

Maverick MQ4 Ultra-portable qPCR System

Product overview

Anitoa Maverick MQ4 is a portable high-performance real time quantitative PCR system. Maverick is equipped with a 4-channel direct imaging fluorescence optical system, powered by Anitoa'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 compact qPCR system

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 software, with cloud connectivity for data storage and analytics
- Low power. External 10V supply. <= 90W active power.

¹ Clinical clearance maybe required

² Support Intercalating dyes, hydroxyls probes and FRET probes

Key parameters

Capacity (# of wells)	4
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	4 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. SybrGreen), 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;
Temperature Uniformity	< ±0.25°C at annealing stage
Temperature control resolution	±0.1 °C
Temperature Ramp Rate	Up to 6°C / s heating; 4°C / s cooling
Size and weight	165mm (L) x 110mm (W) x 80mm (H)
Weight	1050g (4 well model)
Power supply	DC 10.5V, 90W (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.

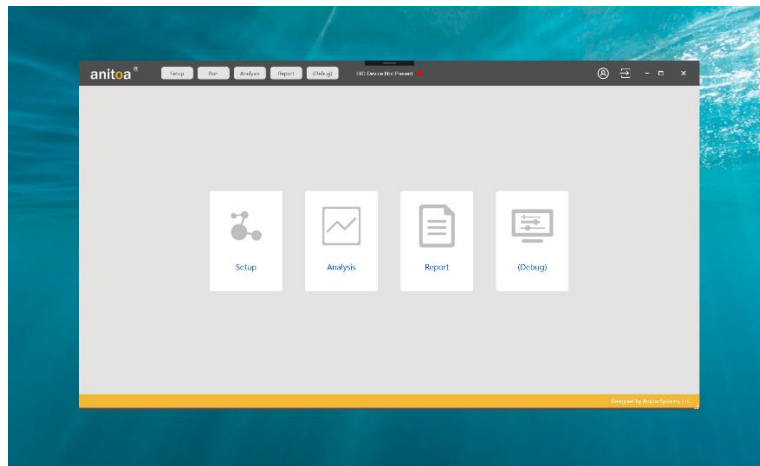


Figure 2. Maverick™ software, multi-language and multi-platform (PC, Android)

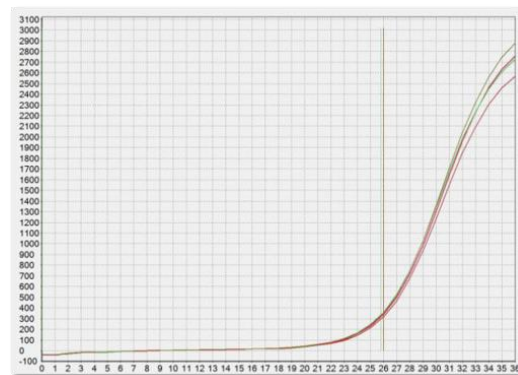
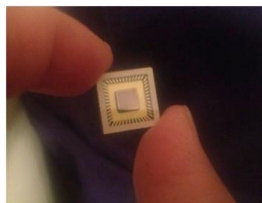


Figure 3. Maverick uses Anitoa's ultra-sensitive CMOS Image Sensor (CIS) for fluorescence detection

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.