Rapid development of Internet of Things (IoT) technologies brings in profound revolution of networks. More terminals want to connect to networks, and more IoT data will be processed at the network edge. Huawei AR series agile gateway is designed for the IoT. It provides diversified interface types, conversion of multiple industry protocols, integrates functions such as routing, switching, and computing and storage, connects to various terminals, and supports local intelligence. It can be widely applied in various industry IoT scenarios, such as electrical meter data reading, intelligent vehicle-mounted scenarios, smart education, and building energy efficiency management.

AR series agile gateways fall into three series: industrial switching series, industrial routing series, and ICT convergence series.
Product Characteristics

1. Comprehensive Access Types
   • Provides diversified access interfaces to adapt to various terminals.
   • Supports various wireless protocols including ZigBee, Bluetooth, and RF, and allows flexible networking.
   • Supports conversion of multiple industry protocols and builds a unified network platform.

2. Strongest Environment Adaptability
   • Uses the industrial design, meeting waterproof, dustproof, and wide temperature requirements.
   • Works properly even in an environment with strong electromagnetic interference, meets requirements of IEEE1613.
   • Complies with anti-vibration standards in vehicle-mounted scenarios.

3. Highest Intelligence
   • Provides a high-performance computing and large-capacity storage system, without deploying a standalone server.
   • Provides local survival, improving system reliability.
   • Supports virtualization and provides a flexible and scalable application integration capability, shortening service deployment.
   • Implements full lifecycle management of ICT resources such as the application deployment, monitoring, and deletion through the Agile Controller.

4. Most Convenient Management
   • Provides integrated management of terminals, gateways, calculation, applications, and data.
   • Is deployed by scanning the device ESN and goes online rapidly.
   • Provides unified NMS, management of massive devices, and visualized O&M.
   • Supports USB-based deployment and plug-and-play.

Typical Applications

The AR series agile gateway supports various access interfaces. It can be applied to various harsh environments, and provides IoT solution for industries such as electric power, transportation, and energy.

Product Specifications

Specifications of the AR3600 series agile gateway

<table>
<thead>
<tr>
<th>Item</th>
<th>AR3670</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service forwarding performance</td>
<td>4.5 Gbit/s</td>
</tr>
<tr>
<td>SIC slot</td>
<td>2</td>
</tr>
<tr>
<td>WSIC slot (default/maximum**)</td>
<td>7/8</td>
</tr>
<tr>
<td>XSIC slot (default/maximum**)</td>
<td>0/6</td>
</tr>
<tr>
<td>Management port</td>
<td>One Ethernet port</td>
</tr>
<tr>
<td>USB 2.0 port</td>
<td>2</td>
</tr>
<tr>
<td>Mini USB port</td>
<td>1</td>
</tr>
<tr>
<td>Auxiliary or console port</td>
<td>1</td>
</tr>
<tr>
<td>Hard disk</td>
<td>1TB</td>
</tr>
<tr>
<td>Memory (default/maximum)</td>
<td>8GB/24GB</td>
</tr>
<tr>
<td>Flash</td>
<td>8GB</td>
</tr>
<tr>
<td>Virtual Machines</td>
<td>8 (Based on VM, the customers can install Windows OS or Linux OS.)</td>
</tr>
<tr>
<td>Maximum power</td>
<td>700 W per power supply (dual power supplies supported)</td>
</tr>
<tr>
<td>AC power supply</td>
<td>100 V to 240 V</td>
</tr>
<tr>
<td>Power frequency</td>
<td>50/60 Hz</td>
</tr>
<tr>
<td>Dimensions (W x D x H)</td>
<td>442 mm x 470 mm x 130.5 mm</td>
</tr>
<tr>
<td>Weight</td>
<td>17.8 kg (without power modules and cards)</td>
</tr>
<tr>
<td>Ambient temperature</td>
<td>0°C to 45°C</td>
</tr>
<tr>
<td>Environment relative humidity</td>
<td>5% to 95% (non-condensing)</td>
</tr>
<tr>
<td>Basic functions</td>
<td>AR/R/DHCP, NAT, and sub-interface management</td>
</tr>
<tr>
<td>WLAN (AC)</td>
<td>AP management (AC discovery/AP access/AP management), CAPWAP, WLAN user management, WLAN radio management (802.11a/b/g/n), WLAN QoS (WMM), and WLAN security (WEP/WPA/WPA2/key management)</td>
</tr>
<tr>
<td>LAN</td>
<td>IEEE 802.1P, IEEE 802.1Q, IEEE 802.3, VLAN management, MAC address management, MSTP, and so on</td>
</tr>
<tr>
<td>IPv4 unicast routing</td>
<td>Routing policy, static route, RIP, OSPF, IS-IS, BGP</td>
</tr>
<tr>
<td>IPv6 unicast routing</td>
<td>Routing policy, static route, RIPng, OSPFv3, IS-ISv6, and BGPv4+</td>
</tr>
</tbody>
</table>
### Specifications of the AR160-M series agile gateway

<table>
<thead>
<tr>
<th>Item</th>
<th>AR161FW-P-MS</th>
<th>AR169W-P-M9</th>
<th>AR169RW-P-M9</th>
</tr>
</thead>
<tbody>
<tr>
<td>WLAN speed with services (IMIX)</td>
<td>150 Mbps</td>
<td>150 Mbps</td>
<td>150 Mbps</td>
</tr>
<tr>
<td>Fixed WAN ports</td>
<td>1 x GE Combo</td>
<td>1 x GE, 1 x VDSL2</td>
<td>1 x GE, 1 x VDSL2</td>
</tr>
<tr>
<td>Fixed Ethernet switching ports</td>
<td>4 x GE(PoE)</td>
<td>4 x GE(PoE)</td>
<td>4 x GE(PoE)</td>
</tr>
<tr>
<td>Serial auxiliary/ console ports</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Video ports</td>
<td>1 x HDMI</td>
<td>1 x HDMI, 1 x VGA</td>
<td>1 x HDMI, 1 x VGA</td>
</tr>
<tr>
<td>Audio ports</td>
<td>1 x 3.5mm audio output (Earphone), 1 x 3.5mm audio input (MIC)</td>
<td>1 x 3.5mm audio output (Earphone), 1 x 3.5mm audio input (MIC)</td>
<td>1 x 3.5mm audio output (Earphone), 1 x 3.5mm audio input (MIC)</td>
</tr>
<tr>
<td>Bluetooth ports</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Serial ports</td>
<td>1 x RS485/RS232/RS422</td>
<td>1 x RS485/RS232/RS422</td>
<td>1 x RS485/RS232/RS422</td>
</tr>
<tr>
<td>Zigbee ports</td>
<td>2G</td>
<td>2G</td>
<td>2G</td>
</tr>
<tr>
<td>Wi-Fi</td>
<td>802.11 b/g/n</td>
<td>802.11b/g/n + 802.11ac</td>
<td>802.11b/g/n + 802.11ac</td>
</tr>
<tr>
<td>USB ports</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Memory size (Main control system)</td>
<td>512 MB</td>
<td>512 MB</td>
<td>512 MB</td>
</tr>
<tr>
<td>Flash memory</td>
<td>512 MB</td>
<td>512 MB</td>
<td>512 MB</td>
</tr>
</tbody>
</table>

**Note:** The maximum number of slots includes the number of combined slots.
### Specifications of the AR510 series agile gateway

<table>
<thead>
<tr>
<th>Item</th>
<th>AR511GW-LAV2M3</th>
<th>AR513W-V3M8</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Device model</strong></td>
<td>Metal box (external plastic shell can be used)</td>
<td>Metal box</td>
</tr>
<tr>
<td><strong>Fixed Ethernet interface</strong></td>
<td>2 x GE</td>
<td>2 x GE</td>
</tr>
<tr>
<td><strong>Video interface</strong></td>
<td>Two video interfaces (HDMI, CVBS, or YPbPr), which support playing 1080p HD video</td>
<td>2<em>HDMI, 1</em>VGA</td>
</tr>
<tr>
<td><strong>Video Codec</strong></td>
<td>MPEG4, H.264, H.263, Divx, Xvid, RV10</td>
<td>MPEG4, H.264, H.263, Divx, Xvid, RV10</td>
</tr>
<tr>
<td><strong>Video file format</strong></td>
<td>MP4, RM, Divx, 3GP, MOV, MKV</td>
<td>MP4, RM, Divx, 3GP, MOV, MKV</td>
</tr>
<tr>
<td><strong>Audio interface</strong></td>
<td>Two stereo outputs (one output: audio power amplifier), one stereo input</td>
<td>Owo stereo outputs (L/R), 3.5mm 3.5mm headset jack</td>
</tr>
<tr>
<td><strong>Audio Codec</strong></td>
<td>MP3, AAC, AAC+, eAAC+, WMA, OGG, AC-3</td>
<td>MP3, AAC, AAC+, eAAC+, WMA, OGG, AC-3</td>
</tr>
<tr>
<td><strong>Audio file format</strong></td>
<td>MP3, WAV, WMA, OGG, AMR, AAC</td>
<td>MP3, WAV, WMA, OGG, AMR, AAC</td>
</tr>
<tr>
<td><strong>Hard disk interface</strong></td>
<td>-</td>
<td>1*eSATA</td>
</tr>
<tr>
<td><strong>3G/LTE</strong></td>
<td>FDD LTE, compatible with 3G(WCDMA/HSDPA/HSUPA/HSPA+)</td>
<td>-</td>
</tr>
<tr>
<td><strong>Wi-Fi</strong></td>
<td>Dual-band AP (2.4 GHz and 5 GHz), 2x2 MIMO 802.11a/b/g/n</td>
<td>Dual-band AP (2.4 GHz and 5 GHz), 2x2 MIMO 802.11a/b/g/n</td>
</tr>
<tr>
<td><strong>GPS</strong></td>
<td>Supported</td>
<td>-</td>
</tr>
<tr>
<td><strong>Console interface</strong></td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>USB2.0</strong></td>
<td>1 USB HOST, 1 USB OTG</td>
<td>3<em>USB HOST, 1</em>USB OTG</td>
</tr>
<tr>
<td><strong>Memory</strong></td>
<td>2 GB</td>
<td>2 GB</td>
</tr>
<tr>
<td><strong>Storage</strong></td>
<td>Built-in Flash 4 GB</td>
<td>Built-in Flash 4 GB</td>
</tr>
<tr>
<td><strong>Power supply</strong></td>
<td>Dual DC inputs: 8V to 36V</td>
<td>DC: 12V</td>
</tr>
<tr>
<td><strong>Maximum Power</strong></td>
<td>30W</td>
<td>60W</td>
</tr>
<tr>
<td><strong>Dimensions (W x D x H)</strong></td>
<td>275 mm x 160 mm x 30 mm</td>
<td>275mm x 180mm x 40mm</td>
</tr>
<tr>
<td><strong>Weight</strong></td>
<td>1.3Kg</td>
<td>2.5Kg</td>
</tr>
<tr>
<td><strong>Operating temperature</strong></td>
<td>-10°C to +60°C</td>
<td>-10°C to +60°C</td>
</tr>
<tr>
<td><strong>Storage temperature</strong></td>
<td>-40°C to +85°C</td>
<td>-40°C to +85°C</td>
</tr>
</tbody>
</table>

**Note:** The capacity can be extended through the external SD card. The SD card needs to be purchased separately.

### Specifications

<table>
<thead>
<tr>
<th>Item</th>
<th>AR511GW-LAV2M3</th>
<th>AR513W-V3M8</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Device model</strong></td>
<td>Metal box</td>
<td></td>
</tr>
<tr>
<td><strong>Fixed Ethernet interface</strong></td>
<td>8 x GE (M12 interface)</td>
<td></td>
</tr>
<tr>
<td><strong>3G/LTE</strong></td>
<td>FDD LTE, compatible with 3G(WCDMA/HSDPA/HSUPA/HSPA+)</td>
<td>Dual SIM cards(one standby)</td>
</tr>
<tr>
<td><strong>Wi-Fi</strong></td>
<td>802.11n/b/g/n</td>
<td>B02.11a/b/g/n</td>
</tr>
<tr>
<td><strong>GPS</strong></td>
<td>Supported</td>
<td></td>
</tr>
<tr>
<td><strong>Console interface</strong></td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>USB2.0</strong></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td><strong>Other interface</strong></td>
<td>DE372</td>
<td></td>
</tr>
<tr>
<td><strong>Memory</strong></td>
<td>512 MB</td>
<td></td>
</tr>
<tr>
<td><strong>Flash memory</strong></td>
<td>512 MB</td>
<td></td>
</tr>
<tr>
<td><strong>Serial interface (OSP System)</strong></td>
<td>1*RS485/232</td>
<td></td>
</tr>
<tr>
<td><strong>Video interface (OSP System)</strong></td>
<td>1<em>HDMI, 1</em>VGA</td>
<td></td>
</tr>
</tbody>
</table>

**Note:** The capacity can be extended through the external SD card. The SD card needs to be purchased separately.
<table>
<thead>
<tr>
<th>Specifications</th>
<th>AR515GW-LM9-D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Audio interface (OSP System)</td>
<td>1<em>3.5mm audio output (Earphone), 1</em>3.5mm audio input (MIC)</td>
</tr>
<tr>
<td>Memory (OSP System)</td>
<td>8GB</td>
</tr>
<tr>
<td>Hard Disk (OSP System)</td>
<td>8GB mSATA, build-in 1*SATA</td>
</tr>
<tr>
<td>USB Ports (OSP System)</td>
<td>3</td>
</tr>
<tr>
<td>Power supply</td>
<td>DC input: 8V to 36V, ACC check Supported DC output: 30W</td>
</tr>
<tr>
<td>Maximum Power</td>
<td>72W</td>
</tr>
<tr>
<td>Dimensions (W x D x H)</td>
<td>406 mm x 270 mm x 68 mm</td>
</tr>
<tr>
<td>Weight</td>
<td>5Kg</td>
</tr>
<tr>
<td>Operating temperature</td>
<td>-25°C to +50°C</td>
</tr>
<tr>
<td>Storage temperature</td>
<td>-40°C to +85°C</td>
</tr>
<tr>
<td>Operating humidity</td>
<td>5% RH to 95% RH (non-condensing)</td>
</tr>
<tr>
<td>Installation method</td>
<td>Horizontally</td>
</tr>
<tr>
<td>Shock and vibration standards</td>
<td>EN61373, QCT413, SAE J1455 Category</td>
</tr>
<tr>
<td>Basic features</td>
<td>DHCP server/client, DNS client/proxy Relay, NAT, ARP, Port management</td>
</tr>
<tr>
<td>WLAN</td>
<td>WLAN QoS, WLAN Security, WLAN radio management, WLAN VAP management, WLAN user management, WLAN anti-attack</td>
</tr>
<tr>
<td>IPv4 unicast routing</td>
<td>Unicast routing management, routing policies, static routes, RIP, OSPF, IS-IS, BGP</td>
</tr>
<tr>
<td>Multicast</td>
<td>IGMP/IPv4/ICMPv6, PIM SM, PIM DM, PIM-SSM</td>
</tr>
<tr>
<td>VPN</td>
<td>IPsec, L2TP VPN, GRE VPN, Efficient VPN, DSVPN, A2A VPN (Any to Any VPN)</td>
</tr>
<tr>
<td>QoS</td>
<td>DiffServ mode, Priority mapping, traffic policing (CAR), traffic shaping, congestion avoidance (based on IP precedence/DSCP WRED), congestion management (LAN interface: SP/PP/PW/PR, WAN interface: PQ/CRWQF), MQC (traffic classification, traffic behavior, and traffic policy), Hierarchical QoS, Smart Application Control (SAC)</td>
</tr>
<tr>
<td>Security</td>
<td>Firewall, AAA authentication, RADIUS authentication, HWITACACS authentication, ICMP attack defense, Unicast Reverse Path Forwarding (URPF), CPCAR, Public Key Infrastructure (PKI)</td>
</tr>
<tr>
<td>Management and maintenance</td>
<td>Web Management, System management, Upgrade management, Device management, SNMPv1/v2c/v3, USB-based deployment</td>
</tr>
</tbody>
</table>

Note: DB37 interface is reserved

---

### Specifications of the AR2500 series agile gateway

<table>
<thead>
<tr>
<th>Specification</th>
<th>AR2504-H</th>
<th>AR2504-E-H</th>
<th>AR2504-D-H</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fixed interfaces</td>
<td>4<em>GE combo and 4</em>GE R45</td>
<td>2<em>10GE, 4</em>GE combo, and 4*GE R45</td>
<td>4<em>GE combo and 4</em>GE R45</td>
</tr>
<tr>
<td>Slots</td>
<td>2*WSIC</td>
<td>1*DO (3-pin industrial terminal)</td>
<td>1*DO (3-pin industrial terminal)</td>
</tr>
<tr>
<td>Alarm interface</td>
<td>1*DO (3-pin industrial terminal)</td>
<td>2*WSIC</td>
<td>1*DO (3-pin industrial terminal)</td>
</tr>
<tr>
<td>USB2.0</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Auxiliary or console interface</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Management interface</td>
<td>1*FE RJ45</td>
<td>1*FE RJ45</td>
<td>1*FE RJ45</td>
</tr>
<tr>
<td>DRAM</td>
<td>2 GB</td>
<td>2 GB</td>
<td>2 GB</td>
</tr>
<tr>
<td>Flash memory</td>
<td>512 MB</td>
<td>512 MB</td>
<td>512 MB</td>
</tr>
<tr>
<td>Forwarding performance</td>
<td>36Mpps</td>
<td>66Mpps</td>
<td>36Mpps</td>
</tr>
<tr>
<td>Switching capacity</td>
<td>144Gbps</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power</td>
<td>Redundant power modules AC: 100V AC ~ 240V AC, 50 Hz/60 Hz (90 V AC to 264 V AC, 47 Hz to 63 Hz) DC: 110V DC ~ 250V DC (88 V DC to 300 V DC) Input undervoltage and overvoltage protection Output short-circuit protection Overheating protection Reverse connection protection</td>
<td>Redundant power modules DC: 24V DC ~ 48V DC (18V DC ~ 60V DC) Input undervoltage and overvoltage protection Output short-circuit protection Overheating protection Reverse connection protection</td>
<td></td>
</tr>
<tr>
<td>Maximum output power</td>
<td>One power module configured: 60 W</td>
<td>Two power modules configured: 120 W</td>
<td></td>
</tr>
<tr>
<td>Typical power consumption</td>
<td>20 W</td>
<td>25 W</td>
<td></td>
</tr>
<tr>
<td>Maximum power consumption</td>
<td>20 W</td>
<td>25 W</td>
<td></td>
</tr>
<tr>
<td>Weight</td>
<td>&lt; 7 kg (interface module excluded)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dimensions (W x D x H)</td>
<td>442 mm x 420 mm x 68 mm (mounting ears excluded)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Storage temperatures</td>
<td>-40°C ~ +65°C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating temperatures</td>
<td>In compliance with IEC60068-2-1-2007 and EN 300 019-2-1 V2.2.2 2003, the router can operate reliably for 24 hours in a temperature range of -40°C to +70°C</td>
<td>-40°C to +60°C</td>
<td></td>
</tr>
<tr>
<td>Operating humidity</td>
<td>5% to 95% (non-condensing)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Specifications

<table>
<thead>
<tr>
<th>Specifications</th>
<th>AR2504-H</th>
<th>AR2504E-H</th>
<th>AR2504-D-H</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating altitude</td>
<td>&lt; 5,000 m</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Installation mode</td>
<td>19-inch rack</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IP protection level</td>
<td>IP30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Certification</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>North America: UL</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Germany: CS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Global: CB</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>European Union: CE (2004/108/EC, EN 55022, EN 55024, and EN 300386)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>United States: FCC (47CFR Part 15)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Canada: IC (ICES-003)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Australia: RCM (original C-Tick; AS/NZS CIPS22)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electric Power: IEC61850-3/IEEE1613 (for transformer substations)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>State Grid: Class A</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vibration and environment test</td>
<td>IEC61850-3 CLASS Cm</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>IEC/TS 61000-6-5:2001</td>
<td>EN 55022:2010</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CISPR 22:2008</td>
<td>EN 55024:2010</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CISPR 24:2010</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ETSI EN 30 386 V1.1.6.2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ETSI EN 201 468 V1.4.1.2014</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>VCCI V-3:2015</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>CAN/CSA-CISPR 22-10</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>IEC 61000-3-3:2014/EN 61000-3-3:2013</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>IEC 61000-6-2:2014/EN 61000-6-2:2005</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Safety standards</td>
<td>UL 60950-1</td>
<td>EN 60950-1</td>
<td>IEC 60950-1</td>
</tr>
<tr>
<td></td>
<td>IEC 60950-1</td>
<td>BS EN 60950-1</td>
<td>CSA C22.2 No 60950-1</td>
</tr>
<tr>
<td></td>
<td>BS EN 60950-1</td>
<td>AS/NZS 60950.1</td>
<td>IS 13252</td>
</tr>
<tr>
<td>Warranty period</td>
<td>5 years</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Specifications of the AR550 series agile gateway

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fixed Ethernet interfaces</strong></td>
<td>2 x 2.5G SFP(Compatible with GE), 4 x GE RJ45</td>
<td>2 x 2.5G SFP(Compatible with GE), 2 x GE combo, 6 x GE RJ45</td>
<td>8 x FE RJ45 + 4 x GE combo</td>
<td>24 x FE RJ45 + 4 x GE combo</td>
</tr>
<tr>
<td><strong>Fixed Serial</strong></td>
<td>-</td>
<td>1 x RS485</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Alarm Relay interface</strong></td>
<td>1 DI (terminal block, support Normal Open and Normal Closed)</td>
<td>1 DI (terminal block, support Normal Open and Normal Closed)</td>
<td>1 DO (terminal block, support Normal Open and Normal Closed)</td>
<td></td>
</tr>
<tr>
<td><strong>USB2.0</strong></td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Serial auxiliary/console interface</strong></td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Layer 2 forwarding performance</strong></td>
<td>13.5 Mpps</td>
<td>19.5 Mpps</td>
<td>7.2 Mpps</td>
<td>9.6 Mpps</td>
</tr>
<tr>
<td><strong>Switching capacity</strong></td>
<td>54Gbps</td>
<td>24.8Gbps</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>DRAM memory</strong></td>
<td>256 MB</td>
<td>512 MB</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Flash memory</strong></td>
<td>512 MB</td>
<td>128 MB</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Power supply</strong></td>
<td>Dual DC power: 9.6 V to 60 V (terminal block)</td>
<td>Dual DC power: 9.6 V to 60 V (terminal block)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>PoE</strong></td>
<td>-</td>
<td>Yes GEx/E1 support PoE+, Other 6GEs support PoE+</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td><strong>Weight</strong></td>
<td>1.1 kg</td>
<td>1.1 kg</td>
<td>1.6 kg</td>
<td>2.1 kg</td>
</tr>
<tr>
<td><strong>Dimensions (W x D x H)</strong></td>
<td>44 mm x 133 mm x 150 mm</td>
<td>97 mm x 133 mm x 150 mm</td>
<td>133 mm x 133 mm x 150 mm</td>
<td>133 mm x 133 mm x 150 mm</td>
</tr>
<tr>
<td><strong>Typical power consumption</strong></td>
<td>13W</td>
<td>14W</td>
<td>21W</td>
<td>28W</td>
</tr>
<tr>
<td><strong>Installation mode</strong></td>
<td>Installation on a DIN rail</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Storage temperature</strong></td>
<td>~40°C to +85°C</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Operating temperature**

~40°C to +70°C

The device is tested for 2 hours at temperatures in the range of +70°C to +85°C.

**Operating humidity**

5% to 95% (non-condensing)

**IP protection Rating**

IP40

**Certification standards compliance**

CB (IEC 60950)
EU CE (EN 55022, EN 55024, and EN 300386)
USA FCC (47CFR Part 15)
Canada IC (ICES-003)
Australia C-Tick (AS/NZS CIPS22)
Electric power IEC61850-3/IEEE1613 (substation) ENS0155 (railway)

**Vibration and environment test**

IEEE1613
IEC61850-3 CLASS Cm
EN50155

**EMC**

FCC 47 CFR PART15, CLASS A
EN55022, CLASS A
VCCI, CLASS A
AS/NZS CISPR22 CLASS A, AS/NZS CISPR 24
ICES 003 CLASS A
CE
C-Tick (Australia)
ETSI EN 300386
IEC61000-4-2 (ESD): ±8 kV contact discharge, ±15 kV air discharge
IEC61000-4-3 (RS): 80 V/m, 2700 MHz
IEC61000-4-4 (EFT): Power cable: ±4 kV, data cable: ±4 kV
IEC61000-4-5 (Surge): Power cable: ±4 kV (CM) ±2 kV (DM); data cable: ±4 kV
IEC61000-4-6 (Conducted Disturbances Immunity)
IEC61000-4-8 (Power frequency Magnetic Field Immunity)
IEC61000-4-9 (Pulse Magnetic Field Immunity)
IEC61000-4-10 (Damped Oscillatory Magnetic Field Immunity)

**Safety**

UL 60950-1
EN 60950-1
IEC 60950-1
BS EN 60950-1
CSA C22.2 No 60950-1
AS/NZS 60950.1
IS 13252

**Warranty**

5 years
### Specifications of the AR530 series agile gateway

<table>
<thead>
<tr>
<th>Specification</th>
<th>AR530C-4GE</th>
<th>AR530C-2G6GE</th>
<th>AR530D-2FE-D-H</th>
<th>AR530D-24FE-D-H</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LAN functions</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>L2 Switching</td>
<td>IEEE 802.1P, IEEE 802.1Q, and IEEE 802.3</td>
<td>IEEE 802.1P, IEEE 802.1Q, and IEEE 802.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>L2 Forwarding Performance</td>
<td>Static MAC address, dynamic MAC address, MAC address learning restriction</td>
<td>Static MAC address, dynamic MAC address, MAC address learning restriction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>L3 Forwarding</td>
<td>Port aggregation and LACP</td>
<td>Port aggregation and LACP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RS485 Interface</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fixed Ethernet Interface</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>WAN Speed With Services</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>WAN Speed Without Services</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ring network packet forwarding</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-density</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quality of Service (QoS)</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Security</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reliability</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Management and maintenance</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>IP Applications</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IP Addressing</td>
<td>ARP, DHCP, DNS, and DDNS</td>
<td>ARP, DHCP, DNS, and DDNS</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>PLC Interface</strong></td>
<td>Hi-PLC (OFDM) S-FSK PLC</td>
<td>USB 2.0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>USB 2.0</strong></td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Product specifications</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Item</strong></td>
<td><strong>AR531-2C-H</strong></td>
<td><strong>AR531GPe-U-H</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>L2 Switching Capacity</td>
<td>5.6Gbps</td>
<td>5.2Gbps</td>
<td></td>
<td></td>
</tr>
<tr>
<td>L2 Forwarding Performance</td>
<td>4.2Mpps</td>
<td>3.9Mpps</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IP Addressing</td>
<td>IPv6 ND, DHCPv6, and DNS6</td>
<td>IPv6 ND, DHCPv6, and DNS6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Port aggregation and LACP</td>
<td>Port aggregation and LACP</td>
<td>Port aggregation and LACP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RS485 Interface</td>
<td>2-channel</td>
<td>2-channel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fixed Ethernet Interface</td>
<td>2 x GE SFP + 6 x FE RJ45</td>
<td>2 x GE SFP + 6 x FE RJ45</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DI Interface</td>
<td>2-channel</td>
<td>2-channel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weight</td>
<td>0.5 kg</td>
<td>0.7 kg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dimensions (H x W x D)</td>
<td>88 mm x 220 mm x 250 mm</td>
<td>88 mm x 220 mm x 250 mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>-40°C to +85°C</td>
<td>-40°C to +85°C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Item</td>
<td>ARS31-ZC-H</td>
<td>ARS31GPe-U/H</td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------------------------</td>
<td>------------------</td>
<td>------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Installation method</td>
<td>Wall-mounted, DIN rail mount</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating temperature</td>
<td>-40°C to +70°C</td>
<td>-40°C to +70°C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relative humidity</td>
<td>5% RH to 95% RH (non-condensing)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Protection level</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industrial Communication Protocol</td>
<td>IEC62056, Modbus</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Basic Features</td>
<td>DHCP server/client, PPPoE server/client, NAT, sub-interface management</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LAN</td>
<td>IEEE 802.1p, IEEE 802.1q, IEEE 802.3, VLAN management, MAC address management</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ring Network Protocols</td>
<td>SEP, STP, RSTP, MSTP</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IPv4 Routing</td>
<td>routing policies, static routes, RIP, OSPF, IS-IS, BGP</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IPv6 Routing</td>
<td>routing policies, static routes, RIPv3, OSPFv3, IS-ISv6, BGPv6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multicast</td>
<td>IGMP v1/v2/v3, PIM SM, PIM DM, MSDP</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VPN</td>
<td>IPsec VPN, GRE VPN, DSVPN, L2TP VPN</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>QoS</td>
<td>Differentiated service model, priority mapping, traffic policing (CAR), traffic shaping, congestion avoidance (IP-precedence/DSCP-based WRED), congestion management (LAN interfaces: SPWRR/RSP+WP, WAN interfaces: PQ/CBWFQ)), MQC (traffic classifier, traffic behavior, and traffic policy), HQoS, Smart Application Control (SAC)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Security</td>
<td>Access Control List (ACL), firewall, 802.1x authentication, AAA authentication, RADIUS authentication, HWTACACS authentication, broadcast storm suppression, ARP security, ICMP attack defense, Unix-based Reverse Path Forwarding (URPF), CPCA, Public Key Infrastructure (PKI)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Management and Maintenance</td>
<td>Upgrade management, device management, SNMP (v1/v2/c/v3), RMON, NTP, USB-based deployment, network configuration, CLI</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Specifications</th>
<th>ARS32</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industrial Communication Protocol</td>
<td>IEC62056</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Specifications</th>
<th>ARS52EGAc-Lc</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uplink: 3G</td>
<td>1* MiniSIM - SMA Interface, Support WCDMA/HSDPA/HSUPA/HSPA+: Band 1, Band B</td>
</tr>
<tr>
<td>Fixed Ethernet Interface</td>
<td>1* GE/1*GE Combo</td>
</tr>
<tr>
<td>Downlink: PLCS</td>
<td>Hi-PLC/433MHz/915MHz RF (Optional)</td>
</tr>
<tr>
<td>DVD/DO Interface</td>
<td>2-channel DV/2-channel DD</td>
</tr>
<tr>
<td>Fixed Interface</td>
<td>RS485*2</td>
</tr>
<tr>
<td>Other interface</td>
<td>1 USB2.0, 1 Pulse out, 1 Infrared, 6 Operation Keys, WLAN (Management Interface)</td>
</tr>
<tr>
<td>USB 2.0</td>
<td>1</td>
</tr>
<tr>
<td>Serial Console Interface</td>
<td>1</td>
</tr>
<tr>
<td>Memory</td>
<td>256 MB</td>
</tr>
<tr>
<td>Flash</td>
<td>512 MB</td>
</tr>
<tr>
<td>Maximum Power Consumption</td>
<td>12.5 W</td>
</tr>
<tr>
<td>Power Supply</td>
<td>Rated input voltage range: Single-phase: 100 V to 240 V AC, Three-phase: 173 V to 415 V AC</td>
</tr>
<tr>
<td>Power Frequency</td>
<td>50/60 Hz</td>
</tr>
<tr>
<td>Dimensions</td>
<td>90 x 50 x 40 mm</td>
</tr>
<tr>
<td>Weight</td>
<td>2.5 kg</td>
</tr>
<tr>
<td>Installation Method</td>
<td>Wall-mounted</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>-25°C to +70°C</td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>-40°C to +85°C</td>
</tr>
<tr>
<td>Relative Humidity</td>
<td>5% RH to 95% RH</td>
</tr>
<tr>
<td>Protection Level</td>
<td>1</td>
</tr>
<tr>
<td>AMI Service</td>
<td>Meter Reading, 3G/RF/Hi-PLC Communication management, Monitoring and maintenance, Version management, Fault management, Time-synchronization of meter clock</td>
</tr>
</tbody>
</table>
### Specifications of the AR502 series agile gateway

<table>
<thead>
<tr>
<th>Specifications</th>
<th>AR502EG-L</th>
<th>AR502EGW-L</th>
<th>AR502EGRb-L</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Box</strong></td>
<td>Metal</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Processor</strong></td>
<td>Powerful 700Mhz ARM Dual-Core Cortex A9</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>DRAM (DDR3)</strong></td>
<td>256 MB</td>
<td>512 MB</td>
<td></td>
</tr>
<tr>
<td><strong>Flash memory</strong></td>
<td>512 MB</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Operating System</strong></td>
<td>Wind River LINUX 6.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>4G/LTE</strong></td>
<td>FDD LTE: Band 1, Band 2, Band 3, Band 4, Band 5, Band 7, Band 8, Band 20, all bands with diversity UL 50 Mbit/s; DL 150 Mbit/s</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>3G</strong></td>
<td>WCDMA/HSDPA+/HSPA+/HSPA+: Band 1, Band 2, Band 5, Band 8, all bands with diversity UL 5.76 Mbit/s; DL 42 Mbit/s</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>GSM</strong></td>
<td>GSM/GPRS/EDGE: 850/900/1,800/1,900 MHz EDGE throughput up to 236 kbps</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>SIM card</strong></td>
<td>Dual SIM card support</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Serial</strong></td>
<td>1 x RS232 (DB9 female connector, isolated)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Configure button</strong></td>
<td>Switch function between service and management for RS232 port when press button for no longer than 5s</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Ethernet</strong></td>
<td>2 10/100/1000M base-T</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>USB</strong></td>
<td>1 x USB 2.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Antenna</strong></td>
<td>2 external antennas for Main and Div</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>LED indicators</strong></td>
<td>PWR x 1, RUN x 1, ALM x 1, RSI x 3, 2G x 1, 3G x 1, SIM x 2</td>
<td>2G LED</td>
<td>3G LED</td>
</tr>
<tr>
<td><strong>Power supply</strong></td>
<td>DC: 8 V to 36 V</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Maximum power consumption</strong></td>
<td>10 W</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Dimensions</strong></td>
<td>150mm x 100mm x 44 mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Weight</strong></td>
<td>0.653 kg</td>
<td>0.676 kg</td>
<td>0.85kg</td>
</tr>
<tr>
<td><strong>Operating temperature</strong></td>
<td>–25°C to +70°C</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Storage temperature</strong></td>
<td>–40°C to +85°C</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Relative humidity</strong></td>
<td>5% RH to 95% RH (non-condensing)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>IP protection Rating</strong></td>
<td>IP30</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>EMC</strong></td>
<td>EN 300 386 V1.6.1(2012-09)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Certifications</strong></td>
<td>CE(Europe), RoHS(Europe), WEEE(Europe), REACH(Europe), RCM(Ausatlia)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Basic features</strong></td>
<td>TCP, UDP, ICMP, IPv4, IPv6</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>DHCP server/relay, DNS client/proxy/relay, Dynamic DNS NAT</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Specifications AR502CG-L AR502CGW-L AR502CGRb-L

WLAN
- WLAN radio management, WLAN VAP management, WLAN user management, WLAN anti-attack, WLAN QoS, WLAN Security

LAN
IEEE 802.1P, 802.1Q, 802.3, 802.1 VLAN management, MAC address management, STP, etc.

Unicast routing
Routing policy, static route, RIP, BGP, RIPng, BGP4+

VPN
GRE tunnel, IPSec tunnel, L2TP Client VPN, Smart VPN (SVVPN)

QoS
Traffic classification based on Layer-2 header, Layer-3 information, Layer-4 information, and 802.1p priority, Traffic shaping, Queue scheduling of PQ, WRR, DRR, PQ+WRR, and PQ+DRR, Congestion avoidance, such as WRED and tail drop

Security
AAA authentication, RADIUS authentication, HWI_TACACS authentication, 802.1X MAC bypass authentication, Certificate authentication and PKI management, Firewall, Packet filtering, and firewall log, Anti-DoS attack, TCP SYN Flood attack defense, UDP Flood attack defense, broadcast storm suppression, heavy traffic attack defense, Provides CPU protection, Ping and Traceroute functions

WAN failover/failback
Interface Backup: Business continuity guarantee for wired networks via instantaneous failover/failback to/from 4G/3G/2G networks, Intelligent delay mechanism for controlling failover/failback procedure

Configuration and maintenance
Web-GUI (HTTPS), CLI, Telnet, and SSH terminals, SNMPv3 including cellular specific MIB, config and firmware download, FTP and TFTP, Boot ROM updates and remote upgrades, User operation logs, TR-069 (CWMP) client for remote device configuration, configuration backup and restore, and firmware upgrade, NQA monitor, System status monitor, NTP client support for network time sync of device’s system clock

Firmware management
Firmware upgrade locally via LAN or remotely over-the-air (HTTPS, SNMP, TR-069), Multiple firmware image storage on device and dynamic install

Event Alert
SYSLOG Trap and Alarm by SNMP

Specifications AR502CG-L

Box
Plastics

Processor
Powerful 700Mhz ARM Dual-Core Cortex A9

DRAM (DDR3)
256 MB

Flash memory
512 MB

Operating System
Wind River LINUX 6.0

4G/LTE
FDD LTE: Band 1, Band 2, Band 3, Band 4, Band 5, Band 7, Band 8, Band 20, all bands with diversity, UL 50 Mbit/s, DL 150 Mbit/s

3G
WCDMA/HSPA+/HSUPA/HSIA+: Band 1, Band 2, Band 5, Band 8, all bands with diversity, UL 5.76 Mbit/s, DL 42 Mbit/s

GSM
GSM/CPRI/EDGE: 850/900/1800/1900 MHz, EDGE throughput up to 236 kbps

SIM card
One SIM card support, Lockable tray reader with push-button-to-release, Supports mini-SIM format (2FF)

Serial
1 x RS232 (RJ45 connector, non-isolated)

Configure button
Switch function between service and management for RS232 port when press button for no longer than 5s, Restore to default configuration when press button for no less than 5s

Ethernet
2 x 10/100/1000M base-T

WLAN
- 

DVDO
1 alarm inputs to detect dry contact open or close, 9.6 to 60V input, State "0" or "1" can be configured, 1 relay output with current carrying capacity of 1 A @ 60 VDC, normally open/closed

USB
1 x USB 2.0

Antenna
2 internal antennas, 2 x Internal antennas for Main and Div, 1 external antenna(Optional), 1 x SMA connector for 3G/4G (1x Main), Replace internal main Antenna when external antenna is installed

LED indicators
PWR x 1, RUN/ALM x 1, RSSI x 3, 2G x 1, 3G x 1, SIM x 1

Power supply
DC: 8 V to 36 V
### Specifications AR502CG-L

<table>
<thead>
<tr>
<th>Specifications</th>
<th>AR502CG-L</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum power consumption</td>
<td>8W</td>
</tr>
<tr>
<td>Dimensions (W x D x H)</td>
<td>150 mm x 100 mm x 44 mm</td>
</tr>
<tr>
<td>Weight</td>
<td>0.38 kg</td>
</tr>
<tr>
<td>Operating temperature</td>
<td>–25°C to +60°C</td>
</tr>
<tr>
<td>Storage temperature</td>
<td>–40°C to +85°C</td>
</tr>
<tr>
<td>Relative humidity</td>
<td>5% RH to 95% RH (non-condensing)</td>
</tr>
<tr>
<td>IP protection Rating</td>
<td>IP30</td>
</tr>
</tbody>
</table>

#### Installation mode
- Wall mounted (Mounting brackets is included by default)
- DIN-Rail mounted (Supported by default) horizontally

#### EMC
- EN 300 386 V1.6.1(2012-09)
- EN 55022:2010 CLASS A
- CISPR22:2010
- CISPR24:2010
- EN 301 489-1 V1.9.2(2011-09)
- EN 301 489-17 V2.2.1(2012-09)
- EN 61000-4-2:2009
- EN 61000-4-4:2012
- EN 61000-4-5:2014
- EN 61000-4-6:2014
- EN 61000-4-8:2010
- EN 61000-4-11:2004
- EN 61000-4-17:2002
- EN 61000-4-29:2000

#### Certifications
- CE(Europe)
- CB(International)
- RoHS(Europe)
- WEEE(Europe)
- REACH(Europe)
- GCF(Europe)

#### Basic features
- TCP, UDP, ICMP, IPv4, IPv6
- PPP protocols: PAP, CHAP, and BCP
- DHCP client/proxy/delay, DNS client/proxy/delay, Dynamic DNS
- NAT

<table>
<thead>
<tr>
<th>Specifications</th>
<th>AR502CG-L</th>
</tr>
</thead>
<tbody>
<tr>
<td>LAN</td>
<td>IEEE 802.1P, IEEE 802.1Q, IEEE 802.3</td>
</tr>
<tr>
<td>VLAN management, MAC address management</td>
<td>STP, etc.</td>
</tr>
<tr>
<td>Unicast routing</td>
<td>Routing policy, static route</td>
</tr>
<tr>
<td>RIP, BGP</td>
<td>RIPng, BGP4+</td>
</tr>
<tr>
<td>VPN</td>
<td>GRE tunnel</td>
</tr>
<tr>
<td>IPSec tunnel</td>
<td>L2TP Client VPN</td>
</tr>
<tr>
<td>Smart VPN (SVPN)</td>
<td></td>
</tr>
<tr>
<td>QoS</td>
<td>Traffic classification based on the Layer-2 header, Layer-3 information, Layer-4 information, and 802.1p priority</td>
</tr>
<tr>
<td>Traffic policing (CAR)</td>
<td>Traffic shaping</td>
</tr>
<tr>
<td>Queue scheduling of PQ, WRR, DRR, PQ+WRR, and PQ+DRR</td>
<td></td>
</tr>
<tr>
<td>Congestion avoidance, such as WRED and tail drop</td>
<td></td>
</tr>
<tr>
<td>Security</td>
<td>AAA authentication, RADIUS authentication, HWTACACS authentication</td>
</tr>
<tr>
<td>802.1X/MAC/MAC bypass authentication</td>
<td>Certificate authentication and PKI management</td>
</tr>
<tr>
<td>Firewall, Packet filtering, and firewall log</td>
<td>Anti-DoS attack, TCP SYN Flood attack defense, UDP Flood attack defense, broadcast storm suppression, heavy traffic attack defense</td>
</tr>
<tr>
<td>Provides CPU protection</td>
<td>Ping and Tracer functions</td>
</tr>
</tbody>
</table>

#### WAN failover/ fallback
- Interface Backup - Business continuity guarantee for wired networks via instantaneous failover/failback to/from 4G/3G/2G networks
- Intelligent delay mechanism for controlling failover/failback procedure

#### Configuration and maintenance
- Web-GUI (HTTPS)
- CLI, Telnet, and SSH terminals
- SNMPv1/v2c/v3 including cellular specific MIB, config and firmware download
- FTP and TFTP
- Boot ROM upgrades and remote upgrades
- User operation logs
- TR-069 (CWMP) client for remote device configuration, configuration backup and restore, and firmware upgrade
- NQA monitor
- System status monitor
- NTP client support for network time sync of device's system clock

#### Firmware management
- Firmware upgrade locally via LAN or remotely over-the-air (HTTPS, SNMP, TR-069)
- Multiple firmware image storage on device and dynamic install

#### Event Alert
- SYSLOG
- Trap and Alarm by SNMP
### Specifications of the AR503 series agile gateway

<table>
<thead>
<tr>
<th>Specification</th>
<th>AR503GW-LM7</th>
<th>AR503DEGW-Lc</th>
<th>AR503EQGW-L</th>
<th>AR503EW</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dimensions</strong> (W x D x H)</td>
<td>200 mm x 160 mm x 44 mm</td>
<td>280 mm x 200 mm x 44 mm</td>
<td>280 mm x 200 mm x 44 mm</td>
<td>280 mm x 200 mm x 44 mm</td>
</tr>
<tr>
<td>Weight</td>
<td>1.4 kg</td>
<td>2.6 kg</td>
<td>2.6 kg</td>
<td>2.6 kg</td>
</tr>
<tr>
<td><strong>Operating temperature</strong></td>
<td>-10°C to +50°C</td>
<td>-10°C to +70°C (PoE disabled)</td>
<td>-10°C to +60°C (PoE enabled)</td>
<td>-10°C to +70°C (PoE disabled)</td>
</tr>
<tr>
<td><strong>Storage temperature</strong></td>
<td>-40°C to +85°C</td>
<td>-40°C to +85°C</td>
<td>-40°C to +85°C</td>
<td>-40°C to +85°C</td>
</tr>
<tr>
<td><strong>Operating humidity</strong></td>
<td>5% RH to 95% RH</td>
<td>5% to 95% relative humidity (non-condensing)</td>
<td>5% to 95% relative humidity (non-condensing)</td>
<td>5% to 95% relative humidity (non-condensing)</td>
</tr>
<tr>
<td><strong>IP protection Rating</strong></td>
<td>Indoor</td>
<td>Indoor</td>
<td>Indoor</td>
<td>Indoor</td>
</tr>
<tr>
<td><strong>Installation method</strong></td>
<td>Wall-mounted or horizontally</td>
<td>Wall-mounting or horizontal</td>
<td>Wall-mounting or horizontal</td>
<td>Wall-mounting or horizontal</td>
</tr>
<tr>
<td><strong>Basic features</strong></td>
<td>DHCP server/client/relay, DNS client/proxy/relay, NAT, ARP, Port management</td>
<td>WLAN QoS, WLAN Security, WLAN radio management, VLAN VAP management, WLAN user management, WLAN anti-attack</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>IPv4 Unicast routing</strong></td>
<td>Unicast routing management, routing policies, static routes, RIP, OSPF, IS-IS, BGP, MBGP</td>
<td>Unicast routing management, routing policies, static routes, RIP, OSPF, IS-IS, BGP, MBGP</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Multicast</strong></td>
<td>IGMPv1/v2/v3</td>
<td>PIM SM, PIM DM, PIM-SSM, MSDP</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>VPN</strong></td>
<td>L2TP VPN, GRE VPN, Efficient VPN, IPSec VPN</td>
<td>L2TP VPN, GRE VPN, Efficient VPN, IPSec VPN</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>QoS</strong></td>
<td>ACLs, QoS, QM, SAC</td>
<td>ACLs, QoS, QM, SAC</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Security</strong></td>
<td>Firewall, AAA authentication, RADIUS authentication, NAT, NATAC, NATACX authentication, ICMP attack defense, Unicast Reverse Path Forwarding (URPF)</td>
<td>Firewall, AAA authentication, RADIUS authentication, NAT, NATAC, NATACX authentication, ICMP attack defense, Unicast Reverse Path Forwarding (URPF)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Management and maintenance</strong></td>
<td>Web Management, System management, Upgrade management, Device management, SNMPv1/v2c/v3, USB-based deployment</td>
<td>Web Management, System management, Upgrade management, Device management, SNMPv1/v2c/v3, USB-based deployment</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Fixed Ethernet interface**

- **1 x GE**
- **4 x GE (M12 interface)**
- **4 x GE (M12 interface)**
- **4 x GE (M12 interface)**

**LTE**

- **WCDMA/HSPA+: B1/B2/B5/B8/B10/BD**
- **TD-SCDMA: B34/39**
- **GSM/GPRS/EDGE: 850 MHz/900 MHz/1800 MHz/1900 MHz**

**Wi-Fi**

- **Dual-band AP (2.4 GHz and 5 GHz), 2x2 MIMO 802.11a/b/g/n**
- **Dual-band APs including both 2.4 GHz and 5 GHz access; 3x3 MIMO 802.11ac and 802.11b/g/n**
- **Dual-band APs including both 2.4 GHz and 5 GHz access; 2x2 MIMO 802.11ac and 802.11b/g/n**

**GPS**

- **Supported**

**Console interface**

- **1**

**USB**

- **1 USB2.0**

**Memory**

- **1 GB**

**Storage**

- **Built-in Flash 512MB (expand storage through mSATA interface)**

**PoE**

- **Supported**

**Power supply**

- **DC inputs: 8V to 36V**
- **DC inputs: 9V to 36V**

**Maximum Power**

- **30W (PoE disabled)**
- **50W (PoE enabled)**
- **60W (PoE enabled)**
- **25W (PoE disabled)**
- **55W (PoE enabled)**

**Specifications of the AR503 series agile gateway**

<table>
<thead>
<tr>
<th>Specification</th>
<th>AR503GW-LM7</th>
<th>AR503DEGW-Lc</th>
<th>AR503EQGW-L</th>
<th>AR503EW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions (W x D x H)</td>
<td>200 mm x 160 mm x 44 mm</td>
<td>280 mm x 200 mm x 44 mm</td>
<td>280 mm x 200 mm x 44 mm</td>
<td>280 mm x 200 mm x 44 mm</td>
</tr>
<tr>
<td>Weight</td>
<td>1.4 kg</td>
<td>2.6 kg</td>
<td>2.6 kg</td>
<td>2.6 kg</td>
</tr>
<tr>
<td><strong>Operating temperature</strong></td>
<td>-10°C to +50°C</td>
<td>-10°C to +70°C (PoE disabled)</td>
<td>-10°C to +60°C (PoE enabled)</td>
<td>-10°C to +70°C (PoE disabled)</td>
</tr>
<tr>
<td><strong>Storage temperature</strong></td>
<td>-40°C to +85°C</td>
<td>-40°C to +85°C</td>
<td>-40°C to +85°C</td>
<td>-40°C to +85°C</td>
</tr>
<tr>
<td><strong>Operating humidity</strong></td>
<td>5% RH to 95% RH</td>
<td>5% to 95% relative humidity (non-condensing)</td>
<td>5% to 95% relative humidity (non-condensing)</td>
<td>5% to 95% relative humidity (non-condensing)</td>
</tr>
<tr>
<td><strong>IP protection Rating</strong></td>
<td>Indoor</td>
<td>Indoor</td>
<td>Indoor</td>
<td>Indoor</td>
</tr>
<tr>
<td><strong>Installation method</strong></td>
<td>Wall-mounted or horizontally</td>
<td>Wall-mounting or horizontal</td>
<td>Wall-mounting or horizontal</td>
<td>Wall-mounting or horizontal</td>
</tr>
<tr>
<td><strong>Basic features</strong></td>
<td>DHCP server/client/relay, DNS client/proxy/relay, NAT, ARP, Port management</td>
<td>WLAN QoS, WLAN Security, WLAN radio management, VLAN VAP management, WLAN user management, WLAN anti-attack</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>IPv4 Unicast routing</strong></td>
<td>Unicast routing management, routing policies, static routes, RIP, OSPF, IS-IS, BGP, MBGP</td>
<td>Unicast routing management, routing policies, static routes, RIP, OSPF, IS-IS, BGP, MBGP</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Multicast</strong></td>
<td>IGMPv1/v2/v3</td>
<td>PIM SM, PIM DM, PIM-SSM, MSDP</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>VPN</strong></td>
<td>L2TP VPN, GRE VPN, Efficient VPN, IPSec VPN</td>
<td>L2TP VPN, GRE VPN, Efficient VPN, IPSec VPN</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>QoS</strong></td>
<td>ACLs, QoS, QM, SAC</td>
<td>ACLs, QoS, QM, SAC</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Security</strong></td>
<td>Firewall, AAA authentication, RADIUS authentication, NAT, NATAC, NATACX authentication, ICMP attack defense, Unicast Reverse Path Forwarding (URPF), CPCAR, blacklist, Public Key Infrastructure (PKI)</td>
<td>Firewall, AAA authentication, RADIUS authentication, NAT, NATAC, NATACX authentication, ICMP attack defense, Unicast Reverse Path Forwarding (URPF), CPCAR, blacklist, Public Key Infrastructure (PKI)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Management and maintenance</strong></td>
<td>Web Management, System management, Upgrade management, Device management, SNMPv1/v2c/v3, USB-based deployment</td>
<td>Web Management, System management, Upgrade management, Device management, SNMPv1/v2c/v3, USB-based deployment</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Specifications of the AR509 series agile gateway

<table>
<thead>
<tr>
<th>Specifications</th>
<th>AR509G-L-D-H</th>
<th>AR509GW-L-D-H</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethernet</td>
<td>4xGE RJ45 LAN + 1xGE RJ45 WAN</td>
<td></td>
</tr>
<tr>
<td>VDSL2</td>
<td>1 Pair (ITU G.993.5, G.993.2 over POTS/over ISDN, ADSL2+ compatible Annex A/B)</td>
<td></td>
</tr>
<tr>
<td>LTE</td>
<td>LTE FDD: Band 1/2/3/4/5/7/8/20 WCDMA/HSDPA/HSUPA/HSPA+; Band 1/2/5/8 GMS/GPRS/EDGE; 850/900/1800/1900 MHz</td>
<td></td>
</tr>
<tr>
<td>LTE antenna</td>
<td>2 Antennas (SMA), which support a 3m antenna extension cable</td>
<td></td>
</tr>
<tr>
<td>WLAN</td>
<td>-</td>
<td>802.11a/b/g/n Dual-band, 2.4GHz+5GHz</td>
</tr>
<tr>
<td>USB 2.0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>SIM slot</td>
<td>Dual SIM slots, main/backup</td>
<td>Dual SIM slots, main/backup</td>
</tr>
<tr>
<td>USB 2.0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Power supply</td>
<td>12 V DC</td>
<td></td>
</tr>
<tr>
<td>High-voltage power supply</td>
<td>External industrial power adapter: 90 to 264 V AC (terminal block), 88 to 300 V DC (terminal block); -40°C to +70°C</td>
<td>External plug-type power adapter: 90 V AC to 270 V AC; -5°C to +45°C</td>
</tr>
<tr>
<td>Memory</td>
<td>512 MB</td>
<td>512 MB</td>
</tr>
<tr>
<td>Flash memory</td>
<td>512 MB</td>
<td></td>
</tr>
<tr>
<td>Typical power consumption</td>
<td>9.3 W</td>
<td>13 W</td>
</tr>
<tr>
<td>Dimensions (W x D x H)</td>
<td>190 mm x 220 mm x 44 mm (without antennas)</td>
<td></td>
</tr>
<tr>
<td>Operating temperature</td>
<td>-25°C to +60°C; -35°C to 70°C (24-hour)</td>
<td></td>
</tr>
<tr>
<td>Storage temperature</td>
<td>-40°C to +85°C</td>
<td></td>
</tr>
</tbody>
</table>

Specifications

<table>
<thead>
<tr>
<th>Relative humidity</th>
<th>5% to 95% RH (non-condensing)</th>
</tr>
</thead>
<tbody>
<tr>
<td>IP grade</td>
<td>IP41</td>
</tr>
<tr>
<td>Installation</td>
<td>Wall-mounted or horizontally</td>
</tr>
<tr>
<td>MTBF</td>
<td>73.84 yrs</td>
</tr>
<tr>
<td>EMC</td>
<td>EN55022 (RE&amp;CE): LASS A IEC61000-4-2(ESD): ±6 kV contact discharge level B, ±8 kV air discharge level B IEC61000-4-3(IS): 10V/m, 80m-2700 MHz Level A IEC61000-4-4(ET): Power cable, ±2 kV Level B; data cable, ±1 kV Level B IEC61000-4-5(Surge): Power DM 2 kV, CM4 kV; Data 4 kV; Criteria B IEC61000-4-6(Conducted Disturbances Immunity): Data cable: 0.15 MHz-80 MHz, 3 V; Criteria A Power cable: 0.15 MHz-80 MHz, 10 V; Criteria A IEC61000-4-11(DP) Safety compliance</td>
</tr>
<tr>
<td>Basic features</td>
<td>DHCP server/client, PPPoE server/client, PPPOA server/client, PPPOEoA server/client, NAT, sub interface management</td>
</tr>
<tr>
<td>LAN</td>
<td>IEEE 802.1P, IEEE 802.1Q, IEEE 802.3, VLAN management, MAC address management, MSTP</td>
</tr>
<tr>
<td>Unicast routing</td>
<td>Static IPv4/IPv6 route, RIP, OSPF, RIPvng, OSPFv3</td>
</tr>
<tr>
<td>Multicast</td>
<td>IGMP v1/2/3, PIM SM, PIM DM, MSDP</td>
</tr>
<tr>
<td>VPN</td>
<td>IPSec VPN, GRE VPN, DSVVPN, L2TP VPN, Smart VPN</td>
</tr>
<tr>
<td>QoS</td>
<td>Diffserv mode, priority mapping, traffic policing (ICAR), traffic shaping, congestion avoidance (based on IP precedence/DSCP WRED), congestion management (LAN interface: SP/WRR/SP+WRR, WAN interface: PCQ/CBWFQ), MQC (traffic classification, traffic behavior, and traffic policy), Hierarchical QoS (H2QoS), Smart Application Control (SAC)</td>
</tr>
<tr>
<td>Security</td>
<td>ACL, firewall, 802.1x authentication, AAA authentication, RADIUS authentication, HWTACACS authentication, broadcast storm suppression, ARP security, ICMP attack defense, URPF, CPCAR, blacklist, IP source tracing</td>
</tr>
<tr>
<td>Management and maintenance</td>
<td>Upgrade management, device management, web-based GUI, GTL, SNMPv1/v2c/v3, RMON, NTP, CVMP, Auto-Config, site deployment using USB disk, CLI</td>
</tr>
</tbody>
</table>