BLUEsat Progress Update 1

# Project Plan Progress

## 2.1 Amateur Radio Licensing and Testing

* Members V. Nayyar, D. Jedrychowski and C. Mendoza currently undertaking course and assignments
* Christian Webb currently following up frequency allocation with the International Amateur Radio Union (IARU)

## 2.2.1 Driver Development (Complete)

* All basic drivers written and proofed as of 25/02/2012. Item complete.
* Late end date has not affected progress, with resource re-allocation compensating for extra attention given to software.

## 2.2.2 BCR Prototype Creating and Testing (Complete)

* Initial Regulation model designed, prototyped and tested. Works according to functional specification
* Requires further characterisation and testing (item 2.4.5)

## 2.2.3 Bus Board Routing (Flagged)

* Bus integration board is still being routed. Currently behind schedule by 3 weeks.

## 2.2.5 Communications testing (complete)

* Successful digital transmission received between on-satellite components and ground station hardware.

## 2.3.1 Standalone Camera Evaluation (complete)

* Camera models and independent power storage investigated
* Ruled out as too much work for the given resources.

## 2.3.2 Namuru Evaluation

* General Dynamics Co. contacted regarding Namuru designs. Namuru V1 and V2 designs provided, with Namuru V3.2 being the space ready model.
* Namuru V1 and V2 have been deemed unsuitable for BLUEsat due to size constraints.
* Currently awaiting further details on Namuru V3.2 before final decision is made.

## 2.4.1 Software Application Level Development

* AX.25 stack and NRZI drivers near completion, pending unit testing.
* Code currently undergoing refactoring and restructuring for optimisiation.
* Intensive weekly attack plan currently laid out.

## 2.4.4 Beaglebone Design Integration

* Interface pins allocated and basic footprint created.
* Proceeding ahead of schedule.

## 2.4.5 Battery Charge Design Finalisation

* Control board designed. Awaiting fabrication and proofing
* Proceeding ahead of schedule.

## 2.6.1 Structural and Thermal Model creation (complete)

* Model created. Currently undergoing iterations for accuracy

## 2.6.3 Thermal Environmental Research and 2.6.2 Structural Stress Research

* Structural and thermal profiles created with basic dynamic situational analysis available
* Pending discussion and further analysis with the rest of the project to discuss thermal and structural countermeasures against extremes.

# Flags

* 2.2.3 is behind schedule and 2.2.4 is subsequently on hold. Sufficient points (2.4.4 and 2.4.5) are currently ahead of schedule. Focus is currently being put on pushing 2.2.3 and 2.2.4 for completion
* 2.2.3 and 2.2.4 not being complete has the potential to effect on Testing and Simulation. Functional tests and characterisation can occur without the main integration rig with some extra inconvenience.