

DESIGN

90° OPTICAL HYBRID

SEMANA 1

Analise da referencia

Design dos componentes

Esse modelo de híbrida possui 3 componentes básicos

- 3 - MMI 2X2 (Modelo apresentado no trabalho base)
- 1 - Y-Branch (Modelo apresentado em:
A compact and low loss Y-junction for submicron silicon waveguide)
- 4 - 90° Bend (Guia padrão de 4 μm de raio)

Design dos componentes

Estudo de convergencia

Como nessa etapa não temos como objetivo otimizar o dispositivo, o tempo de simulação não era um fator tão importante, logo, não foi feita análise de convergencia de precisão, todos os dispositivos foram simulados com a maior precisão possível (non-variant mesh 8)

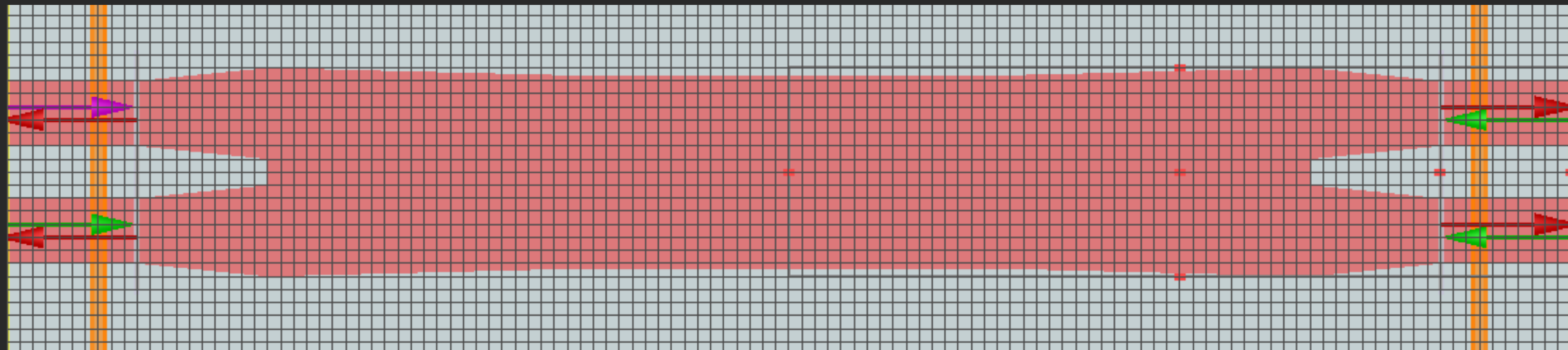
Design dos componentes

Design em SIO

Design dos componentes

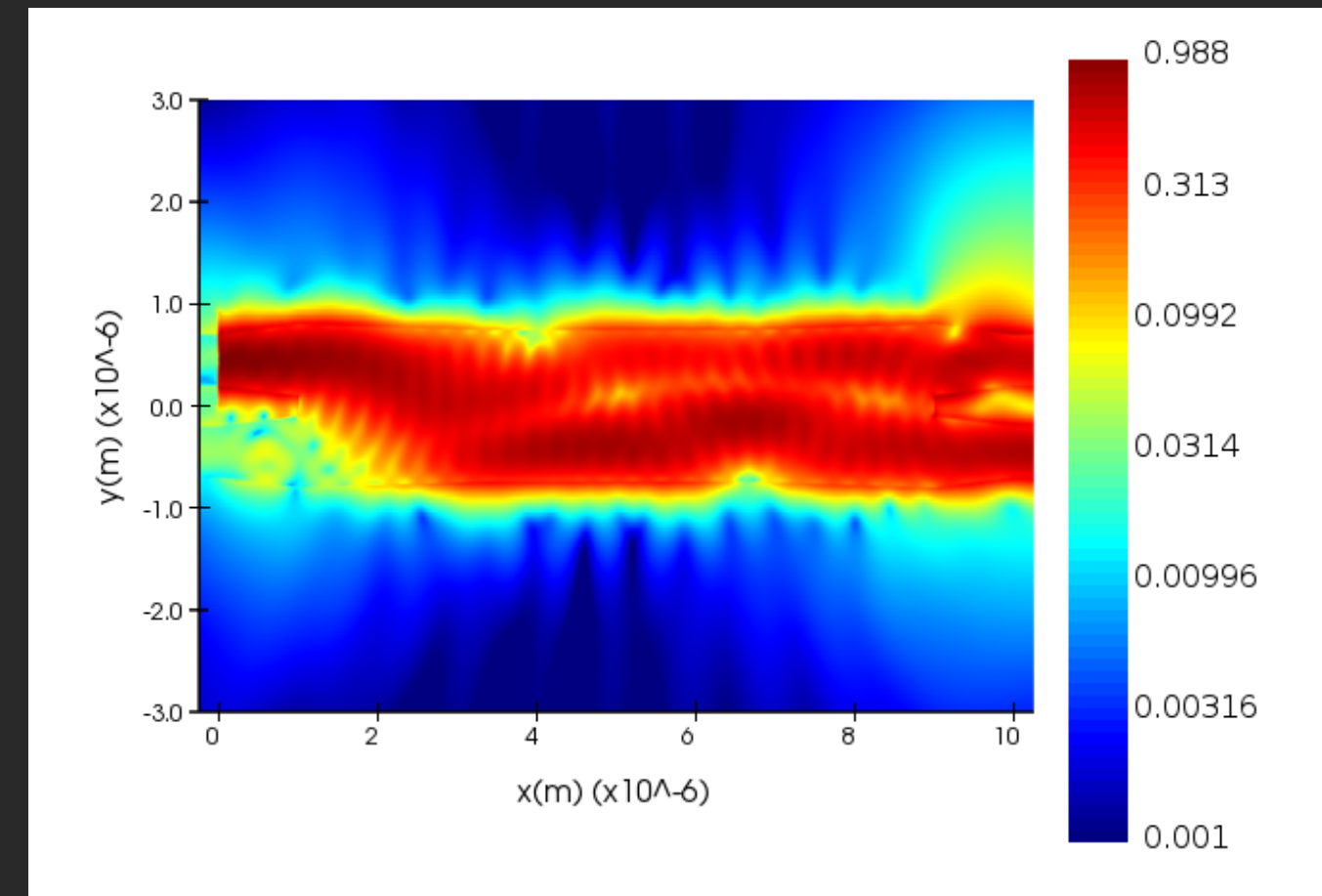
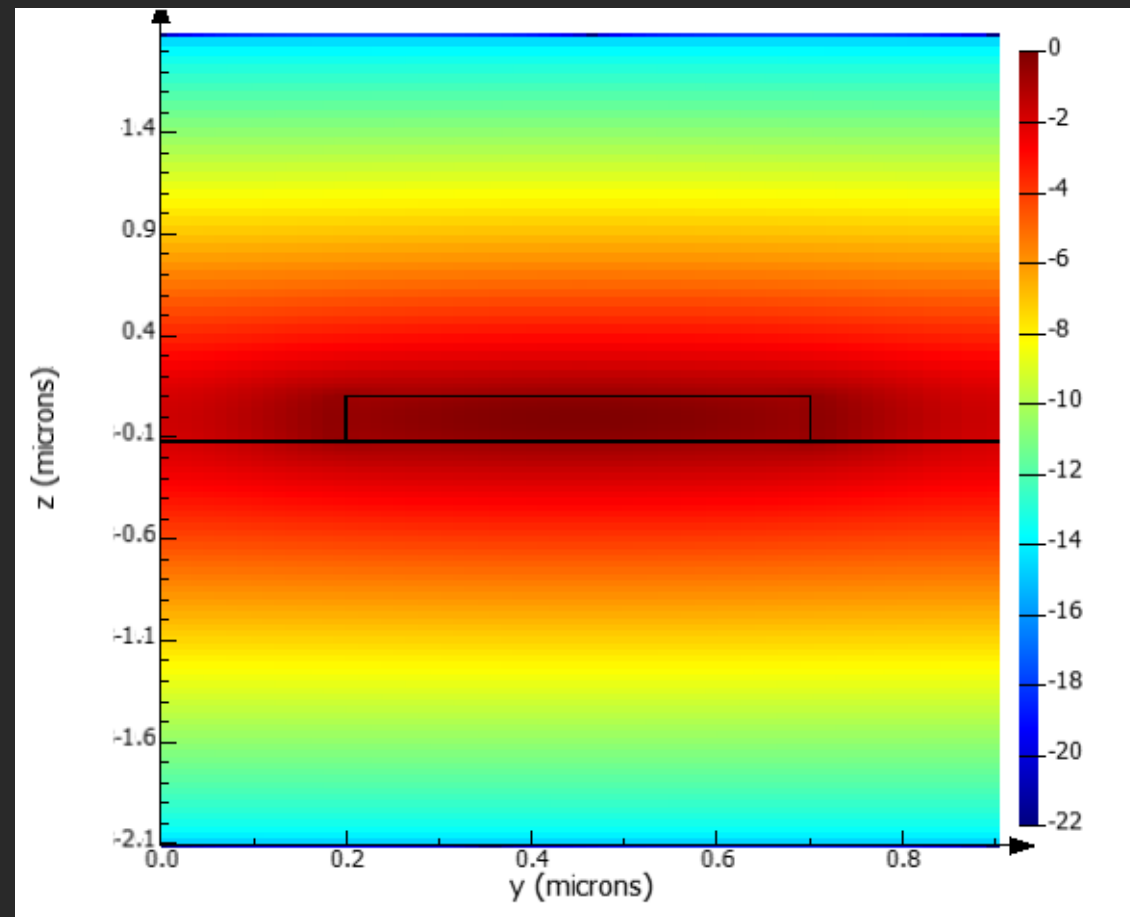
Design do MMI

O design tem como base guias de 450 X 220 nm, em chips do tipo SOI, as dimensoes do MMI foram extraidas do trabalho



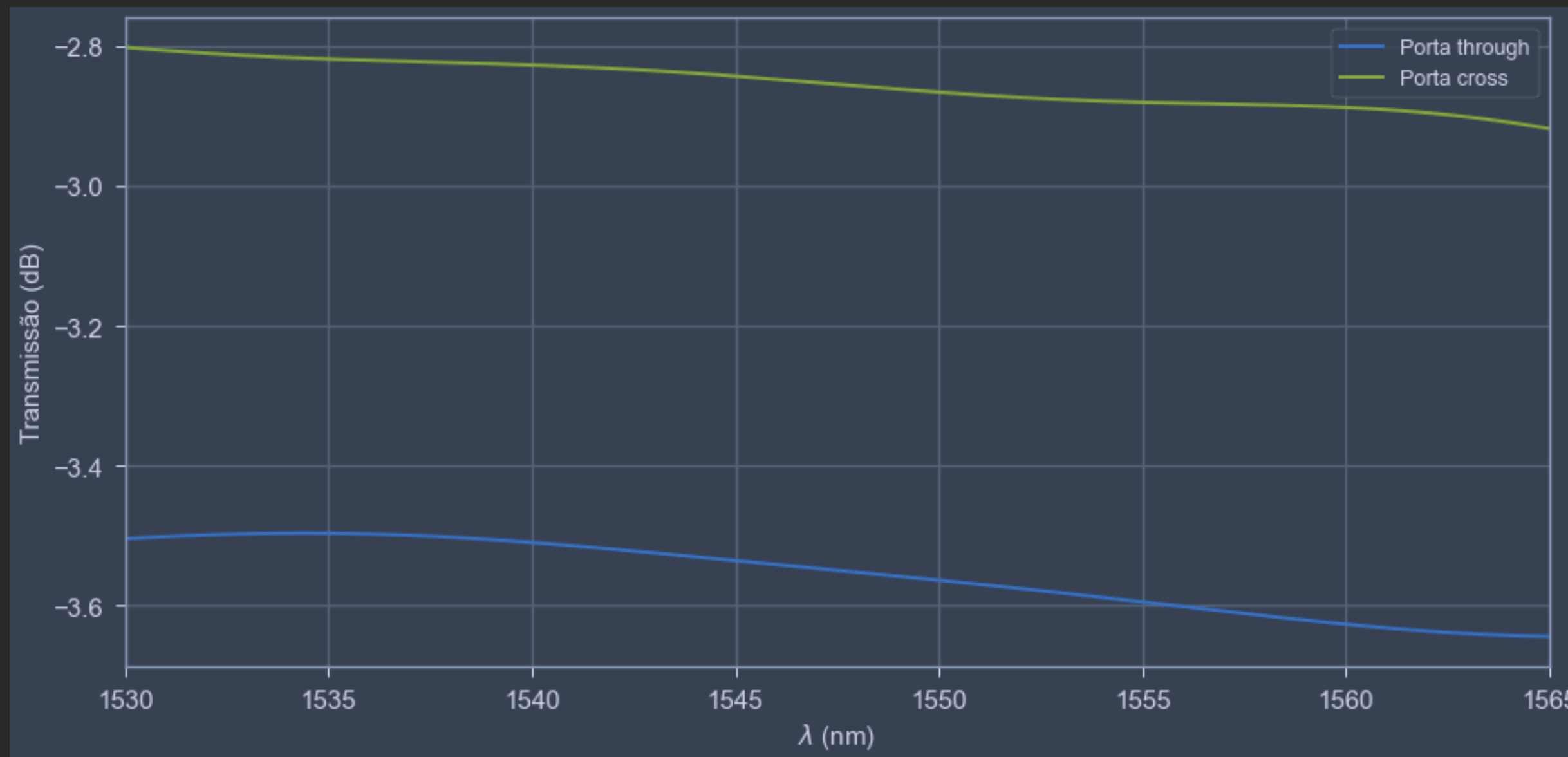
Design dos componentes

Análise do campo na simulação



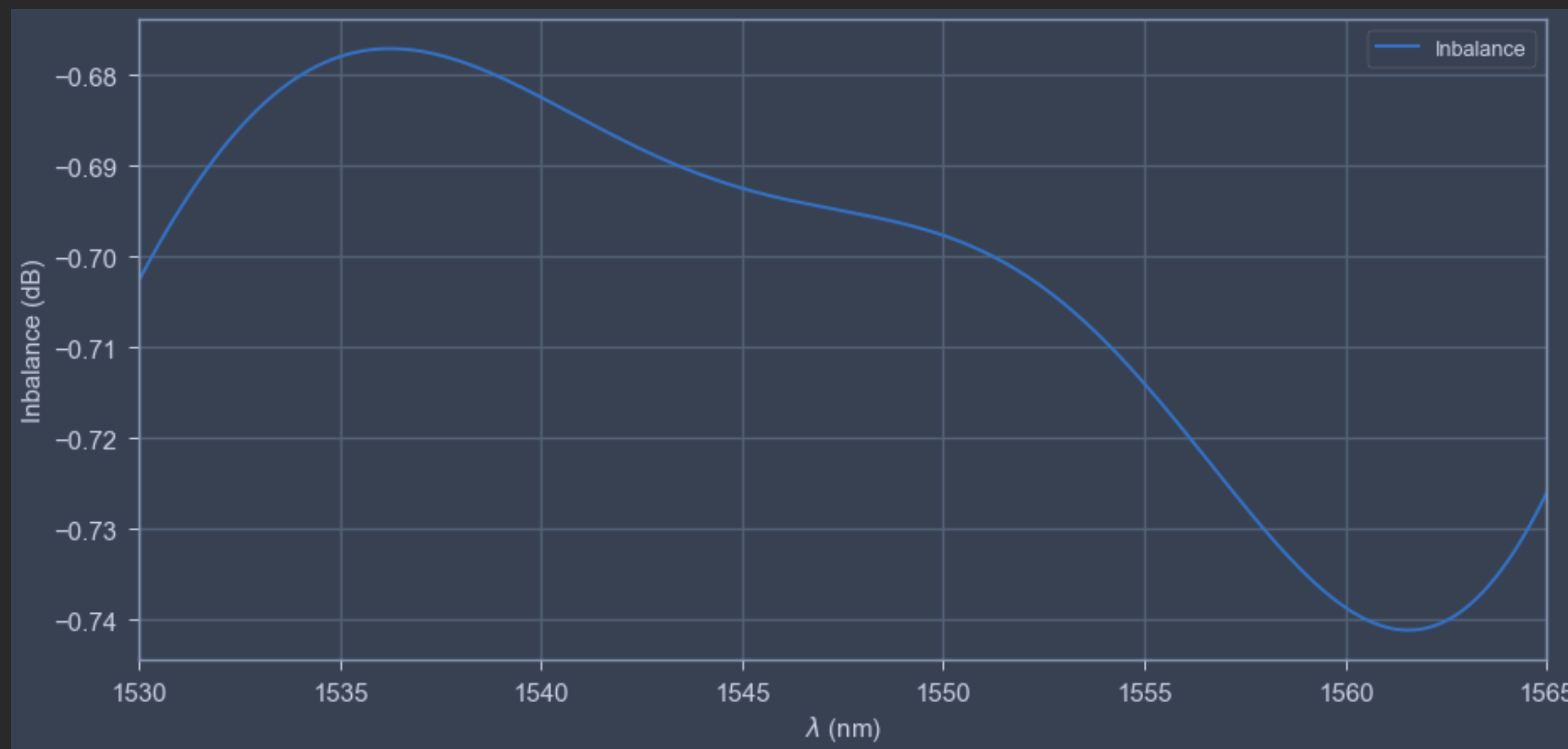
Design dos componentes

Resultados



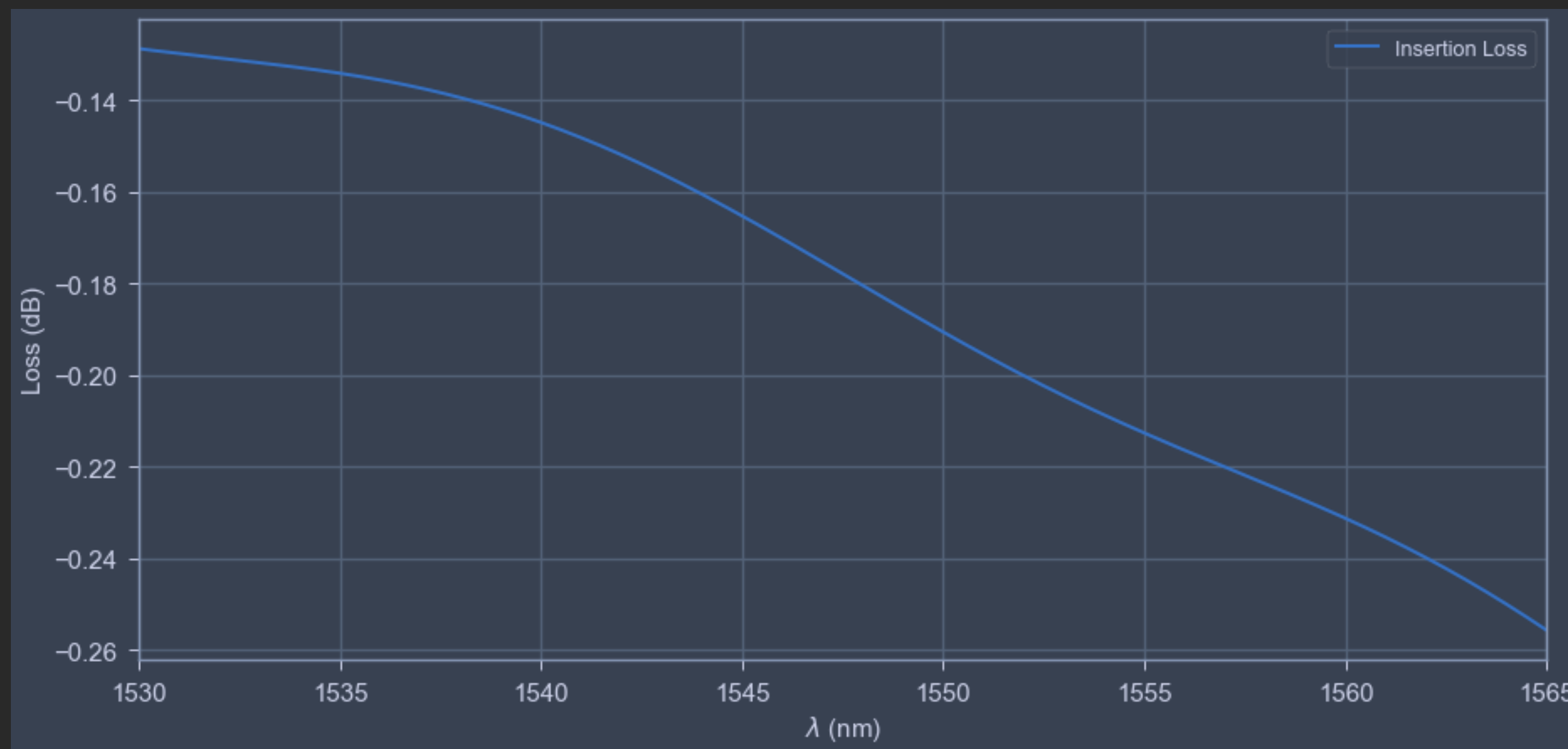
Design dos componentes

Resultados



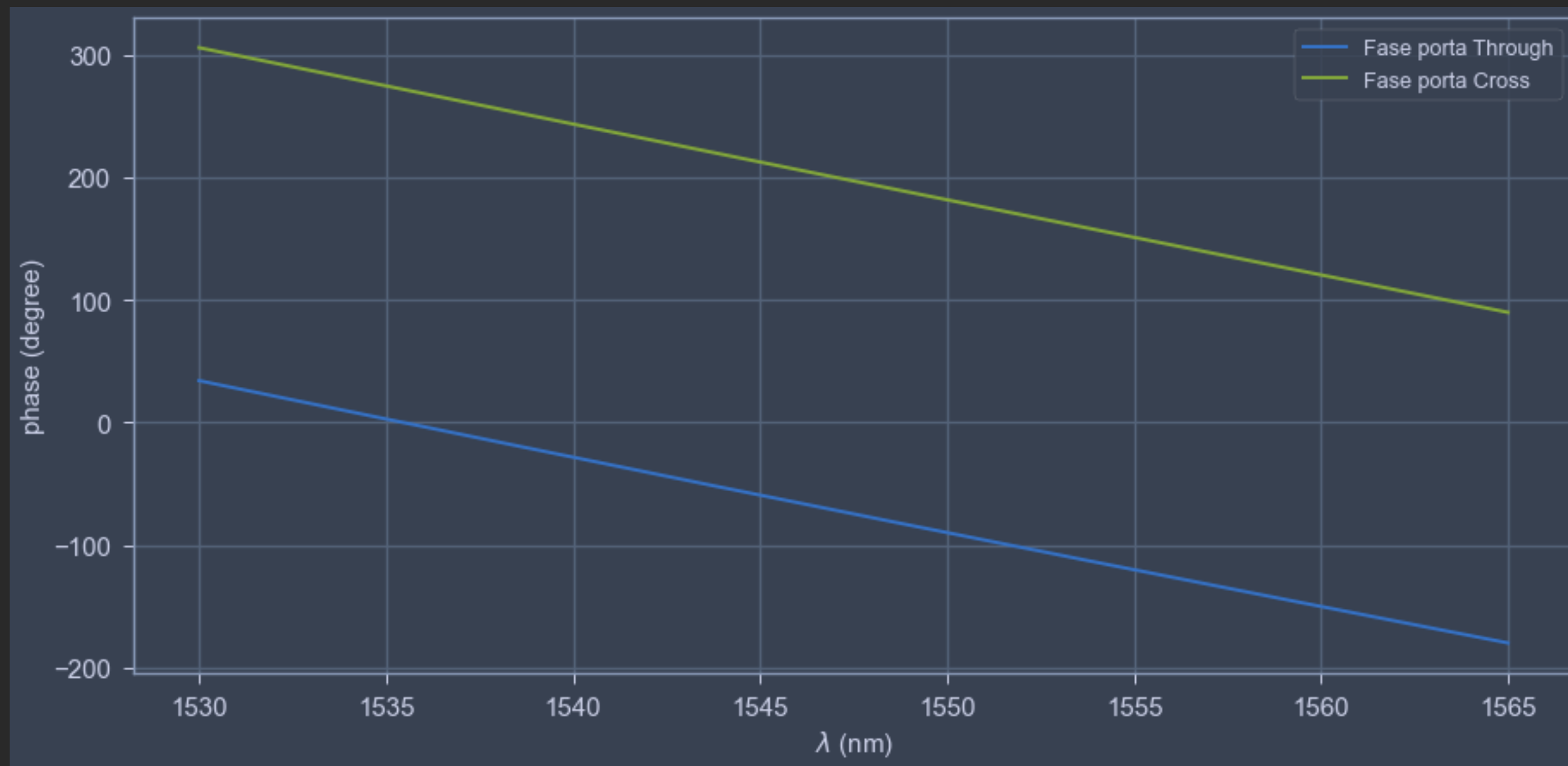
Design dos componentes

Resultados



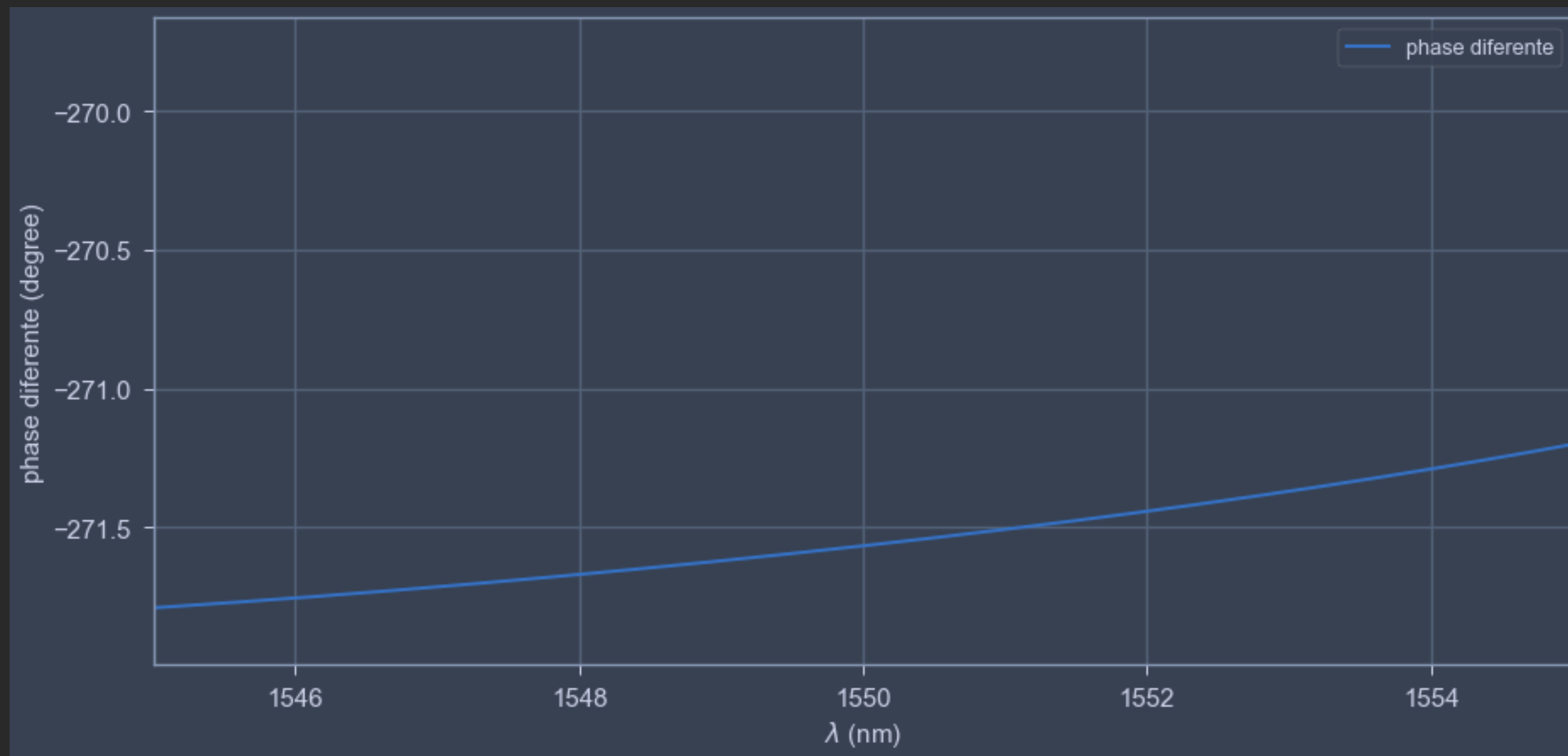
Design dos componentes

Resultados



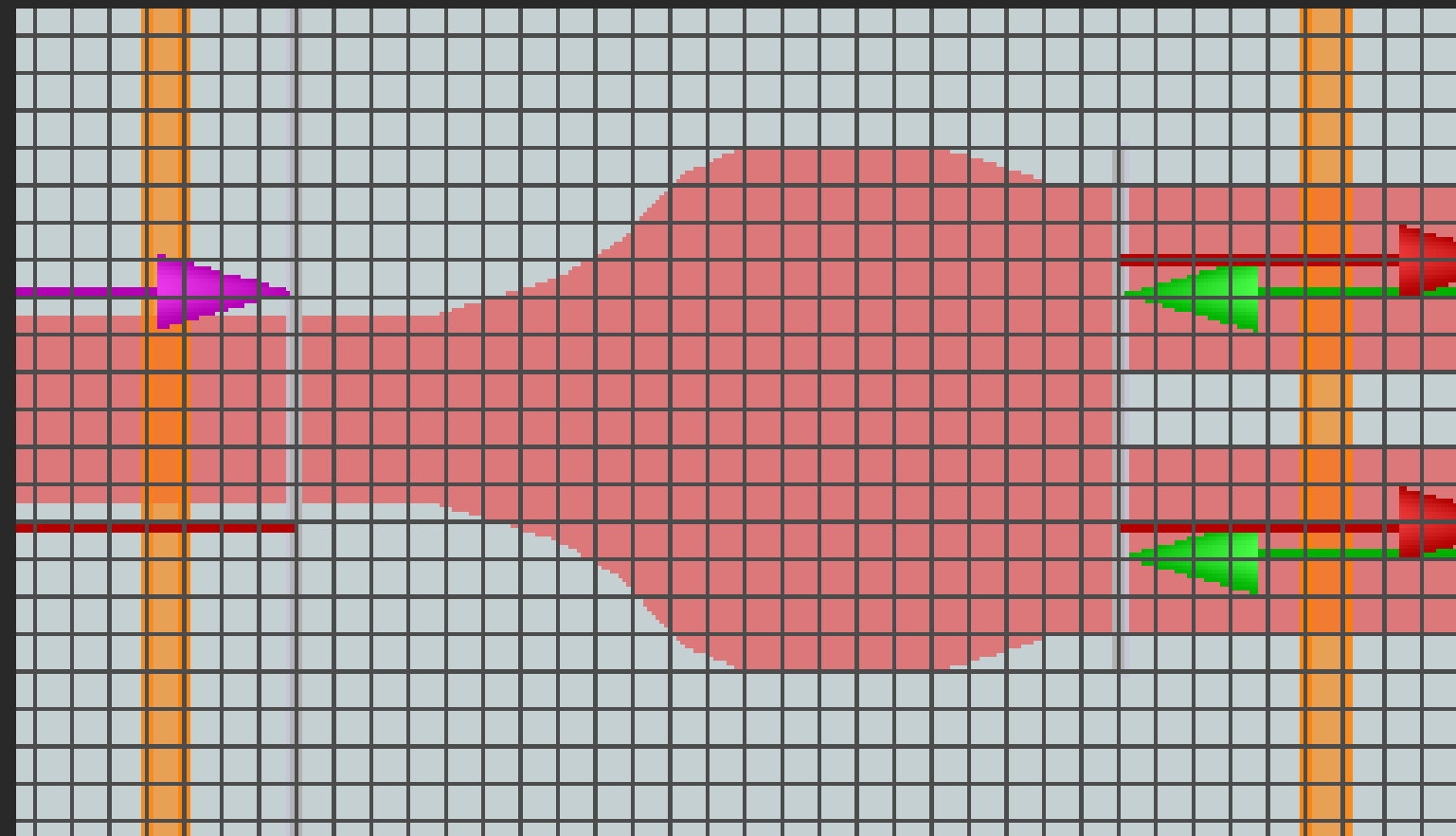
Design dos componentes

Resultados



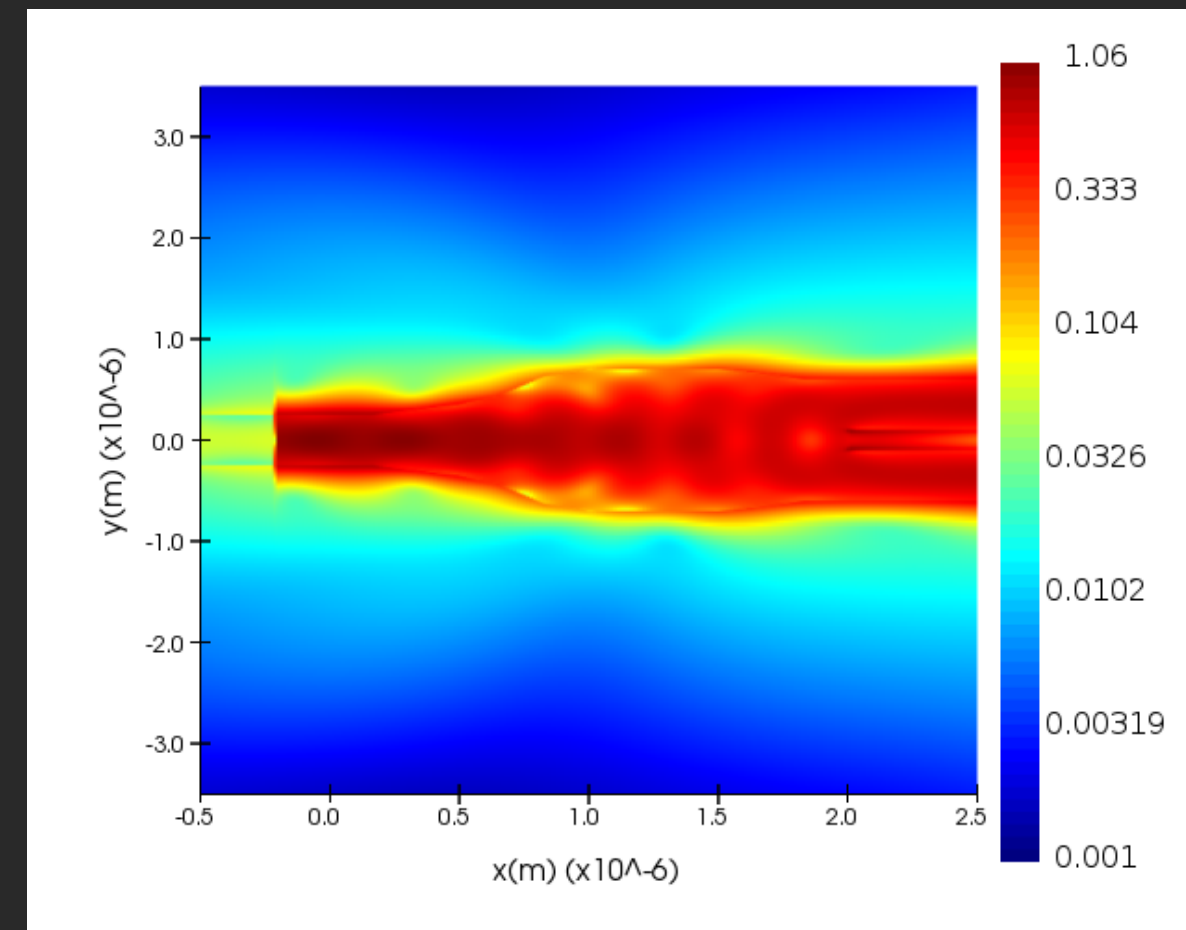
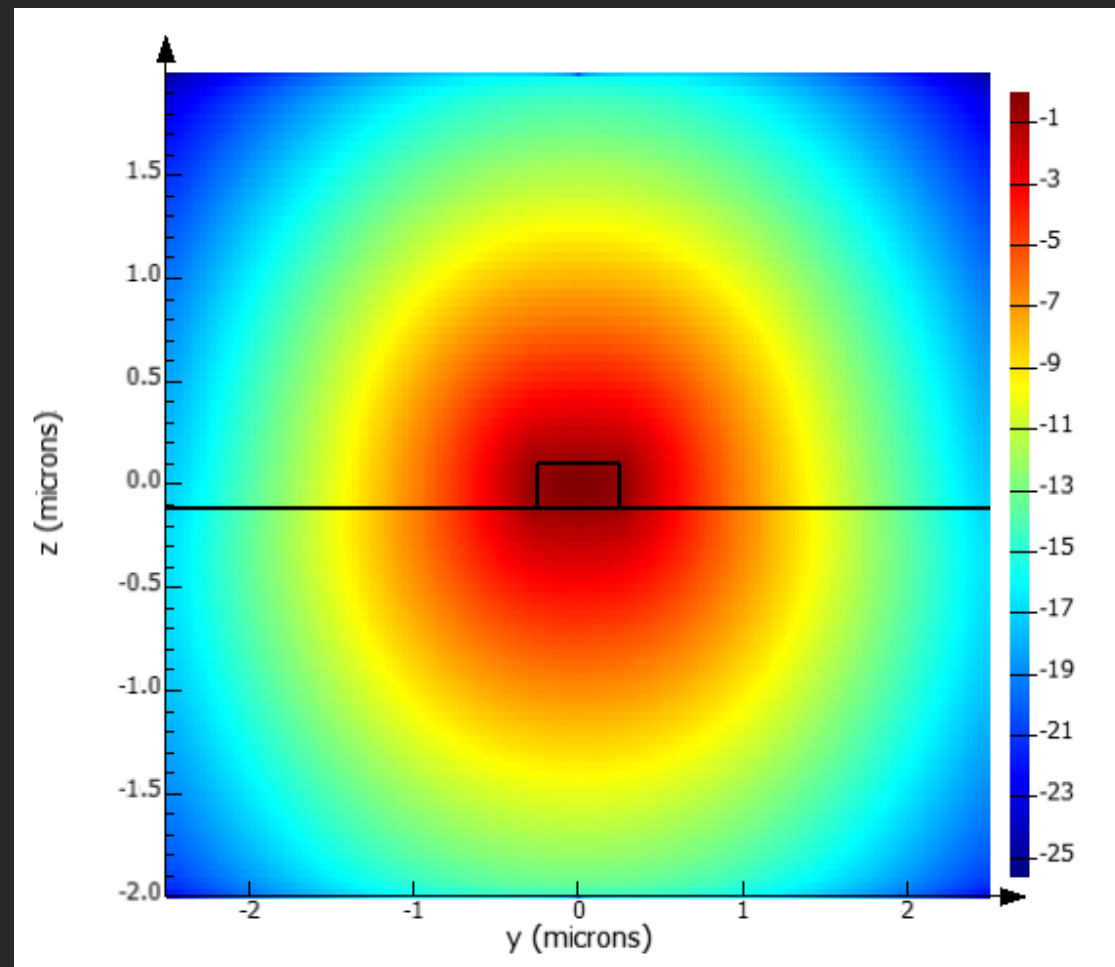
Design dos componentes

Design do Ybranch



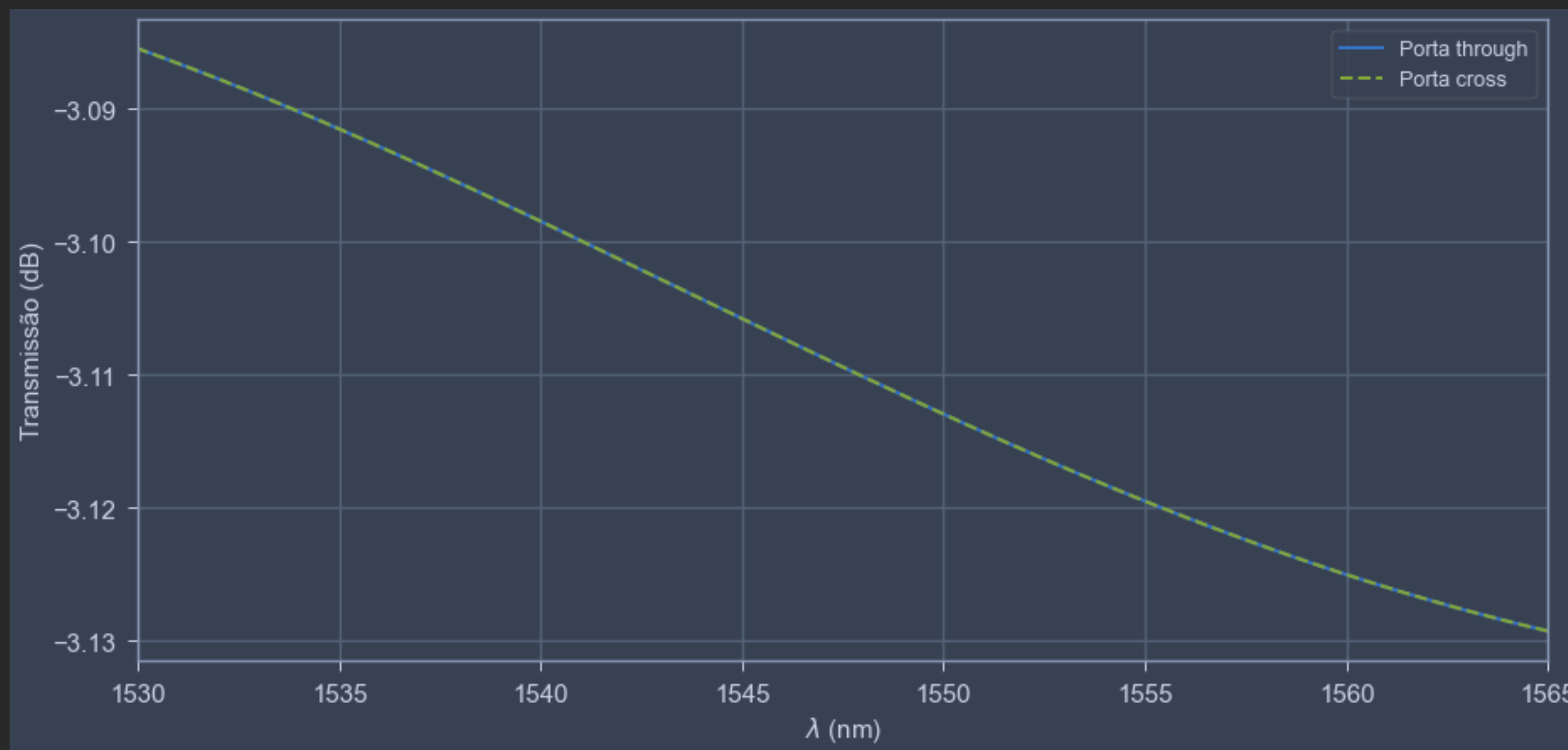
Design dos componentes

Design do Ybranch



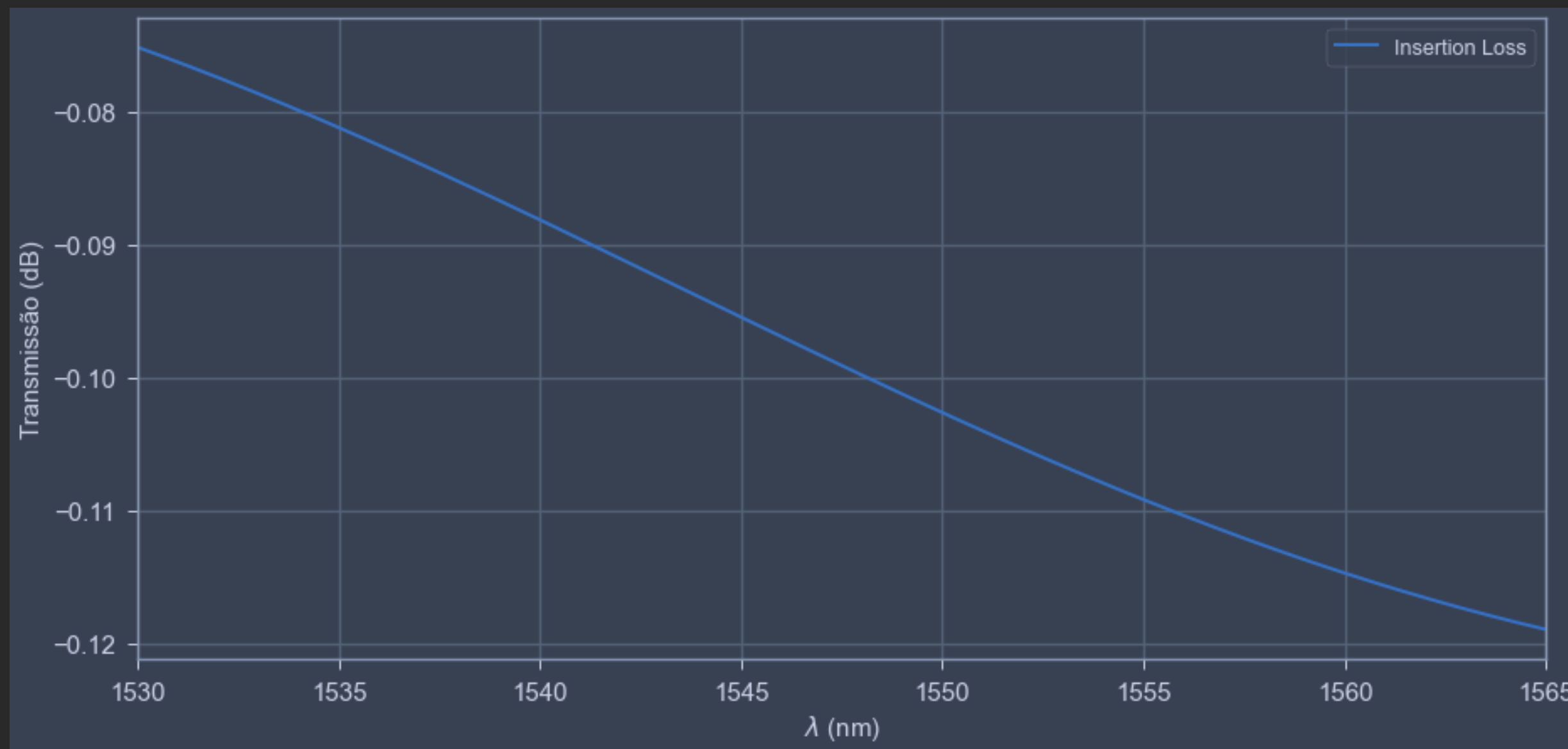
Design dos componentes

Resultados



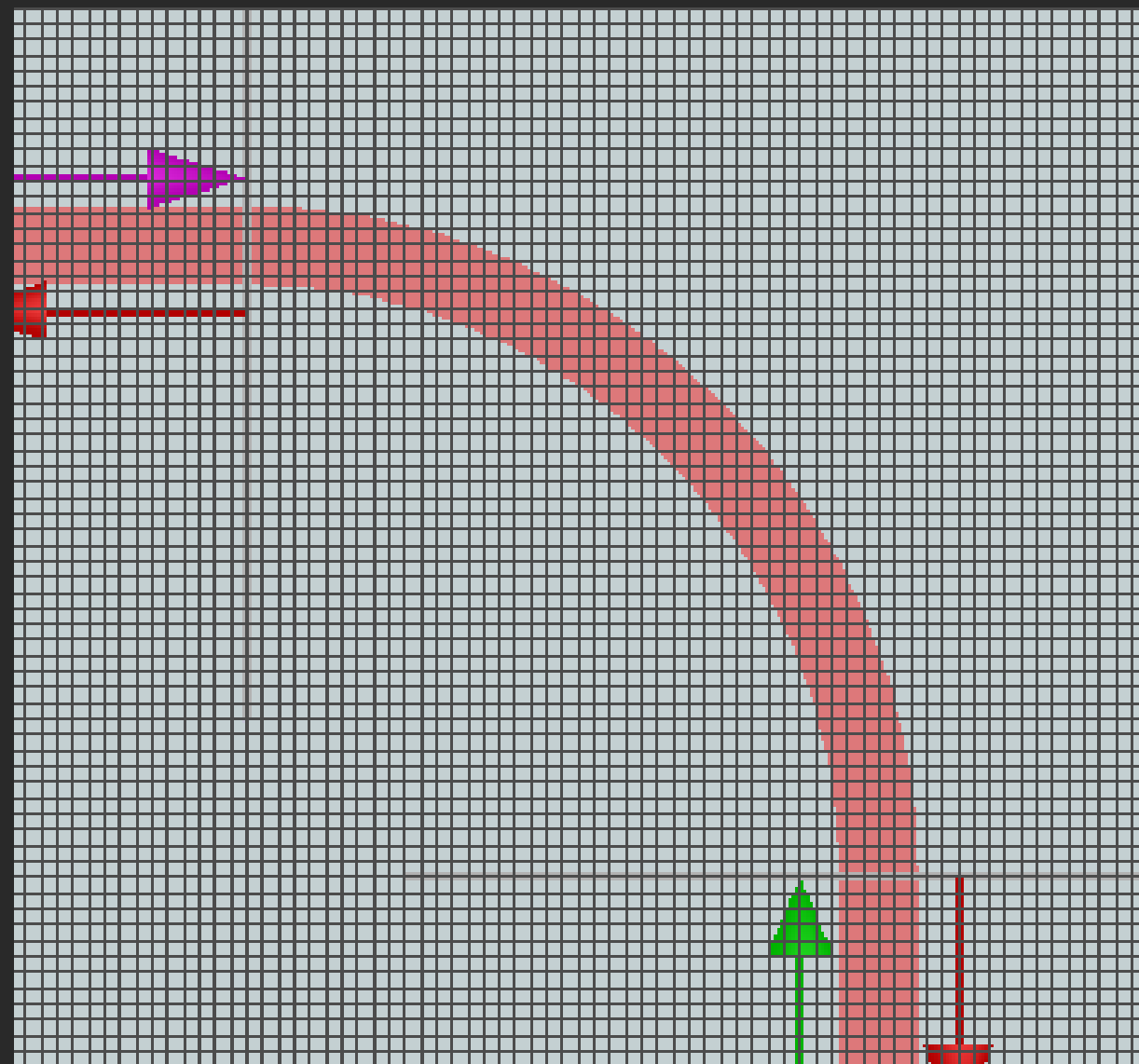
Design dos componentes

Resultados



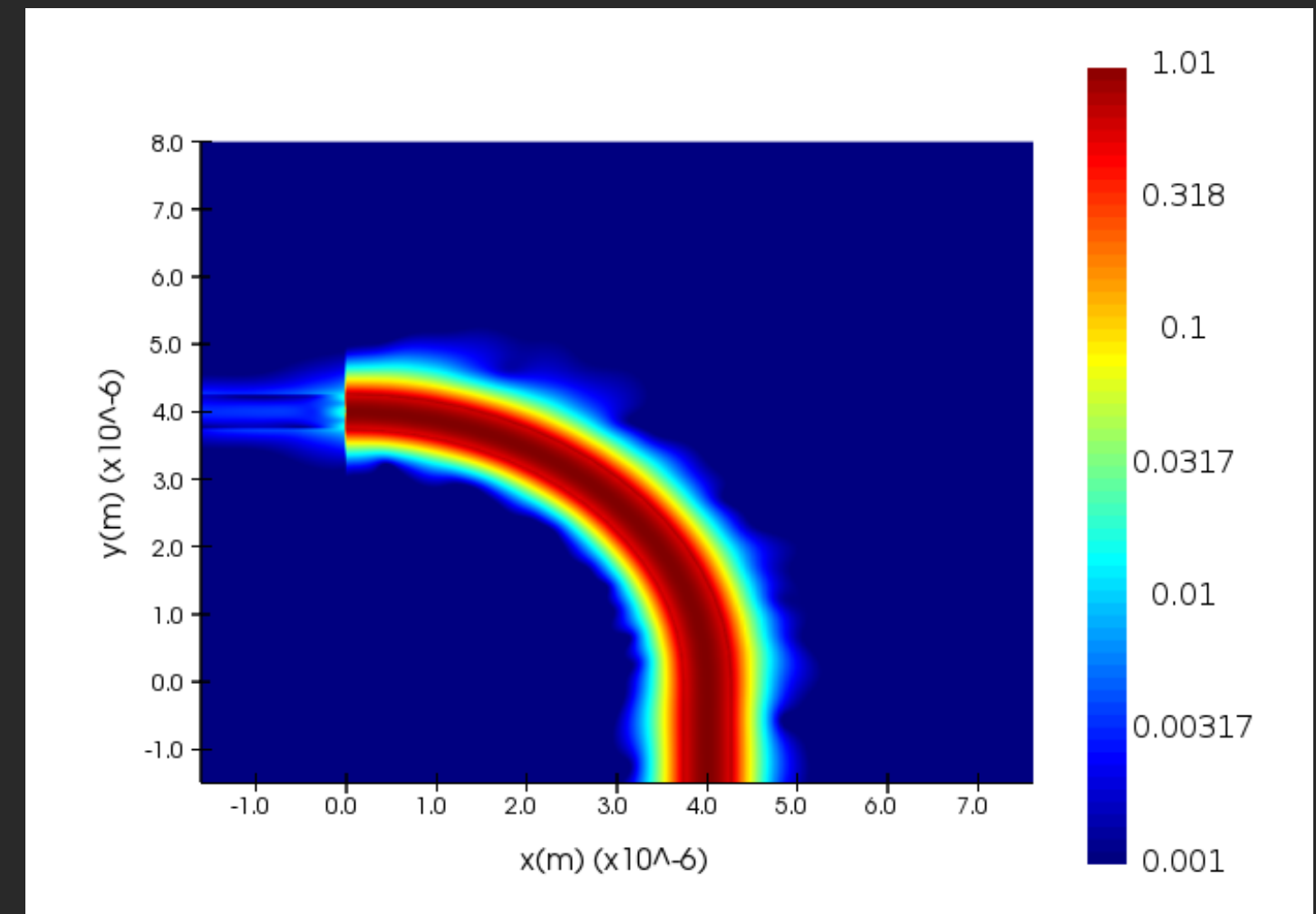
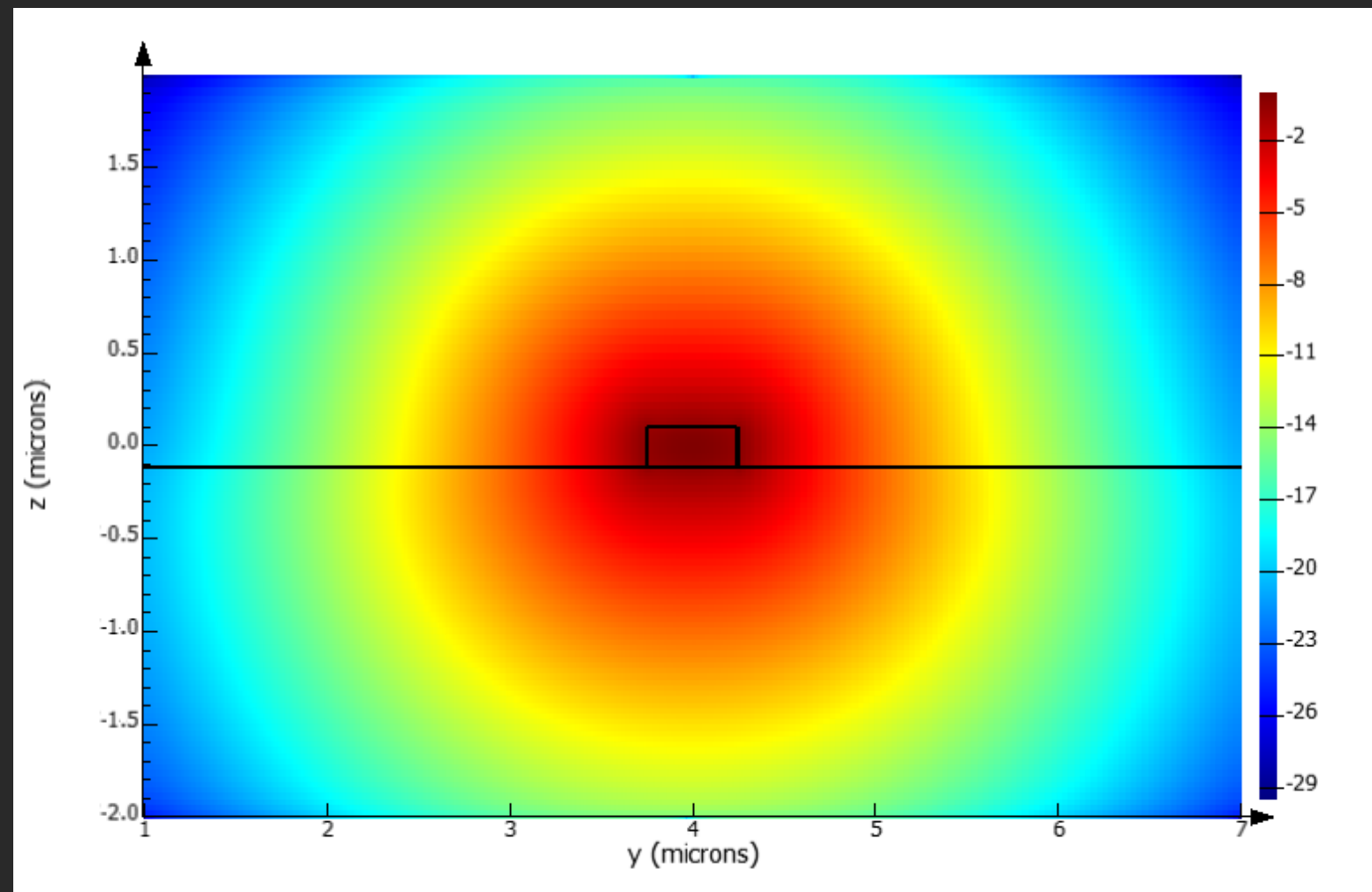
Design dos componentes

Design do Bend



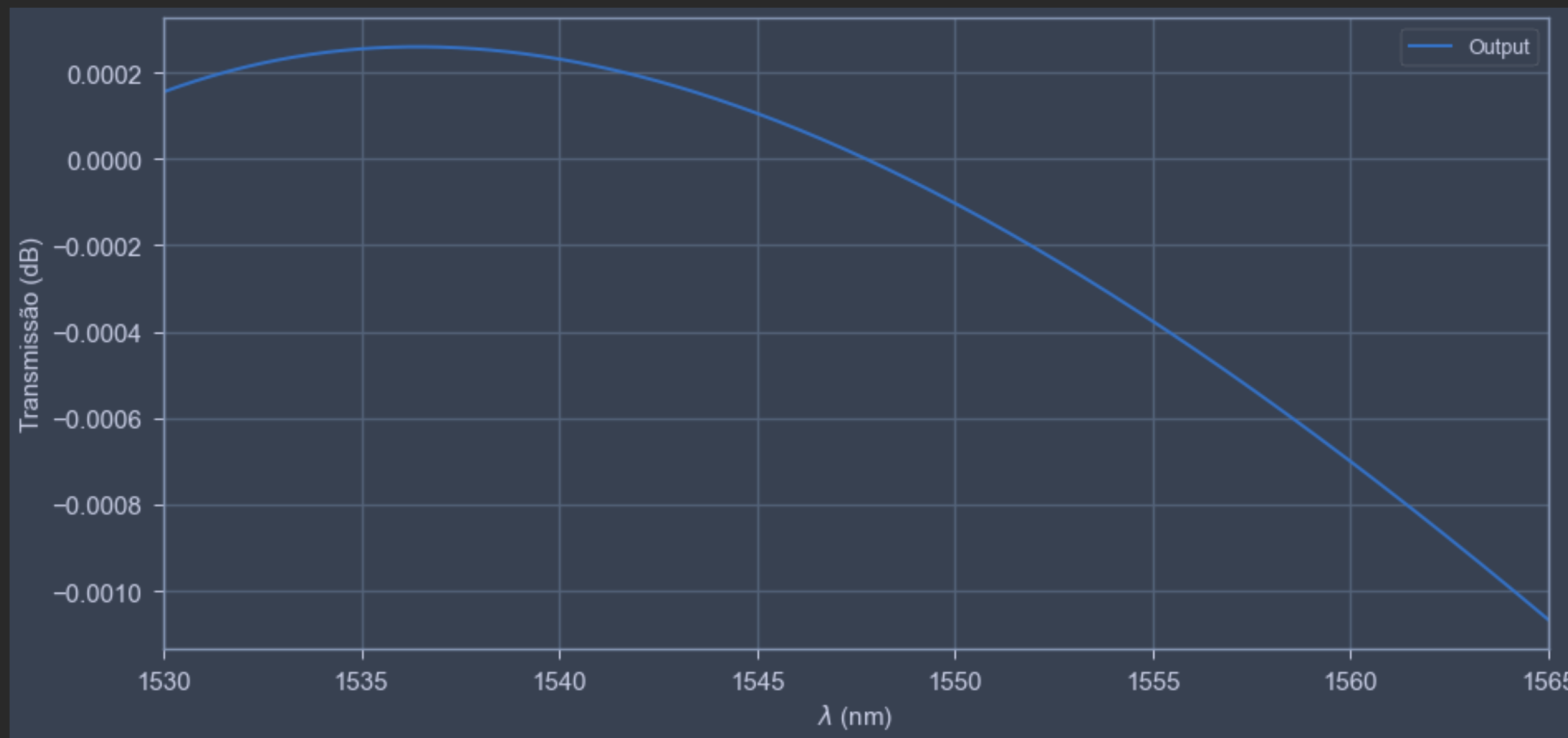
Design dos componentes

Análise do campo na simulação



Design dos componentes

Resultados

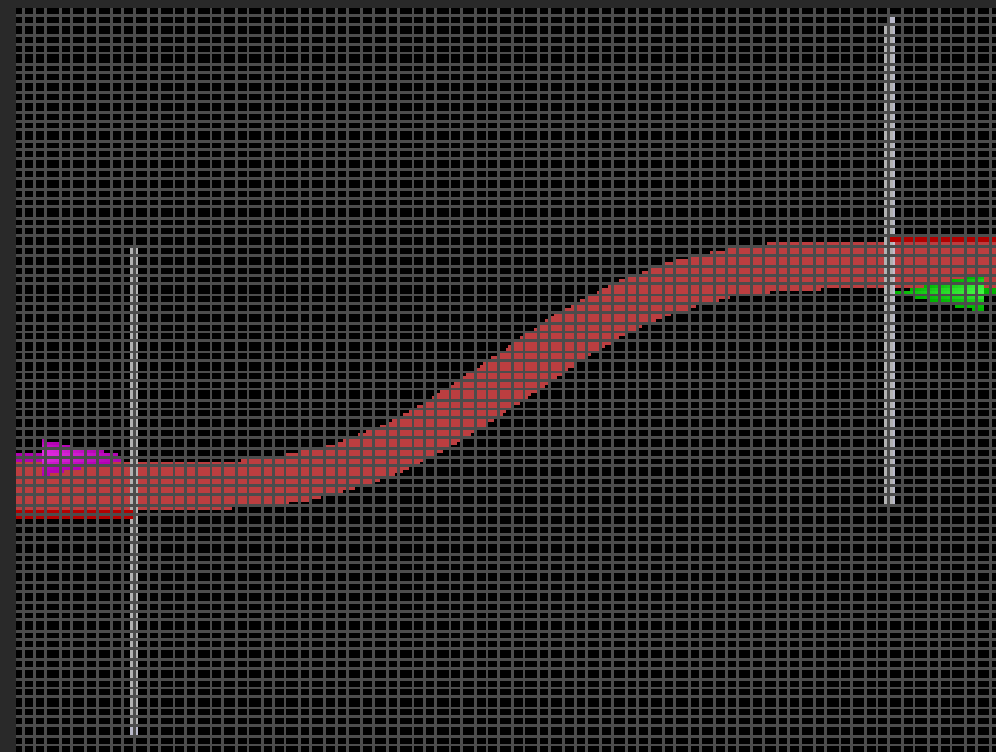


Design dos componentes

Design Buried

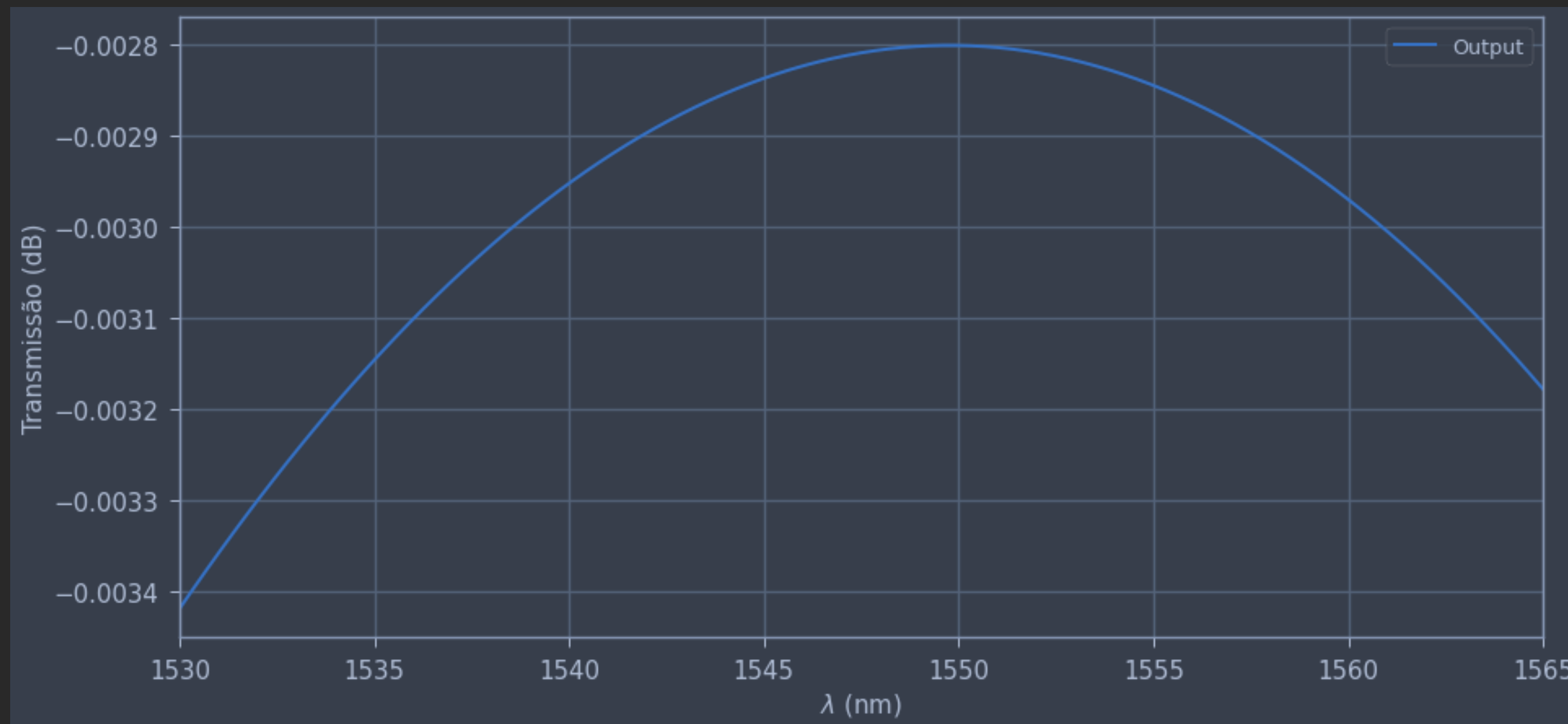
Design dos componentes

Adição do S-bend no MMI



Design dos componentes

Resultados



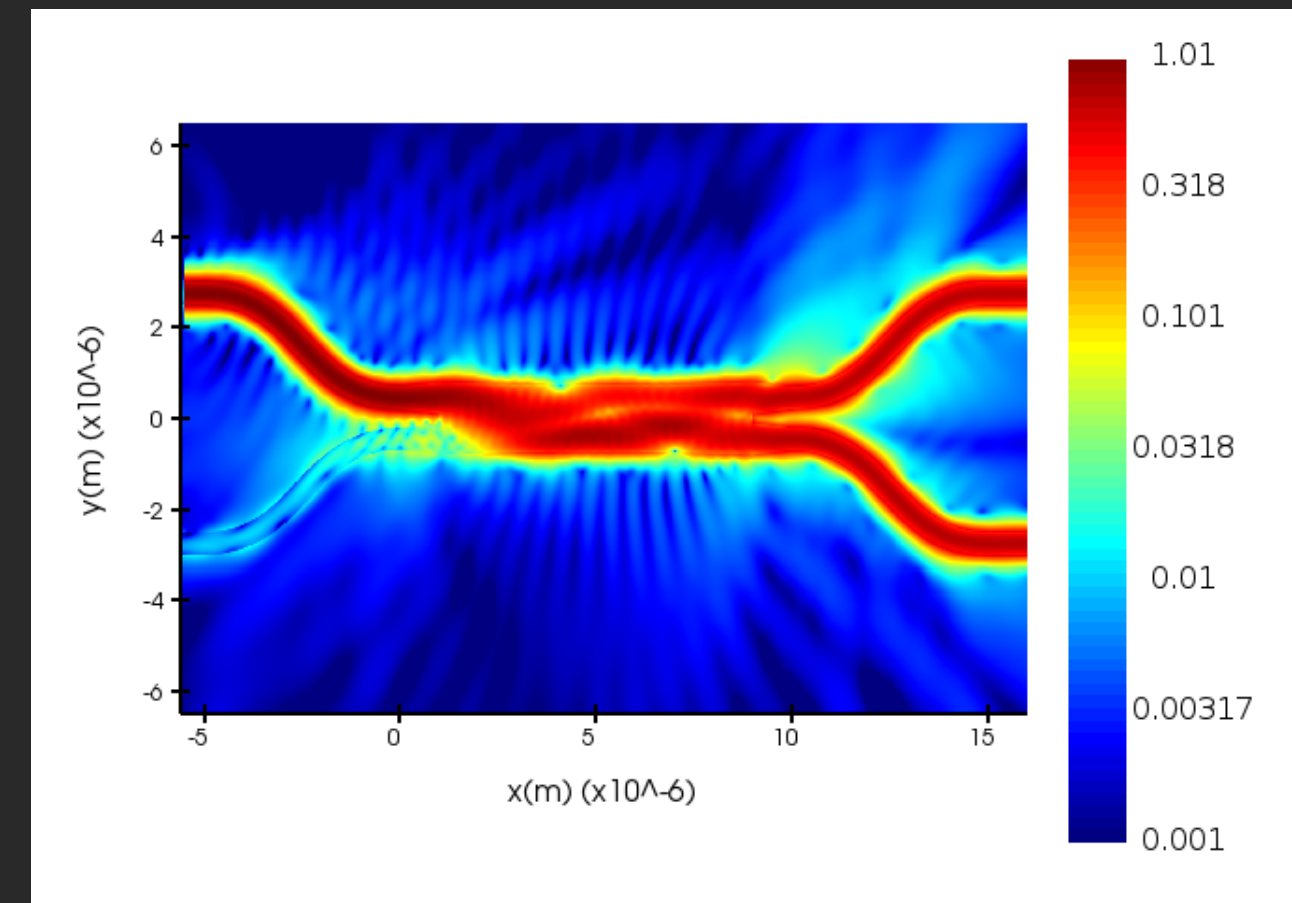
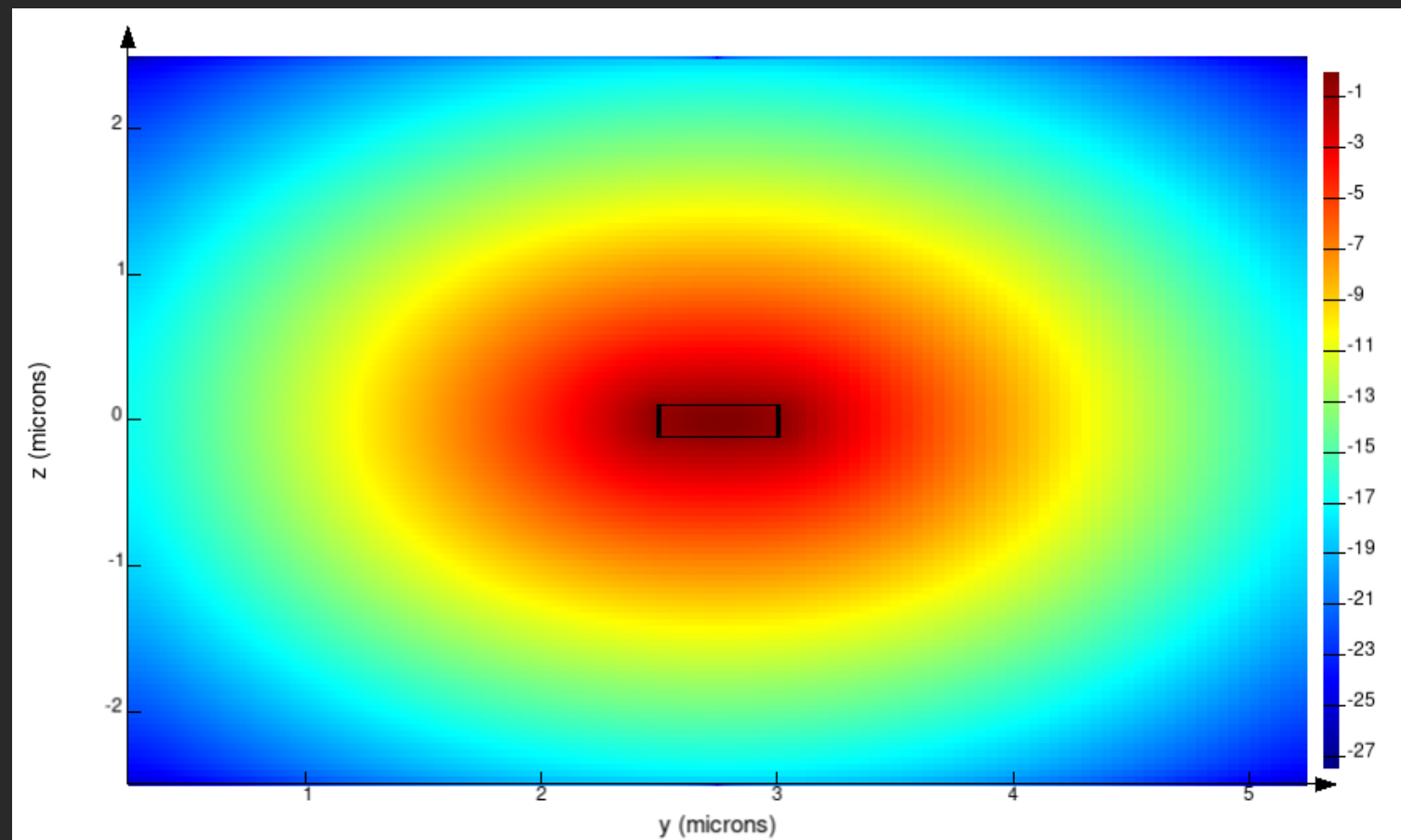
Design dos componentes

Design do MMI



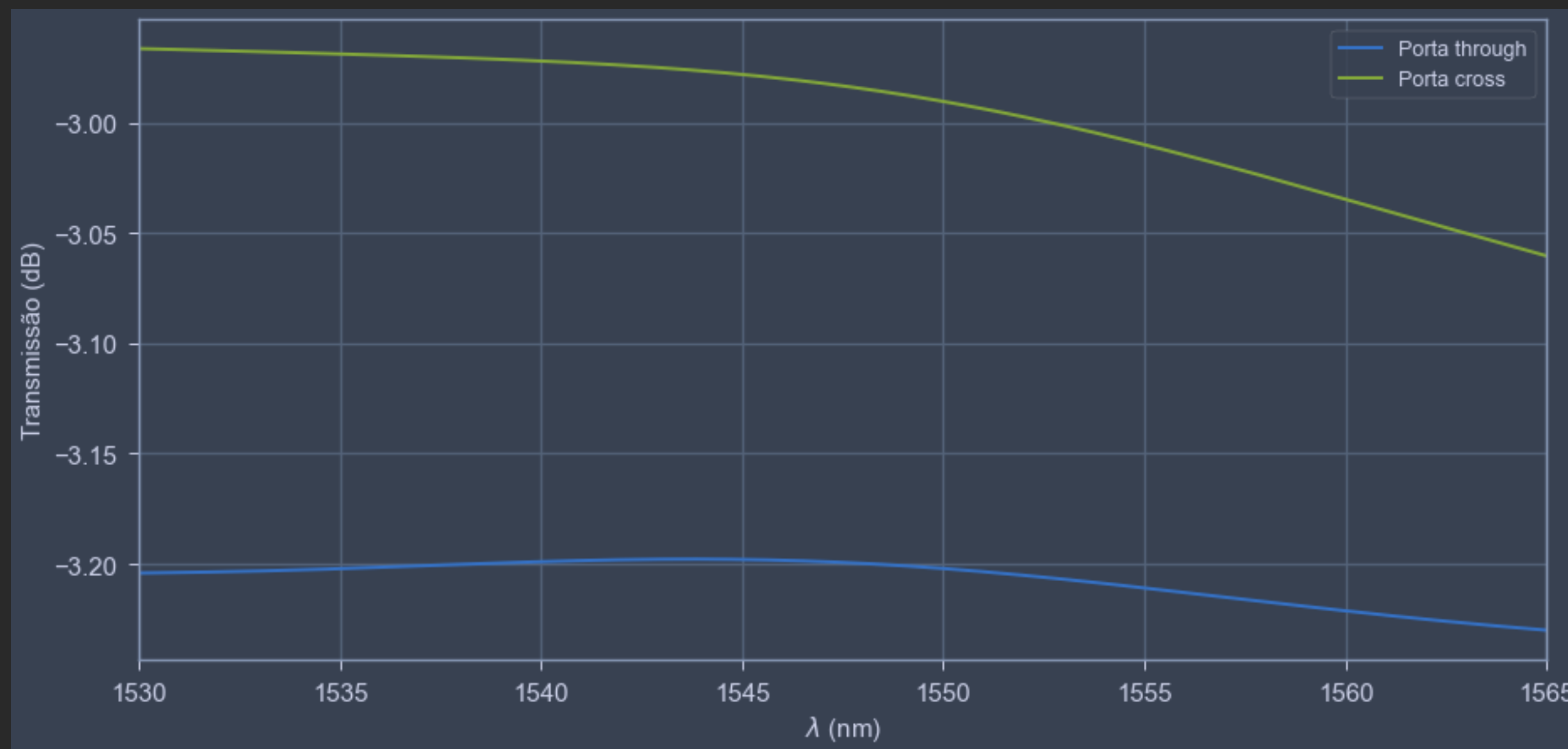
Design dos componentes

Analise do campo na simulação



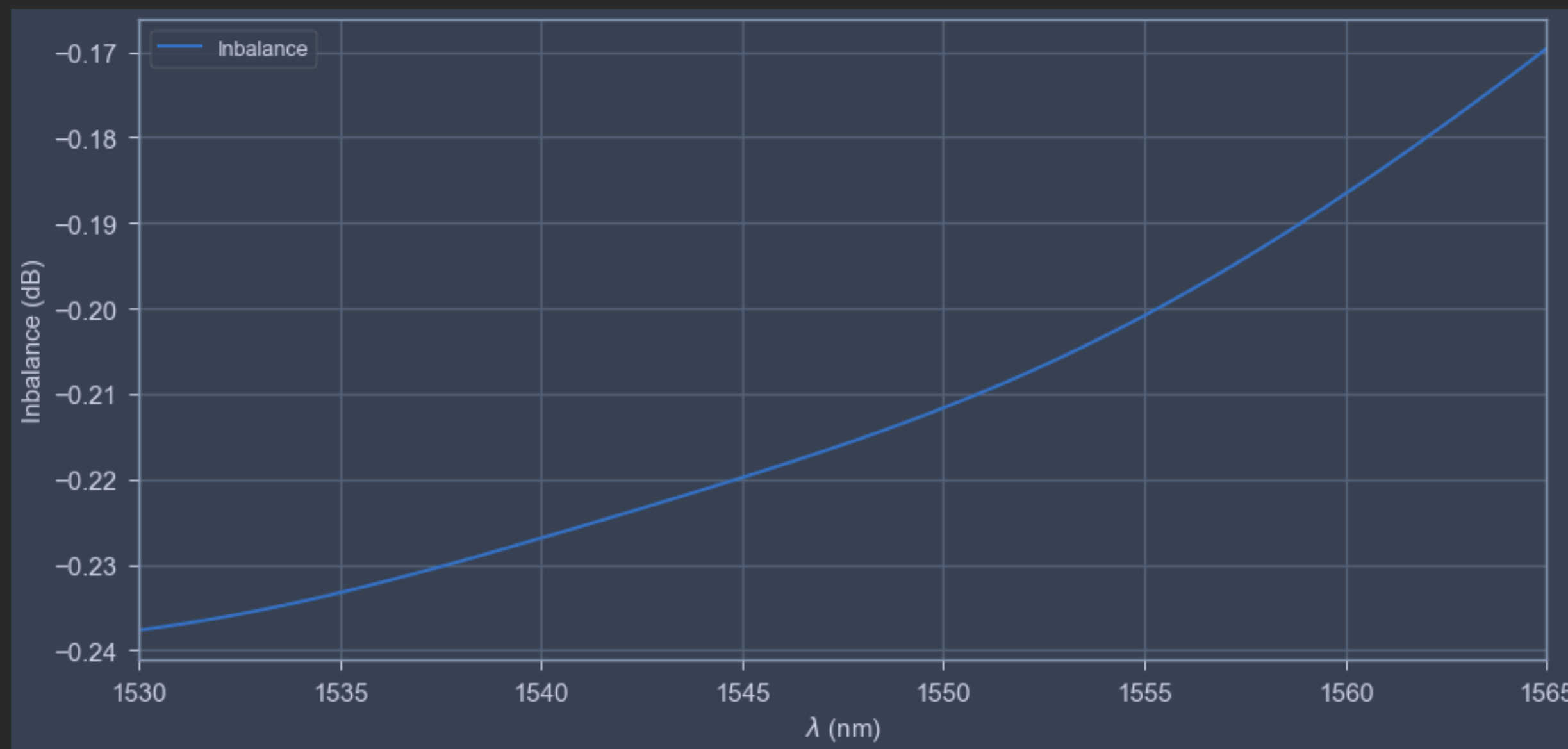
Design dos componentes

Resultados



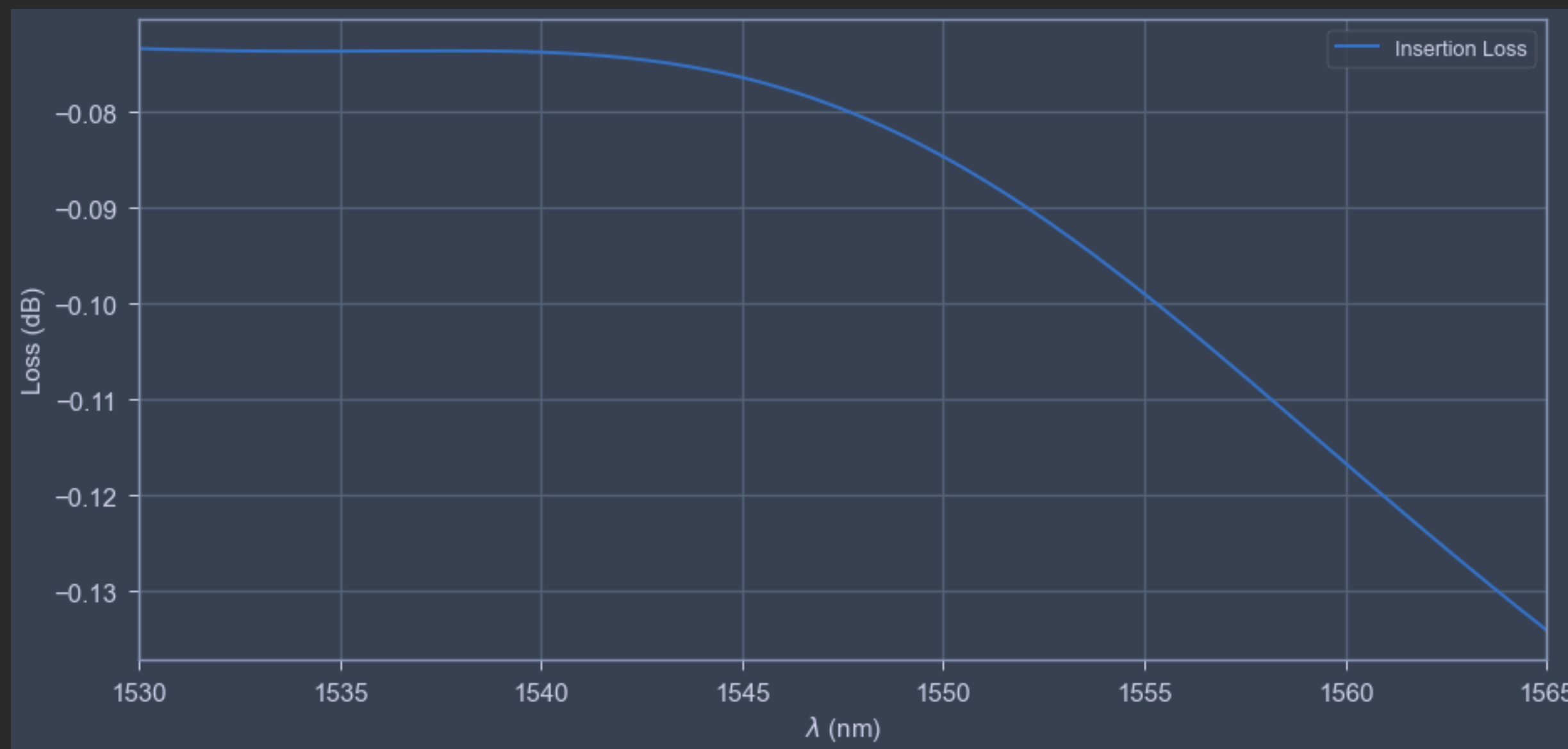
Design dos componentes

Resultados



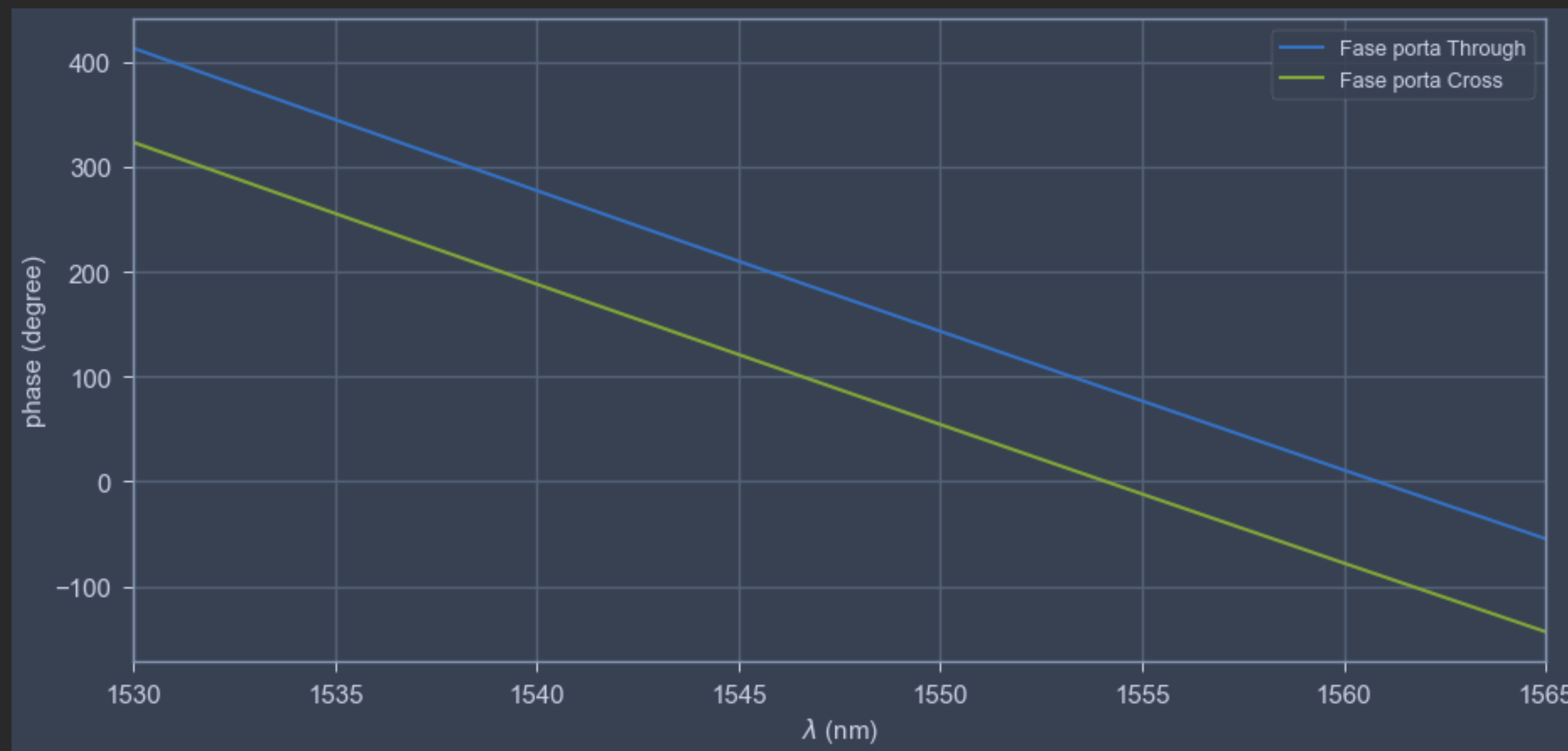
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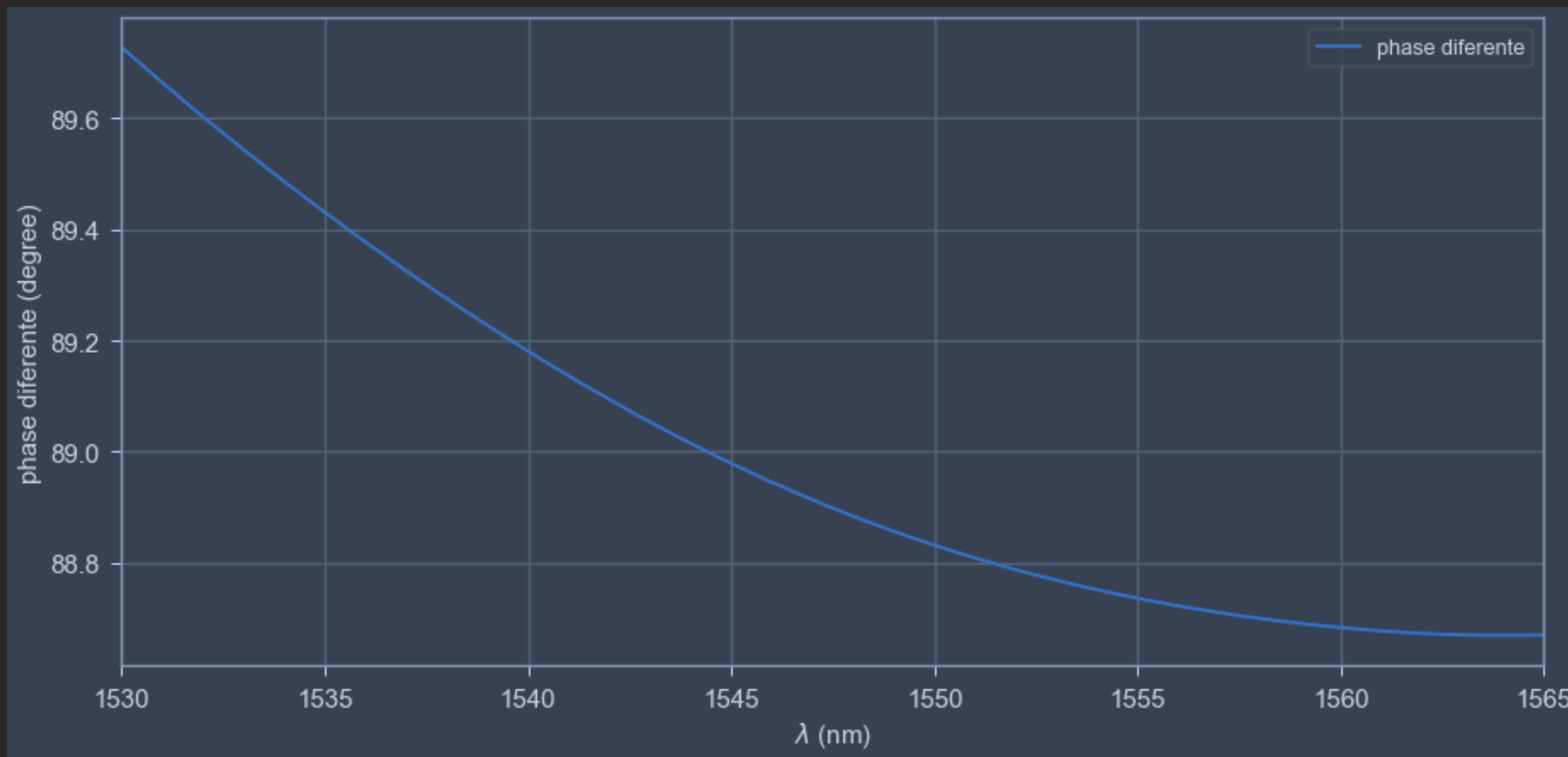
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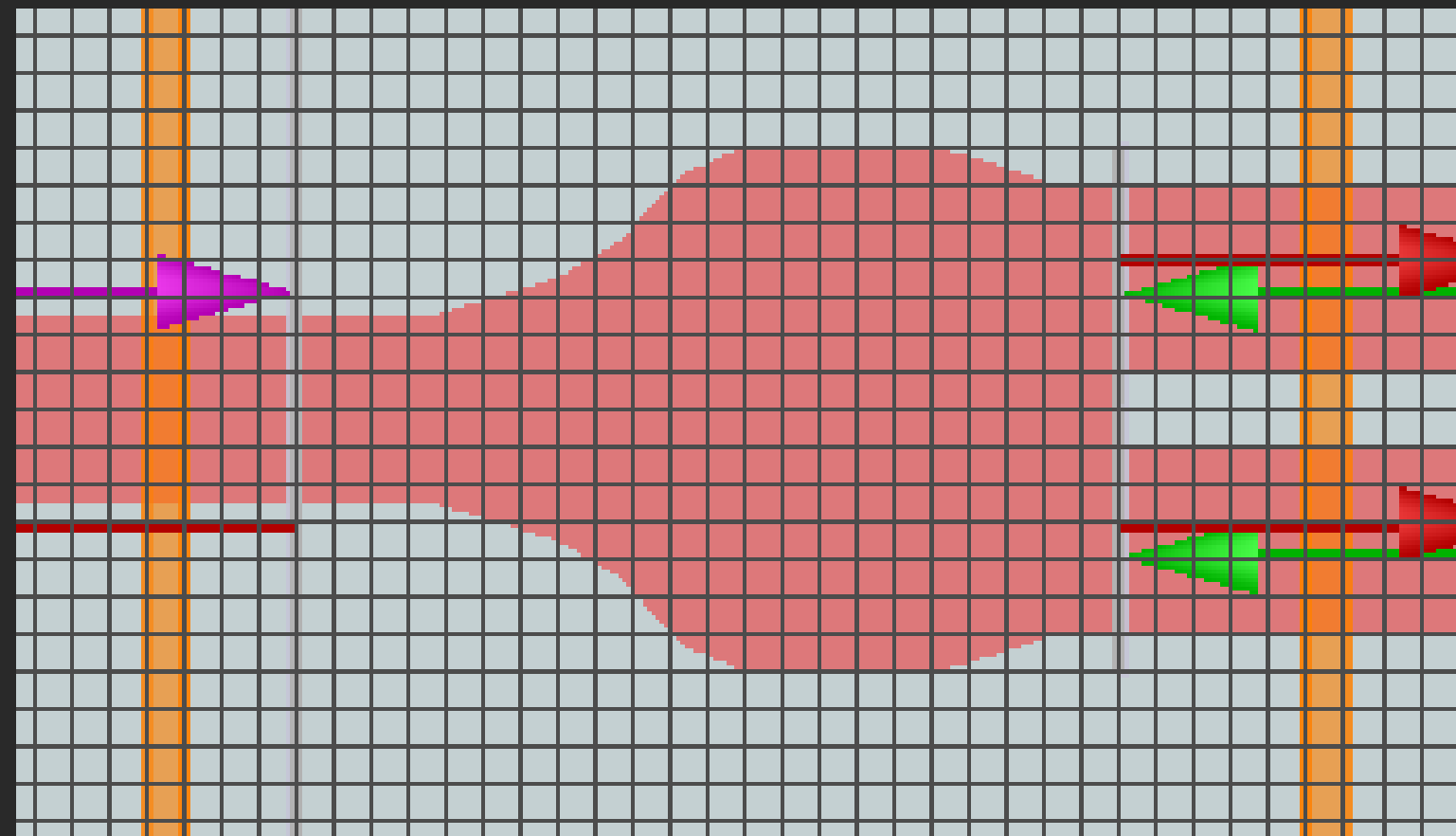
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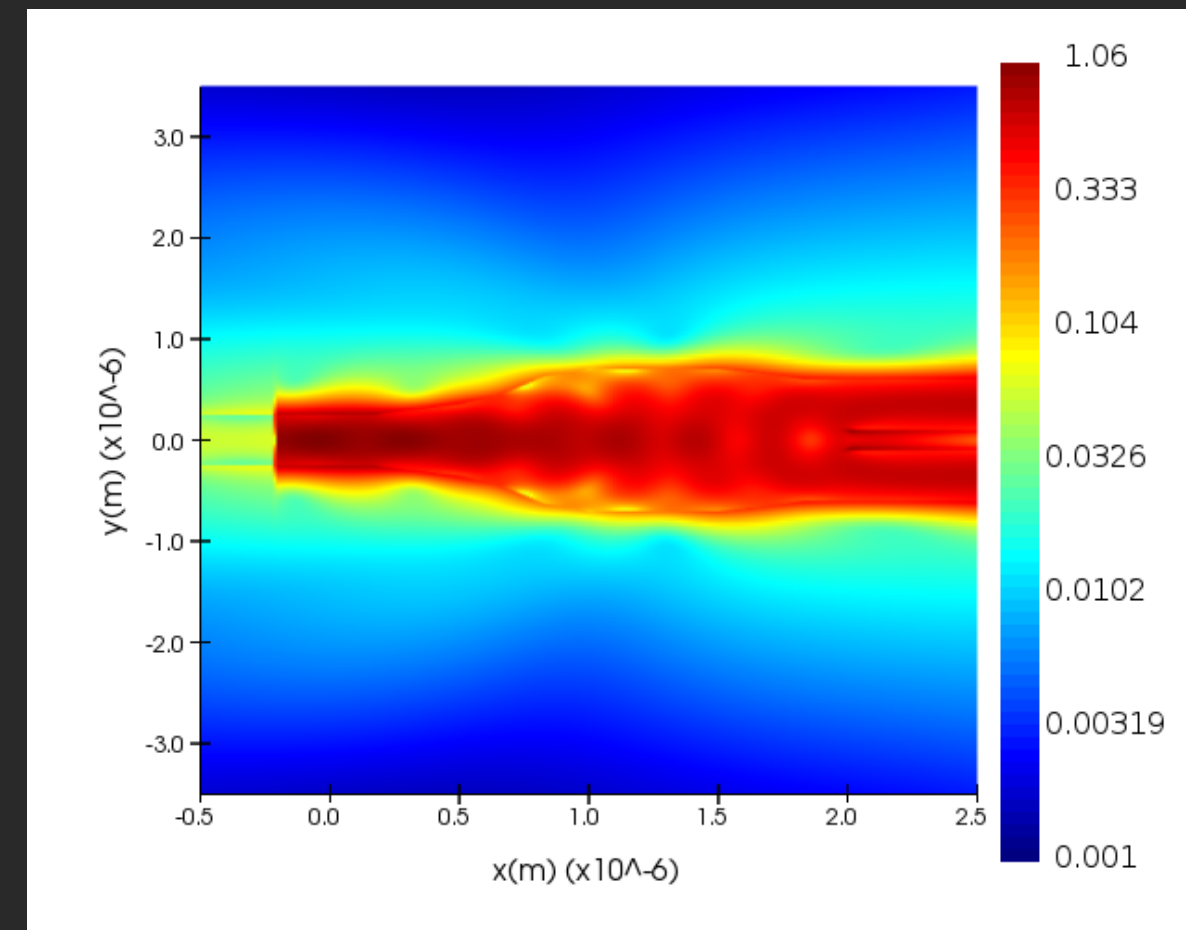
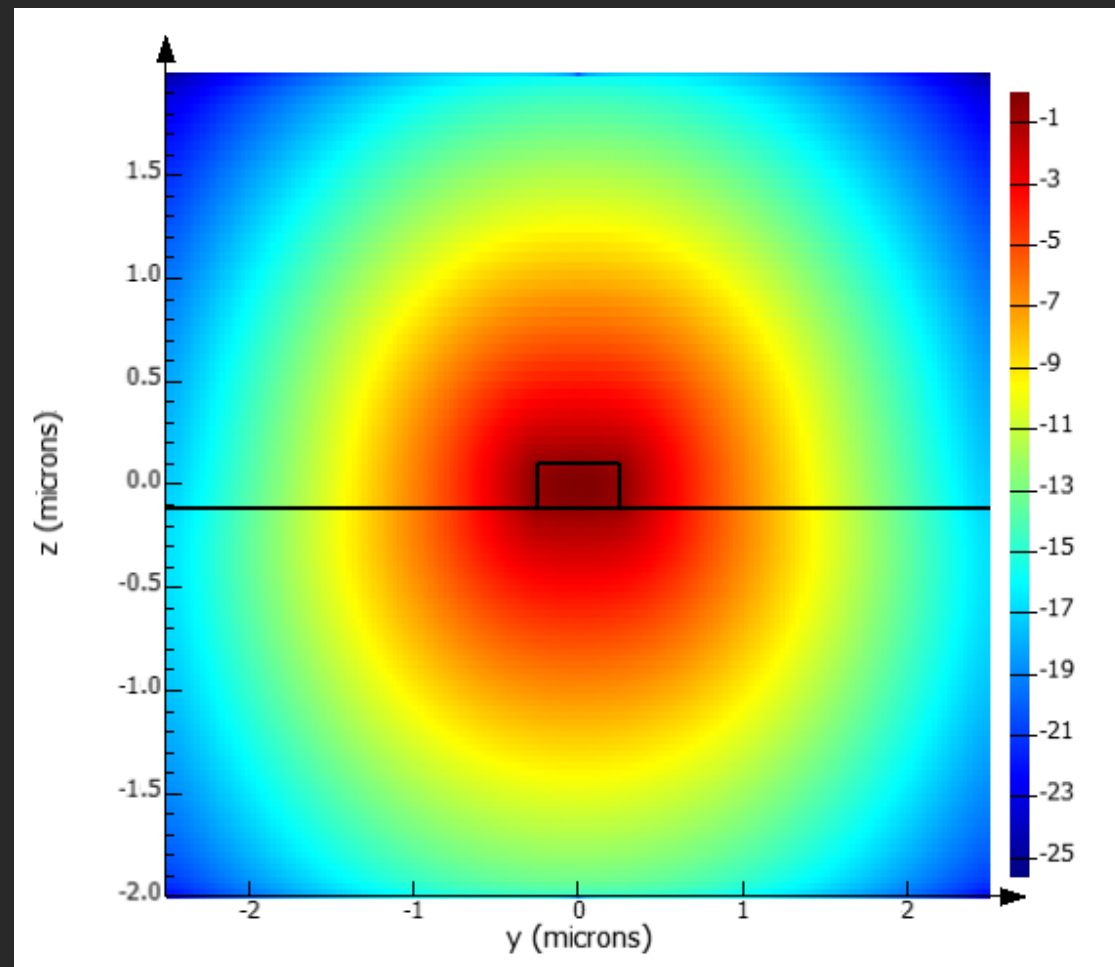
Design dos componentes

Design do Ybranch



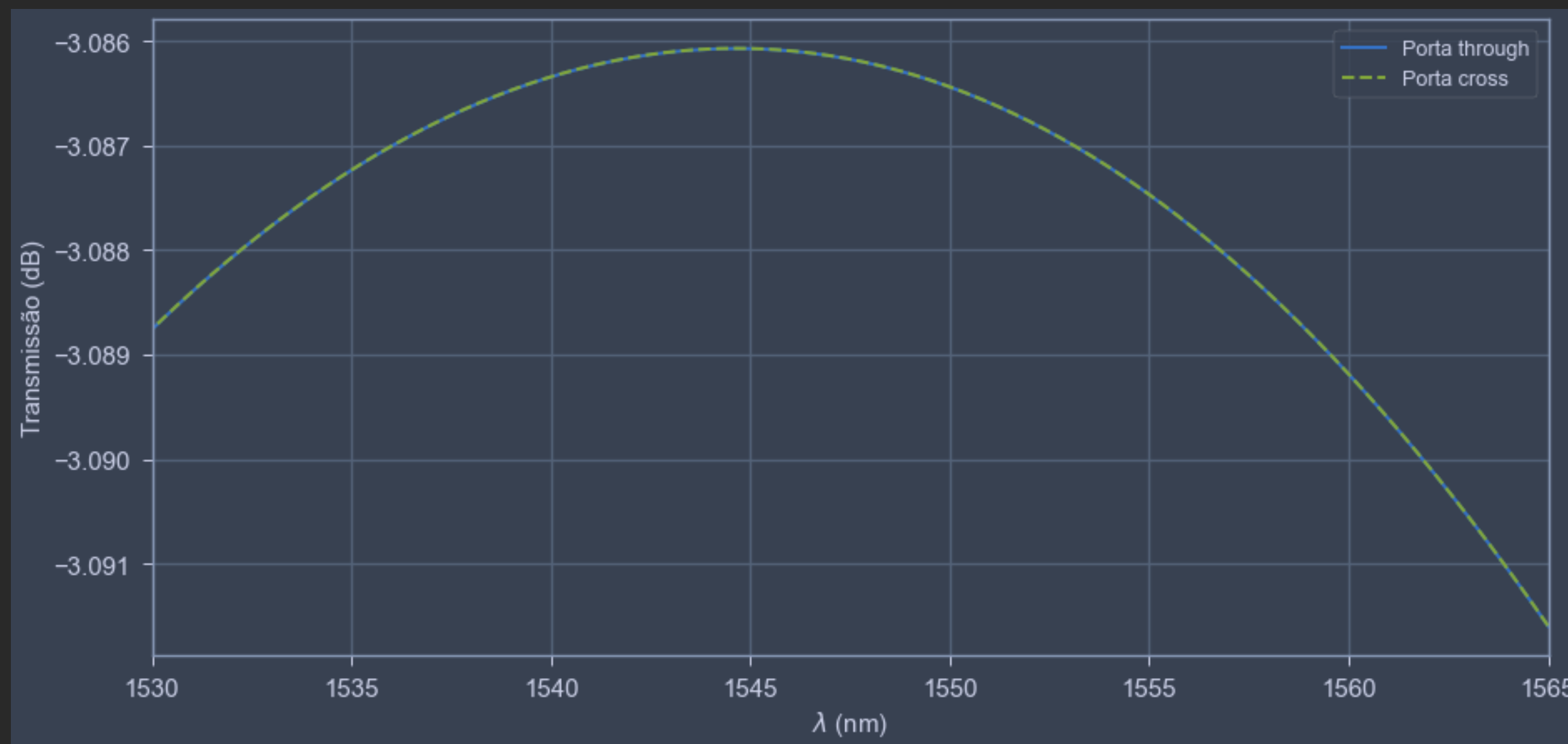
Design dos componentes

Design do Ybranch



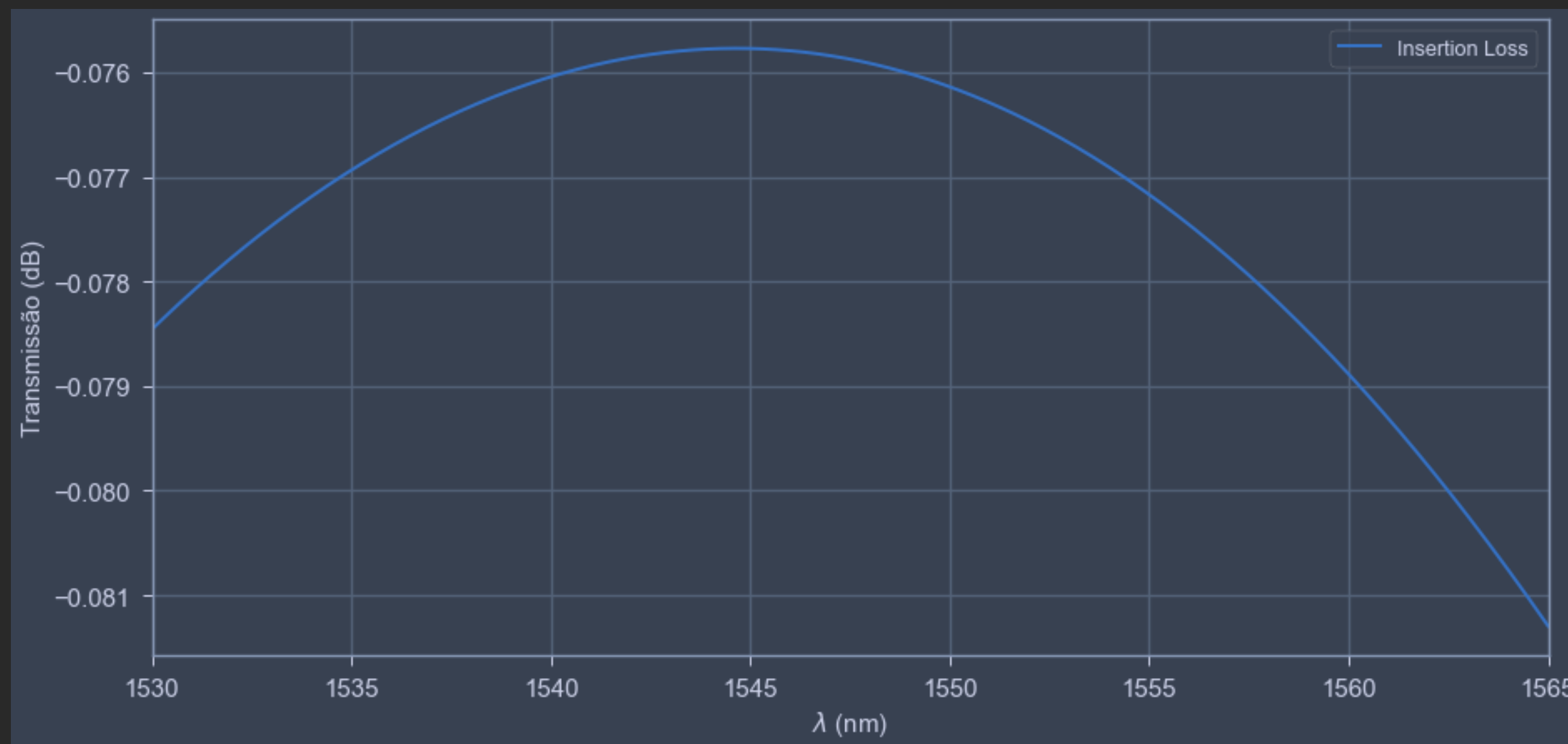
Design dos componentes

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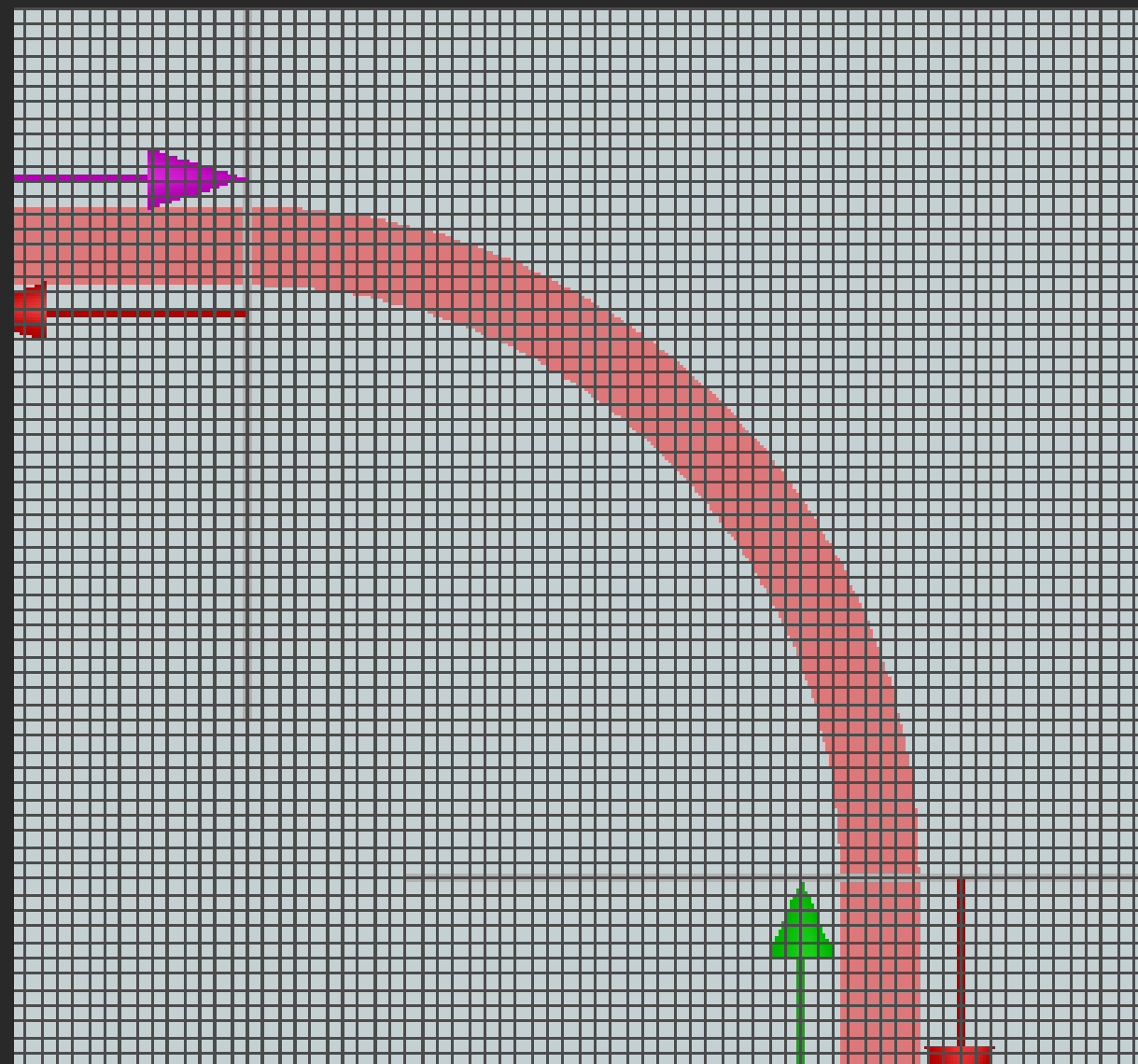
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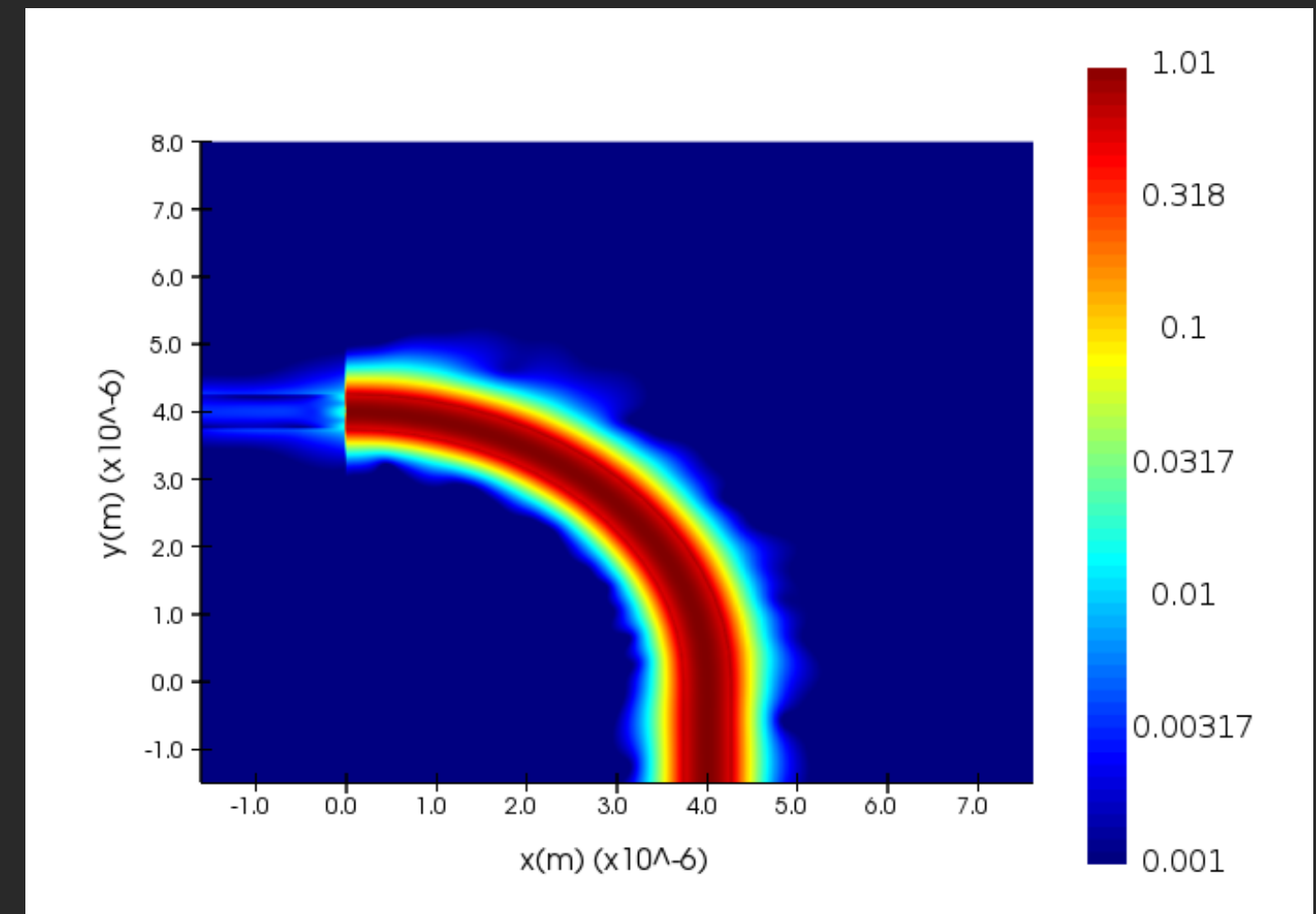
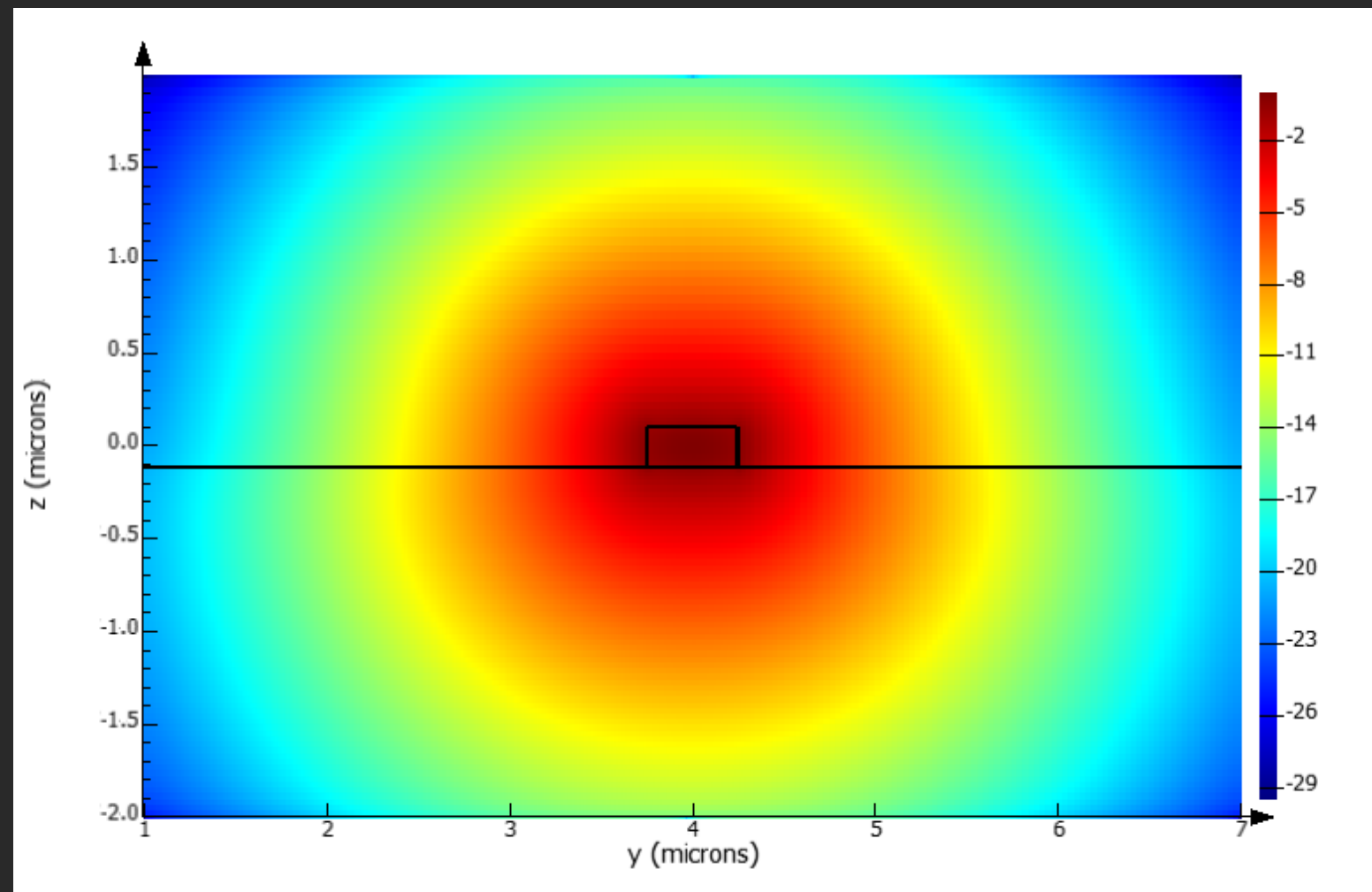
Design dos componentes

Design do Bend



Design dos componentes

Analise do campo na simulação



Design dos componentes

Resultados

