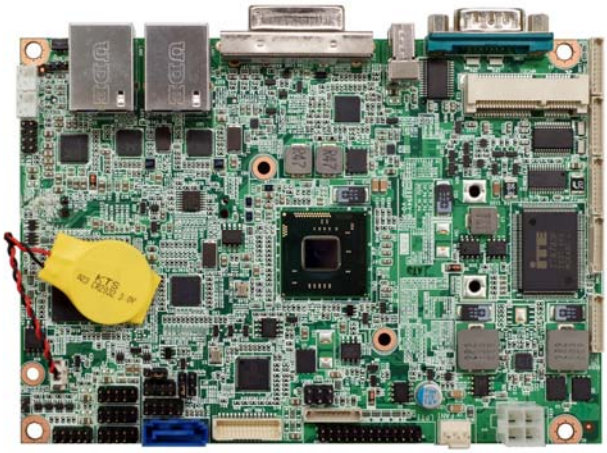
User's Manual

Version 1.0a



MB-80410

3.5" SBC with Intel Cedarview ULV

N2600/D2700/N2800

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Manual Edition 1.0a, January, 2012

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For technical support send inquires to sales@win-ent.com.

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Chapter 1. General Information

1.1 Introduction

The MB-80410 is a 3.5” single board computer (SBC) designed to provide excellent performance at very low power for compact applications. The device uses the Intel processor formerly code named Cedarview: D2700/N2800/N2600. These advanced processors are available on low power consuming single and dual-core dies.

3.5" SBC with Intel Cedarview D2700/N2800/N2600, DDR3, Dual Display, NM10 Specification

Processor & System	
CPU Type	D2700 Cedarview 2.13GHz ULV 10W N2800 Cedarview 1.86GHz ULV 6.5W N2600 Cedarview 1.6GHz ULV 3.5W
Chipset	NM10
Memory Type	Built-in DDR3 800/1066 204 pin SO-DIMM(Max density is 2GB)
BIOS Core	AMI® BIOS
BIOS Flash	16MB SPI Flash
Storage	1x SATA Connector
Super I/O	ITE8781F and Fintek 81216AD
Watchdog	1-255 sec. or 1-255 min. software programmable and can be generate system reset
Expansion Slot	
Mini PCIe	1x Mini-PCIe
Display	
Chipset	SGX545
VGA	Build-in 2x8 pin header, 2.0mm pitch
LVDS	Supports 18/24-bit single/dual channel LVDS (1920 x 1080)
Dual Independent Displays Capability	LVDS + DVI-I
Audio	
Codec	HD Codec audio as Line-in/Speak out with Realtek ALC892(2x5 pin header)-2.0mm pitch(2W Amplifier)
Ethernet	
Chipset	2x RTL8111E GbE LAN
WOL	Yes
Boot from LAN	Yes for PXE
Rear I/O	
DVI-I	1x
Ethernet	2x
USB Port	1x (5V)
Reset button	1x
COM port	COM1 port supports RS232/422/485 and 5V/12V selectable on Rear I/O(BIOS Selection)-D-Sub 9Pin

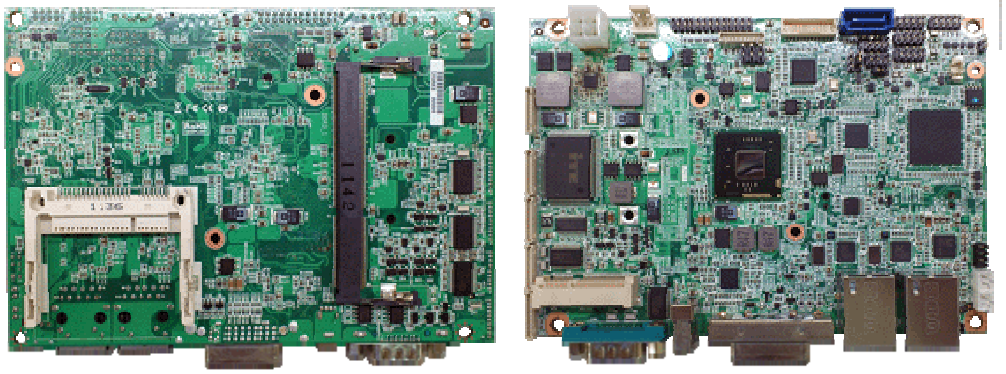
USB 2.0	1 Port with USB 2.0 connector; 6 ports by 2x5 pin head (5V)
USB Port	6 Ports by 2x5 pin header (5V)
LVDS connector	HIROSE DF13-40DP-1.25V
Backlight connector	1*5P 180D P:2.0mm, Male Straight Type
Digital I/O	8 bit GPIO(4 in and 4 out)
Fan	1x3 pin fan connector for CPU
DC-Jack	2x2 pin 90 degrees Power connector
Mechanical Drawing	
Form Factor	3.5” SBC
Power Type	+12V DC input, one 4-pin power connector
Dimensions	146 x 102mm
Operating Temperature	-20℃ ~ 70℃
Storage Temperature	-40℃ ~ 85℃
Relative Humidity	10% to 90%, non-condensing

Internal I/O	
VGA output	Built-in 2x8 pin header-2.0mm pitch (Needs to use SK201 24 bits card)
SATA Port	1 x SATA port
CFast socket	Yes
SATA	1x SATAII Port
CFast	Yes
COM	COM2~COM4 Port belongs to 2x5 pin Box header and supports RS232 only-2.0mm pitch with 5V/12V Autoflow COM5~COM8 Port belongs to 2x5 pin Box header

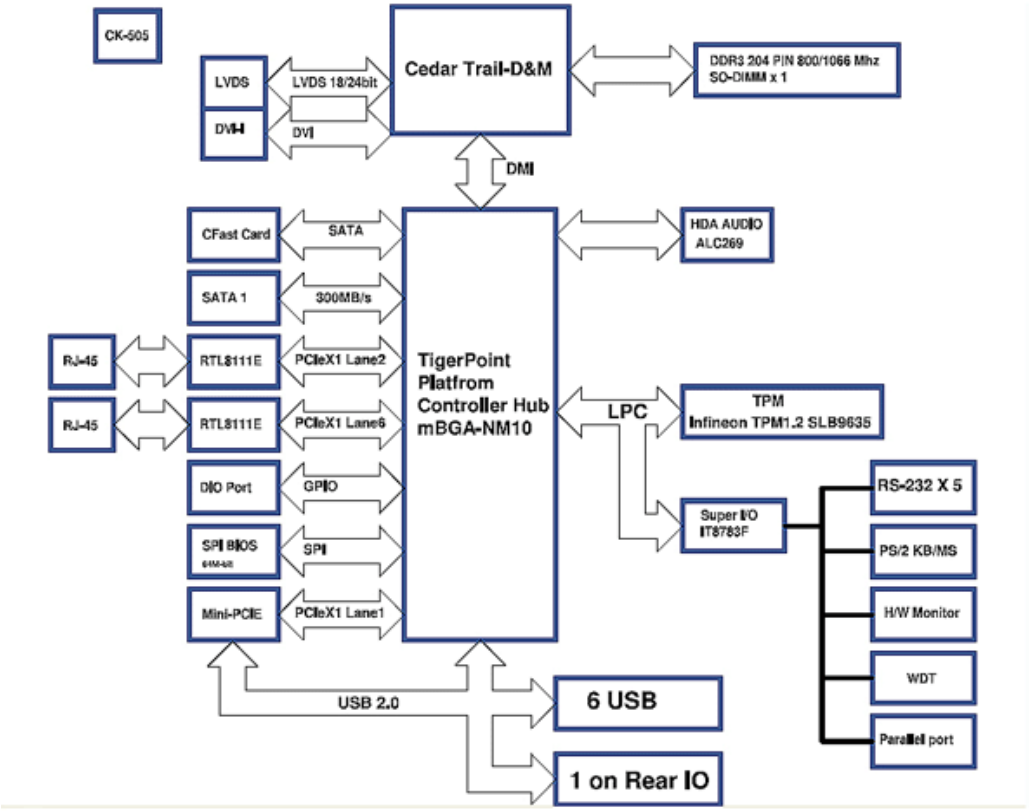
Ordering Information

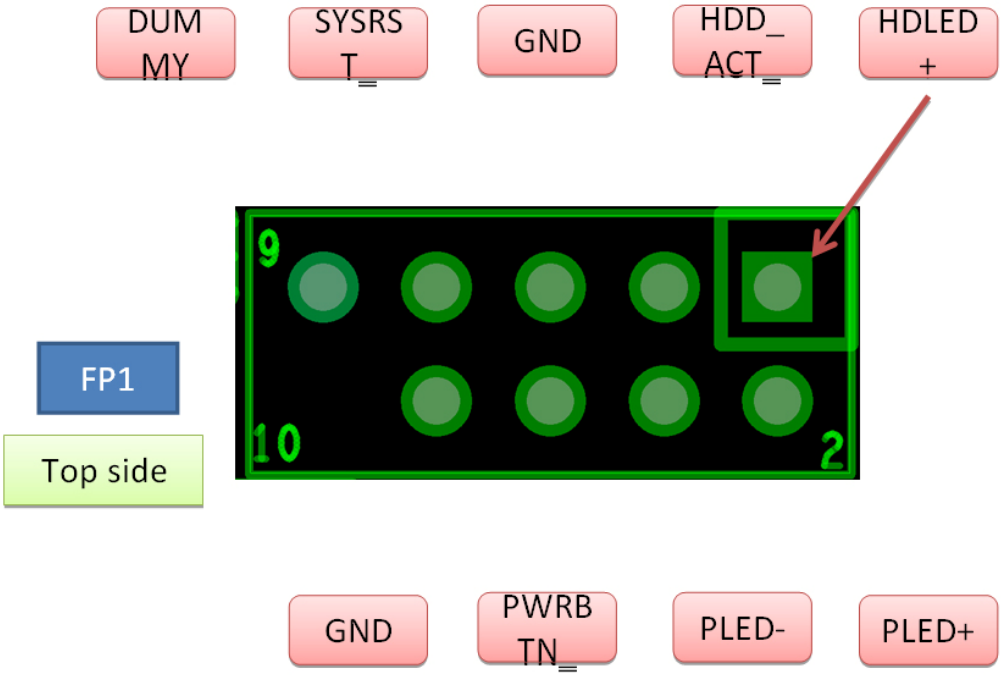
MB-8041A	3.5” SBC based on Intel® Atom Cedarview D2700 onboard with DDR3 SO-DIMM, Dual Display LVDS+DVI-1, Dual GbE LAN, Audio, 5x COM, USB and +12V DC in

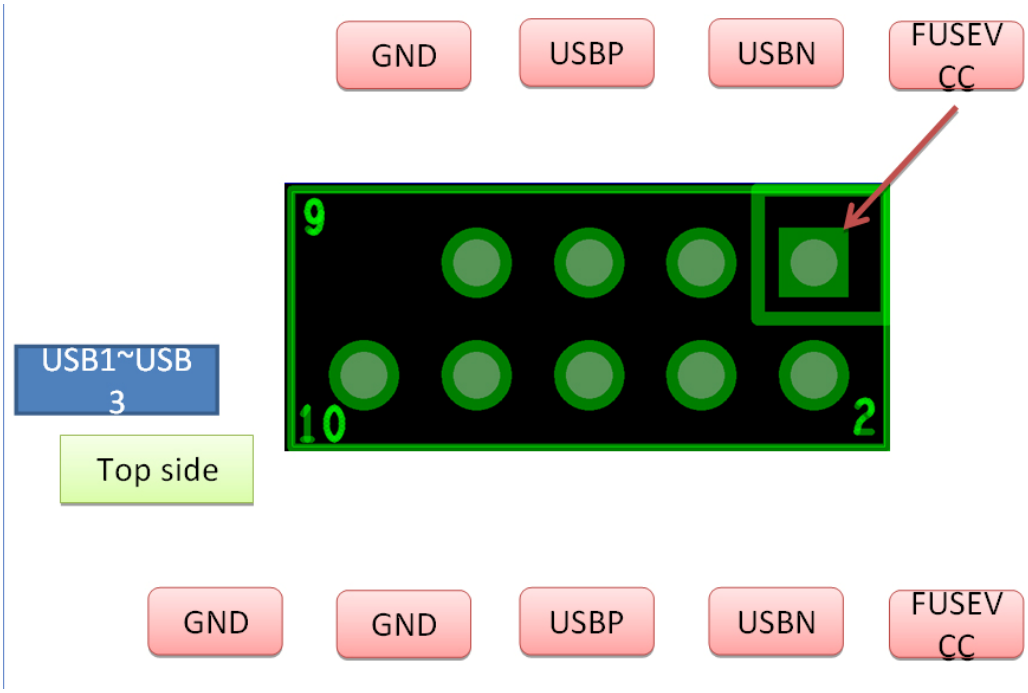
Front / Back Views

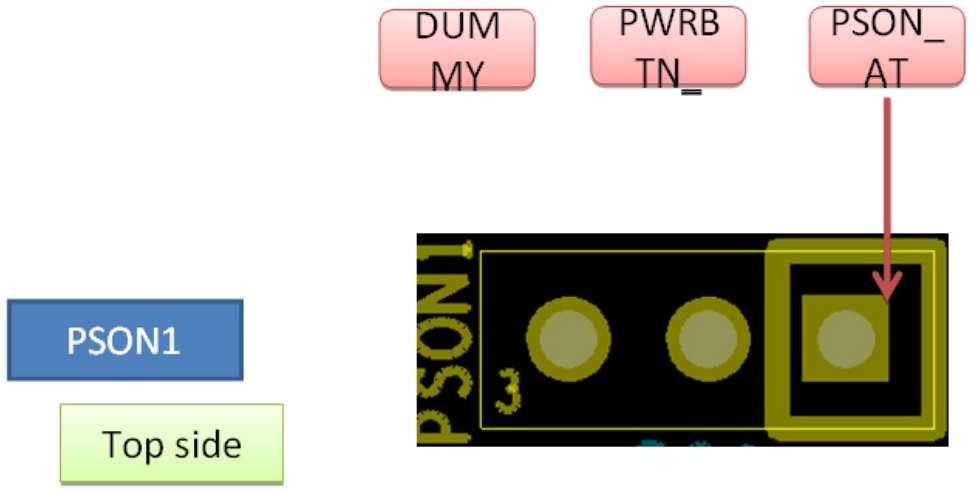


Block Diagram

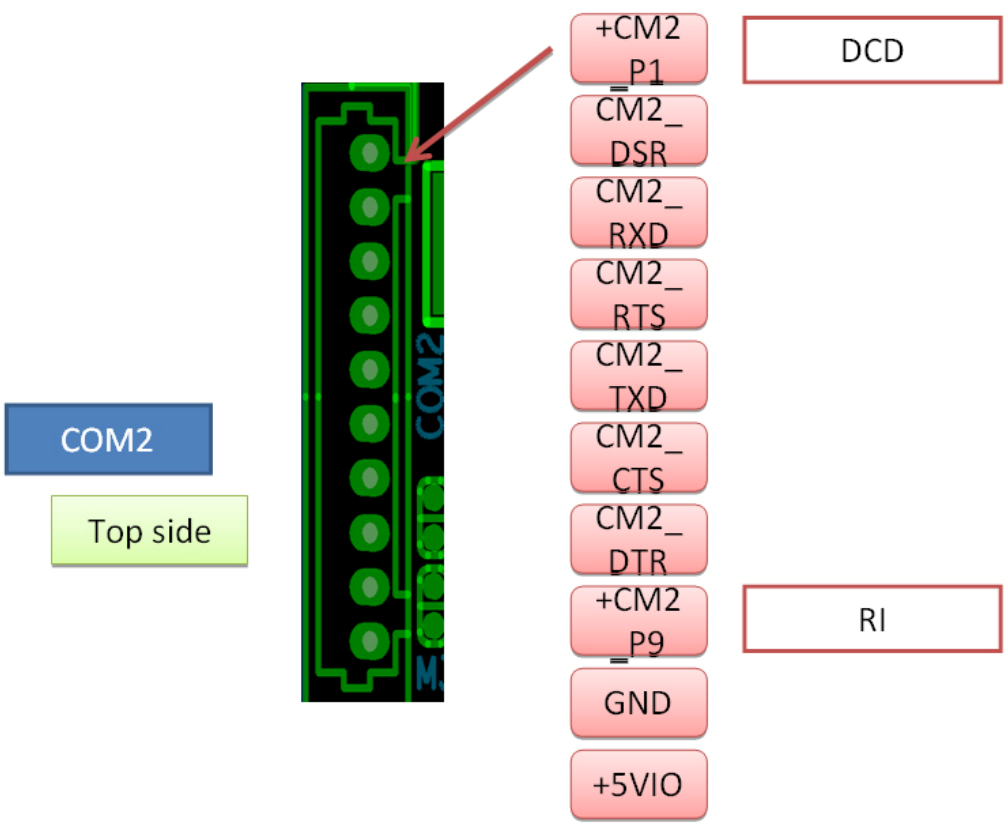


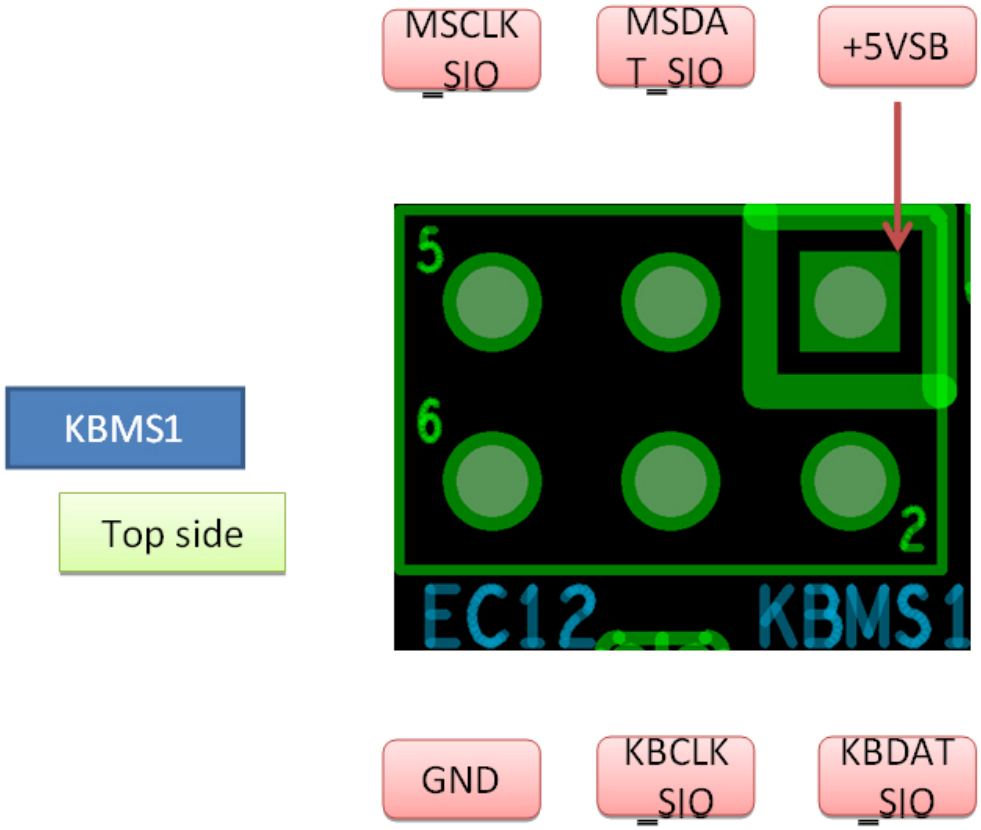

DUM MY
SYSRS T_
GND
HDD_ ACT_
HDLED +
9
10
2
FP1
Top side
GND
PWRB TN_
PLED-
PLED+


GND
USBP
USBN
FUSEV CC
9
10
2
USB1~USB 3
Top side
GND
GND
USBP
USBN
FUSEV CC



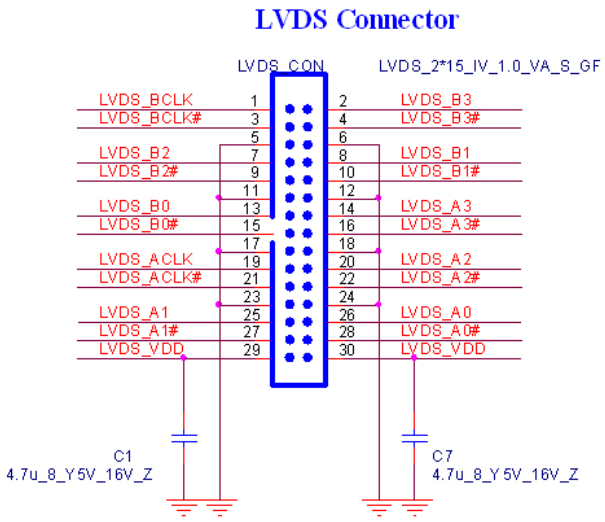
AT mode: 1-2 short
ATX mode: 2-3 short

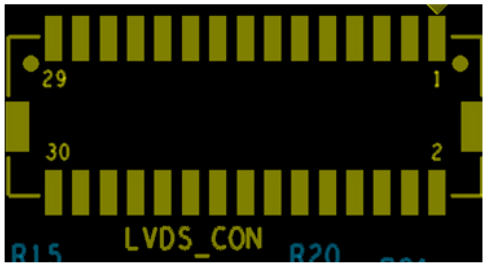

COM2
Top side
+CM2_P1
CM2_DSR
CM2_RXD
CM2_RTS
CM2_TXD
CM2_CTS
CM2_DTR
+CM2_P9
GND
+5VIO
DCD
RI


MSCLK_SIO
MSDAT_SIO
+5VSB
KBMS1
Top side
5
6
2
EC12
KBMS1
GND
KBCLK_SIO
KBDAT_SIO

LVDS_CON

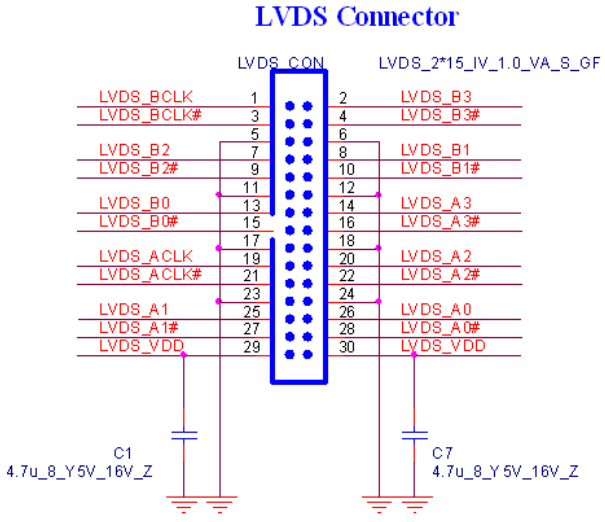
Top side

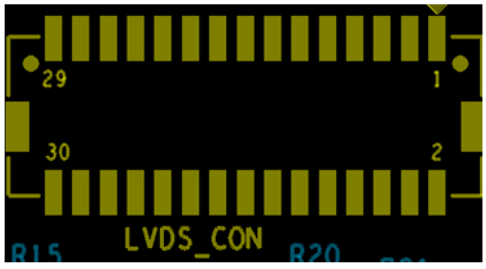


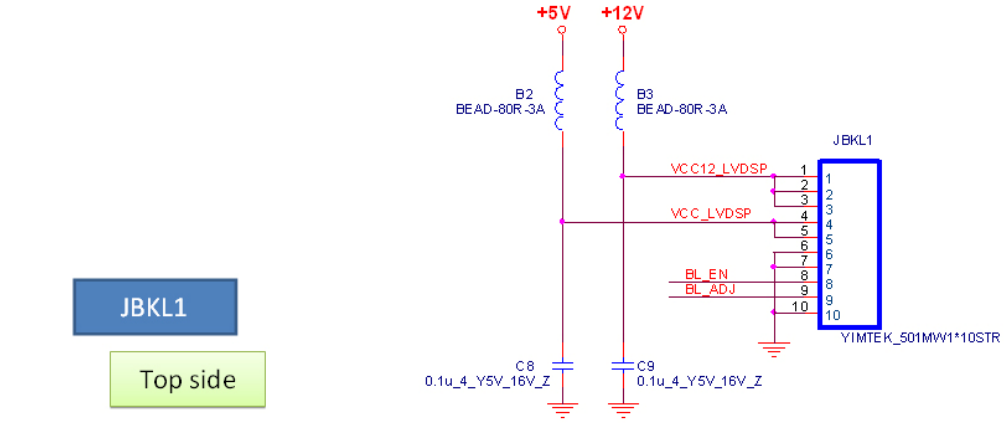


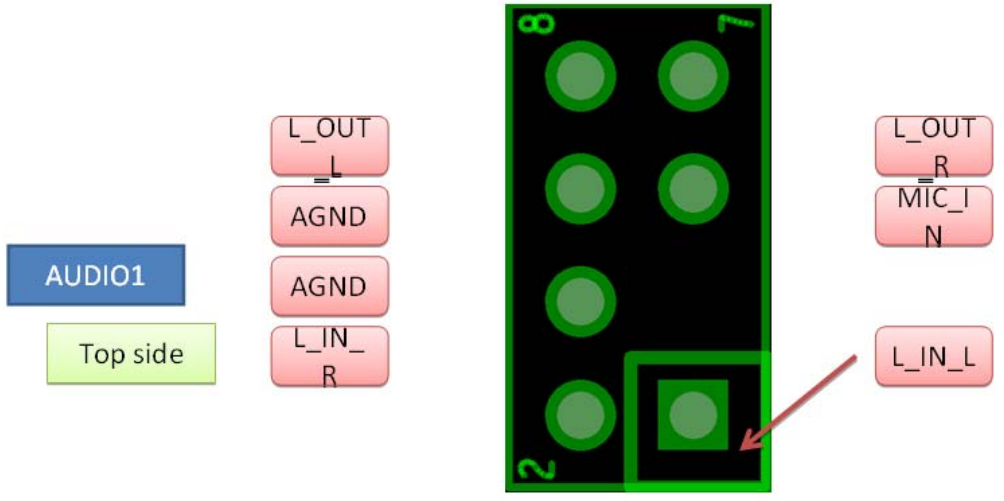
LVDS_CON

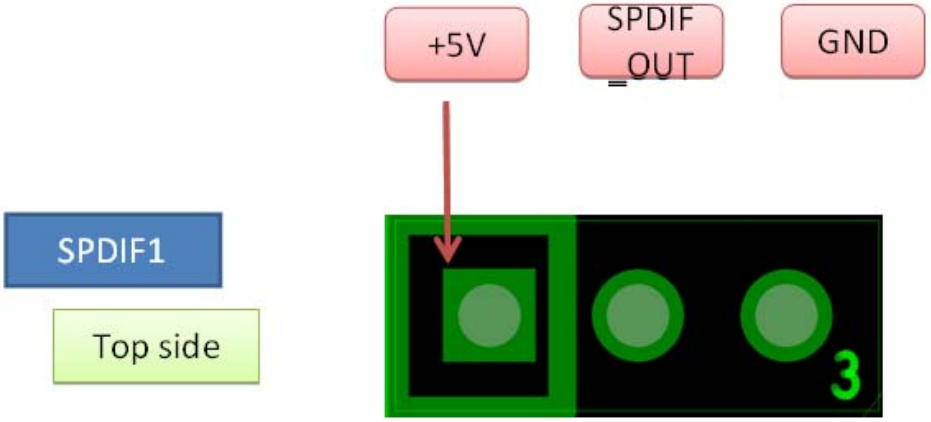
Top side

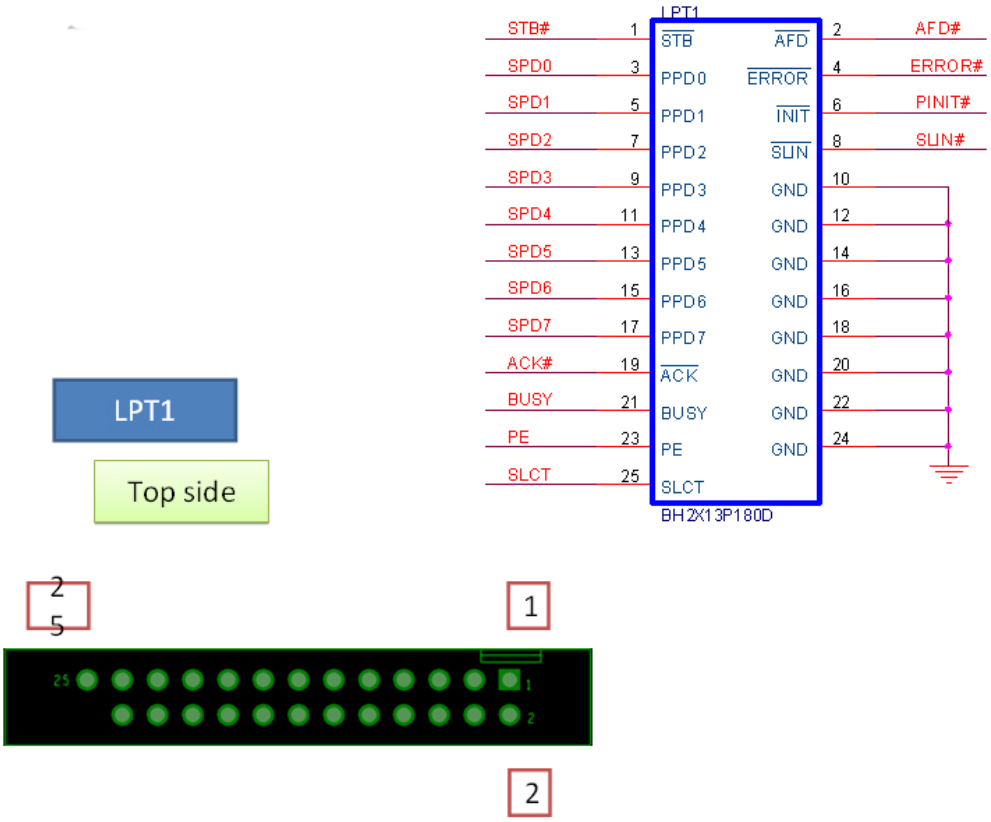





+5V
+12V
B2
BEAD-80R-3A
B3
BEAD-80R-3A
JBKL1
VCC12_LVDSP
VCC_LVDSP
BL_EN
BL_ADJ
YIMTEK_501MW1*10STR
C8
0.1u_4_Y5V_16V_Z
C9
0.1u_4_Y5V_16V_Z
JBKL1
Top side
1
0
1
JBKL1


AUDIO1
Top side
L_OUT_L
AGND
AGND
L_IN_R
L_OUT_R
MIC_IN
L_IN_L


+5V
SPDIF OUT
GND
SPDIF1
Top side
3


LPT1
STB# 1
SPD0 3
SPD1 5
SPD2 7
SPD3 9
SPD4 11
SPD5 13
SPD6 15
SPD7 17
ACK# 19
BUSY 21
PE 23
SLCT 25
STB
PPD0
PPD1
PPD2
PPD3
PPD4
PPD5
PPD6
PPD7
ACK
BUSY
PE
SLCT
AFD
ERROR
INIT
SLIN
GND
2 AFD#
4 ERROR#
6 PINIT#
8 SLIN#
10 12 14 16 18 20 22 24
BH2X13P180D
LPT1
Top side
2
5
1
25
1
2
2

1.2 Specifications

Weight	1pc/CTN, 7.5kgs, 55.5cm(W) x 54cm(D) x 22.5cm(H)
Certification	CE/FCC

1.2 Packaging

Please make sure that the following items have been included in the package before installation.

1. PL-80410 SBC
2. Quick Installation Guide (Optional)
3. Cables (Optional)
4. CD-ROM that contains the following folders:

(1) Manual
(2) System Driver
(3) Ethernet Driver
(4) Utility Tools

If any item of above is missing or damaged, please contact your dealer or retailer from whom you purchased the MB-80410. Keep the box and carton when you probably ship or store MB-80410 in near future. After you unpack the goods, inspect and make sure the packaging is intact. Do not plug the power adapter to the appliance of MB-80410 if you already find it appears damaged.

Note: Keep the PL-80230 in the original packaging until you start installation.

1.5 Precautions

Please make sure you properly ground yourself before handling the MB-80410 SBC. Electrostatic discharge can be easily damage the PL-80410.

Do not remove the anti-static packing until you are ready to install the MB-80410 appliance.

Ground yourself before removing any system component from it protective anti-static packaging. To ground yourself, grasp the expansion slot covers or other unpainted parts of the computer chassis.

Handle the MB-80410 board by its edges and avoid touching the components on it.

Chapter 2. Connector/Jumper Configurations

2.1 Connector/Jumper Locations and Definitions

Connector	Define	Connector	Define

2.2 Connectors and Jumper Settings

2.3 CompactFlashTM Card Socket Pin Definitions