



Compliance Testing, LLC

Previously Flom Test Lab

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Test Report

Prepared for: FLYHT Aerospace Solutions Ltd.

Model: AFIRS 228S Automated Flight Information Reporting System

Description: Dual Channel Satcom System that incorporates simultaneous operation of embedded radios.

Serial Number: 5012

FCC ID: 2ABRJ-228S

To

FCC Part 1.1310

Date of Issue: October 2, 2015

On the behalf of the applicant:

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

Attention of:

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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. |
| 5.0 | October 2, 2015 | Diana Williams | Corrected FCC ID and Description. |



ILAC / A2LA

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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%

| Tuned Frequency (MHz) | Conducted Peak Output Power (mW) | Duty Cycle (%) | Average Power (mW) |
|----------------------------------|---|---------------------------|-------------------------------|
| 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.

| | | |
|--|------------------|---|
| 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 | 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 ² | Power mW (P) | Numeric Gain (G) | Distance (r ²) cm |
| 1.8391719745 | 4620 | 2 | 20 |

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