



MPE Report

Report No.:STS2603372H01

Issued for

Zhuhai Rongyuan Electronic Technology Co.,Ltd

3rd and 4th floors, Phase 1, No.2 Pingbei 2nd Road, Nanping
Science and Technology Industrial Park, Zhuhai City,
Guangdong Province, China

Product Name: Audio System

Brand Name: N/A

Model Name: RYYT021

Series Model(s): RYYT021-2A, RYYT021-2B, RYYT021-3A,
RYYT021-3B, RYYT021-4A, RYYT021-4B,
RYYT021-4C, RYYT021-4D, RYYT021A,
RYYT021B, RYYT021C, RYYT021D,
RYYT021E

FCC ID: 2A6EB-RYYT021

Test Standard: FCC 47CFR §2.1091

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: Zhuhai Rongyuan Electronic Technology Co.,Ltd
Address: 3rd and 4th floors, Phase 1, No.2 Pingbei 2nd Road, Nanping
Science and Technology Industrial Park, Zhuhai City, Guangdong
Province, China
Manufacturer's Name: Zhuhai Rongyuan Electronic Technology Co.,Ltd
Address: 3rd and 4th floors, Phase 1, No.2 Pingbei 2nd Road, Nanping
Science and Technology Industrial Park, Zhuhai City, Guangdong
Province, China

Product Description

Product Name: Audio System
Brand Name: N/A
Model Name: RYYT021
Series Model(s): RYYT021-2A, RYYT021-2B, RYYT021-3A, RYYT021-3B,
RYYT021-4A, RYYT021-4B, RYYT021-4C, RYYT021-4D,
RYYT021A, RYYT021B, RYYT021C, RYYT021D, RYYT021E
Test Standards: FCC 47CFR §2.1091
447498 D01 Interim General RF Exposure Guidance v06

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Date of Test

Date of receipt of test item: 5 Mar. 2026
Date (s) of performance of tests: 5 Mar. 2026~11 Mar. 2026
Date of Issue: 12 Mar. 2026
Test Result: **Pass**

Testing Engineer :

Aaron Bu

(Aaron Bu)

Technical Manager :

Skylar Li

(Skylar Li)

Authorized Signatory :

Bovey Yang

(Bovey Yang)





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**Revision History**

Rev.	Issue Date	Report No.	Effect Page	Contents
00	12 Mar. 2026	STS2603372H01	ALL	Initial Issue



1. GENERAL INFORMATION

1.1 GENERAL DESCRIPTION OF THE EUT

Product Name	Audio System	
Brand Name	N/A	
Model Name	RYYT021	
Series Model(s)	RYYT021-2A, RYYT021-2B, RYYT021-3A, RYYT021-3B, RYYT021-4A, RYYT021-4B, RYYT021-4C, RYYT021-4D, RYYT021A, RYYT021B, RYYT021C, RYYT021D, RYYT021E	
Model Difference	All the model are the same circuit and RF module, except model names.	
Product Description	The EUT is Audio System	
	Operation Frequency:	Bluetooth: 2402~2480 MHz
	Modulation Type:	GFSK, $\pi/4$ -DQPSK(2Mbps), 8DPSK
	Antenna gain:	1.7 dBi
	Antenna Designation:	Internal Antenna
Power Rating	DC 29V From Adapter	
Adapter	Manufacture: Dongguan Guanjin Electronics Technology Co., Ltd Model No.:K200A2900500E1 Input: AC 100-240V 50/60Hz 4.0A Output: 29.0V==5.0A 145.0W	
Battery	N/A	
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 §2.1091 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
3.0-30	1842/f	4.89/f	*(900/f ²)
1500 – 100000	--	--	5.0
Limits for General population / Uncontrolled Exposure			
300 - 1500	--	--	F/1500
1.34-30	824/f	2.19/f	*(180f ²)
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 TEST RESULT

Tune up

Mode	Detector	Tune up Power
BLE	PK	5±1dBm
BT	PK	-1±1dBm

Protocol	Fre. (GHz)	Separati on distance (cm)	Max Tune up power (dBm)	ANT Gain (dBi)	Max EIRP (dBm)	Max EIRP (mW)	Power Density (mW/cm ²)	Limit (mW/ cm ²)	Ratio	Result
BLE	2.480	20	6	1.7	7.7	5.89	0.0012	1	0.0012	Pass
BT	2.441	20	0	1.7	1.7	1.48	0.0003	1	0.0003	Pass

Multiple transmission:

$$BT+BLE=0.0003+0.0012=0.0015<1$$

Note: 1. The Maximum power is less than the limit, complies with the exemption requirements.

$$2. ERP = EIRP - 2.15$$

※※※※※END OF THE REPORT※※※※※