RF Exposure Report

Report No.:	FCC_RF_SL20040701-FLU-002A1_Sensor_MPE
FCC ID:	2AOX8-F2100
Test Model:	F2100
Series Model:	N/A
Received Date:	04/06/2020
Test Date:	04/08/2020-04/24/2020
Issued Date:	06/01/2020
Applicant:	Flume Inc
Address:	75 Higuera St Suite 120, San Luis Obispo,CA-93405
Manufacturer:	Flume Inc
Address:	75 Higuera St Suite 120, San Luis Obispo,CA-93405
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

TESTING CERT # 2742-01

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Release Control Record

Issue No.	Description	Date Issued
FCC_RF_SL20040701-FLU-002A1_Sensor_MPE	Initial Release	06/01/2020

1 Certificate of Conformity

Product:	Flume Sensor
Brand:	Flume
Test Model:	F2100
Sample Status:	Engineering sample
Applicant:	Flume Inc
Test Date:	04/08/2020-04/24/2020
Standards:	FCC Part 2 (Section 2.1093) 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:** 06/01/2020

Deon Dai / Test Engineer

Approved by : _____ , **Date:** 06/01/2020

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

$Pd = (Pout*G) / (4*pi*r^2)$

Where

Pd = power density in mW/cm^2

Pout = 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.

2.4 Antenna Gain

The antenna type is Bowtie PCB antenna with 0.9 dBi gain.

2.5 Calculation Result of Maximum Conducted Power

Type	Max Power (dBm)	Max Power (mW)	Turn-Up Tolerance	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm^2)	Limit (mW/cm^2)
FHSS	15.431	34.92	±1dB	0.9	20	0.011	0.61

Note:

1. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

3 Conclusion

Conclusion:

The formula of calculated the MPE is:

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

CPD = Calculation power density

LPD = Limit of power density

FHSS = 0.011 < 0.61

Therefore the maximum calculations of above situations are less than the "0.61" limit.

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