

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

Key Features

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

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



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



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



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 Interfaces	Single SMA connector configurable 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			