

SOMAP

Datasheet contents relevant to Earth Station Approval
by the Satellite Operator – a suggestion

*Satellite Operator's
Minimum Antenna
Performance
Requirements*

Datasheet Contents relevant to Earth Station Approval by the Satellite Operator – a suggestion

Objective: Information to the manufacturer about data which ought to be part of any datasheet in view to the registration and earth station approval.

- 1) Unambiguous Antenna / System Designation (Commercial Name, Type...)
- 2) Antenna Aperture Dimensions (Note: May be identical with mechanical dimensions of main reflector).
- 3) Number of Antenna Feed Ports.
 - a. Transmit
 - b. Receive
- 4) Frequency Bands of Antenna System.
 - a. Transmit, Lower Frequency Limit – to Upper Frequency Limit [MHz].
 - b. Receive, Lower Frequency Limit – to Upper Frequency Limit [MHz].
- 5) Antenna Gain [dBi] with associated Frequency [MHz]
 - a. Transmit
 - b. Receive
- 6) Polarization Linear / Circular.
- 7) Frequency Bands foreseen for Operations (only applicable if different to paragraph 2 above).
 - a. Transmit
 - b. Receive
- 8) Compliance of Antenna TX and RX Sidelobe Patterns.

Maximum Excess of sidelobe peaks [dB]	$29 - 25 \log(\theta)$ dBi for $1^\circ < \theta \leq 7^\circ$
In angular range [°]	+8 dBi for $7^\circ < \theta \leq 9.2^\circ$
Maximum Excess of sidelobe peaks [dB]	$32 - 25 \log(\theta)$ dBi for $9.2^\circ < \theta \leq 48^\circ$
In angular range [°]	-10 dBi for $48^\circ < \theta$

- 9) Cross Polarization Discrimination / Axial Ratio.
 - a. Transmit
 - i. At Beam Centre.
 - ii. Within the 1dB co-polar contour, alternatively within the tracking cone angle.
 - b. Receive
 - i. At Beam Centre.
 - ii. Within the 1dB co-polar contour, alternatively within the tracking cone angle.
- 10) Maximum EIRP capability at HPA saturation [dBW].
- 11) Maximum supported HPA size(s) [Watt].
- 12) TX Spurious [dBc]
- 13) Classification of antenna and antenna mount.
 - a. Photo(s)
 - b. For COTM pictures including all components.
- 14) Antenna Control
 - a. Motorization, Availability for Azimuth, Elevation, Polarization.
 - b. For Transportable Stations: Presence of Auto-Pointing System.
- 15) Azimuth Range; Elevation Range; For COTM Terminals Maximum Skew Angle.
- 16) Antenna Reflector
 - a. Surface Accuracy
 - b. Structure: Single Panel / Multi Panel
 - c. Maximum Wind Speed
 - i. Related Mispointing Angle.
- 17) Beam Pointing Accuracy.
 - a. Type of Tracking System (if applicable) and related Mispointing Angle.
 - b. For COTM Terminals:
Auto-Transmission Cut-Off Delay (Mute) and related Mispointing Angle.
 - c. Typical Re-Acquisition Time.
- 18) Radome Designation (if applicable)
- 19) G/T with Indication of Related Frequency and Elevation.
 - a. LNA/LNB/LNC Noise Temperature [K].
- 20) Operational Transmission Symbol Rate(s) [kBaud]
- 21) Compliance with Standards (Standards to be named)