




Huawei NetEngine AR610 Series Enterprise Routers





Huawei AR610 series enterprise routers are routers designed for use in mini 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 in mini enterprise branches 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.

 <p>NetEngine AR611</p>	<ul style="list-style-type: none"> Fixed WAN ports: 1 x GE Combo Fixed LAN ports: 4 x GE electrical (all can be switched to WAN ports) Dimensions (H x W x D): 38.0 mm x 240.0 mm x 161.5 mm
 <p>NetEngine AR617</p>	<ul style="list-style-type: none"> Fixed WAN ports: 1 x GE Combo, 1 x VDSL2 Fixed LAN ports: 4 x GE electrical (all can be switched to WAN ports) Dimensions (H x W x D): 38.0 mm x 240.0 mm x 161.5 mm
 <p>NetEngine AR611W</p>	<ul style="list-style-type: none"> Fixed WAN ports: 1 x GE Combo Fixed LAN ports: 4 x GE electrical (all can be switched to WAN ports) Wi-Fi: 802.11 a/b/g/n/ac (2.4G + 5G) Dimensions (H x W x D): 38.0 mm x 240.0 mm x 161.5 mm
 <p>NetEngine AR611-LTE4EA</p>	<ul style="list-style-type: none"> Fixed WAN ports: 1 x GE Combo, 1 x LTE Fixed LAN ports: 4 x GE electrical (all can be switched to WAN ports) Dimensions (H x W x D): 38.0 mm x 240.0 mm x 161.5 mm

 NetEngine AR617-LTE4EA	<ul style="list-style-type: none"> Fixed WAN ports: 1 x GE Combo, 1 x VDSL2, 1 x LTE Fixed LAN ports: 4 x GE electrical (all can be switched to WAN ports) Dimensions (H x W x D): 38.0 mm x 240.0 mm x 161.5 mm
 NetEngine AR611W-LTE6EA	<ul style="list-style-type: none"> Fixed WAN ports: 1 x GE Combo, 1 x LTE Fixed LAN ports: 4 x GE electrical (all can be switched to WAN ports) Wi-Fi: 802.11 a/b/g/n/ac (2.4G + 5G) Dimensions (H x W x D): 38.0 mm x 240.0 mm x 161.5 mm
 NetEngine AR617VW	<ul style="list-style-type: none"> Fixed WAN ports: 1 x GE Combo, 1 x VDSL2 Fixed LAN ports: 4 x GE electrical (all can be switched to WAN ports) 2 x FXS Wi-Fi: 802.11 a/b/g/n/ac (2.4G + 5G) Dimensions (H x W x D): 38.0 mm x 240.0 mm x 161.5 mm
 NetEngine AR617VW-LTE4EA NetEngine AR617VW-LTE4*	<ul style="list-style-type: none"> Fixed WAN ports: 1 x GE Combo, 1 x VDSL2, 1 x LTE Fixed LAN ports: 4 x GE electrical (all can be switched to WAN ports) 2 x FXS Wi-Fi: 802.11 a/b/g/n/ac (2.4G + 5G) 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	<ul style="list-style-type: none"> Integrates the ARM multi-core processor, LSW switching chip, and hardware encryption/decryption engine, based on the self-developed SOC chip architecture. Three times the industry average performance, providing the lowest latency for key services
High reliability	<ul style="list-style-type: none"> Link backup for enterprise services, improving reliability Fault detection and determination in milliseconds, minimizing service interruption time
5G wireless access	<ul style="list-style-type: none"> Supports RU-201 modules, provide high wireless bandwidth experience RU-201 supports 2.5GE LAN ports to ensure high-performance packet forwarding in 5G high-bandwidth backhaul scenarios; accommodates both SA and NSA architectures, offering flexible network access Works in conjunction with traditional wired links for mutual backup, guaranteeing uninterrupted services <p>For more information about RU-201, see the RU-201 Datasheet.</p>

Service Requirement	Features and Benefits
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 and multiple VPN technologies, providing comprehensive security protection capabilities
SD-WAN	<ul style="list-style-type: none"> Built-in SD-WAN solution, building cost-effective and business-friendly connections over the Internet 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, and Wi-Fi 5

Product Specifications

NetEngine AR610 Series Technical Specifications

Item	NetEngine AR611 /AR611W	NetEngine AR617	NetEngine AR611-LTE 4EA	NetEngine AR617-LTE 4EA	NetEngine AR611W-L TE6EA	NetEngine AR617VW	NetEngine AR617VW-L TE4EA /AR617VW-LTE4
System Parameters							
Forwarding performance (Full duplex, NAT + ACL + QoS, IMIX)	300 Mbps						
IPsec performance (IMIX)	200 Mbps						
SD-WAN IPsec performance* (IMIX)	200 Mbps						
SD-WAN IPsec performance*(140	400 Mbps						

Item	NetEngine AR611 /AR611W	NetEngine AR617	NetEngine AR611-LTE 4EA	NetEngine AR617-LTE 4EA	NetEngine AR611W-L TE6EA	NetEngine AR617VW	NetEngine AR617VW-L TE4EA /AR617VW-LTE4
0 bytes)							
SD-WAN performance** (IMIX)	80 Mbps						
SD-WAN performance** (1400 bytes)	300 Mbps						
SD-WAN typical performance*** (IMIX)	50 Mbps						
SD-WAN typical performance*** (1400 bytes)	250 Mbps						
Fixed WAN ports	1 x GE combo	1 x GE combo, 1 x VDSL2	1 x GE combo, 1 x LTE CAT4	1 x GE combo, 1 x VDSL2, 1 x LTE CAT4	1 x GE combo, 1 x LTE CAT6	1 x GE combo, 1 x VDSL2	1 x GE combo, 1 x VDSL2, 1 x LTE CAT4
5G uplink	Support RU-201						
Fixed LAN ports	4 x GE electrical (All LAN ports can be switched to WAN ports)						
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 x FXS (RTP, SIP, SIP AG, IP PBX/TDM PBX, VoIP, SBC)	
Wi-Fi	AR611W: Dual-band (2.4 GHz and 5 GHz), 802.11a/b/g/n/ac	-	-	-	Dual-band (2.4 GHz and 5 GHz), 802.11a/b/g/n/ac		
3G/LTE	-	-	LTE CAT4	LTE CAT4	LTE CAT6	-	LTE CAT4
Console port	1 x RJ45 console port						

Item	NetEngine AR611 /AR611W	NetEngine AR617	NetEngine AR611-LTE 4EA	NetEngine AR617-LTE 4EA	NetEngine AR611W-L TE6EA	NetEngine AR617VW	NetEngine AR617VW-L TE4EA /AR617VW- LTE4
USB port	1 x USB 2.0						
Memory	1 GB						
Dimensions and Weight							
Dimensions without packaging (H x W x D)	38.0 mm x 240.0 mm x 161.5 mm						
Weight without packaging	AR611: 0.58 kg AR611W: 0.6 kg	0.63 kg	0.85 kg	0.69 kg	0.66 kg	0.63 kg	0.69 kg
Installation type	Work bench, against the wall						
Power Specifications, Power Consumption, and Heat Dissipation							
Rated input voltage (V)	110 V to 220 V, 50 Hz/60 Hz						
Input voltage range (V)	90 V to 270V, 45 Hz to 65 Hz						
Maximum input current (A)	0.8 A						
Maximum output power (W)	24 W						
Typical power consumption (W)	AR611: 8 W AR611W: 9.6 W	15.5 W	14 W	17.5 W	14 W	11.2 W	13.6 W
Maximum power consumption (W)	12 W	16.8 W	17 W	18.8 W	16 W	14 W	17 W
Fan module	Natural heat dissipation, without fans						
Noise	0 (Natural heat dissipation)						
Environment Parameters							
Operating temperature	0 °C to 40 °C						
Operating humidity	5% to 95% (non-condensing)						
Operating altitude	< 5000 m						
Storage temperature	-40 °C to +70 °C						

*: Scenario where the SD-WAN IPsec performance specification applies: IPsec. This specification applies to the combined total of traffic in inbound and outbound directions.

** : Scenario where the SD-WAN performance specification applies: IPsec + QoS. This specification applies to the combined total of traffic in inbound and outbound directions.

***: Scenario where the typical SD-WAN typical performance specification applies: IPsec + QoS + SA + AppFlow. This specification applies to the combined total of traffic in inbound and outbound directions.

Software Features and Protocols

Features and Protocols	
Basic function	DHCPv4 server/client/relay, DHCPv6 server/client/relay, PPPoE server/client, PPPoA server/client, PPPoEoA server/client, NAT, interface management, and DNS
LAN	IEEE 802.1P, IEEE 802.1Q, IEEE 802.3, VLAN management, VLAN aggregation, MAC management, STP/RSTP/MSTP, and QinQ
WLAN (AP)	AP management, WLAN user management, WLAN radio management (802.11a/b/g/n/ac), WLAN QoS (WMM), and WLAN security (WEP, WPA, WPA2, key management) (supported by the AR611W, AR611W-LTE6EA, AR617VW, AR617VW-LTE4, and AR617VW-LTE4EA)
IPv4 unicast routing	Routing policies, static routes, RIP, OSPF, IS-IS, BGP, and IP FRR
IPv6 unicast routing	Static routes, routing policies, RIPng, OSPFv3, IS-ISv6, and BGP4+
Basic IPv6 function	IPv6 ND, IPv6 PMTU, IPv6 FIB, IPv6 ACL, ICMPv6, DNSv6, DHCPv6, and PPPoE client IPv6
IPv6 tunneling	IPv6 over IPv4 manual tunnel, automatic tunnel, GRE tunnel, IPv6 over IPv4 tunnel, 6to4, and ISATAP
Multicast	IGMP v1/v2/v3, PIM-SM, PIM-DM, MSDP, MBGP, IPv6 PIM, MLD
VPN	IPsec VPN, GRE, Ethernet over GRE, DSVPN, A2A VPN, L2TP VPN, L2TPv3 VPN, VXLAN, SD-WAN EVPN
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, and Smart Application Control (SAC)
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 and online behavior management.
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, and NQA

Safety and Regulatory Standards

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	RoHS REACH

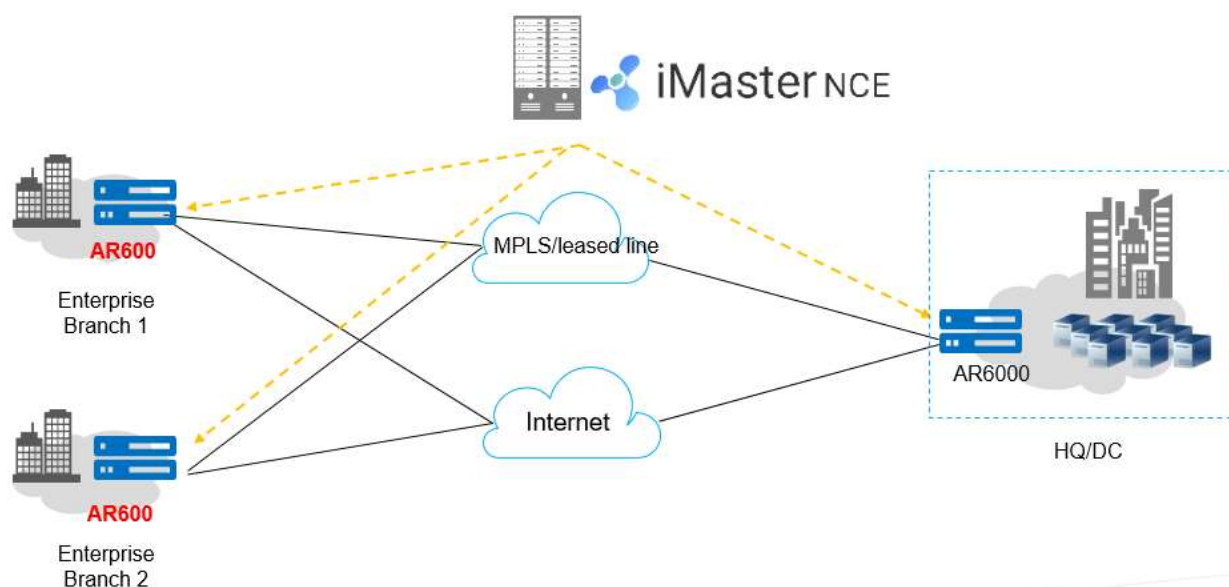
compliance	WEEE
Safety standards compliance	IEC 60950-1 EN 60950-1

Networking and Application

• SD-WAN Using Hybrid Links

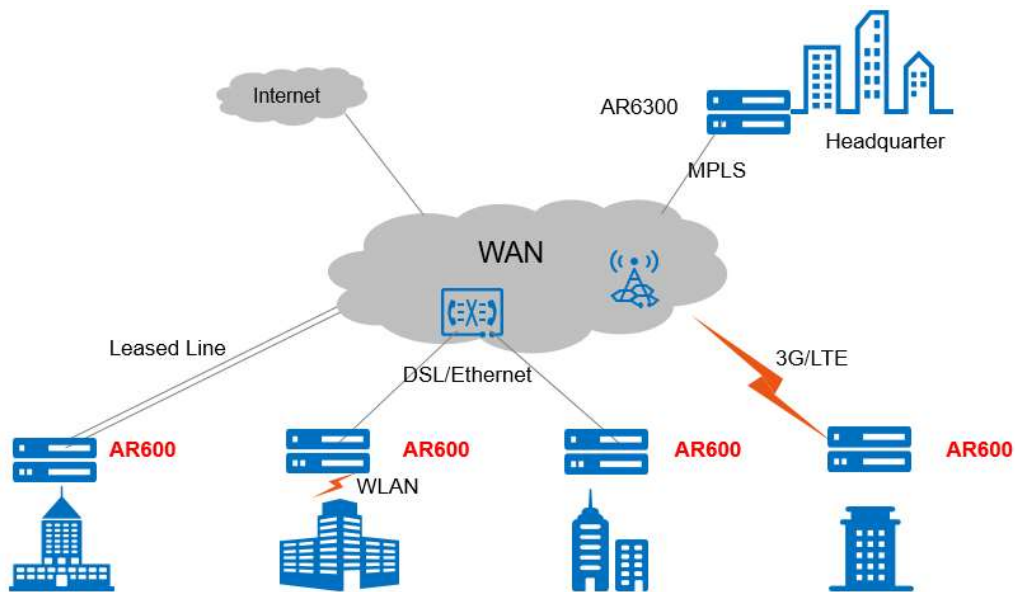
In the SD-WAN Solution, the NetEngine AR610 functions as the gateway of mini enterprise branches and supports hybrid access using multiple physical links, such as Internet links, and LTE links. The solution also leverages Huawei's next-generation controller, the iMaster NCE, which implements centralized 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/enterprise-network/campus-network/sd-wan>.

SD-WAN networking



• WAN Interconnection Scenario

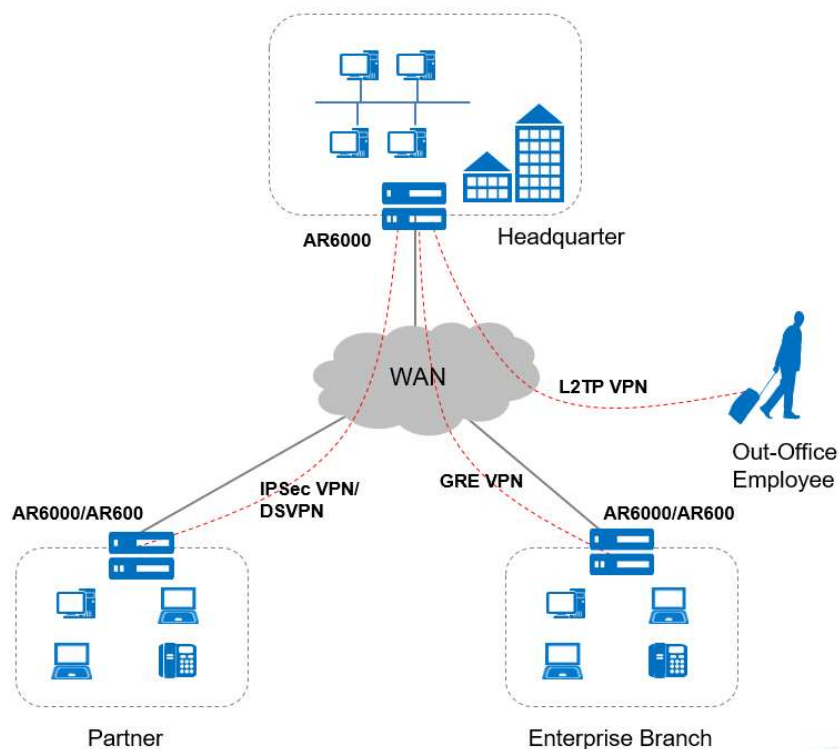
In this scenario, the NetEngine AR610 series routers are used as enterprise branch egresses and provide flexible WAN access methods to support remote network connections. A single NetEngine AR610 router can satisfy different access requirements, for example, for the private line, Ethernet, 3G, LTE, and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



- **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 configuration of the NetEngine AR610 series includes device model selection and software configuration.

- Device model

Select the device model according to the uplink interface type and service requirements.

- Software

The NetEngine AR610 series software consists of the basic software and licensed software.

Ordering Components

Host	Description
NetEngine AR611	AR611, 1*GE COMBO WAN, 4*GE LAN, 1*USB 2.0
NetEngine AR617	AR617, 1*GE COMBO WAN, 4*GE LAN, 1*VDSL2,1*USB 2.0
NetEngine AR611W	AR611W, 1*GE COMBO WAN, 4*GE LAN, 1*USB 2.0, Wi-Fi 2.4G+5G
NetEngine AR611-LTE4EA	AR611-LTE4EA, 1*GE COMBO WAN, 4*GE LAN, 1*USB 2.0, 1*LTE
NetEngine AR617-LTE4EA	AR617-LTE4EA, 1*GE COMBO WAN, 4*GE LAN, 1*VDSL2, 1*USB 2.0, 1*LTE
NetEngine AR611W-LTE6EA	AR611W-LTE6EA, 1*GE COMBO WAN, 4*GE LAN, 1*USB 2.0, 1*LTE, Wi-Fi 2.4G+5G
NetEngine AR617VW	AR617VW, 1*GE COMBO WAN, 4*GE LAN, 1*VDSL2, 2*FXS, 1*USB 2.0, Wi-Fi 2.4G+5G
NetEngine AR617VW-LTE4EA	AR617VW-LTE4EA, 1*GE COMBO WAN, 4*GE LAN, 1*VDSL2, 2*FXS, 1*USB 2.0, 1*LTE, Wi-Fi 2.4G+5G
NetEngine AR617VW-LTE4	AR617VW-LTE4, 1*GE COMBO WAN, 4*GE LAN, 1*VDSL2, 2*FXS, 1*USB 2.0, 1*LTE, Wi-Fi 2.4G+5G

License Functions and Description

Software Sales Model	License	Ordering Information
Independent Sale Model	LAR0PONE01	AR600&6100&6200&6300 Passive Optical Network Value-added Package, including: <ul style="list-style-type: none">• Passive optical modules S600E and S800E are supported
N1 Model	N1-Campus-F-610/630	N1-CloudCampus(exclude SD-WAN),Foundation,AR610/AR630 Series,Per Device
	N1-LANWAN-F-610/630	N1-CloudCampus SD-WAN(include SD-WAN),Foundation,AR610/AR630 Series,Per Device
	N1-LANWAN-A-610/630	N1-CloudCampus SD-WAN(include SD-WAN),Advanced,AR610/AR630 Series,Per Device

Other Information

LTE Model Name	Supported Standards and Frequency Bands
AR611-LTE4EA	<ul style="list-style-type: none">•LTE FDD: bands 1/3/5/7/8/20/28•LTE TDD: bands 38/40/41•WCDMA: bands 1/5/8•GSM: 900/1800 (MHz)

AR611W-LTE6EA	<ul style="list-style-type: none"> •LTE FDD: B1/B3/B5/B7/B8/B20/B28/B32 •LTE TDD: B38/B40/B41 •2 x CA: B1+B1/B5/B8/B20/B28 <p>B3+B3/B5/B7/B8/B20/b28</p> <p>B7+B5/B7/B8/B20/B28</p> <p>B20+B32</p> <p>B38+B38</p> <p>B40+B40</p> <p>B41+B41</p> <ul style="list-style-type: none"> •WCDMA: B1/B3/B5/B8
AR617-LTE4EA	<ul style="list-style-type: none"> •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 AR617VW-LTE4EA	<ul style="list-style-type: none"> - ME909s-120p: •LTE FDD: bands 1/2/3/4/5/7/8/20 •WCDMA: bands 1/2/5/8 •GSM: 850/900/1800/1900 MHz - EC25AU: •LTE FDD: bands 1/2/3/4/5/7/8/28 •LTE TDD: band 40 •WCDMA: bands 1/2/5/8 •GSM: 850/900/1800/1900 MHz

Support 5G RU Model	Supported Standards and Frequency Bands
RU-201	<ul style="list-style-type: none"> •5G: NR Band 1/3/5/7/8/20/28/38/40/41/75/77/78/79/80/81/82/83/84 •LTE: Band 1/3/5/7/8/18/19/20/26/28/32/34/38/39/40/41/42/43 •DL MIMO: <ul style="list-style-type: none"> 5G 4x4: NR Band 1/3/7/38/40/41/77/78/79 5G 2x2: NR Band 5/8/20/28/75 LTE 4x4: Band 1/3/7/38/39/40/41/42/43 LTE 2x2: Band 5/8/18/19/20/26/28/32/34 •UL MIMO: <ul style="list-style-type: none"> 5G 2x2: NR Band1/38/40/41/77/78/79

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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