

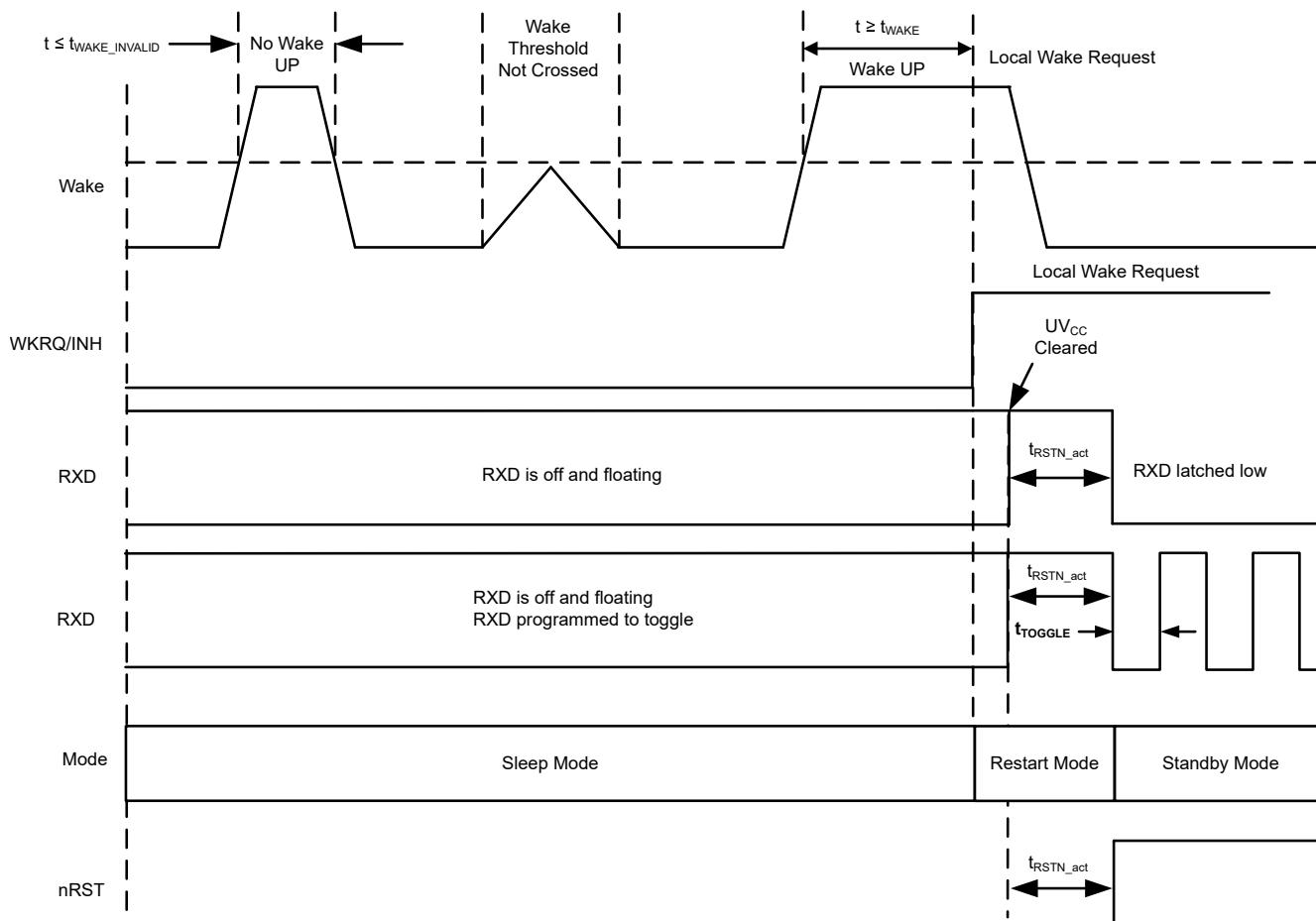
or ground. If the terminal is not used it should be pulled to ground to avoid unwanted parasitic wake up events. There are two methods for using the WAKE pin:

1. Static wake
2. Cyclic sensing wake

#### 8.4.8.2.1 Static WAKE

The WAKE terminal defaults to bi-directional input but can be configured for rising edge and falling edge transitions by using register 8'h11[7:6] WAKE\_CONFIG (see [Figure 8-44](#) and [Figure 8-45](#)). Once the device enters sleep mode the WAKE terminal voltage level needs to be at either a low state or high state for  $t_{WAKE}$  before a state transition for a WAKE input can be determined. A pulse width less than  $t_{WAKE\_INVALID}$  is filtered out.

The LWU circuitry is active in sleep mode, standby and fail-safe modes. If a valid LWU event occurs, the device transitions to restart mode. The LWU circuitry is not active in normal, fast and restart modes. To minimize system level current consumption, the internal bias voltages of the terminal follows the state on the terminal with a delay of  $t_{WAKE}$ . A constant low level on WAKE has an internal pull-down to ground. On power up, this may look like a LWU event and could be flagged as such. The device provides a WAKE pin status change update using register 8'h11[5:4]. The status change will lock in a change in the WAKE pin and needs to be cleared.



**Figure 8-44. Local Wake Up (LWU) - Rising Edge**