

Prüfbericht-Nr.: <i>Test report no.:</i>	IN244S6H 001	Auftrags-Nr.: <i>Order no.:</i>	146874166 020	Seite 1 von 64 Page 1 of 64
Kunden-Referenz-Nr.: <i>Client reference no.:</i>	1013955	Auftragsdatum: <i>Order date:</i>	2024-01-23	
Auftraggeber: <i>Client:</i>	Bosch Thermotechnik GmbH Sophienstr. 30-32 35576 Wetzlar / Germany			
Prüfgegenstand: <i>Test item:</i>	IP-Gateway G10-3			
Bezeichnung.: <i>Identification .:</i>	7-736-606-771			
Auftrags-Inhalt: <i>Order content:</i>	Testing and issue of Test Report and Grant Certificate			
Prüfgrundlage: <i>Test specification:</i>	FCC Part 15 Subpart C 15.247, 15.207, 15.205 & 15.209 RSS 247 Issue 3 and RSS GEN Issue 5			
Wareneingangsdatum: <i>Date of sample receipt:</i>	2024-01-23			
Prüfmuster-Nr & Serien-Nr.: <i>Test sample no & serial no.:</i>	A003663206-001 A003649547-003 86DM-380-nnnnn-7736606771			
Prüfzeitraum: <i>Testing period:</i>	2024-02-07 - 2024-02-27			
Ort der Prüfung: <i>Place of testing:</i>	Wireless laboratory, Bangalore			
Prüflaboratorium: <i>Testing laboratory:</i>	TÜV Rheinland (India) Pvt.Ltd., 27/B, 2nd Cross, Electronic City Phase1 Bangalore -560 100, India FCC Test site registration number: 496599 IC Test Site Registration No: 27711 HVIN No: 8638915742h01v00-LU			
Prüfergebnis*: <i>Test result*:</i>	Pass			
geprüft von: <i>tested by:</i>	genehmigt von: <i>authorized by:</i>			
Datum: <i>Date:</i> 2024-08-14	Ausstellatum: <i>Issue date:</i> 2024-08-16			
Stellung / Position:	Likhithesh M D Senior Engineer	Stellung / Position:	Madhu K.N Assistant Manager	
Sonstiges / Other:	FCC ID: 2AODDIPGWG10-3 IC: 23386-IPGWG10			
Zustand des Prüfgegenstandes bei Anlieferung: <i>Condition of the test item at delivery:</i>	Prüfmuster vollständig und unbeschädigt <i>Test item complete and undamaged</i>			
* Legende: 1 = sehr gut 2 = gut 3 = befriedigend 4 = ausreichend 5 = ... P(ass) = entspricht o.g. Prüfgrundlage(n) F(ail) = entspricht nicht o.g. Prüfgrundlage(n) N/A = nicht anwendbar N/T = nicht	* Legend: 1 = very good 2 = good 3 = satisfactory 4 = sufficient 5 = poor P(ass) = passed a.m. test specification(s) F(ail) = failed a.m. test specification(s) N/A = not applicable N/T = not			
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 only 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 test mark.</i>				

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- | | |
|---|---|
| 1 | <p>Alle eingesetzten Prüfmittel waren zum angegebenen Prüfzeitraum gemäß eines festgelegten Kalibrierungsprogramms unseres Prüfhauses kalibriert. Sie entsprechen den in den Prüfprogrammen hinterlegten Anforderungen. Die Rückverfolgbarkeit der eingesetzten Prüfmittel ist durch die Einhaltung der Regelungen unseres Managementsystems gegeben.</p> <p>Detaillierte Informationen bezüglich Prüfkonditionen, Prüfequipment und Messunsicherheiten sind im Prüflabor vorhanden und können auf Wunsch bereitgestellt werden.</p> <p><i>The equipment used during the specified testing period was calibrated according to our test laboratory calibration program. The equipment fulfils the requirements included in the relevant standards. The traceability of the test equipment used is ensured by compliance with the regulations of our management system. Detailed information regarding test conditions, equipment and measurement uncertainty is available in the test laboratory and could be provided on request.</i></p> |
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| 3 | <p>Prüfklausel mit der Note * wurden an qualifizierte Unterauftragnehmer vergeben und sind unter der jeweiligen Prüfklausel des Berichts beschrieben.</p> <p>Abweichungen von Prüfspezifikation(en) oder Kundenanforderungen sind in der jeweiligen Prüfklausel im Bericht aufgeführt.</p> <p><i>Test clauses with remark of * are subcontracted to qualified subcontractors and described under the respective test clause in the report.</i></p> <p><i>Deviations of testing specification(s) or customer requirements are listed in specific test clause in the report.</i></p> |
| 4 | <p>Die Entscheidungsregel für Konformitätserklärungen in diesem Prüfbericht basiert auf der "Null-Grenzwert-Regel" und der "Einfachen Akzeptanz" gemäß ILAC G8:2019 und IEC Guide 115:2021, es sei denn, in der auf Seite 1 dieses Berichts genannten angewandten Norm ist etwas anderes festgelegt oder vom Kunden gewünscht. Dies bedeutet, dass die Messunsicherheit nicht berücksichtigt wird und daher auch nicht im Prüfbericht angegeben wird.</p> <p><i>The decision rule for statements of conformity in this test report is based on the "Zero Guard Band Rule" and "Simple Acceptance" in accordance with ILAC G8:2019 and IEC Guide 115:2021, unless otherwise specified in the applied standard mentioned on Page 1 of this report or requested by the customer. This means that measurement uncertainty is not taken in account and hence also not declared in the test report.</i></p> |

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TEST SUMMARY

Test Item	FCC	ISED	Result
MAXIMUM CONDUCTED (AVERAGE) OUTPUT POWER	15.247 (b)(3)	RSS 247 ISSUE 3, SECTION 5.4 (d)	PASS
MAXIMUM POWER SPECTRAL DENSITY	FCC 15.247(e)	RSS 247 ISSUE 3, SECTION 5.2 (b)	PASS
DTS BANDWIDTH	FCC 15.247(a) (2)	RSS 247 ISSUE 3, SECTION 5.2 (a)	PASS
EMISSIONS IN NON-RESTRICTED FREQUENCY BANDS	15.247 (d)	RSS 247 ISSUE 3, SECTION 5.5	PASS
SPURIOUS RADIATED EMISSIONS AND RESTRICTED BANDS OF OPERATION	15.247 (d) /FCC 15.209 / FCC 15.205	RSS-GEN ISSUE 5, SECTION 8.9 /8.10	PASS

Product Category: Electronics Testing

Test Discipline: EMC Test Facility

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REVISION HISTORY OF THIS REPORT

Report Number	Version	Description	Issue date
IN244S6H 001	01	Initial Issue of Test Report	2024-08-16

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1 GENERAL REMARKS

1.1 Attachments

All attachments are part of this test report and are issued in separate document

1: TEST SETUP PHOTOS

2: EUT EXTERNAL PHOTOS

3: EUT INTERNAL PHOTOS

4: FCC LABEL AND LABEL LOCATION

5: BLOCK DIAGRAM

6: SPECIFICATION OF EUT

7: SCHEMATIC DIAGRAM

8: BILL OF MATERIAL

9: USER MANUAL

10: MAXIMUM PERMISSIBLE EXPOSURE INFORMATION

2 TEST SITES

2.1 Testing Facilities

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

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

Radiated Measurement site type :
Fully anechoic chamber (used for above 1 GHz
measurements)

Radiated Measurement site type :
Semi anechoic chamber (used for below 1 GHz
measurements)

2.2 List of Test and Measurement Instruments

Table 1: List of test and measurement instruments

Equipment	Manufacturer	Model Name	Serial Number	Firmware Versions	Calibration Due Date	Periodicity	Test Facility
EMI Receiver	Rohde & Schwarz	ESW 44	101732	4.73 SP5	30.07.2024	Yearly	Radiated Spurious Emission
Active loop antenna	Frankonia	LAX-10	LAX-10-800	-	02.03.2024	Yearly	
Baloon and Biconical Antenna	Schwarzbeck mess-elektronik	VHBB-9124 / BBA-9106	01028	-	08.02.2025	Yearly	
Log-Periodic Antenna	Schwarzbeck mess-elektronik	VUSLP-9111B	9111B-111	-	03.02.2025	Yearly	
Horn Antenna	Schwarzbeck	BBHA 9120 D	9120D-01944	-	28.10.2024	Yearly	
Double-Ridged Waveguide Horn Antenna	ETS	116706	00107323	-	31.05.2024	Yearly	
EMI Test Receiver	Rohde & Schwarz	ESW44	101773	1.72.SP1	26.01.2025	Yearly	
Semi Anechoic Chamber	Frankonia	-	-	-	-	-	
Fully Anechoic Chamber	Albatross	-	-	-	-	-	Conducted Test Parameters
Spectrum Analyzer	Agilent	E4407B	US41192772	A.14.07	04.01.2025	Yearly	
Signal Analyser	Rohde & Schwarz	FSV7	101644	FW 3.40	09.02.2025	Yearly	
EMI Receiver	Rohde & Schwarz	ESR7	101133	3.48 SP3	29.07.2024	Yearly	Conducted AC Power line Test
Line Impedance Stabilization Network	Rohde & Schwarz	ENV 216	101434	-	15.04.2024	Yearly	
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100811	-	12.07.2024	Yearly	

Table 2: Instrument application Software versions

SL. No.	Test Type	Application software	Version
1	Radiated spurious emission measurement in 10mtr-SAC	BAT EMC	3.20.0.17
2	Radiated spurious emission measurement in FAC	EMC 32	10.60.20
3	Conducted measurement: TS8997 system	WMS 32	10.11.00

3 GENERAL PRODUCT INFORMATION

3.1 Product Function and Intended Use

The IP-Gateway G10-3 is a Wireless 2,4 GHz Gateway. This Gateway will be installed into different appliances from Bosch like Air Conditioner, Air Purifier, Water Softener, Convector, Infrared Panel or portable AC. The Gateway is communicating via serial HW interface to the appliance and sending/receiving via 2,4 GHz b/g/n sensor and control data.

3.2 Ratings and System Details of Equipment under Test

Table 3: Ratings and System Details as declared by Client*

Radio Protocol		Wi-Fi 2.4GHz
Operating Frequency Range		2412MHz to 2462MHz
No. of Channels		11 (Refer Table 5)
Channel Spacing		5MHz
Transmitting Power Level		0 dBm Power Index
Maximum Measured e.i.r.p		19.80 dBm @ 2462MHz MCS7 7-736-606-771 (USB Accessory)
Modulation		20MHz: 802.11b: DSSS (1Mbps,11Mbps) 802.11g: OFDM (6Mbps, 54Mbps) 802.11n: OFDM (20MHz: MCS0, MCS7)
Number of antennas		1
Antenna type & gain		7-736-606-771 (USB Accessory) 2.10 dBi
Supply Voltage to Product		5V DC 0.50A
Environmental conditions	Storage	-10°C to +50 °C Relative Humidity <85%
	Operating	
EUT Dimension (LXW)		7-736-606-771: 59.35x23.8mm

***Disclaimer:** The information/data is supplied by the client and the same is considered to arrive at the final value. Any changes made apart from the specified specification, can directly impact on the tests results. Refer the products user manual for more details.

3.3 Measurement Uncertainty:

Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of $k = 2$

Table 4: Measurement Uncertainty

Parameter	Uncertainty
Occupied Channel Bandwidth	$\pm 5 \%$
RF output power, conducted	$\pm 1.5 \text{ dB}$
Power Spectral Density, conducted	$\pm 3 \text{ dB}$
Unwanted Emissions, conducted	$\pm 3 \text{ dB}$
All emissions, radiated	$\pm 6 \text{ dB}$
Temperature	$\pm 3 \text{ }^{\circ}\text{C}$
Supply Voltages	$\pm 3 \%$
Time	$\pm 5 \%$

4 TEST SET-UP AND OPERATION MODE

4.1 Principle of Configuration Selection

Transmission was enabled with highest possible duty cycle on low, mid and high channels

4.2 UUT Operation and Software

Hardware Version Identification number (HVIN) : 8638915742h01v00-LU
Software version for USB embedded : 2.0.0

4.3 Special Accessories and Auxiliary Equipment

Test laptop (Radio Tool GUI Software Version : 1.0.3.10),
USB cable

4.4 Simultaneous Transmission

This product doesn't supports Simultaneous transmission

4.5 Countermeasures to achieve EMC Compliance

- None

4.6 List of frequencies

Frequency Band (MHz)	Channel No.	Channel Frequency (MHz)
2412 – 2462	1	2412
	2	2417
	3	2422
	4	2427
	5	2432
	6	2437
	7	2442
	8	2447
	9	2452
	10	2457
	11	2462

Table 5: List of Wi-Fi center Frequencies

Channel used for Wi-Fi 2.4GHz testing

Protocol: WLAN 802.11b

Channel Low : 2412 MHz
Channel Mid : 2437 MHz
Channel High : 2462 MHz

Protocol: WLAN 802.11g

Channel Low : 2412 MHz
Channel Mid : 2437 MHz
Channel High : 2462 MHz

Protocol: WLAN 802.11n_20MHz

Channel Low : 2412 MHz
Channel Mid : 2437 MHz
Channel High : 2462 MHz

Note:

TUV Sample Identification number	A003663206-001	Radiated test Sample
	A003649547-003	Conducted test Sample

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4.7 Report References

Note: Product IP-Gateway G10-3 has multiple protocols. All the supported wireless protocols and their respective test results are issued in separate test reports, following table lists the report numbers.

Radio Protocol	Report Number
RF test report for Wi-Fi (2.4GHz)_USB	IN244S6H 001
RF test report for Wi-Fi (2.4GHz)_Molex	IN24NV3D 001

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5 Operational Description

With an installed IP-Gateway G10-3 into a appliance product like Air Conditioner or Air Purifiers it is possible by an end user to control his appliance product via Smartphone App. He can read sensor values (room temperature) or change to another operation mode or fan speed.

6 TEST METHODOLOGY

6.1 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 measurement 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

6.1.1 Test Setup Configuration

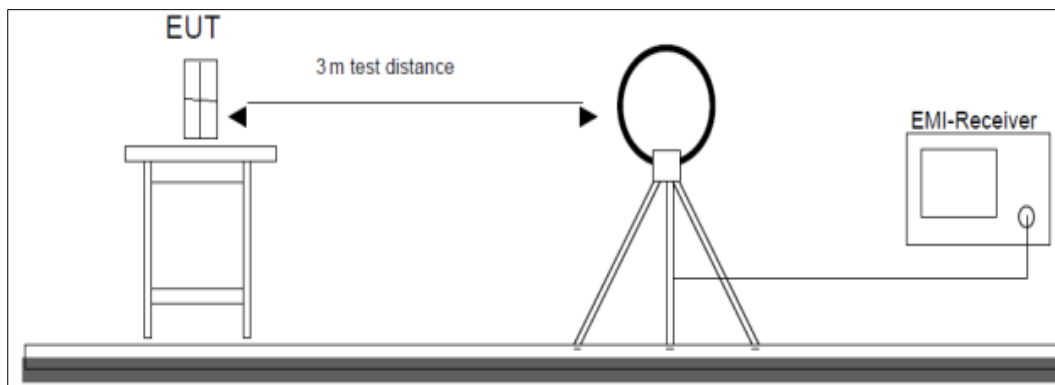


Figure 1: Frequency Range 9 kHz- 30 MHz

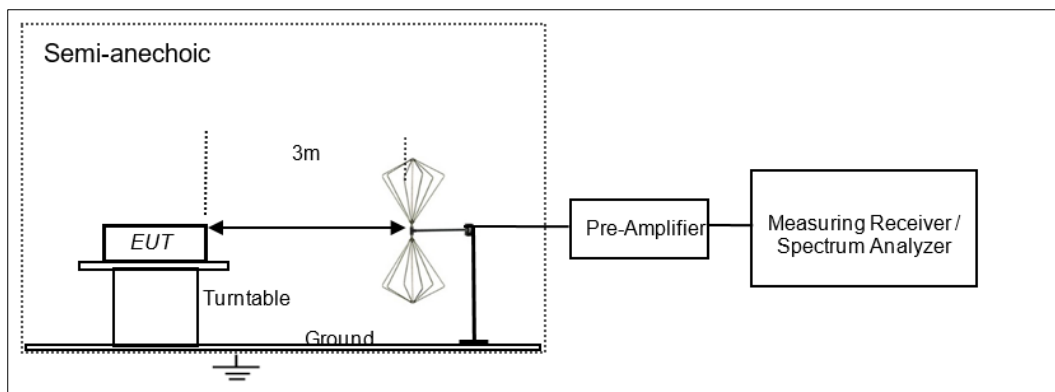


Figure 2: Frequency Range 30 MHz – 200 MHz

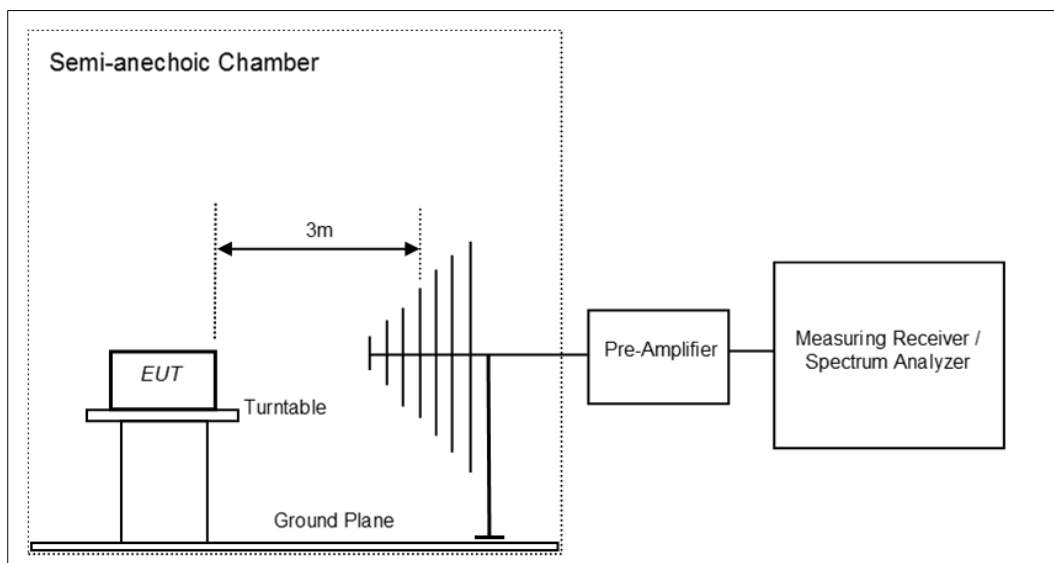


Figure 3: Frequency Range 200 MHz - 1GHz

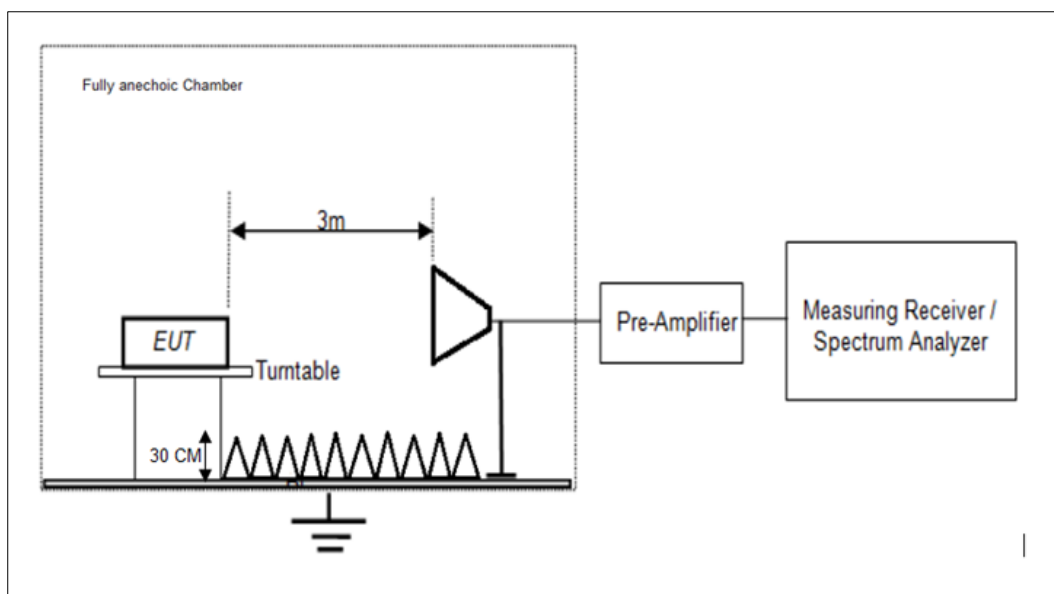


Figure 4: Frequency Range above 1 GHz

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7 TEST RESULTS FOR WI-FI 2.4GHz

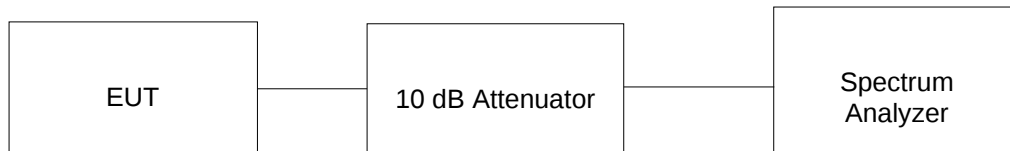
7.1 Maximum Average Conducted Output Power

Result

Pass

Test Specification	FCC part 15 Subpart C 15.247 (b)(3) / RSS 247 Issue 3, Section 5.4 (d)
Test Method	Subclause 11.9.2.2.4 of ANSI C63.10
Detector	Average
Port of testing	Antenna port
Requirement	Power ≤ 1 W (30 dBm) & e.i.r.p ≤ 4 W (36 dBm)

Test Method



Test Condition

Normal Test Condition:

Temperature (Norm) = + 25 °C Voltage = 5V DC 0.50A through DC Supply Relative humidity: 62%

KDB Guidelines applied:

Measurements were made as per section 8.3.2.2 in KDB 558074 D01 15.247 Measurement Guidance v05r02.

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Test results:

Note:

1. All the losses are included during measurement and final values are mentioned in the test report.

USB Accessory

Modulation: 802.11b

Data rate (Mbps)	Measured Frequency (MHz)	Measured Average Power (dBm)	Duty Cycle Correction factor (dB)	Maximum Average output power (dBm)	Maximum e.i.r.p (dBm)	Power Limit (dBm)	e.i.r.p limit (dBm)
1	2412	15.26	0.14	15.40	17.50	30.00	36.00
	2437	15.24	0.18	15.42	17.52	30.00	36.00
	2462	14.92	0.20	15.12	17.22	30.00	36.00
11	2412	14.15	1.04	15.19	17.29	30.00	36.00
	2437	14.64	1.03	15.67	17.77	30.00	36.00
	2462	14.51	1.22	15.73	17.83	30.00	36.00

Modulation: 802.11g

Data rate	Measured Frequency (MHz)	Measured Average Power (dBm)	Duty Cycle Correction factor (dB)	Maximum Average output power (dBm)	Maximum e.i.r.p (dBm)	Power Limit (dBm)	e.i.r.p limit (dBm)
6	2412	9.65	0.34	9.99	12.09	30.00	36.00
	2437	13.96	0.32	14.28	16.38	30.00	36.00
	2462	9.82	0.27	10.09	12.19	30.00	36.00
54	2412	5.60	5.68	11.28	13.38	30.00	36.00
	2437	5.83	5.74	11.57	13.67	30.00	36.00
	2462	6.20	5.47	11.67	13.77	30.00	36.00

Modulation: 802.11n_HT20

Data rate	Measured Frequency (MHz)	Measured Average Power (dBm)	Duty Cycle Correction factor (dB)	Maximum Average output power (dBm)	Maximum e.i.r.p (dBm)	Power Limit (dBm)	e.i.r.p limit (dBm)
MCS0	2412	10.17	0.39	10.56	12.66	30.00	36.00
	2437	13.58	0.65	14.23	16.33	30.00	36.00
	2462	9.73	0.63	10.36	12.46	30.00	36.00
MCS7	2412	4.22	12.94	17.16	19.26	30.00	36.00
	2437	4.50	12.86	17.36	19.46	30.00	36.00
	2462	4.76	12.94	17.70	19.80	30.00	36.00

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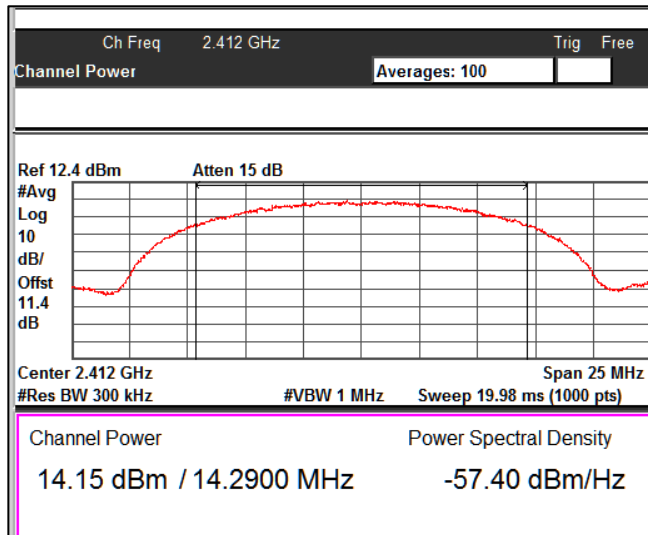
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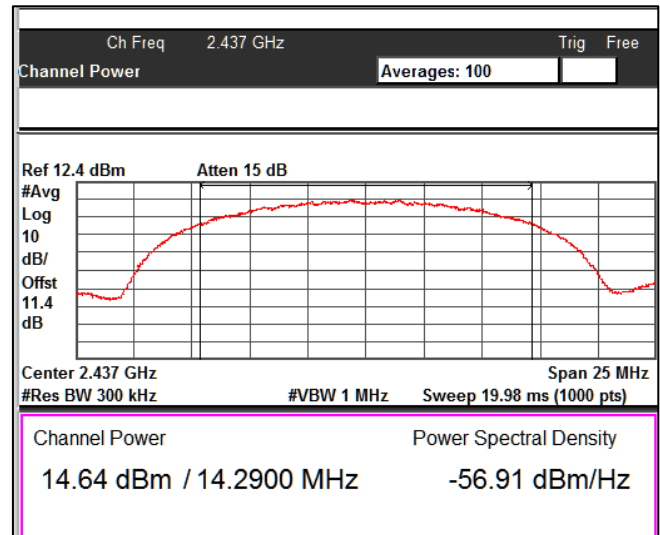
Note: Testing has been performed for all the data rates for reporting purposes; worst-case plots have been reported.

Modulation: 802.11b

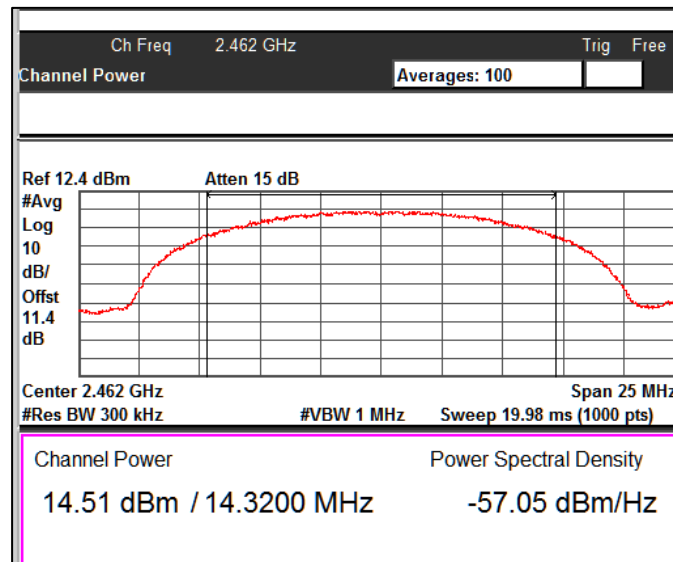
Data Rate: 11Mbps



Channel Frequency: 2412 MHz



Channel Frequency: 2437 MHz



Channel Frequency: 2462 MHz

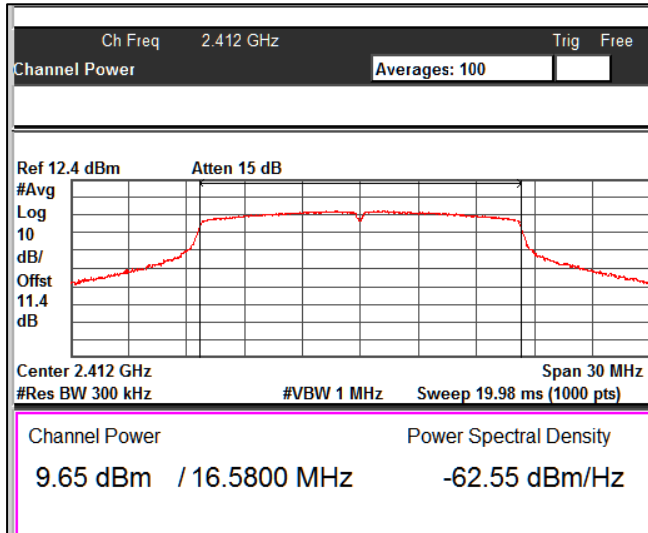
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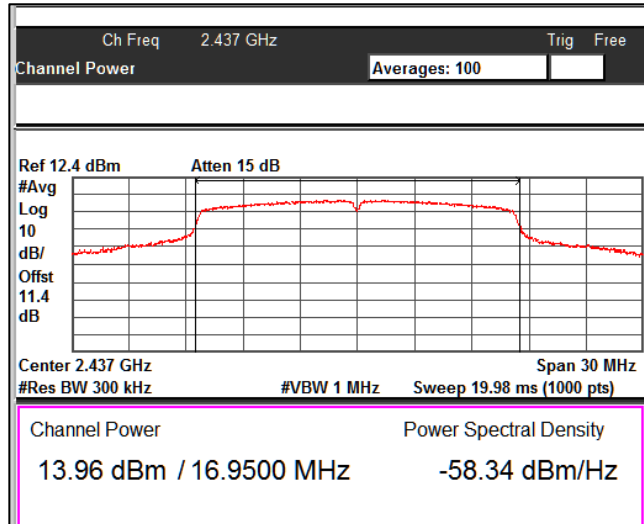
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Modulation: 802.11g

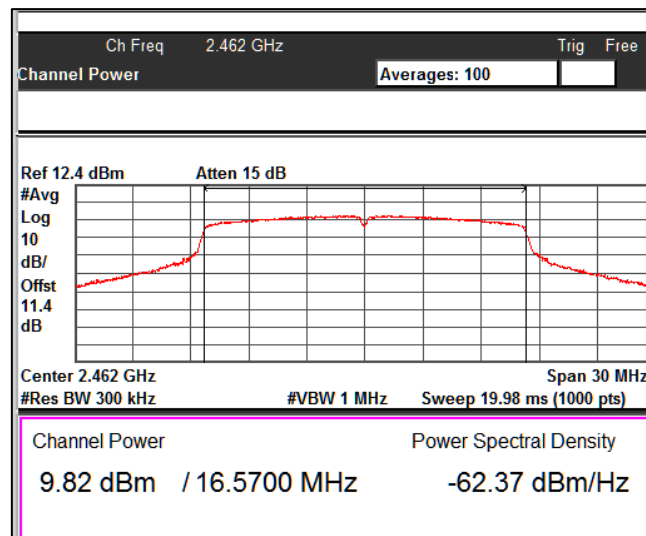
Data Rate: 6Mbps



Channel Frequency:2412MHz



Channel Frequency:2437MHz



Channel Frequency:2462MHz

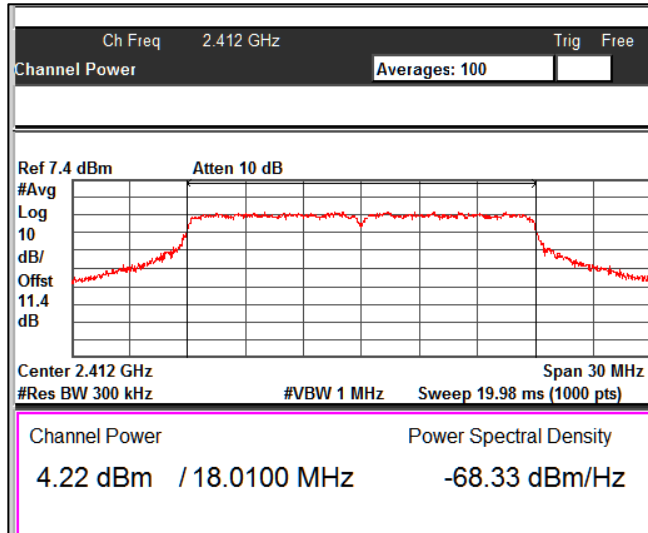
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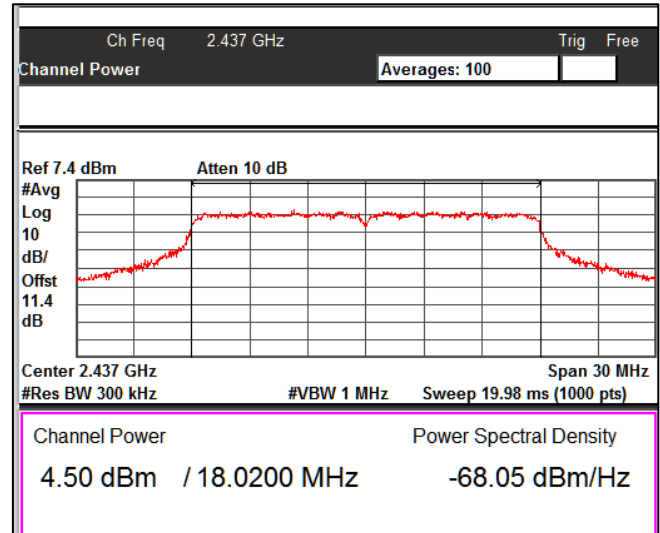
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Modulation: 802.11n

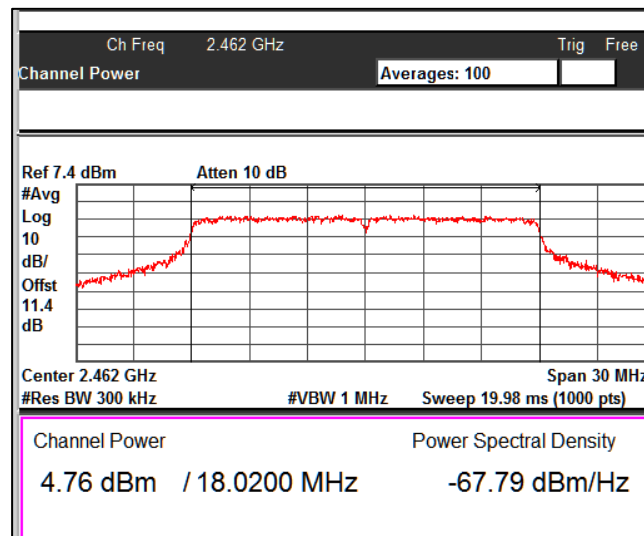
Data Rate: MCS7



Channel Frequency:2412MHz



Channel Frequency:2437MHz



Channel Frequency:2462MHz

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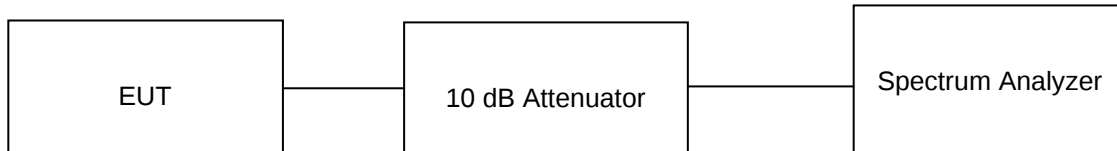
7.2 Maximum Power Spectral Density

Result

Pass

Test Specification	FCC part 15 Subpart C 15.247 (e) / RSS 247 Issue 3, Section 5.2 (b)
Test Method	Subclause 11.10.5 of ANSI C63.10
Measurement Bandwidth	100kHz
Detector	Average sample detector mode
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 Condition

Normal Test Condition:

Temperature (Norm) = + 25 °C Voltage = 5V DC 0.50A through DC Supply Relative humidity: 62%

KDB Guidelines applied:

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

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Note:

1. All the losses are included during measurement and final values are mentioned in the test report.

USB Accessory

Modulation: 802.11b

Data rate (Mbps)	Measured Frequency (MHz)	PSD (8dBm/100KHz)	Dutu Cycle Correction factor (dB)	Total PSD(dBm)	limit (dBm)
1	2412	-2.58	0.14	-2.44	8.00
	2437	-1.87	0.18	-1.69	8.00
	2462	-1.55	0.20	-1.35	8.00
11	2412	-3.19	1.04	-2.15	8.00
	2437	-1.93	1.03	-0.90	8.00
	2462	-1.75	1.22	-0.53	8.00

Modulation: 802.11g

Data rate (Mbps)	Measured Frequency (MHz)	PSD (8dBm/100KHz)	Dutu Cycle Correction factor (dB)	Total PSD(dBm)	limit (dBm)
6	2412	-9.27	0.34	-8.93	8.00
	2437	-4.79	0.32	-4.47	8.00
	2462	-9.09	0.27	-8.82	8.00
54	2412	-13.26	5.68	-7.58	8.00
	2437	-13.69	5.74	-7.95	8.00
	2462	-14.02	5.47	-8.55	8.00

Modulation: 802.11n_HT20

Data rate	Measured Frequency (MHz)	PSD (8dBm/100KHz)	Dutu Cycle Correction factor (dB)	Total PSD(dBm)	limit (dBm)
MCS0	2412	-11.38	0.39	-10.99	8.00
	2437	-7.94	0.65	-7.29	8.00
	2462	-10.32	0.63	-9.69	8.00
MCS7	2412	-16.08	12.94	-3.14	8.00
	2437	-15.6	12.86	-2.74	8.00
	2462	-15.26	12.94	-2.32	8.00

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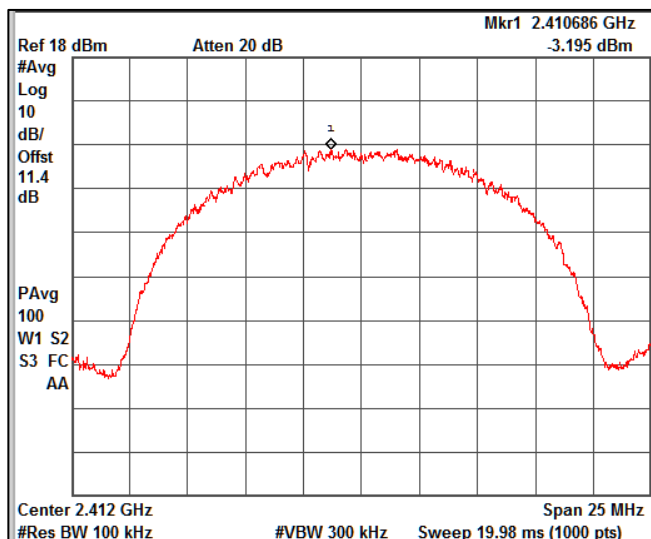
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Note: Testing has been performed for all the data rates for reporting purposes; worst-case plots have been reported.

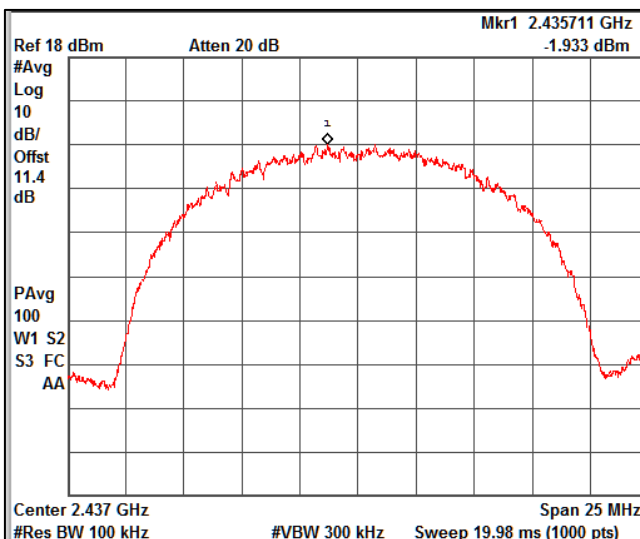
USB Accessory

Modulation: 802.11b

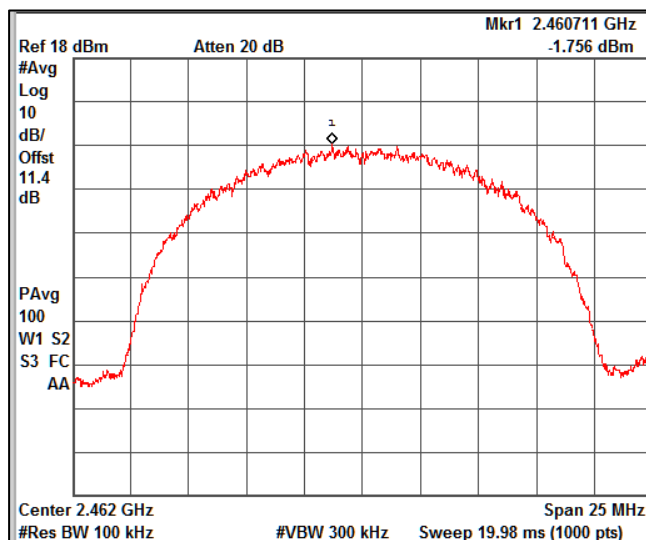
Data Rate: 11Mbps



Channel Frequency: 2412 MHz



Channel Frequency: 2437 MHz



Channel Frequency: 2462 MHz

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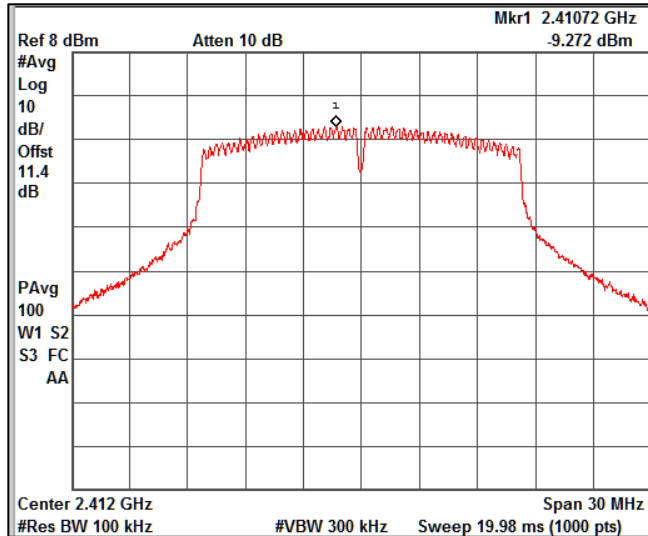
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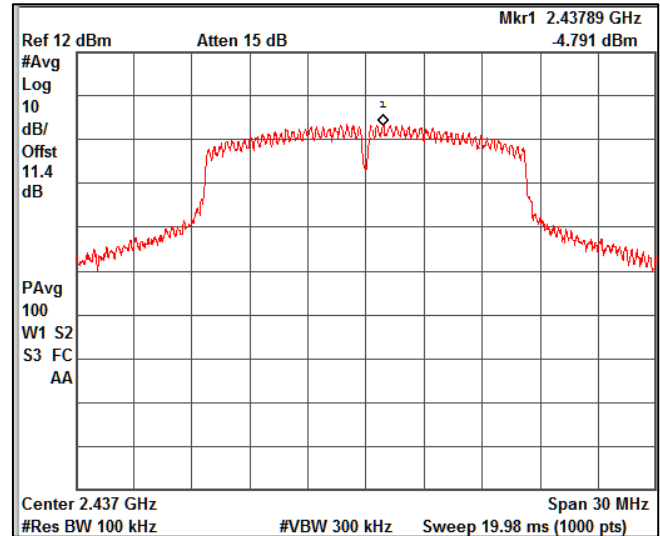
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Modulation: 802.11g

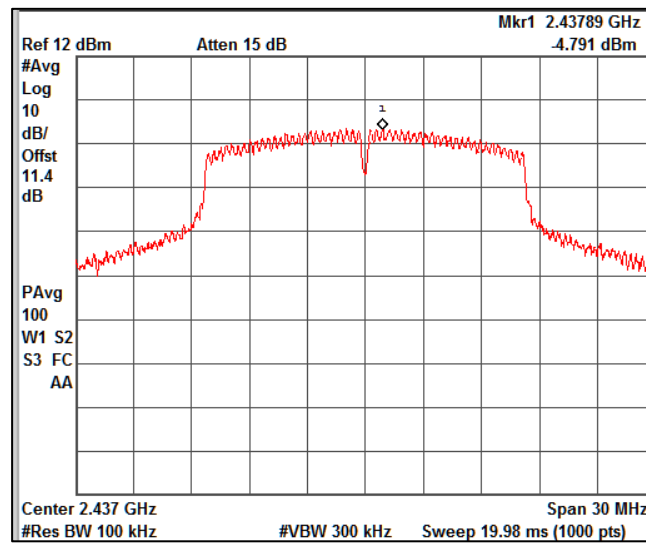
Data rate: 6Mbps



Channel Frequency:2412MHz



Channel Frequency:2437MHz



Channel Frequency:2462MHz

Prüfbericht - Nr.:

Test Report No.:

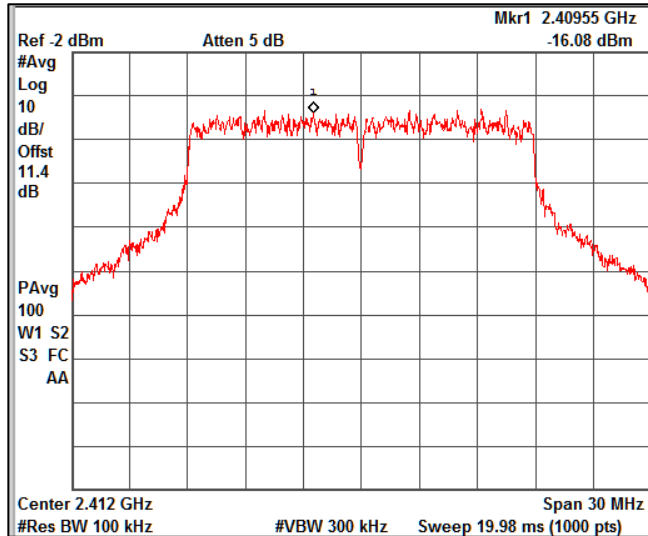
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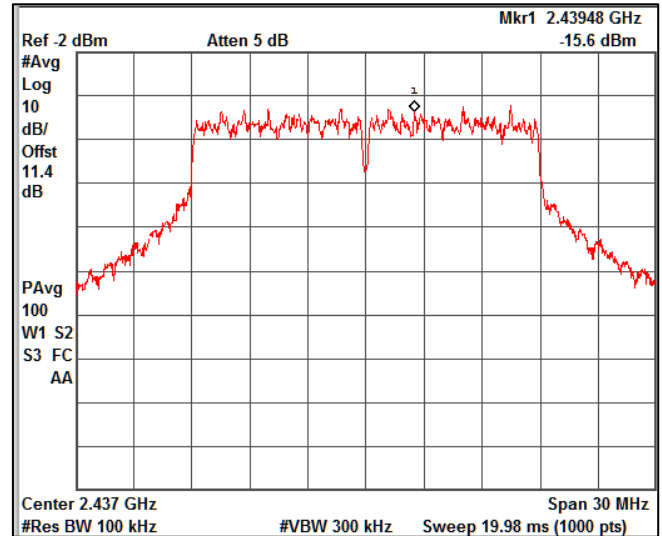
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Modulation: 802.11n_HT20

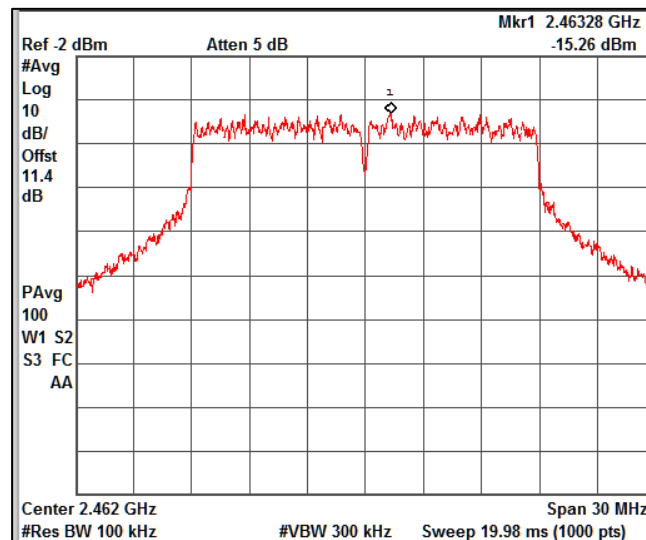
Data Rate: MCS7



Channel Frequency:2412MHz



Channel Frequency:2437MHz



Channel Frequency:2462MHz

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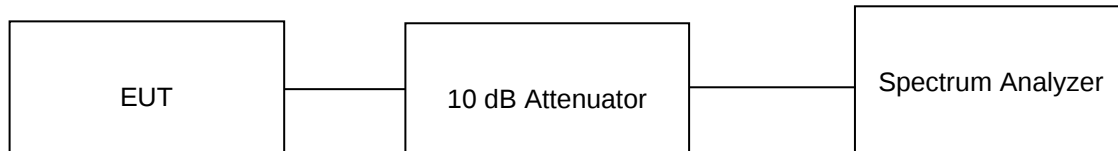
7.3 DTS Bandwidth & 99% Bandwidth

Result

Pass

Test Specification	FCC part 15 Subpart C 15.247 (a) (2) / RSS 247 Issue 3, Section 5.2 (a)
Test Method	Subclause 11.8.1 & 6.9.2 of ANSI C63.10
Measurement Bandwidth	100 kHz for x dB bandwidth 1 to 5% of OCB for 99% bandwidth
Detector	Peak
Port of testing	Antenna port
Requirement	The minimum 6 dB bandwidth shall be at least 500 kHz

Test Method:



Test Condition

Normal Test Condition:

Temperature (Norm) = + 25 °C Voltage = 5V DC 0.50A through DC Supply Relative humidity: 62%

KDB Guidelines applied:

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

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Test results:

Note:

1. All the losses are included during measurement and final values are mentioned in the test report.
2. For 6 dB Bandwidth Measurements were made as per section 8.2 in KDB 558074 D01 15.247 Measurement Guidance v05r02.
3. For OCW 99 % Bandwidth measurements were made as per section 6.9.3 ANSI C63.10-2013

USB Accessory

Modulation: 802.11b

Data rate (Mbps)	Measured Frequency (MHz)	99% OBW (MHz)	6 dB Bandwidth (MHz)
1	2412	13.99	9.12
	2437	14.00	9.04
	2462	14.04	9.08
11	2412	14.29	9.09
	2437	14.29	9.10
	2462	14.32	9.12

Modulation: 802.11g

Data rate (Mbps)	Measured Frequency (MHz)	99% OBW (MHz)	6 dB Bandwidth (MHz)
6	2412	16.58	13.76
	2437	16.95	15.11
	2462	16.57	14.02
54	2412	16.93	16.40
	2437	16.95	16.40
	2462	16.92	16.48

Modulation: 802.11n_HT20

Data rate	Measured Frequency (MHz)	99% OBW (MHz)	6 dB Bandwidth (MHz)
MCS0	2412	17.58	12.11
	2437	17.77	15.06
	2462	17.59	15.05
MCS7	2412	18.01	17.62
	2437	18.02	17.60
	2462	18.00	17.66

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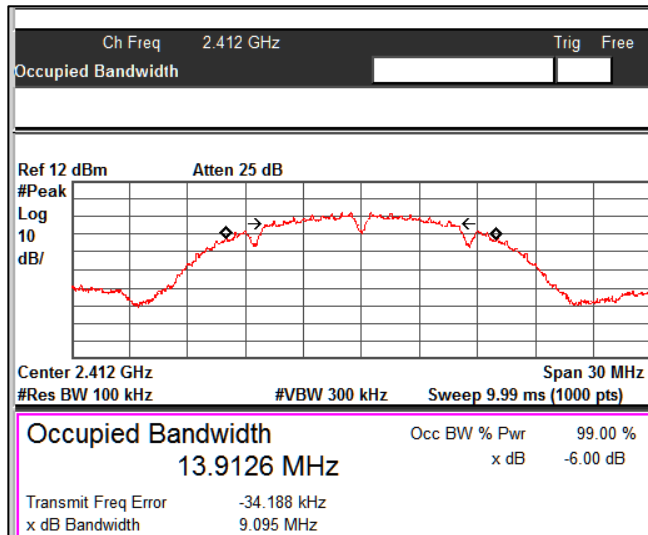
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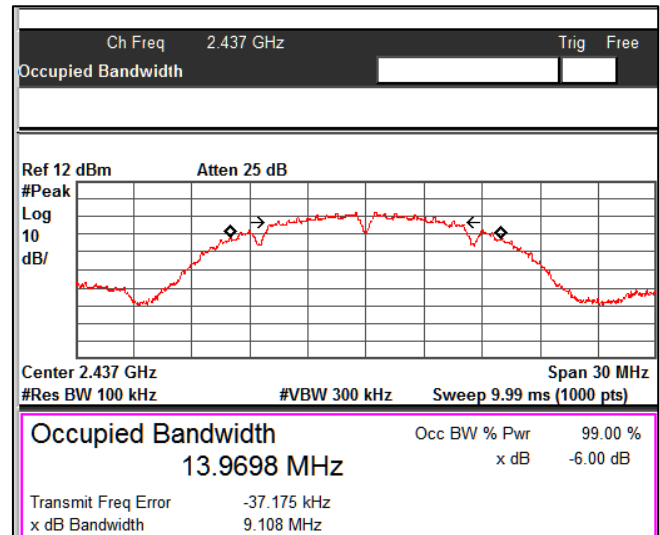
Note: Testing has been performed for all the data rates for reporting purposes; worst-case plots have been reported.

Data rate: 11 Mbps

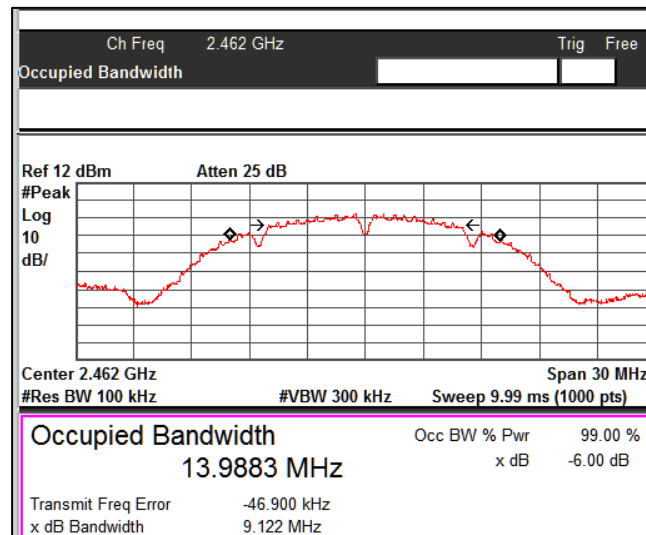
Graphs for 6 dB bandwidth measurement



Channel Frequency:2412MHz



Channel Frequency:2437MHz



Channel Frequency:2462MHz

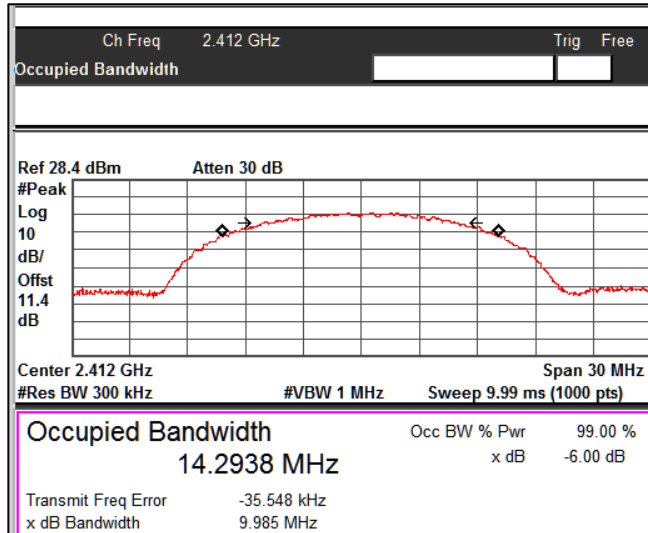
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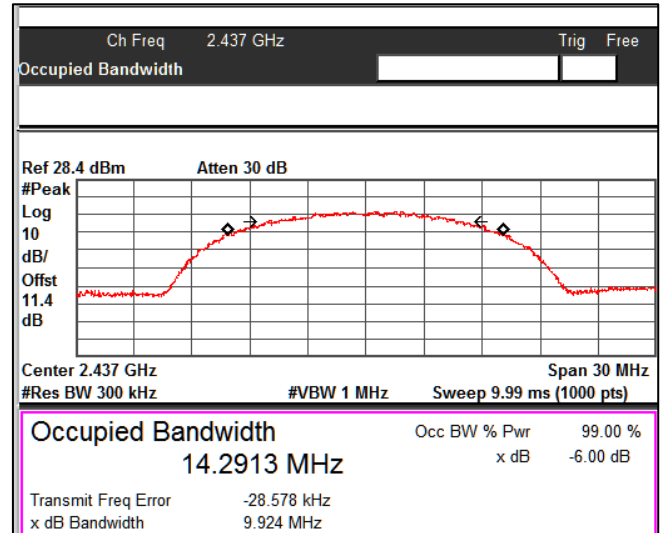
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Data Rate: 11Mbps

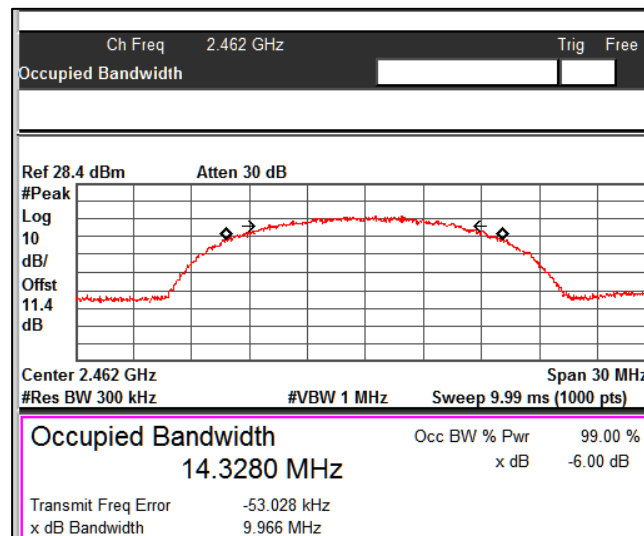
Graphs for OCW 99 % bandwidth measurement



Channel Frequency:2412MHz



Channel Frequency:2437MHz



Channel Frequency:2462MHz

Prüfbericht - Nr.:
Test Report No.:

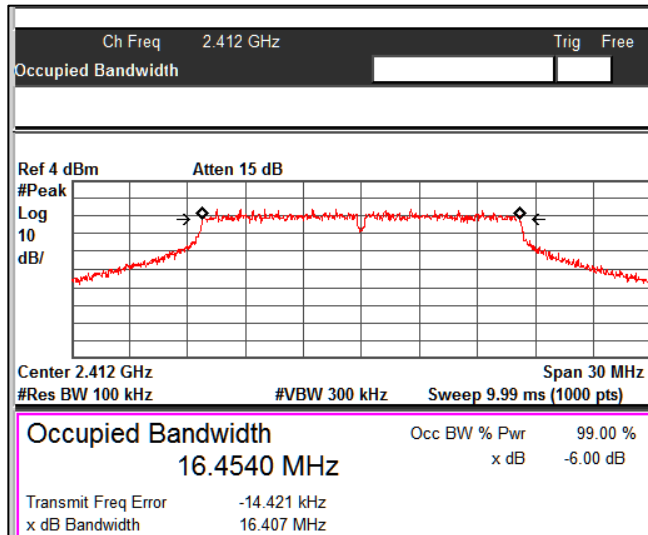
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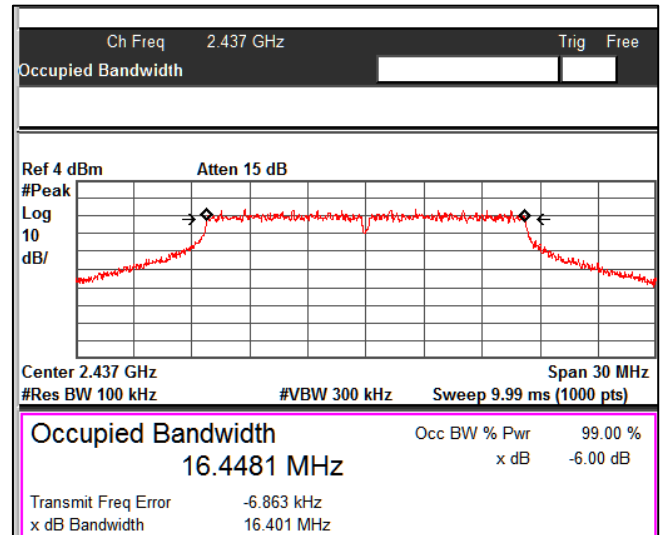
Modulation: 802.11b

Data Rate: 54Mbps

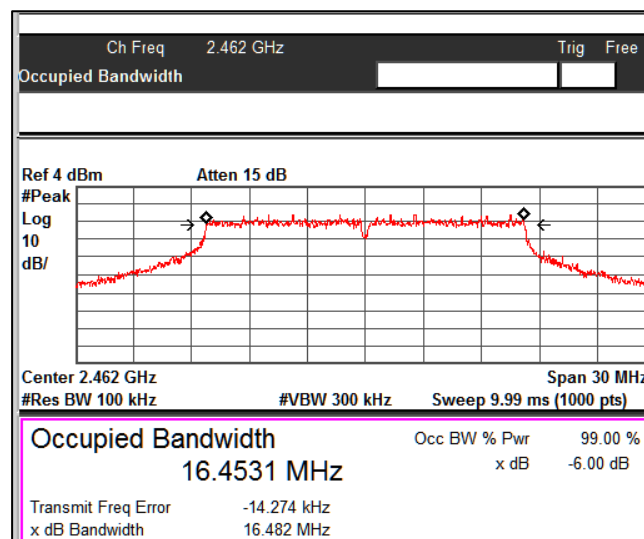
Graphs for 6 dB bandwidth measurement



Channel Frequency:2412MHz



Channel Frequency:2437MHz



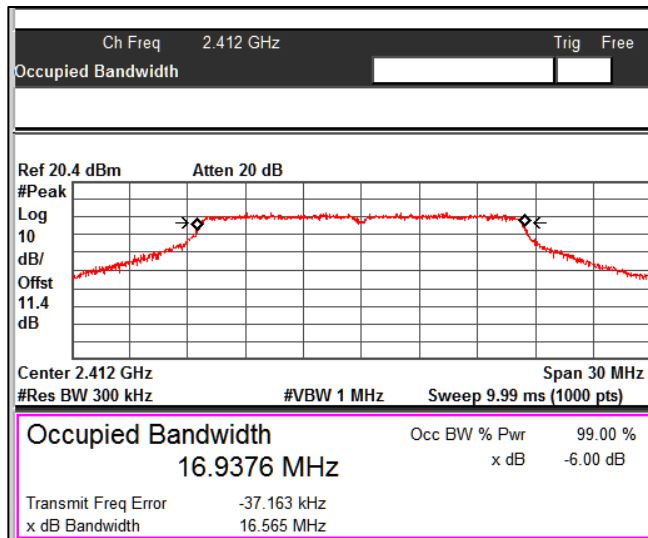
Channel Frequency:2462MHz

Prüfbericht - Nr.:
Test Report No.:

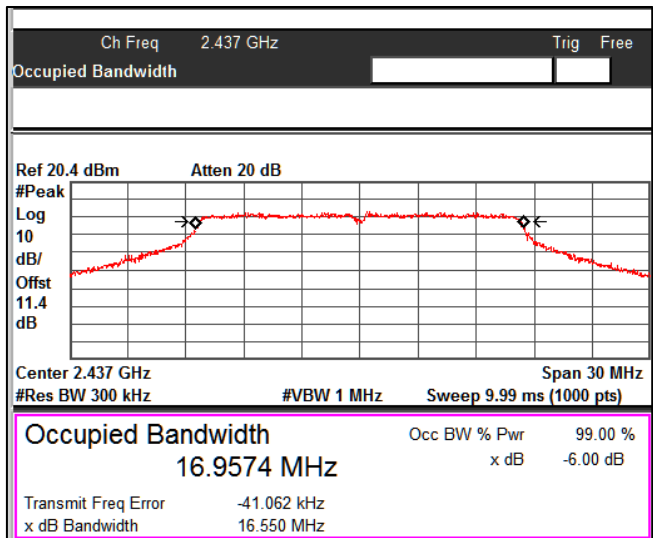
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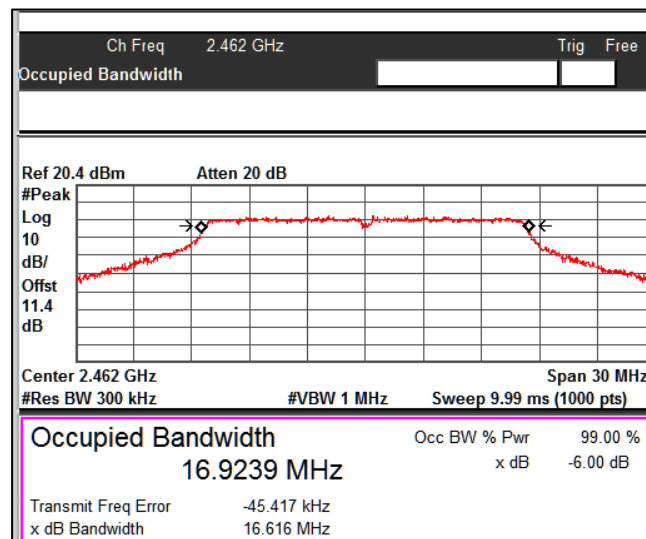
Graphs for OCW 99 % bandwidth measurement



Channel Frequency:2412MHz



Channel Frequency:2437MHz



Channel Frequency:2462MHz

Prüfbericht - Nr.:
Test Report No.:

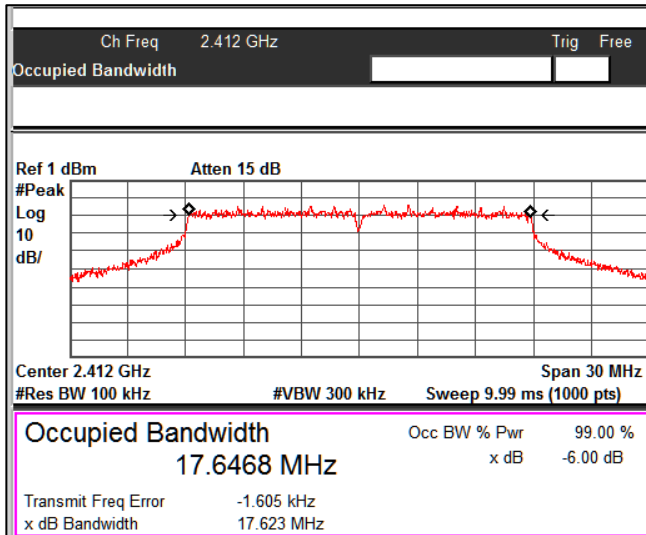
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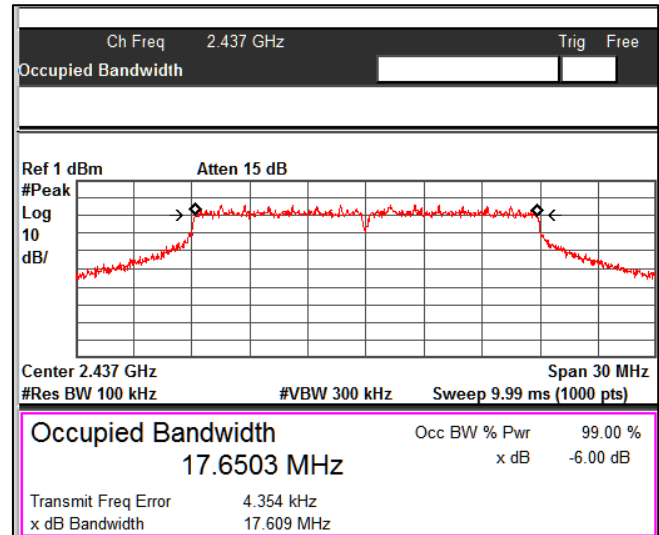
Modulation: 802.11n_HT20

Data rate: MCS7

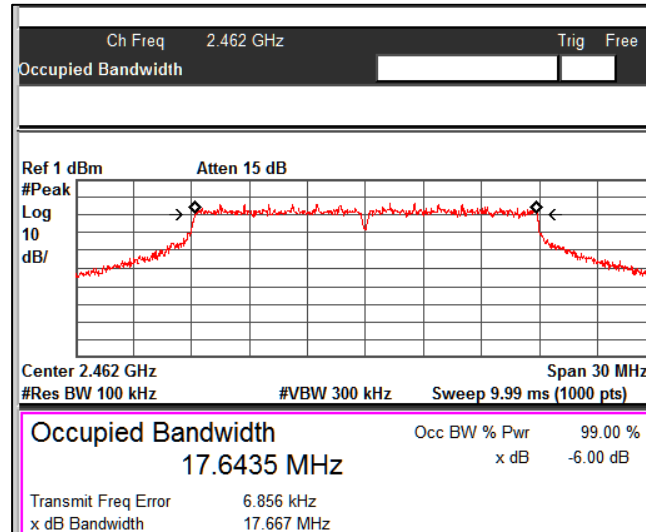
Graphs for 6 dB bandwidth measurement



Channel Frequency:2412MHz



Channel Frequency:2437MHz



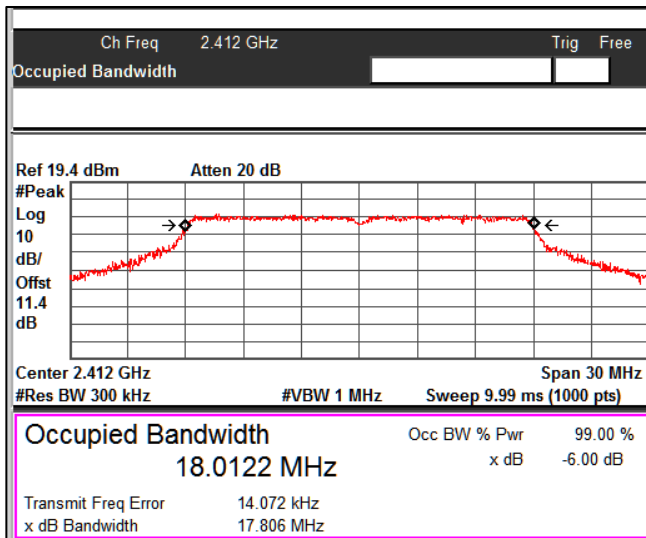
Channel Frequency:2462MHz

Prüfbericht - Nr.:
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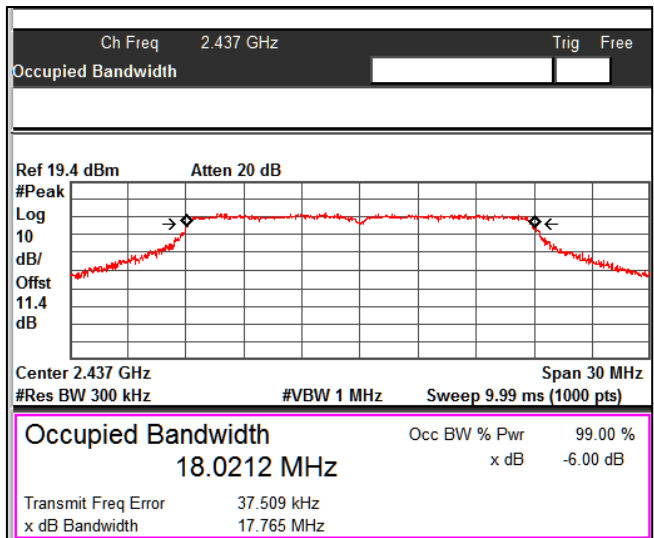
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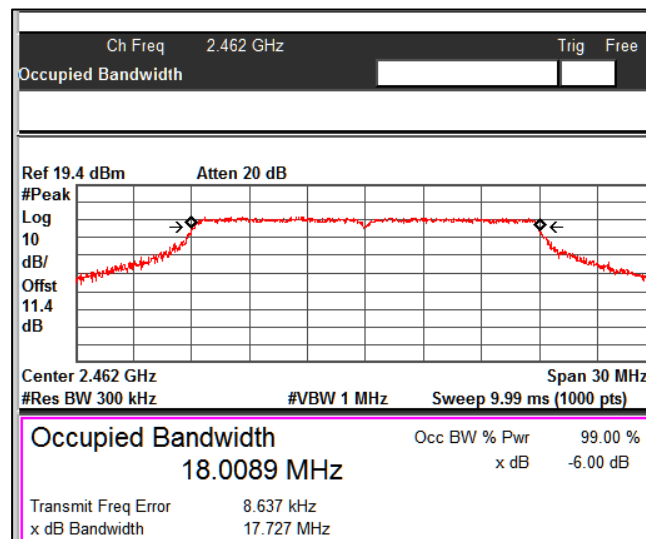
Graphs for OCW 99 % bandwidth measurement



Channel Frequency:2412MHz



Channel Frequency:2437MHz



Channel Frequency:2462MHz

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

Result

Pass

Test Specification FCC part 15 Subpart C 15.247 (d) / RSS 247 Issue 3, Section 5.5

Test Method Subclause 11.11 of ANSI C63.10

Measurement Bandwidth 100 kHz

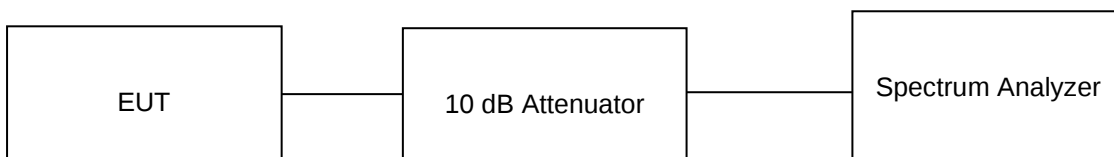
Detector Peak

Port of testing Antenna port

Requirement 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

If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, the attenuation required under this paragraph shall be 30 dB instead of 20 dB

Test Method:



Test Condition

Normal Test Condition:

Temperature (Norm) = + 25 °C Voltage = 5V DC 0.50A through DC Supply Relative humidity: 62%

KDB Guidelines applied:

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

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Test results:

Note:

1. All the losses are included during measurement and final values are mentioned in the test report.

7.1.1 Out-Of-Band Emissions

USB Accessory

Modulation: 802.11b

Data Rate 1Mbps

Channel Frequency (MHz)	Band edge frequency (MHz)	Value at band edge (A) (dBm)	Reference value (B) (dBm)	Minimum Limit (dBc)
2412.00	2397.36	-33.01	5.84	-30
2462.00	2483.50	-49.28	5.77	-30

Data Rate 11Mbps

Channel Frequency (MHz)	Band edge frequency (MHz)	Value at band edge (A) (dBm)	Reference value (B) (dBm)	Minimum Limit (dBc)
2412.00	2400.00	-44.44	7.24	-30
2462.00	2483.50	-48.29	7.49	-30

Modulation: 802.11g

Data Rate 6Mbps

Channel Frequency (MHz)	Band edge frequency (MHz)	Value at band edge (A) (dBm)	Reference value (B) (dBm)	Minimum Limit (dBc)
2412.00	2400.00	-32.14	-0.96	-30
2462.00	2483.50	-49.60	0.19	-30

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Data Rate 54Mbps

Channel Frequency (MHz)	Band edge frequency (MHz)	Value at band edge (A) (dBm)	Reference value (B) (dBm)	Minimum Limit (dBc)
2412.00	2400.00	-32.22	-0.42	-30
2462.00	2483.50	-45.24	-1.01	-30

Modulation: 802.11n_HT20

Data Rate MCS0

Channel Frequency (MHz)	Band edge frequency (MHz)	Value at band edge (A) (dBm)	Reference value (B) (dBm)	Minimum Limit (dBc)
2412.00	2400.00	-33.26	0.00	-30
2462.00	2483.50	-50.64	-1.41	-30

Data Rate MCS7

Channel Frequency (MHz)	Band edge frequency (MHz)	Value at band edge (A) (dBm)	Reference value (B) (dBm)	Minimum Limit (dBc)
2412.00	2400.00	-33.29	-2.16	-30
2462.00	2483.50	-49.88	-1.94	-30

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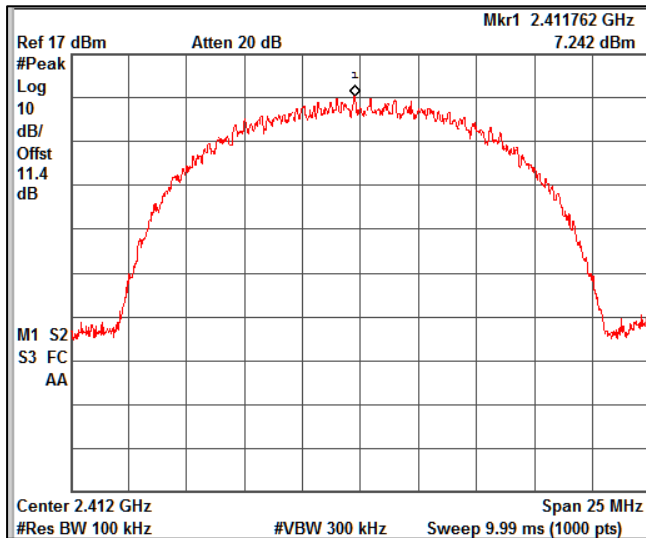
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Note: Testing has been performed for all the data rates for reporting purposes; worst-case plots have been reported.

Modulation: 802.11b

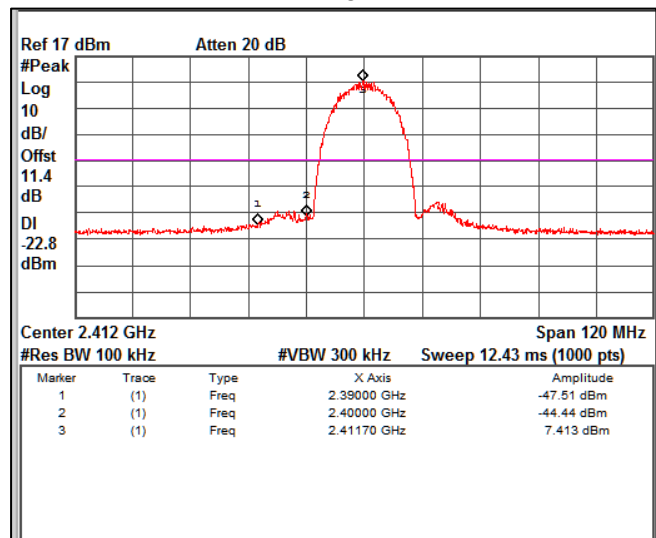
Data Rate 11Mbps

Reference Plot



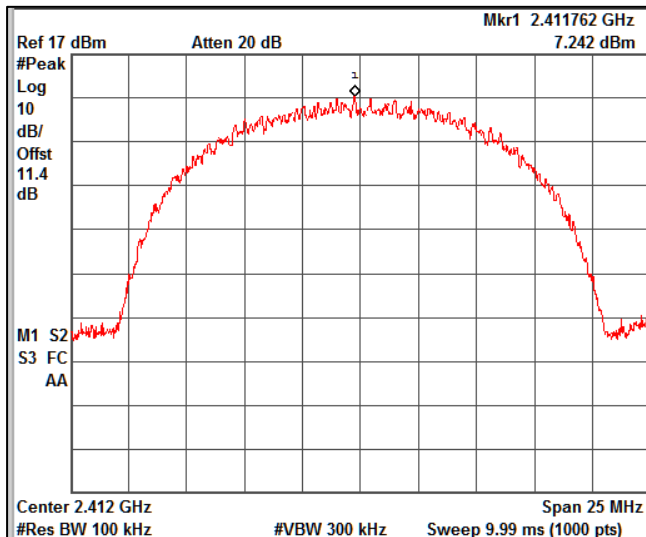
Channel Frequency 2412MHz

Band Edge Plot



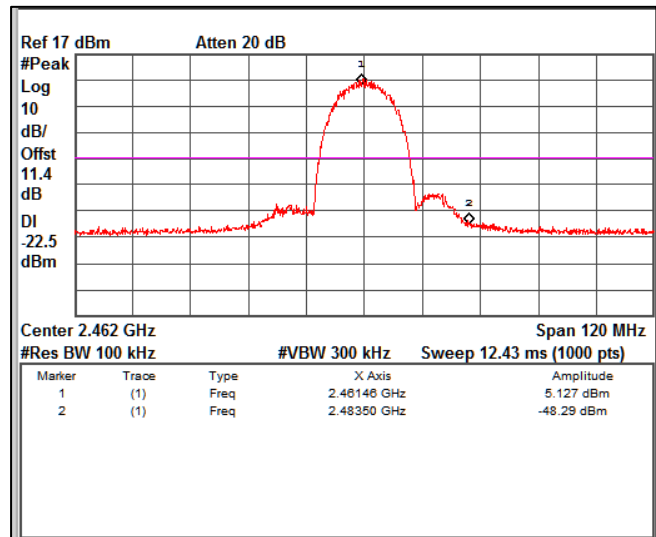
Channel Frequency 2412MHz

Reference Plot



Channel Frequency 2462MHz

Band Edge Plot



Channel Frequency 2462MHz

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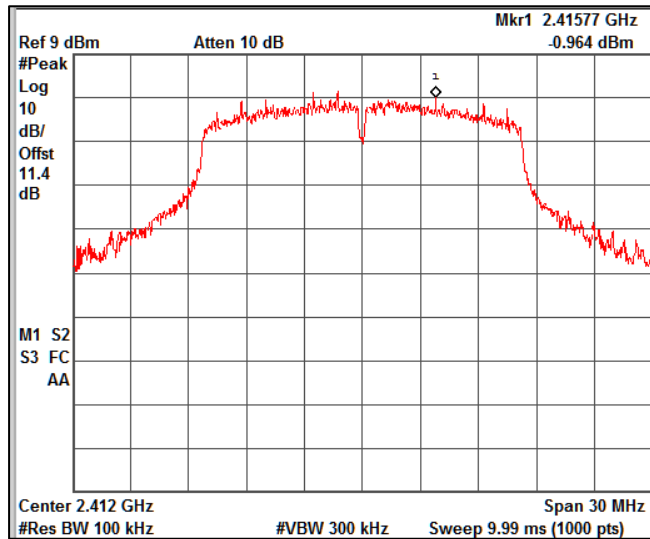
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Modulation: 802.11g

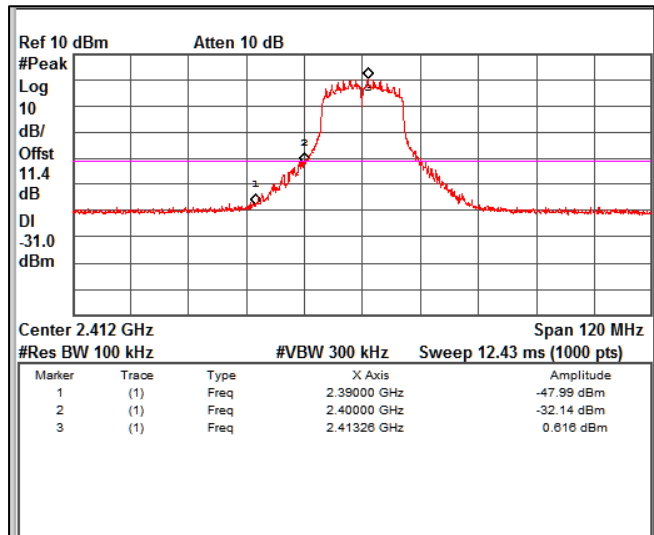
Data Rate 6Mbps

Refrence Plot



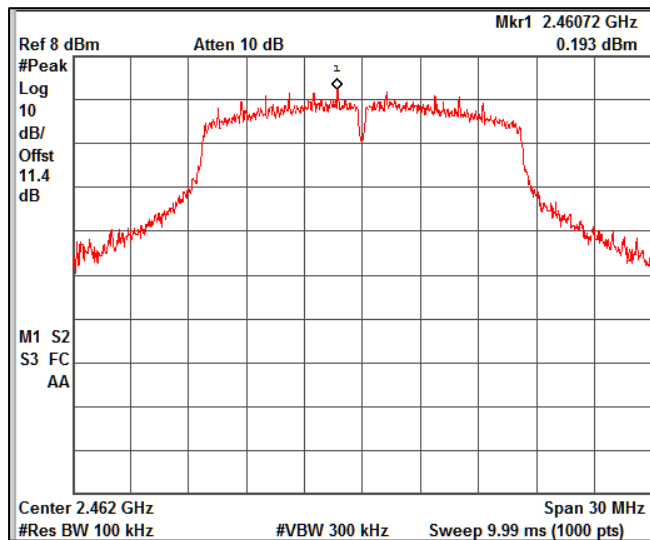
Channel Frequency 2412MHz

Band Edge Plot



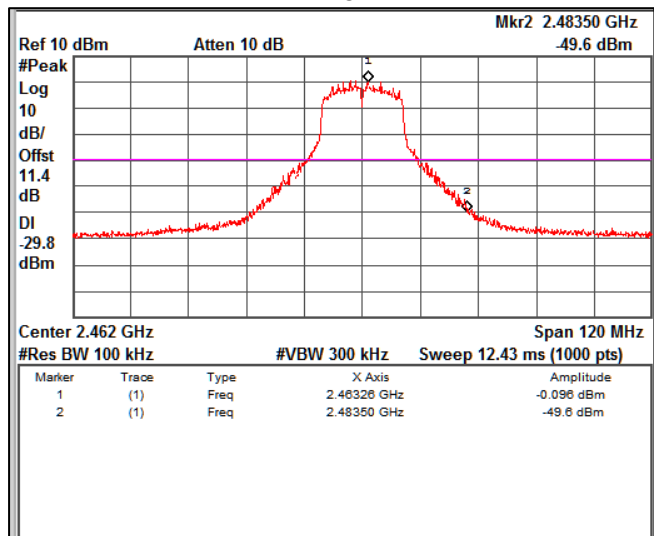
Channel Frequency 2412MHz

Refrence Plot



Channel Frequency 2462MHz

Band Edge Plot



Channel Frequency 2462MHz

Prüfbericht - Nr.:
Test Report No.:

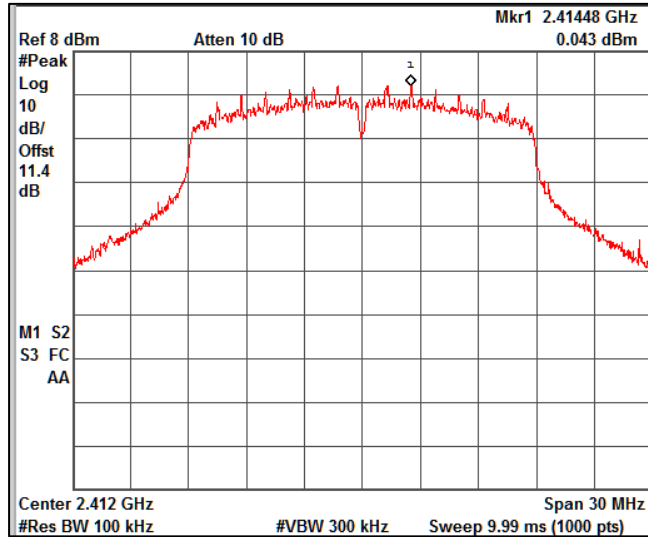
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Modulation: 802.11n_HT20

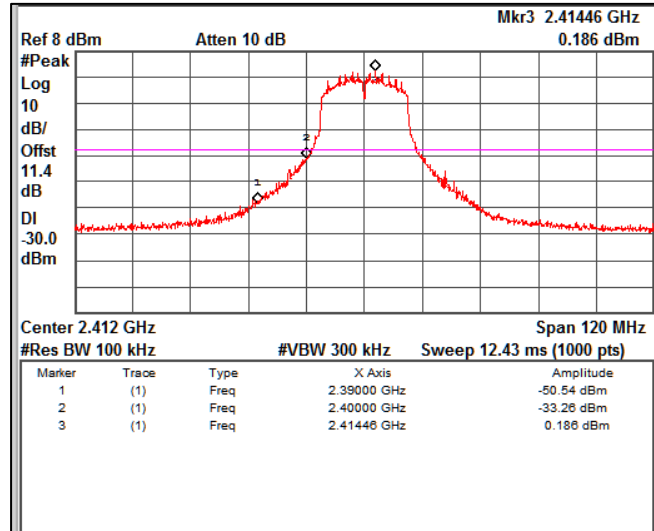
Data Rate MCS0

Refrence Plot



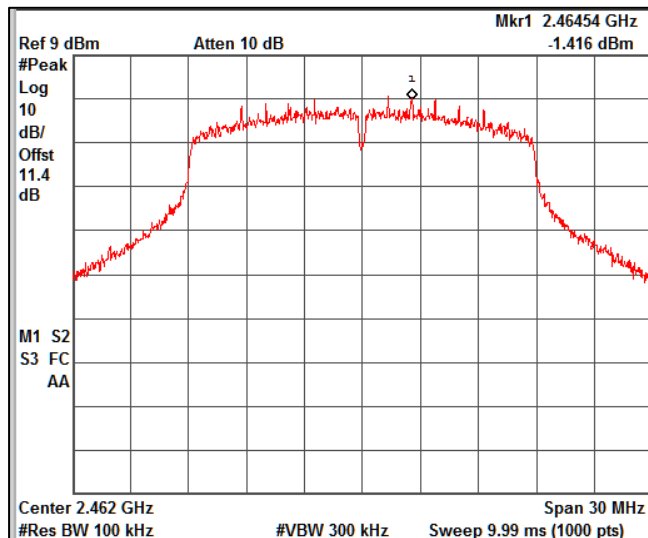
Channel Frequency 2412MHz

Band Edge Plot



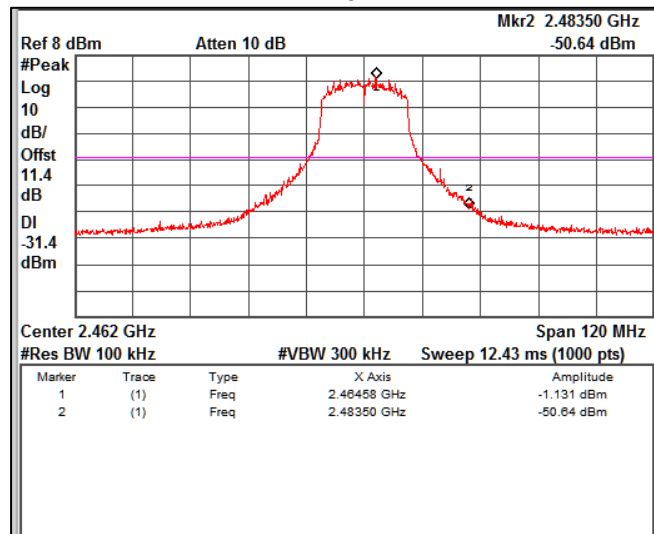
Channel Frequency 2412MHz

Refrence Plot



Channel Frequency 2462MHz

Band Edge Plot



Channel Frequency 2462MHz

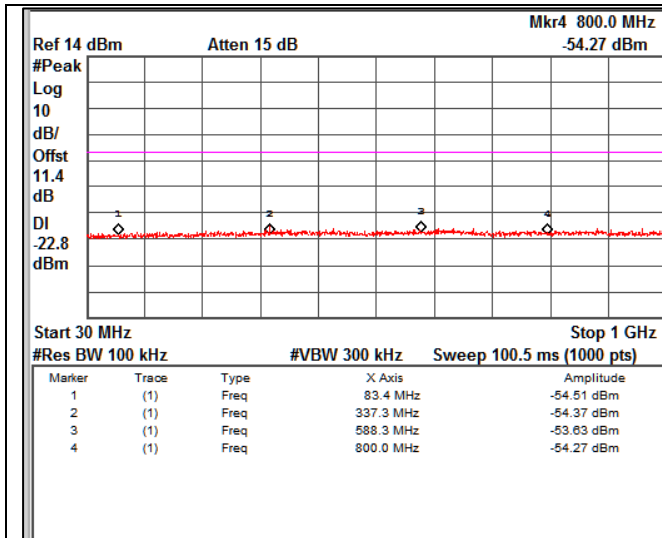
Prüfbericht - Nr.:
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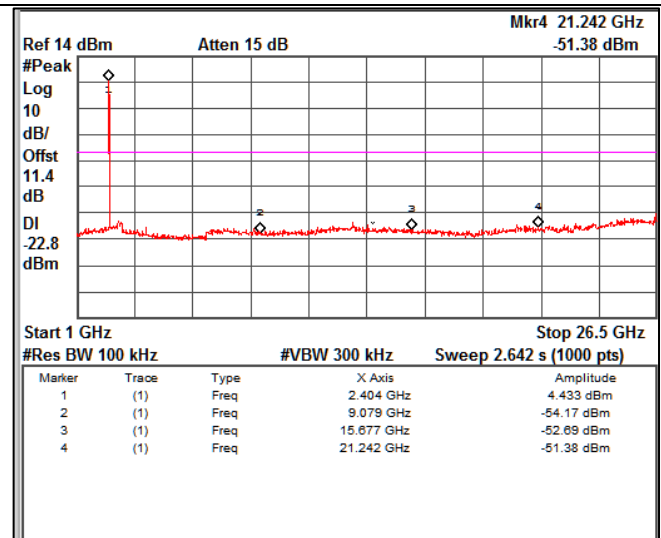
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Modulation: 802.11b

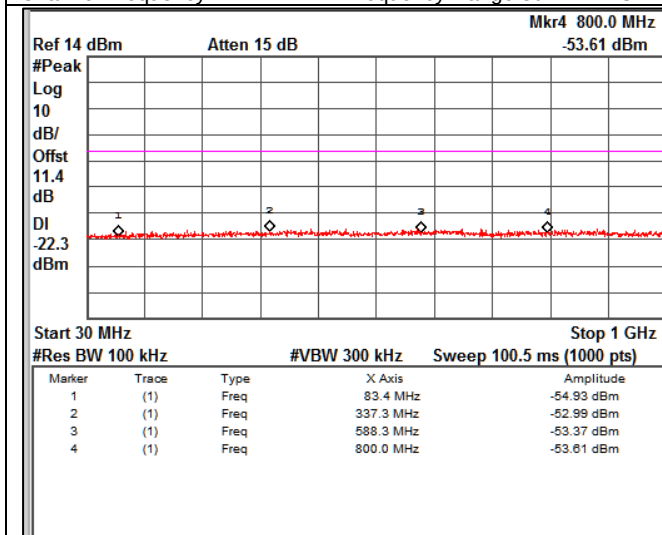
Data Rate 11Mbps



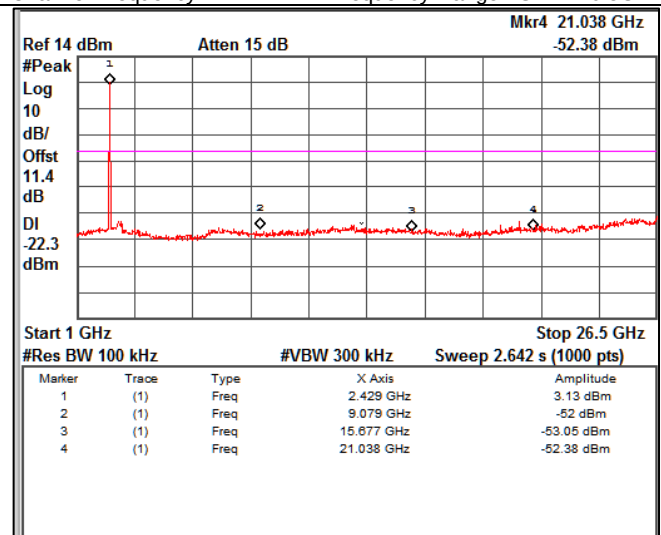
Channel Frequency 2412MHz Frequency Range 30MHz -1GHz



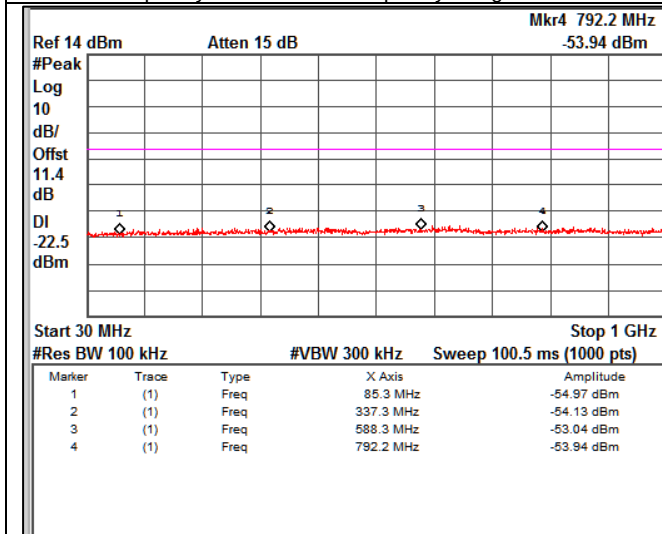
Channel Frequency 2412MHz Frequency Range 1GHz -26.5GHz



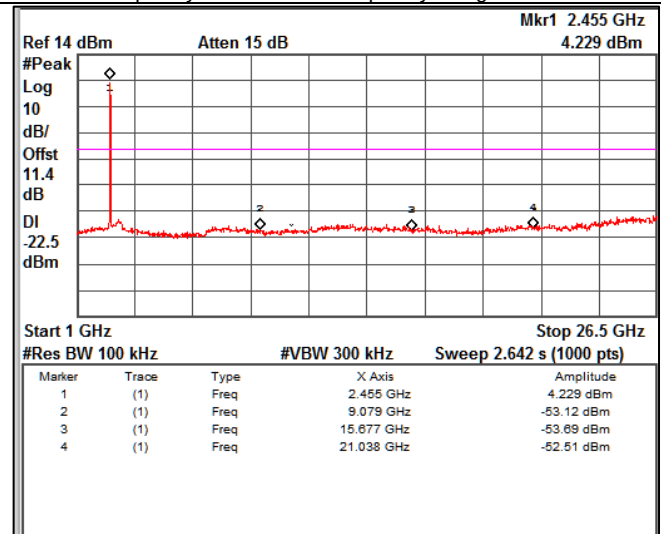
Channel Frequency 2437MHz Frequency Range 30MHz -1GHz



Channel Frequency 2437MHz Frequency Range 1GHz -26.5GHz



Channel Frequency 2462MHz Frequency Range 30MHz -1GHz



Channel Frequency 2462MHz Frequency Range 1GHz -26.5GHz

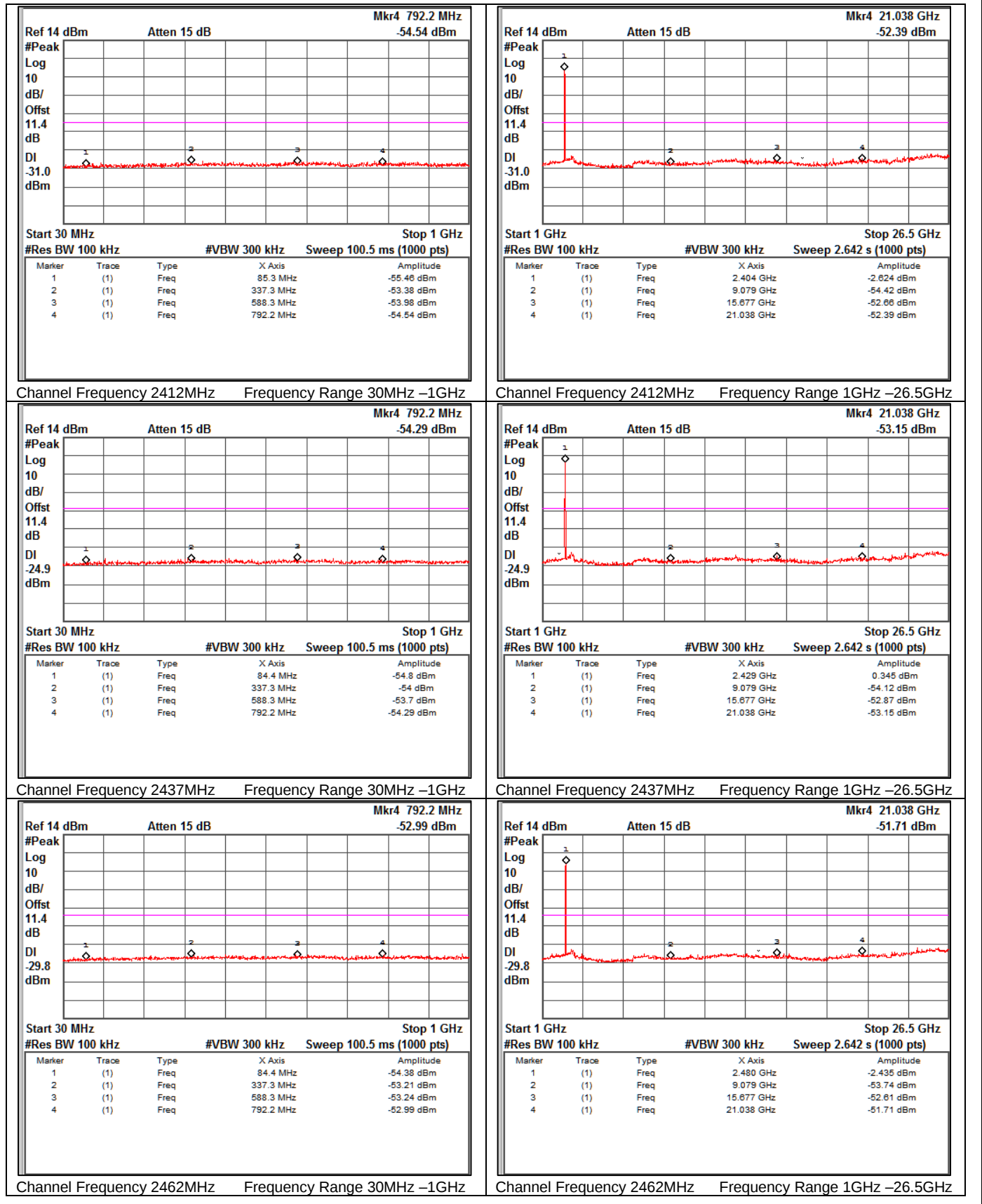
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Modulation: 802.11g

Data Rate 6Mbps



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Modulation: 802.11n_HT20

Data Rate MCS0



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7.2 Spurious Radiated Emissions & Restricted Bands of Operation

Result

Pass

Test Specification	FCC part 15 Subpart C 15.247 (d) / (15.209 & 15.205) / IC RSS-GEN, Section 8.9 and 8.10
Test Method	ANSI C63.10
Measurement Location	Semi Anechoic Chamber 30MHz - 1 GHz Fully Anechoic Chamber 1 GHz - 40GHz
Measurement Bandwidth	100 kHz for frequency range < 1GHz 1 MHz for Frequency range >1GHz
Detector	Refer remarks below
Measuring Distance	3 m
Requirement	As per the limits mentioned in the below table
Test setup	Refer Clause 7 TEST METHODOLOGY

Table 6: 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:

Temperature (Norm) = + 25 °C Voltage = 5V DC 0.50A through DC Supply Relative humidity: 62%

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Test results:

Note: All the losses are included during measurement and final values are mentioned in the test report. Refer TEST METHODOLOGY for more details

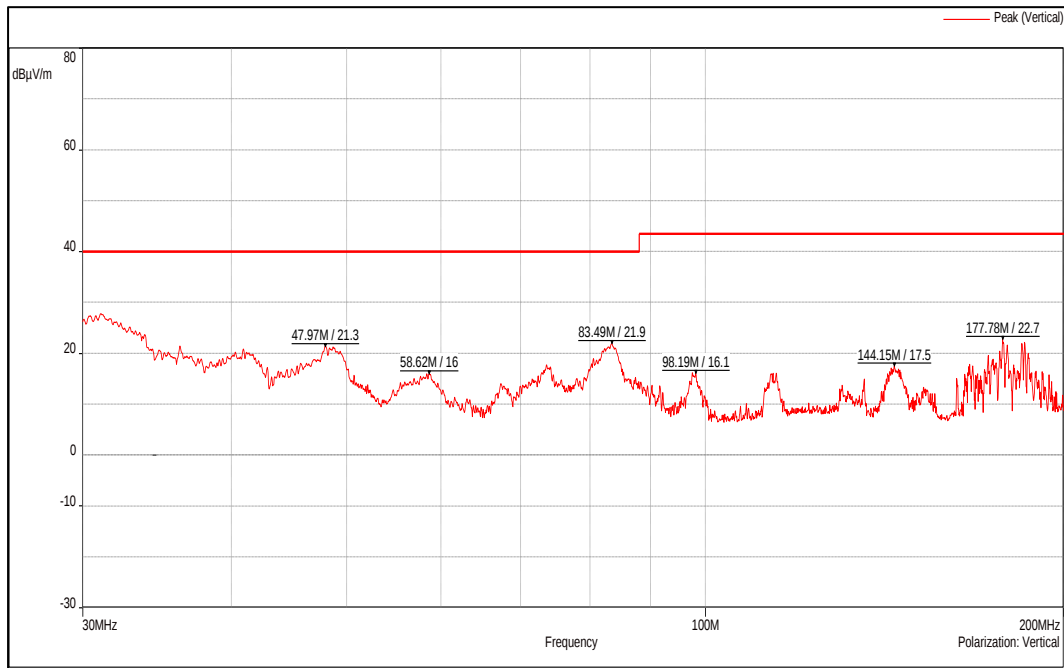
Test results for frequency range 9kHz – 30MHz

No emissions found in frequency range 9 kHz to 30 MHz, and measured levels are below 20dB from the limit line, hence not reported

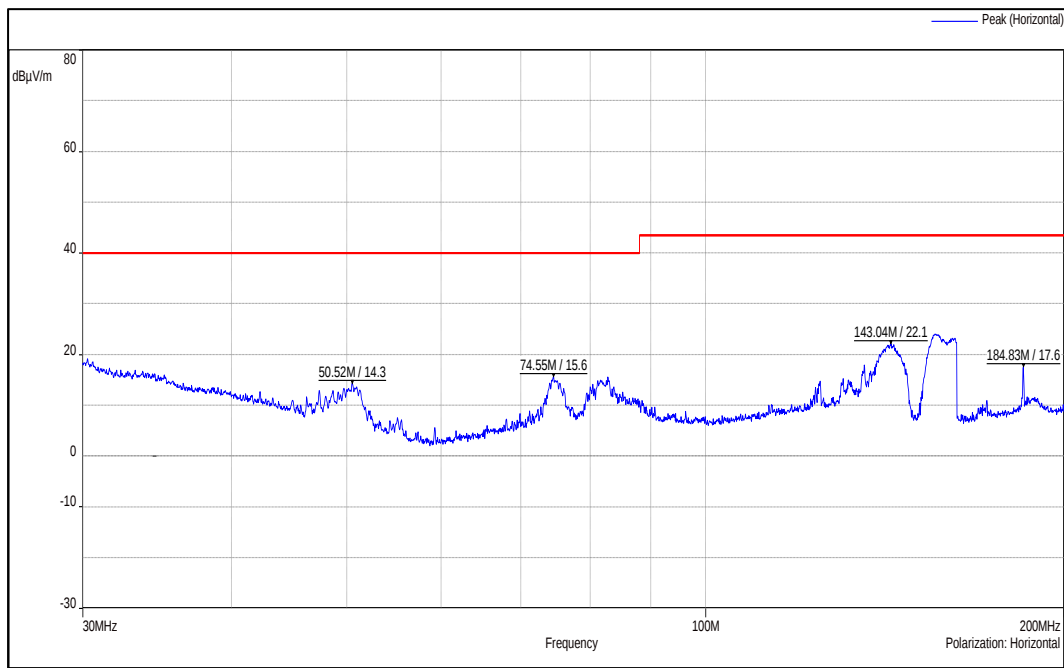
Test results for frequency range 30MHz – 1GHz

Antenna Polarization	Measured Frequency (MHz)	Measured Value (dBµV/m)	Limit (dBµV/m)	Margin (dB)
Vertical	47.97	21.30	40.00	-18.70
	58.62	16.00	40.00	-24.00
	83.49	21.90	40.00	-18.10
	177.78	22.70	43.50	-20.80
	208.07	22.60	43.50	-20.90
	323.81	27.70	46.00	-18.30
	571.1	21.90	46.00	-24.10
	873.74	25.60	46.00	-20.40
Horizontal	50.52	14.30	40.00	-25.70
	74.55	15.60	40.00	-24.40
	143.04	22.10	43.50	-21.40
	184.83	17.60	43.50	-25.90
	219.77	16.70	46.00	-29.30
	648.02	23.40	46.00	-22.60
	870.17	26.30	46.00	-19.70

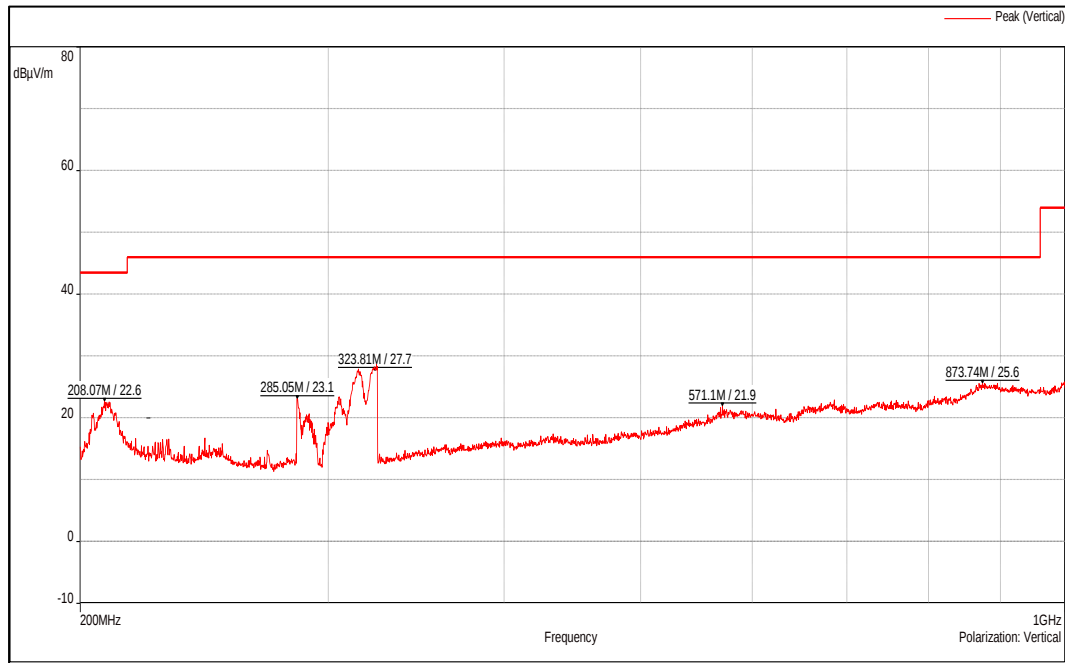
Channel Frequency 30MHz – 200MHz_ Vertical Polarization



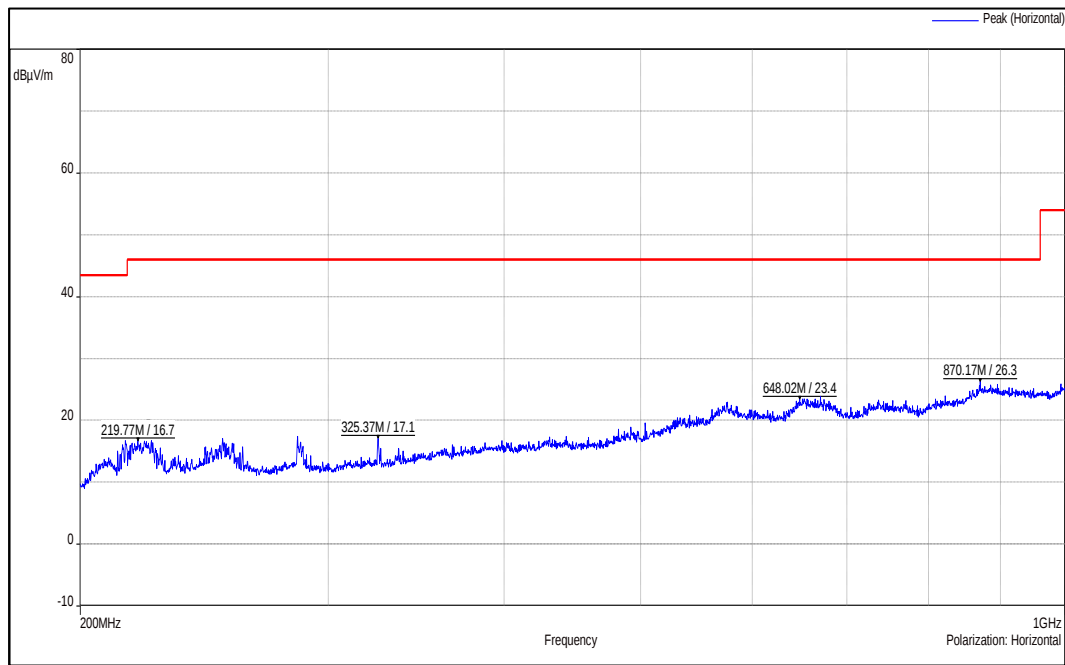
Channel Frequency 30MHz – 200MHz_ Horizontal Polarization



Channel Frequency 200MHz – 1GHz_ Vertical Polarization



Channel Frequency 200MHz – 1GHz_ Horizontal Polarization



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Test results for the frequencies in the range 1 GHz to 26.5 GHz

USB Accessory

Modulation: 802.11b

Data Rate: 1Mbps

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
2412	2412(Pk)	Vertical	89.82	-	-
	2412(Av)		84.53	-	-
	2390(Pk)		40.05	74*	-33.95
	2390(Av)		27.70	54*	-26.30
	4824(Pk)		42.70	74	-31.30
	4824(Av)		33.60	54	-20.40
	7236(Pk)		47.05	74	-26.95
	7236(Av)		34.63	54	-19.37
	2412(Pk)	Horizontal	96.24	-	-
	2412(Av)		90.80	-	-
	2390(Pk)		44.89	74*	-29.11
	2390(Av)		32.37	54*	-21.63
	4824(Pk)		41.67	74	-32.33
	4824(Av)		32.04	54	-21.96
	7236(Pk)		46.63	74	-27.37
	7236(Av)		34.58	54	-19.42
2437	2437(Pk)	Vertical	88.50	-	-
	2437(Av)		83.22	-	-
	4874(Pk)		41.70	74	-32.30
	4874(Av)		30.27	54	-23.73
	7311(Pk)		46.58	74	-27.42
	7311(Av)		34.64	54	-19.36
	2437(Pk)	Horizontal	95.48	-	-
	2437(Av)		90.04	-	-
	4874(Pk)		42.18	74	-31.82
	4874(Av)		31.16	54	-22.84
	7311(Pk)		46.48	74	-27.52
	7311(Av)		34.69	54	-19.31
2462	2462(Pk)	Vertical	86.49	-	-
	2462(Av)		81.25	-	-
	2483.5(Pk)		37.30	74*	-36.70
	2483.5(Av)		23.87	54*	-30.13
	4924(Pk)		41.04	74	-32.96
	4924(Av)		30.82	54	-23.18
	7386(Pk)		46.76	74	-27.24
	7386(Av)		34.76	54	-19.24
	2462(Pk)	Horizontal	94.59	-	-
	2462(Av)		89.17	-	-
	2483.5(Pk)		40.75	74*	-33.25
	2483.5(Av)		27.95	54*	-26.05
	4924(Pk)		41.65	74	-32.35
	4924(Av)		29.47	54	-24.53
	7386(Pk)		47.45	74	-26.55
	7386(Av)		34.82	54	-19.18

*: Indicate restricted band of operation §15.205

Pk: Peak Detector; Av: Average Detector

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Data Rate: 11Mbps

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
2412	2412(Pk)	Vertical	87.48	-	-
	2412(Av)		74.65	-	-
	2390(Pk)		40.97	74*	-33.03
	2390(Av)		25.30	54*	-28.70
	4824(Pk)		41.61	74	-32.39
	4824(Av)		29.79	54	-24.21
	7236(Pk)		46.69	74	-27.31
	7236(Av)		34.62	54	-19.38
	2412(Pk)	Horizontal	100.17	-	-
	2412(Av)		87.13	-	-
	2390(Pk)		49.51	74*	-24.49
	2390(Av)		31.61	54*	-22.39
	4824(Pk)		40.80	74	-33.20
	4824(Av)		28.93	54	-25.07
	7236(Pk)		46.88	74	-27.12
	7236(Av)		34.65	54	-19.35
2437	2437(Pk)	Vertical	92.95	-	-
	2437(Av)		80.31	-	-
	4874(Pk)		41.65	74	-32.35
	4874(Av)		29.41	54	-24.59
	7311(Pk)		46.71	74	-27.29
	7311(Av)		34.67	54	-19.33
	2437(Pk)	Horizontal	99.64	-	-
	2437(Av)		86.89	-	-
	4874(Pk)		41.65	74	-32.35
	4874(Av)		28.86	54	-25.14
	7311(Pk)		46.91	74	-27.09
	7311(Av)		34.69	54	-19.31
2462	2462(Pk)	Vertical	90.81	-	-
	2462(Av)		77.97	-	-
	2483.5(Pk)		37.30	74*	-36.70
	2483.5(Av)		24.64	54*	-29.36
	4924(Pk)		41.20	74	-32.80
	4924(Av)		28.99	54	-25.01
	7386(Pk)		47.08	74	-26.92
	7386(Av)		34.80	54	-19.20
	2462(Pk)	Horizontal	98.49	-	-
	2462(Av)		85.68	-	-
	2483.5(Pk)		45.29	74*	-28.71
	2483.5(Av)		29.37	54*	-24.63
	4924(Pk)		41.62	74	-32.38
	4924(Av)		29.19	54	-24.81
	7386(Pk)		48.05	74	-25.95
	7386(Av)		34.76	54	-19.24

*- : Indicate restricted band of operation §15.205
Pk: Peak Detector; Av: Average Detector

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Modulation: 802.11b

Data Rate: 6Mbps

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
2412	2412(Pk)	Vertical	90.15	-	-
	2412(Av)		70.89	-	-
	2390(Pk)		48.55	74*	-25.45
	2390(Av)		27.30	54*	-26.70
	4824(Pk)		41.33	74	-32.67
	4824(Av)		28.81	54	-25.19
	7236(Pk)		47.10	74	-26.90
	7236(Av)		34.63	54	-19.37
	2412(Pk)	Horizontal	95.99	-	-
	2412(Av)		76.85	-	-
	2390(Pk)		54.41	74*	-19.59
	2390(Av)		30.96	54*	-23.04
	4824(Pk)		41.75	74	-32.25
	4824(Av)		28.79	54	-25.21
	7236(Pk)		47.12	74	-26.88
	7236(Av)		34.62	54	-19.38
2437	2437(Pk)	Vertical	92.69	-	-
	2437(Av)		74.27	-	-
	4874(Pk)		41.21	74	-32.79
	4874(Av)		29.17	54	-24.83
	7311(Pk)		46.66	74	-27.34
	7311(Av)		34.72	54	-19.28
	2437(Pk)	Horizontal	99.59	-	-
	2437(Av)		80.31	-	-
	4874(Pk)		41.32	74	-32.68
	4874(Av)		28.80	54	-25.20
	7311(Pk)		46.45	74	-27.55
	7311(Av)		34.71	54	-19.29
2462	2462(Pk)	Vertical	85.83	-	-
	2462(Av)		66.93	-	-
	2483.5(Pk)		40.07	74*	-33.93
	2483.5(Av)		24.02	54*	-29.98
	4924(Pk)		40.63	74	-33.37
	4924(Av)		28.53	54	-25.47
	7386(Pk)		46.98	74	-27.02
	7386(Av)		34.80	54	-19.20
	2462(Pk)	Horizontal	93.11	-	-
	2462(Av)		74.12	-	-
	2483.5(Pk)		49.34	74*	-24.66
	2483.5(Av)		27.70	54*	-26.30
	4924(Pk)		40.72	74	-33.28
	4924(Av)		28.48	54	-25.52
	7386(Pk)		47.23	74	-26.77
	7386(Av)		34.81	54	-19.19

*- : Indicate restricted band of operation §15.205

Pk: Peak Detector; Av: Average Detector

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Data Rate: 54Mbps

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
2412	2412(Pk)	Vertical	89.48	-	-
	2412(Av)		69.28	-	-
	2390(Pk)		53.41	74*	-20.59
	2390(Av)		27.61	54*	-26.39
	4824(Pk)		40.89	74	-33.11
	4824(Av)		28.73	54	-25.27
	7236(Pk)		46.66	74	-27.34
	7236(Av)		34.60	54	-19.40
	2412(Pk)	Horizontal	94.67	-	-
	2412(Av)		74.72	-	-
	2390(Pk)		58.68	74*	-15.32
	2390(Av)		30.78	54*	-23.22
	4824(Pk)		40.62	74	-33.38
	4824(Av)		28.78	54	-25.22
	7236(Pk)		47.03	74	-26.97
	7236(Av)		34.64	54	-19.36
2437	2437(Pk)	Vertical	87.72	-	-
	2437(Av)		67.84	-	-
	4874(Pk)		40.59	74	-33.41
	4874(Av)		28.71	54	-25.29
	7311(Pk)		47.32	74	-26.68
	7311(Av)		34.73	54	-19.27
	2437(Pk)	Horizontal	94.15	-	-
	2437(Av)		73.72	-	-
	4874(Pk)		40.66	74	-33.34
	4874(Av)		28.70	54	-25.30
	7311(Pk)		46.93	74	-27.07
	7311(Av)		34.75	54	-19.25
2462	2462(Pk)	Vertical	85.71	-	-
	2462(Av)		64.94	-	-
	2483.5(Pk)		42.11	74*	-31.89
	2483.5(Av)		24.34	54*	-29.66
	4924(Pk)		40.74	74	-33.26
	4924(Av)		28.40	54	-25.60
	7386(Pk)		48.33	74	-25.67
	7386(Av)		34.78	54	-19.22
	2462(Pk)	Horizontal	93.69	-	-
	2462(Av)		73.69	-	-
	2483.5(Pk)		51.30	74*	-22.70
	2483.5(Av)		28.23	54*	-25.77
	4924(Pk)		40.29	74	-33.71
	4924(Av)		28.43	54	-25.57
	7386(Pk)		46.83	74	-27.17
	7386(Av)		34.81	54	-19.19

*- : Indicate restricted band of operation §15.205
Pk: Peak Detector; Av: Average Detector

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Modulation: 802.11n_HT20

Data Rate: MCS0

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBμV/m)	Limit (dBμV/m)	Margin (dB)
2412	2412(Pk)	Vertical	88.02	-	-
	2412(Av)		78.49	-	-
	2390(Pk)		47.03	74*	-26.97
	2390(Av)		30.11	54*	-23.89
	4824(Pk)		41.48	74	-32.52
	4824(Av)		29.04	54	-24.96
	7236(Pk)		47.43	74	-26.57
	7236(Av)		34.95	54	-19.05
	2412(Pk)	Horizontal	93.85	-	-
	2412(Av)		84.62	-	-
	2390(Pk)		58.11	74*	-15.89
	2390(Av)		35.83	54*	-18.17
	4824(Pk)		41.58	74	-32.42
	4824(Av)		28.67	54	-25.33
	7236(Pk)		47.84	74	-26.16
	7236(Av)		35.08	54	-18.92
2437	2437(Pk)	Vertical	90.04	-	-
	2437(Av)		80.87	-	-
	4874(Pk)		41.57	74	-32.43
	4874(Av)		29.09	54	-24.91
	7311(Pk)		47.29	74	-26.71
	7311(Av)		35.05	54	-18.95
	2437(Pk)	Horizontal	97.67	-	-
	2437(Av)		87.78	-	-
	4874(Pk)		42.00	74	-32.00
	4874(Av)		29.10	54	-24.90
	7311(Pk)		47.51	74	-26.49
	7311(Av)		34.99	54	-19.01
2462	2462(Pk)	Vertical	84.55	-	-
	2462(Av)		74.68	-	-
	2483.5(Pk)		43.74	74*	-30.26
	2483.5(Av)		25.09	54*	-28.91
	4924(Pk)		41.39	74	-32.61
	4924(Av)		28.74	54	-25.26
	7386(Pk)		47.21	74	-26.79
	7386(Av)		35.05	54	-18.95
	2462(Pk)	Horizontal	92.73	-	-
	2462(Av)		82.79	-	-
	2483.5(Pk)		48.38	74*	-25.62
	2483.5(Av)		31.16	54*	-22.84
	4924(Pk)		41.29	74	-32.71
	4924(Av)		28.75	54	-25.25
	7386(Pk)		47.53	74	-26.47
	7386(Av)		35.05	54	-18.95

*- : Indicate restricted band of operation §15.205

Pk: Peak Detector; Av: Average Detector

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Data Rate: MCS7

Channel Frequency (MHz)	Measured Frequency (MHz)	Antenna Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
2412	2412(Pk)	Vertical	92.93	-	-
	2412(Av)		72.00	-	-
	2390(Pk)		52.46	74*	-21.54
	2390(Av)		29.17	54*	-24.83
	4824(Pk)		41.25	74	-32.75
	4824(Av)		28.94	54	-25.06
	7236(Pk)		46.81	74	-27.19
	7236(Av)		34.91	54	-19.09
	2412(Pk)	Horizontal	88.32	-	-
	2412(Av)		66.75	-	-
	2390(Pk)		47.05	74*	-26.95
	2390(Av)		26.54	54*	-27.46
	4824(Pk)		40.55	74	-33.45
	4824(Av)		28.95	54	-25.05
	7236(Pk)		48.14	74	-25.86
	7236(Av)		34.86	54	-19.14
2437	2437(Pk)	Vertical	86.77	-	-
	2437(Av)		65.23	-	-
	4874(Pk)		41.59	74	-32.41
	4874(Av)		28.83	54	-25.17
	7311(Pk)		47.34	74	-26.66
	7311(Av)		34.90	54	-19.10
	2437(Pk)	Horizontal	93.47	-	-
	2437(Av)		72.18	-	-
	4874(Pk)		41.77	74	-32.23
	4874(Av)		28.85	54	-25.15
2462	2462(Pk)	Vertical	83.92	-	-
	2462(Av)		62.39	-	-
	2483.5(Pk)		43.00	74*	-31.00
	2483.5(Av)		24.33	54*	-29.67
	4924(Pk)		40.49	74	-33.51
	4924(Av)		28.56	54	-25.44
	7386(Pk)		47.38	74	-26.62
	7386(Av)		34.96	54	-19.04
	2462(Pk)	Horizontal	92.33	-	-
	2462(Av)		70.88	-	-
	2483.5(Pk)		51.39	74*	-22.61
	2483.5(Av)		28.04	54*	-25.96
	4924(Pk)		41.28	74	-32.72
	4924(Av)		28.63	54	-25.37
	7386(Pk)		47.47	74	-26.53
	7386(Av)		34.99	54	-19.01

*- : Indicate restricted band of operation §15.205
Pk: Peak Detector; Av: Average Detector

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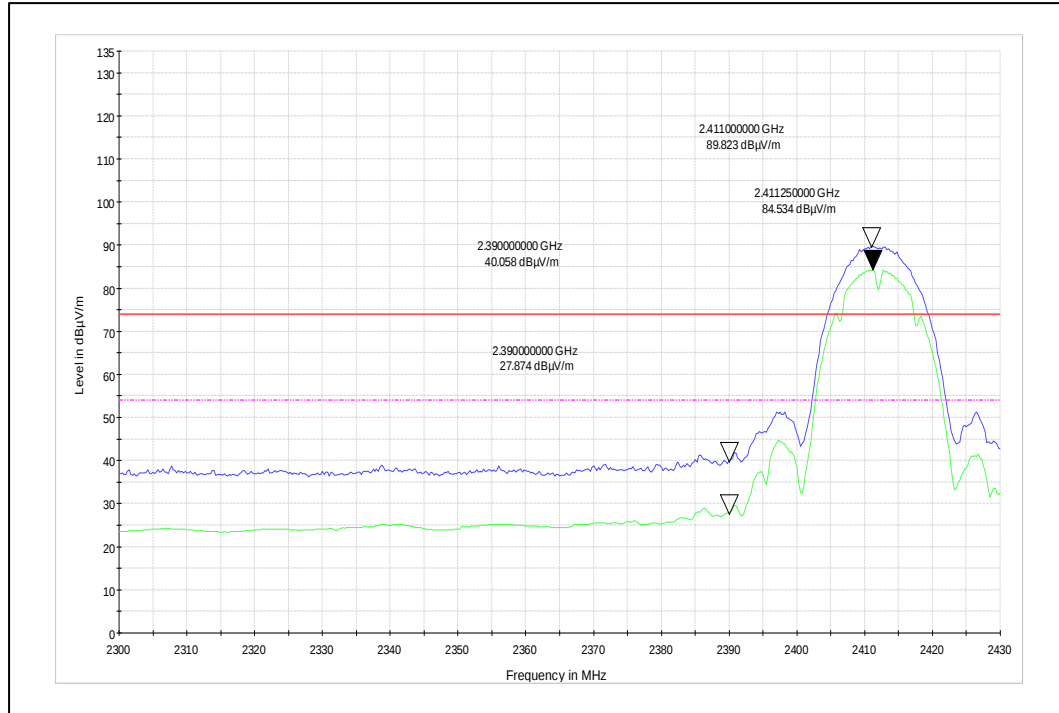
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Worst Case Plots are Reported

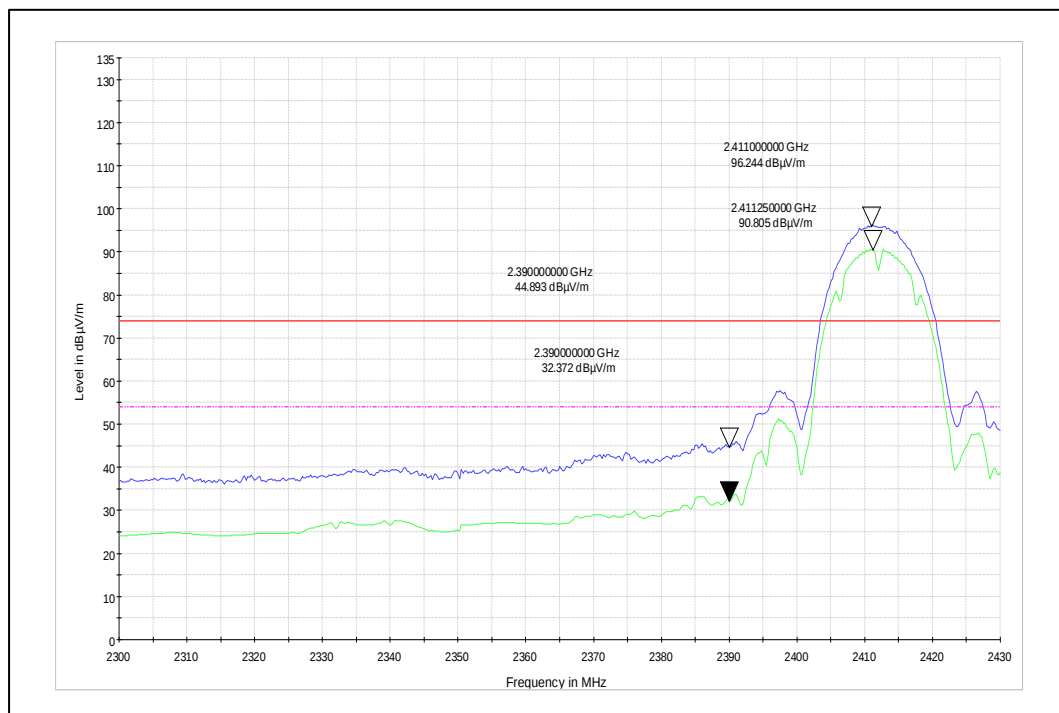
Modulation: 802.11b

Data Rate : 1Mbps

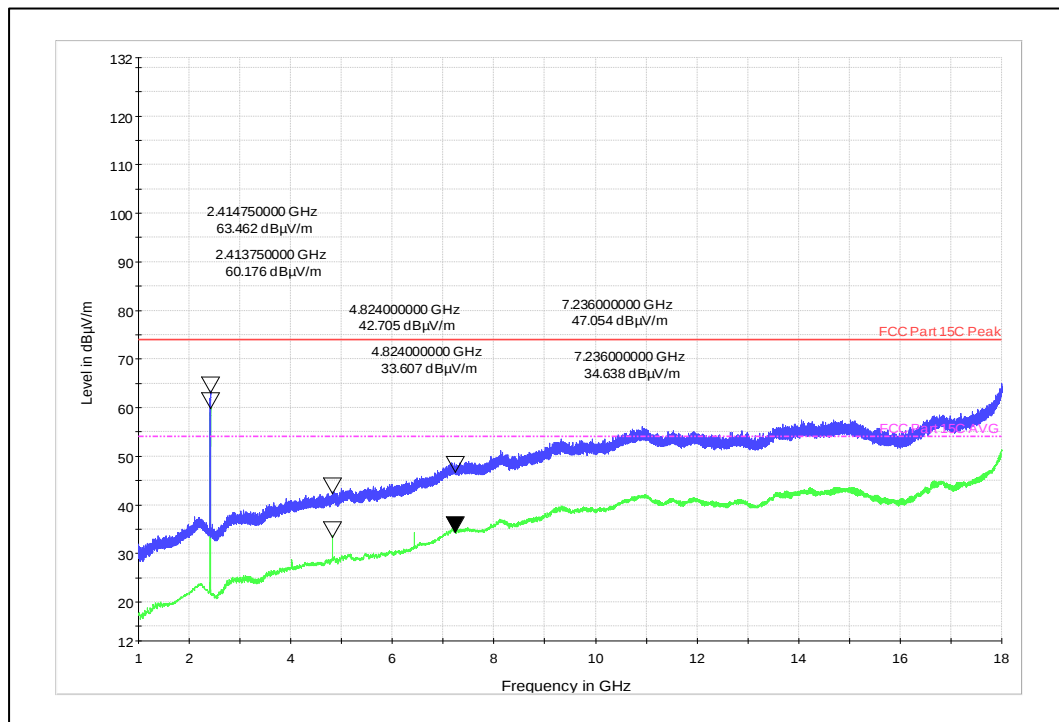
Channel frequency - 2412MHz_Vertical Polarization



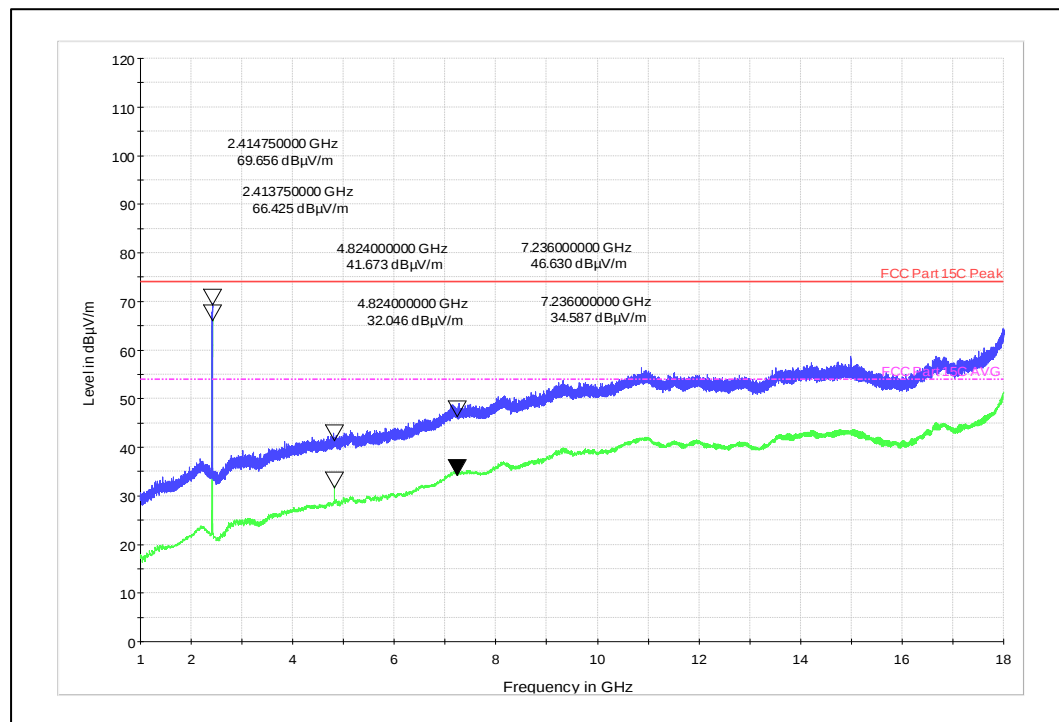
Channel frequency - 2412MHz_Horizontal Polarization



Channel frequency - 2412MHz_Vertical Polarization

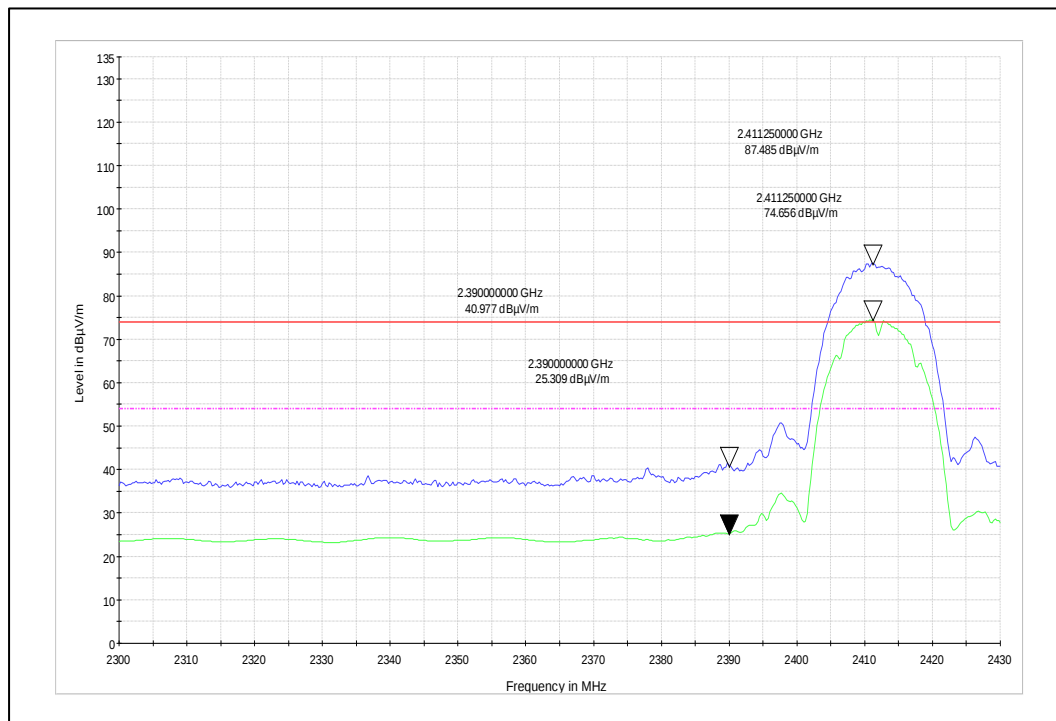


Channel frequency - 2412MHz_Horizontal Polarization

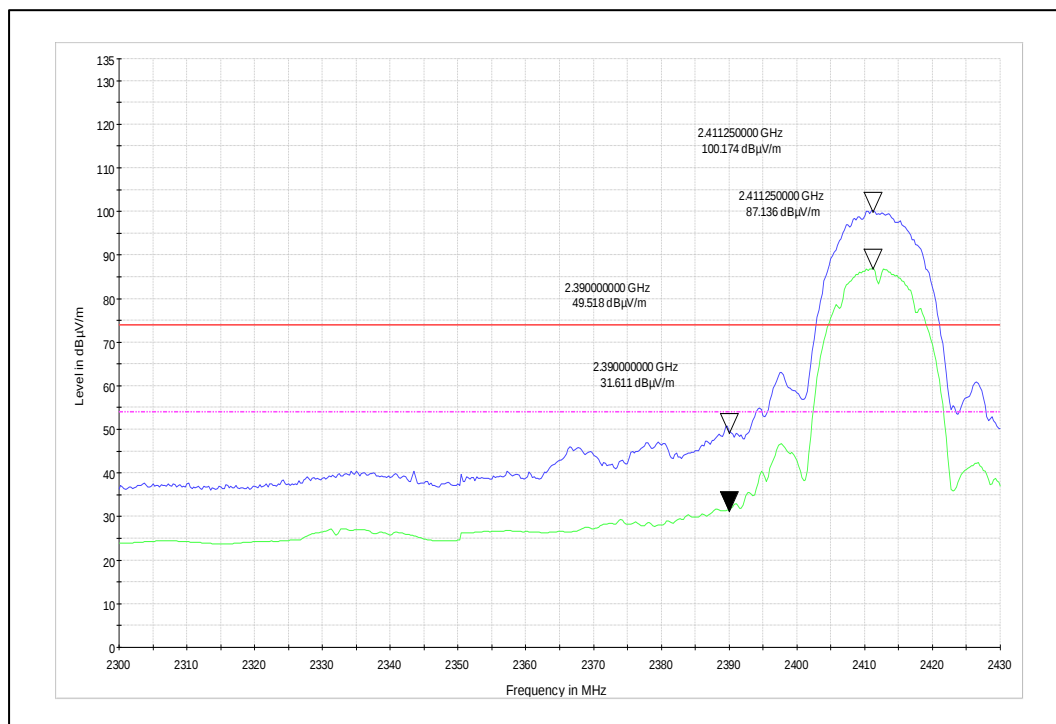


Data Rate : 11Mbps

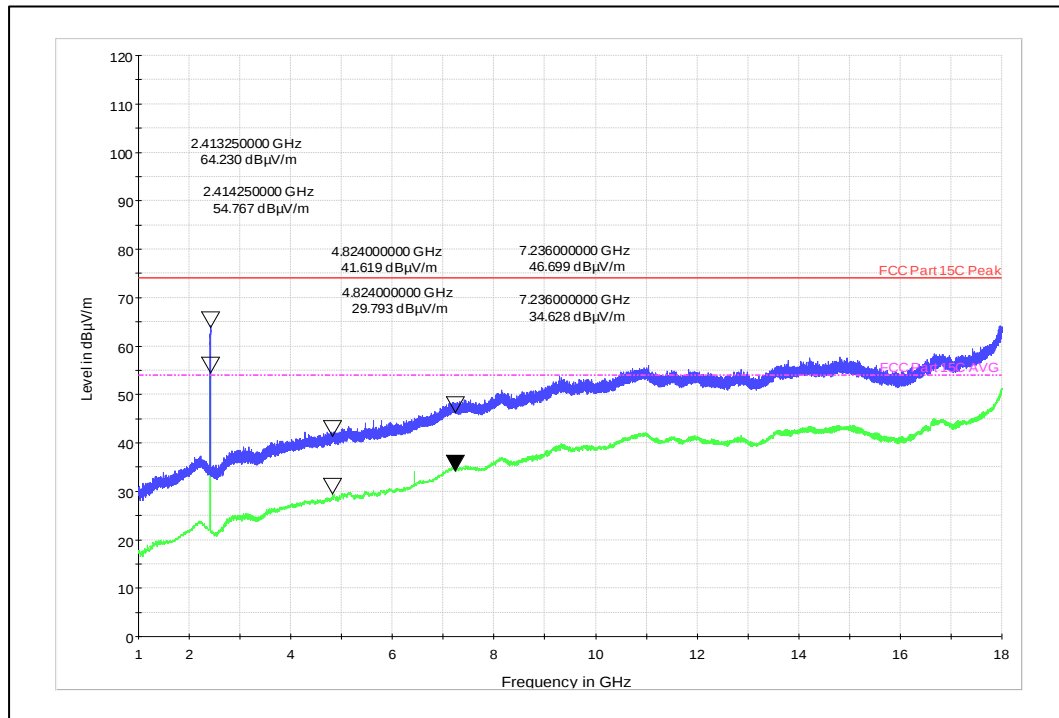
Channel Frequency - 2412MHz_Vertical Polarization



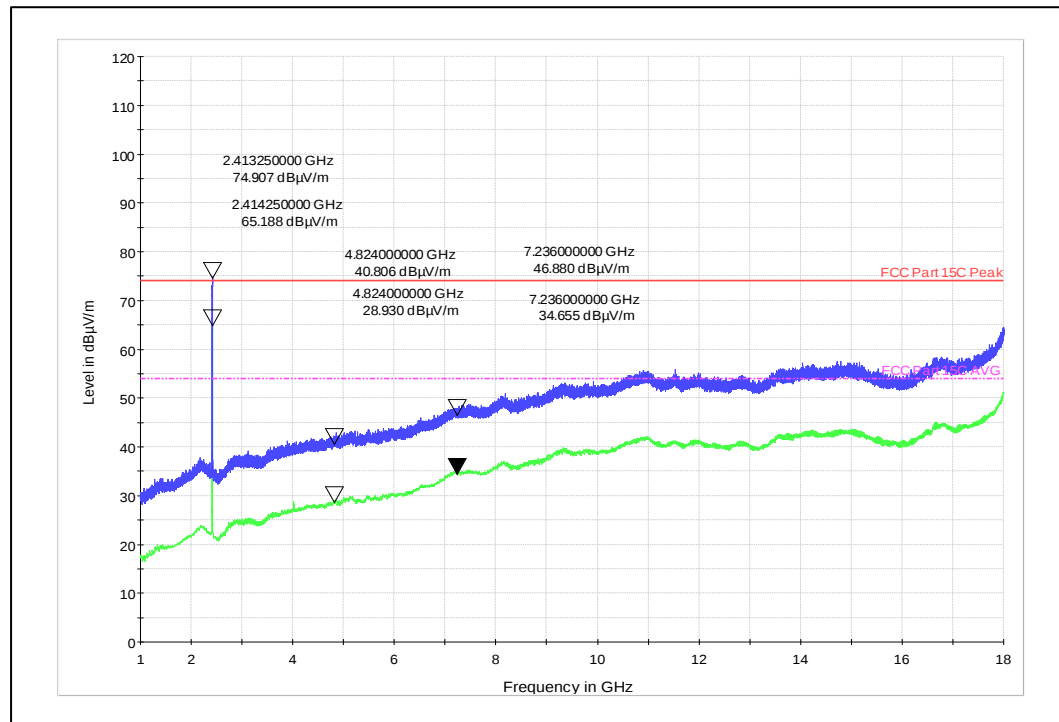
Channel Frequency - 2412MHz_Horizontal Polarization



Channel Frequency - 2412MHz_Vertical Polarization



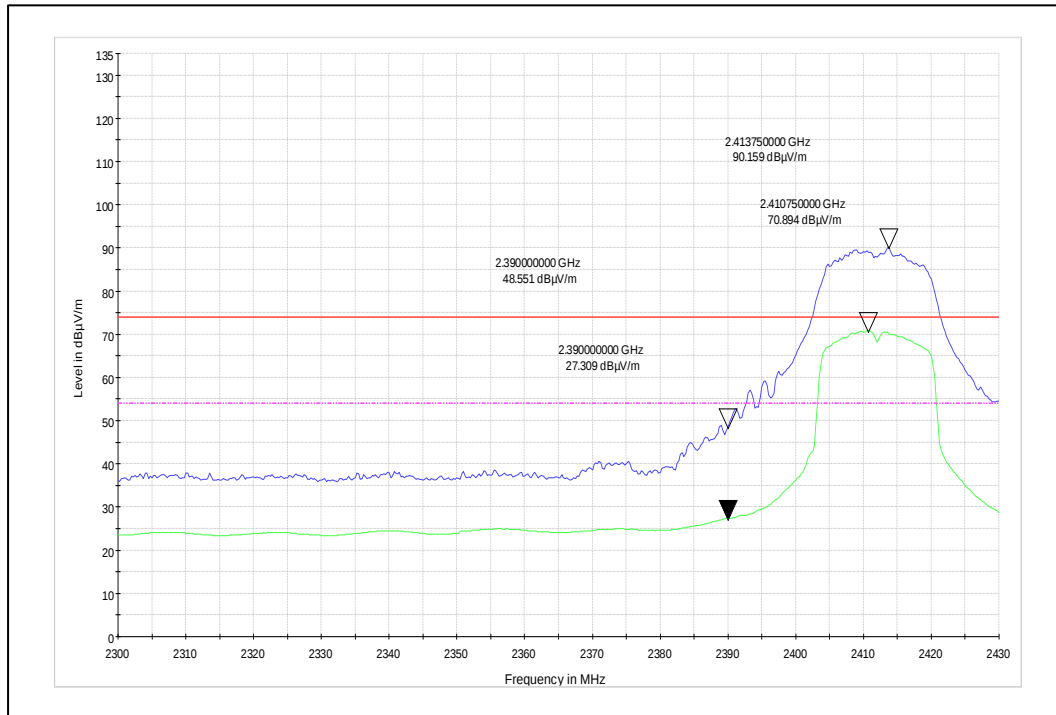
Channel Frequency - 2412MHz_Horizontal Polarization



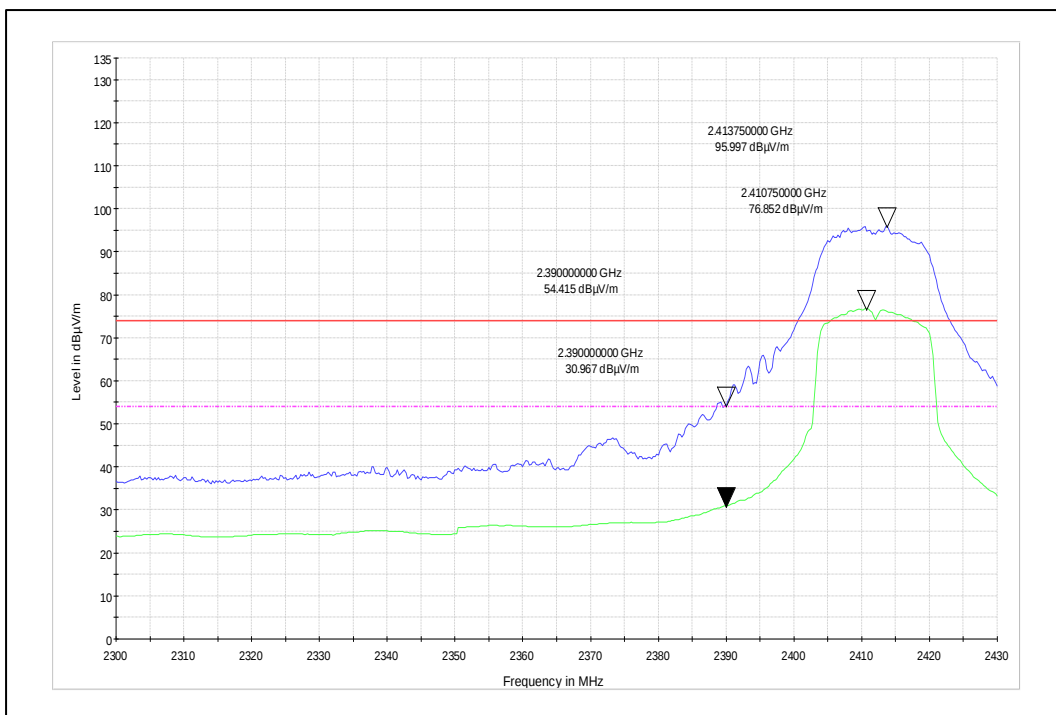
Modulation: 802.11g

Data Rate : 6Mbps

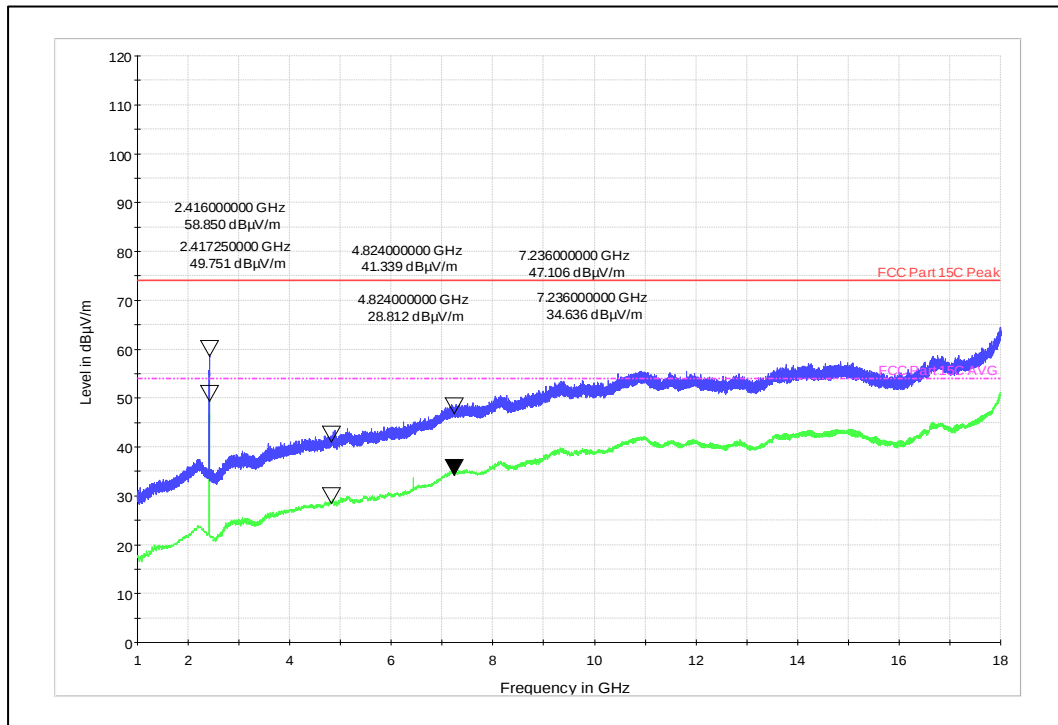
Channel Frequency - 2412MHz_Vertical Polarization



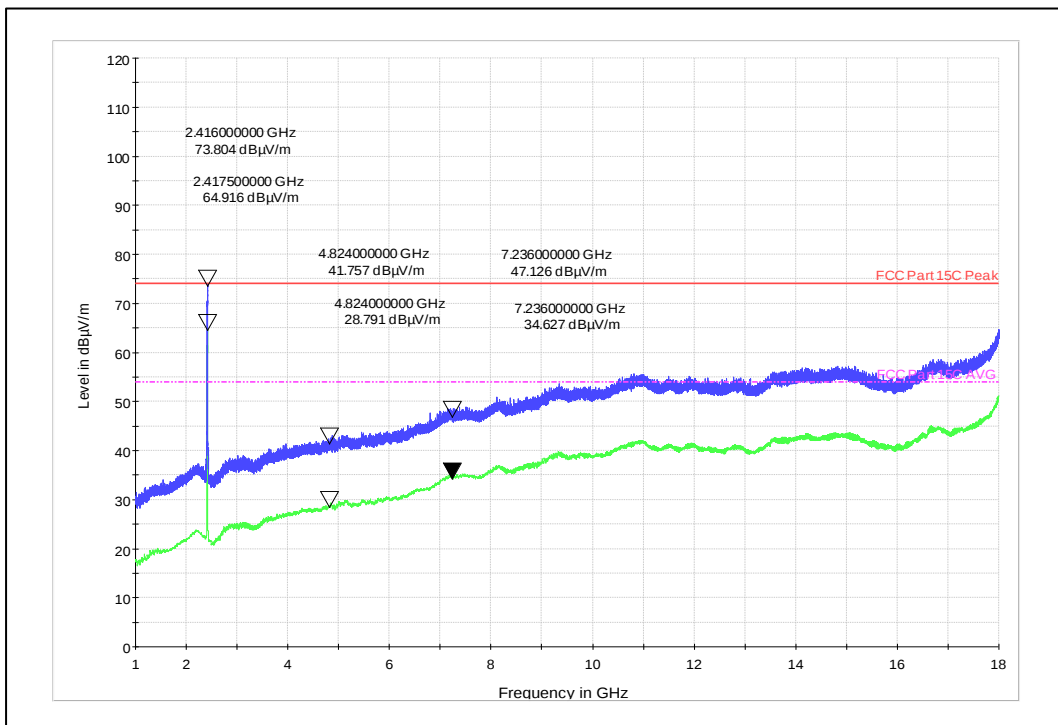
Channel Frequency - 2412MHz_Horizontal Polarization



Channel Frequency - 2412MHz_Vertical Polarization

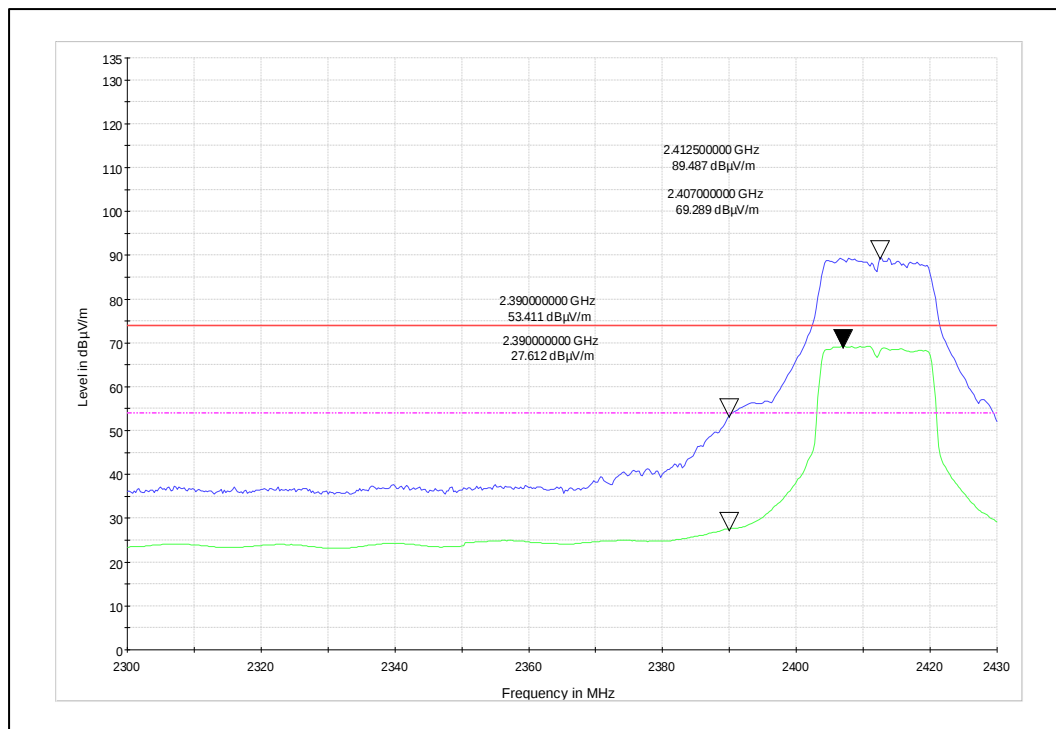


Channel Frequency - 2412MHz_Horizontal Polarization

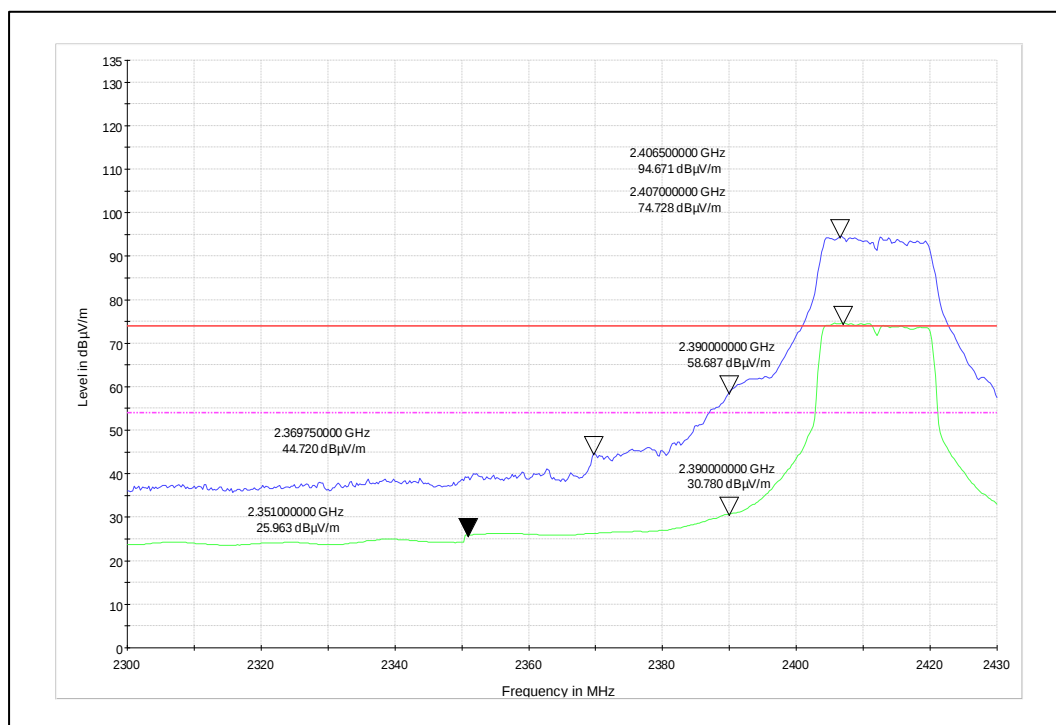


Data Rate : 54Mbps

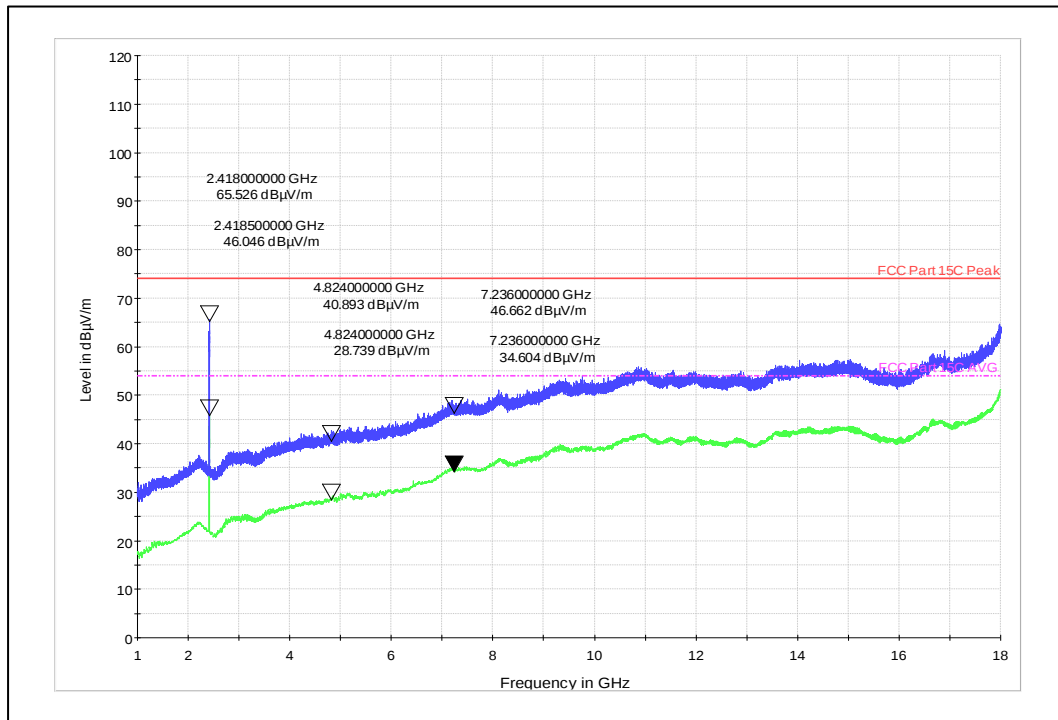
Channel Frequency - 2412MHz_Vertical Polarization



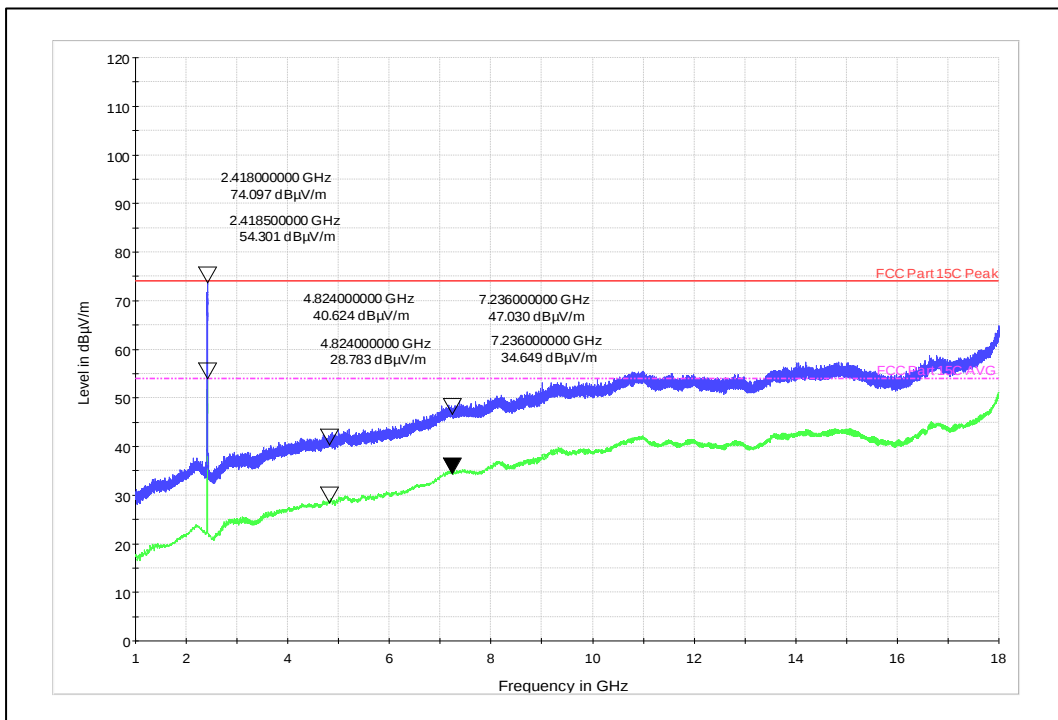
Channel Frequency - 2412MHz_Horizontal Polarization



Channel Frequency - 2412MHz_Vertical Polarization



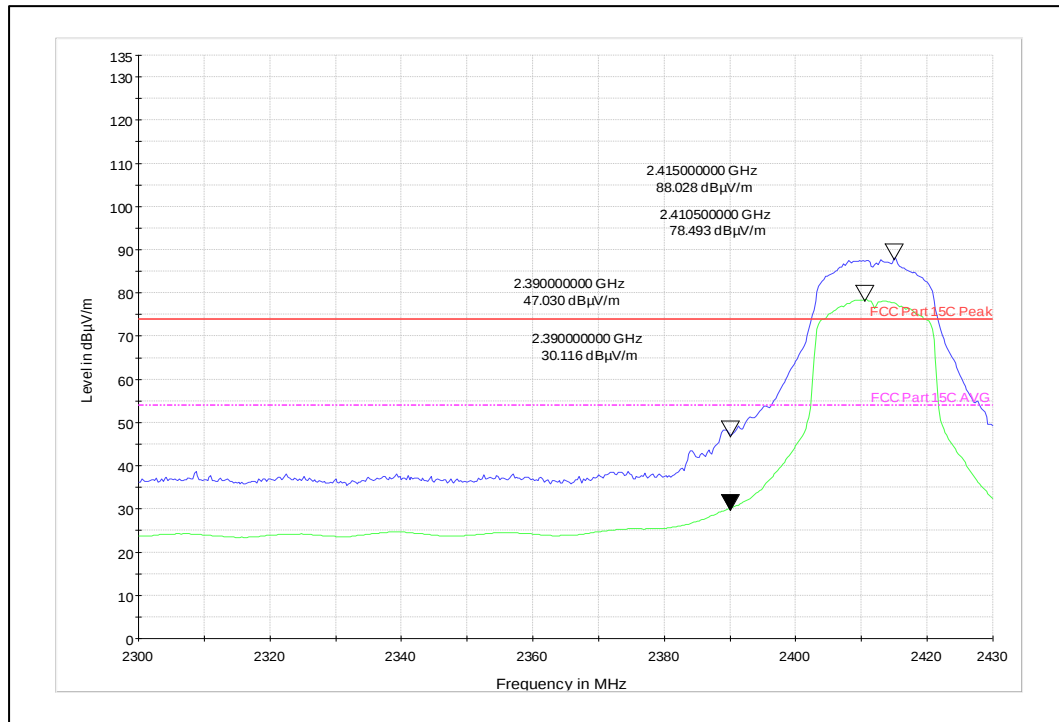
Channel Frequency - 2412MHz_Horizontal Polarization



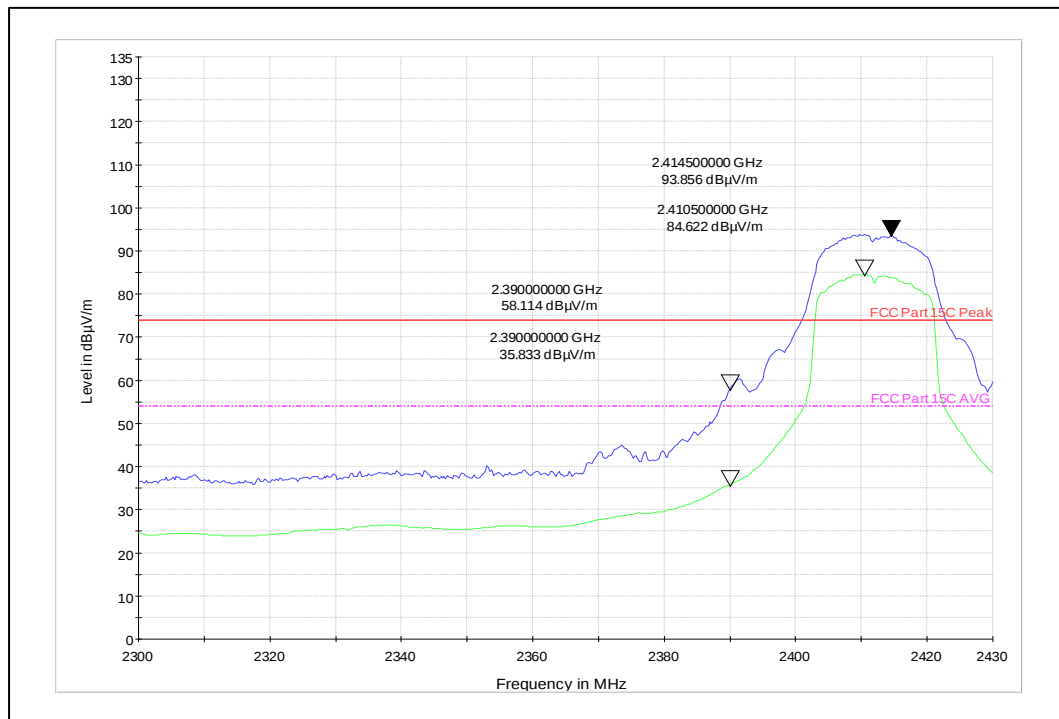
Modulation: 802.11n_HT20

Data Rate : MCS 0

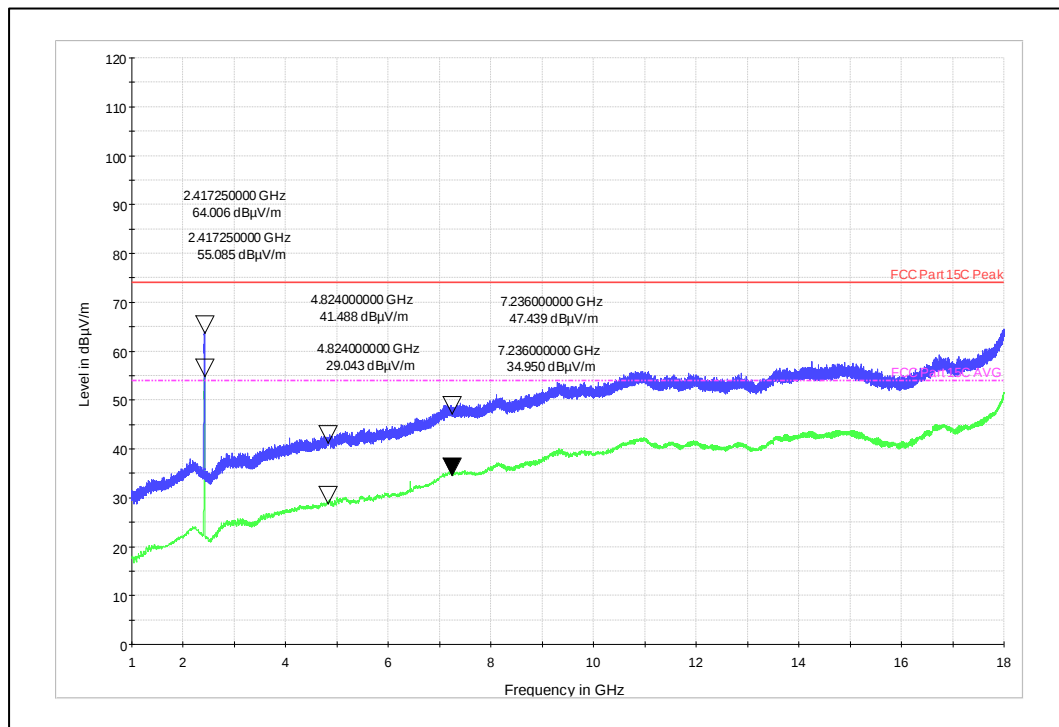
Channel Frequency - 2412MHz_Vertical Polarization



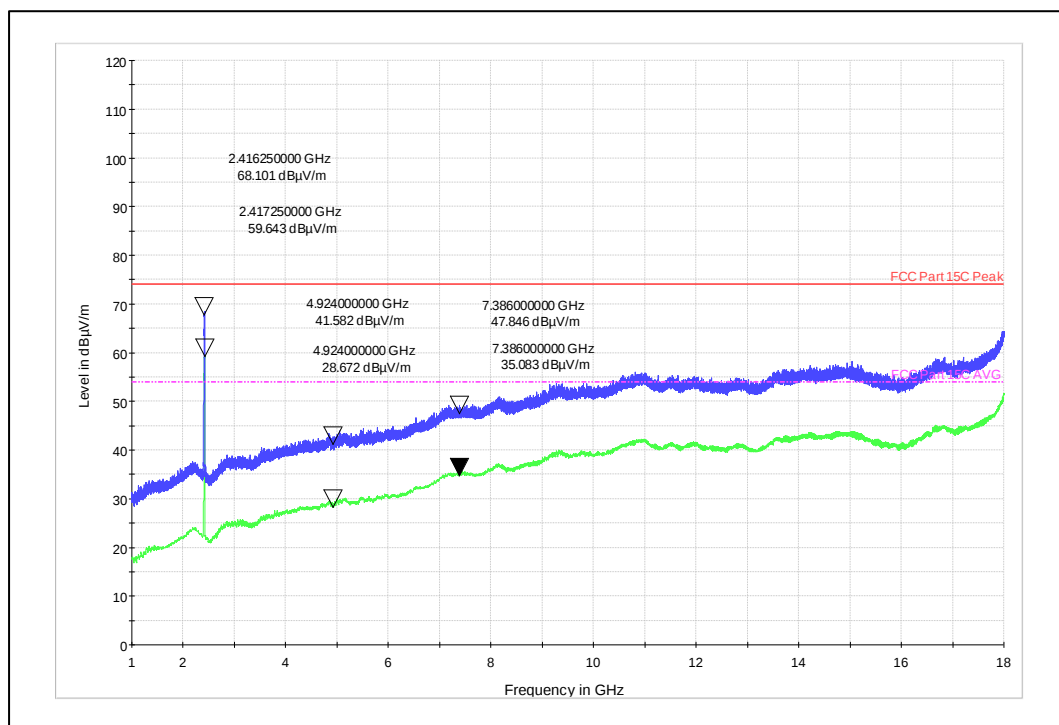
Channel Frequency - 2412MHz_Horizontal Polarization



Channel Frequency - 2412MHz_Vertical Polarization

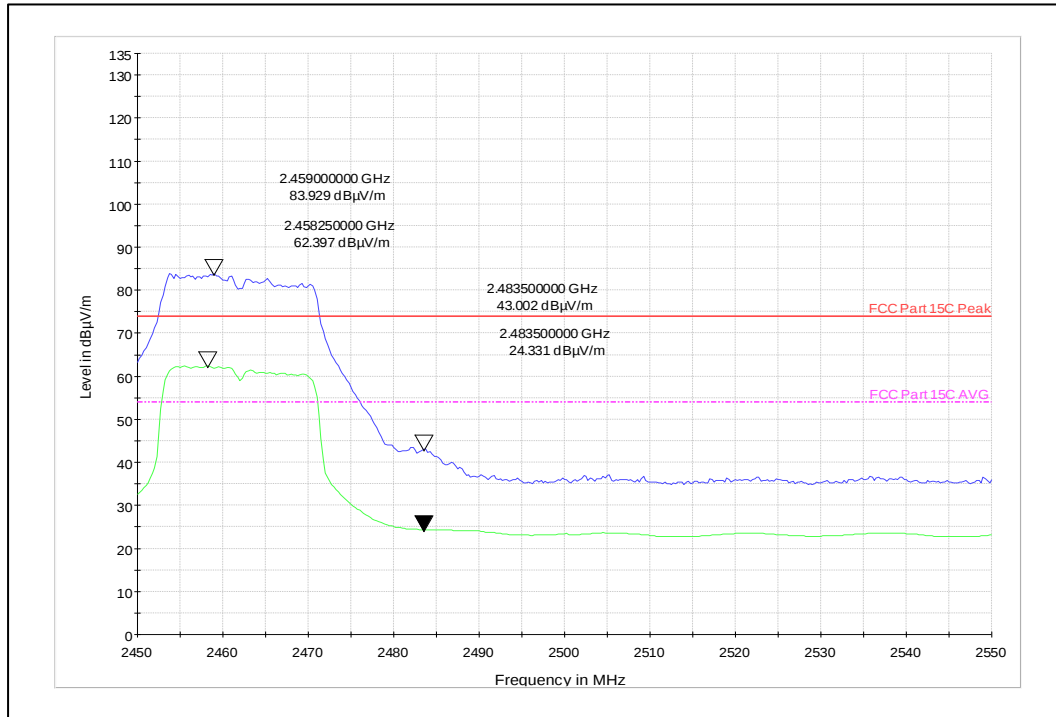


Channel Frequency - 2412MHz_Horizontal Polarization

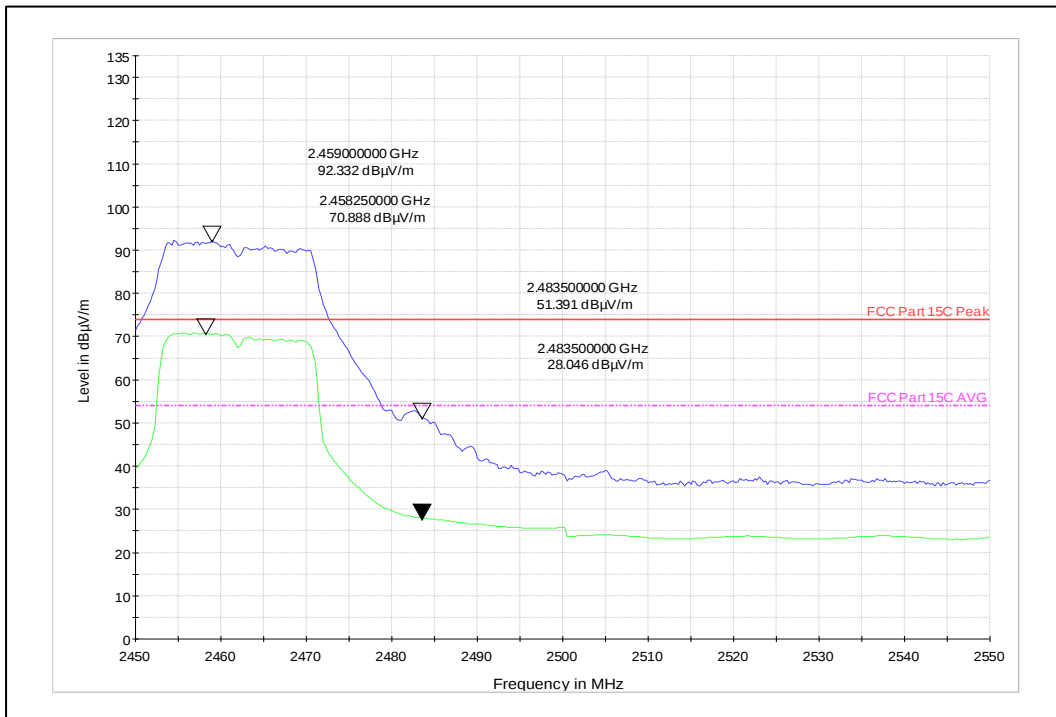


Data Rate : MCS 7

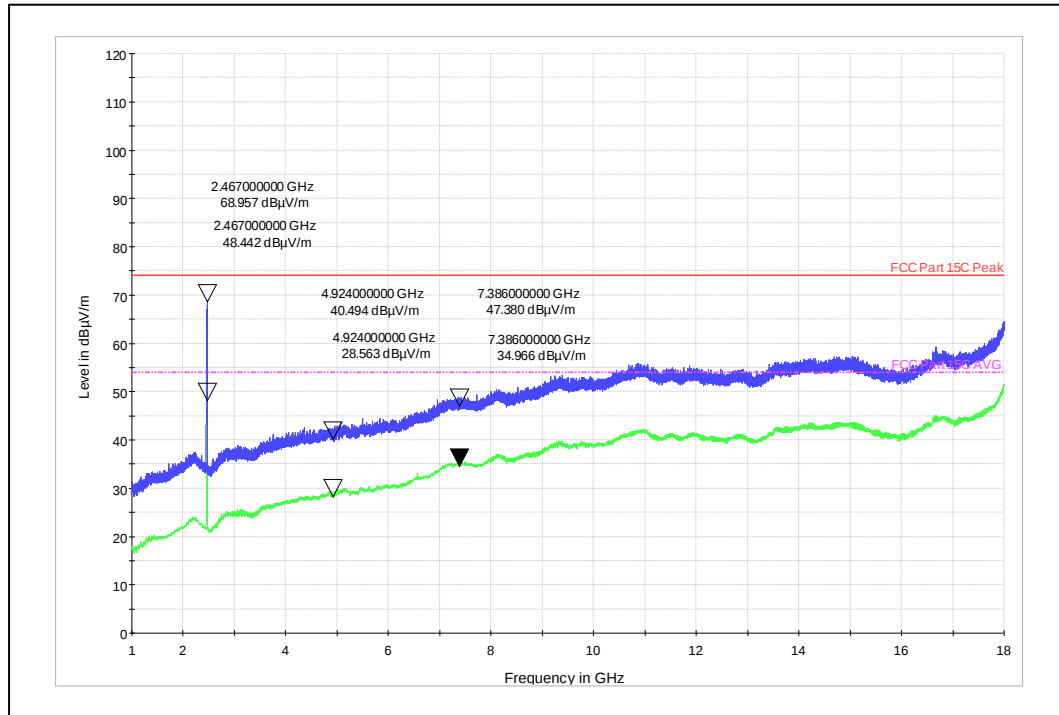
Channel Frequency - 2462MHz_Vertical Polarization



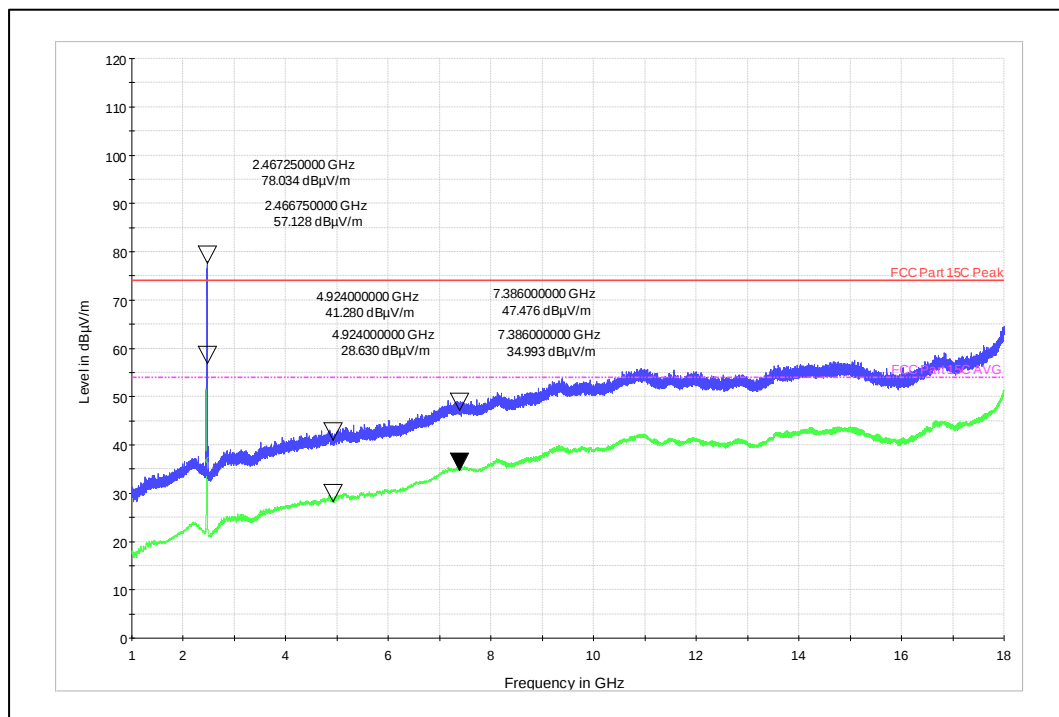
Channel Frequency - 2462MHz_Horizontal Polarization



Channel Frequency - 2462MHz_Vertical Polarization



Channel Frequency - 2462MHz_Horizontal Polarization



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*****END OF TEST REPORT*****