

# GAOLIN ELECTRONICS

## CPCI+ POWER SOCKET 9U4SLOTS BACKPLANE

### Technology Specification

CB9104112-400

Issue Date: 2013-05-18

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## Technology Specification

### DESIGN ACCORDING TO:

- CPCI Specification PICMG 2.0 R3.0 (October 1, 1999)
- CPCI Hot Swap Specification PICMG 2.1 R1.0 (August 3, 1998)
- CPCI System Management Specification PICMG 2.9 R1.0 (February 2, 2000)
- Keying of CPCI Boards and Backplanes PICMG 2.10 R1.0 (October 1, 1999)
- CPCI Power Interface Specification PICMG 2.11 R1.0 (October 1, 1999)

### BUS STRUCTURES:

|      | CPCI POWER SOCKET |            | CPCI POWER SOCKET |            |
|------|-------------------|------------|-------------------|------------|
| P5   | I/O               |            | I/O               |            |
| P4   | I/O               |            | I/O               |            |
| P3   | I/O               |            | I/O               |            |
| P2   | 64bit/66MHz       |            | 64bit/66MHz       |            |
| P1   |                   |            |                   |            |
| Slot | 1                 | 2          | 3                 | 4          |
| SPEC | System            | Peripheral | System            | Peripheral |

### TECHNICAL DATA:

- 4 Slots; 2 system slots + 2 Peripheral Slots;
- All Peripheral slots support 64bit/66Mhz CPCI bus
- Mechanical dimension: 395.35 × 80.28 × 4.0mm (width × height × thickness), support 6U card.
- PCB Type: 10 layers
- Power connector: Two CPCI Power Receptacle for Redundant PSU
- Maximum voltage drop on backplane power: <20mV
- V(I/O): +3.3V / +5V selectable
- Impedance: 65ohm ±10% for trace
- Operating temperature: -40℃ ~ +85℃
- Storage temperature: -55℃ ~ +85℃
- MTBF: 700,000h

**PIN ASSIGNMENT:**

See following tables.

**P1 of Slot 1, 3**

|            |                 |          |           |          |          |          |          |
|------------|-----------------|----------|-----------|----------|----------|----------|----------|
| 25         | GND             | 5V       | REQ64#    | ENUM#    | 3.3V     | 5V       | GND      |
| 24         | GND             | AD1      | 5V        | V(I/O)   | AD0      | ACK6     | GND      |
| 23         | GND             | 3.3V     | AD4       | AD3      | 5V       | AD2      | GND      |
| 22         | GND             | AD7      | GND       | 3.3V     | AD6      | AD5      | GND      |
| 21         | GND             | 3.3V     | AD9       | AD8      | M66EN    | C/BE0    | GND      |
| 20         | GND             | AD12     | GND       | V(I/O)   | AD11     | AD10     | GND      |
| 19         | GND             | 3.3V     | AD15      | AD14     | GND      | AD13     | GND      |
| 18         | GND             | SERR#    | GND       | 3.3V     | PAR      | C/BE1    | GND      |
| 17         | GND             | 3.3V     | IPMB_SCL  | IPMB_SDA | GND      | PERR#    | GND      |
| 16         | GND             | DEVSEL#  | GND       | V(I/O)   | STOP#    | LOCK     | GND      |
| 15         | GND             | 3.3V     | FRAME#    | IRDY#    | BD_SEL#  | TRDY     | GND      |
| 14         | <b>KEY AREA</b> |          |           |          |          |          |          |
| 13         |                 |          |           |          |          |          |          |
| 12         |                 |          |           |          |          |          |          |
| 11         | GND             | AD18     | AD17      | AD16     | GND      | C/BE2    | GND      |
| 10         | GND             | AD21     | GND       | 3.3V     | AD20     | AD19     | GND      |
| 9          | GND             | C/BE3#   | GND       | AD23     | GND      | AD22     | GND      |
| 8          | GND             | AD26     | GND       | V(I/O)   | AD25     | AD24     | GND      |
| 7          | GND             | AD30     | AD29      | AD28     | GND      | AD27     | GND      |
| 6          | GND             | REQ0#    | GND       | 3.3V     | CLK0     | AD31     | GND      |
| 5          | GND             | BRSVP1A5 | BRSVP1B5  | PCI_RST# | GND      | GNT0     | GND      |
| 4          | GND             | IPMB_PWR | HEALTHY1# | V(I/O)   | INTP     | INTS     | GND      |
| 3          | GND             | INTA#    | INTB#     | INTC#    | 5V       | INTD#    | GND      |
| 2          | GND             | TCK      | 5V        | TMS      | TDO      | TDI      | GND      |
| 1          | GND             | 5V       | -12V      | TRST#    | +12V     | 5V       | GND      |
| <b>Pin</b> | <b>Z</b>        | <b>A</b> | <b>B</b>  | <b>C</b> | <b>D</b> | <b>E</b> | <b>F</b> |

**P1 of Slot2, 4**

|            |                 |          |           |          |          |          |          |
|------------|-----------------|----------|-----------|----------|----------|----------|----------|
| 25         | GND             | 5V       | REQ64#    | ENUM#    | 3.3V     | 5V       | GND      |
| 24         | GND             | AD1      | 5V        | V(I/O)   | AD0      | ACK64#   | GND      |
| 23         | GND             | 3.3V     | AD4       | AD3      | 5V       | AD2      | GND      |
| 22         | GND             | AD7      | GND       | 3.3V     | AD6      | AD5      | GND      |
| 21         | GND             | 3.3V     | AD9       | AD8      | M66EN    | C/BE0#   | GND      |
| 20         | GND             | AD12     | GND       | V(I/O)   | AD11     | AD10     | GND      |
| 19         | GND             | 3.3V     | AD15      | AD14     | GND      | AD13     | GND      |
| 18         | GND             | SERR#    | GND       | 3.3V     | PAR      | C/BE1#   | GND      |
| 17         | GND             | 3.3V     | IPMB_SCL  | IPMB_SDA | GND      | PERR#    | GND      |
| 16         | GND             | DEVSEL#  | GND       | V(I/O)   | STOP#    | LOCK#    | GND      |
| 15         | GND             | 3.3V     | FRAME#    | IRDY#    | BD_SEL#  | TRDY#    | GND      |
| 14         | <b>KEY AREA</b> |          |           |          |          |          |          |
| 13         |                 |          |           |          |          |          |          |
| 12         |                 |          |           |          |          |          |          |
| 11         | GND             | AD18     | AD17      | AD16     | GND      | C/BE2#   | GND      |
| 10         | GND             | AD21     | GND       | 3.3V     | AD20     | AD19     | GND      |
| 9          | GND             | C/BE3#   | IDSEL     | AD23     | GND      | AD22     | GND      |
| 8          | GND             | AD26     | GND       | V(I/O)   | AD25     | AD24     | GND      |
| 7          | GND             | AD30     | AD29      | AD28     | GND      | AD27     | GND      |
| 6          | GND             | REQ0#    | GND       | 3.3V     | CLK      | AD31     | GND      |
| 5          | GND             | BRSVP1A5 | BRSVP1B5  | PCI_RST# | GND      | GNT#     | GND      |
| 4          | GND             | IPMB_PWR | HEALTHY1# | V(I/O)   | INTP     | INTS     | GND      |
| 3          | GND             | INTA#    | INTB#     | INTC#    | 5V       | INTD#    | GND      |
| 2          | GND             | TCK      | 5V        | TMS      | TDO      | TDI      | GND      |
| 1          | GND             | 5V       | -12V      | TRST#    | +12V     | 5V       | GND      |
| <b>Pin</b> | <b>Z</b>        | <b>A</b> | <b>B</b>  | <b>C</b> | <b>D</b> | <b>E</b> | <b>F</b> |

**P2 of Slot 1, 3**

|            |          |           |           |           |          |           |          |
|------------|----------|-----------|-----------|-----------|----------|-----------|----------|
| 22         | GND      | GA4       | GA3       | GA2       | GA1      | GA0       | GND      |
| 21         | GND      | CLK6      | GND       |           |          |           | GND      |
| 20         | GND      | CLK5      | GND       |           | GND      |           | GND      |
| 19         | GND      | GND       | GND       | SMB_SDA   | SMB_SCL  | SMB_ALERT | GND      |
| 18         | GND      | BRSVP2A18 | BRSVP2B18 | BRSVP2C18 | GND      | BRSVP2E18 | GND      |
| 17         | GND      | BRSVP2A17 | GND       | PRST#     |          |           | GND      |
| 16         | GND      | BRSVP2A16 | BRSVP2B16 | DEG#      | GND      | BRSVP2E16 | GND      |
| 15         | GND      | BRSVP2A15 | GND       | FAL#      |          |           | GND      |
| 14         | GND      | AD35      | AD34      | AD33      | GND      | AD32      | GND      |
| 13         | GND      | AD38      | GND       | V(I/O)    | AD37     | AD36      | GND      |
| 12         | GND      | AD42      | AD41      | AD40      | GND      | AD39      | GND      |
| 11         | GND      | AD45      | GND       | V(I/O)    | AD44     | AD43      | GND      |
| 10         | GND      | AD49      | AD48      | AD47      | GND      | AD46      | GND      |
| 9          | GND      | AD52      | GND       | V(I/O)    | AD51     | AD50      | GND      |
| 8          | GND      | AD56      | AD55      | AD54      | GND      | AD53      | GND      |
| 7          | GND      | AD59      | GND       | V(I/O)    | AD58     | AD57      | GND      |
| 6          | GND      | AD63      | AD62      | AD61      | GND      | AD60      | GND      |
| 5          | GND      | C/BE5#    | GND       | V(I/O)    | C/BE4#   | PAR64     | GND      |
| 4          | GND      | V(I/O)    | BRSVP2B4  | C/BE7#    | GND      | C/BE6#    | GND      |
| 3          | GND      | CLK4      | GND       | GNT3#     | REQ4#    | GNT4#     | GND      |
| 2          | GND      | CLK2      | CLK3      | SYSEN#    | GNT2#    | REQ3#     | GND      |
| 1          | GND      | CLK1      | GND       | REQ1#     | GNT1#    | REQ2#     | GND      |
| <b>Pin</b> | <b>Z</b> | <b>A</b>  | <b>B</b>  | <b>C</b>  | <b>D</b> | <b>E</b>  | <b>F</b> |

**P2 of Slot 2, 4**

|            |          |           |           |           |          |           |          |
|------------|----------|-----------|-----------|-----------|----------|-----------|----------|
| 22         | GND      | GA4       | GA3       | GA2       | GA1      | GA0       | GND      |
| 21         | GND      |           |           |           |          |           | GND      |
| 20         | GND      |           |           |           | GND      |           | GND      |
| 19         | GND      |           |           |           |          |           | GND      |
| 18         | GND      | BRSVP2A18 | BRSVP2B18 | BRSVP2C18 | GND      | BRSVP2E18 | GND      |
| 17         | GND      | BRSVP2A17 | GND       |           |          |           | GND      |
| 16         | GND      | BRSVP2A16 | BRSVP2B16 |           | GND      | BRSVP2E16 | GND      |
| 15         | GND      | BRSVP2A15 | GND       |           |          |           | GND      |
| 14         | GND      | AD35      | AD34      | AD33      | GND      | AD32      | GND      |
| 13         | GND      | AD38      | GND       | V(I/O)    | AD37     | AD36      | GND      |
| 12         | GND      | AD42      | AD41      | AD40      | GND      | AD39      | GND      |
| 11         | GND      | AD45      | GND       | V(I/O)    | AD44     | AD43      | GND      |
| 10         | GND      | AD49      | AD48      | AD47      | GND      | AD46      | GND      |
| 9          | GND      | AD52      | GND       | V(I/O)    | AD51     | AD50      | GND      |
| 8          | GND      | AD56      | AD55      | AD54      | GND      | AD53      | GND      |
| 7          | GND      | AD59      | GND       | V(I/O)    | AD58     | AD57      | GND      |
| 6          | GND      | AD63      | AD62      | AD61      | GND      | AD60      | GND      |
| 5          | GND      | C/BE5#    | GND       | V(I/O)    | C/BE4#   | PAR64     | GND      |
| 4          | GND      | V(I/O)    | BRSVP2B4  | C/BE7#    | GND      | C/BE6#    | GND      |
| 3          | GND      |           | GND       |           |          |           | GND      |
| 2          | GND      |           |           |           |          |           | GND      |
| 1          | GND      |           | GND       |           |          |           | GND      |
| <b>Pin</b> | <b>Z</b> | <b>A</b>  | <b>B</b>  | <b>C</b>  | <b>D</b> | <b>E</b>  | <b>F</b> |

**P3 of Slot 1 ~ 4**

|            |          |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|----------|
| 19         | GND      |          |          |          |          |          | GND      |
| 18         | GND      |          |          |          |          |          | GND      |
| 17         | GND      |          |          |          |          |          | GND      |
| 16         | GND      |          |          |          |          |          | GND      |
| 15         | GND      |          |          |          |          |          | GND      |
| 14         | GND      |          |          |          |          |          | GND      |
| 13         | GND      |          |          |          |          |          | GND      |
| 12         | GND      |          |          |          |          |          | GND      |
| 11         | GND      |          |          |          |          |          | GND      |
| 10         | GND      |          |          |          |          |          | GND      |
| 9          | GND      |          |          |          |          |          | GND      |
| 8          | GND      |          |          |          |          |          | GND      |
| 7          | GND      |          |          |          |          |          | GND      |
| 6          | GND      |          |          |          |          |          | GND      |
| 5          | GND      |          |          |          |          |          | GND      |
| 4          | GND      |          |          |          |          |          | GND      |
| 3          | GND      |          |          |          |          |          | GND      |
| 2          | GND      |          |          |          |          |          | GND      |
| 1          | GND      |          |          |          |          |          | GND      |
| <b>Pin</b> | <b>Z</b> | <b>A</b> | <b>B</b> | <b>C</b> | <b>D</b> | <b>E</b> | <b>F</b> |

**P4 of Slot 1 ~ 4**

|     |          |   |   |   |   |   |     |
|-----|----------|---|---|---|---|---|-----|
| 25  | GND      |   |   |   |   |   | GND |
| 24  | GND      |   |   |   |   |   | GND |
| 23  | GND      |   |   |   |   |   | GND |
| 22  | GND      |   |   |   |   |   | GND |
| 21  | GND      |   |   |   |   |   | GND |
| 20  | GND      |   |   |   |   |   | GND |
| 19  | GND      |   |   |   |   |   | GND |
| 18  | GND      |   |   |   |   |   | GND |
| 17  | GND      |   |   |   |   |   | GND |
| 16  | GND      |   |   |   |   |   | GND |
| 15  | GND      |   |   |   |   |   | GND |
| 14  | KEY AREA |   |   |   |   |   |     |
| 13  |          |   |   |   |   |   |     |
| 12  |          |   |   |   |   |   |     |
| 11  | GND      |   |   |   |   |   | GND |
| 10  | GND      |   |   |   |   |   | GND |
| 9   | GND      |   |   |   |   |   | GND |
| 8   | GND      |   |   |   |   |   | GND |
| 7   | GND      |   |   |   |   |   | GND |
| 6   | GND      |   |   |   |   |   | GND |
| 5   | GND      |   |   |   |   |   | GND |
| 4   | GND      |   |   |   |   |   | GND |
| 3   | GND      |   |   |   |   |   | GND |
| 2   | GND      |   |   |   |   |   | GND |
| 1   | GND      |   |   |   |   |   | GND |
| Pin | Z        | A | B | C | D | E | F   |

**P5 of Slot 1~4**

|            |          |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|----------|
| 22         | GND      |          |          |          |          |          | GND      |
| 21         | GND      |          |          |          |          |          | GND      |
| 20         | GND      |          |          |          |          |          | GND      |
| 19         | GND      |          |          |          |          |          | GND      |
| 18         | GND      |          |          |          |          |          | GND      |
| 17         | GND      |          |          |          |          |          | GND      |
| 16         | GND      |          |          |          |          |          | GND      |
| 15         | GND      |          |          |          |          |          | GND      |
| 14         | GND      |          |          |          |          |          | GND      |
| 13         | GND      |          |          |          |          |          | GND      |
| 12         | GND      |          |          |          |          |          | GND      |
| 11         | GND      |          |          |          |          |          | GND      |
| 10         | GND      |          |          |          |          |          | GND      |
| 9          | GND      |          |          |          |          |          | GND      |
| 8          | GND      |          |          |          |          |          | GND      |
| 7          | GND      |          |          |          |          |          | GND      |
| 6          | GND      |          |          |          |          |          | GND      |
| 5          | GND      |          |          |          |          |          | GND      |
| 4          | GND      |          |          |          |          |          | GND      |
| 3          | GND      |          |          |          |          |          | GND      |
| 2          | GND      |          |          |          |          |          | GND      |
| 1          | GND      |          |          |          |          |          | GND      |
| <b>Pin</b> | <b>Z</b> | <b>A</b> | <b>B</b> | <b>C</b> | <b>D</b> | <b>E</b> | <b>F</b> |

## Backplane Connector Description

### Optional Power Taps :

The optional power taps are for +12V, 5V, 3.3V, GNG.

### VI/O 设置 :JP1

设置 CPCI 总线的 VI/O 电压: +3.3V / +5V selectable, 出厂默认+5V.

### RESET:

This connector can reset the system board by shorting the headers of it.

### R4 :

PCI 总线 66M/33M 选择。R5 焊接为 33M, 不焊接为 66M。

### IPMB:

System Management.

| Pin | Signal   | Pin | Signal    |
|-----|----------|-----|-----------|
| 1   | IPMB_PWR | 2   | SMB_ALERT |
| 3   | IPMB_SDA | 4   | SMB_SDA   |
| 5   | IPMB_SCL | 6   | SMB_SCL   |
| 7   | GND      | 8   | GND       |
| 9   | GND      | 10  | GND       |

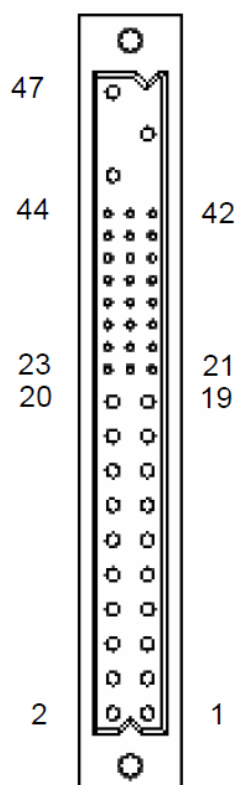
### Volt:

All the alarm signals and various power supply are connected to it. It is used to connect external monitor module.

| Pin | Signal | Pin | Signal |
|-----|--------|-----|--------|
| 1   | -12V   | 2   | PRST#  |
| 3   | +12V   | 4   | DEG#   |
| 5   | 3.3V   | 6   | FAL#   |
| 7   | 5V     | 8   | GND    |
| 9   | INH#   | 10  | GND    |

### INPUT: 交流输入端

| Pin | Signal  | Pin | Signal  | Pin | Signal |
|-----|---------|-----|---------|-----|--------|
| 1   | ACL/-DC | 2   | ACN/+DC | 3   | CGND   |

**POWER\_1&POWER\_2:Modular Power 47P Connector**

| Pin | Signal     | Pin   | Signal   |
|-----|------------|-------|----------|
| 47  | ACL/-DC IN | 31    | GA2      |
| 46  | ACN/+DC IN | 30    | V1 SENSE |
| 45  | CGND       | 29    | V1ADJ    |
| 44  | V3 SHARE   | 28    | GA1      |
| 43  | IPMB_PWR   | 27    | EN#      |
| 42  | +FAL#      | 26    | RESERVED |
| 41  | V2 SHARE   | 25    | GA0      |
| 40  | IPMB_SDA   | 24    | RTN      |
| 39  | INH#       | 23    | RESERVED |
| 38  | DEG#       | 22    | RTN      |
| 37  | IPMB_SCL   | 21    | V4       |
| 36  | V3 SENSE   | 20    | V3       |
| 35  | V1 SHARE   | 19    | RTN      |
| 34  | S RTN      | 13-18 | V2       |
| 33  | V2 SENSE   | 5-12  | RTN      |
| 32  | V2ADJ      | 1-4   | V1       |

## BACKPLANE TOP VIEW

