RF Exposure Evaluation declaration

Product Name	ICEBOX THERMOSTAT
Model No.	NORM
FCC ID.	2AAAH-NORM001
IC ID.	11309A-NORM001

Applicant	Quirky, Inc.
Address	606 W. 28th St. Floor 7 New York United States

Date of Receipt	Oct. 08, 2014
Date of Declaration	Nov. 07, 2014
Report No.	14A0217R-RFUSP42V00

Testing Laboratory
3023

Test Report

Issue Date: Nov. 07, 2014
Report No.: 14A0217R-RFUSP42V000

Product Name	ICEBOX THERMOSTAT
Applicant	Quirky, Inc.
Address	606 W. 28th St. Floor 7 New York United States
Manufacturer	Flex Computing
Address	No.1 Guanpu Road, Wuzhong District Suzhou China
Model No.	NORM
FCC ID.	2AAAH-NORM001
IC ID.	11309A-NORM001
EUT Rated Voltage	AC 24V
EUT Test Voltage	AC 24V
Trade Name	Quirky
Applicable Standard	KDB 447498D01V05V02 FCC part 1.1310(b) RSS-102: Issue 4, March, 2010
Test Result	Complied

Documented By : Rita Huang

(Senior Adm. Specialist / Rita Huang)

Tested By : Henk Huang

(Engineer / Henk Huang)

Approved By :

(Manager / 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 : ICEBOX THERMOSTAT
Test Item : RF Exposure Evaluation
Test Site : No.3 OATS

Operation Frequency	2405MHz-2475MHz
Maximum Conducted output power	20.46dBm
Antenna gain	0dBi

Output Power Into Antenna & RF Exposure Evaluation Distance:

Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm2)
111.1732	0.022117

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