

## SOM Modules

### VIA SOM-6X80

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

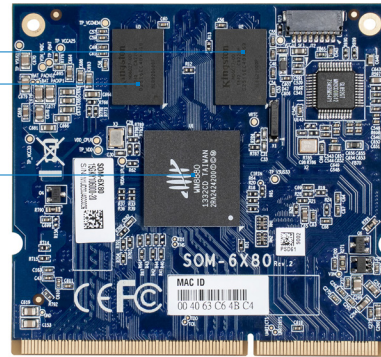
## Features

- 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



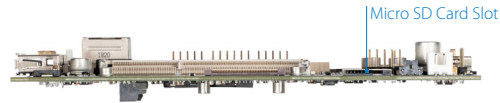
## Specifications

<b>Model Name</b>	<b>SOM-6X80</b>
<b>Processor</b>	1.0GHz VIA Cortex-A9 dual-core SoC
<b>System Memory</b>	2GB DDR3 SDRAM
<b>Storage</b>	8GB eMMC Flash Memory
<b>Boot Loader</b>	512KB SPI Flash ROM
<b>Graphics</b>	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
<b>LAN</b>	ASIX AX88772CLF USB to LAN
<b>Audio</b>	Wolfson WM8960 I2S Audio Codec
<b>HDMI</b>	Integrated HDMI 1.4 Transmitter
<b>USB</b>	Genesys GL852GT USB hub 4-port controller
<b>USB to UART</b>	CP2108-B03-GM USB to UART 4-port controller
<b>Supported I/O</b>	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 <sup>2</sup> C 1 Micro SD card slot 2 SPI 1 Line-in, Line-out, Mic-in 1 Headphone-out
<b>Onboard I/O</b>	Debug connector
<b>Operating System</b>	Yocto 2.1 (Linux Kernel 4.4.26)
<b>Operating Temperature</b>	0°C ~ 60°C
<b>Operating Humidity</b>	0% ~ 90% (non-condensing)
<b>Form Factor</b>	6.76cm x 6.3cm (2.66" x 2.48")

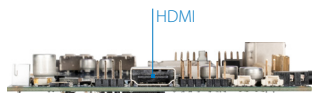
Carrier Board Front Panel I/O



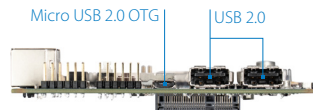
Carrier Board Back Panel I/O



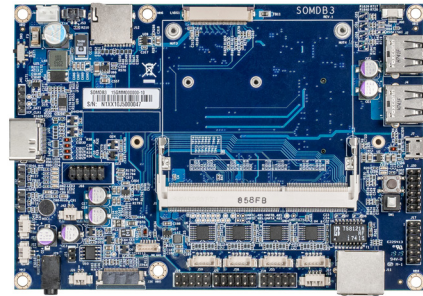
Carrier Board Left Panel I/O



Carrier Board Right Panel I/O



Carrier Board (SOMDB3)



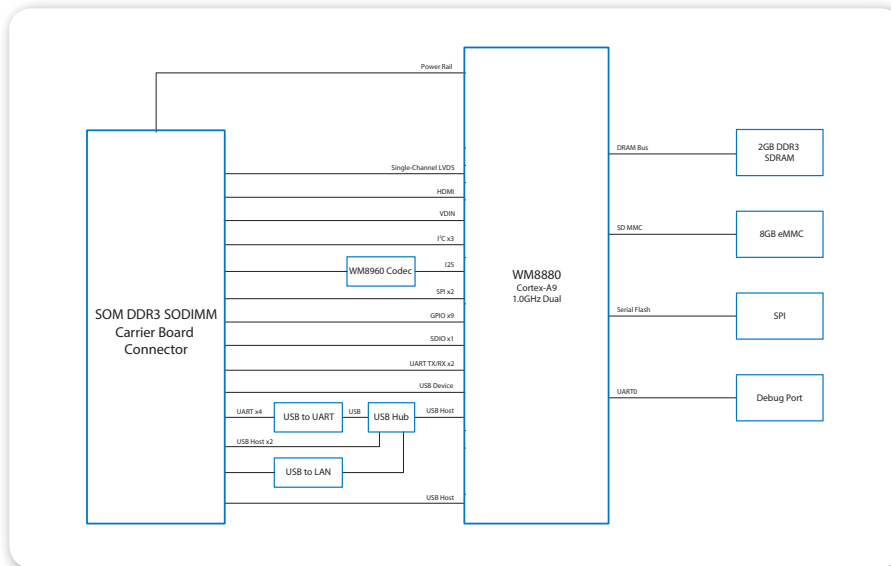
## Specifications

<b>Model Name</b>	<b>SOMDB3</b>
<b>Onboard I/O</b>	<ul style="list-style-type: none"> <li>1 LCD panel connector</li> <li>1 Touch connector</li> <li>4 COM connectors (RS-232)</li> <li>1 COM pin header (RS-485)</li> <li>1 Debug connector</li> <li>1 Camera connector</li> <li>1 GPIO pin header (9 GPIO)</li> <li>1 I<sup>2</sup>C pin header(3 I<sup>2</sup>C)</li> <li>1 SPI pin header</li> <li>2 Line-in pin headers</li> <li>3 Line-out connectors (for Mono, Right &amp; Left channel speakers)</li> <li>1 Mic-in connector</li> <li>1 Microphone</li> <li>1 Audio mono out signal pin header</li> <li>1 USB WLAN connector</li> <li>1 System wake up button</li> <li>1 Watchdog timer switch</li> <li>1 Power button</li> <li>1 RTC battery connector</li> <li>1 DC-in connector</li> <li>1 miniPCle slot (with USB 2.0 signal only)</li> <li>1 SIM card slot</li> </ul>
<b>Front Panel I/O</b>	<ul style="list-style-type: none"> <li>1 10/100Mbps Ethernet port</li> <li>1 Headphone jack</li> </ul>
<b>Back Panel I/O</b>	<ul style="list-style-type: none"> <li>1 Micro SD card slot</li> </ul>
<b>Right Panel I/O</b>	<ul style="list-style-type: none"> <li>2 USB 2.0 ports</li> <li>1 Micro USB 2.0 OTG port</li> </ul>
<b>Left Panel I/O</b>	<ul style="list-style-type: none"> <li>1 HDMI port</li> </ul>
<b>Power Supply</b>	12V~24V DC-in
<b>Operating Temperature</b>	0°C ~ 60°C
<b>Operating Humidity</b>	0% ~ 90% (non-condensing)
<b>Form Factor</b>	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