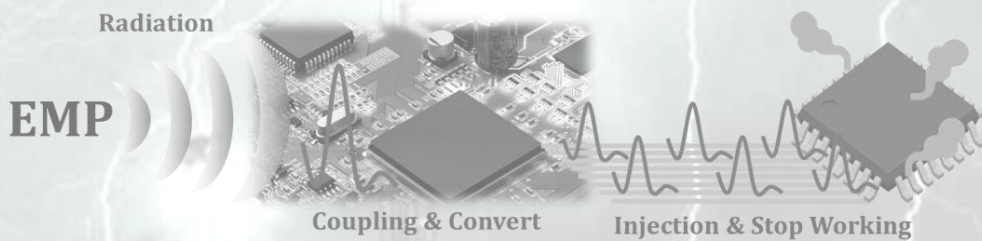


EMP GUN

*High-Power
Electromagnetic(HP-EM)
Generation*



Introduction to EMP GUN

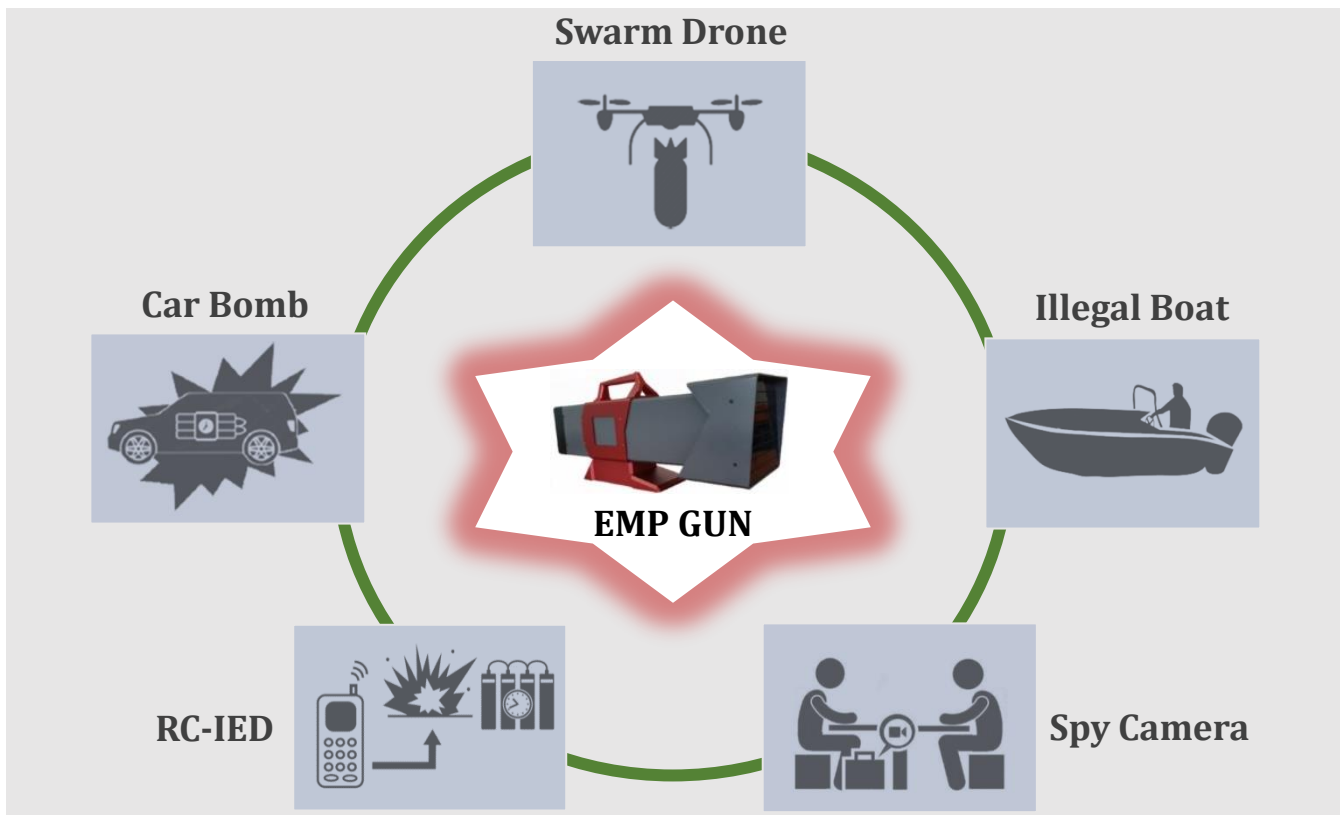
Unpredictable terrorism, for example, a swarm drone & car bomb has emerged as a new social threat in the worldwide. In addition, as the drone market grows rapidly, malicious use of drones such as precision bombing and illegal filming has become a social issue. In this way, terrorism is transforming into a form using electronic devices with new technology.

Replex has developed the EMP GUN, which generates a significantly powerful electromagnetic pulse(EMP) for either damaging or stopping electronic devices, used for malicious purposes such as car bomb, swarm drone, illegal fishing motor boat, RC-IED(radio controlled improvised explosive device).

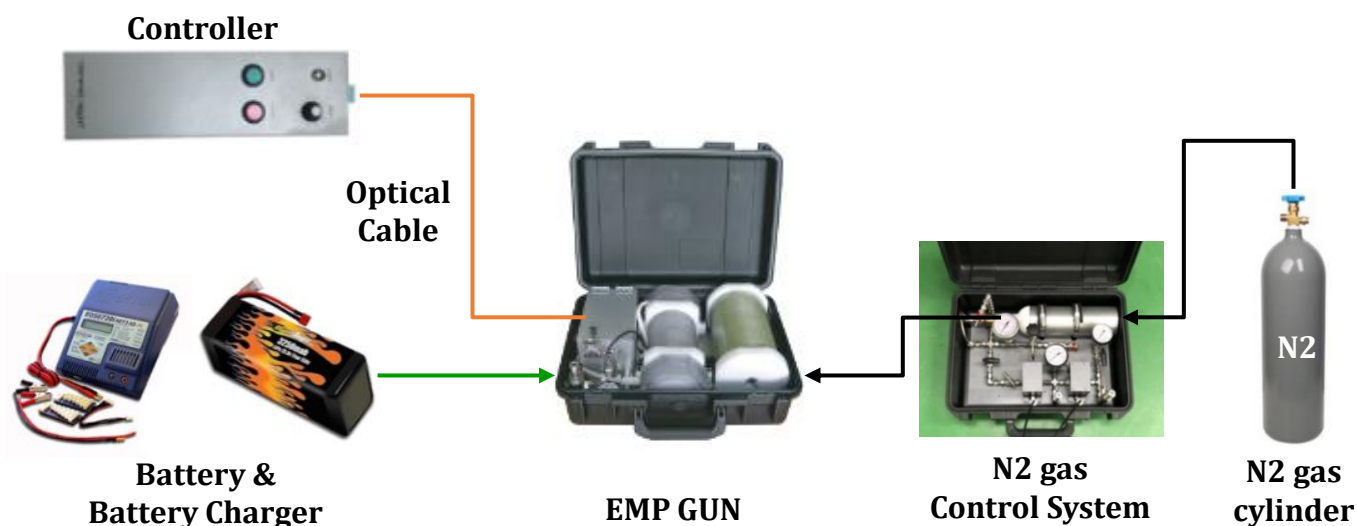
Features

- Compact, Light-Weight, Battery Powered
- Effects random electronic devices by wideband frequency band characteristics
- Harmless to the human body by very Low average power
- Variety of Products (suitcase type, pole type, vehicle-mounted type, reflector type)
- Custom-made according to the needs of user

Applications



Product Configuration



Component	Descriptions
Controller	<ul style="list-style-type: none"> The controller controls the operation ON/OFF of the EMP GUN and sets the operation time, PRF and etc. The controller is connected to the EMP GUN through an optical cable, and the maximum cable length is 20m. For the M30 and M200, the controller is built into the EMP GUN.
Battery & Battery Charger	<ul style="list-style-type: none"> Battery is included inside the EMP GUN to supply the initial driving power of the EMP GUN. Battery Charger are provided by the manufacturer
Nitrogen(N2) Gas & Gas Cylinder	<ul style="list-style-type: none"> N2 gas is electrical insulating gas required for the EMP GUN operation. N2 gas must be used with a purity of 99.99% or higher, it can be easily purchased, price is very inexpensive, and harmless to the human body. N2 Gas Cylinder is not provided by the manufacturer and must be purchased locally by the customer.
Nitrogen(N2) gas Control System	<ul style="list-style-type: none"> Used when charging and discharging of gas from gas cylinder to EMP GUN Manufactured for easy charging and discharging of nitrogen gas

※ Components may vary depending on the product model.

EMP GUN – M30

Product Description

M30 generates very powerful electromagnetics pulse (EMP) that can neutralize electronic devices with the malicious purposes.

M30 has an Omni-directional radiation feature, which can simultaneously stop working various the electronic devices located around a maximum radius 30m.

To improve portability, it is lightweight at around 17kg and is battery operated, so it can be used for personal or VIP protection.

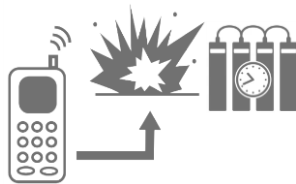


Features

- Non-nuclear EMP signal generation
- Maximize mobility by using battery power
- Radiated EMP signals is the shape of pulse with a width of several nanoseconds, so the average of radiated power is very low and therefore it is harmless to the human body.
- Radiated EMP signals has a wideband frequency characteristics, which can effect on random electronic devices.
- Directional type in which EMP signals radiate in Omni-directions.

Applications

- M30 can be used to stop working of the IT device for malicious purposes such as spy camera, wiretapping .
- M30 used to stop working of the COTS(digital timer, car alarm etc.), which is used as the device to remotely control operation of IED (Improvised Explosive Device)



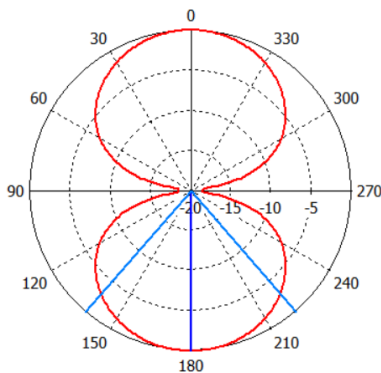
VIP protection , Blocking of IED, Spy camera and Wiretapping

EMP GUN – M30

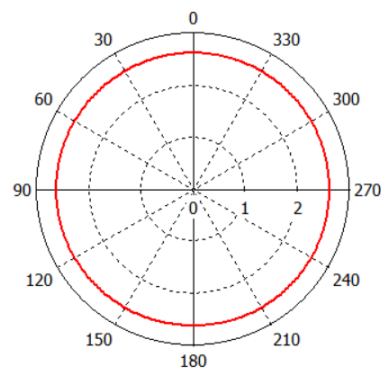
Specifications

Parameter	Value
Model Name	M30
Power Rating	Lithium Polymer Battery (25.9V/3.25Ah , 84.2Wh)
Peak E-field Strength	$\geq 15\text{kV/m@10m}$ (Far Voltage : 150KV)
E-field Shape	Monocycle
Center Frequency	400MHz
Bandwidth(-10dB)	580MHz (340MHz ~ 920MHz)
Radiation angle(-3dB beam width)	Vertical : 81.7° , Horizontal : 360°
Battery Operation Time	1hour(1shot@1sec.) , 30min.(5shot@1sec.)
PRF(Pulse Repetition Frequency)	1 ~ 5Hz
Insulation	N2 gas
Storage/Working Temperature	$-5^\circ\text{C} \sim 50^\circ\text{C}$ / $0^\circ\text{C} \sim 45^\circ\text{C}$
Size(L×W×H) / Weight	$0.5\text{m} \times 0.4\text{m} \times 0.2\text{m}$ / 17kg

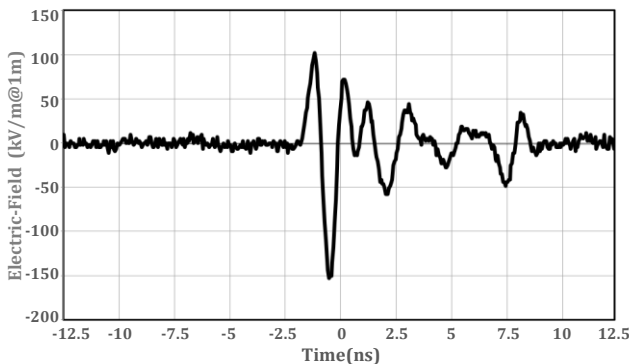
Beam Pattern(Vertical)



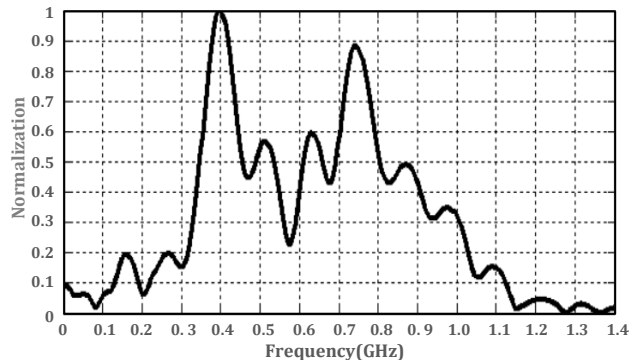
Beam Pattern(Horizontal)



Electric-Field Waveform



Frequency Spectrum(FFT)



※ **Far Voltage** mean $r \times E$ (r : distance from EMP GUN to any point in the far field area , E : E-field strength at the point).

EMP GUN – M30R

Product Description

M30R generates very powerful electromagnetics pulse (EMP) that can neutralize electronic devices with the malicious purposes.

M30R has an directional radiation feature by applying the reflector to the M30, which can simultaneously stop working various the electronic devices located around a maximum radius 30m.

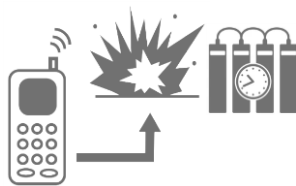


Features

- Non-nuclear EMP signal generation
- Maximize mobility by using battery power
- Radiated EMP signals is the shape of pulse with a width of several nanoseconds, so the average of radiated power is very low and therefore it is harmless to the human body.
- Radiated EMP signals has a wideband frequency characteristics, which can effect on random electronic devices.
- Directional type in which EMP signals radiate in directions.

Applications

- M30R can be used to stop working of the IT device for malicious purposes such as spy camera, wiretapping .
- M30R used to stop working of the COTS(digital timer, car alarm etc.), which is used as the device to remotely control operation of IED (Improvised Explosive Device)



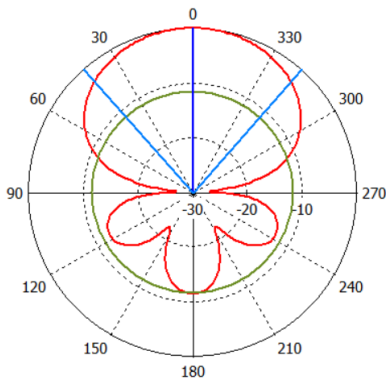
VIP protection , Blocking of IED, Spy camera and Wiretapping

EMP GUN – M30R

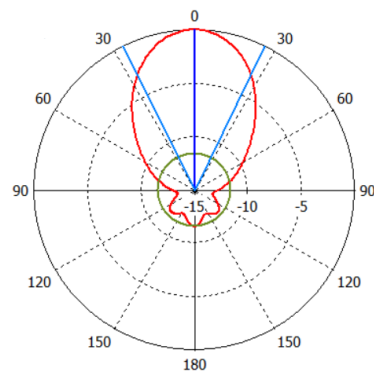
Specifications

Parameter	Value
Model Name	M30R
Power Rating	Lithium Polymer Battery (25.9V/3.25Ah , 84.2Wh)
Peak E-field Strength	$\geq 25\text{kV/m@10m}$ (Far Voltage : 250KV)
E-field Shape	Monocycle
Center Frequency	620MHz
Bandwidth(-10dB)	450MHz (450MHz ~ 900MHz)
Radiation angle(-3dB beam width)	Vertical : 83.2° , Horizontal : 52.3°
Battery Operation Time	1hour(1shot@1sec.) , 30min.(5shot@1sec.)
PRF(Pulse Repetition Frequency)	1 ~ 5Hz
Insulation	N2 gas
Storage/Working Temperature	$-5^\circ\text{C} \sim 50^\circ\text{C}$ / $0^\circ\text{C} \sim 45^\circ\text{C}$
Size(L×W×H) / Weight	0.5m × 0.7m × 0.35m / 22kg

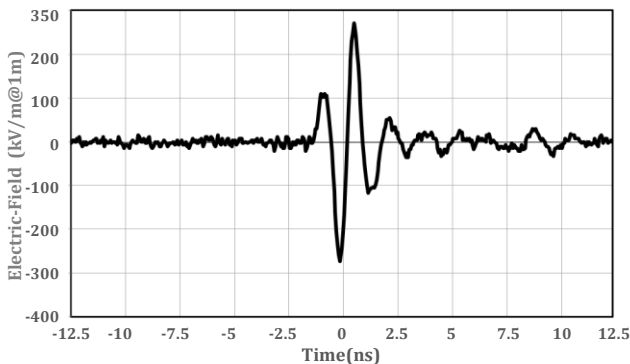
Beam Pattern(Vertical)



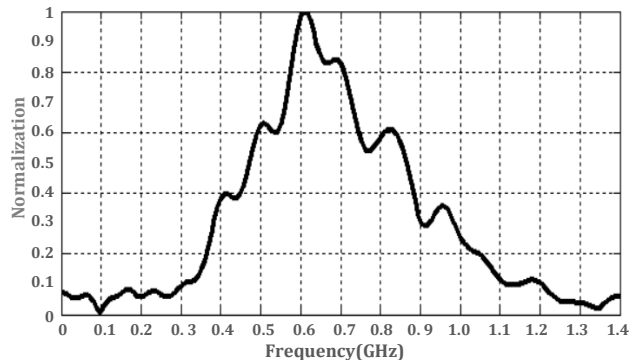
Beam Pattern(Horizontal)



Electric-Field Waveform



Frequency Spectrum(FFT)



※ **Far Voltage** mean $r \times E$ (r : distance from EMP GUN to any point in the far field area , E : E-field strength at the point).

EMP GUN – M50

Product Description

M50 generates very powerful electromagnetics pulse (EMP) that can neutralize electronic devices with the malicious purposes.

M50 has an Omni-directional radiation feature, which can simultaneously stop working various the electronic devices located around a maximum radius 50m.

To improve portability, it is lightweight at around 40kg and is battery operated, so it can be used for personal or VIP protection.

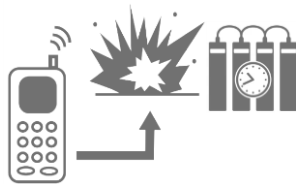


Features

- Non-nuclear EMP signal generation
- Maximize mobility by using battery power
- Radiated EMP signals is the shape of pulse with a width of several nanoseconds, so the average of radiated power is very low and therefore it is harmless to the human body.
- Radiated EMP signals has a wideband frequency characteristics, which can effect on random electronic devices.
- Directional type in which EMP signals radiate in Omni-directions.

Applications

- M50 can be used to stop working of the IT device for malicious purposes such as spy camera, wiretapping .
- M50 used to stop working of the COTS(digital timer, car alarm etc.), which is used as the device to remotely control operation of IED (Improvised Explosive Device)



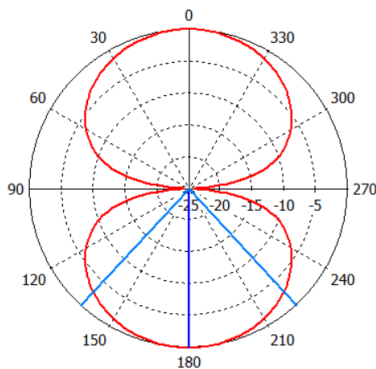
VIP protection , Blocking of IED, Spy camera and Wiretapping

EMP GUN – M50

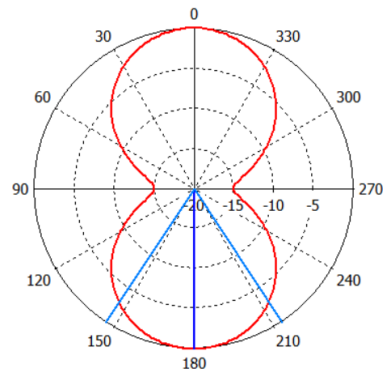
Specifications

Parameter	Value
Model Name	M50
Power Rating	Lithium Polymer Battery (25.9V/3.25Ah , 84.2Wh)
Peak E-field Strength	$\geq 25\text{kV/m@10m}$ (Far Voltage : 250KV)
E-field Shape	Monocycle
Center Frequency	600MHz
Bandwidth(-10dB)	550MHz (350MHz ~ 900MHz)
Radiation angle(-3dB beam width)	Vertical : 85.7° , Horizontal : 66.6°
Battery Operation Time	1hour(1shot@1sec.) , 30min.(5shot@1sec.)
PRF(Pulse Repetition Frequency)	1 ~ 10Hz
Insulation	N2 gas
Storage/Working Temperature	$-5^\circ\text{C} \sim 50^\circ\text{C}$ / $0^\circ\text{C} \sim 45^\circ\text{C}$
Size(L×W×H) / Weight	$0.8\text{m} \times 0.52\text{m} \times 0.4\text{m}$ / 40kg

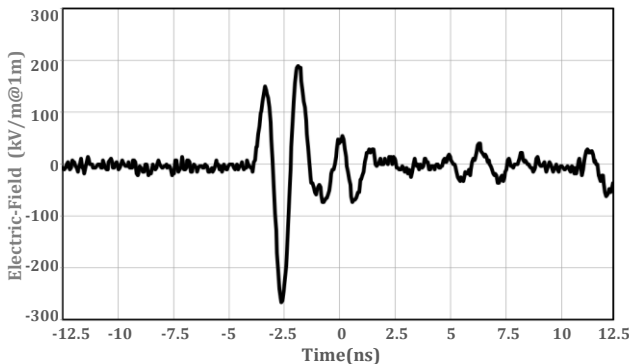
Beam Pattern(Vertical)



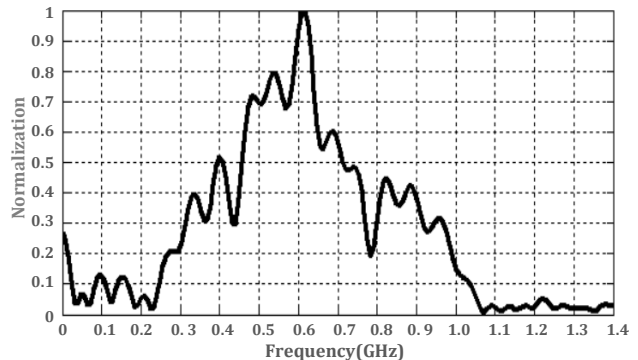
Beam Pattern(Horizontal)



Electric-Field Waveform



Frequency Spectrum(FFT)



※ **Far Voltage** mean $r \times E$ (r : distance from EMP GUN to any point in the far field area , E : E-field strength at the point).

EMP GUN – M60-P

Product Description

M60-P generates very powerful electromagnetics pulse (EMP) that can neutralize electronic devices with the malicious purposes.

M60-P has the directional radiation feature, which can simultaneously stop working various electronic devices located maximum 60m.

Specially, the M60-P can be used for vehicles engine stop controlled by an electronic fuel injection control system.

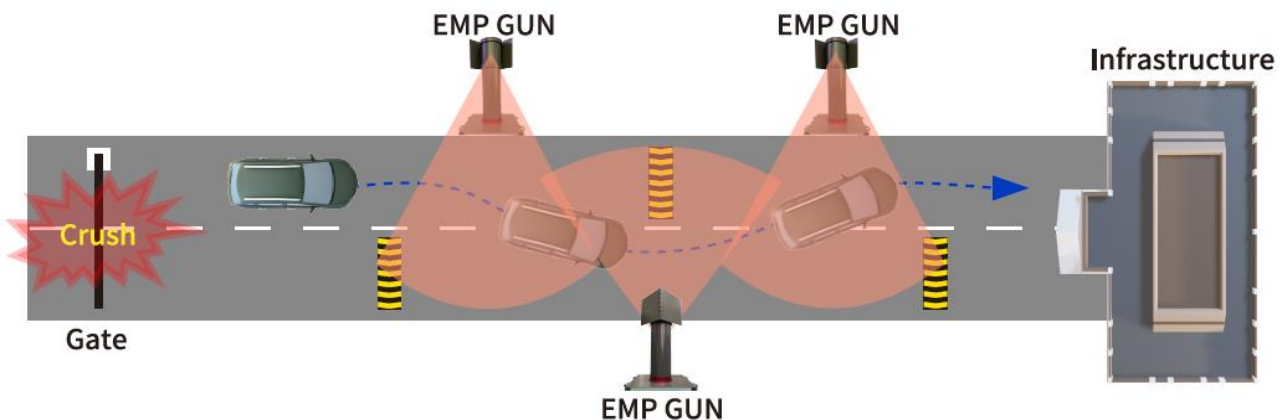


Features

- Non-nuclear EMP signal generation
- Maximize mobility by using battery power
- Radiated EMP signals is the shape of pulse with a width of several nanoseconds, so the average of radiated power is very low and therefore it is harmless to the human body.
- Radiated EMP signals has a wideband frequency characteristics, which can effect on random electronic devices.
- Directional type in which EMP signals radiate in one directions.

Applications

- By installing several M60-P along the entrance drive way of a building, it can be used to stop the engine of an unauthorized entry vehicles.



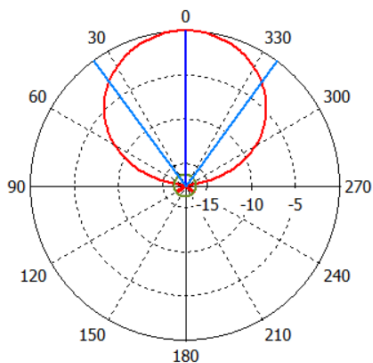
Unauthorized Entry Vehicle Blocking by the Engine Stopping

EMP GUN – M60-P

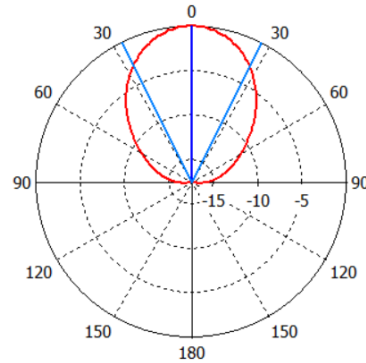
Specifications

Parameter	Value
Model Name	M60-P
Power Rating	Lithium Polymer Battery (25.9V/3.25Ah , 84.2Wh)
Peak E-field Strength	$\geq 30\text{kV/m@10m}$ (Far Voltage : 300KV)
E-field Shape	Monocycle
Center Frequency	620MHz
Bandwidth(-10dB)	610MHz (280MHz ~ 890MHz)
Radiation angle(-3dB beam width)	Vertical : 73° , Horizontal : 54°
Battery Operation Time	1hour(1shot@1sec.) , 30min.(5shot@1sec.)
PRF(Pulse Repetition Frequency)	1 ~ 5Hz
Insulation	N2 gas
Storage/Working Temperature	-5°C~50°C / 0°C~45°C
Size(L×W×H) / Weight	0.4m × 0.4m × 1.2m / 40kg

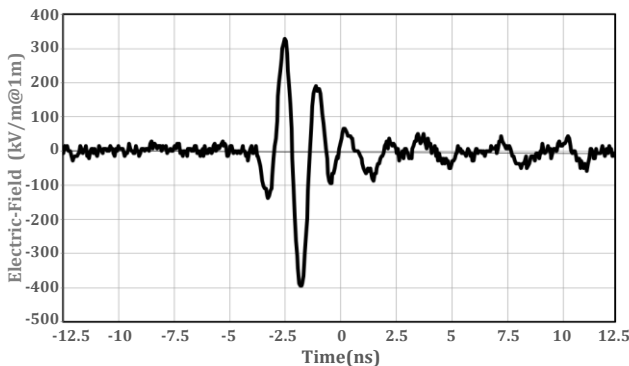
Beam Pattern(Vertical)



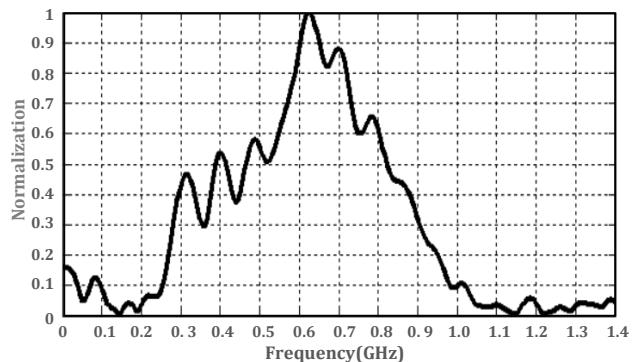
Beam Pattern(Horizontal)



Electric-Field Waveform



Frequency Spectrum(FFT)



※ **Far Voltage** mean $r \times E$ (r : distance from EMP GUN to any point in the far field area , E : E-field strength at the point).

EMP GUN – M200

Product Description

M200 generates very powerful electromagnetics pulse (EMP) that can neutralize electronic devices with malicious purposes.

Specially, the M200 can be used for vehicles engine stop controlled by an electronic fuel injection control system. M200 can be customized to be mounted on various platforms such as the vehicles, ships, and ground-fixed installations according to user needs.

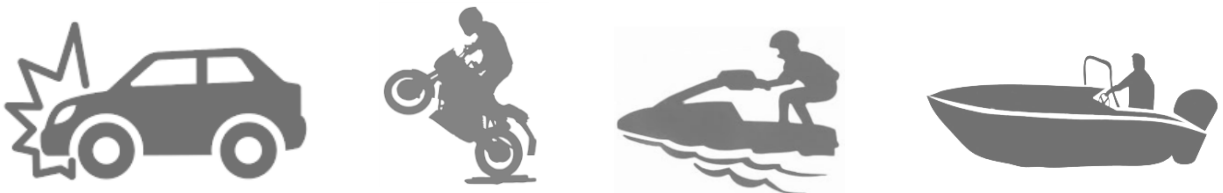


Features

- Non-nuclear EMP signal generation
- Maximize mobility by using battery power
- Radiated EMP signals is the shape of pulse with a width of several nanoseconds, so the average of radiated power is very low and therefore it is harmless to the human body.
- Radiated EMP signals has a wideband frequency characteristics, which can effect on random electronic devices.
- Directional type in which EMP signals radiate in one directions.

Applications

- M200 can be used to stop the engine of a moving vehicles for malicious purposes, such as car bomb attack, reckless motor cycle, illegal fishing motor boat.
- M200 can stop the engine in several seconds and the engine is not restart while the EMP is being radiated.
- It is recommended to use it for temporarily and continuously stopping the engine, not for permanent damage to the engine.



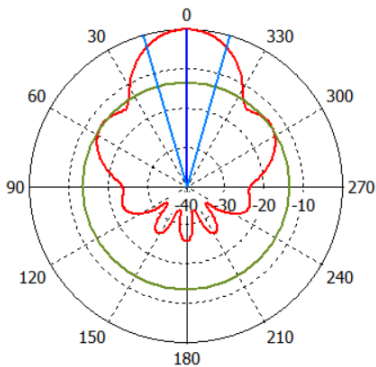
Engine stopping of moving Car, Motor Cycle and Motor Boat

EMP GUN – M200-SG

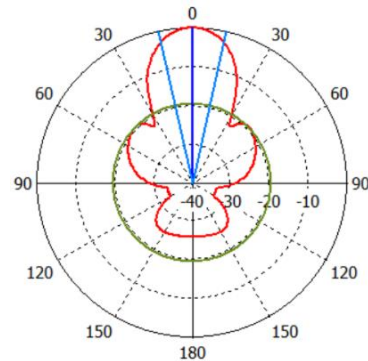
Specifications

Parameter	Value
Model Name	M200-SG
Power Rating	Lithium Polymer Battery (25.9V/12Ah , 310.8Wh)
Peak E-field Strength	≥85kV/m@10m (Far Voltage : 850KV)
E-field Shape	Monocycle
Center Frequency	650MHz
Bandwidth(-10dB)	610MHz (320MHz ~ 930MHz)
Radiation angle(-3dB beam width)	Vertical : 31° , Horizontal : 25°
Battery Operation Time	1hour(1shot@1sec.) , 30min.(10shot@1sec.)
PRF(Pulse Repetition Frequency)	1 ~ 10Hz
Insulation	N2 gas
Storage/Working Temperature	-5°C~50°C / 0°C~45°C
Size(L×W×H) / Weight	1.44m × 0.92m × 1.59m / 320kg

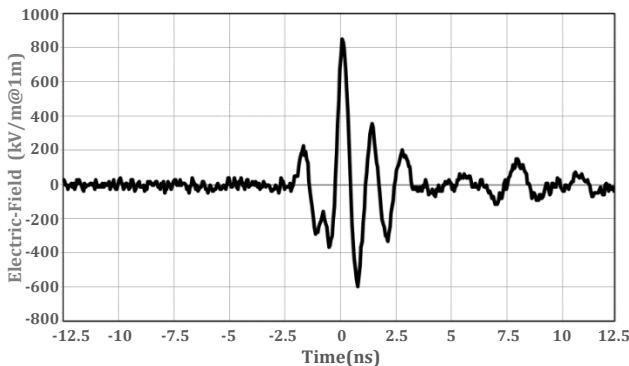
Beam Pattern(Vertical)



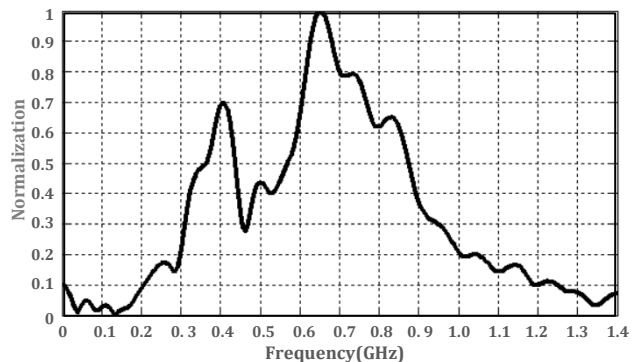
Beam Pattern(Horizontal)



Electric-Field Waveform



Frequency Spectrum(FFT)



※ **Far Voltage** mean $r \times E$ (r : distance from EMP GUN to any point in the far field area , E : E-field strength at the point).

EMP GUN – M500

Product Description

M500 generates very powerful electromagnetics pulse (EMP) that can neutralize electronic devices with malicious purposes.

Specially, M500 can be use for neutralize swarm drones that could threaten public events, critical infrastructure and military missions. It has a directional radiation angle of 11° , which allows it to neutralize multiple drones simultaneously without precise aiming.

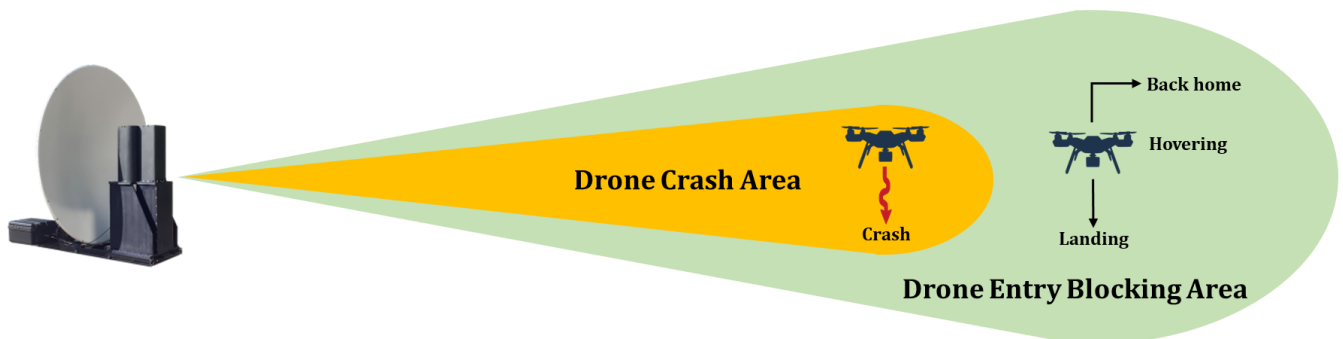


Features

- Non-nuclear EMP signal generation
- Maximize mobility by using battery power
- Radiated EMP signals is the shape of pulse with a width of several nanoseconds, so the average of radiated power is very low and therefore it is harmless to the human body.
- Radiated EMP signals has a wideband frequency characteristics, which can effect on random electronic devices.
- Directional type in which EMP signals radiate in one directions.

Applications

- M500 can be use for neutralize swarm drones that could threaten public events, critical infrastructure and military missions.
- The EMP radiated by the M500 directly affects the semiconductors inside of the drone. This will lead to drone crash or entry blocking such as back home, hovering and landing. This EMP effects depends on the drone model and attack distance.



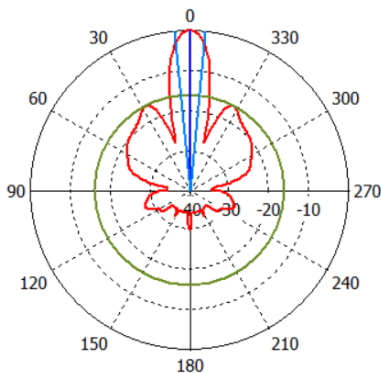
Anti-Drone System (Neutralization of swarm drones)

EMP GUN – M500

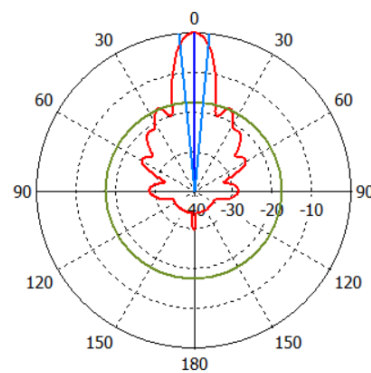
Specifications

Parameter	Value
Model Name	M500
Power Rating	Lithium Polymer Battery (25.9V/12Ah , 310.8Wh)
Peak E-field Strength	$\geq 250\text{kV/m@10m}$ (Far Voltage : 2500KV)
E-field Shape	Monocycle
Center Frequency	780MHz
Bandwidth(-10dB)	910MHz (320MHz ~ 1230MHz)
Radiation angle(-3dB beam width)	Vertical : 11° , Horizontal : 11.4°
Battery Operation Time	1hour(1shot@1sec.) , 30min.(10shot@1sec.)
PRF(Pulse Repetition Frequency)	1 ~ 10Hz
Insulation	N2 gas
Storage/Working Temperature	$-5^\circ\text{C}\sim 50^\circ\text{C}$ / $0^\circ\text{C}\sim 45^\circ\text{C}$
Size(L×W×H) / Weight	2m × 2.4m × 2.6m / 250kg

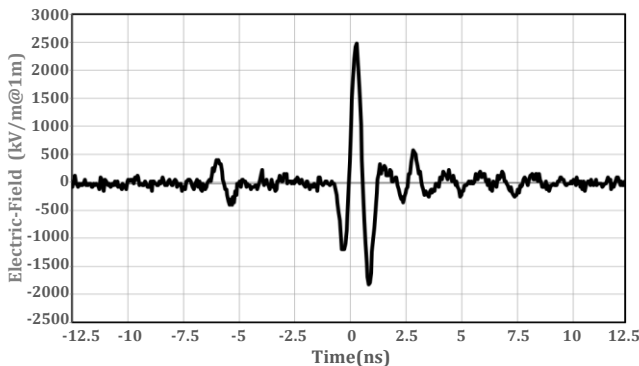
Beam Pattern(Vertical)



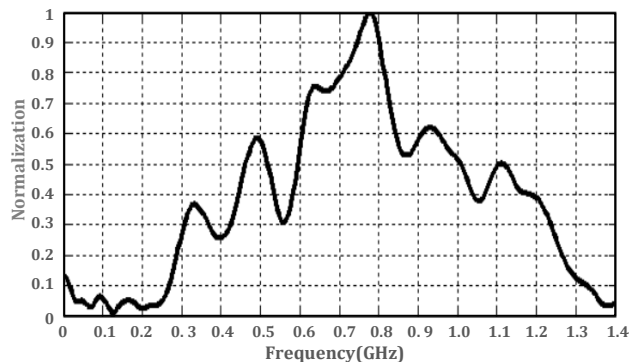
Beam Pattern(Horizontal)



Electric-Field Waveform



Frequency Spectrum(FFT)



※ **Far Voltage** mean $r \times E$ (r : distance from EMP GUN to any point in the far field area , E : E-field strength at the point).



EMP & HPEM SOLUTIONS PROVIDER



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