

Product Brief

GDM5103 WLAN Multimedia SoC



GDM5103 Features

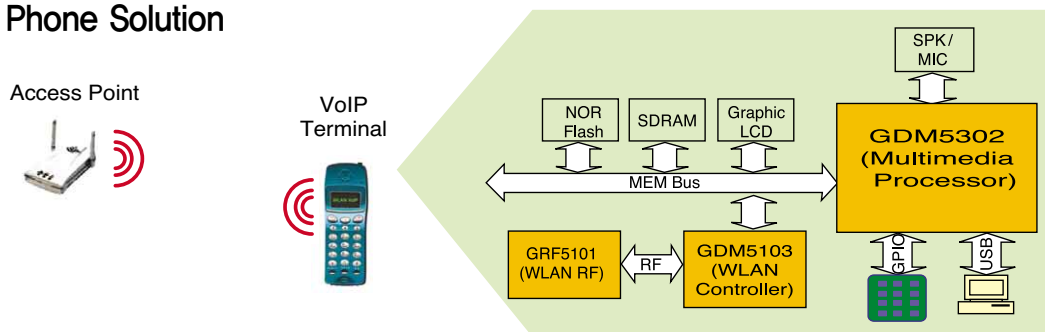
- Compliant with 802.11b WLAN standard up to 11Mbps
- Seamless interface to GCT CMOS RF device
- Embedded 32bit RISC processor for processing of network and audio data
- Supports USB 1.1 device/host function
- Supports 16bit SRAM style slave I/F
- 6-channel I2S audio in/out
- Low power consumption for handheld applications
- 0.18um CMOS technology
- 100-pin QFP(14mm x 14mm) or BGA(9mm x 9mm)

Summary of Benefits

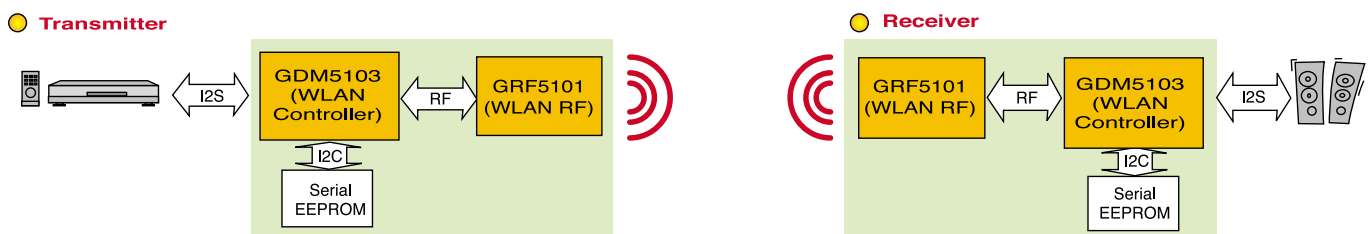
- Enables direct 2-channel audio streaming send/receive of raw PCM data with 11Mbps bandwidth and dedicated audio interface
- Enables 5.1-channel audio streaming for compressed data based on an embedded processor for decoding and a dedicated audio interface
- Enables 802.11b VoIP terminal based on GCT chipset combination of GRF5101(RF), GDM5103(WLAN controller), & GDM5302(DSP)
- Supports 802.11b USB application without external SRAM
- The most cost-effective BOM for wireless audio applications

Application Usages (Examples):

WLAN VoIP Phone Solution



Wireless Stereo Surround Speaker System



General Description

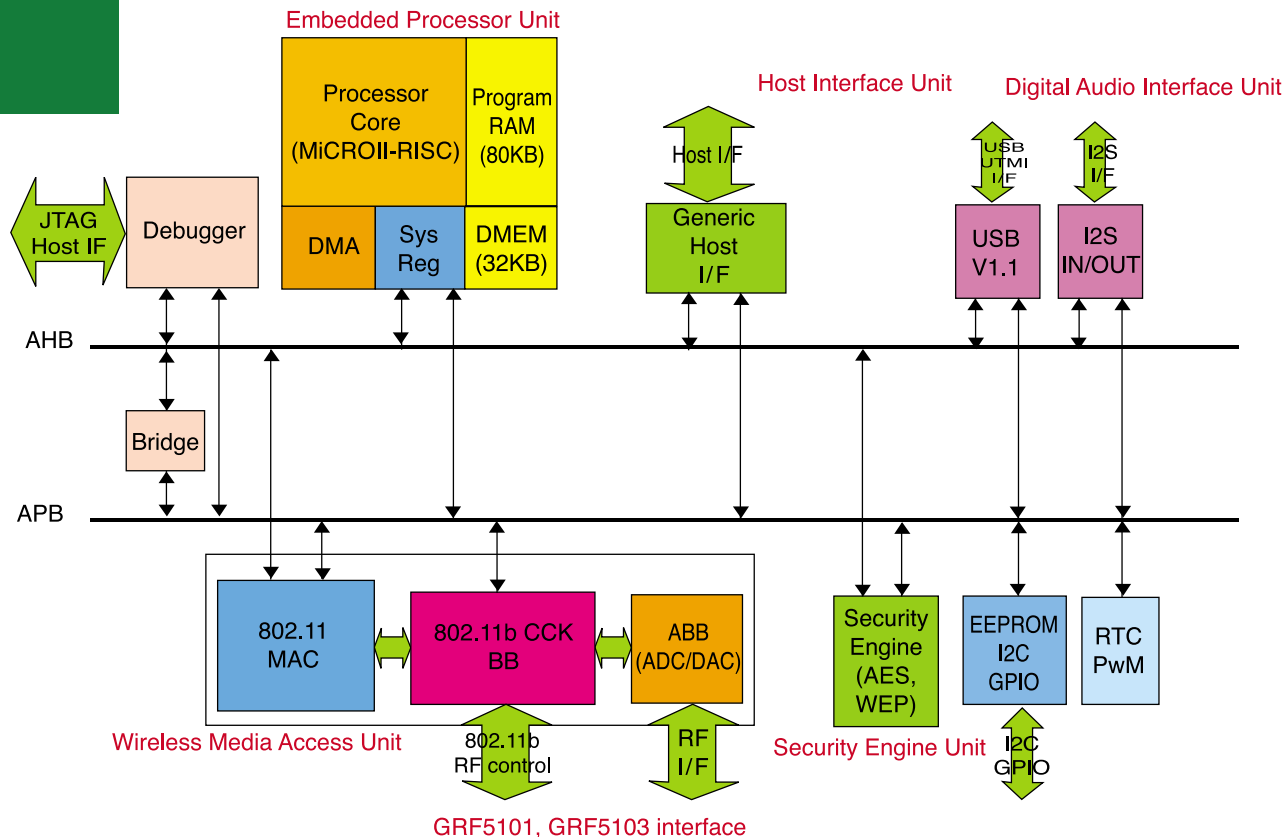
Part of the GCT Wireless LAN Multimedia SoC family, the GDM5103 is a controller IC integrating a 32-bit processor, several serial interfaces, and 802.11b connectivity.

The GDM5103 supports standard 802.11b WLAN connectivity as well as GCT proprietary multimedia wireless connectivity. Quality of Service (QoS) is handled by firmware in the embedded processor. Together with GCT's direct-conversion GRF5101/GRF5103 2.4-GHz CMOS WLAN radio transceiver, the GDM5103 provides a complete 802.11b WLAN solution with a USB interface or a complete 2-channel wireless audio streaming solution for non-compressed PCM data. When combined with GCT's GDM5302 wireless multimedia processor, the GDM5103 provides a complete standalone embedded WLAN solution for applications such as VoIP or multi-channel (5.1 CH) wireless A/V streaming devices through a 16-bit dedicated system bus.

The GDM5103 is equipped with several peripheral interfaces, such as a 16-bit host interface, I2C for EEPROM access, USB1.1, 6-channel I2S, JTAG, and up to 21-general purpose programmable I/O (GPIO) interfaces. All peripheral devices are connected to the on-chip microcontroller via an internal peripheral bus (V6PB), which is compatible with Advanced Peripheral Bus (APB) from ARM.[™]

An embedded proprietary 32-bit RISC processor allows the GDM5103 to handle both WLAN MAC/BB control and user applications, enabling a cost-effective embedded solution based on WLAN technology. The device also features 80 KB of embedded code and 32-KB data memory to support various applications and firmware upgrades.

Block Diagram



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