

National Transportation Safety Board

Office of Research and Engineering

Washington, DC 20594



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PERSONAL ELECTRONIC DEVICES

Specialist's Factual Report

February 10, 2023

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A. ACCIDENT

Location: Southern Shores, North Carolina
Date: September 21, 2022
Time: 1000 eastern daylight time (EDT)
Airplane: Northwing Design Apache Sport aircraft, N3283N

B. PERSONAL ELECTRONIC DEVICES SPECIALIST

Specialist: W. Deven Chen
Electrical Engineer – Recorder Specialist
National Transportation Safety Board (NTSB)

C. DETAILS OF THE INVESTIGATION

A recorder group was not convened. The NTSB Vehicle Recorder Division received the following personal electronic devices (PEDs) belonged to the pilot:

Device Manufacturer/Model:	Samsung Galaxy Note 8
Device IMEI Number:	358502080917571
Device Manufacturer/Model:	Apple iPad Air 2
Device Serial Number:	DLXQL02JG5YP

1.0 Device 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 memory¹ and can be accessed through manufacturer-provided interfaces.

1.1 Data Recovery

1.1.1 Samsung Galaxy Note 8

Upon arrival at the Vehicle Recorder Division, the Samsung Galaxy Note 8 had sustained damage, as shown in figure 1. The motherboard inside the device was heavily corroded, as shown in figure 2. The motherboard was removed from the

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

device. After being ultrasonic cleaned and dried using an NTSB laboratory process for devices exposed to liquid, the motherboard was placed into a surrogate device, however, it did not power up. The extent of the damage precluded normal and advanced recovery procedures and additional attempts were unsuccessful in yielding usable data. Therefore, no data pertinent to the accident were recovered.



Figure 1. Front and back of the Samsung Galaxy Note 8 as received.

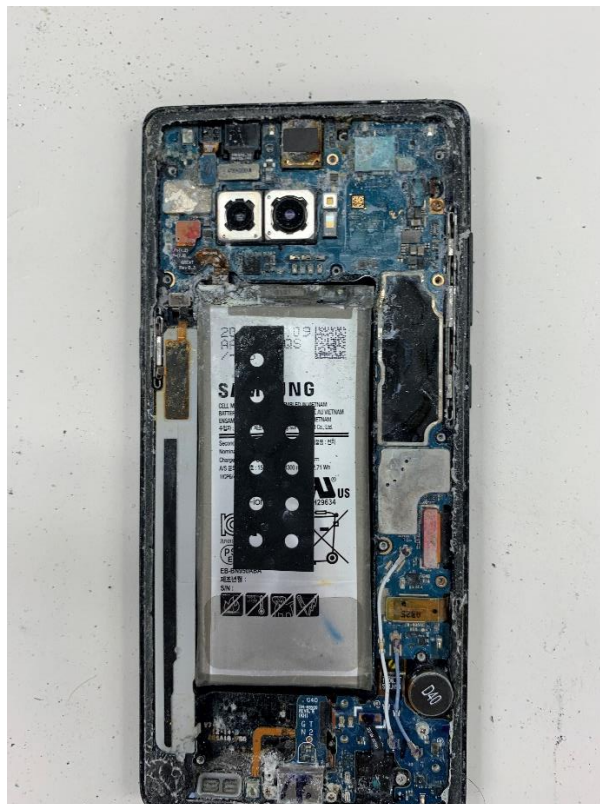


Figure 2. Heavily corroded motherboard inside Samsung Galaxy Note 8 as received.

1.1.2 Apple iPad Air 2

Upon arrival at the Vehicle Recorder Division, the Apple iPad Air 2 did not have visible damage, as shown in figure 3. When opened, the motherboard inside the device was found to have severe corrosion, shown in figure 4. The motherboard was removed from device. After being ultrasonic cleaned and dried using an NTSB laboratory process for devices exposed to liquid, the motherboard was placed into a surrogate device. The motherboard did not power inside the surrogate device. The extent of the damage precluded normal and advanced recovery procedures and additional attempts were unsuccessful in yielding any data. Therefore, no data pertinent to the accident were recovered

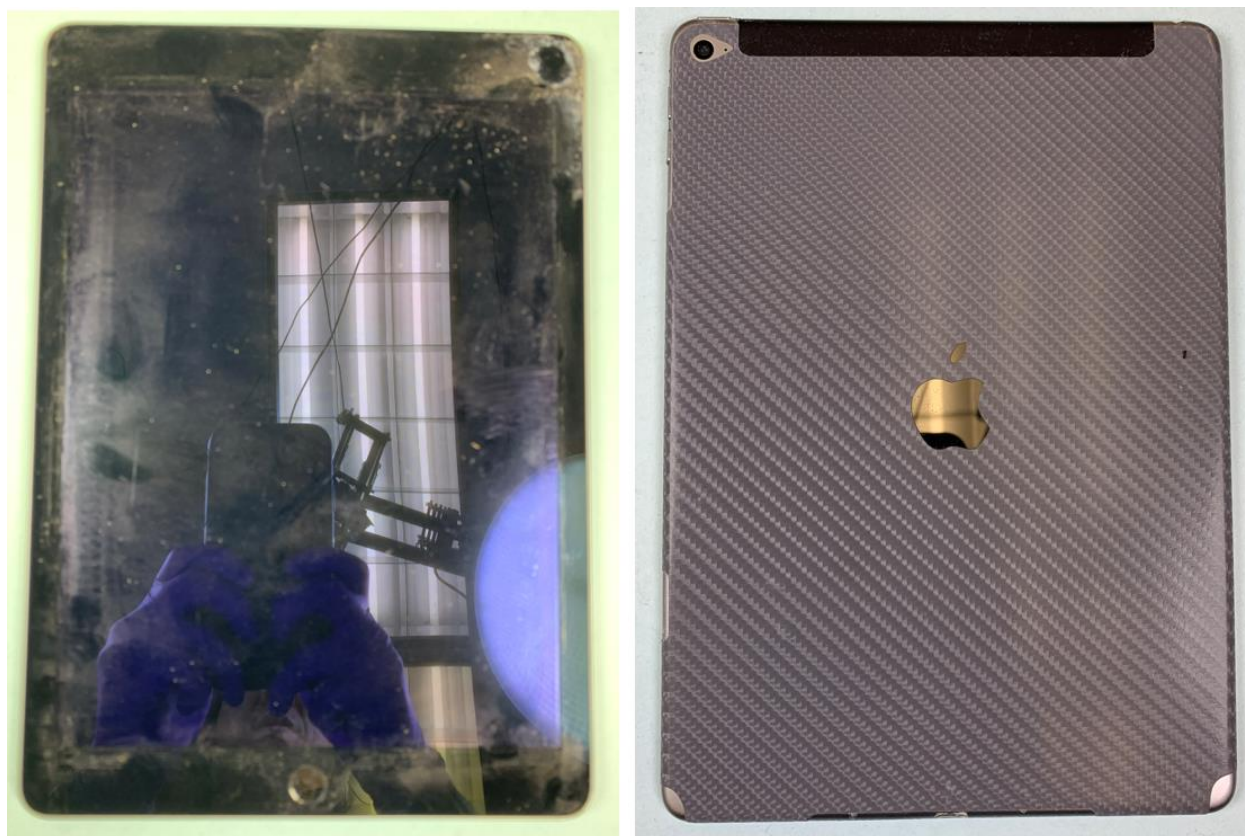


Figure 3. Front and back of the Apple iPad Air 2 as received.



Figure 4. Heavily corroded motherboard inside the Apple iPad Air 2 as received.