State machine diagram:

!HRESETn → RX_SLEEP

RX_SLEEP → RX_SLEEP: mode != RX_MODE

RX_SLEEP → RX_INIT: mode == RX_MODE

↑IDLE Mode
↓RX Mode

RX_DONE → RX_SLEEP

RX_CRC_CHECK → RX_DONE

RX_INIT → RX_GET_LEN

Waiting For A Packet

RX_GET_LEN → RX_GET_LEN: !packet_detected

RX_GET_LEN → RX_GET_BYTE0: packet_detected

RX_DMA_WAIT2 → RX_DMA_WAIT2: !dma_done

RX_DMA_WAIT2 → RX_CRC_CHECK: dma_done

RX_DATA_STORE → RX_DMA_WAIT2: packet_done1***

RX_GET_BYTE0 → RX_DATA_STORE: !packet_done1***

RX_GET_BYTE0 → RX_GET_BYTE1: !packet_done0**

RX_GET_BYTE1 → RX_DATA_STORE: packet_done0**

RX_GET_BYTE0 → RX_DMA_WAIT: packet_done0**

RX_GET_BYTE1 → RX_GET_BYTE2: !packet_done0**

RX_DMA_WAIT → RX_DATA_STORE: dma_done

RX_DMA_WAIT → RX_DMA_WAIT: !dma_done

RX_GET_BYTE3 → RX_DMA_WAIT

RX_GET_BYTE2 → RX_DMA_WAIT: packet_done0**

RX_GET_BYTE2 → RX_GET_BYTE3: !packet_done0**

Storing Packet In Memory

```
*    length_w_crc = packet_length + 2 - 1
**   packet_done0 = ( byte_count == length_w_crc* )
***  papcket_done1 = ( byte_count > length_w_crc* )
```