Cisco 3205 Wireless Mobile Interface Card (WMIC)

Product Overview

The Cisco® 3205 Wireless Mobile Interface Card (WMIC) for The Cisco 3200 Series Rugged Integrated Services Routers (ISR) is an 802.11a/h broadband radio that provides integrated wireless WAN or LAN capabilities in the unlicensed 5-GHz band. Designed in the same ruggedized, compact PC/104-Plus form factor as other Cisco 3200 Series interface cards, the Cisco WMIC is designed to be integrated with the Cisco 3200 Rugged ISR in outdoor environments.

As part of the Cisco 3200 Rugged ISR family, the Cisco 3205 WMIC can be configured as a:

- Wireless access point to connect 802.11a/h-compliant devices into a mobile or outdoor network
- Wireless bridge for connecting one or more sites together
- Client connecting to an outdoor wireless network such as a Cisco 1500 Mesh Access Point network

About the Cisco 3200 Rugged ISR

The Cisco 3200 Series are rugged routers designed with a versatile, compact form factor. They are optimized for mobile, outdoor, and embedded environments. The Cisco 3200 Rugged ISR provides access, mobility, and interoperability across multiple wireless technologies, including 3G cellular, satellite, and integrated 4.9-GHz and 802.11a/b/g. Standards-based mobile IP delivers transparent roaming for mobile applications. The Cisco 3200 Series use Cisco IOS® Software to provide secure data, voice, and video communications to stationary and mobile network nodes across wired and wireless links.

Applications

The Cisco 3200 Series 5-GHz WMIC can be used in a variety of applications. Common deployment scenarios are vehicle networks and outdoor networks.

Vehicle Networks

The Cisco 3205 WMIC can be used to connect a vehicle to a Cisco outdoor wireless network. The 5-GHz WMIC is configured as a workgroup bridge client to the Cisco outdoor mesh access points for enabling broadband communications to first-responder vehicles, buses, or trains outfitted with Cisco 3200 Series routers.

Outdoor Networks

The Cisco 3200 Rugged ISR extends IP networks to outdoor locations. Qualified system integrators may choose to embed the Cisco 3200 Series into custom enclosures or existing outdoor infrastructure, such as traffic signal control boxes or utility substations. The Cisco 3200 Series serves as a point of presence for integrating peripheral devices with an IP network, including video surveillance cameras, traffic signal control boxes, and chemical sensors. The

Cisco 3205 WMIC provides a wireless uplink an outdoor mesh network to backhaul traffic for real-time communications.

New Features

- Industry standard PC/104+ form factor
- Industrial-grade components with extended operating temperature ranges
- Sold as a standalone card for custom, embedded applications or as part of a rugged router system
- Compliant with Dynamic Frequency Selection for radar detection
- Transmit Power Control to limit transmitted power for optimal coverage

Benefits

- Flexibility to configure the Cisco 3205 WMIC as a root bridge, non-root bridge, access point or workgroup bridge (client)
- Provides unlicensed spectrum for backhauling voice, video, and data traffic from a vehicle or outdoor network; expands RF selection beyond 802.11b/g
- Supports Cisco IOS Software providing a breadth of features including standards-based authentication, security, and quality of service (QoS)
- Enables customers to deploy a one-box solution with integrated wireless, including 5-GHz 802.11 a/h, 2.4-GHz 802.11b/g, and 4.9-GHz in a single rugged enclosure
- Built with industrial-grade components to withstand harsh environments in vehicle or outdoor enclosures
- Standard PC/104+ form factor allows qualified system integrator partners to embed the WMIC into custom enclosures

Product Specifications

Table 1 shows product specifications for the Cisco 3205 WMIC.

Table 1. Product Specifications

Features	Feature Description
PC/104+ Form Factor	Compliant with industry standard PC/104+ form factor
802.11a/h Compliant	Standards-compliant to help ensure that 802.11a/h WLAN devices operate according to regulatory requirements for the 5-GHz spectrum
Radio Frequency (RF) Spectrum	• North America: 5.25–5.35GHz (DFS Bands), 5.725—5.850GHz • European Union: 5.470–5.725GHz (DFS Bands); European Union countries
Dynamic Frequency Selection	Selects the radio channel at the access point to minimize interference with military radar or other WLAN networks
Transmit Power Control	European Union countries only; Limits the transmitted power to the minimum power level needed to reach the furthest user
Channel Width	20-MHz channel width
Configurable as a Bridge, Workgroup Bridge (client) or Access Point	• Configurable as a bridge for point-to-point, or point-to-multipoint communications between one or more sites • Configurable as a workgroup bridge client providing interoperability with the Cisco 1522 Outdoor Mesh Access Point • Software configuration allows flexibility in the function of the WMIC's capabilities
Prioritized Multiple Client Profiles	• Provides flexibile deployment scenarios through the use of a priority based profile system • Profiles allow the configuration of authentication, encryption, and channel width per SSID

Features	Feature Description	
Management Frame Protection, ver 1 & 2	• Encrypts management frames between client (Workgroup Bridge) and Access Point or between a Root Bridge and Non-Root Bridge • Adds message integrity check information element (MIC IE) to each frame • Validates every management frame that is received from other APs/WMICs in the network • Client MFP shields authenticated clients from spoofed frames	
Multiple Basic Service Set Identifier (MBSSID)	• Upon enabling multiple basic SSIDs (BSSIDs), all the SSIDs are included in the beacon • Individual MAC addresses per SSID with MBSSIDs	
Mobility Enhancements	• Enhanced data rate shifting for improved network mobility • Fast Reauthentication over autonomous and unified wireless architecture using CCKM.	
Network Management	• Up to Simple Network Management Protocol (SNMP) Version 3 • Workgroup bridge monitoring using the Cisco Wireless Control System (WCS)	
802.11e QoS	• Prioritizes traffic over 802.11 wireless networks • Supported on Work Group Bridge and Access Point Modes • Improves transmission of delay sensitive and high bandwidth applications originating	
RF Output Power	• 50 mW / 16 dBm • 25 mW / 13 dBm • 10 mW / 10 dBm • 5 mW / 7 dBm • 3 mW / 4 dBm • 1 mW / 2 dBm • 0.5 mW / -1 dBm	
Data Rates/Modulation Schemes	• BPSK @ 6 and 9 Mbps • QPSK @ 12 and 18 Mbps • 16-QAM @ 24 and 36 Mbps • 64-QAM @ 48 and 54 Mbps	
Receive Sensitivity	**Data Rate (Mbps)**	**Sensitivity (dBm)**
	6	-85
	9	-85
	12	-85
	18	-82
	24	-79
	36	-76
	48	-71
	54	-69
Power Output (Extended Isotropic Radiated Power)	• European Union countries: 30 dBm (1 Watt) • North America: 36 dBm (4 Watts)	
Authentication	• 802.1X support with Cisco LEAP, Extensible Authentication Protocol-Transport Layer Security (EAP-TLS), EAP-Tunneled TLS (TTLS), EAP-Flexible Authentication via Secure Tunneling (FAST), EAP-Subscriber Information Module (SIM) • Client EAP-TLS mode provides standards-based security through the use of additional client (Work Group Bridge (WGB) and Non-Root Bridge (NRB)) EAP methods including EAP-FAST and EAP-TLS • MAC address and standard 802.11 authentication mechanisms	
Security	• 802.11i/WPA/WPAv2 Advanced Encryption Standard-Counter Mode with Cipher Block Chaining Message Authentication Code Protocol (AES-CCMP); 128-bit key length • Temporal Key Integrity Protocol (TKIP) encryption enhancements: key hashing (per-packet keying), message integrity check (MIC), and broadcast key rotation via Wi-Fi Protected Access (WPA) TKIP • Support for static and dynamic IEEE 802.11 Wired Equivalent Privacy (WEP) keys of 40 and 128 bits	
Memory	• 16 MB flash memory, 32 MB DRAM	
Approvals and Compliance	• Transmit Power Control and Dynamic Frequency Selection for European Union countries (ETSI EN 301893 v1.3.1)	

Ordering Information

The Cisco 3205 WMIC can be ordered as part of a Cisco 3200 Series system or as a standalone WMIC. Table 2 lists the part numbers for the Cisco 3205 WMIC. For more information on how to order Cisco 3200 Series products, visit the Cisco 3200 Series Router Ordering Brochure http://www.cisco.com/en/US/prod/collateral/routers/ps272/prod_brochure0900aecd803fabbf.html.

Table 2. Ordering Information

Product Name	Part Number
Cisco 3205 WMIC for N. America (without thermal plates)	C3205WMIC-A-K9=
Cisco 3205 WMIC for N. America (with thermal plates)	C3205WMIC-TPA-K9=
Cisco 3205 WMIC for European Union (without thermal plates)	C3205WMIC-E-K9=
Cisco 3205 WMIC for European Union (with thermal plates)	C3205WMIC-TPEK9=

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

Cisco Services

Cisco Services make networks, applications, and the people who use them work better together.

Today, the network is a strategic platform in a world that demands better integration between people, information, and ideas. The network works better when services, together with products, create solutions aligned with business needs and opportunities.

The unique Cisco lifecycle approach to services defines the requisite activities at each phase of the network lifecycle to help ensure service excellence. With a collaborative delivery methodology that joins the forces of Cisco, our network of skilled partners, and our customers, we achieve the best results.

For More Information

To learn more about rugged router solutions based on the Cisco 3200 Series, please visit the following pages or contact your Cisco Account Representative for more information.

For information about the Cisco 3200 Series, visit http://www.cisco.com/go/3200.

For information about Cisco Mobile Network solutions, visit http://www.cisco.com/en/US/netsol/ns768/networking_solutions_sub_solution_home.html.

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