RADIO PERFORMANCE TEST REPORT

Test Report No. : **OT-256-RWD-036**

Reception No. : **2505001660**

Applicant : **LG Innotek Co., Ltd.**

Address : **30, Magokjungang 10-ro, Gangseo-gu, Seoul, 07796, South Korea**

Manufacturer : **LG Innotek Co., Ltd.**

Address : **26, Hanamsandan 5beon-ro Gwangsan-gu, Gwangju, 506-731, South Korea**

Type of Equipment : **4PPoE-BLE WLAN Bridge**

FCC ID. : **YZP-ETPPDRPP01**

Model Name : **ETPPDRPP01**

Multiple Model Name : **N/A**

Serial number : **N/A**

Total page of Report : **84 pages (including this page)**

Date of Incoming : **May 07, 2025**

Date of issue : **June 25, 2025**

SUMMARY

The equipment complies with the regulation; ***FCC PART 15 SUBPART C Section 15.247***

This test report only contains the result of a single test of the sample supplied for the examination.

It is not a generally valid assessment of the features of the respective products of the mass-production.

This report is not correlated with the "KS Q ISO/IEC 17025 and KOLAS accreditation" of Korean Laboratory Accreditation Scheme.

Tested by	Reviewed by	Approved by
Si-eon Lee / Senior Project Engineer	Tae-Ho, Kim / Chief Engineer	Jae-Ho, Lee / Director
ONETECH Corp.	ONETECH Corp.	ONETECH Corp.

ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)

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ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)

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※ Please refer to the Annex section for All test plots

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Revision History

Rev. No.	Issue Report No.	Issued Date	Revisions	Section Affected
0	OT-256-RWD-036	June 25, 2025	Initial Release	All

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1. VERIFICATION OF COMPLIANCE

Applicant : LG Innotek Co., Ltd.

Address : 30, Magokjungang 10-ro, Gangseo-gu, Seoul, 07796, South Korea

Contact Person : Jeong Inchang / Senior Research Engineer

Telephone No. : +82-62-950-332

FCC ID : YZP-ETPPDRPP01

Model Name : ETPPDRPP01

Brand Name : -

Serial Number : N/A

Date : June 25, 2025

EQUIPMENT CLASS	DTS – DIGITAL TRNSMISSION SYSTEM
E.U.T. DESCRIPTION	Modular Transmitter, 4PPoE-BLE WLAN Bridge
THIS REPORT CONCERNS	Original Grant
MEASUREMENT PROCEDURES	ANSI C63.10: 2020
TYPE OF EQUIPMENT TESTED	Pre-Production
KIND OF EQUIPMENT AUTHORIZATION REQUESTED	Certification
EQUIPMENT WILL BE OPERATED UNDER FCC RULES PART(S)	FCC PART 15 SUBPART C Section 15.247 KDB 558074 D01 15.247 Meas Guidance v05r02
Modifications on the Equipment to Achieve Compliance	None
Final Test was Conducted On	3 m, Semi Anechoic Chamber

-. The above equipment was tested by ONETECH Corp. for compliance with the requirement set forth in the FCC Rules and Regulations. This said equipment in the configuration described in this report, shows the maximum emission levels emanating from equipment are within the compliance requirements.

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2. TEST SUMMARY

2.1 Test items and results

SECTION	TEST ITEMS	RESULTS
15.247 (a) (2)	Minimum 6 dB Bandwidth	Met the Limit / PASS
15.247 (b) (3)	Maximum Conducted(average) Output Power	Met the Limit / PASS
15.247 (d)	100 kHz Bandwidth Outside the Frequency Band	Met the Limit / PASS
15.247 (d)	Radiated Emission which fall in the Restricted Band	Met the Limit / PASS
15.247 (e)	Peak Power Spectral Density	Met the Limit / PASS
15.209	Radiated Emission Limits	Met the Limit / PASS
15.207	Conducted Limits	Met the Limit / PASS
15.203	Antenna Requirement	Met requirement / PASS

2.2 Additions, deviations, exclusions from standards

No additions, deviations or exclusions have been made from standard.

2.3 Related Submittal(s) / Grant(s)

Original submittal only

2.4 Purpose of the test

To determine whether the equipment under test fulfills the requirements of the regulation stated in FCC PART 15 SUBPART C Section 15.247.

2.5 Test Methodology

Both conducted and radiated testing was performed according to the procedures in ANSI C63.10: 2020. Radiated testing was performed at a distance of 3 m from EUT to the antenna.

2.6 Test Facility

The Onetech Corp. has been designated to perform equipment testing in compliance with ISO/IEC 17025.

The Electromagnetic compatibility measurement facilities are located at 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea

-. Site Filing:

VCCI (Voluntary Control Council for Interference) – Registration No. R-20122/ C-14617/ G-10666/ T-11842

-. Lab Accreditation:

KOLAS (Korea Laboratory Accreditation Scheme) - Accreditation NO. KT085

ISED (Innovation, Science and Economic Development Canada) – Registration No. Site# 3736A-3

FCC (Federal Communications Commission) - Accreditation No. KR0013

RRA (Radio Research Agency) – Designation No. KR0013

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3. GENERAL INFORMATION

3.1 Product Description

The LG Innotek Co., Ltd., Model ETPPDRPP01 (referred to as the EUT in this report) is a 4PPoE-BLE WLAN Bridge. The product specification described herein was obtained from product data sheet or user's manual.

DEVICE TYPE	4PPoE-BLE WLAN Bridge	
OPERATING FREQUENCY	Bluetooth LE	2 402 MHz ~ 2 480 MHz
	Bluetooth	2 402 MHz ~ 2 480 MHz
	WLAN 2.4 GHz	2 412 MHz ~ 2 462 MHz (802.11b/g/n(HT20))
		2 422 MHz ~ 2 452 MHz (802.11n(HT40))
	WLAN 5 150 MHz ~ 5 250 MHz Band	5 180 MHz ~ 5 240 MHz (802.11a/n(HT20)/ac(VHT20))
		5 190 MHz ~ 5 230 MHz (802.11n(HT40)/ac(VHT40))
		5 210 MHz (802.11ac(VHT80))
	WLAN 5 250 MHz ~ 5 350 MHz Band	5 260 MHz ~ 5 320 MHz (802.11a/n(HT20)/ac(VHT20))
		5 270 MHz ~ 5 310 MHz (802.11n(HT40)/ac(VHT40))
		5 290 MHz (802.11ac(VHT80))
	WLAN 5 470 MHz ~ 5 725 MHz Band	5 500 MHz ~ 5 720 MHz (802.11a/n(HT20)/ac(VHT20))
		5 510 MHz ~ 5 710 MHz (802.11n(HT40)/ac(VHT40))
		5 530 MHz ~ 5 690 MHz (802.11ac(VHT80))
	WLAN 5 725 MHz ~ 5 850 MHz Band	5 745 MHz ~ 5 825 MHz (802.11a/n(HT20)/ac(VHT20))
		5 755 MHz ~ 5 795 MHz (802.11n(HT40)/ac(VHT40))
		5 775 MHz (802.11ac(VHT80))
MODULATION TYPE	Bluetooth LE	GFSK for 1 Mbps / 2 Mbps
	Bluetooth	GFSK for 1Mbps, π/4-DQPSK for 2Mbps, 8-DPSK for 3Mbps
	WLAN 2.4 GHz	802.11b: DSSS Modulation(DBPSK/DQPSK/CCK) 802.11g/n(HT20)/n(HT40): OFDM Modulation(BPSK/QPSK/16QAM/64QAM)
	WLAN 5 GHz	802.11a/n(HT20)/n(HT40)/ac(VHT80): OFDM Modulation(BPSK/QPSK/16QAM/64QAM)

RF OUTPUT POWER	Bluetooth LE	125 kbps	7.69 dBm
		500 kbps	7.90 dBm
		1 Mbps	7.69 dBm
		2 Mbps	7.77 dBm
	Bluetooth	1 Mbps	8.14 dBm
		2 Mbps	10.44 dBm
		3 Mbps	10.59 dBm
	WLAN 2.4 GHz	SISO_Antenna 0	20.95 dBm(802.11b) 19.16 dBm(802.11g) 19.13 dBm(802.11n_HT20) 17.11 dBm(802.11n_HT40)
		SISO_Antenna 1	20.72 dBm(802.11b) 19.20 dBm(802.11g) 19.01 dBm(802.11n_HT20) 17.13 dBm(802.11n_HT40)
		MIMO_Antenna 0	14.82 dBm(802.11n_HT20) 11.45 dBm(802.11n_HT40)
		MIMO_Antenna 1	14.83 dBm(802.11n_HT20) 11.44 dBm(802.11n_HT40)
		MIMO_Multiple Antenna	14.82 dBm(802.11n_HT20) 11.45 dBm(802.11n_HT40)

RF OUTPUT POWER	WLAN 5 150 MHz ~ 5 250 MHz Band	SISO_Antenna 0	15.81 dBm(802.11a) 15.98 dBm(802.11n_HT20) 15.32 dBm(802.11n_HT40) 15.34 dBm(802.11ac_VHT20) 15.28 dBm(802.11ac_VHT40) 11.65 dBm(802.11ac_VHT80)
		SISO_Antenna 1	15.97 dBm(802.11a) 15.54 dBm(802.11n_HT20) 15.31 dBm(802.11n_HT40) 15.26 dBm(802.11ac_VHT20) 15.73 dBm(802.11ac_VHT40) 11.66 dBm(802.11ac_VHT80)
		MIMO_Antenna 0	11.82 dBm(802.11n_HT20) 11.05 dBm(802.11n_HT40) 11.84 dBm(802.11ac_VHT20) 11.51 dBm(802.11ac_VHT40) 8.26 dBm(802.11ac_VHT80)
		MIMO_Antenna 1	11.58 dBm(802.11n_HT20) 11.02 dBm(802.11n_HT40) 11.42 dBm(802.11ac_VHT20) 11.33 dBm(802.11ac_VHT40) 8.18 dBm(802.11ac_VHT80)
		MIMO_Multiple Antenna	14.71 dBm(802.11n_HT20) 14.05 dBm(802.11n_HT40) 14.64 dBm(802.11ac_VHT20) 14.38 dBm(802.11ac_VHT40) 11.23 dBm(802.11ac_VHT80)

RF OUTPUT POWER	WLAN 5 250 MHz ~ 5 350 MHz Band	SISO_Antenna 0	16.66 dBm(802.11a) 16.92 dBm(802.11n_HT20) 15.80 dBm(802.11n_HT40) 16.38 dBm(802.11ac_VHT20) 15.68 dBm(802.11ac_VHT40) 12.34 dBm(802.11ac_VHT80)
		SISO_Antenna 1	16.24 dBm(802.11a) 15.95 dBm(802.11n_HT20) 15.47 dBm(802.11n_HT40) 15.61 dBm(802.11ac_VHT20) 15.93 dBm(802.11ac_VHT40) 11.92 dBm(802.11ac_VHT80)
		MIMO_Antenna 0	12.38 dBm(802.11n_HT20) 12.08 dBm(802.11n_HT40) 12.17 dBm(802.11ac_VHT20) 12.13 dBm(802.11ac_VHT40) 8.77 dBm(802.11ac_VHT80)
		MIMO_Antenna 1	11.48 dBm(802.11n_HT20) 11.25 dBm(802.11n_HT40) 11.38 dBm(802.11ac_VHT20) 11.54 dBm(802.11ac_VHT40) 8.41 dBm(802.11ac_VHT80)
		MIMO_Multiple Antenna	14.96 dBm(802.11n_HT20) 14.70 dBm(802.11n_HT40) 14.80 dBm(802.11ac_VHT20) 14.82 dBm(802.11ac_VHT40) 11.60 dBm(802.11ac_VHT80)

RF OUTPUT POWER	WLAN 5 470 MHz ~ 5 725 MHz Band	SISO_Antenna 0	18.09 dBm(802.11a) 18.14 dBm(802.11n_HT20) 18.83 dBm(802.11n_HT40) 17.64 dBm(802.11ac_VHT20) 18.66 dBm(802.11ac_VHT40) 14.32 dBm(802.11ac_VHT80)
		SISO_Antenna 0_Straddle	14.82 dBm(802.11a) 14.41 dBm(802.11n_HT20) 15.98 dBm(802.11n_HT40) 14.52 dBm(802.11ac_VHT20) 16.09 dBm(802.11ac_VHT40) 14.58 dBm(802.11ac_VHT80)
		SISO_Antenna 1	17.08 dBm(802.11a) 16.91 dBm(802.11n_HT20) 16.73 dBm(802.11n_HT40) 16.49 dBm(802.11ac_VHT20) 16.92 dBm(802.11ac_VHT40) 13.83 dBm(802.11ac_VHT80)
		SISO_Antenna 1_Straddle	13.35 dBm(802.11a) 12.91 dBm(802.11n_HT20) 14.16 dBm(802.11n_HT40) 13.08 dBm(802.11ac_VHT20) 13.99 dBm(802.11ac_VHT40) 12.46 dBm(802.11ac_VHT80)

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RF OUTPUT POWER	WLAN 5 470 MHz ~ 5 725 MHz Band	MIMO_Antenna 0	13.47 dBm(802.11n_HT20) 14.25 dBm(802.11n_HT40) 13.24 dBm(802.11ac_VHT20) 14.48 dBm(802.11ac_VHT40) 9.87 dBm(802.11ac_VHT80)
		MIMO_Antenna 0_Straddle	8.06 dBm(802.11n_HT20) 9.56 dBm(802.11n_HT40) 8.43 dBm(802.11ac_VHT20) 9.75 dBm(802.11ac_VHT40) 10.11 dBm(802.11ac_VHT80)
		MIMO_Antenna 1	12.51 dBm(802.11n_HT20) 12.51 dBm(802.11n_HT40) 12.48 dBm(802.11ac_VHT20) 12.57 dBm(802.11ac_VHT40) 9.33 dBm(802.11ac_VHT80)
		MIMO_Antenna 1_Straddle	7.02 dBm(802.11n_HT20) 8.14 dBm(802.11n_HT40) 6.91 dBm(802.11ac_VHT20) 8.15 dBm(802.11ac_VHT40) 7.99 dBm(802.11ac_VHT80)
		MIMO_Multiple Antenna	15.76 dBm(802.11n_HT20) 16.48 dBm(802.11n_HT40) 15.49 dBm(802.11ac_VHT20) 16.64 dBm(802.11ac_VHT40) 12.62 dBm(802.11ac_VHT80)
		MIMO_Multiple Antenna _Straddle	10.58 dBm(802.11n_HT20) 11.92 dBm(802.11n_HT40) 10.75 dBm(802.11ac_VHT20) 12.03 dBm(802.11ac_VHT40) 12.19 dBm(802.11ac_VHT80)

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RF OUTPUT POWER	WLAN 5 725 MHz ~ 5 850 MHz Band	SISO_Antenna 0	18.61 dBm(802.11a) 18.61 dBm(802.11n_HT20) 18.44 dBm(802.11n_HT40) 18.26 dBm(802.11ac_VHT20) 18.35 dBm(802.11ac_VHT40) 17.68 dBm(802.11ac_VHT80)
		SISO_Antenna 0_Straddle	8.54 dBm(802.11a) 8.71 dBm(802.11n_HT20) 4.90 dBm(802.11n_HT40) 8.78 dBm(802.11ac_VHT20) 4.86 dBm(802.11ac_VHT40) -0.89 dBm(802.11ac_VHT80)
		SISO_Antenna 1	18.71 dBm(802.11a) 18.48 dBm(802.11n_HT20) 18.19 dBm(802.11n_HT40) 18.14 dBm(802.11ac_VHT20) 18.42 dBm(802.11ac_VHT40) 17.41 dBm(802.11ac_VHT80)
		SISO_Antenna 1_Straddle	7.35 dBm(802.11a) 7.46 dBm(802.11n_HT20) 3.30 dBm(802.11n_HT40) 7.60 dBm(802.11ac_VHT20) 3.27 dBm(802.11ac_VHT40) -2.68 dBm(802.11ac_VHT80)

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RF OUTPUT POWER	WLAN 5 725 MHz ~ 5 850 MHz Band	MIMO_Antenna 0	13.98 dBm(802.11n_HT20) 13.79 dBm(802.11n_HT40) 13.91 dBm(802.11ac_VHT20) 13.87 dBm(802.11ac_VHT40) 13.33 dBm(802.11ac_VHT80)
		MIMO_Antenna 0_Straddle	2.38 dBm(802.11n_HT20) -1.57 dBm(802.11n_HT40) 2.70 dBm(802.11ac_VHT20) -1.43 dBm(802.11ac_VHT40) -5.40 dBm(802.11ac_VHT80)
		MIMO_Antenna 1	14.07 dBm(802.11n_HT20) 13.76 dBm(802.11n_HT40) 13.91 dBm(802.11ac_VHT20) 13.84 dBm(802.11ac_VHT40) 13.10 dBm(802.11ac_VHT80)
		MIMO_Antenna 1_Straddle	1.63 dBm(802.11n_HT20) -2.48 dBm(802.11n_HT40) 1.53 dBm(802.11ac_VHT20) -2.49 dBm(802.11ac_VHT40) -7.20 dBm(802.11ac_VHT80)
		MIMO_Multiple Antenna	16.90 dBm(802.11n_HT20) 16.78 dBm(802.11n_HT40) 16.83 dBm(802.11ac_VHT20) 16.86 dBm(802.11ac_VHT40) 16.23 dBm(802.11ac_VHT80)
		MIMO_Multiple Antenna _Straddle	5.03 dBm(802.11n_HT20) 1.01 dBm(802.11n_HT40) 5.16 dBm(802.11ac_VHT20) 1.08 dBm(802.11ac_VHT40) -3.20 dBm(802.11ac_VHT80)

ANTENNA TYPE	PCB Antenna, Dipole Antenna		
ANTENNA GAIN	Bluetooth LE	0.15 dBi	
	Bluetooth	0.15 dBi	
	WLAN 2.4 GHz	Antenna 1	0.87 dBi
		Antenna 2	3.12 dBi
		Multiple Antenna	5.15 dBi
	5 150 MHz ~ 5 250 MHz Band	Antenna 1	0.22 dBi
		Antenna 2	3.90 dBi
		Multiple Antenna	5.45 dBi
	5 250 MHz ~ 5 350 MHz Band	Antenna 1	-0.09 dBi
		Antenna 2	3.90 dBi
		Multiple Antenna	5.36 dBi
	5 470 MHz ~ 5 725 MHz Band	Antenna 1	1.56 dBi
		Antenna 2	3.92 dBi
		Multiple Antenna	5.91 dBi
	5 725 MHz ~ 5 850 MHz Band	Antenna 1	1.39 dBi
		Antenna 2	3.85 dBi
		Multiple Antenna	5.80 dBi
List of each Osc. or crystal Freq.(Freq. >= 1 MHz)	40 MHz		

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3.2 Alternative type(s)/model(s); also covered by this test report.

-. Current Diplexer and SMPS components will be co-located with equivalent parts from other Vendors.

-. The following lists consist of the added model and their differences.

Division	DiPlexer		SMPS	
	Basic	Dualization of parts	Basic	Dualization of parts
P/N	DP1608-A2455DTA0	RFDIP1606LE1319W9K	SHP2401LE	SN00952DG
Vendor	ACX	Walsin	Sungho	Mass-Power

Model Name	Differences	Tested
ETPPDRPP01	Basic: Diplexer (Basic), SMPS (Basic)	☑
	Option 1: Diplexer (Dualization of parts), SMPS (Basic)	☑
	Option 2: Diplexer (Basic), SMPS (Dualization of parts)	☐
	Option 1: Diplexer (Dualization of parts), SMPS (Dualization of parts)	☐

Note: 1. Since the applicant has commissioned the basic model and Option1 testing, this test report only guarantees the contents for the units for which the testing has been completed.

2. The Applicant/manufacturer is responsible for the compliance of all variants.

4. EUT MODIFICATIONS

-. None

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5. SYSTEM TEST CONFIGURATION

5.1 Justification

This device was configured for testing in a typical way as a normal customer is supposed to be used. During the test, the following components were installed inside of the EUT.

DEVICE TYPE	MANUFACTURER	MODEL/PART NUMBER	FCC ID
Main Board	LG Innotek Co., Ltd.	N/A	N/A
SMPS Board	SUNGHO ELECTRONIC	SHP2401LE	N/A

5.2 Peripheral equipment

Defined as equipment needed for correct operation of the EUT, but not considered as tested:

Model	Manufacturer	Description	Connected to
ETPPDRPP01	LG Innotek Co., Ltd.	4PPoE-BLE WLAN Bridge (EUT)	
15s-fq1008TU	HP	Notebook PC	EUT
TPN-CA14	CHICONY POWER TECHNOLOGY(Chongqing) CO.,LTD.	AC Adapter	

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5.3 Mode of operation during the test

For the testing, software used to control the EUT for staying in continuous transmitting mode is programmed.

-. Frequency / Channel Operations_20 MHz bandwidth

Channel	Frequency
1	2 412
2	2 417
3	2 422
4	2 427
5	2 432
6	2 437
7	2 442
8	2 447
9	2 452
10	2 457
11	2 462

-. Frequency / Channel Operations_40 MHz bandwidth

Channel	Frequency
3	2 422
4	2 427
5	2 432
6	2 437
7	2 442
8	2 447
9	2 452

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-. Power Level Setting_SISO

Operating Frequency / Modulation			Power Level Setting	
			Ant 0	Ant 1
WLAN 2.4 GHz (2 412 MHz ~ 2 462 MHz)	802.11 b	2 412 MHz	91	91
		2 437 MHz	91	91
		2 462 MHz	91	91
	802.11 g	2 412 MHz	83	83
		2 437 MHz	91	91
		2 462 MHz	83	83
	802.11 n(HT20)	2 412 MHz	85	85
		2 437 MHz	91	91
		2 462 MHz	83	83
	802.11 n(HT40)	2 422 MHz	76	76
		2 437 MHz	85	85
		2 452 MHz	74	74

-. Power Level Setting_MIMO

Operating Frequency / Modulation			Power Level Setting	
			Ant 0	Ant 1
WLAN 2.4 GHz (2 412 MHz ~ 2 462 MHz)	802.11 n(HT20)	2 412 MHz	80	80
		2 437 MHz	80	80
		2 462 MHz	80	80
	802.11 n(HT40)	2 422 MHz	65	65
		2 437 MHz	65	65
		2 452 MHz	65	65

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-. Low Channel_SISO

Modulation	DATA RATE	OUTPUT POWER[dBm]	
		Antenna 0	Antenna 1
802.11 b	1 Mbps	19.88	20.21
	2 Mbps	19.82	20.18
	5.5 Mbps	19.79	20.06
	11 Mbps	19.78	20.04
802.11 g	6 Mbps	16.71	17.01
	9 Mbps	16.65	16.94
	12 Mbps	16.43	16.58
	18 Mbps	16.45	16.64
	24 Mbps	46.37	16.56
	36 Mbps	16.31	16.48
	48 Mbps	16.34	16.51
	54 Mbps	16.31	16.48
802.11 HT 20	MCS 0	17.12	17.25
	MCS 1	16.84	16.98
	MCS 2	16.88	17.01
	MCS 3	16.81	17.02
	MCS 4	16.81	16.97
	MCS 5	16.78	16.96
	MCS 6	16.80	16.98
	MCS 7	16.78	16.91
802.11 HT 40	MCS 0	14.29	14.77
	MCS 1	14.23	14.36
	MCS 2	14.17	14.35
	MCS 3	14.12	14.28
	MCS 4	14.16	14.27
	MCS 5	14.13	14.23
	MCS 6	14.14	14.27
	MCS 7	14.08	14.23

-. The worse case data rate for each modulation is determined 1 Mbps(Ant.0/Ant.1) for IEEE 802.11b, 6 Mbps(Ant.0/Ant.1) for IEEE 802.11g, MCS 0(Ant.0/Ant.1) for HT20, MCS 0(Ant.0/Ant.1) for HT40.

-. To get a maximum emission levels from the EUT, the EUT was moved throughout the XY, XZ, and YZ planes and the worst case is “XY” axis.

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-. Middle Channel_SISO

Modulation	DATA RATE	OUTPUT POWER[dBm]	
		Antenna 0	Antenna 1
802.11 b	1 Mbps	20.55	20.56
	2 Mbps	20.47	20.51
	5.5 Mbps	20.38	20.48
	11 Mbps	20.35	20.46
802.11 g	6 Mbps	19.16	19.20
	9 Mbps	19.25	19.28
	12 Mbps	18.99	18.97
	18 Mbps	18.95	18.96
	24 Mbps	18.92	18.91
	36 Mbps	18.86	18.86
	48 Mbps	18.81	18.91
	54 Mbps	18.79	18.87
802.11 HT 20	MCS 0	19.13	19.01
	MCS 1	18.89	18.86
	MCS 2	19.05	18.89
	MCS 3	18.94	18.86
	MCS 4	18.82	18.84
	MCS 5	18.81	18.81
	MCS 6	18.79	18.88
	MCS 7	18.75	18.76
802.11 HT 40	MCS 0	17.11	17.13
	MCS 1	16.71	16.75
	MCS 2	16.65	16.71
	MCS 3	16.64	16.70
	MCS 4	16.61	16.68
	MCS 5	16.59	16.66
	MCS 6	16.67	16.67
	MCS 7	16.59	16.61

-. The worse case data rate for each modulation is determined 1 Mbps(Ant.0/Ant.1) for IEEE 802.11b, 6 Mbps(Ant.0/Ant.1) for IEEE 802.11g, MCS 0(Ant.0/Ant.1) for HT20, MCS 0(Ant.0/Ant.1) for HT40.

-. To get a maximum emission levels from the EUT, the EUT was moved throughout the XY, XZ, and YZ planes and the worst case is “XY” axis.

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-. High Channel_SISO

Modulation	DATA RATE	OUTPUT POWER[dBm]	
		Antenna 0	Antenna 1
802.11 b	1 Mbps	20.95	20.72
	2 Mbps	20.87	20.64
	5.5 Mbps	20.78	20.58
	11 Mbps	20.77	20.54
802.11 g	6 Mbps	17.61	17.40
	9 Mbps	17.55	17.36
	12 Mbps	17.35	17.14
	18 Mbps	17.36	17.16
	24 Mbps	17.28	17.11
	36 Mbps	17.19	17.08
	48 Mbps	17.23	17.05
	54 Mbps	17.22	17.05
802.11 HT 20	MCS 0	17.41	17.20
	MCS 1	17.23	16.99
	MCS 2	17.27	17.01
	MCS 3	17.23	17.05
	MCS 4	17.22	16.97
	MCS 5	17.21	16.95
	MCS 6	17.21	16.94
	MCS 7	17.18	16.92
802.11 HT 40	MCS 0	14.72	14.60
	MCS 1	14.48	14.26
	MCS 2	14.43	14.23
	MCS 3	14.39	14.19
	MCS 4	14.43	14.18
	MCS 5	14.38	14.16
	MCS 6	14.42	14.19
	MCS 7	14.38	14.13

-. The worse case data rate for each modulation is determined 1 Mbps(Ant.0/Ant.1) for IEEE 802.11b, 6 Mbps(Ant.0/Ant.1) for IEEE 802.11g, MCS 0(Ant.0/Ant.1) for HT20, MCS 0(Ant.0/Ant.1) for HT40.

-. To get a maximum emission levels from the EUT, the EUT was moved throughout the XY, XZ, and YZ planes and the worst case is “XY” axis.

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-. Low Channel_MIMO

Modulation	DATA RATE	OUTPUT POWER[dBm]	
		Antenna 0	Antenna 1
802.11 HT 20	MCS 8	14.65	14.83
	MCS 9	14.23	14.35
	MCS 10	14.16	14.31
	MCS 11	14.08	14.23
	MCS 12	13.98	14.16
	MCS 13	13.98	14.17
	MCS 14	13.98	14.12
	MCS 15	13.96	14.13
802.11 HT 40	MCS 8	11.19	11.44
	MCS 9	10.73	10.96
	MCS 10	10.64	10.92
	MCS 11	10.62	10.89
	MCS 12	10.48	10.81
	MCS 13	10.49	10.79
	MCS 14	10.46	10.73
	MCS 15	10.43	10.72

-. The worse case data rate for each modulation is determined MCS 8(Ant.0/Ant.1) for HT20, MCS 8(Ant.0/Ant.1) for HT40.

-. To get a maximum emission levels from the EUT, the EUT was moved throughout the XY, XZ, and YZ planes and the worst case is “XY” axis.

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-. Middle Channel_MIMO

Modulation	DATA RATE	OUTPUT POWER[dBm]	
		Antenna 0	Antenna 1
802.11 HT 20	MCS 8	14.73	14.80
	MCS 9	14.36	14.44
	MCS 10	14.28	14.39
	MCS 11	14.24	14.36
	MCS 12	14.19	14.34
	MCS 13	14.18	14.33
	MCS 14	14.18	14.27
	MCS 15	14.18	14.30
802.11 HT 40	MCS 8	11.25	11.36
	MCS 9	10.84	10.97
	MCS 10	10.78	10.93
	MCS 11	10.74	10.88
	MCS 12	10.68	10.85
	MCS 13	10.66	10.83
	MCS 14	10.66	10.77
	MCS 15	10.68	10.81

-. The worse case data rate for each modulation is determined MCS 8(Ant.0/Ant.1) for HT20, MCS 8(Ant.0/Ant.1) for HT40.

-. To get a maximum emission levels from the EUT, the EUT was moved throughout the XY, XZ, and YZ planes and the worst case is “XY” axis.

-. Middle Channel_High

Modulation	DATA RATE	OUTPUT POWER[dBm]	
		Antenna 0	Antenna 1
802.11 HT 20	MCS 8	14.82	14.70
	MCS 9	14.61	14.25
	MCS 10	14.49	14.21
	MCS 11	14.47	14.18
	MCS 12	14.48	14.21
	MCS 13	14.38	14.12
	MCS 14	14.38	14.07
	MCS 15	14.47	14.13
802.11 HT 40	MCS 8	11.45	11.35
	MCS 9	11.06	10.97
	MCS 10	10.98	10.90
	MCS 11	10.89	10.83
	MCS 12	10.86	10.82
	MCS 13	10.82	10.77
	MCS 14	10.89	10.79
	MCS 15	10.85	10.79

-. The worse case data rate for each modulation is determined MCS 8(Ant.0/Ant.1) for HT20, MCS 8(Ant.0/Ant.1) for HT40.

-. To get a maximum emission levels from the EUT, the EUT was moved throughout the XY, XZ, and YZ planes and the worst case is “XY” axis.

-. Duty Cycle

Mode	Tx On Time [ms]	Tx Off Time [ms]	Duty Cycle [%]	Correction Factor [dB]
802.11b_Antenna 0	-	-	100.00	-
802.11g _Antenna 0	-	-	100.00	-
802.11n_HT20_Antenna 0	-	-	100.00	-
802.11n_HT40_ Antenna 0	-	-	100.00	-
802.11b_Antenna 1	-	-	100.00	-
802.11g _Antenna 1	-	-	100.00	-
802.11n_HT20_Antenna 1	-	-	100.00	-
802.11n_HT40_ Antenna 1	-	-	100.00	-

Note – Duty Cycle : (Tx On Time / (Tx On Time + Tx Off Time)) * 100

Correction Factor : 10 * Log(1 / (Duty Cycle / 100))

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5.4 Configuration of Test System

Line Conducted Test: The EUT was connected to an AC power source. All supporting equipments were connected to another LISN. Preliminary Power line Conducted Emission test was performed by using the procedure in ANSI C63.10: 2020 to determine the worse operating conditions.

Radiated Emission Test: Preliminary radiated emissions test were conducted using the procedure in ANSI C63.10: 2020 to determine the worse operating conditions. Final radiated emission tests were conducted at 3 meter Semi Anechoic Chamber.

The turntable was rotated through 360 degrees and the EUT was tested by positioned three orthogonal planes to obtain the highest reading on the field strength meter. Once maximum reading was determined, the search antenna was raised and lowered in both vertical and horizontal polarization.

5.5 Antenna Requirement

For intentional device, according to 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.

Antenna Construction:

The EUT's antenna is a permanently attached Dipole antenna and PCB antenna, not designed for user replacement

6. MEASUREMENT UNCERTAINTY

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI C63.10: 2020.

All measurement uncertainty values are shown with a coverage factor of $k = 2$ to indicate a 95 % level of confidence.

The measurement data shown herein meets or exceeds the U_{CISPR} measurement uncertainty values specified in CISPR 16-4-2 and, thus, can be compared directly to specified limits to determine compliance.

Parameter	Expanded Uncertainty (dB)
Conducted Output Power	0.90
Conducted Spurious Emission < 26.5 GHz	1.40
Power Spectral Density	1.22
Line Conducted Disturbance (150 kHz ~ 30 MHz)	2.00
Radiated Disturbance (9 kHz ~ 30 MHz)	3.28
Radiated Disturbance (30 MHz ~ 1 GHz)	4.42
Radiated Disturbance (1 GHz ~ 18 GHz)	5.12
Radiated Disturbance (18 GHz ~ 40 GHz)	5.55

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7. PRELIMINARY TEST

7.1 AC Power line Conducted Emissions Tests

During Preliminary Test, the following operating mode was investigated.

Operation Mode	The Worse operating condition (Please check one only)
Transmitting Mode	X

7.2 General Radiated Emissions Tests

During Preliminary Test, the following operating mode was investigated.

Operation Mode	The Worse operating condition (Please check one only)
Transmitting Mode	X

7.3 Test Basic model & Option 1 Model

All tests were completed on the basic model, and Option 1 was subjected to additional worst-case testing as detailed below.

-. Option1 Model

Test Item.	The Worse operating condition	
	SISO	MIMO
Radiated Restricted Band & Radiated Spurious Emission	802.11 b_ANT1	802.11 n_HT20

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8. MIMIMUM 6 dB BANDWIDTH

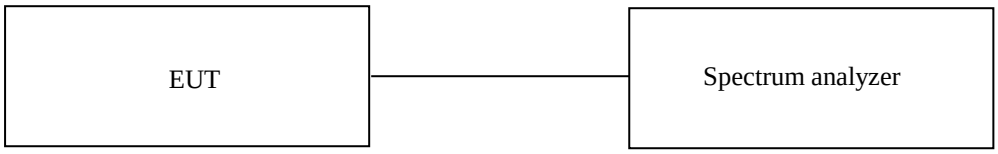
8.1 Operating environment

Temperature : 22 °C

Relative humidity : 41 % R.H.

8.2 Test set-up

The antenna output of the EUT was connected to the spectrum analyzer. The resolution bandwidth is set to 100 kHz, and peak detection was used. The 6 dB bandwidth is defined as the total spectrum over which the power is higher than the peak power minus 6 dB.



8.3 Test Date

May 07, 2025 ~ June 05, 2025

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8.4 Test data for 802.11b WLAN Mode

8.4.1 Test data for SISO Antenna 0

-. Test Result : Pass

CHANNEL	FREQUENCY (MHz)	6 dB Bandwidth (MHz)	LIMIT (MHz)	Margin (MHz)
Low	2 412.00	10.09	0.50	9.59
Middle	2 437.00	10.09	0.50	9.59
High	2 462.00	10.09	0.50	9.59

Remark. Margin = Measured Value - Limit

8.4.2 Test data for SISO Antenna 1

-. Test Result : Pass

CHANNEL	FREQUENCY (MHz)	6 dB Bandwidth (MHz)	LIMIT (MHz)	Margin (MHz)
Low	2 412.00	10.09	0.50	9.59
Middle	2 437.00	10.09	0.50	9.59
High	2 462.00	10.09	0.50	9.59

Remark. Margin = Measured Value - Limit

8.5 Test data for 802.11g WLAN Mode

8.5.1 Test data for SISO Antenna 0

-. Test Result : Pass

CHANNEL	FREQUENCY (MHz)	6 dB Bandwidth (MHz)	LIMIT (MHz)	Margin (MHz)
Low	2 412.00	14.49	0.50	13.99
Middle	2 437.00	15.68	0.50	15.18
High	2 462.00	15.33	0.50	14.83

Remark. Margin = Measured Value - Limit

8.5.2 Test data for SISO Antenna 1

-. Test Result : Pass

CHANNEL	FREQUENCY (MHz)	6 dB Bandwidth (MHz)	LIMIT (MHz)	Margin (MHz)
Low	2 412.00	15.33	0.50	14.83
Middle	2 437.00	15.33	0.50	14.83
High	2 462.00	15.33	0.50	14.83

Remark. Margin = Measured Value - Limit

8.6 Test data for 802.11n_HT20 WLAN Mode

8.6.1 Test data for SISO Antenna 0

-. Test Result : Pass

CHANNEL	FREQUENCY (MHz)	6 dB Bandwidth (MHz)	LIMIT (MHz)	Margin (MHz)
Low	2 412.00	15.04	0.50	14.54
Middle	2 437.00	14.79	0.50	14.29
High	2 462.00	15.03	0.50	14.53

Remark. Margin = Measured Value - Limit

8.6.2 Test data for SISO Antenna 1

-. Test Result : Pass

CHANNEL	FREQUENCY (MHz)	6 dB Bandwidth (MHz)	LIMIT (MHz)	Margin (MHz)
Low	2 412.00	16.03	0.50	15.53
Middle	2 437.00	14.74	0.50	14.24
High	2 462.00	14.98	0.50	14.48

Remark. Margin = Measured Value - Limit

8.6.3 Test data for MIMO Antenna 0

-. Test Result : Pass

CHANNEL	FREQUENCY (MHz)	6 dB Bandwidth (MHz)	LIMIT (MHz)	Margin (MHz)
Low	2 412.00	14.64	0.50	14.14
Middle	2 437.00	14.74	0.50	14.24
High	2 462.00	15.28	0.50	14.78

Remark. Margin = Measured Value - Limit

8.6.4 Test data for MIMO Antenna 1

-. Test Result : Pass

CHANNEL	FREQUENCY (MHz)	6 dB Bandwidth (MHz)	LIMIT (MHz)	Margin (MHz)
Low	2 412.00	14.24	0.50	13.74
Middle	2 437.00	14.24	0.50	13.74
High	2 462.00	14.19	0.50	13.69

Remark. Margin = Measured Value - Limit

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8.7 Test data for 802.11n_HT40 WLAN Mode

8.7.1 Test data for SISO Antenna 0

-. Test Result : Pass

CHANNEL	FREQUENCY (MHz)	6 dB Bandwidth (MHz)	LIMIT (MHz)	Margin (MHz)
Low	2 422.00	23.88	0.50	23.38
Middle	2 437.00	23.88	0.50	23.38
High	2 452.00	23.78	0.50	23.28

Remark. Margin = Measured Value - Limit

8.7.2 Test data for SISO Antenna 1

-. Test Result : Pass

CHANNEL	FREQUENCY (MHz)	6 dB Bandwidth (MHz)	LIMIT (MHz)	Margin (MHz)
Low	2 422.00	23.78	0.50	23.28
Middle	2 437.00	23.78	0.50	23.28
High	2 452.00	22.68	0.50	22.18

Remark. Margin = Measured Value - Limit

8.7.3 Test data for MIMO Antenna 0

-. Test Result : Pass

CHANNEL	FREQUENCY (MHz)	6 dB Bandwidth (MHz)	LIMIT (MHz)	Margin (MHz)
Low	2 422.00	25.07	0.50	24.57
Middle	2 437.00	25.07	0.50	24.57
High	2 452.00	23.78	0.50	23.28

Remark. Margin = Measured Value - Limit

8.7.4 Test data for MIMO Antenna 1

-. Test Result : Pass

CHANNEL	FREQUENCY (MHz)	6 dB Bandwidth (MHz)	LIMIT (MHz)	Margin (MHz)
Low	2 422.00	22.48	0.50	21.98
Middle	2 437.00	22.48	0.50	21.98
High	2 452.00	22.48	0.50	21.98

Remark. Margin = Measured Value - Limit

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9. MAXIMUM CONDUCTED (AVERAGE) OUTPUT POWER

9.1 Operating environment

Temperature : 22 °C

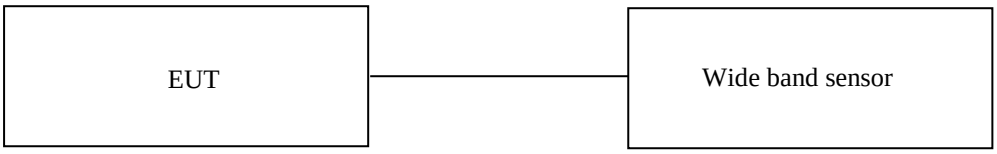
Relative humidity : 41 % R.H.

9.2 Test set-up

The maximum peak output power was measured with the wide band sensor connected to the antenna output of the EUT.

The Wide Band Sensor is measured when the EUT is transmitting at the appropriate center frequency its maximum power control level as described in Section 8.3(558074 D01 15.247 Meas Guidance v05r02).

Since this measurement is made only during the ON time of the transmitter, no duty cycle correction is required.



9.3 Test Date

May 07, 2025 ~ June 05, 2025

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9.4 Test data for 802.11b WLAN Mode

9.4.1 Test data for SISO Antenna 0

-. Test Result : Pass

-. Duty Cycle : > 98 %

CHANNEL	FREQUENCY (MHz)	MEASURED VALUE (dBm)	LIMIT (dBm)	MARGIN (dB)
LOW	2 412.00	19.88	30.00	10.12
MIDDLE	2 437.00	20.55	30.00	9.45
HIGH	2 462.00	20.95	30.00	9.05

Remark: Margin = Limit – Measured Value (=Power Sensor Reading + Cable Loss)

9.4.2 Test data for SISO Antenna 1

-. Test Result : Pass

-. Duty Cycle : > 98 %

CHANNEL	FREQUENCY (MHz)	MEASURED VALUE (dBm)	LIMIT (dBm)	MARGIN (dB)
LOW	2 412.00	20.21	30.00	9.79
MIDDLE	2 437.00	20.56	30.00	9.44
HIGH	2 462.00	20.72	30.00	9.28

Remark: Margin = Limit – Measured Value (=Power Sensor Reading + Cable Loss)

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9.5 Test data for 802.11g WLAN Mode

9.5.1 Test data for Antenna 0

-. Test Result : Pass

-. Duty Cycle : > 98 %

CHANNEL	FREQUENCY (MHz)	MEASURED VALUE (dBm)	LIMIT (dBm)	MARGIN (dB)
LOW	2 412.00	16.71	30.00	13.29
MIDDLE	2 437.00	19.16	30.00	10.84
HIGH	2 462.00	17.61	30.00	12.39

Remark: Margin = Limit – Measured Value (=Power Sensor Reading + Cable Loss)

9.5.2 Test data for Antenna 1

-. Test Result : Pass

-. Duty Cycle : > 98 %

CHANNEL	FREQUENCY (MHz)	MEASURED VALUE (dBm)	LIMIT (dBm)	MARGIN (dB)
LOW	2 412.00	17.01	30.00	12.99
MIDDLE	2 437.00	19.20	30.00	10.80
HIGH	2 462.00	17.40	30.00	12.60

Remark: Margin = Limit – Measured Value (=Power Sensor Reading + Cable Loss)

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9.6 Test data for 802.11n_HT20 WLAN Mode

9.6.1 Test data for SISO Antenna 0

-. Test Result : Pass

-. Duty Cycle : > 98 %

CHANNEL	FREQUENCY (MHz)	MEASURED VALUE (dBm)	LIMIT (dBm)	MARGIN (dB)
LOW	2 412.00	17.12	30.00	12.88
MIDDLE	2 437.00	19.13	30.00	10.87
HIGH	2 462.00	17.41	30.00	12.59

Remark: Margin = Limit – Measured Value (=Power Sensor Reading + Cable Loss)

9.6.2 Test data for SISO Antenna 1

-. Test Result : Pass

-. Duty Cycle : > 98 %

CHANNEL	FREQUENCY (MHz)	MEASURED VALUE (dBm)	LIMIT (dBm)	MARGIN (dB)
LOW	2 412.00	17.25	30.00	12.75
MIDDLE	2 437.00	19.01	30.00	10.99
HIGH	2 462.00	17.20	30.00	12.80

Remark: Margin = Limit – Measured Value (=Power Sensor Reading + Cable Loss)

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9.6.3 Test data for MIMO Antenna 0

-. Test Result : Pass

-. Duty Cycle : > 98 %

CHANNEL	FREQUENCY (MHz)	MEASURED VALUE (dBm)	LIMIT (dBm)	MARGIN (dB)
LOW	2 412.00	14.65	30.00	15.35
MIDDLE	2 437.00	14.73	30.00	15.27
HIGH	2 462.00	14.82	30.00	15.18

Remark: Margin = Limit – Measured Value (=Power Sensor Reading + Cable Loss)

9.6.4 Test data for MIMO Antenna 1

-. Test Result : Pass

-. Duty Cycle : > 98 %

CHANNEL	FREQUENCY (MHz)	MEASURED VALUE (dBm)	LIMIT (dBm)	MARGIN (dB)
LOW	2 412.00	14.83	30.00	15.17
MIDDLE	2 437.00	14.80	30.00	15.20
HIGH	2 462.00	14.70	30.00	15.30

Remark: Margin = Limit – Measured Value (=Power Sensor Reading + Cable Loss)

9.6.5 Test data for Multiple Transmit

-. Test Result : Pass

-. Duty Cycle : > 98 %

CHANNEL	FREQUENCY (MHz)	MEASURED VALUE (dBm)	LIMIT (dBm)	MARGIN (dB)
LOW	2 412.00	17.75	30.00	12.25
MIDDLE	2 437.00	17.78	30.00	12.22
HIGH 11	2 462.00	17.77	30.00	12.23

Remark 1 : Margin = Limit – Measured Value (=Power Sensor Reading + Cable Loss)

Remark 2 : Calculated Output Power= $10\log(10^{(\text{Antenna0 Output Power}/10)}+10^{(\text{Antenna1 Output Power}/10)})$

9.7 Test data for 802.11n_HT40 WLAN Mode

9.7.1 Test data for SISO Antenna 0

-. Test Result : Pass

-. Duty Cycle : > 98 %

CHANNEL	FREQUENCY (MHz)	MEASURED VALUE (dBm)	LIMIT (dBm)	MARGIN (dB)
LOW	2 422.00	14.29	30.00	15.71
MIDDLE	2 437.00	17.11	30.00	12.89
HIGH	2 452.00	14.72	30.00	15.28

Remark: Margin = Limit – Measured Value (=Power Sensor Reading + Cable Loss)

9.7.2 Test data for SISO Antenna 1

-. Test Result : Pass

-. Duty Cycle : > 98 %

CHANNEL	FREQUENCY (MHz)	MEASURED VALUE (dBm)	LIMIT (dBm)	MARGIN (dB)
LOW	2 422.00	14.77	30.00	15.23
MIDDLE	2 437.00	17.13	30.00	12.87
HIGH	2 452.00	14.60	30.00	15.40

Remark: Margin = Limit – Measured Value (=Power Sensor Reading + Cable Loss)

9.7.3 Test data for MIMO Antenna 0

-. Test Result : Pass

-. Duty Cycle : > 98 %

CHANNEL	FREQUENCY (MHz)	MEASURED VALUE (dBm)	LIMIT (dBm)	MARGIN (dB)
LOW	2 422.00	11.19	30.00	18.81
MIDDLE	2 437.00	11.25	30.00	18.75
HIGH	2 452.00	11.45	30.00	18.55

Remark: Margin = Limit – Measured Value (=Power Sensor Reading + Cable Loss)

9.7.4 Test data for MIMO Antenna 1

-. Test Result : Pass

-. Duty Cycle : > 98 %

CHANNEL	FREQUENCY (MHz)	MEASURED VALUE (dBm)	LIMIT (dBm)	MARGIN (dB)
LOW	2 422.00	11.44	30.00	18.56
MIDDLE	2 437.00	11.36	30.00	18.64
HIGH	2 452.00	11.35	30.00	18.65

Remark: Margin = Limit – Measured Value (=Power Sensor Reading + Cable Loss)

9.7.5 Test data for Multiple Transmit

-. Test Result : Pass

-. Duty Cycle : > 98 %

CHANNEL	FREQUENCY (MHz)	MEASURED VALUE (dBm)	LIMIT (dBm)	MARGIN (dB)
LOW	2 422.00	14.33	30.00	15.67
MIDDLE	2 437.00	14.32	30.00	15.68
HIGH 11	2 452.00	14.41	30.00	15.59

Remark 1 : Margin = Limit – Measured Value (=Power Sensor Reading + Cable Loss)

Remark 2 : Calculated Output Power= $10\log(10^{(\text{Antenna0 Output Power}/10)}+10^{(\text{Antenna1 Output Power}/10)})$

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10. 100 kHz BANDWIDTH OUTSIDE THE FREQUENCY BAND

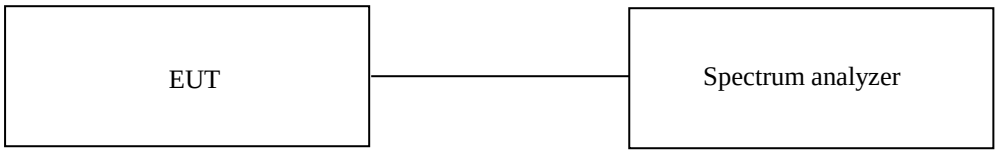
10.1 Operating environment

Temperature : 22 °C

Relative humidity : 41 % R.H.

10.2 Test set-up for conducted measurement

The antenna output of the EUT was connected to the spectrum analyzer. The resolution and video bandwidth is set to 100 kHz, and peak detection was used.



10.3 Test set-up for radiated measurement

The radiated emissions measurements were performed on the 3 m semi anechoic chamber. The EUT was placed on turntable approximately 1.5 m above the ground plane.

The frequency spectrum from 30 MHz to 26.5 GHz was scanned and maximum emission levels at each frequency recorded. The system was rotated 360°, and the antenna was varied in the height between 1.0 m and 4.0 m in order to determine the maximum emission levels. This procedure was performed for horizontal and vertical polarization of the receiving antenna.

10.4 Test Date

May 07, 2025 ~ June 05, 2025

10.5 Test data

For Test data for Annex. Section

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10.6 Test data for radiated emission

10.6.1 Radiated Emission which fall in the Restricted Band

10.6.1.1 Test data for 802.11b WLAN Mode

10.6.1.1.1 Test data for SISO Antenna 0

-. Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode
1 MHz and RMS Detector for Average Mode

-. Video bandwidth : 3 MHz for Peak and Average Mode

-. Measurement distance : 3 m

-. Duty Cycle : > 98 %

-. Result : PASSED

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	AMP Gain	ATT (dB)	Duty Factor (dB)	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test Data for Low Channel											
2 357.03	54.00	Peak	H	27.67	5.06	41.74	10.28	-	55.27	74.00	18.73
2 386.37	42.94	Average	H	27.55	5.06	41.74	10.28	-	44.09	54.00	9.91
2 386.68	55.17	Peak	V	27.55	5.06	41.74	10.28	-	56.32	74.00	17.68
2 389.63	42.94	Average	V	27.54	5.06	41.74	10.28	-	44.08	54.00	9.92
Test Data for High Channel											
2 483.54	53.56	Peak	H	27.40	4.75	41.73	10.28	-	54.26	74.00	19.74
2 483.62	43.21	Average	H	27.40	4.75	41.73	10.28	-	43.91	54.00	10.09
2 494.14	54.92	Peak	V	27.40	4.75	41.73	10.28	-	55.62	74.00	18.38
2 483.77	43.62	Average	V	27.40	4.75	41.73	10.28	-	44.32	54.00	9.68

Tabulated test data for Restricted Band

Remark: “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBμV/m) - Total Level (dBμV/m)

Total Level = Reading + Antenna Factor + Cable Loss – AMP Gain + ATT + Duty Factor

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10.6.1.1.2 Test data for SISO Antenna 1 [Basic]

-. Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode
1 MHz and RMS Detector for Average Mode

-. Video bandwidth : 3 MHz for Peak and Average Mode

-. Measurement distance : 3 m

-. Duty Cycle : > 98 %

-. Result : PASSED

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	AMP Gain	ATT (dB)	Duty Factor (dB)	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test Data for Low Channel											
2 384.64	53.51	Peak	H	27.56	5.06	41.74	10.28	-	54.67	74.00	19.33
2 389.53	43.95	Average	H	27.54	5.06	41.74	10.28	-	45.09	54.00	8.91
2 386.17	57.28	Peak	V	27.56	5.06	41.74	10.28	-	58.44	74.00	15.56
2 386.47	50.29	Average	V	27.55	5.06	41.74	10.28	-	51.44	54.00	2.56
Test Data for High Channel											
2 497.40	54.06	Peak	H	27.40	4.75	41.73	10.28	-	54.76	74.00	19.24
2 487.76	43.82	Average	H	27.40	4.75	41.73	10.28	-	44.52	54.00	9.48
2 485.86	54.14	Peak	V	27.40	4.75	41.73	10.28	-	54.84	74.00	19.16
2 487.68	42.87	Average	V	27.40	4.75	41.73	10.28	-	43.57	54.00	10.43

Tabulated test data for Restricted Band

Remark: “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBμV/m) - Total Level (dBμV/m)

Total Level = Reading + Antenna Factor + Cable Loss – AMP Gain + ATT + Duty Factor

10.6.1.1.3 Test data for SISO Antenna 1 [Option 1]

-. Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode
1 MHz and RMS Detector for Average Mode

-. Video bandwidth : 3 MHz for Peak and Average Mode

-. Measurement distance : 3 m

-. Duty Cycle : > 98 %

-. Result : PASSED

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	AMP Gain	ATT (dB)	Duty Factor (dB)	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Test Data for Low Channel											
2 359.06	52.97	Peak	H	27.66	5.06	41.74	10.28	-	54.23	74.00	19.77
2 385.97	42.70	Average	H	27.56	5.06	41.74	10.28	-	43.86	54.00	10.14
2 378.73	54.67	Peak	V	27.59	5.06	41.74	10.28	-	55.86	74.00	18.14
2 390.04	44.28	Average	V	27.54	5.06	41.74	10.28	-	45.42	54.00	8.58
Test Data for High Channel											
2 497.21	54.06	Peak	H	27.40	4.75	41.73	10.28	-	54.76	74.00	19.24
2 487.76	43.69	Average	H	27.40	4.75	41.73	10.28	-	44.39	54.00	9.61
2 488.33	54.21	Peak	V	27.40	4.75	41.73	10.28	-	54.91	74.00	19.09
2 487.72	43.74	Average	V	27.40	4.75	41.73	10.28	-	44.44	54.00	9.56

Tabulated test data for Restricted Band

Remark: “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBµV/m) - Total Level (dBµV/m)

Total Level = Reading + Antenna Factor + Cable Loss – AMP Gain + ATT + Duty Factor

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10.6.1.2 Test data for 802.11g WLAN Mode

10.6.1.2.1 Test data for SISO Antenna 0

-. Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode
1 MHz and RMS Detector for Average Mode

-. Video bandwidth : 3 MHz for Peak and Average Mode

-. Measurement distance : 3 m

-. Duty Cycle : > 98 %

-. Result : PASSED

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	AMP Gain	ATT (dB)	Duty Factor (dB)	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Test Data for Low Channel											
2 389.94	56.13	Peak	H	27.54	5.06	41.74	10.28	-	57.27	74.00	16.73
2 390.04	42.50	Average	H	27.54	5.06	41.74	10.28	-	43.64	54.00	10.36
2 389.33	55.79	Peak	V	27.54	5.06	41.74	10.28	-	56.93	74.00	17.07
2 390.04	44.02	Average	V	27.54	5.06	41.74	10.28	-	45.16	54.00	8.84
Test Data for High Channel											
2 484.27	53.97	Peak	H	27.40	4.75	41.73	10.28	-	54.67	74.00	19.33
2 483.62	42.24	Average	H	27.40	4.75	41.73	10.28	-	42.94	54.00	11.06
2 483.85	59.17	Peak	V	27.40	4.75	41.73	10.28	-	59.87	74.00	14.13
2 483.51	48.33	Average	V	27.40	4.75	41.73	10.28	-	49.03	54.00	4.97

Tabulated test data for Restricted Band

Remark: “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBµV/m) - Total Level (dBµV/m)

Total Level = Reading + Antenna Factor + Cable Loss – AMP Gain + ATT + Duty Factor

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10.6.1.2.2 Test data for SISO Antenna 1

-. Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode
1 MHz and RMS Detector for Average Mode

-. Video bandwidth : 3 MHz for Peak and Average Mode

-. Measurement distance : 3 m

-. Duty Cycle : > 98 %

-. Result : PASSED

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	AMP Gain	ATT (dB)	Duty Factor (dB)	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Test Data for Low Channel											
2 389.02	53.24	Peak	H	27.54	5.06	41.74	10.28	-	54.38	74.00	19.62
2 389.74	41.79	Average	H	27.54	5.06	41.74	10.28	-	42.93	54.00	11.07
2 389.94	56.35	Peak	V	27.54	5.06	41.74	10.28	-	57.49	74.00	16.51
2 389.74	43.10	Average	V	27.54	5.06	41.74	10.28	-	44.24	54.00	9.76
Test Data for High Channel											
2 495.24	54.05	Peak	H	27.40	4.75	41.73	10.28	-	54.75	74.00	19.25
2 483.62	42.39	Average	H	27.40	4.75	41.73	10.28	-	43.09	54.00	10.91
2 483.73	60.49	Peak	V	27.40	4.75	41.73	10.28	-	61.19	74.00	12.81
2 483.51	43.96	Average	V	27.40	4.75	41.73	10.28	-	44.66	54.00	9.34

Tabulated test data for Restricted Band

Remark: “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBµV/m) - Total Level (dBµV/m)

Total Level = Reading + Antenna Factor + Cable Loss – AMP Gain + ATT + Duty Factor

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10.6.1.3 Test data for 802.11n_HT20 WLAN Mode

10.6.1.3.1 Test data for SISO Antenna 0

-. Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode
1 MHz and RMS Detector for Average Mode

-. Video bandwidth : 3 MHz for Peak and Average Mode

-. Measurement distance : 3 m

-. Duty Cycle : > 98 %

-. Result : PASSED

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	AMP Gain	ATT (dB)	Duty Factor (dB)	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Test Data for Low Channel											
2 390.04	58.67	Peak	H	27.54	5.06	41.74	10.28	-	59.81	74.00	14.19
2 390.04	44.37	Average	H	27.54	5.06	41.74	10.28	-	45.51	54.00	8.49
2 389.74	63.39	Peak	V	27.54	5.06	41.74	10.28	-	64.53	74.00	9.47
2 390.04	47.24	Average	V	27.54	5.06	41.74	10.28	-	48.38	54.00	5.62
Test Data for High Channel											
2 483.54	58.88	Peak	H	27.40	4.75	41.73	10.28	-	59.58	74.00	15.97
2 483.81	44.58	Average	H	27.40	4.75	41.73	10.28	-	45.28	54.00	3.05
2 483.92	63.56	Peak	V	27.40	4.75	41.73	10.28	-	64.26	74.00	15.88
2 483.54	50.20	Average	V	27.40	4.75	41.73	10.28	-	50.90	54.00	3.34

Tabulated test data for Restricted Band

Remark: “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBµV/m) - Total Level (dBµV/m)

Total Level = Reading + Antenna Factor + Cable Loss – AMP Gain + ATT + Duty Factor

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10.6.1.3.2 Test data for SISO Antenna 1

-. Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode
1 MHz and RMS Detector for Average Mode

-. Video bandwidth : 3 MHz for Peak and Average Mode

-. Measurement distance : 3 m

-. Duty Cycle : > 98 %

-. Result : PASSED

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	AMP Gain	ATT (dB)	Duty Factor (dB)	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Test Data for Low Channel											
2 390.00	59.05	Peak	H	27.54	5.06	41.74	10.28	-	60.19	74.00	13.81
2 390.00	44.79	Average	H	27.54	5.06	41.74	10.28	-	45.93	54.00	8.07
2 390.00	59.55	Peak	V	27.54	5.06	41.74	10.28	-	60.69	74.00	13.31
2 389.94	44.96	Average	V	27.54	5.06	41.74	10.28	-	46.10	54.00	7.90
Test Data for High Channel											
2 483.51	55.04	Peak	H	27.40	4.75	41.73	10.28	-	55.74	74.00	15.97
2 483.62	43.22	Average	H	27.40	4.75	41.73	10.28	-	43.92	54.00	3.05
2 483.89	59.63	Peak	V	27.40	4.75	41.73	10.28	-	60.33	74.00	15.88
2 483.62	46.90	Average	V	27.40	4.75	41.73	10.28	-	47.60	54.00	3.34

Tabulated test data for Restricted Band

Remark: “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBµV/m) - Total Level (dBµV/m)

Total Level = Reading + Antenna Factor + Cable Loss – AMP Gain + ATT + Duty Factor

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10.6.1.3.3 Test data for Multiple Transmit [Basic]

-. Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode
1 MHz and RMS Detector for Average Mode

-. Video bandwidth : 3 MHz for Peak and Average Mode

-. Measurement distance : 3 m

-. Duty Cycle : > 98 %

-. Result : PASSED

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	AMP Gain	ATT (dB)	Duty Factor (dB)	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Test Data for Low Channel											
2 390.00	53.93	Peak	H	27.54	5.06	41.74	10.28	-	55.07	74.00	18.93
2 389.94	42.95	Average	H	27.54	5.06	41.74	10.28	-	44.09	54.00	9.91
2 390.00	57.70	Peak	V	27.54	5.06	41.74	10.28	-	58.84	74.00	15.16
2 390.00	46.37	Average	V	27.54	5.06	41.74	10.28	-	47.51	54.00	6.49
Test Data for High Channel											
2 483.77	55.08	Peak	H	27.40	4.75	41.73	10.28	-	55.78	74.00	15.97
2 483.85	43.00	Average	H	27.40	4.75	41.73	10.28	-	43.70	54.00	3.05
2 483.54	60.49	Peak	V	27.40	4.75	41.73	10.28	-	61.19	74.00	15.88
2 483.96	46.84	Average	V	27.40	4.75	41.73	10.28	-	47.54	54.00	3.34

Tabulated test data for Restricted Band

Remark: “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBµV/m) - Total Level (dBµV/m)

Total Level = Reading + Antenna Factor + Cable Loss – AMP Gain + ATT + Duty Factor

10.6.1.3.3 Test data for Multiple Transmit [Option 1]

-. Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode
1 MHz and RMS Detector for Average Mode

-. Video bandwidth : 3 MHz for Peak and Average Mode

-. Measurement distance : 3 m

-. Duty Cycle : > 98 %

-. Result : PASSED

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	AMP Gain	ATT (dB)	Duty Factor (dB)	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Test Data for Low Channel											
2 389.63	56.26	Peak	H	27.54	5.06	41.74	10.28	-	57.40	74.00	16.60
2 390.00	44.11	Average	H	27.54	5.06	41.74	10.28	-	45.25	54.00	8.75
2 390.00	60.16	Peak	V	27.54	5.06	41.74	10.28	-	61.30	74.00	12.70
2 390.00	44.79	Average	V	27.54	5.06	41.74	10.28	-	45.93	54.00	8.07
Test Data for High Channel											
2 483.70	55.23	Peak	H	27.40	4.75	41.73	10.28	-	55.93	74.00	15.97
2 483.66	42.36	Average	H	27.40	4.75	41.73	10.28	-	43.06	54.00	3.05
2 483.54	60.34	Peak	V	27.40	4.75	41.73	10.28	-	61.04	74.00	15.88
2 483.58	47.48	Average	V	27.40	4.75	41.73	10.28	-	48.18	54.00	3.34

Tabulated test data for Restricted Band

Remark: “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBµV/m) - Total Level (dBµV/m)

Total Level = Reading + Antenna Factor + Cable Loss – AMP Gain + ATT + Duty Factor

10.6.1.4 Test data for 802.11n_HT40 WLAN Mode

10.6.1.4.1 Test data for SISO Antenna 0

-. Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode
1 MHz and RMS Detector for Average Mode

-. Video bandwidth : 3 MHz for Peak and Average Mode

-. Measurement distance : 3 m

-. Duty Cycle : > 98 %

-. Result : PASSED

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	AMP Gain	ATT (dB)	Duty Factor (dB)	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Test Data for Low Channel											
2 389.16	54.91	Peak	H	27.54	5.06	41.74	10.28	-	56.05	74.00	17.95
2 389.27	42.56	Average	H	27.54	5.06	41.74	10.28	-	43.70	54.00	10.30
2 388.83	57.77	Peak	V	27.54	5.06	41.74	10.28	-	58.91	74.00	15.09
2 390.00	44.33	Average	V	27.54	5.06	41.74	10.28	-	45.47	54.00	8.53
Test Data for High Channel											
2 483.86	54.91	Peak	H	27.40	4.75	41.73	10.28	-	55.61	74.00	18.39
2 484.39	43.82	Average	H	27.40	4.75	41.73	10.28	-	44.52	54.00	9.48
2 483.62	58.18	Peak	V	27.40	4.75	41.73	10.28	-	58.88	74.00	15.12
2 483.58	47.91	Average	V	27.40	4.75	41.73	10.28	-	48.61	54.00	5.39

Tabulated test data for Restricted Band

Remark: “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBµV/m) - Total Level (dBµV/m)

Total Level = Reading + Antenna Factor + Cable Loss – AMP Gain + ATT + Duty Factor

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10.6.1.4.2 Test data for SISO Antenna 1

-. Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode
1 MHz and RMS Detector for Average Mode

-. Video bandwidth : 3 MHz for Peak and Average Mode

-. Measurement distance : 3 m

-. Duty Cycle : > 98 %

-. Result : PASSED

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	AMP Gain	ATT (dB)	Duty Factor (dB)	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Test Data for Low Channel											
2 388.71	55.88	Peak	H	27.55	5.06	41.74	10.28	-	57.03	74.00	16.97
2 390.06	44.85	Average	H	27.54	5.06	41.74	10.28	-	45.99	54.00	8.01
2 389.05	60.24	Peak	V	27.54	5.06	41.74	10.28	-	61.38	74.00	12.62
2 389.94	49.74	Average	V	27.54	5.06	41.74	10.28	-	50.88	54.00	3.12
Test Data for High Channel											
2 483.48	55.77	Peak	H	27.40	4.75	41.73	10.28	-	56.47	74.00	17.53
2 483.67	45.68	Average	H	27.40	4.75	41.73	10.28	-	46.38	54.00	7.62
2 484.06	59.55	Peak	V	27.40	4.75	41.73	10.28	-	60.25	74.00	13.75
2 483.62	50.43	Average	V	27.40	4.75	41.73	10.28	-	51.13	54.00	2.87

Tabulated test data for Restricted Band

Remark: “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBµV/m) - Total Level (dBµV/m)

Total Level = Reading + Antenna Factor + Cable Loss – AMP Gain + ATT + Duty Factor

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10.6.1.4.2 Test data for Multiple Transmit

-. Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode
1 MHz and RMS Detector for Average Mode

-. Video bandwidth : 3 MHz for Peak and Average Mode

-. Measurement distance : 3 m

-. Duty Cycle : > 98 %

-. Result : PASSED

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	AMP Gain	ATT (dB)	Duty Factor (dB)	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Test Data for Low Channel											
2 346.53	52.68	Peak	H	27.71	4.93	41.74	10.28	-	53.86	74.00	20.14
2 388.83	41.46	Average	H	27.54	5.06	41.74	10.28	-	42.60	54.00	11.40
2 387.48	52.80	Peak	V	27.55	5.06	41.74	10.28	-	53.95	74.00	20.05
2 389.83	41.52	Average	V	27.54	5.06	41.74	10.28	-	42.66	54.00	11.34
Test Data for High Channel											
2 499.21	52.76	Peak	H	27.40	4.75	41.73	10.28	-	53.46	74.00	20.54
2 486.65	41.24	Average	H	27.40	4.75	41.73	10.28	-	41.94	54.00	12.06
2 484.25	54.90	Peak	V	27.40	4.75	41.73	10.28	-	55.60	74.00	18.40
2 484.73	42.99	Average	V	27.40	4.75	41.73	10.28	-	43.69	54.00	10.31

Tabulated test data for Restricted Band

Remark: “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBµV/m) - Total Level (dBµV/m)

Total Level = Reading + Antenna Factor + Cable Loss – AMP Gain + ATT + Duty Factor

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10.6.2 Spurious & Harmonic Radiated Emission

10.6.2.1 Test data for 802.11b WLAN Mode

10.6.2.1.1 Test data for SISO Antenna 0

-. Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode for the emissions fall in restricted band,
1 MHz and RMS Detector for Average Mode for the emissions fall in restricted band
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 3 MHz for Peak and Average Mode

-. Frequency range : 1 GHz ~ 26.5 GHz

-. Measurement distance : 3 m

-. Duty Cycle : > 98 %

-. Result : PASSED

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	AMP Gain	Duty Factor (dB)	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test Data for Low Channel										
4 824.15	52.24	Peak	H	31.20	7.15	41.29	-	49.30	74.00	24.70
4 823.85	45.90	Average	H	31.20	7.15	41.29	-	42.96	54.00	11.04
4 799.02	59.78	Peak	V	31.20	7.15	41.29	-	56.84	74.00	17.16
4 823.90	39.39	Average	V	31.20	7.15	41.29	-	36.45	54.00	17.55
Test Data for Middle Channel										
4 873.85	52.42	Peak	H	31.25	7.21	41.27	-	49.61	74.00	24.39
4 873.95	45.09	Average	H	31.25	7.21	41.27	-	42.28	54.00	11.72
4 873.85	52.30	Peak	V	31.25	7.21	41.27	-	49.49	74.00	24.51
4 874.00	45.99	Average	V	31.25	7.21	41.27	-	43.18	54.00	10.82
Test Data for High Channel										
4 923.75	53.91	Peak	H	31.40	7.21	41.26	-	51.26	74.00	22.74
4 923.85	48.53	Average	H	31.40	7.21	41.26	-	45.88	54.00	8.12
4 923.90	51.98	Peak	V	31.40	7.21	41.26	-	49.33	74.00	24.67
4 923.80	46.05	Average	V	31.40	7.21	41.26	-	43.40	54.00	10.60

Remark: “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBμV/m) - Total Level (dBμV/m)

Total Level = Reading + Antenna Factor + Cable Loss – AMP Gain + Duty Factor

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10.6.2.1.2 Test data for SISO Antenna 1 [Basic]

-. Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode for the emissions fall in restricted band,
1 MHz and RMS Detector for Average Mode for the emissions fall in restricted band
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 3 MHz for Peak and Average Mode

-. Frequency range : 1 GHz ~ 26.5 GHz

-. Measurement distance : 3 m

-. Duty Cycle : > 98 %

-. Result : PASSED

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	AMP Gain	Duty Factor (dB)	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Test Data for Low Channel										
4 799.18	55.49	Peak	H	31.20	7.15	41.29	-	52.55	74.00	21.45
4 824.00	37.74	Average	H	31.20	7.15	41.29	-	34.80	54.00	19.20
4 800.37	53.99	Peak	V	31.20	7.15	41.29	-	51.05	74.00	22.95
4 823.95	49.77	Average	V	31.20	7.15	41.29	-	46.83	54.00	7.17
Test Data for Middle Channel										
4 873.35	50.12	Peak	H	31.25	7.21	41.27	-	47.31	74.00	26.69
4 873.85	42.11	Average	H	31.25	7.21	41.27	-	39.30	54.00	14.70
4 874.20	54.45	Peak	V	31.25	7.21	41.27	-	51.64	74.00	22.36
4 873.90	50.13	Average	V	31.25	7.21	41.27	-	47.32	54.00	6.68
Test Data for High Channel										
4 923.75	49.88	Peak	H	31.40	7.21	41.26	-	47.23	74.00	26.77
4 924.00	42.33	Average	H	31.40	7.21	41.26	-	39.68	54.00	14.32
4 923.85	57.50	Peak	V	31.40	7.21	41.26	-	54.85	74.00	19.15
4 923.95	54.60	Average	V	31.40	7.21	41.26	-	51.95	54.00	2.05

Remark: “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBµV/m) - Total Level (dBµV/m)

Total Level = Reading + Antenna Factor + Cable Loss – AMP Gain + Duty Factor

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10.6.2.1.3 Test data for SISO Antenna 1 [Option 1]

-. Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode for the emissions fall in restricted band,
1 MHz and RMS Detector for Average Mode for the emissions fall in restricted band
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 3 MHz for Peak and Average Mode

-. Frequency range : 1 GHz ~ 26.5 GHz

-. Measurement distance : 3 m

-. Duty Cycle : > 98 %

-. Result : PASSED

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	AMP Gain	Duty Factor (dB)	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Test Data for Low Channel										
4 823.50	50.09	Peak	H	31.20	7.15	41.29	-	47.15	74.00	26.85
4 823.75	42.24	Average	H	31.20	7.15	41.29	-	39.30	54.00	14.70
4 800.12	57.31	Peak	V	31.20	7.15	41.29	-	54.37	74.00	19.63
4 823.90	38.30	Average	V	31.20	7.15	41.29	-	35.36	54.00	18.64
Test Data for Middle Channel										
4 874.10	50.75	Peak	H	31.25	7.21	41.27	-	47.94	74.00	26.06
4 873.90	43.15	Average	H	31.25	7.21	41.27	-	40.34	54.00	13.66
4 874.00	54.61	Peak	V	31.25	7.21	41.27	-	51.80	74.00	22.20
4 873.85	50.29	Average	V	31.25	7.21	41.27	-	47.48	54.00	6.52
Test Data for High Channel										
4 923.65	51.24	Peak	H	31.39	7.21	41.26	-	48.58	74.00	25.42
4 923.90	43.63	Average	H	31.40	7.21	41.26	-	40.98	54.00	13.02
4 924.00	57.26	Peak	V	31.40	7.21	41.26	-	54.61	74.00	19.39
4 923.95	54.33	Average	V	31.40	7.21	41.26	-	51.68	54.00	2.32

Remark: “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBµV/m) - Total Level (dBµV/m)

Total Level = Reading + Antenna Factor + Cable Loss – AMP Gain + Duty Factor

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10.6.2.2 Test data for 802.11g WLAN Mode

10.6.2.2.1 Test data for SISO Antenna 0

-. Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode for the emissions fall in restricted band,
1 MHz and RMS Detector for Average Mode for the emissions fall in restricted band
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 3 MHz for Peak and Average Mode

-. Frequency range : 1 GHz ~ 26.5 GHz

-. Measurement distance : 3 m

-. Duty Cycle : > 98 %

-. Result : PASSED

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	AMP Gain	Duty Factor (dB)	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test Data for Low Channel										
4 825.05	51.67	Peak	H	31.20	7.15	41.29	-	48.73	74.00	25.27
4 824.60	39.61	Average	H	31.20	7.15	41.29	-	36.67	54.00	17.33
4 799.62	59.25	Peak	V	31.20	7.15	41.29	-	56.31	74.00	17.69
4 799.02	37.62	Average	V	31.20	7.15	41.29	-	34.68	54.00	19.32
Test Data for Middle Channel										
4 876.80	50.64	Peak	H	31.25	7.21	41.27	-	47.83	74.00	26.17
4 873.40	38.66	Average	H	31.25	7.21	41.27	-	35.85	54.00	18.15
4 872.25	49.52	Peak	V	31.24	7.21	41.27	-	46.70	74.00	27.30
4 877.95	38.65	Average	V	31.26	7.21	41.27	-	35.85	54.00	18.15
Test Data for High Channel										
4 921.75	48.80	Peak	H	31.39	7.21	41.26	-	46.14	74.00	27.86
4 945.43	37.21	Average	H	31.48	7.21	41.25	-	34.65	54.00	19.35
4 937.49	49.00	Peak	V	31.45	7.21	41.26	-	46.40	74.00	27.60
4 938.64	36.90	Average	V	31.45	7.21	41.26	-	34.30	54.00	19.70

Remark: “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBμV/m) - Total Level (dBμV/m)

Total Level = Reading + Antenna Factor + Cable Loss – AMP Gain + Duty Factor

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10.6.2.2.2 Test data for SISO Antenna 1

-. Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode for the emissions fall in restricted band,
1 MHz and RMS Detector for Average Mode for the emissions fall in restricted band
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 3 MHz for Peak and Average Mode

-. Frequency range : 1 GHz ~ 26.5 GHz

-. Measurement distance : 3 m

-. Duty Cycle : > 98 %

-. Result : PASSED

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	AMP Gain	Duty Factor (dB)	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test Data for Low Channel										
4 821.60	50.69	Peak	H	31.20	7.15	41.29	-	47.75	74.00	26.25
4 826.25	38.52	Average	H	31.20	7.15	41.29	-	35.58	54.00	18.42
4 799.13	57.45	Peak	V	31.20	7.15	41.29	-	54.51	74.00	19.49
4 799.72	39.17	Average	V	31.20	7.15	41.29	-	36.23	54.00	17.77
Test Data for Middle Channel										
4 874.70	53.03	Peak	H	31.25	7.21	41.27	-	50.22	74.00	23.78
4 876.50	41.15	Average	H	31.25	7.21	41.27	-	38.34	54.00	15.66
4 876.95	53.69	Peak	V	31.25	7.21	41.27	-	50.88	74.00	23.12
4 874.10	41.41	Average	V	31.25	7.21	41.27	-	38.60	54.00	15.40
Test Data for High Channel										
4 932.29	49.56	Peak	H	31.43	7.21	41.26	-	46.94	74.00	27.06
4 934.79	37.45	Average	H	31.44	7.21	41.26	-	34.84	54.00	19.16
4 921.70	49.84	Peak	V	31.39	7.21	41.26	-	47.18	74.00	26.82
4 926.20	37.70	Average	V	31.40	7.21	41.26	-	35.05	54.00	18.95

Remark: “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBμV/m) - Total Level (dBμV/m)

Total Level = Reading + Antenna Factor + Cable Loss – AMP Gain + Duty Factor

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10.6.2.3 Test data for 802.11n_HT20 WLAN Mode

10.6.2.3.1 Test data for SISO Antenna 0

-. Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode for the emissions fall in restricted band,
1 MHz and RMS Detector for Average Mode for the emissions fall in restricted band
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 3 MHz for Peak and Average Mode

-. Frequency range : 1 GHz ~ 26.5 GHz

-. Measurement distance : 3 m

-. Duty Cycle : > 98 %

-. Result : PASSED

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	AMP Gain	Duty Factor (dB)	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test Data for Low Channel										
4 818.76	49.61	Peak	H	31.20	7.15	41.29	-	46.67	74.00	27.33
4 837.09	37.12	Average	H	31.20	7.15	41.28	-	34.19	54.00	19.81
4 799.72	60.39	Peak	V	31.20	7.15	41.29	-	57.45	74.00	16.55
4 815.51	37.21	Average	V	31.20	7.15	41.29	-	34.27	54.00	19.73
Test Data for Middle Channel										
4 861.96	49.30	Peak	H	31.22	7.21	41.28	-	46.45	74.00	27.55
4 877.20	37.20	Average	H	31.25	7.21	41.27	-	34.39	54.00	19.61
4 873.35	52.21	Peak	V	31.25	7.21	41.27	-	49.40	74.00	24.60
4 874.25	38.90	Average	V	31.25	7.21	41.27	-	36.09	54.00	17.91
Test Data for High Channel										
4 932.79	49.26	Peak	H	31.43	7.21	41.26	-	46.64	74.00	27.36
4 943.38	36.92	Average	H	31.47	7.21	41.25	-	34.35	54.00	19.65
4 938.79	48.82	Peak	V	31.46	7.21	41.26	-	46.23	74.00	27.77
4 903.47	36.95	Average	V	31.31	7.21	41.27	-	34.20	54.00	19.80

Remark: “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBμV/m) - Total Level (dBμV/m)

Total Level = Reading + Antenna Factor + Cable Loss – AMP Gain + Duty Factor

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10.6.2.3.2 Test data for SISO Antenna 1

-. Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode for the emissions fall in restricted band,
1 MHz and RMS Detector for Average Mode for the emissions fall in restricted band
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 3 MHz for Peak and Average Mode

-. Frequency range : 1 GHz ~ 26.5 GHz

-. Measurement distance : 3 m

-. Duty Cycle : > 98 %

-. Result : PASSED

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	AMP Gain	Duty Factor (dB)	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test Data for Low Channel										
4 810.66	49.01	Peak	H	31.20	7.15	41.29	-	46.07	74.00	27.93
4 813.76	37.19	Average	H	31.20	7.15	41.29	-	34.25	54.00	19.75
4 799.92	56.42	Peak	V	31.20	7.15	41.29	-	53.48	74.00	20.52
4 827.50	36.99	Average	V	31.20	7.15	41.28	-	34.06	54.00	19.94
Test Data for Middle Channel										
4 873.75	50.64	Peak	H	31.25	7.21	41.27	-	47.83	74.00	26.17
4 874.15	39.16	Average	H	31.25	7.21	41.27	-	36.35	54.00	17.65
4 867.31	52.32	Peak	V	31.23	7.21	41.27	-	49.49	74.00	24.51
4 877.65	39.18	Average	V	31.26	7.21	41.27	-	36.38	54.00	17.62
Test Data for High Channel										
4 906.82	48.58	Peak	H	31.33	7.21	41.26	-	45.86	74.00	28.14
4 948.63	36.98	Average	H	31.49	7.21	41.25	-	34.43	54.00	19.57
4 916.61	48.72	Peak	V	31.37	7.21	41.26	-	46.04	74.00	27.96
4 921.80	37.12	Average	V	31.39	7.21	41.26	-	34.46	54.00	19.54

Remark: “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBμV/m) - Total Level (dBμV/m)

Total Level = Reading + Antenna Factor + Cable Loss – AMP Gain + Duty Factor

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10.6.2.3.3 Test data for Multiple Transmit [Basic]

-. Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode for the emissions fall in restricted band,
1 MHz and RMS Detector for Average Mode for the emissions fall in restricted band
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 3 MHz for Peak and Average Mode

-. Frequency range : 1 GHz ~ 26.5 GHz

-. Measurement distance : 3 m

-. Duty Cycle : > 98 %

-. Result : PASSED

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	AMP Gain	Duty Factor (dB)	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Test Data for Low Channel										
4 848.38	49.27	Peak	H	31.20	7.15	41.28	-	46.34	74.00	27.66
4 824.35	37.30	Average	H	31.20	7.15	41.29	-	34.36	54.00	19.64
4 799.62	56.50	Peak	V	31.20	7.15	41.29	-	53.56	74.00	20.44
4 825.20	37.22	Average	V	31.20	7.15	41.29	-	34.28	54.00	19.72
Test Data for Middle Channel										
4 872.05	49.03	Peak	H	31.24	7.21	41.27	-	46.21	74.00	27.79
4 873.85	37.23	Average	H	31.25	7.21	41.27	-	34.42	54.00	19.58
4 870.20	49.82	Peak	V	31.24	7.21	41.27	-	47.00	74.00	27.00
4 872.95	37.84	Average	V	31.25	7.21	41.27	-	35.03	54.00	18.97
Test Data for High Channel										
4 907.82	48.71	Peak	H	31.33	7.21	41.26	-	45.99	74.00	28.01
4 900.57	37.02	Average	H	31.30	7.21	41.27	-	34.26	54.00	19.74
4 929.25	49.83	Peak	V	31.42	7.21	41.26	-	47.20	74.00	26.80
4 925.90	38.07	Average	V	31.40	7.21	41.26	-	35.42	54.00	18.58

Remark: “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBµV/m) - Total Level (dBµV/m)

Total Level = Reading + Antenna Factor + Cable Loss – AMP Gain + Duty Factor

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10.6.2.3.3 Test data for Multiple Transmit [Option 1]

-. Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode for the emissions fall in restricted band,
1 MHz and RMS Detector for Average Mode for the emissions fall in restricted band
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 3 MHz for Peak and Average Mode

-. Frequency range : 1 GHz ~ 26.5 GHz

-. Measurement distance : 3 m

-. Duty Cycle : > 98 %

-. Result : PASSED

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	AMP Gain	Duty Factor (dB)	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Test Data for Low Channel										
4 823.40	49.28	Peak	H	31.20	7.15	41.29	-	46.34	74.00	27.66
4 818.46	37.31	Average	H	31.20	7.15	41.29	-	34.37	54.00	19.63
4 799.23	58.09	Peak	V	31.20	7.15	41.29	-	55.15	74.00	18.85
4 813.71	37.32	Average	V	31.20	7.15	41.29	-	34.38	54.00	19.62
Test Data for Middle Channel										
4 886.09	49.12	Peak	H	31.27	7.21	41.27	-	46.33	74.00	27.67
4 850.92	37.02	Average	H	31.20	7.21	41.28	-	34.15	54.00	19.85
4 880.39	50.04	Peak	V	31.26	7.21	41.27	-	47.24	74.00	26.76
4 874.25	37.51	Average	V	31.25	7.21	41.27	-	34.70	54.00	19.30
Test Data for High Channel										
4 930.39	48.80	Peak	H	31.42	7.21	41.26	-	46.17	74.00	27.83
4 931.14	36.91	Average	H	31.42	7.21	41.26	-	34.28	54.00	19.72
4 923.65	49.04	Peak	V	31.39	7.21	41.26	-	46.38	74.00	27.62
4 919.70	37.54	Average	V	31.38	7.21	41.26	-	34.87	54.00	19.13

Remark: “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBµV/m) - Total Level (dBµV/m)

Total Level = Reading + Antenna Factor + Cable Loss – AMP Gain + Duty Factor

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10.6.2.4 Test data for 802.11n_HT40 WLAN Mode

10.6.2.4.1 Test data for SISO Antenna 0

-. Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode for the emissions fall in restricted band,
1 MHz and RMS Detector for Average Mode for the emissions fall in restricted band
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 3 MHz for Peak and Average Mode

-. Frequency range : 1 GHz ~ 26.5 GHz

-. Measurement distance : 3 m

-. Duty Cycle : > 98 %

-. Result : PASSED

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	AMP Gain	Duty Factor (dB)	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test Data for Low Channel										
4 844.25	48.90	Peak	H	31.20	7.15	41.28	-	45.97	74.00	28.03
4 823.37	36.97	Average	H	31.20	7.15	41.29	-	34.03	54.00	19.97
4 844.70	48.73	Peak	V	31.20	7.15	41.28	-	45.80	74.00	28.20
4 851.09	36.92	Average	V	31.20	7.21	41.28	-	34.05	54.00	19.95
Test Data for Middle Channel										
4 879.35	48.94	Peak	H	31.26	7.21	41.27	-	46.14	74.00	27.86
4 874.15	37.06	Average	H	31.25	7.21	41.27	-	34.25	54.00	19.75
4 859.22	48.82	Peak	V	31.22	7.21	41.28	-	45.97	74.00	28.03
4 870.40	37.19	Average	V	31.24	7.21	41.27	-	34.37	54.00	19.63
Test Data for High Channel										
4 897.96	49.15	Peak	H	31.30	7.21	41.27	-	46.39	74.00	27.61
4 900.75	36.97	Average	H	31.30	7.21	41.27	-	34.21	54.00	19.79
4 923.28	48.84	Peak	V	31.39	7.21	41.26	-	46.18	74.00	27.82
4 902.50	36.81	Average	V	31.31	7.21	41.27	-	34.06	54.00	19.94

Remark: “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBμV/m) - Total Level (dBμV/m)

Total Level = Reading + Antenna Factor + Cable Loss – AMP Gain + Duty Factor

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10.6.2.4.2 Test data for SISO Antenna 1

-. Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode for the emissions fall in restricted band,
1 MHz and RMS Detector for Average Mode for the emissions fall in restricted band
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 3 MHz for Peak and Average Mode

-. Frequency range : 1 GHz ~ 26.5 GHz

-. Measurement distance : 3 m

-. Duty Cycle : > 98 %

-. Result : PASSED

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	AMP Gain	Duty Factor (dB)	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Test Data for Low Channel										
4 850.74	49.54	Peak	H	31.20	7.21	41.28	-	46.67	74.00	27.33
4 849.74	37.78	Average	H	31.20	7.15	41.28	-	34.85	54.00	19.15
4 841.65	50.03	Peak	V	31.20	7.15	41.28	-	47.10	74.00	26.90
4 845.75	37.61	Average	V	31.20	7.15	41.28	-	34.68	54.00	19.32
Test Data for Middle Channel										
4 883.84	49.00	Peak	H	31.27	7.21	41.27	-	46.21	74.00	27.79
4 883.59	37.00	Average	H	31.27	7.21	41.27	-	34.21	54.00	19.79
4 877.80	49.92	Peak	V	31.26	7.21	41.27	-	47.12	74.00	26.88
4 878.60	38.50	Average	V	31.26	7.21	41.27	-	35.70	54.00	18.30
Test Data for High Channel										
4 894.36	49.06	Peak	H	31.29	7.21	41.27	-	46.29	74.00	27.71
4 901.05	37.15	Average	H	31.30	7.21	41.27	-	34.39	54.00	19.61
4 909.50	49.09	Peak	V	31.34	7.21	41.26	-	46.38	74.00	27.62
4 881.02	37.05	Average	V	31.26	7.21	41.27	-	34.25	54.00	19.75

Remark: “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBµV/m) - Total Level (dBµV/m)

Total Level = Reading + Antenna Factor + Cable Loss – AMP Gain + Duty Factor

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10.6.2.4.3 Test data for Multiple Transmit

-. Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode for the emissions fall in restricted band,
1 MHz and RMS Detector for Average Mode for the emissions fall in restricted band
100 kHz for Peak Mode for the emissions outside restricted band

-. Video bandwidth : 3 MHz for Peak and Average Mode

-. Frequency range : 1 GHz ~ 26.5 GHz

-. Measurement distance : 3 m

-. Duty Cycle : > 98 %

-. Result : PASSED

Frequency (MHz)	Reading (dBµV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	AMP Gain	Duty Factor (dB)	Total (dBµV/m)	Limits (dBµV/m)	Margin (dB)
Test Data for Low Channel										
4 844.85	48.89	Peak	H	31.20	7.15	41.28	-	45.96	74.00	28.04
4 849.84	36.84	Average	H	31.20	7.15	41.28	-	33.91	54.00	20.09
4 834.56	49.49	Peak	V	31.20	7.15	41.28	-	46.56	74.00	27.44
4 857.04	36.91	Average	V	31.21	7.21	41.28	-	34.05	54.00	19.95
Test Data for Middle Channel										
4 892.18	49.30	Peak	H	31.28	7.21	41.27	-	46.52	74.00	27.48
4 865.41	36.82	Average	H	31.23	7.21	41.27	-	33.99	54.00	20.01
4 859.17	48.48	Peak	V	31.22	7.21	41.28	-	45.63	74.00	28.37
4 864.76	36.94	Average	V	31.23	7.21	41.28	-	34.10	54.00	19.90
Test Data for High Channel										
4 912.69	48.88	Peak	H	31.35	7.21	41.26	-	46.18	74.00	27.82
4 922.83	36.80	Average	H	31.39	7.21	41.26	-	34.14	54.00	19.86
4 923.98	49.04	Peak	V	31.40	7.21	41.26	-	46.39	74.00	27.61
4 897.41	37.07	Average	V	31.29	7.21	41.27	-	34.30	54.00	19.70

Remark: “H”: Horizontal, “V”: Vertical

Margin (dB) = Limits (dBµV/m) - Total Level (dBµV/m)

Total Level = Reading + Antenna Factor + Cable Loss – AMP Gain + Duty Factor

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11. PEAK POWER SPECTRUL DENSITY

11.1 Operating environment

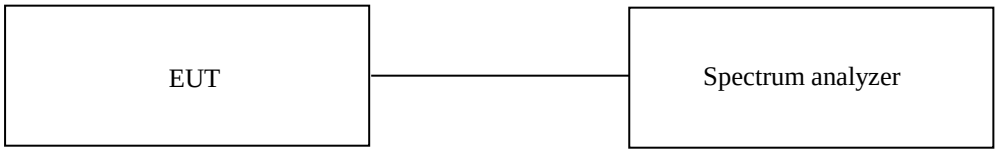
Temperature : 22 °C

Relative humidity : 41 % R.H.

11.2 Test set-up

The antenna output of the EUT was connected to the spectrum analyzer.

The resolution bandwidth is set to 3 kHz ≤ RBW ≤ 100 kHz , the video bandwidth is set to 3 times the resolution bandwidth.



11.3 Test Date

May 07, 2025 ~ June 05, 2025

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11.4 Test data for 802.11b WLAN Mode

11.4.1 Test data for SISO Antenna 0

-. Test Result : Pass

-. Operating Condition : Continuous transmitting mode

CHANNEL	FREQUENCY(MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
Low	2 412.00	-15.35	8.00	23.35
Middle	2 437.00	-14.57	8.00	22.57
High	2 462.00	-14.08	8.00	22.08

Remark. Margin = Limit – Measured value

11.4.2 Test data for SISO Antenna 1

-. Test Result : Pass

-. Operating Condition : Continuous transmitting mode

CHANNEL	FREQUENCY(MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
Low	2 412.00	-14.06	8.00	22.06
Middle	2 437.00	-13.98	8.00	21.98
High	2 462.00	-14.18	8.00	22.18

Remark. Margin = Limit – Measured value

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11.5 Test data for 802.11g WLAN Mode

11.5.1 Test data for SISO Antenna 0

-. Test Result : Pass

-. Operating Condition : Continuous transmitting mode

CHANNEL	FREQUENCY(MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
Low	2 412.00	-16.87	8.00	24.87
Middle	2 437.00	-15.75	8.00	23.75
High	2 462.00	-17.21	8.00	25.21

Remark. Margin = Limit – Measured value

11.5.2 Test data for SISO Antenna 1

-. Test Result : Pass

-. Operating Condition : Continuous transmitting mode

CHANNEL	FREQUENCY(MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
Low	2 412.00	-17.42	8.00	25.42
Middle	2 437.00	-15.19	8.00	23.19
High	2 462.00	-17.22	8.00	25.22

Remark. Margin = Limit – Measured value

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11.6 Test data for 802.11n_HT20 WLAN Mode

11.6.1 Test data for SISO Antenna 0

-. Test Result : Pass

-. Operating Condition : Continuous transmitting mode

CHANNEL	FREQUENCY(MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
Low	2 412.00	-18.19	8.00	26.19
Middle	2 437.00	-16.05	8.00	24.05
High	2 462.00	-17.66	8.00	25.66

Remark. Margin = Limit – Measured value

11.6.2 Test data for SISO Antenna 1

-. Test Result : Pass

-. Operating Condition : Continuous transmitting mode

CHANNEL	FREQUENCY(MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
Low	2 412.00	-16.90	8.00	24.90
Middle	2 437.00	-15.57	8.00	23.57
High	2 462.00	-17.72	8.00	25.72

Remark. Margin = Limit – Measured value

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11.6.3 Test data for MIMO Antenna 0

-. Test Result : Pass

-. Operating Condition : Continuous transmitting mode

CHANNEL	FREQUENCY(MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
Low	2 412.00	-20.48	8.00	28.48
Middle	2 437.00	-19.94	8.00	27.94
High	2 462.00	-19.60	8.00	27.60

Remark. Margin = Limit – Measured value

11.6.4 Test data for MIMO Antenna 1

-. Test Result : Pass

-. Operating Condition : Continuous transmitting mode

CHANNEL	FREQUENCY(MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
Low	2 412.00	-19.48	8.00	27.48
Middle	2 437.00	-19.21	8.00	27.21
High	2 462.00	-19.61	8.00	27.61

Remark. Margin = Limit – Measured value

11.6.5 Test data for Multiple Transmit

-. Test Result : Pass

-. Operating Condition : Continuous transmitting mode

CHANNEL	FREQUENCY(MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
Low	2 412.00	-16.94	8.00	24.94
Middle	2 437.00	-16.55	8.00	24.55
High	2 462.00	-16.59	8.00	24.59

Remark 1 : Margin = Limit – Measured value

Remark 2 : Calculated Power Density = $10\log(10^{(\text{Antenna 1 Power Density}/10)}+10^{(\text{Antenna 2 Power Density}/10)})$

11.7 Test data for 802.11n_HT40 WLAN Mode

11.7.1 Test data for SISO Antenna 0

-. Test Result : Pass

-. Operating Condition : Continuous transmitting mode

CHANNEL	FREQUENCY(MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
Low	2 422.00	-22.97	8.00	30.97
Middle	2 437.00	-20.53	8.00	28.53
High	2 452.00	-22.76	8.00	30.76

Remark. Margin = Limit – Measured value

11.7.2 Test data for SISO Antenna 1

-. Test Result : Pass

-. Operating Condition : Continuous transmitting mode

CHANNEL	FREQUENCY(MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
Low	2 422.00	-22.27	8.00	30.27
Middle	2 437.00	-20.11	8.00	28.11
High	2 452.00	-22.82	8.00	30.82

Remark. Margin = Limit – Measured value

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11.7.3 Test data for MIMO Antenna 0

-. Test Result : Pass

-. Operating Condition : Continuous transmitting mode

CHANNEL	FREQUENCY(MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
Low	2 422.00	-26.98	8.00	34.98
Middle	2 437.00	-26.67	8.00	34.67
High	2 452.00	-26.36	8.00	34.36

Remark. Margin = Limit – Measured value

11.7.4 Test data for MIMO Antenna 1

-. Test Result : Pass

-. Operating Condition : Continuous transmitting mode

CHANNEL	FREQUENCY(MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
Low	2 422.00	-25.55	8.00	33.55
Middle	2 437.00	-25.53	8.00	33.53
High	2 452.00	-25.74	8.00	33.74

Remark. Margin = Limit – Measured value

11.7.5 Test data for Multiple Transmit

-. Test Result : Pass

-. Operating Condition : Continuous transmitting mode

CHANNEL	FREQUENCY(MHz)	MEASURED VLAUE (dBm)	LIMIT (dBm)	MARGIN (dB)
Low	2 422.00	-23.20	8.00	31.20
Middle	2 437.00	-23.05	8.00	31.05
High	2 452.00	-23.03	8.00	31.03

Remark 1 : Margin = Limit – Measured value

Remark 2 : Calculated Power Density = $10\log(10^{(\text{Antenna 1 Power Density}/10)}+10^{(\text{Antenna 2 Power Density}/10)})$

12. RADIATED EMISSION TEST

12.1 Operating environment

Temperature : 22 °C

Relative humidity : 41 % R.H.

12.2 Test set-up

The radiated emissions measurements were on the 3 m semi anechoic chamber. The EUT and other support equipment were placed on turntable above the ground plane. The interconnecting cables from outside test site were inserted into ferrite clamps at the point where the cables reach the turntable.

The frequency spectrum from 30 MHz to 26.5 GHz was scanned and emission levels maximized at each frequency recorded. The system was rotated 360°, and the antenna was varied in height between 1.0 m and 4.0 m in order to determine the maximum emission levels. This procedure was performed for both horizontal and vertical polarization of the receiving antenna.

12.3 Test Date

May 07, 2025 ~ June 05, 2025

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12.4 Test data for 30 MHz ~ 1 000 MHz

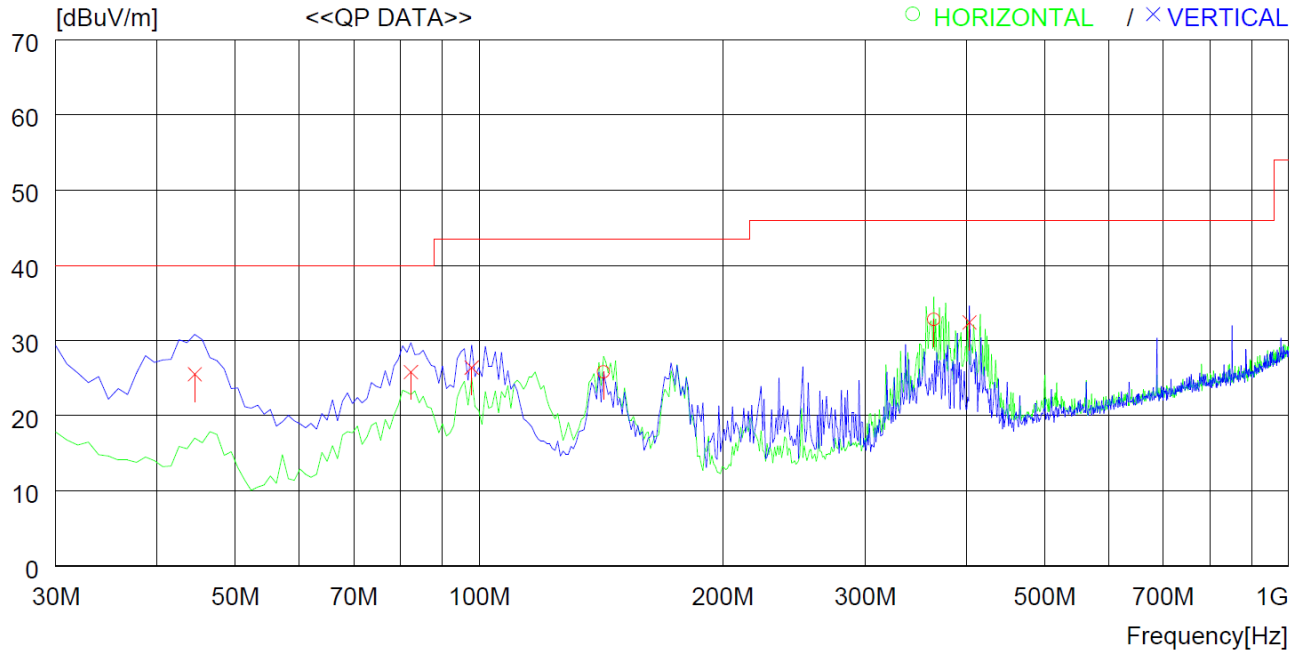
12.4.1 Test data for WLAN 2.4 GHz [Basic]

Limits apply to : FCC CFR 47, PART 15, SUBPART C, SECTION 15.247

Result : PASSED

EUT : 4PPoE-BLE WLAN Bridge

Detector : CISPR Quasi-Peak (6 dB Bandwidth: 120 kHz)



No.	FREQ [MHz]	READING QP [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal ------										
1	142.520	37.1	19.2	1.6	32.1	25.8	43.5	17.7	200	261
2	364.650	42.3	20.3	2.4	32.2	32.8	46.0	13.2	300	359
----- Vertical ------										
3	44.550	41.5	15.2	0.9	32.1	25.5	40.0	14.5	100	0
4	82.380	43.2	13.5	1.2	32.1	25.8	40.0	14.2	100	0
5	97.900	42.1	15.1	1.3	32.1	26.4	43.5	17.1	100	0
6	403.450	41.2	20.9	2.6	32.3	32.4	46.0	13.6	100	101

-. Antenna 0, Antenna 1 and Multiple transmit tested, but the worst data were recorded.

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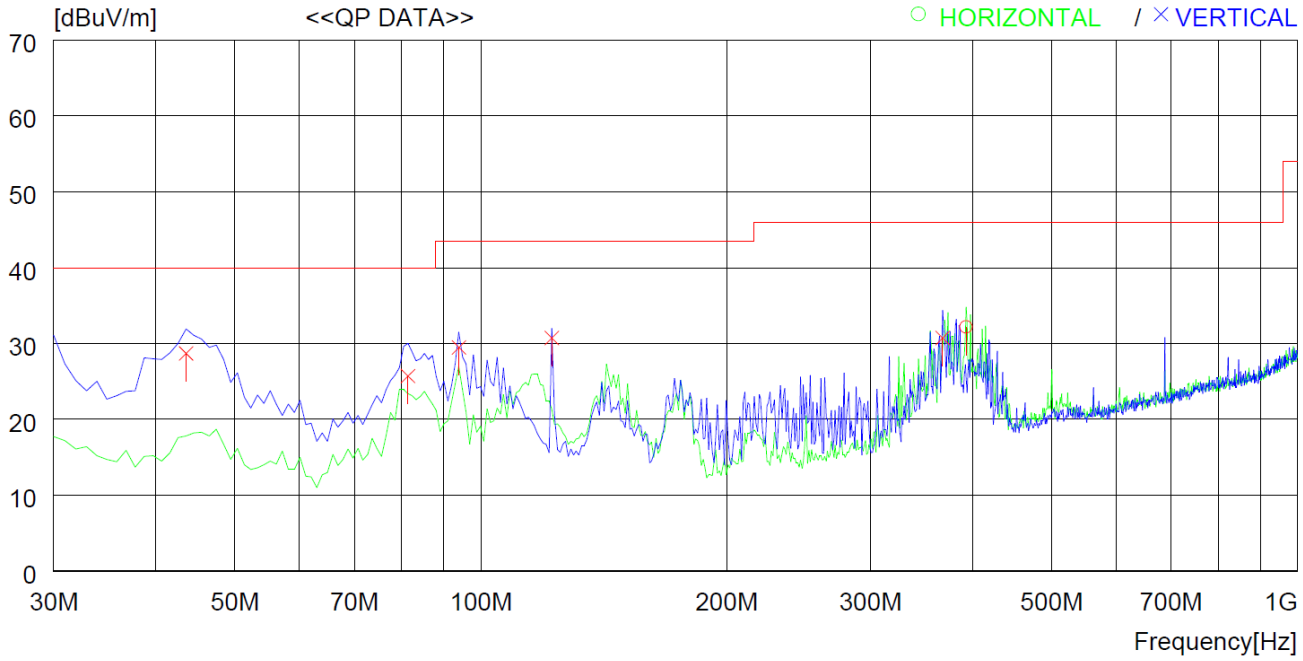
12.4.2 Test data for WLAN 2.4 GHz [Option 1]

Limits apply to : FCC CFR 47, PART 15, SUBPART C, SECTION 15.247

Result : PASSED

EUT : 4PPoE-BLE WLAN Bridge

Detector : CISPR Quasi-Peak (6 dB Bandwidth: 120 kHz)



No.	FREQ [MHz]	READING QP [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal ------										
1	392.780	41.2	20.7	2.5	32.2	32.2	46.0	13.8	300	303
----- Vertical ------										
2	43.580	44.5	15.5	0.8	32.1	28.7	40.0	11.3	100	225
3	81.410	43.1	13.5	1.2	32.1	25.7	40.0	14.3	100	209
4	94.020	45.9	14.4	1.3	32.1	29.5	43.5	14.0	100	0
5	122.150	42.5	18.9	1.4	32.1	30.7	43.5	12.8	100	321
6	367.560	40.1	20.3	2.5	32.2	30.7	46.0	15.3	100	0

-. Antenna 0, Antenna 1 and Multiple transmit tested, but the worst data were recorded.

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12.5 Test data for Below 30 MHz

-. Resolution bandwidth : 200 Hz (from 9 kHz to 0.15 MHz), 9 kHz (from 0.15 MHz to 30 MHz)

-. Frequency range : 9 kHz ~ 30 MHz

-. Measurement distance : 3 m

-. Operating mode : Transmitting mode

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Height (m)	Angle (°)	Ant. Factor (dB/m)	Cable Loss	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
Emission from the EUT more than 20 dB below the limit in each frequency range.									

12.6 Test data for above 1 GHz

-. Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode

1 MHz and RMS Detector for Average Mode

-. Video bandwidth : 3 MHz for Peak and Average Mode

-. Frequency range : 1 GHz ~ 26.5 GHz

-. Measurement distance : 3 m

-. Operating mode : Transmitting mode

Frequency (MHz)	Reading (dBµV)	Ant. Pol. (H/V)	Ant. Height (m)	Angle (°)	Ant. Factor (dB/m)	Cable Loss	Emission Level(dBµV/m)	Limits (dBµV/m)	Margin (dB)
Emission from the EUT more than 20 dB below the limit in each frequency range.									

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13. CONDUCTED EMISSION TEST

13.1 Operating environment

Temperature : 22 °C

Relative humidity : 41 % R.H.

13.2 Test set-up

The EUT was placed on a wooden table, 0.8 m height above the floor. Power was fed to the EUT through a 50 Ω / 50 μH + 5 Ω Artificial Mains Network (AMN). The ground plane was electrically bonded to the reference ground system and all power lines were filtered from ambient.

13.3 Test Date

May 07, 2025 ~ June 05, 2025

ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)

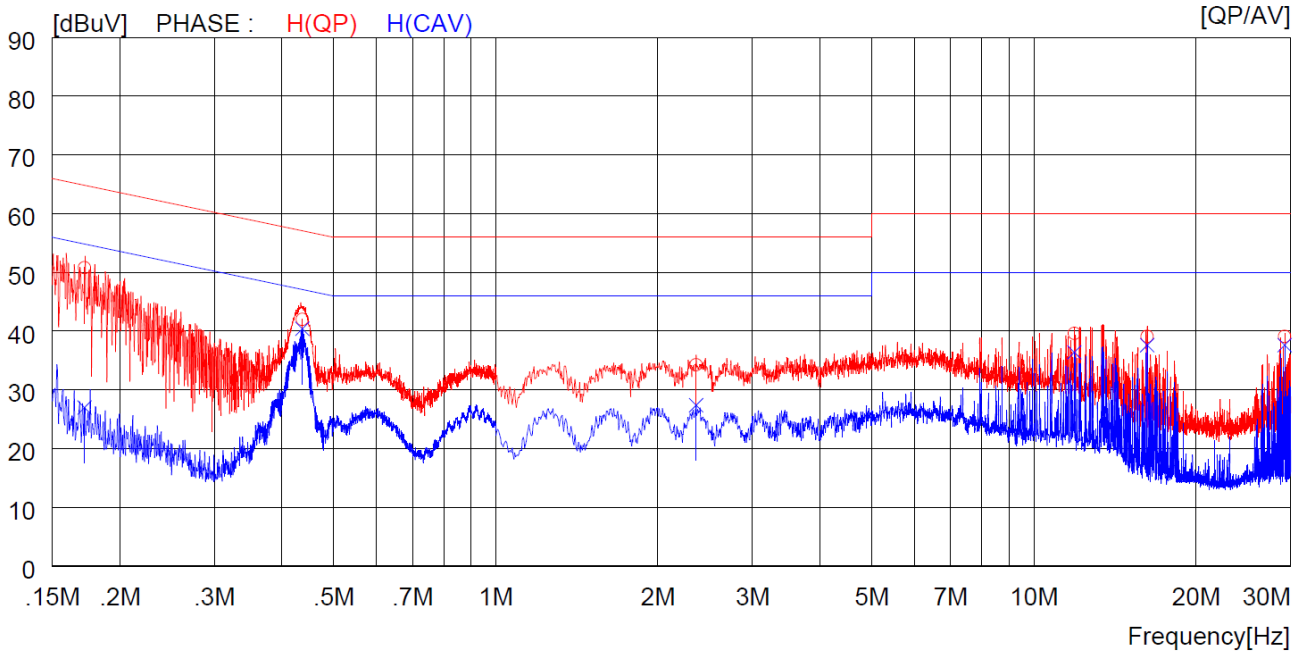
13.4 Test data for WLAN 2.4 GHz [Basic]

-. Resolution bandwidth : 9 kHz

-. Frequency range : 0.15 MHz ~ 30 MHz

-. Antenna 0, Antenna 1 and Multiple transmit tested, but the worst data were recorded

.-. Tested Line : HOT LINE



NO	FREQ	READING QP	READING AV	C.FACTOR	RESULT QP	RESULT AV	LIMIT QP	LIMIT AV	MARGIN QP	MARGIN AV	PHASE
	[MHz]	[dBuV]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	
1	0.17200	40.7	----	10.1	50.8	----	64.9	----	14.1	----	H(QP)
2	0.43700	31.9	----	10.1	42.0	----	57.1	----	15.1	----	H(QP)
3	2.35600	24.2	----	10.1	34.3	----	56.0	----	21.7	----	H(QP)
4	11.89000	28.9	----	10.7	39.6	----	60.0	----	20.4	----	H(QP)
5	16.23000	28.2	----	10.9	39.1	----	60.0	----	20.9	----	H(QP)
6	29.24000	27.6	----	11.5	39.1	----	60.0	----	20.9	----	H(QP)
7	0.17200	----	16.9	10.1	----	27.0	----	54.9	----	27.9	H(CAV)
8	0.43700	----	30.3	10.1	----	40.4	----	47.1	----	6.7	H(CAV)
9	2.35600	----	17.3	10.1	----	27.4	----	46.0	----	18.6	H(CAV)
10	11.89000	----	25.7	10.7	----	36.4	----	50.0	----	13.6	H(CAV)
11	16.23000	----	26.7	10.9	----	37.6	----	50.0	----	12.4	H(CAV)
12	29.24000	----	26.1	11.5	----	37.6	----	50.0	----	12.4	H(CAV)

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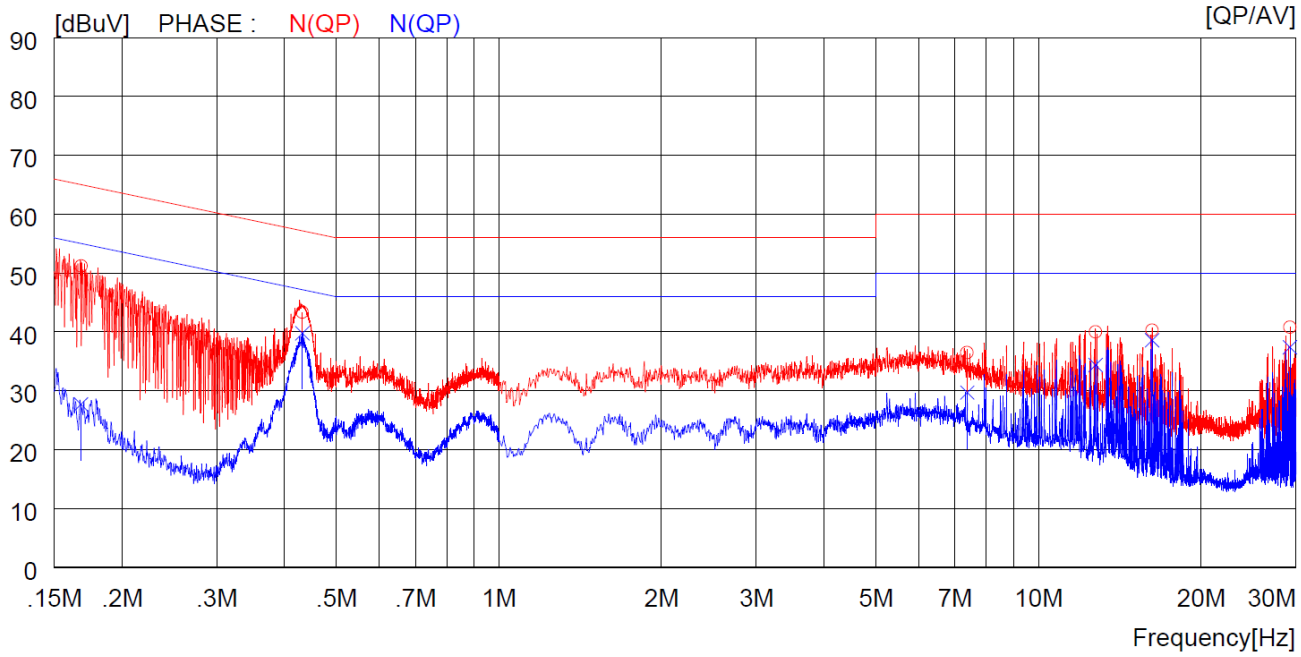
-. Tested Line : NEUTRAL LINE



NO	FREQ [MHz]	READING QP [dBuV]	READING AV [dBuV]	C.FACTOR [dB]	RESULT QP [dBuV]	RESULT AV [dBuV]	LIMIT QP [dBuV]	LIMIT AV [dBuV]	MARGIN QP [dBuV]	MARGIN AV [dBuV]	PHASE
1	0.16800	41.1	----	10.1	51.2	----	65.1	----	13.9	----	N(QP)
2	0.43200	33.3	----	10.1	43.4	----	57.2	----	13.8	----	N(QP)
3	7.37500	26.1	----	10.4	36.5	----	60.0	----	23.5	----	N(QP)
4	12.75000	29.2	----	10.8	40.0	----	60.0	----	20.0	----	N(QP)
5	16.23000	29.4	----	10.9	40.3	----	60.0	----	19.7	----	N(QP)
6	29.24000	29.3	----	11.5	40.8	----	60.0	----	19.2	----	N(QP)
7	0.16800	----	17.6	10.1	----	27.7	----	55.1	----	27.4	N(CAV)
8	0.43200	----	29.7	10.1	----	39.8	----	47.2	----	7.4	N(CAV)
9	7.37500	----	19.3	10.4	----	29.7	----	50.0	----	20.3	N(CAV)
10	12.75000	----	23.6	10.8	----	34.4	----	50.0	----	15.6	N(CAV)
11	16.23000	----	27.7	10.9	----	38.6	----	50.0	----	11.4	N(CAV)
12	29.24000	----	25.9	11.5	----	37.4	----	50.0	----	12.6	N(CAV)

Remark: Margin (dB) = Limit – Level (Result)

The emission level in above table is included the transducer factor that means insertion loss (LISN), cable loss and attenuator.

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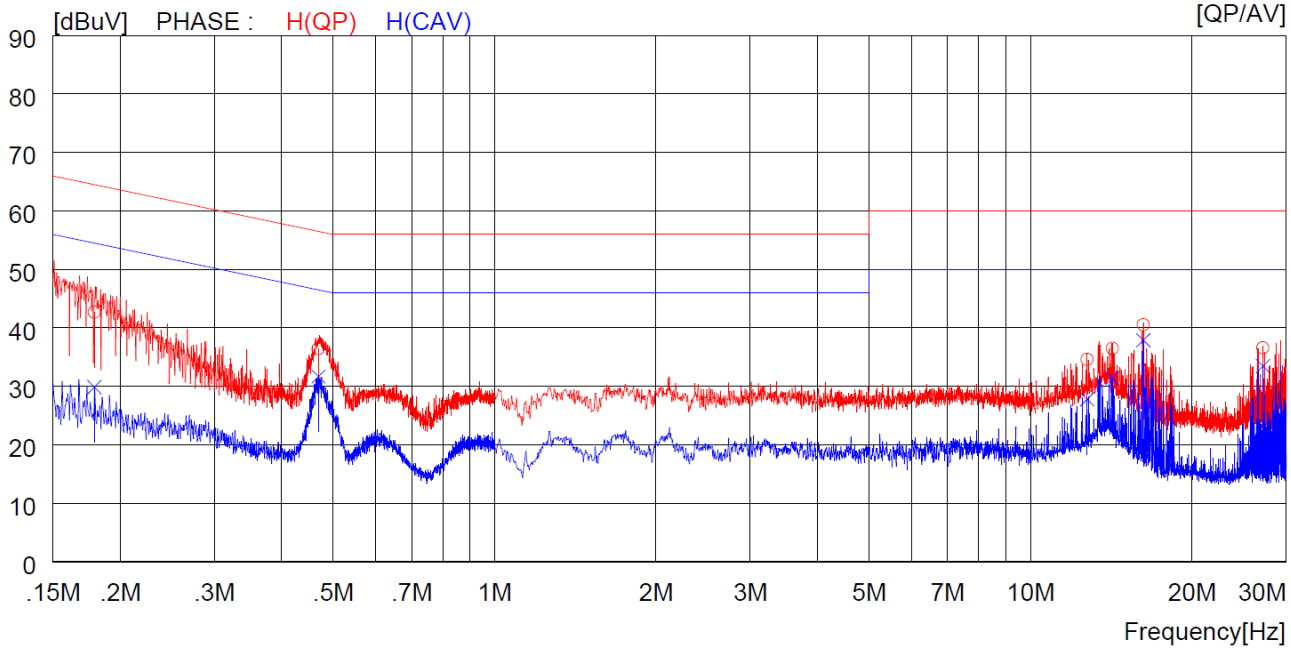
13.5 Test data for WLAN 2.4 GHz [Option 1]

-. Resolution bandwidth : 9 kHz

-. Frequency range : 0.15 MHz ~ 30 MHz

-. Antenna 0, Antenna 1 and Multiple transmit tested, but the worst data were recorded

.-. Tested Line : HOT LINE



NO	FREQ	READING QP [dBuV]	READING AV [dBuV]	C.FACTOR QP [dB]	C.FACTOR AV [dB]	RESULT QP [dBuV]	RESULT AV [dBuV]	LIMIT QP [dBuV]	LIMIT AV [dBuV]	MARGIN QP [dB]	MARGIN AV [dB]	PHASE
1	0.17900	32.6	----	10.1		42.7	----	64.5	----	21.8	----	H(QP)
2	0.46900	26.3	----	10.1		36.4	----	56.5	----	20.1	----	H(QP)
3	12.75000	23.8	----	10.8		34.6	----	60.0	----	25.4	----	H(QP)
4	14.21000	25.7	----	10.8		36.5	----	60.0	----	23.5	----	H(QP)
5	16.23000	29.6	----	10.9		40.5	----	60.0	----	19.5	----	H(QP)
6	27.16000	25.1	----	11.5		36.6	----	60.0	----	23.4	----	H(QP)
7	0.17900	----	19.8	10.1		----	29.9	----	54.5	----	24.6	H(CAV)
8	0.46900	----	21.6	10.1		----	31.7	----	46.5	----	14.8	H(CAV)
9	12.75000	----	17.0	10.8		----	27.8	----	50.0	----	22.2	H(CAV)
10	14.21000	----	20.6	10.8		----	31.4	----	50.0	----	18.6	H(CAV)
11	16.23000	----	27.0	10.9		----	37.9	----	50.0	----	12.1	H(CAV)
12	27.16000	----	22.0	11.5		----	33.5	----	50.0	----	16.5	H(CAV)

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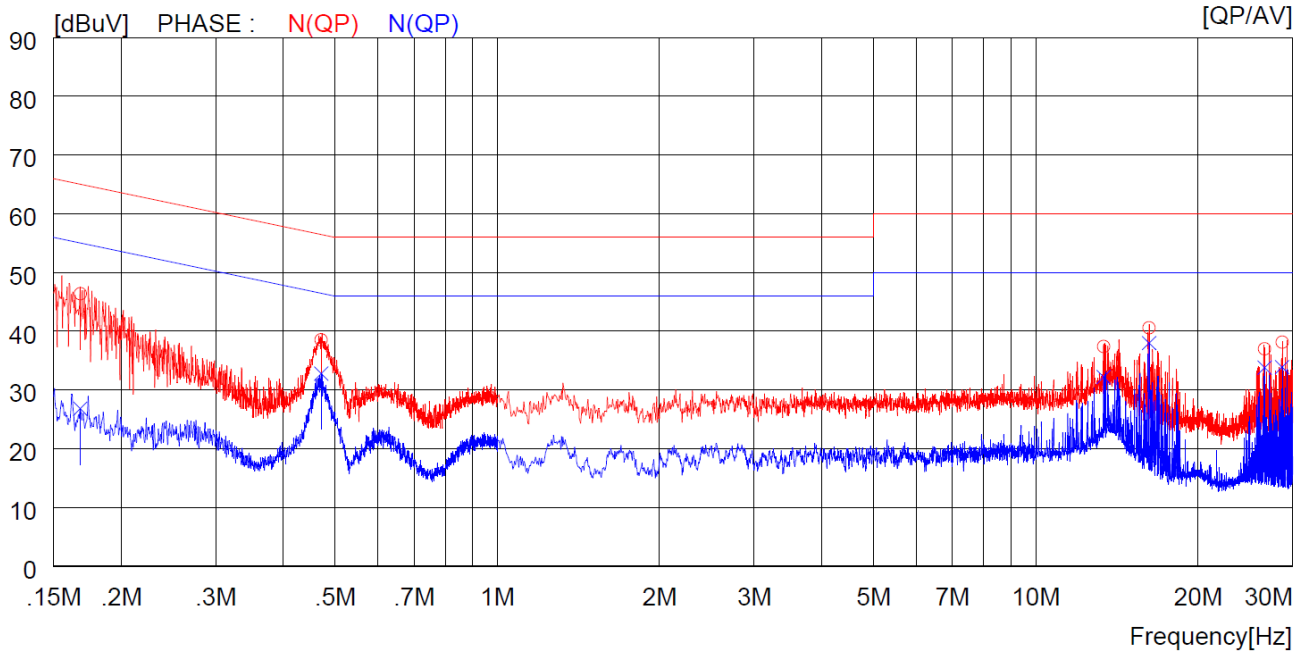
-. Tested Line : NEUTRAL LINE



NO	FREQ	READING QP	READING AV	C.FACTOR QP	C.FACTOR AV	RESULT QP	RESULT AV	LIMIT QP	LIMIT AV	MARGIN QP	MARGIN AV	PHASE
	[MHz]	[dBuV]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dBuV]			
1	0.16800	36.3	----	10.1		46.4	----	65.1	----	18.7	----	N(QP)
2	0.47100	28.4	----	10.1		38.5	----	56.5	----	18.0	----	N(QP)
3	13.36000	26.6	----	10.8		37.4	----	60.0	----	22.6	----	N(QP)
4	16.23000	29.7	----	10.9		40.6	----	60.0	----	19.4	----	N(QP)
5	26.61000	25.5	----	11.5		37.0	----	60.0	----	23.0	----	N(QP)
6	28.69000	26.6	----	11.5		38.1	----	60.0	----	21.9	----	N(QP)
7	0.16800	----	16.7	10.1		----	26.8	----	55.1	----	28.3	N(CAV)
8	0.47100	----	22.7	10.1		----	32.8	----	46.5	----	13.7	N(CAV)
9	13.36000	----	21.4	10.8		----	32.2	----	50.0	----	17.8	N(CAV)
10	16.23000	----	27.1	10.9		----	38.0	----	50.0	----	12.0	N(CAV)
11	26.61000	----	22.3	11.5		----	33.8	----	50.0	----	16.2	N(CAV)
12	28.69000	----	22.4	11.5		----	33.9	----	50.0	----	16.1	N(CAV)

Remark: Margin (dB) = Limit – Level (Result)

The emission level in above table is included the transducer factor that means insertion loss (LISN), cable loss and attenuator.

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14. LIST OF TEST EQUIPMENT

Model Number	Manufacturer	Description	Serial Number	Last Cal.(Interval)
FSVA40	Rohde & Schwarz	Signal Analyzer	101598	Jan. 03, 2025 (1Y)
ESU	Rohde & Schwarz	EMI Test Receiver	100261	Mar. 05, 2025 (1Y)
310N	Sonoma Instrument	Pre-Amplifier	392756	Oct. 16, 2024 (1Y)
SCU18	Rohde & Schwarz	Pre-Amplifer	102266	Jul. 04, 2024 (1Y)
SCU40A	Rohde & Schwarz	Pre-Amplifer	100436	Jan. 15, 2025 (1Y)
DT2000-2t	Innco System	Turn Table	N/A	N/A
MA-4640-XPET	Innco System	Antenna Master	MA4640/652/43100318/P	N/A
CO3000	Innco System	Controller	1026/40960617/P	N/A
FMZB 1519-60D	Schwarzbeck	Loop Antenna	00113	Jan. 07, 2025 (2Y)
HLP-2008	TDK	Hybrid Antenna	131316	Mar. 09, 2024 (2Y)
BBHA9120D	Schwarzbeck	Horn Antenna	9120D-1366	Jun. 17, 2024 (1Y)
BBHA9170	Schwarzbeck	Horn Antenna	BBHA9170178	Jan. 04, 2025 (1Y)
HPF 3GHz	Rohde & Schwarz	High Pass Filter	N/A	Jan. 13, 2025 (1Y)
QFA1802-26-6-S	Qualwave	6dB Attenuator	225335	Jan. 14, 2025 (1Y)
E3632A	Agilent	DC POWER SUPPLY	MY50370016	Jan. 13, 2025 (1Y)
NRP-Z91	Rohde & Schwarz	Wideband Power Sensor	103780	Jul. 04, 2024 (1Y)
NRP-Z81	Rohde & Schwarz	Wideband Power Sensor	104811	Jan. 15, 2025 (1Y)
ESCI	Rohde & Schwarz	EMI TEST RECEIVER	101012	Sep. 26, 2024 (1Y)
NSLK8128	Schwarzbeck	AMN	8128216	Mar. 12, 2025 (1Y)
ESH3-Z2	Rohde & Schwarz	PULSE LIMITER	100655	Mar. 12, 2025 (1Y)

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