

**NATIONAL TRANSPORTATION SAFETY BOARD**

Vehicle Recorder Division  
Washington, D.C. 20594

November 24, 2014

**Personal Electronic Device**

**Specialist's Factual Report  
by Bill Tuccio, Ph.D.**

**A. EVENT**

Location: Willoughby Hills, Ohio  
Date: August 25, 2014  
Aircraft: Cessna 172R  
Registration: N4207P  
Operator: Private  
NTSB Number: CEN14FA453

**B. GROUP**

A group was not convened.

**C. SUMMARY**

On August 25, 2014, at 2158 eastern daylight time, a Cessna 172R airplane, N4207P, collided with the terrain in Willoughby Hills, Ohio, following a loss of control shortly after takeoff from the Cuyahoga County Airport (CGF). The private pilot and three passengers were fatally injured. The airplane was substantially damaged by impact and a post impact fire. The airplane was registered to a private individual and operated by T & G Flying Club, Inc. The pilot rented the airplane and was flying it on a personal flight under 14 *Code of Federal Regulations* Part 91. Visual meteorological conditions prevailed for the flight which was not operating on a flight plan. The flight was originating at the time of the accident.

**D. DETAILS OF INVESTIGATION**

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

Manufacturer/Model: Apple iPhone 5S  
Serial Number: F17MHEAHFNJJ

## **Apple iPhone 5S Device Description**

The Apple iPhone is a touch-screen operated smartphone capable of voice calling, text messaging, email, photo/video recording, audio (music) playback, and numerous other specialized functions depending on configuration. The unit is capable of accessing wireless networks using the IEEE 801.11n protocol (wifi) and other wireless devices supporting Bluetooth<sup>1</sup>. Specialized functions are supported by additional user-installed program applications (Apps). Application data is stored in non-volatile memory and may include call logs, text messaging logs, image, video, and position location information. In addition, specialized application data may be stored in a proprietary file structure using numerous file formats including: binary, ASCII, HTML, SQL, etc. The amount and type of data stored varies based on the software version and configuration of the specific device.

## **Apple iPhone 5S Data Recovery**

Upon arrival at the Vehicle Recorder Laboratory, an exterior examination revealed the iPhone sustained minimal damage. The iPhone started normally and was password protected. A password supplied by the Investigator-in-Charge successfully unlocked the phone. The phone was examined by browsing the user interface and through a forensic download of content.

## **Apple iPhone 5s Data Description**

The iPhone was reported to be owned by one of the passengers. None of the data retrieved from the iPhone contained track or flight plan related data.

At 20:33:01 EDT, a text message first mentioned the flight. Text messages continued with the same recipient until 21:37 EDT. The conversation discussed: a destination of Kelly Island; half hour travel time each way, for a total time of one hour; and the possibility the passenger would communicate further about the flight using Snapchat<sup>2</sup>.

A 10-second video was taken from the back, right seat of the aircraft while it was taxiing at night at 21:49 EDT. The video panned from the right exterior to the forward interior. One person was in the front right seat and another person in the front left seat. The person in the right seat was not touching any flight controls. The person in the left seat had both hands on the yoke. The flap handle was in the full up (i.e., 0 degree) position.

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<sup>1</sup> A short-range, low bandwidth wireless protocol used in consumer electronics used mostly for low-overhead functions.

<sup>2</sup> Snapchat is a messaging application that supports text, photo, and videos. Unlike traditional messaging applications, Snapchat deletes messages from the sender and recipient devices and the Snapchat server after a few seconds.