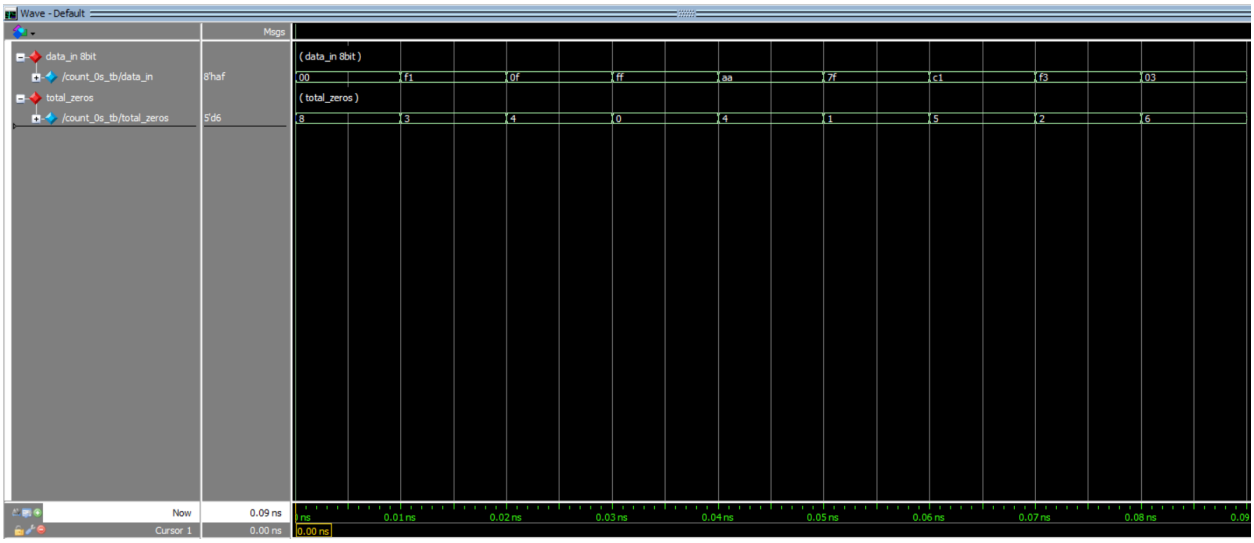
Bit wave



Output table

```
#                  0 data_in = 00000000: total_zeros =  8
#                 10 data_in = 11110001: total_zeros =  3
#                 20 data_in = 00001111: total_zeros =  4
#                 30 data_in = 11111111: total_zeros =  0
#                 40 data_in = 10101010: total_zeros =  4
#                 50 data_in = 01111111: total_zeros =  1
#                 60 data_in = 11000001: total_zeros =  5
#                 70 data_in = 11110011: total_zeros =  2
#                 80 data_in = 00000011: total_zeros =  6
#                 90 data_in = 10101111: total_zeros =  2
```

Summary for 8bit word_size

- This design takes in 8-bit word_size as data_in and checks the number of 0s in the data.
- The total number of 0s in the data_in is reported in a register called total_zeros