Vital Signs Monitors

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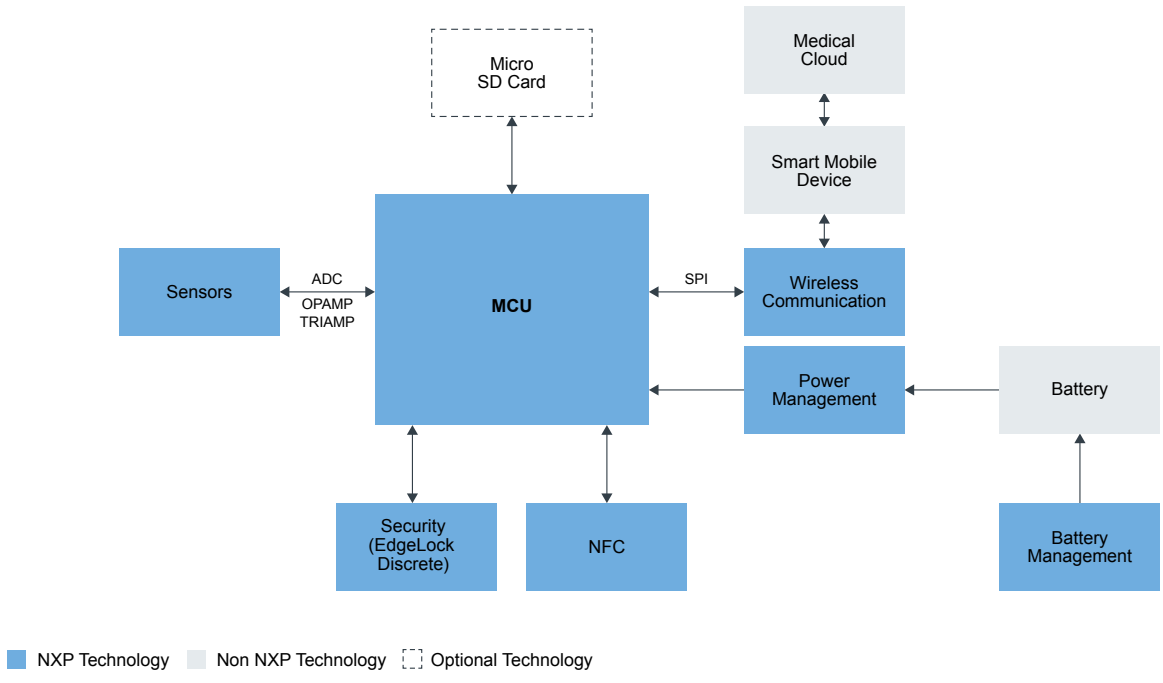
NXP offers a wide variety of low-power and low-cost MCUs, crossover MCUs, sensors and wireless products suitable for your healthcare wearable wireless design from consumer devices to clinical ones.

These noninvasive monitors can measure the vital signs such as heart rate, the percentage of hemoglobin in the blood that is saturated with oxygen (pulse oximetry), blood pressure and respiratory rate along with some extra signs such as activity. Once the measurements are taken, they can be securely transmitted to either the patient's mobile device for storage or the patient's physician for control.

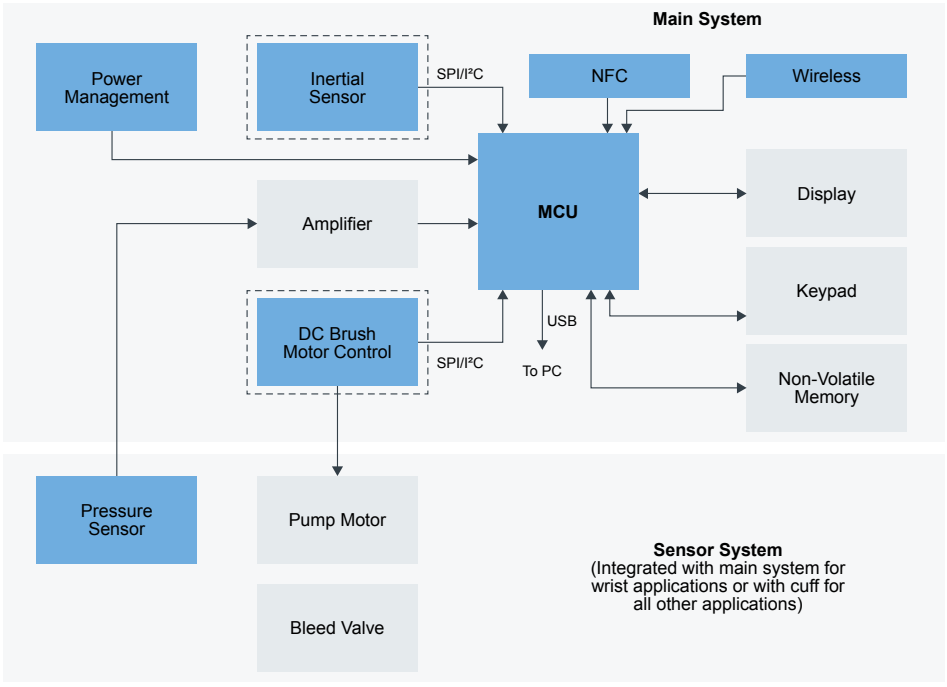
Wearable Wireless Healthcare Block Diagram



Recommended Products for Wearable Wireless Healthcare

MCU/MPU	• K32-L3: NXP's Energy Efficient Cortex-M4 MCU with Cortex-M0+ and Advanced Security • K32-L2: Ultra-Low-Power, Highly Integrated MCU
Wireless Communications	• K32W061/41: High-Performance, Secure and Ultra-Low-Power MCU for Zigbee®,Thread™, and Bluetooth® LE 5.0 with Built-In NFC Option • IW416: 2.4/5 GHz Dual-Band 1x1 Wi-Fi® 4 (802.11n) + Bluetooth® 5.2 Solution • 88W8987: 2.4/5 GHz Dual-Band 1x1 Wi-Fi® 5 (802.11ac) + Bluetooth® 5.2 Solution • 88MW32X 802.11n Wi-Fi® Microcontroller SoC
Power Management	• PCA9420: PMIC for Low Power Applications
Sensors	• FXOS8700CQ: Digital Motion Sensor - 3D Accelerometer (±2g/±4g/±8g) + 3D Magnetometer • MPL3115A2: 20 to 110 kPa, Absolute Digital Pressure Sensor • FXLS8964AF: ±2g/±4g/±8g/±16g, Low-Power 12-Bit Digital Accelerometer • FXLS8962AF: ±2g/±4g/±8g/±16g, Low Power 12-bit Digital Accelerometer
Security (EdgeLock Discrete)	• EdgeLock® SE050: Plug & Trust Secure Element Family – Enhanced IoT security with high flexibility
Battery Management	• MC34712: 3.0A 1.0MHz Integrated DDR Switch-Mode Power Supply • MC34673: 1.2 A Single-Cell Li-Ion/Li-Polymer Battery Charger

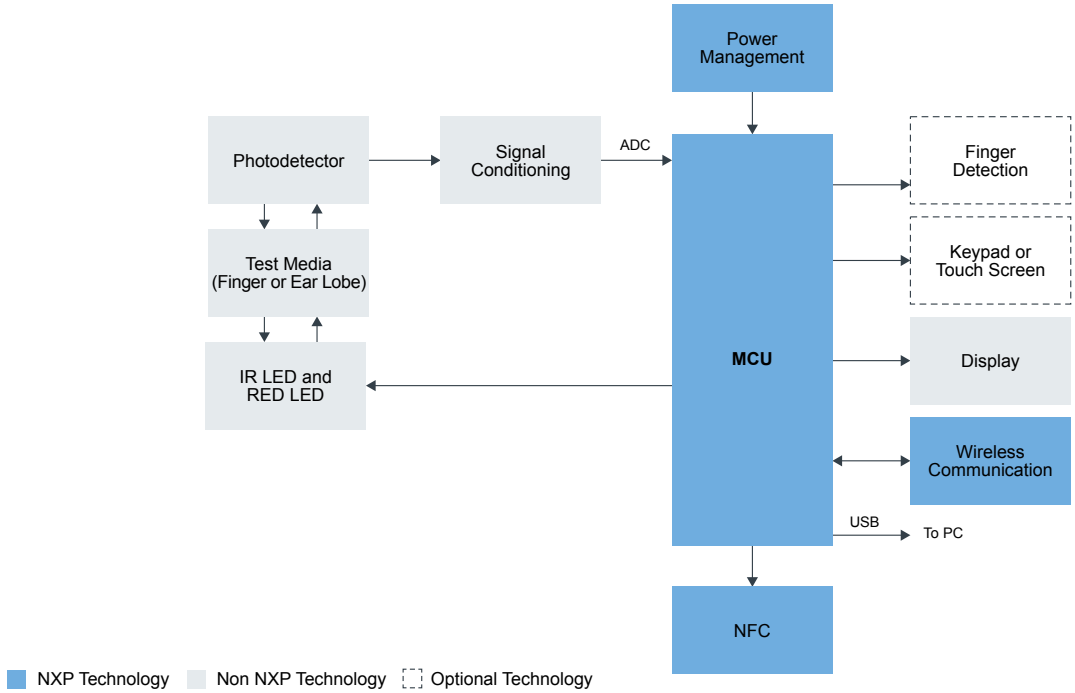
Blood Pressure Block Diagram



Recommended Products for Blood Pressure	
MCU	• i.MX RT1050 Crossover MCU with Arm® Cortex®-M7 Core • i.MX RT1060 Crossover MCU with Arm® Cortex®-M7 Core

Inertial Sensor	• MMA8451Q: ±2g/±4g/±8g, Low g, 14-bit Digital Accelerometer
Power Management	• PCA9420: PMIC for Low Power Applications • MC34VR500: Multi-Output DC/DC Regulator • MMPF0100: 14-Channel Configurable PMIC • PF3000: 12-Channel Configurable PMIC for i.MX6 and i.MX7 Application Processors
DC Brush Motor Control	• GD3000: 3-Phase Brushless Motor Pre-Driver • MC34SB0410: Quad Valve Controller System on Chip • MC34SB0800: Octal Valve Controller System on Chip
Pressure Sensor	• MPXx5050: -50 to 50kPa, Differential and Gauge Pressure Sensor • MPL3115A2: 20 to 110 kPa, Absolute Digital Pressure Sensor • Differential/Gauge up to 115 kPa: Differential/Gauge up to 115 kPa
NFC	• NTAG I²C Plus 2K: NFC Forum Type 2 Tag with I²C Interface
Wireless	• K32W061/41: High-Performance, Secure and Ultra-Low-Power MCU for Zigbee®,Thread™, and Bluetooth® LE 5.0 with Built-In NFC Option • IW416: 2.4/5 GHz Dual-Band 1x1 Wi-Fi® 4 (802.11n) + Bluetooth® 5.2 Solution • 88W8987: 2.4/5 GHz Dual-Band 1x1 Wi-Fi® 5 (802.11ac) + Bluetooth® 5.2 Solution • 88MW32X 802.11n Wi-Fi® Microcontroller SoC

Pulse Oximetry Block Diagram



Recommended Products for Pulse Oximetry	
MCU	• i.MX RT1050 Crossover MCU with Arm® Cortex®-M7 Core

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Power Management	• PCA9420: PMIC for Low Power Applications • MC34VR500: Multi-Output DC/DC Regulator • MMPF0100: 14-Channel Configurable PMIC • PF3000: 12-Channel Configurable PMIC for i.MX6 and i.MX7 Application Processors
Wireless Communication	• 88W8987: 2.4/5 GHz Dual-Band 1x1 Wi-Fi® 5 (802.11ac) + Bluetooth® 5.2 Solution • K32W061/41: High-Performance, Secure and Ultra-Low-Power MCU for Zigbee®,Thread™, and Bluetooth® LE 5.0 with Built-In NFC Option • 88MW32X 802.11n Wi-Fi® Microcontroller SoC
NFC	• NTAG I²C Plus 2K: NFC Forum Type 2 Tag with I²C Interface

View our complete solution for Vital Signs Monitors.

Note: The information on this document is subject to change without notice.