

Stepper 16 acceptance results summary

	DESCRIPTION		Results	UNIT	SPECIFICATION	
LENS DISTORTION	LENS DISTORTION (NA63065)	DX	0.034	μm	≤ ± 0.04	OK
		DY	0.029			
	LENS DISTORTION Special Mode 1	DX	0.041	μm	NA	NA
		DY	0.057			
	LENS DISTORTION Special Mode 2	DX	0.043	μm	NA	NA
		DY	0.064			
	LENS DISTORTION Special Mode 4	DX	0.024	μm	NA	NA
		DY	0.032			
EXPOSURE FOCUS STABILITY	SP1 NA0.52σ0.60	Initial	0.00	μm	Range < 0.3μm	OK
		Heated	-0.05			
		Cooled	0.05			
		Range	0.10			
	SP2 NA0.55σ0.50	Initial	0.00	μm	Range < 0.3mm	OK
		Heated	0.10			
		Cooled	0.15			
		Range	0.15			
	SP4 NA0.63σ0.70	Initial	0.05	μm	Range < 0.3μm	OK
		Heated	0.05			
		Cooled	0.00			
		Range	0.05			
EXPOSURE MAGNIFICATION STABILITY	SP1 NA0.52σ0.60	Initial	3.22	ppm	Range < 2.0 ppm	OK
		Heated	2.61			
		Cooled	3.52			
		Range	0.92			
	SP2 NA0.55σ0.50	Initial	3.32	ppm	Range < 2.0 ppm	OK
		Heated	3.25			
		Cooled	3.77			
		Range	0.51			
	SP4 NA0.63σ0.70	Initial	3.34	ppm	Range < 2.0 ppm	OK
		Heated	3.22			
		Cooled	2.77			
		Range	0.57			

ILLUMINATION SYSTEM	Standard/Normal Illumination	Uniformity	1.6	%	≤ 1.0	NG
		Intensity	8235.0	W/m²	≥ 9000	
	Special Illumination Mode 1	Uniformity	1.7	%	NA	NG
		Intensity	11478	W/m²	NA	
	Special Illumination Mode 2	Uniformity	2.1	%	NA	NG
		Intensity	11908	W/m²	NA	
	Special Illumination Mode 4	Uniformity	1.3	%	NA	NG
		Intensity	10890	W/m²	NA	
	L.I. ACCURACY		0.45	%	≤ 1.0	OK
	MASKING BLADE ACCURACY	θ	-113.6	ppm	≤ 3000	OK
GZW		20	μm	≤ 60		
Total		32.5	μm	≤ ± 110		

FOCUS TILT SYSTEM	FOCUS - TILT STABILITY	F(3σ)	0.038	μm	3σ ≤ 0.08	OK
		X(3σ)	2.909	ppm	3σ ≤ 6	
		Y(3σ)	2.754			
	FOCUS - TILT REPEATABILITY	F(3σ)	0.08	μm	3σ ≤ 0.10	OK
		X(3σ)	2.7	ppm	3σ ≤ 7	
		Y(3σ)	3.8			
	GLOBAL - TILT MEASUREMENT REPEATABILITY	X(3σ)	0.6	ppm	3σ ≤ 4	OK
		Y(3σ)	0.7			
	GLOBAL - TILT ACCURACY	X(3σ)	1.8	ppm	3σ ≤ 8	OK
		Y(3σ)	1.0			
TILT SENSOR UNEVEN FOCUS (DxD ON)	V	0.0	ppm	≤ ± 4	OK	
UNEVEN FOCUS (TSOC) (DxD OFF)	V	1.5	ppm	≤ ± 6	OK	
ALFC MEASUREMENT REPEATABILITY	3σ	0.03	μm	3σ ≤ 0.10	OK	

TVPA	TV PRE-ALIGNMENT ACCURACY (DARK FIELD)	X	1.94	μm	≤ 3.0	OK
		Y	2.55			

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WAFER STAGE	XYSA	Ortho	-0.05	ppm	$\leq \pm .5$	OK
		Scal X	0.01			
		Scal Y	-0.03			
	STEPPING ACCURACY WAFER 1	XX (3 σ)	0.011	μm	$3\sigma \leq 0.040$	OK
		XY (3 σ)	0.011			
		YX (3 σ)	0.011			
		YY(3 σ)	0.014			
	STEPPING ACCURACY WAFER 2	XX (3 σ)	0.010	μm	$3\sigma \leq 0.040$	OK
		XY (3 σ)	0.009			
		YX (3 σ)	0.015			
		YY(3 σ)	0.015			
	STEPPING ACCURACY WAFER 3	XX (3 σ)	0.011	μm	$3\sigma \leq 0.040$	OK
		XY (3 σ)	0.009			
		YX (3 σ)	0.014			
		YY(3 σ)	0.011			
	STEPPING REPEATABILITY	X(3 σ)	0.023	μm	$3\sigma \leq 0.035$	OK
		Y(3 σ)	0.013			
SRC	SRC MEASUREMENT REPEATABILITY	3 σ	0.30	ppm	$3\sigma \leq 0.5$	OK
RETICLE ALIGNMENT	ROC MEASUREMENT REPEATABILITY	XL(3 σ)	0.004	μm	$3\sigma \leq 0.01$	OK
		YL(3 σ)	0.002			
		XR(3 σ)	0.005			
		YR(3 σ)	0.002			
	RETICLE ROTATION ACCURACY		-0.003	μm	$\leq \pm 0.01$	OK
	RETICLE ROTATION REPEATABILITY		0.001	μm	$\leq \pm 0.02$	OK
BASELINE	BLC STABILITY (MODE 1)	X(3 σ)	0.005	μm	$3\sigma \leq 0.030$	OK
		Y(3 σ)	0.008			
		RNG(X)	0.007	μm	Range ≤ 0.03	OK
		RNG (Y)	0.012			
	BLC STABILITY (MODE 2)	X(3 σ)	0.005	μm	$3\sigma \leq 0.030$	OK
		Y(3 σ)	0.004			
		RNG(X)	0.006	μm	Range ≤ 0.03	OK
		RNG (Y)	0.006			
	BLC STABILITY (MODE 4)	X(3 σ)	0.007	μm	$3\sigma \leq 0.031$	OK
		Y(3 σ)	0.006			
		RNG(X)	0.009	μm	Range ≤ 0.03	OK
		RNG (Y)	0.008			

AUTO ALIGNMENT	AGA ACCURACY MODE 1 ($ m + 3\sigma$)	X	0.023	μm	$ mean + 3\sigma < 0.05$	OK
		Y	0.026			
	AGA ACCURACY MODE 2 ($ m + 3\sigma$)	X	0.035	μm	$ mean + 3\sigma < 0.05$	OK
		Y	0.027			
	AGA ACCURACY MODE 4 ($ m + 3\sigma$)	X	0.024	μm	$ mean + 3\sigma < 0.05$	OK
		Y	0.031			
		XL	5.796	μm	$3\sigma \leq 40$	OK
		XR	6.016			
		YL	8.58			
		YR	7.315			
TPD	THROUGHPUT 6" WAFER TYPE-L WF	DxD ON	128.5	WPH	>120	OK
		DxD OFF	130.1		>120	OK
	WAFER CHUCK FLATNESS	ϕ 22mm	0.44	μm		