



SURFBOARD® SBG6782-AC

DOCSIS 3.0 CONSUMER SERIES WIRELESS GATEWAY

Motorola's SBG6782-AC Wireless Gateway powers the delivery of today's innovative, ultra-broadband services both in and around consumers' homes. Using 802.11ac technology, the SBG6782-AC provides consumers with the fastest Wi-Fi® available on the market today. Easy to setup and use, the SBG6782-AC's advanced feature set includes sophisticated, DOCSIS 3.0 channel bonding and best-in-class RF immunity, which delivers the speed and reliability demanded by today's smart home applications. Equipped with such features as a Wi-Fi pairing button and user-friendly, online diagnostics and configuration, the SBG6782-AC is as easy to setup as it is to use.

Highlights

Easy to Setup and Use

- Plug-and-play installation
- Wi-Fi® pairing button for easy Wi-Fi Protected Setup™ (WPS) Wi-Fi connection
- Android App for Wi-Fi Connection Assistance
- Supports standard Internet browser software
- Front panel, multicolor LEDs indicate status and simplify troubleshooting
- User-friendly online diagnostics and configuration

Advanced Services Ready

- DOCSIS 3.0
- Channel bonding of up to eight downstream and four upstream channels; capable of data rates of over 340 Mbps for Internet connectivity in the received (downstream) data stream and over 100 Mbps in the send (upstream) data stream
- 1 GHz-capable tuner
- Best-in-class RF Immunity, built into Motorola SURFboard products since 2006, protects against potential service impacting interference
- Supports both IPv4 and IPv6
- Includes MoCA® 1.1 for distribution of multimedia services to other MoCA-enabled devices
- Beamforming support for optimal Wi-Fi® delivery
- Versatile and Convenient
- Backwards compatible to 802.11a/b/g/n
- Backwards compatible to DOCSIS 1.x and 2.0
- Integrated 2.4 GHz 802.11n and 5 GHz 802.11ac Wi-Fi® access point, concurrent radio operation
- 3x3 MIMO antenna arrays offer performance benefits for wireless LAN (WLAN) access points



- High-gain Wi-Fi® output, +26 (2.4 GHz radio) and +23 (5 GHz radio) dBm added for optimized throughput over a greater range
- Four-gigabit Ethernet ports enable flexible, high-speed connectivity with Auto Negotiate and Auto MDIX
- Support for Multicast IP services
- Support for multiple Guest SSIDs for segregated networks
- MoCA reject filter ensures care-free interoperation between MoCA and DOCSIS
- Internal power supply eliminates bulky transformers

Reliable and Secure

- WEP/WPA/WPA2 Wi-Fi® security
- Advanced firewall with DoS protection and intrusion prevention
- Enhanced security: supports AES traffic encryption

Benefits

- Increases user satisfaction with additional wireless throughput, reach, range, and robustness
- Extended range capability reduces client device disconnects or poor service due
- Supported by Motorola's highly rated Consumer Support

Best in Class Wi-Fi® Performance

- Dual Concurrent Radios with theoretical wireless throughput of over 3 Gbps
- High Power MIMO Antennas provide connectivity over 450'
- Uninterrupted streaming video
- Lightning speed gaming
- Maintains performance, even when supporting multiple network users

General Specifications

Cable Interface	F-Connector, female 75 Ω
Network Interface	Four one-gigabit (10/100/1000) Ethernet ports
2.4 Wi-Fi Interface	802.11n Wi-Fi (also certified for 802.11a/b/g)
5 GHz Wi-Fi Interface	802.11ac Wi-Fi (also certified for 802.11 a/b/g/n)
Dimensions	8.8 (h) x 2.1 (w) x 10.1 (l) in (224 x 54 x 256.5 mm)
Regulatory	RoHS compliant, FCC, UL listed (U.S. and Canada), Industry Canada, EnergyStar, VCII, JATE
DOCSIS 3.0	Bonding capability of 8 downstreams and 4 upstreams
MoCA 1.1	Share cable interface F-Connector

Input Power

North America	105 to 125 VAC, 60 Hz
Internal Power Supply	50W/12Vdc
Power Management	802.11e WMM power save/U-APSD (Unscheduled-Automatic Power Save Delivery), 802.3az EEE

Environmental

Operating Temperature	32 F to 104 °F (0 °C to 40 °C)
Storage Temperature	-22 °F to 158 °F (-30 °C to 70 °C)
Operating Humidity	5 to 95% R.H. (non-condensing)

DOCSIS Downstream

Modulation	64 or 256 QAM
Bandwidth	Full bandwidth capture window 108 MHz – 1002 MHz
Maximum PHY Rate	DOCSIS: 343.072 Mbps (8 channels) / 42.884 (single channel) @ 256 QAM at 5.36 Msym/s EuroDOCSIS: 444.928 Mbps (8 channels) / 55.616 (single channel) @ 256 QAM at 6.952 Msym/s
Symbol Rate	64 QAM 5.057 Msym/s; 256 QAM 5.361 Msym/s
Operating Level Range	-15 to 15 dBmV
Frequency Range	108 – 1002 MHz (edge to edge)
Frequency Plans	DOCSIS Annex B
Security	DOCSIS 3.0 Security (BPI+, EAE, SSD)
Provisioning	IPv4 IPv6 (dual stack) DS Lite

DOCSIS Upstream

Modulation	QPSK and 8, 16, 32, 64, 128, 256 QAM
Maximum PHY Rate @256 QAM at 6.4 MHz	122.8 Mbps: 4 channels 30.72 Mbps: single channel
Channel Width	200 kHz, 400 kHz, 800 kHz, 1.6 MHz, 3.2 MHz, 6.4 MHz
Symbol Rates	160, 320, 640, 1280, 2560, 5120 ksym/s
Frequency Range	5–42 MHz (edge to edge)

Compatibility

PC	Windows XP, Windows 7, Windows 8, (older versions of Windows, although not specifically supported, will work with this cable modem), UNIX, Linux®
Macintosh	Power PC or later; OS 10 or higher
Home Networking	Ethernet router and wireless access point

Network

Gateway	DHCP, NAT, DNS, VPN tunneling, GRE tunneling; static routing and dynamic IP routing (RIPv1, RIPv2); SPI firewall with DoS protection and intrusion prevention; port, packet, and URL keyword filtering; full suite of ALGs; UPnP IGD 1.0; L2TPv3, L2VPN, eRouter, DLNA
WLAN	802.11a/b/g/n/ac Wi-Fi, WDS bridging, 802.11e WMM admission control, QoS, QOS per Interface
WLAN SSIDs	up to 8 per radio
WLAN Spatial Streams	6
Radios	5 GHz, +23 dBm HPA*, 3x3 MIMO antenna array 2.4 GHz, +26 dBm HPA*, 3x3 MIMO antenna array
MoCA	MoCA 1.1, DLNA ≤ 16 Nodes 175 Mbps MAC layer throughput
Security	Default = security enabled WPA2, WPA-PSK, WEP 64/128, WPA, TKIP, AES, 802.1x, 802.11i (pre-authentication)
Wi-Fi Pairing	WPS 2.0
Regulatory Domains	US, Canada, ETSI, World

Management and Configuration

GUI	English, HTML based GUI, Google Translate for easy Translation
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Memory

RAM	128MB DDR3
Flash	32 MB

*When combined with the antenna, gain will meet, but not exceed, FCC constraints on per-channel power. All features, functionality, and other product specifications are subject to change without notice or obligation.

Wi-Fi throughput, reach, and range are factors that are greatly impacted by the operating environment, and the connected client capabilities.

