

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
- Готовность к расширению - mPCIe

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



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	
'R' Telit ME310G1-W2, LatAm	4G LTE Cat M1, NB1, NB2 3GPP Release 14: B1, B3, B5, B8, B20, B28, B31, B72, B87, B88	M1 - DL 588 kb/s, UL 1 Mb/s NB2 - DL 120 kb/s, UL 160 kb/s	

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× 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-COM 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	MIDGE3	MIDGE3e
	1× mPCIe: Cellular module ('W' or 'M' or 'O' or 'R') or 2× RS232 ³⁾ or GPS or WiFi	No

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	MIDGE3	MIDGE3e
	CE, FCC, ... Ask for others	

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

