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TMS320C6455 Evaluation Module

(ACTIVE) TMDXEVM6455

Description & Features

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- [TMDXDSK6455](#) - TMS320C6455 DSP Starter Kit (DSK)
- [XDS560](#) - XDS560 High Performance Debug Probe

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Description

The C64+™ Evaluation Module (EVM) developed jointly with Spectrum Digital features two 1 GHz TMS320C6455 DSPs connected via Serial Rapid IO™ (sRIO™). The EVM includes the sRIO bus interface offering a complete, easy-to-use multiprocessor C6455 DSP development system with sRIO communications connectivity to third party tools, FGPAs, sRIO switches and sRIO equipped embedded processors.

The kit includes a standard 14 pin JTAG interface as well as the high density 60-pin interface for advanced emulation and is fully compatible with TI's Code Composer Studio Integrated Development Environment.

The EVM board features two C6455's on the EVM connected via industry standard ATCA AMC connector. The AMC connector on Base Board allows 3rd party sRIO expansion cards plus a design reference file is included to speed development (schematic and layout files).

Ordering Information: TMDXEVM6455 includes a standard US power cord, TMDXEVM6455-0E version includes both UK & European power cords.



TMS320C6455 Evaluation Module

Features

The EVM features two TMS320C6455 DSPs and is designed for products that require the highest performing DSPs. The C6455 is based on the high performing TMS320C64x+ DSP platform designed to needs of high-performing memory intensive applications such as networking, video, imaging, and most multi-channel systems. Other hardware features of the TMS320C6455 EVM board include:

DSP & Memory:

- Two 1 Ghz C6455 DSPs
- 256MB DDR2 500MHz and 8MB Flash

Connectivity:

- Conforms to TI Standard, same format as C6415

DSP A:

- EMIF(32bit data) & McBSP0 to Connector1
- HPI/PCI to Connector2

DSP B:

- UTOPIA2 to Connector3

Networking:

- 2 C6455 Connected via Serial RapidIO
- All 4 links supported between DSP A & DSP B
- 2 Ethernet PHY's supported
- DSP A: 10/100 via MII
- DSP B: 10/100/1000 via RGMII

Audio:

- High-quality 24-bit stereo codec

Emulation:

- JTAG Support on both DSPA & DSPB

- On-board standard 14-pin IEEE JTAG interface
- On-board 60-pin high density JTAG interface

The C6455 EVM is fully compatible with TI's robust and comprehensive Code Composer Studio™ Integrated Development Environment.

Board Support Library (BSL)

Board Support Library – The Board Support Library (BSL) provides a C-language interface for configuring and controlling all on-board devices. The library consists of discrete modules that are built and archived into a library file. Each module represents an individual application program interface (API) and is referred to simply as an API module. The module granularity is structured so each device is implemented in an individual API module. The goal of the BSL is to provide a level of hardware abstraction and software standardization that improves development time and portability. The BSL source code is available in the lib directory along with the library itself. You may extend or modify the source code and build your own version of the library. You can also include the BSL source files directly into your application for greater control.

Example code with full source for:

- Power On Self Test – POST – This is typically already programmed into flash memory on the board, so it runs on boot.
- Sample application – LED Blink Example (2 versions)– blinks LED #0 using BSL calls
- Sample application for AIC23 codec – Uses BSL to generate a 1KHz sine wave

What's Included:

The EVM software and support includes:

- Chip Support Libraries (CSL) 3.x APIs
- Example Programs and Documentation
- MSGQ support enables abstracted inter-processor communications for Message Passing functionality
- Message Queue Transport Driver with source
- MSGQ example code with source
- Register Layer CSL source code for sRIO endpoint setup
- Functional and Register Layer CSL support for sRIO Direct I/O support

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Part Number	Buy from Texas Instruments or Third Party	Buy from Authorized Distributor	Status	Current Version	Version Date	Host	OS	Description
TMDXEVM6455: C6455 Evaluation Module	Not Available	\$1795.00(USD) Buy from distributor	ACTIVE	v3.20	FEB-28-2006	PC	N/A	TMDSEVM3730 EVM enables developers to start evaluating AM37x or DM37x ARM Cortex-A8 processors.

Contact a Distributor

TI's [Standard Terms and Conditions for Evaluation Modules](#) apply.

Technical Documents

Third party documents (1)

Title	Date	Type
Technical Documentation & Schematics for C6455 EVM - from Spectrum Digital Inc. ^[3]	24 Mar 2011	

Datasheet (1)

Title	Abstract	Type	Size (KB)	Date	Views
TMS320C6455 Fixed-Point Digital Signal Processor (Rev. M)		PDF	1690	28 Mar 2012	

Application Notes (1)

Title	Abstract	Type	Size (KB)	Date	Views
EDMA v3.0 (EDMA3) Migration Guide for TMS320C645x DSP	Read Abstract	PDF	343	23 Dec 2005	197

User Guides (19)

Title	Abstract	Type	Size (KB)	Date	Views
TMS320C6000 Programmer's Guide (Rev. K)	Read Abstract	PDF	1279	11 Jul 2011	1,049
TMS320C645x DSP Enhanced DMA (EDMA3) Controller User's Guide (Rev. C)	Read Abstract	PDF	1020	01 Jul 2011	291

Title	Abstract	Type	Size (KB)	Date	Views
Bootloader User's Guide for the TMS320C645x/C647x DSP (Rev. G)		PDF	347	03 Jun 2011	447
TMS320C6455/C6454 DSP DDR2 Memory Controller User's Guide (Rev. G)	Read Abstract	PDF	353	02 Jun 2011	259
TMS320C645x DSP Serial RapidIO User's Guide (Rev. E)	Read Abstract	PDF	1484	03 Feb 2011	227
TMS320C645x DSP EMAC/MDIO User's Guide (Rev. E)	Read Abstract	PDF	670	08 Nov 2010	394
TMS320C645x DSP External Memory Interface (EMIF) User's Guide (Rev. E)	Read Abstract	PDF	365	12 Aug 2010	311
TMS320C64x+ DSP Megamodule Reference Guide (Rev. K)	Read Abstract	PDF	944	03 Aug 2010	980
TMS320C645x DSP Peripheral Component Interconnect (PCI) User's Guide (Rev. B)	Read Abstract	PDF	481	30 Jul 2010	365
TMS320C645x DSP Viterbi-Decoder Coprocessor 2 (VCP2) Reference Guide (Rev. C)	Read Abstract	PDF	256	08 Dec 2009	237
TMS320C645x DSP Inter-Integrated Circuit (I2C) Module User's Guide (Rev. A)	Read Abstract	PDF	261	28 Oct 2009	208
TMS320C64x+ DSP Cache User's Guide (Rev. B)	Read Abstract	PDF	601	11 Feb 2009	463
TMS320C645x DSP General-Purpose Input/Output (GPIO) User's Guide (Rev. A)	Read Abstract	PDF	120	02 Dec 2008	179
TMS320C645x DSP Host Port Interface (HPI) User's Guide (Rev. B)	Read Abstract	PDF	337	18 Jul 2007	188
TMS320C6000 DSP Multichannel Buffered Serial Port (McBSP) Reference Guide (Rev. G)	Read Abstract	PDF	663	14 Dec 2006	1,460
TMS320C645x DSP Turbo-Decoder Coprocessor 2 (TCP2) Reference Guide	Read Abstract	PDF	498	02 May 2006	146
TMS320C645x DSP Software-Programmable Phase-Locked Loop (PLL) Controller UG	Read Abstract	PDF	168	23 Dec 2005	293
TMS320C645x DSP Universal Test & Operations PHY Interface for ATM 2 (UTOPIA2) UG	Read Abstract	PDF	196	23 Dec 2005	117
TMS320C645x DSP 64-Bit Timer User's Guide	Read Abstract	PDF	262	23 Dec 2005	140

Related Products

Development Tools (2)

Name	Part Number	Tool Type
Code Composer Studio (CCS) Integrated Development Environment (IDE)	CCSTUDIO	SW Development Tools, IDEs, Compilers
XDS560 High Performance Debug Probe	XDS560	JTAG Emulators/ Analyzers

Design Kits & Evaluation Modules (1)

Name	Part Number	Tool Type
TMS320C6455 DSP Starter Kit (DSK)	TMDXDSK6455	Evaluation Modules & Boards

TI Devices (1)


Part Number	Name	Product Family
TMS320C6454	Fixed-Point Digital Signal Processor	Fixed-point

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Training & events

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SimpleLink™ Wi-Fi CC3100 and CC3200 Project 0 Series - 5 Part Series Learn about using Software Tools for SimpleLink™ Wi-Fi CC3100 Boosterpack and CC3200 Launchpad	On-Line Training	On Demand
TI-RTOS Update Learn about the latest TI-RTOS features and more in-depth understanding of this TI software tool.	On-Line Training	On Demand
Designing with Ultra Low Power Segmented Displays Learn about designing Ultra-low Power Segmented Displays and MSP430	On-Line Training	On Demand

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