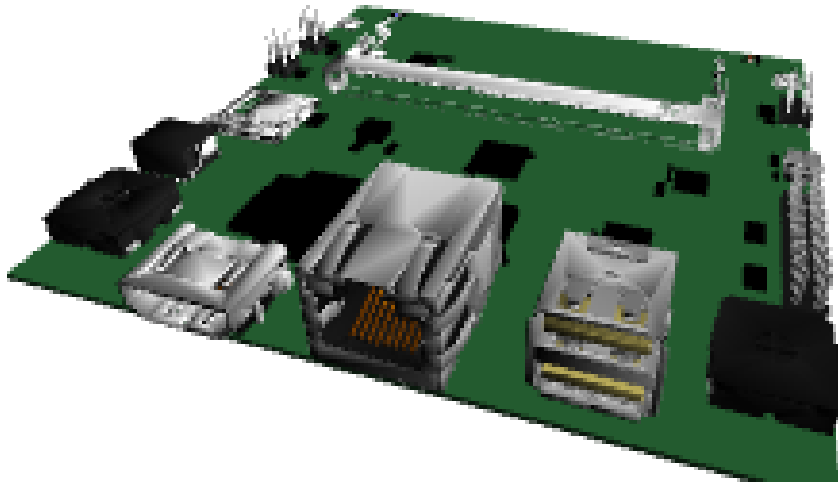


MitySOM 335x Development Board



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Board Description

This development board has the I/O needed to get your integrated system or multimedia mini-PC running with Critical Link's MitySOM-335x processor boards.

Board Dimensions

10.0cm x 10.0cm



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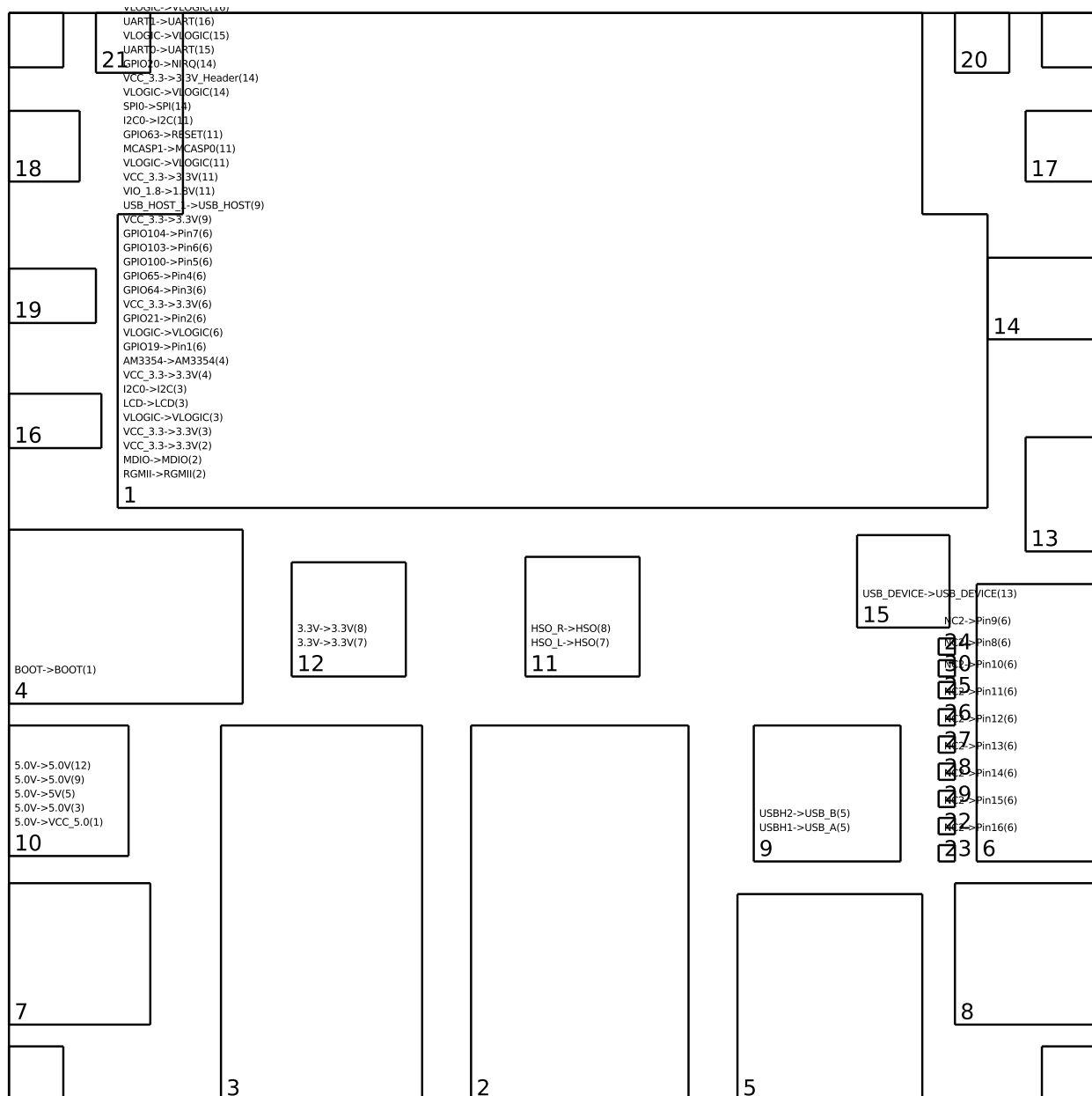
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1 Modules on Board



1.1 COM Connectors

1.1.1 MitySOM-335x (Critical Link) Connector (v6) (1)

The MitySOM-335x from Critical Link is a TI AM335x-based COM on a SODIMM form factor with up to 1 GB on-board RAM. The MitySOM-335x (Critical Link) COM connector provides the various IO signals available from the COM to a custom Geppetto expansion board.

Requires:



- VCC_5.0 from Barrel Connector (5V 3A) (10)
- BOOT from Boot MicroSD Card Slot for AM3354 (4)

oindent Provides:

- VCC_3.3 to:
 - Gigabit Ethernet (2)
 - DVI HDMI (3)
 - Boot MicroSD Card Slot for AM3354 (4)
 - 20-Pin Male Header (6)
 - 3-Port USB Hub (9)
 - Audio Codec (11)
 - SPI Header (14)
 - UART Header (16)
 - Tactile Switch (17)
 - Tactile Switch (18)
 - I2C Header (19)
 - Red LED (20)
 - Blue LED (21)
- GPIO65 to 20-Pin Male Header (6)
- GPIO64 to 20-Pin Male Header (6)
- GPIO60 to Blue LED (21)
- GPIO63 to Audio Codec (11)
- GPIO62 to Red LED (20)
- GPIO21 to 20-Pin Male Header (6)
- GPIO20 to SPI Header (14)
- SPI0 to SPI Header (14)
- WARM_RESET to Tactile Switch (18)
- MDIO to Gigabit Ethernet (2)
- LCD to DVI HDMI (3)
- UART1 to UART Header (16)
- UART0 to USB-UART (15)
- MCASP1 to Audio Codec (11)
- RGMII to Gigabit Ethernet (2)
- GPIO19 to 20-Pin Male Header (6)
- VLOGIC to:



- DVI HDMI (3)
- 20-Pin Male Header (6)
- Audio Codec (11)
- SPI Header (14)
- USB-UART (15)
- UART Header (16)
- I2C Header (19)
- I2C0 to:
 - DVI HDMI (3)
 - Audio Codec (11)
 - I2C Header (19)
- VIO_1.8 to Audio Codec (11)
- USB_HOST_1 to 3-Port USB Hub (9)
- AM3354 to Boot MicroSD Card Slot for AM3354 (4)
- GPIO28 to Tactile Switch (17)
- GPIO100 to 20-Pin Male Header (6)
- GPIO103 to 20-Pin Male Header (6)
- GPIO104 to 20-Pin Male Header (6)

1.2 Network

1.2.1 Gigabit Ethernet (v8) (2)

This 10/100/1000 Base-T connector offers gigabit Ethernet over twisted pair for networking functionality.

This networking interface is connected to RGMII on MitySOM-335x (Critical Link) Connector (1).

1.3 Monitors

1.3.1 DVI HDMI (v9) (3)

Provide HDMI high definition video connection for MitySOM-335x (Critical Link) Connector (1)

1.4 Memory

1.4.1 Boot MicroSD Card Slot for AM3354 (v9) (4)

A Micro SD card slot provides boot memory to BOOT on MitySOM-335x (Critical Link) Connector (1) .



1.5 USB

1.5.1 Dual Stacked USB Type A (v6) (5)

A dual type-A USB host stacked vertically that allows you to connect USB devices to the board.

It is connected to:

- USBH1 on 3-Port USB Hub (9)
- USBH2 on 3-Port USB Hub (9)

1.5.2 3-Port USB Hub (v10) (9)

This USB hub offers three interfaces for USB ports from USB_HOST_1 on MitySOM-335x (Critical Link) Connector (1).

This hub is connected to the following USB ports:

- Dual Stacked USB Type A (5)
- Dual Stacked USB Type A (5)

1.5.3 Micro-B Jack (v8) (13)

A USB micro-B port allows your design to connect as a USB device to a USB host.

This module is connected to USB_DEVICE on USB-UART (15).

1.6 Headers

1.6.1 20-Pin Male Header (v10) (6)

A header offering up to 20 pins for various GPIO or PWM signals of your choice.

To output signals at a custom voltage, a zero ohm resistor can be depopulated and an external reference provided.

This module has the following connections:

- Pin16 to NC2 from NC (23)
- Pin15 to NC2 from NC (22)
- Pin14 to NC2 from NC (29)
- Pin13 to NC2 from NC (28)
- Pin12 to NC2 from NC (27)
- Pin11 to NC2 from NC (26)
- Pin10 to NC2 from NC (25)



- Pin9 to NC2 from NC (24)
- Pin8 to NC2 from NC (30)
- Pin3 to GPIO64 from MitySOM-335x (Critical Link) Connector (1)
- Pin2 to GPIO21 from MitySOM-335x (Critical Link) Connector (1)
- Pin1 to GPIO19 from MitySOM-335x (Critical Link) Connector (1)
- Pin7 to GPIO104 from MitySOM-335x (Critical Link) Connector (1)
- Pin6 to GPIO103 from MitySOM-335x (Critical Link) Connector (1)
- Pin5 to GPIO100 from MitySOM-335x (Critical Link) Connector (1)
- Pin4 to GPIO65 from MitySOM-335x (Critical Link) Connector (1)

1.6.2 SPI Header (v11) (14)

This header breaks out SPI0 on MitySOM-335x (Critical Link) Connector (1) .

1.6.3 UART Header (v8) (16)

The UART header provides a 2-wire interface alongside power and ground pins for UART signals.

This module is connected to the UART1 bus on MitySOM-335x (Critical Link) Connector (1).

1.6.4 I2C Header (v12) (19)

This header breaks out I2C0 on MitySOM-335x (Critical Link) Connector (1) .

Implemented as a test pad.Implemented as a test pad.Implemented as a test pad.Implemented as a test pad.Implemented as a test pad.Implemented as a test pad.Implemented as a test pad.Implemented as a test pad.Implemented as a test pad.

1.7 Audio

1.7.1 Speaker (v1) (7)

This TI LM4862M audio power amplifier has an average output of 675mW , driving SMT speaker for Audio Codec (11).

1.7.2 Speaker (v1) (8)

This TI LM4862M audio power amplifier has an average output of 675mW , driving SMT speaker for Audio Codec (11).



1.7.3 Audio Codec (v13) (11)

A low-power stereo audio codec with stereo headphone amplifier, as well as multiple inputs and outputs programmable in single-ended or fully differential configurations.

For more information, visit <http://www.ti.com/product/tlv320aic3106>.

This module provides the following output buses:

- HSO.R to Speaker (8)
- HSO.L to Speaker (7)

1.8 Power Connectors

1.8.1 Barrel Connector (5V 3A) (v6) (10)

This power jack is compatible with Gumstix 5V/3.5A DC power adapter using a 4.0mm x 1.7mm barrel connector. It provides more current than a standard 5V DC power supply, suitable for use with multi-processor designs.

This power jack provides 5V to the following modules:

- MitySOM-335x (Critical Link) Connector (1)
- DVI HDMI (3)
- Dual Stacked USB Type A (5)
- 3-Port USB Hub (9)
- 3.3V/1.5A Regulator (12)

1.9 Power

1.9.1 3.3V/1.5A Regulator (v9) (12)

This DC to DC step down regulator provides a 3.3V DC output at 1.5A needed by certain components on this board. It is capable of accepting an input voltage between 3.1 to 16V DC. Currently, its input is 5V from Barrel Connector (5V 3A) (10).

This regulator provides 3.3V to:

- Speaker (7)
- Speaker (8)

1.10 Connectivity

1.10.1 USB-UART (v14) (15)

Also known as an FTDI, this USB to UART converter allows a USB connection to the board to behave as a virtual RS232 serial connection. It offers direct and complete access to the system from a development machine.



This USB to UART converter connects a host machine from Micro-B Jack (13) to UART0 on MitySOM-335x (Critical Link) Connector (1).

1.11 IO

1.11.1 Tactile Switch (v9) (17)

This 4.9 sq. mm light touch switch provides a user input for the signal GPIO28 on MitySOM-335x (Critical Link) Connector (1).

1.11.2 Tactile Switch (v9) (18)

This 4.9 sq. mm light touch switch provides a user input for the signal WARM_RESET on MitySOM-335x (Critical Link) Connector (1).

1.11.3 Red LED (v11) (20)

This 1608 standard size red LED provides an indicator for the signal GPIO62 on MitySOM-335x (Critical Link) Connector (1).

1.11.4 Blue LED (v14) (21)

This 1608 standard size blue LED provides an indicator for the signal GPIO60 on MitySOM-335x (Critical Link) Connector (1).

1.12 Mechanical

1.12.1 Mounting Hole (2.2mm)

A #0 mounting hole for securing the board with mounting pins.

1.12.2 Mounting Hole (2.2mm)

A #0 mounting hole for securing the board with mounting pins.

1.12.3 Mounting Hole (2.2mm)

A #0 mounting hole for securing the board with mounting pins.

1.12.4 Mounting Hole (2.2mm)

A #0 mounting hole for securing the board with mounting pins.



2 Module Connections Graph

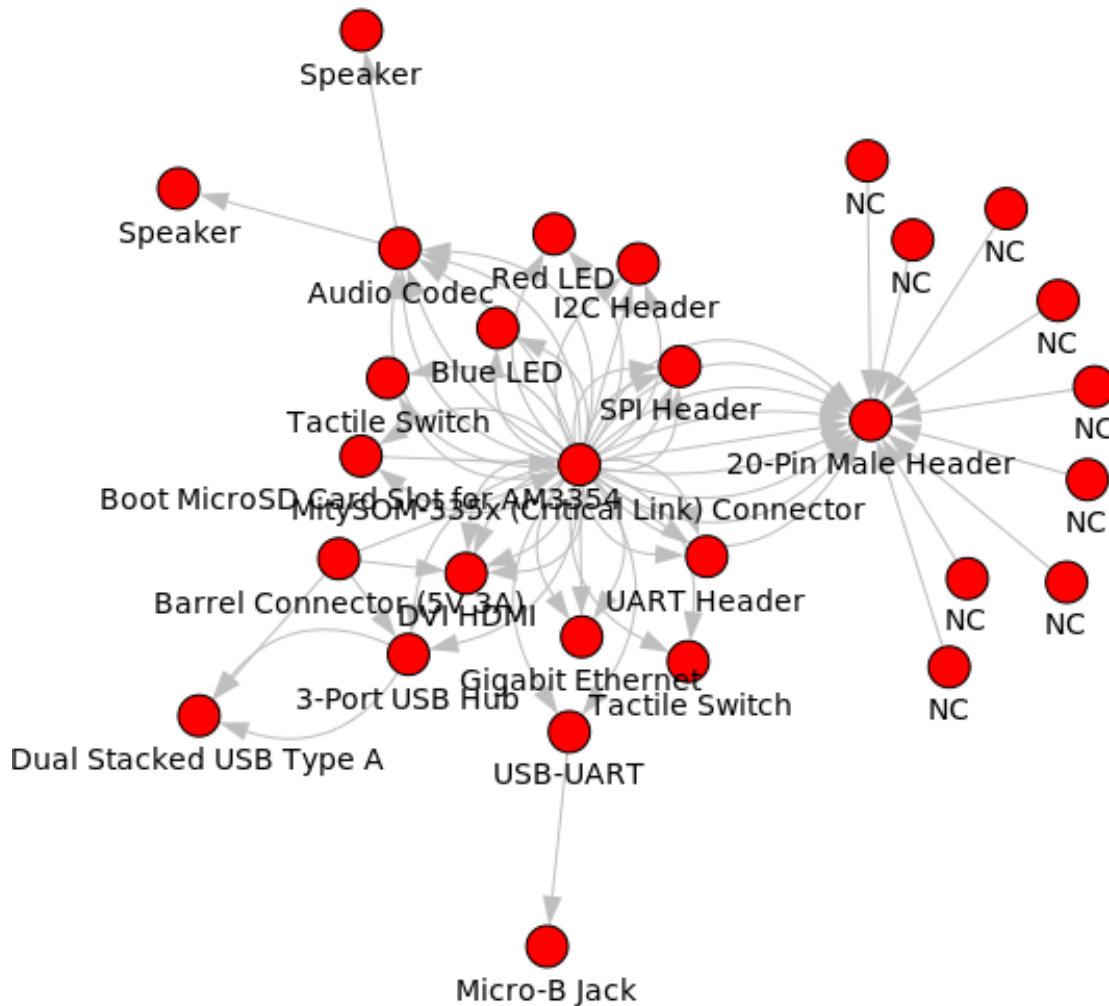
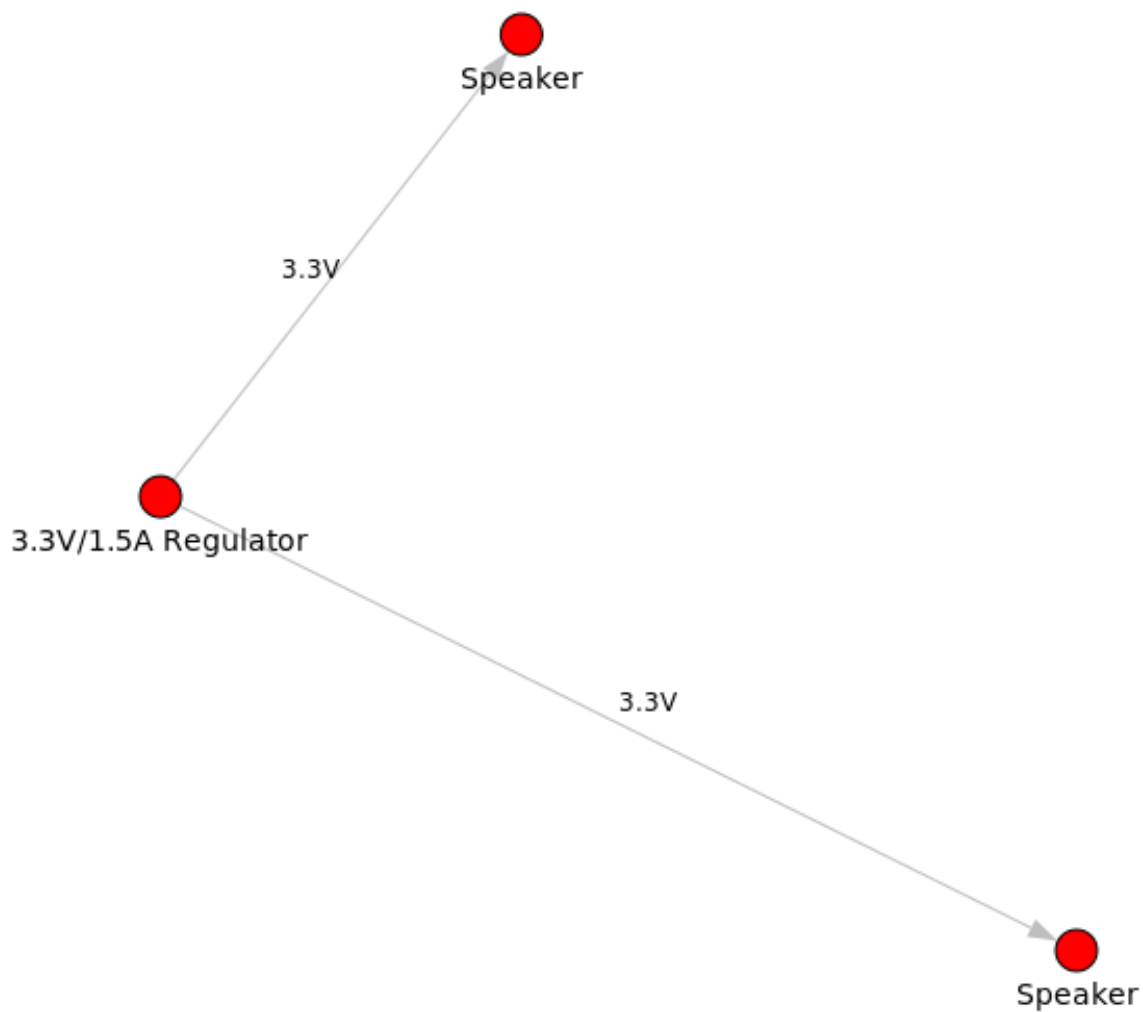


Figure 1: excludes power modules



3 Module Power Graph



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