NVLAP LAB CODE 600341-0

MAXIMUM PERMISSIBLE EXPOSURE EVALUATION REPORT

Applicant:	**Xiamen Milesight IoT Co., Ltd.**
Address:	**Building C09, Software Park Phase III, Xiamen 361024, Fujian, China**
Product Name:	**Radar Human Presence Sensor**
FCC ID:	**2AYHY-VS370**
Standard(s):	**47 CFR §1.1310, 47 CFR §2.1091, 47 CFR §15.247(i)**
Report Number:	**2402Y101434E-RF-00E**
Report Date:	**2024/12/23**

The above device has been tested and found compliant with the requirement of the relative standards by Bay Area Compliance Laboratories Corp. (Dongguan).

Reviewed By: **Pedro Yun**	**Approved By:** **Gavin Xu**
Title: **Project Engineer**	Title: **RF Supervisor**

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1. GENERAL INFORMATION

1.1 General Description Of Equipment under Test

EUT Name:	Radar Human Presence Sensor
EUT Model:	VS370-915M
Multiple Model:	NF370-915M,VS370,NF370,VS370-868M/915M,NF370-868M/915M
Rated Input Voltage:	DC 3.6V from battery
EUT Received Date:	2024/10/28
EUT Received Status:	Good
Note: The multiple models are electrically identical with the test model. Please refer to the declaration letter for more detail, which was provided by manufacturer.	

2. RF EXPOSURE EVALUATION (MPE)

2.1 RF Exposure Evaluation

2.1.1 Applicable Standard

According to subpart 15.247(i) and subpart §1.1310, 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 level in excess of the Commission's guidelines.

Limits for Maximum Permissible Exposure (MPE) (§1.1310, §2.1091)

(B) Limits for General Population/Uncontrolled Exposure				
Frequency Range (MHz)	**Electric Field Strength (V/m)**	**Magnetic Field Strength (A/m)**	**Power Density (mW/cm^2)**	**Averaging Time (minutes)**
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

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

According to §1.1310 and §2.1091 RF exposure is calculated.

2.1.2 Calculation formula:

Prediction of power density at the distance of the applicable MPE limit
$S = PG/4\pi R^2$ = power density (in appropriate units, e.g. mW/cm^2);
P = power input to the antenna (in appropriate units, e.g., mW);
G = power gain of the antenna in the direction of interest relative to an isotropic radiator, the power gain factor, is normally numeric gain;
R = distance to the center of radiation of the antenna (appropriate units, e.g., cm);

For simultaneously transmit system, the calculated power density should comply with:

$$\sum_i \frac{S_i}{S_{Limit,i}} \leq 1$$

2.1.3 Calculated Data:

Mode	Frequency (MHz)	Antenna Gain		Conducted output power including Tune-up Tolerance▲		Evaluation Distance (cm)	Power Density (mW/cm^2)	MPE Limit (mW/cm^2)
		(dBi)	(numeric)	(dBm)	(mW)			
Lora-FHSS	902.3-927.6	-3.54	0.44	17	50.12	20.00	0.0044	0.6
Lora-DTS	903-926.9	-3.54	0.44	1.5	1.41	20.00	0.0001	0.6
BLE	2402-2480	0.5	1.12	0	1.00	20.00	0.0002	1.0
24G Radar	24025-24225	2.75	1.88	-4.91	0.32	20.00	0.0001	1.0

Note:
The Conducted output power including Tune-up Tolerance provided by manufacturer.

Radar: E Field@3m is 93.04 dBuV/m =-2.16dBm
E[dBμV/m] = EIRP[dBm] + 95.2 for d = 3 m.

Conducted output power=EIRP-Gain=-2.16-2.75dBm=-4.91dBm

BLE , Lora and 24G Radar can transmit simultaneously:

$$\sum_i \frac{S_i}{S_{Limit,i}}$$

$= S_{BLE} / S_{limit\text{-}BLE} + S_{Lora} / S_{limit\text{-}Lora} + S_{24G\ Radar} / S_{limit\text{-}\ 24G\ Radar}$

$=0.0044/0.6+0.0002/1+0.0001/1$

$=0.008$

< 1.0

Result: The device meet FCC MPE at 20 cm distance

EXHIBIT A - EUT PHOTOGRAPHS

Please refer to the attachment 2402Y101434E-RF-EXP EUT EXTERNAL PHOTOGRAPHS and 2402Y101434E-RF-INP EUT INTERNAL PHOTOGRAPHS.

******* END OF REPORT *******