INTERACTIVE SATELLITE TERMINAL (IST) TYPE APPROVAL/CHARACTERIZATION BY EUTELSAT

RF PERFORMANCE CHARACTERISATION AND VALIDATION BY EUTELSAT

26 February 2020

eutelsat

INTERACTIVE SATELLITE TERMINAL (IST) TYPE APPROVAL/CHARACTERIZATION

This list aims at providing Eutelsat customers with guidance on the selection of the most appropriate earth station equipment to access the Eutelsat capacity with Interactive Satellite Terminal (also known as Smart LNB).

Any IST 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 related to the IST, measured on an accredited test range;

The IST's RF performance fully meets the minimum Eutelsat requirements (EESS 503).

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

The IST shall be used solely in Eutelsat Broadcast Interactive System (EBIS) Networks which are conformed to 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 procedure to access the Eutelsat S.A. Space Segment
(ref. http://www.eutelsat.com/files/contributed/satellites/pdf/esog120.pdf, ESOG 120).

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.

Notes:

- The agreement's validity is subject to regular submission of patterns to confirm that the system remains compliant with the Eutelsat standard I (EESS 503) at the inspection date.
- Any change to the agreed configuration needs to be notified to Eutelsat and may be subject to further tests.
- Transmissions in the 13.75 GHz to 14.00 GHz frequency band are subject to additional constraints imposed by the Radio Regulations. Antennas with diameters <1.2m are not supposed to operate in the frequency band from 13.75 to14.00 GHz .

Eutelsat S.A. Characterization Summary Sheet

Applicant:
EGATEL
Parque Tecnolóxico de Galicia, Av. Ourense, 1, 32901
San Cibrao das Viñas, Ourense, Spain

Tel : +34 988 36 81 18

Website : http://www.egatel.es/
Email : egatel@egatel.es or fvaldes@egatel.es

Certificate:
EI-001
Antenna model:
Winegard DS-7401
Antenna aperture dimensions:
0.91 m H x 0.63 m V
Standard:
I
Antenna ID:
D_60
Approval date:
29-06-2018
Last revision:
01-02-2019
Validity period:
see Remark 4
Last test data submitted on:
05-03-2018

System Description:
Antenna system for fixed IST applications with antenna ID D_60 (EESS 503 refers). Front Fed Offset configuration. Single piece elliptical metallic reflector manufactured by Winegard, with two port linear polarization feed, manufactured by Egatel, with maximum permissible rating as per remark 3. The antenna is not authorized to operate in auto acquisition mode.
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Maximum Allowed EIRP: For digital carriers transmitted by N terminals at the satellite receive contour of 0 dB/K each terminal ESD shall be (EESS 502 refers):

In the 14.00 - 14.50 GHz band:
31.9 – 10 x log N dBW / 40 kHz for an orbital separation from the adjacent satellite ≥ 1.5°
33.5 – 10 x log N dBW / 40 kHz for an orbital separation from the adjacent satellite ≥ 2.5°
37.8 – 10 x log N dBW / 40 kHz for an orbital separation from the adjacent satellite ≥ 3.0°
In the 13.75 - 14.00 GHz band:
29.7 – 10 x log N dBW / 40 kHz for an orbital separation from the adjacent satellite ≥ 1.5°
31.3 – 10 x log N dBW / 40 kHz for an orbital separation from the adjacent satellite ≥ 2.5°
35.6 – 10 x log N dBW / 40 kHz for an orbital separation from the adjacent satellite ≥ 3.0°

Tx Frequency:
13.75 - 14.50 GHz

Tx Gain:
38.25 dBi (av. at 14.25 GHz) – **min is 37.2 dBi**

Tx XPD:
≥ 20 dB within -1 dB contour

Rx Frequency:
10.70 -12.75 GHz

Rx Gain:
36.8 dBi (av. at 11.70 GHz) **min is 35.5 dBi**

Rx XPD:
≥ 20 dB within -1 dB contour

G/T:
16.7 dB/K theoretical @ 11.725 GHz at 30° El

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 RF performance tests were performed on one antenna unit at the Applied CCR Antenna Test Facility at Munich University of Applied Sciences on the 5 March 2018.
3 The Winegard/Egatel is authorized to operate with a Smart LNB with a power of 1 W.
4 This Summary's validity is subject to regular submission of patterns to confirm that the system remains compliant with measured performance at the inspection date.
5 Any change to this configuration needs to be notified to Eutelsat and may be subject to further tests.
6 Wind load tests showed that the antenna can withstand wind speeds up to 72 Km/h.
7 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 level.

Eutelsat S.A. Characterization Summary Sheet

Applicant:
EGATEL
Parque Tecnolóxico de Galicia, Av. Ourense, 1, 32901
San Cibrao das Viñas, Ourense, Spain

Tel : +34 988 36 81 18

Website : http://www.egatel.es/
Email : egatel@egatel.es or fvaldes@egatel.es

Certificate:
EI-002
Antenna model:
Sinuta VF075SMART01S
Antenna aperture dimensions:
0.75 m H x 0.80 m V
Standard:
I-x
Antenna ID:
D_60
Approval date:
31-08-2018
Last revision:
01-02-2019
Validity period:
see Remark 4
Last test data submitted on:
13-06-2018

System Description:
Antenna system for fixed IST applications with antenna ID D_60 (EESS 503 refers). Front Fed Offset configuration. Single piece elliptical metallic reflector manufactured by Sinuta, with two port linear polarization feed, manufactured by Egatel, with maximum permissible rating as per remark 3. The antenna is not authorized to operate in auto acquisition mode.

Maximum Allowed EIRP: For digital carriers transmitted by N terminals at the satellite receive contour of 0 dB/K each terminal ESD shall be (EESS 502 refers):

In the 14.00 - 14.50 GHz band:
32.5 – 10 x log N dBW / 40 kHz for an orbital separation from the adjacent satellite ≥ 1.5°
32.6 – 10 x log N dBW / 40 kHz for an orbital separation from the adjacent satellite ≥ 2.0°
34.0 – 10 x log N dBW / 40 kHz for an orbital separation from the adjacent satellite ≥ 2.5°
35.4 – 10 x log N dBW / 40 kHz for an orbital separation from the adjacent satellite ≥ 3.0°
In the 13.75 - 14.00 GHz band:
30.0 – 10 x log N dBW / 40 kHz for an orbital separation from the adjacent satellite ≥ 1.5°
30.1 – 10 x log N dBW / 40 kHz for an orbital separation from the adjacent satellite ≥ 2.0°
31.5 – 10 x log N dBW / 40 kHz for an orbital separation from the adjacent satellite ≥ 2.5°
32.9 – 10 x log N dBW / 40 kHz for an orbital separation from the adjacent satellite ≥ 3.0°

Tx Frequency:
13.75 - 14.50 GHz

Tx Gain:
38.8 dBi (av. at 14.25 GHz) **– min is 37.0 dBi**

Tx XPD:
≥ 23.8 dB within -1 dB contour

Rx Frequency:
10.70 -12.75 GHz

Rx Gain:
36.9 dBi (av. at 11.70 GHz) - **min is 35.5 dBi**

Rx XPD:
≥ 24 dB within -1 dB contour

G/T:
16.8 dB/K theoretical @ 11.70 GHz at 30° El

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 RF performance tests were performed on one antenna unit at the Applied CCR Antenna Test Facility at Munich University of Applied Sciences on the 6-13 June 2018.
3 The Sinuta/Egatel is authorized to operate with a Smart LNB with a power of 1 W.
4 This Summary's validity is subject to regular submission of patterns to confirm that the system remains compliant with measured performance at the inspection date.
5 Any change to this configuration needs to be notified to Eutelsat and may be subject to further tests.
6 Wind load tests showed that the antenna can withstand wind speeds up to 72 Km/h.

Eutelsat S.A. Characterization Summary Sheet

Applicant:
TELE SYSTEM DIGITAL SRL
Mr. Hans Ramoser
Via dell'Artigianato 35
36050 Bressanvido (VI) – Italy
Tel. +39 0444 460800
Fax. +39 0444 460810

Website : http://www.telesystem-world.com
Email : hans.ramoser@telesystemgroup.com

Certificate:
EI-003
Antenna model:
Fuba 60 cm
Antenna aperture dimensions:
0.60 m
Standard:
I
Antenna ID:
D_60
Approval date:
13-06-2019
Validity period:
See Remark 4
Last test data submitted on:
17-04-2019

System Description:
Antenna system for fixed IST applications with antenna ID D_60 (EESS 503 refers). Front Fed Offset configuration. Single piece elliptical metallic reflector manufactured by Tele System, with two port linear polarization feed, manufactured by Egatel and feed horn by AzureShine, with maximum permissible rating as per remark 3. The antenna is not authorized to operate in auto acquisition mode.

Maximum Allowed EIRP: For digital carriers transmitted by N terminals at the satellite receive contour of 0 dB/K each terminal ESD shall be (EESS 502 refers):

In the 14.00 - 14.50 GHz band:
30.04 – 10 x log N dBW / 40 kHz for an orbital separation from the adjacent satellite ≥ 1.5°
29.93 – 10 x log N dBW / 40 kHz for an orbital separation from the adjacent satellite ≥ 2.0°
30.35 – 10 x log N dBW / 40 kHz for an orbital separation from the adjacent satellite ≥ 2.5°
32.40 – 10 x log N dBW / 40 kHz for an orbital separation from the adjacent satellite ≥ 3.0°
In the 13.75 - 14.00 GHz band:
28.19 – 10 x log N dBW / 40 kHz for an orbital separation from the adjacent satellite ≥ 1.5°
29.97 – 10 x log N dBW / 40 kHz for an orbital separation from the adjacent satellite ≥ 2.0°
28.35 – 10 x log N dBW / 40 kHz for an orbital separation from the adjacent satellite ≥ 2.5°
30.25 – 10 x log N dBW / 40 kHz for an orbital separation from the adjacent satellite ≥ 3.0°

Tx Frequency:
13.75 - 14.50 GHz

Rx Frequency:
10.70 -12.75 GHz

Tx Gain:
37.2 dBi (av. at 14.25 GHz) **– min is 37.2 dBi**

Rx Gain:
35 dBi (av. at 11.70 GHz) - **min is 35.5 dBi**

Tx XPD:
≥ 20.5 dB within -1 dB contour

Rx XPD:
≥ 22.71 dB within -1 dB contour

G/T:
16 dB/K theoretical @ 11.70 GHz at 30° El

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 RF performance tests were performed on one antenna unit at Thale Alenia Space range in Cannes on April 2019.
3 The Sinuta/Egatel is authorized to operate with a Smart LNB with a power of 1 W.
4 This Summary's validity is subject to regular submission of patterns to confirm that the system remains compliant with measured performance at the inspection date.
5 Any change to this configuration needs to be notified to Eutelsat and may be subject to further tests.
6 Wind load tests showed that the antenna can withstand wind speeds up to 72 Km/h.

Eutelsat S.A. Characterization Summary Sheet

Applicant:
TELE SYSTEM DIGITAL SRL
Mr. Hans Ramoser
Via dell'Artigianato 35
36050 Bressanvido (VI) – Italy
Tel. +39 0444 460800
Tel. +39 335202156 (Mobile)
Fax. +39 0444 460810

Website : http://www.telesystem-world.com
Email : hans.ramoser@telesystemgroup.com

Certificate:
EI-004
Antenna model:
Fuba 80
Antenna aperture dimensions:
0.72 m
Standard:
I
Antenna ID:
D_60
Approval date:
13-06-2019
Validity period:
See Remark 4
Last test data submitted on:
17-04-2019

System Description:
Antenna system for fixed IST applications with antenna ID D_60 (EESS 503 refers). Front Fed Offset configuration. Single piece elliptical metallic reflector manufactured by Tele system, with two port linear polarization feed, manufactured by Egatel and feed by AzureShine, with maximum permissible rating as per remark 3. The antenna is not authorized to operate in auto acquisition mode.

Maximum Allowed EIRP: For digital carriers transmitted by N terminals at the satellite receive contour of 0 dB/K each terminal ESD shall be (EESS 502 refers):

In the 14.00 - 14.50 GHz band:
32.72 – 10 x log N dBW / 40 kHz for an orbital separation from the adjacent satellite $\geq$ 1.5°
32.82 – 10 x log N dBW / 40 kHz for an orbital separation from the adjacent satellite $\geq$ 2.0°
34.99 – 10 x log N dBW / 40 kHz for an orbital separation from the adjacent satellite $\geq$ 2.5°
38.41 – 10 x log N dBW / 40 kHz for an orbital separation from the adjacent satellite $\geq$ 3.0°
In the 13.75 - 14.00 GHz band:
30.78 – 10 x log N dBW / 40 kHz for an orbital separation from the adjacent satellite $\geq$ 1.5°
30.87 – 10 x log N dBW / 40 kHz for an orbital separation from the adjacent satellite $\geq$ 2.0°
32.56 – 10 x log N dBW / 40 kHz for an orbital separation from the adjacent satellite $\geq$ 2.5°
35.65 – 10 x log N dBW / 40 kHz for an orbital separation from the adjacent satellite $\geq$ 3.0°

Tx Frequency:
13.75 - 14.50 GHz

Tx Gain:
38.6 dBi (av. at 14.25 GHz) **– min is 37.2 dBi**

Tx XPD:
$\geq$ 20.29 dB within -1 dB contour

Rx Frequency:
10.70 -12.75 GHz

Rx Gain:
36.5 dBi (av. at 11.70 GHz) - **min is 37.4 dBi**

Rx XPD:
$\geq$ 22.6 dB within -1 dB contour

G/T:
16 dB/K theoretical @ 11.70 GHz at 30° El

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 RF performance tests were performed on one antenna unit at Thale Alenia Space range in Cannes on April 2019.
3 The Sinuta/Egatel is authorized to operate with a Smart LNB with a power of 1 W.
4 This Summary's validity is subject to regular submission of patterns to confirm that the system remains compliant with measured performance at the inspection date.
5 Any change to this configuration needs to be notified to Eutelsat and may be subject to further tests.
6 Wind load tests showed that the antenna can withstand wind speeds up to 72 Km/h.

Eutelsat S.A. Characterization Summary Sheet

Applicant:
EMME ESSE SpA
Mrs. Emma Varrenti
Via Moretto, 46 - 25025 Manerbio (BS) ITALY

Tel : Tel. +39 030 99 38 200

Website : www.emmeesse.it
Email : emma.varrenti@emmeesse.it

Certificate:
EI-005
Antenna model:
Emme Esse 74 cm
Antenna aperture dimensions:
0.74 m H x 0.80 m V
Standard:
I-x
Antenna ID:
D_60
Approval date:
13-06-2019
Validity period:
See Remark 4
Last test data submitted on:
17-04-2019

System Description:
Antenna system for fixed IST applications with antenna ID D_60 (EESS 503 refers). Front Fed Offset configuration. Single piece elliptical metallic reflector manufactured by EMME-ESSE, with two port linear polarization feed, manufactured by Egatel, with maximum permissible rating as per remark 3. The antenna is not authorized to operate in auto acquisition mode.

Maximum Allowed EIRP: For digital carriers transmitted by N terminals at the satellite receive contour of 0 dB/K each terminal ESD shall be (EESS 502 refers):

In the 14.00 - 14.50 GHz band:
31.25 – 10 x log N dBW / 40 kHz for an orbital separation from the adjacent satellite ≥ 1.5°
31.18 – 10 x log N dBW / 40 kHz for an orbital separation from the adjacent satellite ≥ 2.0°
31.20 – 10 x log N dBW / 40 kHz for an orbital separation from the adjacent satellite ≥ 2.5°
32.00 – 10 x log N dBW / 40 kHz for an orbital separation from the adjacent satellite ≥ 3.0°
In the 13.75 - 14.00 GHz band:
31.60 – 10 x log N dBW / 40 kHz for an orbital separation from the adjacent satellite ≥ 1.5°
31.60 – 10 x log N dBW / 40 kHz for an orbital separation from the adjacent satellite ≥ 2.0°
32.02 – 10 x log N dBW / 40 kHz for an orbital separation from the adjacent satellite ≥ 2.5°
33.28 – 10 x log N dBW / 40 kHz for an orbital separation from the adjacent satellite ≥ 3.0°

Tx Frequency:
13.75 - 14.50 GHz

Rx Frequency:
10.70 -12.75 GHz

Tx Gain:
38.2 dBi (av. at 14.25 GHz) **– min is 37.2 dBi**

Rx Gain:
37.4 dBi (av. at 11.70 GHz) - **min is 37.4 dBi**

Tx XPD:
≥ 22.9 dB within -1 dB contour

Rx XPD:
≥ 22.9 dB within -1 dB contour

G/T:
16.8 dB/K theoretical @ 11.70 GHz at 30° El

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 RF performance tests were performed on one antenna unit at Thale Alenia Space range in Cannes on April 2019.
3 The Sinuta/Egatel is authorized to operate with a Smart LNB with a power of 1 W.
4 This Summary's validity is subject to regular submission of patterns to confirm that the system remains compliant with measured performance at the inspection date.
5 Any change to this configuration needs to be notified to Eutelsat and may be subject to further tests.
6 Wind load tests showed that the antenna can withstand wind speeds up to 72 Km/h.

Eutelsat S.A. Characterization Summary Sheet

Applicant:
AYECKA
Salit Even Shoam - EVP Products & Projects
21 Atir Yeda
Kfar-Saba
Israel 4464316

T : +972-9-7422717
M:+972-54-6962162

Email : salite@ayecka.com

Certificate:
EI-006
Antenna model:
Sinuta 72SA
Antenna aperture dimensions:
0.75 m H x 0.80 m V
Standard:
I
Antenna ID:
D_60
Approval date:
26-02-2020
Validity period:
See Remark 4
Last test data submitted on:
04-12-2019

System Description:
Antenna system for fixed IST applications with antenna ID D_60 (EESS 503 refers). Front Fed Offset configuration. Single piece elliptical metallic reflector manufactured by Sinuta, with two port linear polarization feed, manufactured by AYECKA, with maximum permissible rating as per remark 3. The antenna is not authorized to operate in auto acquisition mode.

Maximum Allowed EIRP: For digital carriers transmitted by N terminals at the satellite receive contour of 0 dB/K each terminal ESD shall be (EESS 502 refers):

In the 14.00 - 14.50 GHz band:
32.8 – 10 x log N dBW / 40 kHz for an orbital separation from the adjacent satellite $\geq$ 1.5°

In the 13.75 - 14.00 GHz band:
30.8 – 10 x log N dBW / 40 kHz for an orbital separation from the adjacent satellite $\geq$ 1.5°

Tx Frequency:
13.75 - 14.50 GHz

Tx Gain:
38.9 dBi (av. at 14.25 GHz) **– min is 37.2 dBi**

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

Rx Frequency:
10.70 -12.75 GHz

Rx Gain:
37 dBi (av. at 11.70 GHz) - **min is 35.5 dBi**

Rx XPD:
$\geq$ 22.0 dB within -1 dB contour

G/T:
16.6 dB/K theoretical @ 11.70 GHz at 30° El

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 RF performance tests were performed on one antenna unit at Thale Alenia Space range in Cannes on December 2019.
3 The Ayecka/Sinuta 72SA is authorized to operate with a Smart LNB with a power of 1 W.
4 This Summary's validity is subject to regular submission of patterns to confirm that the system remains compliant with measured performance at the inspection date.
5 Any change to this configuration needs to be notified to Eutelsat and may be subject to further tests.
6 Wind load tests showed that the antenna can withstand wind speeds up to 72 Km/h.