

Sample document · identifying details and method details are redacted

Authentication Examination of a Digital Video File

SpectroForensicLab · Forensic video authentication

Report number	SFL-XXX-R01
Proceeding / court file no.	████████████████████
Requesting party	████████████████
Item examined	video_01.mp4 (Item 1)
Examiner	Gili Karako
Date of issue	████████
Framework	SWGDE 23-V-001 · ISO 21043-5

Classification: Confidential

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1. Summary of Findings and Conclusion

I was asked to examine whether the video file video_01.mp4 (Item 1), depicting ██████████, is an original recording captured by a smartphone camera, or whether it was generated by artificial intelligence or edited after capture. The item was examined with █████ methods across independent analysis layers, in accordance with SWGDE best practices for digital video authentication and ISO/IEC 27037, 27042 and ISO 21043.

Conclusion

The findings provide very strong support for the proposition that the file is an original smartphone camera recording that was neither edited nor generated by artificial intelligence (H1), rather than the alternative proposition (H2). No indications of editing, splicing or synthesis were identified.

Level of support: very strong (combined likelihood ratio > 10,000)

Caveat: this opinion does not determine which specific device captured the video (see Section 10). The absence of signs of manipulation is not absolute proof of authenticity.

Document control

Version	Date	Description	Author
0.1		First draft based on the analyst worksheet	Gili Karako
1.0		Final issue, signed	Gili Karako

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About this sample

A full report runs to about 25 pages. Selected pages are shown here, and the page numbers in the contents are those of the full report.

Case identifiers and method details are redacted. In a real report they appear in full, so they can be examined and cross-examined.

2. Examiner Details and Declaration

2.1 Personal details

Name	Gili Karako
Position	Signal analysis and forensic video authentication examiner, SpectroForensicLab

2.2 Education and training

- Weizmann Institute of Science / Davidson Institute: graduate program in Computer Science and Machine Learning (2021–2022). Background in physics.

2.3 Relevant professional experience

- Unit 8200, Israeli Military Intelligence (2023–2025): telecommunications researcher and analyst, protocol research, reverse engineering and signal analysis. Recipient of the Award for Technological Excellence.
- Exodigo (2025–2026): signal analyst.
- SpectroForensicLab (2026–present): video authentication examinations and development of the SpectraFrame analysis tool.

2.4 Independence and conflict of interest

I have no personal or business relationship with the parties and no personal interest in the outcome of the proceeding. My fee for this report is not contingent on its content or on the outcome. My overriding duty is to the court.

2.5 Declaration

I confirm that I have made clear which facts and matters referred to in this report are within my own knowledge and which are not. Those that are within my own knowledge I confirm to be true. The opinions I have expressed represent my true and complete professional opinions on the matters to which they refer. I understand that this report may be relied upon in legal proceedings and that I may be required to give evidence on its contents under oath.

3. Instructions, Questions and Scope

3.1 Request

Requested by, date and form

3.2 Questions put to the examiner

1. Is the video file video_01.mp4 an original camera recording, as claimed?
2. Are there any indications that the file was edited, spliced, had content removed, or was generated by artificial intelligence?

3.3 Scope and exclusions

The examination comprised [REDACTED]. It did not include identification of persons or objects, attribution to a specific capture device, or content enhancement.

4. Evidence Receipt, Preservation and Chain of Custody

4.1 Items received

Item ID	██████████ / Item 1
File name	video_01.mp4
SHA-256	9f2c41e7████████████████████5a0d
Method of receipt	SpectroForensicLab secure upload portal · receipt ██████████
Submitter's statement of provenance	██████████

4.2 Chain of custody log

Date and time	Action	By / to
██████████	Received via upload portal; portal SHA-256 matches the value computed on receipt	Client → examiner
██████████	Working copy created; original stored read-only	Examiner
██████████	Hypothesis recorded and locked before analysis	Examiner
██████████	Analyst worksheet completed and signed	Examiner
██████████	SHA-256 re-verified at completion	Examiner

4.3 Preservation and integrity verification

The SHA-256 value of the received file matches the value generated by the upload portal at submission; the file was therefore not altered in transit. All examinations were performed on a working copy. The original is stored read-only at ██████████.

5. Propositions and Bias Mitigation

H1	The file is an original recording generated by a smartphone camera and was not edited, altered or generated by artificial intelligence after capture.
H2	The file was wholly or partly generated by artificial intelligence, or was edited / altered after capture.

The claimed proposition was recorded in the analyst worksheet and locked on ██████████, before any examination began. For each method, the criteria for a result consistent with an original recording and for a result consistent with manipulation were defined in advance and are documented in the worksheet held on file, so that interpretation is not adjusted to fit the result after the fact.

6. Methodology

6.1 Standards and guidelines applied

- SWGDE 23-V-001: Best Practices for Digital Video Authentication
- SWGDE 18-Q-002: Requirements for Report Writing in Digital and Multimedia Forensics
- ISO/IEC 27037: Identification, collection, acquisition and preservation of digital evidence
- ISO/IEC 27041 / 27042: Suitability of investigative methods; analysis and interpretation of digital evidence
- ISO 21043-4 / -5: Forensic sciences, interpretation and reporting

6.2 Analytical framework

The examination is organised into analysis layers, each testing a different property that an original recording is expected to exhibit. Methods that test the same property are grouped into a single layer so that they are not counted twice.

[REDACTED]

6.3 Tools and software

[REDACTED]

6.4 Method validation

[REDACTED]

6.5 Evaluation method

Each method is assessed by how strongly its result supports H1 against H2, and the result is translated to the verbal scale in Appendix B. The calculation is an aid to consistency; the conclusion is the examiner's professional judgement.

[REDACTED]

7. Examinations and Findings

7.1 File structure and metadata

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

7.2 Metadata observations

[REDACTED]

[REDACTED]

7.3 Findings by method

A selection of the figures in this chapter. Their descriptions, the methods and the interpretation are redacted.

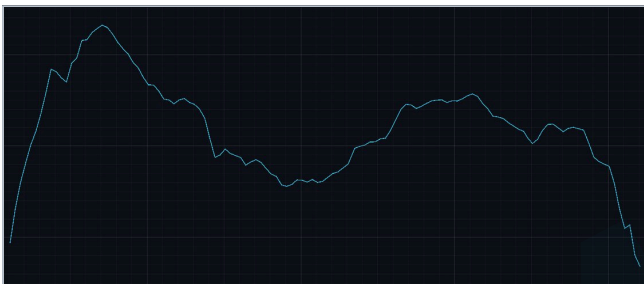


Figure 1

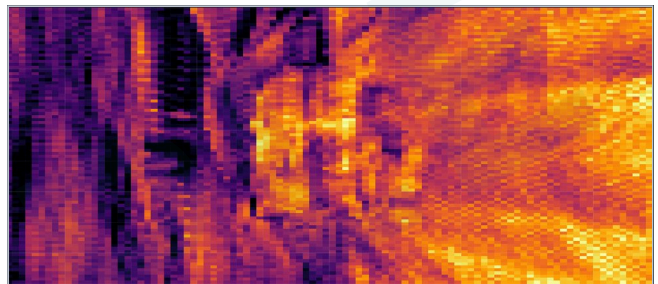


Figure 2

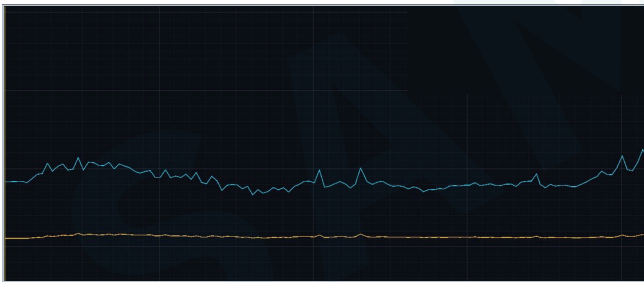


Figure 3

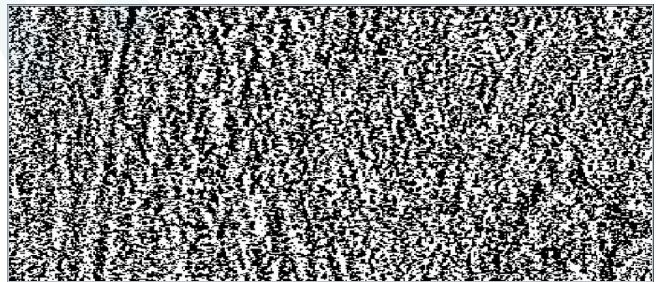


Figure 4

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

7.4 Visual content review

[REDACTED]

[REDACTED]

8. Evaluation and Interpretation

8.1 Summary by layer

Layer	Leading method	Assessment	Likelihood ratio (contribution)
[REDACTED]	[REDACTED]	Strongly supports H1	× 32
[REDACTED]	[REDACTED]	Strongly supports H1	× 32
[REDACTED]	[REDACTED]	Strongly supports H1	× 10
[REDACTED]	[REDACTED]	Strongly supports H1	× 10
[REDACTED]	[REDACTED]	Supports H1	× 5.6
[REDACTED]	[REDACTED]	Supports H1	× 3.2
Combined likelihood ratio			≈ 1.8 × 10⁶

Independence between layers is a working assumption; the numerical value is therefore indicative only, and the conclusion is expressed on the verbal scale.

8.2 Discussion of contrary findings

One finding did not support H1: [REDACTED]. The finding was therefore weighted "does not support" (−1) rather than "refutes".

[REDACTED]

[REDACTED]

[REDACTED]

8.3 Combined evaluation

The findings in all examined layers are far more probable given H1 than given H2. The single contrary finding is reasonably explained by [REDACTED]. No finding indicates cutting, insertion or synthesis.

9. Conclusion

On the basis of the examinations performed, and subject to the limitations set out in Section 10, the findings provide very strong support for the proposition that the video file video_01.mp4 (Item 1) is an original smartphone camera recording that was neither edited nor generated by artificial intelligence (H1), rather than the proposition that it was generated or edited (H2).

No indications of editing, splicing, removal of content or synthesis were identified in the file.

10. Limitations and Assumptions

- The examination was performed on the file as submitted. The original device was not provided, and attribution to a specific device was not examined.
- The provenance and transfer history of the file are unknown. Transfer via messaging apps or social media can alter metadata and add compression.
- [REDACTED]
- Video generation technology evolves rapidly; the conclusion reflects the knowledge and methods available at the time of examination.
- The absence of signs of manipulation is not absolute proof of authenticity (SWGDE 23-V-001).
- This opinion may be revised if further information or material becomes available.

11. Signature

I confirm that this report was prepared by me and represents my professional opinion.

Signature · Gili Karako

Date and place

Appendix B · Evaluation Scale

Likelihood ratio	Verbal expression	Level
1	The findings do not support either proposition	Neutral
2 – 10	Weak support	Low
10 – 100	Moderate support	Medium
100 – 1,000	Moderately strong support	Medium-high
1,000 – 10,000	Strong support	High
> 10,000	Very strong support	Very high

The scale follows the ENFSI Guideline for Evaluative Reporting in Forensic Science (2015).