

## SOM Modules

### VIA SOM-6X50

Compact cost-effective solution for HMI applications with rapid time-to-market

#### Features

- 800MHz VIA Cortex-A9 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
- Reference carrier board available

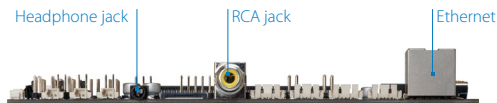
#### Board Placement



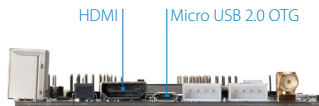
#### Specifications

<b>Model Name</b>	<b>SOM-6X50</b>
<b>Processor</b>	800MHz VIA Cortex-A9 SoC
<b>System Memory</b>	512MB 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>	Realtek RTL8201 10/100 base-TX PHY chip
<b>Audio</b>	Wolfson WM8960 I2S Audio Codec
<b>HDMI</b>	Integrated HDMI 1.4 Transmitter
<b>USB to UART</b>	CP2108-B02-GM USB to UART 4-port controller
<b>Supported I/O</b>	1 HDMI or 1 Single-Channel LVDS 1 DVO 1 CSI 3 USB 2.0 ports 6 UART (5 TX/RX,RTS/CTS, 1 Debug TX/RX) 9 GPIO 1 10/100Mbps Ethernet port 3 I <sup>2</sup> C 1 SDIO 1 SD Card slot 2 SPI 4 PWM 1 Line-in, Line-out, Mic-in 1 Headphone-out
<b>Operating System</b>	Linux Kernel 3.4.5
<b>Operating Temperature</b>	0°C ~ 60°C
<b>Operating Humidity</b>	0% ~ 95% (non-condensing)
<b>Form Factor</b>	6.76cm x 4.8cm (2.66" x 1.89")

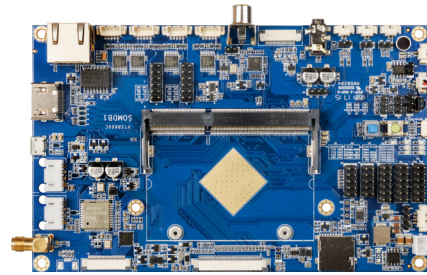
### Carrier Board Front Panel I/O



### Carrier Board Right Panel I/O



### Carrier Board (SOMDB1)



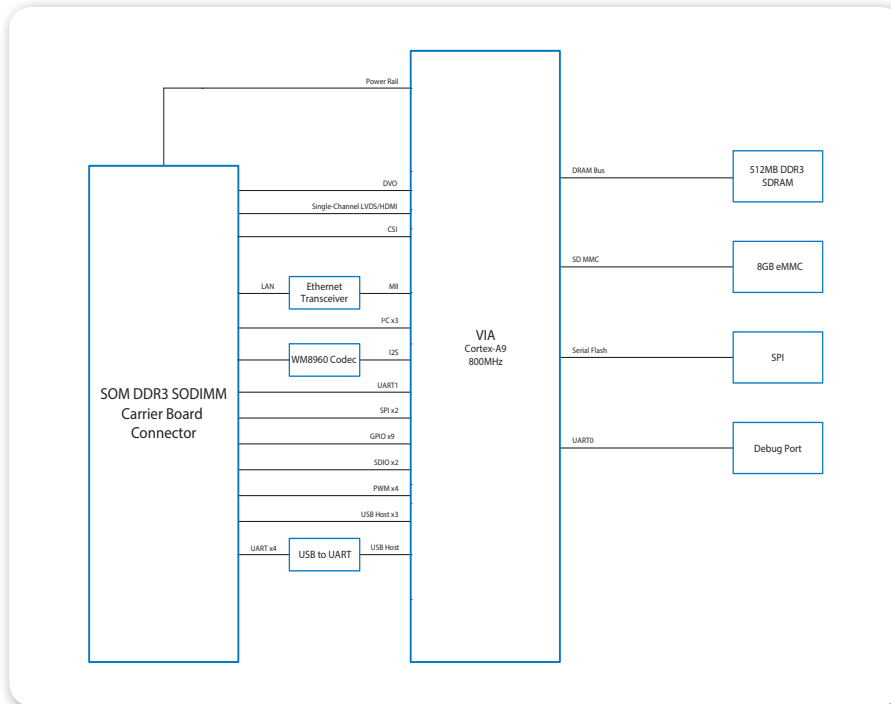
## Specifications

Model Name	SOMDB1
Onboard I/O	1 LCD panel connector 1 Touch connector 2 USB 2.0 connectors 4 COM connectors (RS-232) 2 UART pin headers 1 Debug connector & pin header 1 Camera connector 1 GPIO pin header (9 GPIO) 1 I <sup>2</sup> C pin header (3 I <sup>2</sup> C) 1 SPI pin header (2 SPI) 1 IR Receiver sensor & pin header 1 RCA pin header 2 Line-in pin headers 3 Line-out connectors & pin headers (for Mono, Right & Left channel speakers) 1 Mic-in connector 1 Audio mono out signal pin header 1 Headphone pin header 1 System recovery button 1 Watchdog timer switch 1 Power button 1 RTC battery connector 1 DC-in connector
Front Panel I/O	1 Composite RCA jack 1 10/100Mbps Ethernet port 1 Headphone jack
Back Panel I/O	1 Micro SD card slot
Right Panel I/O	1 HDMI port 1 Micro USB 2.0 OTG port
Power Supply	5V~19V DC-in
Operating Temperature	0°C ~ 60°C
Operating Humidity	0% ~ 95% (non-condensing)
Form Factor	16cm x 10cm (6.3" x 3.94")

## Ordering Information

Model Name	SoC Frequency	Description
00GJQ10E00020	VIA Cortex-A9 SoC @ 800MHz	SOM module with 800MHz VIA Cortex-A9 SoC, 8GB eMMC, 512 SPI ROM, 512MB DDR3 SDRAM, 1 HDMI or Single-Channel LVDS, DVO, CSI, 3 USB 2.0, 6 UART, GPIO, 10/100Mbps Ethernet
STK-SOM6X50-00A1	N/A	SOM-6X50 starter kit

## Block Diagram



## Packing List (Starter Kit)

### Items for STK-SOM6X50-00A1

- SOM-6X50 module
- SOMDB1 carrier board
- 7" LCD touch panel
- 2 USB cables
- COM cable
- Speaker