

Maximum Permissible Exposure Evaluation

FCC ID: 2AJ8T-JT116K-H03

1. Client Information

Applicant	:	Shen Zhen JoyHong Technology CO., Ltd
Address	:	4th Floor, Building 1, Zhongtai Road NO. 18, Loucun Second Industrial Park, Xinhua Street, Guangming, Shenzhen, China.
Manufacturer	:	Shen Zhen JoyHong Technology CO., Ltd
Address	:	4th Floor, Building 1, Zhongtai Road NO. 18, Loucun Second Industrial Park, Xinhua Street, Guangming, Shenzhen, China.

2. General Description of EUT

EUT Name	:	Digital photo Frame	
Models No.	:	JT065X-XXX, JT070X-XXX, JT071X-XXX, JT080X-XXX, JT081X-XXX, JT090X-XXX, JT097X-XXX, JT100X-XXX, JT101X-XXX, JT102X-XXX, JT104X-XXX, JT110X-XXX, JT114X-XXX, JT116X-XXX, JT120X-XXX, JT121X-XXX, JT130X-XXX, JT133X-XXX, JT140X-XXX, JT141X-XXX, JT142X-XXX, JT150X-XXX, JT154X-XXX, JT156X-XXX, JT170X-XXX, JT171X-XXX, JT172X-XXX, JT173X-XXX, JT185X-XXX, JT190X-XXX, JT192X-XXX, JT215X-XXX, JT11GX-XXX, JD065X-XXX, JD070X-XXX, JD071X-XXX, JD080X-XXX, JD081X-XXX, JD090X-XXX, JD097X-XXX, JD100X-XXX, JD101X-XXX, JD102X-XXX, JD104X-XXX, JD110X-XXX, JD114X-XXX, JD116X-XXX, JD120X-XXX, JD121X-XXX, JD130X-XXX, JD133X-XXX, JD140X-XXX, JD141X-XXX, JD142X-XXX, JD150X-XXX, JD154X-XXX, JD156X-XXX, JD170X-XXX, JD171X-XXX, JD172X-XXX, JD173X-XXX, JD185X-XXX, JD190X-XXX, JD192X-XXX, JD215X-XXX, JD11GX-XXX (X stand for 0~9 or A~Z)	
Model Different	:	All of these models are in the same PCB, layout and circuitry, the only difference is model name.	
Brand Name	:	----	
Product Description	:	Operation Frequency: 802.11b/g/n(HT20): 2412MHz~2462MHz 802.11n(HT40): 2422MHz~2452MHz	Number of Channel: 802.11b/g/n(HT20): 11 channels 802.11n(HT40): 7 channels
	E.I.R.P:	802.11b: 2.76dBm 802.11g: 3.14 dBm 802.11n (HT20): 7.90 dBm 802.11n (HT40): 7.86 dBm	Antenna Gain: 1.2dBi PIFA Antenna
Power Rating	:	(Adapter: JHD-AP015U-050250BA) Input: AC 100-240V, 50/60Hz, 0.45A Output: DC 5V 2.5A	
Software Version	:	8.1.0	

Hardware Version	: RF102
Connecting I/O Port(S)	: Please refer to the User's Manual
Remark	: the MPE report used the EUT(TBBJ-20200720-04-2#).

MPE Calculations for WIFI

1. Antenna Gain:

PIFA Antenna: 1.2dBi.

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

4. Test Result:

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	2.76	2±1	3	1.2	20	0.0005
		2437	2.35	2±1	3	1.2	20	0.0005
		2462	2.71	2±1	3	1.2	20	0.0005
802.11g	1	2412	3.14	3±1	4	1.2	20	0.0006
		2437	2.30	2±1	3	1.2	20	0.0005
		2462	2.93	2±1	3	1.2	20	0.0005
802.11n(HT20)	1	2412	7.59	7±1	8	1.2	20	0.0016
		2437	7.08	7±1	8	1.2	20	0.0016
		2462	7.90	7±1	8	1.2	20	0.0016
802.11n(HT40)	1	2422	7.86	7±1	8	1.2	20	0.0016
		2437	7.45	7±1	8	1.2	20	0.0016
		2452	7.52	7±1	8	1.2	20	0.0016

Note:

(1) N_{TX}= Number of Transmit Antennas

(2) 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 2.4WIFI:2412~2462 MHz

2422~2452 MHz

MPE limit S: 1mW/ cm²

The MPE is calculated as $0.0016 \text{ mW/cm}^2 < \text{limit } 1\text{mW/cm}^2$. 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.

Note

For a more detailed features description, please refer to the RF Test Report.

6. Conclusion:

The measurement results comply with the FCC Limit per 47 CFR 2.1091 for the uncontrolled RF Exposure of mobile device.

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