

## Cisco 1100 Series Integrated Services Routers

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 and in service provider managed environments.

**Figure 1.** Cisco 1100-8P ISR, Back and Front View



**Figure 2.** Cisco 1100-4P ISR, Back and Front View



## Primary Features and Benefits

**Table 1.** Business Benefits

Business need	Features/description
<b>Lightweight, compact size with low power consumption</b>	<ul style="list-style-type: none"> <li>• Can be deployed in many different environments where space, heat dissipation, and low power consumption are critical factors.</li> </ul>
<b>High performance to run concurrent services</b>	<ul style="list-style-type: none"> <li>• High performance allows customers to take advantage of broadband network speeds while running secure, concurrent data, voice, video, and wireless services.</li> </ul>
<b>High availability and business continuity</b>	<ul style="list-style-type: none"> <li>• Redundant WAN connections for failover protection and load balancing.</li> <li>• Dynamic failover protocols such as Virtual Router Redundancy Protocol (VRRP; RFC 2338), Hot Standby Router Protocol (HSRP), and Multigroup HSRP (MHSRP).</li> </ul>
<b>Consistent, high application performance levels</b>	<ul style="list-style-type: none"> <li>• The router can run multiple services simultaneously with minimal performance degradation.</li> </ul>
<b>Risk mitigation with multilevel security</b>	<ul style="list-style-type: none"> <li>• Network perimeter security with integrated application inspection firewall.</li> <li>• Data privacy through high-speed IP Security (IPsec) Triple Data Encryption Standard (3DES), and Advanced Encryption Standard (AES) encryption.</li> <li>• High-performance VPNs: DMVPN, FlexVPN, GET VPN.</li> <li>• 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.</li> <li>• Cisco Umbrella™ security architecture to provide content filtering via category-based URL classification and blocking, thus helping increase productivity and providing better use of company resources.</li> <li>• Enforced security policy with OpenDNS.</li> <li>• Security hardware acceleration.</li> <li>• Trustworthy systems with Field-Programmable Gate Array (FPGA) and hardware anchor.</li> </ul>
<b>Unified control of wired and wireless networks from a common console for streamlined operations</b>	<ul style="list-style-type: none"> <li>• Simplifies and centralizes configuration and management of wireless and wireline devices. Supports WLAN services without requiring a wireless LAN controller.</li> <li>• Supports Mobility Express for WLAN-enabled routers.</li> </ul>
<b>Remote configuration and management to keep local IT staff lean</b>	<ul style="list-style-type: none"> <li>• Supports separate console/auxiliary and USB ports.</li> <li>• Can be configured to work with optional USB token.</li> <li>• Supports TR-069.</li> </ul>
<b>Performance</b> <ul style="list-style-type: none"> <li>• Throughput</li> <li>• Service reliability</li> </ul>	<ul style="list-style-type: none"> <li>• ISR 1100 can provide encrypted traffic performance greater than 350 Mbps.</li> <li>• A distributed multicore architecture with the dedicated control plane and service plane.</li> <li>• Remote installation of application-aware services that run identically to their counterparts in dedicated appliances.</li> </ul>
<b>Lower WAN expenditures</b>	<ul style="list-style-type: none"> <li>• Cisco Software-Defined WAN (SD-WAN) support for optimized WAN connection.</li> </ul>
<b>Pay as you grow: IPsec performance upgrade model</b>	<ul style="list-style-type: none"> <li>• Router IPsec capacity can be increased with a remote performance-on-demand license upgrade (no hardware upgrade) for exceptional savings and CapEx budget management.</li> </ul>
<b>IT consolidation, space savings, and improved total cost of ownership (TCO)</b>	<ul style="list-style-type: none"> <li>• Single converged branch platform integrates routing, switching, security, and performance management capabilities.</li> </ul>
<b>Business continuity and increased resiliency</b>	<ul style="list-style-type: none"> <li>• The entire 1100 Series supports Power over Ethernet (PoE) and PoE+ power to endpoints.</li> </ul>

## Platform Architecture and Capabilities

**Table 2.** Architectural Highlights

Architectural feature	Benefits/description
<b>Multicore processors</b>	<ul style="list-style-type: none"> <li>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.</li> </ul>
<b>Embedded IPsec VPN hardware acceleration</b>	<ul style="list-style-type: none"> <li>Increases scalability when combined with an optional Cisco IOS XE Software Security license, enables WAN link security and VPN services.</li> </ul>
<b>Integrated Gigabit Ethernet ports</b>	<ul style="list-style-type: none"> <li>Provides up to 10 built-in 10/100/1000 Ethernet ports for WAN or LAN (1100-8P: 2 WAN and 8 LAN ports and 1100-4P: 2 WAN and 4 LAN ports).</li> <li>All platforms 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.</li> <li>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.</li> <li>The 1100-8P supports SFP+.</li> <li>An additional dedicated Gigabit Ethernet port is provided for device management.</li> </ul>
<b>USB-based console access</b>	<ul style="list-style-type: none"> <li>A mini type B USB console port supports management connectivity when traditional serial ports are not available. Traditional console and auxiliary ports are also available.</li> </ul>
<b>Optional integrated power supply for distribution of PoE</b>	<ul style="list-style-type: none"> <li>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.</li> <li>PoE conversion capability provides an additional layer of fault tolerance.</li> </ul>
<b>Flash memory support</b>	<ul style="list-style-type: none"> <li>The 1100 Series ISRs ship with a fixed 4GB flash memory.</li> <li>USB type A 2.0 ports provide capabilities for convenient storage.</li> </ul>
<b>DRAM</b>	<ul style="list-style-type: none"> <li>The 1100 Series comes with 4 GB fixed DRAM.</li> </ul>

**Table 3.** Network Management Solutions

Operational phase	Application	Description
<b>Device staging and configuration</b>	WebUI	<ul style="list-style-type: none"> <li>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.</li> </ul>
<b>Networkwide deployment, configuration, monitoring, and troubleshooting</b>	Cisco Prime <sup>®</sup> Infrastructure	<ul style="list-style-type: none"> <li>Offers comprehensive lifecycle management of wired and wireless access, campus, and branch-office networks; rich visibility into end-user connectivity; and application performance assurance.</li> <li>Provides wired lifecycle functions such as inventory, configuration, and image management; automated deployment; compliance reporting; integrated best practices; and reporting.</li> </ul>
<b>Context-aware security configuration and monitoring</b>	Cisco Prime Security Manager	<ul style="list-style-type: none"> <li>Management tool for configuring and managing context-aware security. The application supports both single- and multidevice manager form factors.</li> <li>Provides the ability to write and enforce granular context-aware security policies.</li> </ul>

**Table 4.** Embedded Management Capabilities

Feature	Description
<b>Cisco IOS Embedded Event Manager (EEM)</b>	<ul style="list-style-type: none"> <li>A distributed and customized approach to event detection and recovery.</li> <li>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.</li> </ul>
<b>Cisco IOS XE IP Service-Level Agreements (IP SLAs)</b>	<ul style="list-style-type: none"> <li>Helps assure the performance of new business-critical IP applications as well as IP services that use data and voice in an IP network.</li> </ul>
<b>Simple Network Management Protocol (SNMP), Remote Monitoring (RMON), syslog, NetFlow, IP Flow Information Export (IPFix)</b>	<ul style="list-style-type: none"> <li>Network monitoring and accounting tools.</li> <li>Enhanced 3G MIB with 4G MIB extension.</li> </ul>

Feature	Description
<b>LTE network management and diagnostics</b>	<ul style="list-style-type: none"> <li>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.</li> <li>Industry-standard LTE diagnostics and monitoring tools (Qualcomm CDMA Air Interface Tester [CAIT] and Spirent Universal Diagnostic Monitor [UDM]).</li> </ul>

**Table 5.** Software Features and Protocols

Feature	Description
<b>Protocols</b>	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.
<b>Encapsulations</b>	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).
<b>Traffic management</b>	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).
<b>Cryptographic algorithms</b>	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 6.** Cisco 1100 Series ISRs DSL and LTE SKUs

Model	WAN				Wi-Fi	LAN switch			Integrated USB 3.0 AUX/console
	GE	GE/SFP combo	ADSL2/VDSL2+	LTE Advanced (CAT6)	802.11ac	GE	PoE	PoE+	
<b>C1111-8P</b>	1	1	NA	NA	NA	8	4	2	Yes
<b>C1111-4P</b>	1	1	NA	NA	NA	4	2	1	Yes
<b>C1116-4P</b>	–	1	1 VA-DSL (Annex B/J)	NA	NA	4	2	1	Yes
<b>C1117-4P</b>	–	1	1 VA-DSL (Annex A)	NA	NA	4	2	1	Yes
<b>C1117-4PM</b>	–	1	1 VA-DSL (Annex M)	NA	NA	4	2	1	Yes
<b>C1111-8PLTEEA</b>	1	1	NA	1 EMEAR & North America	NA	8	4	2	Yes
<b>C1111-8PLTELA</b>	1	1	NA	1 LATAM & APAC	NA	8	4	2	Yes
<b>C1111-4PLTEEA</b>	1	1	NA	1 EMEAR & North America	NA	4	2	1	Yes
<b>C1111-4PLTELA</b>	1	1	NA	1 LATAM & APAC	NA	4	2	1	Yes
<b>C1116-4PLTEEA</b>	–	1	1 ADSL2/VDSL2+ (Annex B/J)	1 EMEAR & North America	NA	4	2	1	Yes
<b>C1117-4PLTEEA</b>	–	1	1 ADSL2/VDSL2+ (Annex A)	1 EMEAR & North America	NA	4	2	1	Yes

Model	WAN				Wi-Fi	LAN switch			Integrated USB 3.0 AUX/console
	GE	GE/SFP combo	ADSL2/VDSL2+	LTE Advanced (CAT6)	802.11ac	GE	PoE	PoE+	
C1117-4PLTELA	–	1	1 ADSL2/VDSL2+ (Annex A)	1 LATAM & APAC	NA	4	2	1	Yes
C1117-4PMLTEEA	–	1	1 ADSL2/VDSL2+ (Annex M)	1 EMEAR & North America	NA	4	2	1	Yes

**Table 7.** Cisco 1100 Series ISRs DSL and Wi-Fi SKUs

Model	WAN				Wi-Fi	LAN switch			Integrated USB 3.0 AUX/console
	GE	GE/SFP combo	ADSL2/VDSL2+	LTE Advanced (CAT6)	802.11ac	GE	PoE	PoE+	
C1111-8PWE	1	1	NA	NA	2X2 MIMO	8	4	2	Yes
C1111-8PWB	1	1	NA	NA	2X2 MIMO	8	4	2	Yes
C1111-8PWA	1	1	NA	NA	2X2 MIMO	8	4	2	Yes
C1111-8PWZ	1	1	NA	–	2X2 MIMO	8	4	2	Yes
C1111-8PWN	1	1	NA	–	2X2 MIMO	8	4	2	Yes
C1111-8PWQ	1	1	NA	–	2X2 MIMO	8	4	2	Yes
C1111-8PWH	1	1	NA	–	2X2 MIMO	8	4	2	Yes
C1111-8PWR	1	1	NA	–	2X2 MIMO	8	4	2	Yes
C1111-8PWF	1	1	NA	–	2X2 MIMO	8	4	2	Yes
C1111-4PWE	1	1	NA	–	2X2 MIMO	4	2	1	Yes
C1111-4PWB	1	1	NA	–	2X2 MIMO	4	2	1	Yes
C1111-4PWA	1	1	NA	–	2X2 MIMO	4	2	1	Yes
C1111-4PWZ	1	1	NA	–	2X2 MIMO	4	2	1	Yes
C1111-4PWN	1	1	NA	–	2X2 MIMO	4	2	1	Yes
C1111-4PWQ	1	1	NA	–	2X2 MIMO	4	2	1	Yes
C1111-4PWH	1	1	NA	–	2X2 MIMO	4	2	1	Yes
C1111-4PWR	1	1	NA	–	2X2 MIMO	4	2	1	Yes
C1111-4PWF	1	1	NA	–	2X2 MIMO	4	2	1	Yes
C1111-4PWD	1	1	NA	–	2X2 MIMO	4	2	1	Yes
C1116-4PWE	1	1	1 ADSL2/VDSL2+ (ISDN) Annex B/J	–	2X2 MIMO	4	2	1	Yes
C1117-4PWE	1	1	1 ADSL2/VDSL2+ (POTS) Annex A	–	2X2 MIMO	4	2	1	Yes
C1117-4PWA	1	1	1 ADSL2/VDSL2+ (POTS) Annex A	–	2X2 MIMO	4	2	1	Yes
C1117-4PWZ	1	1	1 ADSL2/VDSL2+ (POTS) Annex A	–	2X2 MIMO	4	2	1	Yes
C1117-4PMWE	1	1	1 ADSL2/VDSL2+ (POTS) Annex M	–	2X2 MIMO	4	2	1	Yes

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

Model	WAN				Wi-Fi	LAN switch			Integrated USB 3.0 AUX/console
	GE	GE/SFP combo	ADSL2/VDSL2+	LTE Advanced (CAT6)	802.11ac	GE	PoE	PoE+	
C1111-8PLTEEAW	1	1	NA	1 EMEAR & North America	2X2 MIMO	8	4	2	Yes
C1111-8PLTEEAWB	1	1	NA	1 EMEAR & North America	2X2 MIMO	8	4	2	Yes
C1111-8PLTEEAWA	1	1	NA	1 EMEAR & North America	2X2 MIMO	8	4	2	Yes
C1111-8PLTEEAWR	1	1	NA	1 EMEAR & North America	2X2 MIMO	8	4	2	Yes
C1111-8PLTELAWZ	1	1	NA	1 LATAM & APAC	2X2 MIMO	8	4	2	Yes
C1111-8PLTELAWN	1	1	NA	1 LATAM & APAC	2X2 MIMO	8	4	2	Yes
C1111-8PLTELAWQ	1	1	NA	1 LATAM & APAC	2X2 MIMO	8	4	2	Yes
C1111-8PLTELAWH	1	1	NA	1 LATAM & APAC	2X2 MIMO	8	4	2	Yes
C1111-8PLTELAWF	1	1	NA	1 LATAM & APAC	2X2 MIMO	8	4	2	Yes
C1111-8PLTELAWD	1	1	NA	1 LATAM & APAC	2X2 MIMO	8	4	2	Yes
C1116-4PLTEEAW	–	1	1 ADSL2/VDSL2+ (ISDN) Annex B/J	1 EMEAR & North America	2X2 MIMO	4	2	1	Yes
C1117-4PMLTEEA	–	1	1 ADSL2/VDSL2+ (POTS) Annex M	1 EMEAR & North America	2X2 MIMO	4	2	1	Yes
C1117-4PLTEEAW	–	1	1 ADSL2/VDSL2+ (POTS) Annex A	1 EMEAR & North America	2X2 MIMO	4	2	1	Yes
C1117-4PLTEEAWA	–	1	1 ADSL2/VDSL2+ (POTS) Annex A	1 EMEAR & North America	2X2 MIMO	4	2	1	Yes
C1117-4PLTELAWZ	–	1	1 ADSL2/VDSL2+ (POTS) Annex A	1 LATAM & APAC	2X2 MIMO	4	2	1	Yes
C1117-4PMLTEEAW	–	1	1 ADSL2/VDSL2+ (POTS) Annex M	1 EMEAR & North America	2X2 MIMO	4	2	1	Yes


## System Specifications

**Table 9.** LTE Bands Supported

Region or theater	Cisco LTE Advanced 3.0 LTEEA	Cisco LTE Advanced 3.0 LTELA
<b>Bands</b>	<p>LTE bands 1-5, 7, 12, 13, 20, 25, 26, 29, 30, and 41.</p> <p>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).</p> <p>TDD LTE 2500 MHz (band 41).</p> <p><b>Carrier aggregation band combinations:</b> 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.</p>	<p>LTE bands 1, 3, 5, 7, 8, 18, 19, 21, 28, 38, 39, 40, and 41.</p> <p>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).</p> <p>TDD LTE 1900 MHz (band 39), 2300 MHz (band 40), 2500 MHz (band 41), or 2600 MHz (band 38).</p> <p><b>Carrier aggregation band combinations:</b> 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.</p>
<b>United States</b>	•	
<b>Europe</b>	•	
<b>Canada</b>	•	
<b>Middle East with specific LTE bands/frequencies</b>	•	
<b>Australia</b>		•

Region or theater	Cisco LTE Advanced 3.0 LTEEA	Cisco LTE Advanced 3.0 LTELA
Japan		•
China		•
India		•
Southeast Asia		•
Latin America		• Dependent upon specific operators supporting the LTE bands listed above.
South Korea		•

**Table 10.** Cisco LTE Advanced 3.0 Specifications

Item	Specification
<b>LTE modem form factor</b>	<ul style="list-style-type: none"> <li>• Embedded (included with the router).</li> <li>• Cisco IOS Software feature set: Universal Cisco IOS XE 16.6.1 Software image or later.</li> <li>• Cisco LTE Advanced 3.0 LTEEA SKU: FW-7455-LTE-VZ (Verizon) or FW-7455-LTE-AT (ATT) or FW-7430-LTE-ST (Sprint) or FW-7430-LTE-GN (generic for T-Mobile, Canada, Europe, and Middle East) selection option.</li> <li>• Cisco LTE Advanced 3.0 LTELA SKU: FW-7430-LTE-AU (Australia) or FW-7430-LTE-JN (Japan) or FW-7430-LTE-GN (generic) selection option.</li> </ul>
<b>Important LTE features</b>	<ul style="list-style-type: none"> <li>• Automatic switch failover between primary and backup link.</li> <li>• Multichannel-Interface-Processor (MIP) profile configuration.</li> <li>• Remotely initiated data callback using voice.</li> <li>• Remotely initiated data callback using Short Message Service (SMS).</li> <li>• Remote firmware upgrade over LTE.</li> <li>• SIM lock and unlock capabilities.</li> </ul>
<b>Dual SIM support</b>	<ul style="list-style-type: none"> <li>• 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.</li> </ul>
<b>SMS and GPS</b> 	<ul style="list-style-type: none"> <li>• GPS antenna: SMA connector (separate active GPS with SMA antenna option).</li> <li>• Send and receive SMS (maximum 160 characters).</li> <li>• Standalone GPS and assisted GPS (AGPS); needs line of sight.</li> </ul>
<b>Modem information</b>	<b>Modem form factor:</b> M.2 EM7455 or M.2 EM7430.
<b>Wireless technologies supported (performance and throughput)</b>	<p><b>Cisco LTE Advanced 3.0 LTEEA (Refer to Table 9: LTE Bands Supported)</b></p> <p><b>Backward compatibility:</b></p> <ul style="list-style-type: none"> <li>• UMTS and HSPA+.</li> <li>• DC-HSPA+ speed download with Category 26 (62 Mbps) and upload up to Category 8 (11.5 Mbps).</li> <li>• TD-SCDMA 39 (China Mobile support).</li> </ul>
<b>Included antenna</b>	<ul style="list-style-type: none"> <li>• Two multiband swivel-mount dipole antennas (LTE-ANTM-D) are included with all Cisco LTE Advanced 3.0 1100 Series routers.</li> </ul> <p>For –N antenna and cable installation guidance, view the <a href="#">Connected Grid Antennas Installation Guide</a>.</p>
<b>Carrier support</b>	<ul style="list-style-type: none"> <li>• For a list of carriers that offer services on the Cisco 1100 Series LTE Advanced 3.0, please visit the <a href="#">Wireless Carrier Partners page</a>.</li> </ul>

**Table 11.** Cisco 1100 Series ISRs System Specifications

Feature	Specification
<b>Memory (default and maximum)</b>	DRAM: 4 GB <span style="float: right;">Flash: 4 GB</span>
<b>Console</b>	<ul style="list-style-type: none"> <li>• Micro USB console (USB 3.0).</li> </ul>
<b>Mini-USB port (reserved)</b>	<ul style="list-style-type: none"> <li>• Micro-USB port to support remote LTE diagnostics and monitoring tools (Qualcomm CAIT and Spirent UDM) (USB 3.0).</li> </ul>

Feature	Specification
<b>WLAN interfaces</b>	<ul style="list-style-type: none"> <li>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).</li> <li>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.</li> <li>Flexible deployment through the <a href="#">Mobility Express solution</a> is ideal for small to medium-sized deployments. Easy setup allows the 1100 Series to be deployed on networks without a physical controller.</li> <li>For more information, view the <a href="#">Cisco Aironet 1815i Access Point Data Sheet</a>.</li> </ul>
<b>Maximum clients</b>	<ul style="list-style-type: none"> <li>Maximum number of associated wireless clients: 200 per Wi-Fi radio; in total 400 clients per access point.</li> <li>Flexible deployment through the <a href="#">Mobility Express solution</a> is ideal for small to medium-sized deployments. Easy setup allows the 1815i to be deployed on networks without a physical controller.</li> </ul>
<b>Authentication and security</b>	<ul style="list-style-type: none"> <li>AES for Wi-Fi Protected Access 2 (WPA2).</li> <li>802.1X, RADIUS AAA.</li> <li>802.11r.</li> <li>802.11i.</li> </ul>
<b>802.11ac</b>	<ul style="list-style-type: none"> <li>2x2 SU-MIMO/MU-MIMO with two spatial streams.</li> <li>Maximal Ratio Combining (MRC).</li> <li>20-, 40-, and 80-MHz channels.</li> <li>PHY data rates up to 866.7 Mbps (80 MHz on 5 GHz).</li> <li>Packet aggregation: A-MPDU (Tx/Rx), A-MSDU (Rx).</li> <li>802.11 Dynamic Frequency Selection (DFS).</li> <li>Cyclic Shift Diversity (CSD) support.</li> </ul>
<b>Software</b>	<ul style="list-style-type: none"> <li>Cisco Unified Wireless Network Software with AireOS Wireless Controllers Release 8.3 MR1 or later.</li> </ul>
<b>DSL interfaces</b>	<ul style="list-style-type: none"> <li>Dying gasp.</li> <li>ITU G.993.2 (VDSL2) and supported profiles: 8a, 8b, 8c, 8d, 12a, 12b, and 17a.</li> <li>VDSL2 Vectoring.</li> <li>ADSL Annex A and Annex B ITU G. 992.1 (ADSL), G.992.3 (ADSL2), and G.992.5 (ADSL2+).</li> <li>ADSL Annex M G.992.3 (ADSL2) and G.992.5 (ADSL2+).</li> </ul>
<b>Inline PoE</b>	<ul style="list-style-type: none"> <li>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+.</li> </ul>
<b>External power supply</b>	<p>Product power specifications:</p> <ul style="list-style-type: none"> <li>AC input voltage: Universal 100 to 240 VAC.</li> <li>Frequency: 50 to 60 Hz.</li> <li>Maximum output power: 66W (default).</li> <li>Output voltages: 12 VDC.</li> <li>Optional PoE and PoE+: <ul style="list-style-type: none"> <li>Single 125W power supply required for Cisco 1100-8P router</li> <li>Single 115W power supply required for Cisco 1100-4P router</li> </ul> </li> <li>External output voltage: 48 VDC.</li> </ul>
<b>USB 3.0</b>	<ul style="list-style-type: none"> <li>USB devices supported: <ul style="list-style-type: none"> <li>USB eTokens</li> <li>USB flash memory</li> </ul> </li> <li><b>Note:</b> Devices USB 3.0 supports to be connected externally. View the <a href="#">USB Device Support Data Sheet</a>.</li> </ul>
<b>LEDs</b>	<ul style="list-style-type: none"> <li>WWAN (green/amber).</li> <li>SIM status (green/amber).</li> <li>Received signal strength indication (RSSI) bar (green).</li> <li>3G/LTE service (green/amber).</li> <li>GPS (green/amber).</li> <li>Speed and link for Gigabit Ethernet WAN port (green).</li> <li>Speed and link for all Fast Ethernet LAN ports (green).</li> </ul>



Feature	Specification
<b>Physical dimensions (H x W x D)</b>	<ul style="list-style-type: none"> <li>1.75 x 12.7 x 9.6 in. (44 x 323 x 244 mm) (includes rubber feet on LTE models).</li> <li>1.75 x 12.7 x 9.03 in. (42 x 323 x 230mm) (includes rubber feet on non-LTE models).</li> </ul>
<b>Weight</b>	<ul style="list-style-type: none"> <li>5.7 lb (2.59 kg).</li> </ul>
<b>Standard safety certifications</b>	<ul style="list-style-type: none"> <li>UL 60950-1, 2<sup>nd</sup> edition.</li> <li>CAN/CSA C22.2 No. 60950-1, 2<sup>nd</sup> edition.</li> <li>EN 60950-1, 2<sup>nd</sup> edition.</li> <li>CB to IEC 60950-1, 2<sup>nd</sup> edition with all group differences and national deviations.</li> </ul>
<b>EMC emissions</b>	<ul style="list-style-type: none"> <li>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.</li> </ul>
<b>EMC immunity</b>	<ul style="list-style-type: none"> <li>EN55024/CISPR24, (EN61000-4-2, EN61000-4-3, EN61000-4-4, EN61000-4-5, EN61000-4-6, EN61000-4-11), and EN300-386.</li> </ul>
<b>Radio immunity</b>	<ul style="list-style-type: none"> <li>EN301 489-1, EN 301 489-7, and EN301 489-24.</li> </ul>
<b>Cellular radio</b>	<ul style="list-style-type: none"> <li>EN 301 908-1, EN 301 908-2, EN 301 511, 47 CFR Part 22, 47 CFR Part 24, and EN 301 908-13.</li> </ul>
<b>Environmental operating range</b>	<ul style="list-style-type: none"> <li>Nonoperating temperature: -4° to 149°F (-0° to 65°C).</li> <li>Nonoperating humidity: 5% to 95% relative humidity (noncondensing).</li> <li>Nonoperating altitude: 0 to 15,000 ft (0 to 4570 m).</li> <li>Operating temperature: 32° to 104°F (0° to 40°C).</li> <li>Operating humidity: 10% to 85% relative humidity (noncondensing).</li> <li>Operating altitude: 0 to 10,000 ft (0 to 3000 m).</li> </ul>

## 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.

**Table 12.** Cisco 1100 Series Licenses

Part number	Bundles	Features
<b>SL-1100-8P-IPB</b>	<b>IP Base (default)</b>	Routing protocols, ACL, NAT, QoS, BFD.
<b>SL-1100-8P-APP(=)</b> <b>SL-1100-4P-APP(=)</b>	<b>Application Experience (APP)</b>	IP Base + advanced networking protocols: L2TPv3, BFD, MPLS, VRF, VXLAN (bandwidth less than 100 Mbps). Application Experience: PfRv3, NBAR2, AVC, IPSLA. Hybrid Cloud Connectivity: LISP, OTV (for bandwidth less than 100 Mbps), Virtual Private LAN Services (VPLS), Ethernet over MPLS.
<b>SL-1100-8P-SEC(=)</b> <b>SL-1100-8P-SECNPE(=)</b> <b>SL-1100-4P-SEC(=)</b> <b>SL-1100-4P-SECNPE(=)</b>	<b>Security (SEC)</b>	IP Base + Advanced Security: Zone-based firewall, IPsec VPN, EzVPN, Dynamic Multipoint VPN (DMVPN), FlexVPN. Provides up to 50 Mbps IPsec performance.
<b>FL-VPERF-4P-100(=)</b> <b>FL-VPERF-8P-200(=)</b>	<b>IPSec Performance (VPERF)</b>	IPsec Performance: Additional 100 Mbps for ISR 1100-4P and 200 Mbps for ISR 1100-8P.
<b>FL-1100-8P-HSEC(=)</b> <b>FL-1100-4P-HSEC(=)</b>	<b>IPSec HSEC</b>	IPSEC HSEC License for Cisco ISR 1100 8P and ISR 1100 4P.
<b>C1F1PISR1100S8PK9</b> <b>C1F1PISR1100S4PK9</b>	<b>Cisco One S/W Bundle</b>	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).

**Table 13.** Product Part Numbers and Software Images

Product part number	Description
<b>Router software images</b>	
<b>SISR1100UK9-166(=)</b> <b>SISR1100NPEUK9-166(=)</b>	Cisco 1100 ISR Universal Image and Non-Pay load Encryptions Image.
<b>Access point software images</b>	
<b>AIR-AP1815-K9-ME-8-5-110-0.tar</b>	Cisco 1100 Series AP delivers industry-leading wireless performance with support for the latest Wi-Fi standard, IEEE's 802.11ac Wave 2 and Mobility Express.
<b>DSL firmware options</b>	
<b>A2pvbF039t.d26d</b>	Annex A & M.
<b>B2pv6F039g1.d26d</b>	Annex B & J.
<b>Umbrella Security Services</b>	
<b>UMB-BRAN-1100</b>	Umbrella Branch Subscription License for Cisco 1100 ISR (Per router).
<b>UMB-INSIGHTS-K9</b>	Umbrella Insights for branch security and intelligent proxy (Per user).
<b>Power over Ethernet options</b>	
<b>ISR-1100-POE2(=)</b>	1100-4P with 115W PSU (2 PoE or 1 PoE+).
<b>ISR-1100-POE4(=)</b>	1100-8P with 125W PSU (4 PoE or 2 PoE+).
<b>Rack mount kit</b>	
<b>ACS-1100-RM-19(=)</b>	Rack-mount kit for all 1100 Series ISRs.

Small Form-Factor Pluggable	ISR 1100 8P	ISR 1100 4P	Description
<b>GLC-EX-SMD</b>	Yes	Yes	1000BASE-EX SFP transceiver module, SMF, 1310nm, DOM.
<b>GLC-LH-SM</b>	Yes	Yes	GE SFP, LC connector LX/LH transceiver.
<b>GLC-LH-SMD</b>	Yes	Yes	GE SFP, LC connector LX/LH transceiver; with DOM.
<b>GLC-SX-MM</b>	Yes	Yes	GE SFP, LC connector SX transceiver.
<b>GLC-SX-MMD</b>	Yes	Yes	GE SFP, LC connector SX transceiver; with DOM.
<b>GLC-ZX-SM</b>	Yes	Yes	1000BASE-ZX SFP.

Small Form-Factor Pluggable	ISR 1100 8P	ISR 1100 4P	Description
<b>GLC-ZX-SMD</b>	Yes	Yes	1000BASE-ZX SFP; with DOM.
<b>GLC-FE-100FX</b>	Yes	Yes	100BASE-FX SFP for FE port.
<b>GLC-FE-100LX</b>	Yes	Yes	100BASE-LX SFP for FE port.
<b>GLC-FE-100ZX</b>	Yes	Yes	100BASE-ZX SFP (80km).
<b>GLC-FE-100EX</b>	Yes	Yes	100BASE-EX SFP (40km).
<b>GLC-FE-100BX-D</b>	Yes	Yes	100BASE-BX10-D SFP.
<b>GLC-FE-100BX-U</b>	Yes	Yes	100BASE-BX10-U SFP.
<b>GLC-GE-100FX</b>	Yes	Yes	100FX SFP on GE ports.
<b>GLC-BX80-D-I</b>	Yes	Yes	1000BASE-BX80 SFP, 1570NM.
<b>GLC-BX80-U-I</b>	Yes	Yes	1000BASE-BX80 SFP, 1490NM.
<b>GLC-BX40-D-I</b>	Yes	Yes	1000BASE-BX40 SFP, 1550NM.
<b>GLC-BX40-U-I</b>	Yes	Yes	1000BASE-BX40 SFP, 1310NM.
<b>GLC-BX-D</b>	Yes	Yes	1000BASE-BX SFP, 1490NM.
<b>GLC-BX-U</b>	Yes	Yes	1000BASE-BX SFP, 1310NM.
<b>GLC-TE</b>	Yes	Yes	10/100/1000BASE-T.
<b>GLC-T</b>	Yes	Yes	10/100/1000BASE-T.
<b>SFP-10G-LR</b>	Yes	NO	10GBASE-LR SFP Module.
<b>SFP-10G-LRM</b>	Yes	NO	10GBASE-LRM SFP Module.
<b>SFP-10G-SR</b>	Yes	NO	10GBASE-SR SFP Module.
<b>SFP-GE-S</b>	Yes	Yes	1000BASE-SX SFP transceiver module for MMF, 850-nm wavelength, extended operating temperature range and DOM support, dual LC/PC connector.
<b>SFP-GE-T</b>	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>.

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## 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/1100> or contact your local Cisco account representative.

## Cisco Capital

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