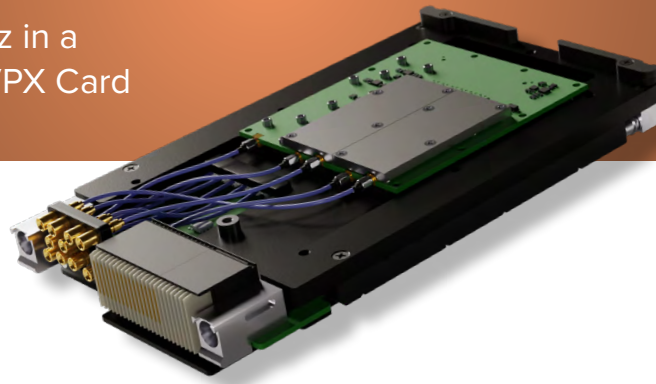


sidekiq™ VPX410

Multichannel RF Tuner
Covering 400 MHz - 18 GHz in a
MORA/SOSA Aligned 3U VPX Card



Access More RF Spectrum in a Single 3U VPX Slot

Multichannel RF reaches up to 18 GHz for Rapid Situational Awareness

Sidekiq VPX410 is a revolutionary, MORA/SOSA aligned software-defined radio (SDR) multichannel RF tuner solution enabling SIGINT/EW/Communications use cases in a 3U VPX form factor. Combining four RF receive tuners plus one RF transmit tuner in a single 3U VPX card, Sidekiq VPX410 enables access to RF spectrum between 400 MHz and 18 GHz with up to 1 GHz of instantaneous bandwidth. Both phase coherent and independent tuning modes are available to enable a range of operational use cases, including fast spectral scanning, direction finding, rapid frequency hopping and electronic attack. Sidekiq VPX410 is interoperable with Sidekiq VPX400 and other 3U VPX digitizers and SDRs.

KEY FEATURES

- **3U VPX** form factor with VITA 67.3 RF access (**SOSA profile 14.6.11**)
- RF tuner solution providing access from **400 MHz* - 18 GHz**
- Four RF receive tuners and one RF transmit tuner
- **1 GHz** instantaneous bandwidth per tuner
- IF input and output frequency of 3 GHz
- Supports both **phase coherent** operation and **independently tunable** operation
- Low power: approximately **20 watt total** with all tuners operational at full bandwidth
- **On-board Linux computer** for local control over 1 GbE via backplane
- Available with single card 3U VPX chassis for development / lab use / light field testing with Sidekiq VPX410 and/or VPX400

* Bypass path for operation below 6 GHz includes **amplifiers + pre-select filters**; sub 400 MHz supported with pass through mode

GENERAL SPECIFICATIONS

Compatible to ECC3 environmental specification
Conformal coating available

SOSA PROFILE SPECIFICATION

SOSA profile 14.6.11-4 with VITA 67.3C 14 SMPM compatible P2 block; aligned to SOSA v1.0

RF RECEIVE TUNER SPECIFICATION

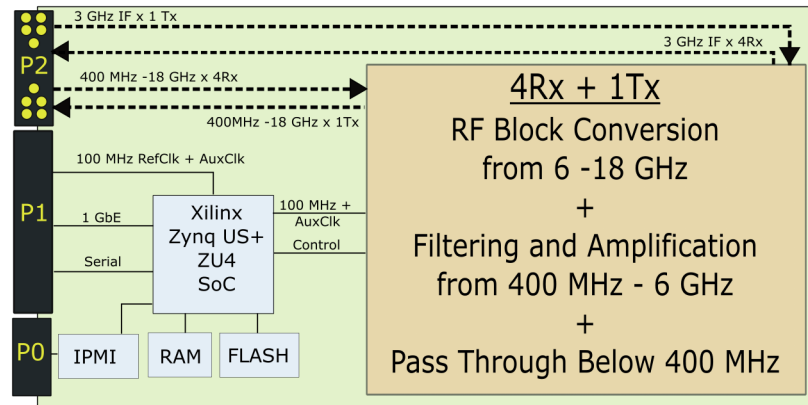
Number of Tuners	Noise Figure
4	< 12 dB
RF Tuning Range	IIP3
400 MHz - 18 GHz (Pass through mode supports sub 400 MHz)	> +5 dBm
IF Frequency	Tuner Operating Modes
3 GHz	Phase Coherent or Independently Tunable
Instantaneous Bandwidth (per tuner)	RF Receive Tuner RF Access Ports via VITA 67.3 on P2
1 GHz	Four RF input ports from 400 MHz - 18 GHz (Pass through mode for sub 400MHz operation)
Tuning Step Size	RF Receive Tuner RF Access Ports via VITA 67.3 on P2
25 MHz	Four IF output ports at 3 GHz (Sub 6 GHz operates as an RF output)
Spurious Free Dynamic Range	
> 70 dB	
RF Gain Control	
0-20 dB in 1 dB steps	

RF TRANSMIT TUNER SPECIFICATIONS

Number of Tuners	RF Tx Power Output
1	+5 dBm
RF Tuning Range	Tx OIP3
400 MHz - 18 GHz (Pass through mode supports sub 400 MHz)	> +20 dBm
IF Frequency	RF Transmit Tuner RF Access Ports via VITA 67.3 on P2
3 GHz	One RF output port from 400 MHz - 18 GHz (Pass through mode for sub 400MHz operation)
Instantaneous Bandwidth (per tuner)	RF Transmit Tuner RF Access Ports via VITA 67.3 on P2
1 GHz	One IF input port at 3 GHz (Sub 6 GHz operates as an RF input)
Tuning Step Size	
25 MHz	
Spurious Free Dynamic Range	
> 70 dB	

Epiq Solutions exports its products strictly in accordance with all US Export Control laws and regulations which shall apply to any purchase or order.

BLOCK DIAGRAM



DIGITAL SPECIFICATIONS

Controller Processor
Xilinx® Zynq® Ultrascale+ MPSoC ZU4 2 GB of DDR4 RAM, 8 GB of non-volatile flash Linux operating system
IPMI Compliance
Version 1.5
Control Interface
1 GbE via P1 on the control plane
Reference Clock
100 MHz from P1 backplane

FORM FACTOR SPECIFICATIONS

Form Factor
3U VPX
Dimensions
160 mm x 100 mm x 25 mm
Pitch
1 inch
Thermal Management
Conduction cooled
Typical Power Consumption
~ 20 Watt (assumes all four RF receive tuners and one RF transmit tuner are active)
Operating Temperature Range
-40° C to +70° C

All specifications are subject to change without notice.

Epiq Solutions is a business dedicated to advancing RF technology through products designed and manufactured in the U.S.A.

