1. MAXIMUM PERMISSIBLE EXPOSURE (MPE)

1.1 General Information

Client Information

Applicant:	Shenzhen AngSi Technology Co., Ltd.
Address of applicant:	6/F, Block B, Ding Xin Science Park, Hong Lang North No.2 Road, Bao An District, ShenZhen PRC
Manufacturer:	Blowfish Audio
Address of manufacturer:	7801 Hayvenhurst Ave Van Nuys,CA 91406 U.S.A.

General Description of EUT:

Product Name:	Fugoo Element
Trade Name:	FUGOO
Model No.:	F6ELKS01
Adding Model(s):	F6ELKS02, F6ELKS03, F6ELKS04
Rated Voltage:	Battery:DC3.7V
Battery Capacity:	4400mAh
Power Adapter	/
FCC ID:	2AGA6-FUGOOF6EL

Technical Characteristics of EUT:
Bluetooth

Bluetooth Version:	V4.2 (BDR/EDR mode)
Frequency Range:	2402-2480MHz
RF Output Power:	4.70dBm (Conducted)
Data Rate:	1Mbps, 2Mbps, 3Mbps
Modulation:	GFSK, Pi/4 QDPSK, 8DPSK
Quantity of Channels:	79
Channel Separation:	1MHz
Type of Antenna:	PCB Antenna
Antenna Gain:	-0.58dBi

1.2 Standard Applicable

According to §1.1307(b)(1) and KDB 447498 D01 General RF Exposure Guidance v06, system operating under the provisions of this section shall be operating in a manner that the public is not exposed to radio frequency energy level in excess limit for maximum permissible exposure.

(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^2)	Averaging Times $\mid E \mid^2$, $\mid H \mid^2$ 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
1500-100000	/	/	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^2)	Averaging Times $\mid E \mid^2$, $\mid H \mid^2$ 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
1500-100000	/	/	1	30

Note: f = frequency in MHz: * = Plane-wave equivalents power density

1.3 MPE Calculation Method

$S = (30*P*G) / (377*R^2)$

S = power density (in appropriate units, e.g., mw/cm^2)

P = power input to the antenna (in appropriate units, e.g., mw)

G = power gain of the antenna in the direction of interest relative to an isotropic radiator, the power gain factor is normally numeric gain.

R = distance to the center of radiation of the antenna (in appropriate units, e.g., cm)

1.4 MPE Calculation Result

For Bluetooth

Maximum Tune-Up output power: 5(dBm)

Maximum peak output power at antenna input terminal: 3.16(mW)

Prediction distance: >20(cm)

Prediction frequency: 2480(MHz)

Antenna gain: -0.58 (dBi)

Directional gain (numeric gain): 0.87

The worst case is power density at prediction frequency at 20cm: 0.0006(mw/cm^2)

MPE limit for general population exposure at prediction frequency: 1 (mw/cm^2)

Result: Pass