



TOOWAY VSATs RF PERFORMANCE

Type Approvals
and
Characterizations

21 March 2012



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COMMUNICATIONS

TOO WAY VSATs

RF PERFORMANCE CHARACTERIZATION

BY EUTELSAT

This list aims at providing Eutelsat customers with guidance on the selection of the most appropriate earth station equipment to access the Eutelsat capacity for Tooway services.

Any VSATs which are regularly deployed on the Eutelsat satellites may be eligible for being included in this list.

The criteria for inclusion are:

Eutelsat is in possession of a full set of RF electrical characteristics, measured on an accredited test range;

The VSATs' RF performance fully meets the minimum Eutelsat requirements (EESS 502) or alternatively the Nomenclature of Standard M-x;

There is no known record of operational problems or interference issues related to this VSAT;

The terminal shall be used solely in VSAT Networks which are conformed with the EU regulations (<http://telecom.esa.int/telecom/www/object/index.cfm?fobjectid=24463>) for blanket license agreement;

The authorization to operate the terminal is conditioned to the approval to access the Eutelsat S.A. Space Segment (ref. <http://www.eutelsat.com/satellites/pdf/esog110.pdf> ESOG 110).

Inclusion in the list is a decision which pertains uniquely and ultimately to Eutelsat alone. At any moment a given VSAT may be removed from the list, should Eutelsat deem necessary to do so.

This characterization does not replace in any way the Eutelsat type approval program, cfr. <http://www.eutelsat.com/satellites/pdf/typeapproval.pdf>

For a given VSAT, additional RF characteristics not explicitly listed (e.g. other operating frequency bands) can be found at the URL address of the manufacturer datasheet, if available.



Terminals



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Manufacturer:

Maec-Visiosat
Z.I. de Regourd, B.P. 22
46001 Cahors Cedex 09
France

Tel: +33 5 65 35 82 20
Fax: +33 5 65 35 82 52
mailto: olivier.dhellemmes@groupe-cahors.com

Antenna model:
0 141 162

Diameter:
0.9 m X 0.99 m
2-ports feed (Visiosat)

Nomenclature M-x

Characterization date:
20-01-2011

System Description:

Single optic front fed offset, 1 piece, SMC reflector.

OMT: APEXAT.

SSPA : maximum rating 3 Watt and maximum output power 2 Watt.

Maximum Allowed EIRP:

33.4 dBW/40kHz for digital carriers transmitted at the satellite receive contour of 0 dB/K (EESS 502 Issue 12 - rev. 2, § 6.1 refers).

Tx Frequency:

13.75 – 14.50 GHz

Rx Frequency:

10.70 – 12.75 GHz

Tx Gain:

40.1 dBi (typical at 14.25 GHz)

Rx Gain:

37.5 dBi (typical at 11.70 GHz)

Tx XPD:

>21.2 dB within -1 dB contour

Rx XPD:

>21.2 dB within -1 dB contour

Restrictions:

- 1) The terminal shall be used solely in VSAT Networks which are conformed with the EU regulations (<http://telecom.esa.int/telecom/www/object/index.cfm?fobjectid=24463>) for blanket license agreement.
- 2) The authorization to operate the terminal is conditioned to the approval to access the Eutelsat S.A. Space Segment (ref. <http://www.eutelsat.com/satellites/pdf/esog110.pdf> ESOG 110).

**Manufacturer:**

ViaSat, Inc.
6155 El Camino Real
Carlsbad, CA 92009-1602

Tel: +1 760 476 2593
Fax: +1 760 929 3934
mailto: shameem.hashmi@viasat.com

Antenna model:

ViaSat Surfbeam 2
72 cm consumer User Terminal

Diameter:

0.8 m X 0.63 m
2-ports feed

Standard:

M

Type Approval date:

27-07-2011

System Description:

Single optic front fed offset, 1 piece, metallic reflector.
Integrated Viasat TRIA (feed, BUC, OMT, LNB and polarization switch), circular polarization.
BUC: maximum rating 3 Watt and maximum output power 2 Watt.

Maximum Allowed EIRP:

27.2 dBW/40kHz for digital carriers transmitted at the 18 dB/K satellite receive contour of KA-SAT (EESS 502, § 6.1 refers).

Tx Frequency:

29.50 – 30.00 GHz

Rx Frequency:

19.70 - 20.20 GHz

Tx Gain:

44.2 dBi (typical at 29.75 GHz)

Rx Gain:

40.1 dBi (typical at 19.95 GHz)

Tx XPD:

>20.0 dB within -1 dB contour

Rx XPD:

>20.0 dB within -1 dB contour

G/T:

17.2 dB/K

Restrictions:

- 1) The terminal shall be used solely in VSAT Networks which are conformed with the EU regulations (<http://telecom.esa.int/telecom/www/object/index.cfm?fobjectid=24463>) for blanket license agreement.
- 2) The authorization to operate the terminal is conditioned to the approval to access the Eutelsat S.A. Space Segment (ref. <http://www.eutelsat.com/satellites/pdf/esog110.pdf> **ESOG 110**).
- 3) This characterization has been performed at the Politecnico of Torino's Near Spherical Range of Vercelli, Italy on three units of the same model, in the months of April, May and June 2011.

**Manufacturer:**

ViaSat, Inc.
6155 El Camino Real
Carlsbad, CA 92009-1602

Tel: +1 760 476 2593
Fax: +1 760 929 3934
mailto: shameem.hashmi@viasat.com

Antenna model:

ViaSat Tooway Professional
1.2 m Professional User Terminal

Diameter:

1.2 m
2-ports feed

Standard:

M

Type Approval date:

06-09-2011

System Description:

Single optic front fed offset, 1 piece, sheet molding compound (SMC) Prodelin – GD Satcom reflector.

Integrated Viasat TRIA (feed, BUC, OMT, LNB and polarization switch), circular polarization.
BUC: maximum rating 4 Watt.

Maximum Allowed EIRP:

31.2 dBW/40kHz for digital carriers transmitted at the 18 dB/K satellite receive contour of KA-SAT (EESS 502, § 6.1 refers).

Tx Frequency:

29.50 – 30.00 GHz

Rx Frequency:

19.70 - 20.20 GHz

Tx Gain:

49.6 dBi (typical at 29.75 GHz)

Rx Gain:

46.5 dBi (typical at 19.95 GHz)

Tx XPD:

>22.0 dB within -1 dB contour

Rx XPD:

>22.0 dB within -1 dB contour

G/T:

23.6 dB/K

Restrictions:

- 1) The authorization to operate the terminal is conditioned to the approval to access the Eutelsat S.A. Space Segment (ref. <http://www.eutelsat.com/satellites/pdf/esog110.pdf> **ESOG 110**).
- 2) This characterization has been performed at Pro Brand International Inc. range, Marietta, GA, USA. on three units of the same model, in the month of August 2011.
- 3) The information above is provided pending demonstration of the unconditional stability of the ViaSat TRIA (ESOG Vol. 1, Module 160 refers).



Auto-Deploy



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**Manufacturer:**

IPcopter GmbH & Co. KG
D-88086 Immenstaad, Postfach 1162
Germany

Tel.: +49 75459699990

bernhard.neumeyer@ipcopter.de
www.ipcopter.com

Antenna model:

IPcopter auto-deploy system with
ViaSat Surfbeam 2
72 cm consumer User Terminal

Diameter:

0.8 m X 0.63 m
2-ports feed

Standard:

M

Characterisation date:

21-03-2012

System Description:

Auto-deploy system based on the Viasat Surfbeam 72 cm consumer terminal. Single optic front fed offset, 1 piece, metallic reflector.

Integrated Viasat TRIA (feed, BUC, OMT, LNB and polarization switch), circular polarization. BUC: maximum rating 4 Watt.

Maximum Allowed EIRP:

27.2 dBW/40kHz for digital carriers transmitted at the 18 dB/K satellite receive contour of Ka-sat (EESS 502, § 6.1 refers).

Tx Frequency:

29.50 – 30.00 GHz

Rx Frequency:

19.70 - 20.20 GHz

Tx Gain:

44.2 dBi (typical at 29.75 GHz)

Rx Gain:

40.1 dBi (typical at 19.95 GHz)

Tx XPD:

>20.0 dB within -1 dB contour

Rx XPD:

>20.0 dB within -1 dB contour

Pointing error:

Azimuth and Elevation < 0.28°

Restrictions:

- 1) The terminal shall be used solely in VSAT Networks which are conformed with the EU regulations (<http://telecom.esa.int/telecom/www/object/index.cfm?fobjectid=24463>) for blanket license agreement.
- 2) The authorization to operate the terminal is conditioned to the approval to access the Eutelsat S.A. Space Segment (ref. <http://www.eutelsat.com/satellites/pdf/esog110.pdf> **ESOG 110**).
- 3) The auto-deploy characterization has been performed at the teleport of Rambouillet on the 21 February 2012, on the Ka-sat satellite.
- 4) The antenna needs referencing at the beginning of each auto-deploy exercise, otherwise pointing error would exceed 0.4°.