



KINO 4  
FULLY INTEGRATED  
DIGITAL RADIO CHIP

## APPLICATIONS

- DAB/DAB+, FM-RDS, DMB-R
- Portable radios
- Clock radios
- Docks
- Automotive digital radio adaptors
- Handheld radios
- Home audio systems

## OVERVIEW

Kino 4 is the latest generation of low-power integrated digital radio system-on-chip (SoC). It is a fully integrated single chip radio receiver SoC containing RF tuner, baseband, application processor, audio decode and DAC functionality.

Kino 4 has been designed to power all major categories of consumer digital radio device from simple portable digital radios to home audio systems in either a master or slave configuration.

Containing a number of innovative technologies to optimise power consumption, Kino 4 uses up to 50% less power than the previous generation Kino 3 chips. The high level of integration such as built-in voltage regulators help to reduce the system component count and keep BoM costs to a minimum as well as reducing manufacturing time.

Kino 4 is Digital Tick compliant. The on-chip multi-band RF tuner and processor operate in the following RF bands; LW/MW/SW, FM, DAB-III and DAB-L.

## SUMMARY OF BENEFITS

- Enhanced performance and functionality
- Up to 50% lower power consumption than the previous generation Kino 3
- Reduced cost
- Designed to power all major categories of digital radio device
- Supports all major digital radio broadcast standards
- Supports all digital and FM radio frequencies



88-pad QFN package 10 x 10 mm, 0.4 mm pitch.

**Actual size**

## FEATURES

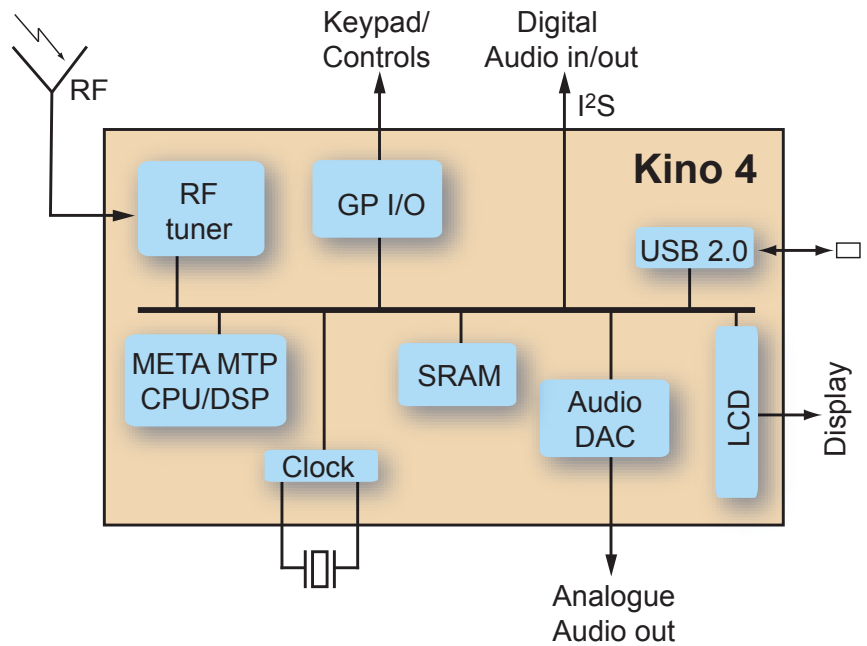
- CPU 360MHz META MTP
- RF Sensitivity: DAB -100dBm, FM -110dBm
- On board RF tuner supporting Band L, Band III, Band II, Band I, including Japanese FM.
- Internal Stereo DAC with 90dB dynamic range
- Boot from internal memory, SPI flash memory or host device. Software configurable
- Flash memory interface
- Temperature range
  - Operating -40 to +85 °C
  - Storage -40 to +125 °C
- Full RoHS compliance

# KINO 4 FS1445

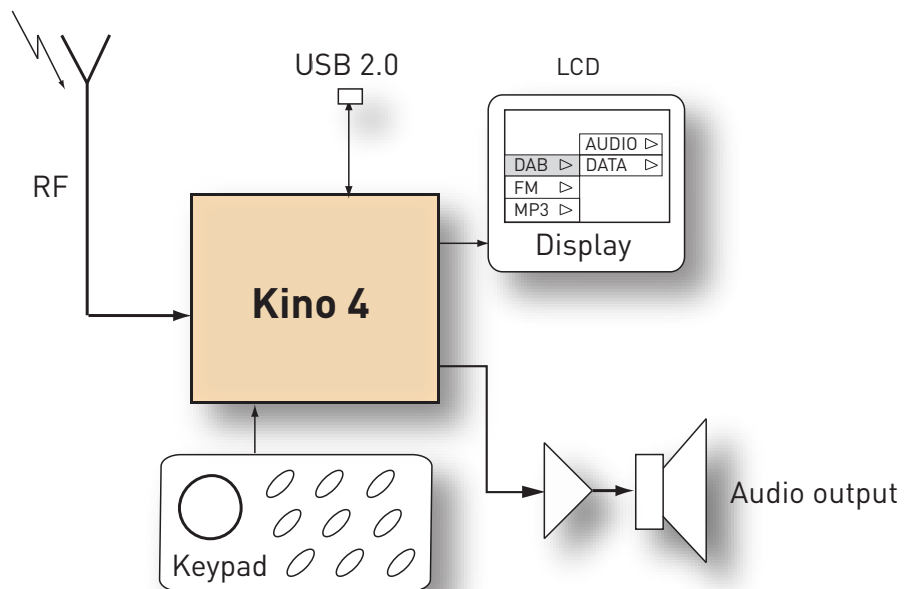
Highly-integrated DAB/DAB+/DMB-R digital radio processor

## EXTENSIVE INTERFACES

- Multiple configurable GPIO and ADC inputs
- USB 2.0 High-speed in host or device mode
- S/PDIF audio output
- I2S input/output of decoded audio data (both master and slave modes)
- Support for multiple SPI slave devices
- 2 x 16 550-compliant UARTs with optional flow control
- Colour LCD/OLED supported via SPI/ I2C or LED indicators for headless display.
- GPIO and ADC interfaces
- JTAG interface for test and emulator support



KINO 4 BLOCK DIAGRAM



SIMPLE DAB/MP3 PLAYER APPLICATION

