

TEST REPORT

Reference No...... : WTD23D03056768W002
FCC ID : 2ABH3-PC3J19J359AD
Applicant..... : Furrion Ltd.
Address..... : 4/F, Flat C & D, The Grid,133 Wai Yip Street, Kwun Tong, Kowloon
999077 Hongkong
Manufacturer : DONGGUAN PROTRONIC ELECTRONICS LTD.
Address..... : No.1 Gongye Blvd, Shipai Town, Dongguan, Guangdong Province,
P.R. China.
Product..... : Wireless Camera Receiver Module
Model(s) : PC3J-19J359-AD
Standards..... : 47CFR FCC Part 2 Subpart J Section 2.1091
Date of Receipt sample : 2023-03-21
Date of Test : 2023-03-21 to 2023-05-09
Date of Issue..... : 2023-07-04
Test Result..... : **Pass**

Remarks:

The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.

Prepared By:

Waltek Testing Group Co., Ltd.

Address: No. 77, Houjie Section, Guantai Road, Houjie Town, Dongguan City, Guangdong, China

Tel: +86-769-2267 6998

Fax: +86-769-2267 6828

Compiled by:



Estel Qian / Project Engineer

Approved by:



Deval Qin / Designated Reviewer

2. Contents

	Page
1 COVER PAGE	1
2. CONTENTS	2
3. REVISION HISTORY	3
4. GENERAL INFORMATION	4
4.1. GENERAL DESCRIPTION OF E.U.T.....	4
4.2. DETAILS OF E.U.T.	4
4.3. TEST FACILITY	5
4.4. SUBCONTRACTED	5
4.5. ABNORMALITIES FROM STANDARD CONDITIONS.....	5
5. TEST SUMMARY	6
6. RF EXPOSURE	7
6.1. REQUIREMENTS	7
6.2. SIMULTANEOUS TRANSMISSIONS EXEMPTION THRESHOLDS	7
6.3. RADIOFREQUENCY RADIATION EXPOSURE EVALUATION.....	9

3. Revision History

Test Report No.	Date of Receipt Sample	Date of Test	Date of Issue	Purpose	Comment	Approved
WTD23D03056768W002	2023-03-21	2023-03-21 to 2023-05-09	2023-07-04	Original	-	Valid

4. General Information

4.1. General Description of E.U.T.

Product:	Wireless Camera Receiver Module
Model(s):	PC3J-19J359-AD
Model Description:	The device contains two different RF modules, module MR7916A and module WF8023.
Hardware Version:	Mainboard: FOSFDтарX_Main_V3 Keyboard: FOSFDтарX_Keys_V2
Software Version:	Vision_FMC_MONITOR_20220926_V0.30

4.2. Details of E.U.T.

Operation Frequency:	802.11b/g/n (HT20), 2412-2462MHz 11CH
Max. conducted RF power:	module MR7916A: 18.61dBm module WF8023: 18.22dBm
Modulation Technology:	DSSS with DBPSK, DQPSK, CCK
Antenna installation:	PIFA Antenna
Antenna Gain:	ANT1(module MR7916A): 3.84dBi ANT2(module WF8023): 3.63dBi
Ratings:	DC 12V

4.3. Test Facility

The test facility has a test site registered with the following organizations:

ISED CAB identifier: CN0013. Test Firm Registration No.: 7760A.

Waltek Testing Group Co., Ltd. Has been registered and fully described in a report filed with the Industry Canada. The acceptance letter from the Industry Canada is maintained in our files.

Registration number 7760A, October 15, 2016.

FCC Designation No.: CN1201. Test Firm Registration No.: 523476.

Waltek Testing Group Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration number 523476, September 10, 2019.

4.4. Subcontracted

Whether parts of tests for the product have been subcontracted to other labs:

Yes No

If Yes, list the related test items and lab information:

Test Lab: N/A

Lab address: N/A

Test items: N/A

4.5. Abnormalities from Standard Conditions

None.

5. Test Summary

Test Items	Test Requirement	Result
Maximum Permissible Exposure (Exposure of Humans to RF Fields)	FCC Part 2.1091	PASS

6. RF Exposure

Test Requirement: 47CFR FCC Part 2 Subpart J Section 2.1091
 Evaluation Method: 47CFR FCC Part 1 Subpart I Section 1.1307
 47CFR FCC Part 1 Subpart I Section 1.1310,
 447498 D04 Interim General RF Exposure Guidance v01

6.1. Requirements

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 levels in excess limit for maximum permissible exposure. In accordance with 47CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as a mobile device whereby a distance of 0.2 m normally can be maintained between the user and the device.

6.2. Simultaneous transmissions Exemption Thresholds

47CFR Part 1.1307 determination of exemption, details three options to determine exemption from routine evaluation.

Option A

1.1307(b)(3)(i)(A): Available maximum time-averaged power is no more than 1 mW

Limitation—when there are simultaneously operating transmitters this exclusion only applies when ALL simultaneously operating transmitters meet this exemption.

Option B

1.1307(b)(3)(i)(B): Device operates between 300 MHz and 6 GHz and the maximum time-averaged power or effective radiated power (ERP), whichever is greater, $\leq P_{th}$.

P_{th} is calculated based on separation distance d cm from transmitter to person for the device operating at f GHz.

$$P_{th} \text{ (mW)} = \begin{cases} ERP_{20 \text{ cm}} (d/20 \text{ cm})^x & d \leq 20 \text{ cm} \\ ERP_{20 \text{ cm}} & 20 \text{ cm} < d \leq 40 \text{ cm} \end{cases}$$

Where

$$x = -\log_{10} \left(\frac{60}{ERP_{20 \text{ cm}} \sqrt{f}} \right) \text{ and } f \text{ is in GHz};$$

and

$$ERP_{20 \text{ cm}} \text{ (mW)} = \begin{cases} 2040f & 0.3 \text{ GHz} \leq f < 1.5 \text{ GHz} \\ 3060 & 1.5 \text{ GHz} \leq f \leq 6 \text{ GHz} \end{cases}$$

d = the separation distance (cm);

Option C

1.1307(b)(3)(i)(C): ERP is below a threshold calculated based on the distance R between the person and the antenna / radiating structure, where $R > \lambda / 2 \pi$.

Table 1 to § 1.1307(b)(3)(i)(C) - Single RF Sources Subject to Routine Environmental Evaluation

RF Source frequency (MHz)	Threshold ERP (watts)
0.3-1.34	$1,920 R^2$.
1.34-30	$3,450 R^2/f^2$.
30-300	$3.83 R^2$.
300-1,500	$0.0128 R^2f$.
1,500-100,000	$19.2R^2$.
Note: R in meters, f in MHz	

According to 47CFR 1.1307(b)(3)(ii), the calculation formula is as follow:

$$\sum_{i=1}^a \frac{P_i}{P_{th,i}} + \sum_{j=1}^b \frac{ERP_j}{ERP_{th,j}} + \sum_{k=1}^c \frac{Evaluated_k}{Exposure Limit_k} \leq 1$$

6.3. Radiofrequency Radiation Exposure Evaluation

Option B is applicable.

Single Source Transmissions

Description	Frequency GHz	Conducted Power dBm	Gain dBi	Tune-up	ERP mW	ERP _{th} mW	Ratio
ANT1 (module MR7916A)	2.4620	18.61	3.84	±1.0	134.94	3060	0.04410
ANT2 (module WF8023)	2.4370	18.22	3.63	±1.0	117.53	3060	0.03841

Simultaneous Transmissions

Description	Calculation	Limit
Ant.1 (module MR7916A) + Ant.2 (module WF8023)	0.08251	≤1.0

Note:

1. For conservativeness, the lowest frequency of each band is used to determine the MPE limit of that band.
2. Chose the maximum power to do MPE analysis.
3. module MR7916A and module WF8023 can transmit simultaneously.

Conclusion:

RF Exposure is FCC compliant.

====End of Report====