RF Exposure Report

Report No.:	FCC_RF_SL19100101-OMP-002_MPE
FCC ID:	2ALLL243A
IC:	24107-243A
Test Model:	OPS243-A
Issued Date:	10/25/2019
Applicant:	OmniPreSense
Address:	1650 Zanker Road, Suite 222, San Jose, CA 95112
Manufacturer:	OmniPreSense
Address:	1650 Zanker Road, Suite 222, San Jose, CA 95112
Issued By:	Bureau Veritas Consumer Products Services, Inc.
Lab Address:	775 Montague Expressway, Milpitas, CA 95035
Test Location (1):	775 Montague Expressway, Milpitas, CA 95035
FCC Registration / Designation Number:	540430
ISED# / CAB identifier:	4842D

TESTING CERT # 2742-01

Table of Contents

Release Control Record

Issue No.	Description	Date Issued
FCC_RF_SL19100101-OMP-002_MPE	Orignal Release	10/25/2019

1   Certificate of Conformity

Product:	Short Range Radar Sensor
Brand:	OmniPreSense
Test Model:	OPS243-A
Sample Status:	ENGINEERING SAMPLE
Applicant:	OmniPreSense
Standards:	FCC Part 2 (Section 2.1091)
	KDB 447498 D01 General RF Exposure Guidance v06
	IEEE C95.1-1992

The above equipment has been tested by **Bureau Veritas Consumer Products Services, Inc., Milpitas Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

Prepared by : _____ ,   **Date:** _____10/25/2019_____

Deon Dai / Test Engineer

Approved by : _____ ,   **Date:** _____10/25/2019_____

Chen Ge / Engineer Reviewer

2 RF Exposure

2.1 Limits for Maximum Permissible Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm^2)	Average Time (minutes)
Limits For General Population / Uncontrolled Exposure				
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f^2)*	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

2.2 MPE Calculation Formula

$P_d = (P_{out}*G) / (4*pi*r^2)$

Where

P_d = power density in mW/cm^2

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

Pi = 3.1416

R = distance between observation point and center of the radiator in cm

2.3 Classification

The antenna of this product, under normal use condition, is at least 20cm away from the body of the user. So, this device is classified as **Mobile Device**.

  d) For *conducted* measurements above 1000 MHz, EIRP shall be computed as specified in II.G.3.b) and then field strength shall be computed as follows (see KDB Publication 412172):

  (i) E[dBµV/m] = EIRP[dBm] - 20 log (d[m]) + 104.77, where E = field strength and d = distance at which field strength limit is specified in the rules;

  (ii) E[dBµV/m] = EIRP[dBm] + 95.2, for d = 3 m.

2.4 Antenna Gain

Patch Antenna, 11dBi Gain

2.5   Calculation Result of E.I.R.P

CH Freq (MHz)	E.I.R.P (dBm)	Antenna Gain (dBi)	Tune-Up Tolerance	Tolerance E.I.R.P (dBm)	Measurement Distance (cm)	Calculated MPE (mW/cm^2)	MPE Limit (mW/cm^2)	Pass/Fail
24161.3	5.96	11	±1dB	6.96	20	0.00098	1	Pass

Conclusion:

The formula of calculated the MPE is:

CPD1 / LPD1 + CPD2 / LPD2 + ……etc. < 1

CPD = Calculation power density

LPD = Limit of power density

The Above Result had shown that the Device complied with MPE requirement.

--- END ---