Cisco Aironet 1552H Outdoor Access Point

Contents

High-performance outdoor wireless for hazardous locations

The Cisco Aironet® 1552H Outdoor Access Point is the hazardous locations model in the Cisco Aironet 1552 Series. It is Class I, Div 2/Zone 2 certified and specifically designed for hazardous environments, such as oil and gas refineries, chemical plants, mining pits, and manufacturing yards. The Cisco Aironet 1552H Outdoor Access Point offers a flexible, secure, and scalable mesh network for high-performance mobility. It supports multiple-device and multiple-network application delivery, such as real-time easy-to-use mobility, video surveillance, and public and private Wi-Fi access. Designed to provide reliable service under the most demanding conditions, the Cisco Aironet 1552H Outdoor Access Point offers the following benefits:

- **Flexible deployment options:** Access or mesh network, extension of an Ethernet network, and Ethernet, fiber, or wireless backhaul.

- **Cisco CleanAir® technology:** Integrated spectrum intelligence to detect, classify, and mitigate RF interference from unauthorized wireless bridges or malicious devices.

- **High-bandwidth video surveillance:** Video transmission over Wi-Fi without the high cost of installing cables over long distances.

- **High-performance, multipurpose network:** Provides both low Capital Expenditures (CapEx) and Operating Expenses (OpEx).

- **Integrated wired and wireless:** The Cisco® Borderless Network Architecture provides cost savings with end-to-end network access solutions that include wireless, switching, routing, and security.

Outdoor access point for hazardous locations

- Designed and certified for hazardous environments (Class I Div2/Zone2).
- Cisco CleanAir technology provides integrated spectrum intelligence for a self-configuring and self-healing network.
- Cisco ClientLink improves reliability and coverage for legacy clients.
- Improved 802.11n range and performance with 2 x 3 MIMO technology.
- 300 Mbps data rates per radio.
- Multiple-radio support (5 GHz IEEE 802.11a/n, 2.4 GHz 802.11b/g/n).
- Improved 802.11n radio sensitivity and range performance with three antenna MIMO and two spatial streams.
- Multiple-uplink options (Gigabit Ethernet 10/100/1000 BASE-T, Fiber small form-factor pluggable (SFP) interface).

Flexible, high-performance mesh

The Cisco Aironet 1552H Outdoor Access Point offers a flexible, secure, and scalable mesh platform as part of the [Cisco Unified Wireless Network](#). The access point enables high-performance mobility across large oil and gas facilities, chemical plants, manufacturing yards, and mining pits. The 1552H provides high-performance device access through improved radio sensitivity and range with 802.11a, b, g, and n Multiple-Input Multiple-Output (MIMO) technology with two spatial streams and contains a dual-radio system (2.4 GHz and 5 GHz) with three N-type female external antenna connectors for dual-band omnidirectional and directional antennas. For more information, including antenna patterns, see the Cisco Aironet Antennas and Accessories Guide: https://www.cisco.com/en/US/products/hw/wireless/ps469/index.html.

Multiple uplink and power options are available with the 1552H. The 802.3af-compliant, Power-over-Ethernet (PoE) output port makes it easy to connect IP devices, such as IP video cameras. The Cisco Aironet 1552H Outdoor Access Point is certified for Class I, Div 2/Zone 2 environments and provides a rugged design suitable for the most demanding industrial applications. Lightning arrestors for surge protection are also supported.

Cisco CleanAir technology

Cisco CleanAir technology is a systemwide feature of the Cisco Unified Wireless Network, which improves wireless network quality by detecting RF interference that other systems can't recognize, identifying the source, locating it, and then making automatic adjustments to optimize wireless coverage. The Aironet 1552H Outdoor Access Point uses chip-level intelligence to create a spectrum-aware, self-healing, and self-optimizing wireless network that mitigates the impact of wireless interference.

RF excellence

Building on the Cisco Aironet heritage of RF excellence, the 1552H delivers industry-leading performance for secure and reliable wireless connections. Industrial-grade parts, enterprise-class silicon-level intelligence, and optimized radios deliver a robust mobility experience. The access point provides a set of tools that deliver the robust, scalable wireless foundation required to realize the true potential of outdoor wireless mobility:

- [Cisco ClientLink technology](#) to raise uplink and downlink performance of and coverage to existing 802.11a and g clients

- Radio Resource Management (RRM) for automated channel selection and power setting management of access points

- Advanced capabilities to select data rates, adjust power, and manage Quality of Service (QoS) for access points

Centrally managed mesh network

Central management and troubleshooting of the Cisco outdoor wireless access points prevent costly maintenance service calls to outdoor locations. The Cisco Prime™ Infrastructure works in conjunction with the Cisco Aironet access points and Cisco Wireless LAN Controllers to configure and manage the wireless networks. With Cisco Prime Infrastructure, network administrators have an all-in-one solution for RF prediction, policy provisioning, network optimization, troubleshooting, security monitoring, and wireless LAN systems management. Cisco CleanAir technology is integrated with the Cisco Prime Infrastructure to provide real-time information on your outdoor network. Wireless network security is also a part of a unified wired and wireless solution. Cisco wireless network security offers the highest level of network security, which helps ensure that data remains private and secure and that the network is protected from unauthorized access.

Product specifications

Table 1 lists the specifications for the Cisco Aironet 1552H Outdoor Access Point.

Table 1.   Cisco Aironet 1552H Outdoor Access Point product specifications

Item	Specification
Part numbers	**Cisco Aironet 1552H Hazardous Location Access Point** • AIR-CAP1552H-A-K9 • AIR-CAP1552H-B-K9 • AIR-CAP1552H-C-K9 • AIR-CAP1552H-E-K9 • AIR-CAP1552H-K-K9[1] • AIR-CAP1552H-M-K9 • AIR-CAP1552H-N-K9 • AIR-CAP1552H-Q-K9 • AIR-CAP1552H-Q-K9A • AIR-CAP1552H-S-K9 • AIR-CAP1552H-T-K9 **Cisco SMARTnet® Service for the Cisco Aironet 1552H Outdoor Access Point** • CON-SNT-CAP1552Hx - SNTC-8x5xNBD 1552H Hazardous Location Access Point
802.11n Version 2.0 (and Related) Capabilities	• 2 x 3 Multiple-Input Multiple-Output (MIMO) with two spatial streams • Legacy beamforming • 20- and 40-MHz channels • PHY data rates up to 300 Mbps • Packet aggregation: A-MPDU (Tx/Rx), A-MSDU (Tx/Rx) • 802.11 Dynamic Frequency Selection (DFS) • Cyclic Shift Diversity (CSD) support

[1] AIR-CAP1552H-K-K9: Target available at October 2018

Item	Specification				
Data Rates Supported	802.11a: 6, 9, 12, 18, 24, 36, 48, and 54 Mbps				
	802.11g: 1, 2, 5.5, 6, 9, 11, 12, 18, 24, 36, 48, and 54 Mbps				
	802.11n data rates (2.4 GHz and 5 GHz):				
	MCS Index[2]	GI[3] = 800 ns		GI = 400 ns	
		20-MHz Rate (Mbps)	40-MHz Rate (Mbps)	20-MHz Rate (Mbps)	40-MHz Rate (Mbps)
	0	6.5	13.5	7.2	15
	1	13	27	14.4	30
	2	19.5	40.5	21.7	45
	3	26	54	28.9	60
	4	39	81	43.3	90
	5	52	108	57.8	120
	6	58.5	121.5	65	135
	7	65	135	72.2	150
	8	13	27	14.4	30
	9	26	54	28.9	60
	10	39	81	43.3	90
	11	52	108	57.8	120
	12	78	162	86.7	180
	13	104	216	115.6	240
	14	117	243	130	270
	15	130	270	144.4	300
Frequency Band and 20-MHz Operating Channels	-A Domain: • 2.400 to 2.4835 GHz, 11 channels • 5.280 to 5.320 GHz; 3 channels • 5.500 to 5.560 GHz, 4 channels • 5.680 to 5.700 GHz, 2 channels • 5.745 to 5.825 GHz, 5 channels -B Domain: • 2.400 to 2.4835 GHz; 11 channels • 5.280 to 5.320 GHz; 3 channels • 5.500 to 5.700 GHz; 11 channels • 5.745 to 5.825 GHz; 5 channels				

[2] MCS Index: The Modulation and Coding Scheme (MCS) index determines the number of spatial streams, the modulation, the coding rate, and data rate values.

[3] GI: A guard interval (GI) between symbols helps receivers overcome the effects of multipath delays.

Item	Specification		
	-C Domain: • 2.400 to 2.4835 GHz; 13 channels • 5.725 to 5.850 GHz; 5 channels -E Domain: • 2.401 to 2.4835 GHz; 13 channels • 5.470 to 5.725 GHz; 8 channels -K Domain: • 2.400 to 2.4835 GHz; 11 channels • 5.250 to 5.825 GHz; 14 channels -M Domain • 2.400 to 2.4835 GHz; 13 channels • 5.470 to 5.850 GHz; 12 channels -N Domain: • 2.400 to 2.4835 GHz; 11 channels • 5.725 to 5.850 GHz; 5 channels -Q Domain: • 2.400 to 2.4835 GHz; 13 channels • 5.470 to 5.725 GHz; 11 channels -S Domain: • 2.400 to 2.4835 GHz; 13 channels • 5.725 to 5.850 GHz; 5 channels -T Domain: • 2.400 to 2.4835 GHz; 11 channels • 5.470 to 5.850 GHz; 16 channels		
Note: This varies by regulatory domain. Refer to the product documentation for specific details for each regulatory domain.			

Maximum Number of Nonoverlapping Channels	**2.4 GHz**
	• 802.11b/g:
	  ◦ 20 MHz: 3
	• 802.11n:
	  ◦ 20 MHz: 3
		5 GHz
		• 802.11a:
		  ◦ 20 MHz: 19
		• 802.11n:
		  ◦ 20 MHz: 19
		  ◦ 40 MHz: 11	

Note: This varies by regulatory domain. Refer to the product documentation for specific details for each regulatory domain.			
Receive Sensitivity	**802.11b (Complementary Code Keying [CCK])** -101 dBm @ 1 Mbps -98 dBm @ 2 Mbps -92 dBm @ 5.5 Mbps -89 dBm @ 11 Mbps	**802.11g (non HT20)** -94 dBm @ 6 Mbps -93 dBm @ 9 Mbps -92 dBm @ 12 Mbps -90 dBm @ 18 Mbps -86 dBm @ 24 Mbps -84 dBm @ 36 Mbps -79 dBm @ 48 Mbps -78 dBm @ 54 Mbps	**802.11a (non HT20)** -92 dBm @ 6 Mbps -91 dBm @ 9 Mbps -89 dBm @ 12 Mbps -87 dBm @ 18 Mbps -85 dBm @ 24 Mbps -81 dBm @ 36 Mbps -77 dBm @ 48 Mbps -76 dBm @ 54 Mbps

Item	Specification		
	2.4-GHz **802.11n (HT20)**	**5-GHz** **802.11n (HT20)**	**5-GHz** **802.11n (HT40)**
	-93 dBm @ MCS0	-92 dBm @ MCS0	-89 dBm @ MCS0
	-91 dBm @ MCS1	-89 dBm @ MCS1	-86 dBm @ MCS1
	-89 dBm @ MCS2	-87 dBm @ MCS2	-84 dBm @ MCS2
	-86 dBm @ MCS3	-85 dBm @ MCS3	-82 dBm @ MCS3
	-82 dBm @ MCS4	-81 dBm @ MCS4	-78 dBm @ MCS4
	-78 dBm @ MCS5	-77 dBm @ MCS5	-74 dBm @ MCS5
	-77 dBm @ MCS6	-76 dBm @ MCS6	-73 dBm @ MCS6
	-75 dBm @ MCS7	-75 dBm @ MCS7	-72 dBm @ MCS7
	-93 dBm @ MCS8	-90 dBm @ MCS8	-87 dBm @ MCS8
	-91 dBm @ MCS9	-87 dBm @ MCS9	-84 dBm @ MCS9
	-89 dBm @ MCS10	-85 dBm @ MCS10	-82 dBm @ MCS10
	-86 dBm @ MCS11	-82 dBm @ MCS11	-79 dBm @ MCS11
	-82 dBm @ MCS12	-78 dBm @ MCS12	-75 dBm @ MCS12
	-78 dBm @ MCS13	-74 dBm @ MCS13	-71 dBm @ MCS13
	-77 dBm @ MCS14	-73 dBm @ MCS14	-70 dBm @ MCS14
	-75 dBm @ MCS15	-72 dBm @ MCS15	-69 dBm @ MCS15

Maximum Transmit Power	2.4 GHz	5 GHz
	802.11b (CCK) 28 dBm with 2 antennas 802.11g (non HT duplicate mode) 28 dBm with 2 antennas 802.11n (HT20) 28 dBm with 2 antennas	802.11a 28 dBm with 2 antennas 802.11n non-HT duplicate (802.11a duplicate) mode 28 dBm with 2 antennas 802.11n (HT20) 27 dBm with 2 antennas 802.11n (HT40) 27 dBm with 2 antennas

Note: The maximum power setting will vary by channel and according to individual country regulations. Refer to the product documentation for specific details.

Network Interface	10/100/1000BASE-T Ethernet, autosensing (RJ-45) - Fiber SFP (1000BASE-LX or 1000BASE-SX)
Dimensions (W x L x H)	12.3 x 8.6 x 6.1 in. (31.2 x 22.9 x 16.3 cm)
Weight	17.6 lbs (8 kg) Pole mounting bracket: 6.1 lbs (2.8 kg)
Environmental	Operating temperature: -40 to 55°C (-40 to 131°F) plus Solar Loading Storage temperature: -50 to 85°C (-58 to 185°F) Wind resistance: - Up to 100 mph sustained winds - Up to 165 mph wind gusts

Item	Specification
Environmental Ratings	- IP67 - NEMA Type 4X
Antenna Gain	- External Dual-Band Omnidirectional Antennas: - AIR-ANT2547V-N=/AIR-ANT2547V-N-HZ= (4 dBi (2.4 GHz), 7 dBi (5 GHz)) - External Dual-Band Directional Antennas - AIR-ANT2588P3M-N= (8 dBi (2.4 GHz), 8 dBi (5 GHz))
Powering Options	100-240 VAC, 50-60 Hz 12 VDC (not for hazardous environments) - PoE with power injector
Warranty	1 year
Compliance	**Safety** - UL 60950, Second Edition - CAN/CSA-C22.2 No. 60950, Second Edition - IEC 60950, Second Edition - EN 60950, Second Edition **Immunity** <= 5 mJ for 6kV/3kA @ 8/20 ms waveform - ANSI/IEEE C62.41 - EN61000-4-5 Level 4 AC Surge Immunity - EN61000-4-4 Level 4 Electrical Fast Transient Burst Immunity - EN61000-4-3 Level 4 EMC Field Immunity - EN61000-4-2 Level 4 ESD Immunity - EN60950 Overvoltage Category IV **Radio approvals** - FCC Part 15.247, 15.407 - FCC Bulletin OET-65C - RSS-210 - RSS-102 - AS/NZS 4268.2003 - ARIB-STD 66 (Japan) - ARIB-STD T71 (Japan) - EN 300 328 - EN 301 893 **EMI and susceptibility** - FCC part 15.107, 15.109 - ICES-003 - EN 301 489-1, -17 **Security** - Wireless bridging/mesh - X.509 digital certificates - MAC address authentication - Advanced Encryption Standards (AES), Temporal Key Integrity Protocol (TKIP)

Item	Specification
	• Wireless access
	◦ 802.11i, Wi-Fi Protected Access (WPA2), WPA
	◦ 802.1X authentication, including Extensible Authentication Protocol and Protected EAP (EAP-PEAP), EAP Transport Layer Security (EAP-TLS), EAP-Tunneled TLS (EAP-TTLS), EAP-Subscriber Identity Module (EAP-SIM), and Cisco LEAP
	◦ Advanced Encryption Standards (AES), Temporal Key Integrity Protocol (TKIP)
	◦ VPN pass-through
	◦ IP Security (IPsec)
	◦ Layer 2 Tunneling Protocol (L2TP)
	• MAC address filtering
	Other
	• NRTL/CSA: Class I, Division 2; Groups A, B, C, and D
	• ATEX: Class I, Zone 2; Ex nA IIC T5 Gc
	• IECEx: Class I, Zone 2, Ex nA IIC T5 Gc

Plan, build, and run services for an easy-to-use outdoor experience

Professional services from Cisco and Cisco Advanced Wireless LAN Specialized Partners facilitate a smooth deployment of the next-generation wireless outdoor solution, while tightly integrating it with the wired and indoor wireless networks. Based on proven methodologies for planning and deploying end-to-end solutions with secure voice, video, and data technologies and years of experience designing and implementing some of the world's most complex enterprise-class wireless networks, our specialists can help you optimize mobile connectivity to transform your business operations.

We work with your IT staff to see that your architecture, physical sites, and operational staff are ready to support the Cisco integrated, next-generation, outdoor wireless solution, which combines the high performance of the 802.11n standard and Cisco CleanAir technology.

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Flexible payment solutions to help you achieve your objectives

Cisco Capital makes it easier to get the right technology to achieve your objectives, enable business transformation and help you stay competitive. We can help you reduce the total cost of ownership, conserve capital, and accelerate growth. In more than 100 countries, our flexible payment solutions can help you acquire hardware, software, services and complementary third-party equipment in easy, predictable payments. Learn more.

For more information

For more information about Cisco products and services, contact your local Cisco representative or visit the following websites:

- Cisco Aironet 1552 Series Outdoor Access Point: https://www.cisco.com/go/ap1552

- Cisco outdoor wireless networks: https://www.cisco.com/go/outdoorwireless

- Cisco Unified Wireless Network framework: https://www.cisco.com/go/unifiedwireless

- Cisco Wireless LAN Services: https://www.cisco.com/go/wirelesslanservices