



Industry leading wireless communication system solutions provider

Drone detection jammer, Signal jammer, ORAN-RRU, Active DAS, Active Moduler POI, RF Devices, POI, Combiner, Base station antenna, Indoor distribution antenna, Das repeater, cables and connectors,etc



**SYNERGY TELECOM PVT LTD**

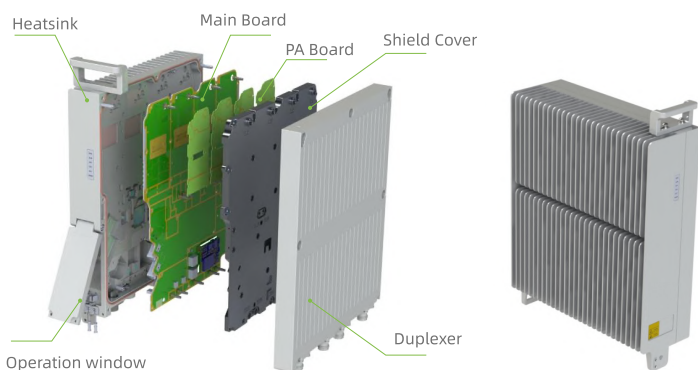
Budhella, Vikaspuri, New Delhi-110018(INDIA)



# SYNETWORK COVERAGE PROJECT SHOW AT 3/4/5 G



## ORAN Radio Product Platform



Module	Description
Heatsink	Cooling
Main board	PSU, FPGA, Transceiver, RF
PA Board	LDMOS/GaN28V/48V
Shield Cover	Shielding
Duplexer	High Q, Low insertion loss
Operation window	SFP, POWER interface

### Series product platform

#### Frequency bands

Supported: 600MHz~3.5GHz

#### High frequency(1.7GHz~3.5GHz):

Size: 400\*330\*100mm

Max Power consumption: <540W (4\*40W)

#### Low frequency(600MHz~900MHz)

Size: 400\*330\*110mm

Max Power consumption: <290W (2\*40W)

Max Power consumption: <540W (2\*80W)



# RF REPEATERS

Advanced RF Repeaters for Cellular networks with the frequency range from 450MHz up to 3500MHz and an output power from 10dBm up to 43dBm.

We provide a wide range of RF repeaters for improving in-building and outdoor coverage. In order to increase network coverage and reach the last mile. RF repeaters provide cost-effective improvement in-building and outdoor coverage in places such as tunnels, buildings, basements, car parks, airports, rural areas, highways, railway stations, dense areas.

## Services For RF repeater design solutions:

- Survey of existing coverage on site
- Type and power of repeater: single band, multi-band or fiber repeater.
- Antenna planning
- Link budget preparation
- Supplying the Repeaters and the ancillary equipment

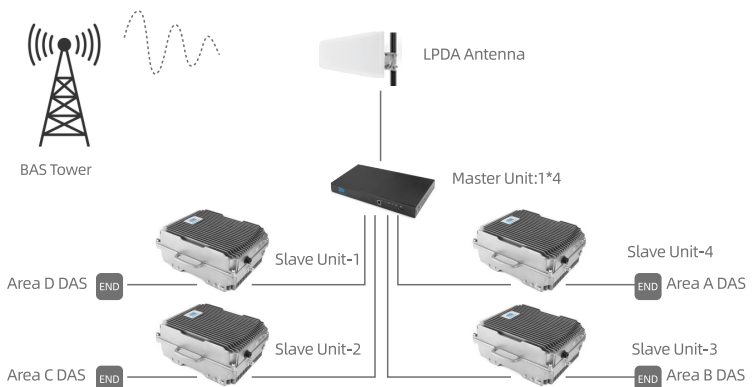
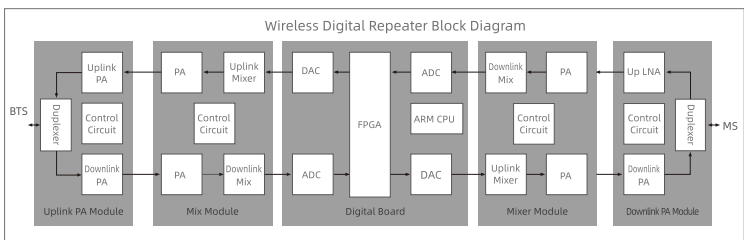
## In-Building Solutions (IBS)

SY offers in building solutions design for 2G/3G/4G/5G, iDEN, TETRA, and LMR networks.

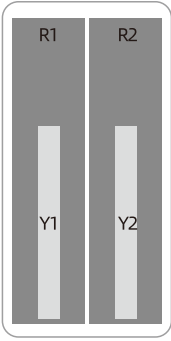
The number of mobile users inside airports, railway stations, hotels, shopping centers, large corporate buildings, and basements has rapidly increased but network inside these places is often weak and may suffer from a coverage issue and a low data rate service. Good in-building coverage is provided by Distributed Antenna System.

This solution not only provides good coverage and capacity inside the building but also reduces the load on the outdoor cell site.

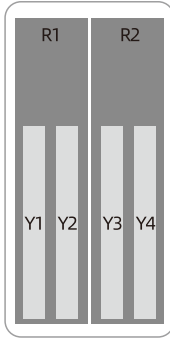
These solutions are based on Distributed Antenna Systems (DAS) - Passive or Active. We provide both solutions including passive elements or Fiber Optic Distribution Antenna Systems (F-DAS).



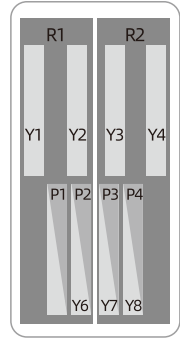
# BTS ANTENNA ALL-IN-ONE



8 Port **2L2H** (2.7m)\*498  
2x(617-960) 2x(1427-2690)



12 Port **2L4H** (2.7m)\*498  
2x(617-960) 4x(1427-2690)

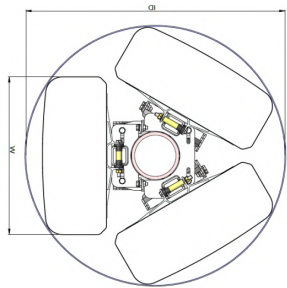


28 Port **2L4H+2.6&3.5 TDD**  
2x(617-960) 4x(1427-2690)  
4x(2300-2690) 4x(3300-3800)



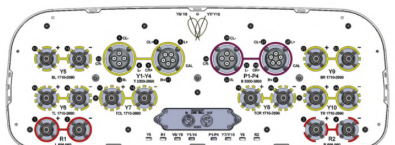
We integrate in the A+P antenna solution highstrength, low-dielectric constant MRPP radome with new decoupling techniques, enabling greater transparency for the active antenna, greater reflectiveness for the passive antenna component, and improved modularity and better radio coverage

# TRISECTOR MOUNTING KIT



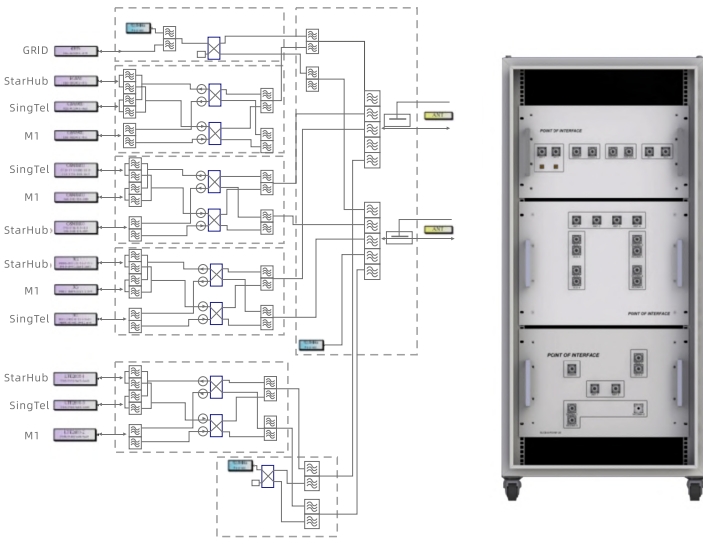
Radome W(mm)	Canister ID(mm)
498(H=197)	830 Min
448(H=188)	796 Min
480(H=135)	720 Min
295(H=145)	647 Min

- SY provides flexible solutions to fit
- AAS coming from different Companies.
- Good transparency for AAS
- Easy installation & disassembly
- Highly reliability of connection



# MODULAR POI

Modular POI is a passive system that used for multi-input and multi-output. It can combine different operators and system s into the same DAS with high isolation and low PIM interference. Benefit from advanced modular design, operators can upgrade their systems easily.



# TRADITIONAL POI

- US and EU types.
- High Performance and high reliability with up to 16 inputs (4 per band) combined into up to 4 outputs.
- Very cost effective antenna sharing solution for Indoor/Outdoor applications.
- High power BTS conditioning 150 watts per port.
- Very Low Passive Inter-Modulation (PIM), Extremely low Insertion loss.
- DAS vendor neutral, support duplexed and non-duplexed signal and uplink diversity.
- Programmable Dynamic DL Power Control.
- Optional for Built-in Power meters to monitor input and output power.
- Optional for remote and local configuration, management and monitoring of alarms.
- Plug-and-play configuration, Indoor, outdoor or 19-inch Rack types.



# RF POWER SPLITTER

- Customized frequency : 698-4000MHz/600-4200MHz/0.5-6G/2-8G
- Low Insertion Loss & VSWR.
- Easy and simple installation.
- High power rating up to 500 Watt.
- Qualified PIM less than 160dBc value.
- High-quality type, High reliability.



# HYBRID COMBINERS

- Customized frequency: 600-4200MHz at customized connectors
- Supports LTE 700MHz, LMR 700MHz, LTE-EU 800MHz, SMR 850MHz, Cellular 850MHz, GSM 900MHz, PDC 1400MHz, AWS-1700MHz, DCS 1800MHz, PCS 1900 MHz, UMTS 2100Mz,
- LTE 2300MHz LTE 2600MHz, Wi-Fi 2.4GHz and all latest network topologies.
- Hybrid Type device with low insertion loss.
- Wide frequency range.
- High Isolation with min 30dB across the band.
- Very Low Passive Intermodulation (PIM).
- Handling Power of 500 watts per port.
- Easy installation with DIN connectors.
- Exceptional reliability and environmental protection.



# RF COUPLER

- Customized frequency tetra band or 3G/4G/5G at different coupling value
- Supports LTE 700MHz, LMR 700MHz, LTE-EU 800MHz, SMR 850MHz, Cellular 850MHz, GSM 900MHz, PDC 1400MHz, AWS 1700MHz, DCS 1800MHz, PCS 1900 MHz, UMTS 2100MHz,
- LTE 2300MHz LTE 2600MHz, Wi-Fi 2.4GHz and all latest network topologies.
- Low Insertion Loss & VSWR.
- Qualified PIM less than 160dBc value.
- Easy and simple installation.
- High quality, High reliability.
- High power rating up to 500 Watt.



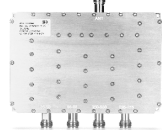
# BTS AND DAS SELECTIVE FILTERS

- Multiple types from 450 MHz up-to 3500 MHz
- Designed to pass the full band uplink and downlink and to reject out of band interferences and also to minimize the interferences to neighbor networks.
- Receive only types to minimize the uplink noise.
- Advanced Cavity and dielectric design guarantee minimum insertion loss, high isolation and excellent PIM performance.
- Easy installation supporting both LTE, WCDMA GSM and CDMA technologies
- Exceptional reliability and environmental protection



# RF COMBINER

- Customized frequency tetra band or 3G/4G/5G customized connectors with good PIM low loss
- Multiple types from 700 MHz up-to 2100 MHz
- Designed to Split or to combine between low band and up band into one antenna or one output
- Cavity Design, designed for co-siting purposes, supports DC/AISG Bypass.
- Available as a single unit for DAS, or a dual unit to support BTS tower structure.
- Very Low Passive Intermodulation(PIM) with Extremely low insertion loss, High out of band rejection level, supporting GSM, LTE and WCDMA
- IP66 enclosure - suitable for indoor or outdoor applications, wall or mast mounting exceptional reliability and environmental protection.



## INDOOR ANTENNA

Customized frequency tetra band or 3G/4G/5G customized connectors with good PIM  
Omni/Directional antenna with the gain from 3dB to 9dB



## OUTDOOR ANTENNA

Customized frequency tetra band or 3G/4G/5G customized connectors with good PIM  
Omni/Directional Yagi Antenna with the gain from 5dB to 25dB Ip65



## RF CONNECTORS

Matching all required frequency low PIM low loss male or female type at N, 4.3-10, Din, F-type, Nex-10 and so on



## CABLE & JUMPERS

- Cable Environment Fire resistance- IEC 60332-1-2, 60332-3-24 LSZH- IEC60754-1/2, 61034 UV resistance- IEC60068-2-5, UL1581
- Jumper performance Frequency available: DC to 4.0GHz/ 6.0GHz
- Return loss  $\leq$  -24dB @DC to 3GHz  $\leq$  -22dB @DC to 4GHz  $\leq$  -20dB @DC to 6GHz
- PIM 3rd  $\leq$  -160 dBc @900/1800/2100/2600MHz Ip68 available



# JAMMER SOLUTIONS

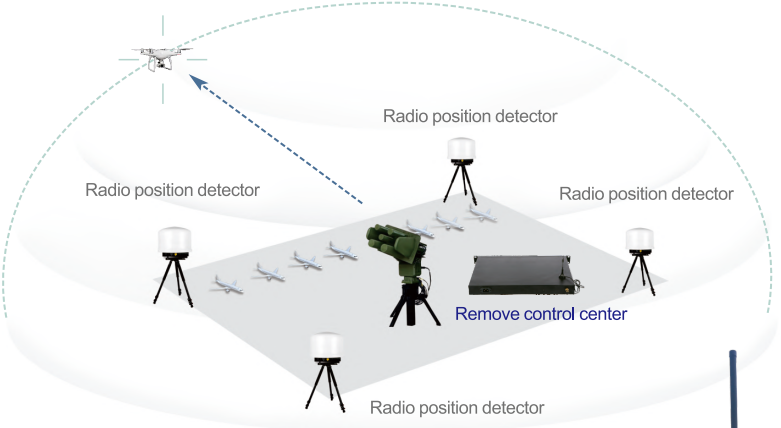
UAV defense and detective system: Taking Cognitive Radio Protocol Cracking (CRPC) technology to solve low-altitude security for the detection, identification, positioning, defense, and control civilian UAVs. The system can carry out passive detection, distinguish the black & white list drones and strike drones in the protected area.

Mobile Signal Jammer: using FPGA tech to program normal communication channel system and make it having the "jamming codes". The "jamming codes" can block people's mobile phone communication after having the power 2-6 dB more than communication signal.

## DRONE TDOA SYSTEM - DETECTION POSITIONING AND BLOCKING EQUIPMENT 4 in 1



<b>Detection frequency band</b>	30MHz ~ 6GHz full frequency band scanning, detection, display
<b>Key frequency band</b>	433MHz, 900MHz, 1.4GHz, 2.4GHz, 5.8GHz
<b>Detection distance</b>	3km, 5km, 8km
<b>Strike frequency band</b>	900MHz, 1.5GHz, 2.4GHz, 5.8GHz multi-band can be customized
<b>Strike distance</b>	≥3KM



**UAV SPOOFER:** By transmitting strong satellite signals with false position information, it competes with the satellite signals in orbit and intrudes into the navigation system of "black flights" drones, thus realizing the control of drones that need a navigation system to fly. This enables the interception and control of drones that require navigation systems to fly, preventing them from flying into protected areas and safeguarding the low altitude security.



**Device list**

Type	self-naming	Online or not	Controls
probe	online	status	status
Regulament	Regulament	online	status

**Defense record**

occurrence time	Defensive state	Defense end time
10:10:54.13	In defense	In defense
10:10:56.30	Already ended	20:07:31 14:10:30
10:10:58.35	Already ended	20:07:31 14:10:34
10:10:57.27	Already ended	20:07:31 14:10:52
10:10:56.05	Already ended	20:07:31 14:10:55
10:10:54.75	Already ended	20:07:31 14:10:57
10:10:51.49	Already ended	20:07:31 14:10:57
10:10:51.14	Already ended	20:07:31 14:10:54

probe: probe Regulament: Auto Manual operation Close

suppress: Auto Manual operation Close

**⚠ We got a possible drone signal** Decoy Strategy - Current: Forced landing  
 Execution time/record: 7  
 suppression policy - Current: - Execution time/record: -

Control console with buttons: probe Regulament: Auto Manual operation Close



# HANDLE DRONE DETECTION POSITIONING AND BLOCKING EQUIPMENT



<b>Working Frequency</b>	845/915/1.2G/1.5G/2.4G/5.2G/5.8GHz
<b>Power</b>	845/930MHz≥43dBm/1.2GHz≥43dBm/1.5GHz≥43dBm 2.4GHz≥47dBm/5.1GHz≥46dBm/5.8GHz≥48dBm
<b>Control Distance</b>	≥3KM DJI Mavic3 Jamming Ratio ≥2:1
<b>Working Power Consumption</b>	≤300W
<b>Working Temperature</b>	-30°C~70°
<b>Beam Countermeasure Angular</b>	845MHz60°, 915MHz60°, 1.2GHz55°, 1.5GHz55° 2.4GHz+35°, 5.1/5.8GHz-40°
<b>Battery Capacity</b>	10000mAh
<b>Jamming Models</b>	FPV Drone, Fixed-wing aeroplane, O3+, O3Pro video transmission and other brands
<b>Standby Time</b>	90days Standby
<b>Two Version</b>	A-Detecting & Jamming, B-Detecting
<b>Operation Mode</b>	LED touch screen control
<b>Main Unit Size</b>	410mm*280mm*100mm
<b>Weight</b>	≤5.5Kg
<b>Touchscreen Size</b>	106mm*67mm
<b>Equipment Test</b>	POST Function



# PORTABLE DRONE DETECTION AND POSITIONING EQUIPMENT

Drone detection and positioning device receives the radio signals of drones in the monitoring area through parsing protocol technology, and obtains the accurate GPS coordinate information, flight altitude, speed, direction, aircraft model, SN code, trajectory, and takeoff of the drone in the air. Point location and other multi-dimensional information. The product is easy to carry and can meet application needs in different scenarios.

<b>Tracking</b>	≥ 5 sorties
<b>detection sorties</b>	≥10 sorties
<b>duration</b>	≥4 hours
<b>Host size</b>	190*95*55mm
<b>Host weight</b>	≤500g
<b>Detection distance</b>	3km (According to matching antenna There are differences)



# OTHER UAV DETECTION EQUIPMENT



# PRISON MOBILE SIGNAL & UAV BLOCKING JAMMER SYSTEM

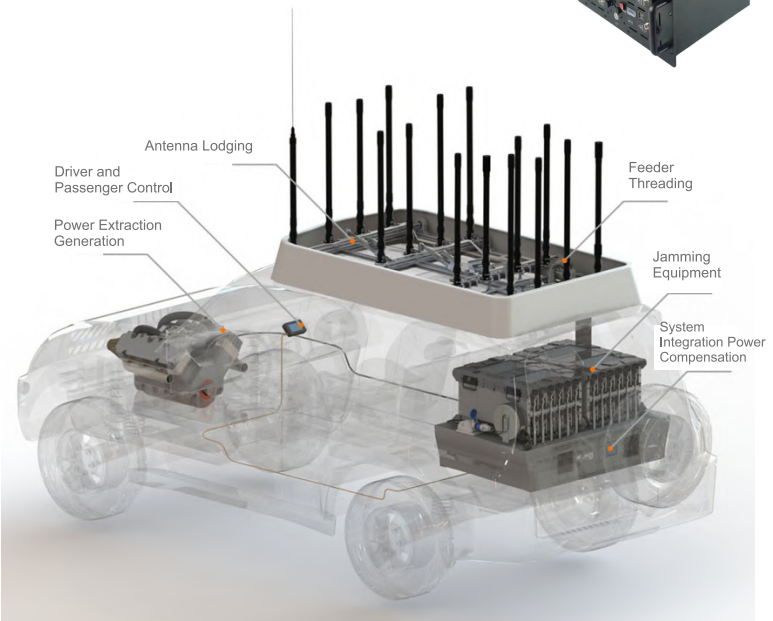


1. Blocking dimension: diameter 100 ~ 500m (-75dBm, outdoor open environment, depending on the surrounding base station distance);
2. TX power: 440W; DC: 43A;  
Power consumption: 1204W AC: 5.5A;
3. Frequency: 4G, 3G (LTE/TD/WCDMA), GSM (2G), CDMA(2G);
4. Output Channel: 8 output channels; Adjustable signal: GPS, Wi-Fi, Bluetooth etc. ;
5. Network RJ45 remote control function, wireless networking (wireless LORO-433M transmission);
6. With the proximal-end network monitoring server, it can remotely monitor the parameter information of all the equipment in the entire prison simultaneously, including the working status, frequency, power, temperature, VSWR and other parameters of the modules in the equipment, and has the machine error, VSWR open circuit error, module failure include low power, over temperature, VSWR error, etc.;
7. With the re-active function, it will work on after the blocking RF signal be detected.



## VEHICLE INSTALLED WITH JAMMER SYSTEM

The working principle of the vehicle signal blocker is to truncate the GPS frequency band signal, so that the car is in signal isolation, to protect the whereabouts of privacy and confidential information.



# INDOOR MEETING ROOM PORTABLE JAMMER

It can be applied at meeting rooms, conference rooms, museums, galleries, theaters, concert halls, churches, temples, restaurants, classrooms, training centers, factories, banks, trains, bus and more.

The blocked function: 2G/3G/4G/5G Mobile signal ; microphone; recorder; Wi-Fi and so on

Distance blocked: 5- 50 mtrs



## America Type: 20 Bands

- 1: 720-805MHz: 4G LTE Phone (AT&T & Verizon)
- 2: 850-895MHz: CDMA 850
- 3: 1800-1990MHz: GSM, GSM1800, PHS, PCS, NEXTEL, CDMA1900, GSM1900
- 4: 2100-2170MHz: UMTS, 3G, WCDMA, TD-SCDMA, CDMA2000
- 5: 2300-2500MHz: WiFi/Bluetooth 11.bg+ 4G LTE
- 6: 2500-2700MHz: 4G Wimax (Sprint) , 4G High LTE
- 7: 1570-1620MHz: GPS L1 + Glonass L1
- 8: 617-652MHz: 5G LTE
- 9: 173MHz: Lojack
- 10: 868MHz: Car Remote or GPS L2 + L5
- 11: 433MHz: Car Remote or GPS L3 + L4
- 12: 130-200MHz
- 13: 200-300MHz
- 14: 300-400MHz
- 15: 400-500MHz: UHF & Car Remote
- 16: 1170-1290MHz: GPS L2 + L5+ Glonass L2
- 17: 315MHz: Car Remote
- 18: 433MHz
- 19: 868MHz
- 20: 1700-1800MHz: 4G LTE

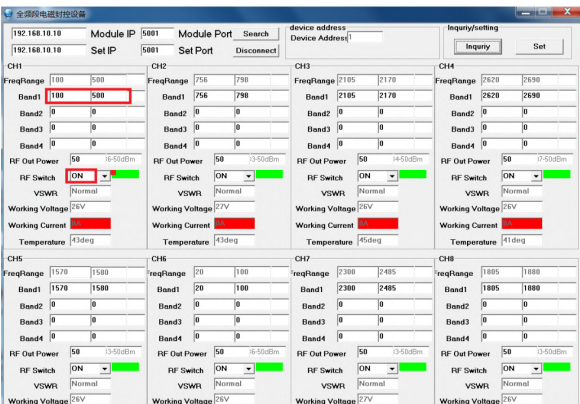


# TROLLEY CASE OUTDOOR JAMMER

Detection & blocking frequency : 20-6000MHz Strike distance : ≥3 km

Each module Power: 50w

Channe	Frequency	Application	Current
Ch1	20-350MHz	Toy remote control devic	4A
Ch2	350-500MHz	walkie-talkieWireless remote control	4A
Ch3	LTE800MHz	4G-LTE	4.5A
Ch4	GSM900MHz	2G-GSM	4.5A
Ch5	GSM1800MHz	2G-GSM	5A
Ch6	GSM3Gband	3G-GSM	5A
Ch7	1500-1600MHz	GNSS,Navigation	4.5A
Ch8	2400-2500MHz	WIFI,Bluetooth, UAV	6A
Ch9	LTE2600MHz	4G-LTE	6.5A
Ch10	5150-5850MHz	WIFI,Bluetooth, UAV	4A



# BACKPACK JAMMER

**Operating frequency band:**

433MHz, 860-930MHz, 1555-1620MHz  
2400-2500MHz, 5150-5350MHz, 5825-5852MHz

<b>Power</b>	50w
<b>Battery capacity</b>	24V 25A/H
<b>Battery display</b>	Battery display
<b>Countermeasure capacity</b>	Forcing to fly back
<b>Countermeasure distance</b>	500~1000m
<b>Countermeasure angle</b>	360°
<b>Battery life</b>	60 mins
<b>Method of charging</b>	33.6V charging adapter
<b>Measurements</b>	L*W*H: 1085*375*220mm (including the length of the antenna)
<b>Weight</b>	16kgs

**Note:** OEM customization: module frequency band, 4/5/6/7/8 bands. Power supply, screen printing can be customized accordingly



# GUN-TYPE JAMMER

<b>Working Frequency</b>	845/915/1.2G/1.4G/1.5G/2.4G/5.2G/5.8GHz
<b>Power</b>	840-930MHz≥43dbm/1.2GHz≥43dbm/1.4GHz43dbm1.5GHz ≥43dbm/2.4GHz≥47dbm/5.1GHz≥46dbm/5.8GHz≥47dbm
<b>Control Distance</b>	≥2KM DJIMavic3JammingRatio≥2:
<b>Working Power Consumption</b>	≤300W
<b>Working Temperature</b>	-30°C~70°C
<b>Beam Countermeasure Angular</b>	845MHz60°/915MHz60°/1.2GHz55°/1.4GHz55°, 1.5GHz55°,2.4GHz+35°5.1/5.8GH-40°
<b>Battery Capacity</b>	8500mAh
<b>Jamming Models</b>	FPV Drone, Fixed-wingaeroplane, 03+, 03Pro video transmission and other brands
<b>Standby Time</b>	90days Standby
<b>Two Version</b>	A-Detecting &Jamming, B-Detecting
<b>Operation Mode</b>	LED touch screen control
<b>Main Unit Size</b>	720mm*280mm*80mm
<b>Weight</b>	≤5.5kgs
<b>Touch screen size</b>	2.4inches
<b>Equipment Test</b>	POST Function

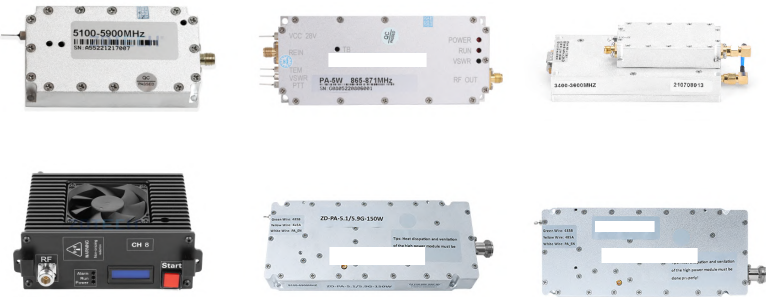
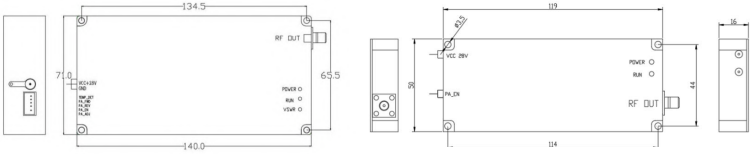


# MODULE : SIGNAL SOURCE (VCO DDS WHITE NOISE) + PA

## Customized Frequency:

20-100 / 100-300 / 300-500 / 500-760 / 760-851 / 851-894 / 900-928 / 894-960 / 925-960  
 960-1300 / 1300-1570 / 1570-1620 / 1620-1805 / 1805-1880 / 1880-2110 / 2110-2170  
 2110-2400 / 2400-2500 / 2500-2700 / 2700-3400 / 3400-3800 / 3800-4400 / 4400-5000  
 5000-6000 / 5100-5900MHZ / 6-18G / 5-6 G and so on

**Customized Power:** 10-200w    **Operating temperatures:** -30°C~70°C



# JAMMER ANTENNA

According to different requirements, we can design the polarization antenna with different frequency, gain, power and beam width.

