RF Exposure Evaluation declaration

Product Name : Heat Finder

Model No. : AD-HF048, AD-HF048ER, AD-HF048SR

FCC ID : 2AQTD-HF048SER

Applicant : ADE Technology Inc.

Address : 15F., No69, Sec.2, Guangfu Rd., Sanchong Dist.,
New Taipei City 24158, Taiwan (R.O.C)

Date of Receipt : Jun. 14, 2018

Date of Declaration : Aug. 03, 2018

Report No. : 1860171R-RFUSP02V00-A

Issued Date: Aug. 03, 2018
Report No.: 1860171R-RFUSP02V00-A

Product Name	Heat Finder
Applicant	ADE Technology Inc.
Address	15F., No69, Sec.2, Guangfu Rd., Sanchong Dist., New Taipei City 24158, Taiwan (R.O.C)
Manufacturer	ADE Technology Inc.
Model No.	AD-HF048, AD-HF048ER, AD-HF048SR
FCC ID.	2AQTD-HF048SER
EUT Rated Voltage	AC 100-240V, 50/60Hz
EUT Test Voltage	AC 120V/60Hz
Trade Name	HEAT FINDER
Applicable Standard	FCC 47 CFR 1.1310
Test Result	Complied

Documented By : April Chen

(Senior Adm. Specialist / April Chen)

Tested By : Jason Tuan

(Engineer / Jason Tuan)

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 : Heat Finder
Test Item : RF Exposure Evaluation
Test Site : No.3 OATS

Operation Frequency Range	2412-2472MHz
Maximum Conducted output power	18.71dBm
Antenna gain	2.35dBi

Output Power Into Antenna & RF Exposure Evaluation Distance:

Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm2)
74.30191379	0.0254

Power density is lower than the limit (1 mW/cm2).