

# LCINTEL Intelligent

## One-stop solution for space environment testing equipment

Designed specifically for the research and evaluation of perovskite, tandem solar cells, and space photovoltaic technologies.

### MPPT Steady-State Testing System

Model: LC-SPV-ST-3030-DM

- Large-area Class A LED light source (30×30cm, compliant with IEC 60904-9 standard)
- One-click switching between AM0/AM1.5G dual-spectrum modes
- Precision temperature control platform with an ultra-wide temperature range of -190°C to +300°C
- High vacuum environment simulation (up to  $10^{-3}$  Pa, oxygen content ~0.21 ppm)
- MPPT continuous testing function (temperature cycling + uninterrupted monitoring of vacuum environment)

### Vibration Testing System

Model: Zhenyan Modal Exciter PME500

- Frequency range: DC-6000Hz (covering the vibration frequencies of the spacecraft launch environment)
- Maximum thrust: 500N (can test products weighing up to 50kg)
- Maximum displacement:  $\pm 22.5$ mm (meets the requirements for large displacement at low frequency)
- Test modes: sinusoidal sweep, random vibration, shock test
- Complies with NASA GEVS, ESA ECSS, JAXA and other aerospace standards

### Atomic Oxygen Simulation System

Model: AO-TEST-SYSTEM

- Atomic oxygen flux:  $1 \times 10^{15} \sim 5 \times 10^{16}$  atoms/cm<sup>2</sup>/s (adjustable)
- Atomic oxygen energy: 1-5 eV (adjustable)
- Vacuum level:  $\leq 1 \times 10^{-3}$  Pa (molecular pump + mechanical pump assembly)
- Sample size: Maximum 300mm × 300mm
- Temperature range: -150°C ~ +150°C (liquid nitrogen cooling + electric heating)

### UV Aging Chamber

Model: UV-AGING-CHAMBER

- Independently developed UVA-340 and UVB-313 lamps
- Temperature range: -40°C to +150°C (controllable)
- Irradiance: 0.3-1.5W/m<sup>2</sup> continuously adjustable
- Meets IEC 61215 and IEC 61646 photovoltaic module UV aging test standards
- Supports program control, allowing users to set light/dark cycles and temperature cycling curves.

### EQE Quantum Efficiency Testing System

Model: XY-QE-001

- Wavelength range: 300-1800nm (expandable to 2500nm)
- Repeatability: >99.5% (high-precision optical system and low-noise circuitry)
- Fully supports testing of tandem solar cells (all-calcium/calcium-silicon tandem).
- Independent sub-cell EQE measurement (integrated multi-segment bias light)
- Modernized UI + AI-assisted analysis + Cloud-based data management

 Aerospace-grade standards |  Technological innovation |  Rapid response

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Lecheng Intelligent - Making Space Photovoltaic Testing Simpler | Focusing on the R&D and Manufacturing of Space Environment Simulation Equipment