Product Brief
GDM7205K

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

FEATURES

- Integrates up to 160 MHz ARM926E RISC CPU and 120 MHz P2D DSP with 128 KB on-chip SDRAM

- 1.1V supply voltage

- 2.300-2.690GHz WiMAX band with auto-calibration and dynamically adjustable channel bandwidth

- Complies with IEEE 802.16e mobile WiMAX and WiMAX Forum® Wave2 certification

- Maximum throughput: >30 Mbps/DL, 6 Mbps/UL

- Supports CC/CTC and Chase Combining-CTC Hybrid ARQ in both DL/UL supporting category 1 and 2

- Integrates two receivers and a single transmit Path for MIMO-DL (Matrix A/B) and collaborative MIMO UL

- Supports seamless handover across the cells or sectors

- Supports AAS/BF features for MS

BENEFITS

- Reduces PCB design complexity

- Ultra low power consumption

- Small form factor

- Optimizes mobile WiMAX implementation in mobile devices

- Minimizes external RF front-end components

- Satisfies high demands of multimedia processing

GDM7205K is the world's first mobile WiMAX IEEE 802.16e Wave 2-compliant monolithic single-chip. This highly integrated single-chip solution is designed to optimally support mobile WiMAX applications, including portable, nomadic and fixed. GDM7205K includes a mobile WiMAX baseband, RF transceiver, high performance dual-processors, and an impressive array of peripherals for connectivity and multimedia.

With its highly integrated, low-power on-chip radio transceiver and a small number of external RF front-end components, GDM7205K supports all essential features of mobile WiMAX (802.16e), implementing MIMO plus all PHY and MAC features required for WiMAX Forum Wave2 certification.

With a true single RF/BB monolithic implementation, GDM7205K offers ultra lower power consumption and small form factor to fit into the smallest mobile devices such as mobile handsets, smart phones, as well as portable/fixed devices such as USB dongles, residential gateways, etc.
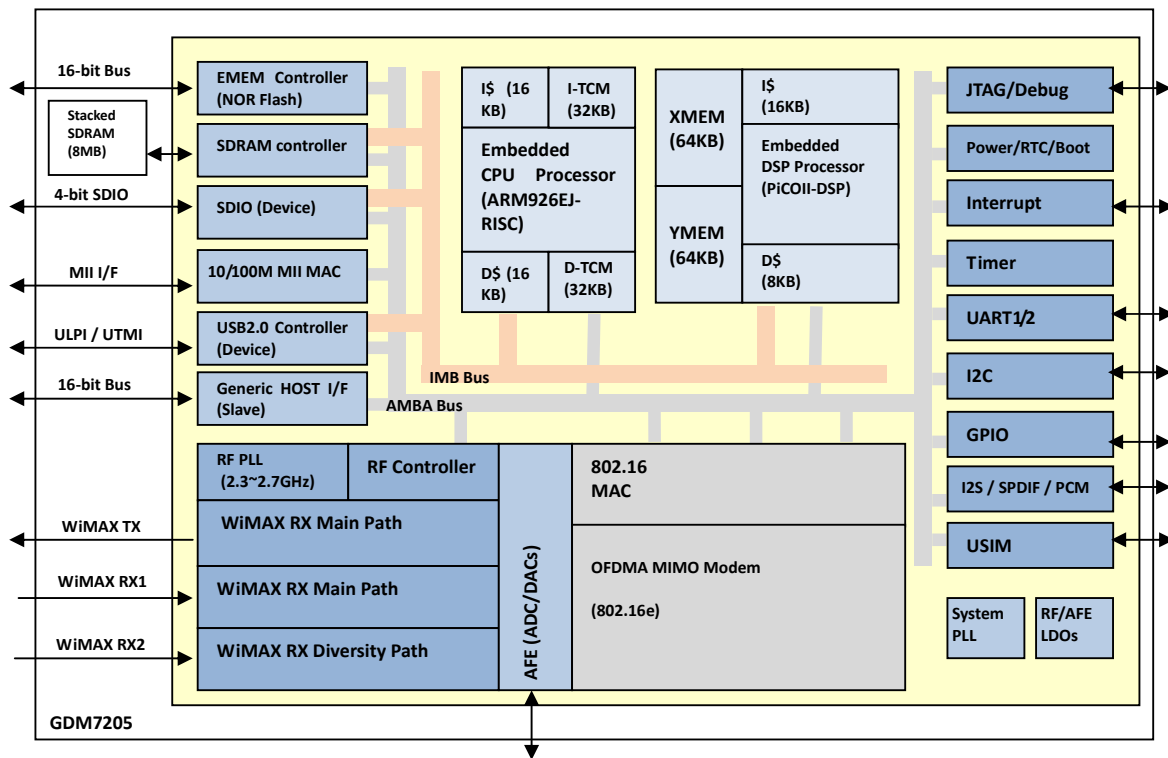
GDM7205K implements a unique, patent-pending, reduced complexity, MIMO decoder based on ML algorithm that delivers the highest theoretical performance possible. Interface options include USB2.0 ULPI/UTMI, SDIO and 10/100 Ethernet MII as well as 16-bit memory interface.

Applications

- Mobile WiMAX terminals such as smart phones & PDAs
- Portable WiMAX devices such as USB dongles and PC cards
- Fixed WiMAX devices such as residential CPEs

GCTMobility™

Block Diagram

GDM7205K (RF/BB SOC)