Datasheet

Intelligent WiFi AP, Router & Hotspot

CableFree 802.11ac WiFi AP-Hotspot

Overview

About Wireless Excellence

Founded in 1996 and with headquarters in Oxford UK, Wireless Excellence Limited is a leading designer and supplier of outdoor and indoor Broadband Wireless communication products.

With a complete range of solutions including Radio, Microwave, Millimeter-Wave, Free Space Optics, WiFi and 4G/5G/LTE, customers in over 80 countries have chosen Wireless Excellence as the "one stop shop" solution of choice for dependable wireless networking.

About Our WiFi Range

Our 802.11ac WiFi AP-Router & Hotspot product line is purpose-built to deliver robust, reliable connectivity. Wireless Excellence innovation provides WiFi coverage with integrated IP Router & Hotspot functions to provide private and public wireless network connectivity for indoor or outdoor applications.

Our radio & IP router technology provides best-in-class wireless performance and a rich feature set to enable sophisticated WiFi networks for corporate, service provider and WISP applications

Note: Due to policy of continuous product improvement, product specifications may change without notice

System Features

- All-in-one 802.11ac WiFi AP including Router & Hotspot
- Operates in 2.4 and/or 5.1-5.8GHz bands
- Single or Dual Radio options
- Built-in Authentication & Logon pages
- Tiered services for different classes of user
- Indoor or outdoor-grade versions

Applications

- Large-scale WiFi deployments for campus, education, corporate, sports stadium, healthcare, public wifi
- Hotspots for Hotels, Cybercafé, Coffee bars, Airports
- Hotspot overlay for Wireless ISP
- Internet access at conferences, sports, public or special events
- Fast Roll-out & Temporary Deployment

Accessories

Antennas	Wide range of Directional, Sectored and Omnidirectional antennas available
Radio Cards	2nd radio card for resilience, high throughput, and backhaul or hotspot applications
3G/4G/LTE Uplink	Optional add-in 3G/4G/LTE modem allows "off net" backhaul connection via cellular network
O/S Software	Higher level functions for Public Wireless LAN, Hotspot, etc
Mounting Brackets	Wall, Pole, Tower or Tripod mount options available
Management Suite	Full range of solutions including SNMP, Windows GUI, SSH, Telnet

Powerful Wireless AP & Router Platform

Wireless Excellence WiFi AP-Hotspots are high quality enterprise-grade WLAN components. These products embody powerful carrier-class routers with advanced features giving major advantages over conventional wireless bridges or access points. Such features include:

- High Performance CPU
- IP Bridging
- Layer3 IP Routing
- Optional Layer2 Mesh feature for in-building Mesh network extensions
- Access Point, Client/CPE and Bridge Modes
- WISP & hotspot –specific features including Walled Garden, Cookies, RADIUS authentication, accounting, control of connection time
- Centralised or Localised Hotspot features
- Multiple SSID's & VLAN/tunnels to support WISP, 3G & LTE-offload applications
- Uplink and downlink bandwidth control on a per-user basis
- DHCP Client and Server
- Network Address Translation (NAT), Advanced Firewall Features
- Border Gateway Protocol (BGP) , OSPF, MPLS
- Ethernet-over-IP (EoIP) & Secure Tunnel Features
- Virtual Router Redundancy Protocol (VRRP)
- Cloud Management Features

Enhanced Wireless Performance

CableFree IEEE 802.x WiFi AP-hotspots offer major advantages over 'off-the-shelf' WiFi products. Examples are:

- Highly configurable – up to 2 radio cards – 'mix and match' 2.4/5GHz
- Up to 867Mbps raw data rate using 802.11ac 2x2 technology
- OFDM Software-defined radio – 'state-of-the art' radio using powerful DSP technology
- Inbuilt Layer2 Mesh feature for connecting between radios without need for fixed/wired infrastructure – for example, between floors of building, across streets, etc
- Sophisticated RadioOS software platform
- Hotspot features including Radius authentication and per-user bandwidth controls

Optional 3G/LTE Modem for "Off-Net" backhaul over Cellular Networks

With this option a 3G/4G/LTE modem module is integrated within the WiFi Hotspot devices which enables connection through a cellular network. The product has a slot for a SIM card which is required with adequate GB/month data tariff for all expected usage. Operates in regions where there is 3G or LTE coverage only. Wireless Excellence can advise on options and suitability for sites.

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Specifications

System Variant	WIFI-AC-HS-ID-X (indoor version), WIFI-AC-HS-OD-X (outdoor version)
Performance	
Range	Up to 500m outdoors, 100m indoors depending on antennas
Bandwidth	Up to 867Mbps using 2x2 MIMO modes
Power Consumption	10W; 48V fed from Power-over-Ethernet injector; 115/230Vac; optional Uninterruptible Power Supply (UPS)
Operating Temperature	-20...+60 deg C
Wireless	
Frequency	2.4GHz: 2.412-2.472 (5 MHz step, channels 1-13), 2484 (channel 14) 2.512-2.732 (20 MHz step, channels 15-26) - optional license required. Note 802.11n in 2.4GHz 5GHz: 5.150-5.350 (5 MHz step) 5.725-5.825 (5 MHz step) 5.47-5.725 GHz - optional license required. Please contact CableFree for further details.
Radio Type	Direct Sequence Spread Spectrum (DSSS)
Modulation	2.4GHz: CCK (11, 5.5Mbps), DQPSK (2Mbps), DBPSK (1Mbps); OFDM 5GHz: OFDM (BPSK, QPSK, 16-QAM, 64-QAM)
Operation Channels	13
RF Output Power (dBm) – adjustable under software control	2.4GHz-b: 1Mbit 23; 11Mbit 23, 2.4GHz-g: 6Mbit 25; 54Mbit 21 2.4GHz-n: MCS0 20MHz 23; MCS0 40MHz 21; MCS7 20MHz 20; MCS7 40MHz 20 5GHz-a: 6Mbit 21; 54Mbit 19, 5GHz-n: MCS0 20MHz 21/19; MCS0 40MHz 19; MCS7 20MHz 16; MCS7 40MHz 13,
Sensitivity (dBm) @FER=0.08:	2.4GHz-b: 1Mbit -95/-94; 11Mbit -92; 2.4GHz-g: 6Mbit -95/-94; 54Mbit -80 2.4GHz-n: MCS0 20MHz -95/-94; MCS0 40MHz -91; MCS7 20MHz -77; MCS7 40MHz -74 5GHz-a: 6Mbit -97/-95; 54Mbit -80/-79, 5GHz-n: MCS0 20MHz -97/-95; MCS0 40MHz -93/-91; MCS7 20MHz -78/-76; MCS7 40MHz -75/-73
Radio Data Rate	2.4GHz-b: 11, 5.5, 2, 1 Mbps, auto-fallback, 2.4GHz-g (Normal mode): 54, 48, 36, 24, 18, 12, 11, 9, 6, 5.5, 2, 1 Mbps, auto-fallback, 2.4GHz-g (Turbo mode): 2.4GHz-n-20MHz: 65Mbps, 72.2Mbps, 130Mbps, 144.4Mbps 2.4GHz-n-40Mhz: 135Mbps, 150Mbps, 270Mbps, 300Mbps 5GHz: 54, 48, 36, 24, 18, 12, 9, 6 Mbps, 5GHz-n-20MHz: 65Mbps, 72.2Mbps, 130Mbps, 144.4Mbps, 5GHz-n-40Mhz: 1Nss: 135Mbps,150Mbps, 270Mbp, 300Mbps, 867Mbps
Compatibility	Fully interoperable with IEEE 802.11a/b/g/n/ac compliant products
Radio Architecture	Support ad-hoc, peer-to-peer networks and infrastructure communication to wired Ethernet networks via Access Point
Security	64/128-bit WEP data encryption; WPA; Proprietary mode
Router Platform	
CPU	High Performance embedded CPU 500-700MHz; 256MB SRAM; 64MB FLASH
System Software	RadioOS 8.1; Choice of license levels 1-6; Remotely Upgradeable via TFTP
Management	Local and Remote configuration, control and administration via RS232, Telnet, HTTP, SNMP and Proprietary protocols
Resilience Features	Virtual Router Redundancy Protocol (VRRP) allows two complete WiFi units to be configured with one in 'hot standby' for high-availability applications
Mechanical	
Dimensions (mm)	200x112x32mm (indoor version), 180x130x60mm (outdoor version)
Connectors	External: RF: Reverse SMA; 10/100 Ethernet with auto MDI/MDIX: RJ45, optional 10/100/1000 Ethernet. Optional POE 802.3af standard or proprietary options Internal: RS232 console: DB9
Environmental	IP54 (indoor version), IP67 (outdoor version)
Weight	500g (indoor version), 2kg (outdoor version)

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