Low Power CMOS RF Transceiver

The last transceiver released by Chipcon has been specifically designed to comply with the most stringent requirements of the low power radio market. The CC1000 is a true single-chip UHF transceiver designed for very low power and very low voltage wireless applications. Based on a 0.35 (m CMOS technology this is the only product in the market offering a unique combination of low cost, high integration, performance and flexibility, thus setting a new standard for short-range wireless communication devices.
The circuit is mainly intended for FSK systems in the ISM/SRD bands at 315, 433, 868 and 915 MHz, but can easily be programmed for operation at other frequencies in the 300 - 1000 MHz range. The low power consumption and the high integration level make the CC1000 ideal for remote keyless entry, meter reading, home automation and wireless alarm and security systems.
The device operates from 2.3 - 3.6 V making it ideal for battery applications using single Lithium 3.0 V coin cells. The current consumption is 7.7 mA in receive mode and from only 4.5 mA up to 23 mA in transmit mode depending on the output power. The output power can be programmed in 1 dB steps up to 10 dBm. In power down mode the device draw merely 0.2 (A, another important feature for battery applications.
A sensitivity of &#150 106 dBm combined with the high output power makes it possible to build very low power battery operated systems yet achieving a long and reliable communication range.
The CC1000 has an integrated PLL that can be programmed in 250 Hz steps making crystal temperature drift compensation possible. This also makes the device suitable for multi-channel systems and frequency hopping protocols.
The device offers integrated bit synchroniser and RSSI and is easily interfaced to any microcontroller through five I/O lines.
Very few external components are required to make a complete transceiver, making the device the perfect choice for the lowest cost and the smallest size applications.
CC1000 comes in a TSSOP28 package, specified over the temperature range from &#150 40 to 85 (C.
The CC1000 is supported by CC1000DK Development Kit which provides a complete reference design with schematics, bill of materials and layout for the developer. The SmartRF(Studio software package is used to generate all configuration data used by the micro-controller. Samples and complete development tools are available now.

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