



Report No.: TW2112036-01E File reference No.: 2021-12-28

Applicant: SHENZHEN CENTURY XINYANG TECH CO., LTD

Product: AX1800 Dual Band USB Adapter

Model No.: WD-AX1800

Trademark: N/A

Test Standards: FCC Part 15.247

Test result:

It is herewith confirmed and found to comply with the

requirements set up by ANSI C63.10, FCC Part 15.247 for the

evaluation of electromagnetic compatibility

Approved By

Jack Chung

Manager

Dated: December 28, 2021

Results appearing herein relate only to the sample tested

The technical reports is issued errors and omissions exempt and is subject to withdrawal at

SHENZHEN TIMEWAY TESTING LABORATORIES

Zone C, 1st Floor, Block B, Jun Xiang Da Building, Zhongshan Park Road West, Tong Le Village, Nanshan District, Shenzhen, China

Tel (755) 83448688, Fax (755) 83442996, E-Mail:info@timeway-lab.com

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Special Statement:

The testing quality ability of our laboratory meet with "Quality Law of People's Republic of China" Clause 19.

The testing quality system of our laboratory meet with ISO/IEC-17025 requirements, which is approved by CNAL. This approval result is accepted by MRA of APLAC.

Our test facility is recognized, certified, or accredited by the following organizations:

CNAL-LAB Code: L2292

The EMC Laboratory has been assessed and in compliance with CNAL/AC01:2002 accreditation criteria for testing Laboratories (identical to ISO/IEC 17025:2005 General Requirements) for the Competence of testing Laboratories.

FCC-Registration No.: 744189

The EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications commission. The acceptance letter from the FCC is maintained in our files. Registration No.: 744189.

Industry Canada (IC) —Registration No.:5205A

The EMC Laboratory has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 5205A.

A2LA (Certification Number:5013.01)

The EMC Laboratory has been accredited by the American Association for Laboratory Accreditation (A2LA). Certification Number:5013.01

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Test Report Conclusion

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1.0 General Details

1.1 Test Lab Details

Name: SHENZHEN TIMEWAY TESTING LABORATORIES.

Address: Zone C, 1st Floor, Block B, Jun Xiang Da Building, Zhongshan Park Road West, Tong Le

Village, Nanshan District, Shenzhen, China

Telephone: (755) 83448688 Fax: (755) 83442996

Site Listed with Federal Communications commission (FCC)

Registration Number: 744189 For 3m Anechoic Chamber

Site Listed with Industry Canada of Ottawa, Canada

Registration Number: IC: 5205A

For 3m Anechoic Chamber

1.2 Applicant Details

Applicant: SHENZHEN CENTURY XINYANG TECH CO., LTD

Address: 3F, North Building, Bantian High-tech industrial Zone, No. 2 of Bell Road, Longgang,

Shenzhen, Guangdong

Telephone: -Fax: --

1.3 Description of EUT

Product: AX1800 Dual Band USB Adapter

Manufacturer: SHENZHEN CENTURY XINYANG TECH CO., LTD

Address: 3F, North Building, Bantian High-tech industrial Zone, No. 2 of Bell Road,

Longgang, Shenzhen, Guangdong

Trademark: N/A

Model Number: WD-AX1800

Additional Model Number: N/A Hardware Version: V1.0

Software Version: 5001.0.13.104

Type of Modulation IEEE 802.11b: DSSS (CCK, QPSK, DBPSK)

IEEE 802.11g/n (HT20, HT40): OFDM (64QAM, 16QAM, QPSK, BPSK)

IEEE 802.11ax (HEW20): OFDM (1024QAM, 256QAM,64QAM, 16QAM, QPSK,

BPSK)

Frequency range IEEE 802.11b/g/n (HT20)/ax (HEW20): 2412-2462MHz;

IEEE 802.11n HT40/ ax (HEW40): 2422-2452MHz

Channel Spacing 5MHz for IEEE 802.11b/g/n (HT20, HT40)/ax (HEW20, HEW40)

Air Data Rate IEEE 802.11b: 11, 5.5, 2, 1 Mbps

The report refers only to the sample tested and does not apply to the bulk.

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IEEE 802.11g: 54, 48,36, 24, 18, 12, 9, 6 Mbps

IEEE 802.11n HT20/HT40: mcs0-mcs7

IEEE 802.11ax HEW20/HEW40: mcs0-mcs11

Frequency Selection By software

Channel Number IEEE 802.11b/g/n (HT20)/ax (HEW20): 11 Channels;

IEEE 802.11n (HT40): 7 Channels;

Antenna: Two Integral antennas. The gain of the antennas is 2.5dBi maximum for each one.

(Get from the antenna specification provided the applicant)

Rating: DC5V, 1A

1.4 Submitted Sample: 2 Samples

1.5 Test Duration

2021-12-03 to 2021-12-28

1.6 Test Uncertainty

Conducted Emissions Uncertainty = 3.6dB

Radiated Emissions below 1GHz Uncertainty =4.7dB

Radiated Emissions above 1GHz Uncertainty =6.0dB

Conducted Power Uncertainty = 6.0dB

Occupied Channel Bandwidth Uncertainty =5%

Note: The measurement uncertainty is for coverage factor of k=2 and a level of confidence of 95%.

1.7 Test Engineer

Terry Tang

The sample tested by

Print Name: Terry Tang

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2.0 Test Equipment					
Instrument Type	Manufacturer	Model	Serial No.	Date of Cal.	Due Date
ESPI Test Receiver	PI Test Receiver R&S		100379	2021-06-18	2022-06-17
Impuls-Begrenzer	R&S	ESH3-Z2	100281	2021-06-18	2022-06-17
Loop Antenna	EMCO	6507	00078608	2021-06-18	2024-06-17
Spectrum	R&S	FSIQ26	100292	2021-06-18	2022-06-17
Horn Antenna	A-INFO	LB-180400-KF	CON21060660	2021-07-02	2024-07-02
Horn Antenna	R&S	BBHA 9120D	9120D-631	2021-07-02	2024-07-02
Power meter	Anritsu	ML2487A	6K00003613	2021-06-18	2022-06-17
Power sensor	Anritsu	MA2491A	32263	2021-06-18	2022-06-17
Bilog Antenna	Bilog Antenna Schwarebeck VUI 9*6*6 Anechoic EMI Test Receiver RS E		9163/340	2018-07-04	2021-07-03
9*6*6 Anechoic			N/A	2021-07-02	2022-07-15
EMI Test Receiver			826156/011	2021-06-18	2022-06-17
EMI Test Receiver	RS	ESH3	860904/006	2021-06-18	2022-06-17
Spectrum	HP/Agilent	ESA-L1500A	US37451154	2021-06-18	2022-06-17
Spectrum	HP/Agilent	E4407B	MY50441392	2021-06-18	2022-06-17
Spectrum	RS	FSP	1164.4391.38	2020-01-16	2021-01-15
RF Cable			-	2021-06-18	2022-06-17
RF Cable	Zhengdi	7m		2021-06-18	2022-06-17
RF Switch	EM	EMSW18	060391	2021-06-18	2022-06-17
Pre-Amplifier	Schwarebeck	BBV9743	#218	2021-06-18	2022-06-17
Pre-Amplifier	HP/Agilent	8449B	3008A00160	2021-06-18	2022-06-17
LISN	SCHAFFNER	NNB42	00012	2021-01-06	2022-01-05

2.2 Automation Test Software

For Conducted Emission Test

Name	Version		
EZ-EMC	Ver.EMC-CON 3A1.1		

For Radiated Emissions

Name	Version
EMI Test Software BL410-EV18.91	V18.905
EMI Test Software BL410-EV18.806 High Frequency	V18.06

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3. DESCRIPTION OF TEST MODES

IEEE 802.11b, 802.11g, 802.11n (HT20), 802.11ax (HEW20) mode

The EUT had been tested under operating condition. There are three channels have been tested as following:

Channel	Frequency (MHz)
Low	2412
Middle	2437
High	2462

IEEE 802.11b mode: 1Mbps data rate (worst case) was chosen for full testing. IEEE 802.11g mode: 6Mbps data rate (worst case) was chosen for full testing. IEEE 802.11n (HT20) mode: mcs0 (worst case) were chosen for full testing; IEEE 802.11ax (HEW20) mode: mcs0 (worst case) were chosen for full testing

IEEE 802.11n (HT40) mode

The EUT had been tested under operating condition. There are three channels have been tested as following:

Channel	Frequency (MHz)
Low	2422
Middle	2437
High	2452

IEEE 802.11n (HT40) mode: mcs0 data rate (worst case) were chosen for full testing

Note: During the test, the duty cycle was set up to >98%

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3.0 **Technical Details**

3.1 **Summary of test results**

Standard	Test Type	Result	Notes
FCC Part 15, Paragraph15.203	Antenna Requirement	Pass	Complies
FCC Part 15, Paragraph15.207	Conducted Emission Test	Pass	Complies
FCC Part 15 Subpart C Paragraph 15.247(a)(2) Limit	Spectrum bandwidth of a Orthogonal Frequency Division Multiplex System Limit: 6dB bandwidth>500kHz	Pass	Complies
FCC Part 15, Paragraph 15.247(b)	Maximum peak output power Limit: max. 30dBm	Pass	Complies
FCC Part 15, Paragraph 15.109,15.205 & 15.209	Transmitter Radiated Emission Limit: Table 15.209	Pass	Complies
FCC Part 15, Paragraph 15.247(e)	Power Spectral Density Limit: max. 8dBm	Pass	Complies
FCC Part 15, Paragraph 15.247(d)	Out of Band Emission and Restricted Band Radiation Limit: 20dB less than peak value of fundamental frequency Restricted band limit: Table 15.209	Pass	Complies

3.2 **Test Standards**

FCC Part 15 Subpart & Subpart C, Paragraph 15.247

4.0 **EUT Modification**

No modification by SHENZHEN TIMEWAY TESTING LABORATORIES.

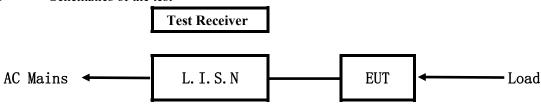
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5.0 Power Line Conducted Emission Test

5.1 Schematics of the test

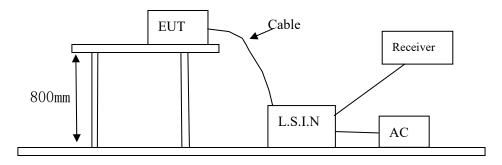


EUT: Equipment Under Test

5.2 Test Method and test Procedure

The EUT was tested according to ANSI C63.10-2013. The Frequency spectrum From 0.15MHz to 30MHz was investigated. The LISN used was 50ohm/50uH as specified by section 5.1 of ANSI C63.10-2013.

Test Voltage: 120V~, 60Hz Block diagram of Test setup



5.3 Configuration of The EUT

The EUT was configured according to ANSI C63.10-2013. All interface ports were connected to the appropriate peripherals. All peripherals and cables are listed below.

A. EUT

Device	Manufacturer	Model	FCC ID
AX1800 Dual Band USB	SHENZHEN CENTURY	WD AV1900	ZNDWD AV1000
Adapter	XINYANG TECH CO., LTD	WD-AX1800	ZNPWD-AX1800

B. Internal Device

Device	Manufacturer	Model	FCC ID/DOC
N/A			

C. Peripherals

Device	Manufacturer	Model	FCC ID/DOC	Cable
PC	DELL	P54G		

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5.4 **EUT Operating Condition**

Operating condition is according to ANSI C63.10-2013.

- Setup the EUT and simulators as shown on follow Α
- В Enable AF signal and confirm EUT active to normal condition

5.5 Power line conducted Emission Limit according to Paragraph 15.207

Frequency	Limits (dB μ V)			
(MHz)	Quasi-peak Level	Average Level		
$0.15 \sim 0.50$	66.0~56.0*	56.0~46.0*		
$0.50 \sim 5.00$	56.0	46.0		
5.00 ~ 30.00	60.0	50.0		

Notes:

- 1. *Decreasing linearly with logarithm of frequency.
- 2. The tighter limit shall apply at the transition frequencies

5.6 Test Results

The frequency spectrum from 0.15MHz to 30MHz was investigated. All reading are quasi-peak values with a resolution bandwidth of 9kHz.

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A: Conducted Emission on Live Terminal (150kHz to 30MHz)

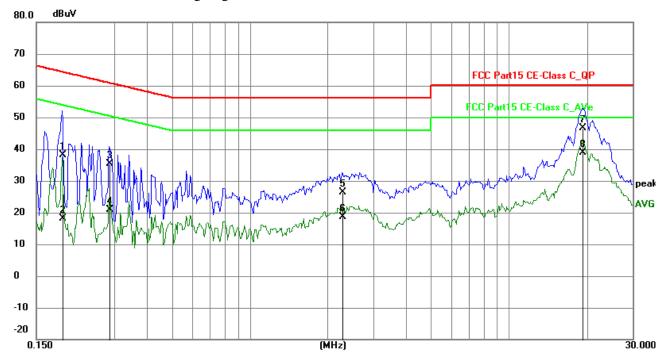
EUT Operating Environment

Temperature: 26°C Humidity: 65%RH Atmospheric Pressure: 101 kPa

EUT set Condition: Keep WIFI Transmitting

Results: Pass

Please refer to following diagram for individual



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.1890	28.34	9.76	38.10	64.08	-25.98	QP	Р
2	0.1890	8.26	9.76	18.02	54.08	-36.06	AVG	Р
3	0.2865	25.68	9.76	35.44	60.63	-25.19	QP	Р
4	0.2865	11.05	9.76	20.81	50.63	-29.82	AVG	Р
5	2.2755	16.48	9.81	26.29	56.00	-29.71	QP	Р
6	2.2755	8.74	9.81	18.55	46.00	-27.45	AVG	Р
7	19.2201	36.06	10.63	46.69	60.00	-13.31	QP	Р
8	19.2201	28.31	10.63	38.94	50.00	-11.06	AVG	Р

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B: Conducted Emission on Neutral Terminal (150kHz to 30MHz)

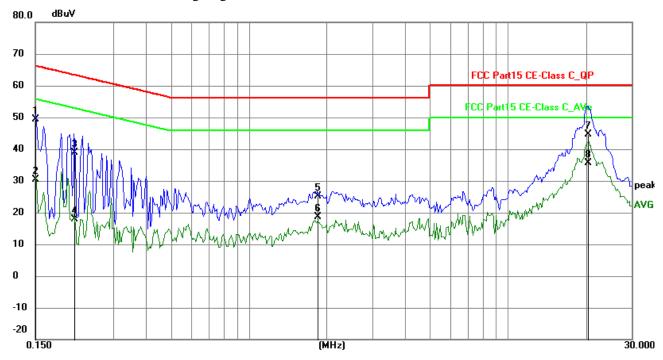
EUT Operating Environment

Temperature: 26°C Humidity: 65%RH Atmospheric Pressure: 101 kPa

EUT set Condition: Keep WIFI Transmitting

Results: Pass

Please refer to following diagram for individual



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.1500	39.63	9.79	49.42	66.00	-16.58	QP	Р
2	0.1500	20.54	9.79	30.33	56.00	-25.67	AVG	Р
3	0.2124	29.24	9.75	38.99	63.11	-24.12	QP	Р
4	0.2124	8.07	9.75	17.82	53.11	-35.29	AVG	Р
5	1.8387	15.44	9.80	25.24	56.00	-30.76	QP	Р
6	1.8387	8.81	9.80	18.61	46.00	-27.39	AVG	Р
7	20.3706	33.87	10.70	44.57	60.00	-15.43	QP	Р
8	20.3706	25.05	10.70	35.75	50.00	-14.25	AVG	Р

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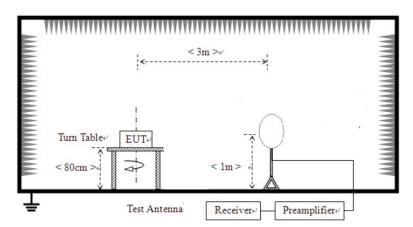
6 Radiated Emission Test

6.1 Test Method and test Procedure:

- (1) The EUT was tested according to ANSI C63.10-2013. The radiated test was performed at Timeway EMC Laboratory. This site is on file with the FCC laboratory division, Registration No. 744189
- (2) The EUT, peripherals were put on the turntable which table size is 1m x 1.5 m, table high 0.8 m. All set up is according to ANSI C63.10-2013.
- (3) The frequency spectrum from 30 MHz to 25 GHz was investigated. All readings from 30 MHz to 1 GHz are Quasi-peak values with a resolution bandwidth of 120 kHz. F For measurement above 1GHz, peak values with RBW=1MHz VBW=3MHz and PK detector. AV value with RBW=1MHz, VBW=3MHz and RMS detector. Measurements were made at 3 meters.
- (4) The antenna high is varied from 1 m to 4 m high to find the maximum emission for each frequency.
- (5) Maximizing procedure was performed on the six (6) highest emissions to ensure EUT compliance is with all installation combinations. All data was recorded in the peak detection mode. Quasi-peak readings was performed only when an emission was found to be marginal (within -4 dB of specification limit), and are distinguished with a "QP" in the data table.
- (6) The antenna polarization: Vertical polarization and Horizontal polarization.

Block diagram of Test setup

For radiated emissions from 9kHz to 30MHz



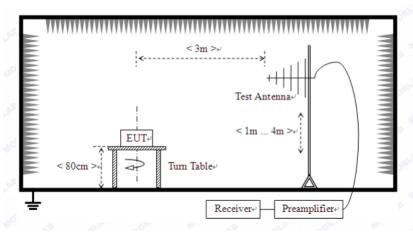
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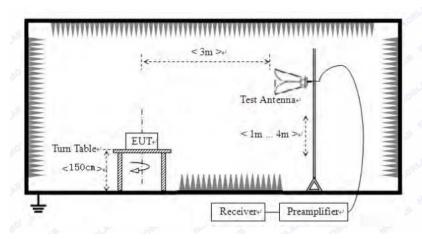
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For radiated emissions from 30MHz to1GHz



For radiated emissions above 1GHz



- 6.2 Configuration of The EUT

 Same as section 5.3 of this report
- 6.3 EUT Operating Condition

 Same as section 5.4 of this report.
- 6.4 Radiated Emission Limit

All emission from a digital device, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strength specified below:

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Frequencies in restricted band are complied to limit on Paragraph 15.209

Frequency Range (MHz)	Distance (m)	Field strength (dB μ V/m)
30-88	3	40.0
88-216	3	43.5
216-960	3	46.0
Above 960	3	54.0

Note:

- 1. RF Voltage $(dBuV) = 20 \log RF \text{ Voltage } (uV)$
- 2. In the Above Table, the higher limit applies at the band edges.
- 3. Distance refers to the distance in meters between the measuring instrument antenna and the EUT
- 4. Worse case were recorded in the test report. 802.11g was the worst case.

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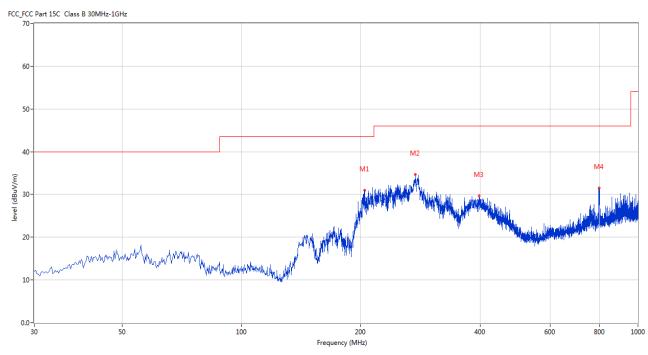


Test result General Radiated Emission Data and Harmonics Radiated Emission Data

Radiated Emission In Horizontal (30MHz----1000MHz)

EUT set Condition: Keep Transmitting

Results: Pass



No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table (o)	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)			(cm)		
1	204.314	31.01	-13.53	43.5	-12.49	Peak	14.00	100	Horizontal	Pass
2	274.379	34.69	-11.63	46.0	-11.31	Peak	267.00	100	Horizontal	Pass
3	397.296	29.67	-8.72	46.0	-16.33	Peak	1.00	100	Horizontal	Pass
4	798.290	31.52	-3.01	46.0	-14.48	Peak	106.00	100	Horizontal	Pass

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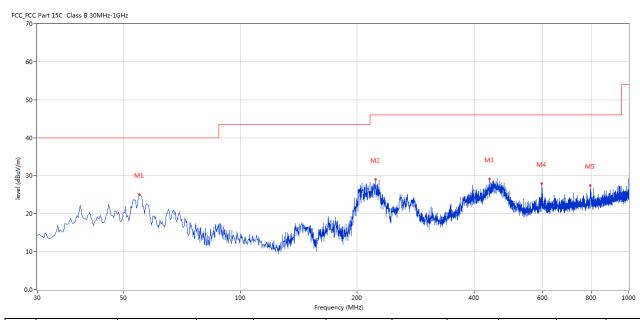


Test result General Radiated Emission Data and Harmonics Radiated Emission Data

Radiated Emission In Vertical (30MHz----1000MHz)

EUT set Condition: Keep Transmitting

Results: Pass



No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	54.971	24.98	-11.77	40.0	-15.02	Peak	282.00	100	Vertical	Pass
2	222.982	29.04	-13.18	46.0	-16.96	Peak	126.00	100	Vertical	Pass
3	438.753	29.10	-8.01	46.0	-16.90	Peak	42.00	100	Vertical	Pass
4	597.308	27.96	-5.09	46.0	-18.04	Peak	62.00	100	Vertical	Pass
5	796.593	27.37	-3.07	46.0	-18.63	Peak	183.00	100	Vertical	Pass

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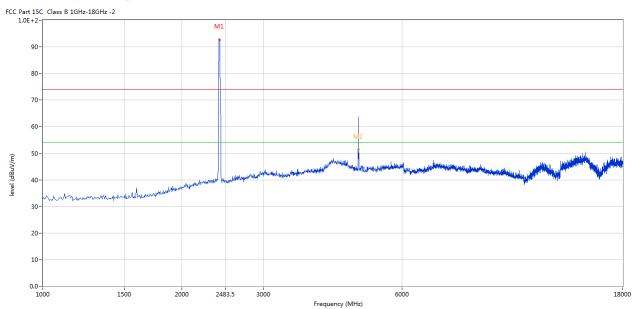
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Please refer to the following test plots for details:

CH01 for 11g at 6Mbps: Horizontal



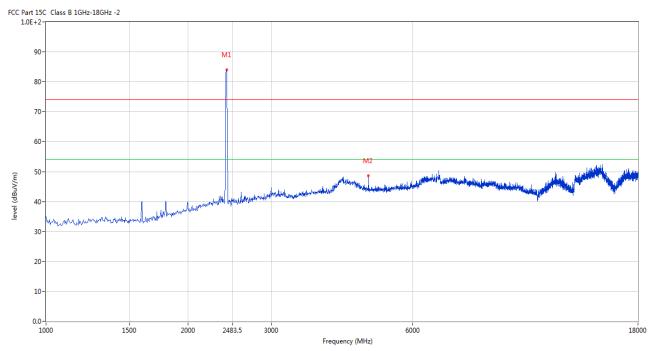
No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
2	4824.044	63.60	3.14	74.0	-10.40	Peak	91.00	100	Horizontal	Pass
2**	4824.044	51.49	3.14	54.0	-2.51	AV	91.00	100	Horizontal	Pass

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CH01 for 11g at 6Mbps: Vertical



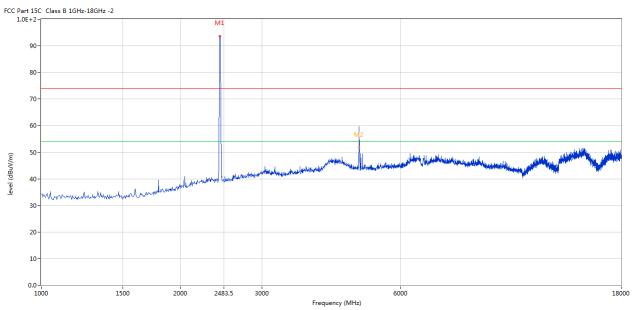
No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table (o)	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)			(cm)		
2	4824.044	48.63	3.14	74.0	-25.37	Peak	174.00	100	Vertical	Pass

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CH06 for 11g at 6Mbps: Horizontal



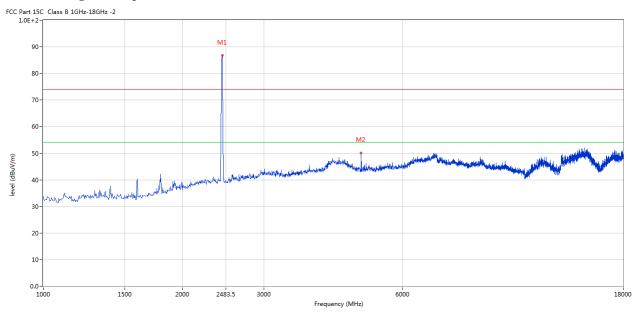
No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
2	4875.031	59.65	3.19	74.0	-14.35	Peak	280.00	100	Horizontal	Pass
2**	4875.031	51.73	3.19	54.0	-2.27	AV	280.00	100	Horizontal	Pass

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CH06 for 11g at 6Mbps: Vertical



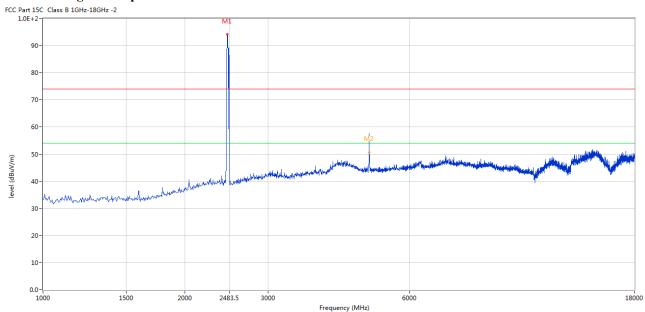
No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
2	4875.031	50.01	3.19	74.0	-23.99	Peak	182.00	100	Vertical	Pass

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CH11 for 11g at 6Mbps: Horizontal



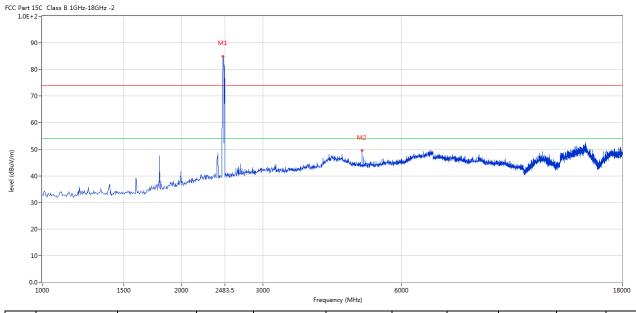
No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(0)	(cm)		
2	4921.770	57.37	3.27	74.0	-16.63	Peak	92.00	100	Horizontal	Pass
2**	4921.770	50.70	3.27	54.0	-3.30	AV	92.00	100	Horizontal	Pass

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CH11 for 11g at 6Mbps: Vertical



No	. Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
2	4921.770	49.52	3.27	74.0	-24.48	Peak	183.00	100	Vertical	Pass

Note: 1. Result Level = Reading + Factor

- 2. Factor= AF + Cable Loss- Preamp
- 3. Margin = Result– Limit
- 4. For radiated Emissions from 18-25GHz and below 30MHz, it is only the floor noise.
- 5. Note: the final peak measurement results less than the AV limit. No necessary to take down the final AV measurement result

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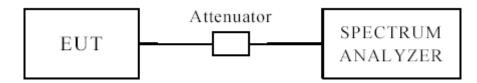
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7.0 6dB Bandwidth Measurement

7.1 Test Setup



7.2 Limits of 6dB Bandwidth Measurement

The minimum of 6dB Bandwidth Measurement is >500 kHz

7.3 Test Procedure

- 1. Set resolution bandwidth (RBW) = 100 kHz
- 2. Set the video bandwidth (VBW) \geq 3 x RBW.
- 3. Detector = Peak.
- 4. Trace mode = \max hold.
- 5. Sweep = auto couple.
- 6. Allow the trace to stabilize.
- 7. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

7.4 Test Result

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6dB Occupied Bandwidth

EUT			Dual Band Adapter	USB	Model		WD-A	X1800
Mode			302.11b		Test Volta	ige	DO	C5V
Temperat	ure	24	deg. C,		Humidity		56%	6 RH
Channel		el Frequency (MHz)	Data Transfer Rate (Mbps)	-	ndwidth Hz)		mum Limit MHz)	Pass/ Fail
1		2412	1	10	.04		0.5	Pass
6		2437	1	10	.04		0.5	Pass
11		2462	1	10	10.04		0.5	Pass
1		2412	11	11	.36		0.5	Pass
6	2437		11	11.30			0.5	Pass
11		2462	11	11	.30		0.5	Pass

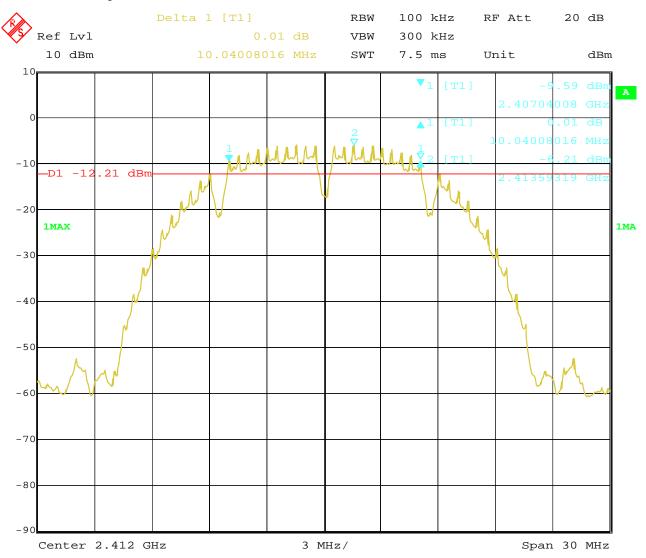
Note: Two antennas were tested and only the worst cased was recorded in the test report. CON2 was the worst case.

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1. 802.11b at 1Mbps of CH01



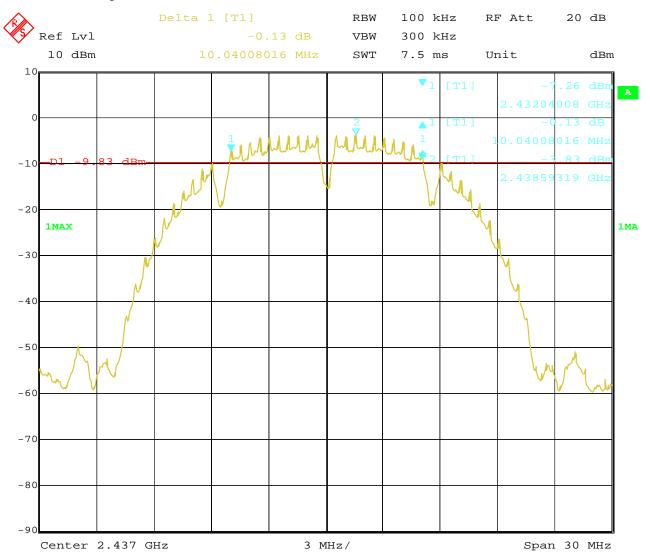
13:02:44 Date: 8.DEC.2021

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2. 802.11b at 1Mbps of CH06



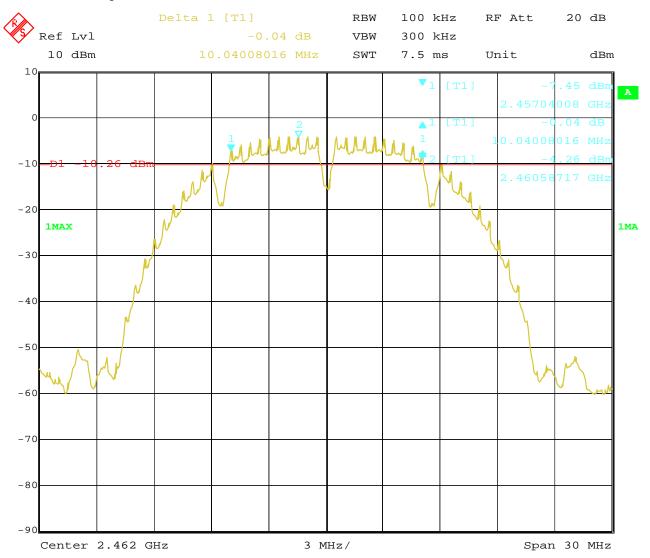
13:29:06 Date: 8.DEC.2021

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3. 802.11b at 1Mbps of CH11



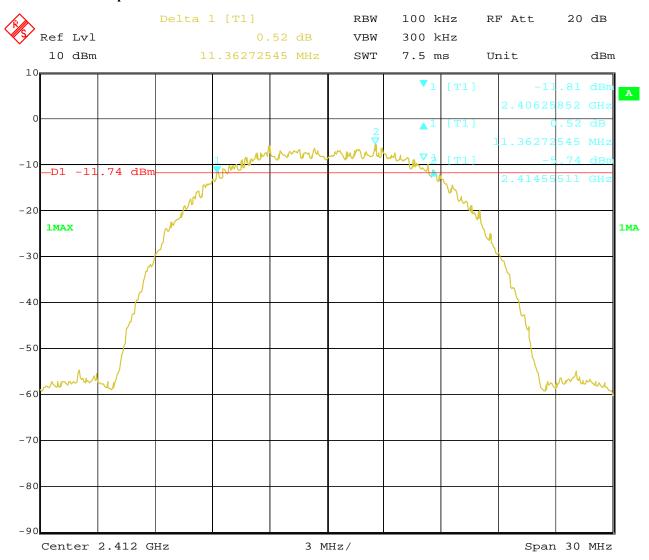
Date: 8.DEC.2021 13:47:33

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4. 802.11b at 11Mbps of CH01

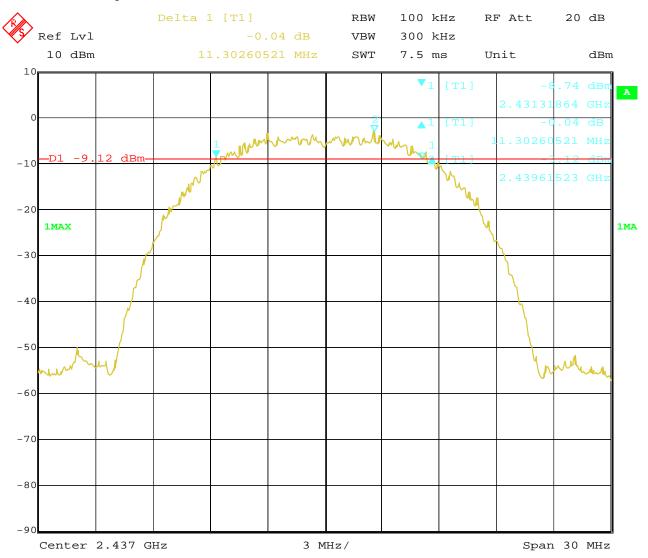


Date: 8.DEC.2021 13:10:24 Report No.: TW2112036-01E Page 30 of 116

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5. 802.11b at 11Mbps of CH06

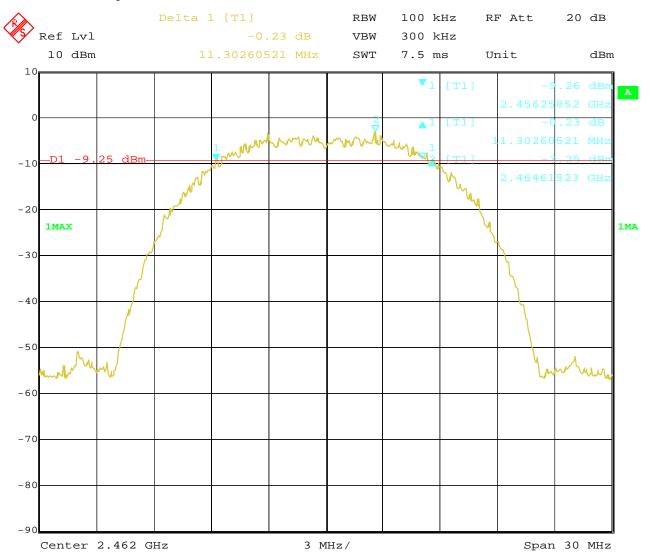


Date: 8.DEC.2021 13:34:54 Report No.: TW2112036-01E Page 31 of 116

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6. 802.11b at 11Mbps of CH11



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6dB Occupied Bandwidth

EUT			Dual Band Adapter	USB	Model		WD	D-AX1800
Mode			302.11g Test Voltage			DC5V		
Temperat	ure	24	24 deg. C, Humidity		5	6% RH		
Channel		el Frequency (MHz)	Data Transfer Rate (Mbps)		andwidth Hz)		num Limit MHz)	Pass/ Fail
1		2412	6	16	.35		0.5	Pass
6		2437	6	16	.35		0.5	Pass
11		2462	6	16	.35	5 0.5		Pass

Note: Two antennas were tested and only the worst cased was recorded in the test report. CON2 was the worst case.

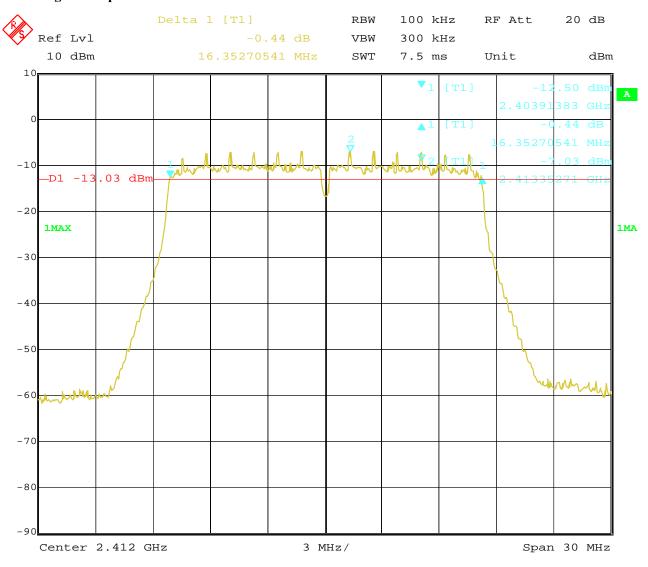
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Test Plots:

1. 802.11g at 6Mbps of CH01



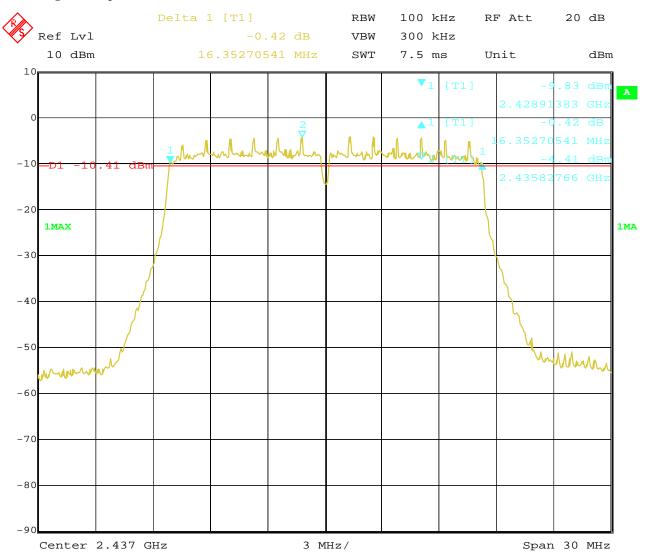
8.DEC.2021 13:18:14 Date:

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2. 802.11g at 6Mbps of CH06

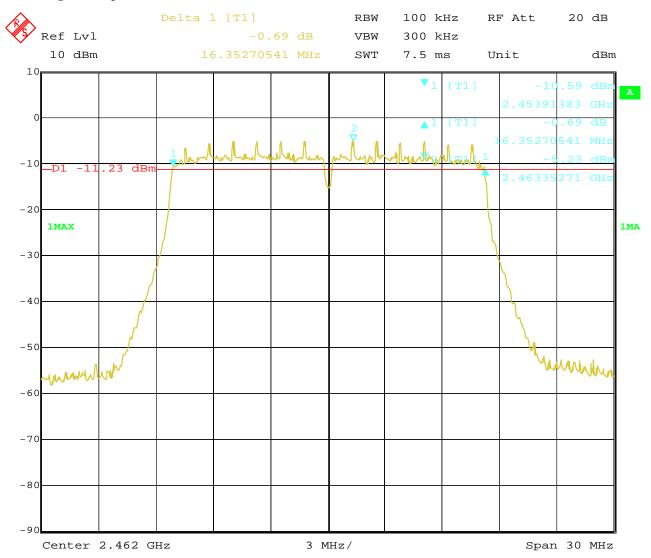


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3. 802.11g at 6Mbps of CH11



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6dB Occupied Bandwidth

EUT		AX1800 Dual Band USB			Model		WD-AX1800	
		Adapter						
Mode		802		Test Voltage		DC5V		
Temperature		24 deg. C,			Humidity		56% RH	
Channel		Channel Frequency (MHz)		6 dB Bandwidth (MHz)		Minimum Limit (MHz)		Pass/ Fail
1	2412		mcs0	17.56		0.5		Pass
6	2437		mcs0	17.56		0.5		Pass
11	2462 n		mcs0	17.56		0.5		Pass

Note: Two antennas were tested and only the worst cased was recorded in the test report. CON2 was the worst case.

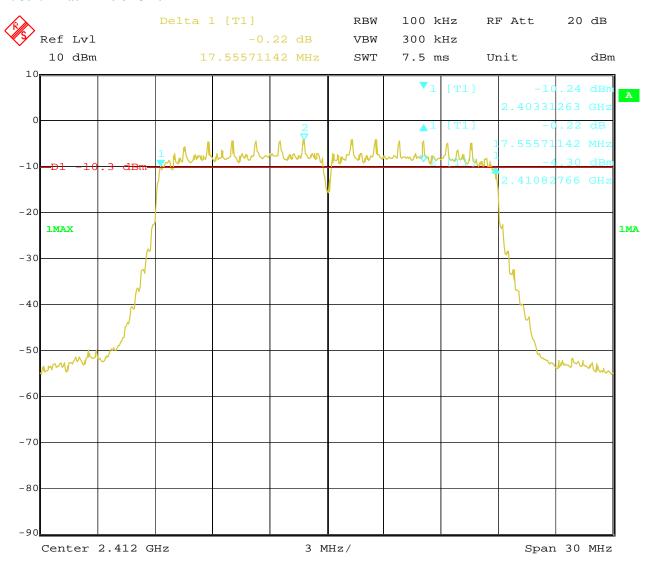
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Test Plots:

1. 802.11n at HT20 of CH01



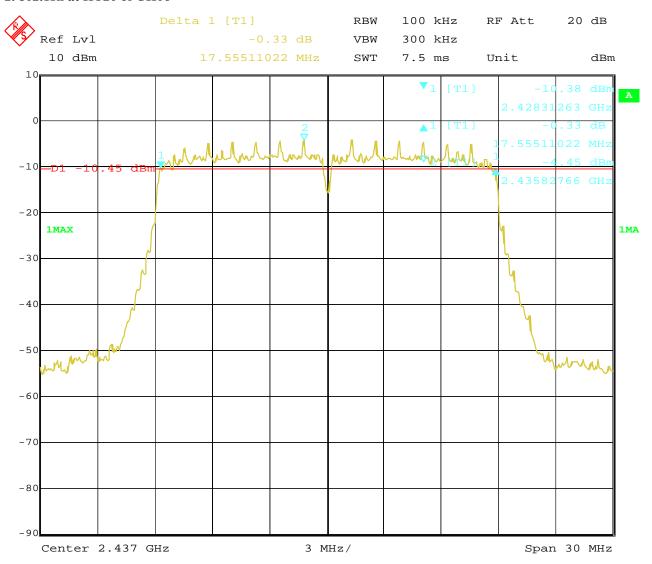
9.DEC.2021 10:31:31 Date:

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2. 802.11n at HT20 of CH06



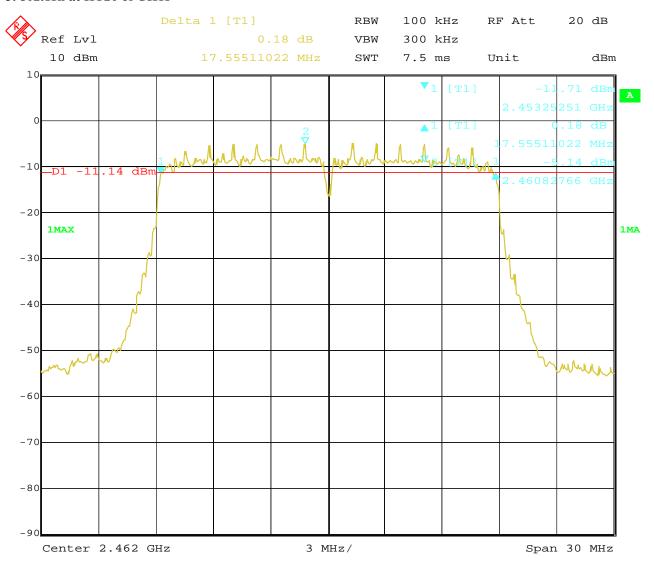
Date: 8.DEC.2021 14:17:19

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3. 802.11n at HT20 of CH11



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6dB Occupied Bandwidth

EUT			Dual Band Adapter	USB	Model		WD-AX1800	
Mode			.11n HT40		Test Volta	ıge	DO	C5V
Temperat	ure	24	4 deg. C,		Humidity		56%	% RH
Channel	Channel Frequency (MHz)		Data Transfer Rate (Mbps)	-	ndwidth Hz)		mum Limit MHz)	Pass/ Fail
3		2422	mcs0	36	36.21		0.5	Pass
6		2437	mcs0	36.02			0.5	Pass
9		2452	mcs0	36	.15		0.5	Pass

Note: Two antennas were tested and only the worst cased was recorded in the test report. CON2 was the worst case.

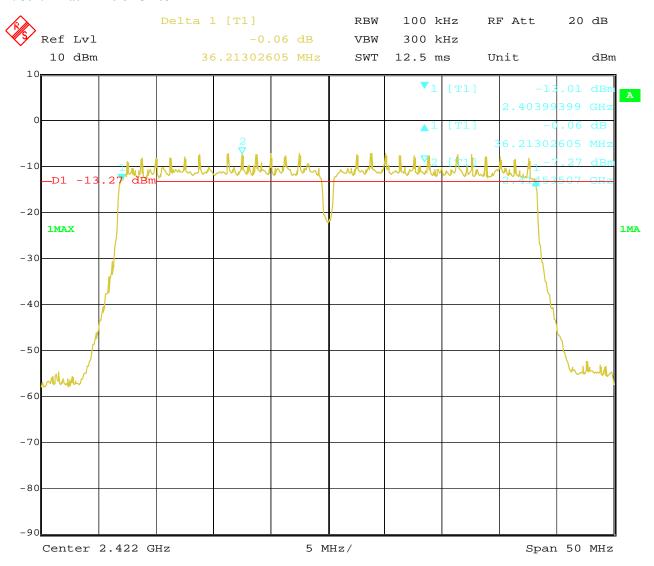
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Test Plots:

1.802.11n at HT40 of CH03



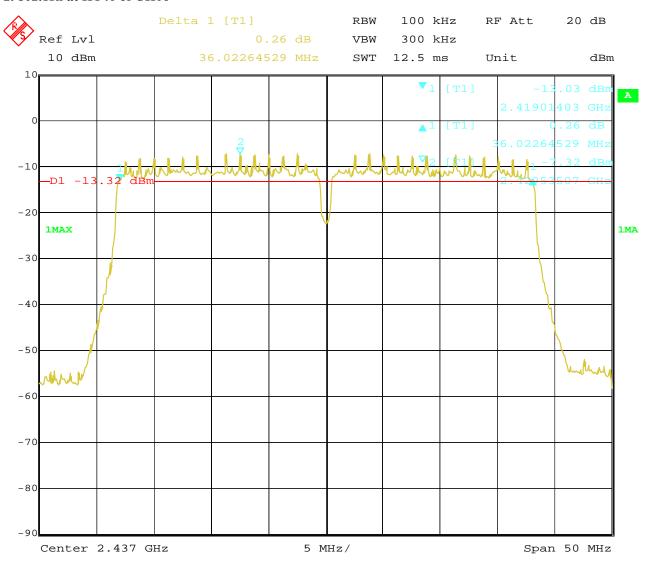
9.DEC.2021 10:55:31 Date:

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2. 802.11n at HT40 of CH06

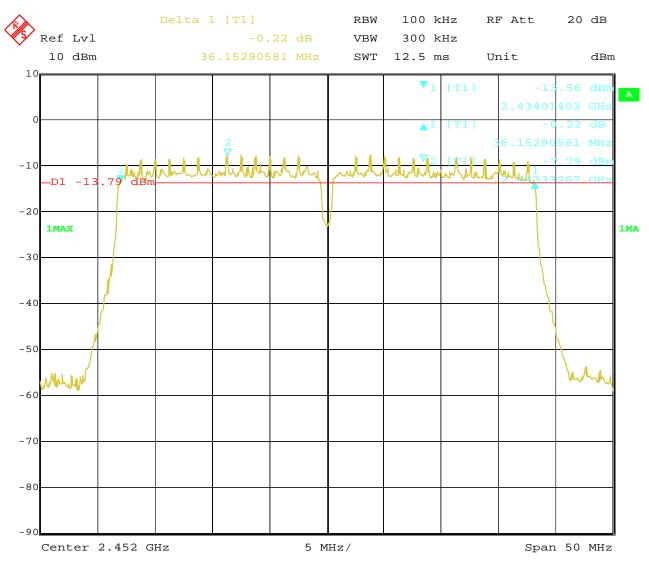


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3. 802.11n at HT40 of CH09



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6dB Occupied Bandwidth

EUT		AX1800	Dual Band	USB	Model		WD-A	X1800
		A	Adapter					
Mode		802.1	1ax HEW2	0	Test Volta	ige	DC5V	
Temperat	ure	24	4 deg. C,		Humidity 569			6 RH
Channel		Channel Frequency (MHz)		6 dB Bandwidth (MHz)		Minimum Limit (MHz)		Pass/ Fail
1		2412	mcs0		.76		0.5	Pass
6		2437	mcs0	18.76		.76		Pass
11		2462	mcs0	18	18.76		0.5	Pass

Note: Two antennas were tested and only the worst cased was recorded in the test report. CON2 was the worst case.

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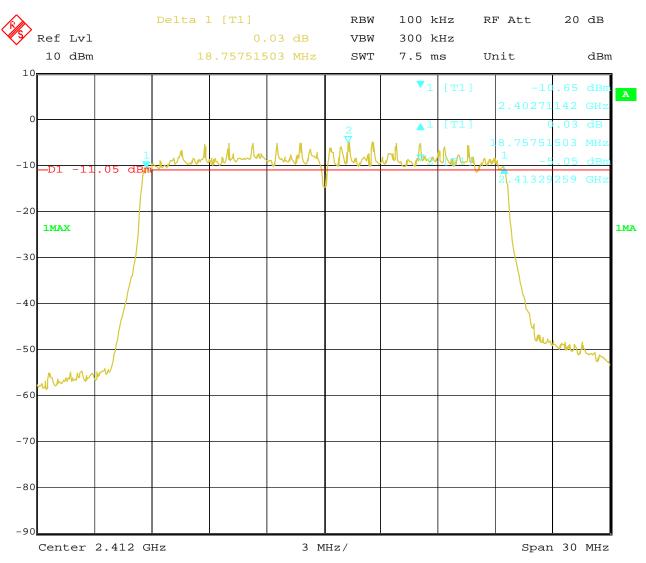
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Test Plots:

1.802.11ax HEW20 of CH01



24.DEC.2021 16:25:41 Date:

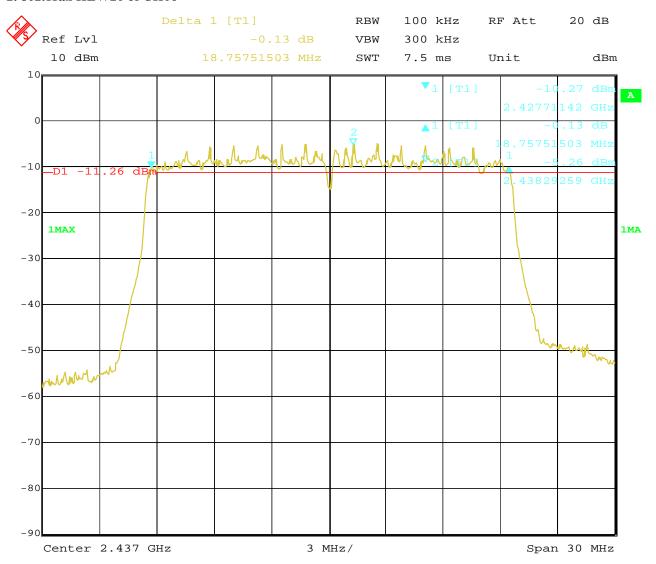
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2. 802.11ax HEW20 of CH06

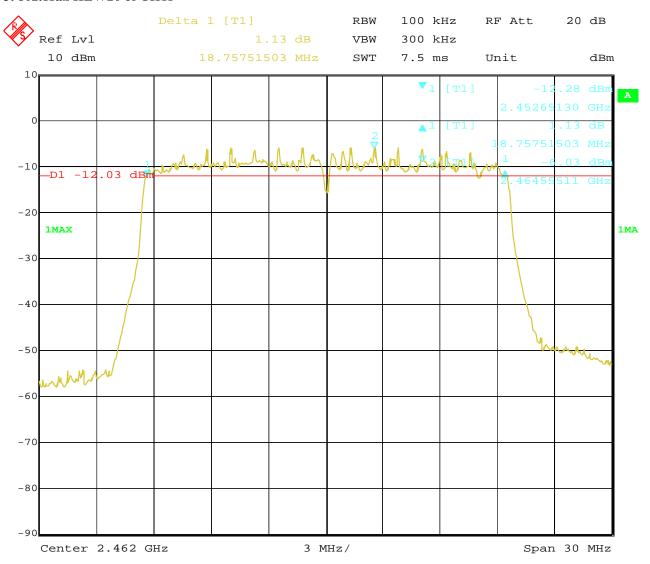


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3. 802.11ax HEW20 of CH11



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6dB Occupied Bandwidth

EUT		AX1800	Dual Band	USB	Model		WD-A	X1800	
		A	Adapter						
Mode		802.1	1ax HEW4	0	Test Volta	ige	DC5V		
Temperat	ure	24	4 deg. C,		Humidity		56%	56% RH	
Channel		Channel Frequency (MHz)		_	ndwidth Hz)		mum Limit MHz)	Pass/ Fail	
3		2422	2422 mcs0		.78		0.5	Pass	
6		2437	mcs0	37	.73	0.5		Pass	
9		2452		37	37.74		0.5	Pass	

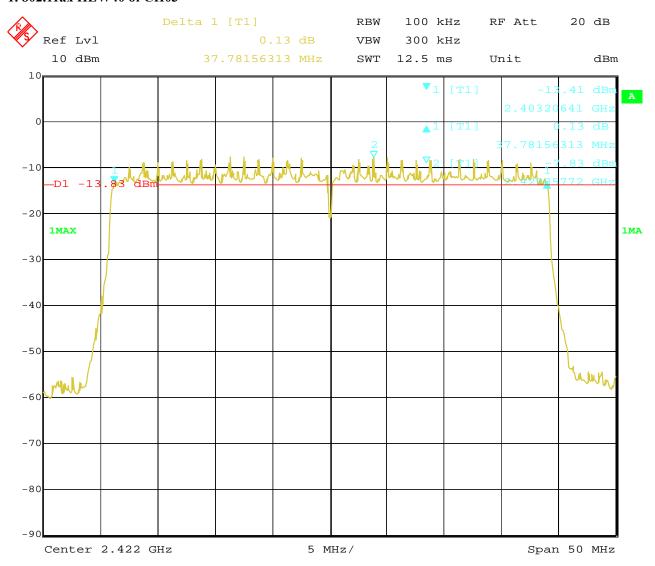
Note: Two antennas were tested and only the worst cased was recorded in the test report. CON2 was the worst case.

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1.802.11ax HEW40 of CH03



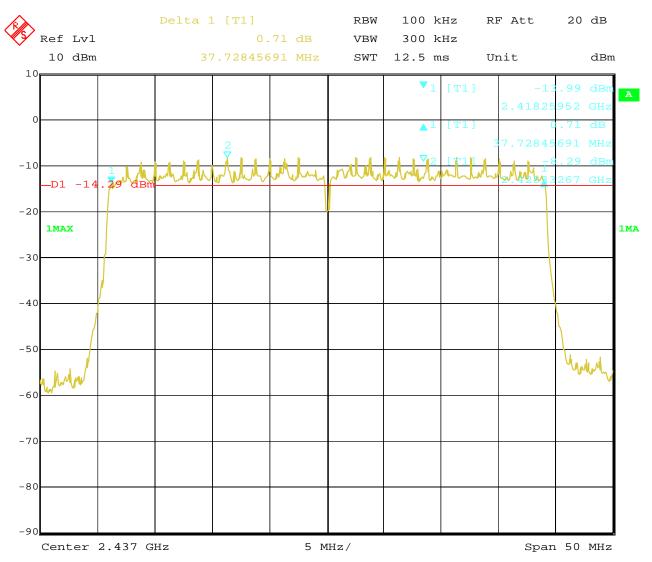
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2. 802.11ax HEW40 of CH06



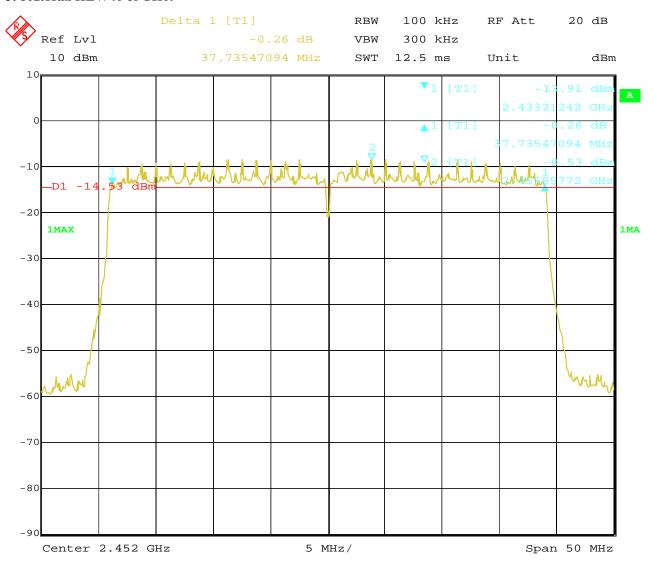
28.DEC.2021 15:14:15 Date:

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3. 802.11ax HEW40 of CH09



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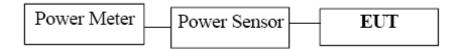
8. Maximum Output Power

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8.1 Test Setup



8.2 Limits of Maximum Output Power

The Maximum Output Power Measurement is 30dBm.

8.3 Test Procedure

The RF power output was measured with a Power meter connected to the RF Antenna connector (conducted measurement) while EUT was operating in transmit mode at the appropriate centre frequency.

Note: The Average power was measured

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8.4Test Results

EUT		AX1	800 Dua Ada	ıl Band US	SB	Mo	del	WD-AX1800		
Mode	*				Test V	oltage	DC5V			
Temperature			24 de	g. C,		Hum	idity	56% RH		
Channel	Frequency		CON2 Power CO			3 Power	Total Max. Power	Power Limit	Pass/ Fail	
Chamer	(MH	z)	dBm	mW	dBm	mW	Output (dBm)	(dBm)	1 433/ 1 411	
1	2412		6.50	4.47	6.45	4.42	9.49	30	Pass	
6	2437	7 6.15 4.12		6.11	4.08	9.14	30	Pass		
11	2462	2 5.95 3.94		3.94	5.88	3.87	8.93	30	Pass	

Note: 1. At finial test to get the worst-case emission at 1Mbps for CH01, CH06 and CH11

2. The result basic equation calculation as follow: Power Output = Power Reading + Cable loss + Attenuator

3. The worse case was recorded

EUT		AX1		al Band US	В	Mo	del	WD-AX1800		
Mode			Ada	•		Test V	altaga	DC5V		
Mode	802.11g				Test v	onage	DC.) V		
Temperature			24 de	eg. C,		Hum	idity	56% RH		
Channel	Frequency		ency CON2 Power C		CON	3 Power	Total Max. Power	Power Limit	Pass/ Fail	
	(MH	z)	dBm	mW	dBm	mW	Output (dBm)	(dBm)	1 455/ 1 411	
1	2412	2 4.91 3.10 4		4.85	3.05	7.89	30	Pass		
6	2437		4.77 3.00 4.7		4.72	2.96	7.76	30	Pass	
11	2462	2 4.08 2.56 4.		4.01	2.52	7.06	30	Pass		

Note: 1. At finial test to get the worst-case emission at 6Mbps for CH01, CH06 and CH11

- 2. The result basic equation calculation as follow: Power Output = Power Reading + Cable loss + Attenuator
- 3. The worse case was recorded

The report refers only to the sample tested and does not apply to the bulk.

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EUT		AX1	800 Dua	al Band US	ВВ	Mo	del	WD-AZ	X1800	
			Ada	pter						
Mode	Mode 802.11n (HT20)				Test V	oltage	DC5V			
Temperat	Temperature 24 deg. C,			eg. C,		Hum	idity	56% RH		
Channel	Frequency		uency CON2 Power C		CON	3 Power	Total Max. Power	Power Limit	Pass/ Fail	
Chamer	(MH	z)	dBm	mW	dBm	mW	Output (dBm)	(dBm)	1 433/ 1 411	
1	2412		5.13	3.26	5.07	3.21	8.11	30	Pass	
6	2437	7 4.94 3.12		4.86	3.06	7.91	30	Pass		
11	2462	2 4.21 2.64		2.64	4.16	2.61	7.20	30	Pass	

Note: 1. At finial test to get the worst-case emission at mcs0 of 11n HT20 for CH01, CH06 and CH11

2. The result basic equation calculation as follow:

Power Output = Power Reading + Cable loss + Attenuator

3. The worse case was recorded

EUT		AX1	800 Dua	al Band US	SB	Mo	del	WD-AZ	X1800	
			Ada	pter						
Mode	Mode 802.11n (HT40)				Test V	oltage	DC5V			
Temperature			24 de	eg. C,		Hum	idity	56% RH		
Channel	Frequency		ency CON2 Power CO		CON:	3 Power	Total Max. Power	Power Limit	Pass/ Fail	
Chamier	(MH	z)	dBm	mW	dBm	mW	Output (dBm)	(dBm)	1 455/ 1 411	
3	2422	2 5.25 3.35		5.19	3.30	8.23	30	Pass		
6	2437		5.18 3.30 5.		5.13	3.26	8.17	30	Pass	
9	2452	2 4.58 2.87 4		4.52	2.83	7.56	30	Pass		

Note: 1. At finial test to get the worst-case emission at msc0 of 11n HT40 for CH03, CH06 and CH09

- 2. The result basic equation calculation as follow: Power Output = Power Reading + Cable loss + Attenuator
- 3. The worse case was recorded

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EUT		AX1		ıl Band US	В	Mo	del	WD-A	K1800	
			Ada	pter						
Mode	Mode 802.11ax HEW20				Test V	oltage	DC5V			
Temperature			24 de	eg. C,		Hum	idity	56% RH		
Channel	Frequency		CON2 Power CO			3 Power	Total Max. Power	Power Limit	Pass/ Fail	
Chamier	(MH	z)	dBm	mW	dBm	mW	Output (dBm)	(dBm)	T dissi, T dir	
1	2412	5.88		3.87	5.82	3.82	8.86	30	Pass	
6	2437	7 5.75 3.76		5.69	3.71	8.73	30	Pass		
11	2462 4.7		4.74	2.98	4.67	2.93	7.72	30	Pass	

Note: 1. At finial test to get the worst-case emission at mcs0 of 11n HT20 for CH01, CH06 and CH11

2. The result basic equation calculation as follow:

Power Output = Power Reading + Cable loss + Attenuator

3. The worse case was recorded

EUT		AX1	800 Dua	al Band US	SB	Mo	del	WD-AZ	X1800	
			Ada	pter						
Mode	Mode 802.11ax HEW40				Test V	oltage	DC5V			
Temperat	ure		24 de	eg. C,		Hum	idity	56% RH		
Channel	Frequency		uency CON2 Power C		CON	3 Power	Total Max. Power	Power Limit	Pass/ Fail	
	(MH	z)	dBm	mW	dBm	mW	Output (dBm)	(dBm)	1 455/ 1 411	
3	2422	,	5.65	3.67	5.58	3.61	8.63	30	Pass	
6	2437	5.21 3.		3.32	5.16	3.28	8.20	30	Pass	
9	2452	52 4.97		3.14	4.91	3.10	7.95	30	Pass	

Note: 1. At finial test to get the worst-case emission at mcs0 of 11n HT20 for CH01, CH06 and CH11

2. The result basic equation calculation as follow:

Power Output = Power Reading + Cable loss + Attenuator

3. The worse case was recorded

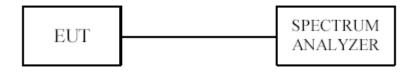
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9. Power Spectral Density Measurement

9.1 Test Setup



9.2 Limits of Power Spectral Density Measurement

The Maximum Power Spectral Density Measurement is 8dBm/3kHz.

9.3 Test Procedure

- 1. Use this procedure when the maximum peak conducted output power in the fundamental emission is used to demonstrate compliance.
- 2. Set the RBW = 10 kHz.
- 3. Set the VBW \geq 30 kHz.
- 4. Set the span to 1.5 times the DTS channel bandwidth.
- 5. Detector = peak.
- 6. Sweep time = auto couple.
- 7. Trace mode = max hold.
- 8. Allow trace to fully stabilize.
- 9. Use the peak marker function to determine the maximum amplitude level.
- 10. If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.
- 11. The resulting peak PSD level must be $\leq 8 \text{ dBm/3kHz}$.

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9.4Test Result

EUT		AX1	800 Dual Band US	В	N	Model		WD-AX1800		
			Adapter							
Mode			802.11b 11Mbps		Test	Voltage		DC5V		
Temperat	ture	24 deg. C,			Hu	ımidity	56% RH			
Channel	Freq	quency CON2 Power 1			actor	Total Pow	er Spectral	Limit	Pass/ Fail	
	(M	IHz)	Spectral Density			Density (d	Bm/10kHz)	(dBm/3kHz)		
1	24	412	-16.65		3.01	-13.64		8	Pass	
6	24	-16.84			3.01	-13	3.83	8	Pass	
1	24	462 -17.12			3.01 -14		1.11	8	Pass	

Note: 1. Total Power Spectral Density = Ant1 Power Spectral Density + Factor

2. Factor=10log2=3.01

3. CON2 and CON3 were tested and CON2 was the worst case

EUT		AX1	800 Dual Band US	В	N	Model		WD-AX1800	
			Adapter						
Mode			802.11b 1Mbps		Test	Voltage		DC5V	
Temperat	ure	24 deg. C,			Hu	ımidity	56% RH		
Channel	Freq	uency CON2 Power I			actor	Total Pow	er Spectral	Limit	Pass/ Fail
	(M	(Hz)	Spectral Density			Density (d	Bm/10kHz)	(dBm/3kHz)	
1	24	412	-13.45		3.01	-10.44		8	Pass
6	24	-13.63			3.01	-10	0.62	8	Pass
1	24	462 -13.92			3.01 -10).91	8	Pass

Note: 1. Total Power Spectral Density = Ant1 Power Spectral Density + Factor

2. Factor=10log2=3.01

3. CON2 and CON3 were tested and CON2 was the worst case

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EUT		AX1	800 Dual Band US	В	N	Model		WD-AX1800		
			Adapter							
Mode	;		802.11g 6Mbps		Test	Voltage		DC5V		
Temperat	ture		24 deg. C,		Hu	ımidity	56% RH			
Channel	Freq	quency CON2 Power			actor	Total Pow	er Spectral	Limit	Pass/ Fail	
	(M	IHz)	Spectral Density			Density (d	Bm/10kHz)	(dBm/3kHz)		
1	24	412	-13.69		3.01	-10.68		8	Pass	
6	24	2437 -13.86			3.01	-10).85	8	Pass	
1	24	2462 -14.45			3.01	-11.44		8	Pass	

Note: 1. Total Power Spectral Density = Ant1 Power Spectral Density + Factor

2. Factor=10log2=3.01

3. CON2 and CON3 were tested and CON2 was the worst case

EUT		AX1800 Dual Band USB			Model		WD-AX1800			
	Adapter									
Mode		802.11n HT20 mcs0			Test Voltage		DC5V			
Temperature			24 deg. C,		Humidity			56% RH		
Channel	Freq	quency CON2 Power		F	Factor Total Power		er Spectral	Limit	Pass/ Fail	
	(M	MHz) Spectral Density				Density (dBm/10kHz)		(dBm/3kHz)		
1	24	412	-14.15		3.01	-11	1.14	8	Pass	
6	24	137	-14.34		3.01	-11.33		8	Pass	
1	24	162	-14.99		3.01	-11	1.98	8	Pass	

Note: 1. Total Power Spectral Density = Ant1 Power Spectral Density + Factor

2. Factor=10log2=3.01

3. CON2 and CON3 were tested and CON2 was the worst case

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EUT		AX1800 Dual Band USB			Model		WD-AX1800		
	Adapter								
Mode		802.11n HT40 mcs0			Test Voltage		DC5V		
Temperature		24 deg. C,			Humidity		56% RH		
Channel	Freq	quency CON2 Power		Factor		Total Power Spectral		Limit	Pass/ Fail
	(M	MHz) Spectral Density				Density (dBm/10kHz)		(dBm/3kHz)	
3	24	122	-17.45		3.01	-14	1.44	8	Pass
6	24	437	-17.51		3.01	-14.50		8	Pass
9	24	452	-18.03		3.01	-15.02		8	Pass

Note: 1. Total Power Spectral Density = Ant1 Power Spectral Density + Factor

2. Factor=10log2=3.01

3. CON2 and CON3 were tested and CON2 was the worst case

EUT		AX1800 Dual Band USB			Model		WD-AX1800		
	Adapter								
Mode		802.11ax HEW20			Test Voltage		DC5V		
Temperat	Temperature		24 deg. C,		Humidity		56% RH		
Channel	Freq	quency CON2 Power		F	Factor Total Pow		er Spectral	Limit	Pass/ Fail
	(M	(Hz)	Spectral Density			Density (d	Bm/10kHz)	(dBm/3kHz)	
1	24	412	-14.74		3.01	-11.73		8	Pass
6	24	137	-15.50		3.01 -1		2.49	8	Pass
11	24	162	-15.54		3.01 -12		2.53	8	Pass

Note: 1. Total Power Spectral Density = Ant1 Power Spectral Density + Factor

2. Factor=10log2=3.01

3. CON2 and CON3 were tested and CON2 was the worst case

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EUT		AX1800 Dual Band USB			Model		WD-AX1800		
Adapter									
Mode		802.11ax HEW20			Test	Voltage	DC5V		
Temperature		24 deg. C,			Humidity		56% RH		
Channel	Freq	uency CON2 Power		F	actor	Total Power Spectral		Limit	Pass/ Fail
	(M	MHz) Spectral Density			Density (d	Bm/10kHz)	(dBm/3kHz)		
3	2422		-18.32	3.01		-15.31		8	Pass
6	24	2437 -18.93			3.01	-15.92		8	Pass
9	24	2452 -19.16			3.01 -16		5.15	8	Pass

Note: 1. Total Power Spectral Density = Ant1 Power Spectral Density + Factor

^{2.} Factor=10log2=3.01

^{3.} CON2 and CON3 were tested and CON2 was the worst case

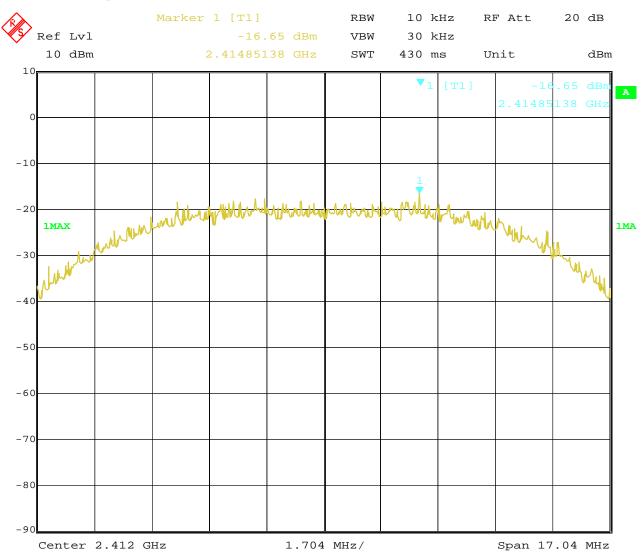
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9.5 Photo of Power Spectral Density Measurement

1.802.11b at 11Mbps of CH01



9.DEC.2021 17:10:07 Date:

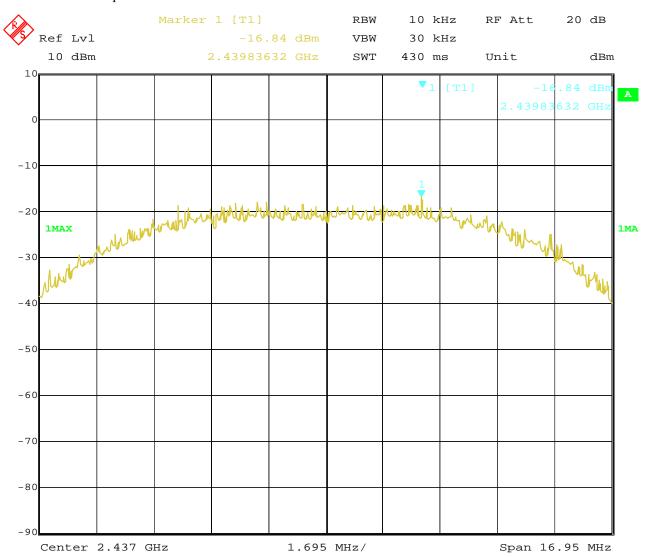
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2. 802.11b at 11Mbps at CH06



Date: 9.DEC.2021 17:07:48

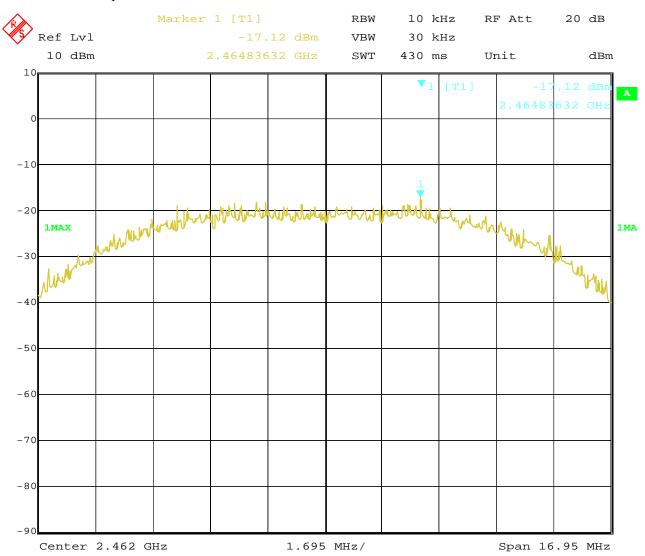
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3. 802.11b at 11Mbps of CH11



Date: 9.DEC.2021 17:02:56

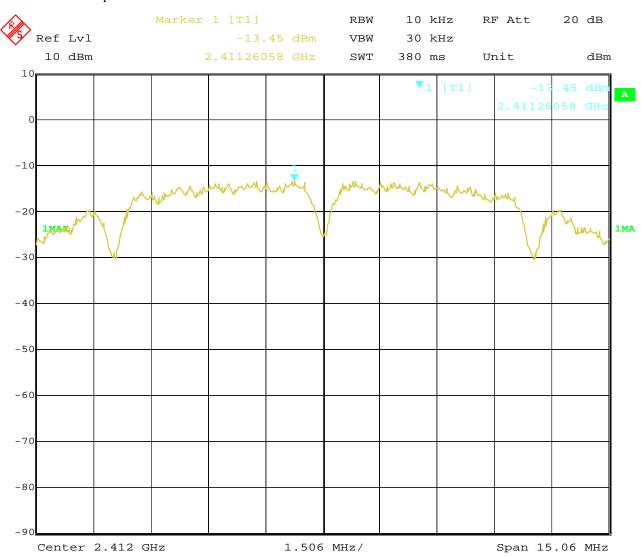
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4. 802.11b at 1Mbps of CH1



Date: 9.DEC.2021 16:35:09

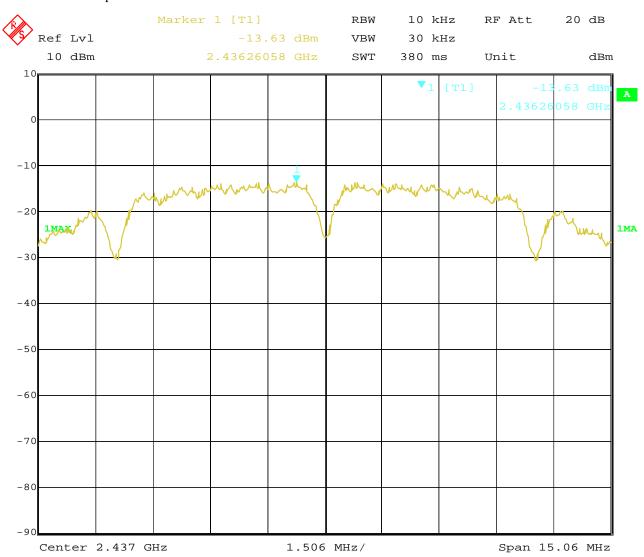
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5. 802.11b at 1Mbps of CH6



Date: 9.DEC.2021 16:28:30

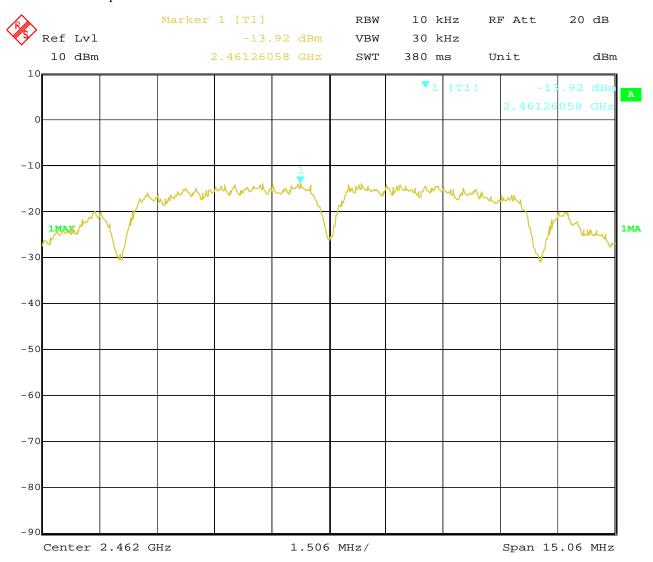
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6. 802.11b at 1Mbps of CH11



Date: 9.DEC.2021 16:25:42

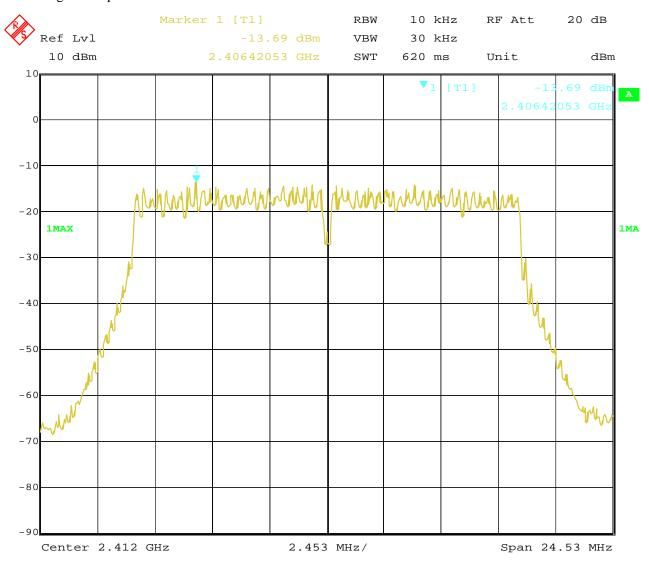
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7. 802.11g at 6Mbps of CH1



Date: 9.DEC.2021 17:27:37

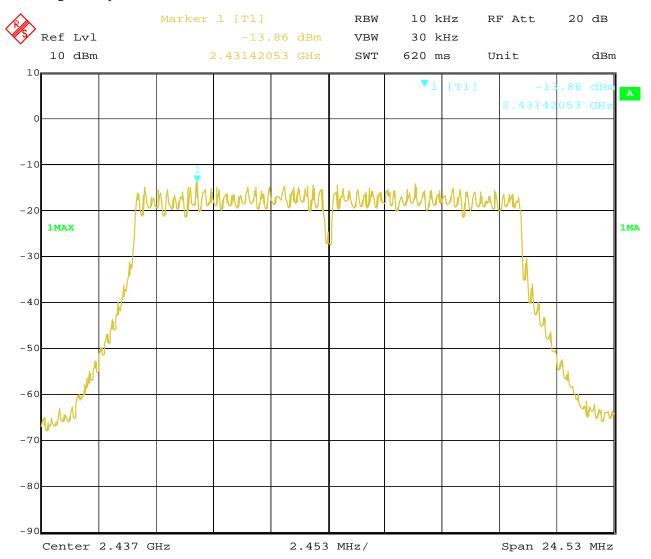
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8. 802.11g at 6Mbps of CH6



Date: 9.DEC.2021 17:32:55

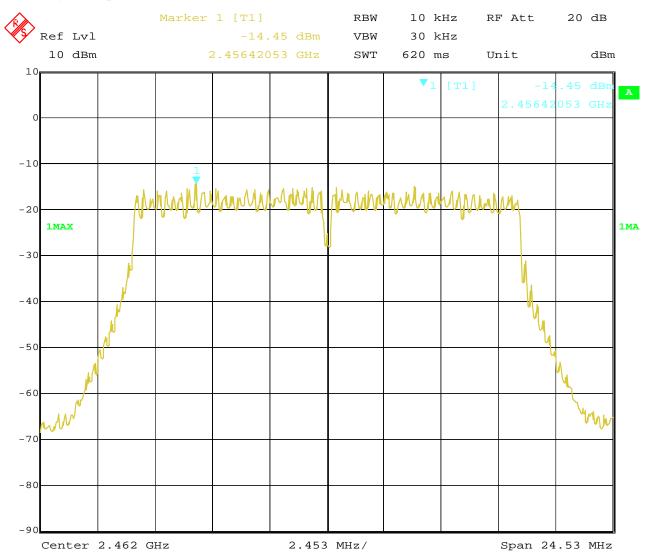
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9. 802.11g at 6Mbps of CH11



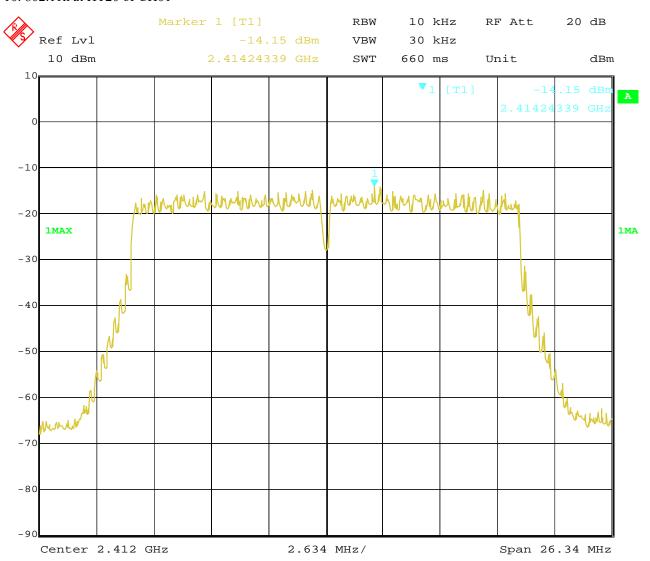
Date: 9.DEC.2021 17:36:08

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10. 802.11n at HT20 of CH01

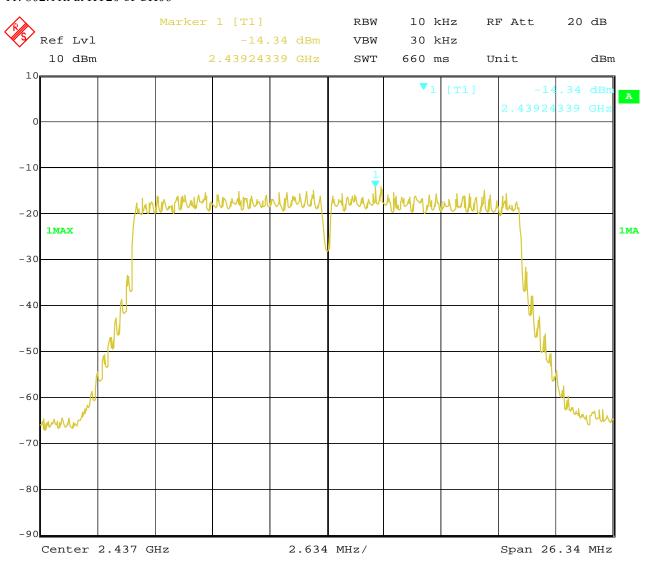


Date: 9.DEC.2021 17:48:51 Report No.: TW2112036-01E Page 71 of 116

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11. 802.11n at HT20 of CH06

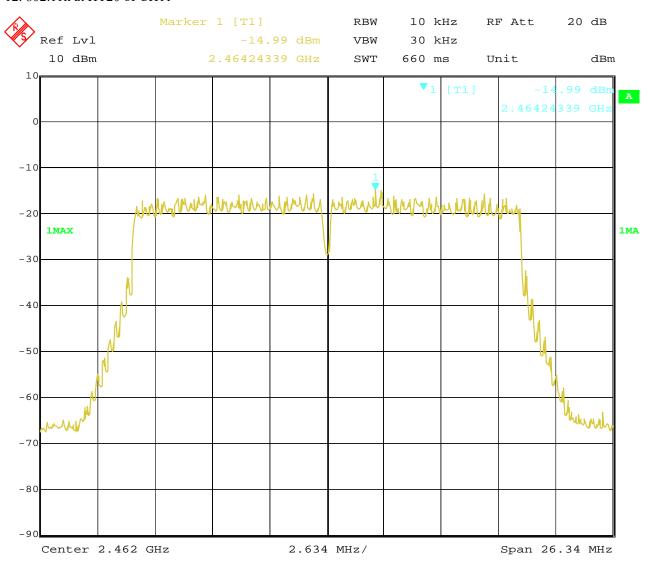


Date: 9.DEC.2021 17:45:17 Report No.: TW2112036-01E Page 72 of 116

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12. 802.11n at HT20 of CH11

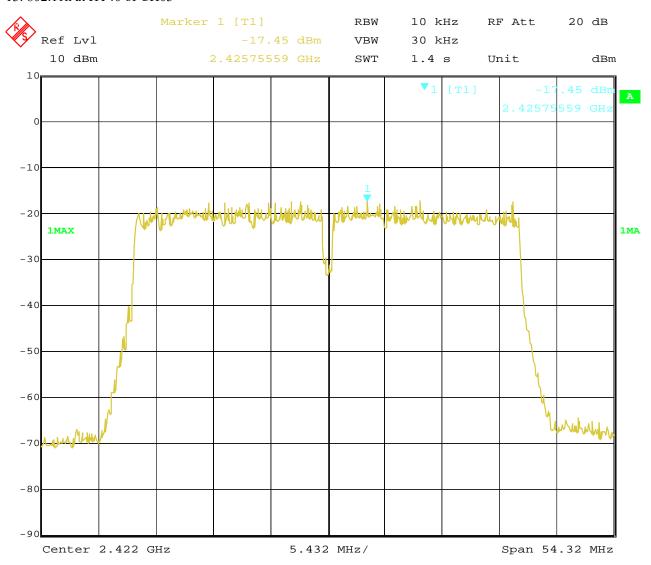


Date: 9.DEC.2021 17:41:10 Report No.: TW2112036-01E Page 73 of 116

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13. 802.11n at HT40 of CH03



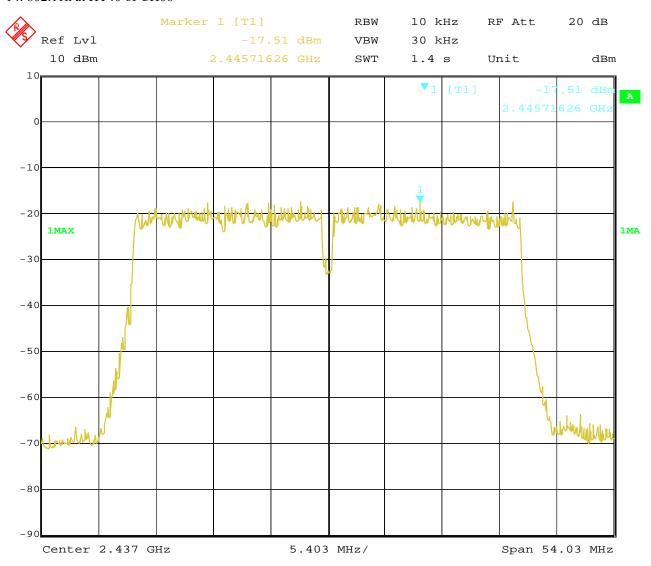
Date: 9.DEC.2021 17:52:06 Page 74 of 116

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14. 802.11n at HT40 of CH06

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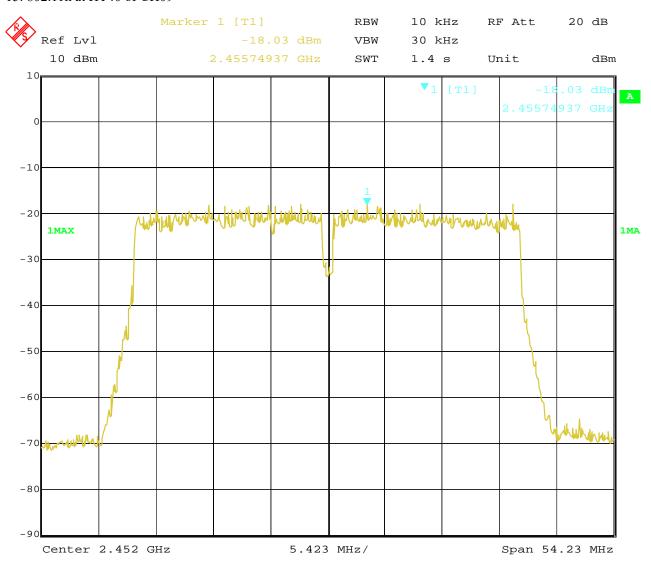


Date: 9.DEC.2021 17:54:01 Report No.: TW2112036-01E Page 75 of 116

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15. 802.11n at HT40 of CH09

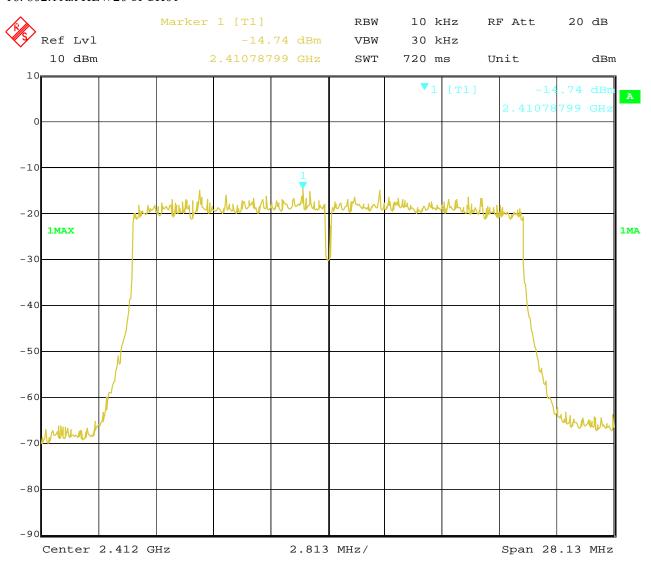


Date: 9.DEC.2021 17:56:14 Report No.: TW2112036-01E Page 76 of 116

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16. 802.11ax HEW20 of CH01

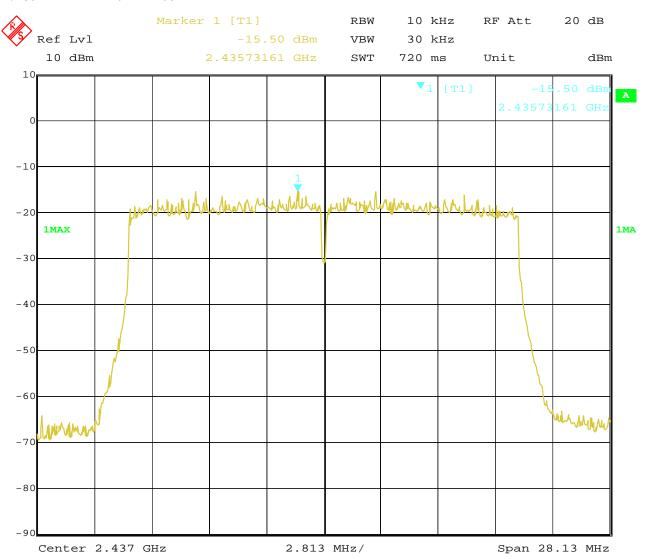


Date: 24.DEC.2021 16:51:15 Report No.: TW2112036-01E Page 77 of 116

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17. 802.11ax HEW20 of CH06



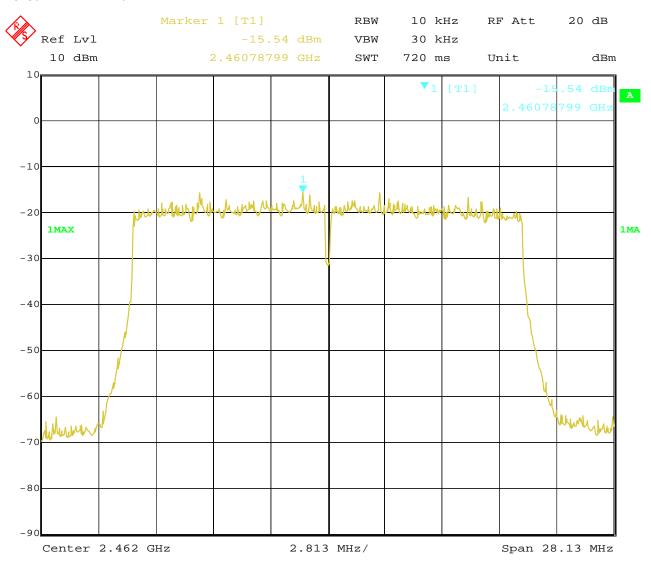
Date: 24.DEC.2021 16:51:51 Page 78 of 116

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18. 802.11ax HEW20 of CH11

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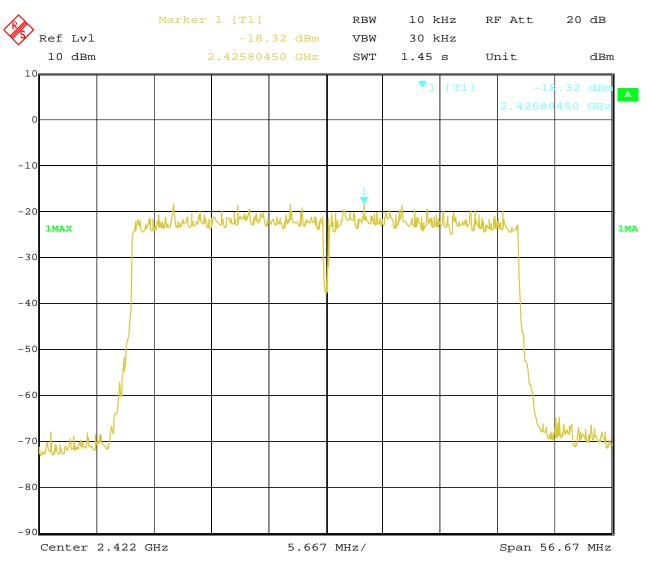


Date: 24.DEC.2021 16:52:36 Report No.: TW2112036-01E Page 79 of 116

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19. 802.11ax HEW40 of CH03



Date: 24.DEC.2021 16:53:32

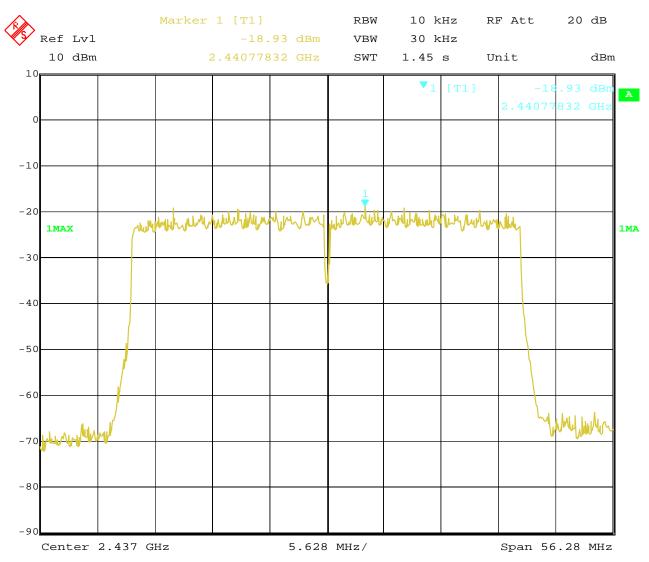
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20. 802.11ax HEW40 of CH06



28.DEC.2021 15:17:58 Date:

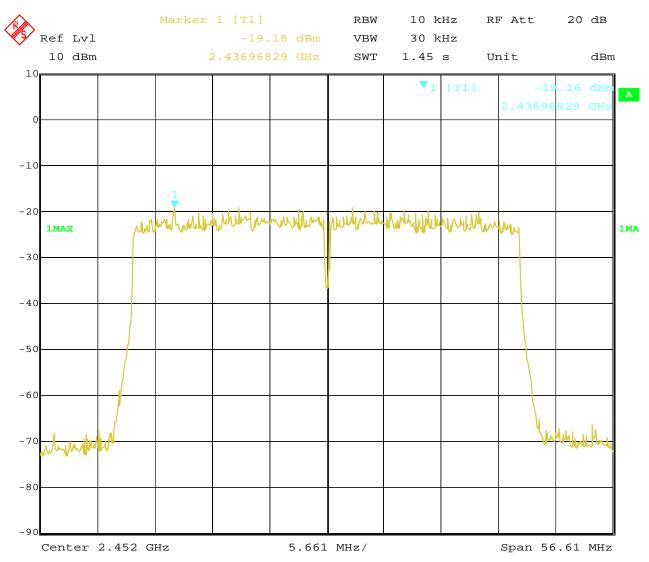
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21. 802.11ax HEW40 of CH09



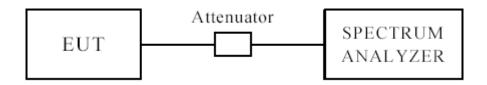
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10 Out of Band Measurement

10.1 Test Setup for band edge



The restricted band requirement based on radiated emission test; please see the clause 6 for the test setup

10.2 Limits of Out of Band Emissions Measurement

- 1. Below –20dB of the highest emission level of operating band (in 100kHz Resolution Bandwidth).
- 2. Fall in the restricted bands listed in section 15.205. The maximum permitted average field strength is listed in section 15.209.

10.3 Test Procedure

For signals in the restricted bands above and below the 2.4-2.483GHz allocated band a measurement was made of radiated emission test. (Peak values with RBW=VBW=1MHz and PK detector. AV value with RBW=1MHz, VBW=10Hz and PK detector)

For bandage test, the spectrum set as follows: RBW=100, VBW=300 kHz. A conducted measurement used

10.4 Test Result

Please see next pages

Note: 1. for band-edge measurement, the frequency from 30MHz-25GHz was tested. And It met the FCC rule.

2. Two antennas were tested and only the worst cased was recorded in the test report. CON2 was the worst case.

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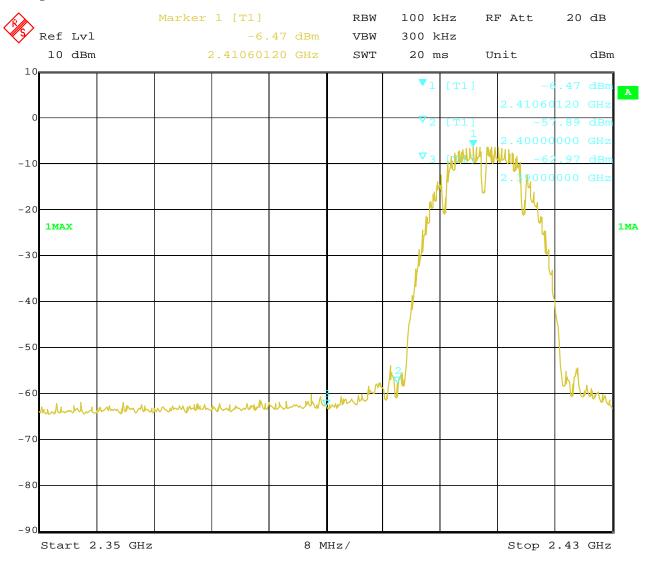
For 802.11b mode

CH01 at 1Mbps

10.4 Band-edge Measurement

EUT	AX1800 Dual Band USB Adapter	Model	WD-AX1800
Mode	Keeping Transmitting	Test Voltage	DC5V
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass	Detector	PK

Test Figure:



24.DEC.2021 16:01:00 Date:

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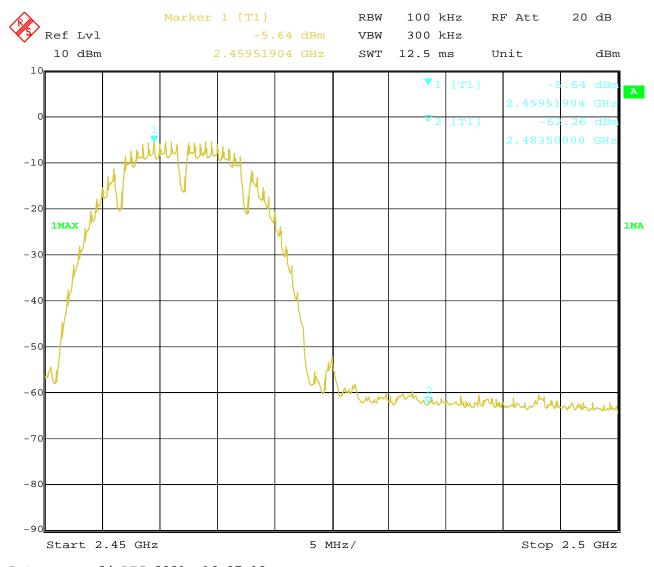


CH11 at 1Mbps

10.4 Band-edge Measurement

EUT	AX1800 Dual Band USB Adapter	Model	WD-AX1800
Mode	Keeping Transmitting	Test Voltage	DC5V
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass	Detector	PK

Test Figure:



24.DEC.2021 Date: 16:07:19

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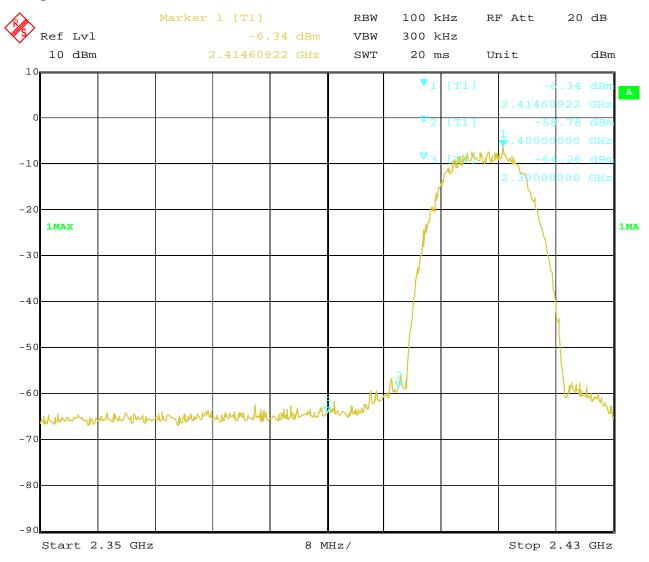
For 802.11b mode

CH01 at 11Mbps

10.4 Band-edge Measurement

EUT	AX1800 Dual Band USB Adapter	Model	WD-AX1800
Mode	Keeping Transmitting	Test Voltage	DC5V
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass	Detector	PK

Test Figure:



24.DEC.2021 16:01:50 Date:

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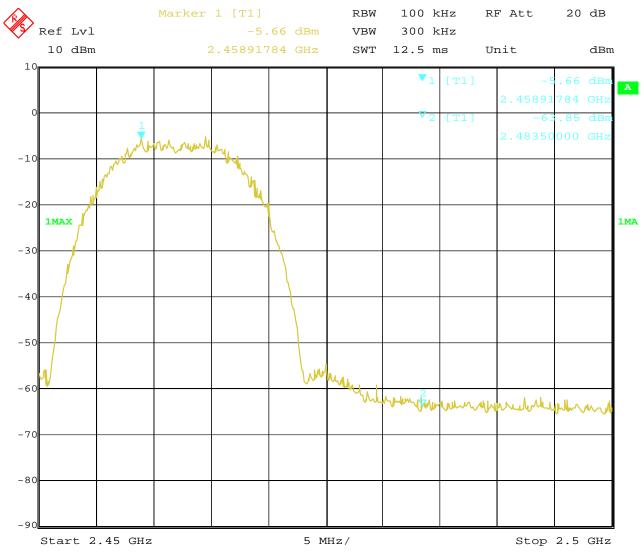


CH11 at 11Mbps

10.4 Band-edge Measurement

EUT	AX1800 Dual Band USB Adapter	Model	WD-AX1800
Mode	Keeping Transmitting	Test Voltage	DC5V
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass	Detector	PK

Test Figure:



24.DEC.2021 Date: 16:08:02

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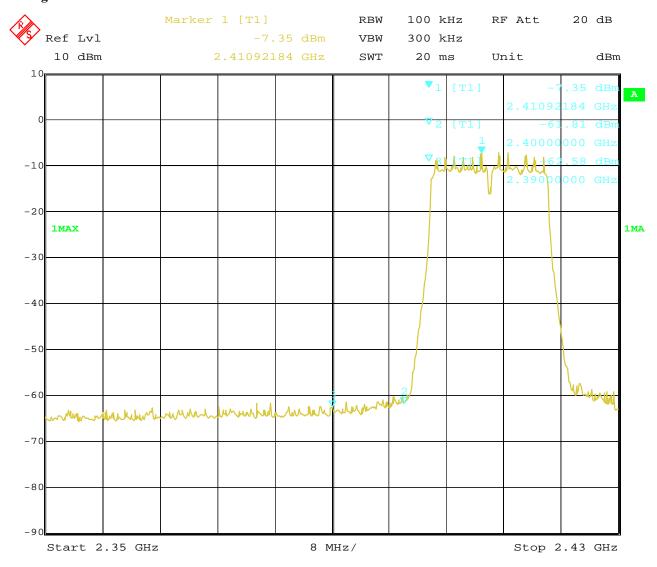
For 802.11g mode

CH01 at 6Mbps

10.4 Band-edge Measurement

EUT	AX1800 Dual Band USB Adapter	Model	WD-AX1800
Mode	Keeping Transmitting	Test Voltage	DC5V
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass	Detector	PK

Test Figure:



24.DEC.2021 16:02:31 Date:

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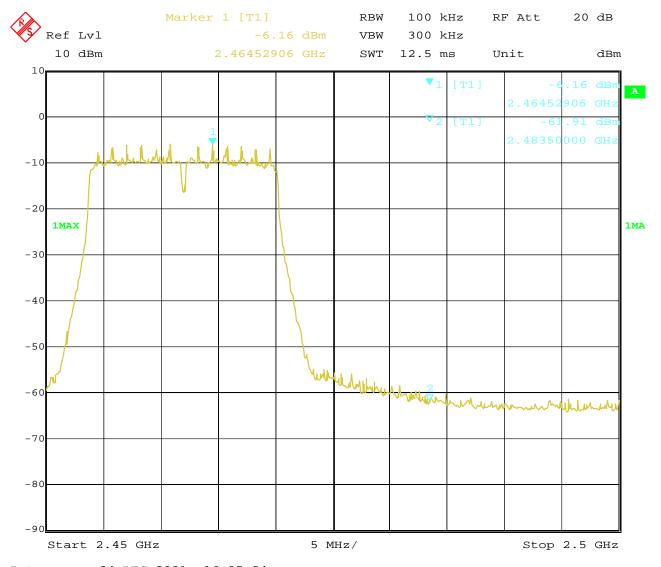


CH11 at 6Mbps

Band-edge Measurement 10.4

EUT	AX1800 Dual Band USB Adapter	Model	WD-AX1800
Mode	Keeping Transmitting	Test Voltage	DC5V
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass	Detector	PK

Test Figure:



24.DEC.2021 Date: 16:05:24

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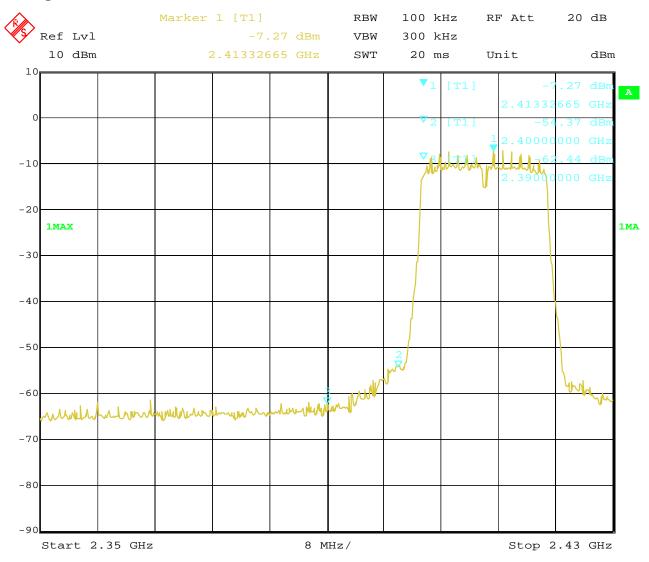
For 802.11n (HT20) mode

CH01 at mcs0

10.4 Band-edge Measurement

EUT	AX1800 Dual Band USB Adapter	Model	WD-AX1800
Mode	Keeping Transmitting	Test Voltage	DC5V
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass	Detector	PK

Test Figure:



24.DEC.2021 16:03:04 Date:

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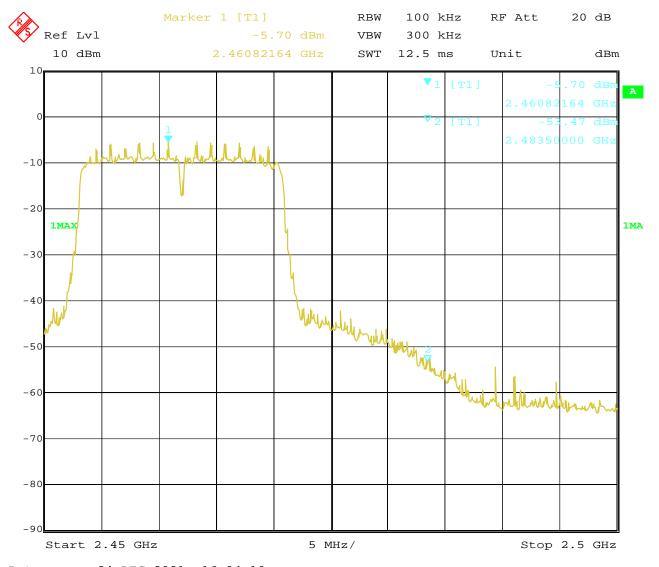


CH11 at mcs0

10.4 Band-edge Measurement

EUT	AX1800 Dual Band USB Adapter	Model	WD-AX1800
Mode	Keeping Transmitting	Test Voltage	DC5V
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass	Detector	PK

Test Figure:



24.DEC.2021 Date: 16:04:19

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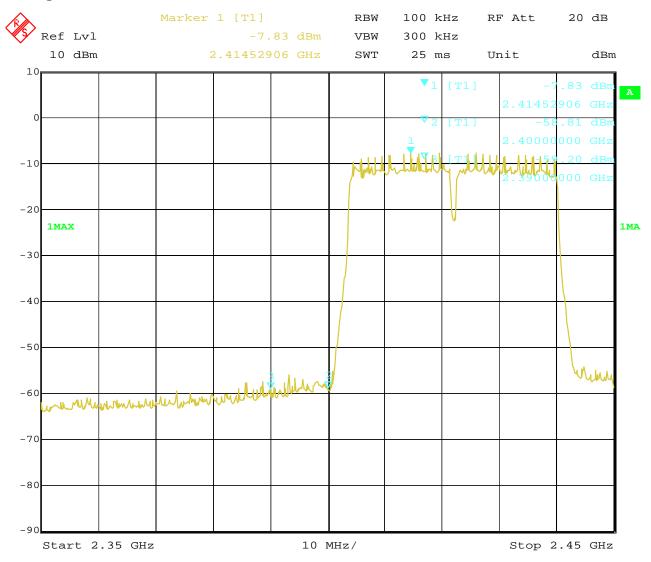
For 802.11n (HT40) mode

CH03 at msc0

Band-edge and Restricted band Measurement 10.4

EUT	AX1800 Dual Band USB Adapter	Model	WD-AX1800
Mode	Keeping Transmitting	Test Voltage	DC5V
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass	Detector	PK

Test Figure:



24.DEC.2021 16:12:56 Date:

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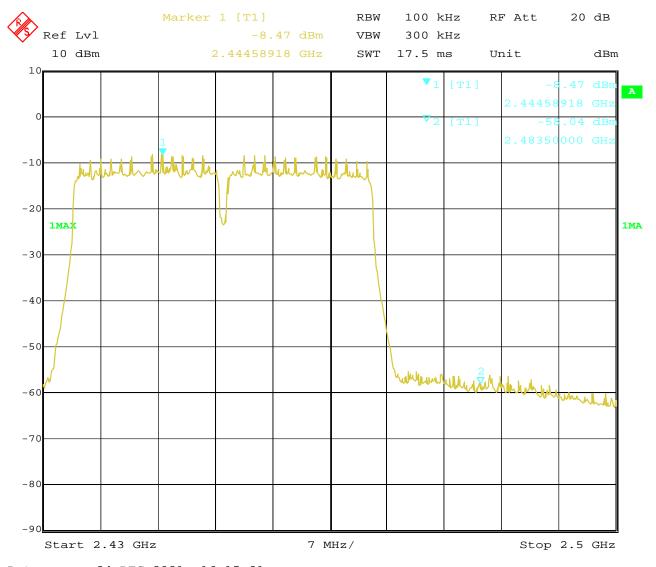


CH09 at msc0

10.4 Band-edge and Restricted band Measurement

EUT	AX1800 Dual Band USB Adapter	Model	WD-AX1800
Mode	Keeping Transmitting	Test Voltage	DC5V
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass	Detector	PK

Test Figure:



24.DEC.2021 Date: 16:15:21

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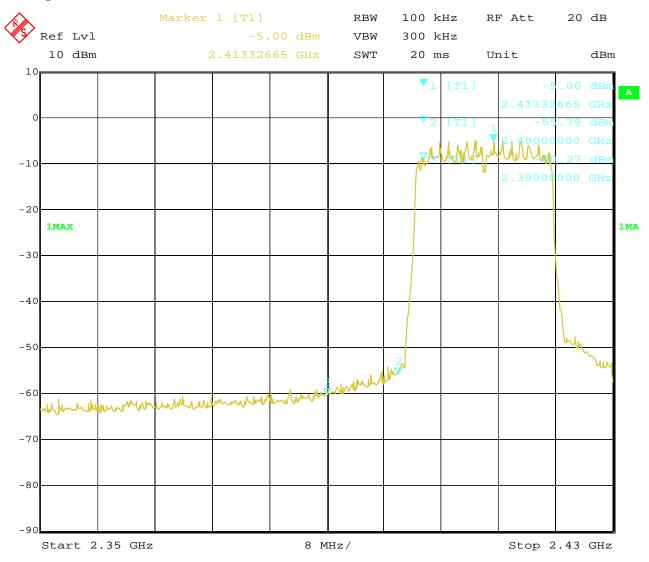
For 802.11ax (HEW20) mode

CH01 at mcs0

10.4 Band-edge Measurement

EUT	AX1800 Dual Band USB Adapter	Model	WD-AX1800
Mode	Keeping Transmitting	Test Voltage	DC5V
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass	Detector	PK

Test Figure:



24.DEC.2021 16:11:02 Date:

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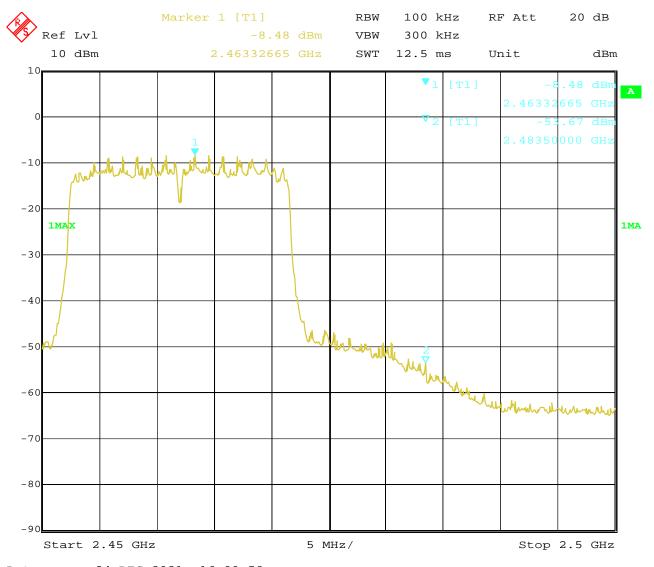


CH11 at mcs0

10.4 Band-edge Measurement

EUT	AX1800 Dual Band USB Adapter	Model	WD-AX1800
Mode	Keeping Transmitting	Test Voltage	DC5V
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass	Detector	PK

Test Figure:



24.DEC.2021 Date: 16:09:58

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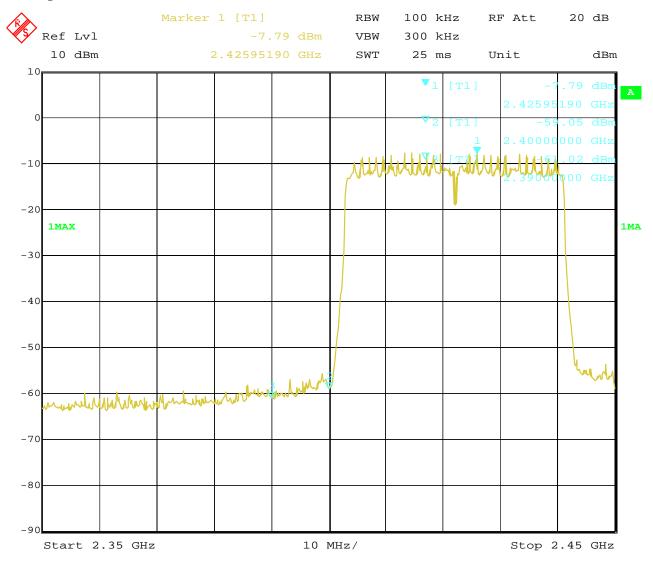
For 802.11ax (HEW40) mode

CH01 at mcs0

10.4 Band-edge Measurement

EUT	AX1800 Dual Band USB Adapter	Model	WD-AX1800
Mode	Keeping Transmitting	Test Voltage	DC5V
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass	Detector	PK

Test Figure:



24.DEC.2021 16:21:18 Date:

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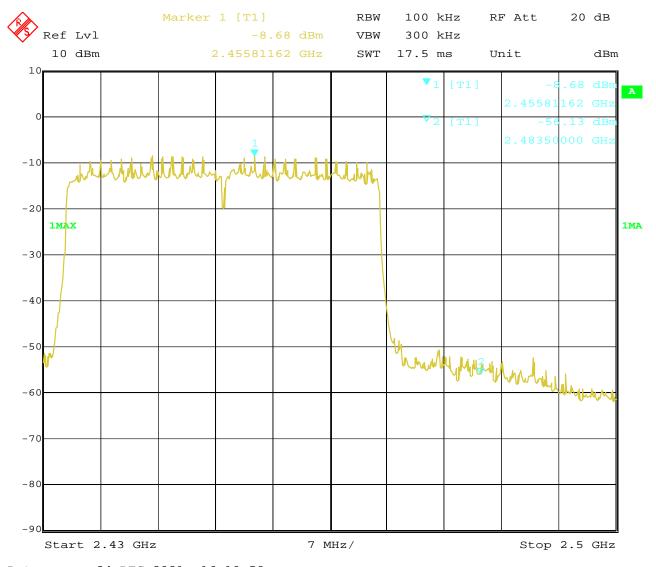


CH11 at mcs0

10.4 Band-edge Measurement

EUT	AX1800 Dual Band USB Adapter	Model	WD-AX1800
Mode	Keeping Transmitting	Test Voltage	DC5V
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass	Detector	PK

Test Figure:



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10.5 Restricted band Measurement

EUT	AX1800 Dual	Band USB Adapter	Model	WD-AX1800					
Mode	Keeping	g Transmitting	Test Voltage	DC5V					
Temperature	24	deg. C,	Humidity	56% RH					
Test Result:		Pass	Detector	PK					
	802.11b mode, Low Channel, Horizontal								
2390	PK (dBμV/m)	42.27	T :!4	74(dBμV/m)					
	AV (dBμV/m)		Limit	54(dBμV/m)					
	802.11b mode, Vertical								
2390	PK (dBμV/m)	40.75	Limit	74(dBμV/m)					
	AV (dBμV/m)		Limit	54(dBμV/m)					

10.5 Restricted band Measurement

1000 10000110000	10.5 Testificed band Medistrement								
EUT	AX1800 Dual	Band USB Adapter	Model	WD-AX1800					
Mode	Keeping	Transmitting	Test Voltage	DC5V					
Temperature	24	deg. C,	Humidity	56% RH					
Test Result:		Pass	Detector	PK					
802.11b mode, High Channel, Horizontal									
2483.5	PK (dBμV/m)	40.21	T ' '/	$74(dB\mu V/m)$					
	AV ($dB\mu V/m$)		Limit	$54(dB\mu V/m)$					
802.11b mode, High Channel, Vertical									
2483.5	PK (dBμV/m)	39.57	T ' '/	74(dBμV/m)					
	AV ($dB\mu V/m$)		Limit	$54(dB\mu V/m)$					

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10.5 Restricted band Measurement

EUT	AX1800 Dual	Band USB Adapter	Model	WD-AX1800					
Mode	Keeping	Transmitting	Test Voltage	DC5V					
Temperature	24	deg. C,	Humidity	56% RH					
Test Result:		Pass	Detector	PK					
	802.11g mode, Low Channel, Horizontal								
2390	PK (dBμV/m)	45.05	T :!4	$74(dB\mu V/m)$					
	AV (dBμV/m)		Limit	54(dBμV/m)					
	802.11g mode, Vertical								
2390	PK (dBμV/m)	43.16	Limit	74(dBμV/m)					
	AV (dBμV/m)		Limit	54(dBµV/m)					

10.5 Restricted band Measurement

Nest record out a recusarement								
AX1800 Dual	Band USB Adapter	Model	WD-AX1800					
Keeping	Transmitting	Test Voltage	DC5V					
24	deg. C,	Humidity	56% RH					
	Pass	Detector	PK					
802.11g mode, High Channel, Horizontal								
PK (dBμV/m)	43.92	T ' '/	$74(dB\mu V/m)$					
AV (dBμV/m)		Limit	$54(dB\mu V/m)$					
802.11g mode, High Channel, Vertical								
PK (dBμV/m)	41.26	T ' '/	74(dBμV/m)					
AV (dBμV/m)		Limit	$54(dB\mu V/m)$					
	AX1800 Dual Keeping 24 PK (dBμV/m) AV (dBμV/m) PK (dBμV/m)	AX1800 Dual Band USB Adapter Keeping Transmitting 24 deg. C, Pass 802.11g mode, High 0 PK (dB μ V/m) 43.92 AV (dB μ V/m) 802.11g mode, High 0 PK (dB μ V/m) 41.26	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$					

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10.5 Restricted band Measurement

EUT	AX1800 Dual	Band USB Adapter	Model	WD-AX1800
Mode	Keeping	g Transmitting	Test Voltage	DC5V
Temperature	24	deg. C,	Humidity	56% RH
Test Result:		Pass	Detector	PK
	80	2.11n HT20 mode, Lov	w Channel, Horizo	ntal
2390	PK (dBμV/m)	44.68	T :!4	74(dBμV/m)
	AV (dBμV/m)		Limit	54(dBµV/m)
	8	302.11n HT20 mode, Lo	ow Channel, Vertic	cal
2390	PK (dBμV/m)	45.35	Limit	74(dBμV/m)
	AV (dBμV/m)		Limit	54(dBµV/m)

Restricted band Measurement 10.5

EUT	AX1800 Dual	Band USB Adapter	Model	WD-AX1800					
Mode	Keeping	g Transmitting	Test Voltage	DC5V					
Temperature	24	deg. C,	Humidity	56% RH					
Test Result:		Pass	Detector	PK					
802.11n HT20 mode, High Channel, Horizontal									
2483.5	PK (dBµV/m)	43.90	T :!4	$74(dB\mu V/m)$					
	AV (dBμV/m)		Limit	54(dBμV/m)					
	802.11n HT20 mode, High Channel, Vertical								
2483.5	PK (dBµV/m)	40.96	Limit	74(dBμV/m)					
	AV (dBμV/m)		Limit	54(dBμV/m)					

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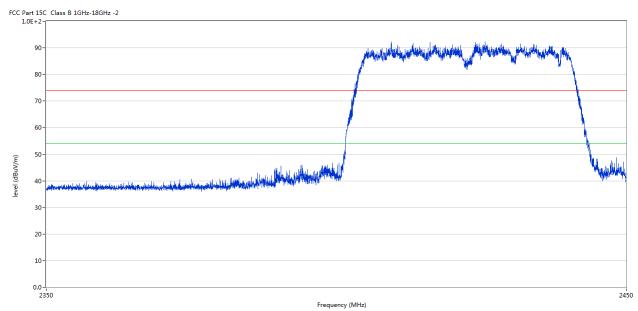
Date: 2021-12-28



10.5 Restricted band Measurement

EUT	AX1800 Dual	Band USB Adapter	Model	WD-AX1800					
Mode	Keeping	g Transmitting	Test Voltage	DC5V					
Temperature	24	deg. C,	Humidity	56% RH					
Test Result:		Pass	Detector	PK					
	802.11n HT40 mode, Low Channel, Horizontal								
2390	PK (dBμV/m)	45.52	T :!4	$74(dB\mu V/m)$					
	AV (dBμV/m)		Limit	54(dBµV/m)					
	802.11n HT40 mode, Low Channel Vertical								
2390	PK (dBμV/m)	48.57	Limit	74(dBμV/m)					
	AV (dBμV/m)		Limit	54(dBµV/m)					

Test Plots



No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	2415.734	92.00	-3.57	74.0	18.00	Peak	268.00	100	Horizontal	N/A
2	2400.712	50.17	-3.57	74.0	-23.83	Peak	264.00	100	Horizontal	Pass
3	2389.965	45.52	-3.53	74.0	-28.48	Peak	87.00	100	Horizontal	Pass

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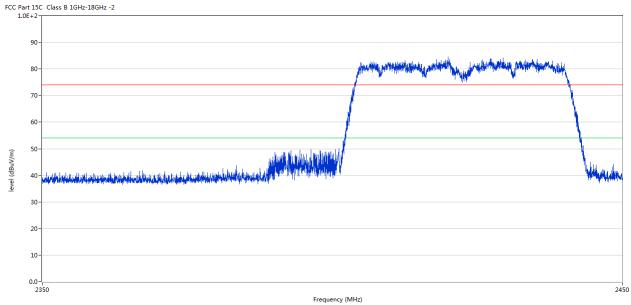
adopt any other remedies which may be appropriate.

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					-					
No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	2419.558	84.62	-3.57	74.0	10.62	Peak	183.00	100	Vertical	N/A
2	2400.662	50.03	-3.57	74.0	-23.97	Peak	274.00	100	Vertical	Pass
3	2389.640	48.57	-3.53	74.0	-25.43	Peak	118.00	100	Vertical	Pass

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10.5 Restricted band Measurement

EUT	AX1800 Dual	Band USB Adapter	Model	WD-AX1800					
Mode	Keeping	g Transmitting	Test Voltage	DC5V					
Temperature	24	l deg. C,	Humidity	56% RH					
Test Result:		Pass	Detector	PK					
802.11n HT40 mode, High Channel, Horizontal									
2483.5	PK (dBµV/m)	44.92	T,	$74(dB\mu V/m)$					
	AV (dBμV/m)		Limit	$54(dB\mu V/m)$					
	802.11n HT40 mode, High Channel, Vertical								
2483.5	PK (dBµV/m)	42.69	T: '/	74(dBµV/m)					
	AV (dBμV/m)		Limit	$54(dB\mu V/m)$					



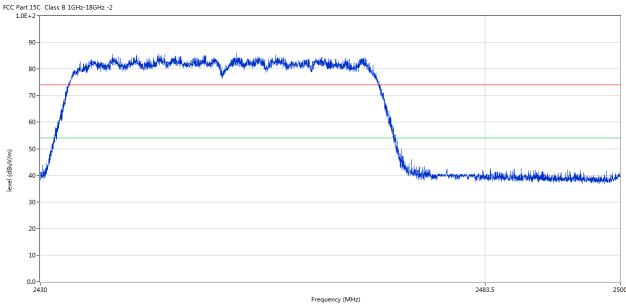
No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	2455.631	92.76	-3.57	74.0	18.76	Peak	274.00	100	Horizontal	N/A
2	2483.374	44.92	-3.57	74.0	-29.08	Peak	264.00	100	Horizontal	Pass

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No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	2453.444	85.97	-3.57	74.0	11.97	Peak	357.00	100	Vertical	N/A
2	2483.449	42.69	-3.57	74.0	-31.31	Peak	360.00	100	Vertical	Pass

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10.5 Restricted band Measurement

EUT	AX1800 Dual	Band USB Adapter	Model	WD-AX1800				
Mode	Keeping	g Transmitting	Test Voltage	DC5V				
Temperature	24	deg. C,	Humidity	56% RH				
Test Result:		Pass	Detector	PK				
802.11ax HEW20 mode, Low Channel, Horizontal								
2390	PK (dBμV/m)	43.32	T :!4	$74(dB\mu V/m)$				
	AV (dBμV/m)		Limit	54(dBµV/m)				
802.11ax HEW20 mode, Low Channel, Vertical								
2390	PK (dBμV/m)	44.79	Limit	74(dBμV/m)				
	AV (dBμV/m)		Limit	54(dBµV/m)				

10.5 Restricted band Measurement

EUT	AX1800 Dual	Band USB Adapter	Model	WD-AX1800				
Mode	Keeping	Transmitting	Test Voltage	DC5V				
Temperature	24	deg. C,	Humidity	56% RH				
Test Result:		Pass	Detector	PK				
802.11ax HEW20 mode, High Channel, Horizontal								
2483.5	PK (dBμV/m) 42.51		I imit	$74(dB\mu V/m)$				
	AV (dBμV/m)		Limit	$54(dB\mu V/m)$				
802.11ax HEW20, High Channel, Vertical								
2483.5	PK (dBμV/m)	40.86	Limit	74(dBμV/m)				
	AV (dBμV/m)		Limit	$54(dB\mu V/m)$				

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10.5 Restricted band Measurement

EUT	AX1800 Dual	Band USB Adapter	Model	WD-AX1800				
Mode	Keeping	Transmitting	Test Voltage	DC5V				
Temperature	24	deg. C,	Humidity	56% RH				
Test Result:		Pass	Detector	PK				
802.11ax HEW40 mode, Low Channel, Horizontal								
2390			T : '/	$74(dB\mu V/m)$				
	AV (dBμV/m)		Limit	54(dBµV/m)				
802.11ax HEW40 mode, Low Channel, Vertical								
2390	PK (dBμV/m)	47.29	Timit	$74(dB\mu V/m)$				
	AV (dBμV/m)		Limit	54(dBμV/m)				

10.5 Restricted band Measurement

EUT	AX1800 Dual	Band USB Adapter	Model	WD-AX1800				
Mode	Keeping	g Transmitting	Test Voltage	DC5V				
Temperature	24	deg. C,	Humidity	56% RH				
Test Result:		Pass	Detector	PK				
802.11ax HEW40 mode, High Channel, Horizontal								
2483.5	PK (dBμV/m) 44.53		I imit	$74(dB\mu V/m)$				
	AV (dBμV/m)		Limit	$54(dB\mu V/m)$				
802.11ax HEW40, High Channel, Vertical								
2483.5	PK (dBµV/m)	42.16	Limit	74(dBμV/m)				
	AV (dBμV/m)		Limit	54(dBμV/m)				

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11.0 Antenna Requirement

11.1 Standard Applicable

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

And according to FCC 47 CFR Section 15.247 (b), if transmitter antennas of directional gain greater than 6 dBi are used, the power shall be reduced by the mount in dB that the directional gain of the antenna exceeds 6 dBi.

11.2 Antenna Connected construction

Two integral antennas used. The gain of the antennas is 2.5dBi maximum for each one. (Get from the antenna specification provided the applicant)

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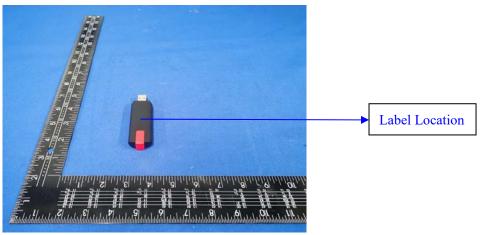


12.0 FCC ID Label

FCC ID: ZNPWD-AX1800

The label must not be a stick-on paper label. The label on these products must be permanently affixed to the product and readily visible at the time of purchase and must last the expected lifetime of the equipment not be readily detachable.

Mark Location:



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13.0 **Photo of testing**

Conducted Emission Test Setup:



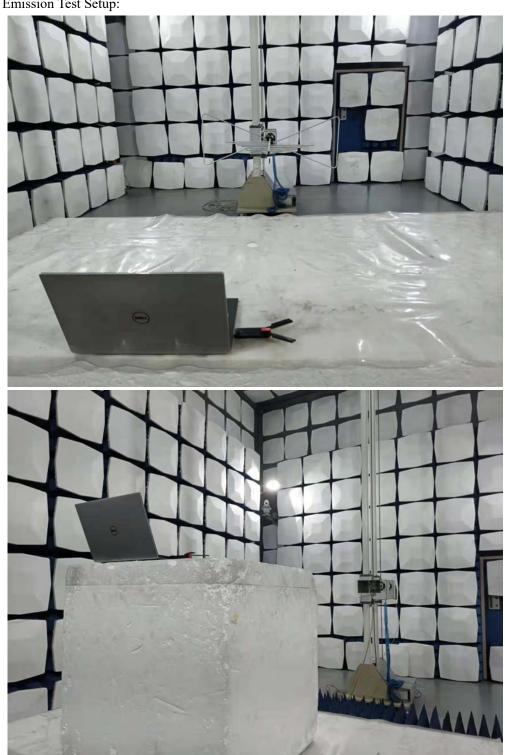
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Radiated Emission Test Setup:



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Photographs - EUT

Outside View





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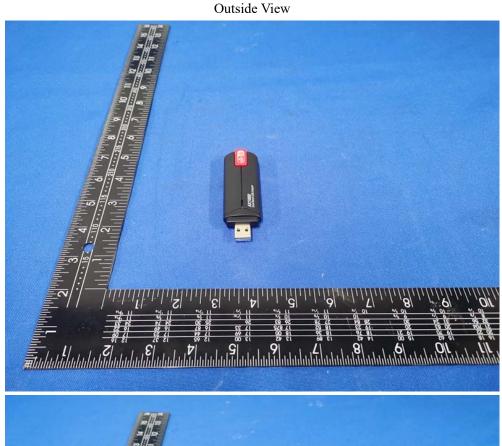
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Outside View



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Outside View



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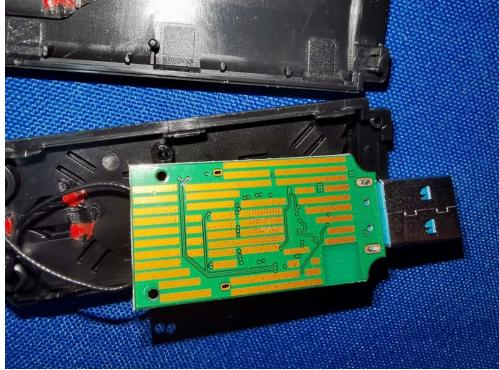
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Inside view





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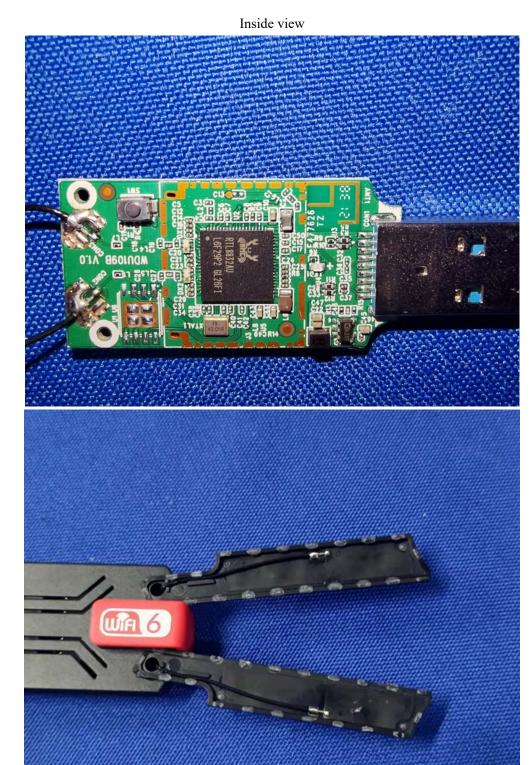
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Inside view



-End of the report-