

CC1110-CC1111

ACTIVE

In English

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Sub-1 GHz wireless MCU with up to 32 kB Flash memory



DATASHEET

True System-on-Chip with Low-Power RF Transceiver and 8051 MCU datasheet (Rev. H)

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ERRATA

CC1110Fx/CC1111Fx Errata Note (Rev. C)

Top purchased products for CC1110-CC1111

Part number	Buy from TI store	TI store inventory	Price QTY	Package Pins
HPA00403RHHR	Add to cart	6338	2.30 1ku	VQFN (RHH) 36
CC1111F32RSP	Add to cart	490	3.34 1ku	VQFN (RSP) 36
CC1110F8RHHR	Add to cart	2498	2.10 1ku	VQFN (RHH) 36

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Description

The CC1110Fx, CC1111Fx is a true low-power sub- 1 GHz system-on-chip (SoC) designed for low power wireless applications. The CC1110Fx, CC1111Fx combines the excellent performance of the state-of-the-art RF transceiver CC1101 with an industry-standard enhanced 8051 MCU, up to 32 kB of in-system programmable flash memory and up to 4 kB of RAM, and many other powerful features. The small 6x6 mm package makes it very suited for applications with size limitations.

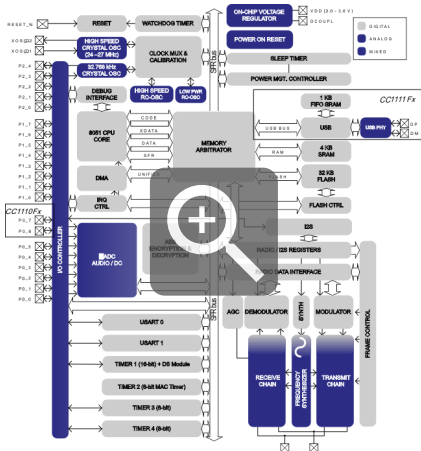
The CC1110Fx, CC1111Fx is highly suited for systems where very low power consumption is required. This is ensured by several advanced low-power operating modes. The CC1111Fx adds a full-speed USB 2.0 interface to the feature set of the CC1110Fx. Interfacing to a PC using the USB interface is quick and easy, and the high data rate (12 Mbps) of the USB interface avoids the bottlenecks of RS-232 or low-speed USB interfaces.

Features

- Radio
 - High-performance RF transceiver based on the market-leading CC1101
 - Excellent receiver selectivity and blocking performance
 - High sensitivity (–110 dBm at 1.2 kBaud)
 - Programmable data rate up to 500 kBaud
 - Programmable output power up to 10 dBm for all supported frequencies
 - Frequency range: 300 – 348 MHz, 391 – 464 MHz and 782 – 928 MHz
 - Digital RSSI / LQI support
- Low Power
 - Low current consumption (RX: 16.2 mA at 1.2 kBaud, TX: 15.2 mA at –6 dBm output power)
 - 0.3 µA in PM3 (the operating mode with the lowest power consumption)
 - 0.5 µA in PM2 (operating mode with the second lowest power consumption, timer or external interrupt wakeup)
 - RoHS Compliant 6 mm × 6 mm QFN-40 Package
- MCU, Memory, and Peripherals
 - High performance and low power 8051 microcontroller core.
 - Powerful DMA functionality
 - 8/16/32 KB in-system programmable flash, and 1, 2, 4 KB RAM
 - Full-Speed USB Controller with 1 KB FIFO (CC1111Fx)
 - 128-bit AES security coprocessor
 - 7 – 12 bit ADC with up to eight inputs
 - I²S interface
 - Two USARTs
 - 16-bit timer with DSM mode
 - Three 8-bit timers
 - Hardware debug support
 - 21 (CC1110Fx) or 19 (CC1111Fx) GPIO pins
 - SW compatible with CC2510Fx, CC2511Fx
- General
 - Wide supply voltage range (2.0V – 3.6V)
 - RoHS compliant 6×6 mm QFN 36 package

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Diagram



CC1110-CC1111 - Functional Diagram

Design resources for you

Technical documents

Document type	Title	Date
Application notes	DN507 -- FEC Decoding	21 Mar 2019
Application notes	DN024 -- 868 MHz, 915 MHz and 955 MHz Monopole PCB Antenna	22 Feb 2013
Application notes	AN101 - Bootloader for CC2510/11 and CC1110/1111 Soc(System-on-Chip) Transceiver	08 Sep 2011

[View all technical documents](#)

Design & development tools

Tool type	Title	Part number
Software	CC1110, CC2510 Basic Software Examples	SWRC117
DEBUG PROBES/ANALYZERS	Debugger and Programmer for RF System-on-Chips	CC-DEBUGGER
Software	CC1110/CC2510 Example Software Supported on IAR Embedded Workbench	SWRC085B

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Parametrics

Compare all products in Sub-1 GHz											Email	Download to Excel
Part number	Order	Device type	Frequency bands (MHz)	Flash (KB)	Data rate (Max) (kbps)	RX current (lowest) (mA)	Sensitivity (best) (dBm)	TX power (Max) (dBm)	Approx. price (US\$)	Rating		
CC1110-CC1111	<div>Order now</div>	Wireless MCU	300-348 391-464 782-928	32	500	16.2	-112	10	2.10 1ku	Catalog		