Safety Human Exposure

1.1 Radio Frequency Exposure Compliance

1.1.1 Electromagnetic Fields

RESULT: **Pass**

Test item	:	Robotic Vacuum Cleaner
Identification / Type No.	:	S91COP
FCC ID	:	2AN2O-S91COP01
IC	:	23317-S91COP01
Test standard	:	CFR47 FCC Part 2: Section 2.1091
		CFR47 FCC Part 1: Section 1.1310
		FCC KDB Publication 447498 D04 V01
		RSS-102 Issue 6 December 2023

➢ **Product Classification**

This device defined as a transmitting device designed to be used in other than fixed locations and to generally be used in such a way that a separation distance of at least 20 centimeters is normally maintained between the RF source's radiating structure(s) and the body of the user or nearby persons.

Max 2.22 dBi

➢ **Radio Frequency Exposure Limit**

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm^2)
300-1,500	--	--	f/1500
1,500-100,000	--	--	1.0

➢ **Radio Frequency Exposure Calculation Formula**

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

where: S = 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
R = distance to the center of radiation of the antenna (appropriate units, e.g., cm)

or:

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

where: EIRP = equivalent (or effective) isotropically radiated power

a) EUT RF Exposure Evaluation standalone operations

Freq. [GHz]	*Measured RF Output Power (dBm)	EIRP (dBm)	Distance (cm)	Power Density (mW/cm^2)	Limit (mW/cm^2)
2.452	24.13	26.35	20	0.09	1

Note:

1. RF Output Power: Refer CN25ZZ28 001.

- **Conclusion**

The distance between antenna and human is larger than 20 cm in the normal use.
Therefore, the maximum calculations result of above are meet the requirement of Radio Frequency Exposure limit.