

# LONG RANGE RADIO

**EMESENT'S LONG  
RANGE RADIO  
FAST-TRACKS  
INSPECTIONS AND  
SURVEYING WITH  
CONTINUOUS  
SCANNING**

Live Hovermap data and autonomy control from up to 20 times further with Emesent's Long Range Radio to ensure you're capturing the valuable data you need safely.

When mapping large areas or autonomously inspecting complex assets with Hovermap, monitoring the flight progress and interacting with the flight autonomy from a distance is a time-saving advantage.

Emesent's Long Range Radio accessory easily attaches to a compatible Hovermap to increase the connectivity range up to 20 times, for a reach of up to one kilometer with above ground, line of site flight. This allows you to reap the full benefits of Hovermap's autonomy and mapping capabilities and extend the range of its applications.

Capture accurate point clouds of industrial buildings, campuses, forests, or terrain with safe, GPS-denied flight while still receiving real-time data and setting Smart Waypoints for Guided Exploration, all from a distance. Capture more with a single flight from one location, avoiding unnecessary setup, pack down, and moving time.

Long Range Radio, Hovermap ST, and Hovermap ST-X have weather sealed designs allowing the capture of valuable data in previously inaccessible areas, whether that's above ground, underground, indoors or out. Together they can be mounted to a drone or vehicle, providing the versatility needed to capture data anywhere.



Make informed  
mid-flight decisions



Extend the range  
of Hovermap  
applications



Ensure complete  
point cloud  
coverage



Save time in the  
field and speed  
up your workflow



Emesent's Long Range Radio is composed of two components - an air-side radio that attaches to Hovermap's accessory port and a ground-side radio that can be tablet or tripod mounted and connects via WiFi to the tablet. Together, they extend the connectivity range to Hovermap.



**EXPLORE FURTHER INTO THE INACCESSIBLE**

Long Range Radio provides the ability to leverage Hovermap's autonomous flight modes more effectively by allowing interaction with the autonomy interface over longer distances. Set or update Smart Waypoints mid-flight for Guided Exploration in GPS-denied environments - even beyond line of sight. Use the live-streamed 3D point cloud view for additional situational awareness in Hovermap's Pilot Assist Mode.



**CAPTURE AN ENTIRE ASSET IN ONE GO, STREAMLINING YOUR WORKFLOW**

Long Range Radio can save you time in the field with the ability to scan large, complex environments without having to return to home to update communications and check point cloud coverage or relocate equipment. Capturing the entire site in one continuous scan means there is no need to process and merge multiple data files, saving you time back in the office.



**ENSURE COMPLETE DATA CAPTURE**

With Long Range Radio, you can stream point cloud data over longer distances. This provides real-time previews of the data and gives you the confidence to leave site knowing you've captured everything you need.



**VERSATILITY**

Long Range Radio has been designed to take advantage of Hovermap's unique versatility, extending the communication range when mounted to UAVs and UGVs.

**LONG RANGE RADIO SPECIFICATIONS**

|                                                 |                                             |
|-------------------------------------------------|---------------------------------------------|
| <b>Ingress Protection</b>                       | IP65 certification pending                  |
| <b>Dimensions &amp; Weight</b>                  | <b>Air-side</b>                             |
|                                                 | 285 g (10 oz) with 915MHz antennas          |
|                                                 | 260g (9.2 oz) with 2.4GHz antennas          |
|                                                 | 32 x 94 x 120 mm (without antennas)         |
| 1 ¼ x 3 7/10 x 4 18/25 in (without antennas)    |                                             |
| <b>Operating Frequency &amp; Power</b>          | <b>Ground-side</b>                          |
|                                                 | 605 g (21.3 oz) with 915MHz antennas        |
|                                                 | 570g (20.1 oz) with 2.4GHz antennas         |
|                                                 | 55mm x 80mm x 155mm                         |
| 15/32 x 3 9/64 x 6 7/64 in                      |                                             |
| <b>Operating Frequency &amp; Power</b>          | <b>Long Range Link</b>                      |
|                                                 | 2.4GHz Model: EU: 2447-2457MHz @ 20dBm EIRP |
|                                                 | JP: 2447-2457MHz @ 23dBm EIRP               |
|                                                 | AU/US/CA: 2447-2457MHz @ 30dBm EIRP         |
| 915MHz Model: AU/US/CA: 916-926MHz @ 30dBm EIRP |                                             |
| <b>Ground-side Wifi Access</b>                  |                                             |
| 2437-2447MHz @ 20dBm EIRP (all models)          |                                             |

|                                |                                                                                         |
|--------------------------------|-----------------------------------------------------------------------------------------|
| <b>Maximum Tested Distance</b> | 1 km (3 281 ft) for above ground line of sight flights*                                 |
|                                | 500 m (1 640 ft) when flying around bridges and occasional beyond visual line of sight* |
|                                | 150 m (492 ft) for non line of sight underground*                                       |
|                                | <small>*Subject to environment/geometry and region configuration</small>                |
| <b>Throughput</b>              | up to 20 Mbps                                                                           |
| <b>Data Encryption</b>         | 128-bit AES hardware data encryption                                                    |
| <b>Power</b>                   | <b>Air-side</b>                                                                         |
|                                | 9-20V (15W)                                                                             |
| <b>Operating Temperature</b>   | <b>Ground-side</b>                                                                      |
|                                | 9-20V (18W). Supported batteries Nitecore NB10000 Gen 1 & Gen 2. Battery life 4 hours.  |
| <b>Hovermap Compatibility</b>  | Hovermap ST, Hovermap ST-X                                                              |