RF Exposure Evaluation Report

Product Name : Smart Home DIN Rail box

Model No. : PAN27

FCC ID : RHHPAN27

Applicant : Philio Technology Corporation

Address : 8F., No.653-2, Zhongzheng Rd., Xinzhuang Dist., New Taipei City 24257, Taiwan(R.O.C)

Date of Receipt : Apr. 18, 2018

Date of Declaration : May 23, 2018

Report No. : 1840190R-RFUSP26V00

Issued Date: May 23, 2018
Report No.: 1840190R-RFUSP26V00

Product Name	Smart Home DIN Rail box
Applicant	Philio Technology Corporation
Address	8F., No.653-2, Zhongzheng Rd., Xinzhuang Dist., New Taipei City 24257, Taiwan(R.O.C)
Manufacturer	Philio Technology Corporation
Model No.	PAN27
FCC ID.	RHHPAN27
EUT Rated Voltage	100-240VAC 50/60Hz 16A
EUT Test Voltage	120Vac 60Hz
Trade Name	Philio
Applicable Standard	FCC 47 CFR 1.1310
Test Result	Complied

Documented By : Anita Chou

(Senior Engineering Adm. Specialist / Anita Chou)

Tested By : Anson Lu

(Engineer / Anson Lu)

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 : Smart Home DIN Rail box
Test Item : RF Exposure Evaluation

RF Exposure:

Operation Frequency	2412MHz-2462MHz 2422MHz-2452MHz
Maximum Conducted output power	20.78 dBm
Antenna gain	0 dBi

Output Power Into Antenna & RF Exposure Evaluation Distance:

Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm2)
119.6741	0.023808

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