Fiber-GRIN Alignment tool KLZ 16/0422

PROJECT NUMBER: 12422 (HYAZINT)

CLEANROOM START: 29.07.2016

CLEANROOM END: 31.08.2016

Short description of the fabricated chips:

SUBSTRATES:

- 1 x Si-SiOx(400 nm)-Nitride(108 nm), DSP, 100 mm, Batch 068 Ox3, 380 µm

STRUCTURES:

- KOH etched grooves for alignment

MASK SET:

- "0 KOH"

Process	Comments
1. **HMDS-priming**: ☐ • HDMS hotplate (Program 1)	
2. **Spin Coating of positive resist**: ☐ • Nominal thickness: 1.8 µm • Statically dispense **2.0 mL** of **AZ1518** (Position 4 on 25 mL syringe) • **Recipe 4**: 4000 rpm, 30 sec	*Profilometer: 2 um PR thickness measured*
3. **Softbake:** ☐ • **100°C, 50 s**	
4. **Exposure**: **"0 KOH"** ☐ • Flat alignment, foil mask, soft contact • Exposure time: **5 s** = 2.8 s x 1.8 @ 9mW	
5. **Develop** ☐ • **Program P**	
6. **Structure oxide: RIE (STS)** ☐ • Nitride thickness: 108 nm • Oxide thickness: 400 nm	*He leakage rate > 50 mT/min. Etched anyway. No problems visible.*
7. **Resist stripping** ☐	

Process	Comments
8. **KOH Etching** ☐	
• Desired depth: 180 um • Concentration: 30 %\ • T = 80 C • Depth tolerance: > 180 um	Measured depth: 183 um