NATIONAL TRANSPORTATION SAFETY BOARD
Vehicle Recorder Division
Washington, D.C. 20594

July 29, 2020

Personal Electronic Devices

Specialist's Factual Report
By W. Deven Chen

1. EVENT SUMMARY

Location:	Addison, Texas
Date:	June 30, 2019
Aircraft:	Textron Aviation B300
Registration:	N534FF
NTSB Number:	CEN19MA190

On June 30, 2019, about 0911 central daylight time, a Textron Aviation B300, N534FF, was destroyed when it was involved in an accident near Addison, Texas. The airline transport pilot, the commercial co-pilot, and eight passengers sustained fatal injuries. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

2. GROUP

A group was not convened.

3. DETAILS OF INVESTIGATION

The National Transportation Safety Board (NTSB) Vehicle Recorder Division received the following personal electronic devices (PEDs):

Device Manufacturer/Model:	Apple iPhone X
IMEI Number:	354877093624495
Device Manufacturer/Model:	Apple iPhone X
IMEI Number:	359403089200292
Device Manufacturer/Model:	Apple iPhone 7
IMEI Number:	353806081252028

3.1. 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 memory[1] and can be accessed through manufacturer-provided interfaces.

3.2. Data Recovery

3.2.1 Apple iPhone X - 354877093624495

Upon arrival at the Vehicle Recorder Division, an exterior examination revealed the device had minor impact damage, as shown in Figure 1. The device powered on normally and requested a four-digit password, as shown in Figure 2. There was no correct password provided to unlock the phone. Thus, no data were recovered.

Figure 1: Front and Back of Apple iPhone X - 4495 as received.

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

Figure 2: Apple iPhone X - 4495 required a four-digit password.

3.2.2 Apple iPhone X - 359403089200292

Upon arrival at the Vehicle Recorder Division, an exterior examination revealed the device had severe impact damage and post-impact fire damage, as shown in Figure 3. The mother board was removed from the device and powered on normally using functioning surrogate parts, as shown in Figure 4. The device did not respond to touch screen inputs due to damage. Thus, the content of the device could not be accessed. 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 3: Front and Back of Apple iPhone X - 0292 as received.

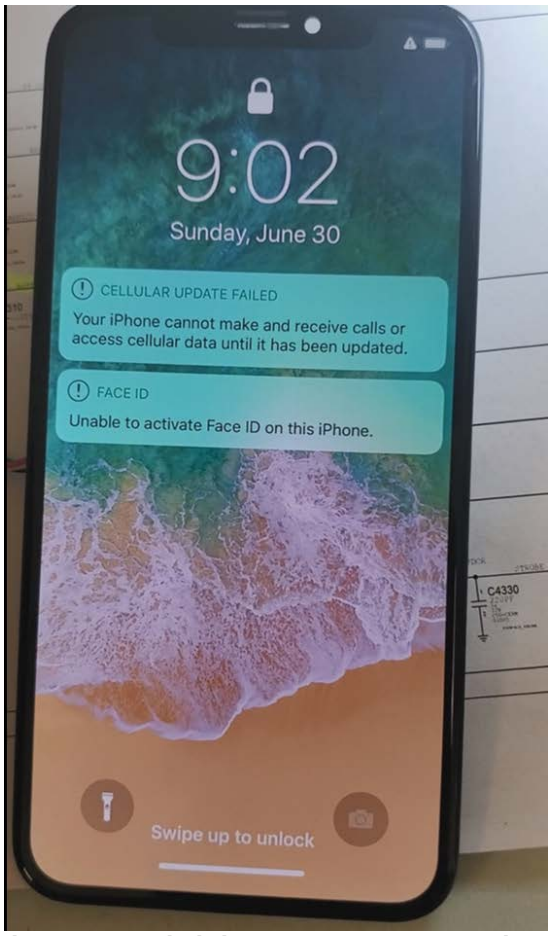

Figure 4: Apple iPhone X - 0292 powered up.

3.2.3 Apple iPhone 7

Upon arrival at the Vehicle Recorder Division, an exterior examination revealed the device had minor post-impact fire damage, as shown in Figure 5. The device powered on normally and requested a six-digit password, as shown in Figure 6. There was no correct password provided to unlock the phone. Thus, no data were recovered.

Figure 5: Front and Back of Apple iPhone 7 as received.

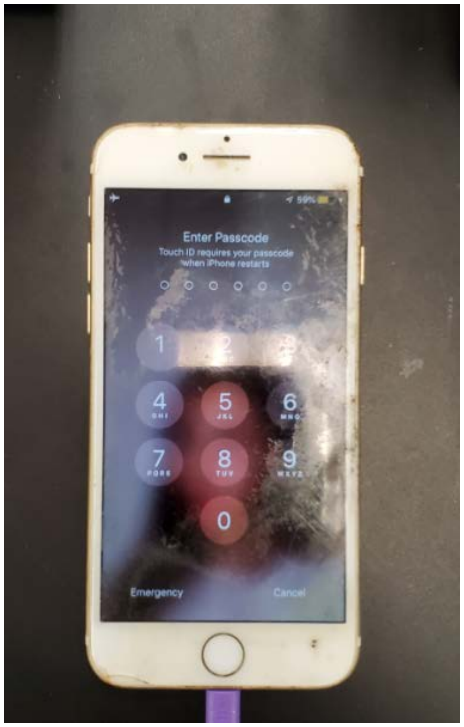

Figure 6: Apple iPhone 7 required a six-digit password.