ISBT is Thales Alenia Space Spain’s 4th generation of Tracking, Telemetry and Command (TT&C) transponder, with a flawless track record of more than 330 units delivered to our customers of the various product generations for all types of space missions and applications: Earth observation, science, exploration, telecommunication, navigation, orbital infrastructure and proximity links.

/// Coherent mode and ranging functions
/// Spread Spectrum modes available
/// The only European supplier of TDRSS compatible transponder certified by NASA
/// Flexible product

COMPETITIVE ADVANTAGES

/// Reliable transponder with robust design and zero failures in 30 years
/// Strong heritage > 190 ISBT units
/// Cost optimized solution
/// Compatible with all ground segments (ESA, NASA, JAXA, KARI…)
/// Compatible with most of the main satellite platforms
/// In flight configuration capabilities: multi-frequency, multi-modulation, output power
/// Compatible with all type of orbits: LEO, MEO, GEO, Near Earth
GENERAL
/// Mass: 3 kg
/// Dimensions: 228 x 170 x 194 mm³
/// Primary bus voltage: 21-52 and 100V
/// Discrete and optional serial interface for TM/TC housekeeping

RANGING MODES
/// ESA/NASA two tone and ESA MPTS (typical 450 kHz) alone or simultaneous with TM
/// Regenerative code ranging NASA SNUG 450

TRANSMITTER
/// S-Band (2200-2300 MHz)
/// Frequency stability: as in receiver
/// RF output power: up to 37 dBm
/// High power option available: >20W
/// Power consumption: 25 W (for RF = 37 dBm)

RECEIVER
/// S-Band (2025-2120 MHz)
/// Input dynamic range: -128 to -50 dBm
/// Frequency stability:
  /// Initial setting: ± 5 ppm
  /// Global: ± 20 ppm
  /// Option TCXO: ± 1ppm
/// Power consumption: 5 W typical

EXPERIENCE
/// Over 190 ISBT units sold for programs such as: Galileo, Sentinel 1-2-3-6, GEO-KOMPSAT-2, Cygnus, OCO, Swarm, Metocsat Third Generation, MetOp Second Generation, EDRS, Athena-Fidus, Sicral 2, PACE, WFIRST…
/// Over 180 transponders sold world-wide from previous SBT product generations: ATV, HTV, XMM, Cluster, IBEX, Integral, MetOp, Jason, Helios, Pleiades, Scisat, QuasiZenith, MTSAT, KaSat, Hot Bird, Hispasat…

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