



FCC Radio Test Report

FCC ID: GSSVS20541

Report No. : BTL-FCC-2-2501T005

Equipment: WPD-900

Model Name : VS20541, WPD-900-RX

Brand Name : ViewSonic

Applicant: ViewSonic Corporation

Address : 10 Pointe Dr. Suite 200. Brea, CA 92821 United States

Radio Function : WLAN 2.4 GHz

FCC Rule Part(s) : FCC CFR Title 47, Part 15, Subpart C (15.247)

Measurement Procedure(s)

: ANSI C63.10-2013

Date of Receipt : 2025/1/6

Date of Test : 2025/1/6~2025/2/25

Issued Date : 2025/3/19

The above equipment has been tested and found in compliance with the requirement of the above standards by BTL Inc.

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Declaration

BTL represents to the client that testing is done in accordance with standard procedures as applicable and that test instruments used has been calibrated with standards traceable to international standard(s) and/or national standard(s).

BTL's reports apply only to the specific samples tested under conditions. It is manufacture's responsibility to ensure that additional production units of this model are manufactured with the identical electrical and mechanical components. **BTL** assumes no responsibility for the data provided by the Customer, any statements, inferences or generalizations drawn by the customer or others from the reports issued by **BTL**.

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BTL's laboratory quality assurance procedures are in compliance with the **ISO/IEC 17025** requirements, and accredited by the conformity assessment authorities listed in this test report.

BTL is not responsible for the sampling stage, so the results only apply to the sample as received.

The information, data and test plan are provided by manufacturer which may affect the validity of results, so it is manufacturer's responsibility to ensure that the apparatus meets the essential requirements of applied standards and in all the possible configurations as representative of its intended use.

Limitation

For the use of the authority's logo is limited unless the Test Standard(s)/Scope(s)/Item(s) mentioned in this test report is (are) included in the conformity assessment authorities acceptance respective.

Please note that the measurement uncertainty is provided for informational purpose only and are not use in determining the Pass/Fail results.

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REVISION HISTORY

Report No.	Version	Description	Issued Date	Note
BTL-FCC-2-2501T005	R00	Original Report.	2025/3/19	Valid

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SUMMARY OF TEST RESULTS

Test procedures according to the technical standards.

Standard(s) Section	Description	Result	Remark
15.207	AC Power Line Conducted Emissions	Pass	
15.205 15.209 15.247(d)	Radiated Emissions	Pass	
15.247(a)	Bandwidth	Pass	
15.247(b)	Output Power	Pass	
15.247(e)	Power Spectral Density	Pass	
15.247(d)	Antenna conducted Spurious Emission	Pass	
15.203	Antenna Requirement	Pass	

NOTE:

"N/A" denotes test is not applicable in this Test Report.
 The report format version is TP.1.1.1.

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1.1 TEST FACILITY

The test locations stated below are under the TAF Accreditation Number 0659. The satellite facilities under the test firm used to collect the test data in this report are: No. 91, Ln. 298, Wengong 1st Rd., Guishan Dist., Taoyuan City 333001, Taiwan

1.2 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement $\mathbf{y} \pm \mathbf{U}$, where expanded uncertainty \mathbf{U} is based on a standard uncertainty multiplied by a coverage factor of $\mathbf{k} = \mathbf{2}$, providing a level of confidence of approximately $\mathbf{95}$ %. The measurement instrumentation uncertainty considerations contained in CISPR 16-4-2. The BTL measurement uncertainty is less than the CISPR 16-4-2 \mathbf{U}_{cispr} requirement.

A. AC power line conducted emissions test:

Test Site	Method	Measurement Frequency Range	U (dB)
C01	CISPR	150 kHz ~ 30MHz	3.4

B. Radiated emissions test:

Test Site	Method	Measurement Frequency Range	U (dB)
		0.009 GHz ~ 0.03 GHz	3.2
		30 MHz ~ 1000 MHz	6.0
CB02	CISPR	1 GHz ~ 6 GHz	3.8
		6 GHz ~ 18 GHz	3.8
		18 GHz ~ 40GHz	3.7

C. Conducted test:

Test Item	U, (dB)
Occupied Bandwidth	1.0502
Output power	1.0406
Power Spectral Density	1.0502
Conducted Spurious emissions	1.1484
Conducted Band edges	1.0518

NOTE:

Unless specifically mentioned, the uncertainty of measurement has not been taken into account to declare the compliance or non-compliance to the specification.

1.3 TEST ENVIRONMENT CONDITIONS

Test Item	Environment Condition	Test Voltage	Tested by
AC Power Line Conducted Emissions	20-25 °C, 55-62 %	AC 120V	Rui Huang Nero Hsieh
Radiated emissions below 1 GHz	Refer to data	AC 120V	Nero Hsieh
Radiated emissions above 1 GHz	Refer to data	AC 120V	Nero Hsieh Jason Yang
Bandwidth	21 °C, 62 %	AC 120V	Nero Hsieh
Output Power	21 °C, 62 %	AC 120V	Nero Hsieh
Power Spectral Density	21 °C, 62 %	AC 120V	Nero Hsieh

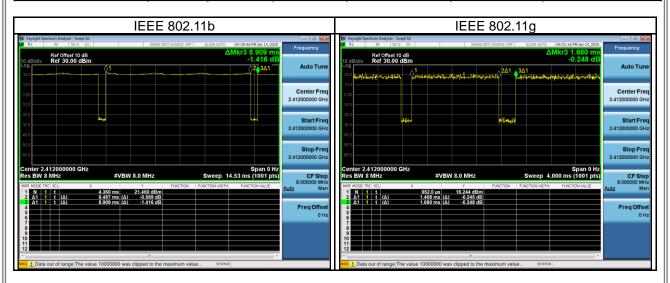
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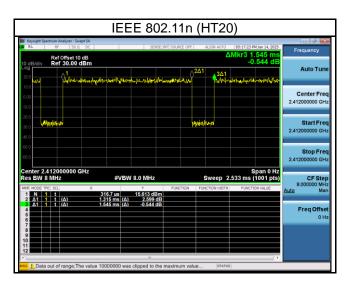


1.4 DUTY CYCLE

If duty cycle is \geq 98 %, duty factor is not required. If duty cycle is < 98 %, duty factor shall be considered.

Remark	Delta 1			Delta 2	On Time/Period	10 log(1/Duty Cycle)
Mode	ON	Numbers	On Time (B)	Period (ON+OFF)	Duty Cycle	Duty Factor
iviode	(ms)	(ON)	(ms)	(ms)	(%)	(dB)
IEEE 802.11b	8.487	1	8.487	8.909	95.26%	0.21
IEEE 802.11g	1.408	1	1.408	1.680	83.81%	0.77
IEEE 802.11n (HT20)	1.315	1	1.315	1.545	85.11%	0.70





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2 GENERAL INFORMATION

2.1 DESCRIPTION OF EUT

	III and
Equipment	WPD-900
Model Name	VS20541, WPD-900-RX
Brand Name	ViewSonic
Mode Difference	Different models distribute to different areas.
Power Source	Supplied from USB port.
Power Rating	DC 5V/ 0.5A
Operation Band	2400 MHz ~ 2483.5 MHz
Operation Frequency	2412 MHz ~ 2462 MHz
	IEEE 802.11b: DSSS
Modulation Technology	IEEE 802.11g: OFDM
	IEEE 802.11n: OFDM
	IEEE 802.11b: 11/5.5/2/1 Mbps
Transfer Rate	IEEE 802.11g: 54/48/36/24/18/12/9/6 Mbps
	IEEE 802.11n: up to 72.2 Mbps
	IEEE 802.11b: 18.16 dBm (0.0655 W)
Output Power (Max).	IEEE 802.11g: 15.21 dBm (0.0332 W)
	IEEE 802.11n (HT20): 15.34 dBm (0.0342 W)
Test Software Version	RTL8723FU MV Version 0.0001.1020.2018
Test Model	VS20541
Sample Status	Engineering Sample
EUT Modification(s)	N/A

NOTE:

(1) The above EUT information is declared by manufacturer and for more detailed features description, please refers to the manufacturer's specifications or user's manual.

(2) Channel List:

(Z) Offarition Liot.								
CH01 - CH11 for IEEE 802.11b, IEEE 802.11g, IEEE 802.11n (HT20)								
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)			
01	2412	05	2432	09	2452			
02	2417	06	2437	10	2457			
03	2422	07	2442	11	2462			
04	2427	08	2447	-	-			

(3) Table for Filed Antenna:

Antenna	Brand Name	Model Name	Type	Frequency (MHz)	Gain (dBi)
1	Shenzhen RedbirdTek Technology Co., Ltd.	ANT-PCB-011	PIFA	2400-2483.5	-0.8

Note:

- (a) The EUT incorporates a CDD function. Physically, the EUT provides one completed transmitters and receivers (1T1R)
- (b) Directional Gain=-0.8 dBi. (The value is declared by manufacturer.) < 6dBi.

For Power Spectral Density

The Direction Gain is less than 6dBi, so power spectral density limits will not be reduced.

(c) For Output Power

For Nant= 1<5, Direction Gain= $G_{ANT} + 0 = -0.8 + 0 = -0.8$

The Direction Gain is less than 6dBi, so output power limits will not be reduced.

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(4) The above Antenna information is derived from the antenna data sheet provided by manufacturer and for more detailed features description, please refer to the manufacturer's specifications, the laboratory shall not be held responsible.

(5)

TX Mode Operating Mode	1TX
IEEE 802.11b	V (Ant. 1)
IEEE 802.11g	V (Ant. 1)
IEEE 802.11n (HT20)	V (Ant. 1)

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2.2 TEST MODES

Test Items	Test mode	Channel	Note
AC power line conducted emissions	Normal/Idle	-	-
Transmitter Radiated Emissions (below 1GHz)	TX Mode_IEEE 802.11b	06	-
- W - B - II - I - I - I	TX Mode_IEEE 802.11b		
Transmitter Radiated Emissions (above 1GHz)	TX Mode_IEEE 802.11g	01/11	Bandedge
(45575 15112)	TX Mode_IEEE 802.11n (HT20)		
T B I	TX Mode_IEEE 802.11b		Harmonic
Transmitter Radiated Emissions (above 1GHz)	TX Mode_IEEE 802.11g	01/06/11	
(abovo Foriz)	TX Mode_IEEE 802.11n (HT20)		
T B I	TX Mode_IEEE 802.11b		
Transmitter Radiated Emissions (above 18GHz)	TX Mode_IEEE 802.11g	01/06/11	Harmonic
(45000 100112)	TX Mode_IEEE 802.11n (HT20)		
Bandwidth &	TX Mode_IEEE 802.11b		
Output Power & Power Spectral Density &	TX Mode_IEEE 802.11g	01/06/11	-
Antenna conducted Spurious Emission	TX Mode_IEEE 802.11n (HT20)		

NOTE:

- (1) For radiated emission band edge test, both Vertical and Horizontal are evaluated, but only the worst case (Horizontal) is recorded.
- (2) All X, Y and Z axes are evaluated, but only the worst case (Y axis) is recorded.

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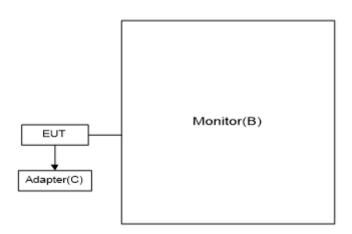


2.3 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

Equipment letters and Cable numbers refer to item numbers described in the tables of clause 2.4.

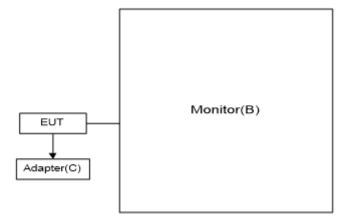
AC power line conducted emissions





Radiated Emissions

VS20541



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2.4 SUPPORT UNITS

Item	Equipment	Brand	Model No.	Remarks
В	27" 4K Monitor	DELL	P2723QE	Furnished by test lab.
С	Adapter	20W	GS-W18A0922A	Furnished by test lab.

Ι.						
	Item	Cable Type	Ferrite Core	Length	Shielded	Remarks
	1	extension cord	NO	N/A	NO	Furnished by test lab.

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3 AC POWER LINE CONDUCTED EMISSIONS TEST

3.1 LIMIT

Frequency	Limit (dBμV)		
(MHz)	Quasi-peak	Average	
0.15 - 0.5	66 - 56 *	56 - 46 *	
0.50 - 5.0	56	46	
5.0 - 30.0	60	50	

NOTE:

(1) The tighter limit applies at the band edges.

(2) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

(3) The test result calculated as following:

Measurement Value = Reading Level + Correct Factor

Correct Factor = Insertion Loss + Cable Loss + Attenuator Factor (if use)

Margin Level = Measurement Value - Limit Value

Calculation example:

Reading Level		Correct Factor		Measurement Value
(dBµV)		(dB)		(dBµV)
38.22	+	3.45	=	41.67

Measurement Value		Limit Value		Margin Level
(dBµV)		(dBµV)		(dB)
41.67	-	60	=	-18.33

The following table is the setting of the receiver.

Receiver Parameter	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 KHz

3.2 TEST PROCEDURE

a. The EUT was placed 0.8 m above the horizontal ground plane with the EUT being connected to the power mains through a line impedance stabilization network (LISN).

All other support equipment were powered from an additional LISN(s).

The LISN provides 50 Ohm/50uH of impedance for the measuring instrument.

- b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle to keep the cable above 40 cm.
- c. Excess I/O cables that are not connected to a peripheral shall be bundled in the center.

The end of the cable will be terminated, using the correct terminating impedance.

The overall length shall not exceed 1 m.

- d. The LISN is spaced at least 80 cm from the nearest part of the EUT chassis.
- e. For the actual test configuration, please refer to the related Item EUT TEST PHOTO.

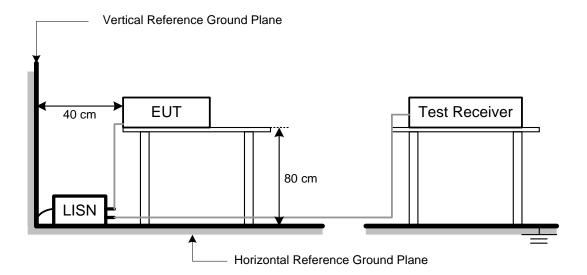
NOTE:

- (1) In the results, each reading is marked as Peak, QP or AVG per the detector used. BW=9 kHz (6 dB Bandwidth)
- (2) All readings are Peak unless otherwise stated QP or AVG in column of Note. Both the QP and the AVG readings must be less than the limit for compliance.

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3.3 TEST SETUP



3.4 TEST RESULT

Please refer to the **APPENDIX A**.



4 RADIATED EMISSIONS TEST

4.1 LIMIT

In case the emission fall within the restricted band specified on 15.205, then the 15.209 limit in the table below has to be followed.

LIMITS OF RADIATED EMISSIONS MEASUREMENT (9 kHz to 1000 MHz)

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
960~1000	500	3

LIMITS OF RADIATED EMISSIONS MEASUREMENT (Above 1000 MHz)

Frequency (MHz)		Emissions V/m)	Measurement Distance	
(IVITIZ)	Peak	Average	(meters)	
Above 1000	74	54	3	

NOTE:

- (1) The limit for radiated test was performed according to FCC CFR Title 47, Part 15, Subpart C.
- (2) The tighter limit applies at the band edges.
- (3) Emission level (dBuV/m) =20log Emission level (uV/m).
- (4) The test result calculated as following:

Measurement Value = Reading Level + Correct Factor

Correct Factor = Antenna Factor + Cable Loss - Amplifier Gain (if use)

Margin Level = Measurement Value - Limit Value

Calculation example:

Reading Level (dBµV)		Correct Factor (dB/m)		Measurement Value (dBµV/m)
19.11	+	2.11	=	21.22
Measurement Value		Limit Value		Margin Level

	Measurement Value		Limit Value		Margin Level
	(dBµV/m)		(dBµV/m)		(dB)
Ī	21.22	-	40	=	-18.78

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic
RBW / VBW	1MHz / 3MHz for Peak,
(Emission in restricted band)	1MHz / 1/T for Average

Spectrum Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9KHz~90KHz for PK/AVG detector
Start ~ Stop Frequency	90KHz~110KHz for QP detector
Start ~ Stop Frequency	110KHz~490KHz for PK/AVG detector
Start ~ Stop Frequency	490KHz~30MHz for QP detector
Start ~ Stop Frequency	30MHz~1000MHz for QP detector

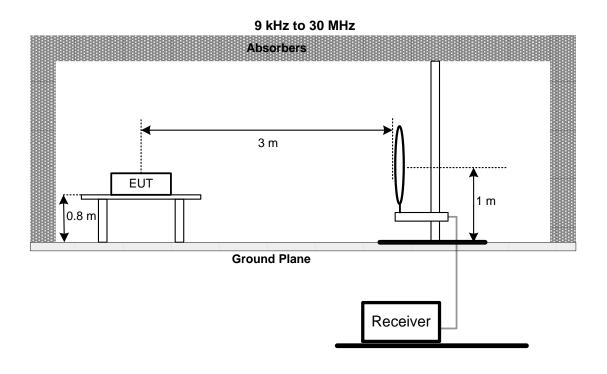
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4.2 TEST PROCEDURE

- a. The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1GHz)
- b. The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 1.5 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(above 1GHz)
- c. The height of the equipment or of the substitution antenna shall be 0.8 m or 1.5 m, the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights find the maximum reading (used Bore sight function).
- e. The receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1GHz.
- f. The initial step in collecting radiated emission data is a receiver peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- g. All readings are Peak unless otherwise stated QP in column of Note. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform. (below 1GHz)
- h. All readings are Peak Mode value unless otherwise stated AVG in column of Note. If the Peak Mode Measured value compliance with the Peak Limits and lower than AVG Limits, the EUT shall be deemed to meet both Peak & AVG Limits and then only Peak Mode was measured, but AVG Mode didn't perform. (above 1GHz)
- i. For the actual test configuration, please refer to the related Item EUT TEST PHOTO.

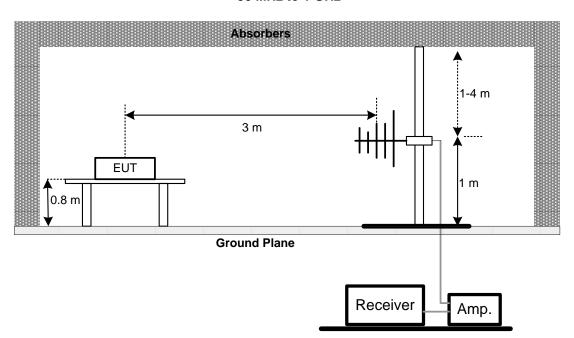
4.3 TEST SETUP



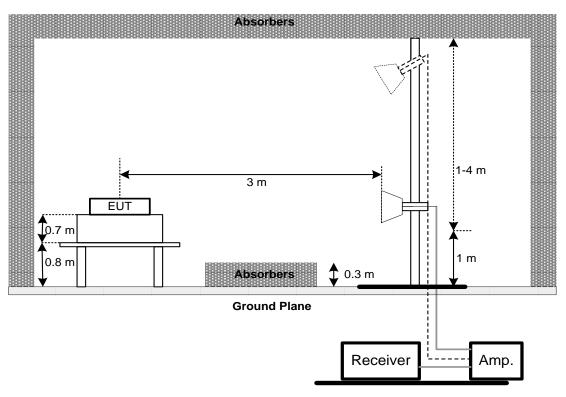
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30 MHz to 1 GHz



Above 1 GHz





4.4 EUT OPERATING CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

4.5 TEST RESULT - BELOW 30 MHZ

There were no emissions found below 30 MHz within 20 dB of the limit.

4.6 TEST RESULT - 30 MHZ TO 1 GHZ

Please refer to the APPENDIX B.

4.7 TEST RESULT - ABOVE 1 GHZ

Please refer to the APPENDIX C.

NOTE:

(1) No limit: This is fundamental signal, the judgment is not applicable. For fundamental signal judgment was referred to Peak output test.

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5 BANDWIDTH TEST

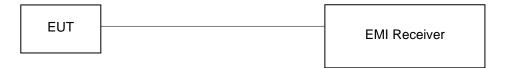
5.1 LIMIT

FCC Part15, Subpart C (15.247)			
Section	Test Item	Limit	
15.247(a)	6 dB Bandwidth	500 kHz	

5.2 TEST PROCEDURE

- a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
- b. Spectrum Setting: RBW= 100KHz, VBW=300KHz, Sweep time = 2.5 ms.

5.3 TEST SETUP



5.4 EUT OPERATING CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

5.5 TEST RESULT

Please refer to the APPENDIX D.

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6 OUTPUT POWER TEST

6.1 LIMIT

FCC Part15, Subpart C (15.247)			
Section	Limit		
15.247(b)	Maximum Output Power	1 Watt or 30dBm	

6.2 TEST PROCEDURE

- a. The EUT was directly connected to the power meter and antenna output port as show in the block diagram below.
- b. The maximum peak conducted output power was performed in accordance with FCC KDB 558074 D01 15.247 Meas Guidance.
- c. Subclause 11.9.1.1 of ANSI C63.10 is applied. The maximum peak conducted output power may be
 measured using a broadband peak RF power meter.
 The power meter shall have a video bandwidth that is greater than or equal to the DTS bandwidth and
 shall use a fast-responding diode detector.

6.3 TEST SETUP



6.4 EUT OPERATING CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

6.5 TEST RESULT

Please refer to the APPENDIX E.

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7 POWER SPECTRAL DENSITY

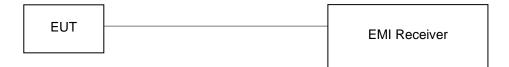
7.1 LIMIT

FCC Part15, Subpart C (15.247)				
Section	Test Item	Limit		
15.247(e)	Power Spectral Density	8 dBm (in any 3 kHz)		

7.2 TEST PROCEDURE

- a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
- b. Spectrum Setting: RBW = 3 kHz, VBW = 10 kHz, Sweep time = Auto.

7.3 TEST SETUP



7.4 EUT OPERATING CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

7.5 TEST RESULT

Please refer to the APPENDIX F.

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8 ANTENNA CONDUCTED SPURIOUS EMISSIONS TEST

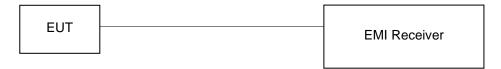
8.1 LIMIT

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated device is operating, the RF power that is produced shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided that the transmitter demonstrates compliance with the peak conducted power limits.

8.2 TEST PROCEDURE

- a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
- b. Spectrum Setting: RBW = 100 kHz, VBW=300 kHz, Sweep time = Auto.
- c. Offset = antenna gain + cable loss.

8.3 TEST SETUP



8.4 EUT OPERATING CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

8.5 TEST RESULT

Please refer to the APPENDIX G.

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9 LIST OF MEASURING EQUIPMENTS

	AC Power Line Conducted Emissions						
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated Date	Calibrated Until	
1	TWO-LINE V-NETWORK	R&S	ENV216	101339	2024/3/28	2025/3/27	
2	Test Cable	EMCI	EMCRG142S-SM -SM-5000	230609	2024/8/10	2025/8/9	
3	Test Cable	EMCI	EMC104-SM-SM- 6000	240635	2024/7/15	2025/7/14	
4	Measurement Software	Farad	EZ_EMC (Ver.E-LAB-5A2.2 2021)	N/A	N/A	N/A	

	Radiated Emissions						
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated Date	Calibrated Until	
1	Log-Bicon Antenna	Schwarzbeck	VULB 9168	01577	2024/7/17	2025/7/16	
2	Attenuator	EMCI	EMCI-N-6-05	AT-N0575	2024/7/17	2025/7/16	
3	Pre-Amplifier	EMCI	EMC001330	980909	2024/8/9	2025/8/8	
4	Test Cable	EMCI	EMC104-SM-SM- 6000	230540	2024/8/10	2025/8/9	
5	Test Cable	EMCI	EMC104-SM-SM- 2500	230541	2024/8/10	2025/8/9	
6	Test Cable	EMCI	EMC104-SM-SM- 1000	230546	2024/8/10	2025/8/9	
7	MXE EMI Receiver	Keysight	N9038A	MY50018009	2024/8/30	2025/8/29	
8	Horn Antenna	RFSPIN	DRH18-E	KV2D02A18ES	2024/6/7	2025/6/6	
9	Pre-Amplifier	EMCI	EMC118A45SE	980962	2024/8/9	2025/8/8	
10	Horn Antenna	Schwarzbeck	BBHA 9170	01228	2024/6/12	2025/6/11	
11	Pre-Amplifier	EMCI	EMC184045SE	980918	2024/8/9	2025/8/8	
12	Test Cable	EMCI	EMC104-35M-35 M-1000	230547	2024/8/10	2025/8/9	
13	Test Cable	EMCI	EMC104-35M-35 M-4700	230548	2024/8/10	2025/8/9	
14	Measurement Software	Farad	EZ_EMC (Ver. NB-03A1-01)	N/A	N/A	N/A	

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			Bandwidth			
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated Date	Calibrated Until
1	MXE EMI Receiver	Keysight	N9038A	MY50018009	2024/8/30	2025/8/29

			Output Power			
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated Date	Calibrated Until
1	MXE EMI Receiver	Keysight	N9038A	MY50018009	2024/8/30	2025/8/29

Power Spectral Density						
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated Date	Calibrated Until
1	MXE EMI Receiver	Keysight	N9038A	MY50018009	2024/8/30	2025/8/29

	Antenna conducted Spurious Emission						
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated Date	Calibrated Until	
1	MXE EMI Receiver	Keysight	N9038A	MY50018009	2024/8/30	2025/8/29	

Remark: "N/A" denotes no model name, no serial no. or no calibration specified. All calibration period of equipment list is one year.

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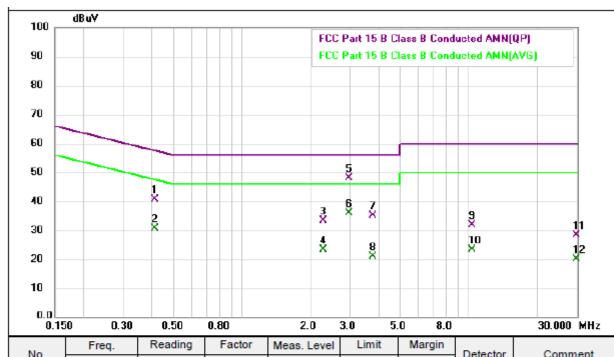
R	eport No.: BTL-FCC-2-2501T005
10 EUT TEST PHOTO	
Please refer to document Appendix No.TP-2501T005-FCC-2 (APPENDIX-T	EST PHOTOS).
11 EUT PHOTOS	
Please refer to document Appendix No.EP-2501T005-3, EP-2501T005-4(AF	PPENDIX-EUT PHOTOS).

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APPENDIX A AC POWER LINE CONDUCTED EMISSIONS

Test Mode	Normal	Tested Date	2025/2/11
Test Frequency	-	Phase	Line



N	0.	Freq.	Reading	Factor	Meas. Level	Limit	Margin	Detector	Comment
14	0.	(MHz)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dB)	Detector	Comment
1		0.411000	31.00	9.64	40.64	57.63	-16.99	QP	
2		0.411000	21.10	9.64	30.74	47.63	-16.89	AVG	
3		2.280750	23.80	9.71	33.51	56.00	-22.49	QP	
4		2.280750	13.70	9.71	23.41	46.00	-22.59	AVG	
5	*	2.955750	38.50	9.72	48.22	56.00	-7.78	QP	
6		2.955750	26.30	9.72	36.02	46.00	-9.98	AVG	
7		3.786000	25.30	9.74	35.04	56.00	-20.96	QP	
8		3.786000	11.30	9.74	21.04	46.00	-24.96	AVG	
9		10.371750	22.00	9.85	31.85	60.00	-28.15	QP	
10		10.371750	13.60	9.85	23.45	50.00	-26.55	AVG	
11		29.798250	18.50	9.85	28.35	60.00	-31.65	QP	
12		29.798250	10.20	9.85	20.05	50.00	-29.95	AVG	

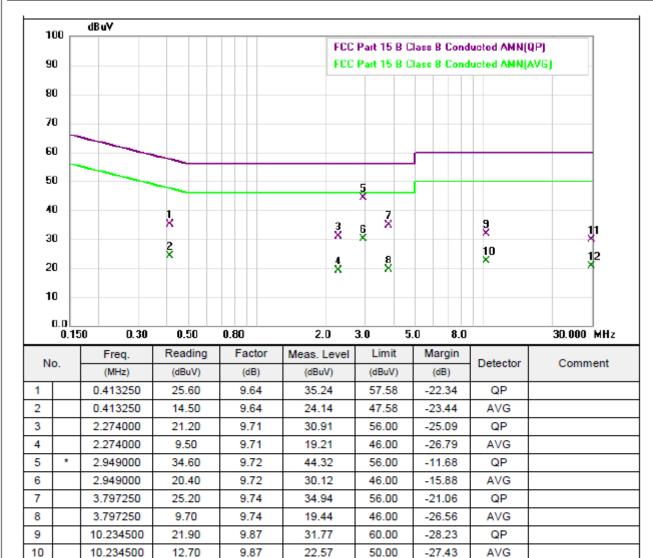
REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.
- (3) *: Maximum data x: Over limit !: Over margin

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Test Mode	Normal	Tested Date	2025/2/11
Test Frequency	-	Phase	Neutral



60.00

50.00

-30.16

-29.26

QP

AVG

REMARKS:

11

(1) Measurement Value = Reading Level + Correct Factor.

19.80

10.70

10.04

10.04

(2) Margin Level = Measurement Value - Limit Value.

29.978250

29.978250

(3) *: Maximum data x: Over limit !: Over margin

29.84

20.74



APPENDIX B RADIATED EMISSIONS - 30 MHZ TO 1 GHZ

Test Mode	IEEE 802.11 b	Test Date	2025/2/7
Test Frequency	CH06:2437MHz	Polarization	Vertical
Temp	21°C	Hum.	60%



REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.
- (3) *: Maximum data x: Over limit !: Over margin

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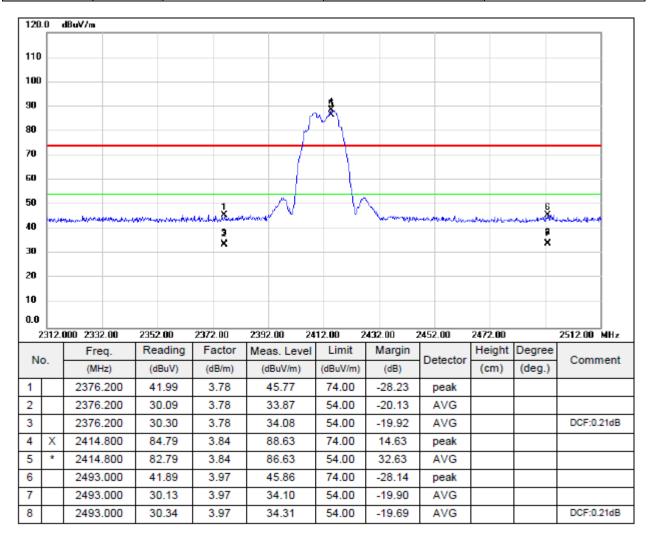
Test Mode	IEEE 802.11 b	Test Date	2025/2/7
Test Frequency	CH06:2437MHz	Polarization	Horizontal
Temp	21°C	Hum.	60%



- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.
- (3) *: Maximum data x: Over limit !: Over margin

APPENDIX C RADIATED EMISSIONS - ABOVE 1 GHZ

Test Mode	IEEE 802.11b	Test Date	2025/1/17
Test Frequency	2412MHz	Polarization	Horizontal
Temp	21°C	Hum.	62%



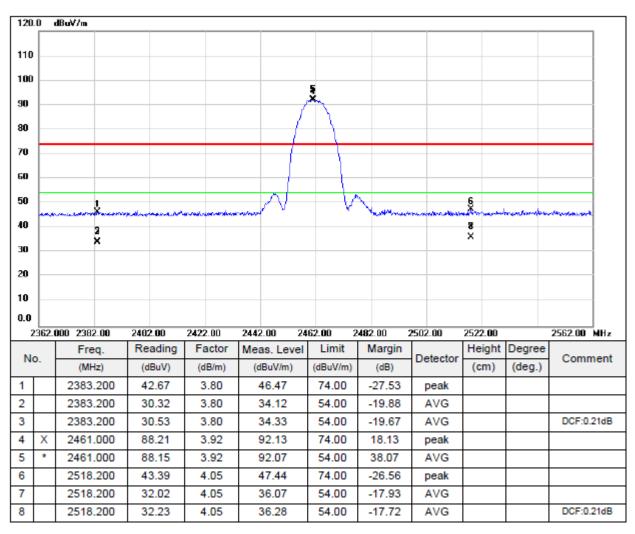
REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.
- (3) X and * represent fundamental frequency and with no limit.

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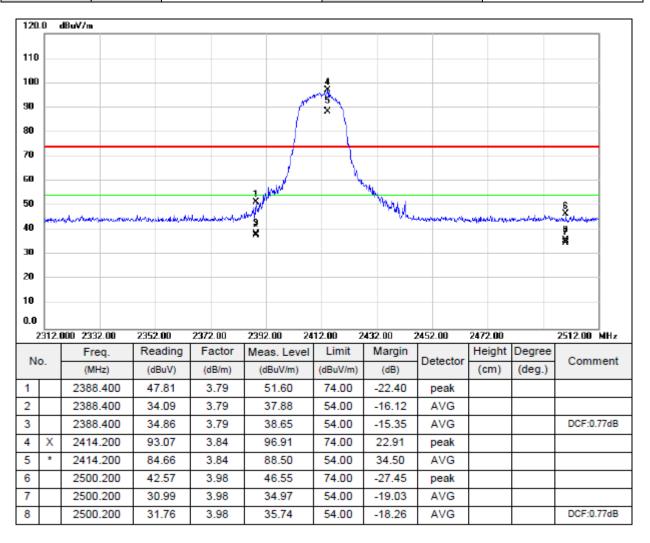


Test Mode	IEEE 802.11b	Test Date	2025/1/17
Test Frequency	2462MHz	Polarization	Horizontal
Temp	21°C	Hum.	62%



- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.
- (3) X and * represent fundamental frequency and with no limit.

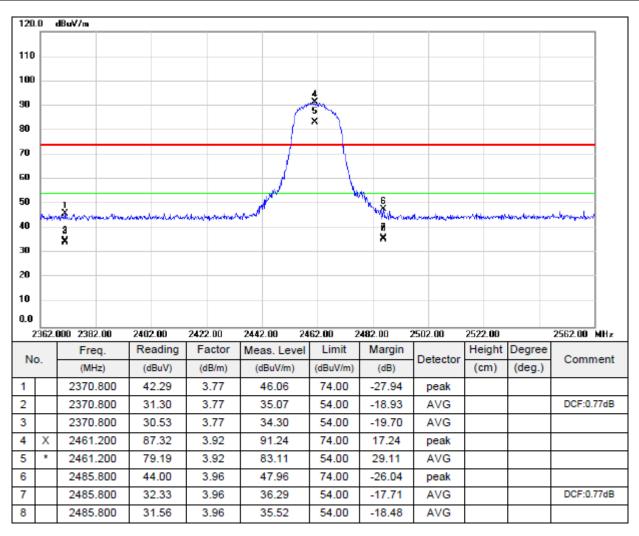
Test Mode	IEEE 802.11g	Test Date	2025/1/17
Test Frequency	CH01: 2412 MHz	Polarization	Horizontal
Temp	21°C	Hum.	62%



- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.
- (3) X and * represent fundamental frequency and with no limit.



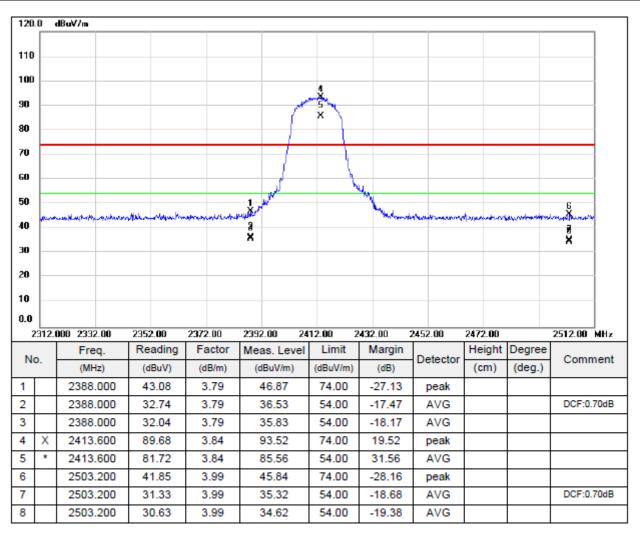
Test Mode	IEEE 802.11g	Test Date	2025/1/17
Test Frequency	CH11: 2462 MHz	Polarization	Horizontal
Temp	21°C	Hum.	62%



- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.
- (3) X and * represent fundamental frequency and with no limit.



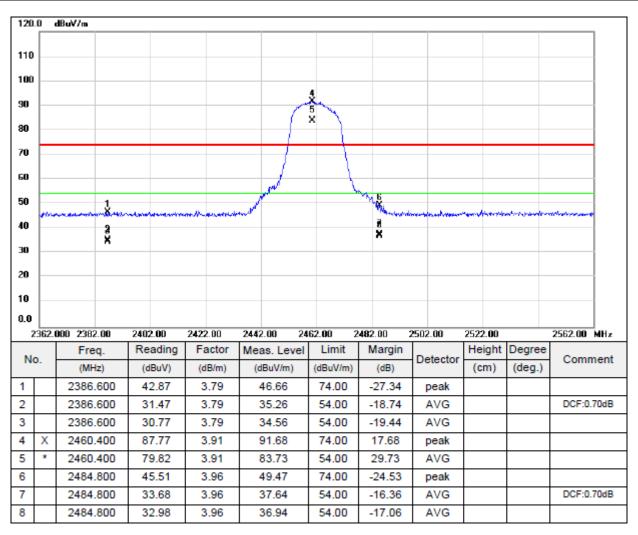
Test Mode	IEEE 802.11n (HT20)	Test Date	2025/1/17
Test Frequency	CH01: 2412 MHz	Polarization	Horizontal
Temp	21°C	Hum.	62%



- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.
- (3) X and * represent fundamental frequency and with no limit.



Test Mode	IEEE 802.11n (HT20)	Test Date	2025/1/17
Test Frequency	CH11: 2462 MHz	Polarization	Horizontal
Temp	21°C	Hum.	62%



- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.
- (3) X and * represent fundamental frequency and with no limit.



Above 1G

Test Mode	IEEE 802.11b	Test Date	2025/2/4
Test Frequency	CH01: 2412 MHz	Polarization	Vertical
Temp	21°C	Hum.	59%



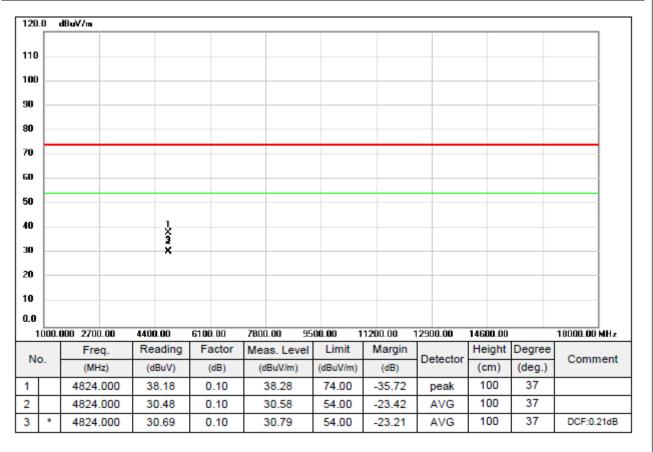
- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.
- (3) *: Maximum data x: Over limit !: Over margin

Test Mode	IEEE 802.11b	Test Date	2025/2/4
Test Frequency	CH01: 2412 MHz	Polarization	Horizontal
Temp	21°C	Hum.	59%



- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.
- (3) *: Maximum data x: Over limit !: Over margin

Test Mode	IEEE 802.11b	Test Date	2025/2/4
Test Frequency	CH06: 2437 MHz	Polarization	Vertical
Temp	21°C	Hum.	59%



- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.
- (3) *: Maximum data x: Over limit !: Over margin

Test Mode	IEEE 802.11b	Test Date	2025/2/4
Test Frequency	CH06: 2437 MHz	Polarization	Horizontal
Temp	21°C	Hum.	59%



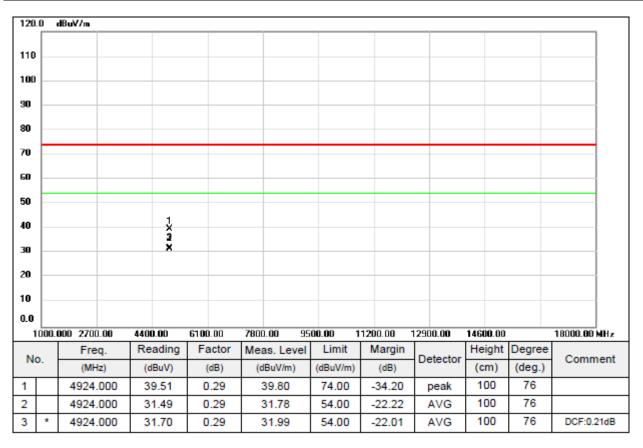
- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.
- (3) *: Maximum data x: Over limit !: Over margin

Test Mode	IEEE 802.11b	Test Date	2025/2/4
Test Frequency	CH11: 2462 MHz	Polarization	Vertical
Temp	21°C	Hum.	59%



- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.
- (3) *: Maximum data x: Over limit !: Over margin

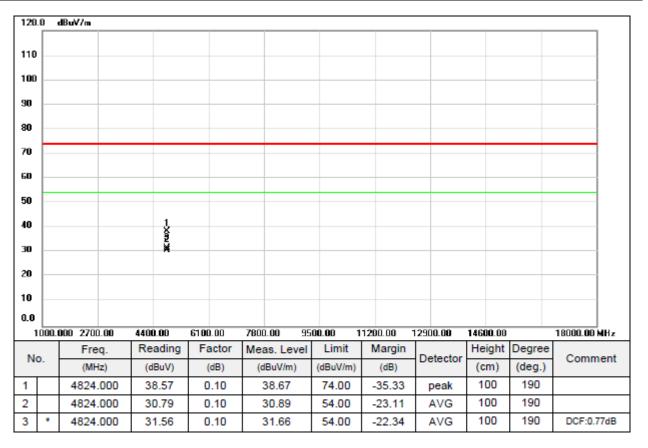
Test Mode	IEEE 802.11b	Test Date	2025/2/4
Test Frequency	CH11: 2462 MHz	Polarization	Horizontal
Temp	21°C	Hum.	59%



- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.
- (3) *: Maximum data x: Over limit !: Over margin



Test Mode	IEEE 802.11g	Test Date	2025/2/4
Test Frequency	CH01: 2412 MHz	Polarization	Vertical
Temp	21°C	Hum.	59%



- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.
- (3) *: Maximum data x: Over limit !: Over margin



Test Mode	IEEE 802.11g	Test Date	2025/2/4
Test Frequency	CH01: 2412 MHz	Polarization	Horizontal
Temp	21°C	Hum.	59%



- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.(3) *: Maximum data x: Over limit !: Over margin

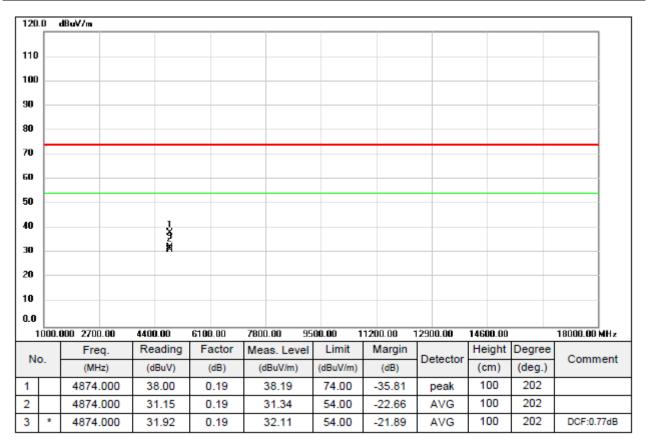
Test Mode	IEEE 802.11g	Test Date	2025/2/4
Test Frequency	CH06: 2437 MHz	Polarization	Vertical
Temp	21°C	Hum.	59%



- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.
- (3) *: Maximum data x: Over limit !: Over margin

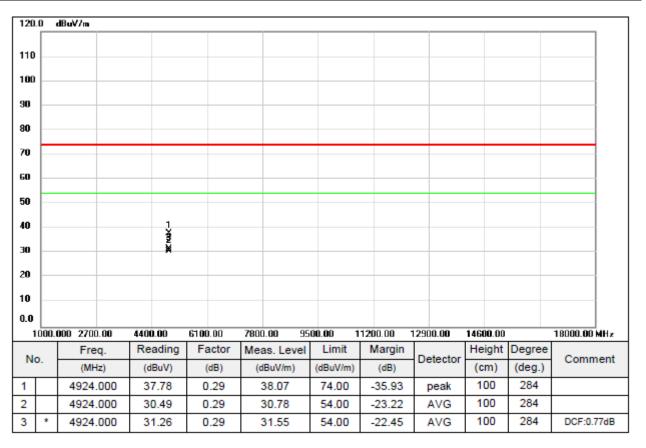


Test Mode	IEEE 802.11g	Test Date	2025/2/4
Test Frequency	CH06: 2437 MHz	Polarization	Horizontal
Temp	21°C	Hum.	59%



- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.
- (3) *: Maximum data x: Over limit !: Over margin

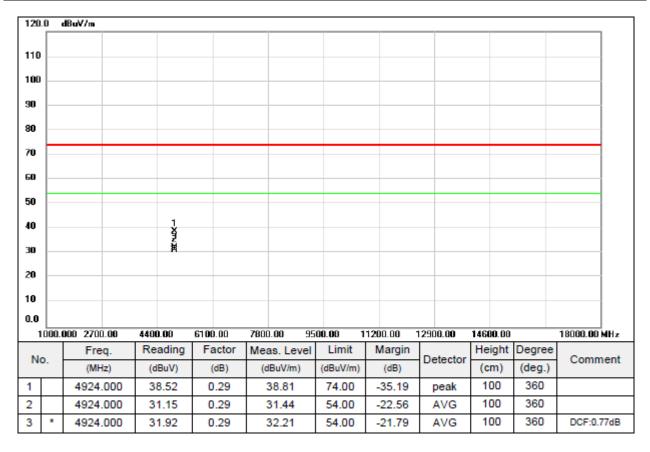
Test Mode	IEEE 802.11g	Test Date	2025/2/4
Test Frequency	CH11: 2462 MHz	Polarization	Vertical
Temp	21°C	Hum.	59%



- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.
- (3) *: Maximum data x: Over limit !: Over margin



Test Mode	IEEE 802.11g	Test Date	2025/2/4
Test Frequency	CH11: 2462 MHz	Polarization	Horizontal
Temp	21°C	Hum.	59%



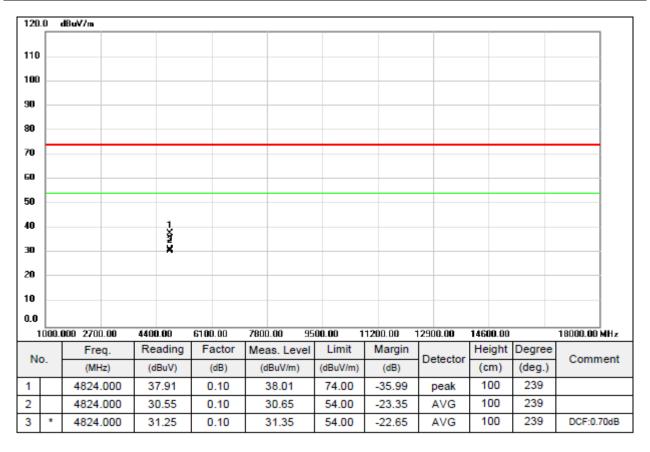
- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.
- (3) *: Maximum data x: Over limit !: Over margin

Test Mode	IEEE 802.11n (HT20)	Test Date	2025/2/4
Test Frequency	CH01: 2412 MHz	Polarization	Vertical
Temp	21°C	Hum.	59%



- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.
- (3) *: Maximum data x: Over limit !: Over margin

Test Mode	IEEE 802.11n (HT20)	Test Date	2025/2/4
Test Frequency	CH01: 2412 MHz	Polarization	Horizontal
Temp	21°C	Hum.	59%



- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.
- (3) *: Maximum data x: Over limit !: Over margin

Test Mode	IEEE 802.11n (HT20)	Test Date	2025/2/4
Test Frequency	CH06: 2437 MHz	Polarization	Vertical
Temp	21°C	Hum.	59%



- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.
- (3) *: Maximum data x: Over limit !: Over margin

Test Mode	IEEE 802.11n (HT20)	Test Date	2025/2/4
Test Frequency	CH06: 2437 MHz	Polarization	Horizontal
Temp	21°C	Hum.	59%



- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.
- (3) *: Maximum data x: Over limit !: Over margin



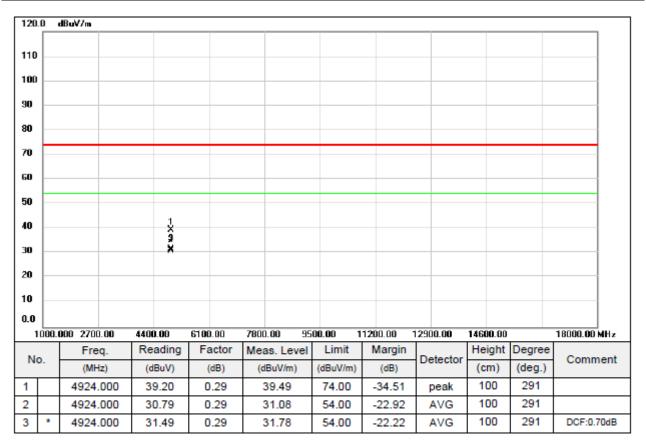
Test Mode	IEEE 802.11n (HT20)	Test Date	2025/2/4
Test Frequency	CH11: 2462 MHz	Polarization	Vertical
Temp	21°C	Hum.	59%



- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.
- (3) *: Maximum data x: Over limit !: Over margin



Test Mode	IEEE 802.11n (HT20)	Test Date	2025/2/4
Test Frequency	CH11: 2462 MHz	Polarization	Horizontal
Temp	21°C	Hum.	59%



- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.(3) *: Maximum data x: Over limit !: Over margin



Above 18G

Test Mode	IEEE 802.11b	Test Date	2025/2/4
Test Frequency	CH01: 2412 MHz	Polarization	Vertical
Temp	21°C	Hum.	59%



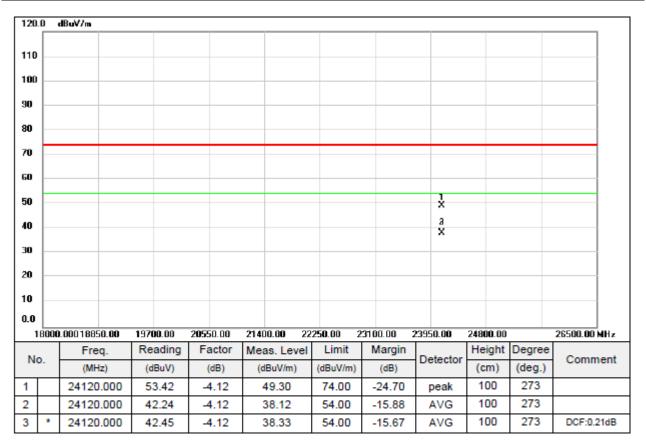
REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.
- (3) *: Maximum data x: Over limit !: Over margin

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Test Mode	IEEE 802.11b	Test Date	2025/2/4
Test Frequency	CH01: 2412 MHz	Polarization	Horizontal
Temp	21°C	Hum.	59%



- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.(3) *: Maximum data x: Over limit !: Over margin

Test Mode	IEEE 802.11b	Test Date	2025/2/4
Test Frequency	CH06: 2437 MHz	Polarization	Vertical
Temp	21°C	Hum.	59%



- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.(3) *: Maximum data x: Over limit !: Over margin



Test Mode	IEEE 802.11b	Test Date	2025/2/4
Test Frequency	CH06: 2437 MHz	Polarization	Horizontal
Temp	21°C	Hum.	59%



- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.(3) *: Maximum data x: Over limit !: Over margin



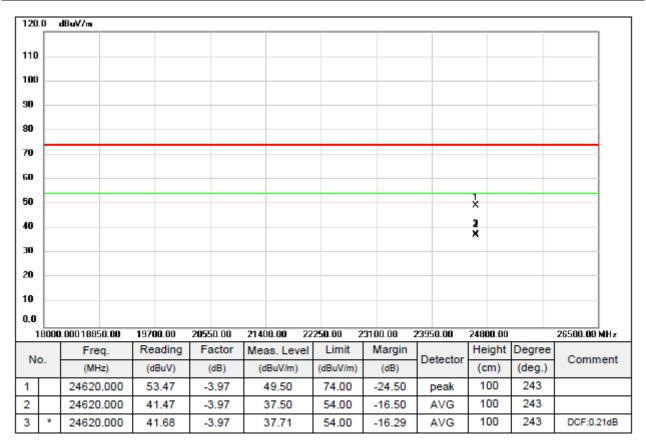
Test Mode	IEEE 802.11b	Test Date	2025/2/4
Test Frequency	CH11: 2462 MHz	Polarization	Vertical
Temp	21°C	Hum.	59%



- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.
- (3) *: Maximum data x: Over limit !: Over margin

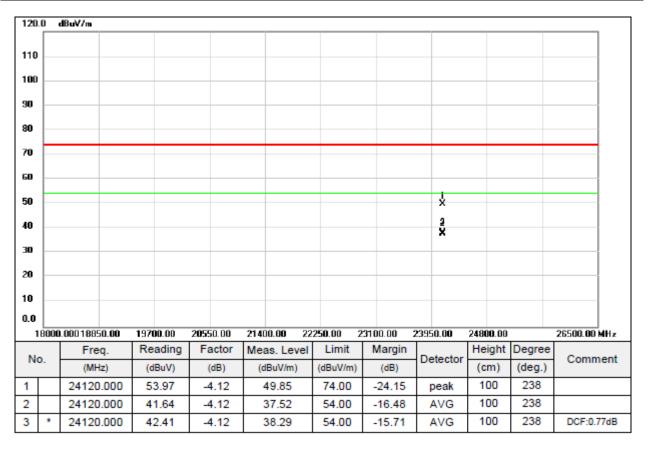


Test Mode	IEEE 802.11b	Test Date	2025/2/4
Test Frequency	CH11: 2462 MHz	Polarization	Horizontal
Temp	21°C	Hum.	59%



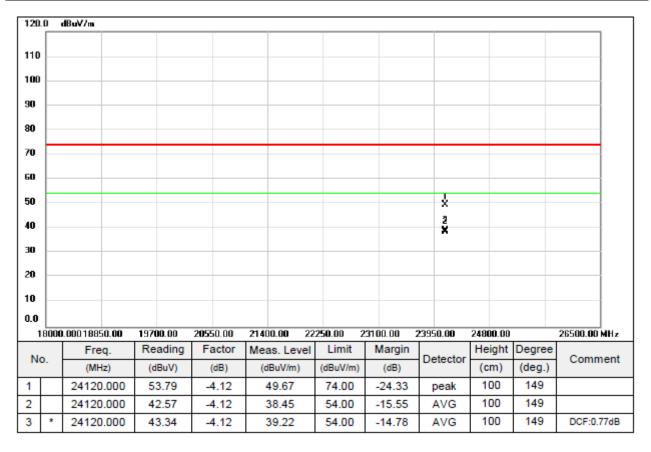
- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.
- (3) *: Maximum data x: Over limit !: Over margin

Test Mode	IEEE 802.11g	Test Date	2025/2/4
Test Frequency	CH01: 2412 MHz	Polarization	Vertical
Temp	21°C	Hum.	59%



- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.
- (3) *: Maximum data x: Over limit !: Over margin

Test Mode	IEEE 802.11g	Test Date	2025/2/4
Test Frequency	CH01: 2412 MHz	Polarization	Horizontal
Temp	21°C	Hum.	59%



- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.
- (3) *: Maximum data x: Over limit !: Over margin



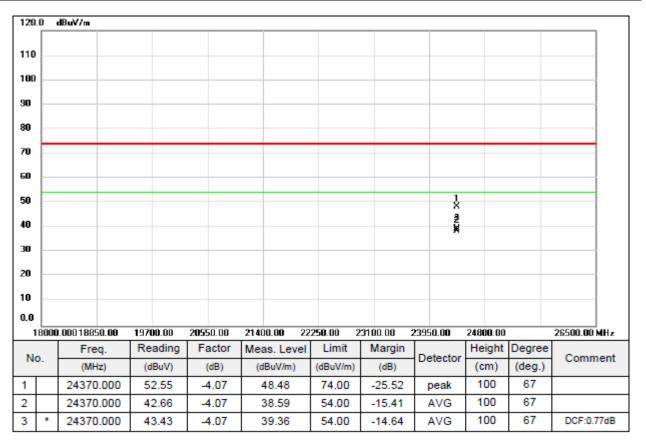
Test Mode	IEEE 802.11g	Test Date	2025/2/4
Test Frequency	CH06: 2437 MHz	Polarization	Vertical
Temp	21°C	Hum.	59%



- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.
- (3) *: Maximum data x: Over limit !: Over margin



Test Mode	IEEE 802.11g	Test Date	2025/2/4
Test Frequency	CH06: 2437 MHz	Polarization	Horizontal
Temp	21°C	Hum.	59%



- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.
- (3) *: Maximum data x: Over limit !: Over margin



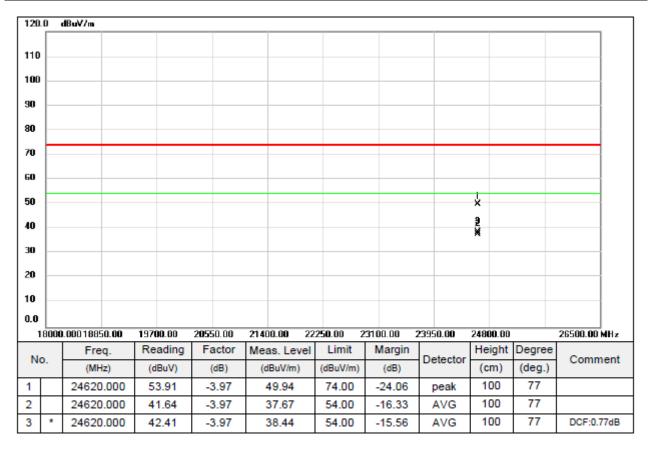
Test Mode	IEEE 802.11g	Test Date	2025/2/4
Test Frequency	CH11: 2462 MHz	Polarization	Vertical
Temp	21°C	Hum.	59%



- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.
- (3) *: Maximum data x: Over limit !: Over margin

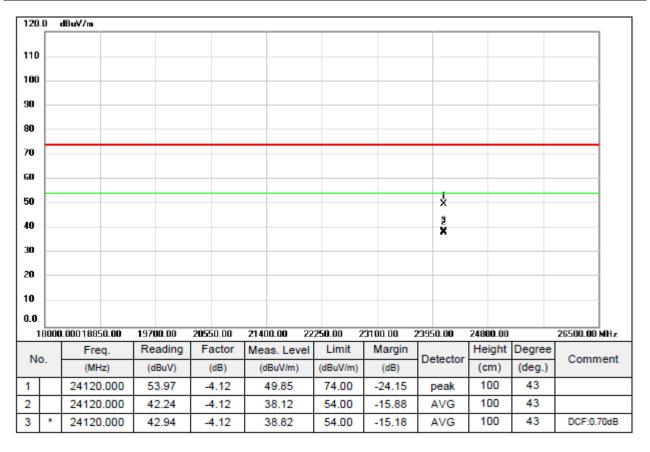


Test Mode	IEEE 802.11g	Test Date	2025/2/4
Test Frequency	CH11: 2462 MHz	Polarization	Horizontal
Temp	21°C	Hum.	59%



- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.
- (3) *: Maximum data x: Over limit !: Over margin

Test Mode	IEEE 802.11n (HT20)	Test Date	2025/2/4
Test Frequency	CH01: 2412 MHz	Polarization	Vertical
Temp	21°C	Hum.	59%



- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.
- (3) *: Maximum data x: Over limit !: Over margin

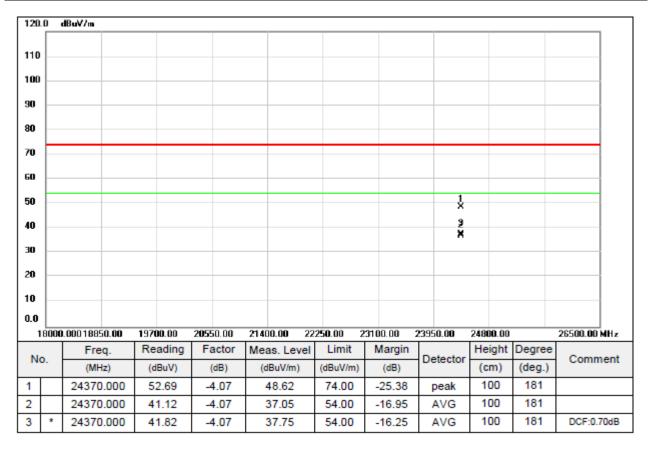


Test Mode	IEEE 802.11n (HT20)	Test Date	2025/2/4
Test Frequency	CH01: 2412 MHz	Polarization	Horizontal
Temp	21°C	Hum.	59%



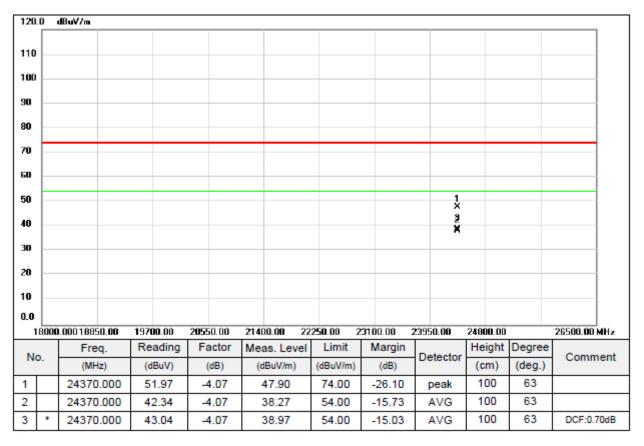
- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.
- (3) *: Maximum data x: Over limit !: Over margin

Test Mode	IEEE 802.11n (HT20)	Test Date	2025/2/4
Test Frequency	CH06: 2437 MHz	Polarization	Vertical
Temp	21°C	Hum.	59%



- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.
- (3) *: Maximum data x: Over limit !: Over margin

Test Mode	IEEE 802.11n (HT20)	Test Date	2025/2/4
Test Frequency	CH06: 2437 MHz	Polarization	Horizontal
Temp	21°C	Hum.	59%



- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.
- (3) *: Maximum data x: Over limit !: Over margin

Test Mode	IEEE 802.11n (HT20)	Test Date	2025/2/4
Test Frequency	CH11: 2462 MHz	Polarization	Vertical
Temp	21°C	Hum.	59%



- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.
- (3) *: Maximum data x: Over limit !: Over margin

Test Mode	IEEE 802.11n (HT20)	Test Date	2025/2/4
Test Frequency	CH11: 2462 MHz	Polarization	Horizontal
Temp	21°C	Hum.	59%



- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.(3) *: Maximum data x: Over limit !: Over margin

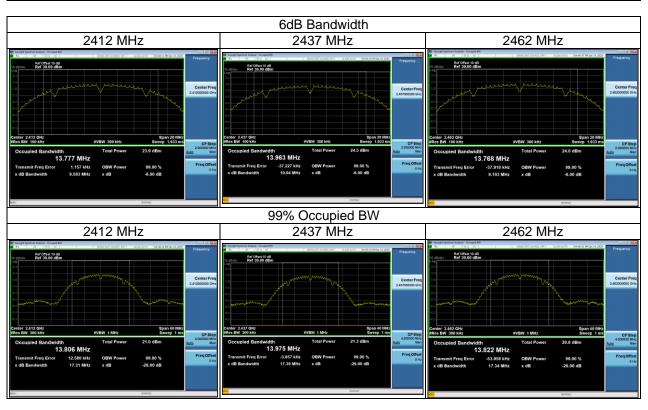




APPENDIX D BANDWIDTH

Test Mode	IEEE 802.11b
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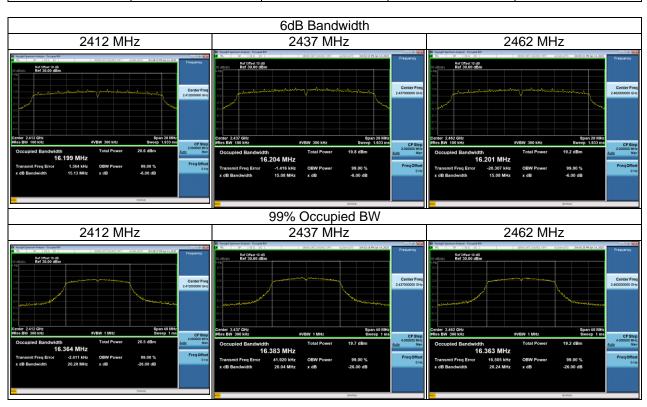
Test Frequency (MHz)	6 dB Bandwidth (MHz)	99 % Occupied Bandwidth (MHz)	Minimum 6 dB Bandwidth Limit (kHz)	Result
2412	9.58	13.81	≥ 500	Pass
2437	10.04	13.98	≥ 500	Pass
2462	9.10	13.82	≥ 500	Pass





Test Mode	IEEE 802.11g		
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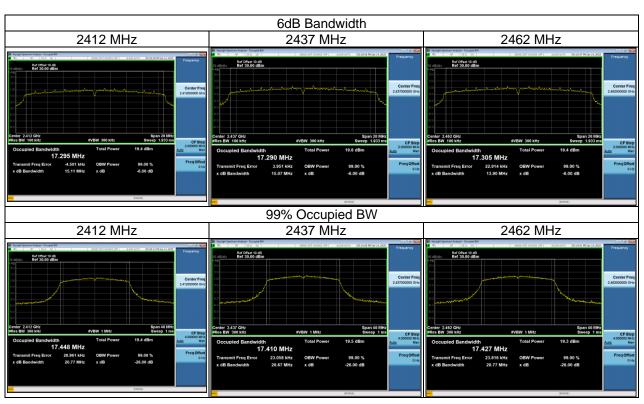
Test Frequency (MHz)	6 dB Bandwidth (MHz)	99 % Occupied Bandwidth (MHz)	Minimum 6 dB Bandwidth Limit (kHz)	Result
2412	15.13	16.36	≥ 500	Pass
2437	15.08	16.38	≥ 500	Pass
2462	15.08	16.36	≥ 500	Pass





Test Mode IEEE	802.11n	(HT20)	ANT1
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Test Frequency (MHz)	6 dB Bandwidth (MHz)	99 % Occupied Bandwidth (MHz)	Minimum 6 dB Bandwidth Limit (kHz)	Result
2412	15.11	17.45	≥ 500	Pass
2437	15.07	17.41	≥ 500	Pass
2462	13.90	17.43	≥ 500	Pass





APPENDIX E OUTPUT POWER

Test Mode	IEEE 802.11b			Tested Date	2025/1/14
Frequency	Conducted	Conducted	Limit	Limit	Result
(MHz)	Power (dBm)	Power (W)	(dBm)	(W)	Result
2412	17.28	0.0535	30.00	1.0000	Complies
2437	18.16	0.0655	30.00	1.0000	Complies
2462	18.03	0.0635	30.00	1.0000	Complies
Test Mode	IEEE 802.11g			Tested Date	2025/1/14
Frequency	Conducted	Conducted	Limit	Limit	Daguit
(MHz)	Power (dBm)	Power (W)	(dBm)	(W)	Result
2412	15.21	0.0332	30.00	1.0000	Complies
2437	15.01	0.0317	30.00	1.0000	Complies
2462	14.77	0.0300	30.00	1.0000	Complies
Test Mode	IEEE 802.11n (H	T20) ANT1		Tested Date	2025/1/14
Frequency	Conducted	Conducted	Limit	Limit	Result
(MHz)	Power (dBm)	Power (W)	(dBm)	(W)	Result
2412	15.34	0.0342	30.00	1.0000	Complies
2437	14.62	0.0290	30.00	1.0000	Complies
2462	14.91	0.0310	30.00	1.0000	Complies

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APPENDIX F POWER SPECTRAL DENSITY

Test Mode	IEEE 802.11b
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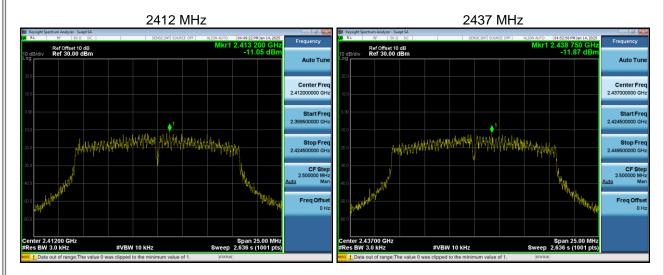
Test Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Maximum Limit (dBm/3kHz)	Result
2412	-7.16	8.00	Pass
2437	-6.11	8.00	Pass
2462	-6.96	8.00	Pass



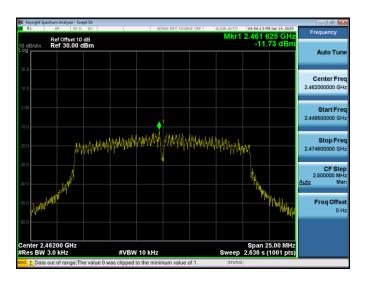


Test Mode	IEEE 802.11g

Test Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Maximum Limit (dBm/3kHz)	Result
2412	-11.05	8.00	Pass
2437	-11.87	8.00	Pass
2462	-11.73	8.00	Pass



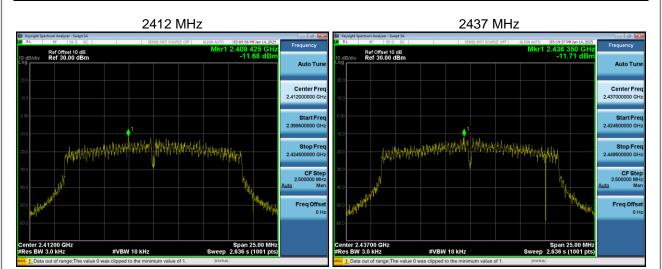
2462 MHz



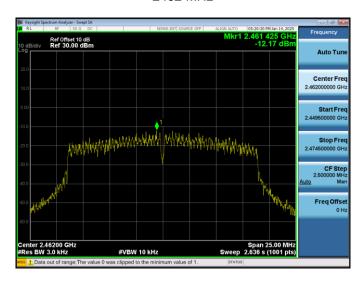


Test Mode	IEEE 802.11n (HT20) ANT1
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Test Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Maximum Limit (dBm/3kHz)	Result
2412	-11.68	8.00	Pass
2437	-11.71	8.00	Pass
2462	-12.17	8.00	Pass



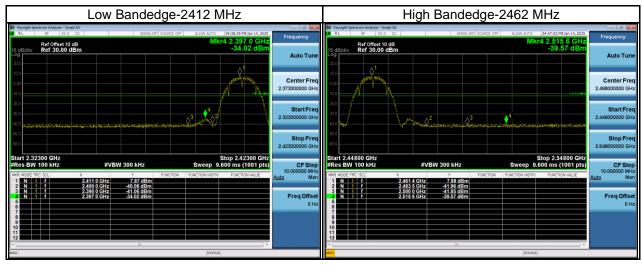
2462 MHz





APPENDIX G ANTENNA CONDUCTED SPURIOUS EMISSIONS

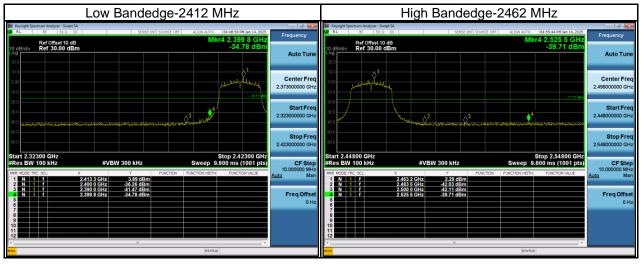
Test Mode IEEE 802.11b







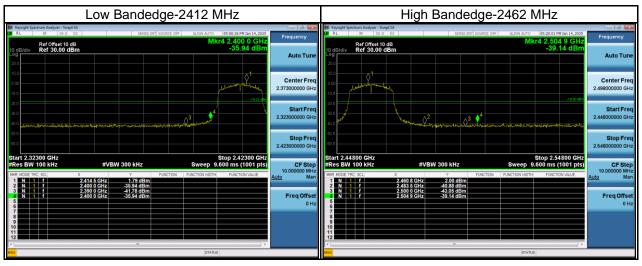
Test Mode IEEE 802.11g

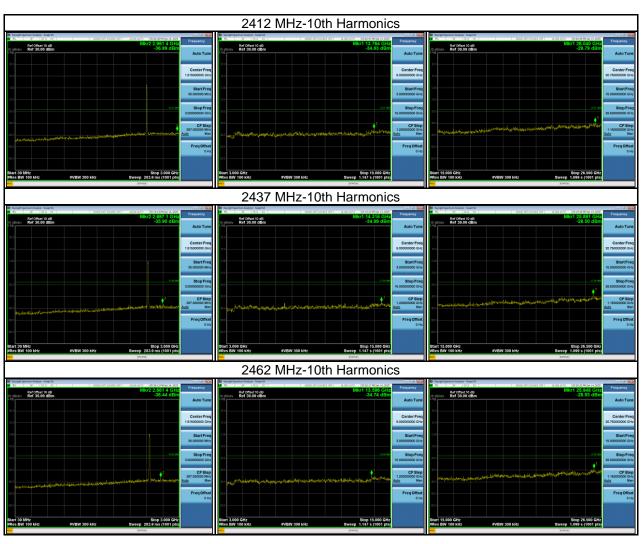






Test Mode IEEE 802.11n (HT20) ANT1





End of Test Report