

5 GHz 802.11a/n Outdoor CPE Model:WLAN-LCCPE516-1

Features

- IP55 Rated Enclosure
- IEEE 802.11a/n Compliant
- Adjustable output power
- Up to 40dBm total output power (EIRP)
- Selectable 2x2 MIMO RF output



Applications

- Special Events-Conventions, where bandwidth is a problem
- Parks& Recreation-For local & long distance backhaul flexibility
- Residential-Where DSL or Cable is unavailable
- Campuses- Can provide efficient secure connections



Description

Today's wireless market, more specifically the outdoor wireless market, continues to demand higher transmit power, greater dependability and advanced feature sets, all while keeping the client-side cost down. The WLAN-LCCPE516-1 was developed for the unlicensed 5.8 GHz ISM band. The WLAN-LCCPE516-1 is an all-in-one cost-effective, weatherproof wireless device featuring high output power as well as all the essential features for both operating as an Access Point or a CPE Client. This dual approach offers greater flexibility and reduced inventory stock as this unit can perform all that is required for establishing reliable wireless networks. The WLAN-LCCPE516-1 is unique in that it includes a dual-polarity 16 dBi directional antenna for any point-to-point connection and when more power or coverage is required you can bypass the integrated antenna and connect a higher gain antenna to its (2) RP-SMA Jack connectors.

Dependability

The WLAN-LCCPE516-1 is weatherproof and will meet a minimum of an IP55 rating to ensure that the high performance electronics remain protected from dust and water and thus providing years of trouble-free service. Without sacrificing water tightness, it provides easy access to the PoE connection as well as a hardware reset button without the need for special tools or equipment. The LED status bar on the side of the unit aids in configuration, for added convenience.

Security

Security has always been a concern for wireless networks. Knowing this, the WLAN-LCCPE516-1 was developed with all the latest enhancements in wireless security but also with backwards compatibility to fit into pre-existing networks. The WLAN-LCCPE516-1 features WPA, WPA2, WPA-PSK, 802.1x as well as other security features to

best meet your specific needs. Not only does the CPE support impressive throughput but you can rest assured that your high speed data is secure as well.

Scalability

The WLAN-LCCPE516-1 product line was developed with scalability in mind since there is no such thing as a “one size fits all” product when it comes to outdoor wireless networking. In order to keep the client costs down the WLAN-LCCPE516-1 has an embedded antenna but also provides convenience and flexibility of two external antenna connectors should the circumstances require a higher gain or more specific antenna type than the one provided. WLAN-LCCPE516-1 has been developed around the 802.11a/n standard so that you can achieve maximum throughput without losing interoperability with other IEEE 802.11a/n products.

Available Operating Modes

Access Point (AP) Mode: Allows wireless equipment such as a Smart Phones or Laptops to be connected to a wired network. In this mode the CPE unit is typically is connected to a router on a wired network. Network/internet connectivity can then be provided to the wireless devices connected to the CPE unit. The CPE unit provides security features that allow only select wireless devices to connect to it.

Wireless Client Mode: In this mode the CPE unit connects to another active AP as if it was a wireless device like a Laptop. Once connected it can than provide network/internet connectivity to wired devices via its Ethernet port. This mode is ideal if you need to provide connectivity to devices without wireless functionality.

Bridge Mode: Wireless bridges are typically used to connect two or more network segments that are physically separated. Bridging mode is achieved by using Wireless Distribution System (WDS) settings in the CPE unit. This allows only the selected CPEs to communicate with each other and denies access to other wireless devices trying to access them. Bridges can be used in Point-to-Point or Point-to Multipoint applications. An example of a Point-to-Point bridge application is connecting two commercial buildings. An example of a Point-to-Multipoint application connecting is connecting multiple building on a college campus.

Repeater Mode: This mode is used to extend the range of an existing AP. This mode is also ideal when an obstruction is preventing wireless connectivity within a select area. Repeaters are commonly used when providing wireless connectivity to multi-story buildings and large homes.

Product Photos



Radio Specification				
Chipset Solution	RF: Atheros AR9280 NPU: AR7240			
Antenna – Default Configuration	16 dBi integrated directional antenna (dual polarity)			
External RF Connector	2 x RP-SMA Jack connectors			
Antenna Configuration	2 * 2 (2 Tx, 2 Rx)			
Memory	Flash	DDR		
	8 MB	32 MB		
Modulation	OFDM: BPSK, QPSK, 16-QAM, 64-QAM			
Available Data Rates (Mbps)	IEEE 802.11a – 54, 48, 36, 24, 18, 12, 9, 6			
	IEEE 802.11n (draft) – 135, 130, 121.5, 117, 108, 104, 81, 78, 65, 58.5, 54, 53, 40.5, 39, 27, 26, 19.5, 13.5, 13, 6.5, 6			
RF Frequency	USA (FCC)		Europe (ETSI)	
	5.725 GHz – 5.825 GHz		5.470-5.725 GHz / 5.725-5.825 GHz	
Average RF Output Power (± 1.5dB)* <i>*actual power may vary based on regulatory requirements</i>	802.11a	6-24 Mbps	24 \pm 1.5 dBm	
		36 Mbps	24 \pm 1.5 dBm	
		48 Mbps	22 \pm 1.5 dBm	
		54 Mbps	21 \pm 1.5 dBm	
	802.11n	HT20	MCS 0	23 \pm 1.5 dBm
			MCS 15	20 \pm 1.5 dBm
Receiver Sensitivity	802.11a		802.11n	
	6-24Mbps: ≤ -89 dBm	54 Mbps: ≤ -73 dBm	HT20/MCS0 ≤ -89 dBm	
Regulatory Compliance	FCC Part 15, CE EN300 328, EN301 489-1/17, EC60950			
Standards Compliance	IEEE 802.11a; IEEE 802.11n; IEEE 802.3u MDI / MDIX 10/100 Fast Ethernet			

Physical Specification	
Dimensions	111mm (L) x 256mm (W) x 48mm (H)
Enclosure	IP55 Rated Plastic

Electrical Specification	
Reset Button	Reset to factory default
Power Requirements	15 VDC @ 800mA (Switching)
PoE	Passive 15V PoE
Power Consumption	≤ 900 mA @ 15 VDC
LED Definition	Power: Green On = System On, Green Off = System Off Amber Blinking = Initializing
	LAN: Off = No Ethernet, On = Connection Established Blinking = Sending, Receiving
	WLAN (AP Mode) Off = WLAN Disabled, Green Blinking = Good Connection Yellow Blinking = Acceptable Quality, Red Blinking = Poor Connection Quality
	WLAN (Client Mode) Off = WLAN Disabled, Green Blinking = Good Connection Yellow Blinking = Acceptable Quality, Red Blinking = Poor Connection Quality

Environmental Specification	
Operating Temperature	-20°C ~ 70°C
Storage Temperature	-30°C ~ 80°C
Operating Humidity (non-condensing)	5 to 95 % RH
Green	RoHS Compliant

Internal Antenna Electrical Specification	
Antenna Shape	Patch Array
RF Frequency Band	4.9~5.9 GHz
Power Handling	2W
Impedance	50 Ohms
Return Loss	Less than -10 dB
Isolation	Less than -20 dB
Antenna Gain	Vertical Port Peak Gain: 14.4 dBi @ 5650 MHz (XZ Plane / E-Plane)
	Horizontal Port Peak Gain: 15.5 dBi @ 5650 MHz (YZ Plane / E-Plane)
Vertical Port HPBW	(YZ Plane / H-Plane) : 36° (XZ Plane / E-Plane) : 15°
Horizontal Port HPBW	(YZ Plane / E-Plane) : 38° (XZ Plane / H-Plane) : 17°

Firmware Specification				
Function		Detail	Default Setting	
Web Language		English	English	
Firmware Upgrade Method		Web upgrade via Ethernet or Wireless port / TFTP upgrade via Ethernet port		
Status		Information		
		Statistics for Wireless and Ethernet		
		Connection Status		
System	Basic Settings	Device Name	APXXXXXX	
		Country/Domain	USA FCC	
		Time NTP	Disable	
	IP Settings	IP Address assignment (DHCP/Manual)	DHCP / 192.168.1.1, DHCP is the default, however when server is not present the unit reverts to 192.168.1.1	
	RADIUS	Accounting and Authentication	Disabled	
Wireless	Basic Wireless Settings	Operation mode (AP / CPE)	AP	
		AP Mode Functions		
		1. SSID	Wireless	
		2. Hide SSID (enable/disable)	Disable	
		3. Channel Selection	149	
		4. Client Limitations (0~32)	32	
		5. Wireless Client Isolation (enable/disable)	Disable	
		6. Tx Flow Control (1~2400*64Kbps)	1687	
	Wireless Mode		802.11a/n	
	Data Rate Selection 6-54Mbps & MCS0-7		Best	
		Security Settings	<ul style="list-style-type: none"> ▪ Open System ▪ Shared Key (64/128/152-bits WEP) ▪ 802.1X Only ▪ WPA ▪ WPA2 ▪ WPA-PSK (TKIP) ▪ WPA2-PSK (AES) 	Open System
	Access Control	Allow / Deny STA List STA Flow control for allowed stations	Disable	

Firmware Specification			
Function	Detail	Default Setting	
System	Radio on / off	On	
	<ul style="list-style-type: none"> ▪ Allow / Deny Station List ▪ Station Flow Control for Allowed Stations Supports up to 32 stations	Disable	
	WMM Regatta Mode (enable/disable)	Disable	
	Output Power Control: Options (full, 50%, 25%, 12.5%, min)	Full	
	Fragmentation Length (256~2346)	2346	
	Beacon Interval (20~10000ms)	100	
	RTS/CTS Threshold (0~2346)	2346	
	DTIM Interval (1-255)	255	
	Space-In-Meters	--	
	Channel Bandwidth	20 MHz	
	HT Protect	Disable	
	A-MPDU Aggregation	Enable	
	A-MSDU Aggregation	Disable	
	Short GI	Enable	
	IGMP Snooping	Enable	
	Preamble Type	Short	
	Extension Channel Protection	None	
	Link Integration	Disable	
	RIFS	Enable	
Management	Password	Change Password	Password
	Remote Management	Embedded Web Configuration Management	Enable
		Telnet support (password-protected telnet access to internal configuration manager)	Enable
		SNMP Management	Enable
		FTP	--
Configuration	<ul style="list-style-type: none"> ▪ Allow / Deny Station List ▪ Reset to factory default ▪ Reboot 	--	
Tools	Event Log	--	--
	Site Survey	--	--

Warranty Information	
Time Covered	1 Year from time of purchase
Term	Repair or Replacement