Bambu Lab S1 Technical Specifications

Working Mode	Single-line blue laser	7-line blue laser	34-line blue laser	Infrared speckle
Accuracy*	Up to 0.02 mm			Up to 0.06 mm
Volumetric accuracy*	0.02 mm + 0.06 mm/m			0.06 mm + 0.1 mm/m
Scan rate	Up to 108,000 points/s	Up to 756,000 points/s	Up to 1,836,000 points/s	Up to 2,880,000 points/s
Frame rate	Up to 90 FPS			Up to 30 FPS
Point spacing	0.1 mm	0.05 mm	0.1 mm	0.2 mm
Minimum scan volume	5*5*5 mm			150*150*150 mm
Scan area	• 310*184 mm @300 mm • 370*245 mm @400 mm • 431*306 mm @500 mm • 491*367 mm @600 mm			• 431*306 mm @500 mm • 612*490 mm @800 mm • 732*612 mm @1000 mm
Working distance	180–600 mm	180–400 mm	180–600 mm	200–1000 mm
Color texture mapping	Supported			Supported
Alignment modes	Texture / geometry / markers and any combination			Texture / geometry and any combination
Fill lights	6 blue-white fill lights and 6 infrared fill lights			
Laser safety	Class 2 laser	Class 1 laser	Class 2 laser	Class 1 laser
Net weight	700 g			
Dimensions	233*160*77 mm			
Calibration board	High-precision glass calibration board			
Screen size	3.5 inches			
Battery capacity	4800*2 mAh			
Operating time	3.5 hours			
Charging time	1.5 hours			

Wi-Fi	Operating frequency: • 5150–5250 MHz, 5745–5825 MHz (CE) • 5725–5850 MHz (SRRC) Wi-Fi transmit power (EIRP) • 5.1G: ≤23 dBm (CE) • 5.8G: ≤14 dBm (CE), ≤33 dBm (SRRC) Wi-Fi protocol: Wi-Fi 6, IEEE 802.11 a/b/g/n/ac/ax
OS support	Windows and macOS
PC requirements	Windows: • Minimum: Intel i7 7th Gen or AMD Ryzen 7 series; 64-bit Windows 10/11; RAM ≥ 16 GB; GPU Nvidia 2060 or above with ≥ 6 GB VRAM • Recommended: Intel i7 13th Gen or AMD Ryzen 9 series; 64-bit Windows 10/11; RAM ≥ 32 GB; GPU Nvidia 3060 or above with ≥ 8 GB VRAM macOS: • Minimum: Processor: M1 or above; OS: macOS 12 or above; RAM: ≥ 16 GB • Recommended: Processor: M3 or above; OS: macOS 14 or above; RAM: ≥ 32 GB
Operating temperature	-10 °C – 40 °C
Operating humidity	10%–90% RH (non-condensing)

*Accuracy figures are obtained under standard laboratory test conditions. Actual scanning results may vary depending on the environment, the object being scanned and operating conditions.