

AS-102 DVB-T Receiver System-On-Chip

AS-102

Overview

The AS-102 is a complete multi-band receiver chip solution dedicated to DVB-T applications. Providing everything from the antenna to the MPEG transport stream data, it has various physical interfaces, including USB for PC centric applications and TS (transport stream) for STB or IDTV applications.

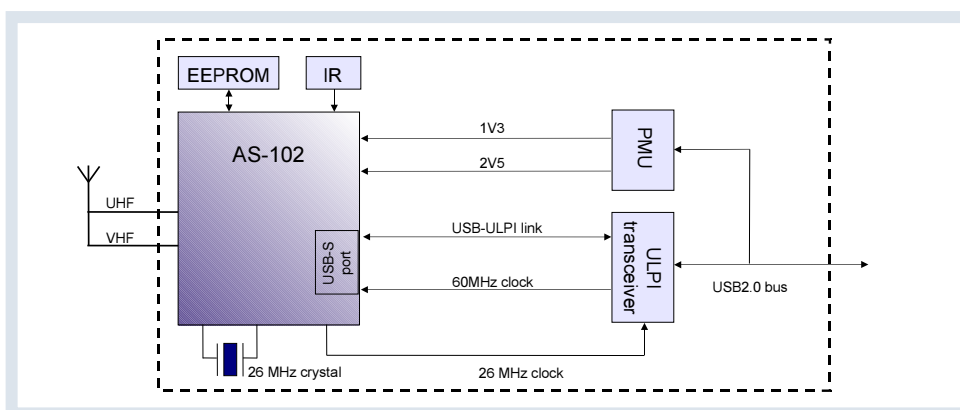


The system-on-chip solution is implemented in state of the art 90nm CMOS technology to achieve lowest cost, lowest power and smallest system footprint. The AS-102 is based on Software Defined Radio (SDR) techniques, using adaptive algorithmic techniques to maintain highest video quality while minimizing power consumption.

Abilis Systems delivers pre-certified reference designs, hardware schematics and software source code, customized for each application.

PCTV applications

The high level of integration of AS-102 makes it ideal for small form factor USB sticks (typically 16x30mm). A full TV receiver can be implemented in a half mini card format for embedded laptop applications, with performance exceeding Nordig1.0.3 requirements.



Applications

- USB Sticks
- PCs, laptops, PDAs
- PC add-on cards
- SDIO cards
- Portable Media Players
- Handheld TV sets
- Set Top Boxes
- IDTV

Key features

- Frequencies supported
 - VHF III (170-240 MHz)
 - UHF (470-860 MHz)
- Single chip
 - Lowest cost
 - Lowest footprint
- High performance
 - Superior mobile performance in all conditions for best QOS
 - Exceeds EICTA/MBRAI V2. + Nordig Unified specs
 - Robust reception in high speed + urban conditions
 - Field performance enhancements using SW upgrades
 - Power consumption dynamically managed based on reception conditions
- System interfaces
 - USB, SDIO, SPI
 - Serial-TS
- Low power
 - <325mW
- Package
 - QFN

Software Defined Radio

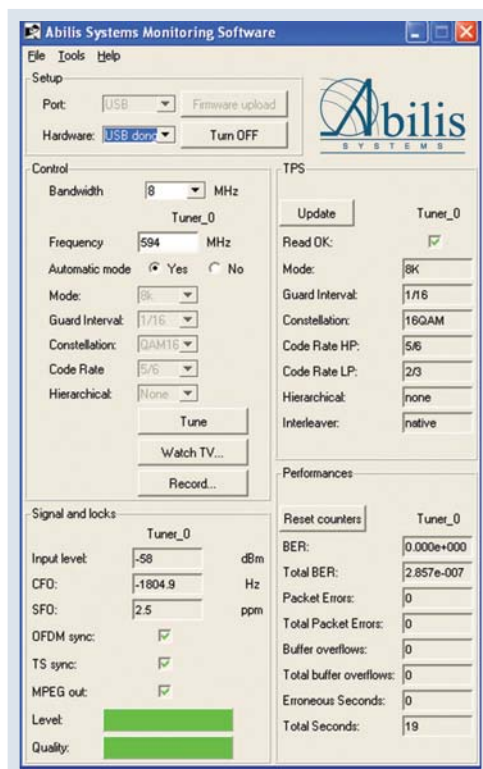
Abilis Systems has invented a low power software defined radio (SDR) technology to address the challenging requirements of digital TV.



This enables re-programmability, which has numerous benefits: on-the-fly algorithm selection, continuous algorithm improvement following field trial experience, fast upgrades to accommodate the regional versions of a standard and faster product roadmap.

The unique combination of software flexibility and dedicated hardware blocks developed by Abilis Systems is key to achieving high performance, low power solutions for digital TV applications.

Abilis Systems provides the software stacks customized for each application.



Evaluation Board

An evaluation board provides the ability to test chip performances in your lab or in the field. Software is also provided to easily set-up the chip in any condition and to display performance data, such as BER, PER and so on.



RF tuner

- Zero-IF architecture
- Multi-band coverage
 - VHF, UHF
- Filter bandwidth
 - 5/6/7/8 MHz
- High sensitivity
- Superior adjacent channel rejection
- Crystal or external clock frequencies
 - 8 to 63 MHz

OFDM demodulator

- Proprietary DSP
- Pipelined, multi-DSP architecture
- Self adaptive behaviour to input signal characteristics
- 2k, 8k FTT
- QPSK, 16QAM, 64QAM
- I/Q mismatch compensation
- Frequency and phase offset compensation
- Advanced noise cancellation algorithm

About Abilis Systems - digital TV on a chip

Abilis Systems, a Kudelski Group company, provides true single-chip solutions for receiving digital TV broadcasts on any electronics device with a display. Our unique 'antenna-to-digital' solution is easily integrated to output a digital TV video stream ready for decoding and display. By utilizing software-defined radio architectures to guarantee the highest quality of service in all reception conditions, combined with the latest low power technology, Abilis Systems enables a small footprint, low power television receiver which can support mobile and digital TV standards worldwide. Abilis Systems also actively co-operates with our sister companies of the Kudelski Group to develop complete hardware/software packages for highly secured conditional access systems.

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