

1. MAXIMUM PERMISSIBLE EXPOSURE (MPE)

1.1 General Information

Client Information

Applicant: ACOUSTMAX INTERNATIONAL CO., LTD
Address of applicant: Unit D16/F Cheuk Nang Plaza 250 Hennessy Road
WanchaiHongKong, HongKong, China

Manufacturer: Blowfish Audio
Address of manufacturer: 7801 Hayvenhurst Ave Van Nuys, CA 91406 U.S.A.

General Description of EUT:

Product Name: FUGOO INFERNO
Trade Name: 
Model No.: F2INK01
Adding Model(s): F2INK01-C, F2INK02, F2INK03, F2INK04
Rated Voltage: Battery DC 3.7V
Battery Capacity: 4400mAh
Adapter Model: MODEL: KA06E-0501000US
INPUT: AC100-240V, 50/60Hz, 0.25A Max
OUTPUT: DC5.0V, 1000mA
Software Version: V1.1
Hardware Version: BL2060-01A1 main V0.2
FCC ID: 2AAIN-FUGOOF2IN
Equipment Type: Mobile Device

Technical Characteristics of EUT:

Bluetooth Version: V5.0 (BR/EDR/LE mode)
Frequency Range: 2402-2480MHz
RF Output Power: 3.097dBm (Conducted)
Data Rate: 1Mbps, 2Mbps, 3Mbps
Modulation: GFSK, $\pi/4$ DQPSK, 8DPSK
Quantity of Channels: 79/40
Channel Separation: 1MHz/ 2MHz
Type of Antenna: Integral Antenna
Antenna Gain: 1.45dBi

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 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
1500-100000	/	/	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 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
1500-100000	/	/	1	30

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

1.3 MPE Calculation Method

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

S = power density (in appropriate units, e.g., mw/cm²)

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: 4.0 (dBm)

Maximum peak output power at antenna input terminal: 2.51 (mW)

Prediction distance: >20(cm)

Prediction frequency: 2441 (MHz)

Antenna gain: 1.45 (dBi)

Directional gain (numeric gain): 1.40

The worst case is power density at prediction frequency at 20cm: 0.0007 (mw/cm²)

MPE limit for general population exposure at prediction frequency: 1 (mw/cm²)

Result: Pass