Compliance Testing, LLC
Previously Flom Test Lab
EMI, EMC, RF Testing Experts Since 1963

toll-free: (866) 311-3268
fax: (480) 926-3598
http://www.ComplianceTesting.com
info@ComplianceTesting.com

Test Report

Prepared for: Bird Technologies

Model: DDRXXX

Description: 33dBm Cellular Remotes

Serial Number: N/A

FCC ID: V5FDDR003

To

FCC Part 1.1310

Date of Issue: October 17, 2016

On the behalf of the applicant:

Bird Technologies
30303 Aurora Road
Cleveland, OH 44139

Attention of:

Tim O'Brien, Technical Product Manager
Ph: (440)519-2194
Email: tobrien@bird-technologies.com

Prepared By
Compliance Testing, LLC
1724 S. Nevada Way
Mesa, AZ 85204
(480) 926-3100 phone / (480) 926-3598 fax
www.compliancetesting.com
Project No: p1620031

Greg Corbin

Greg Corbin
Project Test Engineer

Test Report Revision History

Revision	Date	Revised By	Reason for Revision
1.0	October 17, 2016	Greg Corbin	Original Document

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: DDRXXX
Description: 33dBm Cellular Remotes
Additional Information: N/A

EUT Operation during Tests

The EUT is classified as a Part 20 CMRS industrial DAS signal booster
Note: the UL is directly connected to a base station and therefore does not radiate.
The EUT was setup in an end to end configuration. Signals were injected into the head end unit and measured from the remote unit.

The signal booster uses the following frequency bands.

Frequency Band (MHz)	
Downlink	728-746

Per the user manual, the 700 MHz band uses an antenna with a maximum gain of 5.5 dBi.

The lowest frequency and highest measured power are used to calculate the power density.

Source Based Time Averaged Power Calculation

Average Power calculations

Average Power = Peak Power * duty-cycle%

Tuned Frequency (MHz)	Conducted Peak Output Power (mW)	Duty Cycle (%)	Average Power (mW)
746 MHz	2223	100	2223

MPE Evaluation

This is a Fixed device used in an **Uncontrolled** Exposure environment.

Limits Uncontrolled Exposure 47 CFR 1.1310 Table 1, (B)	0.3-1.234 MHz:	Limit [mW/cm²] = 100
	1.34-30 MHz:	Limit [mW/cm²] = (180/f²)
	30-300 MHz:	Limit [mW/cm²] = 0.2
	300-1500 MHz:	Limit [mW/cm²] = f/1500
	1500-100,000 MHz	Limit [mW/cm²] = 1.0

Test Data

Test Frequency, MHz	746
Power, Conducted, mW (P)	2223
Antenna Gain Isotropic	5.5 dBi
Antenna Gain Numeric (G)	3.55
Distance (R)	20 cm

$$S = \frac{P * G}{4\pi r^2}$$

Power Density (S) mw/cm^2

Power Density (S) = 1.57 mw/cm^2
Limit =(from above table) = 0.485 mw/cm^2

EUT does not meet the power density requirements at 20 cm, so the minimum safe distance was calculated below.

R=√(PG/4πL)			
Distance (R) cm	Power mW (P)	Numeric Gain (G)	Limit (L)
36.0	2223	3.55	0.485

The minimum safe distance is 36.0 cm.

END OF TEST REPORT