

National Transportation Safety Board

Office of Research and Engineering

Washington, DC 20594



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ELECTRONIC DEVICES

Specialist's Factual Report

March 25, 2025

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A. ACCIDENT

Location: Franklin, Tennessee
Date: May 15, 2024
Time: 1202 central daylight time (CDT)
Airplane: Beech V35, Private, N47WT

B. ELECTRONIC DEVICES SPECIALIST

Specialist Kyle Garner
Sr. Aerospace Engineer – Recorder Specialist
National Transportation Safety Board (NTSB)

C. DETAILS OF THE INVESTIGATION

A group was not convened. The NTSB Vehicle Recorder Division received the following electronic devices:

Recorder Manufacturer/Model:	Samsung Galaxy S21 PED
Part Number:	SM-G991U
IMEI Number:	350336262902749
Recorder Manufacturer/Model:	Garmin FlightStream 510 SD Card
Recorder Serial Number:	402006922
Recorder Manufacturer/Model:	Aspen Avionics Electronic Flight Instrument System (EFIS) microSD Card

1.0 Samsung Galaxy S21 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 and 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.¹

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

1.1 Samsung Galaxy S21 PED Data Recovery

Upon arrival at the Vehicle Recorder Laboratory, an exterior examination revealed impact damage to the rear cover (figure 1). The front screen was intact, but the device could not be powered on. An internal inspection showed that the daughterboard's primary and secondary interconnect cable sockets were damaged. Due to the extent of the damage, normal recovery procedures were not possible. After consulting with the Investigator-in-Charge, additional recovery procedures were not performed, and no data pertinent to the accident were recovered.



Figure 1. Samsung Galaxy S21 PED, as received.

2.0 Garmin FlightStream 510 SD Card Description and Data Recovery

The FlightStream 510 is an electronic device in the form factor of an SD memory card that contains Wi-Fi and Bluetooth connectivity capability. When installed in a Garmin navigator like the GTN 750 it gives the capability to stream data to and from the unit (GTN) to a connected iPad or Android tablet device running compatible software. The FlightStream 510 SD card records no data, but the connected tablet device could contain the data streamed from the GTN.

The device arrived at the Vehicle Recorder Laboratory in good condition (figure 2). The device was connected to a PC via a USB write blocker and read normally. A review of the data showed no stored flight data, only chart information, as expected. Thus, no data pertinent to the accident were recovered.



Figure 2. Garmin FlightStream 510 SD card, as received.

3.0 Aspen Avionics EFIS microSD Card Description and Data Recovery

A 16GB microSD card removed from an unknown Aspen Avionics EFIS arrived at the Vehicle Recorder Laboratory in good condition (figure 3). The device was connected to a PC via a USB write blocker and read normally. A review of the data showed no stored flight data, only chart information and configuration files, as expected. Thus, no data pertinent to the accident were recovered.



Figure 3. Aspen Avionics EFIS microSD card, as received.

Submitted by:

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