

TEST REPORT

Reference No. : WTD21D05044772W002
FCC ID : 2AZ6P-1166197
Applicant..... : AOB Products Company
Address..... : 1800 North Route Z, Suite A, Columbia, Missouri 65202, USA
Manufacturer : Winstars Technology Limited
Address..... : 1-5/F, NO.5, Taisong Industrial Zone, Dalang Community, Dalang Street, Longhua District, Shenzhen
Product..... : Wi-Fi Range Extender
Model(s). : 1166197
Brand Name : Lockdown
Standards..... : FCC Part 2.1901
Date of Receipt sample : 2021-05-11
Date of Test : 2021-05-11 to 2021-05-21
Date of Issue..... : 2021-05-21
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
WTD21D05044772 W002	2021-05-11	2021-05-11 to 2021-05-21	2021-05-21	Original	-	Valid

4. General Information

4.1. General Description of E.U.T.

Product:	Wi-Fi Range Extender
Model(s):	1166197
Model Description:	N/A
Wi-Fi Specification:	802.11b/g/n HT20/n HT40
Hardware Version:	WS-WN578N2-B
Software Version:	M78N_V1310_210409
Note:	N/A

4.2. Details of E.U.T.

Operation Frequency:	802.11b/g/n HT20: 2412~2462MHz 802.11n HT40: 2422~2452MHz
Max. RF output power:	ANT 0: 15.49dBm ANT 1: 15.53dBm SUM: 18.23dBm
Type of Modulation:	DSSS, CCK, OFDM
Antenna installation:	External antenna
Antenna Gain:	ANT 0: 3.0dBi ANT 1: 3.0dBi
Ratings:	100-240V a.c. 50/60Hz, 0.3A MAX

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.

5. Test Summary

Test Items	Test Requirement	Result
Maximum Permissible Exposure (Exposure of Humans to RF Fields)	FCC Part 2.1901	PASS

6. RF Exposure

Test Requirement: FCC Part 2.1901

Evaluation Method: FCC Part 2.1091 & 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

(A) Limits for Occupational / Controlled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842 / f	4.89 / f	(900 / f)*	6
30-300	61.4	0.163	1.0	6
300-1500			F/300	6
1500-100,000			5	6

(B) Limits for General Population / Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f)*	30
30-300	27.5	0.073	0.2	30
300-1500			F/1500	30
1500-100,000			1.0	30

Note: 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=20cm, as well as the gain of the used antenna, the RF power density can be obtained

Ant.	Antenna Gain (dBi)	Antenna Gain (numeric)	Max. conducted Output Power (dBm)	Max. conducted Output Power (mW)	Power Density (mW/cm ²)	Limit of Power Density (mW/cm ²)
Ant. 0	3.00	1.995	15.49	35.40	0.014051	1.0
Ant. 1	3.00	1.995	15.53	35.73	0.014181	1.0

Simultaneous Transmission:

Mode	Σmax ratios (mW/cm ²)	Limit (mW/cm ²)
WIFI Ant. 0 + Ant. 1	0.052810	1.0

6.4. Result: Compliance

No SAR measurement is required.

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