

PCOM-B641VG

Intel® Atom® E3900 series SoC based on Type 6 COM Express® Rev3.0 module with DDR3L 2x SO-DIMM sockets, VGA, eDP/LVDS, DDI, GbE, and SATA 6 Gb/s



FEATURES

- Intel® Atom® E3900 Series ultra low power processor
- Support DDR3L-1866 MT/s SDRAM on two SO-DIMM sockets
- 8x USB 2.0 or 4x USB2.0 + 4x USB 3.0
- Wide voltage support, from 8V to 18V



PCOM-B641VG, COM Express® Type 6 Compact Module designed with 6th Generation Intel® Atom® processors, supporting wide operation temperature -40°C to +85°C (on E series processors only).

General

| General | | | | | |
|--------------------------------|----------------------------------------------------------------------------------------|--------------------------|------------------------|------------------------|------------------------|
| Product | PCOM-B641VG | | | | |
| Form Factor | COM Express® Type 6 Compact Rev. 3.0 | | | | |
| Processor | Intel® Celeron® N3350 | Intel® Pentium® N4200 | Intel® Atom® E3930 | Intel® Atom® E3940 | Intel® Atom® E3950 |
| Core | 2 | 4 | 2 | 4 | 4 |
| Freq. | 1.10 GHz | 1.10 GHz | 1.30 GHz | 1.60 GHz | 1.60 GHz |
| Turbo | 2.40 GHz | 2.50 GHz | 1.80 GHz | 1.80 GHz | 2.00 GHz |
| Cache | 2 MB | 2 MB | 2 MB | 2 MB | 2 MB |
| Processor Graphics | Intel® HD Graphics 500 | Intel® HD Graphics 505 | Intel® HD Graphics 500 | Intel® HD Graphics 500 | Intel® HD Graphics 505 |
| Graphics Base Frequency | 200.00 MHz | 200.00 MHz | 400.00 MHz | 400.00 MHz | 500.00 MHz |
| Graphics Max Dynamic Frequency | 650.00 MHz | 750.00 MHz | 550.00 MHz | 600.00 MHz | 650.00 MHz |
| HW Encoding | HEVC/H.265, H.264, MVC, VP8, VP9, JPEG/MJPEG | | | | |
| HW Decoding | HEVC/H.265, H.264, MVC, VP8, VP9, MPEG2, VC-1, WMV9, JPEG/MJPEG | | | | |
| HW Acceleration | Gen9 LP, DX 9.3/10/11.1/12, OpenGL 4.3, OGL ES 3.0, OpenCL 1.2, PAVP 2.0, HDCP 1.4/2.0 | | | | |
| Processor TDP | 6W | 6W | 6.5W | 9.5W | 12W |
| BIOS | AMI Aptio5 UEFI BIOS | | | | |
| ECC Memory Supported | No | | | | |
| Memory | 2x DDR3L SO-DIMM sockets Dual channel Up to 1866 MT/s | | | | |

I/O Interface

| | | | |
|-------------|-------------------------------------------------------------|---------------------------------------------------------|---------------------------|
| SATA | 2x SATA III | | |
| USB | 8x USB 2.0 / 1 OTG (optional) or 4x USB 2.0 + 3x USB 3.0 | | |
| Ethernet | 1 GbE (I210-IT) | | |
| Serial I/O | GPIO | | 8 GPIO (4 GPI and 4 GPO) |
| | I ² C | | Baud Rate : 400KHz |
| | SMBus | | Baud Rate : 100KHz |
| | UART | | 2 Serial Port (TX and RX) |
| PEG | N/A | | |
| PCI Express | 1x PCIe 2.0 x4 (1x4 / 2x2 / 4x1) | | |
| Display | Default | Options | Resolution |
| | VGA | VGA | Up to 1920x1200 @ 60Hz |
| | | DDI2 | DP Up to 4096x2160 @ 60Hz |
| | LVDS | eDP 1.3 | Up to 3840x2160 @ 60Hz |
| | | LVDS | Up to 1920x1200 @ 60Hz |
| DDI1-DP | DP 1.2 / HDMI 1.4b | DP Up to 4096x2160 @ 60H HDMI Up to 3840x2160 @ 30Hz | |
| Security | TPM 2.0 (Infineon SLB9670) , Intel® AES | | |

MECHANICAL & ENVIRONMENT

| | |
|-----------------------|-------------------------------------------------------------------|
| Dimension | 95 x 95mm |
| Power DC IN | Nominal : +12V DC Wide range : +8VDC ~ +18VDC AT / ATX Mode |
| Storage Temperature | -40°C to 80°C |
| Operation Temperature | -40°C to 80°C |
| Certification | Contact us |
| MTBF | Over 120,000 hours at 40°C |
| Vibration | Random 5Hz to 2KHz, 7.7 grms, 10min in each of 3 axes |
| OS | Windows 10 Linux CentOS 6 |

ORDERING GUIDE

| Product | Ordering P/N | Status |
|-----------------|--------------|-----------|
| PCOM-B641-E3950 | AB1-3F71 | Available |
| PCOM-B641-E3940 | AB1-3F39 | Available |
| PCOM-B641-E3930 | AB1-3F38 | Available |
| PCOM-B641-N4200 | AB1-3F28 | Available |
| PCOM-B641-N3350 | AB1-3F72 | Available |

| Accessory | Ordering P/N | Status |
|------------------------------------|--------------|-----------|
| Heat Sink for E3900 Series | B8308491 | Available |
| Heat Sink for N Series | B9971521 | Available |
| PCOM-C605 (MINI-ITX Carrier Board) | AB1-3998 | Available |
| PCOM-C640 (NANO-ITX Carrier Board) | AB1-3D18 | Available |
| PCOM-C600 (uATX ATX Carrier Board) | AB1-3761 | Available |

BLOCK DIAGRAM

PCOM-B641VG

COM Express® Type 6 Compact Module 95x95mm AT / ATX Mode +12VDC -40°C ~ +80°C (E series only)

