

CM Options

```
FILE_TYPE 03
#Do not change next line by hand!
MACHINE_NUMBER
MACHINE_TYPE
COMMENT T2=factory
SW_RELEASE
# Do not change next line by hand!
MAGIC_STRING MeqEWFU0(U1
# Do not change next line by hand!
WAFER_STEPPER
OPTIONS
SECS KEY lgyKWPO{s5|
ARMS KEY p8406hRrHp{
SINGLE_RETICLE_SMIF KEY jgt|lR6kje5
JOB_CREATOR KEY Q1S7yFkPC1z
PEP_1_PRODUCTIVITY_UPGRADE KEY C2hr1DExVjP
PEP_2_PRODUCTIVITY_UPGRADE KEY 6ZxU1pyzgJE
RETICLE_ERROR_COMPENSATION KEY ez9vMVMFY8K
FLATNESS_MODEL KEY oxRhQXm4b8P
LSQ_DISTO_MODEL KEY UhWj60RoxPx
MARK_SENSOR KEY ElVclQr|W4h
BATCH_STREAMING KEY YK4ij9z6CUF
INTENSITY_2 KEY L|w4XNJ8Ugs
AERIAL KEY 37io|FpRGY|
ASML_PRODUCTION_ONLY KEY iLQCFfTxlP
FOCAL_ADJUSTMENT KEY YK48L3zE|UF
TIS KEY BSDMlEHenVo
FAST_TTL_ALIGNMENT KEY sDklzkbAcIv
AUTOMATED_DOE_EXCHANGER KEY ozVPRFH05OY
# THICK_SUBSTRATES KEY pu9D|lgib3f
# THROUGHPUT_MONITOR KEY LehfQ|tz3YZ
PHASE_MODULATOR_FTTL KEY ||kfur8876v
DOUBLE_EXPOSURE KEY bztBtptT6Gi
ALIGNMENT_REPORTS KEY 3||hQ5|D1sf
ANNULAR_ILLUMINATION KEY Q8opqCD|lgV
SCRIBELANE_MARKS KEY 2NjtlFpFGp{
LIBRARY_CONFIG_3 KEY yjLl|k3gsC8
VISUAL_ALIGNMENT_CAMERA KEY zhs|lR3wii1
```

Lens Data

Compute Lens Qualification Parameters - Projection System/FOCAL Tests
Operator:ASM Machine: Release:8.9.0

Exposure conditions:

Exposure date and time	:	
Machine ID	:	
Reticle ID	:	
Reticle Alignment	:	TTL Align
Lens type	:	35
Temperature [degC]	:	22.00
Pressure [mbar]	:	1012.24
Illumination Mode	:	Annular
Numerical Aperture	:	0.63
Sigma Outer	:	0.810
Illumination mode name	:	annular
Lens ID	:	0105597Z
Focus Step [um]	:	0.15
Focus Offset [um]	:	-1.13
Number of wafers	:	1

Inner : 0.510
Version : 1.0.0

Comments:
'Exposure' :
'Modelling' :

Data File Name : Startup

FPD	[um]	:	0.190
AST	[um]	:	0.114

determined on : 36 field positions.

Lens Data

Compute Lens Qualification Parameters - Projection System/FOCAL Tests
Operator:ASM Release:8.9.0

Exposure conditions:

Exposure date and time :
Machine ID
Reticle ID :
Reticle Alignment : TTL Align
Lens type : 35
Temperature [degC] : 22.00
Pressure [mbar] : 1012.02
Illumination Mode : Annular
Numerical Aperture : 0.63
Sigma Outer : 0.810 Inner : 0.510
Illumination mode name : annular Version : 1.0.0
Lens ID : 01055972
Focus Step [um] : 0.15
Focus Offset [um] : -1.13
Number of wafers : 1

Comments:

'Exposure' :
'Modelling' :

Data File Name : verify_01Mar23

Actual Best Focus [um] : 0.053
Actual Image Tilt Rx [urad] : -1.234
Actual Image Tilt Ry [urad] : -0.403

===== Corrected Data =====

FPD	[um] :	0.181
AST	[um] :	0.115

determined on : 36 field positions.

PAS 5500/350C ACCEPTANCE TEST SPECIFICATIONS AND RESULTS

Model: PAS 5500/350C

Software release: 8.8.6 and up
Actual software release: 8.9.0

Setting 1: Annular: NA =0.63, Coherence: $\sigma_{out} = 0.81$, $\sigma_{in} = 0.51$
Setting 2: QUASAR NA =0.57, Coherence: $\sigma_{out} = 0.80$, $\sigma_{in} = 0.50$

Parameter		Specification (absolute values)	FAT		SAT	
			Measured (Date)	Accept	Measured (Date)	Accept
1. Illumination and dose control						
1.1	Illumination uniformity					
	Setting 1, 22.0 x 22.0 mm	[%]	≤ 1.4	Yes	1.30	Yes
			()		(22/Sep)	
	Setting 1, 14.7 x 27.4 mm	[%]	≤ 1.4	Yes	0.87	Yes
			()		(22/Sep)	

Uniformity

Operator:ASM Machine: Release:8.9.0

Uniformity Measurement

Comment :

Image Field Size [mm]
x : 22.0 y : 22.0 Diameter : 40.0

Steps
x : 11 y : 11

Measurement Type : Pulse Mode

Pulses : 100

Pulse Frequency [Hz] : 1000

Pulse Energy [mJ] : 10.00

Apply REMA Window : Yes

Load Reticle : N

Illumination Mode : Conventional
Numerical Aperture : 0.63
Sigma Outer : 0.810
Illumination mode name : conventional Version : 1.0.0

Uniformity Measurement Result

Uniformity [%] : 1.64
Logfile : LI/LIUM/waf.1572

Tilt X [%/field] : -0.36 Y [%/field] : -0.43

Overall Average of
Ratio : 1.00 Standard Deviation : 0.00
Intensities Spot Sensor [mW/cm2] : 223.72 Standard Deviation : 0.97
Intensities Energy Sensor [mW/cm2] : 222.82 Standard Deviation : 0.18

Estimated Uniformity from measured data [%]
If corrected for actual tilts : 1.56
If corrected with gradient filter : 1.47
If corrected for tilts and with gradientfilter : 1.46

Total Nr of Laserpulses since Installation [* 10^6] : 16800

Symmetric Uniformity Value [%] : 0.40

Modelling Single Machine Overlay - ...ion/Overlay Verification/Modelling Overlay
Operator:ASM

Single Machine Overlay

Exposure Layer	: --- First ---	: --- Second ---
Date/Time	: : 9414	: : 9414
Machine ID	:	:
Reticle ID	:	:
Reference Grid	: ORIGINAL	: ORIGINAL
Matching set ID	: TTL Align	: TTL Align
Reticle Alignment	: TTL Align	: TTL Align
Wafer Alignment	: 35	: 35
Lens Type	: 0105597Z	: 0105597Z
Lens ID	:	:
Energy [mJ/cm2]	: 35.0	: 35.0
Focus Offset [um]	: 0.00	: 0.00
Illumination Mode	: Annular	: Annular
Blade ID	:	:
Numerical Aperture	: 0.63	: 0.63
Sigma Inner	: 0.51	: 0.51
Sigma Outer	: 0.81	: 0.81
Temperature [degC]	: 22.0	: 22.0
Pressure [mbar]	: 1014.0	: 1014.0
Wavelength [nm]	: 248.287	: 248.287

Comments from:

'Exposure First Layer' :
'Exposure Second Layer' :
'Measure Mark Positions' :
'XY-Imaging Modelling' :

Test Log Name : XYN_9414_verify_SMO_050923.tlg
Optimization Method : Least-Squares
Number of Wafers : 1
Number of Rejected Wafers : 0
Number of Fields per Wafer : 16
Number of Marks per Field : 17
Alignment Errors in Data : 0
Max Field Size X [mm] : 22.0
Y [mm] : 27.4

Wafer/Field/Mark Selection : *:*:*
Align. Errors in Selection : 0
Overlay Mode : Second to First
Set Threshold : OFF

Reticle data used : Reticle data from testlog
Reticle layout used : 4X_OV759_28R6_17

Overlay Error for this Batch:

	Filtered Overlay Error		
	X	Y	Vector
	[nm]	[nm]	[nm]
Mean	2.6	-4.6	
St. Dev.	6.2	5.2	
Mean + 3 Sigma	21.2	20.1	
Maximum 99.7%	22.2	18.3	28.6

Intrafield Overlay Error Classification:

	Model Parameters		Max. Resulting Errors	
	Mean	Std. Dev.	Mean	Std. Dev.
			[nm]	[nm]
Translation in X [um]	0.003	0.003	2.6	3.1
Translation in Y [um]	-0.005	0.002	-4.6	1.9
Rotation [urad]	0.521	0.325	8.1	5.1
Magnification [ppm]	-0.078	0.153	-1.2	2.4
3rd Order Dist. [nm/cm3]	-0.254	0.898	-1.0	3.4
Asymm. Rotation [urad]				
Asymm. Magnification [ppm]				

Interfield Overlay Error Classification:

	Model Parameters		Max. Resulting Errors	
	Mean	Std. Dev.	Mean	Std. Dev.
			[nm]	[nm]
Translation in X [um]	0.003	0.000	2.6	0.0
Translation in Y [um]	-0.005	0.000	-4.6	0.0
Wafer Rotation [urad]	0.040	0.000	3.0	0.0
Nonorthogonality [urad]	0.035	0.000	2.7	0.0
Scaling in X [ppm]	-0.003	0.000	-0.2	0.0
Scaling in Y [ppm]	-0.002	0.000	-0.2	0.0
Rotation Scaling [urad/cm]				

Residuals for this batch:

	Value
Residual X [nm]	2.1
Residual Y [nm]	2.0