



Compliance Testing, LLC

Previously Flom Test Lab

EMI, EMC, RF Testing Experts Since 1963

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Test Report

Prepared for: L-3 Aviation Products

Model: 228E5733-00

Description: AFIRS 228S Satellite Data Unit

Serial Number: N/A

FCC ID: IB2AFIRS228S0

To

FCC Part 1.1310

Date of Issue: November 14, 2017

On the behalf of the applicant:

**L-3 Aviation Products
PO Box 3041
Sarasota, FL 34232**

Attention of:

**Dan Gross, Program Manager
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**Prepared By
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Project No: p1790002**

**Alex Macon
Project Test Engineer**

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Test Report Revision History

Revision	Date	Revised By	Reason for Revision
1.0	October 20, 2017	Alex Macon	Original Document
2.0	November 14, 2017	Amanda Reed	Updated 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: 228E5733-00

Description: AFIRS 228S Satellite Data Unit

Firmware: N/A

Software: N/A

Serial Number: N/A

Additional Information: The unit is a sitcom system used within aircrafts



Average Power calculations

Average Power = Peak Power * duty-cycle%

Tuned Frequency (MHz)	Conducted Peak Output Power (mW)	Duty Cycle (%)	Average Power (mW)
1620.9825	7570	100	7570



MPE Evaluation

This is a portable 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	1620.9825
Power, Conducted, mW (P)	7570
Antenna Gain Isotropic	3 dBi
Antenna Gain Numeric (G)	2
Antenna Type	Dipole
Distance (R)	20 cm

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

Power Density (S) = 3.012
Limit = (from above table) = 1



Minimum Safe Distance Evaluation

This is a mobile 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	1620.9825
Power, Conducted, mW (P)	7570
Antenna Gain Isotropic	3 dBi
Antenna Gain Numeric (G)	2
Antenna Type	Dipole
Limit (L)	1.0 mW/cm ²

$R = \sqrt{(PG/4\pi L)}$			
Distance (R) cm	Power mW (P)	Numeric Gain (G)	Limit (L)
34.72	7570	2	1

34.7cm is the minimum safe distance when utilized with a 3dBi antenna.

Note: Max output power value is obtained from associated report.

END OF TEST REPORT