

RF Exposure Evaluation Report

Product : BE5100 Dual-Band Wi-Fi 7 Router(2.5GE)
Trade mark : Tenda
Model/Type reference : RE6L Pro,TE6L Pro
Serial Number : N/A
Report Number : EED32Q81740604
FCC ID : V7TRE6LP
Date of Issue : Dec. 19, 2024
Test Standards : 47 CFR Part 1.1307
47 CFR Part 1.1310
47 CFR Part 2.1091(mobile devices)
47 CFR Part 2.1093(portable devices)
KDB 447498 D04 Interim General RF
Exposure Guidance v01
Test result : PASS

Prepared for:

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1 Version

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2 Contents

	Page
1 VERSION	2
2 CONTENTS	3
3 GENERAL INFORMATION	4
3.1 CLIENT INFORMATION	4
3.2 GENERAL DESCRIPTION OF EUT	4
3.3 TEST LOCATION	5
3.4 DEVIATION FROM STANDARDS	5
3.5 ABNORMALITIES FROM STANDARD CONDITIONS	5
3.6 OTHER INFORMATION REQUESTED BY THE CUSTOMER	5
4 SAR EVALUATION	6
4.1 RF EXPOSURE COMPLIANCE REQUIREMENT	6
4.1.1 Limits	6
4.1.2 Test Procedure	6
4.1.3 EUT RF Exposure Evaluation	7

3 General Information

3.1 Client Information

Applicant:	SHENZHEN TENDA TECHNOLOGY CO., LTD.
Address of Applicant:	6-8 Floor, Tower E3, No. 1001, Zhongshanyuan Road, Nanshan District, Shenzhen, China. 518052
Manufacturer:	SHENZHEN TENDA TECHNOLOGY CO., LTD.
Address of Manufacturer:	6-8 Floor, Tower E3, No. 1001, Zhongshanyuan Road, Nanshan District, Shenzhen, China. 518052

3.2 General Description of EUT

Product Name:	BE5100 Dual-Band Wi-Fi 7 Router(2.5GE)	
Model No.(EUT):	RE6L Pro,TE6L Pro	
Test Mode No.:	RE6L Pro	
Trade mark:	Tenda	
Power Supply:	Adapter:	Model:TEKA-TC120150US Input:100-240V~50/60Hz,0.5A MAX Output:12.0V,1.5A
Test Power Grade:	Default(manufacturer declare)	
Test Software of EUT:	QATool_Dbg.exe(manufacturer declare)	
Sample Received Date:	Oct. 30, 2024	
Sample tested Date:	Oct. 30, 2024 to Dec. 18, 2024	
Remark: Company Name and Address shown on Report, the sample(s) and sample Information was/ were provided by the applicant who should be responsible for the authenticity which CTI hasn't verified.		

3.3 Test Location

All tests were performed at:

Centre Testing International Group Co., Ltd

Building C, Hongwei Industrial Park Block 70, Bao'an District, Shenzhen, China

Telephone: +86 (0) 755 33683668 Fax:+86 (0) 755 33683385

No tests were sub-contracted.

FCC Designation No.: CN1164

3.4 Deviation from Standards

None.

3.5 Abnormalities from Standard Conditions

None.

3.6 Other Information Requested by the Customer

None.

4 SAR Evaluation

4.1 RF Exposure Compliance Requirement

4.1.1 Limits

The SAR-based exemption formula of § 1.1307(b)(3)(i)(B), repeated here as Formula (B.2), applies for single fixed, mobile, and portable RF sources with available maximum time-averaged power or effective radiated power (ERP), whichever is greater, of less than or equal to the threshold P_{th} (mW).

This method shall only be used at separation distances from 0.5 cm to 40 cm and at frequencies from 0.3 GHz to 6 GHz (inclusive). P_{th} is given by Formula

$$P_{th} \text{ (mW)} = \begin{cases} ERP_{20 \text{ cm}} (d/20 \text{ cm})^x & d \leq 20 \text{ cm} \\ ERP_{20 \text{ cm}} & 20 \text{ cm} < d \leq 40 \text{ cm} \end{cases}$$

where

$$x = -\log_{10} \left(\frac{60}{ERP_{20 \text{ cm}} \sqrt{f}} \right)$$

and f is in GHz, d is the separation distance (cm), and $ERP_{20 \text{ cm}}$ is per Formula (B.1).

$$P_{th} \text{ (mW)} = ERP_{20 \text{ cm}} \text{ (mW)} = \begin{cases} 2040f & 0.3 \text{ GHz} \leq f < 1.5 \text{ GHz} \\ 3060 & 1.5 \text{ GHz} \leq f \leq 6 \text{ GHz} \end{cases} \quad (\text{B.1})$$

The 1 mW Blanket Exemption of § 1.1307(b)(3)(i)(A) applies for single fixed, mobile, and portable RF sources with available maximum time-averaged power of no more than 1 mW, regardless of separation distance.

4.1.2 Test Procedure

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

4.1.3 EUT RF Exposure Evaluation

For Stand alone:

Frequency (MHz)	Estimation distance (cm)	Max. Conducted Output power (dBm)	Antenna Gain (dBi)	ERP (dBm)	ERP (mW)	Limit (mW)	MPE ratio	Result
@2.4GHz Wi-Fi	20	17.78	4.28	19.91	97.9490	3060	0.0320	Pass
@5GHz Wi-Fi Band 1	20	18.17	6.52	22.54	179.4734	3060	0.0587	Pass
@5GHz Wi-Fi Band 2	20	14.17	6.52	18.54	71.4496	642.60	0.1112	Pass
@5GHz Wi-Fi Band 3	20	18.99	6.52	23.36	216.7704	883.32	0.2454	Pass

Note:

- ① EIRP=conducted power+antenna gain;
- ② $ERP = EIRP - 2.15$;
- ③ $EIRP(dBm) = \text{Field strength of the fundamental signal}(dBuV/m@3m) - 95.23$;
- ④ $ERP(mW) = 10^{(ERP(dBm)/10)}$;
- ⑤ The estimation distance is 20cm;
- ⑥ The test data please refer to the report of EED32Q81740601, EED32Q81740602 and only the worst case data was recorded in the report.

For Simultaneous Transmission:

As MPE ratio (2.4GHz Wi-Fi+5GHz Wi-Fi)=0.0320+0.2454=0.2774 < 1, it's deemed to fulfil the RF exposure requirement.

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*** End of Report ***