

Case Number: Vallejo Police Department # 20-6322

Submitting Office: Vallejo Police Department

Submitting Officer / Agent: Detective Kevin Rose / Investigator Andre Charles

(Phone # 707-784-6841)

USSS SSF 1544: N/A

On 06/11/2020, I (TSA Baskerville) received one (1) Mavic2 Pro (s/n: 163DFBM0010B2R), one (1) Mavic2 Pro Controller (s/n: OVNUFB900600ML) and one (1) Apple iPad – 7th Generation (s/n: GG7LGJRMF3Q) at the United States Secret Service National Computer Forensics Institute Lab (hereafter known as the NCFI Lab) located at the University of Tulsa, Tulsa, OK, USA.

DJI Mavic 2 Pro as Received:



On the same date, I physically evaluated the devices and took pictures. Pictures of the devices along with the supporting documentation have been added to the final case report (USB Drive).

On 06/23/2020, I acquired the external flash media (a 128 GB SanDisk micro SD card) from the Mavic2 Pro Drone using FTK Imager v4.2.0.13 (MD5 checksum:

f0e7b924d08fa10700fefb1279c54d6b). I also acquired the internal flash media from the drone using FTK Imager v4.2.0.13 (MD5 checksum: 75e6f269e75568b71d9f65709db01462).

Continuing on the same date, I conducted a file system / advanced logical acquisition of the associated iPad (controller) using DataPilot10 v1.1.95.

On 06/24/2020, I conducted an advanced logical / file system acquisition of the associated iPad using a Cellebrite UFED Touch2 v7.34.0.116. All of the aforementioned extractions were added to the final report USB.

On the same date, I conducted an initial review of the video files from the external flash media using HxD hex editor v2.3.0.0. The recovered video files from the external flash media were corrupt and unreadable. Additionally, the video files of interest had no content.

₩ HxD - [D:\Vallejo PD # 20-6322\Recovered Video Files\DJI_0026.MP4] × File Edit Search View Analysis Tools Window Help Windows (ANSI) v hex ☑ DJI_0026.MP4 Special editors Offset(h) 00 01 02 03 04 05 06 07 08 09 0A 0B 0C 0D 0E 0F Data inspector Decoded text Q..... 14 4 P PI 00000000 00000030 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 go to: 0 00000040 00 00 00 00 00 00 00 00 00 00 00 00 00 UInt8 go to: 0 Int16 00000060 00 00 00 00 00 00.00 00 00 UInt16 00000070 go to: 0 00000080 00 00 00 00 00 00 00 Int24 go to: 0 Illet24 go to: 0 000000A0 Int32 go to: 0 000000B0 000000C0 UInt32 go to: 0 Int64 go to: 0 000000D0 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 000000E0 000000F0 00 00 00 00 00 00 00 00 00 00 00 00 UInt64 go to: 0 AnsiChar / char8 t 00000100 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 WideChar / char16 t 00000110 00 00 00 00 00 00 00 00 00 00 UTF-8 code point (U+0000 00000120 00000130 Single (float32) 00 00 00 00 00 00 00 00000140 Double (float64) 00000150 00000160 OLETIME FILETIME 1/1/1601 00000170 DOS date 00000180 00 00 00 00 00 00 00 12:00:00 AM DOS time 000001A0 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 000001B0 000001C0 000001D0 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 time_t (32 bit) 1/1/1970 time t (64 bit) 1/1/1970 00 00 00 00 00 00 00 00 00 00 00 00 00 GUID 000001E0 00 00 00 00 00 00 00 00 00 00 00 00 00 000001F0 00000200 Disassembly (x86-32) add [eax], al 00 00000210 Disassembly (x86-64) add [rax], al 00000230 00000240 O Big endian 00000250 Little endian 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 Show integers in hexadecimal base 00000270

Screenshot of DJI_0026.MP4:

Specifically, the video taken with the drone on or about 06/02/2020, had the folder structure intact but all of the internal data had been overwritten with "0's." Upon further research into DJI

Overwrite

devices it was determined that this 'overwrite' occurs when the device (drone) is improperly shutdown.

Continuing on 06/24/2020, I loaded the acquisitions from the iPad along with the internal and external flash media into Cellebrite Physical Analyzer v7.34.0.38 and Axiom v4.1.1.20153 in an attempt to recover the videos of interest from the iPad (controller). All efforts to locate the video files of interest from the iPad met with negative results. Portable case reports were generated from the Axiom examination as well as the PA examination and added to the final report USB for review by the submitting agency.

On 06/25/2020, I took the recovered video files one by one and attempted to repair / reconstitute them using a program called FFMPEG. The DJI video files dated on or about 06/02/2020, contained no data and could not be reconstituted. All recovered video files to include the empty folder structures were added to the report USB for review by the submitting agency.

NFI.

TSA Steven Baskerville United States Secret Service National Computer Forensics Institute NCFI Lab