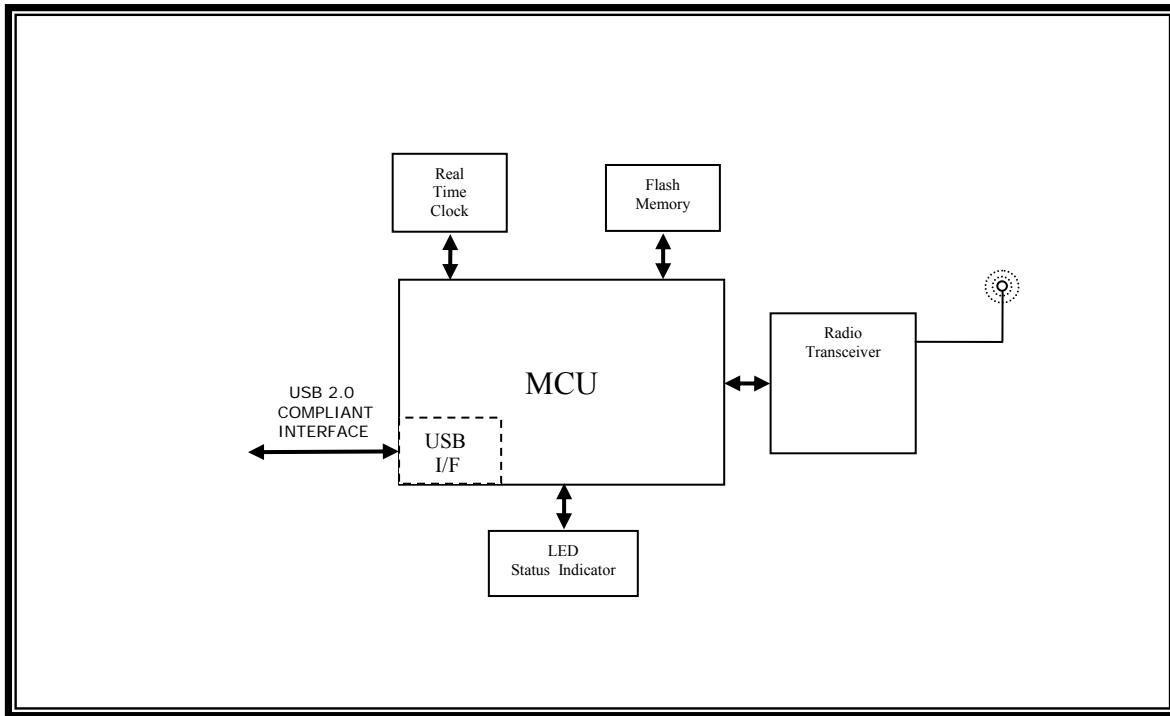


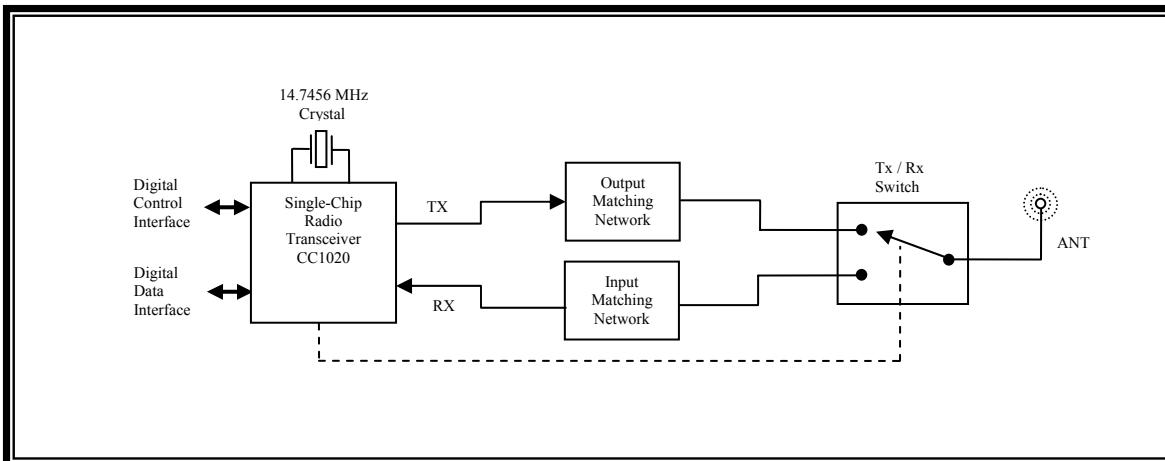


450C First Street  
Los Altos, CA 94022  
[www.magnasystems.net](http://www.magnasystems.net)

## GATEWAY™ BLOCK DIAGRAM

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For radio communications this device uses the CC1020 Single Chip Low Power RF Transceiver for Narrowband Systems manufactured by ChipCon AS / Texas Instruments. The transceiver is a true single-chip RF communications solution which requires a minimum number of external components. Communications and control of the transceiver is affected via digital interface signals from the microcontroller unit (MCU). A block diagram of the radio frequency section is shown below.

**RADIO FREQUENCY SECTION BLOCK DIAGRAM**


Output matching is accomplished with a  $\pi$ -type network which provides an impedance match at the fundamental frequency and harmonics. The use of a transmit / receive switch reduces power consumption during transmission at high output power levels and also improved receiver sensitivity. The switch is controlled by digital signals from the transceiver chip.

The simplified transceiver block diagram is reproduced from the manufacturer's datasheet. The manufacturer's datasheet provides a discussion of the architecture and features of the transceiver as well as instructions for design of circuitry and operation of devices utilizing the CC1020. The datasheet may be accessed by the Internet here-  
<http://focus.ti.com/lit/ds/symlink/cc1020.pdf>

**TRANSCEIVER BLOCK DIAGRAM**  
 FROM CC1020 DATASHEET (CHIPCON AS / TEXAS INSTRUMENTS)

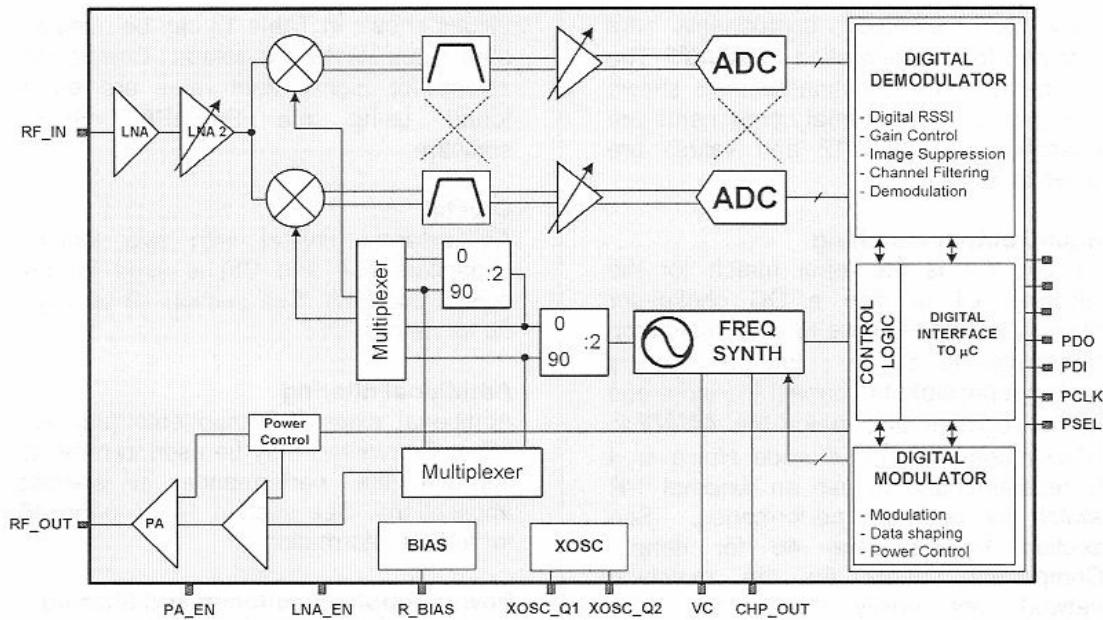


Figure 2. **CC1020** simplified block diagram