

The Embedded I/O Company



TCP262

Dual PMC Carrier for 6U CompactPCI (J3/J5 I/O)

Version 1.0

User Manual

Issue 1.0.0

November 2019

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TCP262-10R

Dual PMC Carrier for 6U CompactPCI
with J3 and J5 I/O and
selectable 5.0V or 3.3V PMC V/IO voltage

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Style Conventions

Hexadecimal characters are specified with prefix 0x, i.e. 0x029E (that means hexadecimal value 029E).

For signals on hardware products, an ‚Active Low’ is represented by the signal name with # following, i.e. IP_RESET#.

Access terms are described as:

W	Write Only
R	Read Only
R/W	Read/Write
R/C	Read/Clear
R/S	Read/Set

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Issue	Description	Date
1.0.0	Initial Issue	November 2019

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1 Product Description

Based on a Texas Instruments PCI to PCI Bridge with a 32bit 66MHz primary and secondary interface, the TCP262-10R supports a 32bit 66MHz CompactPCI bus and two 32bit 66MHz PMC modules on the local PCI bus of the TCP262.

The TCP262 is a standard 6U CompactPCI carrier that provides front I/O and rear I/O for up to two single width PMC modules.

A transparent PCI to PCI Bridge is used as the PCI bridging device between the primary CompactPCI bus and the on-board secondary PCI bus where the two PMC slots reside.

The TCP262 supports standard PMC front I/O and CompactPCI rear I/O fully compatible to the TCP260. The PMC slot 2 (upper PMC) I/O lines are connected directly to the CompactPCI connector J5. The PMC slot 1 (lower PMC) I/O lines are connected directly to the CompactPCI connector J3.

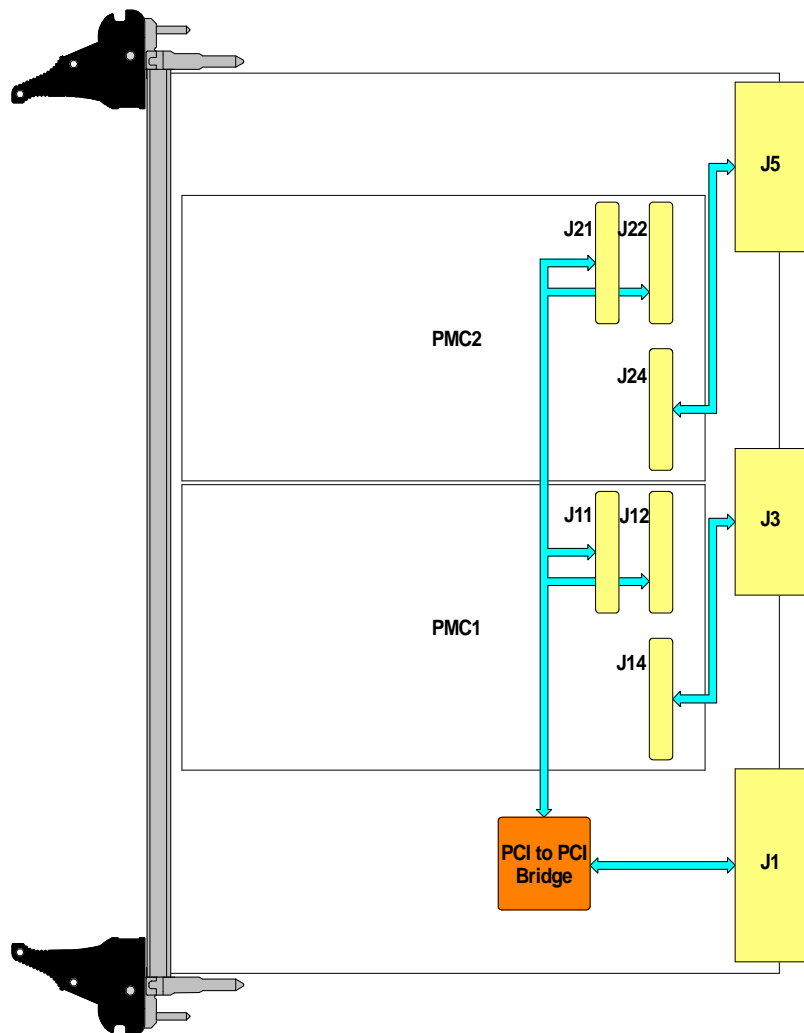


Figure 1-1 : Block Diagram

2 Technical Specification

PCI Interface	
CompactPCI Interface	CompactPCI 6U, conforming to PICMG 2.0 R3.0
PCI Interface	PCI 2.2 compliant interface, 33 MHz / 66 MHz, 32 bit
PCI I/O Signaling Voltage	3.3V and 5V tolerant
PCI to PCI Bridge	Texas Instruments PCI2050BIPDV
PMC Interface	
Number of PMC Slots	2
Supported PMC PCI Data Width	32 bit
Supported PMC PCI Frequency	33 MHz / 66 MHz
PCI I/O Signaling Voltage	+5.0V or +3.3V configurable
PMC I/O Access	Front panel I/O P14/P24 Back I/O via CompactPCI J3/J5 connector
Physical Data	
Power Requirements without PMC Modules plugged	10 mA typical @ VI/O DC 65 mA typical @ +3.3V DC +5V DC not used by TCP262, only routed to PMC slots +12V DC not used by TCP262, only routed to PMC slots -12V DC not used by TCP262, only routed to PMC slots Additional power is required by plugged PMC modules.
Maximum Total Power for both PMC Modules	5 A typical @ +5V DC 5 A typical @ +3.3V DC 1 A typical @ +12V DC 1 A typical @ -12V DC
Overcurrent Protection	no overcurrent protection present
Temperature Range	Operating: -40°C to + 85°C Storage: -40°C to + 85°C
MTBF	TCP262-10R: 1129000 h MTBF values shown are based on calculation according to MIL-HDBK-217F and MIL-HDBK-217F Notice 2; Environment: G _B 20°C. The MTBF calculation is based on component FIT rates provided by the component suppliers. If FIT rates are not available, MIL-HDBK-217F and MIL-HDBK-217F Notice 2 formulas are used for FIT rate calculation.
Weight	275 g
Size	160 mm x 233.35 mm
Humidity	5 – 95 % non- condensing

Table 2-1 : Technical Specification

3 Handling and Operation Instruction

3.1 ESD Protection



The TCP262 is sensitive to static electricity. Packing, unpacking and all other handling of the TCP262 has to be done in an ESD/EOS protected Area.

4 PCI to PCI Bridge

4.1 PCI Configuration Registers

4.1.1 PCI to PCI Bridge Header

PCI CFG Register Address	PCI Configuration Register							
	31	24	23	16	15	8	7	0
0x00	Device ID				Vendor ID			
0x04	Status				Command			
0x08	Class code				Revision ID			
0x0C	BIST		Header type		Primary latency timer		Cache line size	
0x10	Base address 0							
0x14	Base address 1							
0x18	Secondary latency timer		Subordinate bus number		Secondary bus number		Primary bus number	
0x1C	Secondary status			I/O limit			I/O base	
0x20	Memory limit				Memory base			
0x24	Prefetchable memory limit				Prefetchable memory base			
0x28	Prefetchable base upper 32 Bits							
0x2C	Prefetchable limit upper 32 Bits							
0x30	I/O limit upper 16 Bits				I/O base upper 16 Bits			
0x34	Reserved				Capability pointer			
0x38	Expansion ROM base address							
0x3C	Bridge control		Interrupt pin		Interrupt line			
0x40	Arbiter control		Extended diagnostic		Chip control			
0x44 – 0x60	Reserved							
0x64	GPIO input data		GPIO output enable		GPIO output data		P_SERR# event disable	
0x68	Reserved		P_SERR# status		Secondary clock control			
0x6C – 0xDB	Reserved							
0xDC	Power management capabilities				PM next item pointer		PM capability ID	
0xE0	Data		PMCSR bridge support		Power management control/status			
0xE4	Reserved		Hot swap control status		HS next item pointer		HS capability ID	
0xE8 – 0xEC	Reserved							
0xF0	Reserved						Diagnostics	
0xF4 – 0xFF	Reserved							

Table 4-1 : PCI to PCI Bridge Header

For further information please refer to the Texas Instruments PCI to PCI Bridge manual.

4.2 Secondary Bus Device Number Mapping

The secondary bus device number of PMC slot 1 and PMC slot 2 is defined by configuration type translation of the PCI to PCI Bridge.

By default PMC slot 1 is mapped to secondary bus device number 0x04, and PMC slot 2 is mapped to secondary bus device number 0x05.

Function	Position	Device	IDSEL
PMC 1	Lower PMC	4	ADR[20]
PMC 2	Upper PMC	5	ADR[21]

Table 4-2 : IDSEL Assignment

4.3 Secondary PCI Clock

4.3.1 Secondary PCI Clock Combinations

For using 66 MHz PCI bus clock mode with the TCP262, the CompactPCI bus must support 66 MHz operation.

The secondary PCI bus on the TCP262 is configured by the plugged PMC modules. If any plugged PMC module does only support 33 MHz operation, the complete secondary PCI bus will always operate with 33 MHz only.

If the primary PCI bus does only support 33 MHz operation, the secondary PCI bus will also operate with 33 MHz only.

Primary PCI Bus Frequency (CompactPCI Frequency)	PMC1 Frequency Capability	PMC2 Frequency Capability	Secondary PCI Bus Operating Frequency (PMC1 and PMC2 Frequency)
33 MHz	33 MHz or 66 MHz	33 MHz or 66 MHz	33 MHz
66 MHz	33 MHz only	no PMC	33 MHz
66 MHz	no PMC	33 MHz only	33 MHz
66 MHz	33 MHz or 66 MHz	33 MHz only	33 MHz
66 MHz	33 MHz only	33 MHz or 66 MHz	33 MHz
66 MHz	33 MHz or 66 MHz	no PMC	66 MHz
66 MHz	no PMC	33 MHz or 66 MHz	66 MHz
66 MHz	33 MHz or 66 MHz	33 MHz or 66 MHz	66 MHz

Table 4-3 : Secondary PCI Clock Combinations

5 PMC to PCI Interface

The TCP262 is a standard 6U CompactPCI carrier that provides front I/O and rear I/O for up to two single width PMC modules. A transparent PCI to PCI Bridge provides the bridging between the primary CompactPCI bus and the secondary PCI bus where the two PMC slots reside.

5.1 PMC BUSMODE[4:1] Signals

The BUSMODE[4:1]# signals are unique to IEEE1386 (PMC) and are not found in the PCI or CompactPCI specification. They allow a host to identify the used mezzanine card type as a PMC card or as another existing mezzanine card type. The TCP262 does only support PMC cards. This “PMC only” configuration is indicated by pulling up BUSMODE2#, and pulling down BUSMODE3# and BUSMODE4#. The PMC card should decode the BUSMODE[4:2]# signals and drive out a logic “0” on BUSMODE1#.

5.2 Interrupt Routing

Interrupt	TCP262 - CompactPCI Pin Assignment	PMC 1 Device 4	PMC 2 Device 5
Interrupt A	INT A	INT A	INT B
Interrupt B	INT B	INT B	INT C
Interrupt C	INT C	INT C	INT D
Interrupt D	INT D	INT D	INT A

Table 5-1 : Interrupt Routing

5.1 REQ/GNT Assignment

Function	Device	REQUEST	GRANT
PMC 1	4	S_REQ#[0]	S_GNT#[0]
PMC 2	5	S_REQ#[1]	S_GNT#[1]

Table 5-2 : REQ/GNT Assignment

5.2 PMC PCI V_I/O Signaling Voltage

PMC modules are specified either for 3.3V only, 5V only or universal (3.3V or 5V) PCI V_I/O signaling voltage operation. To prevent a PMC module from being plugged into a PMC system with a different PCI V_I/O signaling voltage, the PMC specification defines a voltage keying system with voltage keying pins on the PMC carrier board and keying holes on the PMC module.

PMC modules supporting only 5V PCI V_I/O signaling voltage provide a single keying hole for the 5V voltage keying pin.

PMC modules supporting only 3.3V PCI V_I/O signaling voltage provide a single keying hole for the 3.3V voltage keying pin.

Universal PMC modules supporting both 3.3V and 5V PCI V_I/O signaling voltages provide keying holes for both voltage keying pins.

The TCP262 provides configurable PCI V_I/O signaling voltage for the local PCI bus depending on the position of the voltage keying pins of the two PMC slots.

TCP262 factory default configuration will be with both voltage keying pins set to 5.0V PCI V_I/O signaling voltage.

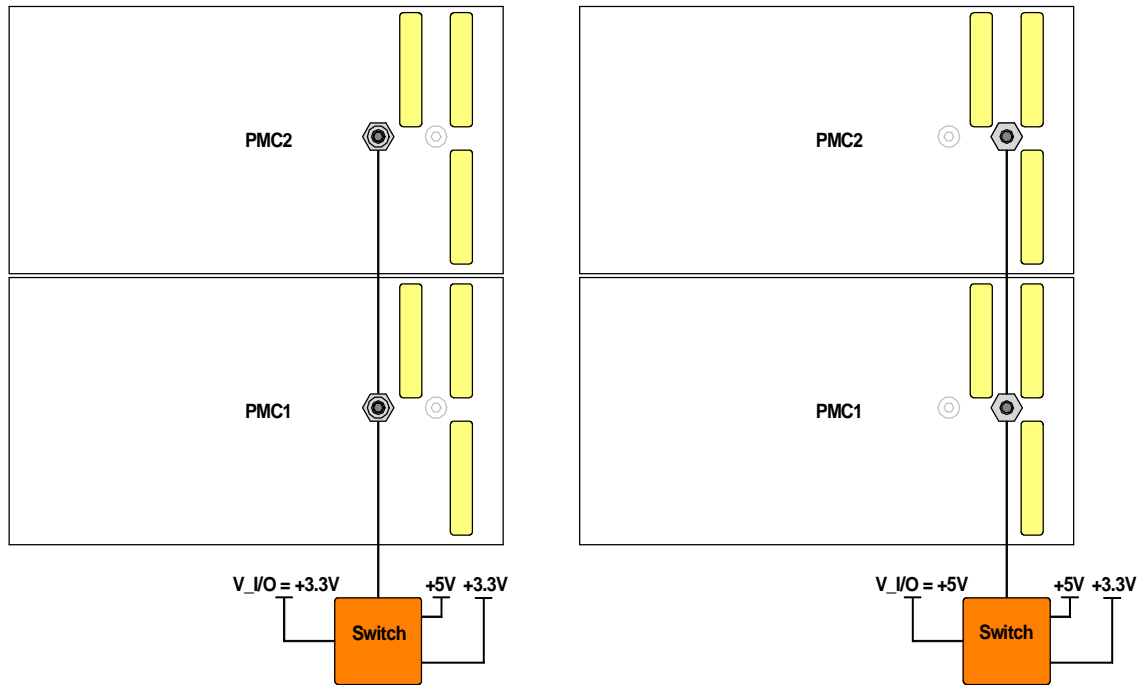


Figure 5-1 : PMC PCI V_I/O Signaling Voltage Keying Scheme

Use the following table to identify the required TCP262 Secondary PCI bus configuration for the actual PMC modules that are to be used.

PMC1 PCI Signal Voltage Capability	PMC2 PCI Signal Voltage Capability	TCP262 secondary V_I/O Configuration	TCP262 5V Keying Pins	TCP262 3.3V Keying Pins
-	3.3V Only	3.3V	Not Installed	Installed
-	3.3V or 5V	3.3V	Not Installed	Installed
		5V	Installed	Not Installed
-	5V Only	5V	Installed	Not Installed
3.3V Only	-	3.3V	Not Installed	Installed
3.3V Only	3.3V Only	3.3V	Not Installed	Installed
3.3V Only	3.3V or 5V	3.3V	Not Installed	Installed
3.3V Only	5V Only	-	-	-
3.3V or 5V	-	3.3V	Not Installed	Installed
		5V	Installed	Not Installed
3.3V or 5V	3.3V Only	3.3V	Not Installed	Installed
3.3V or 5V	3.3V or 5V	3.3V	Not Installed	Installed
		5V	Installed	Not Installed
3.3V or 5V	5V Only	5V	Installed	Not Installed
5V Only	-	5V	Installed	Not Installed
5V Only	3.3V Only	-	-	-
5V Only	3.3V or 5V	5V	Installed	Not Installed
5V Only	5V Only	5V	Installed	Not Installed

Table 5-3 : PCI Signal Voltage Configuration Matrix

WARNING !!!

Be sure that the TCP262 Secondary PCI bus Signal Voltage (S_V/I/O) configuration matches the TCP262 PMC slots keying pin configuration.

Be sure that the used PMC modules match to the TCP262 Secondary PCI bus Signal Voltage and PMC slot keying pin configuration.

If PMC modules are plugged into a PCI environment where the PCI signaling voltage does not match, damage to the equipment could occur, voiding product warranties.

6 Installation of a PMC Module

Before installing a PMC module, be sure that the power supply for the TCP262 is turned off or the TCP262 is not installed into a CompactPCI system.

The components are Electrostatic Sensitive Devices (ESD). Use an anti-static mat connected to a wristband when handling or installing the components.

The PMC modules are mounted to the TCP262 prior to installation into the CompactPCI system.

If the PMC has a front panel, first remove the cover from the PMC front panel cut-out of the TCP262. Install the PMC at an angle so that the PMC front panel penetrates the PMC front panel cut-out. Then rotate down to mate with the PMC connectors on the TCP262. If the PMC has no front panel, simply plug in the PMC, and leave the cover in the PMC front panel cut-out of the TCP262.

After the PMC module has been installed, it can be mounted on the TCP262 using the mounting screws that come with the PMC module. There are four screw mounting locations, two at the PMC front panel and two at the standoffs near the PMC bus connectors.

WARNING !!!

Be sure that the TCP262 Secondary PCI bus Signal Voltage (S_V/I/O) configuration matches the TCP262 PMC slots keying pin configuration.

Be sure that the used PMC modules match to the TCP262 Secondary PCI bus Signal Voltage and PMC slot keying pin configuration.

If PMC modules are plugged into a PCI environment where the PCI signaling voltage does not match, damage to the equipment could occur, voiding product warranties.

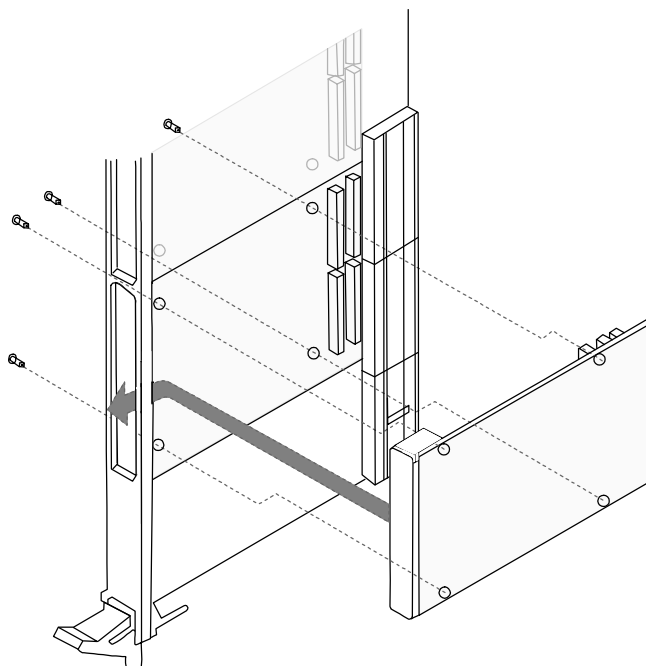


Figure 6-1 : Installation of a PMC Module

7 Pin Assignment

7.1 CompactPCI J1

Position	Row					
	F	E	D	C	B	A
25	GND	5V	3.3V	ENUM#	REQ64#	5V
24	GND	ACK64#	AD[0]	V(I/O) (L)	5V	AD[1]
23	GND	AD[2]	5V (L)	AD[3]	AD[4]	3.3V
22	GND	AD[5]	AD[6]	3.3V (L)	GND	AD[7]
21	GND	C/BE[0]#	M66EN	AD[8]	AD[9]	3.3V
20	GND	AD[10]	AD[11]	V(I/O)	GND	AD[12]
19	GND	AD[13]	GND(L)	AD[14]	AD[15]	3.3V
18	GND	C/BE[1]#	PAR	3.3V	GND	SERR#
17	GND	PERR#	GND (L)	IPMB_SDA	IPMB_SCL	3.3V
16	GND	LOCK#	STOP#	V(I/O)	GND	DEVSEL#
15	GND	TRDY#	BD_SEL#	IRDY#	FRAME#	3.3V
14	GND	key	key	key	key	key
13	GND	key	key	key	key	key
12	GND	key	key	key	key	key
11	GND	C/BE[2]#	GND (L)	AD[16]	AD[17]	AD[18]
10	GND	AD[19]	AD[20]	3.3V	GND	AD[21]
9	GND	AD[22]	GND (L)	AD[23]	IDSEL	C/BE[3]#
8	GND	AD[24]	AD[25]	V(I/O)	GND	AD[26]
7	GND	AD[27]	GND (L)	AD[28]	AD[29]	AD[30]
6	GND	AD[31]	CLK	3.3V (L)	GND	REQ#
5	GND	GNT#	GND (L)	RST#	BRSVP1B5	BRSVP1A5
4	GND	INTS	INTP	V(I/O) (L)	HEALTHY#	IPMB_PWR
3	GND	INTD#	5V (L)	INTC#	INTB#	INTA#
2	GND	TDI	TDO	TMS	5V	TCK
1	GND	5V	+12V	TRST#	-12V	5V

Table 5-1: CompactPCI J1 Pin Assignment

7.2 CompactPCI J3

Position	Row					
	F	E	D	C	B	A
19	GND	NC	NC	NC	NC	NC
18	GND	NC	NC	NC	NC	NC
17	GND	NC	NC	NC	NC	NC
16	GND	NC	NC	NC	NC	NC
15	GND	NC	NC	NC	NC	NC
14	GND	5V	5V	3.3V	3.3V	3.3V
13	GND	PMC1 I/O 1	PMC1 I/O 2	PMC1 I/O 3	PMC1 I/O 4	PMC1 I/O 5
12	GND	PMC1 I/O 6	PMC1 I/O 7	PMC1 I/O 8	PMC1 I/O 9	PMC1 I/O 10
11	GND	PMC1 I/O 11	PMC1 I/O 12	PMC1 I/O 13	PMC1 I/O 14	PMC1 I/O 15
10	GND	PMC1 I/O 16	PMC1 I/O 17	PMC1 I/O 18	PMC1 I/O 19	PMC1 I/O 20
9	GND	PMC1 I/O 21	PMC1 I/O 22	PMC1 I/O 23	PMC1 I/O 24	PMC1 I/O 25
8	GND	PMC1 I/O 26	PMC1 I/O 27	PMC1 I/O 28	PMC1 I/O 29	PMC1 I/O 30
7	GND	PMC1 I/O 31	PMC1 I/O 32	PMC1 I/O 33	PMC1 I/O 34	PMC1 I/O 35
6	GND	PMC1 I/O 36	PMC1 I/O 37	PMC1 I/O 38	PMC1 I/O 39	PMC1 I/O 40
5	GND	PMC1 I/O 41	PMC1 I/O 42	PMC1 I/O 43	PMC1 I/O 44	PMC1 I/O 45
4	GND	PMC1 I/O 46	PMC1 I/O 47	PMC1 I/O 48	PMC1 I/O 49	PMC1 I/O 50
3	GND	PMC1 I/O 51	PMC1 I/O 52	PMC1 I/O 53	PMC1 I/O 54	PMC1 I/O 55
2	GND	PMC1 I/O 56	PMC1 I/O 57	PMC1 I/O 58	PMC1 I/O 59	PMC1 I/O 60
1	GND	PMC1 I/O 61	PMC1 I/O 62	PMC1 I/O 63	PMC1 I/O 64	V I/O

Table 5-2: CompactPCI J3 Pin Assignment

7.3 CompactPCI J5

Position	Row					
	F	E	D	C	B	A
22	GND	NC	NC	NC	NC	NC
21	GND	NC	NC	NC	NC	NC
20	GND	NC	NC	NC	NC	NC
19	GND	NC	NC	NC	NC	NC
18	GND	NC	NC	NC	NC	NC
17	GND	NC	NC	NC	NC	NC
16	GND	NC	NC	NC	NC	NC
15	GND	NC	NC	NC	NC	NC
14	GND	NC	NC	NC	NC	NC
13	GND	PMC2 I/O 1	PMC2 I/O 2	PMC2 I/O 3	PMC2 I/O 4	PMC2 I/O 5
12	GND	PMC2 I/O 6	PMC2 I/O 7	PMC2 I/O 8	PMC2 I/O 9	PMC2 I/O 10
11	GND	PMC2 I/O 11	PMC2 I/O 12	PMC2 I/O 13	PMC2 I/O 14	PMC2 I/O 15
10	GND	PMC2 I/O 16	PMC2 I/O 17	PMC2 I/O 18	PMC2 I/O 19	PMC2 I/O 20
9	GND	PMC2 I/O 21	PMC2 I/O 22	PMC2 I/O 23	PMC2 I/O 24	PMC2 I/O 25
8	GND	PMC2 I/O 26	PMC2 I/O 27	PMC2 I/O 28	PMC2 I/O 29	PMC2 I/O 30
7	GND	PMC2 I/O 31	PMC2 I/O 32	PMC2 I/O 33	PMC2 I/O 34	PMC2 I/O 35
6	GND	PMC2 I/O 36	PMC2 I/O 37	PMC2 I/O 38	PMC2 I/O 39	PMC2 I/O 40
5	GND	PMC2 I/O 41	PMC2 I/O 42	PMC2 I/O 43	PMC2 I/O 44	PMC2 I/O 45
4	GND	PMC2 I/O 46	PMC2 I/O 47	PMC2 I/O 48	PMC2 I/O 49	PMC2 I/O 50
3	GND	PMC2 I/O 51	PMC2 I/O 52	PMC2 I/O 53	PMC2 I/O 54	PMC2 I/O 55
2	GND	PMC2 I/O 56	PMC2 I/O 57	PMC2 I/O 58	PMC2 I/O 59	PMC2 I/O 60
1	GND	PMC2 I/O 61	PMC2 I/O 62	PMC2 I/O 63	PMC2 I/O 64	V I/O

Table 5-3: CompactPCI J5 Pin Assignment

7.4 PMC J11

Pin	Signal	Signal	Pin
1	TCK	-12V	2
3	GND	INTA#	4
5	INTB#	INTC#	6
7	BUSMODE1#	+5V	8
9	INTD#	PCI-RSVD	10
11	GND	3.3Vaux	12
13	CLK	GND	14
15	GND	GNT#	16
17	REG#	+5V	18
19	V (I/O)	AD[31]	20
21	AD[28]	AD[27]	22
23	AD[25]	GND	24
25	GND	C/BE[3]#	26
27	AD[22]	AD[21]	28
29	AD[19]	+5V	30
31	V (I/O)	AD[17]	32
33	FRAME#	GND	34
35	GND	IRDY#	36
37	DEVSEL#	+5V	38
39	GND	LOCK#	40
41	PCI-RSVD	PCI-RSVD	42
43	PAR	GND	44
45	V (I/O)	AD[15]	46
47	AD[12]	AD[11]	48
49	AD[09]	+5V	50
51	GND	C/BE[0]#	52
53	AD[06]	AD[05]	54
55	AD[04]	GND	56
57	V (I/O)	AD[03]	58
59	AD[02]	AD[01]	60
61	AD[00]	+5V	62
63	GND	REQ64#	64

Table 5-4: PMC J11 Pin Assignment

7.5 PMC J12

Pin	Signal	Signal	Pin
1	+12V	TRST#	2
3	TMS	TDO	4
5	TDI	GND	6
7	GND	PCI-RSVD	8
9	PCI-RSVD	PCI-RSVD	10
11	BUSMODE2#	+3.3V	12
13	RST#	BUSMODE3#	14
15	+3.3V	BUSMODE4#	16
17	PME#	GND	18
19	AD[30]	AD[29]	20
21	GND	AD[26]	22
23	AD[24]	+3.3V	24
25	IDSEL	AD[23]	26
27	+3.3V	AD[20]	28
29	AD[18]	GND	30
31	AD[16]	C/BE[2]#	32
33	GND	PMC-RSVD	34
35	TRDY#	+3.3V	36
37	GND	STOP#	38
39	PERR#	GND	40
41	+3.3V	SERR#	42
43	C/BE[1]#	GND	44
45	AD[14]	AD[13]	46
47	M66EN	AD[10]	48
49	AD[08]	+3.3V	50
51	AD[07]	PMC-RSVD	52
53	+3.3V	PMC-RSVD	54
55	PMC-RSVD	GND	56
57	PMC-RSVD	PMC-RSVD	58
59	GND	PMC-RSVD	60
61	ACK64#	+3.3V	62
63	GND	PMC-RSVD	64

Table 5-5: PMC J12 Pin Assignment

7.6 PMC J14

Pin	Signal	Signal	Pin
1	PMC1 I/O 1	PMC1 I/O 2	2
3	PMC1 I/O 3	PMC1 I/O 4	4
5	PMC1 I/O 5	PMC1 I/O 6	6
7	PMC1 I/O 7	PMC1 I/O 8	8
9	PMC1 I/O 9	PMC1 I/O 10	10
11	PMC1 I/O 11	PMC1 I/O 12	12
13	PMC1 I/O 13	PMC1 I/O 14	14
15	PMC1 I/O 15	PMC1 I/O 16	16
17	PMC1 I/O 17	PMC1 I/O 18	18
19	PMC1 I/O 19	PMC1 I/O 20	20
21	PMC1 I/O 21	PMC1 I/O 22	22
23	PMC1 I/O 23	PMC1 I/O 24	24
25	PMC1 I/O 25	PMC1 I/O 26	26
27	PMC1 I/O 27	PMC1 I/O 28	28
29	PMC1 I/O 29	PMC1 I/O 30	30
31	PMC1 I/O 31	PMC1 I/O 32	32
33	PMC1 I/O 33	PMC1 I/O 34	34
35	PMC1 I/O 35	PMC1 I/O 36	36
37	PMC1 I/O 37	PMC1 I/O 38	38
39	PMC1 I/O 39	PMC1 I/O 40	40
41	PMC1 I/O 41	PMC1 I/O 42	42
43	PMC1 I/O 43	PMC1 I/O 44	44
45	PMC1 I/O 45	PMC1 I/O 46	46
47	PMC1 I/O 47	PMC1 I/O 48	48
49	PMC1 I/O 49	PMC1 I/O 50	50
51	PMC1 I/O 51	PMC1 I/O 52	52
53	PMC1 I/O 53	PMC1 I/O 54	54
55	PMC1 I/O 55	PMC1 I/O 56	56
57	PMC1 I/O 57	PMC1 I/O 58	58
59	PMC1 I/O 59	PMC1 I/O 60	60
61	PMC1 I/O 61	PMC1 I/O 62	62
63	PMC1 I/O 63	PMC1 I/O 64	64

Table 5-6: PMC J14 Pin Assignment

7.7 PMC J21

Pin	Signal	Signal	Pin
1	TCK	-12V	2
3	GND	INTA#	4
5	INTB#	INTC#	6
7	BUSMODE1#	+5V	8
9	INTD#	PCI-RSVD	10
11	GND	3.3Vaux	12
13	CLK	GND	14
15	GND	GNT#	16
17	REG#	+5V	18
19	V (I/O)	AD[31]	20
21	AD[28]	AD[27]	22
23	AD[25]	GND	24
25	GND	C/BE[3]#	26
27	AD[22]	AD[21]	28
29	AD[19]	+5V	30
31	V (I/O)	AD[17]	32
33	FRAME#	GND	34
35	GND	IRDY#	36
37	DEVSEL#	+5V	38
39	GND	LOCK#	40
41	PCI-RSVD	PCI-RSVD	42
43	PAR	GND	44
45	V (I/O)	AD[15]	46
47	AD[12]	AD[11]	48
49	AD[09]	+5V	50
51	GND	C/BE[0]#	52
53	AD[06]	AD[05]	54
55	AD[04]	GND	56
57	V (I/O)	AD[03]	58
59	AD[02]	AD[01]	60
61	AD[00]	+5V	62
63	GND	REQ64#	64

Table 5-7: PMC J21 Pin Assignment

7.8 PMC J22

Pin	Signal	Signal	Pin
1	+12V	TRST#	2
3	TMS	TDO	4
5	TDI	GND	6
7	GND	PCI-RSVD	8
9	PCI-RSVD	PCI-RSVD	10
11	BUSMODE2#	+3.3V	12
13	RST#	BUSMODE3#	14
15	+3.3V	BUSMODE4#	16
17	PME#	GND	18
19	AD[30]	AD[29]	20
21	GND	AD[26]	22
23	AD[24]	+3.3V	24
25	IDSEL	AD[23]	26
27	+3.3V	AD[20]	28
29	AD[18]	GND	30
31	AD[16]	C/BE[2]#	32
33	GND	PMC-RSVD	34
35	TRDY#	+3.3V	36
37	GND	STOP#	38
39	PERR#	GND	40
41	+3.3V	SERR#	42
43	C/BE[1]#	GND	44
45	AD[14]	AD[13]	46
47	M66EN	AD[10]	48
49	AD[08]	+3.3V	50
51	AD[07]	PMC-RSVD	52
53	+3.3V	PMC-RSVD	54
55	PMC-RSVD	GND	56
57	PMC-RSVD	PMC-RSVD	58
59	GND	PMC-RSVD	60
61	ACK64#	+3.3V	62
63	GND	PMC-RSVD	64

Table 5-8: PMC J22 Pin Assignment

7.9 PMC J24

Pin	Signal	Signal	Pin
1	PMC2 I/O 1	PMC2 I/O 2	2
3	PMC2 I/O 3	PMC2 I/O 4	4
5	PMC2 I/O 5	PMC2 I/O 6	6
7	PMC2 I/O 7	PMC2 I/O 8	8
9	PMC2 I/O 9	PMC2 I/O 10	10
11	PMC2 I/O 11	PMC2 I/O 12	12
13	PMC2 I/O 13	PMC2 I/O 14	14
15	PMC2 I/O 15	PMC2 I/O 16	16
17	PMC2 I/O 17	PMC2 I/O 18	18
19	PMC2 I/O 19	PMC2 I/O 20	20
21	PMC2 I/O 21	PMC2 I/O 22	22
23	PMC2 I/O 23	PMC2 I/O 24	24
25	PMC2 I/O 25	PMC2 I/O 26	26
27	PMC2 I/O 27	PMC2 I/O 28	28
29	PMC2 I/O 29	PMC2 I/O 30	30
31	PMC2 I/O 31	PMC2 I/O 32	32
33	PMC2 I/O 33	PMC2 I/O 34	34
35	PMC2 I/O 35	PMC2 I/O 36	36
37	PMC2 I/O 37	PMC2 I/O 38	38
39	PMC2 I/O 39	PMC2 I/O 40	40
41	PMC2 I/O 41	PMC2 I/O 42	42
43	PMC2 I/O 43	PMC2 I/O 44	44
45	PMC2 I/O 45	PMC2 I/O 46	46
47	PMC2 I/O 47	PMC2 I/O 48	48
49	PMC2 I/O 49	PMC2 I/O 50	50
51	PMC2 I/O 51	PMC2 I/O 52	52
53	PMC2 I/O 53	PMC2 I/O 54	54
55	PMC2 I/O 55	PMC2 I/O 56	56
57	PMC2 I/O 57	PMC2 I/O 58	58
59	PMC2 I/O 59	PMC2 I/O 60	60
61	PMC2 I/O 61	PMC2 I/O 62	62
63	PMC2 I/O 63	PMC2 I/O 64	64

Table 5-9: PMC J24 Pin Assignment