RF Exposure Report (FCC)

Report No.:	FCC_RF_SL20011201-USSS-001_MPE
FCC ID:	2AVNYAMIRTU-1
Test Model:	AR-IM001
Host Model:	Seahorse 56 Micro Case
Received Date:	1/25/2020
Test Date:	1/25/2020
Issued Date:	02/12/2020
Applicant:	Utility Systems Science and Software
Address:	9314 Bond Ave Suite: A , El Cajon , 92021
Manufacturer:	Utility Systems Science and Software
Address:	9314 Bond Ave Suite: A , El Cajon , 92021
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:	540430/4842D

TESTING CERT # 2742-01

Table of Contents

Release Control Record

Issue No.	Description	Date Issued
FCC_RF_SL20011201-USSS-001_MPE	Original Release	02/13/2020

1 Certificate of Conformity

Product: AMI-RTU

Brand: US3-Cricket

Test Model: AR-IM001

Sample Status: Engineering Sample

Applicant: Utility Systems Science and Software

Test Date: 01/25/2020

Standard: 47 CFR FCC Part 2.1093

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 : Gary Chou , **Date:** 02/12/2020

Gary Chou / Compliance Engineer

Approved by : , **Date:** 02/12/2020

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 a Dipole antenna with 2 dBi gain.

2.5 Calculation Result of Maximum Conducted Power

Type	Frequency Band (MHz)	Max Power (dBm)	Max Power (mW)	Turn-Up Tolerance	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm^2)	Limit (mW/cm^2)
2FSK	927.8	24.77	299.9163	±1dB	2	20	0.009440	0.6185

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

Therefore the maximum calculations of above situations are less than the "1" limit.

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