## CIRGUIT DESIGN, INC.

# Private network system for IoT Animal Tracking System ANIMAL MAP

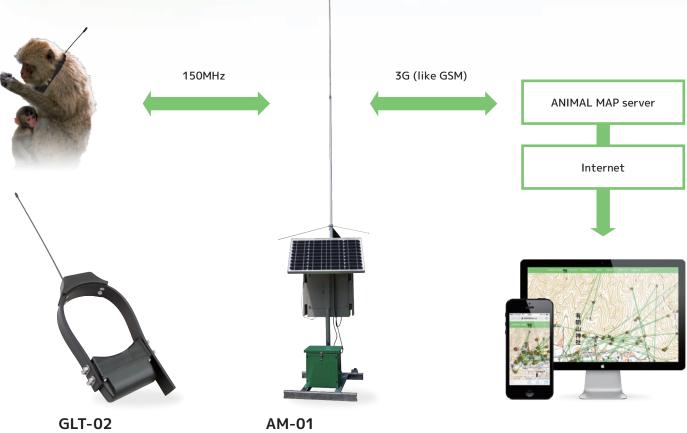
ANIMAL MAP is a private network system to monitor and track the position and collect sensor data of wild animals wearing the GPS collar transmitter by your PC or Smartphone sitting in your desk.

The system consists of a GPS collar (GLT-02 and GLT-03) worn by the wild animal, along with base station (AM-01) serving as a concentrator and gateway, network server (ANIMAL MAP server) and PC or Smartphone.

To build the ANIMAL MAP network, you install the base station where you expect the radio wave emitted from the GPS collar of the targeted wild animal to be received. The base station communicates with the GPS collars using VHF (142MHz band in Japan) and collects the location and



sensor data which are transmitted to the cloud server (ANIMAL MAP server) through 3G (such as GSM). Such location and sensor data is available on the browser and can be monitored anywhere from your PC or Smartphone.



GPS collar for macaque

GLT-03 GPS collar for deer **AM-01** ANIMAL MAP base station

PC , Tablet , Smartphone



ANIMAL MAP and its system (hardware and software) are designed for the Japanese domestic market. It uses 142MHz that complies with the Japanese radio regulation. If you are interested in the system for use in your own country, please contact us.

# Viewer

### **ANIMAL MAP demonstration**

You can monitor the ANIMAL MAP. You can see the latest location and tracking log of a macaque living in the forest around CIRCUIT DESIGN's office in Hotaka, Nagano Japan.



Name : azumino@animalmap.jp Password : mirudake

www.tracking21.jp/products/animalmap/animalmap.html

### ANIMAL MAP base station AM-01

### Specifications

| Item                        | Specifications   |
|-----------------------------|--|
| Applicable radio regulation | ARIB STD-T99   |
| Frequency                   | CH-1:142.94MHz, CH-2:142.95MHz                         |
|                             | CH-3:142.96MHz, CH-4:142.97MHz                         |
|                             | CH-5:142.98MHz   |
| RF output power             | 100 mW   |
| Operation range             | 4 km in the line of sight                              |
| Radio link to the cloud     | 3G   |
| Antenna to communicate      | Gain 6.5 dB (144MHz) 2.9 m                             |
| with GPS collar (VHF)       |  |
| Battery                     | 38Ah, minimum operation for 10 days                    |
|                             | without solar charging                                 |
| Solar cell                  | Single ctistal silicon type                            |
|                             | Maximun nominal output 36 W                            |
|                             | (Module temp 25C, AM1.5, Radiation illuminance 1kW/m2) |
| Weight                      | 26.5 kg including antenna                              |
| Dimensions                  | 125.5 x 66 x 60 cm without antenna                     |

### **External view and dimensions** (ANIMAL MAP base station)

