

Product Specifications

ZLF-372

IEEE802.11a/b/g/n/ac LTE Wireless LAN Access Point

2 Specification

2.1 Hardware Specification

The Hardware specifications of the product are as below:

Table 2-1 Hardware Specification

Features	Additional Information		
Chipset Solution	CPU/2G RF: QCA9557 5G RF: QCA9880 Ethernet PHY: QCA8334		
DDRII	256Mbyte (128Mbyte*2)		
FLASH	16Mbyte		
Ethernet Switch	10/100/1000Mbps*1		
LED definition		Activity	Description
	Power/Test	Green	Power on
		Off	Power off
	Wireless LAN	Off	Wi-Fi off
		Blink Green	Wi-Fi WLAN Network activity is occurring
	LAN Status	Off	No Connect
		Green	User Connection
	3G/4G Status	Off	Can not find 3G/4G mobile communication network
Green		Connect 3G/4G mobile communication network	
External Antenna Support	LTE external antenna * 2 : 2.5dBi		
Internal Wi-Fi ANT Specification	2G: 8dBi 5G: 8.5dBi		
GNSS system	<u>GNSSSystemSupported(ModuleType)≤±10m</u> <input type="radio"/> USA GPS System <input type="radio"/> Russia GLONASS System		
Interface	DB9 for LAN(10/100) or Console*1 (This Plug is for technique debug using) RJ45 for LAN(10/100/1000)*1 Reset Button*1 USB*1 (For G-Mouse) External LTE Antenna Connector*2 Power Plug*1 SIM Card Plug*1 TF Card Socket*1 (Support 2G~32Gbit, Speed Class Specification Class 4/6/10)		

Power supply	12V/24V From Car Battery			
Data rate	11b: 11M, 5.5M, 2M, 1Mbps 11a/g: 54M, 48M, 36M, 24M, 18M, 12M, 9M, 6Mbps 11n: up to 300Mbps 11ac: up to 1300Mbps			
Data modulation	802.11b: CCK/DBPSK/DQPSK 802.11a/g/n: BPSK/QPSK/16QAM/64QAM 802.11ac: BPSK/QPSK/16QAM/64QAM/128QAM			
Frequency Supported	<u>LTFBands (ModuleType) Multi-Band</u> <input type="radio"/> category4 <input type="radio"/> B3/B7/B8/B20 (EU, Asia, Africa) <input type="radio"/> Allchannelbandwidths:1.4-20MHz <input type="radio"/> MIMO2x2 <input type="radio"/> Rxdiversity <u>WCDMA</u> <input type="radio"/> B1/B8 <u>GPRS/EDGE</u> <input type="radio"/> 850/900/1800/1900MHz			
SYS-Power Consumption	≤19W			
Operating Frequency & Channels	IEEE 802.11b/g/gn 20MHz ISM Band <ul style="list-style-type: none"> Europe (ETSI): 2.412GHz~2.472GHz IEEE 802.11gn 40MHz Band <ul style="list-style-type: none"> Europe (ETSI): 2.422GHz~2.462GHz IEEE 802.11a/an/ac 20MHz/40MHz/80MHz ISM Band <ul style="list-style-type: none"> Europe (ETSI): 5.15GHz~5.35GHz; 5.47GHz~5.725GHz 			
Output Power ¹ @ 25°C per chain ±2 dBm <i>**All modes are measured via single chain.</i>	IEEE 802.11b	1~11Mbps (CH1-13)	20	
		IEEE 802.11g	6~24Mbps	20
	IEEE 802.11gn		HT20	MCS 0/8
		MCS 7/15		20
		HT40	MCS 0/8	20
			MCS 7/15	20
	IEEE 802.11a	6~48Mbps	5240MHz	17
			5260~5850MHz	20
54Mbps		5240MHz	15	
		5260~5850MHz	18	

¹ 1. We just list the Target Power here, the exact EMI Conducted Power will be set in the CTL Table of the Card (base on EMC regulation), and the driver will limit the output power according to the CTL Table, thus sometimes the actual output power will be lower than the target power. For the detailed CTL Table Settings, please contact with our support engineers.

2. Disable 5600~5650MHz due to Environment Canada weather satellites operating in the band are protected.

	IEEE 802.11an	HT20	MCS 0~6, 8~14, 16~22	5240MHz	17
				5260~5850MHz	20
			MCS7/15/23	5240MHz	15
				5260~5850MHz	18
		HT40	MCS 0~6, 8~14, 16~22	5240MHz	17
				5260~5850MHz	20
			MCS7/15/23	5240MHz	15
				5260~5850MHz	18
802.11ac	VHT20	MCS 0~6	5240MHz	17	
			5260~5850MHz	20	
		MCS 7	5240MHz	15	
			5260~5850MHz	18	
		MCS 8	5240MHz	14	
			5260~5850MHz	16	
		VHT40	MCS 0~6	5240MHz	17
				5260~5850MHz	20
			MCS 7	5240MHz	15
				5260~5850MHz	18
			MCS 8	5240MHz	14
				5260~5850MHz	16
	VHT80	MCS 0~6	5240MHz	17	
			5260~5850MHz	20	
		MCS 7	5240MHz	15	
			5260~5850MHz	18	
	MCS 8	5240MHz	14		
		5260~5850MHz	16		
	MCS 9	5240~5850MHz	13		
Sensitivity (PER <10%, per chain>=Spec; dBm)	IEEE 802.11b	11Mbps	-87		
	IEEE 802.11g	6Mbps	-89		
		54Mbps	-72		
	IEEE 802.11a	6Mbps	-92		

		54Mbps		-75
IEEE 802.11gn	HT20	MCS0/8		-85
		MCS7/15		-67
	HT40	MCS0/8		-82
		MCS7/15		-64
IEEE 802.11an	HT20	MCS0/8/16		-92
		MCS7/15/23		-74
	HT40	MCS0/8/16		-89
		MCS7/15/23		-69
IEEE 802.11ac	VHT20	MCS0 1~3ss		-90
		MCS7 1~3ss		-70
		MCS8 1~3ss		-66
		MCS9		-64
	VHT40	MCS0 1~3ss		-87
		MCS7 1~3ss		-67
		MCS8 1~3ss		-63
		MCS9		-61(1~3ss)
	VHT80	MCS0 1~3ss		-84
		MCS7 1~3ss		-64
		MCS8 1~3ss		-60
		MCS9		-58(1~3ss)

2.2 Firmware Specification

The Firmware specifications of the product are as below:

Table 2-2 Firmware Specification

Item	Descriptions
System Features	
Centralized Management – TAP Mode	AP works in TAP (Thin AP) mode and can be managed by AC (AP Controller) in CAPWAP protocol
Local Management – FAP Mode	AP works in FAP (Fat AP) mode and can be managed locally with Web GUI for device status, fault management, configuration, firmware upgrade, and connection diagnosis.
Local Web Portal	Equip with local web portal service for WLAN user authentication. This service includes user-definable portal page (HTML and media files) which is stored on local storage.
User Authentication	Support WLAN authentication protocols including WLAN Web Portal, EAP-PEAP, and EAP-SIM.
Local Storage	Equip with local non-volatile storage spaces for HTML and browser-compatible media files. The space can be managed by FTP or Web GUI interface remotely.
Link Integrity	Automatically turn off the WLAN service when the uplink WWAN (3G/4G) connection is lost.
Handover	Support seamless layer-2/3 handover for uninterrupted WLAN connection in the environment with multiple LTE-Fi devices.
Power-loss Alarm	Alert AC when the power supply to the device is turned off (ACC off). In the meantime, release the WWAN (3G/4G) connection before power down the device.
GPS	Equip with GPS module and report the location information of device to the management system.
Network Management	Support industry standard network management interfaces including SNMP (v2c/v3), Syslog, FTP, HTTP, HTTPS, and Telnet. Supported MIBs include MIB II, 802.11 MIB, and 802.3 MIB.
WWAN(3G/4G) Features	
Radio Management	Support MTU setup for TCP/IP traffic on WWAN. Display WWAN status including connection status, RSSI, IMEI, campus id, and link uptime.
Network Selection	Support WWAN network mode selection function including 4G First, 3G First, 4G Only, and 3G Only.
WLAN Features	
802.11n	Support IEEE 802.11n MIMO 2x2 (two stream)
	Support A-MPDU
	Support 20/40MHz Bandwidth
	Support Short GI
	Support 11n-Only Mode
	Backward Compatible to 802.11b/g Clients
Supported Protocols	Supported Protocols includes IEEE 802.11a/b/g/n/ac, IEEE 802.3, STP, and

	DHCP.
Radio Management	Automatic Transmit Power Adjustment
	Automatic Channel Selection
User Separation	Support an option to separate the network data (layer 2) between wireless users of connecting to same AP or different APs.
Load Balance	Balance the network load among LTE-Fi devices at a location.
User Number	Support up to 256 wireless connection at single LTE-Fi device. Support active wireless traffic from up to 30 users concurrently.
Encryption	Support WPA (TKIP) and WPA2 (AES) data encryption.
	Support WPA/WPA2 Mixed Mode data encryption.
	Support different encryption modes including none, static WEP, WPA, and WPA2 via one SSID or multiple SSID setup.
Access Control	Support MAC address based access control per SSID as well as the limit of maximal number of wireless connection per SSID or per AP.
Multiple SSID	Support Multiple SSID function with up to 16 SSIDs can be configured.
	Support VLAN setup in each SSID. A same VLAN id can be used for two or more SSIDs.
Hidden SSID	Support an option to enable or disable SSID broadcast.
Bandwidth Management	In corporate with AC, support bandwidth management function based on user, SSID, or VLAN.
Network Features	
DoS Attack Protection	Support DoS Attack Protection function.
IPv4 and IPv6 Support	Support both IPv4 and IPv6 traffic:
	IPv4/IPv6 dual stack
	Connect to AC with IPv4 and IPv6 address
	Data tunnel to AC in IPv4 and IPv6 protocol
NAT	Support NAT function to translate local private IP address for making Internet access possible.
	Support DHCP Server when the device is in FAP mode or local bridged operation in TAP mode.
NTP	Support NTP time synchronization.

2.3 Physical specification

The Physical specifications of the product are as below:

Table 2-3 Physical Specification

Items	Description
Dimension	220 * 250 * 54 mm
Weight	500g (TBD)

2.4 Environment specification

The Environment specifications of the product are as below:

Table 2-4 Environment Specification

Items	Device Description
Operating Temperature(Max)	-20 ~ +60°C
Operating Humidity (non-condensing)	5 to 95% RH
Storage Temperature	-20 ~ +70°C
Storage Humidity (non-condensing)	10 to 95% RH
Warranty	24 Months
Green	RoHs/REACH Compliant

2.5 Safety/Country Approval

We will do EMI/EMC pre-test according to the following items:

Items	Description
CE	EN301511 EN301908-1 EN300328 V1.8.1 EN300440 EN301489-1/-3/-7/-17/-24 EN55022/24 EN60950 NB(0560)
E-Mark	E24

2.6 Vibration Certification Specification

Noted: AC-1025 Will Follow “GB/T 4798.5-2007 5M2” Certification spec.

2.7 Packaging Specification

The following items will be required for the complete packaging:

Table 2-7 Package Specification

Item	Comments
Carton	Suitable size and material to protect product
Gift Box / Cushion	Suitable size and material to protect product
Wall Mounting Kit	Suitable size and material to protect product

3 Mechanical Spec

3.1 Device Outline Drawing

