

Hollywood™ mobile broadcast single-chip solutions: DTV1000 and DTV1001

Key features

- First mobile DTV single chip solution—integrates RF, demod, decoder and memory
- World's smallest footprint package—less than 30 mm² resulting in low-cost BOM
- Low-Power Design—90 nm RF CMOS design, low 1-V core design
- Both DVB-H (DTV1000) and ISDB-T (DTV1001) products available
- Fast time-to-market: Development platform OS agnostic driver and API integration package

P R O D U C T B U L L E T I N

Overview

Texas Instruments' (TI's) Hollywood™ family of mobile digital broadcast products provides the first ever single-chip solutions for mobile DTV standards DVB-H (DTV1000) and ISDB-T (DTV1001). Using TI's industry leading DRP™ technology, the Hollywood chips enable a single low-voltage CMOS design. TI's Hollywood solutions also simplify integration by adding intelligence to the mobile DTV chip thereby off-loading takes from the host processor (digital cellular baseband or application processor).

Product features

Smallest solution footprint—smaller product design

- Single-chip solution, less than 30 mm² package
- 51 mm² for base line configuration
- No external memory required

Low bill-of-materials count—lower solutions cost

- Single chip—Low part count keeps solution cost low
- Integrated LDOs and VCO/PLL (only 1 voltage and clock source needed)
- No external memory, keeps solution cost low
- Single-ended RF LNA (no external balun)

Low power consumption—longer view time

- Integrated data, programmable memory leads to lower power
- Integrated on-chip smart power control—6 power modes
- Single-chip design reduces chip-to-chip I/O consumption
- Low 1.8 voltage peripherals and 1-volt core

Reduced time-to-market

- Common high-speed serial interfaces (SPI and SDIO)
- Tuning, hand-over control and power control handle on chip
- Complete SPI/SDIO driver and API sourced code package
- Reference Development Board (RDP) available
- Compact module available through module vendor
- PC-based diagnostic and data/message logging tools



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High performance—ready for broadcaster service rollout

- Support for 2 concurrent Elementary Streams and 8 IP filters
- 20 to 30 Mbps data processing throughput
- High sensitivity RF and low-noise figure
- Harmonic rejection filters for improved interference rejection

DTV100x specifications

Standards and bands supported

- DVB-H: 470-750 MHz and 1.67 GHz
- ISDB-T 1-seg: 470-770 MHz
- Tunable 0.5 MHz (ISDB-T) bandwidth modes
- Tunable 5, 6, 7, 8 MHz (DVB-H) bandwidth modes

Embedded system memory

- MPE-FEC and Link-Layer Buffering on chip
- Built-in program and data RAM for ARM

Host data and control interfacing

- 48-MHz SPI
- 4-bit 25 MHz SDIO
- Driver, API source code

Antenna control

- 10 programmable GPIOs
- 1.8-V PWM

Diagnostic and debug interfaces

- PC direct connect to UART
- Also via host

Reference input clock

- 13, 15.36, 16.8, 19.2, 26, 38.4 MHz
- Other clocks internal

Boot options

- Downloaded via SPI/SDIO
- Boot loader provided

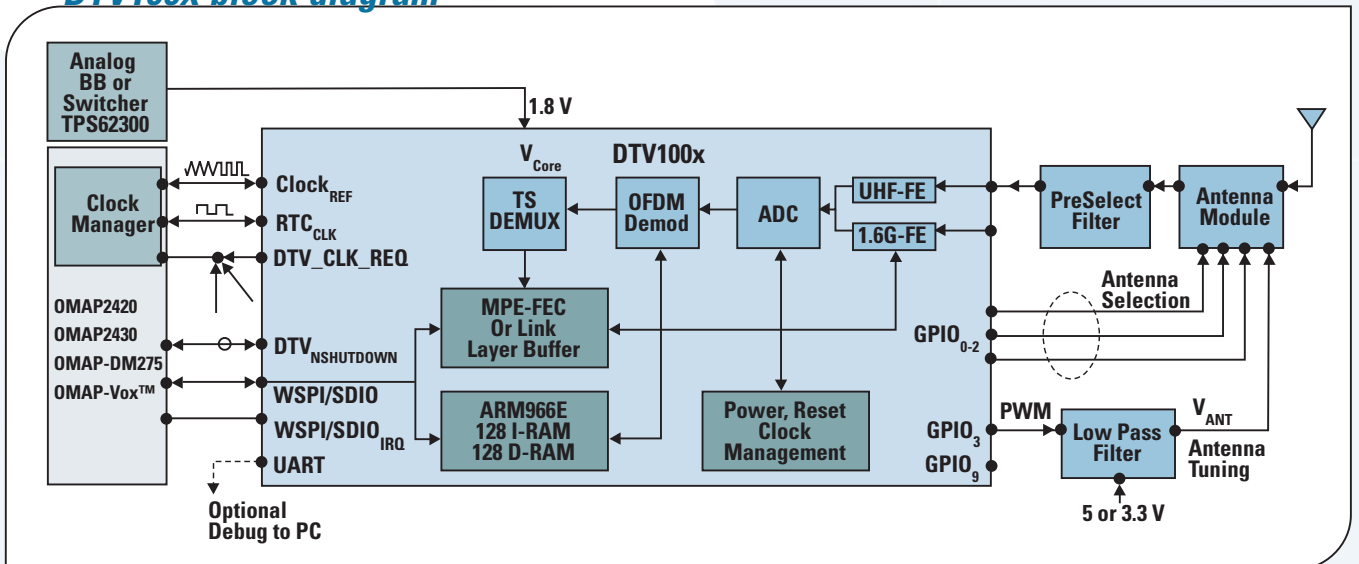
Package and power management

- Wafer Scale Package
- 88 balls, 0.5 mm ball pitch
- 1.8-V source (1-V core, 1.8 I/O)
- Green and lead-free compliant

Operating temperature

- -30°C to +85°C

DTV100x block diagram



TI's Hollywood and an OMAP™ processor provide a complete mobile TV solution for handsets. The OMAP processor manages the client software, A/V processing, IP/UDP processing stack, DRM, display control, DTV service manager and ESG.

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