

SINGLE CHIP FOR BLUETOOTH & FM RADIO TUNER

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1 General Description

RDA5876A integrates industry-lead Bluetooth and FM radio tuner into one chip and is optimized for mobile applications. Bluetooth and FM can work simultaneously and independently, with low power consumption levels target to battery powered devices. For the highest integration level, the required board space has been minimized and customer cost has been reduced. Manufacturers can easily and fast integrate RDA5876A on their product to enable a rapid time to market.

RDA5876A uses CMOS process with a compact 4*4mm 32-pin QFN package.

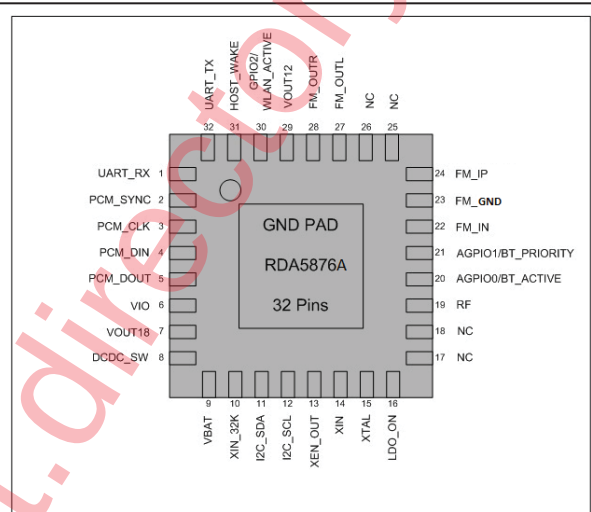


Figure1-1. RDA5876A Top View

1.1 Bluetooth Features

- CMOS single-chip fully-integrated radio and baseband
- Compliant with Bluetooth 2.1 + EDR specification
- Bluetooth Piconet and Scatternet support
- ARM7-based microprocessor with on-chip ROM and RAM
- Meet class 2 and class 3 transmitting power requirement, support class1 operation with external power amplifier
- Provides +10dbm transmitting power
- NZIF receiver with -90dBm sensitivity
- Battery power supply directly with internal LDO
- Support DCXO with internal oscillator circuit
- Up-to 4Mbps high speed UART HCI support
- Support AFH
- Support 3-wire WIFI Co-existence handshake signals
- Low power consumption
- Minimum external component
- Internal 32k LPO.

1.2 FM Features

- CMOS single-chip fully-integrated FM tuner
- Low power consumption
 - Total current consumption lower than 20mA at 3.0V power supply
- Support worldwide frequency band
 - 50 -115 MHz
- Support flexible channel spacing mode
 - 100KHz, 200KHz, 50KHz and 25KHz
- Support RDS/RBDS
- Digital low-IF tuner
 - Image-reject down-converter
 - High performance A/D converter
 - IF selectivity performed internally
- Fully integrated digital frequency synthesizer
 - Fully integrated on-chip RF and IF VCO
 - Fully integrated on-chip loop filter
- Autonomous search tuning
- Support 32.768KHz crystal oscillator
- Digital auto gain control (AGC) Digital adaptive noise cancellation
 - Mono/stereo switch
 - Soft mute
 - High cut
- Programmable de-emphasis (50/75 μ s)
- Receive signal strength indicator (RSSI)
- Bass boost
- Volume control
- Line-level analog output voltage
- I2C control bus interface
- Directly support 32 Ω resistance loading
- Integrated LDO regulator
 - 1.8 to 5.5 V operation voltage

1.3 Applications

- MP3,MP4 and PMP
- PDA
- Cordless phone
- MCU