



中国认可  
国际互认  
检测  
TESTING  
CNAS L3163

## CE RF Exposure Report

**Project No.** : 2307C104  
**Equipment** : N300 Wi-Fi 4G LTE Router  
**Brand Name** : Tenda  
**Test Model** : 4G03 Pro  
**Series Model** : 4G05  
**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** : Jul. 12, 2023  
**Date of Test** : Jul. 14, 2023 ~ Jul. 26, 2023  
**Issued Date** : Aug. 01, 2023  
**Report Version** : R00  
**Test Sample** : Engineering Sample No.: DG20230712320 and DG20230712323  
**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.(Dongguan).

Prepared by :

Abel Cao

Abel Cao

Approved by :

Steven Lu

Steven Lu

No.3, Jinshagang 1st Road, Dalang, Dongguan, Guangdong, China.


Tel: +86-769-8318-3000 Web: www.newbtl.com Service mail: btl\_qa@newbtl.com

**REPORT ISSUED HISTORY**

Report No.	Version	Description	Issued Date	Note
BTL-ETSP-6-2307C104	R00	Original Report.	Aug. 01, 2023	Valid

## 1. GENERAL INFORMATION

### 1.1 GENERAL DESCRIPTION OF EUT

Equipment	N300 Wi-Fi 4G LTE Router		
Brand Name	Tenda		
Test Model	4G03 Pro		
Series Model	4G05		
Model Difference(s)	Only differ in model name.		
RF Module Model	EC200A-EL		
Power Source	DC Voltage supplied from AC adapter. 1# Model: BN003-A05009E(EU) 2# Model: BN003-A05009B(UK) Only differ in plug.		
Power Rating	I/P: 100-240V ~ 50/60Hz 0.3A O/P: 9V  0.6A		
Product Description for WCDMA	Operation Frequency Band	Band V: UL:824MHz ~ 849MHz, DL: 869MHz ~ 894MHz	
	Modulation Type	UL: BPSK, QPSK, 16QAM DL: BPSK, QPSK, 16QAM, 64QAM	
	Power Class	3	
	IMEI NO.	Radiated	864995060015480 / 864995060084627
	Max. Tune Up Power	Band V: 25 dBm	
Product Description for LTE	Operation frequency Bands	LTE Band 5: Uplink: 824-849 MHz, Downlink: 869-894 MHz LTE Band 41: Uplink: 2535-2675 MHz, Downlink : 2535-2675 MHz	
	Modulation Type	UL: QPSK, 16QAM DL: QPSK, 16QAM, 64QAM	
	Power Class	3	
	IMEI NO.	Radiated	864995060015480 / 864995060084627
	Max. Tune Up Power	Band 5/41: 25 dBm	

Note:

1. 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	40065	40740	41415	2537.5	2605	2672.5
41	10	40090	40740	41390	2540	2605	2670
41	15	40115	40740	41365	2542.5	2605	2667.5
41	20	40140	40740	41340	2545	2605	2665

3. Table for Filed Antenna:

For WCDMA:

Ant. Model Name	Type	Brand	Antenna Gain(dBi)	Note
N/A	Dipole	Tenda	0.90	Band V

Note: The antenna gain is provided by the manufacturer.

For LTE:

Ant. Model Name	Type	Brand	Antenna Gain(dBi)	Note
N/A	Dipole	Tenda	0.90	Band 5
			2.50	Band 41

Note: The antenna gain is provided by the manufacturer.

### 3. MAXIMUM PERMISSIBLE EXPOSURE

#### 3.1 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 <sup>2</sup> )
0-1 Hz	—	$3,2 \times 10^4$	$4 \times 10^4$	—
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=0.20m, as the calculated distance.

## 4. 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 <sup>2</sup> )	Limit (W/m <sup>2</sup> )	Result
Band V	826.6	25	0.3162	0.90	1.23	1.9824	4.133	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 <sup>2</sup> )	Limit (W/m <sup>2</sup> )	Result
Band 5	824.7	25	0.3162	0.90	1.23	1.9824	4.1235	Pass
Band 41	2537.5	25	0.3162	2.50	1.78	2.8654	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**