



EMF TEST REPORT

Product Name: Broadband Digital Transmission System

Model Name: LigoDLB 5-23ax, LGW-0014, LigoDLB 5-20ax, LigoDLB 5-90ax, LigoDLB 5ax, LigoDLB 5-15ax

FCC ID: 2BQVCLGW0014

Issued For : Ligowave Networks Inc

1710 Cumberland Point Drive ste 1, Marietta, GA Post code:
30067 USA

Issued By : Shenzhen LGT Test Service Co., Ltd.

Room 205, Building 13, Zone B, Zhenxiong Industrial Park,
No.177, Renmin West Road, Jinsha, Kengzi Street, Pingshan
District, Shenzhen, Guangdong, China

Report Number: LGT25H070HA02

Sample Received Date: Aug. 11, 2025

Date of Test: Aug. 11, 2025 ~ Sep. 30, 2025

Date of Issue: Sep. 30, 2025

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TEST REPORT CERTIFICATION

Applicant: Ligowave Networks Inc

Address: 1710 Cumberland Point Drive ste 1, Marietta, GA Post code: 30067
USA

Manufacturer: CAPE EMS BERHAD

Address: PLO 227A, Jalan Cyber 1A, Kawasan Perindustrian Senai III, 81400 Senai
Johor Malaysia

Factory: ShenZhen EZL Technology Co., Ltd

Address: Room 301-D24, Xiangjiang Financial Building, No. 3046, Xinghai
Avenue, Nanshan Street, Qianhai Shenzhen-Hong Kong Cooperation
Zone, Shenzhen, China

Product Name: Broadband Digital Transmission System

Trademark: Ligowave

Model Name: LigoDLB 5-23ax, LGW-0014, LigoDLB 5-20ax, LigoDLB 5-90ax,
LigoDLB 5ax, LigoDLB 5-15ax

Sample Status: Normal

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC 47 CFR §2.1091 KDB 447498 D01 General RF Exposure Guidance v06	PASS

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Revision History

Rev.	Issue Date	Contents
00	Sep. 30, 2025	Initial Issue



1. GENERAL INFORMATION

1.1 GENERAL DESCRIPTION OF THE EUT

Product Name:	Broadband Digital Transmission System	
Trademark:	Ligowave	
Test Model Name:	LigoDLB 5-23ax	
Series Model:	LGW-0014, LigoDLB 5-20ax, LigoDLB 5-90ax, LigoDLB 5ax, LigoDLB 5-15ax	
Model Difference:	Only difference in model name.	
Frequency Bands:	2.4G WLAN	802.11b/g/n/ax(20MHz): 2412~2462MHz 802.11n/ax(40MHz):2422~2452MHz
	5G WLAN	IEEE 802.11a/n(HT20)/ ac(VHT20)/ax(HE20): 5.180GHz-5.240GHz IEEE 802.11n(HT40)/ ac(VHT40)/ax(HE40): 5.190GHz-5.230GHz IEEE 802.11 ac(VHT80)/ax(HE80): 5.210GHz IEEE 802.11 ac(VHT160)/ax(HE160): 5.250GHz IEEE 802.11a/n(HT20)/ ac(VHT20)/ax(HE20): 5.745GHz-5.825GHz IEEE 802.11a/n(HT40)/ac(VHT40)/ax(HE40): 5.755GHz-5.795GHz IEEE 802.11 ac(VHT80)/ax(HE80): 5.775GHz
Rating:	42.5-57V DC / 600 mA	
Hardware Version:	LGW-0014-01A	
Software Version:	N/A	

1.2 TEST LABORATORY

Company Name:	Shenzhen LGT Test Service Co., Ltd.
Address:	Room 205, Building 13, Zone B, Zhenxiong Industrial Park, No.177, Renmin West Road, Jinsha, Kengzi Street, Pingshan District, Shenzhen, Guangdong, China
Accreditation Certificate:	A2LA Certificate No.: 6727.01
	FCC Registration No.: 746540
	CAB ID: CN0136



2. FCC 47CFR §2.1091 REQUIREMENT

2.1 TEST STANDARDS

The limit for Maximum Permissible Exposure (MPE) specified in FCC 1.1310 is followed. The gain of the antennas used in the product is extracted from the Antenna data sheets provided and also the maximum total power input to the antenna is measured. Through the Friis transmission formula and the maximum gain of the antenna, we can calculate the distance, away from the product, where the limit of MPE is reached.

Although the Friis Transmission formula is far field assumption, the calculated result of that is an over-prediction for near field power density. It is taken as worst case to specify the safety range.

2.2 LIMIT

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environmental impact of the human exposure to radio-frequency (RF) radiation as specified in 1.1307 (b)

Limits for Maximum Permissible Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm ²)
Limits for Occupational / controlled Exposures			
0.3-3.0	614	1.63	*(100)
3.0-30	1842/f	4.89/f	*(900/f ²)
30-300	61.4	0.163	1.0
300 - 1500	--	--	F/300
1500 – 100000	--	--	5.0
Limits for General population / Uncontrolled Exposure			
0.3-1.34	614	1.63	*(100)
1.34-30	824/f	2.19/f	*(180/f ²)
30-300	27.5	0.073	0.2
300 - 1500	--	--	F/1500
1500 – 100000	--	--	1.0

F= Frequency in MHz

* = Plane-wave equivalent power density.

Friss Formula

Friss Transmission Formula: $P_d = (P_{out} * G) / (4 * \pi * r^2)$

Where

P_d = power density in mW/cm²

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

π = 3.1416

R = Distance between observation point and the center of radiator in cm

If we know the maximum gain of the antenna and the total output power to the antenna, through calculation, we will know MPE value at distance 20cm.



2.3 EUT OPERATION CONDITION

EUT was enabled to transmit and receive at lowest, middle and highest channels.

2.4 CLASSIFICATION

The antenna of this product, under normal use condition, is at least 20cm away from the body of the user. Warning statement to the user for keeping at least 20cm or more separation distance from the antenna should be included in the User manual. So, this device is classified as Mobile device.



2.5 TEST RESULT

Turn up Result

worst mode

SISO Mode	Turn up Power
2.4G WIFI-802.11b	16.0±1dBm
5G WIFI-802.11a	10.5±1dBm
MIMO Mode	Turn up Power
5G WIFI-802.11n(HT20)	6.5±1dBm

The MPE result of worst mode:

SISO:

RF Function	Frequency (MHz)	Max Turn up Power (dBm)	Max Turn up Power (mW)	ANT Gain (dBi)	ANT Gain (gain of antenna in linear scale)	Power Density (mW/cm²)	Limit (mW/cm²)	Ratio	Result
2.4G WIFI	2412	17.00	50.12	1.5	1.41	0.014	1	0.014	Pass
5G WIFI	5825	11.50	14.13	24.5	281.84	0.792	1	0.792	Pass

MIMO:

RF Function	Frequency (MHz)	Max Turn up Power (dBm)	Max Turn up Power (mW)	ANT Gain (dBi)	ANT Gain (gain of antenna in linear scale)	Power Density (mW/cm²)	Limit (mW/cm²)	Ratio	Result
5G WIFI	5745	7.50	5.62	24.5	281.84	0.315	1	0.315	Pass

Max. Multiple transmission: $0.014 + 0.792 = 0.806 < 1$

Note:

1. The Maximum Power Density is less than the limit, complies with the exemption requirements.

*****END OF THE REPORT*****