

SOM Modules

VIA SOM-6X80

Ultra-compact low-power solution for HMI applications with rapid time-to-market

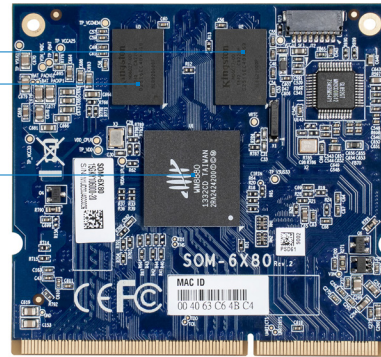
Features

- 1.0GHz VIA Cortex-A9 dual-core SoC
- Supports MPEG-2 and H.264 video decoding up to 1080p
- Supports up to 6 UART and 3 USB 2.0
- Supports HDMI and LVDS
- Carrier board available

Board Placement

DDR3 SDRAM

VIA Cortex-A9 dual-core SoC



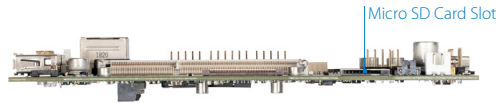
Specifications

Model Name	SOM-6X80
Processor	1.0GHz VIA Cortex-A9 dual-core SoC
System Memory	2GB DDR3 SDRAM
Storage	8GB eMMC Flash Memory
Boot Loader	512KB SPI Flash ROM
Graphics	Mali-400 SP GPU 2 integrated, independent 3D/2D graphics processing units Graphics engine supporting OpenGL® ES 2.0 hardware acceleration Supports MPEG-2 and H.264 video decoding up to 1080p
LAN	ASIX AX88772CLF USB to LAN
Audio	Wolfson WM8960 I2S Audio Codec
HDMI	Integrated HDMI 1.4 Transmitter
USB	Genesys GL852GT USB hub 4-port controller
USB to UART	CP2108-B03-GM USB to UART 4-port controller
Supported I/O	1 HDMI 1 Single-channel LVDS 3 USB 2.0 ports 6 UART (4 TX/RX, RTS/CTS, 1 RS-485, 1 Debug TX/RX) 9 GPIO 1 10/100Mbps Ethernet port 3 I ² C 1 Micro SD card slot 2 SPI 1 Line-in, Line-out, Mic-in 1 Headphone-out
Onboard I/O	Debug connector
Operating System	Yocto 2.1 (Linux Kernel 4.4.26)
Operating Temperature	0°C ~ 60°C
Operating Humidity	0% ~ 90% (non-condensing)
Form Factor	6.76cm x 6.3cm (2.66" x 2.48")

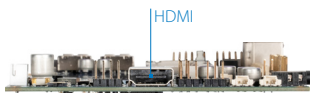
Carrier Board Front Panel I/O



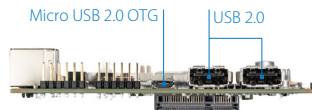
Carrier Board Back Panel I/O



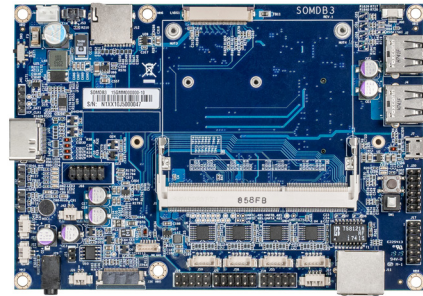
Carrier Board Left Panel I/O



Carrier Board Right Panel I/O



Carrier Board (SOMDB3)



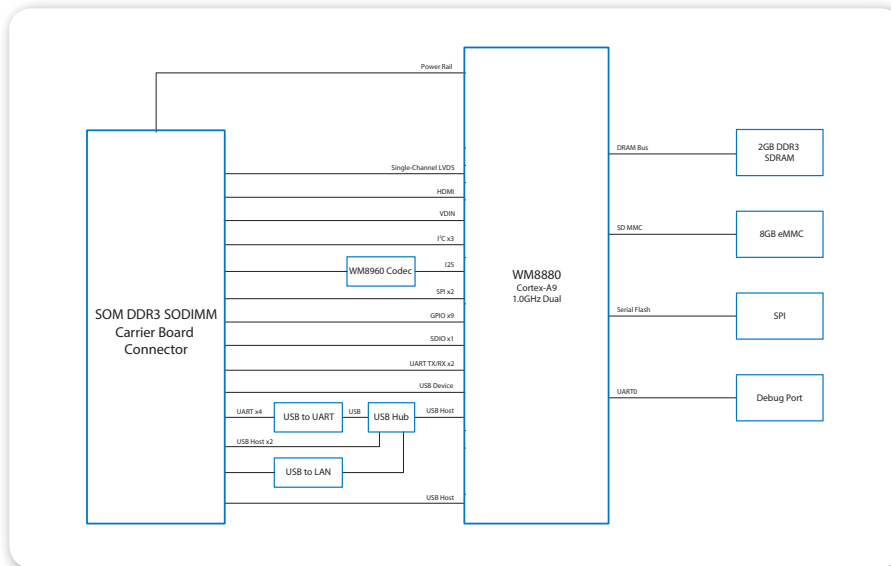
Specifications

Model Name	SOMDB3
Onboard I/O	1 LCD panel connector 1 Touch connector 4 COM connectors (RS-232) 1 COM pin header (RS-485) 1 Debug connector 1 Camera connector 1 GPIO pin header (9 GPIO) 1 I ² C pin header (3 I ² C) 1 SPI pin header 2 Line-in pin headers 3 Line-out connectors (for Mono, Right & Left channel speakers) 1 Mic-in connector 1 Microphone 1 Audio mono out signal pin header 1 USB WLAN connector 1 System wake up button 1 Watchdog timer switch 1 Power button 1 RTC battery connector 1 DC-in connector 1 miniPCIe slot (with USB 2.0 signal only) 1 SIM card slot
Front Panel I/O	1 10/100Mbps Ethernet port 1 Headphone jack
Back Panel I/O	1 Micro SD card slot
Right Panel I/O	2 USB 2.0 ports 1 Micro USB 2.0 OTG port
Left Panel I/O	1 HDMI port
Power Supply	12V~24V DC-in
Operating Temperature	0°C ~ 60°C
Operating Humidity	0% ~ 90% (non-condensing)
Form Factor	3.5" carrier board (14.6cm x 10.2cm) (5.74" x 4.01")

Ordering Information

Part Number	SoC Frequency	Description
15GKY126000-10	VIA Cortex-A9 dual-core SoC @ 1.0GHz	SOM module with 1.0GHz VIA Cortex-A9 dual-core SoC, 8GB eMMC, 512KB SPI ROM, 2GB DDR3 SDRAM, HDMI, Single-channel LVDS, 3 USB 2.0, 6 UART, 9 GPIO, 10/100Mbps Ethernet
STK-SOM6X80-00A2	N/A	SOM-6X80 starter kit with 7" Touch Panel
STK-SOM6X80-01A1	N/A	SOM-6X80 starter kit with 10.1" Touch Panel

Block Diagram



Packing List (Starter Kit)

Items for STK-SOM6X80-00A2

- SOM-6X80 module
- SOMDB3 carrier board
- 7" LCD touch panel
- AC power adapter
- Power cord US type

Items for STK-SOM6X80-01A1

- SOM-6X80 module
- SOMDB3 carrier board
- 10.1" LCD touch panel
- AC power adapter
- Power cord US type