



MaxMile LED Epiwafer EpiEL, PL, or EL/PL Combination Mapping System



	4-inch Desktop	8-inch Desktop	Robot I System	Robot II System
1. Wafer Size:	2"-4"	2"-8"	2"-8"(Opt: up to 12")	2"-8"
2. Station Size (w x d x h):	18" x 18" x 14"	18" x 18" x 14"	32" x 32" x 68"	57" x 32" x 68"
3. Wafer Loading:	manual	manual	manual/robot	robot
4. Cassette Station:	n/a	n/a	1	up to 3
5. Cassette detection:	n/a	n/a	yes	yes
6. Wafer size detection:	n/a	n/a	yes	yes
7. Cassette wafer mapping:	n/a	n/a	yes	yes
8. Prealigning:	n/a	n/a	yes	yes
9. Functions for Quick and Mapping Test directly on Epi-wafers	<ul style="list-style-type: none"> Standard: EpiEL (Electroluminescence), PL (Photoluminescence), EL/PL combination, IV, Reverse, Warpage. Optional: Film thickness*, GaN/Si, Test temperature control*. 			
10. Spectral Detection Range:	from UV to NIR (default 200nm-800nm)			
11. Spectral resolution:	0.5-2 nm, depending on spectral range selection and system configuration			
12. EpiEL Probe type:	Type I, Type IA, Type II, Type IIA, Type IIB, Type IIC, and Type SiA			
13. Measurement Items	<ul style="list-style-type: none"> Types of EL mappings: <ul style="list-style-type: none"> ✓ Wavelength--WLP/WLD/WLC (peak/dominant/center) wavelength, FWHM, blue shift, and blue shift rate. ✓ Intensity--radiometric/photometric power, slope efficiency. ✓ Electrical—measured forward driving current/voltage, device Vf, device If, turn-on voltage, reverse leakage current/voltage, threshold voltage, on-resistance, top resistance, forward leakage, series resistance, ideality factor n, etc. Types of PL mappings: <ul style="list-style-type: none"> ✓ Wavelength--WLP/WLD/WLC (peak/dominant/center) wavelength, FWHM. ✓ Intensity--radiometric/photometric power Types of IV mappings: <ul style="list-style-type: none"> ✓ Forward driving current/voltage, reverse leakage current/voltage, threshold voltage, on-resistance, etc. Types of other mappings: <ul style="list-style-type: none"> ✓ Warpage ✓ Film thickness* Types of Curves: <ul style="list-style-type: none"> ✓ EL spectra at specific driving current/voltage ✓ PL spectrum ✓ LIV--current/emissive intensity vs. voltage ✓ Output intensity vs. driving current ✓ Wavelength & FWHM vs. driving current ✓ Reverse IV. 			



- **CVD Wafer Layout Mapping** for all above measurement items, from either mapping or quick tests.

Note: Software can be customized for specific device parameter mapping.

14. Excitation sources

EL: Keithley SourceMeter; PL: 405nm standard, please contact MaxMile for other excitation sources.

15. Current measurement: >10e-12A

16. Control units and OS: PC-based EpiEL station run on 64bit Microsoft Windows 7/8

17. Sampling points/Steps:

- EL sampling points and optical/electrical measurement steps for each point can be specified by end user.
- PL sampling points can be specified by end user (high resolution scanning for demanding application and quick scanning for mass production quality control).
- User can generate own test point arrangement.

18. Measurement time: about 1-12 minutes per wafer, depending on test type, sampling points, test protocol, and measuring step setting; PL option scanning rate: up to 50 points per second.

19. Report generation and data presentation: HTML (Brief/Abbreviated/Full) /XML/CSV/TXT

20. Mapping color encoding: rainbow, gradient, binary, temperature, gray, or any type specified by end user

21. Power Supply: 10A/110VAC or 5A/220VAC Max; Vacuum needed for robot system

22. Ambient Condition: Temperature: 15 °C-30 °C; Relative humidity: 30%-70% without condensation

23. Warranty: one year

24. Delivery: up to 3 months depending on system options; installation and operating training will be provided at customer site.

**please contact MaxMile for detail and availability*

