

FCC RF EXPOSURE REPORT

FCC ID: X4YACRX12K

Project No. : 1609C264
Equipment : AC1200 Wireless USB Cloud Gigabit Router
Model : ARL02124U1
Applicant : NEXXT SOLUTIONS
Address : 3505 N.W 107TH AVE, MIAMI, FL, 33178

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

B T L I N C .

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MPE CALCULATION METHOD:

Calculation Method of RF Safety Distance:

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

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 radiator

R = distance to the center of radiation of the antenna

Table for Filed Antenna

Ant.	Brand	Model Name	Antenna Type	Connector	Gain(dBi)
1	Tenda	N/A	Dipole	N/A	3
2	Tenda	N/A	Dipole	N/A	3

Note:

- (1) The EUT incorporates a MIMO function. Physically, the EUT provides two completed two transmitters and two receivers (2T2R). All transmit signals are completely uncorrelated, then, Directional Gain= G_{ANT} , that is Directional Gain=3 dBi.

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

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)

TEST RESULTS

WIFI 2.4G:

EUT :	AC1200 Wireless USB Cloud Gigabit Router	Model Name :	ARL02124U1
Temperature :	25 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX B MODE /CH01, CH06, CH11		

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
3	1.9953	29.95	988.5531	0.39260	1	Complies
3	1.9953	29.93	984.0111	0.39080	1	Complies
3	1.9953	25.22	332.6596	0.13211	1	Complies

EUT :	AC1200 Wireless USB Cloud Gigabit Router	Model Name :	ARL02124U1
Temperature :	25 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX G MODE /CH01, CH06, CH11		

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
3	1.9953	29.8	954.9926	0.37927	1	Complies
3	1.9953	29.85	966.0509	0.38366	1	Complies
3	1.9953	29.77	948.4185	0.37666	1	Complies

EUT :	AC1200 Wireless USB Cloud Gigabit Router	Model Name :	ARL02124U1
Temperature:	25 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX N-20M MODE_ Total /CH01, CH06, CH11		

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
3	1.9953	29.1	812.8305	0.32281	1	Complies
3	1.9953	29.28	847.2274	0.33647	1	Complies
3	1.9953	29.19	829.8508	0.32957	1	Complies

EUT :	AC1200 Wireless USB Cloud Gigabit Router	Model Name :	ARL02124U1
Temperature:	25 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX N-40M MODE_ Total /CH03, CH06, CH09		

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
3	1.9953	24.84	304.7895	0.12105	1	Complies
3	1.9953	29.4	870.9636	0.34590	1	Complies
3	1.9953	24.57	286.4178	0.11375	1	Complies

UNII-1:

EUT :	AC1200 Wireless USB Cloud Gigabit Router	Model Name :	ARL02124U1
Temperature:	25 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	UNII-1/TX A Mode		

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
3	1.9953	18.58	72.1107	0.02864	1	Complies
3	1.9953	18.56	71.7794	0.02851	1	Complies
3	1.9953	18.99	79.2501	0.03147	1	Complies

EUT :	AC1200 Wireless USB Cloud Gigabit Router	Model Name :	ARL02124U1
Temperature:	25 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	UNII-1/TX N20 Mode_Total		

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
3	1.9953	19.18	82.7942	0.03288	1	Complies
3	1.9953	19.77	94.8418	0.03767	1	Complies
3	1.9953	19.69	93.1108	0.03698	1	Complies

EUT :	AC1200 Wireless USB Cloud Gigabit Router	Model Name :	ARL02124U1
Temperature:	25 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	UNII-1/TX N40 Mode_Total		

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
3	1.9953	18.45	69.9842	0.02779	1	Complies
3	1.9953	19.59	90.9913	0.03614	1	Complies

EUT :	AC1200 Wireless USB Cloud Gigabit Router	Model Name :	ARL02124U1
Temperature:	25 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	UNII-1/TX AC (VHT20MHz) Mode_Total		

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
3	1.9953	18.77	75.3356	0.02992	1	Complies
3	1.9953	18.89	77.4462	0.03076	1	Complies
3	1.9953	19.45	88.1049	0.03499	1	Complies

EUT :	AC1200 Wireless USB Cloud Gigabit Router	Model Name :	ARL02124U1
Temperature:	25 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	UNII-1/TX AC (VHT40MHz) Mode_Total		

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
3	1.9953	19.95	98.8553	0.03926	1	Complies
3	1.9953	19.93	98.4011	0.03908	1	Complies

EUT :	AC1200 Wireless USB Cloud Gigabit Router	Model Name :	ARL02124U1
Temperature:	25 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	UNII-1/TX AC (VHT80MHz) Mode_Total		

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
3	1.9953	19.89	97.4990	0.03872	1	Complies

UNII-3:

EUT :	AC1200 Wireless USB Cloud Gigabit Router	Model Name :	ARL02124U1
Temperature:	25 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	UNII-3/TX A Mode		

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
3	1.9953	13.89	24.4906	0.00973	1	Complies
3	1.9953	13.62	23.0144	0.00914	1	Complies
3	1.9953	12.84	19.2309	0.00764	1	Complies

EUT :	AC1200 Wireless USB Cloud Gigabit Router	Model Name :	ARL02124U1
Temperature:	25 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	UNII-3/TX N20 Mode		

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
3	1.9953	16.05	40.2717	0.01599	1	Complies
3	1.9953	15.53	35.7273	0.01419	1	Complies
3	1.9953	14.38	27.4157	0.01089	1	Complies

EUT :	AC1200 Wireless USB Cloud Gigabit Router	Model Name :	ARL02124U1
Temperature:	25 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	UNII-3/TX N40 Mode_Total		

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
3	1.9953	18.24	66.6807	0.02648	1	Complies
3	1.9953	17.24	52.9663	0.02104	1	Complies

EUT :	AC1200 Wireless USB Cloud Gigabit Router	Model Name :	ARL02124U1
Temperature:	25 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	UNII-3/TX AC (VHT20MHz) Mode_Total		

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
3	1.9953	15.28	33.7287	0.01340	1	Complies
3	1.9953	14.56	28.5759	0.01135	1	Complies
3	1.9953	13.85	24.2661	0.00964	1	Complies

EUT :	AC1200 Wireless USB Cloud Gigabit Router	Model Name :	ARL02124U1
Temperature:	25 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	UNII-3/TX AC (VHT40MHz) Mode_Total		

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
3	1.9953	17.83	60.6736	0.02410	1	Complies
3	1.9953	17.52	56.4937	0.02244	1	Complies

EUT :	AC1200 Wireless USB Cloud Gigabit Router	Model Name :	ARL02124U1
Temperature:	25 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	UNII-1/TX AC (VHT80MHz) Mode_Total		

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
3	1.9953	19.85	96.6051	0.03837	1	Complies

For 2.4G+5G simultaneous transmission MPE:

$$0.3926/1+0.0393/1=0.4319<1$$

Note: the calculated distance is 20 cm.