

3.5" SBC with Intel® Atom™ D2550/N2600 processor, 2GB DDR3 memory down, VGA/LVDS, Dual GbE, PCI/104, USB 2.0, SATA 3GB/s and Audio

WAFER-CV-D25502/N26002

Quick Installation Guide

Version 1.0

Oct. 31, 2012

Package List

WAFER-CV-D25502/N26002 package includes the following items:

- 1 x WAFER-CV-D25502/N26002 Single Board Computer
- 1 x PS/2 KB/MS cable
- 1 x Audio cable
- 2 x SATA with 5Voutput cable kit
- 1 x RS-232 cable
- 1 x Power cable
- 1 x Special heatsink
- 1 x Mini Jumper Pack
- 1 x Utility CD (within manual)
- 1 x QIG (Quick Installation Guide)
- 1 x One Key Recovery CD



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Specifications

- CPU:
 - 1.86GHz Intel® Atom™ D2550 dual core processor
 - 1.60GHz Intel® Atom™ N2600 dual core processor
- System chipset: Intel® NM10
- BIOS: UEFI BIOS
- System memory:
 - On-board DDR3 1066MHz 2GB SDRAM
- Ethernet:
 - Dual Realtek RTL8111E PCIe GbE controllers, LAN1 with ASF2.0 support
- Super IO: Fintek F81866
- I/O Interface:
 - 5 x RS-232
 - 1 x RS-422/485
 - 2 x SATA 3Gb/s with 5V power connector
 - 4 x USB 2.0 (2 on rear, 2 by pin header)
 - 1 x 6-pin wafer for PS/2 KB/MB
- Expansion:
 - 1 x Full-size PCIe Mini card slot w/ mSATA support
 - 1 x 1x PCI/104 slot supports PCI signal
- Digital I/O: 8-bit digital I/O (4-bit input, 4-bit output)
- Display Output:
 - 1 x VGA (Resolution up to 1920x1200 for D2550 and N2600)
 - 1 x LVDS integrated in D2550/N2600
 - Single-channel 24-bit LVDS by D2550, resolution support up to 1440x900
 - Single-channel 18-bit LVDS by N2600, resolution support up to 1366x768
- Graphic Engine:
 - Intel® GMA 3650 with 640MHz graphic core speed for D2550
 - Intel® GMA 3600 with 400MHz graphic core speed for N2600
- Audio: Realtek ALC662 HD Audio Codec (Line-in, Line-out, Mic)

- Watchdog Timer:
Software programmable supports 1~255sec. System reset
- Power supply: 12V only, AT/ATX support
- Power Consumption:
12V@1.19A (1.86GHz Intel® Atom™ D2550 with on-board 1GB 1066MHz DDR3 SDRAM)
12V@0.95A (1.6GHz Intel® Atom™ N2600 with on-board 2GB 1066MHz DDR3 SDRAM)
- Temperature: Operation:
-20°C~60°C with free air, -20°C~70°C with force air for D2550
-20°C~70°C with free air, -20°C~75°C with force air for N2600
- Humidity: Operation: 5%~95% non-condensing
- Dimensions: 146mm x 102mm

Ordering Information

- WAFER-CV-D25502-R10 :
3.5" SBC with Intel® Atom™ D2550 1.86MHz processor, 2GB DDR3 memory down, VGA/LVDS, Dual GbE, PCI/104, USB 2.0, SATA 3GB/s and Audio
- WAFER-CV-N26002-R10 :
3.5" SBC with Intel® Atom™ N2600 1.6MHz processor, 2GB DDR3 memory down, VGA/LVDS, Dual GbE, PCI/104, USB 2.0, SATA 3GB/s and Audio
- WAFER-CV-N28002-R10 :
3.5" SBC with Intel® Atom™ N2800 1.86MHz processor, 2GB DDR3 memory down, VGA/LVDS, Dual GbE, PCI/104, USB 2.0, SATA 3GB/s and Audio
- 32200-074800-RS : RS-422/485 cable, 200mm
- 32000-070301-RS : Dual ports USB cable

Jumpers setting and Connectors

LABEL	FUNCTION
JP1	PC104 PLUS PIO_VCC Voltage Select
JP2	AT/ATX Power Mode Setting
JP3	CMOS state setting
JP4	LVDS1 Voltage Selection
VGA1	VGA 15-pin Female Connector
LAN1	LAN1 Connectors
LAN2	LAN2 Connectors
KB_MS1	KEYBOARD & MOUSE Connectors
USB1	External 2 Port USB Connectors
USB2	Internal Pin-header 2 Port USB Connectors
COM1	External Serial Port Connector
COM2 COM3 COM4 COM5 COM6	Internal Serial Port Connectors
AUDIO1	HD Audio Connector
SATA1 SATA2	Serial ATA Connectors
SATA_PWR1 SATA_PWR2	SATA Power Connector
CPU_FAN1	CPU Fan Connector
LVDS1	LVDS1 Panel Connector
INV1	LVDS1 Panel Backlight +12V Power Source
DIO1	Digital I/O Connector
CN2	Power & HDD LED Connector
RST_BTN1	Reset Button Connector
PWR_BTN1	Power Button Connector
CN3	Power Source Connector
M_PCIE1	Mini PCI-E Card Connector

JP1 : PCI/104+VIO Voltage select

PIN NO.	DESCRIPTION
Short 1-2	+5V
Short 2-3	+3.3V

JP2 : AT/ATX Power Mode setting

PIN NO.	DESCRIPTION
Short 1-2 (default)	ATX Power Mode
OFF	AT Power Mode

JP3 : Clear CMOS Setup

JP3	DESCRIPTION
Short 1-2 (default)	Keep CMOS Setup (Normal Operation)
Short 2-3	Clear CMOS Setup

JP4 : LVDS1 Voltage Selection

JP4	DESCRIPTION
Short 1-2 (default)	+3.3V LVDS
Short 2-3	+5V LVDS

VGA1 : 15-pin Female Connector

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	RED	2	GREEN
3	BLUE	4	NC
5	GND	6	GND
7	GND	8	GND
9	VCC	10	GND
11	NC	12	DCCDAT
13	HSYNC	14	VSYNC
15	DCCCLK		

LAN1, LAN2: RJ45 LAN Connector

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	LAN1_MDI0+	7	LAN1_MDI2+
2	LAN1_MDI0-	8	LAN1_MDI2-
3.	LAN1_MDI1+	9	LAN1_MDI3+
4.	LAN1_MDI1-	10	LAN1_MDI3-

KB_MS1: 6-pin header KS/MS Connector	
PIN NO.	DESCRIPTION
1	VCC
2	Mouse Data
3	Mouse Clock
4	Keyboard Data
5	Keyboard Clock
6	GND

USB1 : External USB Connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	USB_VCC	2	USB_VCC
3	DATA-	4	DATA-
5	DATA+	6	DATA+
7	GND	8	GND

USB2 : Internal USB Connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	USB_VCC	2	GND
3	DATA-	4	DATA+
5	DATA+	6	DATA-
7	GND	8	USB_VCC

COM1 : External Serial Port Connectors	
PIN NO.	DESCRIPTION
1	DATA CARRIER DETECT (DCD)
2	RECEIVE DATA (RXD)
3	TRANSMIT DATA (TXD)
4	DATA TERMINAL READY (DTR)
5	GND
6	DATA SET READY (DSR)
7	REQUEST TO SEND (RTS)
8	CLEAR TO SEND (CTS)
9	RING INDICATOR (RI)

COM6 : Internal Serial Port Connector	
PIN NO.	DESCRIPTION
1	RXD485#
2	RXD485+
3	TXD485+
4	TXD485#

COM2,COM3,COM4,COM5 : Internal Serial Port Connectors	
PIN NO.	DESCRIPTION
1	DATA CARRIER DETECT (DCD)
2	DATA SET READY (DSR)
3	RECEIVE DATA (RXD)
4	REQUEST TO SEND (RTS)
5	TRANSMIT DATA (TXD)
6	CLEAR TO SEND (CTS)
7	DATA TERMINAL READY (DTR)
8	RING INDICATOR (RI)
9	GND (GND)
10	GND (GND)

AUDIO1 : Audio Line-In/Out MIC Connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	SPK_R	2	LINE1_R
3	AUD_GND	4	AUD_GND
5	SPK_L	6	LINE1_L
7	AUD_GND	8	AUD_GND
9	MIC1_R	10	MIC1_L

SATA1, SATA2 : Serial ATA Connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	GND	5	RX-
2	TX+	6	RX+
3	TX-	7	GND
4	GND	8	N/C

SATA_PWR1,SATS_PWR2 : SATA Power Connector	
PIN NO.	DESCRIPTION
1	+5V
2	Ground

CPU_FAN1: CPU Fan Connector	
PIN NO.	DESCRIPTION
1	FANIO
2	+12V (PWM)
3	Ground

INV1 : 5-pin Header Inverter Connector	
PIN NO.	DESCRIPTION
1	LCD_BKLTCTL
2	GROUND
3	+12V
4	GROUND
5	BACKLIGHT ENABLE

LVDS1: LVDS Connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	GND	2	GND
3	LVDS_DATA0	4	LVDS_DATA0#
5	LVDS_DATA1	6	LVDS_DATA1#
7	LVDS_DATA2	8	LVDS_DATA2#
9	LVDS_CLK	10	LVDS_CLK#
11	LVDS_DATA3	12	LVDS_DATA3#
13	GND	14	GND
15	LDDC_DATA	16	LDDC_CLK
17	VCC_LCD	18	VCC_LCD
19	VCC_LCD	20	VCC_LCD

DIO1 : Digital Input			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	Ground	2	VCC
3	Output 3	4	Output 2
5	Output 1	6	Output 0
7	Input 3	8	Input 2
9	Input 1	10	Input 0

CN2 : PWR & HDD LED Connector		
	PIN	DESCRIPTION
+5V	1	VCC
	2	GND
Power LED	3	PWR_LED+
	4	PWR_LED-
HDD LED	5	HDD_LED+
	6	HDD_LED-

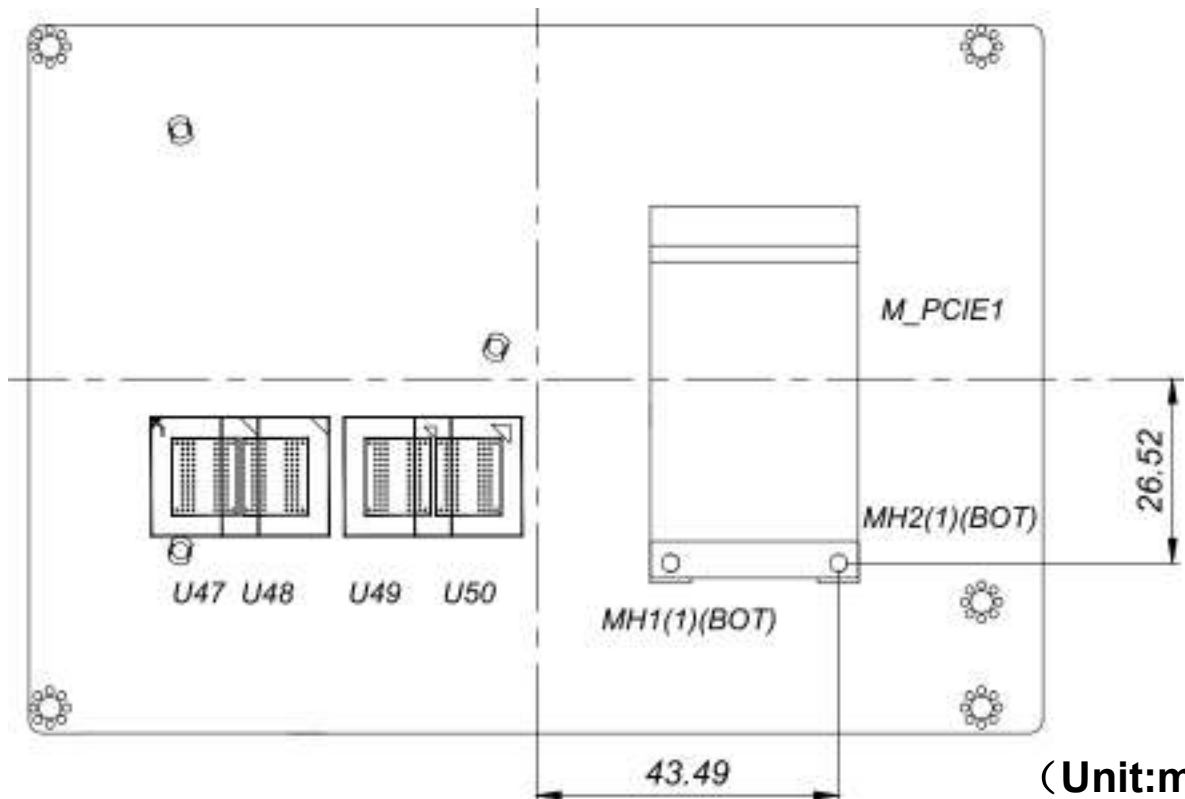
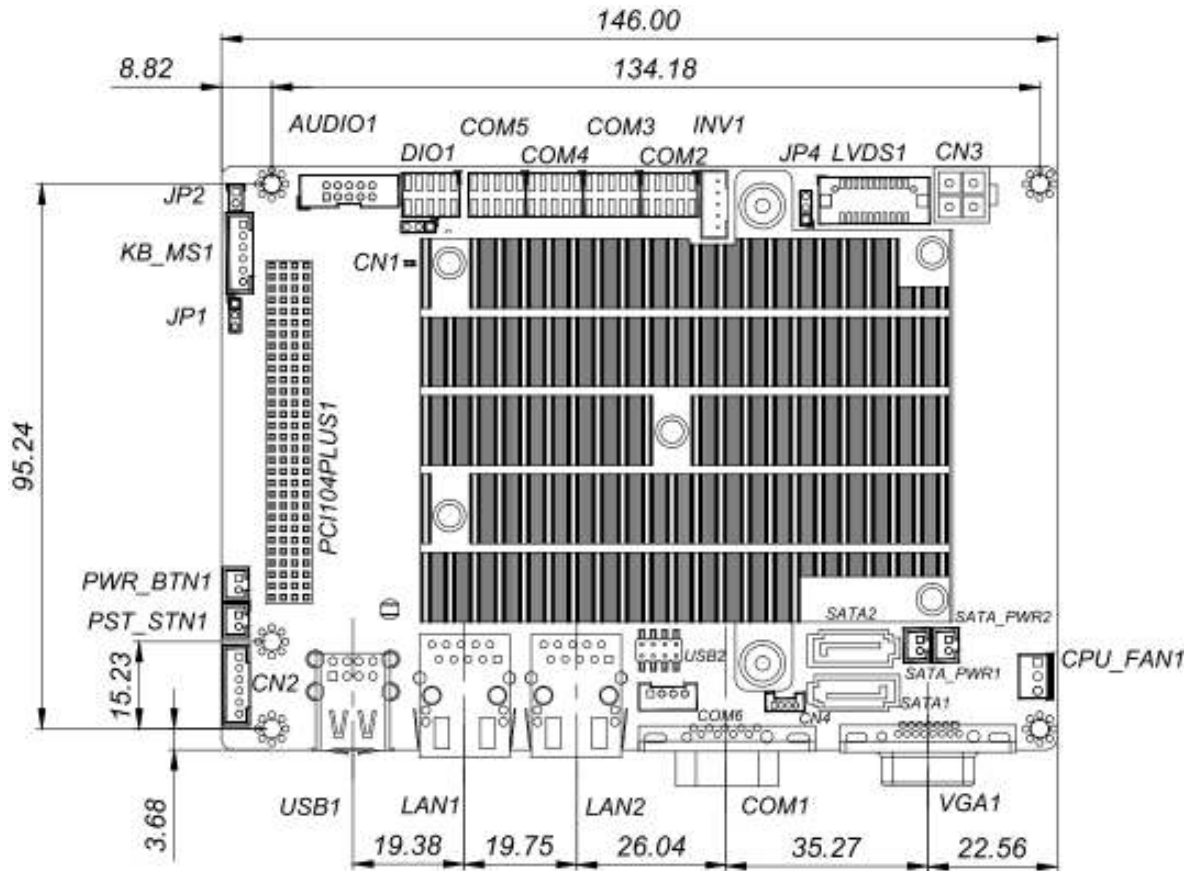
RST_BTN1 : Reset Button Connector		
	PIN	DESCRIPTION
RESET	1	RESET+
	2	RESET-

PWR_BTN1 : Power Button Connector		
	PIN	DESCRIPTION
PWRBTN	1	PWR_BTN+
	2	PWR_BTN-

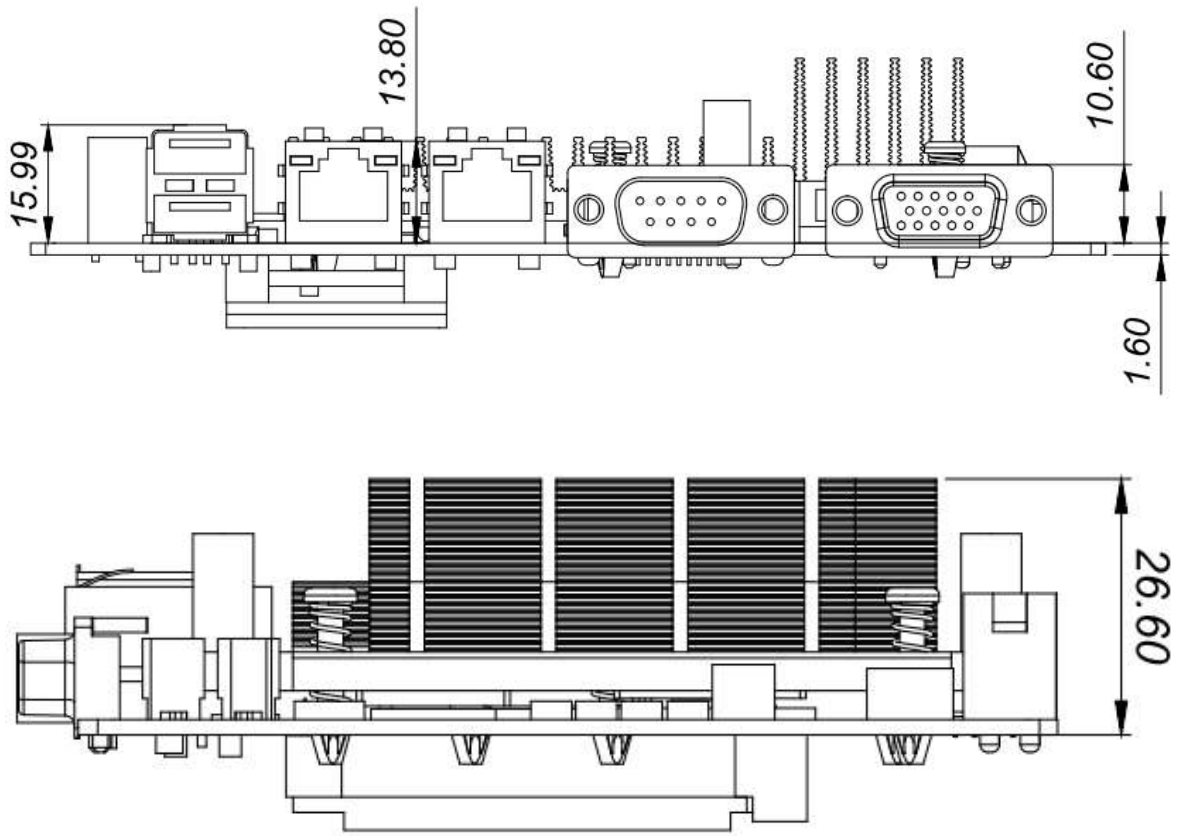
CN3 : +12V Power Connector	
PIN NO.	DESCRIPTION
1	GND
2	GND
3	+12V
4	+12V

M_PCIE1/ M_PCIE2: Mini PCI-E Card Connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	PCIE_WAKE#	2	VCC3
3	N/C	4	GND
5	N/C	6	1.5V
7	N/C	8	N/C
9	GND	10	N/C
11	PCIE_CLK#	12	N/C
13	PCIE_CLK	14	N/C
15	GND	16	N/C
17	N/C	18	GND
19	N/C	20	N/C
21	GND	22	PCIRST#
23	PCIE_RXN	24	VCC3
25	PCIE_RXP	26	GND
27	GND	28	1.5V
29	GND	30	SMBCLK
31	PCIE_TXN	32	SMBDATA
33	PCIE_TXP	34	GND
35	GND	36	USBD-
37	GND	38	USBD+
39	VCC3	40	GND
41	VCC3	42	N/C
43	GND	44	N/C
45	N/C	46	N/C
47	N/C	48	1.5V
49	N/C	50	GND
51	N/C	52	VCC3

Board Layout: Jumper and Connector Locations



(Unit:mm)



(Unit:mm)