

| General Remark | KU-BAND | Application | | | | | | | | | | | | | | | | | |
|---|--|------------------------|--|--|--|--|--|--|--|--|--|--|--|--|---|---|---|---|---|
| | | Item | unit | Comment | Fixed, central station (high power) | | | VSAT | | | SNG | | | Maritime | | | Small diameter, On-The-Move Terminals, Atypical Construction, Advanced Technology | | |
| Transmit specifications for antennas only | Item | unit | Comment | D=3.8 | 3.87D=1.8 | 3.87D=1.5 | 1.57D=1.0 | D=1.0 | 3.87D=1.5 | 1.57D=1.0 | D=1.0 | 3.87D=1.5 | 1.57D=1.0 | D=1.0 | n/a | n/a | non-parabolic, non-maritime | | |
| | | Diameter equivalent to | (m) | | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | D=0.6 m | D=0.6 m | The corresponding 1 dB scale equivalent diameter with reference to antenna gain in the direction toward the satellite can be used for link analysis. For low profile and flat antennas, D is the smaller dimension of the paraboloid in its principal to the satellite direction. | |
| | RA | | Reference frequency 14.352 GHz | 0.5 * 382.5 | 382.5 * 0.5 = 191.25 | 382.5 * 0.375 = 144.56 | 144.56 * 0.375 = 54.19 | 54.19 * 0.375 = 20.32 | 0.5 * 47.5 | 382.5 * 0.5 = 191.25 | 191.25 * 0.375 = 71.72 | 191.25 * 0.375 = 71.72 | 191.25 * 0.375 = 71.72 | 0.5 * 47.5 | 382.5 * 0.5 = 191.25 | 191.25 * 0.375 = 71.72 | 0.5 * 47.5 | | |
| | Antenna side-lobe characteristics (related to operation mode) | | Range and +/- 5 deg. for each of the given of each measurement, 10% of the side lobes are permitted to exceed the indicated mask by a maximum of 3 dB. Please indicate mask with channel specification (ECC, ITU, ITU etc.) | 29 - 25 log (B) | 29 - 25 log (B) | 29 - 25 log (B) | 29 - 25 log (B) | 29 - 25 log (B) | 29 - 25 log (B) | 29 - 25 log (B) | 29 - 25 log (B) | 29 - 25 log (B) | 29 - 25 log (B) | 29 - 25 log (B) | 29 - 25 log (B) | 29 - 25 log (B) | 29 - 25 log (B) | For meter evaluation on a Case-By-Case basis by individual satellite operators, based on the ITU Today adjacent satellite coordination process as defined in article 4 of the Radio Regulations (RR), and the 6% data T/T threshold for non-conformal antennas. | |
| | Measured Co-polar pattern - with radome if applicable (low mid- and high frequency band). At least one frequency in the operational band | | Antenna Gain pattern | AZ/EL plots | AZ/EL plots | AZ/EL plots | AZ/EL plots | AZ/EL plots | AZ/EL plots | AZ/EL plots | AZ/EL plots | AZ/EL plots | AZ/EL plots | Mandatory, further explained in section "Mandatory Test Data" | Mandatory, further explained in section "Mandatory Test Data" | Mandatory, further explained in section "Mandatory Test Data" | Mandatory, further explained in section "Mandatory Test Data" | Mandatory, further explained in section "Mandatory Test Data" | |
| | Start of s | (deg) | Definition of starting point | n= greater (1.0, 100%/D) | n= greater (1.0, 100%/D) | n= greater (1.0, 100%/D) | n= greater (1.0, 100%/D) | n= greater (1.0, 100%/D) | n= greater (1.0, 100%/D) | n= greater (1.0, 100%/D) | n= greater (1.0, 100%/D) | n= greater (1.0, 100%/D) | n= greater (1.0, 100%/D) | n= greater (1.0, 100%/D) | n= greater (1.0, 100%/D) | n= greater (1.0, 100%/D) | n= greater (1.0, 100%/D) | For meter evaluation on a Case-By-Case basis by individual satellite operators, dependent on application and operational environment | |
| | X-pol isolation within 1 dB contour - linear polarization | (dB) | Individual satellite operator could implement lower values in exceptional circumstances with E.I.R.P. restrictions | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 20 | |
| | X-pol isolation within 1 dB contour - circular polarization | (dB) | Individual satellite operator could implement lower values in exceptional circumstances with E.I.R.P. restrictions | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 18 | |
| | Measured Cross-polar pattern | | Antenna patterns to be provided with radome if applicable - transmit and receive | within 1 dB contour (linear polarization, only brought at Circular polarization) | within 1 dB contour (linear polarization, only brought at Circular polarization) | within 1 dB contour (linear polarization, only brought at Circular polarization) | within 1 dB contour (linear polarization, only brought at Circular polarization) | within 1 dB contour (linear polarization, only brought at Circular polarization) | within 1 dB contour (linear polarization, only brought at Circular polarization) | within 1 dB contour (linear polarization, only brought at Circular polarization) | within 1 dB contour (linear polarization, only brought at Circular polarization) | within 1 dB contour (linear polarization, only brought at Circular polarization) | within 1 dB contour (linear polarization, only brought at Circular polarization) | within 1 dB contour (linear polarization, only brought at Circular polarization) | Mandatory, further explained in section "Mandatory Test Data" | Mandatory, further explained in section "Mandatory Test Data" | Mandatory, further explained in section "Mandatory Test Data" | Mandatory, further explained in section "Mandatory Test Data" | Mandatory, further explained in section "Mandatory Test Data" |
| | Polarization Alignment Accuracy | | | within 1° | within 1° | within 1° | within 1° | within 1° | within 1° | within 1° | within 1° | within 1° | within 1° | within 1° | within 1° | within 1° | within 1° | within 1° | |
| | Altitude / Elevation fine adjustment mechanics | | Mispointing must cause less than 1 dB reduction of carrier SNR towards satellite | n/a | yes | to reduce mispointing to 0.5 deg | to reduce mispointing to 0.5 deg | to reduce mispointing to 0.5 deg | to reduce mispointing to 0.5 deg | to reduce mispointing to 0.5 deg | to reduce mispointing to 0.5 deg | to reduce mispointing to 0.5 deg | to reduce mispointing to 0.5 deg | n/a | n/a | n/a | n/a | n/a | |
| | Tracking (mandatory) | | | yes | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | yes | yes | yes | yes | yes | |
| | Structural stability | | | picture required | picture required | picture required | picture required | picture required | picture required | picture required | picture required | picture required | picture required | picture required | picture required | picture required | picture required | picture required | |
| | Windload operational | (km/h) | Wind speed for maximum 3 dB reduction of carrier SNR toward satellite | 55 km/h | 55 km/h | 55 km/h | 55 km/h | 55 km/h | 55 km/h | 55 km/h | 55 km/h | 55 km/h | 55 km/h | 55 km/h | n/a | n/a | n/a | n/a | |
| | Min/max temp | (deg C) | Transceiver should be able to sustain these temperatures for multiple hours | -30 to 50 deg C | -30 to 50 deg C | -30 to 50 deg C | -30 to 50 deg C | -30 to 50 deg C | -30 to 50 deg C | -30 to 50 deg C | -30 to 50 deg C | -30 to 50 deg C | -30 to 50 deg C | -30 to 50 deg C | n/a | n/a | n/a | According to equipment specification for aircraft, land-mobile, rail and maritime | |
| | Investigate the possible influence on the antenna pattern introduced by the dewing | | Highly recommended | yes | yes | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | |
| | Installation of an Antenna Control Unit | | | Mandatory | Highly recommended | n/a | n/a | n/a | n/a | Highly recommended | Highly recommended | Highly recommended | Mandatory in antenna system | Mandatory in antenna system | Mandatory in antenna system | Mandatory in antenna system | Mandatory in antenna system | Mandatory in antenna system | |
| | Is a look up table for polarization / skew angle offset to the antenna operator | | Special antenna types | n/a | n/a | n/a | n/a | n/a | yes | yes | yes | yes | yes | yes | yes | yes | yes | n/a | |
| | Maximum deviation from direction of satellite | (deg) | Angle determined by maximum 3 dB reduction of carrier SNR towards satellite | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | Applicable | Applicable | Applicable | Applicable | Applicable, only 1 dB max carrier reduction | |
| | Software may not be modifiable by operator | | SW is a mobile, auto-acquiring On-The-Move system only. This includes data for the tracking mechanism, the acquisition for mis-pointing and power levels to the antenna. Range 6-11 include any unit where software is installed, like BUC, modem and ACU, or other components | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | yes | yes | yes | yes | yes | |
| | Radome in production must be identical to the radome with which the antenna system has been tested | | | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | yes | yes | yes | yes | yes | |
| | Antenna Tx Gain at mid band frequency | (dB) | For information only | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | |
| | Antenna Tx Frequency range | (GHz) | For information only | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | |
| | Specific Emission (Carrier Off) | | Must not exceed 40dB/ACLU | applicable | applicable | applicable | applicable | applicable | applicable | applicable | applicable | applicable | applicable | applicable | applicable | applicable | applicable | applicable | |
| | Transmit E.I.R.P. indicator | (dB) | At discretion of individual satellite operator | yes | n/a | n/a | n/a | n/a | yes | recommended | recommended | n/a | n/a | n/a | n/a | n/a | n/a | n/a | |
| | Maximum E.I.R.P. rating | (dBW) | Required value from every manufacturer | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | |
| | E.I.R.P. Adjustment Resolution in the Full Range of RHP power | (dB) | | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | |
| | E.I.R.P. stability | (dB) | Integrated into antenna system mobile/maritime | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | 1 | 1 | 1 | 1 | 1 | |
| | Automatic carrier mute, mandatory if mispointing exceeds | (deg) | mobile, auto-acquiring On-The-Move systems only | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | +/- 0.5° | +/- 0.5° | +/- 0.5° | +/- 0.5° | +/- 0.5° | |
| | Time within which the automatic carrier mute will have to take place | (ms) | mobile, auto-acquiring On-The-Move systems only | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | 100 ms | 100 ms | 100 ms | 100 ms | 100 ms | |
| | Transmission to resume at (or less than) angle | (deg) | mobile, auto-acquiring On-The-Move systems only | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | +0.2 within 1 sec | +0.2 within 1 sec | +0.2 within 1 sec | +0.2 within 1 sec | +0.2 within 1 sec | |
| | Transmit earth stations must be equipped with tracking data which allows pointing optimization and tracking prior to and during transmission | | | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | |
| | Minimum TX gain at mid band frequency | (dB) | For information only | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | |
| | Antenna RB frequency range | (GHz) | For information only | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | |
| | Add G/T values | (dB/K) | G/T related to 1dB gain at 20° elevation at 25°C (addition to gain required at 25° and 45°C) ambient temperature. Max. Band Gain type to be used. Measurements include OMT/Polarizer losses, for other station only | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | |

The individual satellite companies participating in this certification process are subject to trade control and sanctions laws that may restrict the ability to review and approve equipment proposed by certain vendors.