

**T(P)WMR-5004**

EN50155 Multifunction VPN Router w/1x WiFi 11ac + 1 LTE 4G + 2 serial ports + 4 Gigabit X-coded (PoE) Switch + 2 WAN/LAN w/Load Balancing, VPN, Protocol Gateway, Storage\*\* ; WV input

**OVERVIEW**

Lantech T(P)WMR-5004 series is a next generation EN50155 multi-function VPN router w/ 1 x 802.11ac Wi-Fi + 1 x LTE modem + 4 Gigabit X-coded (PoE) Ethernet switch + 2 WAN/LAN ports + 2 serial ports that supports advanced function of VPN, Load-Balancing, EMMC Flash Storage\*\*, Protocol gateway(Modbus\*), Storage\*\*, Wi-Fi roaming and LTE dual SIM fail-over for industrial applications. The dual core CPU with 1.6GHz + 256M flash enables the router to multi-task smoothly.

**LTE design 4G/3G w/2SIMs for redundancy**

With one mobile LTE module (1L model), 2 SIM card slots, T(P)WMR-5004 provides redundant link between two service providers.

Both GPS and Russian GLONASS systems are supported.

**IEEE 802.11ac one band radio up to 1.3Gbps bandwidth**

With IEEE 802.11ac capability, T(P)WMR-5004 can operate either 5GHz or 2.4GHz bands, offering the maximum speed of 1.3Gbps bandwidth. It is also compatible with 802.11n that can work with 2.4GHz for longer range transmission.

**MIMO technology with 3T3R and standard SMA connectors**

Lantech T(P)WMR-5004 series adapts MIMO technology with smart antenna transmission and reception for 3T3R. With six external detachable antenna SMA connectors and optional antennas, T(P)WMR-5004 can have better Wi-Fi & LTE/GPS coverage.

**Support AP/Bridge/Client mode, Mesh roaming**

T(P)WMR-5004 supports AP/Bridge/Client mode for different applications.

It also supports client-base roaming to swap between the APs in a network.

**Built-in Wireless Mesh network (WMN)**

T(P)WMR-5004 supports Mesh network composed of different nodes. The set of SSIDs allow the wireless client to roam freely without the need for complicated account management. With Mesh protocol, it can provide a reliable, scalable, stable and seamless network

topology.

**Optional EMMC Flash storage\*\***

The optional EMMC flash storage on the router can offer 8G/16G/32G capacity.

**Optional eSIM\*\***

By replacing physical SIM, optional eSIM chip will allow users to purchase data plans at low prices from local carriers in the world.

**Wireless WMM QoS**

T(P)WMR-5004 supports 802.11e standard which defines a set of Quality of Service for wireless LAN applications as well as WMM (WIFI multimedia)

**Advanced security & 16 SSIDs**

The security support standards including 64/128bits WEP, WPA/WPA2 PSK (TKIP, AES), 802.1x ensures the best security and active defense against security threats. Lantech T(P)WMR-5004 support up to 16 SSIDs, each SSID has its independent security and encryption.

**Load Balancing with 5 mechanism for multi-WANs**

T(P)WMR-5004 supports Load Balancing for LTE / WAN connections. There are five schemes for Load Balancing function:

Pack	Algorithm	Description
Basic	Fixed	All traffic will be distributed to a single WAN.
	Failover	Routes connections through preferred WAN link while others stand-by. Sequentially activating another link if the preferred link fails.
	Priority	Select the active WAN according to priority.
	Weighted Round-Robin	Evenly distribute the traffic over all working WAN links in circular order according to the specified weights.
	Custom Route	Routing through the selected WAN for each specific traffic, ex: TCP/UDP port number and IP address.

**2 port serial connection, Modbus gateway**

It builds 2 port serial connection for RS232; RS422; RS485 in which RS422/RS485 has 2.5KV isolation protection.

The built-in Modbus gateway can convert Modbus RTU/ASCII to Modbus TCP for device control.

**Support various VPN applications and firewall**

Besides traditional VPN peer to peer tunneling, T(P)WMR-5004 support latest Multi-Site VPN function that is an efficient way for Mesh tunneling. The registration is under cloud service and encrypted by SSH makes the connection easy and safe.

It supports Multi-Site VPN, OpenVPN, L2TP over IPsec, IPsec, L2 over GRE, IPGRE, and NAT for various VPN applications.

The built-in Layer-4 firewall includes DDoS, IP address filter / Mac address filter / TCP / UDP port number.

**Support Routing Protocol: Static route / RIPv2 / OSPF / BGP / EIGRP**

Lantech router series supports two routing methods: static routing and dynamic routing. Dynamic routing makes use of RIPv2, OSPF, EIGRP and BGP. The user can either choose one routing method to establish the routing table.

**DIDO for alarm & email notice; Event log; Remote Web control**

2 sets of DIDO function can support additional high/low physical contact for designate applications besides Port / Power events, for example, DIDO function can trigger alarm if the router was moved or stolen. In case of events, the T(P)WMR-5004 will immediately send email and trap.

The event log can be sent via syslog, emails or trigger the alarm relay.

When the router is at remote area with limited access, Web control can help to get router status or remotely reboot by Web.

**Wide range input voltage from 16.8~137.5VDC (WV model); PoE model built-in 4 port PoE at/af switch with 60W budget**

The T(P)WMR-5004 is able to work from 16.8~137.5V (WV with isolation) and PoE model built-in 4 port PoE at/af with PoE budget

60W that is particular good for vehicle, rail train, depot etc. application

### ***Environmental monitoring for inside router info& alerting; Graphic WIFI & LTE signal strength***

The built-in environmental monitoring can detect router ambient temperature, voltage, current and total PoE load where can send the syslog and email when abnormal.

### ***Built-in Managed Switch Function***

Managed switch function is built-in and provides various L2+ functions for network access deployment. It delivers ports and PoE management, VLAN, QoS, multicast, redundant ring, and security functions.

Editable login page of captive portal

### ***Editable login page of captive portal***

The TMR-5006 supports editable captive portal function that allows administrator to force end-users redirect to authentication page.

### ***Dual image firmware***

It supports dual-image firmware to choose which one to start.

### ***USB port for back up, restore configuration and upgrade firmware***

The built-in USB ports can upload/download/upgrade the firmware through USB dongle for router replacement.

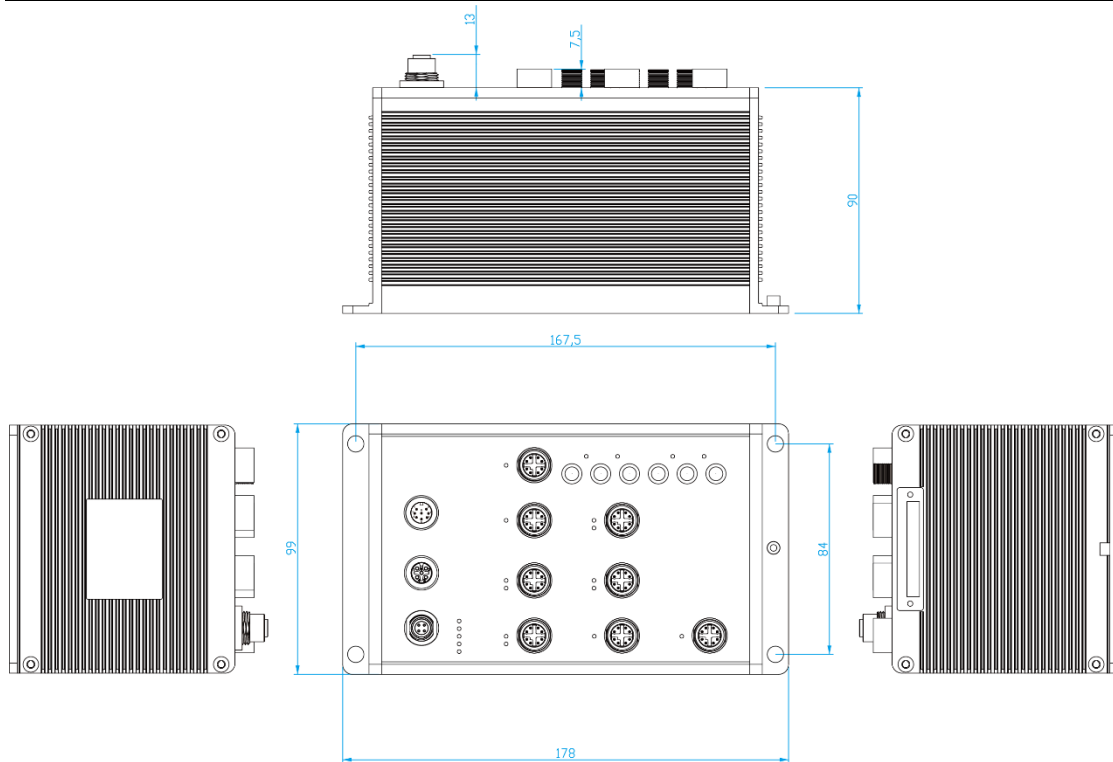
### ***Editable login page of captive portal***

The T(P)WMR-5004 supports editable captive portal function that allows administrator to force end-users redirect to authentication page.

### ***Ruggedized EN50155 design and FCC/CE & E-marking\*\* certificate***

The T(P)WMR-5004series is verified with EN50155, EN61373, EN45545 standard with IP65/54 housing. It passed tests under extensive Industrial EMI and environmental vibration and shocks standards. With CE & FCC radio certification for LTE and E-marking\*\* certificate, the T(P)WMR-5004 is best for outdoor community, vehicle, power substation, process control automation etc. For more usage flexibilities, T(P)WMR-5004 supports operating temperature from -40°C to 65°C.

**DIMENSIONS (unit=mm)**



**SPECIFICATION**

WLAN Interface	
Radio Frequency Type	DSSS, OFDM
Wireless Standard	IEEE 802.11ac/n/a 5GHz IEEE 802.11b/g/n 2.4GHz
Wireless bandwidth	5GHz: Up to 1300Mbps 2.4GHz: Up to 450Mbps
Modulation	<b>802.11b: DSSS</b> <b>802.11a/g:</b> OFDM (BPSK, QPSK, 16-QAM, 64-QAM) <b>802.11n:</b> OFDM (BPSK, QPSK, 16-QAM, 64-QAM) <b>802.11ac:</b> OFDM (BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM)
Operating Frequency	IEEE 802.11 a/b/g/n/ac ISM Band, 2.412GHz~2.472GHz, 5150MHz~5850MHz
Transmission Rate	IEEE802.11ac: up to 1300Mbps IEEE802.11b: 1 / 2 / 5.5 / 11 Mbps IEEE802.11a/g: 6 / 9 / 12 / 18 / 24 / 36 / 48 / 54 Mbps IEEE802.11n: up to 450Mbps
IEEE 802.11b/g/n(2.4GHz)	<b>Output Power Tx +/- 2dB(per chain)</b> 18dBm @ 1~11Mbps 18dBm @ 6~54Mbps 20/20dBm @ MCS0~MCS7 (HT20/40) <b>Receiver Sensitivity Rx +/- 2dB</b> ≤ -95dBm @ 1~11Mbps ≤ -92dBm @ 6~18Mbps ≤ -88dBm @ 24Mbps ≤ -85dBm @ 36Mbps ≤ -81dBm @ 48Mbps ≤ -80dBm @ 54Mbps ≤ -94dBm @ MCS0 (HT20/40) ≤ -76dBm @ MCS7 (HT20/40)
IEEE 802.11a/n/ac(5GHz)	<b>Output Power Tx +/- 2dB(per chain)</b> 20dBm @ 6~24Mbps 16dBm @ 36~54Mbps 19/18dBm @ MCS0 (HT20/40) 16/16dBm @ MCS7 (HT20/40)
Encryption Security	19/18/18dBm @ MCS0 (VHT20/40/80) 13/13/13dBm @ MCS8 (VHT20/40/80) 13/13dBm @ MCS9 (VHT40/80) <b>Receiver Sensitivity Rx +/- 2dB</b> ≤ -92dBm @ 6~18Mbps ≤ -86dBm @ 24Mbps ≤ -84dBm @ 36Mbps ≤ -81dBm @ 48Mbps ≤ -80dBm @ 54Mbps ≤ -93dBm @ MCS0 (HT20/40) ≤ -71dBm/ ≤ -80dBm @ MCS7 (HT20/40) ≤ -90dBm @ MCS0 (VHT20/40/80) ≤ -69dBm @ MCS8 (VHT20/40/80) ≤ -66dBm @ MCS9 (VHT40/80)
Wireless Security	WEP: (64-bit ,128-bit key supported) WPA/WPA2: IEEE802.11i(WEP and AES encryption) WPA-PSK (256-bit key pre-shared key supported) EAP-TLS,EAP-TTLS, and PEAP
Wireless Security	SSID broadcast disable
Cellular Interface	
Location Solutions	GPS, Glonass
Band Options	<b>Europe &amp; North America (EUNA model)</b> LTE = B1, B2, B3, B4, B5, B7, B8, B12, B13, B20, B25, B26, B29, B30, B41 (TDD) DC-HSPA+/ HSPA+/ HSPA/ UMTS = B1, B2, B3, B4, B5, B8 <b>(GN model)</b> LTE-FDD B1/B3/B5/B7/B8/B20/B28/B32/B38/B40/B41 LTE-TDD B38/B40/B41
Data Rates – LTE	Downlink (Cat 6): FDD: 300 Mbps TDD: 226 Mbps Uplink (Cat 6): FDD: 50 Mbps TDD: 28 Mbps
Software	
IPv6/4	Present

Operation Mode	AP/Bridge/Client/MESH mode	Serial Data Bits	5, 6, 7, 8
Login Security	Supports IEEE802.1x Authentication/RADIUS	Serial Parity	odd, even, none, mark, space
Access Security	HTTP/HTTPS/Telnet/SSH & Administration; SNMP v1/v2/v3 access for authentication via MD5/SHA(v3) and Encryption via DES/AES(v3)	Serial Stop Bits	1, 1.5, 2
Protocol	PPPoE Client, DHCP server/client, Adjustable MTU, Port forwarding (NAPT), DMZ; NAT, SNTP, Firewall(Firewall(DDoS;IP address filter / Mac address filter / TCP/UDP port number ),VRRP**, DDNS*	RS-232	TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND
Routing	Static route / RIPv2 / OSPF / BGP / EIGRP	RS-422	Tx+,Tx-, Rx+, Rx-,GND
Management	SNMP v1, v2c, v3 / Web/Telnet/CLI	RS-485 (2-wire)	Data+, Data-,GND
Load Balancing	5 schemes for multiple WAN	Isolation protection	RS422/RS485 2.5KV isolation; 8KV contact & 15KV air RS232 8KV contact and 15KV air ESD DIDO 2.5KV isolation Input power 1.5KVA isolation
<b>Basic</b>		DI/DO	2 Digital Input (DI): Level 0: -30~2V / Level 1: 10~30V Max. input current:8mA 2 Digital Output(DO): Open collector to 80 VDC, 50mA
Fixed	All traffic will be distributed to a single WAN.	EMMC Storage**	8/16/32 GB
Failover	Routes connections through preferred WAN link while others stand-by. Sequentially activating another link if the preferred link fails.	<b>LED Indicators</b>	
Priority	Select the active WAN according to priority.	Power & System indicator	Per unit: Power 1 (Green), Power 2 (Green), P-Fail (Red) , Ring Master(Green), System Ready(Green), Serial 1/Serial2(Green)
Weighted Round-Robin	Evenly distribute the traffic over all working WAN links in circular order according to the specified weights	10/100/1000Base-T(X) port indicator	Link/Activity (Green), Speed (Yellow), PoE (Green, PoE model)
Custom Route	Routing through the selected WAN for each specific traffic ex: TCP/UDP port number and IP address.	SIM	Green for Link/Act
Roaming	Client-base roaming	GPS	Green for Link/Act
MESH	Support 802.11s Wireless Mesh Network	Fault	Red: Ethernet link down or power down
WMM	Wi-Fi multimedia and 802.11e traffic prioritization	<b>Fault contact</b>	
Security	WEP64/128bits/ WPA/ WPA-PSK (TKIP,AES)/ WPA2/ WPA2-PSK (TKIP,AES)/SSH/SSL/HTTPS	Relay	Relay output to carry capacity of 1A at 24VDC
Authentication	Radius Authentication, EAP-TLS, EAP-TTLS, PEAP; SSID broadcast disable supported	<b>Power</b>	
SSID	16 sets	Input power	Dual DC input, 16.8VDC~137.5VDC for (WV model)
Timer	Built-in Real Time Clock to keep track of time always(RTC)	PoE budget (PoE model)	60W
Discovery	IEEE 802.1ab Link Layer Discovery Protocol (LLDP)	Power consumption (Typ.)	20W Watts
SNMP trap	Device cold / warm start Port link up / link down DI / DO high / low	<b>Physical Characteristic</b>	
Environmental Monitoring	System status for input voltage, current , ambient temperature to be shown in GUI and sent alerting if any abnormal status	Enclosure	IP 65/54 aluminum case
Graphic signal display	Graphic LTE & Wi-Fi signal strength	Dimension	178 (W) x 99 (D) x 103 (H) mm
Remote Web control	To reboot or get status of router by Web	Weight	1450g
Captive portal	Editable captive portal login page	<b>Environmental</b>	
Maintenance	Firmware upgradeable through TFTP /HTTP	Storage Temperature	-40°C ~ 85°C (-40°F ~ 185°F)
Configuration backup & restore	Supports text configuration file for quick system installation USB port to upload/download firmware by USB dongle Dual image firmware	Operating Temperature	-40°C ~ 65°C (-40°F ~ 149°F)
IPv6/4	Present	Operating Humidity	5% to 95% Non-condensing
Login Security	Supports IEEE802.1x Authentication/RADIUS	<b>Regulatory approvals</b>	
Access Security	HTTP/HTTPS/Telnet/SSH & Administration; SNMP v1/v2/v3 access for authentication via MD5/SHA(v3) and Encryption via DES/AES(v3)	EMC	FCC Part 15 Class A, EN55032, EN55024
<b>Physical Ports &amp; System</b>		EMS	EN61000-4-2 (ESD), EN61000-4-3 (RS), EN61000-4-4 (EFT), EN61000-4-5 (Surge), EN61000-4-6 (CS), EN61000-4-8, EN61000-6-2
Connectors	10/100/1000T: 6x ports M12 8pole X-coded incl. 2 WAN/LAN ports and 4 PoE ports (PoE model) USB/Console connector: 1 x M12 8-pole A-coded DIDO : 1 x M12 5-pole A-coded Power Input connector: 1 x M12 4-pole A-coded Serial connector: 2 x M12 8-pole X-coded SMA connector for LTE: 2 (female) SMA connector for GPS: 1 (female) RP-SMA connector for Wi-Fi: 3 (female)	Radio Frequency	EN 301 489-1, EN 301 489-17, EN 301 489-19, EN 301 489-52, EN 300 440, EN 301 893, EN 300 328, EN 301 908-1 EN 303 413, EN 62311
Serial Baud Rate	1000Kbps high data rate,250kbps normal for RS232 ; 20Mbps high data rate,250kbps normal for RS422/RS485	Verifications & Report	EN50155, EN50121-3-2, EN50121-4 verification EN45545-2 R13/R22/R23/R24/R25 (EN ISO 4589-2, EN ISO 5659-2, NF X70-100-1 & 2) Fire & Smoke verification
		Safety	EN60950 (LVD), AS60950 (LVD)
		Stability Testing	EN61373 (Shock & Vibration)
		MTBF	NA

\*Future Release  
\*\*Optional

## RF Performance Table

	Data Rate	TX Power (per chain)	TX Power (3 chains)	Tolerance	RX Specifications Sensitivity	Tolerance
2.4GHz 802.11b	1Mbps	20dBm	25dBm	±2dB	-95dBm	±2dB
	2Mbps	20dBm	25dBm	±2dB	-94dBm	±2dB
	5.5Mbps	20dBm	25dBm	±2dB	-92dBm	±2dB
	11Mbps	20dBm	25dBm	±2dB	-90dBm	±2dB
2.4GHz 802.11g	6Mbps	21dBm	26dBm	±2dB	-94dBm	±2dB
	9Mbps	21dBm	26dBm	±2dB	-93dBm	±2dB
	12Mbps	21dBm	26dBm	±2dB	-93dBm	±2dB
	18Mbps	21dBm	26dBm	±2dB	-90dBm	±2dB
	24Mbps	21dBm	26dBm	±2dB	-90dBm	±2dB
	36Mbps	20dBm	25dBm	±2dB	-85dBm	±2dB
	48Mbps	19dBm	24dBm	±2dB	-82dBm	±2dB
	54Mbps	18dBm	23dBm	±2dB	-80dBm	±2dB
2.4GHz 802.11n HT20	MCS 0	21dBm	26dBm	±2dB	-94dBm	±2dB
	MCS 1	21dBm	26dBm	±2dB	-92dBm	±2dB
	MCS 2	21dBm	26dBm	±2dB	-89dBm	±2dB
	MCS 3	20dBm	25dBm	±2dB	-84dBm	±2dB
	MCS 4	20dBm	25dBm	±2dB	-83dBm	±2dB
	MCS 5	20dBm	25dBm	±2dB	-80dBm	±2dB
	MCS 6	18dBm	23dBm	±2dB	-79dBm	±2dB
	MCS 7	16dBm	21dBm	±2dB	-77dBm	±2dB
2.4GHz 802.11n HT40	MCS 0	20dBm	25dBm	±2dB	-93dBm	±2dB
	MCS 1	20dBm	25dBm	±2dB	-91dBm	±2dB
	MCS 2	20dBm	25dBm	±2dB	-89dBm	±2dB
	MCS 3	19dBm	24dBm	±2dB	-84dBm	±2dB
	MCS 4	19dBm	24dBm	±2dB	-82dBm	±2dB
	MCS 5	19dBm	24dBm	±2dB	-80dBm	±2dB
	MCS 6	18dBm	23dBm	±2dB	-79dBm	±2dB
	MCS 7	16dBm	21dBm	±2dB	-75dBm	±2dB

	Data Rate	TX Power (per chain)	TX Power (3 chains)	Tolerance	RX Specifications Sensitivity	Tolerance
5GHz 802.11a	6Mbps	20dBm	25dBm	±2dB	-94dBm	±2dB
	9Mbps	20dBm	25dBm	±2dB	-94dBm	±2dB
	12Mbps	20dBm	25dBm	±2dB	-92dBm	±2dB
	18Mbps	20dBm	25dBm	±2dB	-91dBm	±2dB
	24Mbps	20dBm	25dBm	±2dB	-90dBm	±2dB
	36Mbps	18dBm	23dBm	±2dB	-86dBm	±2dB
	48Mbps	16dBm	21dBm	±2dB	-83dBm	±2dB
	54Mbps	15dBm	20dBm	±2dB	-80dBm	±2dB
5GHz 802.11n/ac VHT20	MCS 0	19dBm	24dBm	±2dB	-93dBm	±2dB
	MCS 1	19dBm	24dBm	±2dB	-90dBm	±2dB
	MCS 2	19dBm	24dBm	±2dB	-87dBm	±2dB
	MCS 3	18dBm	23dBm	±2dB	-83dBm	±2dB
	MCS 4	18dBm	23dBm	±2dB	-80dBm	±2dB
	MCS 5	17dBm	22dBm	±2dB	-77dBm	±2dB
	MCS 6	16dBm	21dBm	±2dB	-74dBm	±2dB
	MCS 7	14dBm	19dBm	±2dB	-73dBm	±2dB
	MCS 8	13dBm	18dBm	±2dB	-71dBm	±2dB
5GHz 802.11n/ac VHT40	MCS 0	18dBm	23dBm	±2dB	-90dBm	±2dB
	MCS 1	18dBm	23dBm	±2dB	-88dBm	±2dB
	MCS 2	18dBm	23dBm	±2dB	-85dBm	±2dB
	MCS 3	17dBm	22dBm	±2dB	-82dBm	±2dB
	MCS 4	17dBm	22dBm	±2dB	-80dBm	±2dB
	MCS 5	16dBm	21dBm	±2dB	-75dBm	±2dB
	MCS 6	15dBm	20dBm	±2dB	-73dBm	±2dB
	MCS 7	14dBm	19dBm	±2dB	-73dBm	±2dB
	MCS 8	13dBm	18dBm	±2dB	-70dBm	±2dB
5GHz 802.11ac VHT80	MCS 0	18dBm	23dBm	±2dB	-89dBm	±2dB
	MCS 1	18dBm	23dBm	±2dB	-87dBm	±2dB
	MCS 2	18dBm	23dBm	±2dB	-85dBm	±2dB
	MCS 3	17dBm	22dBm	±2dB	-83dBm	±2dB
	MCS 4	17dBm	22dBm	±2dB	-80dBm	±2dB
	MCS 5	16dBm	21dBm	±2dB	-78dBm	±2dB
	MCS 6	15dBm	20dBm	±2dB	-75dBm	±2dB
	MCS 7	14dBm	19dBm	±2dB	-72dBm	±2dB
	MCS 8	13dBm	18dBm	±2dB	-70dBm	±2dB
MCS 9	13dBm	18dBm	±2dB	-68dBm	±2dB	

## ORDERING INFORMATION

All standard models are non-conformal coated, optional conformal coated models are available with -C model name

- **TPWMR-5004-1L-1AC-2S-WV-65-EUNA.....P/N: 8643-021**  
 EN50155 Multifunction VPN Router w/1x Wi-Fi 11ac + 1 LTE 4G SMA connectors + 2 serial RS232 ports + 4 Gigabit X-coded Ethernet PoE switch + 2 WAN/LAN w/Load Balancing, VPN, Protocol Gateway; EU and US band; dual 16.8V~137.5VDC; IP65; -40~65C
- **TPWMR-5004-1L-1AC-2SA-WV-65-EUNA.....P/N: 8643-0211**  
 EN50155 Multifunction VPN Router w/1x Wi-Fi 11ac + 1 LTE 4G SMA connectors + 2 serial RS422 ports + 4 Gigabit X-coded Ethernet PoE switch + 2 WAN/LAN w/Load Balancing, VPN, Protocol Gateway; EU and US band; dual 16.8V~137.5VDC; IP65; -40~65C
- **TPWMR-5004-1L-1AC-2SB-WV-65-EUNA.....P/N: 8643-0212**  
 EN50155 Multifunction VPN Router w/1x Wi-Fi 11ac + 1 LTE 4G SMA connectors + 2 serial RS485 ports + 4 Gigabit X-coded Ethernet PoE switch + 2 WAN/LAN w/Load Balancing, VPN, Protocol Gateway; EU and US band; dual 16.8V~137.5VDC; IP65; -40~65C
- **TPWMR-5004-1L-1AC-2S-WV-54-EUNA.....P/N: 8643-041**  
 EN50155 Multifunction VPN Router w/1x Wi-Fi 11ac + 1 LTE 4G SMA connectors + 2 serial RS232 ports + 4 Gigabit X-coded Ethernet PoE switch + 2 WAN/LAN w/Load Balancing, VPN, Protocol Gateway; EU and US band; dual 16.8V~137.5VDC; IP54; -40~65C
- **TPWMR-5004-1L-1AC-2SA-WV-54-EUNA.....P/N: 8643-0411**  
 EN50155 Multifunction VPN Router w/1x Wi-Fi 11ac + 1 LTE 4G SMA connectors + 2 serial RS422 ports + 4 Gigabit X-coded Ethernet PoE switch + 2 WAN/LAN w/Load Balancing, VPN, Protocol Gateway; EU and US band; dual 16.8V~137.5VDC;

- IP54; -40~65C
- **TPWMR-5004-1L-1AC-2SB-WV-54-EUNA.....P/N: 8643-0412**  
 EN50155 Multifunction VPN Router w/1x Wi-Fi 11ac + 1 LTE 4G SMA connectors + 2 serial RS485 ports + 4 Gigabit X-coded Ethernet PoE switch + 2 WAN/LAN w/Load Balancing, VPN, Protocol Gateway; EU and US band; dual 16.8V~137.5VDC; IP54; -40~65C
  - **TWMR-5004-1L-1AC-2S-WV-65-EUNA.....P/N: 8640-021**  
 EN50155 Multifunction VPN Router w/1x Wi-Fi 11ac + 1 LTE 4G SMA connectors + 2 serial RS232 ports + 4 Gigabit X-coded Ethernet managed Switch + 2WAN/2LAN with Load Balancing, VPN, Protocol Gateway; EU and US band; dual 16.8V~137.5VDC; IP65; -40~65C
  - **TWMR-5004-1L-1AC-2SA-WV-65-EUNA.....P/N: 8640-0211**  
 EN50155 Multifunction VPN Router w/1x Wi-Fi 11ac + 1 LTE 4G SMA connectors + 2 serial RS422 ports + 4 Gigabit X-coded Ethernet managed Switch + 2WAN/2LAN with Load Balancing, VPN, Protocol Gateway; EU and US band; dual 16.8V~137.5VDC; IP65; -40~65C
  - **TWMR-5004-1L-1AC-2SB-WV-65-EUNA.....P/N: 8640-0212**  
 EN50155 Multifunction VPN Router w/1x Wi-Fi 11ac + 1 LTE 4G SMA connectors + 2 serial RS485 ports + 4 Gigabit X-coded Ethernet managed Switch + 2WAN/2LAN with Load Balancing, VPN, Protocol Gateway; EU and US band; dual 16.8V~137.5VDC; IP65; -40~65C
  - **WMR-5004-1L-1AC-2S-WV-67-EUNA.....P/N: 8640-051**  
 EN50155 Multifunction VPN Router w/1x Wi-Fi 11ac + 1 LTE 4G SMA connectors + 2 serial RS232 ports + 4 Gigabit X-coded Ethernet managed Switch + 2WAN/2LAN with Load Balancing, VPN, Protocol Gateway; EU and US band; dual 16.8V~137.5VDC; IP67; -40~65C
  - **TWMR-5004-1L-1AC-2SA-WV-67-EUNA.....P/N: 8640-0511**  
 EN50155 Multifunction VPN Router w/1x Wi-Fi 11ac + 1 LTE 4G SMA connectors + 2 serial RS422 ports + 4 Gigabit X-coded Ethernet managed Switch + 2WAN/2LAN with Load Balancing, VPN, Protocol Gateway; EU and US band; dual 16.8V~137.5VDC; IP67; -40~65C
  - **TWMR-5004-1L-1AC-2SB-WV-67-EUNA.....P/N: 8640-0512**  
 EN50155 Multifunction VPN Router w/1x Wi-Fi 11ac + 1 LTE 4G SMA connectors + 2 serial RS485 ports + 4 Gigabit X-coded Ethernet managed Switch + 2WAN/2LAN with Load Balancing, VPN, Protocol Gateway; EU and US band; dual 16.8V~137.5VDC; IP67; -40~65C
  - **TWMR-5004-1L-1AC-2S-WV-54-EUNA.....P/N: 8640-041**  
 EN50155 Multifunction VPN Router w/1x Wi-Fi 11ac + 1 LTE 4G SMA connectors + 2 serial RS232 ports + 4 Gigabit X-coded Ethernet managed Switch + 2WAN/2LAN with Load Balancing, VPN, Protocol Gateway; EU and US band; dual 16.8V~137.5VDC; IP54; -40~65C
  - **TWMR-5004-1L-1AC-2SA-WV-54-EUNA.....P/N: 8640-0411**  
 EN50155 Multifunction VPN Router w/1x Wi-Fi 11ac + 1 LTE 4G SMA connectors + 2 serial RS422 ports + 4 Gigabit X-coded Ethernet managed Switch + 2WAN/2LAN with Load Balancing, VPN, Protocol Gateway; EU and US band; dual 16.8V~137.5VDC; IP54; -40~65C
  - **TWMR-5004-1L-1AC-2SB-WV-54-EUNA.....P/N: 8640-0412**  
 EN50155 Multifunction VPN Router w/1x Wi-Fi 11ac + 1 LTE 4G SMA connectors + 2 serial RS485 ports + 4 Gigabit X-coded Ethernet managed Switch + 2WAN/2LAN with Load Balancing, VPN, Protocol Gateway; EU and US band; dual 16.8V~137.5VDC; IP54; -40~65C
  - **TPWMR-5004-1L-1AC-2S-WV-65-GN.....P/N: 8643-02101**  
 EN50155 Multifunction VPN Router w/1x Wi-Fi 11ac + 1 LTE 4G SMA connectors + 2 serial RS232 ports + 4 Gigabit X-coded Ethernet PoE switch + 2 WAN/LAN w/Load Balancing, VPN, Protocol Gateway; EMEA and APAC band; dual 16.8V~137.5VDC; IP65; -40~65C
  - **TPWMR-5004-1L-1AC-2SA-WV-65-GN.....P/N: 8643-02102**  
 EN50155 Multifunction VPN Router w/1x Wi-Fi 11ac + 1 LTE 4G SMA connectors + 2 serial RS422 ports + 4 Gigabit X-coded Ethernet PoE switch + 2 WAN/LAN w/Load Balancing, VPN, Protocol Gateway; EMEA and APAC band; dual 16.8V~137.5VDC; IP65; -40~65C
  - **TPWMR-5004-1L-1AC-2SB-WV-65-GN.....P/N: 8643-02103**  
 EN50155 Multifunction VPN Router w/1x Wi-Fi 11ac + 1 LTE 4G SMA connectors + 2 serial RS485 ports + 4 Gigabit X-coded Ethernet PoE switch + 2 WAN/LAN w/Load Balancing, VPN, Protocol Gateway; EMEA and APAC band; dual 16.8V~137.5VDC; IP65; -40~65C
  - **TPWMR-5004-1L-1AC-2S-WV-54-GN.....P/N: 8643-02104**  
 EN50155 Multifunction VPN Router w/1x Wi-Fi 11ac + 1 LTE 4G SMA connectors + 2 serial RS232 ports + 4 Gigabit X-coded Ethernet PoE switch + 2 WAN/LAN w/Load Balancing, VPN, Protocol Gateway; EMEA and APAC band; dual 16.8V~137.5VDC; IP54; -40~65C
  - **TPWMR-5004-1L-1AC-2SA-WV-54-GN.....P/N: 8643-02105**  
 EN50155 Multifunction VPN Router w/1x Wi-Fi 11ac + 1 LTE 4G SMA connectors + 2 serial RS422 ports + 4 Gigabit X-coded Ethernet PoE switch + 2 WAN/LAN w/Load Balancing, VPN, Protocol Gateway; EMEA and APAC band; dual 16.8V~137.5VDC; IP54; -40~65C
  - **TPWMR-5004-1L-1AC-2SB-WV-54-GN.....P/N: 8643-02106**  
 EN50155 Multifunction VPN Router w/1x Wi-Fi 11ac + 1 LTE 4G SMA connectors + 2 serial RS485 ports + 4 Gigabit X-coded Ethernet PoE switch + 2 WAN/LAN w/Load Balancing, VPN, Protocol Gateway; EMEA and APAC band; dual 16.8V~137.5VDC; IP54; -40~65C
  - **TWMR-5004-1L-1AC-2S-WV-65-GN.....P/N: 8643-02107**  
 EN50155 Multifunction VPN Router w/1x Wi-Fi 11ac + 1 LTE 4G SMA connectors + 2 serial RS232 ports + 4 Gigabit X-coded Ethernet managed Switch + 2WAN/2LAN with Load Balancing, VPN, Protocol Gateway; EMEA and APAC band; dual

- 16.8V~137.5VDC; IP65; -40~65C
- **TWMR-5004-1L-1AC-2SA-WV-65-GN.....P/N: 8643-02108**  
EN50155 Multifunction VPN Router w/1x Wi-Fi 11ac + 1 LTE 4G SMA connectors + 2 serial RS422 ports + 4 Gigabit X-coded Ethernet managed Switch + 2WAN/2LAN with Load Balancing, VPN, Protocol Gateway; EMEA and APAC band; dual 16.8V~137.5VDC; IP65; -40~65C
- **TWMR-5004-1L-1AC-2SB-WV-65-GN.....P/N: 8643-02109**  
EN50155 Multifunction VPN Router w/1x Wi-Fi 11ac + 1 LTE 4G SMA connectors + 2 serial RS485 ports + 4 Gigabit X-coded Ethernet managed Switch + 2WAN/2LAN with Load Balancing, VPN, Protocol Gateway; EMEA and APAC band; dual 16.8V~137.5VDC; IP65; -40~65C
- **WMR-5004-1L-1AC-2S-WV-67-GN.....P/N: 8643-02111**  
EN50155 Multifunction VPN Router w/1x Wi-Fi 11ac + 1 LTE 4G SMA connectors + 2 serial RS232 ports + 4 Gigabit X-coded Ethernet managed Switch + 2WAN/2LAN with Load Balancing, VPN, Protocol Gateway; EMEA and APAC band; dual 16.8V~137.5VDC; IP67; -40~65C
- **TWMR-5004-1L-1AC-2SA-WV-67-GN.....P/N: 8643-02112**  
EN50155 Multifunction VPN Router w/1x Wi-Fi 11ac + 1 LTE 4G SMA connectors + 2 serial RS422 ports + 4 Gigabit X-coded Ethernet managed Switch + 2WAN/2LAN with Load Balancing, VPN, Protocol Gateway; EMEA and APAC band; dual 16.8V~137.5VDC; IP67; -40~65C
- **TWMR-5004-1L-1AC-2SB-WV-67-GN.....P/N: 8643-02113**  
EN50155 Multifunction VPN Router w/1x Wi-Fi 11ac + 1 LTE 4G SMA connectors + 2 serial RS485 ports + 4 Gigabit X-coded Ethernet managed Switch + 2WAN/2LAN with Load Balancing, VPN, Protocol Gateway; EMEA and APAC band; dual 16.8V~137.5VDC; IP67; -40~65C
- **TWMR-5004-1L-1AC-2S-WV-54-GN.....P/N: 8643-02114**  
EN50155 Multifunction VPN Router w/1x Wi-Fi 11ac + 1 LTE 4G SMA connectors + 2 serial RS232 ports + 4 Gigabit X-coded Ethernet managed Switch + 2WAN/2LAN with Load Balancing, VPN, Protocol Gateway; EMEA and APAC band; dual 16.8V~137.5VDC; IP54; -40~65C
- **TWMR-5004-1L-1AC-2SA-WV-54-GN.....P/N: 8643-02115**  
EN50155 Multifunction VPN Router w/1x Wi-Fi 11ac + 1 LTE 4G SMA connectors + 2 serial RS422 ports + 4 Gigabit X-coded Ethernet managed Switch + 2WAN/2LAN with Load Balancing, VPN, Protocol Gateway; EMEA and APAC band; dual 16.8V~137.5VDC; IP54; -40~65C
- **TWMR-5004-1L-1AC-2SB-WV-54-GN.....P/N: 8643-02116**  
EN50155 Multifunction VPN Router w/1x Wi-Fi 11ac + 1 LTE 4G SMA connectors + 2 serial RS485 ports + 4 Gigabit X-coded Ethernet managed Switch + 2WAN/2LAN with Load Balancing, VPN, Protocol Gateway; EMEA and APAC band; dual 16.8V~137.5VDC; IP54; -40~65C

**EMMC Flash Storage**

- **8G.....P/N: 8850-113**
- **16G.....P/N: 8850-114**
- **32G.....P/N: 8850-115**

**OPTIONAL ACCESSORIES**

**Management System**

- **InstaAir.....P/N: 9000-121**  
Cloud Based Fleet Management System for Routers

**GPS Antenna**

- **ANT12000001** SMA GPS antenna, 28dB, 300m



**Cellular Antenna**

- **ANT11000041** 2G/3G/4G dipole antenna, 791-960/1710~2170/2500~2700MHz, 3dBi, SMA plug, EU



- **ANT11000042** 2G/3G/4G dipole antenna, 704-960/1710~2170MHz, 3dBi, SMA plug, US



■ ANT11000046

LTE hinge rotatable antenna, 698-960MHz, 1710-2690MHz, Diameter 10mm, Length 108mm, SMA Connector



**Wi-Fi Antenna**

■ ANT11000051

2.4/5GHz SMA dipole Wi-Fi antenna, 3dBi (2.4GHz), 4dBi (5GHz)



■ ANT11000056

Wi-Fi hinge rotatable antenna, WiFi Dual Bands 2.4/5.8GHz, SMA Connector



**Antenna Base**

■ ADA11000052

Magnetic antenna base for Wi-Fi, RP SMA Jack Base, Length : 1M



■ ADA11000053

Magnetic antenna base for 3G/4G, RP SMA Jack Base, Length : 1M



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