SAMSUNG ELECTRONICS
Semiconductor Business

S5M8602 & S3C4F31

Multi-Band Multi-Standard Mobile TV Receiver Chip Set

Product Brief

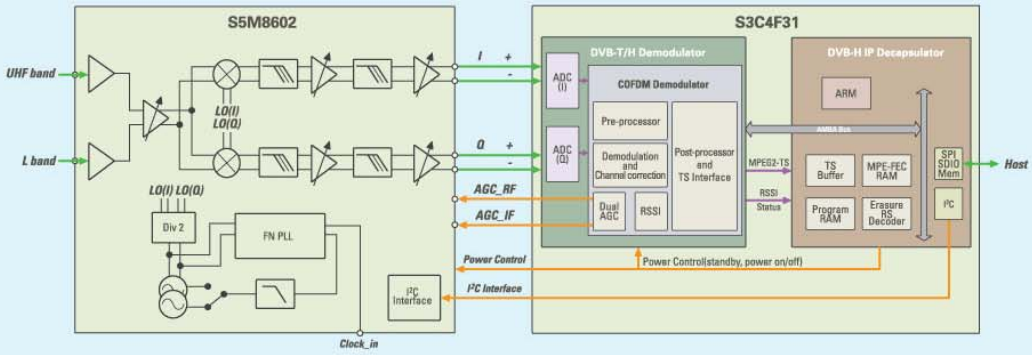
Samsung's S5M8602/S3C4F31multi-band and multi-standard receiver front-end chip set enables you to build any mobile TV products that work on most of the mobile digital TV networks around the world. The chip set constitutes the industry's first mobile TV front-end receiver that can support seven different standard systems.

The multi-band RF tuner, S5M8602, supports the frequency ranges of FM, VHF III, UHF, and L bands. The baseband channel decoder, S3C4F31, is fully compliant to DVB-H/T, T-DMB, DAB, DAB-IP, and the ISDB-T 1 segment standards. With this chip set you can build one single hardware/software platform that can be applied to all of the popular mobile TV standards used in Europe, U.S., and Asia-Pacific area.

This new Samsung chip set inherited the advantages of its DVB-H only predecessor: S5M8600 and S3C4F10, and requires no external LNA, IF SAW filter, and memory, greatly reducing the BOM cost of the total system. The chip set supports Link Layer processing to output IP datagrams, which are fully error-corrected, or an MPEG2 transport stream. The signal reception performance and the power consumption characteristics of this chip set are the world best.

Samsung offers complete reference platform and customer development packages with the chip set to assist your product development and shortens the time to market.

Block Diagram



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Features

S5M8602

- RFCMOS Zero-IF/Low-IF Technology
- Frequency Ranges
  - VHF Band III 174-240MHz
  - UHF 470-862MHz
  - L-Band 1350-1750MHz (US: 1670-1675, EU: 1452-1492)
- Channel Bandwidths
  - DVB-H/T 5, 6, 7, and 8MHz
  - T-DMB, DAB(-IP) 1.536MHz
  - ISDB-T 430kHz and 1.29MHz
- Minimized External RF Components
  - Fully integrated LNAs
  - Integrated S-D fractional-N PLL
  - Built-in balun
- Flexible Interface
  - I²C with RXEN hard-wired control pin
  - Crystal oscillator with clock output

S3C4F31

- Supported Mobile Digital TV Standards
  - DVB-H/T, T-DMB, DAB, DAB-IP, ISDB-T 1-segment
- Dual AGC with Analog/Digital Control
- Hardware FEC Logic
- I²C Master Control for RF Tuner
- Host Interface
  - 36MHz high-speed SPI master/slave
  - 4-bit 25MHz SDIO
  - 8-bit 25MHz memory interface
  - MPEG TS interface
  - Easy-to-port message-based host interface protocol
- Programmable Link Layer Operation Running on the Embedded ARM Processor
- Embedded SRAM
  - Program/Data Space
  - De-interleaving/FEC Buffer Memory

Benefits

- Compliant to all of the popular mobile digital TV standards.
- Supports all the available worldwide mobile TV frequency ranges and bandwidths.
- Minimized external components
- Outstanding mobile performance.
- Performs Link Layer operations as well as Physical Layer.
- Reference platform solution and customer development package for easy and fast solution development

Key Applications

- Feature Phone/3G phone
- Navigation/Telematics
- Portable Game Player
- Smartphone
- PDA
- Add-On Dongle
- Portable Media Player(PMP)

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