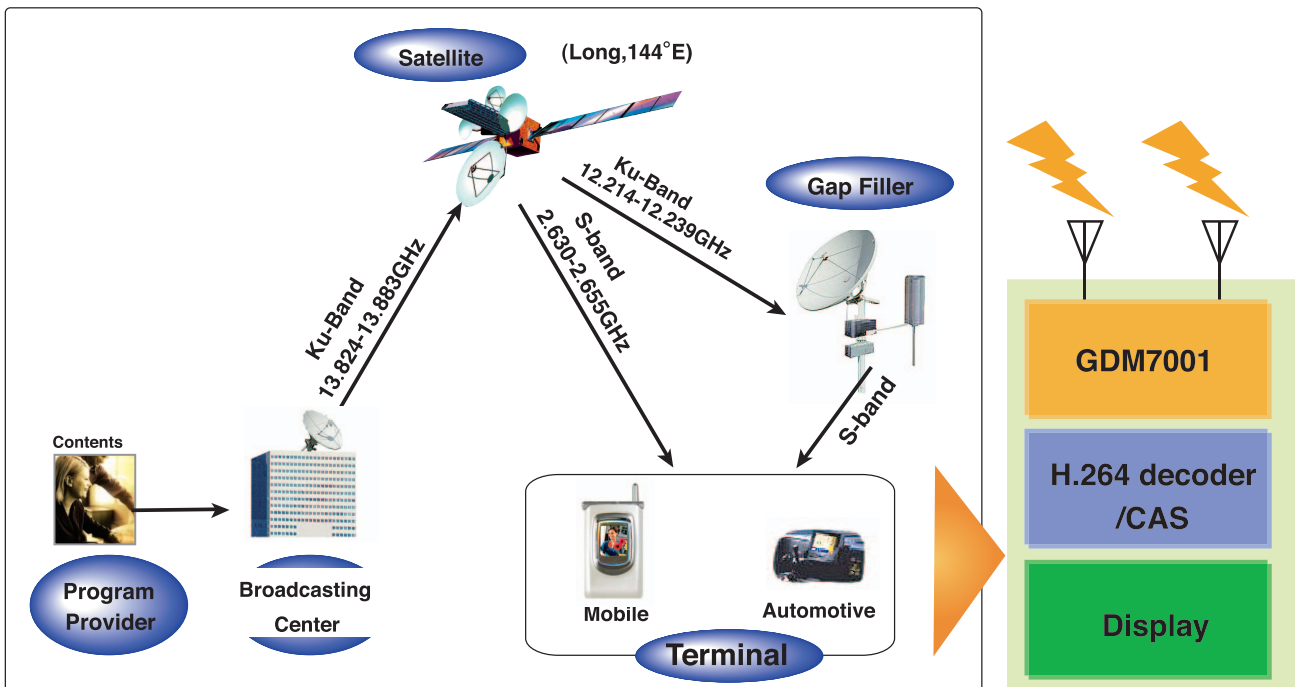# Product Brief

GDM7001
Satellite DMB Tuner

GDM7001 Features

- World's first single-chip CMOS Radio and CDM for DMB
- Fully integrated diversity ZIF RF including VCO/Loop Filters to minimize external component count
- Serial interface for MPEG2 TS
- Parallel interface supports CDMA MSM
- Flexible reference clock: Crystal or VCXO at 32.768MHz
- Integrated DC-DC converter
- Low power consumption: under 400mW
- Small form factor: 144-pin BGA, 9x9mm^2

Summary of Benefits

- Small form factor ideal for Satellite DMB applications such as handset
  - 60% reduction of area
  - Diversity RF+CDM+SDRAM in one package
- Low power solution for handheld devices
  - 35% reduction of power consumption
- Cost effective TBOM
  - No expensive VCXOs
  - No external SDRAM
  - No external DC-DC converters
- Fully compliant to Satellite DMB standards in Korea and PMSB in Japan (ITU-R recommendation System E)

Outlook of Satellite DMB (PMSB) Services

Satellite (Long,144°E)

Ku-Band 12.214-12.239GHz

Gap Filler

Ku-Band 13.824-13.883GHz

S-band 2.630-2.655GHz

S-band

Contents

Program Provider

Broadcasting Center

Mobile

Automotive

Terminal

GDM7001

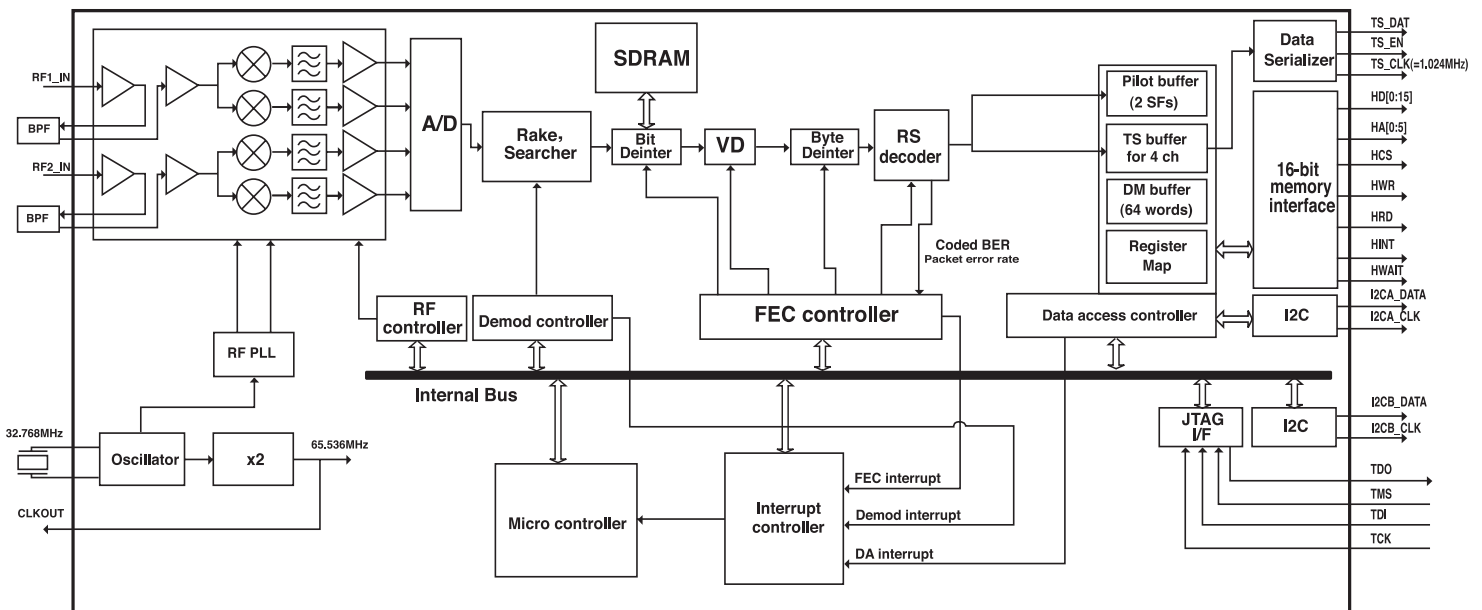H.264 decoder /CAS

Display

General Description

The GDM7001 is a highly integrated, single chip tuner IC for S-DMB (Satellite Digital Multimedia Broadcasting: ITU-R recommendation System E) operating in 2.6GHz based on CMOS technology. It integrates all the components required for the S-DMB tuner function, and includes two receivers for antenna diversity, analog baseband, A/D converter, digital demodulator, channel decoder, and host interfaces.

Together with an additional A/V processor, the GDM7001 can provide the most integrated total solution for S-DMB receiver with optimized performance. The GDM7001 utilizes GCT's state-of-art ZIF RF architecture and baseband for the digital demodulator and channel decoder. Thanks to the integration of RF and BB, GDM7001 is able to control both the RF and baseband in the most optimum manner, to save on power consumption whilst achieving optimum receiver sensitivity and channel selectivity.

The small form factor and low power consumption of the GDM7001 makes it perfect for mobile handheld application with S-DMB reception.

A complete transceiver is achieved with the addition of a crystal, BPF, and a few passive components. The GDM7001 also offers interface flexibility for connection with a range of external A/V host processors. As a result, the designer is presented with a simple task when porting this device to a host product.

Block Diagram