



RF Exposure Requirements

1.1 General Information

Client Information

Applicant : Foshan Alpicool Holding Group Co., Ltd.
Address of applicant : No.3, ZhenZhu Road, Yang'e, Lunjiao , Shunde, Foshan, Guangdong, China
Manufacturer..... : The same as above
Address of manufacturer..... : The same as above

General Description of E.U.T

FCC ID..... : 2A9O8-M40
Product Name : Car Refrigerator
Model No. : XD35, XD45, XD55, KID35, KID45, KID55
TA35T, TA45T, TA55T, TAW35T, TAW45T, TAW55T
TB35T, TB45T, TB55T, TBW35T, TBW45T, TBW55T
ZA40, ZA50, ZA60, ZAW40, ZAW50, ZAW60
AD35, AD45, AD55, CD35, CD45, CD55
CS35, CS45, CS55
QX20, QX30, QX40, QXS20, QXS30, QXS40
QXL20, QXL30, QXL40, QXD20, QXD30, QXD40
CHT35, CHT45, CHT55
CLD35, CLD45, CLD55
CLS35, CLS45, CLS55
TF35, TF45, TF55, TFW35, TFW45, TFW55
M30, M40, MD40, DS25, DS35, DC30, DC40
DD40, KS25, KS35, KC30, KC40, KD40
Model Description : All models are identical except for the appearance, color and volume.
Rated Voltage..... : DC 12/24V
Power Adapter : GRT60-145410
Input: 100-240V~, 1.5A Max., 50/60Hz
Output: DC 14.5V, 4.1A, 59.45W

Technical Characteristics of EUT

Bluetooth Version..... : V5.0 (BLE mode)
Frequency Range : 2402-2480MHz
RF Output Power : -4.20dBm (Conducted)
Modulation : GFSK
Data Rate : 1Mbps
Quantity of Channels : 40
Channel Separation..... : 2MHz
Type of Antenna : PCB Antenna
Antenna Gain : -2.41dBi



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)		
2480	-2.41	0.57	-4.2	-4.00	0.40	0.00005	1

Result: Pass

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