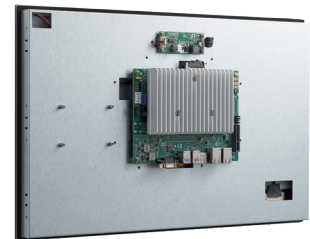
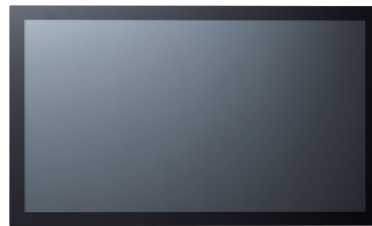
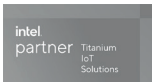


SP2-AL Series

Intel Atom® Processor-based
Fanless Panel Computer



Features

- High power efficiency with Intel Atom® processor E3900 series
- Extensive I/O and function expansion through wire-to-board connectors and custom function module
- Extensive expansion and customization options for fast and easy integration with all form factor, kiosk and all-in-one panel PC application
- Enhanced data integrity and protection in case of sudden power outage with support for back-up battery (Optional)
- Low-risk cost-effective choice with pre-compliance EMC testing and high ESD tolerance
- High applicability and reliability in case of power fluctuation with a 9-36V DC voltage range

Software Support

- Windows® 10 IoT Enterprise, Linux Ubuntu 20.04

Optional Accessories

- Memory
Up to 8GB DDR3L memory
- Storage
M.2 SSD, 2.5" HDD/SSD
- Adapter
12V 60W power adapter

Ordering Information

| Model | CPU |
|-------------|---------------------------|
| SP2-07WP-AL | 7" open frame panel PC |
| SP2-10WP-AL | 10.1" open frame panel PC |
| SP2-15WP-AL | 15.6" open frame panel PC |
| SP2-21WP-AL | 21.5" open frame panel PC |

- I/O Cables
Power/Reset, keypad, I2C, DI/O, speaker, MIC in/Line out, LED, and USB cables
- Wireless Kit
Wi-Fi/BT/4G LTE wireless kit
- Function Module with External I/Os

| | | |
|-------|----------|--------|
| SP-FM | Titan FM | USB FM |
|-------|----------|--------|



• SP-FM



• Titan FM



• USB FM

Specifications

| Model | SP2-07WP-AL | SP2-10WP-AL | SP2-15WP-AL | SP2-21WP-AL |
|---|--|-----------------------------|------------------------------|------------------------------|
| System | | | | |
| Processor | Intel Atom® x7-E3950 1.6/2.0GHz (Turbo), 12W (4C/1866) Intel Atom® x5-E3930 1.3/1.8GHz (Turbo), 6W (2C/1866) | | | |
| Memory | 1x SODIMM socket, DDR3L 1600MHz (Up to 8GB) | | | |
| Storage | 1x M.2 SATA 6 Gbps port, M key 2280 and 1x 2.5" SSD/HDD SATA 6 Gbps port (Optional) | | | |
| Display and Touch | | | | |
| Size | 7" | 10.1" | 15.6" | 21.5" |
| Resolution | 1024x600 | 1280 x 800 | 1920 x 1080 | 1920 x 1080 |
| Contrast Ratio | 600:1 | 800:1 | 1000:1 | 1000:1 |
| Brightness (Nits) | 600 cd/m2 (typ) | 400 cd/m2 (typ) | 420 cd/m2 (typ) | 400 cd/m2 (typ) |
| Backlight Life (Hrs) | 50,000 | | | |
| Viewing Angle (U/D/R/L) | 85/85/85/85 | | 89/89/89/89 | |
| Touch Point | 5 points | | 10 points | |
| Touch Structure | Glass/Glass | | | |
| Surface Hardness | 7H | | | |
| Surface Treatment | Clear | Anti-Fingerprint | | |
| External I/O | | | | |
| Ethernet | 2x GbE (Intel® I225), RJ-45, WOL, 1 Gb/s | | | |
| Serial Port | 2x RS-232/422/485 programmable, auto flow | | | |
| USB Port | 1x USB 2.0, Type A, OCP, 1000mA 1x USB 3.0, Type A, OCP, 1600mA | | | |
| DisplayPort | 1x DP, DP++, supports resolutions up to 4096x2160@60Hz | | | |
| Internal I/O with Wire to Board Connectors | | | | |
| USB Port | 1x USB 2.0 client | | | |
| I ² C | 2x for I ² C client | | | |
| Audio | 1x for 2x stereo speaker (2 watt) 1x Mic-in and Line-out | | | |
| Keys | 1x for 32 physical keys (BOM optional), 1x supports LCD backlight up/down and volume up/down (BOM optional) | | | |
| GPIO | 1x supports 8-pin GPIO | | | |
| mPCIe | 1x mPCIe slot (Wi-Fi/BT/4G) | | | |
| SIM | 1x SIM slot for 4G/5G communication | | | |
| Power with Wire to Board Connectors | | | | |
| Power Input | AT/ATX (default: AT mode) 12V ±5% / 9-36V, both with OVP/UVP protection | | | |
| Power Connector | 1x 4-pin power connector | | | |
| Power/Fail Reset | 1x wafer, support system reset & power button and power LED | | | |
| Backup Battery | 1x wafer for UPS kit to backup data when AC shuts down (Optional) | | | |
| Environmental | | | | |
| Operating Temperature | -20°C to 60°C | -20°C to 60°C | | 0°C to 60°C |
| Storage Temperature | -20°C to 70°C | | | -20°C to 60°C |
| Humidity | 10% to 95% | | | |
| Vibration | OP 1 Grms, 5-500Hz w/ SSD, (IEC60068-2-64), X, Y, Z axes, 60 min/axis | | | |
| Shock | OP 20G peak acceleration, 11 ms (IEC60068-2-64), ±X, ±Y, ±Z, 3 shocks/asix | | | |
| IP Rating | IP65 for front | | | |
| ESD | Air: ±15kV, Contact: ±8kV | | | |
| EMC/Safety Compliance | EMI: IEC/EN 61000-3-2, IEC/EN 61000-3-3, EN 61000-6-4, EN 55032 EMS: EN 55035, EN 61000-6-2, EMC: CE, FCC Class B, IEC 60601-1-2:2014/EN60601-1-2:2015, UNECE R10, EN 50121-3-2 Safety: Compliant with 60601-1/61010-1/62368-1 *SP2-AL has passed pre-compliance testing of EMI, EMS, EMC, and Safety. | | | |
| Software | | | | |
| SEMA | SEMA 4.0 | | | |
| WDT | Watchdog Timer supported | | | |
| Operating System | Windows® 10 IoT Enterprise x64 bit Linux Ubuntu 20.04 LTS | | | |
| Mechanical | | | | |
| Construction | SGCC | | | |
| Dimension (W x L x D) | 216 x 160 x 54.54 ± 2mm | 249.66 x 168.3 x 64.4 ± 2mm | 383.56 x 232.99 x 65.1 ± 2mm | 517.46 x 309.19 x 67.6 ± 2mm |
| Weight | 2.06 ± 0.2kg | | 3.02 ± 0.2kg | 4.85 ± 0.2kg |
| Mounting Kit (optional accessories) | 1) Panel mounting 2) VESA mounting, support by a rear cover | | | |