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(71)Name of Applicant :

1)NOIDA INSTITUTE OF ENGINEERING & TECHNOLOGY

Address of Applicant :19, Knowledge Park-II, Institutional Area, Greater Noida – 201306, Uttar Pradesh, India. -----

Name of Applicant : NA

Address of Applicant : NA

(72)Name of Inventor :

1)Dr. SUJEET KUMAR SINGH

Address of Applicant :Department of Biotechnology, Noida Institute of Engineering & Technology, Greater Noida. Greater Noida -----

(57) Abstract :

The invention relates to a portable DNA amplification device (10) with an integrated UV visualization system (12) designed for field diagnostics. The device includes a microheating module (14), sample loading chamber (16), observation window (18), and digital interface (22) controlled by a microcontroller (24). Powered by a rechargeable battery (20), it performs PCR or LAMP amplification and enables immediate detection through UV fluorescence. Wireless connectivity (52) supports real-time data transfer, making the system suitable for rapid, on-site genetic testing and diagnostics.

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