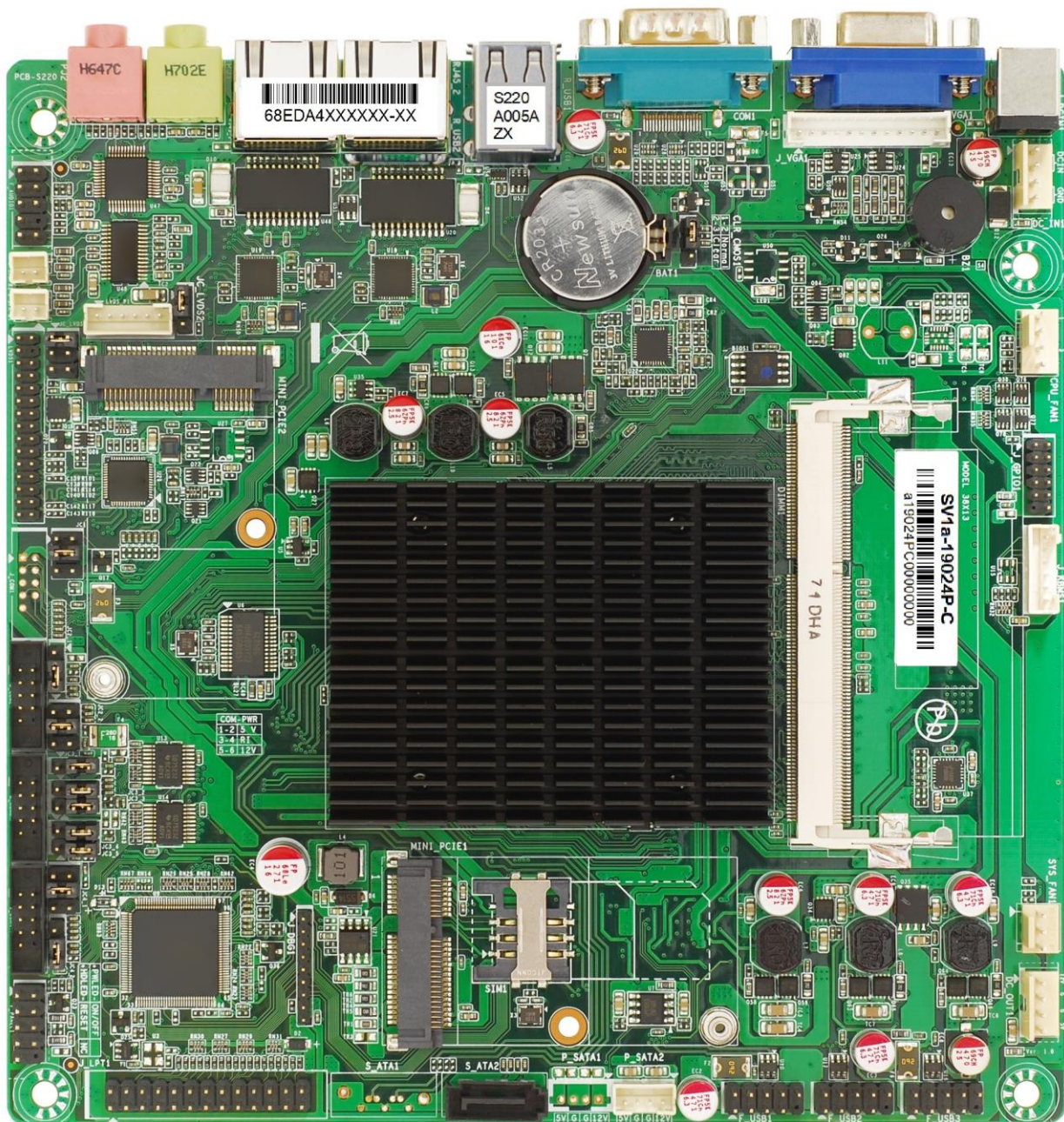


Ver 1.0



Contents

- 1. Models and Attentions..... 2
 - 1.1 Models..... 2
 - 1.2 Attentions 2
- 2. Specification 3
- 3. Data Flow 4
- 4. Jumpers / Headers and Connectors 5
- 5. Definition of Jumpers / Headers and Connectors 7
- 6. BIOS setup 15

1. Models and Attentions

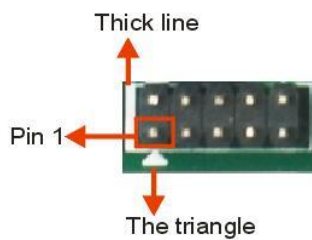
1.1 Models

This manual is applied to following models:

Model	Chipset	COM	LAN	HDMI	VGA	Mini PCI-E	USB	LVDS
SV1a-19024P-C	J1900	4	2	0	1	2	7	Dual 24-bit
SV1a-19024P	J1900	4	2	1	1	2	7	Dual 24-bit

1.2 Attentions

- 1) Notes under a table or figure indicate the difference of models, or alternative definition of specific pin of the header (jumper/connector).
- 2) How to identify the first pin of a header or jumper
 - ☐ Usually, there is a thick line or a triangle near the header's or jumper's pin 1.



- ☐ Square pad, which you can find on the back of the motherboard, is usually used for pin 1.



2. Specification

Model	SV1a-19024P-C	SV1a-19024P
CPU	Intel® Celeron® J1900, clock speed 2G, Quad-core, TDP 10W	
Display	1 * VGA 1 * LVDS ^[1]	1 * VGA 1 * HDMI ^[4] 1 * LVDS ^[1]
Memory	Support DDR3L-1333 MHz, 1 * SO-DIMM Slot, Up to 8GB	
Storage	1 * SATA2.0 + 1 * mSATA ^[2]	
Ethernet	2 * Realtek PCI-E NIC RTL8111F for 1000Mbps ^[3]	
Audio	Realtek ALC662 5.1 Channel HDA Codec , Support MIC/Line-out Ports 2 * Amplifier, 5-W (per channel) into an 8-Ω Loads	
COM	3 * RS232 ^[4] + 1 * RS232/TTL	
Other Ports	USB: 1 * USB3.0(Rear I/O) + 6 * USB2.0(1*Rear I/O+ 5 * Header ^[5]) 8 * GPIO 1 * Parallel Pin Header 1 * PS/2 Pin Header 2 * Mini PCI-E ^[2] ^[5] 1 * SIM Card Slot 1 * Front Audio 1 * 12V/5V DC_OUT Power Output 2 * 12V DC_IN Power Input	
Temperature	Storage: -20~75℃ Operating: 0~60℃	
BIOS	AMI UEFI BIOS	
Power Supply	DC12V	
Factor	Mini-ITX (170mm * 170mm)	

Notes:

[1]: The LVDS supports a max resolution of 1920x1200.And it also can support EDP if specified.

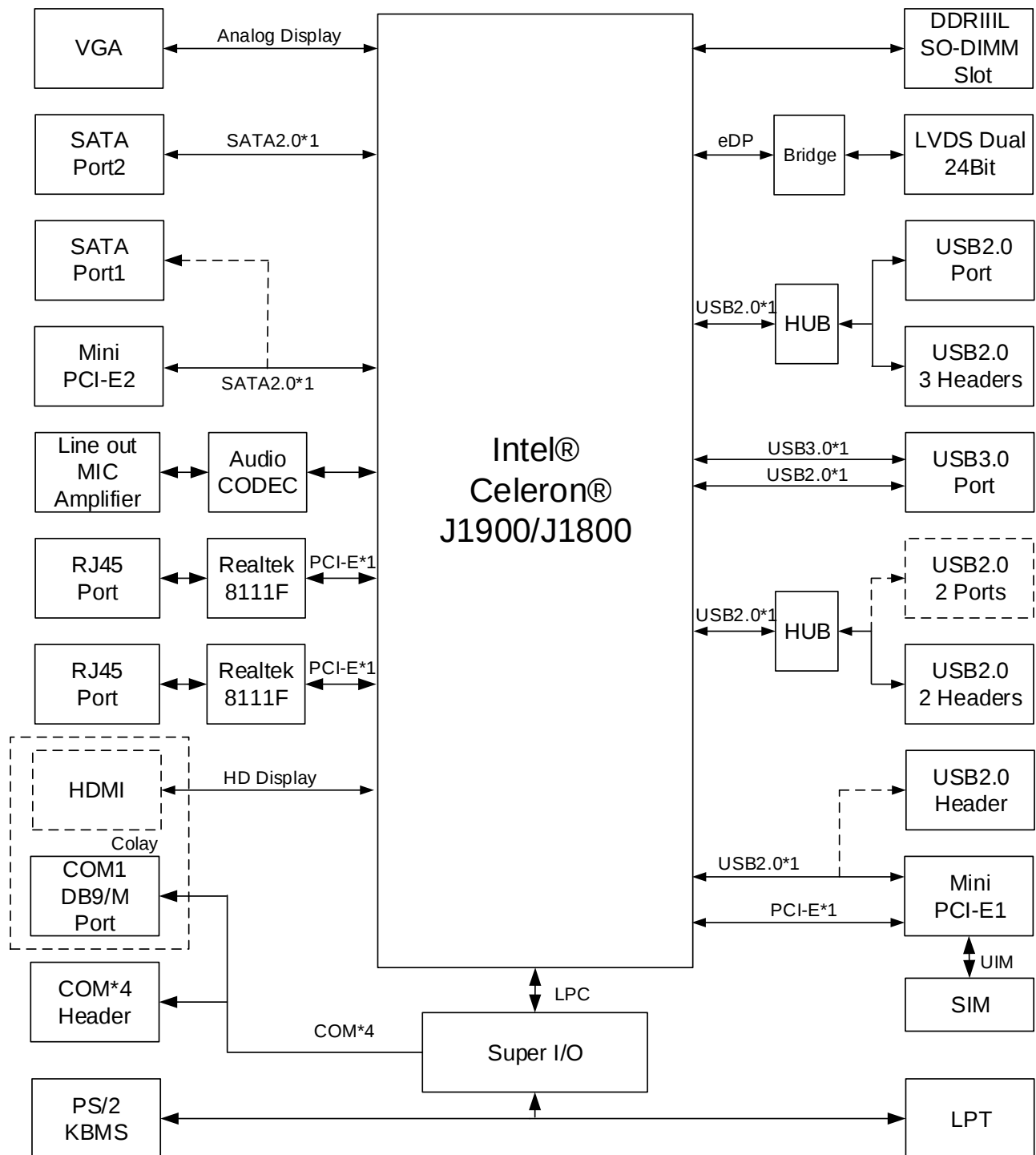
[2]: Mini PCI-E2 slot supports mSATA by default, mSATA and S_ATA1 share the same signal, if mSATA is desired, S_ATA1 should be removed.

[3]: LAN2 co-lay with R_USB2, they can't be accessed simultaneously.

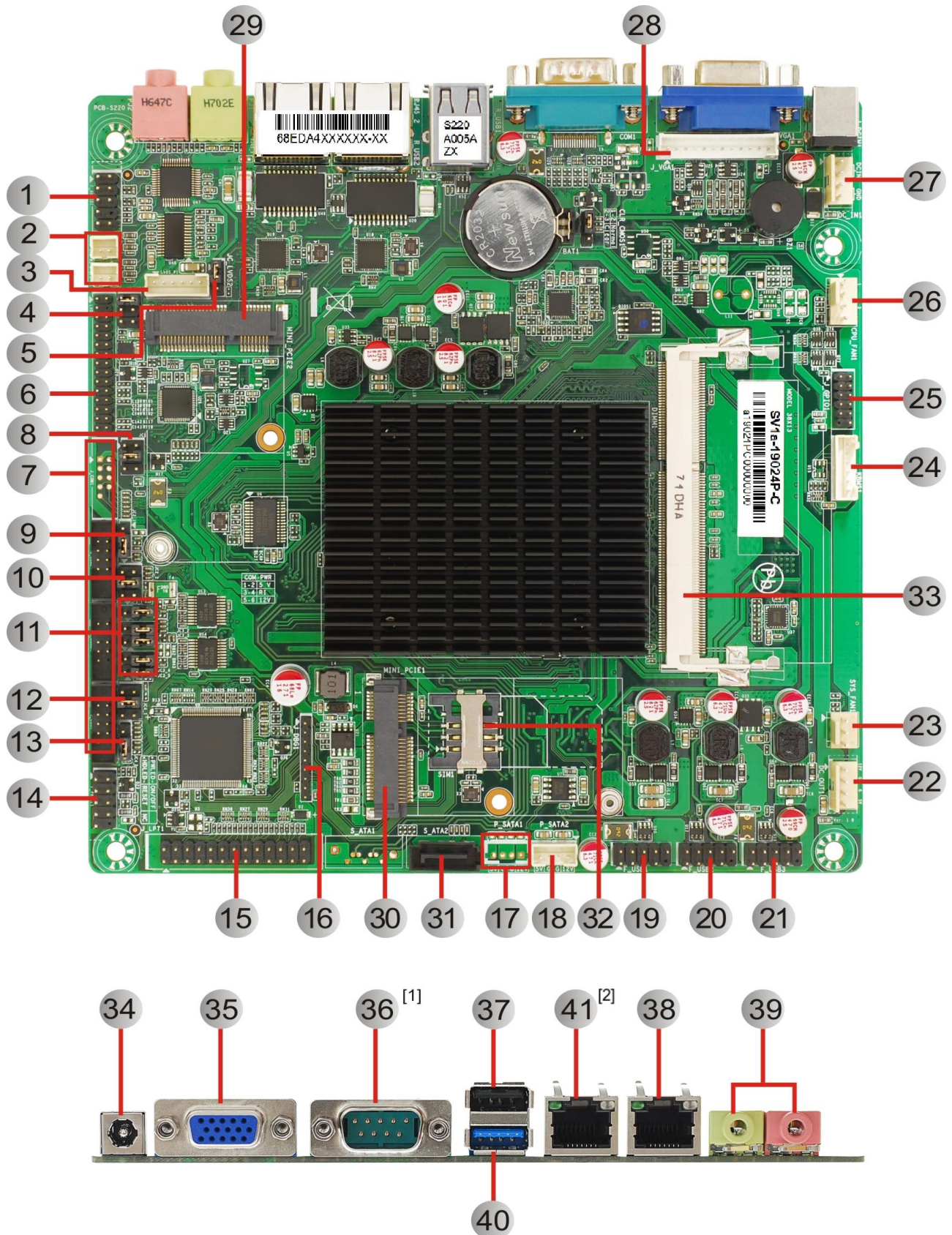
[4]: HDMI and COM1 (DB9) Connectors on rear I/O share the same position and are mutually exclusive, when HDMI populated, COM1 is available via J_COM1 Pin Header.

[5]: Mini PCI-E1 slot supports WIFI and 3G by default, And if Mini PCI-E1 do not support 3G device, one more front USB header can be supplied (see page 11, F_USB2).

3. Data Flow



4. Jumpers / Headers and Connectors



Note: There may be specification difference between the sample and the supply version. The pictures are only diagrammatic sketch for reference.

Jumpers / Headers and Connectors					
1	Front Audio Pin Header	P ₇	22	DC12V/5V Power Output Connector	P ₁₂
2	Amplifier Pin Headers	P ₇	23	System Fan Connector	P ₁₃
3	LVDS Backlight Control Pin Header	P ₇	24	Keyboard and Mouse Pin Header	P ₁₃
4	LVDS VDD Select Jumper	P ₇	25	GPIO Pin Header	P ₁₃
5	LVDS Backlight PWM/CCFL Select Jumper	P ₇	26	CPU Fan Connector	P ₁₃
6	LVDS Signal Pin Header	P ₈	27	DC12V Power Input Connector	P ₁₃
7	COM1-4 Pin Headers	P ₉	28	VGA Pin Header	P ₁₄
8	COM1 Select Jumper	P ₉	29	Mini PCI-E2 Slot	
9	COM2 Select Jumper1	P ₁₀	30	Mini PCI-E1 Slot	
10	COM2 Select Jumper2	P ₁₀	31	SATA 2.0 Connector	
11	COM3 Select Jumpers	P ₁₀	32	SIM Card Slot	
12	COM4 Select Jumper1	P ₁₀	33	SO-DIMM Slot	
13	COM4 Select Jumper2	P ₁₁	34	DC 12V Power Input Connector	
14	Front Panel Pin Header	P ₁₁	35	VGA Connector	
15	Parallel Pin Header	P ₁₁	36	COM1 Connector ^[1]	
16	Debug Pin Header		37	USB2.0 Connector	
17	SATA Power Pin Header1		38	LAN1 Connector	
18	SATA Power Pin Header2	P ₁₁	39	Audio Connectors	
19	Front USB1 Pin Header	P ₁₂	40	USB3.0 Connector	
20	Front USB2 Pin Header	P ₁₂	41	LAN2 Connector ^[2]	
21	Front USB3 Pin Header	P ₁₂			

Notes:

[1]: HDMI and COM1 (DB9) Connectors on rear I/O share the same position and are mutually exclusive.

[2]: LAN2 co-lay with R_USB2, they can't be accessed simultaneously.

5. Definition of Jumpers / Headers and Connectors

[1] Front Audio Pin Header (5*2 Pin 2.54mm)

Location	Header	Pin	Definition	Pin	Definition
1	F_AUDIO1	1	FP_MIC_L	2	GND
		3	FP_MIC_R	4	+ 3.3V
		5	FP_OUT_R	6	N/C
		7	GND		
		9	FP_OUT_L	10	SENSE_RETURN

[2] Amplifier Pin Headers (2*1 Pin 2.00mm)

Location	Header	Pin	Definition	Pin	Definition
2	J_SPK_R1	1	SPK_R-	2	SPK_R+
	J_SPK_L1	1	SPK_L-	2	SPK_L+

[3] LVDS Backlight Control Pin Header (6*1 Pin 2.00mm)

Location	Header	Pin	Definition	Pin	Definition
3	LVDS_P1	1	GND	2	GND
		3	LVDS_BKL_CTL *	4	LVDS_BKL_EN
		5	+ 12V	6	+ 12V

Note:

[1]: * This signal is selected by “LVDS Backlight PWM/CCFL Select Jumper” (JC_LVDS2, Location 5).

[4] LVDS VDD Select Jumper (3*2 Pin 2.54mm)

Location	Jumper	Setting	Function
4	JC_LVDS1	1-2(Default)	+ 3.3V
		3-4	+ 5V
		5-6	+ 12V

[5] LVDS Backlight PWM/CCFL Select Jumper (3*1 Pin 2.54mm)

Location	Jumper	Setting	Function
5	JC_LVDS2	1-2(Default)	Controlled by PWM
		2-3	Controlled by DC Voltage

[6] LVDS Signal Pin Header (15*2 Pin 2.00mm)

Location	Header	Pin	Definition	Pin	Definition
6	LVDS1	1	VDD*	2	VDD*
		3	VDD*	4	N/C
		5	LVDS_Detect#/EDP_HPD ^[1]	6	LVDS_Detect#/EDP_HPD ^[1]
		7	LVDS_A_DATA0-/N/C ^[1]	8	LVDS_A_DATA0+/N/C ^[1]
		9	LVDS_A_DATA1-/N/C ^[1]	10	LVDS_A_DATA1+/N/C ^[1]
		11	LVDS_A_DATA2-/N/C ^[1]	12	LVDS_A_DATA2+/N/C ^[1]
		13	GND	14	GND
		15	LVDS_A_CLK-/N/C ^[1]	16	LVDS_A_CLK+/N/C ^[1]
		17	LVDS_A_DATA3-/N/C ^[1]	18	LVDS_A_DATA3+/N/C ^[1]
		19	LVDS_B_DATA0-/EDP_TXN0 ^[1]	20	LVDS_B_DATA0+/EDP_TXP0 ^[1]
		21	LVDS_B_DATA1-/EDP_TXN1 ^[1]	22	LVDS_B_DATA1+/EDP_TXP1 ^[1]
		23	LVDS_B_DATA2-/N/C ^[1]	24	LVDS_B_DATA2+/N/C ^[1]
		25	GND	26	GND
		27	LVDS_B_CLK-/N/C ^[1]	28	LVDS_B_CLK+/N/C ^[1]
		29	LVDS_B_DATA3-/EDP_AUXN ^[1]	30	LVDS_B_DATA3-/EDP_AUXP ^[1]

Note:

* Panel Power VDD is 3.3V by default, 5V or 12V is selectable by “LVDS VDD Select Jumper”(JC_LVDS1, Location 4).

[1]: It also can support EDP if specified(resistor selectable).

[7] COM1-4 Pin Headers (5*2 Pin 2.00mm)

Location	Header	Pin	Definition	Pin	Definition
7	J_COM1	1	JC1*	2	RXD
		3	TXD	4	DTR#
		5	GND	6	DSR#
		7	RTS#	8	CTS#
		9	RI#		
	J_COM2	1	JC2_1* ^[1]	2	RXD
		3	TXD	4	DTR#
		5	GND	6	DSR#
		7	RTS#	8	CTS#
		9	JC2_2*		
	J_COM3	1	JC3_1* ^[2]	2	JC3_2*
		3	JC3_3*	4	DTR#
		5	GND	6	DSR# ^[3]
		7	RTS#	8	JC3_4*
		9	JC3_5*		
	J_COM4	1	JC4_1*	2	RXD
		3	TXD	4	DTR#
		5	GND	6	DSR#
		7	RTS#	8	CTS#
		9	JC4_2*		

Notes:

[1]: Pin1 of COM2 can be 5V (jumper selectable) or 12V (resistor selectable) if specified.

[2]: Pin1 of COM3 can be 5V (jumper selectable) or 3.3V (resistor selectable) if specified.

[3]: Pin6 of COM3 can also be 5V or 3.3V if specified (resistor selectable).

[4]: * These signals are selected via their respective Jumpers (e.g. JC1 on Pin1 of J_COM1 is selected via JC1 Jumper), check Table 8-13 for detail.

[8] COM1 Select Jumper (3*2 Pin 2.54mm)

Location	Jumper	Settings	Function
8	JC1	1-2	COM1_Pin1: 5V
		3-4 (Default)	COM1_Pin1: DCD#
		5-6	COM1_Pin1: 12V

[9] COM2 Select Jumper1 (3*1 Pin 2.54mm)

Location	Jumper	Settings	Function
9	JC2_1	1-2	COM2_Pin1: 5V
		2-3 (Default)	COM2_Pin1: DCD#

[10] COM2 Select Jumper2 (3*2 Pin 2.54mm)

Location	Jumper	Settings	Function
10	JC2_2	1-2	COM2_Pin9: 5V
		3-4 (Default)	COM2_Pin9: RI#
		5-6	COM2_Pin9: 12V

[11] COM3 Select Jumpers (3*1 Pin 2.54mm)

Location	Jumper	Settings	Function
11	JC3_1	1-2	COM3_Pin1: 5V
		2-3 (Default)	COM3_Pin1: DCD#
	JC3_2	1-2	COM3_Pin2: RXD_TTL
		2-3 (Default)	COM3_Pin2: RXD_RS232
	JC3_3	1-2	COM3_Pin3: TXD_TTL
		2-3 (Default)	COM3_Pin3: TXD_RS232
	JC3_4	1-2	COM3_Pin8: RXD_TTL
		2-3 (Default)	COM3_Pin8: CTS#
	JC3_5	1-2	COM3_Pin9: TXD_TTL
		2-3 (Default)	COM3_Pin9: RI#

[12] COM4 Select Jumper1 (3*2 Pin 2.54mm)

Location	Jumper	Settings	Function
12	JC4_1	1-2	COM4_Pin1: 5V
		3-4 (Default)	COM4_Pin1: DCD#
		5-6	COM4_Pin1: 12V

[13] COM4 Select Jumper2 (3*1 Pin 2.54mm)

Location	Jumper	Settings	Function
13	JC4_2	1-2	COM4_Pin9: 5V
		2-3 (Default)	COM4_Pin9: RI#

[14] Front Panel Pin Header (5*2 Pin 2.54 mm)

Location	Header	Pin	Definition	Pin	Definition
14	F_PANEL1	1	HD LED+	2	Power LED+
		3	HD LED-	4	Power LED-
		5	RESET-	6	PWR+
		7	RESET+	8	PWR-
		9	N/C		

[15] Parallel Pin Header (13*2 Pin 2.54mm)

Location	Header	Pin	Definition	Pin	Definition
15	J_LPT1	1	STROBE#	2	AUTOFEED#
		3	DATA0	4	ERROR#
		5	DATA1	6	INIT#
		7	DATA2	8	SLCTIN#
		9	DATA3	10	GND
		11	DATA4	12	GND
		13	DATA5	14	GND
		15	DATA6	16	GND
		17	DATA7	18	GND
		19	ACKNLG#	20	GND
		21	BUSY	22	GND
		23	PE	24	GND
		25	SLCT	26	N/C

[18] SATA Power Pin Header2 (4*1 Pin 2.00mm)

Location	Header	Pin	Definition	Pin	Definition
18	P_SATA2	1	+ 12V	2	GND
		3	GND	4	+ 5V

[19] Front USB1 Pin Header (5*2 Pin 2.54mm)

Location	Header	Pin	Definition	Pin	Definition
19	F_USB1	1	+ 5 V	2	+ 5 V
		3	USB1-	4	USB2-
		5	USB1+	6	USB2+
		7	GND	8	GND
				10	GND

[20] Front USB2 Pin Header (5*2 Pin 2.54mm)

Location	Header	Pin	Definition	Pin	Definition
20	F_USB2	1	+ 5 V	2	+ 5 V
		3	USB3- ^[1]	4	USB4-
		5	USB3+ ^[1]	6	USB4+
		7	GND	8	GND
				10	GND

Note:

[1]: If Mini PCI-E1 do not support 3G device, one more front USB header can be supplied.

[21] Front USB3 Pin Header (5*2 Pin 2.54mm)

Location	Header	Pin	Definition	Pin	Definition
21	F_USB3	1	+ 5 V	2	+ 5 V
		3	USB5-	4	USB6-
		5	USB5+	6	USB6+
		7	GND	8	GND
				10	GND

[22] DC12V/5V Power Output Connector (4*1 Pin 2.54mm)

Location	Connector	Pin	Definition	Pin	Definition
22	DC_OUT1	1	+ 12V	2	GND
		3	GND	4	+ 5V

[23] System Fan Connector (3*1 Pin 2.54mm)

Location	Connector	Pin	Definition	Pin	Definition
23	SYS_FAN1	1	GND	2	+ 12V
		3	FAN Speed Detection		

[24] Keyboard and Mouse Pin Header (6*1 Pin 2.0mm)

Location	Header	Pin	Definition	Pin	Definition
24	J_KBMS1	1	KB_CLK	2	KB_DATA
		3	MS_CLK	4	GND
		5	+ 5V	6	MS_DATA

[25] GPIO Pin Header (6*2 Pin 2.00mm)

Location	Header	Pin	Definition	Pin	Definition
25	J_GPIO1	1	SIO_ GPI15(0xA00 Bit5)	2	SIO_ GPI16(0xA00 Bit6)
		3	SIO_ GPI33(0xA02 Bit3)	4	SIO_ GPI37(0xA02 Bit7)
		5	GND	6	SIO_ GPO47(0xA03 Bit7,H) [1]
		7	SIO_ GPO51(0xA04 Bit1,H)	8	SIO_ GPO64(0xA05 Bit4,H)
		9	SIO_ GPO65(0xA05 Bit5,H)	10	+ 3.3V *
				12	N/C

Notes:

[1]: “H” or “L” means the default voltage is High or Low level.

[2]: * Power on this Pin and GPIO output is 3.3V signaling by default, 5V is available if specified (resistor selectable).

[26] CPU Fan Connector (4*1 Pin 2.54mm)

Location	Connector	Pin	Definition	Pin	Definition
26	CPU_FAN1	1	GND	2	+ 12V
		3	FAN Speed Detection	4	FAN Speed Control

[27] DC12V Power Input Connector (4*1 Pin 2.54mm)

Location	Connector	Pin	Definition	Pin	Definition
27	DC_IN1	1	+ 12V	2	+ 12V
		3	GND	4	GND

[28] VGA Pin Header (12*1 Pin 2.00mm)

Location	Header	Pin	Definition	Pin	Definition
28	J_VGA1	1	CRT_Detect#	2	VSYNC
		3	HSYNC	4	GND
		5	RED	6	GND
		7	GREEN	8	GND
		9	BLUE	10	GND
		11	DDC data	12	DDC clock

Note:

[1]: VGA (DB15) Connector and J_VGA1 share the same signal and can't be accessed simultaneously.

6. BIOS setup

See “SV1a-19024P-C BIOS Quick Start Guide” & “SV1a-19024P–C BIOS Specification Summary Sheet” for detail information of BIOS setup.

【End】