

Product Brief:
SDC-CF10G 802.11g Compact Flash Wireless LAN Module with Antenna Connectors



The SDC-CF10G is designed specifically for integration in application specific devices and the challenging RF environments in which they operate.

The SDC-CF10G provides all key Summit hardware and software capabilities in the increasingly popular Compact Flash form factor. As a result, the SDC-CF10G is ideal for integration into the current generation of application specific devices like portable data terminals, portable printers and medical devices.

Hardware Capabilities

The SDC-CF10G is designed specifically for business-critical ASDs and the challenging radio environments in which they operate. Hardware innovations enable the SDC-CF10G to provide far greater performance and range than radio modules designed for office and consumer applications while minimizing power consumption and allowing for operation in extreme environments. Key hardware capabilities include:



- **802.11g:** By supporting the IEEE 802.11g protocol, the SDC-CF10G provides for a maximum data rate of 54 megabits per second (Mbps) to maximize data transfer and overall wireless LAN performance. Operating in the 2.4 GHz portion of the radio frequency spectrum, 802.11g is fully backward compatible with the popular 802.11b standard.
- **Antenna Connectors:** With dual Hirose U.FL antenna connectors, the SDC-CF10G supports a wide range of internal antennas of varying types and gain. The dual connectors support transmit and receive diversity to maximize performance in high multipath environments.
- **Range:** The enhanced transmit and receive capabilities and maximized delay spread of the SDC-CF10G maximizes range, performance, and reliability, even in high multipath environments.
- **Low power consumption:** With power consumption that's up to 40% lower than office and consumer-grade wireless LAN radios, the SDC-CF10G maximizes ASD battery life to better provide for full-shift operation.
- **Extended operating temperature:** To allow for ASD operation in extreme environments such as factories, warehouses, freezers, and the outdoors, the SDC-CF10G provides an extended operating temperature range of -30° to +75° C, which far exceeds the capabilities of office and consumer-grade radios.

Software Capabilities

Business-critical ASDs are specialized devices that require specialized software to deliver the security, trouble-free operations, and manageability that customers require. Software for the SDC-CF10G includes drivers, an integrated supplicant, and a full-featured management and monitoring utility called the Summit Client Utility (SCU). Key software capabilities include:

- **Operating system support:** SDC-CF10G software ensures trouble-free operation on devices that run Windows CE 4.2 (Mobile 2003), CE 5.0 (Mobile 5.0), and XP (Q3 2006). For devices that run a non-standard operating system, Summit supplies a software developer's kit for key Summit software functionality.
- **Security:** 802.11i/WPA2 compliance provides for the highest level of interoperable wireless LAN security available. An integrated 802.1X supplicant supports authentication via pre-shared keys as well as a broad range of EAP types including EAP-FAST, EAP-TLS, LEAP, PEAP-GTC and PEAP-MSCHAPv2. Data privacy is protected via encryption and decryption using AES (WPA2), TKIP (WPA), or WEP.



- **Certifications:** Software for the SDC-CF10G delivers support for all IEEE and Wi-Fi Alliance standards. The software also delivers support for all features of Cisco Compatible Extensions (CCX) Version 3. The SDC-CF10G is both Wi-Fi and CCX version 3 certified. As the only COMPACT FLASH radio module for ASDs to carry the Cisco Compatible seal, the SDC-CF10G enables Wi-Fi Alliance interoperability and Cisco compatibility on every device with which they are used.
- **Administration:** SCU enables a user to view and an administrator to configure all radio operation and security settings. SCU also enables a user or administrator to view status and troubleshoot issues. SCU is built on a published application programming interface that can be leveraged by other applications for remote management. One popular tool that exploits the SCU API is Wavelink Avalanche.
- **Integration:** Summit provides ASD vendors with the Summit Manufacturing Utility, a firmware configuration tool that allows OEMs to set regulatory parameters such as channel set and maximum transmit power to provide for world-wide compliance across multiple platforms.

Certifications

Summit is committed to strict compliance with all applicable regulations as set forth by agencies such as ETSI, the FCC and TELEC. We're also equally committed to tested and certified compliance with key Wi-Fi Alliance and Cisco Compatible Extensions specifications.

At Summit, we believe that it's not enough to simply earn these certifications. We believe that helping our customers achieve these certifications for devices equipped with the SDC-CF10G to be part of our solution and our responsibility. With the existing grants, test reports and approvals detailed below, Summit can minimize the cost, time and complexity of attaining all required certifications.

Support Services

ASD vendors require not just a radio module but a radio solution, one that can be integrated in the ASD and deployed for business-critical applications. **Summit understands that if the radio doesn't work, the ASD doesn't work. If the ASD doesn't work, the end customer doesn't work.**





Summit provides engineer-to-engineer integration assistance to ASD manufacturers. Consultation and documentation to aid in custom device driver and application development is available. In addition, Summit's support extends to Summit radio module operation in the field. Summit's system engineering team provides Level 2 technical support to ASD vendors and is well versed in radio frequency characteristics, wired and wireless network architectures, and security protocols.

SDC-CF10G Specifications

System Interface	16-bit Compact Flash Type I with 50-pin connector
Antenna Interface	Two Hirose U.FL connectors for antenna diversity
Chipset	Broadcom BCM4318E
Input Power Requirements	3.3 VDC +/- 5%
Typical Power Consumption (at maximum transmit power setting)	Transmit: 400 mA (1320mW) Receive: 180 mA (594mW) Standby: 10 mA (33 mW)
Operating Temperature	-22° to 167°F (-30° to 75°C)
Operating Humidity	10 to 90% (non-condensing)
Length	2.15" (54.5 mm)
Width	1.69" (43 mm)
Thickness	0.13" (3.3 mm)
Weight	0.5 oz (15g)
Mounting	50 pin connector Through Hole (non-metallic screw recommended)
Network Standards	IEEE 802.11b, 802.11g, 802.11i
Network Architecture Types	Infrastructure and ad hoc
Frequency Band	2.4 to 2.4897 GHz
Wireless Media	Direct Sequence-Spread Spectrum (DSSS) Orthogonal Frequency Divisional Multiplexing (OFDM)
Media Access Protocol	Carrier sense multiple access with collision avoidance (CSMA/CA)
Data Rates Supported	802.11b (DSSS): 1, 2, 5.5, 11 Mbps 802.11g (OFDM): 6, 9, 12, 18, 24, 36, 48, 54 Mbps
Modulation	1, 6, 9 Mbps: BPSK 2, 12, 18 Mbps: QPSK 5.5, 11 Mbps: CCK 24, 36 Mbps: 16-QAM 48, 54 Mbps: 64-QAM
Regulatory Domain Support	FCC (Americas, Parts of Asia and Middle East) ETSI (Europe, Middle East, Africa and Parts of Asia) TELEC (Japan)



Operating Channels	FCC: 11 ETSI: 13 TELEC: 13
Non-overlapping Channels	Three
Transmit Power Settings <i>Maximum transmit power will vary according to individual country regulations. All values nominal, +/- 1.5dBm</i>	DSSS: 19 dBm (80 mW) 17 dBm (50 mW) 15 dBm (30 mW) 10 dBm (10 mW) 0 dBm (1 mW) OFDM: 15 dBm (30 mW) 10 dBm (10 mW) 0 dBm (1 mW)
Typical Receiver Sensitivity	1 Mbps: -96 dBm 2 Mbps: -95 dBm 5.5 Mbps: -94 dBm 6 Mbps: -94 dBm 9 Mbps: -91 dBm 11 Mbps: -90 dBm 12 Mbps: -88 dBm 18 Mbps: -86 dBm 24 Mbps: -83 dBm 36 Mbps: -78 dBm 48 Mbps: -76 dBm 54 Mbps: -75 dBm
Delay Spread	1 Mbps: 600 ns 2 Mbps: 500 ns 5.5 Mbps: 400 ns 6 Mbps: 400 ns 9 Mbps: 400 ns 11 Mbps: 200 ns 12 Mbps: 350 ns 18 Mbps: 350 ns 24 Mbps: 250 ns 36 Mbps: 250 ns 48 Mbps: 150 ns 54 Mbps: 150 ns
Operating Systems Supported	Windows Mobile 5.0 Windows CE 5.0 Windows Mobile 2003 Windows CE 4.2 Windows 2000, XP and XP Embedded (Q4 2006) Linux 2.6 (Q4 2006)
Security	Standards Wireless Equivalent Privacy (WEP)

	<p>Wi-Fi Protected Access (WPA) IEEE 802.11i (WPA2)</p> <p>Encryption Wireless Equivalent Privacy (WEP, RC4 Algorithm) Temporal Key Integrity Protocol (TKIP, RC4 Algorithm) Advanced Encryption Standard (AES, Rijndael Algorithm)</p> <p>Encryption Key Provisioning Static (40 and 128 bit lengths) Pre-Shared (PSK) Dynamic</p> <p>802.1x Extensible Authentication Protocol Types EAP-FAST EAP-TLS PEAP-GTC PEAP-MSCHAPv2 LEAP</p>
Compliance	<p>ETSI Regulatory Domain EN 300 328 EN 301 489 EN 60590 EN 50371 EU 2002/95/EC (RoHS)</p> <p>FCC Regulatory Domain FCC Subpart B, Class B FCC Subpart C Part 15.247, 15.207 ANSI C63.4-2003</p> <p>Industry Canada RSS-210</p> <p>TELEC Regulatory Domain RCR STD – 33 ARIB STD - T66 ARIB STD T71</p>
Certifications	<p>Wi-Fi Alliance 802.11b, 802.11g WPA Enterprise WPA2 Enterprise</p>  <p>Cisco Compatible Extensions (CCX) Version 3</p> 
Warranty	Limited Lifetime

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