RF Exposure Requirements

1 General Information

Client Information

Applicant	:	Hong Kong Choi Shing Technology Co., Limited
Address of applicant	:	RM D9, UNIT 20, 28TH FLOOR, ASIA TRADE CENTRE, NO.79 LEI MUK ROAD,KWAI CHUNG,NEW TERRITORIES,Hong Kong
Manufacturer	:	Shenzhen Leapwell Technology Co., Ltd.
Address of manufacturer	:	202, Bldg. C, Baitong Technology Innovation Industrial Park, Houting Community, Shajing Block, Bao'an, Shenzhen,Guangdong, China

General Description of E.U.T

FCC ID	:	2BWM3-CDPLAYER
Product Name	:	CD Player
Model No.	:	X3-B, L-CD213
Model Description	:	Two models are identical except model name. Therefore the full tests were performed on model X3-B.
Rated Voltage	:	Input: DC 5V, 2A Battery: 3.7V

Technical Characteristics of EUT

Bluetooth Version	:	Bluetooth BR+EDR
Frequency Range	:	2402-2480MHz
Max. RF Output Power	:	2.11dBm (Conducted)
Modulation	:	GFSK, π/4QPSK, 8DPSK
Data Rate	:	1Mbps, 2Mbps, 3Mbps
Quantity of Channels	:	79
Channel Separation	:	1MHz
Type of Antenna	:	PCB Antenna
Antenna Gain*	:	1.9dBi

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)		
2402	1.9	1.55	2.11	3.00	2.00	0.00061	1.0

Result: Pass

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