

next\_state

STATE\_WAIT\_NEW\_DATA

```
graph TD; S1[STATE_WAIT_NEW_DATA] -- "newdata = '1' and (spi_data_in /= all_zeros)" --> S2[STATE_START_MULTIPLY]; S2 -- "multready = '1'" --> S3[STATE_MULT_READY]; S3 -- "datasent = '1'" --> S4[STATE_DATA_SENT]; S1 --> S1; S2 --> S2; S3 --> S3; S4 --> S4;
```

newdata = '1' and  
(spi\_data\_in  $\neq$  all\_zeros)

STATE\_START\_MULTIPLY

multready = '1'

STATE\_MULT\_READY

datasent = '1'

STATE\_DATA\_SENT