

Maverick MQ16 Portable qPCR System

Product overview

Anitoe Maverick MQ16 is a portable high-performance real time quantitative PCR system. Maverick MQ16 is equipped with a 4-channel direct imaging fluorescence optical system, powered by Anitoe's ultra-low-light CMOS bio-imager sensor; and a fast Peltier-powered thermal cycler. Maverick is optimally suited for applications where portability, minimal space, fast time-to-result is required. Applications of Maverick are point-of-care molecular diagnostics test (POCT)¹, food safety and environment testing, agriculture, or research lab use where bench space is limited.



Figure 1. Maverick MQ16 Portable qPCR System, shown with integrated 10" touchscreen interface

Features

- Fully compatible with standard qPCR assays and consumables
- Compact and rugged design. No internal moving parts, and no need for calibration.
- Multi-wavelengths 4-channels fluorescence sensing capability².
- Equipped with ultra-low-light sensitive CMOS-based fluorescent imager.
- Intuitive easy-to-use cross-platform software, with cloud connectivity.
- Low power. External 16V supply. < 150W active power.

¹ Clinical clearance maybe required

² Support Intercalating dyes, hydroxyls probes and FRET probes

Key parameters

Capacity (# of wells)	16
Channels (# of Fluorophores per well)	Up to 4 (1. FAM/SYBR Green; 2. JOE/HEX/VIC/TET; 3. ROX/Texas Red; 4. CY5/LIZ/Cy5.5)
Multiplex capability	Up to 4 targets per well
Minimum detection threshold	3 copies
Dynamic range	>1.0E9
Signal Interface	USB 2.0
Excitation source	High endurance LED
Detector	Ultra-low-light CMOS bio-imaging chip
Thermal system	Solid-state, Peltier-based
Tube/plate formats	0.2mL, 4 or 8-tube strip
Reaction volume	10uL – 60uL
Filters:	4 sets for each excitation and emission channel
Excitation Range:	460nm – 670nm
Emission Range	510nm – 720nm
DNA probes supported:	DNA binding dyes (e.g., SYBR-Green), hydrolysis probes (e.g., TaqMan probe) and hybridization probes (e.g., FRET probes)
Programming modes:	qPCR amplification with touchdown option; isothermal amplification; melting curve analysis; manual fluorescence measurement and quantification
Well Temperature Uniformity	Within $\pm 0.25^{\circ}\text{C}$ at annealing stage
Well Temperature control resolution	$\pm 0.1^{\circ}\text{C}$
Temperature Ramp Rate	Up to $6^{\circ}\text{C} / \text{s}$ heating; $4^{\circ}\text{C} / \text{s}$ cooling
Size and weight	245mm (L) x 190mm (W) x 140mm (H)
Weight	2800g
Power supply	DC 16V, 150W (CE-approved adapter provided that accepts 110V/240V AC)
Operating Environment	5 – 40°C , 80% humidity
Storage Environment	-20 – 55°C , 93% humidity

Assay compatibility

Maverick qPCR Instruments are open platforms that are fully compatible with all standard qPCR or RT-PCR assays/chemistries.

Maverick qPCR Instruments use standard 0.2ml fully transparent qPCR tubes that can be easily sourced.

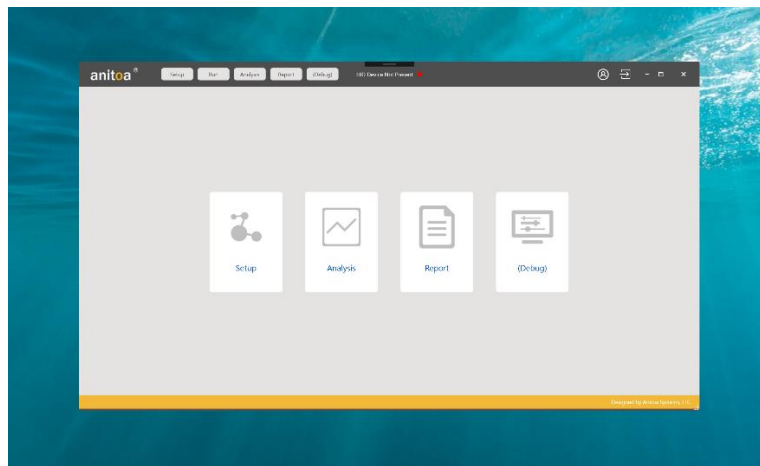


Figure 2. Maverick™ software, multi-language, and multi-platform (PC, Android)

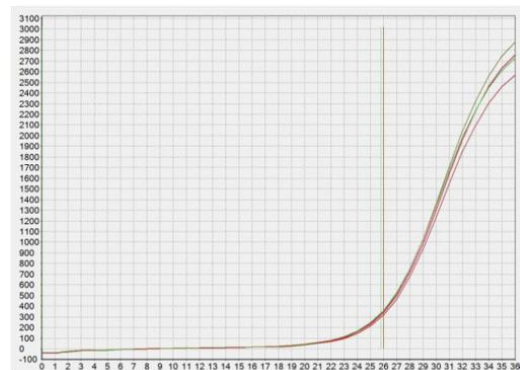
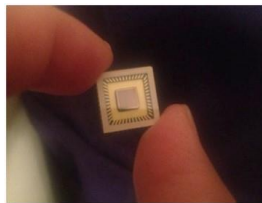


Figure 3. Maverick uses Anitoa's ultra-sensitive CMOS Image Sensor (CIS) for fluorescence detection

Applications

- Point-of-care molecular diagnostics³
- Food safety test
- Environmental microbial-threat monitoring
- Agriculture DNA testing
- Forensic testing
- Research and educational lab use
- Drug quality assurance testing

Contact

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³ Clinical clearance required.