Eutelsat S.A. ESV Summary Sheet

Manufacturer:
Thrane & Thrane A/S
trading as Cobham SATCOM
Lundtoftegaardsvej 93 D
DK-2800 Kgs. Lyngby
DENMARK

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Antenna model:
SAILOR 800 VSAT 407008A-00500

Antenna aperture dimensions:
83 cm

Standard:
M

Characterization date:
09-10-2013

System Description:
Stabilized maritime antenna – ring focus Gregorian configuration – Sandwich foam RTM (Resin Transfer Molding) radome. Three axis stabilization platform with conical RF tracking.
BUC NextGenWave 6W rating
LNB PhilTech
OMT Thrane & Thrane TT 60-131011.

Models Characterized:
Standard configuration: linear orthogonal polarization with co-polarized or cross-polarized signal reception option.

Maximum Allowed EIRP:
For digital carriers transmitted at the satellite receive contour of 0 dB/K (EESS 502 refers):
38.6 dBW / 40 kHz for an orbital separation of the adjacent satellite $\geq$ 2.5°
34.2 dBW / 40 KHz for an orbital separation of the adjacent satellite $\geq$ 2.0°
34.0 dBW / 40 kHz for an orbital separation of the adjacent satellite $\geq$ 1.5°

Tx Frequency:
13.75 – 14.50 GHz

Tx Gain:
40.0dBi (typical at 14.25 GHz)

Tx XPD:
$\geq$ 31.7 dB within -1 dB contour

Rx Frequency:
10.70-12.75 GHz

Rx Gain:
37.9 dBi (typical at 11.7 GHz)

Rx XPD:
$\geq$ 30.5 dB within -1 dB contour

G/T (measured with radome)
18.2 dB/K @ 12.75 GHz 30 ° Elevation

Remarks:

1. The manufacturer states that the RMS pointing error is less than 0.20° for the following ship motions:
   Roll = 30° in a period of 6 sec
   Pitch = 15° in a period of 4 sec
   Yaw = 10° in a period of 10 sec
2. The RF performance characterization was performed on one antenna unit with radome, at the CTS test range of Leatherhead, UK, on the 21-22 August 2013.
3. The transmission of the HPA is muted from the ACU when the maximum pointing error exceeds 0.5°, by inhibiting the 10 MHz reference signal to the BUC.
4. Thrane & Thrane has inserted in the ACU software a look-up table with the polarization skew of the Eutelsat satellites, to protect against the mishandling of polarization skew values by installers.
5. The characterization's validity is subject to regular submission of patterns to confirm that the system remains complaint with the Eutelsat standards.

Restrictions:

1. The worst excess in the receive side (+/-10°) to the EESS Gain mask is 6.3 dB @ 3°.
   The service quality in conjunction with operations in certain Rx bands and/or reduced orbital separations from the adjacent satellites may be impaired due to excessive Rx sidelobe levels. Nevertheless, to achieve the required service quality the level of the outroute carrier may need to be increased according to a valid Eutelsat transmission plan.