xKITS

sliceKIT SELECTOR GUIDE

### A FLEXIBLE DEVELOPMENT KIT FOR MULTICORE MICROCONTROLLERS

sliceKIT is a unique development system for flexible, scalable xCORE multicore microcontrollers from XMOS. Just as xCORE devices allow you to configure exactly the microcontroller you need, so sliceKIT allows you to build exactly the system you want.

The sliceKIT core boards feature a 16-core multicore microcontroller from the xCORE General Purpose, xCORE-Analog or xCORE-USB families. Each supports up to four digital and analog I/O sliceCARDs. With a growing number of slices available (you can even add your own), sliceKIT provides a limitless range of combinations.

xCORE General Purpose sliceKIT

Provides everything you need to build applications using xCORE multicore microcontrollers. Includes a core board based on the 16-core xCORE General Purpose multicore microcontroller; GPIO sliceCARD; Ethernet sliceCARD; xTAG2 USB-JTAG debug adaptor; JTAG adaptor; and power supply. Gives you access to a wide range of applications, demonstrations, examples and tutorials.
**Order # XK-SK-L2-ST**
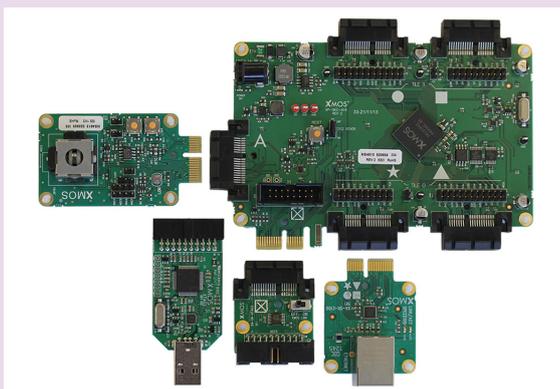
xCORE-ANALOG sliceKIT

The xCORE-Analog sliceKIT provides a core board with a 16-core xCORE-Analog device, which combines the low latency and timing determinism of the xCORE architecture with the simplicity and ease of use of integrated analog peripherals. The kit also includes and Ethernet sliceCARD; mixed signal sliceCARD, xTAG2 USB-JTAG debug adapter; JTAG adapter; and power supply.
Order # XA-SK-A16-ST

xCORE-USB sliceKIT

The xCORE-USB sliceKIT provides a core board with a 16-core xCORE-USB device, with power, clocking, debug and expansion slots for two digital I/O slices and one slice with ADC inputs. The kit also includes a USB sliceCARD with USB A and USB B connectors, which works with xCORE-USB integrated High Speed USB 2.0 PHY, a mixed signal sliceCARD and an xTAG2 debug adapter.
**Order # XA-SK-U16-ST**
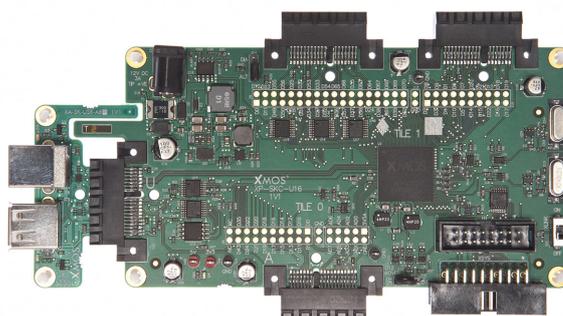
SDRAM sliceCARD

The SDRAM sliceCARD provides an 8Mbyte external random access memory. With clock speed of up to 50MHz and data rate up to 80Mbyte/s, it is perfect for any application where a large external data buffer is required: image buffering for a display controller, audio buffering for effects, or data capture, processing and logging.
**Order # XA-SK-SDRAM**
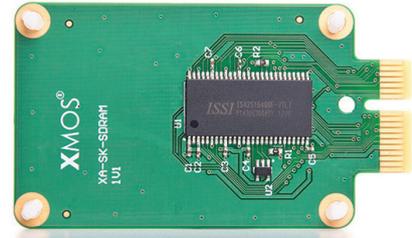
GPIO sliceCARD

The GPIO sliceCARD provides a collection of features including four LEDs, two pushbuttons, RS232 and four-channel ADC. It allows simple input/output functions to be evaluated easily, and provides I/O expansion to connect your sliceKIT to other systems. The quick start guide will help you get up and running with sliceKIT in seconds.
Order # XA-SK-GPIO

LCD sliceCARD

The Display sliceCARD allows the xCORE multicore microcontroller to directly drive a 480 x 272 RGB display (included but not pictured) without the use of an external controller, via a parallel RGB interface. The SDRAM slice could be a useful addition. The LCD xSOFTip can easily be modified for display sizes up to 800 x 600 pixels.
Order # XA-SK-SCR480
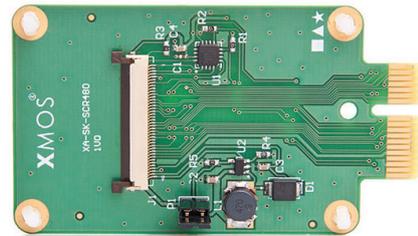
MULTI-UART sliceCARD

The Multi-UART sliceCARD provides eight 115.2 Kbaud Full Duplex UARTs connected to two 8-bit ports. It allows you to efficiently implement multiple fast RS232 or TTL UARTs. This sliceCARD along with the Ethernet sliceCARD and the associated xSOFTip also form the basis of a fully featured Ethernet-to-multi-serial reference design.
**Order # XA-SK-UART-8**

USB and MIXED SIGNAL sliceCARDS

Some sliceCARDS are only available as part of a complete sliceKIT. These include: USB-AB, Multi-Channel Audio and Mixed Signal. Details about creating your own cards is available in the sliceKIT Hardware Manuals available from the XMOS website.

WI-FI sliceCARD

The wi-fi sliceCARD uses a high performance 2.4GHz WLAN module to bring 802.11b/g wireless connectivity to sliceKIT, with throughput of up to 7Mbps. Using the ready-built xSOFTip SPI component, it allows you to easily integrate the wireless module into your application. Our xSOFTip Explorer tool includes demo apps and full documentation to get you started quickly.
Order # XA-SK-WIFI-TIWISL
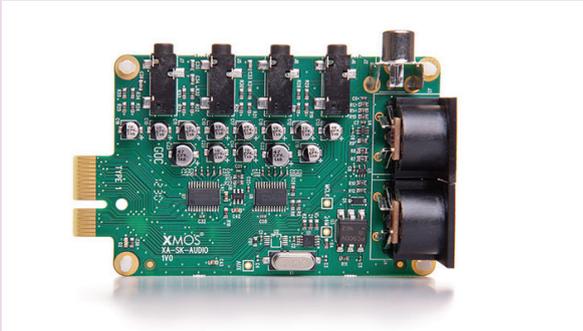
AUDIO sliceCARD

The audio sliceCARD provides audio and MIDI connectivity to sliceKIT. Four audio input and four audio output channels are provided on the sliceCARD via an I2S interface to audio codecs and 3.5mm jacks. The xSOFTip I2S component drives all 4 channels in both directions at sample rates up to 192kHz. Additional features include an SPDIF output, MIDI input and output connectors.
Order # XA-SK-AUDIO

ETHERNET sliceCARD

The Ethernet sliceCARD includes a 10/100 Ethernet PHY, RJ45 connector and MII interface to the xCORE multicore microcontroller. Whether you want a TCP stack and webserver, highly responsive, low latency command and control over UDP, your own custom protocol, or even two Ethernet ports – xCORE gives you the flexibility to do it.
Order # XA-SK-E100

INDUSTRIAL SERIAL sliceCARD

The IS-BUS sliceCARD provides flexible serial connectivity for industrial applications. It includes transceivers for CAN at 1Mbps, LIN at 20Kbps as well as a RS485 at 12Mbps, backed up by associated xSOFTip blocks. All three interfaces may be used simultaneously when connecting via the 0.1" headers. Alternatively one interface can be routed to the DB9 connector.
Order # XA-SK-ISBUS

sliceKIT CORE BOARD

The sliceKIT core board holds the key to flexible I/O, and to deterministic real-time performance: the xCORE flexible multicore microcontroller. The board provides the xCORE device with power, clocking, and debug as well as expansion slots for four I/O slices and further core boards.
Order # XP-SKC-L2

sliceKIT CORE BOARD AND sliceCARD COMPATIBILITY CHART

	xCORE General Purpose					xCORE-Analog						xCORE-USB					
	Circle	Star	Traingle	Square	Chain	Circle	Star	Triangle	Square	Analogh	Chain	Diamond	Alt diamond	Square	Analog	USB	xSYS
Audio sliceCARD	✔ [4]		✔			✔ [4]		✔					✔ [12]				
Ethernet sliceCARD	✔	✔	✔	✔		✔	✔	✔	✔				✔ [12]	✔			
IS-BUS sliceCARD	✔	✔	✔	✔		✔	✔	✔	✔				✔ [12]	✔			
SDRAM sliceCARD		✔	✔	✔		✔	✔	✔	✔			✔ [11]		✔			
GPIO sliceCARD	✔ [3]	✔ [1]	✔	✔ [1]		✔	✔ [1]	✔	✔ [1]				✔ [12]	✔ [1]			
LCD sliceCARD		✔ [5/6]	✔ [6]	✔ [5/6]			✔ [5/6]	✔ [6]	✔ [5/6]			✔ [6/11]		✔ [5/6]			
MultiUART sliceCARD	✔ [7]	✔	✔	✔		✔ [7]	✔	✔	✔			✔ [11]		✔			
WI-FI sliceCARD	✔ [8]	✔ [8]	✔ [8]	✔ [8]		✔ [8]	✔ [8]	✔ [8]	✔ [8]				✔ [12]	✔ [8]			
Mixed signal sliceCARD										✔					✔		
USB-AB sliceCARD [13]																✔	
Multichannel Audio sliceCARD [10]												✔ [9]		✔ [9]			
Audio sliceCARD [10]															✔		
xTAG-2 Adapter				✔ [2]							✔ [2]						✔
xCORE General Purpose Core Board			✔					✔						✔			✔
xCORE-USB Core Board [13]				✔													
xCORE-Analog Core Board [14]				✔													

[1] No I-bit GPIO ports
[2] Requires xTAG-2 adapter card (XA-SK-XTAG2)
[3] GPIO[2:5] not connected
[4] No MIDI out support
[5] Touch controller not supported
[6] Requires SDRAM sliceCARD
[7] No TX/RX Data for UARTs #4/5/6/7

[8] WIFI Module Interrupt requires revised port assignment
[9] Requires two digital I/O slots
[10] Only available as part of U16 Multi-Channel Audio Reference Design
[11] Requires port assignment to use top 16 bits of 32-bit port
[12] Requires revised port assignment in application
[13] Only available as part of sliceKIT-USB Kit
[14] Only available as part of the sliceKIT-Analog Kit

OUTSTANDING SUPPORT FOR EARLY DEVELOPMENT

At XMOS we make it easy to develop with our chips. sliceKIT is supported by our free-to-download xTIMEcomposer Studio design environment, allowing you to design deterministic embedded applications within a familiar software flow. Each I/O sliceCARD is supplied with an xSOFTip demo application that you can drag into your project, allowing you to get up and running quickly. The result is a framework of peripherals and I/O providing you with an exact fit chip for your system.

For more information visit www.xmos.com/slicekit or email info@xmos.com