Initialize UART

Start

Start

Initialize GPIO’s

Initialize AFE

Initialize Interrupts

Load default settings, configueration from EEPROM and turn off both mosfet’s

Interrupt at every 250ms

{Check status flag and clear if set,(cc flag , devicexready, CUV,COV,SCD,OCD

Print response code

NO

Check if device is ready

YES

* Turn off charging mosfet.
* Set cell over voltage flag.
* Upadte EEPROM.
* Increment fault counter.
* Record cell voltage at which fault occurred.

TRUE

Check cell over voltage fault

FALSE

* Turn off discharging mosfet.
* Set cell under voltage flag.
* Upadte EEPROM.
* Increment fault counter.
* Record cell voltage at which fault occurred.

TRUE

Check cell under voltage fault

FALSE

* Turn off charging mosfet.
* Set pack over voltage flag.
* Upadte EEPROM.
* Increment fault counter.
* Record pack voltage at which fault occurred.

TRUE

Check pack over voltage fault

TRUE

Check pack under voltage fault

* Turn off discharging mosfet.
* Set pack under voltage flag.
* Upadte EEPROM.
* Increment fault counter.
* Record pack voltage at which fault occurred.

FALSE

FALSE

0

* Turn off charging mosfet.
* Set pack over current during charging flag.
* Upadte EEPROM.
* Increment fault counter.
* Record pack current at which fault occurred.

Check pack over current during charging fault

TRUE

FALSE

0

* Turn off discharging mosfet.
* Set pack over current during discharging flag.
* Upadte EEPROM.
* Increment fault counter.
* Record pack current at which fault occurred.

TRUE

Check pack over current during discharging fault

FALSE

0

* Turn off both mosfet.
* Set pack over temperature flag.
* Upadte EEPROM.
* Increment fault counter.
* Record pack temperature at which fault occurred.

TRUE

Check pack over temperature fault

FALSE

0

* Turn off both mosfet.
* Set pack under temperature flag.
* Upadte EEPROM.
* Increment fault counter.
* Record pack temperature at which fault occurred.

TRUE

Check pack under temperature fault

FALSE

0

TRUE

* Turn off both mosfet.
* Set pack short circuit flag.
* Upadte EEPROM.
* Increment fault counter.
* Record pack current at which fault occurred.

Check pack short circuit fault

FALSE

0

Unknown Command recieved

FALSE

0

FALSE

0

TRUE

Check for a valid command

Check UART if any data is available

Take actions acoording to command recieved