1. MAXIMUM PERMISSIBLE EXPOSURE (MPE)

1.1 General Information

Client Information

Applicant:	Modern Marketing Concepts, Inc.
Address of applicant:	1220 E Oak, St. Louisville Kentucky United States 40204
Manufacturer:	Shenzhen Jiayinking Technology Holding Company Limited
Address of manufacturer:	No.11,11-1, Anye Road, Anliang village, Yuanshan Town, Longgang District, Shenzhen, China

General Description of EUT	
Product Name:	CORSAIR WITH BLUETOOTH
Brand Name:	CROSLEY
Model No.:	CR612B
Adding Model(s):	/
Rated Voltage:	AC120V/60Hz
Battery Capacity:	/
Power Adapter:	/
Note: The test data is gathered from a production sample, provided by the manufacturer.	

Technical Characteristics of EUT	
Bluetooth Version:	V4.1 (BDR/EDR mode)
Frequency Range:	2402-2480MHz
RF Output Power:	-1.51dBm (Conducted)
Data Rate:	1Mbps, 2Mbps, 3Mbps
Modulation:	GFSK, Pi/4 QDPSK, 8DPSK
Quantity of Channels:	79
Channel Separation:	1MHz
Type of Antenna:	PCB
Antenna Gain:	2dBi
Device Category:	Mobile Device

1.2 Standard Applicable

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

1.3 MPE 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)

1.4 MPE Calculation Result

For Bluetooth:
Maximum Tune-Up output power: -1.0 (dBm)
Maximum peak output power at antenna input terminal: 0.79 (mW)
Prediction distance: >20(cm)
Prediction frequency: 2402 (MHz)
Antenna gain: 2(dBi)
Directional gain (numeric gain): 1.58
The worst case is power density at prediction frequency at 20cm: 0.00025(mw/cm^2)
MPE limit for general population exposure at prediction frequency: 1 (mw/cm^2)

Result: Pass