

NATIONAL TRANSPORTATION SAFETY BOARD

Vehicle Recorder Division

Washington, D.C. 20594

July 27, 2017

Personal Electronic Device

Specialist's Factual Report

By Jane Foster

1. EVENT SUMMARY

Location: Alexandria, Minnesota
Date: September 17, 2016
Aircraft: Agusta A109S
Registration: N91NM
Operator: North Memorial Medical Center
NTSB Number: CEN16FA372

On September 17, 2016, at 0207 central daylight time, an Agusta S.p.A A109S helicopter, N91NM, impacted trees and terrain near Chandler Field Airport (AXN), Alexandria, Minnesota. The commercial rated pilot and two crew members sustained serious injuries and the helicopter was destroyed. The helicopter was registered to North Memorial Health Care, Brooklyn Center, Minnesota, and operated by North Memorial Medical Center under the provisions of *14 Code of Federal Regulations Part 135* as a positioning flight. Night instrument meteorological conditions prevailed at the accident site and an instrument flight rules (IFR) flight plan had been filed. The helicopter departed Brainerd Lakes Regional Airport (BRD), Brainerd, Minnesota about 0135 and was destined for the Douglas County Hospital helipad, Alexandria, Minnesota.

2. GROUP

A group was not convened.

3. DETAILS OF INVESTIGATION

The National Transportation Safety Board (NTSB) Vehicle Recorder Division received the following personal electronic device (PED):

Device Manufacturer/Model:	Apple iPad Air 2
Serial Number:	DMPRFNY3GSYL

3.1. Device Description

The Apple iPad Air 2 is a tablet computer with a high-resolution color touch-screen interface. All iPad devices support WiFi and Bluetooth connectivity. The Apple iPad Air

2 includes front and back cameras. The iPad implements its functionality by running programs called “Apps” capable of supporting web-browsing, email, audio/video playback, contact and calendar management, and numerous other specialized functions. User-installed Apps can be used to support functionality for electronic flight bags, flight planning and filing, aviation weather depiction, and electronic flight charts. Application data is stored in non-volatile memory and may include image, video, and position location information. Specialized application data may be stored in a proprietary file structure using numerous proprietary file formats. The amount and type of data stored varies based on the software version and configuration of the specific device.

3.2. Data Recovery

Upon arrival at the Vehicle Recorder Laboratory, an examination revealed the unit had sustained impact damage. Figure 1 shows the front and back of the iPad as received.

Figure 1. Front and back of iPad Air 2 as received.



4. DEVICE INVESTIGATION

4.1. Apple iPad Air 2

This device is capable of storing data in the non-volatile memory (NVM).¹ The extent of the damage precluded normal recovery procedures and additional attempts were unsuccessful in yielding usable data. Therefore, no data pertinent to the event were recovered.

¹ Non-volatile memory is semiconductor memory that does not require external power for data retention.