TDA7701

BATTERY-OPERATED FULLY INTEGRATED FM TUNER

DATA BRIEF

1 Main Features

- SINGLE-CHIP FM TUNER FOR LOW-VOLTAGE/ LOW POWER APPLICATIONS
- INTEGRATED LNA (WITH AGC) AND IMAGE REJECTION MIXER
- LOW-IF ARCHITECTURE WITH ON-CHIP CHANNEL SELECTION FILTER
- VCO WITH ON-CHIP VARACTOR
- INTEGRATED TUNING PLL WITH AUTO STATION SEARCH FUNCTION
- ANALOG AND DIGITAL SIGNAL STRENGTH INDICATION
- FULLY INTEGRATED FM DEMODULATOR AND ADJUSTMENT-FREE STEREO DECODER
- PROGRAMMABLE AUTOMATIC STEREO BLEND AND SOFT MUTE
- I^2C/SPI-BUS CONTROLLED
- LOW POWER CONSUMPTION
- HIGH SENSITIVITY
- HIGH AUDIO QUALITY

Figure 1. Package

TFBGA40

Table 1. Order Codes

Part Number	Package
TDA7701	TFBGA40

2 Description

TDA7701 is a single-chip FM Tuner specifically designed in mixed Bipolar-CMOS technology for low-voltage/low-power applications, where the minimization of external component count and PCB size and complexity are mandatory: typical examples are mobile phones and portable multimedia equipment.

Housed in a small TFBGA40 package (5x5 mm), it features the full FM signal processing chain from antenna to stereo audio output: RF front-end processing, IF processing, demodulation and stereo decoding, I^2C/SPI-controlled tuning with station detection.

Its low-IF architecture highly integrated RF/IF sections include a low-noise preamplifier with Automatic Gain Control, an image rejection mixer and on-chip high-Q channel selection filters that bring to a minimum the external component count and PCB complexity while guaranteeing good selectivity and image-rejection performances Thanks to its on-chip varactor, the tuning-PLL controlled VCO needs just one external inductor for low phase-noise oscillation.

FM demodulation is performed by means of a fully integrated circuit that eliminates the need for an external LC tank while maximizing linearity.

The FM stereo signal is decoded through a fullyintegrated, adjustment-free dedicated PLL; automatic signal-dependent stereo blend and soft-mute functions are provided.

A single external reference frequency is needed for IC operation, and can be selected among those commonly used in GSM applications (13/19.2/26/ 38.4 MHz + 32768Hz real-time/sleep clock).

Figure 2. Functional Block Diagram

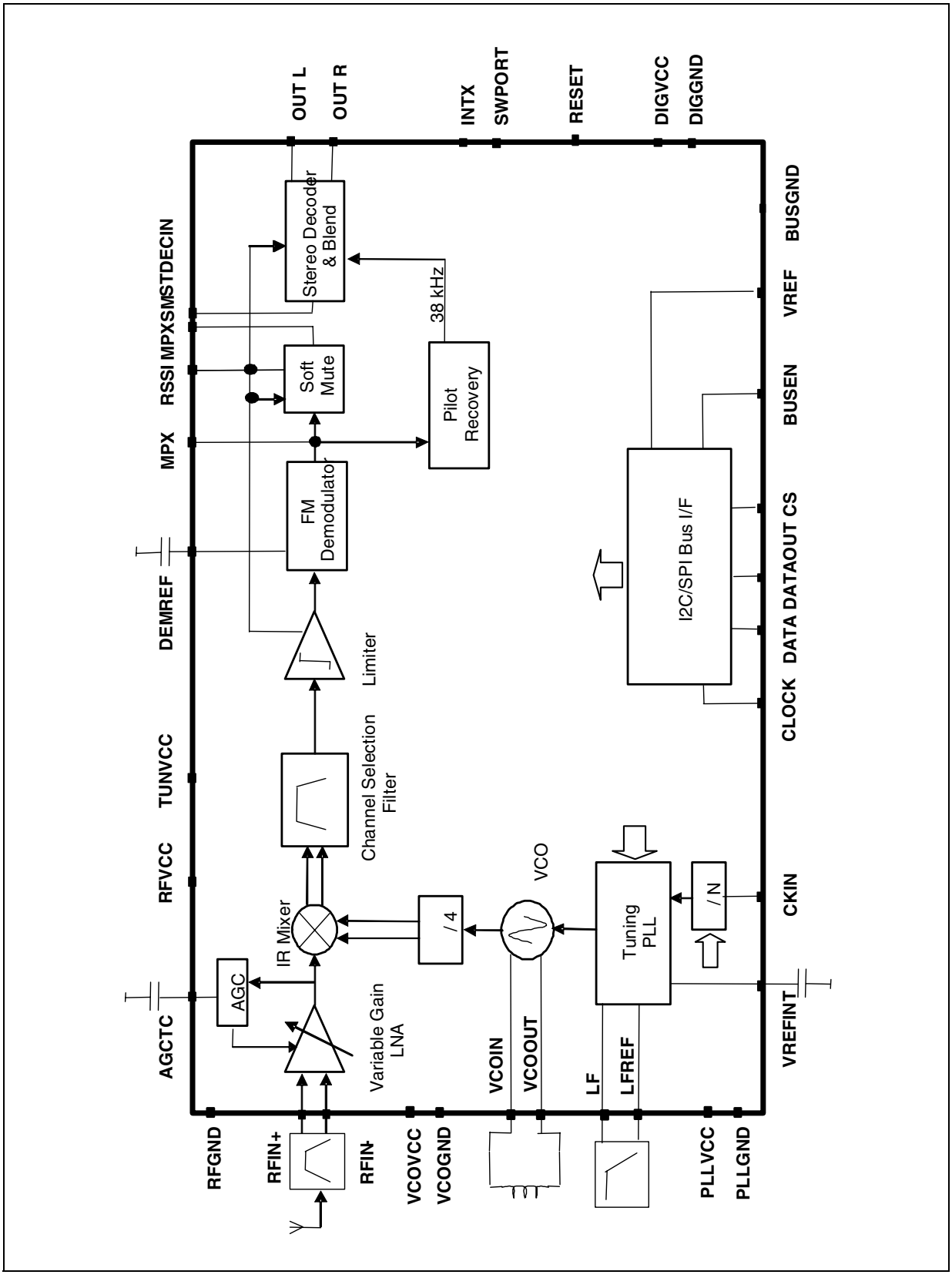

Table 2. Revision History

Date	Revision	Description of Changes
February 2005	1	First Issue