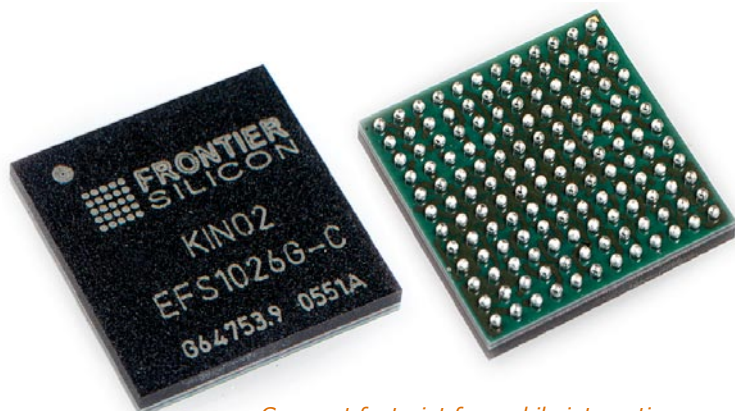


Kino 2 FS1026

Advanced T-DMB Baseband IC



Compact footprint for mobile integration -
10.0 x 10.0 x 1.3 mm

APPLICATIONS

- Mobile phone with TV
- Portable media player
- Automotive infotainment systems
- Mobile/portable TV receiver
- Portable DVD player
- Mobile TV dongle
- Mobile PVR

OVERVIEW

The Kino 2 FS1026 IC is an advanced T-DMB/DAB multimedia baseband receiver, enabling TV, video, audio and data services for mobile handsets and other handheld devices, with industry-leading performance, cost and size.

Kino 2 offers unmatched flexibility, by integrating features such as conditional access security with support for multiple data services, T-DMB streaming, enhanced packet modes, fixed and variable IP stream rates, and a flexible choice of interfaces to the application processor including MPEG2 and IP transport streams.

Kino 2 integrates multiple peripherals and interfaces, which simplifies interfacing to the RF tuner and host processor. Kino 2 can boot and transport TS/IP streams over the same SPI interface to the host. The host may use either a UART or SCP interface back to Kino 2 for its control. Kino 2 executes multiple multimedia and communication-based tasks concurrent with the decoding, error correction and content descrambling of the T-DMB video, audio and data streams.

Kino 2 has been designed as part of a complete mobile TV system, along with Frontier Silicon's Apollo FS1110 DAB/T-DMB RF tuner¹. The combined chipset provides the best-performing DAB/T-DMB solution on the market, with industry-leading sensitivity, power consumption, footprint and cost.

Kino 2 also supports third-party tuners, with features including wideband RF AGC control and power-optimized drivers.

¹ Apollo FS1110 triband dual-mode DAB Receiver
Product Brief available from website

FEATURES

- ETSI EN 300 401 (EUREKA-147) compliant receiver
- ETSI TS 102 427 compliant T-DMB streaming and enhanced packet modes
- ETSI ES 201 735 (DAB IP) compliant receiver
- Integrated T-DMB channel processing with on-chip Reed-Solomon decoding for best mobile performance
- Decodes multiple video, audio and data services up to the maximum 1.8 Mbps
- Simultaneous demodulation of high rate T-DMB and DAB Musicam audio
- No extra hardware needed for T-DMB channel decoders
- Flexible media processor interface including MPEG2-TS and IP transport interfaces
- TS data, FIC, MSC and IP output streams to the host processor
- Data service support to the host processor
- Ultra low-power T-DMB baseband reception
- Flexible hardware-assisted DSP architecture
- Embedded conditional access security
- Integrated switched mode power supply for option to operate from single 2.4 - 3.6 V supply
- Temperature range:
operation -40 to +85°C,
storage -40 to +125°C
- Complete "Troy" evaluation platform available including Apollo radio tuner and PC software GUI



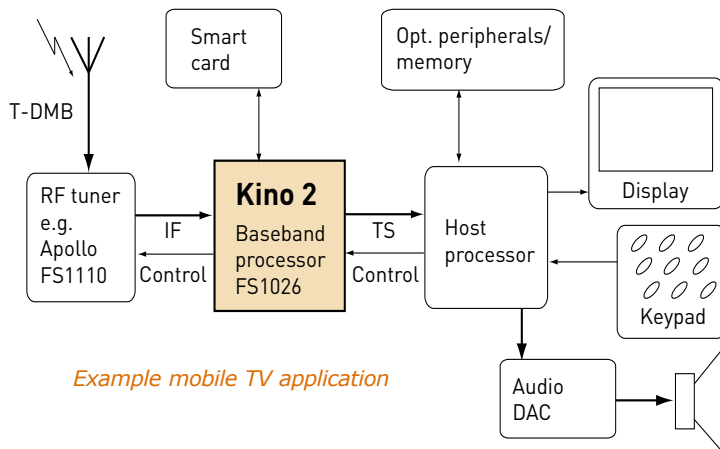
Kino 2 FS1026

Advanced T-DMB Baseband IC



EXTENSIVE PERIPHERALS

- Support for three **SPI** slave devices (including **DMB TS data** output, **SD card** profile and optional local **SPI Flash**)
- SPI supports **remote booting**, T-DMB TS output and host command/control simplifying the host interface significantly.
- SPI slave port available for autonomous TS data, boot and control to/from host
- Optional DVB synchronous parallel interface (**DVB-SPI**) output of T-DMB TS data
- **SCP ports** for control of RF device and optional control from host
- Two 16550-compliant **UARTs**, with optional flow control
- Up to **4 PDM DAC outputs** to interface to Apollo and third-party RF tuners (e.g. wideband AGC, IF AGC)
- Integrated **SMPS** for applications limited to 2.4 - 3.6 V power supply availability.
- **NAND Flash** and **memory stick** interfaces for optional mass storage applications
- Extensive and flexible **GPIO**
- **S/PDIF audio** and **RDI** outputs
- Up to 8-channel **I²S** output of decoded audio data
- On-chip stereo audio DAC
- **JTAG** interface for test and emulator support



Example mobile TV application

FLEXIBILITY

Kino 2 is much more than just a T-DMB channel receiver. There are many integrated features which simplify deployment of mobile TV applications and reduce overall system cost and time-to-market. These include:

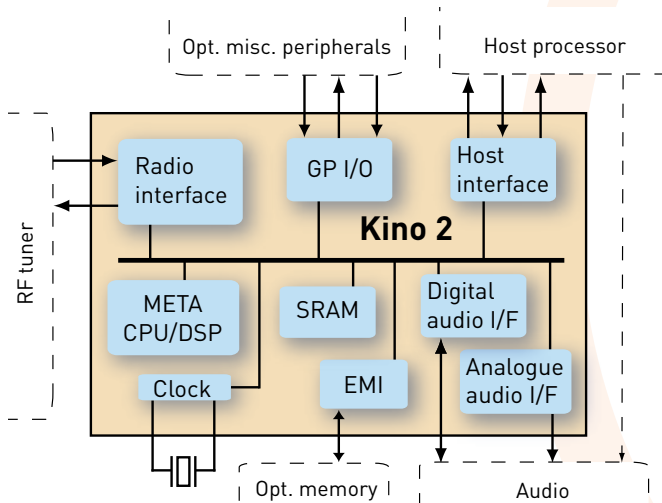
- streaming and enhanced packet modes for T-DMB/DAB,
- transport stream or IP packet interfacing to the host,
- fixed and variable length packets for IP modes,
- booting and TS/IP Data output to the host over one SPI interface,
- full channel decoding including synchronization, capture, Reed-Solomon and convolutional deinterleaving,
- embedded conditional access security support.

ADVANCED POWER MANAGEMENT

Kino 2 uses dynamic and static power management techniques including fully-static design, clock-gating and inactive period state minimisation for low power usage without compromising performance. The processor clock is generated by a PLL which can be reprogrammed dynamically, enabling power consumption to be minimised for specific applications.

EVALUATION PLATFORM

A full T-DMB evaluation system, "Troy" is available, with powerful PC GUI software. Troy includes Apollo and Kino 2 on-board, with a USB PC interface. Troy is delivered with powerful GUI Software and embedded codecs for system evaluation. Separate SPI/UART/I²C headers allow interfacing to media processor development kits.



Kino 2 block diagram



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