



RF Exposure Requirements

1.1 General Information

Client Information

Applicant : Guangdong Ice energy Technology Co., Ltd
Address of applicant : Cunwei Industrial Development Zone, Nanzhuang Town,
Chancheng District, Foshan, Guangdong, P.R. China
Manufacturer : The same as above
Address of manufacturer : The same as above

General Description of E.U.T

FCC ID : 2BN7S-BN-XXL-MC
Product Name : Portable Cooler Speaker
Model No. : BN-8L-MC, BN-13L-MC, BN-15L-MC, BN-16L-MC, BN-18L-MC,
BN-20L-MC, BN-21L-MC, BN-24L-MC, BN-28L-MC, BN-30L-
MC, BN-38L-MC, BN-52L-MC, BN-12QT-MC, BN-20QT-MC,
BN-35L-MC, BN-45L-MC, BN-70L-MC, BN-50L-MC
Model Description : All models are identical except for the outlook color.
Rated Voltage : USB Input: DC 5V, 2A
Battery Capacity : 3.7V, 1500mAh
Power Adapter : ---

Technical Characteristics of EUT

BR+EDR Mode

Bluetooth Version : Bluetooth BR+EDR
Frequency Range : 2402-2480MHz
Max. RF Output Power : -4.30dBm (Conducted)
Modulation : GFSK , $\pi/4$ DQPSK, 8DPSK
Data Rate : 1Mbps, 2Mbps, 3Mbps
Quantity of Channels : 79
Channel Separation : 1MHz
Type of Antenna : PCB Antenna
Antenna Gain : 0dBi



BLE Mode

Bluetooth Version..... : Bluetooth LE
Frequency Range : 2402-2480MHz
RF Output Power : -5.19dBm (Conducted)
Modulation : GFSK
Data Rate : 1Mbps
Quantity of Channels : 40
Channel Separation..... : 2MHz
Type of Antenna : PCB Antenna
Antenna Gain : 0dBi

WALTEK



2 Applicable Standard

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 equivalents power density

3 Calculation Method

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

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), R=20cm.

4 MPE Calculation Result

Mode	Antenna Gain (dBi)	Numeric gain	Conducted Power (dBm)	Maximum Tune-up output power		PD (mW/cm ²)	Limit (mW/cm ²)
				(dBm)	(mW)		
BR+EDR	0	1.00	-4.3	-4.00	0.40	0.00008	1.0
BLE	0	1.00	-5.19	-5.00	0.32	0.00006	1.0

Result: Pass

=====End of Report=====