

RF Exposure Requirements

1.1 General Information

Client Information

Applicant : Foshan Shunde BIG Climatic Manufacture Co., Ltd

Address of applicant : C area, 2nd Floor, 9A building, factory buildings 2 and 3, section no. 10-6, Fu An industrial area (First phase), Leliu Town, Shunde District, Foshan City, Guangdong, China

Manufacturer : Foshan Shunde BIG Climatic Manufacture Co., Ltd Zhongshan Branch

Address of manufacturer : No.20, Nantou Avenue East, Nantou town, Zhongshan City, Guangdong, China, 528427

General Description of E.U.T

FCC ID : 2BCMJ-NCA30EFPRO

Product Name : Electric heater

Model No. : NCA1-3.0EF-PRO WHITE, NCA2-3.0EF-PRO WHITE

Model Description : Two models are the same circuit diagram except for their appearance. Therefore the full tests were performed on model NCA1-3.0EF-PRO WHITE.

Rated Voltage : AC 120V, 60Hz, 1500W

Battery Capacity : ---

Power Adapter : ---

Technical Characteristics of EUT

Support Standards : 802.11b, 802.11g, 802.11n

Frequency Range : 2412-2462MHz for 802.11b/g/n(HT20)

RF Output Power : 16.09dBm (Conducted)

Modulation : 802.11b: DSSS(DBPSK/DQPSK/CCK)
802.11g/n: OFDM (BPSK/QPSK/16QAM/64QAM)

Data Rate : 1Mbps for 802.11b; 54Mbps for 802.11g; MCS7 for 802.11n

Quantity of Channels : 11 for 802.11b/g/n(HT20)

Channel Separation : 5MHz

Type of Antenna : PCB Printed Antenna

Antenna Gain : 2.54dBi

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

Frequency (MHz)	Antenna Gain (dBi)	Numeric gain	Conducted Power (dBm)	Maximum Tune-up output power		PD (mW/cm ²)	Limit (mW/cm ²)
				(dBm)	(mW)		
2462	2.54	1.79	16.09	17.00	50.12	0.02	1.0

Result: Pass

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