Industrial 5G-NR & Wi-Fi Mesh Router

FEATURE HIGHLIGHTS

Comprehensive Connectivity
- Worldwide 5G-NR, LTE-A and LTE Support
- Wi-Fi 802.11ac, MU-MIMO, Mesh
- 5x 1000 Base-TX RJ-45, 1x WAN, 4x LAN
- Proved Antenna Isolation

Powerful & Trusted Platform
- Quad-Core High-Performance Platform
- Secure VPN and Firewall Isolation
- Certified by TAICS Level2
- IEC 62443-4-2 Cybersecurity Compliance*

Quick Deployment & Management
- Various Remote Management Protocols

Compact and Robust
- Dimensions (mm): 145 x 120 x 46
- Industrial EMC
- -40°C to +75°C Temp. Operation
- NCC/TELEC, CE**/FCC** and Other Certifications

Reliable & Redundant Design
- Power Redundancy with PoE PD and DC
- Wi-Fi Mesh Roaming with Conn. Redundancy
- Dual-SIM Backup
- Multi-WAN Failover

High Quality Guaranteed
- Made in Taiwan with 5 Years Warranty

* Coming soon
** By demand

PRODUCT DESCRIPTION

ATOP CWR, or Cellular Wireless Router, is an advanced device that allows a very tangible scale-up of almost any industrial wireless infrastructure. In addition to high EMC protection, wide-temperature operation, superb hardware and advanced features, CWR will provide high-speed internet access with load balancing and high degrees of security, high speeds and advanced configuration options.

Cellular 5G
Integrating a 5G module, CWR can provide 5G high-speed mobile network access, satisfying the new generation of IIoT applications.

Quad-ARM Cortex A7 CPU
CWR integrates an industrial-grade Quad-core A7 ARM CPU, enabling the processing power you need to filter heavy traffic over firewalls, routing, forwarding and security measures.

Wi-Fi Mesh
CWR's advanced chipset allows you to set up several devices as a mesh network, achieving a self-healing network that adjusts its topology based on need--perfect for dynamic applications.
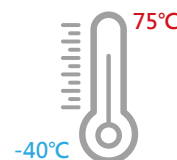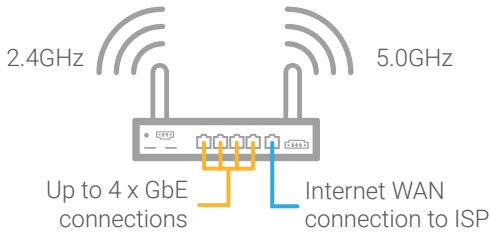
High-Performance
With its integrated IEEE802.11ac wave-2 feature and supporting 2x2 concurrent MU-MIMO RF, CWR provides high-throughput connections through 2.4 GHz and 5.0 GHz bands.

Harsh Environments
75°C
-40°C
ATOP CWR is proven to run at its maximum loading in the harshest EMC and climate environments.

Security
Integrating firewall, zone forwarding, and VPN features, ATOP CWR allows you to connect your industrial network to the internet without fearing intrusions into your organization data.

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APPLICATION

2.4GHz   5.0GHz

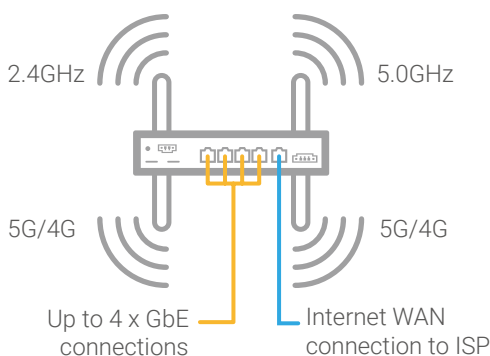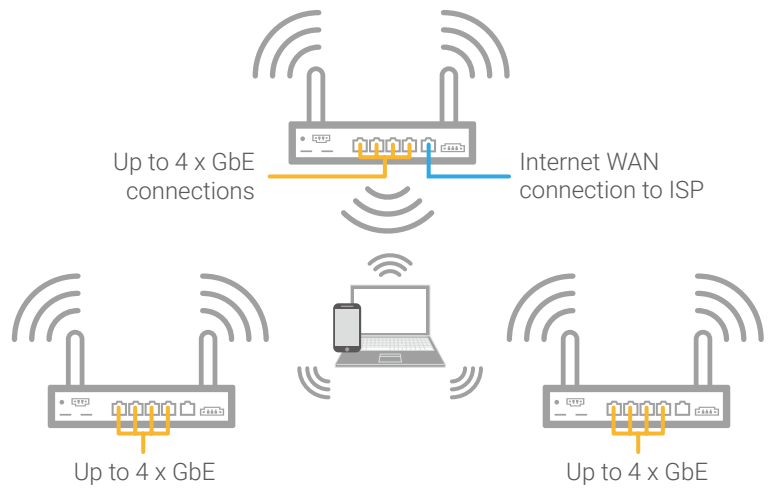Up to 4 x GbE connections   Internet WAN connection to ISP

As a Wi-Fi DBDC Router

CWR5805's simplest operating mode is as a router/access point. Use it to connect to the internet through your broadband provider via PPPoE, Static IP or DHCP and provide Internet connection to Wi-Fi and wired clients. With CWR you can define your own wireless access policy and set up a Firewall and VPN connection based on your needs .

As a Wi-Fi Mesh Primary Router

CWR5805 is designed to act as a mesh router or as a mesh node, and the configuration of one or both radios to work in mesh mode takes barely any time. No more fussing with topology changes or complicated wiring! With Wi-Fi mesh, all nodes can communicate with each other and the transmission paths are dynamically adjusted if a change in signal strength or topology is detected. So, even if a device is temporarily unaccessible due to interference or position, the network will still work perfectly. Mesh functionality can be combined with all other features of CWR5805.
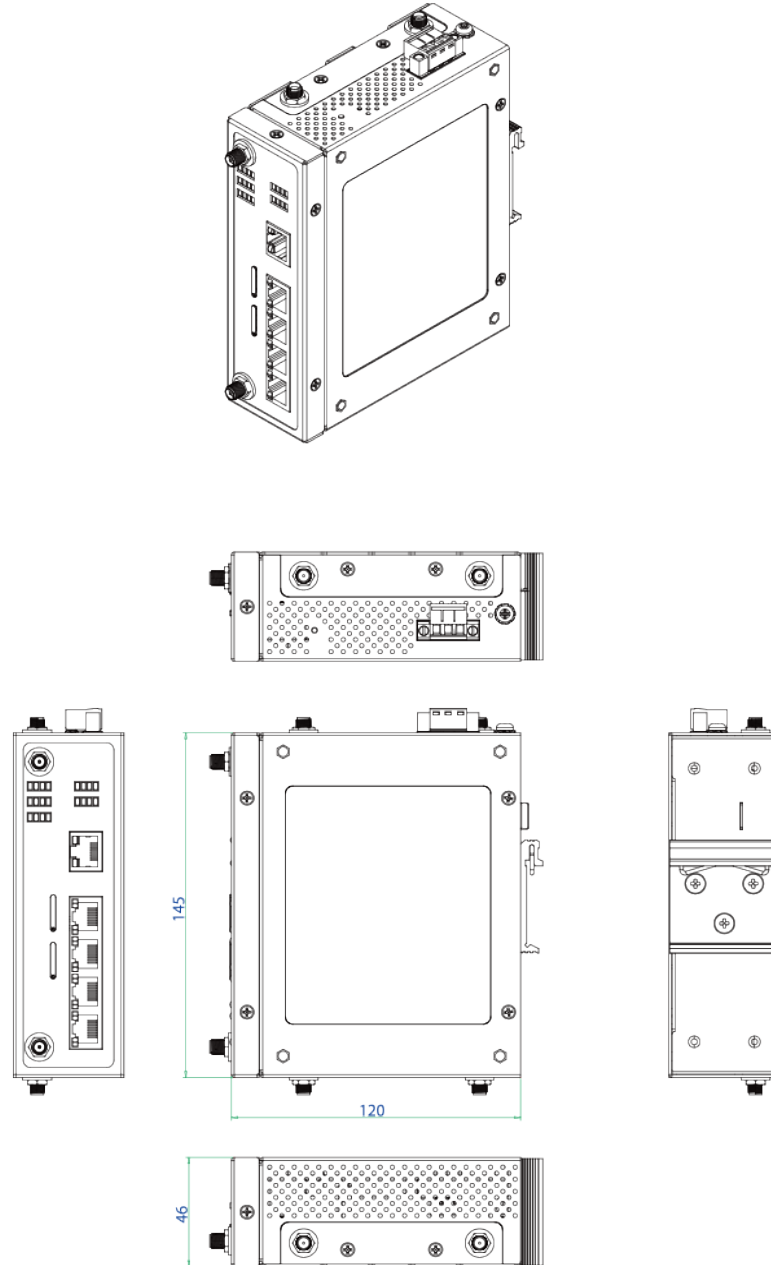

Up to 4 x GbE connections   Internet WAN connection to ISP

Up to 4 x GbE   Up to 4 x GbE

2.4GHz   5.0GHz

5G/4G   5G/4G

Up to 4 x GbE connections   Internet WAN connection to ISP

As a Cellular/Wired/Wi-Fi Router

CWR5805 allows you to easily set up a mesh Wi-Fi Router environment for providing broadband access to all users, in static or dynamic environments. Perfect for deployment on mass transit vehicles, CWR can access the internet via PPPoE, Wi-Fi and Cellular at the same time and provide smart traffic adjustment. The advanced dual-SIM configuration and hot-swappable design guarantees seamless 5G/4G connectivity throughout an entire shift.
Finally, these wide-ranging features are all enclosed in a rugged fanless design with operation temperatures from -40ºC up to +75ºC, to suit applications in any environment.

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RoHS COMPLIANT   v: 1.1

DIMENSIONS & LAYOUT

CWR5805 SERIES: 145 x 120 x 46 mm

SPECIFICATIONS

Hardware Specifications			
Model Name	CWR5805		
SOC			
CPU	ARM Cortex A7, Quad-Core		
Cellular Interface - 5G/4G			
Standard	5G NR/LTE		
	4G		LTE Cat6
	5G		5G-NR SA & NSA
Frequency Bands	4G		
	EU Ver.	FDD	B1/B3/B5/B7/B8/B20/B28/B32
		TDD	B38/B40/B41
		WCDMA	B1/B3/B5/B8
		GNSS	GPS/GLONASS/BeiDou/Galileo
	US Ver.	FDD	B2/B4/B5/B7/B12/B13/B25/B26/B29/B30/B66
		TDD	B41
		WCDMA	B2/B4/B5
		GNSS	GPS/GLONASS/BeiDou/Galileo
	5G (Global)		
	5G NR	5G Reframed Sub6: n1/ n2/ n3/ n5/ n7/ n8/ n12/ n20/ n28/ n41/ n66/ n71/ New Sub6: n77/n78/n79	
	LTE-FDD	B1/ B2/ B3/ B4/ B5/ B7/ B8/ B12/ B13/ B14/ B17/ B18/ B19/ B20/ B25/ B26/ B28/ B29/ B30/ B32/ B66/ B71	
	LTE-TDD	B34/ B38/ B39/ B40/ B41/ B42/ B46/ B48	
	WCDMA	B1, B2, B3/9, B4, B5/6/19, B8	
	GNSS	GPS	

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Network Interfaces/Connectivity			
Wi-Fi	802.11ac wave 2(5GHz), 802.11a/b/g/n(2.4GHz/5GHz) MU-MIMO 2x2 (2 streams) Wi-Fi Mesh ready		
Ethernet ports	Standard	IEEE 802.3 for 10BaseT IEEE 802.3u for 100BaseT(X) IEEE 802.3ab for 1000BaseT(X)	
	Ports	5x 10/100/1000 BASE-TX RJ-45 1 x WAN 4 x LAN	

Antennas		
Cellular	4G	2x SMA(M) antennas
	5G	4x SMA(M) antennas
Wi-Fi	2x SMA(M) antennas	

Watchdog	
Hardware WD Reset	Yes

External IO Interfaces	
Default/Reset Button	1 key
SIM card slots	Push-pull SIM card Holders (max. available 2 slots)
SD Slot	1x micro-SD slot

LED Indicators	
LEDs	PWR, 2.4GHz Wi-Fi, 5.0 GHz Wi-Fi, LAN, WAN, 5G/4G Signal

Power	
Voltage Input	DC Power : 12 ~ 48V
Consumption	< 20W
Redundancy	Yes, PoE Model, Option for PoE or DC Input
Connector	3-pin Terminal block
Reverse polarity protection	Yes
PoE	PoE PD, 802.3at, Mode A, @LAN4

Mechanicals	
Casing material	Metal housing
Dimension L x W x H (mm)	145 x 120 x 46
Weight (g)	726
Installation	DIN-Rail or Wall-Mount (optional kit)
Ingress Protection Rating	IP30 protection

Environment limits	
Operating Temperature	-40°C to +75°C (-22°F to +158°F)
Storage Temperature	-40°C to +85°C (-40°F to +185°F)
Ambient Relative Humidity	5% to 95% RH, (non-condensing)

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Software Specifications	
Internet Connection	
Access	APN
Authentication	CHAP/PAP/Auto
Network	
IPv4/IPv6	DHCP server
	DHCP Client/Static IP/PPPoE
Connection Protocol/Service	Telnet, SSH, SCP, Http, Https, SNMP
Industrial Protocol	NTP, DNS, 802.1Q VLAN, QoS, VRRP, MQTT
Security	
Firewall	Access control list (ACL)
	Port Forwarding
	Attack Prevention (Inserted after Port forwarding)
VPN	IPSEC, OPEN-VPN, LT2P, PPTP Server, GRE
Reliability	
Cellular Backup	Dual SIM auto-switch
WAN Backup	Cellular and Ether WAN redundancy
Schedule operation	Schedule control of application
WLAN	
Wi-Fi Connection	AP (802.11 a/b/g/n/ac), Mesh
Wi-Fi Security	OWE/WPA-PSK/WPA2-PSK/WPA3-PSK (SAE)
Management	
System Configuration	WEB, Telnet, SSH
Firmware upgrade	WEB
System Log	SD Storage, remote logger, local flash
SNMP	SNMP v1/v2/v3
Diagnostics	Ping, Traceroute, Nslookup
Statistics	
Statistics	Memory, Mobile, WAN, Wireless, LAN

REGULATORY APPROVALS

Regulatory Approvals				
Safety	CNS14336-1			
EMC	CNS13438			
Cellular	NCC PLMN10 / PLMN12 Telec Radio Law Telec Telecommunicaton BusinessLaw			
Wi-Fi	NCC LP0002 Telec Radio Law			

Test	Item		Value	Level
IEC 61000-4-2	ESD	Contact Discharge Air Discharge	±6KV ±8KV	3 3
IEC 61000-4-3	RS	Enclosure Port	10 (V/m) , 80-1000MHz 3 (V/m), 1-6GHz	3 2
IEC 61000-4-4	EFT	DC Power Port Signal Port	±2.0KV@ 5.0kHz ±1.0KV @ 5.0kHz	3 3
IEC 61000-4-5	Surge	DC Power Port Signal Port	Line-to-Line ±1KV Line-to-Earth ±2KV Line-to-Earth ±2.0KV	3 3 3
IEC 61000-4-6	CS	DC Power Port Signal Port	10V, 150KHz to 80MHz, 80%AM 10V, 150KHz to 80MHz, 80%AM	3 3
IEC 61000-4-8	PFMF	Enclosure	30A/m (r.m.s), 50Hz or 60Hz	4
Shock	IEC 60068-2-27			
Drop/Freefall	IEC 60068-2-32			
Vibration	IEC 60068-2-64			
Others	RoHS, including 2015 amendment REACH Conflict-Mineral Free			
Warranty	5 years			

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ORDERING INFORMATION

Ordering information

Model	Cellular	Ethernet (RJ45)	WI-FI	BT	LoRa	PoE	GPS	SIM #/Redundancy
CWR5805-C	5G-M.2 module	1x WAN, 4x LAN	802.11ac	-	-	-	Yes	2/Yes
CWR5805P-C	5G-M.2 module	1x WAN, 4x LAN	802.11ac	-	-	Yes	Yes	2/Yes

Optional Accessories

Model	Part Number	Description
AD1048-24FS	50500481240001G	DIN-Rail Power Supply Input: 100-240VAC / 120-370VDC; Output: 2A@24VDC
UV336-1230	50500361120001G	Power adapter Input: 100-240VAC; Output: 3A@12VDC; US plug
SZ20421WB56	59901861G	External Antenna 5G & WiFi Antenna; SMA(M); 80*70*25mm