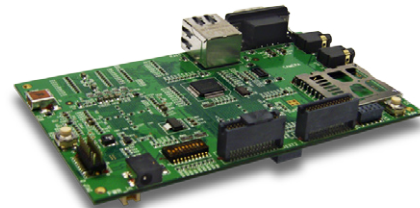


DATASHEET

SBC6446/3/1 - High Performance Single Board Computer Based on TI DaVinci Dual Core SoC

The SBC6446/3/1 is a high performance single board computer that is designed to handle today's digital video and connectivity driven applications in the mobile, set-top-box, and telematic markets. The SBC644x is powered by the latest TI DaVinci dual core TMS320DM6446/3/1 SoC and Empower Technologies' LEOs software. With an optional 4.3" WQVGA (480x272) landscape TFT LCD touch panel, it is ready for 16:9 widescreen movie presentations. The SBC644x is the world's first DM6446/3/1 SBC available that can display the video image from either the composite video input jack or the optional on-board 3 Megapixel digital camera on it's 4.3" TFT LCD touch panel, and also capture video into digital format through the powerful embedded DSP inside the TI DaVinci processor.



Digital video can be played back as well as displayed on the 4.3" TFT LCD touch panel or output through the composite video jack. The video processing power enabled by the video/imaging coprocessor and the C64xx DSP core in the DM644x is the most powerful feature of this new target platform. It provides major technical advantages in video/image/audio encoding/decoding, video analytics, image processing and sound processing. These technical advantages can be applied in the fields of networked IP security surveillance systems, wired/wireless networked digital media streaming systems, automobile infotainment systems, portable navigation multimedia devices, and videophones. The SBC644x will allow you to more easily and quickly launch digital media applications. Applications can be written with easy access via ARM9 core to the C64xx DSP core. No detailed DSP knowledge is required to access DSP functions.

HARDWARE FEATURES

CPU: Texas Instruments TMS320DM6446/3/1 dual core processor
ARM9 core runs up to 297MHz and C64xx DSP runs up to 594MHz

Memory: RAM: 256 MBytes DDR2 SDRAM
ROM: 32 MBytes NOR Flash and 256MBytes NAND Flash

Display: 480x272 pixels (16:9 aspect ratio)
(optional) High resolution 4-wire touch screen
High brightness

Audio/Video: Stereo Audio Line-in / Line-out header
On board Microphone
Composite (NTSC/PAL) Video Input with 3.5mm jack
Composite (NTSC/PAL) Video output with 3.5mm jack
On-board 3 Megapixel digital camera (optional)

Ports: USB 2.0 Host/Client with Mini-AB USB connector
3 serial ports (1 x RS232 with D-SUB 9 pin, 1 x 3.3V Tx/Rx on expansion connector, 1 x 3.3V Tx/Rx/RTS/CTS on expansion connector)
2 PWM ports on expansion connector
10 GPIO ports (User defined input or output) on expansion connector

Network: 10/100 Ethernet with RJ45 connector

Memory Slot: SD/SDHC memory card

Dimensions: PCB: 130mm x 80mm (5.12" x 3.15")
Outside: 133.0mm x 89.6mm x 21.5mm (5.24" x 3.53" x 0.85")

Other: I²C* header
1 x reset switch
1 x sleep/wake switch
JTAG interface
Single 5V power connector
Rechargeable battery connector

* I²C is a register trademark of Philips Corporation

SBC6446/3/1 PACKAGE CONTENTS

- SBC6446/3/1 Single Board Computer
- LEOs for SBC6446/3/1 pre-loaded on the flash
- Quick Start Guide
- End User License Agreement



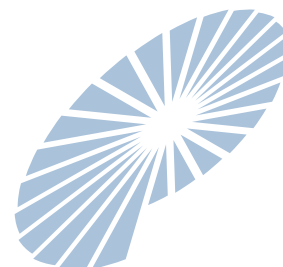
Windows CE is also available. Please contact Sales for details.

Contact Information

sales@empowertechnologies.com
www.empowertechnologies.com

Corporate Headquarters

130 – 3751 Shell Road,
Airport Executive Park,
Richmond, BC, Canada V6X 2W2
Tel: 1.604.278.3100
Fax: 1.604.278.3102

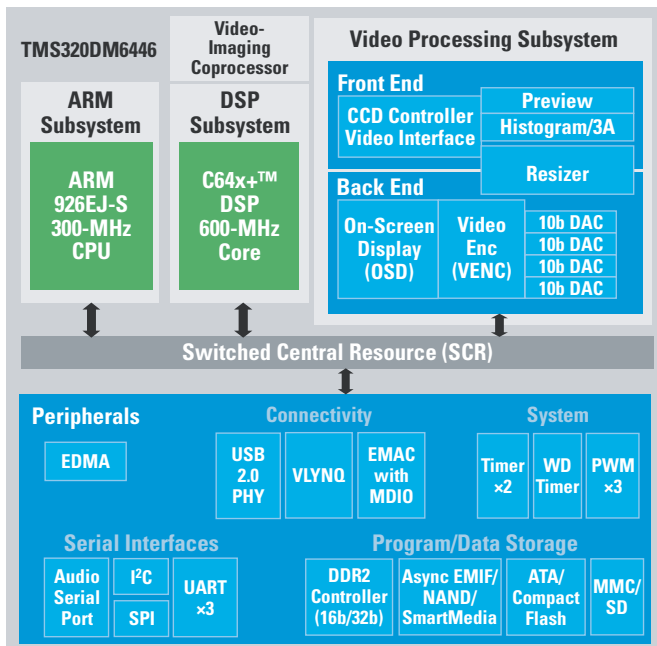


SBC6446/3/1 *Single Board Computer*

*DaVinci™ Digital Media Processors Comparison Chart

Device	CPUs	Frequency (MHz)	Video Ports (Configurable)	Voltage (V)	
				Core	I/O
TMS320DM6446	C64x+,	594	1 Input, 1 Output	1.2	1.8/ 3.3
	ARM9,	(DSP)			
	DaVinci	297			
TMS320DM6443	C64x+,	594	1 Output	1.2	1.8/ 3.3
	ARM9,	(DSP)			
	DaVinci	297			
TMS320DM6441	C64x+,	513/405	1 Input, 1 Output	1.2/ 1.05	1.2/ 3.3
	ARM9,	(DSP)			
	DaVinci	256/202			
	Video	(ARM)			

*TMS320DM6446 Digital Media Processor Block Diagram



*TMS320DM644x Processor Video Capabilities

	TMS320DM6446	TMS320DM6443
STANDALONE CODECS		
MPEG-2 MP ML decode	720p (30 fps)	720p (30 fps)
MPEG-4 SP decode	720p (30 fps)	720p (30 fps)
MPEG-4 SP encode	D1+	n/a
H.264 (Baseline) decode	D1+	D1+
H.264 (Baseline) encode	D1+	n/a

+ Denotes available processor headroom for analytics and/or other features

Encode is only available on the DM6446 processor.

Note: Performance will vary depending on efficiency of code and data stream used.

Resolution information: D1 (720x480) / 720p (1280x720)

Theoretical device capability may be available from some third parties. TI codecs currently tested only to D1 resolution.

Device capability estimated based on 600-MHz DM644x devices. Lower-speed-grade versions may be limited to lower resolutions.

All performance data is for 30-fps YUV 4:2:0 unless otherwise noted.

SP = Simple Profile / MP= Main Profile

*The original of the information is from Texas Instruments documentation.

For details of the Digital Media Processors, please refer to: <http://focus.ti.com.cn/cn/lit/ml/sprt411b/sprt411b.pdf>.