

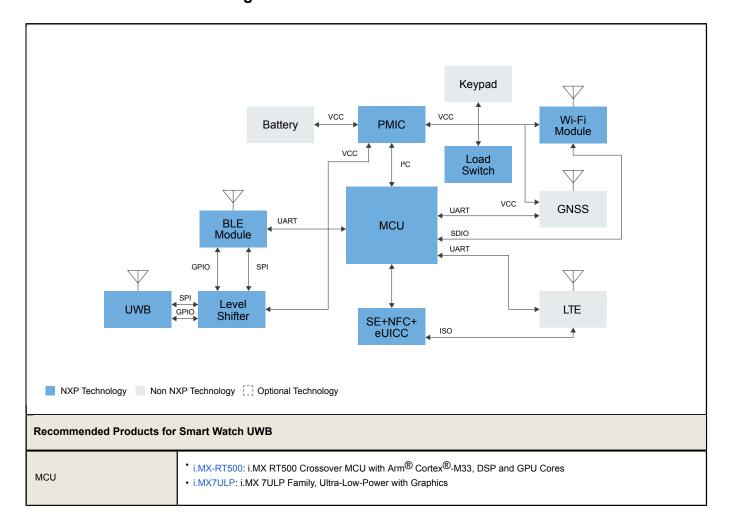
Smart Watch and Wristband

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Comfort, compact, fashionable, rich user experience, low power consumption and performance efficiency are just a few requirements of smart watch designers.

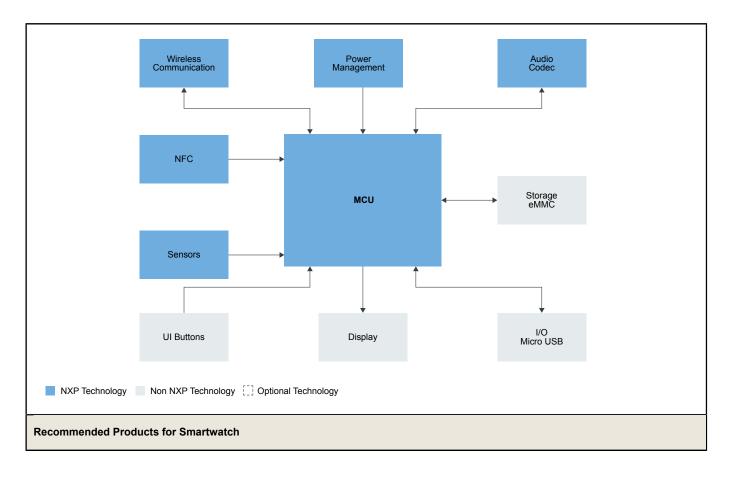
With a broad portfolio of sensors, connectivity, security and embedded processing, NXP's technology is designed to meet the growing and demanding need of smart watch designs. Take the i.MX RT500 family of crossover MCUs for example. This family of MCUs is optimized for low-power HMI application by combining a graphics engine and a streamlined Cadence® Tensilica® Fusion F1 DSP core with a next-generation Arm® Cortex®-M33 core.

Smart Watch UWB Block Diagram



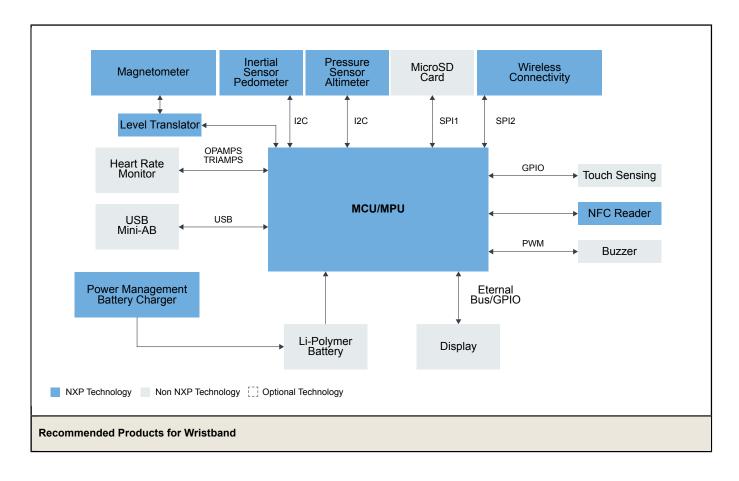
PMIC	PCA9420-PCA9421: PMIC for Low Power Applications PCA9460: 13-Channel Power Management Integrated Circuit (PMIC) for Ultra Low Power Application
Wireless	 88W8801: 2.4 GHz Single-Band 1x1 Wi-Fi[®] 4 (802.11n) Solution QN9090-30: QN9090/30: Bluetooth Low-Energy MCU with Arm[®]Cortex[®]-M4 CPU, Energy Efficiency, Analog and Digital Peripherals and NFC Tag Option Ultra-Wideband (UWB): Ultra wideband (UWB)
Wireless	 88W8801: 2.4 GHz Single-Band 1x1 Wi-Fi[®] 4 (802.11n) Solution QN9090-30: QN9090/30: Bluetooth Low-Energy MCU with Arm[®] Cortex[®]-M4 CPU, Energy Efficiency, Analog and Digital Peripherals and NFC Tag Option Ultra-Wideband (UWB): Ultra wideband (UWB)
Load Switch	NX3P2902BUK: Logic-Controlled High-Side Power Switch
Level Shifter	P3A1604: 4-Bit Dual Supply Bidirectional I3C/I²C-Bus, SMBus and SPI Voltage-Level Translator P3A9606: 2-Bit Dual Supply Bidirectional I3C/I²C-Bus and SPI Voltage-Level Translator
Level Shifter	NTS0308E: 8-Bit Dual-Supply Translating Transceiver (Open-Drain, Auto-Direction Sensing) P3A1604: 4-Bit Dual Supply Bidirectional I3C/I ² C-Bus, SMBus and SPI Voltage-Level Translator
UWB	* SR150: Trimension [™] SR150: Secure UWB Solution for IoT Devices

Smartwatch Block Diagram



MCU	MCX-A13X-A14X-A15X: MCX A13x, 14x, 15x MCUs with Arm® Cortex® M33, Scalable Device Options, Low Power and Intelligent Peripherals MCX-N94X-N54X: MCX N94x/54x Highly Integrated Multicore MCUs with On-Chip Accelerators, Intelligent Peripherals and Advanced Security i.MX7ULP: i.MX 7ULP Family, Ultra-Low-Power with Graphics i.MX6ULL: i.MX 6ULL Single-Core Processor with Arm® Cortex®-A7 Core
Power Management	PF1510: Power Management Integrated Circuit (PMIC) for Low Power Application Processors PF1550: PMIC with 1A Li+ Linear Battery Charger for Low Power Processor Systems PF3000: 12-Channel Configurable PMIC for i.MX6 and i.MX7 Application Processors PCA9460: 13-Channel Power Management Integrated Circuit (PMIC) for Ultra Low Power Application
Wireless Communication	* KW31Z: Kinetis [®] KW31Z-2.4 GHz Bluetooth Low Energy Wireless Radio Microcontroller (MCU) based on Arm [®] Cortex [®] -M0+ Core * IW416: 2.4/5 GHz Dual-Band 1x1 Wi-Fi [®] 4 (802.11n) + Bluetooth [®] 5.2 Solution
NFC	NTAG_I2C: NTAG I²C Plus 2K: NFC Forum Type 2 Tag with I²C Interface
Sensor	FXLS8974CF: ±2g/±4g/±8g/±16g, Low-Power 12-Bit Digital IoT Accelerometer FXLS8971CF: ±2g/±4g/±8g/±16g, Low Power 12-Bit Digital Accelerometer MPL3115A2: Absolute Digital Pressure Sensor (20 to 110 kPa) MMA8451Q: ±2g/±4g/±8g, Low g, 14-bit Digital Accelerometer
Audio Codec	SGTL5000: Ultra-Low-Power Audio Codec

Wristband Block Diagram



MCU/MPU	• i.MX-RT500: i.MX RT500 Crossover MCU with Arm [®] Cortex [®] -M33, DSP and GPU Cores • LPC546XX: Power-Efficient Microcontrollers (MCUs) With Advanced Peripherals Based on Arm [®] Cortex [®] -M4 Core
Inertial Sensor	FXLS8971CF: ±2g/±4g/±8g/±16g, Low Power 12-Bit Digital Accelerometer FXLS8974CF: ±2g/±4g/±8g/±16g, Low-Power 12-Bit Digital IoT Accelerometer
Pressure Sensors	MPL3115A2: Absolute Digital Pressure Sensor (20 to 110 kPa)
Magnetometer	FXOS8700CQ: Digital Motion Sensor - 3D Accelerometer (±2g/±4g/±8g) + 3D Magnetometer
Power Management	MC34673: 1.2 A Single-Cell Li-Ion / Li-Polymer Battery Charger MMPF0100: 14-Channel Configurable PMIC PCA9460: 13-Channel Power Management Integrated Circuit (PMIC) for Ultra Low Power Application PF3001: 10-Channel Configurable PMIC for i.MX6 and i.MX7 Application Processors
Wireless Connectivity	 KW41Z: Kinetis[®] KW41Z-2.4 GHz Dual Mode: Bluetooth[®] Low Energy and 802.15.4 Wireless Radio Microcontroller (MCU) based on Arm[®] Cortex[®]-M0+ Core QN9080: QN908x: Ultra-Low-Power Bluetooth Low Energy System on Chip Solution QN9090-30: QN9090/30: Bluetooth Low-Energy MCU with Arm[®] Cortex[®]-M4 CPU, Energy Efficiency, Analog and Digital Peripherals and NFC Tag Option 88W9098: 2.4/5 GHz Dual-Band 2x2 Wi-Fi[®] 6 (802.11ax) + Bluetooth[®] 5.3
NFC Reader	NFC Readers: EdgeVerse [™] NFC Readers
Level Translator	PCA9306: Dual Bidirectional I ² C-Bus and SMBus Voltage-Level Translator P3A9606: 2-Bit Dual Supply Bidirectional I3C/I ² C-Bus and SPI Voltage-Level Translator

View our complete solution for Smart Watch and Wristband.

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