



RWM6050 RapidWave Baseband Modem



Millimeter Wave Baseband Modem

Multi-core parallel processing with specialized accelerators

Programmability and flexibility

Programmable features include:

- Flexible channelization
- Adaptive modulation
- Multi-gigabit performance
- Adaptive beamforming management

RapidWave

FEATURES AND BENEFITS

- Multi-gigabit wireless networking
- High reliability with link adaptive features
- Accelerated time to market
- Low power to enable PoE solutions

MARKETS AND APPLICATIONS

- Small cell backhaul
- Wireless mesh networking
- Residential broadband backhaul
- Residential broadband access
- Supports all mmWave frequencies including Ka-, V- and E-band

SPECIFICATIONS*

- -40°C to +85°C operating range
- Power consumption: 4W (Typ)
- 19 x 19 mm 484-FCBGA package

* To be confirmed

The RapidWave™ RWM6050 is a millimeter wave (mmWave) baseband wireless modem for wireless backhaul and fixed infrastructure wireless access applications. This device delivers cost effective and power efficient solutions for the emerging ‘Backhaul’ and ‘Access’ markets. The RWM6050’s highly integrated dual modem includes a mixed signal front end and PHY/MAC making it ideal for meshed network design. The device leverages and enhances the WGA / 802.11ad standard for backhaul applications.

The RapidWave RWM6050 features a high degree of configurability with flexible channelization modes and modulation coding to scale bandwidth up to multi-gigabit data rates. Internally, there is an analog front end connected to a dual MAC/PHY architecture resulting in an integration strategy that improves performance while lowering overall system cost and power.

The mmWave band provides high capacity Line of Sight (LoS) links. The RapidWave RWM6050 supports any mmWave frequency, making it an ideal TDD modem for roof-top backhaul for E-band, small cell LTE backhaul and fixed wireless access and backhaul for V-band applications. The interface options provide scalable low power solutions that can focus on bandwidth performance or platform cost.

The RapidWave RWM6050 is an ideal and efficient solution to provide point-to-point, mesh, and point-to-multi-point network topologies.



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PERFORMANCE

- Multi-gigabit configurable data rate
- Scalable data rates through channelization
- Adaptive modulation
- Phased Array Antenna (PAA) support
- Low latency relay mode
- Link availability >99.99%
- TDD support
- Multi-core parallel processing with specialized accelerators

INTEGRATION

- Wireless Secure Link
- Dual modem support
- Leverages IEEE 802.11ad protocol
- Analog front end with integrated ADC/DAC
- IEEE 1588v2 transparent clock support
- x2 PCI Express® Gen2

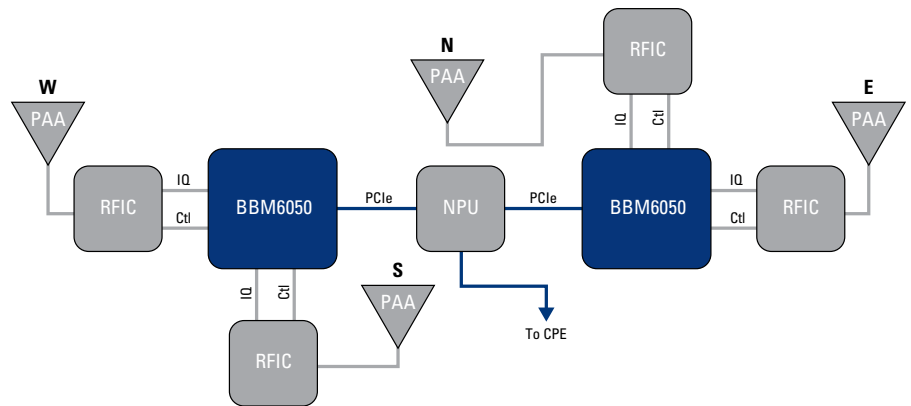
COST

- Ease of deployment with electronic beam steering for auto-alignment of antenna patterns
- Standard low power/low cost CMOS technology
- Solution scalability to meet cost or performance for the end application

TYPICAL APPLICATIONS

Backhaul Quad Radio Nodes

- Two RapidWave RWM6050s with dual time division duplex (TDD) PHY/MAC modems to support 360° azimuth coverage with four mmWave phased array antennas
- Point-to-multi-point backhaul network architecture
- Delivers multi-gigabit data rates for the quad node



Small Cell Backhaul

- Deliver multi-gigabit data to a network of remote radios in dense urban environments
- Provide a reliable and highly available link with adaptive modulation and digital beam management
- Continuous high performance in multi-node networks with low latency relay mode
- Deliver non-intrusive fixtures on street furniture using a small footprint solution from dual modem and advanced integration

Residential Broadband Access

- Create wireless mesh access networks for high-speed broadband directly to consumer premises
- Deliver multi-gigabit data rate to urban residential neighborhoods
- Accelerate and reduce cost of equipment deployment with automated link management features
- Power optimized to deliver highest performance from a bounded PoE power budget

This device incorporates technology licensed from and developed in collaboration with Blu Wireless Technology.

This document is subject to change. Contact IDT for the latest information.

To request samples, download documentation or learn more visit: idt.com/RWM6050