MPE Report

Report No.: STS2601314H01

Issued for

Xinji Technologies Ltd.

XinHe Avenue70, ShangMuGu, PingHu, LongGang, ShenZhen, GuangDong, Shenzhen, China

Product Name:	Retro Ambient Light
Brand Name:	N/A
Model Name:	L-WL-002
Series Model(s):	Rad-SOL-1
FCC ID:	2A3LH-L-WL-002
Test Standards:	FCC 47CFR §2.1093

The test results presented in this report relate only to the object tested. This report shall not be reproduced, except in full, without the written approval of the ShenZhen STS Test Services Co., Ltd.

TEST REPORT

Applicant's Name ..... : Xinji Technologies Ltd.

Address ..... : XinHe Avenue70, ShangMuGu, PingHu, LongGang, ShenZhen, GuangDong, Shenzhen, China

Manufacturer's Name ..... : Xinji Technologies Ltd.

Address ..... : XinHe Avenue70, ShangMuGu, PingHu, LongGang, ShenZhen, GuangDong, Shenzhen, China

Product Description

Product Name ..... : Retro Ambient Light

Brand Name ..... : N/A

Model Name ..... : L-WL-002

Series Model(s) ..... : Rad-SOL-1

Test Standards ..... : FCC 47CFR §2.1093
447498 D01 General RF Exposure Guidance v06

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Date of Test ..... :

Date of receipt of test item ..... : 2025-12-19

Date (s) of performance of tests ..... : 2025-12-22 to 2025-12-31

Date of Issue ..... : 2026-01-09

Test Result ..... : **Pass**

Testing Engineer : Aaron Bu

(Aaron Bu)

Technical Manager : Skylar. Li

(Skylar Li)

Authorized Signatory : Bovey Yang

(Bovey Yang)

SHENZHEN STS TEST SERVICES CO., LTD. TESTING APPROVAL

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Revision History

Rev.	Issue Date	Report No.	Effect Page	Contents
00	2026-01-09	STS2601314H01	ALL	Initial Issue

1. GENERAL INFORMATION

1.1 GENERAL DESCRIPTION OF THE EUT

Product Name	Retro Ambient Light
Brand Name	N/A
Model Name	L-WL-002
Series Model(s)	Rad-SOL-1
Model Difference	All the model are the same circuit and RF module, except model names.
Product Description	The EUT is Retro Ambient Light Operation Frequency: 2402-2480 MHz Modulation Type: Frequency:2402 – 2480 MHz Modulation: GFSK(1Mbps), π/4-DQPSK(2Mbps), 8DPSK(3Mbps) Antenna gain: 0.81dBi Antenna Designation: FPC Antenna
Power Rating	DC 3.7V From battery, DC 5V From adapter
Adapter	N/A
Battery	Model:104050 DC 3.7V 2500mAh 9.25Wh
Hardware Version	N/A
Software Version	N/A

1.2 TEST FACTORY

SHENZHEN STS TEST SERVICES CO., LTD
Add. : 101, Building B, Zhuoke Science Park, No.190 Chongqing Road, ZhanChengShequ, Fuhai Sub-District, Bao'an District, Shenzhen, Guang Dong, China

FCC test Firm Registration Number: 625569

IC test Firm Registration Number: 12108A

A2LA Certificate No.: 4338.01

2. FCC 47CFR §2.1093 REQUIREMENT

2.1 TEST STANDARDS

The limit for Maximum Permissible Exposure (MPE) specified in KDB 447498 D01 General RF Exposure Guidance v06 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

Approximate SAR Test Exclusion Power Thresholds at Selected Frequencies and Test Separation Distances are illustrated in the following Table.

MHz	5	10	15	20	25	mm
150	39	77	116	155	194	*SAR Test Exclusion Threshold* (mW)
300	27	55	82	110	137	
450	22	45	67	89	112	
835	16	33	49	66	82	
900	16	32	47	63	79	
1500	12	24	37	49	61	
1900	11	22	33	44	54	
2450	10	19	29	38	48	
3600	8	16	24	32	40	
5200	7	13	20	26	33	
5400	6	13	19	26	32	
5800	6	12	19	25	31	

MHz	30	35	40	45	50	mm
150	232	271	310	349	387	*SAR Test Exclusion Threshold* (mW)
300	164	192	219	246	274	
450	134	157	179	201	224	
835	98	115	131	148	164	
900	95	111	126	142	158	
1500	73	86	98	110	122	
1900	65	76	87	98	109	
2450	57	67	77	86	96	
3600	47	55	63	71	79	
5200	39	46	53	59	66	
5400	39	45	52	58	65	
5800	37	44	50	56	62	

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:

[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] • [√f(GHz)] ≤ 3.0 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR,where f(GHz) is the RF channel transmit frequency in GHz.

Power and distance are rounded to the nearest mW and mm before calculation

The result is rounded to one decimal place for comparison

The test exclusions are applicable only when the minimum test separation distance is ≤ 50 mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion.

2.3 TEST RESULT

Maximum measured transmitter power.

Worst Case

Mode	frequency	Maximum Output Power	Tune up tolerance	Max Tune up
	GHz	dBm	dBm	dBm
8DPSK	2.441	2.12	2±1	3

Evaluation Result

Mode	Frequency	Antenna Distance	RF output power including tune up (dBm)		SAR Test Exclusion Threshold	SAR Test Exclusion	Estimated SAR
	GHz	mm	dBm	mw			
8DPSK	2.441	5	3.	2	0.62347	Yes	/

Note:

1. Remark: The worst case gain of the antenna is 0.81dBi.
2. Threshold at which no SAR required is 0.62347≤ 3.0 for 1-g SAR, Separation distance ≤ 5mm.

※※※※※END OF THE REPORT※※※※※

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