

National Transportation Safety Board

Office of Research and Engineering

Washington, DC 20594



ERA24FA036

PERSONAL ELECTRONIC DEVICES

Specialist's Factual Report

December 19, 2023

A. ACCIDENT

Location: Micanopy, Florida
Date: November 14, 2023
Time: 1409 eastern standard time (EST)
1909 coordinated universal time (UTC)
Airplane: Piper PA-28-180, N7806W

B. PERSONAL ELECTRONIC DEVICES SPECIALIST

Specialist: Michael Portman
Aerospace Engineer – Recorder Specialist
National Transportation Safety Board (NTSB)

C. DETAILS OF THE INVESTIGATION

A personal electronic devices (PEDs) group was not convened.

The NTSB Vehicle Recorder Division received the following devices:

Device Manufacturer/Model: Appareo Stratus 1
Recorder Serial Number: Unknown

Device Manufacturer/Model: Apple iPhone 15 Pro Max
Recorder Serial Number: Unknown

1.0 Appareo Stratus 1 Device Description

Per the device's user manual, the Appareo Stratus 1 is a portable, battery-operated receiver. It provides pilots with in-flight weather and GPS WAAS position reports. The Stratus 1 receives Automatic Dependent Surveillance - Broadcast (ADS-B) weather information (FIS-B) and other related data and broadcasts it to a mobile device using ForeFlight Mobile via a WiFi network created by the Stratus 1.

1.1 Appareo Stratus 1 Data Recovery

Upon arrival at the Vehicle Recorder Division, an exterior examination revealed the device had impact damage, as shown in Figure 1. This first generation of Stratus device does not record data to non-volatile memory (NVM).¹ Thus, no data were recovered from this device.

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



Figure 1. Appareo Stratus 1, as received.

2.0 Apple iPhone 15 Pro Max (PED) Description

PEDs are a category of devices comprised primarily of portable computing devices and mobile phones. Portable computing devices are typically capable of internet access, email, messaging services, and can run user-installed applications to perform specific tasks. Depending on the model, mobile phones can perform many of the same tasks as portable computing devices, plus have voice call and text messaging capabilities. PED user and system data is typically stored on non-volatile memory and can be accessed through manufacturer-provided interfaces.

2.1 Apple iPhone 15 Pro Max Data Recovery

Upon arrival at the Vehicle Recorder Division, an exterior examination revealed that the device had sustained severe impact damage, as shown in Figure 2.

retention.



Figure 2. Apple iPhone 15 Pro Max, as received.

This device is capable of storing data in the NVM. The motherboard containing NVM was extracted, and cracking and bending was noted, as shown in Figure 3 and Figure 4.

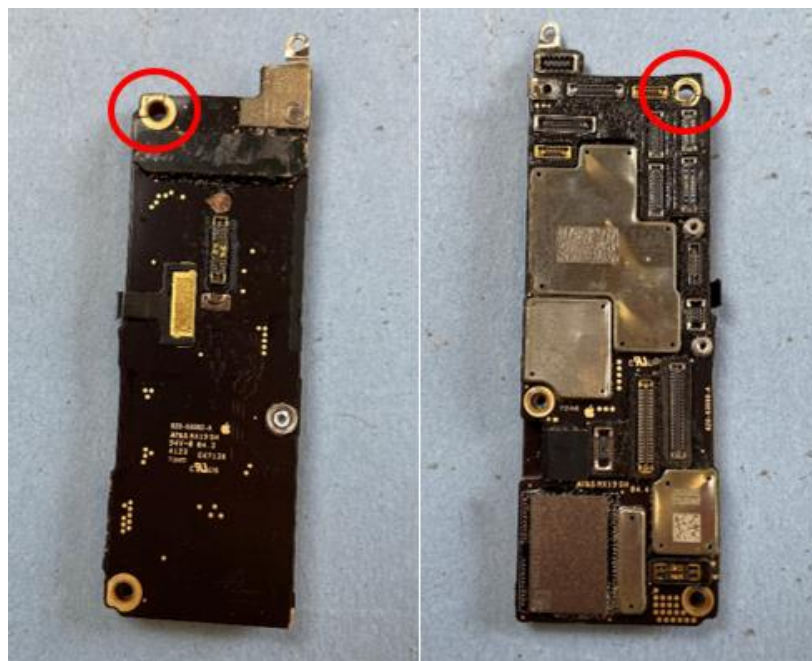


Figure 3. Front and back of motherboard, showing minor cracking, in red.

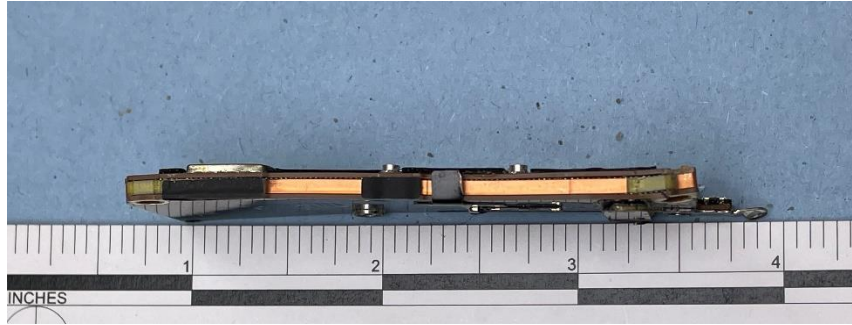


Figure 4. Side view of motherboard, showing bending.

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.

Submitted by:

Michael Portman
Aerospace Engineer - Recorder Specialist