

FCC 47 CFR MPE REPORT

Shenzhen HDKing Electronics Co.,Ltd

Hunting Camera

Model Number: DL30J2CW

Additional Model: DL30J2A, DL30J2C, DL30J2D, DL30J2DW, DL30J2E,
DL30J2EW, HC01, HC02, HC03, HC04, HC05, TC01,TC07, TC16, TC19,
TC21, TC22, DL30N2A, DL30N1A, DL30N2C, DL30T2A, DL30T1A

FCC ID: 2AKKS-30J2CW

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Report Number:	ESTE-R2212315
Date of Test:	Nov. 28~Dec. 28, 2022
Date of Report:	Dec. 29, 2022

Maximum Permissible Exposure

1. Applicable Standards

Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess limit for maximum permissible exposure. In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as a mobile device whereby a distance of 0.2m normally can be maintained between the user and the device.

1.1. Limits for Maximum Permissible Exposure (MPE)

(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
1500-10000			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
1500-10000			1.0	30

Note: f=frequency in MHz; *Plane-wave equivalent power density

1.2. MPE Calculation Method

$$E \text{ (V/m)} = \frac{\sqrt{30 \times P \times G}}{d} \quad \text{Power Density: Pd (W/m}^2\text{)} = \frac{E^2}{377}$$

E = Electric Field (V/m)

P = Peak RF output Power (W)

G = EUT Antenna numeric gain (numeric)

d = Separation distance between radiator and human body (m)

The formula can be changed to

$$Pd = \frac{30 \times P \times G}{377 \times d^2}$$

From the peak EUT RF output power, the minimum mobile separation distance, d=0.2m, as well as the gain of the used antenna, the RF power density can be obtained

2. Conducted Power Result

Mode	Frequency (MHz)	Peak output power (dBm)	Peak output power (mW)
BLE	2402	-0.66	0.8590
	2440	-1.76	0.6668
	2480	-1.48	0.7112
IEEE 802.11b	2412	17.50	56.2341
	2437	17.43	55.3350
	2462	17.16	51.9996
IEEE 802.11g	2412	18.01	63.2412
	2437	17.84	60.8135
	2462	17.55	56.8853
IEEE 802.11n HT20	2412	17.88	61.3762
	2437	17.62	57.8096
	2462	17.31	53.8270
IEEE 802.11n HT40	2422	16.70	46.7735
	2437	16.51	44.7713
	2452	16.28	42.4620

3. Calculated Result and Limit

Mode	Peak output power (dBm)	Target power (dBm)	MAX Target power (dBm)	Antenna gain		Power Density (S) (mW /cm ²)	Limited of Power Density (S) (mW /cm ²)	Test Result
				(dBi)	(Linear)			
2.4G Band								
BLE	-0.66	0±1	1	1.46	1.400	0.0004	1	Complies
IEEE 802.11b	17.50	17±1	18	1.46	1.400	0.0176	1	Complies
IEEE 802.11g	18.01	18±1	19	1.46	1.400	0.0221	1	Complies
IEEE 802.11n HT20	17.88	17±1	18	1.46	1.400	0.0176	1	Complies
IEEE 802.11n HT40	16.70	16±1	17	1.46	1.400	0.0140	1	Complies

End of Test Report

