1. POWER-ON RESET TIMING ISSUE

Description:
If during power-up $V_{DD}$ is ramped too fast or the $\text{RST}$ pin is asserted at the wrong time, an internal timing problem can cause some LIU ports on some devices to remain stuck in reset. When a port is stuck in reset, the $\text{RCLK}$, $\text{RPOS/RDAT}$, and $\text{RNEG/RLCV}$ pins do not toggle, and the $\text{TXP/TXN}$ pins either drive no signal or a low-amplitude signal (< 600mV). This condition persists until $V_{DD}$ is ramped down and back up again.

Work Around:
This timing issue can be avoided if two conditions are met:

1) $V_{DD}$ must ramp up with a slew rate of 40µs/V or slower.
2) During power-up, $\text{RST}$ must not be asserted while $V_{DD} < 3.135V$.

During power-up, the DS3251/2/3/4 devices are completely reset by their internal power-on reset circuits and do not need to be reset by asserting the $\text{RST}$ pin. Because $\text{RST}$ has an internal pullup resistor, one easy way to meet condition 2 above is to leave $\text{RST}$ floating.