Cisco 1000 Series Integrated Services Routers

Contents

Cisco® 1100 Series Integrated Services Routers (ISRs) with Cisco IOS® XE Software combine Internet access, comprehensive security, and wireless services (LTE Advanced 3.0 wireless WAN and 802.11ac wireless LAN) in a single, high-performance device. The routers are easy to deploy and manage, with cutting-edge, scalable, multicore separate data and control plane capabilities.

The Cisco 1100 Series ISRs are well suited for deployment as Customer Premises Equipment (CPE) in enterprise branch offices, in service provider managed environments as well as smaller form factor and M2M use cases.

Note: Not all 1100 series SKU variants are available in every region with different technologies (check on CCW pricelist for your region).

Figure 1.
Cisco 1100 Product Family Series

Figure 2.
Cisco 1100-8P ISR with LTE Advanced, Back and Front View

Figure 3.
Cisco 1100-4P ISR with DSL, Back and Front View

Figure 4.
Cisco 1101-4P and 1101-4PLTEP with LTE Advanced Pluggable

Figure 5.
Cisco 1109-2PLTE with fixed CAT4 LTE **(Available late October, 2018)**

Primary Features and Benefits

Table 1. Business Benefits

Business need	Features/description
Lightweight, compact size with low power consumption	• Can be deployed in many different environments where space, heat dissipation, and low power consumption are critical factors (Including Cisco Pluggable smaller form factor technology).
High performance to run concurrent services	• High performance allows customers to take advantage of broadband network speeds while running secure, concurrent data, voice, video, and wireless services.
High availability and business continuity	• Redundant WAN connections for failover protection and load balancing. • Dynamic failover protocols such as Virtual Router Redundancy Protocol (VRRP; RFC 2338), Hot Standby Router Protocol (HSRP), and Multigroup HSRP (MHSRP).
Consistent, high application performance levels	• The router can run multiple services simultaneously with minimal performance degradation.

Business need	Features/description
Risk mitigation with multilevel security	• Network perimeter security with integrated application inspection firewall. • Data privacy through high-speed IP Security (IPsec) Triple Data Encryption Standard (3DES), and Advanced Encryption Standard (AES) encryption. • High-performance VPNs: DMVPN, FlexVPN, GETVPN. • Encrypted Traffic Analytics (ETA) to identify malware communications in encrypted traffic using passive monitoring, extraction of relevant data elements, and supervised machine learning with cloud-based global visibility. • Cisco Umbrella™ is a cloud security platform that provides the first line of defense against threats on the internet wherever users go. • Security hardware acceleration. • Trustworthy systems with Field-Programmable Gate Array (FPGA) and hardware anchor.
Unified control of wired and wireless networks from a common console for streamlined operations	• Simplifies and centralizes configuration and management of wireless and wireline devices. Supports WLAN services without requiring a wireless LAN controller. • Supports Mobility Express for WLAN-enabled routers.
Remote configuration and management to keep local IT staff lean	• Supports separate console and USB ports. Can be configured to work with optional USB token. • Supports TR-069.
Performance • Throughput • Service reliability	• ISR 1100 can provide encrypted traffic performance greater than 350 Mbps. • A distributed multicore architecture with the dedicated control plane and service plane. • Remote installation of application-aware services that run identically to their counterparts in dedicated appliances (Future roadmap).
Lower WAN expenditures	• Cisco Software-Defined WAN (SD-WAN) support for optimized WAN connection. • Smaller form factor and Cisco Pluggable technology provide additional protection investment and flexibility.
Pay as you grow: IPsec performance upgrade model	• Router IPsec capacity can be increased with a remote performance-on-demand license upgrade (no hardware upgrade) for exceptional savings and CapEx budget management.
IT consolidation, space savings, and improved Total Cost of Ownership (TCO)	• Single converged branch platform integrates routing, switching, security, and performance management capabilities.
Business continuity and increased resiliency	• The entire 1100 Series supports Power over Ethernet (PoE) and PoE+ power to endpoints (Not available on C1101 smaller form factor series).

Table 2.   Support for Software-Defined WAN on ISR 1100

Cisco SD-WAN offers an entirely new way to manage and operate your WAN infrastructure. Cisco SD-WAN is a cloud delivered architecture that offers secure, flexible and rich services with the following key benefits:

Cisco SD-WAN	Cisco SD-WAN capability can be enabled on ISR 1100 platform
Better user experience	• The ability to deploy applications in minutes, on any platform, with a consistent user experience. Deliver predictable performance for applications residing in the data center or in the cloud.
Greater agility	• Faster, easier deployment and operation of your WAN, and get faster performance using less bandwidth. Add new revenue generating services in minutes not months.
Advanced threat protection	• Securely connect your users to applications in minutes and protect your data from the WAN edge to the cloud. Secure segmentation for critical assets and multi-layer, robust security that encrypts all data.

IOS XE SD-WAN software enables important steps towards IBN for WAN, i.e.

- Centralized management and operational simplicity

- Secure connectivity on the hybrid WAN

- Optimized access to SaaS and Public Cloud

- Predictable Application Quality of Experience with policy-based automation

Platform Architecture and Capabilities

Table 3.   Architectural Highlights

Architectural feature	Benefits/description
Multicore processors	• High-performance multicore processors support high-speed WAN connections. The data plane uses a flow processor that delivers Application-Specific Integrated Circuit (ASIC)-like performance that does not degrade as services are added.
Embedded IPsec VPN hardware acceleration	• Increases scalability when combined with an optional Cisco IOS XE Software Security license, enables WAN link security and VPN services.
Integrated Gigabit Ethernet ports	• Provides up to 10 built-in 10/100/1000 Ethernet ports for WAN or LAN (1100-8P: 2 WAN and 8 LAN ports, 1100-4P: 2 WAN and 4 LAN ports, 1101-4P: 1WAN and 4 LAN ports, and 1109-2P M2M : 1 WAN and 2 LAN ports). • All 1100-8P and 1100-4P platforms model have one 10/100/1000 Ethernet port that can support Small Form-Factor Pluggable (SFP)-based connectivity in addition to RJ-45 connections, enabling fiber or copper connectivity. • Depending on the platform, PoE/PoE+ can be enabled on Gigabit Ethernet interfaces (4 PoE or 2 PoE+ ports on the 1100-8P and 2 PoE or 1 PoE+ ports on the 1100-4P), to provide power to external devices such as video endpoints and 802.11ac access points (Not available on C1101 and C1109 M2M smaller form factor models). • Smaller form factor 1101-4P and 1109-4P with Cisco Pluggable technology option. • An additional dedicated Gigabit Ethernet port is provided for device management.
USB-based console access	• A mini type B USB console port supports management connectivity when traditional serial ports are not available. Traditional console port are also available.
Optional integrated power supply for distribution of PoE	• An optional upgrade to the internal power supply provides inline power (802.3af-compliant PoE or 802.3at-compliant PoE+) to integrated switch modules based on the external power supply selected. • PoE conversion capability provides an additional layer of fault tolerance (Not available on C1101 and C1109 M2M smaller form factor models).
Flash memory support	• The 1100 Series ISRs ship with a fixed 4GB flash memory. • USB type A 2.0 ports provide capabilities for convenient storage.
DRAM	• The 1100 Series comes with 4 GB fixed DRAM. C1111X-8P has 8 GB fixed DRAM for advanced SD-WAN security features.

Table 4.   Network Management Solutions

Operational phase	Application	Description
Device staging and configuration	WebUI	• A GUI-based device-management tool for Cisco IOS and Cisco IOS XE Software-based access routers. This tool simplifies routing, firewall, VPN, unified communications, and WAN and LAN configuration through easy-to-use wizards.
Networkwide deployment, configuration, monitoring, and troubleshooting	Cisco Prime® Infrastructure	• Offers comprehensive lifecycle management of wired and wireless access, campus, and branch-office networks; rich visibility into end-user connectivity; and application performance assurance. • Provides wired lifecycle functions such as inventory, configuration, and image management; automated deployment; compliance reporting; integrated best practices; and reporting.
Context-aware security configuration and monitoring	Cisco Prime Security Manager	• Management tool for configuring and managing context-aware security. The application supports both single- and multidevice manager form factors. • Provides the ability to write and enforce granular context-aware security policies.

Operational phase	Application	Description
Digitalized applications to become inherently network-aware and Application Policy Infrastructure Controller Enterprise Module	Cisco Digital Network Architecture (DNA-C) with APIC-EM	• DNA centers around a network infrastructure that is not only fully programmable and open to third–party innovation, but can also fully and seamlessly integrates the cloud as an infrastructure component. • The DNA controller factilitatest simple, automated and programmatic deployment of network services. It brings the notion of user–and application–aware policies into the foreground of network operations. • With DNA, the network can provide continuous feedback to simplify and optimize network operations. • Automate network configuration and setup APIC-EM is a central part of Cisco Digital Network Architecture. It delivers software-defined networking to the enterprise branch, campus, and WAN.

Table 5. Embedded Management Capabilities

Feature	Description
Cisco IOS Embedded Event Manager (EEM)	• A distributed and customized approach to event detection and recovery. • Offers the ability to monitor events and take informational, corrective, or any desired EEM action when the monitored events occur or when a threshold is reached.
Cisco IOS XE IP Service-Level Agreements (IP SLAs)	• Helps assure the performance of new business-critical IP applications as well as IP services that use data and voice in an IP network.
Simple Network Management Protocol (SNMP), Remote Monitoring (RMON), syslog, NetFlow, IP Flow Information Export (IPFix)	• Network monitoring and accounting tools. Enhanced 3G MIB with 4G MIB extension.
LTE network management and diagnostics	• In-band and out-of-band management using Telnet (Cisco IOS XE Software Command-Line Interface [CLI]) and SNMP, including MIB II and other extensions. • Industry-standard LTE diagnostics and monitoring tools (Qualcomm CDMA Air Interface Tester [CAIT] and Spirent Universal Diagnostic Monitor [UDM]).

Table 6. Software Features and Protocols

Feature	Description
Protocols	IPv4, IPv6, static routes, Routing Information Protocol Versions 1 and 2 (RIP and RIPv2), Open Shortest Path First (OSPF), Enhanced Interior Gateway Routing Protocol (EIGRP), Border Gateway Protocol (BGP), BGP Router Reflector, Intermediate System-to-Intermediate System (IS-IS), Multicast Internet Group Management Protocol Version 3 (IGMPv3), Protocol Independent Multicast Sparse Mode (PIM SM), PIM Source-Specific Multicast (SSM), Resource Reservation Protocol (RSVP), Cisco Discovery Protocol, Encapsulated Remote Switched Port Analyzer (ERSPAN), Cisco IOS IP Service-Level Agreements (IPSLA), Call Home, Cisco IOS Embedded Event Manager (EEM), Internet Key Exchange (IKE), Access Control Lists (ACL), Ethernet Virtual Connections (EVC), Dynamic Host Configuration Protocol (DHCP), Frame Relay (FR), DNS, Locator ID Separation Protocol (LISP), Hot Standby Router Protocol (HSRP), RADIUS, Authentication, Authorization, and Accounting (AAA), Application Visibility and Control (AVC), Distance Vector Multicast Routing Protocol (DVMRP), IPv4-to-IPv6 Multicast, Multiprotocol Label Switching (MPLS), Layer 2 and Layer 3 VPN, IPsec, Layer 2 Tunneling Protocol Version 3 (L2TPv3), Bidirectional Forwarding Detection (BFD), IEEE 802.1ag, and IEEE 802.3ah.
Encapsulations	Generic Routing Encapsulation (GRE), Ethernet, 802.1q VLAN, Point-to-Point Protocol (PPP), Multilink Point-to-Point Protocol (MLPPP), Frame Relay, Multilink Frame Relay (MLFR) (FR.15 and FR.16), High-Level Data Link Control (HDLC), Serial (RS-232, RS-449, X.21, V.35, and EIA-530), and PPP over Ethernet (PPPoE).
Traffic management	Quality of Service (QoS), Class-Based Weighted Fair Queuing (CBWFQ), Weighted Random Early Detection (WRED), Hierarchical QoS, Policy-Based Routing (PBR), Performance Routing (PfR), and Network-Based Application Recognition (NBAR).

Feature	Description
Cryptographic algorithms	Encryption: DES, 3DES, AES-128 or AES-256 (in CBC and GCM modes). Authentication: RSA (748/1024/2048 bit), ECDSA (256/384 bit); Integrity: MD5, SHA, SHA-256, SHA-384, SHA-512.

Product Specifications

Table 7. Cisco 1100 Series ISRs DSL and LTE SKUs

Model	WAN				Wi-Fi	LAN switch			Integrated USB 3.0 console	Pluggable
	GE	GE/SFP combo	ADSL2/VDSL2+ or G.FAST or G.SHDSL	LTE Advanced (CAT6)	802.11ac	GE	PoE or PoE+			
C1101-4P	1	NA	NA	NA	NA	4	NA	NA	Yes (No AUX)	NA
C1109-2PLTEVZ	1	NA	NA	NA	NA	2	NA	NA	Yes (No AUX)	NA Same CAT4 technology as P-LTE-VZ
C1109-2PLTEUS	1	NA	NA	NA	NA	2	NA	NA	Yes (No AUX)	NA Same CAT4 technology as P-LTE-US
C1109-2PLTEGB	1	NA	NA	NA	NA	2	NA	NA	Yes (No AUX)	NA Same CAT4 technology as P-LTE-GB
C1111-8P (C1111X-8P with 8 GB memory and flash)	1	1	NA	NA	NA	8	4	2	Yes	NA
C1111-4P	1	1	NA	NA	NA	4	2	1	Yes	NA
C1112-8P	NA	1	1 G.FAST (Annex B)	NA	NA	8	4	2	Yes	NA
C1113-8P	NA	1	1 G.FAST (Annex A)	NA	NA	8	4	2	Yes	NA

Model	WAN				Wi-Fi	LAN switch			Integrated USB 3.0 console	Pluggable
	GE	GE/SFP combo	ADSL2/VDSL2+ or G.FAST or G.SHDSL	LTE Advanced (CAT6)	802.11ac	GE	PoE or PoE+			
C1113-8PM	NA	1	1 G.FAST (Annex M)	NA	NA	8	4	2	Yes	NA
C1116-4P	NA	1	1 VA-DSL (Annex B/J)	NA	NA	4	2	1	Yes	NA
C1117-4P	NA	1	1 VA-DSL (Annex A)	NA	NA	4	2	1	Yes	NA
C1117-4PM	NA	1	1 VA-DSL (Annex M)	NA	NA	4	2	1	Yes	NA
C1101-4PLTEP	1	NA	NA	NA	NA	4	NA	NA	Yes (No AUX)	Yes (All)
C1111-8PLTEEA	1	1	NA	1 EMEAR & North America	NA	8	4	2	Yes	NA
C1111-8PLTELA	1	1	NA	1 LATAM & APAC	NA	8	4	2	Yes	NA
C1111-4PLTEEA	1	1	NA	1 EMEAR & North America	NA	4	2	1	Yes	NA
C1111-4PLTELA	1	1	NA	1 LATAM & APAC	NA	4	2	1	Yes	NA
C1112-8PLTEEA	NA	1	1 G.FAST (Annex B)	1 EMEAR & North America	NA	8	4	2	Yes	NA
C1113-8PLTEEA	NA	1	1 G.FAST (Annex A)	1 EMEAR & North America	NA	8	4	2	Yes	NA
C1113-8PLTELA	NA	1	1 G.FAST (Annex A)	1 LATAM & APAC	NA	8	4	2	Yes	NA
C1113-8PMLTEEA	NA	1	1 G.FAST (Annex M)	1 EMEAR & North America	NA	8	4	2	Yes	NA
C1116-4PLTEEA	NA	1	1 ADSL2/VDSL2+ (Annex B/J)	1 EMEAR & North America	NA	4	2	1	Yes	NA
C1117-4PLTEEA	NA	1	1 ADSL2/VDSL2+ (Annex A)	1 EMEAR & North America	NA	4	2	1	Yes	NA
C1117-4PLTELA	NA	1	1 ADSL2/VDSL2+ (Annex A)	1 LATAM & APAC	NA	4	2	1	Yes	NA
C1117-4PMLTEEA	NA	1	1 ADSL2/VDSL2+ (Annex M)	1 EMEAR & North America	NA	4	2	1	Yes	NA

Model	WAN				Wi-Fi	LAN switch			Integrated USB 3.0 console	Pluggable
	GE	GE/SFP combo	ADSL2/VDSL2+ or G.FAST or G.SHDSL	LTE Advanced (CAT6)	802.11ac	GE	PoE or PoE+			
C1118-8P	NA	1	1 G.SHDSL	NA	NA	4	2	1	Yes	NA

Table 8.   Cisco 1100 Series ISRs DSL and Wi-Fi SKUs

Model	WAN				Wi-Fi	LAN switch			Integrated USB 3.0 console
	GE	GE/SFP combo	ADSL2/VDSL2+	LTE Advanced (CAT6)	802.11ac	GE	PoE or PoE+		
C1111-8PWY[*]	1	1	NA	NA	2X2 MIMO	8	4	2	Yes
C1111-4PWX[**]	1	1	NA	NA	2X2 MIMO	4	2	1	Yes
C1112-8PWE	NA	1	1 G.FAST (Annex B)	NA	2X2 MIMO	8	4	2	Yes
C1113-8PWA	NA	1	1 G.FAST (Annex A)	NA	2X2 MIMO	8	4	2	Yes
C1113-8PWB	NA	1	1 G.FAST (Annex A)	NA	2X2 MIMO	8	4	2	Yes
C1113-8PWE	NA	1	1 G.FAST (Annex A)	NA	2X2 MIMO	8	4	2	Yes
C1113-8PWZ	NA	1	1 G.FAST (Annex A)	NA	2X2 MIMO	8	4	2	Yes
C1113-8PMWE	NA	1	1 G.FAST (Annex M)	NA	2X2 MIMO	8	4	2	Yes
C1116-4PWE	1	1	1 ADSL2/VDSL2+ (ISDN) Annex B/J	NA	2X2 MIMO	4	2	1	Yes
C1117-4PWE	1	1	1 ADSL2/VDSL2+ (POTS) Annex A	NA	2X2 MIMO	4	2	1	Yes
C1117-4PWA	1	1	1 ADSL2/VDSL2+ (POTS) Annex A	NA	2X2 MIMO	4	2	1	Yes
C1117-4PWZ	1	1	1 ADSL2/VDSL2+ (POTS) Annex A	NA	2X2 MIMO	4	2	1	Yes
C1117-4PMWE	1	1	1 ADSL2/VDSL2+ (POTS) Annex M	NA	2X2 MIMO	4	2	1	Yes

[*] WiFi domain WY; Y = A, B, E, F, H, N, Q, R, Z

[**] WiFi domain WX; X = A, B, D, E, F, H, N, Q, R, Z

Cisco WLAN Country Compliance Lookup

https://www.cisco.com/c/dam/assets/prod/wireless/wireless-compliance-tool/index.html

Table 9. Cisco 1100 Series ISRs LTE, Wi-Fi, and DSL SKUs

Model	WAN				Wi-Fi	LAN switch			Integrated USB 3.0 console	Pluggable
	GE	GE/SFP combo	ADSL2/VDSL2+	LTE Advanced (CAT6)	802.11ac	GE	PoE or PoE+			
C1111-8PLTEEAWX*	1	1	NA	1 EMEAR & North America	2X2 MIMO	8	4	2	Yes	NA
C1111-8PLTELAWY**	1	1	NA	1 LATAM & APAC	2X2 MIMO	8	4	2	Yes	NA
C1112-8PLTEAWE	NA	1	1 G.FAST (Annex B)	1 EMEAR & North America	2X2 MIMO	8	4	2	Yes	NA
C1113-8PLTEEAWA	NA	1	1 G.FAST (Annex A)	1 EMEAR & North America	2X2 MIMO	8	4	2	Yes	NA
C1113-8PLTEEAWB	NA	1	1 G.FAST (Annex A)	1 EMEAR & North America	2X2 MIMO	8	4	2	Yes	NA
C1113-8PLTEEAWE	NA	1	1 G.FAST (Annex A)	1 EMEAR & North America	2X2 MIMO	8	4	2	Yes	NA
C1113-8PLTELAWZ	NA	1	1 G.FAST (Annex A)	1 LATAM & APAC	2X2 MIMO	8	4	2	Yes	NA
C1116-4PLTEEAWE	NA	1	1 ADSL2/VDSL2+ (ISDN) Annex B/J	1 EMEAR & North America	2X2 MIMO	4	2	1	Yes	NA
C1117-4PMLTEEA	NA	1	1 ADSL2/VDSL2+ (POTS) Annex M	1 EMEAR & North America	2X2 MIMO	4	2	1	Yes	NA
C1117-4PLTEEAWE	NA	1	1 ADSL2/VDSL2+ (POTS) Annex A	1 EMEAR & North America	2X2 MIMO	4	2	1	Yes	NA
C1117-4PLTEEAWA	NA	1	1 ADSL2/VDSL2+ (POTS) Annex A	1 EMEAR & North America	2X2 MIMO	4	2	1	Yes	NA
C1117-4PLTELAWZ	NA	1	1 ADSL2/VDSL2+ (POTS) Annex A	1 LATAM & APAC	2X2 MIMO	4	2	1	Yes	NA
C1117-4PMLTEEAWE	NA	1	1 ADSL2/VDSL2+ (POTS) Annex M	1 EMEAR & North America	2X2 MIMO	4	2	1	Yes	NA
C1101-4PLTEPWX*	1	NA	NA	NA	2X2 MIMO	4	NA	NA	Yes (No AUX)	Yes (All)

C1111-8PLTEEAWX [*]

[*] WiFi domain WX; X = A, B, E, R

C1111-8PLTELAWY [**]

[**] WiFi domain WY; Y = D, F, H, N, Q, Z

C1101-4PLTEPWX [*]

[*] WiFi domain WX; X = A, B, D, E, Z

Cisco WLAN Country Compliance Lookup
https://www.cisco.com/c/dam/assets/prod/wireless/wireless-compliance-tool/index.html

System Specifications

Table 10.   LTE (3GPP Category 4) Pluggable Bands Supported

Region or theater	Cisco LTE 2.5 for P-LTE-VZ	Cisco LTE 2.5 for P-LTE-US	Cisco LTE 2.5 for P-LTE-GB
Bands	LTE bands 4, 13. FDD LTE 700 MHz (band 13), 1700 MHz and 2100 MHz (band 4 AWS).	LTE bands 2, 4, 5, 12. FDD LTE 700 MHz (band 17), 700 MHz (band 12), 850 MHz (band 5 CLR), 1700 MHz and 2100 MHz (band 4 AWS).	LTE bands 1, 3, 7, 8, 20, 28. FDD LTE 700 MHz (band 28), 800 MHz (band 20), 900 MHz (band 8), 1800 MHz (band 3), 2100 MHz (band 1), and 2600 MHz (band 7).
Theoretical Category 4 download/upload speeds	150 Mbps/50 Mbps	150 Mbps/50 Mbps	150 Mbps/50 Mbps
United States	● Verizon	● ATT and T-Mobile	
Europe			●

Table 11.   LTE Advanced (3GPP Category 6) Pluggable Bands Supported (with Dying Gasp)

Region or theater	Cisco LTE Advanced 3.0 Pluggable P-LTEA-EA	Cisco LTE Advanced 3.0 Pluggable P-LTEA-LA
Bands	LTE bands 1-5, 7, 12, 13, 20, 25, 26, 29, 30, and 41. FDD LTE 700 MHz (band 12), 700 MHz (band 29), 800 MHz (band 20), 850 MHz (band 5 CLR), 850 MHz (band 26 Low), 900 MHz (band 8), 1800 MHz (band 3), 1900 MHz (band 2), 1900 MHz (PCS band 25), 1700 MHz and 2100 MHz (band 4 AWS), 2100 MHz (band 1), 2300 MHz (band 30), or 2600 MHz (band 7). TDD LTE 2500 MHz (band 41). **Carrier aggregation band combinations:** 1+8; 2+(2,5,12,13,29); 3+(7,20); 4+(4,5,12,13,29); 7+(7,20); 12+30, 5+30, and 41+41.	LTE bands 1, 3, 5, 7, 8, 18, 19, 21, 28, 38, 39, 40, and 41. FDD LTE 700 MHz (band 28), 850 MHz (band 5 CLR), 850 MHz (bands 18 and 19 Low), 900 MHz (band 8), 1500 MHz (band 21), 1800 MHz (band 3), 2100 MHz (band 1), or 2600 MHz (band 7). TDD LTE 1900 MHz (band 39), 2300 MHz (band 40), 2500 MHz (band 41), or 2600 MHz (band 38). **Carrier aggregation band combinations:** 1+(8,18,19,21); 3+(5,7,19,28); 7+(5,7,28); 19+21, 38+38, 39+39,40+40, and 41+41.
Theoretical Category 6 download/upload speeds	300 Mbps/50 Mbps	300 Mbps/50 Mbps
United States	●	
Europe	●	
Canada	●	
Australia		●
India		●

Table 12. LTE Advanced Bands Supported

Region or theater	Cisco LTE Advanced 3.0 LTEEA (Category 6)	Cisco LTE Advanced 3.0 LTELA (Category 6)
Bands	LTE bands 1-5, 7, 12, 13, 20, 25, 26, 29, 30, and 41. FDD LTE 700 MHz (band 12), 700 MHz (band 29), 800 MHz (band 20), 850 MHz (band 5 CLR), 850 MHz (band 26 Low), 900 MHz (band 8), 1800 MHz (band 3), 1900 MHz (band 2), 1900 MHz (PCS band 25), 1700 MHz and 2100 MHz (band 4 AWS), 2100 MHz (band 1), 2300 MHz (band 30), or 2600 MHz (band 7). TDD LTE 2500 MHz (band 41). **Carrier aggregation band combinations:** 1+8; 2+(2,5,12,13,29); 3+(7,20); 4+(4,5,12,13,29); 7+(7,20); 12+30, 5+30, and 41+41.	LTE bands 1, 3, 5, 7, 8, 18, 19, 21, 28, 38, 39, 40, and 41. FDD LTE 700 MHz (band 28), 850 MHz (band 5 CLR), 850 MHz (bands 18 and 19 Low), 900 MHz (band 8), 1500 MHz (band 21), 1800 MHz (band 3), 2100 MHz (band 1), or 2600 MHz (band 7). TDD LTE 1900 MHz (band 39), 2300 MHz (band 40), 2500 MHz (band 41), or 2600 MHz (band 38). **Carrier aggregation band combinations:** 1+(8,18,19,21); 3+(5,7,19,28); 7+(5,7,28); 19+21, 38+38, 39+39,40+40, and 41+41.
Theoretical Category 6 download/upload speeds	300 Mbps/50 Mbps	300 Mbps/50 Mbps
United States	•	
Europe	•	
Canada	•	
Middle East with specific LTE bands/frequencies	•	
Australia		•
Japan		•
China		•
India		•
Southeast Asia		•
Latin America		• Dependent upon specific operators supporting the LTE bands listed above.
South Korea		•

Table 13. Cisco LTE Advanced 3.0 (3GPP Category 6) Specifications

Item	Specification
LTE modem form factor	• Embedded (included with the router). • Cisco IOS Software feature set: Universal Cisco IOS XE 16.6.1 Software image or later. C1101 series support starting with IOS XE 16.8.1 Software image or later. • Cisco LTE Advanced 3.0 LTEEA (CAT6) and Pluggable P-LTEA-EA SKU: FW-7455-LTE-VZ (Verizon) or FW-7455-LTE-AT (ATT) or FW-7455-LTE-ST (Sprint) or FW-7455-LTE-BE (Bell) or FW-7455-LTE-RO (Rogers) or FW-7455-LTE-TE (Telus) or FW-7455-LTE-GN (generic for T-Mobile, Europe, and Middle East) selection option. • Cisco LTE Advanced 3.0 LTELA (CAT6) and Pluggable P-LTEA-LA SKU: FW-7430-LTE-AU (Australia) or FW-7430-LTE-JN (Japan) or FW-7430-LTE-GN (generic) selection option.
Important LTE features	• Automatic switch failover between primary and backup link. • Multichannel-Interface-Processor (MIP) profile configuration.

Item	Specification
	• Remotely initiated data callback using voice.or Short Message Service (SMS). • Remote firmware upgrade over LTE. • SIM lock and unlock capabilities.
Dual SIM support	• High reliability, and cellular multihoming support for dual micro (3FF) SIMs card socket; compliant with ISO-7816-2 (SIM mechanical), Auto SIM carrier capability with correct firmware selection (Fast SIM failover).
SMS and GPS	• GPS antenna: SMA connector (separate active GPS antenna with SMA option). • Send and receive SMS (maximum 160 characters). • Standalone GPS and Assisted GPS (AGPS); needs line of sight.
Modem information	**Modem form factor:** M.2 EM7455 or M.2 EM7430 series for Cisco LTE Advanced 3.0., WP7600 series for Cisco LTE 2.5.
Wireless technologies supported (performance and throughput)	**Cisco LTE Advanced 3.0 LTEEA and LTELA (Refer to above Table 9: LTE Advanced Bands Supported)** **Backward compatibility:** • UMTS and HSPA+. • DC-HSPA+ speed download with Category 24 (42 Mbps) and upload up to Category 8 (11.5 Mbps). LTELA supports DC-HSPA+ band 1, 5, 6, 8, 9, 19. LTEEA supports DC-HSPA+ band 1, 2, 3, 4, 5, 8. • TD-SCDMA 39 (LTELA China Mobile supports). **Cisco LTE 2.5 (Refer to Table 10: LTE Bands Supported)** **Backward compatibility:** • P-LTE-US: HSPA+ (Band 2, 4, 5). • P-LTE-GB: UMTS, HSPA+ (Band 1, 8), EDGE, GSM, GPRS (900/1800).
Included antenna	• Two multiband swivel-mount dipole antennas (LTE-ANTM-D) are included with all Cisco LTE Advanced 3.0 Pluggables and 1100 Series routers. Two multiband swivel-mount dipole antennas (LTE-ANTM-SMA-D) are included with all Cisco LTE 2.5 Pluggables 1101 and 1109 Series routers. For –N antenna and cable installation guidance, view the Connected Grid Antennas Installation Guide.
Carrier support	• For a list of carriers that offer services on the Cisco 1100 Series LTE Advanced 3.0, please visit the Wireless Carrier Partners page.

Table 14.   Cisco 1100 Series ISRs System Specifications

Feature	Specification	
Memory (default and maximum)	DRAM: 4 GB Only C1111X-8P model have 8GB DRAM	Flash: 4 GB Only C1111X-8P model have 8GB Flash
Console	• Micro USB console (USB 3.0).	
Mini-USB port (reserved)	• Micro-USB port to support remote LTE diagnostics and monitoring tools (Qualcomm CAIT and Spirent UDM) (USB 3.0).	
WLAN interfaces	• Multiuser Multiple-Input Multiple-Output (MU-MIMO) allows transmission of data to multiple 802.11ac Wave 2–capable clients simultaneously to improve the client experience. Prior to MU-MIMO, 802.11n and 802.11ac Wave 1 access points could transmit data to only one client at a time, typically referred to as Single-User MIMO (SU-MIMO). • 802.11ac Wave 2 with 2x2:2 MIMO technology uses two spatial streams when operating in SU-MIMO or MU-MIMO mode, offering 867-Mbps rates for more capacity and reliability than competing access points. • Flexible deployment through the Mobility Express solution is ideal for small to medium-sized deployments. Easy setup allows the 1100 Series (similar to 1815i) to be deployed on networks without a physical controller. • For more information, view the Cisco Aironet 1815i Access Point Data Sheet.	
Maximum clients	• Maximum number of associated wireless clients: 200 per Wi-Fi radio; in total 400 clients per access point.	
Authentication and security	• AES for Wi-Fi Protected Access 2 (WPA2). • 802.1X, RADIUS AAA. • 802.11r and 802.11i.	
802.11ac	• 2x2 SU-MIMO/MU-MIMO with two spatial streams. • Maximal Ratio Combining (MRC).	

Feature	Specification
	• 20-, 40-, and 80-MHz channels. • PHY data rates up to 866.7 Mbps (80 MHz on 5 GHz). • Packet aggregation: A-MPDU (Tx/Rx), A-MSDU (Rx). • 802.11 Dynamic Frequency Selection (DFS). • Cyclic Shift Diversity (CSD) support.
Software	• Cisco Unified Wireless Network Software with AireOS Wireless Controllers Release 8.5 (8.8 for 1101 and 1109 Models) MR1 or later.
DSL interfaces	**C1116 & C1117** • Dying gasp. • ITU G.993.2 (VDSL2) and supported profiles: 8a, 8b, 8c, 8d, 12a, 12b, and 17a. • VDSL2 Vectoring. • ADSL Annex A and Annex B ITU G. 992.1 (ADSL), G.992.3 (ADSL2), and G.992.5 (ADSL2+). • ADSL Annex M G.992.3 (ADSL2) and G.992.5 (ADSL2+). **C1112 & C1113** • G.FAST (spectrum up to 106MHz) Annex A, Annex B, Annex M and compatible with ADSL2/2+ and VDSL2. • ITU G.993.2 (VDSL2) and supported profiles: 8a, 8b, 8c, 8d, 12a, 12b, 17a, and 35b. • ITU G.9700/9701/997.2 G.FAST and supported profiles: 106a, and 106b. **C1118** • G.SHDSL.
Inline PoE	• Optional internal adapter for inline PoE on 4 switch ports for IP phones or external wireless access points; 802.3af-compliant PoE or 802.3at-compliant PoE+.

External power supply	**Product power specifications:**
	C111X Models
	• AC input voltage: Universal 100 to 240 VAC.
	• Frequency: 50 to 60 Hz.
	• Maximum output power: 66W (default).
	• Output voltages: 12 VDC.
	• Optional PoE and PoE+:
	  ◦ Single 150W power supply required for Cisco 1100-8P series router
	  ◦ Single 115W power supply required for Cisco 1100-4P series router
	• External output voltage: 48 VDC.
	
	C1101-4PLTEPWX Models:
	• AC input voltage: Universal 100 to 240 VAC.
	• Frequency: 50 to 60 Hz.
	• Maximum output power: 66W (default).
	• Output voltages: 12 VDC.
	
	C1101-4P, C1101-4PLTEP, and C1109-2PLTE Models:
	• AC input voltage: Universal 100 to 240 VAC.
	• Frequency: 50 to 60 Hz.
	• Maximum output power: 30W (default iTemp).
	• Output voltages: 12 VDC.

USB 3.0	• USB devices supported: ◦ USB eTokens and USB flash memory • Devices USB 3.0 supports to be connected externally. View the USB Device Support Data Sheet.
LEDs	• WWAN (green/amber). • SIM status (green/amber). • Received signal strength indication (RSSI) bar (green). • 3G/LTE service (green/amber). • GPS (green/amber). • Speed and link for Gigabit Ethernet WAN port (green).

Feature	Specification
	• Speed and link for all Fast Ethernet LAN ports (green).
Physical dimensions (H x W x D)	**C111X Models** • 1.75 x 12.7 x 9.6 in. (44 x 323 x 244 mm) (includes rubber feet on LTE models). • 1.75 x 12.7 x 9.03 in. (42 x 323 x 230mm) (includes rubber feet on non-LTE models). **C1101-4PLTEP and C1101-4PLTEPWX Models** • 1.73 x 9.75 x 6.6 in. (43.9 x 247.6 x 167.6 mm) (includes rubber feet models). **C1101-4P Models** • 1.1 x 7.5 x 6.0 in. (27.9 x 190.5 x 152.4 mm) (includes rubber feet models). **C1109-2PLTE Models** • 1.15 x 7.6 x 6.3 in. (29.2 x 193.0 x 160.0mm) (includes rubber feet models). **Pluggable** • .85 x 2.5 x 3.88 in. (21.6 x 63.5 x 98.5 mm).
Weight	**C111X Models** • 1.94 lb to 4.59 lb (1.94kg to 2.08 kg). • 4.50 lb (2.04 kg) with LTE Advanced. • 4.76 lb (2.16 kg) with Wave 2 802.11ac Dual Radio. • 4.89 lb (2.22 kg) with LTE Advanced plus Wave 2 802.11ac Dual Radio. **C1101-4PLTEPWX Models** • 3.34 lb (1.51kg). **C1101-4PLTEP Models** • 3.78 lb (1.71kg). **C1101-4P Models** • 1.89 lb (.86kg). **C1102-2PLTE Models** • 2.25 lb (1.02kg). **Pluggable** • EM74XX .44 lb (.20kg). • WP76XX .40 lb (.18kg).
Standard safety certifications	• UL 60950-1.and EN 60950-1. • CAN/CSA C22.2 No. 60950-1. • CB to IEC 60950-1, 2nd edition with all group differences and national deviations.
EMC emissions	• EN55022/CISPR22, CFR 47 Part 15, ICES003, VCCI-V-3, AS/NZS CISPR22, CNS13438, EN300-386, EN61000-3-2, EN61000-3-3, and EN61000-6-1.
EMC immunity	• EN55024/CISPR24, (EN61000-4-2, EN61000-4-3, EN61000-4-4, EN61000-4-5, EN61000-4-6, EN61000-4-11), and EN300-386.
Radio immunity	• EN301 489-1, EN 301 489-7, and EN301 489-24.
Cellular radio	• EN 301 908-1, EN 301 908-2, EN 301 511, 47 CFR Part 22, 47 CFR Part 24, and EN 301 908-13.
Environmental operating range	• Nonoperating temperature: -4° to 149°F (-0° to 65°C). • Nonoperating humidity: 5% to 95% relative humidity (noncondensing). • Nonoperating altitude: 0 to 15,000 ft (0 to 4570 m). • Operating temperature: 32° to 104°F (0° to 40°C). C1101 support 32° to 113°F (0° to 45°C). C1109-2PLTE support 32° to 122°F (0° to 50°C). • Operating humidity: 10% to 85% relative humidity (noncondensing). • Operating altitude: 0 to 10,000 ft (0 to 3000 m).

Cisco IOS Software Licensing and Packaging

Universal Cisco IOS XE Image

A single Cisco IOS XE Universal image encompassing all functions is delivered with the platform. Advanced features can be enabled simply by activating a software license on the Universal image. Technology packages and feature licenses, enabled through right-to-use licenses, simplify software delivery and decrease the operational costs of deploying new features.

Four major technology licenses are available on the Cisco 1100 Series; these licenses can be activated through the Cisco software activation process identified at https://www.cisco.com/go/sa. The following licenses are available:

- IP Base: This technology package is available as the default.

- Application Experience (APP): This license includes data and application performance features.

- Security (SEC) or Security with No Payload Encryption (SEC-NPE): This license includes features for securing network infrastructure.

- IP Security (IPSEC): This license includes features that improve IP security performance multifold.

The Cisco SD-WAN subscriptions are aligned across three subscription licenses of **DNA Essentials, DNA Advantage and Cisco ONE Advantage,** each expanding functionally. The **DNA Essentials** covers all types of connectivity & router life cycle management, support for Network & application visibility coupled with basic premise and transport security. The **DNA Advantage** provides for Advanced WAN topologies, Application aware policies supported by enhanced network security. The **Cisco ONE Advantage** provides for Cloud connectivity with unlimited segmentation, Advanced Application optimization & Network Analytics, secured by advanced threat protection.

For more information on Cisco SD-WAN please refer to: https://www.cisco.com/c/en/us/products/software/one-wan-subscription/index.html

Table 15.   Cisco 1100 Series Licenses

Part number	Bundles	Features
SL-1100-8P-IPB SL-1100-4P-IPB SL-1100-2P-IPB	IP Base (default)	Routing protocols, ACL, NAT, QoS, BFD, VRF Lite, IP SLA Responder.
SL-1100-8P-APP(=) SL-1100-4P-APP(=) SL-1100-2P-APP(=)	Application Experience (APP)	IP Base + advanced networking protocols: L2TPv3, MPLS. Application Experience: PfRv3, NBAR2, AVC, IPSLA Initiator. Hybrid Cloud Connectivity: LISP, Virtual Private LAN Services (VPLS), Ethernet over MPLS.
SL-1100-8P-SEC(=) SL-1100-8P-SECNPE(=) SL-1100-4P-SEC(=) SL-1100-4P-SECNPE(=) SL-1100-2P-SEC(=) SL-1100-2P-SECNPE(=)	Security (SEC)	IP Base + Advanced Security: Zone-based firewall, IPsec VPN, Dynamic Multipoint VPN (DMVPN), FlexVPN, GETVPN. Provides up to 50 Mbps IPsec performance.
FL-VPERF-8P-200(=) FL-VPERF-4P-100(=) FL-VPERF-2P-100(=)	IPSec Performance (VPERF)	IPsec Performance: Additional 100 Mbps for ISR 1100-4P and 200 Mbps for ISR 1100-8P.
FL-1100-8P-HSEC(=) FL-1100-4P-HSEC(=) FL-1100-2P-HSEC(=)	IPSec HSEC	IPSEC HSEC License for Cisco ISR 1100 8P and ISR 1100 4P. Support with IOS XE 16.7.1 or later releases.
C1F1PISR1100S8PK9 C1F1PISR1100S4PK9	Cisco One S/W Bundle	APP, SEC, PRIME licenses (SL-1100-8P-IPB, C1-SL-1100-8P-APP, C1-SL-1100-8P-SEC or C1-SL-1100-8P-SECNPE, C1-PI-LFAS-ISR-K9, C1F1VISR1100S8P-01, C1-SL-1100-PAK) or (SL-1100-4P-IPB, C1-SL-1100-4P-APP, C1-SL-1100-4P-SEC or C1-SL-1100-4P-SECNPE, C1-PI-LFAS-ISR-K9, C1F1VISR1100S4P-01, C1-SL-1100-PAK).

Table 16.   Product Part Numbers and Software Images

Product part number	Description
Router software images	
SISR1100UK9-166(=) **SISR1100NPEUK9-166(=)** **SISR1100UK9-167(=)** **SISR1100NPEUK9-167(=)** **SISR1100UK9-168(=)** **SISR1100NPEUK9-168(=)** **SISR1100UK9-169(=)** **SISR1100NPEUK9-169(=)**	Cisco 1100 ISR Universal Image and Non-Pay load Encryptions Image.
SD-WAN image	
SISR1100UCMK9-169	SD-WAN Image for ISR 1100 platforms. (Currently supported platforms: ISR 1111-8P and ISR 1117-4P only)
Access point software images	
AIR-AP1815-K9-ME-8-5-110-0.tar	Cisco 111X Models AP delivers industry-leading wireless performance with support for the latest Wi-Fi standard, IEEE's 802.11ac Wave 2 and Mobility Express.
AIR-AP1815-K9-ME-8-8-110-0.tar	Cisco 1101 and 1109 Models AP delivers industry-leading wireless performance with support for the latest Wi-Fi standard, IEEE's 802.11ac Wave 2 and Mobility Express.
DSL firmware options	
A2pvbF039t.d26d	Annex A & M.
B2pv6F039g1.d26d	Annex B & J.
A2pvfbH043j	G.FAST Annex A & M.
B2pvfbH043j	G.FAST Annex B.
Umbrella Security Services	
UMB-PROFESSIONAL	Cisco Umbrella Professional.
UMB-INSIGHTS-K9	Cisco Umbrella Insights.
UMB-PLATFORM-K9	Cisco Umbrella Platform.
Power over Ethernet options (module MUST order upfront with system)	
ISR-1100-POE2(=)	1100-4P with 115W PSU (2 PoE or 1 PoE+). Spare available late October.
ISR-1100-POE4(=)	1100-8P with 125W PSU (4 PoE or 2 PoE+). Spare available late October. Ship with 150W starting May, 2018.
Rack mount kit and RJ Console Adapter	

Product part number	Description
ACS-1100-RM-19(=)	Rack-mount kit for all 111X Series ISRs.
CAB-CON-USBRJ45(=)	Micro USB to RJ5 Console Adapter (Only for 1101 and 1109 Models).
Pluggable	
P-LTEA-EA(=)	System and spare CAT6 LTE Advanced Pluggable for North American and Europe.
P-LTEA-LA(=)	System and spare CAT6 LTE Advanced Pluggable for APAC, ANZ, and LATAM.
P-LTE-VZ(=)	System and spare CAT4 LTE Advanced Pluggable for Verizon. Single SIM slot. Spare need antenna selection option.
P-LTE-US(=)	System and spare CAT6 LTE Advanced Pluggable for ATT and T-Mobile. Spare need antenna selection option.
P-LTE-GB(=)	System and spare CAT6 LTE Advanced Pluggable for Europe. Spare need antenna selection option.

Small Form-Factor Pluggable	ISR 1100 8P	ISR 1100 4P	Description
GLC-EX-SMD	Yes	Yes	1000BASE-EX SFP transceiver module, SMF, 1310nm, DOM.
GLC-LH-SM	Yes	Yes	GE SFP, LC connector LX/LH transceiver.
GLC-LH-SMD	Yes	Yes	GE SFP, LC connector LX/LH transceiver; with DOM.
GLC-SX-MM	Yes	Yes	GE SFP, LC connector SX transceiver.
GLC-SX-MMD	Yes	Yes	GE SFP, LC connector SX transceiver; with DOM.
GLC-ZX-SM	Yes	Yes	1000BASE-ZX SFP.
GLC-ZX-SMD	Yes	Yes	1000BASE-ZX SFP; with DOM.
GLC-FE-100FX	Yes	Yes	100BASE-FX SFP for FE port.
GLC-FE-100LX	Yes	Yes	100BASE-LX SFP for FE port.
GLC-FE-100ZX	Yes	Yes	100BASE-ZX SFP (80km).
GLC-FE-100EX	Yes	Yes	100BASE-EX SFP (40km).
GLC-FE-100BX-D	Yes	Yes	100BASE-BX10-D SFP.
GLC-FE-100BX-U	Yes	Yes	100BASE-BX10-U SFP.
GLC-GE-100FX	Yes	Yes	100FX SFP on GE ports.
GLC-BX80-D-I	Yes	Yes	1000BASE-BX80 SFP, 1570NM.
GLC-BX80-U-I	Yes	Yes	1000BASE-BX80 SFP, 1490NM.
GLC-BX40-D-I	Yes	Yes	1000BASE-BX40 SFP, 1550NM.

Small Form-Factor Pluggable	ISR 1100 8P	ISR 1100 4P	Description
GLC-BX40-U-I	Yes	Yes	1000BASE-BX40 SFP, 1310NM.
GLC-BX-D	Yes	Yes	1000BASE-BX SFP, 1490NM.
GLC-BX-U	Yes	Yes	1000BASE-BX SFP, 1310NM.
GLC-TE	Yes	Yes	10/100/1000BASE-T.
GLC-T	Yes	Yes	10/100/1000BASE-T.
SFP-GE-S	Yes	Yes	1000BASE-SX SFP transceiver module for MMF, 850-nm wavelength, extended operating temperature range and DOM support, dual LC/PC connector.
SFP-GE-T	Yes	Yes	10/100/1000BASE-T SFP (NEBS 3 ESD).

For additional information and details about Cisco IOS Software licensing and packaging on the Cisco 1100 Series, please visit:

https://www.cisco.com/c/en/us/support/routers/1100-series-integrated-services-routers-isr/products-licensing-information-listing.html

For the Cisco 1100 ISR Hardware and Software Installation Guide, Go to:

https://www.cisco.com/c/en/us/support/routers/1100-series-integrated-services-routers-isr/products-installation-guides-list.html

https://www.cisco.com/c/en/us/support/routers/1100-series-integrated-services-routers-isr/products-installation-and-configuration-guides-list.html

Cisco and Partner Services

Services from Cisco and our certified partners can help you reduce the cost and complexity of branch-office deployments. Cisco Smart Net Total Care™ technical support for the Cisco 1100 Series ISRs is available on a one-time or annual contract basis. Support options range from help-desk assistance to proactive, onsite consultation.

For more information, visit https://www.cisco.com/go/services.

Ordering Information

To place an order, visit the Cisco Ordering Home Page. To download software, visit the Cisco Software Center.

For More Information

For more information about the Cisco 1100 Series ISRs, visit https://www.cisco.com/go/ISR1000 or contact your local Cisco account representative.

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Document History

New or revised topic	Described In	Date
Add support for new platforms, add available date	C1118-8, C1111X-8P, C1109-2PLTEXX	10/5/2018

Printed in USAs

C78-739512-07   11/18