

Poultry Weighing unit Data Sheet V1.4



Andromeda Robotics

Cutting Edge - AI capabilities
through cloud-based hardware



Andromeda Robotics Solution

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General Info.

- Portable unit – 8 Kg. with Bar unit & handle
- Battery powered 60 day duration –18650 Lithium 4 Battery pack
- Accuracy – Less than 1% variance
- Information availability – weight information provide within minutes of actual weight measurement.
- No significant time lag in comparison to other weight units
- No infrastructure build costs to hardwire poultry sheds to connect platforms.
- Data can integrate with multiple existing systems via API connectivity.
- Measure the number of Jumps – Implicate the activity levels
- Easy to calibrate – 1 button to press on – takes only 5 seconds,
- Stainless still product, Come with a silicon cover – easy to clean

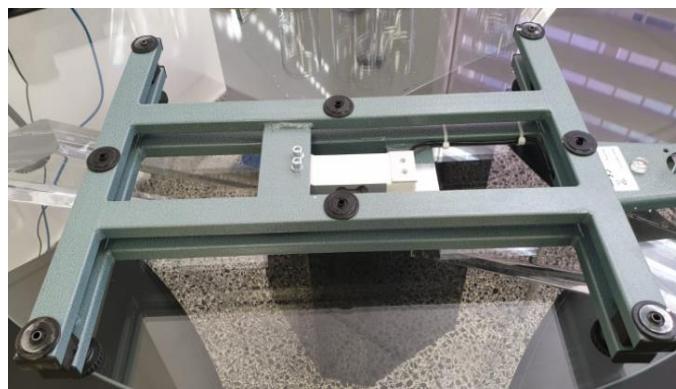
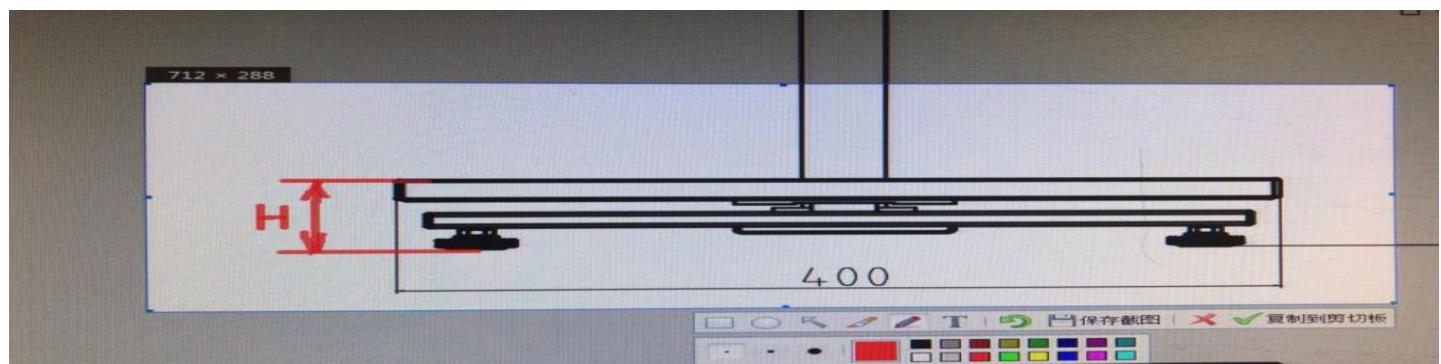
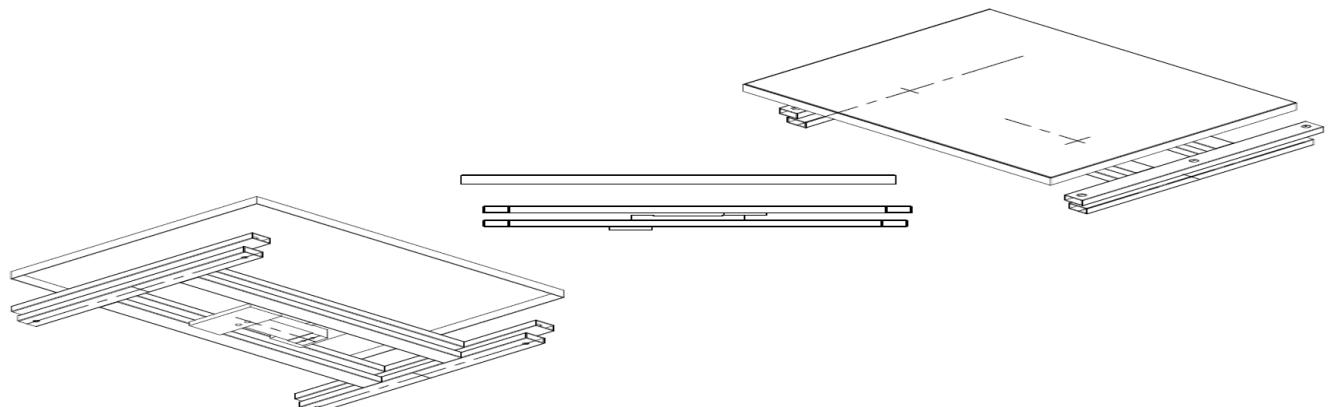
Poultry weighing steel frame Dimensions

Dimensions:

Length – 400 Cm

Width – 500 Cm

Height – 60 Cm



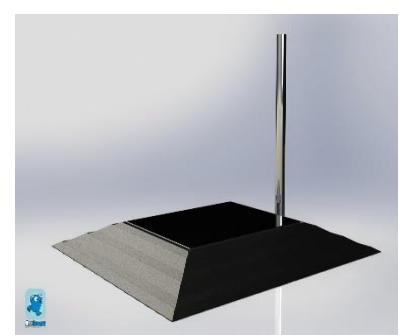
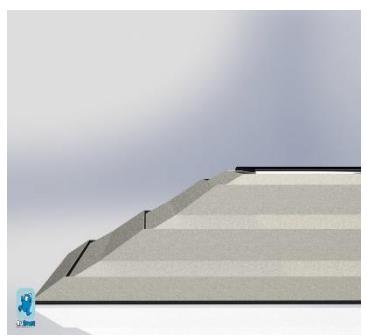
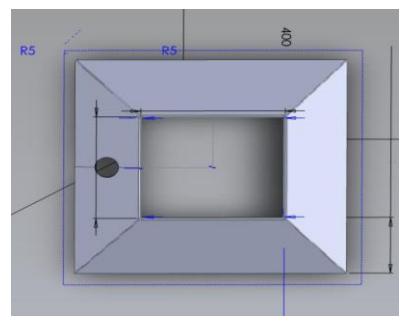
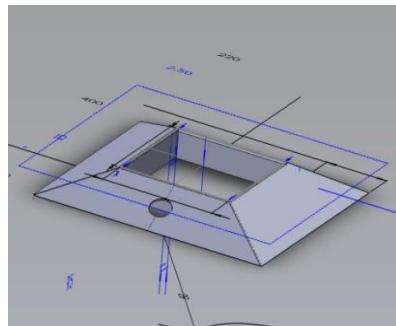
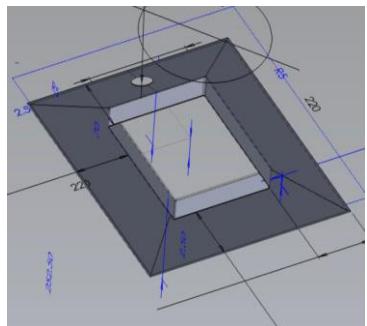
Ramp Frame Dimension

Material: 2.5mm start thickness ABS,

Color: black

Dimension: 873.1*773.3*68.5mm,

Texture: ZR'S texture



LoadCell info.

Special features

- OIML R60 approved
- NTEP HB44 approved
- Max. capacities: 5kg – 50kg
- Off center load compensated (OIML R76)
- Max. platform size: 300 x 350mm
- IP65 protection
- Aluminum construction

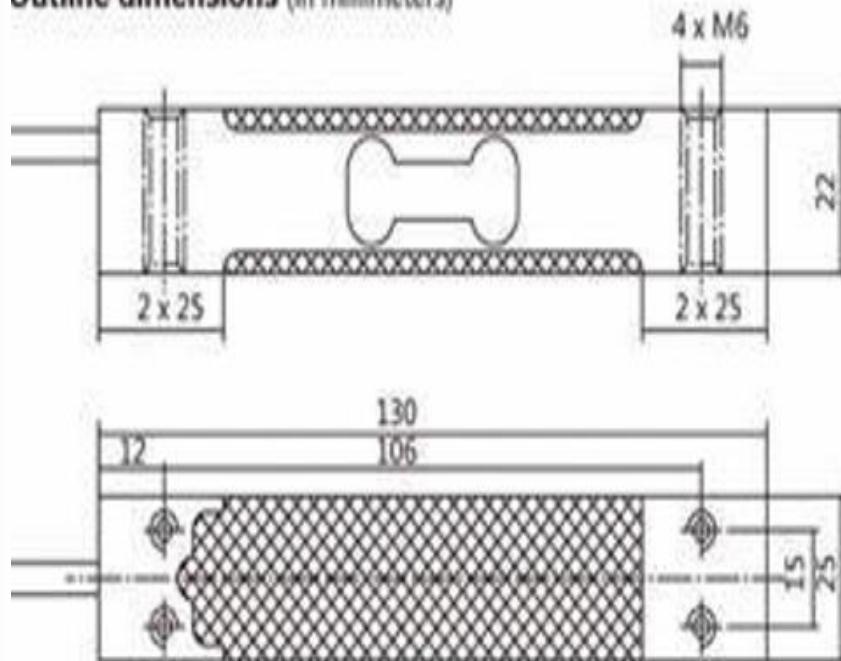


Model WL1022

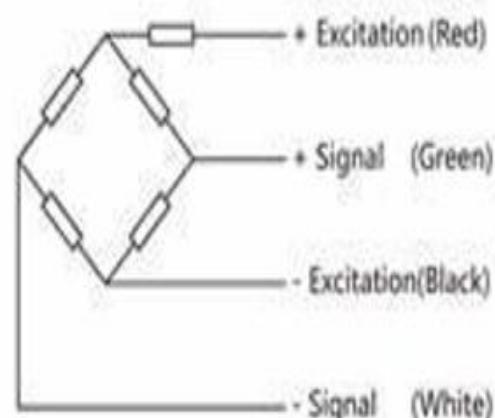
Optional

- Reduced minimum LC verification interval (Vmin) for MR and MI applications
- Reduced creep return for MI applications
- Different cable lengths

Outline dimensions (in millimeters)



Wiring Schematic Diagram



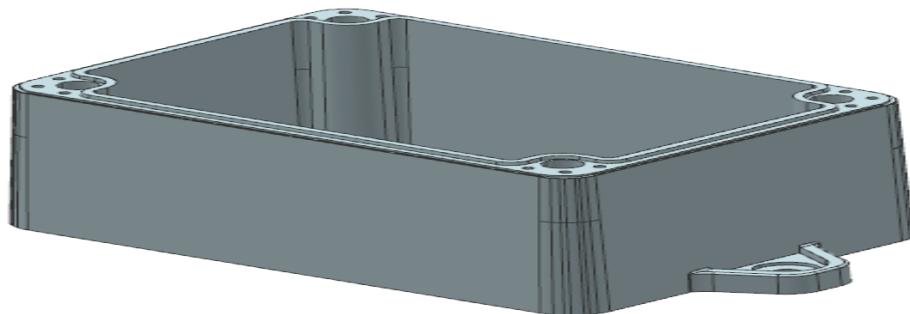
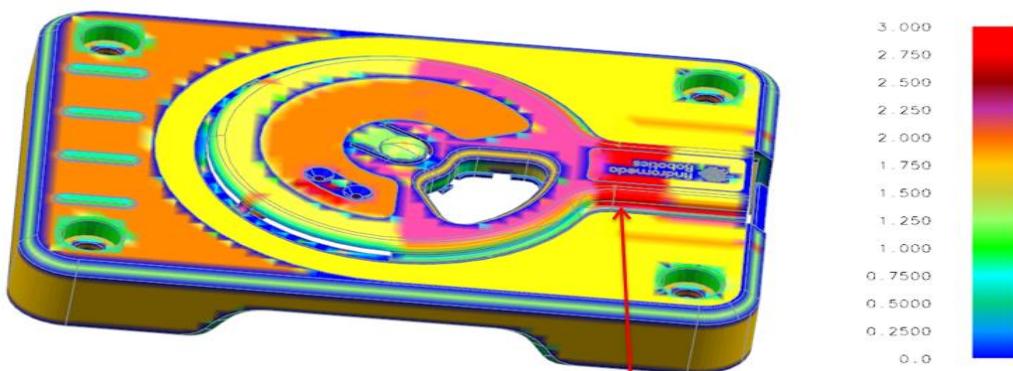
AI Controlling Unit

Hardware open source (OS) – Arm Processor, the ‘MBED OS’ which is trusted OS for IoT. Power saving energy, measuring every 50ms Avg. by 1sn, send data every 10 minutes of all seconds measured.

- Support leverage, expertise in Silicon and standards-based secure, connectivity stacks, RTOS kernel, middleware for storage and networking, Remote device management.

1. C {language} – Compilers, GNU General Public License (GPL), an open-source license, GCC using Cygwin or MinGW.
2. Protocol Buffers {'Protobuf'} – Google language-neutral, Extensible mechanism for structured Poultry weighing data.
3. Voltage 3.3V
4. 18650 Lithium Batteries
5. Current Consumption – 50mA

| Part Info: | | Tool Info: | |
|-----------------|-----------------|-------------|-------------|
| Part Size: | 111.1X63.5X45.9 | Mold Type: | Rapid Tool |
| Raw Material: | ABS | Cavity: | 1 |
| Part Color: | BLACK | Gate Type: | edge Gate |
| Surface Finish: | high polish | Runner: | Cool Runner |
| | | Tool Steel: | P20 |
| | | Life Time: | 100000 |



ANDROMEDA ROBOTICS SOLUTION

- PLATFORM -



Andromeda Galaxy – LoraWan Network server

General Overview

Andromeda Galaxy LoRaWAN network is an **OEM {B2B}** cutting edge system architecture for a LoRa network. We provides a new standard for the LoRa communication technology and enables seamless interoperability of devices and networks without complex installation requirements with adaptation to all classes (A,B,C) and version available.

Designed for Internet of Things (**IoT**), Business Intelligence (**BI**) & Artificial Intelligence(**AI**) applications. Add to that **bi-directional communication**, end-to-end encryption, mobility and **Full cover data policy** – Place us as the only network server who gives your organization 360 degrees data solution. Andromeda Galaxy operates within license-free sub-gigahertz radio bands – Due to that we enable very long-transmissions while using exceptionally low power consumption.

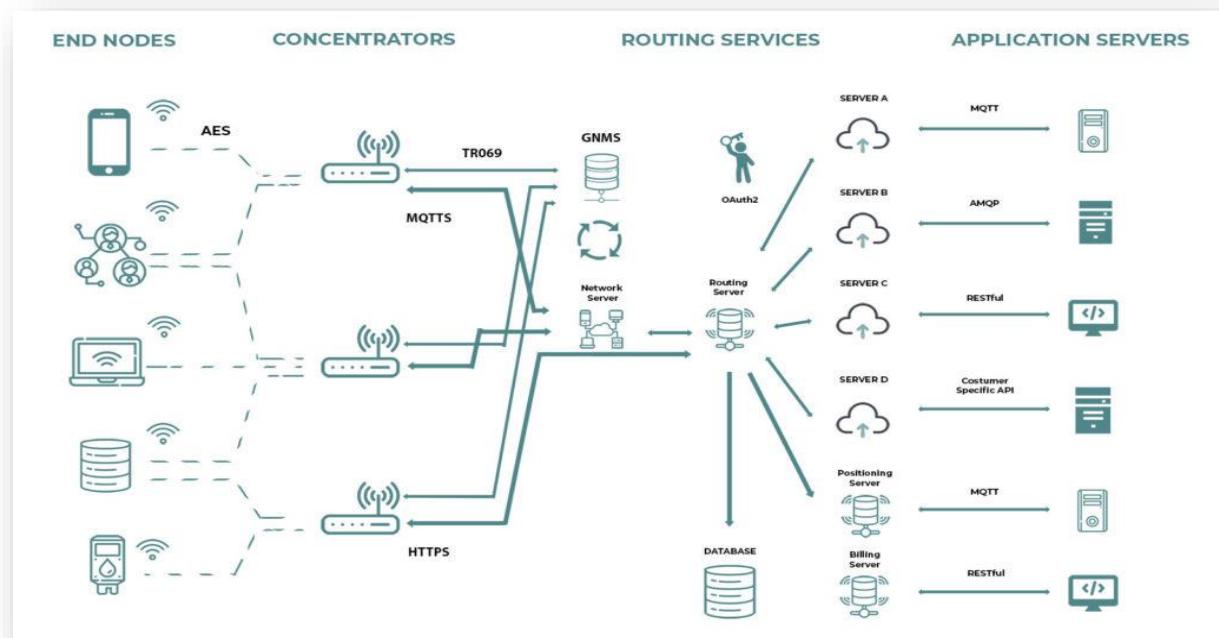
The LoRaWAN protocol is an **open standard developed** and maintained by a non-profit association called the LoRa Alliance.

Andromeda's LoraWan network server is a **multi-tenancy** open API application platform solution which build for big organization.

Andromeda Galaxy, **provide full control** on your organization in a simple platform.

Secure system, One of a kind Encryption algorithm, using MQTTS transmission with privet key to any customer. Andromeda is one of a few companies who develop & Provide MQTTS encryption LoraWan protocol services

Schematic Draft:



Andromeda Gateways & International B2B cooperation

Andromeda operate 2 types of gateways: Indoor & Outdoor gateways that can reach up to 10 Km. The gateway is well built full-duplex mode. Embedded in Linux operating system with main control chip ARM Cortex-A53 platform.

The gateway is backhaul via 10/100M Ethernet or LTE. Equipped with GPS module that could be easy used to generate a PPS signal for synchronization. Internal web UI is integrated for **quick configuration and fault diagnosis analysis** and maintenance.

Andromeda develop its own **packet forwarder** – fully compatible with LoraWan protocol. Includes minimum 10 programmable parallel demodulation paths & Pre-configured standard LoraWan frequency bands to use for different countries so **user can also customize the frequency bands to use their own Lora network**.

Various power supply plans are supported: DC injector, PoE and internal LiFe PO4 battery. It also provides Acid/Lithium battery charged with solar panels choice.

Provide **24/7 operational first Aid assistance & Alerts**. Can configure & set gateways remotely.

Connect & operate 3rd companies gateways, by customer demand. Andromeda Robotics has international 'Joint Venture' agreements with leading International Gateways companies such as **Tectelik & Drogino**. The agreements allow us to get full access to the software management operational system. So the customer get the same level of support.



Andromeda Galaxy Application Server

Andromeda Application server is open-source, responsible for the device part of LoRaWan infrastructure handling of Join-Request.

Galaxy Application is **encrypted with SSL certificate**.

Galaxy web solution contain **multiple features**: Payload encryption / decryption, Web- Interface, User authorization, API, Payloads and device events, Gateway discovery, Live frame-logging, Live event -logging.

Offer **additional web-interface** where users, organization, application and devices can be managed. Even for integration with external services, it offers a RESTful and Mqtt API.

-  Network-servers
-  Gateway-profiles
-  Organizations
-  All users
- chirpstack** 
-  Org. settings
-  Org. users
-  Service-profiles
-  Device-profiles
-  Gateways
-  Applications
-  Multicast-groups

Applications

CREATE

| ID | Name | Service-profile | Description |
|----|-----------------|-----------------|-----------------------------|
| 1 | air-quality | EU868 | Air quality application |
| 2 | parking-sensor | EU868 | Parking sensor application |
| 3 | weather-station | EU868 | Weather station application |

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ApplicationService

Show/Hide | List Operations | Expand Operations

| Method | Endpoint | Description |
|--------|--|---|
| GET | /api/applications | List lists the available applications. |
| POST | /api/applications | Create creates the given application. |
| PUT | /api/applications/{application.id} | Update updates the given application. |
| GET | /api/applications/{application_id}/integrations | ListIntegrations lists all configured integrations. |
| DELETE | /api/applications/{application_id}/integrations/http | DeleteIntegration deletes the HTTP application-integration. |
| GET | /api/applications/{application_id}/integrations/http | GetHTTPIntegration returns the HTTP application-integration. |
| DELETE | /api/applications/{application_id}/integrations/influxdb | DeleteInfluxDBIntegration deletes the InfluxDB application-integration. |
| GET | /api/applications/{application_id}/integrations/influxdb | GetInfluxDBIntegration returns the InfluxDB application-integration. |
| DELETE | /api/applications/{application_id}/integrations/thingsboard | DeleteThingsBoardIntegration deletes the ThingsBoard application-integration. |
| GET | /api/applications/{application_id}/integrations/thingsboard | GetThingsBoardIntegration returns the ThingsBoard application-integration. |
| DELETE | /api/applications/{id} | Delete deletes the given application. |
| GET | /api/applications/{id} | Get returns the requested application. |
| POST | /api/applications/{integration.application_id}/integrations/http | CreateHTTPIntegration creates a HTTP application-integration. |

Manual Calibration

Make sure that the surface of the weighing unit is free of any extra weight that will not be in normal time. Press on the button for between 5 to 10 seconds (In the first five seconds there will be **fast blinking green light**, then the green light will turn to **stable blue** for 5 seconds). Then, when the **blue** light lights, release the button. After releasing the button, the **blue** light will blink at most for **30 seconds**. In that half minute, you need to put on the surface of the weighing unit **1Kg**.

(1 kilogram) and then press on the button for **5 seconds**. When pressing ON the button at the time when the **1Kg**. (one kilogram) should be on the surface, the LED will blink **green** light. After **the 5 seconds**, there will be switching of **red, green, blue** lights twice and the button can be released.

Notes:

- 1) At the beginning, when need to press for **between 5 to 10 seconds** to enter the calibration mode, if will be pressed less than 5 seconds (when the light is still blinking green), it will cause sending a join to the network instead of entering to calibration mode. Also, if will be pressed more than 10 seconds (when the light is already red), it will cause restart to the system.
- 2) If the half minute for the putting the one kilogram and start pressing on the button passed before pressing the button, it will exit from the calibration mode without updating.
- 3) At the end, when need to press for 5 seconds after putting the one kilogram, if released the button before the 5 seconds (before the switching of the **RGB** lights), it will start the 30 seconds from the beginning.
- 4) Make sure when entering the calibration mode there is no extra weight, not even the one kilogram. And when pressing the button at the end of the calibration mode there is one kilogram. Other weights will cause Incorrect calibration.

Color description

Green light blinking - Connected to network and did the calibration. Also, when pressing on the button when the one kilogram should be on the surface.

Red light blinking - Not connected to the network (There is no distinction as to whether calibration was done). In the first 10 seconds after powering the board or after restarting it, it doesn't try to connect to the network, so it will blink green (if it had calibrated) or it will blink green and red (if it hadn't calibrated yet).

Green and red lights blinking - Connected to network before calibration (Enough once calibration was done (also incorrect, such as turning the Kilo and zero) and it will be calibrated forever, even after restart and even after unplugging the battery. Sure, you can do a new calibration that will replace the previous calibration.

Blue light blinking - A half-minute for laying the Kilo.

Green light blinking fast - The first 5 seconds of pressing the button. When release in these 5 seconds, it will try a new join with the network.

Blue light stable - The second 5 seconds of pressing the button. When release in these 5 seconds, it will weigh the zero and start to wait for the half-minute for the Kilo.

Red light stable – 1) The third 5 seconds of pressing on the button. When release in these 5 seconds, it will do a reset for the board. The reset resets all the memory board except the calibration. If the button will be pressed for after these 5 seconds, the red light will turn off, and the board will enter to FW update mode.

2) The battery is in process of charging.

Green light stable - Sending a join request to the network.

There is also a short blinking of white light when the board powering on and after a restart, and when the calibration finishes.

FCC Warning:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Caution: Any changes or modifications to this device not explicitly approved by manufacturer could void your authority to operate this equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body.