

Model 4801

Quartz eXpress Module (QuartzXM) Carrier Design Package

Supports customers interested in building a custom carrier

- Build a custom carrier for Mercury's Model 6001 or 6003 QuartzXM
- The QuartzXM modules feature Xilinx Zynq UltraScale+ RFSoc FPGAs
- The QuartzXM's RFSoc FPGA integrates eight RF-class A/D and D/A converters into the Zynq's multiprocessor architecture



In situations where only a custom form factor will satisfy the application requirements, Mercury supports QuartzXM Models 6001 and 6003 with this Model 4801 carrier design kit that helps users engineer and build a custom carrier. As complete and tested modules, Model 6001 and 6003 encapsulate best-in-class electrical and mechanical design, eliminating some of the most challenging aspects of embedded circuit design and allowing users to focus on an application-specific carrier design.

The carrier design kit uses Mercury's Quartz® 5950 or 5953 3U OpenVPX carrier as a reference design. Mercury's Models 6001 and 6003 are high-performance Quartz eXpress Modules (QuartzXM) based on the Xilinx Zynq UltraScale+ RFSoc FPGA.

Model 6001 is based on the Gen 1 Xilinx Zynq UltraScale+ RFSoc FPGA and Model 6003 is based on the Gen 3 Xilinx Zynq UltraScale+ RFSoc FPGA. The RFSoc FPGA integrates eight RF-class A/D and D/A converters into the Zynq's multiprocessor architecture, creating a multichannel data conversion and processing solution on a single chip.

The 6001 and 6003 have been designed to bring RFSoc performance to a wide range of different applications by offering the FPGA in a small system-on-module solution measuring only 2.5 by 4 inches. In addition to the RFSoc FPGA, the 6001 and 6003 include all of the support circuitry needed to maximize the performance of the RFSoc. The 6001 and 6003 also are available on standard form factor carriers (see "Quartz Products" on the next page).

CARRIER DESIGN PACKAGE INCLUDES:

- Pin definitions and electrical specifications of all signals on the module
- 3D models of the module
- Thermal profiles of the module and components
- Carrier reference design schematics
- PCB stack-up recommendations
- PCB design guidelines and routing rules
- Operating systems and bootstrap guidelines
- Additional electrical and mechanical engineering guidance

ORDERING INFORMATION

Model	Description
4801*	QuartzXM Carrier Design Package - DVD

*Requires a Non-Disclosure Agreement (NDA).
Contact techsales@mrchy.com for details.

LIFETIME SUPPORT FOR QUARTZ PRODUCTS

Mercury offers worldwide customers shorter development time, reliable, rugged solutions for a variety of environments, reduced costs, and mature software development tools. We offer free lifetime support from our engineering staff, which customers can depend on through phone and email, as well as software updates. Take advantage of our 40 years of experience in delivering high-performance radar, communications, SIGINT, EW, and data acquisition MIL-Aero solutions worldwide.

QUARTZ PRODUCTS

The 6001 and 6003 are also available on these carriers:

Model	Description
5550	8-Channel A/D & D/A Zynq UltraScale+ RFSoc (Gen 1) SOSA aligned 3U VPX board
5553	8-Channel A/D & D/A Zynq UltraScale+ RFSoc (Gen 3) SOSA aligned 3U VPX board
5950	8-Channel A/D & D/A Zynq UltraScale+ RFSoc (Gen 1) 3U VPX board
5953	8-Channel A/D & D/A Zynq UltraScale+ RFSoc (Gen 3) 3U VPX board
6350	8-Channel A/D & D/A Zynq UltraScale+ RFSoc (Gen 1) small form factor enclosure
6353	8-Channel A/D & D/A Zynq UltraScale+ RFSoc (Gen 3) small form factor enclosure
6350S	8-Channel A/D & D/A Zynq UltraScale+ RFSoc (Gen 1) small form factor subsystem
6353S	8-Channel A/D & D/A Zynq UltraScale+ RFSoc (Gen 3) small form factor subsystem
7050	8-Channel A/D & D/A Zynq UltraScale+ RFSoc (Gen 1) PCIe board
7053	8-Channel A/D & D/A Zynq UltraScale+ RFSoc (Gen 3) PCIe board

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