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Satellite Capacity Management System (SCMS)
## Effectively plan and manage satellite capacity

The Calian, Advanced Technologies Satellite Capacity Management System (SCMS) is an advanced software system used by satellite operators and satellite service providers for planning and managing the use of satellite capacity including link budget analysis, multiple planning modes, and transponder loading analysis.

Highlights

- Design, analyze, and optimize satellite communications networks
- Accurately model C, L, Ku, and Ka-band SatCom systems
- Seamlessly support high-throughput satellites (HTS, VHTS)
- Plan for thousands of links on hundreds of transponders
- Simultaneously plan frequency reuse and analyze interference between large numbers of narrow beams
- Sophisticated non-linear (intermod) models and algorithms

Key Features

- Plan global coverage across multiple satellites
- Quickly add terminals and carriers using pre-defined types
- Automatically size terminals using the new Terminal Type Sizing feature
- Easily create and analyze alternative network configurations
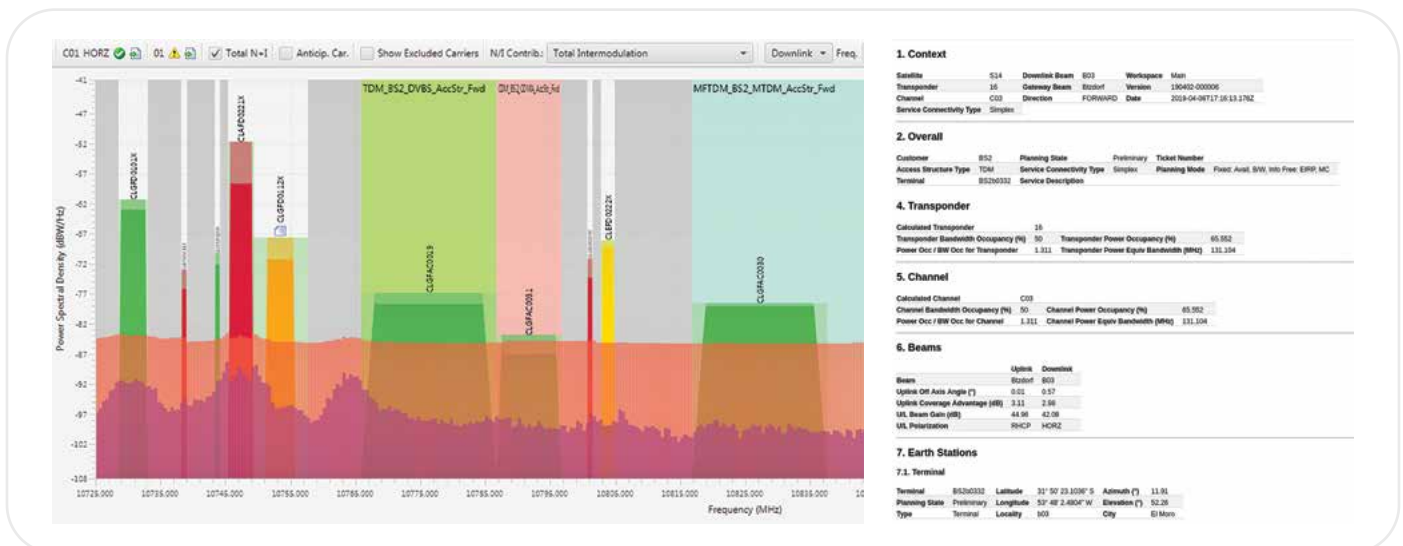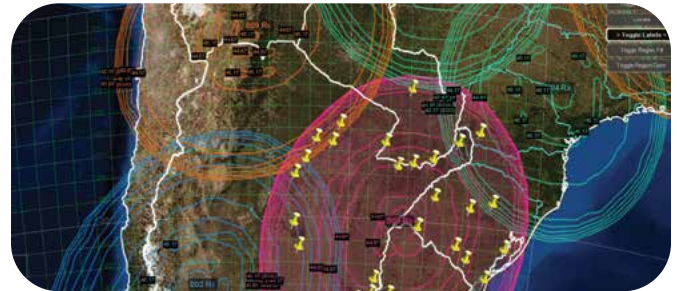
Technical Specifications

Carrier Planning Scenarios

- Support SCPC, DVB-S2, TDM/A, FDM/A, and CDM/A
- Plan simplex, duplex, and broadcast carriers
- Plan carriers and terminals while sizing user terminal equipment
- Identify power/bandwidth constrained carriers
- Determine data rates for required availability and clear-sky
- Plan with multiple combinations of fixed EIRP, availability and MODCOD
- Plan carriers for clear sky and required availability conditions
- Consider uplink power control and gateway site diversity
- Balance uplink and downlink availability to minimize satellite power load
- Flag carriers with inadequate link margin
- Override interference levels for planning carriers
- Plan carriers in multiple, independent workspaces
- Verify transmitted off-axis EIRP regulatory limits
- Verify transmitted PFD at earth surface limits
- Detailed and summary reports (PDF and HTML)

Beam Coverage

- Support global, regional, and narrow beams
- Support switchable and steerable antennas
- Either theoretical or measured
- Detailed analysis based on satellite antenna radiation patterns
- Beam contour generation and visualization
- Beam EOC advantage calculations for specified locations
- Interactive 2D and 3D world maps
- Import SatSoft antenna pattern files

Noise Models

- Satellite and earth station thermal noise
- Adjacent carrier and co-channel interference (ACI/CCI)
- Adjacent satellite interference (ASI)
- Cross-polarization interference (XPI)
- Man-made terrestrial interference
- Transponder intermodulation noise (I3M/I5M)

Expansion

- Add new satellite and transponders
- Add new earth station types
- Add custom waveforms: modulation, coding, BER, roll-off, and shaping filters parameters
- Interface to customer relationship databases
- Interface with Calian CSM and Monics CSM

System Requirements

- Multi-user client-server architecture
- Windows Client
- Linux Server
- Secure multi-user design
- Support for PostgreSQL and Oracle databases