

FCC RF EXPOSURE REPORT

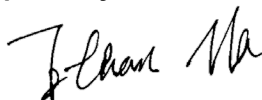
FCC ID: X4YNX12ACP

Project No. : 2108C216
Equipment : Dual-Band AC1200 Wireless Router
Brand Name : NEXXT
Test Model : NCR-X1200
Series Model : N/A
Applicant : NEXXT SOLUTIONS
Address : 3505 N.W 107TH AVE. MIAMI, FL 33178
Manufacturer : NEXXT SOLUTIONS
Address : 3505 N.W 107TH AVE. MIAMI, FL 33178
Date of Receipt : Aug. 27, 2021
Date of Test : Sep. 08, 2021 ~ Oct. 12, 2021
Issued Date : Nov. 05, 2021
Report Version : R01
Test Sample : Engineering Sample No.: DG2021083037
Standard(s) : FCC Guidelines for Human Exposure IEEE C95.1 & FCC Part 2.1091
FCC Title 47 Part 2.1091, OET Bulletin 65 Supplement C

The above equipment has been tested and found compliance with the requirement of the relative standards by BTL Inc.



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TESTING CERT #5123.02

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REPORT ISSUED HISTORY

Report Version	Description	Issued Date
R00	Original Issue	Oct. 28, 2021
R01	Modify the comments.	Nov. 05, 2021

1. TEST FACILITY

The test facilities used to collect the test data in this report is at the location of No. 3 Jinshagang 1st Rd. Shixia, Dalang Town, Dongguan City, Guangdong, People's Republic of China.

BTL's Test Firm Registration Number for FCC: 357015

BTL's Designation Number for FCC: CN1240

2. 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

For 2.4GHz:

Antenna Specification:

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

Note:

- 1) This EUT supports CDD, and all antennas have the same gain, Directional gain = $G_{ANT} + \text{Array Gain}$. For power measurements, Array Gain=0dB ($N_{ANT} \leq 4$), so the Directional gain=5. For power spectral density measurements, $N_{ANT}=4$, $N_{SS} = 1$. So the Directional gain= $G_{ANT} + \text{Array Gain} = G_{ANT} + 10\log(N_{ANT}/N_{SS})\text{dBi} = 5 + 10\log(2/1)\text{dBi} = 8.01$. Then, the power spectral density limit is $8 - (8.01 - 6) = 5.99$.
- 2) Beamforming Gain: 3dB. Then, the Directional gain= $3 + 5 = 8$ dB. So the output power limit is $30 - (8 - 6) = 28$.
- 3) The antenna gain and beamforming gain are provided by the manufacturer.

Table for Antenna Configuration:

For Non Beamforming:

Operating Mode	TX Mode	1TX	2TX
IEEE 802.11b		V (Ant. 0)	-
IEEE 802.11g		V (Ant. 0)	-
IEEE 802.11n(HT20)		-	V(Ant. 0 + Ant. 1)
IEEE 802.11n(HT40)		-	V(Ant. 0 + Ant. 1)

For Beamforming:

Operating Mode	TX Mode	2TX
IEEE 802.11n(HT20)		V(Ant. 0 + Ant. 1)
IEEE 802.11n(HT40)		V(Ant. 0 + Ant. 1)

Antenna Specification:

For 5GHz:

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
2	N/A	N/A	Dipole	N/A	6
3	N/A	N/A	Dipole	N/A	6

Note:

- 1) This EUT supports CDD, and all antennas have the same gain, Directional gain = $G_{ANT} + \text{Array Gain}$.
For power measurements, Array Gain=0dB ($N_{ANT} \leq 4$), so the Directional gain=6.
For power spectral density measurements, $N_{ANT}=4$, $N_{SS} = 1$.
So the Directional gain= $G_{ANT} + \text{Array Gain} = G_{ANT} + 10\log(N_{ANT}/N_{SS})\text{dBi} = 6 + 10\log(2/1)\text{dBi} = 9.01$.
Then, the UNII-1 power spectral density limit is $17 - (9.01 - 6) = 13.99$, the UNII-3 power spectral density limit is $30 - (9.01 - 6) = 26.99$.
- 2) Beamforming Gain: 3dB. Then, the Directional gain= $3 + 6 = 9$ dB. So the output power limit is $30 - (9 - 6) = 27$.
- 3) The antenna gain and beamforming gain are provided by the manufacturer.

Table for Antenna Configuration:

For Non Beamforming:

Operating Mode	TX Mode	1TX	2TX
IEEE 802.11a		V (Ant. 2)	-
IEEE 802.11n(HT20)		-	V (Ant. 2 + Ant. 3)
IEEE 802.11n(HT40)		-	V (Ant. 2 + Ant. 3)
IEEE 802.11ac(VHT20)		-	V (Ant. 2 + Ant. 3)
IEEE 802.11ac(VHT40)		-	V (Ant. 2 + Ant. 3)
IEEE 802.11ac(VHT80)		-	V (Ant. 2 + Ant. 3)

For Beamforming:

Operating Mode	TX Mode	2TX
IEEE 802.11n(HT20)		V (Ant. 2 + Ant. 3)
IEEE 802.11n(HT40)		V (Ant. 2 + Ant. 3)
IEEE 802.11ac(VHT20)		V (Ant. 2 + Ant. 3)
IEEE 802.11ac(VHT40)		V (Ant. 2 + Ant. 3)
IEEE 802.11ac(VHT80)		V (Ant. 2 + Ant. 3)

3. TEST RESULTS

For 2.4GHz Non Beamforming:

Directional Gain (dBi)	Directional Gain (numeric)	Max. Average Output Power (dBm)	Max. Average Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
8.01	6.3241	26.71	468.8134	0.59013	1	Complies

For 2.4GHz Beamforming:

Directional Gain (dBi)	Directional Gain (numeric)	Max. Average Output Power (dBm)	Max. Average Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
8	6.3096	24.23	264.8500	0.33262	1	Complies

For 5GHz UNII-1 Non Beamforming:

Directional Gain (dBi)	Directional Gain (numeric)	Max. Output Power (dBm)	Max. Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
6.01	3.9902	19.50	89.1251	0.07079	1	Complies

For 5GHz UNII-1 Beamforming:

Directional Gain (dBi)	Directional Gain (numeric)	Max. Output Power (dBm)	Max. Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
9	7.9433	19.21	83.3681	0.13181	1	Complies

For 5GHz UNII-3 Non Beamforming:

Directional Gain (dBi)	Directional Gain (numeric)	Max. Output Power (dBm)	Max. Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
6	3.9811	21.57	143.5489	0.11375	1	Complies

For 5GHz UNII-3 Beamforming:

Directional Gain (dBi)	Directional Gain (numeric)	Max. Output Power (dBm)	Max. Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
9	7.9433	21.30	134.8963	0.21328	1	Complies

For the max simultaneous transmission MPE:

Power Density (S) (mW/cm ²)	Power Density (S) (mW/cm ²)	Total	Limit of Power Density (S) (mW/cm ²)	Test Result
2.4GHz	5GHz			
0.59013	0.21328	0.80341	1	Complies

Note: The calculated distance is 20 cm.

End of Test Report