Abstract—The Flipper Zero is a versatile tool popular in cybersecurity and hardware hacking. This study bridges the gap by developing custom file signatures tailored for PhotoRec, enabling accurate identification and recovery of Flipper Zero specific file types such as Infrared, RFID, NFC, Sub-GHz, and iButton. Using a pattern-matching and dictionary-based approach, the research achieved a 100% recovery rate for these specialized file types, significantly surpassing default PhotoRec configurations, which only identified a fraction of these file types. Additionally, while challenges were encountered in recovering general file types like BadUSB due to inconsistent or undocumented patterns, the custom signatures resulted in a notable improvement in recovery accuracy. These findings demonstrate the enhanced capability of custom signatures in adapting forensic investigations to emerging technologies, underscoring their potential for improving recovery tools in handling proprietary formats.

Keywords— Flipper Zero, file recovery, digital forensics, custom signatures, PhotoRec