



ERRATA SHEET DS21354/DS21Q354

Revision A4 Errata

The errata listed below describe situations where DS21354/DS21Q354 revision A4 components perform differently than expected or differently than described in the data sheet. Maxim Integrated Products, Inc., intends to correct these errata in subsequent die revisions.

This errata sheet only applies to DS21354/DS21Q354 revision A4 components. Revision A4 components are branded on the topside of the package with a six-digit code in the form yywwA4, where yy and ww are two-digit numbers representing the year and work week of manufacture, respectively. To obtain an errata sheet on another DS21354/DS21Q354 die revision, visit our website at www.maxim-ic.com/errata.

1) TRANSMIT AND RECEIVE SIGNALING BUFFERS DO NOT OPERATE CORRECTLY IF INTERLEAVED BUS OPERATION (IBO) IS ENABLED

Description:

If IBO is enabled, hardware signaling using the TSIG and RSIG pins is not available. The receive-signaling change (RSC) interrupt does not operate, and signaling reinsertion in the receive path is nonfunctional.

Workaround:

Do not use hardware signaling in IBO mode. Other functionality associated with IBO is still available. The device will correctly interleave the serial data streams at RSER, and signaling is available in the receive-signaling registers. Changes in signaling states can still be identified in software by reading the receive-signaling registers each multiframe and comparing the contents with the previous multiframe of signaling.

2) PROPAGATION DELAYS EXCEED DATA SHEET LIMITS

Description:

The propagation delays— t_{D1} , t_{D2} , t_{D3} , and t_{D4} —exceed the limits set forth in the data sheet for the 3.3V operation. The data sheet specifies 50ns max. t_{D1} and t_{D2} can be as long as 65ns. t_{D3} and t_{D4} are typically 60ns to 90ns.

Workaround:

In applications using the elastic store buffers and an 8.192MHz backplane clock, the RSER output is delayed such that the output could transition during the falling edge of the clock. This could result in other devices on the backplane latching the bit during the transition of the output driver. It is recommended that the 8.192MHz clock applied to the RSYCLK input pin be inverted. This will move the data one half-clock cycle so that the data bits can be latched by other devices on the falling edge of the uninverted clock. Operation at slower backplane clock speeds is unaffected.

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3) IT IS POSSIBLE FOR THE 8MCLK PIN TO OUTPUT 24.576MHz ON POWER-UP

Description:

It is possible for the 8MCLK pin to output 24.576MHz on power-up.

Workaround:

To avoid this situation, reset the PLL by writing a 01h into location ACh. After 1ms, clear the reset bit by writing a 00h into location ACh.

4) DURING JTAG OPERATION, THE JTDO PIN TRANSITIONS ON THE FALLING EDGE OF JTCLK

Description:

The JTDO pin transitions with the falling edge of JTCLK, rather than with the next rising edge.

Workaround:

To remove the possibility of misinterpretation of the data output, it is recommended that a 0.001 μ F capacitor be placed from JTDO to ground.

5) EQUALIZER GAIN LIMIT

Description:

When using the equalizer gain limit (EGL) function (bit LICR.4 = 0), the receiver may squelch an input signal with more than -7.5dB of attenuation.

Workaround:

For signals in the -7.5dB to -12dB range, set the EGL bit to 1. No other known workaround exists for this erratum.

6) NEW FEATURE ADDED IN REVISION B1

Description:

The receive monitor mode included in the released data sheet became an official feature with the B1 die revision. This feature was purposefully omitted from prior versions of the data sheet because the mode was experimental, and early revisions of the device did not meet the intended objectives. Once the B1 revision had been evaluated and found to function properly, the feature was added to the data sheet.

Workaround:

None.

7) INCORRECT ERROR COUNT REPORTED IN ERROR-COUNT REGISTERS

Description:

The error-count registers may report an error count that is one error higher than the actual error count, which is due to a potential internal collision at the one-second timer boundary during data transfer from the error counter to the error-count register. The actual error count internal to the part will be accurate in this situation and all resync criteria will be followed correctly, but the error-count registers may report an error count that is one error higher than the actual error count.

Workaround:

None.