



ACE6 TECHNOLOGY

Pushing the Boundaries

Tactical Communication Product

ACE6's COFDM microwave networking solutions, mMESH, is the latest advanced microwave communication technology. It is able to form networks in both line-of-sight and non line-of-sight conditions. mMESH is a hub-less microwave communication product that allows point-to-point, point-to-multipoint, and multipoint-to-multipoint connectivity. Each node in the network can act as a repeater to offer an extended range coverage.

mMESH is designed to operate on a MESH/MANET platform whereby all radios operating in the network will be self-healing and consistently forming new radio frequency (RF) paths or links to enable users to create the most robust network possible in any given environment. The mMESH is a quick deploy bi-directional solution; a private IP-based network can be established in a matter of minutes, interconnecting up to 32 radios in a single frequency.

Being fully IP-based, the mMESH network is able to interconnect with any legacy IP-based network, inclusive of satellite IP networks. When combined with traditional satcomm or other long range strategic communication techniques, mMESH offers a truly last-mile connectivity for frontline operations. It allows the transmission of voice, data, and video from the front-end to the back-end operation command.

mMESH's self-forming capability supports mobility applications such as unmanned drones, convoy movements, anti-terror tactical unit deployment applications, etc. Equipped with AES 256, ACE6 mMESH provides a secure private communication network in the most extreme operating environments.



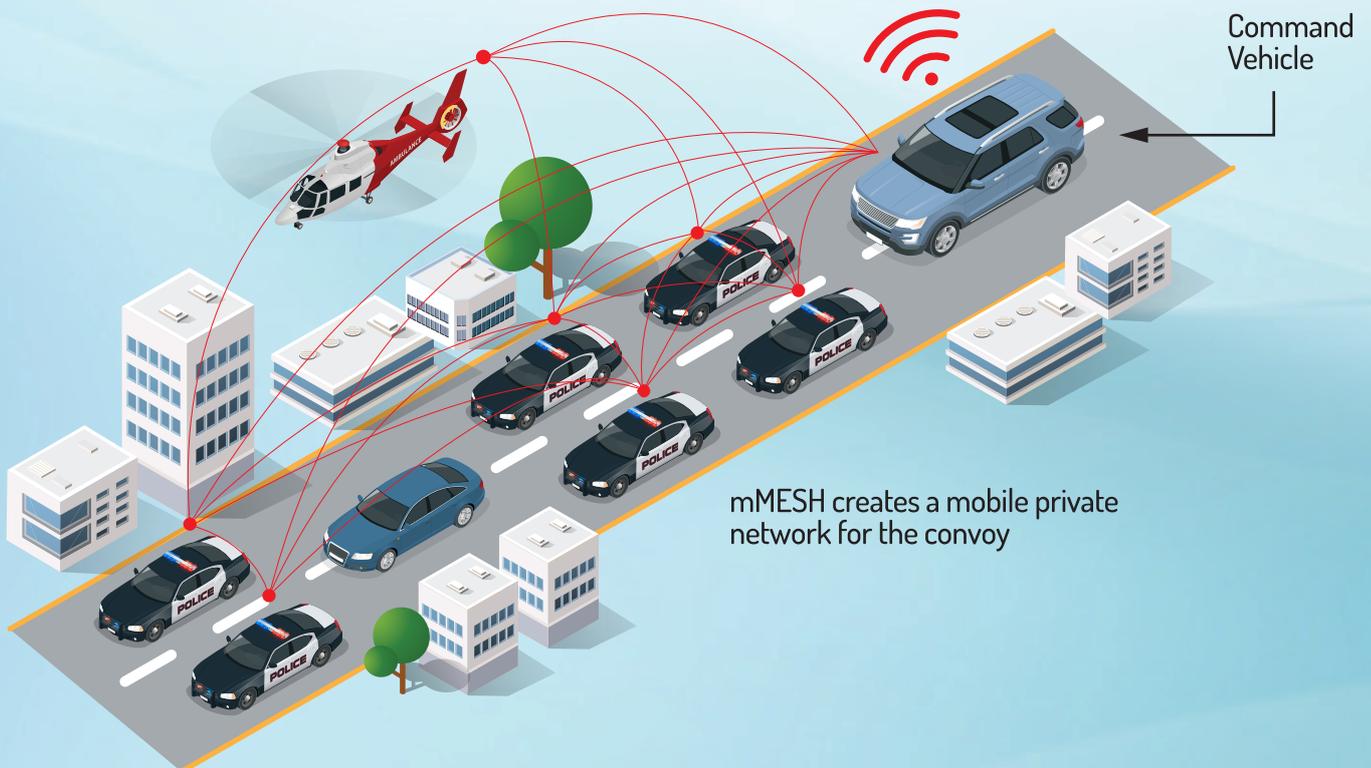
Tactical Team Scenario

Each of the tactical strike team member, Sniper/Spotter team, and Police Command Vehicle are equipped with our mMESH microwave communication device. This enables the user to create a private communication network among the police units that allows the transmission of video, audio, and data. Video from camera worn by the Strike Team and Sniper/Spotter teams, transmitted live data back to the Commander in the Command Vehicle. The Commander will also be able to communicate to all units via IP audio, and push latest information and updates to the Strike team and Sniper/Spotter teams remotely.



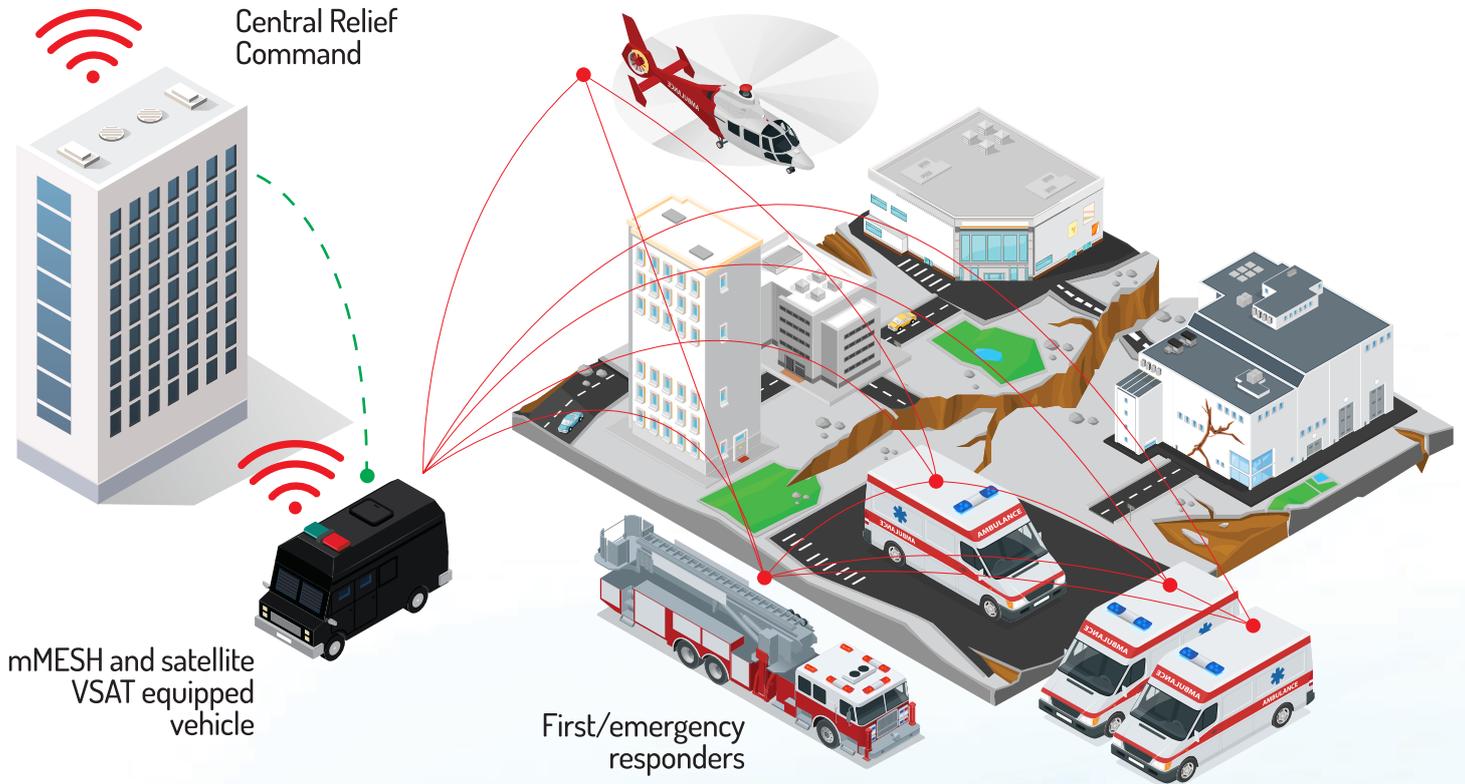
V.I.P Convoy Scenario

Each of the vehicles are installed with a ACE6 mMESH node that will create an ad-hoc microwave network among all the convoy vehicle. Equipped with video cameras connected to the mMESH nodes, the entire situational awareness of the convoy will be enhanced, where everyone in the security detail will know what is happening at the front and back of the convoy. Video, audio, and data are transmitted securely through each mMESH node, allowing each security personnel in each vehicle to have full visibility of the entire convoy movement.



Emergency Services Scenario

An ad-hoc communication network needs to be established promptly allowing communication links to Central Relief Command which may be located in another part of the country. ACE6 mMESH is a quick deploy microwave networking product that can be deployed quickly to establish a communication network for the first responders. Connecting the mMESH to a satellite (VSAT) terminal allows field operations personnel to communicate with Central Relief Command.



Maritime Protection Scenario

The mMESH can be deployed along the coastline to create a marine surveillance network for government agencies tasked with coastal security. Network as such will allow coastal patrol vessels to stay in constant communication with Shore Command and allow the transmission of video from cameras installed on patrol boats back to Shore Command. mMESH nodes installed on Patrol Boats will also act as repeater points to extend the network further out in the sea.





Overview

The 2W Robust mMESH is highly versatile due to its small size, light weight and weather proof design.

This model can be used in many different application like urban infrastructure, quickdrop applications for range extension, land/sea/aerial vehicles, tactical deployment, disaster recovery quick-deploy telecom infrastructure, search & rescue operations, private security networks, and etc.

The model comes with RS232 and Ethernet interface.

Product Specifications :

Output Frequency	: 450-650 / 1000-1500 / 2000-2500MHz
Carrier Bandwidth	: 2.5 / 5.0 / 10.0 / 20.0 MHz
Data Rate	: Up to 56 Mbps
Transmit Power	: 2W
Receive Sensitivity	: < -100dBm
Power Input	: DC 28 - 36V
Power Consumption	: 9W (Standby), 25W (Max)

Physical :

Dimension	: 172 x 65 x 172 mm
Weight	: 1.6 Kg
Operating Temperature	: - 20°C to 50°C
IP Rating	: IP66

Features

- All IP Design
- Intelligent Routing
- Ease of Operation
- Advanced Encryption
- Robust Design
- Light-weight

Device Interfaces :

Antenna	: N-type x 2
Control	: Ethernet x 1
Serial	: RS 232 or GPS

License Options :

1. AES 128 / AES 256 Encryption
2. Hop Mode
3. Interference Avoidance (Smart)
4. Interference Resistance

Accessories Option:

1. GPS



Overview

The High Powered mMESH node is designed for infrastructure applications like telecom infrastructure redundancy, mobile backhaul infrastructure, remote area connectivity, private security networks, and etc.

It is widely deployed in the marine and oil & gas sector, as well as used in specialised vehicles.

Built in with a 10W Power Amplifier, it offers longer transmission range. The model comes with RS232 and Ethernet interface.

Product Specifications :

Output Frequency	: 500-650 / 1000-1500MHz
Carrier Bandwidth	: 2.5 / 5.0 / 10.0 / 20.0 MHz
Data Rate	: Up to 56 Mbps
Transmit Power	: 10W
Receive Sensitivity	: < -100dBm
Power Input	: AC 230V
Power Consumption	: 90W (Max)

Physical :

Dimension	: 385 x 310 x 180 mm
Weight	: 12.8 Kg (1000 - 1500MHz) 12.9 Kg (500 - 650MHz)
Operating Temperature	: -40°C to 50°C
IP Rating	: IP65

Features

- All IP Design
- Intelligent Routing
- Ease of Operation
- Advanced Encryption
- Robust Design
- High-Powered Amplifier

Device Interfaces :

Antenna	: N-type x 2
Control	: Ethernet x 1
Serial	: RS 232 or GPS

License Options :

1. AES 128 / AES 256 Encryption
2. Hop Mode
3. Interference Avoidance (Smart)
4. Interference Resistance

Accessories Option:

1. GPS



Overview

The 2W Standard mMESH comes with inbuilt video encoder, and comes with HDMI and CVBS interface typically used when video surveillance is required.

Some area of applications include border, remote area, critical area, public events security, safe city applications, and private security networks.

Besides the HDMI and CVBS interface, the unit also comes with serial and ethernet interface together with built in WIFI.

Product Specifications :

Output Frequency	: 450-650 / 1000-1500 / 2000-2500MHz
Carrier Bandwidth	: 2.5 / 5.0 / 10.0 / 20.0 MHz
Data Rate	: Up to 56 Mbps
Transmit Power	: 2W
Receive Sensitivity	: < -100dBm
Video Encoding	: H.265
Image Quality	: Supports CIF / HD1 / D1 / 720P / 1080P
Power Input	: DC 28 - 36V
Power Consumption	: 9W (Standby), 25W (Max), +3W (With Encoder)

Physical :

Dimension	: 180 x 65 x 170 mm
Weight	: 1.55 Kg
Operating Temperature	: - 20°C to 50°C

Features

- All IP Design
- Intelligent Routing
- Ease of Operation
- Advanced Encryption
- High Efficiency Video Encoding
- PTZ Interface

Device Interfaces :

PTZ Control	: RS485 (option)
Antenna Interface	: N-type x 2
Video Interface (with video encoder option)	: Interface (CVBS), HDMI, SD Card
Control Interface	: Ethernet x1
Serial Interface	: RS 232 or GPS
USB	: USB 2.0 Interface.
Audio	: 3.5mm audio jack

License Options :

1. AES 128 / AES 256 Encryption
2. Hop Mode
3. Interference Avoidance (Smart)
4. Interference Resistance
5. WiFi

Accessories Option:

1. GPS



Overview

The PTT mMESH is our latest product that caters to a segment that requires handheld mMESH product but does not require the higher-end specs of the Robust bodyworn mMESH.

This model is highly suitable for search & rescue operations, marine surveillance & protection, border patrol, city patrol, disaster first responder, and remote area application for mining, oil & gas, or logging.

This model comes with a LCD screen and a keypad for standard PTT application as well as built in WIFI.

Product Specifications :

Output Frequency	: 520 - 650 / 1200 - 1500 MHz
Carrier Bandwidth	: 2.5 / 5.0 / 10.0 MHz
Data Rate	: Up to 28 Mbps
Transmit Power	: 500mW (1200 - 1500 MHz) 1W (520 - 650 MHz)
Receive Sensitivity	: < -100dBm
Video Encoding	: H.265 (External Option)
Image Quality	: Supports CIF / HD1 / D1 / 720P / 1080P
Power Input	: Battery Powered, 7.6V
Power Consumption	: 4.6W (Standby), 9.1W (Max)

Physical :

Dimension	: 155 x 78 x 40 mm
Weight	: 0.436 Kg (with battery), 0.233 Kg (w/o battery)
Operating Temperature	: - 30°C to 55°C
IP Rating	: IP54

Features

- All IP Design
- Intelligent Routing
- Ease of Operation
- Advanced Encryption
- Light-Weight
- Compact

Device Interfaces :

Antenna	: SMA x2
Control	: LEMO (USB)
Audio	: PTT
Buttons	: Front - Menu, Home, Confirm, Back, Quad Directional , and Numerical Buttons Side - PTT, On/Off, and SOS Button
Display	: 1.8" LCD Display (320*240)

License Options :

1. AES 128 / AES 256 Encryption
2. Hop Mode
3. Interference Avoidance (Smart)
4. Interference Resistance
5. WiFi

Accessories Option:

1. Lithium Ion Battery
2. External Video Encoder - CVBS
3. External Video Encoder - HDMI



Overview

The Robust Bodyworn mMESH is designed for tactical and spec-ops application, where mission-critical and all round communication is required for the success of the operation.

The mMESH network allow 2-way IP communication between the Operation Commander and the tactical unit(s).

This model comes with options for PTT headsets, helmet cameras and GPS. Standard IP and RS232 interface are available. This model comes with built-in WIFI.

Product Specifications :

Output Frequency	: 450-650 / 1000-1500 / 2000-2500MHz
Carrier Bandwidth	: 2.5 / 5.0 / 10.0 / 20.0 MHz
Data Rate	: Up to 56 Mbps
Transmit Power	: 250mW
Receive Sensitivity	: < -100dBm
Video Encoding	: H.265 (External Option)
Image Quality	: Supports CIF / HD1 / D1 / 720P / 1080P
Power Supply	: DC 6 - 15.5V
Power Consumption	: 6W (Standby), 10W (Max), +3W (With Encoder)

Physical :

Dimension	: 235 x 80 x 38 mm (with battery) 145 x 80 x 38 mm (w/o battery)
Weight	: 0.923 Kg (with battery), 0.548 Kg (w/o battery)
Operating Temperature	: - 20°C to 50°C
IP Rating	: IP67

Features

- All IP Design
- Intelligent Routing
- Ease of Operation
- Advanced Encryption
- Robust Design
- Lower power consumption

Device Interfaces :

Antenna	: TNC x2
Video	: External Video Encoder
Control	: Ethernet
Serial	: RS232 or GPS
USB	: LEMO (USB)
Audio	: Pogo

License Options :

1. AES 128 / AES 256 Encryption
2. Hop Mode
3. Interference Avoidance (Smart)
4. Interference Resistance
5. WiFi

Accessories Option:

1. Lithium Ion Battery
2. External Video Encoder - CVBS
3. External Video Encoder - HDMI



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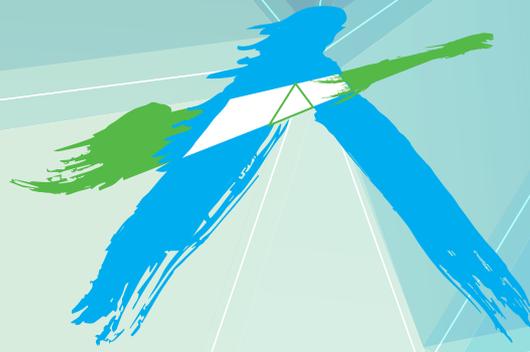
About Us

Headquartered in Singapore, ACE6 Technology is made up of a team of business professionals and engineers that have many years of experience in the telecommunication industry. We conduct R&D work to produce the next generation communication and surveillance technologies that customers can deploy to enhance protection and security for assets and human lives.

In early 2017, we have launched our mMESH series of microwave communication products based on COFDM technology. mMESH is an advance microwave communication product that is able to establish an IP-based communication network in both line-of-sight and non line-of-sight situation. The solution is hub-less, and it forms connection in point-to-point, point-to-multipoint, and multipoint-to-multipoint settings.

In addition, we have build up a portfolio of products that complement our mMESH products. These products can be integrated with mMESH to offer bespoke solutions to government agencies responsible for homeland security and defence. Our solutions can also be adapted for the private sector such as broadcasters, oil & gas, and etc.

Since the launch of mMESH, we have successfully deployed and implemented projects in Asia Pacific and the Middle East.



ACE6 TECHNOLOGY
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