

Texas Instruments - eZ430-Chronos Wireless Watch Development

Product Overview:

The eZ430-Chronos is a highly integrated, wearable wireless development system based for the CC430 in a sports watch. It may be used as a reference platform for watch systems, a personal display for personal area networks, or as a wireless sensor node for remote data collection.

Based on the CC430F6137 <1 GHz RF SoC, the eZ430-Chronos is a complete CC430-based development system contained in a watch. This tool features a 96 segment LCD display and provides an integrated pressure sensor and 3-axis accelerometer for motion sensitive control. The integrated wireless feature allows the Chronos to act as a central hub for nearby wireless sensors such as pedometers and heart rate monitors. The eZ430-Chronos offers temperature and battery voltage measurement and is complete with a USB-based CC1111 wireless interface to a PC.



The eZ430-Chronos watch may be disassembled to be reprogrammed with a custom application and includes an eZ430 USB programming interface.

Kit Contents:

- 2 spare screws
- CC1111 USB RF access point
- CD containing documentation and development software
- Mini Phillips screwdriver
- eZ430 USB programming and debugging interface
- eZ430-Chronos wireless watch
- One MSP430 Development Tool CD containing documentation and development software
 - eZ430-Chronos Windows PC-Software and Source Code SLAC341
 - eZ430-Chronos Linux PC-Software and Source Code SLAC388
 - eZ430-Chronos Development Tool User's Guide SLAU292
 - eZ430- Development Tool User's Guide SLAU227
 - CC430 Family User's Guide SLAU259

- Code Composer Studio v4.1.1 Core Edition CCS Mediawiki
- Code Composer Studio v4.1 User's Guide for MSP430 SLAU157
- IAR Embedded Workbench KickStart SLAC050
- IAR Embedded Workbench User's Guide for MSP430 SLAU138

Key Features:

- RF Operating Frequency : 915 MHz
- Fully functional sports watch based on the CC430F6137, MSP430 with integrated <1GHz wireless transceiver
- Watch reprogrammable for custom wireless applications
- Highly integrated watch includes on-board 3-axis accelerometer, pressure sensor, temperature sensor, battery voltage sensor
- 96-Segment LCD display driven directly by CC430
- Can be paired wirelessly with heart rate monitors, pedometers or other devices based RF transceivers like the CC1101 or SoCs such as the CC430 or CC111x
- Includes an eZ430 USB emulator that connects the Chronos to a PC for real-time, in-system programming and debugging
- Includes IAR Kick start and Code Composer Studio integrated development environments which includes an assembler, linker, simulator, source-level debugger, and code limited C-compiler

Ordering Information:

Products:

Part Number	Manufacturer	Farnell P/N	Newark P/N
EZ430-CHRONOS-915	TI	1779769	51R4690

Associated Products:

Part Number	Manufacturer	Description	Farnell P/N	Newark P/N
CC430F6137	TI	Ultra low power Micro Controller	NA	68R5921
CC1101	TI	TRANSCEIVER, SUB 1GHZ, LO POWER, QFN20	1555264	50M8833
CC1111	TI	TRANSCEIVER, RF, WITH MCU, 36QFN	1573890	61M5137

Similar Products:

Part Number	Manufacturer	Description	Support Device	Farnell P/N	Newark P/N
EZ430-CHRONOS-433	TI	eZ430-Chronos Wireless Watch Development Tool 433MHz	CC430 RF SoC Series	1779156	55R3045
EZ430-CHRONOS-868	TI	eZ430-Chronos Wireless Watch Development Tool 868MHz	CC430 RF SoC Series	1779157	55R3046

Document List:

Datasheets:

Part Number	Description	Size
EZ430-CHRONOS-915	eZ430-Chronos Development Tool User's Guide (Rev. A)	6420KB
CC430	CC430 Family User's Guide (Rev. A)	3839KB
CC1101	TRANSCEIVER, SUB 1GHZ, LO POWER, QFN20	1477KB
CC1111	TRANSCEIVER, RF, WITH MCU, 36QFN	3.6MB

Application Notes:

File Name	Size
DN018 -- Range Measurements in an Open Field Environment (Rev. A)	607KB
AN001 -- SRD regulations for license free transceiver operation	260KB
AN088 -- Simplicities on the CC430 – Practical Modifications	89KB
DN507 -- FEC Decoding	264KB
DN508 -- Frequency Scanning using CC430Fx, CC110x, and CC111xFx	65KB
868/915 MHz Antenna Design	1285KB
DN022 -- CC11xx OOK/ASK Register Settings (Rev. B)	1587KB
DN502 -- CRC Implementation (Rev. D)	55KB
AN050 -- Using the CC1101 in the European 868MHz SRD band (Rev. B)	223KB
DN024 -- 868 MHz, 915 MHz and 955 MHz Monopole PCB Antenna (Rev. D)	343KB
DN016 -- Compact Antenna Solution for 868/915 MHz (Rev. B)	832KB
DN005 -- CC11xx Sensitivity versus Frequency Offset and Crystal Accuracy (Rev. C)	96KB
DN023 -- 868 MHz, 915 MHz and 955 MHz Inverted F Antenna (Rev. B)	397KB

DN008 -- 868 MHz, 915 MHz and 955 MHz Monopole PCB Antenna (Rev. B)	490KB
AN072 -- Using the TAI-SAW TA0801A SAW Filter and External PA (Rev. A)	360KB
AN058 -- Antenna Selection Guide (Rev. A)	1206KB
DN001 -- Antenna measurement With Network Analyzer	305KB

Hardware & Software:

File Name	Size
eZ430-Chronos Software Package (Rev. A)	23238KB
eZ430-Chronos Software Package (Linux)	14895KB
CC430F613x, CC430F513x C Examples (IAR and CCE) (Rev. A)	136KB
MSP430 schematic symbols and footprints library for use with the Eagle CAD tool (Rev. C)	60KB