



## RF Exposure Evaluation Declaration

Report No.: S20240701315602

Issue Date: 08-07-2024

**Applicant:** Jiangsu Shushi Technology Co., Ltd.  
**Address:** NO.9 Nanxu Road, RunZhou District, Zhenjiang,  
Jiangsu, China  
**FCC ID:** 2BAGQ-TRZB13  
**Product:** IOT Module  
**Model No.:** TRZB13; 3RCB01057Z  
**Trade Mark:** ThirdReality  
**FCC Rule Part(s):** CFR 47, FCC Part 2.1091 Radio frequency radiation  
exposure evaluation: mobile devices.  
**Item Receipt date:** Jul. 03, 2024  
**Test Date:** Jul. 10~ Jul. 26, 2024

Compiled By Chuang Li  
(Chuang Li)  
Senior Test Engineer  
Approved By Line Chen  
(Line Chen)  
Engineer Manager



The test results relate only to the samples tested.

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in KDB 558074 D01. Test results reported herein relate only to the item(s) tested.

The test report shall not be reproduced except in full without the written approval of Fangguang Inspection & Testing Co., Ltd. Wuxi Branch

The test report must not be used by the client to claim product certifications, approval, or endorsement by NVLAP, NIST or any agency of U.S. Government.

## Revision History

Report No.	Version	Description	Issue Date
S20240701315602	Rev. 01	/	08-07-2024

## 1. PRODUCT INFORMATION

### 1.1. Equipment Description

Product Name:	IOT Module
Main Test Model:	TRZB13
Additional Model:	3RCB01057Z
Model Description:	Model "TRZB13" and "3RCB01057Z" only differ in name.
Trade Mark:	ThirdReality
Input Voltage Range:	DC 3.3V
Zigbee Version:	3.0
Software Version:	V0.0.30
Hardware Version:	V0.5

### 1.2. Product Specification Subjective to this Report

Frequency Range	2405-2480 MHz
Number of Channels	Zigbee: 16
Channel Spacing	Zigbee: 5MHz
Antenna Type:	PCB antenna
Antenna Gain	2.0dBi
Type of Modulation	Zigbee: O-QPSK

## 2. RF Exposure Evaluation

### 2.1. Limits

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 <sup>2</sup> )	Average Time (Minutes)
(A) Limits for Occupational/ Control Exposures				
300-1500	--	--	f/300	6
1500-100,000	--	--	5	6
(B) Limits for General Population/ Uncontrolled Exposures				
300-1500	--	--	f/1500	6
1500-100,000	--	--	1	30

f= Frequency in MHz

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

$P_d$  is the limit of MPE, 1mW/cm<sup>2</sup>. If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance  $r$  where the MPE limit is reached.

## 2.2. Test Result of RF Exposure Evaluation

Product	IOT Module
Test Item	RF Exposure Evaluation

Mode	Frequency (MHz)	Maximum Conducted OutputPower (dBm)	Antenna Gain (dBi)	PG		MPE (mW/cm <sup>2</sup> )	MPE Limits (mW/cm <sup>2</sup> )
				(dBm)	(mW)		
Zigbee	2405~2480	13.82	2.0	15.82	38.19	0.015	1.00

Remark: 1. MPE use distance is 20cm from manufacturer declaration of user manual.

Remark: 2. Use the maximum gain of all bands when evaluating

### CONCLUSION:

The Max Power Density at R (20 cm) =  $0.015\text{mW/cm}^2 < 1\text{mW/cm}^2$ .

So the EUT complies with the requirement.

\_\_\_\_\_ The End \_\_\_\_\_