RF Exposure Evaluation Declaration

FCC ID: 2AOFOSOUL

APPLICANT: Uniting Commerce Corp

Application Type: Certification

Product: Brilliant Soul Bluetooth speaker

Model No.: Brilliant Soul

Brand Name:

FCC Classification: FCC Part 15 Spread Spectrum Transmitter(DSS)

Reviewed By : (Kevin Guo)

Approved By : (Marlin Chen)

ACCREDITED
TESTING LABORATORY
CERTIFICATE #3628.01

Revision History

Report No.	Version	Description	Issue Date	Note
1711RSU02602	Rev. 01	Initial report	12-30-2017	Valid

1. PRODUCT INFORMATION

1.1. Equipment Description

Product Name	Brilliant Soul Bluetooth speaker
Model No.	Brilliant Soul
Brand Name	
Bluetooth Version	V2.1 + EDR
Components	
Adapter 1#	Model No.: YN36W-1500200UW Input Power: AC 100 - 240V ~ 50/60Hz, 1.0A Output Power: DC 15V, 2.0A
Adapter 2#	Model No.: TP06-150200U Input Power: AC 100 - 240V ~ 50/60Hz, 1.5A Output Power: DC 15V, 2.0A

1.2. Description of Available Antennas

Antenna Type	Frequency Band (MHz)	Manufacturer	Max Peak Gain (dBi)
PCB Antenna	2402~2480	ZHUHAI JIELI TECHNOLOGY CO.,LTD	-0.58

2. RF Exposure Evaluation

2.1. 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

Calculation Formula: $P_d = (P_{out}*G)/(4*pi*r^2)$

Where

P_d = power density in mW/cm^2

P_{out} = 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 is the limit of MPE, $1mW/cm^2$. 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.

2.2. Test Result of RF Exposure Evaluation

Product	Brilliant Soul Bluetooth speaker
Test Item	RF Exposure Evaluation

Test Mode	Frequency Band (MHz)	Maximum Output Power (dBm)	Power Density at r = 20 cm (mW/cm^2)	FCC Limit (mW/cm^2)
Bluetooth	2402 ~ 2480	-1.49	0.0001	1

Note: Antenna Gain refer to Section 1.2 of this report.

CONCULISON:

Therefore, the Max Power Density at r (20 cm) = 0.0001mW/cm^2 < 1mW/cm2.

So the EUT complies with the FCC requirement.

The End