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RFX 6100003037

Technical Specification for **LED-Based Advanced Solar Simulator System**

Sr. No	Item Description	Detailed Technical Specification	QTY	Technical Compliance (Yes/No)	Additional Information
	LED-Based Advanced Solar Simulator System				
1	Key Technical Requirements:	• Illuminated area $\geq 260 \text{ mm} \times 260 \text{ mm}$ • Spectral class A+ or better; Non-uniformity $\leq 1\%$ • Irradiance range: 0.2–1.3 suns; AM1.5G and AM0 • Tuneable spectrum with built-in spectrometer • Exposure time $\geq 250 \text{ ms}$ including continuous mode	1		
	Electrical Characterization:	• Voltage range: -20 V to $+8 \text{ V}$ • Current range: $\pm 25 \text{ A}$ ($\geq 16 \text{ A}$ continuous) • Resolution $\leq 0.004\%$ • Repeatability: $I_{sc}/V_{oc} \leq 0.05\%$; FF/Efficiency $\leq 0.075\%$ • Four-quadrant active electronic load • Rapid I-V for high-capacitance devices			
	Sample Handling:	• Temperature-controlled chuck ($20\text{--}70 \text{ }^{\circ}\text{C}$) • Kelvin probe capability, vacuum tracks • Cell sizes: $20 \times 20 \text{ mm}^2$ to M13 wafers, bifacial supported			
	Imaging:	• EL and PL imaging for silicon and perovskite sub-cells • Camera resolution $\geq 4 \text{ MP}$; $\sim 145 \text{ }\mu\text{m}$ spatial resolution			

		• PL excitation: 365–500 nm (perovskite), 850–920 nm (silicon)			
	Additional Capabilities:	• Suns-Voc measurement • MPP tracking for tandem cells • Pyrometer-based temperature sensing (IEC 60891)			
	Utilities & Accessories:	• PC with GUI, dark enclosure, laboratory rack • Closed-loop recirculating chiller • On-site installation, training, and warranty ≥ 12 months			