MDN80I

5G Ruggedized Router

CAT20

5GNR/LTE/WCDMA

RS485

IP65

MDN80I Ruggedized Router from SUNWAVE is designed for industrial applications that converts 5G wireless signals into Gigabit Ethernet, providing stable and high-speed 5G access for the devices.

Designed for both indoor and outdoor harsh industrial environments, MDN80I meets high standards in vibration tolerance and is ideal for operations in robot, AGV, AMR, unmanned delivery cars, drones, logistics, automated manufacturing, port and other outdoor applications. MDN80I can also offer precise information about its real-time location; its built-in GNSS receiver allows GPS, GLONASS, Beidou and Galileo constellations.

KEY FEATURES

- Qualcomm SDX62 chipset solution
- 5G NR and LTE-A CAT20 dual mode
- Supports both SA and NSA
- Global/CBRS bands supported
- Ruggedized and anti-vibration design
- Powerful software features
- Web, TR069 and SNMP based device management
- Supports 2.5G Ethernet port and RS485 industrial interface
- IP65 rating for outdoor environment

SYSTEM ELEMENTS

HARDWARE SPECIFICATIONS

Chipset	Qualcomm SDX62 SoC	
Cellular Bands(MDN80I-A Europe & Asia version)	5G NR	n1/n3/n5/n7/n8/n20/n28/n38/n40/n41/n75/n76/n77/n78
	LTE	FDD B1/B3/B5/B7/B8/B20/B28/B32 TDD B38/B40/B41/B42/B43
	WCDMA	B1/B5/B8
Cellular Bands(MDN80I-B North American version)	5G NR	n2/n5/n7/n12/n13/n14/n25/n26/n29/n30/n38/n41/n48/n66/n70/n71/n77/n78
	LTE	FDD B2/B4/B5/B7/B12/B13/B14/B25/B26/B29/B30/B66/B71 TDD B38/B41/B42/B43/B48 LAA B46

Category	Rel-16/Sub6 5G & CAT20
GNSS	GPS/GLONASS/BeiDou/Galileo
Network Mode	Supports SA/NSA
External Port	1 x 2.5G Ethernet port 1 x RS485 1 x SIM Slot (4FF)
LED	4 LED Indicators (PWR, NET, SIM, Tri-color SIG)
Antenna Port	4 x LTE/NR Antenna 1 x GNSS
Carrier Aggregation	LTE: DL 5CA and UL 2CA NR: 2CA

MIMO(MDN80I-A Europe & Asia version)	Downlink	5G NR: 4×4 MIMO on n1/n3/n5/n7/n8/n20/n28/n38/n40/n41/n75 n76/n77/n78 LTE: 4×4 MIMO on B1/B3/B5/B7/B8/B20/B28/B32/B38/B40/B41 B42/B43
	Uplink	5G NR: 2×2 MIMO on n38/n41/n77/n78
MIMO (MDN80I-B North American version)	Downlink	5G NR: 4×4 MIMO on n2/n5/n7/n12/n13/n14/n25/n26/n29/n30/n38 n41/n48/n66/n70/n71/n77/n78 LTE: 4×4 MIMO on B2/B4/B5/B7/B12/B13/B14/B17/B25/B26/B29/B30/B38/B41/B42/B43/B48/B66/B71
	Uplink	5G NR: 2×2 MIMO on n38/n41/n48/n77/n78

Maximum throughput	Downlink	5G NR SA (Gigabit Ethernet port)	2.4Gbps
		5G NR NSA (Gigabit Ethernet port)	2.5Gbps
		4G LTE (Gigabit Ethernet port)	1.6Gbps
		WCDMA (Gigabit Ethernet port)	42Mbps
	Uplink	5G NR SA Sub 6	900Mbps
		5G NR NSA Sub 6	550Mbps
		4G LTE	200Mbps
		WCDMA	5.76Mbps

Maximum transmission power	5G NR Sub 6 bands	Class 3 (23 dBm ±2 dB)
	n41/n77/n78 HPUE	Class 2 (26 dBm +2/-3 dB)
	4G LTE	Class 3 (23 dBm ±2 dB)
	B38/B41/B42 HPUE	Class 2 (26 dBm ±2 dB)
	WCDMA	Class 3 (24 dBm +1/-3 dB)

Power supply	DC 8~24V, 12V default

Power Consumption	＜24W
GNSS	Support GPS, GLONASS, Beidou and Galileo
Dimensions	125mm x 75mm x 25mm
Weight	420g
Humidity	Operation humidity: 5% - 95% (non-condensing) Storage humidity: 5% - 95% (non-condensing)
Temperature	Operating temperature: -40 °C ~ +70 °C Storage temperature: -40 °C ~ +85 °C

SOFTWARE SPECIFICATIONS	
WAN	Multi-APN support, maximum four
	IP pass-through
	IPv4/v6 dual stack
LAN	IEEE 802.1Q VLAN
	DHCP Server
	DNS and DNS proxy
	DMZ
	Multi-cast/ Multi-cast proxy
Protocol	Routing: Static routing
Device management	TR069
	SNMP v2
	WebGUI
	Software upgrade via Web UI/TR069/FOTA
	USIM PIN management
Routing Mode	Route mode
	Bridge mode
	NAT mode
	Static Route
	Port Mirror and Port Forwarding
	IPV4/IPV6 dual stack
VPN	PPTP
	GRE tunnel
	L2TP V2/V3
Security	Firewall
	Mac address filtering
	IP address filtering

	URL filtering
	Access control
	HTTPS login from WAN
	DOS attack protection
	Two level of user authority

COMPLIANCE SPECIFICATIONS

Environment Compliance	Protection rating: IP65
	Shockproof: ISO 16750-3 : 2012 (E）

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