



RF TEST REPORT

Product Name: Integrated RFID Reader

Model Name: UR1A

FCC ID: 2AC6AUR1A

Issued For : Shenzhen Chainway Information Technology Co., Ltd

9F Building 2, Daqian Industrial Park, District 67, XingDong
Community, Xin'an Street, Bao'an District, Shenzhen,
Guangdong, China

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

Room 205, Building 13, Zone B, Chen Hsong Industrial Park,
No.177 Renmin West Road, Jinsha Community, Kengzi
Street, Pingshan New District, Shenzhen, China

Report Number: LGT24H095HA02

Sample Received Date: Aug. 22, 2024

Date of Tested: Aug. 22, 2024 ~ Nov. 27, 2024

Date of Issue: Nov. 27, 2024

The test report is effective only with both signature and specialized stamp. This report shall not be reproduced except in full without the written approval of the Laboratory. The results in this report only apply to the tested sample.



TEST REPORT CERTIFICATION

Applicant Shenzhen Chainway Information Technology Co., Ltd
Address 9F Building 2, Daqian Industrial Park, District 67, XingDong Community, Xin'an Street, Bao'an District, Shenzhen, Guangdong, China

Manufacturer Shenzhen Chainway Information Technology Co., Ltd
Address 9F Building 2, Daqian Industrial Park, District 67, XingDong Community, Xin'an Street, Bao'an District, Shenzhen, Guangdong, China

Product Name Integrated RFID Reader

Trademark CHAINWAY

Model Name UR1A

Sample Status: Normal

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

Prepared by:

Zane Shan

Zane Shan
Engineer

Approved by:

Vita Li

Vita Li
Technical Director





TABLE OF CONTENTS

1. GENERAL INFORMATION	5
1.1 GENERAL DESCRIPTION OF THE EUT	5
1.2 TEST FACTORY	5
2. FCC 47CFR §2.1091 REQUIREMENT	6
2.1 TEST STANDARDS	6
2.2 LIMIT	6
2.3 EUT OPERATION CONDITION	6
2.4 CLASSIFICATION	6
2.5 TEST RESULT	7



Revision History

Rev.	Issue Date	Contents
00	Nov. 29, 2024	Initial Issue



1. GENERAL INFORMATION

1.1 GENERAL DESCRIPTION OF THE EUT

Product Name	Integrated RFID Reader	
Brand Name	CHAINWAY	
Model Name	UR1A	
Series Model	N/A	
Model Difference	N/A	
Product Description	The EUT is Integrated RFID Reader	
	Operation Frequency:	902.75~927.25 MHz
	Modulation Type:	FSK
	Antenna gain:	9dBi
	Antenna Designation:	Circular polarization
Power input	DC12V/2A	
Hardware Version	UR1A _Hardware_version	
Software Version	UR1A _Software_version	

1.2 TEST FACTORY

Company Name:	Shenzhen LGT Test Service Co., Ltd.
Address:	Room 205, Building 13, Zone B, Chen Hsong Industrial Park, No.177 Renmin West Road, Jinsha Community, Kengzi Street, Pingshan New District, Shenzhen, 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			
300 - 1500	--	--	F/300
1500 – 100000	--	--	5.0
Limits for General population / Uncontrolled Exposure			
300 - 1500	--	--	F/1500
1500 – 100000	--	--	1.0

F= Frequency in MHz

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

Frequency (MHz)	Detector	Turn up Power (dBm)
902.75-927.25	Peak	26±1

Antenna Gain (dBi)		
Mode	Log scale	Numeric scale
902.75-927.25	9	7.94

Mode	Max Turn up Power (dBm)	Max Turn up Power (mW)	ANT Gain (numeric scale)	Power Density (mW/cm ²)	Limit (mW/cm ²)	Ratio	Result
902.75-927.25	27.00	501.19	7.94	0.352	0.610	0.577	Pass

※※※※※END OF THE REPORT※※※※※