Huawei NetEngine AR610 Series Enterprise Routers

Huawei AR610 series enterprise routers are routers designed for use in small- and medium-sized business (SMBs) and small-sized enterprise branches. The AR610 integrates various service features such as SD-WAN, routing, switching, security, and WLAN, providing diversified services and high performance.

Product Overview

Huawei's next-generation NetEngine AR610 series enterprise routers use multi-core processors and a non-blocking switching structure, helping to deliver three times the industry average performance. The NetEngine AR610 also integrates functions such as SD-WAN, cloud management, routing, switching, VPN, WLAN, and security, ensuring diversified and cloud-based services are fully supported. Huawei NetEngine AR610 series enterprise routers can be deployed at branches of SMBs and small-sized enterprises as required to provide enterprise network egress capabilities.

The NetEngine AR610 series consists of models such as the NetEngine AR611, NetEngine AR617, NetEngine AR611W, NetEngine AR611-LTE4EA, NetEngine AR617-LTE4EA, NetEngine AR611W-LTE6EA, NetEngine AR617VW, NetEngine AR617VW-LTE4EA, NetEngine AR617VW-LTE4. Huawei provides various models which can meet networking requirements of enterprises of different scales.

NetEngine AR611	• Fixed WAN ports: 1*GE Combo • Fixed LAN ports: 4*GE RJ45(can be configured as WAN) • Dimensions (H x W x D): 38.0 mm x 240.0 mm x 161.5 mm
NetEngine AR617	• Fixed WAN ports: 1*GE Combo, 1 * VDSL 35B • Fixed LAN ports: 4*GE RJ45(can be configured as WAN) • Dimensions (H x W x D): 38.0 mm x 240.0 mm x 161.5 mm
NetEngine AR611W	• Fixed WAN ports: 1*GE Combo • Fixed LAN ports: 4*GE RJ45(can be configured as WAN) • Wi-Fi: 802.11 ac/b/g/n • Dimensions (H x W x D): 38.0 mm x 240.0 mm x 161.5 mm
NetEngine AR611-LTE4EA	• Fixed WAN ports: 1*GE Combo, 1 * LTE • Fixed LAN ports: 4*GE RJ45(can be configured as WAN) • Dimensions (H x W x D): 38.0 mm x 240.0 mm x 161.5 mm

NetEngine AR617-LTE4EA	• Fixed WAN ports: 1*GE Combo, 1 * VDSL 35B, 1 * LTE • Fixed LAN ports: 4*GE RJ45(can be configured as WAN) • Dimensions (H x W x D): 38.0 mm x 240.0 mm x 161.5 mm
NetEngine AR611W-LTE6EA	• Fixed WAN ports: 1*GE Combo, 1 * LTE • Fixed LAN ports: 4*GE RJ45(can be configured as WAN) • Wi-Fi: 802.11 ac/b/g/n • Dimensions (H x W x D): 38.0 mm x 240.0 mm x 161.5 mm
NetEngine AR617VW	• Fixed WAN ports: 1*GE Combo, 1 * VDSL 35B • Fixed LAN ports: 4*GE RJ45(can be configured as WAN) • 2 * FXS • Wi-Fi: 802.11 ac/b/g/n • Dimensions (H x W x D): 38.0 mm x 240.0 mm x 161.5 mm
NetEngine AR617VW-LTE4EA NetEngine AR617VW-LTE4 *	• Fixed WAN ports: 1*GE Combo, 1 * VDSL 35B, 1 * LTE • Fixed LAN ports: 4*GE RJ45(can be configured as WAN) • 2 * FXS • Wi-Fi: 802.11 ac/b/g/n • Dimensions (H x W x D): 38.0 mm x 240.0 mm x 161.5 mm

*Note: NetEngine AR617VW-LTE4 is sold only in Latin America.

Features and Benefits

Features and Benefits

Service Requirement	Features and Benefits
High performance	• Multi-core processors and a non-blocking switching structure • Three times the industry average performance, providing the lowest latency for key services
High reliability	• Link backup for enterprise services, improving reliability • Fault detection and determination in milliseconds, minimizing service interruption time
Easy O&M	Multiple management modes, including SD-WAN management, SNMP-based network management, web-based network management, and cloud-based management, simplifying network deployment and reducing OPEX
Service convergence	Integration of functions such as routing, switching, VPN, security, and WLAN, meeting diversified enterprise service requirements, saving space, and reducing TCO
Security	Built-in firewall, URL filtering and multiple VPN technologies, providing comprehensive security protection capabilities
SD-WAN	• Built-in SD-WAN solution, building cost-effective and business-friendly connections over the Internet

Service Requirement	Features and Benefits
	• ZTP (Email-, USB-, DHCP-based and Registration Query Center deployment), minimizing skill requirements and provisioning devices in minutes • First packet identification (FPI) for SaaS applications and service awareness for complex applications, identifying over 90% of applications • Traffic steering based on bandwidth and link quality, ensuring experience of key applications and improving bandwidth utilization to up to 90%

Architecture Highlights

Architecture Feature	Benefits
Multi-core processor	High-performance multi-core processors, supporting high-speed WAN connections, powerful route calculation capabilities, and enhanced L4-L7 service processing
Extensive network interfaces	Extensive flexible interface such as 10M/100M/GE speed, 5G RU, LTE CAT4/CAT6, 3G, xGPON, VDSL/ADSL, Voice FXS, Wi-Fi 5/Wi-Fi 6 and POE/POE+

Product Specifications

NetEngine AR610 Series Technical Specifications

Item	NetEngine AR611 /AR611W	NetEngine AR617	NetEngine AR611-LTE4EA	NetEngine AR617-LTE4EA	NetEngine AR611W-LTE6EA	NetEngine AR617VW	NetEngine AR617VW-LTE4EA / AR617VW-LTE4
System Parameters							
Forwarding Performance (LAN - > WAN + WAN - > LAN, NAT + ACL + QoS, IMIX)	300Mbps	300Mbps	300Mbps	300Mbps	300Mbps	300Mbps	300Mbps
IPsec performance (IMIX)	200Mbps	200Mbps	200Mbps	200Mbps	200Mbps	200Mbps	200Mbps
SD-WAN* performance（1400 Bytes）	250Mbps	250Mbps	250Mbps	250Mbps	250Mbps	250Mbps	250Mbps
SD-WAN* performance（IMIX）	80Mbps	80Mbps	80Mbps	80Mbps	80Mbps	80Mbps	80Mbps
Fixed WAN ports	1 * GE combo	1 * GE combo, 1 * VDSL 35B	1 * GE combo, 1 * LTE CAT4	1 * GE combo, 1 * VDSL 35B, 1 * LTE CAT4	1 * GE combo, 1 * LTE CAT6	1 * GE combo, 1 * VDSL 35B	1 * GE combo, 1 * VDSL 35B, 1 * LTE CAT4

Item	NetEngine AR611 /AR611W	NetEngine AR617	NetEngine AR611-LTE4EA	NetEngine AR617-LTE4EA	NetEngine AR611W-LTE6EA	NetEngine AR617VW	NetEngine AR617VW-LTE4EA / AR617VW-LTE4
Standards compliance and frequency bands supported	-	-	LTE FDD: Band 1/3/5/7/8/20/28 LTE TDD: Band 38/40/41 WCDMA: Band 1/5/8 GSM: 900/1800(MHz)	LTE FDD: Band 1/3/5/7/8/20/28 LTE TDD: Band 38/40/41 WCDMA: Band 1/5/8 GSM: 900/1800 （MHz）	LTE FDD: Band 1/3/5/7/8/20/28/32 LTE TDD: Band 38/B40/B41 2×CA: B1+B1/B5/B8/B20/B28 B3+B3/B5/B7/B8/B20/B28、 B7+B5/B7/B8/B20/B28 B20+B32 B38+B38 B40+B40 B41+B41 WCDMA: Band 1/3/5/8	-	AR617VW-LTE4EA: LTE FDD: Band 1/3/7/8/20/28 LTE TDD: Band 38/40/41 WCDMA: Band 1/8 GSM: 900/1800(MHz) AR617VW-LTE4: LTE FDD: Band 1/2/3/4/5/7/8/28 LTE TDD: Band 40 WCDMA: Band 1/2/5/8 GSM: 850/900/1800/1900 (MHz)
Fixed LAN ports	4 * GE RJ45 (can be configured as WAN)						
xDSL	-	ADSL Annex A, M, B and J, T1.413 ANSI ADSL DMT issue 2, ITU G.993.2 (VDSL2), VDSL2 Vectoring (G993.5)	-	ADSL Annex A, M, B and J, T1.413 ANSI ADSL DMT issue 2, ITU G.993.2 (VDSL2), VDSL2 Vectoring (G993.5)	-	ADSL Annex A, M, B and J, T1.413 ANSI ADSL DMT issue 2, ITU G.993.2 (VDSL2), VDSL2 Vectoring (G993.5)	
Voice	-	-	-	-	-	2 * FXS	
Wi-Fi	AR611W: Dual-band (2.4 GHz	-	-	-	Dual-band (2.4 GHz and 5 GHz), 802.11b/g/n/ac		

Item	NetEngine AR611 /AR611W	NetEngine AR617	NetEngine AR611-LTE4EA	NetEngine AR617-LTE4EA	NetEngine AR611W-LTE6EA	NetEngine AR617VW	NetEngine AR617VW-LTE4EA / AR617VW-LTE4
	and 5 GHz), 802.11b/g/n/ac						
Auxiliary or console port	1 x RJ45 console port						
USB port	1*USB	1*USB	1*USB	1*USB	1*USB	1*USB	1*USB
Memory	1GB	1GB	1GB	1GB	1GB	1GB	1GB
Flash memory	1GB	1GB	1GB	1GB	1GB	1GB	1GB
Dimensions and Weight							
Router dimensions, With no mounting bracket installed (H x W x D)	38.0 mm x 240.0 mm x 161.5 mm						
Weight(Excluding packaging materials)	0.66kg						
Form Factor/Height	Desktop/Wall-mounted installation						
Power Specifications, Power Consumption, and Heat Dissipation							
Rated input voltage range (AC)	100 V to 240 V	100 V to 240 V	100 V to 240 V	100 V to 240 V	100 V to 240 V	100 V to 240 V	100 V to 240 V
Rated input frequency (AC)	50 Hz/60 Hz	50 Hz/60 Hz	50 Hz/60 Hz	50 Hz/60 Hz	50 Hz/60 Hz	50 Hz/60 Hz	50 Hz/60 Hz
Maximum input voltage range (AC)	90 V to 264 V	90 V to 264 V	90 V to 264 V	90 V to 264 V	90 V to 264 V	90 V to 264 V	90 V to 264 V
Maximum input current (AC)	0.8A	0.8A	0.8A	0.8A	0.8A	0.8A	0.8A
Maximum output power (AC)	24W	24W	24W	24W	24W	24W	24W
Maximum power consumption	12W	17W	12 W	19W	16 W	20W	22W
Fan module	Natural heat dissipation, without fans						
Environment Parameters							
Operating temperature	0 º C to 45 º C						

| Item	NetEngine AR611 /AR611W	NetEngine AR617	NetEngine AR611-LTE4EA	NetEngine AR617-LTE4EA	NetEngine AR611W-LTE6EA	NetEngine AR617VW	NetEngine AR617VW-LTE4EA / AR617VW-LTE4
Operating humidity	5% to 95% (non-condensing)						
Operating altitude	< 5000 m (16404.2 ft.)						
Storage temperature	–40 º C to +70 º C						
Storage altitude	< 5000 m (16404.2 ft.)						
Safety and Regulatory Standards							
EMC standards compliance	CISPR32 Class A EN 55032 Class A CISPR24 EN 55024 ETSI EN 300 386 ETSI EN 301 489-1 ETSI EN 301 489-17 ETSI EN 301 489-52						
Environmental standards compliance	RoHS REACH WEEE						
Safety standards compliance	IEC 60950-1 EN 60950-1						
Features and Protocols							
Basic function	DHCP server/client/relay, PPPoE server/client, PPPoA server/client, PPPoEoA server/client, NAT, and sub-interface management						
LAN	IEEE 802.1P, IEEE 802.1Q, IEEE 802.3, VLAN management, VLAN aggregation, MAC management, STP/RSTP						
Voice	-						RTP, SIP, SIP AG, IP PBX/TDM PBX, VoIP, SBC
3G/LTE	-	-	LTE FDD, LTE TDD, DC HSPA+, HSPA+, WCDMA, EDGE, GPRS and GSM	LTE FDD, LTE TDD, DC-HSPA+, HSPA+, WCDMA, EDGE, GPRS and GSM	LTE FDD, LTE TDD, DC-HSPA+, HSPA+ and WCDMA	-	LTE FDD, LTE TDD, DC-HSPA+, HSPA+, WCDMA, EDGE, GPRS and GSM
WLAN (AC)	AP management (AC discovery, AP access, and AP management), CAPWAP, WLAN user management, WLAN radio management (802.11a/b/g/n/ac), WLAN QoS (WMM), and WLAN security (WEP, WPA, WPA2, key management)						
WLAN (AP)	AP management, WLAN QoS (WMM), WLAN security (WEP/WPA/WPA2/key management), WLAN radio management (802.11b/g/n/ac), and WLAN user management (Support in AR611W, AR617VW, AR617VW-LTE, AR617VW-LTE4EA and AR611W-LTE6EA)						

Item	NetEngine AR611 /AR611W	NetEngine AR617	NetEngine AR611-LTE4EA	NetEngine AR617-LTE4EA	NetEngine AR611W-LTE6EA	NetEngine AR617VW	NetEngine AR617VW-LTE4EA / AR617VW-LTE4
IPv4 unicast routing	Routing policies, static routes, RIP, OSPF, IS-IS, BGP						
IPv6 unicast routing	Static routes, routing policies, RIPng, OSPFv3, IS-ISv6, BGP4+						
Basic IPv6 function	IPv6 ND, IPv6 PMTU, IPv6 FIB, IPv6 ACL, ICMPv6, DNSv6, DHCPv6						
IPv6 tunneling	Manual tunnel, automatic tunnel, GRE tunnel, IPv6 over IPv4 tunnel, 6 to 4 tunnel, ISATAP						
Multicast	IGMP v1/v2/v3, PIM-SM, PIM-DM, MSDP, MBGP, IPv6 PIM, MLD						
VPN	IPsec VPN, GRE VPN, DSVPN, A2A VPN, L2TP VPN, L2TPv3 VPN, Ethernet over GRE, VxLAN						
QoS	DiffServ mode, priority mapping, traffic policing (CAR), traffic shaping, congestion avoidance, congestion management, MQC (traffic classifier, traffic behavior, and traffic policy), hierarchical QoS, WLAN QoS, FR QoS, Smart Application Control (SAC). SPR						
Security	ACL (v4/v6), domain-based stateful firewall, 802.1X authentication, MAC address authentication, portal authentication, AAA authentication, RADIUS authentication, HWTACACS authentication, PKI, broadcast storm suppression, ARP security, ICMP attack defense, URPF, CPCAR, blacklist, attack source tracing, online behavior management, URL filtering						
Management and maintenance	Upgrade management, device management, web-based network management, GTL, SNMP (v1/v2c/v3), RMON, NTP, CWMP, Auto-Config, URL-based/USB-based/DHCP deployment, NETCONF/YANG, CLI, Netstream, IP FPM, TCP FPM, TWAMP Light, IP accounting, NQA						

*The SD-WAN performance model is EVPN + IPsec + QoS, with the performance data being the sum of bidirectional flows.

Networking and Application

- **SD-WAN Using Hybrid Links**

  In the SD-WAN Solution, the NetEngine AR610 functions as the gateway of SMBs and small-sized enterprise branches and supports hybrid access using multiple physical links, such as Internet links, and LTE links. The solution also leverages Huawei's next-generation controller, the Agile Controller, which implements centralized and visualized management. The NetEngine AR610 provides extensive SD-WAN features and delivers optimal service experience for enterprises through intelligent application identification, intelligent traffic steering, and intelligent acceleration. For details about Huawei SD-WAN Solution, visit https://e.huawei.com/en/solutions/business-needs/enterprise-network/sd-wan.

SD-WAN networking
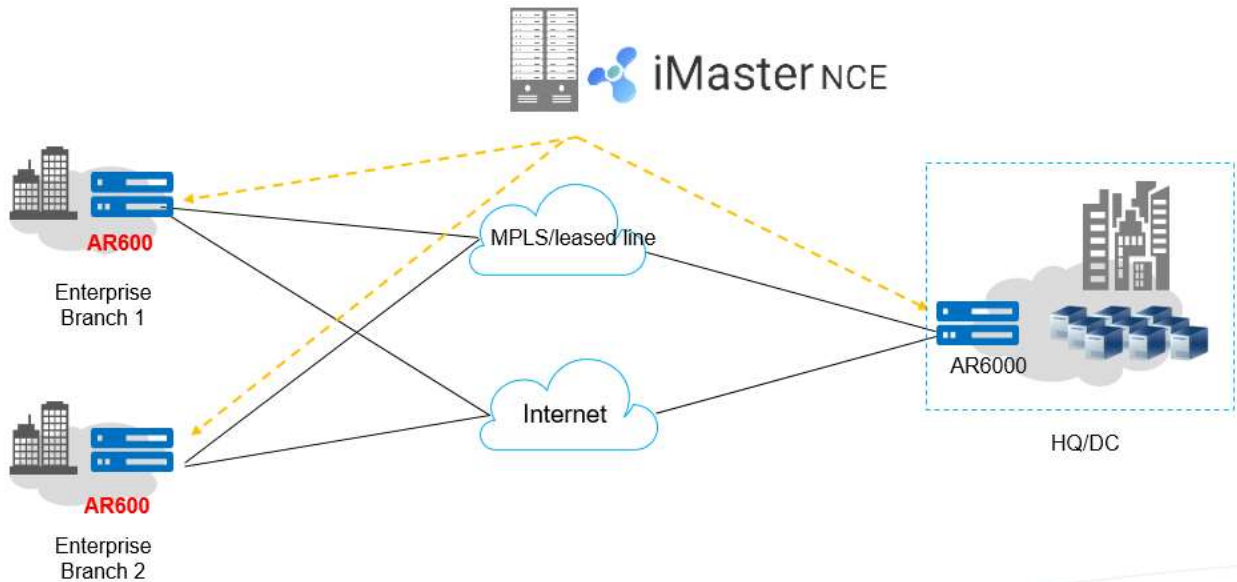

- **WAN Interconnection Scenario**

  In this scenario, the NetEngine AR610 series routers are used as enterprise branch egresses and provide flexible WAN access methods to support remote network connections. A single NetEngine AR610 router can satisfy different access requirements, for example, for the private line, Ethernet, 3G, LTE, and WLAN access, helping the customer reduce deployment and maintenance costs while helping them extract much value.

WAN interconnection networking
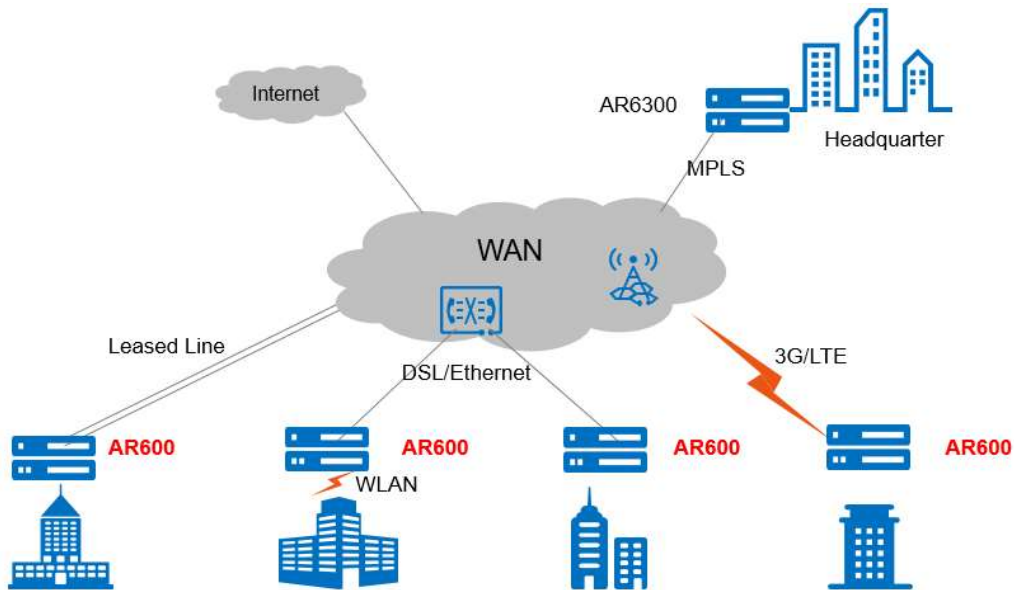
- **Building Different Types of VPNs by Leveraging Internet Resources**

  The NetEngine AR610 provides various secure access functions for communication between enterprise branches and between branches and headquarters. These functions also allow an enterprise's partners to access its resources. Secure tunnels such as GRE VPN, IPSec VPN, DSVPN, L2TP VPN, and EVPN tunnels can be set up between the headquarters and branches for secure data access and transmission. The NetEngine AR610 supports quick tunnel deployment and authentication for branches. Furthermore, partners authenticated and authorized by the AR610 can remotely access the enterprise resources over these tunnels.

VPN networking
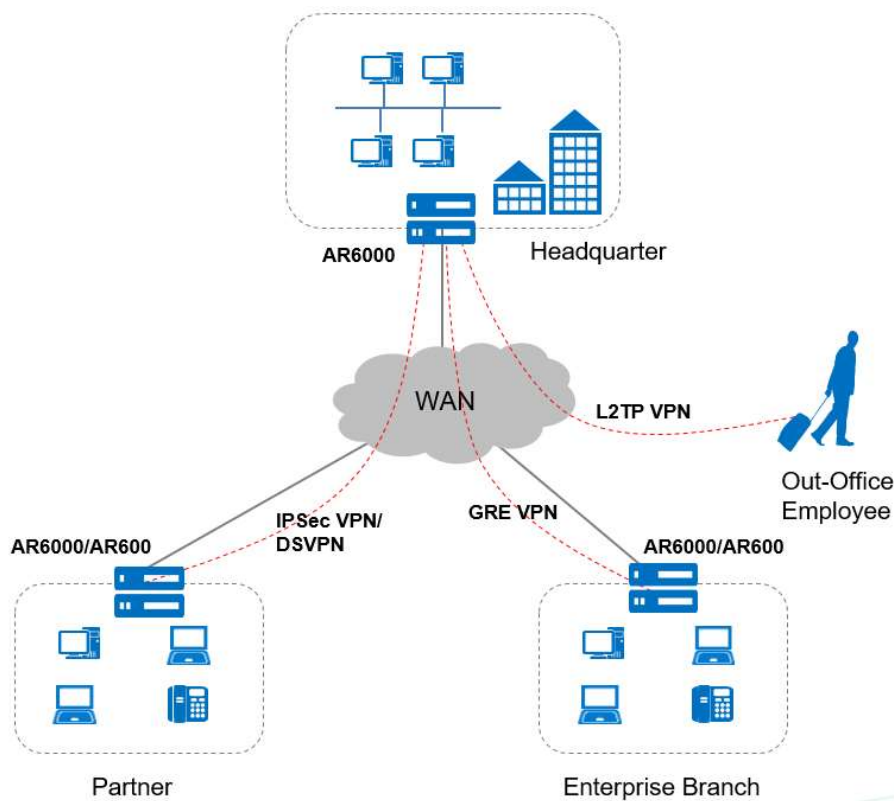
Ordering Information

The NetEngine AR610 series routers are configured by selecting and installing the appropriate configuration module. The configuration module ordering information and descriptions are shown in the following tables.

License function and description

License Name	Description
AR600&6100&6200&6300 Passive Optical Network Value-added Package	Support xGPON optical module
N1-Campus-F-AR600	N1-CloudCampus (exclude SD-WAN), Foundation, AR600 Series
N1-LANWAN-F-AR600	N1-CloudCampus SD-WAN (include SD-WAN), Foundation, AR600
N1-LANWAN-A-AR600	N1-CloudCampus SD-WAN (include SD-WAN), Advanced, AR600
N1-FToA-AR600	N1-CloudCampus SD-WAN (include SD-WAN), Upgrade Foundation to Advanced, AR600 Series
N1-APP-AR600	N1-CloudCampus SD-WAN Add-On, Intelligent Application Analysis, AR600 Series

Ordering components

Chassis Configuration	Description
NetEngine AR611	AR611, 1*GE COMBO WAN, 4*GE LAN, 1*USB
NetEngine AR617	AR617, 1*GE COMBO WAN, 1*VDSL, 4*GE LAN, 1*USB

NetEngine AR611W	AR611W, 1*GE COMBO WAN, 4*GE LAN, 1*USB, Wi-Fi 2.4G+5G
NetEngine AR611-LTE4EA	AR611-LTE4EA ,1*GE COMBO WAN, 1*LTE，4*GE LAN, 1*USB
NetEngine AR617-LTE4EA	AR617-LTE4EA, 1*GE COMBO WAN, 1*VDSL, 1*LTE，4*GE LAN, 1*USB
NetEngine AR611W-LTE6EA	AR611W-LTE6EA ,1*GE COMBO WAN, 1*LTE，802.11b/g/n/ac, 4*GE LAN, 1*USB
NetEngine AR617VW	AR617VW, 1*GE COMBO WAN, 1*VDSL, 4*GE LAN, 1*USB, Wi-Fi 2.4G+5G
NetEngine AR617VW-LTE4EA	AR617VW-LTE4EA, 1*GE COMBO WAN, 1*VDSL, 1*LTE，4*GE LAN, 1*USB, Wi-Fi 2.4G+5G
NetEngine AR617VW-LTE4	AR617VW-LTE4, 1*GE COMBO WAN, 1*VDSL, 1*LTE，4*GE LAN, 1*USB, Wi-Fi 2.4G+5G
Accessories of Chassis (LTE antenna)	**Description**
ASMAM0006	Omni-directional Antenna, 698MHz-960MHz/1710MHz-2690MHz,1.0dBi(698MHz-960MHz)&3dBi(1710MHz-2690MHz),10W, SMA-J
ARRFSMA0601	RF Cable Parts,6m, SMA-J,240 Series,SMA-K
License	**Description**
LAR0PONE01	AR600&6100&6200&6300 Passive Optical Network Value-added Package
N1-Campus-F-AR600	N1-CloudCampus (exclude SD-WAN), Foundation, AR600 Series
N1-LANWAN-F-AR600	N1-CloudCampus SD-WAN (include SD-WAN), Foundation, AR600
N1-LANWAN-A-AR600	N1-CloudCampus SD-WAN (include SD-WAN), Advanced, AR600
N1-FToA-AR600	N1-CloudCampus SD-WAN (include SD-WAN), Upgrade Foundation to Advanced, AR600 Series
N1-APP-AR600	N1-CloudCampus SD-WAN Add-On, Intelligent Application Analysis, AR600 Series

More Information

For more information about Huawei next-generation AR enterprise routers, visit http://e.huawei.com or contact us in the following ways:

- Global service hotline: http://e.huawei.com/en/service-hotline
- Logging in to the Huawei Enterprise technical support website: http://support.huawei.com/enterprise/

  Sending an email to the customer service mailbox: support_e@huawei.com

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Huawei Technologies Co., Ltd.
Address: Huawei Industrial Base
Bantian, Longgang Shenzhen 518129
People's Republic of China
Website: e.huawei.com