

(54) Title of the invention : AI-POWERED HYBRID BREAST IMAGING DEVICE FOR ENHANCED EARLY DETECTION AND DIAGNOSTIC PRECISION

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(57) Abstract :  
The present invention discloses an AI-powered hybrid breast imaging device designed for enhanced early detection and diagnostic precision in breast cancer screening. The device integrates ultrasound and soft X-ray imaging into a single, portable system, enabling high-resolution 3D hybrid imaging that provides a comprehensive view of breast tissue. The ultrasound component captures soft tissue details, while the soft X-ray system detects dense tissues and microcalcifications. The device's AI-driven diagnostic engine analyzes the fused images to detect potential malignancies and abnormalities with high accuracy, reducing false positives and negatives. The portable design ensures accessibility in diverse healthcare settings, including mobile units and home screenings. Additionally, its IoT capabilities allow seamless integration with electronic health records (EHR) systems for efficient data sharing and remote consultations. RADI-SO-SCAN addresses the limitations of traditional breast imaging technologies, offering a cost-effective, precise, and scalable solution for early breast cancer detection and diagnosis. Accompanied Drawing [Fig. 1]

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