FCC RF EXPOSURE REPORT

FCC ID: V7TAC6

Project No. : 1609C013
Equipment : AC1200 Smart Dual-Band WiFi Router
Model : AC6
Applicant : SHENZHEN TENDA TECHNOLOGY CO.,LTD
Address : 6-8 Floor, Tower E3, No. 1001, Zhongshanyuan
　　　　　　　Road, Nanshan District, Shenzhen, China. 518052

According: : FCC Guidelines for Human Exposure IEEE C95.1

BTL INC.

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MPE CALCULATION METHOD:

Calculation Method of RF Safety Distance:

$$S = \frac{PG}{4\pi r^2} = \frac{EIRP}{4\pi r^2}$$

where:

S = power density

P = power input to the antenna

G = power gain of the antenna in the direction of interest relative to an isotropic radia

R = distance to the center of radiation of the antenna

Table for Filed Antenna

2.4G

Ant.	Brand	Model Name	Antenna Type	Connector	Gain(dBi)
1	Tenda	N/A	Dipole	N/A	5
2	Tenda	N/A	Dipole	N/A	5

Note:

The EUT incorporates a MIMO function. Physically, the EUT provides two completed transmitters and receivers (2T2R), all transmit signals are completely uncorrelated, then, Direction gain = G_{ANT}, that is Directional gain=5.

Operating Mode / TX Mode	1TX	2TX
802.11b	V (ANT 1)	-
802.11g	V (ANT 1)	-
802.11n (20MHz)	-	V (ANT 1+ANT 2)
802.11n (40MHz)	-	V (ANT 1+ANT 2)

ANT 1 for 1TX was found to be the worst case and recorded.

5G

Ant.	Brand	Model Name	Antenna Type	Connector	Gain(dBi)
1	Tenda	N/A	Dipole	N/A	5
2	Tenda	N/A	Dipole	N/A	5

Note: The EUT incorporates a MIMO function. Physically, the EUT provides two completed transmitters and receivers (2T2R), all transmit signals are completely uncorrelated, then, Direction gain = G_{ANT}, that is Directional gain=5.

Operating Mode / TX Mode	1TX	2TX
802.11a	V (ANT 1)	-
802.11n (20MHz)	-	V (ANT 1+ANT 2)
802.11n (40MHz)	-	V (ANT 1+ANT 2)
802.11ac (20MHz)	-	V (ANT 1+ANT 2)
802.11ac (40MHz)	-	V (ANT 1+ANT 2)
802.11ac (80MHz)	-	V (ANT 1+ANT 2)

ANT 1 for 1TX was found to be the worst case and recorded.

TEST RESULTS

2.4G

EUT :	AC1200 Smart Dual-Band WiFi Router	Model Name :	AC6
Temperature：	25 ℃	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode ：	TX N20 Mode / CH01, CH06, CH11_ANT 1+ANT 2		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm^2)	Limit of Power Density (S) (mW/cm^2)	Test Result
5	3.1623	28.59	722.7698	0.41264042	1	Complies
5	3.1623	29.92	981.7479	0.56049504	1	Complies
5	3.1623	29.80	954.9926	0.54521999	1	Complies

UNII-1

EUT :	AC1200 Smart Dual-Band WiFi Router	Model Name :	AC6
Temperature:	25 ℃	Relative Humidity:	60%
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX AC20 Mode / CH36, CH40, CH48_ ANT 1+ANT 2		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm^2)	Limit of Power Density (S) (mW/cm^2)	Test Result
5	3.1623	22.97	198.1527	0.11312843	1	Complies
5	3.1623	24.18	261.8183	0.14947610	1	Complies
5	3.1623	27.21	526.0173	0.30031137	1	Complies

UNII-3

EUT :	AC1200 Smart Dual-Band WiFi Router	Model Name :	AC6
Temperature:	25 ℃	Relative Humidity:	60%
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX AC20 Mode / CH149, CH157, CH165_ ANT 1+ANT 2		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm^2)	Limit of Power Density (S) (mW/cm^2)	Test Result
5	3.1623	28.29	674.5280	0.38509845	1	Complies
5	3.1623	27.55	568.8529	0.32476691	1	Complies
5	3.1623	27.29	535.7967	0.30589457	1	Complies

For 2.4G+5G simultaneous transmission MPE:

$$0.5605/1+0.3851/1=0.9456<1$$

Note: the calculation distance is 21cm.