

Table 2. Clock Edge Mapping to SPI Registers

TIME INSTANT (See Figure 63 and Figure 64)	DESCRIPTION	CORRESPONDING REGISTER ADDRESS AND REGISTER BITS	EXAMPLE (1) (Decimal)	Name	1kHzPRF (using LED1&LED2, Decimal)
t0	Start of pulse repetition period	No register control	-		
t1	Start of sample LED2 pulse	Sample LED2 start count (bits 15-0 of register 01h)	6050	LED2STC	3025
t2	End of sample LED2 pulse	Sample LED2 end count (bits 15-0 of register 02h)	7998	LED2ENDC	3998
t3	Start of LED2 pulse	LED2 start count (bits 15-0 of register 03h)	6000	LED2LEDSTC	3000
t4	End of LED2 pulse	LED2 end count (bits 15-0 of register 04h)	7999	LED2LEDENDC	3999
t5	Start of sample LED2 ambient pulse	Sample ambient LED2 start count (bits 15-0 of register 05h)	50	ALED2STC	25
t6	End of sample LED2 ambient pulse	Sample ambient LED2 end count (bits 15-0 of register 06h)	1998	ALED2ENDC	998
t7	Start of sample LED1 pulse	Sample LED1 start count (bits 15-0 of register 07h)	2050	LED1STC	1025
t8	End of sample LED1 pulse	Sample LED1 end count (bits 15-0 of register 08h)	3998	LED1ENDC	1998
t9	Start of LED1 pulse	LED1 start count (bits 15-0 of register 09h)	2000	LED1LEDSTC	1000
t10	End of LED1 pulse	LED1 end count (bits 15-0 of register 0Ah)	3999	LED1LEDENDC	1999
t11	Start of sample LED1 ambient pulse	Sample ambient LED1 start count (bits 15-0 of register 0Bh)	4050	ALED1STC	2025
t12	End of sample LED1 ambient pulse	Sample ambient LED1 end count (bits 15-0 of register 0Ch)	5998	ALED1ENDC	2998
t13	Start of convert LED2 pulse	LED2 convert start count (bits 15-0 of register 0Dh) Must start one AFE clock cycle after the ADC reset pulse ends.	4	LED2CONVST	2
t14	End of convert LED2 pulse	LED2 convert end count (bits 15-0 of register 0Eh)	1999	LED2CONVEND	999
t15	Start of convert LED2 ambient pulse	LED2 ambient convert start count (bits 15-0 of register 0Fh) Must start one AFE clock cycle after the ADC reset pulse ends.	2004	ALED2CONVST	1002
t16	End of convert LED2 ambient pulse	LED2 ambient convert end count (bits 15-0 of register 10h)	3999	ALED2CONVEND	1999
t17	Start of convert LED1 pulse	LED1 convert start count (bits 15-0 of register 11h) Must start one AFE clock cycle after the ADC reset pulse ends.	4004	LED1CONVST	2002
t18	End of convert LED1 pulse	LED1 convert end count (bits 15-0 of register 12h)	5999	LED1CONVEND	2999
t19	Start of convert LED1 ambient pulse	LED1 ambient convert start count (bits 15-0 of register 13h) Must start one AFE clock cycle after the ADC reset pulse ends.	6004	ALED1CONVST	3002
t20	End of convert LED1 ambient pulse	LED1 ambient convert end count (bits 15-0 of register 14h)	7999	ALED1CONVEND	3999
t21	Start of first ADC conversion reset pulse	ADC reset 0 start count (bits 15-0 of register 15h)	0	ADCRSTSTCT0	0
t22	End of first ADC conversion reset pulse(2)	ADC reset 0 end count (bits 15-0 of register 16h)	3	ADCRSTENDCT0	1
t23	Start of second ADC conversion reset pulse	ADC reset 1 start count (bits 15-0 of register 17h)	2000	ADCRSTSTCT1	1000
t24	End of second ADC conversion reset pulse(2)	ADC reset 1 end count (bits 15-0 of register 18h)	2003	ADCRSTENDCT1	1001
t25	Start of third ADC conversion reset pulse	ADC reset 2 start count (bits 15-0 of register 19h)	4000	ADCRSTSTCT2	2000
t26	End of third ADC conversion reset pulse(2)	ADC reset 2 end count (bits 15-0 of register 1Ah)	4003	ADCRSTENDCT2	2001
t27	Start of fourth ADC conversion reset pulse	ADC reset 3 start count (bits 15-0 of register 1Bh)	6000	ADCRSTSTCT3	3000
t28	End of fourth ADC conversion reset pulse(2)	ADC reset 3 end count (bits 15-0 of register 1Ch)	6003	ADCRSTENDCT3	3001
t29	End of pulse repetition period	Pulse repetition period count (bits 15-0 of register 1Dh)	7999	PRPCOUNT	3999

(1) Values are based off of a pulse repetition frequency (PRF) = 500 Hz and duty cycle = 25%.

(2) See note 2 for the affect of the ADC reset time crosstalk.