



RF Exposure Requirements

1.1 General Information

Client Information

Applicant : Foshan Shunde QINGZHOU Electric Appliances Co.,Ltd
Address of applicant : Room 2901, Building 18, Vanke Jinyu Binjiang Plaza, No. 13
Desheng Middle Road, Dehe Community, Daliang Street, Shunde
District, Foshan, China
Manufacturer : The same as above
Address of manufacturer : The same as above

General Description of E.U.T

FCC ID : 2A7MY-U55
Product Name : Car Refrigerator
Model No. : U55, K18, C22W, TWW115, RTW25, QZW38, D31A, T15A,
CLS35, C25W, WD45, TW55, TAW35, X30K, T20A, P8, R50, X9,
U65, TWW55, X40K, T25A, T50, TW35, CL50, CF8, X18, X50K,
SU-PG36, TWW35, U45, P15, DT25, BD60, J42, WD55, T36-T,
T36, TW75, CR65, J57, AL42, DC40, XS35, U75, QZW48, M75,
CLS45, RTW20, BD45, X50, TAW45, M95, K25, TW45, XS45,
BCD100, TWW75, T60, U55, DC30, CL30, X25, TWW45, X40,
XS55, DT35, CR65, X15, T50-T, CR40, T60-T, C15, CR40, DR80,
TSL35, BCD80, CF15, TSL35, TW95, CR85X, CLS55, DD40,
DR80, WD35, QZW58, BCD125, CR85X, X30, CL40, TAW55,
TWW95
Model Description : All models have same electric circuit and PCB except for the
appearance and capacity. Therefore the full tests were performed
on model U55.
Rated Voltage : DC 12/24V, 5.0A(12V) / 2.5A (24V)
Battery Capacity : ---
Power Adapter : GRT60-145410
Input: 100-240V~, 50/60Hz, 1.5A Max.
Output: DC 14.5V, 4.1A, 59.45W



Technical Characteristics of EUT

Bluetooth Version.....	: Bluetooth LE
Frequency Range	: 2402-2480MHz
RF Output Power	: -0.24dBm (Conducted)
Modulation	: GFSK
Data Rate	: 1Mbps
Quantity of Channels	: 40
Channel Separation.....	: 2MHz
Type of Antenna	: PCB Antenna
Antenna Gain	: -0.58dBi

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

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	-0.58	0.87	-0.24	0.00	1.00	0.00017	1.0

Result: Pass

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