ADVANTECH

SIMB-M22
AMD G-Series™ APU with A55E Controller Hub(FCH) Mini-ITX Motherboard
Startup Manual

Packing List

Before you begin installing your card, please make sure that the following items have been shipped:

- 1 x SIMB-M22 Mini ITX Main board
- 1 x CD-ROM per carton, which contains the followings:
  - User's manual
  - Drivers
- 1 x SATA cable kit (SATA/POWER)
- 1 x I/O Shield
- 1 x Startup Manual per carton

If any of these items are missing or damaged, please contact your distributor or sales representative immediately.

Note1:

Acrobat Reader is required to view any PDF file. Acrobat Reader can be downloaded at: www. adobe.com/Prodindex/acrobat/readstep.html (Acrobat is a trademark of Adobe).

For more information on this and other Advantech products, please visit our website at:

http://www.advantech.com

http://www.advantech.com/eplatform

For technical support and service, please visit our support website at:

http://www.advantech.com/support

This manual is for the SIMB-M22 series Rev. A1.

Specifications

System

- **APU:** AMD G-Series T40R SC 1.0GHz
- **FCH:** AMD A55E Controller Hub (Hudson-E1)
- **BIOS:** AMI 16Mb SPI
- **System Chipset:** AMD G-Series + A55E Controller Hub
- **I/O Chipset:** Winbond W83627DHG-P
- **Memory:** One 204-pin SODIMM sockets support up to 4 GB DDR3 1066/1333 MT/s
- **SSD:** N/A
- **Watchdog Timer: Reset:** 1 to 255 sec/min per step
- **H/W Status Monitor:** Monitoring temperature, voltage and cooling fan status. Auto throttling control when CPU overheats
- **Expansion Slots:** 1 PCI-E x4 Gen.2, 1 Mini PCI-E
- **Power State:** S3, S4, S5
- **Wake up on LAN or Ring:** LAN
- **Smart Fan Control:** Yes

Display

- **Chipset:** AMD Radeon HD 6250
- **Display Memory:** Shared Memory, up to 512MB
- **Dual Display:** VGA+LVDS, VGA+HDMI, HDMI+LVDS, eDP+HDMI, eDP+VGA
- **VGA:** Onboard, supports up to 1920 x 1200
- **HDMI:** Onboard, supports HDMI 1.3a & up to 1920 x 1080
- **LVDS:** Onboard, 18-bit single channel LVDS
- **LVDS Backlight:** Yes, PWM Control (Backlight adjusted from AMD A55E Controller Hub)
- **eDP:** Onboard optional (18,24,30 bpp up to 1920 x 1200)

Audio

- **Audio Codec:** Realtek ALC892, 7.1 Channel HD Audio
- **Audio Interface:** Line-in, Line-out, Mic.-in, S/PDIF, Front Audio Header

Ethernet

- **LAN1/LAN2:** Realtek RTL8111DL GbE LAN
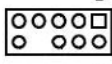
Connectors and Jumpers

Jumpers

Label	Function	Note
CLRTC	Clear CMOS	Norrnal* / Clear CMOS
JSETCOM3	COM3, COM4 RI/+5V/+12V COM3	RI / +5V / +12V
JSETCOM4	COM4	RI / +5V / +12V
PSON1	AT/ATX Mode Select 1. ATSEL IN 2. PWRBT 3. ATXSEL IN	AT MODE / ATX MODE
JBL3	LCD POWER (VDDSAFE)	3.3V / 5V

Connectors

Label	Function	Note
COM3, COM4	Serial Port Connector	COM3 9. GND 7. DTR3 8. COM3P9SEL 5. TX3 6. CTS3 3. RX3 4. RTC3 1. DCD3 2. DSR3 COM4 9. GND 7. DTR4 0. COM4P9SEL 5. TX4 6. CTS4 3. RX4 4. RTC4 1. DCD4 2. DSR4
JFP1+JFP2	System Panel & Speaker	3. PWRBT+ 6. PWRBT- 9. SYS_RST 12. GND 2. HDLED+ 5. HDLED- 8. I2C DATA 11. I2CCLK 1. +5V 4. NC 7. SPK_P3 10. SPK_P4 PIN7-10 Internal SPK PIN3-6 POWER BT PIN1-10 External SPK PIN9-12 SYS_RESET
JFP3	Power LED & Keylock	1. POWER LED 2. NC 3. GND 4. KEYLOCK 5. GND

Connectors and Jumpers

LVDS 1	18-bit LVDS Connector	1.VDDSAFE 11.GND 21.LVDS_L2_P 31.LVDS_DDC_CLK 2.VDDSAFE 12.GND 22.NC 32.LVDS_DDC_DATA 3.GND 13.LVDS_L1_N 23.GND 33.GND 4.GND 14.NC 24.GND 34.GND 5.VDDSAFE 15.LVDS_L1_P 25.LVDS_CLK_N 35.NC 6.VDDSAFE 16.NC 26.NC 36.NC 7.LVDS_L0_N 17.GND 27.LVDS_CLK_P 37.NC 8.NC 18.GND 28.NC 38.NC 9.LVDS_L0_P 19.LVDS_L2_N 29.GND 39.LCD_BLK_EN 10.NC 20.NC 30.GND 40.VCON
JBL1	Inverter PWR	JBL1 1 1.+V12SA 2. GND 3. LCD_BKL_EN 4. LCD_BKL_PWM 5 5.+5V
CN4	SPI connector	F_SPK_MOSI — SPI_HOLD# — F_SPI_MISO F_SPI_CLK — — F_SPI_CS# GND — — +3V ROM
AAFP	Audio Mic.-In & Line-Out Connector	1 10. SENSE2_RTN 9. LIN2_L 8. NC 7. SENSE_B 6. SENSE1_RTN 5. LIN2_R 4. PRESENSE 3. MIC2_R 2 2. GND 1. MIC2_L
SPDIF_OUT1	SPDIF OUT	4. GND 3. SPDIF_O 1 1.+5V
CN10	Amp_R+ R-/ Amp_L+ L-	1. L- 2. L+ 3. R- 1 4. R+

Disclaimer and Notice

The manufacturer reserves the right to make changes, without notice, to any product, including circuits and/or software described or contained in this manual in order to improve design and/or performance. The manufacturer assumes no responsibility or liability for the use of the described product(s), conveys no license or title under any patent, copyright, or masks work rights to these products, and makes no representations or warranties that these products are free from patent, copyright, or mask work right infringement, unless otherwise specified. For the detail product information, please refer to user's manual.

Safety Declaration

This device complies with the requirements in Part 15 of the FCC rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.

2. This device must accept any interference received, including interference that may cause undesired operation.

Board Diagram