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Solomon Wireless Solutions

Solomon VT6655

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This single-chip 802.11a/b/g WLAN controller enables high-speed 54Mbps wireless connections to satisfy the bandwidth needs of the most demanding enterprise, public access and home WLAN users.

The VIA Solomon VT6655 WLAN controller, a single chip solution featuring an IEEE 11a/b/g media access controller (MAC) and integrated baseband processor. Enabling data rates between wireless devices of up to 54 Mbps. WLAN modules based on the VIA VT6655 can deliver the bandwidth necessary for real-time streaming of high-definition digital multimedia content in home networks, and provide high-speed broadband access to multiple mobile users in a corporate environments or public hotspots.

Designed with flexibility in mind, the VIA VT6655 is compatible with a choice of PCI 2.2, Mini-PCI or Cardbus interfaces, and offers seamless compatibility with the leading RF chips currently available, ensuring WLAN module makers benefit from a wider choice of RF vendors and potentially lower development costs. Backwards compatible with 802.11b standard, VIA VT6655 based devices enable smooth migration for all 802.11b-based networks, without the need to sacrifice existing WLAN infrastructure.

In addition to providing high-speed wireless communication between devices, the VIA VT6655 ensures optimum data security through the Wi-Fi Protected Access (WPA) specification. The forthcoming WPA 2.0 specification is also supported, which will be enabled through a downloadable software update. The VIA VT6655 is Wi-Fi certified by the Wi-Fi Alliance (formerly WECA), the global organization that oversees the Wi-Fi interoperability certification program. In order to receive official Wi-Fi certification, all IEEE 802.11 products must undergo independent testing.

Additional cutting-edge features of the VIA VT6655 include a Customizable Hot Key function, which enables users to instantly turn off the WLAN connection via a designated key, and a Power Amplifier (PA) Power Detector. The PA Power Detector monitors and optimizes power usage to ensure stable transmission power, which is particularly beneficial to thin and light notebooks with challenging thermal environments. VIA Networking also offers WLAN software programming support to WLAN module vendors, helping enable fast time to market for customers.

Key Features

Product Features

» Compliant with IEEE 802.11a, 802.11b and 802.11g standards

» Host interfaces: PCI 2.2, Mini PCI, and 32-bit Cardbus

» Compliant with PCI Bus Power Management Interface Specification 1.1

» I2C EEPROM interface

» One programmable GPIO

» 3.3V operating voltage, 1.8V core voltage, 3.3V compliant IOs for PCI interface

» Integrated 3.3V-to-1.8V regulator control circuit

» Integrated oscillation circuit for the external 20 MHz crystal

» Supports advanced power saving solution

» Package:14 ×14 mm, LQFP-128 package

Baseband Features

» On-chip IQ ADC and DAC

» On-chip AGC (Automatic Gain Control)

» Programmable data rates: 6, 9, 12, 18, 24, 36, 48, 54 Mbps for OFDM; 5.5 and 11 Mbps for CCK; and, 1.2 Mbps for Barker modulation

» Antenna diversity for better transmitting and receiving performance.

» RSSI status report by per receiving packet.

MAC Features

» Supports Infrastructure and AdHoc mode.

» Supports Multi-cast packet filtering function.

» Two 32-bit timers Unit: 1 us.

» Transmit loop-back mode support (Internal/External) to VIA solution

» Supports BSS PCF

» Supports IBSS ATIM window

» SIMPLE TEST Mode Support by hardware. (Continuing Receiving/Continuing Transmitting).

» Supports 4 MIB counters: RTSSuccessCount, RTSFailureCount, ACKFailureCount, and FCSErrorCount

Security Features

» Supports WPA and WPA 2.0; Built-in hardware security engine for 802.11i 4.0. WEP (128-bit, 64-bit), TKIP, AES CCMP.

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