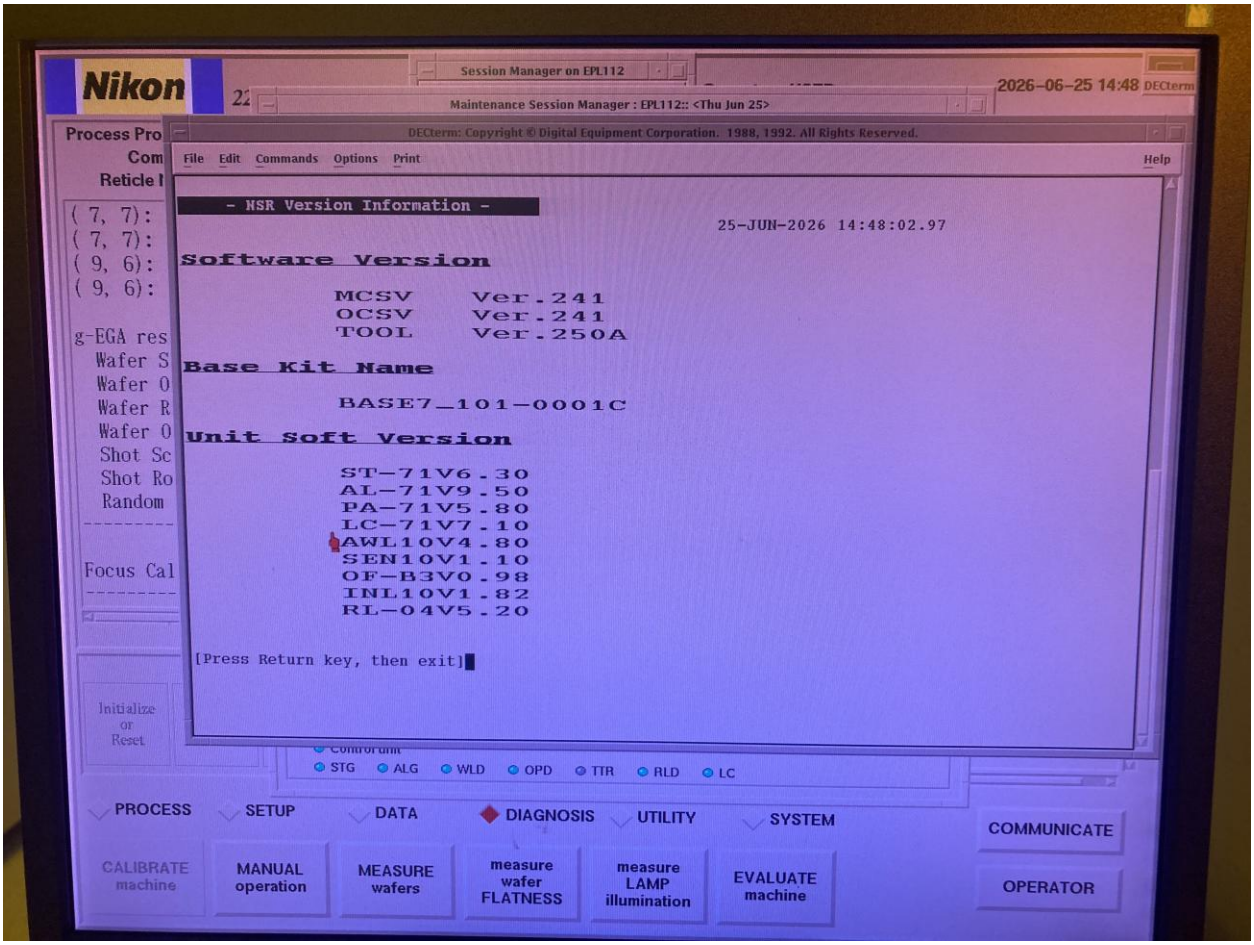
No	ITEM	SPEC	RESULT
1	Total Focus Deviation	Max-Min ≤ 0.20μm	0.203μm
2	Lens Astigmatism	|V-H| ≤ 0.30μm	0.123μm
3	Lens Dynamic Distortion	X,Y = Within ±50nm	X = -11nm~74nm Y = -25nm~37nm
4	Wafer Flatness Accuracy	1) Flat Within ≥ Max-Min 3.0μm 2) L.F.S Within ≥ Max-Min 0.8μm	1. 1.03μm 2. 0.49μm
5	Exposure Power	Within ≥ 650mW/cm2	459mW/cm2
6	Illumination Uniformity	Within ±1.5%	1.49%
7	Stage Precision Accuracy 1) Stepping Accuracy 2) Backlash Accuracy	1) 3σ ≤ 50nm 2) 3σ ≤ 50nm	1) X: 19nm Y: 19nm 2) X: 28nm Y: 19nm
8	Wafer Pre-Alignment Repeatability	3σ≦15μm	X : 4.460 μm Y : 8.787μm T : 17.827 μm
9	Integrator Accuracy	Target: Ave ≤ 1%	Ave Max = 0.0075%
10	Alignment Accuracy 1) FIA-EGA 2) LSA-EGA	FIA-EGA = |M| + 3σ ≤ 75nm LSA-EGA = |M| + 3σ ≤ 75nm	1) X = ±60nm Y = ±50nm 2) X= ±40nm Y = ±50nm

Software

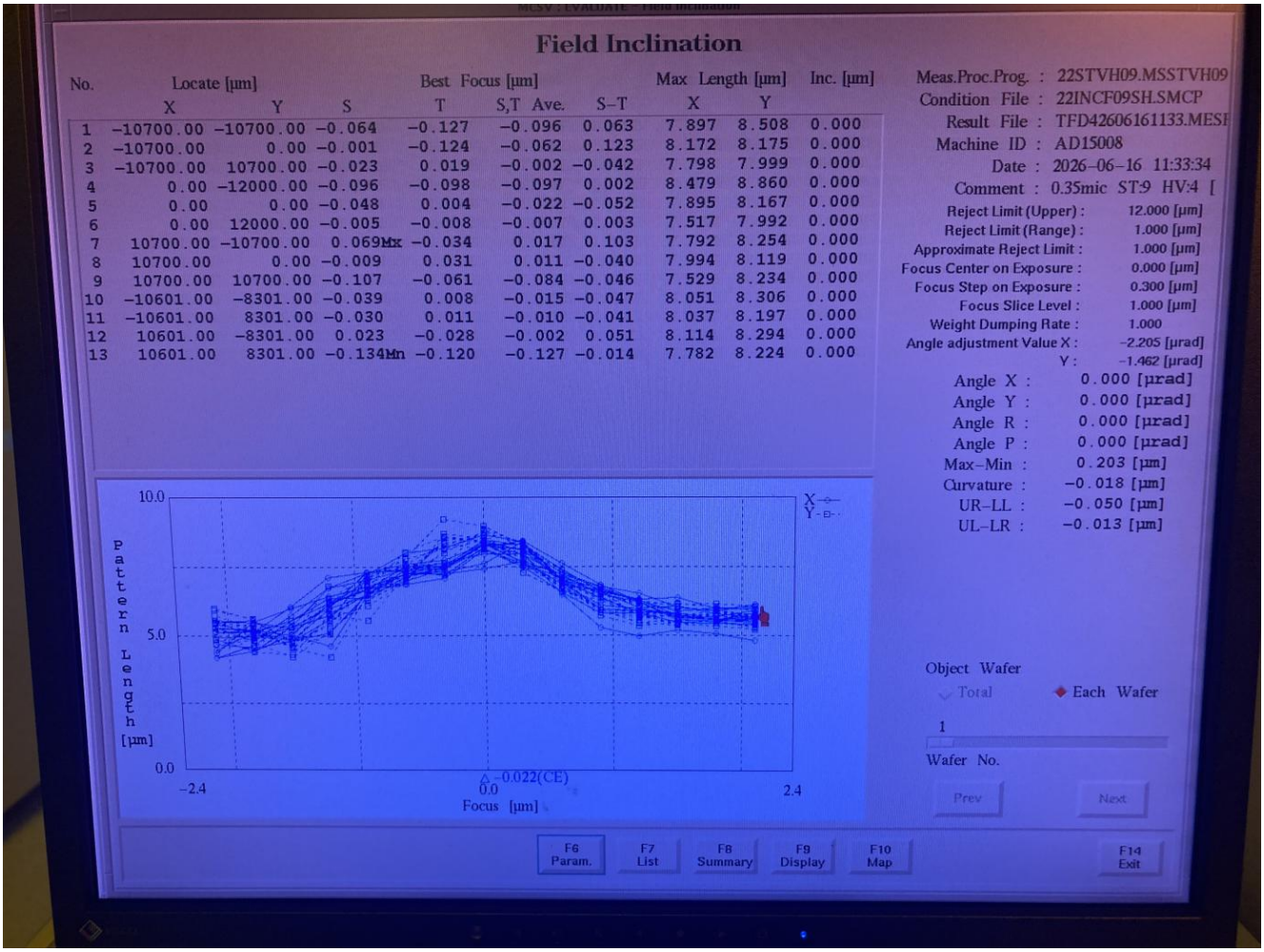

Nikon
Session Manager on EPL112
Maintenance Session Manager : EPL112:: <Thu Jun 25>
2026-06-25 14:48
DECterm: Copyright © Digital Equipment Corporation. 1988, 1992. All Rights Reserved.
File Edit Commands Options Print Help
- NSR Version Information -
25-JUN-2026 14:48:02.97
Software Version
MCSV Ver.241
OCSV Ver.241
TOOL Ver.250A
Base Kit Name
BASE7_101-0001C
Unit Soft Version
ST-71V6.30
AL-71V9.50
PA-71V5.80
LC-71V7.10
AWL10V4.80
SEN10V1.10
OF-B3V0.98
INL10V1.82
RL-04V5.20
[Press Return key, then exit]
Initialize or Reset
STG ALG WLD OPD TTR RLD LC
PROCESS SETUP DATA DIAGNOSIS UTILITY SYSTEM
COMMUNICATE
CALIBRATE machine
MANUAL operation
MEASURE wafers
measure wafer FLATNESS
measure LAMP illumination
EVALUATE machine
OPERATOR

1. Total Focus Deviation (2026):

(0.25µm L&S / 15Point V/H)

SPEC: Max-Min≤0.20µm

Result: Max – Min = 0.203µm

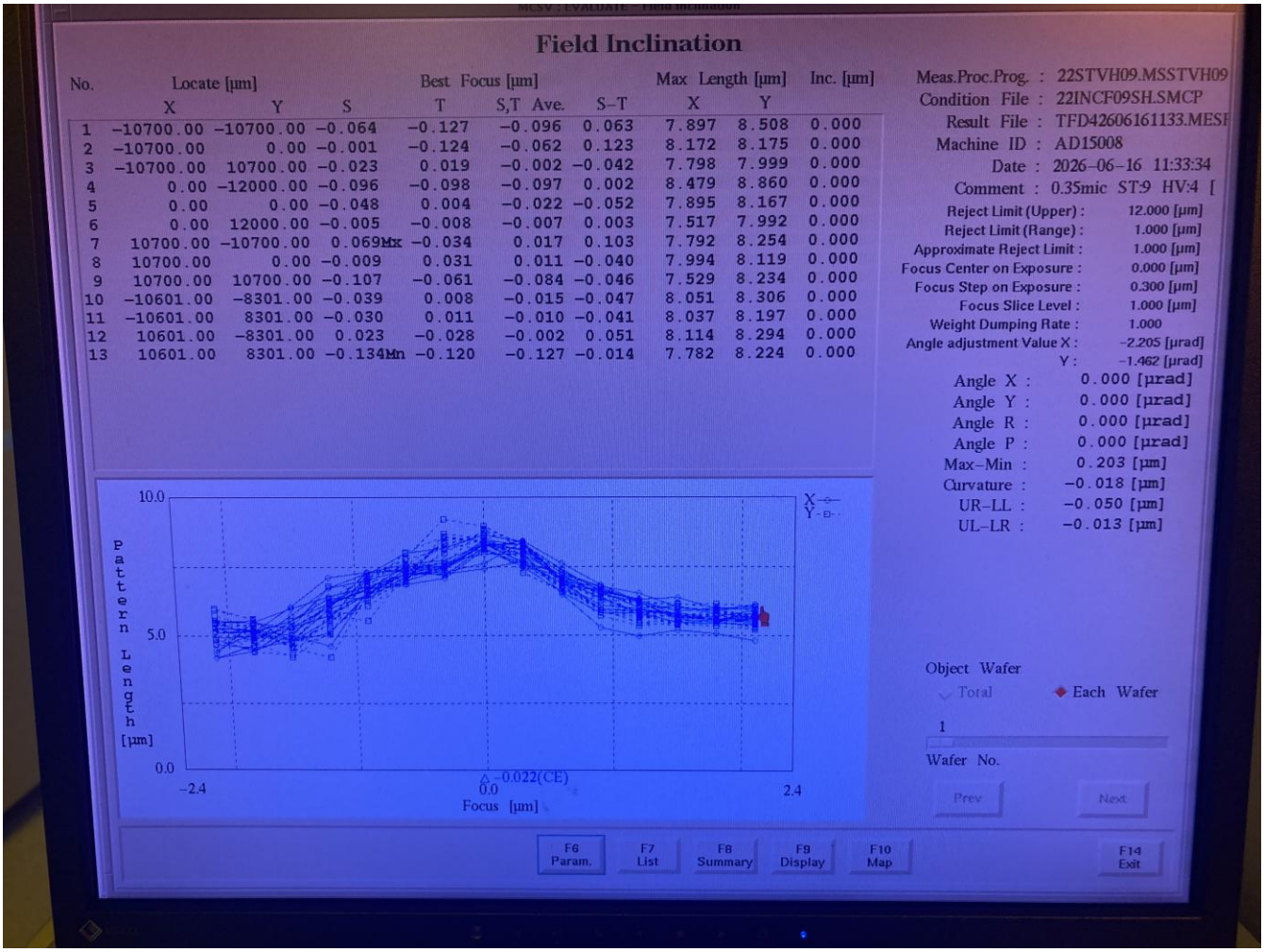


2. Lens Astigmatism (2026):

(0.25µm L&S / 15Point V/H)

SPEC: |V-H| ≤0.20µm

Result: |V-H| = 0.123µm

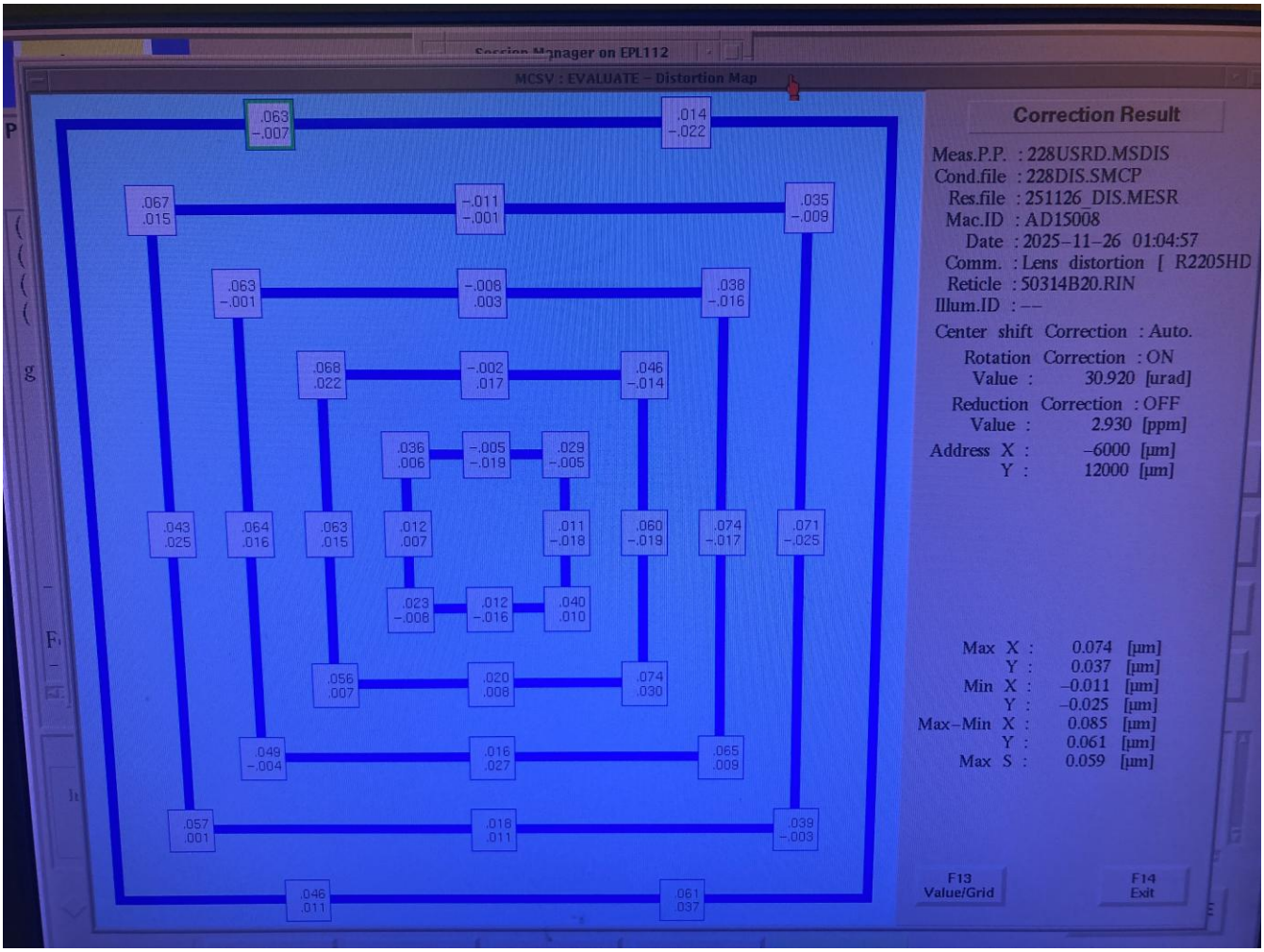


3. Lens Dynamic Distortion (2025):

SPEC: X,Y = Within ±50nm

Result: X = -11nm~74nm

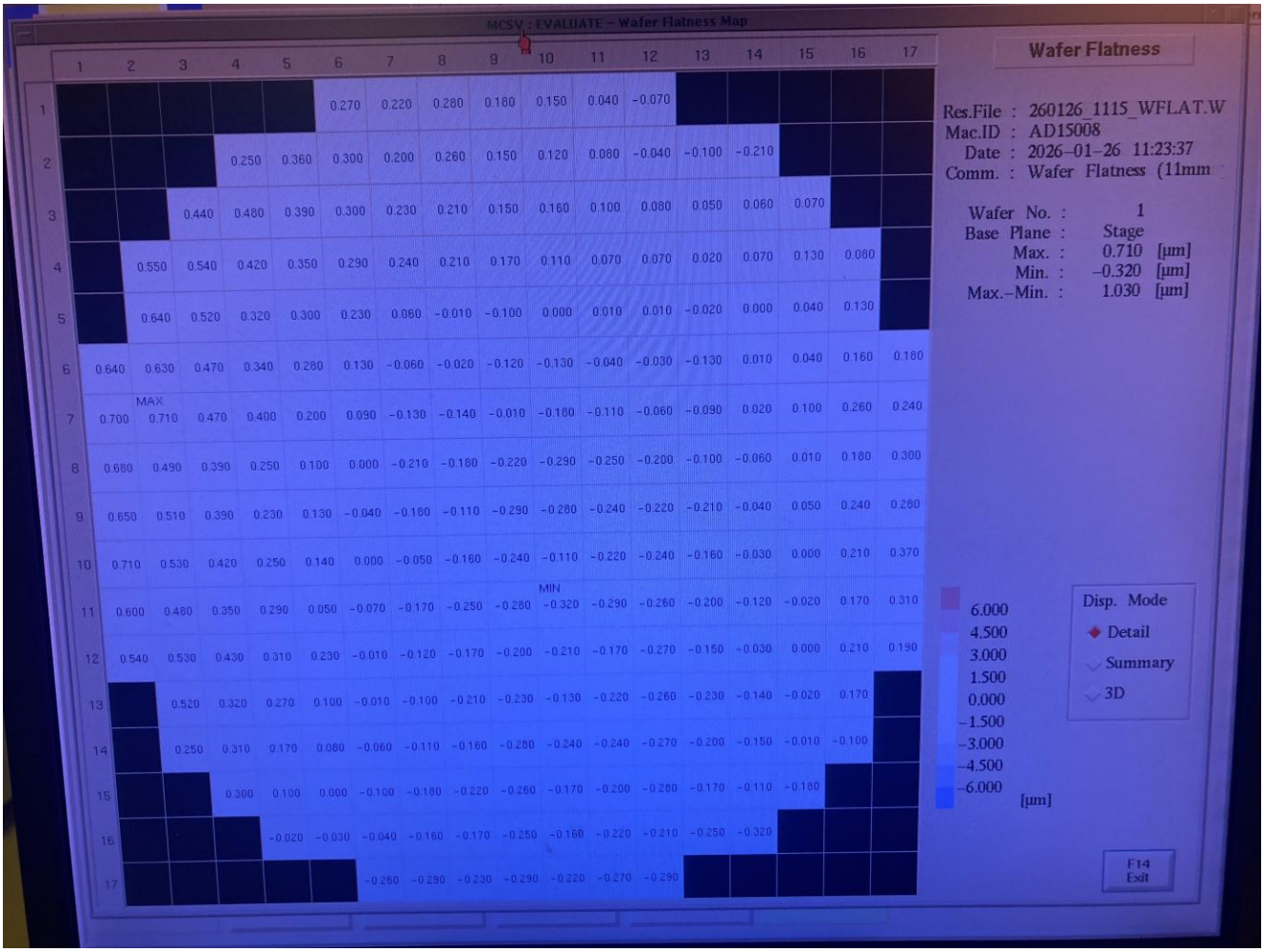
Y = -25nm~37nm



4. Wafer Flatness Accuracy (2026):

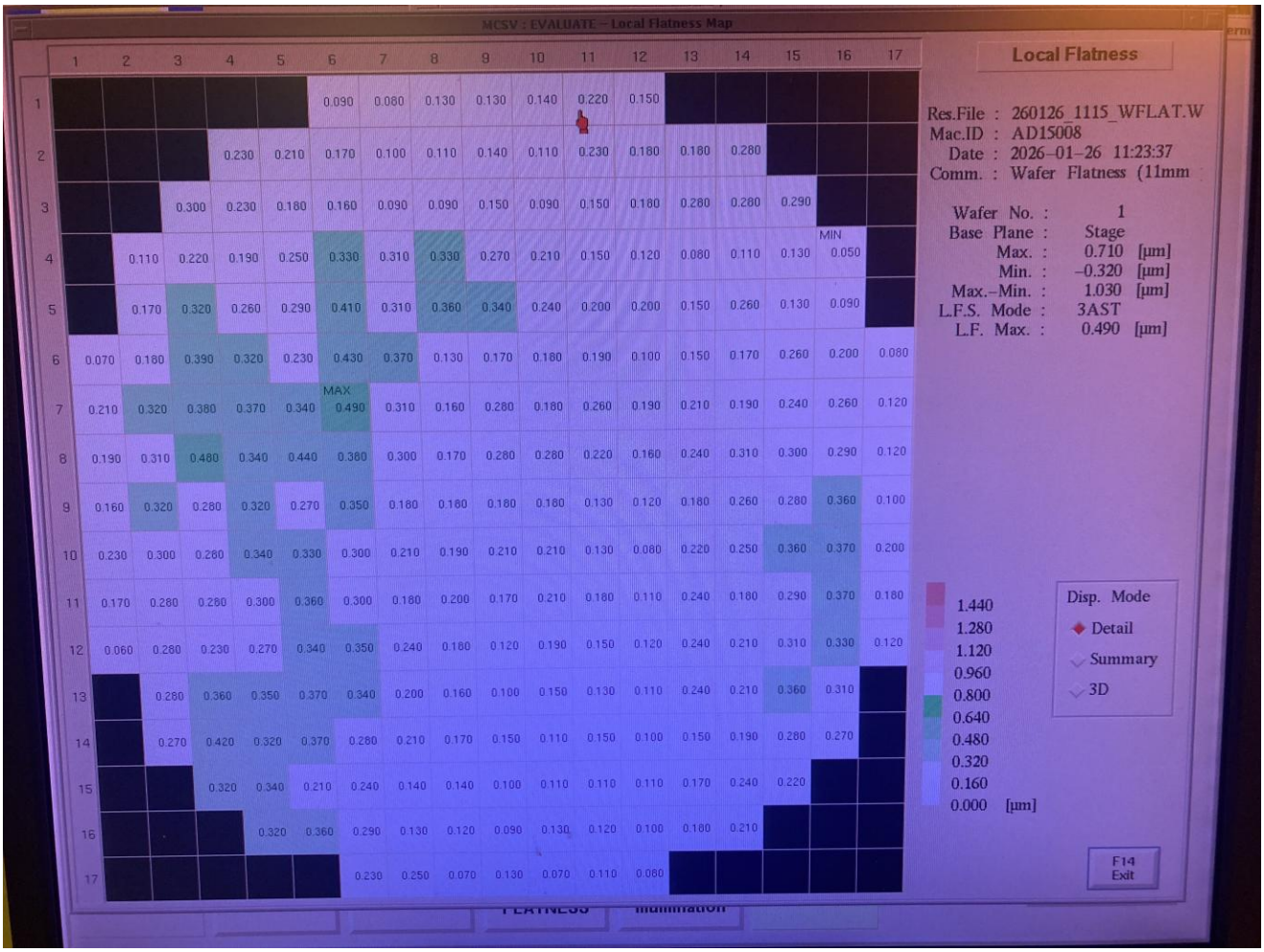
SPEC: 1) Flat Within ≥ Max-Min 3.0µm

Result: Max-Min = 1.03µm



SPEC: 2) L.F.S Within ≥ Max-Min 0.8µm

Result: Max-Min = 0.49µm


MCSV : EVALUATE – Local Flatness Map
Local Flatness
Res.File : 260126_1115_WFLAT.W
Mac.ID : AD15008
Date : 2026-01-26 11:23:37
Comm. : Wafer Flatness (11mm
Wafer No. : 1
Base Plane : Stage
Max. : 0.710 [µm]
Min. : -0.320 [µm]
Max.-Min. : 1.030 [µm]
L.F.S. Mode : 3AST
L.F. Max. : 0.490 [µm]
MAX
MIN
1.440
1.280
1.120
0.960
0.800
0.640
0.480
0.320
0.160
0.000 [µm]
Disp. Mode
Detail
Summary
3D
F14
Exit

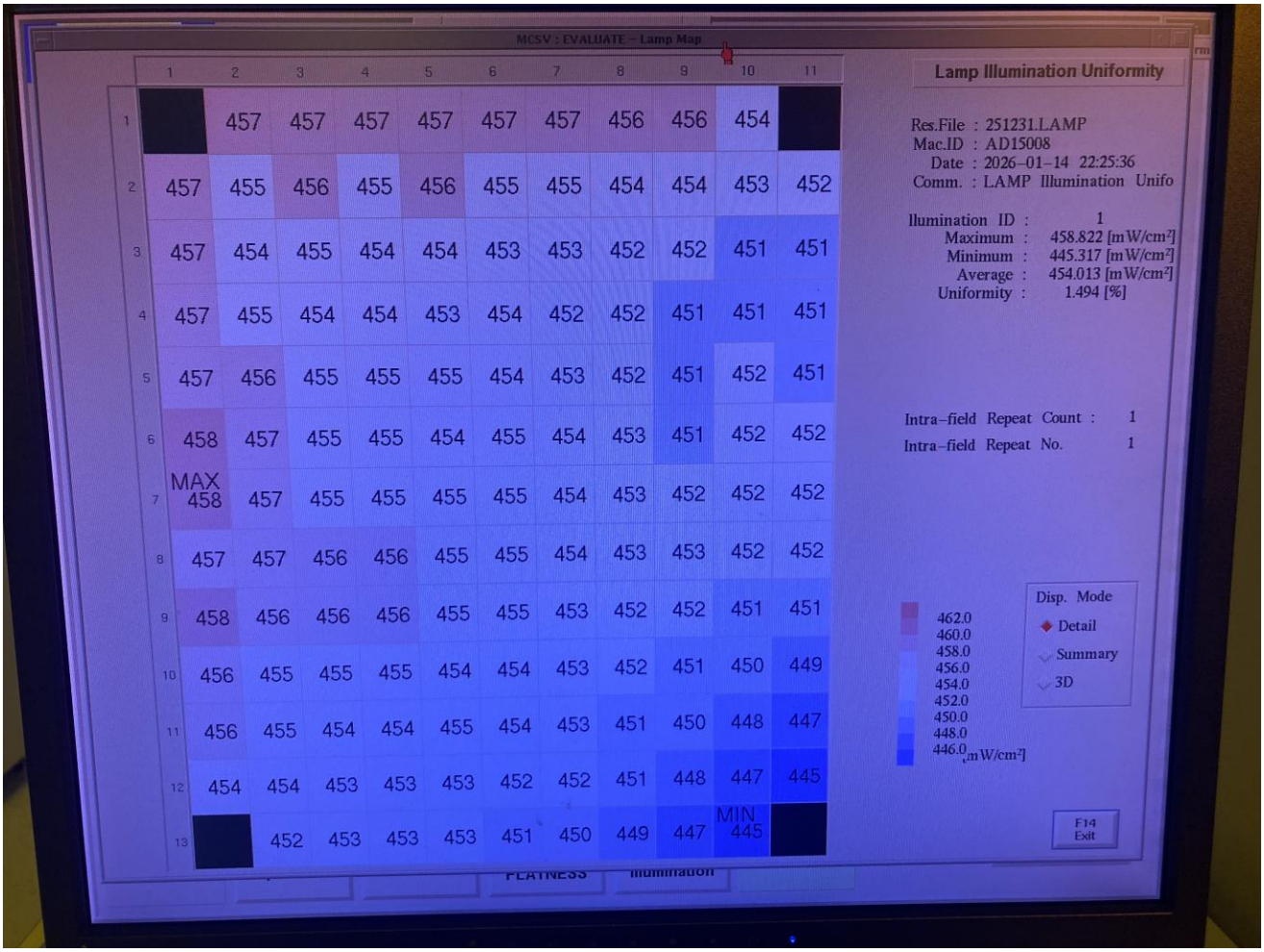
5/6 Exposure Power / Uniformity (2026):

SPEC: Power = Within ≥ 650mW/cm2

Spec: Uniformity Within ±1.5%

Result: 1) Illumination Power = 459mW/cm2

2) Uniformity = 1.49%



7. Stage Precision Accuracy (2026):

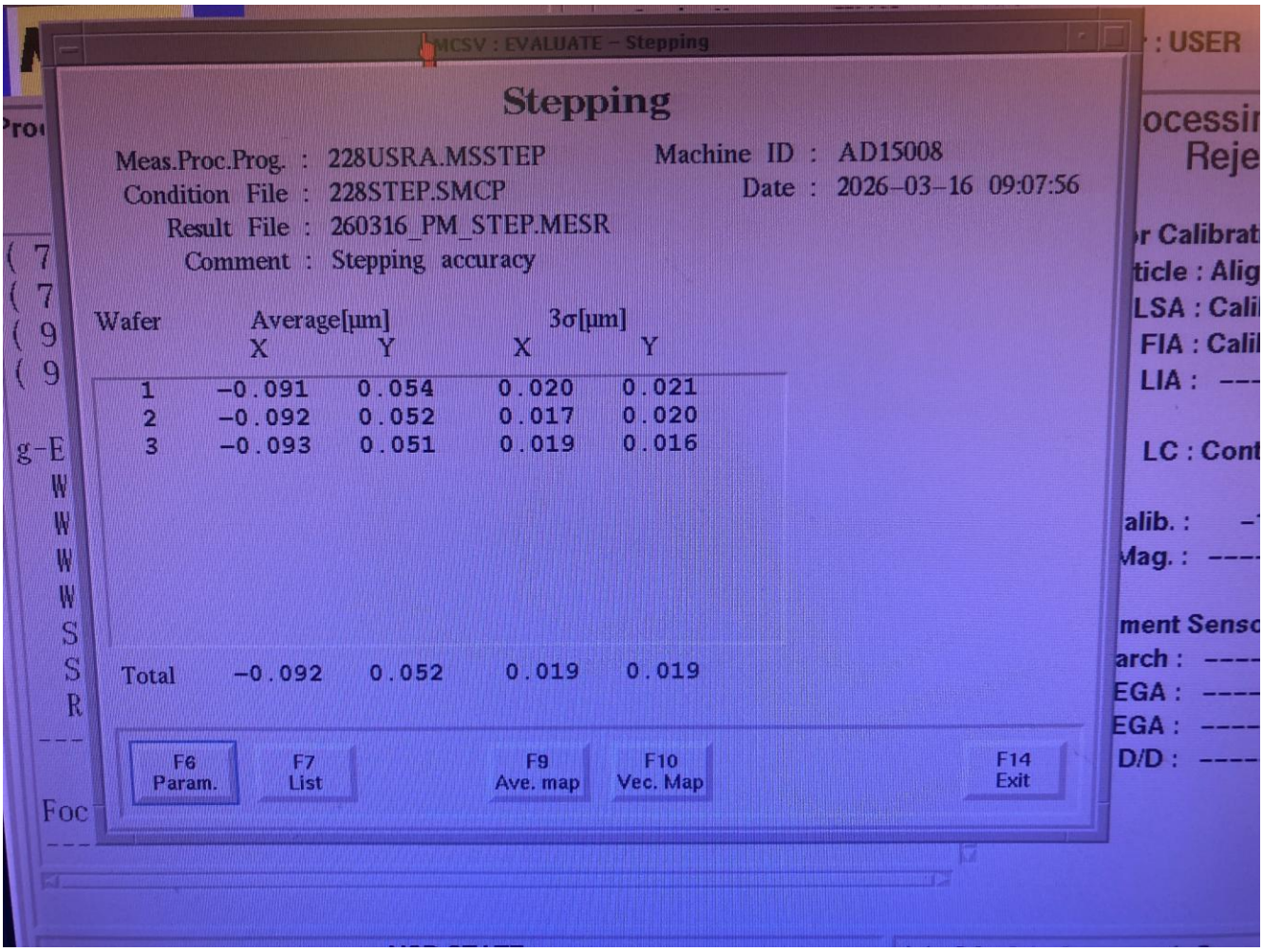
SPEC: Step X,Y 3σ ≤ 50nm

Backlash X,Y 3σ ≤ 50nm

Result:

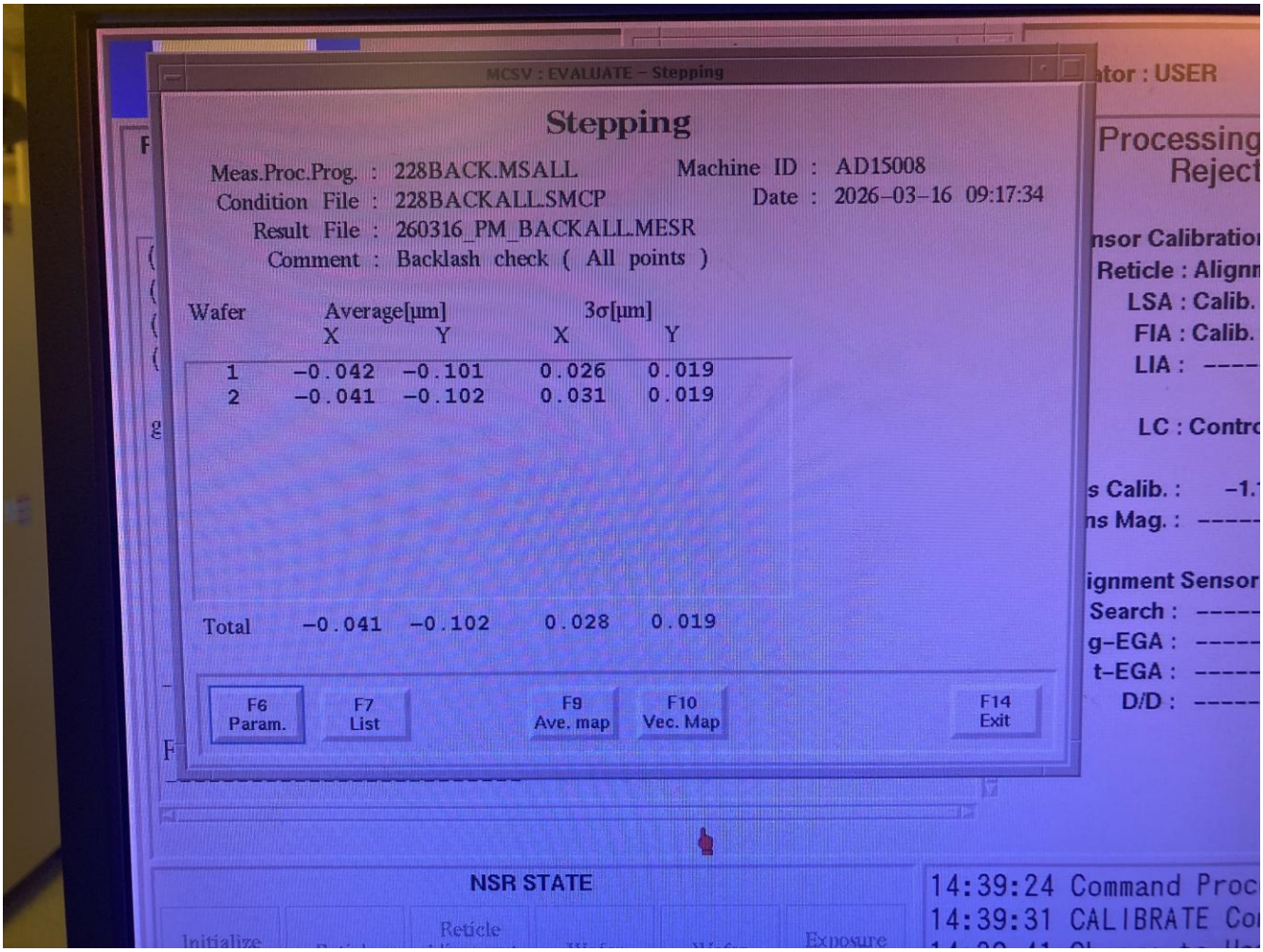
1) Stepping Accuracy

X(3σ) : 19nm Y(3σ) : 19nm



2) Backlash Accuracy

X(3σ) : 28nm Y(3σ) : 19nm


MCSV : EVALUATE – Stepping
Stepping
Meas.Proc.Prog. : 228BACK.MSALL
Machine ID : AD15008
Condition File : 228BACKALL.SMCP
Date : 2026-03-16 09:17:34
Result File : 260316_PM_BACKALL.MESR
Comment : Backlash check (All points)
Wafer
Average[µm]
3σ[µm]
X
Y
X
Y
1 -0.042 -0.101 0.026 0.019
2 -0.041 -0.102 0.031 0.019
Total -0.041 -0.102 0.028 0.019
F6 Param.
F7 List
F9 Ave. map
F10 Vec. Map
F14 Exit
NSR STATE
Initialize
Reticle
Exposure
14:39:24 Command Proc
14:39:31 CALIBRATE Co
Processing
Reject
Reticle : Alignm
LSA : Calib.
FIA : Calib.
LIA : ----
LC : Contro
Search : -----
g-EGA : -----
t-EGA : -----
D/D : -----

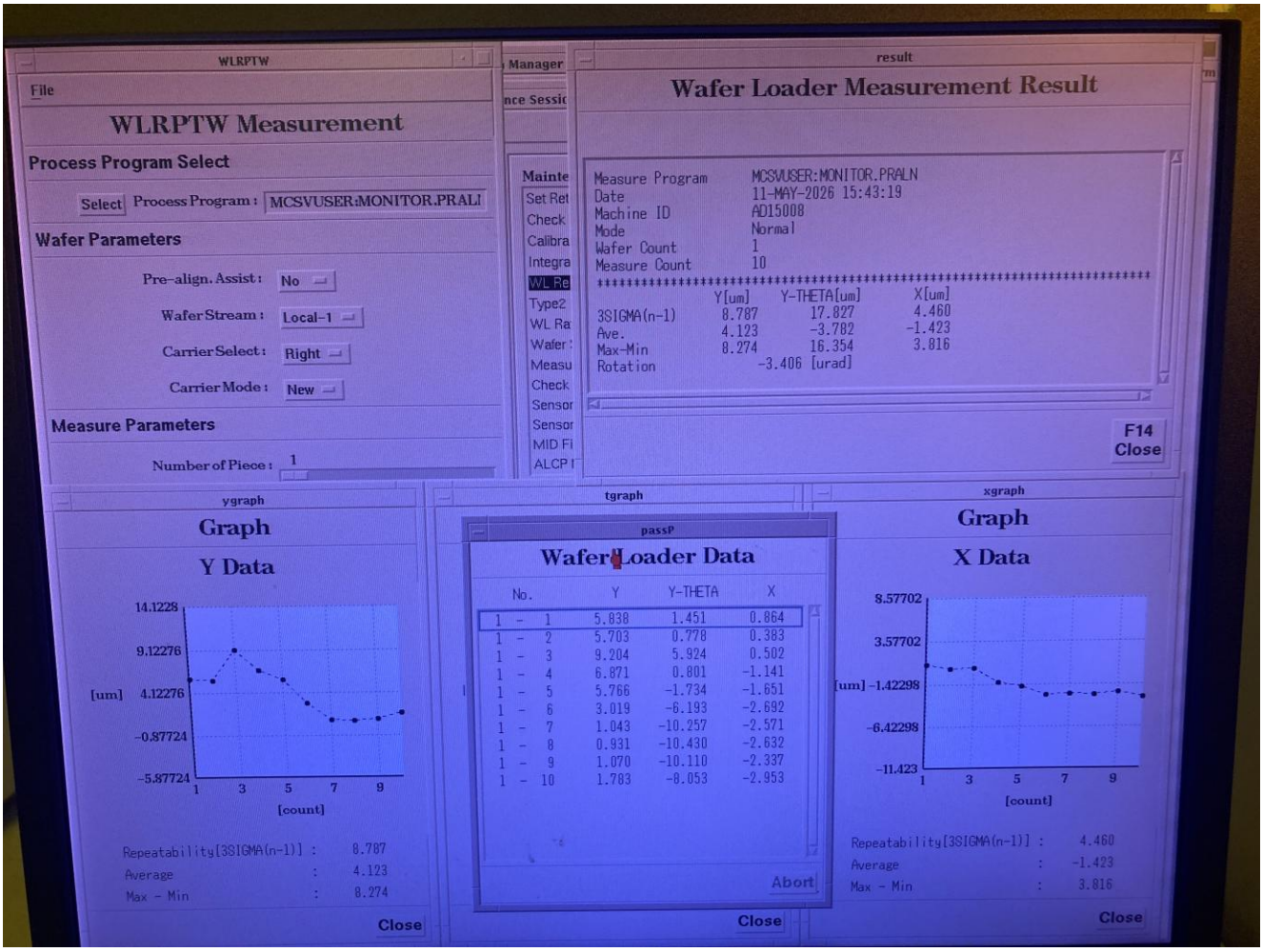
8. Wafer Pre-Alignment Repeatability (2026):

SPEC: 3σ ≤ 15μm

Result: X(3σ) = 4.460μm

Y(3σ) = 8.787μm

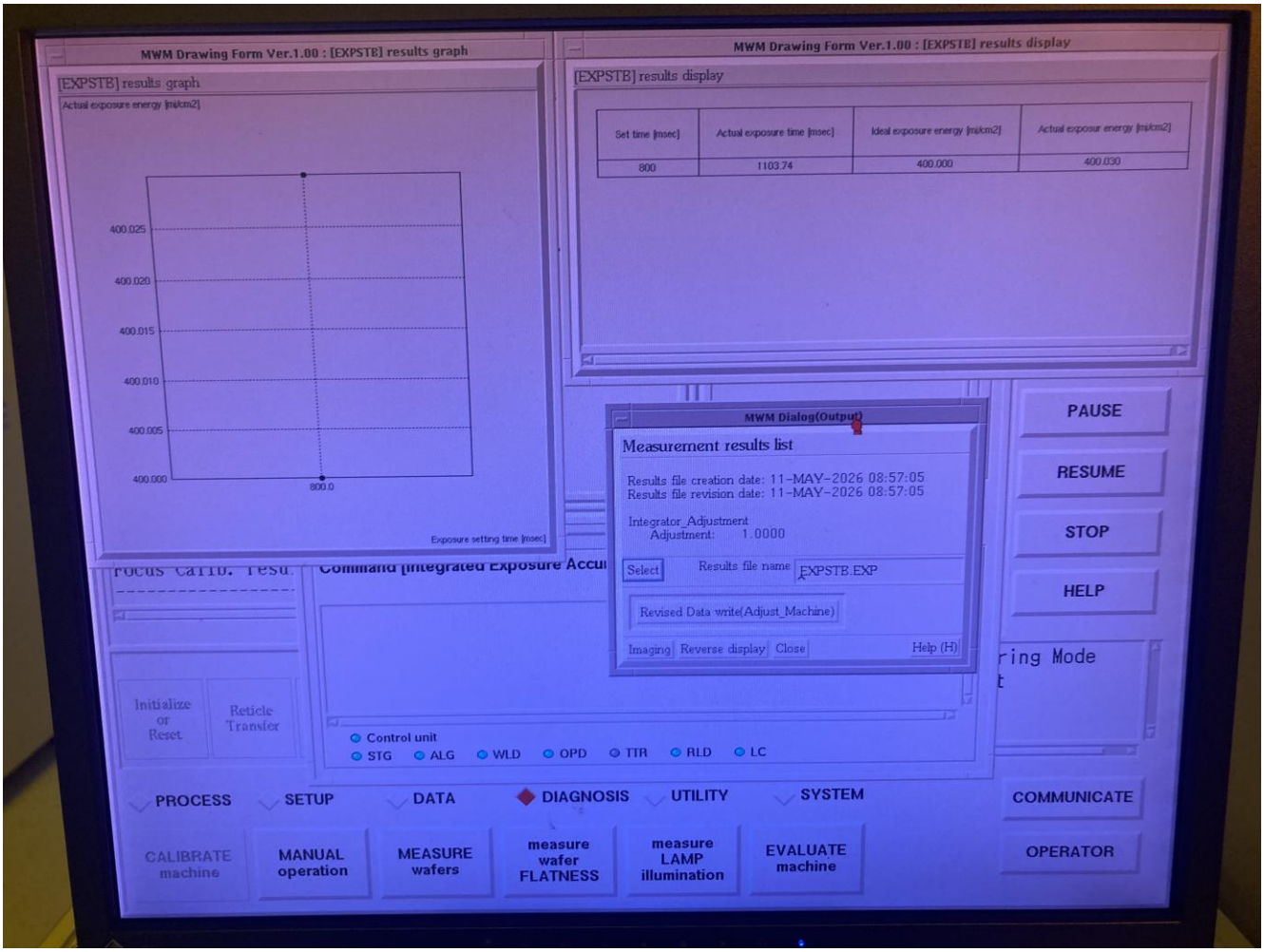
T(3σ) = 17.827μm



9. Integrator Accuracy (2026):

SPEC: Ave ≤ 1.0%

Result: Max = 0.0075%

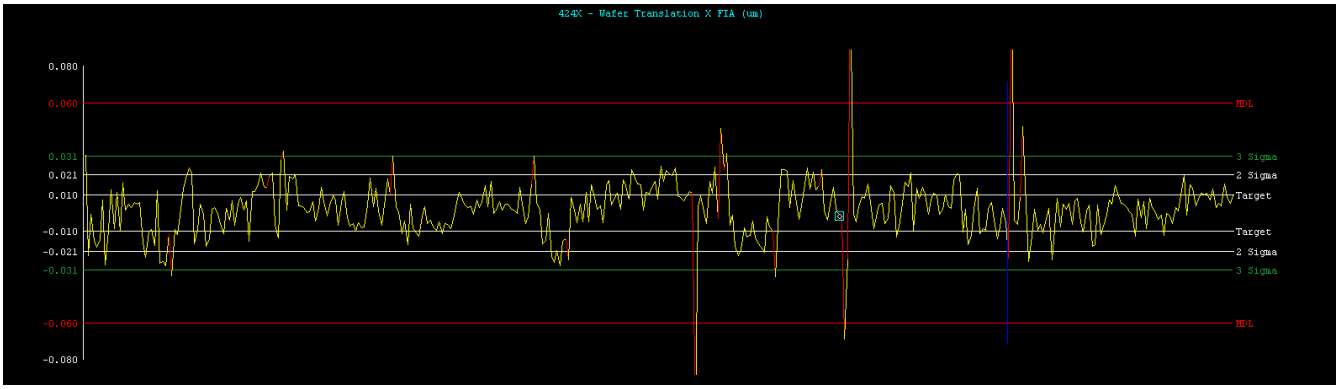


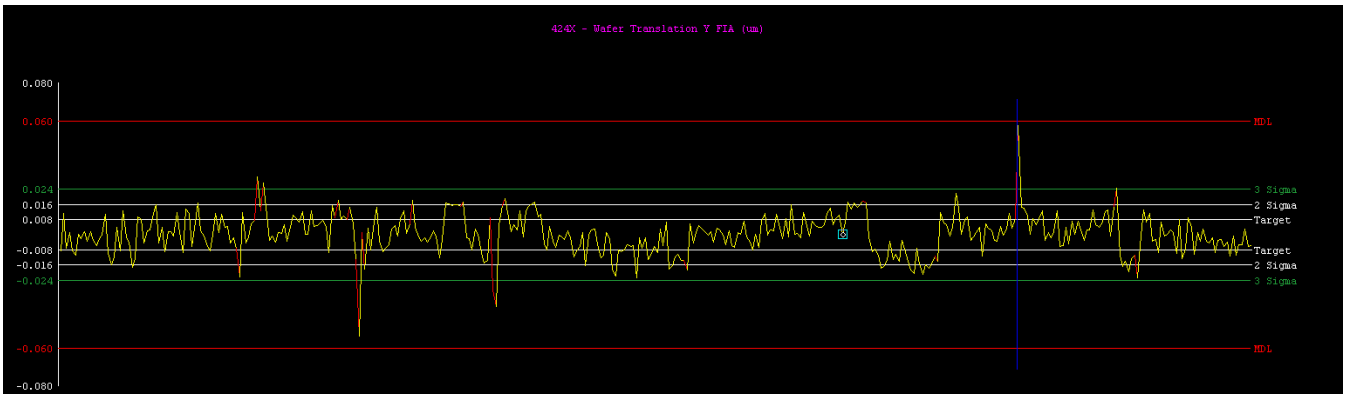
10-1 FIA (2026):

SPEC: FIA-EGA = |M| + 3σ ≤ 70nm

Result: FIA-EGA X = 60nm

FIA-EGA Y = 50nm





10-2 LSA (2026):

SPEC: LSA-EGA = |M| + 3σ ≤ 70nm

Result: LSA-EGA X = 40nm

LSA-EGA Y = 50nm