

TEST REPORT

FCC ID: KA2WR932WB1**Product: D-Link****Model No.: DWR-932W, DWR-932W/X, DWR-932W/XX, DWR-932W/XXX (X CAN BE 0-9, A-Z)****Trade Mark: D-Link****Report No.: WSCT-ANAB-R&E250400022A-Wi-Fi****Issued Date: 06 May 2025****Issued for:****D-Link Corporation****14420 Myford Road Suite 100, Irvine, California 92606, United States****Issued By:****World Standardization Certification & Testing Group(Shenzhen) Co.,Ltd.
Building A-B, Baoli'an Industrial Park, No. 58 Tangtou Avenue, Shiyao Street,
Bao'an District, Shenzhen, Guangdong, China****TEL: +86-755-26996192****FAX: +86-755-86376605**

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1. Test Certification

Product: D-Link

Model No.: DWR-932W, DWR-932W/X, DWR-932W/XX, DWR-932W/XXX (X CAN BE 0-9, A-Z)

Additional Model: D-Link

Applicant: D-Link Corporation
14420 Myford Road Suite 100, Irvine, California 92606, United States

Manufacturer: D-LINK CORPORATION
14420 Myford Road Suite 100, Irvine, California 92606, United States

Date of receipt: 04 March 2025

Date of Test: 05 March 2025 to 10 April 2025

Applicable Standards: FCC CFR Title 47 Part 15 Subpart C Section 15.247

The above equipment has been tested by World Standardization Certification & Testing Group (Shenzhen) Co., Ltd. and found compliance with the requirements set forth in the technical standards mentioned above. The results of testing in this report apply only to the product system, which was tested. Other similar equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties.

Tested By:

Wang Xiang

(Wang Xiang)

Checked By:

Qin Shiquan

(Qin Shiquan)

Approved By:

Li Huaibi

(Li Huaibi)

Date:

67 May 2025



2. Test Result Summary

Requirement	CFR 47 Section	Result
Antenna requirement	§15.203/§15.247 (c)	PASS
AC Power Line Conducted Emission	§15.207	PASS
Maximum Conducted Output Power	§15.247 (b)(3) §2.1046	PASS
6dB Emission Bandwidth	§15.247 (a)(2) §2.1049	PASS
Power Spectral Density	§15.247 (e)	PASS
Band Edge	§15.247(d) §2.1051, §2.1057	PASS
Spurious Emission	§15.205/§15.209 §2.1053, §2.1057	PASS

Note:

1. PASS: Test item meets the requirement.
2. Fail: Test item does not meet the requirement.
3. N/A: Test case does not apply to the test object.
4. The test result judgment is decided by the limit of test standard.

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3. EUT Description

Product:	D-Link
Model No.:	DWR-932W, DWR-932W/X, DWR-932W/XX, DWR-932W/XXX (X CAN BE 0-9, A-Z)
Trade Mark:	D-Link
Operation Frequency:	2412MHz~2462MHz (802.11b/g/n(HT20)) 2422MHz~2452MHz (802.11n(HT40))
Channel Separation:	5MHz
Modulation type:	DSSS (DBPSK, DQPSK, CCK) for IEEE 802.11b OFDM/OFDMA(BPSK,QPSK,16QAM,64QAM,256QAM,) for IEEE 802.11g/n
Antenna Type:	FPC Antenna
Antenna Gain	2.51dBi
Operating Voltage	Rechargeable Li-ion Polymer Battery: 675465ART Rated Voltage: 3.7V Limited charge voltage:4.2V Rated Capacity: 3000mAh/11.1Wh
Remark:	N/A.

Note: 1. N/A stands for no applicable.
2. Antenna gain provided by the customer.

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Operation Frequency each of channel For 802.11b/g/n(HT20)

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
1	2412MHz	4	2427MHz	7	2442MHz	10	2457MHz
2	2417MHz	5	2432MHz	8	2447MHz	11	2462MHz
3	2422MHz	6	2437MHz	9	2452MHz		

Operation Frequency each of channel For 802.11n(HT40)

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
--	--	4	2427MHz	7	2442MHz	--	--
--	--	5	2432MHz	8	2447MHz	--	--
3	2422MHz	6	2437MHz	9	2452MHz		

Note:

In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

802.11b/g/n(HT20)

Channel	Frequency
The lowest channel	2412MHz
The middle channel	2437MHz
The Highest channel	2462MHz

802.11n(HT40)

Channel	Frequency
The lowest channel	2422MHz
The middle channel	2437MHz
The Highest channel	2452MHz

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4. General Information

4.1. Test environment and mode

Operating Environment:

Temperature:	25.0 °C
Humidity:	56 % RH
Atmospheric Pressure:	1010 mbar

Test Mode:

Engineering mode:	Keep the EUT in continuous transmitting by select channel and modulations(The value of duty cycle is 98.46%)
-------------------	--

The sample was placed (0.8m below 1GHz, 1.5m above 1GHz) above the ground plane of 3m chamber. Measurements in both horizontal and vertical polarities were performed. During the test, each emission was maximized by: having the EUT continuously working, investigated all operating modes, rotated about all 3 axis (X, Y & Z) and considered typical configuration to obtain worst position, manipulating interconnecting cables, rotating the turntable, varying antenna height from 1m to 4m in both horizontal and vertical polarizations. The emissions worst-case are shown in Test Results of the following pages. For the full battery state and The output power to the maximum state.

We have verified the construction and function in typical operation. All the test modes were carried out with the EUT in transmitting operation, which was shown in this test report and defined as follows:

Per-scan all kind of data rate in lowest channel, and found the follow list which it was worst case.

Mode
802.11b
802.11g
802.11n(H20)
802.11n(H40)

Final Test Mode:

Operation mode:	Keep the EUT in continuous transmitting with modulation
-----------------	---

1. For WIFI function, the engineering test program was provided and enabled to make EUT continuous transmit/receive. 2. According to ANSI C63.10 standards, the test results are both the "worst case" and "worst setup" 1Mbps for 802.11b, 6Mbps for 802.11g, 6.5Mbps for 802.11n(H20). Duty cycle setting during the transmission is 98.5% with maximum power setting for all modulations.

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4.2. Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Mfr/Brand	Model/Type No.	Series No.	Note
1	Adapter	/	U180XSA/ U100XSA	/	/

1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
2. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.
3. For conducted measurements (Output Power, 6dB Emission Bandwidth, Power Spectral Density, Spurious Emissions), the antenna of EUT is connected to the test equipment via temporary antenna connector, the antenna connector is soldered on the antenna port of EUT, and the temporary antenna connector is listed in the Test Instruments.

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5. Facilities and Accreditations

5.1. Facilities

All measurement facilities used to collect the measurement data are located at **Building A-B, Baoli'an Industrial Park, No. 58 Tangtou Avenue, Shiyao Street, Bao'an District, Shenzhen, Guangdong, China of the World Standardization Certification & Testing Group (Shenzhen) Co., Ltd.**

The sites are constructed in conformance with the requirements of ANSI C63.4 and CISPR Publication 22. All receiving equipment conforms to CISPR Publication 16-1, "Radio Interference Measuring Apparatus and Measurement Methods."

5.2. ACCREDITATIONS

ANAB - Certificate Number: AT-3951

The EMC Laboratory has been accredited by the American Association for Laboratory Accreditation (ANAB). Certification Number: AT-3951

5.3.Measurement Uncertainty

The reported uncertainty of measurement $y \pm U$, where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately 95 %.

No.	Item	MU
1	Conducted Emission Test	$\pm 3.2\text{dB}$
2	RF power, conducted	$\pm 2.4\%$
3	Spurious emissions, conducted	$\pm 0.21\text{dB}$
4	All emissions, radiated(<1GHz)	$\pm 4.7\text{dB}$
5	All emissions, radiated(>1GHz)	$\pm 4.7\text{dB}$
6	Temperature	$\pm 0.5^{\circ}\text{C}$
7	Humidity	$\pm 2.0\%$
8	Receiver Spurious Emissions	$\pm 2.5\%$
9	Transmitter Unwanted Emissions in the Spurious Domain	$\pm 2.5\%$
10	Transmitter Unwanted Emission in the out-of Band	$\pm 1.3\%$
11	Occupied Channel Bandwidth	$\pm 2.4\%$

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5.4.MEASUREMENT INSTRUMENTS

NAME OF EQUIPMENT	MANUFACTURER	MODEL	SERIAL NUMBER	Calibration Date	Calibration Due.
Test software	--	EZ-EMC	CON-03A	-	-
Test software	--	MTS8310	--	-	--
EMI Test Receiver	R&S	ESCI	100005	11/05/2024	11/04/2025
LISN	AFJ	LS16	16010222119	11/05/2024	11/04/2025
LISN(EUT)	Mestec	AN3016	04/10040	11/05/2024	11/04/2025
Universal Radio Communication Tester	R&S	CMU 200	1100.0008.02	11/05/2024	11/04/2025
Coaxial cable	Megalon	LMR400	N/A	11/05/2024	11/04/2025
GPIO cable	Megalon	GPIO	N/A	11/05/2024	11/04/2025
Spectrum Analyzer	R&S	FSU	100114	11/05/2024	11/04/2025
Pre Amplifier	H.P.	HP8447E	2945A02715	11/05/2024	11/04/2025
Pre-Amplifier	CDSI	PAP-1G18-38	--	11/05/2024	11/04/2025
Bi-log Antenna	SCHWARZBECK	VULB9168	01488	7/29/2024	7/28/2025
9*6*6 Anechoic	--	--	--	11/05/2024	11/04/2025
Horn Antenna	COMPLIANCE ENGINEERING	CE18000	--	11/05/2024	11/04/2025
Horn Antenna	SCHWARZBECK	BBHA9120D	9120D-631	11/05/2024	11/04/2025
Cable	TIME MICROWAVE	LMR-400	N-TYPE04	11/05/2024	11/04/2025
System-Controller	CCS	N/A	N/A	N.C.R	N.C.R
Turn Table	CCS	N/A	N/A	N.C.R	N.C.R
Antenna Tower	CCS	N/A	N/A	N.C.R	N.C.R
RF cable	Murata	MXHQ87WA3000	-	11/05/2024	11/04/2025
Loop Antenna	EMCO	6502	00042960	11/05/2024	11/04/2025
Horn Antenna	SCHWARZBECK	BBHA 9170	1123	11/05/2024	11/04/2025
Power meter	Anritsu	ML2487A	6K00003613	11/05/2024	11/04/2025
Power sensor	Anritsu	MX248XD	--	11/05/2024	11/04/2025
Spectrum Analyzer	Keysight	N9010B	MY60241089	11/05/2024	11/04/2025

6. Test Results and Measurement Data

6.1. Antenna requirement

Standard requirement:

FCC Part15 C Section 15.203 /247(c)

15.203 requirement:

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. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

15.247(c) (1)(i) requirement:

(i) Systems operating in the 2400-2483.5 MHz band that is used exclusively for fixed. Point-to-point operations may employ transmitting antennas with directional gain greater than 6dBi provided the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6dBi.

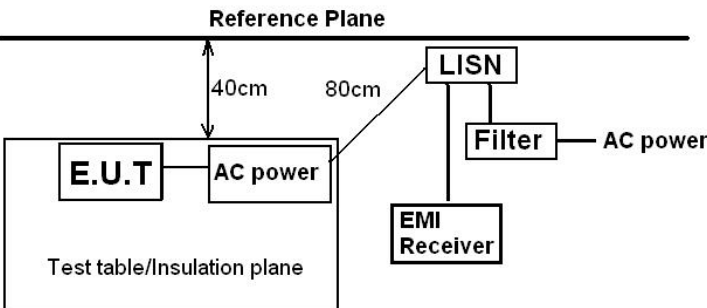
E.U.T Antenna:

The Bluetooth antenna is a FPC Antenna. it meets the standards, and the best case gain of the antenna is 2.51dBi.

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6.2. Conducted Emission

6.2.1. Test Specification

Test Requirement:	FCC Part15 C Section 15.207		
Test Method:	ANSI C63.10:2014		
Frequency Range:	150 kHz to 30 MHz		
Receiver setup:	RBW=9 kHz, VBW=30 kHz, Sweep time=auto		
Limits:	Frequency range (MHz)	Limit (dBuV)	
		Quasi-peak	Average
	0.15-0.5	66 to 56*	56 to 46*
	0.5-5	56	46
	5-30	60	50
Test Setup:	 Remark: E.U.T: Equipment Under Test LISN: Line Impedance Stabilization Network Test table height=0.8m		
Test Mode:	Charging + transmitting with modulation		
Test Procedure:	1. The E.U.T is connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm/50uH coupling impedance for the measuring equipment. 2. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refer to the block diagram of the test setup and photographs). 3. Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10: 2014 on conducted measurement.		
Test Result:	PASS		

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6.2.2. EUT OPERATING CONDITIONS

The EUT is working in the Normal link mode. All modes have been tested and normal link mode is worst.

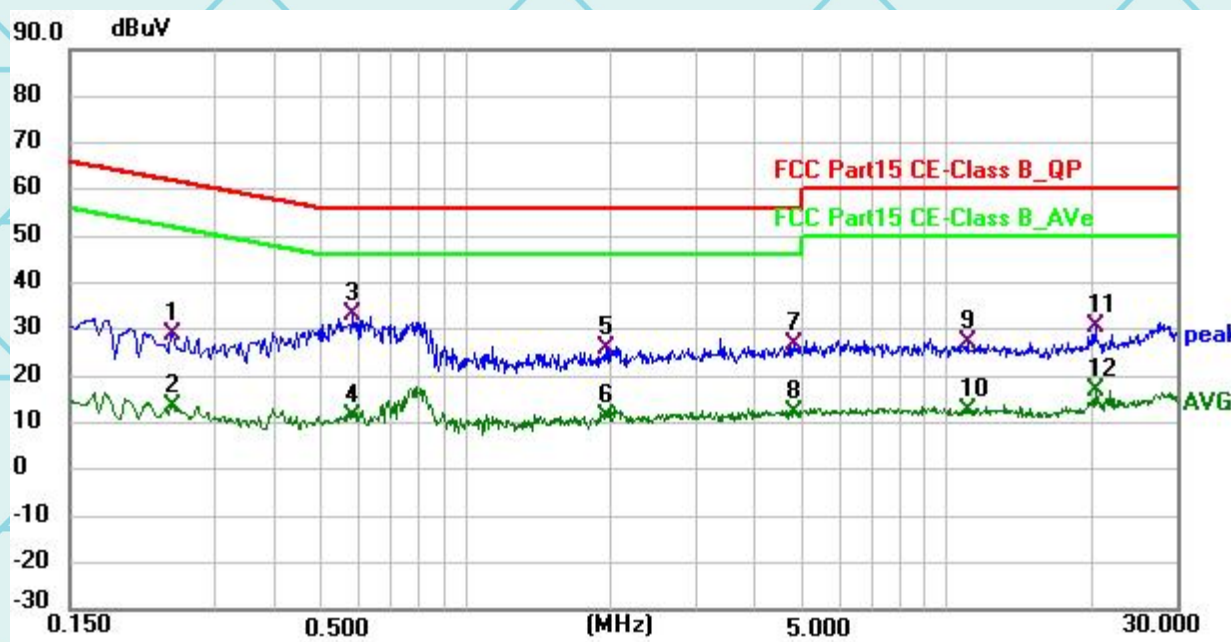
Devices subject to Part 15 must be tested for all available U.S. voltages and frequencies (such as a nominal 120 VAC, 60 Hz and 240 VAC, 50 Hz) for which the device is capable of operation. So, The configuration 120 VAC, 60 Hz and 240 VAC, 50 Hz were tested respectively, but only the worst configuration (120 VAC, 60 Hz) shown here.

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Test data

Please refer to following diagram for individual

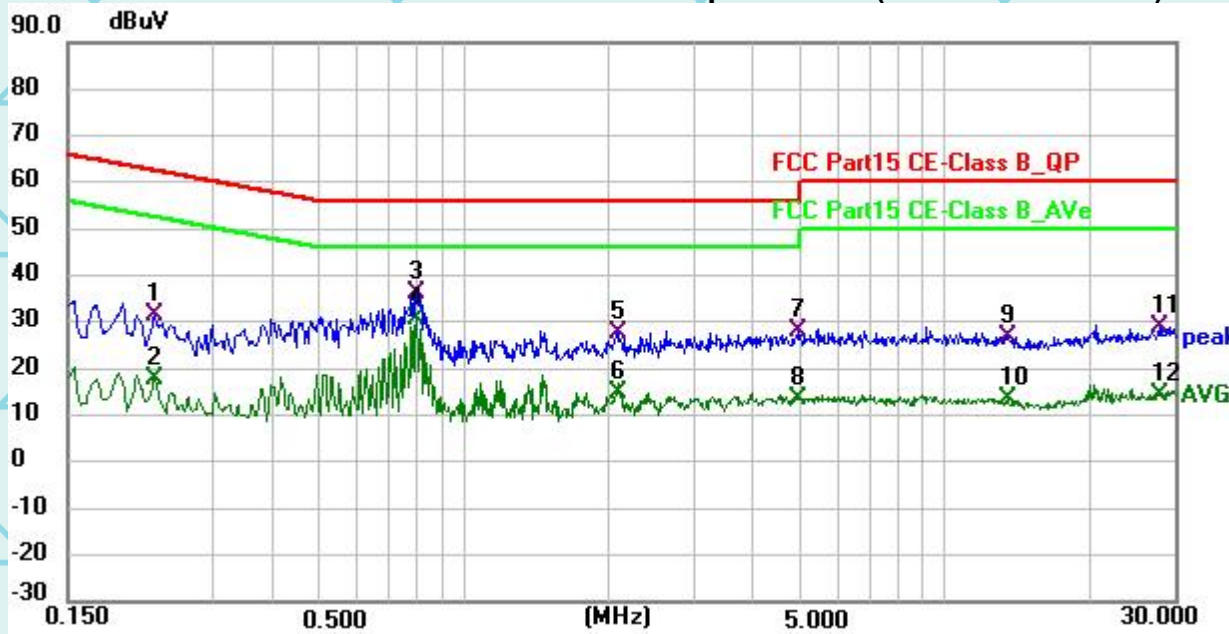
Conducted Emission on Line Terminal of the power line (150 kHz to 30MHz)



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.2445	8.34	20.66	29.00	61.94	-32.94	QP
2	0.2445	-7.26	20.66	13.40	51.94	-38.54	AVG
3 *	0.5820	12.60	20.52	33.12	56.00	-22.88	QP
4	0.5820	-9.14	20.52	11.38	46.00	-34.62	AVG
5	1.9545	5.23	20.61	25.84	56.00	-30.16	QP
6	1.9545	-9.19	20.61	11.42	46.00	-34.58	AVG
7	4.8435	6.13	20.57	26.70	56.00	-29.30	QP
8	4.8435	-8.43	20.57	12.14	46.00	-33.86	AVG
9	11.0580	6.84	20.39	27.23	60.00	-32.77	QP
10	11.0580	-7.57	20.39	12.82	50.00	-37.18	AVG
11	20.3100	10.21	20.28	30.49	60.00	-29.51	QP
12	20.3100	-3.18	20.28	17.10	50.00	-32.90	AVG

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Conducted Emission on Neutral Terminal of the power line (150 kHz to 30MHz)



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.2265	10.79	20.67	31.46	62.58	-31.12	QP
2	0.2265	-3.07	20.67	17.60	52.58	-34.98	AVG
3	0.7980	15.61	20.58	36.19	56.00	-19.81	QP
4 *	0.7980	9.90	20.58	30.48	46.00	-15.52	AVG
5	2.0895	7.09	20.61	27.70	56.00	-28.30	QP
6	2.0895	-5.97	20.61	14.64	46.00	-31.36	AVG
7	4.9560	7.43	20.57	28.00	56.00	-28.00	QP
8	4.9560	-7.28	20.57	13.29	46.00	-32.71	AVG
9	13.4880	6.74	20.25	26.99	60.00	-33.01	QP
10	13.4880	-6.83	20.25	13.42	50.00	-36.58	AVG
11	28.0905	7.96	20.95	28.91	60.00	-31.09	QP
12	28.0905	-6.66	20.95	14.29	50.00	-35.71	AVG

Note1:

Freq. = Emission frequency in MHz

Reading level (dBuV) = Receiver reading

Corr. Factor (dB) = Antenna factor + Cable loss

Measurement (dBuV) = Reading level (dBuV) + Corr. Factor (dB)

Limit (dBuV) = Limit stated in standard

Margin (dB) = Measurement (dBuV) - Limits (dBuV)

Q.P. = Quasi-Peak AVG = average

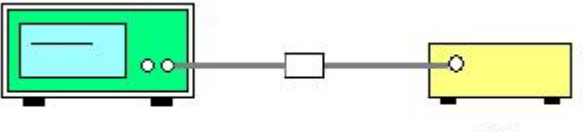
* is meaning the worst frequency has been tested in the frequency range 150 kHz to 30MHz.

For multiple adapters, the report only displays the adapter with the worst data.

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6.2.3. Maximum Conducted Output Power

6.2.4. Test Specification

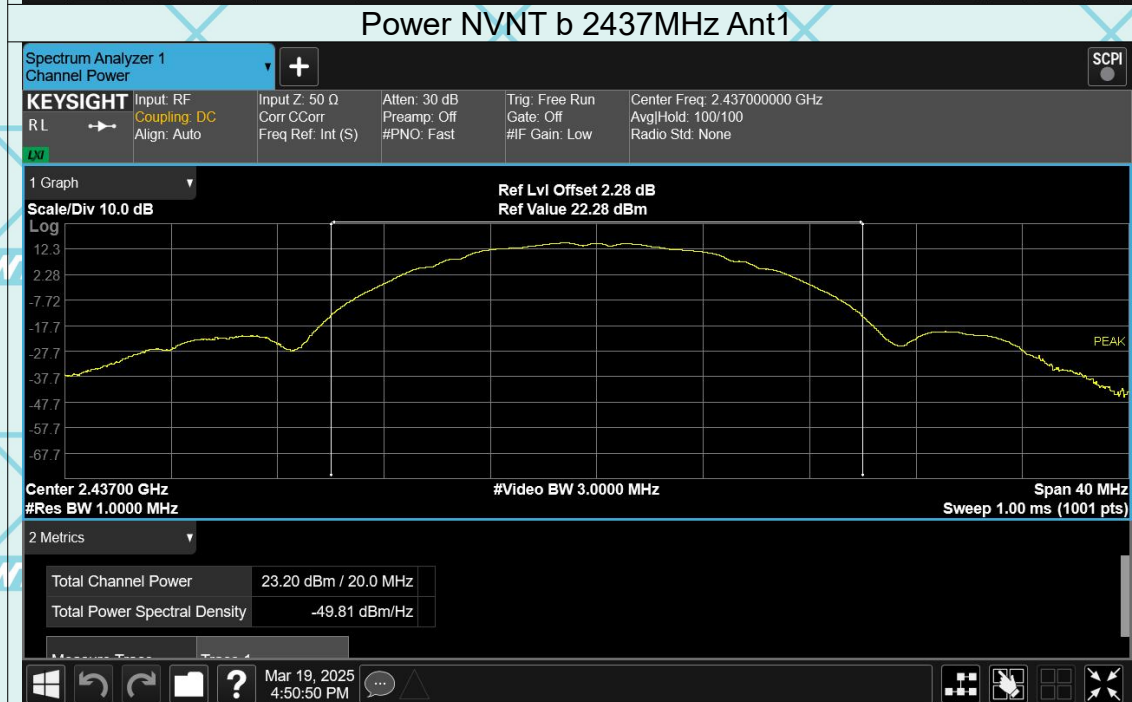
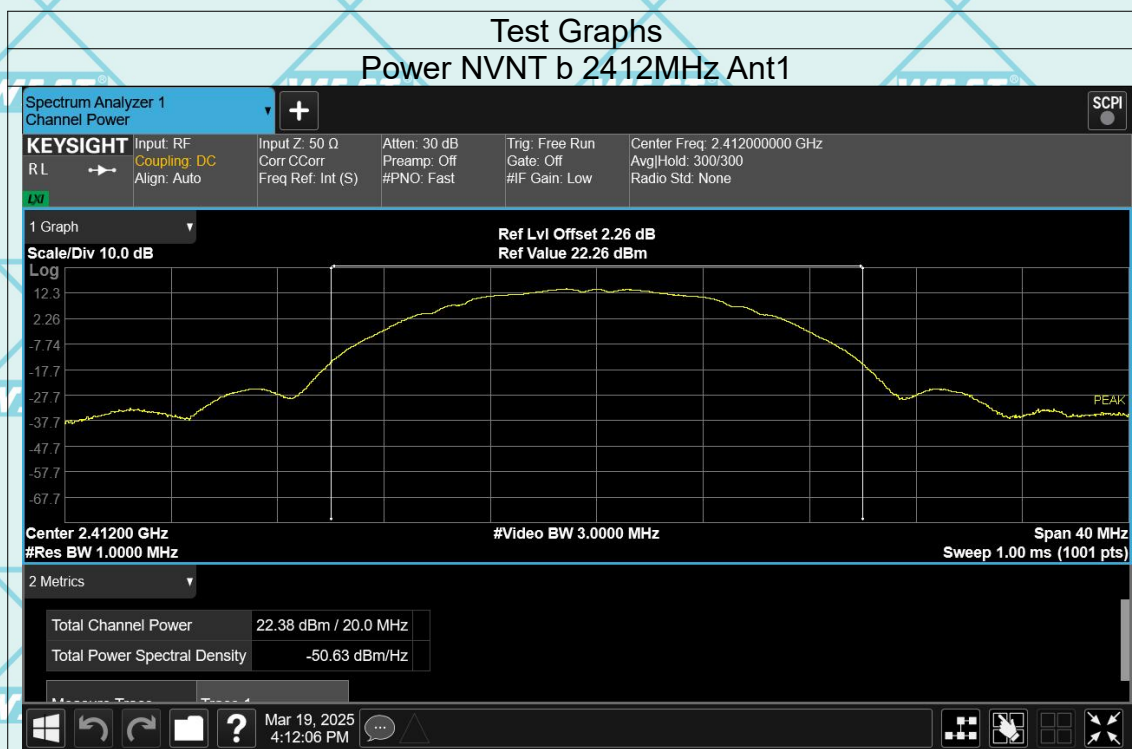
Test Requirement:	FCC Part15 C Section 15.247 (b)(3)
Test Method:	KDB 558074
Limit:	30dBm
Test Setup:	 Spectrum Analyzer EUT
Test Mode:	Transmitting mode with modulation
Test Procedure:	1. The testing follows the Measurement Procedure of FCC KDB No. 558074 DTS D01 Meas. Guidance v04. 2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement. 3. Set to the maximum power setting and enable the EUT transmit continuously. 4. Measure the conducted output power and record the results in the test report.
Test Result:	PASS

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6.2.5. Test Data

Mode	Frequency (MHz)	Maximum Conducted Output Power (dBm)	Limit (dBm)	Verdict
b	2412	22.38	30	Pass
b	2437	23.20	30	Pass
b	2462	22.02	30	Pass
g	2412	17.76	30	Pass
g	2437	25.42	30	Pass
g	2462	24.41	30	Pass
n20	2412	24.39	30	Pass
n20	2437	24.76	30	Pass
n20	2462	24.02	30	Pass
n40	2422	21.01	30	Pass
n40	2437	22.24	30	Pass
n40	2452	23.76	30	Pass

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Power NVNT b 2462MHz Ant1



Power NVNT g 2412MHz Ant1

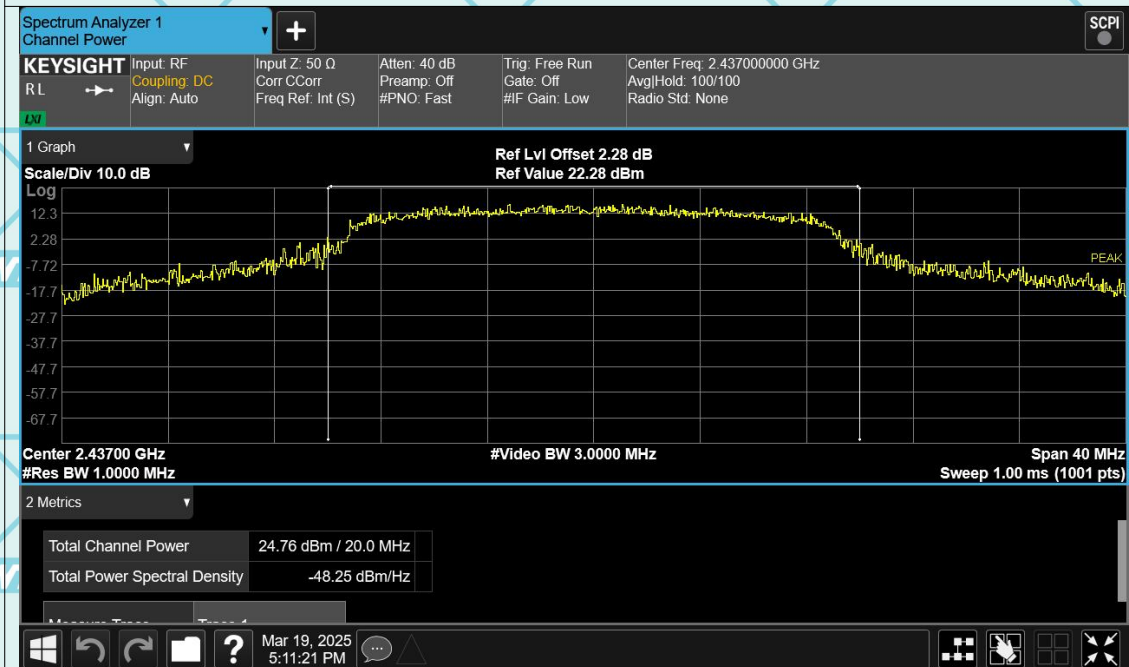


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Power NVNT n20 2412MHz Ant1

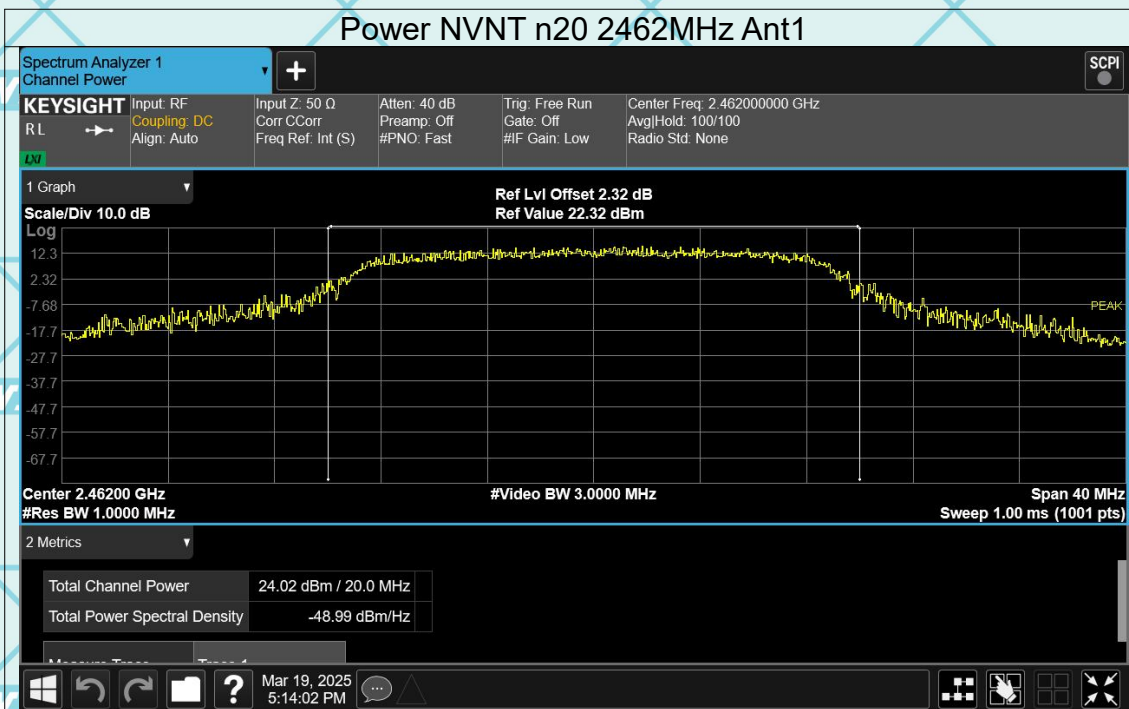


Power NVNT n20 2437MHz Ant1

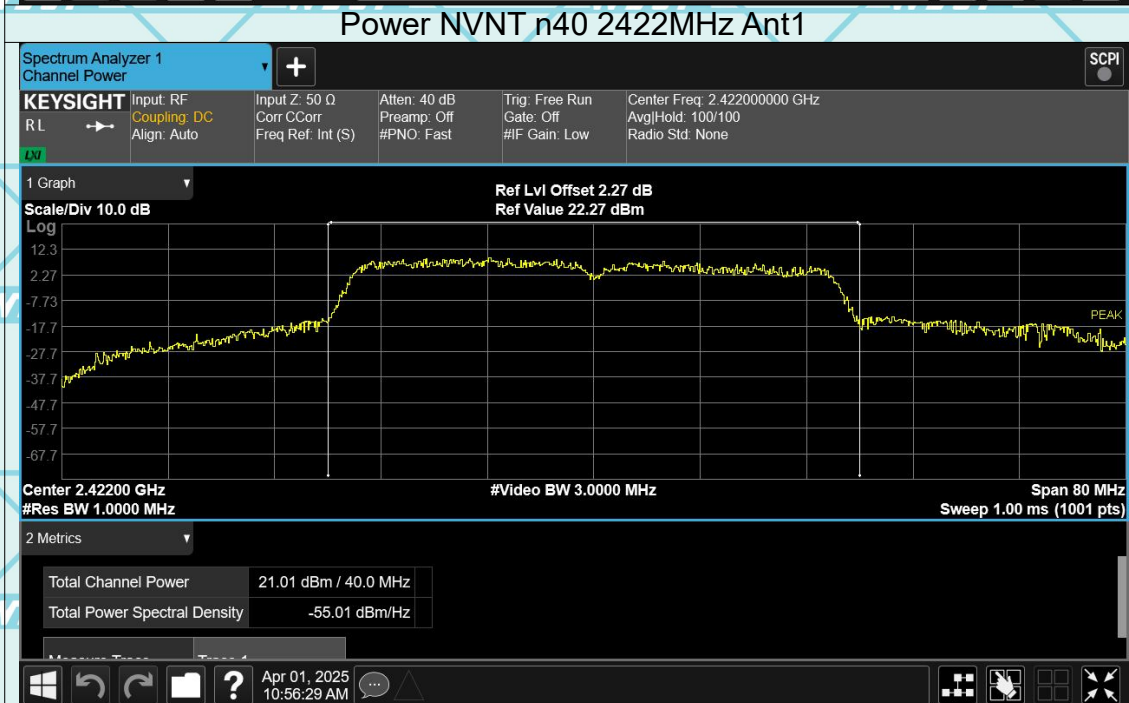


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Power NVNT n20 2462MHz Ant1

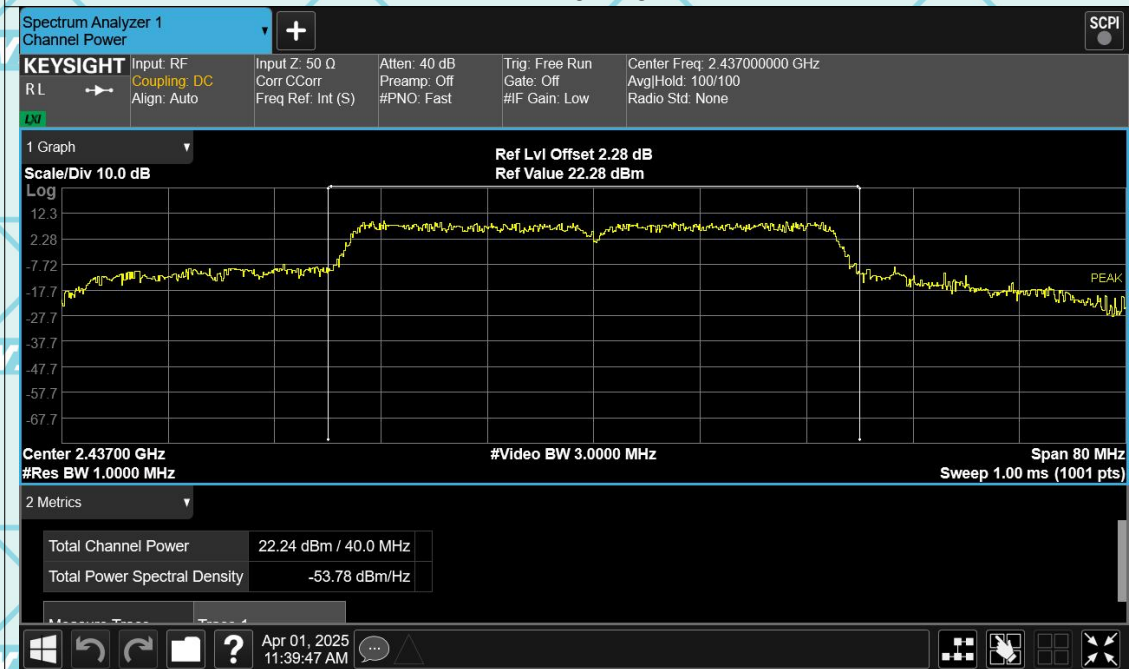


Power NVNT n40 2422MHz Ant1

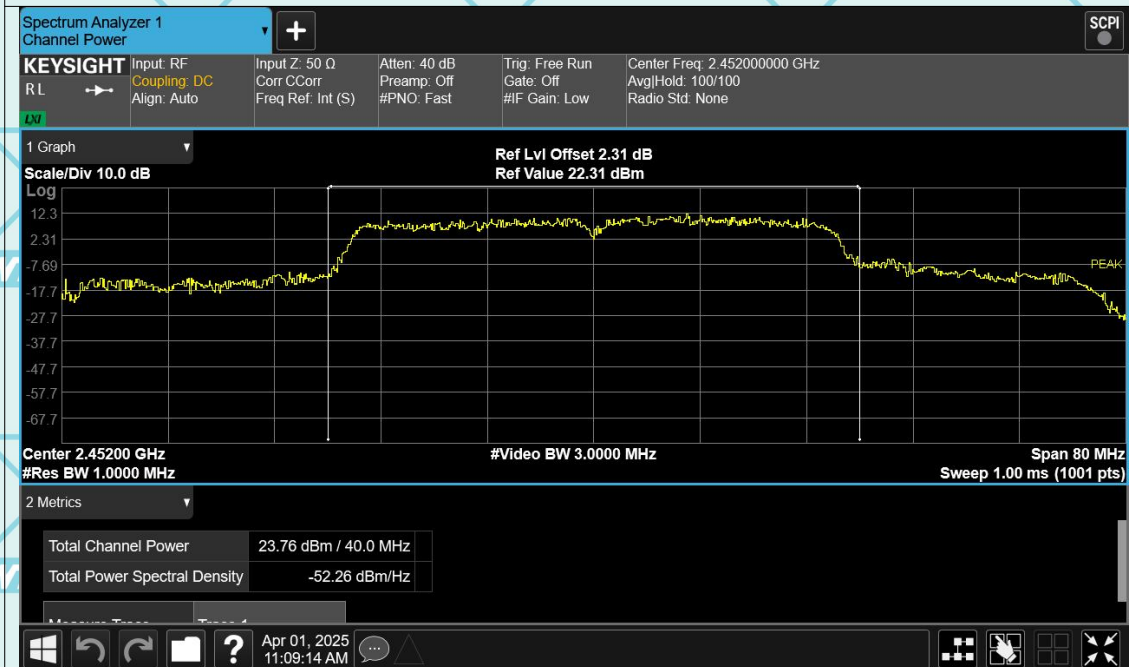


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Power NVNT n40 2437MHz Ant1



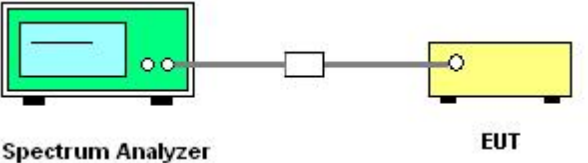
Power NVNT n40 2452MHz Ant1



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6.3. Emission Bandwidth

6.3.1. Test Specification

Test Requirement:	FCC Part15 C Section 15.247 (a)(2)
Test Method:	KDB 558074
Limit:	>500kHz
Test Setup:	 Spectrum Analyzer EUT
Test Mode:	Transmitting mode with modulation
Test Procedure:	1. The testing follows FCC KDB Publication No. 558074 DTS D01 Meas. Guidance v04. 2. Set to the maximum power setting and enable the EUT transmit continuously. 3. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 100 kHz. Set the Video bandwidth (VBW) = 300 kHz. In order to make an accurate measurement. The 6dB bandwidth must be greater than 500 kHz. 4. Measure and record the results in the test report.
Test Result:	PASS

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6.3.2. Test data(worst)

Mode	Frequency (MHz)	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
b	2412	9.984	0.5	Pass
b	2437	9.537	0.5	Pass
b	2462	10.054	0.5	Pass
g	2412	16.365	0.5	Pass
g	2437	16.076	0.5	Pass
g	2462	16.338	0.5	Pass
n20	2412	16.689	0.5	Pass
n20	2437	16.93	0.5	Pass
n20	2462	13.18	0.5	Pass
n40	2422	35.105	0.5	Pass
n40	2437	35.885	0.5	Pass
n40	2452	35.1	0.5	Pass

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Test Graphs

-6dB Bandwidth NVNT b 2412MHz Ant1



-6dB Bandwidth NVNT b 2437MHz Ant1



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