



FCC ID.: KA2IR615Z1  
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**KDB 447498 D03**  
**47 C.F.R. Part 1, Subpart I, Section 1.1310**  
**47 C.F.R. Part 2, Subpart J, Section 2.1091**

## **RF EXPOSURE REPORT**

**For**

**Wireless N300 Router**

**Model: DIR-615**

**Data Applies To: DIR-612**

**Trade Name: D-Link**

*Issued to*

**D-Link Corporation**  
**14420 Myford Road Suite 100, Irvine, California 92606, United States**

*Issued By*

**Compliance Certification Services Inc.**  
**No.11, Wugong 6th Rd., Wugu Dist.,**  
**New Taipei City 24891, Taiwan. (R.O.C.)**

**Issued Date: January 14, 2022**

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.  
除非另有說明，此報告結果僅對測試之樣品負責，同時此樣品僅保留90天。本報告未經本公司書面許可，不可部份複製。

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## REVISION HISTORY

Rev.	Issue Date	Revisions	Effect Page	Revised By
00	December 14, 2021	Initial Issue	ALL	Angel Cheng
01	December 24, 2021	See the following note rev.01	ALL	Angel Cheng
02	January 10, 2022	See the following note rev.02	ALL	Angel Cheng
03	January 14, 2022	See the following note rev.03	ALL	Angel Cheng

**Note:**

- ※ Rev.00 Issue Date: December 14, 2021  
Original Report.
- ※ Rev.01 Issue Date: December 24, 2021  
Revise Antenna gain & Numeric gain.
- ※ Rev.02 Issue Date: January 10, 2022  
Revise Average output power & Tune up Power.
- ※ Rev.03 Issue Date: January 14, 2022  
Revise Average output power & Tune up Power.



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## 1. TEST RESULT CERTIFICATION

### We hereby certify that:

The equipment has been tested by Compliance Certification Services Inc., and found compliance with the requirement of the applicable standards. The test record, data evaluation and Equipment under Test (EUT) configurations represented herein are true and accurate accounts of the measurement of the sample's RF characteristics under the conditions specified in this report.

APPLICABLE STANDARDS	
STANDARD	TEST RESULT
KDB 447498 D03 47 C.F.R. Part 1, Subpart I, Section 1.1310 47 C.F.R. Part 2, Subpart J, Section 2.1091	No non-compliance noted
Statements of Conformity	
Determining compliance shall be based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.	

Approved by:




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Kevin Tsai  
Deputy Manager  
Compliance Certification Services Inc.

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## 2. LIMIT

According to §15.247(i), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess of the Commission's guidelines. See § 1.1307(b)(1) of this chapter.

## 3. EUT SPECIFICATION

<b>EUT</b>	Wireless N300 Router		
<b>Model</b>	DIR-615		
<b>Data Applies To</b>	DIR-612		
<b>Brand</b>	D-Link		
<b>RF Module</b>	Realtek	<b>Model:</b>	RTL8192FR
<b>Frequency band (Operating)</b>	<input checked="" type="checkbox"/> 802.11b/g/n HT20: 2412MHz ~ 2462MHz 802.11n HT40: 2422MHz ~ 2452MHz <input type="checkbox"/> Others		
<b>Device category</b>	<input type="checkbox"/> Portable (<20cm separation) <input checked="" type="checkbox"/> Mobile (>20cm separation) <input type="checkbox"/> Others		
<b>Exposure classification</b>	<input type="checkbox"/> Occupational/Controlled exposure (S = 5mW/cm <sup>2</sup> ) <input checked="" type="checkbox"/> General Population/Uncontrolled exposure (S=1mW/cm <sup>2</sup> )		
<b>Antenna Specification</b>	Two antenna <b>(2TX2RX)</b> <b>Antenna 1:</b> Type: RF Antenna Assembly Connector: i-pex Model: RF21C06560A Manufacturer: RenFeng Electronic technology Co., LTD. Gain: 5dBi Length: 150mm <b>Antenna 2:</b> Type: RF Antenna Assembly Connector: i-pex Model: RF21C06561A Manufacturer: RenFeng Electronic technology Co., LTD. Gain: 5dBi Length: 45mm RF Antenna Assembly / Gain: 5.0 dBi (Numeric gain: 3.16) MIMO / Directional Gain (For IEEE 802.11 n): 8.01 dBi (Numeric gain: 6.32)		
<b>Maximum Average output power</b>	IEEE 802.11b Mode :	10.60 dBm	(11.482 mW)
	IEEE 802.11g Mode :	12.92 dBm	(19.588 mW)
	IEEE 802.11n HT20 Mode :	12.26 dBm	(16.827 mW)
	IEEE 802.11n HT40 Mode :	11.31 dBm	(13.521 mW)
<b>Maximum Tune up Power</b>	IEEE 802.11b Mode :	11.00 dBm	(12.589 mW)
	IEEE 802.11g Mode :	13.50 dBm	(22.387 mW)
	IEEE 802.11n HT20 Mode :	12.50 dBm	(17.783 mW)
	IEEE 802.11n HT40 Mode :	12.00 dBm	(15.849 mW)



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<b>Evaluation applied</b>	<input checked="" type="checkbox"/> MPE Evaluation* <input type="checkbox"/> SAR Evaluation <input type="checkbox"/> N/A
<b>Received Date</b>	July 29, 2021
<b>Reported Date</b>	September 28, 2021

**Remark:**

1. RF power data reference report (T210729N01-RP1)
2. Disclaimer: Antenna information is provided by the applicant, test results of this report are applicable to the sample EUT received.
3. The listed model(s) (**DIR-612**) are all the same of the original model (**DIR-615**) design, except for different models name and is just for the marketing purpose.

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## 4. TEST RESULTS

No non-compliance noted.

### Calculation

$$\text{Given } E = \frac{\sqrt{30 \times P \times G}}{d} \quad \& \quad S = \frac{E^2}{377}$$

Where  $E$  = Field strength in Volts / meter

$P$  = Power in Watts

$G$  = Numeric antenna gain

$d$  = Distance in meters

$S$  = Power density in milliwatts / square centimeter

Combining equations and re-arranging the terms to express the distance as a function of the remaining variables yields:

$$S = \frac{30 \times P \times G}{377d^2}$$

Changing to units of mW and cm, using:

$$P \text{ (mW)} = P \text{ (W)} / 1000 \text{ and}$$

$$d \text{ (cm)} = d \text{ (m)} / 100$$

Yields

$$S = \frac{30 \times (P/1000) \times G}{377 \times (d/100)^2} = 0.0796 \times \frac{P \times G}{d^2} \quad \text{Equation 1}$$

Where  $d$  = Distance in cm

$P$  = Power in mW

$G$  = Numeric antenna gain

$S$  = Power density in mW / cm<sup>2</sup>

## 5. MAXIMUM PERMISSIBLE EXPOSURE

Substituting the MPE safe distance using  $d = 20$  cm into Equation 1:

$$S = 0.000199 \times P \times G$$

Where  $P =$  Power in mW

$G =$  Numeric antenna gain

$S =$  Power density in mW / cm<sup>2</sup>

IEEE 802.11b Mode :

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm <sup>2</sup>	Limit (mW/cm2)	Result
Mid	2437	12.589	3.16	20	0.0079	1	Pass

IEEE 802.11g Mode :

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm <sup>2</sup>	Limit (mW/cm2)	Result
Low	2412	22.387	3.16	20	0.0141	1	Pass

IEEE 802.11n HT 20 Mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm <sup>2</sup>	Limit (mW/cm2)	Result
Low	2412	17.783	6.32	20	0.0224	1	Pass

IEEE 802.11n HT 40 Mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm <sup>2</sup>	Limit (mW/cm2)	Result
Low	2422	15.849	6.32	20	0.0199	1	Pass