

## Wafers for Surface Acoustic Wave (SAW) Devices

### 4" LiNbO<sub>3</sub> (LN) Wafers

Commodity	Czochralski ("CZ") grown Lithium Niobate (single crystal, congruent)		
Orientation	64° rotated Y-cut ± 0.25°	127.86° rot. Y-cut ± 0.25°	Y-cut ± 0.25°
Diameter	100.0mm ± 0.5mm	100.0mm ± 0.5mm	100.0mm ± 0.5mm
Orientation Flat	32mm ± 2mm perpendicular to X ± 0.25°	32mm ± 2mm perpendicular to X ± 0.25°	32mm ± 2mm perpendicular to Z ± 0.25°
Thickness	350µm ± 30µm 500µm ± 30µm	350µm ± 30µm 500µm ± 30µm	350µm ± 30µm 500µm ± 30µm
Propagating Surface	"+" - side, Ra ≤ 7 Å	"+" - side, Ra ≤ 7 Å	"+" - side, Ra ≤ 7 Å
Wafer Backside	GC#1000 lapped & etched 0.2µm ≤ Ra ≤ 0.5µm	GC#1000 lapped & etched 0.2µm ≤ Ra ≤ 0.5µm	GC#1000 lapped & etched 0.2µm ≤ Ra ≤ 0.5µm
TTV	≤ 12µm		
LTV	≤ 1.5µm within an area of 5mm x 5mm		
PLTV	≥ 95% (3mm from edge excluded)		
Bow	-30µm ≤ bow ≤ +30µm		
Warp	≤ 60µm		
Curie Temperature	1142°C ± 2°C		

*Other specifications are available on request.*

### Orientations of LiNbO<sub>3</sub> Wafers

