



Figure 8-49. Cyclic Sensing Timing

#### Note

When the device enters fail-safe mode and turns off the HSS pin, the WAKE pin reverts to static mode, and must be reprogrammed for cyclic sensing when the device enters standby or normal mode.

#### 8.4.9 Mode Transitions

When the device is transitioning between modes, the device needs the time  $t_{MODE\_CHANGE}$  and  $t_{NOMINIT}$  to allow the change to fully propagate from the EN pin through the device into the new state.

#### 8.5 Programming

The TLIN1431x-Q1 is 7-bit address access SPI communication port.

Table 8-9 shows a list of the registers in the device along with their respective addresses.

#### 8.5.1 SPI Communication

The SPI communication uses a standard SPI interface. Physically the digital interface pins are nCS (Chip Select Not), SDI (SPI Data In), SDO (SPI Data Out) and CLK (SPI Clock). Each SPI transaction is initiated by a seven bit address with a R/W bit.

The SPI data input data on SDI is sampled on the low to high edge of CLK. The SPI output data on SDO is changed on the high to low edge of CLK.

See Figure 8-50 and Figure 8-51 for read and write method.