



FCC TEST REPORT

FCC ID: 2AQUR-ZW96S

Product	:	Z-Wave Outdoor Smart Plug (800S)
Model Name	:	ZW96S, MP22Z
Brand	:	N/A
Report No.	:	PTC25022118301E-FC03
Prepared for		
NIE-TECH Co., Ltd		
Jilian commercial center 9001, Jinxiu road No.2, Changan Town, Dongguan City, Guangdong Province, China		
Prepared by		
Precise Testing & Certification Co., Ltd.		
Building 1, No. 6, Tongxin Road, Dongcheng Street, Dongguan, Guangdong, China.		



TEST RESULT CERTIFICATION

Applicant's name : NIE-TECH Co., Ltd

Address : Jilian commercial center 9001, Jinxiu road No.2, Changan Town,
Dongguan City, Guangdong Province, China

Manufacture's name : Ultra Tech Industries Co., Ltd.

Address : Industrial cluster Non Sao, Tan Dinh commune, Lang Giang
district, Bac Giang, VIETNAM

Product name : Z-Wave Outdoor Smart Plug (800S)

Model name : ZW96S, MP22Z

Test procedure : FCC CFR47 Part 1.1307(b)(1)

Test Date : Feb. 25, 2025 to Mar. 8, 2025

Date of Issue : Mar. 8, 2025

Test Result : PASS

This device described above has been tested by PTC, and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

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Test Engineer:

A handwritten signature in black ink, appearing to read 'Jack Zhou'.

Jack Zhou / Engineer

Technical Manager:

A handwritten signature in black ink, appearing to read 'Simon Pu'.

Simon Pu / Manager



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Report No.: PTC25022118301E-FC03

2 Test Summary

Test Items	Test Requirement	Result
Maximum Permissible Exposure (Exposure of Humans to RF Fields)	15.247 (i)	PASS
Remark:		
N/A: Not Applicable		



3 General Information

3.1 General Description of E.U.T.

Product Name	:	Z-Wave Outdoor Smart Plug (800S)
Model Name	:	ZW96S
Additional Model Name	:	MP22Z
Specification	:	908.40MHz 908.42MHz 916.00MHz 912 MHz 920 MHz
Operation Frequency	:	2FSK for 908.40MHz 2FSK for 908.42MHz 2GFSK for 916.00MHz DSSS OQPSK LR for 912 MHz and 920 MHz
Number of Channel	:	5
Type of Modulation	:	2FSK for 908.40MHz 2FSK for 908.42MHz 2GFSK for 916.00MHz DSSS OQPSK LR for 912 MHz and 920 MHz
Antenna installation	:	PCB antenna
Antenna Gain	:	-6.16 dBi
Power supply	:	Input: AC 125V/60Hz Output: 125V/60Hz 15A
Hardware Version	:	N/A
Software Version	:	N/A



4 RF Exposure

Test Requirement : FCC Part 1.1307(b)(1)

Evaluation Method : KDB 447498 D01 General RF Exposure Guidance v06

4.1 Requirements

Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess limit for maximum permissible exposure. In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as a mobile device whereby a distance of 0.2 m normally can be maintained between the user and the device.

4.2 The procedures / limit

(A) Limits for Occupational / Controlled Exposure

Frequency Range	Electric Field	Magnetic Field	Power Density (S)	Averaging Time
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842 / f	4.89 / f	(900 / f)*	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

Frequency Range	Electric Field	Magnetic Field	Power Density (S)	Averaging Time
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f)*	30
30-300	27.5	0.073	0.2	30
300-1500			F/1500	30
1500-100,000			1.0	30

Note: f = frequency in MHz ; *Plane-wave equivalent power density



4.3 MPE Calculation Method

$$E \text{ (V/m)} = \frac{\sqrt{30 \times P \times G}}{d} \quad \text{Power Density: } P_d \text{ (W/m}^2\text{)} = \frac{E^2}{377}$$

E = Electric field (V/m)

P = Peak RF output power (W)

G = EUT Antenna numeric gain (numeric)

d = Separation distance between radiator and human body (m)

The formula can be changed to

$$P_d = \frac{30 \times P \times G}{377 \times d^2} \theta \varphi$$

From the peak EUT RF output power, the minimum mobile separation distance, d=0.2m, as well as the gain of the used antenna, the RF power density can be obtained

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4.4 RF Output power

Freq. (MHz)	Field strength(max)(dBuV/m)	EIRP (max) (dBm)
908.40	89.94	-5.26
908.42	90.18	-5.02
916.00	89.49	-5.71

Note: $EIRP = E - 104.8 + 20 \log D$,
Where
E is the electric field strength in dB μ V/m.
EIRP is the equivalent isotropically radiated power in dBm.
d is the specified measurement distance in m.
where $D=3$, $EIRP = E - 95.2$.



4.5 Test Result

Mode	Antenna Gain (numeric)	Max. Peak Output Power (dBm)	Tune up tolerance (dBm)	Max Tune Up Power (mW)	Power Density (mW/cm ²)	Limit of Power Density (mW/cm ²)	Result
912MHz	0.24	-1.974	-1.5±1	0.891251	0.004007	0.608000	Pass
920MH	0.24	-3.284	-3±1	0.630957	0.002837	0.613333	Pass
908.40MH	0.24	-5.26	-5.00±1	0.398107	0.00179	0.605600	Pass
908.42MH	0.24	-5.02	-5.00±1	0.398107	0.00179	0.605613	Pass
916.00MH	0.24	-5.71	-5.50±1	0.354813	0.001595	0.610667	Pass

Simultaneous SAR Evaluation:

The device can't support simultaneous transmitter.

*******THE END REPORT*******