

# 1. MAXIMUM PERMISSIBLE EXPOSURE (MPE)

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## 1.1 Client Information

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Applicant:	<b>Shenzhen Chuanghongyu Technology Co., Ltd</b>
Address of applicant:	301 Jinjin Building, No. 242 Jihua Road, Jihua Street, Longgang District, Shenzhen, Guangdong, China
Manufacturer:	<b>Shenzhen Chuanghongyu Technology Co., Ltd</b>
Address of manufacturer:	301 Jinjin Building, No. 242 Jihua Road, Jihua Street, Longgang District, Shenzhen, Guangdong, China

## General Description of EUT

Name of EUT	Dash camera, Car Dvr
Model Number	V25
Listed Models	/
Power Supply	DC5V, 2A from Car charging
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	-1.0dBi
Sample ID:	S-01
FCC ID:	2BHLL-V25

## 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 <sup>2</sup> )	Averaging Times   E   <sup>2</sup> ,   H   <sup>2</sup> 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 <sup>2</sup> )	Averaging Times   E   <sup>2</sup> ,   H   <sup>2</sup> 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<sup>2</sup>)

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: 18.50(dBm)

Tune-Up Max output power: 19(dBm), 79.43(mW)

Prediction distance: >20(cm)

Prediction frequency: 2462 (MHz)

Antenna gain: 2(dBi)

Directional gain: 0.65 (numeric)

The worst case is power density at prediction frequency at 20cm: 0.00995(mw/cm<sup>2</sup>)

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

0.00995(mw/cm<sup>2</sup>) < 1 (mw/cm<sup>2</sup>)

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