Address Span Extender Example

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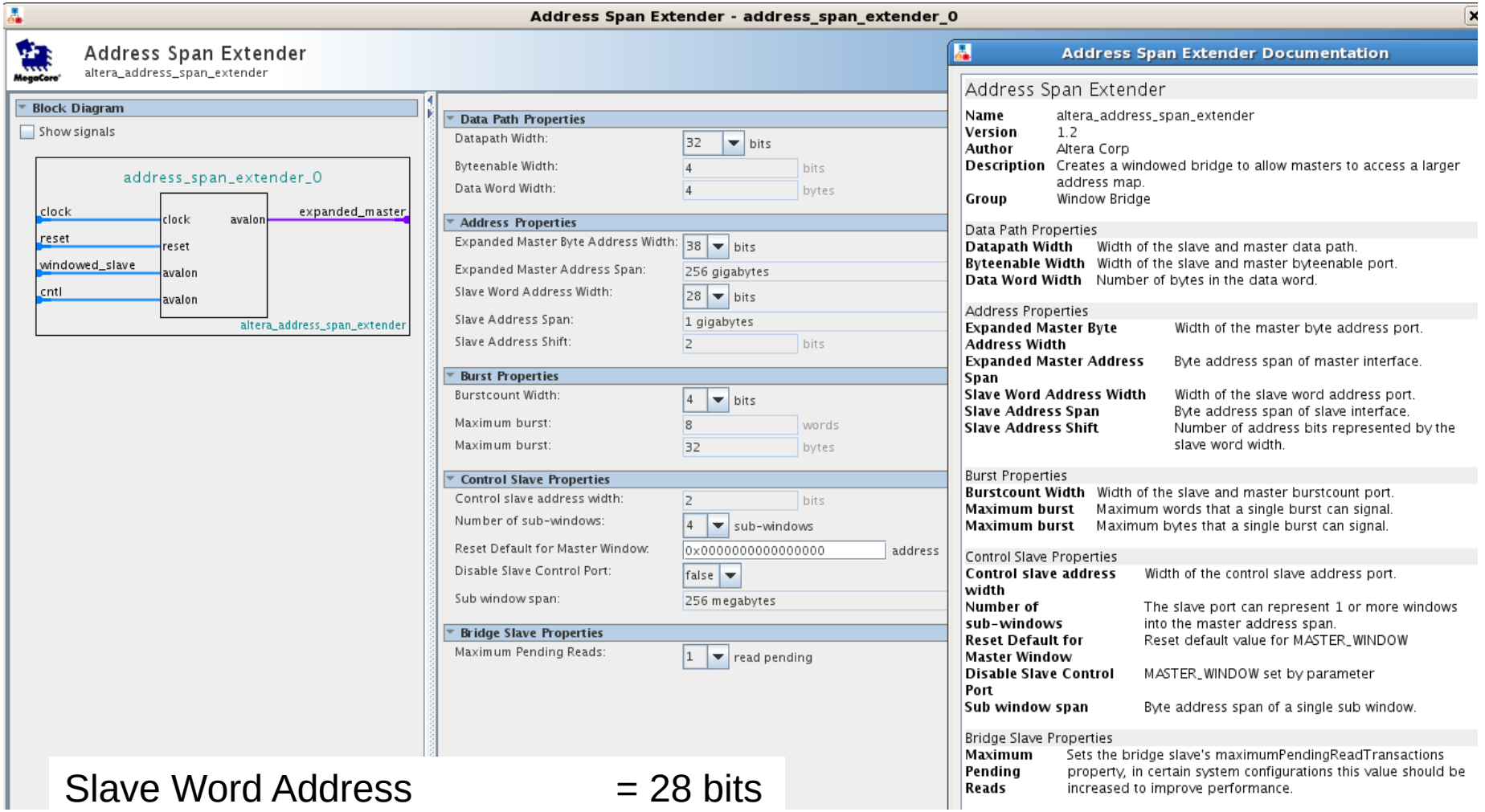
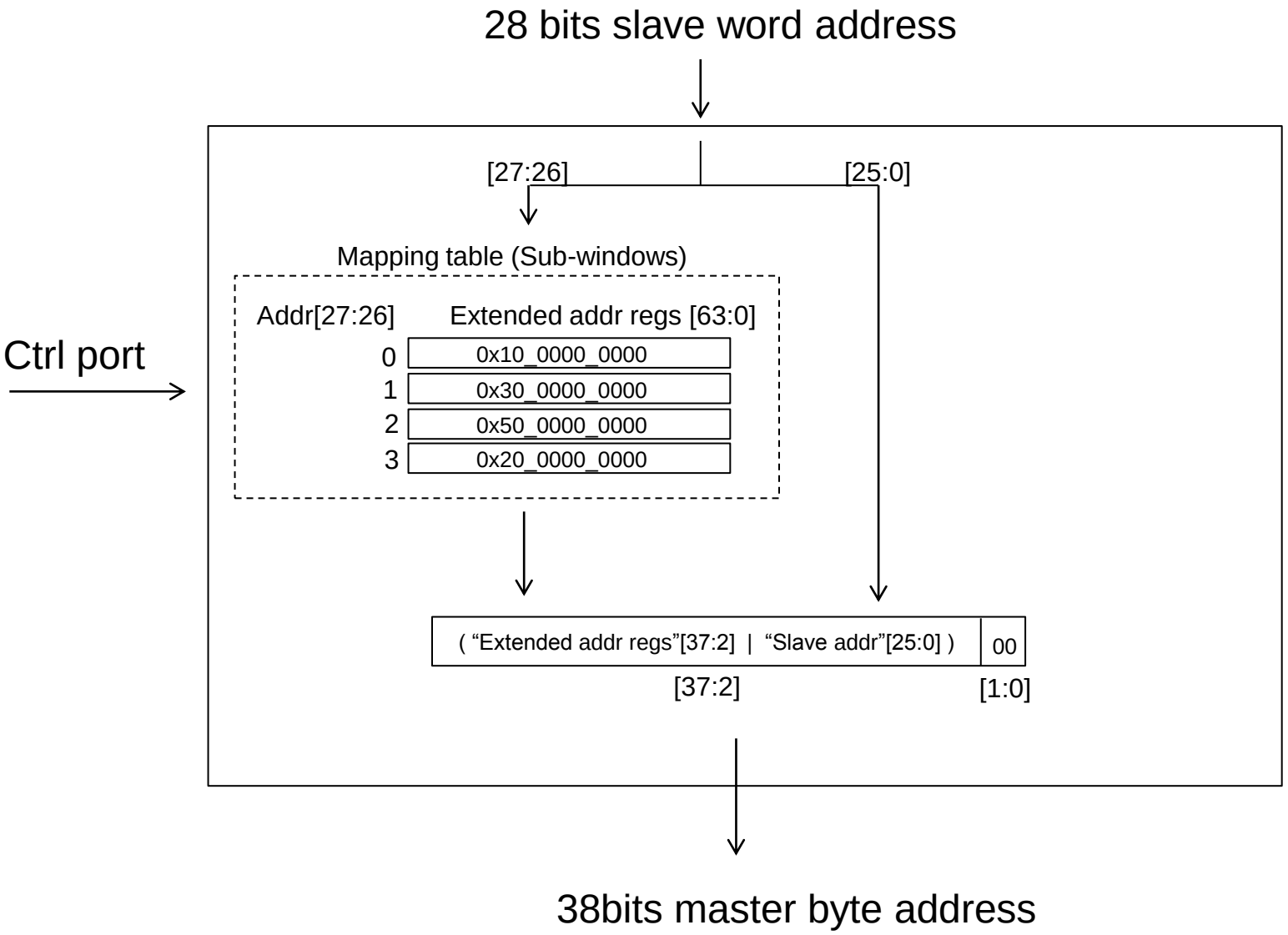
Example design

Address Span Extender Example

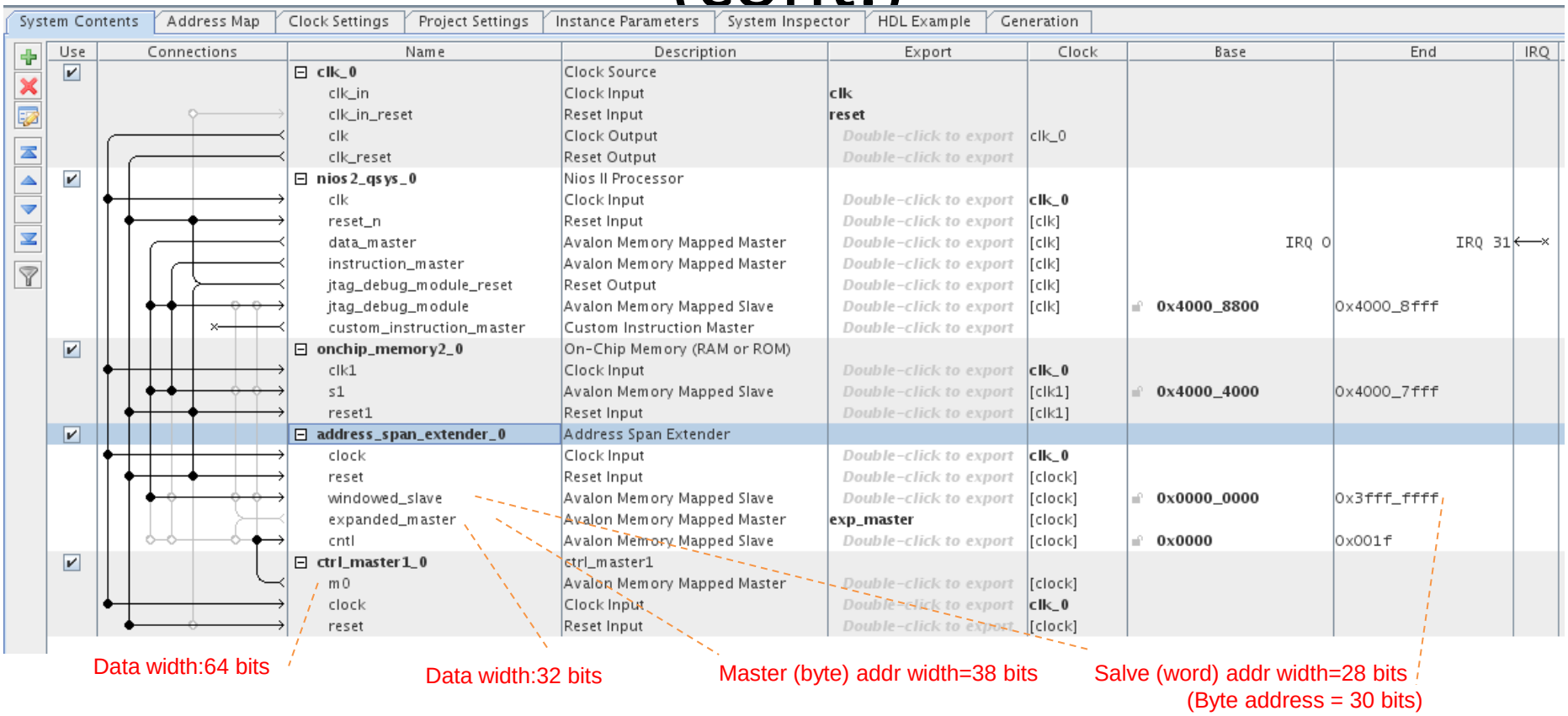


Slave Word Address = 28 bits
Expanded Master Byte Address = 38 bits
Number of sub-windows = 4

Address Span Extender Example (cont.)



Address Span Extender Example (cont.)

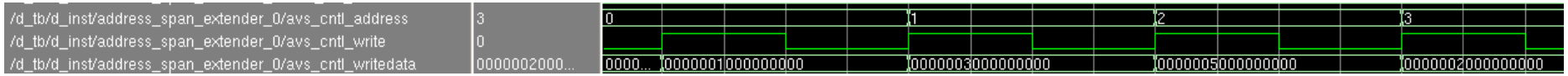


Simulation Wave

Setting sub-windows

Mapping table (Sub-windows)

addr	Extended addr regs [63:0]
0	0x10_0000_0000
1	0x30_0000_0000
2	0x50_0000_0000
3	0x20_0000_0000



Address Span Extender

In this case, slave data width = 32 bits (4bytes)
Then slave word address width = (matser bytes address >> 2)

Master byte address = 0x3c00_0100

↓

Extender Slave word address = 0xf00_0040 (Sub-window# = [27:26] = 3)

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Expanded Master byte address = 0x20_0c00_0100 (see mapping table on previous page)