



ERRATA SHEET 71M6543F

Revision B02 Errata

The errata listed below describe situations where 71M6543F revision B02 components perform differently than expected or differently than described in the data sheet. Maxim Integrated Products, Inc., intends to correct these errata when the opportunity to redesign the product presents itself.

This errata sheet only applies to 71M6543F revision B02 components. Revision B02 components are branded on the topside of the package with a six-digit code in the form yywwB02, where yy and ww are two-digit numbers representing the year and work week of manufacture, respectively. To obtain an errata sheet on another 71M6543F die revision, visit our website at www.maxim-ic.com/errata.

1) RTC_Q[1:0] VALUE OF 1 BEHAVES ERRONEOUSLY THE SAME AS A VALUE OF 3

Description:

The RTC_Q[1:0] (I/O RAM 0x289D[1:0]) is one of two locations used for digitally adjusting the real-time clock (RTC). The RTC_Q[1:0] field comprises 2 bits and can be set to 0, 1, 2, or 3. Due to a design error, an RTC_Q[1:0] value of 1 behaves erroneously the same as a value of 3.

Workaround:

The workaround for this issue is to never program RTC_Q[1:0] to a value of 1, as follows:

- a) When using the automatic RTC compensation (i.e., OSC_COMP = 1), and when loading the 128-byte NV RAM with RTC compensation values, entries that would have normally been RTC_Q[1:0] = 1 should be modified to have RTC_Q[1:0] = 0 or 2. In other words, instead of two decision points that would indicate when RTC_Q[1:0] should shift from 0 to 1 and from 1 to 2, there should be one decision point that causes RTC_Q[1:0] to shift between 0 and 2.
- b) When automatic compensation is not used (i.e., OSC_COMP = 0) and the MPU is calculating the RTC_P[16:0] and RTC_Q[1:0] correction, it should similarly replace the two decision points that would have bracketed RTC_Q[1:0] = 1 with a single decision point that causes a transition between 0 and 2.

Although this workaround causes a larger correction step, noise in the temperature sensor and variations in actual temperature should allow the average value of the compensation to remain unchanged.