



Test Result for Mobile Device Acquisition Tool, UFED InField Kiosk v7.5.0.875

Test Results for Mobile Device Acquisition Tool

September 27, 2019



**Homeland
Security**

Science and Technology

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September 2019

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Introduction

The Computer Forensics Tool Testing (CFTT) program is a joint project of the Department of Homeland Security (DHS), the National Institute of Justice (NIJ), and the National Institute of Standards and Technology Special Program Office (SPO) and Information Technology Laboratory (ITL). CFTT is supported by other organizations, including the Federal Bureau of Investigation, the U.S. Department of Defense Cyber Crime Center, U.S. Internal Revenue Service Criminal Investigation Division Electronic Crimes Program, and the U.S. Department of Homeland Security's Bureau of Immigration and Customs Enforcement, U.S. Customs and Border Protection and U.S. Secret Service. The objective of the CFTT program is to provide measurable assurance to practitioners, researchers, and other applicable users that the tools used in computer forensics investigations provide accurate results. Accomplishing this requires the development of specifications and test methods for computer forensics tools and subsequent testing of specific tools against those specifications.

Test results provide the information necessary for developers to improve tools, users to make informed choices, and the legal community and others to understand the tools' capabilities. The CFTT approach to testing computer forensics tools is based on well-recognized methodologies for conformance and quality testing. Interested parties in the computer forensics community can review and comment on the specifications and test methods posted on the [CFTT Web site](#).

This document reports the results from testing UFED InField Kiosk v7.5.0.875 across supported mobile devices and associated media e.g., smart phones, tablets, feature phones and UICCs.

Test results from other tools can be found on the DHS S&T-sponsored digital forensics [web page](#).

How to Read This Report

This report is divided into four sections. Section 1 identifies and provides a summary of any significant anomalies observed in the test runs. This section is sufficient for most readers to assess the suitability of the tool for the intended use. Section 2 identifies the mobile devices used for testing. Section 3 lists testing environment, the internal memory data objects used to populate the mobile devices. Section 4 provides an overview of the test case results reported by the tool.

Test Results for Mobile Device Acquisition Tool

Tool Tested:	UFED InField Kiosk
Software Version:	v7.5.0.875
Supplier:	Cellebrite, Inc.
Address:	7 Campus Drive, Suite 210 Parsippany, NJ 07054
Tel:	(415) 361-4077
WWW:	http://www.cellebrite.com

1 Results Summary

UFED InField Kiosk v7.5.0.875 is a versatile mobile forensic solution that runs on existing hardware. It comes with a suite of applications, peripherals and accessories. InField Kiosk provides users with:

Cellebrite's InField Kiosk enables extraction of all existing or deleted data from mobile devices and memory cards in order to facilitate the investigation. Key features of Infield Kiosk forensic software:

- speeds up investigation thanks to leaving out the laboratory
- collects evidence for detailed analysis
- integrates actions of all users
- fast connection and identification of over 15000 types of devices
- fast logical extraction from mobile devices, SIM cards and USB media
- easy view on data presented in a chart
- data access control function
- quick information exchange between authorized people
- easy filtering of data by crime, person and period
- generating reports in a variety of formats (PDF, USDR, CSV, Microsoft)

UFED InField Kiosk v7.5.0.875 was tested for its ability to acquire active data from the internal memory of supported mobile devices and associated media (i.e., smart phones, tablets, feature phones, UICCs/SIMs). Except for the following anomalies, the tool acquired all supported data objects completely and accurately for all mobile devices tested.

Subscriber/Equipment Related Data:

- Subscriber and equipment related data are not reported. (Device: *Cosmos 3*)

Personal Information Management (PIM) data:

- Graphic files with associated Contact/Address Book entries are partially reported. (Devices: *all Android, Rugby III, LG Extravert 2, Dura Xv, Exalt 2, Cosmos 3, Revere 3*)

- Graphic files associated with Contact/Address book entries are partially reported. (Devices: *iPhone 4, iPhone 5S, iPhone 6S Plus, iPhone 7 Plus, iPad Mini v9.1, iPad Mini v11.3*)
- URLs associated with Contacts are not reported. (Device: *Rugby III*)
- Address data (i.e., state) associated with Contacts are not reported. (Device: *Rugby III*)
- Address data (i.e., street, city, state, zip) associated with Contacts are not reported. (Device: *Kyocera Dura Xv*)
- Calendar entries (i.e., long calendar entries) are partially reported. (Devices: *iPhone 4, iPhone 5S, iPhone 6S Plus, iPhone 7 Plus, iPad Mini v9.1, iPad Mini v11.3*)
- Metadata associated with calendar entries (i.e., notes) is not reported. (Device: *iPhone 6S Plus*)
- Notes/memos are not reported. (Devices: *Galaxy S5, LG G4, Galaxy S6 Edge Plus, Galaxy Note 3*)
- Notes/Memos are partially reported. (Device: *LG G5*)
- Call logs (incoming, outgoing, missed) are partially reported. (Device: *LG G5*)
- Deleted and incoming extended SMS messages (over 160 characters) are truncated. (Device: *Cosmos 3*)
- Group SMS messages are partially reported. (Devices: *iPhone 6S Plus, iPhone 7 Plus*)
- SMS and MMS messages are partially reported. (Device: *Ellipsis 8,)*
- Audio attachments for outgoing MMS files are partially reported. (Device: *LG G4*)

Social Media Related Data:

- Social media related data (i.e., Instagram) is not reported. (Device: *Samsung J3*)

Location Related Data:

- GPS related data (i.e., longitude, latitude coordinates, address) are not reported. (Devices: *Galaxy Note 3, Ellipsis 8, iPhone 4, iPhone 5S*)

Notes:

- ❖ *The recorded results are based upon the outcome of performing all supported data extraction techniques i.e., logical, filesystem, physical for each device.*
- ❖ *Application data extraction is not supported for devices running Android 7.0 or above. Therefore, the status for Social Media Apps are marked accordingly as NA.*
- ❖ *This tool was run offline, therefore the management option/mode could not be used or applied.*
- ❖ *UFED Infield Kiosk viewer is using Physical Analyzer for the decoding engine running in the background. The viewer supports a dedicated set of data-types that are designed to give the user the relevant data to make a decision regarding the investigation. The supported data types are the following: Calendar, Call logs, Contacts, Chat\Messages, Emails, Installed Applications, IM, Location, MMS, SMS, Notes, Timeline, Multimedia, Camera (images taken in the extraction process).*

- ❖ *User should make sure to use a flash drive or SD card whenever the tool suggests the use of them. However, when tool suggests using an extended cable, the message should be ignored, and acquisition should work.*

For more test result details see section 4.

2 Mobile Devices

The following table lists the mobile devices used for testing UFED InField Kiosk v7.5.0.875

Make	Model	OS	Firmware	Network
Apple iPhone	4	iOS v4.3.3 (8J2)	04.10.01	GSM
Apple iPhone	5S	iOS 7.1 (11D167)	2.18.02	CDMA
Apple iPhone	6S Plus	iOS 9.2.1 (13C75)	1.23.00	CDMA
Apple iPhone	7 Plus	iOS 10.2 (14C92)	1.33.00	CDMA
Apple iPad	Mini	iOS 9.1 (13B143)	4.32.00	CDMA
Apple iPad	Mini	iOS 11.3.1 (15E302)	11.3.1	CDMA
Samsung Galaxy	S3 SGH-1747	Android 4.1.2	1747UCDMG2	GSM
Samsung Galaxy	S5 SM-G900V	Android 4.2.2	G900V.05	CDMA
LG	G4 LG-VS986LD	Android 5.1.1	LMY47D	CDMA
LG	G5 LG-VS987	Android 6.0.1	MMB29M	CDMA
Motorola Droid	Turbo2	Android 5.1.1	LCK23.130-23	CDMA
Samsung Galaxy	S6 Edge Plus – SM-G928V	Android 5.1.1	LMY47X.G928VVRU2AOJ2	CDMA
Samsung J3	J3 – SM-J320V	Android 6.0.1	MMB29M.J320VVRU2AP12	CDMA
Google Pixel XL	XL	Android 7.1.1	NMF26U	CDMA
Samsung GS7 Edge	GS7 Edge SM-G935V	Android 6.0.1	MMB29M.G935VVRU2AP12	CDMA
Motorola	Z Force XT1650	Android 7.0	NCLS25.86-11-4	CDMA
HTC 10	HTC6545LVW	Android 6.0.1	1.85.605.8.8.0_g CL774095	CDMA
Samsung	Galaxy Note3 SMN900V	Android 4.4.2	KOT49H.N900VVRUCNC4	CDMA
Ellipsis 8	QTAQZ3	Android 4.4.2	KOT49H	CDMA
Samsung Galaxy	Tab S2	Android 5.1.1	LMY47X.T817BVRU2AOJ2	CDMA
Rugby 3	SGH-A997	REV0.2	REV0.2	GSM

Make	Model	OS	Firmware	Network
LG Extravert	Extravert 2 VN280	REV1.0	REV1.0	CDMA
Kyocera	Dura Xv	Brew 1.0.4	3,8.1.9VZ	CMDA
LG	Exalt 2 VN370		VN37010B	
LG Cosmos 3	Cosmos 3	BREW 1.0.2	VN251ZV6	CDMA
LG Revere	Revere 3 VN170	BREW 1.0.2	VN17011A	CDMA

Table 1: Mobile Devices

3 Testing Environment

The tests were run in the NIST CFTT lab. This section describes the selected test execution environment, and the data objects populated onto the internal memory of mobile devices.

3.1 Execution Environment

Celebrate UFED InField v7.5.0.875 is natively installed in the Kiosk.

3.2 Internal Memory Data Objects

UFED InField Kiosk v7.5.0.875 was measured by analyzing acquired data from the internal memory of pre-populated mobile devices. Table 2 defines the data objects and elements used for populating mobile devices provided the mobile device supports the data element.

Data Objects	Data Elements
Address Book Entries	<i>Regular Length</i>
	<i>Maximum Length</i>
	<i>Special Character</i>
	<i>Blank Name</i>
	<i>Regular Length, email</i>
	<i>Regular Length, graphic</i>
	<i>Regular Length, Address</i>
	<i>Deleted Entry</i>
	<i>Non-Latin Entry</i>
PIM Data: Datebook/Calendar; Memos	<i>Contact Groups</i>
	<i>Regular Length</i>
	<i>Maximum Length</i>
	<i>Deleted Entry</i>
	<i>Special Character</i>
Call Logs	<i>Blank Entry</i>
	<i>Incoming</i>
	<i>Outgoing</i>
	<i>Missed</i>
	<i>Incoming – Deleted</i>
	<i>Outgoing – Deleted</i>

Data Objects	Data Elements
	<i>Missed - Deleted</i>
Text Messages	<i>Incoming SMS – Read</i>
	<i>Incoming SMS – Unread</i>
	<i>Outgoing SMS</i>
	<i>Incoming EMS – Read</i>
	<i>Incoming EMS – Unread</i>
	<i>Outgoing EMS</i>
	<i>Incoming SMS – Deleted</i>
	<i>Outgoing SMS – Deleted</i>
	<i>Incoming EMS – Deleted</i>
	<i>Outgoing EMS – Deleted</i>
	<i>Non-Latin SMS/EMS</i>
MMS Messages	<i>Incoming Audio</i>
	<i>Incoming Graphic</i>
	<i>Incoming Video</i>
	<i>Outgoing Audio</i>
	<i>Outgoing Graphic</i>
	<i>Outgoing Video</i>
Application Data	<i>Device Specific App Data</i>
Stand-alone data files	<i>Audio</i>
	<i>Graphic</i>
	<i>Video</i>
	<i>Audio – Deleted</i>
	<i>Graphic - Deleted</i>
	<i>Video - Deleted</i>
Internet Data	<i>Visited Sites</i>
	<i>Bookmarks</i>
	<i>E-mail</i>
Location Data	<i>GPS Coordinates</i>
	<i>Geo-tagged Data</i>
Social Media Data	<i>Facebook</i>
	<i>Twitter</i>
	<i>LinkedIn</i>
	<i>Instagram</i>
	<i>Pinterest</i>
	<i>SnapChat</i>
	<i>WhatsApp</i>

Table 2: Internal Memory Data Objects

4 Test Results

This section provides the test cases results reported by the tool. Sections 4.1 – 4.4 identify the mobile device operating system type, media (e.g., Android, iOS, Feature phones, UICC) and the make and model of mobile devices used for testing UFED InField Kiosk v7.5.0.875.

The *Test Cases* column (internal memory acquisition) in sections 4.1 - 4.4 are comprised of two sub-columns that define a particular test category and individual sub-categories that are verified when acquiring the internal memory for supported mobile devices and UICCs within each test case. Each individual sub-category row results for each mobile device/UICC tested. The results are as follows:

As Expected: the mobile forensic application returned expected test results – the tool acquired and reported data from the mobile device/UICC successfully.

Partial: the mobile forensic application returned some of data from the mobile device/UICC.

Not As Expected: the mobile forensic application failed to return expected test results – the tool did not acquire or report supported data from the mobile device/UICC successfully.

NA: Not Applicable – the mobile forensic application is unable to perform the test or the tool does not provide support for the acquisition for a particular data element.

4.1 Android Mobile Devices

The internal memory contents for Android devices were acquired and analyzed with UFED InField Kiosk v7.5.

All test cases pertaining to the acquisition of supported Android devices were successful with the exception of the following.

- Graphic files associated with contacts are reported separate under multimedia category for all Android devices.
- Memos are not reported for the Galaxy S5, LG G4, Galaxy S6 Edge Plus and Galaxy Note 3.
- Long Memos are truncated for the LG G5.
- Call logs status for incoming and missed calls are incorrectly reported as outgoing for the LG G5.
- Documents (txt, pdf) are not reported for the Galaxy S5, LG G4, LG G5, GS7 Edge, HTC 10 and Galaxy Note 3.
- SMS and MMS messages are partially reported for the Ellipsis 8.
- Audio attachments for outgoing MMS files are partially reported with the associated text for the LG G4.
- Instagram data was not reported for the Samsung J3.
- GPS related data (i.e., longitude, latitude coordinates) are not reported for associated Maps navigational apps for the Galaxy Note 3 and Ellipsis 8.

Notes:

- Application data extraction is not supported for devices running Android 7.0 or above. Therefore, the status for Social Media Apps are marked accordingly as NA for devices running such version.
- Stand-alone files (.txt, .pdf documents) are not supported under the tool's viewer. However, the .TXT and .PDF documents were reported for the following devices: *Samsung Galaxy S3, Motorola Droid Turbo 2, Samsung Galaxy S6 Edge Plus, Samsung J3, Google Pixel XL, Moto Z Force, Ellipsis 8* and the *Galaxy Tab S2*.
- Internet Related Data (browsing history, bookmarks, emails) is not supported under the tool's viewer. However, this data was reported for the following devices: *Samsung Galaxy S3, LG G4, Galaxy S7 Edge, Galaxy Note 3 (email = NA)* and the *Ellipsis 8 (email = NA)*.
- In order to get a successful acquisition from the LG G4, you may have to try to acquire the device few times. This may also apply to other devices.

See Table 3a-3b below for more details.

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Test Cases – Internal Memory Acquisition		Mobile Device Platform: Android							
		Galaxy S3	Galaxy S5	LG G4	LG G5	Motorola Droid Turbo 2	Galaxy S6 Edge Plus	Samsung J3	Google Pixel XL
Acquisition	Acquire All	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>
	Disrupted	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>
Reporting	Preview-Pane	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>
	Generated Reports	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>
Equipment/ User Data	IMEI	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>
	MEID/ESN	NA	NA	As <i>Expected</i>	NA	NA	NA	NA	NA
	MSISDN	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>
PIM Data	Contacts	<i>Partial</i>	<i>Partial</i>	<i>Partial</i>	<i>Partial</i>	<i>Partial</i>	<i>Partial</i>	<i>Partial</i>	<i>Partial</i>
	Calendar	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>
	Memos/ Notes	As <i>Expected</i>	Not As <i>Expected</i>	Not As <i>Expected</i>	<i>Partial</i>	As <i>Expected</i>	Not As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>
Call Logs	Incoming	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	<i>Partial</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>
	Outgoing	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>
	Missed	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	<i>Partial</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>
SMS Messages	Incoming	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>
	Outgoing	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>
MMS Messages	Graphic	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>
	Audio	As <i>Expected</i>	As <i>Expected</i>	<i>Partial</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>
	Video	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>
Stand-alone Files	Graphic	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>
	Audio	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>
	Video	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>
Application Data	Documents (txt, pdf files)	As <i>Expected</i>	NA	NA	NA	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>

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UFED InField Kiosk v7.5.0.875									
Test Cases – Internal Memory Acquisition		Mobile Device Platform: Android							
		Galaxy S3	Galaxy S5	LG G4	LG G5	Motorola Droid Turbo 2	Galaxy S6 Edge Plus	Samsung J3	Google Pixel XL
Social Media Data	Facebook	As Expected	NA	NA	NA	NA	NA	As Expected	NA
	Twitter	As Expected	NA	NA	NA	NA	NA	As Expected	NA
	LinkedIn	NA	NA	NA	NA	NA	NA	As Expected	NA
	Instagram	NA	NA	NA	NA	NA	As Expected	Not As Expected	NA
	Pinterest	NA	NA	NA	NA	NA	NA	NA	NA
	SnapChat	NA	NA	NA	NA	NA	NA	NA	NA
	WhatsApp	NA	NA	NA	NA	NA	NA	NA	NA
Internet Data	Bookmarks	As Expected	NA	As Expected	NA	NA	NA	NA	NA
	History	As Expected	NA	As Expected	NA	NA	NA	NA	NA
	Email	As Expected	NA	As Expected	NA	NA	NA	NA	NA
GPS Data	Coordinates /Geo-tagged	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected
Non-Latin Character	Reported in native format	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected
Hashing	Case File/ Individual Files	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected
Case File Data Protection	Modify Case Data	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected

Table 3a: Android Mobile Devices

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Test Cases – Internal Memory Acquisition		Mobile Device Platform: Android					
		Galaxy GS7 Edge	Moto Z Force	HTC 10	Galaxy Note 3	Ellipsis 8	Galaxy Tab S2
Acquisition	Acquire All	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>
	Disrupted	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>
Reporting	Preview-Pane	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>
	Generated Reports	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>
Equipment/ User Data	IMEI	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>
	MEID/ESN	NA	NA	NA	NA	NA	NA
	MSISDN	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>
PIM Data	Contacts	<i>Partial</i>	<i>Partial</i>	<i>Partial</i>	<i>Partial</i>	<i>Partial</i>	<i>Partial</i>
	Calendar	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>
	Memos/ Notes	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	Not As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>
Call Logs	Incoming	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	NA	NA
	Outgoing	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	NA	NA
	Missed	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	NA	NA
SMS Messages	Incoming	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	<i>Partial</i>	NA
	Outgoing	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	<i>Partial</i>	As <i>Expected</i>
MMS Messages	Graphic	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	<i>Partial</i>	NA
	Audio	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	<i>Partial</i>	NA
	Video	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	<i>Partial</i>	NA
Stand-alone Files	Graphic	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>
	Audio	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>
	Video	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>
Application Data	Documents (txt, pdf files)	NA	As <i>Expected</i>	NA	NA	As <i>Expected</i>	As <i>Expected</i>

UFED InField Kiosk v7.5.0.875							
Test Cases – Internal Memory Acquisition		Mobile Device Platform: Android					
		Galaxy GS7 Edge	Moto Z Force	HTC 10	Galaxy Note 3	Ellipsis 8	Galaxy Tab S2
Social Media Data	Facebook	As Expected	NA	Not As Expected	Partial	Not As Expected	As Expected
	Twitter	As Expected	NA	Not As Expected	As Expected	Not As Expected	As Expected
	LinkedIn	Not As Expected	NA	Not As Expected	Partial	Not As Expected	As Expected
	Instagram	As Expected	NA	Not As Expected	Not As Expected	Not As Expected	As Expected
	Pinterest	NA	NA	NA	NA	NA	NA
	SnapChat	NA	NA	NA	NA	NA	NA
	WhatsApp	NA	NA	NA	NA	NA	NA
Internet Data	Bookmarks	As Expected	Not As Expected	Not As Expected	As Expected	As Expected	NA
	History	As Expected	Not As Expected	Not As Expected	As Expected	As Expected	NA
	Email	As Expected	Not As Expected	Not As Expected	NA	NA	As Expected
GPS Data	Coordinates /Geo-tagged	As Expected	As Expected	As Expected	Not As Expected	Not As Expected	As Expected
Non-Latin Character	Reported in native format	As Expected	As Expected	NA	As Expected	As Expected	As Expected
Hashing	Case File/ Individual Files	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected
Case File Data Protection	Modify Case Data	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected

Table 3b: Android Mobile Devices

4.2 iOS Mobile Devices

The internal memory contents for iOS devices were acquired and analyzed with UFED InField Kiosk v7.5.0.875.

All test cases pertaining to the acquisition of supported iOS devices were successful with the exception of the following across all iOS devices.

- Graphic files associated with Contact/Address book entries are partially reported (i.e., they are reported under the *multimedia* category and not associated with the contact) for the iPhone 4, iPhone 5S. For the iPhone 6S Plus, iPhone 7 Plus, iPad Mini v9.1 and iPad Mini v11.3.
- Long calendar entries are truncated for the iPhone 4, iPhone 5S and iPhone 6S Plus, iPhone 7 Plus, iPad Mini v9.1 and iPad Mini v11.3. However, it was completely reported under the *Timeline* category.
- Calendar entry partially acquired (i.e., tool reports wrong event date, date is acquired from a note associated with the entry containing a date) for the iPhone 4.
- Metadata associated with calendar entries (i.e., notes) are not reported for the iPhone 6S Plus.
- Group SMS messages recipients are not reported but the message itself was reported for the iPhone 6S Plus and iPhone 7 Plus.
- GPS data (i.e., longitude/latitude coordinates, address) is not reported for the iPhone 4 and the iPhone 5S.

Notes:

- The tool offers the option to acquire emails from iOS devices, but it actually doesn't support that feature for these devices.
- Deleted data (i.e., SMS, calls, notes) was acquired for the iPhone 4.
- MMS messages are reported under the "Chats/Messages" category, there is no separate MMS category like there is for the SMS.
- Incoming and outgoing SMS and MMS (containing audio, graphic, video attachments) are reported together under the "Chats/Messages" category for the iPad mini v9.1 and iPad Mini v11.3. MMS category reports 1 blank messages with an audio file that cannot be playable for the iPad Mini v 9.1. Physical extraction option is offered for the iOS devices, but the physical acquisition can only be applied through Physical Analyzer.
- Stand-alone files (.txt, .pdf documents) are not supported under the tool's viewer. However, the .TXT and .PDF documents were reported for the following devices: *iPhone 4* and the *iPhone 5S*.
- Internet Related Data (emails) is not supported under the tool's viewer. However, this data was reported for the following device: *iPhone 4*.

See Table 4 below for more details.

UFED InField Kiosk v7.5.0.875

Test Cases – Internal Memory Acquisition		<i>Mobile Device Platform: iOS</i>					
		<i>iPhone 4</i>	<i>iPhone 5S</i>	<i>iPhone 6S Plus</i>	<i>iPhone 7 Plus</i>	<i>iPad Mini v9.1</i>	<i>iPad Mini v11.3</i>
Acquisition	Acquire All	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>
	Disrupted	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>
Reporting	Preview-Pane	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>
	Generated Reports	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>
Equipment/ User Data	IMEI	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>NA</i>
	MEID/ESN	<i>NA</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>
	MSISDN	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>NA</i>
PIM Data	Contacts	<i>Partial</i>	<i>Partial</i>	<i>Partial</i>	<i>Partial</i>	<i>Partial</i>	<i>Partial</i>
	Calendar	<i>Partial</i>	<i>Partial</i>	<i>Partial</i>	<i>Partial</i>	<i>Partial</i>	<i>Partial</i>
	Memos/Notes	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>
Call Logs	Incoming	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>NA</i>	<i>NA</i>
	Outgoing	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>NA</i>	<i>NA</i>
	Missed	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>NA</i>	<i>NA</i>
SMS Messages	Incoming	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>Partial</i>	<i>Partial</i>
	Outgoing	<i>As Expected</i>	<i>As Expected</i>	<i>Partial</i>	<i>Partial</i>	<i>Partial</i>	<i>Partial</i>
MMS Messages	Graphic	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>
	Audio	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>
	Video	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>
Stand-alone Files	Graphic	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>
	Audio	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>
	Video	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>
Application Data	Documents (txt, pdf files)	<i>As Expected</i>	<i>As Expected</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>
	Facebook	<i>NA</i>	<i>Partial</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>

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Test Cases – Internal Memory Acquisition		Mobile Device Platform: iOS					
		iPhone 4	iPhone 5S	iPhone 6S Plus	iPhone 7 Plus	iPad Mini v9.1	iPad Mini v11.3
Social Media Data	Twitter	NA	As Expected	As Expected	As Expected	As Expected	NA
	LinkedIn	NA	Partial	As Expected	As Expected	As Expected	NA
	Instagram	NA	NA	NA	NA	NA	NA
	Pinterest	NA	NA	NA	NA	NA	NA
	SnapChat	NA	NA	NA	NA	NA	NA
	WhatsApp	NA	NA	NA	NA	NA	NA
Internet Data	Bookmarks	NA	NA	NA	NA	NA	NA
	History	NA	NA	NA	NA	NA	NA
	Email	As Expected	NA	NA	NA	NA	NA
GPS Data	Coordinates/Geo-tagged	Not As Expected	Not As Expected	As Expected	As Expected	As Expected	As Expected
Non-Latin Character	Reported in native format	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected
Hashing	Case File/Individual Files	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected
Case File Data Protection	Modify Case Data	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected

Table 4: iOS Mobile Devices

4.3 Feature Devices

The internal memory contents for Feature phones were acquired and analyzed with UFED InField Kiosk v7.5.

All test cases pertaining to the acquisition of supported devices were successful with the exception of the following across all devices.

- Subscriber and equipment related data are not reported for the Cosmos 3.
- Graphic files associated with Contacts are not reported for the Rugby III, LG Extravert 2, Dura Xv, Exalt 2, Cosmos 3 and Revere 3.
- URLs associated with Contacts are not reported for the Rugby III.
- Address data (i.e., state) associated with Contacts are not reported for the Rugby III.
- Address data (i.e., street, city, state, zip) associated with Contacts are not reported for the Kyocera Dura Xv.
- Deleted and incoming extended SMS messages (over 160 characters) are truncated for the Cosmos 3.

Notes:

- Physical acquisition on feature devices was empty the first time through. You may have to try multiple times before getting a successful acquisition.

See Table 5 below for more details.

UFED InField Kiosk v7.5.0.875							
Test Cases – Internal Memory Acquisition		Mobile Device Platform: Feature Phone					
		Rugby III	LG Extravert 2	Kyocera Dura Vx	Exalt 2	Cosmos 3	Revere 3
Acquisition	Acquire All	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>
	Disrupted	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>
Reporting	Preview-Pane	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>
	Generated Reports	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>
Equipment/ User Data	IMEI	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	NA	NA
	MEID/ESN	NA	NA	NA	NA	Not As <i>Expected</i>	As <i>Expected</i>
	MSISDN	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	Not As <i>Expected</i>	As <i>Expected</i>
PIM Data	Contacts	<i>Partial</i>	<i>Partial</i>	<i>Partial</i>	<i>Partial</i>	<i>Partial</i>	<i>Partial</i>

UFED InField Kiosk v7.5.0.875

UFED InField Kiosk v7.5.0.875							
Test Cases – Internal Memory Acquisition		<i>Mobile Device Platform: Feature Phone</i>					
		Rugby III	LG Extravert 2	Kyocera Dura Vx	Exalt 2	Cosmos 3	Revere 3
	Calendar	NA	NA	NA	NA	NA	NA
	Memos/Notes	NA	NA	NA	NA	NA	NA
Call Logs	Incoming	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>
	Outgoing	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>
	Missed	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>
SMS Messages	Incoming	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	Partial	As <i>Expected</i>
	Outgoing	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>
MMS Messages	Graphic	NA	NA	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>
	Audio	NA	NA	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>
	Video	NA	NA	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>
Stand-alone Files	Graphic	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>
	Audio	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>
	Video	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>
Application Data	Documents (txt, pdf files)	NA	NA	NA	NA	NA	NA
Social Media Data	Facebook	NA	NA	NA	NA	NA	NA
	Twitter	NA	NA	NA	NA	NA	NA
	LinkedIn	NA	NA	NA	NA	NA	NA
	Instagram	NA	NA	NA	NA	NA	NA
	Pinterest	NA	NA	NA	NA	NA	NA
	SnapChat	NA	NA	NA	NA	NA	NA
	Whats App	NA	NA	NA	NA	NA	NA
Internet Data	Bookmarks	NA	NA	NA	NA	NA	NA
	History	NA	NA	NA	NA	NA	NA
	Email	NA	NA	NA	NA	NA	NA

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Test Cases – Internal Memory Acquisition		<i>Mobile Device Platform: Feature Phone</i>					
		Rugby III	LG Extravert 2	Kyocera Dura Vx	Exalt 2	Cosmos 3	Revere 3
GPS Data	Coordinates/Geo-tagged	NA	NA	NA	NA	NA	NA
Non-Latin Character	Reported in native format	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>
Hashing	Case File/Individual Files	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>
Case File Data Protection	Modify Case Data	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>

Table 5: Feature Phones

4.4 Universal Integrated Circuit Cards (UICCs)

The internal memory contents for Universal Integrated Circuit Cards (UICCs) were acquired and analyzed with Kisok v7.5.

All test cases pertaining to the acquisition of UICCs were successful.

See Table 6 below for more details.

UFED InField Kiosk v7.5.0.875		
Test Cases – UICC Acquisition		<i>Universal Integrated Circuit Card</i>
Connectivity	Non Disrupted	<i>As Expected</i>
	Disrupted	<i>As Expected</i>
Equipment/ User Data	Service Provider Name (SPN)	<i>As Expected</i>
	ICCID	<i>As Expected</i>
	IMSI	<i>As Expected</i>
	MSISDN	<i>As Expected</i>
PIM Data	Abbreviated Dialing Numbers (ADNs)	<i>As Expected</i>
	Last Numbers Dialed (LNDs)	<i>As Expected</i>
	SMS Messages	<i>As Expected</i>
	EMS Messages	<i>As Expected</i>
Location Related Data	LOCI	<i>As Expected</i>
	GPRSLOCI	<i>As Expected</i>
Acquisition	Acquire All	<i>As Expected</i>
	Selected All	<i>As Expected</i>
	Select Individual	<i>As Expected</i>
Case File Data Protection	Modify Case Data	<i>As Expected</i>
Password Protected SIM Acquire	Acquisition of Protected SIM	<i>As Expected</i>
PIN/PUK Attempts	PIN attempts reported	<i>As Expected</i>
	PUK attempts reported	<i>As Expected</i>
Non-ASCII Character	Non-ASCII characters	<i>As Expected</i>
Hashing	Hashes reported for acquired data objects	<i>As Expected</i>

Table 6: Universal Integrated Circuit Cards