PMB 8875

S-GOLDlite-Advanced Single-Chip GSM/GPRS Baseband Controller

S-GOLDlite is Infineon's latest single-chip baseband controller for use in next-generation GSM/GPRS mobile terminals. It is part of Infineon's S-GOLD™ family comprising an EDGE-capable device as well as a GPRS multislot class 12 solution to satisfy your specific application needs. Combining all analog and digital radio functions on a single chip, S-GOLDlite is suited for cost-optimized high-feature multimedia phones. The GSM/GPRS best-in-class modem functionality is combined with high-performance application capability based on a 124 MHz ARM$^®$926 CPU enabling a variety of applications with a lot of headroom for personalizing your system. It provides the horsepower to support top-of-the-line multimedia features such as integrated camera, MMS, high-resolution color display, Java, and polyphonic ringing tones making it the perfect fit for high-volume, consumer-oriented terminal platforms.
Combined with Infineon's SMARTi SD CMOS RF device and S/M POWER management IC, S-GOLDlite enables a 3-chip quad-band solution at minimum cost and space requirements.

Applications
- GSM/GPRS multimedia phones with high feature requirements
- Data modules with GPRS support up to class 12

Key Benefits
- Single-chip modem and application processor
- Leading-edge modem technology
- Cost-optimized 3-chip system solution with low-power CMOS RF device
- Complete software suite available from Layer 1 up to application software based on APOXI API

Key Features
- ARM 926-based single modem and application processor with cache support and fast tightly-coupled memories
- On-chip SRAM
- USB On-The-Go support
- TEAKLite$^®$-based DSP subsystem
- Jazelle$^®$ Java hardware accelerator
- Advanced static and dynamic power management
- DMA support for many peripherals
- Support of A53/GEA-3 cipher algorithm
- Interface to Bluetooth module
- I^{2}C bus interface
- I^{2}S PCM digital audio I/Os
- Hifi stereo voiceband

Firmware
- FR, HR, EFR, AMR
- GPRS class 12, CS 1..4
- HSCSD class 10
- Echo cancellation
- Noise reduction
- E-OTD
- GTT/TTY
- MP3 decoder
- Polyphonic ringer

S-GOLDlite is already in mass production. Samples and evaluation boards are available at your request.
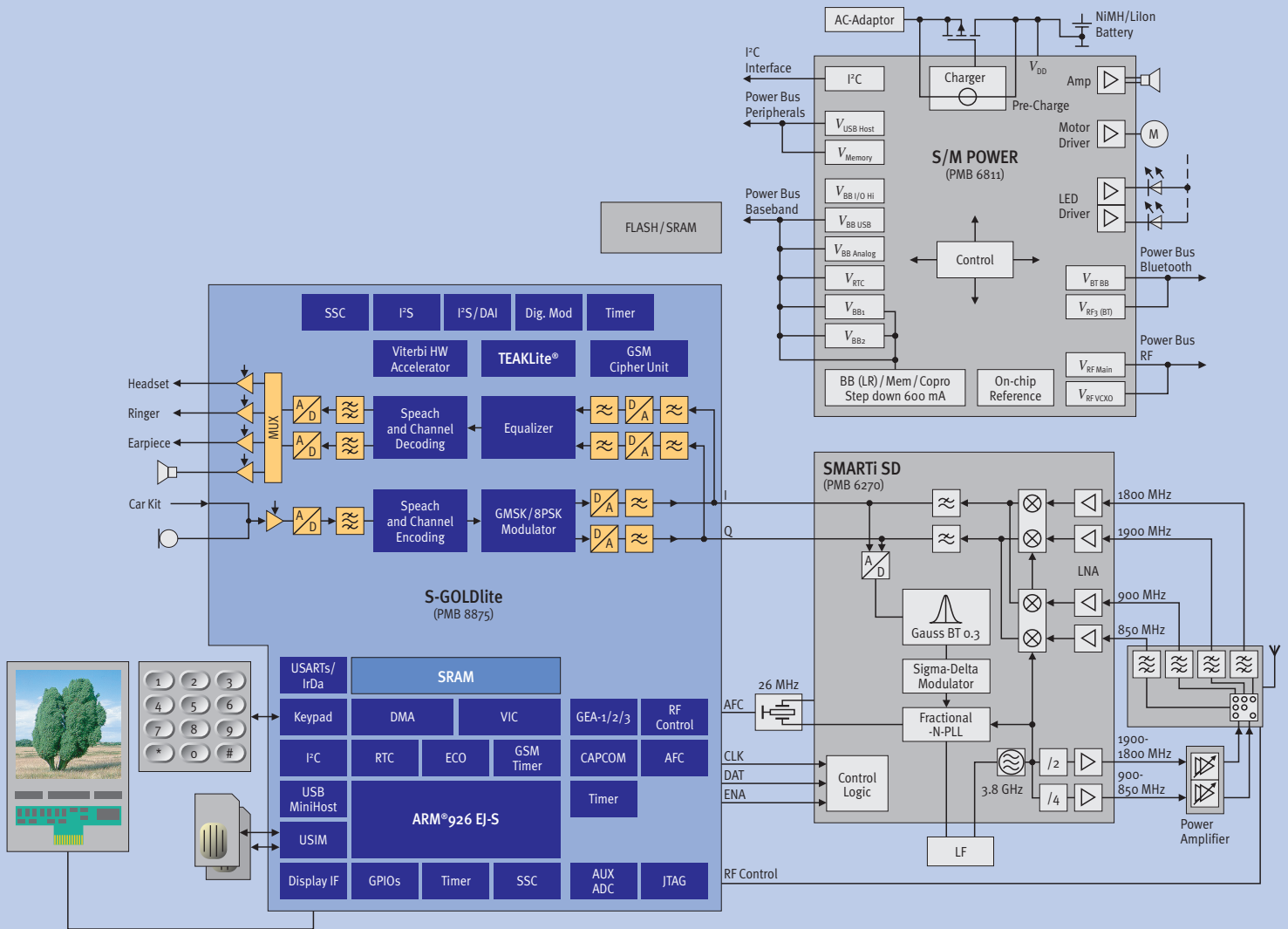
Mobile Solutions

Infineon technologies

N e v e r s t o p t h i n k i n g .

Application Example GPRS Quad-Band System Solution

AC-Adaptor NiMH/LiIon Battery

I²C Interface — I²C Charger V_{DD} Amp

Power Bus Peripherals $V_{USB\,Host}$ Pre-Charge Motor Driver — M

V_{Memory}

S/M POWER
(PMB 6811)

Power Bus Baseband $V_{BB\,I/O\,Hi}$ LED Driver

$V_{BB\,USB}$

FLASH / SRAM $V_{BB\,Analog}$ Control Power Bus Bluetooth

V_{RTC} $V_{BT\,BB}$

V_{BB1} $V_{RF3\,(BT)}$

V_{BB2} Power Bus RF

BB (LR) / Mem / Copro On-chip $V_{RF\,Main}$
Step down 600 mA Reference $V_{RF\,VCXO}$

SSC | I²S | I²S/DAI | Dig. Mod | Timer

Viterbi HW Accelerator | **TEAKLite®** | GSM Cipher Unit

Headset Speach and Channel Decoding Equalizer

Ringer

Earpiece

Car Kit Speach and Channel Encoding GMSK/8PSK Modulator

MUX A/D

S-GOLDlite
(PMB 8875)

I — **SMARTi SD**
(PMB 6270)

Q 1800 MHz

1900 MHz

LNA

A/D 900 MHz

850 MHz

Gauss BT 0.3

USARTs/IrDa | **SRAM**

Sigma-Delta Modulator

Keypad | DMA | VIC | GEA-1/2/3 | RF Control

26 MHz

AFC Fractional -N-PLL

I²C | RTC | ECO | GSM Timer | CAPCOM | AFC

CLK Control Logic 1900-1800 MHz

USB MiniHost **ARM®926 EJ-S** DAT

USIM ENA 3.8 GHz /2 900-850 MHz

/4

Display IF | GPIOs | Timer | SSC | AUX ADC | JTAG LF Power Amplifier

RF Control

Timer

Note: TEAKLite® is a registered trademark of ParthusCeva, Ltd.
ARM® is a registered trademark of ARM, Ltd.

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For further information on technology, delivery terms and conditions and prices please contact your nearest Infineon Technologies Office.

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