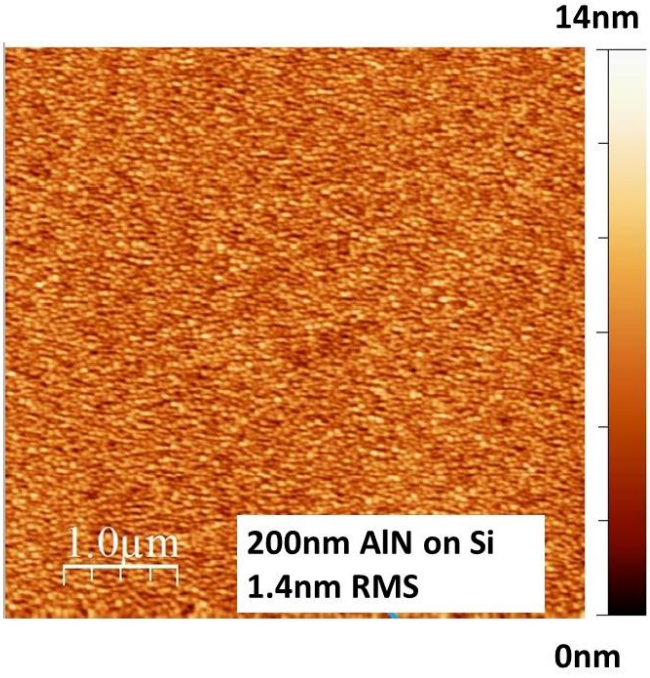
AlN Templates on Silicon

Kyma AlN templates on silicon are grown using a modified plasma vapor deposition of nanocolumns process (PVDNC™) and provide a high quality AlN buffer for subsequent III-N device epitaxy. Kyma AlN provides customers with a nucleation layer on which power devices can be directly grown without issues associated with the Ga 'meltback' phenomenon. Kyma AlN on Si templates have several advantages over MOCVD and HVPE grown-templates which include:

- Increase in MOCVD throughput by eliminating the AlN template layer growth steps
- Lower cost and superior scalability compared to MOCVD or HVPE-derived AlN templates
- Available up to 200mm, or on Kyma or customer-provided Si at 200nm (other thicknesses available upon request)

Properties:

Si/AlN Orientation: (111)/(00.1)
AlN Conduction Type: Semi-insulating
XRD Linewidth (002): ~1degree
Front Surface Finish (Al-face): Epi-ready, RMS <2 nm (for 200nm thick AlN)



AFM of Kyma 200nm AlN on Si template