



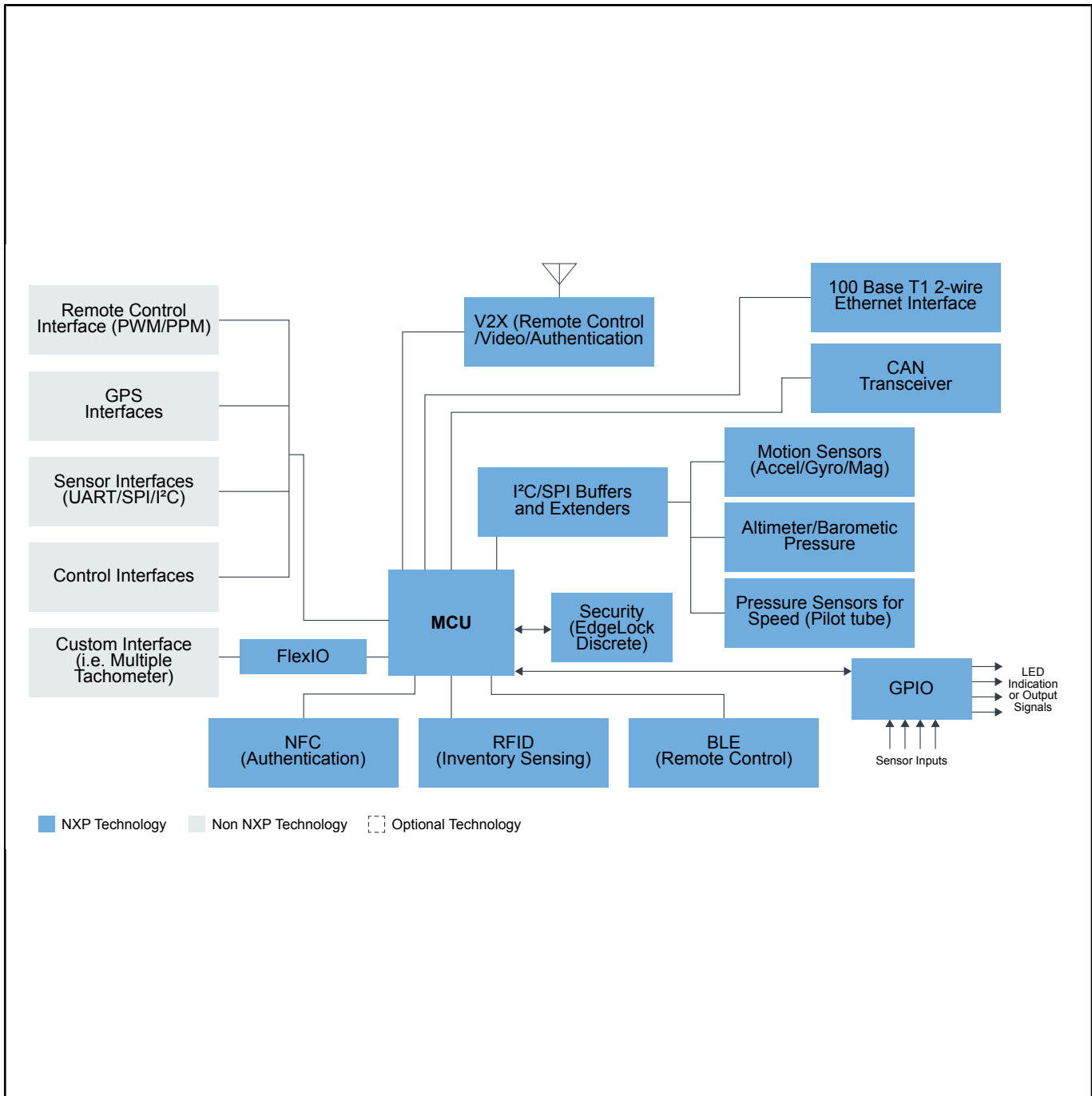
# Intermediate Flight Controller

Last Updated: Dec 6, 2023

An intermediate flight controller is used for research and commercial systems, professional UAVs, and high-end personal UAVs. NXP's controllers and processors help design flight controllers with custom interfaces such as individual motor tachometers to detect failure or obstructions.

NXP wireless products will also help developers to include RFID and NFC in their systems. NFC can be used for authorizing a pilot to fly in a specific area/airfield or to make quick setting adjustments to the flying characteristics. As well, RFID is increasingly being implemented for inventorying items in indoor and outdoor assets, such as livestock and power-line transformers.

## **UAV Intermediate Flight Controller Block Diagram**



### Recommended Products for UAV Intermediate Flight Controller

<p>MCU (Kinetis K Series)</p>	<ul style="list-style-type: none"> <li>• <b>MCX-A14X-A15X:</b> MCX A14x/15x MCUs with Arm<sup>®</sup> Cortex<sup>®</sup> M33, Scalable Device Options, Low Power and Intelligent Peripherals</li> <li>• <b>MCX-N94X-N54X:</b> MCX N94x/54x Highly Integrated Multicore MCUs with On-Chip Accelerators, Intelligent Peripherals and Advanced Security</li> <li>• <b>K Series Arm Cortex-M4:</b> Kinetis<sup>®</sup> K Series: High-Performance Microcontrollers (MCUs) Based on Arm<sup>®</sup> Cortex<sup>®</sup>-M4 Core</li> <li>• <b>KV5x:</b> Kinetis<sup>®</sup> KV5x-240 MHz, Motor Control and Power Conversion, Ethernet, MCUs based on Arm<sup>®</sup> Cortex<sup>®</sup>-M7</li> <li>• <b>K64_120:</b> Kinetis<sup>®</sup> K64-120 MHz, 256 KB SRAM Microcontrollers (MCUs) Based on Arm<sup>®</sup> Cortex<sup>®</sup>-M4 Core</li> </ul>
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	<ul style="list-style-type: none"> <li>• <a href="#">K64_120</a>: Kinetis® K64-120 MHz, 256 KB SRAM Microcontrollers (MCUs) Based on Arm® Cortex®-M4 Core</li> </ul>
Sensors	<ul style="list-style-type: none"> <li>• <a href="#">FXLS8974CF</a>: ±2g/±4g/±8g/±16g, Low-Power 12-Bit Digital IoT Accelerometer</li> </ul>
NFC	<ul style="list-style-type: none"> <li>• <a href="#">NTAG_I2C</a>: NTAG I²C Plus 2K: NFC Forum Type 2 Tag with I²C Interface</li> </ul>
RFID	<ul style="list-style-type: none"> <li>• <a href="#">PN7462</a>: NFC Cortex®-M0 All-in-One Microcontroller with Optional Contact Interface for Access Control</li> </ul>
I2C/SPI Buffers and Extenders	<ul style="list-style-type: none"> <li>• <a href="#">P82B715</a>: I²C-Bus Extender</li> </ul>
CAN Transceiver	<ul style="list-style-type: none"> <li>• <a href="#">TJA1057</a>: High-Speed CAN Transceiver - Mantis Family</li> <li>• <a href="#">TJA1044</a>: High-Speed CAN Transceiver with Standby Mode - Mantis Family</li> <li>• <a href="#">UJA1162ATK</a>: Self-Supplied High-Speed CAN Transceiver with Sleep Mode</li> <li>• <a href="#">UJA1076ATW</a>: High-Speed CAN Core System Basis Chip</li> <li>• <a href="#">CAN with Flexible Data Rate</a>: High Speed CAN with Flexible Data Rate (CAN FD)</li> <li>• <a href="#">CAN Signal Improvement</a>: CAN Signal Improvement Capability (SIC)</li> <li>• <a href="#">Secure CAN Transceivers</a>: Secure TJA115x CAN Transceiver Family</li> </ul>
Ethernet Interface	<ul style="list-style-type: none"> <li>• <a href="#">TJA1101</a>: TJA1101B, IEEE 100BASE-T1 Compliant Automotive Ethernet PHY Transceiver</li> </ul>
Bluetooth LE	<ul style="list-style-type: none"> <li>• <a href="#">QN9080</a>: QN908x: Ultra-Low-Power Bluetooth Low Energy System on Chip Solution</li> </ul>
Pressure Sensors	<ul style="list-style-type: none"> <li>• <a href="#">MPXHZ6116</a>: Absolute, Integrated Pressure Sensor (20 to 115kPa)</li> </ul>
Barometric Pressure	<ul style="list-style-type: none"> <li>• <a href="#">MPL3115A2</a>: Absolute Digital Pressure Sensor (20 to 110 kPa)</li> <li>• <a href="#">MPXx6115</a>: Gauge and Absolute Pressure Sensor (-115 to 115 kPa)</li> </ul>
V2X	<ul style="list-style-type: none"> <li>• <a href="#">V2X Communications</a>: V2X Communications</li> </ul>
Security (EdgeLock Discrete)	<ul style="list-style-type: none"> <li>• <a href="#">SE050</a>: EdgeLock® SE050: Plug and Trust Secure Element Family – Enhanced IoT security with high flexibility</li> <li>• <a href="#">SE051</a>: EdgeLock® SE051: Proven, Easy-to-Use IoT Security Solution with Support for Updatability and Custom Applets</li> </ul>
Air Conditioning GPIO	<ul style="list-style-type: none"> <li>• <a href="#">PCAL9714</a>: 14-Bit SPI I/O Expander with Agile I/O Features</li> <li>• <a href="#">PCAL9722</a>: 22-Bit SPI I/O Expander with Agile I/O Features</li> </ul>
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**Note:** The information on this document is subject to change without notice.

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