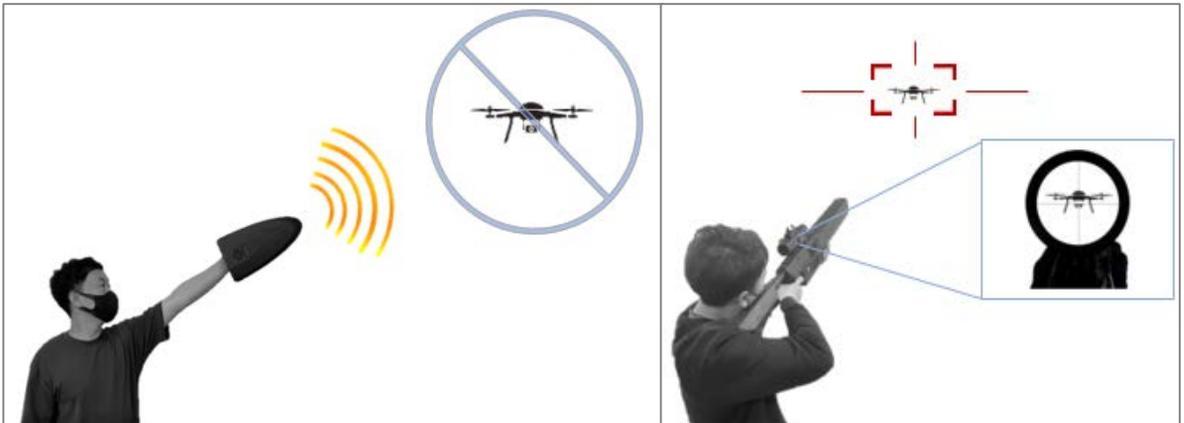


# Anti-Drone Solution





- Duta Technology Co., Ltd. is a company that is constantly developing technologies related to anti-drone. In particular, it is developing drone jamming technology that disables the flight of drones flying in prohibited areas without permission, and sells related products.
- The explosive demand for commercial drones is causing many safety-related problems. There are frequent cases of flying drones around airports or flying near power plants, causing security-related problems, or using drones as a tool for terrorism or war.
- Various measures are required to solve these problems, and the technology to respond to these problems is called anti-drone technology.
- Anti-drone technology consists of detection technology, identification technology, and neutralization technology.
- Duta Technology Co., Ltd. has released a number of products by intensively developing a technology for jamming drones corresponding to soft kill technology among neutralization technologies.

## Specification Summary

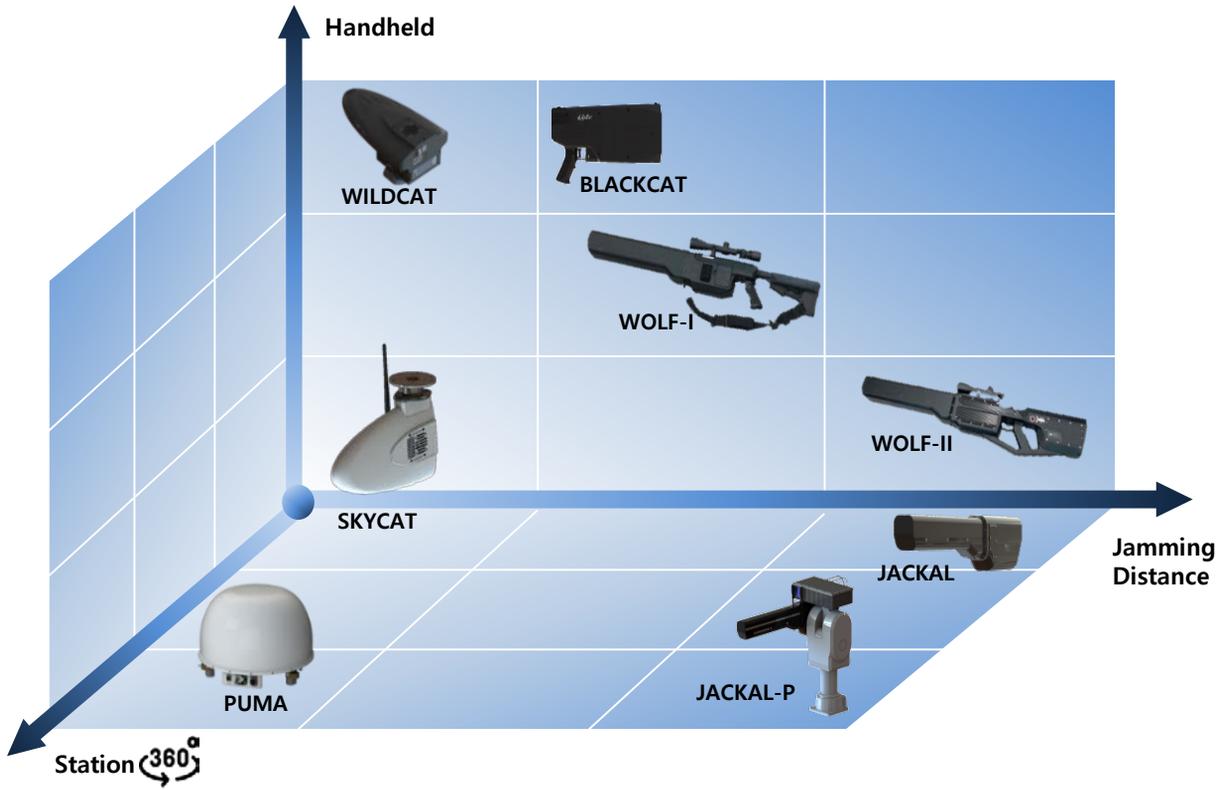
Equipment	Major Specification	Jamming Frequency	Example of use
WILDCAT I	Portable, Weight max 1.5kg	C2 Link :	Security Guard Special forces Force recon
	Operation Time : 1.5 hour	· 5725~5850MHz	
	Beam Angle : 25°	· 2400~2483.5MHz	
	Possible to suppress swarm drones	GNSS : 1559~1610MHz	
WILDCAT II	Portable, Weight max 1.6kg	C2 Link :	
	Operation Time : 1.5 hour	· 5725~5850MHz	
	Beam Angle : 25°	· 2400~2483.5MHz	
	Possible to suppress swarm drones	· 902~928MHz GNSS : 1559~1610MHz	
BLACKCAT	Portable, Weight max 2.5kg	C2 Link :	
	Operation Time : 1.5 hour	· 5725~5850MHz	
	Beam Angle : 25°	· 2400~2483.5MHz	
	Possible to suppress swarm drones	· 902~928MHz GNSS : 1559~1610MHz	
WOLF I	Portable, Weight max 4kg	C2 Link :	
	Operation Time : 1.5 hour	· 5725~5850MHz	
	Beam Angle : 15°	· 2400~2483.5MHz	
	Possible to suppress swarm drones	GNSS : 1559~1610MHz	
WOLF II	Portable, Weight max 6kg	C2 Link :	
	Operation Time : 1hour	· 5725~5850MHz	
	Beam Angle : 15°	· 2400~2483.5MHz	
	Possible to suppress swarm drones	GNSS : 1559~1610MHz	
SKYCAT	Weight max 1.3kg(Without BAT.)	C2 Link :	Unmanned/Manned Aerial Vehicle
	Beam Angle : 25°	· 5725~5850MHz	
	Possible to suppress swarm drones	· 2400~2483.5MHz	
		· 902~928MHz · 432~436MHz	
PUMA	Station, Weight max 7.0kg	C2 Link :	Armored Forces Military Base Naval Vessels Landing Ship Airbase Command vehicle
	Beam Angle : Az 360°, EL 55°	· 5725~5850MHz	
	Control : Remote or Tablet	· 2400~2483.5MHz	
	Possible to suppress swarm drones	GNSS : 1559~1610MHz	
JACKAL-P	Station, Weight max 35kg	C2 Link :	
	Beam Angle : 15°	· 5725~5850MHz	
	Pan/Tilt : Pan 360°, Tilt 0°~85°	· 2400~2483.5MHz	
	Zoom : Optical 30x, Digital 12x Video : FHD(1920x1080)	GNSS : 1559~1610MHz	
	Control : Remote or Tablet		
Possible to suppress swarm drones			

## Anti-Drone Products

### Drone Jammer Specification

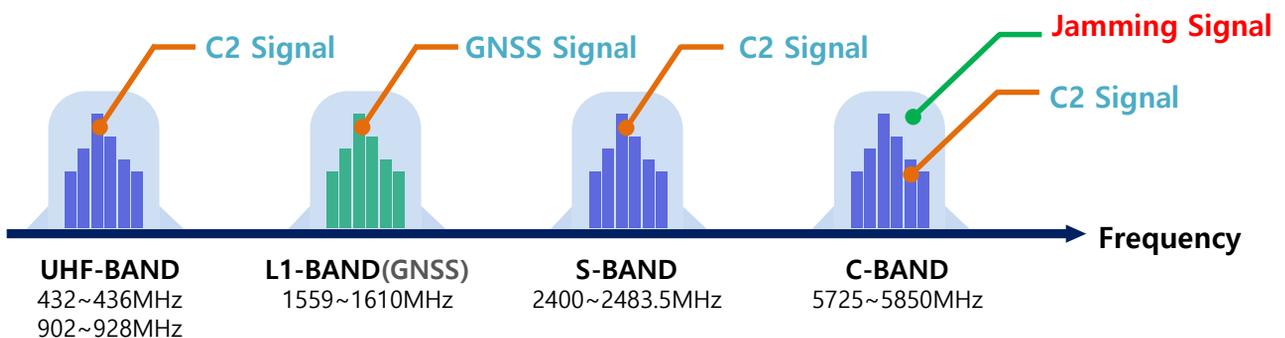
	S/C, GNSS	UHF	Operation	Jamming Distance
WILDCAT I	●		One Hand (Handheld)	
WILDCAT II	●	●	One Hand (Handheld)	
BLACKCAT	●	●	One Hand (Handheld)	
SKYCAT	▲	●	Aircraft mounted	
WOLF I	●		Two Hand (Handheld)	
WOLF II	●		Two Hand (Handheld)	
PUMA	●		Remote (Station)	
JACKAL	●		Remote (Station)	
JACKAL-P	●		Remote (Station)	

## Product Features / History



## Concept of Jamming

- The drone receives a satellite navigation signal (GNSS) to determine its current location and flies under the command of the pilot (Command & Control, C2).
- Drone Jamming interferes with reception by disturbing the drone C2 channel, and also interferes with reception by disturbing the GNSS signal.
- In particular, commercial drones use C2 links in the specified frequency band. The jamming signal interferes only with this band and the GNSS band.
- Even in the case of a drone using a command channel at a different frequency, the satellite navigation signal (GNSS) may disturb.



### *Military*

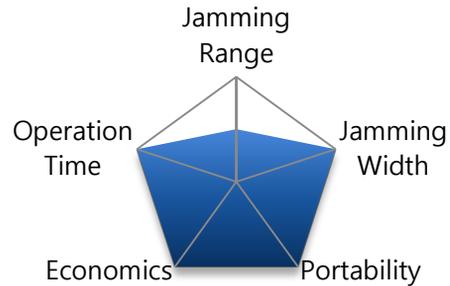
- Base Protection
- Boundary Duty
- Patrol Work
- Anti-Terrorism
- Vehicle Protection
- Building Protection

### *Public*

- Patrol Work
- Protection of Privacy
- Anti-Terrorism
- VIP Protection
- Vehicle Protection
- Maintaining Event Safety
- Airport and Facility Protection

## WILDCAT-I

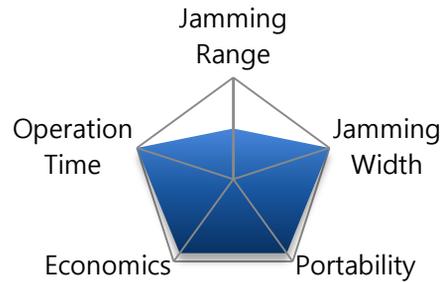
### Handheld Drone Jammer



Weight	Max. 1.5kg
Operation Time	1.5 hours @ continuous operation
Jamming Frequency	GNSS : L-Band (L1 & G1)
	Command & Control : S-Band / C-Band
Antenna Beam Angle	Azimuth 25°, Elevation 30°
EIRP (Effective Isotropic Radiated Power)	L-Band(GNSS) : 2W (Typical)
	S/C-Band : 6W (Typical)
Environment	<ul style="list-style-type: none"> <li>Operating Temperature: -32 ~ 55°C</li> <li>Dustproof/Waterproof: IP65</li> </ul>
Jamming Range	<ul style="list-style-type: none"> <li>C2 Link : more than 900m @ Distance between jammer and drone pilot is 3km</li> <li>GNSS : more than 500m</li> </ul>
Components	<ul style="list-style-type: none"> <li>WILDCAT I, Battery Charger, Battery 2EA</li> <li>Hard case</li> <li>Holster(option)</li> </ul>

## WILDCAT-II

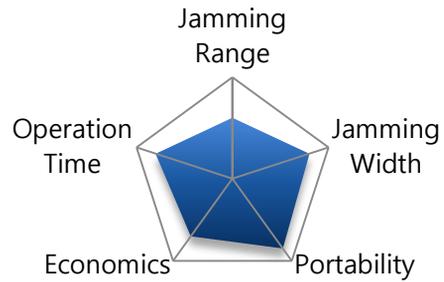
### Handheld Drone Jammer



Weight	Max. 1.6kg
Operation Time	1.5 hours @ continuous operation
Jamming Frequency	GNSS : L-Band (L1 & G1)
	Command & Control : S-Band / C-Band / UHF-Band
Antenna Beam Angle	Azimuth 25°, Elevation 30°
EIRP (Effective Isotropic Radiated Power)	UHF-Band : 1W (Typical)
	L-Band(GNSS) : 2W (Typical)
	S/C-Band : 6W (Typical)
Environment	<ul style="list-style-type: none"> <li>Operating Temperature: -32 ~ 55°C</li> <li>Dustproof/Waterproof: IP65</li> </ul>
Jamming Range	<ul style="list-style-type: none"> <li>C2 Link : more than 900m @ Distance between jammer and drone pilot is 3km</li> <li>GNSS : more than 500m</li> </ul>
Components	<ul style="list-style-type: none"> <li>WILDCAT II, Battery Charger, Battery 2EA</li> <li>Hard case</li> <li>Holster(option)</li> </ul>

## BLACKCAT

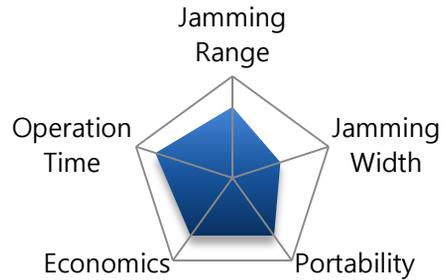
### Handheld Drone Jammer



Weight	Max. 2.5kg
Operation Time	1.5 hours @ continuous operation
Jamming Frequency	GNSS : L-Band (L1 & G1)
	Command & Control : S-Band / C-Band / UHF-Band
Antenna Beam Angle	Azimuth 25°, Elevation 25°
EIRP (Effective Isotropic Radiated Power)	UHF-Band : 1W (Typical)
	L-Band(GNSS) : 2W (Typical)
	S-Band : 6W / C-band : 12W (Typical)
Environment	<ul style="list-style-type: none"> <li>Operating Temperature: -32 ~ 55°C</li> <li>Dustproof/Waterproof: IP65</li> </ul>
Jamming Range	<ul style="list-style-type: none"> <li>C2 Link : more than 1km @ Distance between jammer and drone pilot is 3km</li> <li>GNSS : more than 500m</li> </ul>
Components	<ul style="list-style-type: none"> <li>BLACKCAT, Battery Charger, Battery 2EA</li> <li>Hard case</li> <li>Holster(option)</li> </ul>

## WOLF-I

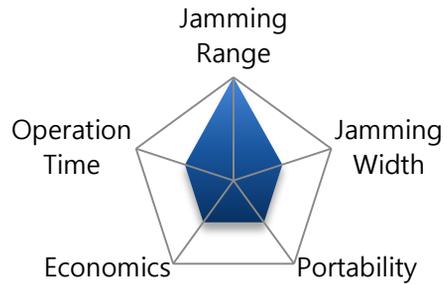
### Handheld Drone Jammer



Weight	Max. 4kg
Operation Time	1.5 hours @ continuous operation
Jamming Frequency	GNSS : L-Band (L1 & G1)
	Command & Control : S-Band / C-Band
Antenna Beam Angle	Azimuth 20°, Elevation 15°
EIRP (Effective Isotropic Radiated Power)	L-Band(GNSS) : 10W (Typical)
	S/C-Band : 20W (Typical)
Environment	<ul style="list-style-type: none"> <li>Operating Temperature: -32 ~ 55°C</li> <li>Dustproof/Waterproof: IP65</li> </ul>
Jamming Range	<ul style="list-style-type: none"> <li>C2 Link : more than 1.4km @ Distance between jammer and drone pilot is 3km</li> <li>GNSS : more than 1km</li> </ul>
Components	<ul style="list-style-type: none"> <li>WOLF I, Battery Charger, Battery 2EA</li> <li>Hard case</li> <li>Scope(3~9x magnification, lens 40mm)</li> </ul>

## WOLF-II

### Handheld Drone Jammer



Weight	Max. 6kg
Operation Time	1 hour @ continuous operation
Jamming Frequency	GNSS : L-Band (L1 & G1)
	Command & Control : S-Band / C-Band
Antenna Beam Angle	Azimuth 20°, Elevation 15°
EIRP (Effective Isotropic Radiated Power)	L-Band(GNSS) : 10W (Typical)
	S/C-Band : 120W (Typical)
Environment	<ul style="list-style-type: none"> <li>Operating Temperature: -32 ~ 55°C</li> <li>Dustproof/Waterproof: IP65</li> </ul>
Jamming Range	<ul style="list-style-type: none"> <li>C2 Link : more than 2.5km @ Distance between jammer and drone pilot is 3km</li> <li>GNSS : more than 1km</li> </ul>
Components	<ul style="list-style-type: none"> <li>WOLF II, Battery Charger, Battery 2EA</li> <li>Hard case</li> <li>Scope(3~9x magnification, lens 40mm)</li> <li>Tripod</li> </ul>

## SKYCAT

Aircraft mounted Jammer



Weight	Max. 1.3kg
Operation Time	All time operation (Uses aircraft batteries)
Jamming Frequency	Command & Control : S-Band / C-Band / UHF-Band
	UHF Band (400MHz, 900MHz)
Antenna Beam Angle	S/C-Band : Azimuth 25°, UHF-Band : Azimuth 60°, Elevation 30°
EIRP (Effective Isotropic Radiated Power)	UHF-Band : 1W (Typical)
	S/C-Band : 6W (Typical)
Environment	<ul style="list-style-type: none"> <li>Operating Temperature: -32 ~ 55°C</li> <li>Dustproof/Waterproof: IP43</li> </ul>
Jamming Range	<ul style="list-style-type: none"> <li>C2 Link : more than 900m @ Distance between jammer and drone pilot is 3km</li> </ul>
Components	<ul style="list-style-type: none"> <li>SKYCAT</li> <li>Hard case</li> </ul>

## JACKAL

### Station Drone Jammer



Weight	Max. 4.5kg
Operation Time	All time operation @ 28VDC, Max 3.8A(using external power)
Jamming Frequency	GNSS : L-Band (L1 & G1)
	Command & Control : S-Band / C-Band
Antenna Beam Angle	Azimuth 20°, Elevation 15°
EIRP (Effective Isotropic Radiated Power)	L-Band(GNSS) : 10W (Typical)
	S/C-Band : 120W (Typical)
Environment	<ul style="list-style-type: none"> <li>Operating Temperature: -32 ~ 55°C</li> <li>Dustproof/Waterproof: IP65</li> </ul>
Jamming Range	<ul style="list-style-type: none"> <li>C2 Link : more than 2.5km @ Distance between jammer and drone pilot is 3km</li> <li>GNSS : more than 1km</li> </ul>
Components	<ul style="list-style-type: none"> <li>JACKAL</li> <li>Power and Data Cable</li> </ul>

## JACKAL-P

Station Drone Jammer



High Power



Aim Firing



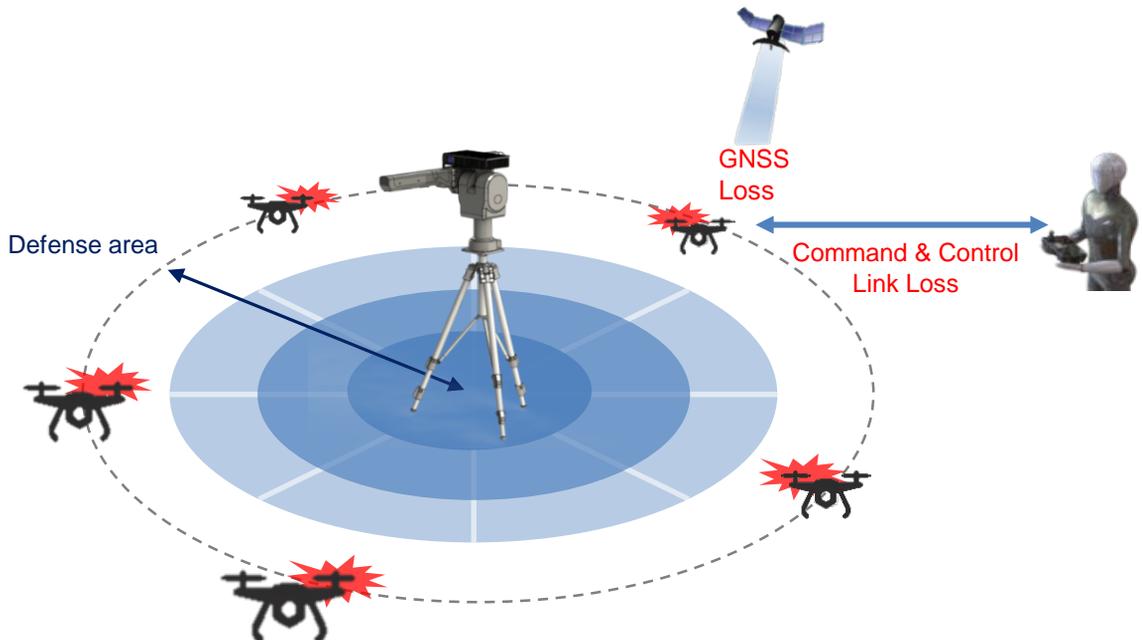
Remote Control



Selective  
GNSS  
Radiation



IP65



## Technical Specifications

Weight		Max. 35kg
Operation Time		All time operation @ 28VDC, Max 7A(using external power)
Interface		J1 : 24 ~ 28 VDC(Amp Power) J2 : 10/100M Ethernet (Video & Control/Status)
Jammer	Jamming Frequency	<ul style="list-style-type: none"> <li>GNSS : L-Band (L1 &amp; G1)</li> <li>Command &amp; Control : S-Band / C-Band</li> </ul>
	Antenna Beam Angle	<ul style="list-style-type: none"> <li>Azimuth 20°, Elevation 15°</li> </ul>
	EIRP (Effective Isotropic Radiated Power)	<ul style="list-style-type: none"> <li>L-Band(GNSS) : 10W (Typical)</li> <li>S/C-Band : 120W (Typical)</li> </ul>
	Jamming Range	<ul style="list-style-type: none"> <li>C2 Link : more than 2.5km @ Distance between jammer and drone pilot is 3km</li> <li>GNSS : more than 1km</li> </ul>
Camera & Pan/Tilt	Resolution	<ul style="list-style-type: none"> <li>FHD (1920x1080)</li> </ul>
	Zoom	<ul style="list-style-type: none"> <li>Optical 30x, Digital 12x</li> </ul>
	IR	<ul style="list-style-type: none"> <li>Include ICR Function</li> </ul>
	Video Compression	<ul style="list-style-type: none"> <li>H.264</li> </ul>
	Range	<ul style="list-style-type: none"> <li>Pan-Axis : 360° continuous rotation</li> <li>Tilt-Axis : 0° ~ 85°</li> </ul>
Environment		<ul style="list-style-type: none"> <li>Operating Temperature: -20 ~ 55°C</li> <li>Dustproof/Waterproof: IP65</li> </ul>
Components		<ul style="list-style-type: none"> <li>JACKAL-P</li> <li>Power and Data Cable</li> <li>Tripod(option)</li> </ul>

## PUMA

Station Drone Jammer



Control GUI



Vehicle



Omni-directional  
Operation



Selective  
Radiation



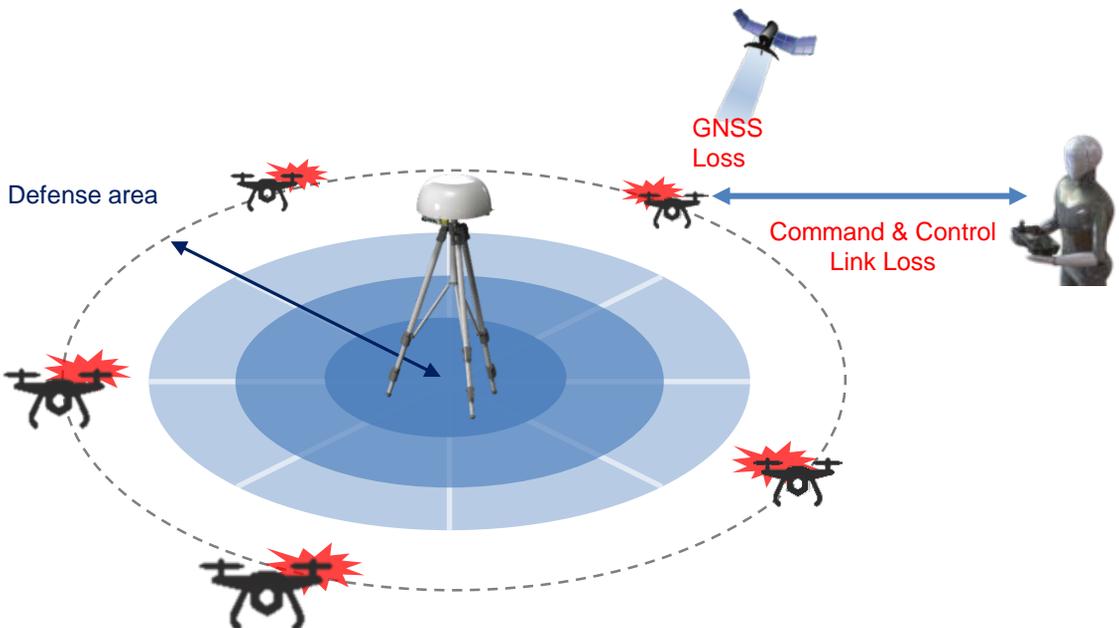
Remote  
Control



Selective  
GNSS  
Radiation



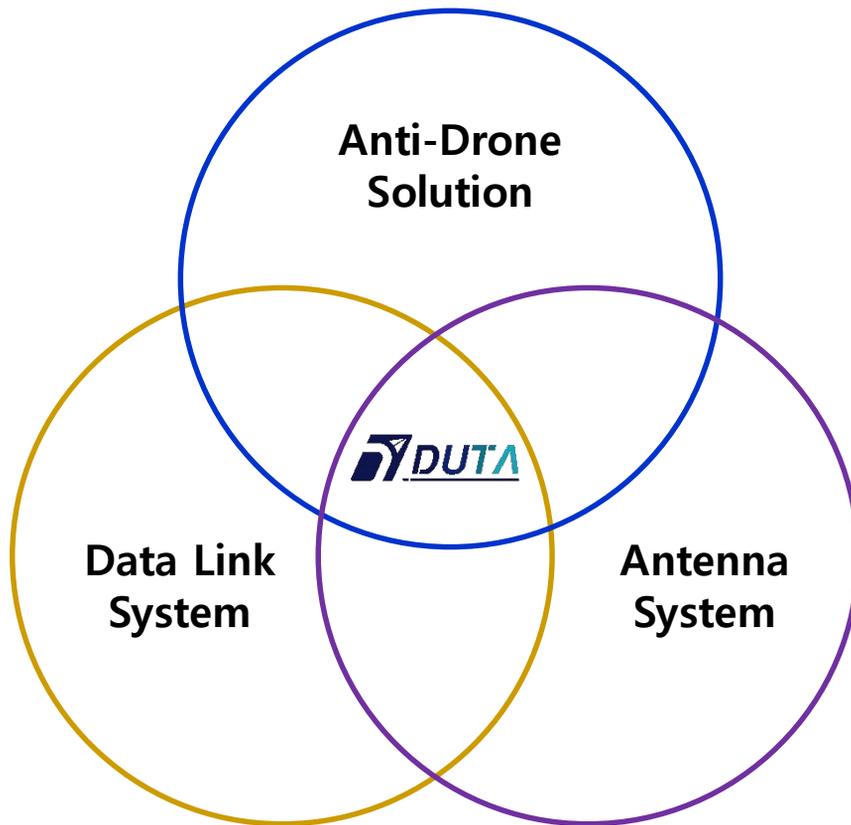
IP65



## Technical Specifications

Weight	Max. 7kg
Operation Time	All time operation @ 12VDC, Max 16A (using external power)
Jamming Frequency	GNSS : L-Band (L1 & G1)
	Command & Control : S-Band / C-Band
Antenna Beam Angle	Azimuth 360°, Elevation 55°
EIRP (Effective Isotropic Radiated Power)	L-Band(GNSS) : 3W (Typical)
	S/C-Band : 7W (Typical)
Environment	<ul style="list-style-type: none"> <li>Operating Temperature: -32 ~ 55°C</li> <li>Dustproof/Waterproof: IP65</li> </ul>
Jamming Range	<ul style="list-style-type: none"> <li>C2 Link : more than 900m @ Distance between jammer and drone pilot is 3km</li> <li>GNSS : more than 500m</li> </ul>
Components	<ul style="list-style-type: none"> <li>PUMA</li> <li>Remote Controller</li> <li>Hard case</li> <li>Power and Data Cable</li> <li>Tripod(option)</li> </ul>

## Business Areas



### Anti-Drone Solution

- Drone Jamming Gun
- Station Type Drone Jamming System
- Drone Detection (Radar, Camera, Ai, RF Scanning)

### Antenna System

- Airborne / Ground / Space
- UHF/S-band/C-band/X-band/Ku-Band/Broadband
- Flat Panel Antenna
- Monopulse Comparator / Tracking
- Omni/Directional/Sector Antenna
- Satellite Tracking(GEO, LEO)

### Data Link System

- UAM Data Link System
- UAV Data Link System
- DRONE Data Link
- Remote Video Terminal
- UHF/S-band/C-Band /Ku-Band
- Monopulse Tracking System
- Inertia Tracking





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