FCC RF EXPOSURE REPORT

FCC ID: KA2COVR1100B1

Project No.	:	2012H038
Equipment	:	1） AC1200 Dual Band Mesh Wi-Fi Router 2） AC1200 Dual Band Whole Home Mesh Wi-Fi Router
Brand Name	:	D-Link
Test Model	:	COVR-1100
Series Model	:	COVR-1102/COVR-1103
Applicant	:	D-Link Corporation
Address	:	17595 Mt. Herrmann Fountain Valley,CA92708 USA
Manufacturer	:	D-Link Corporation
Address	:	No.289, Sinhu 3rd Rd., Neihu District, Taipei City 114, Taiwan
Date of Receipt	:	Dec. 25, 2020
Date of Test	:	Dec. 25, 2020~Jan. 20, 2021
Issued Date	:	Feb. 23, 2021
Report Version	:	R00
Test Sample	:	Engineering Sample No.: SH20201223122, SH20201223123
Standard(s)	:	FCC Guidelines for Human Exposure IEEE C95.1 & FCC Part 2.1091

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

Ryan. Wang

Approved by : Ryan Wang

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

REPORT ISSUED HISTORY

Report Version	Description	Issued Date
R00	Original Issue.	Feb. 23, 2021

1. 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 radiator
R = distance to the center of radiation of the antenna

Table for Filed Antenna

For 2.4G:

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	N/A	N/A	Internal	N/A	3.5
2	N/A	N/A	Internal	N/A	3.5

Note:
1. The antenna gain is provided by the manufacturer.
2. The EUT supports CDD, any transmit signals are correlated with each other. All antennas have the same gain, Directional gain = G_{ANT}+Array Gain,

For power spectral density measurements, N_{ANT} = 2, N_{SS} = 1. So Directional gain = G_{ANT} + Array Gain =G_{ANT} +10log (N_{ANT}/ N_{SS}) dB =3.5+10log(2/1)dBi=6.51. Then, the power density limit is 8-(6.51-6)=7.49

For power measurements, Array Gain = 0 dB (N_{ANT} ≤ 4), so the Directional gain=3.5.

For 5G:

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	N/A	N/A	Internal	N/A	4.5
2	N/A	N/A	Internal	N/A	4.5

Note:
(1) The antenna gain is provided by the manufacturer.
(2) CDD:

All antennas have the same gain, Directional gain = G_{ANT}+Array Gain,

For power spectral density measurements, N_{ANT} =2, N_{SS} = 1. So Directional gain = G_{ANT} + Array Gain =G_{ANT} +10log (N_{ANT}/ N_{SS}) dB =4.5+10log(2/1)dBi=7.51. Then, the UNII-1 power density limit is 17-(7.51-6)=15.49. the UNII-3 power density limit is 30-(7.51-6)=28.49

For power measurements, Array Gain = 0 dB (NANT ≤ 4), so the Directional gain=4.5.

Beamforming:

All antennas have the same gain, Directional gain = G_{ANT} + 10 log(N_{ANT}) dBi,

that is Directional gain=4.5 + 10log(2) dBi =7.51;

So output power limit is 17-(7.51-6)=15.49, the UNII-1 power density limit is 30-(7.51-6)=28.49. the UNII-3 power density limit is 30-(7.51-6)=28.49.

Table for Antenna Configuration:
For 2.4G:

Operating Mode / TX Mode	Ant. 1	Ant. 2	Ant. 1+2
802.11b	✓	✓	×
802.11g	✓	✓	×
802.11n(20 MHz)	✓	✓	✓
802.11n(40 MHz)	✓	✓	✓

For 5G:

Operating Mode / TX Mode	Ant. 1	Ant. 2	Ant. 1+2
IEEE 802.11a	✓	✓	×
IEEE 802.11n (HT20)	✓	✓	✓
IEEE 802.11n (HT40)	✓	✓	✓
IEEE 802.11ac (VHT20)	✓	✓	✓
IEEE 802.11ac (VHT40)	✓	✓	✓
IEEE 802.11ac (VHT80)	✓	✓	✓

2. TEST RESULTS

For 2.4GHz:

Antenna Gain (dBi)	Antenna 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
3.5	2.2387	30	1000	0.2444	1	Complies

For 5GHz:

Antenna Gain (dBi)	Antenna 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
7.51	5.6364	28.49	706.3176	0.4346	1	Complies

For the max simultaneous transmission MPE:

2.4G+5G

Power Density (S) (mW/cm2) 2.4GHz	Power Density (S) (mW/cm2) 5GHz	Total	Limit of Power Density (S) (mW/cm2)	Test Result
0.2444	0.4346	0.6790	1	Complies

Note: The calculated distance is 27 cm.
Output power including tune up tolerance.

End of Test Report