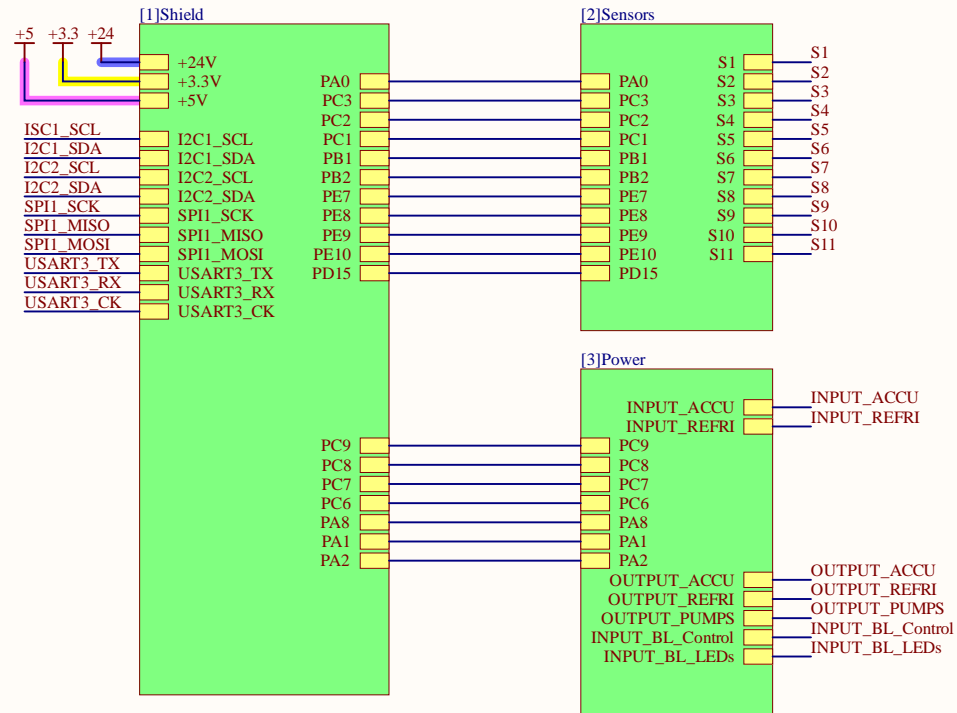
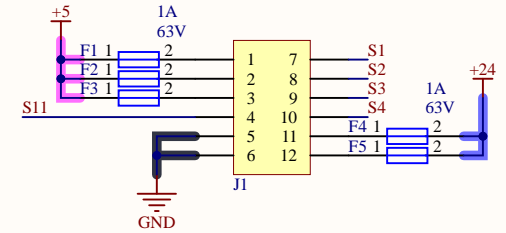


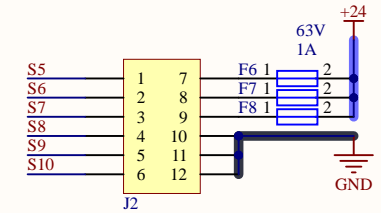
E R R EC



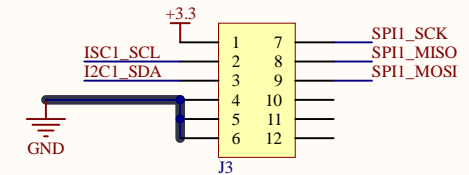
Sensors 1 Connector



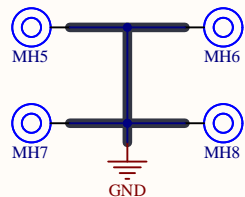
Sensors 2 connector



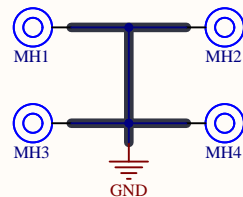
COMs Connector



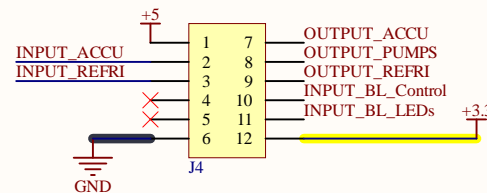
PCB mounting holes




Shield mounting holes

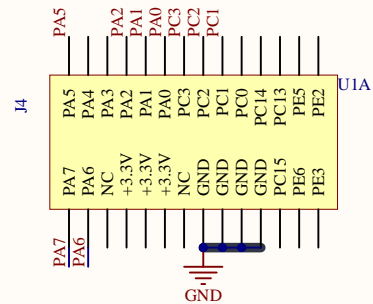


Power Connector

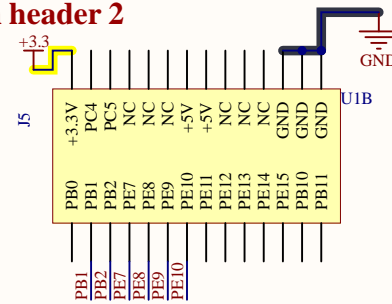


Company: e-Tech Racing		e-techracing.es		
Project: Front ECU		Variant: [No Variations]		
Size: -	Page Contents: ETRX_RECUI.SchDoc		Version: 1.0	Department: Hardware
Author: Bernat Costa Cesari		bernat.costa.cesari@estudiantat.upc.edu		
Checked by: Andreu Senis			Date: 08/04/2024	Sheet 1 of 4

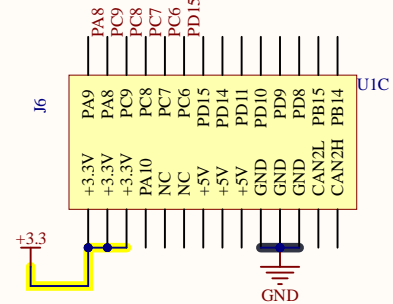
Pin header 1



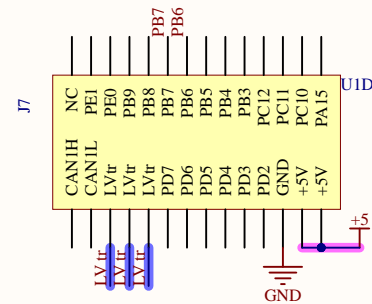
Pin header 2



Pin header 3



Pin header 4

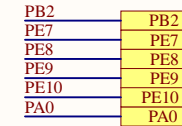


GPIOs

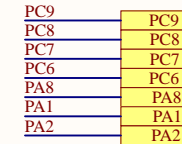
GPIO CON 1



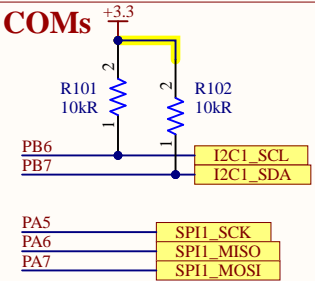
GPIO CON 2



Power CON





COMs

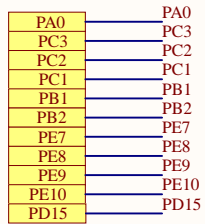


Supply

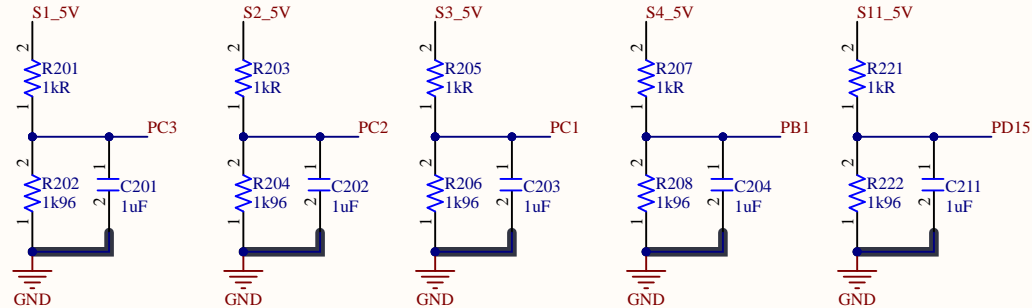


Company: e-Tech Racing		e-techracing.es		
Project: Front ECU		Variant: [No Variations]		
Size: -	Page Contents: [1]Shield.SchDoc		Version: 1.0	
			Department: Hardware	
Author: Bernat Costa Cesari bernat.costa.cesari@estudiantat.upc.edu			Sheet 2 of 4	
Checked by: Andreu Senis			Date: 08/04/2024	

Outputs



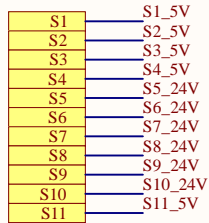
5V output sensors



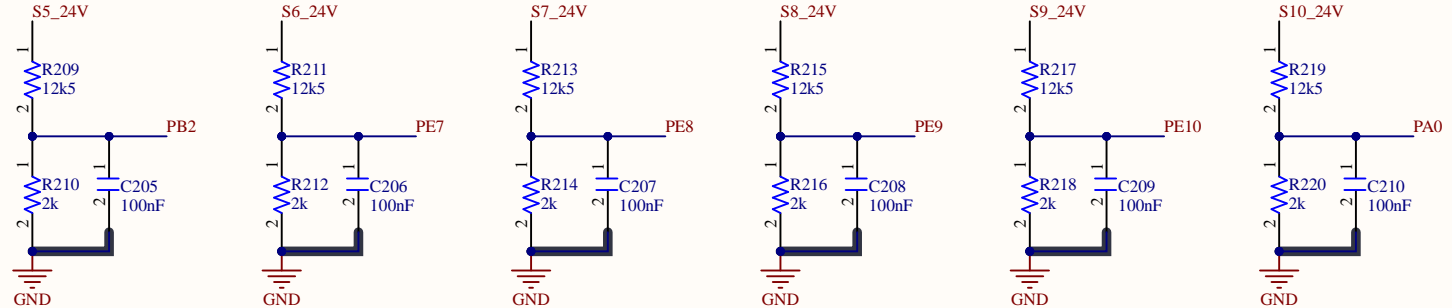
Most of sensors are ratiometric outputs (0.5V to 4.5V). No offset applied for sensor alive detection


Can be used for digital inputs of 24V SDC

Inputs



24V output sensors



Company: e-Tech Racing		e-technic.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@estudiantst.upc.edu			Sheet 3 of 4
Checked by: Andreu Senis			Date: 08/04/2024

GPIOs

PC9	ACCU_FANS_PWM
PC8	ACCU_FANS_RPM
PC7	REFRI_FANS_PWM
PC6	REFRI_FANS_RPM
PA8	REFRI_PUMPS_S
PA1	BL_Control
PA2	BL_LEDs

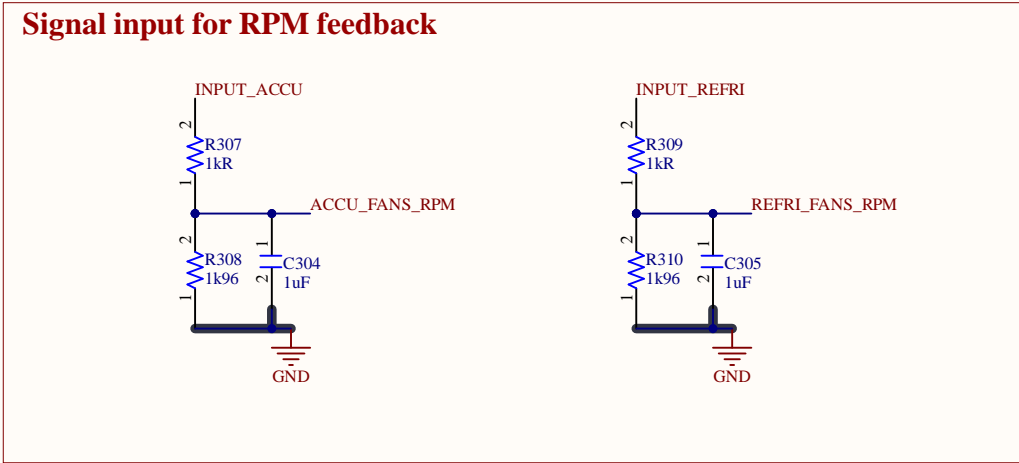
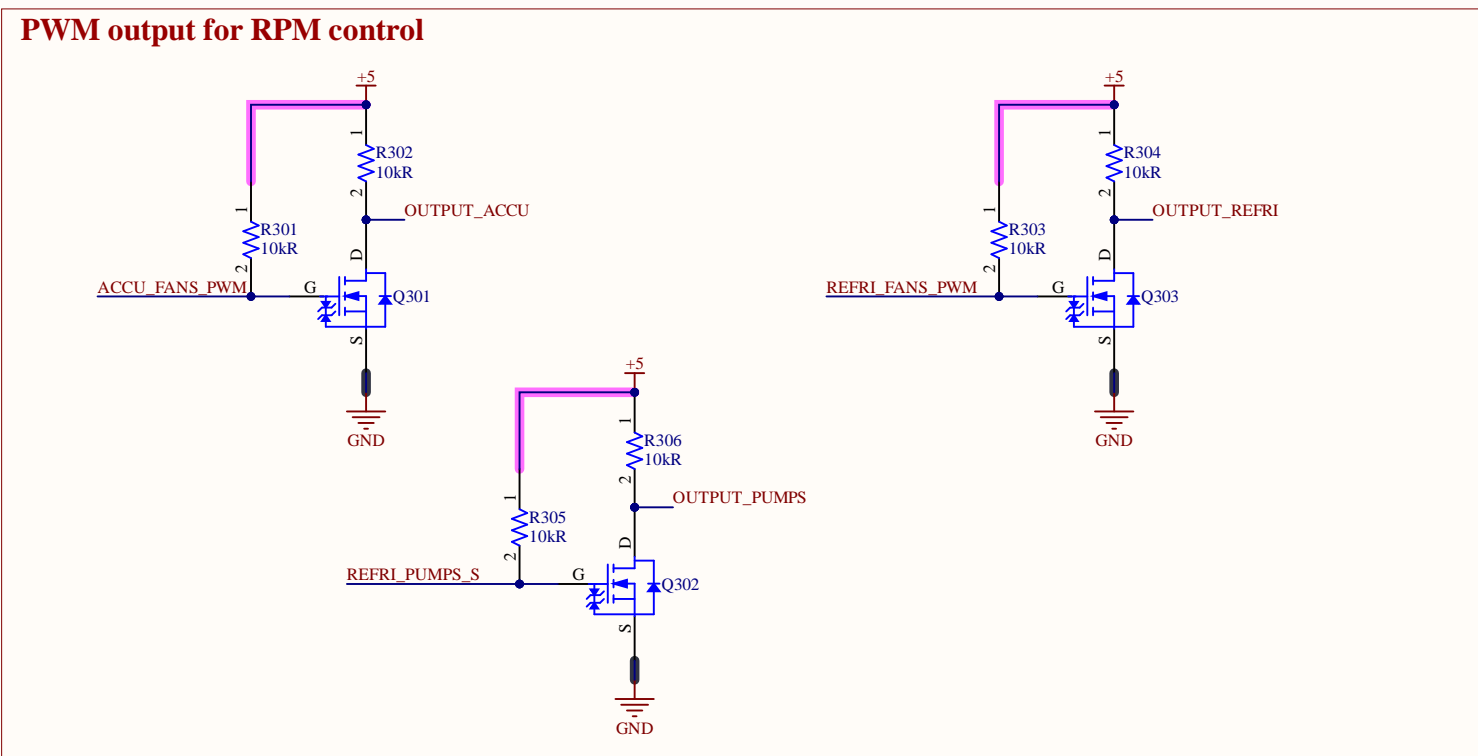
PA1 and PA2 are used for Break Light control


Outputs

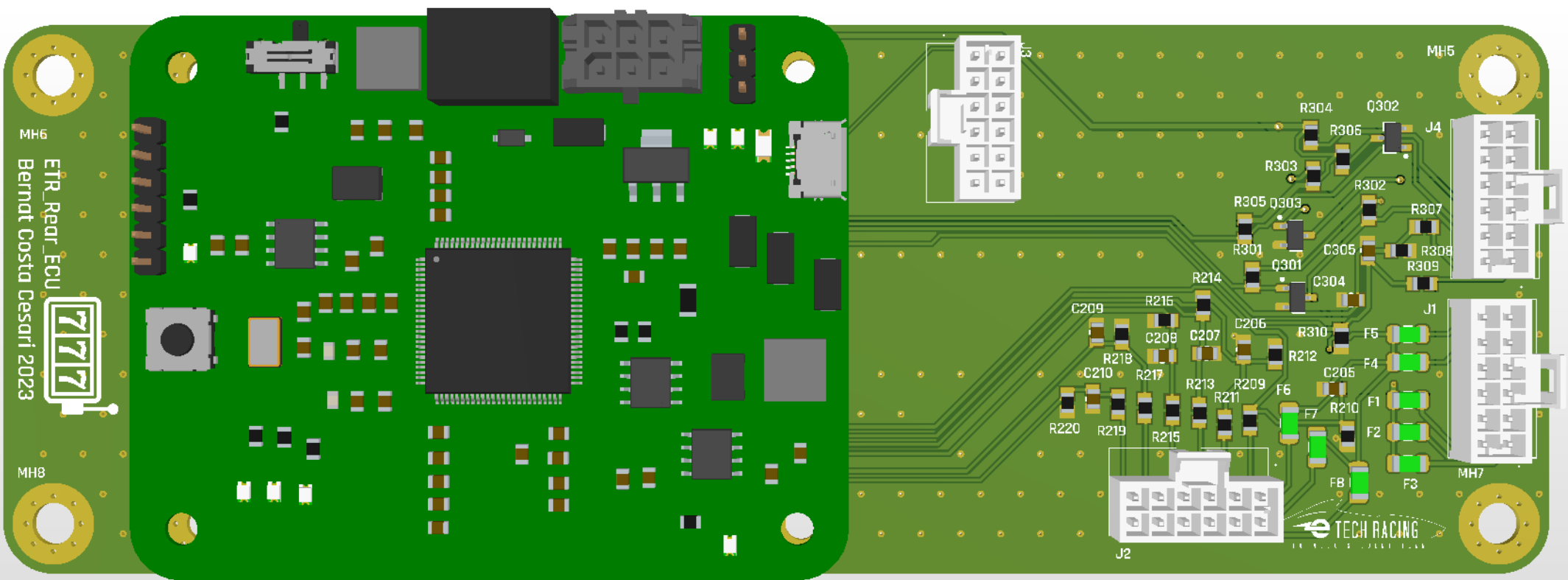
OUTPUT_ACCU	OUTPUT_ACCU
OUTPUT_REFRI	OUTPUT_REFRI
OUTPUT_PUMPS	OUTPUT_PUMPS

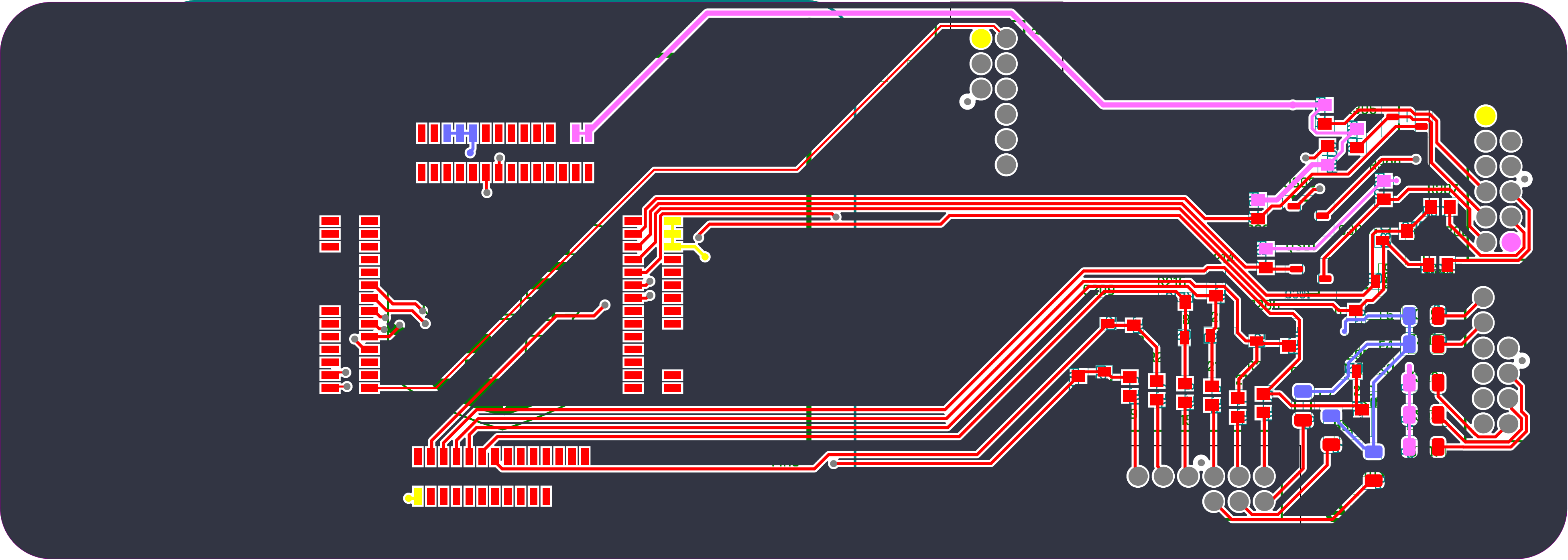
Inputs

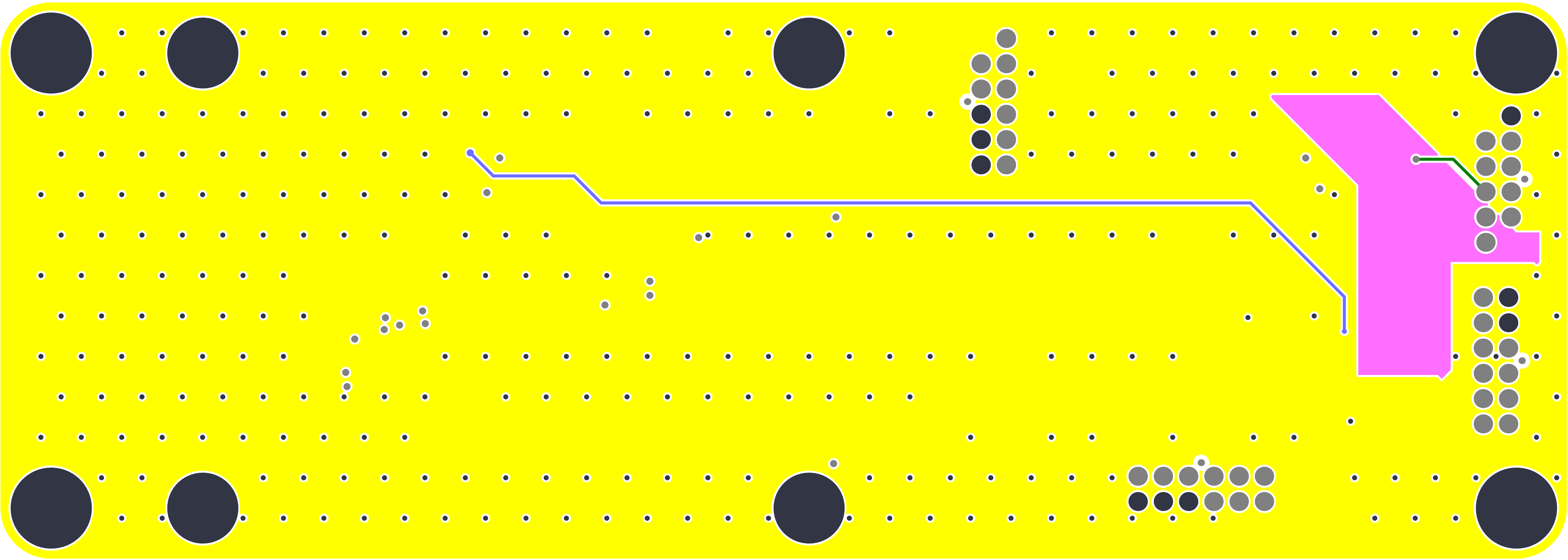
INPUT_ACCU	INPUT_ACCU
INPUT_REFRI	INPUT_REFRI
INPUT_BL_Control	BL_Control
INPUT_BL_LEDs	BL_LEDs

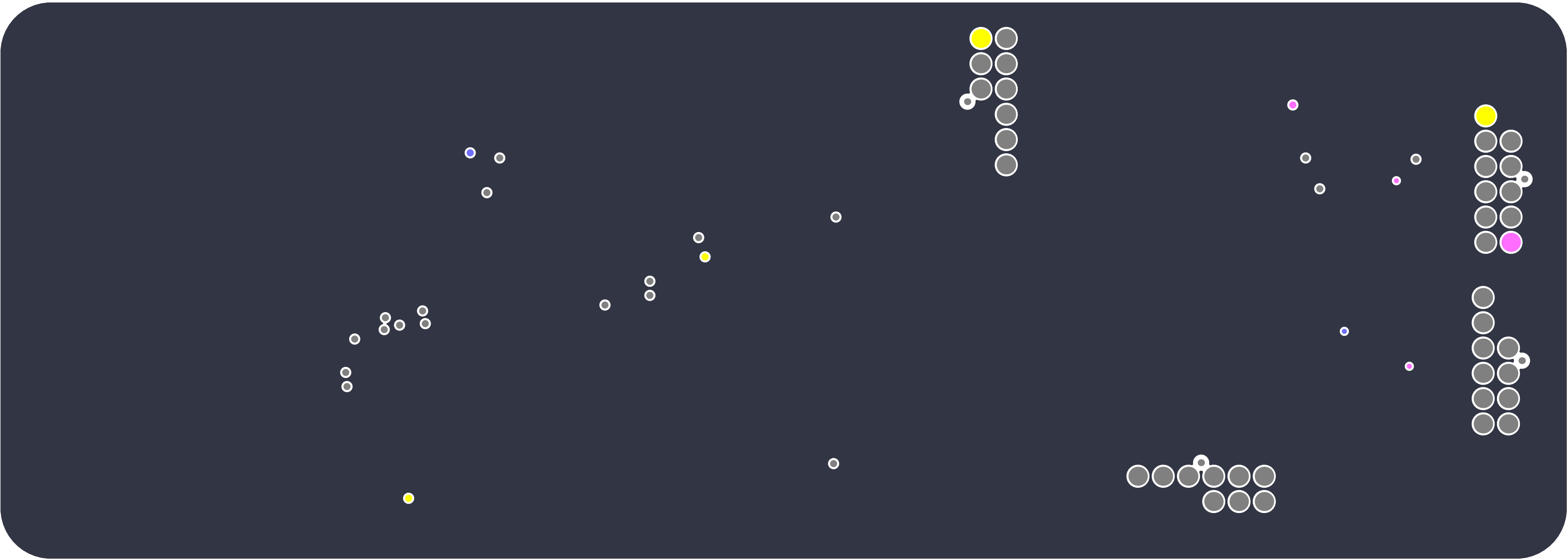


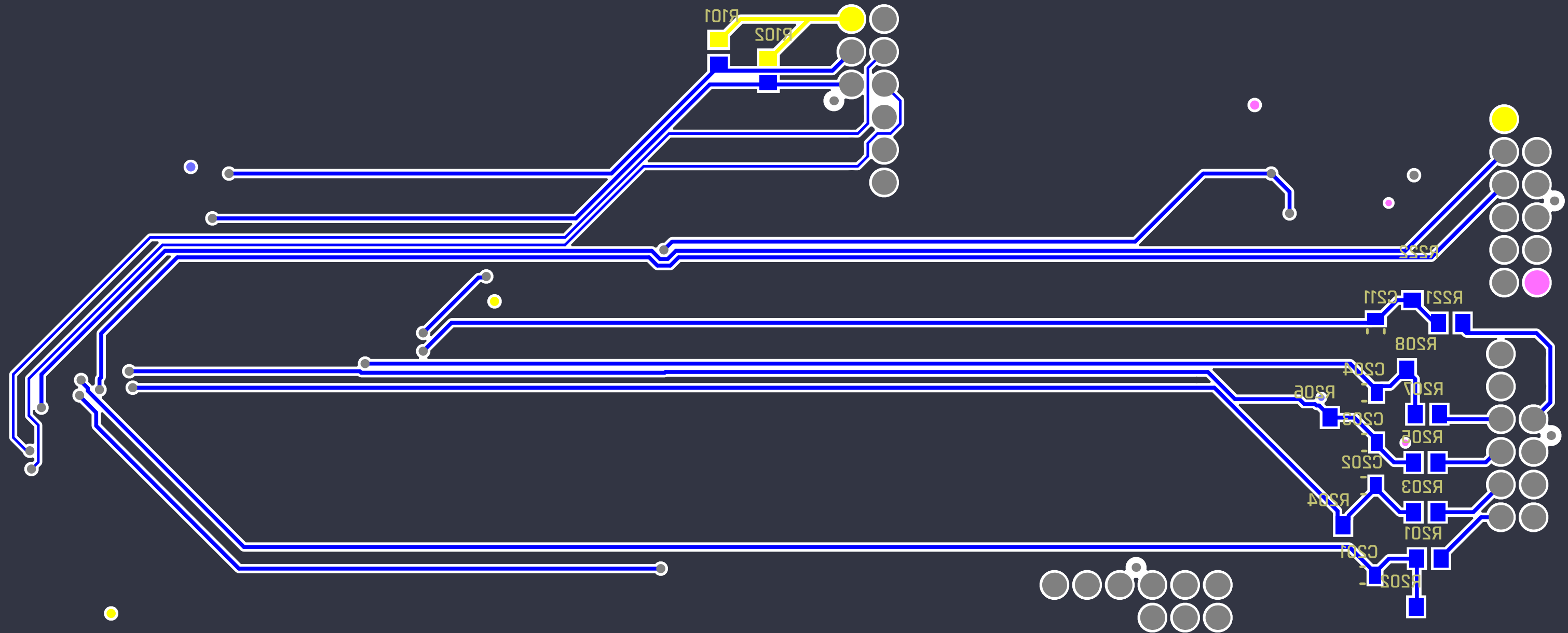
Company: e-Tech Racing		e-techracing.es	
Project: Front ECU		Variant: [No Variations]	
Size: -	Page Contents: [3]Power.SchDoc	Version: 1.0	
		Department: Hardware	
Author: Bernat Costa Cesari		bernat.costa.cesari@estudiantat.upc.edu	
Checked by: Andreu Senis		Sheet 4 of 4	
		Date: 08/04/2024	



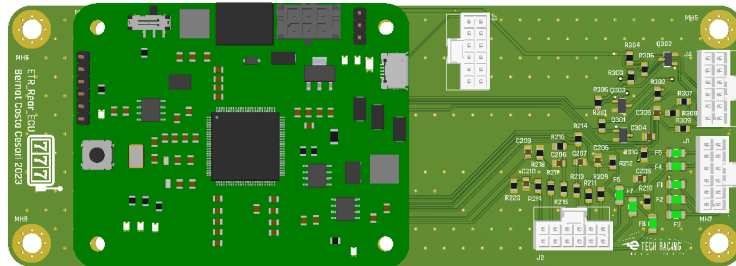
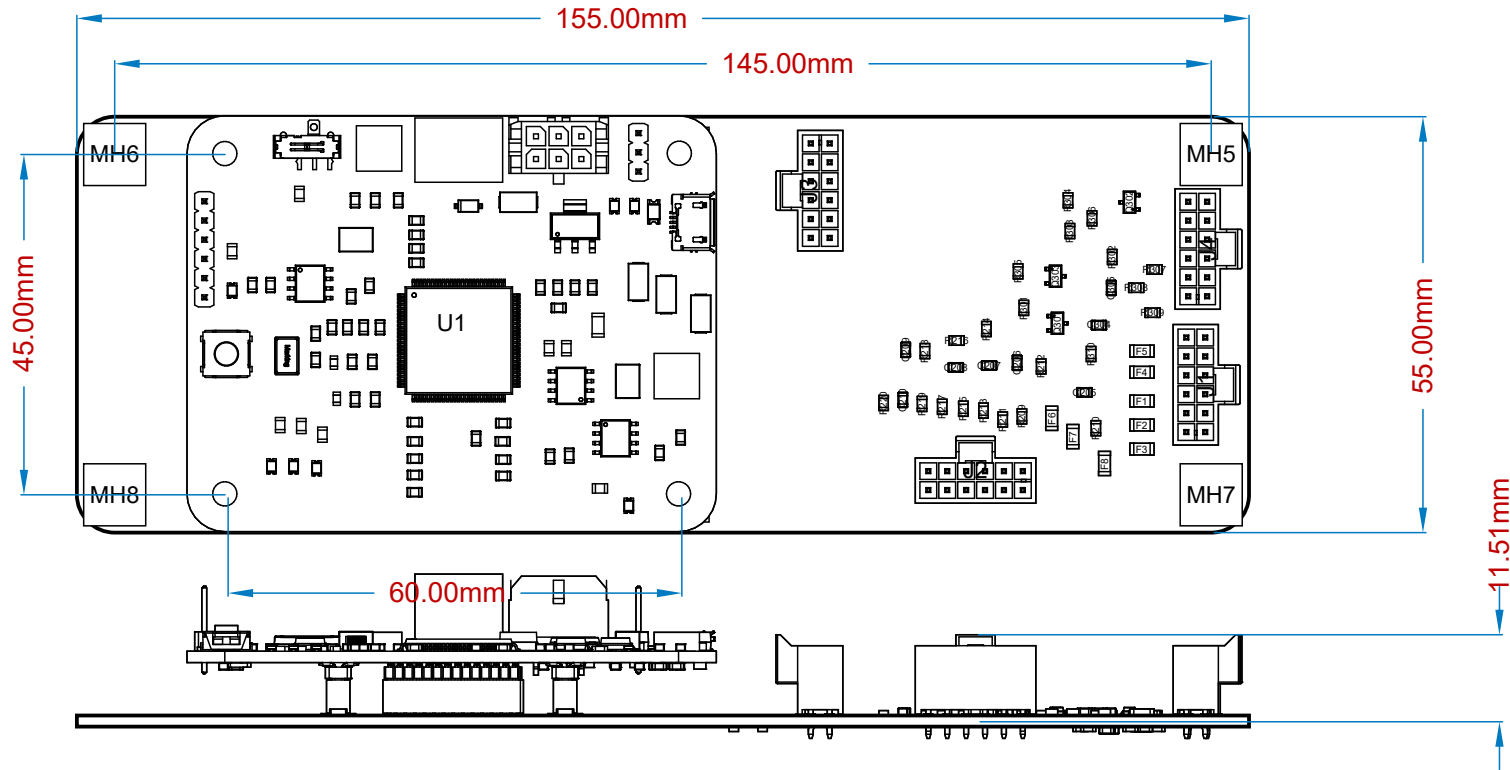








ETRX_Rear_ECU



Line #	Designator	Name	Quantity
	C201, C202, C203, C204, C211, C304, C305	885012207103	7
	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					