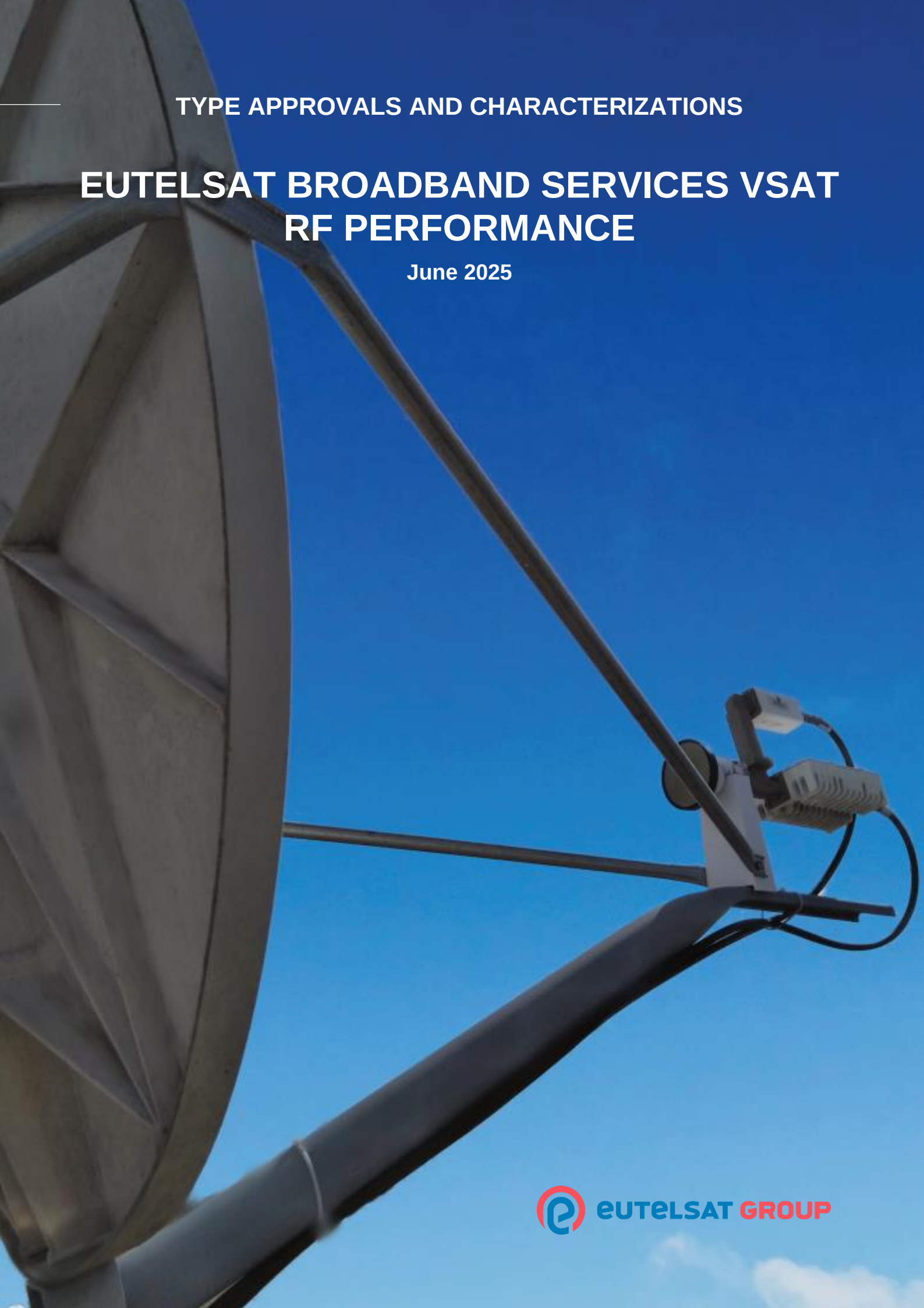
TYPE APPROVALS AND CHARACTERIZATIONS

EUTELSAT BROADBAND SERVICES VSAT RF PERFORMANCE

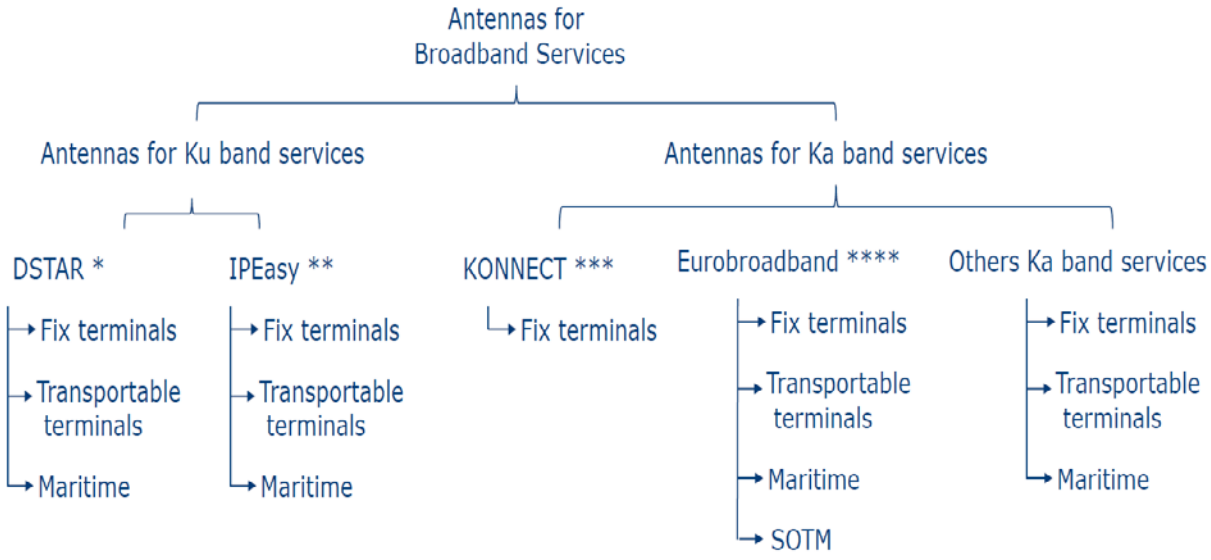
June 2025



eutelsat GROUP

Table of Contents

Type Approved & Characterized Antennas for Broadband Services Classification



* DSTAR will be dismissed in 06/2020
** IPEasy brand is temporary until different indication
*** KONNECT refers to antennas based on HNS technology
**** Eurobroadband brand is applied to antennas based on Viasat technologies over KASAT

EUTELSAT BROADBAND SERVICES 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 specific Eutelsat Broadband services (e.g. services via KA-SAT with Viasat technology).

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) for blanket license agreement;

For drive-away systems, the use of stabilization jacks during operations is mandatory;

The authorization to operate the terminal is conditioned to the approval to access the Eutelsat S.A. Space Segment
(ref. http://www.eutelsat.com/files/contributed/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/files/contributed/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.

KU-BAND SERVICES

IPEasy
and Eutelsat Advance

Fix Terminals

Type Approval Summary Sheet

Applicant:
Azure Shine Technology Co., Ltd.
No.998 Gwang Fu Road, Pa The City,
Taoyuan, 33455 Taiwan, R.O.C.

Tel: +8610 51665131
Web Site: http://www.azureshine.com.tw/

Contact point: Mrs.Pamela Lin
Tel: +886-3-3611393131
mailto: pamela@azureshine.com.tw

Certificate:
EB-047

Antenna:
GV-75XX-5900-00
with feed Model 07-0705-4007

Diameter:
0.75m x 0.78m, equivalent to 0.75m

Standard:
M

Approval date:
31 May 2018

Last submitted data:
16 May 2018

System Description:
Fixed long focal length Ku band VSAT antenna in combination with Azur Shine feed-OMT for a maximum of 4 Watt standard BUC LNB (2 ports linear). Front fed offset configuration, manual polarization adjustment by turning feed. Single piece stamped metal reflector 0.75 m horizontal and 0.78 m vertical dimension, equivalent to 0.75 m antenna aperture. Top pole Az/El Mount with metal antenna back structure The same antenna structure will also work with Ka band feed – see separate approval (ref. EB-048).

Configuration:
Standard configuration designed to operate within broadband services in Ku band (RF power maximum 4 Watt).
The Ka band option (RF power maximum 3 Watt) is covered in a separate approval (ref. EB-048).
Different brackets are used for the fixation of the Ka or Ku feed assembly.

Maximum Allowed EIRP:
For digital carriers transmitted at the satellite receive contour of 0 dB/K (EESS 502 refers).
31.7 dBW /40 kHz for an orbital satellite separation $\geq$ 1.5°
36.3 dBW /40 kHz for an orbital satellite separation $\geq$ 3.0°

Tx Frequency:
13.75 – 14.50 GHz

Tx Gain:
39.8 dBi (typical at 14.25 GHz)

Tx XPD:
$\geq$ 25.0 dB within -1 dB contour

Rx Frequency:
10.70 – 12.75 GHz

Rx Gain:
37.3 dBi (typical at 11.70 GHz)

Rx XPD:
$\geq$ 24.8 dB within -1 dB contour

G/T:
17.5 dB/K @ 11.70 GHz

Restrictions and remarks:

1) The terminal shall be used solely in VSAT Networks which are conformed with the EU regulations (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/files/contributed/satellites/pdf/esog110.pdf, ESOG 110).
3) This type approval has been performed at Catapult test range of Harwell U.K., on three units, from 20 to 24 November 2017.
4) The type approval's validity is subject to regular submission of patterns to confirm that the system remains compliant with the Eutelsat standard at the inspection date. Any change to the characterized configuration needs to be notified to Eutelsat and may be subject to further tests.
5) The antenna has been tested and is compliant in the 13.75 to 14.00 GHz frequency band, but transmissions in this band are subject to additional constraints imposed by the Radio Regulations. Earth Stations operating in this band shall have a minimum antenna diameter of 1.2m.
6) The terminal is designed for operating with OMT – BUC – LNB combination, with a maximum RF front end weight of 1.7 Kg, and for maximum wind speeds of up to 72 km/h.
7) This approval is valid only for antenna with reinforced back structure.
8) This approval applies to operations within broadband services only.

Type Approval Summary Sheet

Applicant:
Azure Shine Technology Co., Ltd.
No.998 Gwang Fu Road, Pa The City,
Taoyuan, 33455 Taiwan, R.O.C.

Tel: +8610 51665131
Web Site: http://www.azureshine.com.tw/

Contact point: Mrs.Pamela Lin
Tel: +886-3-3611393131
mailto: pamela@azureshine.com.tw

Certificate:
EB-048

Antenna:
GV-75XX-5900-00
With feed Model GA-0103-12G0

Diameter:
0.75m x 0.78m, equivalent to 0.75m

Standard:
M

Approval date:
31 May 2018

Last submitted data:
16 May 2018

System Description:
Fixed long focal length Ka band VSAT antenna in combination with Skyware Technologies XRF transceiver (2 ports linear) with a maximum of 3 Watt. Front fed offset configuration, manual polarization switching between RHCP and LHCP. Single piece stamped metal reflector 0.75 m horizontal and 0.78 m vertical dimension, equivalent to 0.75 m antenna aperture. Top pole Az/El Mount with metal antenna back structure The same antenna structure will also work with Ku band feed – see separate approval (ref. EB-047).

Configuration:
Standard configuration designed to operate within broadband services in Ka band (RF power maximum 3 Watt).
Ku band option (RF power maximum 4 Watt) is covered in a separate approval (ref. EB-047).
Different brackets are used for the fixation of the Ka or Ku feed assembly.
This approval covers only the utilization Skyware Technologies XRF transceiver.

Maximum Allowed EIRP:
For digital carriers transmitted at the **EUTELSAT 36C** satellite receive contour of 16 dB/K (EESS 502 refers).
31.7 dBW /40 kHz for an orbital satellite separation $\geq$ 1.5°
33.5 dBW /40 kHz for an orbital satellite separation $\geq$ 2.0°

Tx Frequency:
29.00 – 30.00 GHz

Tx Gain:
45.9 dBi (typical at 29.50 GHz)

Tx XPD:
$\geq$ 20.7 dB within -1 dB contour

Rx Frequency:
17.80 – 20.20 GHz

Rx Gain:
41.5 dBi (typical at 18.80 GHz)

Rx XPD:
$\geq$ 23.4 dB within -1 dB contour

G/T:
19.4 dB/K @ 19.95 GHz

Restrictions and remarks:

1) The terminal shall be used solely in VSAT Networks which are conformed with the EU regulations (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/files/contributed/satellites/pdf/esog110.pdf, ESOG 110).
3) This type approval has been performed at Catapult test range of Harwell U.K., on three units, from 22 to 24 November 2017.
4) The type approval's validity is subject to regular submission of patterns to confirm that the system remains compliant with the Eutelsat standard at the inspection date. Any change to the characterized configuration needs to be notified to Eutelsat and may be subject to further tests.
5) The terminal is designed for operating with an integrated transceiver assembly Skyware technology XRF only, with a maximum RF front end weight of 1.7 Kg, and for maximum wind speeds of up to 72 km/h.
6) This approval is valid only for antenna with reinforced back structure.
7) This approval applies to operations within broadband services only.

Type Approval Summary Sheet

Applicant:
Azure Shine International Inc.
No. 1000, Guangfu Rd., Bade Dist., Taoyuan City, 33455 Taiwan, R.O.C

Tel: +886-3-3611393 Ext.320
Web Site: http://www.azureshine.com.tw

Contact point: Mr. Anno Yeh
mailto: azureshine.en@azureshine.com.tw

Certificate:
EB-050
Antenna model:
GV-A0XX-6200-00
with Feed Model: 07-0705-4007
Diameter:
1 m
Standard:
M
Characterization Date:
27-11-2019
Last test data submitted on:
15-07-2019

System Description:
Antenna system with 100 cm galvanized steel reflector, operating in Ku frequency band antenna with F/D of 0.8, two port linear polarization feed and BUC of 8 W. The antenna has been manufactured by Azure Shine International Inc. and it is conceived for fixed broadband applications.

Feed Model: 07-0705-4007

Maximum Allowed EIRP: For digital carriers transmitted at the satellite receive contour of 0 dB/K (EESS 502 refers):

Orbital Satellite Separation	12.75 – 13.25 [GHz]	13.75 – 14.00 [GHz]	14.00 - 14.50 [GHz]
≥ 1.5°	36.1 [dBW/40 KHz]	34.6 [dBW/40 KHz]	34.6 [dBW/40 KHz]
≥ 2°	39.0 [dBW/40 KHz]	38.9 [dBW/40 KHz]	38.9 [dBW/40 KHz]
≥ 2.5°	42.4 [dBW/40 KHz]	41.9 [dBW/40 KHz]	42.0 [dBW/40 KHz]
≥ 3°	42.4 [dBW/40 KHz]	41.9 [dBW/40 KHz]	42.0 [dBW/40 KHz]

Tx Frequency:
12.75 – 14.50 GHz

Rx Frequency:
10.70 -12.50 GHz

Tx Gain:
41.3 dBi (typical at 14.25 GHz)

Rx Gain:
38 dBi (typical at 11.70 GHz)

Tx XPD:
≥26.1 dB within -1 dB contour (worst case)

Rx XPD:
≥45.3 dB at boresight and at 12.50 GHz

Pointing and windload error:
< 0.32°

G/T:
18.2 dB/K (theoretical)

Restrictions and remarks:

1) The access is assumed to be in TDMA mode on digital carriers of maximum 10 MSym/s
   The authorization to operate the terminal is conditioned to the approval to access the Eutelsat S.A. Space Segment (ref. http://www.eutelsat.com/files/contributed/satellites/pdf/esog110.pdf, ESOG 110).
2) This characterization has been performed at the test range of Thales in Cannes (France) in the month of July 2019.
3) The Characterization's validity is subject to regular submission of patterns to confirm that the system remains compliant with the Eutelsat standard.
4) The transmission in the band 13.75 - 14.00 GHz for antennas with diameter <1.2 m is subjected to the ITU radio regulation in force.

KU-BAND SERVICES

IPEasy
and Eutelsat Advance

Transportable Terminals

(Manual deploy)

Type Approval Summary Sheet

Applicant:

NEWTEC Cy N.V.
Laarstraat 5,
9100 Sint-Niklaas,
Belgium

Tel: +32 3 780 65 00
Fax: +32 3 780 65 49

Website :http://www.newtec.eu
mailto: bbae@newtec.eu

Certificate:
EB-018

Antenna model:
NEWTEC IP Easy
ANT 2025
Diameter:
1.077H x 1.00 V m
2-ports feed
Standard:
IP Easy M-x Ku band
Type Approval date:
23 May 2014
Most recent test data received on:
23 April 2014

System Description:
Manually pointed system operating in the Ku-band based on the Azure Shine International reflector with a Newtec feed and Global Invacom OMT/LNB. Single optic front fed offset, 1 piece, metallic reflector, and operating on Eutelsat Broadband Services only.
BUC ratings: 0.8 Watt and 2 Watt (maximum).

Maximum Allowed EIRP:

For digital carriers transmitted at the satellite receive contour of 0 dB/K (EESS 502 refers).
32.3 dBW / 4 KHz for an orbital separation of the adjacent satellite $\geq$ 2.5°
40.3 dBW / 40 KHz for an orbital separation of the adjacent satellite $\geq$ 2.0°
36.3 dBW / 40 kHz for an orbital separation of the adjacent satellite $\geq$ 1.0°

Tx Frequency:
14.00-14.50 GHz (see 7 below)

Rx Frequency:
10.70-12.75 GHz

Tx Gain:
42.3 dBi (typical at 14.25 GHz)

Rx Gain:
39.4 dBi (typical at 11.70 GHz)

Tx XPD:
$\geq$ 22.2 dB within -1 dB contour

Rx XPD:
$\geq$ 22.2 dB within -1 dB contour

Pointing error:
$\leq$ 0.2°

G/T:
18.9 dB/K @ 11.70 GHz

Restrictions:

1) The terminal shall be used solely in VSAT Networks which are conformed with the EU regulations 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/files/contributed/satellites/pdf/esog110.pdf ESOG110).
3) This type approval has been performed at the outdoor test range of CTS in Leatherhead on three units of the same model, in the month of March 2014.
4) The type approval's validity is subject to regular submission of patterns to confirm that the system remains compliant with the Eutelsat standard at the inspection date.
5) Any change to the type approved configuration needs to be notified to Eutelsat and may be subject to further tests.
6) The reflector has to be replaced with a spare one by a Newtec accredited dealer in case of visible damage to it.
7) The antenna has been tested and is compliant in the 13.75 to 14.00 GHz frequency band, but transmissions in this band are subject to additional constraints imposed by the Radio Regulations. Earth Stations operating in this band shall have a minimum antenna diameter of 1.2m.

Characterization Summary Sheet

Applicant:
Satcube AB
Anders Carlssons gata 7
Gothenburg
Sweden Box 7111,
SE-40232

Contact point: Mr. Jakob Kallmér
Tel: +46317010500

Website: www.satcube.com
mailto: info@satcube.com

Certificate:
EB-053
Antenna model:
GV-A0XX-6200-00
with Feed Model: 07-0705-4007
Size:
0.38m equivalent
Standard:
M
Characterization Date:
07-02-2020
Last test data submitted on:
23-12-2019

System Description:
0.47m x 0.32m (0.38m equivalent) VSAT panel, 2 ports linear polarized, for fixed Eutelsat Broadband services, based on a passive phased array technology with mechanical steering and manual pointing. This system includes a software routine, based on internal inertial center that allows manual pointing for azimuth and skew. The standard configuration of the terminal BUC is 50 Watt maximum.

Maximum Allowed EIRP: For digital carriers transmitted at the satellite receive contour of 0 dB/K (EESS 502 refers). The values below are valid only if the antenna is well aligned with the geostationary arc (see remark 4):

In the 13.75 - 14.00 GHz band:
24.9 dBW / 40 kHz for an orbital separation from the adjacent satellite $\geq$ 1.5°

In the 14.00 - 14.50 GHz band:
27.5 dBW / 40 kHz for an orbital separation from the adjacent satellite $\geq$ 1.5°

Tx Frequency:
13.75 – 14.50 GHz

Tx Gain:
32.0 dBi (typical at 14.25 GHz)

Tx XPD:
$\geq$35 dB within -1 dB contour

Rx Frequency:
10.95 -12.75 GHz

Rx Gain:
30.3 dBi (typical at 11.70 GHz)

Rx XPD:
$\geq$30 dB at -1 dB contour

G/T:
8.8 dB/K @ 11.70 GHz (ref. Applicant measurement)

Restrictions and remarks:

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/files/contributed/satellites/pdf/esog110.pdf, ESOG 110).
2) This antenna could be used in both transmit and receive sides in conjunction with spread spectrum or CDMA modems. The association of this antenna with SCPC/TDMA modems is conditioned to the existence of a Eutelsat valid transmission plan.
3) RF performance tests were performed on one antenna unit at the test range of TTI (Spain) in the month of November 2019.
4) The antenna is equipped with a software routine that prevents the antenna from transmitting when it is not well aligned with the geostationary arc. The antenna pointing and alignment has to be performed by the installer manually.
5) The transmission in the band 13.75 - 14.00 GHz for antennas with diameter <1.2 m is subjected to the ITU radio regulation in force.
6) Due to the presence of a mute functionality in the system software, only the azimuth and elevation planes (which meet the Eutelsat EESS 502 envelope for standard M) are of interest for the co-polar and cross-polar analysis.
7) The Characterization's validity is subject to regular submission of patterns to confirm that the system remains compliant with the Eutelsat standard.

KA-BAND SERVICES

KONNECT

Fix Terminals

Type Approval Summary Sheet

Applicant:

Hughes Network System
Germantown, Maryland, United States
Contact: B.T.Shyamakrishnan, PMP
Mob: +1 240 351 8776
mailto: bt.shyamakrishnan@hughes.com

Certificate:
EB-FXV-JNS-074-828
Antenna model:
74 cm antenna from Jonsa equipped with HNS Jupiter 2 HB210 transceiver

Diameter:
74 cm
Standard:
M
Type Approval Date:
16 May 2025
Last test data submitted on:
December 2024

System Description:
Jonsa Ka band 74 cm metallic offset antenna, for fixed applications, equipped with the Hughes Networks and Systems (HNS) HB210 transceiver for Jupiter 2 system and the feed horn. The transceiver integrates a 2W SSPA, the LNB and the OMT. The selection of the polarization (RHCP or LHCP) is done manually.

Maximum Allowed EIRP: For digital carriers transmitted KVHTS receive contour of 18 dB/K (EESS 502 refers):

Orbital Satellite Separation	EIRP Density Limitations
1.5° - 2°	28.9 [dBW/40KHz]
2° - 2.5°	29.4 [dBW/40KHz]
2.5° - 3°	29.6 [dBW/40KHz]
>3°	28.7 [dBW/40KHz]

Tx Frequency:
29.5 - 30.00 GHz

Rx Frequency:
17.7 - 20.20 GHz

Tx Gain:
45.3 dBi (typical at 29.75 GHz)

Rx Gain:
41.4 dBi (typical at 19 GHz)

Tx XPD:
≥21.7 dB within -1 dB contour (worst case)

Rx XPD:
≥19.8 dB @ within -1 dB contour (worst case)

G/T:
18.2 dB/K @19 GHz theoretical assuming LNB NF=1.7 dB.

Restrictions and remarks:

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/files/contributed/satellites/pdf/esog110.pdf, ESOG 110).
2) The measurements for type approval have been performed at the test range of Thales Alenia Space in Cannes (France) on December 2024 on 3 antennas.
3) The type approval must be coordinated with the transmission plans operated over KONNECT and KVHTS.
4) The efficiency of the dish is 65%, estimated at 29.75 GHz.

Type Approval Summary Sheet

Applicant:

Eutelsat System Integration
70 rue Balard
75015 Paris Cedex

Tel: +33 1 5398 4682
Web Site: http://www.eutelsat.com

Certificate:
EB-041

Antenna:
Model 74 cm Ka band with Hughes Jupiter 2
Diameter:
0.91m hor., 0.66m vert. equivalent 0.74 m
Standard:
M
Approval date:
01 September 2016
Last submitted data:
September 2021

System Description:
2 ports long focal length Ka band VSAT antenna in combination with Hughes Jupiter 2 transceiver. Front fed offset configuration, manual polarization switching between RHCP and LHCP. Elliptical single piece stamped metal reflector 0.91 m horizontal and 0.66 m vertical dimension, equivalent to 0.74 m antenna aperture. Top and mid pole Az/El mounts with SMC antenna back structure and steel boom arm. This approval covers only the utilization of the Hughes Jupiter 2 transceiver.

Configurations:
Standard configuration designed to work with a variety of transceivers attached with different brackets to the feed-boom. This approval covers only the utilization with the Hughes Jupiter 2 transceiver (RF power maximum 2.5 Watt).
Reflector: 1504915-0001; Az/El top mount Kit: 1504915-0101

Maximum Allowed EIRP:
For digital carriers transmitted at the **EUTELSAT 65 WA and Konnect** (African Coverage) satellites receive contour of 12 dB/K ; for **Konnect** satellite receive contour of 14 dB/K for European Coverage (EESS 502, § 6.1 refers):

Orbital Satellite Separation	European Coverage	African Coverage
≥ 1.5°	28.7 [dBW/40KHz]	30.7 [dBW/40KHz]
≥ 2°	31.0 [dBW/40KHz]	33.0 [dBW/40KHz]

Tx Frequency:
29.50 - 30.00 GHz

Tx Gain:
44.0 dBi @ 29.50 GHz

Tx XPD:
≥ 23.2 dB within -1 dB contour

Rx Frequency:
17.70 – 20.20 GHz

Rx Gain:
41.0 dBi @ 19.70 GHz

Rx XPD:
≥ 22 dB within -1 dB contour

G/T:
18.8 dB/K @ 19.70 GHz

Remarks:
1) Class I is designed for operating with an integrated transceiver Jupiter 2 of Hughes.
2) To be operated for maximum wind speeds of up to 72 km/h. The antenna originally designed with an Az/El top pole mount has been modified and validated on September 2021 in order to support the mid pole mount on 60mm/2mm masts and max 75 cm long 50mm/2mm masts the antenna can be installed only at 74cm from ground.
3) Maximum RF front end weight 1.7 kg.

Type Approval Summary Sheet

Applicant:

Global Skyware
1315 Outlet Center Drive
Smithfield, NC 27577
Office: 919-989-2296
Cell: 336-831-4492

Contact Hamid Moheb
mailto: hamidmoheb@globalskyware.com

Certificate:
EB-057

Antenna model:
90 cm antenna equipped with
HNS Jupiter 2 transceiver
feed horn P/N 1505109-0001 rev. A
feed horn P/N 1504862-0001 rev. A

Diameter:
90 cm

Standard:
M

Characterization Date:
26 August 2020

Last test data submitted on:
15 June 2020

System Description:
Ka band 90 cm offset antenna, for fix applications, equipped with the Hughes Networks and Systems (HNS) transceiver for Jupiter 2 system and the feed horns P/N 1505109-0001 rev. A and P/N 1504862-0001 rev. A. The transceiver integrates a 1W SSPA, the LNB and the OMT. The selection of the polarization (RHCP or LHCP) is done by dismounting the feed horn which host also the polarizer and rotating it by 90 degrees. The antenna can be used only on KONNECT Satellite.

Maximum Allowed EIRP: For digital carriers transmitted at KONNECT satellite receive contour of 14 dB/K for European coverage and 12 dB/K for African coverage (EESS 502 refers):

Orbital Satellite Separation	European Coverage	African Coverage
≥ 1.5°	32.6 [dBW/40KHz]	34.6 [dBW/40KHz]
≥ 2°	33.5 [dBW/40KHz]	35.5 [dBW/40KHz]

Tx Frequency:
29.50 - 30.00 GHz

Tx Gain:
45.3 dBi (typical at 29.75 GHz)

Tx XPD:
≥21.6 dB within -1 dB contour (worst case)

Rx Frequency:
17.70 - 20.20 GHz

Rx Gain:
42.1 dBi (typical at 18.95 GHz)

Rx XPD:
≥20.9 dB @ within -1 dB contour (worst case)

G/T:
19.7 dB/K theoretical assuming LNB NF=1.5 dB.

Restrictions and remarks:

1) The antenna has been designed in order to be operated only over KONNECT satellite with the HNS Jupiter 2 technology and waveform.
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/files/contributed/satellites/pdf/esog110.pdf, ESOG 110).
3) The measurements for type approval has been performed at the test range of Thales Alenia Space in Cannes (France) on 11th June 2020 on 4 antennas.
4) The type approval must be coordinated with the transmission plans operated over KONNECT.
5) The efficiency of the dish is 43 %, estimated at 29.75 GHz.

Type Approval Summary Sheet

Applicant:

Eutelsat System Integration
70 rue Balard
75015 Paris Cedex

Tel: +33 1 5398 4682
Web Site: http://www.eutelsat.com

Certificate:
EB-040

Antenna:
Model 127 cm Ka band with Hughes Jupiter 2

Diameter:
1.20 m

Standard:
M

Approval date:
28 July 2016

Last submitted data:
May 2016

System Description:
2 ports long focal length Ka band VSAT antenna in combination with Hughes Jupiter 2 transceiver Front fed offset configuration, electronic polarization switching. Single piece 1,2 m SMC reflector. Top pole Az/El Mount with SMC antenna back structure and steel boom arm.

Configuration:

Standard VSAT for fixed applications. This approval covers only the utilization with the Hughes Jupiter 2 transceiver (RF power maximum 2.5 Watt) although this system is designed to work with a variety of Transceivers.
Reflector 1504178-0021; AZ EL mount 1504178-0002; complete antenna unit SKY.G 62-1276111

Maximum Allowed EIRP:
For digital carriers transmitted at the **EUTELSAT 65WA and Konnect** (African Coverage) satellites receive contour of 12 dB/K ; for **Konnect** satellite receive contour of 14 dB/K for European Coverage (EESS 502, § 6.1 refers):

Orbital Satellite Separation	European Coverage	African Coverage
≥ 1.5°	34.1 [dBW/40KHz]	36.1 [dBW/40KHz]

Tx Frequency:
29.50 – 30.00 GHz

Tx Gain:
48.3 dBi (typical at 29.50 GHz)

Tx XPD:
>20.2 dB within -1 dB contour

Rx Frequency:
17.70 - 20.20 GHz

Rx Gain:
44.7 dBi (typical at 19.70 GHz)

Rx XPD:
>20.4 dB within -1 dB contour

G/T:
22.5 dB/K at 19.70 GHz

Remarks:
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/files/contributed/satellites/pdf/esog110.pdf, ESOG 110).
2) Class I is designed for operating with an integrated transceiver Jupiter 1 manufactured by Hughes.
3) Maximum RF front end weight 1.7 Kg.
4) To be operated for maximum wind speeds of up to 72 Km/h.
5) Approval valid if antenna is sold with a 2 7/8 inch and a 3.0 inch canister to enable worldwide secure installation.

KA-BAND SERVICES

KONNECT

Transportable Terminals

Characterization Summary Sheet

Applicant:

Paul Seguin
Senior Technical Advisor
C-COM Satellite Systems Inc
2574 Sheffield Road
Ottawa, Canada
K1B 3V7
voice: 613-745-4110 ext. 4974
toll free: 877-463-8886 ext. 4974
fax: 613-745-7144
mobile: 613-857-4184
email: pseguin@c-comsat.com
web site: www.c-comsat.com

Certificate:
EB-DOP-CCO-075-587

Antenna model:
MA-Ma-74G-3 Axis
Reflector: Jonsa E0741V036D-01
Pointing System: iNetVu 7710
Feed System: Skyware Global XRF

Diameter:
0.75 m

Standard:
M

Characterization Date:
29/10/2021

Last test data submitted on:
04/10/2021

System Description:
Antenna terminal with auto-pointing system for drive-away services. It consists of an offset front fed antenna reflector with elliptical size (Hor. Axis: 0.74m / Ver. Axis: 0.77m, equivalent to 0.75m circular), with F/D of 0.8. It is equipped with a BUC of max 4.0 W.

Maximum Allowed EIRP: For digital carriers transmitted at the satellite receive contour of 14 dB/K (EESS 502 refers) on Konnect satellite:

Frequency (GHz)	**29**	**29.5**	**30**
Region ≥ 1.5°	30.7 dBW/40KHz	30 dBW/40KHz	29.6 dBW/40KHz
Region ≥ 2.0°	33.2 dBW/40KHz	34.6 dBW/40KHz	34.6 dBW/40KHz
Region ≥ 2.5°	24.5 dBW/4KHz (eq. 34.5 dBW/40KHz)	34.7 dBW/40KHz	34.6 dBW/40KHz

Tx Frequency:
29.00 – 30.00 GHz

Tx Gain:
44.9 dBi (typical at 29.50 GHz)

Tx XPD:
≥20.8 dB within -1 dB contour
(worst case at 29.00 GHz)

Pointing and wind load error:
< 0.36°

Rx Frequency:
17.70 -20.20 GHz

Rx Gain:
41.2 dBi (typical at 19.20 GHz)

Rx XPD:
≥19.9 dB at boresight and at 17.30 GHz in RHCP

G/T:
18.4 dB/K theoretical assuming NF for the LNB of 1.6 dB.

Restrictions and remarks:

1) The access is assumed to be in TDMA mode on digital carriers of maximum 10 MSym/s
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/files/contributed/satellites/pdf/esog110.pdf, ESOG 110).
3) This Characterization has been performed at the test range of Catapult in Harwell Campus (Oxford, UK) between September and October 2021.
4) The Characterization's validity is subject to regular submission of patterns to confirm that the system remains compliant with the Eutelsat standard.

KA-BAND SERVICES

EUROBROADBAND

Fix Terminals

Type Approval Summary Sheet

Applicant:

Eutelsat System Integration
70 rue Balard
75015 Paris Cedex

Tel: +33 1 5398 4682
Web Site: http://www.eutelsat.com

Certificate:
EB-035

Antenna:
Model 74 cm Ka band with ViaSat E TRIA

Diameter:
0.91m hor., 0.66m vert. equivalent 0.74 m

Standard:
M

Approval date:
28 July 2016

Last submitted data:
May 2016

System Description:
Long focal length Ka band VSAT antenna in combination with ViaSat E TRIA transceiver. Front fed offset configuration, electronic polarization switching between RHCP and LHCP. Elliptical single piece stamped metal reflector 0.91 m horizontal and 0.66 m vertical dimension, equivalent to 0.74 m antenna aperture. Top pole Az/El Mount with SMC antenna backstructure and steel boom arm suitable for a variety of different Transceivers. This approval covers only the utilization of the ViaSat E TRIA transceiver (RF power maximum 4W).

Configurations:
Standard configuration designed to work with a variety of transceivers attached with different brackets to the feedboom. This approval covers only the utilization with the ViaSat E TRIA transceiver.
Reflector: 6116039-01; Azel Mount Kit: 6116139-01

Maximum Allowed EIRP:
For digital carriers transmitted at the **EUTELSAT KA-SAT 9A** satellite receive contour of 18 dB/K (EESS 502, § 6.1 refers):
24.6 dBW for 40 kHz for an orbital satellite separation $\geq$ 1.5°
27.4 dBW for 40 kHz for an orbital satellite separation $\geq$ 2.5°

Tx Frequency:
29.0 – 30.00 GHz

Rx Frequency:
19.20 – 20.20 GHz

Tx Gain:
44.4 dBi @ 29.50 GHz

Rx Gain:
41.0 dBi @ 19.07 GHz

Tx XPD:
>23.8 dB within -1 dB contour

Rx XPD:
>22 dB within -1 dB contour

G/T:
18.6 dB/K @ 19.70 GHz

Remarks:

1) Class I is designed for operating with an integrated transceiver E TRIA of ViaSat.
2) Maximum RF front end weight 1.7 Kg.
3) To be operated for maximum wind speeds of up to 72 Km/h.
4) Approval is subject to successful completion of pointing test before end 2016.

Type Approval Summary Sheet

Applicant:

Eutelsat System Integration
70 rue Balard
75015 Paris Cedex

Tel: +33 1 5398 4682
Web Site: http://www.eutelsat.com

Certificate:
EB-041

Antenna:
Model 74 cm Ka band with Hughes Jupiter 2
Diameter:
0.91m hor., 0.66m vert. equivalent 0.74 m
Standard:
M
Approval date:
01 September 2016
Last submitted data:
September 2021

System Description:
2 ports long focal length Ka band VSAT antenna in combination with Hughes Jupiter 2 transceiver. Front fed offset configuration, manual polarization switching between RHCP and LHCP. Elliptical single piece stamped metal reflector 0.91 m horizontal and 0.66 m vertical dimension, equivalent to 0.74 m antenna aperture. Top and mid pole Az/El mounts with SMC antenna back structure and steel boom arm. This approval covers only the utilization of the Hughes Jupiter 2 transceiver.

Configurations:
Standard configuration designed to work with a variety of transceivers attached with different brackets to the feed-boom. This approval covers only the utilization with the Hughes Jupiter 2 transceiver (RF power maximum 2.5 Watt).
Reflector: 6116039-01; 1504915-0001; Az/El top mount Kit: 6116139-01; Az/El mid/top mount Kit: 6116999-01

Maximum Allowed EIRP:
For digital carriers transmitted at the **EUTELSAT 65 WA and Konnect** (African Coverage) satellites receive contour of 12 dB/K ; for **Konnect** satellite receive contour of 14 dB/K for European Coverage (EESS 502, § 6.1 refers):

Orbital Satellite Separation	European Coverage	African Coverage
≥ 1.5°	28.7 [dBW/40KHz]	30.7 [dBW/40KHz]
≥ 2°	31.0 [dBW/40KHz]	33.0 [dBW/40KHz]

Tx Frequency:
29.50 - 30.00 GHz

Tx Gain:
44.0 dBi @ 29.50 GHz

Tx XPD:
≥ 23.2 dB within -1 dB contour

Rx Frequency:
17.70 – 20.20 GHz

Rx Gain:
41.0 dBi @ 19.70 GHz

Rx XPD:
≥ 22 dB within -1 dB contour

G/T:
18.8 dB/K @ 19.70 GHz

Remarks:
1) Class I is designed for operating with an integrated transceiver Jupiter 2 of Hughes.
2) To be operated for maximum wind speeds of up to 72 km/h. The antenna originally designed with an Az/El top pole mount has been modified and validated on September 2021 in order to support the mid pole mount on 60mm/2mm masts and max 75 cm long 50mm/2mm masts the antenna can be installed only at 74cm from ground.
3) Maximum RF front end weight 1.7 kg.

Type Approval Summary Sheet

Applicant:

Eutelsat System Integration
70 rue Balard
75015 Paris Cedex

Tel: +33 1 5398 4682
Web Site: http://www.eutelsat.com

Certificate:
EB-037

Antenna:
Model 0.98 m Ka band with ViaSat E TRIA

Diameter:
0.98 m

Standard:
M

Approval date:
28 July 2016
Last submitted data:
May 2016

System Description:
2 ports long focal length Ka band VSAT antenna in combination with ViaSat E TRIA Transceiver for circular polarization. Front fed offset configuration, manual polarization switching. Single piece 0.98 m TMC reflector. Top pole Az/El Mount with TMC antenna back structure and steel boom arm.

Configuration:
Tested configuration designed to work with a variety of Transceivers, however this approval covers only the utilization with the ViaSat E TRIA transceiver (RF power maximum 4 Watt).

Reflector 1504178-0021; AZ EL mount 1504178-0002; complete antenna unit SKY.G 62-9886111

Maximum Allowed EIRP:
For digital carriers transmitted at the **EUTELSAT KA-SAT 9A** satellite receive contour of 18 dB/K (EESS 502 refers)
20.9 dBW /4 kHz (equivalent to 30.9 dBW/40 kHz) for an orbital satellite separation $\geq$ 1.5°

Tx Frequency:
29.0 – 30.00 GHz

Rx Frequency:
19.20 – 20.20 GHz

Tx Gain:
46.1 dBi @ 29.50 GHz

Rx Gain:
42.5 dBi @ 19.70 GHz

Tx XPD:
>21.5 dB within -1 dB contour

Rx XPD:
>20.9 dB within -1 dB contour

G/T:
20.4 dB/K @ 19.70 GHz

Remarks:

1) Class I is designed for operating with an integrated transceiver E TRIA of ViaSat.
2) Maximum RF front end weight 1.7 Kg.
3) To be operated for maximum wind speeds of up to 72 Km/h.
4) Approval is subject to successful completion of pointing test before end 2016.

Type Approval Summary Sheet

Applicant:

Eutelsat System Integration
70 rue Balard
75015 Paris Cedex

Tel: +33 1 5398 4682
Web Site: http://www.eutelsat.com

Certificate:
EB-038

Antenna:
Model 127cm Ka band
with ViaSat E TRIA

Diameter:
1.2 m

Standard:
M

Approval date:
28 July 2016

Last submitted data:
May 2016

System Description:
2 ports long focal length Ka band VSAT antenna in combination with ViaSat E TRIA transceiver Front fed offset configuration, electronic polarization switching. Single piece 1,2 m SMC reflector. Top pole Az/El Mount with SMC antenna back structure and steel boom arm.

Configuration:

Standard VSAT for fixed applications. This approval covers only the utilization with the E TRIA transceiver (RF power maximum 4 Watt) manufactured by Viasat although this system is designed to work with a variety of Transceivers. The utilization of another transceiver/ feed requires a separate Type approval of the antenna.

Subreflector 1504178-0021; AZ EL mount 1504178-0002; complete antenna unit SKY.G 62-1276111

Maximum Allowed EIRP:
For digital carriers transmitted at the **EUTELSAT KA-SAT 9A** satellite receive contour of 18 dB/K (EESS 502)
21.8 dBW / 4 kHz (equivalent to 31.8 dBW / 40 kHz) for satellite orbital separations $\geq$ 1.5°

Tx Frequency:
29.00 – 30.00 GHz

Tx Gain:
48.9 dBi (typical at 29.50 GHz)

Tx XPD:
>23.0 dB within -1 dB contour

Rx Frequency:
19.20 - 20.20 GHz

Rx Gain:
45.0 dBi (typical at 19.70 GHz)

Rx XPD:
>20.6 dB within -1 dB contour

G/T:
22.8 dB/K at 19.70 GHz

Remarks:

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/files/contributed/satellites/pdf/esog110.pdf, ESOG 110).
2) Class I is designed for operating with an integrated transceiver E TRIA manufactured by ViaSat
3) Maximum RF front end weight 1.7 Kg.
4) To be operated for maximum wind speeds of up to 72 Km/h.
5) Approval valid if antenna is sold with a 2 7/8 inch and a 3.0 inch canister to enable worldwide secure installation.

Type Approval Summary Sheet

Applicant:

Eutelsat System Integration
70 rue Balard
75015 Paris Cedex

Tel: +33 1 5398 4682
Web Site: http://www.eutelsat.com

Certificate:
EB-039

Antenna:
Model 127 cm Ka band with Hughes Jupiter 1

Diameter:
1.20 m

Standard:
M

Approval date:
28 July 2016

Last submitted data:
May 2016

System Description:
2 ports long focal length Ka band VSAT antenna in combination with Hughes Jupiter 1 Transceiver Front fed offset configuration, electronic polarization switching. Single piece 1,2 m SMC reflector. Top pole Az/El Mount with SMC antenna back structure and steel boom arm.

Configuration:

Standard VSAT for fixed applications. This approval covers only the utilization with the Jupiter 1 transceiver (RF power 1 Watt) manufactured by Hughes although this system is designed to work with a variety of Transceivers. The utilization of another transceiver/ feed requires a separate Type approval of the antenna.

Subreflector 1504178-0021; AZ EL mount 1504178-0002; complete antenna unit SKY.G 62-1276111

Maximum Allowed EIRP:
For digital carriers transmitted at the **EUTELSAT 65W A** satellite receive contour of 12 dB/K (EESS 502)
26.1 dBW / 4 kHz (equivalent to 36.1dBW / 40 kHz) for satellite orbital separations $\geq$ 1.5°

Tx Frequency:
29.00 – 30.00 GHz

Tx Gain:
48.9 dBi (typical at 29.50 GHz)

Tx XPD:
>20.2 dB within -1 dB contour

Rx Frequency:
19.20 - 20.20 GHz

Rx Gain:
45.2 dBi (typical at 19.70 GHz)

Rx XPD:
>20.2 dB within -1 dB contour

G/T:
23.12 dB/K at 19.70 GHz

Remarks:
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/files/contributed/satellites/pdf/esog110.pdf, ESOG 110).
2) Class I is designed for operating with an integrated transceiver Jupiter 1 manufactured by Hughes
3) Maximum RF front end weight 1.7 Kg.
4) To be operated for maximum wind speeds of up to 72 Km/h.
5) Approval valid if antenna is sold with a 2 7/8 inch and a 3.0 inch canister to enable worldwide secure installation.

Type Approval Summary Sheet

Applicant:

Eutelsat System Integration
70 rue Balard
75015 Paris Cedex

Tel: +33 1 5398 4682
Web Site: http://www.eutelsat.com

Certificate:
EB-040

Antenna:
Model 127 cm Ka band with Hughes Jupiter 2

Diameter:
1.20 m

Standard:
M

Approval date:
28 July 2016

Last submitted data:
May 2016

System Description:
2 ports long focal length Ka band VSAT antenna in combination with Hughes Jupiter 2 transceiver Front fed offset configuration, electronic polarization switching. Single piece 1,2 m SMC reflector. Top pole Az/El Mount with SMC antenna back structure and steel boom arm.

Configuration:

Standard VSAT for fixed applications. This approval covers only the utilization with the Hughes Jupiter 2 transceiver (RF power maximum 2.5 Watt) although this system is designed to work with a variety of Transceivers.
Reflector 1506307-001; AZ EL mount 1506307-0101

Maximum Allowed EIRP:
For digital carriers transmitted at the **EUTELSAT 65WA and Konnect** (African Coverage) satellites receive contour of 12 dB/K ; for **Konnect** satellite receive contour of 14 dB/K for European Coverage (EESS 502, § 6.1 refers):

Orbital Satellite Separation	European Coverage	African Coverage
≥ 1.5°	34.1 [dBW/40KHz]	36.1 [dBW/40KHz]

Tx Frequency:
29.50 – 30.00 GHz

Tx Gain:
48.3 dBi (typical at 29.50 GHz)

Tx XPD:
>20.2 dB within -1 dB contour

Rx Frequency:
17.70 - 20.20 GHz

Rx Gain:
44.7 dBi (typical at 19.70 GHz)

Rx XPD:
>20.4 dB within -1 dB contour

G/T:
22.5 dB/K at 19.70 GHz

Remarks:
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/files/contributed/satellites/pdf/esog110.pdf, ESOG 110).
2) Class I is designed for operating with an integrated transceiver Jupiter 1 manufactured by Hughes.
3) Maximum RF front end weight 1.7 Kg.
4) To be operated for maximum wind speeds of up to 72 Km/h.
5) Approval valid if antenna is sold with a 2 7/8 inch and a 3.0 inch canister to enable worldwide secure installation.

Type Approval Summary Sheet

Applicant:

ProBrand International Inc.
1900 West Oak Circle
Marietta, GA 30062 USA

Web Site: www.probrandintl.com

Contact point: Eric Shin / Gavin Cox
Tel: +1678 741 2228 / +44 1706 224 710
mailto: eric@pbigroup.com / gavincox@pbigroup.com

Certificate:
EB-044

Antenna:
ViaSat order n° 12011831 / 12011832
PBI SN 6000081
for ViaSat mechanical TRIA

Diameter:
0.74 m

Standard:
M

Approval date:
30 June 2017

Last submitted data:
March 2017

System Description:
Ka band low cost standard VSAT offset antenna with metal reflector and manual pointing. Modified AZ/El mount for European market to meet Eutelsat stability requirements. Mid pole fixation to about 60 mm mast. Antenna manufactured by Pro Brand International exclusively for Viasat Ka band broadband services Antenna adapted only for the ViaSat mechanical TRIA.

Configurations:
The antenna version for the US market has been rejected due to stability reasons. The Type approval is only valid for the antenna equipped with the European mid pole mount and with a RF power maximum 3 Watt.

Maximum Allowed EIRP:
For digital carriers transmitted at the **KA-SAT** satellite receive contour of 18 dB/K (EESS 502 refers):
25.2 dBW for 40 kHz for an orbital satellite separation $\geq$ 1.5°
27.6 dBW for 40 kHz for an orbital satellite separation $\geq$ 2.0°

Tx Frequency:
29.00 – 30.00 GHz

Tx Gain:
44.1 dBi @ 29.75 GHz

Tx XPD:
$\geq$ 20.4 dB within -1 dB contour

Rx Frequency:
19.70 – 20.20 GHz

Rx Gain:
40.7 dBi (average) @ 19.95 GHz

Rx XPD:
$\geq$ 20.8 dB within -1 dB contour

G/T:
18.4 dB/K @ 19.95 GHz

Remarks:

1) Designed for operating with an integrated transceiver ViaSat mechanical TRIA only.
2) This approval only convers the antennas with European mid pole AZ/El mount.

Type Approval Summary Sheet

Applicant:

ProBrand International Inc.
1900 West Oak Circle
Marietta, GA 30062 USA

Web Site: www.probrandintl.com

Contact point: Eric Shin / Gavin Cox
Tel: +1678 741 2228 / +44 1706 224 710
mailto: eric@pbigroup.com / gavincox@pbigroup.com

Certificate:
EB-045

Antenna:
ViaSat order n° 12011831 / 12011832
PBI SN 6000071
for ViaSat E TRIA

Diameter:
0.74 m

Standard:
M

Approval date:
30 June 2017

Last submitted data:
March 2017

System Description:
Ka band low cost standard VSAT offset antenna with metal reflector and manual pointing. Modified AZ/El mount for European market to meet Eutelsat stability requirements. Mid pole fixation to about 60 mm mast. Antenna manufactured by Pro Brand International exclusively for Viasat Ka band broadband services Antenna adapted only for the ViaSat E TRIA.

Configurations:
The antenna version for the US market has be rejected due to stability reasons. The Type approval is only valid for the antenna equipped with the European mid pole mount and with a RF power maximum 3 Watt.

Maximum Allowed EIRP:
For digital carriers transmitted at the **KA-SAT** satellite receive contour of 18 dB/K (EESS 502 refers):
25.2 dBW for 40 kHz for an orbital satellite separation $\geq$ 1.5°
27.6 dBW for 40 kHz for an orbital satellite separation $\geq$ 2.0°

Tx Frequency:
29.00 – 30.00 GHz

Tx Gain:
44.6 dBi @ 29.75 GHz

Tx XPD:
$\geq$ 22.5 dB within -1 dB contour

Rx Frequency:
19.70 – 20.20 GHz

Rx Gain:
40.7 dBi (average) @ 19.95 GHz

Rx XPD:
$\geq$ 20.8 dB within -1 dB contour

G/T:
19.1 dB/K @ 19.95 GHz

Remarks:
1) Designed for operating with an integrated transceiver ViaSat E TRIA only.
2) This approval covers only the antennas with European mid pole AZ/El mount.

Type Approval Summary Sheet

Applicant:

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

Certificate:
EB-002

Antenna model:
ViaSat Surfbeam 2
72 cm consumer User Terminal
(Skyware Global antenna)

Diameter:
0.75H X 0.72V m
2-ports feed

Standard:
M

Type Approval date:
27 July 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) and from an orbital separation of the adjacent satellite $\geq$ 2.0°.

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 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/files/contributed/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.

Type Approval Summary Sheet

Applicant:

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

Certificate:
EB-016
Antenna model:
Backwards compatibility adapter
ViaSat Surfbeam 2
72 cm consumer User Terminal
(Skyware Global antenna)
Diameter:
0.75H x 0.72V m
2-ports feed
Standard:
M
Type Approval date:
23 May 2014
Most recent test data received on:
07 February 2014

System Description:
Single optic front fed offset, 1 piece, metallic reflector. Antenna manufactured by Skyware Global and type approved on 27 July 2011 with mechanical TRIA.
Integrated ViaSat E TRIA (feed, BUC, OMT, LNBs), circular polarization.
BUC: maximum rating 3 Watt and maximum output power 2 Watt.

Maximum Allowed EIRP:

29.4 dBW/40kHz for digital carriers transmitted at the 18 dB/K satellite receive contour of KA-SAT (EESS 502 refers) and for an orbital separation of the adjacent satellite ≥ 2.0°.

Tx Frequency:
29.50 – 30.00 GHz

Rx Frequency:
19.70 - 20.20GHz

Tx Gain:
45.2 dBi (typical at 29.75 GHz)

Rx Gain:
41.7 dBi (typical at 19.95 GHz)

Tx XPD:
≥27.3 dB within -1 dB contour

Rx XPD:
≥24.2 dB within -1 dB contour

Pointing error:
<0.4°

G/T:
17.8 dB/K @ 19.95 GHz, elevation 20°

Restrictions:

1) The terminal shall be used solely in VSAT Networks which are conformed with the EU regulations 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/files/contributed/satellites/pdf/esog110.pdf ESOG110).
3) This type approval has been performed at the indoor compact test range of PBI in Marietta, Atlanta Georgia on three units in the month of December 2013.
4) The type approval's validity is subject to regular submission of patterns to confirm that the system remains compliant with the Eutelsat standard at the inspection date.
5) Any change to the characterised configuration needs to be notified to Eutelsat and may be subject to further tests.

Type Approval Summary Sheet

Applicant:

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

Certificate:
EB-003

Antenna model:
ViaSat Tooway Profe**s**sional
1.2 m Professional User Terminal

Diameter:
1.2 m
2-ports feed

Standard:
M

Type Approval date:
06 September 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:

21.2 dBW/4kHz (equivalent to 31.2 dBW/40 kHz) for digital carriers transmitted at the 18 dB/K satellite receive contour of KA-SAT (EESS 502, § 6.1 refers) and from an orbital separation of the adjacent satellite $\geq$ 2.0°.

Tx Frequency:
29.50 – 30.00 GHz

Tx Gain:
49.6 dBi (typical at 29.75 GHz)

Tx XPD:
>22.0 dB within -1 dB contour

Rx Frequency:
19.70 - 20.20 GHz

Rx Gain:
46.5 dBi (typical at 19.95 GHz)

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/files/contributed/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).

Type Approval Summary Sheet

Applicant:

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

Tel: +1 760 476 7436
Fax: +1 760 929 3934
mailto: jose.padilla@viasat.com

Certificate:
EB-021

Antenna model:
ViaSat Tooway Professional
1.2 m Professional User Terminal
with integrated ViaSat eTRIA

Diameter:
1.2 m
2-ports feed

Standard:
M

Type Approval date:
02 September 2014

Most recent test data received on:
05 August2014

System Description:
Single optic front fed offset, 1 piece, sheet molding compound (SMC) Prodelin – GD Satcom reflector.
Integrated ViaSat eTRIA (Feed horn, BUC, OMT, LNBs), circular polarization.
BUC: maximum rating 4 Watt.

Maximum Allowed EIRP:

20.3 dBW/4 kHz for digital carriers transmitted at the 18 dB/K satellite receive contour of KA-SAT (EESS 502 refers) and for orbital separation of the adjacent satellite $\geq$ 2.0°.

Tx Frequency:
29.50 – 30.00 GHz

Tx Gain:
49.9 dBi (typical at 29.75 GHz)

Tx XPD:
$\geq$20.5 dB within -1 dB contour

Rx Frequency:
19.70 - 20.20 GHz

Rx Gain:
46.3 dBi (typical at 19.95 GHz)

Rx XPD:
$\geq$17.6 dB within -1 dB contour

G/T:
23.6 dB/K @ 19.95 GHz, elevation 15°

Restrictions:

1) The terminal shall be used solely in VSAT Networks which are conformed with the EU regulations 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/files/contributed/satellites/pdf/esog110.pdf ESOG110).
3) This type approval has been performed at the indoor compact test range of PBI in Atlanta Georgia on three units in the month of June 2014.
4) The type approval's validity is subject to regular submission of patterns to confirm that the system remains compliant with the Eutelsat standard at the inspection date.
5) Any change to the characterized configuration needs to be notified to Eutelsat and may be subject to further tests.

KA-BAND SERVICES

EUROBROADBAND

Transportable terminals

(Autopointing)

Characterization Summary Sheet

Applicant:

AKD Communication Technology Co.,Ltd
3F, Building A, No. 7 Haiying Road,
Fengtai Science City, Beijing 100070
China

Tel: +8610 51665131
Web Site: http://www.akdtech.com.cn/en/

Contact point: Gao Kang
Mob: +86-13241172060
mailto: kgao@akdtech.com.cn

Certificate:
EB-046

Antenna:
AKD V10A with ViaSat E TRIA
or with ViaSat E TRIA professional

Diameter:
0.98 m

Standard:
M

Approval date:
1 December 2017

Last submitted data:
09 June 2017

System Description:
2 ports long focal length Ka band motorized auto-pointing roof-mount antenna in combination with ViaSat E TRIA Transceiver for circular polarization. Front fed offset configuration, auto polarization switching between RHCP and LHCP. The antenna uses the standard Skyware Global single piece 0.98 m TMC reflector 1504178-0021.

Configuration:
This Characterization covers only the utilization in Ka band with an integrated ViaSat E TRIA or ETRIA professional transceiver assembly (RF power maximum 4 Watt).

Maximum Allowed EIRP:
For digital carriers transmitted at the **EUTELSAT KA-SAT 9A** satellite receive contour of 18 dB/K (EESS 502 refers)
31.3 dBW /40 kHz for an orbital satellite separation $\geq$ 1.5°
32.3 dBW /40 kHz for an orbital satellite separation $\geq$ 2.5°

Tx Frequency:
29.00 – 30.00 GHz

Rx Frequency:
19.70 – 20.20 GHz

Tx Gain:
47.3 dBi (average)

Rx Gain:
43.6 dBi (average)

Tx XPD:
>24.5 dB within -1 dB contour

Rx XPD:
>18.7 dB within -1 dB contour

G/T:
21.4 dB/K @ 19.95 GHz

Remarks:

1) Only designed for operating with an integrated ViaSat E TRIA or ETRIA professional transceiver assembly.
2) To be operated for maximum wind speeds of up to 72 Km/h.
3) Antenna struts adjustment has to be covered by plastic to avoid access to unauthorized personnel.

Type Approval Summary Sheet

Applicant:

AVL Technologies
15 North Merrimon Ave.
Asheville, NC 28804
U.S.A

Tel: +1-828 210 3543

Website: www.avltech.com
mailto: kwestall@avltech.com

Certificate:
EB-010

Antenna model:
AVL 880KVH
with integrated Viasat TRIA

Diameter:
85 cm
2-ports feed

Standard:
M

Type Approval date:
18 June 2013
Revision date:
14 January 2014

System Description:
Vehicle Mounted Antenna with AVL or TracStar Controller. Prime focus circular antenna, one piece carbon fiber reflector.
Integrated Viasat TRIA (Feed horn, BUC, OMT, LNB and polarization switch), circular polarization.
BUC: maximum rating 3 Watt and maximum output power 2 Watt.

Model available:
AVL 880KVH-AAQ with AVL controller
AVL 880KVH-TS with TracStar controller

Maximum Allowed EIRP:

20.4 dBW/4kHz (equivalent to 30.4 dBW/40kHz) for digital carriers transmitted at the 18 dB/K satellite receive contour of KA-SAT (EESS 502 refers).

Tx Frequency:
29.50 – 30.00 GHz

Rx Frequency:
19.70 - 20.20 GHz

Tx Gain:
45.9 dBi (typical at 29.75 GHz)

Rx Gain:
42.3.0 dBi (typical at 19.95 GHz)

Tx XPD:
>20.6 dB within -1 dB contour

Rx XPD:
>21.0 dB within -1 dB contour

Pointing error:
< 0.4°

G/T:
19.8 dB/K @ 19.95 GHz, elevation 20°

Restrictions:

1) The terminal shall be used solely in VSAT Networks which are conformed with the EU regulations 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/files/contributed/satellites/pdf/esog110.pdf, ESOG 110).
3) This type approval has been performed at the indoor compact test range of PBI in Atlanta Georgia on three units in the months of October and November 2012.
4) The type approval's validity is subject to regular submission of patterns to confirm that the system remains compliant with the Eutelsat standard at the inspection date.
5) Any change to the characterised configuration needs to be notified to Eutelsat and may be subject to further tests.

Type Approval Summary Sheet

Applicant:

AVL Technologies
15 North Merrimon Ave.
Asheville, NC 28804
U.S.A

Tel: +1-828 210 3543

Website: www.avltech.com
mailto: kwestall@avltech.com

Certificate:
EB-011

Antenna model:
AVL 1080KVH
with integrated Viasat TRIA

Diameter:
1 m
2-ports feed

Standard:
M

Type Approval date:
18 June 2013

System Description:
Vehicle Mounted Antenna with AVL or TracStar Controller. Prime focus circular antenna, one piece carbon fiber reflector.
Integrated Viasat TRIA (Feed horn, BUC, OMT, LNB and polarization switch), circular polarization.
BUC: maximum rating 3 Watt and maximum output power 2 Watt.

Model available:
AVL 1080KVH-AAQ with AVL controller
AVL 1080KVH-TS with TracStar controller

Maximum Allowed EIRP:

21.2 dBW/4kHz (equivalent to 31.2 dBW/40kHz) for digital carriers transmitted at the 18 dB/K satellite receive contour of KA-SAT (EESS 502 refers).

Tx Frequency:
29.50 – 30.00 GHz

Rx Frequency:
19.70 - 20.20GHz

Tx Gain:
46.9 dBi (typical at 29.75 GHz)

Rx Gain:
43.6 dBi (typical at 19.95 GHz)

Tx XPD:
>22.0 dB within -1 dB contour

Rx XPD:
>25 dB within -1 dB contour

Pointing error:
<0.4°

G/T:
21.2 dB/K @ 19.95 GHz, elevation 20°

Restrictions:

1) The terminal shall be used solely in VSAT Networks which are conformed with the EU regulations 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/files/contributed/satellites/pdf/esog110.pdf, ESOG 110).
3) This type approval has been performed at the indoor compact test range of PBI in Atlanta Georgia on three units in the months of October and November 2012.
4) The type approval's validity is subject to regular submission of patterns to confirm that the system remains compliant with the Eutelsat standard at the inspection date.
5) Any change to the characterised configuration needs to be notified to Eutelsat and may be subject to further tests.

Type Approval Summary Sheet

Applicant:
C-COM Satellite Systems Inc.
2574 Sheffield Rd,
Ottawa ON, K1B 3VT,
Canada

Web Site: http://www.c-comsat.com

Contact point: Paul Seguin
Tel: +1 613 754-4110 Extension 4974
mailto:pseguin@c-comsat.com

Certificate:
EB-049

Antenna:
C-COM iNetVu Ka-75V – Etria auto-deploy system with Viasat Surfbeam 2 technology with E TRIA

Diameter:
0.75m H x 0.72m V, equivalent to 0.75m

Standard:
M

Approval date:
31 May 2018

Last submitted data:
28 May 2018

System Description:
Drive away auto-deploy system based on the Viasat Surfbeam 75 cm consumer terminal. Single optic frond fed offset, 1 piece metallic reflector.
Integrated Viasat E TRIA (feed, BUC, OMT, LNB and polarization switch), 2 ports, circular polarization,

Configuration:
BUC maximum rating of 4 Watt.

Maximum Allowed EIRP:
For digital carriers transmitted at **KA-SAT** satellite receive contour of 18 dB/K (EESS 502 refers).
25.3 dBW /40 kHz for an orbital satellite separation ≥ 1.5°
28.3 dBW /40 kHz for an orbital satellite separation ≥ 3.0°

Tx Frequency:
29.50 – 30.00 GHz

Tx Gain:
44.1 dBi (average at 29.75 GHz)

Tx XPD:
≥21.1 dB within -1 dB contour

Pointing error:
Azimuth and Elevation < 0.4°

Rx Frequency:
19.70 – 20.20 GHz

Rx Gain:
40.0 dBi (average at 19.95 GHz)

Rx XPD:
≥18.5 dB within -1 dB contour

G/T:
18.1 dB/K @ 19.95 GHz

Restrictions and remarks:

1) The terminal shall be used solely in VSAT Networks which are conformed with the EU regulations (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/files/contributed/satellites/pdf/esog110.pdf, ESOG 110).
3) This type approval has been performed on 11 April 2017, at Catapult test range of Harwell U.K., on one unit.
4) The type approval's validity is subject to regular submission of patterns to confirm that the system remains compliant with the Eutelsat standard at the inspection date. Any change to the characterized configuration needs to be notified to Eutelsat and may be subject to further tests.
5) Eligibility to Type Approval is subject to demonstration that the reflector is adequately protected against deformations.

Type Approval Summary Sheet

Applicant:

C-COM Satellite Systems Inc.
2574 Sheffield Rd,
Ottawa ON,
K1B 3V7
Canada

Tel: +1 613 745 4110
Fax: +1 613 745 7144

Website :http://www.c-comsat.com
mailto: bawada@c-comsat.com

Certificate:
EB-007

Antenna model:
C-COM iNetVu Ka-75V auto-deploy system with
ViaSat Surfbeam 2
72 cm consumer User Terminal

Diameter:
0.75H X 0.72V m
2-ports feed

Standard:
M

Type Approval date:
04 September 2012

System Description:
Vehicle mounted auto-deploy system working with a C-COM ACU model C7024C and 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:
28.5 dBW/40 kHz for digital carriers transmitted at the 18 dB/K satellite receive contour of KA-SAT (EESS 502 refers) and from an orbital separation of the adjacent satellite $\geq$ 2.0°.

Tx Frequency:
29.50-30.00 GHz

Rx Frequency:
19.70-20.20 GHz

Tx Gain:
44.3 dBi (typical at 29.75 GHz)

Rx Gain:
39.7 dBi (typical at 19.95 GHz)

Tx XPD:
>25 dB within -1 dB contour

Rx XPD:
>21 dB within -1 dB contour

Pointing error:
< 0.34°

G/T:
16.8 dB/K

Restrictions:

1) The terminal shall be used solely in VSAT Networks which are conformed with the EU regulations 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/files/contributed/satellites/pdf/esog110.pdf, ESOG 110).
3) This type approval has been performed at the outdoor test range of CTS in Leatherhead on three units of the same model, in the month of July 2012.
4 The type approval's validity is subject to regular submission of patterns to confirm that the system remains compliant with the Eutelsat standard at the inspection date.
5) Any change to the type approved configuration needs to be notified to Eutelsat and may be subject to further tests.
6) The reflector has to be replaced with a spare one by a C-COM accredited dealer in case of visible damage to it.

Type Approval Summary Sheet

Applicant:

C-COM Satellite Systems Inc.
2574 Sheffield Rd,
Ottawa ON,
K1B 3V7
Canada

Tel: +1 613 745 4110
Fax: +1 613 745 7144

Website: http://www.c-comsat.com
mailto: bawada@c-comsat.com

Certificate:
EB-017

Antenna model:
C-COM Fly-75V
auto-deploy system with
ViaSat Surfbeam 2
72 cm consumer User Terminal

Diameter:
0.75H x 0.72V m
2-ports feed

Standard:
M

Type Approval date:
23 May 2014

Most recent test data received on:
21 March 2014

System Description:
Fly away auto-deploy system working with a C-COM ACU model iNetVu 7010 and 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:
28.5 dBW/40 kHz for digital carriers transmitted at the 18 dB/K satellite receive contour of KA-SAT (EESS 502 refers) and for an orbital separation of the adjacent satellite $\geq$ 2.0.

Tx Frequency:
29.50-30.00 GHz

Rx Frequency:
19.70-20.20 GHz

Tx Gain:
44.6 dBi (typical at 29.75 GHz)

Rx Gain:
40.7 dBi (typical at 19.95 GHz)

Tx XPD:
$\geq$ 23.9 dB within -1 dB contour

Rx XPD:
$\geq$ 21.2 dB within -1 dB contour

Pointing error:
< 0.4°

G/T:
17.5 dB/K

Restrictions:

1) The terminal shall be used solely in VSAT Networks which are conformed with the EU regulations 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/files/contributed/satellites/pdf/esog110.pdf ESOG110).
3) This type approval has been performed at the outdoor test range of CTS in Leatherhead on three units of the same model, in the month of March 2014.
4) The type approval's validity is subject to regular submission of patterns to confirm that the system remains compliant with the Eutelsat standard at the inspection date.
5) Any change to the type approved configuration needs to be notified to Eutelsat and may be subject to further tests.
6) The reflector has to be replaced with a spare one by a C-COM accredited dealer in case of visible damage to it.

Type Approval Summary Sheet

Applicant:

C-COM Satellite Systems Inc.
2574 Sheffield Rd,
Ottawa ON,
K1B 3V7
Canada

Tel: +1 613 745 4110
Fax: +1 613 745 7144

Website :http://www.c-comsat.com
mailto: bawada@c-comsat.com

Certificate:
EB-022

Antenna model:
C-COM iNetVu Ka-98V
auto-deploy system with
Skyware Global Type 980 SI antenna
with integrated ViaSat TRIA

Diameter:
0.98 m
2-ports feed

Standard:
M

Type Approval date:
02 September 2014

Most recent test data received on:
27 August 2014

System Description:
Auto-deploy system working with a C-COM ACU model iNetVu 7024 and based on the Skyware Global type 980 SI antenna. 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:
30.4 dBW/40 kHz for digital carriers transmitted at the 18 dB/K satellite receive contour of KA-SAT (EESS 502 refers) and for an orbital separation of the adjacent satellite $\geq$ 2.0.

Tx Frequency:
29.50-30.00 GHz

Rx Frequency:
19.70-20.20 GHz

Tx Gain:
46.5 dBi (typical at 29.75 GHz)

Rx Gain:
42.7 dBi (typical at 19.95 GHz)

Tx XPD:
$\geq$21.5 dB within -1 dB contour

Rx XPD:
$\geq$21.4 dB within -1 dB contour

Pointing and wind load error:
<0.4°

G/T:
19.4 dB/K

Restrictions:

1) The terminal shall be used solely in VSAT Networks which are conformed with the EU regulations for blanket license agreement.
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/files/contributed/satellites/pdf/esog110.pdf ESOG110).
2) This type approval has been performed at the outdoor test range of CTS in Leatherhead on three units of the same model, in the month of August 2014.
4) The type approval's validity is subject to regular submission of patterns to confirm that the system remains compliant with the Eutelsat standard at the inspection date.
5) Any change to the type approved configuration needs to be notified to Eutelsat and may be subject to further tests.
6) The reflector has to be replaced with a spare one by a C-COM accredited dealer in case of visible damage to it.
7) This temporary approval is granted until the 30 November 2014, pending provision from C-COM of one modified antenna unit for additional windload tests, to verify the last provided data.

Type Approval Summary Sheet

Applicant:

TRACSTAR SYSTEMS INC.
COBHAM ANTENNA SATCOM LAND SYSTEMS
1551 College Park Business Center Rd.,
Orlando, FL 32804 USA.

Tel: + 1 407 650 9054
Fax: + 1 407 650 9086

Website :http://www.cobham.com/satcom
mailto: Narcis.Vila@cobham.com or
Jackie.Rubie@cobham.com

Certificate:
EB-015

Antenna model:
Cobham EXPLORER 7100 MB KASAT
with integrated ViaSat TRIA

Diameter:
1 m
2-ports feed

Standard:
M

Type Approval date:
12 December 2013

System Description:
Vehicle Mounted Antenna based on the AVL 1080KVH antenna model with TracStar Controller. Prime focus circular antenna, one piece carbon fiber reflector.
Integrated ViaSat TRIA (Feed horn, BUC, OMT, LNB and polarization switch), circular polarization.
BUC: maximum rating 3 Watt and maximum output power 2 Watt.

Model available:
Explorer 7100 Ka-band (Eutelsat) with TracStar controller

Maximum Allowed EIRP:

21.2 dBW/4kHz (equivalent to 31.2 dBW/40kHz) for digital carriers transmitted at the 18 dB/K satellite receive contour of KA-SAT (EESS 502 refers).

Tx Frequency:
29.50 – 30.00 GHz

Rx Frequency:
19.70 - 20.20GHz

Tx Gain:
46.9 dBi (typical at 29.75 GHz)

Rx Gain:
43.6 dBi (typical at 19.95 GHz)

Tx XPD:
>22 dB within -1 dB contour

Rx XPD:
>25 dB within -1 dB contour

Pointing error:
<0.4°

G/T:
21.2 dB/K @ 19.95 GHz, elevation 20°

Restrictions:

1) The terminal shall be used solely in VSAT Networks which are conformed with the EU regulations 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/files/contributed/satellites/pdf/esog110.pdf ESOG110).
3) This type approval has been performed on three units under a different applicant name in the months of October and November 2012 and confirmed at the outdoor test range of CTS in Leatherhead on one unit, in the month of November 2013.
4) The type approval's validity is subject to regular submission of patterns to confirm that the system remains compliant with the Eutelsat standard at the inspection date.
5) Any change to the characterised configuration needs to be notified to Eutelsat and may be subject to further tests.

Type Approval Summary Sheet

Applicant:

Thrane & Thrane A/S trading as COBHAM Satcom
Lundtoftegaardsvej 93 D
2800 Kgs. Lyngby Denmark

Tel.: +45 3955 8800

Contact person: Henrik O. Christensen

Website: www.cobham.com
mailto: Henrik.christensen@cobham.com

Certificate:
EB-028

Antenna model:
EXPLORER 8100 Ka
With ViaSat E TRIA

Diameter:
1 m

Standard:
M

Type Approval date:
21August 2015

Most recent test data received on:
13 August 2015

System Description:
Vehicular mounted auto-deploy system with Cobham ACU using ViaSat E TRIA for KA-SAT operation. Single piece 1.00 m Carbon fiber reflector for long focal length. Motorized auto-deploy AZ/EL mount, heavy and stable antenna back structure and feed boom. Single optic front fed offset.

Configurations: Antenna presented and tested works ViaSat network on KA-SAT using the Viasat E TRIA. Antenna is designed for an exchange of the RF front end and for operation in Ku band. Antenna need an additional approval for operation in Ku band.

Maximum Allowed EIRP for digital carriers transmitted at the 18 dB/K satellite receive contour of KA-SAT (EESS 502 refers):
20.2 dBW / 4 KHz (equivalent to 30.2 dBW / 40 kHz) for an orbital separation of the adjacent satellite $\geq$ 1.5°

Tx Frequency:
29.50-30.00 GHz

Rx Frequency:
19.70-20.20 GHz

Tx Gain:
47.7 dBi (average at 29.75 GHz)

Rx Gain:
44.1 dBi (average at 19.95 GHz)

Tx XPD:
$\geq$ 20.5 dB within -1 dB contour

Rx XPD:
$\geq$ 20.4 dB within -1 dB contour

Pointing Error:
$\leq$ 0.2° @ 72 Km/h

G/T:
22.2 dB/K, assuming the Viasat E TRIA with 1.5 dB NF

Restrictions and remarks:

1) The terminal shall be used solely in VSAT Networks which are conformed with the EU regulations for blanket license agreement. Otherwise the operator has to be in possession of an operating license for above mentioned terminal from its local regulatory office.
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/files/contributed/satellites/pdf/esog110.pdf ESOG110).
3) This type approval has been performed at the outdoor test range of Politecnico di Torino on three units of the same model, in the month of August 2015.
4) The type approval's validity is subject to regular submission of patterns to confirm that the system remains compliant with the Eutelsat standard at the inspection date.
5) Any change to the type approved configuration needs to be notified to Eutelsat and may be subject to further tests.
6) This approval allows only operation in ViaSat technology networks on KA-SAT.
7) The antenna system can only be operated for maximum wind speeds of up to 72 Km/h (45mph).

Type Approval Summary Sheet

Applicant:

Dawson – A Brand name of DawCom Limited
Units 1& 2 Tything Park, Arden Forest Industrial Estate, Alcester, Warwickshire, B49 6ES, UK

Tel +44 1 789 765 850
Fax +44 1 789 765 850

Email sales@dawson-dynamic.com
Web www.dawson-dynamic.com

Certificate:
EB-009

Antenna model:
GC-Zero 70 KA-SAT auto-deploy system with ViaSat Surfbeam 2
72 cm consumer User Terminal
and with ViaSat adapter for E TRIA

Diameter:
0.75H x 0.72V m
2-ports feed

Standard:
M

Approval date:
30 November2012
Last revision date:
03 May 2016

System Description:
Vehicle mounted auto-deploy mobile antenna with a Dawson ACU model MAC 11 and based on ViaSat Surfbeam 2, 72 cm User Terminal. Single optic front fed offset, 1 piece, metallic reflector.
Integrated ViaSat TRIA (feed, BUC, OMT, LNB and polarization switch) or with ViaSat adapter for E TRIA ; circular polarization.
BUC: maximum rating 3 Watt and maximum output power 2 Watt.

Maximum Allowed EIRP:

29.4 dBW/40kHz for digital carriers transmitted at the 18 dB/K satellite receive contour of KA-SAT (EESS 502 refers) and from orbital separation of the adjacent satellite $\geq$ 2.0°.

Tx Frequency:
29.50 – 30.00 GHz

Rx Frequency:
19.70 - 20.20 GHz

Tx Gain:
43.4 dBi (typical at 29.75 GHz)

Rx Gain:
40.0 dBi (typical at 19.95 GHz)

Tx XPD:
>25.0 dB within -1 dB contour

Rx XPD:
>21.0 dB within -1 dB contour

Pointing error:
< 0.34° (auto-pointing); <0.4° (wind)

G/T:
17.1 dB/K

Restrictions:

1) The terminal shall be used solely in VSAT Networks which are conformed with the EU regulations 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/files/contributed/satellites/pdf/esog110.pdf, ESOG 110).
3) This type approval has been performed at the outdoor test range of Politecnico of Torino from October 2011 and completed by measurements by CTS in Leatherhead on one unit in the month of July 2012 and one unit in the month of November 2012.
4) The type approval's validity is subject to regular submission of patterns to confirm that the system remains compliant with the Eutelsat standard at the inspection date.
5) Any change to the characterized configuration needs to be notified to Eutelsat and may be subject to further tests.
6) The reflector has to be replaced with a spare one by Dawson in case of visible damage to it.

Type Approval Summary Sheet

Manufacturer:

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

Tel.: +49 75459699990

Website: www.ipcopter.com
mailto: bernhard.neumeyer@ipcopter.de

Certificate:
EB-013

Antenna model:
Drive Away IPCopter
with
ViaSat Surfbeam 2
72 cm consumer User Terminal

Diameter:
0.75H x 0.72V m
2-ports feed

Standard:
M

Type Approval date:
02 September 2013

System Description:
Auto-deploy Drive Away 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:

28.0 dBW/40kHz for digital carriers transmitted at the 18 dB/K satellite receive contour of KA-SAT (EESS 502, § 6.1 refers) and from an orbital separation of the adjacent satellite ≥ 2.0°.

Tx Frequency:
29.50 – 30.00 GHz

Rx Frequency:
19.70 - 20.20 GHz

Tx Gain:
43.1 dBi (typical at 29.75 GHz)

Rx Gain:
40.0 dBi (typical at 19.95 GHz)

Tx XPD:
≥26 dB within -1 dB contour

Rx XPD:
≥22 dB within -1 dB contour

Pointing error:
<0.4°

G/T:
17.2 dB/K @ 19.95 GHz

Restrictions:

1) The terminal shall be used solely in VSAT Networks which are conformed with the EU regulations 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/files/contributed/satellites/pdf/esog110.pdf, ESOG 110).
3) This type approval has been performed at the compact test range of the Laboratory for Satellite Communications at the Munich University of Applied Sciences on three units of the same model, in the month of August 2013.
4) The type approval's validity is subject to regular submission of patterns to confirm that the system remains compliant with the Eutelsat standard at the inspection date.
5) Any change to the type approved configuration needs to be notified to Eutelsat and may be subject to further tests.
6) The reflector has to be replaced with a spare one by a IPCopter accredited dealer in case of visible damage to it.

Type Approval Summary Sheet

Applicant:

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

Tel.: +49 75459699990

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

Certificate:
EB-004

Antenna model:
IPCopter auto-deploy system with
ViaSat Surfbeam 2
72 cm consumer User Terminal

Diameter:
0.75H X 0.72V m
2-ports feed

Standard:
M

Type Approval date:
21 March 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) and from an orbital separation of the adjacent satellite $\geq$ 2.0°.

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 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/files/contributed/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°.

Type Approval Summary Sheet

Applicant:
IPCopter GmbH& Co. KG
D-88086 Immenstaad, Postfach 1162
Germany

Tel.: +49 75459699990

Contact point
Dr. Bernhard Neumeyer
Website: www.ipcopter.com
mailto: bernhard.neumeyer@ipcopter.de

Certificate:
EB-034

Antenna model:
Drive away Skyhook II
based on
ViaSat 75 cm consumer User Terminal

Diameter:
0.75 m
ViaSat E TRIA

Standard:
M

Approval date:
08 April 2016

Most recent test data received on:
06 August 2015

System Description:
2 ports long focal length Ka band VSAT based on the ViaSat consumer antenna (drive away Skyhook II) with an E TRIA Single piece 0,75m metal reflector. Motorized autopointing (IP Copter ACU3000) AZ/EL mount, Aluminium profile back structure and double steel boom arm. Single optic front fed offset.

Configurations: Antenna presented and tested works only with the ViaSat network on KA-SAT using the 3 Watt ViaSat E TRIA and modem (Surfbeam 2, Type RM 4100 and EM 4100)

Maximum Allowed EIRP:

For digital carriers transmitted at the **KA-SAT** satellite receive contour of 18 dB/K (EESS 502 refers)
26.7 dBW / 40 KHz for an orbital separation of the adjacent satellite ≥ 1.5°
28.2 dBW / 40 KHz for an orbital separation of the adjacent satellite ≥ 2.0°
29.2 dBW / 40 KHz for an orbital separation of the adjacent satellite ≥ 3.0°

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:
40.2 dBi (typical at 19.95 GHz)

Tx XPD:
≥ 20.1 dB within -1 dB contour

Rx XPD:
≥ 19.3 dB within -1 dB contour

Pointing error:
≤ 0.38°

G/T:
18.34 dB/K @19.95 GHz

Remarks:
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/files/contributed/satellites/pdf/esog110.pdf, ESOG 110).
2) The terminal shall be used solely in VSAT Networks which are conformed with the EU regulations for blanket license agreement.
3) Any change to the type approved configuration needs to be notified to Eutelsat and may be subject to further tests.
4) This approval is subject to a use on ViaSat network on KA-SAT using the ViaSat E TRIA and modem.
5) The antenna system can only be operated for maximum wind speeds of up to 72 Km/h.

Type Approval Summary Sheet

Applicant:

ND Satcom GmbH
P.O. Box
88039 Friedrichshafen
GERMANY
Tel : +49 7545 939 8641
Fax : +49 7545 939 8700

Website : www.ndsatcom.com
Email : bernd.bildner@ndsatcom.com

Certificate:
EB-019

Antenna model:
ND Satcom Ka2GO
With integrated ViaSat TRIA
and with ViaSat adapter for E TRIA

Diameter:
0.89 m
2-ports feed

Standard:
M

Approval date:
23 May 2014

Most recent test data received on:
29 April 2014

Last Revision date:
03 May 2016

System Description:
Drive-away auto-deploy system working with an ND Satcom ACU model 5010 and auto-deploy controller software ND Satcom APS 5. Single optic front fed offset, 1 piece, GD Satcom 3892 SMC reflector.
Integrated ViaSat TRIA (feed, BUC, OMT, LNB and polarization switch) or with ViaSat adapter for E TRIA, circular polarization.
BUC maximum rating 4 Watt.

Maximum Allowed EIRP:
29.3 dBW/40 kHz for digital carriers transmitted at the 18 dB/K satellite receive contour of KA-SAT (EESS 502 refers) and for an orbital separation of the adjacent satellite $\geq$ 2.0°.

Tx Frequency:
29.50-30.00 GHz

Rx Frequency:
19.70-20.20 GHz

Tx Gain:
45.8 dBi (typical at 29.75 GHz)

Rx Gain:
42.4 dBi (typical at 19.95 GHz)

Tx XPD:
$\geq$21 dB within -1 dB contour

Rx XPD:
$\geq$19.6 dB within -1 dB contour

Pointing error:
$\leq$ 0.2°

G/T:
19.9 dB/K

Restrictions:

1) The terminal shall be used solely in VSAT Networks which are conformed with the EU regulations 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/files/contributed/satellites/pdf/esog110.pdf ESOG110).
3) This type approval has been performed at the compact test range of ND Satcom in Friedrichshafen on three units of the same model, in the months of March and April 2014.
4) The type approval's validity is subject to regular submission of patterns to confirm that the system remains compliant with the Eutelsat standard at the inspection date.
5) Any change to the type approved configuration needs to be notified to Eutelsat and may be subject to further tests.
6) The reflector has to be replaced with a spare one by a ND Satcom accredited dealer in case of visible damage to it.

Characterization Summary Sheet

Applicant:

Neta Elektronik San.Tic.A.
Yukari Dudullu Organize Sanayi Bölgesi, And Sitesi,
No:18
34775 Umraniye/İstanbul
TURKEY

Website: www.neta.com.tr
Phone: +90 216 4204343

Contact point: r. Mehmet Akif Tulum
mailto: mtulum@neta.com.tr

Certificate:
EB-054

Antenna model:
MVA75 VSAT
with Viasat eTRIA

Diameter:
74 cm

Standard:
Standard M

Characterization date:
13-03-2020

Most recent test data received on:
24-03-2020

System Description:
Transportable Ka band 74 cm offset VSAT, based on the standard antenna for KA-SAT (ref. certification EB-035) optic with motorized auto-pointing system (including ACU). The antenna integrates the Viasat 3W eTRIA, a Ka band transceiver integrating feed-horn and circular polarizer. This antenna can be used only in Ka band on the KA-SAT network based on Viasat technology and waveform.

Maximum Allowed EIRP:
For digital carriers transmitted at the **KA-SAT** satellite receive contour of 18 dB/K (EESS 502 refers):

25.5 dBW/40 kHz for an orbital satellite separation $\geq$ 1.5°

29.5 dBW/40 kHz for an orbital satellite separation $\geq$ 2.0°

Tx Frequency:
29.50 – 30.00 GHz

Rx Frequency:
19.70 -20.20 GHz

Tx Gain:
44.5 dBi (typical at 29.75 GHz)

Rx Gain:
40.7 dBi (typical at 19.95 GHz)

Tx XPD:
$\geq$ 22.0 dB within -1 dB contour (worst case)

Rx XPD:
$\geq$ 21.3 dB @ boresight (worst case)

Pointing error:
< 0.2°

G/T:
17.7 dB/K theoretical assuming LNB NF=1.8 dB

Restrictions and remarks:

1) The antenna has been designed in order to be operated only over KASAT with the Viasat technology and waveform. The access is assumed to be in TDMA mode on digital carriers of maximum 10 MSym/s.
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/files/contributed/satellites/pdf/esog110.pdf, ESOG 110).
3) The characterization has been performed at the test range of NDSatcom Immenstaad (Germany) in the period 22nd January – 13th March 2020.
4) The Characterization must be coordinated with the transmission plans operated over KA-SAT.
5) The antenna efficiency is 53 %, estimated at 29.75 GHz.

Type Approval Summary Sheet

Applicant:

PALS Electronics Co Ltd.
IMES Sanayi Sitesi C Block,
308 Sok. No:2 Y. Dudullu 34776
Umraniye-Istanbul
Turkey

Tel: +90 216 540 9486 Mr Durmus Kutay
Fax: +90 216 540 94 25

Website: pals.com.tr
mailto: idkutay@pals.com.tr

Certificate:
EB-012

Antenna model:
PALS PKM-77Ka auto-deploy system
with
Viasat Surfbeam 2
72 cm consumer User Terminal

Diameter:
0.75H x 0.72V m
2-ports feed

Standard:
M

Type Approval date:
18 June 2013

System Description:
Vehicle mounted auto-deploy system working with a PALS Elektronik Ltd. ACU model PAC-350 and 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:
28.5 dBW/40 kHz for digital carriers transmitted at the 18 dB/K satellite receive contour of KA-SAT (EESS 502 refers).

Tx Frequency:
29.50-30.00 GHz

Rx Frequency:
19.70-20.20 GHz

Tx Gain:
44.1 dBi (typical at 29.75 GHz)

Rx Gain:
40.1 dBi (typical at 19.95 GHz)

Tx XPD:
>26 dB within -1 dB contour

Rx XPD:
>21.5 dB within -1 dB contour

Pointing error:
< 0.4°

G/T:
17.5 dB/K @ 19.95 GHz

Restrictions:

1) The terminal shall be used solely in VSAT Networks which are conformed with the EU regulations 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/files/contributed/satellites/pdf/esog110.pdf, ESOG 110).
3) This type approval has been performed at the outdoor test range of CTS in Leatherhead on three units of the same model, in the month of April 2013.
4) The type approval's validity is subject to regular submission of patterns to confirm that the system remains compliant with the Eutelsat standard at the inspection date.
5) Any change to the type approved configuration needs to be notified to Eutelsat and may be subject to further tests.
6) The reflector has to be replaced with a spare one by a PALS accredited dealer in case of visible damage to it.

Type Approval Summary Sheet

Applicant:

Satmission AB
Bultenvägen 5
95261 Kalix, Sweden

Tel: +46 923 13710
Web Site : http://www.satmission.com/

Contact point: Mr. Conny Hedman
Mailto :Conny@satmission.com

Certificate:
EB-042
Antenna:
SMP 125 DA SML 125 DA
Diameter:
1.2m
Standard:
M
Approval date:
17 May 2017
Last submitted data:
16 March 2017

System Description:
0.65 f/D focal length Ka band motorized auto-pointing roof mount antenna in combination with ViaSat E TRIA Transceiver. Front fed offset configuration, auto-polarization switching between RHCP and LHCP. Round single piece carbon fiber reflector 1.2 m antenna aperture. This approval covers only the utilization of the ViaSat E TRIA transceiver.

Configurations:
Ka band configuration feed-arm and reflector designed to work with a variety of Ka and Ku band Transceivers. This approval covers only the utilization with the Ka band ViaSat E TRIA transceiver.

Maximum Allowed EIRP:
For digital carriers transmitted at **EUTELSAT KA-SAT 9A** satellite receive contour of 18 dB/K (EESS 502, § 6.1 refers):
31.9 dBW for 40 kHz for an orbital satellite separation $\geq$ 1.5°

Tx Frequency:
29.25 – 30.00 GHz

Rx Frequency:
19.20 – 20.20 GHz

Tx Gain:
48.9 dBi 29.50 GHz

Rx Gain:
45.4 dBi @ 19.70 GHz

Tx XPD:
>20.6 dB within -1 dB contour

Rx XPD:
>20.4 dB within -1 dB contour

G/T:
23.3 dB/K @ 19.7 GHz

Remarks:
1) Designed for operating with an integrated transceiver assembly ViaSat E TRIA only.
2) To be operated for maximum wind speeds of up to 72 km/h.

Type Approval Summary Sheet

Applicant:

SISLive
Whitehall Avenue,
Kingston, Milton Keynes
MK10 0AX
United Kingdom

Tel: +44 (0) 1 908 86 55 35
Fax: +44 (0) 7 889 601 954

Website :http://www.sis.tv
mailto: lwilliams@sis.tv

Certificate:
EB-023

Antenna model:
SISLive DriveForce 100
auto-deploy system with
SISLive 035-01-0100-02 reflector
with integrated ViaSat TRIA

Diameter:
1 m
2-ports feed

Standard:
M

Type Approval date:
02 September 2014

Most recent test data received on:
21 August 2014

System Description:
Auto-deploy system working with a SISLive ACU model 035-30-000 and based on the SISLive 035-01-0100-02 reflector. Single optic front fed offset, 1 piece, carbon fibre reflector.
Integrated ViaSat TRIA (feed, BUC, OMT, LNB and polarization switch), circular polarization.
BUC maximum rating 4 Watt.

Maximum Allowed EIRP:
20.5 dBW/4 kHz for digital carriers transmitted at the 18 dB/K satellite receive contour of KA-SAT (EESS 502 refers) and for an orbital separation of the adjacent satellite $\geq$ 2.0.

Tx Frequency:
29.50-30.00 GHz

Rx Frequency:
19.70-20.20 GHz

Tx Gain:
47.4 dBi (typical at 29.75 GHz)

Rx Gain:
43.6 dBi (typical at 19.95 GHz)

Tx XPD:
$\geq$20.8 dB within -1 dB contour

Rx XPD:
$\geq$20.7 dB within -1 dB contour

Pointing and windload error:
< 0.4°

G/T:
20.37 dB/K @ 19.95 GHz

Restrictions:

1) The terminal shall be used solely in VSAT Networks which are conformed with the EU regulations 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/files/contributed/satellites/pdf/esog110.pdf ESOG110).
3) This type approval has been performed at the outdoor test range of CTS in Leatherhead on three units of the same model, in the month of August 2014.
4) The type approval's validity is subject to regular submission of patterns to confirm that the system remains compliant with the Eutelsat standard at the inspection date.
5) Any change to the type approved configuration needs to be notified to Eutelsat and may be subject to further tests.
6) This approval is only valid if the pedestal of the 1.2 m antenna is used.

Type Approval Summary Sheet

Applicant:

SVS SATELLITE SYSTEMS
Esenkent Mahallesi Baraj Yolu Caddesi
Emirgan Sokak No:3
34776 Umraniye/ISTANBUL
TURKEY

Tel : +90 216 329 56 00
Fax : +90 216 329 02 99

Website : http://www.svstelekom.com.tr
Email : abdullah.saglam@svstelekom.com.tr

Certificate:
EB-014

Antenna model:
SVS AKS250
with
ViaSat Surfbeam 2
72 cm consumer User Terminal

Diameter:
0.75H x 0.72V m
2-ports feed

Standard:
M

Validity date:
See restriction 7

Type Approval date:
12 September 2013

System Description:
Auto-deploy Drive Away 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:

27.6 dBW/40kHz for digital carriers transmitted at the 18 dB/K satellite receive contour of Ka-sat (EESS 502, § 6.1 refers) and from an orbital separation of the adjacent satellite $\geq$ 2.0°.

Tx Frequency:
29.50 – 30.00 GHz

Rx Frequency:
19.70 - 20.20 GHz

Tx Gain:
44 dBi (typical at 29.75 GHz)

Rx Gain:
40.1 dBi (typical at 19.95 GHz)

Tx XPD:
$\geq$23 dB within -1 dB contour

Rx XPD:
$\geq$21 dB within -1 dB contour

Pointing error:
$\leq$0.4°

G/T:
17.2 dB/K @ 19.95 GHz

Restrictions:

1) The terminal shall be used solely in VSAT Networks which are conformed with the EU regulations 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/files/contributed/satellites/pdf/esog110.pdf, ESOG 110).
3) This type approval has been performed on three units at the outdoor test range of CTS in Leatherhead in the month of August 2013.
4) The type approval's validity is subject to regular submission of patterns to confirm that the system remains compliant with the Eutelsat standard at the inspection date.
5) Any change to the type approved configuration needs to be notified to Eutelsat and may be subject to further tests.
6) The reflector has to be replaced with a spare one by a SVS accredited dealer in case of visible damage to it.
7) This type approval is valid until the 31 March 2014. Within this period the manufacturer has to complete successfully tests on one antenna unit manufactured in line with document IR-FM130901-1 dated 1 September 2013. Upon successful test performance, the status of the type approval will be indefinite and the manufacturer will implement the modification as per document IR-FM130901-1 to all antennas already delivered.

Characterization Summary Sheet

Applicant:

Vislink Technologies
Hemel Hempstead
Unit 1 Enterprise Way
Hemel Hempstead
Hertfordshire, HP2 7YJ
United Kindom

Website: https://www.vislink.com
International + 44 1442 431300

Contact point: Mr. Binoy Nair
mailto: binoy.nair@vislink.com
Tel.: +44 1442 431325

Certificate:
EB-055
Antenna model:
75MP1201832 with Feed Model using
e-Tria 3W X01012000A001S
Diameter:
0.75 m
Standard:
M
Characterization Date:
06 May 2020
Last test data submitted on:
27 February 2020

System Description:
Terminal system that can be mounted on vehicle, for fixed broadband applications operating in Ka frequency band via KA-SAT. One piece 75 x 70 cm galvanized steel elliptical reflector. 0.96 f/D focal length, 2 ports circular polarization feed using e-Tria with 3 Watt BUC. The antenna includes an auto-pointing system with GPS and compass.

Auto-Pointing model: Advent AirPro 75Ka, manufactured by IMT VISLINK
Feed Model: e-Tria 3W X01012000A001S

Maximum Allowed EIRP:
For digital carriers transmitted at the **KA-SAT** satellite receive contour of 18 dB/K (EESS 502 refers):

25.4 dBW/40 kHz for an orbital satellite separation $\geq$ 1.5°
20.1 dBW/4 kHz (equivalent to 30.1 dBW/40 kHz) for an orbital satellite separation $\geq$ 2.0°

Tx Frequency:
29.50 - 30.00 GHz

Rx Frequency:
19.70 - 20.20 GHz

Tx Gain:
45.3 dBi (typical at 29.75 GHz)

Rx Gain:
42 dBi (typical at 19.95 GHz)

Tx XPD:
$\geq$ 20.23 dB within -1 dB contour (worst case)

Rx XPD:
$\geq$ 20.3 dB at boresight and at 19.95 GHz

Pointing and windload error:
< 0.31°

G/T:
17.50 dB/K (applicant measurement)

Restrictions and remarks:

1) The access is assumed to be in TDMA mode on digital carriers of maximum 10 MSym/s
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/files/contributed/satellites/pdf/esog110.pdf, ESOG 110).
3) This characterization has been performed at the test range of Thales in Cannes (France) in the month of July 2019.
4) The Characterization's validity is subject to regular submission of patterns to confirm that the system remains compliant with the Eutelsat standard.

KA-BAND SERVICES

EUROBROADBAND

Transportable terminals

(Manual deploy)

Type Approval Summary Sheet

Applicant:

AVL Technologies
15 North Merrimon Ave.
Asheville, NC 28804
U.S.A.

Tel: + 1 - 828 210 3543

Website: www.avltech.com
mailto: kwestall@avltech.com

Certificate:
EB-024

Antenna model:
AVL 0614
with integrated ViaSat TRIA,
E-TRIA or P-TRIA

Diameter:
60 cm
2-ports feed

Standard:
M

Type Approval date:
02 September 2014
revised on 27 November 2018

Most recent test data received on:
31 October 2018

System Description:
Manual-deploy system based on an AVL 8 petals segmented carbon fibre reflector.
Integrated ViaSat TRIA or E TRIA (Feed horn, BUC, OMT, LNB and polarization switch), circular polarization.
BUC: maximum rating 4 Watt.

Maximum Allowed EIRP:

27.9 dBW/40 kHz for digital carriers transmitted at the 18 dB/K satellite receive contour of KA-SAT (EESS 502 refers) and for orbital separation of the adjacent satellite $\geq$ 2.0°.

Tx Frequency:
29.50 – 30.00 GHz

Rx Frequency:
19.70 - 20.20 GHz

Tx Gain:
41.9 dBi (typical at 29.75 GHz)

Rx Gain:
39.3 dBi (typical at 19.95 GHz)

Tx XPD:
$\geq$20 dB within -1 dB contour

Rx XPD:
$\geq$24.2 dB within -1 dB contour

Pointing and windload error:
< 0.4°

G/T:
16.26 dB/K @ 19.95 GHz

Restrictions:

1) The terminal shall be used solely in VSAT Networks which are conformed with the EU regulations (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/files/contributed/satellites/pdf/esog110.pdf, ESOG 110).
3) This type approval has been performed at the indoor compact test range of PBI in Atlanta Georgia on three units in the month of June 2014.
4) The type approval's validity is subject to regular submission of patterns to confirm that the system remains compliant with the Eutelsat standard at the inspection date.
5) Any change to the characterized configuration needs to be notified to Eutelsat and may be subject to further tests.

Type Approval Summary Sheet

Applicant:

TRACSTAR SYSTEMS INC.
COBHAM ANTENNA SATCOM LAND SYSTEMS

1551 College Park Business Center Rd.,
Orlando, FL 32804 USA.

Tel: + 1 407 650 9054
Fax: + 1 407 650 9086

Website :http://www.cobham.com/tracstar
mailto: Narcis.Vila@cobham.com or
Jackie.Ruble@cobham.com

Certificate:
EB-008

Antenna model:
TracStar LVC750P8
Explorer LVC750P8 (see remark 6)

Diameter:
0.75 m
2-ports feed

Standard:
M

Type Approval (Ref. EB-008) date:
10 October 2012

System Description:
Manual Deploy Fly Away antenna based on an axis-symmetric stepped ring focus 8-segments carbon fiber reflector.
Integrated ViaSat TRIA (feed, BUC, OMT, LNB and polarization switch), circular polarization.
BUC maximum rating 4 Watt.

Maximum Allowed EIRP:
26.9 dBW/40 kHz for digital carriers transmitted at the 18 dB/K satellite receive contour of KA-SAT (EESS 502 refers) and from an orbital separation of the adjacent satellite $\geq$ 2.0°.

Tx Frequency:
29.50-30.00 GHz

Rx Frequency:
19.70-20.20 GHz

Tx Gain:
43.6 dBi (typical at 29.75 GHz)

Rx Gain:
41.2 dBi (typical at 19.95 GHz)

Tx XPD:
>20 dB within -1 dB contour

Rx XPD:
>22 dB within -1 dB contour

Pointing error:
< 0.34° (wind); <0.32 (manual pointing)

Restrictions and remarks:

1) The terminal shall be used solely in VSAT Networks which are conformed with the EU regulations 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/files/contributed/satellites/pdf/esog110.pdf, ESOG 110).
3) This type approval has been performed at the outdoor test range of CTS in Leatherhead on three units of the same model, in the months of August and September 2012.
4) The type approval's validity is subject to regular submission of patterns to confirm that the system remains compliant with the Eutelsat standard at the inspection date.
5) Any change to the type approved configuration needs to be notified to Eutelsat and may be subject to further tests.
6) The same antenna is distributed by the sister company Thrane & Thrane under the brand Explorer.

Type Approval Summary Sheet

Applicant:

Cobham CTS – Cobham Technical Services
Cleeve Road
Leatherhead, Surrey
KT22 7SA
United Kingdom

Tel: +44 1372 367 175
Fax: +44 1372 367 199

Website :http://www.cobham.com/technicalservices
mailto: vlad.stoiljkovic@cobham.com

Certificate:
EB-006

Antenna model:
10KaS Diamond

Diameter:
1.0 m

Standard:
M

Type Approval date:
09 July 2012

System Description:
Transportable antenna, offset front-fed configuration. Four piece segmented 1.0 m diamond shape. Metalized Carbon Fiber reinforced polymer reflector. Integrated consumer 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:
20.0 dBW/4 kHz (equivalent to 30.0 dBW/40 kHz) for digital carriers transmitted at the 18 dB/K satellite receive contour of KA-SAT (EESS 502 refers) and from an orbital separation of the adjacent satellite $\geq$ 2.0°.

Tx Frequency:
29.50-30.00 GHz

Rx Frequency:
19.70-20.20 GHz

Tx Gain:
47.5 dBi (typical at 29.75 GHz)

Rx Gain:
43.7 dBi (typical at 19.95 GHz)

Tx XPD:
>20.0 dB within -1 dB contour

Rx XPD:
>19 dB within -1 dB contour

Restrictions:

1) The terminal shall be used solely in VSAT Networks which are conformed with the EU regulations 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/files/contributed/satellites/pdf/esog110.pdf, ESOG 110).
3) This range testing has been performed at the outdoor test range of CTS in Leatherhead on three units of the same model, in the month of June 2012.
4) The type approval's validity is subject to regular submission of patterns to confirm that the system remains compliant with the Eutelsat standard at the inspection date.
5) Any change to the type approved configuration needs to be notified to Eutelsat and may be subject to further tests.

Type Approval Summary Sheet

Applicant:

Eutelsat S.A.
System Integration Team
70, rue Balard
F-75502 Paris Cedex 15
France

Tel: +33 1 5398 4682
Fax: +33 1 5398 3700

Website: http://www.eutelsat.com

Certificate:
EB-020

Antenna model:
Skyware Global Type 980 SI
Diameter:
0.99H x 0.93V m
2-ports feed
Standard:
M
Type Approvaldate:
23 May 2014
Most recent test data received on:
09 April 2014

System Description:
Manually pointed system based on the modified Skyware Global 980 reflector. 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:
30.0 dBW/40 kHz for digital carriers transmitted at the 18 dB/K satellite receive contour of KA-SAT (EESS 502 refers) and for an orbital separation of the adjacent satellite $\geq$ 2.0°.

Tx Frequency:
29.50-30.00 GHz

Rx Frequency:
19.70-20.20 GHz

Tx Gain:
46.3 dBi (typical at 29.75 GHz)

Rx Gain:
43.3 dBi (typical at 19.95 GHz)

Tx XPD:
$\geq$ 21 dB within -1 dB contour

Rx XPD:
$\geq$ 20.6 dB within -1 dB contour

Pointing error:
$\leq$ 0.3

G/T:
19.4 dB/K @19.95 GHz

Restrictions:

1) The terminal shall be used solely in VSAT Networks which are conformed with the EU regulations 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/files/contributed/satellites/pdf/esog110.pdf ESOG110).
3) This type approval has been performed at the outdoor test range of Politecnico di Torino on four units of the same model, in the month of April 2014.
4) The type approval's validity is subject to regular submission of patterns to confirm that the system remains compliant with the Eutelsat standard at the inspection date.
5) Any change to the type approved configuration needs to be notified to Eutelsat and may be subject to further tests.
6) The reflector has to be replaced with a spare one by a Skyware Global accredited dealer in case of visible damage to it.
7) This approval is subject to the use of a TRIA adapter certified by Eutelsat System Integration.

Characterization Summary Sheet

Manufacturer:

OPENSAT
168, Avenue Jean Jaurès
92120 MONTROUGE
FRANCE
Michel Marcuson

Tel: +33 (0) 1 57 19 53 49

opensat@opensat.fr
www.opensat.fr

Certificate:
EB-005

Antenna model:
FastiP™ 77cm with
ViaSat Surfbeam 2
72 cm consumer User Terminal

Diameter:
0.75H X 0.72V m
2-ports feed

Standard:
M-x

Characterization date:
04 June 2012

System Description:
Manually pointed system based on the ViaSat Surfbeam 72 cm consumer terminal operated on tripod. 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) and from an orbital separation of the adjacent satellite $\geq$ 2.0°.

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

Restrictions:

1) The terminal shall be used solely in VSAT Networks which are conformed with the EU regulations 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/files/contributed/satellites/pdf/esog110.pdf, ESOG 110).
3) The manual pointing characterization has been performed at the teleport of Rambouillet on the 21 February 2012, on the KA-SAT satellite. Pointing accuracy depends on operator skills. Worst measured pointing error was 0.6°.
4) For operations under windload conditions, the antenna needs to be ballasted with a weight of at least 10 Kg.
5) At each satellite access, transmission is authorized only after the operator has carefully inspected and ensured that the reflector does not show any evident deformation or surface damages.
6) This characterization is restricted to the system using exclusively the original and non-modified ViaSat Surfbeam 2 consumer User Terminal; it would not be valid for another combination.

Type Approval Summary Sheet

Applicant:

SISLive
Whitehall Avenue,
Kingston, Milton Keynes
MK10 0AX
United Kingdom

Contact person: Lee Williams (Product Manager)

Tel: +44 01908 865535
Mob: +44 07889 601954

Website :http:// www.sislive.tv
mailto: LWilliams@sis.tv

Certificate:
EB-025

Antenna model:
SIS ManPak 100T
manual-deploy system with
SIS carbon fiber 1 m Ka band antenna
Integrated ViaSat TRIA

Diameter:
1.00 m
2-ports feed

Standard:
M

Type Approval date:
23 March 2015

Most recent test data received on:
05 March 2015

System Description:
Manual-deploy Fly Away system and based on a SIS 1m carbon fiber segmentable antenna with 6 segments. Single optic front fed offset, - piece, carbp, fiber reflector.
Integrated ViaSat TRIA (feed, BUC, OMT, LNB and polarization switch), circular polarization.
BUC maximum rating 4 Watt.

Maximum Allowed EIRP:
20.9 dBW/4 kHz for digital carriers transmitted at the 18 dB/K satellite receive contour of KA-SAT (EESS 502 refers) and for an orbital separation of the adjacent satellite $\geq$ 2.0.

Tx Frequency:
29.50-30.00 GHz

Rx Frequency:
19.70-20.20 GHz

Tx Gain:
46.9 dBi (typical at 29.75 GHz)

Rx Gain:
43.6 dBi (typical at 19.95 GHz)

Tx XPD:
$\geq$21.5 dB within -1 dB contour

Rx XPD:
$\geq$19.8 dB within -1 dB contour

Pointing error:
< 0.23 using Ka Sat pointer

G/T:
20.36 dB/K

Restrictions:

1) The terminal shall be used solely in VSAT Networks which are conformed with the EU regulations 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/files/contributed/satellites/pdf/esog110.pdf ESOG110).
3) This type approval has been performed at the outdoor test range of CTS in Leatherhead on three units of the same model, in the month of February 2015.
4) The type approval's validity is subject to regular submission of patterns to confirm that the system remains compliant with the Eutelsat standard at the inspection date.
5) Any change to the type approved configuration needs to be notified to Eutelsat and may be subject to further tests.

KA-BAND SERVICES

EUROBROADBAND

Maritime

Characterization Summary Sheet

Applicant:

THRANE & THRANE A/S trading as COBHAM SATCOM
Lundtoftegaardsvej 93D, 2800 Kgs.
Lyngby
DENMARK

Tel : +45 39 55 88 00
Website : www.cobham.com
Email : info@cobham.com

Contact Point: William Yatman
mailto: william.yatman@cobham.com

Certificate:
EB-051

Antenna model:
Sailor 600 Ka equipped with Viasat PTRIA

Diameter:
65 cm

Standard:
Standard M

Characterization date:
29 November 2019

Most recent test data received on:
10 November 2019

System Description:
Ka band 65 cm circular antenna with double reflector, circular polarization and three axis tracking system. The antenna integrates the Viasat 5W PTRIA, a transceiver integrating also the modem. The antenna is connected to the IDU via a single cable. This antenna can be used only in Ka band on the KA-SAT network based on Viasat technology and waveform.

The parameters have been defined by measurement of the antenna with radome.

Maximum Allowed EIRP:
For digital carriers transmitted at the **KA-SAT** satellite receive contour of 18 dB/K (EESS 502 refers): 26 dBW / 40 kHz for an orbital satellite separation ≥ 1.5°.

Tx Frequency:
29.50 – 30.00 GHz

Rx Frequency:
19.70 -20.20 GHz

Tx Gain:
43.0 dBi (typical at 29.75 GHz)

Rx Gain:
39.3 dBi (typical at 19.95 GHz)

Tx XPD:
≥24.2 dB within -1 dB contour (worst case)

Rx XPD:
≥21.0 dB @ boresight (worst case)

Pointing error:
< 0.117° average , 0.120° RMS

G/T:
15.6 dB/K theoretical assuming LNB NF=1.8 dB.

Tx Inhibit reaction time: <38 ms

Tx re-activation reaction time: <231 ms

Restrictions and remarks:

1) The terminal, i.e. antenna plus modem, have been designed in order to be operated only over KA-SAT with the Viasat technology and waveform. The access is assumed to be in TDMA mode on digital carriers of maximum 10 MSym/s.
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/files/contributed/satellites/pdf/esog110.pdf, ESOG 110).
3) This Characterization was performed at the test range of Thales Alenia Space in Cannes (France) in the period 3 – 8 October 2019.
4) The Characterization must be coordinated with the transmission plans operated over KA-SAT.
5) The RX presents an overshoot of about 5 dB around 1° from the bore-sight, to be taken into account for link budget computations.
6) The efficiency of the dish without radome is 52 %, estimated at 29.75 GHz.
7) The Tx inhibit treashold was configured during the tests at 0.5°. Such a value shall be re-configured to be compatible with the EESS 502 requirements.

Characterization Summary Sheet

Applicant:

COBHAM Satcom, Sea Tel
4030 Nelson Avenue,
Concord, CA 94520
USA

Contact person: Darren Manning (Product Manager)
Tel: +1 925 798 7979
Mob: +1 925 948 5420

Website : www.cobham.com
mailto: Darren.Manning@cobham.com

Certificate:
EB-029
Antenna model:
USAT30 Ka
With Integrated ViaSat TRIA
Diameter:
0.75 m
Standard:
M

Characterization date:
31 March 2016
Most recent test data received on:
02 February 2016

System Description:
Ka band antenna for mobile maritime services over KA-SAT satellite (9 E):

- Radome (model: Ka band Tuned A sandwich: ASSY 34IN 88-132786)
- Feed horn (model: Sea Tel, Part Number: 140265-1
- ACU (DAC-2202)
- ACU software: 6.12D – PCU software: 1.41D – Com_IF: 1.90P (Minimum software revision)
- SCPC Receiver: 5.53 (Minimum software revision)
- Integrated Viasat MTRIA (BUC, LNB, OMT and circular septum polarizer, polarization switch).
- BUC maximum rating 2 Watt.

The antenna is designed to be used uniquely with the ViaSat Surfbeam 2 Mobile modem. The ACU is compatible with the ViaSat TCP/IP communication link over the dedicated Ethernet cable. Antenna and modem target market is the maritime broadband IP data over KA-SAT.
The standard antenna configuration requires the ACU to be provided with an NMEA signal coming from the vessel compass via a serial cable. Nevertheless, by giving to the antenna an initial heading value it is possible for the antenna to maintain a tracking without any other geographical reference.

Maximum Allowed EIRP:
27.3 dBW/40 kHz for digital carriers transmitted at the 18 dB/K satellite receive contour of KA-SAT (EESS 502 refers) and from an orbital separation of the adjacent satellite $\geq$ 2°.

Tx Frequency:
29.50-30.00 GHz

Rx Frequency:
19.70-20.20 GHz

Tx Gain:
43.9 dBi (typical at 29.5 GHz)

Rx Gain:
40.6 dBi (typical at 19.8 GHz)

Tx XPD:
$\geq$20 dB within -1 dB contour

Rx XPD:
$\geq$20.4 dB within -1 dB contour

Pointing error:
< 0.4° (Beam pointing Error)

G/T:
16.7 dB/K (typical)

Restrictions:

1) The terminal shall be used solely in VSAT Networks which are conformed with the EU regulations 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/files/contributed/satellites/pdf/esog110.pdf ESOG110).
3) This characterization has been performed at the outdoor test range of CTS in Leatherhead on one unit of the same model, in the month of March 2015.
4) The type approval's validity is subject to regular submission of patterns to confirm that the system remains compliant with the Eutelsat standard at the inspection date.
5) Any change to the characterization configuration needs to be notified to Eutelsat and may be subject to further tests.

Characterization Summary Sheet

Applicant:

THRANE & THRANE A/S trading as COBHAM SATCOM
Lundtoftegaardsvej 93D, 2800 Kgs.
Lyngby
DENMARK

Tel : +45 39 55 88 00
Website : www.cobham.com
Email : info@cobham.com

Contact Point: William Yatman
mailto: william.yatman@cobham.com

Certificate:
EB-052

Antenna model:
Sailor 900 Ka equipped with Viasat PTRIA

Diameter:
103 cm

Standard:
Standard M

Characterization date:
29 November 2019

Most recent test data received on:
10 October 2019

System Description:
Ka band 103 cm circular antenna with double reflector, circular polarization. Three axis tracking system. The antenna integrates the Viasat 5W PTRIA, a transceiver integrating also the modem. The antenna is connected to the IDU via a single cable. This antenna can be used only in Ka band on the KA-SAT network based on Viasat technology and waveform.

The parameters have been defined by measurement of the antenna with radome.

Maximum Allowed EIRP:
For digital carriers transmitted at the **KA-SAT** satellite receive contour of 18 dB/K (EESS 502 refers): 31.3 dBW / 40 kHz for an orbital satellite separation $\geq$ 1.5°.

Tx Frequency:
29.50 – 30.00 GHz

Rx Frequency:
19.70 -20.20 GHz

Tx Gain:
47.1 dBi (typical at 29.75 GHz)

Rx Gain:
42.4 dBi (typical at 19.95 GHz)

Tx XPD:
$\geq$24.5 dB within -1 dB contour (worst case)

Rx XPD:
$\geq$26.1 dB @ boresight (worst case)

Pointing error:
< 0.117° average , 0.120° RMS

G/T:
19.7 dB/K theoretical assuming LNB NF=1.8 dB.

Tx Inhibit reaction time: <38 ms

Tx re-activation reaction time: <231 ms

Restrictions and remarks:

1) The terminal, i.e. antenna plus modem, have been designed in order to be operated only over KA-SAT with the Viasat technology and waveform. The access is assumed to be in TDMA mode on digital carriers of maximum 10 MSym/s.
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/files/contributed/satellites/pdf/esog110.pdf, ESOG 110).
3) This Characterization was performed at the test range of Thales Alenia Space in Cannes (France) in the period 3 – 8 October 2019.
4) The Characterization must be coordinated with the transmission plans operated over KA-SAT.
5) The efficiency of the dish without radome is 53 %, estimated at 29.75 GHz.
6) The Tx inhibit treashold was configured during the tests at 0.5°. Such a value shall be re-configured to be compatible with the EESS 502 requirements.

Characterization Summary Sheet

Applicant:

Skytech Italia SRL
Via Di Grottarossa,
1148 Rome, RM 00189
ITALY

Contact person: Federico Zarghetta CEO

Tel: + 39 0664014497
Mob: + 39 3355725621

Website : http://www.skytech-research.com
mailto: info@skytechitalia.it

Certificate:
EB-026

Antenna model:
BB75KA 470NM-001-KA075-E1
Serial number: 107
With Integrated ViaSat mTRIA

Diameter:
0.75 m

Standard:
M

Characterization date:
12 June 2015
Most recent test data received on:
21 May 2015

System Description:
Ka band antenna for maritime services over KA-SAT. Symmetric parabolic dish (P/N: 1257-002) – radome (P/N: 1256-002) - feed horn (P/N: 440DW-001-KA075-E5) – ACU (P/N MK3) – IMU (P/N MTI-G-700-2A5G4)
ACU software modules: tracking v. 3.7.1 – modem interface v. 4.0.0 – GUI v 3.2.0 – OS 3.0.0
Integrated Viasat mTRIA (P/N: X01012000A005), circular polarization, BUC maximum rating 2 Watt (as declared by Viasat).

Maximum Allowed EIRP:
27.2 dBW/40 kHz for digital carriers transmitted at the 18 dB/K satellite receive contour of KA-SAT (EESS 502 refers) and from an orbital separation of the adjacent satellite $\geq$ 2°.

Tx Frequency:
29.50-30.00 GHz

Rx Frequency:
19.70-20.20 GHz

Tx Gain:
44 dBi (typical at 29.75 GHz)

Rx Gain:
40.7 dBi (typical at 19.95 GHz)

Tx XPD:
$\geq$29 dB within -1 dB contour

Rx XPD:
$\geq$21 dB within -1 dB contour

Pointing error:
< 0.02° (Beam pointing Error)
< 0.16° (Pointing accuracy – RMS)

G/T:
17.0 dB/K (typical)

Restrictions:

1) The terminal shall be used solely in VSAT Networks which are conformed with the EU regulations 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/files/contributed/satellites/pdf/esog110.pdf ESOG110).
3) This static characterization has been performed at the outdoor test range of LACE in Torino on one unit of the same model (470NM-001-KA075-E1, serial number: 107), on April 2015.
4) The type approval's validity is subject to regular submission of patterns to confirm that the system remains compliant with the Eutelsat standard at the inspection date.
5) Any change to the characterization configuration needs to be notified to Eutelsat and may be subject to further tests.

KA-BAND SERVICES

Other Ka-band services

Fix terminals

Type Approval Summary Sheet

Applicant:
Gilat satellite networks Ltd.
21 Yegia Kapayim St. Kiryat Arye;
Petah Tikva 49130
Israel
Tel: (972) 3 925-2139; (972) 54 4300691

Contact point: David Rahamim
mailto : davidr@gilat.com

Certificate:
EB-031

Antenna:
Gilat AT2364
Top Pole and mid pole version

Diameter:
0.88m hor. x 0.66 m vert. equivalent to 0.76m

Standard:
M

Approval date:
03 May 2016

Last submitted data:
15 February 2016

System Description:
Long focal length Ka band VSAT antenna designed exclusively for Gilat as AT2364 and manufactured by Skyware Globlal. The Transceiver Celio (Celio XRC Series) is manufactured by Skyware Technologies. The Polarizer/Feed for circular polarization is manufacturded by Gilat. Front fed offset configuration, manual polarization switching. Single piece elliptical metal reflector. Dimensions hor. 88 cm, vert. 66 cm. Modified boom arm for reduction of overshoots.

Configuration:
Standard antenna with modified feed boom. This approval covers only the utilization with the Celio 2.5 W (Gilat AN8002 (Celio XRC Series): TX RHCP assembly - Skyware Technologies 3112 298 05642 ; TX LHCP assembly - Skyware Technologies 3112 298 04972) and 4W (Gilat AN8003 (Celio XRC Series): TX RHCP assembly - Skyware Technologies 3112 298 05972 ; TX LHCP assembly - Skyware Technologies 3112 298 04992) transceiver manufactured by Skyware Technologies and the Ka band Polarizer/Feed designed exclusively for Gilat.

Reflector: Gilat AT2364, SKyware Global AN761KAC00 ; Feed: Gilat LNC00246 Skyware 3112 297 55941(7580601) ; AZ/EL Assembly : Two versions: Top pole (7580440) and Mid pole (7580816-AZ) Antenna backbracket (7580451-BB)
Designed for an installed power $\leq$ 4Watt

Maximum Allowed EIRP:
For digital carriers transmitted at the satellite **EUTELSAT 36C** receive contour of 16 dB/K (EESS 502)
30.8 dBW for 40 kHz for an orbital satellite separation $\geq$ 1.5°
31.1 dBW for 40 kHz for an orbital satellite separation $\geq$ 2.0°
33.0 dBW for 40 kHz for an orbital satellite separation $\geq$ 2.5°
33.5 dBW for 40 kHz for an orbital satellite separation $\geq$ 3.0°

Tx Frequency:
29.00 – 30.00 GHz

Tx Gain:
45.5 dBi @ 29.50 GHz

Tx XPD:
$\geq$25.0 dB within -1 dB contour

Rx Frequency:
19.20 – 20.20 GHz

Rx Gain:
42.1 dBi @ 19.50 GHz

Rx XPD:
$\geq$26 dB within -1 dB contour

G/T:
19.8 dB/K @ 19.70 GHz

Remarks:
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/files/contributed/satellites/pdf/esog110.pdf, ESOG 110).
2) Approval only with modified feed boom and for Celio transceiver with Gilat Feed/Polarizer.
3) Class I is designed for operating with an integrated transceiver weighting a maximum of 1.7 Kg.
4) To be operated for maximum wind speeds of up to 72 Km/h.
5) Approval subject to successful completion of pointing test before end 2016.

Type Approval Summary Sheet

Applicant:

Skyware Technologies
Affinity House, 1 Station View, Hazel Grove
SK7 5ER Cheshire

Tel: +44 7464480475
Web Site: http://www.skywaretechnologies.com/

Contact point: Griogair Whyte
mailto :gwhyte@skywaretechnologies.com

Certificate:
EB-043

Antenna:
SKY74XRF

Diameter:
0.74 m

Standard:
M

Approval date:
15 May 2017
Last submitted data:
15 May 2017

System Description:
0.75 f/D focal length Ka band low cost standard VSAT offset antenna with metal reflector and manual pointing. Top pole fixation to 60 mm mast. Antenna designed for Skyware Technologies Ka band transceiver for circular polarization Model No XRF TXCVR (3W) and XRF TXCVR (4W).
Antenna manufactured by Chinese company Jonsa.

Configurations:
Ka band configuration feed-arm and reflector designed to work with Skyware Technology transceivers Model No XRF TXCVR (3W) and XRF TXCVR (4W) design for other transceivers planned but will require separate approval.

Maximum Allowed EIRP:
For digital carriers transmitted at **EUTELSAT 36C** satellite receive contour of 16 dB/K (EESS 502, § 6.1 refers):
29.1 dBW for 40 kHz for an orbital satellite separation $\geq$ 1.5°
30.3 dBW for 40 kHz for an orbital satellite separation $\geq$ 2.0°

Tx Frequency:
29.00 – 30.00 GHz

Rx Frequency:
17.80 – 20.20 GHz

Tx Gain:
45.11 dBi 29.50 GHz

Rx Gain:
41.8 dBi @ 19.00 GHz

Tx XPD:
>25.2 dB within -1 dB contour

Rx XPD:
>23.3 dB within -1 dB contour

G/T:
19.6 dB/K @ 19.00 GHz

Remarks:
1) Designed for operating with an integrated transceiver assembly Model No XRF TXCVR (3W) and XRF TXCVR (4W) only.
2) To be operated for maximum wind speeds of up to 72 km/h.

Type Approval Summary Sheet

Applicant:

Skyware Global
1315 Outlet Center Drive,
Smithefield, N.C. 27577
USA

Tel: +1 919 934 9711
Fax: +1 919 989 2274
Web Site: http://www.skywareglobal.com

Contact point: Hamid Moheb
mailto :hamidmoheb@skywareglobal.com

Certificate:
EB-030

Antenna:
Model 74 cm Ka band Jupiter1

Diameter:
0.91m hor. x 0.66m vert. equivalent 0.74m

Standard:
M

Approval date:
03 May 2016

Last submitted data:
29 January 2016

System Description:
2 ports long focal length Ka band VSAT antenna in combination with Hughes Jupiter 1 Transceiver. Front fed offset configuration, manual polarization switching between RHCP and LHCP. Elliptical single piece stamped metal reflector 0.91 m horizontal and 0.66 m vertical dimension, equivalent to 0.74 m antenna aperture. Top pole Az/El Mount with SMC antenna back structure and steel boom arm suitable for a variety of different Transceivers. This approval covers only the utilization of the Hughes Jupiter 1 transceiver (RF power 1 Watt).

Configuration:
Standard configuration designed to work with a variety of Transceivers attached with different brackets to the feedboom. This approval covers only the utilization with the Hughes Jupiter 1 transceiver.
Jupiter feed horn 7581317 ; Reflector: 6116039-01; Azel Mount Kit: 6116139-01

Maximum Allowed EIRP:
For digital carriers transmitted at the **EUTELSAT 65WA** satellite receive contour of 12 dB/K (EESS 502 refers):
33.1 dBW for 40 kHz for an orbital satellite separation $\geq$ 1.5°
34.7 dBW for 40 kHz for an orbital satellite separation $\geq$ 2.0°

Tx Frequency:
29.00 – 30.00 GHz

Rx Frequency:
19.20 – 20.20 GHz

Tx Gain:
45.4 dBi 29.50 GHz

Rx Gain:
41.8 dBi @ 19.70 GHz

Tx XPD:
$\geq$28 dB within -1 dB contour

Rx XPD:
$\geq$28 dB within -1 dB contour

G/T:
19.7 dB/K @ 19.70 GHz

Remarks:
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/files/contributed/satellites/pdf/esog110.pdf, ESOG 110).
2) Designed for operating with an integrated transceiver assembly Hughes Jupiter 1 only.
3) Maximum RF front end weight 1.7 Kg.
4) To be operated for maximum wind speeds of up to 72 km/h.
5) Approval is subject to successful completion of pointing test before end of 2016.

Type Approval Summary Sheet

Applicant:

Skyware Global
1315 Outlet Center Drive,
Smithefield, N.C. 27577
USA

Tel: +1 919 934 9711
Fax: +1 919 989 2274
Web Site: http://www.skywareglobal.com

Contact point: Hamid Moheb
mailto :hamidmoheb@skywareglobal.com

Certificate:
EB-032

Antenna:
Gilat ref.: AT 2011,
Sky. Gl. ref.: 62-9886111 only with Celio transceiver and Gilat feed/polarizer

Diameter:
0.98 m

Standard:
M

Approval date:
03 May 2016

Last submitted data:
January 2016

System Description:
2 ports long focal length Ka band VSAT antenna in combination with Celio Transceiver and Gilat Polarizer/Feed for circular polarization. Front fed offset configuration, manual polarization switching. Single piece 0,98 m TMC reflector. Top pole Az/El Mount with TMC antenna back structure and steel boom arm.

Configuration:
Tested configuration designed to work with a variety of Transceivers, however this approval covers only the utilization with the Celio 2.5W (2.5W Gilat AN8002 (Celio XCVR Series):TX RHCP assembly - Skyware Technologies 3112 298 05642 ; TX LHCP assembly - Skyware Technologies 3112 298 04972 and 4W (4W Gilat AN8003 (Celio XCVR Series):TX RHCP assembly - Skyware Technologies 3112 298 05972; TX LHCP assembly - Skyware Technologies 3112 298 04992) transceiver, manufactured by Skyware technologies, and the Gilat exclusively designed Polarizer and Feed.
Designed for an installed power ≤ 4Watt

Reflector ; Gilat AT2011/Skyware global 62-9886111 ; Feed: Gilat LNC00246/Skyware Global 3112 297 55941(7580601)

Maximum Allowed EIRP:
For digital carriers transmitted at the **EUTELSAT 36C** satellite receive contour of 16 dB/K (EESS 502 refers)
33.1 dBW for 40 kHz for an orbital satellite separation ≥ 1.5°
35.9 dBW for 40 kHz for an orbital satellite separation ≥ 2.5°

Tx Frequency:
29.00 – 30.00 GHz

Tx Gain:
47.9 dBi @ 29.50 GHz

Tx XPD:
≥28.0 dB within -1 dB contour

Rx Frequency:
19.20 – 20.20 GHz

Rx Gain:
44.1 dBi @ 19.70 GHz

Rx XPD:
≥28 dB within -1 dB contour

G/T:
22.02 dB/K @ 19.7 GHz

Remarks:
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/files/contributed/satellites/pdf/esog110.pdf, ESOG 110).
2) This Class I is designed for operating with an integrated transceiver Celio of Skyware Technologies the Gilat Polarizer/Feed.
3) Maximum RF front end weight 1.7 Kg.
4) To be operated for maximum wind speeds of up to 72 Km/h.
5) Approval subject to successful completion of pointing test before end 2016.

Type Approval Summary Sheet

Applicant:

Skyware Global
1315 Outlet Center Drive,
Smithefield, N.C. 27577
USA

Tel: +1 919 934 9711
Fax: +1 919 989 2274
Web Site: http://www.skywareglobal.com

Contact point: Hamid Moheb
mailto :hamidmoheb@skywareglobal.com

Certificate:
EB-033

Antenna:
Gilat ref.: AT 2015 Top pole, AT 2364 Mid Pole
Sky. Gl. ref.: 62-1276111 only for Celio transceiver with Gilat feed/Polarizer

Diameter:
1.2 m

Standard:
M

Approval date:
03 May 2016

Last submitted data:
January 2016

System Description:
2 ports long focal length Ka band VSAT antenna in combination with Celio Transceiver and Gilat exclusive Polarizer/Feed for circular polarization. Front fed offset configuration, manual polarization switching. Single piece 1,2 m SMC reflector. Top pole Az/El Mount with SMC antenna back structure and steel boom arm.

Configuration:

Standard VSAT for fixed applications. This approval covers only the utilization with the Celio – Gilat 2.5W (Gilat AN8002 (Celio XCVR Series): TX RHCP assembly - Skyware Technologies 3112 298 05642 ; TX LHCP assembly - Skyware Technologies 3112 298 04972) and 4W (Gilat AN8003 (Celio XCVR Series): TX RHCP assembly - Skyware Technologies 3112 298 05972; TX LHCP assembly - Skyware Technologies 3112 298 04992) transceiver manufactured by Skyware Technologies although this system is designed to work with a variety of Transceivers. The utilization of another transceiver/ feed requires a separate Type approval of the antenna.

Reflector: (Gilat AT2013, Skyware 62-1276111) ; Feed: (Gilat LNC00246 Skyware 3112 297 55941(7580601)

Maximum Allowed EIRP:
For digital carriers transmitted at the **EUTELSAT 36C** satellite receive contour of 16 dB/K (EESS 502)
35.9 dBW/ 40 kHz for satellite orbital separations $\geq$ 1.5°
26.2 dBW / 4 kHz (corresponding to 36.2 dBW/ 40 kHz) for satellite orbital separations $\geq$ 2.5°

Tx Frequency:
29.00 – 30.00 GHz

Tx Gain:
49.5 dBi (typical at 29.50 GHz)

Tx XPD:
$\geq$27 dB within -1 dB contour

Rx Frequency:
19.70 - 20.20 GHz

Rx Gain:
46.0 dBi (typical at 19.70 GHz)

Rx XPD:
$\geq$24 dB within -1 dB contour

G/T:
27 dB/K at 19.25 GHz

Remarks:
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/files/contributed/satellites/pdf/esog110.pdf, ESOG 110).
2) Class I is designed for operating with an integrated transceiver Celio of Skyware Technologies the Gilat Polarizer/Feed.
3) Maximum RF front end weight 1.7 Kg.
4) To be operated for maximum wind speeds of up to 72 Km/h.
5) Approval subject to successful completion of pointing test before end of 2016.

Eutelsat is one of the world's leading and most experienced operators of communications satellites.

Our extensive network of high-performance satellites, located between 133° West and 174° East, provides capacity to clients that include broadcasters and broadcasting associations, pay-TV operators, video, data and Internet service providers, enterprises and government agencies.

Eutelsat's satellites provide ubiquitous coverage of Europe, the Middle East, Africa, Asia-Pacific and the Americas, enabling video, data, broadband and government communications to be established irrespective of a user's location.

Headquartered in Paris, with offices and teleports around the globe, Eutelsat represents a workforce of 1,200 men and women from 46 countries who are experts in their fields and work with clients to deliver the highest quality of service.
fields and work with clients to deliver the highest quality of service.

What can we do for you? Please visit
www.eutelsat.com/enquiries

eutelsat GROUP