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Test Report

Prepared for: EMS technologies Canada Lts.

Model: IPLD

Description: Aircraft earth station

Serial Number: N/A

FCC ID: K6KIPLD

To

FCC Part 1.1310

Date of Issue: August 12, 2020

On the behalf of the applicant:	**EMS Technologies Canada Ltd.** **400 Maple Grove Road** **Ottawa, ON K2V 1B8** **Canada**
Attention of:	**Hicham El-Zibawi** **Phone: (613)595-7631** **Email: Hicham.Zibawi@Honeywell.com**

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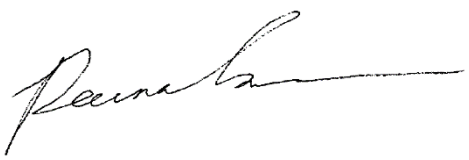

Poona Saber
Project Test Engineer

Test Report Revision History

Revision	Date	Revised By	Reason for Revision
1.0	August 12, 2020	Poona Saber	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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Non-accredited tests contained in this report:

N/A

EUT Description:
Model: IPLD
Description: aircraft earth station
Part number: 1524-A-2000
Additional Information:

The aircraft user terminal functions also known as the SATCOM Avionics is an integral part of the complete L-band Inmarsat Satellite communications system and comprises of the following components:

- SDU or HDU-200 Transceiver
- SDU Configuration Module (SCM)
- The IPLD integrates the HPA function, the RF diplexer and a Low Noise Rx Amplifier (.i.e. a DLNA)
- Antenna - Intermediate Gain (IGA) or High Gain (HGA)
- Satellite network Services

The IPLD works in conjunction with a Satcom Transceiver unit. An HDU-200 (FCC ID K6K HSDXi) is used as a source generator.

DC Power and Control signaling is used to connect the HDU-200 Transceiver to the IPLD. The High Power Amplifier (HPA), Diplexer and Low-Noise Amplifier functions are integrated into the IPLD.

The testing included in this report exclusively exercises the compliance of the IPLD.

Antennas:

The IPLD as part a SATCOM systems has been configured and tested with the following antenna Types:

- HGA (AMT-3800, AMT-700)
- IGA (AMT-1800)
- LGA (Omnidirectional Blade antenna)

Below are some details on the antennas.

- HGA = AMT-3800 (P/N = 1242-A-0010) [Manufacturer = EMS Aviation] – Maximum Antenna Gain = 17 dBi
- HGA = AMT-700 (P/N = 1428-A-0010) [Manufacturer = EMS Aviation] – Maximum Antenna Gain = 17 dBi
- IGA = AMT-1800 (P/N: 1242-A-7010) [Manufacturer = EMS Aviation] – Maximum Antenna Gain = 12 dBi
- LGA = SATCOM Antenna (Omni-directional Blade Antenna, P/N = S65-8282-101) [Manufacturer = Sensor Systems, Inc.]

MPE 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/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	1643.5
Power, Conducted, mW (P)	14825.1
Antenna Gain Isotropic	17 dBi
Antenna Gain Numeric (G)	50.11
Antenna Type	HGA
Distance (R)	20 cm

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

Power Density (S) = 147.8
Limit = (from above table) = 1.096

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/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	1643.5
Power, Conducted, mW (P)	14825.1
Antenna Gain Isotropic	17 dBi
Antenna Gain Numeric (G)	50.11
Antenna Type	HGA
Limit (L)	1.096

R=√(PG/4πL)			
Distance (R) cm	Power mW (P)	Numeric Gain (G)	Limit (L)
232.3062639	14825.1	50.11	1.096

The minimum safe distance for installation is 232.306 centimeters.

END OF TEST REPORT