

ZN-1000-ZBS

Product Specification



IEEE 802.11 a/b/g/n Wireless Smart AP

2 Specification

2.1 Hardware Specification (Main Board + AHIC ANT Control Board)

Table 2-1 Hardware Specification of **Main Board**

Features	Additional Information			
Chipset Solution	CPU: AR9342 RF : AR9382 PHY: AR8035			
CPU	533MHz			
DDRII	64Mbyte			
FLASH	16Mbyte			
Ethernet PHY	10/100/1000Mbps			
LED definition	FUNCTION	COLOR	LIGHTS	DESCRIPTION
	System	Red	Blinking	System booting up
		Green	On	System is stable
	AC Mode	Yellow	Blinking	AC Mode is connecting
			On	AC Mode connected
	Smart ANT Functions	Blue	On	FAP Mode is stable
			Blinking	Training Tx Power
		Yellow	On	Training completed
N/A		Off	Smart Function Disabled	
Power supply	<ul style="list-style-type: none"> - Support POE 802.3 at - Support +48V PTE 			
Power requirement	<ul style="list-style-type: none"> - Output: +48V DC@0.83A - Input: 90~264V AC, 50/60Hz 			
Anti-static Grade	<ul style="list-style-type: none"> - Contact discharge: 6KV - Air discharge: 8KV 			
Surge Capacity	Ethernet: Line to Earth 2kv Line to Line 1kv			
Data Rate	<ul style="list-style-type: none"> - 802.11a: 6/9/12/18/24/36/48/54 Mbps & Auto fallback - 802.11b: 1/2/5.5/11 Mbps & Auto fallback - 802.11g: 6/9/12/18/24/36/48/54 Mbps & Auto fallback - 802.11n: 6/6.5/13/13.5/19.5/26/27/39/40.5/52/54/58.5/65/78/81/104/108/117/121.5/130/135/162/216/243/270/300Mbps 			
Data Modulation Type	IEEE 802.11a/b/g <ul style="list-style-type: none"> • DSSS (DBPSK, DQPSK, CCK) • OFDM (BPSK, QPSK, 16-QAM, 64-QAM) IEEE 802.11n <ul style="list-style-type: none"> • OFDM (BPSK, QPSK, 16-QAM, 64-QAM) 			
Current Consumption (Input 48V)	≤ 25.5W			

RF1 2.4GHz		
Output Power ¹ (802.11 b/g/n)	23 dBm	
Sensitivity	IEEE 802.11b	IEEE 802.11g
	-96 dBm @1Mbps -94 dBm @2Mbps -93 dBm @5.5Mbps -90 dBm @11Mbps	-94 dBm @6Mbps -93 dBm @9Mbps -90 dBm @12Mbps -88 dBm @18Mbps -85 dBm @24Mbps -81 dBm @36Mbps -76 dBm @48Mbps -75 dBm @54Mbps
	IEEE 802.11gn	
	HT20	HT40
	-94 dBm @MCS0/8 -89 dBm @MCS1/9 -87 dBm @MCS2/10 -84 dBm @MCS3/11 -80 dBm @MCS4/12 -76 dBm @MCS5/13 -75 dBm @MCS6/14 -74 dBm @MCS7/15	-91 dBm @MCS0/8 -86 dBm @MCS1/9 -84 dBm @MCS2/10 -81 dBm @MCS3/11 -77 dBm @MCS4/12 -73 dBm @MCS5/13 -72 dBm @MCS6/14 -71 dBm @MCS7/15
RF2 5.8GHz (2x External N-Type Connectors)		
Output Power	23 dBm	
Sensitivity	IEEE 802.11a	
	-94 dBm @6Mbps -93 dBm @9Mbps -90 dBm @12Mbps -88 dBm @18Mbps -85 dBm @24Mbps -81 dBm @36Mbps -76 dBm @48Mbps -75 dBm @54Mbps	
	IEEE 802.11an	
	HT20	HT40
	-94 dBm @MCS0/8 -89 dBm @MCS1/9 -87 dBm @MCS2/10 -84 dBm @MCS3/11 -80 dBm @MCS4/12 -76 dBm @MCS5/13 -75 dBm @MCS6/14 -74 dBm @MCS7/15	-91 dBm @MCS0/8 -86 dBm @MCS1/9 -84 dBm @MCS2/10 -81 dBm @MCS3/11 -77 dBm @MCS4/12 -73 dBm @MCS5/13 -72 dBm @MCS6/14 -71 dBm @MCS7/15

1. These are the Target Powers listed, the exact EMI Conducted Power will be set in the CTL Table of the radio (base on EMC regulation), and the driver will limit the output power according to the CTL Table, therefore at times the actual output power will be lower than the target power. For detailed CTL Table Settings, please contact our support engineers.

2.2 Firmware Specification

Table 2.2.1 Firmware Specification (Fat AP Mode)

Function Catalog	Detail Function	Default Settings	
General	System Information	Device Model Memory Capacity Memory Usage CPU Usage Flash Usage Device Temperature AP Uptime Ethernet Port Status	ZN-1000-ZBS 64M XX% XX% XX% XX°C X day X h Xm Xs Automatic
	Access Point Information	Access Point Name MAC Address Country / Region Firmware Version Hardware Version Boot loader Version Management VLAN ID	APXXXXXX XX:XX:XX:XX:XX:XX United States 1.0.1.8 2.0 1.0.3 0
	Current IP Settings	IP Type IP Address Subnet Mask Default Gateway	DHCP Client 192.168.1.1 255.255.255.0 0.0.0.0
	Current Wireless Settings	Operating Mode Channel / Frequency Security Profiles Profile 1~8	Access Point 6 / 2.437 GHz
Basic Setup	AP mode	1. Fat AP 2. Thin AP	Fat AP
	Username	Username	Admin
	Access Point Name	Access Point Name	APXXXXXX
	Ethernet Data Rate	Ethernet Data Rate	Automatic
	Link Integrity	Link Integrity	Disable
	QoS Class Mode	None Destination MAC Source MAC VLAN ID VLAN Priority Eth Type	None
	Network Mode	Bridge	DHCP Client
	Spanning Tree	Spanning Tree	Enable
	STP Priority	STP Priority	32768
	Management VLAN ID	Management VLAN ID	0
	IP Address	IP Address	192.168.1.1
	Subnet Mask	Subnet Mask	255.255.255.0
Default Gateway	Default Gateway	0.0.0.0	

	Primary DNS Server	Primary DNS Server	0.0.0.0
	Secondary DNS Server	Secondary DNS Server	0.0.0.0
RF Configure	Wireless Settings	Enable Radio Country /Region Operating Mode Wireless Mode Basic Speed Supported Speed Channel / Frequency Data Rate RTS Threshold (1-2346) Beacon Interval (20-1000) DTIM Interval (1-255) Preamble Type Channel Mode Short GI AMPDU AMSDU HT Protect MIMO Channel Protection Output Power Enable Auto Power Enable Auto Frequency Adjust Auto Chanel Adjustment Mode Auto Channel Adjustment Interval (60~96400) User Control Mode Max Station Number (1-255) Max Throughput (1-1000) Throughput Control Mode Max Sta Tx Throughput: (256-307200) Max Sta Rx Throughput: (256-307200)	Yes United States AP Mode 802.11b/g/n 1, 2, 5.5, 11 6, 9, 12, 18, 24, 36, 48, 54 6 / 2.437 GHz Auto 2346 100 1 Long 20MHz Yes Yes No No 2 No Protection 0.0 No No Start 3600 Disable 256 30 Disable 307200 307200
	Security Profiles	Profile Definition (1-8): Security Profile Name Wireless Network Name (SSID) Broadcast Wireless Network Name (SSID) WMM Support Max Sta. Tx Throughput (256-307200) Max Sta. Rx Throughput (256-307200) VAP Max Station Number (1-256)	Profile 1 Enable Profile 1 Wireless_2.4G Yes No 307200 307200 25

	<p>Network Authentication</p> <ul style="list-style-type: none"> • Open System • Shared Key • WPA-PSK • WPA2-PSK • WPA-PSK & WPA2-PSK • WAPI-PSK • WAPI Certificate <p>Data Encryption</p> <ul style="list-style-type: none"> • Passphrase • Key1 • Key2 • Key3 • Key4 <p>Wireless Client Security Separation</p> <p>Security Profile VLAN ID</p> <ul style="list-style-type: none"> - Profile 1~8 VLAN ID 	<p>Open System</p> <p>None N/A</p>
WDS Settings	<p>Operation Mode</p> <ul style="list-style-type: none"> • Wireless Separator • P2P Distance • CTS Timeout • ACK Timeout • Slot Time <p>Wireless Point-to-Multi-Point Bridge</p> <ul style="list-style-type: none"> - MAC Address <p>Add New Point-to-Multi-Point MAC Address Manually</p> <ul style="list-style-type: none"> - MAC Address 	<p>Access Point</p> <p>No Default 10000 10000 10000</p>
Radius Settings	<p>Authentication / Access Control</p> <p>Radius Server Configuration</p> <ul style="list-style-type: none"> - Primary <ul style="list-style-type: none"> • IP Address • Port Number • Shared Secret - Secondary <ul style="list-style-type: none"> • IP Address • Port Number • Shared Secret <p>Re-Authentication Time</p> <p>Global Key Update</p> <p>Accounting Radius Server Configuration</p> <ul style="list-style-type: none"> - Primary <ul style="list-style-type: none"> • IP Address • Port Number • Shared Secret - Secondary <ul style="list-style-type: none"> • IP Address • Port Number • Shared Secret 	<p>0.0.0.0 1812</p> <p>0.0.0.0 1812</p> <p>3600</p> <p>0.0.0.0 1813</p> <p>0.0.0.0 1813</p>

	<p>WAPI Settings</p> <p>WAPI Configurations</p> <ul style="list-style-type: none"> • WAPI AS IP Address • WAPI AS Port <p>WAPI Rekey Time</p> <ul style="list-style-type: none"> • WAPI Unicast Rekey Time • WAPI Multicast Rekey Time <p>Certification Information</p> <ul style="list-style-type: none"> • Certification Type • Certification Number • Certification Management 	<p>0.0.0.0</p> <p>3810</p> <p>86400</p> <p>86400</p> <p>X509</p> <p>Three Certifications</p>
Access Control	<p>Turn Access Control On</p> <p>Select Access Control Database</p> <p>Trusted Wireless Stations / Throughput</p> <p>Rejected Wireless Stations</p> <p>Available Wireless Stations</p> <p>Add New Station / Throughput Manually</p> <p>MAC Address / Throughput</p>	
Advanced Setup	<p>Device Time Settings</p> <p>Obtain correct time through time server</p> <p>Time Server Port</p> <p>Time Zone</p> <p>Time Setting</p> <p>Current Time</p> <p>Flow Balance Mode</p> <p>Basic User Number</p> <p>Basic Flow Flux</p> <p>Flow Balance Group</p> <p>User Number Interval</p> <p>Data Flux Interval</p> <p>Max Refuse Times</p> <p>Enable VoIP Control</p> <p>Max VoIPs Setting</p> <p>Enable Ping Test</p> <p>Ping IP Address</p> <p>Enable ART Test Mode</p> <p>Enable DHCP Snooping</p> <p>Enable IGMP Snooping</p> <p>Smart Function</p> <p>Training Time Interval</p> <p>Training Packet Number</p> <p>IGMP Proxy Mode</p> <p>Broadcast Storm Control</p> <p>Enable Refuse XDOS</p> <p>VAP Isolation</p> <p>Auto Reboot Mode</p>	<p>No</p> <p>123</p> <p>(GMT+08:00)</p> <p>Disable</p> <p>No</p> <p>No</p> <p>No</p> <p>No</p> <p>No</p> <p>No</p> <p>No</p> <p>No</p> <p>No</p> <p>No</p> <p>Yes</p> <p>300000</p> <p>350</p> <p>Disable</p> <p>No</p> <p>No</p> <p>Yes</p> <p>Disable</p>

Management	Management Control	Turn Management Control On Add New Address New IP Address	Off N/A
	Remote Settings	SNMP SNMP Trap Server IP Trap Server2 IP Trap Server Port Read Community Write Community SSH Auto Configure Enable Auto Configure Server IP Address Username Password Configure File Name Configure interval	Enable 192.168.0.254 192.168.0.253 162 Public Private Enable Disable
	Change Password	Current Password New Password Repeat New Password Restore Default Password	N/A
	Upgrade Firmware	Upgrade Firmware	
	Backup / Restore	Back up a copy of the current settings to a file Retrieve backed up settings from file Restore factory default settings	
	Ping	Ping test Ping Result	N/A
	Reboot	Reboot Access Point	No
	QoS Map	Enable QoS Mapping Voice Video Background Best Effort	No Priority 4 (high) Priority 3 Priority 2 Priority 1 (low)
Firewall	Firewall Settings	Open Firewall (Firewall master switch) The Default rule is set By default, all packets are allowed to pass through this router By default, all packets are prohibited to pass through this router Open IP address filtering Open MAC address filtering	Off
	IP Filter	Firewall function IP address filtering function The default filter rules	Disabled Disabled Accept all

		The current IP address filtering list	N/A
	MAC Filter	Firewall function MAC address filtering function The default filter rules Current MAC address filtering list	Disabled Disabled Accept all N/A
Information	SysLog	Enable SysLog Syslog Server IP Address Syslog Server IP Address2 Syslog Server Port Number	Disable
	Station List	Station List	N/A
	Statistics	Wired Ethernet Wireless	N/A
	Scan	Enable Adjacent AP/STA Scan Dedicated MODE-One-Shot Dedicated MODE-Continuous	

Table 2.2.2 Firmware Specification (Thin AP Mode)

Function Catalog		Detail Function	Function Catalog
General	General	MAC Address Firmware Version Hardware Version Ethernet Data Rate Access Point Name	xx:xx:xx:xx:xx:xx 1.0.1.7 2.0 Automatic APXXXXXX
	Current IP Settings	DHCP Client IP Address Subnet Mask Default Gateway Primary DNS Server Secondary DNS Server	Enable 192.168.1.1 255.255.255.0 0.0.0.0 0.0.0.0 0.0.0.0
	Wireless Switch Settings	Connect Wireless Switch Via IP Connect Wireless Switch Via DNS Connect Wireless Switch Via DHCP Connect Wireless Switch Via L2 Discovery	Disable
	Current Time System Up Time	Current Time System Up Time	
	Management VLAN ID	Management VLAN ID	0
Connection Information	Connection Status	Connection Status	Disconnected
	WS IP Address	WS IP Address	N/A
Advanced Settings	AP Mode	AP Mode	Thin AP
	Reboot	Reboot	Disable
SysLog	Enable SysLog	Syslog Server IP Address Syslog Server IP Address2 Syslog Server Port Number	Disable

Wireless Settings (5G Only)	Operation Mode	AP Mode Bridge Mode Enable Radio Country / Region Operating Mode Wireless Mode Basic Speed Supported Speed Channel / Frequency Data Rate RTS Threshold Beacon Interval DTIM Interval Preamble Type Channel Mode Short GI AMPDU AMSDU HT Protect MIMO Channel Protection Output Power Enable Auto Power Enable Auto Frequency Adjust Auto Channel Adjustment Mode Auto Channel Adjustment Interval User Control Mode Max Station Number Max Throughput Throughput Control Mode Max Sta Tx Throughput Max Sta Rx Throughput	AP Mode No United States Bridge Mode 802.11a/n 6, 12, 24 9, 18, 36, 48, 54 149 / 5.745 GHz Auto 2346 100 1 Long 20 MHz Yes Yes No No 2 No Protection 0.0 No No Start 3600 Disable 256 30 Disable 307200 307200
	WDS Settings (5G Only)	Operation Mode Wireless Separator P2P Distance Wireless Point-to-Multi-Point Bridge Add New Point-to-Multi-Point MAC Address Manually Set Encryption	Operation Mode Wireless Separator ACT Time Out CTS Time Out Slot Time MAC Address MAC Address Set Encryption

2.3 Power Adapter Specification

- Support POE 802.3 at
- Support +48V/600mA/Support 30W PSE

2.4 Physical specification

Table 2-4 Physical Specification

Items	Description
Dimension	242.05mm x247.88mmx145.45mm
Weight	1.7kg (including ceiling mount/PoE/Power cord)
Enclosure	IP67

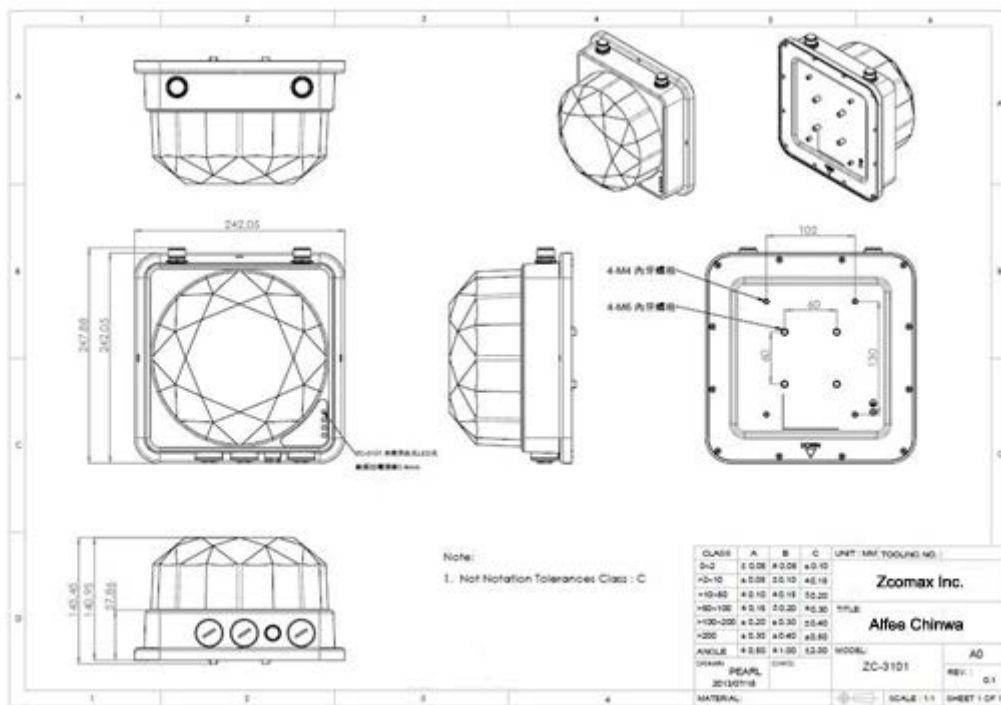
2.5 Environment specification

Table 2-5 Environment Specification

Items	Device Description	Power Supply Spec
Operating Temperature (Max)	-20° ~ +55°C	-0° ~ +45°C
Operating Humidity (non-condensing)	10 to 95% RH	5 to 90% RH
Storage Temperature	-40 ~ +70°C	-10 ~ +70°C
Storage Humidity (non-condensing)	10 to 95% RH	5 to 90% RH
Warranty	24 Months	
Green	RoHs/REACH Compliant	

3 Mechanical Spec

3.1 Device Outline Drawing



3.2 Antenna Product Spec

Electrical Specification :

Vertical Polarization

NO	Items	Specifications
1	Antenna component material	PCB
2	Frequency Band	2.4GHz~2.5GHz
3	Power Handling	1w (CW)
4	Impedance	50Ω
5	VSWR	< 2.0:1
6	Polarization	Linear
7	Antenna Peak Gain	7.5dBi
13	RF Cable	Od 1.37mm * L 200 mm
14	RF Cable Connector	IPEX (MHF)

Horizontal Polarization

NO	Items	Specifications
1	Antenna component material	PCB
2	Frequency Band	2.4GHz~2.5GHz
3	Power Handling	1w (CW)
4	Impedance	50Ω
5	VSWR	< 2.0:1
6	Polarization	Linear
7	Antenna Peak Gain	7.5dBi
13	RF Cable	Od 1.37mm * L 200 mm
14	RF Cable Connector	IPEX (MHF)

RXAssistanceANT

NO	Items	Specifications
1	Antenna component material	metal
2	Frequency Band	2.4GHz~2.5GHz
3	Power Handling	1w (CW)
4	Impedance	50Ω
5	VSWR	< 2.0:1
6	Polarization	Linear
7	Antenna Peak Gain	3dBi
8	RF Cable	Od 1.13mm * L 200 mm
9	RF Cable Connector	IPEX (MHF)