

EN 50385:2002
ASSESSMENT REPORT

For

SHENZHEN TENDA TECHNOLOGY CO.,LTD

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

Model: AC10U

Report Type: Original Report	Product Type: AC1200 MU-MIMO Dual Band Gigabit WiFi Router
Report Number: RDG171102008	
Report Date: 2017-11-22	
Reviewed By:	Dean Lau RF Supervisor
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Note: This test report is prepared for the customer shown above and for the device described herein. It may not be duplicated or used in part without prior written consent from Bay Area Compliance Laboratories Corp. (Dongguan).

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GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

EUT Name:		AC1200 MU-MIMO Dual Band Gigabit WiFi Router
EUT Model:		AC10U
Rated Input Voltage:		DC 12V From Adapter
Nominal Adapter Information	Model:	BN037-A18012E
	Input:	100-240V~50/60Hz 0.6A
	Output:	DC12V, 1.5A
External Dimension:		Length (27.3cm)*Width (16.2cm)*High (5.9cm) Length (27.3cm)*Width (16.2cm)*High (22.3cm) with antenna
Serial Number:		171102008
EUT Received Date:		2017.11.09

Test Facility

The Test site used by Bay Area Compliance Laboratories Corp. (Dongguan) to collect test data is located on the No.69 Pulongcun, Puxinhu Industry Area, Tangxia, Dongguan, Guangdong, China

Bay Area Compliance Laboratories Corp. (Dongguan) has been accredited to ISO/IEC 17025 by CNAS(Lab code: L5662). And accredited to ISO/IEC 17025 by NVLAP(Test Laboratory Accreditation Certificate Number 500069-0), the FCC Designation No. CN5002 under the KDB 974614 D01.

The Federal Communications Commission has the reports on file and is listed under FCC Registration No.: 273710. The test site has been approved by the FCC for public use and is listed in the FCC Public Access Link (PAL) database.

Bay Area Compliance Laboratories Corp. (Dongguan) was registered with ISED Canada under ISED Canada Registration Number 3062D.

RF EXPOSURE ASSESSMENT METHOD

Introduction

This standard is limited to apparatus which is intended for use by the general public as defined in the Council Recommendation 1999/519/EC of 12 July 1999 on the limitation of exposure of the general public to electromagnetic field (0 Hz to 300 GHz) (Official Journal L199 of 30 July 1999) .

This generic standard applies to electronic and electrical apparatus for which no dedicated product-or product family standard regarding human exposure to electromagnetic fields applies.

This generic standard does not cover equipment, which fulfils the requirements given in EN 50371 or is medical equipment as defined in the Council Directive 93/42/EEC of 14 June 1993 concerning medical devices.

The frequency range covered is 0 Hz to 300 GHz.

The object of this standard is to demonstrate the compliance of such apparatus with the basic restrictions or reference levels on exposure of the general public related to electric, magnetic, electromagnetic fields and contact current.

Classification of the assessment methods

According to EN 50385: 2002, far field calculation method will be applied to the EUT. The antenna of the product, under normal use condition is at least 300cm away from the body of the user. Warning statement to the user for keeping at least 20cm separation distance and the prohibition of operating to a person has been printed on the user's manual. So, this product under normal use is located on electromagnetic far field between the human bodies.

According to EN 50385: 2002, 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

Limit

According to EN 50385: 2002, 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.

EUT Operating Condition

The software provided by Manufacturer enabled the EUT to transmit and receive data at lowest and highest channel individually.

Test Results

Band	Max. Output Power		Antenna Gain (dBi)	Antenna Gain (numeric)	Distance (m)	Power Density Seq (W/m ²)	Power Density Limit (W/m ²)	Result
	(dBm)	(mW)						
2412-2472 MHz	14.98	31.48	5	3.16	0.2	0.20	10	Compliant
5150-5250 MHz	17.90	61.66	5	3.16	0.2	0.39	10	Compliant

Note:

Result: Compliance, the device meet MPE requirement at 20cm.

EXHIBIT A - EUT PHOTOGRAPHS

EUT – All View



EUT – Adapter Top View



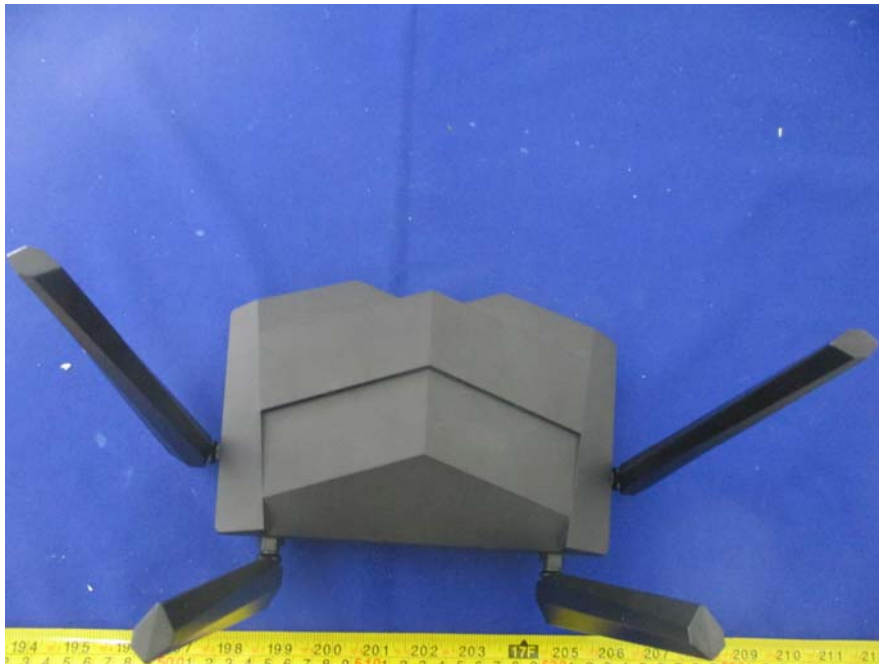
EUT – Adapter Bottom View



EUT –Adapter Label View



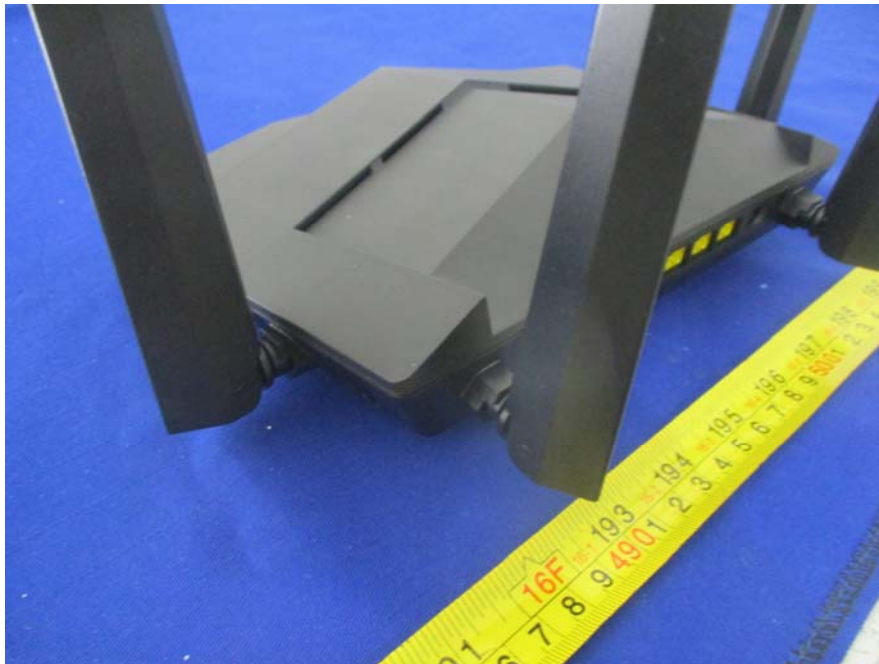
EUT – Top View



EUT –Bottom View



EUT – Side View



EUT –SideView



EUT – Port View



EUT –Uncover View



EUT –Antenna View



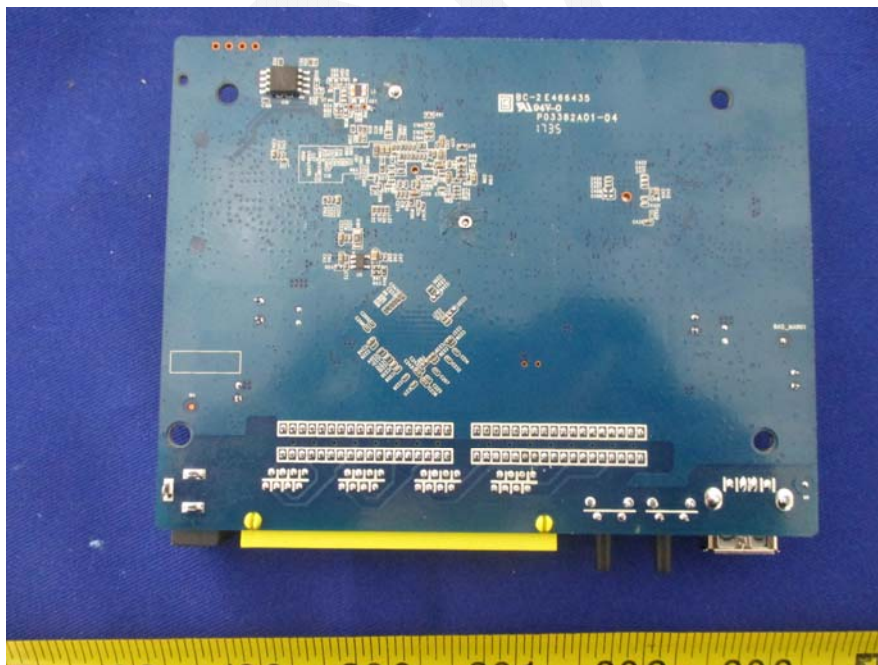
EUT – Uncover View



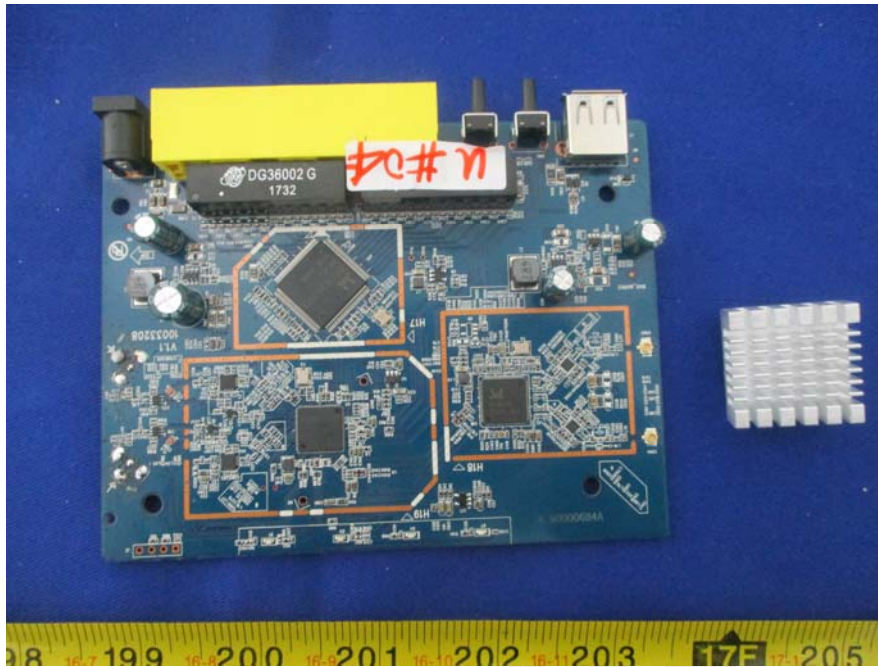
EUT – PCB Top View



EUT – PCB Bottom View



EUT – Uncover View



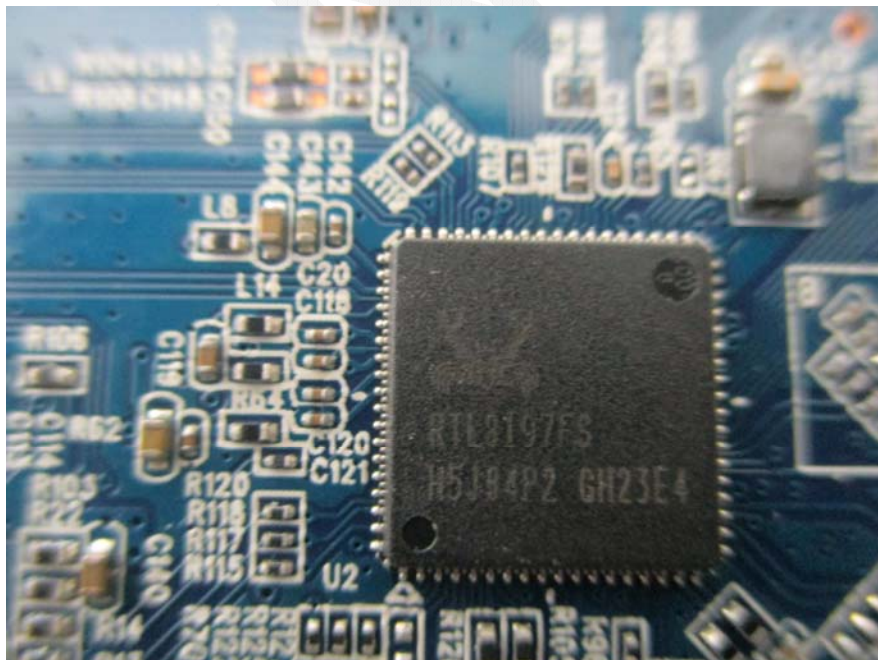
EUT – Main Chip View



EUT – 5G Chip View



EUT – 2.4G Chip View



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