



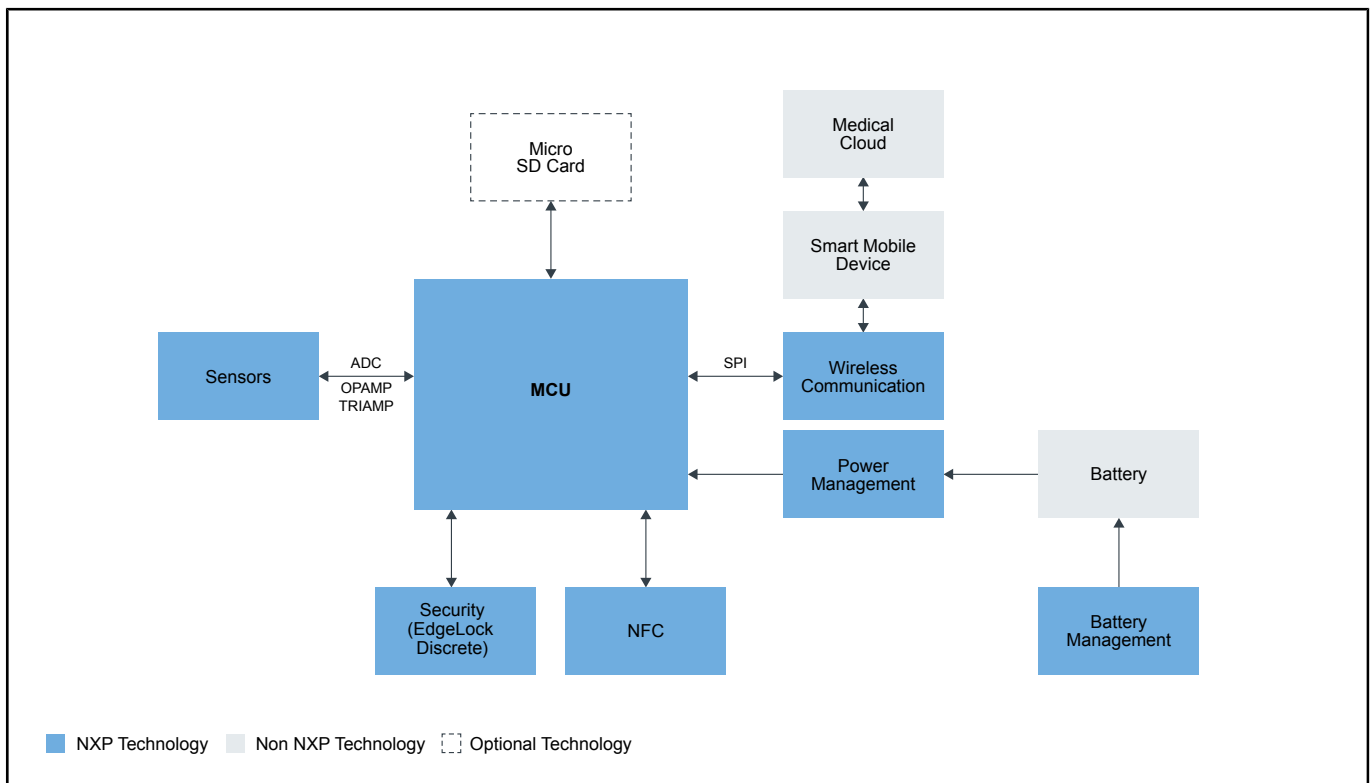
# Vital Signs Monitors

Last Updated: Jan 10, 2022

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.

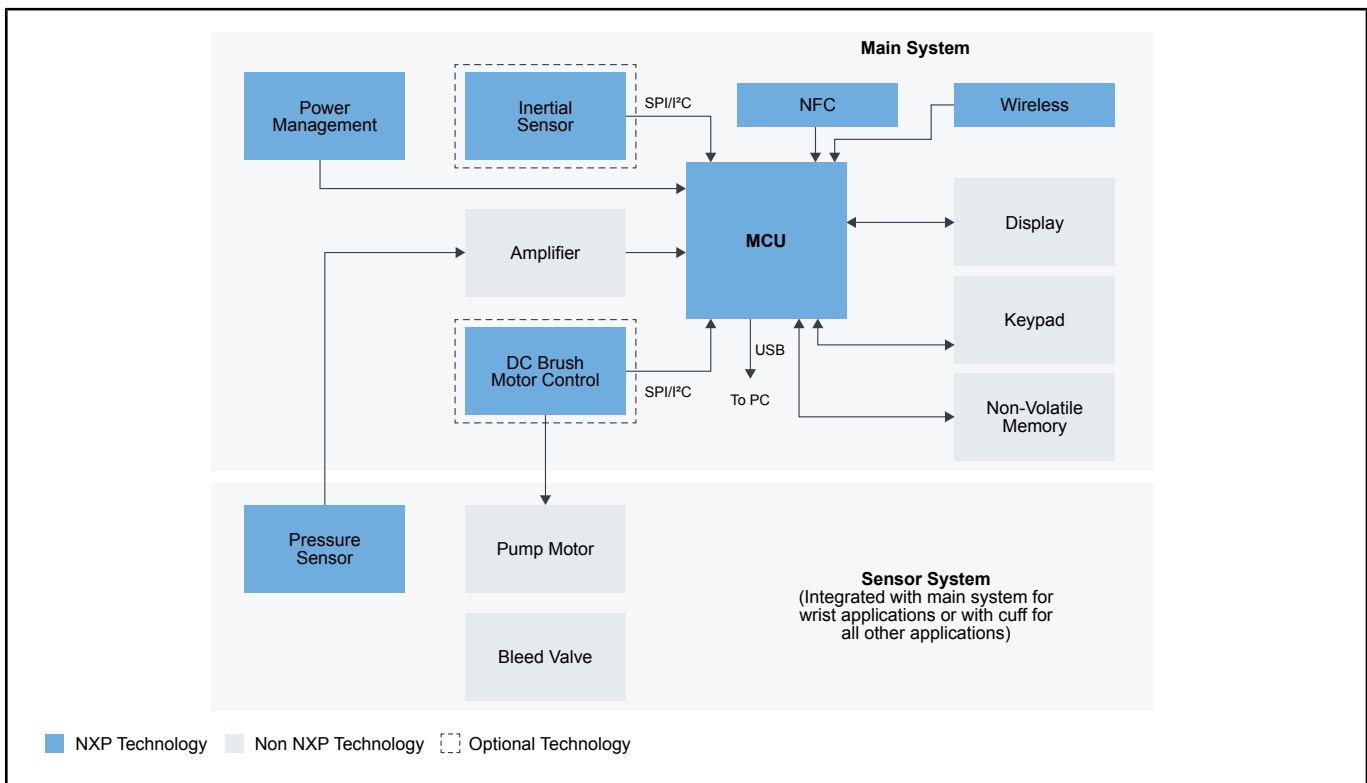
## Wearable Wireless Healthcare Block Diagram



## Recommended Products for Wearable Wireless Healthcare

MCU/MPU	<ul style="list-style-type: none"> <li>• <a href="#">K32-L3</a>: NXP's Energy Efficient Cortex-M4 MCU with Cortex-M0+ and Advanced Security</li> <li>• <a href="#">K32-L2</a>: Ultra-Low-Power, Highly Integrated MCU</li> </ul>
Wireless Communications	<ul style="list-style-type: none"> <li>• <a href="#">K32W061/41</a>: High Performance, Secure and Ultra-Low-Power MCU for Zigbee®, Thread™, and Bluetooth® LE 5.0 with Built-in NFC Option</li> <li>• <a href="#">IW416</a>: 2.4/5 GHz Dual-Band 1x1 Wi-Fi® 4 (802.11n) + Bluetooth® 5.2 Solution</li> <li>• <a href="#">88W8987</a>: 2.4/5 GHz Dual-Band 1x1 Wi-Fi® 5 (802.11ac) + Bluetooth® 5.2 Solution</li> <li>• <a href="#">88MW32X 802.11n Wi-Fi® Microcontroller SoC</a></li> </ul>
Power Management	<ul style="list-style-type: none"> <li>• <a href="#">PCA9420</a>: PMIC for Low Power Applications</li> </ul>
Sensors	<ul style="list-style-type: none"> <li>• <a href="#">FXOS8700CQ</a>: Digital Motion Sensor - 3D Accelerometer (±2g/±4g/±8g) + 3D Magnetometer</li> <li>• <a href="#">MPL3115A2</a>: 20 to 110 kPa, Absolute Digital Pressure Sensor</li> <li>• <a href="#">FXLS8964AF</a>: ±2g/±4g/±8g/±16g, Low Power 12-bit Digital Accelerometer</li> <li>• <a href="#">FXLS8962AF</a>: ±2g/±4g/±8g/±16g, Low Power 12-bit Digital Accelerometer</li> </ul>
Security (EdgeLock Discrete)	<ul style="list-style-type: none"> <li>• <a href="#">EdgeLock® SE050</a>: Plug &amp; Trust Secure Element Family – Enhanced IoT security with maximum flexibility</li> </ul>
NFC	<ul style="list-style-type: none"> <li>• <a href="#">PN7150</a>: High-Performance NFC Controller with Integrated Firmware for Smart Devices</li> </ul>
Battery Management	<ul style="list-style-type: none"> <li>• <a href="#">MC34712</a>: 3.0A 1.0MHz Integrated DDR Switch-Mode Power Supply</li> <li>• <a href="#">MC34673</a>: 1.2 A Single-Cell Li-Ion/Li-Polymer Battery Charger</li> </ul>

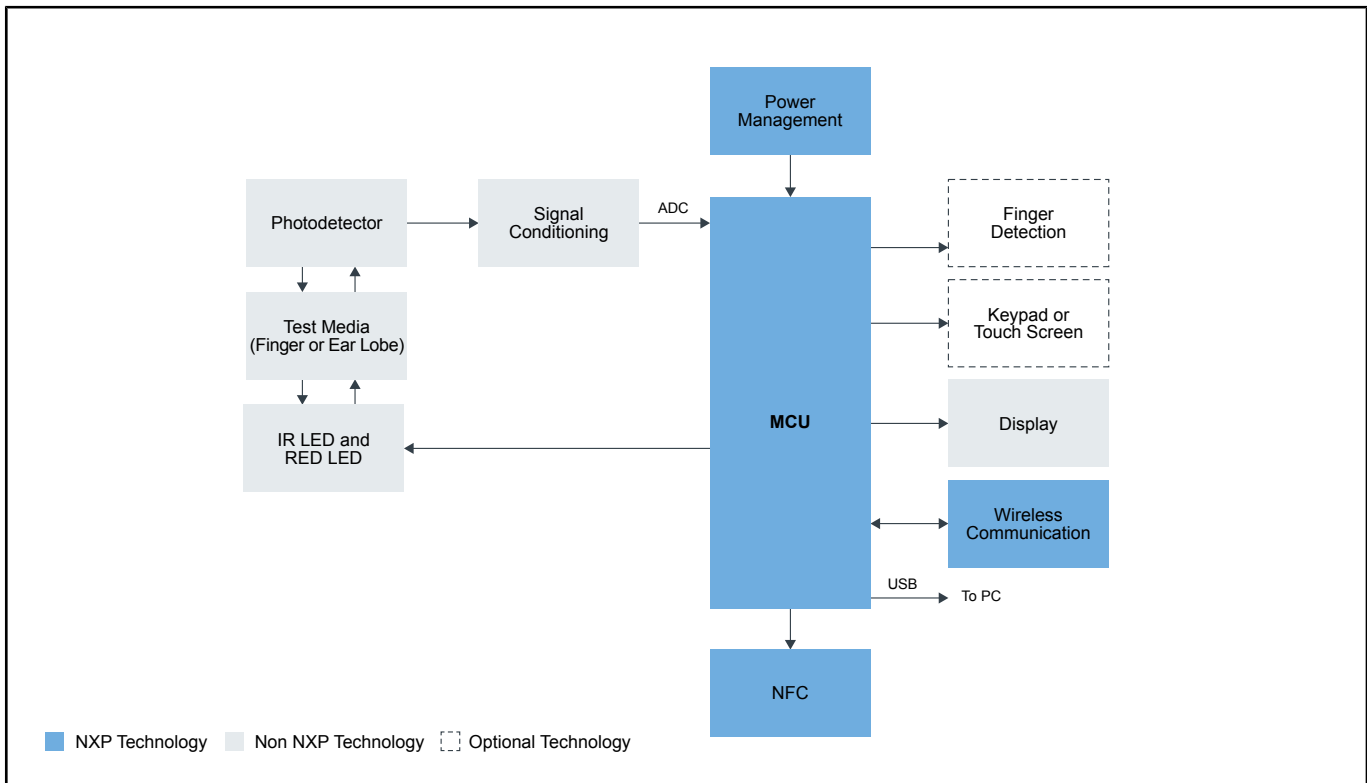
## Blood Pressure Block Diagram



## Recommended Products for Blood Pressure

MCU	<ul style="list-style-type: none"> <li>• <a href="#">i.MX RT1050 Crossover MCU with Arm® Cortex®-M7 Core</a></li> <li>• <a href="#">i.MX RT1060 Crossover MCU with Arm® Cortex®-M7 Core</a></li> </ul>
Inertial Sensor	<ul style="list-style-type: none"> <li>• <a href="#">MMA8451Q</a>: ±2g/±4g/±8g, Low g, 14-bit Digital Accelerometer</li> </ul>
Power Management	<ul style="list-style-type: none"> <li>• <a href="#">PCA9420</a>: PMIC for Low Power Applications</li> <li>• <a href="#">MC34VR500</a>: Multi-Output DC/DC Regulator</li> <li>• <a href="#">MMPF0100</a>: 14-Channel Configurable PMIC</li> <li>• <a href="#">PF3000</a>: 12-Channel Configurable PMIC for i.MX6 and i.MX7 Application Processors</li> </ul>
DC Brush Motor Control	<ul style="list-style-type: none"> <li>• <a href="#">GD3000</a>: 3-Phase Brushless Motor Pre-Driver</li> <li>• <a href="#">MC34SB0410</a>: Quad Valve Controller System on Chip</li> <li>• <a href="#">MC34SB0800</a>: Octal Valve Controller System on Chip</li> </ul>
Pressure Sensor	<ul style="list-style-type: none"> <li>• <a href="#">MPXx5050</a>: -50 to 50kPa, Differential and Gauge Pressure Sensor</li> <li>• <a href="#">MPL3115A2</a>: 20 to 110 kPa, Absolute Digital Pressure Sensor</li> <li>• <a href="#">Differential/Gauge up to 115 kPa</a>: Differential/Gauge up to 115 kPa</li> </ul>
NFC	<ul style="list-style-type: none"> <li>• <a href="#">NTAG I<sup>2</sup>C Plus 2K</a>: NFC Forum Type 2 Tag with I<sup>2</sup>C Interface</li> </ul>
Wireless	<ul style="list-style-type: none"> <li>• <a href="#">K32W061/41</a>: High Performance, Secure and Ultra-Low-Power MCU for Zigbee®, Thread™, and Bluetooth® LE 5.0 with Built-in NFC Option</li> <li>• <a href="#">IW416</a>: 2.4/5 GHz Dual-Band 1x1 Wi-Fi® 4 (802.11n) + Bluetooth® 5.2 Solution</li> <li>• <a href="#">88W8987</a>: 2.4/5 GHz Dual-Band 1x1 Wi-Fi® 5 (802.11ac) + Bluetooth® 5.2 Solution</li> <li>• <a href="#">88MW32X 802.11n Wi-Fi® Microcontroller SoC</a></li> </ul>

## Pulse Oximetry Block Diagram



Recommended Products for Pulse Oximetry	
MCU	<ul style="list-style-type: none"> <li>• <a href="#">i.MX RT1050 Crossover MCU with Arm® Cortex®-M7 Core</a></li> <li>• <a href="#">i.MX RT1060 Crossover MCU with Arm® Cortex®-M7 Core</a></li> </ul>
Power Management	<ul style="list-style-type: none"> <li>• <a href="#">PCA9420</a>: PMIC for Low Power Applications</li> <li>• <a href="#">MC34VR500</a>: Multi-Output DC/DC Regulator</li> <li>• <a href="#">MMPF0100</a>: 14-Channel Configurable PMIC</li> <li>• <a href="#">PF3000</a>: 12-Channel Configurable PMIC for i.MX6 and i.MX7 Application Processors</li> </ul>
Wireless Communication	<ul style="list-style-type: none"> <li>• <a href="#">88W8987</a>: 2.4/5 GHz Dual-Band 1x1 Wi-Fi® 5 (802.11ac) + Bluetooth® 5.2 Solution</li> <li>• <a href="#">K32W061/41</a>: High Performance, Secure and Ultra-Low-Power MCU for Zigbee®, Thread™, and Bluetooth® LE 5.0 with Built-in NFC Option</li> <li>• <a href="#">88MW32X</a> 802.11n Wi-Fi® Microcontroller SoC</li> </ul>
NFC	<ul style="list-style-type: none"> <li>• <a href="#">NTAG I²C Plus 2K</a>: NFC Forum Type 2 Tag with I²C Interface</li> </ul>

View our complete solution for [Vital Signs Monitors](#).

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

---

**www.nxp.com**

NXP and the NXP logo are trademarks of NXP B.V. All other product or service names are the property of their respective owners. The related technology may be protected by any or all of patents, copyrights, designs and trade secrets. All rights reserved. © 2021 NXP B.V.