

Product Brief



GDM7004 Terrestrial DMB Tuner



GDM7004 Features

- ▶ World's first single-chip CMOS monolithic T-DMB tuner IC: RF/PLL/demodulator/FEC
- ▶ Fully integrated diversity ZIF RF with VCO/Loop filters to minimize external component count
- ▶ Multi-band for Band III (174-240MHz) and L-Band(1452-1492MHz)
- ▶ Full ensemble de-interleaver without external memory: up to 1.824Mbps
- ▶ Flexible I/F: SPI, I2C, 16-bit host I/F
- ▶ Various reference clock: crystal or VCXO of 13/19.2/26/32.768 MHz
- ▶ Integrated LDO for supply
- ▶ Low power consumption under 100mW
- ▶ Small form factor 121-pin BGA 8x8mm²

GDM7004 Benefits

- ▶ Small form factor enables slim design for T-DMB handsets and portable devices
- ▶ Low power solution enables longer play time for handheld applications
- ▶ Cost-effective TBOM
 - Single clock of crystal for RF/BB
 - No external memory
 - Single power supply for RF/BB
- ▶ Fully compliant to the standard for Terrestrial DMB and Eureka-147
- ▶ Flexible interfaces ease design constraints

Description

GDM7004 is a single-chip tuner IC for T-DMB (Terrestrial Digital Multimedia Broadcasting) operating in Band III (174-240MHz) and L-Band (1452-1492MHz) based on CMOS technology. This solution integrates all components required for a full T-DMB tuner, including RF receiver, PLL, demodulator, FEC, and host interfaces.

On the analog side, GDM7004 uses GCT's patented Zero IF (intermediate frequency) radio architecture to optimize system cost and area. This allows GDM7004 to feature the best interference rejection performance without any loss due to image problem inherent to most low-IF receivers. The built-in high speed hybrid DC cancellation loop effectively and accurately removes the residual DC impairments, ensuring optimal performance.

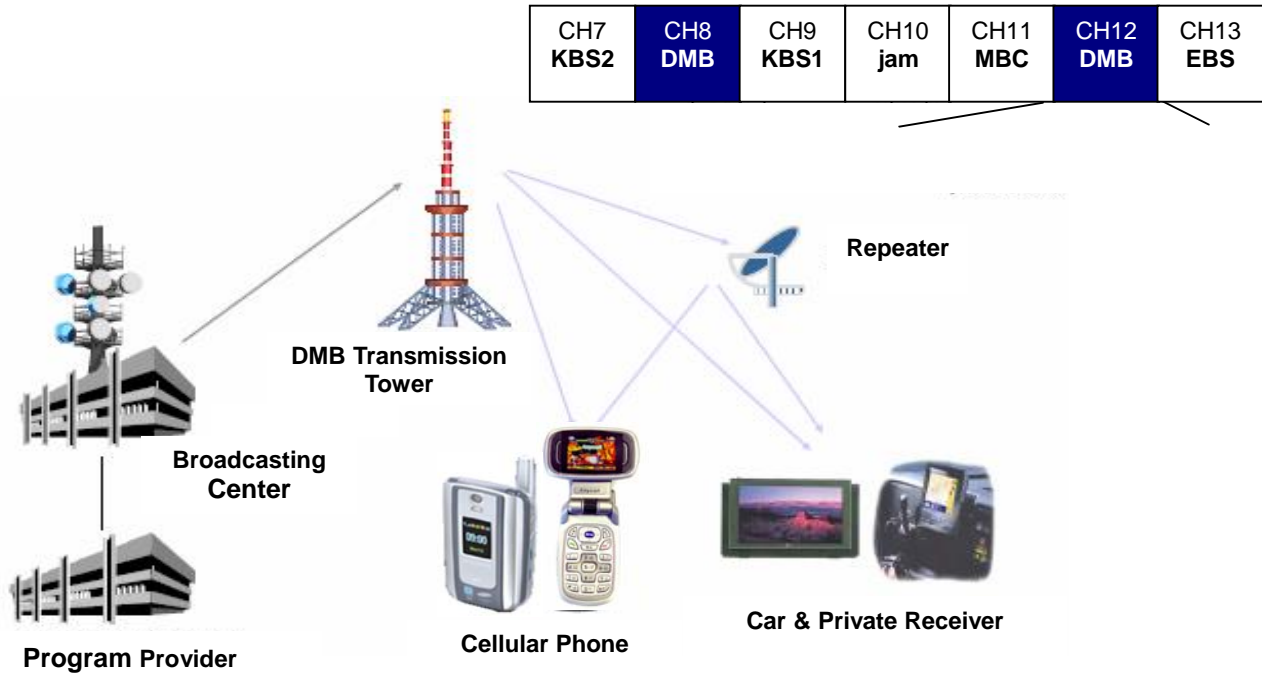
On the digital baseband side, GDM7004 includes the OFDM demodulator, FEC (forward error correction), and full-ensemble inter-leaver on the same silicon die. The demodulator is built based on GCT's proprietary OFDM demodulator which offers superior performance in fading environments and is robust against common impairment such as impulse noise, spurious interference and fading distortion.

Only a crystal, BPF, and a few passive components are required for configuration of the front-end of a T-DMB receiver. GDM7004 enables small form factor and power-efficient T-DMB applications with cost-effective BOM. GCT provides both T-DMB reference design and evaluation kit to ease customer application development.

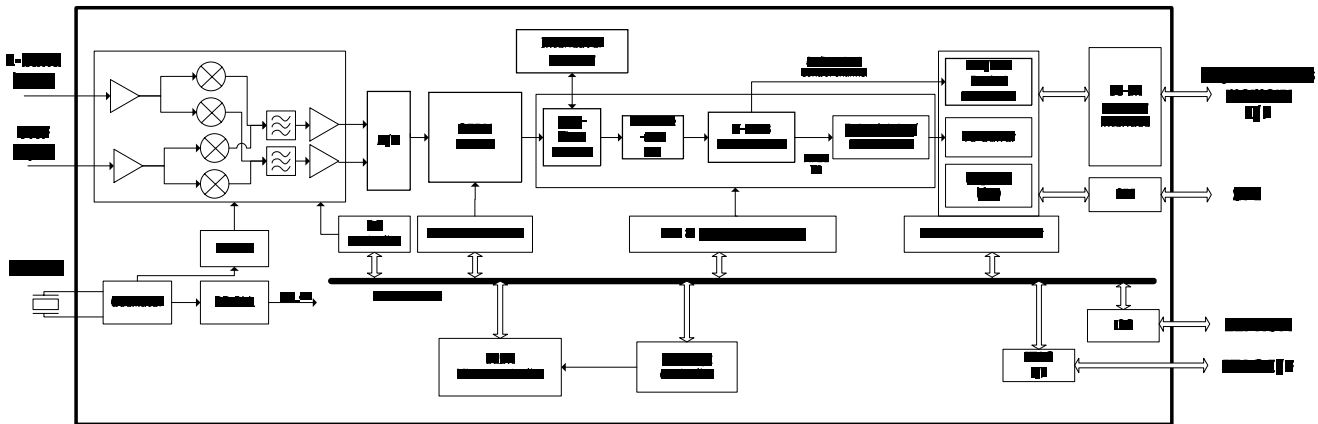
Applications

- T-DMB handsets
- Portable devices

Outlook of Terrestrial DMB Services – Korean Case



GDM7004 Block Diagram



For more information, please contact us at:

Sales: contact_sales@gctsemi.com

Marketing: contact_marketing@gctsemi.com



GCT Semiconductor, Inc.

Headquarters

2121 Ringwood Avenue

San Jose, California 95131, USA

Tel. +1 408 434 6040

Fax. +1 408 434 6050

GCT Asia Pacific, Inc.

10F Specialty Construction Center

395-70 Shindaebang Dong, Dongjak Gu

156-714 Seoul, Korea

Tel. +82 2 2167 1100

Fax. +82 2 2167 1261