INTRODUCTION

Project Name:

SP10-GGE302 DC DC Synchronous Auto Grade

Objective- To Development Electronics part (DC Supply) for with auto grade components

Scope- DC DC Converter is converter which converter High DC voltage in to Low voltage with below Spec.

Input -35-90V ,Output Rating 12V-10A and 5V 1A DC ,Enclosure- IP 66.

Hardware side - Designing part of his Converter using Synchronous buck converter

Software side- No any scope of work.

Mechanical Side- To develop IP 67 Enclosure in Aluminum casing

Measurement Goals - SV: ±20% , PDD: 0.10±0.02 , PPDD : 0.20±0.02

Link to Project Data : http://192.168.100.9:8080/svn/DC_DC_Converter/SP10_GGE302

Team Size: 10 Nos. Effort Size: 201.04 hrs. Time Line : 07-09-2022 to 31-10-2022

Actual Scheduled Start to planed Finish Date: 19-7-2022 to 01-11-2022

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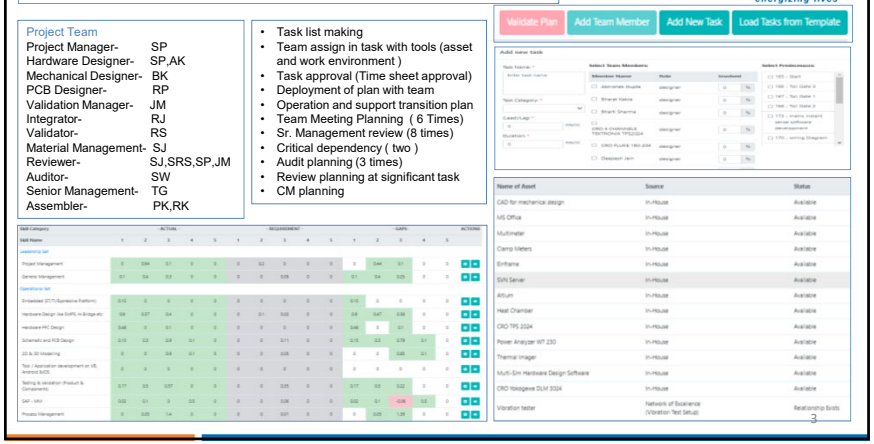
Project Planning in Einframe - Project Plan Link-https://gil.einframe.com/rptprojectoverview.aspx

Project Team

Project Manager-	SP
Hardware Designer-	SP,AK
Mechanical Designer-	BK
PCB Designer-	RP
Validation Manager-	JM
Integrator-	RJ
Validator-	RS
Material Management-	SJ
Reviewer-	SJ,SRS,SP,JM
Auditor-	SW
Senior Management-	TG
Assembler-	PK,RK

- Task list making
- Team assign in task with tools (asset and work environment)
- Task approval (Time sheet approval)
- Deployment of plan with team
- Operation and support transition plan
- Team Meeting Planning (6 Times)
- Sr. Management review (8 times)
- Critical dependency (two)
- Audit planning (3 times)
- Review planning at significant task
- CM planning



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Estimating and Planning

High Level Estimation in start meeting with Sr. Management.

- Complexity -Medium Type
- Cost approx 400-450 Rs (assumption with 2 nos Mosfet -160Rs , 2 Inductor 50Rs , 6 nos capacitor -60 ,enclosure-30rs and harness 30rs ,PWM controller-80rs and converter-25Rs)
- Duration-35-40 day (design-7 days, design implementation - 15 days,Testing 10days,validation 5days , other activity-5 days)
- effort- high level reference of GGE295 approx 180-190persone hours

S. No.	Reference Project Name	Why Selected as Reference	Actual Efforts in RD Phase & Planning Phase	Actual Efforts in Design and Implementation	Actual Efforts in Testing and integration	Actual Efforts in Validation Phase , Closure	Actual Efforts in End
1	GGE295 DC-DC Converter 12V-10A & 5V-1A	Capacity Rating is approx equal and input na d output spec. also approx equal.	27	45	27	53	22
		Average Efforts in person hours	27	45	27	53	22

	Estimated Efforts in RD Phase & Planning Phase	Estimated Efforts in Design and Implementation	Estimated Efforts in Testing and integration	Estimated Efforts in Validation Phase , Closure	Estimated Efforts in End	
Past Projects	27	45	27	53	22	
Differences from reference projects	4	7	4	9	4	Total
Final estimates	31	52	31	62	26	202

	Difference from reference in detail	Impact in person hours due to the difference	Complexity	Remarks (Optional)
1	Enclosure Design	-8	H	First time development in Reference Project
2	Auto grade components selection and arrangement	8	H	First time development
3	Synchronous Buck converter Design	10	H	First time development
4	PCB layout and new component footprint making	8	H	First time development
5	SV design	4	M	First time development
6	SV PCB layout	4	M	First time development
7	Testing	10	H	First time testing
8	Readability of Power device and Inductor	-4	M	Reuse components
9	Testing Ids	-4	M	Reuse components
	Total Impact	28		

Size	5H+4M+0L

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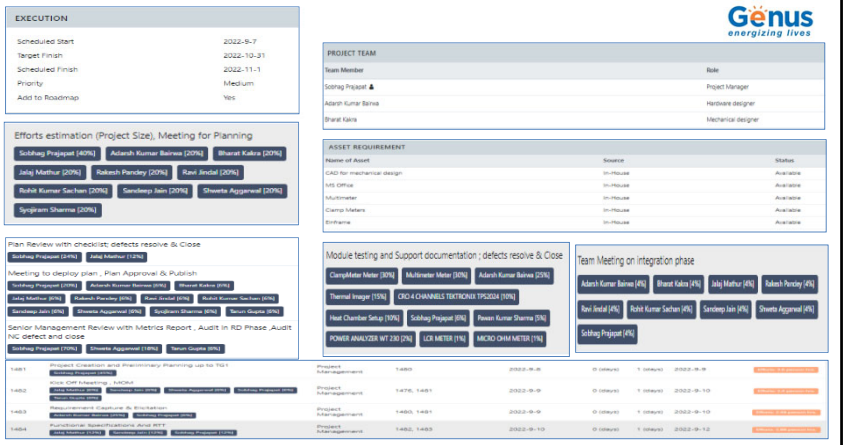

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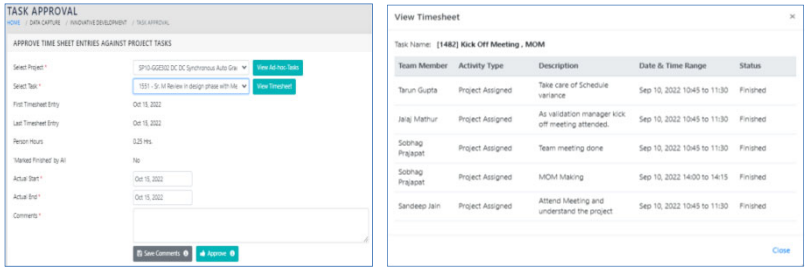
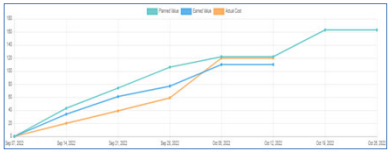
Record task completion

Task ID & Description	Planned Start/End	Actual Start/End	Sch. Variance	Planned Efforts	Actual Efforts	Effort Variance	Planned Cost	Actual Cost	Cost Variance
[1482] Kick Off Meeting , MOM	Sep 09, 2022 Sep 10, 2022	Sep 10, 2022 Sep 10, 2022	-100%	2.4	3.25	35%	2.4	3.25	35%



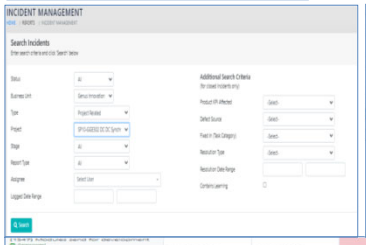
EVMS CHART
Causal Analysis,Corrective action,Preventive action

Dates	Sep 07, 2022	Sep 14, 2022	Sep 21, 2022	Sep 28, 2022	Oct 05, 2022	Oct 12, 2022	Oct 19, 2022	Oct 26, 2022
Planned Value	0	43	74	106	122	122	163	163
Earned Value	0	34	61	77	110	110	-	-
Actual Cost	0	20	39	59	120	120	-	-

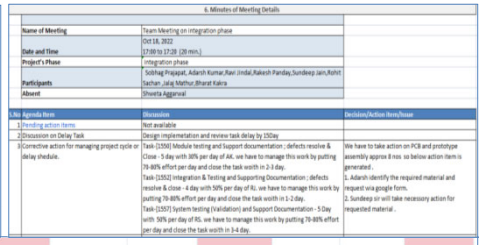


Weeks	No of Week	Name of Phase	Planned Value	Earned Value	Actual Cost	Schedule variance (EV-PV/PV)*100	Cost Variance (AC-EV/EV)*100
1st	07-09-22 to 14-09-22	RD Phase, Planning Phase	43	34	20	-20.93%	-41.17%
2nd	14-09-22 to 21-09-22	Design and Implementation	74	61	39	-17.56%	-36.06%
3rd	21-09-22 to 28-09-22	Design and Implementation	106	77	59	-27.35%	-23.37%
4th	28-09-22 to 05-10-22	Testing and integration	122	110	120	-9.83%	-9.09%
5th	05-10-22 to 12-10-22	Testing and integration	122	110	120	-9.83%	-9.09%
6th	13-10-22 to 19-10-22	Validation Phase , Closure	163				
7th	20-10-22 to 26-10-22	Validation Phase , Closure	163				
8th	27-10-22 to 01-11-22	Validation Phase , Closure	201.2				

- Identify issues and resolution
- Tacking review defect and status.

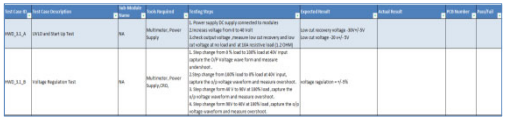


- Managing upcoming task due to delay in last task



Project is Running in Module testing

GGE302_HWTCAS



GGE302_MCTCAS

Test Case ID	Test Case Description	Part Name	Tools Required	Testing Steps	Expected Result	Actual Result	Drawing Number	Pass/Fail	Remarks
MCHT_1	Measure Outer size and all bendings of aluminium part	BODY	Varnier caliper, Tape,Scale	Measurement as per drawing.	85X50X33MM				
MCHT_2	Measure position and hole dia. for mosfet support clip	Body	Varnier caliper, scale	Match the dimensions c to c Check fitment	As per drawing				

GGE302_INTCAS

Test Case ID	Test Case Description	Inputs	Tools Required	Testing Steps	Expected Result	Actual Result	Pass/Fail	Remarks
INT_1	Integrated side cover and grove-met	Side Plate HW_2896 Rubber grove-met	By Hand	Rubber grove-met push into the side cover hole by fingers	Rubbergrovemet must properly fixed			
INT_2	Integrated cover, grove met , Harness HW_2857 and Harness HW_2858	Step 1 outcome Harness HW_2857 Harness HW_2858	By Hand	Insert the each wire into the rubber grove met up to sleeve	Wire insertion shoud properly .			