1. MAXIMUM PERMISSIBLE EXPOSURE (MPE)

1.1 Client Information

Client Information	
Applicant:	Guangzhou Hongding Electronic Technology Co. , Ltd.
Address of applicant:	503, Building C, Daxin Industrial Park, No. 3 East Development Road,Xisan Village, Luopu Street, Panyu District, Guangzhou City, China
Manufacturer:	Guangzhou Hongding Electronic Technology Co. , Ltd.
Address of manufacturer:	503, Building C, Daxin Industrial Park, No. 3 East Development Road,Xisan Village, Luopu Street, Panyu District, Guangzhou City, China

General Description of EUT	
Name of EUT	Security cameras
Model Number	A10
Listed Models	A9、A11、A7、G9、H3、M8、Q16
Power Supply	DC 3.7V from battery
Frequency Range	2412MHz~2462MHz for 802.11b/802.11g/802.11n(HT20) 2422MHz~2452MHz for 802.11n(HT40)
Channel number:	11 for 802.11b/802.11g/802.11n(HT20) 7 for 802.11n(HT40)
Modulation Type	DSSS for 802.11b OFDM for 802.11g/802.11n(HT20)/802.11n(HT40)
Channel separation:	5MHz
Antenna Type	Integral antenna
Antenna Gain	-3.78dBi
Sample ID:	CTA2403151#1
FCC ID:	2BEUO-A10

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	Electric Field	Magnetic Field	Power Density	Averaging

range (MHz)	Strength (E) (V/m)	Strength (H) (A/m)	(S) (mW/cm^2)	Times $\mid E \mid^2$, $\mid H \mid^2$ 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 $\mid E \mid^2$, $\mid H \mid^2$ 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

Maximum peak output power: 18.48(dBm)

Tune-Up Max output power: 19(dBm), 79.4328(mW)

Prediction distance: >20(cm)

Prediction frequency: 2462 (MHz)

Antenna gain: -2 (dBi)

Directional gain: 0.63 (numeric)

The worst case is power density at prediction frequency at 20cm: 0.00997(mw/cm^2)

MPE limit for general population exposure at prediction frequency: 1 (mw/cm^2)

0.00997(mw/cm^2) < 1 (mw/cm^2)

So the transmitter complies with the RF exposure requirements and the SAR is not required.