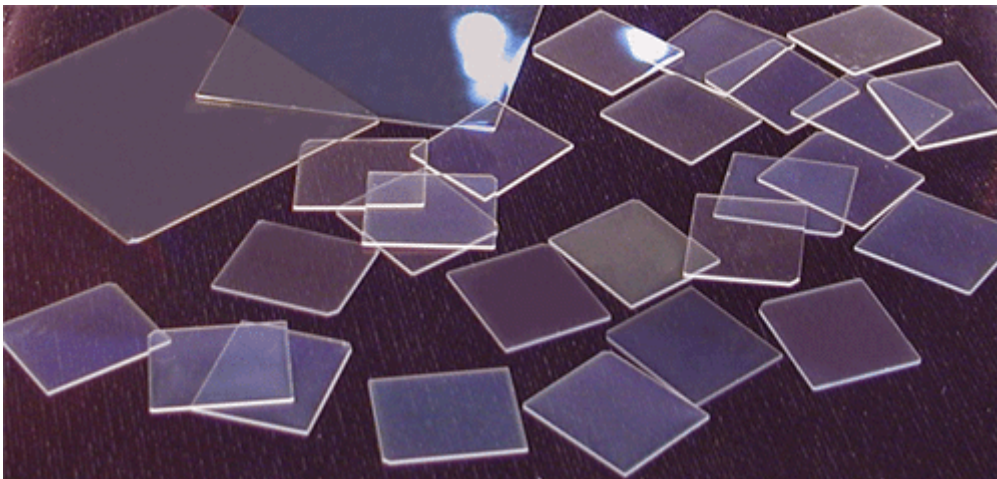


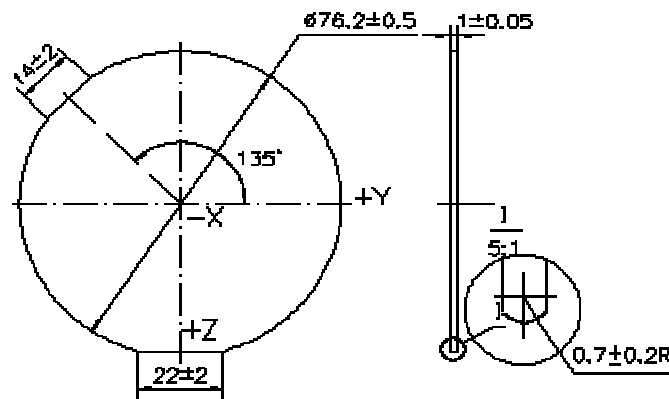


# Lithium Niobate Substrate wafer parameter

Polished as	Better than 20/10
Flatness	$\lambda \sim \lambda/8$ (depends on wafer size)
Wavefront deformation	$\lambda/4 \sim \lambda/8$ (depends on wafer size)
Size tolerance	$\pm 0.02\text{mm}$
TTV	$\pm 0.01\text{mm}$



## 3" X-Cut Lithium Niobate optical wave guide wafer



### The Specification of 3" X-cut LN wafer

**Orientations Variation:**  $\pm 0.5^\circ$

#### Wafer Flat:

Primary Flat: Perpendicular to the +Z Axis  $\pm 0.5^\circ$

Secondary Flat:  $135^\circ$  Clockwise from the primary flat when viewing the -X polished face

#### Surfaces:

-X: Polished. No pits or scratches allowed within the working area (entire wafer diameter less 1.0mm around the edge). Inspected using unaided eye with reflected light.

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# Lithium Niobate Substrate wafer parameter

+X: Polished. Light pits and scratches allowed within the working area (entire wafer diameter less 1.0mm around the edge). Inspected using unaided eye with reflective light.

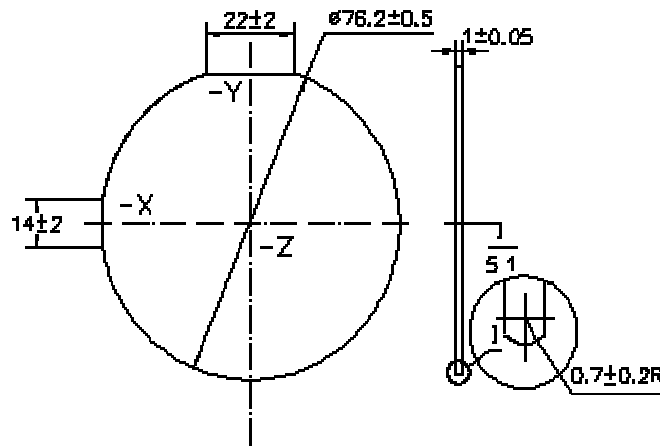
**Edge:** All edges rounded with a  $0.70\pm 0.2$  radius.

**Flatness:** Warp equal to or less than 0.05mm. Measured in the free state.

**Total Thickness Variation (TTV):**

Less than 0.01mm. Measured in the clamped state.

## 3" Z-Cut Lithium Niobate optical wave guide wafer



## The Specification of 3" Z-cut LN Wafer

**Orientations Variation:**  $\pm 0.5^\circ$ .

**Wafer Flat:**

Primary Flat: Perpendicular to the -Y axis  $\pm 0.5^\circ$

Secondary Flat:  $90^\circ$  counter-clockwise from the primary flat when viewing the -Z polished face.

**Surfaces:**

-Z: Polished. No pits or scratches allowed within the working area (entire wafer diameter less 1.0mm around the edge). Inspected using unaided eye with reflected light.

+Z: Polished. Light pits and scratches allowed within the working area (entire wafer diameter less 1.0mm around the edge). Inspected using unaided eye with reflected light.

**Edge:** All edges rounded with a  $0.70\pm 0.2$  radius.

**Flatness:** Warp equal to or less than 0.05mm. Measured in the free state.

**Total Thickness Variation (TTV):**

Less than 0.01mm. Measured in the clamped state

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