H-11 DIGITAL FORENSICS

Chip-Off Forensics for Smartphones, Vehicles and IoT Devices

Chip-Off Forensics for Smartphones, Vehicles, and IoT Devices teaches students how “best” to perform data extraction and recovery from various devices. This certified 5-day training course is for cyber analysts, cell phone examiners, and digital forensic experts. This course teaches our innovative No Heat chip removal technique, in addition to the Hot Air and Infrared Heat removal methods. New tools and techniques continue to show high rates of success while significantly lowering the risk of damage to the evidence. Students will leave this course with the knowledge and advanced skills needed to perform successful chip-off data recoveries. This course will use tools found in the ***H-11 Chip-Off Professional Lab Kit v6***.

Day 1

Module 1: Course Overview and Flash Memory

- Chip-Off Forensics Overview
- The Forensic Process
- NAND and NOR Memory
- NAND Flash vs. eMMC Memory
- Mobile Device File and Operating Systems

Module 2: Introduction to Chip-Off

- What is Chip-Off?
- What type of devices use flash memory
- Flash Memory and Flash Memory Packages
- Small Outline vs. Multi-Chip Packages
- How do you remove the flash memory?
- Can the chip be damaged as it is removed?
- Can Chip-Off be used on iOS devices?

Module 3: Phone Research

- Purpose of Online Research
- What are you not going to find?
- Websites and types of data they provide
- Finding the FCC Grantee Code

Day 2

Module 4: Chip-Off Readers and Adapters

- Chip Readers and Adapters (All sizes):
  - Medusa Pro II
  - Octoplus Pro
  - ICFRIEND NB Reader and Adapters
- UP-828P Programmer and Adapters
  - UP-162P
  - UP-169P
  - UP-221P
- Rusolut VNR eMMC Kit and Adapters
- Write Blockers for USB, SD and Smartphones
- Disk Management Considerations for Smartphones

Module 5: Tools to Use and Cleaning the Chip

- Types of Epoxy
- Cleaning the Chip
- Retining the Chip

Day 2 – Continued

Module 6: Removing the Flash Memory

- Hot Air Station and Heat Removal
  - Preheater
  - Processes and Steps
- IR Heat Removal
  - T-862 IR Rework Station
  - IR Settings
  - Processes and Steps
- Micro Milling Removal
  - Micro Mill
  - Processes and Steps
- Removing the Heat Shield
- Hands-on Exercises and Reality Check

Day 3

Combined Hands-on Exercises and Skill Building Exam from Modules 4, 5, and 6

Day 4

Module 7: Binary, Raw, and Other Data Types

- NAND Dumps
- Forensic Tools and Raw NAND Flash
- Generic Master Boot Record (MBR)
- IoT data types
- Vehicle data types

Module 8: Back Up and Evidence File Conversion

- Overview
- Create Forensic Image
- Drive Hash Verification Result

Day 5

Module 9: Bootloader Extractions

- Android Partitions and recovery of Huawei Phones
- How to install - use Android SDK, ADB & Fastboot tools
- Obtaining Root Permissions on a phone
- Command Line techniques for data access & extracting

Final Practical and Hands-on Exam