

Monics 500 – High Bandwidth and Standalone Carrier Monitoring

KRATOS



The massive increase in high bandwidth spot beams, wider satellite transponders and multi-orbit constellations are changing the requirements to monitor the RF spectrum effectively.

This new environment drives the need to increase the number of monitoring locations and use more cost effective monitoring devices to ensure a high level of Quality of Service (QoS).

Powerful High-Bandwidth Carrier Monitoring

To address this growing challenge, Kratos has developed the Monics® 500, a fully featured, high-bandwidth and stand-alone carrier monitoring device. It provides 500 MHz of instantaneous bandwidth to support high throughput environments.

The Monics 500 provides high bandwidth monitoring in any location where signal analysis is needed whether that is an antenna or per shelter basis to satisfy even the most distributed operations. With the power of Monics, it helps operators effectively see what is happening with their communications payloads and protect bandwidth and Quality of Service (QoS).

The Monics 500 provides comprehensive benefits including:

Fully Featured RF Analytics

- Provides standard frequency and power measurements, and carrier modulation analysis up to DVB-S2X 128 APSK
- Collect RF data analytics for assessing bandwidth efficiency and effectiveness
- Provide automated monitoring, alarming, trace forwarding and essential manual spectrum analysis capabilities

Cost-Effective Monitoring

- Delivers affordable monitoring for one beam or many
- Deliver cost-effective RF analysis for a broad base of feeder beams, user beams and distributed teleport operations

Maintain Quality of Service (QoS)

- Continue to run automated bandwidth monitoring even during a network outage to avoid the loss of any measurement data
- Upon network restoration, forwards measurement data automatically to the Monics Central Data Server (CDS)

Key Features

- Monitor signals and analyze for modulation type, symbol rate, measured Es/NO and interference
- Capable of monitoring 500 MHz of Instantaneous Bandwidth in small form factor
- Supports DIFI standard
- Supports a frequency range of 950 to 2450 MHz
- Provides storage capacity of 960 GB

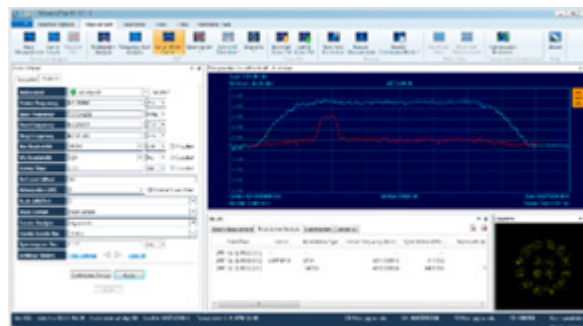
Advanced Carrier Monitoring to Mitigate Interference

The Monics 500 takes advantage of advanced Digital Signal Processing (DSP) technology to provide monitoring capabilities beyond a spectrum analyzer. The carrier monitoring product provides time domain analysis capabilities including modulation type, symbol rate, measured Es/No, Eb/No and optional FEC detection. It helps operators identify and analyze interfering signals underneath revenue generating bandwidth without service interruptions.

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



The Monics 500 provides advanced time domain measurements.



The DSP enabled measurements enable Monics to deliver sophisticated interference detection capabilities.

Digitizer Specifications

Monics Edge	MN500
Number RX Interfaces	1
Connector	1 x SMA, 50Ω
Frequency (MHz)	950 – 2450
RX Input Range	-60 dBm to 0 dBm
RX LNB Power	13 VDC or 18 VDC
LNB Configurable On/Off Tone	22KHz
Instantaneous Bandwidth	1 Channel x 500MHz IBW
Timing, Frequency, GPS Interfaces	Single SMA connector configurable as: 1 PPS, 10 MHz, IRIG-DC or GPS Antenna
Data Interface	PCIe Gen 3 x 4 Lanes
Digitizer Standard Support	DIFI/IEEE-ISTO Std 4900-2021 or VITA 49
Power in the System	500W
Compute Specs	
Processor	8 C/ 16 vCPUs 2.1 GHz Intel Xeon
RAM	64 GB DDR5
Storage	480 GB 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
Mechanical and Environmental	
Storage Temperature	-40C to 70C (-40F to 158F)
Operating Temperature	0C~40C (32F~104F)
Operating Relative Humidity	8% to 90% (non-condensing)
Dimensions	Height: 1.7" x Width 17.2" x Depth 9.8"
Weight	10 lbs (4.54 kg)