Xirrus 802.11ac Wireless Arrays

XR-4000 Series

Configurations: XR-4426, XR-4436, XR-4826, and XR-4836

DATASHEET

XR-4000 Series

Xirrus XR-4000 Wireless Arrays are part of the Xirrus XR family of products – the only Wi-Fi solutions of their kind featuring scalable performance, modular upgradability, and integrated control in a single product to economically serve today's requirements and grow to match tomorrow's demand.

Xirrus XR-4000 Wireless Arrays deliver superior price/performance by integrating the unmatched combination of 4 or 8 software programmable (2.4GHz/5GHz) modular radios with high gain directional antennas, integrated wireless controller, multi-gigabit switch, firewall, threat sensor and spectrum analyzer into a single system. The XR-4000 is designed to meet a wide variety of wireless network requirements, supporting low to high user density, delivering ubiquitous wireless coverage, and providing high reliability.

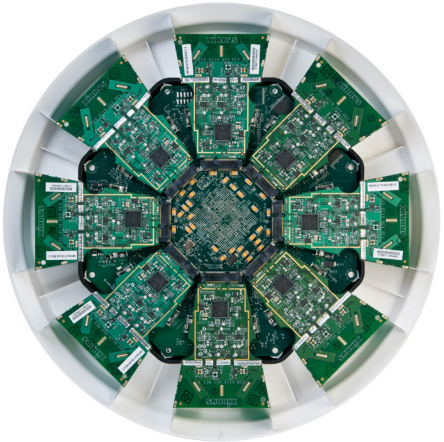
The XR series of Arrays are the industry's only fully modular and software programmable Wi-Fi platforms that scale from 2 to 16 radios to service a broad range of requirements. Leveraging multiple radios, XR Arrays support a host of different physical and operational modes in a single product to support services such as wireless access, wireless backhaul, threat detection, user segmentation, diagnostics, and more. All Xirrus XR Wireless Arrays utilize the same modular APs.

At A Glance

- 4 or 8 software programmable (2.4GHz/5GHz) modular access points
- 867Mbps (2x2) and 1.3Gbps (3x3) 802.11ac module versions
- Software licensable for 802.11n or 802.11ac + 802.11n operation
- Field upgradable to 802.11ac Wave 2

XR-4000 SERIES 8-SLOT CHASSIS

Shown configured with eight software programmable, pluggable radio modules



Architected to Perform

Xirrus XR-4000 Arrays integrate AP and controller functionality into a single device. This eliminates the scalability and single-point-of-failure limitations of central controllers. All XR Arrays are based upon an integrated Network Services Processor (NSP) architecture that scales to deliver a reliable user experience optimized for 802.11n/11ac.

Unmatched Upgradability

The Xirrus XR-4000 utilizes modular APs that enable technology upgrades without full Array replacement. Modular APs can be purchased in 867Mbps or 1.3Gbps 802.11ac versions with each capable of 2.4GHz or 5GHz operation to adapt to client changes over time. The XR-4000 ensures investment protection with upgradability to 802.11ac Wave 2 (>3Gbps).

Application Intelligent

The XR-4000 supports integrated Application Control, enabling flexible application-level monitoring and policy control of wireless usage. Over 1300+ applications can be identified and controlled to ensure a predictable user experience using Layer 7 Deep Packet Inspection and other contextual application detection techniques.

Simple Management

The XR-4000 is supported by the Xirrus Management System (XMS) with both cloud and on-premise options. Zero-touch provisioning provides fast and simple set up of the wireless network. The XMS provides for comprehensive yet simple network operation.

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Key Benefits

Scalable

Maintain a high level of performance to support mission-critical applications and handle unpredictable user growth in your wireless network. Scale to handle increasing user density and network traffic without installing additional equipment.

Flexible

Achieve deployment and operational flexibility with modular and programmable radios. Adapt to changing technology and usage requirements without the disruption of and expense of rip-and-replace hardware upgrades.

Secure

Eliminate potential gaps in security infrastructure with an integrated threat sensor, virtualized firewall, and spectrum analyzer to deliver comprehensive security without the need for additional overlay equipment.

Economical

Deploy 50-75% less equipment than competitive solutions, as well as fewer cables, switch ports, installation time, maintenance and power consumption, to reduce the wireless network's Total Cost of Ownership (TCO).

Configuration Specifications

	XR-4426	XR-4436	XR-4826	XR-4836
Chassis Size	13"	13"	13"	13"
Total Radio Slots	8	8	8	8
Populated 802.11n Radios	4	4	8	8
Radio Type	2x2 11ac, 867Mbps	3x3 11ac, 1.3Gbps	2x2 11ac, 867Mbps	3x3 11ac, 1.3Gbps
Maximum Wi-Fi Bandwidth at 802.11ac	3.5Gbps	5.2Gbps	6.9Gbps	10.4Gbps
Dedicated Wi-Fi Threat Sensor	Yes	Yes	Yes	Yes
Integrated Antennas	8	12	16	24
Integrated Wi-Fi Switch Ports	8	8	8	8
Gigabit Ethernet Uplink Ports • 802.3ad: Aggregate traffic from gig ports using 802.3ad broadcast • Broadcast: Transmit traffic on all gig ports • Link-backup: Active backup (gig ports fail over to each other) • Load balance: Load balance traffic between gig ports	2	2	2	2
Maximum Associated Users	512	512	1024	1024
Radio Interface	2.5Gbps PCI-Express	2.5Gbps PCI-Express	2.5Gbps PCI-Express	2.5Gbps PCI-Express
Maximum Power Consumption – Support for LLDP for requested-power-draw with compatible LLDP switches	33W	38W	45W	50W

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Xirrus XR-4000 Receive Sensitivity

RATE	2.4GHz RX SENSITIVITY (dBm)	5.0GHz RX SENSITIVITY (dBm)
802.11a		
6Mbps		-92
9Mbps		-92
12Mbps		-91
18Mbps		-90
24Mbps		-87
36Mbps		-83
48Mbps		-79
54Mbps		-78
802.11b		
1Mbps	-91	
2Mbps	-91	
5.5Mbps	-93	
11Mbps	-93	
802.11g		
6Mbps	-93	
9Mbps	-93	
12Mbps	-92	
18Mbps	-91	
24Mbps	-90	
36Mbps	-88	
48Mbps	-83	
54Mbps	-80	
802.11n HT20		
MCS 0	-93	-93
MCS 1	-93	-90
MCS 2	-92	-88
MCS 3	-88	-85
MCS 4	-86	-81
MCS 5	-82	-77
MCS 6	-80	-76
MCS 7	-79	-75
MCS 8	-95	-93
MCS 9	-92	-90
MCS 10	-89	-88
MCS 11	-87	-85

RATE	2.4GHz RX SENSITIVITY (dBm)	5.0GHz RX SENSITIVITY (dBm)
MCS 12	-83	-81
MCS 13	-79	-77
MCS 14	-78	-76
MCS 15	-76	-75
MCS 16	-92	-93
MCS 17	-91	-90
MCS 18	-89	-88
MCS 19	-86	-85
MCS 20	-82	-81
MCS 21	-78	-77
MCS 22	-77	-76
MCS 23	-76	-75
802.11n HT40		
MCS 0	-93	-91
MCS 1	-92	-88
MCS 2	-90	-86
MCS 3	-87	-83
MCS 4	-84	-79
MCS 5	-80	-75
MCS 6	-78	-74
MCS 7	-77	-73
MCS 8	-92	-90
MCS 9	-89	-87
MCS 10	-87	-85
MCS 11	-84	-82
MCS 12	-81	-78
MCS 13	-77	-74
MCS 14	-75	-73
MCS 15	-74	-72
MCS 16	-91	-90
MCS 17	-88	-87
MCS 18	-86	-85
MCS 19	-83	-82
MCS 20	-79	-78
MCS 21	-75	-74
MCS 22	-74	-73

RATE	2.4GHz RX SENSITIVITY (dBm)	5.0GHz RX SENSITIVITY (dBm)
MCS 23	-73	-72
802.11ac VHT20		
MCS 0		-82
MCS 1		-79
MCS 2		-77
MCS 3		-74
MCS 4		-70
MCS 5		-66
MCS 6		-65
MCS 7		-64
MCS 8		-59
MCS 9		-57
802.11ac VHT40		
MCS 0		-88
MCS 1		-85
MCS 2		-83
MCS 3		-80
MCS 4		-76
MCS 5		-72
MCS 6		-71
MCS 7		-69
MCS 8		-67
MCS 9		-66
802.11ac VHT80		
MCS 0		-86
MCS 1		-83
MCS 2		-81
MCS 3		-78
MCS 4		-74
MCS 5		-70
MCS 6		-69
MCS 7		-68
MCS 8		-66
MCS 9		-64

Technical Specifications

FEATURE	SPECIFICATIONS	
RF Management	In-band per IAP Spectrum Analysis Dynamic channel configuration Dynamic cell size configuration Monitor radio for threat assessment and mitigation Wired and wireless packet captures (including all 802.11 headers) Wired and Wireless RMON / Packet Captures Radio assurance for radio self test and healing	RF monitor 2.4 & 5.0Ghz Honeypot Control – Increase available 2.4 & 5.0Ghz wireless device density through management of spurious 2.4 & 5.0Ghz association traffic. Ultra Low Power Mode – Maximize wireless channel re-use and increase wireless device density through tight power controls.
High Availability	Supports hot stand-by Array for mission critical areas	
Environmentally Friendly	Supports ability to turn off radios based on schedule configuration	
Wireless Protocols	IEEE 802.11a, 802.11ac, 802.11b, 802.11d, 802.11e, 802.11g, 802.11h, 802.11i, 802.11j, 802.11k, 802.11n, 802.11w	
Wired Protocols	IEEE 802.3 10BASE-T, IEEE 802.3.u 100BASE-TX , 1000BASE-T, 802.3ab 1000BASE-T IEEE 802.1q – VLAN tagging IEEE 802.1AX – Link aggregation IEEE 802.1d – Spanning tree IEEE 802.1p – Layer 2 traffic prioritization IPv6 Control – Increase wireless device density through control of unnecessary IPv6 traffic on IPv4-only networks. DHCP option 82	

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Xirrus XR-4000 Series Wireless Array

FEATURE	SPECIFICATIONS	
Carrier Applications	Passpoint 2.0 Certification	
RFC Support	RFC 768 UDP RFC 791 IP RFC 2460 IPV6 (Bridging only) RFC 792 ICMP RFC 793 TCP	RFC 826 ARP RFC 1122 Requirements for internet hosts – communication layers RFC 1542 BOOTP RFC 2131 DHCP
Security	WPA IEEE 802.11i WPA2, RSN RFC 1321 MD5 Message-digest algorithm RFC 2246 TLS protocol version 1.0	RFC 3280 Internet X.509 PKI certificate and CRL profile RFC 4347 Datagram transport layer security RFC 4346 TLS protocol version 1.1
Encryption Types	Open, WEP, TKIP-MIC: RC4 40, 104 and 128 bits SSL and TLS: RC4 128-bit and RDA 1024 and 2048 bit	
Authentication	IEEE 802.1x RFC 2548 Microsoft vendor-specific RADIUS attributes RFC 2716 PPP EAP-TLS RFC 2865 RADIUS Authentication RFC 2866 RADIUS Accounting RFC 2867 Tunnel Accounting RFC 2869 RADIUS Extensions RFC 3576 Dynamic Authorizations extensions to RADIUS RFC 3579 RADIUS Support for EAP RFC 3748 EAP-PEAP	RFC 5216 EAP-TLS RFC 5281 EAP-TTLS RFC 2284 EAP-GTC RFC 4186 EAP-SIM RFC 3748 Leap Passthrough RFC 3748 Extensible Authentication Protocol Web Page Authentication • WPR, Landing Page, Redirect • Support for Internal WPR, Landing Page and Authentication • Support for External WPR, Landing Page and Authentication • Support for Xirrus Guest Access System
Regulatory Compliance	CE Mark Safety: • UL 60950-1:2003 • EN 60950:2000 • EMI and susceptibility (Class A)	• U.S.:FCC Part 15.107 and 15.109 • Canada: ICES-003 • Japan: VCCI • Europe: EN 55022, EN 55024 • EN 60601-1-2 • EN 301 893 V1.6.1
Physical Specifications	Dimensions (WxDxH): 2.5 x 12.25 x 12.25 in. Weight: XR-4426, XR-4436 2.6lbs XR-4826, XR-4836 3lbs	
Environmental Specifications	Operating Temperature: 0-55C, 0-90% humidity, non-condensing	
Channel Support 5GHz*	UNI I – Non-DFS channels 36 40 44 48 UNI I DFS channels 52 56 60 64	UNI II DFS channels 100 104 108 112 116 120 124 128 132 136 140 UNI III Non-DFS channels 149 153 157 161 165
Management Interfaces	Command line interface Web interface (http / https) Xirrus Management System (XMS)	XMS Cloud XMS Enterprise XMS Enterprise Cloud
Management	SNMP v1, v2c, v3 RFC 854 Telnet RFC 1155 Management Information for TCP/IP Based Internets RFC 1156 MIB RFC 1157 SNMP RFC 1212 Concise MIB Definitions RFC 1213 SNMP MIB II RFC 1215 A Convention for Defining Traps for use with the SNMP RFC 1350 TFTP RFC 1643 Ethernet MIB RFC 2030 Simple Network Time Protocol SNTP RFC 2578 Structure of Management Information Version 2 (SMIv2) RFC 2579 Textual Conventions for SMIv2 RFC 2616 HTTP 1.1 RFC 2665 Definitions of Managed Objects for the Ethernet Like Interface Types	RFC 2674 Definitions of Managed Objects for Bridges with Traffic Classes, Multicast Filtering and Virtual LAN Extensions RFC 2819 Remote Network Monitoring Management Information Base RFC 2863 The Interface Group MIB RFC 3164 BSD Syslog Protocol RFC 3414 User-based Security Model (USM) for version 3 of the Simple Network Management Protocol (SNMPv3) RFC 3416 Version 2 of the Protocol Operations for the Simple Network Management Protocol (SNMP) RFC 3417 Transport Mappings for the Simple Network Management Protocol (SNMP) RFC 3418 Management Information Base (MIB) for the Simple Network Management Protocol (SNMP) RFC 3584 Coexistence between Version 1, Version 2, and Version 3 of the Internet-standard Network Management Framework RFC 3636 Definitions of Managed Objects for IEEE Xirrus Private MIBs Integration with Splunk for accurate search and analysis of intra-organizational IT events Netflow Export v9 and IPFIX compatibility allows for IP traffic statistics collection

*All channel selections are based upon country code selections

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Ordering Information

PART NUMBER	DESCRIPTION
Configured Models	
XR-4426	XR Wireless Array consisting of 8 slot chassis with integrated controller, 4 867Mbps 802.11ac modular APs, and ArrayOS operating system
XR-4436	XR Wireless Array consisting of 8 slot chassis with integrated controller, 4 1.3Gbps 802.11ac modular APs, and ArrayOS operating system
XR-4826	XR Wireless Array consisting of 8 slot chassis with integrated controller, 8 867Mbps 802.11ac modular APs, and ArrayOS operating system
XR-4836	XR Wireless Array consisting of 8 slot chassis with integrated controller, 8 1.3Gbps 802.11ac modular APs, and ArrayOS operating system
Software Licenses	
AOS-APPCON	Application Control license enabling Deep Packet Inspection (DPI) for application visibility and control on 1 modular Access Point
AOS-11AC	License to enable 802.11ac operation on 1 modular Access Point

Support & Maintenance

Xirrus is committed to the success of our customers and provides warranties and support options to best fit your needs. Xirrus XR Series Wireless Arrays ship from the factory with a 5-year hardware warranty. For further information on the Xirrus hardware warranties, software support and premium support offerings visit:

http://www.xirrus.com/Support/Warranty-Support

About Xirrus

To organizations who depend on wireless access to transform their business, Xirrus is the wireless network solution provider that provides the world's most powerful, scalable, and trusted solutions. Through product invention and system design, commitment to customer success, and the industry's best price performance, Xirrus gives you confidence that your wireless network performs under even the most demanding circumstances. Headquartered in Thousand Oaks, CA, Xirrus is a privately held company and designs and manufactures its family of products.

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