



FCC RF EXPOSURE REPORT

Applicant	: Johnson Controls Inc
Address	: 507 E Michigan St, Milwaukee, WI 53202 United States
Equipment	: Building Automation Systems
Model No.	: FW-14 V3
Trade Name	: EASYIO
FCC ID.	: OEJFW14

I HEREBY CERTIFY THAT :

The sample was received on Apr. 15, 2021 and the testing was completed on May 11, 2021 at Cerpass Technology Corp. The test result refers exclusively to the test presented test model / sample. Without written approval of Cerpass Technology Corp., the test report shall not be reproduced except in full.

Approved by:

Leevin Li / Supervisor



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History of this test report

■ Original

□ Additional attachment as following record:

Attachment No.	Issue Date	Description
DEFJ2103139	May 24, 2021	Original



1. Test Configuration of Equipment under Test

1.1 Feature of Equipment

Product	Building Automation Systems
Test Model	FW-14 V3
Model Discrepancy	N/A
Frequency Range	802.11b/g/n(20MHz): 2412-2462MHz 802.11n(40MHz): 2422-2452MHz
Modulation	802.11b: CCK, DQPSK, DBPSK 802.11g: 64 QAM, 16 QAM, QPSK, BPSK 802.11n: BPSK, QPSK, 16QAM, 64QAM
Data Rate	802.11b: 1, 2, 5.5, 11Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, 54Mbps 802.11n: up to 300Mbps
EUT Power Rating:	24V AC/DC, 0.7A, 16.8W, 60Hz

Note: For more details, please refer to the User's manual of the EUT.



1.2 General Information of Test

Test Site	Cerpass Technology Corporation(Cerpass Laboratory) Address: Room 102, No. 5, Xing'an Road, Chang'an Town, Dongguan City, Guangdong Province Tel: +86-769-8547-1212 Fax: +86-769-8547-1912
FCC Designation No.:	CN1288
Frequency Range Investigated:	Conducted: from 150kHz to 30 MHz Radiation: from 30 MHz to 40,000MHz
Test Distance:	The test distance of radiated emission from antenna to EUT is 3 M.



2. Radio Frequency Exposure

Device category	☐ Portable (<20cm separation) ☒ Mobile (>20cm separation)
Exposure classification	☐ Occupational/Controlled exposure (S = 5mW/cm ²) ☒ General Population/Uncontrolled exposure (S=1mW/cm ²)
Antenna diversity	☐ Single antenna ☒ Multiple antennas ☐ Tx diversity ☐ Rx diversity ☒ Tx/Rx diversity
Evaluation applied	☒ MPE Evaluation* ☐ SAR Evaluation ☐ N/A

TEST RESULTS

No non-compliance noted.

Calculation

Given $E = \frac{\sqrt{30 \times P \times G}}{d}$ & $S = \frac{E^2}{3770}$

Where E = Field strength in Volts / meter
 P = Power in Watts
 G = Numeric antenna gain
 d = Distance in meters
 S = Power density in milliwatts / square centimeter

Combining equations and re-arranging the terms to express the distance as a function of the remaining variables yields:

$$S = \frac{30 \times P \times G}{3770d^2}$$

Changing to units of mW and cm, using:

$$P \text{ (mW)} = P \text{ (W)} / 1000 \text{ and}$$

$$d \text{ (cm)} = d \text{ (m)} / 100$$

Yields

$$S = \frac{30 \times (P/1000) \times G}{3770 \times (d/100)^2} = 0.0796 \times \frac{P \times G}{d^2} \quad \text{Equation 1}$$

Where d = Distance in cm
 P = Power in mW
 G = Numeric antenna gain
 S = Power density in mW / cm²



Maximum Permissible Exposure

Test Mode	Frequency band (MHz)	Measured power(dBm)	Tuneuptolerance(dBm)	Max.TuneupPower(dBm)	Peak output power(mW)	Antenna Gain (dBi)	Antenna gain (Numeric)	Distance (cm)	Power density (mW/cm2)	Limit (mW/cm2)
WLAN 2.4G	2412-2462	25.16	25.16±1	26.16	413.047502	2	1.58	20	0.130272599	1

----- End of the report -----