Amber Helm Development L.C.

92723 Michigan Hwy-152 Sister Lakes, Michigan 49047 USA Tel: 888-847-8027

Issued: December 20, 2024

DTS Test Report

regarding

USA: CFR Title 47, Part 15.247 (Emissions) Canada: ISED RSS-247v3 (Emissions)

for



47723023

Category: DTS Transceiver

Judgments: Aligns with FCC Part 15.247 and ISED RSS-247v3 Testing Completed: December 19, 2024



Prepared for:

Allegion, PLC

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Date of Issue:

Rpt. Auth. by:

December 20, 2024

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A copy of this report will remain on file until January 2035.

Revision History

Rev. No.	Date Details		Revised By
r0	December 20, 2024	Initial Draft.	J. Nantz
r1	January 21, 2025	Minor typo corr.	J. Brunett
r2	February 14, 2025	Minor typo corr.	J. Nantz
r3	March 31, 2025	Operating Freq. corr.	J. Nantz

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1 Test Report Scope and Limitations

1.1 Laboratory Authorization

Test Facility description and attenuation characteristics are on file with the FCC Laboratory, Columbia, Maryland (FCC Reg. No: US5348 and US5356) and with ISED Canada, Ottawa, ON (File Ref. No: 3161A and 24249). Amber Helm Development L.C. holds accreditation under NVLAP Lab Code 200129-0.

1.2 Report Retention

For equipment verified to comply with the regulations herein, the manufacturer is obliged to retain this report with the product records for the life of the product, and no less than ten years. A copy of this Report will remain on file with this laboratory until January 2035.

1.3 Subcontracted Testing

This report does not contain data produced under subcontract.

1.4 Test Data

This test report contains data included within the laboratory's scope of accreditation. Any data in this report that is not covered under the laboratory's scope is clearly identified.

1.5 Limitation of Results

The test results contained in this report relate only to the item(s) tested. Any electrical or mechanical modification made to the test item subsequent to the test date shall invalidate the data presented in this report. Any electrical or mechanical modification made to the test item subsequent to this test date shall require reevaluation.

1.6 Copyright

This report shall not be reproduced, except in full, without the written approval of Amber Helm Development L.C.

1.7 Endorsements

This report shall not be used to claim product endorsement by any accrediting, regulatory, or governmental agency.

1.8 Test Location

The EUT was fully tested by **Amber Helm Development L.C.**, headquartered at 92723 Michigan Hwy-152, Sister Lakes, Michigan 49047 USA. Table 1.8.0 lists all sites employed herein. Specific test sites utilized are also listed in the test results sections of this report where needed.

	Table 1.8.0 Test Site List.	
Description	Location	Quality Num.
OATS (3 meter)	3615 E Grand River Rd., Williamston, Michigan 48895	OATSD

1.9 Traceability and Equipment Used

Pertinent test equipment used for measurements at this facility is listed in Table 1.9.0. The quality system employed at Amber Helm Development L.C. has been established to ensure all equipment has a clearly identifiable classification, calibration expiry date, and that all calibrations are traceable to the SI through NIST, other recognized national laboratories, accepted fundamental or natural physical constants, ratio type of calibration, or by comparison to consensus standards. All equipment is evaluated on a cycle no greater than 12 months following laboratory validation procedures and is calibrated following manufacturer recommended intervals.

Table 1.9.0 Equipment List.

Description	Manufacturer/Model	\mathbf{SN}	Quality Num.	Cal/Ver By / Date Due
Biconical	EMCO / 93110B	9802-3039	BICEMCO01	Keysight / Aug-2025
Log Periodic Antenna	EMCO / 3146	9305 - 3614	LOGEMCO01	Keysight / Aug-2025
BNC-BNC Coax	WRTL / $RG58/U$	001	CAB001-BLACK	AHD / Sept-2025
3.5-3.5MM Coax	Coax / Coax	001	CAB018-WHT	AHD / Sept-2025
6dB Attenuator	Pasternack / PE7087-6	1	ATTEN01	AHD / On-Use
Spectrum Analyzer	R & S / FSV30	101660	RSFSV3001	RS / Apr-2025
EMI Receiver	R & S / ESW26	101313	RSESW2601	RS / Dec-2025
Quad Ridge Horn	Singer / A6100	C35200	HQR1TO18S01	Keysight / Aug-2025
K-Band Horn	JEF / NRL Std.	001	HRNK01	AHD / On Use

2 Test Specifications and Procedures

2.1 Test Specification and General Procedures

The goal of Allegion, PLC is to demonstrate that the Equipment Under Test (EUT) complies with the Rules and/or Directives below. Detailed in this report are the results of testing the Allegion, PLC 47723023 for compliance to:

Country/Region/Manu.	Rules or Directive	Referenced Section(s)
United States	Code of Federal Regulations	CFR Title 47, Part 15.247
Canada	ISED Canada	ISED RSS-247v3

It has been determined that the equipment under test is subject to the rules and directives above at the date of this testing. In conjunction with these rules and directives, the following specifications and procedures are followed herein to demonstrate compliance (in whole or in part) with these regulations.

ANSI C63.4:2014	"Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz"			
ANSI C63.10:2020	"American National Standard of Procedures for Compliance Testing of Unli- censed Wireless Devices"			
KDB 558074 D01 v05r02	"GUIDANCE FOR COMPLIANCE MEASUREMENTS ON DIGITAL TRANSMISSION SYSTEM, FREQUENCY HOPPING SPREAD SPEC- TRUM SYSTEM, AND HYBRID SYSTEM DEVICES OPERATING UNDER SECTION 15.247 OF THE FCC RULES "			
KDB 662911 D01v02r01	"Emissions Testing of Transmitters with Multiple Outputs in the Same Band"			
KDB 662911 D02 v01	"MIMO with Cross-Polarized Antenna"			
WR-ITP0102RA	"AHD Internal Document - Radiated Emissions Test Method"			
WR-ITP0101LC	"AHD Internal Document - Conducted Emissions Test Method"			

3 Configuration and Identification of the Equipment Under Test

3.1 Description and Declarations

Date: December 20, 2024

The EUT is a key free access control module. The EUT is approximately $14 \ge 7.5 \ge 6$ cm max. in dimension, and is depicted in Figure 3.1.0. It is powered by 6 Vdc internal battery power. This product is used as an access reader to enable key free door access. Table 3.1.0 outlines provider declared EUT specifications.



Figure 3.1.0 Photos of EUT.

Table $3.1.0 \text{ EUT}$	Declarations.
---------------------------	---------------

General Declarations	
Equipment Type:	DTS Transceiver
Country of Origin:	USA
Nominal Supply:	6 Vdc
Oper. Temp Range:	Not Declared
Frequency Range:	2412 - 2462 MHz
Antenna Dimension:	Not Declared
Antenna Type:	Integral PCB Trace
Antenna Gain:	1.5 dBi (meas.)
Number of Channels:	11
Channel Spacing:	5 MHz
Alignment Range:	Not Declared
Type of Modulation:	GFSK, OFDM
United States	
FCC ID Number:	XPB-SENSEPRO2
Classification:	DTS
Canada	
IC Number:	8053B-SENSEPRO2
Classification:	Other

3.1.1 EUT Configuration

The EUT is configured for testing as depicted in Figure 3.1.1 .

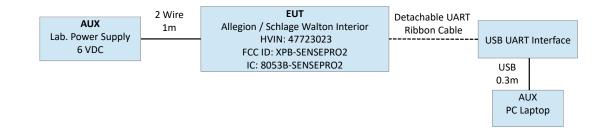


Figure 3.1.1 EUT Test Configuration Diagram.

3.1.2 Modes of Operation

The EUT includes a single onboard DTS radio capable of Wifi 802.11b, 802.11g, 802.11n(20) and 802.11ax modulations in the 2.4 Ghz band only, all of which are tested herein. The EUT was placed into maximum possible transmission on-time and measured in line with DTS guidelines. In addition to its Wifi radio functionality, the EUT is also co-located with an onboard BLE/THREAD radio (addressed in AHD Report No. AWLTINT-WR2432TXA). The integral WLAN + BLE/THREAD radios are capable of simultaneous transmission of which the intermodulation products are addressed in AHD Report No. AWLTINT-WR2432TXA.

3.1.3 Variants

There is only a single version of the EUT.

3.1.4 Test Samples

Two samples of the EUT were provided for WLAN testing, one modified for conducted measurements via an SMA coax connection (SN: DV3) and one normal sample without modification (SN: INT1). Both samples were capable of CW and modulated WLAN radio transmissions via a PC serial UART interface that could be attached and then detached from the EUT during testing.

3.1.5 Functional Exerciser

Normal operating EUT functionality was verified by observation of transmitted signal.

3.1.6 Modifications Made

In order to meet the regulatory limits, the following WLAN power level settings were adopted in pretesting: Power Level Setting 802.11b = 16 (CH1-10), 11 (CH11); 802.11g = 18 (CH1-9), 17 (CH10), 12 (CH11); 802.11n(20) = 18

(CH1-10), 12 (CH11); and 802.11ax = 18 (CH1-9), 16 (CH10), 12 (CH11).

3.1.7 Production Intent

The EUT appears to be a production ready sample.

3.1.8 Declared Exemptions and Additional Product Notes

In addition to its WLAN radio functionality, the EUT is also co-located with an onboard BLE/THREAD radio (addressed in AHD Report No. AWLTINT-WR2432TXA). The integral WLAN + BLE/THREAD radios are capable of simultaneous transmission. Furthermore, the EUT may be co-located with the manufacturer's radio device placed on the exterior (keypad) side of the door (FCC ID: XPB-SENSEPRO1, IC: 8053B-SENSEPRO1), and is evaluated for multi-transmitter co-location with Spurious digital emissions in AHD Report No. AWLTKEY-WR2431TXD.

4 Emissions

4.1 General Test Procedures

4.1.1 Radiated Test Setup and Procedures

Radiated electromagnetic emissions from the EUT are first pre-scanned in our screen room. Spectrum and modulation characteristics of all emissions are recorded. Instrumentation, including spectrum analyzers and other test equipment as detailed in Section 1.8 are employed. After pre-scan, emission measurements are made on the test site of record. If the EUT connects to auxiliary equipment and is table or floor standing, the configurations prescribed in relevant test standards are followed. Alternatively, a layout closest to normal use (as declared by the provider) is employed if the resulting emissions appear to be worst-case in such a configuration. See Figure 4.1.1 . All intentionally radiating elements that are not fixed-mounted in use are placed on the test table lying flat, on their side, and on their end (3-axes) and the resulting worst case emissions are recorded. If the EUT is fixed-mounted in use, measurements are made with the device oriented in the manner consistent with installation and then emissions are recorded. If the EUT exhibits spurious emissions due to internal receiver circuitry, such emissions are measured with an appropriate carrier signal applied.

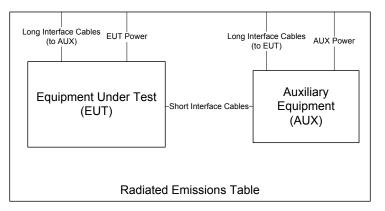


Figure 4.1.1 Radiated Emissions Diagram of the EUT.

For devices with intentional emissions below 30 MHz, a shielded loop antenna and/or E-field and H-Field broadband probes are used depending on the regulation. Shielded loops are placed at a 1 meter receive height at the desired measurement distance. For exposure in this band, 10cm diameter single-axis broadband probes meeting the requirements of ISED RSS-102.NS.MEAS are employed. Measurements are repeated and summed over three axes, and the entire frequency range is measured with and without the EUT transmitting.

Emissions between 30 MHz and 1 GHz are measured using calibrated broadband antennas. For both horizontal and vertical polarizations, the test antenna is raised and lowered from 1 to 4 m in height until a maximum emission level is detected. The EUT is then rotated through 360° in azimuth until the highest emission is detected. The test antenna is then raised and lowered one last time from 1 to 4 m and the worst case value is recorded. Emissions above 1 GHz are characterized using standard gain or broadband ridge-horn antennas on our OATS with a 4×5 m rectangle of ECCOSORB absorber covering the OATS ground screen and a 1.5m table height. Care is taken to ensure that test receiver resolution and video bandwidths meet the regulatory requirements, and that the emission bandwidth of the EUT is not reduced. Photographs of the test setup employed are depicted in Figure 4.1.1.

Where regulations allow for direct measurement of field strength, power values (dBm) measured on the test receiver / analyzer are converted to $dB\mu V/m$ at the regulatory distance, using

$$E_{dist} = 107 + P_R + K_A - K_G + K_E - C_F$$

where P_R is the power recorded on spectrum analyzer, in dBm, K_A is the test antenna factor in dB/m, K_G is the combined pre-amplifier gain and cable loss in dB, K_E is duty correction factor (when applicable) in dB, and C_F is a distance conversion (employed only if limits are specified at alternate distance) in dB. This field strength value is then compared with the regulatory limit. If effective isotropic radiated power (EIRP) is computed, it is computed as

$$EIRP(dBm) = E_{3m}(dB\mu V/m) - 95.2.$$

When presenting data at each frequency, the highest measured emission under all possible EUT orientations (3-axes) is reported.



Figure 4.1.1 Radiated Emissions Test Setup Photograph(s).

4.1.2 Power Supply Variation

Tests at extreme supply voltages are made if required by the procedures specified in the test standard, and results of this testing are detailed in this report.

In the case the EUT is designed for operation from a battery power source, the extreme test voltages are evaluated over the range specified in the test standard; no less than $\pm 10\%$ of the nominal battery voltage declared by the manufacturer. For all battery operated equipment, worst case intentional and spurious emissions are re-checked employing a new (fully charged) battery.

4.2 Intentional Emissions

4.2.1 Duty and Transmission Cycle, Pulsed Operation

The details and results of testing the EUT for pulsed operation are summarized in Table 4.2.1. Plots showing the measurements made to obtain these values are provided in Figure 4.2.1.

Table 4.2.1 Pulsed Emission Characteristics (Duty Cycle).

Test Date:	7-Nov-24
Test Engineer:	J. Nantz
EUT	Allegion 47723023
Meas. Distance:	Conducted

	Test Mode Pulsed Operation / Average Measurement Duty Cycle							
	Mode	Data Rate	Voltage	Oper. Freq	Pulse Length	Pulse	Duty Cycle	Power Correction
#	Mbps	V	MHz	Pulse Lengui	Period	%	dB	
R1	802.11b	1.0	6.0	2437.0	-	-	100	0.00
R2	802.11g	6.0	6.0	2437.0	-	-	100	0.00
R3	802.11n(20)	MCS0	6.0	2437.0	-	-	100	0.00
R4	802.11ax	MCS0	6.0	2437.0	-	-	100	0.00
#	C1	C3	C4	C5	C6	C7	C8	C9

* Duty Cycle is measured in line with DTS guidance 558074 D01 v5 r02 section 6(b) for averaging only over full-power transmission pulses.



Figure 4.2.1 Example Pulsed Emission Characteristics (Duty Cycle).

4.2.2 Fundamental Emission Bandwidth

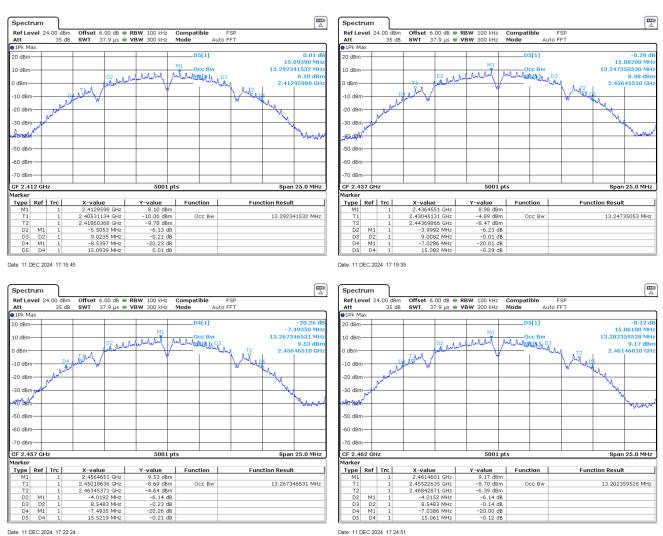
Emission bandwidth (EBW) of the EUT is measured with the device placed in the test mode(s) with the shortest available packet length and minimum packet spacing. Radiated emissions are recorded following the test procedures listed in Section 2.1. The 6 dB bandwidth is measured for the lowest, middle, and highest channels available. The 99% emission bandwidth per IC test procedures is also reported. The results of this testing are summarized in Table 4.2.2 . Plots showing measurements employed obtain the emission bandwidths reported are provided in Figure 4.2.2 .

Table 4.2.2 Intentional Emission Bandwidth.

							Test Date: Test Engineer: EUT Meas. Distance:	7-Nov-24 J. Nantz Allegion 47723023 Conducted
		_			Occupied Ba			
	Transmit Mode	Data Rate	Voltage	Oper. Freq	DTS 6 dB BW	DTS 6 dB BW Limit	99% OBW	Pass/Fail
RO	Transmit Widde	(Mbps)	(V)	(MHz)	(MHz)	(MHz)	(MHz)	1 855/1 811
R1				2412.0	9.02	0.50	13.29	Pass
R2	802.11b	1.0	6.0	2437.0	9.01	0.50	13.25	Pass
R3				2462.0	8.55	0.50	13.20	Pass
R4				2412.0	16.56	0.50	16.54	Pass
R5	802.11g	6.0	6.0	2437.0	16.56	0.50	16.91	Pass
R6				2462.0	16.56	0.50	16.65	Pass
R7				2412.0	17.76	0.50	17.82	Pass
R8	802.11n(20)	MCS0	6.0	2437.0	17.78	0.50	17.80	Pass
R9				2462.0	17.76	0.50	17.91	Pass
R10				2412.0	19.01	0.50	18.84	Pass
R11	802.11ax	MCS0	6.0	2437.0	19.00	0.50	18.90	Pass
R12				2462.0	18.95	0.50	18.89	Pass
#	C1	C2	C3	C4	C5	C6	C7	C8

ROW

COLUMN NOTE



802.11b

Date: 11.DEC.2024 17:22:24

Figure 4.2.2 (i) Example Intentional Emission Bandwidth Plots.

Ref Level 25.00 dBm			Compatible	FSP		Spectrur Ref Leve	25.00 dB			RBW 100 kHz			FSP		[
Att 35 dB Pk Max				Auto FFT		Att 1Pk Max	35 d			VBW 300 kHz		Auto F	FT		
I dBm			D5[1]		-0.02 dB	20 dBm					D5[:	11			-0.11
dBm-					04120 MHz	20 dBm-									18080 N
I dBm		M1	Occ By		91662 MHz 2.49 dBm	10 dBm		++			Occ			16.91161	
dBm Idea		and some and	M1[1]	0/04/mb/d a man and an I2 2,4098	2.49 dBm 84040 GHz	0 dBm	II.		-	amamanan .	Mil[1] \$1%{\%}	mmm	man 2,439	3.26 d
		- V		X		o dbiii	4	Sector sector		1 V				4	
0 dBm						-10 dBm	Dan	-						Vin.	
0 dBm						-20 dB00	NK .							mm	mm
www					www										
) dBm						-30 dBm		+ +							
0 dBm						-40 dBm									
D dBm						-50 dBm									
D dBm						-60 dBm		+		+ +					
D dBm						-70 dBm-									
2.412 GHz rker		5001 pt	ts	Span	25.0 MHz	CF 2.437 Marker	iHZ			5001	ots			Span	25.0 №
vpe Ref Trc	X-value	Y-value	Function	Function Result	1	Type Re	f Trc	X-value	- 1	Y-value	Functio	n l	Fund	ion Result	
M1 1	2.4098404 GHz	2.49 dBm				M1	1	2.439204	6 GHz	3.26 dBm	1				
T1 1	2.40371666 GHz	-2.97 dBm	Occ Bw	/ 16.54169	91662 MHz	T1	1	2.4287016		-2.36 dBm		Bw		16.91161	7676 N
T2 1 D2 M1 1	2.42025835 GHz -6.1538 MHz	-4.24 dBm -6.16 dB				T2 D2 M	1	2.4456132		-11.96 dBm -6.23 dB					
D3 D2 1	16.5567 MHz	0.14 dB					2 1	16.5567		-0.07 dB					
D4 M1 1	-7.4135 MHz	-20.15 dB				D4 N	1 1	-11.4077		-20.17 dB					
								21.0808	3 MHz	-0.11 dE	1				
D5 D4 1	19.0412 MHz	-0.02 dB					4 1	21.0808	3 MHz	-0.11 dE	3				
DS D4 1 x 11.DEC.2024 17:40:3 pectrum	19.0412 MHz	-0.02 dB	Compatible	FSP		Date: 11.DEC	14 1 2024 17:38:	49				Die F	-Sb		
D5 D4 1 11.DEC.2024 17:40:3 Dectrum Ref Level 25.00 dBm tt 35 dB	19.0412 MHz	-0.02 dB		FSP Auto FFT		D5 1 Date: 11.DEC Spectrur Ref Leve Att	2024 17:38:	:49 m Offset б.	00 dB 👄	-0.11 dE RBW 100 kHz VBW 300 kHz	Compatit	ole F Auto F			
D5 D4 1 x: 11.DEC.2024 17:40:3 pectrum	19.0412 MHz	-0.02 dB	Mode			Date: 11.DEC	1 1 2024 17:38:	:49 m Offset б.	00 dB 👄	RBW 100 kHz	Compatib Mode	Auto F			
D5 D4 1 x: 11.DEC.2024 17:40:3 pectrum	19.0412 MHz	-0.02 dB		Auto FFT	-0.07 dB 61090 MHz	D5 1 Date: 11.DEC Spectrur Ref Leve Att	1 1 2024 17:38:	:49 m Offset б.	00 dB 👄	RBW 100 kHz VBW 300 kHz	Compatit	Auto F		18.5	-0.19
DS D4 1 x: 11.DEC.2024 17:40:3 pectrum	19.0412 MHz	-0.02 dB	Mode D5[1] Occ Bw	Auto FFT 20.6	-0.07 dB 61090 MHz 61668 MHz	Date: 11.DEC	1 1 2024 17:38:	:49 m Offset б.	00 dB 👄	RBW 100 kHz VBW 300 kHz	Compatik Mode D5[:	Auto F			-0.19 99020 99666
DS D4 1 k: 11.DEC.2024 17:40:3 pectrum	19.0412 MHz	-0.02 dB	Mode D5[1]	Auto FFT 20.6 v 16.69166	-0.07 dB 61090 MHz 61668 MHz 4.04 dBm	DI DATE: 11.DEC Spectrur Ref Leve Att In dBm- 0 dBm-	14 1 2024 17:38:	:49 m Offset б.	00 dB 👄	RBW 100 kHz VBW 300 kHz	Compatit Mode D5[:	Auto F		16.65166	-0.19 9020 9666 3.36 (
DS D4 1 k: 11.DEC.2024 17:40:3 pectrum	19.0412 MHz 7 9 0 Offset 6.00 dB 6 5 SWT 37.9 μs 6	-0.02 dB	Mode D5[1] Occ Bw	Auto FFT 20.6 v 16.69166	-0.07 dB 61090 MHz 61668 MHz	DI DATE: 11. DEC Spectrur Ref Leve Att 10 dBm	14 1 2024 17:38:	:49 m Offset б.	00 dB 👄	RBW 100 kHz VBW 300 kHz	Compatik Mode D5[:	Auto F		16.65166	-0.19 9020 9666 3.36 (
D5 D4 1 x: 11.DEC.2024 17:40:3 Deectrum	19.0412 MHz 7 9 0 Offset 6.00 dB 6 5 SWT 37.9 μs 6	-0.02 dB	Mode D5[1] Occ Bw	Auto FFT 20.6	-0.07 dB 61090 MHz 61668 MHz 4.04 dBm 86040 GHz	DI DATE: 11.DEC Spectrur Ref Leve Att In dBm- 0 dBm-	14 1 2024 17:38: 1 16.00 dBi 40 d	:49 m Offset б.	00 dB 👄	RBW 100 kHz VBW 300 kHz	Compatik Mode D5[:	Auto F		16.65166	9020 9666 3.36
DS D4 1 xt 11.DEC.2024 17.40.3 pectrum 25.00 dBm ytt 35.6B Pk Max dBm dBm 0.400 dBm 0.400 dBm 0.400	19.0412 MHz 7 9 0 Offset 6.00 dB 6 5 SWT 37.9 μs 6	-0.02 dB	Mode D5[1] Occ Bw	Auto FFT 20.6 v 16.69166	-0.07 dB 61090 MHz 61668 MHz 4.04 dBm	Date: 11. DEC Spectrur Ref Leve Att PIPk Max 10 dBm -10 dBm -10 dBm	14 1 2024 17:38: 1 16.00 dBi 40 d	:49 m Offset б.	00 dB 👄	RBW 100 kHz VBW 300 kHz	Compatik Mode D5[:	Auto F		16.65166	-0.19 9020 9666 3.36 (
DS D4 1 xt 11.DEC.2024 17.40.3 pectrum 25.00 dBm ytt 35.6B Pk Max dBm dBm 0.400 dBm 0.400 dBm 0.400	19.0412 MHz 7 9 0 Offset 6.00 dB 6 5 SWT 37.9 μs 6	-0.02 dB	Mode D5[1] Occ Bw	Auto FFT 20.6	-0.07 dB 61090 MHz 61668 MHz 4.04 dBm 86040 GHz	D5 I Date: 11. DEC Spectrum Ref Leve Att ● 1Pk Max 10 dBm 0 dBm -10 dBm	14 1 2024 17:38: 1 16.00 dBi 40 d	:49 m Offset б.	00 dB 👄	RBW 100 kHz VBW 300 kHz	Compatik Mode D5[:	Auto F		16.65166	-0.19 9020 / 9666 / 3.36 c
DS D4 1 x: 11.DEC.2024 17.40.3 pectrum 25.00 dBm tt 35 dBm dBm 1 dBm 0.40 dBm bb 0.40 dBm bb 0.40 dBm	19.0412 MHz 7 9 0 Offset 6.00 dB 6 5 SWT 37.9 μs 6	-0.02 dB	Mode D5[1] Occ Bw	Auto FFT 20.6	-0.07 dB 61090 MHz 61668 MHz 4.04 dBm 86040 GHz	Date: 11. DEC Spectrur Ref Leve Att PIPk Max 10 dBm -10 dBm -10 dBm	14 1 2024 17:38: 1 16.00 dBi 40 d	:49 m Offset б.	00 dB 👄	RBW 100 kHz VBW 300 kHz	Compatik Mode D5[:	Auto F		16.65166	-0.19 9020 9666 3.36 (
DS D4 1 x: 11 DEC 2024 17.40.3 pectrum 25.00 dBm Att 35 dBm Pk Max 36 dBm dBm 0 dBm 0 dBm 0 dBm 0 dBm 0 dBm	19.0412 MHz 7 9 0 Offset 6.00 dB 6 5 SWT 37.9 μs 6	-0.02 dB	Mode D5[1] Occ Bw	Auto FFT 20.6	-0.07 dB 61090 MHz 61668 MHz 4.04 dBm 86040 GHz	Dsi II Date: 11.DEC Spectrur Ref Leve Att 9.1% Max 0.0% 0.08m -10.08m -30.08m -40.08m	14 1 2024 17:38: 1 16.00 dBi 40 d	:49 m Offset б.	00 dB 👄	RBW 100 kHz VBW 300 kHz	Compatik Mode D5[:	Auto F		16.65166	-0.19 9020 / 9666 / 3.36 c
DS D4 1 x: 11.DEC.2024 17.40.3 pectrum 2 yright 25.00 dBm yright 35 dBm dBm 1	19.0412 MHz 7 9 0 Offset 6.00 dB 6 5 SWT 37.9 μs 6	-0.02 dB	Mode D5[1] Occ Bw	Auto FFT 20.6	-0.07 dB 61090 MHz 61668 MHz 4.04 dBm 86040 GHz	DS I Date: 11 DEC Spectrur Ref Leve Att 10 dBm 0 dBm -10 dBm -30 dBm -30 dBm -40 dBm -50 dBm	14 1 2024 17:38: 1 16.00 dBi 40 d	:49 m Offset б.	00 dB 👄	RBW 100 kHz VBW 300 kHz	Compatik Mode D5[:	Auto F		16.65166	-0.19 9020 9666 3.36 (
DS D4 1 x: 11.DEC.2024 17.40.3 pectrum 2 yright 25.00 dBm yright 35 dBm dBm 1	19.0412 MHz 7 9 0 Offset 6.00 dB 6 5 SWT 37.9 μs 6	-0.02 dB	Mode D5[1] Occ Bw	Auto FFT 20.6	-0.07 dB 61090 MHz 61668 MHz 4.04 dBm 86040 GHz	Dsi II Date: 11.DEC Spectrur Ref Leve Att 9.1% Max 0.0% 0.0% 0.0% -10.0% 0.0% -30.0% 0.0% -40.0% 0.0%	14 1 2024 17:38: 1 16.00 dBi 40 d	:49 m Offset б.	00 dB 👄	RBW 100 kHz VBW 300 kHz	Compatik Mode D5[:	Auto F		16.65166	-0.19 9020 9666 3.36 (
DS D4 1 x: 11.DEC.2024 17.40.3 pectrum 25.00 dBm ttt 35 dBm dBm 0.40 mm dBm 0.40 mm 0 dBm 0.40 mm 0 dBm 0.40 mm 0 dBm 0.40 mm 0 dBm 0.00 dBm 0 dBm 0.00 dBm 0 dBm 0.00 dBm	19.0412 MHz 7 9 0 Offset 6.00 dB 6 5 SWT 37.9 μs 6	-0.02 dB	Mode D5[1] Occ Bw	Auto FFT 20.6	-0.07 dB 61090 MHz 61668 MHz 4.04 dBm 86040 GHz	DS I Date: 11 DEC Spectrur Ref Leve Att 10 dBm 0 dBm -10 dBm -30 dBm -40 dBm -50 dBm -50 dBm -60 dBm -60 dBm	14 1 2024 17:38: 1 16.00 dBi 40 d	:49 m Offset б.	00 dB 👄	RBW 100 kHz VBW 300 kHz	Compatik Mode D5[:	Auto F		16.65166	-0.19 9020 9666 3.36 (
DS D4 1 c: 11.DEC.2024 17.40.3 pectrum	19.0412 MHz 7 9 0 Offset 6.00 dB 6 5 SWT 37.9 μs 6	-0.02 dB	Mode D5[1] Occ Bw	Auto FFT 20.6	-0.07 dB 61090 MHz 61668 MHz 4.04 dBm 86040 GHz	DS I Date: 11 DEC Spectrur Ref Leve Att 10 dBm 0 dBm -10 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm -70 dBm	14 1 2024 17:38: 1 16.00 dBi 40 d	:49 m Offset б.	00 dB 👄	RBW 100 kHz VBW 300 kHz	Compatik Mode D5[:	Auto F		16.65166	-0.19 9020 / 9666 / 3.36 c
DS D4 1 ct 11.DEC.2024 17.40.3 cectrum	19.0412 MHz 7 9 0 Offset 6.00 dB 6 5 SWT 37.9 μs 6	-0.02 dB	Mode D5[1] Occ By M1[1] N1[1]_N1[1]_N1[1] N1[1]_N1	Auto FFT	-0.07 dB 61090 MHz 61668 MHz 4.04 dBm 86040 GHz D5 D5 V1/MAAAAAA	DS I Date: 11.DEC Spectrur Ref Lave Att	1 16.00 dBi 40 d	:49 m Offset б.	00 dB 👄	RBW 100 kHz VBW 300 kHz M1	Compatile Mode D5[: 	Auto F		15.65166 2.460 05	-0.19 99020 M 3.36 d 47530 (
DS D4 1 DS D4 1 x: 11 DEC 2024 17.40 3 Ref Level 25.00 dBm 35 dB PR Max 36 dB dBm 94.00 0 dBm	19.0412 MHz 7 9 0 Offset 6.00 dB 6 5 SWT 37.9 μs 6	-0.02 dB	Mode D5[1] Occ By M1[1] N1[1]_N1[1]_N1[1] N1[1]_N1	Auto FFT	-0.07 dB 61090 MHz 61668 MHz 4.04 dBm 86040 GHz	DS I Date: 11 DEC Spectrur Ref Leve Att I I Date: 10 dBm 0 dBm -10 dBm -30 dBm -30 dBm -40 dBm -50 dBm -50 dBm -60 dBm -80 dBm -70 dBm	1 16.00 dB	:49 m Offset б.	00 dB 👄	RBW 100 kHz VBW 300 kHz	Compatile Mode D5[: 	Auto F		15.65166 2.460 05	-0.19 99020 M 99666 M 3.36 d
DS D4 1 DS D4 1 x: 11.DEC.2024 17.40.3 pectrum	19.0412 MHz	-0.02 dB	ModeD5[1]Occ Bv M1[1]Occ Bv M1[1]Occ BvU	Auto FFT	-0.07 dB 61090 MHz 61068 MHz 4.04 dBm 86040 GHz D5 MMAAAAA 25.0 MHz	DS I Date: 11.DEC Spectrur Ref Leve Att 10 ID 10 dBm— 0 dBm— 10 dBm— -30 dBm— -30 dBm— -50 dBm— -60 dBm— -60 dBm— -70 dBm— -70 dBm— Marker Marker Marker	1 16.00 dB 40 d	49 m Offset 6. 16 SWT 37	00 dB 👄	RBW 100 kHz VBW 300 kHz M1 W1 S001 HZ	Compatik Mode D5[Auto F		2.460 2.460 2.5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	-0.19 99020 1 3.36 (17530
DS D4 1 DS D4 1 x: 11 DEC. 2024 17.40 3 pectrum 25.00 dBm att 35 dB D dBm 0 0 dBm 0	19.0412 MHz	-0.02 dB	Mode D5[1] Occ By M1[1] N1[1]_N1[1]_N1[1] N1[1]_N1	Auto FFT	-0.07 dB 61090 MHz 61068 MHz 4.04 dBm 86040 GHz D5 MMAAAAA 25.0 MHz	DS I Date: 11 DEC Spectrur Ref Leve Att II DEC I Date: 10 dBm 0 dBm -10 dBm -30 dBm -30 dBm -40 dBm -50 dBm -50 dBm -60 dBm -70 dBm -60 dBm -70 dBm -70 dBm -80 dBm -70 dBm -70 dBm -70 dBm -70 dBm -70 dBm	1 16.00 dB 40 d	49	00 dB • .9 µs • 	RBW 100 kH2 VBW 300 kH2 M1 VMW/V/V/V/V/V/V/V/V/V/V/V/V/V/V/V/V/V/V/	Compatit Mode	Auto F		15.65166 2.460 05	-0.19 99020 1 3.36 (17530
DS D4 1 DS D4 1 x: 11 DEC. 2024 17.40 3 pectrum 25.00 dBm dBm 35 dB dBm 0 dBm 0 dBm 0 dBm	19.0412 MHz	-0.02 dB	ModeD5[1]Occ Bv M1[1]Occ Bv M1[1]Occ BvUUU	Auto FFT 20.6 20	-0.07 dB 61090 MHz 61068 MHz 4.04 dBm 86040 GHz D5 MMAAAAA 25.0 MHz	DS I Date: 11.DEC Spectrur Ref Leve Att 10 ID 10 dBm— 0 dBm— 10 dBm— -30 dBm— -30 dBm— -50 dBm— -60 dBm— -60 dBm— -70 dBm— -70 dBm— Marker Marker Marker	1 16.00 dB 40 d	49 m Offset 6. 16 SWT 37	00 d8 е .9 µs е 	RBW 100 kHz VBW 300 kHz M1 W1 S001 HZ	Compatik Mode D5[Auto F		2.460 2.460 2.5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	-0.1 99020 99666 3.36 47530 4/////
DS D4 1 DS D4 1 x: 11.DEC.2024 17.40.3 pectrum	19.0412 MHz 7 7 9 0 Offset 6.00 dB 8 5 SWT 37.9 µs 9 1 1 1 1 1 1 1 1 1 1 1 1	-0.02 dB	Mode	Auto FFT 20.6 20	-0.07 dB 61090 MHz 01668 MHz 4.04 dBm 86040 GHz 05 05 05 05 25.0 MHz	DS I Date: 11.DEC Spectrur Ref Love Att ® TRM Max 10 dBm— 0 dBm 10 dBm— -10 dBm -30 dBm -30 dBm -60 dBm -50 dBm -60 dBm -70 dBm -80 dBm -80 dBm -10 dBm -70 dBm -80 dBm -80 dBm -10 dBm -70 dBm -80 dBm -80 dBm -10 dBm -70 dBm -10 dBm -80 dBm -10 dBm -70 dBm -10 dBm -80 dBm -10 dBm -70 dBm -10 dBm -80 dBm -10 dBm -10 dBm -10 dBm -10 dBm -10 dBm -10 dBm -10 dBm -10 dBm -10 dBm	Hz	49 m Offset 6. B SWT 37 40 40 40 40 40 40 40 40 40 40	00 dB	RBW 100 kHz VBW 300 kHz M1 5001 J 5001 J Y-value 3.36 dBn -7.06 dBn -5.37 dBn	Compatik Mode D5[Auto F		2.460 2.460 2.5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	-0.1 99020 99666 3.36 47530 477530
DS D4 1 x: 11.DEC.2024 17.40 3 pectrum	19.0412 MHz 7 7 9 9 9 9 9 9 9 9 9 9 9	-0.02 dB	Mode	Auto FFT 20.6 20	-0.07 dB 61090 MHz 01668 MHz 4.04 dBm 86040 GHz 05 05 05 05 25.0 MHz	DS I Date: 11.DEC Spectrur Ref Leve Att I Ø IPk: Max 10 dBm 0 -10 dBm - -30 dBm - -40 dBm - -50 dBm - -60 dBm - -70 dBm - -60 dBm - -70 dBm - -80 dBm - -70 dBm - -80 dBm - -70 dBm - -70 dBm - -80 dBm - -90 dBm - -90 dBm	Hz f Trc 1 1 1 1 1 1 1 1 1 1 1 1 1 1	49 m Offset 6. SWT 37 	00 dB •	RBW 100 kH2 VBW 300 kH2 M1 VMM/VA/VA/VA/VA/VA/VA/VA/VA/VA/VA/VA/VA/VA/	Compatile Mode	Auto F		2.460 2.460 2.5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	-0.1 99020 99666 3.36 47530 477530
DS D4 1 DS D4 1 x: 11.DEC.2024 17.40.3 pectrum	19.0412 MHz 7 7 9 0 Offset 6.00 dB 8 5 SWT 37.9 µs 9 1 1 1 1 1 1 1 1 1 1 1 1	-0.02 dB	Mode	Auto FFT 20.6 20	-0.07 dB 61090 MHz 01668 MHz 4.04 dBm 86040 GHz 05 05 05 05 25.0 MHz	DS I Date: 11.DEC Spectrur Ref Love Att ® TRM Max 10 dBm— 0 dBm -10 dBm -30 dBm -30 dBm -50 dBm -60 dBm -70 dBm -60 dBm -70 dBm -80 dBm -80 dBm -70 dBm -90 dBm -70 dBm	Hz	49 m Offset 6. B SWT 37 40 40 40 40 40 40 40 40 40 40	00 dB ● .9 µs ● 	RBW 100 kHz VBW 300 kHz M1 5001 J 5001 J Y-value 3.36 dBn -7.06 dBn -5.37 dBn	Compatik Mode D5[: 	Auto F		2.460 2.460 2.5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	-0.19 99666 3 3.36 c 47530 4 47530 4

802.11g

Date: 11.DEC.2024 17:35:19

Date: 11.DEC.2024 17:29:30

Figure 4.2.2 (ii) Example Intentional Emission Bandwidth Plots.

Spectrum							Spectru	n								
Ref Level 25.00 dB Att 35 c	offset 6.00 dB	RBW 100 kHz	Compatib	le FS		(=)		al 25.00 dB			RBW 100 kHz		ble	FSP		
Att 35 c 1Pk Max	dB SWT 37.9 µs (VBW 300 KHZ	Mode	Auto FF	1		Att 1Pk Max	35 (B SWI :	87.9 µs 🖷	VBW 300 kHz	Mode	Auto) FF I		
1 dBm			D5[1	u –		-0.07 dB	20 dBm-					D5[1]			-0.09
UBIII						.10600 MHz	20 UBIII-									98100 N
I dBm			M1 Occ		17.816	436713 MHz	10 dBm				+ +	M1	BW		17.79644	
dBm Barner		manana a	M1 M1[1	სე ბობიზიპო ხო	Manage Market	2.87 dBm 285480 GHz	0 dBm	11			annonen o	MI MI	LT] Manadaraa	Amaman	Mmm 2 4378	3.28 d 33480 (
	and why way and a second	· · · · · · · · · · · · · · · · · · ·			A A A A A A A A A A A A A A A A A A A	1		1	ahahan Mununa		T V			1	Î 🕴 I	
0 dBm		-					-10 dBm-	1			+ +				- The	
0 dBm					~	M.	-20 dBm-	¥.								
						2	-20 0011									MAN
0 dBm						www	-30 dBm									
0 dBm							-40 dBm-									
0 ubiii							-40 ubiii-									
0 dBm							-50 dBm		+						++	
0 dBm							-60 dBm-									
o upill							-oo ubill-									
0 dBm							-70 dBm-	-						_		
F 2.412 GHz		5001 p	ts		Spar	n 25.0 MHz	CF 2.437	GHz		1	5001 p	ts			Span	25.0 M
arker							Marker									
ype Ref Trc	X-value	Y-value	Functio	n	Function Resul	lt	Type R		X-value		Y-value	Functio	on	Fun	ction Result	
M1 1 T1 1	2.4128548 GHz 2.40305179 GHz	2.87 dBm -4.87 dBm	Occ	Due	17 016/	436713 MHz	M1 T1	1	2.43783	48 GHz	3.28 dBm -2.66 dBm		Buu		17.79644	0710 M
T2 1	2.42086823 GHz	-4.62 dBm	000	DW	17.010-	+30713 MH2	T2	1	2.445888		-5.00 dBm				17.79044	0712 14
D2 M1 1	-9.768 MHz	-6.06 dB						V1 1		31 MHz	-6.08 dB					
								D2 1	17.776		-0.00 dB					
D3 D2 1	17.7564 MHz	-0.10 dB														
D3 D2 1 D4 M1 1	-10.9478 MHz	-20.18 dB					D4 I	V1 1 D4 1	-10.917		-20.26 dB -0.09 dB					
D3 D2 1 D4 M1 1 D5 D4 1 e: 12.DEC.2024 13:38	-10.9478 MHz 20.106 MHz						D4 D5 Date: 12.DEC	D4 1	19.98	78 MHz 31 MHz						
D3 D2 1 D4 M1 1 D5 D4 1 e: 12.DEC.2024 13:38	-10.9478 MHz 20.106 MHz	-20.18 dB -0.07 dB					Date: 12.DEC	n	19.98	31 MHz	-0.09 dB			500		(
D3 D2 1 D4 M1 1 D5 D4 1 e: 12.DEC.2024 13:38 pectrum Ref Level 25:00 dB	-10.9478 MHz 20.106 MHz	-20.18 dB -0.07 dB	Compatib Mode	le FS Auto FF			Date: 12.DEC	D4 1	19.96 12 m Offset 6	31 MHz		Compatil	ble	FSP 9 FFT		
D3 D2 1 D4 M1 1 D5 D4 1 e: 12.DEC.2024 13:38 pectrum Ref Level 25.00 dB Att 35 c	-10.9478 MHz 20.106 MHz	-20.18 dB -0.07 dB	Mode	Auto FF			D4 1 D5 Date: 12.DEC	D4 1 0.2024 13:42 m al 25.00 dB	19.96 12 m Offset 6	31 MHz	-0.09 dB RBW 100 kHz	Compatil Mode	Auto			
D3 D2 1 D4 M1 1 D5 D4 1 ex 12 DEC. 2024 13:38 pectrum Att 35 c Pk Max 4 45 c	-10.9478 MHz 20.106 MHz	-20.18 dB -0.07 dB		Auto FF	Т	-20.16 dB	D4 1 D5 Date: 12.DEC Spectrue Ref Leve Att	D4 1 0.2024 13:42 m al 25.00 dB	19.96 12 m Offset 6	31 MHz	-0.09 dB RBW 100 kHz	Compatil	Auto			-0.06
D3 D2 1 D4 M1 1 D5 D4 1 e: 12.DEC.2024 13:38 Spectrum	-10.9478 MHz 20.106 MHz	-20.18 dB -0.07 dB	Mode D4[1	Auto FF	T8	-20.16 dB	D4 1 D5 Date: 12.DEC Spectrue Ref Leve Att 1Pk Max 20 dBm	D4 1 0.2024 13:42 m al 25.00 dB	19.96 12 m Offset 6	31 MHz	-0.09 dB RBW 100 kHz	Compatil Mode	Auto			-0.06 12600 M
D3 D2 1 D4 M1 1 D5 D4 1 e: 12 DEC.2024 13:38 pectrum Ref Level 25.00 dB Att 35 c IPk Max	-10.9478 MHz 20.106 MHz 3.33 am Offset 6.00 dB & 8 WT 37.9 µs &	-20.18 dB -0.07 dB • RBW 100 kHz • VBW 300 kHz	Mode D4[1	Auto FF	T -8 17.8964	-20.16 dB 1.74830 MHz 420716 MHz	D4 D5 Date: 12.DEC Spectrue Ref Leve Att IPk Max	D4 1 0.2024 13:42 m al 25.00 dB	19.96 12 m Offset 6	31 MHz	-0.09 dB RBW 100 kHz VBW 300 kHz M1	Compatit Mode D5[Occ M1[Auto) FFT	17.90641	-0.06 12600 M 18716 M 3.83 d
D3 D2 1 D4 M1 1 D5 D4 1 D5 D4 1 e: 12.DEC.2024 13.38 pectrum Ref Level 25.00 dB Att 35 c D dBm 0	-10.9478 MHz 20.106 MHz	-20.18 dB -0.07 dB • RBW 100 kHz • VBW 300 kHz	Mode D4[1	Auto FF	T -8 17.8964	-20.16 dB 1.74830 MHz 420716 MHz	D4 1 D5 Date: 12.DEC Spectrue Ref Leve Att 1Pk Max 20 dBm	D4 1 0.2024 13:42 m al 25.00 dB	19.96 12 m Offset 6	31 MHz	-0.09 dB RBW 100 kHz VBW 300 kHz	Compatit Mode D5[Occ M1[Auto) FFT	17.90641	-0.06 12600 M 18716 M 3.83 d
02 02 1 04 M1 1 05 04 1 05 04 1 e: 12 DEC.2024 13:38 pectrum Ref Level 25.00 dB Att 35 DBR Max 0 dBm dBm	-10.9478 MHz 20.106 MHz 3.33 am Offset 6.00 dB & 8 WT 37.9 µs &	-20.18 dB -0.07 dB • RBW 100 kHz • VBW 300 kHz	Mode D4[1	Auto FF	T8	-20.16 dB 1.74830 MHz 420716 MHz	D4 11 D5 Date: 12.DEC Spectrum Ref Leve Att 10 dBm- 0 dBm-	D4 1 0.2024 13:42 m al 25.00 dB	19.96 12 m Offset 6	31 MHz	-0.09 dB RBW 100 kHz VBW 300 kHz M1	Compatit Mode D5[Occ M1[Auto) FFT	17.90641	-0.06 12600 M 18716 M 3.83 d
03 D2 1 D4 M1 1 D5 D4 1 e: 12.DEC.2024 13.38 pectrum Ref Level 25.00 dB Att 35 D4RM J J Bm J J Bm J J Bm J	-10.9478 MHz 20.106 MHz 3.33 am Offset 6.00 dB & 8 WT 37.9 µs &	-20.18 dB -0.07 dB • RBW 100 kHz • VBW 300 kHz	Mode D4[1	Auto FF	T -8 17.8964	-20.16 dB 1.74830 MHz 420716 MHz	D4 1 D5 Date: 12.DEC Spectrum Ref Levi Att 10 dBm- 10 dBm-	D4 1 0.2024 13:42 m al 25.00 dB	19.96 12 m Offset 6	31 MHz	-0.09 dB RBW 100 kHz VBW 300 kHz M1	Compatit Mode D5[Occ M1[Auto) FFT	17.90641	-0.06 12600 M 18716 M 3.83 d
03 02 1 04 M1 1 05 04 1 e: 12 DEC.2024 13.38 pectrum	-10.9478 MHz 20.106 MHz 3.33 am Offset 6.00 dB & 8 WT 37.9 µs &	-20.18 dB -0.07 dB • RBW 100 kHz • VBW 300 kHz	Mode D4[1	Auto FF	T -8 17.8964	-20.16 dB 1.74830 MHz 420716 MHz 3.90 dBm 547030 GHz	D4 11 D5 Date: 12.DEC Spectrum Ref Leve Att 10 dBm- 0 dBm-	D4 1 0.2024 13:42 m al 25.00 dB	19.96 12 m Offset 6	31 MHz	-0.09 dB RBW 100 kHz VBW 300 kHz M1	Compatit Mode D5[Occ 0t1	Auto) FFT	17.90641	-0.06 12600 M 18716 M 3.83 d 70530 (
03 D2 1 D4 M1 1 D5 D4 1 x: 12 DEC.2024 13.38 pectrum Ref Level 25.00 d8 Att 35 D d8m	-10.9478 MHz 20.106 MHz 3.33 am Offset 6.00 dB & 8 WT 37.9 µs &	-20.18 dB -0.07 dB • RBW 100 kHz • VBW 300 kHz	Mode D4[1	Auto FF	T -8 17.8964	-20.16 dB 1.74830 MHz 420716 MHz	D4 1 D5 Date: 12.DEC Spectrum Ref Levu Att 10 dBm 10 dBm 20 dBm	D4 1 0.2024 13:42 m al 25.00 dB	19.96 12 m Offset 6	31 MHz	-0.09 dB RBW 100 kHz VBW 300 kHz M1	Compatit Mode D5[Occ 0t1	Auto) FFT	17.90641	-0.06 12600 M 18716 M 3.83 d 70530 (
03 D2 1 D4 M1 1 D5 D4 1 x: 12 DEC.2024 13.38 pectrum Ref Level 25.00 d8 Att 35 D d8m	-10.9478 MHz 20.106 MHz 3.33 am Offset 6.00 dB & 8 WT 37.9 µs &	-20.18 dB -0.07 dB • RBW 100 kHz • VBW 300 kHz	Mode D4[1	Auto FF	T -8 17.8964	-20.16 dB 1.74830 MHz 420716 MHz 3.90 dBm 547030 GHz	D4 105 Date: 12.DEC Spectrum Refet 9.1Pk Max 20 dBm- 10 dBm- 0 dBm-	D4 1 0.2024 13:42 m al 25.00 dB	19.96 12 m Offset 6	31 MHz	-0.09 dB RBW 100 kHz VBW 300 kHz M1	Compatit Mode D5[Occ 0t1	Auto) FFT	17.90641	-0.06 12600 M 18716 M 3.83 d 70530 (
D3 D2 1 D4 M1 1 D5 D4 1 x: 12 DEC.2024 13.38 pectrum	-10.9478 MHz 20.106 MHz 3.33 am Offset 6.00 dB & 8 WT 37.9 µs &	-20.18 dB -0.07 dB • RBW 100 kHz • VBW 300 kHz	Mode D4[1	Auto FF	T -8 17.8964	-20.16 dB 1.74830 MHz 420716 MHz 3.90 dBm 547030 GHz	D4 1 D5 Date: 12.DEC Spectrum Ref Levu Att 10 dBm 10 dBm 20 dBm	D4 1 0.2024 13:42 m al 25.00 dB	19.96 12 m Offset 6	31 MHz	-0.09 dB RBW 100 kHz VBW 300 kHz M1	Compatit Mode D5[Occ 0t1	Auto) FFT	17.90641	-0.06 12600 M 18716 M 3.83 d 70530 (
02 02 1 04 M1 1 05 04 1 05 04 1 e: 12 DEC 2024 13:38 pectrum Ref Level 25:00 db Att 35 c DBM 4 0 dBm	-10.9478 MHz 20.106 MHz 3.33 am Offset 6.00 dB & 8 WT 37.9 µs &	-20.18 dB -0.07 dB • RBW 100 kHz • VBW 300 kHz	Mode D4[1	Auto FF	T -8 17.8964	-20.16 dB 1.74830 MHz 420716 MHz 3.90 dBm 547030 GHz	D4 1 D5 Date: 12 DEC Spectrum Ref Lex 10 dBm- 10 dBm- -10 dBm- -20 dBm- -30 dBm- -40 dBm-	D4 1 0.2024 13:42 m al 25.00 dB	19.96 12 m Offset 6	31 MHz	-0.09 dB RBW 100 kHz VBW 300 kHz M1	Compatit Mode D5[Occ 0t1	Auto) FFT	17.90641	-0.06 12600 M 18716 M 3.83 d 70530 (
02 02 1 04 M1 1 05 04 1 05 04 1 e: 12 DEC 2024 13:38 pectrum Ref Level 25:00 db Att 35 c DBM 4 0 dBm	-10.9478 MHz 20.106 MHz 3.33 am Offset 6.00 dB & 8 WT 37.9 µs &	-20.18 dB -0.07 dB • RBW 100 kHz • VBW 300 kHz	Mode D4[1	Auto FF	T -8 17.8964	-20.16 dB 1.74830 MHz 420716 MHz 3.90 dBm 547030 GHz	D4 1 D5 Date: 12 DEC Spectrum Ref Leven Att 0 dBm 0 dBm -10 dBm -20 dBm -30 dBm	D4 1 0.2024 13:42 m al 25.00 dB	19.96 12 m Offset 6	31 MHz	-0.09 dB RBW 100 kHz VBW 300 kHz M1	Compatit Mode D5[Occ 0t1	Auto) FFT	17.90641	3.83 d
03 D2 1 D4 M1 1 D5 D4 1 x: 12 DEC. 2024 13.38 pectrum Ref Level 25.00 dB Att 35 c 35 D dBm 0 dBm 0 0 dBm 0 0 0 dBm 0 0 0 dBm 0 0 0 dBm 0	-10.9478 MHz 20.106 MHz 3.33 am Offset 6.00 dB & 8 WT 37.9 µs &	-20.18 dB -0.07 dB • RBW 100 kHz • VBW 300 kHz	Mode D4[1	Auto FF	T -8 17.8964	-20.16 dB 1.74830 MHz 420716 MHz 3.90 dBm 547030 GHz	D4 1 D4 1 D5 20 Spectrum Ref Lev Aff Lev 61/2 0 dBm 10 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -50 dBm	D4 1 0.2024 13:42 m al 25.00 dB	19.96 12 m Offset 6	31 MHz	-0.09 dB RBW 100 kHz VBW 300 kHz M1	Compatit Mode D5[Occ 0t1	Auto) FFT	17.90641	-0.06 12600 M 18716 M 3.83 d 70530 (
03 D2 1 D4 M1 1 D5 D4 1 x: 12 DEC. 2024 13.38 pectrum Ref Level 25.00 dB Att 35 c DPK Max 36 dB J dBm 36 dB J dBm 40 dB	-10.9478 MHz 20.106 MHz 3.33 am Offset 6.00 dB & 8 WT 37.9 µs &	-20.18 dB -0.07 dB • RBW 100 kHz • VBW 300 kHz	Mode D4[1	Auto FF	T -8 17.8964	-20.16 dB 1.74830 MHz 420716 MHz 3.90 dBm 547030 GHz	D4 1 D4 1 D5 20 Ref Leve Att 0 dBm 10 dBm 10 dBm -0 dBm -20 dBm -10 dBm -30 dBm -30 dBm -60 dBm -60 dBm	D4 1 0.2024 13:42 m al 25.00 dB	19.96 12 m Offset 6	31 MHz	-0.09 dB RBW 100 kHz VBW 300 kHz M1	Compatit Mode D5[Occ 0t1	Auto) FFT	17.90641	-0.06 12600 M 18716 M 3.83 d 70530 (
03 D2 1 D4 M1 1 D5 D4 1 x: 12 DEC. 2024 13.38 pectrum Ref Level 25.00 dB Att 35 c DPK Max 36 dB J dBm 36 dB J dBm 40 dB	-10.9478 MHz 20.106 MHz 3.33 am Offset 6.00 dB & 8 WT 37.9 µs &	-20.18 dB -0.07 dB • RBW 100 kHz • VBW 300 kHz	Mode D4[1	Auto FF	T -8 17.8964	-20.16 dB 1.74830 MHz 420716 MHz 3.90 dBm 547030 GHz	D4 1 D4 1 D5 20 Spectrum Ref Lev Aff Lev 61/2 0 dBm 10 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -50 dBm	D4 1 0.2024 13:42 m al 25.00 dB	19.96 12 m Offset 6	31 MHz	-0.09 dB RBW 100 kHz VBW 300 kHz M1	Compatit Mode D5[Occ 0t1	Auto) FFT	17.90641	-0.06 12600 M 18716 M 3.83 d 70530 (
03 02 1 04 M1 1 05 04 1 e: 12 DEC 2024 13:38 pectrum Ref Level 25:00 dB 35 cf 0 dBm 0 dBm 0 0 dBm 0 0 dBm 0 dBm 0 0	-10.9478 MHz 20.106 MHz 3.33 am Offset 6.00 dB & 8 WT 37.9 µs &	-20.18 dB -0.07 dB • RBW 100 kHz • VBW 300 kHz	<u>D4[1</u> Occl 	Auto FF	T 17.896- UWV-ANUVINE 15 	-20.16 dB 1.74830 MHz 420716 MHz 3.90 dBm 547030 GHz	D4 1 D3 Date: 12 DEC Spectrum Ref Leve Att 10 dBm 0 dBm 0 dBm -10 dBm -0 dBm -20 dBm -40 dBm -30 dBm -30 dBm -50 dBm -50 dBm -60 dBm -70 dBm -70 dBm -60 dBm	D4 1 2.2024 13:42 m 35 c 41 25.00 dB 35 c	19.96 12 m Offset 6	31 MHz	-0.09 dB RBW 100 kHz VBW 300 kHz M1	Compatil Mode	Auto) FFT		-0.06 12600 N 18716 N 3.83 d 70530 (
D2 D2 1 D4 M1 1 D5 D4 1 D5 D4 1 et 12 DEC 2024 13.88 pectrum Ref Level 25.00 dB Att 35 c D3 dBm	-10.0478 MHz 20.106 MHz 3.33 3m Offset 6.00 dB 4 6 SWT 37.9 µs 4 7.9 µs 7.9 µ	-20.18 dB -0.07 dB • RBW 100 kHz • VBW 300 kHz • VBW 300 kHz • 5001 p	Mode D4[1 	Auto FF	Т 17.896- UNA UNA UNA SA 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	-20.16 dB .74830 MHz 420716 MHz 3.90 dBm 547030 GHz 05 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	D4 1 D4 1 D5 20 Ref Leve Att Ref Leve Att 0 dBm 10 dBm 10 dBm -0 dBm -20 dBm -10 dBm -30 dBm -30 dBm -50 dBm -50 dBm -70 dBm -70 dBm -70 dBm -70 dBm	D4 1 2.2024 13:42 m al 25.00 dB 35 c 4 4 4 5 6 6 6 6 6 7 6 6 7 6 7 6 7 7 7 7 7 7 7 7 7 7 7 7 7	19.96	31 MHz	-0.09 db	Compatil Mode	Auto 1] . Bw [1]		17.90641	-0.06 12600 N 18716 N 3.83 d 70530 (
03 02 1 04 M1 1 05 04 1 05 04 1 e: 12.DEC 2024 13:38 pectrum as as Ref Level 25:00 dB dB 0 dBm as as 0 dBm as as	-10.9478 MHz 20.106 MHz 20.106 MHz 333	-20.18 dB -0.07 dB	<u>D4[1</u> Occl 	Auto FF	T 17.896- UWV-ANUVINE 15 	-20.16 dB .74830 MHz 420716 MHz 3.90 dBm 547030 GHz 05 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	D4 1 D5 2 Date: 12 DEC Spectrur Ref Leve Att 10 dBm 0 dBm 0 dBm -10 dBm - -20 dBm - -30 dBm - -40 dBm - -50 dBm - -70 dBm -	D4 1 2.2024 13:42 n 35 c 35 c 35 c GHz GHz ef Trc	19.96	31 MHz 5.00 dB ● 37.9 µs ● 	-0.09 db	Compatil Mode Occ 	Auto 1] . Bw [1]			-0.06 12600 P 18716 P 3.83 d 70530 P
D2 D2 1 D4 M1 1 D5 D4 1 D5 D4 1 D5 D4 1 D5 D4 1 D6 D4 1 D6 D4 1 D6 D4 1 D6 D5 D4 1 D6 D6 D6 D6 D1 D6 D6 D6 D0 D6 D7 D7 D0 D6 D7 D7 D0 D6 D7 D7 D0 D6 D7 D7 D1 D7 D7 D7	-10.0478 MHz 20.106 MHz 3.33 3m Offset 6.00 dB 4 8wr 37.9 µs 4 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	-20.18 dB -0.07 dB • RBW 100 kHz • VBW 300 kHz • VBW 300 kHz • 5001 p 	Mode D+{1 Occ M11 M11 N11 N11 N11 N11 N11 N11	Auto FF	Т 17.896- 17.	-20.16 dB .74830 MHz 120716 MHz 3.90 dBm 547030 GHz 06 10 10 10 10 10 10 10 10 10 10 10 10 10	D4 1 D4 1 D5 20 Ref Leve Att Gamma 6 10 dBm 0 20 dBm 10 dBm 10 dBm - 20 dBm - 10 dBm - -20 dBm - -30 dBm - -50 dBm - -60 dBm - -70 dBm C CMarker Type R Marker Marker	D4 1 2.2024 13:42 m al 25.00 dB 35 c 4 4 4 5 6 6 6 6 6 7 6 6 7 6 7 6 7 7 7 7 7 7 7 7 7 7 7 7 7	19.96	5.00 dB • 37.9 µs •	-0.09 db	Compatil Mode	Auto 1] BW 11		17.90641	-0.06 12600 M 3.83 d 70530 f 5 5 2 25.0 M
03 02 1 04 M1 1 05 04 1 ex 12 DEC.2024 13.88 pectrum Ref Level 25.00 dB Att 35 c 35 c 0 dBm	-10.0478 MHz 20.106 MHz 3.33 3m Offset 6.00 dB 4 8wr 37.9 µs 4 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	-20.18 dB -0.07 dB • RBW 100 kHz • VBW 300 kHz • VBW 300 kHz • V300 p • V-value 3.90 dBm -2.08 dBm	Mode D4[1 	Auto FF	Т 17.896- 17.	-20.16 dB .74830 MHz 120716 MHz 3.90 dBm 547030 GHz 05 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	D4 1 D4 1 D5 20 Ref Leve Att Gamma 6 10 dBm 0 0 dBm 10 10 dBm - 20 dBm - 10 dBm - -20 dBm - -30 dBm - -50 dBm - -60 dBm - -70 dBm C CM cArer Type Type R Total T1 T2 T2	D4 1 2.2024 13:42 T 35 c 35 c 35 c 4 4 4 4 4 4 4 4 4 4 4 4 4	19.96 12 12 12 12 13 14 15 15 15 15 15 15 15 15 15 15 15 15 15	5.00 dB • 5.00 d	-0.09 db	Competit Mode	Auto 1] BW 11		17.90641	-0.06 12600 M 3.83 d 70530 f 5 5 2 25.0 M
03 02 1 04 M1 1 05 04 1 e: 12.DEC 2024 13:38 pectrum	-10.9478 MHz 20.106 MHz 333 339 339 339 339 339 339 339 339 33	-20.18 dB -0.07 dB • RBW 100 kHz • VBW 300 k	Mode D+{1 Occ M11 M11 N11 N11 N11 N11 N11 N11	Auto FF	Т 17.896- 17.	-20.16 dB .74830 MHz 120716 MHz 3.90 dBm 547030 GHz 06 10 10 10 10 10 10 10 10 10 10 10 10 10	D4 1 D4 1 D4 1 D5 2 Date: 12 Dete: 12 Det: 12	D4 1 2.2024 13:42	19.90 12 m Offset 6 B SWT 2 SwT 2 	5.00 dB .00 dB .0	-0.09 db	Compatil Mode Occ 	Auto 1] BW 11		17.90641	-0.06 12600 M 3.83 d 70530 f 5 5 2 25.0 M
D2 D2 1 D4 M1 1 D5 D4 1 D5 D4 1 et 20 12,000 13,38 ipectrum Ref Lavel 25,00 dB 14 Att 35 c 16 Att 35 c 16 0 dBm	-10.0478 MHz 20.106 MHz 3.33 3m Offset 6.00 dB 4 8wr 37.9 µs 4 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	-20.18 dB -0.07 dB • RBW 100 kHz • VBW 300 kHz • VBW 300 kHz • V300 p • V-value 3.90 dBm -2.08 dBm	Mode D+{1 Occ M11 M11 N11 N11 N11 N11 N11 N11	Auto FF	Т 17.896- 17.	-20.16 dB .74830 MHz 120716 MHz 3.90 dBm 547030 GHz 06 10 10 10 10 10 10 10 10 10 10 10 10 10	D4 1 D4 1 D5 20 Ref Leve Aff Mark 20 dBm 10 dBm 0 dBm -00 dBm -00 dBm -07 C 2462 CMArker TVP R M11 T1 T2 D2 D3 -00	D4 1 2.2024 13:42 T 35 c 35 c 35 c 4 4 4 4 4 4 4 4 4 4 4 4 4	19.96 12 12 13 14 15 15 15 15 15 15 15 15 15 15 15 15 15	5.00 dB • 5.00 d	-0.09 db	Compatil Mode	Auto 1] BW 11		17.90641	-0.06 12600 N 3.83 d 70530 C

802.11n(20)

Figure 4.2.2 (iii) Example Intentional Emission Bandwidth Plots.

pectru	m									Spectru	n								[
tt	el 25.0	00 dBm 35 dB			RBW 100 kH VBW 300 kH		tible Auto	FSP FFT		👄 Att	al 25.00 d 35	dBm Offset dB SWT	6.00 dB = 37.9 µs =	RBW 100 kH VBW 300 kH	z Compati z Mode	ible Auto	FSP FFT		
Pk Max					_		5[1]		-0.07 dB	●1Pk Max	-		-		D5				-0.07
dBm—	-	-			+	U	9[1]		-0.07 dB 19.74610 MHz	20 dBm-		-	-		03	[1]		19.9	96600
dBm—							cc Bw		41231754 MHz	10 dBm-			_			ç Bw		18.89622	20756
	T1				M1	M	1[1]		2.44 dBm		J 1		-		MI				3.74
dBm	Upone	****	the Ober of the second s			(muna	13037030 GHz	0 dBm	4				<u> </u>		1	4	87440
dBm—	T-								Ţ	-10 dBm-	<u></u>		_						-
dBm—	92								45		¥								5 mm
abm—	1								man	129vdB,50~									
dBm—	-									-30 dBm-				-					
dBm—										-40 dBm-									
															Т				
dBm—	-									-50 dBm—				-					
dBm—	-									-60 dBm-		_	_						
dBm—										-70 dBm-									
2.412	GHz				500	pts		S	pan 25.0 MHz	CF 2.437	GHz			5001	pts			Span	25.0
ker pe R	ofite		X-value	- 1	Y-value	Fund	tion 1	Function Re		Marker Type R	م ا عبد ا	X-val		Y-value	Functi	ion I	Fund	tion Result	
M1 M1		1	2.410370		2.44 dE			Function Re	suit	M1 M1	1		3744 GHz	3.74 dB			runc	cion Result	
Τ1		1	2.4025618		-2.30 dE		cc Bw	18.8	41231754 MHz	T1	1		689 GHz	-1.68 dB		c Bw		18.89622	0756
T2 D2		1	2.4214031		-2.21 dE					T2 D2	1 V1 1		975 MHz	-1.38 dB -6.02 d					
		1	19.006	2 MHz	-0.06	iB					D2 1		962 MHz	0.02 0	в				
0.4	M1	1	-8.228	4.5411	-20.12	iB				0.4	VII 1	-12.7	375 MHz	-20.13 c	в				
												10		0.07.	0				
	D4	1	19.746		-0.07						D4 1		966 MHz	-0.07 c	В				
12.DEC	D4 0.2024 m	13:58:14	19.746 \$	1 MHz	-0.07	18	*14.1-	500		D5 Date: 12.DE	n	55:56	`			1.1-	505		
DS 12.DEC ectrui ef Levi	D4 0.2024 m	13:58:14	19.746 4 Offset 6	1 MHz		IB z Compa	tible Auto	FSP FFT		D5 Date: 12.DE Spectru Ref Lev Att	D4 1 2024 13:5 m al 25.00 0	35:56 IBm Offset	6.00 dB 🖷	-0.07 c RBW 100 kH VBW 300 kH	2 Compati	ible Auto	FSP FFT		
D5 12.DEC ectrui ef Lev tt k Max	D4 0.2024 m	1 13:58:14	19.746 4 Offset 6	1 MHz	-0.07 RBW 100 kH	iB z Compa z Mode	Auto			D5 Date: 12.DEt Spectru Ref Lev Att	D4 1 2024 13:5 m al 25.00 0	35:56 IBm Offset	6.00 dB 🖷	RBW 100 kH	z Compati z Mode	Auto			-0.1
D5 12.DEC ectrui ef Leve t k Max	D4 0.2024 m	1 13:58:14	19.746 4 Offset 6	1 MHz	-0.07 RBW 100 kH	iB z Compa z Mode) FFT	-0.05 dB	D5 Date: 12.DE Spectru Ref Lev Att	D4 1 2024 13:5 m al 25.00 0	35:56 IBm Offset	6.00 dB 🖷	RBW 100 kH	2 Compati	Auto		19.8	
DS 12:DEC ectrui ef Leve tt k Max dBm	D4 0.2024 m	1 13:58:14	19.746 4 Offset 6	1 MHz	-0.07 RBW 100 kH	z Compa z Mode	Auto 5[1] cc Bw) FFT	-0.05 dB 19.84500 MHz 71225755 MHz	D5 Date: 12 DEt Spectru Ref Lev Att 10 LPk Max 20 dBm	D4 1 2024 13:5 m al 25.00 0	35:56 IBm Offset	6.00 dB 🖷	RBW 100 kH	2 Compati 2 Mode D5	Auto		19.{ 18.89122	32100 21756
DS 12.DEC ectrui of Leve t k Max iBm iBm	D4 0.2024 m	1 13:58:14	19.746 4 Offset 6	1 MHz	-0.07 RBW 100 kH	z Compa z Mode	Auto 5[1]) FFT 18.8	-0.05 dB 19.84500 MHz 71225755 MHz 4.37 dBm	D5 Date: 12 DE4 Spectru Ref Lev Att 10 dBm- 10 dBm-	D4 1 2024 13:5 m al 25.00 0	35:56 IBm Offset	6.00 dB 🖷	RBW 100 kH	2 Compati 2 Mode D5	Auto		18.89122	32100 21756 3.98
DS 12.DEC ectrui af Leve it k Max dBm dBm	D4 0.2024 m	1 13:58:14	19.746 4 Offset 6	1 MHz	-0.07 RBW 100 kH VBW 300 kH	z Compa z Mode	Auto 5[1] cc Bw) FFT 18.8	-0.05 dB 19.84500 MHz 71225755 MHz	D5 Date: 12 DEt Spectru Ref Lev Att 10 LPk Max 20 dBm	D4 1 2024 13:5 m al 25.00 0	35:56 IBm Offset	6.00 dB 🖷	RBW 100 kH	2 Compati 2 Mode D5	Auto			32100 21756 3.98
DS 12.DEC ectrui ef Leve tt k Max dBm dBm dBm	D4 0.2024 m	1 13:58:14	19.746 4 Offset 6	1 MHz	-0.07 RBW 100 kH VBW 300 kH	z Compa z Mode	Auto 5[1] cc Bw) FFT 18.8	-0.05 dB 19.84500 MHz 71225755 MHz 4.37 dBm	D5 Date: 12 DE4 Spectru Ref Lev Att 10 dBm- 10 dBm-	D4 1 2024 13:5 m al 25.00 0	35:56 IBm Offset	6.00 dB 🖷	RBW 100 kH	2 Compati 2 Mode D5	Auto		18.89122	32100 21756 3.98
DS 12.DEC ectrui ef Levi t k Max IBm IBm IBm IBm IBm	D4 0.2024 m	1 13:58:14	19.746 4 Offset 6	1 MHz	-0.07 RBW 100 kH VBW 300 kH	z Compa z Mode	Auto 5[1] cc Bw) FFT 18.8	-0.05 dB 19.84500 MHz 71225755 MHz 4.37 dBm	Date: 12 DEC Spectru Ref Lev Att 10 dBm- 0 dBm- -10 dBm-	D4 1 2024 13:5 m al 25.00 0	35:56 IBm Offset	6.00 dB 🖷	RBW 100 kH	2 Compati 2 Mode D5	Auto		18.89122	32100 21756 3.98 81940
DS 12.DEC ectrui ef Levi t k Max IBm IBm IBm IBm IBm	D4 0.2024 m	1 13:58:14	19.746 4 Offset 6	1 MHz	-0.07 RBW 100 kH VBW 300 kH	z Compa z Mode	Auto 5[1] cc Bw) FFT 18.8	-0.05 dB 19.84500 MHz 71225755 MHz 4.37 dBm 45589020 GHz	Date: 12.DEC Spectrue Refet 10 dBm- 0 dBm-	D4 1 2024 13:5 m al 25.00 0	35:56 IBm Offset	6.00 dB 🖷	RBW 100 kH	2 Compati 2 Mode D5	Auto		18.89122	32100 21756 3.98 81940
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DS 12.DEC ectrui tt k Max iBm iBm iBm dBm dBm dBm dBm dBm dBm	D4 0.2024 m	1 13:58:14	19.746 4 Offset 6	1 MHz	-0.07 RBW 100 kH VBW 300 kH	z Compa z Mode	Auto 5[1] cc Bw) FFT 18.8	-0.05 dB 19.84500 MHz 71225755 MHz 4.37 dBm 45589020 GHz	DS Date: 12 DE Spectru Ref Lev Att 0 dBm- 10 dBm- -10 dBm- -20 dBm- -30 dBm-	D4 1 2024 13:5 m al 25.00 0	35:56 IBm Offset	6.00 dB 🖷	RBW 100 kH	2 Compati 2 Mode D5	Auto		18.89122	32100 21756 3.98 81940
DS ectrui ef Levri k Max JBm JBm dBm dBm dBm dBm dBm dBm dBm	D4 0.2024 m	1 13:58:14	19.746 4 Offset 6	1 MHz	-0.07 RBW 100 kH VBW 300 kH	z Compa z Mode	Auto 5[1] cc Bw) FFT 18.8	-0.05 dB 19.84500 MHz 71225755 MHz 4.37 dBm 45589020 GHz	DS Date: 12 DE1 Spectru Ref Lev Att 10 dBm 0 dBm -10 dBm -30 dBm -30 dBm	D4 1 2024 13:5 m al 25.00 0	35:56 IBm Offset	6.00 dB 🖷	RBW 100 kH	2 Compati 2 Mode D5	Auto		18.89122	32100 21756 3.98 81940
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DS I2.DEC ectruit ff Levi tk Max dBm dBm dBm dBm dBm dBm dBm dBm	D4 0.2024 m	1 13:58:14	19.746 4 Offset 6	1 MHz	-0.07 RBW 100 kH VBW 300 kH	z Compa z Mode	Auto 5[1] cc Bw) FFT 18.8	-0.05 dB 19.84500 MHz 71225755 MHz 4.37 dBm 45589020 GHz	DS Date: 12.DE1 Spectru Ref Lev Att 10 dBm 0 dBm -10 dBm -30 dBm -30 dBm -50 dBm	D4 1 2024 13:5 m al 25.00 0	35:56 IBm Offset	6.00 dB 🖷	RBW 100 kH	2 Compati 2 Mode D5	Auto		18.89122	32100 21756 3.98 81940
DS 12.DEC ectrui of Levo tt k Max dBm	D4	1 13:58:14	19.746 4 Offset 6	1 MHz	-0.07 RBW 100 kH VBW 300 kH	z Compa z Mode	Auto 5[1] cc Bw	18.8'	-0.05 dB 19.84500 MHz 71225755 MHz 4.37 dBm 45589020 GHz	DS Date: 12 DEI Spectru Ref Lev Att ● 10k Max 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm -60 dBm -70 dBm CF 2.462	D4 1 .2024 13:5 n .2024 13:5 .2024 13:	35:56 IBm Offset	6.00 dB 🖷	RBW 100 kH	: Compati Mode OSI M	Auto		18.89123	32100 21756 3.98 81940
DS 12.DEC ectrui ef Leve tt k Max JBm dBm dBm dBm dBm dBm dBm dBm d	D4	1 13.58:14 1	19.746	.00 dB ● 7.9 μs ●	-0.07	z Compa z Mode O O P O P D	Auto 5[1] cc Bw [1]	18.8 18.9 	-0.05 dB 19.84500 MHz 1225755 MHz 4.37 dHz \$5599020 GHz	DS Date: 12 DEI Spectru Rof Lew Att ©14K Max 20 dBm 10 dBm 0 dBm -10 dBm -30 dBm -30 dBm -50 dBm -60 dBm -70 dBm CE 2.2422 Marker	D4 1 2.2024 13:0 13:0 13:0 13:0 13:0 14:0	IBm Offset dB SWT	6.00 dB ● 37.9 µs ●	RBW 100 kH VBW 300 kH	: Compati Mode 	Auto	FFT	18.89123	22100 21756 3.98 81940
D5 12.DEC ectrui ef Levk Max dBm	D4	1 13.58:1/ 0 dBm 35 dB	19.746	1 MHz	-0.07 RBW 100 k+ VBW 300 k+ N1 S00: Y-value	z Compa z Mode 0 	Auto 5[1] cc Bw [1]	18.8'	-0.05 dB 19.84500 MHz 1225755 MHz 4.37 dHz \$5599020 GHz	DS Date: 12 DE/ Spectru Ref Lev Att 10 dBm- 10 dBm- 10 dBm- 10 dBm- 20 dBm- 40 dBm- 50 dBm- 50 dBm- 50 dBm- 70 dBm- 70 dBm- 70 dBm-	D4 1 2.2024 13:0 13:0 13:0 13:0 13:0 14:0	S5:56	6.00 dB = 37.9 µs =	RBW 100 kH yBW 300 kH	Compatible Mode	Auto	FFT	18.89123	22100 21756 3.98 81940
DS 12.DEC ectruit ik: Max dBm	D4	1 13.58:14 1	19.746	1 MHz	-0.07	z Compa z Mode 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Auto 5[1] cc Bw [1]	18.8 18.9 	-0.05 dB 19.84500 MHz 1225755 MHz 4.37 dHz \$5599020 GHz	DS Date: 12 DEI Spectru Rof Lew Att ©14K Max 20 dBm 10 dBm 0 dBm -10 dBm -30 dBm -30 dBm -50 dBm -60 dBm -70 dBm CE 2.2422 Marker	D4 1 2.2024 13:0 13:0 13:0 13:0 13:0 14:0	25.56	6.00 dB ● 37.9 µs ●	RBW 100 kH VBW 300 kH	: Compati Mode 	Auto	FFT	18.89123	225.0 f
DS 12.DEC ectrui efteward ftward dBm ft ct dBm	D4	1 13:58:1/ 00 dBm 35 dB	19.746 4 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	2 GHz 9 GHz 9 GHz 2 GHz 2 GHz	-0.07	z Compa z Mode 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Auto 5[1] 66 BW 1[1] 6	18.8 18.9 	-0.05 dB 19.84500 MHz 71225755 MHz 4.37 dHz §5589020 GHz	DS Date: 12 DEI Spectru Rof Lew Att ©14K Max 20 dBm 10 dBm 0 dBm -10 dBm -30 dBm -30 dBm -50 dBm -60 dBm -70 dBm CF 2.462 Marker Type IR T1 T2	Image: 100 minipage Image: 100 minipage Image: 100 minipage Image: 100 minipage <td>55.56</td> <td>6.00 dB</td> <td>RBW 100 kH VBW 300 kH</td> <td>E Compati Mode</td> <td>Auto [1] [2] [3] [4] [4] [4] [4] [4] [4] [4] [4] [4] [4</td> <td>FFT</td> <td>18.89123</td> <td>21756 3.98 81940 5 5 5 25.0 M</td>	55.56	6.00 dB	RBW 100 kH VBW 300 kH	E Compati Mode	Auto [1] [2] [3] [4] [4] [4] [4] [4] [4] [4] [4] [4] [4	FFT	18.89123	21756 3.98 81940 5 5 5 25.0 M
D5 12.DEC vectruit vectru	D4 22024 m BI 25.0 GHz GHz M1	1 13:58:1/ 00 dBm 35 dB	19.746 4 0ffset 6 SWT 3 	1 MHz	-0.07 RBW 100 kH VBW 300 kH KH S00 S00 V-volue 4.37 df -0.11 df -0.1	z Compa z Mode 	Auto 5[1] 66 BW 1[1] 6	18.8 18.9 	-0.05 dB 19.84500 MHz 71225755 MHz 4.37 dHz §5589020 GHz	DS Date: 12 DEI Spectru Ref Lev Att 10 Bm 0 dBm 10 dBm -10 dBm -30 dBm -30 dBm -60 dBm -70 dBm -60 dBm -70 dBm	Image: 100 minimum Image: 100 minimum Image: 100 minimum <td>55:56 JBm Offset SWT SWT SWT SWT SWT SWT SWT SWT</td> <td>6.00 dB € 37.9 µs € </td> <td>RBW 100 kH VBW 300 kH Image: State of the sta</td> <td>E Compati Mode DSI Mode Main Main PS PS Functi m M Oct</td> <td>Auto [1] [2] [3] [4] [4] [4] [4] [4] [4] [4] [4] [4] [4</td> <td>FFT</td> <td>18.89123</td> <td>3.98 81940</td>	55:56 JBm Offset SWT SWT SWT SWT SWT SWT SWT SWT	6.00 dB € 37.9 µs € 	RBW 100 kH VBW 300 kH Image: State of the sta	E Compati Mode DSI Mode Main Main PS PS Functi m M Oct	Auto [1] [2] [3] [4] [4] [4] [4] [4] [4] [4] [4] [4] [4	FFT	18.89123	3.98 81940
D5 12 DEC ectruit dBm dBm dBm 0 dBm 1 dBm 0 dBm 0 dBm 0 dBm 1 dBm 1 dBm 1 dBm 2 dBm 1 dBm 2 dBm 1 dBm	D4	1 13:58:1/ 00 dBm 35 dB	19.746 4 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	1 MHz 00 d8 0 07.9 µs 0 02 GHz 0 04 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	-0.07	2 Compa 2 Mode 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Auto 5[1] 66 BW 1[1] 6	18.8 18.9 	-0.05 dB 19.84500 MHz 71225755 MHz 4.37 dHz §5589020 GHz	DS Date: 12 DEI Spectru Rof Lew Att 9194 Max 20 dBm 10 dBm 0 dBm -10 dBm -30 dBm -30 dBm -50 dBm -60 dBm -70 dBm CF 2.462 Marker Type II T1 T2 D2 D3	Image: 100 minipage Image: 100 minipage Image: 100 minipage Image: 100 minipage <td>55.56 JBm Offset dB SWT</td> <td>6.00 dB</td> <td>RBW 100 kH VBW 300 kH</td> <td>E Compati Mode</td> <td>Auto [1] [2] [3] [4] [4] [4] [4] [4] [4] [4] [4] [4] [4</td> <td>FFT</td> <td>18.89123</td> <td>22100 21756 3.98 81940</td>	55.56 JBm Offset dB SWT	6.00 dB	RBW 100 kH VBW 300 kH	E Compati Mode	Auto [1] [2] [3] [4] [4] [4] [4] [4] [4] [4] [4] [4] [4	FFT	18.89123	22100 21756 3.98 81940

802.11ax

Date: 12.DEC.2024 13:53:53

Date: 12.DEC.2024 13:51:02

Figure 4.2.2 (iv) Example Intentional Emission Bandwidth Plots.

4.2.3Effective Isotropic Radiated Power

The EUT's radiated power is computed from antenna port conducted power measurements and the gain of the EUT antenna(s). Where the EUT is not sold with an antenna connector, a modified product has been provided including such. The results of this testing are summarized in Table 4.2.3 .

7-Nov-24
J. Nantz
Allegion 47723023
Conducted

						Fu	ndamental Power					
			Freq.	Pout (Pk)	Pout (Avg)	Duty	$Pout \; (Avg) + Duty$	Ant Gain	EIRP (Avg)	EIRP (Avg) Limit	Pass	Comments
R0	Mode	Channel	MHz	dBm	dBm	dB	dBm	dBi	dBm	dBm	dB	
R1		1	2412.0		13.48	0.0	13.5	2.0	15.5	36.0	20.5	
R2	802.11b	6	2437.0		14.39	0.0	14.4	2.0	16.4	36.0	19.6	
R3	002.110	10	2457.0		14.74	0.0	14.7	2.0	16.7	36.0	19.3	
R4		11	2462.0		6.81	0.0	6.8	2.0	8.8	36.0	27.2	
R5		1	2412.0		15.80	0.0	15.8	2.0	17.8	36.0	18.2	
R6	802.11g	6	2437.0		16.67	0.0	16.7	2.0	18.7	36.0	17.3	
R7	002.11g	10	2457.0		16.94	0.0	16.9	2.0	18.9	36.0	17.1	
R8		11	2462.0		10.98	0.0	11.0	2.0	13.0	36.0	23.0	
R9		1	2412.0		15.49	0.0	15.5	2.0	17.5	36.0	18.5	
R10	802.11n(20)	6	2437.0		15.71	0.0	15.7	2.0	17.7	36.0	18.3	
R11	802.1111(20)	10	2457.0		15.98	0.0	16.0	2.0	18.0	36.0	18.0	
R12		11	2462.0		10.60	0.0	10.6	2.0	12.6	36.0	23.4	
R13		1	2412.0		15.61	0.0	15.6	2.0	17.6	36.0	18.4	
R14	802.11ax	6	2437.0		16.12	0.0	16.1	2.0	18.1	36.0	17.9	
R15	002.11dx	10	2457.0		14.83	0.0	14.8	2.0	16.8	36.0	19.2	
R16		11	2462.0		11.02	0.0	11.0	2.0	13.0	36.0	23.0	
#	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12
	(ROW)	(COLU	IMN)	NOTES								

(ROW)

C8

C4

Minimum allowed reported antenna gain of 2 dBi > EUT Ant Gain per ANSI C63.10 11.12.2.6

R0

R0

R0

Measured conducted per DTS Guidance 558074 D01 v5 r02 / ANSI C63.10 11.9.1.3 (PKPM1)

C5 Measured conducted per DTS Guidance 558074 D01 v5 r02 / ANSI C63.10 11.9.2.2.2 (AVGSA)

4.2.4 Power Spectral Density

For this test, the EUT was attached directly to the test receiver. Following FCC DTS measurement procedures, the emission spectrum is first scanned for maximum spectral peaks, the span and receiver bandwidth are then reduced until the power spectral density is measured in the prescribed receiver bandwidth. The results of this testing are summarized in Table 4.2.4 . Plots showing how these measurements were made are depicted in Figure 4.2.4 .

Table 4.2.4 Power Spectral Density Results.

	Frequency Range 2400-2483.5	Detector Pk	IF Bandwidth 3 kHz		Video Bandwidth 10 kHz	Test Date: Test Engineer: EUT: Meas. Distance:	7-Nov-24 J. Nantz Allegion 47723023 Conducted
			3kH	z Power S	pectral Density		
#	Mode	Channel	Frequency (MHz)	Ant. Used	PSDcond (meas)* (dBm/3kHz)	PSD Limit (dBm/3kHz)	Pass By
# R1	Widde	1	2412.0	Cond.	-6.4	(dBII/3KHZ) 8.00	(dB) 14.4
R2	802.11b	6	2412.0	Cond.	-4.0	8.00	12.0
	802.110	10	2457.0	Cond.	-2.4	8.00	10.4
R3		11	2462.0	Cond.	-16.2	8.00	24.2
R4		1	2412.0	Cond.	-9.0	8.00	17.0
R5	802.11g	6	2437.0	Cond.	-8.8	8.00	16.8
	802.11g	10	2457.0	Cond.	-8.4	8.00	16.4
R6		11	2462.0	Cond.	-14.6	8.00	22.6
R7		1	2412.0	Cond.	-8.7	8.00	16.7
R8	802.11n(20)	6	2437.0	Cond.	-9.3	8.00	17.3
	002.1111(20)	10	2457.0	Cond.	-7.5	8.00	15.5
R9		11	2462.0	Cond.	-14.9	8.00	22.9
R10		1	2412.0	Cond.	-10.3	8.00	18.3
R11	802.11ax	6	2437.0	Cond.	-10.5	8.00	18.5
	002.11ax	10	2457.0	Cond.	-10.7	8.00	18.7
R12		11	2462.0	Cond.	-16.0	8.00	24.0
#	C1	C2	C3	C4	C5	C6	C7

* PSD measured conducted following DTS guidance 558074 D01 v5 r02 8.4 / ANSI C63.10 11.10 PKPSD procedure.

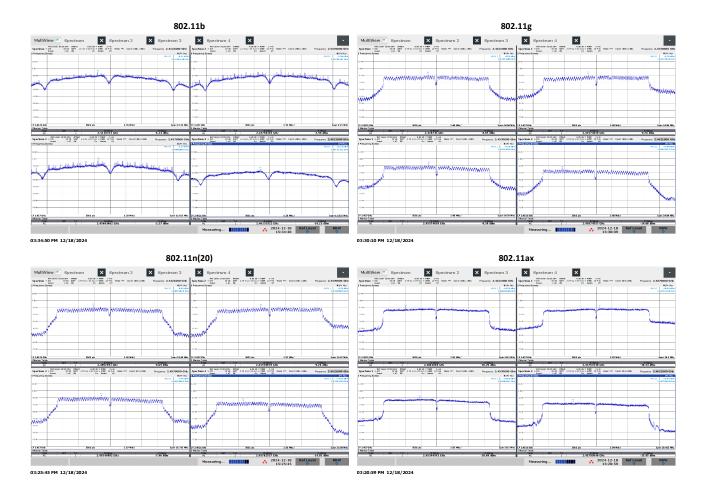


Figure 4.2.4 Power Spectral Density Plots.

4.3**Unintentional Emissions**

Restricted Band Transmit Chain Spurious Emissions 4.3.1

The results for the measurement of transmit chain spurious emissions at the nominal voltage and temperature are provided in Table 4.3.1. Measurements are performed to 10 times the highest fundamental operating frequency.

Table $4.3.1$ (i)	Transmit	Chain	Spurious	Emissions.	
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	Frequency Ra 30 >= f > 1000 f < 1000 MB	MHz	Det Pk/QPk Pk/Avg		IF Band 100 k 1 Mi	Hz	Video Bandwidth 300 kHz 3 MHz					Test Date: Test Engineer: EUT: Meas. Distance:		7-Nov-24 J. Nantz Allegion 47723023 Conducted
						Transn	nitter Spurious in R	estricted Ba	nds					FCC/IC
		Freq	uency	Meas. Ou	tput Power	Ant	GR Factor	Mode Duty		Elect	ric Field @ 3m		Pass	
	Mode	Start	Stop	Pk	Qpk	Gain		Cycle	Meas. Pk	Limit Pk	Meas. Qpk	Limit Qpk		
R0		MHz	MHz	dBm	dBm	dBi	dB	dB	dBuV/m	dBuV/m	dBuV/m	dBuV/m	dB	Comments
R1	802.11b	30	88	-88.8		2.0	4.7	0.0	13.1			40	26.9	max L,M,H channels or noise
R2	802.11b	88	216	-88.7		2.0	4.7	0.0	13.2			43	29.8	max L,M,H channels or noise
R3	802.11b	216	1000	-88.7		2.0	4.7	0.0	13.2			46	32.8	max L,M,H channels or noise
		Freq	iency	Outpu	t Power	Ant	GR Factor	Mode Duty		Elect	ric Field @ 3m		Pass	
	Mode	Start	Stop	Pk	Avg	Gain		Cycle	Meas. Pk	Limit Pk	Meas. Avg	Limit Avg		
R4		MHz	MHz	dBm	dBm	dBi	dB	dB	dBuV/m	dBuV/m	dBuV/m	dBuV/m	dB	Comments
R5	Fundamental Res	stricted Ban	d Edge (Lov	w Side)										
R6	802.11b	2390.0	2390.0	-46.6	-58.0	2.0	0.0	0.0	50.6	74.0	39.2	54.0	14.8	max all - L,M,H channels
R7	Fundamental Re	stricted Ban	d Edge (Hig	gh Side)										
R8	802.11b	2483.5	2483.5	-41.4	-50.3	2.0	0.0	0.0	55.8	74.0	46.9	54.0	7.1	max all - L,M,H channels
R9														
R10	802.11b	4824.0	4824.0	-43.8	-44.8	2.0	0.0	0.0	53.5	74.0	52.4	54.0	1.6	max all - L channel
R11	802.11b	4874.0	4874.0	-43.9	-44.9	2.0	0.0	0.0	53.3	74.0	52.3	54.0	1.7	max all - M channel
R12	802.11b	4924.0	4924.0	-55.0	-57.9	2.0	0.0	0.0	42.2	74.0	39.3	54.0	14.7	max all - H channel
R13	802.11b	7236.0	7236.0	-74.0	-76.7	2.0	0.0	0.0	23.2	74.0	20.5	54.0	33.5	max all - L channel
R13	802.11b	7311.0	7311.0	-52.3	-56.7	2.0	0.0	0.0	44.9	74.0	40.5	54.0	13.5	max all - M channel
R13	802.11b	7386.0	7386.0	-61.9	-73.7	2.0	0.0	0.0	35.3	74.0	23.5	54.0	30.5	max all - H channel
R14	802.11b	1000.0	4000.0	-72.6	-77.3	2.0	0.0	0.0	24.6	74.0	19.9	54.0	34.1	max L,M,H channels or noise
R15	802.11b	4000.0	6000.0	-43.8	-44.8	2.0	0.0	0.0	53.5	74.0	52.4	54.0	1.6	max L,M,H channels or noise
R16	802.11b	6000.0	8400.0	-52.3	-56.7	2.0	0.0	0.0	44.9	74.0	40.5	54.0	13.5	max L,M,H channels or noise
R17	802.11b	8400.0	12500.0	-62.1	-70.4	2.0	0.0	0.0	35.1	74.0	26.8	54.0	27.2	max L,M,H channels or noise
R18	802.11b	12500.0	26000.0	-62.9	-75.6	2.0	0.0	0.0	34.3	74.0	21.6	54.0	32.4	max L,M,H channels or noise
#	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14
	(ROW)	(COL	UMN)	NOTES										

ALL C4, C5

C6

Conducted measurements were made in line with DTS guidance 558074 DOI v5 r02 sections 8.5, 8.6, 8.7 / ANSI C63.10 11.10, 11.11, 11.12 Minimum allowed antenna gain per ANSI C63.10 11.12.2.6 set to 2 dBi. Measured antenna gain ~ 1.5 dBi. Ground Reflection Factor as described in ANSI C63.10-2013 section 11.12.2.2c

C7 ALL C9, C11 ALL

ALL

Computed according to ANSI C63.10-2013 section 11.12.2.2e

	Frequency R 30 >= f > 1000 f < 1000 M	MHz	Det Pk/QPk Pk/Avg		IF Band 100 k 1 Mi	Hz	Video Bandwidth 300 kHz 3 MHz					Test Date: Test Engineer: EUT: Meas. Distance:		7-Nov-24 J. Nantz Allegion 47723023 Conducted
						Transn	nitter Spurious in R	estricted Ba	nds					FCC/IC
		Freq	uency	Meas. Ou	tput Power	Ant	GR Factor	Mode Duty		Elect	ric Field @ 3m		Pass	
	Mode	Start	Stop	Pk	Qpk	Gain		Cycle	Meas. Pk	Limit Pk	Meas. Qpk	Limit Qpk		
R0		MHz	MHz	dBm	dBm	dBi	dB	dB	dBuV/m	dBuV/m	dBuV/m	dBuV/m	dB	Comments
R1	802.11g	30	88	-88.8		2.0	4.7	0.0	13.1			40	26.9	max L,M,H channels or noise
R2	802.11g	88	216	-89.8		2.0	4.7	0.0	12.1			43	30.9	max L,M,H channels or noise
R3	802.11g	216	1000	-87.8		2.0	4.7	0.0	14.1			46	31.9	max L,M,H channels or noise
		Freq	uency	Output	t Power	Ant	GR Factor	Mode Duty		Elect	ric Field @ 3m		Pass	
	Mode	Start	Stop	Pk	Avg	Gain		Cycle	Meas. Pk	Limit Pk	Meas. Avg	Limit Avg		
R4		MHz	MHz	dBm	dBm	dBi	dB	dB	dBuV/m	dBuV/m	dBuV/m	dBuV/m	dB	Comments
R5	Fundamental Re	stricted Ban	d Edge (Lov	w Side)										
R6	802.11g	2390.0	2390.0	-30.4	-44.5	2.0	0.0	0.0	66.8	74.0	52.7	54.0	1.3	max all - L,M,H channels
R7	Fundamental Re	stricted Ban	d Edge (Hig	gh Side)										
R8	802.11g	2483.5	2483.5	-25.4	-43.9	2.0	0.0	0.0	71.8	74.0	53.3	54.0	0.7	max all - L,M,H channels
R9														
R10	802.11g	4824.0	4824.0	-43.2	-56.0	2.0	0.0	0.0	54.0	74.0	41.2	54.0	12.8	max all - L channel
R11	802.11g	4874.0	4874.0	-43.6	-56.0	2.0	0.0	0.0	53.6	74.0	41.2	54.0	12.8	max all - M channel
R12	802.11g	4924.0	4924.0	-43.6	-57.2	2.0	0.0	0.0	53.6	74.0	40.0	54.0	14.0	max all - H channel
R13	802.11g	7236.0	7236.0	-41.2	-58.2	2.0	0.0	0.0	56.0	74.0	39.0	54.0	15.0	max all - L channel
R13	802.11g	7311.0	7311.0	-47.1	-59.2	2.0	0.0	0.0	50.1	74.0	38.0	54.0	16.0	max all - M channel
R13	802.11g	7386.0	7386.0	-49.0	-62.2	2.0	0.0	0.0	48.2	74.0	35.0	54.0	19.0	max all - H channel
R14	802.11g	1000.0	4000.0	-25.4	-43.9	2.0	0.0	0.0	71.8	74.0	53.3	54.0	0.7	max L,M,H channels or noise
R15	802.11g	4000.0	6000.0	-43.2	-56.0	2.0	0.0	0.0	54.0	74.0	41.2	54.0	12.8	max L,M,H channels or noise
R16	802.11g	6000.0	8400.0	-41.2	-58.2	2.0	0.0	0.0	56.0	74.0	39.0	54.0	15.0	max L,M,H channels or noise
R17	802.11g	8400.0	12500.0	-61.8	-76.2	2.0	0.0	0.0	35.4	74.0	21.0	54.0	33.0	max L,M,H channels or noise
R18	802.11g	12500.0	26000.0	-62.9	-75.7	2.0	0.0	0.0	34.3	74.0	21.5	54.0	32.5	max L,M,H channels or noise
#	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14
	(ROW)		UMN)	NOTES								NOV 0 00 10 11 10		

Table 4.3.1 (ii) Transmit Chain Spurious Emissions.

(ROW) (COLUMN) C4, C5



Conducted measurements were made in line with DTS guidance 558074 D01 v5 r02 sections 8.5, 8.6, 8.7 / ANSI C63.10 11.10, 11.11, 11.12 Minimum allowed antenna gain per ANSI C63.10 11.12.2.6 set to 2 dBi. Measured antenna gain ~ 1.5 dBi. Ground Reflection Factor as described in ANSI C63.10-2013 section 11.12.2.2 e

C6 C7

C9, C11

	Frequency Ra	0	Det		IF Band		Video Bandwidth					Test Date:		7-Nov-24
	30 >= f > 1000	MHz	Pk/QPk		100 k	Hz	300 kHz					Test Engineer:		J. Nantz
	f < 1000 MI	Hz	Pk/Avg		1 MI	Hz	3 MHz					EUT:		Allegion 47723023
												Meas. Distance:		Conducted
						Transn	nitter Spurious in R	Restricted Ba	nds					FCC/IC
		Frequ	iency	Meas. Ou	tput Power	Ant	GR Factor	Mode Duty		Elect	ric Field @ 3m		Pass	
	Mode	Start	Stop	Pk	Qpk	Gain		Cycle	Meas. Pk	Limit Pk	Meas. Qpk	Limit Qpk		
R0		MHz	MHz	dBm	dBm	dBi	dB	dB	dBuV/m	dBuV/m	dBuV/m	dBuV/m	dB	Comments
R1	802.11n(20)	30	88	-88.9		2.0	4.7	0.0	13.0			40	27.0	max L,M,H channels or noise
R2	802.11n(20)	88	216	-89.8		2.0	4.7	0.0	12.1			43	30.9	max L,M,H channels or noise
R3	802.11n(20)	216	1000	-86.0		2.0	4.7	0.0	15.9			46	30.1	max L,M,H channels or noise
		Frequ	iency	Outpu	t Power	Ant	GR Factor	Mode Duty		Elect	ric Field @ 3m		Pass	
	Mode	Start	Stop	Pk	Avg	Gain		Cycle	Meas. Pk	Limit Pk	Meas. Avg	Limit Avg		
R4		MHz	MHz	dBm	dBm	dBi	dB	dB	dBuV/m	dBuV/m	dBuV/m	dBuV/m	dB	Comments
R5	Fundamental Res	stricted Ban	d Edge (Lo	w Side)										
R6	802.11n(20)	2390.0	2390.0	-32.9	-46.1	2.0	0.0	0.0	64.3	74.0	51.1	54.0	2.9	max all - L,M,H channels
R7	Fundamental Res	stricted Ban	d Edge (Hig	gh Side)										
R8	802.11n(20)	2483.5	2483.5	-30.3	-43.6	2.0	0.0	0.0	66.9	74.0	53.6	54.0	0.4	max all - L,M,H channels
DO														

Table 4.3.1 (iii) Transmit Chain Spurious Emissions.

R9 74.0 R10 802.11n(20) 4824.0 4824.0 -43.8 -57.2 2.0 0.0 53.4 40.0 54.0 14.0 0.0 max all - L channel 4874.0 -57.3 2.0 0.0 53.9 74.0 54.0 nax all - M channel R11 802.11n(20) 4874.0 -43.3 0.0 39.9 14.1 2.0 43.0 74.0 54.0 R12 802.11n(20) 4924.0 4924.0 -54.2 -66.9 0.0 0.0 30.3 23.7 nax all - H channel R13 802.11n(20) 7236.0 7236.0 -50.6 -65.9 2.0 0.0 0.0 46.6 74.0 31.3 54.0 22.7 nax all - L channel 48.9 -62.2 2.0 0.0 48.3 74.0 35.0 54.0 19.0 nax all - M channel R13 802.11n(20) 7311.0 7311.0 0.0 R13 2.0 0.0 38.7 74.0 54.0 nax all - H channel 802.11n(20) 7386.0 7386.0 -58.5 -72.0 0.0 25.2 28.8 74.0 54.0 nax L,M,H channels or noise R14 802.11n(20) 1000.0 4000.0 -30.3 -43.6 2.0 0.0 0.0 66.9 53.6 0.4 2.0 53.9 R15 -57.2 0.0 74.0 54.0 802.11n(20) 4000.0 6000.0 -43.3 0.0 40.0 14.0 nax L,M,H channels or noise R16 802.11n(20) 6000.0 8400.0 -48.9 -62.2 2.0 0.0 0.0 48.3 74.0 35.0 54.0 19.0 max L,M,H channels or noise R17 802.11n(20) 8400.0 12500.0 -62.2 -76.4 2.0 0.0 0.0 35.0 74.0 20.8 54.0 33.2 nax L,M,H channels or noise R18 802.11n(20) 12500.0 26000.0 -63.2 -75.7 2.0 0.0 0.0 34.0 74.0 21.5 54.0 32.5 max L,M,H channels or noise C4 C5 C6 C10 C11 C12 C14 C1 C3 C7 C8 C9 C13 # C2 (ROW) (COLUMN) NOTES

ALL C4. C5

ALL

ALL

ALL

Conducted measurements were made in line with DTS guidance 558074 D01 v5 r02 sections 8.5, 8.6, 8.7 / ANSI C63.10 11.10, 11.11, 11.12 Minimum allowed antenna gain per ANSI C63.10 11.12.2.6 set to 2 dBi. Measured antenna gain ~ 1.5 dBi.

C6

C7 Ground Reflection Factor as described in ANSI C63.10-2013 section 11.12.2.2 ©

C9, C11 Computed according to ANSI C63.10-2013 section 11.12.2.2 (e)

	Frequency Range 30 >= f > 1000 MHz f < 1000 MHz		Det Pk/QPk Pk/Avg		IF Band 100 k 1 MI	:Hz Hz	Video Bandwidth 300 kHz 3 MHz					Test Date: Test Engineer: EUT: Meas. Distance:		7-Nov-24 J. Nantz Allegion 47723023 Conducted
	Transmitter Spurious in Restricted Bands										FCC/IC			
		Frequ			tput Power	Ant	GR Factor	Mode Duty			ric Field @ 3m		Pass	
	Mode	Start	Stop	Pk	Qpk	Gain		Cycle	Meas. Pk	Limit Pk	Meas. Qpk	Limit Qpk		
R0		MHz	MHz	dBm	dBm	dBi	dB	dB	dBuV/m	dBuV/m	dBuV/m	dBuV/m	dB	Comments
R1	802.11ax	30	88	-88.9		2.0	4.7	0.0	13.0			40	27.0	max L,M,H channels or noise
R2	802.11ax	88	216	-89.8		2.0	4.7	0.0	12.1			43	30.9	max L,M,H channels or noise
R3	802.11ax	216	1000	-84.6		2.0	4.7	0.0	17.3			46	28.7	max L,M,H channels or noise
		Frequ	iency	Outpu	t Power	Ant	GR Factor	Mode Duty		Elect	ric Field @ 3m		Pass	
	Mode	Start	Stop	Pk	Avg	Gain		Cycle	Meas. Pk	Limit Pk	Meas. Avg	Limit Avg		
R4		MHz	MHz	dBm	dBm	dBi	dB	dB	dBuV/m	dBuV/m	dBuV/m	dBuV/m	dB	Comments
R5	R5 Fundamental Restricted Band Edge (Low Side)													
R6	802.11ax	2390.0	2390.0	-29.1	-43.6	2.0	0.0	0.0	68.1	74.0	53.6	54.0	0.4	max all - L,M,H channels
R7	R7 Fundamental Restricted Band Edge (High Side)													
R8	802.11ax	2483.5	2483.5	-25.0	-43.3	2.0	0.0	0.0	72.2	74.0	53.9	54.0	0.1	max all - L,M,H channels
R9														
R10	802.11ax	4824.0	4824.0	-43.8	-56.6	2.0	0.0	0.0	53.4	74.0	40.6	54.0	13.4	max all - L channel
R11	802.11ax	4874.0	4874.0	-43.2	-56.7	2.0	0.0	0.0	54.0	74.0	40.5	54.0	13.5	max all - M channel
R12	802.11ax	4924.0	4924.0	-43.7	-58.3	2.0	0.0	0.0	53.5	74.0	38.9	54.0	15.1	max all - H channel
R13	802.11ax	7236.0	7236.0	-48.4	-65.3	2.0	0.0	0.0	48.8	74.0	31.9	54.0	22.1	max all - L channel
R13	802.11ax	7311.0	7311.0	-45.4	-60.1	2.0	0.0	0.0	51.8	74.0	37.1	54.0	16.9	max all - M channel
R13	802.11ax	7386.0	7386.0	-49.3	-63.7	2.0	0.0	0.0	47.9	74.0	33.5	54.0	20.5	max all - H channel
R14	802.11ax	1000.0	4000.0	-25.0	-43.3	2.0	0.0	0.0	72.2	74.0	53.9	54.0	0.1	max L,M,H channels or noise
R15	802.11ax	4000.0	6000.0	-43.2	-56.6	2.0	0.0	0.0	54.0	74.0	40.6	54.0	13.4	max L,M,H channels or noise
R16	802.11ax	6000.0	8400.0	-45.4	-60.1	2.0	0.0	0.0	51.8	74.0	37.1	54.0	16.9	max L,M,H channels or noise
R17	802.11ax	8400.0	12500.0	-63.5	-76.5	2.0	0.0	0.0	33.7	74.0	20.7	54.0	33.3	max L,M,H channels or noise
R18	802.11ax	12500.0	26000.0	-61.9	-75.7	2.0	0.0	0.0	35.3	74.0	21.5	54.0	32.5	max L,M,H channels or noise
#	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14

Table 4.3.1 (iv) Transmit Chain Spurious Emissions.

(ROW) (COLUMN)



NULES Conducted measurements were made in line with DTS guidance 558074 D01 v5 r02 sections 8.5, 8.6, 8.7 / ANSI C63.10 11.10, 11.11, 11.12 Minimum allowed antenna gain per ANSI C63.10 11.12.2.6 set to 2 dBi. Measured antenna gain ~ 1.5 dBi. Ground Reflection Factor as described in ANSI C63.10-2013 section 11.12.2.2 © Computed according to ANSI C63.10-2013 section 11.12.2.2 (e)

C6 C7

C9, C11

NOTES

4.3.2 OOB Transmit Chain Spurious Emissions

The results for the measurement of transmit chain spurious emissions relative to the fundamental in a 100 kHz receiver bandwidth (at the nominal voltage and temperature) in the worst cases are provided in Figure 4.3.2 below.

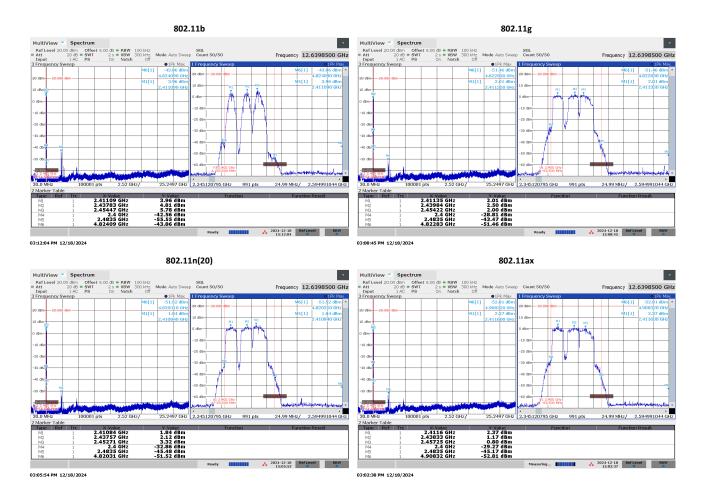


Figure 4.3.2 Worst Case Transmitter OOB Emissions Measured.

5 Measurement Uncertainty and Accreditation Documents

The maximum values of measurement uncertainty for the laboratory test equipment and facilities associated with each test are given in the table below. This uncertainty is computed for a 95.45% confidence level based on a coverage factor of k = 2.

Table 5.0.0 Measurement Uncertainty.

Measured Parameter	${\bf Measurement} ~ {\bf Uncertainty}^{\dagger}$
Radio Frequency	$\pm (f_{Mkr}/10^7 + RBW/10 + (SPN/(PTS - 1))/2 + 1 \text{ Hz})$
Conducted Emm. Amplitude	$\pm 1.9\mathrm{dB}$
Radiated Emm. Amplitude $(f < 30 \text{ MHz})$	$\pm 3.1\mathrm{dB}$
Radiated Emm. Amplitude $(30 - 200 \text{ MHz})$	$\pm 4.0\mathrm{dB}$
Radiated Emm. Amplitude $(200 - 1000 \text{ MHz})$	$\pm 5.2\mathrm{dB}$
Radiated Emm. Amplitude $(f > 1000 \text{ MHz})$	$\pm 3.7\mathrm{dB}$

[†]Ref: CISPR 16-4-2:2011+A1:2014

United States Department of Commerce National Institute of Standards and Technology	Gordon Helm EMC-002401-NE MARCE BRITATED ENGINER
NVLAP LAB CODE: 200129-0	C. P.
AHD (Amber Helm Development, L.C.) Sister Lakes, MI	and the second second
is accredited by the National Voluntary Laboratory Accreditation Program for specific services, listed on the Scope of Accreditation, for:	Joseph Brunett EMC-002790-NE
Electromagnetic Compatibility & Telecommunications	AMPIE
This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communique on ISO/IEC 17025).	
2024-06-13 through 2025-06-30 Effective Dates	TRI TED ENGINER

Figure 5.0.0 Accreditation Documents