



Zynq RFSoc PCIe & Standalone Platform

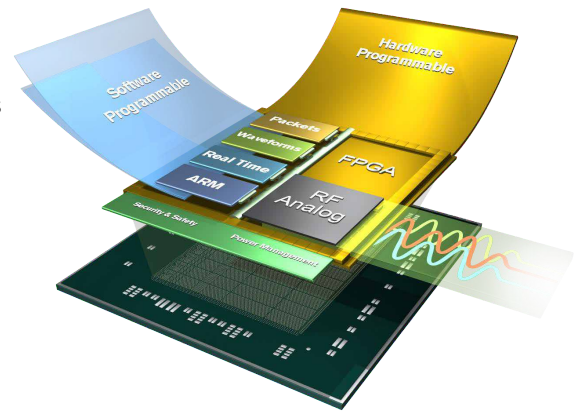
Seamlessly cross between analog and digital at up to gigahertz rates

The BittWare RFX-8440 data acquisition card features the third generation Xilinx Zynq® UltraScale+™ RFSoc. This innovative PCIe data acquisition card is capable of addressing the entire sub-6 gigahertz (GHz) spectrum – a critical need for applications such as 5G, LTE wireless, phased array RADAR and satellite communications.

The Xilinx Zynq® UltraScale+™ RFSoc integrates RF-class A/D and D/A converters into the Zynq® FPGA fabric and multi-core ARM processor subsystem, creating a multi-channel data conversion and processing solution on a single chip.

200 Gbps of digital I/O is available either on an inboard OCuLink port or connected to two front-panel QSFP28s. The OCuLink can be used for internal system connections such as NVMe storage or other BittWare FPGA cards for further processing. The QSFP28s can be used for connecting to external systems.

With the product development, manufacturing, quality and lifecycle management capabilities of the Molex group behind it, the RFX-8440 is an enterprise-class product ideal for rapid prototyping as well as volume deployment in end user systems.

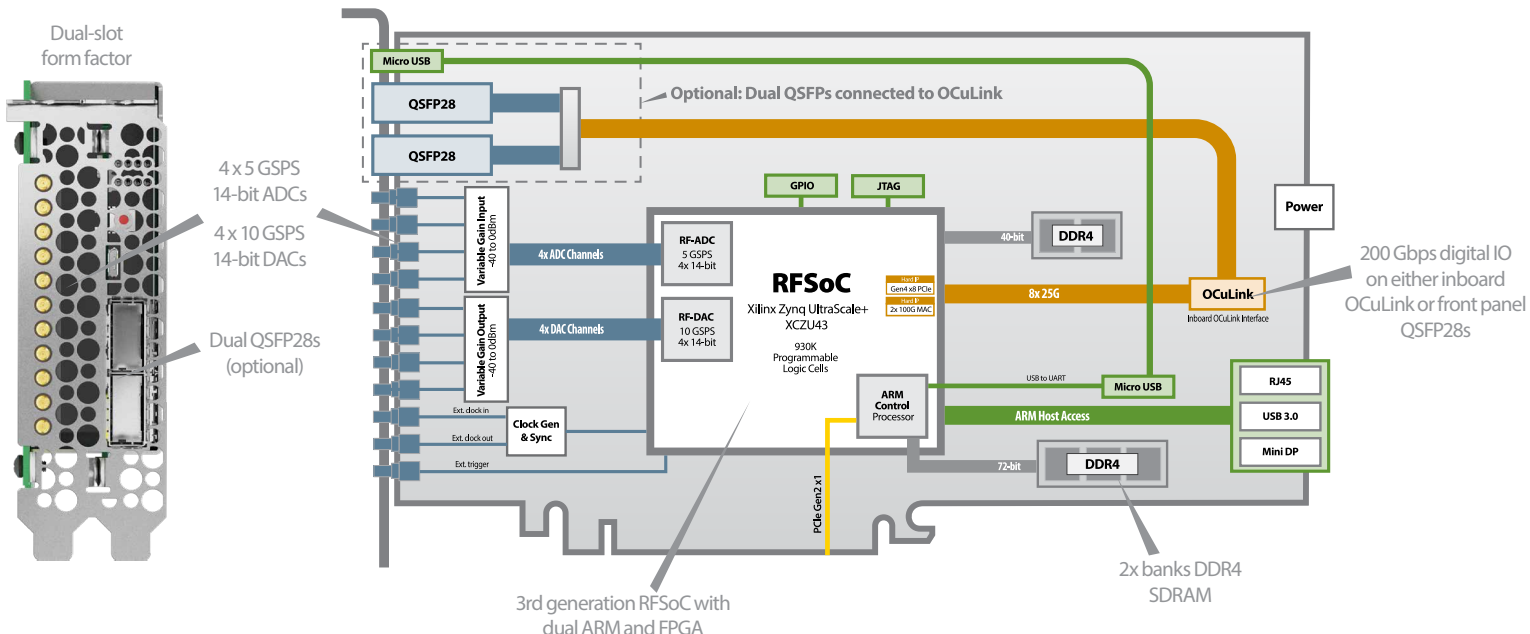


key features

Third Generation
Xilinx Zynq® Ultra-
Scale+™ RFSoc

Variable gain-
controlled RF
inputs & outputs

200 Gbps
Digital I/O



Additional Services

Take advantage of BittWare's range of design, integration, and support options



Customization

[Additional specification options](#) or [accessory boards](#) to meet your exact needs.



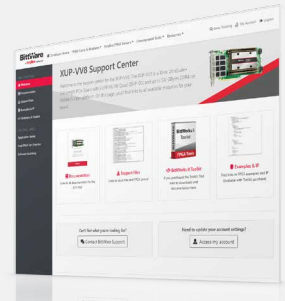
Server Integration

Available pre-integrated in our [TeraBox servers](#) in a range of configurations.



Application Optimization

Ask about our services to help you port, optimize, and benchmark your application.



Service and Support

BittWare Developer Site provides online documentation and issue tracking.

Board Specifications

FPGA	<ul style="list-style-type: none"> Zynq UltraScale+ RFSoc <ul style="list-style-type: none"> XCZU43 in an E1156 package Core speed grade -2 Contact BittWare for other FPGA options
Analog	<ul style="list-style-type: none"> Optimized for L Band: 1GHz - 2GHz <ul style="list-style-type: none"> Other analog configurations available; contact BittWare 4 x 5 GSPS 14-bit ADCs <ul style="list-style-type: none"> -40 to 0 dBm (default) 4 x 10 GSPS 14-bit DACs <ul style="list-style-type: none"> -40 to 0 dBm (default) Programmable clocks External reference and triggers SSMC style connectors
On-board flash	<ul style="list-style-type: none"> Flash memory for booting FPGA Flash memory for ARM bootloader and OS image
External memory	<ul style="list-style-type: none"> 16GB DDR4 processing system (ARM) memory with ECC 8GB DDR4 programmable logic memory with ECC
External digital interfaces	<ul style="list-style-type: none"> Processing system <ul style="list-style-type: none"> PCIe Gen2 x1 RJ45 Ethernet USB UART USB 3.0 Mini DisplayPort Programmable logic: <ul style="list-style-type: none"> Up to 200 Gb/s available via: <ul style="list-style-type: none"> Option 1: inboard OCuLink Option 2: Front panel 2x QSFP28 Xilinx Hard IP support for dual 100GbE and PCIe Gen4

Cooling	<ul style="list-style-type: none"> Standard: double-width passive heatsink Contact BittWare for other cooling options
Electrical	<ul style="list-style-type: none"> On-board power derived from 6-pin AUX connector or optionally from 12V PCIe slot connection Power dissipation is application dependent Typical max power consumption 50W
Environmental	<ul style="list-style-type: none"> Operating temperature: 5°C to 35°C
Quality	<ul style="list-style-type: none"> Manufactured to ISO9001:2015 IPC-A-610-Class III RoHS compliant CE, FCC & ICES approvals
Form factor	<ul style="list-style-type: none"> ¾-length, standard-height PCIe dual-slot card (x16 mechanical) Supports standalone operation RFX-8440 can be ordered as a TeraBox™ integrated server platform

Development Tools

FPGA development	BittWare provides a basic data capture and replay example utilizing the major interfaces of the product. Xilinx Vivado development tools are fully supported for development of custom designs.
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Deliverables

- RFX-8440 Analog Data Acquisition Card
- Data capture and relay example - Full source code
- 1-year hardware warranty

To learn more, visit www.BittWare.com

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