

Demapping

1) Functional Description

The demapping operation consists in demodulating the inputs symbols into bits. In our system, the used demapping is a QPSK (Quadrature Phase-Shift Keying) demodulation. The architecture of the demapping component is presented in the figure 1. It is composed of a demapping core and a MWMR wrapper. The wrapper is used to interface the core and the MWMR controller available here [VciMwmrController](#).

0

2) Component definition & usage

Component definition

- [source:trunk/soclib/soclib/module/ofdm_chain_components/demapping/caba/metadata/demapping.sd?](#)

Usage

Demapping has a *fifo_depth* parameter, which defines the fifo depth for the input. For example with a FIFO depth equal to 16 :

```
Uses('Demapping', fifo_depth = 16);
```

3) CABA Implementation

CABA sources

- interface :
[source:trunk/soclib/soclib/module/ofdm_chain_components/demapping/caba/source/include/demapping.h?](#)
- implementation :
[source:trunk/soclib/soclib/module/ofdm_chain_components/demapping/caba/source/src/demapping.cpp?](#)

CABA Constructor parameters

```
Demapping(  
    sc_module_name name, // Instance name  
    int ncycles) // Number of computation cycles
```

CABA Ports

- sc_in<bool> **p_resetn** : hardware reset
- sc_in<bool> **p_clk** : clock
- soclib::caba::FifoOutput<uint32_t> **p_to_ctrl** : interface from the demapping to the MWMR controller
- soclib::caba::FifoInput<uint32_t> **p_from_ctrl** : interface from the MWMR controller to the demapping

4) TLM-T Implementation

The TLM-T implementation is not yet available.