



HARRIS CORPORATION  
Maritime Communication Services

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[www.mcs.harris.com](http://www.mcs.harris.com)



29 May, 2009

European Radiocommunications Office  
Peblingehus  
Nansensgade 19-3  
DK-1366 Copenhagen  
Denmark  
Attention: Alexander Gulyaev, [gulyaev@ero.dk](mailto:gulyaev@ero.dk)

Ministero delle Comunicazioni - DG SCER  
viale America, 201  
00144 Roma (ITALY)  
Attention: Antonella Zolferino: [antonella.zolferino@comunicazioni.it](mailto:antonella.zolferino@comunicazioni.it)

Re: UPDATED ESV Declaration of Harris Corporation for **Ku Band** Services

Dear Mr. Gulyaev and Ms. Zolferino:

Pursuant to Annex C of the Decision of the Electronic Communications Committee ("ECC") of 24 June 2005 on the free circulation and use of Earth Stations on board Vessels operating in fixed satellite service in frequency bands 14-14.5 GHz (Earth-to-space) and 12.5-12.75 GHz (space-to-Earth), ECCDEC/(05)10, Harris Corporation (the "Company"), through its Maritime Communications Services ("MCS") subsidiary hereby declares that the parameters for the Company's system of earth stations on board vessels operating in Europe, and that the Company's system complies with the requirements of the Decision, Resolution 902(WRC-03), and any restrictions notified to the European Radiocommunications Office (the "Office") by CEPT administrations under Decides 5 and 6 of the Decision.

**This is an update to information provided in our 2009 application, originally accepted by the ERO on 19 January 2009. The updated information reflects the addition of Ku-band service on the Costa fleet operating in the Mediterranean Sea. The previously submitted information regarding C-Band ESVs remains accurate. Should any questions arise concerning the attached parameters or this declaration, please contact the undersigned directly.**

Sincerely,

Richard Simonian

President  
Harris Maritime Communication Services  
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+1 321 536 2698 mobile  
[richard.simonian@harris.com](mailto:richard.simonian@harris.com)  
[www.mcs.harris.com](http://www.mcs.harris.com)

4 Attachments

**Attachment 1**

**MCS ESV Network Operator Details**

Network operator name	Maritime Communication Services, Inc
Network operator address	1025 W. NASA Blvd Mailstop D-11D Melbourne, FL 32919 USA
Contact name	Tom Piehl
Contact telephone number	+1-321-724-3057
Contact e-mail address	thomas.piehl@harris.com
Network Control Facility (NCF) designated point of contact	Bill Dawkins
NCF Contact telephone number	+1-321-726-5555
NCF Contact e-mail address	tss_nmc@harris.com

## Attachment 2

### Declarations of Conformity for Orbit AL-7103 "OrSat" Ku Antenna



# Declaration of Conformity

We,

**Orbit Technology Group Ltd.**  
**8c Hatzoran St. P.O.B 8657**  
**Netanya 42504, Israel**

Declare under our sole responsibility that our product

**ORBIT AL-7103 Stabilized Marine Satellite Communication System (ESV),**

To which this declaration relates is in conformity with the appropriate standards:

**ISO 12100-2:2003**  
**EN 60204-1:1997**  
**EN 614-1:1995**  
**IEC 60945:2002**  
**ETSI EN 302340**

Following the provisions of R&TTE Directive **1999/5/EC – Article 3.1a, Article 3.1b** and **Article 3.2** with essential requirements covering Low Voltage Directive **2006/95/EC** (replaces **73/23/EEC** as Amended) and Safety of Machinery Directive **98/37/EC** as Amended by **93/68/EEC** and **93/465/EEC**, EMC Directive **2004/108/EC** (replaces **89/336/EEC** as Amended), **ESV Satellite Regulations** regarding all needed functions and The Allowed EIRP per Bandwidth (limited spectral density toward adjacent satellites).

Netanya, Israel, January 2008.



*Erez Shabirow.*

**Erez Shabirow**  
**Senior Vice President R&D and Engineering**



# EMC Test Certificate



Certificate No	Page	Date of Issue
K70440.00	1	11 December 2007

Applicant	Orbit Technology Group
-----------	------------------------

Tested to	IEC 60945: 2002	
	IEC 61000-4-2: 1995	Air Discharge, 8kV
		Contact Discharge, 6kV
	IEC 61000-4-4: 1995	2kV Power Lines, 1kV Signal Lines
	IEC 61000-4-5: 1995	COM. Mode; 1kV, Dif. Mode; 0.5kV
	IEC 61000-4-6: 1996	(0.15-80 MHz) 3VRMS, 80% A.M. by 1kHz
		(2, 3, 4, 6.2, 8.2, 12.6, 16.5, 18.8, 22, 25 MHz) 10VRMS, 80% A.M. by 1kHz
		Power and Signal Lines
	IEC 61000-4-11: 1994	V reduc >95%
		Duration 60 sec.

## Notes:

- The above list of tests was performed according to the TCF process coordinated with Nemko, Norway.
- The TCF is in the process of preparation.

## Certified Product

E.U.T.	V.S.A.T.
Model:	AL-7103
Serial No.:	001

This is to certify that the product specified herein has been tested and found compliant with the requirements noted above.

Signature:   
Y. Mordukhovitch  
EMC Test Engineer

Signature: For/   
I. Raz  
EMC Laboratory Manager

ITL091 Rev 1.6 26/06/05

## I.T.L. (Product Testing) Ltd.

HEAD OFFICE: PRODUCT SAFETY LAB  
1 Bakhava St. P.O.B 87  
Lod 71100 ISRAEL  
Tel: 9720-4153100 Fax: 9720-4153101

EMC LABORATORY  
Kfar Saba Haifa 99700  
ISRAEL  
Tel: 9720-9797799 Fax: 9720-9797702

מסמכים/תעודות/תוצאות  
96700 ק"מ 05 י"מ  
תאריך: 11/12/07  
9720-9797702 ק"מ 05 י"מ 9720-9797702

## א.י.ט.ל. (בדיקת מוצרים) בע"מ

מסמכים/תעודות/תוצאות  
96700 ק"מ 05 י"מ  
תאריך: 11/12/07  
9720-9797702 ק"מ 05 י"מ 9720-9797702



Approved to ISO/IEC 17025

# EMC Test Certificate

<b>Certificate No</b>	<b>Page</b>	<b>Date of Issue</b>
K70440.01	1	07 January 2007

<b>Applicant</b>	<b>Orbit Technology Group</b>
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<b>Tested to</b>	IEC 60945: 2002	
	IEC 61000-4-2: 1995	Air Discharge, 8kV Contact Discharge, 6kV
	IEC 61000-4-4: 1995	2kV Power Lines, 1kV Signal Lines
	IEC 61000-4-5: 1995	COM. Mode; 1kV, Dif. Mode; 0.5kV
	IEC 61000-4-6: 1996	(0.15-80 MHz) 3VRMS, 80% A.M. by 1kHz (2, 3, 4, 6.2, 8.2, 12.6, 16.5, 18.8, 22, 25 MHz) 10VRMS, 80% A.M. by 1kHz
		Power and Signal Lines
	IEC 61000-4-11: 1994	V reduc >95% Duration 60 sec.

**Notes:**

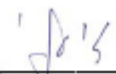
1. The above list of tests was performed according to the TCF process coordinated with Nemko, Norway.
2. The TCF is in the process of preparation.

**Certified Product**

E.U.T.	V.S.A.T.
Model:	AL-7103
Serial No.:	009

This is to certify that the product specified herein has been tested and found compliant with the requirements noted above.

Signature:   
Y. Mordukhovitch  
EMC Test Engineer

Signature:   
I. Raz  
EMC Laboratory Manager

ITL091 Rev 1.6 26/06/05

I.T.L. (PRODUCT TESTING) Ltd.  
PRODUCT SAFETY, EMC & TELECOMS LAB.  
Bat-Sheva St., POB 87 LOD 71100 ISRAEL Tel. 972-8-9153100 Fax. 972-8-9153101  
Email: [standard@itl.co.il](mailto:standard@itl.co.il) Web Site: <http://www.itl.co.il>

### Attachment 3

#### Technical Specifications of Ku-band ESVs in MCS Network

Vessel	Antenna Type, Size	Transmit Freq Bands	ESV Antenna Transmit Peak Gain	Effective Transmitted Power*	Max e.i.r.p. per Carrier	Min Operating Elevation	Pointing Accuracy	Number of Carriers	Max Occupied Bandwidth Per Carrier (Khz)	Modulation	Access Scheme Downlink / Uplink	Satellite Used (in Europe)	Transponder Downlink Center Freq (Mhz)	Transponder Downlink Bandwidth (Khz)	Transponder Uplink Center Freq (Mhz)	Transponder Uplink Bandwidth (Khz)
Costa Atlantica	1.15m OrSat AL-7103 MKII	14.0 - 14.5 GHz	42.5dBi @ 14.25Ghz	8 watts	51.5dbW	0 degrees	0.1 deg RMS	1	700	QPSK	MCPC / TDMA	TelStar 12	11535.980	1500.0	14084.710	500.0
Costa Classica	1.15m OrSat AL-7103 MKII	14.0 - 14.5 GHz	42.5dBi @ 14.25Ghz	8 watts	51.5dbW	0 degrees	0.1 deg RMS	1	700	QPSK	MCPC / TDMA	TelStar 12	11535.980	1500.0	14084.710	500.0
Costa Concordia	1.15m OrSat AL-7103 MKII	14.0 - 14.5 GHz	42.5dBi @ 14.25Ghz	8 watts	51.5dbW	0 degrees	0.1 deg RMS	1	700	QPSK	MCPC / TDMA	TelStar 12	11535.980	1500.0	14084.710	500.0
Costa Europa	1.15m OrSat AL-7103 MKII	14.0 - 14.5 GHz	42.5dBi @ 14.25Ghz	8 watts	51.5dbW	0 degrees	0.1 deg RMS	1	700	QPSK	MCPC / TDMA	TelStar 12	11535.980	1500.0	14084.710	500.0
Costa Fortuna	1.15m OrSat AL-7103 MKII	14.0 - 14.5 GHz	42.5dBi @ 14.25Ghz	8 watts	51.5dbW	0 degrees	0.1 deg RMS	1	700	QPSK	MCPC / TDMA	TelStar 12	11535.980	1500.0	14084.710	500.0
Costa Magica	1.15m OrSat AL-7103 MKII	14.0 - 14.5 GHz	42.5dBi @ 14.25Ghz	8 watts	51.5dbW	0 degrees	0.1 deg RMS	1	700	QPSK	MCPC / TDMA	TelStar 12	11535.980	1500.0	14084.710	500.0
Costa Marina	1.15m OrSat AL-7103 MKII	14.0 - 14.5 GHz	42.5dBi @ 14.25Ghz	8 watts	51.5dbW	0 degrees	0.1 deg RMS	1	700	QPSK	MCPC / TDMA	TelStar 12	11535.980	1500.0	14084.710	500.0
Costa Mediterranea	1.15m OrSat AL-7103 MKII	14.0 - 14.5 GHz	42.5dBi @ 14.25Ghz	8 watts	51.5dbW	0 degrees	0.1 deg RMS	1	700	QPSK	MCPC / TDMA	TelStar 12	11535.980	1500.0	14084.710	500.0
Costa Romantica	1.15m OrSat AL-7103 MKII	14.0 - 14.5 GHz	42.5dBi @ 14.25Ghz	8 watts	51.5dbW	0 degrees	0.1 deg RMS	1	700	QPSK	MCPC / TDMA	TelStar 12	11535.980	1500.0	14084.710	500.0
Costa Serena	1.15m OrSat AL-7103 MKII	14.0 - 14.5 GHz	42.5dBi @ 14.25Ghz	8 watts	51.5dbW	0 degrees	0.1 deg RMS	1	700	QPSK	MCPC / TDMA	TelStar 12	11535.980	1500.0	14084.710	500.0
Costa Victoria	1.15m OrSat AL-7103 MKII	14.0 - 14.5 GHz	42.5dBi @ 14.25Ghz	8 watts	51.5dbW	0 degrees	0.1 deg RMS	1	700	QPSK	MCPC / TDMA	TelStar 12	11535.980	1500.0	14084.710	500.0
Costa Allegra	1.15m OrSat AL-7103 MKII	14.0 - 14.5 GHz	42.5dBi @ 14.25Ghz	8 watts	51.5dbW	1 degrees	0.1 deg RMS	1	700	QPSK	MCPC / TDMA	TelStar 12	11535.980	1500.0	14084.710	500.0
Costa Pacifica	1.15m OrSat AL-7103 MKII	14.0 - 14.5 GHz	42.5dBi @ 14.25Ghz	8 watts	51.5dbW	0 degrees	0.1 deg RMS	1	700	QPSK	MCPC / TDMA	TelStar 12	11535.980	1500.0	14084.710	500.0
Costa Luminosa	1.15m OrSat AL-7103 MKII	14.0 - 14.5 GHz	42.5dBi @ 14.25Ghz	8 watts	51.5dbW	0 degrees	0.1 deg RMS	1	700	QPSK	MCPC / TDMA	TelStar 12	11535.980	1500.0	14084.710	500.0

**\*\*Operating Details of Satellite:**

Telstar 12 at 15 degrees West

Horizontal Uplink

Vertical Downlink

Telesat

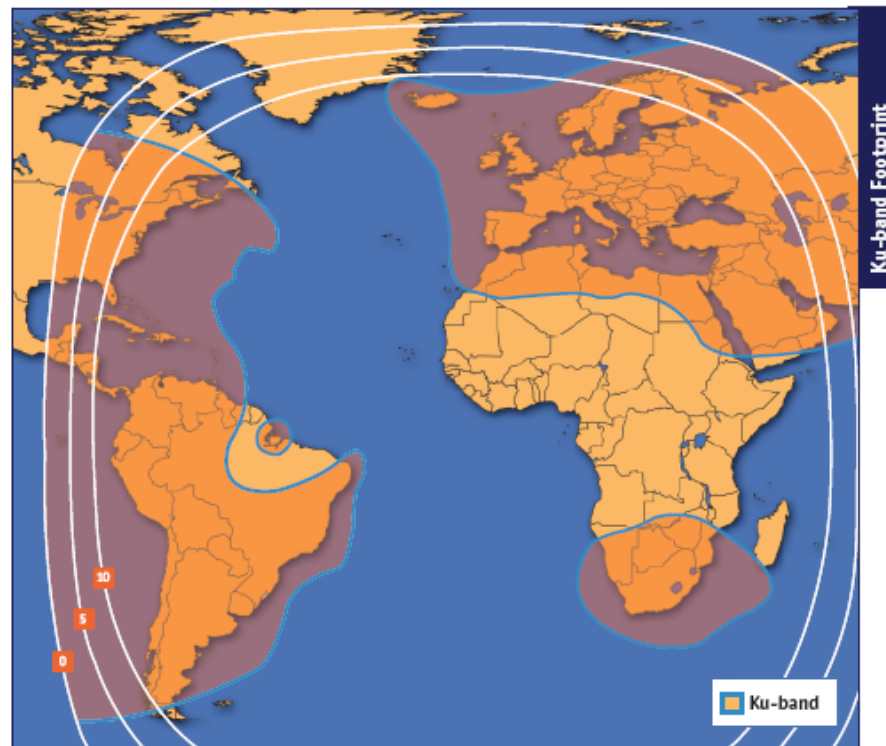
Provides service to MCS serviced vessels in Mediterranean and Europe

## Attachment 4 Telstar 12 Coverage Map

### COVERAGE

Telstar 12 is a Ku-band satellite with coverage of North America as far West as Cleveland, Ohio; the majority of South America; Europe as far East as the United Arab Emirates and South Africa. Telstar 12 also has the capability to provide intercontinental connectivity including trans-Atlantic to the Mid-East.

**Began Service**  
December 1999



### Ku-band Payload

#### Transponders

38 Ku-band:  
38 @ 54 MHz

#### Polarization

Orthogonal Linear

#### Frequency

##### Uplink:

European dedicated - 14.0 to 14.25 GHz  
European shared - 14.25 to 14.5 GHz  
European extended - 13.75 to 14 GHz  
Pan American - 14 to 14.5 GHz

##### Downlink:

European dedicated - 12.5 to 12.75 GHz  
European shared - 11.45 to 11.7 GHz  
European extended - 10.05 to 11.2 GHz  
Pan American - 11.7 to 12.2 GHz

#### Saturation Flux Density

-74 to -94 dBW/m<sup>2</sup>