

EN 50385:2017
ASSESSMENT REPORT

For

SHENZHEN TENDA TECHNOLOGY CO.,LTD

6-8 Floor, Tower E3, No. 1001, Zhongshanyuan Road, Nanshan District, Shenzhen, China.
518052

Test Model:OS3

Report Type: Original Report	Product Type: 5GHz 11ac 867Mbps 12dBi Outdoor CPE
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Reviewed By:	Dean Lau RF Supervisor
Prepared By:	Bay Area Compliance Laboratories Corp. (Dongguan) No.69 Pulongcun, Puxinhu Industry Area, Tangxia, Dongguan, Guangdong, China Tel: +86-769-86858888 Fax: +86-769-86858891 www.baclcorp.com.cn

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GENERAL INFORMATION**Product Description for Equipment under Test (EUT)**

EUT Name:		5GHz 11ac 867Mbps 12dBi Outdoor CPE
EUT Model:		OS3
Rated Input Voltage:		DC 12V from adapter & DC 48V from POE
Adapter 1 Information	Model:	BN073-A12012E
	Input:	100-240V~50/60Hz 0.4A
	Output:	DC 12.0V; 1.0A
Serial Number:		RDG200416001-RF-S1
EUT Received Date:		2020.04.20
EUT Received Status:		Good

Objective

This report is prepared on behalf of *SHENZHEN TENDA TECHNOLOGY CO.,LTD* in accordance with EN 50385: 2017 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.

The objective is to determine the compliance of EUT with EN 50385: 2017.

Related Submittal(s)/Grant(s)

No related submittal(s).

Test Methodology

All measurements contained in this report were conducted with EN 50385: 2017.

Declarations

BACL is not responsible for the authenticity of any test data provided by the applicant. Data included from the applicant that may affect test results are marked with a triangle symbol “△”. Customer model name, addresses, names, trademarks etc. are not considered data.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.

Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty.

The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor K with the 95% confidence interval.

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RF EXPOSURE ASSESSMENT METHOD

1. Introduction

This product standard is related to human exposure to radiofrequency electromagnetic fields transmitted by base station equipment in the frequency range 110 MHz to 100 GHz.

The object is to assess the compliance of such equipment with the general public basic restrictions (directly or indirectly via compliance with reference levels) and the workers' exposure limit values (directly or indirectly via compliance with action levels), when it is placed on the market.

2. Classification of the assessment methods

According to EN 50385: 2017, the far field calculation formula is

$$S = \frac{PG_{(\theta,\phi)}}{4\pi r^2}$$

Where:

- P = Input Power of the antenna (W)
- G = antenna gain relative to an isotropic antenna (numeric)
- θ, ϕ = elevation and azimuth angles to point of investigation
- r = distance from observation point to the antenna (m)
- η_0 = characteristic impedance of free space

3. Limit

According to EN 50385: 2017, the criteria listed in the following table shall be used to evaluate the environmental impact of human exposure to radio-frequency (RF) radiation as specified 1999/519/EC.

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

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	-	3.2×10^4	4×10^4	-
1-8 Hz	1000	$3.2 \times 10^4 / f^2$	$4 \times 10^4 / f^2$	-
8-25 Hz	1000	4000/f	5000/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
400-2000 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

Notes:

1. f as indicated in the frequency range column.
2. For frequencies between 100 kHz and 10 GHz, S_{eq} , E^2 , H^2 , and B^2 are to be averaged over any six-minute period.
3. For frequencies exceeding 10 GHz, S_{eq} , E^2 , H^2 , and B^2 are to be averaged over any $68/f^{1.05}$ -minute period (f in GHz).
4. No E-field value is provided for frequencies < 1 Hz, which are effectively static electric fields. For most people the annoying perception of surface electric charges will not occur at field strengths less than 25 kV/m. Spark discharges causing stress or annoyance should be avoided.

4. Test Results

Test Mode: Transmitting

Mode	Frequency	Tune-up power	Power spectral density	Limit	Result
	(MHz)	(dBm)	(W/ m ²)	(W/ m ²)	
5G Wi-Fi	5150-5250	22	0.3153	10	Pass

Note:

Result: Compliance, the device meet MPE requirement at 0.2m.

EXHIBIT A - EUT PHOTOGRAPHS

For photos in this section, please refer to report No.: RDG200416001-02 EXHIBIT A.

******* END OF REPORT *******