



# 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](mailto:info@ComplianceTesting.com)

## Test Report

Prepared for: FLYHT Aerospace Solutions Ltd.

Model: AFIRS 228S Automated Flight Information Reporting System

Description: Dual Channel Iridium Satcom System that incorporates Iridium 9523 and 9602 Modems

Serial Number: 5012

FCC ID: Q639523

FCC ID: Q639602

To

FCC Part 1.1310

Date of Issue: September 29, 2015

On the behalf of the applicant:

FLYHT Aerospace Solutions Ltd.  
300E, 1144 – 29 Ave. NE  
Calgary, Alberta T2E 7P1

Attention of:

Derek Graham, Chief Technical Officer  
Ph: (403)291-7438  
E-Mail: [dgraham@flyht.com](mailto:dgraham@flyht.com)

Prepared By  
Compliance Testing, LLC  
1724 S. Nevada Way  
Mesa, AZ 85204  
(480) 926-3100 phone / (480) 926-3598 fax  
[www.compliancetesting.com](http://www.compliancetesting.com)  
Project No: p1580009

Alex Macon  
Project Test Engineer

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### Test Report Revision History

Revision	Date	Revised By	Reason for Revision
1.0	September 18, 2015	Alex Macon	Original Document
2.0	September 23, 2015	Amanda Reed	Updated contact person & address on cover page
3.0	September 29, 2015	Alex Macon	Updated Limits and added minimum safe distance calculation.
4.0	September 29, 2015	Diana Williams	Added second 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**



**Average Power calculations**

Average Power = Peak Power \* duty-cycle%

<b>Tuned Frequency (MHz)</b>	<b>Conducted Peak Output Power (mW)</b>	<b>Duty Cycle (%)</b>	<b>Average Power (mW)</b>
1622.35	4620	100	4620
1625.98	1770	100	1770

**MPE Evaluation**

Dual channel Iridium satcom system used in aircrafts that incorporates Iridium 9523 and 9602.  
This is a Mobile device used in a Uncontrolled Exposure environment.

<b>Limits Uncontrolled Exposure 47 CFR 1.1310 Table 1, (B)</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**

Test Frequency, MHz	1622.35
Power, Conducted, mW (P)	4620
Antenna Gain Isotropic	3 dBi
Antenna Gain Numeric (G)	2.0
Antenna Type	
Distance (R)	20 cm

Test Frequency, MHz	1625.98
Power, Conducted, mW (P)	1770
Antenna Gain Isotropic	3 dBi
Antenna Gain Numeric (G)	2.0
Antenna Type	
Distance (R)	20 cm

$S = \frac{P * G}{4\pi r^2}$			
Power Density (S) mw/cm <sup>2</sup>	Power mW (P)	Numeric Gain (G)	Distance (r <sup>2</sup> ) cm
1.8391719745	4620	2	20

$S = \frac{P * G}{4\pi r^2}$			
Power Density (S) mw/cm <sup>2</sup>	Power mW (P)	Numeric Gain (G)	Distance (r <sup>2</sup> ) cm
0.7046178344	1770	2	20

Power Density (S) = 2.5437
Limit =(from above table) = 1.0

The combined power spectral density is over the general population limit of 1.0 so minimum safe distance was calculated.

formula $R = \sqrt{(PG/4\pi L)}$			
Distance (R) (cm)	Power (mW)	Numeric Gain (G)	Limit (mW/cm)
31.89852541	6390	2	1

The minimum safe distance is 31.9 cm

END OF TEST REPORT