World's First 802.11ac Wall Plate Access Point

802.11ac in-room performance for hospitality and higher education

The AP122 is the first wall plate access point specifically designed to meet the ever-increasing mobile data needs of hotel guests and resident college and university students. With gigabit-data rates, the AP122 is perfectly suited for in-room deployment needs of the hotel, cruise line and higher-education residence-hall markets.

Designed to be placed in any location flush to a wall utilizing a standard junction box, the AP122 can be installed by standard service personnel using existing CAT5/6 cabling connected from a standard wall junction box. For wired connectivity, it features two 10/100 BASE-T switch ports to support a range of in-room IP device and user connectivity options. Additionally, one of the wired ports can operate as an IEEE 802.3af-compliant PoE Out port offering up to 13 watts of power, capable of powering devices such as IP telephones. This reduces costs in additional cabling, switch ports, and power sourcing equipment. An additional pass-through port allows connectivity for digital phones and a USB port offers options for future uses. The AP122 is built to provide years of trouble-free operation and is backed by a limited lifetime warranty.

With guest surveys commonly ranking Wi-Fi as the most requested guest amenity for the hospitality industry, ensuring a high-quality mobile experience has never been more critical. Like other Meru access points, the AP122 integrates seamlessly with our Network Manager, Network Connect, and other application solutions to bring intelligent management and resilient wireless services to your network. The AP122 is ideal for supporting IP-based services such as VoIP, IPTV, high-speed Internet access and in-room device connectivity. With Meru organizations can easily offer tiered services to different users, differentiating guests, employees, students and facility.

Additionally, Meru's single-channel option within the Mobile**FLEX** platform uniquely allows the AP122 to support pervasively, full channel 802.11ac in real-world deployments, which more than double the data rate over legacy 802.11n solutions. This architecture also greatly simplifies RF coverage planning and significantly reduces wireless LAN (WLAN) deployment costs.

Features	Benefits
• 802.11ac 2x2:2 in-room wall plate form factor • Multiple 10/100 client, PoE Out, pass-through ports • Supports pervasive 80 MHz channel usage • Requires only 802.3af for full operations	• Support for in-room, IP-based services such as VoIP, streaming video, and high-speed Internet access • Support for in-room IP devices and digital phones with native access to in-house PBX system • Maximizes full-channel 802.11ac throughout the enterprise • No infrastructure upgrades

OPERATING MODES
Centralized deployment mode
Distributed deployment mode
Remote VPN tunnel mode

SECURITY
WEP, WPA-PSK, WPA-TKIP, WPA2-AES, 802.11i, 802.1X (EAP-TLS, EAP-TTLS, PEAP, LEAP, EAP-FAST, EAP-SIM, EAP-AKA, and EAP-MD5)

802.1X and captive portal authentication against local database on the controller, RADIUS, and Active Directory

RADIUS-assisted per-user and per-ESSID access control via MAC filtering

MANAGEMENT
Automatically discovers controllers and downloads configuration settings for plug-and-play deployment

Upgrades and management using System Director/E(z)RF® Network Manager

Support for SNMP

WIRELESS SPECIFICATIONS
Model Introduction
AP122 is at dual-radio architecture with:

- 2.4 GHz Std 802.11b/g/n

- 5.6 GHz 802.11a/n/ac

Supported radio technologies
Dual-radio access point for indoor environment

2x2:2SS (two spatial streams)

IEEE Std 802.11b with Direct Sequence Spread Spectrum (DSSS)

IEEE Std 802.11ac with 20/40/80 MHz (HT20/HT40/VHT80) channel width

IEEE Std 802.11n with 40 MHz (HT40) channel width

IEEE Std 802.11a/g with 20 MHz channel

Supported Modulation
IEEE Std 802.11ac: BPSK, QPSK, 16-QAM, 64-QAM, and 256-QAM

IEEE Std 802.11a/g/n: BPSK, QPSK, 16-QAM, and 64-QAM

IEEE Std 802.11b: BPSK, QPSK, CCK

Supported MCS Index
Supported MCS0 to MCS9 for IEEE Std 802.11ac (NSS=1 to 2)
Supported MCS0 to MCS15 for IEEE Std 802.11n

Supported Frequency Bands
2.400 to 2.4835 GHz (ISM)
5.150 to 5.250 GHz (UNII-1)
5.250 to 5.350 GHz (UNII-2, upon DFS approval)
5.470 to 5.725 GHz (UNII-2 Extended, upon DFS approval)
5.725 to 5.825 GHz (UNII-3)

Operating Channels
2.4 GHz channels
- CH1 to 11 for U.S., Canada
- CH1 to 13 for Japan, Europe, rest of world
5 GHz HT20 (20 MHz) channel
- Non-DFS channels: CH36, 40, 44, 48, 144, 149, 153, 161, 165
- DFS channels upon approval: CH 52, 56, 60, 64, 100, 104, 108, 112, 116, 120*, 124*, 128*, 132*, 136, 140, 144 (*weather radar)
5 GHz HT40 (40 MHz) center channel
- Non-DFS channels: CH38, 46, 151, 159
- DFS channels upon approval: CH54, 62, 102, 110, 118* 116*, 134* 134, 142
5 GHz VHT80 (80 MHz) center channel
- Non-DFS channels: CH42, 155
- DFS channels upon approval: CH58, 106, 122* (*weather channel
Platform supports Dynamic Frequency Selection (DFS & DFS/TPC) for future 5 GHz channel adoption. Country-specific restrictions apply; adjusted by controller upon approval.

Supported Data Rates (MBPS)
IEEE Std 802.11ac two streams: 13.0 to 866.7 Mbps (MCS0-HT20 @ 800 nS to MCS9-VHT80 @ 400 nS)
IEEE Std 802.11ac per stream: 6.5 to 433.3 Mbps (MCS0-HT20 @ 800 nS to MCS9-VHT80 @ 400 nS)
IEEE Std 802.11n Two streams: 13.0 to 300.0 Mbps (MCS8-HT20 @ 800nS to MCS15-HT40 @ 400nS)
IEEE Std 802.11n per stream: 6.5 to 150.0 Mbps (MCS0-HT20 @ 800nS to MCS7-HT40 @ 400nS)
IEEE Std 802.11a/g: 6, 9, 12, 18, 24, 36, 48, and 54 Mbps
IEEE Std 802.11b: 1, 2, 5.5, and 11 Mbps

Configurable Transmission Power
Transmit default EIRP is set to +10dBm at 2.4GHz and +13dBm at 5.0 GHz band
Transmit power configurable in 1.0dBm increments from +10dBm to +17dBm in 2.4 GHz and +13dBm to +17dBm in the 5.0 GHz band

AP122 Default Transmit Power		
Default transmit power per antenna	2.4 GHz:10 dBm	5.2 GHz:13 dBm
Maximum available transmit power per antenna	2.4 GHz:17 dBm	5.2 GHz:17 dBm
Transmit power adjustment	1 dBm increments	
Actual Tx power dependent on national regulatory limits		

AP122 Receiver Sensitivity		
Standard	Data rate (Mbps)	Receiver sensitivity (dBm)
2.4GHz, IEEE 802.11b	1	-97
	11	-89
2.4GHz, IEEE 802.11g	6	-94
	54	-76
2.4GHz, IEEE 802.11n HT20	MCS0/8	-93
	MCS7/15	-72
2.4GHz, IEEE 802.11n HT40	MCS0/8	-91
	MCS7/15	-70
5GHz, IEEE 802.11a	6	-92
	54	-72
5GHz, IEEE 802.11n HT20	MCS0/8	-90
	MCS7/15	-72
5GHz, IEEE 802.11n HT40	MCS0/8	-86
	MCS7/15	-68
5GHz, IEEE 802.11AC HT20	MCS0NSS1/2	-89
	MCS8NSS1/2	-68
5GHz,IEEE 802.11AC HT40	MCS0NSS1/2	-88
	MCS9NSS1/2	-62
5GHz, IEEE 802.11AC HT80	MCS0NSS1/2	-82
	MCS9NSS1/2	-60

Antennas
Four integrated Single band omni-directional antennas for 2x2 MIMO with maximum antenna gain of 3.6 dBi in 2.4 GHz and 5 dBi in 5 GHz. Antennas are optimized for vertical wall mounted orientation of the AP.

PHYSICAL SPECIFICATIONS
Power
IEEE PoE (Power over Ethernet) 802.3af/802.3at injector or switch
48V external power adapter (sold separately)

Other Interfaces
One 10/100/1000 Mbps BASE-T Ethernet RJ45 for Data uplink (G1)
One 10/100 Mbps BASE-T Ethernet RJ45 port with PoE Out support.
One 10/100 Mbps BASE-T Ethernet RJ45 port
One USB 2.0 port (Type-A)
One reset button
One RJ45 Passthrough port: RJ45 to RJ45
One USB (future use)
One tri-color LED over façade for AP status

LED Indicators
One tri-color LED for AP status

Mounting
Wall mount: junction box wall mount bracket included

Dimensions
AP122: 5.51" x 5.35" x 1.18" (14.0 cm x 13.6 cm x 3.0 cm)

Environmental
Operating temperature: 32˚ F to 104˚ F (0˚ C to 40˚ C)
Operating humidity: 5 to 95% (non-condensing)
Storage temperature: -40˚ F to 185˚ F (-40˚ C to 70˚ C) ambient
Storage humidity: 5 to 95% (non-condensing)

AP122 REGULATORY COMPLIANCE
Unintentional Radiation Compliance Requirements
FCC Part 15.107 - 47CFR15.107 October 1, 2008 Class B
FCC Part 15.109 - 47CFR15.109 October 1, 2008 Class B

ICES-003 Class B – issue 4, February 2004
EN 301 489-1
EN 301 489-17
EN55022 Class B – 2006
EN55024 / AS/NZS CISPR 24 / Immunity
EN61000-4-2,3,4,5,6
Japan VCCI Class B
EN60601-1-2

Radio Compliance Requirements
FCC Part 15.247 - 47 CFR Ch. I (10–1–00 Edition)
FCC Part 15.407 - 47 CFR15.407 October 1, 2008
RSS-210 Issue 8, December 2010
RSS-210 W52, W53 and W56
EN 300 328 v1.7.1 (2006-05)
EN 301 893 V1.7.1 (2008-12)
Japan Radio Law 38-24-1 (Ninsho) - WW 2.4 GHz band
Japan Radio Law 38-24-1 (Ninsho) - XW 5.3 GHz band and YX 5.6 GHz band

Safety Compliance Requirements
UL 60950-1, 2nd Edition, 2011-12-19
CSA C22.2 No. 60950-1-07, 2nd Edition, 2011-12
EN 60950-1:2006+A11:2009+A1:2010+A12:2011
IEC 60950-1(ed. 2), IEC 60950-1(ed. 2);am1

Environmental Compliance Requirements
ROHS, Directive 2011/65/EU (RoHS 2)
WEEE, Directive 2012/19/EU
REACH, Regulation (EC) No 1907/2006

Ethernet Standards
Ethernet IEEE 802.3
Power Over Ethernet IEEE 802.3at PD
Power Over Ethernet IEEE 802.3af PSE
Wireless IEEE 802.11a/b/g/n/ac

CERTIFICATION PENDING
Wi-Fi Certification pending – IEEE Std 802.11a/b/g/n/ac

WARRANTY
Limited lifetime warranty

PART NUMBER
AP122: 802.11ac 2x2:2 dual radio, dual concurrent wall plate access point

MERU®

Meru delivers an all-wireless network that fully supports the enterprise, delivering a consistent, interactive experience for all users. No matter what applications they are running. No matter how many other users are on the network. For more information, visit **www.merunetworks.com** or email your questions to: meruinfo@merunetworks.com.

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