RF Exposure Evaluation Declaration

Report No.: S202308119164E06
Issue Date: 09-05-2023

Applicant:	Jiangsu Shushi Technology Co., Ltd.
Address:	NO.9 Nanxu Road,RunZhou District,Zhenjiang,Jiangsu,China
FCC ID:	2BAGQ-TRWB6
Product:	Matter Plug Module
Model No.:	TRWB6
Trade Mark:	/
FCC Rule Part(s):	CFR 47, FCC Part 2.1091 Radio frequency radiation exposure evaluation: mobile devices.
Item Receipt date:	Aug 15, 2023
Test Date:	Aug 16~ Aug 17, 2023

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Senior Test Engineer

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Engineer Manager

FANGGUANG INSPECTION & TESTING CO.,LTD.
APPROVED(02)

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.

Revision History

Report No.	Version	Description	Issue Date
S202308119164E06	Rev. 01	/	09-05-2023

1. PRODUCT INFORMATION

1.1. Equipment Description

Product Name:	Matter Plug Module
Model Name:	TRWB6
Trade Mark:	/
Input Voltage Range:	DC 3.3V
Wi-Fi Specification:	802.11b/g/n20

1.2. Product Specification Subjective to this Report

Frequency Range:	802.11b/g/n20: 2412 ~ 2462MHz
Channel Number:	802.11b/g/n20: 11
Type of Modulation:	802.11b: DSSS 802.11g/n: OFDM
Data Rate:	802.11b: 1/2/5.5/11Mbps 802.11g: 6/9/12/18/24/36/48/54Mbps 802.11n/: MCS0~MCS7
Antenna Type:	Single PCB Antenna
Antenna Gain:	2.0dBi

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^2)	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: $Pd = (Pout*G)/(4*pi*r^2)$

Where

Pd = power density in mW/cm^2

Pout = 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

Pd is the limit of MPE, $1mW/cm^2$. 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	Matter Plug Module
Test Item	RF Exposure Evaluation

Mode	Frequency (MHz)	Maximum Conducted OutputPower (dBm)	Antenna Gain (dBi)	PG		MPE (mW/cm^2)	MPE Limits (mW/cm^2)
				(dBm)	(mW)		
DTS	2412~2462	19.59	2	21.59	144	0.06	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

Remark: 3.BT and 5G wifi can't transmit simultaneously.

CONCULISON:

The Max Power Density at R (20 cm) = $0.06mW/cm^2$ < $1mW/cm^2$.

So the EUT complies with the requirement.

The End