



UFED 4PC v7.8.0.942/ Physical Analyzer v7.9.0.223

Test Results for Mobile Device Acquisition Tool

April 20, 2019



**Homeland
Security**

Science and Technology

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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 (<http://www.cfft.nist.gov/>).

This document reports the results from testing Cellebrite UFED 4PC v7.8.0.942/Physical Analyzer v7.9.0.223 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, <http://www.dhs.gov/science-and-technology/nist-cfft-reports>.

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 4PC/Physical Analyzer

Software Version: v7.8.0.942/v7.9.0.223

Supplier: Cellebrite, Inc.

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Tel: (415) 361-4077

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1 Results Summary

Cellebrite's UFED 4PC / Physical Analyzer is a versatile mobile forensic solution that runs on existing hardware. It comes with a suite of applications, peripherals and accessories. UFED 4PC provides users with:

- A comprehensive all-in-one software solution
- A Windows-compatible tool that easily adapts to a variety of user workflows and environments
- Closed and self-contained environment for forensically sound extractions
- Simultaneous operations carried out at the same time
- Supports all data types
- Easily integrates with the user's customized work environment
- Unique evidence verification engine enables validation of recovered artifacts
- Frequent updates to ensure compatibility with new phones as they enter the market

UFED 4PC is available with either an Ultimate or Logical solution offering, and as standard, comes with a range of supporting applications for in-depth decoding, analysis and reporting.

UFED 4PC / Physical Analyzer 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.

Connectivity:

- Connectivity was not established. (Device: *Huawei P20 Pro*)

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 not reported. (Devices: *LG G5*, *Motorola Droid Turbo 2*, *Galaxy S6 Edge Plus*, *Samsung J3*, *Google Pixel XL*, *Moto Z Force*, *Galaxy Note 3*, *Ellipsis 8*, *Galaxy Tab S2*, *Galaxy Note 8*, *Galaxy S9*, *LG G6*, *Sony Experia*, *LG V30*, *Moto G5 Plus*, *Moto X*, *Pixel 2*, *HTC U11*, *Rugby III*, *LG Extravert 2*, *Dura Vx*, *Exalt 2*, *Revere 3*)
- URLs associated with Contacts are not reported. (Device: *Rugby III*)
- Address data (i.e., state) associated with Contacts are not reported. (Devices: *Rugby III*, *Extravert 2*, *Exalt 2*)
- Address data (i.e., street, city, state, zip) associated with Contacts are not reported. (Device: *Kyocera Dura Vx*)
- Notes/memos are not reported. (Devices: *LG G5*, *Galaxy S6 Edge Plus*, *Samsung J3*, *Galaxy Note 3*, *Galaxy Tab S2*, *Galaxy Note 8*, *Galaxy S9*, *LG G6*, *Sony Experia*, *LG V30*, *Pixel 2*)
- Deleted notes are not reported with a status of deleted. (Device: *iPhone 7*)
- Call logs (incoming, outgoing, missed) are not reported. (Device: *LG G5*)
- Deleted and incoming extended SMS messages (over 160 characters) are truncated. (Device: *Cosmos 3*)
- Group SMS messages are not reported. (Device: *Samsung J3*)
- SMS and MMS messages are partially reported. (Device: *Ellipsis 8*)
- MMS messages are not reported. (Device: *LG V30*)
- Incoming and outgoing MMS messages (audio, graphic, video) are not reported. (Device: *iPad mini v9.1*)

Stand-alone Files:

- Document files (i.e., .txt, .pdf) are not reported. (Devices: *LG G5*, *HTC 10*, *Galaxy Note 3*, *Galaxy Note 8*, *Galaxy S9*, *Sony Experia*, *iPad mini v9.1*, *iPad Air v7.1*)
- Graphic files are partially reported. (Device: *Extravert 2*)
- Audio files are not reported. (Device: *Extravert 2*)
- Graphic and audio files are partially reported. (Devices: *Exalt 2*, *Revere 3*)

Social Media Data:

- Social media related data (i.e., LinkedIn) is not reported. (Device: *Galaxy S3*)
- Social media related data (i.e., Facebook, Twitter, LinkedIn, Instagram) is not reported. (Devices: *LG G5*, *Moto Droid Turbo 2*, *Samsung J3*, *HTC 10*, *Ellipsis 8*, *Galaxy Tab S2*)
- Social media related data (i.e., Facebook, Twitter, LinkedIn) is not reported. (Device: *Galaxy S6 Edge Plus*)
- Social media related data (i.e., Instagram) is not reported. (Device: *Galaxy Note 3*)
- Social media related data (i.e., Facebook, LinkedIn) is partially reported. (Device: *iPhone 5S*, *Galaxy Note 3*)
- Social media related data (i.e., Facebook, Instagram, Twitter) is partially reported. (Device: *iPhone 6S Plus*)
- Social media related data (i.e., Facebook, Instagram) is partially reported. (Devices: *iPhone 7*, *iPad Mini v9.1*)
- Social media related data (i.e., Facebook, LinkedIn, Twitter, Instagram, Snapchat, Pinterest) is partially reported. (Devices: *iPhone 8*, *iPhone 8 Plus* and *iPhone X*)
- Social media related data (i.e., Facebook) is partially reported. (Device: *iPad Air v7.1*)

- Social media related data (i.e., Facebook, LinkedIn, Twitter, Pinterest) is partially reported. (Devices: *iPad Mini v11.3.1, iPad Air v11.2.1*)
- **Note:** *The acquisition and reporting of social media related data extracted from a mobile device is dependent upon various factors - the state of the device (e.g., jailbroken, rooted), the data extraction method (e.g., logical, physical), the version of the app and how the data is stored.*

Internet Related Data:

- Internet related data (i.e., bookmarks, history, email) is not reported. (Devices: *LG G5, Motorola Droid Turbo 2, Galaxy S6 Edge Plus, Google Pixel XL, Moto Z Force, HTC 10*)

Location Related Data:

- GPS related data (i.e., longitude, latitude coordinates) are not reported. (Devices: *Motorola Droid Turbo 2, Galaxy Note 3, Ellipsis 8, Galaxy S9, LG G6, Sony Experia, LG V30, Moto G5 Plus, Moto X and Pixel 2*)

Note: *The recorded results are based upon the outcome of performing all supported data extraction techniques i.e., logical, filesystem, physical.*

Note: *Non-native application data (e.g., social media applications) 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 more test result details see section 4.

2 Mobile Devices

The following table lists the mobile devices used for testing UFED 4PC v7.8.0.942/Physical Analyzer v7.9.0.223.

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	iOS 10.2 (14C92)	1.33.00	CDMA
Apple iPhone	8	iOS 11.3.1 (15E302)	1.89.00	CDMA
Apple iPhone	8 Plus	iOS 11.4.1 (15G77)	1.89.00	CDMA
Apple iPhone	X	iOS 11.3.1 (15E302)	1.89.00	CDMA
Apple iPad	Mini	iOS 9.2.1 (13B143)	4.32.00	CDMA
Apple iPad	Air	iOS 7.1 (11D167)	2.18.02	CDMA
Apple iPad	Mini	iOS 11.3.1 (15E302)	11.3.1	CDMA
Apple iPad	Air	iOS 11.2.1 (15C153)	11.2.1	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	Android 5.1.1	LMY47D	CDMA
LG	G5	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.G935VVRS4APH1	CDMA
Motorola	Z Force XT1650	Android 7.0	NCLS25.86-11-4	CDMA

Make	Model	OS	Firmware	Network
HTC 10	HTC6545LVW	Android 6.0.1	1.85.605.8.8.0_g CL774095	CDMA
Samsung	Galaxy Note3	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
Samsung Galaxy	Note 8	Android 7.1.1	NMF26XN950U1UEU1AQ1f	CDMA
Samsung Galaxy	S9	Android 8.0.0	G960U1UEU1ARB7	CDMA
LG	G6	Android 7.0	US99715a	CDMA
Sony	Xperia	Android 8.0.0	471A2324	CDMA
Huawei P20 Pro	CLT-L29	Android 8.1.0	CLTL29810106(C636)	CDMA
LG V30	VS996	Android 8.0.0	OPR1170623026	CDMA
Moto	G5Plus	Android 7.0	NPNS25137924	CDMA
Moto	X Pure Edition	Android 7.0	25.211.1	CDMA
Google	Pixel 2	Android 7.0	OPM2171019029	CDMA
HTC	U11	Android 7.1.1	12861730	CDMA
Rugby 3	SGH-A997	REV0.2	REV0.2	GSM
LG Extravert	Extravert 2	REV1.0	REV1.0	CDMA
Kyocera	Dura Vx	Brew 1.0.4	3,8.1.9VZ	CMMA
LG	Exalt 2		VN37010B	
LG Cosmos 3	Cosmos 3	BREW 1.0.2	VN251ZV6	CDMA
LG Revere	Revere 3	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

Cellebrite UFED 4PC/Physical Analyzer were installed on Windows 10 Pro version 10.0.14393.

3.2 Internal Memory Data Objects

Cellebrite UFED 4PC/Physical Analyzer 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>
	<i>Contact Groups</i>
PIM Data: Datebook/Calendar; Memos	<i>Regular Length</i>
	<i>Maximum Length</i>
	<i>Deleted Entry</i>
	<i>Special Character</i>
	<i>Blank Entry</i>
Call Logs	<i>Incoming</i>
	<i>Outgoing</i>
	<i>Missed</i>
	<i>Incoming – Deleted</i>
	<i>Outgoing – Deleted</i>
	<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>

Data Objects	Data Elements
	<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 Cellebrite UFED 4PC v7.8.0.942/Physical Analyzer v7.9.0.223.

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 4PC v7.8.0.942/Physical Analyzer v7.9.0.223.

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

- Connectivity not established with the Huawei P20 Pro.
- Graphic files associated with Contacts are not reported for the LG G5, Motorola Droid Turbo 2, Galaxy S6 Edge Plus, Samsung J3, Google Pixel XL, Moto Z Force, Galaxy Note 3, Ellipsis 8, Galaxy Tab S2, Galaxy Note 8, Galaxy S9, LG G6, Sony Experia, LG V30, Moto G5 Plus, Moto X, Pixel 2 and HTC U11.
- Memos are not reported for the LG G5, Galaxy S6 Edge Plus, Samsung J3, Galaxy Note 3, Galaxy Tab S2, Galaxy Note 8, Galaxy S9, LG G6, Sony Experia, LG V30 and Pixel 2.
- Call logs (incoming, outgoing, missed) are not reported for the LG G5.
- Documents (txt, pdf) are not reported for the LG G5, HTC 10, Galaxy Note 3, Galaxy Note 8, Galaxy S9 and Sony Experia.
- SMS / Group messages sent to multiple recipients are not reported for the Samsung J3.
- SMS and MMS messages are partially reported. Incomplete data (e.g., partial text, missing attachments) within sqlite the associated sqlite database files for the Ellipsis 8.
- MMS messages are not reported for the LG V30.
- Social media related data (i.e., LinkedIn) is not reported for the Galaxy S3.
- Social media related data (i.e., Facebook, Twitter, LinkedIn, Instagram) is not reported for the LG G5, Moto Droid Turbo 2, Samsung J3, HTC 10, Ellipsis8 and Galaxy Tab S2.
- Social media related data (i.e., Facebook, Twitter, LinkedIn) is not reported for the Galaxy S6 Edge Plus.
- Social media related data (i.e., Facebook, LinkedIn) is partially reported (i.e., account information, pics) for the Galaxy Note 3.
- Social media related data (i.e., Instagram) is not reported for the Galaxy Note 3.
- Internet related data (i.e., bookmarks, history, email) is not reported for the LG G5, Motorola Droid Turbo 2, Galaxy S6 Edge Plus, Google Pixel XL, Moto Z Force and HTC 10.
- GPS related data (i.e., longitude, latitude coordinates) are not reported for associated Maps navigational apps for the Motorola Droid Turbo 2, Galaxy Note 3, Ellipsis 8, Galaxy S9, LG G6, Sony Experia, LG V30, Moto G5 Plus, Moto X and Pixel 2.

Notes:

- Physical data extraction was not successful for the LG G5.
- Non-native application data (e.g., social media applications) extraction is not supported for devices running Android 7.0 or above. Therefore, the status for Social Media Apps are marked accordingly as NA.

See Table 3a-3c 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 Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected
	Disrupted	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected
Reporting	Preview-Pane	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected
	Generated Reports	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected
Equipment/ User Data	IMEI	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected
	MEID/ESN	NA	NA	As Expected	NA	NA	NA	NA	NA
	MSISDN	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected
PIM Data	Contacts	As Expected	As Expected	As Expected	Partial	Partial	Partial	Partial	Partial
	Calendar	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected
	Memos/ Notes	As Expected	As Expected	As Expected	Not As Expected	As Expected	Not As Expected	Not As Expected	As Expected
Call Logs	Incoming	As Expected	As Expected	As Expected	Not As Expected	As Expected	As Expected	As Expected	As Expected
	Outgoing	As Expected	As Expected	As Expected	Not As Expected	As Expected	As Expected	As Expected	As Expected
	Missed	As Expected	As Expected	As Expected	Not As Expected	As Expected	As Expected	As Expected	As Expected
SMS Messages	Incoming	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	Partial	As Expected
	Outgoing	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	Partial	As Expected
MMS Messages	Graphic	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected
	Audio	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected
	Video	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected
Stand-alone Files	Graphic	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected
	Audio	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected
	Video	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected
Application Data	Documents (txt, pdf files)	As Expected	As Expected	As Expected	Not As Expected	As Expected	As Expected	As Expected	As Expected

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Test Cases – Internal Memory Acquisition		<i>Mobile Device Platform: Android</i>							
		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	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>Not As Expected</i>	<i>Not As Expected</i>	<i>Not As Expected</i>	<i>Not As Expected</i>	<i>NA</i>
	Twitter	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>Not As Expected</i>	<i>Not As Expected</i>	<i>Not As Expected</i>	<i>Not As Expected</i>	<i>NA</i>
	LinkedIn	<i>Not As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>Not As Expected</i>	<i>Not As Expected</i>	<i>Not As Expected</i>	<i>Not As Expected</i>	<i>NA</i>
	Instagram	<i>NA</i>	<i>NA</i>	<i>As Expected</i>	<i>Not As Expected</i>	<i>Not As Expected</i>	<i>As Expected</i>	<i>Not As Expected</i>	<i>NA</i>
	Pinterest	<i>NA</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>
	SnapChat	<i>NA</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>
	WhatsApp	<i>NA</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>
Internet Data	Bookmarks	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>Not As Expected</i>	<i>Not As Expected</i>	<i>Not As Expected</i>	<i>NA</i>	<i>Not As Expected</i>
	History	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>Not As Expected</i>	<i>Not As Expected</i>	<i>Not As Expected</i>	<i>NA</i>	<i>Not As Expected</i>
	Email	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>Not As Expected</i>	<i>Not As Expected</i>	<i>Not As Expected</i>	<i>NA</i>	<i>Not As Expected</i>
GPS Data	Coordinates /Geo-tagged	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>Not As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>
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>	<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>	<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>	<i>As Expected</i>	<i>As Expected</i>

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	Galaxy Note 8	Galaxy S9
Acquisition	Acquire All	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected
	Disrupted	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected
Reporting	Preview-Pane	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected
	Generated Reports	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected
Equipment/ User Data	IMEI	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected
	MEID/ESN	NA	NA	NA	NA	NA	NA	NA	NA
	MSISDN	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected
PIM Data	Contacts	As Expected	Partial	As Expected	Partial	Partial	Partial	Partial	Partial
	Calendar	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected
	Memos/Notes	As Expected	As Expected	As Expected	Not As Expected	As Expected	Not As Expected	Not As Expected	Not As Expected
Call Logs	Incoming	As Expected	As Expected	As Expected	As Expected	NA	NA	As Expected	As Expected
	Outgoing	As Expected	As Expected	As Expected	As Expected	NA	NA	As Expected	As Expected
	Missed	As Expected	As Expected	As Expected	As Expected	NA	NA	As Expected	As Expected
SMS Messages	Incoming	As Expected	As Expected	As Expected	As Expected	Partial	NA	As Expected	As Expected
	Outgoing	As Expected	As Expected	As Expected	As Expected	Partial	NA	As Expected	As Expected
MMS Messages	Graphic	As Expected	As Expected	As Expected	As Expected	Partial	NA	As Expected	As Expected
	Audio	As Expected	As Expected	As Expected	As Expected	Partial	NA	As Expected	As Expected
	Video	As Expected	As Expected	As Expected	As Expected	Partial	NA	As Expected	As Expected
Stand-alone Files	Graphic	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected
	Audio	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected
	Video	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected
Application Data	Documents (txt, pdf files)	As Expected	As Expected	Not As Expected	Not As Expected	As Expected	As Expected	Not As Expected	Not As Expected

UFED 4PC v7.8.0.942/Physical Analyzer v7.9.0.223

Test Cases – Internal Memory Acquisition		<i>Mobile Device Platform: Android</i>							
		Galaxy GS7 Edge	Moto Z Force	HTC 10	Galaxy Note 3	Ellipsis 8	Galaxy Tab S2	Galaxy Note 8	Galaxy S9
Social Media Data	Facebook	<i>As Expected</i>	<i>NA</i>	<i>Not As Expected</i>	<i>Partial</i>	<i>Not As Expected</i>	<i>Not As Expected</i>	<i>NA</i>	<i>NA</i>
	Twitter	<i>As Expected</i>	<i>NA</i>	<i>Not As Expected</i>	<i>As Expected</i>	<i>Not As Expected</i>	<i>Not As Expected</i>	<i>NA</i>	<i>NA</i>
	LinkedIn	<i>As Expected</i>	<i>NA</i>	<i>Not As Expected</i>	<i>Partial</i>	<i>Not As Expected</i>	<i>Not As Expected</i>	<i>NA</i>	<i>NA</i>
	Instagram	<i>As Expected</i>	<i>NA</i>	<i>Not As Expected</i>	<i>Not As Expected</i>	<i>Not As Expected</i>	<i>As Expected</i>	<i>NA</i>	<i>NA</i>
	Pinterest	<i>NA</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>
	SnapChat	<i>NA</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>
	WhatsApp	<i>NA</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>
Internet Data	Bookmarks	<i>As Expected</i>	<i>Not As Expected</i>	<i>Not As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>
	History	<i>As Expected</i>	<i>Not As Expected</i>	<i>Not As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>
	Email	<i>As Expected</i>	<i>Not As Expected</i>	<i>Not As Expected</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>
GPS Data	Coordinates /Geo-tagged	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>Not As Expected</i>	<i>Not As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>Not As Expected</i>
Non-Latin Character	Reported in native format	<i>As Expected</i>	<i>As Expected</i>	<i>NA</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>	<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>	<i>As Expected</i>	<i>As Expected</i>

Table 3b: Android Mobile Devices

UFED 4PC v7.8.0.942/Physical Analyzer v7.9.0.223

Test Cases – Internal Memory Acquisition		Mobile Device Platform: Android							
		LG G6	Sony Experia	Huawei P20 Pro	LG V30	Moto G5 Plus	Moto X Pure Edition	Pixel 2	HTC U11
Acquisition	Acquire All	As <i>Expected</i>	As <i>Expected</i>	Not 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>	NA	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>	NA	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>	NA	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>	NA	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	NA	NA
	MSISDN	As <i>Expected</i>	As <i>Expected</i>	NA	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>	NA	<i>Partial</i>	<i>Partial</i>	<i>Partial</i>	<i>Partial</i>	<i>Partial</i>
	Calendar	As <i>Expected</i>	As <i>Expected</i>	NA	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>
	Memos/ Notes	Not As <i>Expected</i>	Not As <i>Expected</i>	NA	Not As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	Not As <i>Expected</i>	As <i>Expected</i>
Call Logs	Incoming	As <i>Expected</i>	As <i>Expected</i>	NA	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>	NA	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>	NA	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>	NA	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>	NA	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>	NA	Not 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>	NA	Not 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>	NA	Not 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>	NA	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>	NA	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>	NA	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>	Not As <i>Expected</i>	NA	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>

UFED 4PC v7.8.0.942/Physical Analyzer v7.9.0.223

Test Cases – Internal Memory Acquisition		<i>Mobile Device Platform: Android</i>							
		LG G6	Sony Xperia	Huawei P20 Pro	LG V30	Moto G5 Plus	Moto X Pure Edition	Pixel 2	HTC U11
Social Media Data	Facebook	NA	NA	NA	NA	NA	NA	NA	NA
	Twitter	NA	NA	NA	NA	NA	NA	NA	NA
	LinkedIn	NA	NA	NA	NA	NA	NA	NA	NA
	Instagram	NA	NA	NA	NA	NA	NA	NA	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	NA	NA	NA	NA	NA	NA	NA	NA
	History	NA	NA	NA	NA	NA	NA	NA	NA
	Email	NA	NA	NA	NA	NA	NA	NA	NA
GPS Data	Coordinates /Geo-tagged	<i>Not As Expected</i>	<i>Not As Expected</i>	NA	<i>Not As Expected</i>	<i>Not As Expected</i>	<i>Not As Expected</i>	<i>Not As Expected</i>	<i>As Expected</i>
Non-Latin Character	Reported in native format	<i>As Expected</i>	<i>As Expected</i>	NA	<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>	NA	<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>	NA	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>

Table 3c: Android Mobile Devices

4.2 iOS Mobile Devices

The internal memory contents for iOS devices were acquired and analyzed with UFED 4PC v7.8.0.942/Physical Analyzer v7.9.0.223.

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

- Deleted notes are not reported with a status of deleted for the iPhone 7.
- Incoming and outgoing MMS messages (audio, graphic, video) are not reported for the iPad mini v9.1
- Documents (txt, pdf) are not reported for the iPad mini v9.1 and iPad Air v7.1.
- Social media related data (i.e., Facebook, LinkedIn) is partially reported (account, profile related information) for the iPhone 5S.
- Social media related data (i.e., Facebook, Instagram, Twitter) is partially reported (account, profile related information) for the iPhone 6S Plus.
- Social media related data (i.e., Facebook, Instagram) is partially reported (account, profile related information) for the iPhone 7 and iPad Mini v9.1.
- Social media related data (i.e., Facebook, LinkedIn, Twitter, Instagram, Snapchat, Pinterest) is partially reported (account, profile related information) for the iPhone 8, iPhone 8 Plus and iPhone X.
- Social media related data (i.e., Facebook) is partially reported (account, profile related information) for the iPad Air v7.1.
- Social media related data (i.e., Facebook, LinkedIn, Twitter, Pinterest) is partially reported (account, profile related information) for the iPad Mini v11.3.1 and iPad Air v11.2.1.

See Table 4a and 4b below for more details.

UFED 4PC v7.8.0.942/Physical Analyzer v7.9.0.223

Test Cases – Internal Memory Acquisition		Mobile Device Platform: iOS						
		iPhone 4	iPhone 5S	iPhone 6S Plus	iPhone 7	iPhone 8	iPhone 8 Plus	iPhone X
Acquisition	Acquire All	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected
	Disrupted	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected
Reporting	Preview-Pane	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected
	Generated Reports	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected
Equipment/ User Data	IMEI	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected
	MEID/ESN	NA	NA	NA	NA	NA	NA	NA
	MSISDN	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected
PIM Data	Contacts	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected
	Calendar	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected
	Memos/Notes	As Expected	As Expected	As Expected	Partial	As Expected	As Expected	As Expected
Call Logs	Incoming	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected
	Outgoing	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected
	Missed	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected
SMS Messages	Incoming	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected
	Outgoing	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected
MMS Messages	Graphic	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected
	Audio	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected
	Video	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected
Stand-alone Files	Graphic	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected
	Audio	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected
	Video	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected
Application Data	Documents (txt, pdf files)	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected
	Facebook	NA	Partial	Partial	Partial	Partial	Partial	Partial

UFED 4PC v7.8.0.942/Physical Analyzer v7.9.0.223

Test Cases – Internal Memory Acquisition		<i>Mobile Device Platform: iOS</i>						
		iPhone 4	iPhone 5S	iPhone 6S Plus	iPhone 7	iPhone 8	iPhone 8 Plus	iPhone X
Social Media Data	Twitter	NA	As Expected	Partial	As Expected	Partial	Partial	Partial
	LinkedIn	NA	Partial	As Expected	As Expected	Partial	Partial	Partial
	Instagram	NA	NA	Partial	Partial	Partial	Partial	Partial
	Pinterest	NA	NA	NA	NA	Partial	Partial	Partial
	SnapChat	NA	NA	NA	NA	Partial	Partial	Partial
	WhatsApp	NA	NA	NA	NA	As Expected	As Expected	As Expected
Internet Data	Bookmarks	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected
	History	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected
	Email	As Expected	NA	NA	NA	NA	NA	NA
GPS Data	Coordinates/Geo-tagged	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
Hashing	Case File/Individual Files	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

Table 4a: iOS Mobile Devices

UFED 4PC v7.8.0.942/Physical Analyzer v7.9.0.223					
Test Cases – Internal Memory Acquisition		Mobile Device Platform: iOS			
		iPad mini v9.1	iPad Air v7.1	iPad Mini v11.3.1	iPad Air v11.2.1
Acquisition	Acquire All	As Expected	As Expected	As Expected	As Expected
	Disrupted	As Expected	As Expected	As Expected	As Expected
Reporting	Preview-Pane	As Expected	As Expected	As Expected	As Expected
	Generated Reports	As Expected	As Expected	As Expected	As Expected
Equipment/ User Data	IMEI	As Expected	As Expected	As Expected	As Expected
	MEID/ESN	NA	NA	NA	NA
	MSISDN	As Expected	As Expected	As Expected	As Expected
PIM Data	Contacts	As Expected	As Expected	As Expected	As Expected
	Calendar	As Expected	As Expected	As Expected	As Expected
	Memos/Notes	As Expected	As Expected	As Expected	As Expected
Call Logs	Incoming	NA	NA	NA	NA
	Outgoing	NA	NA	NA	NA
	Missed	NA	NA	NA	NA
SMS Messages	Incoming	As Expected	As Expected	As Expected	As Expected
	Outgoing	As Expected	As Expected	As Expected	As Expected
MMS Messages	Graphic	Not As Expected	As Expected	As Expected	As Expected
	Audio	Not As Expected	As Expected	As Expected	As Expected
	Video	Not As Expected	As Expected	As Expected	As Expected
Stand-alone Files	Graphic	As Expected	As Expected	As Expected	As Expected
	Audio	As Expected	As Expected	As Expected	As Expected
	Video	As Expected	As Expected	As Expected	As Expected
Application Data	Documents (txt, pdf files)	Not As Expected	Not As Expected	As Expected	As Expected
	Facebook	Partial	Partial	Partial	Partial

UFED 4PC v7.8.0.942/Physical Analyzer v7.9.0.223					
Test Cases – Internal Memory Acquisition		Mobile Device Platform: iOS			
		iPad mini v9.1	iPad Air v7.1	iPad Mini v11.3.1	iPad Air v11.2.1
Social Media Data	Twitter	As Expected	As Expected	Partial	Partial
	LinkedIn	As Expected	As Expected	Partial	Partial
	Instagram	Partial	NA	NA	NA
	Pinterest	NA	NA	Partial	Partial
	SnapChat	NA	NA	NA	NA
	WhatsApp	NA	NA	NA	NA
Internet Data	Bookmarks	As Expected	NA	NA	NA
	History	As Expected	NA	NA	NA
	Email	NA	NA	NA	NA
GPS Data	Coordinates/Geo-tagged	As Expected	As Expected	As Expected	As Expected
Non-Latin Character	Reported in native format	As Expected	As Expected	As Expected	As Expected
Hashing	Case File/Individual Files	As Expected	As Expected	As Expected	As Expected
Case File Data Protection	Modify Case Data	As Expected	As Expected	As Expected	As Expected

Table 4b: iOS Mobile Devices

4.3 Feature Devices

The internal memory contents for Feature phones were acquired and analyzed with UFED 4PC v7.8.0.942/Physical Analyzer v7.9.0.223.

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 Vx, Exalt 2 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, Extravert 2 and Exalt 2.
- Address data (i.e., street, city, state, zip) associated with Contacts are not reported for the Kyocera Dura Vx.
- Deleted and incoming extended SMS messages (over 160 characters) are truncated for the Cosmos 3.
- Stand-alone graphic files are partially reported for the Extravert 2.
- Stand-alone audio files are not reported for the Extravert 2.
- Stand-alone graphic and audio files are partially reported for the Revere 3 and Exalt 2.

See Table 5 below for more details.

UFED 4PC v7.8.0.942/Physical Analyzer v7.9.0.223

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 Expected	As Expected	As Expected	As Expected	As Expected	As Expected
	Disrupted	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected
Reporting	Preview-Pane	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected
	Generated Reports	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected
Equipment/ User Data	IMEI	As Expected	As Expected	As Expected	As Expected	NA	NA
	MEID/ESN	NA	NA	NA	NA	Not As Expected	As Expected
	MSISDN	As Expected	As Expected	As Expected	As Expected	Not As Expected	As Expected
PIM Data	Contacts	Partial	Partial	Partial	Partial	As Expected	Partial
	Calendar	NA	NA	NA	NA	NA	NA
	Memos/Notes	NA	NA	NA	NA	NA	NA
Call Logs	Incoming	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected
	Outgoing	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected
	Missed	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected
SMS Messages	Incoming	As Expected	As Expected	As Expected	As Expected	Partial	As Expected
	Outgoing	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected
MMS Messages	Graphic	NA	NA	As Expected	As Expected	As Expected	As Expected
	Audio	NA	NA	As Expected	As Expected	As Expected	As Expected
	Video	NA	NA	As Expected	As Expected	As Expected	As Expected
Stand-alone Files	Graphic	As Expected	Partial	As Expected	Partial	As Expected	Partial
	Audio	As Expected	Not As Expected	As Expected	Partial	As Expected	Partial
	Video	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected
Application Data	Documents (txt, pdf files)	NA	NA	NA	NA	NA	NA
	Facebook	NA	NA	NA	NA	NA	NA

UFED 4PC v7.8.0.942/Physical Analyzer v7.9.0.223							
Test Cases – Internal Memory Acquisition		Mobile Device Platform: Feature Phone					
		Rugby III	LG Extravert 2	Kyocera Dura Vx	Exalt 2	Cosmos 3	Revere 3
Social Media Data	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
GPS Data	Coordinates/Geo-tagged	NA	NA	NA	NA	NA	NA
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 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 UFED 4PC v7.8.0.942/Physical Analyzer v7.9.0.223.

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

See Table 6 below for more details.

UFED 4PC v7.8.0.942/Physical Analyzer v7.9.0.223		
Test Cases – UICC Acquisition		Universal Integrated Circuit Card
Connectivity	Non Disrupted	As Expected
	Disrupted	As Expected
Equipment/ User Data	Service Provider Name (SPN)	As Expected
	ICCID	As Expected
	IMSI	As Expected
	MSISDN	As Expected
PIM Data	Abbreviated Dialing Numbers (ADNs)	As Expected
	Last Numbers Dialed (LNDs)	As Expected
	SMS Messages	As Expected
	EMS Messages	As Expected
Location Related Data	LOC	As Expected
	GPRSLOC	As Expected
Acquisition	Acquire All	As Expected
	Selected All	As Expected
	Select Individual	As Expected
Case File Data Protection	Modify Case Data	As Expected
Password Protected SIM Acquire	Acquisition of Protected SIM	As Expected
PIN/PUK Attempts	PIN attempts reported	As Expected
	PUK attempts reported	As Expected
Non-ASCII Character	Non-ASCII characters	As Expected
Hashing	Hashes reported for acquired data objects	As Expected

Table 6: Universal Integrated Circuit Cards