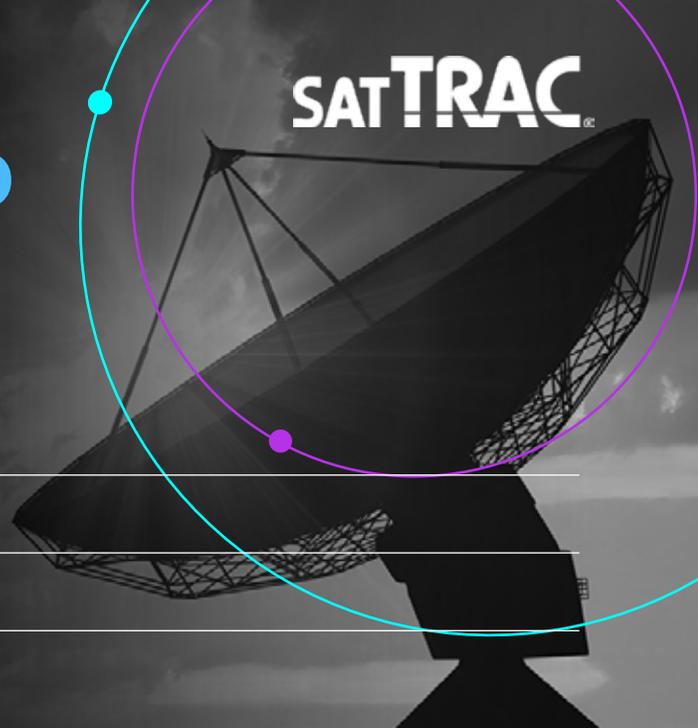# ARKA

satTRAC® CLOUD MODEM

For Use with GSaaS Providers

Full featured satellite modem applications

TT&C, payload, communications, and test

True software modem

Cloud native

satTRAC

FEATURES

CAPABILITIES:

The satTRAC Cloud modem is a software Virtual Network Function (VNF), high-performance modem application that interfaces to Ground Station as a Service (GSaaS) providers, including Azure orbitals, AWS Ground Station, private services, etc., to support a wide range of satellite TT&C, payload, communications, and test functions.

TRUE SOFTWARE MODEM:

The satTRAC Cloud software is the same modem software as our satTRAC Modem and Baseband Units. The modem and baseband processing algorithms (including modulation/demodulation and Forward Error Correction [FEC]) are implemented entirely in software, making the system a true software modem.

PROVEN COMPATIBILITY AND PERFORMANCE:

With years of operational heritage and demonstrated compatibility in satellite factories and on-orbit, satTRAC systems provide a low-risk, long-term ground station as-a-service solution. Programs like GPS, JPSS, GOES-R, JTAGS, AEHF, as well as many SmallSat programs, rely on satTRAC for their most critical links.

BUILT-IN TOOLS:

The satTRAC Cloud modem offers a suite of intuitive tools to customize, monitor, troubleshoot, test, and analyze mission-critical data. Tools include a spectrum analyzer to assess and measure power levels, purity, frequency offsets, C/N0, distortion, and interference; data viewers to monitor raw command and telemetry data; and I/Q Constellation diagrams to test the quality of a signal.

THE POWER OF SOFTLINK®:

All our systems are built on SOFTLINK, ARKA's flexible and configurable software-defined architecture. SOFTLINK leverages a vetted library of modular, scalable software applications (Apps) and services to tailor and evolve system capabilities with minimal risk and cost. SOFTLINK's open architecture and open API enable ARKA Apps to be truly "platform agnostic," meaning Apps can run on premise (our hardware or yours), on Virtual Machines (VMs), in containers, or natively in the Cloud.

VIRTUAL AND CLOUD DEPLOYMENTS:

When ARKA Apps / services are deployed in the Cloud, they can be hosted in VMs or orchestrated in containers— interoperating across network boundaries. Multiple instances of these environments can exist simultaneously in various locations to provide resilient, fail-safe solutions. What's more, ARKA Apps are "Cloud agnostic," allowing them to perform seamlessly across Cloud platforms.

INTEROPERABILITY:

The satTRAC Cloud modem conforms to Azure Orbital's and AWS Ground Station's VITA-49.2 ICDs; therefore, it works with any ground station that meets those specifications. This standardization ensures that customers have a wide range of choices when it comes to using GSaaS.

INTUITIVE USER INTERFACE
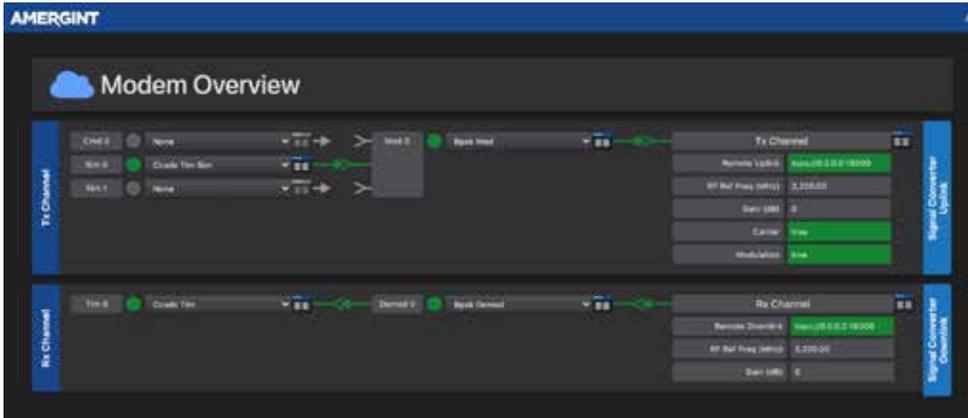
The satTRAC cloud modem features an **intuitive** web-based User Interface (UI). Use the Overview window to **control and status** how data is flowing through the system and **drill down** into detailed parameters. The flow of data is visually represented using component blocks, arrows, and status indicators.

SPECIFICATIONS

CHANNELS RATES

- 1 Uplink channel up to 1 Msps*
- 1 Downlink channel up to 10 Msps*

UPLINK / DOWNLINK WAVEFORMS APPS

- Direct BPSK
- BPSK / PM
- BPSK / FM
- Direct QPSK
- GMSK
- mPSK (>10 Msym / sec & < 60 Msym / sec)

VIRTUAL NETWORK CONFIGURATION

- User side public IP (UI and Data I/F)
- Virtual Network to Azure Orbital GSaaS
- Localhost Loopback Test

UPLINK / COMMANDING APPS

- Basic Binary Commanding
- Basic Telemetry Simulation
- CCSDS Telemetry Simulation

DOWNLINK / TELEMETRY APPS

- Basic Binary Command Echo
- Basic Telemetry
- CCSDS Telemetry
- CCSDS AOS Transfer Telemetry

DATA ANALYSIS

- Constellation Diagrams
- Spectrum Analyzer
- Data Capture / Inspection

VIRTUAL MACHINE

- 16+ Core VMs
- satTRAC Cloud deploys on a RHEL 7.6 VM within user's subscription

* Channel rates are waveform, FEC, and VM size dependent.

If you don't see your waveform, FEC, symbol rate, channels, or commanding or telemetry Apps, please contact us at info@amergint.com, and we will be happy to work with you.

FOR ADDITIONAL INFORMATION:

2315 Briargate Pkwy., Suite 100
Colorado Springs, CO 80920 USA

Tel: 719-522-2800 | Fax: 719-522-2810

in **arka-group-technologies**   **www.arka.org**