



# Product Brief

## GDM7213



Mobile WiMAX IEEE 802.16e Wave 2-compliant monolithic single-chip

### FEATURES

- ▶ Integrates up to 160 MHz ARM926E RISC CPU and 96 MHz P2D DSP with 128 KB on-chip SDRAM
- ▶ 1.1V supply voltage
- ▶ Highly integrated CMOS RF transceiver for 3.4 ~3.6GHz WiMAX
- ▶ Complies with IEEE 802.16e mobile WiMAX and WiMAX Forum® Wave2 certification
- ▶ Maximum throughput: >40 Mbps/DL, 6 Mbps/UL
- ▶ Supports CC/CTC and Chase Combining-CTC
- ▶ Hybrid ARQ supporting up to category 6
- ▶ Integrates two receivers and a single transmit Path for MIMO-DL & Collaborative MIMO UL
- ▶ Supports seamless handover across the cells or sectors
- ▶ Supports AAS/BF features for MS

### BENEFITS

- ▶ WiFi/WiMAX Dual-mode connectivity
- ▶ Reduces PCB design complexity
- ▶ Ultra low power consumption
- ▶ Small form factor
- ▶ Optimizes mobile WiMAX/WiFi implementation in mobile devices
- ▶ Minimizes external RF front-end components
- ▶ Satisfies high demands of multimedia processing
- ▶ Supports multimode wireless connectivity—seamless broadband and local wireless roaming
- ▶ Full range of advanced interfaces for network, storage, and audio/visual device applications

GDM7215 supports mobile WiMAX (IEEE 802.16e WAVE 2) and WiFi (802.11b/g) and implements mobile WiMAX RF/MAC/PHY and WiFi RF/MAC/PHY on a monolithic die. GDM7215 supports multimode wireless connectivity with its on-chip RF transceivers, allowing seamless broadband and local wireless roaming. Based on GCT's industry-proven CMOS RF technology, the new GDM7215 integrates WiMAX and WiFi radios, a high performance ARM9 RISC processor along with a 32-bit uniscalar DSP, and a full range of advanced interfaces for network, storage, and audio/visual device applications.

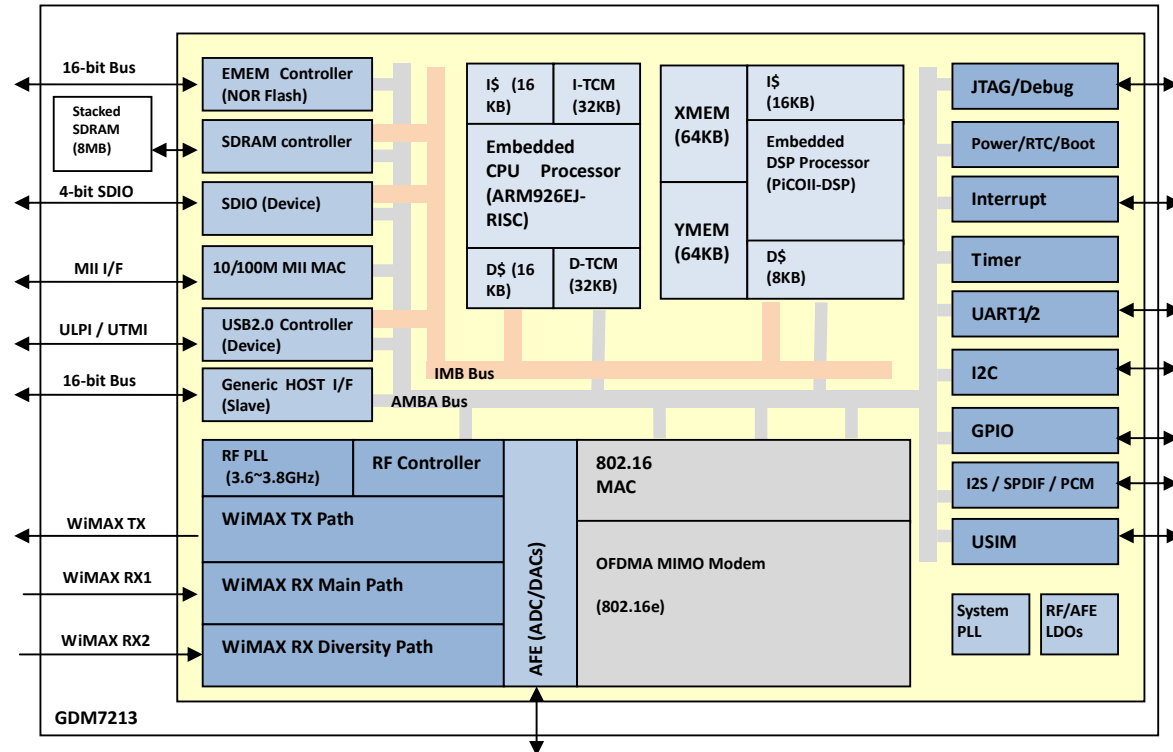
GDM7215 supports all the essential features of mobile WiMAX for the 2 GHz band, including implementation of MISO (two receivers and a single transmitter) and Category-4 H-ARQ (Hybrid automatic repeat-request). It also fully supports WiFi (802.11 b/g) functionality including advanced power management and coexistence support. Due to its optimized design and unique architecture, GDM7215 provides a best-in-class solution for power consumption, size, and multi-mode WiFi/WiMAX connectivity. The low power consumption and robust coexistence scheme eases development of highly compact modules needed by portable and mobile applications. GDM7215 also supports 16 bit memory, SDIO and USB2.0 interfaces.

### Applications

- ▶ WiMAX mobile terminals such as smart phones, PDAs
- ▶ WiMAX portable devices such as USB dongle, PC card
- ▶ WiMAX fixed devices such as residential CPE

## Block Diagram

GDM7213 (RF/BB SOC)



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