Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

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GS2000

Ultra Low-Power 802.11b/g/n + 802.15.4 Single Chip
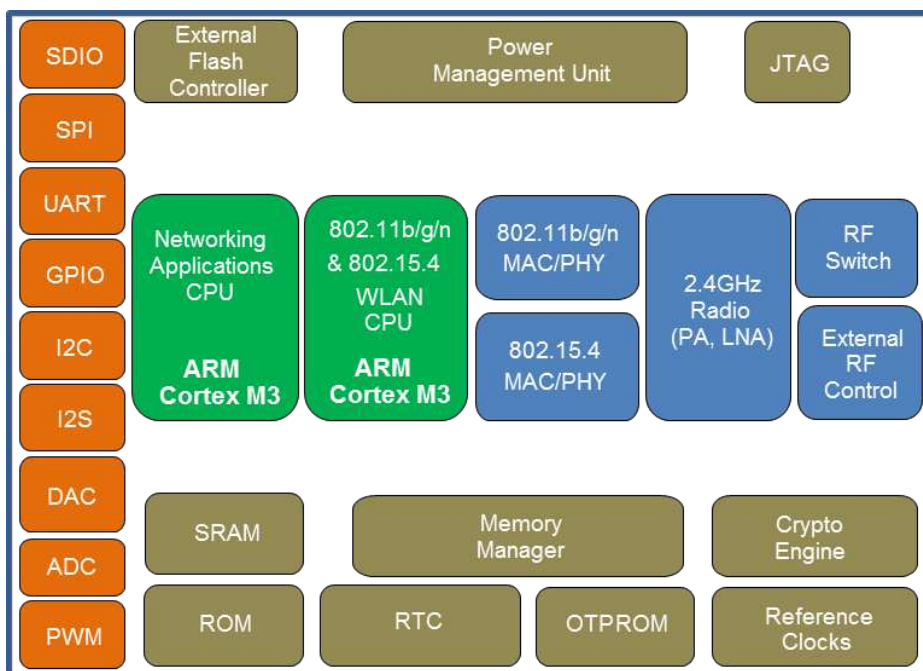
PRODUCT OVERVIEW

GS2000 device is a highly integrated ultra-low power WLAN and WPAN system on a chip (SOC) which contains an 802.11b/g/n and 802.15.4 (ZigBee IP) radio, media access controller (MAC), baseband processor, on-chip memory, and a networking applications processor all on a single silicon die. It provides ultra-low power consumption for years of battery life, and comes complete with embedded software stacks offering a highly scalable, reliable, manageable and secure wireless link to meet the growing demand of wireless sensor networks utilizing broadly accepted IEEE 802.11 and 802.15.4 standards. This solution is ideal for use in smart energy, healthcare/fitness, consumer appliances, consumer/commercial automation, control, and monitoring applications. In addition, GS2000 provides capabilities such as location awareness which makes it well-suited for logistics and supply chain applications involving people or asset tracking.

FEATURES & BENEFITS

- **IEEE 802.11b/g/n**
  - Seamlessly interoperates with existing 802.11b/g/n infrastructure and utilizes 802.11 for security, manageability, ease of-use, and quality of service
  - Supports 802.11b/g/n data rates (up to 72.2 Mbps) for high bandwidth applications
- **Highly integrated SOC with 802.11b/g/n + 802.15.4 Radio, MAC and PHY, Dual core CPUs, Power Management Unit and Memory**
  - Reduces system design development and cost
  - Enables ultra small form-factor system design
- **Ultra low power consumption**
  - Fast wake up and granular power saving modes (standby, sleep, deep sleep) for extended life battery operated products

- **Dual core CPUs for Wi-Fi, 802.15.4 (ZigBee IP) and user applications**
  - Simplified embedded networking software
- **Over-the air (OTA) firmware update**
  - Enables field deployed updates with optional factory default restore support
- **Wi-Fi Direct and Limited AP modes**
  - Easier provisioning
- **Range extension**
  - Simple mesh and Wi-Fi Direct modes
- **Location Awareness**
  - Enables asset tracking and monitoring
- **Hardware crypto engine**
  - Higher layer network security and authentication
- **Multiple I/Os: SPI, UART, SDIO, PWM, I2C, I2S, ADC, DAC, GPIO**
  - Flexible system design for easier integration
  - Embedded firmware, device drivers, APIs, SDK and ADK's.
  - Reduces application software development time enabling rapid time to market

GS2000 BLOCK DIAGRAM

GS2000 SPECIFICATION SUMMARY

Dual-Core Processors	Dual 32-bit ARM Cortex M3 CPUs with clock frequency up to 120MHz
Radio PHY Rates	802.11n Up to 72.2 Mbps (20 MHz, 400/800ns GI, MCS0 – 7) 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps 802.11b: 1, 2, 5.5, 11 Mbps 802.15.4: 250 Kbps
Security	802.11i, WPA/2-Personal and Enterprise, EAP Authentication, 802.1X, TKIP and AES encryption. Upper layer encryption including TLS, SSL, HTTPs, PKI and digital certificates.
Operating Temp Range	Industrial (-40 to +85 ºC)
Location Awareness	RSSI
Networking Protocols	TCP, UDP, IPv4, IPv6, TLS Client and Server, SNTP client, DHCP Client and Server v4, DHCP Client and Server v6, DNS Client and Server, mDNS, DNS-SD, HTTP/HTTPs Client and Server, XML Parser
Packages	9x9 mm 124-pin QFN; 8x8 mm 68-pin QFN; RoHS, REACH compliant
I/Os	UART, SPI, SDIO, I2C, I2S, ADC, DAC, PWM, GPIOs

APPLICATIONS

Smart Energy Home

Control Automation

Asset Tracking

Healthcare Monitoring

GS2000-PB v2.1