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DONGGUAN ALLLIKE ELECTRONIC CO.,LTD

ShenZhen Junlan Electronic Ltd

BLUETOOTH iPad iTOWER SPEAKER

Model Number: BITS-1/5616

FCC ID: OKUSBP9015060

Prepared for : ShenZhen Junlan Electronic Ltd  
District 2 type A plant in the second layer 1-4,NO.2  
Industrial ,Fuyuan, Tangwei ,Fuyong ,Baoan ,Shenzhen  
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## Maximum Permissible Exposure

### 1、 Applicable Standard

Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess limit for maximum permissible exposure. In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as a mobile device whereby a distance of 0.2m normally can be maintained between the user and the device.

#### (a)、 Limits for Occupational / Controlled Exposure

Frequency Range (MHz)	Electric Field Strength E (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm <sup>2</sup> )	Averaging Times   E   2 ,   H   2 or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	(900/f)*	6
30-300	61.4	0.163	1.0	6
300-1500			F/300	6
1500-10000			5	6

#### (b)、 Limits for General Population / Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength E (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm <sup>2</sup> )	Averaging Times   E   2 ,   H   2 or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f)*	30
30-300	27.5	0.073	0.2	30
300-1500			F/1500	30
1500-10000			1.0	30

Note: f=frequency in MHz; \*Plane-wave equivalent power density

### 2、 MPE Calculation Method

$$E \text{ (V/m)} = (30 \cdot P \cdot G)^{0.5} / d \quad \text{Power Density: } P_d \text{ (W/m}^2\text{)} = E^2 / 377$$

E = Electric Field (V/m)

P = Peak RF output Power (W)

G = EUT Antenna numeric gain (numeric)

d = Separation distance between radiator and human body (m)

The formula can be changed to

$$P_d = (30 \cdot P \cdot G) / (377 \cdot d^2)$$

From the peak EUT RF output power, the minimum mobile separation distance, d=0.2m, as well as the gain of the used antenna, the RF power density can be obtained

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### 3、Calculated Result and Limit

Mode	Frequency (MHz)	Peak output power (dBm)	Peak output power (mW)	Antenna gain		Power Density (S) (mW/cm <sup>2</sup> )	Limited of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
				(dBi)	(Linear)			
GFSK	2402	2.593	1.816	0	1	<b>0.00036</b>	1	Compiles
	2441	2.941	1.968	0	1	<b>0.00039</b>	1	Compiles
	2480	3.892	2.450	0	1	<b>0.00048</b>	1	Compiles
$\pi/4$ -DQPSK	2402	1.750	1.496	0	1	<b>0.00029</b>	1	Compiles
	2441	2.020	1.592	0	1	<b>0.00031</b>	1	Compiles
	2480	2.704	1.863	0	1	<b>0.00037</b>	1	Compiles
8-DPSK	2402	1.898	1.548	0	1	<b>0.00030</b>	1	Compiles
	2441	2.232	1.671	0	1	<b>0.00033</b>	1	Compiles
	2480	3.011	2.000	0	1	<b>0.00039</b>	1	Compiles