



Secure View v3.16.4

Test Results for Mobile Device Acquisition Tool

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**Homeland
Security**

Science and Technology

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February 2015

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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 Law Enforcement Standards Office (OLES) 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 Secure View v3.16.4 across supported platforms: Android, iOS, Windows Mobile devices and feature phones. The images captured from the test runs are available at the CFREDS Web site (<http://www.cfreds.nist.gov>).

Test results from other tools can be found on the DHS S&T-sponsored digital forensics Web site (<http://www.cyberfetch.org/>).

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 and Universal Integrated Circuit Cards (UICC) data objects used to populate the mobile devices and associated media. Section 4 provides an overview of the test case results reported by the tool. The full test data is available at http://www.cfft.nist.gov/mobile_devices.htm.

Test Results for Mobile Device Acquisition Tool

Tool Tested: Secure View
Software Version: v3.16.4

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1 Results Summary

Secure View v3.16.4 is designed for perform a secure forensic extraction of data from a variety of mobile devices, such as iOS, Android, Windows Mobile and feature phones.

The tool was tested for its ability to acquire active data from the internal memory of supported mobile devices and 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 for the HTC Win8x. (Devices: *HTC Windows Mobile 8x*)

Personal Information Management (PIM) data:

- Maximum and regular length contact entries were partially recovered (i.e., *middle name and long name were not completely recovered*). (Devices: *Android devices, iOS devices*)
- Maximum length contact entries were partially recovered (i.e., *middle name and long name were not completely recovered*). (Devices: *Samsung Convoy 3, Samsung Rugby III*)
- Memo entries were not acquired. (Devices: *Galaxy S5, HTC One (CDMA), Galaxy Note 3, Nexus 4, iOS devices*)
- Long Memo entries were partially acquired. (Devices: *HTC One (GSM), Galaxy S3, Galaxy S4*)

Call Logs:

- Duration times for incoming calls were not reported. (Device: *iPhone 5 (GSM)*)
- Status flags for incoming calls were incorrectly reported as missed. (Device: *iPhone 5S (CDMA)*)

- Duration time for active dialed calls were not acquired. (Device: *iPhone 5S (CDMA)*)

Internet Related Data:

- Browser History and Bookmarks were not acquired. (Devices: *Galaxy Note 3, Galaxy S4, iPad Mini (GSM), iPad (GSM)*)
- Bookmarks were partially acquired. (Device: *Nexus 4*)

Social Media Data:

- Social Media Data was not acquired. (Devices: *iOS devices*)

Acquisition Variation:

- Acquisition of an individual supported item (i.e., *Application Data – Bookmarks and Browser History*) was not successful. (Device: *iPad Mini (GSM)*)
- Acquisition of an individual supported item (i.e., *Application Data – Bookmarks and Browser History*) was partially acquired. (Device: *iPad (GSM)*).

Non-Latin Character Presentation:

- UICC ADNs containing non-Latin characters were not presented in their native format (i.e., *tool displayed Aur==lien instead of Aurélien for one of the contacts*).
- Address book entries containing non-Latin characters were not acquired. (Device: *Samsung Ruby III*)
- Text messages containing non-Latin characters were not acquired. (Devices: *iPhone 5S (CDMA), iPhone 5 (GSM)*)

NOTES:

- Picture files associated with contacts for the Samsung Convoy 3 are not supported.
- When a *logical acquisition* is completed a message would appear saying the following: “This firmware version is not supported. If you would like to acquired deleted data, please root the phone manually and try again”.
- The wrong phone manufacturer and model - for the phone to be tested - can be selected and the tool would still get the phone’s data. This happens when the phone under test and the phone selected run the same OS. However, the data recovered is wrongly identified.

For more test result details see section 4.

2 Mobile Devices

The following table lists the mobile devices used for testing Secure View v3.16.4.

Make	Model	OS	Firmware	Network
Apple iPhone	5	iOS 6.1.4 (10B350)	3.04.25	GSM
Apple iPhone	5s	iOS 7.1 (11D167)	2.18.02	CDMA
Apple iPad	iPad 2 - MD065LL/A	iOS 6.1.3 (10B329)	04.12.05	GSM
Apple iPad	iPad Air - ME999LL/A	iOS 7.1 (11D167)	2.18.02	CDMA
Apple iPad Mini	iPad Mini - ME030LL/A	iOS 6.1.3 (10B329)	3.04.25	GSM
Apple iPad Mini	iPad Mini - MF075LL/A	iOS 7.0.4 (11B554a)	1.03.01	CDMA
Samsung Galaxy S3	SGH-1747	Android 4.1.2	1747UCDMG2	GSM
Samsung Galaxy S4	SGH-M919	Android 4.2.2	M919UVUAMD	GSM
Samsung Galaxy S5	SM-G900V	Android 4.2.2	G900V.05	CDMA
HTC One	HTCC6525L VW	Android 4.2.2	0.89.20.0222	GSM
HTC One	HTC One	Android 4.1.2	4A.17.3250.20_10.40 .1150.04L	CDMA
Samsung Galaxy Note 3	SM-N900V	Android 4.3	N900V.07	CDMA
Nexus 4	Nexus 4	Android 4.3	JWR66Y	GSM
HTC	PM23300	Windows	Windows 8.0	GSM
Samsung Rugby III	SGH-A997	MagicSync 1.2.0	A997UCMG1	GSM
Samsung	Convoy 3	Brew Mobile 1.0.4	U680.MJ2	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 and UICCs.

3.1 Execution Environment

Secure View version 3.16.4 was installed on Windows 7 v6.1.7601.

3.2 Internal Memory Data Objects

Secure View v3.16.4 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-ASCII Entry</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>
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-ASCII SMS/EMS</i>
MMS Messages	

Data Objects	Data Elements
	<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>
Location Data	
	<i>GPS Coordinates</i>
Social Media Data	
	<i>Facebook</i>
	<i>Twitter</i>
	<i>LinkedIn</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>
	<i>Regular Length - Deleted Number</i>
Call Logs	
	<i>Last Numbers Dialed (LND)</i>
Text Messages	
	<i>Incoming SMS - Read</i>

Data Objects	Data Elements
	<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 – 4.3 identify the mobile device operating system type (e.g., Android, iOS) and the make and model of mobile devices used for testing Secure View v3.16.4. Section 4.4 covers Universal Integrated Circuit Cards (UICCs).

The *Test Cases* column (internal memory acquisition/UICC) 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 Secure View v3.16.4.

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

- Acquisition of PIM Data i.e. *maximum length contact entries* was partially recovered for all Android devices.
- Memo entries were not acquired for the Galaxy S5, HTC One (CDMA), Galaxy Note 3 and the Nexus 4.
- Long Memo entries were partially acquired for the HTC One (GSM), Galaxy S3 and the Galaxy S4.
- Internet Related Data (i.e., Browser History and Bookmarks) was not acquired for the Galaxy Note 3 and the Galaxy S4.
- Internet Related Data (i.e., Bookmarks) was partially acquired for the Nexus 4.

NOTES:

- The Subscriber and Equipment related data (i.e., MEID, MSISDN) has to manually be entered for the Galaxy S3, HTC One (GSM), Nexus 4 and the Galaxy S4.
- When attempting to acquire the *HTC One (GSM)*, as the *HTC One (M7)* - option offered by tool - the acquisition was incomplete. However, if the “Android” option were selected instead, the acquisition would be complete.

See Table 4 below for more details.

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Test Cases – Internal Memory Acquisition		Mobile Device Platform: Android						
		Galaxy S3 GSM	Galaxy S4 GSM	Galaxy S5 CDMA	Galaxy Note 3 CDMA	HTC One GSM	HTC One CDMA	Nexus 4 GSM
Connectivity	Non Disrupted	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

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Test Cases – Internal Memory Acquisition		Mobile Device Platform: Android						
		Galaxy S3 GSM	Galaxy S4 GSM	Galaxy S5 CDMA	Galaxy Note 3 CDMA	HTC One GSM	HTC One CDMA	Nexus 4 GSM
Equipment/ User Data	IMEI	NA	NA	NA	NA	NA	NA	NA
	MEID/ESN	NA	NA	As Expected	As Expected	NA	As Expected	NA
	MSISDN	NA	NA	As Expected	As Expected	NA	As Expected	NA
PIM Data	Contacts	Partial	Partial	Partial	Partial	Partial	Partial	Partial
	Calendar	NA	NA	As Expected	NA	NA	NA	NA
	To-Do List/ Tasks	NA	NA	NA	NA	NA	NA	NA
	Memos	Partial	Partial	Not As Expected	Not As Expected	Partial	Not As Expected	Not 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	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected
	Spreadsheets	NA	NA	NA	NA	NA	NA	NA
	Presentations	NA	NA	NA	NA	NA	NA	NA
Internet Data	Bookmarks	As Expected	Not As Expected	As Expected	Not As Expected	As Expected	As Expected	Partial
	History	As Expected	Not As Expected	As Expected	Not As Expected	As Expected	As Expected	As Expected

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Test Cases – Internal Memory Acquisition		Mobile Device Platform: Android						
		Galaxy S3 GSM	Galaxy S4 GSM	Galaxy S5 CDMA	Galaxy Note 3 CDMA	HTC One GSM	HTC One CDMA	Nexus 4 GSM
Social Media Data	Facebook	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected
	Twitter	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected
	LinkedIn	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected
Acquisition	Acquire All	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected
	Selected All	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected
	Select Individual	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
Physical Acquisition	Readability	NA	NA	NA	NA	NA	NA	NA
	Deleted File Recovery	NA	NA	NA	NA	NA	NA	NA
Non-ASCII Character	Reported in native format	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected
Hashing	Hashes reported for acquired data objects	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected	As Expected
GPS Data	Coordinates (Long/Lat)	NA	NA	NA	NA	NA	NA	NA

Table 4: Android Mobile Devices

4.2 iOS Mobile Devices

The internal memory contents for iOS devices were acquired and analyzed with Secure View v3.16.4.

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

- Acquisition of PIM Data i.e. *maximum length contact entries* was partially recovered for all iOS devices.
- Memo entries were not acquired for iOS devices.

- Incoming calls were partially acquired (i.e., *duration times for active received calls were not acquired*) for the iPhone 5 (GSM).
- Incoming calls were partially acquired (i.e., *status flags were incorrectly identified as missed*) for the iPhone 5S (CDMA).
- Outgoing calls were partially acquired (i.e., *duration times for active dialed calls were not acquired*) for the iPhone 5s (CDMA).
- Internet Related Data (i.e., Browser History and Bookmarks) was not acquired for the iPad Mini (GSM) and iPad (GSM).
- Social Media Data was not acquired for iOS devices.
- Acquisition of an individual supported item (i.e., *Internet-related data – Bookmarks and Web History*) was not successful for the iPad Mini (GSM)
- Acquisition of an individual supported item (i.e., *Application Data - Bookmarks*) was partially acquired for the iPad (GSM).
- Non-ASCII characters were partially acquired (i.e., *ASCII characters within text messages*) for the iPhone 5S (CDMA) and iPhone 5 (GSM).

NOTES:

- The Subscriber and Equipment related data (i.e., MEID, MSISDN) has to manually be entered for all iOS devices.
- iPads: The tool only supports acquisition of Contacts, Files and Application Data.
- The “Apple iPad” option doesn’t appear as a supported device unless the tool’s search engine is used.

See Table 5 below for more details.

Secure View v3.16.4							
Test Cases – Internal Memory Acquisition		Mobile Device Platform: iOS					
		iPhone5 GSM	iPhone5S CDMA	iPad GSM	iPad Air CDMA	iPAD Mini GSM	iPad Mini CDMA
Connectivity	Non Disrupted	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	NA	NA	NA	NA	NA	NA
	MEID/ESN	NA	NA	NA	NA	NA	NA
	MSISDN	NA	NA	NA	NA	NA	NA
PIM Data	Contacts	Partial	Partial	Partial	Partial	Partial	Partial

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Test Cases – Internal Memory Acquisition		Mobile Device Platform: iOS					
		iPhone5 GSM	iPhone5S CDMA	iPad GSM	iPad Air CDMA	iPAD Mini GSM	iPad Mini CDMA
	Calendar	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	NA	<i>As Expected</i>	NA
	To-Do List/ Tasks	NA	NA	NA	NA	NA	NA
	Memos	<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>
Call Logs	Incoming	<i>Partial</i>	<i>Partial</i>	NA	NA	NA	NA
	Outgoing	<i>As Expected</i>	<i>Partial</i>	NA	NA	NA	NA
	Missed	<i>As Expected</i>	<i>As Expected</i>	NA	NA	NA	NA
SMS Messages	Incoming	<i>Partial</i>	<i>As Expected</i>	NA	NA	NA	NA
	Outgoing	<i>As Expected</i>	<i>As Expected</i>	NA	NA	NA	NA
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	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>
	Spreadsheets	NA	NA	NA	NA	NA	NA
	Presentations	NA	NA	NA	NA	NA	NA
Internet Data	Bookmarks	<i>As Expected</i>	<i>As Expected</i>	<i>Not As Expected</i>	<i>As Expected</i>	<i>Not 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>Not As Expected</i>	<i>As Expected</i>
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>
	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>	<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>
Acquisition	Acquire All	<i>As Expected</i>	<i>As Expected</i>	NA	<i>As Expected</i>	NA	<i>As Expected</i>
	Selected All	<i>As</i>	<i>As</i>	NA	<i>As</i>	NA	<i>As</i>

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Test Cases – Internal Memory Acquisition		Mobile Device Platform: iOS					
		iPhone5 GSM	iPhone5S CDMA	iPad GSM	iPad Air CDMA	iPAD Mini GSM	iPad Mini CDMA
		<i>Expected</i>	<i>Expected</i>		<i>Expected</i>		<i>Expected</i>
	Select Individual	<i>As Expected</i>	<i>As Expected</i>	<i>Partial</i>	<i>As Expected</i>	<i>Not 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>
Physical Acquisition	Readability	<i>NA</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>
	Deleted File Recovery	<i>NA</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>
Non-ASCII Character	Reported in native format	<i>Partial</i>	<i>Partial</i>	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>
Hashing	Hashes reported for acquired data objects	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>
GPS Data	Coordinates (Long/Lat)	<i>NA</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>

Table 5: iOS Mobile Devices

4.3 Feature Phones and Windows Mobile

The internal memory contents for the feature phones and Windows Mobile were acquired and analyzed with Secure View v3.16.4.

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

- Connection between the tool and the phone was not established for the HTC Win8x.
- Acquisition of PIM Data i.e. *maximum length contact entries* was partially recovered for the Samsung Convoy 3 and Samsung Rugby III.
- Non-ASCII characters within address book entries were not acquired for the Samsung Rugby III.

NOTES:

- ◇ Samsung Convoy 3: tool only supports acquisition of Contacts.
- ◇ LG Extravert and Samsung Rugby III: tool only supports acquisition of Contacts, images/videos and ringtones/music.

See Table 6 below for more details.

Secure View v3.16.4				
Test Cases – Internal Memory Acquisition		<i>Mobile Devices Platforms: Feature devices, Windows</i>		
		<i>Samsung Convoy3 CDMA</i>	<i>Samsung Rugby III GSM</i>	<i>HTC Win 8 GSM</i>
Connectivity	Non Disrupted	<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	<i>NA</i>	<i>As Expected</i>	<i>NA</i>
	MEID/ESN	<i>As Expected</i>	<i>NA</i>	<i>NA</i>
	MSISDN	<i>As Expected</i>	<i>As Expected</i>	<i>NA</i>
PIM Data	Contacts	<i>Partial</i>	<i>Partial</i>	<i>NA</i>
	Calendar	<i>NA</i>	<i>NA</i>	<i>NA</i>
	To-Do List/ Tasks	<i>NA</i>	<i>NA</i>	<i>NA</i>
	Memos	<i>NA</i>	<i>NA</i>	<i>NA</i>
Call Logs	Incoming	<i>NA</i>	<i>NA</i>	<i>NA</i>
	Outgoing	<i>NA</i>	<i>NA</i>	<i>NA</i>
	Missed	<i>NA</i>	<i>NA</i>	<i>NA</i>
SMS Messages	Incoming	<i>NA</i>	<i>NA</i>	<i>NA</i>
	Outgoing	<i>NA</i>	<i>NA</i>	<i>NA</i>
MMS Messages	Graphic	<i>NA</i>	<i>As Expected</i>	<i>NA</i>
	Audio	<i>NA</i>	<i>NA</i>	<i>NA</i>
	Video	<i>NA</i>	<i>As Expected</i>	<i>NA</i>
Stand-alone Files	Graphic	<i>NA</i>	<i>As Expected</i>	<i>NA</i>
	Audio	<i>NA</i>	<i>As Expected</i>	<i>NA</i>
	Video	<i>NA</i>	<i>As Expected</i>	<i>NA</i>
Application Data	Documents	<i>NA</i>	<i>NA</i>	<i>NA</i>
	Spreadsheets	<i>NA</i>	<i>NA</i>	<i>NA</i>
	Presentations	<i>NA</i>	<i>NA</i>	<i>NA</i>

Secure View v3.16.4				
Test Cases – Internal Memory Acquisition		Mobile Devices Platforms: Feature devices, Windows		
		Samsung Convoy3 CDMA	Samsung Rugby III GSM	HTC Win 8 GSM
Internet Data	Bookmarks	NA	NA	NA
	History	NA	NA	NA
Social Media Data	Facebook	NA	NA	NA
	Twitter	NA	NA	NA
	LinkedIn	NA	NA	NA
Acquisition	Acquire All	As Expected	As Expected	NA
	Selected All	As Expected	As Expected	NA
	Select Individual	As Expected	As Expected	NA
Case File Data Protection	Modify Case Data	As Expected	As Expected	NA
Physical Acquisition	Readability	NA	NA	NA
	Deleted File Recovery	NA	NA	NA
Non-ASCII Character	Reported in native format	As Expected	Not As Expected	NA
Hashing	Hashes reported for acquired data objects	As Expected	As Expected	NA
GPS Data	Coordinates (Long/Lat)	NA	NA	NA

Table 6: Brew Mobile Devices

4.4 Universal Integrated Circuit Cards (UICCs)

The internal memory contents for Universal Integrated Circuit Cards (UICCs) were acquired and analyzed with Secure View v3.16.4.

All test cases pertaining to the acquisition of UICCs were successful with the exception of the following:

- Acquisition of PIM Data (i.e. *contact entries*) containing non-Latin characters was partially recovered and not reported in its native format. Tool displayed Aur==lien instead of Aurèlien

See Table 7 below for more details.

Secure View v3.16.4		
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>Partial</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>Partial</i>
Hashing	Hashes reported for acquired data objects	<i>As Expected</i>

Table 7: Universal Integrated Circuit Cards