

NATIONAL TRANSPORTATION SAFETY BOARD

Vehicle Recorder Division
Washington, D.C. 20594

December 4, 2017

Onboard Image Recorder

Specialist's Factual Report By Sean Payne

1. EVENT SUMMARY

Location: Willston, Florida
Date: April 15, 2017
Aircraft: Cessna 170
Registration: N4244V
Operator: Private
NTSB Number: ERA17FA155

2. GROUP

A group was not convened.

3. DETAILS OF INVESTIGATION

The National Transportation Safety Board (NTSB) Vehicle Recorder Division received the following device:

Device Manufacturer/Model:	32 GB¹ Sandisk MicroSD Card
Serial Number:	Unknown
Associated Device:	GoPro Hero (Model Unknown)

3.1. Device Description

The GoPro HERO is a compact, lightweight, POV² digital camera enclosed in a ruggedized housing that allows the camera to be mounted in a variety of positions using an array of supported accessories. Depending on the model, the camera supports 4K³ HD⁴ at 60 frames per second (fps) as well as other lower quality recording resolutions at higher frame rates. The camera can be set to record still images simultaneously or

¹ GB - gigabyte

² POV – Point of View Shot – A photography technique that records the character's viewpoint from a singular camera location mounted in a manner that represents the character's field of view.

³ 4K – A resolution format of 3840 x 2160 pixels.

⁴ HD – High Definition – A resolution generally consisting of greater than 480 lines of horizontal resolution.

independently of a video stream at a resolution of up to 12 megapixels.⁵ The camera includes a wide angle aspherical f/2.8 glass lens that provides a maximum of 170 degrees viewing angle. The camera supports recording to micro SD⁶ cards up to 64 GB in size. A built in Wi-Fi⁷ module allows users to connect to the camera either via an accessory remote control or via a smart phone app that permits camera control and image transfer.

3.2. Device Condition

Upon arrival at the Vehicle Recorder Laboratory, an examination revealed the unit had not sustained any visible physical damage. Figure 1 shows the condition of the card as received.

Readout of the card was attempted with a PC via a forensic write blocker. The card did not mount in a Windows file system, no folders were accessible. A binary image file was then made from the card. The binary image file showed only a portion of the 32 GB card was accessible. The portion of the card that could be imaged contained repeating “00” blocks, indicative of an unused memory card.

The card was sent to a third-party data recovery vendor. The data recovery vendor reported that they could access the entire 32 GB of the card, however, all blocks read as “00”. The card did not contain any data.



Figure 1. Photo of SanDisk 32 GB MicroSD card.

3.3. Data Description

No data was recovered from the memory card.

⁵ Megapixel – (MP) – A count of a million pixels in an image or used to express the number of individual image sensor elements on a digital camera image sensor.

⁶ SD – Secure Digital – a standard for nonvolatile memory card used in portable devices.

⁷ Wi-Fi – A local area wireless technology that allows electronic devices to exchange data over a network.