

National Transportation Safety Board

Office of Research and Engineering

Washington, DC 20594



WPR22FA067

ELECTRONIC DEVICES

Specialist's Factual Report

September 28, 2022

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A. ACCIDENT

Location: Show Low, Arizona
Date: December 22, 2021
Time: 16:39 mountain standard time (MST)
Airplane: Vans RV6 (experimental), N6000Z

B. 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 devices:

Recorder Manufacturer/Model:	Unknown Engine Monitor
Recorder Serial Number:	Unknown
Recorder Manufacturer/Model:	Samsung Tablet
Recorder Serial Number:	R9TR700XVDI

1.0 Engine Monitor Description

Engine monitors are capable of monitoring and recording parameters related to engine operations, such as Exhaust Gas Temperature, Cylinder Head Temperature, Oil Pressure and Temperature, Manifold Pressure, Engine Revolutions per Minute (RPM), and Fuel Flow Rate. Data monitored and recorded is dependent on the design of the device.

1.1 Engine Monitor Condition

Upon arrival at the Vehicle Recorder Division, the engine monitor had sustained severe thermal damage, as shown in figure 1. 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 event were recovered.

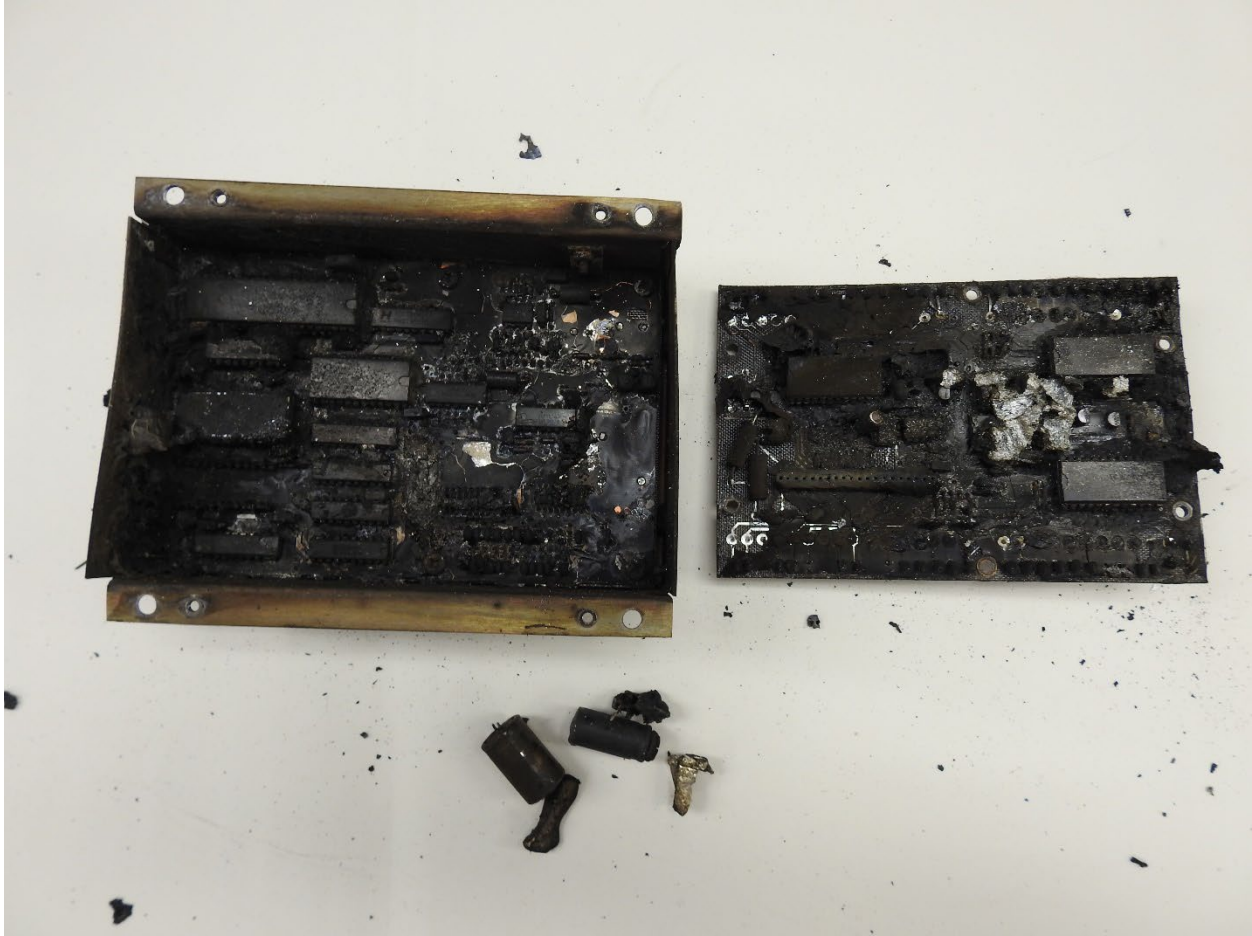


Figure 1. Unknown Engine Monitor as received.

2.0 Samsung Tablet Description

The Samsung Tablet is a personal electronic device (PED). 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 Samsung Tablet Condition

Upon arrival at the Vehicle Recorder Division, an exterior examination revealed that the Samsung Tablet had sustained severe impact damage, as shown in figure 2. A micro-SD card was mounted in the device; a review of its contents concluded it did not contain any pertinent data related to the event. The motherboard of the tablet

was removed from the device, and further examination showed the motherboard was bent in multiple locations, and the CPU chip was cracked, as shown in figure 3. The Samsung tablet was identified as a Galaxy Tab A7 10.4". A surrogate device was purchased for the motherboard; however, the motherboard was unable to power on normally within the surrogate, thus no data were recovered from the device.



Figure 2. Front and back views of the Samsung Tablet as received.

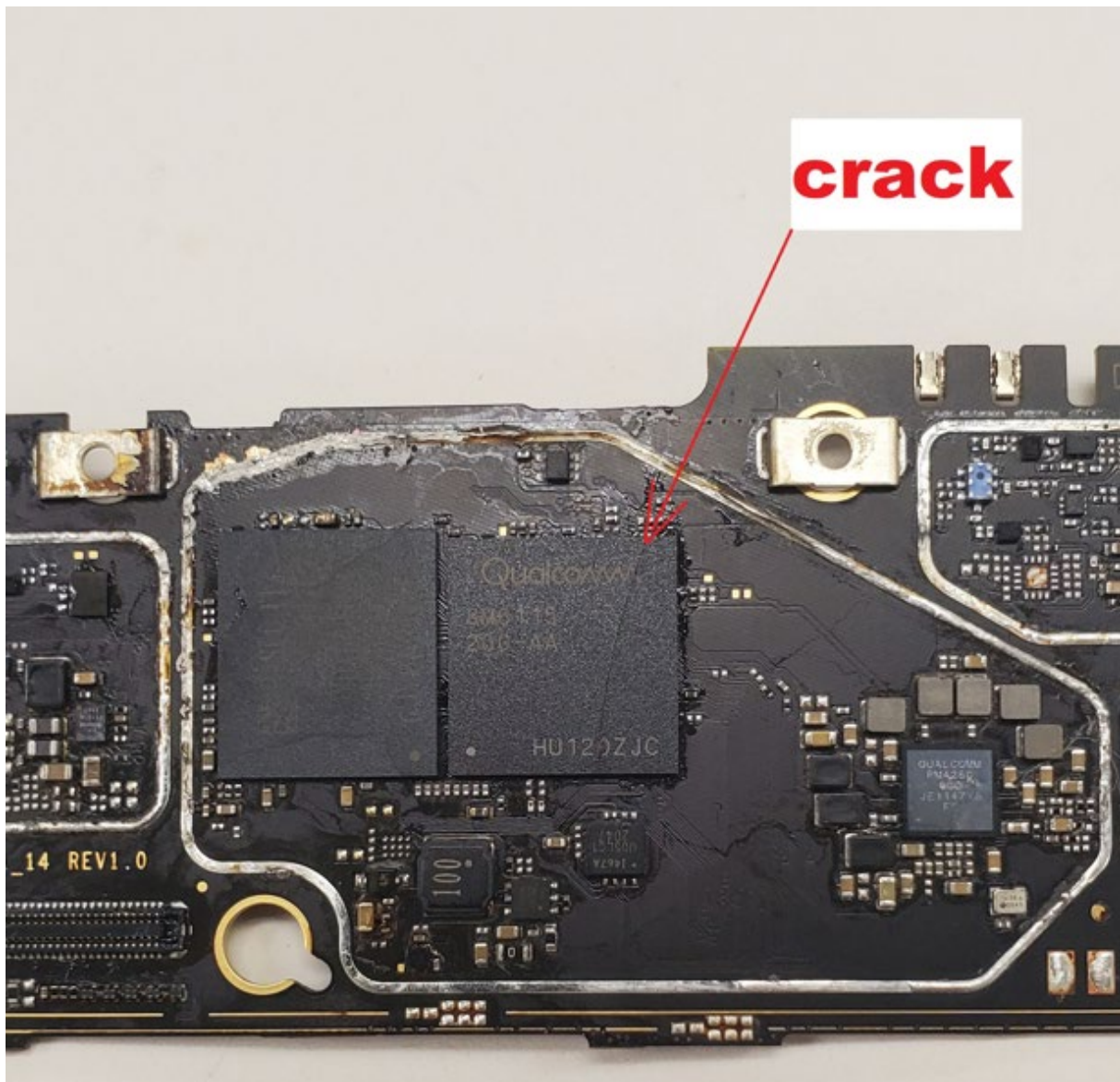


Figure 3. Samsung Tablet CPU chip with a crack across it.

Submitted by:

W. Deven Chen
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