

DockWatch Trailer

Mobile Drone Autonomy



DockWatch Trailer – Technical Specifications

System Overview

AC Unit	1x
Waveshare Router	1x
Tplink Router	1x
Brain-Box	1x
Relay Box	1x
UI Control Box	1x
Aviation Receiver	1x
Solar Panel	3x
Camera	2x

Trailer Data

Specification	Value
Weight (With DJI Dock 3)	~365 kg
Tire Size	145/80 R13
Internal Length	211 cm
Internal Width	126 cm
Floor Height	49 cm
Drawbar Length	96 cm
Length	319 cm
Width	171 cm
Height (Closed)	136 cm
Height (Open)	329 cm



Construction

Item	Specification
Frame	Hot-dip galvanized steel chassis
Body	Lightweight aluminum enclosure panels
Lid	Hinged top with integrated lift-assist gas struts
Floor	Anti-slip reinforced plywood
Wheel Arches	Heavy-duty polymer type
Drawbar	V-shaped design for optimal towing stability

Axle and Suspension

Item	Specification
Configuration	Single torsion axle
Suspension	Independent, low-maintenance design
Wheel Size	13-inch
Tires	Standard road-rated, 145/80 R13

Coupling and Support

Item	Specification
Coupling Type	50 mm ball-type hitch
Support Wheel	Adjustable jockey wheel with clamp
Support Leg	1x Standard, 4x Optional (Expansion)
Parking Brake	Mechanical braking system

Lighting and Safety

Item	Specification
Lighting System	12 V integrated LED lighting
Safety Cable	Emergency breakaway system
Reflectors	Front, side, and rear compliant reflectors

Integrated Solar Energy System

Specification	Value
Rated Power Output	160 W
Cell Type	Monocrystalline
Nominal Voltage	12 V
Dimensions (L × W)	3 x 117 × 68 cm
Weight	3 x 3 kg
Mounting	Adhesive or modular bracket mount
Integration	Direct coupling to onboard power controller



Integrated Wireless Network System

Specification	Value
Wireless Standard	WiFi 6 (IEEE 802.11ax)
Frequency Bands	2.4 GHz / 5 GHz
Maximum Throughput	1.75 Gbit/s
Operating Modes	Access Point / Repeater / Router / Bridge
Power Input	PoE
Antenna Setup	4 external omnidirectional antennas
Interface	1 × RJ45 LAN (10/100/1000 Mbit/s)
Number of LAN Ports	1 × Gigabit LAN
Enclosure Size (W × H × D)	240 × 240 × 72 mm
Weight	~2.5 kg
Region Version	EU-compliant network module

Aviation Receiver

Specification	Value
Protocols	ADS-B, FLARM, OGN, Drone Remote ID
ADS-B Range	Up to 500km (Line-of-Sight dependent)
FLARM / OGN / ADS-L Range	Up to 50km (Line-of-Sight dependent)
Drone Remote ID Range	Up to 3km (Line-of-Sight dependent)
RF Sensitivity	-93 to 0 dBm
Timing Accuracy	<50 ns (GNSS Locked)

Camera System

Specification	Value
Display Resolution	4MP (2560x1440)
Frame Rate	20
Optical Zoom	4x
Field of View	Diagonal: 42.6° ~ 90.5° Horizontal: 37.5° ~ 77.7° Vertical: 21.2° ~ 43.4°
Night Vision	IR range up to 20 m, 2 IR LEDs
Weather Resistance	IP66
Dimensions	108 x 108 x 102 mm



Cellular Standards & Bands

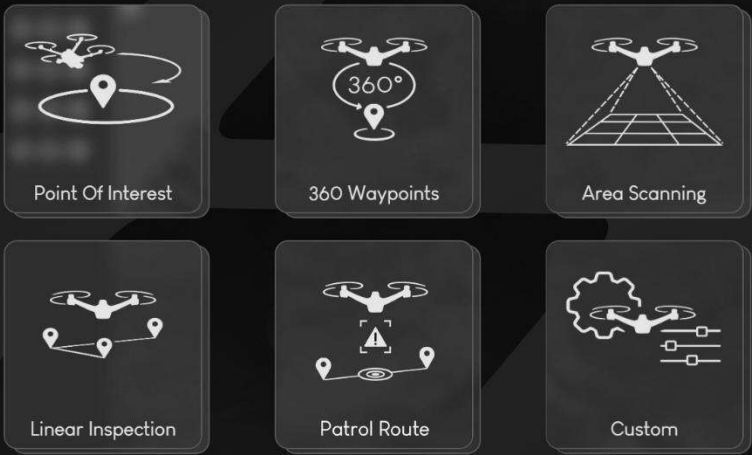
Specification	Value
LTE (TDD/FDD)	Bands 1–28, 34–41, 66
3G / UMTS / HSPA+	Bands 1, 2, 4, 5, 6, 8, 19
2G / GSM / EDGE	850 / 900 / 1800 / 1900 MHz

Data Performance

Specification	Value
LTE CAT 4	Uplink ≤50 Mbps Downlink ≤150 Mbps
HSPA+	Uplink ≤5.76 Mbps Downlink ≤42 Mbps
UMTS	Uplink ≤384 Kbps Downlink ≤384 Kbps
EDGE	Uplink ≤236.8 Kbps Downlink ≤236.8 Kbps
GPRS	Uplink ≤85.6 Kbps Downlink ≤85.6 Kbps

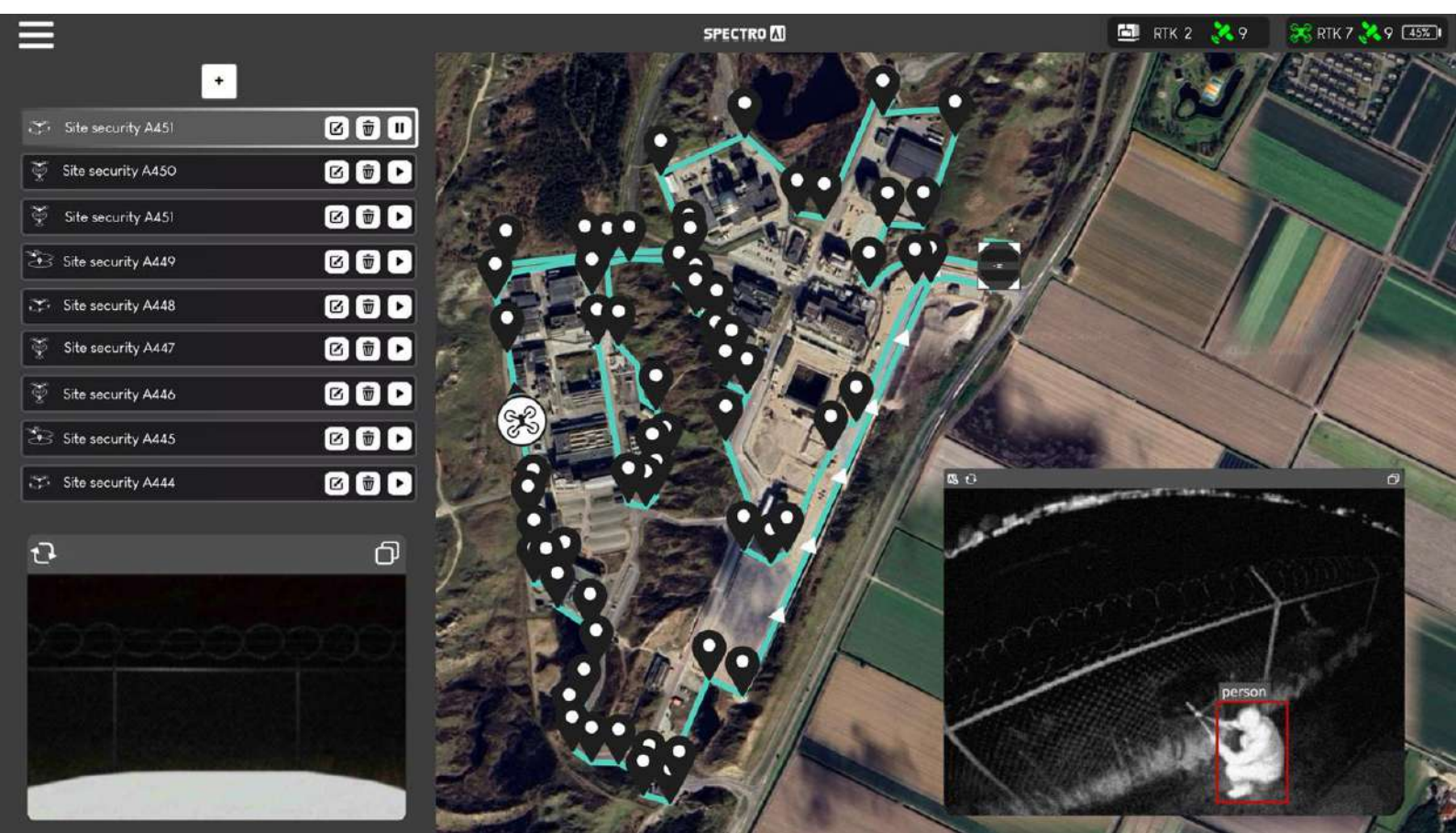
GNSS (Positioning)

Specification	Value
Receiver Type	16-channel
Tracking Sensitivity	-159 dBm
Cold Start Sensitivity	-148 dBm
TTFF (Cold Start)	< 35 s
TTFF (Hot Start)	< 1 s
Position Accuracy	< 2.5 m CEP



Software

Specification	Value
Dock Compatibility	DJI Dock 2 & 3
System Access	Local Network or Web-Based
Platform	Desktop, Tablet
Autonomous Flight Modes	Point of Interest 360 Waypoints Area Scanning Patrol Scanning Linear Inspection Custom
Manual Flight mode	Keyboard Command Interface
Mission Management	Mission Planner & Scheduler
Navigation Security	Geofencing, No-Fly Zones, Obstacle Avoidance
Visual Monitoring System	Low-latency Live Streaming
Algorithms	20+ Algorithms for People, Vehicles, and Other Relevant Objects
Data Management	Local, External Drive or Cloud Based Storage
Maintenance	Remote Firmware Updates, Trailer/ Dock Diagnostics



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