

TEST REPORT

Product Name : 16.4 FT ADVANCED LIGHT STRIP, 16.4 FT
RGBIC LED STRIP LIGHT
Model Number : WA-STT01-999T
FCC ID : 2A935STT01

Prepared for : Arcus Industrial Limited.
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1. TEST RESULT CERTIFICATION

Applicant : Arcus Industrial Limited.
Address : Room 2502,Zhongnongxin Building,No. 181.East
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Zhejiang province
EUT : 16.4 FT ADVANCED LIGHT STRIP, 16.4 FT RGBIC LED STRIP LIGHT
All products are the same, only the product names are different.
Model Name : WA-STT01-999T
Trademark : N/A

Measurement Procedure Used:

APPLICABLE STANDARDS	
STANDARD	TEST RESULT
§ 15.247(i), § 2.1093	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.

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

Date of Test : January 16, 2023 to March 6, 2023

Prepared by :

Warren Deng

Warren Deng /Editor

Tim Dong

Reviewer :

Tim Dong/ Supervisor



Approve & Authorized Signer :

Sam Lv / Manager

Modified History

Version	Report No.	Revision Date	Summary
	EDG2301160080E00202R	/	Original Report



2. EUT Specification

Characteristics	Description
Product:	16.4 FT ADVANCED LIGHT STRIP, 16.4 FT RGBIC LED STRIP LIGHT All products are the same, only the product names are different.
Model Number:	WA-STT01-999T
Sample:	2#
Device Type:	Bluetooth V5.2
Data Rate:	1Mbps, 2Mbps
Modulation:	GFSK
Operating Frequency Range(s) :	2402-2480MHz
Number of Channels:	40 Channels
Transmit Power Max:	-1.2 dBm(0.000759W)
Antenna Gain:	2.99 dBi
Power supply:	DC 12V from Adaptor
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 antenna and 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:
2.4G: 2.99 dBi

1M: Antenna A

Channel	Channel Freq. (MHz)	Measured power (dBm)	Tune-up power (dBm)	Max tune-up power (dBm)	Max tune up power tolerance (mW)	Antenna Gain Numeric	Power Density at R=20cm (mW/cm ²)	Power density Limits (mW/cm ²)
0	2402	-1.33	-2±1	-1	0.79	1.991	0.000315	1
19	2440	-1.33	-2±1	-1	0.79	1.991	0.000315	1
39	2480	-3.4	-4±1	-3	0.50	1.991	0.000198	1

2M: Antenna A

Channel	Channel Freq. (MHz)	Measured power (dBm)	Tune-up power (dBm)	Max tune-up power (dBm)	Max tune up power tolerance (mW)	Antenna Gain Numeric	Power Density at R=20cm (mW/cm ²)	Power density Limits (mW/cm ²)
0	2402	-1.2	-2±1	-1	0.79	1.991	0.000315	1
19	2440	-1.24	-2±1	-1	0.79	1.991	0.000315	1
39	2480	-3.36	-4±1	-3	0.50	1.991	0.000198	1

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

*** End of Report ***