Magnet AXIOM v1.2.1.6994

Test Results for Mobile Device Acquisition Tool

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Homeland Security

Science and Technology

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Magnet AXIOM v1.2.1.6994

Contents

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.cftt.nist.gov/).

This document reports the results from testing Magnet AXIOM v1.2.1.6994 across supported mobile devices i.e., Android, iOS and Windows Mobile.

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-cftt-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: Magnet AXIOM

Software Version: 1.2.1.6994

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1 Results Summary

Magnet AXIOM version 1.2.1.6994 provides examiners with the ability to acquire and analyze data from mobile devices, cloud, computer, IoT and third party image data in a single case file. Magnet AXIOM provides deep artifact data parsing and carving. It provides support for acquiring browser history, email, chat, pictures, videos, documents, and social networks.

The tool was tested for its ability to acquire active data from the internal memory of supported mobile devices (i.e., Android, iOS, Windows Mobile). Except for the following anomalies, the tool acquired all supported data objects completely and accurately for all mobile devices tested.

*Connectivity***:**
- Connectivity is not stablished. (Devices: *Galaxy S5, Galaxy Note 3*)
- When connectivity is disrupted during acquisition an error message is not returned. (Devices: *Galaxy S3, Galaxy S6 Plus, Galaxy S7 Edge, Galaxy Tab E, Galaxy Tab S2, Nokia Lumia 735, iPhone 6S Plus, iPhone 7 Plus*)

*Subscriber, Equipment related data***:**
- The MSISDN/MDN and IMEI are not reported. (Devices: *Android, iOS*)

*Personal Information Management (PIM) data***:**
- Graphic files associated with Contact/Address book entries are partially reported. (Devices: *Galaxy S3, iPhone 6S Plus, iPhone 7 Plus*)
- Graphic files associated with Contact/Address book entries are incorrectly reported. (Device: *Galaxy S3*)
- Contact entries metadata (i.e., web and postal addresses) is not reported. (Device: *Galaxy Tab E*)
- Contact entries are not reported. (Device: *Galaxy S7 Edge*)
- Calendar entries metadata (i.e., notes or URLs within a calendar entry) is not reported. (Devices: *iPhone 5S, iPhone 7 Plus*)
- Memo entries (i.e., long memos) are not reported. (Device: *Galaxy S3*)
- Memo entries (i.e., short and long memos) are not reported. (Devices: *Galaxy S6 Plus, Galaxy S7 Edge, Galaxy Tab S2, iPhone S6 Plus*)

- Call log status i.e., incoming, outgoing, missed is not reported. (Device: *Galaxy S7 Edge*)
- Call log via Hangout Dialer is not reported. (Devices: *Galaxy Tab E, Galaxy Tab S2*)

SMS messages:
- Group text messages are partially reported. (Device: *Galaxy S6 Plus*)
- SMS messages are not reported. (Devices: *Galaxy S7 Edge, Galaxy Tab S2*)

MMS messages:
- MMS messages are partially reported. (Devices: *Galaxy S3, iPhone 5S, iPhone 6S Plus, iPhone 7 Plus*)
- MMS messages are not reported. (Devices: *Galaxy S7 Edge, Galaxy Tab S2*)

Stand-alone Files:
- Stand-alone files (i.e., audio) are partially reported. (Device: *Ellipsis 8*)
- Stand-alone files (i.e., graphic, audio, video) are partially reported. (Device: *Galaxy S7 Edge*)

Application Data:
- Application Data (i.e., pdf, txt files) is not reported. (Devices: *Galaxy S7 Edge, iPad Air*)

Social Media:
- Social Media data (i.e., Facebook) is partially reported. (Device: *Galaxy S3*)
- Social Media data (i.e., LinkedIn) is not reported. (Devices: *Galaxy S3, iPhone 5S*)
- Social Media data (i.e., Facebook, LinkedIn, Instagram) is partially reported. (Device: *Galaxy S6 Plus*)
- Social Media data (i.e., Twitter) is not reported. (Device: *Galaxy S6 Plus*)
- Social Media data (i.e., Facebook, LinkedIn, Twitter, Instagram) is not reported. (Device: *Galaxy S7 Edge*)
- Social Media data (i.e., Twitter, LinkedIn, Instagram) is not reported. (Device: *Galaxy Tab E*)
- Social Media data (i.e., Facebook, Instagram) is not reported. (Device: *iPhone 6 Plus*)
- Social Media data (i.e., Facebook, Twitter, Instagram) is not reported. (Device: *iPhone 7 Plus*)
- Social Media data (i.e., Twitter) is partially reported. (Device: *iPhone 6S Plus*)
- Social Media data (i.e., Facebook, LinkedIn) is not reported. (Device: *iPad Air*)
- Social Media data (i.e., Facebook, Twitter, LinkedIn) is not reported. (Device: *Galaxy Tab S2*)

- ➢ **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, browser history, emails) is not reported. (Devices: *Galaxy S6 Plus, Galaxy S7 Edge, Galaxy Tab S2*)
- Internet related data (i.e., browser history) is not reported. (Device: *iPad Air*)

GPS Related Data:
- No Maps GPS related data (i.e., longitude, latitude coordinates, address) are reported. (Devices: *Galaxy S6 Plus, Galaxy S7 Edge, Galaxy Tab S2, iPhone 6S Plus, iPad Air*)

Hashing:
- Hash values are not reported for video files. (Device: *Nokia Lumia 735*)

For more test result details see section 4.

2 Mobile Devices

The following table lists the mobile devices used for testing Magnet AXIOM version 1.2.1.6994.

Make	Model	OS	Firmware or Build Number	Network
Apple	iPhone 5S	iOS 7.1 (11D167)	2.18.02	CDMA
Apple	iPhone 6S Plus	iOS 9.2.1 (13C75)	1.23.00	CDMA
Apple	iPhone 7 Plus	iOS 10.2 (14C92)	1.33.00	CDMA
Apple	iPad Air	iOS 7.1 (11D167)	2.18.02	CDMA
LG	G4	Android 5.1.1	LMY47D	CDMA
Samsung	GS3 – SGH-1747	Android 4.1.2	1747UCDMG2	GSM
Samsung	GS6 Plus – SM-G928V	Android 5.1.1	LMY47X.G928VVRU2AOJ2	CDMA
Samsung	GS7 Edge SM-G935V	Android 6.0.1	MMB29M.G935VVRS4APH1	CDMA
Motorola	DROID Turbo 2 – XT1585	Android 5.1.1	LCK23.130-24	CDMA
Motorola	D Force XT1650	Android 7.0	NCLS25.86-11-4	CDMA
Samsung	Galaxy Tab E	Android 5.1.1	LMY47X.T567VVRU1AOH1	CDMA
Samsung	Galaxy Tab S2	Android 5.1.1	LMY47X.T817BVRU2AOJ2	CDMA
Samsung	Ellipsis 8 – QTAQZ3	Android 4.4.2	QZ3_31F27	CDMA
HTC	Win 8x	HTC PM23300	3030.0.34101.502	GSM
Nokia	Lumia 735	Windows 8.1	02171.00002.15194.03079	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

Magnet AXIOM version 1.2.1.6994 was installed on Windows version 7 Service Pack 1.

3.2 Internal Memory Data Objects

Magnet AXIOM version 1.2.1.6994 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	*Regular Length*
	Maximum Length
	Special Character
	Blank Name
	Regular Length, email
	Regular Length, graphic
	Regular Length, Address
	Deleted Entry
	Non-Latin Entry
	Contact Groups
PIM Data: Datebook/Calendar; Memos	*Regular Length*
	Maximum Length
	Deleted Entry
	Special Character
	Blank Entry
Call Logs	*Incoming*
	Outgoing
	Missed
	Incoming – Deleted
	Outgoing – Deleted
	Missed - Deleted
Text Messages	*Incoming SMS – Read*
	Incoming SMS – Unread
	Outgoing SMS
	Incoming EMS – Read
	Incoming EMS – Unread
	Outgoing EMS
	Incoming SMS – Deleted
	Outgoing SMS – Deleted
	Incoming EMS – Deleted
	Outgoing EMS – Deleted
	Non-Latin SMS/EMS
MMS Messages	*Incoming Audio*
	Incoming Graphic
	Incoming Video
	Outgoing Audio
	Outgoing Graphic
	Outgoing Video
Application Data	*Device Specific App Data*
Stand-alone data files	*Audio*
	Graphic

Data Objects	Data Elements
	Video
	Audio – Deleted
	Graphic - Deleted
	Video - Deleted
Internet Data	*Visited Sites*
	Bookmarks
	E-mail
Location Data	*GPS Coordinates*
	Geo-tagged Data
Social Media Data	*Facebook*
	Twitter
	LinkedIn
	Instagram

Table 2: Internal Memory 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, media (e.g., Android, iOS, Windows Mobile) and the make and model of mobile devices used for testing Magnet AXIOM version 1.2.1.6994.

The *Test Cases* column (internal memory acquisition) in sections 4.1 - 4.3 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 within each test case. Each individual sub-category row results for each mobile device 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 successfully.

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

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 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 Magnet AXIOM version 1.2.1.6994.

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

- When connectivity is disrupted during acquisition an error message is not returned for the Galaxy S3, Galaxy S6 Plus, Galaxy S7 Edge, Galaxy Tab E and Galaxy Tab S2.
- Subscriber and equipment related data (i.e., MSISDN, IMEI) are not reported for all Android devices.
- Graphic files associated with Contact/Address book entries are partially reported (i.e., not all contact graphic files were reported) for the Galaxy S3.
- Graphic files associated with Contact/Address book entries are incorrectly reported (i.e., graphic file is associated with the incorrect contact entry) for the Galaxy S3.
- Contact entries metadata (i.e., web addresses, postal address) is not acquired for the Galaxy Tab E.
- Contact entries were not reported for the Galaxy S7 Edge.
- Long Memo entries are not reported for the Galaxy S3.
- Memo entries (i.e., short and long memos) are not reported for the Galaxy S6 Plus, Galaxy S7 Edge and Galaxy Tab S2.
- Call logs (i.e., incoming, outgoing, missed) are not reported for the Galaxy S7 Edge.
- Call logs (i.e., outgoing) via Hangout Dialer are not reported for the Galaxy Tab E and Galaxy Tab S2.
- Group text messages are partially reported (i.e., only shows the recipients phone numbers and not the message) for the Galaxy S6 Plus.
- SMS messages (i.e., incoming, outgoing) are not reported for the Galaxy S7 Edge and Galaxy Tab S2.
- MMS messages are partially reported (i.e., attachments associated with text messages are not reported) for the Galaxy S3.
- MMS messages are not reported for the Galaxy S7 Edge and Galaxy Tab S2.
- Stand-alone files are partially reported (i.e., audio files are reported but are not playable) for the Ellipsis 8.
- Stand-alone files are partially reported (i.e., graphic, audio, video files are reported but not playable) for the Galaxy S7 Edge.
- Application data (i.e., pdf, txt files) is not reported for the Galaxy S7 Edge.
- Social Media (i.e., Facebook) is partially reported (i.e., only download links are reported) for the Galaxy S3.
- Social Media (i.e., LinkedIn) is not reported for the Galaxy S3.
- Social Media (i.e., Facebook, LinkedIn, Instagram) is partially reported (i.e., only graphic files were reported for Facebook and Instagram and only the profile information was reported for LinkedIn) for the Galaxy S6 Plus.
- Social Media (i.e., Twitter) is not reported for the Galaxy S6 Plus.
- Social Media (i.e., Facebook, LinkedIn, Twitter, Instagram) data is not reported for the Galaxy S7 Edge.

- Social Media (i.e., Twitter, LinkedIn, Instagram) data is not reported for the Galaxy Tab E.
- Social Media (i.e., Facebook, Twitter, LinkedIn) data is not reported for the Galaxy Tab S2.
- Internet Related Data (i.e., bookmarks, browser history, email) is not reported for the Galaxy S6 Plus, Galaxy S7 Edge and Galaxy Tab S2.
- GPS related data (i.e., longitude, latitude) coordinates are not reported for the Galaxy S6 Plus, Galaxy S7 Edge and Galaxy Tab S2.

Notes:
- ➢ Tool only supports acquiring media (i.e., video and graphic files) from the *LG G4* and *Motorola D Force*. However, PDF files are reported. Note that graphic and video files shared through MMS messages are acquired but not the associated text.
- ➢ Stand-alone audio files have to be exported in order to be played for the *Galaxy S3*.
- ➢ Tool only supports acquiring media (i.e., video and graphic files) from the *Motorola DRIOD*. However, PDF and Text files are acquired as well as graphic files from Instagram. Note that the size of the case files for this device after performing various back-to-back acquisitions varies, never the same.
- ➢ Deleted calendar entries are reported for the *Galaxy Tab E*.
- ➢ Tool only supports acquiring media (i.e., video and graphic files) from the *Ellipsis 8*. However, graphic files from Twitter are reported.
- ➢ The tool supports extraction of media (i.e., graphic and video files) only for the *Ellipsis 8*. However, it reported data from Twitter (i.e., profile picture).

See Table 3 below for more details.

Magnet AXIOM version 1.2.1.6994										
Test Cases – Internal Memory Acquisition		*Mobile Device Platform: Android*								
		LG G4	Samsung Galaxy S3	Samsung Galaxy S6+	Samsung GS7 Edge	Motorola DROID Turbo 2	Motorola D Force	Samsung Galaxy Tab E	Samsung Galaxy Tab S2	Ellipsis 8
Acquisition	Acquire All	*As Expected*	*As Expected*	*As Expected*	*As Expected*	*As Expected*	*As Expected*	*As Expected*	*As Expected*	*As Expected*
	Disrupted	*As Expected*	*Not As Expected*	*Not As Expected*	*Not As Expected*	*As Expected*	*As Expected*	*Not As Expected*	*Not As Expected*	*As Expected*
Reporting	Preview-Pane	*As Expected*	*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*	*As Expected*
Equipment/ User Data	IMEI	*NA*	*Not As Expected*	*Not As Expected*	*Not As Expected*	*NA*	*NA*	*Not As Expected*	*Not As Expected*	*NA*
	MEID/ESN	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
	MSISDN	*NA*	*Not As Expected*	*Not As Expected*	*Not As Expected*	*NA*	*NA*	*Not As Expected*	*Not As Expected*	*NA*
PIM Data	Contacts	*NA*	*Partial*	*As Expected*	*Not As Expected*	*NA*	*NA*	*Partial*	*As Expected*	*NA*
	Calendar	*NA*	*As Expected*	*As Expected*	*As Expected*	*NA*	*NA*	*As Expected*	*As Expected*	*NA*
	Memos/ Notes	*NA*	*Partial*	*Not As Expected*	*Not As Expected*	*NA*	*NA*	*As Expected*	*Not As Expected*	*NA*
Call Logs	Incoming	*NA*	*As Expected*	*As Expected*	*Not As Expected*	*NA*	*NA*	*Not As Expected*	*Not As Expected*	*NA*
	Outgoing	*NA*	*As Expected*	*As Expected*	*Not As Expected*	*NA*	*NA*	*Not As Expected*	*Not As Expected*	*NA*
	Missed	*NA*	*As Expected*	*As Expected*	*Not As Expected*	*NA*	*NA*	*Not As Expected*	*Not As Expected*	*NA*
SMS Messages	Incoming	*NA*	*As Expected*	*As Expected*	*Not As Expected*	*NA*	*NA*	*As Expected*	*Not As Expected*	*NA*
	Outgoing	*NA*	*As Expected*	*Partial*	*Not As Expected*	*NA*	*NA*	*As Expected*	*Not As Expected*	*NA*
MMS Messages	Graphic	*As Expected*	*Partial*	*As Expected*	*Not As Expected*	*NA*	*As Expected*	*As Expected*	*Not As Expected*	*NA*
	Audio	*NA*	*Partial*	*As Expected*	*Not As Expected*	*NA*	*NA*	*As Expected*	*Not As Expected*	*NA*
	Video	*As Expected*	*Partial*	*As Expected*	*Not As Expected*	*NA*	*As Expected*	*As Expected*	*Not As Expected*	*NA*
Stand-alone Files	Graphic	*As Expected*	*As Expected*	*As Expected*	*Partial*	*As Expected*	*As Expected*	*As Expected*	*As Expected*	*As Expected*
	Audio	*NA*	*As Expected*	*As Expected*	*Partial*	*NA*	*NA*	*As Expected*	*As Expected*	*Partial*
	Video	*As Expected*	*As Expected*	*As Expected*	*Partial*	*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*	*NA*

Magnet AXIOM version 1.2.1.6994									
Test Cases – Internal Memory Acquisition		*Mobile Device Platform: Android*							
		LG G4	Samsung Galaxy S3	Samsung Galaxy S6+	Samsung GS7 Edge	Motorola DROID Turbo 2	Motorola D Force	Samsung Galaxy Tab E	Samsung Galaxy Tab S2	Ellipsis 8
Social Media Data	Facebook	*NA*	*Partial*	*Partial*	*Not As Expected*	*NA*	*NA*	*As Expected*	*Not As Expected*	*NA*
	Twitter	*NA*	*As Expected*	*Not As Expected*	*Not As Expected*	*NA*	*NA*	*Not As Expected*	*Not As Expected*	*NA*
	LinkedIn	*NA*	*Not As Expected*	*Partial*	*Not As Expected*	*NA*	*NA*	*Not As Expected*	*Not As Expected*	*NA*
	Instagram	*NA*	*NA*	*Partial*	*Not As Expected*	*NA*	*NA*	*Not As Expected*	*As Expected*	*NA*
Internet Data	Bookmarks	*NA*	*As Expected*	*Not As Expected*	*Not As Expected*	*NA*	*NA*	*As Expected*	*Not As Expected*	*NA*
	History	*NA*	*As Expected*	*Not As Expected*	*Not As Expected*	*NA*	*NA*	*As Expected*	*Not As Expected*	*NA*
	Email	*NA*	*As Expected*	*Not As Expected*	*Not As Expected*	*NA*	*NA*	*As Expected*	*Not As Expected*	*NA*
GPS Data	Coordinates /Geo-tagged	*NA*	*As Expected*	*Not As Expected*	*Not As Expected*	*NA*	*NA*	*As Expected*	*Not As Expected*	*NA*
Non-Latin Character	Reported in native format	*NA*	*As Expected*	*As Expected*	*As Expected*	*NA*	*NA*	*As Expected*	*As Expected*	*NA*
Hashing	Case File/ Individual Files	*As Expected*	*As Expected*	*As Expected*	*As Expected*	*As Expected*	*As Expected*	*As Expected*	*As Expected*	*As Expected*
Case File Data Protection	Modify Case Data	*As Expected*	*As Expected*	*As Expected*	*As Expected*	*As Expected*	*As Expected*	*As Expected*	*As Expected*	*As Expected*

Table 3: Android Mobile Devices

4.2 iOS Mobile Devices

The internal memory contents for iOS devices were acquired and analyzed with Magnet AXIOM version 1.2.1.6994.

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

- When connectivity is disrupted during acquisition an error message is not returned for the iPhone 6S Plus and iPhone 7Plus.
- Subscriber and equipment related data (i.e., MSISDN, IMEI) was not reported for all iOS devices.
- Graphic files associated with Contact/Address book entries are partially reported (i.e., only half of the file is shown, the rest of the file is filled with noise) for the iPhone 6S Plus and iPhone 7 Plus.
- Graphic files associated with Contact/Address book entries are partially reported (i.e., they are reported under images category and not associated with the contact) for the iPhone 6S Plus.
- Calendar entries metadata (i.e., notes or URLs within a calendar entry) is not reported for the iPhone 5S and iPhone 7 Plus.
- Memo/Note entries are not reported for the iPhone 6S Plus.
- Outgoing MMS are partially reported (i.e., attachments not associated with text message) for the iPhone 5S.
- MMS attachments (i.e., audio, video) appear under the SMS category. The files are playable under the SMS category (file explorer view) only for the iPhone 6S Plus.
- MMS messages (i.e., incoming, outgoing) partially reported (i.e., attachments are not associated with text portion of the message) for the iPhone 7 Plus.
- Application data (i.e., pdf, txt files) is not reported for the iPad Air.
- LinkedIn data is not reported for the iPhone 5S.
- Social Media (i.e., Facebook, Instagram) data is not reported for the iPhone 6S Plus.
- Social Media (i.e., Twitter) data is partially reported for the iPhone 6S Plus.
- Social media (i.e., Facebook, Twitter, Instagram) is not reported for the iPhone 7 Plus.
- Social Media (i.e., Facebook, LinkedIn) data is not reported for the iPad Air.
- Internet related data (i.e., browser history) is not reported for the iPad Air.
- GPS data (i.e., longitude/latitude coordinates, address) is not reported for the iPhone 6S Plus and iPad Air.

Notes:
- Deleted SMS messages be found in the *sms.db* file located in the tool's file system view for the iPhone 6S Plus.
- Facebook data is found under "Mail" category for the iPhone 5S.

See Table 4 below for more details.

Magnet AXIOM version 1.2.1.6994				
		Mobile Device Platform: iOS		
Test Cases – Internal Memory Acquisition		iPhone 5S	iPhone 6S Plus	iPhone 7 Plus	iPad Air
Acquisition	Acquire All	*As Expected*	*As Expected*	*As Expected*	*As Expected*
	Disrupted	*As Expected*	*Not As Expected*	*Not 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	*Not As Expected*	*Not As Expected*	*Not As Expected*	*Not As Expected*
	MEID/ESN	*NA*	*NA*	*NA*	*NA*
	MSISDN	*Not As Expected*	*Not As Expected*	*Not As Expected*	*Not As Expected*
PIM Data	Contacts	*As Expected*	*Partial*	*Partial*	*As Expected*
	Calendar	*Partial*	*As Expected*	*Partial*	*As Expected*
	Memos/Notes	*As Expected*	*Not As Expected*	*As Expected*	*As Expected*
Call Logs	Incoming	*As Expected*	*As Expected*	*As Expected*	*As Expected*
	Outgoing	*As Expected*	*As Expected*	*As Expected*	*As Expected*
	Missed	*As Expected*	*As Expected*	*As Expected*	*As Expected*
SMS Messages	Incoming	*As Expected*	*As Expected*	*As Expected*	*As Expected*
	Outgoing	*As Expected*	*As Expected*	*As Expected*	*As Expected*
MMS Messages	Graphic	*Partial*	*As Expected*	*Partial*	*As Expected*
	Audio	*Partial*	*Partial*	*Partial*	*As Expected*
	Video	*Partial*	*Partial*	*Partial*	*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)	*As Expected*	*As Expected*	*As Expected*	*Not As Expected*
	Facebook	*As Expected*	*Not As Expected*	*Not As Expected*	*Not As Expected*

Magnet AXIOM version 1.2.1.6994				
Test Cases – Internal Memory Acquisition		*Mobile Device Platform: iOS*			
		iPhone 5S	iPhone 6S Plus	iPhone 7 Plus	iPad Air
Social	Twitter	*As*	*Partial*	*Not As*	*As*
	LinkedIn	*Not As Expected*	*As Expected*	*As Expected*	*Not As Expected*
	Instagram	*NA*	*Not As*	*Not As*	*NA*
Internet	Bookmarks	*As Expected*	*As Expected*	*As Expected*	*As Expected*
	History	*As*	*As*	*As*	*Not As*
	Email	*NA*	*NA*	*NA*	*NA*
GPS Data	Coordinates/	*As*	*Not As*	*As*	*Not As*
Non-Latin	Reported in	*As Expected*	*As Expected*	*As Expected*	*As Expected*
Hashing	Case File/	*As*	*As*	*As*	*As*
Case File	Modify Case	*As Expected*	*As Expected*	*As Expected*	*As Expected*

Table 4: iOS Mobile Devices

4.3 Windows Mobile Devices

The internal memory contents for Windows Mobile devices were acquired and analyzed with Magnet AXIOM version 1.2.1.6994.

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

- When connectivity is disrupted during acquisition an error message is not returned for the Nokia Lumia 735.
- Hash values are reported for graphic but not for video files for the Nokia Lumia 735.

Notes:
- ➢ Only media files (i.e., video and graphic) acquisition is supported for the HTC Win 8x and Nokia Lumia 735.

See Table 5 below for more details.

Magnet AXIOM version 1.2.1.6994		
	Mobile Device Platform: Windows Mobile	
Test Cases – Internal Memory Acquisition	HTC Win 8x	Nokia Lumia 735
Acquisition Acquire All	*As Expected*	*As Expected*
Disrupted	*As Expected*	*Not As Expected*
Reporting Preview-Pane	*As Expected*	*As Expected*
Generated Reports	*As Expected*	*As Expected*
Equipment/ User Data IMEI	*NA*	*NA*
MEID/ESN	*NA*	*NA*
MSISDN	*NA*	*NA*
PIM Data Contacts	*NA*	*NA*
Calendar	*NA*	*NA*
Memos/ Notes	*NA*	*NA*
Call Logs Incoming	*NA*	*NA*
Outgoing	*NA*	*NA*
Missed	*NA*	*NA*
Incoming	*NA*	*NA*

Magnet AXIOM version 1.2.1.6994		
Test Cases – Internal Memory Acquisition	Mobile Device Platform: Windows Mobile	
	HTC Win 8x	Nokia Lumia 735
SMS Outgoing	*NA*	*NA*
MMS Graphic	*NA*	*NA*
MMS Audio	*NA*	*NA*
MMS Video	*NA*	*NA*
Stand-alone Graphic	*As Expected*	*As Expected*
Stand-alone Audio	*NA*	*NA*
Stand-alone Video	*As Expected*	*As Expected*
Application Documents	*NA*	*NA*
Social Media Facebook	*NA*	*NA*
Social Media Twitter	*NA*	*NA*
Social Media LinkedIn	*NA*	*NA*
Social Media Instagram	*NA*	*NA*
Internet Bookmarks	*NA*	*NA*
Internet History	*NA*	*NA*
Internet Email	*NA*	*NA*
GPS Data Coordinates	*NA*	*NA*
Non-Latin Reported in	*NA*	*NA*
Hashing Case File/	*As Expected*	*Partial*
Case File Modify	*As Expected*	*As Expected*

Table 5: Windows Mobile Devices