Monitor Spectrum and Protect Bandwidth Across the Gateway



The increased bandwidth from High Throughput Satellites (HTS), wider transponders and multi-constellations are changing the requirements to monitor the RF spectrum effectively. This new environment drives the need to capture and assess a broad swath of the spectrum to identify potential interference or issues with signal quality across a wide bandwidth.

Latest Technology Powering the Monics Carrier Monitoring System

To address this growing market need, Kratos has developed a line of digitizers that runon commercial off the shelf servers (COTs) to unlock the full power of the Monics Carrier Monitoring and Interference Detection System. Monics is the industry-leading carrier monitoring system used by the majority of the world's largest satellite operators, service providers and telecommunications providers around the globe.

Monics helps operators effectively see what is happening with their communications payloads and protect bandwidth and Quality of Service (QoS). Monics is powered by a line of digitizers that provide 500MHz of instantaneous bandwidth and an extended L-band input

Key Features

• Monitor signals and analyze for modulation type, symbol rate, measured Es/NO and interference

KRWTOS

- Capable of monitoring 500 MHz Instantaneous Bandwidth
- Supports a frequency range of 950 to 2450 MHz and up to six RF inputs
- Supports DIFI standard

frequency range of 950MHz to 2450MHz. The digitizers connect to the Monics central data server (CDS) providing visibility to the network operations center.

Better RF performance and Measurement Speed

The digital signal processing (DSP) technology provides insights beyond a traditional spectrum analyzer with advanced capabilities.



Identify and analyze interfering signals underneath revenue generating bandwidth without service interruptions



Provides standard frequency and power measurements, and carrier modulation analysis up to DVB-S2X 128 APSK



Enables advanced analysis capabilities including – carrier under carrier, frequency scan, spectrogram and ESG calibration



Improves visibility into RF operations and confidence in SLAs with precision measurements that provide repeatable results

| Standard Frequency Domain Measurements | Kratos DSP Enabled Time Domain Measurements | | |
|---|--|--|--|
| Center Frequency | Modulation Type | | |
| Bandwidth | Symbol Rate | | |
| EIRP | Es/No | | |
| C/No | Data Rate | | |
| C/N | BER | | |
| Backoff | C/I | | |
| PEB (Lease Blocks) | Optional Carrier Standard Detection | | |
| (Co+No)/No | Optional FEC Detection | | |
| | | | |



Kratos' digitizers provide advanced time domain measurements beyond a spectrum analyzer.



The DSP enabled measurement capabilities with Monics deliver sophisticated interference detection capabilities.

Digitizer Specifications

| Monics Gateway/Near Edge | 1500 Pro | 6501R | 6502R | 6503R |
|---|---|--|--|--|
| RF Inputs(Rx) | 1 | 2 | 4 | 6 |
| Frequency Range | 950 to 2450 MHz | 950 to 2450 MHz | 950 to 2450 MHz | 950 to 2450 MHz |
| Instantaneous Bandwidth per RF input | 500 MHz | 500 MHz | 500 MHz | 500 MHz |
| Connector | SMA, 50 Ohms | SMA, 50 Ohms | SMA, 50 Ohms | SMA, 50 Ohms |
| Input Range | -60 dBm to 0 dBm | -60 dBm to 0 dBm | -60 dBm to 0 dBm | -60 dBm to 0 dBm |
| LNB Power Supply | 13 VDC or 18 VDC | 13 VDC or 18 VDC | 13 VDC or 18 VDC | 13 VDC or 18 VDC |
| LNB Tone | 22KHz | 22KHz | 22KHz | 22KHz |
| Timing, Frequency, GPS Inter- faces | Single SMA connector con- figurable as: 1 PPS, 10 MHz, IRIG-DC or GPS Antenna | 1PPS and 10 MHz In/Out BNC and GPS SMA | 1PPS and 10 MHz In/Out BNC and GPS SMA | 1PPS and 10 MHz In/Out BNC and GPS SMA |
| Data Interface | 10 GbE RJ-45 | 1 QSFP+ | 2 QSFP+ | 3 QSFP+ |
| Digitizer Standard Support | DIFI/IEEE-ISTO Std 4900-2021 or VITA 49 | DIFI/IEEE-ISTO Std 4900-2021 or VITA 49 | DIFI/IEEE-ISTO Std 4900-2021 or VITA 49 | DIFI/IEEE-ISTO Std 4900-2021 or VITA 49 |
| Management Interface | 10 GbE RJ-45 | 10 GbE RJ-45 | 10 GbE RJ-45 | 10 GbE RJ-45 |
| Mechanical | Height:1.7" (44.5 mm), Width: 17.2" (436.88 mm) Depth: 16.9" (429.3 mm) | 1.7″ H x 17.2″ W x 15.7″ D | 1.7″ H x 17.2″ W x 15.7″ D | 1.7″ H x 17.2″ W x 15.7″ D |
| Operating Temperature Range | 0°C to 40°C | 0°C to 40°C | 0°C to 40°C | 0°C to 40°C |
| Power Consumption | ~45W excluding BUC/LNB power | ~110W excluding LNB Power | ~170W excluding LNB power | ~230W excluding LNB power |
| Compute Specs | | | | |
| Processor | 32 C/ 64 vCPU 5th Gen Intel Xeon D | | | |
| RAM | 256GB DDR5 | | | |
| Storage | 960GB NVMe SSD | | | |
| Data Interfaces | 2 x SFP28 25 GbE LAN 2 x RJ45 1 GbE LAN (Intel® I350-AM2) 2 x RJ45 1 GbE LAN (Intel® I210-IT) 1 x RJ45 1 GbE Dedicated IPMI LAN | | | |
| Peripheral Interfaces | 1 x VGA 2 x USB 2.0 | | | |

DS-423