Starling

StarRail™ Ku Band Antenna Systems for High Speed Trains

Starling's StarRail™ Ku Band antenna for high speed trains is based on our revolutionary, patented Coherent Multi-Panel Antenna (CoMPA™) technology. Our technology stands out among other approaches to mobile connectivity antennas by enabling a compact, lightweight antenna with the highest data rates for efficient and cost-effective broadband communications onboard any high speed train. Our unique antenna technology offers the most viable option for complete and global On-The-Move broadband services as it has the required capacity for broadband applications needed to simultaneously serve multi-users.

StarRail™ - Productivity on High-Speed Trains

High-speed train travelers need to connect as much as people in office or home settings. Equipped with **Starling's** Ku Band antenna, **Service Providers can now:**

- Utilize global frequencies with high bit rates to offer comprehensive, full-featured entertainment and connectivity services such as: Internet, E-mail, VPN, VoIP, Live TV and mobile phone
- Buy more while pay less. Lower cost-per-megabyte of data results in added affordable services for users and higher profit potential for operators
- Use our high capacity antenna to allow all train passengers to connect while traveling
- Take advantage of efficient high bandwidth capacity by offering passengers the ability to communicate to their office, home and friends while they travel

Starling's Ku Band Antenna Advantages

- Highest performances - Transmit bit rates of 1-5 Mbps and receive bit rates of 10-25 Mbps
- Two-way connectivity meets global SATCOM frequency allocation requirements
- Ultra-small - easy to install. The miniaturized RF components inside the narrow-diameter, lightweight, low-profile antenna are easily installed on top any high speed train
- Unique transmit and receive capabilities - efficient transponder use results in lower service costs
- Special wideband elements and diplexer for isolation are unique to Starling's antennas
- High quality - low maintenance. With all electronics contained inside the antenna, no space is required inside the train. This allows considerably faster installation on in-service trains
- ITU/FCC compliance

Starling's StarRail™ Ku Band Antenna for High-Speed Trains - Technical Description:

Flat Panel Technology

Low Loss Combiner Network
Wide-band Radiating Elements (Tx/Rx)

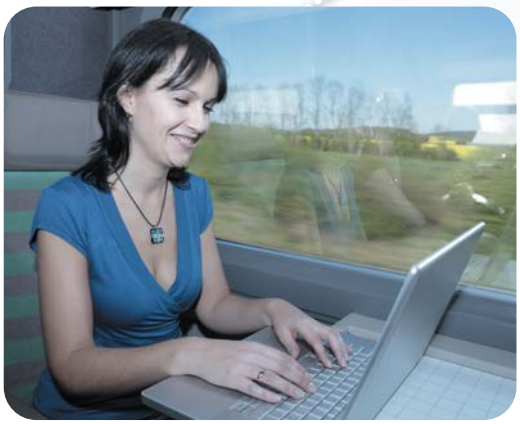
Multi Rx/Tx Front End
Active Electronic Polarization Tracking

Physical Specifications

Antenna Swept Volume	38" (96 cm) X 7.5" (19 cm)
Antenna Weight	60 lb (27.2 kg)

Main Performance Data

Tx Frequency	14.0 GHz to 14.5 GHz
Rx Frequency	10.70 GHz to 12.75 GHz
Gain	33.5 dBi at 14 GHz
EIRP	45-54 dBW option for external HPA
G/T	12 dB/°K at 12GHz
Azimuth	continuous coverage over full 360°
Elevation Coverage	0 to 90° antenna elevation
Modem Capability	compatible to all available modems



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Advanced Communications

On-The-Move
Broadband Connectivity

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