



Device Seizure v7.4 build 5921.15166

Test Results for Mobile Device Acquisition Tool

May 25, 2016



**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](#).

This document reports the results from testing Device Seizure v7.4 across supported Android and iOS mobile devices.

Test results from other tools can be found on the DHS S&T web page, [NIST CFTT reports 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. The full test data is available at [NIST CFTT Mobile Devices web page](#).

Test Results for Mobile Device Acquisition Tool

Tool Tested: Device Seizure
Software Version: 7.4 build 5921.15166

Supplier: Paraben Corporation

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1 Results Summary

Paraben's Device Seizure version 7.4 supports logical, physical, & file system acquisitions, as well as password bypassing from over 24,000 device profiles.

The tool was tested for its ability to acquire active data from the internal memory of supported mobile devices and associated media (i.e., smart phones, feature phones, UICCs). 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: *LG Extravert*)

Equipment / Subscriber related data:

- Subscriber related data (i.e., IMEI/IMSI, MSISDN) was not reported. (Device: *HTC Win 8x*)

Personal Information Management (PIM) data:

- Contacts, calendar entries are not reported. (Device: *HTC Win 8x*)
- Call logs are not reported. (Device: *HTC Win 8x*)
- Memos are not reported. (Devices: *Motorola Droid Turbo 2, Galaxy S6, Galaxy S6 Edge Plus, LG G4, Galaxy Tab-E, Galaxy Tab S2, HTC Win 8x, Samsung Rugby III*)
- Address book contacts containing an associated graphic are not reported or viewable. (Devices: *iOS devices*).
- Address book contacts containing an associated graphic or additional metadata (i.e., address, website, email) are not reported. (Device: *Samsung Rugby III*)
- Incoming SMS messages are not reported. (Device: *Samsung Rugby III*)
- SMS messages are not reported. (Device: *HTC Win 8x*)
- MMS messages are not reported. (Device: *HTC Win 8x, Samsung Rugby III*)
- MMS attachments (audio, graphic, video) are not included with the associated textual portion of the message. (Devices: *Motorola Droid Turbo 2, Galaxy S6, Galaxy S6 Edge Plus, LG G4*)

Application Data:

- Application related data (i.e., txt, pdf files) was not acquired. (Devices: *iOS devices, HTC Win 8x*)

Stand-alone Files:

- Stand-alone audio/music files are not reported. (Devices: *iOS devices*)

Social media Data:

- Social media (Facebook, LinkedIn, Instagram) related data is not reported. (Devices: *Motorola Droid Turbo 2, LG G4, Ellipsis 8*)
- Partial social media related data (i.e., graphic files) for Twitter are reported. (Devices: *Motorola Droid Turbo 2, LG G4, Ellipsis 8*)
- Social media (Facebook, twitter, LinkedIn, Instagram) related data is not reported. (Devices: *iOS devices, Galaxy S6, Galaxy S6 Edge Plus, Galaxy Tab E, Galaxy Tab S2, HTC Win 8x*)

Internet Related Data:

- Browser history and bookmarks are not reported. (Devices: *Galaxy S6, Galaxy S6 Edge Plus, Galaxy Tab-E, Galaxy Tab S2, HTC Win 8x, Samsung Ruby III*)
- Email related data is not reported. (Devices: *Motorola Droid Turbo 2, Galaxy S6, Galaxy S6 Edge Plus, LG G4, Galaxy Tab-E, Galaxy Tab S2, iOS devices, HTC Win 8x, Samsung Ruby III*)

GPS Related Data:

- GPS related – waypoints, routes, longitude and latitude coordinates are not reported. (Devices: *Motorola Droid Turbo 2, Galaxy S6, Galaxy S6 Edge Plus, LG G4, Galaxy Tab E, Galaxy Tab S2, HTC Win 8x, Samsung Rugby III*)

NOTES:

- Connectivity Ellipsis 8 only provides acquisition support as a portable device. Portable device data extractions only acquire and report media related files (audio, video, graphic).
- Address book metadata (e.g., street address, city, state) are not reported in the associated parsed data / Contacts for all iOS devices. The data can be found within Addressbook.sqlite.

For more test result details see section 4.

2 Mobile Devices

The following table lists the mobile devices used for testing Device Seizure v7.4.

Make	Model	OS	Firmware	Network
Apple iPhone	6	iOS 9.2.1 (13C75)	4.52.00	CDMA
Apple iPhone	6S	iOS 9.2.1 (13C75)	1.23.00	CDMA
Apple iPhone	6S Plus	iOS 9.2.1 (13C75)	1.23.00	CDMA
Apple iPad	Mini	iOS 9.2.1 (13B143)	4.32.00	CDMA
Apple iPad	Pro	iOS 9.2.1 (13C75)	4.52.00	CDMA
Motorola Droid	Turbo2	Android 5.1.1	LCK23.130-23	CDMA
Samsung Galaxy	S6	Android 5.1.1	LMY47.G920VVRU4BOK7	CDMA
Samsung Galaxy	S6 Edge Plus	Android 5.1.1	LMY47X.G928VVRU2AOJ2	CDMA
LG	G4	Android 5.1.1	LMY47D	CDMA
Ellipsis	8	Android 4.4.2	QZ3_PE3X	CDMA
Samsung Galaxy	Tab E	Android 5.1.1	LMY47X.T567VVRU1AOH1	CDMA
Samsung Galaxy	Tab S2	Android 5.1.1	LMY47X.T817BVRU2AOJ2	CDMA
HTC Win 8x	HTC PM23300	Win 8.0	3030.0.34101.502	GSM
Samsung Rugby III	SGH-A997	A997UCM G1	REV0.2	GSM
LG Extravert	Extravert	VN28010A	REV1.0	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

Device Seizure version 7.4 was installed on Windows 7 v6.1.7601.

3.2 Internal Memory Data Objects

Device Seizure v7.4 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	<i>Regular Length</i>
Memos	<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>

Data Objects	Data Elements
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>

Table 2: Internal Memory Data Objects

3.3 UICC Data Objects

The table below (Table 3) provides an overview of the data elements populated on Universal Integrated Circuit Cards (UICCs).

Data Objects	Data Elements
Abbreviated Dialing Numbers (ADN)	
	<i>Maximum Length</i>
	<i>Special Character</i>
	<i>Blank Name</i>
	<i>Non-ASCII Entry</i>
Call Logs	<i>Regular Length - Deleted Number</i>
	<i>Last Numbers Dialed (LND)</i>
Text Messages	
	<i>Incoming SMS - Read</i>
	<i>Incoming SMS - Unread</i>
	<i>Non-ASCII SMS</i>
	<i>Incoming SMS - Deleted</i>
	<i>Non-ASCII EMS</i>
	<i>Incoming EMS - Deleted</i>

Table 3: UICC 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 (e.g., Android, iOS) and the make and model of mobile devices used for testing Device Seizure v7.4.

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 Device Seizure v7.4.

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

- Memos are not reported for the Motorola Droid Turbo 2, Galaxy S6, Galaxy S6 Edge Plus, LG G4, Galaxy Tab E or the Galaxy Tab S2.
- MMS attachments (audio, graphic, video) are not included with the associated textual portion of the message for the Motorola Droid Turbo 2, Galaxy S6, Galaxy S6 Edge Plus or the LG G4.
- Email related data is not reported for the Motorola Droid Turbo 2, Galaxy S6, Galaxy S6 Edge Plus, LG G4, Galaxy Tab E or the Galaxy Tab S2.
- Social media related data for Facebook, Twitter, LinkedIn and Instagram are not reported for the Galaxy S6, Galaxy S6 Edge Plus, Galaxy Tab E or the Galaxy Tab S2.
- Social media related data for Facebook, LinkedIn and Instagram are not reported for the Motorola Droid Turbo 2, LG G4 or the Ellipsis 8. Partial Twitter related data (i.e., graphic files) is reported.
- Internet related data (bookmarks, browser history) is not reported for the Galaxy S6, Galaxy S6 Edge Plus, Galaxy Tab E or the Galaxy Tab S2.
- GPS related data is not reported for the Motorola Droid Turbo 2, Galaxy S6, Galaxy S6 Edge Plus, LG G4, Galaxy Tab E or the Galaxy Tab S2.

NOTES:

- To establish connectivity for the LG G4 the latest ADB drivers were downloaded from the manufacturers site.
- Connectivity for the Ellipsis 8 only provides acquisition support as a portable device. Portable device data extractions only acquire and report media related files.

See Table 4 below for more details.

Device Seizure v7.4								
Test Cases – Internal Memory Acquisition		Mobile Device Platform: Android						
		Moto Droid Turbo 2	Galaxy S6	Galaxy S6 Edge Plus	LG G4	Ellipsis 8	Galaxy Tab-E	Galaxy Tab S2
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	NA	As Expected	As Expected
	MEID/ESN	NA	NA	NA	NA	NA	NA	NA
	MSISDN	As Expected	As Expected	As Expected	As Expected	NA	As Expected	As Expected
PIM Data	Contacts	As Expected	As Expected	As Expected	Not As Expected	Not As Expected	As Expected	As Expected
	Calendar	As Expected	As Expected	As Expected	As Expected	NA	As Expected	As Expected
	Memos/Notes	Not As Expected	Not As Expected	Not As Expected	Not As Expected	NA	Not As Expected	Not As Expected
Call Logs	Incoming	As Expected	As Expected	As Expected	As Expected	NA	As Expected	As Expected
	Outgoing	As Expected	As Expected	As Expected	As Expected	NA	As Expected	As Expected
	Missed	As Expected	As Expected	As Expected	As Expected	NA	As Expected	As Expected
SMS Messages	Incoming	As Expected	As Expected	As Expected	As Expected	NA	As Expected	As Expected
	Outgoing	As Expected	As Expected	As Expected	As Expected	NA	As Expected	As Expected
MMS Messages	Graphic	Partial	Partial	Partial	Partial	Partial	Partial	Partial
	Audio	Partial	Partial	Partial	Partial	Partial	Partial	Partial
	Video	Partial	Partial	Partial	Partial	Partial	Partial	Partial
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

Device Seizure v7.4								
Test Cases – Internal Memory Acquisition		Mobile Device Platform: Android						
		Moto Droid Turbo 2	Galaxy S6	Galaxy S6 Edge Plus	LG G4	Ellipsis 8	Galaxy Tab-E	Galaxy Tab S2
Social Media Data	Facebook	<i>Not As Expected</i>	<i>Not As Expected</i>	<i>Not As Expected</i>	<i>Not As Expected</i>	<i>Not As Expected</i>	<i>Not As Expected</i>	<i>Not As Expected</i>
	Twitter	<i>Partial</i>	<i>Not As Expected</i>	<i>Not As Expected</i>	<i>Partial</i>	<i>Partial</i>	<i>Not As Expected</i>	<i>Not As Expected</i>
	LinkedIn	<i>Not As Expected</i>	<i>Not As Expected</i>	<i>Not As Expected</i>	<i>Not As Expected</i>	<i>Not As Expected</i>	<i>Not As Expected</i>	<i>Not As Expected</i>
	Instagram	<i>Not As Expected</i>	<i>Not As Expected</i>	<i>Not As Expected</i>	<i>Not As Expected</i>	<i>Not As Expected</i>	<i>Not As Expected</i>	<i>Not As Expected</i>
Internet Data	Bookmarks	<i>As Expected</i>	<i>Not As Expected</i>	<i>Not As Expected</i>	<i>As Expected</i>	NA	<i>Not As Expected</i>	<i>Not As Expected</i>
	History	<i>As Expected</i>	<i>Not As Expected</i>	<i>Not As Expected</i>	<i>As Expected</i>	NA	<i>Not As Expected</i>	<i>Not As Expected</i>
	Email	<i>Not As Expected</i>	<i>Not As Expected</i>	<i>Not As Expected</i>	<i>Not As Expected</i>	NA	<i>Not As Expected</i>	<i>Not As Expected</i>
GPS Data	Coordinates/Geo-tagged	<i>Not As Expected</i>	<i>Not As Expected</i>	<i>Not As Expected</i>	<i>Not As Expected</i>	NA	<i>Not As Expected</i>	<i>Not 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>	NA	<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>
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>

Table 4: Android Mobile Devices

4.2 iOS Mobile Devices

The internal memory contents for iOS devices were acquired and analyzed with Device Seizure v7.4.

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

- Address book contacts containing an associated graphic are not reported or viewable within the associated contact entry or within the address book images for all iOS devices.
- Audio/music files are not reported for all iOS devices.
- Documents (txt, pdf files) are not reported for all iOS devices.
- Email related data is not reported for all iOS devices.

- Social media related data – Facebook, Twitter, Instagram (e.g., profile information, status updates, pictures, video, and personal messages) are not reported for all iOS devices.

NOTES:

- Metadata (i.e., street, city, state) for address book entries are not reported in the parsed data / Contacts. The data can be found within Addressbook.sqlite.
- The phone number for associated recovered contact entries is not reported.

See Table 5 below for more details.

Device Seizure v7.4						
Test Cases – Internal Memory Acquisition		Mobile Device Platform: iOS				
		iPhone 6	iPhone 6S	iPhone 6S Plus	iPad Mini	iPad Pro
Acquisition	Acquire All	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>
Reporting	Preview-Pane	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>
Equipment/ User Data	IMEI	As <i>Expected</i>	As <i>Expected</i>	Not As <i>Expected</i>	Not As <i>Expected</i>	Not As <i>Expected</i>
	MEID/ESN	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>
PIM Data	Contacts	<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>
	Memos/Notes	As <i>Expected</i>	As <i>Expected</i>	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>	NA	NA
	Outgoing	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>	NA	NA
SMS Messages	Incoming	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>
MMS Messages	Graphic	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>
	Video	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>
	Audio	Not As <i>Expected</i>	Not As <i>Expected</i>	Not As <i>Expected</i>	Not As <i>Expected</i>	Not 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>
Application Data	Documents (txt, pdf files)	Not As <i>Expected</i>	Not As <i>Expected</i>	Not As <i>Expected</i>	Not As <i>Expected</i>	Not As <i>Expected</i>
	Facebook	Not As <i>Expected</i>	Not As <i>Expected</i>	Not As <i>Expected</i>	Not As <i>Expected</i>	Not As <i>Expected</i>

Device Seizure v7.4						
Test Cases – Internal Memory Acquisition		Mobile Device Platform: iOS				
		iPhone 6	iPhone 6S	iPhone 6S Plus	iPad Mini	iPad Pro
Social Media Data	Twitter	<i>Not As Expected</i>	<i>Not As Expected</i>	<i>Not As Expected</i>	<i>Not As Expected</i>	<i>Not As Expected</i>
	LinkedIn	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>
	Instagram	<i>Not As Expected</i>	<i>Not As Expected</i>	<i>Not As Expected</i>	<i>Not As Expected</i>	<i>Not As Expected</i>
Internet Data	Bookmarks	<i>As Expected</i>	<i>As Expected</i>	<i>Not As Expected</i>	<i>As Expected</i>	<i>As Expected</i>
	History	<i>As Expected</i>	<i>As Expected</i>	<i>Not As Expected</i>	<i>As Expected</i>	<i>As Expected</i>
	Email	<i>Not As Expected</i>	<i>Not As Expected</i>	<i>Not As Expected</i>	<i>Not As Expected</i>	<i>Not As Expected</i>
GPS Data	Coordinates/Geo-tagged	<i>As Expected</i>	<i>As Expected</i>	<i>Not 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>
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>
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>

Table 5: iOS Mobile Devices

4.3 Windows / Feature Phones

The internal memory contents for the feature phone was acquired and analyzed with Device Seizure v7.4.

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

- Connectivity to the LG Extravert was not established.
- Subscriber related data (i.e., MSISDN, IMEI/IMSI) was not reported for the HTC Win 8x.
- The only data elements acquired for the HTC Win 8x were stand-alone graphic, audio and video files. All other data elements listed below in Table 6 were not reported.
- Address book contacts containing an associated graphic or additional metadata (i.e., address, website, email) are not reported for the Samsung Rugby III.
- Memos, incoming SMS messages, MMS messages, Internet and GPS related data are not reported for the Samsung Rugby III.

See Table 6 below for more details.

Device Seizure v7.4				
Test Cases – Internal Memory Acquisition		<i>Mobile Device Platform: Windows, Feature phones</i>		
		HTC Win 8x	Samsung Rugby 3	LG Extravert
Acquisition	Acquire All	<i>As Expected</i>	<i>As Expected</i>	<i>Not As Expected</i>
	Disrupted	<i>As Expected</i>	<i>As Expected</i>	<i>NA</i>
Reporting	Preview-Pane	<i>As Expected</i>	<i>As Expected</i>	<i>NA</i>
	Generated Reports	<i>As Expected</i>	<i>As Expected</i>	<i>NA</i>
Equipment/ User Data	IMEI/IMSI	<i>Not As Expected</i>	<i>As Expected</i>	<i>NA</i>
	MEID/ESN	<i>NA</i>	<i>NA</i>	<i>NA</i>
	MSISDN	<i>Not As Expected</i>	<i>As Expected</i>	<i>NA</i>
PIM Data	Contacts	<i>Not As Expected</i>	<i>Partial</i>	<i>NA</i>
	Calendar	<i>Not As Expected</i>	<i>As Expected</i>	<i>NA</i>
	Memos/Notes	<i>Not As Expected</i>	<i>Not As Expected</i>	<i>NA</i>
Call Logs	Incoming	<i>Not As Expected</i>	<i>As Expected</i>	<i>NA</i>
	Outgoing	<i>Not As Expected</i>	<i>As Expected</i>	<i>NA</i>
	Missed	<i>Not As Expected</i>	<i>As Expected</i>	<i>NA</i>
SMS Messages	Incoming	<i>Not As Expected</i>	<i>Not As Expected</i>	<i>NA</i>
	Outgoing	<i>Not As Expected</i>	<i>As Expected</i>	<i>NA</i>
MMS Messages	Graphic	<i>Not As Expected</i>	<i>Not As Expected</i>	<i>NA</i>
	Audio	<i>Not As Expected</i>	<i>Not As Expected</i>	<i>NA</i>
	Video	<i>Not As Expected</i>	<i>Not As Expected</i>	<i>NA</i>
	Graphic	<i>As Expected</i>	<i>As Expected</i>	<i>NA</i>

Device Seizure v7.4				
Test Cases – Internal Memory Acquisition		<i>Mobile Device Platform: Windows, Feature phones</i>		
		HTC Win 8x	Samsung Rugby 3	LG Extravert
Stand-alone Files	Audio	<i>As Expected</i>	<i>As Expected</i>	<i>NA</i>
	Video	<i>As Expected</i>	<i>As Expected</i>	<i>NA</i>
Application Data	Documents (txt, pdf files)	<i>Not As Expected</i>	<i>As Expected</i>	<i>NA</i>
Social Media Data	Facebook	<i>Not As Expected</i>	<i>NA</i>	<i>NA</i>
	Twitter	<i>Not As Expected</i>	<i>NA</i>	<i>NA</i>
	LinkedIn	<i>Not As Expected</i>	<i>NA</i>	<i>NA</i>
	Instagram	<i>Not As Expected</i>	<i>NA</i>	<i>NA</i>
Internet Data	Bookmarks	<i>Not As Expected</i>	<i>Not As Expected</i>	<i>NA</i>
	History	<i>Not As Expected</i>	<i>Not As Expected</i>	<i>NA</i>
	Email	<i>Not As Expected</i>	<i>Not As Expected</i>	<i>NA</i>
GPS Data	Coordinates/Geo-tagged	<i>Not As Expected</i>	<i>Not As Expected</i>	<i>NA</i>
Non-Latin Character	Reported in native format	<i>NA</i>	<i>As Expected</i>	<i>NA</i>
Hashing	Case File/Individual Files	<i>As Expected</i>	<i>As Expected</i>	<i>NA</i>
Case File Data Protection	Modify Case Data	<i>As Expected</i>	<i>As Expected</i>	<i>NA</i>

Table 6: Feature Phones

4.4 Universal Integrated Circuit Cards (UICCs)

The internal memory contents for Universal Integrated Circuit Cards (UICCs) were acquired and analyzed with Device Seizure v7.4.

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

See Table 7 below for more details.

Device Seizure v7.4		
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>Partial</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 7: Universal Integrated Circuit Cards