

AT8902M

Advanced TCA Hub Board with Base & Fabric Interface and 2 mid-size AMC Slots



Board Rev. 0

QUICK REFERENCE

Document version 1.1

CONNECTORS

J5	AMC B1	J20	ATCA Zone 2
J12	AMC B2	J21	ATCA Zone 2
J42	Ethernet Management	J22	ATCA Zone 2
J42	Serial Port	J23	ATCA Zone 2
J38-J41	Base/Fabric Uplink	J24	ATCA Zone 2
SW1	Reset	J30	ATCA Zone 3 (RTM Connector)
SW2	LED Toggle	J31	ATCA Zone 3 (RTM Connector)
P10	ATCA Power (Zone 1)		

JUMPER SETTINGS

(● Default Setting)

FWPD - Flash Write Enable	
Write Enable	in
Write Protect	out

IPMC0 - Front Board IPMI Override	
ShMC Bypass	in
Normal Operation	out

IPMC1 - AMC IPMI Override	
ShMC Bypass	in
Normal Operation	out

JTAG_AMC - AMC JTAG Integration	
Included in JTAG Chain	in
Excluded from JTAG Chain	out

JTAG_IPMC - IPMC JTAG	
Restrict JTAG to IPMC	in
Normal JTAG Operation	out

Symbols Chart

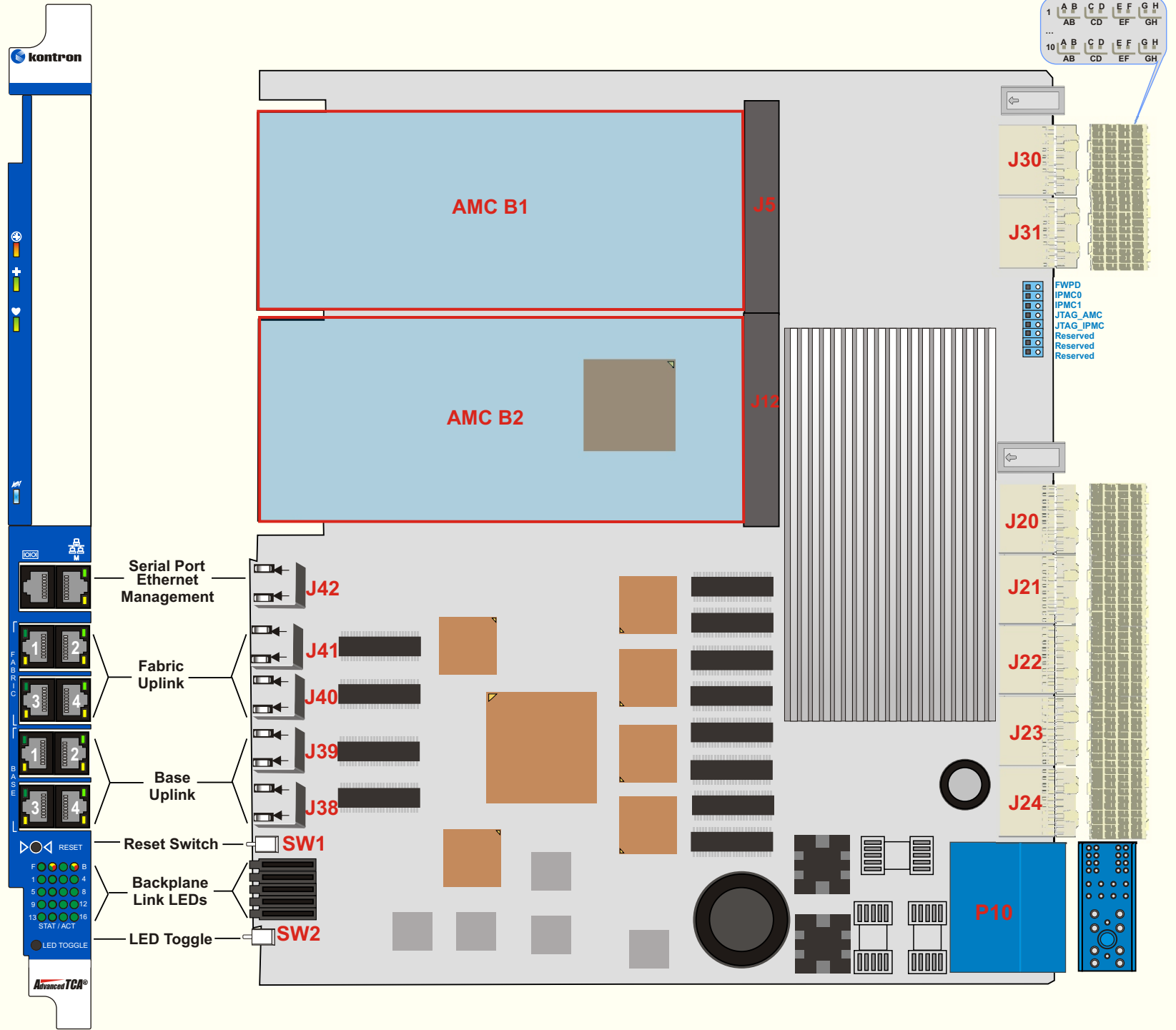
- Out Of Service
- Hot Swap
- Ethernet
- Heart Beat
- Healthy
- Serial Port

LEDs Signification

Ethernet Management	
Speed LED (yellow)	OFF 10 Base-T ON 100 Base-Tx
Status LED (green)	OFF Link Down ON Link Up and no activity BLINK Link Up and activity
Fabric and Base Uplink	
Speed LED (yellow)	OFF 10 Base-T BLINK 100 Base-Tx ON 1000 Base-T
Status LED (green)	OFF Link Down ON Link Up and no activity BLINK Link Up and activity
User LEDs	
User LED4	● Fabric Switch LEDs selected
User LED3	● Operational ● Initiation ● Fabric Switch Error
User LED2	● Base Switch LEDs selected
User LED1	● Operational ● Initiation ● Base Switch Error

LED Toggle Push Button Usage

Changes display status between base and fabric ports



Connector Pinouts


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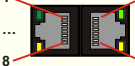
J42 - Ethernet (RJ-45)

10/100 Management LAN	
1 TX+	5 N.C.
2 TX-	6 RX-
3 RX+	7 N.C.
4 N.C.	8 N.C.



J38-J41 - Base/Fabric Uplink (RJ-45)

1 DB+	5 DD-
2 DB-	6 DA-
3 DA+	7 DC+
4 DD+	8 DC-




P10 - Power (Zone 1)

1 N.C.	2 N.C.
3 N.C.	4 N.C.
5 HA0	6 HA1
7 HA2	8 HA3
9 HA4	10 HA5
11 HA6	12 HA7/P
13 SCL_A	14 SDA_A
15 SCL_B	16 SDA_B
17 MT1_TIP(N.C.)	18 MT2_TIP(N.C.)
19 RING_A(N.C.)	20 RING_B(N.C.)
21 MT1_RING(N.C.)	22 MT2_RING(N.C.)
23 RRTN_A(N.C.)	24 RRTN_B(N.C.)
25 SHELF_GND	26 LOGIC_GND
27 ENABLE_B	28 VRTN_A
29 VRTN_B	30 EARLY_A
31 EARLY_B	32 ENABLE_A
33 -48V_A	34 -48V_B

J42 - Serial Port (RJ-45)

1 RTS	5 GND
2 DTR	6 RXD
3 TXD	7 DSR
4 GND	8 CTS



J20 - ATCA Zone 2

	ROW A	AB	ROW B	ROW C	CD	ROW D	ROW E	EF	ROW F	ROW G	GH	ROW H
1	CLK1A+	GND	CLK1A-	CLK1B+	GND	CLK1B-	CLK2A+	GND	CLK2A-	CLK2B+	GND	CLK2B-
2	Tx4(UP)+(N.C.)	GND	Tx4(UP)-(N.C.)	Rx4(UP)+(N.C.)	GND	Rx4(UP)-(N.C.)	CLK3A+	GND	CLK3A-	CLK3B+	GND	CLK3B-
3	Tx2(UP)+(N.C.)	GND	Tx2(UP)-(N.C.)	Rx2(UP)+(N.C.)	GND	Rx2(UP)-(N.C.)	Tx3(UP)+	GND	Tx3(UP)-	Rx3(UP)+(N.C.)	GND	Rx3(UP)-(N.C.)
4	Tx0(UP)+	GND	Tx0(UP)-	Rx0(UP)+	GND	Rx0(UP)-	Tx1(UP)+	GND	Tx1(UP)-	Rx1(UP)+	GND	Rx1(UP)-
5	Tx2[15]+	GND	Tx2[15]-	Rx2[15]+	GND	Rx2[15]-	Tx3[15]+	GND	Tx3[15]-	Rx3[15]+	GND	Rx3[15]-
6	Tx0[15]+	GND	Tx0[15]-	Rx0[15]+	GND	Rx0[15]-	Tx1[15]+	GND	Tx1[15]-	Rx1[15]+	GND	Rx1[15]-
7	Tx2[14]+	GND	Tx2[14]-	Rx2[14]+	GND	Rx2[14]-	Tx3[14]+	GND	Tx3[14]-	Rx3[14]+	GND	Rx3[14]-
8	Tx0[14]+	GND	Tx0[14]-	Rx0[14]+	GND	Rx0[14]-	Tx1[14]+	GND	Tx1[14]-	Rx1[14]+	GND	Rx1[14]-
9	Tx2[13]+	GND	Tx2[13]-	Rx2[13]+	GND	Rx2[13]-	Tx3[13]+	GND	Tx3[13]-	Rx3[13]+	GND	Rx3[13]-
10	Tx0[13]+	GND	Tx0[13]-	Rx0[13]+	GND	Rx0[13]-	Tx1[13]+	GND	Tx1[13]-	Rx1[13]+	GND	Rx1[13]-

J21 - ATCA Zone 2

	ROW A	AB	ROW B	ROW C	CD	ROW D	ROW E	EF	ROW F	ROW G	GH	ROW H
1	Tx2[12]+	GND	Tx2[12]-	Rx2[12]+	GND	Rx2[12]-	Tx3[12]+	GND	Tx3[12]-	Rx3[12]+	GND	Rx3[12]-
2	Tx0[12]+	GND	Tx0[12]-	Rx0[12]+	GND	Rx0[12]-	Tx1[12]+	GND	Tx1[12]-	Rx1[12]+	GND	Rx1[12]-
3	Tx2[11]+	GND	Tx2[11]-	Rx2[11]+	GND	Rx2[11]-	Tx3[11]+	GND	Tx3[11]-	Rx3[11]+	GND	Rx3[11]-
4	Tx0[11]+	GND	Tx0[11]-	Rx0[11]+	GND	Rx0[11]-	Tx1[11]+	GND	Tx1[11]-	Rx1[11]+	GND	Rx1[11]-
5	Tx2[10]+	GND	Tx2[10]-	Rx2[10]+	GND	Rx2[10]-	Tx3[10]+	GND	Tx3[10]-	Rx3[10]+	GND	Rx3[10]-
6	Tx0[10]+	GND	Tx0[10]-	Rx0[10]+	GND	Rx0[10]-	Tx1[10]+	GND	Tx1[10]-	Rx1[10]+	GND	Rx1[10]-
7	Tx2[9]+	GND	Tx2[9]-	Rx2[9]+	GND	Rx2[9]-	Tx3[9]+	GND	Tx3[9]-	Rx3[9]+	GND	Rx3[9]-
8	Tx0[9]+	GND	Tx0[9]-	Rx0[9]+	GND	Rx0[9]-	Tx1[9]+	GND	Tx1[9]-	Rx1[9]+	GND	Rx1[9]-
9	Tx2[8]+	GND	Tx2[8]-	Rx2[8]+	GND	Rx2[8]-	Tx3[8]+	GND	Tx3[8]-	Rx3[8]+	GND	Rx3[8]-
10	Tx0[8]+	GND	Tx0[8]-	Rx0[8]+	GND	Rx0[8]-	Tx1[8]+	GND	Tx1[8]-	Rx1[8]+	GND	Rx1[8]-

J23 - ATCA Zone 2

	ROW A	AB	ROW B	ROW C	CD	ROW D	ROW E	EF	ROW F	ROW G	GH	ROW H
1	Tx2[2]+	GND	Tx2[2]-	Rx2[2]+	GND	Rx2[2]-	Tx3[2]+	GND	Tx3[2]-	Rx3[2]+	GND	Rx3[2]-
2	Tx0[2]+	GND	Tx0[2]-	Rx0[2]+	GND	Rx0[2]-	Tx1[2]+	GND	Tx1[2]-	Rx1[2]+	GND	Rx1[2]-
3	Tx2[1]+	GND	Tx2[1]-	Rx2[1]+	GND	Rx2[1]-	Tx3[1]+	GND	Tx3[1]-	Rx3[1]+	GND	Rx3[1]-
4	Tx0[1]+	GND	Tx0[1]-	Rx0[1]+	GND	Rx0[1]-	Tx1[1]+	GND	Tx1[1]-	Rx1[1]+	GND	Rx1[1]-
5	BI_SMCA_Tx1+	GND	BI_SMCA_Tx1-	BI_SMCA_Rx1+	GND	BI_SMCA_Rx1-	BI_SMCB_Tx2+	GND	BI_SMCB_Tx2-	BI_SMCB_Rx2+	GND	BI_SMCB_Rx2-
6	BI_DA2+	GND	BI_DA2-	BI_DB2+	GND	BI_DB2-	BI_DC2+	GND	BI_DC2-	BI_DD2+	GND	BI_DD2-
7	BI_DA3+	GND	BI_DA3-	BI_DB3+	GND	BI_DB3-	BI_DC3+	GND	BI_DC3-	BI_DD3+	GND	BI_DD3-
8	BI_DA4+	GND	BI_DA4-	BI_DB4+	GND	BI_DB4-	BI_DC4+	GND	BI_DC4-	BI_DD4+	GND	BI_DD4-
9	BI_DA5+	GND	BI_DA5-	BI_DB5+	GND	BI_DB5-	BI_DC5+	GND	BI_DC5-	BI_DD5+	GND	BI_DD5-
10	BI_DA6+	GND	BI_DA6-	BI_DB6+	GND	BI_DB6-	BI_DC6+	GND	BI_DC6-	BI_DD6+	GND	BI_DD6-

J30 - ATCA Zone 3 (RTM Connector)

	ROW A	AB	ROW B	ROW C	CD	ROW D	ROW E	EF	ROW F	ROW G	GH	ROW H
1	N.C.	GND	N.C.	N.C.	GND	N.C.	N.C.	GND	N.C.	STOR0_RX-	GND	STOR0_RX+
2	PROD_IO0	GND	PROD_IO1	N.C.	GND	N.C.	N.C.	GND	N.C.	STOR0_TX-	GND	STOR0_TX+
3	12V	GND	3.3V_SUS	SMB_SCL	GND	SMB_SDA	N.C.	GND	N.C.	STOR1_RX-	GND	STOR1_RX+
4	PROD_IO2	GND	PLD_DOUT	PLD_CLK	GND	PLD_DIN	N.C.	GND	N.C.	STOR1_TX-	GND	STOR1_TX+
5	JTAG_TDO	GND	TEST_JIG#	N.C.	GND	PROD_IO3	N.C.	GND	N.C.	N.C.	GND	N.C.
6	JTAG_TDI	GND	12V	N.C.	GND	N.C.	N.C.	GND	+12V	N.C.	GND	N.C.
7	JTAG_TCK	GND	PROD_IO4	N.C.	GND	N.C.	N.C.	GND	N.C.	N.C.	GND	N.C.
8	JTAG_TMS	GND	JTAG_TRST#	N.C.	GND	N.C.	N.C.	GND	SMB_ALERT#	N.C.	GND	N.C.
9	N.C.	GND	N.C.	N.C.	GND	N.C.	N.C.	GND	N.C.	N.C.	GND	N.C.
10	N.C.	GND	N.C.	N.C.	GND	N.C.	N.C.	GND	N.C.	N.C.	GND	N.C.

AMC B1 Channel Assignment

Channel	Region	Connection
0	GbE	Local Base Switch 0/21
1	GbE	Remote Base Switch 0/22
2	SATA/FC	AMC B2, channel 2
3	SATA/FC	RTM_STOR0
4	Fabric	10GbE Uplink 0/27[0]
5	Fabric	10GbE Uplink 0/27[1]
6	Fabric	10GbE Uplink 0/27[2]
7	Fabric	10GbE Uplink 0/27[3]
8	Fabric	10GbE Uplink 0/28[0]
9	Fabric	10GbE Uplink 0/28[1]
10	Fabric	10GbE Uplink 0/28[2]
11	Fabric	10GbE Uplink 0/28[3]
12	Extended	-
13	Extended	RTM, AMC_B1_P13
14	Extended	RTM, AMC_B1_P14
15	Extended	RTM, AMC_B1_P15
17	Extended	RTM, AMC_B1_P17
18	Extended	RTM, AMC_B1_P18
19	Extended	RTM, AMC_B1_P19
20	Extended	RTM, AMC_B1_P20
TCLKA	Clock	From Backplane CLK3A
TCLKB	Clock	To Backplane CLK2A or CLK3B
TCLKC	Clock	From Backplane CLK3B
TCLKD	Clock	To Backplane CLK1A or CLK1B
FCLKA	Clock	Fabric Mezzanine Ref. Clock

AMC B2 Channel Assignment

Channel	Region	Connection
0	GbE	Local Base Switch 0/23
1	GbE	-
2	SATA/FC	AMC B1, channel 2
3	SATA/FC	RTM_STOR1
4	Fabric	10GbE Uplink 0/25[0]
5	Fabric	10GbE Uplink 0/25[1]
6	Fabric	10GbE Uplink 0/25[2]
7	Fabric	10GbE Uplink 0/25[3]
8	Fabric	10GbE Uplink 0/26[0]
9	Fabric	10GbE Uplink 0/26[1]
10	Fabric	10GbE Uplink 0/26[2]
11	Fabric	10GbE Uplink 0/26[3]
12	Extended	-
13	Extended	-
14	Extended	RTM, AMC_B2_P14
15	Extended	-
17	Extended	RTM, AMC_B2_P17
18	Extended	RTM, AMC_B2_P18
19	Extended	RTM, AMC_B2_P19
20	Extended	RTM, AMC_B2_P20
TCLKA	Clock	From Backplane CLK3A
TCLKB	Clock	To Backplane CLK2A or CLK3B
TCLKC	Clock	From Backplane CLK3B
TCLKD	Clock	To Backplane CLK1A or CLK1B
FCLKA	Clock	Fabric Mezzanine Ref. Clock

Base Interface Port Mapping

CLI ID	Channel	Port	LED
0/1	Uplink 1	-	-
0/2	Uplink 2	-	-
0/3	Uplink 3	-	-
0/4	Uplink 4	-	-
0/5	16	16	16
0/6	15	15	15
0/7	14	14	14
0/8	13	13	13
0/9	12	12	12
0/10	11	11	11
0/11	10	10	10
0/12	9	9	9
0/13	8	8	8
0/14	7	7	7
0/15	6	6	6
0/16	5	5	5
0/17	4	4	4
0/18	3	3	3
0/19	2	2	2
0/20	SMCA	1	1
0/21	Local AMC B1, channel 0	-	-
0/22	Remote AMC B1, channel 1	-	-
0/23	Local AMC B2, channel 0	-	-
0/24	SMCB	1	1

Fabric Interface Port Mapping

CLI ID	Channel	Port	LED
0/1	Uplink 1	-	-
0/2	Uplink 2	-	-
0/3	Uplink 3	-	-
0/4	Uplink 4	-	-
0/5	1	0	2
0/6	1	1	2
0/7	2	0	3
0/8	2	1	3
0/9	3	0	4
0/10	3	1	4
0/11	4	0	5
0/12	4	1	5
0/13	5	0	6
0/14	5	1	6
0/15	6	0	7
0/16	7	0	8
0/17	8	0	9
0/18	9	0	10
0/19	10	0	11
0/20	11	0	12
0/21	12	0	13
0/22	13	0	14
0/23	14	0	15
0/24	15	0	16
0/25	10 GbE Uplink (optional)	-	-
0/26	10 GbE Uplink (optional)	-	-
0/27	10 GbE Uplink (optional)	-	-
0/28	10 GbE Uplink (optional)	-	-

J5, J12 - AMC B1 & AMC B2

B1 GND	B43 GND	B86 GND	B129 TxD15-
B2 12V	B44 RxD4-	B87 TxD8-	B130 TxD15+
B3 PS1#	B45 RxD4+	B88 TxD8+	B131 GND
B4 MP_3V3	B46 GND	B89 GND	B132 RxD15-
B5 GA0	B47 TxD4+	B90 RxD8-	B133 RxD15+
B6 RSV	B48 TxD4-	B91 RxD8+	B134 GND
B7 GND	B49 GND	B92 GND	B135 TCLKC
B8 RSV	B50 RxD5+	B93 TxD9-	B136 TCLKC+
B9 12V	B51 RxD5-	B94 TxD9+	B137 GND
B10 GND	B52 GND	B95 GND	B138 TCLKD-
B11 RxD0+	B53 TxD5+	B96 RxD9-	B139 TCLKD+
B12 RxD0-	B54 TxD5-	B97 RxD9+	B140 GND
B13 GND	B55 GND	B98 GND	B141 TxD17-
B14 TxD0+	B56 IPMI_CLK	B99 TxD10-	B142 TxD17+
B15 TxD0-	B57 12V	B100 TxD10+	B143 GND
B16 GND	B58 GND	B101 GND	