



## **Compliance Testing, LLC**

Previously Flom Test Lab

EMI, EMC, RF Testing Experts Since 1963

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### **Test Report**

**Prepared for: JDTECK**

**Model: JDIR-LCPA-DR37**

**Description: 5-Band Industrial CMRS booster**

**Serial Number: N/A**

**FCC ID: SQX-DR-LCPA-37**

**To**

**FCC Part 1.1310**

**Date of Issue: July 21, 2016**

**On the behalf of the applicant:**

**JDTECK  
215 Celebration Place  
Celebration, FL 34747**

**Attention of:**

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Project No: p1660028**

**Alex Macon  
Project Test Engineer**

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### Test Report Revision History

Revision	Date	Revised By	Reason for Revision
1.0	July 5, 2016	Alex Macon	Original Document
2.0	July 13, 2016	Alex Macon	Updated 869 MHz conducted power
3.0	July 20, 2016	Alex Macon	Updated AWS frequency range Corrected FCC ID

## ILAC / A2LA

Compliance Testing, LLC, has been accredited in accordance with the recognized International Standard ISO/IEC 17025:2005. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer joint ISO-ILAC-IAF Communiqué dated January 2009)

The tests results contained within this test report all fall within our scope of accreditation, unless below

Please refer to <http://www.compliancetesting.com/labscope.html> for current scope of accreditation.

Testing Certificate Number: **2152.01**



**FCC Site Reg. #349717**

**IC Site Reg. #2044A-2**

**Non-accredited tests contained in this report:**

**N/A**

### **EUT Description**

**Model:** JDIR-LCPA-DR37

**Description:** Quad Band Industrial Digital Repeater with Remote Access

**Firmware:** N/A

**Software:** N/A

**Serial Number:**

**Additional Information:**

The EUT is a Part 20 5 band industrial bi-directional amplifier which operates in the following frequency ranges:

Uplink	Downlink
698 - 716	728 - 746
776 - 787	746 - 757
824 - 849	869 - 894
1850 - 1915	1930 - 1995
1710 - 1755	2110 - 2155



## MPE Evaluation

This is a Fixed device evaluated to general population (Uncontrolled Exposure) environment.

### Limits Uncontrolled Exposure 47 CFR 1.1310 Table 1, (B)

0.3-1.234 MHz:	Limit [mW/cm <sup>2</sup> ] = 100
1.34-30 MHz:	Limit [mW/cm <sup>2</sup> ] = (180/f <sup>2</sup> )
30-300 MHz:	Limit [mW/cm <sup>2</sup> ] = 0.2
300-1500 MHz:	Limit [mW/cm <sup>2</sup> ] = f/1500
1500-100,000 MHz	Limit [mW/cm <sup>2</sup> ] = 1.0

## Test Data

The MPE calculation was performed using the highest measured output power for each band and with an antenna gain of 23 dBi. The limit was calculated for the lowest operating frequency in each band. If the MPE is over the limit, the minimum separation distance was calculated.

Test Frequency, MHz	728
Power, Conducted, mW (P)	2820
Antenna Gain Isotropic	23 dBi
Antenna Gain Numeric (G)	199.53
Antenna Type	panel
Distance (R)	20 cm

$S = \frac{P * G}{4\pi r^2}$
Power Density (S) mw/cm <sup>2</sup>

Power Density (S) = 111.94
Limit =(from above table) = 0.485

The MPE limit is exceeded at 20cm separation therefore the separation distance required is 303.9 cm



Test Frequency, MHz	746
Power, Conducted, mW (P)	2820
Antenna Gain Isotropic	23 dBi
Antenna Gain Numeric (G)	199.53
Antenna Type	panel
Distance (R)	20 cm

$S = \frac{P * G}{4\pi r^2}$
Power Density (S) mw/cm <sup>2</sup>

Power Density (S) = 111.94
Limit =(from above table) = 0.497

The MPE limit is exceeded at 20cm separation therefore the separation distance required is 300.23 cm

Test Frequency, MHz	869
Power, Conducted, mW (P)	2570
Antenna Gain Isotropic	23 dBi
Antenna Gain Numeric (G)	199.53
Antenna Type	panel
Distance (R)	20 cm

$S = \frac{P * G}{4\pi r^2}$
Power Density (S) mw/cm <sup>2</sup>

Power Density (S) = 102.02
Limit =(from above table) = 0.579

The MPE limit is exceeded at 20cm separation therefore the separation distance required is 265.5 cm



Test Frequency, MHz	1930
Power, Conducted, mW (P)	4900
Antenna Gain Isotropic	23 dBi
Antenna Gain Numeric (G)	199.53
Antenna Type	panel
Distance (R)	20 cm

$S = \frac{P * G}{4\pi r^2}$
Power Density (S) mw/cm <sup>2</sup>

Power Density (S) = 198.08
Limit =(from above table) = 1.0

The MPE limit is exceeded at 20cm separation therefore the separation distance required is 281.55 cm

Test Frequency, MHz	2110
Power, Conducted, mW (P)	5010
Antenna Gain Isotropic	23 dBi
Antenna Gain Numeric (G)	199.53
Antenna Type	panel
Distance (R)	20 cm

$S = \frac{P * G}{4\pi r^2}$
Power Density (S) mw/cm <sup>2</sup>

Power Density (S) = 198.87
Limit =(from above table) = 1.0

The MPE limit is exceeded at 20cm separation therefore the separation distance required is 282.11 cm

END OF TEST REPORT