FCC TEST REPORT

FCC ID: 2AD9XWATER-ZW1

Product	:	Z-Wave Water Leak Sensor
Model Name	:	WATER-ZW1
Brand	:	Versa
Report No.	:	PTC24120400701E-FC03

Prepared for

Versa Wireless Inc.

103 - 19292 60th Ave. Surrey BC, Canada, V3S 3M2

Prepared by

Precise Testing & Certification Co., Ltd.

Building 1, No. 6, Tongxin Road, Dongcheng Street, Dongguan, Guangdong, China

TEST RESULT CERTIFICATION

Applicant's name	:	Versa Wireless Inc.
Address	:	103 - 19292 60th Ave. Surrey BC, Canada, V3S 3M2
Manufacture's name	:	Ultra Tech industries Co., Ltd.
Address	:	Industrial cluster Non Sao, Tan Dinh commune, Lang Giangdistrict,Bac Giang, VIETNAM
Product name	:	Z-Wave Water Leak Sensor
Model name	:	WATER-ZW1
Test procedure	:	FCC CFR47 Part 1.1307(b)(1)
Test Date	:	Dec. 24, 2024 to Jan. 7, 2025
Date of Issue	:	Jan. 7, 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 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 Water Leak Sensor
Model Name	:	WATER-ZW1
Operation Frequency	:	908.40MHz 908.42MHz 916.00MHz 912 MHz 920 MHz
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	:	-5.57 dBi
Power supply	:	DC 3V
Hardware Version	:	V1.3
Software Version	:	V1.0

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 (V/m) = $\frac{\sqrt{30 \times P \times G}}{d}$ Power Density: Pd (W/m²) = $\frac{E^2}{377}$

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

Pd = $\frac{30 \times P \times G}{377 \times d^2}$ θφ

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

4.4 Manufacturing tolerance

Freq. (MHz)	Field strength(max)(dBuV/m)	EIRP (max) (dBm)
908.40	90.19	-5.01
908.42	89.67	-5.53
916.00	89.68	-5.52

Note: EIRP=E-104.8+20logD,
Where
E is the electric field strength in dBμV/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/cm2)	Limit of Power Density (mW/cm2)	Result
912MHz	0.28	-1.628	-1.5±1	0.8913	0.000049	0.608000	Pass
920MHz	0.28	-0.156	0.00±1	1.2589	0.000069	0.613333	Pass
908.40MHz	0.28	-5.01	-5.00±1	0.3981	0.000022	0.605600	Pass
908.42MHz	0.28	-5.53	-5.50±1	0.3548	0.00002	0.605613	Pass
916.00MHz	0.28	-5.52	-5.50±1	0.3981	0.000022	0.610667	Pass

Simultaneous SAR Evaluation:

The device can't support simultaneous transmitter.

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