

TEST REPORT

Product Name : Glacial Northern Lights Projector
Model Number : WH-E24
FCC ID : 2A2Y2-WH-E24

Prepared for : Guangzhou Tuoke Commerce Trade Co Ltd
Address : Room 416, No.101,Wanggang Dexing Road, Jiahe
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1. TEST RESULT CERTIFICATION

Applicant : Guangzhou Tuoke Commerce Trade Co Ltd
Address : Room 416, No.101,Wanggang Dexing Road, Jiahe Stress, Baiyun District, Guangzhou,China
Manufacturer : TK Co.,Ltd.
Address : Room 416.No. 101, Dexing Road, Wanggang, Jiahe Street, Baiyun District, Guangzhou
EUT : Glacial Northern Lights Projector
Model Name : WH-E24
Trademark : N/A

Measurement Procedure Used:

APPLICABLE STANDARDS	
STANDARD	TEST RESULT
§ 15.247(i), § 2.1093,1.1307(b)(1)	PASS

The above equipment was tested by EMTEK(DONGGUAN) CO., LTD. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.10 (2013) and the energy emitted by the sample EUT tested as described in this report is in compliance with the requirements of FCC Rules FCC § 15.247(i), § 2.1093, 1.1307(b)(1).

The test results of this report relate only to the tested sample identified in this report

Date of Test : August 30, 2024 to September 13, 2024

Prepared by :

Warren Deng

Warren Deng /Editor

Reviewer :

Galen Xlao

Galen Xlao /Supervisor

Approve & Authorized Signer :

Sam Lv
EMTEK (DONGGUAN) CO., LTD.
TESTING

Modified History

Version	Report No.	Revision Date	Summary
	EDG2408300309E00102R	/	Original Report



2. EUT Specification

Characteristics	Description
Product:	Glacial Northern Lights Projector
Model Number:	WH-E24
Sample:	1#
Data Rate:	1Mbps for GFSK modulation 2Mbps for $\pi/4$ -DQPSK modulation 3Mbps for 8DPSK modulation
Modulation:	GFSK, $\pi/4$ -DQPSK, 8DPSK
Operating Frequency Range(s) :	2402-2480MHz
Number of Channels:	79 channels
Transmit Power Max:	1.26 dBm(0.001337 W)
Antenna Gain:	0.07 dBi
Power supply:	DC 5V from USB
Evaluation applied:	☒ MPE Evaluation ☐ SAR Evaluation

3. Test Requirement

RF EXPOSURE EVALUATION

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of 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)	Average Time
(A) Limits for Occupational/Control Exposures				
300-1500	--	--	F/300	6
1500-100000	--	--	5	6
(B) Limits for General Population/Uncontrol Exposures				
300-1500	--	--	F/1500	6
1500-100000	--	--	1	30

Friis transmission formula: $P_d = (P_{out} \cdot G) / (4 \cdot \pi \cdot R^2)$

Where

P_d = Power density in mW/cm²

P_{out} =output power to antenna in mW

G = Numeric gain of the antenna relative to isotropic antenna

π =3.1416

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

P_d the limit of MPE, 1mW/cm². If we know the maximum gain of the nd total power input to the antenna, through the calculation, we will know the distance where the MPE limit is reached.

4. Measurement Result

Antenna gain: 0.07 dBi

Transmit Frequency(M Hz)	Mode	Output Power(dB m)	E.I.R.P(dB m)	Target Power W/tolerance (dBm)	Max tune up power(dB m) tolerance	Max tuneup power(m W) tolerance	Power Density at R=20cm (mW/cm 2)	Limit (mW/cm 2)
2402	GFSK	0.21	0.28	0±1	1	1.26	0.000255	1
2441	GFSK	-0.07	0	0±1	1	1.26	0.000255	1
2480	GFSK	-0.21	-0.14	-1±1	0	1.00	0.000202	1
2402	Π/4-DQPSK	0.87	0.94	0±1	1	1.26	0.000255	1
2441	Π/4-DQPSK	0.56	0.63	0±1	1	1.26	0.000255	1
2480	Π/4-DQPSK	0.54	0.61	0±1	1	1.26	0.000255	1
2402	8DPSK	1.26	1.33	1±1	2	1.58	0.000320	1
2441	8DPSK	1.06	1.13	1±1	2	1.58	0.000320	1
2480	8DPSK	0.98	1.05	1±1	2	1.58	0.000320	1

According to KDB 447498 D01 V06, no stand-alone required for BT antenna, and no simultaneous SAR measurement is required.

*** End of Report ***