January 2026

Start Guide for Populating Drone Test Devices

Draft 2 of Version 1.0

Abstract

This document provides guidance on constructing and populating drone datasets for the verification of drone forensic tools. To this end, it outlines systematic procedures for documenting and injecting various data elements commonly found in a range of drone devices (e.g., DJI Phantom 4 Pro V2, Parrot ANAFI). This guide discusses the techniques and considerations involved in preparing drone devices for use in drone forensic tool testing.

1 Introduction

1.1 Scope and Purpose

This document describes the methodology for populating drone devices with data as part of Drone Forensic Tool Testing. Its primary goal is to provide guidance on how to systematically inject data into drone devices to support comprehensive and reproducible testing of drone forensic tools.

The document defines the major categories of drone data and explains how to populate these data types onto test devices in a structured manner. **Appendix A** presents templates for documenting each data element, along with the required attributes for each item. **Appendix B** provides completed examples using appropriate data elements, based on the templates introduced in Appendix A.

When populating and documenting data on test devices, it is not mandatory to include every data type; however, to maximize test coverage, users are encouraged to populate as many data types as are feasible. If additional data types beyond those listed in the templates are available, they may be incorporated by extending the templates provided in Appendix A. Data populated in this structured manner can then serve as the **ground truth** during functional testing of the forensic tools.

1.2 Document Structure

This document explains how to populate drone devices with test data and how to document the populated data. The detailed structure is as follows:

- Section 2: Drone Identification Information
- Section 3: Drone Control Application Data
- Section 4: Flight Logs
- Section 5: System Logs
- Section 6: Media Data
- Section 7: Communication / Network Information
- Appendix A: Drone Data Documentation Templates[1]
- Appendix B: Example of Documented Drone Data[2]

[1] This document defines the data types associated with drones and provides guidance on the attributes required for each data type, along with blank templates that can be used to document the drone data.

[2] It also provides examples—based on the templates in Appendix A—that can be used as references when populating drone data.

2 Drone Identification Information

This section documents the drone's identification information. These data elements include the drone model name, aircraft serial number, remote controller serial number, and the firmware versions of both the drone and the controller.

The drone model name and unique serial number can typically be identified and recorded by inspecting the physical device. Firmware versions for the drone and controller can be obtained through the drone control application or dedicated vendor software. Because these values are already determined data, they can be documented immediately without requiring any additional data input.

Table 1 and **Figure 1** provide examples of how to check identification information for major commercial drone manufacturers (DJI, Parrot, Yuneec).

Table 1. Examples of drone identification information retrieval by Vendor

Vendor	How to Check Drone Identification Information (via official app settings menu)		
	Aircraft Model Name	Aircraft Serial Number	Aircraft/Remote Controller Fimeware Version
DJI	• Label on aircraft body• Official control applications (DJI GO 4, DJI Fly) or software (DJI Assistant 2)	• Label attached to aircraft body (battery slot or arm) • Official control applications (DJI GO 4, DJI Fly): General Settings → About	• Official control applications (DJI GO 4, DJI Fly): General Settings → About • Official software (DJI Assistant 2)
Parrot	• Label on aircraft body• Official control application (FreeFlight)	• Label attached to aircraft body (battery slot) • Official control application (FreeFlight): Drone Information menu	• Official control application (FreeFlight): Drone Information and Controller Information menu
Yuneec	• Label on aircraft body • Official control application (Pilot)	• Label attached to aircraft body (side panel)	• Official control application (Pilot): About Controller menu

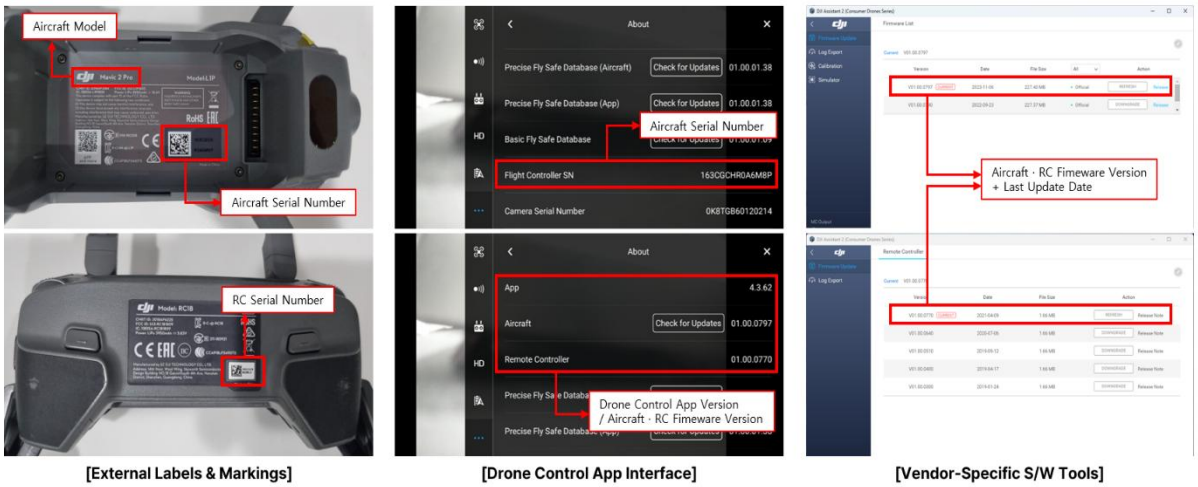

Figure 1. Example of checking drone identification information (DJI Mavic 2 Pro)

In addition to the methods listed in **Table 1**, there are several other ways to obtain drone identification information. For example, identification data may be extracted by exporting application data and analyzing the flight logs, by retrieving flight logs through manufacturer-specific flight-record management software (e.g., DJI Assistant 2) and analyzing them, or by acquiring and examining the drone's internal memory. **Table 2** and **Figure 2** present examples of drone identification information obtained through these methods for a DJI drone (Phantom 4 Pro), along with the corresponding data paths.

Table 2. Example of drone identification information data paths (DJI Phantom 4 Pro)

Memory	Parent Directory	File Name	Related Information
Internal	/system/etc/	dji.json	Hardware version, process execution information, system service information, device information (internal devices, external connected devices, etc.)
Internal	/userdata/dji/log/	upgrade*.log	Upgrade logs, current firmware version

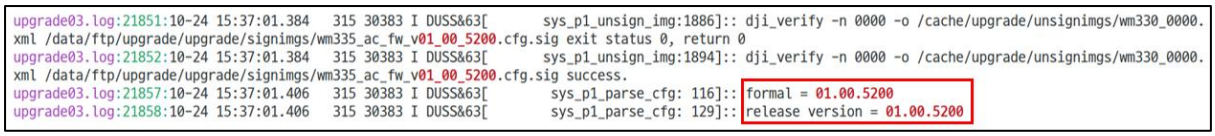

Figure 2. Example of checking firmware version via upgrade*.log (DJI Phantom 4 Pro)

Document the drone identification information using the template provided in **Appendix A**.

3 Drone Control Application Data

This section documents the data associated with drone control applications. A drone control application is a mobile app that allows users to remotely operate and monitor a drone in real time using a smartphone or tablet. These applications support various functions, such as camera operation, data synchronization, and configuration management.

Data are populated into the drone control application by operating the app installed on a smartphone or dedicated remote controller and performing flights linked to the drone. Commonly used drone control applications include DJI GO 4 (DJI), FreeFlight Pro (Parrot), and Yuneec Pilot (Yuneec).

Typical data elements stored within a drone control application include the app name, app version, user account information (ID/password), and drone flight logs. Flight data are handled comprehensively together with the drone flight data in Section 4 (Flight Logs). Therefore, this section focuses on documenting the remaining application-related data.

For the app name, simply record the application that corresponds to each drone model (e.g., DJI Mini 3 Pro → DJI Fly). The app version and user account information can be checked and documented within the "Settings" and "Profile" sections of the drone control application (cloud-linked), as shown in **Figure 3**.

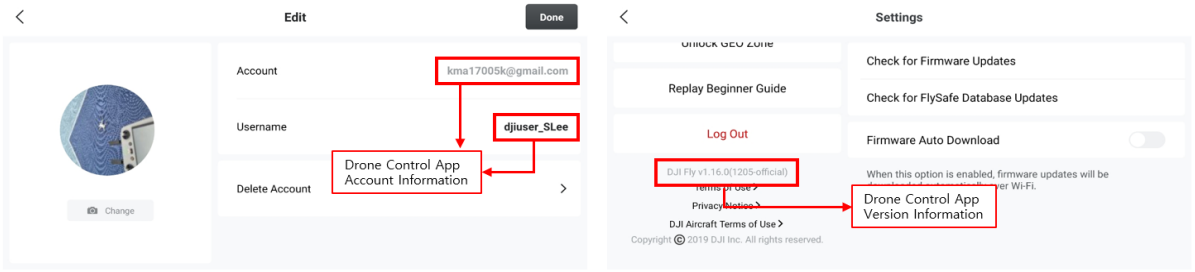

Figure 3. Example of Drone Control App Data Retrieval (User Account Info and App Version, DJI Fly)

In addition to the method shown in **Figure 3**, various types of information related to the drone control application can also be obtained by directly extracting the raw data generated by the app. For example, **Figure 4** shows the raw data contained in the mmkv.default file, where the DJI GO 4 application stores user account information.

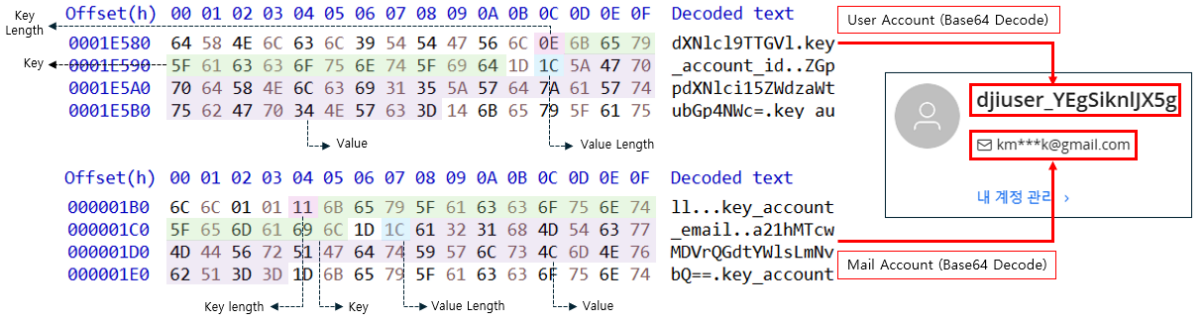

Figure 4. Example of Extraction and Analysis of Control App Data (DJI GO 4)

Document the drone control application data using the template provided in **Appendix A**.

4 Flight Logs

This section documents the drone's flight data. Flight data are populated by physically flying the drone and accumulating the corresponding operational records. Unlike the data described in Sections 2 and 3, flight data consist of continuous sets of variable information. Therefore, in order for the accumulated flight data to function reliably as ground truth, the data must be generated through standardized and structured flight patterns.

Accordingly, this document defines two types of standardized flight methods for systematic data generation (see **Table 3** and **Figure 5**).

Table 3. Definition of Two Flight Data Accumulation Types for Test Drone Devices

	Flight Type	Description
1	**Square-Shape** (Waypoints: 5 or more) ** Closed Path*	• Fly along a square-shaped trajectory with each side at least 50 meters long. • Set n waypoints along the flight path (n ≥ 5). – Waypoints must include all four corners of the square (may omit corners only when n > 5). – The final waypoint must match the first waypoint in position (altitude may differ). • Capture one or more photos or videos at each waypoint. – At odd-numbered waypoints: ascend 2 meters after capture. – At even-numbered waypoints: descend 2 meters after capture.
2	**Zigzag-Shape** (Waypoints: 5 or more) ** Open Path*	• Fly along an M-shaped zigzag trajectory, with each segment at least 50 meters long. • Set n waypoints along the flight path (n ≥ 5). – Waypoints must include all inflection points of the zigzag (may omit inflection points only when n > 5). • Capture one or more photos or videos at each waypoint. – At odd-numbered waypoints: ascend 2 meters after capture. – At even-numbered waypoints: descend 2 meters after capture.

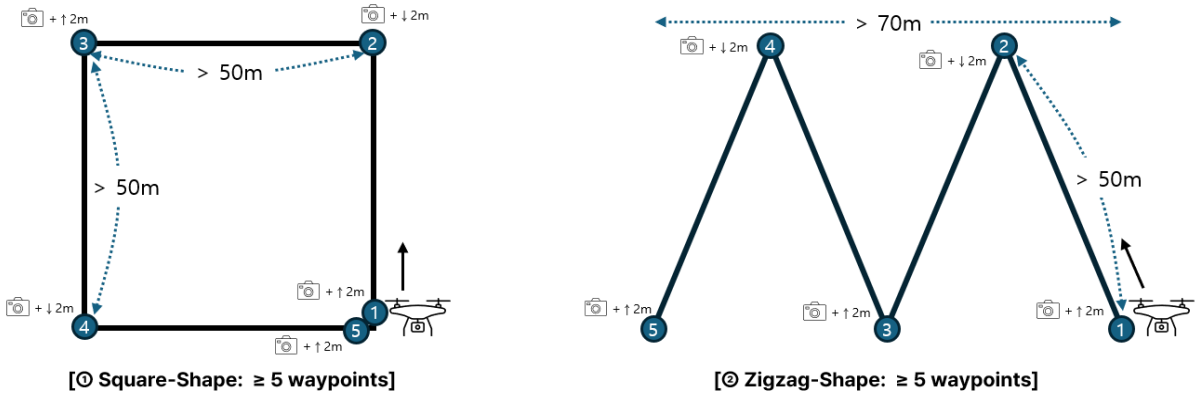

Figure 5. Two Standardized Flight Methods for Accumulating Test Drone Flight Data

When performing standardized flights such as those illustrated in **Figure 5**, the most recommended method is to use the drone's Waypoint Flight Mode. However, support for this feature varies across drone models (for example, the DJI Mini 4 Pro supports waypoint functionality, whereas the DJI Spark does not). If waypoint functionality is not available, it is recommended to conduct manual flights with two operators—one flying the drone and the other recording the ground-truth data.

It should also be noted that environmental constraints—such as surrounding terrain, obstacles, or limited pilot proficiency—may prevent perfectly replicating the patterns shown in **Figure 5**. In such cases, flights should be conducted in a manner that is as similar as possible to the intended pattern, while ensuring that all flight details are recorded so they may serve as ground-truth data.

After accumulating data on the test device through the above process, flight records for each waypoint (e.g., coordinates, altitude) should be reviewed and documented using the drone control application, as shown in **Figure 6**. If the drone control application supports cloud backup of flight records, the cloud backup feature should also be used to generate additional cloud-based data.

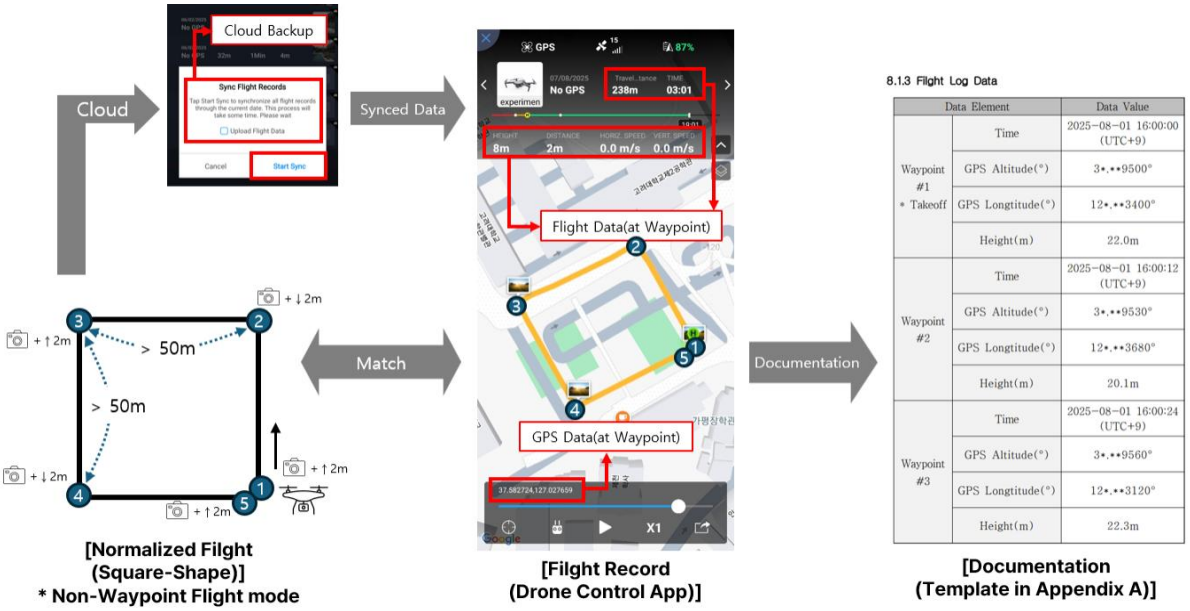

Figure 6. Example of Matching Standardized Flights with App Flight Logs (DJI Mavic Pro)

In addition to the method shown in **Figure 6**, flight data may be stored in multiple locations—including internal memory, external SD cards, and cloud storage linked to the control application discussed in Section 3. Accordingly, there are several ways to access and review drone flight data.

Figure 7 illustrates an example in which flight logs were extracted from a DJI Mavic 2 Pro using DJI Assistant 2, then decoded to analyze GPS data. **Table 4** presents the corresponding flight-log data paths found in the drone's internal memory.

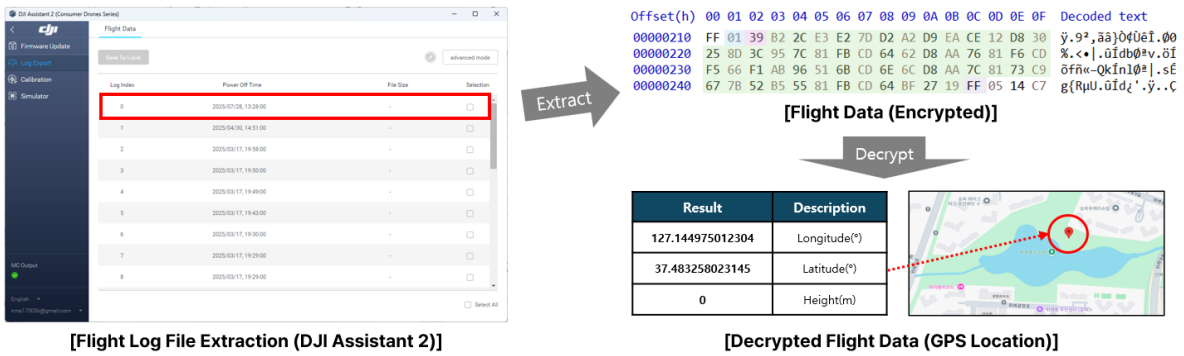

Figure 7. Example of Extracting and Decoding Flight Logs Using DJI Assistant 2 (DJI Mavic 2 Pro)

Table 4. Example of Drone Flight Log Data Paths (DJI Mavic 2 Pro)

Memory	File Path	File Name	Related Information
Internal	/blackbox/flyctrl/	FLY.DAT	Flight path, aircraft serial number, system logs
	/blackbox/dji_flight/	DFLY.DAT	Initial sensor configuration values, firmware update information

Document the flight log data using the template provided in **Appendix A**.

5 System Logs

This section documents the drone's system log data. Populating system log data requires actual drone flights. When flight data are populated as described in Section 4, system logs will naturally be generated alongside them. However, to ensure a richer and more standardized set of state-related events—such as device startup information, takeoff/landing events, recording start/stop, and error occurrences—it is recommended to collect system logs in parallel with the standardized flight procedures shown in **Figure 5**, using the method illustrated in **Figure 8**. Recommended actions for generating system log ground-truth data include:

1) At one or more waypoints (excluding the first and last), interrupt and then restore the controller (smartphone) signal.
2) At the final waypoint, perform a forced landing (Force Landing) or initiate RTH (Return To Home).

** Additional conditions such as low-battery events, entering a no-fly zone, or other relevant scenarios may be generated at the user's discretion, depending on testing needs.*

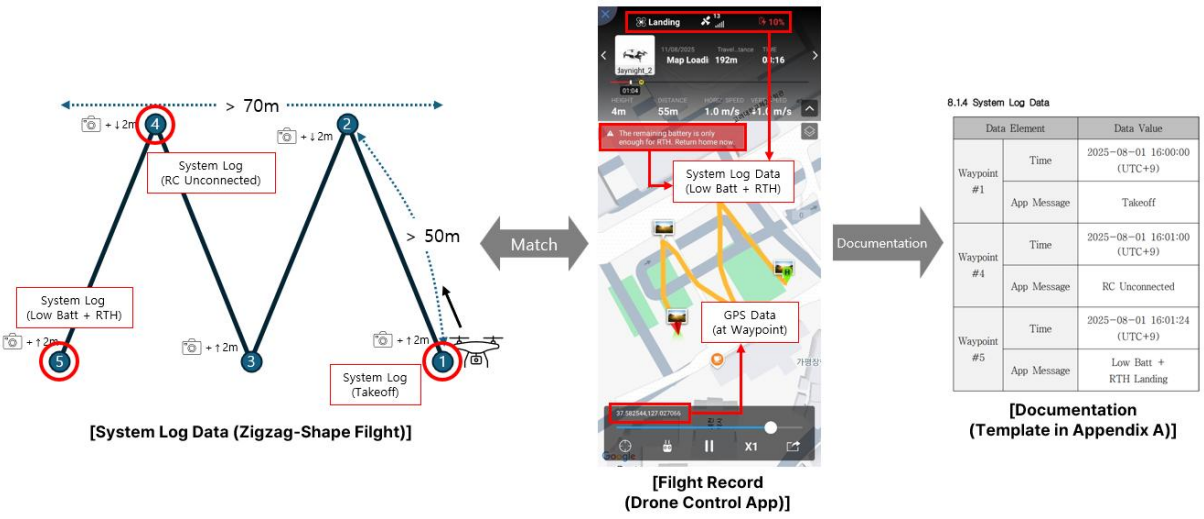

Figure 8. Example of System Log Collection and Documentation During Standardized Flight (DJI Mavic Air)

Accordingly, system logs such as takeoff at the first waypoint, signal interruption at intermediate waypoints, and force landing or Return to Home (RTH) at the final waypoint will be recorded. These logs should be compared with the corresponding records available in the drone control application and then documented.

In addition to the method described above, system logs stored directly in the drone's internal memory can also be analyzed. **Table 5** and **Figure 9** provide examples of system-log analysis and relevant data paths.

Table 5. Example of Drone Flight Log Data Paths (DJI Mavic 2 Pro)

Memory	Parent Directory	File Name	Related Information
Internal	/cache/recovery/	*log	Recovery data list, drone configuration information
Internal	/blackbox/system/	kmsg.log.*	Process initialization and execution logs
Internal		upgrade*.log	System upgrade logs

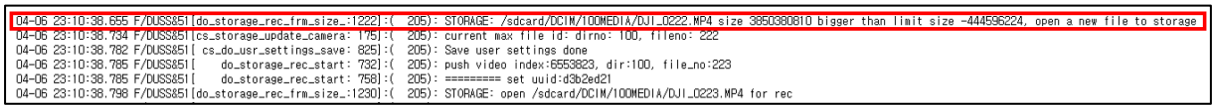

Figure 9. Example of System Log Extraction (Recording Storage Full, /blackbox/system/kmsg.log.*)

Document the drone system log data using the template provided in **Appendix A**.

6 Media Data

This section documents the media data generated by the drone. Populating media data requires flying the drone and capturing photos and videos using the onboard camera. Since media capture is incorporated into the standardized flight methods described in Section 4, media files should already have been accumulated naturally (i.e., at least as many media files as the number of waypoints).

Media data are stored in the drone's internal or external memory depending on the manufacturer and model. Through MTP (Media Transfer Protocol), the drone is recognized as a media device when connected to a PC, allowing access to internal media files. For each accessible media file, extract and document its metadata. When a large number of media files have been captured, it is recommended to select and document at least three photo files and three video files.

Table 6 and **Figure 10** show an example of media file metadata analysis for a DJI drone (Phantom 4 Pro) using ExifTool, along with the corresponding file paths.

Table 6. Example of Drone Media Data Paths (DJI Phantom 4 Pro V2)

Memory	Parent Directory	File Name	Related Information
External	/DCIM/100MEDIA/	DJI_[4-digit number]. (JPG, MOV)	Drone media information (photos, videos) and media capture metadata (GPS, timestamps, etc.)

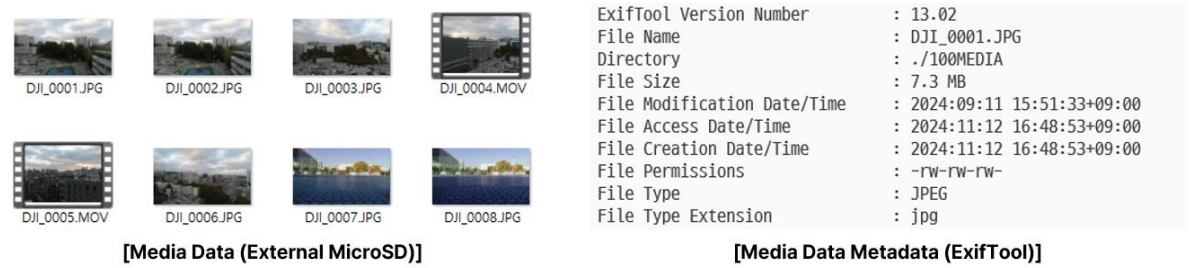

Figure 10. Example of Drone Media File Metadata Analysis Using ExifTool

Document the drone media data using the template provided in **Appendix A**.

7 Communication / Network Data

This section documents the drone's communication and network data. To populate communication/network data, the drone and ground controller (remote controller) must be powered on, and remote-control operations should be performed to generate data exchange between the devices. Similar to system logs and media data, communication/network data are naturally accumulated during the standardized flight procedures described in Section 4.

Drones primarily use proprietary communication protocols (e.g., OcuSync, ELRS) to enable real-time data transmission with the controller. In addition, some drones utilize auxiliary wireless communication modules—such as Wi-Fi or Bluetooth—for purposes such as settings configuration, firmware updates, and media transfer. During these processes, data are transmitted and received, thereby generating communication/network information.

As shown in **Figure 11**, information that can be identified through the drone's exterior labels or the control application—such as Wi-Fi SSID—should be checked and documented.

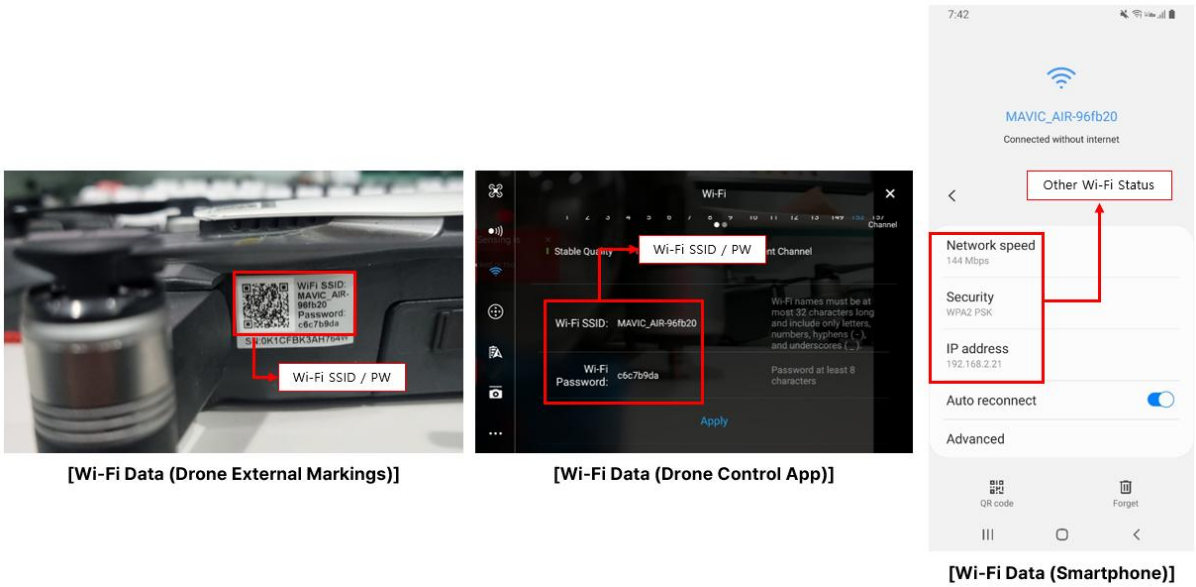

Figure 11. Example of Communication / Network Information Retrieval (DJI Mavic Air)

In addition to the methods described above, communication and network logs stored directly in the drone's internal memory can also be extracted and analyzed. **Table 7** and **Figure 12** present examples of communication/network log analysis and corresponding data paths identifiable within the drone's memory.

Table 7. Example of Communication / Network Data Paths (DJI Spark)

Memory	Parent Directory	File Name	Related Information
Internal	/etc/	udhcpd.conf	udhcpd network configuration file
		udhcpd_wifi.conf	udhcpd network configuration file (Wi-Fi)
Internal	/BT/	BT_Address.txt	Bluetooth MAC address
Internal	/misc/wifi/	hostapd.conf	Wi-Fi AP configuration file
		wpa_supplicant.conf	WPA Authentication Configuration File

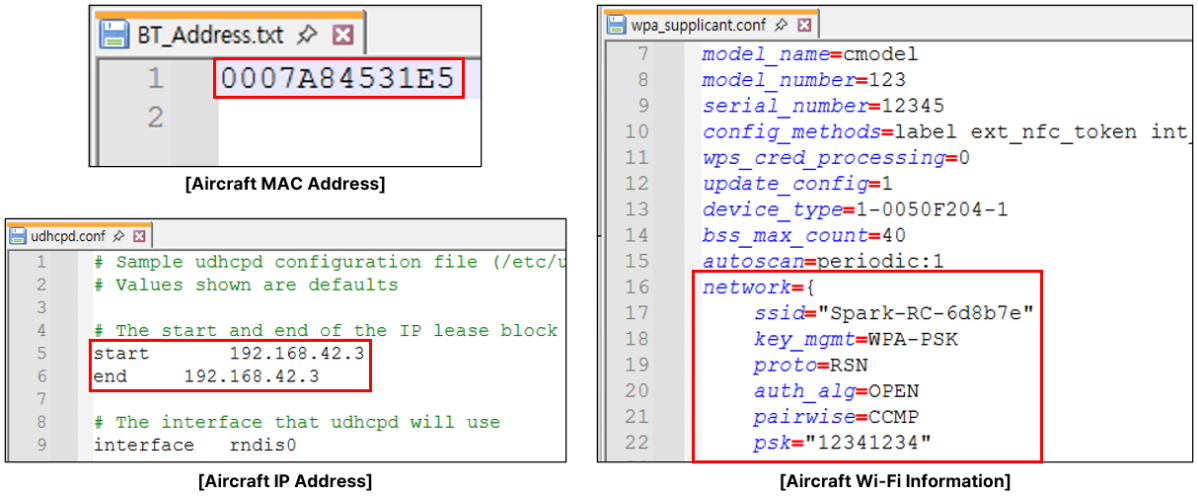

Figure 12. Example of Communication / Network Data Retrieval (DJI Spark)

Document the drone communication and network data using the template provided in **Appendix A**.

8 Appendix

8.1 Appendix A: Templates for Documenting Drone Data

Appendix A provides templates that users can utilize to document data contained in drone devices, remote controllers, and related components. If users wish to include additional data fields beyond those provided in the template, they may freely modify the form and append new items as needed.

The purpose of Appendix A is to ensure consistency and completeness in the documentation process across different test scenarios, while also allowing flexibility in how specific types of data are represented depending on the features and limitations of the test environment. Importantly, the data documented in Appendix A serves as the ground truth against which drone forensic tools are evaluated.

When completing the Appendix A template, users should only document data elements that can be positively confirmed and verified from the test device or its associated sources. If a particular data field cannot be reliably populated due to the absence of evidence or device limitations, it should be left blank.

8.1.1 Drone Identification Information

Device	Data Element	Data Value
	Vendor	
	Aircraft Model Name	
	Aircraft Serial Number (S/N)	
	Aircraft Firmware Version	
	Remote Controller Model Name	
	Remote Controller Serial Number (S/N)	
	Remote Controller Firmware Version	

8.1.2 Drone Control Application Data

Device	Data Element	Data Value
	Application Name	
	Application Version	
	User Account Information (ID/PW)	

8.1.3 Flight Logs

** Edit the template to add additional waypoints if necessary*

1) Square-Shape (Waypoints: minimum 5)

Device	Data Element		Data Value
	Waypoint #1 (Square-Shape) ** Takeoff Point*	Time (YYYY-MM-DD HH:mm, UTC+0)	
		GPS Latitude (°)	
		GPS Longitude (°)	
		Flight Altitude (m)	
	Waypoint #2 (Square-Shape)	Time (YYYY-MM-DD HH:mm, UTC+0)	
		GPS Latitude (°)	
		GPS Longitude (°)	
		Flight Altitude (m)	

… (Other intermediate waypoints omitted) …

	Waypoint #n (Square-Shape) ** Landing Point*	Time (YYYY-MM-DD HH:mm, UTC+0)	
		GPS Latitude (°)	
		GPS Longitude (°)	
		Flight Altitude (m)	

2) Zigzag-Shape (Waypoints: minimum 5)

Device	Data Element[3]		Data Value
	Waypoint #1 (Square-Shape) ** Takeoff Point*	Time (YYYY-MM-DD HH:mm, UTC+0)	
		GPS Latitude (°)	
		GPS Longitude (°)	
		Flight Altitude (m)	
	Waypoint #2 (Square-Shape)	Time (YYYY-MM-DD HH:mm, UTC+0)	
		GPS Latitude (°)	
		GPS Longitude (°)	

[3] Additional attributes—such as aircraft speed at each waypoint and three-axis rotation values (Roll/Pitch/Yaw)—may be added to the template as needed and used accordingly.

		Flight Altitude (m)	

… (Other intermediate waypoints omitted) …

	Waypoint #n (Square-Shape) * *Landing Point*	Time (YYYY-MM-DD HH:mm, UTC+0)	
		GPS Latitude (°)	
		GPS Longitude (°)	
		Flight Altitude (m)	

8.1.4 System Logs

** Edit the template to add additional waypoints if necessary*
** Chronological record from takeoff to landing*

1) Square-Shape

Device	Data Element		Data Value
	Takeoff (Waypoint #1) * *Required*	Time (YYYY-MM-DD HH:mm, UTC+0)	
		App Display Message	
	Error Event (Waypoint #x, RC Disconnected) * *Required*	Time (YYYY-MM-DD HH:mm, UTC+0)	
		App Display Message	
	Error Event (Waypoint #y, Other Errors, e.g., Low Battery) * *Optional*	Time (YYYY-MM-DD HH:mm, UTC+0)	
		App Display Message	

… (Other system log entries recorded at intermediate waypoints omitted) …

	Landing (Waypoint #n) * *Required*	Time (YYYY-MM-DD HH:mm, UTC+0)	
		App Display Message	

2) Zigzag-Shape

Device	Data Element		Data Value
	Takeoff (Waypoint #1) * *Required*	Time (YYYY-MM-DD HH:mm, UTC+0)	
		App Display Message	
	Error Event (Waypoint #x, RC Disconnected) * *Required*	Time (YYYY-MM-DD HH:mm, UTC+0)	
		App Display Message	
	Error Event (Waypoint #y, Other Errors, e.g., Low Battery) * *Optional*	Time (YYYY-MM-DD HH:mm, UTC+0)	
		App Display Message	

… (Other system log entries recorded at intermediate waypoints omitted) …

	Landing (Waypoint #n) * *Required*	Time (YYYY-MM-DD HH:mm, UTC+0)	
		App Display Message	

8.1.5 Media Data

1) Photos

** Include at least 3 captured during standardized flight*

Device	Data Element[4]		Data Value
	Photo A (Square-Shape: Waypoint #x)	File Name / Extension	
		File Size	
		Capture Time	
		GPS Latitude (°)	
		GPS Longitude (°)	
		Altitude (m)	
	Photo B (Zigzag-Shape: Waypoint #y)	File Name / Extension	
		File Size	

[4] Additional metadata—such as resolution, shutter speed, and other camera-specific parameters—may be added to the template as needed and used accordingly.

		Capture Time	
		GPS Latitude (°)	
		GPS Longitude (°)	
		Altitude (m)	

… (Additional photo entries as needed) …

2) Video

** Include at least 3 captured during standardized flight*

Device	Data Element		Data Value
	Video A (Square-Shape: Waypoint #x)	File Name / Extension	
		File Size	
		Recording Start Time	
		Start Point GPS Latitude (°)	
		Start Point GPS Longitude (°)	
		Start Point Altitude (m)	
	Video B (Zigzag-Shape: Waypoint #y)	File Name / Extension	
		File Size	
		Recording Start Time	
		Start Point GPS Latitude (°)	
		Start Point GPS Longitude (°)	
		Start Point Altitude (m)	

… (Additional video entries as needed) …

8.1.6 Communication / Network Information

Device	Data Element	Data Value
Wi-Fi	Aircraft SSID	
	PSK(Password)	
	Aircraft IP Address	
	Bandwidth / Speed	
	Encryption Type	
Bluetooth	Aircraft MAC Address	

… (Additional video entries as needed) …

8.2 Appendix B: Templates for Documenting Drone Data[5]

Appendix B provides an example of how to document the data contained in the drone device, remote controller, and all related components using the templates provided in **Appendix A**.

8.2.1 Drone Identification Information

Device	Data Element	Data Value
DJI Mavic 2 Pro	Vendor	DJI
	Aircraft Model Name	Mavic 2 Pro
	Aircraft Serial Number (S/N)	163CGCHR******
	Aircraft Firmware Version	01.00.0797
	Remote Controller Model Name	RC1B
	Remote Controller Serial Number (S/N)	1DUCGC8R******
	Remote Controller Firmware Version	01.00.0770

8.2.2 Drone Control Application Data

Device	Data Element	Data Value
DJI Mavic 2 Pro	Application Name	DJI GO 4
	Application Version	4.3.62
	User Account Information (ID/PW)	kma17***@gmail.com/dltn******

8.1.3 Flight Logs

1) Square-Shape

Device	Data Element		Data Value
DJI Mavic 2 Pro	Waypoint #1 (Square-Shape) * *Takeoff Point*	Time (YYYY-MM-DD HH:mm, UTC+0)	2025-08-01 10:00:00 (UTC+9)
		GPS Latitude (°)	3*.**1203°
		GPS Longitude (°)	12*.**5108°
		Flight Altitude (m)	30.1m

[5] For privacy and equipment identification protection, certain information—such as serial numbers, account credentials (ID/PW), and GPS data—has been masked using "*".

	Waypoint #2 (Square-Shape)	Time (YYYY-MM-DD HH:mm, UTC+0)	2025-08-01 10:00:12 (UTC+9)
		GPS Latitude (°)	3*.**1210°
		GPS Longitude (°)	12*.**5711°
		Flight Altitude (m)	32.2m
	Waypoint #3 (Square-Shape)	Time (YYYY-MM-DD HH:mm, UTC+0)	2025-08-01 10:00:24 (UTC+9)
		GPS Latitude (°)	3*.**0718°
		GPS Longitude (°)	12*.**5704°
		Flight Altitude (m)	30.3m
	Waypoint #4 (Square-Shape)	Time (YYYY-MM-DD HH:mm, UTC+0)	2025-08-01 10:00:36 (UTC+9)
		GPS Latitude (°)	3*.**0710°
		GPS Longitude (°)	12*.**5095°
		Flight Altitude (m)	32.1m
	Waypoint #5 (Square-Shape) ** Landing Point*	Time (YYYY-MM-DD HH:mm, UTC+0)	2025-08-01 10:00:47 (UTC+9)
		GPS Latitude (°)	3*.**1203°
		GPS Longitude (°)	12*.**5108°
		Flight Altitude (m)	30.0m

2) Zigzag-Shape

Device	Data Element		Data Value
DJI Mavic 2 Pro	Waypoint #1 (Zigzag-Shape) ** Takeoff Point*	Time (YYYY-MM-DD HH:mm, UTC+0)	2025-08-01 14:00:00 (UTC+9)
		GPS Latitude (°)	3*.**0950°
		GPS Longitude (°)	12*.**4800°
		Flight Altitude (m)	30.1m
	Waypoint #2 (Zigzag-Shape)	Time (YYYY-MM-DD HH:mm, UTC+0)	2025-08-01 14:00:13 (UTC+9)
		GPS Latitude (°)	3*.**1400°
		GPS Longitude (°)	12*.**5100°
		Flight Altitude (m)	32.2m
		Time (YYYY-MM-DD HH:mm, UTC+0)	2025-08-01 14:00:25 (UTC+9)

	Waypoint #3 (Zigzag-Shape)	GPS Latitude (°)	3*.**0950°
		GPS Longitude (°)	12*.**5400°
		Flight Altitude (m)	30.3m
	Waypoint #4 (Zigzag-Shape)	Time (YYYY-MM-DD HH:mm, UTC+0)	2025-08-01 14:00:38 (UTC+9)
		GPS Latitude (°)	3*.**1400°
		GPS Longitude (°)	12*.**5700°
		Flight Altitude (m)	32.1m
	Waypoint #5 (Zigzag-Shape) * *Landing Point*	Time (YYYY-MM-DD HH:mm, UTC+0)	2025-08-01 14:00:51 (UTC+9)
		GPS Latitude (°)	3*.**0950°
		GPS Longitude (°)	12*.**6000°
		Flight Altitude (m)	30.0m

8.1.4 System Logs

1) Square-Shape

Device	Data Element		Data Value
DJI Mavic 2 Pro	Takeoff (Waypoint #1) * *Required*	Time (YYYY-MM-DD HH:mm, UTC+0)	2025-08-01 10:00:00 (UTC+9)
		App Display Message	Takeoff
	Error Event (Waypoint #3, RC Disconnected) * *Required*	Time (YYYY-MM-DD HH:mm, UTC+0)	2025-08-01 10:00:36 (UTC+9)
		App Display Message	RC Unconnected
	Error Event (Waypoint #4, Low Battery) * *Optional*	Time (YYYY-MM-DD HH:mm, UTC+0)	2025-08-01 10:00:59 (UTC+9)
		App Display Message	Low Batt
	Landing (Waypoint #5) * *Required*	Time (YYYY-MM-DD HH:mm, UTC+0)	2025-08-01 10:01:23 (UTC+9)
		App Display Message	Force Landing

2) Zigzag-Shape

Device	Data Element		Data Value
DJI Mavic 2 Pro	Takeoff (Waypoint #1) * *Required*	Time (YYYY-MM-DD HH:mm, UTC+0)	2025-08-01 14:00:00 (UTC+9)
		App Display Message	Takeoff
	Error Event (Waypoint #3, RC Disconnected) * *Required*	Time (YYYY-MM-DD HH:mm, UTC+0)	2025-08-01 14:00:25 (UTC+9)
		App Display Message	RC Unconnected
	Landing (Waypoint #5) * *Required*	Time (YYYY-MM-DD HH:mm, UTC+0)	2025-08-01 14:01:03 (UTC+9)
		App Display Message	RTH Landing

8.1.5 Media Data

1) Photos

Device	Data Element		Data Value
DJI Mavic 2 Pro	Photo 1 (Square-Shape: Waypoint #1)	File Name / Extension	DJI_1023.jpg
		File Size	2.0MB
		Capture Time	2025-08-01 10:00:00 (UTC+9)
		GPS Latitude (°)	3*.**1203°
		GPS Longitude (°)	12*.**5108°
		Altitude (m)	30.1m
	Photo 2 (Zigzag-Shape: Waypoint #3)	File Name / Extension	DJI_1025.jpg
		File Size	2.1MB
		Capture Time	2025-08-01 10:00:59 (UTC+9)
		GPS Latitude (°)	3*.**0718°
		GPS Longitude (°)	12*.**5704°
		Altitude (m)	30.3m
		File Name / Extension	DJI_1027.jpg

	Photo 3 (Zigzag-Shape: Waypoint #5)	File Size	1.9MB
		Capture Time	2025-08-01 14:00:25 (UTC+9)
		GPS Latitude (°)	3*.**1203°
		GPS Longitude (°)	12*.**5108°
		Altitude (m)	30.0m
	Photo 4 (Zigzag-Shape: Waypoint #1)	File Name / Extension	DJI_2001.jpg
		File Size	2.1MB
		Capture Time	2025-08-01 16:00:48 (UTC+9)
		GPS Latitude (°)	3*.**0950°
		GPS Longitude (°)	12*.**4800°
		Altitude (m)	30.1m
	Photo 5 (Zigzag-Shape: Waypoint #3)	File Name / Extension	DJI_2003.jpg
		File Size	2.4MB
		Capture Time	2025-08-01 16:01:24 (UTC+9)
		GPS Latitude (°)	3*.**0950°
		GPS Longitude (°)	12*.**6000°
		Altitude (m)	30.0m

2) Video

** Include at least 3 captured during standardized flight*

Device	Data Element		Data Value
DJI Mavic 2 Pro	Video 1 (Square-Shape: Waypoint #2)	File Name / Extension	DJI_1024.MOV
		File Size	85.0MB
		Recording Start Time	2025-08-01 10:00:24 (UTC+9)
		Start Point GPS Latitude (°)	3*.**1210°
		Start Point GPS Longitude (°)	12*.**5711°
		Start Point Altitude (m)	32.2m
	Video 2 (Square-Shape: Waypoint #4)	File Name / Extension	DJI_1026.MOV
		File Size	90.2MB
		Recording Start Time	2025-08-01 14:00:13 (UTC+9)

		Start Point GPS Latitude (°)	3*.**0710°
		Start Point GPS Longitude (°)	12*.**5095°
		Start Point Altitude (m)	32.1m
	Video 3 (Zigzag-Shape: Waypoint #2)	File Name / Extension	DJI_2002.MOV
		File Size	78.5MB
		Recording Start Time	2025-08-01 14:00:51 (UTC+9)
		Start Point GPS Latitude (°)	3*.**1400°
		Start Point GPS Longitude (°)	12*.**5100°
		Start Point Altitude (m)	32.2m
	Video 4 (Zigzag-Shape: Waypoint #4)	File Name / Extension	DJI_2004.MOV
		File Size	82.3MB
		Recording Start Time	2025-08-01 16:00:00 (UTC+9)
		Start Point GPS Latitude (°)	3*.**1400°
		Start Point GPS Longitude (°)	12*.**5700°
		Start Point Altitude (m)	32.1m
	Video 5 (Zigzag-Shape: Waypoint #5)	File Name / Extension	DJI_2005.MOV
		File Size	95.7MB
		Recording Start Time	2025-08-01 16:00:36 (UTC+9)
		Start Point GPS Latitude (°)	3*.**0950°
		Start Point GPS Longitude (°)	12*.**6000°
		Start Point Altitude (m)	30.0m

8.1.6 Communication / Network Information

Device	Data Element	Data Value
Wi-Fi	Aircraft SSID	- (not used)
	PSK(Password)	- (not used)
	Aircraft IP Address	- (not used)
	Bandwidth / Speed	- (not used)
	Encryption Type	- (not used)
Bluetooth	Aircraft MAC Address	- (not used)