



MOBILedit Forensic Express v3.5.2.7047

Test Results for Mobile Device Acquisition Tool

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**Homeland
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Test Results for Mobile Device Acquisition Tool:
MOBILedit Forensic Express v3.5.2.7047

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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.cftt.nist.gov/>).

This document reports the results from testing MOBILedit Forensic Express 3.5.2.7047 across supported mobile devices e.g., smart phones, and feature phones.

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. The full test data is available at http://www.cftt.nist.gov/mobile_devices.htm.

Test Results for Mobile Device Acquisition Tool

Tool Tested: MOBILedit Forensic Express

Software Version: v3.5.2.7047

Supplier: Compelson Labs

Address: 75 Broadway, Suite 202
San Francisco, CA 94111

Tel: (415) 361-4077

WWW: <http://www.s.mobiledit.com/home>

1 Results Summary

MOBILedit Forensic Express provides examiners with the ability to extract data from a variety of mobile devices. This data includes deleted data, call history, contacts, text messages, multimedia messages, files, events, notes, passwords for wifi networks, reminders and application data from apps such as Skype, Dropbox, Evernote, Facebook, WhatsApp, Viber, etc.

MOBILedit Forensic Express 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/SIMs). Except for the following anomalies, the tool acquired all supported data objects completely and accurately for all mobile devices tested.

Subscriber / Equipment related data:

- MSISDNs were not reported. (Devices: *Android, iOS*)
- MSISDNs and IMEIs were not reported (Devices: *Windows Mobile*)
- SPN and MSISDNs were not reported (Media: *UICCs*)

Personal Information Management (PIM) data:

- Memos were not reported. (Devices: *Android*)
- Long memo entries are truncated after 69 characters (Devices: *iOS*)
- Call log data was not reported. (Devices: *Galaxy Tab E, Galaxy Tab S2*)
- SMS and MMS messages were not reported. (Devices: *Galaxy Tab E, Galaxy Tab S2*)
- Outgoing MMS video attachments are not viewable within the conversation tab. (Devices: *Galaxy S6, Galaxy S6 Edge Plus*)
- Only outgoing MMS graphic and video file attachments were reported. (Devices: *Windows Mobile*)

Application Data:

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

Social media Data:

- Social media (Facebook, LinkedIn) related data was not reported. (Devices: *Android*)
- Partial social media (Facebook, Instagram) related data was reported. (Devices: *iOS*)
- Partial social media related data for Twitter and Instagram (i.e., profile pics, pictures, emoticons) was reported. (Devices: *Galaxy S6, Galaxy S6 Edge Plus, LG G4*)
- Social media related data for Instagram was not reported. (Devices: *Galaxy Tab-E, Galaxy Tab S2*)

Internet Related Data:

- Browser history and email related data were not reported. (Devices: *Android*)
- Bookmarks were not reported. (Devices: *Galaxy Tab-E*)
- Email related data was not reported. (Devices: *iOS*)

UICCs:

- Acquisition interruption did not produce an error message.
- LOCI and GPRSLOCI data were not reported. (Media: *UICCs*)

NOTES:

- Memos are not reported in the generated report. Memos can be found in phone\applications1\AppleBackup\AppDomainGroup\group.com.apple.notes\NoteStore.sqlite for all iOS devices.
- Graphic files and video files were only reported for the HTC Win 8x and the Nokia Lumia 735.

For more test result details see section 4.

2 Mobile Devices

The following table lists the mobile devices used for testing MOBILedit Forensic Express v3.5.2.7047.

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
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
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
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

MOBILedit Forensics Express v3.5.2.7047 was installed on Windows 7 v6.1.7601.

3.2 Internal Memory Data Objects

MOBILedit Forensics Express v3.5.2.7047 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>

Data Objects	Data Elements
	<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

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, Windows

Mobile, UICC) and the make and model of mobile devices used for testing MOBILedit Forensics Express v3.5.2.7047.

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 MOBILedit Forensic Express v3.5.2.7047.

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

- Equipment / User data (i.e., MSISDN) was not reported for all Android devices.
- Memos were not reported for all Android devices.
- Call log data was not reported for the Galaxy Tab-E and the Galaxy Tab S2 via Hangouts dialer.
- SMS and MMS messages using the application FireChat were not reported for the Galaxy Tab-E and the Galaxy Tab S2.
- Outgoing video MMS messages are not viewable within the conversation tab for the Galaxy S6 or the Galaxy S6 Edge Plus.
- Social media related data i.e., Facebook, LinkedIn were not reported for all Android devices.
- Partial social media related data for Twitter and Instagram (i.e., profile pics, pictures, emoticons) were reported for the Galaxy S6, Galaxy S6 Edge Plus and the LG G4.
- Social media related data i.e., Instagram were not reported for the Galaxy Tab-E or the Galaxy Tab S2.
- Internet related data (Bookmarks) were not reported for the Galaxy Tab-E.
- Internet related data (History, Email) was not acquired for all Android devices.

See Table 3 below for more details.

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Test Cases – Internal Memory Acquisition		<i>Mobile Device Platform: Android</i>				
		Galaxy S6	Galaxy S6 Edge Plus	LG G4	Galaxy Tab-E	Galaxy Tab S2
Acquisition	Acquire All	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>
	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>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>
	MEID/ESN	NA	NA	NA	NA	NA
	MSISDN	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>
PIM Data	Contacts	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>
	Calendar	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>	Not As <i>Expected</i>	Not As <i>Expected</i>	Not As <i>Expected</i>
Call Logs	Incoming	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	Not As <i>Expected</i>	Not As <i>Expected</i>
	Outgoing	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	Not As <i>Expected</i>	Not As <i>Expected</i>
	Missed	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	Not As <i>Expected</i>	Not As <i>Expected</i>
SMS Messages	Incoming	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	Not As <i>Expected</i>	Not As <i>Expected</i>
	Outgoing	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	Not As <i>Expected</i>	Not As <i>Expected</i>
MMS Messages	Graphic	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	Not As <i>Expected</i>	Not As <i>Expected</i>
	Audio	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	Not As <i>Expected</i>	Not As <i>Expected</i>
	Video	Not As <i>Expected</i>	Not As <i>Expected</i>	As <i>Expected</i>	Not As <i>Expected</i>	Not 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	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>
Application Data	Documents (txt, pdf files)	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>

MOBILedit Forensic Express v3.5.2.7047						
Test Cases – Internal Memory Acquisition		<i>Mobile Device Platform: Android</i>				
		Galaxy S6	Galaxy S6 Edge Plus	LG G4	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>
	Twitter	<i>Partial</i>	<i>Partial</i>	<i>Partial</i>	<i>Partial</i>	<i>Partial</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>
	Instagram	<i>Partial</i>	<i>Partial</i>	<i>Partial</i>	<i>Not As Expected</i>	<i>Not As Expected</i>
Internet Data	Bookmarks	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>Not As Expected</i>	<i>As Expected</i>
	History	<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>
	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>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>NA</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>	<i>NA</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 3: Android Mobile Devices

4.2 iOS Mobile Devices

The internal memory contents for iOS devices were acquired and analyzed with MOBILedit Forensic Express v3.5.2.7047.

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

- Equipment / User data (i.e., MSISDN) was not reported for all iOS devices.
- Memos are not reported in the generated report. Memos can be found in phone\applications1\AppleBackup\AppDomainGroup\group.com.apple.notes\NoteStore.sqlite for all iOS devices.
- Long memo entries are truncated after 69 characters for all iOS devices.
- Documents (txt, pdf) were not reported for all iOS devices.
- Partial social media related data i.e., profile information, graphics were reported for Facebook and Instagram for all iOS devices
- Email related data was not reported for all iOS devices.

See Table 4 below for more details.

MOBILedit Forensic Express v3.5.2.7047						
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>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>
	MEID/ESN	NA	NA	NA	NA	NA
	MSISDN	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>
PIM Data	Contacts	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>
	Calendar	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>	As <i>Expected</i>
	Memos/Notes	Partial	Partial	Partial	Partial	Partial

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Test Cases – Internal Memory Acquisition		<i>Mobile Device Platform: iOS</i>				
		iPhone 6	iPhone 6S	iPhone 6S Plus	iPad Mini	iPad Pro
Call Logs	Incoming	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>
	Outgoing	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>
	Missed	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>
SMS Messages	Incoming	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>
	Outgoing	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>
MMS Messages	Graphic	<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>
	Video	<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>
	Audio	<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>
Application Data	Documents (txt, pdf files)	<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>
Social Media Data	Facebook	<i>Partial</i>	<i>Partial</i>	<i>Partial</i>	<i>Partial</i>	<i>Partial</i>
	Twitter	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>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>Partial</i>	<i>Partial</i>	<i>Partial</i>	<i>Partial</i>	<i>Partial</i>
Internet Data	Bookmarks	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>	<i>As Expected</i>
	History	<i>As Expected</i>	<i>As Expected</i>	<i>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>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>

MOBILedit Forensic Express v3.5.2.7047						
Test Cases – Internal Memory Acquisition		Mobile Device Platform: iOS				
		iPhone 6	iPhone 6S	iPhone 6S Plus	iPad Mini	iPad Pro
Hashing	Case File/ Individual Files	NA	NA	NA	NA	NA
Case File Data Protection	Modify Case Data	As Expected	As Expected	As Expected	As Expected	As Expected

Table 4: iOS Mobile Devices

4.3 Windows Mobile Devices

The internal memory contents for the feature phone was acquired and analyzed with MOBILedit Forensic Express v3.5.2.7047.

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

- Subscriber and Equipment related data (i.e., IMEI, MSISDN) was not reported for all Windows Mobile devices.
- Only outgoing MMS graphic and video file attachments were acquired for the HTC Win 8x and the Nokia Lumia 735. No other data was reported.

See Table 5 below for more details.

MOBILedit Forensic Express v3.5.2.7047			
Test Cases – Internal Memory Acquisition		<i>Mobile Device Platform: Windows Mobile</i>	
		<i>HTC Win 8x</i>	<i>Nokia Lumia 735</i>
Acquisition	Acquire All	<i>As Expected</i>	<i>As Expected</i>
	Disrupted	<i>As Expected</i>	<i>As Expected</i>
Reporting	Preview-Pane	<i>As Expected</i>	<i>As Expected</i>
	Generated Reports	<i>As Expected</i>	<i>As Expected</i>
Equipment/ User Data	IMEI/IMSI	<i>Not As Expected</i>	<i>Not As Expected</i>
	MEID/ESN	<i>NA</i>	<i>NA</i>
	MSISDN	<i>Not As Expected</i>	<i>Not As Expected</i>
PIM Data	Contacts	<i>Not As Expected</i>	<i>Not As Expected</i>
	Calendar	<i>Not As Expected</i>	<i>Not As Expected</i>
	Memos/Notes	<i>Not As Expected</i>	<i>Not As Expected</i>
Call Logs	Incoming	<i>Not As Expected</i>	<i>Not As Expected</i>

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Test Cases – Internal Memory Acquisition		<i>Mobile Device Platform: Windows Mobile</i>	
		<i>HTC Win 8x</i>	<i>Nokia Lumia 735</i>
	Outgoing	<i>Not As</i>	<i>Not As</i>
	Missed	<i>Not As Expected</i>	<i>Not As Expected</i>
SMS	Incoming	<i>Not As</i>	<i>Not As</i>
	Outgoing	<i>Not As Expected</i>	<i>Not As Expected</i>
MMS	Graphic	<i>Partial</i>	<i>Partial</i>
	Audio	<i>Partial</i>	<i>Partial</i>
	Video	<i>Not As</i>	<i>Not As</i>
Stand-alone	Graphic	<i>Partial</i>	<i>Partial</i>
	Audio	<i>Not As</i>	<i>Not As</i>
	Video	<i>Partial</i>	<i>Partial</i>
Application	Documents	<i>Not As</i>	<i>Not As</i>
Social Media	Facebook	<i>Not As Expected</i>	<i>Not As Expected</i>
	Twitter	<i>Not As</i>	<i>Not As</i>
	LinkedIn	<i>Not As Expected</i>	<i>Not As Expected</i>
	Instagram	<i>Not As</i>	<i>Not As</i>
Internet	Bookmarks	<i>Not As Expected</i>	<i>Not As Expected</i>
	History	<i>Not As</i>	<i>Not As</i>
	Email	<i>Not As Expected</i>	<i>Not As Expected</i>
GPS Data	Coordinates/	<i>Not As</i>	<i>Not As</i>
Non-Latin	Reported in	<i>Not As Expected</i>	<i>Not As Expected</i>

MOBILedit Forensic Express v3.5.2.7047			
Test Cases – Internal Memory Acquisition		<i>Mobile Device Platform: Windows Mobile</i>	
		HTC Win 8x	Nokia Lumia 735
Hashing	Case File/ Individual Files	NA	NA
Case File Data Protection	Modify Case Data	<i>As Expected</i>	<i>As Expected</i>

Table 5: Windows Mobile

4.4 Universal Integrated Circuit Cards (UICCs)

The internal memory contents for Universal Integrated Circuit Cards (UICCs) were acquired and analyzed with MOBILedit Forensic Express v3.5.2.7047.

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

- Acquisition interruption did not produce an error message.
- Acquisition of the SPN and MSISDN were not reported.
- Acquisition of location related data (i.e., LOCI, GPRSLOCI) was not reported.

See Table 6 below for more details.

MOBILedit Forensic Express v3.5.2.7047		
Test Cases – UICC Acquisition		<i>Universal Integrated Circuit Card</i>
Connectivity	Non Disrupted	<i>As Expected</i>
	Disrupted	<i>Not As Expected</i>
Equipment/ User Data	Service Provider Name (SPN)	<i>Not As Expected</i>
	ICCID	<i>As Expected</i>
	IMSI	<i>As Expected</i>
	MSISDN	<i>Not 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>Not As Expected</i>
	GPRSLOCI	<i>Not As Expected</i>
Acquisition	Acquire All	<i>As Expected</i>
	Selected All	<i>NA</i>
	Select Individual	<i>NA</i>
Case File Data Protection	Modify Case Data	<i>As Expected</i>

MOBILedit Forensic Express v3.5.2.7047		
Test Cases – UICC Acquisition		<i>Universal Integrated Circuit Card</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>NA</i>

Table 6: Universal Integrated Circuit Cards