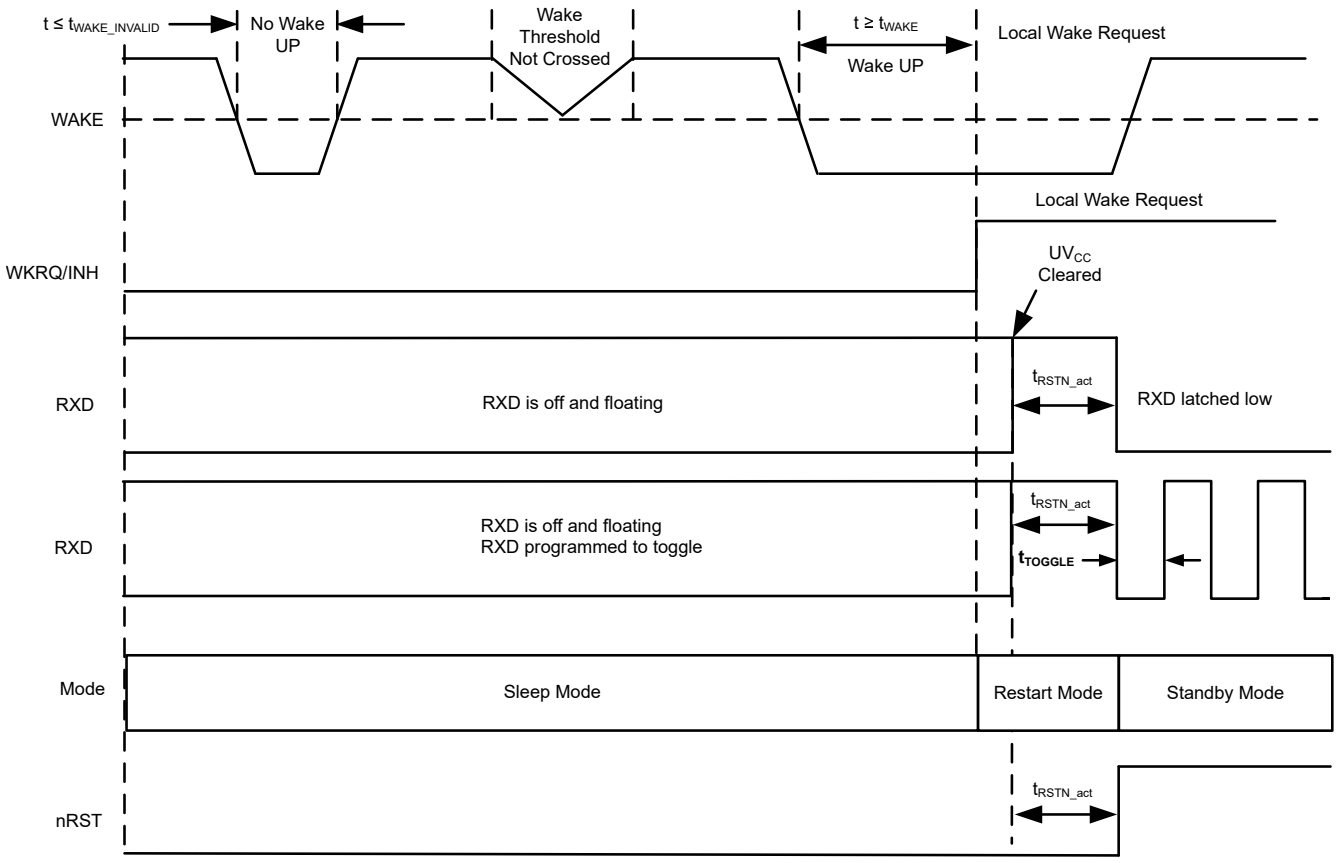

Figure 8-45. Local Wake Up (LWU) - Falling Edge

Note

These figures show the state of the RXD pin after a WAKE pin event. The transition to standby mode is shown in the state diagrams but is based upon the following:

- PIN Mode: All must take place
  - WAKE pin event recognized
  - V_{CC} goes above UV_{CC} for > t_{RSTN_act}
  - EN pin is High for > t_{EN}
- SPI Mode: All must take place
  - WAKE pin event recognized
  - V_{CC} goes above UV_{CC} for > t_{RSTN_act}

The WAKE terminal can be configured for a pulse, see Figure 8-46, by using WAKE_CONFIG register 11h[7:6]. The terminal can be configured to work off a pulse only. The pulse must be between $t_{WK\_WIDTH\_MIN}$ and $t_{WK\_WIDTH\_MAX}$, see Figure 8-46. This figure provides three examples of pulses and whether the device will wake or not wake. $t_{WK\_WIDTH\_MIN}$ is determined by the value for $t_{WK\_WIDTH\_INVALID}$ is set to in register 8'h11[3:2]. There are two regions where a pulse may or may not be detected. By using register 8'h1B[1], WAKE_WIDTH_MAX_DIS, the pulse mode can be configured as a filtered wake input. Writing a 1b to this bit disables $t_{WK\_WIDTH\_MAX}$, and the WAKE input is based upon the configuration of register 8'h11[3:2] which selects a $t_{WK\_WIDTH\_INVALID}$ and $t_{WK\_WIDTH\_MIN}$ value. A WAKE input of less than $t_{WK\_WIDTH\_INVALID}$ is filtered out, and if longer than $t_{WK\_WIDTH\_MIN}$ INH turns on and device enters standby mode. The region between the two may or may not be counted, see Figure 8-47. Register 8'h12[7] determines the direction of the pulse or filter edge that is recognized. The status of the WAKE pin can be determined from register 8'h11[5:4]. When a WAKE pin change takes place, the device registers the change as a rising edge or falling edge. This is latched until a 00b is written to the bits.