Model: ZWR-X665

WiFi 6 Mesh Access Point

Specifications

Version 1.1

1 Technical Specification

Processor	
[iMAP-1]	CPU Mediatek MT7981 Dual-Core ARM Cortex – A53 1.3GHz

Memory and Storage	
[iMAP-2]	256 MB DDR3 RAM
[iMAP-3]	128 MB NAND FLASH

Interfaces	
[iMAP-4]	01x 10/100/1000 Mbps RJ-45 Ethernet WAN port
[iMAP-5]	01x 10/100/1000 Mbps RJ-45 Ethernet LAN port
[iMAP-6]	01x DC jack

Button	
[iMAP-7]	01x Reset/WPS button

Power	
[iMAP-8]	Power Adapter AC 50-60 Hz/100-240V/0.6 A to DC 12V/1.5 A
[iMAP-9]	Power Input DC 12 V 1.5A
[iMAP-10]	Power consumption: 18 W max
[iMAP-11]	Overvoltage and overcurrent protection

LED	
[iMAP-12]	System/Ethernet/WiFi LED Indicator

Standard	
[iMAP-13]	IEEE 802.11a/n/ac/ax @ 5 GHz
[iMAP-14]	IEEE 802.11b/g/n/ax @ 2.4 GHz
[iMAP-15]	IEEE 802.11k/v
[iMAP-16]	IEEE 802.11e Wireless Multi-Media QoS

Radio Frequency	
[iMAP-17]	Concurrent Dual-Band Radio 2.4 GHz and 5 GHz (Active/Active)
[iMAP-18]	2.412 - 2.472 GHz, 5.180 GHz – 5.825 GHz

Channel bandwidth	
[iMAP-19]	20/40 MHz @ 2.4 GHz
[iMAP-20]	20/40/80/160 MHz @ 5 GHz
[iMAP-21]	Auto/Fixed Channel Bandwidth

Physical Rate	
[iMAP-22]	573.5 Mbps @ 2.4 GHz
[iMAP-23]	2404~~1~~1.9 Mbps @ 5 GHz

Modulation	
[iMAP-24]	802.11b: BPSK, QPSK, CCK 802.11a/g/n: BPSK, QPSK, 16-QAM, 64-QAM 802.11ac: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM 802.11ax: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM, 1024-QAM

Antenna	
[iMAP-25]	03 x Internal Omni Dual-Band
[iMAP-26]	3 dBi antenna gain

2.4Ghz Radio Parameter	
[iMAP-27]	**2.4GHz Transmitter power per chain** 802.11b: • 23 ± 2 dBm @EVM ≤ 35% @ 1Mbps • 23 ± 2 dBm @EVM ≤ 35%@ 11bps 802.11g: • 22 ± 2 dBm @ EVM ≤ -5dB @ 6Mbps • 20 ± 2 dBm @ EVM ≤ -25dB @ 54Mbps 802.11n: • 20 ± 2 dBm @ EVM ≤ -5dB @ MCS0 HT20 • 18.5 ± 2 dBm @ EVM ≤ -27dB @ MCS7 HT20 • 20 ± 2 dBm @ EVM ≤ -5dB @ MCS0 HT40 • 18.5 ± 2 dBm @ EVM ≤ -27dB @ MCS7 HT40 802.11ax: • 17 ± 2 dBm @ EVM ≤ -35dB @ MCS11 HE20 • 17 ± 2 dBm @ EVM ≤ -35dB @ MCS11 HE40
[iMAP-28]	**2.4GHz Transmit center frequency and symbol clock frequency tolerance:** ≤ ±10 ppm
[iMAP-29]	**2.4GHz Receive Sensitivity** 802.11b: • -98 dBm (typical) @ 1 Mbps • -89.5 dBm (typical) @ 11 Mbps

	802.11g: • -94 dBm (typical) @ 6 Mbps • -77.5 dBm (typical) @ 54 Mbps 802.11n: • -93 dBm (typical) @ MCS0, HT20 • -74.5 dBm (typical) @ MCS7, HT20 • -90 dBm (typical) @ MCS0, HT40 • -71 dBm (typical) @ MCS7, HT40 802.11ax: • -64.5 dBm (typical) @ MCS11, HE20 • -62 dBm (typical) @ MCS11, HE40
5GHz Radio Parameter	
[iMAP-30]	**5GHz Transmitter power per chain**: 802.11a: • 22 ± 2 dBm @ EVM ≤ -5dB @ 6Mbps • 20 ± 2 dBm @ EVM ≤ -25dB @ 54Mbps 802.11ac: • 21 ± 2 dBm @ EVM ≤ -5dB @MCS0, VHT20 • 18 ± 2 dBm @ EVM ≤ -30dB @MCS8, VHT20 • 21 ± 2 dBm @ EVM ≤ -5dB @MCS0, VHT40 • 18 ± 2 dBm @ EVM ≤ -32dB @MCS9, VHT40 • 20.5 ± 2 dBm @ EVM ≤ -5dB @MCS0, VHT80 • 17.5 ± 2 dBm @ EVM ≤ -32dB @MCS9, VHT80 • 19 ± 2 dBm @ EVM ≤ -5dB @MCS0, VHT160 • 16 ± 2 dBm @ EVM ≤ -32dB @MCS9, VHT160 802.11ax: • 17 ± 2 dBm @ EVM ≤ -35dB @MCS11, HE20 • 17 ± 2 dBm @ EVM ≤ -35dB @MCS11, HE40 • 17 ± 2 dBm @ EVM ≤ -35dB @MCS11, HE80 • 15.5 ± 2 dBm @ EVM ≤ -35dB @MCS11, HE160
[iMAP-31]	**5GHz Transmit center frequency and symbol clock frequency tolerance:** ≤ ± 10 ppm
[iMAP-32]	**5GHz Receive Sensitivity** 802.11a: • -94.5 dBm (typical) @ 6Mbps • -76 dBm (typical) @ 54Mbps 802.11ac: • -93.5 dBm (typical) @ MCS0, VHT20 • -70 dBm (typical) @ MCS8, VHT20 • -91 dBm (typical) @ MCS0, VHT40 • -66.5 dBm (typical) @ MCS9, VHT40 • -88 dBm (typical) @ MCS0, VHT80 • -63 dBm (typical) @ MCS9, VHT80 • -85 dBm (typical) @ MCS0, VHT160 • -59.5 dBm (typical) @ MCS9, VHT160 802.11ax: • -64.5 dBm (typical) @ MCS11, HE20 • -61.5 dBm (typical) @ MCS11, HE40

	• -57 dBm (typical) @ MCS11, HE80 • -54 dBm (typical) @ MCS11, HE160

SSID	
[iMAP-33]	Up to 4 SSIDs (2 SSIDs/radio)
[iMAP-34]	Support guest SSID

Max EIRP	
[iMAP-35]	26 dBm @ 2.4GHz
[iMAP-36]	25 dBm @ 5GHz

Encryption & Security	
[iMAP-37]	WPA-PSK/WPA2-PSK/WPA3-SAE
[iMAP-38]	AES Encryption

Users	
[iMAP-39]	Up to 100 Concurrent Users
[iMAP-40]	Able to limit the number of accessed users

Operating mode	
[iMAP-41]	Normal Access Point (AP) mode
[iMAP-42]	Mesh Mode: CAP/MRE
[iMAP-43]	Bridge/Router mode
[iMAP-44]	Wi-Fi Repeater

Advanced Techniques	
[iMAP-45]	MIMO 2 spatial streams @ 2.4 GHz and @ 5 GHz
[iMAP-46]	MU-MIMO @ 5 GHz
[iMAP-47]	Band Steering
[iMAP-48]	Tx Beamforming
[iMAP-49]	DFS@ 5GHz
[iMAP-50]	WMM (WiFi Multimedia)

2 Software Features

Networking	
[iMAP-51]	IPv4/IPv6 dual-stack, IPv4 only, IPv6 only
[iMAP-52]	NAT
[iMAP-53]	Bridge
[iMAP-54]	DHCP Server mode
[iMAP-55]	WAN service (Dynamic/Static IPoE, PPPoEv4/v6, L2TP/PPTP)
[iMAP-56]	MultiWAN: support Ethernet as WAN, Wi-Fi as WAN Automatically select WAN connection with descending priority in the following order: Ethernet, Wi-Fi @ 5 GHz, Wi-Fi @ 2.4 GHz
[iMAP-57]	VLAN service
[iMAP-58]	VPN (L2TP/PPTP) service
[iMAP-59]	VPN Pass-Through service
[iMAP-60]	DDNS service (support IP camera accessing across domains No-IP/DynDNS)
[iMAP-61]	Static Routing
[iMAP-62]	Port Forwarding
[iMAP-63]	SPI Firewall

Access Control	
[iMAP-64]	MAC Filtering
[iMAP-65]	Web Access blocking via HTTP/HTTPs
[iMAP-66]	Access blocking scheduling (time restriction)

Mesh Feature	
[iMAP-67]	Automatically establish mesh connection
[iMAP-68]	Allow to add multi slave node (pairing) simultaneously
[iMAP-69]	Auto synchronize configuration
[iMAP-70]	Support adaptive multi backhaul (non-simultaneous) connections (Ethernet/Wi-Fi): Automatically select the best backhaul connection (Ethernet/Wi-Fi)
[iMAP-71]	Support best uplink node selection
[iMAP-72]	Support Star and Daisy chain Topology
[iMAP-73]	Support seamless Roaming
[iMAP-74]	Support Smart Steering client to Best AP in mesh network
[iMAP-75]	Support Mesh connection and automatically synchronize the configuration with ONT device according to IEEE 1905 protocol

Management & Setting	
[iMAP-76]	Supported Management Methods: - WebGUI (HTTP/HTTPS); - CLI (SSH); - Mobile app - cloud management system (via TR069).
[iMAP-77]	Support blocking the remote management access by WebGUI or SSH over wan by default.
[iMAP-78]	The device's WebGUI is compatible with a variety of web browsers on PC (Windows, Linux, Mac), smart phones and tablets (Android/iOS).
[iMAP-79]	WAN setting: - Network mode: Bridge, NAT (Router); - IP stack: v4/v6 dual stack, v4 only, v6 only; - Service: Dynamic IP (DHCP), Static IP, PPPoE, L2TP/PPTP
[iMAP-80]	LAN setting: - DHCP server. - DHCPv6 server
[iMAP-81]	DDNS setting
[iMAP-82]	VLAN setting
[iMAP-83]	Port Forwarding
[iMAP-84]	Wi-Fi Radio setting - Select radio channel; - Select transmission power; - Select transmission bandwidth..
[iMAP-85]	Wi-Fi SSID setting - Add/Delete GuestSSID; - Customize SSID name; - Customize Password.
[iMAP-86]	Wi-Fi Repeater setting - Source Wi-Fi’s SSID; - Source Wi-Fi’s Password.
[iMAP-87]	Mesh network setting - Create Mesh network; - Add a Slave Mesh device; - Join a Mesh network; - Change a Mesh node.
[iMAP-88]	Admin setting - Change Password.
[iMAP-89]	Cloud controller: - Server IP/domain.
[iMAP-90]	Device and system status information:

	- Software version - Hardware version - WAN connection state: WAN type (Ethernet/Wi-Fi); WAN connection status (internet access/no access); WAN connection speed (optional, in mbps); - Mesh connection state: device name, backhaul connection type; device connection status (connected/disconnected); device signal strength (RSSI in dBm), backhaul connection speed (in mbps); - Connected clients list
[iMAP-91]	Firmware upgrade
[iMAP-92]	Device configuration Backup and Restore
[iMAP-93]	Device Reset to Default configuration
[iMAP-94]	Device Reboot
[iMAP-95]	Support Diagnostics tools: Ping, Trace route
[iMAP-96]	Support Log & Trace function: Kernel & system log (Command line interface)

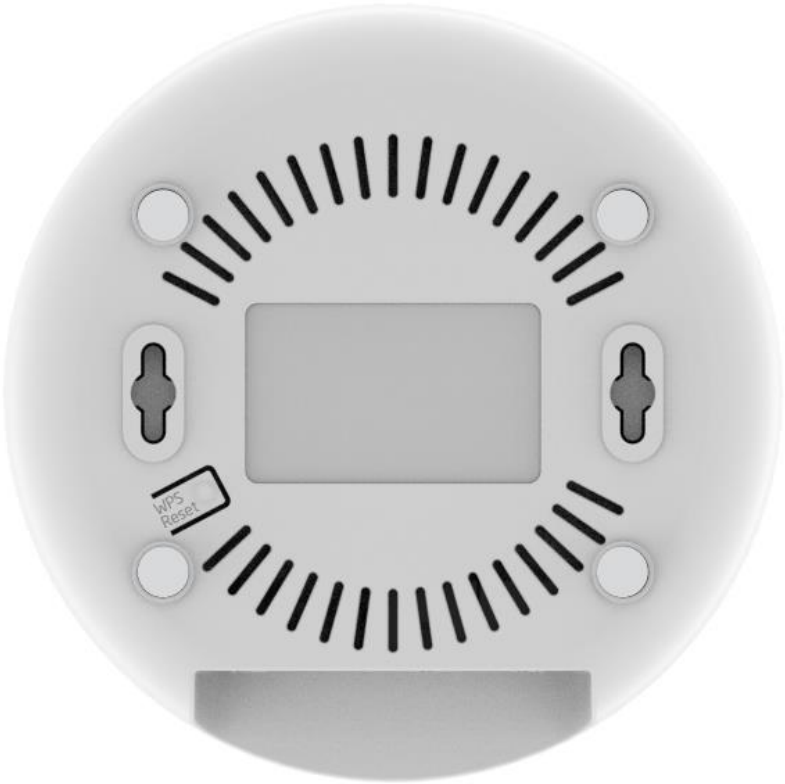
AAA Feature	
[iMAP-97]	Support fully integration with wifi controller for wifi hotspot, carrier wifi deployment
[iMAP-98]	Support User Authorization using MAC Address, Captive portal, EAP-TLS/TTLS/SIM
[iMAP-99]	Support Internet Access Policy
[iMAP-100]	Support Traffic Accouting
[iMAP-101]	AAA feature is only available in Normal AP mode

3 Other Features

Other features	
[iMAP-102]	System requirement: Microsoft® Windows® 98SE, NT, 2000, XP, Vista™, Windows 7, 8, 10, MAC® OS, NetWare®, UNIX® or Linux.
[iMAP-103]	Operating temperature: 0°C to 40°C
[iMAP-104]	Operating Humidity: 10% to 95%
[iMAP-105]	Storage Temperature: 0°C to 60°C
[iMAP-106]	Mounting: Standing/Wall
[iMAP-107]	Dimension [Length x Height]: [Ø122 x 76.2mm]

4 Product design


WAN
LAN
DC IN


WPS
Reset