

# RF Exposure Requirements

## 1.1 General Information

### Client Information

**Applicant** ..... : Shenzhen Qianyan Technology LTD  
**Address of applicant** ..... : No. 3301, Block C, Section 1, Chuangzhi Yuncheng Building,  
Liuxian Avenue, Xili Community, Xili Street, Nanshan District,  
Shenzhen  
**Manufacturer** ..... : Zhongshan An Bo Er Electrical Appliance Co.Ltd.  
**Address of manufacturer** ..... : San Yi Wei, Tongmao, Dongsheng Town, Zhongshan,  
Guangdong, China

### General Description of E.U.T

**FCC ID** ..... : 2A7VD-H717A  
**Product Name** ..... : Electric Kettle  
**Model No.** ..... : H717A  
**Model Description** ..... : ---  
**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** ..... : 16.76dBm (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** ..... : FPC Antenna  
**Antenna Gain** ..... : 6.32dBi

## 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 <sup>2</sup> )	Averaging Times   E   <sup>2</sup> ,   H   <sup>2</sup> 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 <sup>2</sup> )	Averaging Times   E   <sup>2</sup> ,   H   <sup>2</sup> 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

## 3 Calculation Method

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

S = power density (in appropriate units, e.g., mW/cm<sup>2</sup>)

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 <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
				(dBm)	(mW)		
2462	6.32	4.29	16.76	17.00	50.12	0.04273	1.0

Result: Pass

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