RF Exposure Report

Report No.:	SA190415C07
FCC ID:	O9YJKS3
Test Model:	JKS3A
Series Model:	ATS100M-YZ-V, ATS100M-YZ-S, JKS3B, ATS100M-Y-V, ATS100M-Y-S, JKS3C, ATS100M-Z-V, ATS100M-Z-S, JKS3D, ATS100M-V, ATS100M-S
Received Date:	Apr. 15, 2019
Date of Evaluation:	Jun. 05, 2019
Issued Date:	Jun. 11, 2019
Applicant:	Spireon Inc
Address:	9724 Kingstone Pike, suite 800, Knoxville, Tennessee, USA, 37922
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
Lab Address:	No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan, R.O.C.
Test Location:	No. 19, Hwa Ya 2nd Rd, Wen Hwa Vil, Kwei Shan Dist., Taoyuan City 33383, Taiwan (R.O.C)
FCC Registration / Designation Number:	788550 / TW0003

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Release Control Record

Issue No.	Description	Date Issued
SA190415C07	Original Release	Jun. 11, 2019

1 Certificate of Conformity

Product:	GPS Tracker
Brand:	Spireon
Test Model:	JKS3A
Series Model:	ATS100M-YZ-V, ATS100M-YZ-S, JKS3B, ATS100M-Y-V, ATS100M-Y-S, JKS3C, ATS100M-Z-V, ATS100M-Z-S, JKS3D, ATS100M-V, ATS100M-S
Sample Status:	Engineering Sample
Applicant:	Spireon Inc
Date of Evaluation:	Jun. 05, 2019
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 (H.K.) Ltd., Taoyuan 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 RF characteristics under the conditions specified in this report.

Prepared by : Lena Wang , **Date:** Jun. 11, 2019

Lena Wang / Specialist

Approved by : , **Date:** Jun. 11, 2019

Dylan Chiou / Project Engineer

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

LTE Band 4: PIFA Antenna with 2.8 dBi gain

LTE Band 13: PIFA Antenna with 1.8 dBi gain

LTE Band 25: PIFA Antenna with 3.6 dBi gain

LTE Band 26: PIFA Antenna with 1.4 dBi gain

2.5 Calculation Result of Maximum Conducted Power

Band	Frequency Band (MHz)	Max Power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm^2)	Limit (mW/cm^2)
LTE 4	1710-1755	24.22	2.8	20	0.100	1.00
LTE 13	777-787	23.53	1.8	20	0.068	0.52
LTE 25	1850-1915	24.11	3.6	20	0.117	1.00
LTE 26	814-849	24.72	1.4	20	0.081	0.54

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