



CE RF Exposure Test Report

Project No.	:	2401C127A
Equipment	:	AX1500 Wi-Fi 6 5G NR Router
Brand Name	:	Tenda
Model Name	:	5G01
Series Model	:	N/A
Applicant	:	SHENZHEN TENDA TECHNOLOGY CO.,LTD.
Address	:	6-8 Floor, Tower E3, No. 1001, Zhongshanyuan Road, Nanshan District, Shenzhen, China. 518052
Manufacturer	:	SHENZHEN TENDA TECHNOLOGY CO.,LTD.
Address	:	6-8 Floor, Tower E3, No. 1001, Zhongshanyuan Road, Nanshan District, Shenzhen, China. 518052
Date of Receipt	:	Jan. 16, 2024
Date of Test	:	Jan. 17, 2024 ~ Jan. 27, 2024
Issued Date	:	Apr. 09, 2024
Report Version	:	R00
Test Sample	:	Engineering Sample No.: DG2024011642
Standard(s)	:	EN 50385:2017 EN IEC 62311:2020 EN 62232:2017

The above equipment has been tested and found compliance with the requirement of the relative standards by BTL Inc.

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REPORT ISSUED HISTORY

Report No.	Version	Description	Issued Date	Note
BTL-ETSP-10-2401C127A	R00	This is a copy report which referencing test data are provided from the original test report (BTL-ETSP-10-2401C127). The product name, brand, model name, applicant and manufacturer information are changed which does not affect the test results. Other are kept the same.	Apr. 09, 2024	Valid

1. GENERAL INFORMATION

1.1 GENERAL DESCRIPTION OF EUT

Equipment	AX1500 Wi-Fi 6 5G NR Router		
Brand Name	Tenda		
Model Name	5G01		
Series Model	N/A		
Model Difference(s)	N/A		
Hardware Version	v1.0		
Software Version	V1.0.0.1		
Power Source	DC Voltage supplied from AC adapter. 1# Model: BN026-A24012E(EU) 2# Model: BN026-A24012B(UK)		
Power Rating	I/P: 100-240V~ 50/60Hz 0.7A O/P: 12.0V  2.0A 24.0W		
Product Description _WCDMA	Operation Frequency Band	Band V : UL:824MHz ~ 849MHz, DL: 869MHz ~ 894MHz	
	Modulation Type	BPSK, QPSK, 16QAM, 64QAM	
	Power Class	3	
	IMEI NO.	Radiated	869841060052583
	Max. Tune Up Power	Band V	25 dBm
Product Description _LTE	Operation Frequency Bands	LTE Band 5: Uplink: 824-849 MHz, Downlink : 869-894 MHz LTE Band 41: Uplink: 2496-2690 MHz, Downlink : 2496-2690 MHz	
	Operation Bands	LTE Band 5 / LTE Band 41	
	Modulation Type	UL: QPSK, 16QAM, 64QAM DL: QPSK, 16QAM, 64QAM, 256QAM	
	Power Class	3	
	IMEI NO.	Radiated	869841060052583
	Max. Tune Up Power	Band 5	25 dBm
		Band 41	25 dBm

Note:

- For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.

2. Channel List:

For WCDMA:

Bands	Sub-test	Channel	Frequency (MHz)	
WCDMA Band V	---	4133	Low	826.6
		4175	Mid	835.0
		4232	High	846.4

For LTE:

Band	Bandwidth	Low Channel	Mid Channel	High Channel	Low Frequency	Mid Frequency	High Frequency
5	1.4	20407	20525	20643	824.7	836.5	848.3
5	3	20415	20525	20635	825.5	836.5	847.5
5	5	20425	20525	20625	826.5	836.5	846.5
5	10	20450	20525	20600	829.0	836.5	844.0

Band	Bandwidth	Low Channel	Mid Channel	High Channel	Low Frequency	Mid Frequency	High Frequency
41	5	39675	40620	41565	2498.5	2593.0	2687.5
41	10	39700	40620	41540	2501.0	2593.0	2685.0
41	15	39725	40620	41515	2503.5	2593.0	2682.5
41	20	39750	40620	41490	2506.0	2593.0	2680.0

4. Table for Filed Antenna:

For WCDMA:

Ant. P/N	Type	Ant. Brand	Antenna Gain(dBi)	Note
N/A	PCB	<i>Tenda</i>	1.70	WCDMA Band V

Note: The antenna gain is provided by the manufacturer.

For LTE:

Ant. P/N	Type	Ant. Brand	Antenna Gain(dBi)	Note
N/A	PCB	<i>Tenda</i>	1.70	LTE Band 5
			6.41	LTE Band 41

Note: The antenna gain is provided by the manufacturer.

2. MAXIMUM PERMISSIBLE EXPOSURE

2.1 APPLICABLE STANDARD

According to its specifications, the EUT must comply with the requirements of the following standards:

EN 50385 - Product standard to demonstrate the compliance of base station equipment with radiofrequency electromagnetic field exposure limits (110 MHz - 100 GHz), when placed on the market

EN IEC 62311 - Assessment of electronic and electrical equipment related to human exposure restrictions for electromagnetic fields (0 Hz to 300 GHz)

EN 62232 - Determination of RF field strength, power density and SAR in the vicinity of radio communication base stations for the purpose of evaluating human exposure

1 LIMIT

Council Recommendation 1999/519/EC Annex III

Reference levels for electric, magnetic and electromagnetic fields (0Hz to 300GHz)

Frequency range	E-field strength (V/m)	H-field strength (A/m)	B-field (μT)	Equivalent plane wave power density S_{eq} (W/m ²)
0-1 Hz	—	$3,2 \times 10^4$	4×10^4	—
1-8 Hz	10 000	$3,2 \times 10^4/f^2$	$4 \times 10^4/f^2$	—
8-25 Hz	10 000	$4\,000/f$	$5\,000/f$	—
0,025-0,8 kHz	$250/f$	$4/f$	$5/f$	—
0,8-3 kHz	$250/f$	5	6,25	—
3-150 kHz	87	5	6,25	—
0,15-1 MHz	87	$0,73/f$	$0,92/f$	—
1-10 MHz	$87/f^{1/2}$	$0,73/f$	$0,92/f$	—
10-400 MHz	28	0,073	0,092	2
400-2 000 MHz	$1,375\ f^{1/2}$	$0,0037\ f^{1/2}$	$0,0046\ f^{1/2}$	$f/200$
2-300 GHz	61	0,16	0,20	10

2 MPE Calculation Method

If a reflecting ground plane is present (e.g. see Figure B.14), use Equation (B.18):

$$S = (1 + |\Gamma|)^2 \frac{\bar{P}_{\text{net}} G_{\theta, \phi}}{4\pi r^2} \quad (\text{B.18})$$

with reflection coefficient $|\Gamma| = 1$ for the theoretical highest field strength scenario of a perfectly conducting ground plane (e.g. flat metallic roof) or with reflection coefficient $|\Gamma| = 0,6$ for typical [15] ground reflection conditions. Use of the far-field spherical formulas in the near-field region will overestimate the field strength levels.

$$|\Gamma| = 0.6$$

$$\bar{P}_{\text{net}} = \text{Output Power (W)}$$

$$G_{\theta, \phi} = \text{EUT Antenna gain (Linear ratio)}$$

$$\text{e.i.r.p. (W)} = \bar{P}_{\text{net}} * G_{\theta, \phi}$$

$r=0.26\text{m}$, as the calculated distance.

3. TEST RESULTS

For WCDMA:

Band	Frequency (MHz)	Max. Tune Up Power (dBm)	Max. Tune Up Power (W)	Antenna Gain (dBi)	Antenna Gain (Linear ratio)	Power density (W/m ²)	Limit (W/m ²)	Result
Band V	826.6	25	0.3162	1.70	1.4791	1.4103	4.1330	Pass

For LTE:

Band	Frequency (MHz)	Max. Tune Up Power (dBm)	Max. Tune Up Power (W)	Antenna Gain (dBi)	Antenna Gain (Linear ratio)	Power density (W/m ²)	Limit (W/m ²)	Result
Band 5	824.7	25	0.3162	1.70	1.4791	1.4103	4.1235	Pass
Band 41	2498.5	25	0.3162	6.41	4.3752	4.1716	10	Pass

RF exposure assessment has been performed above to prove that this unit will not generate the harmful EM emission above the reference level as specified in EC Council Recommendation (1999/519/EC).

End of Test Report