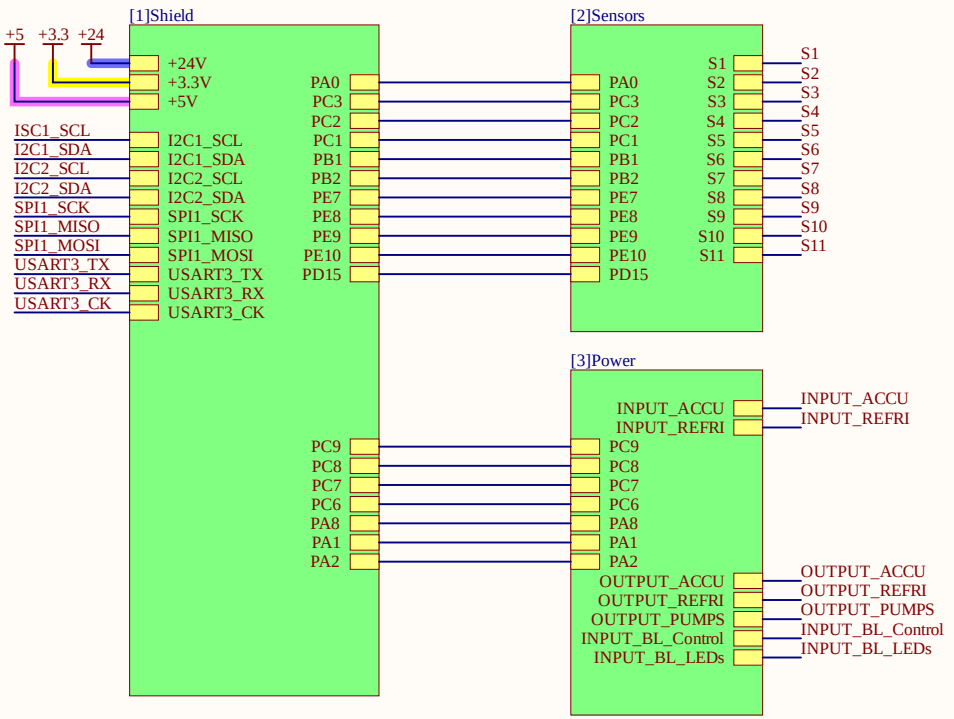
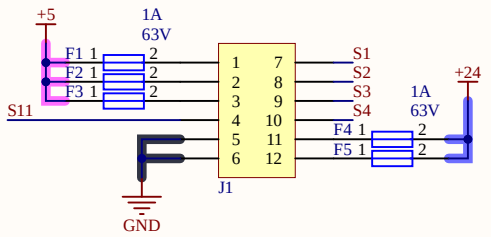
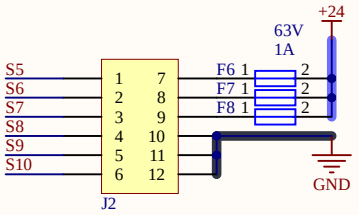
E R R EC



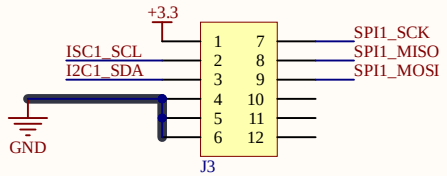
Sensors 1 Connector



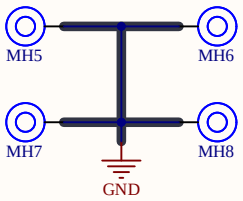
Sensors 2 connector



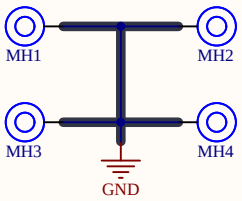
COMs Connector



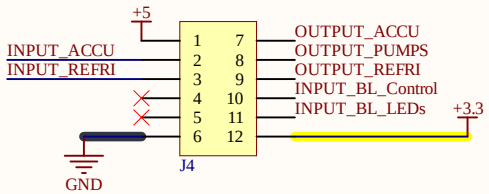
PCB mounting holes



Shield mounting holes

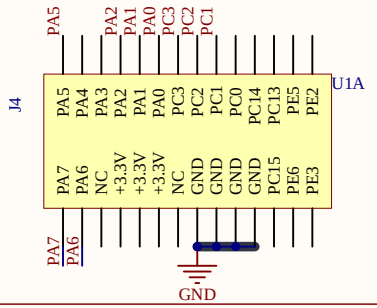


Power Connector



Company: e-Tech Racing	e-techracing.es		
Project: Front ECU	Variant: [No Variations]		
Size: -	Page Contents: ETRX_RECU.SchDoc	Version: 1.0	
		Department: Hardware	
Author: Bernat Costa Cesari	bernat.costa.cesari@estudiantat.upc.edu	Sheet 1 of 4	
Checked by: Andreu Senis		Date: 11/06/2024	

Pin header 1



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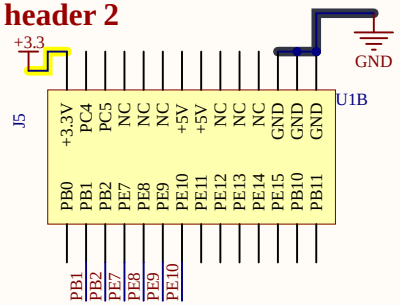
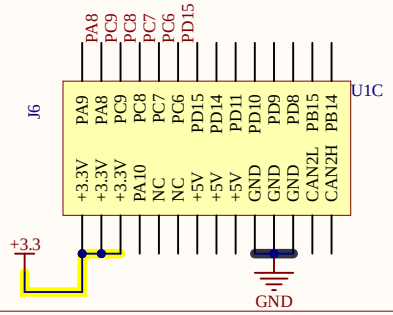
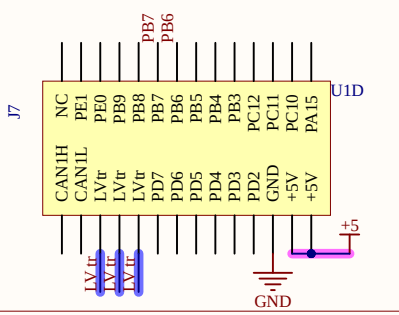


Pin header 3

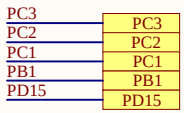


Pin header 4

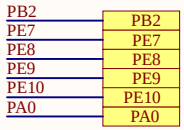


GPIOs

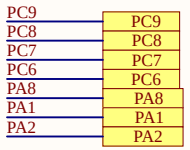
GPIO CON 1



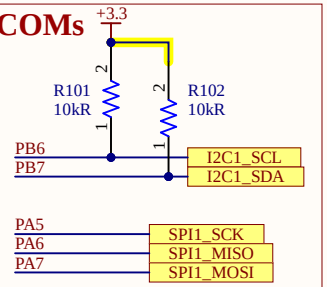
GPIO CON 2



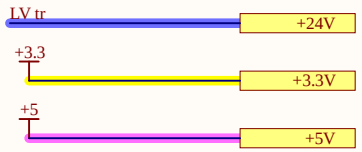
Power CON



COMs

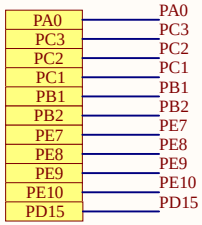


Supply

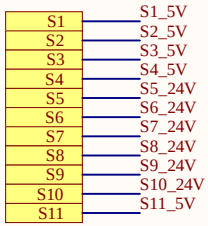


Company: e-Tech Racing	e-techracing.es		
Project: Front ECU	Variant: [No Variations]		
Size: -	Page Contents: [1]Shield.SchDoc	Version: 1.0	
		Department: Hardware	
Author: Bernat Costa Cesari	bernat.costa.cesari@estudiantat.upc.edu	Sheet 2 of 4	
Checked by: Andreu Senis		Date: 11/06/2024	

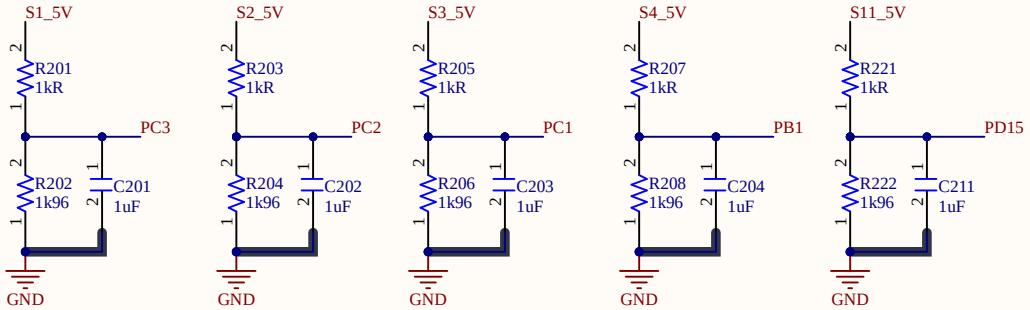
Outputs



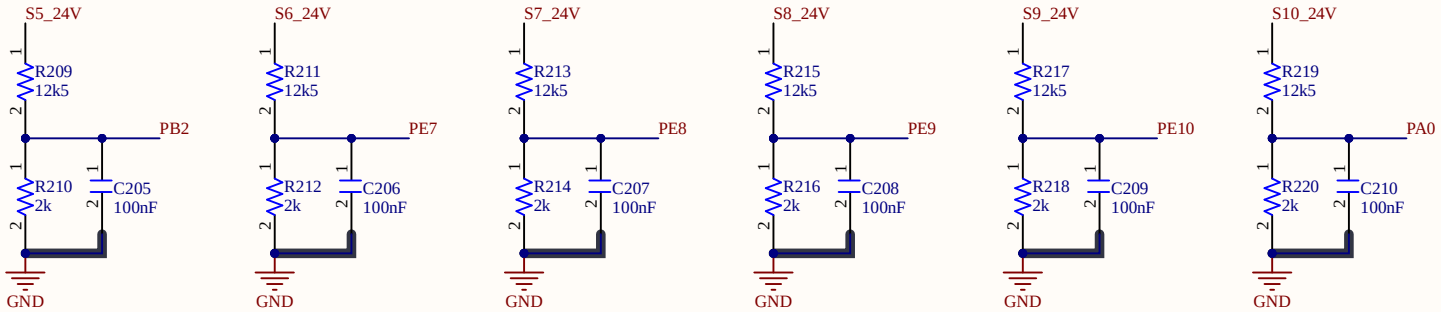
Inputs



5V output sensors



24V output sensors

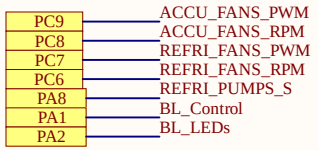


Most of sensors are ratiometric outputs (0.5V to 4.5V). No offset applied for sensor alive detection

Can be used for digital inputs of 24V SDC

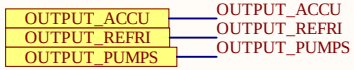
Company: e-Tech Racing	e-techracing.es		
Project: Front ECU	Variant: [No Variations]		
Size: -	Page Contents: [2]Sensors.SchDoc	Version: 1.0	
		Department: Hardware	
Author: Bernat Costa Cesari	bernat.costa.cesari@estudiantat.upc.edu	Sheet 3 of 4	
Checked by: Andreu Senis		Date: 11/06/2024	

GPIOs

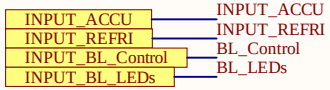


PA1 and PA2 are used fot Break Light conrol

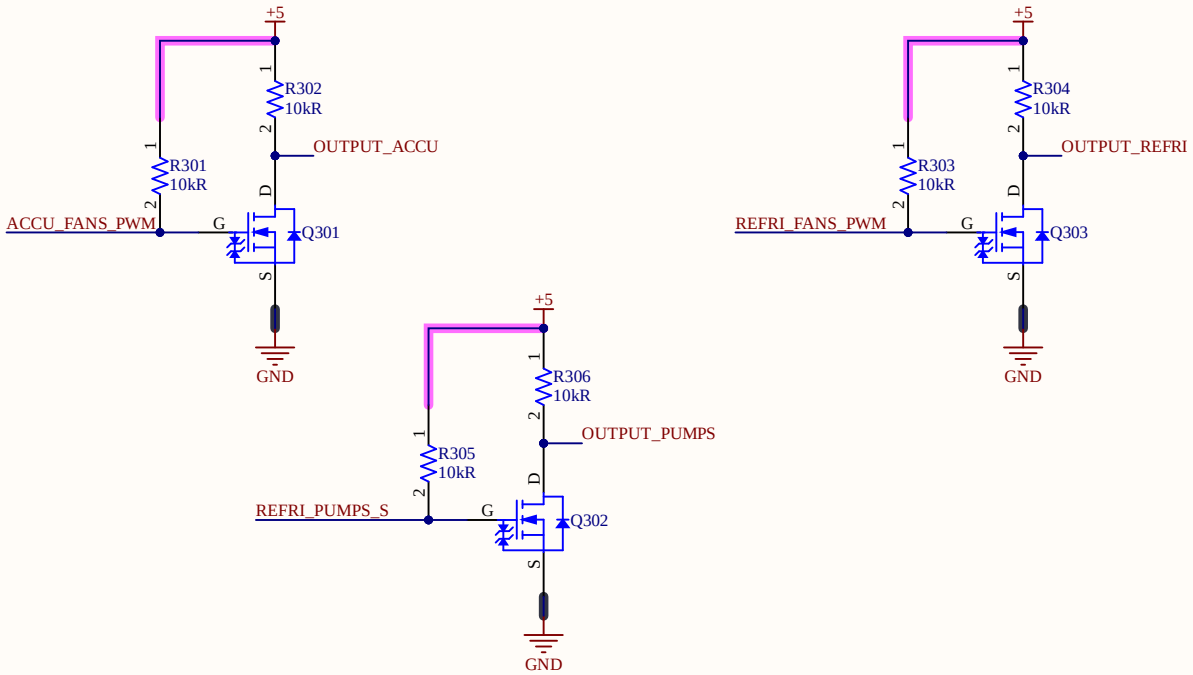
Outputs



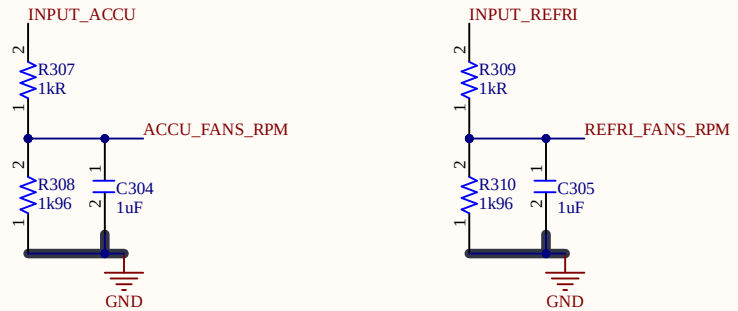
Inputs



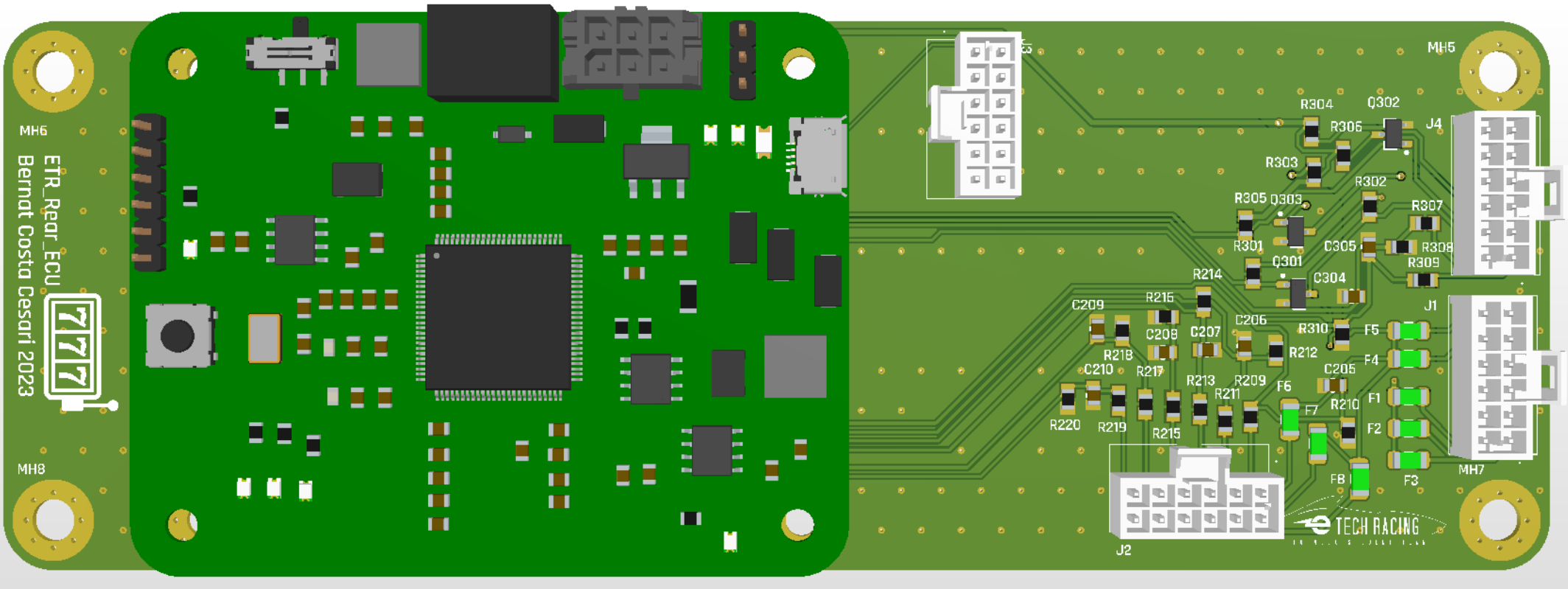
PWM output for RPM control

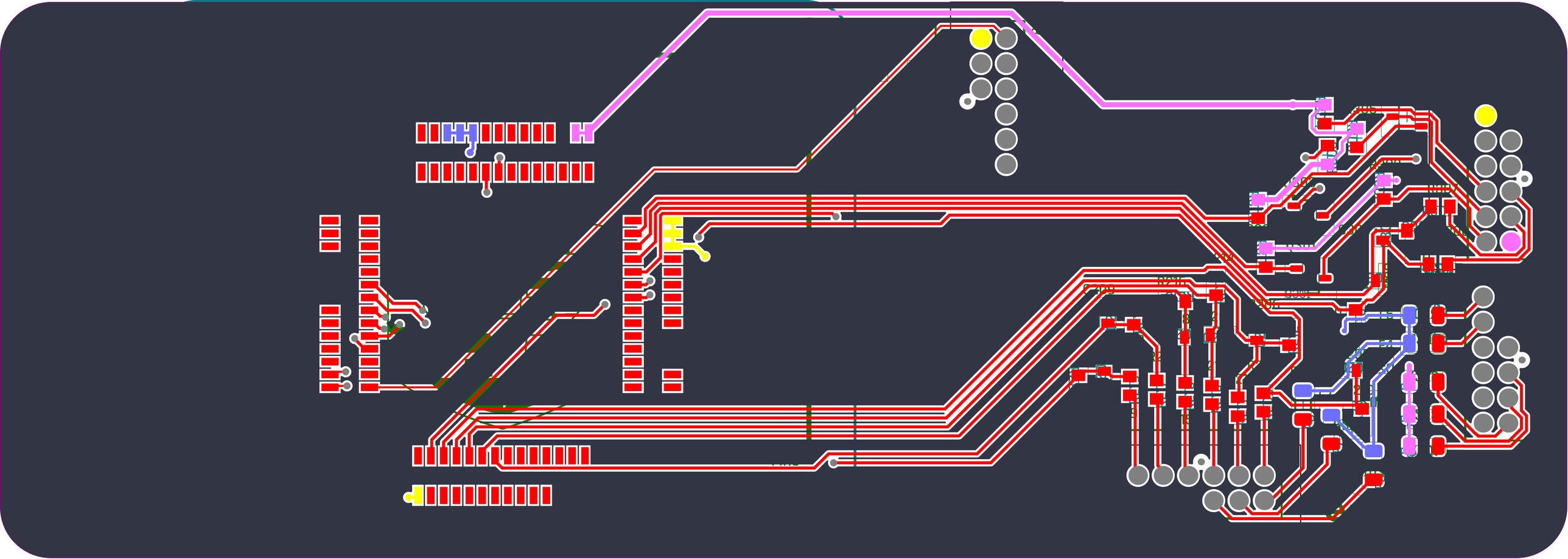


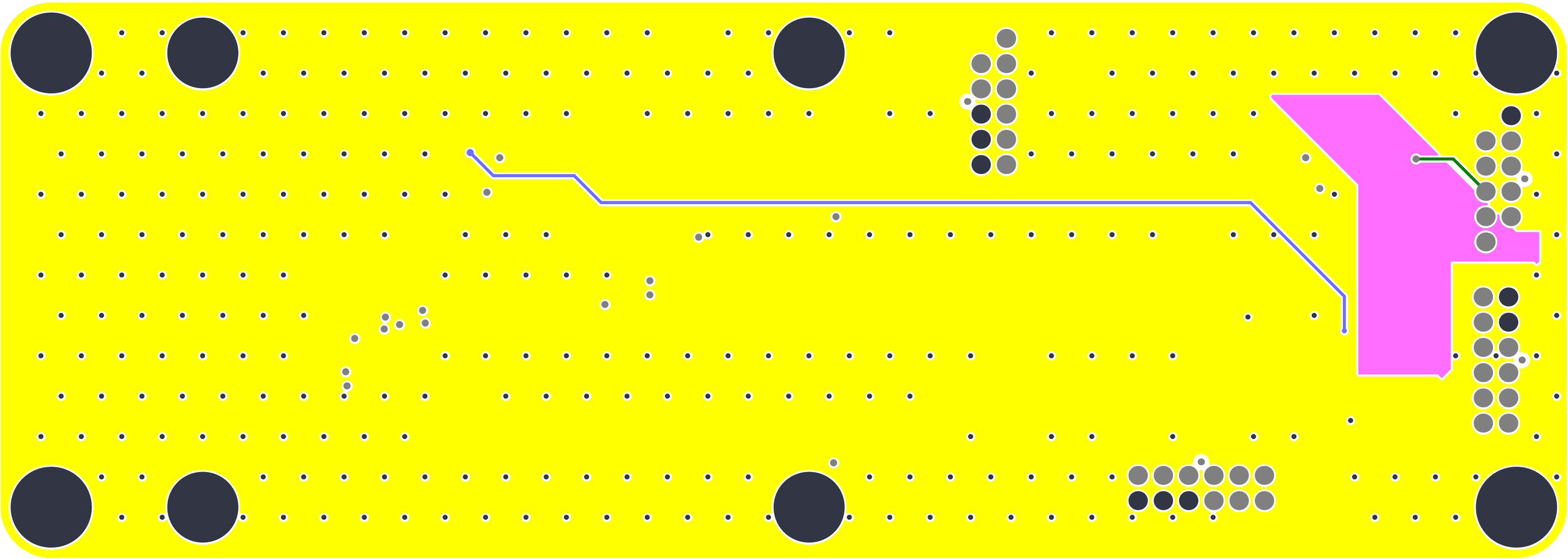
Signal input for RPM feedback

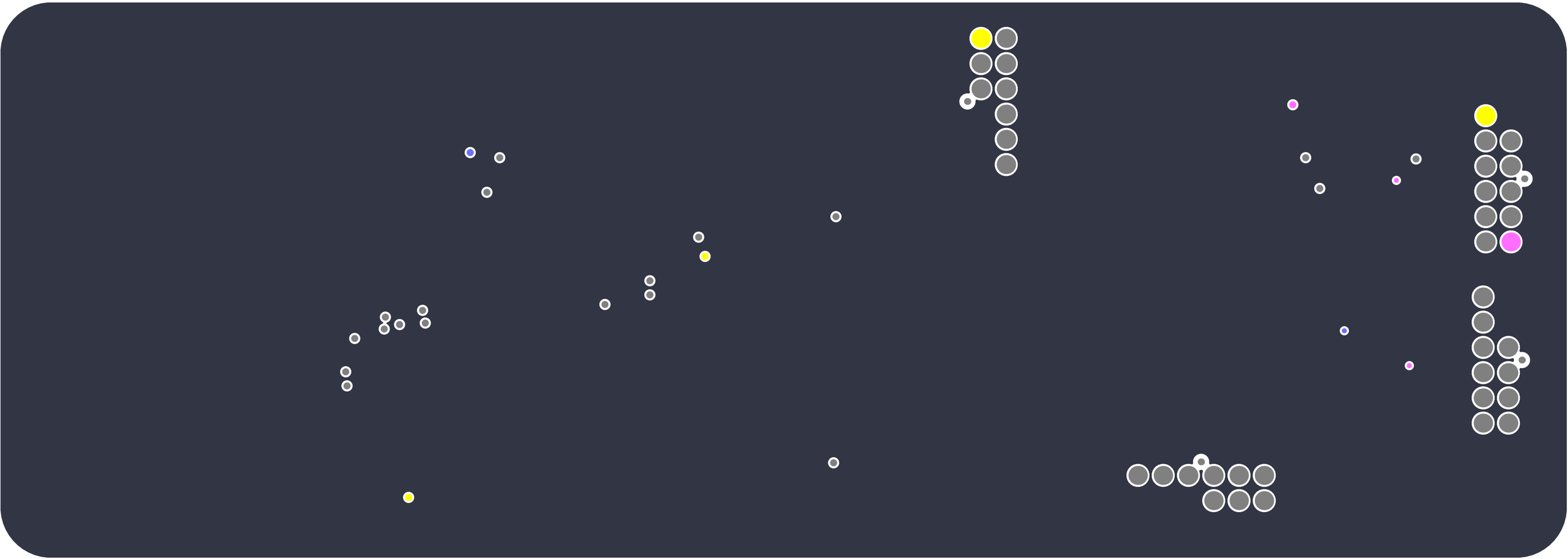


Company: e-Tech Racing	e-techracing.es		
Project: Front ECU	Variant: [No Variations]		
Size: -	Page Contents: [3]Power.SchDoc	Version: 1.0	
		Department: Hardware	
Author: Bernat Costa Cesari	bernat.costa.cesari@estudiantat.upc.edu	Sheet 4 of 4	
Checked by: Andreu Senis		Date: 11/06/2024	


MH6
ETR_Rear_ECU
Bernat Costa Cesari 2023
777
MH8
MH5
MH7
J1
J2
J3
J4
R304
Q302
R306
R303
R302
R305
Q303
R307
R301
C305
R308
R309
Q301
C304
R214
C209
R216
C206
J1
C208
C207
R310
F5
R218
R212
F4
C210
R217
C205
R213
R209
F6
R211
F1
R210
F7
R220
R219
R215
F2
F8
F3
TECH RACING

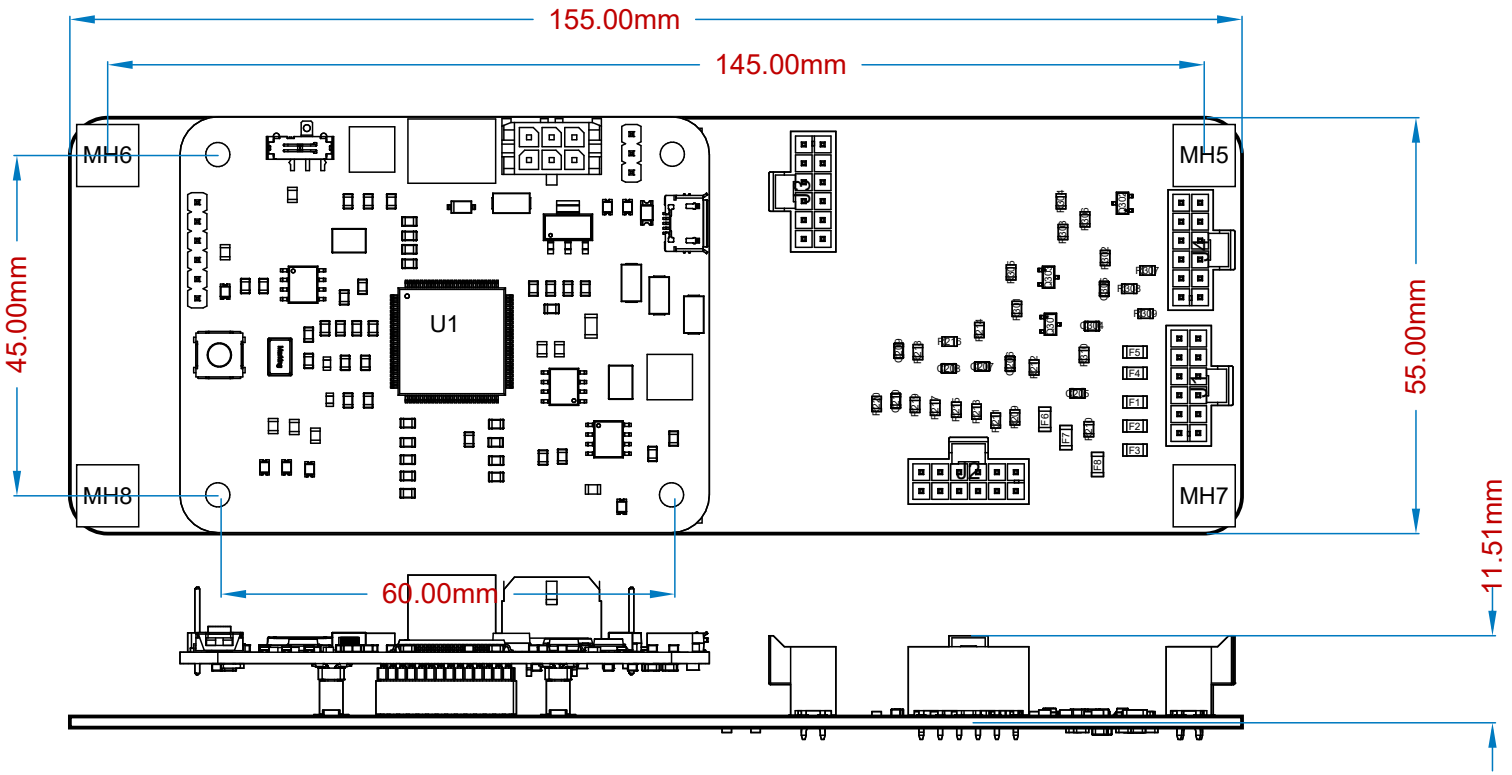


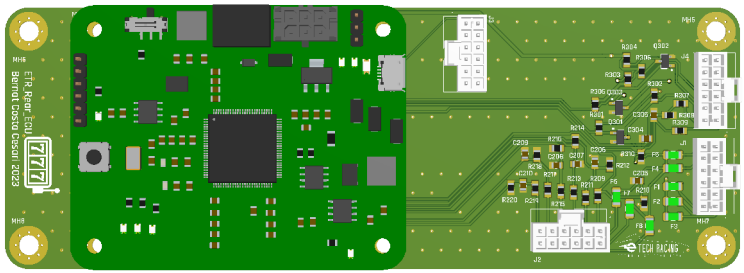




R101
R102
R222
R221
C271
R208
C224
R207
R205
C225
R206
C202
R203
R204
R201
C227
R202

ETRX_Rear_ECU





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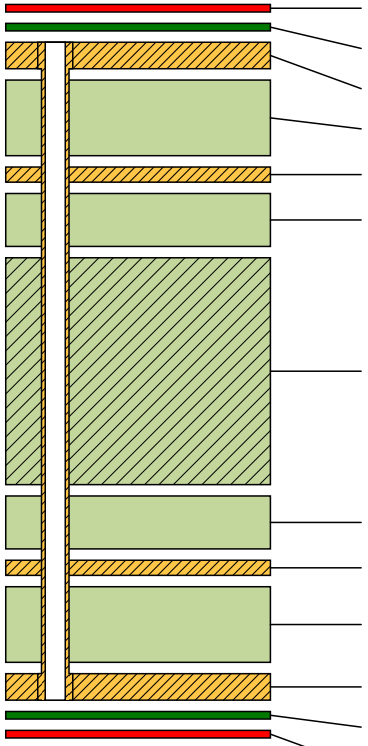
	C205, C206, C207, C208, C209, C210	885012207098	6
	F1, F2, F3, F4, F5, F6, F7, F8	0437001.WRA	8
	J1, J2, J3, J4	1053101112	4
	MH1, MH2, MH3, MH4	Mounting_Hole_M3	4
	MH5, MH6, MH7, MH8	Mounting_Hole_M4	4
	Q301, Q302, Q303	CPH3455-TL-H	3
	R101, R102, R301, R302, R303, R304, R305, R306	CR0805-JW-103ELF	8
	R201, R203, R205, R207, R221, R307, R309	CR0805-JW-102ELF	7
	R202, R204, R206, R208, R222, R308, R310	1k96	7
	R209, R211, R213, R215, R217, R219	12k5	6
	R210, R212, R214, R216, R218, R220	2k	6
	U1	ETR_SHIELD_III	1



Material	Layer	Thickness	Dielectric Material	Type	Gerber
	Top Overlay			Legend	GTO
Surface Material	Top Solder	0.01mm	Solder Resist	Solder Mask	GTS
Copper	**Top Layer**	**0.04mm**		**Signal**	**GTL**
Prepreg		*0.10mm*	*PP-006*	*Dielectric*	
CF-004	**PWR**	**0.02mm**		**Signal**	**G1**
Prepreg		*0.07mm*	*PP-006*	*Dielectric*	
		1.00mm	*FR-4*	*Dielectric*	
Prepreg		*0.07mm*	*PP-006*	*Dielectric*	
CF-004	**GND**	**0.02mm**		**Signal**	**G2**
Prepreg		*0.10mm*	*PP-006*	*Dielectric*	
Copper	**Bottom Layer**	**0.04mm**		**Signal**	**GBL**
Surface Material	Bottom Solder	0.01mm	Solder Resist	Solder Mask	GBS
	Bottom Overlay			Legend	GBO

Total thickness: 1.47mm