

## **Tune Up document**

**A brief description of how the factory calibrates the device to whatever possible power required for mass production units. (can be firmware flashing, in house RF diagnostic checks, and other QC checks to ensure the RF power consistency. Be specific and use the factory terms if possible.)**

**This document explains how the manufacturer adjusts each radio in the factory to the correct RF output powers.**

### Tune Up Procedure

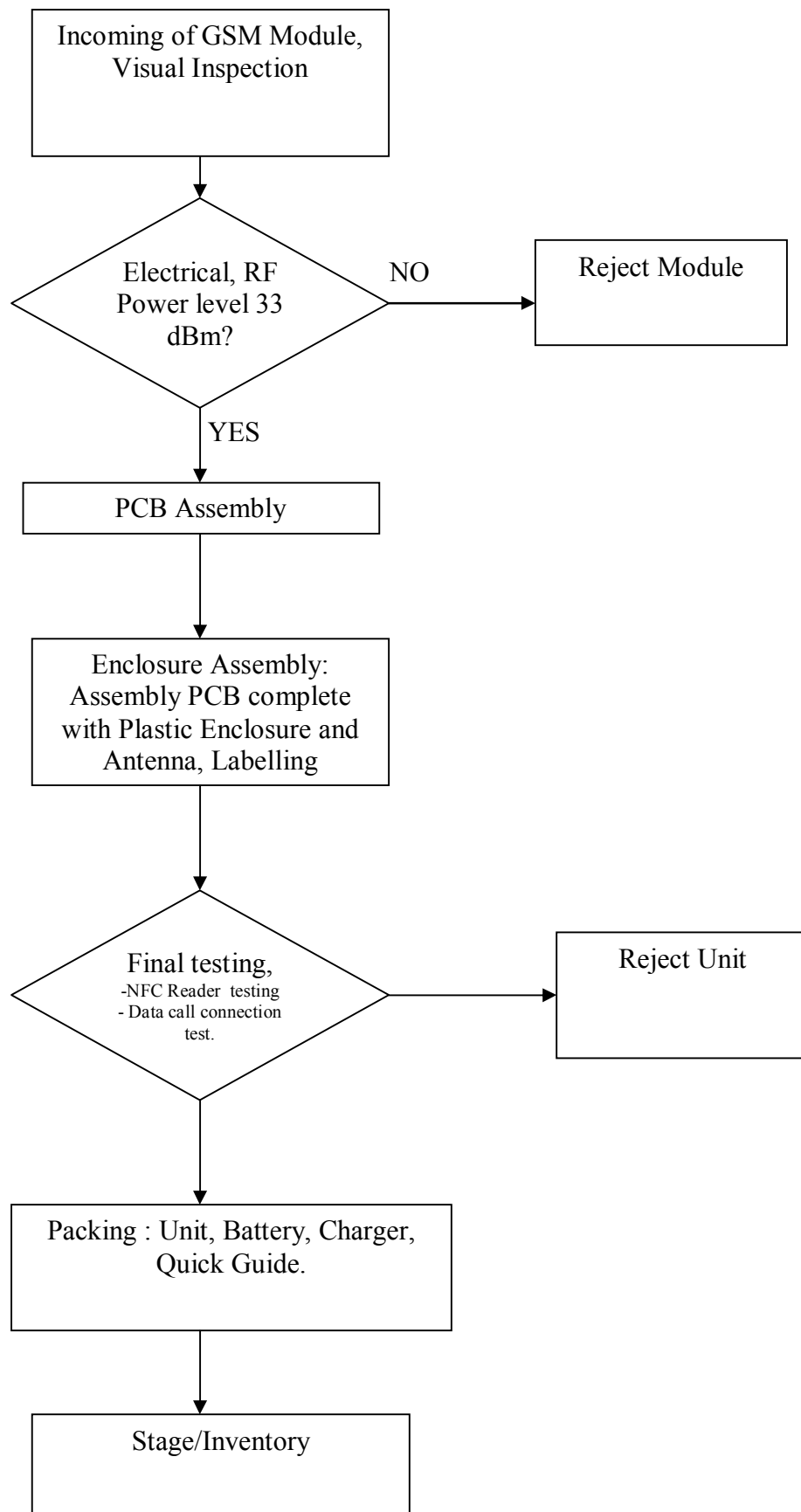
CTD-S100 is designed without the need of user tuning or tune up.

CTD-S100 is built using all preset GSM Module.

All Module used to build manufacturer are tuned to the same Power level at 33 dBm and it is programmed as default value. Units that cannot be tuned to this value is rejected and not used to build unit. Unit is checked for this Power Level at factory.

All the preset value is stored into GSM Module EEPROM memory and the settings for each unit may differ but the power output for all unit is fixed to the same Power Level i.e. 33 dBm.

Unit can also be set to operate different regional Operating Frequency i.e. Europe and North America. As for Europe, the operating Frequency is 880 MHz – 915 MHz and for North America, the operating Frequency is 824.2 MHz – 848.8 MHz.



### Incoming

The incoming materials such as GSM Modules are fully inspected for any defects.

### Electrical and RF tests

The GSM Modules are fully tested and ensure all units are already calibrated to 33 dBm power Level. Units that are not calibrated to 33 dBm or low power levels are rejected.

### PCB Assembly

The PCB is SMT mounted with NFC module and GSM Module.

### Enclosure Assembly

The PCB unit is then mounted with Antenna, 8 screws are used to mount the PCB to the back plastic enclosure and the front enclosure is then latched into the back enclosure.

Front Label is pasted on the front enclosure. Front label indicate Model name, Operate Rating, Manufacturer etc.

### Final Testing

Unit is then 100% functionally tested.

Unit must be able to read from tags. Unit also must be fully able to connect to Web Server or Data Communication Test Equipment.

### Packing and Customization

Unit is then pack into box with Unit, Battery, Charger, Quick Guide.

### Stage/Inventory

Ready to be shipped.