# RIGEL ENGINEERING

*Custom solutions with off-the-shelf pricing*

# CB2600

## COM Express Type 6 SBC Module carrier for embedded applications

## Features:

★ COM Express Type 6 Compact or Basic Module carrier
★ Supports vast variety of currently available processors
★ Same physical dimensions as COM Express Basic Module
★ MiniPCIe Socket (supports Half-Mini and/or Full-Mini Cards)
★ Two Gigabit Ethernet ports
★ Two SATA ports
★ Two USB 3.0 (Super Speed) ports
★ Two USB 2.0 (High Speed) ports
★ VGA Video
★ DVI Video
★ LVDS Video
★ Two RS-232 Serial ports
★ Eight GPIO pins
★ Four-pin Fan header with Tach and PWM
★ Standard 24-pin ATX power supply connector
★ Commercial or Extended temperature
★ Rigel's Standard 3 Year Warranty



**COM Express SBC Board Stack using the CB2600**

Rigel's CB2600 is a COM Express carrier that supports Type 6 COM Express processor modules. The footprint of the CB2600 is the same as a Basic size module (125 x 95 mm) and is ideal for use with Basic and Compact size modules in size constrained and rugged environments.

The CB2600 provides access to a wide range of COM Express Module supported I/O, such as VGA, DVI, LVDS, 4x USB (2x USB 3.0), 2x SATA, 2x Gigabit Ethernet, and 4x UARTs. The 2 SATA ports and 2 Ethernet ports use industry standard connectors. All of the interfaces use locking connectors for rugged environments.

In addition to the COM Express standard Gigabit Ethernet port (GBE0), the CB2600 provides a second Gigabit Ethernet port using the Intel 82574 GbE controller. It is connected to the COM Express Module using a single PCIe lane (PCIE1).

A single dual-use (full-mini or half-mini) Mini-PCIe socket is provided and is especially useful for adding a wide range of mass storage or wireless Ethernet options to the board. The Mini-PCIe socket is connected to both PCIe (PCIE0) and USB (USB6).

The CB2600 utilizes the Cirrus Logic CS4207 High Definition Audio Codec to provide both stereo line-in and stereo line-out connections. The line-out supports sampling rates from 32 kHz to 192 kHz with a THD of 94 dB. The line-in supports sampling rates from 8 kHz to 96 kHz with a THD of 88 dB.

Beyond the two RS-232 serial ports connected to the COM Express general purpose serial interfaces (SER0 and SER1), an additional 2 RS-232/RS-422/RS-485 serial ports are implemented using the FTDI FT230X USB to UART converter.

# Hardware Specifications

## COM Express

- ★ Supports Compact and Basic sized modules
- ★ COM Express Type 6 signaling
- ★ PICMG COM.0 Revision 2.1 Compliant

## MiniPCIe

- ★ One MiniPCIe Socket
- ★ Full-Mini & Half-Mini Support
- ★ Supports PCIe and USB

## Gigabit Ethernet

- ★ Two Gigabit Ethernet ports
- ★ Intel's 82574 Gigabit Ethernet Controller
- ★ On-board magnetics
- ★ 2x 1000BASE-T

## LVDS

- ★ Dual channel, up to 24-bits per pixel
- ★ Jumper selectable +5V or +3.3V Power
- ★ I2C or PWM Backlight control
- ★ EDID EEPROM

## Audio

- ★ High-Definition Audio
- ★ Line in: 8-96KHz, 88dB THD, 105dB Dynamic range
- ★ Line out: 32-192KHz, 94dB THD, 110dB Dynamic range

## Serial ports

- ★ Two RS-232 ports
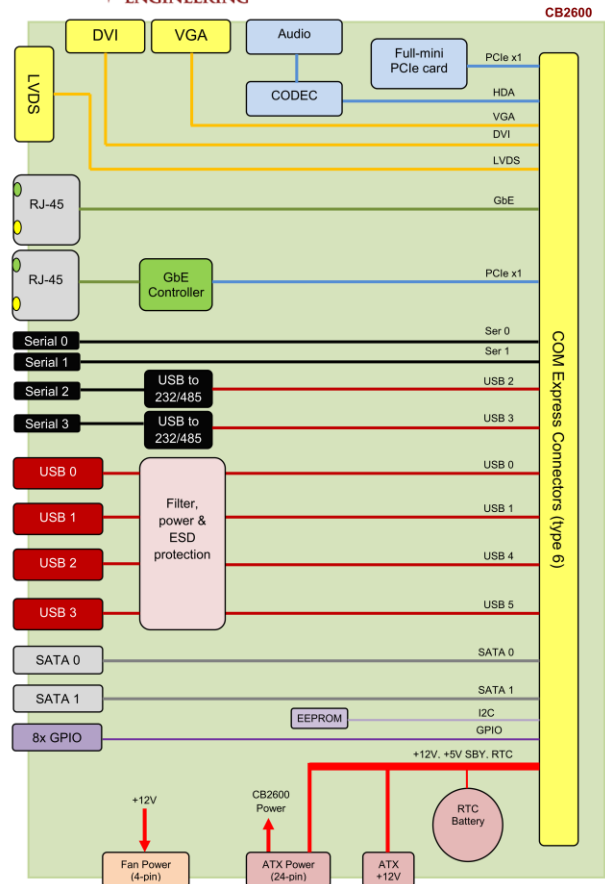- ★ Two RS-232/422/485 ports with H/W flow control

## Miscellaneous

- ★ Momentary power and reset buttons with jumper enables
- ★ Power fail, SATA activity and Ethernet link/activity LEDs
- ★ Four-pin Fan connector

## Physical / Electrical / Environmental

- ★ COM Express Basic-size (125 x 95 mm)
- ★ 3.4 oz / 98 grams

- ★ +12V Maximum power:     Determined by Module
- ★ +5V Maximum  power:     Determined by Module
- ★ +3.3V Maximum  power:     Determined by Module

- ★ Temperature:
  - Operating (standard):     0°C to +70°C
  - Operating (extended):     -40°C to +85°C
  - Storage (all):     -40°C to +85°C
- ★ Relative Humidity:
  - Operating:     5% to 95%, non-condensing
  - Storage:     5% to 95%, non-condensing



## Ordering Information

**CB2600-xx00**

**Base Model**

**Operating Temperature & Cooling Options**

0 = 0°C to +70°C
1 = -40°C to +85°C
Z = Customer specific board configuration

**MiniPCIe Connector Height**

0 = 4mm Board to board (Standard)
1 = 1.5mm Board to board
2 = 6mm Board to board
Z = If Operating Temperature/Cooling Option is a "Z", this digit
     may have a different meaning

Reserved

**Reserved**

At Rigel Engineering, we are dedicated to working directly with
your Engineers and System Designers to provide the best
possible solution that meets or exceeds your requirements.

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