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Report No.: 1711RSU02602 Report Version: V01 Issue Date: 12-30-2017

# **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:** 

Soul

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

Reviewed By : Com Cru

(Kevin Guo)

Approved By : /

(Marlin Chen)



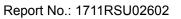


The test results relate only to the samples tested.

The test results shown in the test report are traceable to the national/international standards through the calibration of the equipment and evaluated measurement uncertainty herein.

The test report shall not be reproduced except in full without the written approval of MRT Technology (Suzhou) Co., Ltd.

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## **Revision History**

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

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## 1. PRODUCT INFORMATION

## 1.1. Equipment Description

Product Name	Brilliant Soul Bluetooth speaker		
Model No.	Brilliant Soul		
Brand Name	Soul		
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

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### 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/cm²)	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<sup>2</sup>

P<sub>out</sub> = 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<sup>2</sup>. 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.

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### 2.2. Test Result of RF Exposure Evaluation

Product	Brilliant Soul Bluetooth speaker	
Test Item	RF Exposure Evaluation	

Test Mode	Frequency Band	Maximum Output	Power Density at	FCC
	(MHz)	Power	r = 20 cm	Limit
		(dBm)	(mW/cm <sup>2</sup> )	(mW/cm <sup>2</sup> )
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<sup>2</sup> < 1mW/cm<sup>2</sup>. So the EUT complies with the FCC requirement.

————— The End