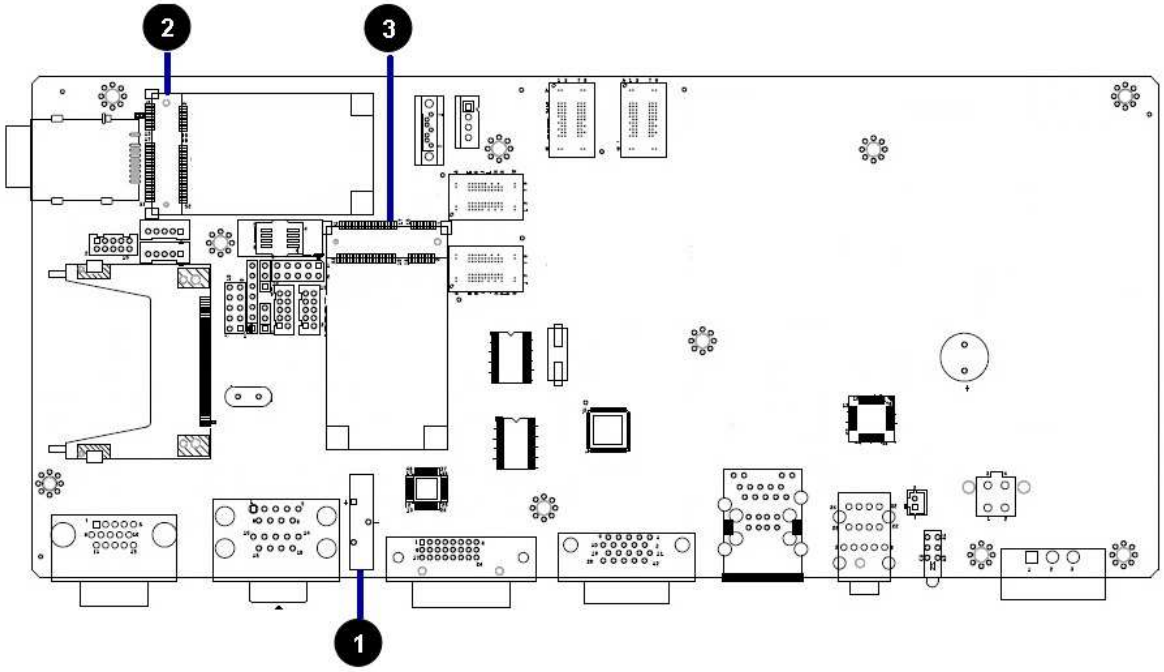
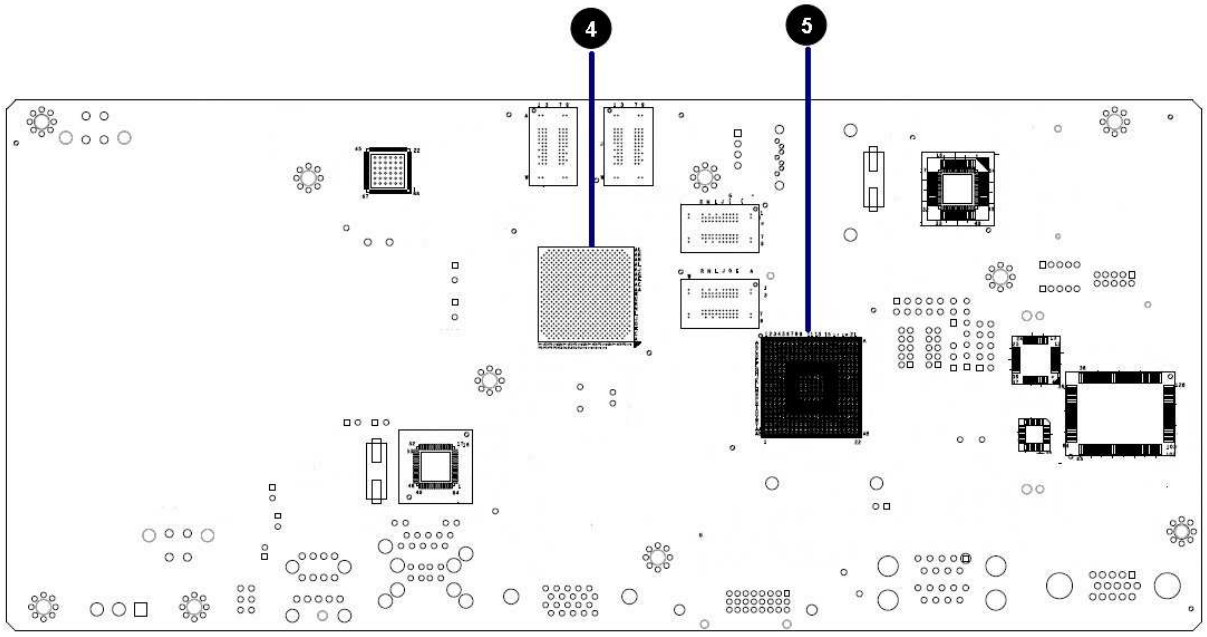
AR-B6005 Quick Manual

1. Mainboard illustration (Top Side)

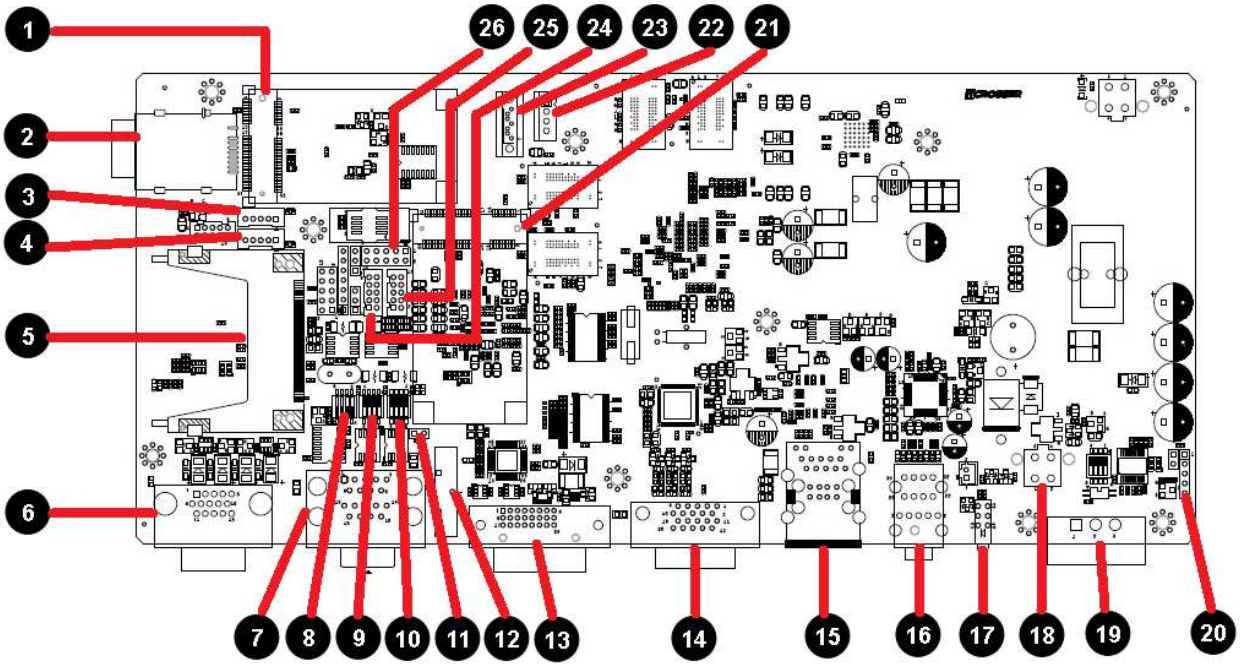


Mainboard illustration (Bottom Side)



1	**BH1** System RTC battery socket	5	**Intel Platform Control Hub(PCH) EG20T**
2	**MINIPCIE1** MINI PCI-E socket 1		
3	**MINIPCIE2** MINI PCI-E socket 2		
4	**Intel Atom E620/E640 CPU**		

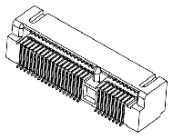
2. Locations of IO ports & Jumper settings definition



1	MINIPCIE1 Mini-PCI Express Card connector	14	COMBO1 Combo connecter		
2	SIM1 SIM card Holder	15	CN4 RJ45 & USB ports (USB1)Connector		.
3	BT1 Bluetooth module connector.	16	AUDIO1 Line Out & Mic in phone jack.		
4	GPS1 GPS module connector.	17	LED1 3 in 1 LED for Power, HDD, Status LED.		
5	CF1 CF CARD SOCKET	18	FUSE1 For Fuse connector		
6	GPIO1 D-SUB 15 pin for External GPIO connector.	19	PWR2 Power Input Terminal Block Connector		
7	COM1_COM3 D-SUB 9 pin for COM3,COM4 RS232 connector	20	PIC1 PIC Programming connector.		
8	SW1 For RS-422,RS-485 function select.	21	MINIPCIE2 Mini-PCI Express Card connector		
9	SW2 For RS-422,RS-485 function select.	22	SATA_PWR1 For SATA Power Connector #1		
10	SW3 For RS-422,RS-485 function select.	23	SATA1 SATA device connector #1		
11	CCMOS1 CMOS Memory Clearing Header	24	COM2_485_1 Pin Header for COM2 use RS-422/485 function		
12	BH1 CR2032 Battery Hold Connector.	25	COM2 Pin Header for COM2 use RS-232 function		
13	DVI1 DVI connecter	26	SPI1 BIOS Programmable HEADER.		

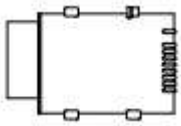
2.1 Connectors and Jumper Settings

1, 21.MINIPCIE1, MINIPCIE2 (Mini-PCIe Connector)



Mini-PCIe x1 Connector

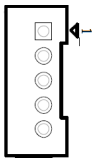
2. SIM1 Connector



SIM Card Holder

Connects to 3.5G Cell phone SIM Card.

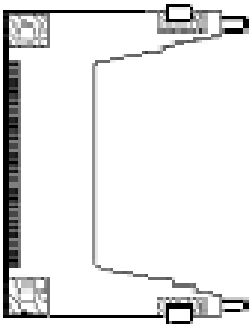
3,4. BT1, GPS1



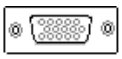
For Bluetooth ,GPS module connector.

PIN	SIGNAL
1	NC
2	Data-
3	Data+
4	GND
5	VCC3

5. CF1 (CF CARD SOCKET)



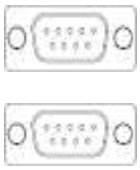
6. GPIO1 (For External GPIO control)



GPIO Pin Define:

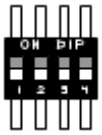
PIN	SIGNAL	PIN	SIGNAL
1	GPO0	2	GPO1
3	GPO2	4	GPO3
5	GND	6	GND
7	CAN_H	8	CAN_L
9	GND	10	i-Button
11	GPI4	12	GPI5
13	GPI6	14	GPI7
15	VCC12A		

7. COM1_COM3 (for COM1,COM3 use)



Pin	SIGNAL
1	DCD
2	SIN
3	SOUT
4	DTR
5	GND
6	DSR
7	RTS
8	CTS
9	RI

8. SW1 (RS-422,RS-485 function select)



SW1, DIP Switch

For RS-422,RS-485 Function select(Default: All OFF For RS-232)

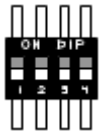
RS-422 setting:

1	OFF
2	ON
3	OFF
4	ON

RS-485 setting:

1	ON
2	ON
3	OFF
4	ON

9. SW2 (RS-422/485 TX Terminator resistor selection)



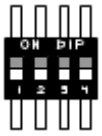
SW2 DIP Switch

For RS-422/485 TX Terminator resistor selection)

(Default: all OFF)

SW2				PULL-HI/LOW ohm ressitor	Teminator Resistor
1	2	3	4		
OFF	OFF	OFF	OFF	8.87K ohm	NA
ON	OFF	OFF	OFF	Not Application	
OFF	ON	OFF	OFF		
ON	ON	OFF	OFF		
OFF	OFF	ON	OFF		
ON	OFF	ON	OFF		
OFF	ON	ON	OFF	8.87K ohm	120
ON	ON	ON	OFF	Not Application	
OFF	OFF	OFF	ON		
ON	OFF	OFF	ON	618 ohm	NA
OFF	ON	OFF	ON	Not Application	
ON	ON	OFF	ON		
OFF	OFF	ON	ON		
ON	OFF	ON	ON		
OFF	ON	ON	ON		
ON	ON	ON	ON	618 ohm	120

10, SW3 (RS-422 RX terminator resistor selection)



SW3 DIP Switch

For RS-422 RX Terminator resistor selection)

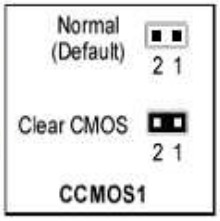
(Default: all OFF)

SW3				PULL-HI/LOW ohm ressitor	Teminator Resistor
1	2	3	4		
OFF	OFF	OFF	OFF	NA	NA
ON	OFF	OFF	OFF	Not Application	
OFF	ON	OFF	OFF		
ON	ON	OFF	OFF		
OFF	OFF	ON	OFF		
ON	OFF	ON	OFF		
OFF	ON	ON	OFF	NA	120
ON	ON	ON	OFF	Not Application	
OFF	OFF	OFF	ON		
ON	OFF	OFF	ON	665 ohm	NA
OFF	ON	OFF	ON	Not Application	
ON	ON	OFF	ON		
OFF	OFF	ON	ON		
ON	OFF	ON	ON		
OFF	ON	ON	ON		
ON	ON	ON	ON	665 ohm	120

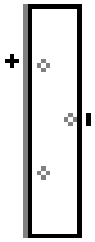
11. CCMOS1.

Pins 1 and 2 opened (Default): Normal operation.

Pins 1 and 2 shorted: Clear CMOS memory.



12. BH1 (Battery Holder)



CMOS Backup Battery:

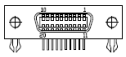
An onboard battery saves the CMOS memory to keep the BIOS information stays on even after disconnected your system with power source. Nevertheless, this backup battery exhausts after some five years.

Once the error message like "**CMOS BATTERY HAS FAILED**" or "**CMOS checksum error**" displays on monitor, this backup battery is no longer functional and has to be renewed

13. DVI1

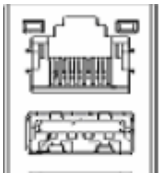
DVI-D connector

14 COMBO1



Pin 1	USB_Data-
Pin 2	USB_Data+
Pin 3	GND
Pin 4	+5V
Pin 5	GND
Pin 6	RED
Pin 7	GREEN
Pin 8	BLUE
Pin 9	HSYNC
Pin 10	VSYNC
Pin 11	DDCCLK
Pin 12	+12V
Pin 13	GND
Pin 14	AUDIO R
Pin 15	GND
Pin 16	NC
Pin 17	AUDIO L
Pin 18	NC
Pin 19	NC
Pin 20	DDCDATA

15. CN4

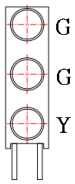


RJ45 Ethernet Connector with 1 port of External USB Connector

16. AUDIO1

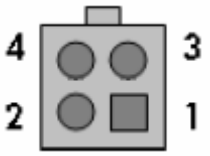
Color	SIGNAL
Blue	Remote Switch
Green	Line Out
Pink	MIC IN

17.LED1 (Power State)



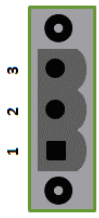
LED	SIGNAL
G	PIC LED
G	HDD LED
Y	Power LED

18. FUSE1 (Fuse connector)



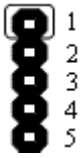
PIN	DEFINE
1,2	Fuse Out
3,4	Fuse In

19. PWR2 (Power Input Terminal Block Connector)

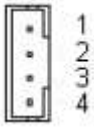


PIN	DEFINE
1	12V / 24V
2	IGN
3	GND

20. PIC1 (PIC Programming connector.)

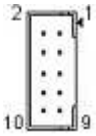


PIC programming connector.

<table>
<tr><th colspan="2">22. SATA_PWR1</th><th colspan="2">23. SATA1, (SATA device connector #1).</th></tr>
<tr>
<td> 
</td>
<td>SATA_PWR1, SATA Device Power Connector
<table>
<tr><th>PIN</th><th>SIGNAL</th></tr>
<tr><td>1</td><td>+12V</td></tr>
<tr><td>2</td><td>GND</td></tr>
<tr><td>3</td><td>VCC3</td></tr>
<tr><td>4</td><td>VCC5</td></tr>
</table></td>
<td> 
</td>
<td>To connect SATA device:
1.Attach either end of the signal cable to the SATA connector on motherboard.
Attach the other end to the SATA device.

2. Attach the SATA power cable to the SATA device and connect the other end
from the power supply.</td>
</tr>
</table>

24, 25. COM2, COM2_485_1 (For COM2 Function select).



CN_RS232_1: For RS-232 Function

Pin	SIGNAL
1	DSR
2	DCD
3	RTS
4	SIN
5	CTS
6	SOUT
7	RI
8	DTR
9	NC
10	GND

CN_RS422_485_1: For RS-422,RS-485 Function

Pin	SIGNAL
1	NC
2	485_422_TX+
3	NC
4	485_422_TX-
5	422_RX2-
6	NC
7	422_RX2+
8	NC
9	NC
10	GND

26. SPI1 (BIOS Programmable HEADER.).

PIN	DEFINE	PIN	DEFINE
1	CS0	2	+3.3V
3	MISO	4	HOLD
5	WP	6	CLK
7	GND	8	MOSI
9	N.C	10	N.C