

Lightweight & Portable Synthetic Aperture Radar (SAR)

X-Band Terrain Imaging, Moving & Change Detection

HUSSAR is a portable X-band Synthetic Aperture Radar (SAR) designed for high-precision terrain imaging and Moving & Change Detection (GMTI, MMTI, CCD).

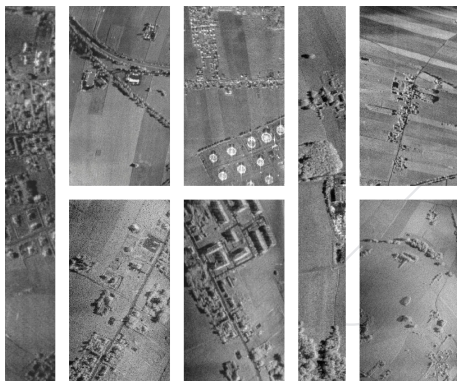
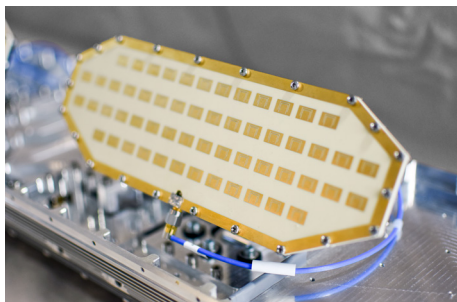
The radar offers resolution up to 15 cm and an operational range of over 15 km, regardless of weather conditions or time of day.

Key Features:

- SAR** – High-resolution imaging: up to 15 cm
- GMTI, MMTI** – Detection and tracking of moving targets
- CCD** - Coherent Change Detection
- Operating modes** – Stripmap and Spotlight (high and highest image quality)
- Mechanically stabilized antenna (Gimbal)** – improved image quality in crosswinds
- Real-time processing** – built-in SAR processor and integrated data link
- Ground processing** – offline processing and radar management
- FMCW radar (LPI)** – low probability of interception
- Jamming resistance** – resistant to electromagnetic interference
- Integration** – can be mounted or embedded in a lightweight UAV, aircraft or helicopter

Example Applications:

- Military and Security** – border surveillance, special operations
- Police and Border Guard** – tracking of moving objects
- Terrain Observation** – mapping, environmental change detection, natural disaster monitoring



Parameter	Minimum	Typical	Maximum	Unit
Frequency range	9		11	GHz
Antenna polarization		V/V		-
Range (radar to target)	150		15000	m
Best range resolution		30	15	cm
Best cross-range resolution		30	30	cm
Elevation angle of the beam	25		65	°
Supply voltage	36		52	V
Power consumption	110		180 with link	W
Azimuth stabilization (mechanical)	-20		20	°
Weight (with housing)			10	kg
Weight (without housing and antenna cover)	7.8			kg
Operating temperature range	-10		50	°C
Housing dimensions (L x W x H)	120 x 20 x 20			cm
Dimensions for aircraft integration (depends on module configuration)	84 x 45 x 15			cm
Digital control interface	Ethernet			
Data storage interface	USB			
Housing material	Kevlar-reinforced composite			
Image / video file formats	JPEG / MPEG			
Mechanical mounting interface	Customizable to client requirements			
Operating modes	Stripmap, Spotlight, GMTI, MMTI, CCD			

