**ComX Computers**
Product Specification Sheet

# C819HG-U-K9

Cisco 819 Secure Hardened Machine-to-Machine Integrated Services Router

## Product Overview

Cisco C819 Secure Hardened M2M GW (non-US) 3.5G HSPA R6 w/ SMS/GPS







## Specifications

**Overview:**

The Cisco 819 ISRs for M2M applications supports 3G High-Speed Packet Access Plus [HSPA+] and Evolution Data Optimized [EV-DO Rev A]), enabling up to 3.7G speeds. They are backward compatible with High-Speed Packet Access (HSPA), Universal Mobile Telecommunications Service (UMTS). Enhanced Data Rates for Global Evolution (EDGE), General Packet Radio Service (GPRS), and EV-DO Rev 0/1xRTT. The Cisco 819 3G includes an integrated WLAN access point and has two hardened and un-hardened variants:

- Global System for Mobile Communications (GSM) and UMTS models are based on the Third-Generation Partnership Project (3GPP), and they support HSPA+ (High-Speed Uplink Packet Access [HSUPA] and High-Speed Downlink Packet Access [HSDPA]), UMTS, EDGE, and GPRS.
- Code Division Multiple Access (CDMA) models are based on 3GPP2, and they support EV-DO Rev A and Rev 0 and 1xRTT.

**The Cisco 819 ISR family includes a broad range of enterprise-class features including:**

- Security services, including firewall, intrusion prevention, VPN and Cisco ISR Web Security with ScanSafe which require no additional hardware or client software, This enables branch offices, manufacturing sites, hospitals, banks, and mobile fleets, for example to intelligently redirect web traffic to the cloud to enforce granular security and acceptable use policies over user web traffic. With this solution, you can deploy market-leading web security quickly and easily to protect branch office users from web-based threats, such as viruses, while saving bandwidth, money, and resources.
- Additional WAN options such as Serial and Gigabit Ethernet WAN interfaces and a 4-port 10/100 Fast Ethernet Managed switch for LAN connectivity. The Cisco 819 provides quality-of-service (QoS) features for optimizing voice and video applications.
- Cisco Configuration Professional is a web-based configuration tool that simplifies setup and deployment. Centralized management capabilities give network managers visibility and control of the network configurations at remotesites.
- With enhanced data rates and improved latency (below 100 milliseconds), WWAN services are an ideal way to supplement traditional wire line services. Third- and fourth-generation WWAN data services offered today have average data rates well in excess of ISDN speeds, with theoretical limits in excess of 21 Mbps on the downlink and 5.76 Mbps on the uplink. The 3G and

4G LTE WWAN can be used as a primary link for sites with lower bandwidth requirements and for mobile applications. The 3G and 4G LTE WWAN data services can also be used as a cost-effective alternative in areas where broadband services are either not available or very expensive. Cisco is building on these performance milestones and adding support for wireless to our wide variety of WAN interface alternatives.

**Business Benefits and Application Examples**

Businesses are looking for ways to reduce costs, increase revenue, and improve business continuity. The 4G LTE wireless connectivity, which is 10 to 15 times faster and has 5 times lower latency than 3G links, allows a small enterprise branch office or remote office to set up comprehensive media services in a matter of hours, without worrying about availability of broadband services and the need for laying down the lines. Wireless carriers offer flexible, usage-based data plans that can be catered to meet the needs and price points of the business customer. As WAN backup alternatives, 3G and 4G LTE wireless offer greater WAN diversity and resiliency because they are independent of the local terrestrial infrastructure. The Cisco 819 enables businesses to stay productive during service provider downtime or a network failure.

**Ability to Host Networks in Motion**

The Cisco 819 uses standards-based Mobile IP features in Cisco IOS Software to host networks in motion. Transition to different wireless networks is transparent to the users and devices (such as laptops, smart devices, and surveillance cameras), and applications maintain continuous connectivity without the user's manual intervention as WAN links change. In addition to allowing a single node or device to stay connected, the Cisco 819 allows an entire mobile network or subnet to stay connected. The dual radio WLAN on the 819 can serve as both a client and an access-point. The mobile asset (truck, passenger bus, car) can communicate with either a localized WLAN network as in a bus or train dock or communicate with a city-wide WLAN deployment when in motion.

**Retail VPN**

Retail stores migrating from dialup connections for point-of-sale transactions can use the 3G, 3.5G or 3.7G (4G?) wireless WAN option on the Cisco 819 for low-cost broadband access with the required security to comply with payment-card-industry and other data security requirements. Multiple devices and applications can then be added to the store network to take advantage of the increased bandwidth and to enable secure mobility and enhance productivity.

**Managed Services**

Service providers and value-added resellers can use the Cisco 819 as a platform to offer differentiated business-class security and wireless LAN (WLAN) services for small and medium-sized business (SMB) customers. Superior management capabilities such as Simple Network Management Protocol (SNMP) support with 3G MIB and Cisco Configuration Professional make remote management and provisioning easier.

**Features & Bennfits:**

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| Specifications | |
|---|---|
| **Product Code** | C819HG-U-K9 |
| **Feature** | Benefit |

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| **Single platform for multiple applications** | This single architecture is uniquely designed for deployments in multiple remote applications such as ATM machines, kiosks, small branch offices, remote teleworker sites, gas stations, telemetry, etc. and across all industries. |
| | Hardened models extend the ISR footprint into deployments wherein the router is exposed to extreme environmental conditions such as heat dissipation, exposure to extreme temperatures, dust, splash water, shock and vibration.. |
| **Hardened Router Industrial-grade components** | The hardened router supports extended temperature ranges from -13 to 140ºF (-25 to 60ºC). |
| | Meets 95 percent of the Non-Condensing Humidity Requirements, IP 41 per IEC 60529 for Vertical Falling Water and Pollution 3 for Dust. The router meets MIL-STD-810, SAEJ1455, and ENG3396 for Shock and Vibe standards. |
| | Supports a variety of mounting options, including 35-mm din-rail per EN60715, floor mount, and wall mount, and offers both AC and DC* power options allowing for deployment flexibility.. |
| **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. |
| **Increased performance to run concurrent services** | Performance allows customers to take advantage of broadband network speeds while running secure, concurrent data, voice, video, and wireless services. |
| **Enhanced security** | An integrated stateful and application inspection firewall provides network perimeter security and high-speed IP Security (IPsec); 3DES and AES encryption offer data privacy over the Internet. |
| | Intrusion prevention enforces security policies in a larger enterprise or service provider network. |
| | Content filtering offers category-based URL classification and blocking, thus providing increased productivity and better use of company resources. |
| | ScanSafe web security and filtering solution that requires no additional hardware or client software. Enables remote locations to intelligently redirect web traffic to the cloud to enforce granular security and acceptable use policies over user web traffic. |
| **Integrated WLAN Access Point** | Integrates the Cisco 3500 802.11 a/b/g/n Access Point for mission-critical applications. By intelligently avoiding interference, the WLAN feature offers performance protection for 802.11n networks to help ensure reliable application delivery. The 2X3 MIMO AP comes with Cisco's CleanAir technology, the industry's first to create a self-healing, self-optimizing wireless network. |
| | With dual radios, the Cisco AP can serve both as an access point and as a client to a wireless mesh network concurrently, providing another source for WAN diversity. |
| | The AP ClientLink feature improves reliability and coverage for legacy devices |
| | Dynamic frequency selection (DFS) allows detecting and avoiding interference with radar signals to comply with regulatory domains. More information on the Cisco 3500 AP is available at: |
| **Multiple WAN and LAN Connections** | |
| **Four-port 10/100-Mbps managed switch** | Allows for multiple Ethernet device connectivity in a small office or other remote location with the ability to designate a port as the network edge. |
| | VLANs allow for secure segmentation of network resources. |
| | Multiple LAN and WAN devices can be connected to standard 10/100/Ethernet or serial interfaces. |
| **WAN diversity** | Support for multiple WAN links: Gigabit Ethernet, Serial, 3G provide for business continuity. |
| **Transparent Roaming Between Wireless Networks** | |

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| **Dual subscriber-identity-module (SIM) support** | Hardware readiness for Dual SIM provides for high reliability and cellular multi-homing support for HSPA-based networks. |
| **Cisco IOS Mobile IP features** | Mobile IP offers transparent roaming for mobile networks, establishing a transparent Internet connection regardless of location or movement. This enables mission-critical applications to stay connected even when roaming between networks. |
| | Assigned IP addresses to the home network are maintained in private or public networks. |
| **Cisco IOS Mobile network features** | Allows an entire subnet or mobile network to maintain connectivity to the home network while roaming. |
| **Multiple wireless WAN technologies** | Supports the best wireless (3G, 3.5G or 3.7G) technology or network available. |
| **Advanced IP Services in Standards-Based Cisco IOS Software** | |
| **Advanced security features** | Authorization and authentication determines which individuals and devices have access to the network. |
| | Firewall protection provides perimeter security when using public networks. |
| | 3DES and AES encryption provides for highly secure VPNs when transmitting and receiving data over public networks. |
| | Intrusion detection monitors potential malicious activity within the network. |
| **QoS features** | Provides traffic precedence to delay-sensitive or prioritized applications. |
| | Facilitates low-latency routing of delay-sensitive applications such as streaming video. |
| **IP Multicast** | Allows efficient broadcast of data or video for increased situational awareness, multiuser communications, or surveillance applications. |
| **Management and manageability** | Network managers can remotely manage and monitor networks with SNMP, Telnet, or HTTP, and locally through a console port. |
| | Support for extensive 3G- and 4G LTE-based MIBs allows for centralized management of remote devices and gives network managers visibility and control of the network configurations at the remote site. |
| | Network managers can reset to a pre-designated golden image as well as configure an ISR through Cisco IOS Software or through an external reset button. |
| | Network managers can upgrade 3G, 3.5G and 3.7G (4G???) firmware and router configurations remotely and confirm enhancement verification. |
| | Tight integration with Cisco IOS Software allows you to self-monitor the functions of the 3G, 3.5G and 3.7G (4G???) modems and auto-recover from a failure. |
| | Cisco Configuration Professional provides a web-based tool that simplifies setup and deployment. |
| | Intuitive network management tools such as CiscoWorks and HP OpenView are supported. |

## Specifications:

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| **Specifications** | |
| **Product Code** | C819HG-U-K9 |
| **3G modem form factor** | Embedded (included with the router) |

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| **Important 3G features** | Auto-switch failover between primary and backup link |
| | Multichannel-interface-processor (MIP) profile configuration |
| | CDMA Data Retry |
| | 3G SNMPv2 MIBs and traps |
| | Remotely initiated data callback using voice |
| | Remotely initiated data callback using Short Message Service (SMS) |
| | Remote firmware upgrade over 3G |
| | Virtual diagnostic monitoring |
| | Mobile Equipment Personalization (MEP) lock and unlock capabilities |
| | SIM lock and unlock capabilities |
| **Dual SIM support** | High reliability and cellular multi-homing support for HSPA and HSPA+ based networks |
| | Dual SIM card socket; compliant with ISO-7816-2 (SIM mechanical) |
| | Two Internal SIM Card Slots: |
| | C819(H)G-U-K9, C819(H)G+7-K9, C819HGW+-A-A-K9, C819HGW+7-E-K9, C819HGW+7-N-K9 |
| | No SIM Card Slot: |
| | C819(H)G-V-K9, C819(H)G-S-K9, C819(H)G-B-K9, C819HGW-V-A-K9, C819HGW-S-A-K9 |
| **SMS and Global Positioning** | Ability to send and receive SMS (maximum of 160 characters) |
| **System (GPS)** | Standalone GPS |
| **MIBs** | 3G MIB |
| | ENTITY MIB |
| | IF MIB |
| | 3G WWAN MIB persistence |
| **3G network management and diagnostics** | In-band and out-of-band management using Telnet (Cisco IOS Software command-line interface [CLI]) and SNMP, including MIB II and other extensions |
| | Industry-standard 3G diagnostics and monitoring tools (QUALCOMM CDMA Air Interface Tester [CAIT] and Spirent Universal Diagnostic Monitor [UDM]) |
| **Modem information** | Modem form factor: Embedded Peripheral Component Interconnect (PCI) minicard |
| | 819(H)G-U: Sierra Wireless MC8795V (non-U.S. market) support HSPA Release 6 |
| | 819(H)G(W)+7: Sierra Wireless MC8705 supporting HSPA+ Release 7 |
| | 819(H)G(W)-S: Sierra Wireless MC5728V |
| | 819(H)G(W)-V: Sierra Wireless MC5728V |
| | 819(H)G-B: Sierra Wireless MC5728V |
| **Programming interfaces** | Cisco IOS Software CLI |

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| **Wireless technologies supported (performance and throughput)** | Part Number: C819(H)G-U-K9 |
| | HSPA: 850, 900, 1900, and 2100 MHz (forward link up to 7.2 Mbps; reverse link up to 5.76 Mbps) |
| | Backward compatibility: |
| | HSDPA: 850, 900, 1900, and 2100 MHz (forward link up to 7.2 Mbps; reverse link up to 384 kbps) |
| | UMTS: 850, 900, 1900, and 2100 MHz (forward link up to 2.0 Mbps; reverse link up to 384 kbps) |
| | EDGE: 850, 900, 1800, and 1900 MHz (forward link up to 236 kbps; reverse link up to 124 kbps) |
| | GPRS: 850, 900, 1800, and 1900 MHz (forward link up to 80 kbps; reverse link up to 42 kbps) |
| **Included antenna** | Cellular Access: Two multiband swivel-mount dipole antennae (3G-ANTM1919D) are included for all 819 SKUs that have 3G Cellular functionality |
| | WLAN: Three Cisco Multiband Swivel-Mount Dipole Antennae. ( AIR-ANTM2050D-R) are included for all 819 SKUs that have WLAN functionality. |
| **LED indicators for 3G** | Received signal strength indication (RSSI) (green) |
| | WLAN(green/blue/red/white) |
| | WWAN (green) |
| | SIM status (green/yellow ) |
| | 3G service (green) |
| | GPS (green/yellow) |
| | SYS(green/yellow) |
| | ACT(green) |

## Product Information Online

For the latest product information, availability and purchasing details, please visit the product page:

**Product page:**
**https://www.comx-computers.co.za/C819HG-U-K9-Cisco-819-Secure-Hardened-Machine-to-Machine-Integrated-Services-Router-p-101229.php**

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