RF Exposure Evaluation Report

APPLICANT	:	Shanghai Smawave Technology Co. ,Ltd
EQUIPMENT	:	Outdoor CPE
BRAND NAME	:	Smawave
MODEL NAME	:	SRU410
FCC ID	:	2AU8HSRU410
STANDARD	:	47 CFR Part 2.1091 FCC KDB 447498 D01 v06

The product evaluation date was started from Oct. 21, 2024 and completed on Oct. 21, 2024. We, Sporton International Inc. (Kunshan), would like to declare that the device has been evaluated in accordance with 47 CFR Part 2.1091 and FCC KDB 447498 D01 v06, and pass the limit. Without written approval of Sporton International Inc. (Kunshan), the test report shall not be reproduced except in full.

Si Zhang

Approved by: Si Zhang

ACCREDITED Cert #5145.02

Sporton International Inc. (Kunshan)
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People's Republic of China

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Revision History

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FA492703	Rev. 01	Initial issue of report.	Oct. 24, 2024

1. Administration Data

1.1. Testing Laboratory

Sporton International Inc. (Kunshan) is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.02.

Testing Laboratory			
Test Firm	Sporton International Inc. (Kunshan)		
Test Site Location	No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300 People's Republic of China TEL : +86-512-57900158		
Test Site No.	Sporton Site No.	FCC Designation No.	FCC Test Firm Registration No.
	SAR01-KS	CN1257	314309

Applicant	
Company Name	Smawave Technology Co. ,Ltd
Address	2/F, Building 8, 1001 North Qinzhou Road · Xuhui District, Shanghai, China

Manufacturer	
Company Name	Smawave Technology Co. ,Ltd
Address	2/F, Building 8, 1001 North Qinzhou Road · Xuhui District, Shanghai, China

2. Description of Equipment Under Test (EUT)

Product Feature & Specification	
EUT Type	Outdoor CPE
Brand Name	Smawave
Model Name	SRU410
FCC ID	2AU8HSRU410
Wireless Technology and Frequency Range	LTE Band 42: 3550 MHz ~ 3600 MHz LTE Band 43: 3600 MHz ~ 3700MHz LTE Band 48: 3550 MHz ~ 3700 MHz
Mode	LTE: QPSK, 16QAM, 64QAM
Antenna Gain	LTE Band 42/43/48 : 19.42 dBi
Antenna Type	Panel Antenna
HW Version	V1.0
SW Version	SG620_V4.0.0
EUT Stage	Identical Prototype
Remark: The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.	

Comments and Explanations:
1. The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.
2. The maximum RF output tune up power, antenna gain also the safe distance used for evaluate RF exposure were declared by manufacturer.

3. Maximum RF Tune Up power among production units

<LTE>

Mode		Maximum Average power(dBm)
LTE	Band 42/43/48	25.00

4. RF Exposure Limit Introduction

According to ANSI/IEEE C95.1-1992, the criteria listed in Table 1 shall be used to evaluate the environmental impact of human exposure to radio frequency (RF) radiation as specified in §1.1310.

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm^2)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposures				
0.3-3.0	614	1.63	*(100)	6
3.0-30	1842/f	4.89/f	*(900/f2)	6
30-300	61.4	0.163	1.0	6
300-1500			f/300	6
1500-100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*(180/f2)	30
30-300	27.5	0.073	0.2	30
300-1500			f/1500	30
1500-100,000			1.0	30

The MPE was calculated at **48 cm** to show compliance with the power density limit.

The following formula was used to calculate the Power Density:

$$S = \frac{PG}{4\pi R^2}$$

Where:
S = Power Density
P = Output Power at Antenna Terminals
G = Gain of Transmit Antenna (linear gain)
R = Distance from Transmitting Antenna

5. Radio Frequency Radiation Exposure Evaluation

5.1. Standalone Power Density Calculation

Band	Frequency (MHz)	Antenna Gain (dBi)	Maximum Power (dBm)	Maximum EIRP (dBm)	Maximum EIRP (W)	Average EIRP (mW)	Power Density at 48cm (mW/cm^2)	Limit (mW/cm^2)
LTE Band 48	3552.5	19.42	25.00	44.420	27.669	27669.416	0.956	1.000

Note:
1. For conservativeness, the lowest frequency of each band is used to determine the MPE limit of that band.
2. Chose the maximum power density to do MPE analysis.
3. LTE band 42/43 covered by LTE band 48 with the same power level, so only chose LTE band 48 to perform standalone power density calculation.

Conclusion:

According to 47 CFR §2.1091, the equipment at least 48 cm to show compliance with the power density limit, the RF exposure analysis concludes that the RF Exposure is FCC compliant.

------THE END------