



RF Exposure Evaluation Declaration

Report No.: S202307035086E04

Issue Date: 08-23-2023

Applicant: Jiangsu Shushi Technology Co., Ltd.
Address: NO.9 Nanxu Road,RunZhou District,Zhenjiang,Jiangsu,China
FCC ID: 2BAGQ-3RSR01045W
Product: BL602 Matter Wi-Fi Relay
Model No.: 3RSR01045W
Trade Mark: /
FCC Rule Part(s): CFR 47, FCC Part 2.1091 Radio frequency radiation exposure evaluation: mobile devices.
Item Receipt date: Aug 05, 2023
Test Date: Aug 07~ Aug 08, 2023

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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.

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Revision History

Report No.	Version	Description	Issue Date
S202307035086E04	Rev. 01	/	08-23-2023

1. PRODUCT INFORMATION

1.1. Equipment Description

Product Name:	BL602 Matter Wi-Fi Relay
Model Name:	3RSR01045W
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: $P_d = (P_{out} \cdot G) / (4 \cdot \pi \cdot r^2)$

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 center of the radiator in cm

P_d is the limit of MPE, 1mW/cm². 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	BL602 Matter Wi-Fi Relay
Test Item	RF Exposure Evaluation

Mode	Frequency (MHz)	Maximum Conducted Output Power (dBm)	Antenna Gain (dBi)	PG		MPE (mW/cm ²)	MPE Limits (mW/cm ²)
				(dBm)	(mW)		
DTS	2412~2462	19.64	2	21.64	146	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.

CONCLUSION:

The Max Power Density at R (20 cm) = 0.06mW/cm² < 1mW/cm².

So the EUT complies with the requirement.

_____ The End _____