| Step | Procedure | Data Tansmit/Receive | |
|---|---|---|---|
| | | Page1 | Page2 |
| 1 | Unlock the OTP programming:<br>Write the following data to OTP_PROG_UNLOCK1A to OTP_PROG_UNLOCK1D and OTP_PROG_UNLOCK2A to OTP_PROG_UNLOCK2D registers.<br>- OTP_PROG_UNLOCK1A <- data 0x02<br>- OTP_PROG_UNLOCK1B <- data 0xB7<br>- OTP_PROG_UNLOCK1C <- data 0x78<br>- OTP_PROG_UNLOCK1D <- data 0xBC<br><br>- OTP_PROG_UNLOCK2A <- data 0x7E<br>- OTP_PROG_UNLOCK2B <- data 0x12<br>- OTP_PROG_UNLOCK2C <- data 0x08<br>- OTP_PROG_UNLOCK2D <- data 0x6F | OK | OK |
| 2 | Check to confirm the OTP unlock procedure is successful:<br>a. Read to confirm OTP_PROG_STAT[UNLOCK] = 1 | OK | OK |
| 3 | Select the proper OTP page and start the OTP programming:<br>a. If to be program page1, set OTP_PROG_CTRL[PAGESEL][PROG_GO] = 0x01.<br>b. If to be program page2, set OTP_PROG_CTRL[PAGESEL][PROG_GO] = 0x03. | <br>OK<br> | <br><br>OK |
| 4 | Wait tPROG= 100ms for the OTP programming to complete. | OK | OK |
| 5 | Check to ensure there is no error during OTP programming.<br>The following bits are expected to be 1 after a successful OTP programming:<br>a. OTP_PROG_STAT[DONE] = 1, OTP programming is done.<br>No other bit will be set in this register. | OK | OK |
| 6 | Issue a digital reset to reload the registers with the updated OTP values:<br>a. CONTROL1[SOFT_RESET] = 1 | OK | OK |
| 7 | Wait ~~tRST = 1msec~~ tSU(WAKE_SHUT) = 10msec. for the soft reset to complete. | OK | OK |
| 8 | 1.Dummy Write to synchronize all daisy chain devices DLL ramp in write direction.<br>Broadcast write OTP_ECC_DATAIN1 through OTP_ECC_DATAIN9 = 0x00(for example). | OK | OK |
| | 2.Setting Up Auto-Addressing.<br>a.CONTROL1[ADDR_WR] = 1.<br>b.DIR0_ADDR = 0x00.(for example)<br>c.COMM_CTRL[STACK_DEV] = 0, COMM_CTRL[TOP_STACK] = 1. | <br>OK<br>OK<br>OK | <br>OK<br>OK<br>OK |
| | 3.Dummy read to synchronize all daisy chain devices DLL ramp in read direction.<br>Broadcast read to read OTP_ECC_DATAIN1 through OTP_ECC_DATAIN9. | OK | OK |
| 9 | Check to confirm the OTP programming was successful:<br>a. If page 1 is programmed, OTP_CUST1_STAT[LOADED], [PROGOK], [TRY], [OVOK], and [UVOK] bits are 1. Other bits are 0.<br>b. If page 2 is programmed, OTP_CUST2_STAT[LOADED], [PROGOK], [TRY], [OVOK], and [UVOK] bits are 1. Other bits are 0. | <br>OK<br> | <br><br>OK |