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# Building Forward Together



# cPCI-6530(BL) Series

6U CompactPCI 5th/4th Generation Intel® Core™ Processor Blade with

two PMC/XMC sites

### **Features**

- Quad-core 5th/4th Generation Intel<sup>®</sup> Core™ i7 processor with ECC
- Dual channel DDR3L ECC memory, soldered and SO-CDIMM, up to 16GB
- Versatile storage: SSD, CFAST, mSATA
- Dual PMC/XMC sites
- Remote management and TPM support











## Processor & System

CPU



uFC-BGA quad-core Intel® Core™ i7-5850EQ processor, 2.7/3.4GHz, 6MB L3 cache, 47/27 TDP, Intel® Iris Pro Graphics 6200



2.6/3.4GHz, 6MB L3 cache, 47/37W TDP µFC-BGA quad-core Intel® Core™ i7-4700EQ processor, . 2.4/3.4GHz, 6MB L3 cache, 47/37W TDP uFC-BGA dual-Core Intel® Core™ i5-4402E processor, 2.7GHz, 3MB L3 cache, 25W TDP

Chipset

Intel® QM87 Express Chipset

Memory

Dual channel DDR3L-1600 SDRAM with ECC, up to 32GB\* \* With onboard 16GB memory, the overall DDR frequency will be 1067MHz One channel in SO-CDIMM socket up to 16GB; one channel soldered onboard up to 16GB (dependent on availability of memory devices and modules)

BIOS CompactPCI Bus AMI® EFI BIOS, 8MB SPI flash memory PCI 64-bit, 66MHz, 3.3V or 5V universal V(I/O)

Supports operation in system slot and in peripheral slot with CompactPCI® bus communication (Universal mode)

Standard

PICMG 2.0 CompactPCI R3.0 PICMG 2.1 Hot Swap R2.0

PICMG 2.9 System Management R1.0 PICMG 2.16 Packet Switch Backplane R1.0

#### Connectivity

PMC/XMC

Ethernet

USB

Up to Two PMC/XMC sites

PMC1 or XMC1: 64b/33,66,133M or PCle x8 Gen2 (space

shared with I/Os & onboard drive)

PMC2 or XMC2: 64b/33,66,133M or PCle x8 Gen2 with rear I/O Three Intel® I210 Gigabit Ethernet controllers and one

Intel® I217 PHY controller

Two 10/100/1000BASE-T ports on front panel with iAMT

support on one port

Two 10/100/1000BASE-T ports to J3 for PICMG 2.16 Two additional 10/100/1000BASE-T ports from Intel® 82576EB on RTM (cPCI-R6100 or cPCI-R6110)

Graphics Integrated in Intel® processor with up to DX 11.2 and OGL4.3

One DVI-I port on front panel

One VGA, eDP and DVI routed to rear

All graphics interfaces are independent channels

Supports three independent displays

Additional graphics MXM with ATI GPU or nVidia supporting two DVI ports on RTM (cPCI-R6500 series) Up to two USB 3.0 and one USB 2.0 ports on front panel

Six USB 2.0 ports routed to rear

PS/2 PS/2 keyboard/mouse port to rear





| cPCI-6530 ( | :PCI-6530(BL)V |
|-------------|----------------|
|-------------|----------------|

| Serial Port | Up to three 16C550 compatible serial ports   |
|-------------|----------------------------------------------|
|             | One RJ-45 RS-232 port on front panel         |
|             | Two serial ports routed to rear              |
| Audio       | High Definition Audio signals routed to rear |

Storage

RTM

SBC One SATA 6Gb/s direct connector for 2.5" removable drive

One mSATA socket

Optional CFAST socket by replacing 2.5" SATA drive

direct connector

Up to three SATA ports CF (x1) and SD (x1) sockets when mating with cPCI-R6100 series

\*Available interfaces dependent on RTM model selected

#### **Operating System**

Microsoft Windows 7/8 32, 64-bit

Red Hat Enterprise Linux 6.4 Wind River VxWorks 6.9

(Please contact ADLINK for other OS support)

#### Miscellaneous

| LED              | Power, WDT, Hard Disk, Hot Swap and Port 80 user LED                         |
|------------------|------------------------------------------------------------------------------|
| Battery          | Coin cell lithium battery onboard for RTC CMOS RAM                           |
| TPM              | Version 1.2                                                                  |
|                  | Atmel AT97SC3204 (optional support upon request)                             |
| Watchdog Timer   | System Reset and NMI, with programmable interval, 1-65535 seconds or minutes |
| Hardware Monitor | Monitors CPU temperature, system temperature, Vcore and DC voltages          |

#### Mechanical & Environmental

| Mechanicator          | vii Oiiiiieiitat                                                                             |
|-----------------------|----------------------------------------------------------------------------------------------|
| Form Factor           | 6U 4HP (single slot) CompactPCI                                                              |
|                       | 233.33mm x 160mm (LxW)                                                                       |
|                       | Equipped with J1, J2, J3, J4, J5 connectors                                                  |
| Operating Temperature | -20°C to +70°C extended temperature                                                          |
|                       | -40°C to +85°C extreme extended temperature for Core™ i7 4700EQ CPU adjusted to 37W by cTDP) |
| Storage Temperature   | -50°C to +100°C                                                                              |
| RH Humidity           | 95% non-condensing                                                                           |
| Shock                 | 15G peak-to-peak, 11ms duration, non-operating                                               |
| Vibration             | 2 Grms random vibration, 5-500Hz, each axis, operating                                       |
| Power Consumption     | 2.73A @3.3V, 11.65A @5V, total 67.26W                                                        |
| Weight                | 500.2a (cPCI-6530 with heatsink assembled)                                                   |

#### Safety & EMI

Certification CE/FCC Class A

# I/O Table

|                  |           | GbE | USB 2.0                 | USB<br>3.0 | СОМ                                                      | DVI            | VGA            | PMC/<br>XMC | SATA                                            | CFast | CF   | mSATA | Mic-in     | Line-out     | PS/2<br>KB/MS           | SD | SAS |
|------------------|-----------|-----|-------------------------|------------|----------------------------------------------------------|----------------|----------------|-------------|-------------------------------------------------|-------|------|-------|------------|--------------|-------------------------|----|-----|
| cPCI-6530(BL)    | Faceplate | 2   | 1                       | 1          |                                                          |                |                |             |                                                 |       |      |       |            |              | ·                       |    |     |
| CFCI-0330(BL)    | Onboard   |     |                         |            |                                                          |                |                | 2           | 1 (7-pin)                                       |       |      | 1     |            |              |                         |    |     |
| cPCI-6530(BL)V   | Faceplate | 2   | 1                       | 2          | 1 (RJ-45)                                                | DVI-I          |                |             |                                                 |       |      |       |            |              |                         |    |     |
| C. C. 0330(B2) * | Onboard   |     |                         |            |                                                          |                |                | 1           | 2                                               | 1(1)  |      | 1     |            |              |                         |    |     |
| cPCI-R6002       | Faceplate | 2   | 2                       |            | 1                                                        | 1 (VGA si      | gnal only)     |             |                                                 |       |      |       |            |              |                         |    |     |
|                  | Onboard   | _   |                         |            | 1                                                        | 4 / 10 4       |                |             | 2 (7-pin)                                       |       |      |       |            | 1            | 4                       |    |     |
|                  | Faceplate | 2   | 4                       |            | 1                                                        | 1 (VGA si      | gnal only)     |             | 2/2 7 : 4                                       |       |      |       | 1          | 1            | 1                       |    |     |
| cPCI-R6002D      | Onboard   |     |                         |            |                                                          |                |                |             | 3 (2x 7-pin+1x<br>2.5" sapce) <sup>(2)</sup>    |       |      |       |            |              |                         |    |     |
|                  | Faceplate | 4   | 4                       |            | 1 (RJ-45)                                                | 1              | 1              |             |                                                 |       |      |       |            |              | 1                       |    |     |
| cPCI-R6100       | Onboard   |     |                         |            |                                                          |                |                |             | 2<br>(7-pin)                                    |       | 1    |       |            |              |                         | 1  |     |
| cPCI-R6110       | Faceplate | 2   | 4                       |            |                                                          |                | 1              |             |                                                 |       |      |       |            |              | 1                       |    |     |
| CPCI-ROTTO       | Onboard   |     |                         |            |                                                          |                |                |             | 3(2)                                            |       | 1(4) |       |            |              |                         |    |     |
| cPCI-R65N0       | Faceplate | 2   | 1                       |            | 1                                                        | 2              |                |             |                                                 |       |      |       |            |              | 1                       |    |     |
|                  | Onboard   |     | 1                       |            | 1 (Tx/Rx)                                                |                |                |             | 3 (7-pin)                                       |       |      |       | 1 (10-pin) | 1 (10-pin)   |                         |    | -   |
| cPCI-R6120       | Faceplate | 2   | 4                       |            |                                                          |                | 1(VGA<br>only) |             |                                                 |       |      |       |            |              | 1                       |    |     |
| CFCI-R0120       | Onboard   |     |                         |            |                                                          |                |                |             | 2 (2.5" SATA drive onboard)                     |       |      |       |            |              |                         |    |     |
| cPCI-R6500       | Faceplate | 2   | 1                       |            |                                                          | DVI-I<br>DVI-D |                |             | drive onbodia,                                  |       |      |       |            |              |                         |    |     |
|                  | Onboard   |     |                         |            |                                                          |                |                |             | 3(7-pin)                                        |       |      |       |            |              |                         |    |     |
|                  | Faceplate | 2   | 1                       |            |                                                          | DVI-I<br>DVI-D |                |             | , ,                                             |       |      |       |            |              |                         |    |     |
| cPCI-R6500D      | Onboard   |     | 1<br>(10-pin<br>header) |            | 1 (Full, 10-pin<br>header)<br>1(TX/RX, 10-pin<br>header) |                |                |             | 3 (2x<br>7-pin+1x 2.5"<br>space) <sup>(4)</sup> |       |      |       | (10-pin    | 1<br>header) | 1<br>(10-pin<br>header) |    |     |
| cPCI-R6501D      | Faceplate | 2   | 2                       |            | 1                                                        | DVI-I<br>DVI-D |                |             |                                                 |       |      |       |            |              | 1                       |    |     |
| CPCI-R050 ID     | Onboard   |     |                         |            | 1 (TX/RX, 10-pin<br>header)                              |                |                |             | 3 (7-pin)                                       |       |      |       |            |              |                         |    |     |

# **Ordering Information**

| Processor Blades        |                                                                                                                                                                                   |
|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| cPCI-6530BL/5700E/M8-0  | 4HP cPCI-6530BLV with Intel® Core™ i7-5850EQ and 8GB DDR3L-1600 ECC soldered memory with 2x GbE, 1x USB 2.0, 2x USB 3.0, 1x RJ-45 COM and single PMC/XMC site                     |
| cPCI-6530BLV/5700E/M8-0 | 4HP cPCI-6530BLV with Intel® Core™ i7-5700EQ and 8GB DDR3L-1600 ECC soldered memory with 2x GbE, 1x USB 2.0, 2x USB 3.0, 1x RJ-45 COM and single PMC/XMC site                     |
| cPCI-6530/4700E/M4-4    | 4HP cPCI-6530 with Intel® Core™ i7-4700EQ and 4GB DDR3L-1600 ECC soldered memory and 4GB SODIMM module with 2x GbE, 1x USB 2.0, 1x USB 3.0 and dual PMC/XMC sites                 |
| cPCI-6530V/4700E/M4-4   | 4HP cPCI-6530V with Intel® Core™ i7-4700EQ and 4GB DDR3L-1600 ECC soldered memory and 4GB SODIMM module with 2x GbE, 1x USB 2.0, 2x USB 3.0, 1x RJ-45 COM and single PMC/XMC site |
| cPCI-6530V/4402E/M4-0   | 4HP cPCI-6530V with Intel® Core™ i5-4402E and 4GB DDR3L-1600 ECC soldered memory with 2x GbE, 1x USB 2.0, 2x USB 3.0, 1x RJ-45 COM and single PMC/XMC site                        |
| cPCI-6530V/4700E/M8-8   | cPCI-6530 with Intel® Core™ i7-4700EQ and 8GB<br>DDR3L-1600 ECC soldered memory and 8GB<br>SODIMM module with 2x GbE, 1x USB2.0,<br>2x USB 3.0 and single PMC/XMC site            |

### **Rear Transition Modules**

| cPCI-R6002 | 4HP Rear I/O module with GbE x2, COM x2, USB x3, SATA x2, DVI-I                                                                                   |
|------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| cPCI-R6100 | 4HP Rear I/O module with GbE x4, COM, USB x4, SATA x2, DVI, VGA, PS/2, CF, SD socket                                                              |
| cPCI-R6110 | 4HP Rear I/O module with GbE x2, COM, USB x4, SATA x3, DVI, VGA, PS/2, CF, SD socket                                                              |
| cPCI-R65N0 | 8HP Rear I/O module with NVIDIA GeForce<br>GTX660M MXM 3.0 module, supports DVI-I,<br>DVI-D, USB 2.0, 2x GbE, COM (RS-232/422/485),<br>PS/2 KB/MS |

See 6U RTM selection guide for more options.

#### Accessory

| DB-CF | ast | CFast socket adapter board with screws for cPCI-6530 |
|-------|-----|------------------------------------------------------|
|       |     |                                                      |



Contact us for different CPU, memory options.

<sup>(1)</sup> Removable adapter design. SATA adapter by default, can be replaced with CFast adapter
(2) Two 7-pin signal connectors onboard for external HDDs and one direct connector for onboard 2.5" SATA drive. SATA direct connector can be replaced with CompactFlash adapter (DB-6920CF)