



CORNERSTONE Device Dimensions for 340 nm SOI Platform

Rib waveguide etch depth = 240 nm

Grating etch depth = 140 nm

Changes from previous version

- TE mode 2x2 strip waveguide MMI added for $\lambda = 1.55 \mu\text{m}$.

The following components have been added for $\lambda = 1.31 \mu\text{m}$:

- TE mode grating coupler
- TE mode 1x2 rib waveguide MMI
- TE mode 2x2 rib waveguide MMI
- TE mode 1x2 strip waveguide MMI
- TE mode 2x2 strip waveguide MMI



TE mode
 $\lambda = 1550 \text{ nm}$

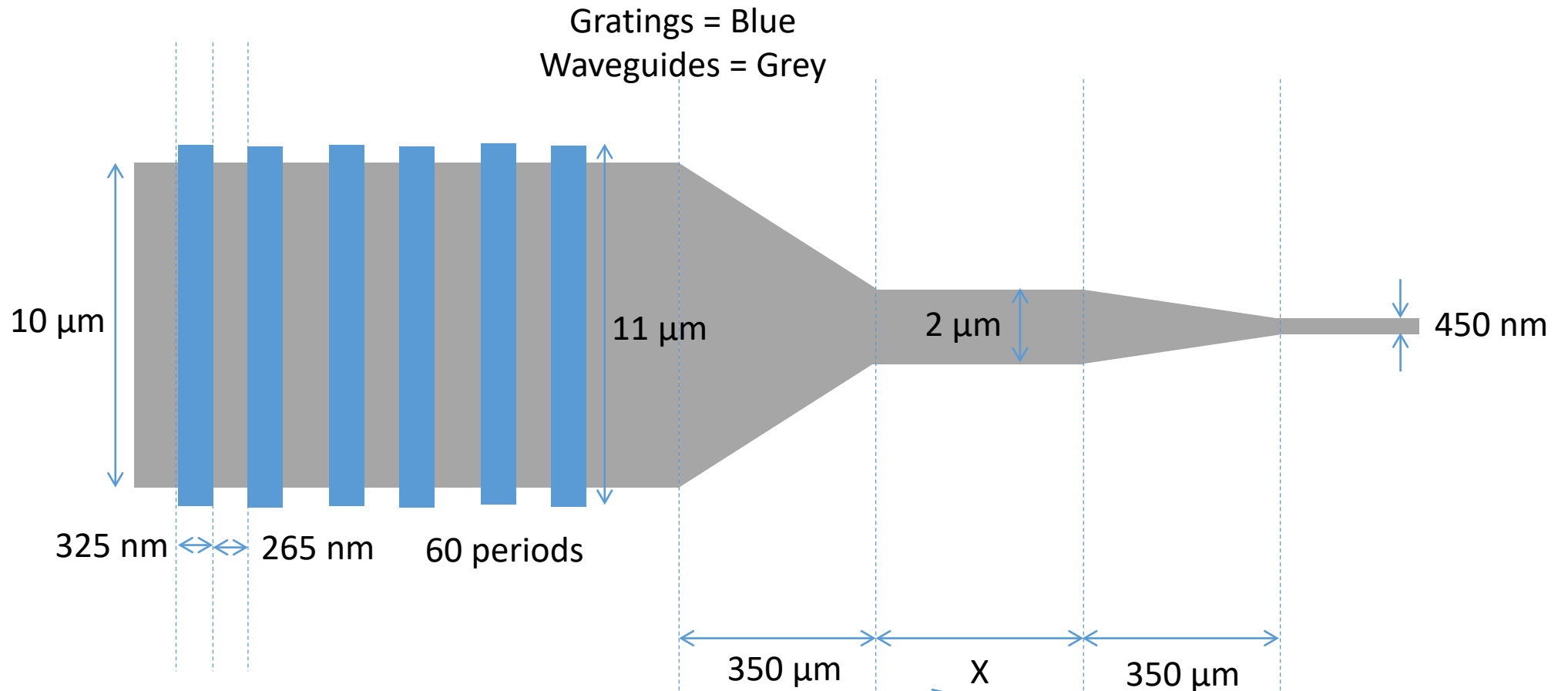
Rib waveguide etch depth = 240 nm
Grating etch depth = 140 nm



TE single mode waveguides and bends

Property	Wavelength = 1550 nm
<u>Rib waveguides</u>	
Maximum single mode waveguide width (nm)	450
Minimum bend radius (width = 450 nm) (μm)	25
<u>Strip waveguides</u>	
Maximum single mode waveguide width (nm)	450
Minimum bend radius (width = 450 nm) (μm)	10

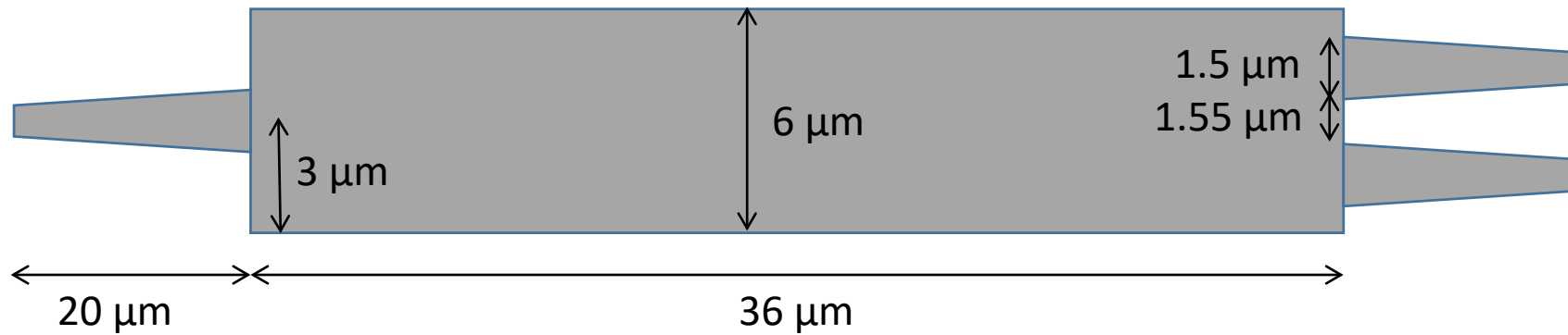
TE grating coupler (etch depth = 140 nm)



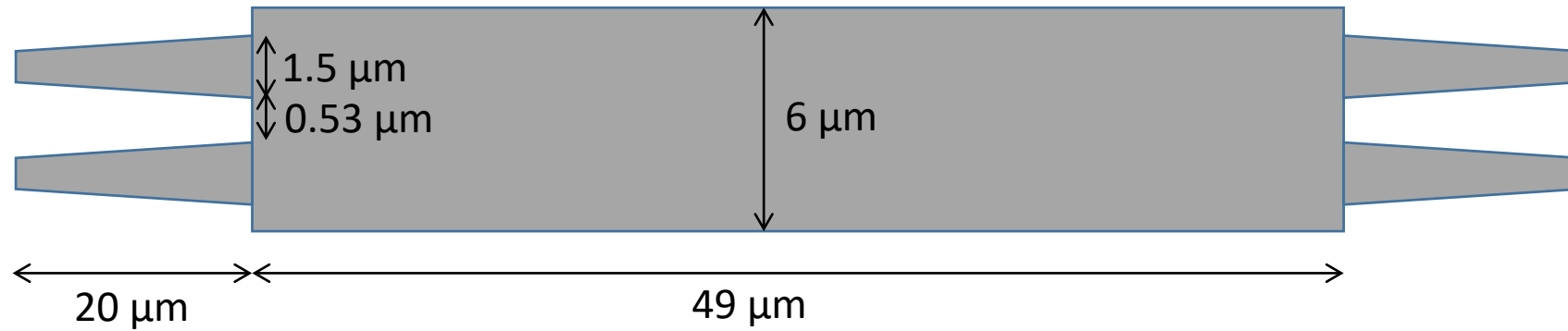
Use waveguide of width X for low loss routing to devices if required

*Add rib protect layer in GDS file

TE 1x2 RIB MMI dimensions



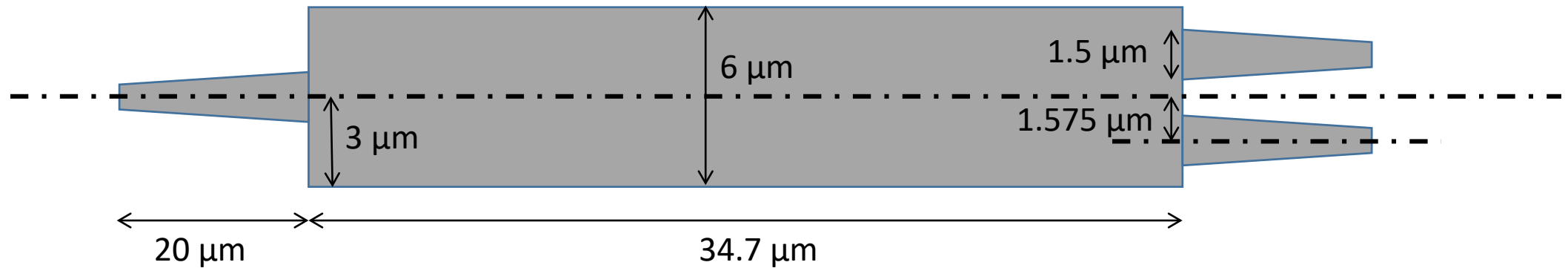
*Add rib protect layer in GDS file



*Add rib protect layer in GDS file

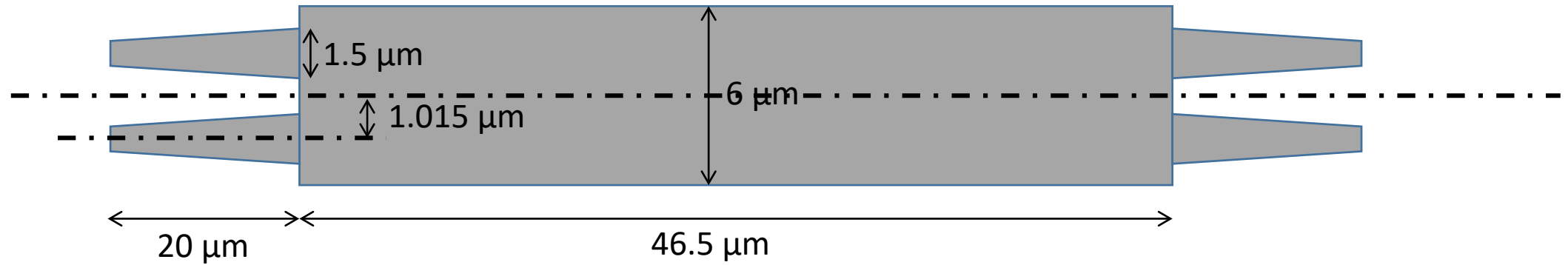
TE 1x2 STRIP MMI dimensions

*Prototype design that has not yet been tested



TE 2x2 MMI STRIP dimensions

*Prototype design that has not yet been tested





TE mode
 $\lambda = 1310 \text{ nm}$

Rib waveguide etch depth = 240 nm
Grating etch depth = 140 nm



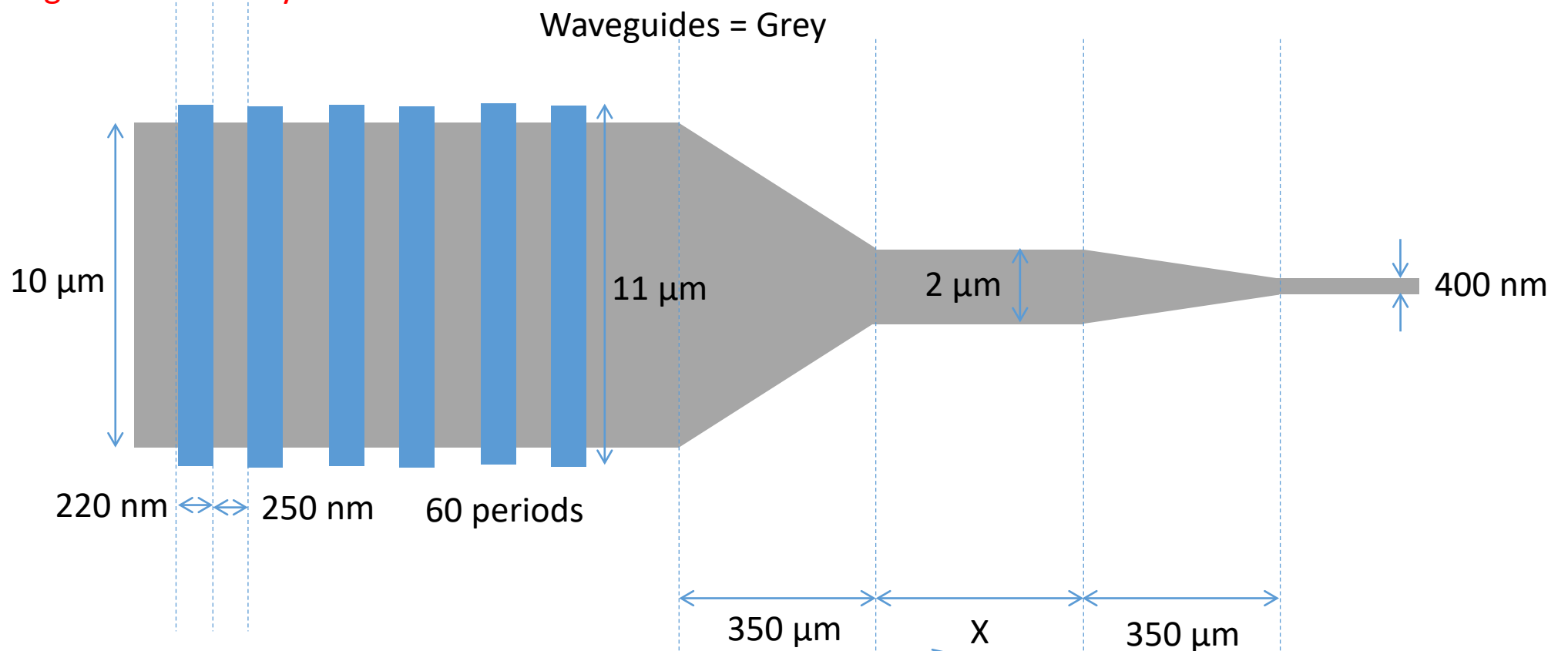
TE single mode waveguides and bends

Property	Wavelength = 1310 nm
<u>Rib waveguides</u>	
Maximum single mode waveguide width (nm)	450
Minimum bend radius (width = 450 nm) (μm)	25
<u>Strip waveguides</u>	
Maximum single mode waveguide width (nm)	400
Minimum bend radius (width = 400 nm) (μm)	10

TE grating coupler (etch depth = 140 nm)

*Prototype design that has not yet been tested

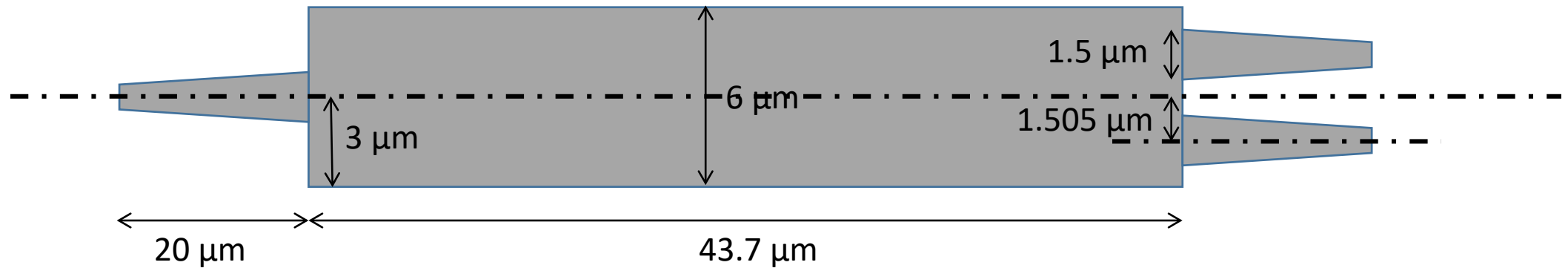
Gratings = Blue
Waveguides = Grey



Use waveguide of width X for low loss routing to devices if required

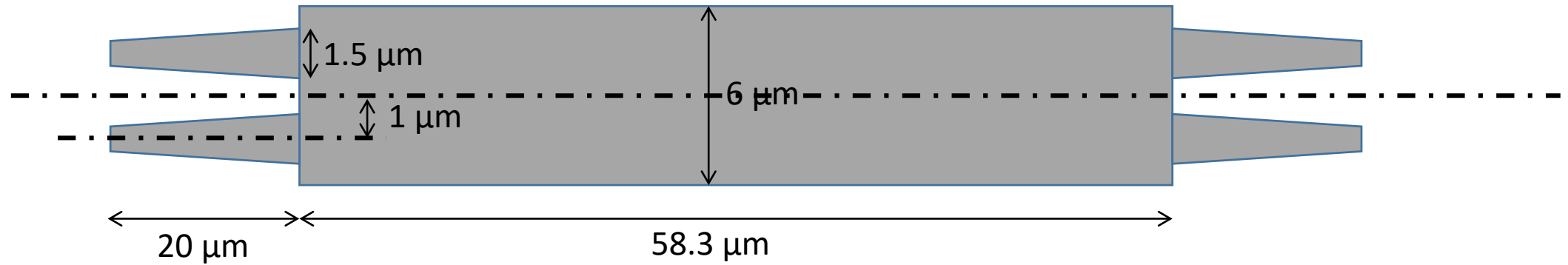
*Add rib protect layer in GDS file

*Prototype design that has not yet been tested



*Add rib protect layer in GDS file

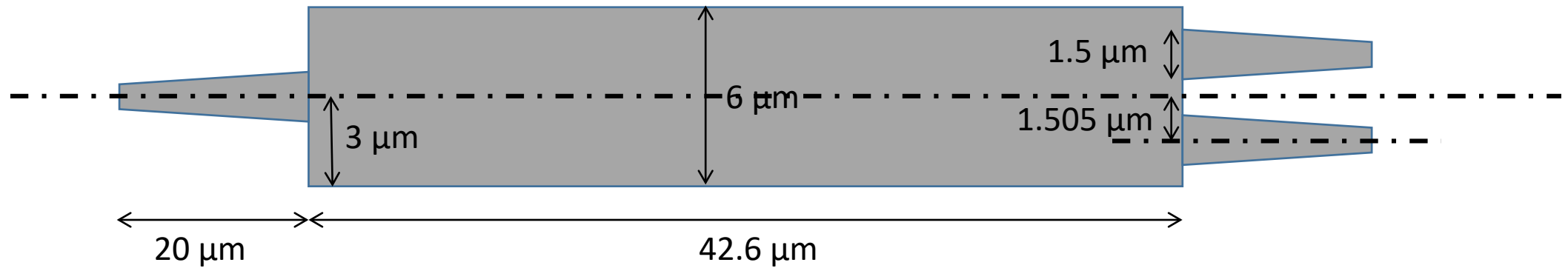
*Prototype design that has not yet been tested



*Add rib protect layer in GDS file

TE 1x2 STRIP MMI dimensions

*Prototype design that has not yet been tested



TE 2x2 STRIP MMI dimensions

*Prototype design that has not yet been tested

