RF Exposure Evaluation Report

Product Name : U-net Repeater

Model No. : SA823-2

FCC ID : FU5SA823

Applicant : EVERSPRING INDUSTRY CO., LTD

Address : 3F, No.50, Sec.1, Zhonghua Rd., Tucheng Dist.,
New Taipei City 23666,Taiwan

Date of Receipt : Sep. 18, 2017

Date of Declaration : Sep. 27, 2017

Report No. : 1790241R-RFUSP02V00

Issued Date: Sep. 27, 2017
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Product Name	U-net Repeater
Applicant	EVERSPRING INDUSTRY CO., LTD
Address	3F, No.50, Sec.1, Zhonghua Rd., Tucheng Dist., New Taipei City 23666,Taiwan
Manufacturer	Dong-Guan Li Yuan Electronics Co.,Ltd
Model No.	SA823-2
FCC ID.	FU5SA823
EUT Rated Voltage	AC 100-240V 50/60Hz or DC 6V by Battery
EUT Test Voltage	AC 120V / 60Hz
Trade Name	EVERSPRING
Applicable Standard	FCC 47 CFR 1.1310
Test Result	Complied

Documented By : Genie Chang

(Senior Adm. Specialist / Genie Chang)

Tested By : Ivan Chuang

(Senior Engineer / Ivan Chuang)

Approved By :

(Director / Vincent Lin)

1. RF Exposure Evaluation

1.1. Limits

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in 1.1307(b)

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)
(A) Limits for Occupational/ Control Exposures				
300-1500	--	--	F/300	6
1500-100,000	--	--	5	6
(B) Limits for General Population/ Uncontrolled Exposures				
300-1500	--	--	F/1500	6
1500-100,000	--	--	1	30

F= Frequency in MHz

Friis Formula

Friis transmission 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

Pd id the limit of MPE, 1 mW/cm^2. If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance r where the MPE limit is reached.

1.2. Test Procedure

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

The temperature and related humidity: 18℃and 78％ RH.

1.3. Test Result of RF Exposure Evaluation

Product : U-net Repeater
Test Item : RF Exposure Evaluation
Test Site : No.3 OATS

Operation Frequency	923MHz
Maximum Conducted output power	14.5dBm
Antenna gain	0dBi

Output Power Into Antenna & RF Exposure Evaluation Distance:

Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm2)
28.18382931	0.005607

Power density is lower than the limit (0.6 mW/cm2).