

TEST REPORT

Reference No...... : WTF25D02039207W008
FCC ID : 2BNVO-LX1
Applicant..... : iVolve Pty Ltd
Address..... : West Village Greenhouse, Level 7, 97 Boundary Street, West End
QLD 4101, Australia
Manufacturer : iVolve Pty Ltd
Address..... : West Village Greenhouse, Level 7, 97 Boundary Street, West End
QLD 4101, Australia
Product..... : iVolve Edge Router
Model(s) : Nexis LX1
Standards..... : FCC 47CFR Part 2 Subpart J Section 2.1091
Date of Receipt Sample : 2025-04-22
Date of Test : 2025-06-04 to 2025-07-11
Date of Issue..... : 2025-12-18
Test Result..... : **Pass**

Remarks:

The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.

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3. Revision History

Test Report No.	Date of Receipt Sample	Date of Test	Date of Issue	Purpose	Comment	Approved
WTF25D02039207W008	2025-04-22	2025-06-04 to 2025-07-11	2025-12-18	Original	-	Valid

4. General Information

4.1. General Description of E.U.T.

Product:	iVolve Edge Router
Model(s):	Nexis LX1
Model Description:	N/A
Test Sample No.:	1-1/1
Bluetooth Version:	5.1
Wi-Fi Specification:	2.4G-802.11b/g/n HT20/n HT40 5G-802.11a/n(HT20/40)
GSM Band(s):	GSM 850/1900
GPRS/EGPRS Class:	12
WCDMA Band(s):	FDD Band II/IV/V
LTE Band(s):	FDD Band 2/4/5/7/12/13/26/66 TDD Band 38/ Band 41
Hardware Version:	A
Software Version:	2023.08-782

4.2. Details of E.U.T.

Operation Frequency:	BT EDR/BLE: 2402-2480MHz 2.4G Wi-Fi: 802.11b/g/n (HT20), 2412-2462MHz 11CH 802.11n (HT40), 2422-2452MHz 7CH 5G Wi-Fi: 802.11a/n(HT20): U-NII-1: 5180-5240MHz, U-NII-2A: 5260-5320MHz(DFS), U-NII-2C: 5500-5700MHz(DFS), U-NII-3: 5745-5825MHz 802.11n(HT40): U-NII-1: 5190-5230MHz, U-NII-2A: 5270-5310MHz(DFS), U-NII-2C: 5510-5670MHz(DFS), U-NII-3: 5755-5795MHz GSM/GPRS/EDGE 850: 824.2-848.8MHz GSM/GPRS/EDGE 1900: 1850.2-1909.8MHz WCDMA Band II: 1852.4-1907.6MHz WCDMA Band IV: 1712.4-1752.6MHz WCDMA Band V: 826.4-846.6MHz LTE Band 2: 1850.7-1909.3MHz LTE Band 4: 1710.7-1754.3MHz LTE Band 5: 824.7-848.3MHz LTE Band 7: 2502.5-2567.5MHz LTE Band 12: 699.7-715.3MHz LTE Band 13: 779.5-784.5MHz
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	LTE Band 26(Part 90): 814.7-823.3MHz
	LTE Band 26(Part 22): 824.7-848.3MHz
	LTE Band 38: 2572.5-2617.5MHz
	LTE Band 41: 2537.5-2652.5MHz
	LTE Band 66: 1710.7-1779.3MHz
Max. RF output power:	BT EDR: 11.64dBm
	BLE: 12. 6.92dBm
	2.4G Wi-Fi:
	Ant.1: 20.62dBm
	MIMO Ant.1+2: 23.86dBm
	5G Wi-Fi:
	Ant. 1:
	U-NII-1: 16.60dBm
	U-NII-2A: 16.86dBm
	U-NII-2C: 17.50dBm
	U-NII-3: 17.87dBm
	Ant. 2:
	U-NII-1: 16.98dBm
	U-NII-2A: 17.20dBm
	U-NII-2C: 18.44dBm
	U-NII-3: 17.88dBm
	GSM/GPRS/EDGE 850: 33.57dBm
	GSM/GPRS/EDGE 1900: 30.75dBm
	WCDMA Band II: 24.52dBm
	WCDMA Band IV: 24.15dBm
	WCDMA Band V: 24.53dBm
	LTE Band 2: 23.67dBm
	LTE Band 4: 23.16dBm
	LTE Band 5: 23.58dBm
	LTE Band 7: 23.15dBm
	LTE Band 12: 23.93dBm
	LTE Band 13: 23.39dBm
	LTE Band 26(Part 90): 23.40dBm
	LTE Band 26(Part 22): 23.44dBm
	LTE Band 38: 23.19dBm
	LTE Band 41: 23.56dBm
	LTE Band 66: 23.66dBm
Type of Modulation:	BT EDR: GFSK, $\pi/4$ -DQPSK, 8-DPSK
	BLE: GFSK
	2.4G Wi-Fi:
	802.11b: DSSS (DBPSK / DQPSK / CCK)
	802.11g/n: OFDM (BPSK / QPSK / 16QAM / 64QAM)
	5G Wi-Fi:
	802.11a/n: OFDM (BPSK / QPSK / 16QAM / 64QAM)
	GSM/GPRS:GMSK
	EDGE: GMSK, 8PSK
	WCDMA: BPSK
	HSDPA/DC-HSDPA: QPSK
	HSUPA: QPSK
	LTE: QPSK, 16QAM

Antenna installation:	BT EDR/BLE: External Antenna 2.4G Wi-Fi/ 5G Wi-Fi: External Antenna GSM/WCDMA/LTE: External Antenna
Antenna Gain:	BT EDR/BLE: 6dBi 2.4G Wi-Fi/ 5G Wi-Fi: 6dBi GSM/GPRS/EDGE 850: 1.5dBi GSM/GPRS/EDGE 1900: 2dBi WCDMA Band II: 2dBi WCDMA Band IV: 3dBi WCDMA Band V: 1.5dBi LTE Band 2: 2dBi LTE Band 4: 3dBi LTE Band 5: 1.5dBi LTE Band 7: 4.6dBi LTE Band 12: 1.5dBi LTE Band 13: 1.5dBi LTE Band 26(Part 90): 1.5dBi LTE Band 26(Part 22): 1.5dBi LTE Band 38: 4.6dBi LTE Band 41: 4.6dBi LTE Band 66: 3dBi

Note:

#: The antenna gain is provided by the applicant, and the applicant should be responsible for its authenticity, WALTEK lab has not verified the authenticity of its information.

Ratings: DC12V or DC 24V

4.3. Test Facility

The test facility has a test site registered with the following organizations:

ISED CAB identifier: CN0013. Test Firm Registration No.: 7760A.

Waltek Testing Group Co., Ltd. Has been registered and fully described in a report filed with the Industry Canada. The acceptance letter from the Industry Canada is maintained in our files.

Registration number 7760A, October 15, 2016.

FCC Designation No.: CN1201. Test Firm Registration No.: 523476.

Waltek Testing Group Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration number 523476, September 10, 2019.

4.4. Subcontracted

Whether parts of tests for the product have been subcontracted to other labs:

☐ Yes ☒ No

If Yes, list the related test items and lab information:

Test Lab: N/A

Lab address: N/A

Test items: N/A

4.5. Abnormalities from Standard Conditions

None.

5. Test Summary

Test Items	Test Requirement	Result
Maximum Permissible Exposure (Exposure of Humans to RF Fields)	FCC Part 2.1091	PASS

6. RF Exposure

Test Requirement: FCC 47CFR Part 2 Subpart J Section 2.1091

Evaluation Method: FCC 47CFR Part 1 Subpart I Section 1.1310,
KDB 447498 D01 General RF Exposure Guidance v06

6.1. Requirements

Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess limit for maximum permissible exposure. In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as a mobile device whereby a distance of 0.2 m normally can be maintained between the user and the device.

6.2. The procedures / limit

Table 1 to § 1.1310(e)(1) - Limits for Maximum Permissible Exposure (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(i) Limits for Occupational/Controlled Exposure				
0.3-3.0	614	1.63	*(100)	≤6
3.0-30	1842/f	4.89/f	*(900/f ²)	<6
30-300	61.4	0.163	1	<6
300-1,500			f/300	<6
1,500-100,000			5	<6
(ii) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*(100)	<30
1.34-30	824/f	2.19/f	*(180/f ²)	<30
30-300	27.5	0.073	0.2	<30
300-1,500			f/1500	<30
1,500-100,000			1	<30

f = frequency in MHz. * = Plane-wave equivalent power density.

6.3. MPE Calculation Method

$$S = \frac{P \times G}{4 \times \pi \times R^2}$$

S = power density (in appropriate units, e.g. mW/cm²)

P = output power to the antenna (in appropriate units, e.g., mW).

G = power gain of the antenna in the direction of interest relative to an isotropic radiator, the power gain factor, is normally numeric gain.

R = distance to the center of radiation of the antenna (appropriate units, e.g., cm)

From the peak EUT RF output power, the minimum mobile separation distance, R=30cm, as well as the gain of the used antenna, the RF power density can be obtained

6.4. Radio Frequency Radiation Exposure Evaluation

Band	Antenna Gain (dBi)	Antenna Gain (numeric)	Max. Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (mW/cm ²)	Limit (mW/cm ²)
BT EDR	6	3.98	11.64	14.59	0.005134	1.0
BLE	6	3.98	6.92	4.92	0.001732	1.0
2.4G Wi-Fi	6	3.98	23.86	243.22	0.085603	1.0
5G Wi-Fi	6	3.98	18.44	69.82	0.024575	1.0
GSM/GPRS/EDGE 850	1.5	1.41	33.57	2275.10	0.284113	0.55
GSM/GPRS/EDGE 1900	2	2.00	30.75	1188.50	0.166530	1.0
WCDMA Band II	2	2.00	24.52	283.14	0.039673	1.0
WCDMA Band IV	3	2.00	24.15	260.02	0.045866	1.0
WCDMA Band V	1.5	1.41	24.53	283.79	0.035440	0.55
LTE Band 2	2	2.00	23.67	232.81	0.032621	1.0
LTE Band 4	3	2.00	23.16	207.01	0.036517	1.0
LTE Band 5	1.5	1.41	23.58	228.03	0.028477	0.55
LTE Band 7	4.6	2.88	23.15	206.54	0.052661	1.0
LTE Band 12	1.5	1.41	23.93	247.17	0.030867	0.47
LTE Band 13	1.5	1.41	23.39	218.27	0.027258	0.52
LTE Band 26 (Part 90)	1.5	1.41	23.40	218.78	0.027321	0.54
LTE Band 26 (Part 22)	1.5	1.41	23.44	220.80	0.027573	0.55
LTE Band 38	4.6	2.88	23.19	208.45	0.053149	1.0
LTE Band 41	4.6	2.88	23.56	226.99	0.057875	1.0
LTE Band 66	3	2.00	23.66	232.27	0.040972	1.0

Simultaneous Transmission

Mode	Power Density (mW/cm ²)	Limit (mW/cm ²)
BT EDR/BLE+2.4G Wi-Fi+GSM/GPRS/EDGE	0.374850	0.55
BT EDR/BLE+5G Wi-Fi+GSM/GPRS/EDGE	0.313822	0.55
BT EDR/BLE+2.4G Wi-Fi+WCDMA	0.136603	1.0
BT EDR/BLE+5G Wi-Fi+WCDMA	0.075575	1.0
BT EDR/BLE+2.4G Wi-Fi+LTE	0.148612	1.0
BT EDR/BLE+5G Wi-Fi+LTE	0.087584	1.0

Note:

1. For conservativeness, the lowest frequency of each band is used to determine the MPE limit of that band.
2. Chose the maximum power to do MPE analysis.

Conclusion:

RF Exposure is FCC compliant.

=====End of Report=====