

ПРОМЫШЛЕННЫЕ СОТОВЫЕ РОУТЕРЫ

MIDGE

5G

4G

LTE
450

LTE-M
NB-IoT

Сотовые Роутеры MIDGE специально разработанные для систем SCADA и телеметрии критически важной инфраструктуры, такой как Энергетика, Водоснабжение, Нефть и Газ. Они также подходят для всех применений, где требуется высокая надёжность и безопасность беспроводной передачи данных, таких как POS-терминалы, банкоматы, лотерейные автоматы и системы охраны/наблюдения.



ЛИДЕР РЫНКА

- 5G, 4G, LTE 450, NB-IoT
- 2× SIM + eSIM
- Интерфейс SFP
- Расширение mPCIe - 2-е сотовые, Wi-Fi, GPS...

ПРОИЗВОДИТЕЛЬНОСТЬ

- Последовательные протоколы SCADA
- Статическая и динамическая маршрутизация
- Расширенная диагностика, API
- Гибридные сети

НАДЕЖНОСТЬ

- Усиленная промышленная конструкция
- Одобрено для электроподстанций
- От -40 до +70 °C
- Нарботка на отказ > 100 лет,
Сделано в Чехии, ЕС

БЕЗОПАСНОСТЬ

- IPsec, OpenVPN
- RADIUS, SNMPv3
- Firewall, VLAN
- Цифровая подпись ПО



RACOM

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СПЕЦИФИКАЦИИ

	MIDGE3	MIDGE3e
mPCIe	Yes	No
Interfaces	4× ETH, 1× SFP, 2× COM, 1× USB	2× ETH, 2× COM, 1× USB
Inputs / Outputs	2× DI, 2× DO, 1× DiffDI	No
HW tamper	Yes	No
Dynamic routing	BGP / OSPF / Babel	No
Link management	Yes	No

Model	Order Code	Frequency bands	Data rates
5G* MIDGE3	'Q' Telit FN990 Worldwide	5G Rel.17: n1, n2, n3, n5, n7, n8, n12, n13, n14, n18, n20, n25, n26, n28, n29(SDL), n30, n38, n40, n41, n48, n53, n66, n67(SDL), n70, n71, n75(SDL), n76(SDL), n77, n78, n79, n91, n92, n93, n94	NSA: 3.6 Gbps DL, 0.55 Gbps UL SA: 2.8 Gbps DL, 0.45 Gbps UL
		4G Cat 20: B1, B2(B25), B3, B4(B66), B26(B5/B18/B19/B26), B7, B8, B12(B17), B13, B14, B20, B28, B29(SDL), B30, B32(SDL), B34, B38, B39, B40, B41, B42, B43, B46(SDL), B48, B67(SDL), B68, B70, B71	2 Gbps DL, 210 Mbps UL
		3G HSPA+ Rel 8: B1, B2, B4, B5, B8	42 Mbps DL, 11 Mbps UL
4G MIDGE3, MIDGE3e mPCIe ext. board	'W' Cinterion PLS83-W Worldwide	4G LTE (also 5G NSA), 3GPP Release 10: B1, B2, B3, B4, B5, B7, B8, B12, B13, B18, B19, B20, B26, B28, B38, B40, B41, B66	Cat.4, DL 150 Mb/s, UL 50 Mb/s
		3G UMTS/HSDPA/HSUPA, 3GPP Release 7: B1, B2, B3, B4, B5, B6, B8, B19	HSDPA Cat.10, HSUPA Cat.6: DL 14.4 Mb/s, UL 5.76 Mb/s
		2G GSM/GPRS/EDGE, 3GPP Release 4: GSM 850 MHz, E-GSM 900 MHz, DCS 1800 MHz, PCS 1900 MHz	Class 12, DL 237 kb/s, UL 237kb/s
LTE - M NB - IoT MIDGE3, MIDGE3e mPCIe ext. board	'M' Cinterion TX62-W-C, EMEA	4G LTE Cat M1, 3GPP Release 14: B1, B3, B8, B20, B28, B31, B72	M1 - DL 300 kb/s, UL 1.1 Mb/s NB1 - DL 27 kb/s, UL 63 kb/s NB2 - DL 124 kb/s, UL 158 kb/s
		4G LTE Cat NB1/2, 3GPP Release 14: B1, B3, B8, B20, B28, B31, B72	
	'O' Cinterion TX62-W-B, FCC	4G LTE Cat M1, 3GPP Release 14: B1, B2, B3, B4, B5, B8, B12, B13, B18, B19, B20, B25, B26, B27, B28, B66, B85	
		4G LTE Cat NB1/2, 3GPP Release 14: B1, B2, B3, B4, B5, B8, B12, B13, B18, B19, B20, B25, B26, B28, B66, B71, B85	M1 - DL 588 kb/s, UL 1 Mb/s NB2 - DL 120 kb/s, UL 160 kb/s
	'R' Telit ME310G1-W2, LatAm	4G LTE Cat M1, NB1, NB2 3GPP Release 14: B1, B3, B5, B8, B20, B28, B31, B72, B87, B88	

Electrical	MIDGE3	MIDGE3e
Primary power	10 – 50 VDC	
Power consumption	Average 7W	

Interfaces			
SIM slot	2× Micro SIM + 1× eSIM ¹⁾		2× Micro SIM
Ethernet	4× Ethernet 10/100/1000 Base-T, Auto MDX, bridged or routed	4× RJ45	2× Ethernet 10/100/1000 Base-T, Auto MDX, bridged or routed 2× RJ45
SFP	1× 10/100/1000 Base or T/1000Base-SX or 1000Base-LX	1× SFP	No
Serial	1× RS232/RS485 or 2× RS232 ²⁾ SW configurable 2× RS232 (mPCIe extension board ³⁾) 600 b/s – 1 Mb/s	Terminals 1× RJ45	1× RS232/RS485 or 2× RS232 ²⁾ Terminals SW configurable 600 b/s – 1 Mb/s
USB	1× USB 3.0 / Host A		
Inputs/Outputs	1× HW alarm input, 1× HW alarm output, 1× Sleep input 2× DI, 2× DO, 1× diffDI (when mPCIe-COMS is not used)	Power connector RJ45	1× HW alarm input, 1× HW alarm output, 1× Sleep input Power connector
Antenna	2× SMA female – receiver diversity (2x2 MIMO) + connectors for optional extension board		2× SMA female – receiver diversity (2x2 MIMO)

Optional Extensions	1× mPCIe: Cellular module ('W' or 'M' or 'O' or 'R') or 2× RS232 ³⁾ or GPS or Wi-Fi	No
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Environmental	
IP Code (Ingress Protection)	IP40
MTBF (Mean Time Between Failure)	> 100 years
Operating temperature	–40 to +70 °C (–40 to +158 °F)
Operating humidity	5 to 95% non-condensing

Mechanical	
Casing	Metal
Dimensions	132 H × 43 W × 110 D mm (5.20 × 1.69 × 4.33 in)
Weight	0.50 kg (1.1 lbs)
Mounting	DIN rail, optionally: Flat-bracket or L-bracket

Security		
Management	HTTPS (Web or API)	
Role-based access control (RBAC)	4 levels (Guest, Tech, SecTech, Admin)	
IPsec, OpenVPN	Yes	
Firewall	Layer 2 – MAC, Layer 3 – IP, Layer 4 – TCP/UDP, SMS filter	
AAA protocol	RADIUS	
FW	Digitally signed	
HW tamper	Case opening evidence	No

SW		
Fallback management	Yes	
Connection supervision	Yes	
Automatic connect recovery	Yes	
SMS management	Yes	
Routing	Static / Dynamic - BGP / OSPF / Babel	Static
Link management	Yes	No
QoS	Yes	
NAPT	Yes	
User protocols on Ethernet	Yes	
Serial SCADA protocols	DNP3, DF1, IEC101, Modbus RTU, PR2000, RDS, Siemens 3964(R), COMLI, SAIAS-bus, Mars-A, UNI, Async Link, PPP, Transparent	
Serial to IP convertors	DNP3 / DNP3 TCP, Modbus RTU / Modbus TCP, Terminal servers	
VPN	IPsec, OpenVPN, GRE	
NTP	Client, Server	
SNMP	v1, v2c, v3	

Approvals	CE, FCC, ... Ask for others
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Technical parameters are subject to change without prior notification. For more details see [User manuals](#).

¹⁾ eSIM only for 5G

²⁾ only for 'R' Order Code

³⁾ not available for 'R' Order Code

*) Pending

