



Maximum Permissible Exposure Evaluation

FCC ID: 2A762-TCL6021LFW44J

1. Client Information

Applicant	:	Tianjian Group Co., Ltd.
Address	:	501, No.9, Nuclear Power Industrial Park, Fumin Community, Fucheng Street, Longhua District, Shenzhen, China
Manufacturer	:	Tianjian Group Co., Ltd.
Address	:	501, No.9, Nuclear Power Industrial Park, Fumin Community, Fucheng Street, Longhua District, Shenzhen, China

2. General Description of EUT

EUT Name	:	Wireless camera
Models No.	:	T-CL6021LF-W44J
Series Model No.	:	Please Refer To Page 2
Sample ID	:	RW-C-202207-0223-1-1#&RW-C-202207-0223-1-2#
Product Description	:	Operation Frequency: 802.11b/g/n(HT20): 2412MHz~2462MHz
Power Rating	:	Input: DC 5V DC 3.6V by 6700mAh Li-ion battery
Software Version	:	V4.0.8.0
Hardware Version	:	B4_K_AP_V320P_AV100
Remark	:	The adapter and antenna gain provided by the applicant, the verified for the RF conduction test provided by TOBY test lab.

Model list

T-CL6021LF-DGH1P, T-CL5020LF-W44J, T-CL7022LF-W44J, T-CLXXXXLF-XXXX,
T-KL6021LF-DGH2P, T-KL5020LF-43J, T-KL6021LF-43J, T-KL7022LF-43J,
T-KLXXXXLF-XXX, T-CL6021SF-W44J, T-CL6026SF-W44J, T-CLXXXXSF-XXXX,
T-CB1060AF-W33X, T-CB5040LF-W33X, T-CBXXXXXX-XXXX, T-DW9008H1-MX,
T-DWXXXXXX-XX, KW084H1-3A, KW084HX-XX, T-KW91084B-33X, T-KW92084A-33X,
T-KW03B84M-W30T, T-KW02B84M-W30T, T-KWXXXXXX-XXXX, T-CP0106TF-W43T,
T-CP0208TF-W43T, T-CP6042LF-G20, T-CPXXXXXX-XXXX, TJ-KP4004BB-IP21X,
WS-KP4108BA-IP21X, POE1TB-MHD, POE-1TB-Procarn, 4K4CH2TB-MHD, TJ34, TJ33-2IN1,
LT-CP0106-XXX, TJ06-US-3MP, TJ06-XX-XXX, TJ06-US10804-2TB, TJ06-XX10804-XXX,
TJ15-US10804-2TB, TJ15-XX10804-XXX, W05-JP3004-2T, W05-XX3004-XX, T-SP5W-2-SP

Model Difference: All PCB boards and circuit diagrams are the same, the only difference is that different customers, different model name.

Method of Measurement for FCC

1. Max. Antenna Gain:

2.4G WIFI FPC Antenna: 2.0dBi.

2. EUT Operation Condition:

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

3. Exposure Evaluation:

Equation from page 18 of OET Bulletin 65, Edition 97-01

$$S=(PG)/4\pi R^2$$

Where

S: power density

P: power input to the antenna

G: power gain of the antenna in the direction of interest relative to an isotropic radiator.

R: distance to the center of radiation of the antenna

Simultaneous transmission MPE Considerations

According to KDB447498: All transmitters and antennas in the host must be either evaluated for MPE compliance, by measurement or computational modeling, or qualify for the standalone MPE test exclusion in section 7.1. Simultaneous transmission MPE test exclusion applies when the sum of the MPE ratios for all simultaneous transmitting antennas incorporated in a host device, based on the calculated/estimated, numerically modeled or measured field strengths or power density, is ≤ 1.0 .

This means that:

$$\sum \text{ of MPE ratios } \leq 1.0$$

4. Test Result:

2.4G WiFi Worst Maximum MPE Result								
Mode	N _{TX}	Freq. (MHz)	Conducted Power(max) (dBm)	Turn-up Power (dB)	Max tune up power (dBm) [P]	ANT Gain (dBi) [G]	Distance (cm) [R]	Power Density (mW/ cm ²) [S]
802.11b	1	2412	13.624	14±1	15	2	20	0.0100
		2437	13.349	13±1	14	2	20	0.0079
		2462	13.738	14±1	15	2	20	0.0100
802.11g	1	2412	14.096	14±1	15	2	20	0.0100
		2437	14.784	15±1	16	2	20	0.0126
		2462	14.981	15±1	16	2	20	0.0126
802.11n (HT20)	1	2412	15.357	15±1	16	2	20	0.0126
		2437	13.719	14±1	15	2	20	0.0100
		2462	13.929	14±1	15	2	20	0.0100
Note: N _{TX} = Number of Transmit Antennas RF Output power specifies that Maximum Conducted Peak Output Power.								

5. Conclusion:

As specified in Table 1B of 47 CFR 1.1310- Limits for Maximum Permissible Exposure (MPE),

Limits for General Population/ Uncontrolled Exposure

Frequency Range (MHz)	Power density (mW/ cm ²)
300-1,500	F/1500
1,500-100,000	1.0

For:2412~2462 MHz

MPE limit S: 1mW/ cm²

The MPE is calculated as $0.0126\text{mW} / \text{cm}^2 < \text{limit } 1\text{mW} / \text{cm}^2$.

So, RF exposure limit warning or SAR test are not required.

The EUT will only be used with a separation of 20cm or greater between the antenna and nearby persons and can therefore be considered a mobile transmitter per 47 CFR2.1091 (b). The RF Exposure Information page from the manual is included here for reference.

-----END OF REPORT-----