PROJECT INTRODUCTION

Project Name: GGE300_BMS 20S 40A NMC 72V

Objective-.Make a BMS with following specification.Cell no.=20cell,Cell type=NMC,Battery nominal voltage=72V,Continuous discharging current=40A

Scope-A Battery Management System (BMS), which manages the electronics of a rechargeable 20 cells , whole combines a battery pack thus becomes a crucial factor in ensuring safety. It safeguards both the user and the battery by ensuring that the cell operates within its safe operating limits .This particular BMS will be used for operating 72V battery pack having all controlling features for the safe limits of the working of the cell.

Measurement Goals - Schedule Variance:±20%,Product Defect Density:0.10±0.02,Project's Process Defect Density:0.20±0.02.

Link to Project Data :http://192.168.100.9:8080/svn/BMS/BMS_20S_40A/

Team Size: 10 Nos.

Effort Size: 132hrs.

Time Line : 19-07-2022 to 31-08-2022

Actual Scheduled Start to Finish Date: 19-07-2022 to 31-08-22

Target Customer :In-house use and domestic Market

Risk Identification, Analysis and Opportunity

Description	Risk identification date	Source	Sub-Category of source	Severity	Likelihood	Risk Priority Number	Performance parameter affected	Assigned to
Samples components (MOSFETs and BMS ic) availability :-In present scenario all electronics production industries are facing to semiconductor shortage.	23-07-2022	External	Components	2	0	0	Schedule, Design & Implementation	Project Manager
BMS Failure in Temprature controling of LI-ION battery :- If BMS oseTemprature controling ,BMS or cells of LIFEPO4 Battery will be more heat thats why cells of LIFEPO4 Battery temperature will be rise,may be LIFEPO4 cells blast or act misbehavior.	23-07-2022	External	Components	4	1	4	Reliability,Schedule, Design & Implementation	Project Manager
BMS Failure in Vibration test:-This BMS will be used in EV Battery ,during EV move on way ,any components fail,EV shall stop on the way.Thats why vibration test is important for BMS.	23-07-2022	External	vendors	4	1	4	Reliability,Schedule, Design & Implementation	Project Manager
Availibility of Aluminium encloser for Heat control of power components of BMS	23-07-2022	External	vendors	2	0	0	Schedule, Design & Implementation	Project Manager
Opportunity:- BMS currently as captive use . design in modular way then can be sale to other LI-ION battery manufacturers"thus shall open new business segment for company.	23-07-2022	Internal	specs	9	9	81	Company buss	Tarun Gupta Senior managment

http://192.168.100.9:8080/svn/BMS/BMS_20S_40A/GGE300_RSKMTX.xlsx

- To identify a potential problem before they occur so that risk handling activities can be planned and invoked as needed across the life of the product or project.
- To achieve project performance goals and objectives within defined cost, schedule, and performance constraints.
- Identify Risk source, subcategory. show in above table.
- For analysis determine the risk rating based on its severity/likelihood. parameters affected show in above table
- All activities are done with the team in the team meeting.

Risk Mitigation Action Plan

Risk ID	Risk Description	Action	Who	When	Status
1	**Samples components (MOSFETs and BMS ic) availability :-** In present scenario all electronics production industries are facing to semiconductor shortage.	Syoji :- shall provide list of sample components with details to sandeep jain. Sandeep jain: -shall Ensure to sample components Availability before module testing start.	Syoji & Sandeep jain	During D&I	Finished
2	**BMS Failure in Temprature controling of LI-ION battery :-** If BMS loseTemprature controling ,BMS or cells of LIFEPO4 Battery will be more heat thats why cells of LIFEPO4 Battery temperature will be rise,may be LIFEPO4 cells blast or act misbehavior.	Syoji:-shall be use all autograde components with high accuracy,better quality PCB and better quality soldering paste .	Syoji	During complete project cycle	Finished
3	**BMS Failure in Vibration test:-**This BMS will be used in EV Battery ,during EV move on way ,any components fail,EV shall stop on the way.Thats why vibration test is important for BMS.	Sandeep jain: shall Ensure to availability of external agency for BMS vibration test.	Sandeep jain	Just after product finalize	Finished
4	Avaibility of Aluminium encloser for Heat control of power components of BMS	Sandeep jain:shall Talk to vendors and Ensure to Avaibility of Aluminium encloser	Sandeep jain	Befor product integration	Finished
5	**Opportunity leverage** ;-BMS currently as captive use . design in modular way then can be sale to other LI-ION battery manufacturers"thus shall open new business segment for company.	Design module asper marketing and sales department inputs and market requirement. Informed to senior managment after product finallise during (MOM)Senior managment review with metrics report task	Syoji	During D&I	Ongoing

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- Outline a course of action for each major risk that is to be mitigated to minimize its likelihood. Periodically discuss with designer and confirm if he is planning for such kind of leaves, then ask him to hand over the design to functional head before he goes on leave.
- Assign responsibility. showed in above table
- Track and monitor the level of risks on a project throughout the Project Lifecycle by a team meeting.

Risk Contingency Action Plan

Risk ID	Risk Description	Action	Who	When	Status
1	**Samples components (MOSFETs and BMS ic) availability :-** In present scenario all electronics production industries are facing to semiconductor shortage.	Project manager shall be also work on components availability with components dealers with alternate option	Syoji	during design and implement ation	Not Required
2	**BMS Failure in Temprature controling of LI-ION battery :-** If BMS loseTemprature controling ,BMS or cells of LIFEPO4 Battery will be more heat thats why cells of LIFEPO4 Battery temperature will be rise,may be LIFEPO4 cells blast or act misbehavior.	Project manager shall also work on autograde components source with alternative options and use 2 protection in design on temprature controlling.	syoji	During complete project cycle	Finished
3	**BMS Failure in Vibration test:-**This BMS will be used in EV Battery ,during EV move on way ,any components fail,EV shall stop on the way.Thats why vibration test is important for BMS.	Sandeep jain shall be contact two or more Vibration test external agency. syoji:- BMS shall be check on drop test with 1ft hight.	Sandeep jain	End of validation phase	Finished
4	Avaibility of Aluminium encloser for Heat control of power components of BMS	Project manager also shall be talk to Aluminium enclosure vendors	Syoji	during design and implement ation	Not Required

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- Outline a course of action for each major risk that is to be mitigated to minimize its likelihood.
- Assign responsibility. Showed above table
- Track and monitor the level of risk on a project throughout the Project Lifecycle by a team meeting.

PRODUCT PICTURE