Dave Embedded Systems - DOH5210C Datasheet

Welcome to E-XFL.COM

Understanding Embedded - Microcontroller, Microprocessor, FPGA Modules

Embedded - Microcontroller, Microprocessor, and FPGA Modules are fundamental components in modern electronic systems, offering a wide range of functionalities and capabilities. Microcontrollers are compact integrated circuits designed to execute specific control tasks within an embedded system. They typically include a processor, memory, and input/output peripherals on a single chip. Microprocessors, on the other hand, are more powerful processing units used in complex computing tasks, often requiring external memory and peripherals. FPGAs (Field Programmable Gate Arrays) are highly flexible devices that can be configured by the user to perform specific logic functions, making them invaluable in applications requiring customization and adaptability.

Applications of Embedded - Microcontroller,

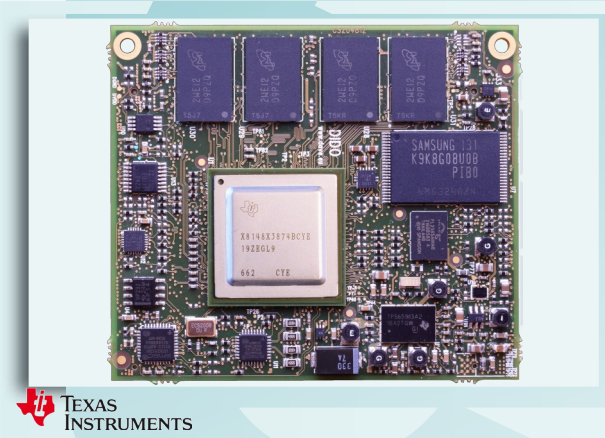
Details	
Product Status	Active
Module/Board Type	MPU, DSP Core
Core Processor	ARM® Cortex®-A8, DM8148
Co-Processor	TMS320C674x (DSP)
Speed	1GHz
Flash Size	1GB (NAND), 32MB (NOR)
RAM Size	-
Connector Type	2 x 140 Pins 0.6mm Pitch
Size / Dimension	-
Operating Temperature	-
Purchase URL	https://www.e-xfl.com/product-detail/dave-embedded-systems/doh5210c

ULTRA LINE

DIDO

TEXAS INSTRUMENTS "DAVINCI" DM814X CPU MODULE

- Top class CPU module based on Texas Instruments DM814x processors family
- ULTRA Line - ARM Cortex-A8 architecture @ 1 GHz
- up to 2GB DDR3 @ 533Mhz x64 bits data bus
- DSP engine (available on DM8148)
- Dual video inputs
- PCIe lane
- HD Video Encoding/Decoding Capabilities (HDVCIP)
- NEON Multimedia Coprocessor and PowerVR® SGX Graphics Engine
- Rich interfaces set including PCIe, dual CAN, Ethernet, SATA and native 3.3V I/O
- Naon pin-out compatible
- Evaluation Board available with exhaustive Development Kit



DIDO is a ready-to-use CPU module by DAVE Embedded Systems, based on Texas Instruments DM8148 high performance application processor.

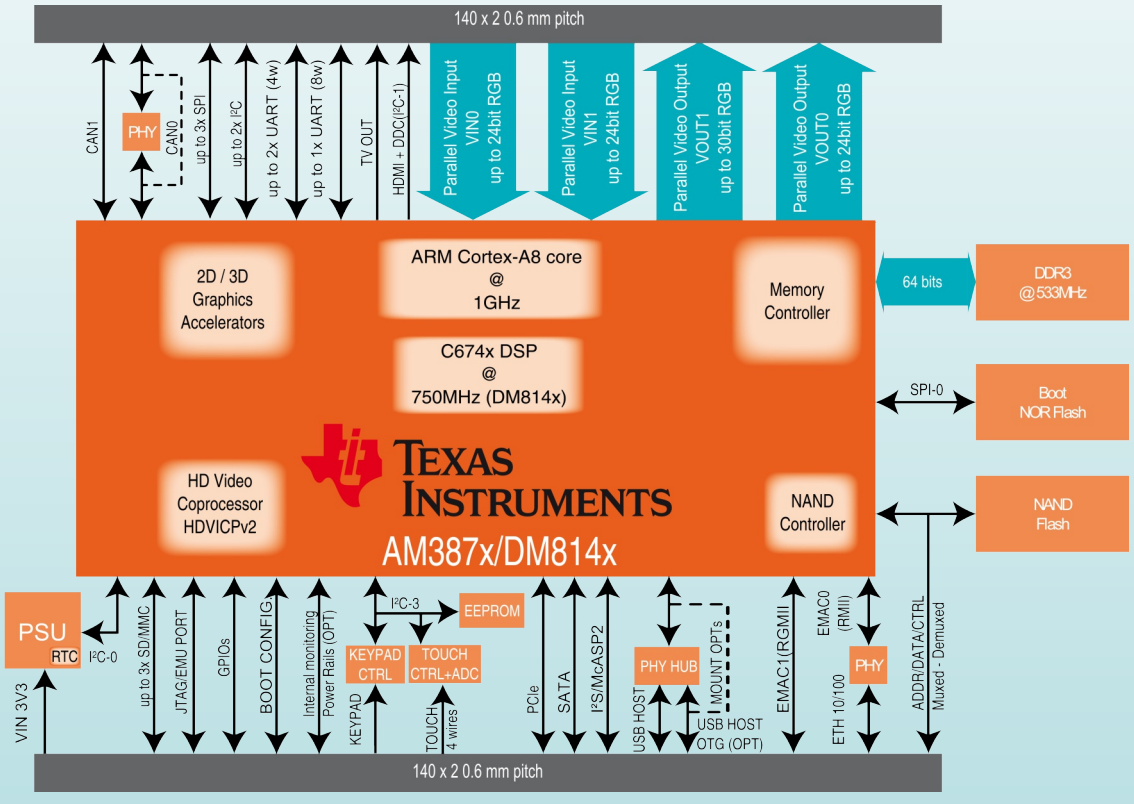
DIDO is the first product of DAVE Embedded Systems' ULTRA Line, which includes best-in-class solutions and full featured SOMs. In particular, for DIDO this means a boost on performances, thanks to the 2GB DDR3 @ 533 MHz SDRAM memory, and great versatility thanks to the integrated PCI Express interface. DIDO offers great computational power, thanks to the rich set of coprocessors (NEON Media Technology, PowerVR SGX 530 3D accelerator, High Definition Video Coprocessing Engine, HD Video Processing Subsystem).

DIDO is designed to be easily included in customer's embedded systems, due to the extremely compact form factor (70mm x 65mm), the inexpensive stacking connectors and the back-compatibility with DAVE Embedded Systems' NAON CPU module.

DIDO has an extended connectivity thanks to PCIe, dual CAN, Ethernet, SATA and native 3.3V I/O, sophisticated displays with HD Video Encoding/Decoding Capabilities (HDVCIP) and rich user-interfaces.

DIDO enables designers to create rugged products suitable for harsh mechanical and thermal environments, allowing for the development of the most advanced and robust products. DIDO is designed and manufactured according to DAVE Embedded Systems' ULTRA Line specifications, in order to guarantee premium quality and technical value for customers who require top performances and flexibility.

DIDO is suitable for high-end applications such us deployment in security systems, video-surveillance cameras, Medical Imaging applications, Automotive HMI, broadcasting, automation control systems and extreme video computing.

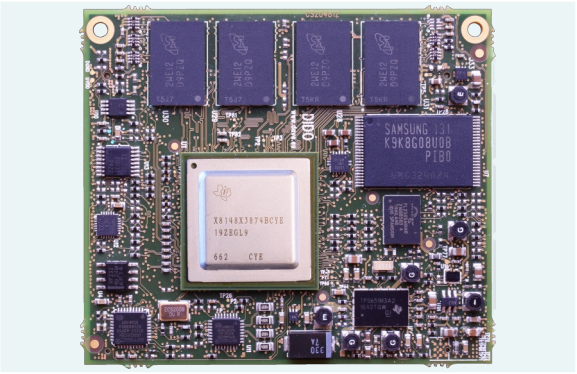


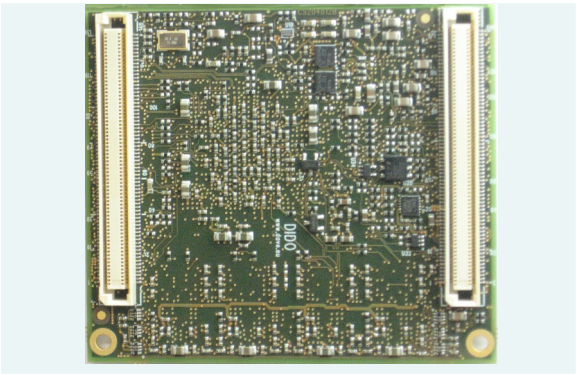
CPU	Texas Instruments DM814x*ARMv7 architecture Cortex A8 @ 1 GHz
Multimedia	NEON Media Technology (Adv. SIMD coprocessor) PowerVR SGX 530 3D Graphics Accelerator Programmable HDVICP Engine HD Video Processing Subsystem (HDVPSS) Imaging Subsystem (ISS) Up to 750-MHz C674x Floating-Point VLIW DSPC
Supervisor	On board power supply supervision and power sequencer Watchdog and RTC
Memory	
Cache	L1: 32Kbyte instruction, 32Kbyte data L2: Unified data/instruction, 512 KByte
SDRAM	Up to 2GB DDR3 @ 533MHz
NOR	Bootable SPI NOR 16, 32 MB
NAND	All sizes, on request
SRAM	128 KByte
EEPROM	Yes
Interfaces (full-spec models) *	
PCIe	PCIe lane
LAN	Ethernet 10/100 Mbps (PHY on board) Additional RGMII Interface available
UART	up to 2x UART ports 4 wires up to 1x UART ports 8 wires
CAN	2x CAN controller (version 2 part A, B)
USB	1x 2.0 OTG port (PHY on board) 2x 2.0 Host port (PHY on board)
External Bus	GPMC 16-bit bus
Storage	1x SATA 3.0 Gbps channel
SDIO	2x SD/MMC card
Audio	McASP interface
Video Output	16-/24-/30-bit HD Display Port 1x TFT/RGB 1x HDMI 1 x TV out
Video Input	up to 1x 24-bit video in port up to 1x 30-bit video in port
Debug	JTAG IEEE 1149.1 Test Access Port
Other	up to 2x I2C channels up to 3x SPI channels GPIOs with interrupt capabilities 8x8 keypad
Mechanical	
Connectors	2x 140 pin 0.6mm pitch
Size	70mm x 65mm
Temperature	Commercial (0°C / +70°C) temperature range Industrial (-40°C / +85°C) temperature range
PSU	
Input	3.3V, on-board voltage regulation
Software	
Bootloader	U-Boot
Multitasking	Linux 2.6.37

Evaluation Kit

The DIDO evaluation kit is available in a developement kit that includes a SOM, a carrier board and all accessories required for immediate start-up.

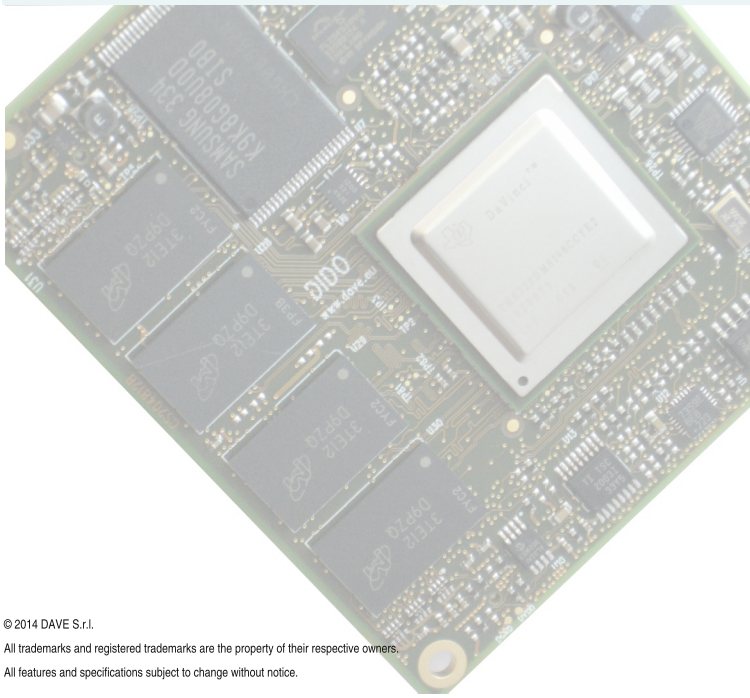
*: interface availability depends on pin multiplexing.
Please contact your local FAE.





Product code configurator *

Family	Processor	NOR flash	DDR RAM	NAND flash	Temp. range
DO	A = AM3871 800M no SGX B = AM3874 800M SGX D = DM8148 700M HDVIP F = DM8148 1G DSP 600M G = DM8147 700M HDVIP H = DM8148 1G DSP 750M L = DM8147 1G DSP 600M M = DM8147 1G DSP 750M	0: No NOR 4: 16MB 5: 32MB 6: 64MB	7: 128MB 8: 256MB 9: 512MB 1: 1GB 2: 2GB	0: No NAND 7: 128MB 8: 256MB 9: 512MB 1: 1GB 2: 2GB	I: -40 / +85°C Industrial temp. C: 0 / 70°C Commercial temp.



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