

T400SM

Spectral Monitoring Sensor

KRATOS | RT LOGIC



Overview

Kratos RT Logic provides a wide range of capabilities supporting the detection and mitigation of RF interference on satellite communications links. The T400SM family of spectral monitors combines RT Logic innovative frequency conversion and signal processing products with the industry-leading Monics® networked carrier monitoring software product from our sister company, SAT Corporation. Our robust spectral monitoring sensors have been delivered to a broad range of customers, and they are actively protecting commercial and government links in UHF, C, X, Ku, and Ka bands. We provide a wide variety of configurations that can be customized to meet the most demanding spectral monitoring requirements.

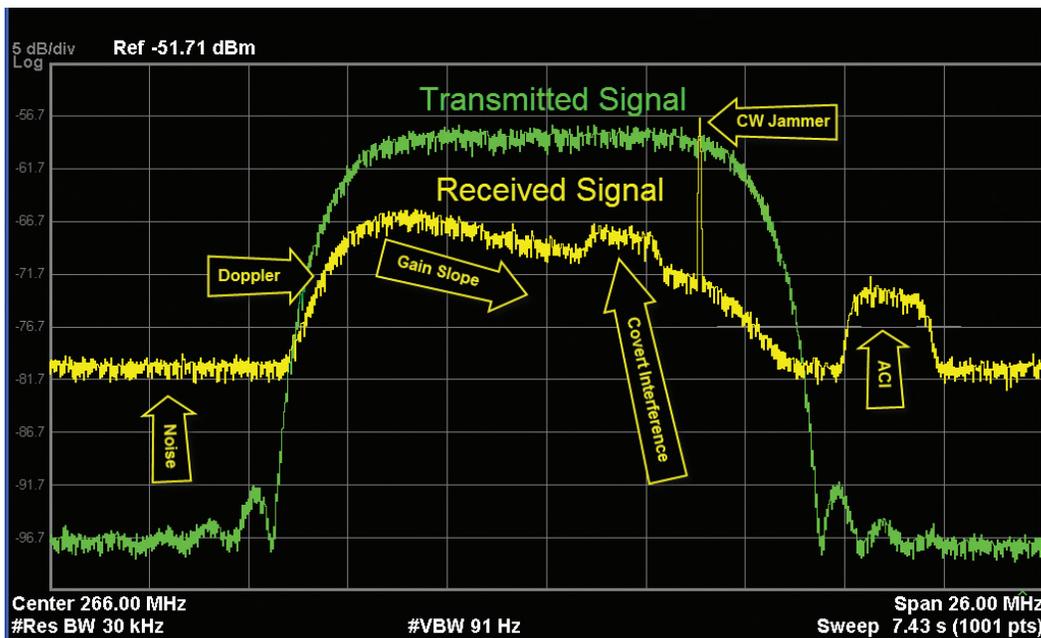
Product Description

The T400SM is an open-architecture system based on the cPCI bus, with a wide variety of RF downconversion and digitizer combinations.

- RF Chassis range from a 1U to a 5U form factor, with custom form factors available
- Supports Ka, Ku, X, C, UHF, and L-band downconversion
- Instantaneous Bandwidth (IBW) Options:
 - 85 MHz Option: RTL-DG-5500 high speed digitizer with an IBW of 40 MHz or 85 MHz; intermediate frequencies of 70 MHz, 160 MHz, or 266 MHz
 - 500 MHz Option: RTL-DG-6000 high speed digitizer with an IBW of 500 MHz; intermediate frequency of 1200 MHz
- Monics is a distributed Satellite Communications Monitoring capability. From a central network operations center, operators can monitor data and spectrum from an unlimited number of remote monitoring sites.
 - Each local network server allows the local (remote) site to function as a part of the network or autonomously
 - Measurement data and spectral traces are stored for viewing of historical information
 - Simultaneously displays the desired carrier and any interfering carriers
 - Characterizes the interfering carrier: modulation type; symbol rate; bit error rate
 - Detects and characterizes carrier under carrier interference
 - Transponder compression detection

Key Features

- The T400SM is used worldwide for reliable, high performance SATCOM spectral monitoring
- Monics is the product of choice for commercial SATCOM providers
- Supports a variety of instantaneous bandwidths ranging from 40 – 500 MHz per channel
- Downconversion from Ka, Ku, X, C, UHF, or L-band
- Four digital signal processing channels in a 2U RF chassis
- Network of integrated, remotely operated sensors or stand-alone locally operated sensor
- Option for built-in test and training
- Firmware development available to support custom signal specifications
- High reliability components with 12-month standard warranty
- Line Replaceable Units (LRUs) that can be replaced by customer personnel to minimize downtime
- No annual license renewals required



Effects of harsh RF environment on a transmitted signal. The T400SM detects and precisely characterizes interfering signals, including under-carriers.

Configuration Options

- RTL-T400SM-x-y-z
 - x = incoming band, select from Ka, Ku, X, C, UHF, L, or IF
 - y = number of channels, max of 2 channels for a 1 U chassis or 4 channels for a 2 U chassis
 - z = instantaneous bandwidth, select 85 MHz, 500 MHz, or Hybrid
- RTL-T400SM-customer-FW
 - Customer = we build custom firmware to support your signal specification, call for details
 - OPTION (US Gov't only): Custom firmware to allow for interference monitoring for Wideband Global SATCOM (WGS) satellites

Related Product Offerings

RTL-T400SG-SSE: a wideband satellite signal emulator that generates a high fidelity RF signal stream which precisely replicates the data channel of a satellite downlink. This provides a valuable tool for hardware-in-the-loop test and training and as risk reduction for development and test of ground user equipment.

RTL-T400CS: a channel simulator used by RF communications hardware, firmware, and software designers for hardware-in-the-loop testing that precisely simulates the complex RF environments encountered on live missions. It creates physics-accurate signals with characteristics such as Doppler shift, dynamic time delay, multi-path, and phase offset, allowing users to assure resilience of their modems and receivers against an array of natural and man-made signal disruptions. Armed with these results, engineers can innovate, tune, and test their designs to create robust and reliable communication systems with built-in link protection.

satID® precision geolocation of SATCOM interference: SAT Corp's satID 3.0 is a milestone advancement in the field of RF interference mitigation, bringing together improvements to aid in accuracy and response times. Based on broad feedback from commercial and military geolocation operators, considerable enhancements were made to satID to create a more intuitive and streamlined user experience. Additionally, satID 3.0 is fully integrated with Monics.

SATCOM Network Operations Services: SAT Corp's global network of monitoring sites equipped with T400SM spectral monitors; Monics and satID provide the best in class network for monitoring, identifying, locating, and mitigating interference.