

# Hardware Description

## AR100, AR120, AR150, AR160, AR200, AR1200, AR2200, AR3200, and AR3600

This document describes hardware components of the AR, including the cabinet, chassis, power supply facilities, fan modules, cards, cables, and pluggable modules for interfaces. You can find useful information about AR hardware components from this document.

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3G-HSPA+7 (3G WCDMA HSPA+7 Interface Card)

3G-EVDO (3G CDMA2000 EVDO Interface Card)

1LTE-L (WCDMA LTE Interface Card)

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## 1LTE-L (WCDMA LTE Interface Card)

### Card Overview

The 1LTE-L is a high-speed wireless WAN access module that connects to an LTE network to provide high-speed wireless data transmission for an enterprise.

A 1LTE-L card can be installed in a SIC slot of a router.

Figure 7-120 shows the appearance of a 1LTE-L card.

Figure 7-120 1LTE-L card appearance



### Version Mapping

Table 7-280 lists the device models and software versions supporting the 1LTE-L.

Table 7-280 Version mapping

Card Name	Device Model
1LTE-L	AR1200 series (All models in this series except the AR1220C and AR1220-8GE)
NOTE:  This card is supported in V200R005C00 and later versions.	AR2200 series (All models in this series except the AR2201-48FE and AR2202-48FE)
	AR3200 series
	AR3600 series

### Functions and Features

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AR100, AR120, AR150, AR160, AR200, AR1200, AR2200, AR3200, and AR3600 Hardware Description

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<div>Interface Card)</div> <div>1LTEC (LTE TDD/LTE FDD/HSPA+/TD-SCDMA/GSM Interface Card)</div> <div>1LTE-Lt (TDD/FDD/TD-SCDMA/UMTS/EVDO Interface Card)</div> <div>1LTE-Lt-7 (TDD/FDD/TD-SCDMA/UMTS/EVDO Interface Card)</div> <div>1LTE-Lo (FDD/HSPA+ Interface Card)</div> <div>1LTE-Lc (TDD/FDD/TD-SCDMA/HSPA+ Interface Card)</div> <div>E&amp;M Card</div> <div>POS/CPOS Card</div> <div>ISDN S/T WAN Card</div> <div>Voice Card</div> <div>xDSL Card</div> <div>xPON Card</div> <div>Capacitor Card</div>	<div>Table 7-281 Functions and features</div> <table> <tr> <th>Function and Feature</th><th>Description</th></tr> <tr> <td rowspan="2">Basic function</td><td>Dials up to an LTE network to provide high-speed data transmission.</td></tr> <tr> <td>Provides a backup link for a WAN link, to improve communication reliability between an enterprise's headquarters and branch networks.</td></tr> <tr> <td>High bandwidth</td><td>Supports FDD LTE and provides up to 50 Mbit/s uplink rate and 100 Mbit/s downlink rate.</td></tr> <tr> <td rowspan="3">Excellent 4G experience</td><td>Implements on-demand dialup and provides Provides end-to-end QoS</td></tr> <tr> <td>Automatically scans different 4G frequency bands.</td></tr> <tr> <td>Delivers fast 4G access service using industry-leading wireless technologies.</td></tr> <tr> <td rowspan="3">Flexible wireless standards</td><td>Maintains compatibility with 3G services.</td></tr> <tr> <td>Supports LTE FDD, DC-HSPA+, HSPA+, WCDMA, EDGE, GPRS, and GSM.</td></tr> <tr> <td>Provides 4G wireless access solution for carriers and enterprises.</td></tr> <tr> <td>Rapid deployment</td><td>Allows users to connect to an LTE network as soon as a SIM card is installed on the card.</td></tr> </table>	Function and Feature	Description	Basic function	Dials up to an LTE network to provide high-speed data transmission.	Provides a backup link for a WAN link, to improve communication reliability between an enterprise's headquarters and branch networks.	High bandwidth	Supports FDD LTE and provides up to 50 Mbit/s uplink rate and 100 Mbit/s downlink rate.	Excellent 4G experience	Implements on-demand dialup and provides Provides end-to-end QoS	Automatically scans different 4G frequency bands.	Delivers fast 4G access service using industry-leading wireless technologies.	Flexible wireless standards	Maintains compatibility with 3G services.	Supports LTE FDD, DC-HSPA+, HSPA+, WCDMA, EDGE, GPRS, and GSM.	Provides 4G wireless access solution for carriers and enterprises.	Rapid deployment	Allows users to connect to an LTE network as soon as a SIM card is installed on the card.	<div>Translation</div> <div>Favorite</div> <div>Download</div>
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Cables																			
Pluggable Modules for Interfaces																			
Accessories																			

Table 7-282 Indicator description

Number	Indicator	Color	Description
1	STAT	Green	<p>Steady on: The system has been powered on, but the system software is not running.</p> <p>Slow blinking: The system is running properly.</p> <p>Fast blinking: The system is being powered on or restarting.</p>

		Red	Steady on: A fault that affects services has occurred and cannot be rectified automatically. The fault needs to be rectified manually.
		Off	The system software is not running or is resetting.
2	LTE	Green	Steady on: The LTE signal strength is high. Fast blinking: The LTE signal strength is medium. Slow blinking: The LTE signal strength is low. Off: No LTE signal is available.
3	HSPA+	Green	Steady on: The HSPA+ signal strength is high. Fast blinking: The HSPA+ signal strength is medium. Slow blinking: The HSPA+ signal strength is low. Off: No HSPA+ signal is available.
4	WWAN	Green	Steady on: An LTE or HSPA+ link has been established and is active. Blinking: Data is being transmitted over the LTE or HSPA+ link. Off: The LTE or HSPA+ link is not established or is inactive.

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Figure 7-122 shows the interfaces on a 1LTE-L card.

Figure 7-122 Interfaces on a 1LTE-L card



1. Primary LTE	2. Secondary LTE	3. Mini USB	4. One SIM card slot
		Previous	

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not recommended to use the card cover to prevent poor SIM card contact.

• Hot-swap SIM card is not supported. After replugging the SIM card, you need to restart the RF module or restart the device.

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LTE antenna interface

LTE antenna interfaces of a router include a MAIN interface (for the primary antenna) and a DIV interface (for the secondary antenna). The primary and secondary antennas work together. The primary antenna transmits and receives LTE signals, and the secondary antenna only receives LTE signals to help improve the downlink rate. [Table 7-283](#) lists attributes of an LTE antenna interface.

Table 7-283 LTE antenna interface attributes

Attribute	Description
Connector type	SMA-K (screw threads outside and a hole inside)
Standards compliance and frequency bands supported	<div><div>• LTE FDD: Band 1/2/3/4/5/7/8/20</div><div>• WCDMA: Band 1/2/5/8</div><div>• GSM: 850/900/1800/1900 (MHz)</div></div>
Rate	<div><div>• LTE Frequency Division Duplexing (FDD): uplink rate of 50 Mbit/s and downlink rate of 100 Mbit/s</div><div>• Dual Carrier High Speed Packet Access Plus (DC-HSPA+): uplink rate of 5.76 Mbit/s and downlink rate of 42 Mbit/s</div><div>• High Speed Packet Access Plus (HSPA+): uplink rate of 5.76 Mbit/s and downlink rate of 21.6 Mbit/s</div><div>• WCDMA packet switched (PS): uplink rate of 384 kbit/s and downlink rate of 384 kbit/s</div><div>• Wideband Code Division Multiple Access circuit switched (WCDMA CS): uplink rate of 64 kbit/s and downlink rate of 64 kbit/s</div><div>• Enhanced Data Rates for GSM Evolution (EDGE): uplink rate of 236.8 kbit/s and downlink rate of 236.8 kbit/s</div><div>• General Packet Radio Service (GPRS): uplink rate of 85.6 kbit/s and downlink rate of 85.6 kbit/s</div><div>• GSM: uplink rate of 9.6 kbit/s and downlink rate of 14.4 kbit/s</div></div>
Cable type	<div><div>LTE Indoor Remote Antenna (27012152)</div><div>LTE Whip Antenna</div></div>

Mini USB interface

The Mini USB interface on an LTE card is used to commission the LTE module. [Table 7-284](#) lists attributes of a Mini USB interface.

Table 7-284 Mini USB interface attributes

Attribute	Description
	Previous

Connector type	mini USB-B-angle
Standards compliance	USB2.0
Working mode	Device

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Technical Specifications

Table 7-285 lists the technical specifications of a 1LTE-L card.

Table 7-285 Technical specifications

Item	Specification
Card type	SIC
Hot swap	Supported
Physical specifications	<ul style="list-style-type: none"><li>• Dimensions (H x W x D): 19.82 mm x 100.1 mm x 223.5 mm (0.78 in. x 3.94 in. x 8.80 in.)</li><li>• Maximum power consumption: 7.5 W</li><li>• Weight: 0.2 kg (0.44 lb)</li></ul>
Environment parameters	<ul style="list-style-type: none"><li>• Operating temperature: 0°C to 45°C (32°F to 113°F)</li><li>• Operating relative humidity: 5% to 95%, noncondensing</li><li>• Storage temperature: -40°C to +70°C (-40°F to +158°F)</li><li>• Operating altitude: 0 m to 5000 m (0 ft. to 16404.2 ft.)</li></ul>

Ordering Information

To place an order, visit <http://e.huawei.com/en/how-to-buy> to find the local supplier or submit your inquiries online.

Table 7-286 provides 1LTE-L card ordering information.

Table 7-286 Ordering information

Part Number	Model	Name Label (Silkscreen)	Description
02310QBB	AR-1LTE-L-S	1LTE-L	WCDMA LTE Interface Card



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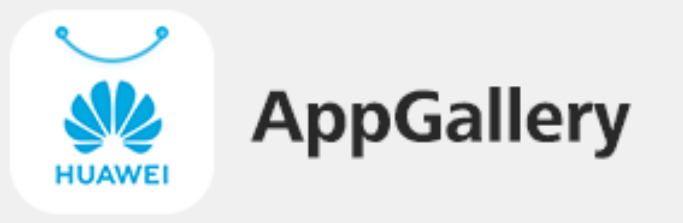
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