OnCell 5004/5104-HSPA Series

Industrial five-band GSM/GPRS/EDGE/UMTS/HSPA high speed routers

OnCell 5004-HSPA Series   OnCell 5104-HSPA Series

> Five band UMTS/HSPA 800/850/AWS/1900/2100 MHz
> Quad-band GSM/GPRS/EDGE 850/900/1800/1900 MHz
> GuaranLink and dual SIM redundancy for continuous cellular connections
> Connect to 4 10/100BaseT(X) devices over an integrated VPN
> Centralize private IP management with OnCell Central Manager
> DIN-Rail and wall mountable housing
> 2 digital inputs and 1 relay output (OnCell 5104-HSPA only)

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Overview

The OnCell 5004/5104-HSPA series are high-performance industrial grade cellular routers that allow up to 4 Ethernet-based devices to simultaneously use a single cellular data account for primary or backup network connectivity to remote sites and devices. Both products provide the functionality of a cellular router, firewall, and switch in one device, and to ensure zero data loss and on-demand cellular communication, the OnCell 5004/5104-HSPA are integrated with the GuaranLink function. The difference between the OnCell 5004-HSPA and OnCell 5104-HSPA is that the OnCell 5104-HSPA comes

with a built-in relay output that can be configured to indicate the priority of events when notifying or warning engineers in the field, and the two digital inputs allow you to connect basic I/O devices, such as sensors, to the cellular network. The OnCell 5004-HSPA can be placed on a desktop or wall-mounted, whereas the OnCell 5104-HSPA has an IA design and can be attached to a DIN-rail. Both products use 12 to 48 VDC power inputs with a screw-on design for greater reliability, and the Ethernet ports come with 1.5 KV magnetic isolation protection to keep your system safe from unexpected electrical discharges.

Specifications

Standards: GSM/GPRS/EDGE/UMTS/HSPA
Band Options:
• Five band UMTS/HSPA 800/850/AWS/1900/2100 MHz
• Quad-band GSM/GPRS/EDGE 850/900/1800/1900 MHz
HSPA Data Rate: 14.4 Mbps DL, 5.76 Mbps UL
EDGE Multi-slot Class: Class 12
EDGE Terminal Device Class: Class B
GPRS Multi-slot Class: Class 12
GPRS Terminal Device Class: Class B
GPRS Coding Schemes: CS1 to CS4
Tx Power:
GSM900: 2 W
UMTS/HSPA: 0.25 W
EDGE900: 0.5 W
EDGE1800: 0.4 W
GSM1800: 1 W

WAN Interface
Number of Ports: 1
Ethernet: 10/100 Mbps, RJ45 connector, Auto MDI/MDIX
Magnetic Isolation Protection: 1.5 KV built-in

LAN Interface
Number of Ports: 4
Ethernet: 10/100 Mbps, RJ45 connector, auto MDI/MDIX
Magnetic Isolation Protection: 1.5 KV built-in

SIM Interface
Number of SIMs: 2
SIM Control: 3 V

I/O Interface (OnCell 5104-HSPA)
Alarm Contact: 1 relay output with current carrying capacity of 1 A @ 24 VDC
Digital Inputs: 2 electrically isolated inputs
• +13 to +30 V for state "1" (On)
• +3 to -30 V for state "0" (Off)

Software
Network Protocols: UDP/TCP, SNTP, ICMP, DDNS, DHCP/BOOTP, PPPoE, PPP, DNS Relay, HTTPS, Telnet, RTSP, IPSec
Router/Firewall: NAT, port forwarding, static routing
Authentication: Local user-name and password
Security: IP filtering

Management Software
OnCell Central Manager: Centralized management solution for accessing private IPs from the Internet

Physical Characteristics
Housing: Aluminum, providing IP30 protection
Weight:
OnCell 5004-HSPA: 505±5 g
OnCell 5104-HSPA: 645±5 g
Dimensions:
OnCell 5004-HSPA: 158 x 103 x 34 mm (6.22 x 4.06 x 1.34 in)
OnCell 5104-HSPA: 135 x 50.8 x 103 mm (5.315 x 2.00 x 4.16 in)

Environmental Limits
Operating Temperature:
Standard Models: -30 to 55°C (-22 to 131°F)
Wide Temp. Models: -30 to 70°C (-22 to 158°F)

Storage Temperature: -40 to 75°C (-40 to 167°F)
Ambient Relative Humidity: 5 to 95% (30°C, non-condensing)

Power Requirements
Number of Power Inputs: 1 terminal block, 1 power jack
Input Voltage: 12 to 48 VDC
Power Consumption:
OnCell 5004-HSPA: 12 to 48 VDC, 400 mA (Idle), 900 mA (max.)
OnCell 5104-HSPA: 12 to 48 VDC, 450 mA (Idle), 950 mA (max.)

Standards and Certifications
Safety: UL 60950-1
EMC: EN 55022 Class A, EN 55024, FCC Part 15 Subpart B Class A

Radio: FCC Part 22H, FCC Part 24E, EN 301 489-1,
EN 301 489-7, EN 301 489-24,
EN 301 511

Reliability
MTBF (mean time between failures):
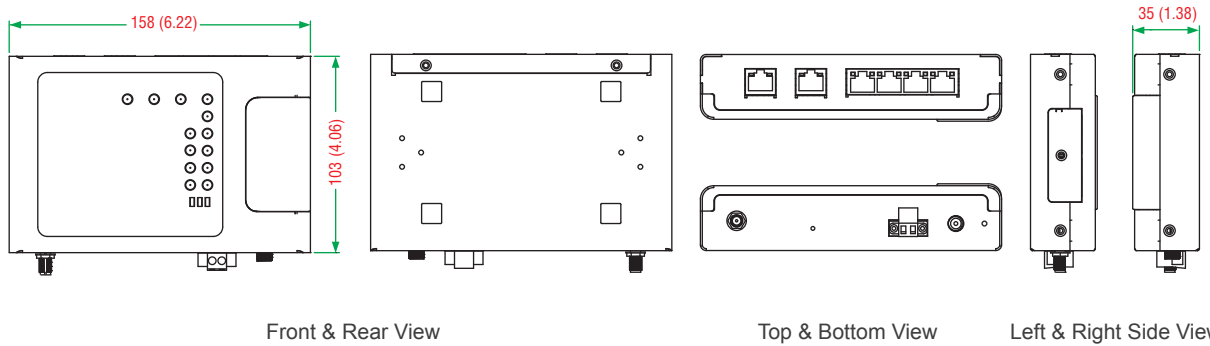OnCell 5004-HSPA: 441,000 hrs
OnCell 5104-HSPA: 411,000 hrs

Warranty
Warranty Period: 5 years
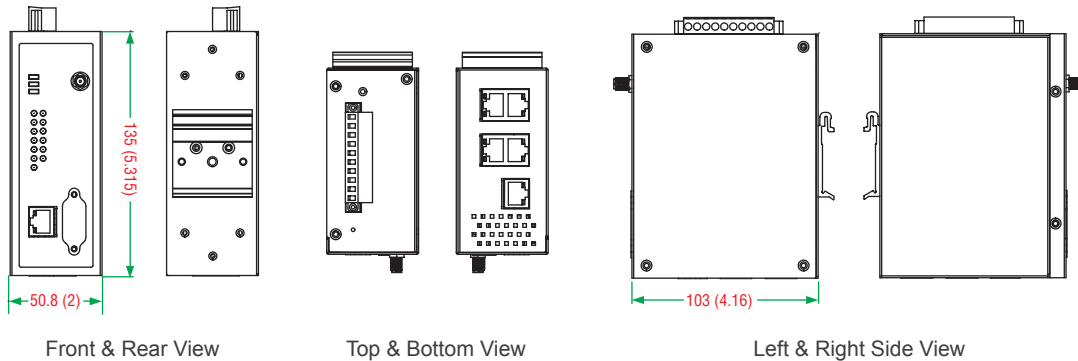**Details:** See www.moxa.com/warranty

Dimensions

OnCell 5004-HSPA

Unit: mm (inch)

Front & Rear View   Top & Bottom View   Left & Right Side View

OnCell 5104-HSPA

Front & Rear View   Top & Bottom View   Left & Right Side View

⁝ Ordering Information

Available Models
OnCell 5004-HSPA: 4-port 10/100M Ethernet to GSM/GPRS/EDGE/UMTS/HSPA cellular router, -30 to 55°C operating temperature
OnCell 5104-HSPA: 4-port 10/100M Ethernet to GSM/GPRS/EDGE/UMTS/HSPA cellular router, IA design, -30 to 55°C operating temperature
OnCell 5104-HSPA-T: 4-port 10/100M Ethernet to GSM/GPRS/EDGE/UMTS/HSPA cellular router, IA design, -30 to 70°C operation temperature
Note: Please visit Moxa's website for a complete list of optional wireless accessories and antennas available for Moxa's wireless products.

Package Checklist
• OnCell cellular router
• Rubber SMA antenna
• Rubber stand (OnCell 5004-HSPA only)
• Wallmount kit (OnCell 5004-HSPA only)
• DIN-Rail kit (OnCell 5104-HSPA only)
• Documentation and software CD
• Quick installation guide (printed)
• Warranty card

Note: An activated SIM card (not included) must be provided by a third party Cellular Service Provider

MOXA®

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Cellular Accessories

GSM/GPRS Cellular Antennas

	ANT-CQB-ASM-01	ANT-CQB-AHSM-00-3m	ANT-CQB-AHSM-03-3m	ANT-CQB-AHSM-05-3m
Frequency Range	850/900/1800/1900 MHz	850/900/1800/1900 MHz	850/900/1800/1900 MHz	850/900/1800/1900 MHz
Description	Quad-band GSM/GPRS, omni-directional, 1 dBi, rubber SMA	Quad-band GSM/GPRS, omni-directional, 0 dBi, 10 cm high, magnetic SMA, 3 m	Quad-band GSM/GPRS, omni-directional, 3 dBi, 25 cm high, magnetic SMA, 3 m	Quad-band GSM/GPRS, omni-directional, 5 dBi, 37 cm high, magnetic SMA, 3 m
Antenna Type	Omni-directional	Omni-directional	Omni-directional	Omni-directional
Cable Type	–	RG174/U	RG174/U	RG174/U
Typical Antenna Gain	1 dBi (Max.)	0 dBi	3 dBi	5 dBi
Impedance	50 ohms	50 ohms	50 ohms	50 ohms
Polarization Type	Linear	Linear	Linear	Linear
HPBW/horizontal	360°	360°	360°	360°
V.S.W.R.	–	< 2	< 2	< 2
Connector(s)	SMA (male)	SMA (male)	SMA (male)	SMA (male)
Antenna Length	83 mm	100 mm	250 mm	370 mm
Weight	10 g	58 g	60 g	62 g
Cable Length	–	3 m	3 m	3 m
Related Products	OnCell G2111/G2151I, OnCell G3111/G3151, OnCell G3211/G3251, OnCell G3100 series, OnCell 5000 series	OnCell G2111/G2151I, OnCell G3111/G3151, OnCell G3211/G3251, OnCell G3100 series, OnCell 5000 series, ioLogik W5340/5312	OnCell G2111/G2151I, OnCell G3111/G3151, OnCell G3211/G3251, OnCell G3100 series, OnCell 5000 series	OnCell G2111/G2151I, OnCell G3111/G3151, OnCell G3211/G3251, OnCell G3100 series, OnCell 5000 series

UMTS/HSPA Cellular Antennas / Cellular Cables

	ANT-WCDMA-ASM-1.5	ANT-WCDMA-AHSM-04-2.5m	ANT-WCDMA-ANF-00	CRF-SMA(M)/N(M)-300
Frequency Range	850/900/1800/1900/2100 MHz	850/900/1800/1900/2100 MHz	850/900/1800/1900/2100 MHz	–
Description	Five-band GSM/GPRS/UMTS/HSDPA/HSPA+, omni-directional, 1.5 dBi, rubber SMA	Five-band GSM/GPRS/UMTS/HSDPA/HSPA+, omni-directional, 4 dBi, 11 cm high, magnetic SMA, 2.5 m	Five-band GSM/GPRS/UMTS/HSDPA/HSPA+, omni-directional, 0 dBi, glass fiber, N-type (female)	CFD200 cable, SMA male to N-type (male), 3 m
Antenna Type	Omni-directional	Omni-directional	Omni-directional	–
Cable Type	–	RG174/U	–	CFD200
Typical Antenna Gain	1.5 dBi	4 dBi	0 dBi	–
Impedance	50 ohms	50 ohms	50±5 ohms	–
Polarization Type	Vertical	Vertical	Vertical	–
HPBW/horizontal	360°	360°	360°	–
HPBW/vertical	–	–	40°	–
V.S.W.R.	< 2	< 2	1 : 1.5 Max.	–
Connector(s)	SMA (male)	SMA (male)	N-type Female	SMA male to N-type male
Antenna Length	104 mm	110 mm	420 mm	–
Weight	10 g	60 g	430 g	–
Cable Length	–	2.5 m	–	3 m
Outer Dimension	–	–	–	4.14 mm
Min. Bend Radius	–	–	–	12.7 mm
Attenuation (dB/100m)	–	–	–	32.6@900 MHz 49.3@ 2000 MHz
Related Accessory	–	–	–	Cellular 5-band N-type antenna
Related Products	OnCell G2111/G2151I, OnCell G3111/G3151, OnCell G3211/G3251, OnCell G3100 series, OnCell G3100-HSPA series, OnCell 5000 series, OnCell 5000-HSPA series, ioLogik W5340-HSDPA	OnCell G2111/G2151I, OnCell G3111/G3151, OnCell G3211/G3251, OnCell G3100 series, OnCell G3100-HSPA series, OnCell 5000 series, OnCell 5000-HSPA series, ioLogik W5340-HSDPA	OnCell G2111/G2151I, OnCell G3111/G3151, OnCell G3211/G3251, OnCell G3100 series, OnCell G3100-HSPA series, OnCell 5000 series, OnCell 5000-HSPA series, ioLogik W5340-HSDPA	OnCell G2111/G2151I, OnCell G3111/G3151, OnCell G3211/G3251, OnCell G3100 series, OnCell G3100-HSPA series, OnCell 5000 series, OnCell 5000-HSPA series, ioLogik W5340-HSDPA