**DP-QPSK DSP:**

This component compensates for the linear impairments of the fiber through the following process:

1. Electrical signal amplification and filtering
2. Analog to Digital conversion (downsampling)
3. Dispersion Compensation
4. Polarization demultiplexing
5. Carrier phase estimation

**Input ports:**

Input I-X: Electrical

Input Q-X: Electrical

Input I-Y: Electrical

Input Q-Y: Electrical

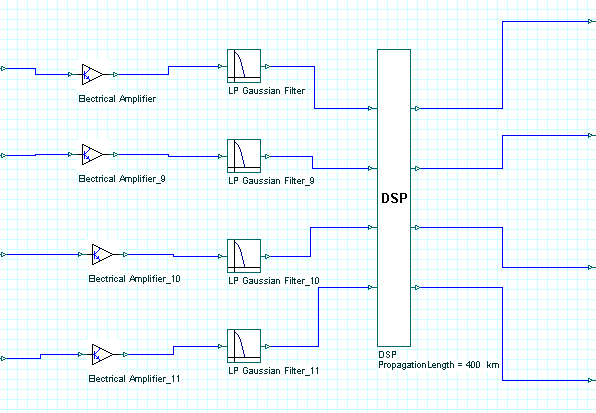
**Output Ports:**

Output I-X: Electrical

Output Q-X: Electrical

Output I-Y: Electrical

Output Q-Y: Electrical



**Electrical Amplifiers:**

Gain: 15 dBm

Noise Power: -100 dBm

**Low-Pass Gaussian filter:**

Cutoff Frequency: Bitrate/4

Insersion loss: 0 dBm

Depth: 100 dBm

Order: 2

**DSP:**

Propagation length (propagation length for dispersion compensation)

Downsampling (Analog to Digital conversion)

* + SymbolRate: Bitrate/4
  + NumberOfSymbols: Sequence length/4
  + SamplesPerSymbol: 2

Dispersion Compensation

* + Channel Wavelength: 1550 nm
  + DispersionRefWavelength: 1550 nm
  + Residual Dispersion: 16.75 ps/nm.km (Dispersion of the fiber)
  + ResidualDispersionSlope: 0.075 ps/nm^2.km (Dispersion slope of the fiber)

PolarizationDemultiplexing

* + StepP: 0.11 (Control gain for channel estimation algorithm)
  + Initial Value: 1 (Initial value for the channel estimation)
  + TapNumberP: 3 (Order of the FIR filter)

JP-CPE (joint polarization carrier phase estimation)

* Coupling Factor: 0 (Coupling factor between polarization X,Y)
  + TapNumberC: 3 (Filter order for MMSE phase estimation)
  + RotationFactorX: 0 (Rotating I and Q for X polarization)
  + RotationFactorY: 0 (Rotating I and Q for Y polarization)

ConstellationDiagram:

* + IgnoreStartSymbols: 100
  + IgnoreEndSymbols: 100

InterpolationMethod

* InterpolationMethod: Cubic

Please note that if statistical birefringence is ON, the Rotation factor for X and Y polarization needs to be configured based on the propagation length.