Theory of Operation

The major components of the DM1800-916MB include an RFM TR1000 ASH transceiver and a Microchip PIC16F688 microcontroller. The TR1000 operates on a frequency of 916.50 MHz, at a nominal output power of 1 mW.

The 16F688 provides a 9.6 kb/s serial interface for communication with a host microcontroller. A companion interface board is available with USB bridge circuitry to interface the DM1800-916MB to a host PC. Three of the 16F688 I/O pins are configured for external monitoring or control. *Digital In* is configured as a logic input with a weak pull-up for sensing a contact closure to a ground pad. *Digital Out* is configured a logic output. *Analog In* is configured as a 10-bit analog-to-digital input. The DM1800 includes two LEDs that indicate the module's operating mode.

The DM1800-916MB is compatible with RFM's miniMESH™ network protocol, which provides add-on "plug-and-play" mesh network routing to improve communication range and robustness.