

D4.4-TN9: CERTIFLIGHT Software test report

DELIVERABLE DETAILS			
Deliverable Nr	Lead Beneficiary	Dissemination Level	Status
D4.4	TSP	PU	CONTROLLED
Edition	Revision	lssue	Document Code
01	00	01.00	D4.4_01.00
File Name	D4.4 - TN9 CERTIFLIGHT Software test report 1.0.docx		
Ref. Template	Normal.dotm		

DOCUMENT HISTORY					
lssue	Date	Status	Author	Partner	Change Description
00.01	30/07/2024	DRAFT	Antonio RUSSO	TSP	First draft
			Marco NISI		
			Simone Maurizi		
			Massimo		
			Maurizi		
00.02	27/09/2024	DRAFT	Antonio RUSSO	TSP	Final draft of first issue
			Marco NISI		including execution review of
			Simone Maurizi		test CERTISW.0050 and first
			Massimo		and final execution of
			Maurizi		CERTISW.0060, CERTISW.0070,
			Vinka Maruna		CERTISW.0080
01.00	30/09/2024	CONTROLLED	Francesco Russo	TOP	Formal Review
			Vincenzo Maria		
			Ascione		
			Alberto		
			Mennella		

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APPLICABLE DOCUMENTS			
Ref.	File Name	Description	
AD 1	Grant Agreement-101082484-CERTIFLIGHT	Project Grant Agreement	

	REFERENCE DOCUMENTS			
Ref.	File Name	Description		
р р 1	D2.2. CEPTIELICHT platform user manual	User Manual and Specification		
NUI	D3.2 - CERTIFLIGHT platform user manual	of Certiflight platform		
		Document containing the test		
RD 2	D4.1 Verification Plan	cases used to generate the		
		procedures for test reporting		

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Abstract

This document represents the contractual deliverable 4.4-TN9: CERTIFLIGHT Software test report which describes the test procedures and relevant results.

The test status is summarized in the table below.

Procedure ID	Title	Status
REP_CERTISW.0010	PLATFORM CONFIGURATION – DATA ENTRY	Executed, passed
REP_CERTISW.0020	PLATFORM CONFIGURATION - UTM BOX	Executed, passed
	REGISTRATION	
REP_CERTISW.0030	UTM REAL TIME OPERATIONS	Executed, passed
REP_CERTISW.0035	UTM ACTIVITIES STATISTICS	Executed, passed
REP_CERTISW.0040	LIGHT REPORT GENERATION	Executed, passed
REP_CERTISW.0050	DATA ACQUISITION	Executed, passed
REP_CERTISW.0060	FULL REPORT GENERATION	Executed, passed
REP_CERTISW.0070	INTEGRITY OF CERTIFLIGHT DATA – VALID DATASET	Executed, passed
REP_CERTISW.0080	INTEGRITY OF CERTIFLIGHT DATA – INVALID	Executed, passed
	DATASET	

Table 0-1 Test report results

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1 Introduction

1.1 Scope of the document

The scope of the document is to report the results of test case described in section 4 of the verification plan (D4.1), [RD 2].

In particular, this technical note reports the results of test codes TEST_CERTISW_OOXX which are about the Certiflight portal.

Certiflight Portal: it is the access point for every user to Certiflight services. Each identified stakeholder may access with his/her profile for configuration, data ingestion, retrieving, visualization and reporting features. The collected data and the final report(s) allow the user to have all the certified information for in-flight and post-flight services.

- User Authentication: It is the module responsible for registration and authentication of Certiflight users.
- Digital Signature: This module provides a signature of the data provided in input. In the case of PDF reports, documents are issued in the PAdES format, according to the specification reported in ETSI EN319142. This feature is achieved in combination with the Report Generator module.
- Report Generator: Certiflight system issues signed reports to the users to guarantee the integrity and authenticity of the exported data.
- Decryption Module: This module is used for deciphering the data transmitted by the UTM Box for real time transmission and post flight data download.
- Metrics Calculator: Simple metrics related to real time data provided by the UTM Box are calculated in this module for insertion in the Light Report.
- Data base: It is the default structure for storing and retrieving data associated to users (Real time data and post-fight data)
- Blockchain API: This block provides security chain based on Blockchain Service through a simplified API developed into the Certiflight system for providing long-term data integrity and storage as well as services complementary to the CERTIFLIGHT Portal (e.g. respect of contracts, unlock of payments, ...)
- Authenticated Position Propagation (APP) Module: The APP function outcomes will be integrated in the "Full report". The input to APP algorithm, specified in the requirement CFT-SYS-0950 of D2.6 document allows the algorithm to provide the following information, in post-flight, to be included in the full report:
 - o a trustable position information starting from an authenticated position
 - computation of the propagated position to reinforce the authenticity of the PVT solution and the UAS trajectory in post flight phase.
 - o authenticated UAS trajectory.
 - protection of the solution from potential spoofing attacks aimed to manipulate the true position
- Spoofing detection Module (GSD): The GSD function outcomes will be integrated in the full report. The input to GSD algorithm is specified in the requirement CFT-SYS-0990 of D2.6 document. The purpose of the GSD algorithm is:
 - to guarantee the authenticity of data generated by the UTM Box, providing indications whether the authenticated PVT solution is genuine (Spoofing / Meaconing free).

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• To be able to indicate the level of confidence/trust of the authenticated position during all flight, providing indicators/metrics in correspondence to significant events (i.e. no OSNMA satellites present in the solution, values below threshold of defined indicator).

1.2 Acronyms

Acronyms	Description	
API	Application Programming Interface	
APP	Authenticated Position Propagation	
ETSI	European Telecommunications Standards Institute	
GNSS	Global Navigation Satellite System	
GSD	GNSS Spoofing Detection	
IMU	Inertial Measurement Unit	
OSNMA	pen Service Navigation Message Authentication	
PAdES	PDF Advanced Electronic Signatures	
PVT	PVT Position Velocity Time	
UAS	Unmanned Aerial System	
URL	Uniform Resource Locator	
UTM	Unmanned Traffic Management	
	Table 1-1 Acronyms list	

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2 Methodology

CERTIFLIGHT test procedures are built according to the following identification format: PROC_CERTISW. <NNNNx>, where <NNNN> is the progressive number (E.g. PROC_CERTISW.0010) and x identifies the substeps of each test. The structure of the test procedure is described in the table below.

	PROC_CERTISW.NNNNx. Pr	ocedure Title		
Step	Activity description	Expected Result	Obtained results	Notes
S_NN	<step title=""> Procedure description</step>	Test explaining what it is expected for each step of	Test explaining what it is obtained for each step of	Notes for further explanation
		the procedure	the procedure	

Table 2-1 Example of test procedure

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3 Test procedures and Report

3.1 REP_CERTISW.0010 Platform Configuration – Data Entry

PROC_	SIM.CERTISW.0010 Platform Configur	ation – Data Entry		
Step	Activity description	Expected Result	Obtained Result	Notes
S_01	Open the platform web-app through its URL http://vps- c5627526.vps.ovh.net:8080/	The portal sign-in page is displayed	As expected	
S_02	User introduces its credentials (username and password – admin:admin) and logs into the platform	The user dashboard is displayed	As expected	
S_03	Access the configuration tab	The configuration page appears	As expected	
S_04	Introduce pilot information through the "+" button in the top right corner of the Pilot section	A form for adding a new pilot is displayed and can be fulfilled	As expected	
S_05	Click "save" to add the pilot information to the platform	The pilot is successfully added and displayed in the list	As expected	
S_06	Introduce drone information through the plus button in the top right corner of the Drones section	A form for adding a new drone is displayed and can be fulfilled	As expected	
S_07	Click "save" to add the drone information to the platform	The drone is successfully added and displayed in the list	As expected	



3.1.1 Test execution and results

S_01, S_02: Access the web platform using the given URL and log in according to the user account

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odmin Password	
Remember this Device Forgot Password ? Sign In New to Certiflight? Create an account	
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Figure 3-1 Login page

S_03, S_04, S_05, S_07, S_08: Access the Configuration page to fulfil Pilots and Drones information

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Administrator Administrator		Pilots						-	•••
Home		First Name	Last Name	Fiscal Code	Email		Remote Pilot License	ld License	
습 Dashboard 은 Users Management		Marco	Nisi	NSIMRC79L12M082L	marco.nisi@thes	saraproject.eu	PI12345678	ID12345678	00
Configuration		Simone	Maurizi	MRZSMN91A13M082I	simone.maurizi@	athesaraproject.eu	PI2232	ID23232	00
K ALIMUUS		Drones							•
		Name Model		мтом	s/N	Pilot			
		DJI Mavic 2		10 kg	343243333	Simone Mau	rizi		
		DJI M30		8 Kg	1232112	Simone Mau	rizi	0	



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(3)	Create or edit a Pilot		
Administrator Administrator	Name	Last Name	
Home	SomeName	SomeSurname	
	Fiscal Code	Email	
C Users Management	ITALIANFISCALCODE	valid@email.com	
Configuration	Remote Pilot License	ld License	
C Activities	XXXSERIALPILOTIDLICENSEXXX	XXXIDLICENSEXXX	
			Cancel Save
			· · · ·
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Figure 3-3 New Pilot page

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⊂ certi flight ≡	Q First Name	Last Name	Fiscal Coae	Email	Kemote Pilot License	la License	# ■	• 3
(2)	Marco	Nisi	NSIMRC79L12M082L	marco.nisi@thesaraproject.e	eu PI12345678	ID12345678	0	
Administrator Administrator	Simone	Maurizi	MRZSMN91A13M082I	simone.maurizi@thesarapro	ject.eu Pl2232	ID23232	0	
Home	SomeName	SomeSurname	ITALIANFISCALCODE	valid@email.com	XXXSERIALPILOTIDLICENSEXXX	XXXIDLICENSEXXX	0	
 Configuration Activities 	Drones					~	•	
	Name Model		мтом	s/N	Pilot			
	DJI Mavic 2		10 kg	343243333	Simone Maurizi	0		
	DJI M30		8 Kg	1232112	Simone Maurizi	0		
	GNSS Tro	ickers						



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3.2 REP_CERTISW.0020 Platform Configuration - UTM Box Registration

PROC_	CERTISW.0020 Platform Configuration	on – UTM box regist	ration	
Step	Activity description	Expected Result	Obtained Result	Notes
S_01	Open the platform web-app through its URL http://vps- c5627526.vps.ovh.net:8080/	The portal sign-in page is displayed	As expected	
S_02	User introduces its credentials (username and password – admin:admin) and logs into the platform	The user dashboard is displayed	As expected	
S_03	Access the configuration tab	The configuration page appears	As expected	
S_04	Introduce tracker information through the "+" button in the top right corner of the GNSS Trackers section	A form for adding a new tracker is displayed and can be fulfilled	As expected	
S_05	Fulfil information using the tracker identification data found on the box or on the associated documentation	All the required data are available on the GNSS tracker box and can be provided	As expected	The QR code registration was moved on the gateway registration. User is only required to include the tracker ID.
S_06	Select the associated drone through the Drones dropdown	The dropdown appears showing all the previously registered drones	As expected	
S_07	Click "save" to add the tracker to the platform	The GNSS tracker is successfully added and displayed in the list	As expected	



3.2.1 Test execution and results

S_01, S_02: Login as in PROC_CERTISW.0010

S_03, S_04: Add a new GNSS Tracker from the platform configuration page

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3	Drones					•
Administrator Administrator	Name Model	мтом	s/N	Pilot		
Home	DJI Mavic 2	10 kg	343243333	Simone Maurizi	00	
O Users Management	DJI M30	8 Kg	1232112	Simone Maurizi		
Onfiguration						
C Activities	GNSS Trackers					•
	Name	Sim	Description	Drone		
	ITA-901670303		ITA-901670303	DJI Mavic 2		
	SIM UTM box			DJI M30	0	

Figure 3-5 New GNSS Tracker from the Configuration page

S_05, S_06, S_07: Fulfil GNSS Tracker information from the Device box and select the assigned drone

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8	Create or edit a G	NSS Tracker		
Administrator Administrator	Device Id	Name	Sim	
Home	RealDeviceId	LabelForTracker	ICCIDofTheSIM	
🙆 Dashboard	Description	Imei	Drone	/
O Users Management	SomeDescription	DeviceIMEI	· ·	
Configuration			DJI Mavic 2 Canc	el Save
C Activities			DJI M30	



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3.3 REP_CERTISW.0030 UTM Real Time Operations

PROC_	CERTISW.0030 Real time operatior	IS		
Step	Activity description	Expected Result	Obtained Result	Notes
S_01	User turns on a tracker configured according to TEST_CERTISW.0010 and	The red flag on the dashboard page turns green	As expected	
	TEST_CERTISW.0020	The related flight activity is created	As expected	
S_02	User carries out its mission	The Real Time tab show the trajectory on the map	As expected	
		The white console under the map shows the log of received box messages	As expected	
S_03	User clicks on the "Enable Magnet" button	Maps follows the tracked position centring the view on it	As expected	
S_04	User clicks on the "Disable Magnet" button	User can navigate the map again	As expected	
S_05	User turns off the tracker	The box status flag turns red	As expected	



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3.3.1 Test execution and results

S_01: Platform flags active device with a green light and creates an activity for the session data

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8	ITA-901670303	SIM UTM box		
Administrator Administrator				
Home				
C Users Management	ITA-9	01670303	SIM UTM box	
Configuration			_	
C Activities	Activities			
	ITA-901670303 A01	24 Oct 2023 Drone	s Beyond Bari Dry Run 🧪	
	ITA-901670303 A02	25 Oct 2023 Drone	s Beyond Bari channel inspection 🖍	
	ITA-901670303 A03	26 Oct 2023 Drone	s Beyond Bari Cars Accident 🖋	
	ITA-901670303 A04	21 Mar 2024 MAM G	orottaglie Runway Inspection 🖍	
	Realtime Acquisition	Report		
		FRANCE	KAZAKHISTAN Find address or pl	ace Q

Figure 3-7 New activity from an active device

S_02: User carries out their mission and log flows through the white console on the bottom



Figure 3-8 Trajectory is drawn on the map and log is showed in the box

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S_03: User can press the *Enable Magnet* button to make map follow the device trajectory



Figure 3-9 The Enable Magnet button allows to follow the trajectory

S_04: User can press the *Disable Magnet* button to stop following the device and freely move the map





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S_05: User turns off the tracker. Platform closes the activity and the status flag get red.

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8	ITA-901670303			
Administrator Administrator				
Home				
🟠 Dashboard				
C Users Management	ITA-90	01670303	SIM UTM box	
Configuration				
🖉 Activities	Activities			
	SIM GNSS tracker A01	17 Apr 2024 CERTIFLI	GHT TRR Prague 🧨	
	SIM UTM box A02	23 May 2024 🧳		
	SIM UTM box A03	30 Jul 2024 🧪		

Figure 3-11 The activity box is closed and the status flag turns red.

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3.4 REP_CERTISW.0035 UTM Activities Statistics

PROC_	CERTISW.0035 Activities statistics		PROC_CERTISW.0035 Activities statistics					
Step	Activity description	Expected Result	Obtained Result	Notes				
S_01	User log into the platform as in TEST_CERTISW.0010 and TEST_CERTISW.0020	User is on the dashboard page	As expected					
S_02	User clicks the "Activities" entry in the left sidebar menu	The activities pages are displayed	As expected					
S_03	User selects one of the activities from the left dropdown	The auto generated activities appear in the "Activities" dropdown	As expected					
S_04	Activity date and interested tracker are automatically filled by the platform	Activity date and tracker are fetched from the database and used in the form	As expected					
S_05	User applies the filter through the "Apply" button	Activity data is fetched from the database and populates the overview table and the map	As expected					

3.4.1 Test execution and results

S_01: Login as in PROC_CERTISW.0010

S_02, S_03: User selects an activity from the Activity page

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8	Activities	Date Activity GNSS Tracker	
Administrator Administrator	SIM UTM box A02	*	Apply Reset
Home	SIM GNSS tracker A01		
Dashboard Users Management	ITA-901670303 A04	Overview of the Campaign	Total OSNMA
Configuration	ITA-901670303 A02	10	
🖉 Activities	JTA-201670303 A01	3	
1	0 OSNMA>=3	87	
	0 OSNMA>=4	5	
	0 OSNMA>=5	2	

Figure 3-12 Activity page

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S_04, S_05: Activities data is filtered according to the selected activity

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Administrator Administrator	Q Activities SIM UTM box A02	÷	Dote Activity ONES T 23/05/2024	rocker TM box *	Apply Reset
Dashboard Users Management Configuration Activities	48 OSNMA>=1 48 OSNMA>=2	0	Overview of the Campaign		● Total ● OSHMA ⓒ ⓒ 역 중 ♠ ☴
	1 OSNMA>=3				
	1 OSNMA>=4	0	10 19		
	1 OSNMA>=5	Ó	6		
			4		

Figure 3-13 Activity filtering

3.5 REP_CERTISW.0040 Light Report Generation

PROC_	ROC_CERTISW.0040 Light Report generation					
Step	Activity description	Expected Result	Obtained Result	Notes		
S_01	User log into the platform as in TEST_CERTISW.0010 and TEST_CERTISW.0020	User is on the dashboard page	As expected			
S_02	From the "Activities" panel user selects the desired activity	The specific activity panel is showed	As expected			
S_03	In the "Report" tab user selects "Light Report" from the dropdown	The dropdown shows possible reports	As expected			
S_04	User opens and checks the "Introduction" section	The "Introduction" section shows up	As expected			
S_05	User opens and checks the "Responsibilities" section	The "Responsibilities" section shows up	As expected			
S_06	User opens and the "Certified Trajectory" section to select the map portion to include	The "Certified Trajectory" section shows up	As expected			
S_07	User clicks the "Select Screenshot Area" button to	Area can be selected on the map	As expected			

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	select the map portion to include			
S_08	User confirms their selection	The confirmation menu shows up	As expected	
S_09	User adds custom remarks in the "Remarks" section	The "Remarks" text area shows up	As expected	
S_10	User scrolls up and clicks on the "Generate Report" button to finalize and download the report	The report is generated and downloaded	As expected	Light Report and Full report are always generated with data previously accepted during data entry, ingestion or real time acquisition

3.5.1 Test execution and results

S_01: Login as in PROC_CERTISW.0010

S_02: User selects an activity from the platform dashboard

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Θ				
Administrator Administrator				
Home				
🙆 Dashboard	ITA-90	1670303	SIM UTM box	
C Users Management				
Onfiguration	Activities			
C Activities	ITA-901670303 A01	24 Oct 2023 D	rones Beyond Bari Dry Run 🖋	
	ITA-901670303 A02	25 Oct 2023 D	rones Beyond Bari channel inspection 🥕	
	ITA-901670303 A03	26 Oct 2023 D	rones Beyond Bari Cars Accident 🖋	
	ITA-901670303 A04	21 Mar 2024 M	AM Grottaglie Runway Inspection 🎤	

Figure 3-14 Activity list from dashboard

S_03: User selects "Light Report" from the Report tab

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8	-			
Administrator Administrator				
Home				
	ITA-901670	0303	SIM UTM box	
S Users Management				
Configuration	Activities			
🖉 Activities	ITA-901670303 A01	24 Oct 2023	Drones Beyond Bari Dry Run 🖋	
	Realtime Acquisition	Report		
	Type Report			
	Full Report			
	Light Report	25 Oct 2023	Drones Beyond Bari channel inspection 🖋	
	ITA-901670303 A03	26 Oct 2023	Drones Beyond Bari Cars Accident 🎤	
	ITA-901670303 A04	21 Mar 2024	MAM Grottaglie Runway Inspection 🎤	

Figure 3-15 Report type selection

S_04, S_05, S_06: User revises data in the report sections

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8		TA-901670303 A01 Realtime Acquisition	24 Oct 2023 Report	Drones Beyond Bari Dr	y Run 🖍		
Administrator Administrator		Type Report Light Report	CERT_REP_LIGHT		teport		
 Dashboard Users Management Configuration Activities 		Introduction The Certiflight platform of UAS and GA dircraft, a The core of the system i with an OSNMA Galileo/ the origin, without the p Tracking information is permanently stored by	offers a digital service for specially for safety-critics s a Digital EGNSS/IoT Devic EGNOS enabled receiver, a ossibility to be counterfeit encrypted (standard ISO 2 automation software to ar	he generation of certi il and commercially v le installed on UAS and apable to guarantee t id or spoofed. 3629-9) and once trai u unalterable blockcho	fied reports of flight tracks and aluable applications. I General Aviation manned air he authenticity of their positio nsmitted to the Certiflight platt in private node.	I the flight logs craft, equipped n information at form is	
		Responsibilities Certified Trajectory				~	
		Statistics Remarks				~	

Figure 3-16 Introduction section of the Light Report

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certi flight	≡ Q	Introduction				# ₽ [°] 8
8		Responsibilities				
Administrator Administrator		GNSS Tracker				
🙆 Dashboard		Name	Code	Description	UAS	
8 Users Management		ITA-901670303		ITA-901670303	DJI Mavic 2	
Configuration						
🖉 Activities		Drone				
		Name Model	мтом	s/n uas	Pilot	
		DJI Mavic 2	10 kg	343243333	Simone Maurizi	
		Pilot				
		First Name Last Name	Fiscal Code	Email	Remote Pilot License Id Licens	e
		Cimono Maurizi	MD7CMN01A12M002L	simono maurizi@thooaranro	iootou Diaaa inaaaa	



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<pre> certiflight ≡ q </pre>		# ■ ⁰ ⊗
Administrator Administrator tome Configuration Configuration Configuration	Introduction Responsibilities Certified Trajectory This section includes data gathered from the GNSS tracker ITA-901670303 in a mission executed in 2023- Select screenshot are Via track Via tr	10-24 Warconi Powered by Exr

Figure 3-18 The Certified Trajectory section in the Light Report

S_07, S_08: User can select the map area to visualize in the report

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Figure 3-19 Map area selection for the report



Figure 3-20 Map area confirmation

S_09: User can add final custom remarks to the report

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	Type Report		Generate Report	
3	Light Report	CERT_REF_LIGHT		
	Introduction			~
dministrator Administrator	Responsibilities			~
ne	Certified Trajectory			~
🚡 Dashboard	Statistics			
Configuration	Remarks			^
C Activities	Some custom remarks by	the drone operator		4
	Save Remarks			
	ITA-901670303 A02	25 Oct 2023	Drones Beyond Bari channel inspection 🎤	
	ITA-901670303 A03	26 Oct 2023	Drones Beyond Bari Cars Accident 🖍	
	ITA-901670303 A04	21 Mar 2024	MAM Grottaglie Runway Inspection 🧨	

Figure 3-21 Report Remarks section

S_10: User generates the report

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8		
Administrator Administrator		
Home	ITA-901670303 SIM UTM box	
🙆 Dashboard		
Ousers Management	Activities	
Ocnfiguration	ITA-901670303 A01 24 Oct 2023 Drones Beyond Bari Dry Run 🖍	
2 Activities	Realtime Acquisition Report	
	Type Report Light Report CERT_REP_LIGHT Generate Report	
	Introduction	~
	Responsibilities	~
	Certified Trajectory	~
	Statistics	~
	Remarks	^



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3.6 REP_CERTISW.0050 Data Acquisition

PROC_	CERTISW.0050 Data Acquisition	L		
Step	Activity description	Expected Result	Obtained Result	Notes
S_01	User log into the platform as	User is on the	As expected	
	IN TEST_CERTISW.0010 and TEST_CERTISW.0020	dashboard page		
S_02	From the "Activities" panel user selects the desired activity	The specific activity panel is showed	As expected	
S_03	From the "Acquisition" tab user selects the "Upload" button	The file upload window shows up	As expected	The following files are allowed to be ingested in the platform: IMU file (.csv) GNSS file (.sbf) Event file (.evt) Photo(s) (.jpg) APP file (.csv) GSD file (.csv) PDF file (.pdf) Each file (type1 to 4) will be verified in integrity with the public key
S_04	User selects file to upload in the report, i.e.	File is uploaded on the portal	As expected	
	IMU.csv .sbf	File is showed in a tabular way	As expected	
	EVT.txt photo folder	EVT.txt file is processed and a dedicated notice appears	As expected	 Following use cases are experienced as a dedicated notice alert appears Success. Correctly imported x events of x read Warning. Imported y events of x read (y<x)< li=""> Error. wrong signature (No data is uploaded) </x)<>

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S 04	CEPTIELICHT operator	Filo is uploaded	Acovported	
3_04			As expected	
	selects file to upload after	on the portal		
	processing i.e.	File is showed in a	As expected	
	APP.csv	tabular way		
	GSD.CSV	Files are processed and a dedicated notice appears	As expected	 Following use cases are experienced as a dedicated notice alert appears Success. Correctly imported x positions of x read Warning. Imported y positions of x read (y<x)< li=""> Results (augmentation and spoofing check) appear when final full report is exported (see REP_CERTISW.060) </x)<>



3.6.1 Test execution and results

S_01 as in PROC_CERTISW.0010

S_02 as in PROC_CERTISW.0040

S_03, S_04, S_05: Additional data upload from the UTM Box



Figure 3-23 File upload for the report

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	Name		Date Modified	 ✓ Size 	Kind
Administrator Administrator	flight.data.jpg		Today at 00:16	Zero bytes	JPEGIN
Home	×				
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 S osers management 					The all
Configuration					CHINA
🖉 Activities					at a barrent h
				×	MYANMAR (BUEMA)
	Show Options			Cancel Ope	
		NIGERIA	ETHIOPIA		
		на сожо	TANZANIA		INDONESIA
		ANGOLA			
	2,000 km	NAMIRIA			

Figure 3-24 File selection for the file upload

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8		Туре	Ţ				
Administrator Administrator						Reset	
Home		Name	Туре	Thumbmail	Date	Actions	
Dashboard Users Management		log	SEPTENTRIO	G	24 Sep 2024 21:42:40	<u>+</u>	
ConfigurationActivities		log	SEPTENTRIO	GSV	24 Sep 2024 21:42:40	*	
		EVT	EVENT	GSV	24 Sep 2024 20:54:10	ŧ	
		2_DJI_0057	IMAGE		17 Sep 2024 15:59:45	<u>*</u>	
		3_DJI_0055	IMAGE		17 Sep 2024 15:59:09	±	
					1 – 5 o	7 < >	

Figure 3-25 Successful upload of UTM Box additional data

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8		
User User Verme Home Dashboard Vers Management Configuration Configuration Configuration	Prefetid Image: Series and Seri	
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Figure 3-26 unsupported file (.docx not selectable) compared to a supported file (.pdf is selectable) in the file explorer window

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Figure 3-27 EVT file analysis notice

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3.7 REP_CERTISW.0060 Full Report Generation

PROC_	ROC_CERTISW.0060 Full Report generation					
Step	Activity description	Expected Result	Obtained Result	Notes		
S_01	User log into the platform as in TEST_CERTISW.0010 and TEST_CERTISW.0020	User is on the dashboard page	As expected			
S_02	From the "Activities" panel user selects the desired activity	The specific activity panel is showed	As expected			
S_03	In the "Report" tab user selects "Full Report" from the dropdown	The dropdown shows possible reports	As expected			
S_04	User opens and checks the "Introduction" section	The "Introduction" section shows up	As expected			
S_05	User opens and checks the "Responsibilities" section	The "Responsibilities" section shows up	As expected			
S_06	User opens and the "Certified Trajectory" section to select the map portion to include	The "Certified Trajectory" section shows up	As expected			
S_07	User clicks the "Select Screenshot Area" button to select the map portion to include	Area can be selected on the map	As expected			
S_08	User confirms their selection	The confirmation menu shows up	As expected			
S_09	User adds custom remarks in the "Remarks" section	The "Remarks" text area shows up	As expected			
S_10	User scrolls up and clicks on the "Generate Report" button to finalize and download the report	The report is generated and downloaded	As expected	Light Report and Full report are always generated with data previously accepted during data entry, ingestion or real time acquisition		



3.7.1 Test execution and results

S_01: Login as in PROC_CERTISW.0010

S_02: User selects an activity from the platform dashboard

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Home Dashboard Nusers Management Orangement Configuration	Activities	901670303	SIM UTM box	
🖉 Activities	ITA-901670303 A01 ITA-901670303 A02	24 Oct 2023 Drones t 25 Oct 2023 Drones t	Beyond Bari Dry Run 🖋	
	ITA-901670303 A03	26 Oct 2023 Drones f 21 Mar 2024 MAM Gro	Beyond Bari Cars Accident 🖍	

Figure 3-28 Activities list from dashboard

S_03: User selects "Full Report" from the Report tab

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Administrator Administrator					
🙆 Dashboard	0109-ATI	70303		SIM UTM box	
Users Management Configuration	Activities	•			
C Activities	ITA-901670303 A01 Realtime Acquisition	24 Oct 2023 Report	Drones Beyond Bari Dry Run 🖋		
	Type Report				
	Full Report				
	Light Report	25 Oct 2023	Drones Beyond Bari channel inspection	on 🥕	
	ITA-901670303 A03	26 Oct 2023	Drones Beyond Bari Cars Accident 🖉	¢	
	ITA-901670303 A04	21 Mar 2024	MAM Grottaglie Runway Inspection	p ⁶	

Figure 3-29 Report type selection

S_04, S_05, S_06: User revises data in the report sections

certi flight	≡ Q					#	
8	ŗ	TA-901670303 A01 Realtime Acquisition	24 Oct 2023 Report	Drones Beyond Bari D	ry Run 🧨		
Administrator Administrator		Type Report Light Report	CERT_REP_LIGHT				
 Dashboard Users Management Configuration Activities 		Introduction The Certiflight platform of UAS and GA aircraft, of The core of the system with an OSNMA Galileo/ the origin, without the p Tracking information is permanently stored by	offers a digital service for specially for safety-critic s a Digital EGNSS/IoT Devi EGNOS enabled receiver, ossibility to be counterfeit encrypted (standard ISO 2 automation software to a	the generation of cert al and commercially u ce installed on UAS ar capable to guarantee ed or spoofed. 23629-9) and once tro n unalterable blockch	ified reports of flight tracks valuable applications. Id General Aviation manne the authenticity of their po unsmitted to the Certiflight ain private node.	and the flight logs ad aircraft, equipped sition information at platform is	
		Responsibilities Certified Trajectory				* *	
		Statistics Remarks				* *	



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(3)	Responsibilities				► ^
Administrator Administrator	GNSS Tracker				
Ca Dashboard	Name	Code	Description	UAS	
A Users Management	ITA-901670303		ITA-901670303	DJI Mavic 2	
Configuration					
🖉 Activities	Drone				
	Name Model	МТОМ	s/n uas	Pilot	
	DJI Mavic 2	10 kg	343243333	Simone Maurizi	
	Pilot				
	First Name Last Name	Fiscal Code	Email	Remote Pilot License Id Licer	nse
	Cimono Maurizi	MD7CMM01412M0091	simono.maurisi@thosaranza	ioot ou Diazaz	

Figure 3-31 The responsibilities section in the Full Report



Figure 3-32 The Certified Trajectory section in the Full Report

S_07, S_08: User can select the map area to visualize in the report

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Figure 3-33 Map area selection for the report



Figure 3-34 Map area confirmation S_09: User can add final custom remarks to the report

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3	Light Report	CERT_REP_LIGHT	Generate Report	
	Introduction			~
dministrator Administrator	Responsibilities			~
ne	Certified Trajectory			~
Dashboard	Statistics			· ·
Configuration	Remarks			~
2 Activities	Some custom remarks by	the drone operator		4
	Save Remarks			
	ITA-901670303 A02	25 Oct 2023	Drones Beyond Bari channel inspection 🖋	
	ITA-901670303 A03	26 Oct 2023	Drones Beyond Bari Cars Accident 🖍	
	ITA-901670303 A04	21 Mar 2024	MAM Grottaglie Runway Inspection 🖍	

Figure 3-35 Report Remarks section

S_10: User generates the report

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٨		
Administrator Administrator	ITA-901670303 SIM UTM box	
Dashboard Users Management	Activities	
ConfigurationActivities	ITA-901670303 A01 24 Oct 2023 Drones Beyond Bari Dry Run Realtime Acquisition Report	
	Type Report CERT_REP_LIGHT Generate Report	
	Introduction	~
	Responsibilities	~
	Certified Trajectory	~
	Statistics	~
	Remarks	^



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24/09/2024 07:29 Lat, Lon: 50.094249 14.430470 Augmented: Y Spoofed: Total sats: 15 Galileo auth sats: E15,E12,E10,E36,E24 Ground speed: 5.0 m/s Ground heading: 260.9 degrees



24/09/2024 0	7:30				
Lat, Lon:	50.09	4170	14.42	7019	
Augmented:		Y			
Spoofed:		Y			
Total sats:		15			
Galileo auth s	ats:	E10,E	19,E34	,E11,E03	
Ground spee	d:	5.0	m/s		
Ground head	ing:	350.9	degr	ees	
	24/09/2024 0 Lat, Lon: Augmented: Spoofed: Total sats: Galileo auth s Ground speed Ground head	24/09/2024 07:30 Lat, Lon: 50.09 Augmented: Spoofed: Total sats: Galileo auth sats: Ground speed: Ground heading:	24/09/2024 07:30 Lat, Lon: 50.094170 Augmented: Y Spoofed: Y Total sats: 15 Galileo auth sats: E10,E Ground speed: 5.0 Ground heading: 350.9	24/09/2024 07:30 Lat, Lon: 50.094170 14.42 Augmented: Y Spoofed: Y Total sats: 15 Galileo auth sats: E10,E19,E34 Ground speed: 5.0 m/s Ground heading: 350.9 degr	24/09/2024 07:30 Lat, Lon: 50.094170 14.427019 Augmented: Y Spoofed: Y Total sats: 15 Galileo auth sats: E10,E19,E34,E11,E03 Ground speed: 5.0 m/s Ground heading: 350.9 degrees



Figure 3-37 Full Report document sample (including APP. And GSD algorithm results)

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3.8 REP_CERTISW.0070 Integrity of Certiflight data – Valid Dataset

PROC_CERTISW.0070 Integrity of Certiflight data – Valid dataset				
Step	Activity description	Expected Result	Obtained Result	Notes
S_01	At least one between	User has a light	As expected	
	TEST_CERTISW.0040 and/or	or full report		
	TEST_CERTISW.0060 was executed			
S_02	User scans one of the QR from the	User is	As expected	The QR
	report	redirected to		code
	(<u>link</u>)	the verification		contains
		portal		the
				reported
				link
S_03	User obtains a successful validation	Integrity data	As expected	
	page	are displayed		
		(blockchain		
		transaction(s))		

3.8.1 Test execution and results

S_03: The Verification Portal declares result as valid if it was included in the blockchain



Figure 3-38 A valid flight dataset on the Verification Portal

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3.9 REP_CERTISW.0080 Integrity of Certiflight data – Invalid Dataset

PROC_CERTISW.0080 Integrity of Certiflight data – Invalid dataset				
Step	Activity description	Expected Result	Obtained	Notes
			Result	
S_01	User scans a QR from an unverified	User is redirected to	As expected	The QR
	origin or makes a mistake in the URL	the verification portal		code
	(<u>link</u>)			or
				untrust
				ed
				origin
				contai
				ns the
				report
				ed link
S_02	User obtains a failed validation page	User can recognize	As expected	
		the invalid/fake data		

3.9.1 Test execution and results

S_02: The Verification Portal shows a failure if the provided data was never included in the blockchain during a flight activity



Figure 3-39 Verification Portal in the case of an invalid flight dataset

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