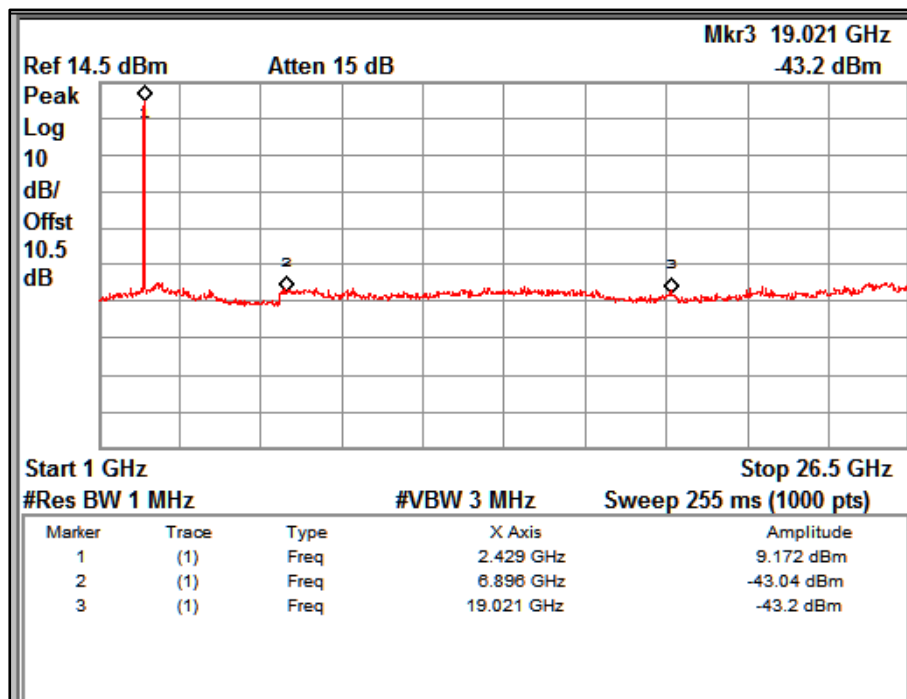
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Test results: Conducted spurious emission test



Frequency range: 30MHz – 1GHz



Frequency range: 1GHz – 26.5GHz

6.5 Spurious Radiated Emissions & Restricted Bands of Operation

Result

Pass

Test Specification	FCC Part 15 Subpart C Section 15.247(d) / (15.209 & 15.205)
Test Method	ANSI C 63.10 - 2013
Measurement Location	Semi Anechoic Chamber < 1 GHz Fully Anechoic Chamber > 1 GHz
Measuring Distance	3 m
Detector	QP for frequency below 1 GHz, average for frequency above 1 GHz
Requirement	As per the limits mentioned in the below table

Table 10: Transmitter limits for Radiated emission

Frequency (MHz)	Field strength (μV/m)	Field strength (dBμV/m)	Distance of Measurement (m)
0.009 – 0.490	2400/F(kHz)	48.50 – 13.80	300*
0.490 – 1.705	24000/F(kHz)	33.80 – 23.00	30*
1.705 -30	30	29.54	30*
30-88	100	40.0	3
88-216	150	43.5	3
216-960	200	46.0	3
Above 960	500	54.0	3

Remark: * The limit shows in the table above of frequency range 0.009 – 0.490, 0.490 – 1.705 MHz and 1.705-30MHz is at 300 meter, 30 meter and 30 meter range respectively, which corresponds to 128.51 – 93.80, 73.80 – 62.96 and 69.54 dBμV/m at 3m range by extrapolation calculation and the measurement of loop antenna.

The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9–90 kHz, 110–490 kHz and above 1000 MHz Radiated emission limits in these three bands are based on measurements employing an average detector.

Test Conditions:

Supply Voltage: 110 V AC, 60Hz
Battery: 25.9 V

Environmental conditions:

Temperature: +23.5 °C RH: 54 %

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Test results:

Charging Mode:

No emissions found in frequency range 9 kHz to 30 MHz.

Test results for frequency range 30MHz – 200MHz

Polarization	Frequency (MHz)	Measured Emission level (dBμV/m)	Limit (dBμV/m)	Margin (dB)
Vertical	42.189	26.22	40	-13.78
	42.886	37.78	40	-2.22
	43.846	23.54	40	-16.46
	80.779	34.19	40	-5.81
	82.164	33.51	40	-6.49
Horizontal	77.812	28.43	40	-11.57
	81.297	33.81	40	-6.19

Test results for frequency range 200MHz – 1GHz

Polarization	Frequency (MHz)	Measured Emission level (dBμV/m)	Limit (dBμV/m)	Margin (dB)
Vertical	416.00	39.81	46	-6.19
	479.97	37.26	46	-8.74
	960.00	36.79	46	-9.21
Horizontal	416.00	40.63	46	-5.37
	448.00	42.25	46	-3.75
	896.00	40.25	46	-5.75

Discharging Mode:

No emissions found in frequency range 9 kHz to 200 MHz.

Test results for frequency range 200MHz – 1GHz

Polarization	Frequency (MHz)	Measured Emission level (dBμV/m)	Limit (dBμV/m)	Margin (dB)
Vertical	416	37.50	46	-8.50
	480	37.28	46	-8.72
	896	37.57	46	-8.43
	960	35.65	46	-10.35
Horizontal	448	41.44	46	-4.56
	896	41.25	46	-4.75

Test results for frequencies above 1GHz

Table 11: Spurious Radiated Emissions & Restricted Bands of Operation Test Results

Worst case test results for charging mode is considered and reported.

Mode: 802.11b

Data rate: 1Mbps

Channel Frequency (MHz)	Frequency (MHz)	Polarization	Emission (dBμV/m)	Limit (dBm)	Margin (dB)
2412	2412(Pk)	Vertical	90.32	*	-
	2412(Av)		87.66	*	-
	2390(Pk)		39.57	74	-34.43
	2390(Av)		27.77	54	-26.23
	4824(Pk)		43.26	74	-30.74
	4824(Av)		31.19	54	-22.81
	7236(Pk)		48.7	74	-25.30
	7236(Av)		34.52	54	-19.48
	2412(Pk)	Horizontal	87.04	*	-
	2412(Av)		84.41	*	-
	2390(Pk)		37.80	74	-36.20
	2390(Av)		26.64	54	-27.36
	4824(Pk)		42.98	74	-31.02
	4824(Av)		30.38	54	-23.62
	7236(Pk)		48.59	74	-25.41
	7236(Av)		34.58	54	-19.42
2437	2437(Pk)	Vertical	90.22	*	-
	2437(Av)		87.67	*	-
	4874(Pk)		43.72	74	-30.28
	4874(Av)		31.34	54	-22.66
	7311(Pk)		48.89	74	-25.11
	7311(Av)		34.98	54	-19.02
	2437(Pk)	Horizontal	86.37	*	-
	2437(Av)		83.77	*	-
	4874(Pk)		43.05	74	-30.95
	4874(Av)		31.26	54	-22.74
	7311(Pk)		48.82	74	-25.18
	7311(Av)		34.92	54	-19.08

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Mode: 802.11b

Data rate: 1Mbps

Channel Frequency (MHz)	Frequency (MHz)	Polarization	Emission (dBμV/m)	Limit (dBm)	Margin (dB)
2462	2483.5(Pk)	Vertical	39.90	74	-34.10
	2483.5(Av)		27.82	54	-26.18
	2462(Pk)		89.94	*	-
	2462(Av)		87.35	*	-
	4924(Pk)		43.64	74	-30.36
	4924(Av)		32.59	54	-21.41
	7386(Pk)		48.95	74	-25.05
	7386(Av)		34.97	54	-19.03
	2483.5(Pk)	Horizontal	37.45	74	-36.55
	2483.5(Av)		26.08	54	-27.92
	2462(Pk)		86.52	*	-
	2462(Av)		84.00	*	-
	4924(Pk)		43.40	74	-30.60
	4924(Av)		31.25	54	-22.75
	7386(Pk)		48.82	74	-25.18
	7386(Av)		34.88	54	-19.12

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Mode: 802.11g

Data rate: 6Mbps

Channel Frequency (MHz)	Frequency (MHz)	Polarization	Emission (dBμV/m)	Limit (dBm)	Margin (dB)
2412	2412(Pk)	Vertical	93.11	*	-
	2412(Av)		82.73	*	-
	2390(Pk)		55.12	74	-18.88
	2390(Av)		36.03	54	-17.97
	4824(Pk)		43.02	74	-30.98
	4824(Av)		28.98	54	-25.02
	7236(Pk)		48.71	74	-25.29
	7236(Av)		34.52	54	-19.48
	2412(Pk)	Horizontal	88.43	*	-
	2412(Av)		78.33	*	-
	2390(Pk)		50.96	74	-23.04
	2390(Av)		32.90	54	-21.10
	4824(Pk)		42.94	74	-31.06
	4824(Av)		28.95	54	-25.05
	7236(Pk)		48.98	74	-25.02
	7236(Av)		34.52	54	-19.48
2437	2437(Pk)	Vertical	94.86	*	-
	2437(Av)		84.38	*	-
	4874(Pk)		43.75	74	-30.25
	4874(Av)		29.50	54	-24.50
	7311(Pk)		49.76	74	-24.24
	7311(Av)		34.96	54	-19.04
	2437(Pk)	Horizontal	90.46	*	-
	2437(Av)		80.55	*	-
	4874(Pk)		43.26	74	-30.74
	4874(Av)		29.36	54	-24.64
	7311(Pk)		49.28	74	-24.72
	7311(Av)		34.84	54	-19.16

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Mode: 802.11g

Data rate: 6Mbps

Channel Frequency (MHz)	Frequency (MHz)	Polarization	Emission (dBμV/m)	Limit (dBm)	Margin (dB)
2462	2483.5(Pk)	Vertical	54.50	74	-19.50
	2483.5(Av)		33.96	54	-20.04
	2462(Pk)		91.46	*	-
	2462(Av)		81.14	*	-
	4924(Pk)		43.68	74	-30.32
	4924(Av)		29.41	54	-24.59
	7386(Pk)		49.08	74	-24.92
	7386(Av)		34.84	54	-19.16
	2483.5(Pk)	Horizontal	52.51	74	-21.49
	2483.5(Av)		30.88	54	-23.12
	2462(Pk)		88.92	*	-
	2462(Av)		78.40	*	-
	4924(Pk)		44.38	74	-29.62
	4924(Av)		29.36	54	-24.64
	7386(Pk)		48.97	74	-25.03
	7386(Av)		34.84	54	-19.16

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Mode: 802.11n_HT20

Data rate: MCS0

Channel Frequency (MHz)	Frequency (MHz)	Polarization	Emission (dBμV/m)	Limit (dBm)	Margin (dB)
2412	2412(Pk)	Vertical	93.77	*	-
	2412(Av)		82.18	*	-
	2390(Pk)		57.14	74	-16.86
	2390(Av)		36.71	54	-17.29
	4824(Pk)		43.61	74	-30.39
	4824(Av)		28.99	54	-25.01
	7236(Pk)		48.48	74	-25.52
	7236(Av)		34.44	54	-19.56
	2412(Pk)	Horizontal	89.05	*	-
	2412(Av)		78.06	*	-
	2390(Pk)		53.60	74	-20.40
	2390(Av)		33.43	54	-20.57
	4824(Pk)		44.01	74	-29.99
	4824(Av)		28.95	54	-25.05
	7236(Pk)		49.22	74	-24.78
	7236(Av)		34.46	54	-19.54
2437	2437(Pk)	Vertical	94.32	*	-
	2437(Av)		83.48	*	-
	4874(Pk)		43.53	74	-30.47
	4874(Av)		29.45	54	-24.55
	7311(Pk)		48.73	74	-25.27
	7311(Av)		34.80	54	-19.20
	2437(Pk)	Horizontal	90.00	*	-
	2437(Av)		79.26	*	-
	4874(Pk)		43.60	74	-30.40
	4874(Av)		29.42	54	-24.58
	7311(Pk)		49.52	74	-24.48
	7311(Av)		34.78	54	-19.22

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Mode: 802.11n_HT20

Data rate: MCS0

Channel Frequency (MHz)	Frequency (MHz)	Polarization	Emission (dBμV/m)	Limit (dBm)	Margin (dB)
2462	2483.5(Pk)	Vertical	57.48	74	-16.52
	2483.5(Av)		35.18	54	-18.82
	2462(Pk)		92.14	*	-
	2462(Av)		80.93	*	-
	4924(Pk)		43.60	74	-30.40
	4924(Av)		29.42	54	-24.58
	7386(Pk)		49.14	74	-24.86
	7386(Av)		34.82	54	-19.18
	2483.5(Pk)	Horizontal	53.12	74	-20.88
	2483.5(Av)		32.28	54	-21.72
	2462(Pk)		90.20	*	-
	2462(Av)		78.49	*	-
	4924(Pk)		43.60	74	-30.40
	4924(Av)		29.37	54	-24.63
	7386(Pk)		49.22	74	-24.78
	7386(Av)		34.82	54	-19.18

Mode: 802.11n_HT40

Data rate: MCS0

Channel Frequency (MHz)	Frequency (MHz)	Polarization	Emission (dBμV/m)	Limit (dBm)	Margin (dB)
2422	2422(Pk)	Vertical	92.78	*	-
	2422(Av)		81.42	*	-
	2390(Pk)		64.35	74	-9.65
	2390(Av)		46.02	54	-7.98
	4844(Pk)		43.65	74	-30.35
	4844(Av)		29.11	54	-24.89
	7266(Pk)		48.97	74	-25.03
	7266(Av)		34.61	54	-19.39
	2422(Pk)	Horizontal	90.30	*	-
	2422(Av)		78.35	*	-
	2390(Pk)		61.32	74	-12.68
	2390(Av)		43.51	54	-10.49
	4844(Pk)		43.55	74	-30.45
	4844(Av)		29.08	54	-24.92
	7266(Pk)		48.59	74	-25.41
	7266(Av)		34.62	54	-19.38
2437	2437(Pk)	Vertical	93.32	*	-
	2437(Av)		81.69	*	-
	4874(Pk)		44.12	74	-29.88
	4874(Av)		29.35	54	-24.65
	7311(Pk)		48.85	74	-25.15
	7311(Av)		34.81	54	-19.19
	2437(Pk)	Horizontal	91.28	*	-
	2437(Av)		79.67	*	-
	4874(Pk)		43.50	74	-30.50
	4874(Av)		29.32	54	-24.68
	7311(Pk)		49.70	74	-24.30
	7311(Av)		34.80	54	-19.20

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Mode: 802.11n_HT40

Data rate: MCS0

Channel Frequency (MHz)	Frequency (MHz)	Polarization	Emission (dBμV/m)	Limit (dBm)	Margin (dB)
2457	2483.5(Pk)	Vertical	66.42	74	-7.58
	2483.5(Av)		47.48	54	-6.52
	2457(Pk)		94.01	*	-
	2457(Av)		82.39	*	-
	4914(Pk)		43.05	74	-30.95
	4914(Av)		29.36	54	-24.64
	7371(Pk)		49.37	74	-24.63
	7371(Av)		34.78	54	-19.22
	2483.5(Pk)	Horizontal	64.82	74	-9.18
	2483.5(Av)		44.86	54	-9.14
	2457(Pk)		91.01	*	-
	2457(Av)		79.35	*	-
	4914(Pk)		43.05	74	-30.95
	4914(Av)		29.36	54	-24.64
	7371(Pk)		49.37	74	-24.63
	7371(Av)		34.78	54	-19.22

*- : Fundamental Frequency
Pk:Peak ; Av: Average

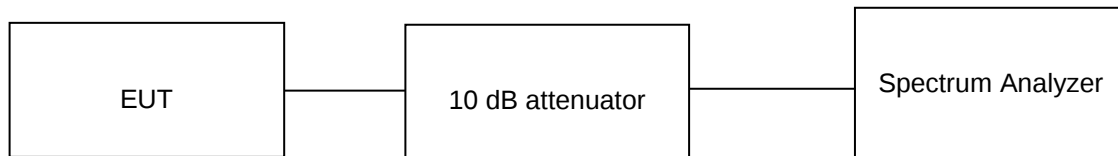
7 TEST RESULTS FOR BLUETOOTH LOW ENERGY

7.1 Maximum Peak Conducted Output Power

Result

Pass

Test Specification	FCC Part 15 Subpart C 15.247 (b) (3)
Measurement Bandwidth	1 MHz
Detector	Peak
Requirement	$\leq 1 \text{ W (30 dBm)}$



Test results:

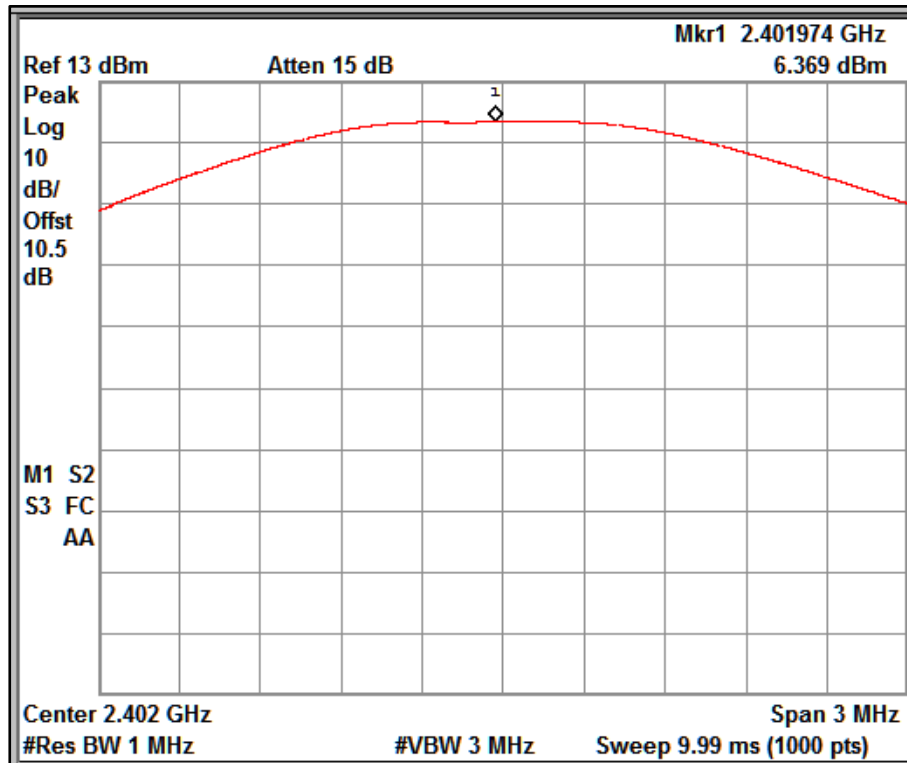
Note:

Measurements were made as per section 8.3.1.3 in 558074 D01 15.247 Measurement Guidance v05r02.

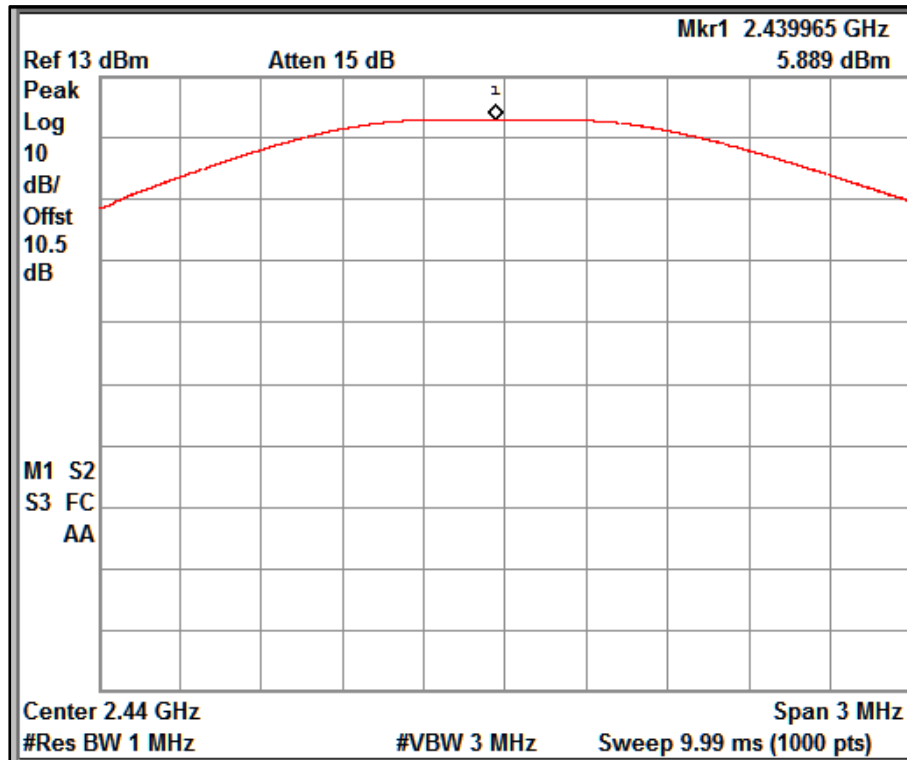
10 dB attenuator + 0.5 dB Cable loss = 10.5 dB offset is considered in below results

Table 12: Maximum peak conducted output power verified Test Results

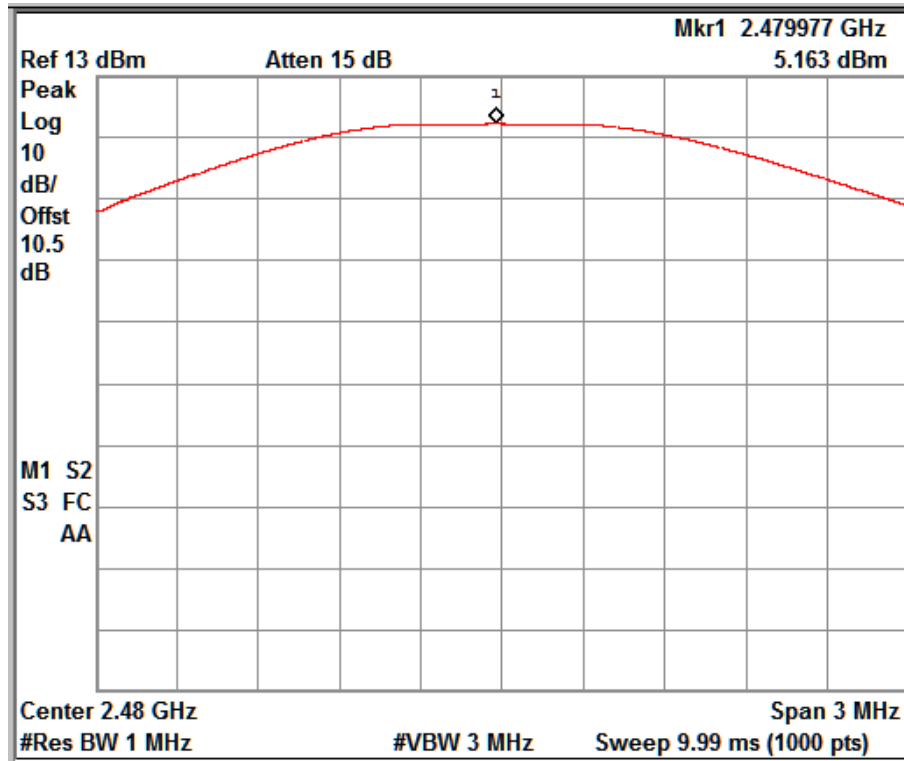
Data Rate (Mbps)	Channel Frequency (MHz)	Maximum Peak Conducted Output Power (dBm)	Limit (dBm)
1	2402	6.37	30
	2444	5.89	30
	2480	5.16	30



Channel Frequency: 2402MHz



Channel Frequency: 2440MHz



Channel Frequency: 2480MHz

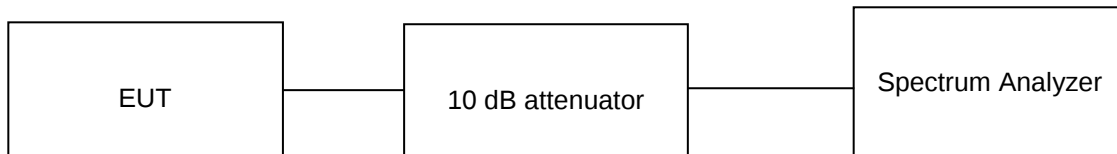
7.2 Maximum Power Spectral Density

Result

Pass

Test Specification	FCC Part 15 Subpart C Section 15.247 (e)
Detector Function	Peak
Port of testing	Antenna port
Requirement	For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm.

Test Method:



Test results:

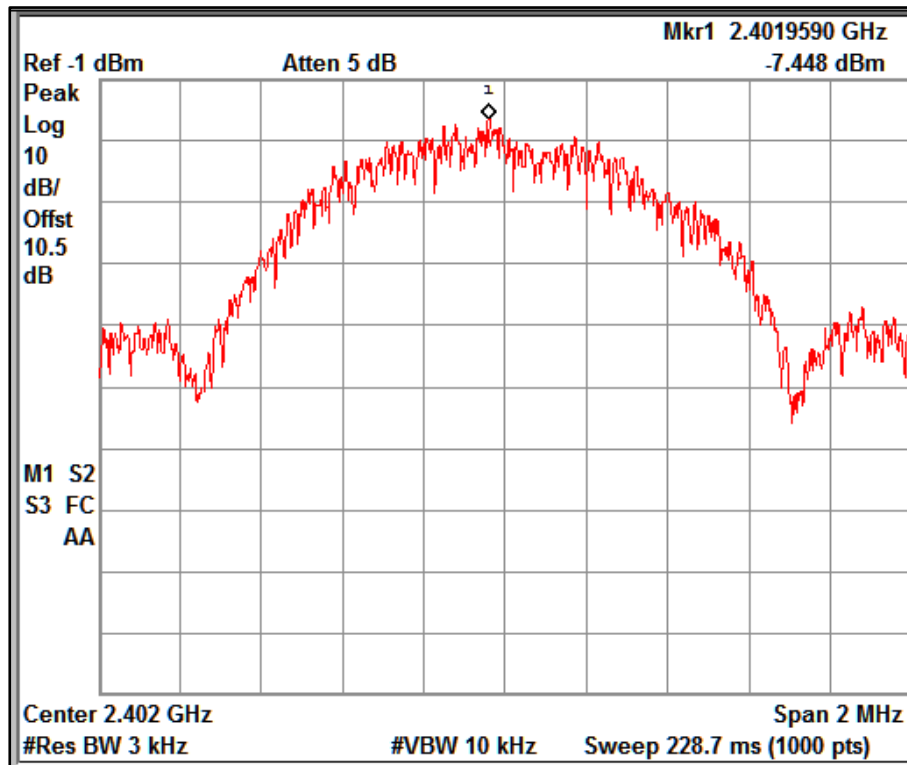
Note:

Measurements were made as per section 8.4 in 558074 D01 15.247 Measurement Guidance v05r02.

10 dB attenuator + 0.5 dB Cable loss = 10.5 dB offset is considered in below results

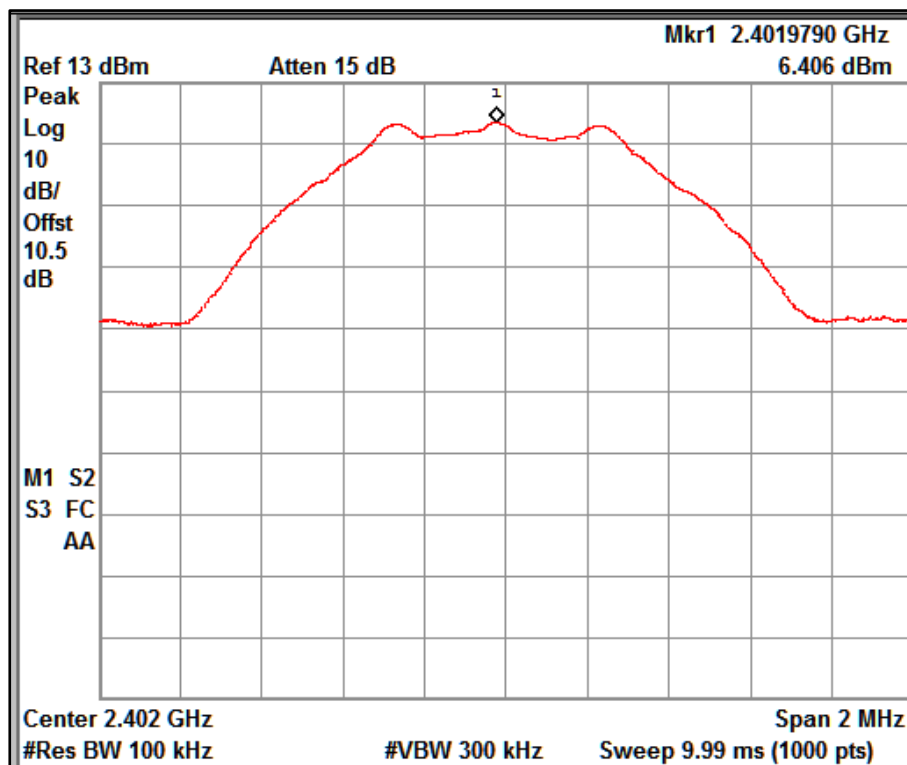
Table 13: Maximum power spectral density verified Test Results

Data Rate (Mbps)	Channel Frequency (MHz)	PSD (dBm/3kHz)	PSD (dBm/100kHz)	Limit (dBm/3kHz)
1	2402	-7.45	6.41	8
	2444	-7.89	5.68	8
	2480	-8.71	5.19	8



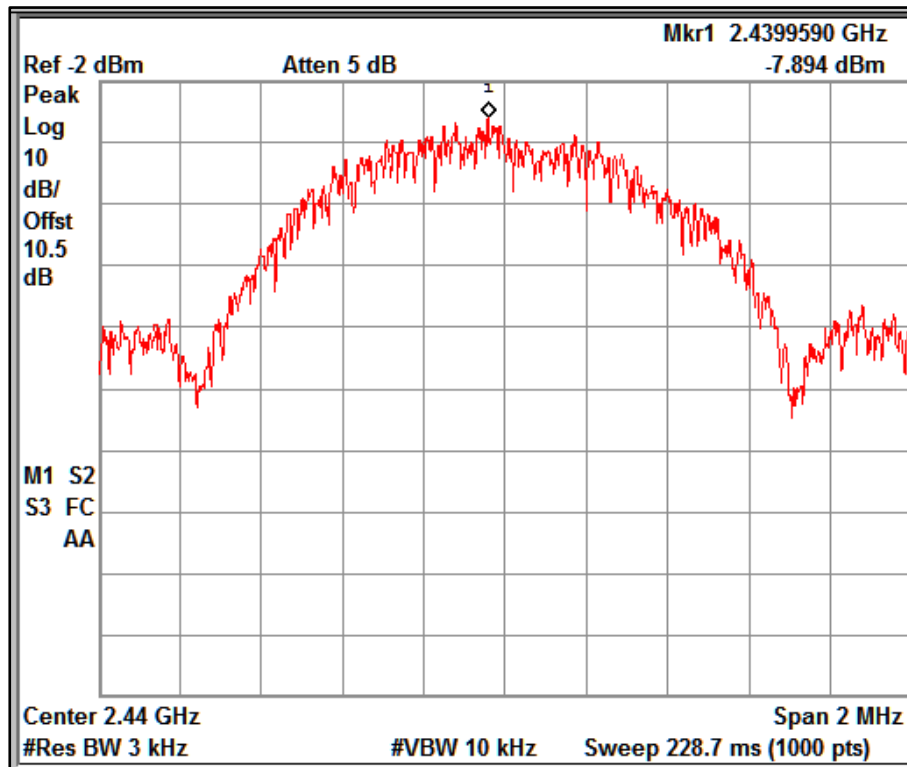
Channel Frequency: 2402 MHz

RBW:3kHz



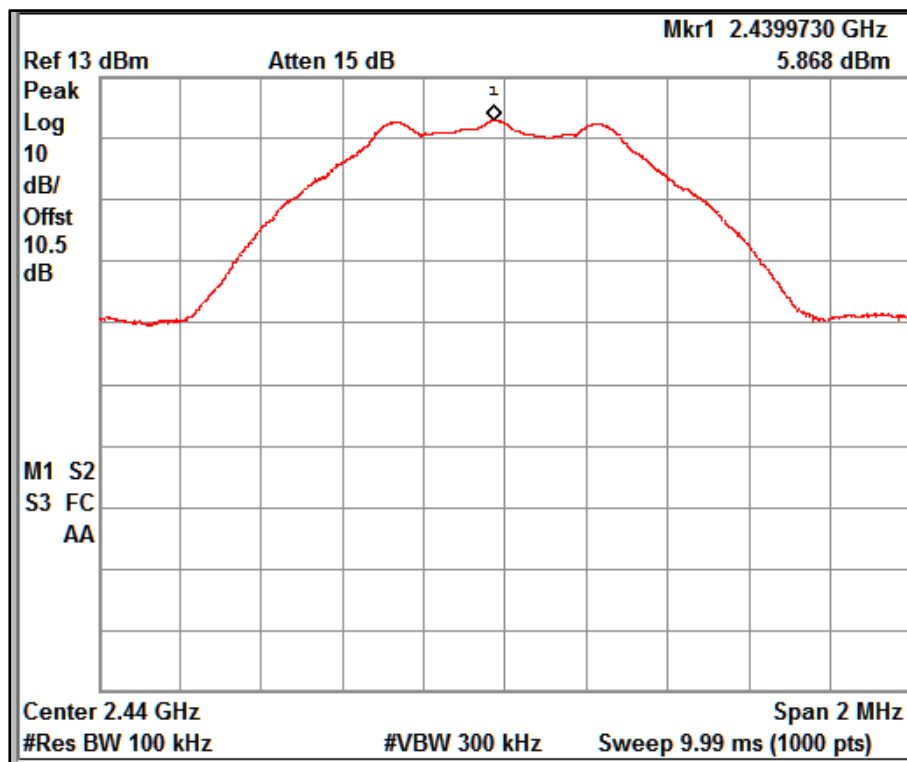
Channel Frequency: 2402 MHz

RBW:100kHz



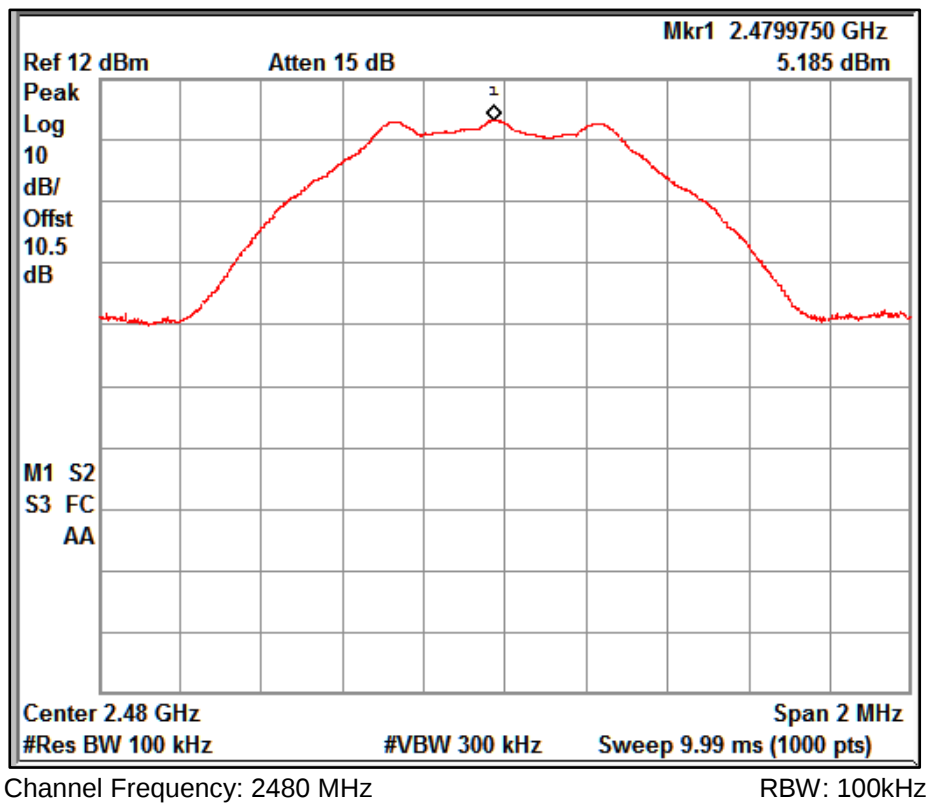
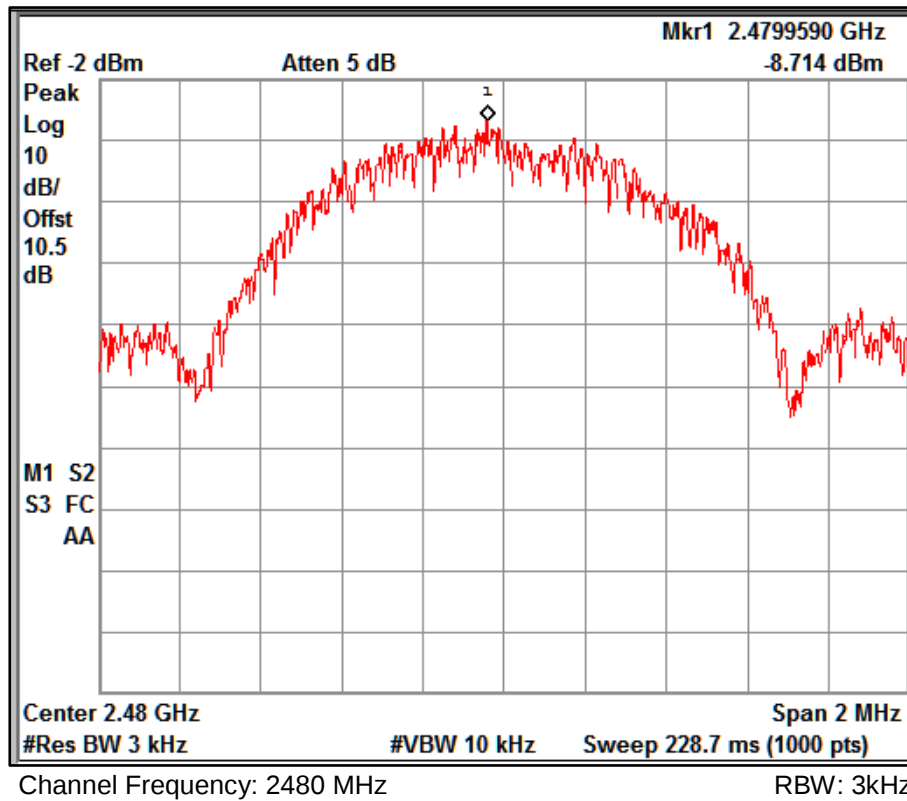
Channel Frequency: 2440 MHz

RBW: 3kHz



Channel Frequency: 2440 MHz

RBW: 100 kHz



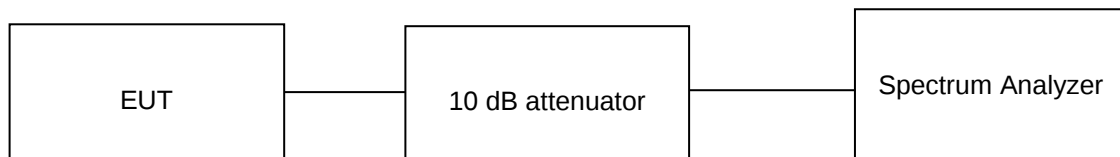
7.3 DTS Bandwidth

Result

Pass

Test Specification	FCC Part 15 Subpart C Section 15.247 (a)(2)
Detector	Peak
Port of testing	Antenna Port
Requirement	The minimum 6 dB bandwidth shall be at least 500 kHz.

Test Method:



Test results:

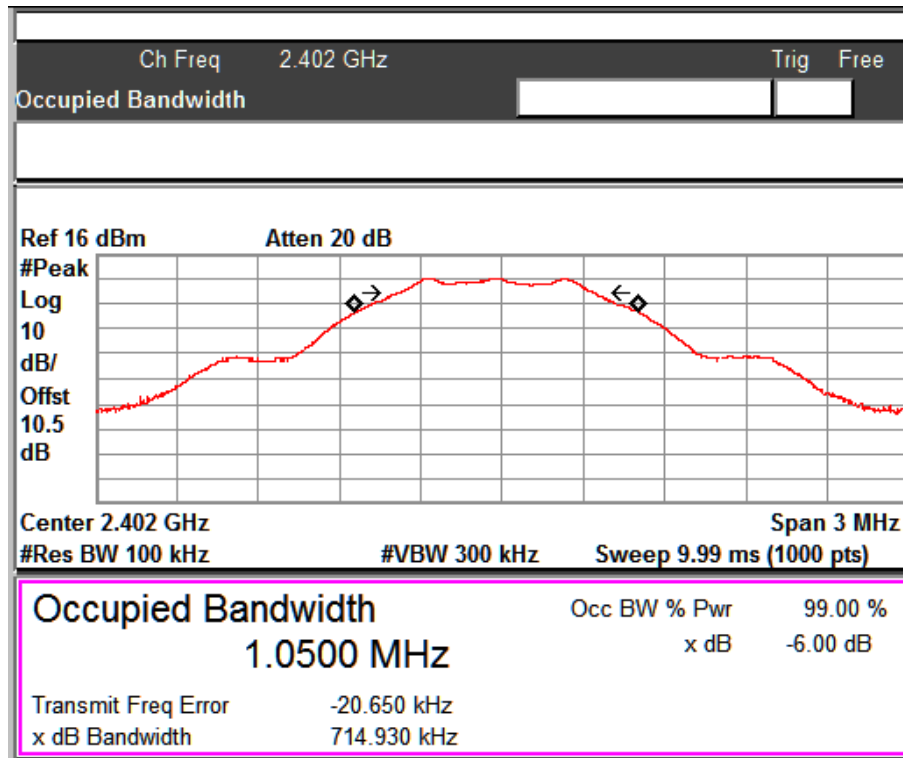
Note:

Measurements were made as per section 8.2 in 558074 D01 15.247 Measurement Guidance v05r02.

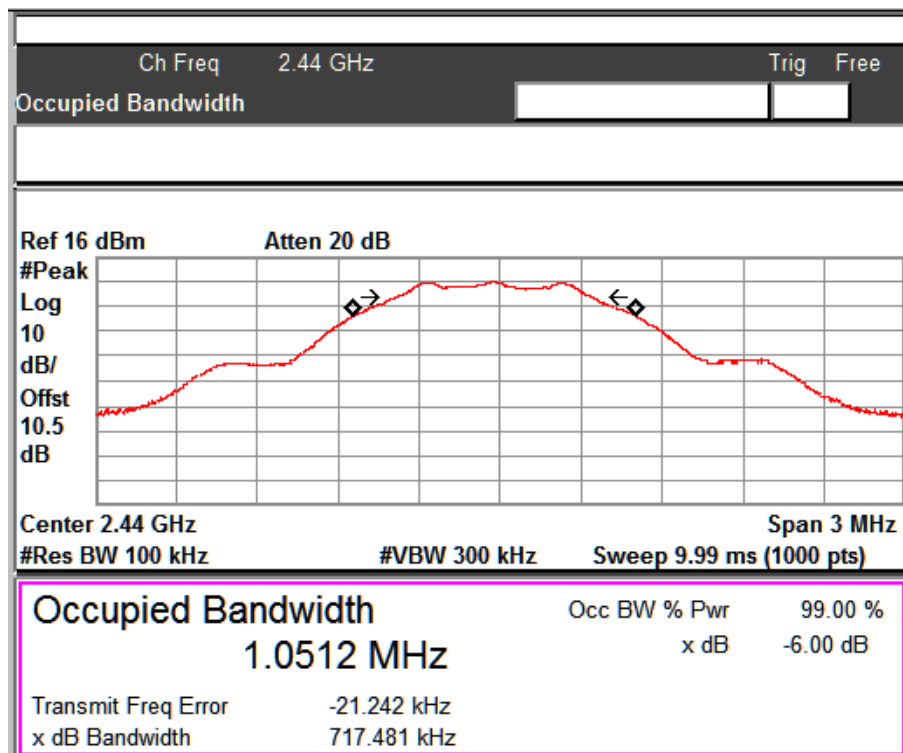
10 dB attenuator + 0.5 dB Cable loss = 10.5 dB offset is considered in below result.

Table 14: DTS Bandwidth verified Test Results

Data Rate (Mbps)	Channel Frequency (MHz)	6dB Bandwidth (MHz)	99% OBW (MHz)
1	2402	714.93	1.0500
	2444	717.48	1.0512
	2480	714.77	1.0503



Channel Frequency: 2402 MHz

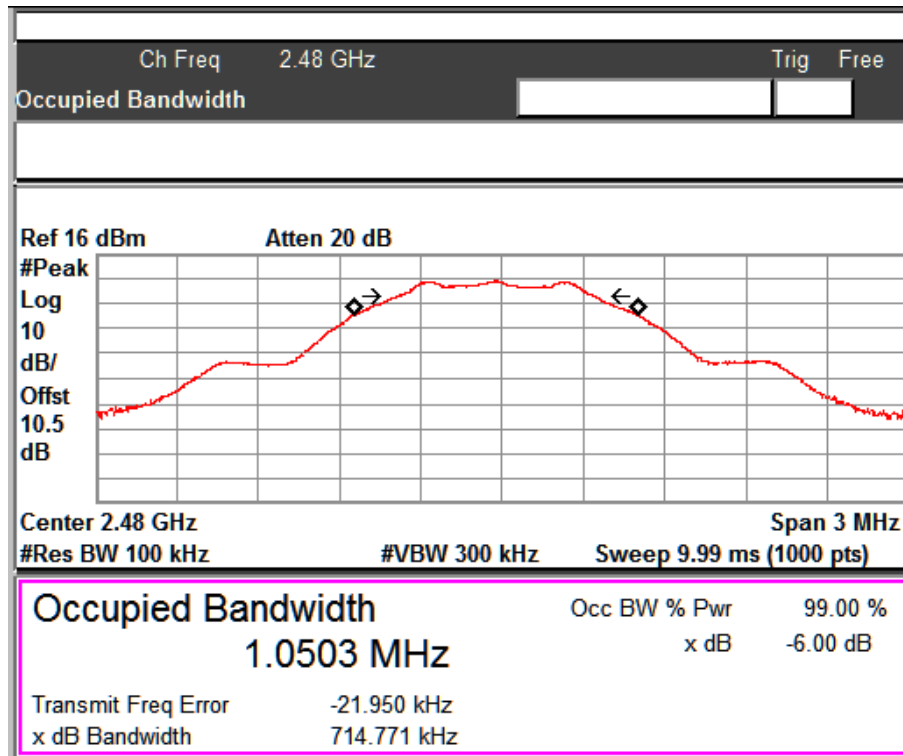


Channel Frequency: 2440 MHz

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Channel Frequency: 2480 MHz

7.4 Emissions in non-restricted frequency bands and Conducted Spurious Emission

Result

Pass

Test Specification
Detector Function
Port of testing
Requirement

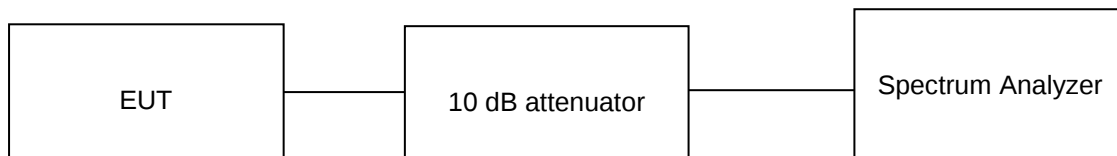
FCC Part 15 Subpart C Section 15.247 (d)

Peak

Antenna port

In any 100kHz 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 at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits.

Test Method:



Test results:

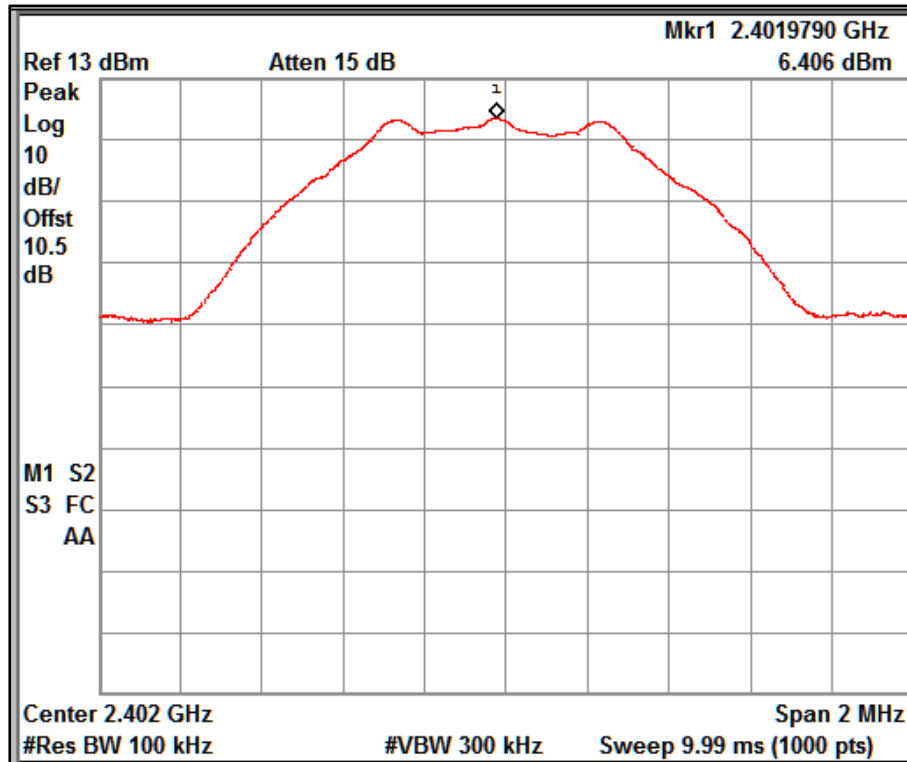
Note:

Measurements were made as per section 8.5 in 558074 D01 15.247 Measurement Guidance v05r02.

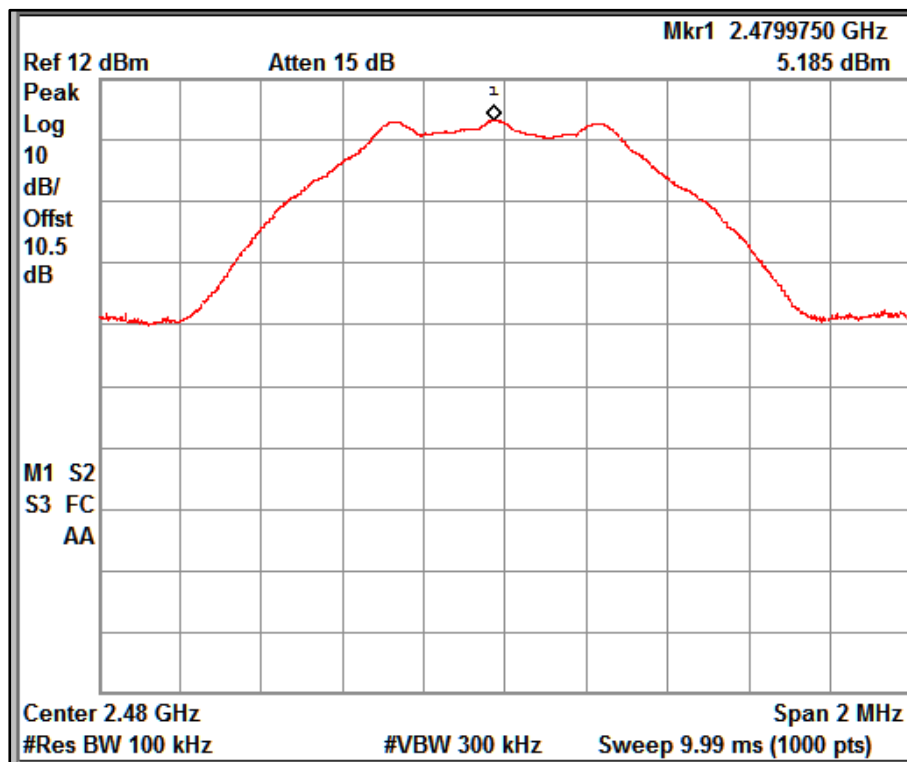
10 dB attenuator + 0.5 dB Cable loss = 10.5 dB offset is considered in below result

Table 15: Verified Test Results of Emissions in non-restricted frequency bands

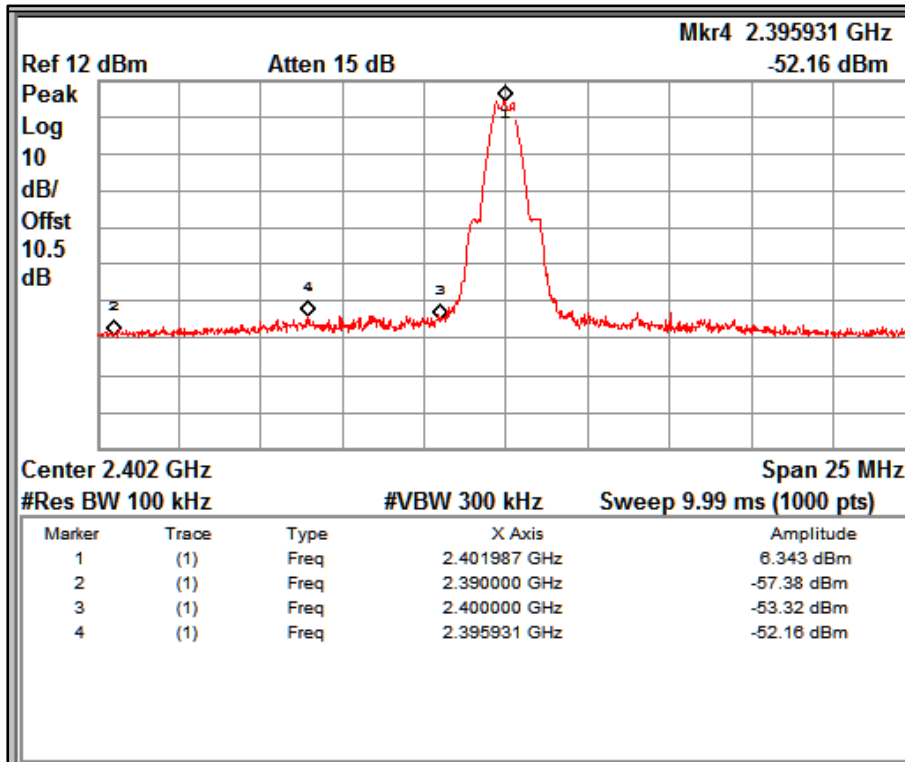
Data Rate (Mbps)	Channel Frequency (MHz)	Value at the Band Edge		Reference Value B (dBm)	Band Edge Value A~B (dBc)	Limit (dBc)
		Frequency (MHz)	Value A (dBm)			
1	2402	2400	-52.16	6.41	58.57	20
	2480	2483.5	-54.17	5.19	59.36	20



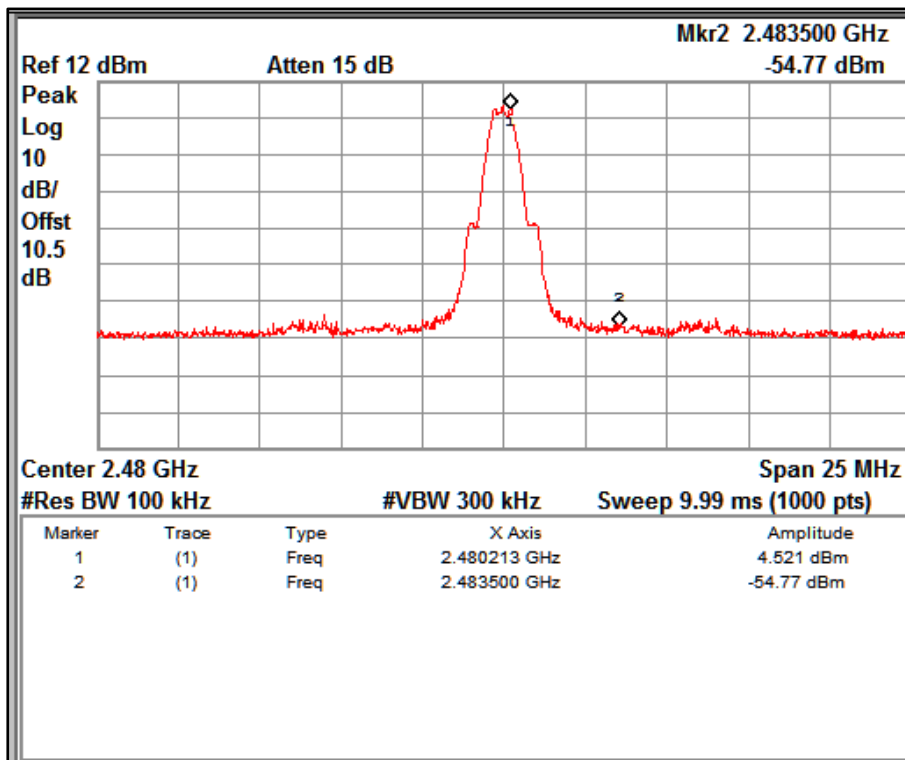
Reference Plot for Channel Frequency 2402MHz



Reference Plot for Channel Frequency 2480MHz



Channel Frequency: 2402MHz



Channel Frequency: 2480MHz

7.5 Spurious Radiated Emissions & Restricted Bands of Operation

Result

Pass

Test Specification	FCC Part 15 Subpart C Section 15.247(d) / (15.209 & 15.205)
Test Method	ANSI C 63.10 - 2013
Measurement Location	Semi Anechoic Chamber and Fully Anechoic Chamber
Measuring Distance	3 m
Detector	QP for frequency below 1 GHz, average for frequency above 1 GHz
Requirement	As per the limits mentioned in the below table

Table 16: Transmitter limits for Radiated emission

Frequency (MHz)	Field strength (μV/m)	Field strength (dBμV/m)	Distance of Measurement (m)
0.009 – 0.490	2400/F(kHz)	48.50 – 13.80	300*
0.490 – 1.705	24000/F(kHz)	33.80 – 23.00	30*
1.705 -30	30	29.54	30*
30-88	100	40.0	3
88-216	150	43.5	3
216-960	200	46.0	3
Above 960	500	54.0	3

Remark: * The limit shows in the table above of frequency range 0.009 – 0.490, 0.490 – 1.705 MHz and 1.705-30MHz is at 300 meter, 30 meter and 30 meter range respectively, which corresponds to 128.51 – 93.80, 73.80 – 62.96 and 69.54 dBμV/m at 3m range by extrapolation calculation and the measurement of loop antenna.

The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9–90 kHz, 110–490 kHz and above 1000 MHz Radiated emission limits in these three bands are based on measurements employing an average detector.

Test Conditions:

Supply Voltage: 110 V AC, 60Hz and 25.9 V Battery

Environmental conditions:

Temperature: +23.5 °C RH: 54 %

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Test results:

Charging Mode:

No emissions found in frequency range 9 kHz to 30 MHz.

Test results for frequency range 30MHz – 200MHz

Polarization	Frequency (MHz)	Measured Emission level (dBμV/m)	Limit (dBμV/m)	Margin (dB)
Vertical	42.189	26.22	40	-13.78
	42.886	37.78	40	-2.22
	43.846	23.54	40	-16.46
	80.779	34.19	40	-5.81
	82.164	33.51	40	-6.49
Horizontal	77.812	28.43	40	-11.57
	81.297	33.81	40	-6.19

Test results for frequency range 200MHz – 1GHz

Polarization	Frequency (MHz)	Measured Emission level (dBμV/m)	Limit (dBμV/m)	Margin (dB)
Vertical	416.00	39.81	46	-6.19
	479.97	37.26	46	-8.74
	960.00	36.79	46	-9.21
Horizontal	416.00	40.63	46	-5.37
	448.00	42.25	46	-3.75
	896.00	40.25	46	-5.75

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Discharging Mode:

No emissions found in frequency range 9 kHz to 200 MHz.

Test results for frequency range 200MHz – 1GHz

Polarization	Frequency (MHz)	Measured Emission level (dBμV/m)	Limit (dBμV/m)	Margin (dB)
Vertical	416	37.50	46	-8.50
	480	37.28	46	-8.72
	896	37.57	46	-8.43
	960	35.65	46	-10.35
Horizontal	448	41.44	46	-4.56
	896	41.25	46	-4.75

Test results for frequencies above 1GHz

Table 17: Spurious Radiated Emissions & Restricted Bands of Operation Test Results

Worst case test results for charging mode is considered and reported.

Data rate: 1Mbps

Channel Frequency (MHz)	Frequency (MHz)	Polarization	Emission (dBµV/m)	Limit (dBm)	Margin (dB)
2402	2402(Pk)	Vertical	90.31	*	-
	2402(Av)		85.56	*	-
	2390(Pk)		46.45	74	-27.55
	2390(Av)		26.79	54	-27.21
	4804(Pk)		42.09	74	-31.91
	4804(Av)		29.16	54	-24.84
	7206(Pk)		47.82	74	-26.18
	7206(Av)		34.79	54	-19.21
	2402(Pk)	Horizontal	86.52	*	-
	2402(Av)		81.75	*	-
	2390(Pk)		43	74	-31
	2390(Av)		25.98	54	-28.02
	4804(Pk)		43.28	74	-30.72
	4804(Av)		29.01	54	-24.99
	7206(Pk)		48.65	74	-25.35
	7206(Av)		34.36	54	-19.64
2440	2440(Pk)	Vertical	87.72	*	-
	2440(Av)		82.9	*	-
	4880(Pk)		42.83	74	-31.17
	4880(Av)		29.25	54	-24.75
	7320(Pk)		48.64	74	-25.36
	7320(Av)		35.02	54	-18.98
	2440(Pk)	Horizontal	83.91	*	-
	2440(Av)		79.16	*	-
	4880(Pk)		42.83	74	-31.17
	4880(Av)		29.12	54	-24.88
	7320(Pk)		49.33	74	-24.67
	7320(Av)		35.08	54	-18.92

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Channel Frequency (MHz)	Frequency (MHz)	Polarization	Emission (dBµV/m)	Limit (dBm)	Margin (dB)
2480	2483.5(Pk)	Vertical	38.42	*	-
	2483.5(Av)		25.57	*	-
	2480(Pk)		87.81	74	13.81
	2480(Av)		83.06	54	29.06
	4960(Pk)		43.54	74	-30.46
	4960(Av)		29.93	54	-24.07
	7440(Pk)		49.61	74	-24.39
	7440(Av)		34.4	54	-19.6
	2483.5(Pk)	Horizontal	37.33	*	-
	2483.5(Av)		24.52	*	-
	2480(Pk)		84.27	74	10.27
	2480(Av)		79.52	54	25.52
	4960(Pk)		43.01	74	-30.99
	4960(Av)		29.61	54	-24.39
	7440(Pk)		48.58	74	-25.42
	7440(Av)		35.24	54	-18.76

*- : Fundamental Frequency
Pk:Peak ; Av: Average

8 Conducted Spurious Emission Test on AC Power Line

Result

Pass

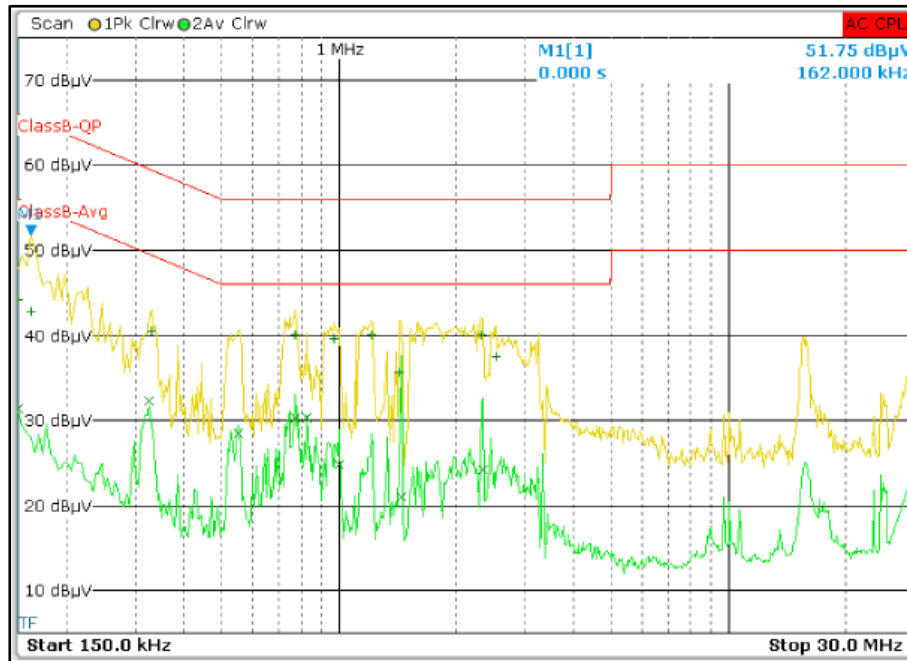
Test Specification : FCC Part 15 Section 15.207
Test Method : ANSI C63.10-2013
Testing Location : Screened room
Measurement Bandwidth : 9kHz
Frequency Range : 150kHz – 30MHz
Supply Voltage : 110VAC,60Hz

Limits of section 15.207

Frequency of emission (MHz)	QP Limit (dB μ V)	AV Limit (dB μ V/m)
0.15 – 0.5	66 – 56*	56 – 46*
0.5 – 5	56	46
5 – 30	60	50

* Decreases with the logarithm of the frequency

Test Result:



Line : Graph

Scan Table							
Scan Start	150.00000000 kHz						
Scan Stop	30.00000000 MHz						
Scan Type	LIN						
Transducer	ENV216-Line						
Detector	Trace 1: Max Peak Trace 2: Average						
Start Frequency	Stop Frequency	Step Size	RBW	Meas Time	RF Atten	Preamp	Input
150.000 kHz	30.000 MHz	4.000 kHz	9.0 kHz	20.0 ms	10.0 dB	30.0 dB	INPUT1
Final Results							
Meas Time	1.0 s						
Margin	6.0 dB						
Peaks	25						
Trace	Frequency	Level (dBμV)	Phase	Detector	Delta Limit/dB		
2	774.00000000 kHz	30.27		Average	-15.73		
2	830.00000000 kHz	30.24		Average	-15.76		
1	2.330000000 MHz	40.11		Quasi Peak	-15.89		
1	774.00000000 kHz	40.06		Quasi Peak	-15.94		
1	1.214000000 MHz	40.06		Quasi Peak	-15.94		
1	974.00000000 kHz	39.65		Quasi Peak	-16.35		
2	326.00000000 kHz	32.30		Average	-17.25		
2	550.00000000 kHz	28.45		Average	-17.55		
1	2.526000000 MHz	37.44		Quasi Peak	-18.56		
1	330.00000000 kHz	40.57		Quasi Peak	-18.88		
1	1.430000000 MHz	35.62		Quasi Peak	-20.38		
2	998.00000000 kHz	24.77		Average	-21.23		
2	2.342000000 MHz	24.28		Average	-21.72		
1	150.00000000 kHz	44.16		Quasi Peak	-21.84		
1	162.00000000 kHz	42.81		Quasi Peak	-22.55		
2	150.00000000 kHz	31.32		Average	-24.68		
2	1.446000000 MHz	21.04		Average	-24.96		



Neutral : Graph

Scan Table							
Scan Start	150.00000000 kHz						
Scan Stop	30.00000000 MHz						
Scan Type	LIN						
Transducer	ENV216-Neutral						
Detector	Trace 1: Max Peak Trace 2: Average						
Start Frequency	Stop Frequency	Step Size	RBW	Meas Time	RF Atten	Preamp	Input
150.000 kHz	30.000 MHz	4.000 kHz	9.0 kHz	20.0 ms	10.0 dB	30.0 dB	INPUT1
Final Results							
Meas Time	1.0 s						
Margin	6.0 dB						
Peaks	25						
Trace	Frequency	Level (dBμV)	Phase	Detector	Delta Limit/dB		
2	730.00000000 kHz	36.69		Average	-9.31		
2	814.00000000 kHz	35.66		Average	-10.34		
2	1.218000000 MHz	34.25		Average	-11.75		
2	642.00000000 kHz	33.68		Average	-12.32		
2	858.00000000 kHz	32.98		Average	-13.02		
1	730.00000000 kHz	42.65		Quasi Peak	-13.35		
1	814.00000000 kHz	42.05		Quasi Peak	-13.95		
1	1.890000000 MHz	41.30		Quasi Peak	-14.70		
1	1.222000000 MHz	40.75		Quasi Peak	-15.25		
2	994.00000000 kHz	30.04		Average	-15.96		
1	518.00000000 kHz	39.89		Quasi Peak	-16.11		
1	2.098000000 MHz	38.03		Quasi Peak	-17.97		
2	298.00000000 kHz	31.66		Average	-18.64		
1	1.326000000 MHz	35.94		Quasi Peak	-20.06		
1	166.00000000 kHz	41.06		Quasi Peak	-24.10		
2	150.00000000 kHz	30.54		Average	-25.46		
2	182.00000000 kHz	27.68		Average	-26.71		
1	226.00000000 kHz	35.27		Quasi Peak	-27.33		
1	15.970000000 MHz	28.58		Quasi Peak	-31.42		

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