

TEST REPORT NO: RU1221/6912
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FCC ID: Q639522AC

**REPORT ON THE CERTIFICATION TESTING OF A
IRIDIUM SATELLITE LLC
DAYTONA L-BAND TRANSCEIVER
WITH RESPECT TO
THE FCC OET BULLETIN 65 August 1997
SUPPLEMENT C January 2001
EVALUATION COMPLIANCE WITH FCC GUIDELINES FOR HUMAN EXPOSURE TO
RADIOFREQUENCY ELECTROMAGNETIC FIELDS.**

TEST DATE: 16th – 28th February 2006

TESTED BY: _____ J CHARTERS

APPROVED BY: _____ P GREEN
EMC PRODUCT
MANAGER

DATE: 23rd March 2006

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Notes:

1. Component failure during test YES ☐ NO ☒
2. If Yes, details of failure:
3. The facilities used for the testing of the product contain in this report are FCC Listed.
4. The contents of the attached applicants declarations and other supplied information are not covered by the scope of this laboratory's UKAS or FCC accreditations' and is provided in good faith.

CERTIFICATE OF CONFORMITY & COMPLIANCE

FCC IDENTITY:	Q639522AC
PURPOSE OF TEST:	Certification
TEST SPECIFICATION:	OET Bulletin 65 Supplement C : January 2001
TEST RESULT:	Compliant to Specification
EQUIPMENT UNDER TEST:	Daytona L-Band Transceiver
ITU EMISSIONS DESIGNATOR	41K7V7W
EQUIPMENT TYPE:	Satellite Communications Module
CARRIER POWER:	29.61 dBm
ANTENNA TYPE:	External TNC connector. For test purposes applicant declared a Fixed Mast Antenna with a gain of 3dBi
CHANNEL SPACING:	41.667 kHz
NUMBER OF CHANNELS:	252
MODULATION TYPE:	V7W
POWER SOURCE(s):	+4.5 Vdc
TEST DATE(s):	16 th – 28 th February 2006
ORDER No(s):	026388/MC3
APPLICANT:	Iridium Satellite LLC
ADDRESS:	6701 Democracy Blvd. Suite 500 Bethesda United States of America MD 20817

TESTED BY: friends

----- J CHARTERS

APPROVED BY:

----- P GREEN
EMC PRODUCT
MANAGER

APPLICANT'S SUMMARY

EQUIPMENT UNDER TEST (EUT):	Daytona L-Band Transceiver
EQUIPMENT TYPE:	Satellite Communications Module
PURPOSE OF TEST:	Certification
TEST SPECIFICATION(s):	FCC Rules CFR 47, Part 25
TEST RESULT:	COMPLIANT Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
APPLICANT'S CATEGORY:	MANUFACTURER <input checked="" type="checkbox"/> IMPORTER <input type="checkbox"/> DISTRIBUTOR <input type="checkbox"/> TEST HOUSE <input type="checkbox"/> AGENT <input type="checkbox"/>
APPLICANT'S CONTACT PERSON(s):	Mr C Geibel
E-mail address:	Conrad.geibel@iridium.com
APPLICANT:	Iridium Satellite LLC
ADDRESS:	6701 Democracy Blvd. Suite 500 Bethesda United States of America MD 20817
TEL:	+1 301 571 6277
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MANUFACTURER:	Iridium Satellite LLC
DEVELOPMENT AGENT	Cambridge Consultants Limited
DEVELOPMENT AGENT S CONTACT PERSON(s):	Ms M Campbell
E-mail address:	marion.campbell@cambridgeconsultants.com
ADDRESS:	Science Park Milton Road Cambridge CB4 4DW United Kingdom
TEL:	+44 (0)1223 420024
FAX:	+44 (0)1223 423373
EUT(s) COUNTRY OF ORIGIN:	United States
TEST LABORATORY:	TRL Compliance Ltd
UKAS ACCREDITATION No:	0728
TEST DATE(s)	16 th – 28 th February 2006
TEST REPORT No:	RU1221/6912

EQUIPMENT TEST / EXAMINATIONS REQUIRED

1.	TEST/EXAMINATION	RULE PART	APPLICABILITY
	Radio Frequency Radiation Exposure	Part 2	Yes note 2
	<div style="display: flex;"> <div style="flex: 1;"> <p>Note:</p> </div> <div style="flex: 3;"> <ol style="list-style-type: none"> 1. EUT is not used within 20 cm of the body. MEP calculation performed for information. 2. This report should be read in conjunction with TRL Compliance Ltd test report RU1221/6870 for results. </div> </div>		

2. Product Use: Satellite Data Communications

3. Emission Designator: 41k7V7W

4. Temperatures: Ambient (Tnom) 20°C

5. Supply Voltages: Vnom +4.5Vdc

Note: Vnom voltages are as stated above unless otherwise shown on the test report page

6. Equipment Category:

Single channel	<input type="checkbox"/>
Two channel	<input type="checkbox"/>
Multi-channel	<input checked="" type="checkbox"/>

7. Channel spacing:

Narrowband	<input checked="" type="checkbox"/>
Wideband	<input type="checkbox"/>

8. Test Location

TRL Compliance Limited	
Up Holland	<input checked="" type="checkbox"/>
Long Green	<input type="checkbox"/>

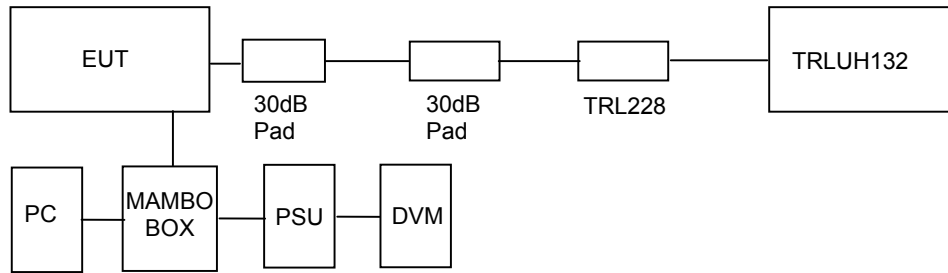
9. System Description:

The satellite communications module consists of an L-Band Transceiver (LBT) capable of simultaneous transmit and receive (duplex) operation covering the frequency range of 1616MHz to 1626.5MHz. The frequency accesses used for duplex channels are organised into sub-bands each of which contains eight frequency accesses. Each sub-band, therefore occupies 333.33 kHz (i.e. 8x41.667kHz). Up to 30 sub-bands containing 240 frequency accesses may be used for duplex channels.

RADIO FREQUENCY RADIATION EXPOSURE

MPE calculation:

Test setup :



See Annex A for full list of test equipment

Formula:

$$S = \text{EIRP} / 4\pi R^2$$

S = Power Density (mW/cm²)

EIRP = Radiated power (mW)

R = distance for body (cm)

Calculation:

$$S = 912.0 / 4 \pi 20^2 = 0.18 \text{ mW/cm}^2$$

Notes:

1. The unit will be mounted more 20cm away from the body.
2. The 29.61dBm (912.0mW) was the worst case mean power level measured in TRL Compliance test report RU1121/6870.
3. For test purposes applicant declared a Fixed Mast Antenna with a gain of 3dBi

Limit

The limit of Power density for the General Population/ Uncontrolled Exposure is 1.0mW/cm².

Result

The EUT meet the 1.0mW/cm² limit.

ANNEX A
EQUIPMENT CALIBRATION

	3m Range ERP		
UH006	CAL	TRL	06/01/06
UH028	Log Periodic Ant	Schwarbeck	28/04/05
UH029	Bicone Antenna	Schwarbeck	27/04/05
UH041	Multimeter	AVOMeter	20/12/05
UH120	Spectrum Analyser	Marconi	15/03/05
UH122	Oscilloscope	Tektronix	07/06/05
UH132	Power meter	Marconi	03/01/06
UH162	ERP Cable Cal	TRL	06/01/06
UH228	Power Sensor	Marconi	03/01/06
UH253	1m Cable N type	TRL	23/02/06
UH254	1m Cable N type	TRL	05/01/06
UH265	Notch filer	Telonic	24/06/05
UH271	1m Cable N type	TRL	23/02/06
UH273	1m Cable N type	TRL	23/02/06
L005	CMTA	R&S	05/12/05
L007	Loop Antenna	R&S	29/03/05
L138	1-18GHz Horn	EMCO	15/04/05
L139	1-18GHz Horn	EMCO	03/05/05
L176	Signal Generator	Marconi	15/02/06
L193	Bicone Antenna	Chase	12/10/03
L203	Log Periodic Ant	Chase	21/10/03
L280	18GHz Cable	Rosenberger	05/01/06
L343	CCIR Noise Filter	TRL	07/06/05
	Temperature		
L426	Indicator	Fluke	04/01/06
L479	Analyser	Anritsu	18/11/05
L552	Signal Generator	Agilent	25/04/05
N/A	High Pass Filter	AFL	23/02/06