### ARK-3405

**Intel® Celeron™ N3160 Fanless Embedded Box PC with Rich Expansion and Dual Removable 2.5” HDD Drive Bays**

#### Features
- Intel® Celeron™ N3160 Quad Core 2.24GHz SoC with Turbo boost Support
- Supports VGA /DVI-D/HDMI triple independent display
- Support 2 GbE, 3 USB 3.0, 3 USB 2.0, 1 DIO, audio and 4 COM ports
- Two removable 2.5” SATA HDD drive bays
- Flexible Expansion via PCI/PCIe x1
- Support 2 Mini PCIe with 1 SIM holder for communication module
- Wide range power input 9-36V
- Advantech iDoor module compatible

### Specifications

#### Processor System
- **CPU**: Intel Celeron N3160 processor
- **Max. speed**: 1.6GHz, Turbo boost up to 2.24GHz
- **BIOS**: AMI EFI 64 Mbit BIOS

#### Memory
- **Technology**: DDR3L 1600MHz
- **Max. Capacity**: 8 GB
- **Socket**: 1 x 204-pin SO-DIMM

#### Graphics
- **Chipset**: Intel HD B Gen Integrated Graphic Engine
- **Interface**: VGA: Up to 1920 x 1200 @ 60Hz
- **DVI-D**: 1920 x 1200 @ 60Hz; 3840 x 2160 @ 30Hz
- **HDMI**: 2560 x 1600 @ 60Hz
- **Triple Display**: VGA + DVI-D + HDMI

#### Ethernet
- **LAN 1**: 10/100/1000 Mbps Intel i210 Ethernet controller, support Wake on LAN
- **LAN 2**: 10/100/1000 Mbps Intel i210 Ethernet controller, support Wake on LAN

#### Audio
- **Interface**: Realtek ALC892; Mic-in and Line-Out

#### IO interface
- **Serial Interface**: 2 x RS-232, 2 x RS-232/422/485 w/ auto flow control (Default); COM 4 support 5V/12V power supply (by jumper)
- **USB Interface**: 3 x USB 2.0 + 3 x USB 3.0, 1 x internal USB2.0
- **Digital I/O**: 8-bit digital I/O
- **PS/2**: 1 x PS/2 port support by cable and bracket (Optional by project support)

#### Other
- **Watchdog Timer**: 255-level timer interval, setup by software
- **TPM**: TPM 2.0 (Optional by project support)

#### Expansion
- **Add-on Card Slot**: 2 Slots PCI (default); 1 Slot PCI and 1 Slot PCIe x1 (Optional: AMO-R020E); 2 Slots PCIe x1 (Optional :AMO-R019E); Maximum card size of 180mm (L) x 110mm (H); Maximum power consumption 10w for each slot
- **Mini PCIe**: 2 x Full-size Mini PCIe (1 Mini PCIe with SIM holder)

#### Storage
- **HDD/SSD**: Two 2.5” SATA removable HDD Bays with maximum device height 12.5mm
- **SD**: 1 internal SD Card slot support

#### Software Support
- **Microsoft Windows**: Windows 10, Windows 8.1, Windows 7, WES8.1, WES7
- **Linux**: Support by project

#### Power Requirement
- **Power Type**: AT/ATX
- **Power Input Voltage**: 9 Vdc – 36 Vdc
- **Power Adapter**: AC to DC, DC12V/7A, 84W (Optional)

#### Power Consumption
- **Typical**: 9.7W
- **Max.**: 22.8W

#### Mechanical
- **Construction**: Aluminum housing
- **Mounting**: Desk/wall-mounting
- **Dimensions (W x H x D)**: 142.8 x 198 x 215 mm (5.63” x 7.79” x 8.46”)
- **Weight**: 3.16 kg (6.97 lb)

#### Environment
- **Operating Temperature**: With extended temperature peripherals: -10 – 55 °C (-14 – 131 °F) with 0.7m/s air flow
- **Storage Temperature**: -40 – 85°C (-40 – 185°F)
- **Relative Humidity**: 95% @ 40°C (non-condensing)
- **Vibration Loading During Operation**: With SSD: 3Gms, IEC 60068-2-64, random, 0.5 – 500 Hz, 1 hr/axis
- **Shock During Operation**: With SSD: 30 G, IEC 60068-2-27, half sine, 11 ms duration
- **EMC**: CE/FCC Class A, CCC, BSMI
- **Safety Certifications**: C9, UL, CCC, BSMI

All product specifications are subject to change without notice.
### ARK-3405

#### Packing List

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2190000902</td>
<td>1 x China RoHS for ARK-3405</td>
</tr>
<tr>
<td>1652003234</td>
<td>1 x User Manual (Simplified Chinese)</td>
</tr>
<tr>
<td>1990021361N000</td>
<td>2 x HDD Thermal-Pad</td>
</tr>
<tr>
<td>1990027474N000</td>
<td>2 x CPU Thermal-Pad</td>
</tr>
<tr>
<td>1652003234</td>
<td>1 x 4-pin PLUG-IN BLOCK</td>
</tr>
<tr>
<td>1990021361N000</td>
<td>2 x HDD Clip Bracket</td>
</tr>
<tr>
<td>1990027474N000</td>
<td>1 x L type Wrench for top cover</td>
</tr>
<tr>
<td>84PSA-A94W12P4</td>
<td>2x PCIex1 riser card</td>
</tr>
<tr>
<td>1702030500</td>
<td>Power Cord, 3-Pin 183cm, USA type</td>
</tr>
<tr>
<td>1702031801</td>
<td>Power Cord, 3-Pin 183cm, UK type</td>
</tr>
<tr>
<td>1700000237</td>
<td>Power Cord, 3-Pin 183cm, PSE type</td>
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#### Embedded OS

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
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<tbody>
<tr>
<td>2070014220</td>
<td>WES7E 64bit ENG/CHT/CHS/JPN</td>
</tr>
<tr>
<td>2070014248</td>
<td>WES8.1E 64bit ENG/CHT/CHS/JPN</td>
</tr>
<tr>
<td>2070014270</td>
<td>Win 10 Enterprise 64bit with EN/JP/TC/SC</td>
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#### Optional MOS modules for iDoor Expansion

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
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<tbody>
<tr>
<td>MOS-1120Y-0101E</td>
<td>Isolated CANbus, 2-Ch, DB9, PCIe I/F</td>
</tr>
<tr>
<td>MOS-1120Y-0201E</td>
<td>Isolated RS-232, 2-Ch, DB9, PCIe I/F</td>
</tr>
<tr>
<td>MOS-2220-Z1101E</td>
<td>Parallel LPT module, 1-Ch, USB I/F</td>
</tr>
</tbody>
</table>

#### Ordering Information

<table>
<thead>
<tr>
<th>Part No.</th>
<th>CPU</th>
<th>DDR3L</th>
<th>VGA</th>
<th>DVI-D</th>
<th>HDMI</th>
<th>RS-232</th>
</tr>
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<tbody>
<tr>
<td>ARK-3405R-S6A1E</td>
<td>N3160</td>
<td>up to 8GB</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
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</table>

#### Front Panel External I/O Mechanical Layout/Drawing

#### Side Panel External I/O Mechanical Layout/Drawing

#### Dimensions

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Unit: mm</th>
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<tbody>
<tr>
<td>Width</td>
<td>240</td>
</tr>
<tr>
<td>Height</td>
<td>198</td>
</tr>
<tr>
<td>Depth</td>
<td>70</td>
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