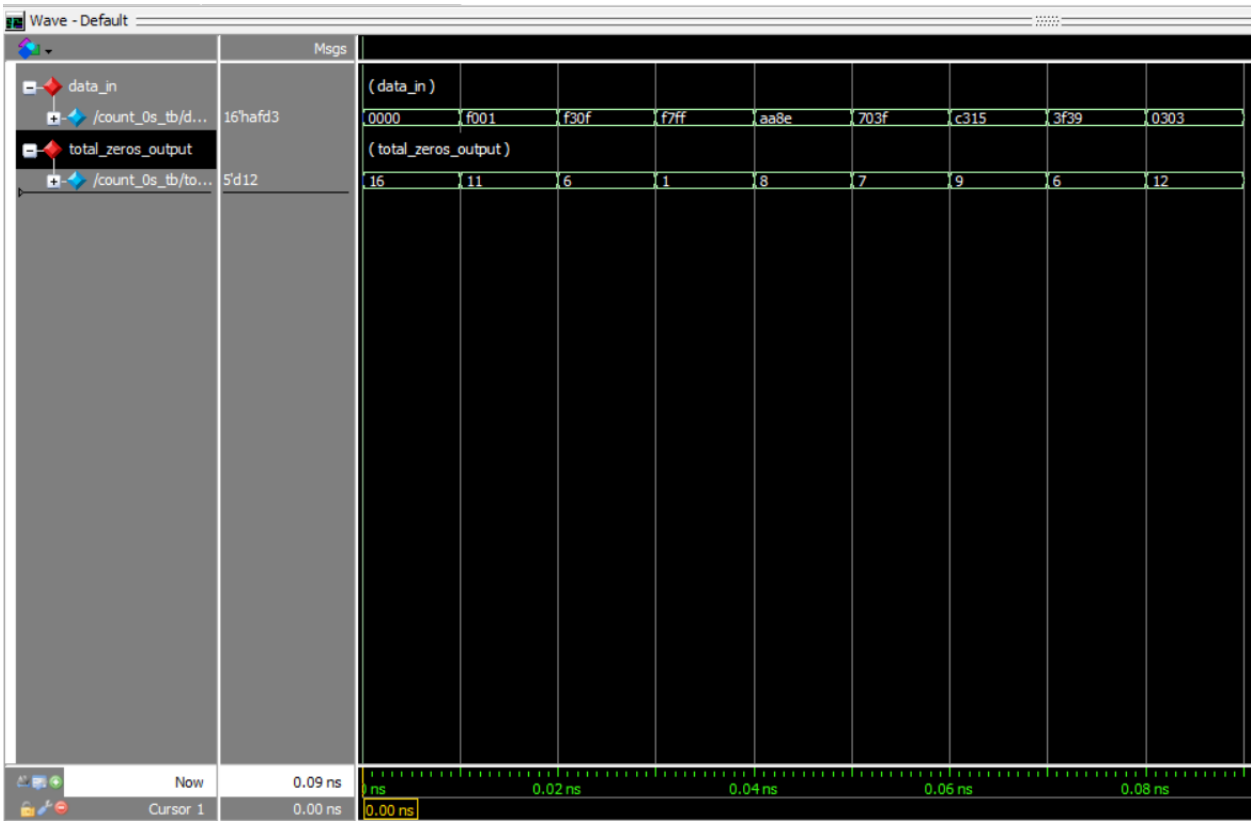
Bit wave



Output table

```
#                  0 data_in = 0000000000000000: total_zeros = 16
#                 10 data_in = 1111000000000001: total_zeros = 11
#                 20 data_in = 1111001100001111: total_zeros =  6
#                 30 data_in = 1111011111111111: total_zeros =  1
#                 40 data_in = 1010101010001110: total_zeros =  8
#                 50 data_in = 0111000000111111: total_zeros =  7
#                 60 data_in = 1100001100010101: total_zeros =  9
#                 70 data_in = 0011111100111001: total_zeros =  6
#                 80 data_in = 0000001100000011: total_zeros = 12
#                 90 data_in = 1010111111010011: total_zeros =  5
```

Summary for 16bit word_size

- This design takes in 16-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