

## List of Equipment

Department	Tool	Vendor	Type
Photolithography (Front End)	production mask aligner	SUSS Microtech	MA150CC
	resist coater/developer, track system	SSE	Maximus
	resist coater, semiautomatic	Convac	CPSII
	developer, semiautomatic	Convac	CTP5
	mask cleaner	Ultratech	608A
	UV confocal-Laser microscope	Keyence	3D-UV
	3D measurement system	Nikon	VMR-3020
	back side alignment probe	EVG	TBM 7
	resist coater, semiautomatic	Süss	Gyrset RC8
	spray coater	microfab	
Photolithography (Back End)	mask aligner	EVG	AL4
	mask aligner	SUSS Microtech	MA6/BA6
	spray coater, semiautomatic	Convac	CPS SP
	resist coater, semiautomatic	Convac	CPSII
	developer, semiautomatic	Convac	CTP5
	mask cleaner	SSEC	156
	oven	Heraeus	T-5050EK
	SAM Vacuumfurnace	IMTEC	Star2001
Furnace & LPCVD	oxidation (wet & dry)	Centrotherm	E1200 HT-210-6
	diffusion (implant drive in)	Centrotherm	E1200 HT-210-6
	annealing	Centrotherm	E1200 HT-210-6
	high temp annealing post-bonding	Thermco	601-100
	doping, POCl <sub>3</sub>	Centrotherm	E1200 HT-210-6
	LPCVD TEOS	Centrotherm	E2400 HT-210-6
	LPCVD LTO	Centrotherm	E1200 HT-210-6
	LPCVD poly silicon undoped	Centrotherm	E2400 HT-210-6
	LPCVD poly silicon in-situ doped	Centrotherm	E2400 HT-210-6
	LPCVD nitride	Centrotherm	E1200 HT-210-6
	LPCVD nitride (low-stress)	Centrotherm	E2400 HT-210-6
	film thickness, Ellipsometer	Plasmos	SD2300
	film thickness, Interferometer	Zeiss	Axiospeed/MCS400
	particle counter	Tencor	Surfscan 4500

Wafer Bonding	wafer bonder (anodic / SDB)	SUSS Microtech	SB6
	wafer bonder (anodic / SDB)	home build	mark-1
Dry Etching	RIE etcher, dielectrics	STS	Multiplex
	RIE etcher, aluminum, poly Si	STS	Multiplex
	ICP/DRIE etcher (Bosch process)	STS	ICP/Multiplex
	ICP/DRIE etcher (Bosch & Cryo)	Alcatel	601E
	ICP/DRIE etcher (dielectrics, poly Si)	Alcatel	601E
	ICP/DRIE etcher (Si-trench)	Alcatel	601E – Appex
	ICP/DRIE etcher (Si-trench, high rate)	Alcatel	AMS200
	ion milling etcher noble metals (Au, Pt)	STS	340PC
Wet etching & cleaning	BOE oxide etch bath (doped/undoped)	Arias	CT1
	KOH silicon etch bath	Arias	CT2
	TMAH silicon etch bath	Arias	CT2
	aluminum etch batch	Arias	CT3
	poly Si etch bath	Arias	CT4
	silicon nitride etch bath	Arias	CT5
	piranha clean bath	Arias	CT6
	SC1 clean bath	Arias	CT7
	SC2 clean bath	Arias	CT8
	HF dip bath	Arias	CT9
	HF 50% etch bath	Arias	CT10
	HF gas etcher	home build	
	resist strip solvent bath	Arias	CT11
	oxygen barrel resist stripper	Tepla	300M
	oxygen barrel resist stripper	Tepla	400M
	rinsers/dryer	FSI	Phoenix
	rinsers/dryer	Semitool	SRD86oF
	rinsers/dryer (anti-stiction IPA/STGD)	FSI	Yield Up 1000
Metallization / PVD	Sputterer (Au, Pt, Cr, Ti, Ta, Al, SnO <sub>2</sub> , TiN, Cu)	Balzers/Ardenne	B&A LA44oS
	Sputterer (Al, AlSiTi, WTi, NiV)	MRC	643
	e-beam evaporation	Leybold-Heraeus	L560E
	XRF thickness probe	Röntgenanalytik	Eagle II µProbe

	resistivity probe (4-point)	Veeco	FPP5000
	XRF thickness probe	Röntgenanalytik	Eagle II µProbe
Electroplating	cup plater 1 (Au, Au-alloys)	IMI	EPM149
	cup plater 2 (Fe,FeNi-alloys)	IMI	EPM149
PECVD deposition	stress measurement gauge	E&H	MX 203-6
	PECVD 1 oxide/nitride (back end)	STS	Multiplex
	PECVD 2 oxide/nitride (back end)	STS	Multiplex
	3D measurement system	Nikon	VMR-3020
Test & Inspection	wafer prober (electrical test)	Süss	PSM6
	wafer geometry gauge	E&H	
	wafer prober (electrical test)	Süss	POM6
	Automatic wafer prober (CV incl. insitu air-pressure test)	SUSS	Blue-Ray
	step height probe	KLA-Tencor	Alphastep 200
	SEM	Hitachi	
	confocal laser-scan microscope	Zeiss	LSM
	optical inspection station	Leitz	LIS
	membrane thickness	Nikon	DigiMikro 501
	optical-surface profiler	UBM	3-D
	particle counter	Tencor	Surfscan 4500
	optical-surface profiler	UBM	3-D
Dicing, Packaging, CMP	wire bonder (wedge-wedge)	WestBond	7400B
	wire bonder (ball-wedge)	WestBond	7400B
	pull tester	WestBond	70PT-M
	die bonder (eutectic)	WestBond	7200AB
	die bonder (epoxy)	WestBond	7200AR
	Fineplacer	Finetech	
	Waferdicer	Kulicke&Soffa	KS780
	CMP machine	Logitech	PM5