

# Autel Alpha Tracer

## UAV Pilot Positioning Solution

The UAV pilot positioning solution aims to address the challenge of detecting UAV pilots in scenarios without broadcast protocols (Drone ID and Remote ID). By mounting high-precision radio direction-finding equipment on UAVs, it horizontally and vertically triangulates the target signal source (UAV controller) in the air, determining potential target areas and displaying them on a map. Visual searching of target areas combined with AI recognition assists in discovering UAV pilots. Additionally, the Autel Alpha is equipped with anti-radio interference capabilities and stable flight navigation without GNSS, ensuring the solution's stable operation in complex radio environments.



## Pain Points



### Rogue UAVs Are Disrupting the Skies

Unauthorized UAVs are flying into restricted airspace, threatening flight safety, public safety, and critical infrastructure.



### Illegal Operators Use Stealth to Avoid Detection

Many rogue UAV pilots use tricks like signal hopping or turning off GNSS to hide from tracking systems. This makes it hard for traditional radar or visual systems to locate them quickly.



### Hard to Catch, Hard to Prove

After a UAV crash, pilots often run away, and the UAV itself can't prove who flew it. Without live tracking or behavior logs, law enforcement faces serious challenges.



### Signal Jammers Cause Major Problems

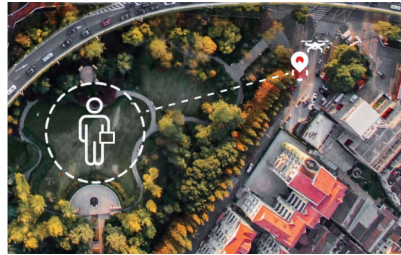
Ground-based jamming devices interfere with normal UAV operations. They're small and hidden, making them hard to find and stop—but they can seriously affect safe flights.

## Business Value



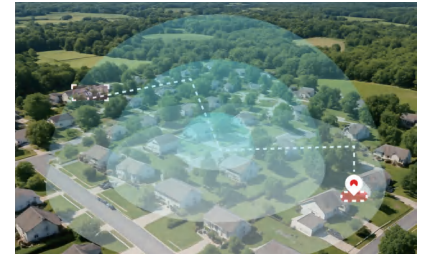
### Expanded Coverage, Broader Detection

- Supports detection of UAVs from top global brands
- 3 km operational range for wide-area scanning
- Locates concealed signal disruptors in UAV frequency ranges



### Clear Benefits for Public Safety

- Much higher chances of finding rogue pilots
- Fewer illegal UAV incidents in key areas
- Lower risk of airspace accidents



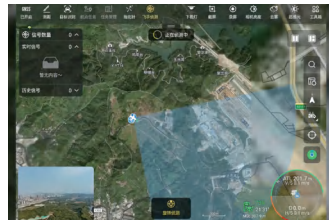
### Smarter Tools for Law Enforcement

- Find rogue pilots early and prevent escapes
- Support fast, targeted enforcement response
- Detect illegal jammers to protect mission safety

## Autel Alpha Tracer Workflow



**01** Our UAV takes off with a radio frequency detector device.



**02** It scans wide areas for suspicious signals.



**03** If anything strange is found, the UAV flies closer to investigate.



**04** It finds the rogue pilot and shares their location instantly.

## Recommended Products



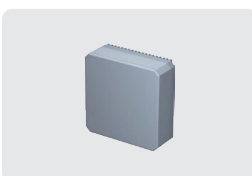
### Autel Alpha

AI Target Recognition and Positioning | No Blind Spots | High-precision Visual Navigation | 15 km Transmission Range



### Fusion 4TH

48MP | 160x Max. Hybrid Zoom  
640x512 Thermal Camera | Laser Rangefinder



### Tracer Air Radio Detection Device

Pilot positioning | Interference source positioning | 3 km Detection distance | ≥6 Simultaneously detect quantity



### Autel Smart Controller V3

Max. 2000nits Brightness | 4 Hours Operating | 128GB Internal Memory | Multi-Port Output

# Specifications

Aircraft			
Empty Weight	5478 g (Smart battery, propellers included, Tracer Air and gimbal excluded)		
Weight	6630 g (Smart battery, gimbal, propellers and Tracer Air included)		
Maximum Take-Off Mass (MTOM)	8400 g	Maximum Wind Speed Resistance	12 m/s
Fuselage Dimensions	1205×980×278 mm (unfolded, incl. propellers)	Maximum Service Ceiling Above Sea Level	4500 meters
	780×568×278 mm (unfolded, excl. propellers)	Operating Temperature	-20°C to 50°C
	455×263×248 mm (folded, excl. propellers)	IP Rating	IP55
Maximum Flight Time (Windless, Speed: 10.5 m/s)	40 mins (Tracer Air Excluded); 33 mins (Tracer Air Included)	GNSS	GPS+Galileo+BeiDou+GLONASS
Maximum Range	30 km (with carbon fiber propeller)	Operating Frequency	900M; 2.4G
	27.5 km (with injection molded propeller)		5.2G; 5.8G
Tracer Air Radio Detection Device			
Size	130×120×68 mm (holding bracket excluded)	Protection Rating	IP65
Weight	745g (holding bracket excluded); 808 g (holding bracket included)	Scanning Frequency Bands	2.4G/5.2G/5.8G
Operating Temperature	-20°C to 50°C	Detection Number	Up to 6 target sources at the same time
Gimbal			
Dimension	148.1×82×87.6 mm	IP Rating	IP43
Weight	344 g	Operating Temperature	-20°C to 50°C
Zoom Camera			
Image Sensor	1/2" CMOS. Effective pixels: 48M	Shutter Speed	Shooting: 0.5s ~ 1/8000s; Recording: 1/30s ~ 1/8000s
Lens	Focal length: 11.8 mm – 43.3 mm	Digital Zoom	1- 3.7x continuous Optical zoom, 59.2x Digital zoom; linked zoom supported
	35 mm equivalent focal length: 64 - 234 mm	Photo Size	JPG: 3840×2160
	Aperture: F2.8–F4.8	Video Resolution	3840×2160@30fps
	Focus: 2 m ~ ∞	Video Format	MP4
ISO Range	Auto: ISO100 – ISO6400	Video Encoding	H.264/H.265
	Manual: ISO100 – ISO6400	Supported File Systems	exFAT/Fat32
Wide Angle Camera			
Image Sensor	1/2" CMOS. Effective pixels: 48M	Shutter Speed	Shooting: 0.5s ~ 1/8000s; Recording: 1/30s ~ 1/8000s
Lens	DFOV: 84°	Zoom	1-16x Digital Zoom; linked zoom supported
	Focal length: 4.49 mm	Photo Format	JPG: 4000×3000
	Equivalent focal length of 35 mm: 24 mm	Video Resolution	4000×3000@30fps
	Aperture: F2.8; Focus: 0.5m ~ ∞	Video Format	MP4
ISO Range	Auto/Manual: ISO100 – ISO6400	Video Encoding	H.264/H.265
	Night Mode: ISO100 – ISO320000 (Video)	Supported File Systems	exFAT/Fat32
Infrared Thermal Imaging Camera			
Image Sensor	Uncooled VOx Microbolometer	Zoom	1-16x digital zoom; linked zoom supported
Lens	FOV: 61°; Focal length: 9.1 mm	Temperature Alert	In area temperature measurement, support high and low temperature alarm thresholds, reporting coordinates and temperature values
	Aperture: F1.0; Focusing distance: 2.2 m ~ ∞		
Sensitivity	≤50mK@25°C, F#1.0	Photo Size	640×512
Pixel Pitch	12um	Video Resolution	640×512@25fps
Wavelength	8 - 14um	Video Format	MP4
Radiometric Measurement Method	Center temperature measurement/Pot temperature measurement/Area temperature measurement		
Radiometric Temperature Range	-20°C to 150°C (high gain mode); 0 to 550°C (low gain mode)		
Radiometric Measurement Accuracy	±2°C or reading ±2% (using the larger value) @ ambient temperature ranges from -20°C to 60°C		
Accurate Temperature Measurement Distance	5 m		
Palette	White Hot/Black Hot/Ironbow/Rainbow/Rainbow HC/Lava/Arctic/Searing/Gradation/Heat Detection		
Photo Format	JPG (the images contain temperature information and are parsed by dedicated SDK and PC tools)		
Laser Rangefinder			
Wavelength	905 nm	Measuring Range	5 - 1200 m
Measurement Accuracy	± (1m+D*0.15%) where D is the distance to a vertical reflecting plane		