

Wideband Signal Processor (WSP)

Real-Time Processor for Digital IF SATCOM Applications

The Digital IF Wideband Signal Processor (WSP) is compliant with the Future Advanced SATCOM Technologies (FAST) Open Standard Digital IF Interface (OSDI) [TIA/ANSI 5041] and processes quadrature baseband signal samples for compatibility with Digital Modems (DMs) and/or Legacy Modem Data Converters (LMDCs). On transmit, the WSP combines signals from a large collection of input baseband carrier signals. Up to 1 GHz of aggregate bandwidth is supported via several high speed Ethernet fiber connections to the Digital Conversion Subsystem (DCS) and DMs.



WS-SYS-WSP-12S-200

5RU, 12-slot, up to 240 Carrier Capacity
Redundant power, fans and shelf controller

Features & Benefits

- Compliant with the FAST Open Standard Digital IF Interface (OSDI) [TIA/ANSI 5041]
- Scalable architecture accommodates multiple WSPs to support hundreds of modems
- Multiple-GbE interfaces for compatibility with FAST-compliant DCS and numerous DMs
- 1 GbE SNMP interface for remote monitoring and control
- 10 MHz and optional 1 PPS interface for timing and synchronization
- Improved signal switching and routing to multiple antennas/feeds
- Distributes traffic over multiple terminals, both local and remote
- Enables spatial diversity for contested environments and fading mitigation
- Industry standard 19" rackmount MicroTCA chassis provides redundant, hot-swappable power supply modules in 5RU 12-slot or 1RU 6-slot options



WS-SYS-WSP-6S-200

1RU, 6-slot, up to 120 Carrier Capacity

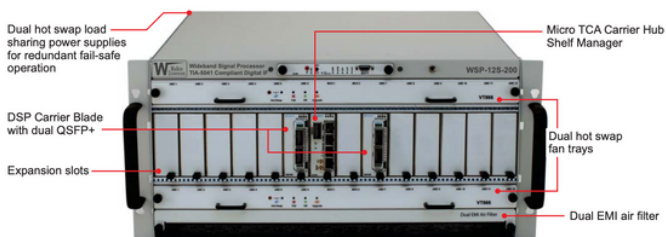
Available to U.S. Government customers on GSA contract 47QTCA19D0035

WSP Capabilities*

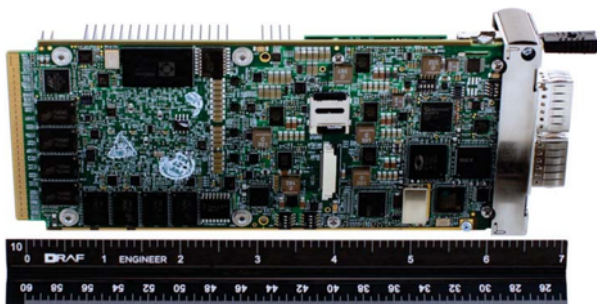
Tx/Rx Digital IF Carrier Streams	20 (typical) with 16-bit I and 16-bit Q sampling per WSP blade
Digital IF Composite Interface	Four 10 GbE QSFP+
Composite Signal Support	Up to four composite signals occupying 125 MHz
Digital IF Signal Data Transport Layer (Both Carrier and Composite)	TIA/ANSI 5041 compliant using IEEE 802.3/802.1Q, IP/UDP, RTP, and VITA-49 radio transport
Carrier Sampling/Symbol Rate	Max: 150 Msps, 100 Msymbols/sec Min: 9,155 ksps
Frequency & Timing Interfaces	10 MHz In, 1 PPS Optional
Digital IF Carrier Interface	Four 10 GbE QSFP+
Monitor & Control Interface	10/100/1000 Ethernet, SNMP

*Capabilities listed are per WSP blade. With two blades installed in the chassis, capabilities are doubled.

WSP Front Interfaces and Features



WSP Digital Signal Processing Blade



WS-SYS-WSP-B-200

For further information on our products,
email request to info@welkinsciences.com.