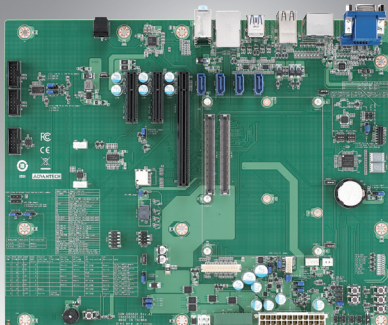


# SOM-DB5830

## Development Board for COM Express® Type 6/10 Pin-Out Modules

NEW



### Features

- PICMG COM R3.0 Type6 & Type10 pinout compatible
- COM ExpressR Basic/ Compact/ Mini module
- HDMI/DP, LVDS/eDP, VGA
- I/O Expansion:  
A2: PCIe Gen4 slot, USB3.2 Gen2  
A1: PCIe Gen3 slot, USB3.2 Gen2
- Visible Debug Utility: BIOS Port 80 and Power State

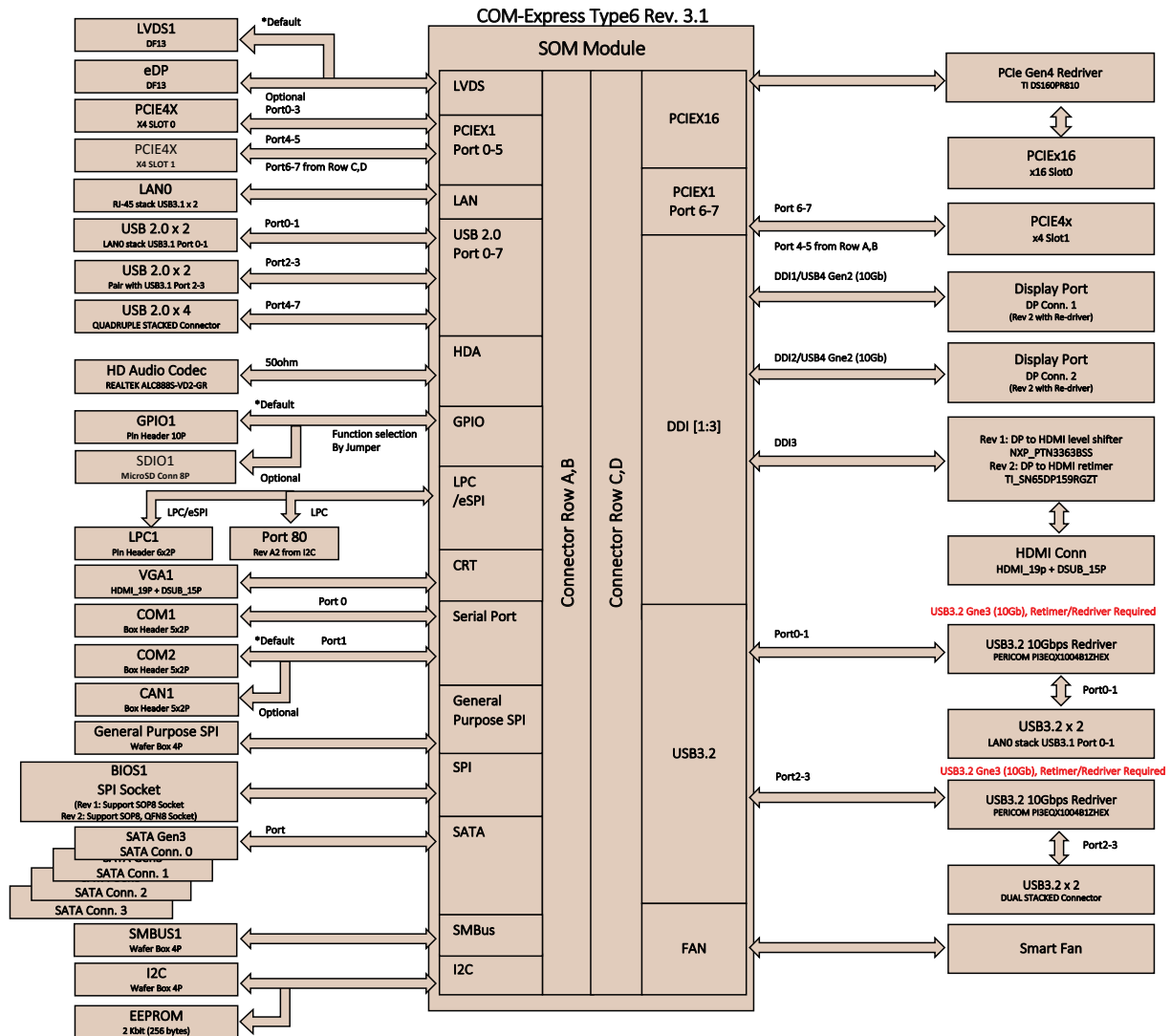


### Specifications

|                   |                       |                                                                                                                   |
|-------------------|-----------------------|-------------------------------------------------------------------------------------------------------------------|
| Form Factor       | Form Factor           | ATX                                                                                                               |
| Compatible Models | Pin-out Type          | Compatible to COM Express Basic, Compact, Mini Modules<br>Type6/10 Pin-out Compatible                             |
| Display           | VGA                   | 1 (D-SUB 15P Female)                                                                                              |
|                   | LVDS/eDP              | 18/24-bit single or dual channel                                                                                  |
|                   | HDMI                  | 1                                                                                                                 |
|                   | Display Port          | 2                                                                                                                 |
| Ethernet          | Connector             | Up to 2.5G (A1:1G, A2: 2.5G)                                                                                      |
|                   | Speed                 | 10/100/1000/2500 Mbps                                                                                             |
| Expansion         | PCI Express x16       | 1 Slot (Speed A1: Gen3, A2: Gen4)                                                                                 |
|                   | PCI Express x4        | 2 Slots (Speed A1: Gen3, A2: Gen4)                                                                                |
|                   | LPC                   | Yes                                                                                                               |
| I/O               | SATA3.0               | 4 Ports                                                                                                           |
|                   | USB3.2 Gen2           | 4 Ports (Type A)                                                                                                  |
|                   | COM Port              | 2 Ports                                                                                                           |
|                   | GPIO                  | 8-bit                                                                                                             |
|                   | SDIO                  | 1 (Mux with GPIO)                                                                                                 |
|                   | SPI Bus               | Rev 1: Support SOP8 Socket<br>Rev 2: Support SOP8, QFN8 Socket                                                    |
|                   | TPM                   | TPM2.0 (Infineon SLB9665) A1 only                                                                                 |
|                   | Port 80               | 1                                                                                                                 |
|                   | Fan                   | 2 (1 smart fan from module side, 1 fixed-voltage fan)                                                             |
|                   | Audio                 | Line-in, Line-out, MIC, SPDIF (Realtek ALC888 HD Audio Codec)                                                     |
| Serial Bus        | SMBus                 | Yes                                                                                                               |
|                   | I <sup>2</sup> C Bus  | Yes                                                                                                               |
|                   | CAN Bus               | Yes (Mux with SER1)                                                                                               |
| Power             | Type                  | ATX: Vin, VSB; AT: Vin                                                                                            |
|                   | Supply Voltage        | Vin: 4.5V ~ 20V; VSB: 4.75V ~ 5.25 V, RTC Battery: 2.0V ~ 3.3V                                                    |
| Environment       | Operating Temperature | Standard: 0 ~ 60 °C (32 ~ 140 °F)                                                                                 |
|                   | Storage Temperature   | -40 ~ 85 °C (-40 ~ 185 °F)                                                                                        |
|                   | Humidity              | Operating: 40 °C @ 95% relative humidity, non-condensing<br>Storage: 60 °C @ 95%relative humidity, non-condensing |
|                   | Vibration Resistance  | 3.5 Grms                                                                                                          |
| Mechanical        | Dimensions            | 304.8 mm x 244 mm (12" x 9.6")                                                                                    |

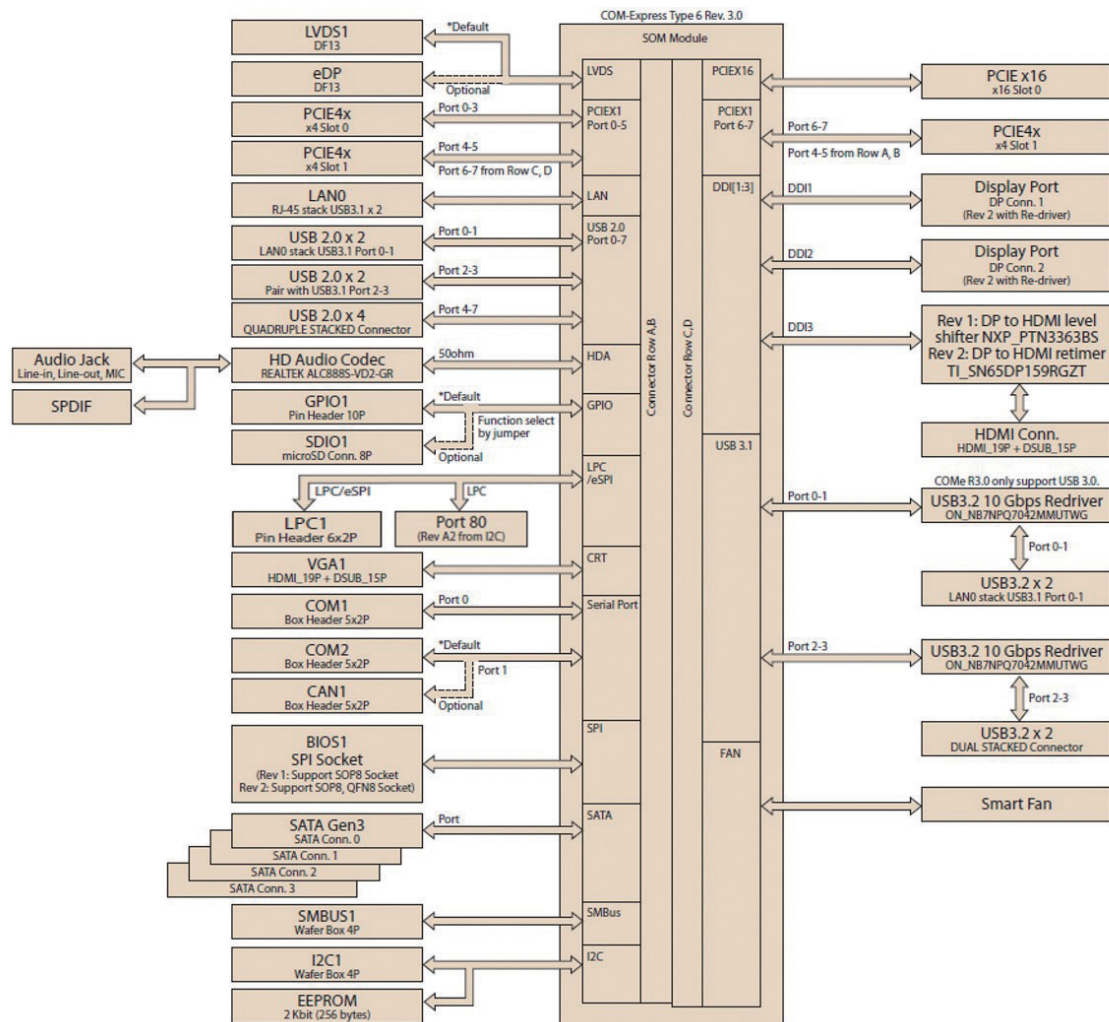
## Block Diagram

Block Diagram for A3



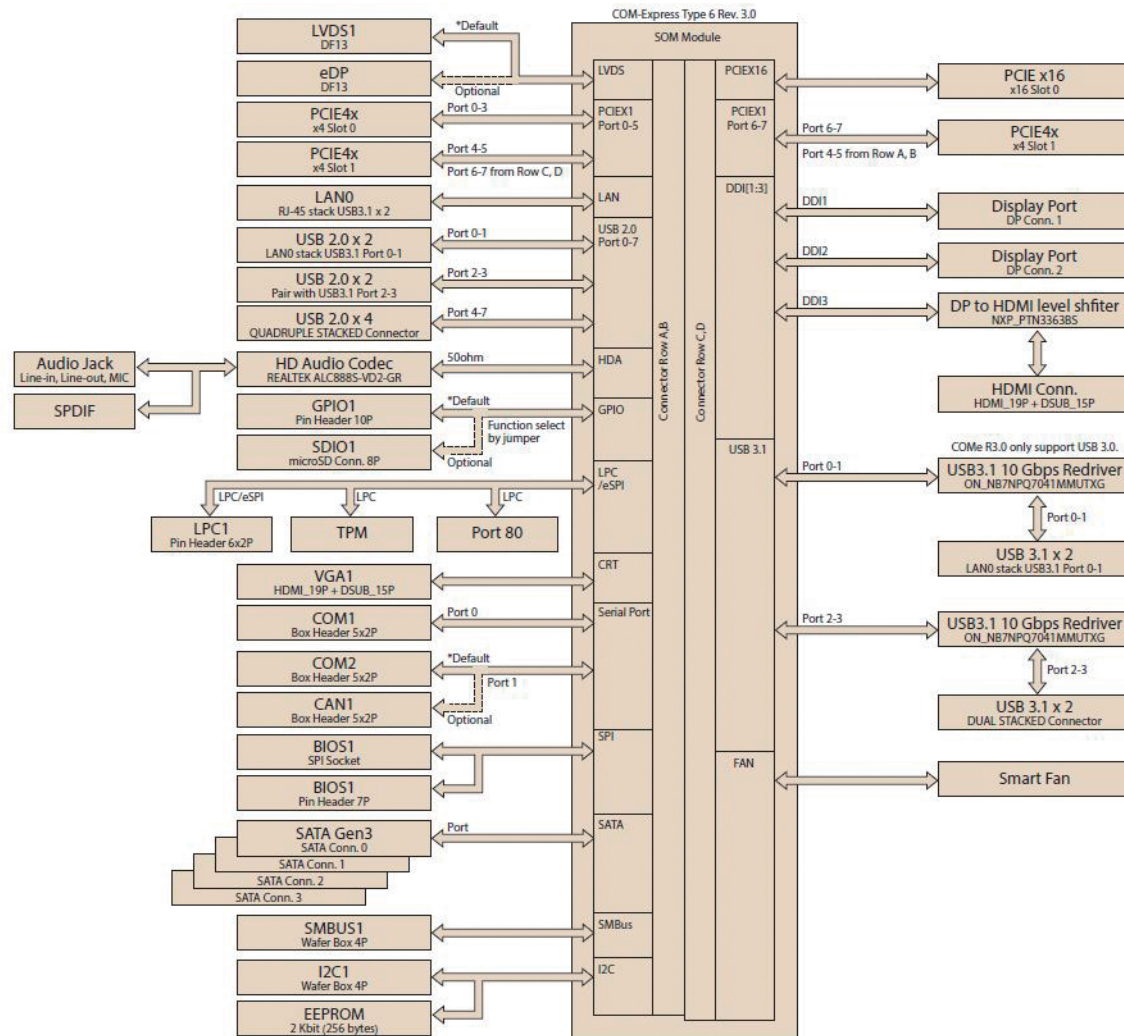
## Block Diagram

### Block Diagram for A2



## Block Diagram

Block Diagram for A1



## Ordering Information

| Part Number      | Version | COM Express Rev. | Type 6 Compatible | Type 10 Compatible | PCIe Bandwidth | eDP/LVDS | Height of COMe Connector | SOM-EA00    | SOM-EA30 A2 | Operating Temperature |
|------------------|---------|------------------|-------------------|--------------------|----------------|----------|--------------------------|-------------|-------------|-----------------------|
| SOM-DB5830-00A3  | A3      | Rev. 3.1         | Yes               | Yes                | Gen 4          | LVDS     | 5mm                      | SOM-EA00 A4 | YES         | 0 ~ 60 °C             |
| SOM-DB5830A-00A3 | A3      | Rev. 3.1         | Yes               | Yes                | Gen 4          | eDP      | 5mm                      | SOM-EA00 A4 | YES         | 0 ~ 60 °C             |

| Part Number      | Version | COM Express Rev. | Type 6 Compatible | Type 10 Compatible | PCIe Bandwidth | eDP/LVDS | Height of COMe Connector | SOM-EA00    | SOM-EA30 A2 | Operating Temperature |
|------------------|---------|------------------|-------------------|--------------------|----------------|----------|--------------------------|-------------|-------------|-----------------------|
| SOM-DB5830-00A2  | A2      | Rev. 3.0         | Yes               | Yes                | Gen 4          | LVDS     | 5mm                      | SOM-EA00 A3 | YES         | 0 ~ 60 °C             |
| SOM-DB5830A-00A2 | A2      | Rev. 3.0         | Yes               | Yes                | Gen 4          | eDP      | 5mm                      | SOM-EA00 A3 | YES         | 0 ~ 60 °C             |
| SOM-DB5830X-00A2 | A2      | Rev. 3.0         | Yes               | Yes                | Gen 4          | LVDS     | 5mm                      | SOM-EA00 A3 | YES         | -40 ~ 85 °C           |

| Part Number      | Version | COM Express Rev. | Type 6 Compatible | Type 10 Compatible | PCIe Bandwidth | eDP/LVDS | Height of COMe Connector | SOM-EA00 | SOM-EA30 A2 | Operating Temperature |
|------------------|---------|------------------|-------------------|--------------------|----------------|----------|--------------------------|----------|-------------|-----------------------|
| SOM-DB5830-00A1  | A1      | Rev. 3.0         | Yes               | N/A                | Gen 3          | LVDS     | 5mm                      | N/A      | N/A         | 0 ~ 60 °C             |
| SOM-DB5830A-00A1 | A1      | Rev. 3.0         | Yes               | N/A                | Gen 3          | eDP      | 5mm                      | N/A      | N/A         | 0 ~ 60 °C             |

## Packing List

| Part No.    | Description                              | Quantity |
|-------------|------------------------------------------|----------|
| SOM-EA10 A2 | PCIe x4 – to 4 PCIe x1 Riser Card (Gen3) | 1        |
| SOM-EA00 A3 | Type 6 to Type 10 Middle Board Rev.3.0   | 1        |
| SOM-EA00 A4 | Type 6 to Type 10 Middle Board Rev.3.1   | 1        |
| SOM-EA30 A2 | Type 6 Extension Card, Max.16G           | 1        |
| 1700008941  | Serial ATA Cable 7P/7P 32cm              | 2        |
| 1701100300  | Flat COM Port Cable                      | 2        |

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