

# FCC RF EXPOSURE REPORT

## FCC ID: KA2IRX3260A1

**Project No.** : 2102H003  
**Equipment** : AX3200 Mesh Wi-Fi 6 Router  
**Brand Name** : D-Link  
**Test Model** : DIR-X3260  
**Series Model** : N/A  
**Applicant** : D-Link Corporation  
**Address** : 14420 Myford Road Suite 100 Irvine California United States 92606  
**Manufacturer** : D-Link Corporation  
**Address** : 14420 Myford Road Suite 100 Irvine California United States 92606  
**Date of Receipt** : Mar. 10, 2021  
**Date of Test** : Mar. 10, 2021~Apr. 14, 2021  
**Issued Date** : May. 27, 2021  
**Report Version** : R00  
**Test Sample** : Engineering Sample No.: SH2021020931 for radiation;  
SH2021020932 for conducted; SH2021020930-3 for adapter.  
**Standard(s)** : FCC Part 2.1091  
FCC Title 47 Part 2.1091  
KDB 447498 D01 General RF exposure guidance v06

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

Maker Qi

Prepared by : Maker Qi

Issac Song

Approved by : Issac Song



Certificate # 5123. 03

Add: No. 29, Jintang Road, Tangzhen Industry Park, Pudong New Area, Shanghai 201210, China

TEL: +86-021-61765666

Web: [www.newbtl.com](http://www.newbtl.com)

**REPORT ISSUED HISTORY**

Report Version	Description	Issued Date
R00	Original Issue.	May. 27, 2021

**1. 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

## For BLE

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	N/A	N/A	PCB	N/A	3.2

Note: The antenna gain provided by the manufacturer

## For 2.4G

Ant.	Brand	Model Name	Antenna Type	Connector	Gain(dBi)
1	N/A	N/A	Dipole	N/A	4.75
2	N/A	N/A	Dipole	N/A	4.75
3	N/A	N/A	Dipole	N/A	4.75
4	N/A	N/A	Dipole	N/A	4.67

Note:

1.This EUT supports Beamforming and CDD, all antennas have the same gain, any transmit signals are correlated with each other, so

1) Beamforming:

$$\text{Directional gain} = 10\log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / N_{\text{ANT}}] \text{dBi},$$

$$\text{that is Directional gain} = 10\log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / N_{\text{ANT}}] \text{dBi} = 10.75;$$

So output power limit is  $30 - 10.75 + 6 = 25.25$ , the power spectral density limit is  $8 - 10.75 + 6 = 3.25$ .

2) CDD:

For power spectral density measurements,

$$\text{Directional gain} = 10\log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / N_{\text{ANT}}] \text{dBi},$$

$$\text{that is Directional gain} = 10\log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / N_{\text{ANT}}] \text{dBi} = 10.75;$$

So power spectral density limit is  $8 - 10.75 + 6 = 3.25$ .

For power measurements, Directional gain =  $G_{\text{ANT MAX.}} + \text{Array Gain}$ , Array Gain =  $0\text{dB} (N_{\text{ANT}} \leq 4)$ ,

so the Directional gain =  $4.75$ .

2.The antenna gain provided by the manufacturer.

Operating Mode	Ant. 1	Ant. 2	Ant. 3	Ant. 4	Ant. 1+2+3+4
	TX Mode				
IEEE 802.11b	✓	✓	✓	✓	×
IEEE 802.11g	✓	✓	✓	✓	×
IEEE 802.11n (HT20)	✓	✓	✓	✓	✓
IEEE 802.11n (HT40)	✓	✓	✓	✓	✓

For 5G

Ant.	Brand	Model Name	Antenna Type	Connector	Gain(dBi)
1	N/A	N/A	Dipole	N/A	4.96
2	N/A	N/A	Dipole	N/A	4.96
3	N/A	N/A	Dipole	N/A	4.96
4	N/A	N/A	Dipole	N/A	4.92

Note:

1. This EUT supports Beamforming and CDD, all antennas have unequal gains, any transmit signals are correlated with each other, so

1) Beamforming:

Directional gain =  $10\log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / N_{ANT}] \text{dBi}$ ,

that is Directional gain =  $10\log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / N_{ANT}] \text{dBi} = 10.97$ ;

Then, the UNII-1, UNII-3 output power limit is  $30 - 10.97 + 6 = 25.03$ , the UNII-2A, UNII-2C output power limit is  $24 - 10.97 + 6 = 19.03$ . The UNII-1 power spectral density limit is

$17 - 10.97 + 6 = 12.03$ , UNII-2A, UNII-2C power spectral density limit is  $11 - 10.97 + 6 = 6.03$ ,

the UNII-3 power spectral density limit is  $30 - 10.97 + 6 = 25.03$ .

2) CDD:

For power spectral density measurements, the Directional

gain =  $10\log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / N_{ANT}] \text{dBi}$ ,

that is Directional gain =  $10\log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / N_{ANT}] \text{dBi} = 10.97$ ;

Then, the UNII-1 power spectral density limited is  $17 - 10.97 + 6 = 12.03$ , UNII-2A, UNII-2C power spectral density limit is  $11 - 10.97 + 6 = 6.03$ , the UNII-3 power spectral density limit is

$30 - 10.97 + 6 = 25.03$ .

For power measurements, Directional gain =  $G_{ANT \text{ MAX.}} + \text{Array Gain}$ . Array Gain =  $0 \text{dB} (N_{ANT} \leq 4)$ , so the Directional gain =  $4.96$ .

2. The antenna gain and beamforming gain are provided by the manufacturer.

Operating Mode	TX Mode	Ant.1	Ant.2	Ant.3	Ant.4	Ant.1+ Ant.2+ Ant.3+ Ant.4
		IEEE 802.11a	✓	✓	✓	✓
IEEE 802.11n (HT20)	✓	✓	✓	✓	✓	
IEEE 802.11n (HT40)	✓	✓	✓	✓	✓	
IEEE 802.11ac (VHT20)	✓	✓	✓	✓	✓	
IEEE 802.11ac (VHT40)	✓	✓	✓	✓	✓	
IEEE 802.11ac (VHT80)	✓	✓	✓	✓	✓	
IEEE 802.11ac (VHT80+80)	✓	✓	✓	✓	✓	
IEEE 802.11ax (HE20)	✓	✓	✓	✓	✓	
IEEE 802.11ax (HE40)	✓	✓	✓	✓	✓	
IEEE 802.11ax (HE80)	✓	✓	✓	✓	✓	
IEEE 802.11ax (HE80+80)	✓	✓	✓	✓	✓	

## 2. TEST RESULTS

For BLE

Antenna Gain (dBi)	Antenna Gain (numeric)	Max. tune up Power (dBm)	Max. tune up Power (mW)	Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
3.2	2.08930	16	39.8107	0.00735400	1	Complies

For 2.4GHz:

Beamforming

Antenna Gain (dBi)	Antenna Gain (numeric)	Max. tune up Power (dBm)	Max. tune up Power (mW)	Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
10.75	11.8850	25	316.2278	0.33231200	1	Complies

CDD:

Antenna Gain (dBi)	Antenna Gain (numeric)	Max. tune up Power (dBm)	Max. tune up Power (mW)	Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
4.75	2.9854	28	630.9573	0.16655200	1	Complies

For 5GHz :

Beamforming

Antenna Gain (dBi)	Antenna Gain (numeric)	Max. tune up Power (dBm)	Max. tune up Power (mW)	Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
10.97	12.5026	25	316.2278	0.34958000	1	Complies

CDD:

Antenna Gain (dBi)	Antenna Gain (numeric)	Max. tune up Power (dBm)	Max. tune up Power (mW)	Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
4.96	3.1333	30	1000.0000	0.27704400	1	Complies

**For the max simultaneous transmission MPE:**

2.4G+5G+BLE

Power Density (S) (mW/cm <sup>2</sup> )	Power Density (S) (mW/cm <sup>2</sup> )	Power Density (S) (mW/cm <sup>2</sup> )	Total	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
2.4GHz	5GHz	BLE			
0.33231200	0.34958000	0.00735400	0.689246	1	Complies

Note: The calculated distance is 30 cm.  
Output power including tune up tolerance.

**End of Test Report**