Product Spec

Motherboard

RB-F208M V1.1

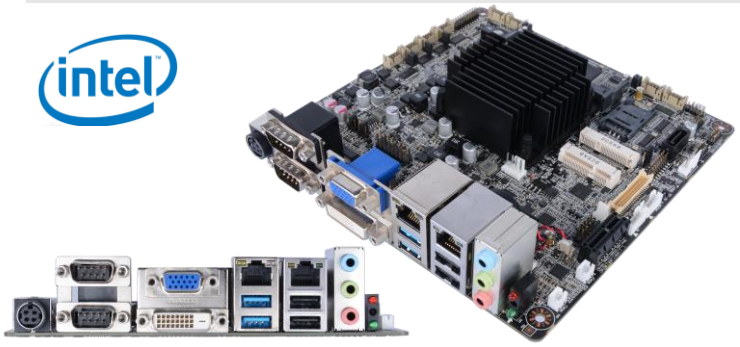
Prepared by： Ken Date： 2017/07/10

Approved by： Peter Date： 2017/07/10

Revision History			
Revision	**Date**	**Description**	**Author**
V1.0	2016/05/27	First release	KEN
V1.1	2017/07/10	Optimize	KEN

RB-F208M

REALBOM



Features

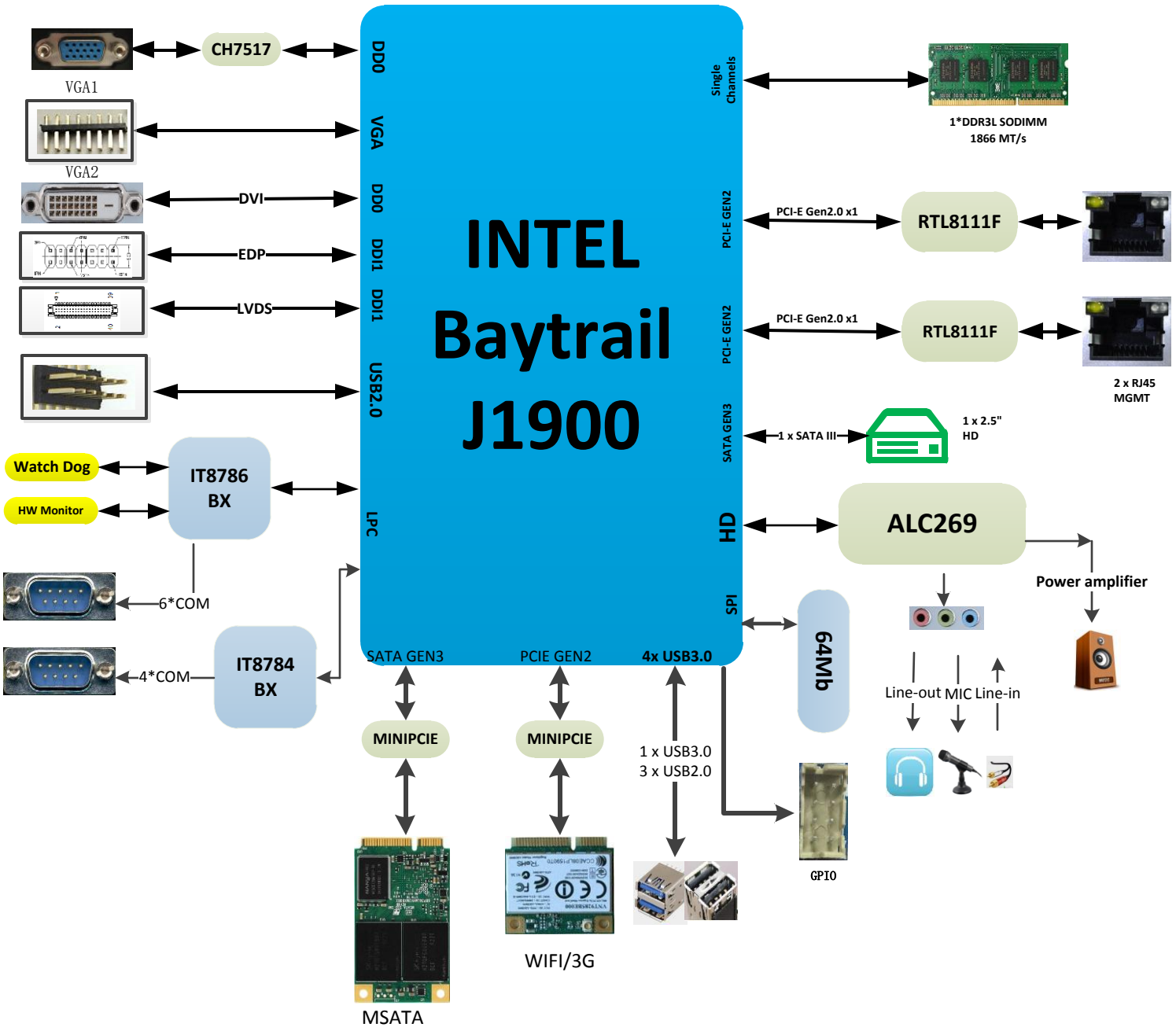
*Intel Baytrail Platform, J1900 CPU, 2.0GHz, 4*Cores
*Supports 2 independent Display,
*Supports 2 X 10/100/1000M LAN adapter
*Support11 X USB2.0, 1 X USB3.0
*Support 10 X COMs, 1 X SATAII, 1 X MSATA , 1 X WIFI/4G LTE ,1xPCIEX1
*Support HD Audio , 1 X Audio out, 1 X Audio in,1X MIC,4ohm &2w Power amplifier
*One 240-pin SODIMM up to 8GB, DDR3L 1066/1333 /1600 MHz

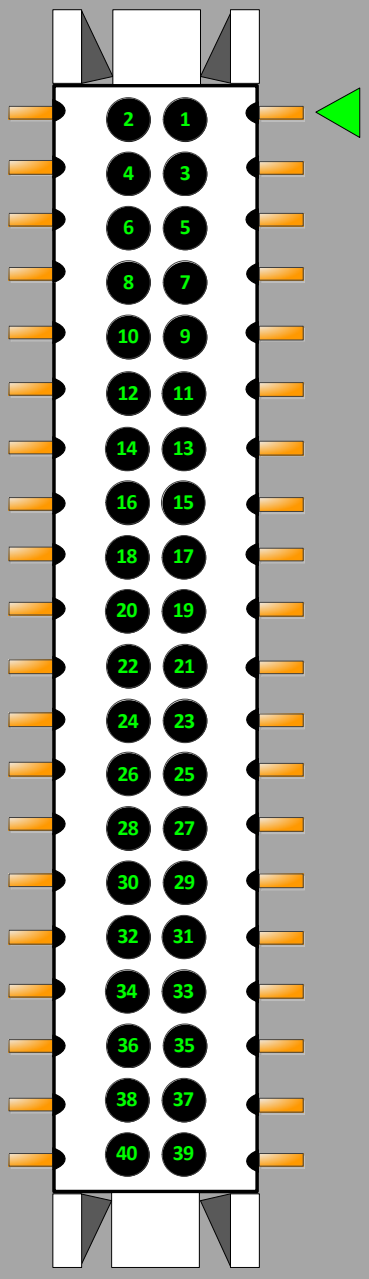
Application Industry

Medical industry.Traffic industry, Advertising Machine,Financial industry,

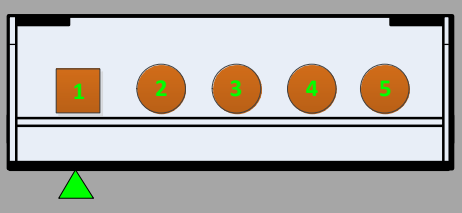
Specifications

CPU	CPU	Intel Baytrail J1900 2 GHz- 2.4 GHz
	Instruction Set	64bit
	Lithography	22nm
Memory	Type	SODIMM DDR3L No ECC 、Supoort 1333/1600/1867 MHz
	Channel	Single
	Max Memory Size	8GB
Graphics	Graphics	Intel HD Graphics
	Displays Supported	3 Display Port(VGA + DVI + EDP)or(VGA + JVGA + LVDS)
Audio	ALC662 HD Audio	x1 Audio line out,、x1 Audio line in 、x1 MIC、4ohm&2W Power amplifier
Ethernet	RTL8111F	x2 10/100/1000M BASET LAN
Internal Connector	MSATA	x1 MINIPCIE
	SATA	x1 7PIN SATA
	WIFI/4G	x1 Half length MINIPCIE , x1 Standard Sim Socket
	VGA	x1 2x5 DuPont Header (Optional)
	LVDS	x1 2x20 Header Box(Optional)
	EDP	x1 2x8 DuPont Header (Optional)
	PCIE1X	x1 PCIE1X
	COM	x8 2x5 Header Box,Powered 5V(Optional)
	USB	x4 2X5 DuPont Header （support 2*port USB2.0）
	PS2	x1 2x4 DuPont Header
	GPIO	x1 2X6 DuPont Header ,8*independent Programing GPIO
I/O	Input DC connector	x2 1XDC jack ,1XATX Power 4Pin connector
	LED	x1 Power Red LED and HDD Green LED
	COM	x2 DB9 Powered 5V/12V(Optional)
	USB	x4 1*Ports USB3.0 and 3*USB2.0
	RJ45	x2 Single RJ45
	Aduio	x1 Suport Line out,Line in,mic
	VGA	x1 Standard VGA
	DVI	X1 Standard DVI
BIOS	Vender	AMI
	ACPI	Supported
Power	POWER Brick	9V-24V DC POWER Brick
Dimensions	PCB	170*170MM
Requirements Environment	Operation	-15℃~+50℃, 10%~95% RTH
	Storeage	-40℃~+70℃, 10%~95% RTH

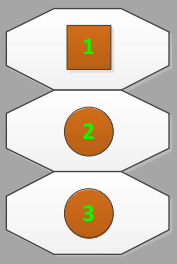

CH7517
VGA1
VGA2
DVI
EDP
LVDS
Watch Dog
HW Monitor
IT8786 BX
6*COM
4*COM
IT8784 BX
INTEL Baytrail J1900
DD0
VGA
DD0
DDI1
DDI1
USB2.0
LPC
Single Channels
PCI-E GEN2
PCI-E GEN2
SATA GEN3
HD
SPI
SATA GEN3
PCIE GEN2
4x USB3.0
1*DDR3L SODIMM 1866 MT/s
PCI-E Gen2.0 x1
RTL8111F
PCI-E Gen2.0 x1
RTL8111F
2 x RJ45 MGMT
1 x SATA III
1 x 2.5" HD
ALC269
Power amplifier
Line-out MIC Line-in
64Mb
GPIO
1 x USB3.0
3 x USB2.0
MINIPCIE
MINIPCIE
MSATA
WIFI/3G

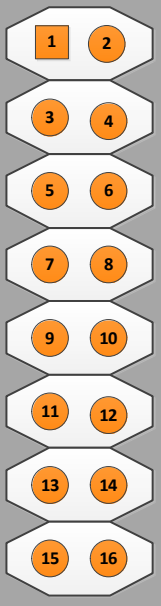
LVDS	LVDS
PIN Define	
Type	2x20 PH=0.15mm

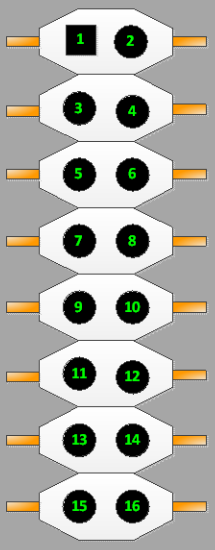
1	LCD_VDD	2	LCD_VDD
3	LCD_VDD	4	LCD_VDD
5	BKLT_ON	6	BKLT_CTL
7	GND	8	GND
9	LVDS_D1+	10	LVDS_D0+
11	LVDS_D1-	12	LVDS_D0-
13	GND	14	GND
15	LVDS_D3+	16	LVDS_D2+
17	LVDS_D3-	18	LVDS_D2-
19	GND	20	GND
21	LVDS_D5+	22	LVDS_D4+
23	LVDS_D5-	24	LVDS_D4-
25	GND	26	GND
27	LVDS_D7+	28	LVDS_D6+
29	LVDS_D7-	30	LVDS_D6-
31	GND	32	GND
33	LVDS_CLK2+	34	LVDS_CLK1+
35	LVDS_CLK2-	36	LVDS_CLK1-
37	GND	38	GND
39	+V12S	40	+V12S

VP1	LVDS Power and Control
PIN Define	
Type	1X5 Header Box, PH=2.54mm

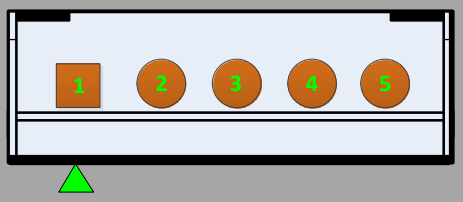
1	+V12S
2	GND
3	LVDS_BKLT_ON
4	LVDS_BKLT_PWM
5	+V5S

JLV	LVDS Power option
PIN Define	 1 +V3.3S 2 LCD_VDD 3 +V5S
Type	1X3 DuPont Header, PH=2.54mm
Memo	Default Setting: JLV (1-2)

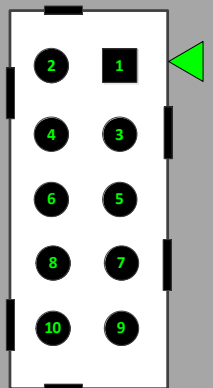
JVGA2	VGA header Pin define
PIN Define	 1 RED 2 GND 3 VCC 4 GREEN 5 NC 6 DDCDATA 7 BLUE 8 GND 9 HSYNC 10 VCC 11 VCC 12 VSYNC 13 GND 14 GND 15 DDCCLK 16 NC
Type	2x8 DuPont Header, PH=2.54mm
Memo	VCC=5V optional

EDP	EDP Pin Define
PIN Define	
Type	2x8 DuPont Header, PH=2.54mm

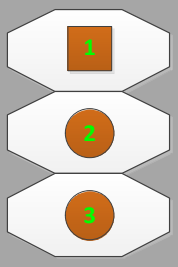
1	VCC(3.3V)	2	VCC(3.3V)
3	GND	4	GND
5	EDP_TX0+	6	EDP_TX1+
7	EDP_TX0-	8	EDP_TX1-
9	GND	10	GND
11	EDP_AUX+	12	EDP_HPD
13	EDP_AUX-	14	GND
15	NC	16	GND

ICVN_EDP	EDP Power and control
PIN Define	
Type	1X5 Header Box, PH=2.54mm

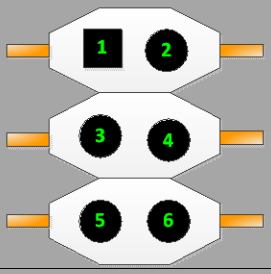
1	+V12S
2	GND
3	EDP_BKLT_ON
4	EDP_BKLT_PWM
5	+V5S

COM	COM3-COM10
PIN Define	
Type	2X5 Header Box PH=2.0 mm

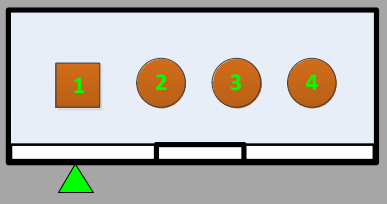
1	DCD	2	RXD
3	TXD	4	DTR
5	GND	6	DSR
7	RTS	8	CTS
9	RI_MUX	10	NC

COM Power	JC3-JC10
PIN Define	
Type	1X3 DuPont Header, PH=2.0mm
Memo	Default Setting: JC3-JC10(1-2)

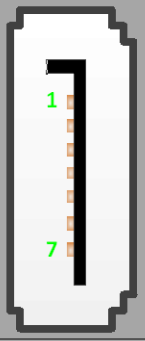
1	RI
2	RI_MUX
3	5V
1-2	RI
3-4	5V

COM Power	JC1/JC2
PIN Define	
Type	2x3 DuPont Header, PH=2.0mm
Memo	FOR DB9 (Pin9) com power optioan, Default Setting: JC1(3-4) JC2(3-4)

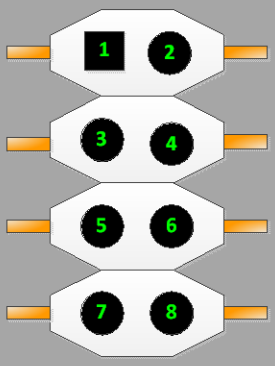
1	5V	2	RI_MUX
3	RI	4	
5	12V	6	

SATAPWR1	SATA POWER
PIN Define	
Type	1X4 DuPont Header, PH=2.54mm

1	+V12S
2	GND
3	GND
4	+V5S

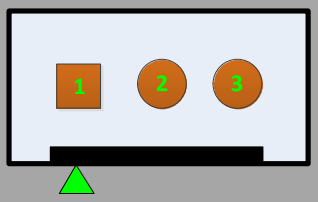
SATA	SATA1
PIN Define	
Type	7PIN Standard SATA

1	GND
2	TX+
3	TX-
4	GND
5	RX-
6	RX+
7	GND

J_PS2	Ps2 header
PIN Define	

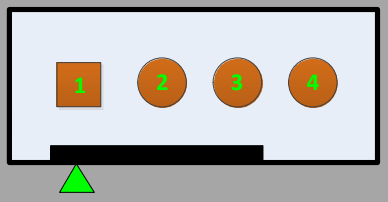
1	KB_DATA	2	MS_DATA
3	KB_CLK	4	MS_CLK
5	GND	6	GND
7	+V5S	8	+V5S

Type	2x4 DuPont Header, PH=2.0mm

SYS_FAN	System Fan Power and sense
PIN Define	

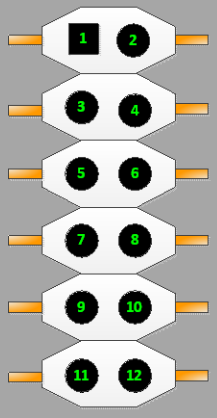
1	GND
2	+V12S
3	FAN_TAC

Type	1X3 DuPont Header, PH=2.54mm

CPU_FAN	CPU FAN Power and Control
PIN Define	

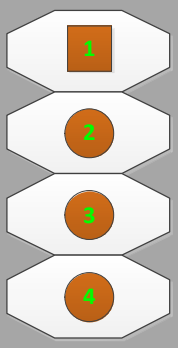
1	GND
2	+V12S
3	FAN_TAC
4	FAN_CTL

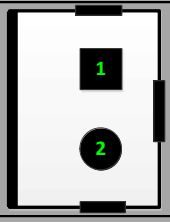
Type	1X4 DuPont Header, PH=2.54mm

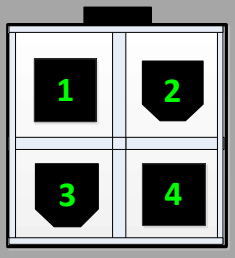
GPIO	GPIO Pin Define
PIN Define	

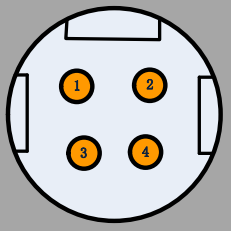
1	+V5S	2	+V12S
3	GPIO1	4	GPIO5
5	GPIO2	6	GPIO6
7	GPIO3	8	GPIO7
9	GPIO4	10	GPIO8
11	GND	12	GND

Type	2x6 DuPont Header, PH=2.54mm

JCOMS	Cmos and ME fucktion header
PIN Define	 1-2 Normal 2-3 Clear cmos 3-4 Override ME
Type	1X4 DuPont Header, PH=2.0mm
Memo	Default Setting: JCmos(1-2)

SPKR_L/SPKR_R	Power amplifier
PIN Define	 1 SPKR_L-/SPKR_R- 2 SPKR_L+/SPKR_R+
Type	1x2 Wafer Box PH=2.0 mm

DC-PWR	ATX 4Pin
PIN Define	 1-2 DC+ 3-4 DC-
Type	ATX Standard 4 pin connector

DC-PWR	DC-JACK
PIN Define	 1-2 DC+ 3-4 DC-
Type	Standard DC Jack