RF Exposure Requirements

1 General Information

Client Information

Applicant	:	AQUAGEM TECHNOLOGY LIMITED
Address of applicant	:	FLAT/RM H 19/F, MAXGRAND PLAZA, 3 TAI YAU STREET, SAN PO KONG KL. HONG KONG
Manufacturer	:	Aquagem Manufacturing Limited
Address of manufacturer	:	NO.15, 101, 16, 401, 501, No.193, Jinlong Road, Dalong Street, Panyu District, Guangzhou

General Description of E.U.T

FCC ID	:	2BRMV-DE28DV
Product Name	:	Inverter Pool Pump
Model No.	:	**Series Inver Master:** IM20DV, IM25DV, IM30DV **Series Inver Victor:** IT20DV, X08, IT24DV, X10, IT31DV, X15 **Series Inver Pro:** IP20, IP25, IP30, IP40 **Series Inver Captain:** DC40, MP2AI, DCP08DV, MP10AIDV, DCP12DV, MP15AIDV, DCP15DV, MP165AIDV, DCP18DV, DCX20, DCX25, MP3AI **Series Inver Gem:** IBP08DV, IBP12DV, IBP15DV **Series Inver Hero:** IHP08DV, IHP12DV, IHP15DV **Series Inver Smart:** DM14 DV, DM19 DV, MP10VSP, DQ19DV, DM23 DV, MP15VSP, DQ23DV, DM28 DV, MP165VSP, DQ28DV, DM36DV **Series Inver Eco:** DE18DV, 21100, DE22 DV, 21101, DE27 DV, 21102, DE28 DV, 21103, DE36 DV, DEX20, DEX25 **Series Inver S:** DS14DV, DS19DV, DS23DV, DS28DV, DS36 DV **Series Inver PiLot:** DB14DV, P08DV, PP08DV, DB19DV, P11DV, PP11DV, DB23DV, P15DV, PP15DV, DB28DV, DB36 DV **Series Silence X:** DF14DV, DF19DV, T10 PRO, DF23DV, T15 PRO, DF28DV, T20 PRO, DF36DV
Model Description	:	All models have same electric circuit and PCB layout except for the appearance, rated power and model name.
Rated Voltage	:	AC 115-230V, 50/60Hz
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) 2422-2452MHz for 802.11n(HT40)
RF Output Power	:	15.61dBm (Conducted)
Modulation	:	802.11b: DSSS(DBPSK/DQPSK/CCK) 802.11g/n: OFDM (BPSK/QPSK/16QAM/64QAM)
Quantity of Channels	:	11 for 802.11b/g/n(HT20); 8 for 802.11n(HT40)
Channel Separation	:	5MHz
Type of Antenna	:	FPC Antenna
Antenna Gain	:	-4.15dBi

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

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

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), R=20cm.

4 MPE Calculation Result

Frequency (MHz)	Antenna Gain (dBi)	Numeric gain	Conducted Power (dBm)	Maximum Tune-up output power		PD (mW/cm2)	Limit (mW/cm2)
				(dBm)	(mW)		
2462	-4.15	0.38	15.61	16.00	39.81	0.00305	1.0

Result: Pass

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