

# RF EXPOSURE REPORT

Applicant	Twin-Star International Inc.
Address	12/F Taiwanese Trade Association Building, De Zheng Road, ChangAn Town, Dongguan City, China



Manufacturer or Supplier	Twin-Star International Inc.
Address	12/F Taiwanese Trade Association Building, De Zheng Road, ChangAn Town, Dongguan City, China
Product	Speaker
Brand Name	N/A
Model	TS-4006
Additional Model & Model Difference	TS-0843, TS-2611
Date of tests	Feb. 23, 2024 ~ Mar. 05, 2024

☒ **FCC Part 2 (Section 2.1091)**

☒ **KDB 447498 D01 V06**

☒ **IEEE C95.1**

**CONCLUSION: The submitted sample was found to COMPLY with the test requirement**

Tested by Andrew Sha Project Engineer / EMC Department	Approved by Glyn He Assistant Manager / EMC Department
	

Date: Apr. 12, 2024

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Test Report No.: FM2402WDG0078

## RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
FM2402WDG0078	Original release	Apr. 12, 2024

## 1. CERTIFICATION

<b>FCC ID:</b>	QCD-TS-S-PL01
<b>PRODUCT:</b>	Speaker
<b>BRAND NAME:</b>	N/A
<b>MODEL NO.:</b>	TS-4006
<b>ADDITIONAL NO.:</b>	TS-0843, TS-2611
<b>APPLICANT:</b>	Twin-Star International Inc.
<b>STANDARDS:</b>	FCC Part 2 (Section 2.1091)
	KDB 447498 D01 V06
	IEEE C95.1

### Notes:

1. The additional models TS-0843 and TS-2611 are identical with the test model TS-4006 except the adapter, speaker, power and appearance.

2. The TS-4006 was powered by the following adapter:

ADAPTER	
BRAND:	Guangdong Tiantongjiuheng Technology Co., Ltd
MODEL:	TJ07201Z1504000
INPUT:	100V-240V~, 50/60Hz, 1.5A MAX
OUTPUT:	15V =, 4.0A
DC LINE:	Unshielded, Non-detachable, 1.2m
AC LINE:	Unshielded, Detachable, 1.2m

3. The TS-0843 and TS-2611 were powered by the following adapter:

ADAPTER	
BRAND:	Guangdong Tiantongjiuheng Technology Co., Ltd
MODEL:	TJ04202Z1502500
INPUT:	100V-240V~, 50/60Hz, 1.0A MAX
OUTPUT:	15V =, 2.5A
DC LINE:	Unshielded, Non-detachable, 1.2m
AC LINE:	Unshielded, Detachable, 1.2m

## 4. RF EXPOSURE LIMIT

### LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

FREQUENCY RANGE (MHz)	ELECTRIC FIELD STRENGTH (V/m)	MAGNETIC FIELD STRENGTH (A/m)	POWER DENSITY (mW/cm <sup>2</sup> )	AVERAGE TIME (minutes)
LIMITS FOR GENERAL POPULATION / UNCONTROLLED EXPOSURE				
300-1500	...	...	F/1500	30
1500-100,000	...	...	1.0	30

F = Frequency in MHz

## 5. MPE CALCULATION FORMULA

$$P_d = (P_{out} \cdot G) / (4 \cdot \pi \cdot r^2)$$

where

$P_d$  = power density in mW/cm<sup>2</sup>

$P_{out}$  = output power to antenna in mW

$G$  = gain of antenna in linear scale

$\pi$  = 3.1416

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

## 6. CLASSIFICATION

The antenna of this product, under normal use condition, is at least 20cm away from the body of the user. So, this device is classified as **Mobile Device**.

## 7. ANTENNA GAIN

The antennas provided to the EUT, please refer to the following table:

Transmitter Circuit	Peak Gain (dBi)	Antenna Type
Chain 0	-1.95	PCB Antenna

## 8. CALCULATION RESULT OF MAXIMUM CONDUCTED AV POWER

The tuned conducted Average Power (declared by client)

Mode	Frequency (MHz)	Target Power (dBm)	Tolerance (dBm)	Lower Tolerance (dBm)	Upper Tolerance (dBm)
GFSK	2402-2480	5.5	+/-1.5	4	7
8DPSK	2402-2480	3.5	+/-1.5	2	5

The measured conducted Average Power

Mode	Frequency (MHz)	Averaged Power (dBm)
GFSK	2480	6.38
8DPSK	2480	4.10

FREQUENCY BAND (MHz)	MAX AVERAGE POWER (dBm)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm <sup>2</sup> )	LIMIT (mW/cm <sup>2</sup> )
2402-2480	7	-1.95	20	0.0006364	1.0

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