



Take your Surveillance
& Combat operations
to the next level with
EDGE-SHIKRA

More reliability with increased
Artificial Intelligence

JS-SHIKRA nano drone is a super lightweight nano-unmanned aerial vehicle (UAV) developed by EDTC partners for Surveillance and all terrain Combat operations

Why EDGE SHIKRA ?

EDGE- SHIKRA | Nano Drone

SHIKRA is a multi role Nano Drone which has the capability to perform multiple tasks equips the non-specialist dismounted soldier with immediate covert situational awareness (SA).

The SHIKRA will be further developed for collecting data in the battlefield and also as a listening device. It helps the soldiers to receive warnings about the enemy movements and fortifications without sending an alert signal to the other side.

It can also be used for patrol and mapping as the system has the capability to carry out pre-planned missions and fly in fully autonomous mode.

The SHIKRA can be used in urban areas due to its small footprint and the use of cellular networks allows the drone to overcome the challenge of RF disruption in urban environments

Game-changing EO and IR technology bridges the gap between aerial and ground-based sensors, with the same SA as a larger UAV and threat location capabilities of UGVs. Extremely light, nearly silent, and with a flight time up to 35 minutes, the combat-proven, pocket-sized SHIKRA transmits live video and HD still images back to the operator

SHIKRA is

- An advanced Intelligent Nano Aerial Vehicle.
- And operates based on EO & IR along with AI Technology.
- Squad-level immediate covert situational
- covert airborne sensor AWARENESS
- beyond visual line-of-sight capability

SHIKRA is equipped with counter-countermeasures and can be customized based on user requirement including color scheme, custom payloads and capabilities

It's fully autonomous drone can be easily launched from hand, ground or vehicle. It's tiny size makes it difficult to be differentiated from birds, when operating at a certain altitude.

The SHIKRA - UAV ability to operate in uncompromising weather conditions, can be used for a range of missions including reconnaissance, surveillance and target acquisition. It serves as a soldier's eye around corners or over the hills, capable of transmitting high-definition images or real-time footage over a distance of more than 2km

SHIKRA can simultaneously transmit data to multiple devices such as mobile phones, laptops, tablets and Android Team Awareness Kit (ATAK). The ready to swarm drone comes with the GPS follow the leader capability and can be integrated with advanced algorithms and fitted with high-resolution camera and can be equipped with infrared detection system.

Its camera combinations that allow for panoramic images to be taken at a relatively high altitude, and a thermal camera for night vision can be attached

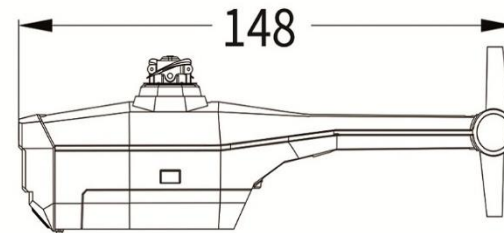
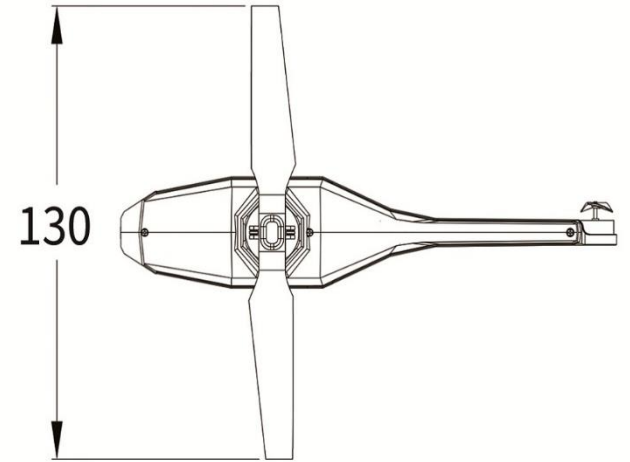
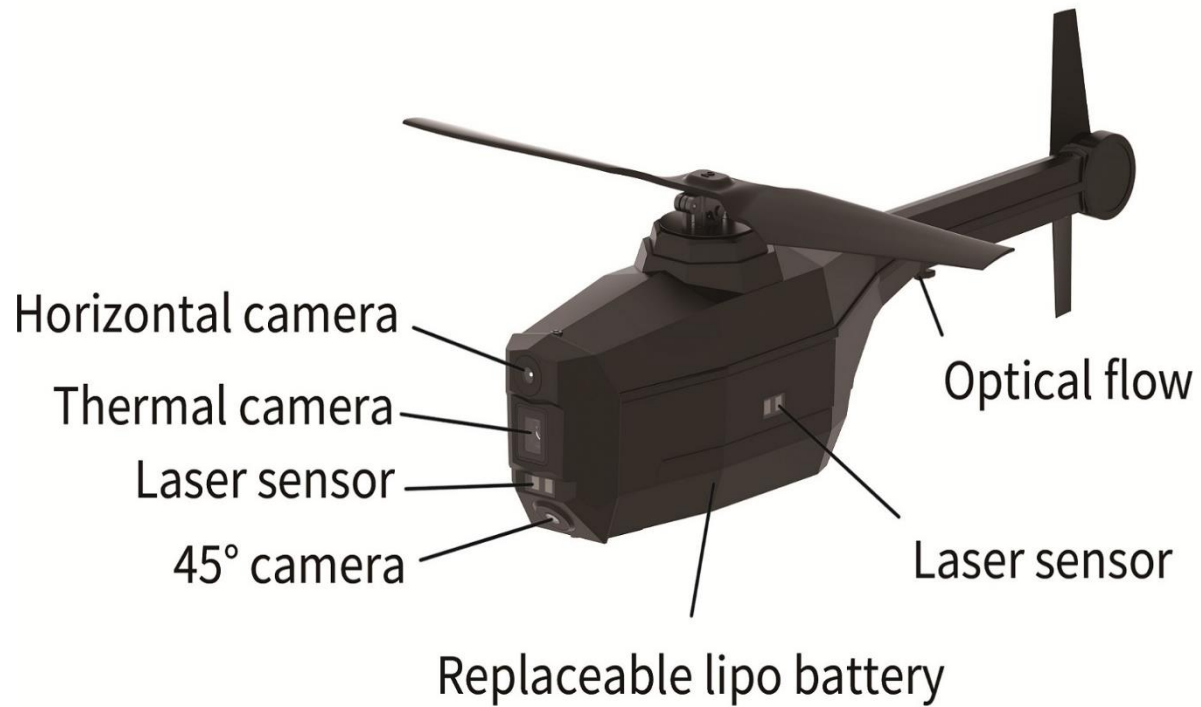
The Design and features of Shikra nano UAV, similar to that of a smartphone. It features four robust rotors which allow it to fly in severe weather conditions including strong winds, sand storms

The fist-sized drone can be easily transported in a box which can accommodate two Shikra UAVs, four battery packs and one JS controller with antennas and accessories

The autopilot mode can be switched from local pilot to remote pilot based on the flight operation envelope. Irrespective of the flight direction

SHIKRA can direct the camera to a fixed position and offers immediate full HD situational awareness that allows the pilot as well as other operators in the network to accomplish missions more effectively as the system broadcasts data to multiple command and control platforms.

SHIKRA BASELINE DESIGN - *(conceptual)*



SHIKRA PROPOSED SPECIFICATION

STRUCTURE

Wing span.

130 mm (4.8 in)

Length

149 mm (5.4 in)

Weight

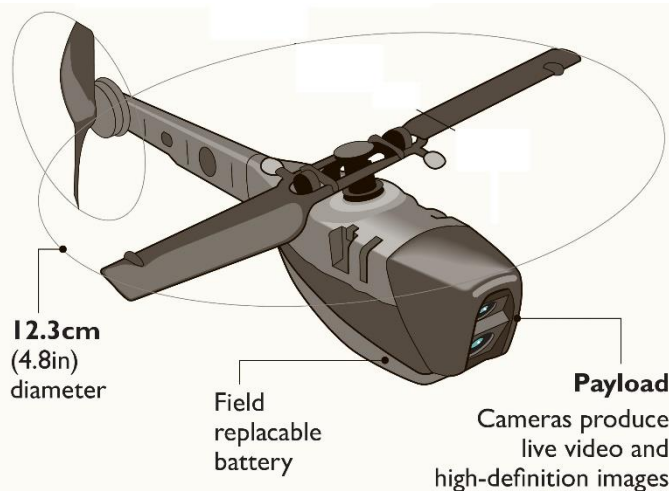
35 Gms

Material

Composite

Rotor Diameter

123 mm



PERFORMANCE

Max Speed

35 KMPH

Economical Speed

28 KMPH

Endurance

35 Minutes

Radio Range

2 km

Launch/Recovery

Automatic return
Lost Link mode

Wind Resistance

30 kmph

Operating Temperature

-10 to +55 C

FEATURES

Communication

Radio

Data Link

Dynamic power, frequency hopping, beyond line of sight
Resolution

Payloads

2 EO/IR

1 Thermals Camera

Horizontal Camera

Video : 1280x1024 @30 fps,
1280x720@30 fps, 640x480@30 fps
Snapshot: 2560 x 1920

45° Camera:

Video: 1280x1024@30 fps,
1280x720@30 fps, 640x480@30fps
Snapshot:1600x1200

•Thermal camera:

Video: 160x120

Snapshot:

160x120Communication
Intelligence Field replace battery

FLIGHT MODES

Flight modes:

Auto and Manual Hover & Stare
Route and user selectable
waypoint actions
Automatic return when lost link
Navigation GPS and GPS denied

Indoor capability:

4 sides laser sensor can detected
obstacle and avoiding
Optical flow for precise hovering

Mission Data encrypted:

SNOW, AES, ZUC
Launch Time :45-120 Seconds
depending on launch mode

ADDITIONAL FEATURES

EDGE
DEFENSE



Automatic flight along the desired track with real-time imagery transmission to the ground control station.

- Extremely covert Nano UAV system
- Extremely low visual and audible signatures.
- Circular flight around the desired point fixating the camera on the object of interest and hovering over it.
- Expand visual range in complex and urban environments Rapidly engage targets beyond visual line-of-sight, and conduct real-time weapon effectiveness assessment
- Save lives and minimize collateral damage, Detect and identify threats day and night without being detected.
- Autonomous indoor outdoor fly The laser sensors can detect the obstacle and avoid can do route fly with PS for outdoor.
- Rapid Deployment - Easy to learn and easy to use
- With half day time training, the soldiers can handle well.