FCC Radio Test Report

FCC ID: KA2IRLX1870A2

This report concerns: Original Grant

Project No.	:	2005H044
Equipment	:	1) AX1800 Whole Home Mesh Wi-Fi 6 Router 2) AX1800 Whole Home Mesh Wi-Fi 6 System
Brand Name	:	D-Link
Test Model	:	COVR-X1870
Series Model	:	COVR-X1872, COVR-X1873, DIR-LX1870, DIR-LX1872, DIR-LX1873
Applicant	:	D-Link Corporation
Address	:	17595 Mt. Herrmann, Fountain Valley, California United State 92708
Manufacturer	:	D-Link Corporation
Address	:	17595 Mt. Herrmann, Fountain Valley, California United State 92708
Date of Receipt	:	Jul. 31, 2020
Date of Test	:	Jul. 31, 2020~Sep. 4, 2020
Issued Date	:	Sep.28, 2020
Report Version	:	R00
Test Sample	:	Engineering Sample No.: SH2020052550 for EUT; SH2020052550-1/ SH20200609295-2 for adapter.
Standard(s)	:	FCC Part15, Subpart E(15.407) ANSI C63.10-2013 FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01 FCC KDB 662911 D01 Multiple Transmitter Output v02r01

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

Allen Wei

Prepared by : Allen Wei

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**

Declaration

BTL represents to the client that testing is done in accordance with standard procedures as applicable and that test instruments used has been calibrated with standards traceable to international standard(s) and/or national standard(s).

BTL's reports apply only to the specific samples tested under conditions. It is manufacture's responsibility to ensure that additional production units of this model are manufactured with the identical electrical and mechanical components. **BTL** shall have no liability for any declarations, inferences or generalizations drawn by the client or others from **BTL** issued reports.

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BTL's laboratory quality assurance procedures are in compliance with the **ISO/IEC 17025** requirements, and accredited by the conformity assessment authorities listed in this test report.

BTL is not responsible for the sampling stage, so the results only apply to the sample as received.

The information, data and test plan are provided by manufacturer which may affect the validity of results, so it is manufacturer's responsibility to ensure that the apparatus meets the essential requirements of applied standards and in all the possible configurations as representative of its intended use.

Limitation

For the use of the authority's logo is limited unless the Test Standard(s)/Scope(s)/Item(s) mentioned in this test report is (are) included in the conformity assessment authorities acceptance respective.

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REPORT ISSUED HISTORY

Report Version	Description	Issued Date
R00	In this case, 2.4G project was updated the output power of 802.11n (HT40) 2452 MHz and U-NII2A,U-NII2C was added based on the original case (FCC ID: KA2IRLX1870A1). These changes do not affect the data in this report,.Please refer to the regular report (BTL-FCCP-3-2005H044) for all the test results	Sep.28, 2020

1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standard(s):

FCC Part15, Subpart E(15.407)				
Standard(s) Section	**Test Item**	**Test Result**	**Judgement**	**Remark**
15.207 15.407(b)	AC Power Line Conducted Emissions	APPENDIX A	PASS	------
15.407(b) 15.205(a) 15.209(a)	Radiated Emissions	APPENDIX B APPENDIX C APPENDIX D	PASS	------
15.407(a) 15.407(e)	Spectrum Bandwidth	APPENDIX E	PASS	------
15.407(a)	Maximum Output Power	APPENDIX F	PASS	------
15.407(a)	Power Spectral Density	APPENDIX G	PASS	------
15.407(g)	Frequency Stability	APPENDIX H	PASS	------
15.203	Antenna Requirements	------	PASS	------
15.407(c)	Automatically Discontinue Transmission	------	PASS	**NOTE (2)**

Note:

(1) "N/A" denotes test is not applicable in this test report.

(2) During no any information transmission, the EUT can automatically discontinue transmission and become standby mode for power saving. the EUT can detect the controlling signal of ACK message transmitting from remote device and verify whether it shall resend or discontinue transmission.

(3) For UNII-1 this device was functioned as a

☒ Access point device ☐ Client device

1.1 TEST FACILITY

The test facilities used to collect the test data in this report is at the location of No. 29, Jintang Road, Tangzhen Industry Park, Pudong New Area, Shanghai 201210,China
BTL's Test Firm Registration Number for FCC: 476765
BTL's Designation Number for FCC: CN1241

1.2 MEASUREMENT UNCERTAINTY

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2))
The BTL measurement uncertainty as below table:

A. AC power line conducted emissions test:

Test Site	Method	Measurement Frequency Range	U, (dB)
SH-C01	CISPR	150 kHz ~ 30 MHz	± 2.26

B. Radiated emissions test:

Test Site	Method	Measurement Frequency Range	Ant. H / V	U, (dB)
SH-CB01	CISPR	9 KHz~30 MHz	V	3.79
		9 KHz~30 MHz	H	3.57
		30 MHz~200 MHz	V	4.04
		30 MHz~200 MHz	H	3.76
		200 MHz~1,000 MHz	V	4.24
		200 MHz~1,000 MHz	H	3.84
		1 GHz~18 GHz	V	4.46
		1 GHz~18 GHz	H	4.40
		18 GHz~40 GHz	V	3.95
		18 GHz~40 GHz	H	3.95

Note: Unless specifically mentioned, the uncertainty of measurement has not been taken into account to declare the compliance or non-compliance to the specification.

1.3 TEST ENVIRONMENT CONDITIONS

Test Item	Temperature	Humidity	Test Voltage	Tested By
AC Power Line Conducted Emissions	23°C	56%	AC 120V/60Hz	Forest Li
Radiated Emissions-30 MHz to 1GHz	24°C	58%	AC 120V/60Hz	Forest Li
Radiated Emissions-Above 1000 MHz	24°C	56%	AC 120V/60Hz	Forest Li
Spectrum Bandwidth	24°C	58%	AC 120V/60Hz	Forest Li
Maximum Output Power	24°C	56%	AC 120V/60Hz	Forest Li
Power Spectral Density	24°C	58%	AC 120V/60Hz	Forest Li

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Equipment	1) AX1800 Whole Home Mesh Wi-Fi 6 Router 2) AX1800 Whole Home Mesh Wi-Fi 6 System
Brand Name	D-Link
Test Model	COVR-X1870
Series Model	COVR-X1872, COVR-X1873, DIR-LX1870, DIR-LX1872, DIR-LX1873
Model Difference(s)	COVR-X1870 /DIR-LX1870：Single Pack； COVR-X1872/DIR-LX1872: double Pack; DIR-LX1873 /COVR-X1873： treble Pack All versions of the Models are electrically equal except for the model name and number of packages.
Software Version	1
Hardware Version	A1
Power Source	DC voltage supplied from AC/DC adapter. 1# Brand/Model: Gongjin/S12A12-120A100-CJ 2# Brand/Model: Gongjin/WB-12G12R
Power Rating	1# I/P: 100-240V~50/60Hz max 0.5A O/P:12V⎓1A 2# I/P: 100-240V~50-60Hz 0.3A Max. O/P:12.0V⎓1.0A 12.0W
Operation Frequency	UNII-1: 5150 MHz~5250 MHz UNII-2A: 5250 MHz~5350 MHz UNII-2C: 5470 MHz~5725 MHz UNII-3: 5725 MHz~5850 MHz
Modulation Type	OFDM,OFDMA
Bit Rate of Transmitter	Up to 1201Mbps
Maximum Conducted Output Power for UNII-1 (2TX) Non-Beamforming	IEEE 802.11ax (HE20): 28.10 dBm (0.6457 W) IEEE 802.11ax (HE40): 28.99 dBm (0.7925 W) IEEE 802.11ax (HE80): 28.89 dBm (0.7745 W)
Maximum Conducted Output Power for UNII-3 (2TX) Non-Beamforming	IEEE 802.11ax (HE20): 25.05 dBm (0.3199 W) IEEE 802.11ax (HE40): 25.46 dBm (0.3516 W) IEEE 802.11ax (HE80): 29.86 dBm (0.9683 W)
Maximum Conducted Output Power for UNII-1 (2TX) Beamforming	IEEE 802.11ax (HE20): 27.75 dBm (0.5957 W) IEEE 802.11ax (HE40): 28.72 dBm (0.7447 W) IEEE 802.11ax (HE80): 28.55dBm (0.7161 W)
Maximum Conducted Output Power for UNII-3 (2TX) Beamforming	IEEE 802.11ax (HE20): 24.70dBm (0.2951 W) IEEE 802.11ax (HE40): 25.02 dBm (0.3199 W) IEEE 802.11ax (HE80): 29.60dBm (0.9120 W)

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.

2. Channel List:

IEEE 802.11ax (HE20)		IEEE 802.11ax (HE40)		IEEE 802.11ax (HE80)	
UNII-1		UNII-1		UNII-1	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
36	5180	38	5190	42	5210
40	5200	46	5230		
44	5220				
48	5240				
IEEE 802.11ax (HE20)		IEEE 802.11ax (HE40)		IEEE 802.11ax (HE80)	
UNII-3		UNII-3		UNII-3	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
149	5745	151	5755	155	5775
153	5765	159	5795		
157	5785				
161	5805				
165	5825				

3. RU configuration

Operating Mode	Resource Unit	52 Tone(4M)
IEEE 802.11ax (HE20)	Specific Resource Unit	37
		38
		39
		40
	Resource Unit	106 Tone(8M)
	Specific Resource Unit	53
		54
	Resource Unit	242 Tone(20M)
	Specific Resource Unit	61
Operating Mode	Resource Unit	52 Tone(4M)
IEEE 802.11ax (HE40)	Specific Resource Unit	37
		40
		44
	Resource Unit	106 Tone(8M)
	Specific Resource Unit	53
		54
		56
	Resource Unit	242 Tone(20M)
	Specific Resource Unit	61
		62
	Resource Unit	484 Tone(40M)
	Specific Resource Unit	65
Operating Mode	Resource Unit	106 Tone(8M)
IEEE 802.11ax (HE80)	Specific Resource Unit	53
		56
		60
	Resource Unit	242 Tone(20M)
	Specific Resource Unit	61
		63
		64
	Resource Unit	484 Tone(40M)
	Specific Resource Unit	65
		66
	Resource Unit	996 Tone(80M)
	Specific Resource Unit	67

4. Antenna Specification:

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

Note:

(1) Antenna Gain=3 dBi. This EUT supports MIMO 2X2, any transmit signals are correlated with each other, so Directional gain = $G_{Ant.}$ +10log(N)dBi, that is Directional gain=3+10log(2)dBi=6.01; So,the UNII-1,UNII-3 output power limit is 30-6.01+6=29.99, The UNII-1 power spectral density limit is 17-6.01+6=16.99, the UNII-3 power spectral density limit is 30-6.01+6=29.99.

(2)Beamforming gain:3dB.

End of Test Report