Migration to the PIC18F45K50 Family Devices from the PIC18F4550 Family Devices

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Question

How should I approach migration from an old design using the PIC18F4550 or PIC18LF4550 to the PIC18F45K50?

Answer: Here are some general areas that you will need to consider to embark on the above migration:

Configuration Bits: The configuration bits are different between the devices. You will need to update the configuration settings in your code to match the PIC18F45K50.

Pin Compatibility: The PIC18F45K50 is pin-compatible with the PIC18LF4550, which means you can use the same hardware layout with minimal changes. There are some areas where the PIC18F45K50 has extra functionality on pins, but not necessarily things that would require you to adjust the PCB. Review analog functionalities and USB functionalities.

Clock and PLL Settings: Some of the clock and PLL settings are controlled by the configuration bits. Ensure that these settings are correctly configured for the PIC18F45K50.

USB Communication: If your project involves USB communication, you may need to update the USB stack. The PIC18F45K50 supports the same USB functionality as the PIC18LF4550, but you might need to make adjustments to the USB descriptors and initialization code. The 18F45K50 does have some different USB interrupt functionality.

Compiler and Tools: Ensure that you are using the latest version of the compiler and tools that support the PIC18F45K50. The XC8 compiler is recommended.

Firmware Changes: This may include changes to the initialization code, interrupt handling, and peripheral configurations. Most will be the same, but firmware will still need to be reviewed.

Testing: Test the migrated project to ensure that all functionalities work as expected, particularly when there are slight architecture changes.

The PIC18F45K50 does offer low power. If low power is a need, it is recommended to review that in the datasheet.

The PIC18F45K50 has a very short errata sheet but it's still appropriate to review it.

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