

# APE 5800i

## 5.0GHZ 2T2R HIGH POWER WIRELESS OUTDOOR CPE



### OVERVIEW

The APE 5800i is an integrated wireless access point that supports the 802.11a/n wireless standard. Capable of fast and reliable speeds of up to 300Mbps, the APE 5800i is a Single Band Point to Point Wireless Access Bridge which focuses more on the 5.0GHz band rather than its 2.4GHz counterpart. This integrated point to point wireless access point allows for more speed and more reliability due to its less congested, and highly efficient frequency band.

The APE 5800i provides a wide range of 5.0GHz outdoor coverage. This allows you to maximize wide distances without experiencing interferences commonly encountered in its 2.4GHz counterpart. Through the APE 5800i, adding new area coverages can easily be handled (e.g establishing connectivity to a new building).

Like all provided Point to Point Wireless Bridges in the Wireless Access Point Solution, the APE 5800i can easily be deployed due to its passive Power over Ethernet (PoE) support which allows you to place and install this device in various optimal locations without minding the power outlet's location. In addition, this device has been aesthetically designed with a flexible mounting kit (through steel cable tie) which allows this device to fit indoor environments such as offices, hotels, classrooms, and other similar environments.

Features	Additional Information
<b>Chipset Solution</b>	<ul style="list-style-type: none"> <li>CPU: AR9342</li> <li>RF: AR9342</li> </ul>
<b>SPI Flash</b>	16Mbyte
<b>Memory (DDR II)</b>	64Mbyte
<b>Standard Compliance</b>	<ul style="list-style-type: none"> <li>IEEE802.3u MDI / MDIX 10/100 Fast Ethernet</li> <li>IEEE802.11a/n wireless LAN interface</li> <li>IEEE 802.11n wireless LAN standard</li> </ul>
<b>Power Input Requirement</b>	<ul style="list-style-type: none"> <li>Passive PoE 15V</li> <li>Pin 4,5 VDC+</li> <li>Pin 7,8 VDC-</li> </ul>
<b>Ethernet PHY</b>	10/100 Mbps
<b>Antenna</b>	Internal 13 dBi directional antenna (Vertical, Horizontal)
<b>Antenna Frequency Band</b>	5470-5725 : 5.725~5.850 GHz
<b>Vertical Port HPBW</b>	(XY Plane /H-Plane): 67° ; (XZ Plane /E-Plane): 15°
<b>Horizontal Port HPBW</b>	(XY Plane /H-Plane): 87° ; (XZ Plane /E-Plane): 20°
<b>Antenna Configuration</b>	2 * 2 (2 Tx,2 Rx)
<b>LAN port</b>	1port
<b>Reset Button</b>	Reset to factory default
<b>Ground</b>	Ground terminal x1
<b>System Update Capability</b>	<ul style="list-style-type: none"> <li>Support Web-UI upgrade via Ethernet port or wireless network</li> <li>Support TFTP upgrade via Ethernet port</li> </ul>
<b>LED</b>	<ul style="list-style-type: none"> <li>Power (Single-color LED x1) <ul style="list-style-type: none"> <li>» Green On: Power / system on</li> <li>» Green Off: power / system off</li> </ul> </li> <li>LAN (Single-color LED x1) <ul style="list-style-type: none"> <li>» Off: No Ethernet connection detected</li> <li>» Green On: Ethernet connection detected</li> <li>» Green Blinking: Sending / receiving data</li> </ul> </li> <li>5.0GHz WLAN (Single-color LED x1) <ul style="list-style-type: none"> <li>» Green Off: WLAN disabled</li> <li>» Green On: WLAN enable</li> <li>» Green Blinking: WLAN data transmit</li> </ul> </li> <li>Signal *3 (Single-color LED x3) <ul style="list-style-type: none"> <li>» Excellent: 3 LED Green ON</li> <li>» Good: 2 LED Green ON</li> <li>» Weak: 1 LED Green ON</li> </ul> </li> </ul>
<b>Data Rate</b>	<ul style="list-style-type: none"> <li>11a: 54M, 48M, 36M, 24M, 18M, 12M, 9M, 6Mbps auto fallback</li> <li>11n: HT20 MCS0~15, HT40 MCS0~15</li> </ul>
<b>Data modulation type</b>	<ul style="list-style-type: none"> <li>DSSS/BPSK/QPSK/CCK/DQPSK/DBPSK</li> <li>802.11a: OFDM</li> <li>802.11n: OFDM</li> </ul>

- RF Frequency Range**
- FCC : 5725-5850 MHz
  - CE: 5470-5725 MHz (DFS band)

<b>Power Consumption (W)</b>	<12W		
<b>Average Output Power @ 25°C (Single Chain) (± 2dBm)</b>	802.11a	6, 9, 12, 18, 24Mbps	23dBm
		36Mbps	22dBm
		48, 54Mbps	21dBm
	802.11an At HT20	MCS0, MCS8	24dBm
		MCS1, MCS2, MCS3, MCS9, MCS10, MCS11	23dBm
		MCS4, MCS12	22dBm
		MCS5, MCS13	21dBm
		MCS6, MCS7, MCS14, MCS15	20dBm
	802.11an At HT40	MCS0, MCS8	21dBm
		MCS1, MCS2, MCS3, MCS9, MCS10, MCS11	21dBm
		MCS4, MCS12	21dBm
		MCS5, MCS13	21dBm
		MCS6, MCS7, MCS14, MCS15	20dBm

<b>Sensitivity (at single chain)</b>	Mode	11a	11n HT20	11n HT40
	6Mbps		≥ -89	
9Mbps		≥ -88		
12Mbps		≥ -85		
18Mbps		≥ -83		
24Mbps		≥ -80		
36Mbps		≥ -76		
48Mbps		≥ -71		
54Mbps		≥ -70		
MCS 0/8			≥ -83	≥ -80
MCS 1/9			≥ -80	≥ -77
MCS 2/10			≥ -78	≥ -75
MCS 3/11			≥ -75	≥ -72
MCS 4/12			≥ -71	≥ -68
MCS 5/13			≥ -67	≥ -64
MCS 6/14			≥ -66	≥ -63
MCS 7/15			≥ -65	≥ -62

## Firmware Specifications (FAT AP Mode)

<b>Web Language</b>	English/Chinese	English
<b>Status</b>	<ul style="list-style-type: none"> <li>Information</li> <li>Connections</li> <li>Statistics</li> <li>ARP Table</li> <li>Bridge Table</li> <li>DHCP Client List</li> <li>Network Activity</li> </ul>	
<b>System</b>	<b>Basic Settings</b>	<ul style="list-style-type: none"> <li>Device Name: apXXXXXX</li> <li>Country/Region: United States</li> <li>Device Mode</li> </ul>
	<b>Network Settings</b>	<ul style="list-style-type: none"> <li>Network Mode: Bridge</li> <li>Spanning Tree: Enable</li> <li>STP Forward Delay: 1 (second)</li> <li>Enable 802.1Q VLAN: Disabled</li> <li>Management VLAN ID: 0</li> <li>WAN Access Type: Static                             <ul style="list-style-type: none"> <li>» Static IP</li> <li>» DHCP Client</li> <li>» PPPoE</li> </ul> </li> <li>WAN IP Address: Manual, 192.168.0.99</li> <li>LAN Access Type: Static                             <ul style="list-style-type: none"> <li>» Static IP</li> <li>» DHCP Client</li> </ul> </li> <li>LAN IP Address: Manual, 192.168.1.1</li> <li>DHCP Server: Disabled</li> <li>DHCP Relay: Disabled</li> </ul>
	<b>Time Setting</b>	<ul style="list-style-type: none"> <li>Current Time</li> <li>Time Zone Select: GMT</li> <li>Enable NTP client update: Disabled</li> </ul>
	<b>RADIUS Settings</b>	<ul style="list-style-type: none"> <li>IP Address of Authentication RADIUS Server: 0.0.0.0</li> </ul>
	<b>Firewall Setting (Router Mode Only)</b>	<ul style="list-style-type: none"> <li>Src IP Filtering</li> <li>Dest IP Filtering</li> <li>Src Port Filtering</li> <li>Dest Port Filtering</li> <li>Port Forwarding</li> <li>UDP Pass-through</li> <li>DMZ</li> </ul>
<b>Wireless</b>	<b>Basic Wireless Settings</b>	<ul style="list-style-type: none"> <li>Disable Wireless LAN Interface: 20MHz</li> <li>Operation Mode</li> <li>AP Mode Function:                             <ul style="list-style-type: none"> <li>» SSID: Wireless</li> <li>» Broadcast SSID: Enabled</li> <li>» 802.11 Mode: 802.11a/n</li> <li>» HT Protect: Disabled</li> <li>» Frequency/Channel: 5745MHz (149)</li> <li>» Extension Channel: None</li> <li>» Channel Model: 20MHz                                     <ul style="list-style-type: none"> <li>» 20MHz</li> <li>» 40MHz</li> </ul> </li> <li>» Maximum Output Power</li> <li>» Data Rate: Full</li> <li>» Channel Protection: Auto                                     <ul style="list-style-type: none"> <li>» None</li> <li>» CTS to self</li> <li>» RTS-CTS</li> </ul> </li> </ul> </li> <li>Wireless Client Mode Function:                             <ul style="list-style-type: none"> <li>» SSID: Wireless</li> <li>» Lock AP MAC: Disabled</li> <li>» 802.11 Mode: 802.11a/n</li> <li>» Channel Model: 20MHz                                     <ul style="list-style-type: none"> <li>» 20MHz</li> <li>» 40MHz</li> </ul> </li> <li>» Maximum Output Power: Full</li> <li>» Channel Protection: None                                     <ul style="list-style-type: none"> <li>» None</li> <li>» CTS to self</li> <li>» RTS-CTS</li> </ul> </li> <li>» Enable MAC Clone: Disabled</li> </ul> </li> </ul>

SPECIFICATIONS MAY CHANGE WITHOUT PRIOR NOTICE

	<ul style="list-style-type: none"> <li>• Bridge Mode Function:               <ul style="list-style-type: none"> <li>» 802.11 Mode 802.11a/n</li> <li>» Frequency/Channel 5745MHz (149)</li> <li>» Extension Channel None</li> <li>» Channel Model 20MHz                   <ul style="list-style-type: none"> <li>» 5MHz</li> <li>» 10MHz</li> <li>» 20MHz</li> <li>» 40MHz</li> </ul> </li> <li>» Maximum Output Power (per chain) Full (24dBm)</li> <li>» Data Rate Auto</li> <li>» Extension channel protect mode None                   <ul style="list-style-type: none"> <li>» None</li> <li>» CTS to self</li> <li>» RTS-CTS</li> </ul> </li> </ul> </li> </ul>
	<ul style="list-style-type: none"> <li>• AP Repeater Mode Function:               <ul style="list-style-type: none"> <li>» SSID Wireless</li> <li>» Broadcast SSID Enable</li> <li>» 802.11 Mode 802.11a/n</li> <li>» HT Protect Disabled</li> <li>» Frequency/Channel 5745MHz (149)</li> <li>» Extension Channel None</li> <li>» Channel Model 20MHz                   <ul style="list-style-type: none"> <li>» 5MHz</li> <li>» 10MHz</li> <li>» 20MHz</li> <li>» 40MHz</li> </ul> </li> <li>» Maximum Output Power (per chain) Full</li> <li>» Date Rate Auto</li> <li>» Extension channel protect mode None                   <ul style="list-style-type: none"> <li>» None</li> <li>» CTS to self</li> <li>» RTS-CTS</li> </ul> </li> </ul> </li> </ul>
<b>Profile Settings</b>	<ul style="list-style-type: none"> <li>• VAP Profile Settings (up to 16 profiles) Disabled</li> <li>• Enable 802.1Q VLAN               <ul style="list-style-type: none"> <li>» Management VLAN ID 0</li> </ul> </li> </ul> <p>In Each Profile:</p> <ul style="list-style-type: none"> <li>• Basic Settings               <ul style="list-style-type: none"> <li>» Profile Name Profile1~16</li> <li>» SSID Wireless</li> <li>» Broadcast SSID Enabled</li> <li>» Wireless Separation Disabled</li> <li>» WMM Enabled</li> <li>» Station Number Limitation Disabled</li> <li>» Max. Station Num 32</li> </ul> </li> <li>• Security Settings Open System               <ul style="list-style-type: none"> <li>» Open System</li> <li>» Shared Key(64/128/152-bits WEP)</li> <li>» Legacy 802.1X</li> <li>» WPA</li> <li>» WPA2</li> <li>» WPA + WPA2</li> <li>» WPA-PSK(TKIP)</li> <li>» WPA2-PSK(AES)</li> <li>» WPA-PSK + WPA2-PSK</li> </ul> </li> </ul>
<b>Advanced settings</b>	<ul style="list-style-type: none"> <li>» A-MPDU Aggregation Enabled</li> <li>» A-MSDU Aggregation Disabled</li> <li>» Short GI Enabled</li> <li>» RTS Threshold (0~2347) 2347</li> <li>» Fragmentation Length(256~2346) 2346</li> <li>» Beacon Interval(20~10000ms) 100</li> <li>» DTIM Interval (1-255) 1</li> <li>» Preamble Type Auto</li> <li>» IGMP Snooping Enabled</li> <li>» Distance 1000 (m)</li> <li>» Channel Protection (None/CTS to self/RTS-CTS) None</li> </ul>

	<b>Access Control</b>	Support up to 32 MAC addresses for each profile with modes below: » Disable » Allow Listed » Deny Listed	Disabled
	<b>Traffic Shaping</b>	<ul style="list-style-type: none"> <li>Overall Traffic Shaping           <ul style="list-style-type: none"> <li>» Incoming Traffic Limit</li> <li>» Incoming Traffic Burst</li> <li>» Outgoing Traffic Limit</li> <li>» Outgoing Traffic Burst</li> </ul> </li> <li>VAP Traffic Shaping (per VAP profile)           <ul style="list-style-type: none"> <li>» Outgoing Traffic Limit</li> <li>» Outgoing Traffic Burst</li> </ul> </li> </ul>	Disabled  Disabled
<b>Management</b>	<b>Remote Management</b>	<ul style="list-style-type: none"> <li>Embedded Web Configuration Interface           <ul style="list-style-type: none"> <li>» HTTP</li> <li>» HTTPS</li> <li>» SSL</li> </ul> </li> </ul>	HTTP
		<ul style="list-style-type: none"> <li>Remote Console           <ul style="list-style-type: none"> <li>» Telnet</li> <li>» SSH</li> <li>» FTP</li> </ul> </li> </ul>	Telnet
		<ul style="list-style-type: none"> <li>SNMP Management           <ul style="list-style-type: none"> <li>» V1 (RFC 1157)</li> <li>» V2c (RFC 2011-2013)</li> <li>» V3 (RFC 2571-2576)</li> <li>» SNMP trap transmit</li> </ul> </li> </ul>	V2
	<b>Configuration Management</b>	Capability to store configuration backup  <ul style="list-style-type: none"> <li>Configuration changes via:           <ul style="list-style-type: none"> <li>» Local command line</li> <li>» Remote command line (SSH)</li> <li>» 3oad config file</li> <li>» Web interface</li> </ul> </li> <li>Configuration to Restore factory (or service provider) defaults via:           <ul style="list-style-type: none"> <li>» Web</li> <li>» Push button</li> </ul> </li> </ul>	
		FTP	Enabled
		WISE (Windows-based Utility Software)	Disabled
		CPE Management	
	<b>Firmware Upload</b>	Upgrade Device's Firmware	
	<b>Configuration File</b>	<ul style="list-style-type: none"> <li>Backup and Restore Configuration</li> <li>Reset Settings to Factory Default</li> <li>Reboot Device</li> </ul>	
	<b>Password Settings</b>	Change Password	password
	<b>Certificate Settings</b>	Import / Delete User's Certificate Files for Wireless Client Mode's User Authentication (802.1X, WPA, or WPA2)	
<b>Tools</b>	<b>System Logs</b>	Syslog (RFC 3164) Support	Disabled
	<b>Site Survey</b>	Wireless Network (AP) Scan Tool	
	<b>Ping Watchdog</b>	<ul style="list-style-type: none"> <li>Enable Ping Watchdog</li> <li>IP Address to Ping</li> <li>Ping Interval</li> <li>Startup Delay</li> <li>Failure Count To Reboot</li> </ul>	Disabled 0.0.0.0 300 Seconds 100 Seconds 300

## Firmware Specifications ((AC & Thin AP Mode)

**Web Language** English/Chinese English

- Status**
- AC Information
  - Wireless Network [List]
  - Managed aps [List]
  - Clients [List]

<b>Wireless Settings</b>	<b>Managed AP settings</b>	<p>Wireless Network Name (SSID) Settings, up to 8 SSID profiles can be activated. In Each Profile:</p> <ul style="list-style-type: none"> <li>• Basic Settings                             <ul style="list-style-type: none"> <li>» SSID Wireless Profile1 ~ 8</li> <li>» Description Enabled</li> <li>» Broadcast SSID Disabled</li> <li>» Wireless Separation Enabled</li> <li>» WMM Enabled</li> <li>» Station Number Limitation Disabled</li> <li>» Max. Station Num 32</li> </ul> </li> <li>• Security Settings                             <ul style="list-style-type: none"> <li>» Open System Open System</li> <li>» Shared Key (64/128/152-bits WEP)</li> <li>» Legacy 802.1X</li> <li>» WPA</li> <li>» WPA2</li> <li>» WPA + WPA2</li> <li>» WPA-PSK(TKIP)</li> <li>» WPA2-PSK(AES)</li> <li>» WPA-PSK + WPA2-PSK</li> </ul> </li> </ul>
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<b>Wireless Protocol</b>	<ul style="list-style-type: none"> <li>• Basic Settings                             <ul style="list-style-type: none"> <li>» Country Region United States</li> <li>» 802.11 Mode 802.11a/n</li> <li>» Data Rate Auto</li> </ul> </li> <li>• Advanced Settings                             <ul style="list-style-type: none"> <li>» A-MPDU Aggregation Enabled</li> <li>» A-MSDU Aggregation Disabled</li> <li>» Short GI Enabled</li> <li>» IGMP Snooping Enabled</li> <li>» RIFS Enabled</li> <li>» HT Protect Disabled</li> <li>» Preamble Type Auto</li> <li>» RTS Threshold(0~2347) 2347</li> <li>» Fragmentation Length(256~2346) 2346</li> <li>» Beacon Interval(20~10000ms) 100</li> <li>» DTIM Interval (1-255) 1</li> <li>» Extension Channel Protection None</li> <li>» Distance 1000 (m)</li> <li>» Link Integration Disabled</li> <li>» TDM Coordination Disabled</li> </ul> </li> </ul>
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<b>Access Control</b>	<ul style="list-style-type: none"> <li>• Support up to 32 MAC addresses for each profile with modes below: Disabled                             <ul style="list-style-type: none"> <li>» Disable</li> <li>» Allow Listed</li> <li>» Deny Listed</li> </ul> </li> </ul>
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<b>Traffic Shaping</b>	<ul style="list-style-type: none"> <li>• Overall Traffic Shaping Disabled                             <ul style="list-style-type: none"> <li>» Incoming Traffic Limit</li> <li>» Incoming Traffic Burst</li> <li>» Outgoing Traffic Limit</li> <li>» Outgoing Traffic Burst</li> </ul> </li> <li>• VAP Traffic Shaping (per VAP profile) Disabled                             <ul style="list-style-type: none"> <li>» 1. Outgoing Traffic Limit</li> <li>» 2. Outgoing Traffic Burst</li> </ul> </li> </ul>
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<b>Captive Portal</b>	<ul style="list-style-type: none"> <li>• Support CoovaChilli Access Controller (enable/disable per VAP profile) Disabled                             <ul style="list-style-type: none"> <li>» RADIUS Settings                                     <ul style="list-style-type: none"> <li>» Primary RADIUS Server</li> <li>» Secondary RADIUS Server</li> <li>» RADIUS Auth Port</li> <li>» RADIUS Acct Port</li> <li>» RADIUS Shared Secret</li> <li>» RADIUS NASID</li> </ul> </li> </ul> </li> </ul>
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		<ul style="list-style-type: none"> <li>• Captive Portal Settings               <ul style="list-style-type: none"> <li>» UAM Portal URL</li> <li>» UAM Secret</li> <li>» UAM Logout Domain</li> <li>» Enable Auto Config Portal</li> <li>» Auto Config Portal URL</li> <li>» Auto Update Time</li> </ul> </li> </ul>	
	<b>RADIUS Settings</b>	<ul style="list-style-type: none"> <li>• Radius sever IP address</li> <li>• Port</li> <li>• Shared Secret</li> <li>• Global-Key Update</li> <li>• Every (3600) seconds</li> </ul>	0.0.0.0
	<b>Firewall Setting (Router Mode Only)</b>	<ul style="list-style-type: none"> <li>• Src IP Filtering</li> <li>• Dest IP Filtering</li> <li>• Src Port Filtering</li> <li>• Dest Port Filtering</li> <li>• Port Forwarding</li> <li>• UDP Pass-through</li> <li>• DMZ</li> </ul>	
<b>Management</b>	<b>AP Management</b>	<ul style="list-style-type: none"> <li>• Management of Individual Thin APs               <ul style="list-style-type: none"> <li>» Restart</li> <li>» Rename</li> <li>» Set IP</li> <li>» Radio                   <ul style="list-style-type: none"> <li>» Channel Mode</li> <li>» Channel</li> <li>» Extension Channel</li> <li>» Output Power</li> </ul> </li> <li>» Upgrade Selected</li> <li>» upgrade All</li> </ul> </li> </ul>	20MHz 5745MHz (149) None Full
	<b>System Settings</b>	<ul style="list-style-type: none"> <li>• Device Settings               <ul style="list-style-type: none"> <li>» Device Mode</li> <li>» Device Name</li> <li>» Ethernet DateRate</li> <li>» Spanning Tree (STP)</li> <li>» STP Forward Delay</li> </ul> </li> <li>• IP Address Settings               <ul style="list-style-type: none"> <li>» (AC) Device's IP Address (Manual or DHCP, In DHCP mode, if DHCP server is not available, then use manually set IP address)</li> <li>» DHCP Server for configuring IP Addresses of Thin APs</li> </ul> </li> </ul>	apXXXXXX Auto Enable 1 (second) Manual, 192.168.1.1 Disabled
	<b>Time Settings</b>	<ul style="list-style-type: none"> <li>• Current Time</li> <li>• Time Zone Select</li> <li>• Enable NTP client update</li> </ul>	GMT Disabled
	<b>Firmware</b>	<ul style="list-style-type: none"> <li>• Upgrade AC FW</li> <li>• Upload TAP FW</li> <li>• Auto Upgrade TAP Firmware</li> </ul>	
	<b>Configuration File</b>	<ul style="list-style-type: none"> <li>• Backup and Restore Configuration</li> <li>• Reset Settings to Factory Default</li> <li>• Reboot Device</li> </ul>	
	<b>Account</b>	<ul style="list-style-type: none"> <li>• User name</li> <li>• New password</li> <li>• Confirm password</li> </ul>	
	<b>Password Settings</b>	<ul style="list-style-type: none"> <li>• Change Password</li> </ul>	password
	<b>Syslog Settings</b>	<ul style="list-style-type: none"> <li>• Enable log</li> <li>• Enable remote system log server</li> <li>• IP Address</li> <li>• Port</li> <li>• Seng via Email</li> <li>• Mail Server Settings</li> </ul>	Disabled Disabled
	<b>OEM Settings</b>	<ul style="list-style-type: none"> <li>• Logo File</li> <li>• Model Name</li> <li>• MAC Address</li> </ul>	
<b>Tools</b>	<b>Ping</b>	Perform ICMP 'ping' Test	
	<b>Trace Route</b>	Perform 'traceroute' Test	

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## Physical Specifications

**Dimension** 205mm(L)×64mm(W) ×61mm(H)**Weight** ≤500g**Enclosure** IP55

## Environmental Specifications

	Items	Device	Power Adapter
<b>Operating Temperature</b>		-20°C ~ +70°C	0°C ~+ 40°C
<b>Operating Humidity (non-condensing)</b>		10 to 95°C	20 to 85% RH
<b>Storage Temperature</b>		-40 ~ +70°C	-20 ~ +60°C
<b>Storage Humidity (non-condensing)</b>		10 to 95% RH	5 to 95% RH

## Safety/Country Approval

**FCC** Part15 sub B

Part15 sub C

**CE** EN300 328

EN301 489-1/17

EN60950

**CCC** For China