# HUAWEI AR509 Series IoT Gateway Datasheet



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# **Product Overview**

HUAWEI AR509 series IoT gateway is designed to work in harsh environments. It provides a rapidly deployable, highly available, reliable, and secure solution into the Internet of Things (IoT) applications for finance, energy, and electric power industries, telemetry, retail, and other industrial automation scenarios.

The AR509 series is available in the models: AR509G-L-D-H. AR509GW-L-D-H. AR509CGW-L and AR509CG-Lc.

Model	Specification
AR509G-L-D-H	<ul> <li>Fixed interface: 1xGE WAN , 4xGE LAN, 1xVDSL2</li> <li>FDD LTE (dual SIM slots)</li> <li>IP41, Waterproof and dustproof</li> <li>Dimensions (W x D x H): 190 x 220 x 44 mm</li> </ul>
AR509GW-L-D-H	<ul> <li>Fixed interface: 1xGE WAN , 4xGE LAN, 1xVDSL2</li> <li>FDD LTE (dual SIM slots)</li> <li>802.11a/b/g/n, dual-band AP, 2.4 GHz and 5 GHz, 2x2 MIMO</li> <li>IP41, Waterproof and dustproof</li> <li>Dimensions (W x D x H): 190 x 220 x 44 mm</li> </ul>
AR509CGW-L	<ul> <li>Fixed interface: 4xGE LAN</li> <li>FDD LTE (dual SIM slots)</li> <li>802.11b/g/n</li> <li>Dimension (W x D x H): 150 x 100 x 44 mm</li> </ul>
AR509CG-Lc	<ul> <li>Fixed interface: 4xGE LAN</li> <li>LTE TDD, LTE FDD(dual Micro SIM slots)</li> <li>Dimension (W x D x H): 150 x 100 x 44 mm</li> </ul>

# Key Features and Benefits

### Better Service Experience with an Industrial-Grade Design

- · Delivers harsh environment adaptability with all industrial-grade components.
- Uses a fan-less design and IP41 protection (dust- and water-proof).
- · Works in wide ranges of temperature and humidity.

# Flexible Networking, Secure, Reliable Services with High Performance

- Supports 4G LTE, 100 Mbps downlinks and 50 Mbps uplinks, 2G/3G evolution, and wireless backup through dual SIM slots.
- Provides various types of interfaces, such as 3G/LTE, GE
- Integrates the routing, switching, and security functions in one box.

### Easy Deployment, Convenient O&M

- Web-based visualized configuration and user-friendly UI
- Remote topology management and batch configuration and upgrade
- USB-based deployment and plug-and-play

# **Typical Applications**

# Self-service terminals and advertising board

The AR509 connects Automatic Teller Machines (ATMs) and advertising billboards with VDSL2/GE uplinks and LTE/3G backup or dual LTE/3G (main/standby) uplinks. With an industrial-grade design, AR509 can work in harsh environments with extremely high and low temperature, high humidity, and strong electromagnetic interference. It can also enhance data security with rich VPN functions.



### Energy and electric power industries

The AR509 connects Romote Terminal Units (RTUs), wind power plants, and solar panels, and transmits data provided by gas, oil, and water distribution networks.

### Outdoor video surveillance backhaul

The AR509 connects IP cameras and supports VDSL2, GE or LTE backhaul to the surveillance center.



# Product Specifications

The following table lists the specifications of the AR509.

Specifications	AR509G-L-D-H	AR509GW-L-D-H	AR509CGW-L	AR509CG-Lc
		Hardware Specification	ns	
	4xGE RJ45 LAN + 1xGE	RJ45 WAN	4xGE RJ45 LAN	4xge RJ45 LAN
Ethernet				(can be configured as
				WAN interfaces)
	1 Pair (ITUT G.993.5, G.9	993.2 over POTS/over	-	-
VDSL2	ISDN, ADSL2+ compatib	le Annex A/B. Support		
	Vectoring)			
			LTE FDD: Band	FDD LTE: Band 1/3/8
			1/2/3/4/5/7/8/20	TDD LTE: Band
	ITE EDD: Rand 1/2/3/4/5/7/8/20		WCDMA/HSDPA/	38/39/40/41
ITE		/HSPA+: Band 1/2/5/8	HSUPA/HSPA+: Band	UMTS: Band 1/5/8/9
			1/2/5/8	TD-SCDMA: Band
	G3W/GLR3/EBGE. 630/300/1800/1300 WH2		GSM/GPRS/EDGE:	34/39
			850/900/1800/1900	GSM/GPRS/EDGE:
			MHz	900/1800 MHz
LTE antenna	2 Antennas (SMA), whic	h support a 3m antenna e	extension cable	2 Antennas
		802.11a/b/g/n		
WLAN	-	Dual-band,	802.11b/g/n*	-
		2.4GHz+5GHz		
			Dual Micro SIM slots,	Dual Micro SIM slots,
SIIVI SIOT	Duai Siivi siots, main/dao	Dual SIM slots, main/backup		main/backup
USB 2.0	1		1	1
Power supply	12 V DC		8~36 V DC	8~36 V DC
			External industrial	External industrial
				power adapter:
External inductivial in-		r adaptor:	• 90 to 264 V AC(	• 90 to 264 V AC(
	<ul> <li>igh-voltage power</li> <li>90 to 264 V AC( terminal block)</li> <li>88 to 300 V DC ( terminal block)</li> <li>-40°C to +70°C</li> <li>External plug-type power adapter:</li> <li>90 V AC to 270 V AC</li> </ul>		terminal block)	terminal block)
			• 88 to 300 V DC (	• 88 to 300 V DC (
High-voltage power			terminal block)	terminal block)
supply			<ul> <li>-40°C to +70°C</li> </ul>	• -40° C to +70° C
			External plug-type	External plug-type
			power adapter:	power adapter:
	• -5 C 10 +45 C		• 90 V AC to 270 V	• 90 V AC to 270 V
			AC	AC
			<ul> <li>−5°C to +45°C</li> </ul>	• −5° C to +45° C
Memory	512 MB	512 MB		256 MB
Flash memory	512 MB		512 MB	512 MB
Typical power	0.2.14/	12.14/	C 02 W	1014/
consumption	9.3 VV	IZ VV	0.93 W	1077
Dimensions ( W x D	190 mm x 220 mm x 44	mm (without antennas)	150 mm x 100 mm x 44	150 mm x 100 mm x 44
x H)			mm	mm
Operating	-25°C to +60°C		2500 - 7200	
temperature	(-35°C to 70°C, 24-hour)		-25°C to +70°C	-25°C to +70°C
•			1	

Specifications	AR509G-L-D-H	AR509GW-L-D-H	AR509CGW-L	AR509CG-Lc
Storage temperature	-40°C to +85°C		-40°C to +85°C	-40°C to +85°C
		1 · · ·	5% to 95% RH	5% to 95% RH
Relative humidity	5% to 95% RH (non-condensing)		(non-condensing)	(non-condensing)
IP grade	IP41		IP30	IP30
		· · · · · · · · · · · · · · · · · · ·		Wall mounted
			(Mounting brackets is	(Mounting brackets is
Installation	Wall-mounted or ho	rizontally	included by default)	included by default)
			DIN-Rail mounted (DIN	DIN-Rail mounted (DIN
			mounting kit is optional)	mounting kit is optional)
			ETSI EN 300 386	ETSI EN 300 386
			V1.6.1(2012-09)	V1.6.1(2012-09)
			EN 55022:2010 CLASS	EN 55022:2010 CLASS
			A	А
			EN 55024:2010	EN 55024:2010
			CISPR22:2010	CISPR22:2010
			CISPR24:2010	CISPR24:2010
			EN 301 489-1	EN 301 489-1
	EN55022 ( RE&CE ):	LASS A	V1.9.2(2011-09)	V1.9.2(2011-09)
	IEC61000-4-2(ESD):	± 6 kV contact discharge	EN 301 489-17	EN 301 489-17
	level B, $\pm 8$ kV air dis	scharge Level B	V2.2.1(2012-09)	V2.2.1(2012-09)
	IEC61000-4-3(RS): 10	0V/m, 80M-2700 MHz Level	IEC61850-3 (2013)	IEC61850-3 (2013)
	А		IEEE1613 (2009)	IEEE1613 (2009)
	IEC61000-4-4(EFT): F	Power cable, ± 2 kV Level B;	EN61000-4-2:2009	EN61000-4-2:2009
EMC	data cable, ± 1 kV L	evel B	EN61000-4-3:2006 +	EN61000-4-3:2006 +
	IEC61000-4-5(Surge)	: Power DM 2 kV, CM4 kV;	A1:2008 + A2:2010	A1:2008 + A2:2010
	Data 4 KV; Criteria B		EN61000-4-4:2012	EN61000-4-4:2012
	IEC61000-4-6(Condu	cted Disturbances Immunity):	EN61000-4-5:2014	EN61000-4-5:2014
	Data cable: 0.15 MH	z-80 MHz, 3 V, Criteria A	EN61000-4-6:2014	EN61000-4-6:2014
	Power cable: 0.15 M	Hz-80 MHz, 10 V, Criteria A	EN61000-4-8:2010	EN61000-4-8:2010
	IEC61000-4-11(DIP)		EN61000-4-10:1993 +	EN61000-4-10:1993 +
			A1:2001	A1:2001
			EN61000-4-11:2004	EN61000-4-11:2004
			EN61000-4-16:1998 +	EN61000-4-16:1998 +
			A1:2004 + A2:2011	A1:2004 + A2:2011
			EN61000-4-17:2002	EN61000-4-17:2002
			EN61000-4-18:2007 +	EN61000-4-18:2007 +
			A1:2010	A1:2010
			EN61000-4-29:2000	EN61000-4-29:2000
			IEC60950-	IEC60950-
	IEC 60950-1, UL 60950-1, EN 60950-1, GB4943		1:2005(Second Edition)	1:2005(Second Edition)
Satety compliance			+ A 1:2009 + A 2	+ A 1:2009 + A 2
			:2013	:2013
	·	Software Specification	s	<u> </u>
	DHCP server/client, P	PPoE server/client, PPPoA serv	er/client, PPPoEoA server/c	lient, NAT, sub interface
Basic features	management	-		
	IEEE 802.1P. IEEE 802	2.1Q, IEEE 802.3. VLAN	IEEE 802.1P. IEEE 802 10	, IEEE 802.3. VLAN
LAN	management, MAC address management, MSTP management, MAC address management			ess management

Specifications	AR509G-L-D-H	AR509GW-L-D-H	AR509CGW-L	AR509CG-Lc
Unicast routing	Static IPv4/IPv6 route, RIP,	OSPF, RIPng,	Static IPv4/IPv6 route,	Static IPv4/IPv6 route,
Unicast routing	OSPFv3,BGP, BGP4+		RIP, RIPng,BGP, BGP4+	RIP, RIPng, BGP, BGP4+
Multicast	IGMP v1/2/3, PIM SM, PIN	/ DM, MSDP	-	-
VPN	IPSec VPN, GRE VPN, DSV	PN,L2TP Client VPN	IPSec VPN, GRE VPN, L2TP Client VPN	IPSec VPN, GRE VPN, L2TP Client VPN
QoS	Diffserv mode, priority mapping, traffic policing (CAR), traffic shaping, congestion avoidance (based on IP precedence/DSCP WRED), congestion management (LAN interface: SP/WRR/SP+WRR; WAN interface: PQ/CBWFQ), MQC (traffic classification, traffic behavior, and traffic policy), Hierarchical QoS (HQoS), Smart Application Control (SAC)		Diffserv mode, priority mapping, traffic policing (CAR), traffic shaping, congestion avoidance (based on IP precedence/DSCP WRED), congestion management (LAN interface: SP/WRR/SP+WRR; WAN interface: PQ/CBWFQ), MQC (traffic classification, traffic behavior, and traffic policy), Hierarchical QoS (HQoS)	
Security	ACL, firewall, 802.1x auth authentication, RADIUS au HWTACACS authentication suppression, ARP security, URPF, CPCAR, blacklist, IP	entication, AAA uthentication, n, broadcast storm ICMP attack defense, source tracing	ACL, firewall, 802.1x authentication, AAA authentication, RADIUS authentication, HWTACACS authentication, broadcast storm suppression, CPCAR, blacklist, IP source tracing	ACL, firewall, 802.1x authentication, AAA authentication, RADIUS authentication, HWTACACS authentication, broadcast storm suppression, CPCAR, blacklist, IP source tracing
Management and maintenance	Upgrade management, de web-based GUI, GTL, SNN NTP, CWMP, Auto-Config, USB disk, CLI, SSH (v1/v2)	evice management, /IP(v1/v2c/v3), RMON, site deployment using	Upgrade management, device management, web-based GUI, GTL, SNMP(v1/v2c/v3), NTP, Auto-Config, site deployment using USB disk, CLI, SSH (v1/v2)	Upgrade management, device management, web-based GUI, GTL, S N M P (v 1 / v 2 c / v 3), NTP, Auto-Config, site deployment using USB disk, CLI, SSH (v1/v2)

# Ordering Information

# Ordering Information Device model AR509G-L-D-H (1xGE WAN, 1xVDSL2 WAN, 4xGE LAN, 1xLTE, 12 V DC power AR509GW-L-D-H (1xGE WAN, 1xVDSL2 WAN, 4xGE LAN, WIFI 2.4G+5G, 1xLTE AR509GW-L-D-H (1xGE WAN, 1xVDSL2 WAN, 4xGE LAN, WIFI 2.4G+5G, 1xLTE AR509CGW-L (1xRS232, 4xGE LAN, WIFI, 1xLTE, 8~36VDC power supply) AR509CG-Lc (1xRS232, 4xGE LAN, 1xLTE, 8~36 V DC power supply) Accessories-power supply Industrial 60 W power adapter, 12V AC/DC to DC, DIN rail, 88 V to 300 V DC 24 W power adapter, 12 V AC to DC, 90 V DC to 270 V DC , -5°C to +45°C Accessories-installation kit LTE extended antenna

Accessories-storage device

USB flash drive (4 GB, USB 2.0)

For more information, visit http://e.huawei.com/en or contact your local Huawei sales office.

# **Device Selection**

### Device model

Select the device model based on the interface type and service requirements.

### Accessories

Configure the types and quantity of the industrial power adapters based on site environments.

r supply)
E, 12 V DC power supply)
0C, and 90 V to 264 V AC, −40°C to +70°C

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