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Test Report

Prepared for: Bird Technologies

Model: DDLxxx

Description: Low Power Indoor Cellular Remote Unit

Serial Number: N/A

FCC ID: V5DDL0001

To

FCC Part 1.1310

Date of Issue: August 18, 2016

On the behalf of the applicant:

Bird Technologies
30303 Aurora Road
Cleveland, OH 44139

Attention of:

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Prepared By
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Project No: p1680003



Alex Macon
Project Test Engineer

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Test Report Revision History

Revision	Date	Revised By	Reason for Revision
1.0	August 12, 2016	Alex Macon	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

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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: DDLxxx

Description: Low Power Indoor Cellular Remote Unit

Firmware: N/A

Software: N/A

Serial Number: N/A

Additional Information:

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.

All equations are completed with a 0dBi antenna in mind.

Downlink
728 - 756
869 - 894
1930 - 1995
2110 - 2180



Average Power calculations

Average Power = Peak Power * duty-cycle%

Tuned Frequency (MHz)	Conducted Peak Output Power (mW)	Duty Cycle (%)	Average Power (mW)
747.08	528	100	528 mW
889.88	447	100	447 mW
1988.45	604	100	604 mW
2162.6	469	100	469 mW



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

MPE Evaluation

This is a fixed device used in Uncontrolled Exposure environment.

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

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

Test Data

Test Frequency, MHz	747.08
Power, Conducted, mW (P)	528 + 20%
Antenna Gain Isotropic	0dBi
Antenna Gain Numeric (G)	1
Antenna Type	
Distance (R)	20 cm

$S = \frac{P * G}{4\pi r^2}$
Power Density (S) mw/cm ²
0.126

Power Density (S) =0.126
Limit =(from above table) = 0.485



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

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

Test Data

Test Frequency, MHz	889.88
Power, Conducted, mW (P)	447 + 20%
Antenna Gain Isotropic	0 dBi
Antenna Gain Numeric (G)	1 dB
Antenna Type	
Distance (R)	20 cm

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

Power Density (S) = 0.106
Limit =(from above table) = 0.579



Limits Uncontrolled Exposure

47 CFR 1.1310

Table 1, (B)

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

Test Data

Test Frequency, MHz	1988.45
Power, Conducted, mW (P)	604 + 20%
Antenna Gain Isotropic	0 dBi
Antenna Gain Numeric (G)	1 dB
Antenna Type	
Distance (R)	20 cm

$S = \frac{P * G}{4\pi r^2}$	
Power Density (S) mw/cm ²	Power mW (P)
	0.144

Power Density (S) = 0.144
Limit =(from above table) = 1.0



Limits Uncontrolled Exposure

47 CFR 1.1310

Table 1, (B)

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

Test Data

Test Frequency, MHz	2162.6
Power, Conducted, mW (P)	469 + 20%
Antenna Gain Isotropic	0 dBi
Antenna Gain Numeric (G)	1 dB
Antenna Type	
Distance (R)	20 cm

$S = \frac{P * G}{4\pi r^2}$	
Power Density (S) mw/cm ²	Power mW (P)
	0.112

Power Density (S) = 0.112
Limit =(from above table) = 1.0

END OF TEST REPORT