

We carefully reviewed the feedback from the reviewers and implemented significant changes to address their comments. Below is a summary of the key suggestions and the corresponding improvements:

Comparison with SAR Imaging: We introduced a new section (**Section 3.3**) to discuss the design considerations and tradeoffs of mmDefender compared to SAR imaging techniques. This section highlights the advantages and limitations of both approaches, focusing on hardware configurations and processing pipeline tradeoffs. These additions provide a clearer context for mmDefender’s unique contributions to real-time, walk-through concealed object detection.

Clarifying Application Scenarios: To strengthen the motivation for our work, we expanded the discussion on application scenarios. Specifically, we emphasized that mmDefender is designed for real-time concealed object detection and localization, making it suitable for deployment at primary security inspection points in low-threat environments such as schools, public venues, and train stations. This enhancement underscores the practicality and versatility of our system for real-world applications.

Emphasizing Novelty: We improved the discussion of mmDefender’s novel contributions in **Section 5**, explicitly comparing its capabilities to state-of-the-art systems like SquiggleMilli. While acknowledging SquiggleMilli’s superior shape detection for stationary objects, we highlighted mmDefender’s unique focus on real-time processing, moving object detection, and precise localization of concealed objects. These features are critical for practical security applications and differentiate mmDefender in handling dynamic scenarios.

Comparison with Other Methods: To provide a comprehensive view of mmDefender’s performance, we revised and expanded **Table 2**. This updated table now includes qualitative comparisons of system characteristics across key dimensions, such as hardware specifications, detection capabilities, and operational constraints. These enhancements ensure a clearer understanding of mmDefender’s performance relative to other approaches in the field.