

- + 4G LTE Cat.4 Cellular connectivity - **SKT carrier only**
- + Powerful CPU and enhanced memory
- + Extended operational temperature range from -40 °C to +75 °C
- + 10-60 VDC operation with and reverse polarity voltage protection
- + Flexible port options – 3-port Switch, Ethernet and RS-232/422/485 serial ports with isolation
- + GPS, GLONASS, BeiDou, Galileo and QZSS support
- + MicroSD card holder
- + Sleep mode for solar and battery power applications
- + Optional industrial grade Wi-Fi
- + PoE PSE, In/Out, USB Host
- + Advanced security features

SmartFlex™ cellular router provides secure Internet connectivity for devices and LANs via the cellular networks. It can provide automatic wireless failover for wired networks, wireless connectivity for devices in remote locations where cable connections are impractical and wireless connectivity for mobile assets. With upload speeds of up to 50 Mbps and download speeds of up to 150 Mbps, SmartFlex provides ample bandwidth, even for applications that require video.

SmartFlex places intelligence at the network edge with an extremely powerful Cortex A8 CPU at 1GHz, 256 MB flash memory, 512 MB RAM and 128kB M-RAM, providing full support for LTE (Long Term Evolution) speeds and applications. A secure Web interface allows users to configure and manage SmartFlex from remote locations. The router can also upgrade its configuration and firmware from the operator's central server, allowing for simultaneous mass reconfiguration of every router on the network. Users may insert Linux scripts and can create multiple configurations for the same router and switch from one configuration to another at any time.

Modular SmartFlex can be configured for any application. Standard configuration includes 2 Ethernet ports with 2 independent LANs/IP addresses and also includes 1 USB host port, 1 microSD card holder, 2 SIM card holders for automatic failover to an alternate service provider, 2 binary inputs(I/O), 1 binary output (I/O) and onboard GPS.

An optional built-in Wi-Fi module is also available, with industrial grade operating temperature ranges from -40 to +75 °C. Further optional boards include: 3x ETH (the router can be configured with up to 5 total Ethernet ports and 3 independent LANs/IP addresses) or RS-232/485 (isolation strength up to 2.5kV). The SmartFlex supports real time data encryption and the creation of VPN tunnels using IPsec, OpenVPN and L2TP. It supports DHCP, NAT, NAT-T, DynDNS, NTP, VRRP, control by SMS, and numerous other functions.

To streamline management and deployment of SmartFlex router family can be easily managed using a comprehensive cloud-based tool WebAccess/DMP.

This software tool enables centralized management, provisioning, and monitoring of multiple routers, simplifying the process of scaling and maintaining a network infrastructure or centralize management of VPN connections.

Ordering Information

Note: Check with your local distributor for availability, options, and HW configuration. Contact Advantech distributors.

SmartFlex Family

BB - SR 3 09 BCCDE

Accessories - See page no. 4 for details

Enclosure

- | | |
|---|-------------------|
| 1 | Plastic enclosure |
| 2 | Metal enclosure |

Interfaces

- | | |
|---|--------------------------------|
| 0 | 2x ETH |
| 1 | 2x ETH, 3x ETH Switch |
| 3 | 2x ETH, 1x RS232, 1x RS485/422 |
| 4 | 3x ETH, 1x RS232, 1x RS485 |
| 6 | 2x ETH, 2x RS485 |

PoE

- | | |
|---|------------|
| 0 | No PoE |
| 8 | 2x PoE PSE |
| 9 | PoE PD |

WiFi

- | | |
|---|--------------------|
| 0 | No WiFi |
| 1 | WiFi (2.4 & 5 GHz) |

WebAccess/DMP



Note: Antennas & Power Supply Sold Separately.

SmartFlex SR309

FLEXIBLE, MODULAR LTE ROUTER



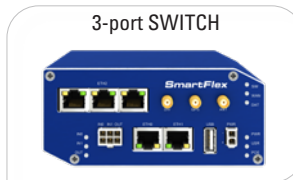
HW SPECIFICATIONS

PORTS, LED, ANTENNAS	
Up to 5x ETH ports	RJ45, 10/100 Mbps
SIM	2 Mini SIMs (2FF) (rear panel)
LED Indicators	PWR, DAT, WAN, ETH, SIM, USR, POE, IN0, IN1, OUT
3x ANT - ANT, DIV, GPS	SMA connectors
Wi-Fi Antenna	R-SMA connector
USB	USB Host connector 2.0
SD Card	1x Micro SD Card slot (rear panel)
RST	RESET button (rear panel)
*Optional 3-port SWITCH	3x RJ45, 10/100 Mbps
*Optional RS232 - RS485	5-pin terminal block, 4-pin terminal block connectors – Isolation up to 2.5 kV
*Optional PoE PSE or PoE PD on ETH0 and ETH1	

POWER	
Power Supply (sold separately)	10 – 60 VDC (2-Way Molex connector)
Power supply range for PNs with PoE (BB-SR309x8xxx)	24 – 60 VDC (2-Way Molex connector)
Power Consumption	Idle: 2.5 W Average: 4 W Peak: 11 W Sleep Mode: 10mW
ENVIRONMENTAL	
Temperature Range	Operating: -40 to +75 °C Storage: -40 to +85 °C
Humidity	Operating: 0 to 95 % Storage (Non-condensing): 0 to 95 %
Cold Start	-40 °C
Operating Altitude	2000 m / 70 kPa
Ingress Protection Rating	IP30

MECHANICAL	
Metal case with metal DIN rail	
Enclosure Dimensions	55×97× 125 mm
Weight Metal	375 g

OTHER TECHNICAL PARAMETERS	
CPU Power	2 DMIPS per MHz
Flash memory	256 MB
RAM	512 MB
M-RAM	128 kB



POE PARAMETERS	PoE PSE
Input voltage range	44 – 57 V, 65 W
Power available	2× 25.50 W (ETH0, ETH1)
Insul. Strength	none
Standards IEEE 802.3at-2009 (PoE+) and IEEE 802.3af-2003 (PoE) supported. Cabling needed is Category 5, up to 12.5 Ω.	

WI-FI - 802.11 A/B/G/N, AP OR CLIENT MODES	
Supported Wi-Fi band	2.4 GHz, 5 GHz
Encryption	None, WEP, TKIP, AES
5 GHz supported channels	36, 40, 44, 48, 52, 56, 60, 64, 149, 153, 157, 161, 165
2.4 GHz supported channels	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14
Number of clients	10
Authentication	Open, Shared, WPA-PSK, WPA2-PSK

GNSS SPECIFICATIONS	
Antenna	50 Ohms – active
Protocols	NMEA 0183 v3.0
GNSS Systems	GPS, GLONASS, BeiDou, Galileo, QZSS
Frequency	GPS/Galileo/QZSS: 1575.42±1.023MHz GLONASS: 1597.5 – 1605.8MHz BeiDou: 1561.098±2.046MHz
Sensitivity	Tracking: -157dBm Reacquisition: -157 dBm Cold start: -146dBm
Acquisition time	Hot start: 2.5 s Warm start: 26 s Cold start: 35 s
Accuracy	< 1.5m

SmartFlex SR309

FLEXIBLE, MODULAR LTE ROUTER

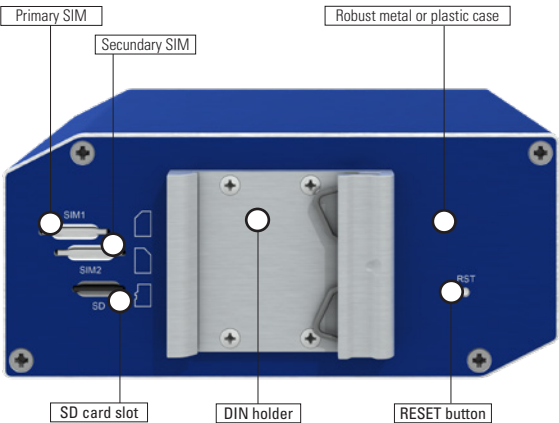
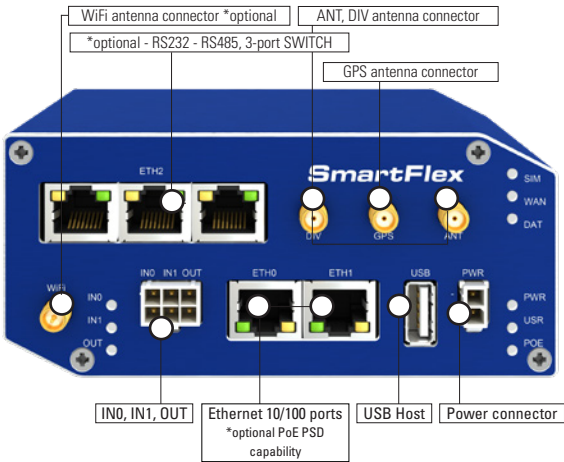


HW SPECIFICATIONS

CELLULAR MODULE PARAMETERS	
LTE parameters	SKT carrier only LTE: Cat.4, 3GPP E-UTRA Release 11 FDD frequencies: B20 (800 MHz), B5 (850 MHz), B8 (900 MHz), B3 (1800 MHz), B1 (2100 MHz), B7 (2600 MHz) TDD frequencies: B40 (2300 MHz), B41 (2500 MHz), B38 (2600 MHz) LTE FDD bit rates: 150 Mbps (DL) / 50 Mbps (UL) LTE TDD bit rates: 130 Mbps (DL) / 35 Mbps (UL) Supported bandwidths: 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz
HSPA+ parameters	HSPA: 3GPP R8 DC-HSPA+ Supported frequencies: B5 (850 MHz), B8 (900 MHz), B1 (2100 MHz) Bit rates: 42 Mbps (DL) / 5.76 Mbps (UL)
UMTS parameters	Supported frequencies: B5 (850 MHz), B8 (900 MHz), B1 (2100 MHz) Bit rates: 384 kbps (DL) / 384 kbps (UL)
TD-SCDMA parameters	Supported frequencies: B5 (850 MHz), B8 (900 MHz), B1 (2100 MHz) Bit rates: 4.2 Mbps (DL) / 2.2 Mbps (UL)
EDGE parameters	Supported frequencies: 900 MHz, 1800 MHz Data throughput: max. 236.8 kbps
GPRS parameters	Supported frequencies: 900 MHz, 1800 MHz Data throughput: max. 85.6 kbps

STANDARDS AND REGULATIONS

SR309	INDUSTRY CERTIFICATIONS & APPROVALS
EMC	KN 301 489-1, KN 301 489-17, KN 301 489-24
National	KC (South Korea)



SmartFlex SR309

FLEXIBLE, MODULAR LTE ROUTER



SW SPECIFICATIONS

SOFTWARE	
Operating System	ICR-OS (Linux based)
SW Customization	Router App
Application Development	Linux based router SDK, *Python, BASH, C/C++, *Node-RED, *Docker
Networking Features and Protocols	Static Routes, DHCP, NAT/PAT, SSH, VRRP, PPPoE, SNMP, SMTP, Dynamic DNS client, DNS proxy, VLAN, QoS, *DMVPN, NTP Client/Server, *Routing protocols RIP, BGP, OSPF, IS-IS, NHRP, Backup Routes, Port Forwarding, Host Port Routing, Ethernet Bridging, Load Balancing, IPv6 Dual Stack
Industrial Protocols and IoT	*Modbus RTU/TCP gateway, *IEC 60870-5-101 to 104 gateway, *DF1, *DNP3, *MQTT, *LWM2M
Security	HTTPS, SSH, SFTP, DMZ, Firewall (IP Filtering, MAC address filtering, Inbound and outbound Port filtering) VPN Tunneling – WireGuard, OpenVPN, *EasyVPN, IPsec with IKEv1 and IKEv2, GRE, L2TP, PPTP Authentication – RADIUS, TACACS+, 2FA, *SCEP Encryption – DES, 3DES, AES, RSA, MD5, SHA
Firmware Management	Automatic firmware updates – server, locally via LAN or remotely via WAN Over-the-Air cellular module firmware updates
Diagnostic/Log	Status – Signal Strength, Data Usage, Detailed Long Term Statistics One CLICK report – Current Configuration, Factory Identification, Routing Table Log – System Log, Reboot Log, Kernel Log Remote Diagnostics (via SSH)
Event Engine	StartUp script & Up/Down script (Own rules based on Digital Inputs, Network Parameters, Data Usage, Timer, Power, Device Temperature) Report Types: SMS, email, SNMP Trap
Configuration	Web server, SSH, Four configuration switchable profiles, Automatic configuration update from server, Backup & Restore configuration
Advanced Software Tools	WebAccess/DMP – Remote Device Provisioning, Monitoring & Management Platform

*Functionality is available with installed Router App

ACCESSORIES

ORDER CODE	DESCRIPTION	INCLUDED IN PACKAGE	SOLD SEPARATELY
BB-2JW0124Z-C868B	Antenna LTE, Terminal		✓
OPT1-ANT-WFT-06	Antenna Wi-Fi, 2.4 GHz / 5 GHz / 6 GHz (2 pcs are recommended for full 2x2 MIMO performance)		✓
BB-SBD40	DIN Rail Clip - metal	✓	✓
BB-KN-v3-M02-3	PS Cable 2-wire, MO 2 pins, 3m, v3 routers	✓	✓
BB-KIO-v3-M06-3	IO Cable 6-wire, 3m, v3 routers		✓
BB-KD-ETH	Ethernet cable 1.5m		✓
Quick Start Guide		✓	

For more Antenna accessories visit www.advantech.com