

The Most Powerful, Universal and Flexible Mobile TV Receiver

DiBcom's DiB10098 is a flexible and powerful solution to the problem of standard's fragmentation worldwide for fixed and mobile TV. The DiB10098 is the first of a new generation of integrated circuits (IC) derived from the versatile **Octopus** platform. It is based on a programmable architecture that enables one design to be seamlessly and cost effectively targeted at the most widely deployed standards today: CMMB, DVB-T, DVB-H, DVB-SH, ISDB-T (1SEG & Full-SEG) and T-DMB.

The DiB10098 IC comprises a quad-band RF tuner, and a demodulator that integrates a broadcast-specific programmable vector signal processor (VSP) with a multi-mode channel decoder, MAC, memory and a power management unit (PMU), in a small-footprint package.

→ UNIVERSAL:

- Supports all existing & upcoming TV standards
- All regions, all applications addressed with one device
- Decreases R&D costs and increases addressable market

→ FLEXIBLE:

- Programmable Vector Signal Processing (VSP) engine
- Modular architecture

→ POWERFUL:

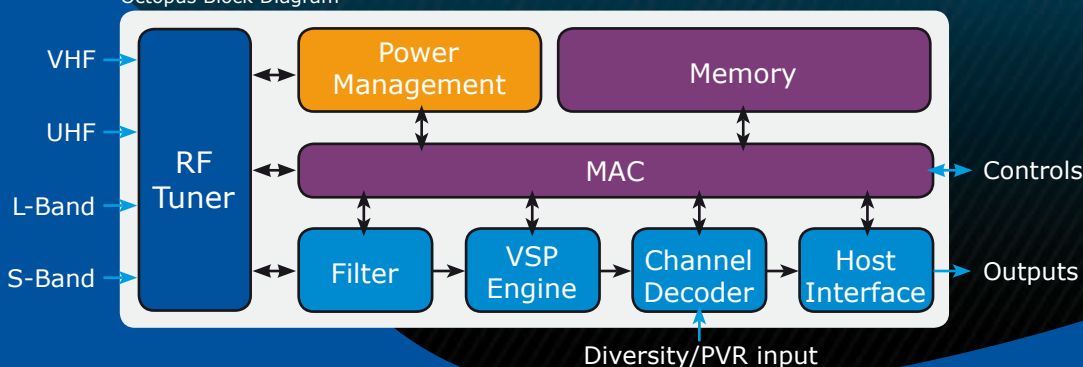
- No compromise broadcast-specific design
- Benefits from many years of field proven expertise

→ OPTIMAL:

- Small size, low cost and low power
- High integration in 65 nm technology
- Efficient memory sharing
- Embedded Power Management Unit (PMU)



Octopus Block Diagram



Features:

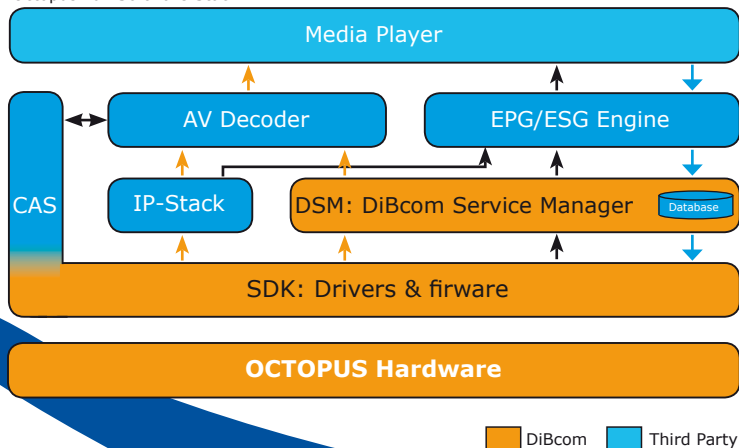
- Multi-standard: CMMB, DVB-T/H/SH, ISDB-T (1SEG & Full-SEG), T-DMB/DAB
- Multi-band Tuner:
 - VHF: 47 to 450 MHz
 - UHF: 450 to 868 MHz
 - L-Band: 1.2 to 1.8 GHz
 - S-Band: 2.1 to 2.8 GHz
- Flexible Bandwidth: 2 to 8 MHz
- Noise Figure: optimized while maintaining good linearity
- Notch Filter: good sensitivity for high UHF band even in presence of a powerful upstream GSM
- Embedded Power Management Unit (PMU):
 - Efficient power distribution and utilisation for longest battery life
 - Extracts all internal secondary voltages from the primary battery voltage (2.5V to 4.0V)
 - Automatic Voltage Scaling for power adjustments
- Balanced Memory Sharing:
 - High density embedded memory
 - External memory interface (if additional memory is needed as for ISDB-T Full-SEG)
- Diversity Enabled (for multiple antennas use)
- Embedded descrambler/scrambler HW accelerator for all CAS enabled TV signals
- Back-end Interfaces:
 - Memory-mapped (SRAM-like)
 - MPEG TS
 - SDIO
 - SPI
- Package: 93-pin BGA, 7x7mm, 0.5mm ball pitch

Reference Design & Software:

DiBcom offers complete reference designs for fast time-to-market and low R&D costs for device manufacturers. The reference design kit includes:

- **Complete hardware design package** including Evaluation board, schematics, design recommendations, BOM, Gerber files...
- **Complete software package** with:
 - Software Development Kit (SDK) including Drivers and Firmware
 - Toolbox for design fine tuning and performance enhancement
 - DiBcom Service Manager (DSM) providing interface between drivers and upper applications layers

Octopus Full Software Stack



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