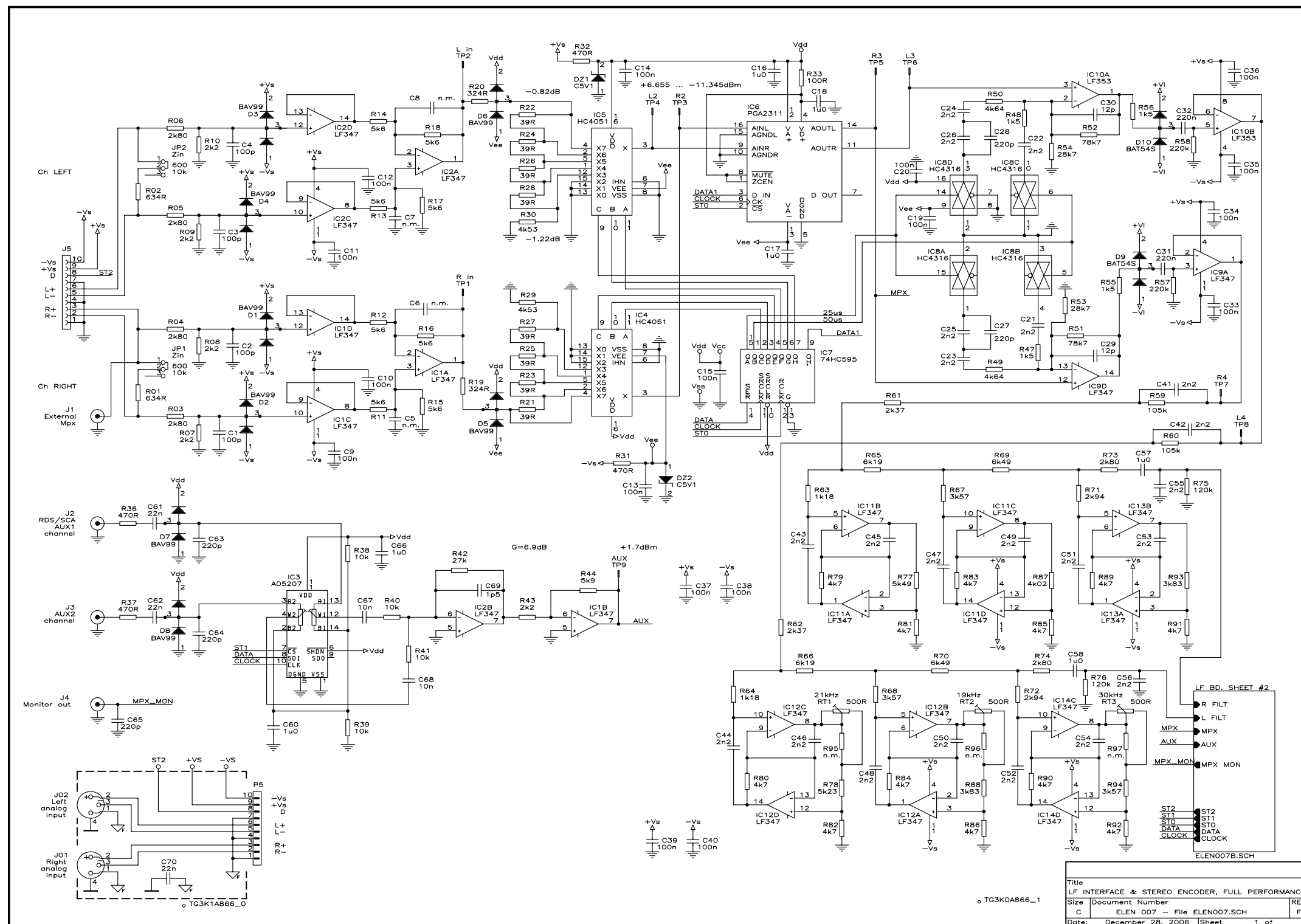
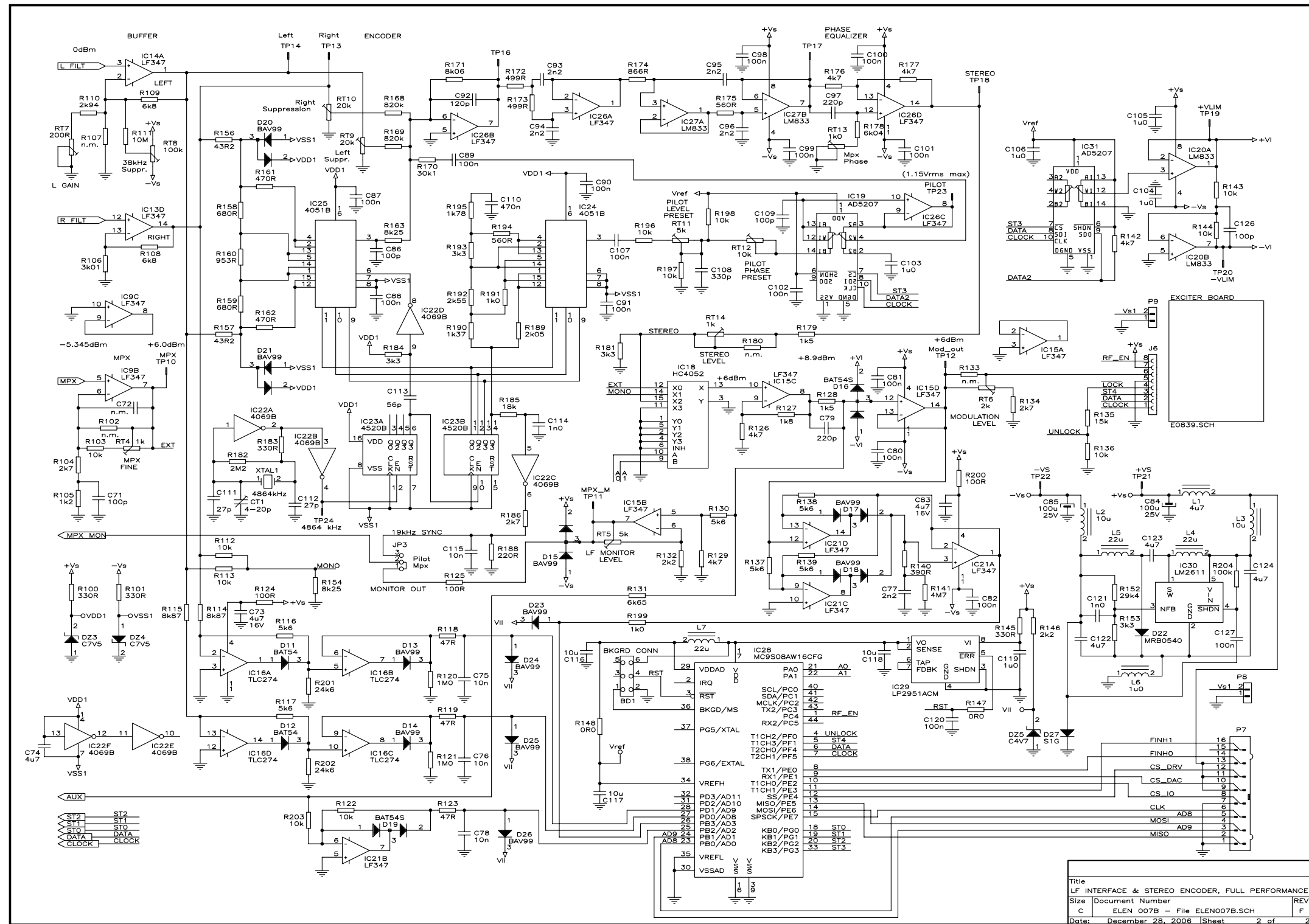


Schematics

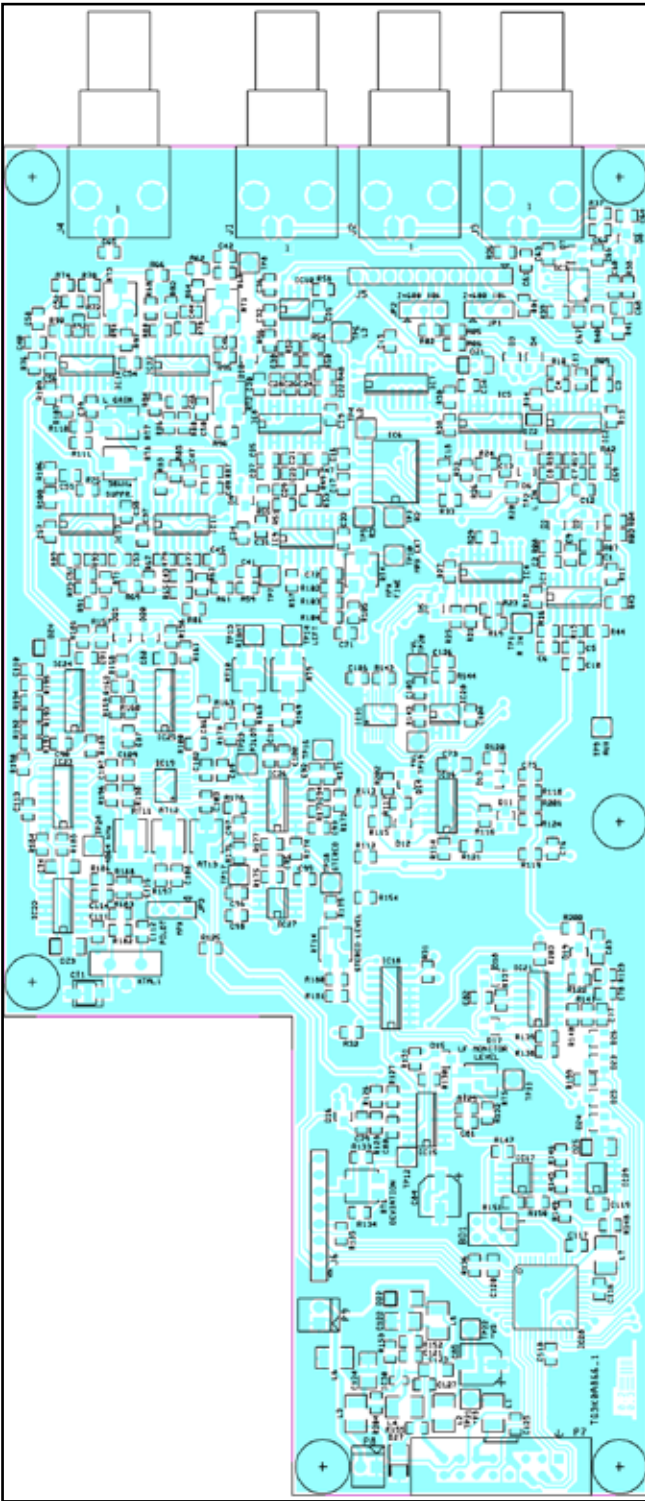
STEREO CODER with MPX and AUX inputs (TG3K0B066-1)





Functional block description / connectors pinout:

It includes MPX and auxiliary inputs, in addition to the section for handling stereo audio.



Connector	Pin No.	Signal	Note
J1	1	External MPX	Input
	2	GND / Common	

Connector	Pin No.	Signal	Note
J2	1	RDS/SCA/AUX1	Input
	2	GND / Common	

Connector	Pin No.	Signal	Note
J3	1	AUX2	Input
	2	GND / Common	

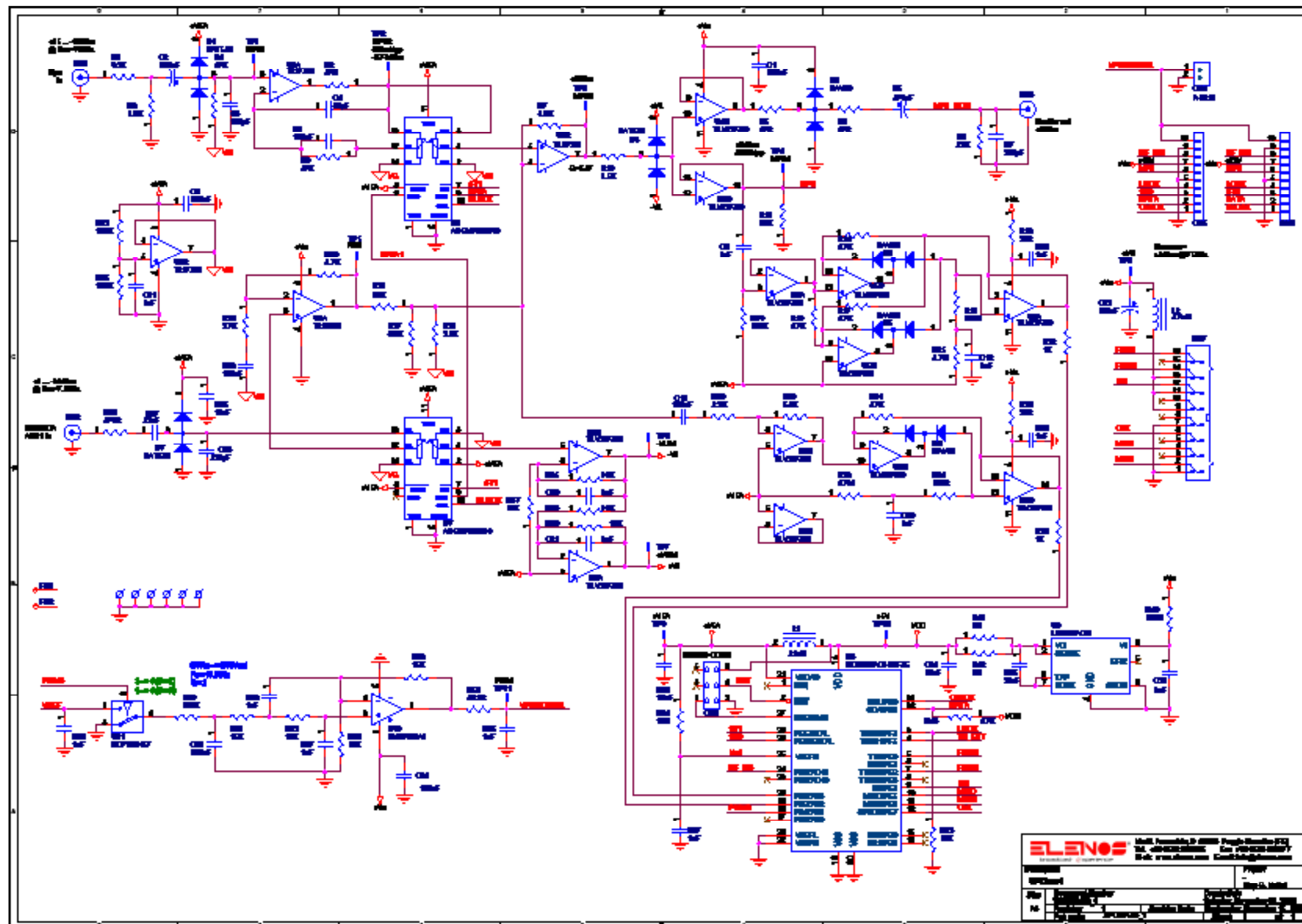
Connector	Pin No.	Signal	Note
J4	1	Monitor MPX-19KHz	Input
	2	GND / Common	

Connector	Pin No.	Signal	Note
J5	1	GND / Common	
	2	Right channel audio signal “-”	Differential input
	3	Right channel audio signal “+”	Differential input
	4	GND / Common	
	5	Left channel audio signal “-”	Differential input
	6	Left channel audio signal “+”	Differential input
	7	GND / Common	
	8	D	Check AES-EBU
	9	+Vs	Positive voltage
	10	-Vs	Negative voltage

Connector	Pin No.	Signal	Note
J6	1	CLOCK	
	2	DATA	Positive voltage
	3	ST4	
	4	/LOCK	
	5	GND / Common	Differential input
	6	Mod_out	Differential input
	7	+Vs	
	8	RF_EN	Check AES-EBU

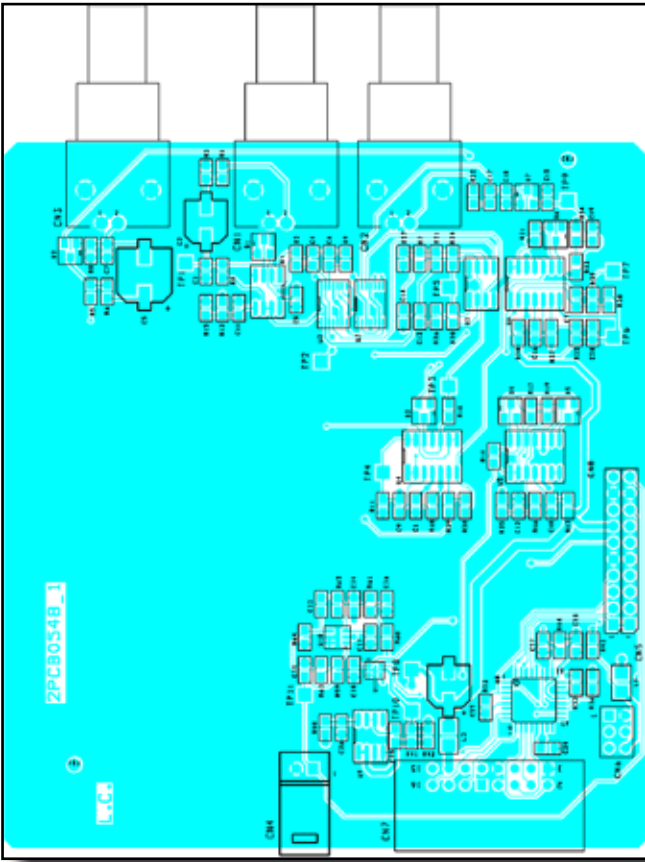
Connector	Pin No.	Signal	Note
J5	1	GND / Common	From-to CPU
	2	MISO	From-to CPU
	3	AD9	From-to CPU
	4	MOSI	From-to CPU
	5	AD8	From-to CPU
	6	CLK	From-to CPU
	7	GND / Common	From-to CPU
	8	CS_IO	From-to CPU
	9	+Vs	
	10	CS_DAC	
	11	+Vs	
	12	CS_DRV	
	13	+Vs	
	14	FINH0	
	15	-Vs	
	16	FINH1	

MPX CODER with AUX inputs (TG2UGA890)



Functional block description / connectors pinout:

MPX signal processor board. It includes also connectors for auxiliary input and monitoring output.



Connector	Pin No.	Signal	Note
CN1			
	1	External MPX	Input
	2	GND / Common	

Connector	Pin No.	Signal	Note
CN2			
	1	AUX1	Input
	2	GND / Common	

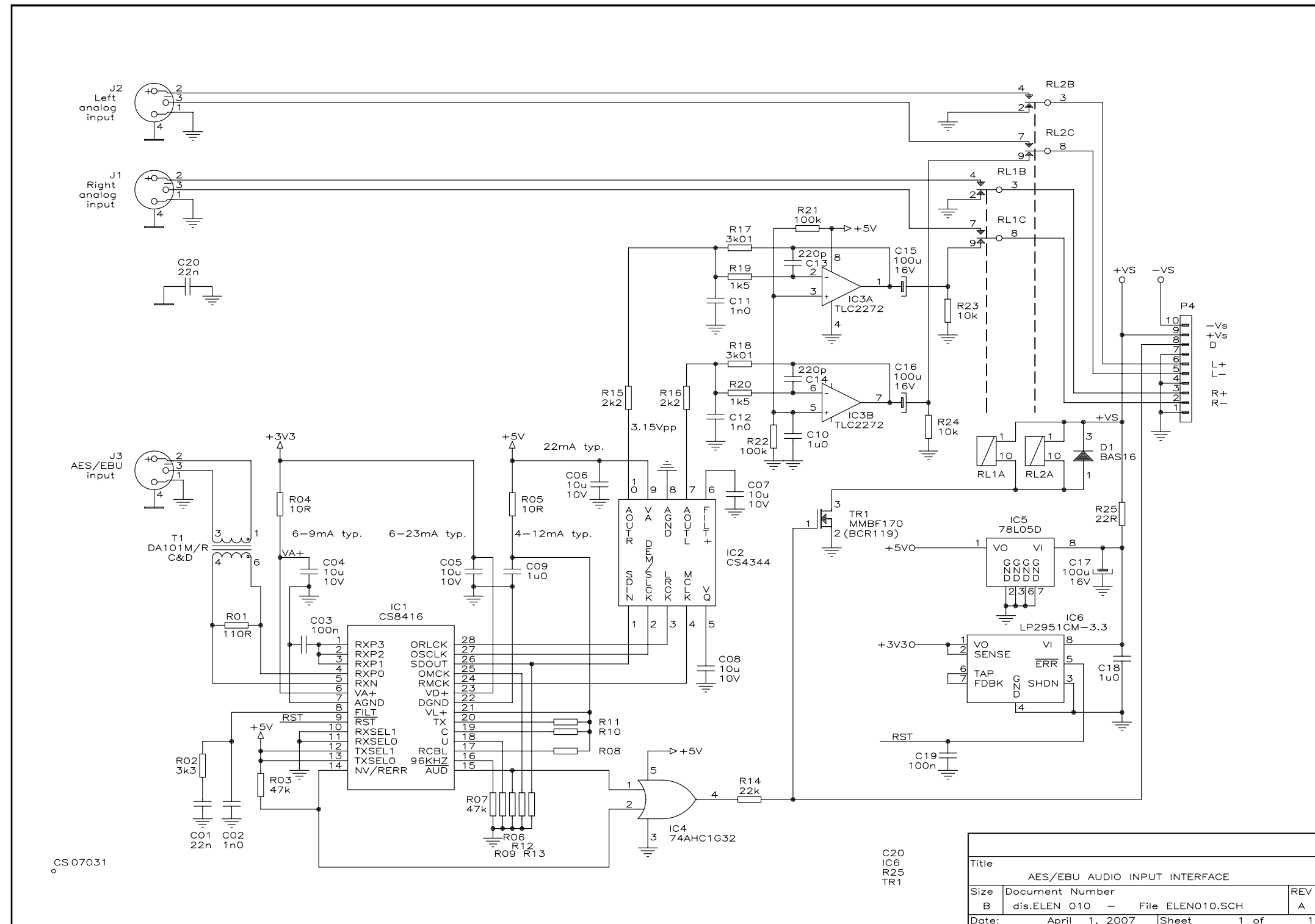
Connector	Pin No.	Signal	Note
CN3			
	1	MPX OUT (MONITOR)	Output
	2	GND / Common	

Connector	Pin No.	Signal	Note
CN4			
	1	VCO POWER CONTROL	
	2	GND / Common	

Connector	Pin No.	Signal	Note
CN5/CN6			
	1	CLOCK	
	2	DATA	
	3	ST0	
	4	LOCK	
	5	GND	
	6	MPX	
	7	+Vs (+12V)	
	8	RF DISABLE	
	9	GND	
	10	VCO POWER CONTROL	

Connector	Pin No.	Signal	Note
CN7			
	1	GND	
	2	MISO	
	3	NOT CONNECTED	
	4	MOSI	
	5	NOT CONNECTED	
	6	CLOCK	
	7	GND	
	8	NOT CONNECTED	
	9	+Vs (+12V)	
	10	NOT CONNECTED	
	11	+Vs (+12V)	
	12	CHIP SELECT	
	13	+Vs (+12V)	
	14	FINH0	
	15	NOT CONNECTED	
	16	FINH1	

STEREO + AES/EBU INPUTS (TG3K2A867-1)



It includes connectors for stereo input (L + R), both balanced and unbalanced, and the connector for AES-EBU digital input with its conversion electronics.

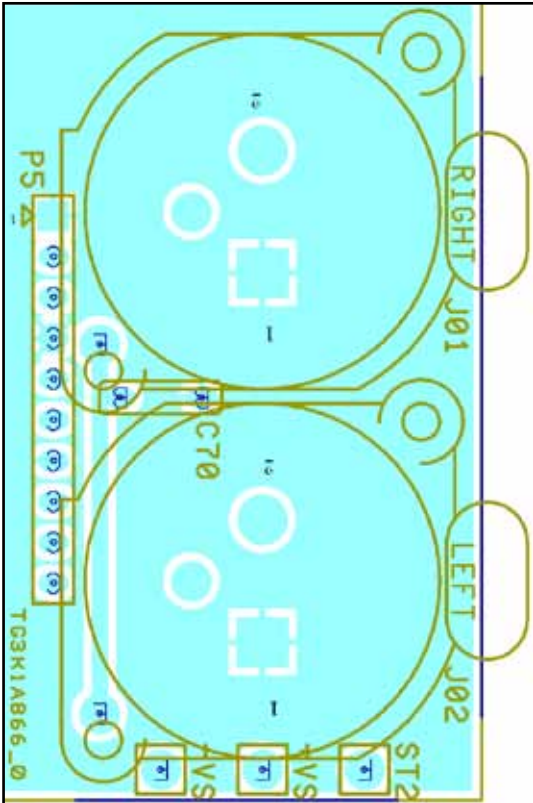


Connector	Pin No.	Signal	Note
P4			
	1	GND / Common	
	2	Differential audio input "negative"	Output
	3	Differential audio input "positive"	Output
	4	GND / Common	
	5	Differential audio input "negative"	Output
	6	Differential audio input "positive"	Output
	7	GND / Common	
	8	D/Check AES-EBU (Set outside)	Input or output
	9	+Vs	Positive mains
	10	-Vs	Negative mains

STEREO INPUTS (TG3K1A866-0)

Functional block description / connectors pinout:

It includes connectors for stereo input (L + R), both balanced and unbalanced.



Connector	Pin No.	Signal	Note
J01			
	1	GND / Common	
	2	Differential audio input "positive"	Right channel
	3	Differential audio input "negative"	Right channel
	4	Frame to ground	

Connector	Pin No.	Signal	Note
J02			
	1	GND / Common	
	2	Differential audio input "positive"	Left channel
	3	Differential audio input "negative"	Left channel
	4	Frame to ground	

Connector	Pin No.	Signal	Note
J02			
	1	GND / Common	
	2	Differential audio input "negative"	Right channel
	3	Differential audio input "positive"	Right channel
	4	GND / Common	
	5	Differential audio input "negative"	Left channel
	6	Differential audio input "positive"	Left channel
	7	GND / Common	
	8	D/Check AES-EBU (Set outside)	Input or output
	9	+Vs	Positive mains
	10	-Vs	Negative mains

22

FRONT PANEL

B_D0	1	+	+	2	B_D1
B_D2	3	+	+	4	B_D3
B_D4	5	+	+	6	B_D5
B_D6	7	+	+	8	B_D7
B_/CS1	9	+	+	10	B_/CS0
B_/RD	11	+	+	12	B_/WD
B_A0	13	+	+	14	B_/OE
SCLK3	15	+	+	16	B_D/OE
MOSI3	17	+	+	18	SPI_/CS_PANEL
TXD1	19	+	+	20	MISO3
/PGM_MODE	21	+	+	22	RXD_1_F
VCC	23	+	+	24	TXE1
+12V	25	+	+	26	
	27	+	+	28	
	29	+	+	30	VCC
	31	+	+	32	
	33	+	+	34	+12V

CN6 LATCHNRMV34

I/O

/CS_IO	33	+	+	34	/CSDAC
EXT_ENABLE	29	+	+	30	
MISO3	27	+	+	28	MOSI3
SCLK3	25	+	+	26	SERIAL_/OE
RXD0	21	+	+	22	TXD0
TXEN0	19	+	+	20	TXE1
RXD1_R	17	+	+	18	TXD1
SCLK4	15	+	+	16	
MISO4	13	+	+	12	MOSI4
/CSUART4	11	+	+	10	/CSETH
/INT3	9	+	+	8	/INT4
VCC	7	+	+	6	
	5	+	+	4	
	3	+	+	2	VCC

CN5 LATCHNRMV34

POWER SUPPLY

VCC	15	+	+	16	VCC
+12V	13	+	+	14	+12V
-12V	11	+	+	12	+12V
	9	+	+	10	
	7	+	+	8	-12V
	5	+	+	6	
	3	+	+	4	
	1	+	+	2	

CN7 MODU2MH8+8

CPU

A0	A1	A2	A3	A4	A5	A6	A7
/WD	/RD	B_/CS0	B_/CS1	B_D/OE	/PGM_MODE	SCLK3	MOSI3
MISO3	SPI_/CS_PANEL	/CS_IO	/CSDAC	SERIAL_/OE	SCLK4	MOSI4	MISO4
/CSETH	/CSUART4	/INT3	/INT4	RXD0	TXD0	TXEN0	RXD1
TXD1	TXE1						

Analog_input

AN[1..8]	MPX0	MPX1	MPX2
----------	------	------	------

Analog_output

MDAC0	MDAC1	VREF	/BIT9
/RES	/RESLATCH	PWM	PWM1
INT_ENABLE	EXT_ENABLE	PLL_LOCK	

Exciter_interface

SCLK3	MOSI3	MISO3	/CS_EXCITER
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PSU_interface

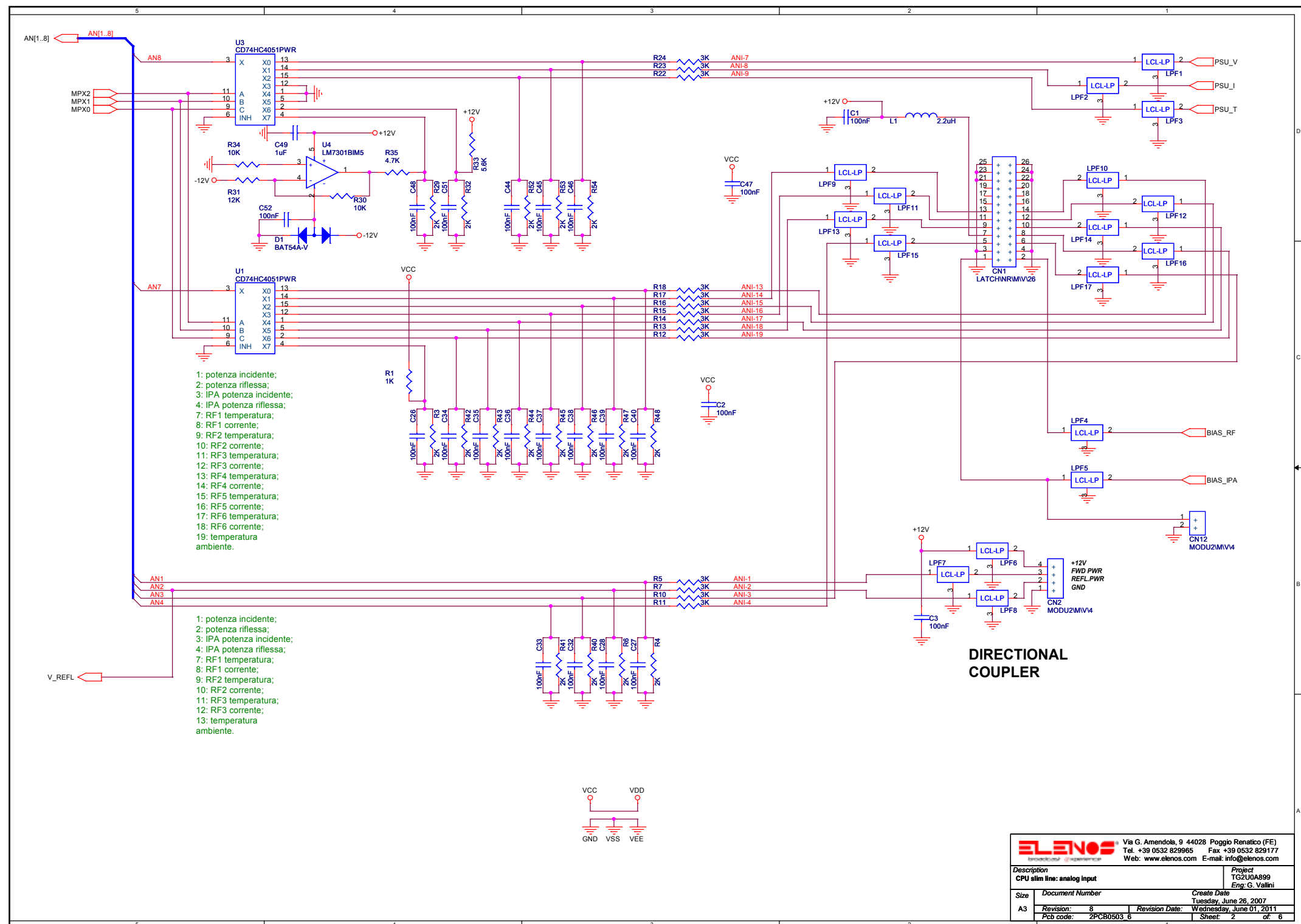
RXD_2	TXD_2	TXEN_2	PSU_ENABLE
PSU_C	PSU_T	PSU_V	PSU_I

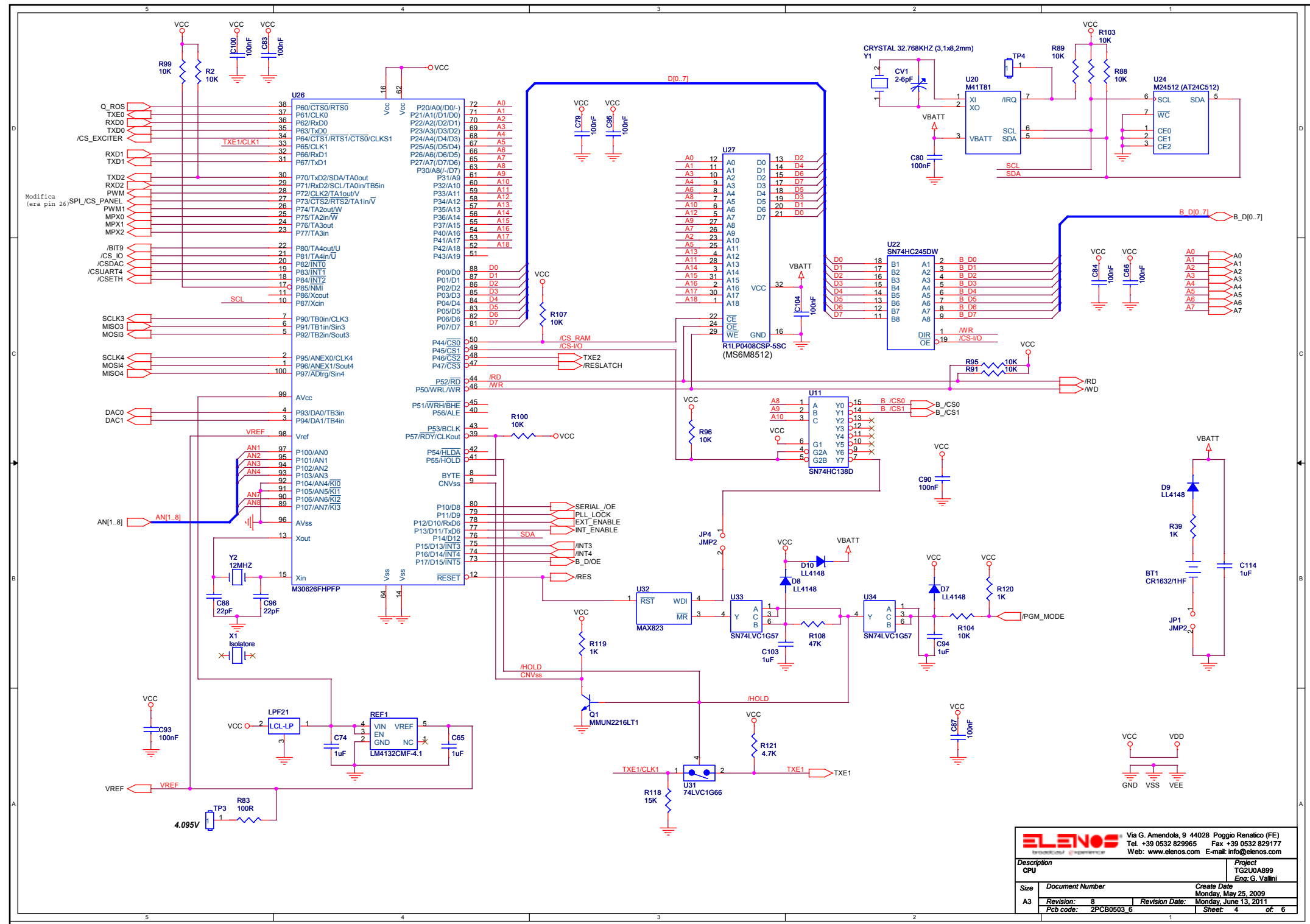
Legend:

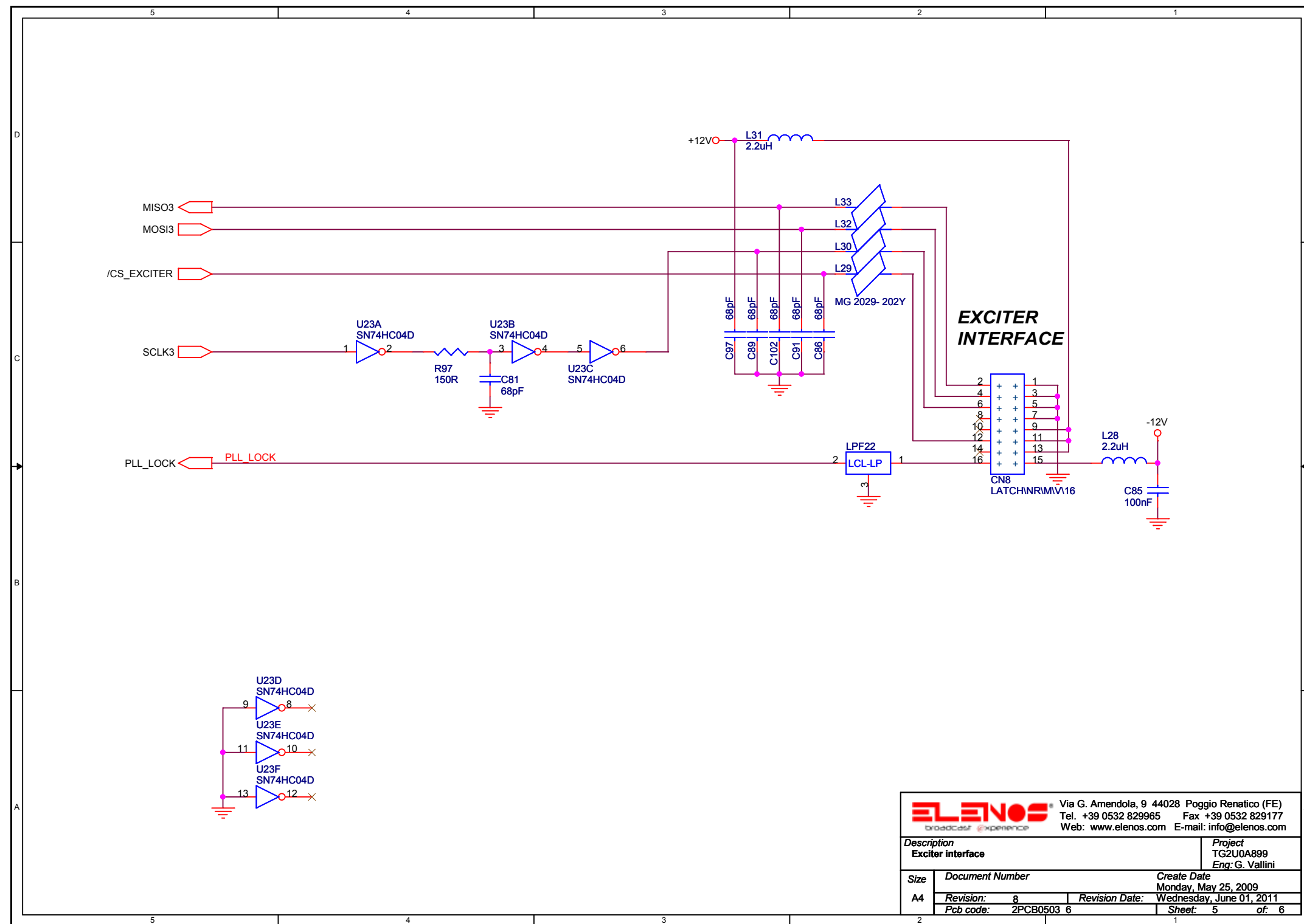
- PWM1 = PSU (analogica, 0/+5V)
- PWM = lpa (+/-12V)
- DAC0 = Ventole(0/+5V)
- DAC1 = non utilizzato.

Components:

- R78, R116, R81, R55: 10K
- R75, R62, R60: 10K
- C78, C105, C106: 100uF 25V
- C75, C101, C107: 100nF
- C50: 100nF
- H1, H2, H3, H4: Headers
- U7: SN74LVC1G08DBVT

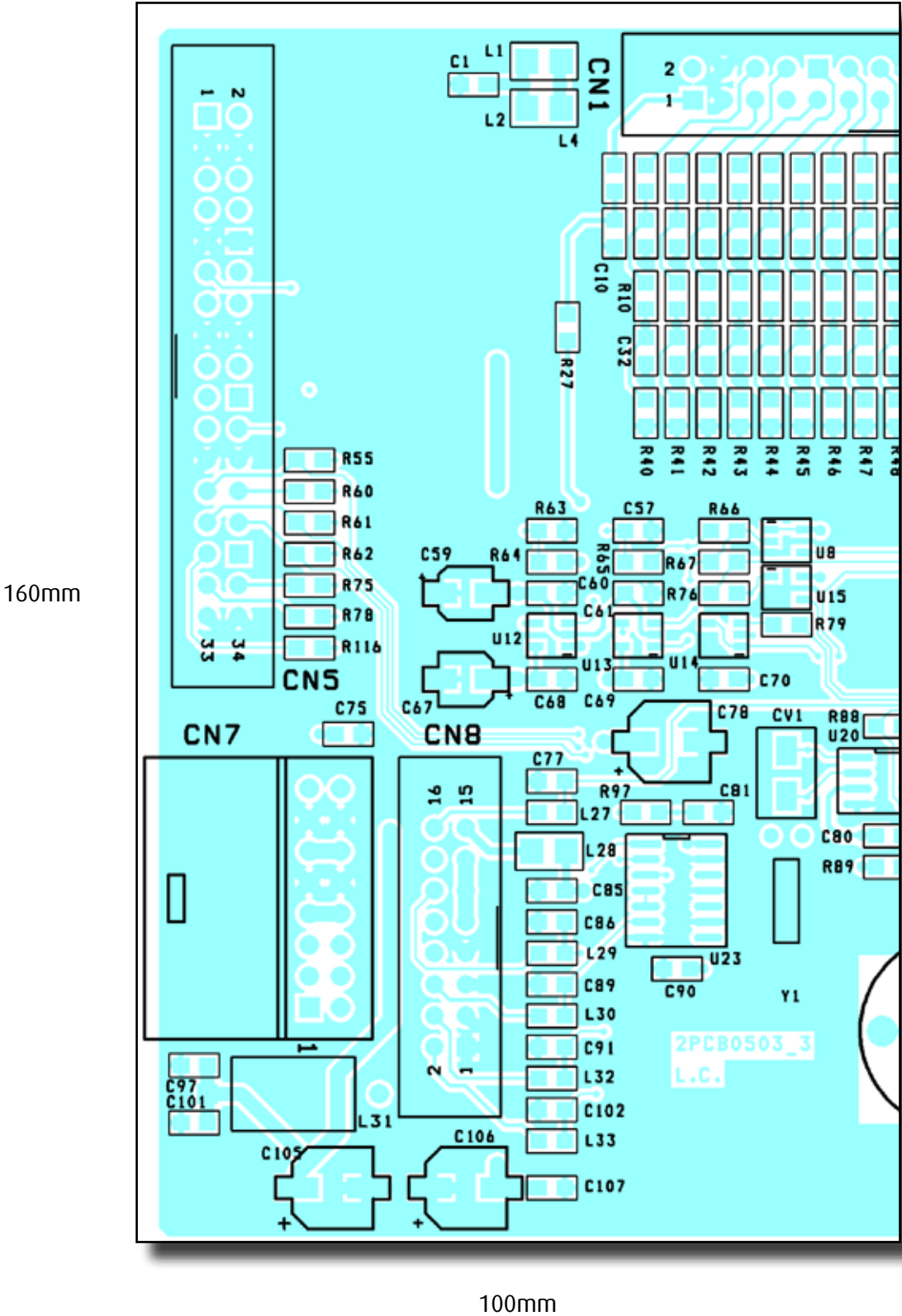






Functional block description / connectors pinout:

Its microprocessor manages and controls all the system functions. This board is equipped with ports for serial communication and in its memory the firmware that characterizes the version is loaded.



Spessore 1,6mm (vetronite)

Connector	Pin No.	Signal	Note
CN1			
	1	IPA BIAS	OUT 0-12V (Segnale lento)
	2	RF BIAS	OUT 0-12V (Segnale lento)
	3	GND / Common	
	4	GND / Common	
	5	ANI-4 (Potenza riflessa IPA)	INPUT 0-12V (Segnale veloce, circa 1KHz, circa 1ms)
	6	ANI-3 (Potenza RF OUT IPA)	INPUT 0-12V (Segnale veloce, circa 1KHz, circa 1ms)
	7	+12V	
	8	ANI-19 (Temp. ambiente)	INPUT 0-12V (Segnale lento)
	9	ANI-18 (Corrente)	INPUT 0-12V (Segnale lento)
	10	ANI-17 (Temperatura)	INPUT 0-12V (Segnale lento)
	11	ANI-16 (Corrente)	INPUT 0-12V (Segnale lento)
	12	ANI-15 (Temperatura)	INPUT 0-12V (Segnale lento)
	13	ANI-14 (Corrente)	INPUT 0-12V (Segnale lento)
	14	ANI-13 (Temperatura)	INPUT 0-12V (Segnale lento)
	15	-	Not connected on the PCB
	16	-	Not connected on the PCB
	17	-	Not connected on the PCB
	18	-	Not connected on the PCB
	19	-	Not connected on the PCB
	20	-	Not connected on the PCB
	21	GND / Common	
	22	GND / Common	
	23	GND / Common	
	24	GND / Common	
	25	GND / Common	
	26	GND / Common	

Connector	Pin No.	Signal	Note
CN2			
	1	GND / Common	
	2	ANI-2 (Potenza riflessa)	INPUT 0-12V (Segnale veloce, circa 1KHz, circa 1ms)
	3	ANI-1 (Potenza diretta)	INPUT 0-12V (Segnale veloce, circa 1KHz, circa 1ms)
	4	+12V	

Connector	Pin No.	Signal	Note
CN3			
	1	+ Vcc	FAN (0/5V)
	2	GND / Common	

Connector	Pin No.	Signal	Note
CN4			
	1	GND / Common	
	2	485-	Seriale Com.a PSU
	3	485+	
	4	GND / Common	
	5	GND / Common	
	6	-	Not connected on the PCB
	7	GND / Common	
	8	-	Not connected on the PCB
	9	GND / Common	
	10		/PSU_ENABLE (OUT 0/12 (H/L)

Connector	Pin No.	Signal	Note
CN5			
	1	+Vcc	5V
	2	+Vcc	5V
	3	GND / Common	
	4	GND / Common	
	5	/INT3	INTER. DELL'SPI 3
	6	/INT4	INTER. DELL'SPI 4
	7	/CSUART4	CHIPSELECT SPI
	8	/CSETH	CHIPSELECT SPI
	9	GND / Common	
	10	GND / Common	
	11	MISO4	
	12	MOSI4	
	13	SCLK4	
	14	-	Not connected on the PCB
	15	GND / Common	
	16	GND / Common	
	17	RXD1_R	COM 0/1
	18	TXD1	COM 0/1
	19	TXEN0	COM 0/1
	20	TXE1	COM 0/1
	21	RXD0	COM 0/1
	22	TXD0	COM 0/1
	23	GND / Common	
	24	GND / Common	
	25	SCLK3	SPI3
	26	SERIAL_/OE	ENABLE H/L
	27	MISO3	SPI3
	28	MOSI3	SPI3
	29	EXT_ENABLE	OUT TENSIONE H/L (12/0)
	30	-	Not connected on the PCB
	31	/CS_I0	CHIPSELECT
	32	/CSDAC	CHIPSELECT
	33	GND / Common	
	34	GND / Common	

Utilizzato per pannello frontale

Connector	Pin No.	Signal	Note
CN6			
	1	B_D0	Buffer digitale 0-5V
	2	B_D1	Buffer digitale 0-5V
	3	B_D2	Buffer digitale 0-5V
	4	B_D3	Buffer digitale 0-5V
	5	B_D4	Buffer digitale 0-5V
	6	B_D5	Buffer digitale 0-5V
	7	B_D6	Buffer digitale 0-5V
	8	B_D7	Buffer digitale 0-5V
	9	GND / Common	
	10	GND / Common	
	11	B_/CS1	Buffer digitale 0-5V
	12	B_/CS0	Buffer digitale 0-5V
	13	B_/RD	Buffer digitale 0-5V
	14	B_/WD	Buffer digitale 0-5V
	15	B_A0	Buffer digitale 0-5V
	16	B_D/OE	Buffer digitale 0-5V
	17	SCLK3	SPI
	18	SPI_/CS_PANEL	SPI
	19	MOSI3	SPI
	20	MISO3	SPI
	21	GND / Common	
	22	GND / Common	
	23	TXD1	SERIALE
	24	RXD_1_F	SERIALE
	25	/PGM_MODE	H/L (0/5)
	26	TXE1	SERIALE
	27	GND / Common	
	28	GND / Common	
	29	+Vcc	5V
	30	+Vcc	5V
	31	GND / Common	
	32	GND / Common	
	33	+12Vcc	
	34	+12Vcc	

Connector	Pin No.	Signal	Note
CN7			
	1	-	Not connected on the PCB
	2	-	Not connected on the PCB
	3	-	Not connected on the PCB
	4	-	Not connected on the PCB
	5	-	Not connected on the PCB
	6	-	Not connected on the PCB
	7	-12Vcc	
	8	-12Vcc	
	9	GND / Common	
	10	GND / Common	
	11	+12Vcc	
	12	+12Vcc	
	13	GND / Common	
	14	GND / Common	
	15	+Vcc	5V
	16	+Vcc	5V

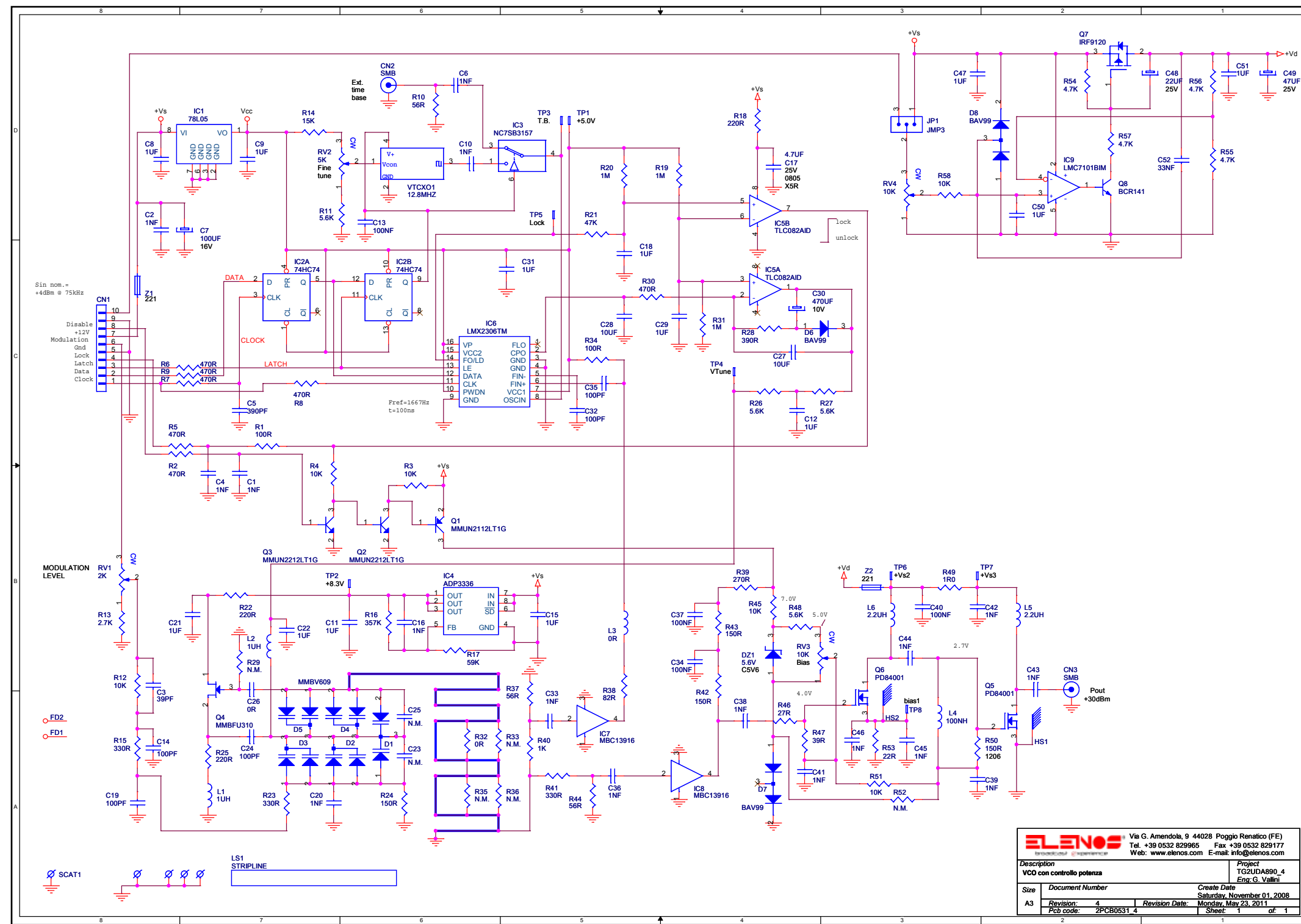
To exciter

Connector	Pin No.	Signal	Note
CN8			
	1	GND / Common	
	2	MISO3	SPI
	3	GND / Common	
	4	MOSI3	SPI
	5	GND / Common	
	6	/SCLK3	SPI
	7	GND / Common	
	8	-	Not connected on the PCB
	9	+12V	
	10	-	Not connected on the PCB
	11	+12V	
	12	/CS_EXCITER	SPI
	13	+12V	
	14	-	Not connected on the PCB
	15	-12V	
	16	PLL_LOCK	INPUT 0-12 (H/L)

Connector	Pin No.	Signal	Note
CN11			
	1	PSU_T (Lettura tempera- tura)	INPUT 0-12V (Segnale lento)
	2	GND / Common	
	3	PSU_C (Controllo tensione PSU)	OUTPUT 0-12V (Segnale lento)
	4	GND / Common	
	5	PSU_V (Lettura tensione)	INPUT 0-12V (Segnale lento)
	6	-	Not connected on the PCB
	7	PSU_I (Lettura corrente)	INPUT 0-12V (Segnale lento)
	8	/PSU_ENABLE	Collettore di transistor : chiude a massa il pin di enable dell'alimentatore. 12V
	9	-	Not connected on the PCB
	10	-	Not connected on the PCB

Connector	Pin No.	Signal	Note
CN12			
	1	BIAS_IPA	OUT 0-12V (Segnale lento)
	2	GND / Common	

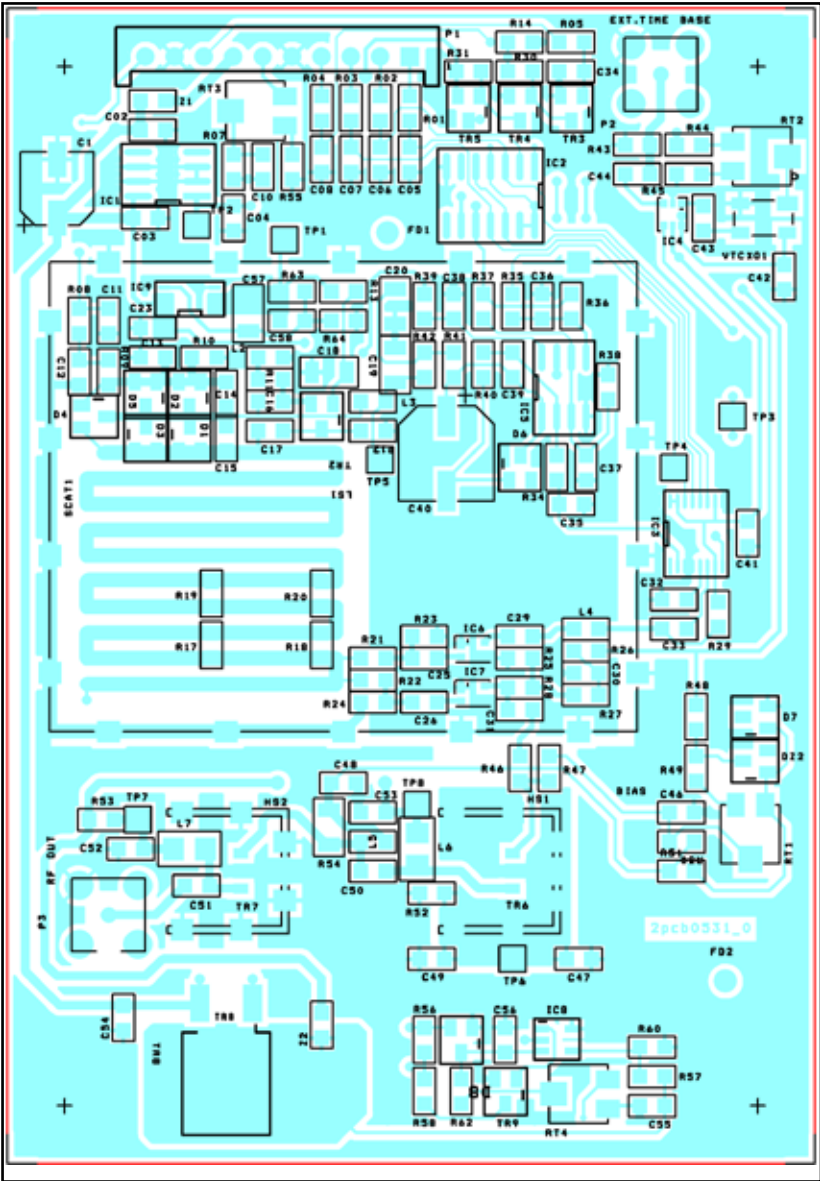
VCO (TG2UDA890-4)



ELENOS		Via G. Amendola, 9 44028 Poggio Renatico (FE)	
Tel: +39 0532 629965		Fax: +39 0532 629177	
Web: www.eLENOS.com		E-mail: info@elenos.com	
Description		Project	
VCO con controllo potenza		TG2UDA890_4	
Size		Create Date	
A3		Saturday, November 01, 2008	
Revision		Revision Date	
4		Monday, May 23, 2011	
Pcb code		Sheet	
2PCB0631_4		1 of 1	

Functional block description / connectors pinout:

It's the Voltage Controlled Oscillator, that permits the frequency modulation of the RF signal (carrier) by audio signal.



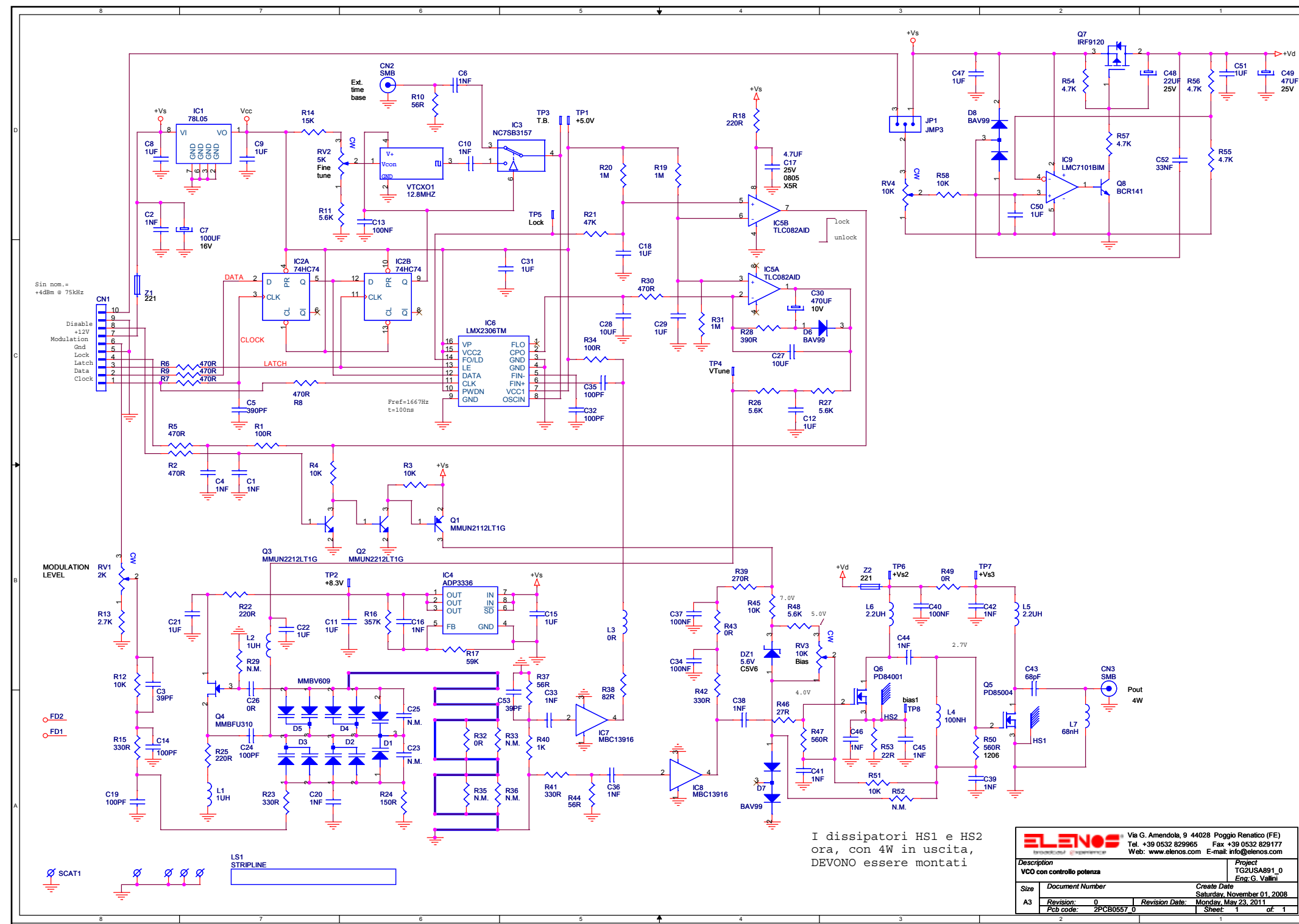
Connector	Pin No.	Signal	Note
CN1			
	1	CLOCK	
	2	DATA	
	3	LATCH	
	4	LOCK	PLL locked signal
	5	GND / Common	
	6	Modulation	Modulating input signal
	7	+12V	
	8	Disable	Disable VCO input signal
	9	GND / Common	
	10	RF POWER Control	VCO output power control

Connector	Pin No.	Signal	Note
CN2			
	1	External time base	External PLL reference
	2	GND / Common	

Connector	Pin No.	Signal	Note
CN3			
	1	Pout (+30dBm)	RF output
	2	GND / Common	

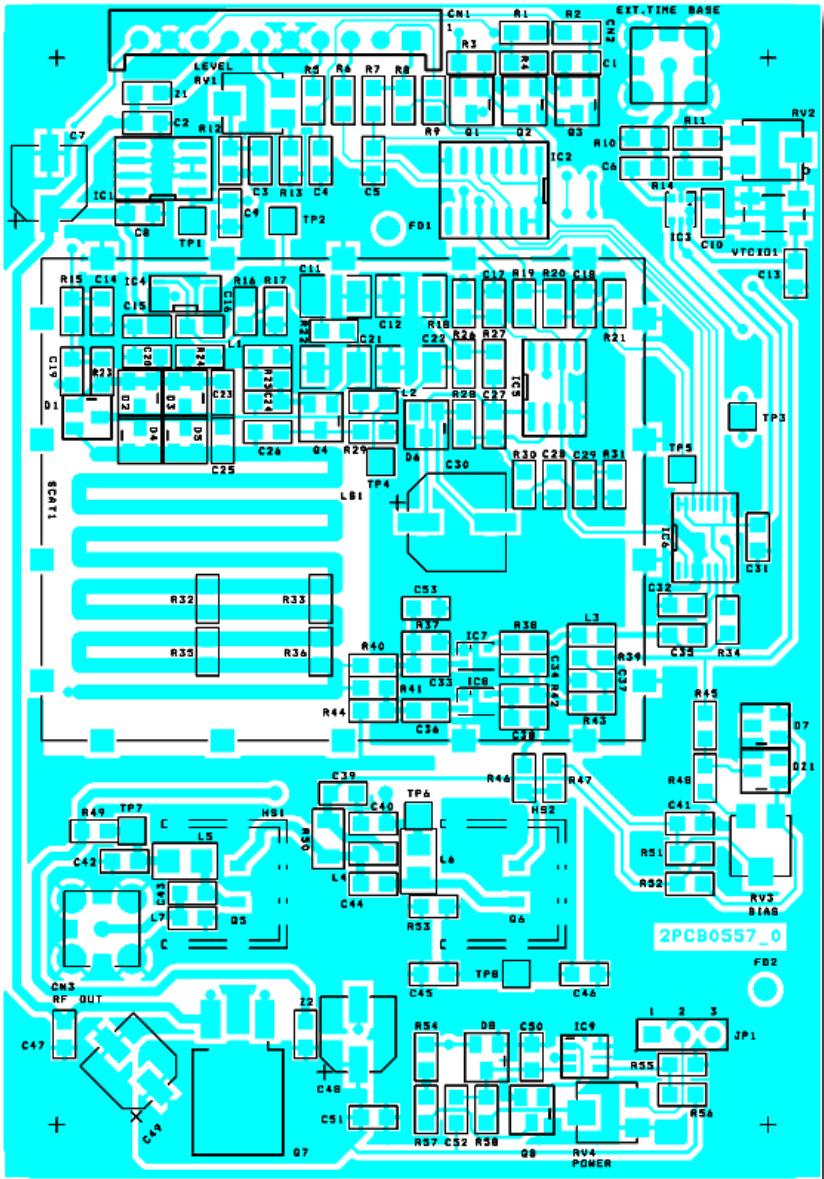
Connector	Pin No.	Signal	Note
JP1			
	1	+12Vcc	1-2 jumped: external output power adjustment.
	2		
	3		2-3 jumped: fixed output power.

ENHANCED VCO (TG2USA891-0)



Functional block description / connectors pinout:

It's the Voltage Controlled Oscillator, that permits the frequency modulation of the RF signal (carrier) by audio signal.



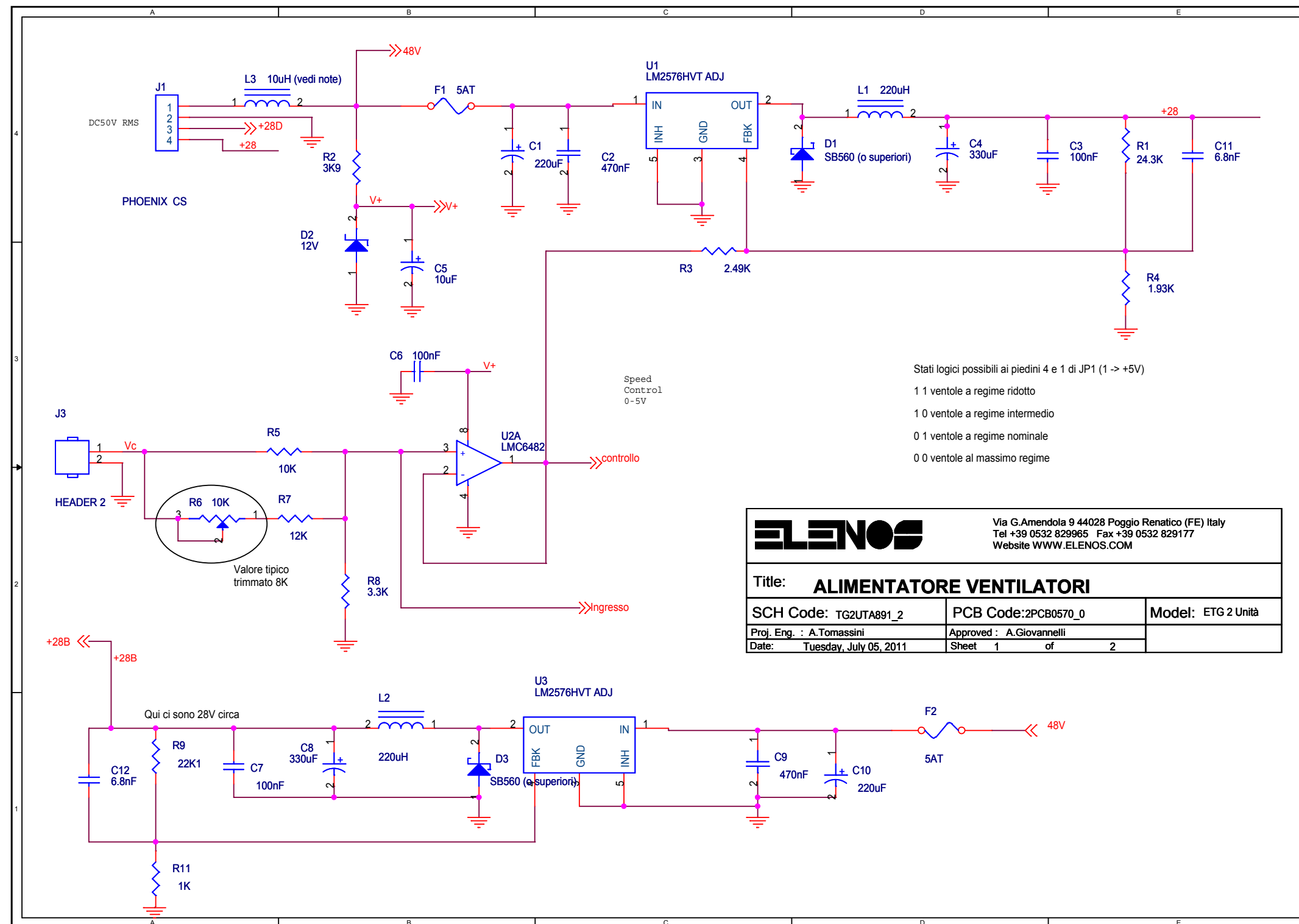
Connector	Pin No.	Signal	Note
CN1			
	1	CLOCK	
	2	DATA	
	3	LATCH	
	4	LOCK	PLL locked signal
	5	GND / Common	
	6	Modulation	Modulating input signal
	7	+12V	
	8	Disable	Disable VCO input signal
	9	GND / Common	
	10	RF POWER Control	VCO output power control

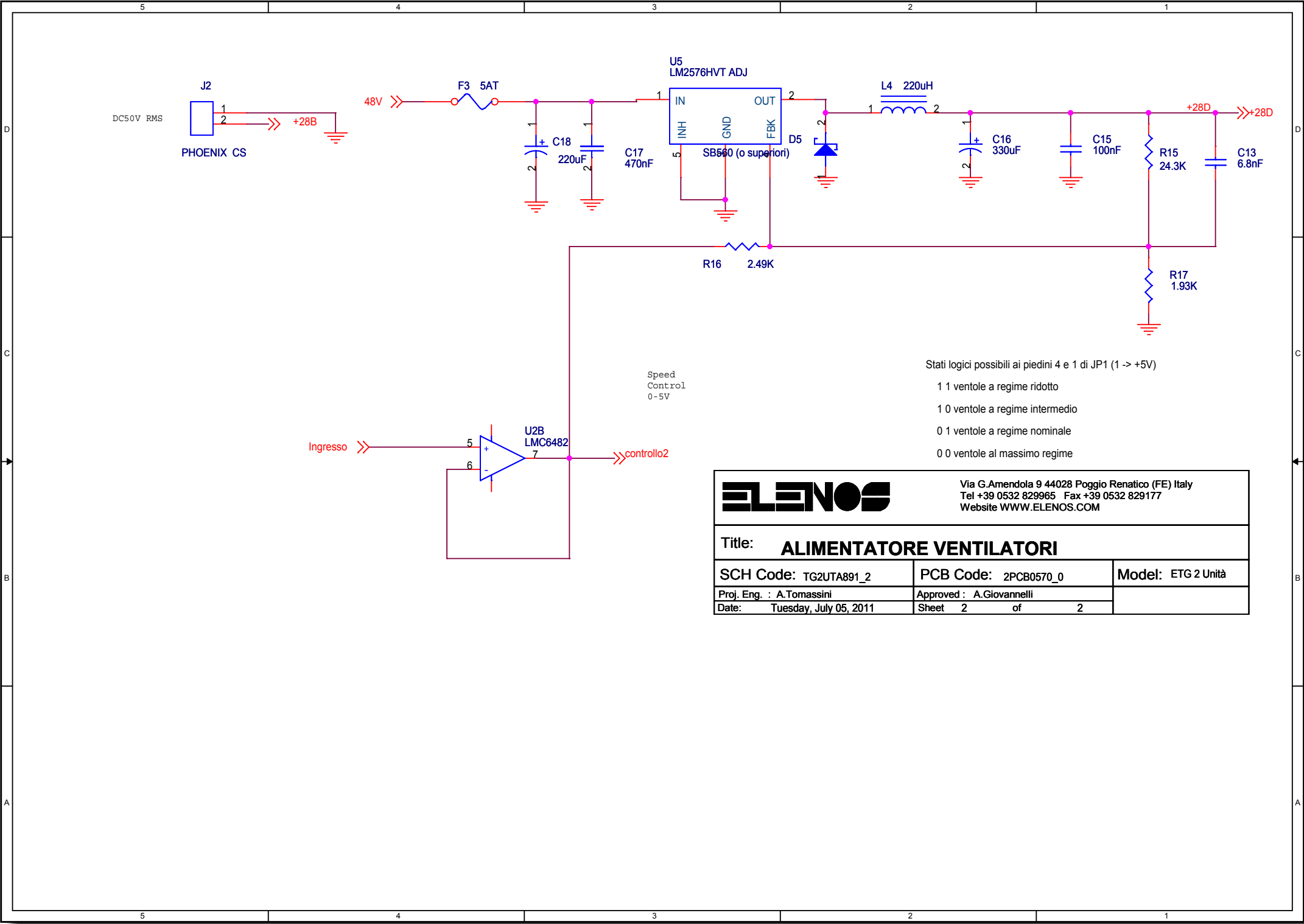
Connector	Pin No.	Signal	Note
CN2			
	1	External time base	External PLL reference
	2	GND / Common	

Connector	Pin No.	Signal	Note
CN3			
	1	Pout (+30dBm)	RF output
	2	GND / Common	

Connector	Pin No.	Signal	Note
JP1			
	1	+12Vcc	1-2 jumped: external output power adjustment.
	2		
	3		2-3 jumped: fixed output power.

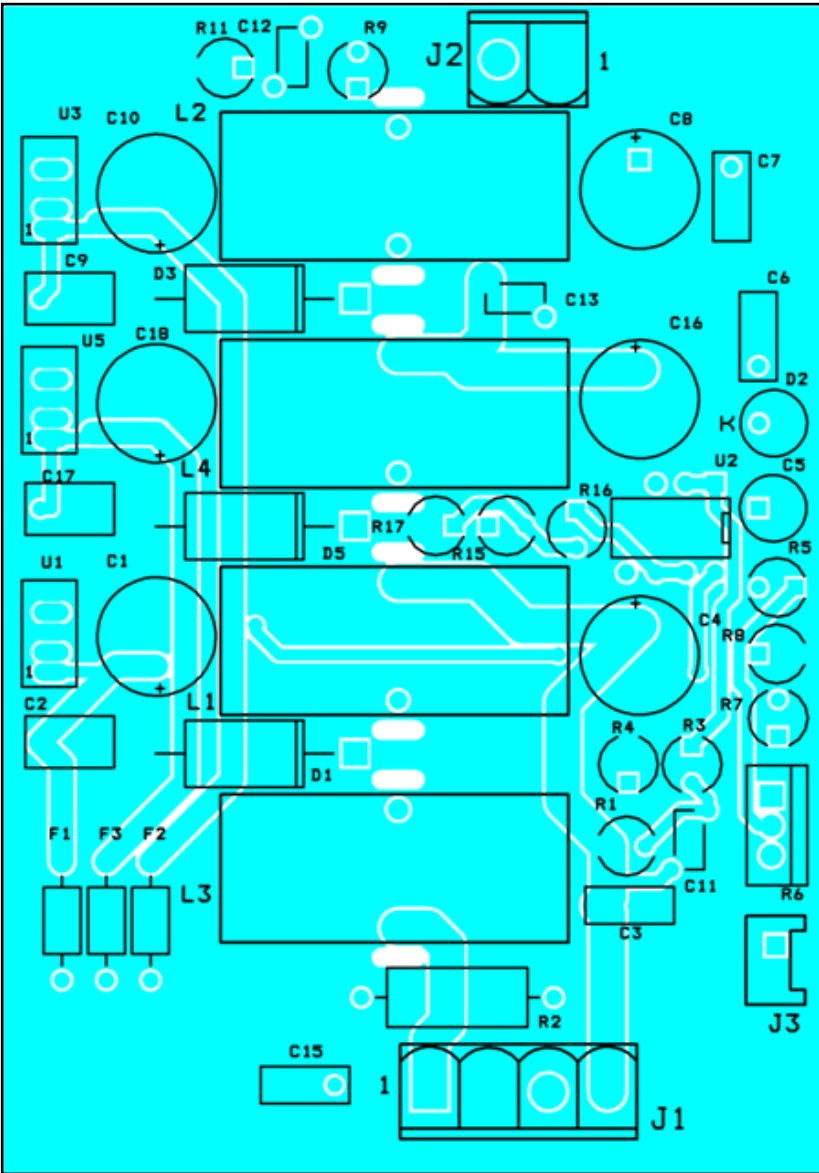
FAN & DRIVER POWER SUPPLY (TG2UTA891-2)





Functional block description / connectors pinout:

It consists of three sections for adjusting the supply voltage for the cooling fans and the driver module.

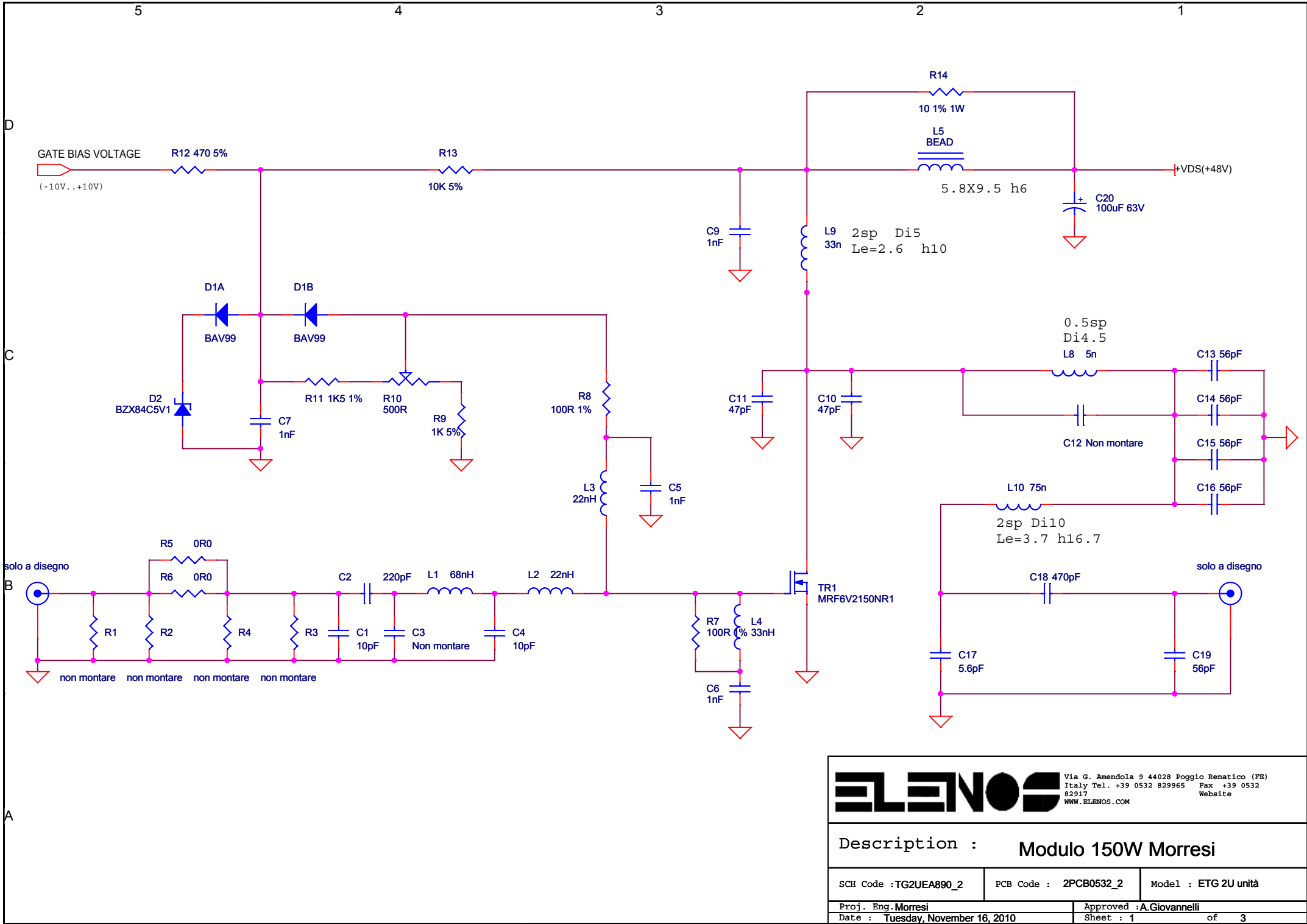


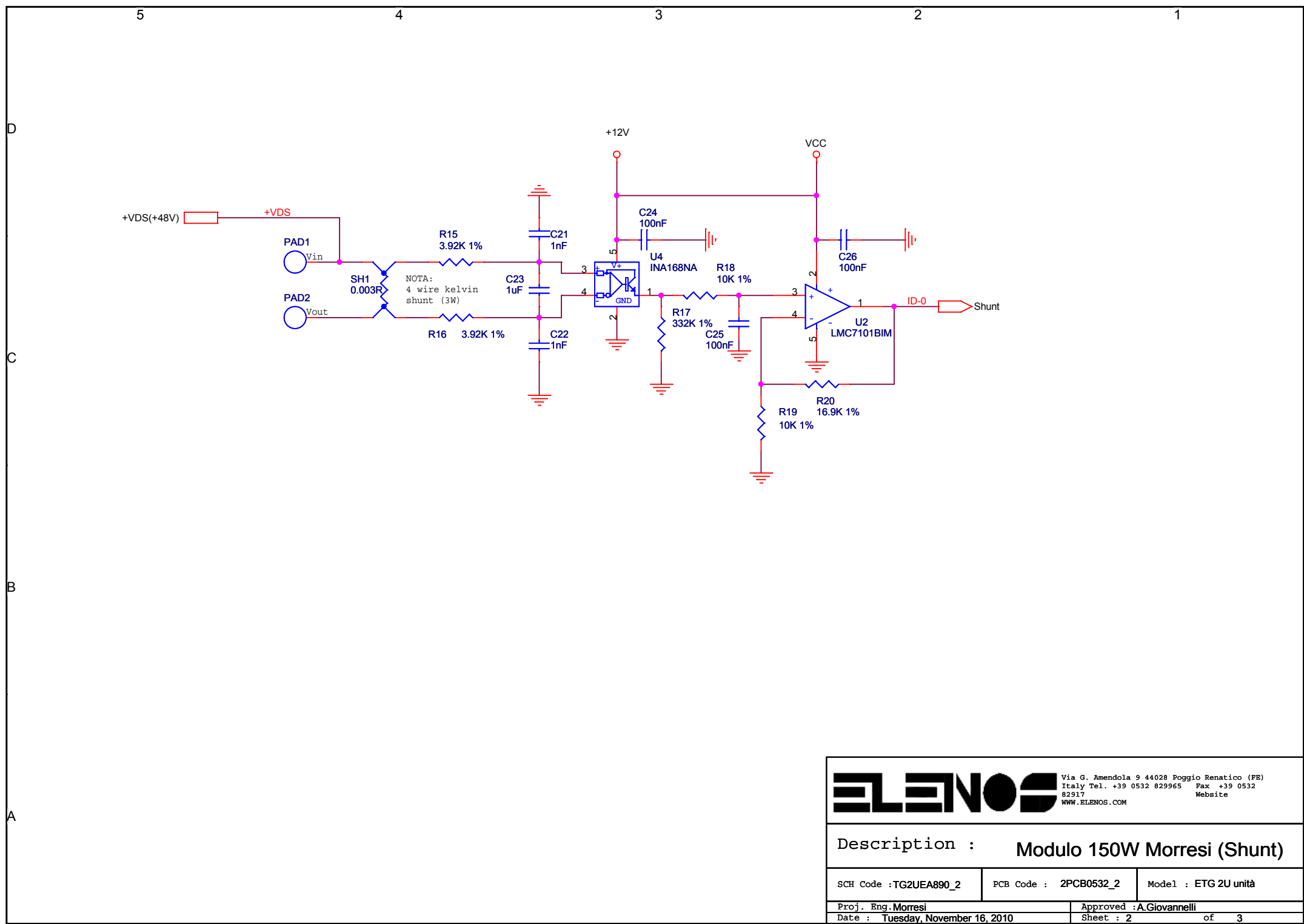
Connector	Pin No.	Signal	Note
J1			
	1	+48Vdc	Input
	2	GND / Common	
	3	+28Vdc	Output D
	4	+28Vdc	

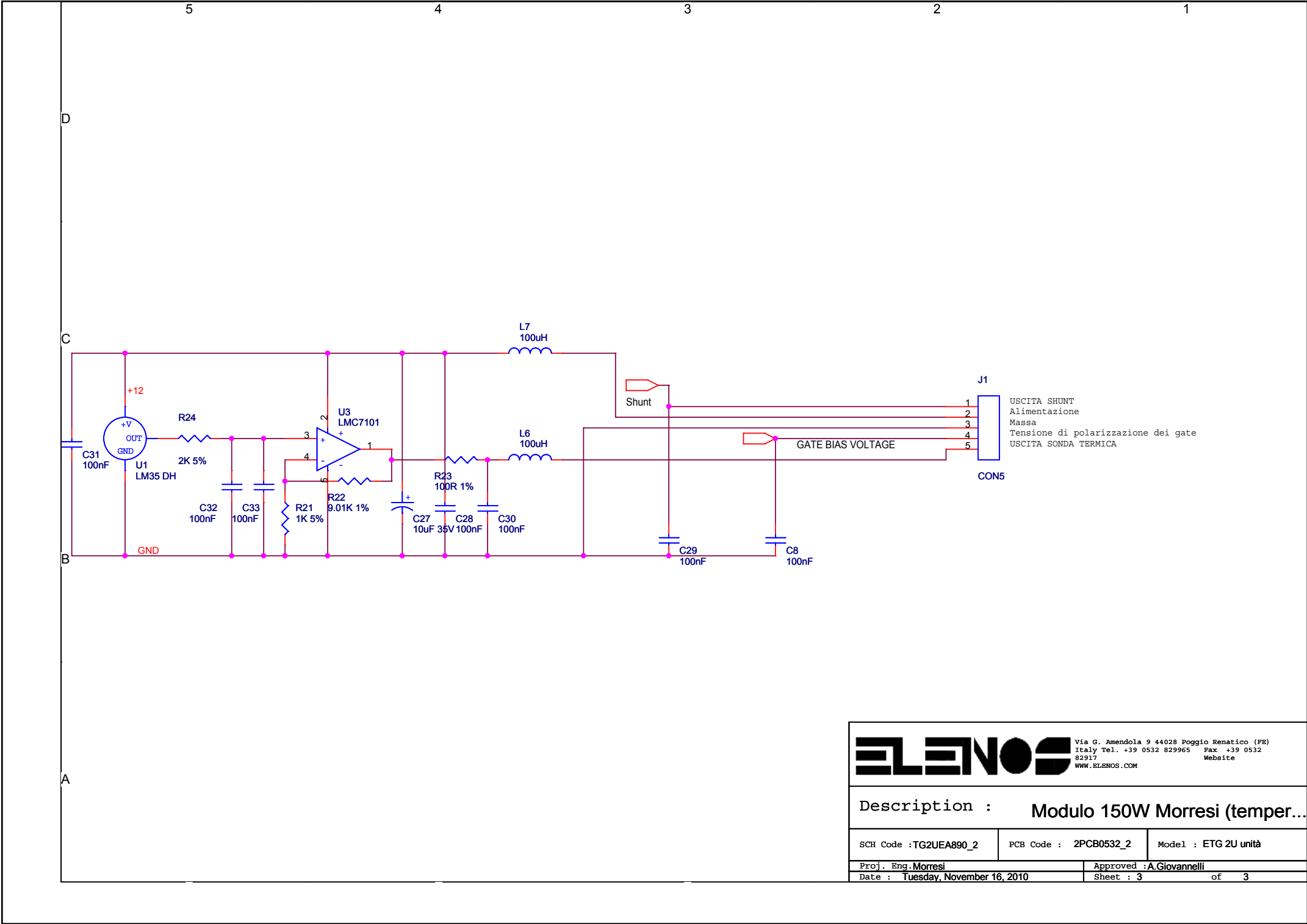
Connector	Pin No.	Signal	Note
J2			
	1	+28Vdc	Output B
	2	GND / Common	

Connector	Pin No.	Signal	Note
J3			
	1	V-out control	
	2	GND / Common	

150W RF AMPLIFIER MODULE (TG2UEA890-2)

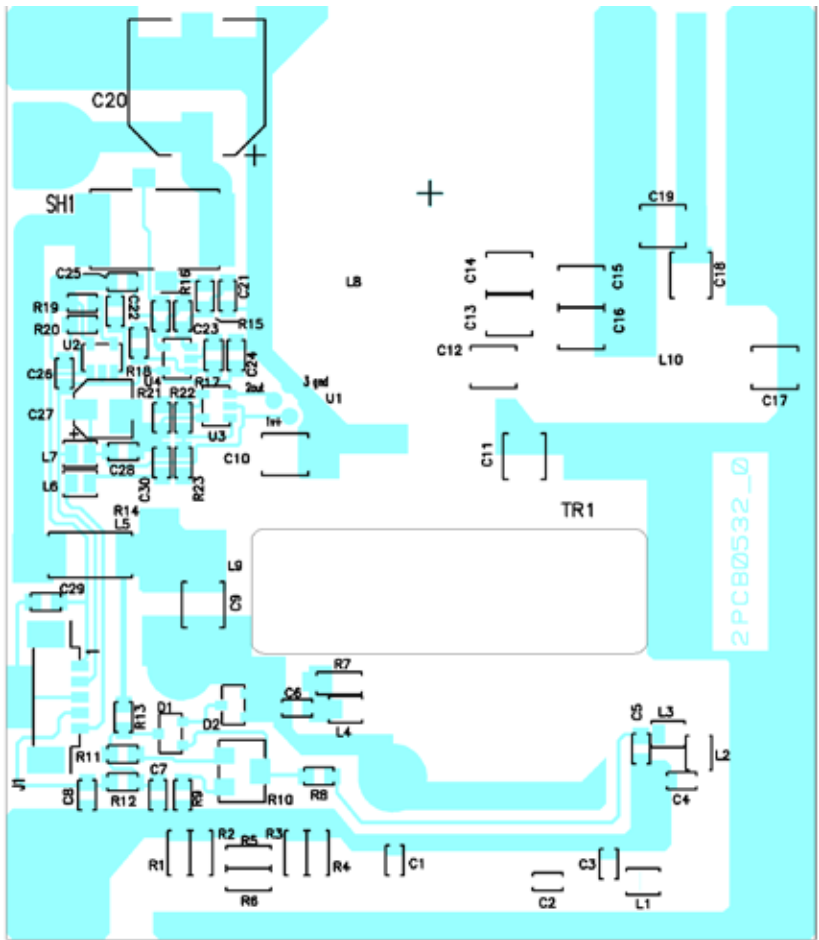






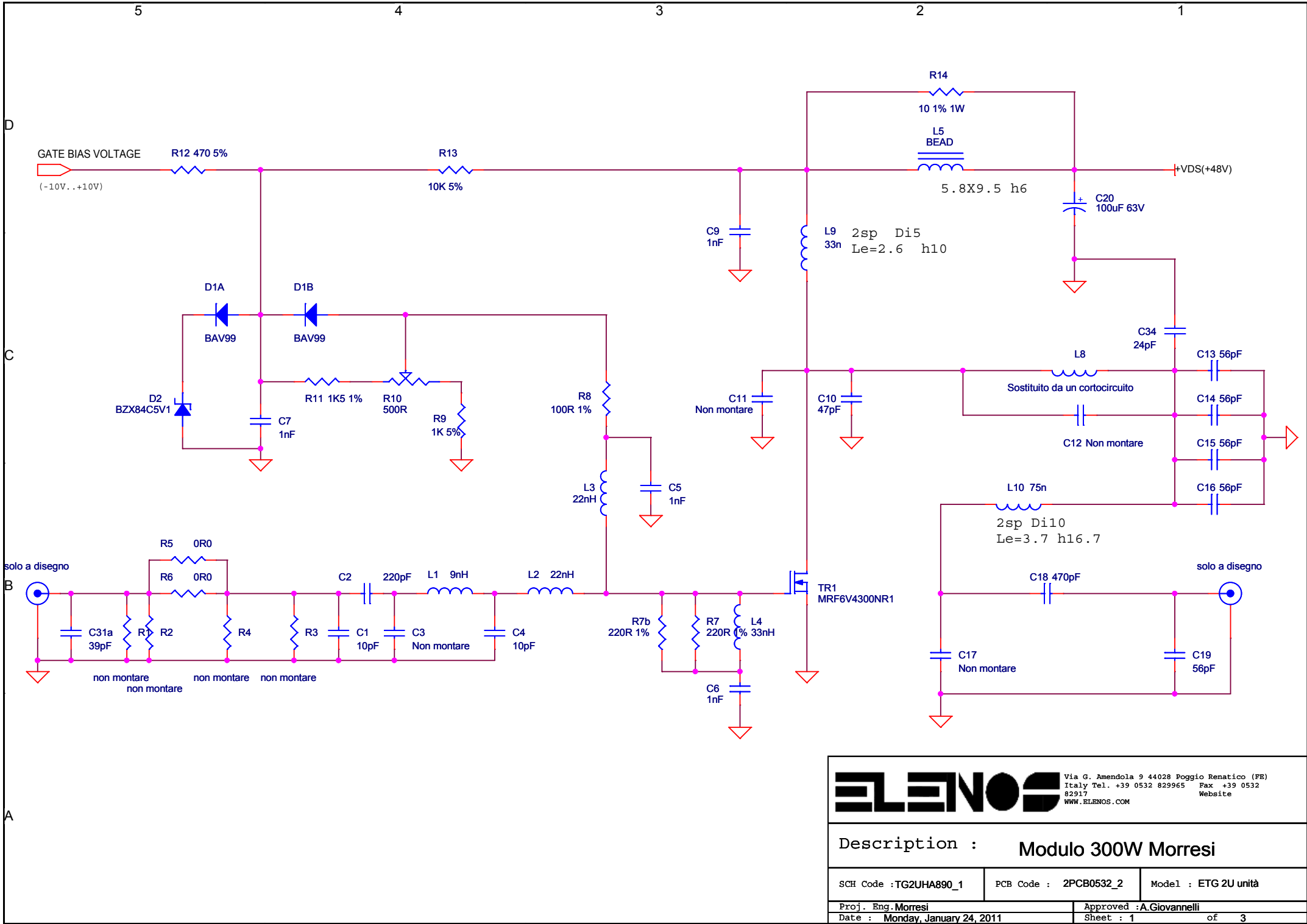
Functional block description / connectors pinout:

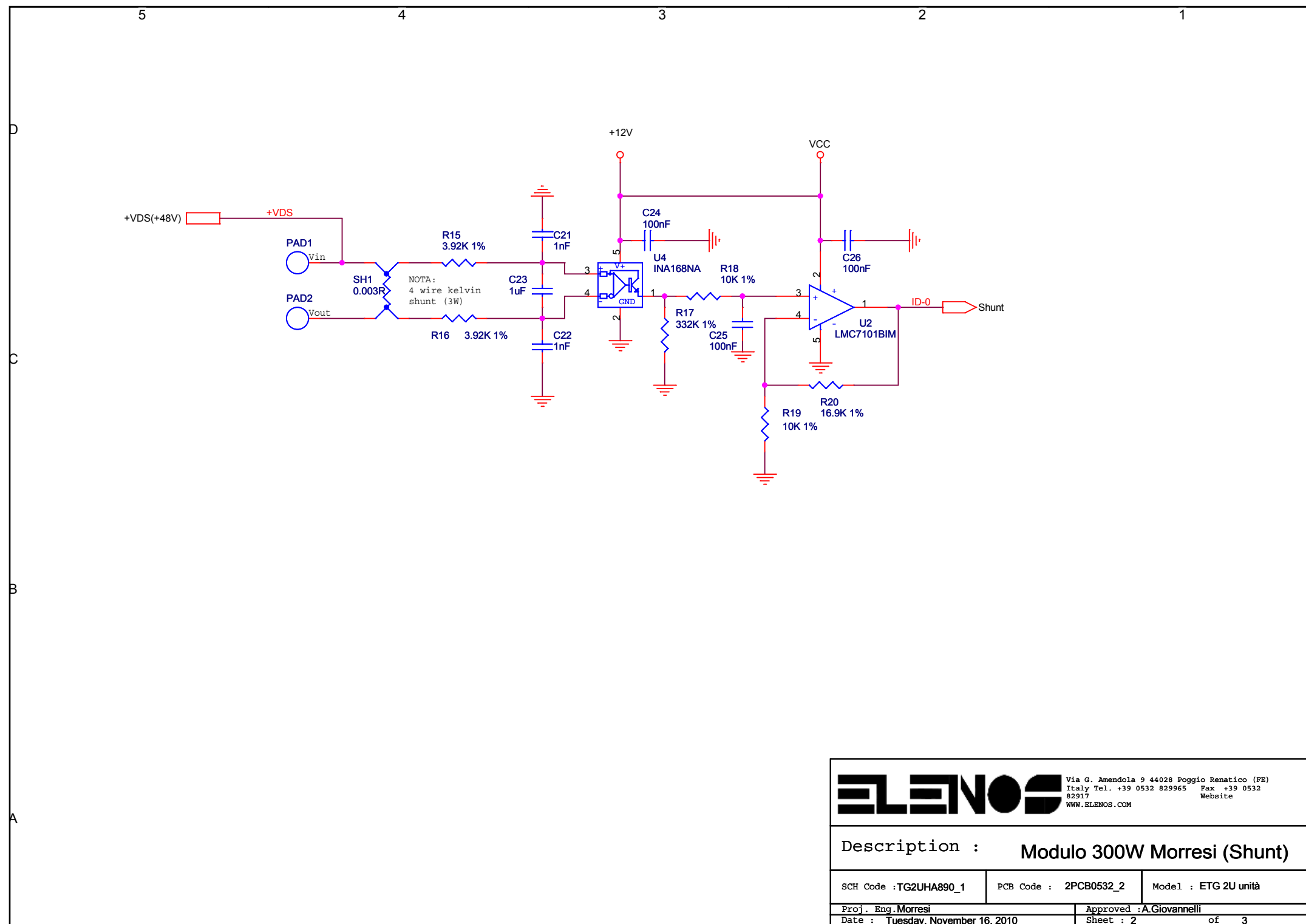
Complete RF amplifier module for providing the rated output power.



Connector	Pin No.	Signal	Note
J1			
	1	Current	Shunt on board
	2	+Vcc	
	3	GND / Common	
	4	V-Bias	
	5	Temperature	Sensor on board

300W AMPLIFIER MODULE (TG2UHA890-1)

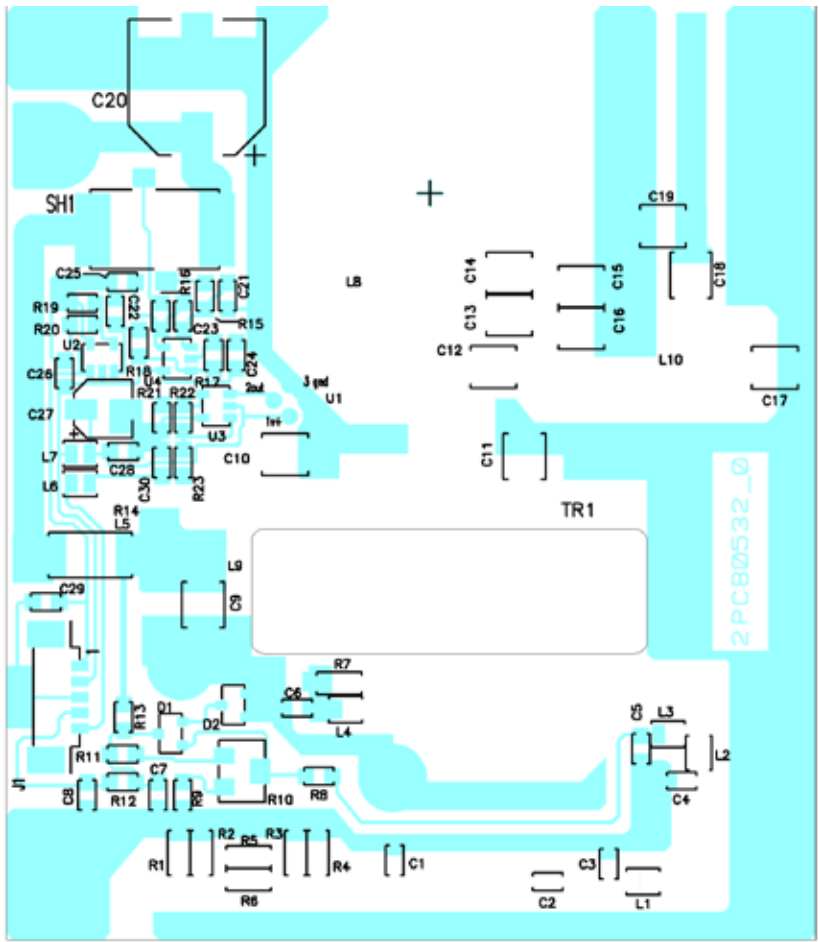






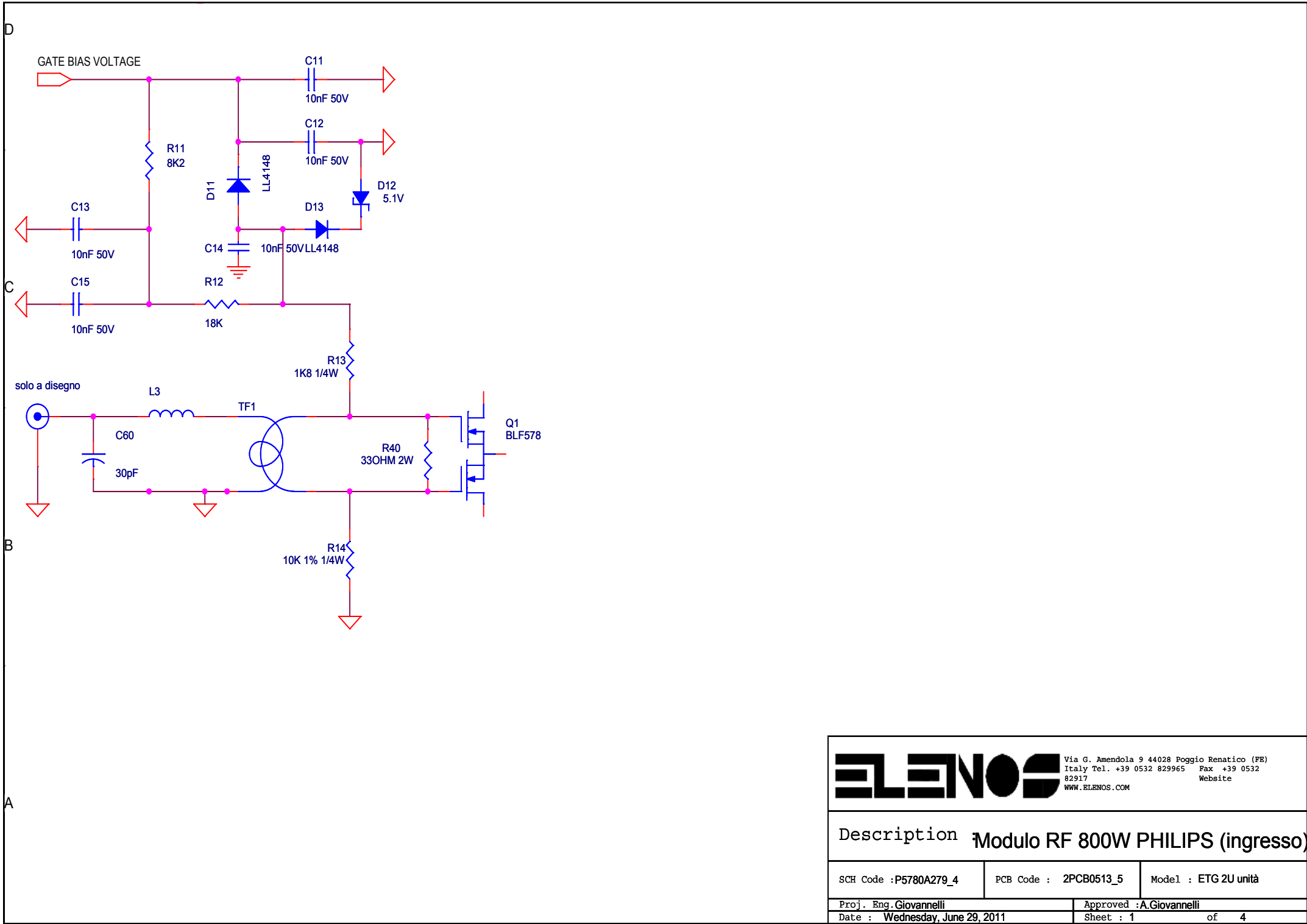
Functional block description / connectors pinout:

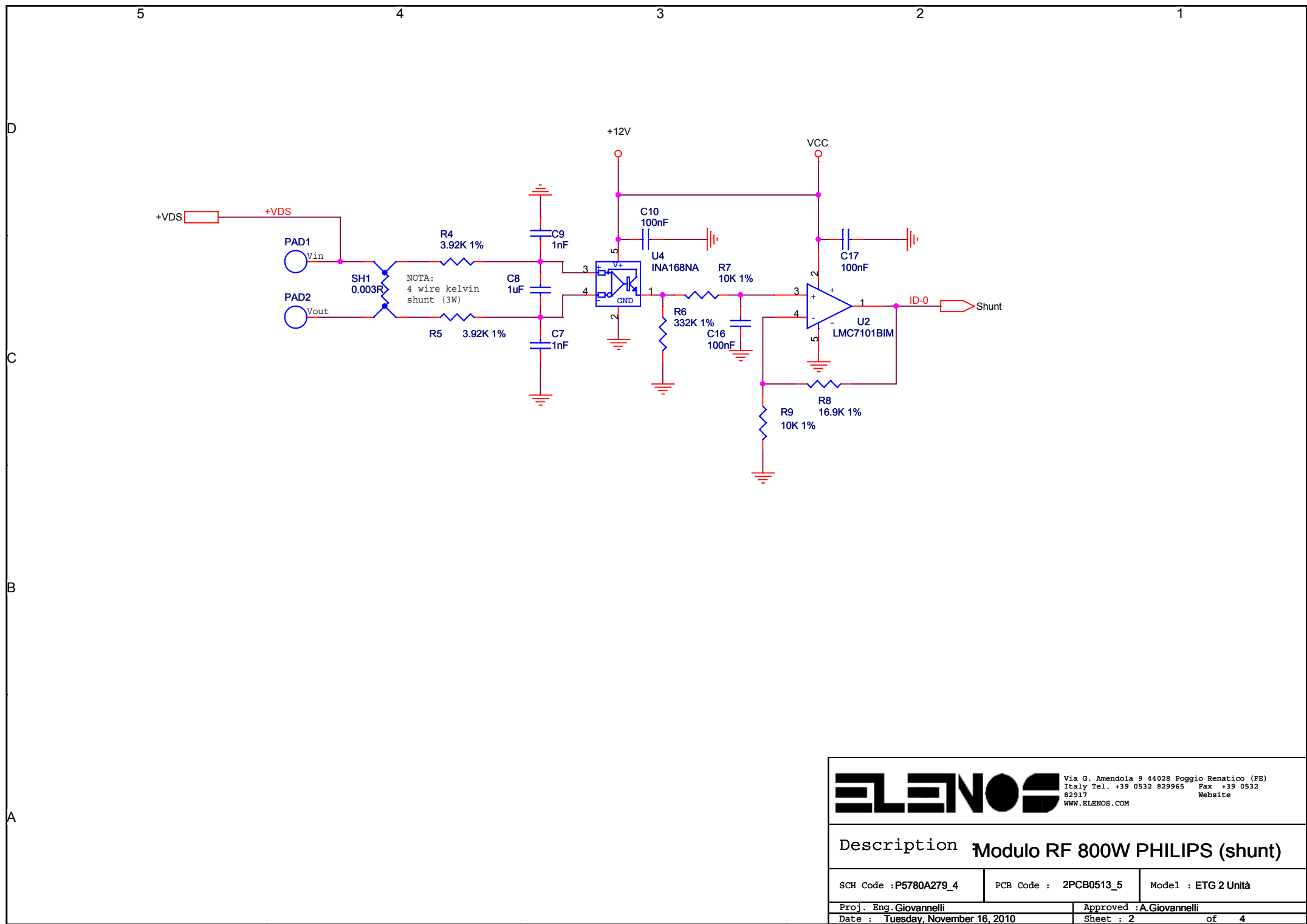
Complete RF amplifier module for providing the rated output power.

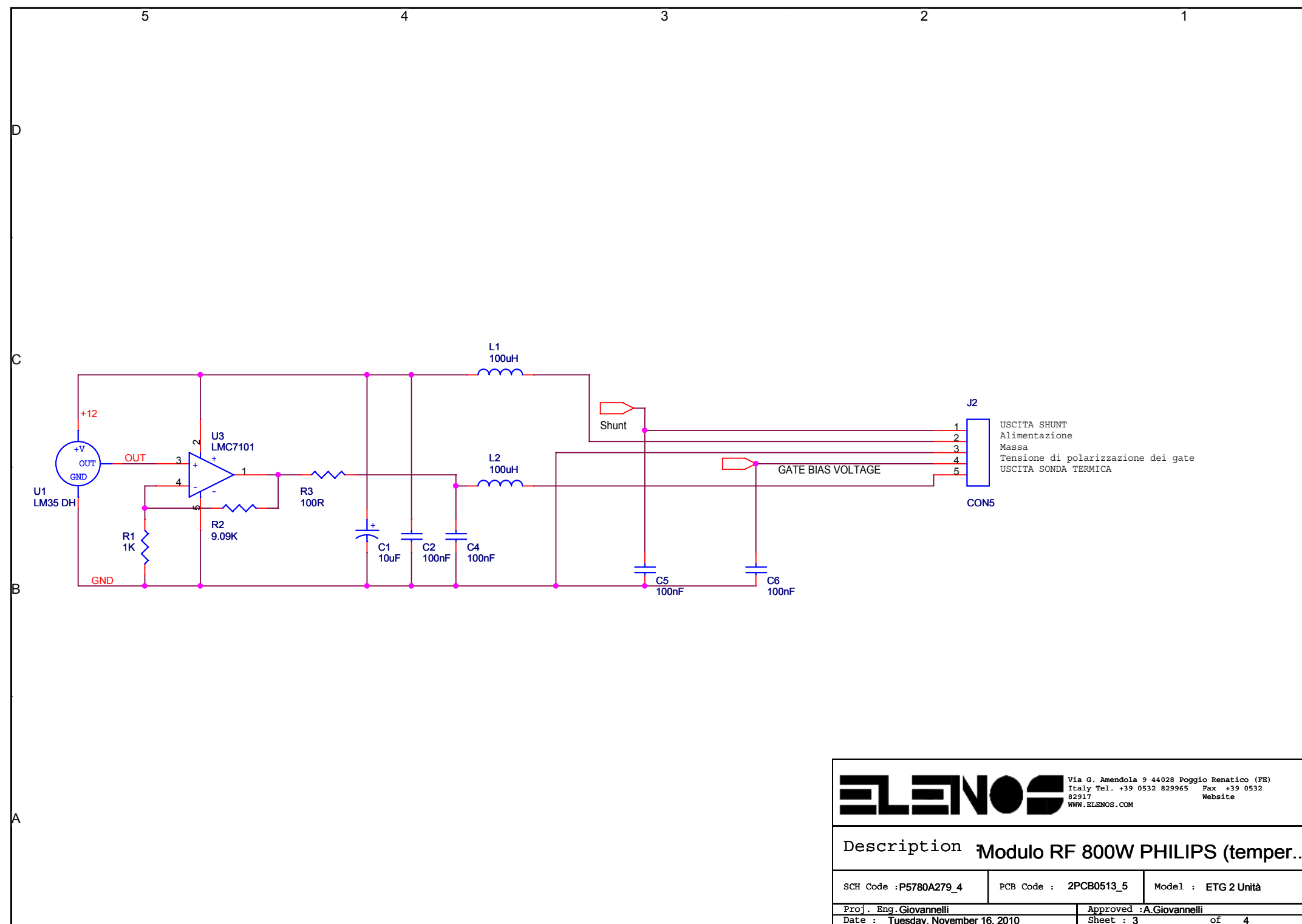


Connector	Pin No.	Signal	Note
J1			
	1	Current	Shunt on board
	2	+Vcc	
	3	GND / Common	
	4	V-Bias	
	5	Temperature	Sensor on board

700W RF AMPLIFIER MODULE - INPUT STAGE (P5780A279-4)

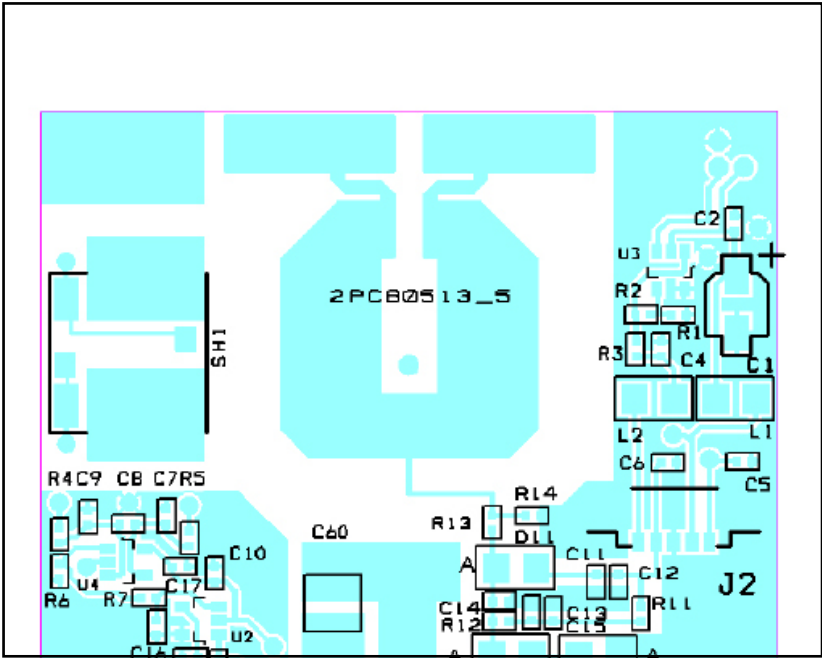






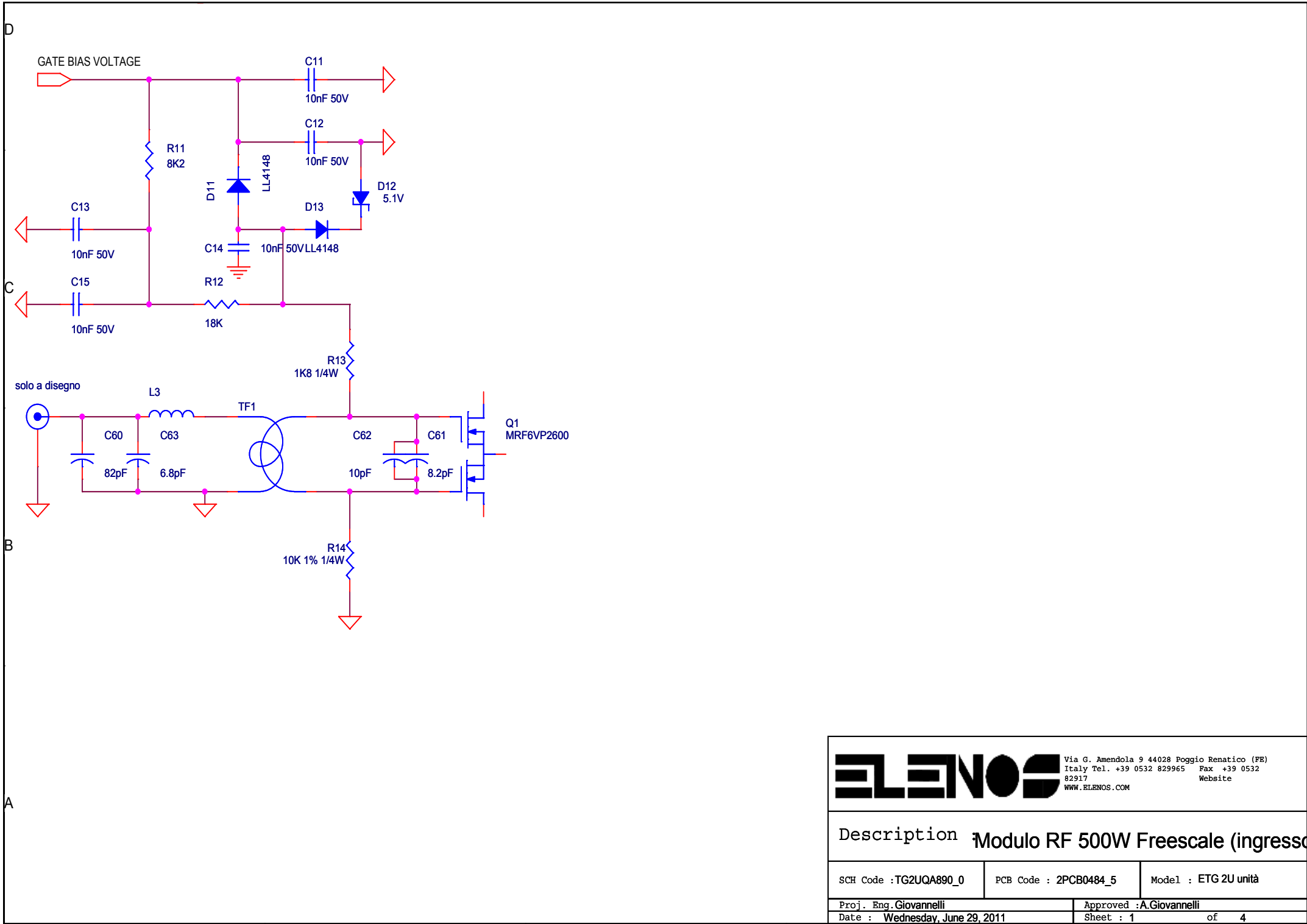
Functional block description / connectors pinout:

Input section of the RF amplifier module. It includes components for the static polarization of the mosfet, and for the measurement of current and temperature.



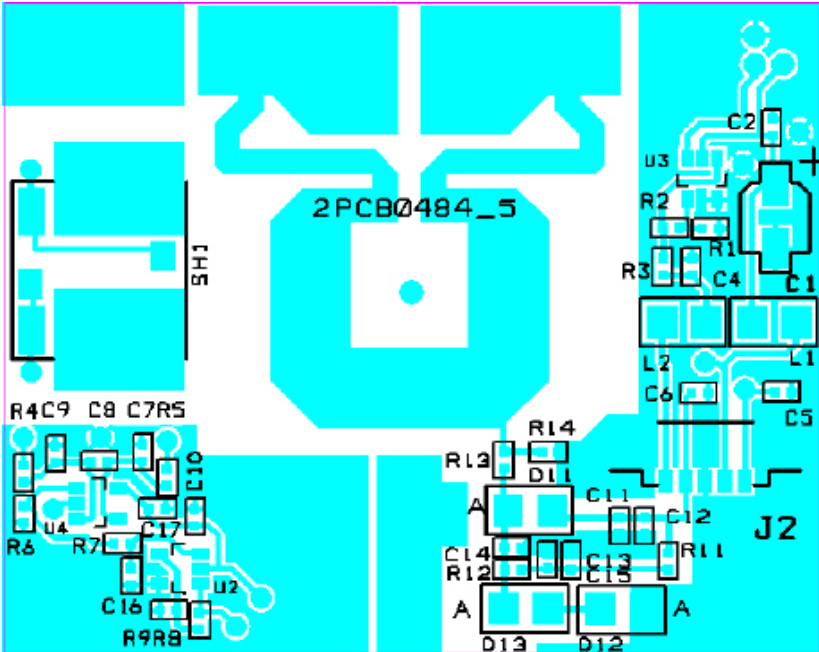
Connector	Pin No.	Signal	Note
J2			
	1	Current	Shunt on board
	2	+Vcc	
	3	GND / Common	
	4	V-Bias	
	5	Temperature	Sensor on board

700W RF AMPLIFIER MODULE - INPUT STAGE (TG2UQA890-0)



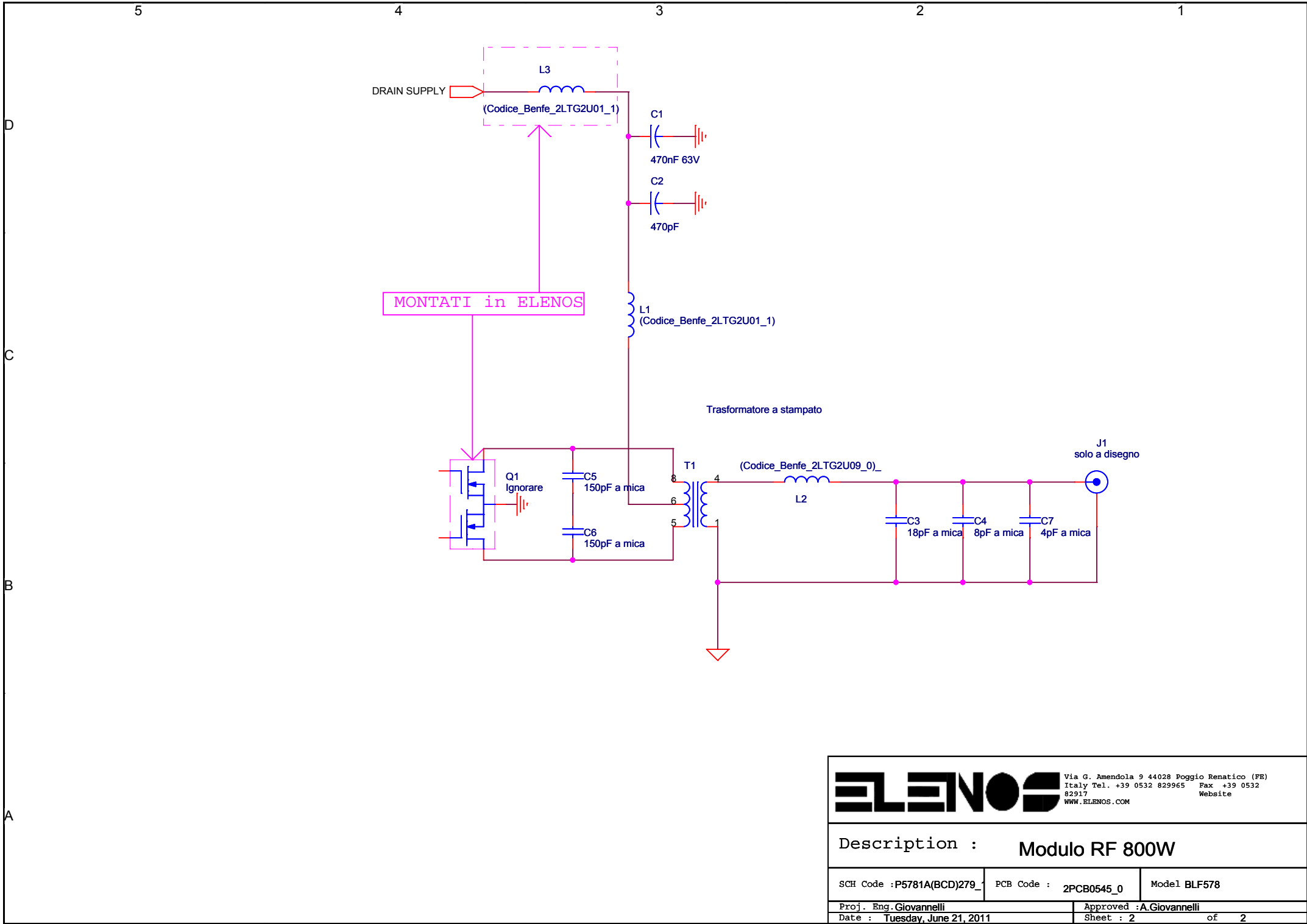
Functional block description / connectors pinout:

Input section of the RF amplifier module. It includes components for the static polarization of the mosfet, and for the measurement of current and temperature.



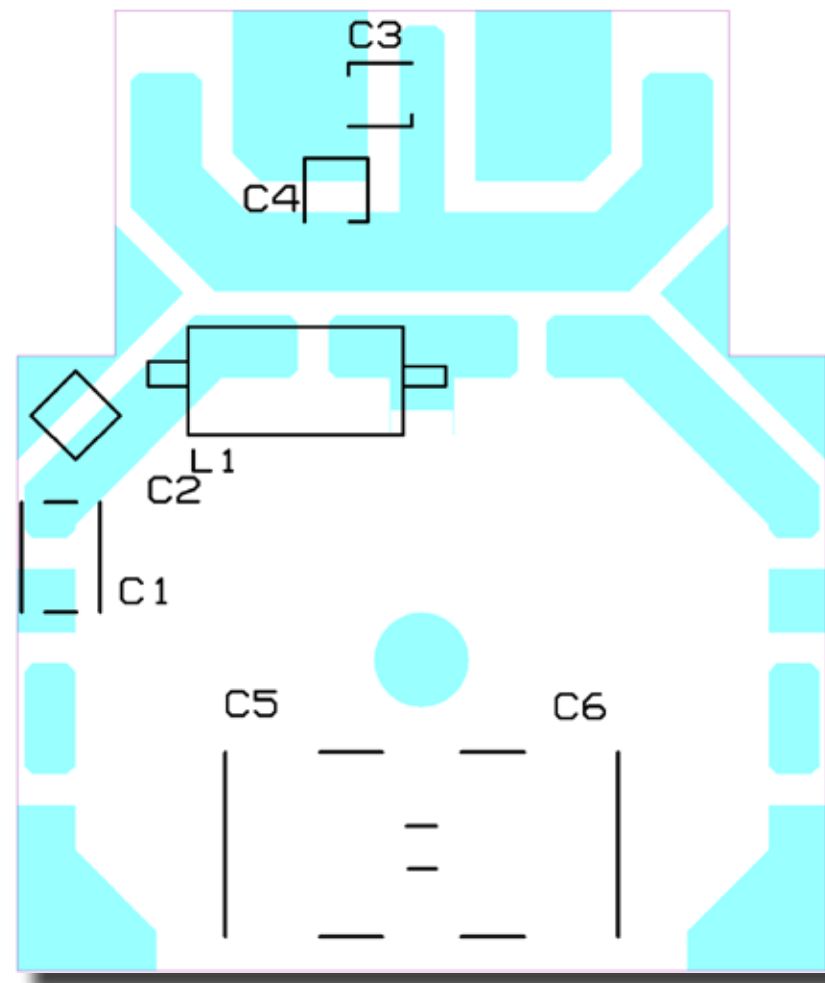
Connector	Pin No.	Signal	Note
J2			
	1	Current	Shunt on board
	2	+Vcc	
	3	GND / Common	
	4	V-Bias	
	5	Temperature	Sensor on board

500W RF MODULE AMPLIFIER - OUTPUT STAGE (P5781A279-1)

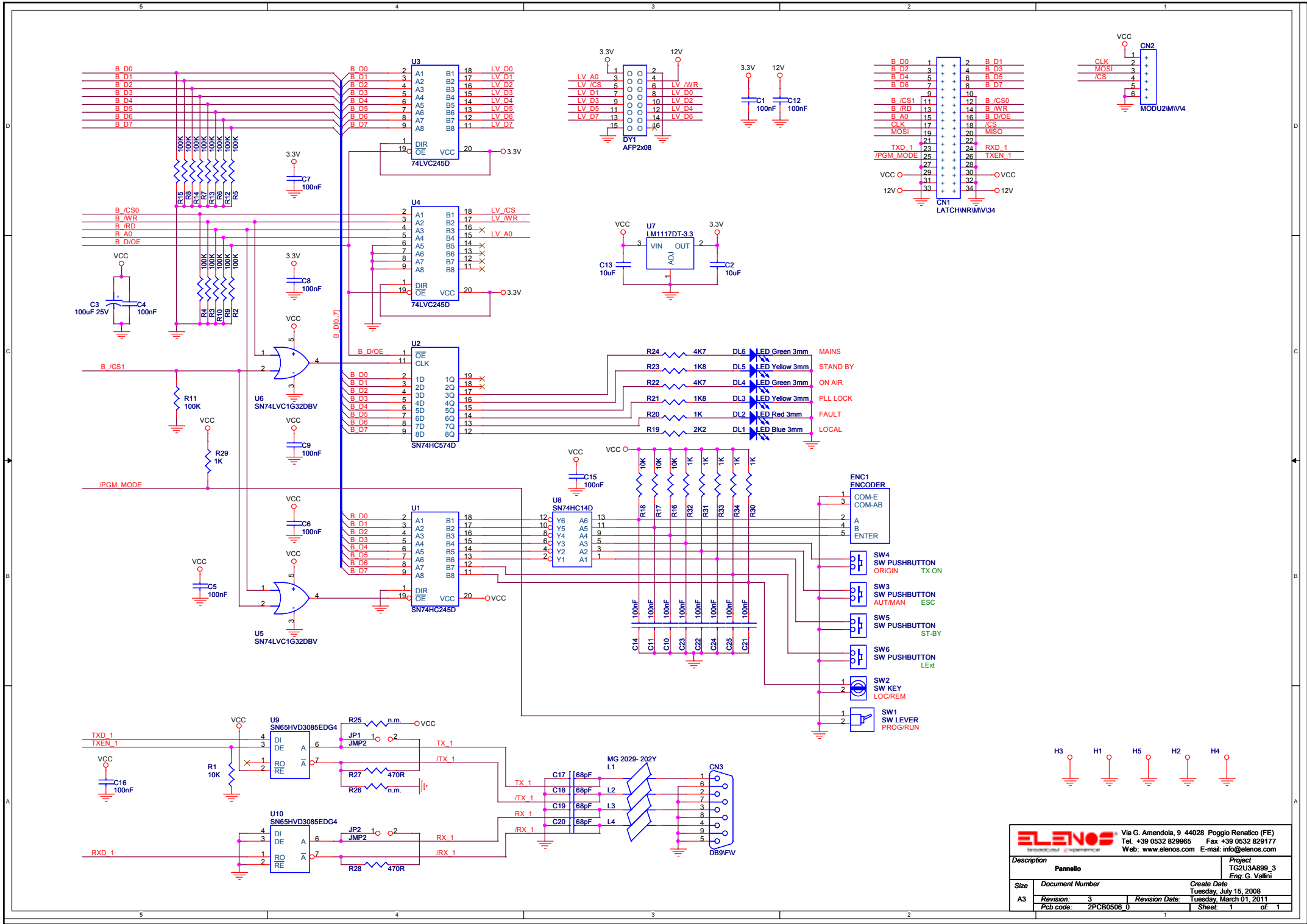


Functional block description / connectors pinout:

Output section of the RF amplifier module. It includes the passive components that permit to provide the rated output power (in conjunction with the MOSFET).



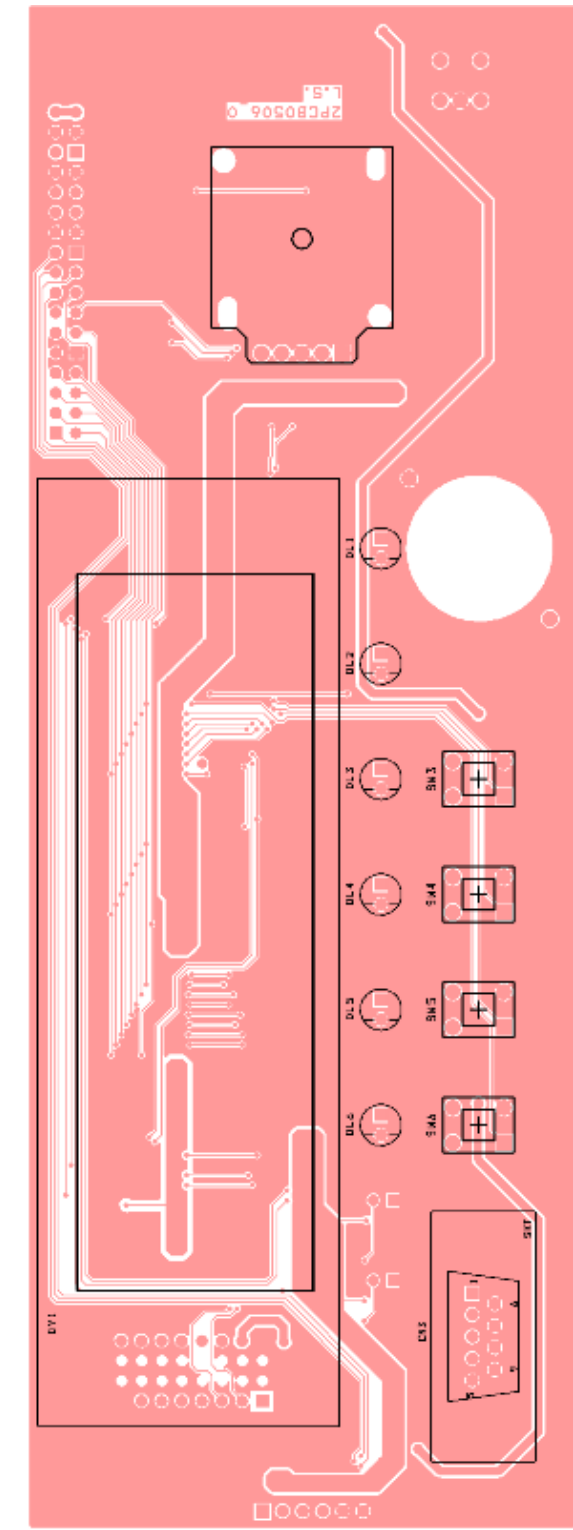
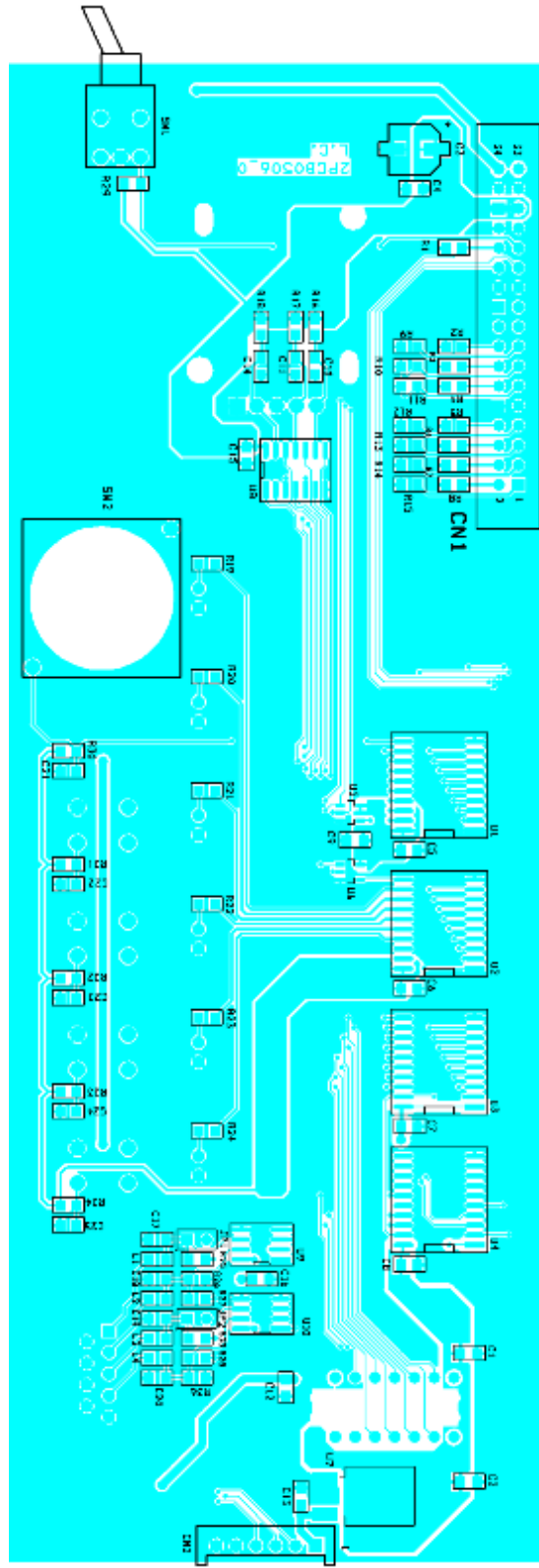
CONTROL PANEL (TG2U3A899)



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Tel. +39 0532 829965 Fax +39 0532 829177		Web: www.elekos.com E-mail: info@elekos.com	
Description		Pannello	
Size		Document Number	
A3		Revision: 3	
		Revision Date: Tuesday, March 01, 2011	
		Pcb code: 2PC80506 0	
		Sheet: 1 of 1	

Functional block description / connectors pinout:

It's equipped with a rotary encoder with push button for navigation and selection in the menus. Its status LEDs show the operative conditions.

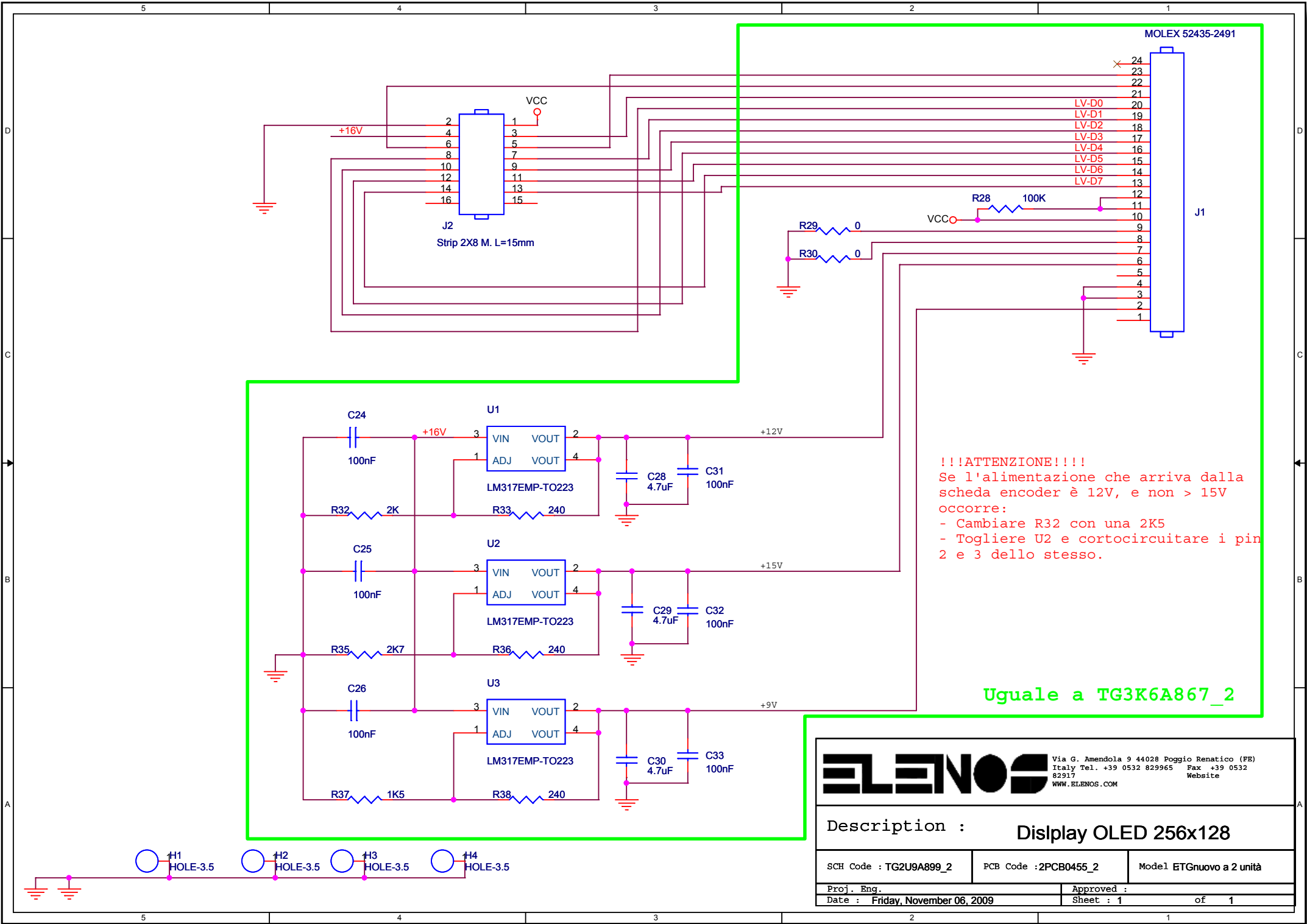


Connector	Pin No.	Signal	Note
CN1			
	1	B_D0	(0..+5V)
	2	B_D1	(0..+5V)
	3	B_D2	(0..+5V)
	4	B_D3	(0..+5V)
	5	B_D4	(0..+5V)
	6	B_D5	(0..+5V)
	7	B_D6	(0..+5V)
	8	B_D7	(0..+5V)
	9	GND / Common	
	10	GND / Common	
	11	B_/CS1	
	12	B_/CS0	
	13	B_/RD	
	14	B_/WR	
	15	B_A0	
	16	B_D/OE	
	17	CLK	
	18	/CS	
	19	MOSI	
	20	MISO	
	21	GND / Common	
	22	GND / Common	
	23	TXD_1	
	24	RXD_1	
	25	/PGM_MODE	
	26	TXEN_1	
	27	GND / Common	
	28	GND / Common	
	29	+Vcc	
	30	+Vcc	
	31	GND / Common	
	32	GND / Common	
	33	+12Vdc	
	34	+12Vdc	

Connector	Pin No.	Signal	Note
CN2			
	1	+Vcc	
	2	CLK	
	3	MOSI	
	4	/CS	
	5	GND / Common	
	6	GND / Common	

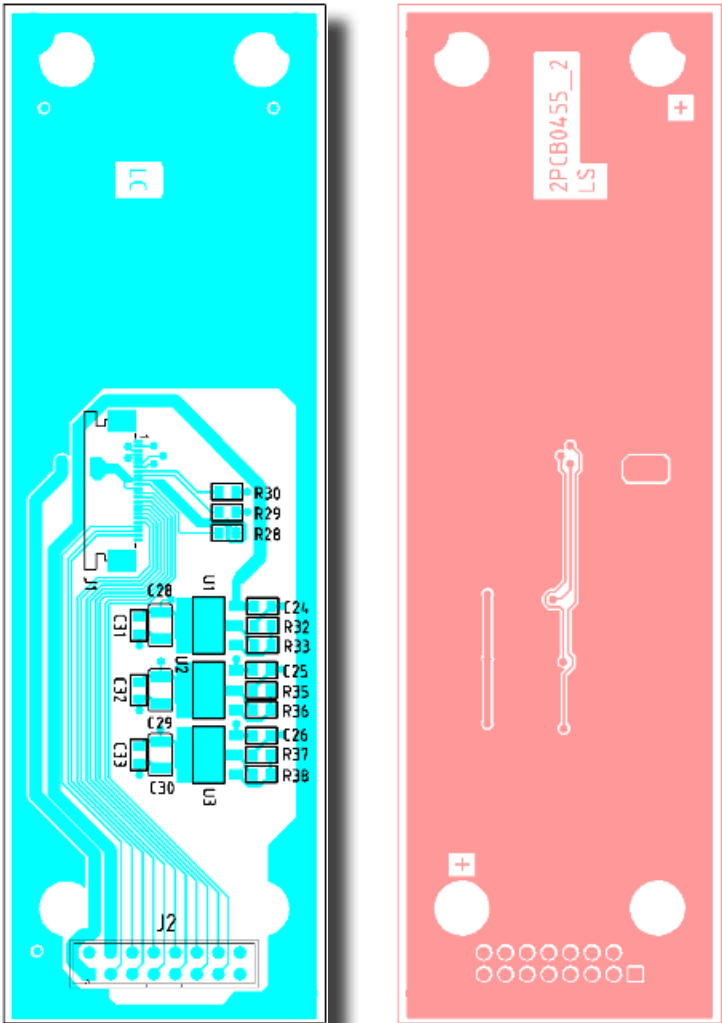
Connector	Pin No.	Signal	Note
CN3			
	1	TX_1	485 filtered output Differential signal (+)
	2	/TX_1	485 filtered output Differential signal (-)
	3	RX_1	485 filtered input Differential signal (+)
	4	/ RX_1	485 filtered input Differential signal (-)
	5	GND / Common	
	6	GND / Common	
	7	GND / Common	
	8	GND / Common	
	9	GND / Common	

OLED DISPLAY ADAPTER (TG2U9A899)



Functional block description / connectors pinout:

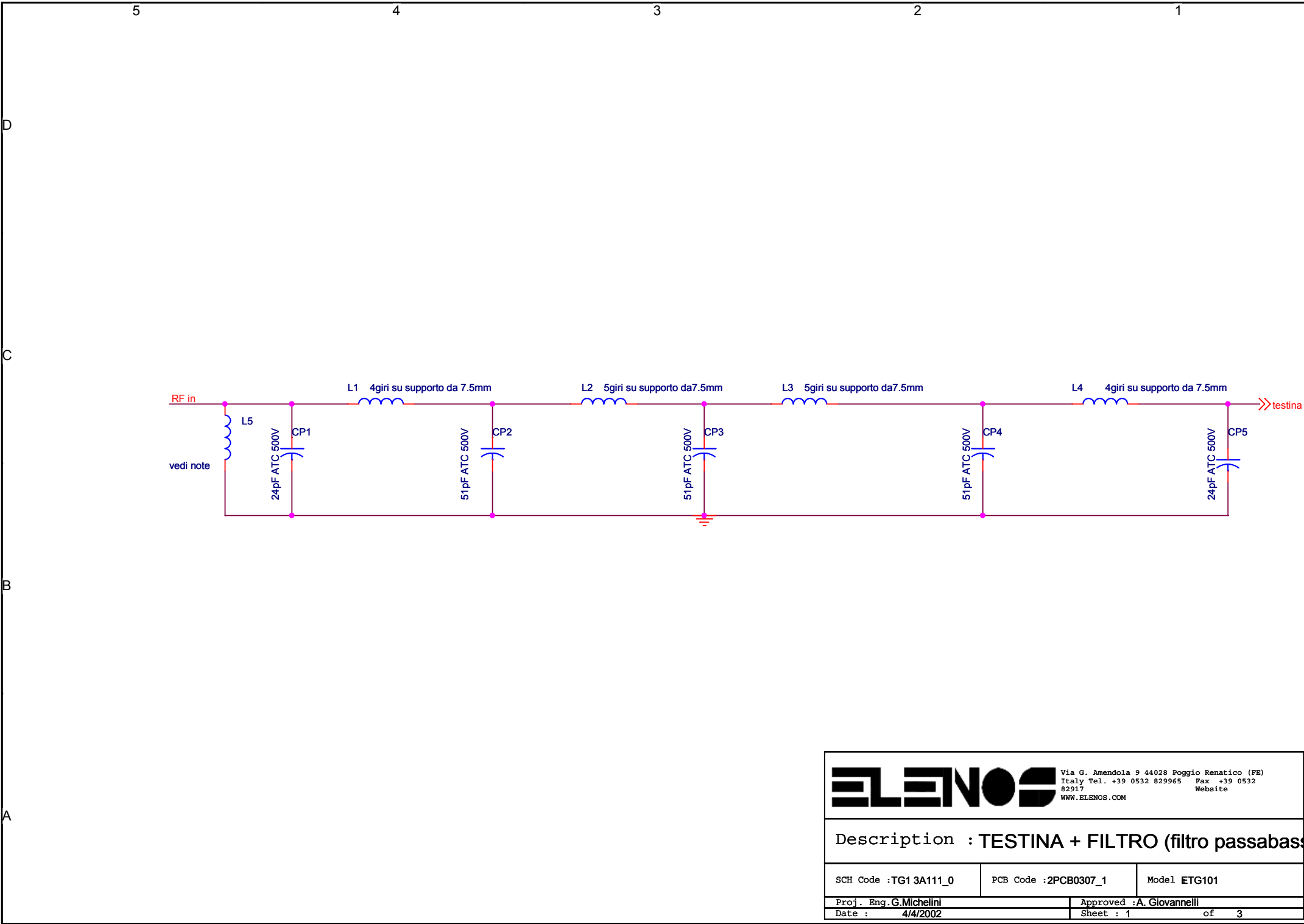
It's the OLED display adapter.

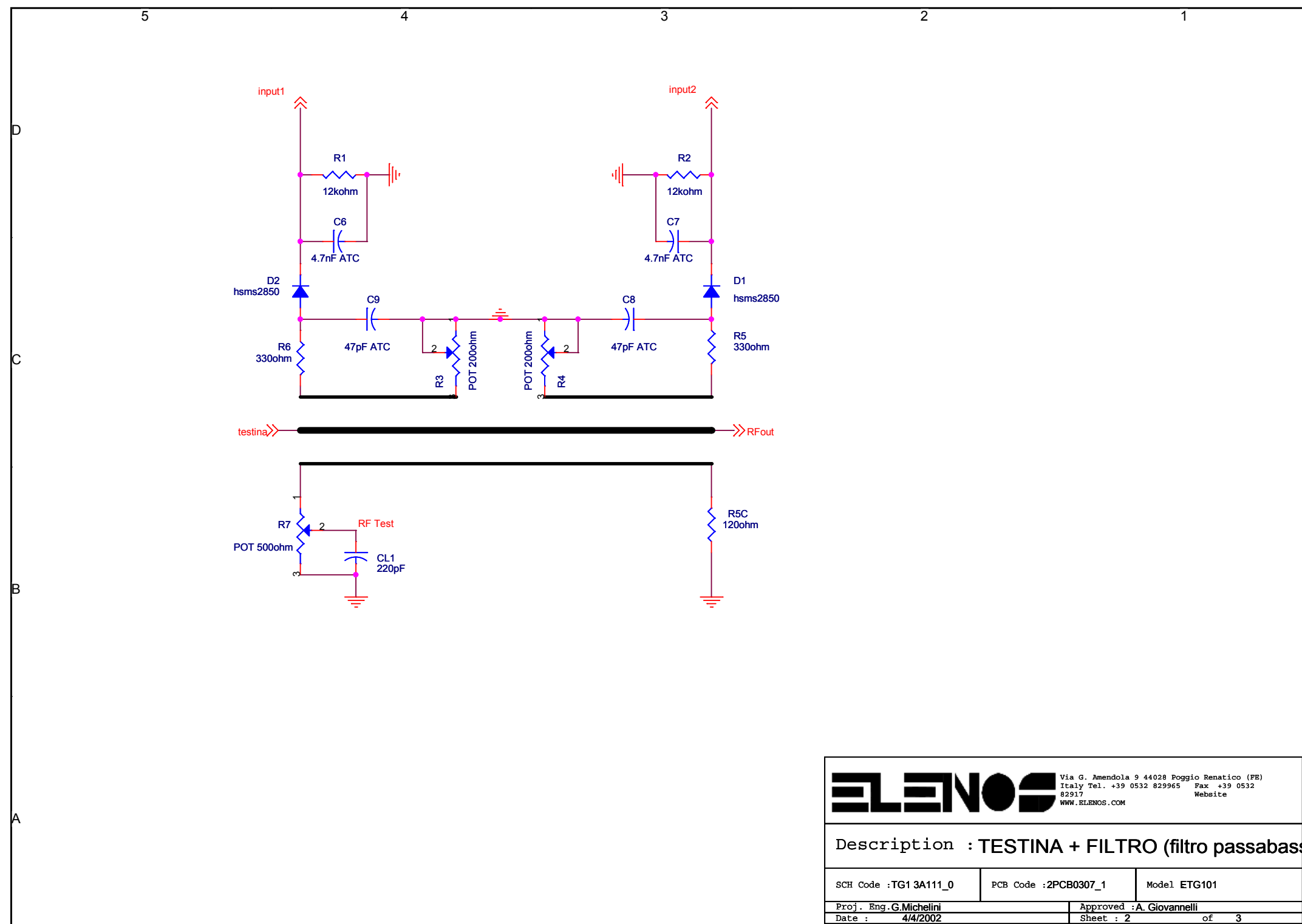


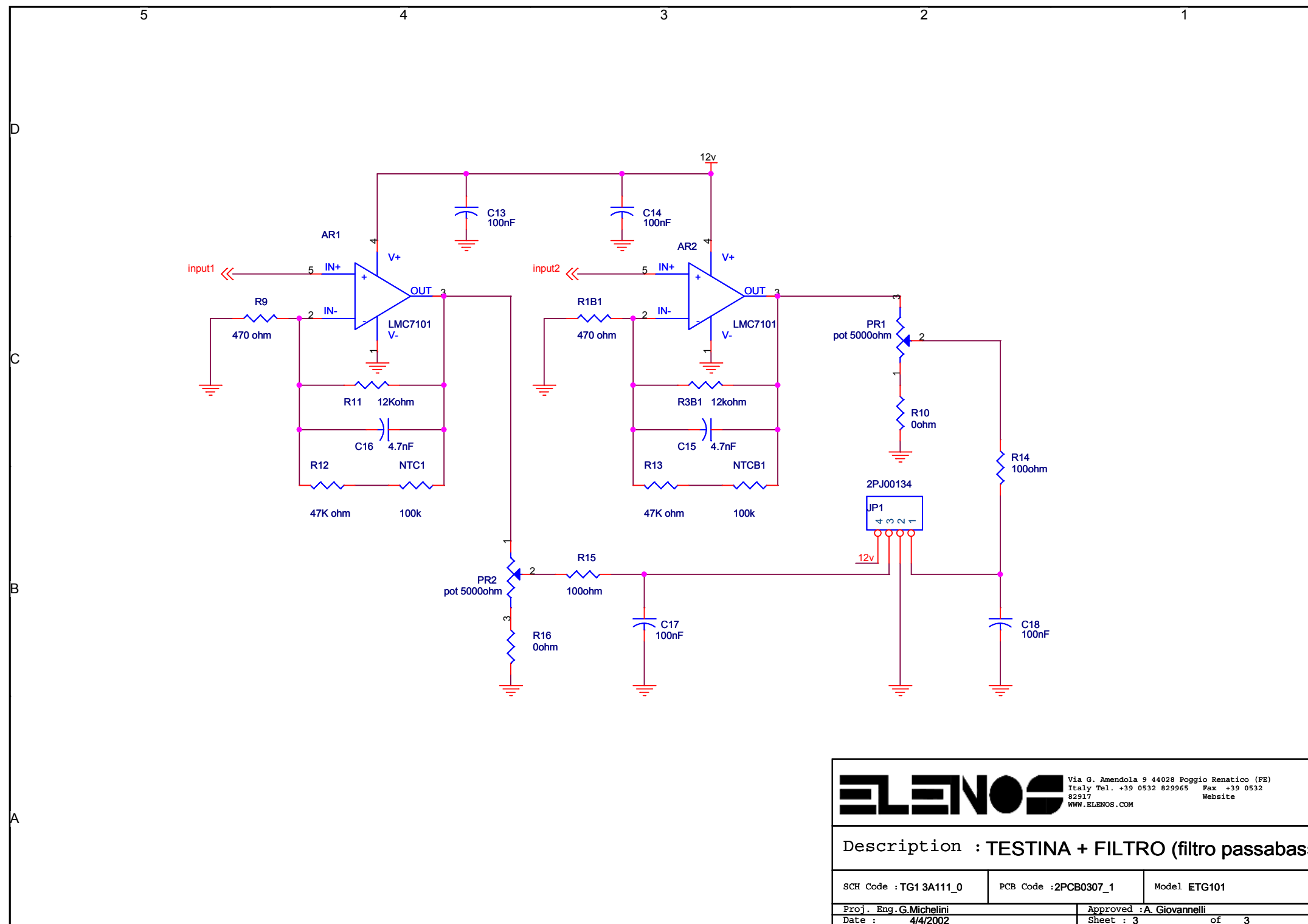
Connector	Pin No.	Signal	Note
CN3			
	1	-	Not connected on the PCB
	2	+9Vdc	Output
	3	GND / Common	
	4	GND / Common	
	5	-	Not connected on the PCB
	6	+15Vdc	Output
	7	+12Vdc	Output
	8	-	
	9	-	
	10	+Vcc	
	11	-	
	12	-	
	13	LV-D7	Oled control signals
	14	LV-D6	
	15	LV-D5	
	16	LV-D4	
	17	LV-D3	
	18	LV-D2	
	19	LV-D1	
	20	LV-D0	
	21	AI pin 3 di J2	
	22	AI pin 6 di J2	
	23	AI pin 5 di J2	
	24	-	Not connected on the PCB

Connector	Pin No.	Signal	Note
CN3			
	1	+Vcc	
	2	GND / Common	
	3	-	
	4	+16Vdc	Input
	5	-	
	6	-	
	7	LV-D1	Signals from control panel
	8	LV-D0	
	9	LV-D3	
	10	LV-D2	
	11	LV-D5	
	12	LV-D4	
	13	LV-D7	
	14	LV-D6	
	15	-	Not connected on the PCB
	16	-	Not connected on the PCB

LOW PASS FILTER WITH DIRECTIONAL COUPLER (TG1 3A111-0)

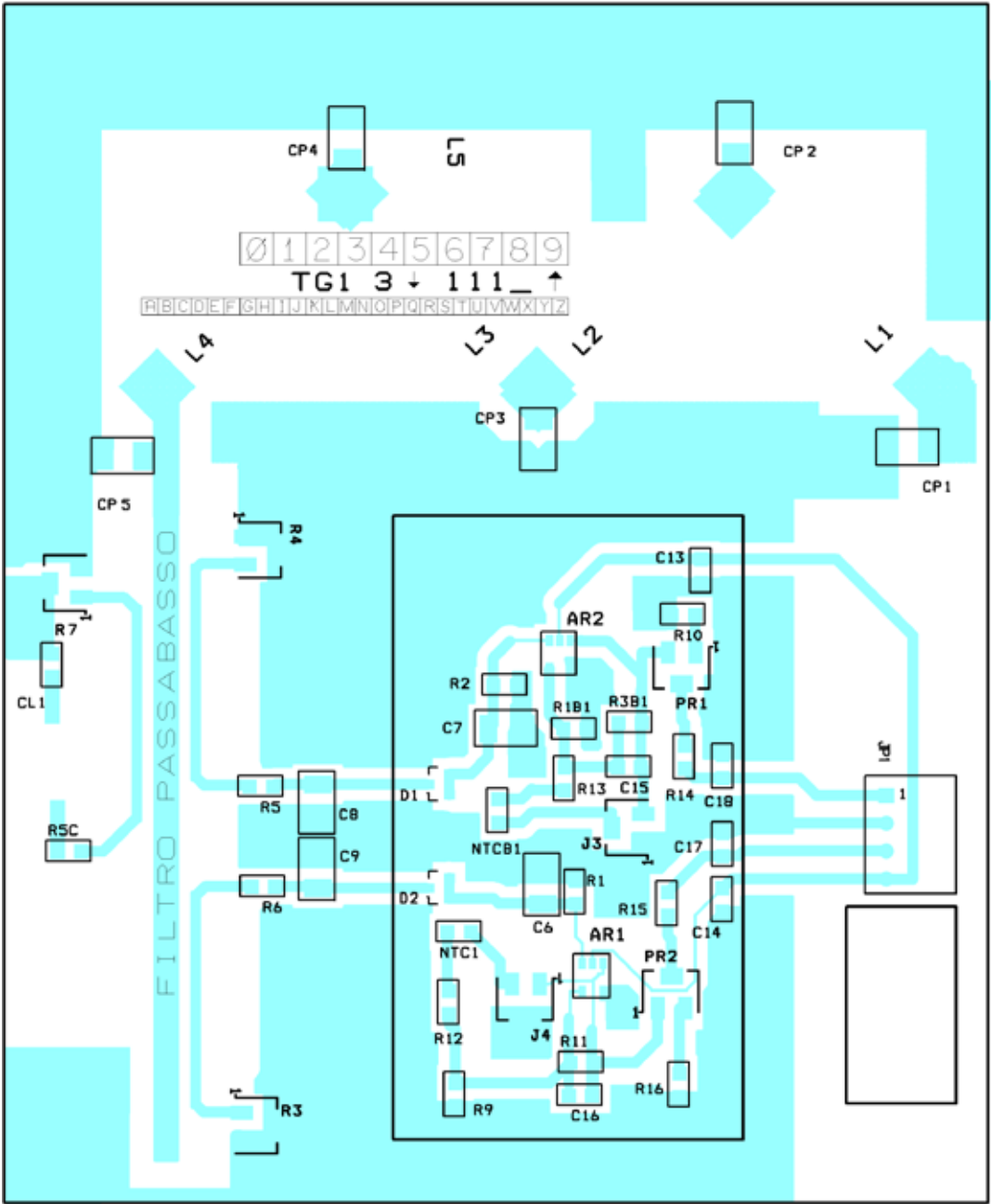






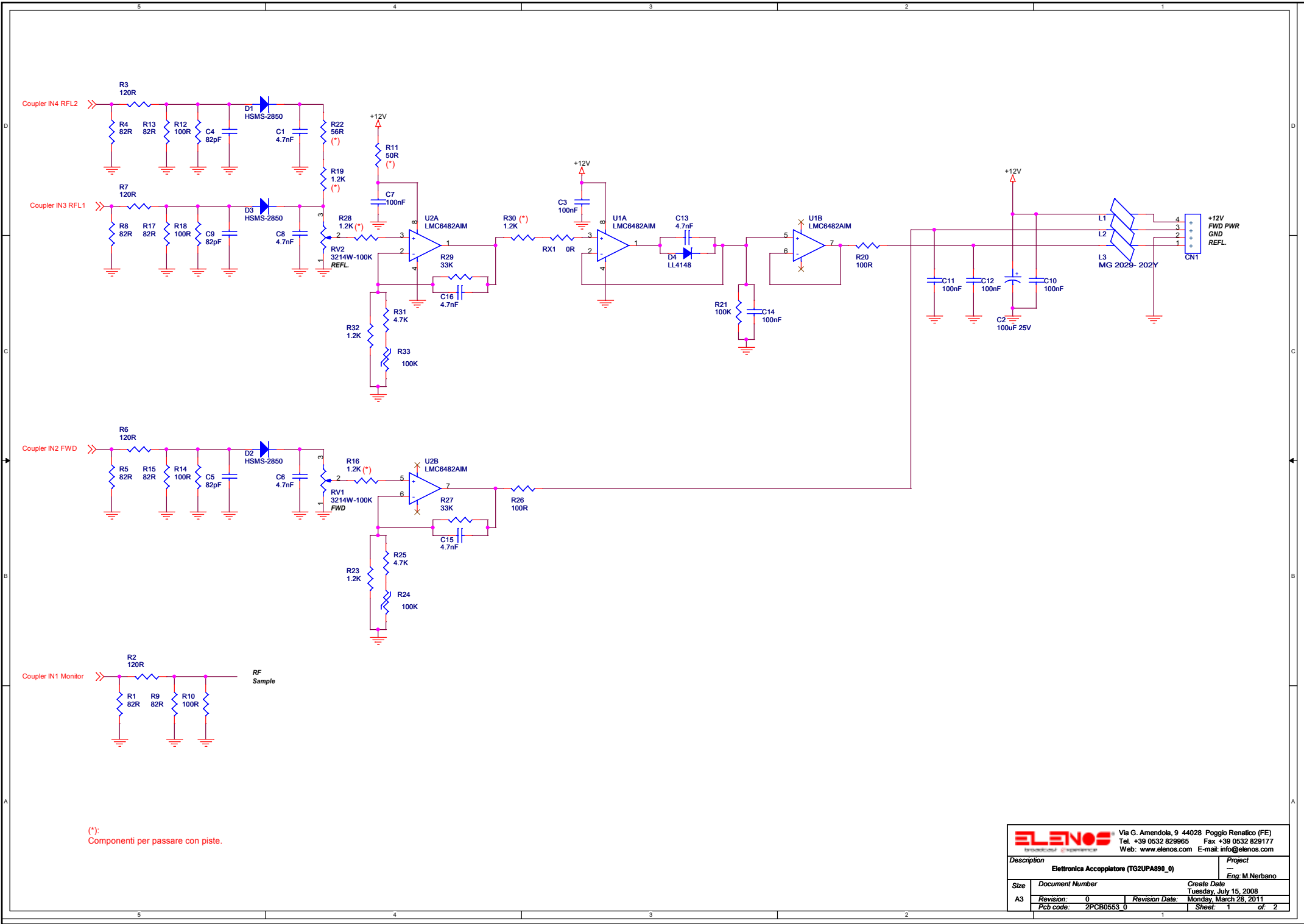
Functional block description / connectors pinout:

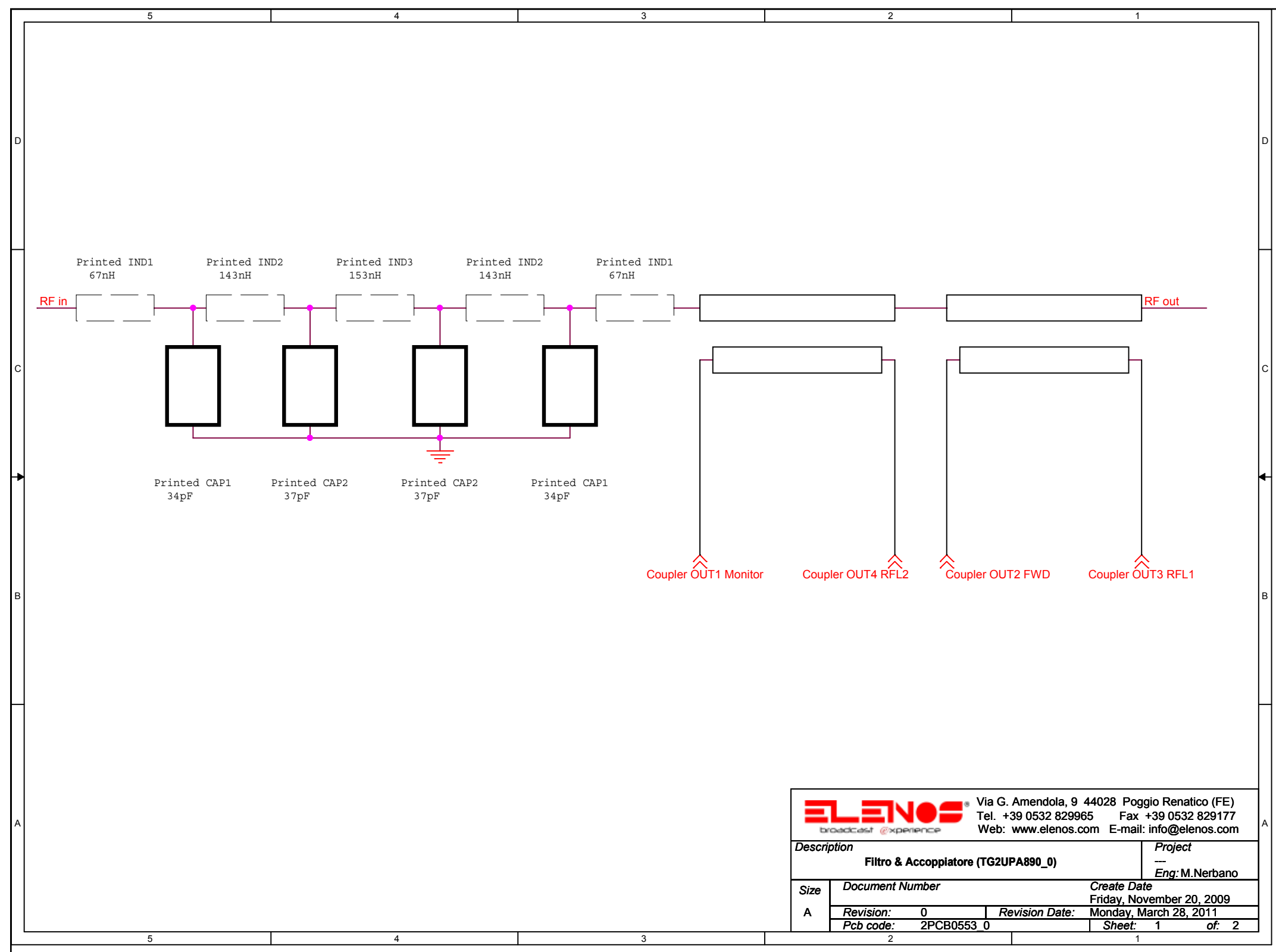
This group includes the low-pass filter and directional couplers for reading the forward and reflected power.



Connector	Pin No.	Signal	Note
JP1			
	1	Power signal is proportional to RF reflected power	
	2	GND / Common	
	3	Power signal is proportional to RF forward power	
	4	+12V	

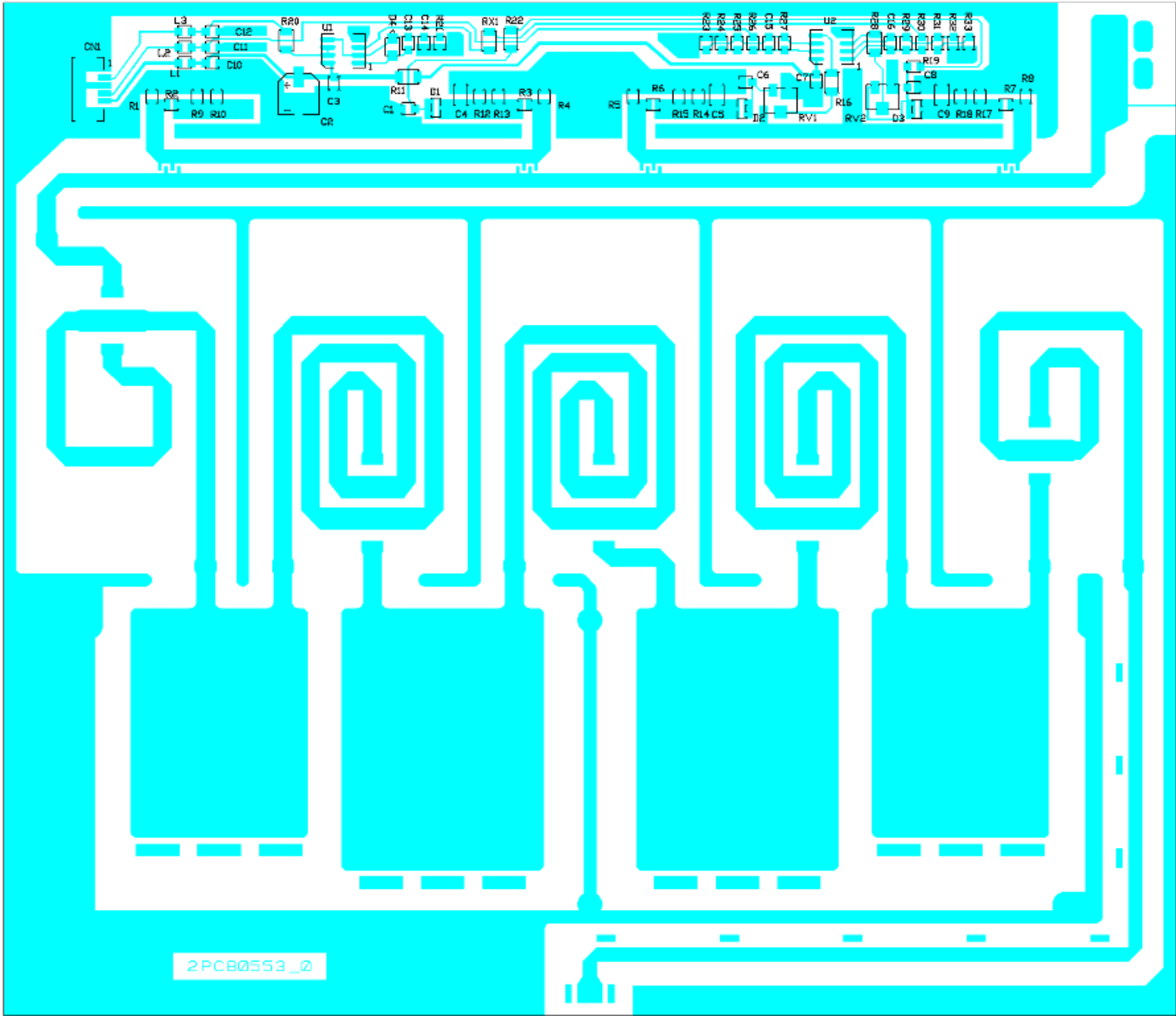
LOW PASS FILTER WITH DIRECTIONAL COUPLER (TG2UPA890-0)





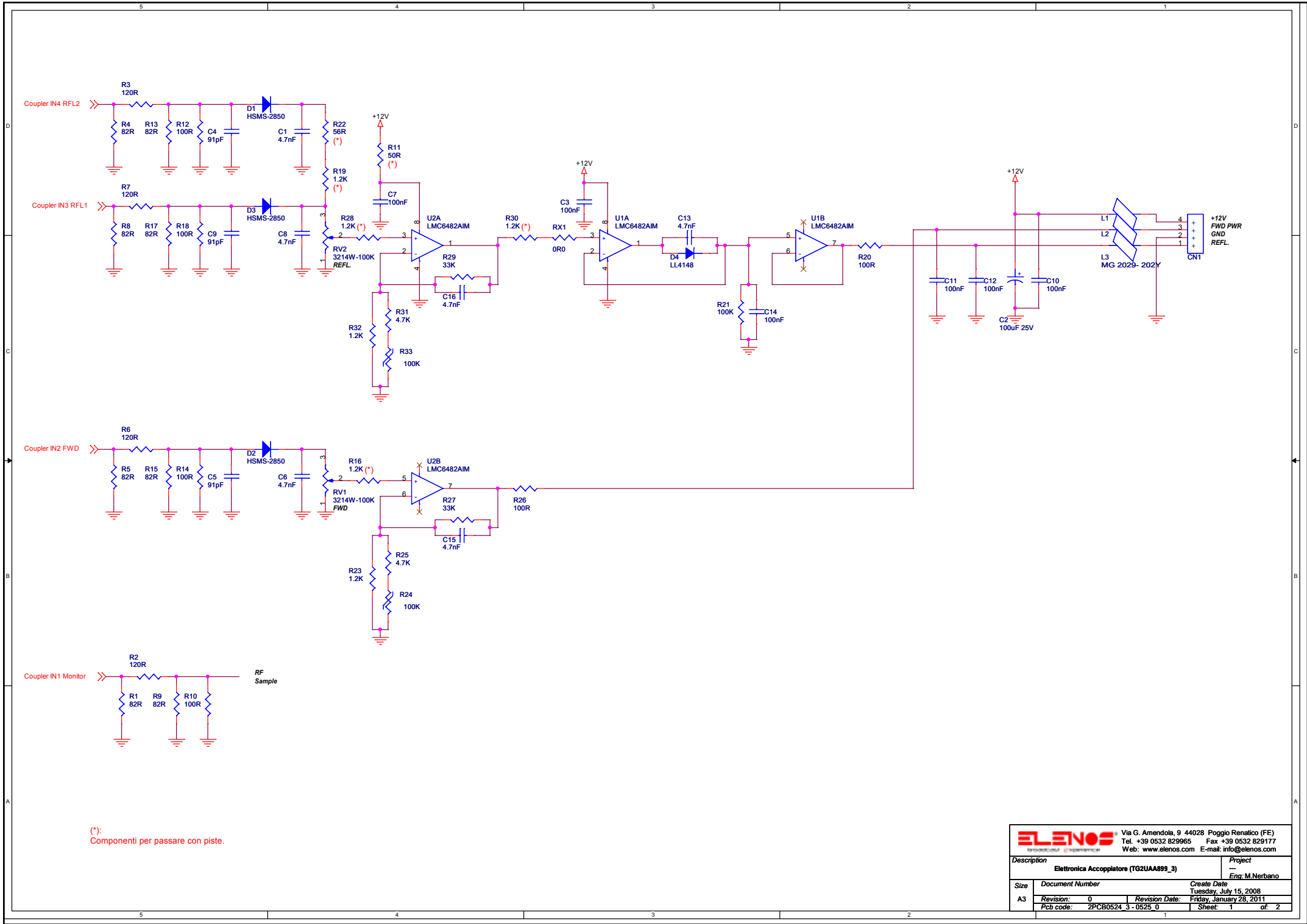
Functional block description / connectors pinout:

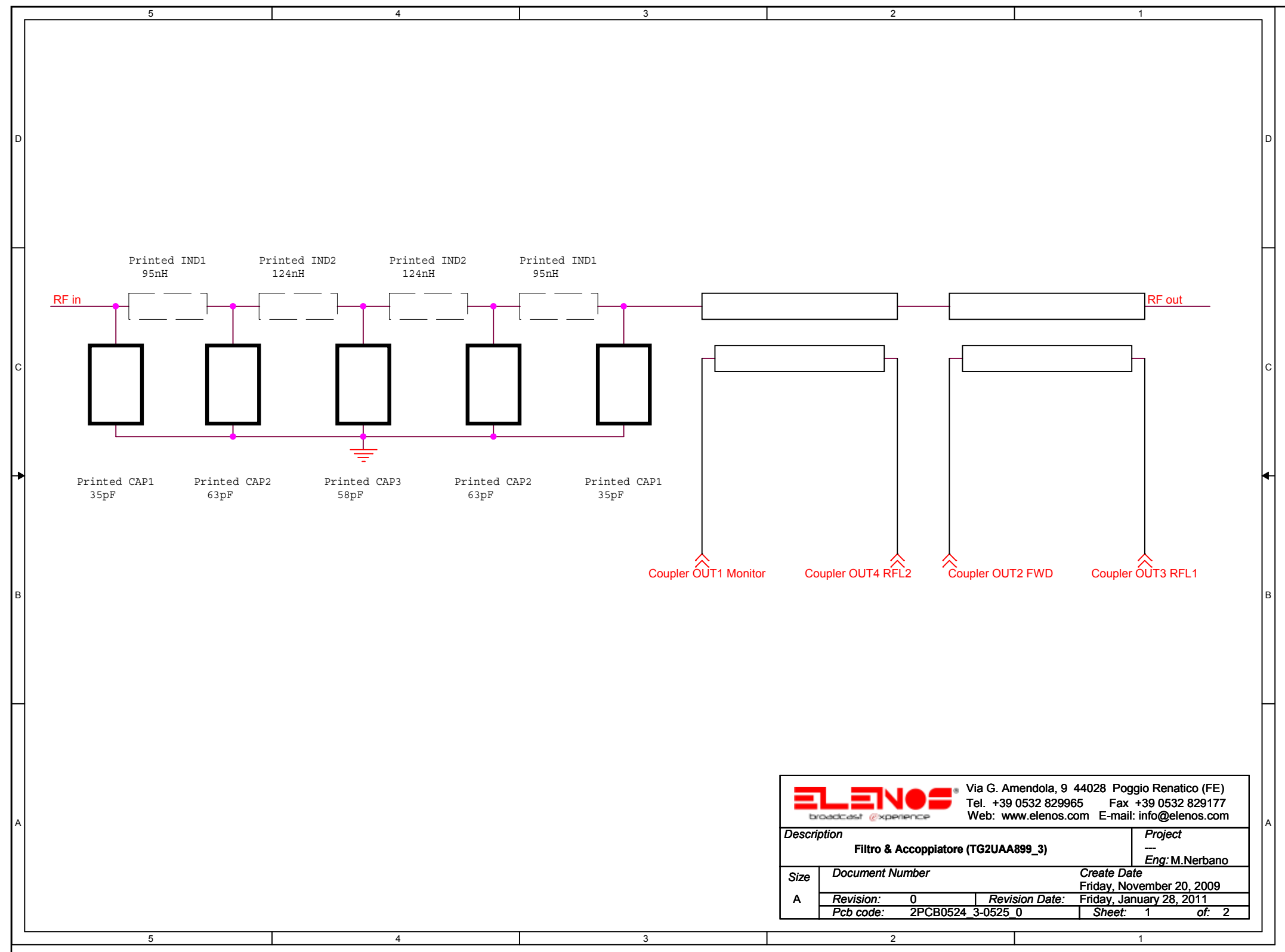
This group includes the low-pass filter and directional couplers for reading the forward and reflected power.



Connector	Pin No.	Signal	Note
CN1			
	1	Reflected power level	
	2	GND / Common	
	3	Direct power level	
	4	+12Vdc	

LOW PASS FILTER WITH DIRECTIONAL COUPLER (TG2UAA890-0)

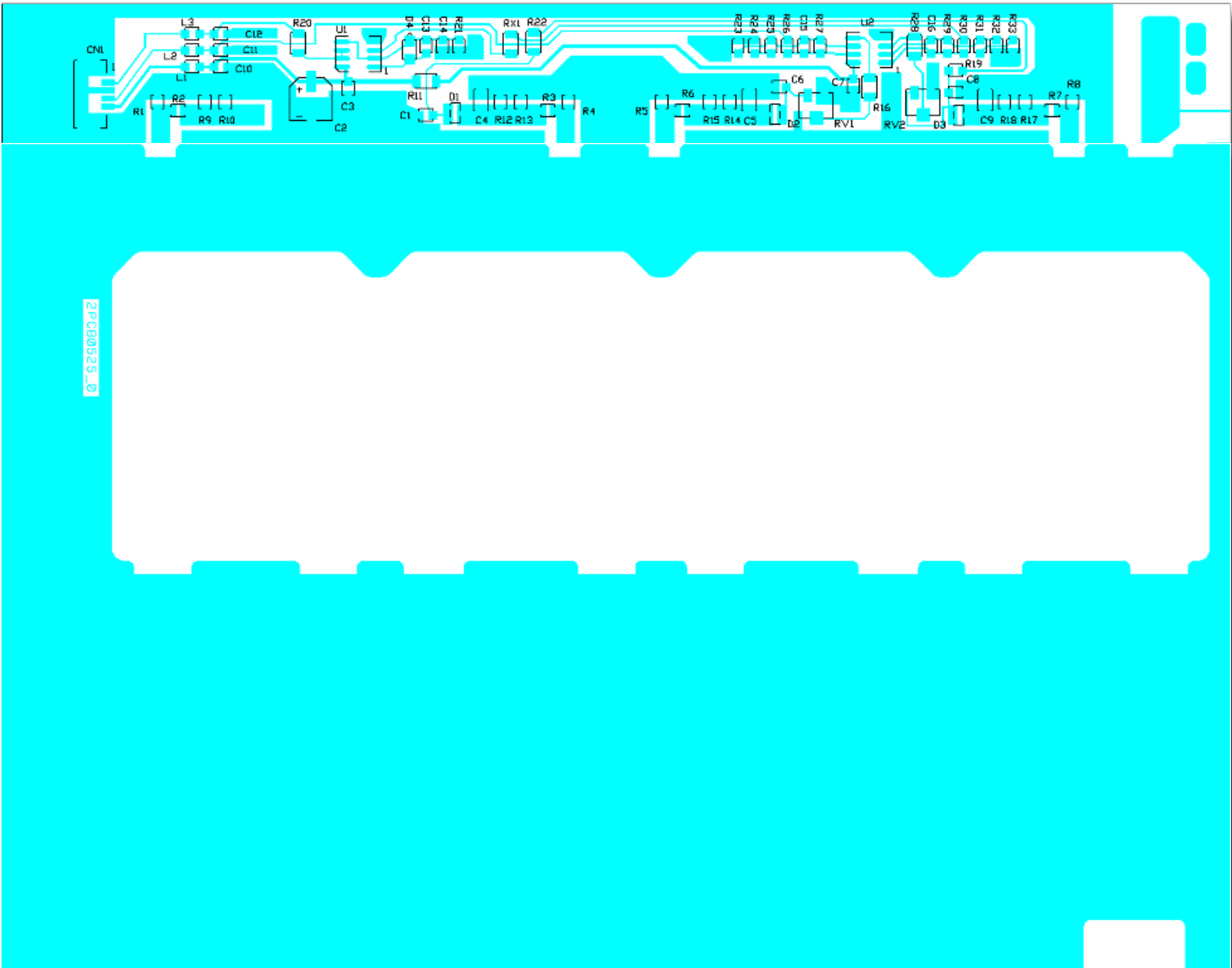




ELENOS broadcast @ experience		Via G. Amendola, 9 44028 Poggio Renatico (FE) Tel. +39 0532 829965 Fax +39 0532 829177 Web: www.elenos.com E-mail: info@elenos.com	
Description Filtro & Accoppiatore (TG2UAA899_3)		Project Eng: M. Nerbano	
Size A	Document Number		Create Date Friday, November 20, 2009
	Revision: 0	Revision Date:	Friday, January 28, 2011
	Pcb code: 2PCB0524_3-0525_0	Sheet: 1	of: 2

Functional block description / connectors pinout:

This group includes the low-pass filter and directional couplers for reading the forward and reflected power.

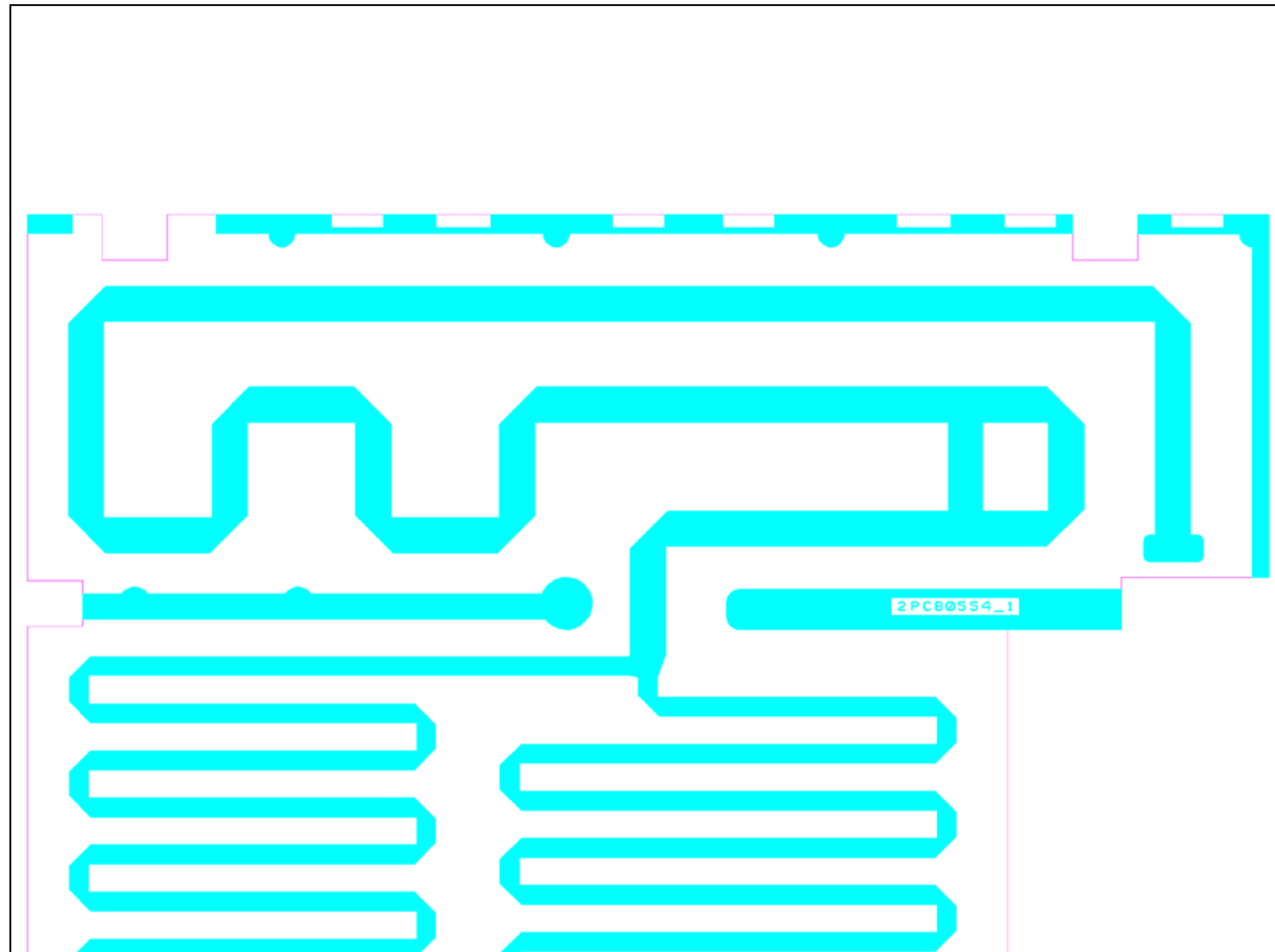


Connector	Pin No.	Signal	Note
CN1			
	1	Reflected power level	(0..8V)
	2	GND / Common	
	3	Direct power level	(0..8V)
	4	+12Vdc	

2-WAY COMBINER (2PCB0554-0)

Functional block description:

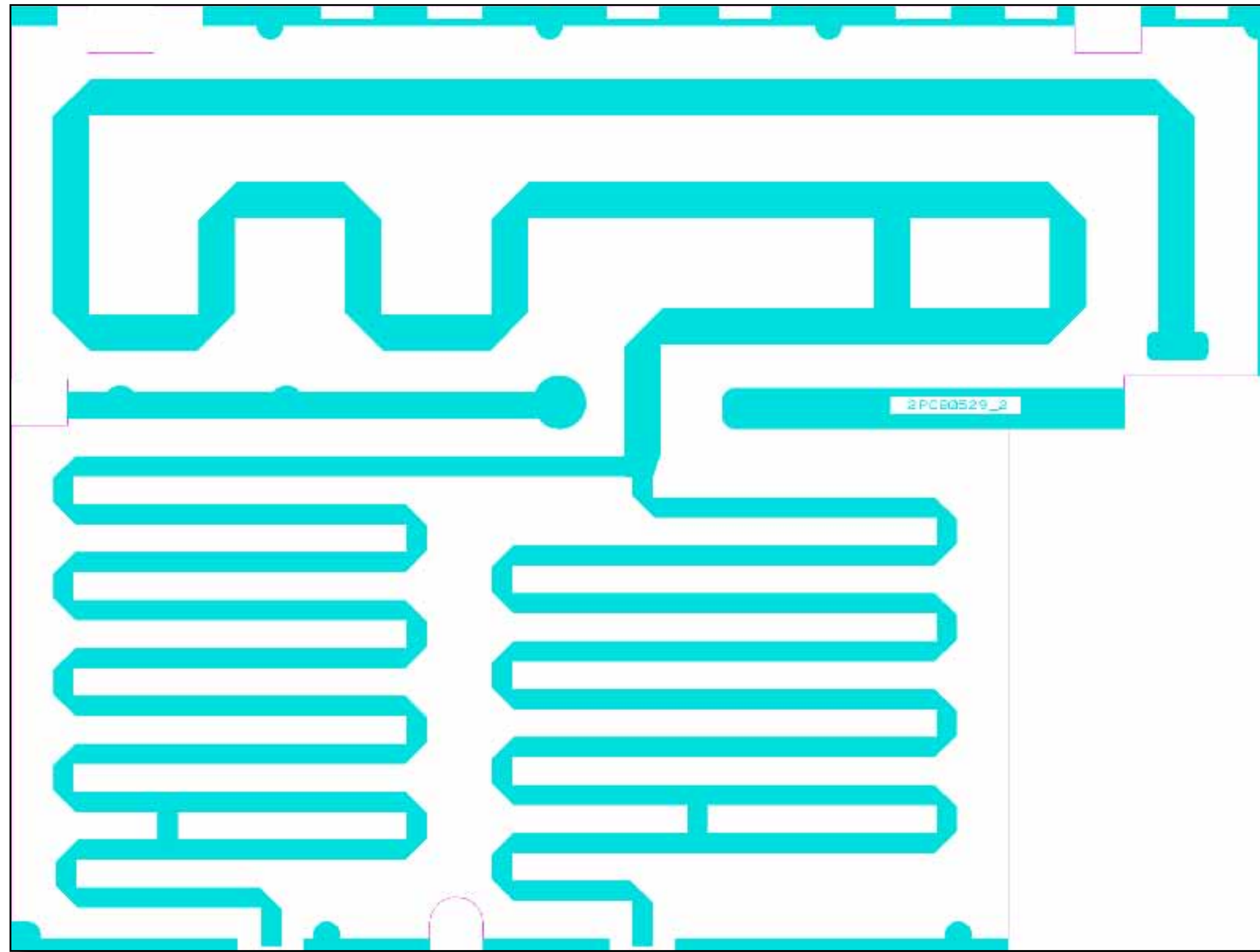
By this board the two RF amplifier modules are combined and their output powers summed.



2-WAY COMBINER (2PCB0529-2)

Functional block description:

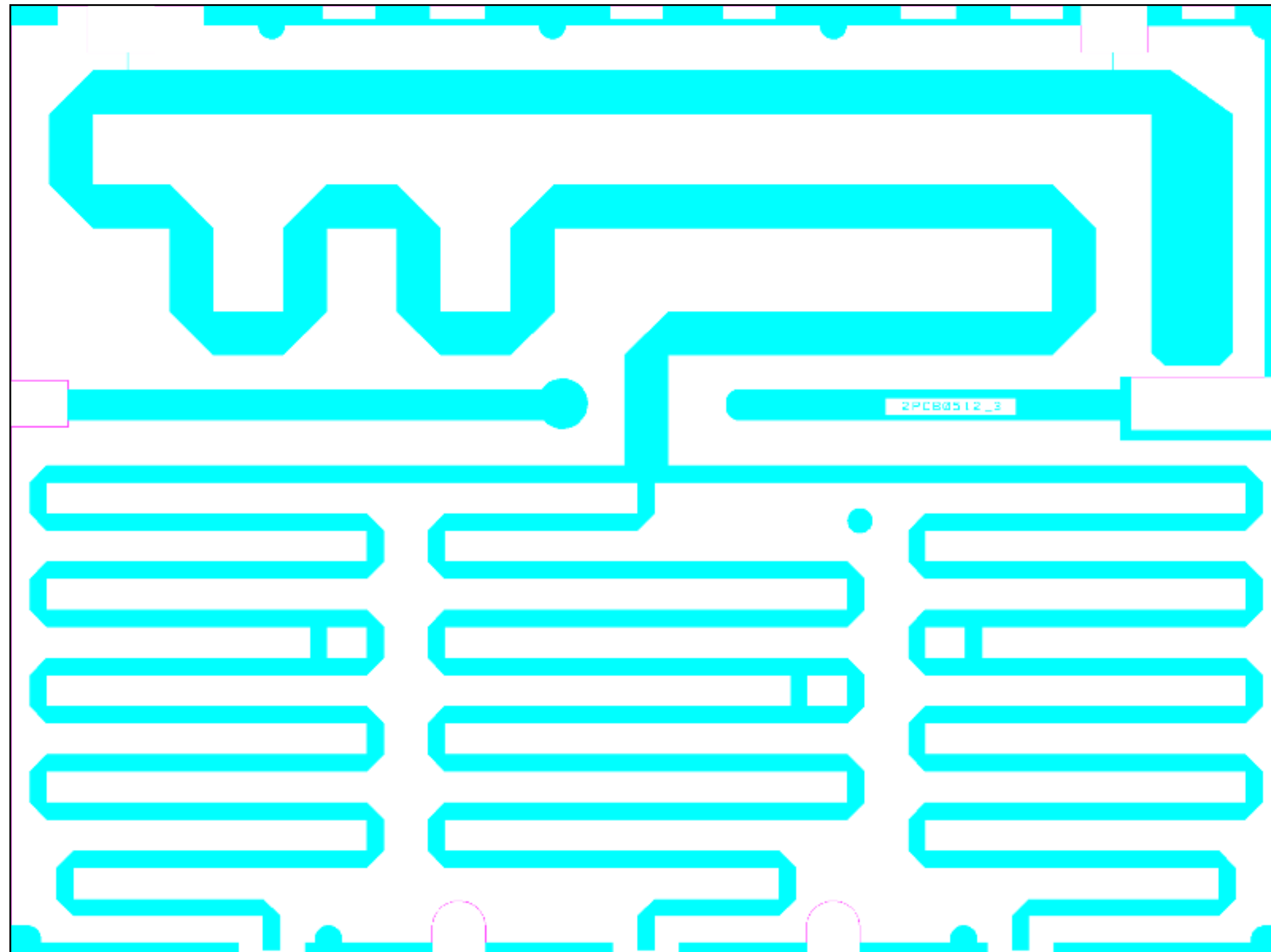
By this board the two RF amplifier modules are combined and their output powers summed.



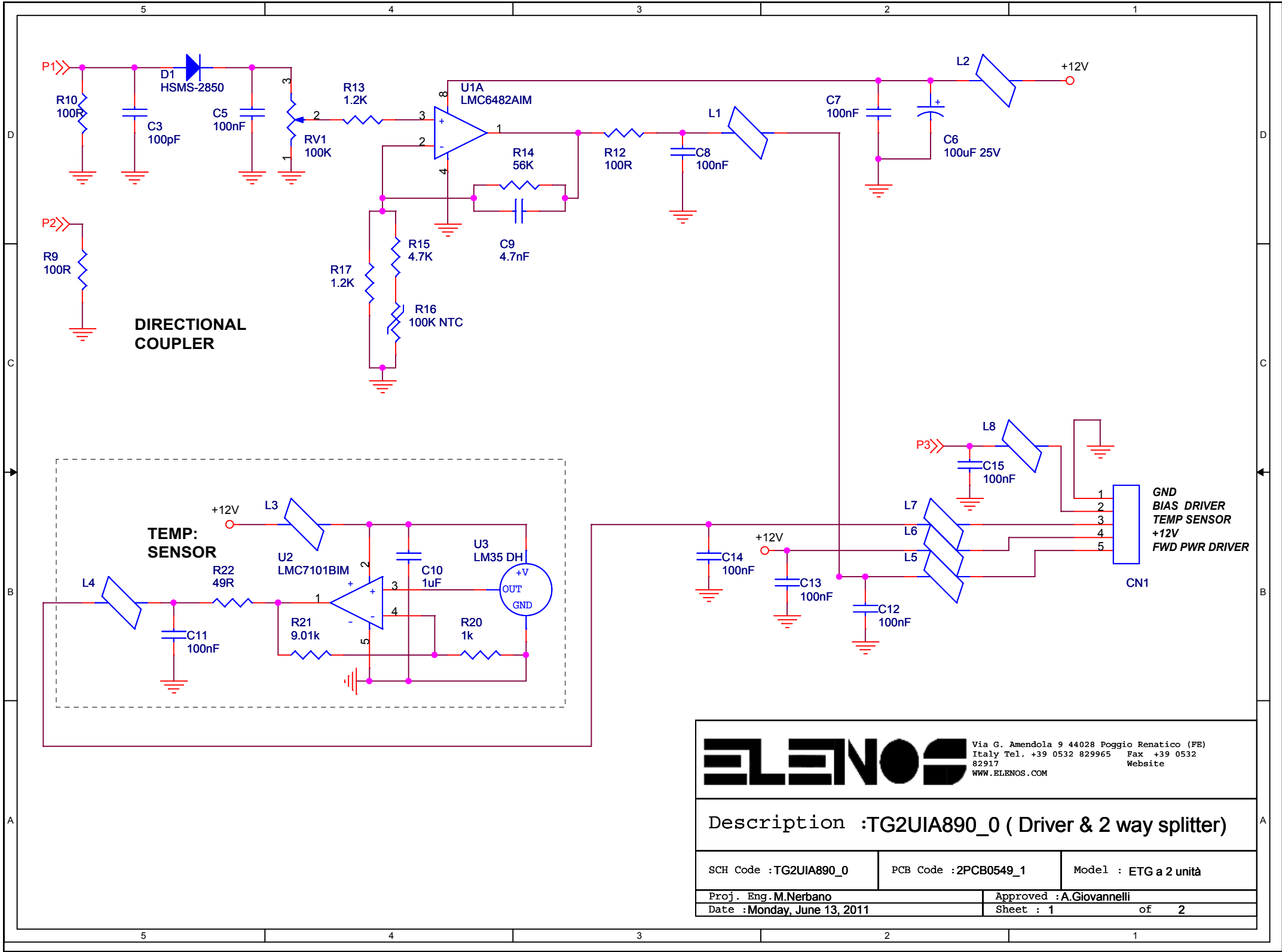
3-WAY COMBINER (2PCB0512-3)

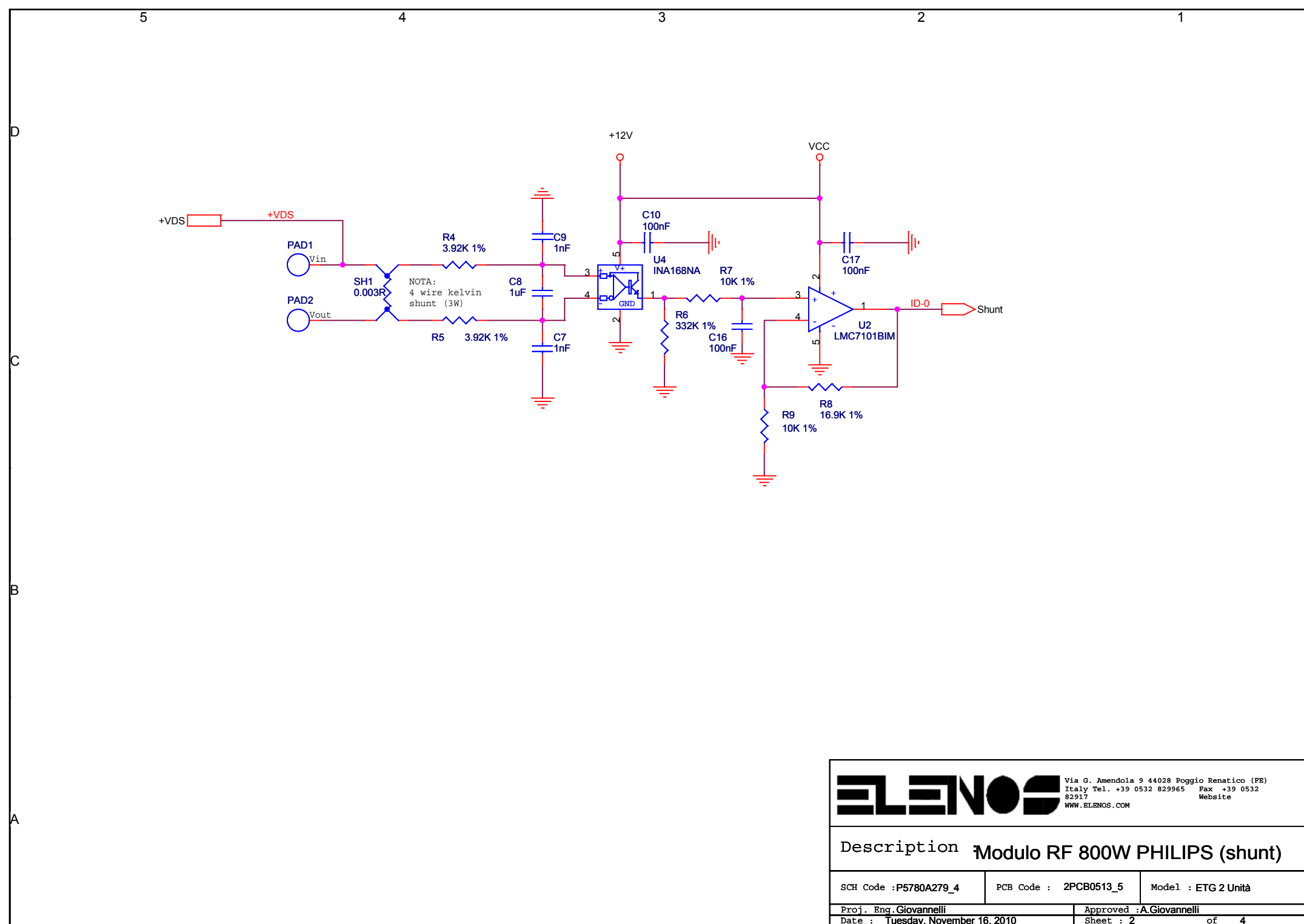
Functional block description:

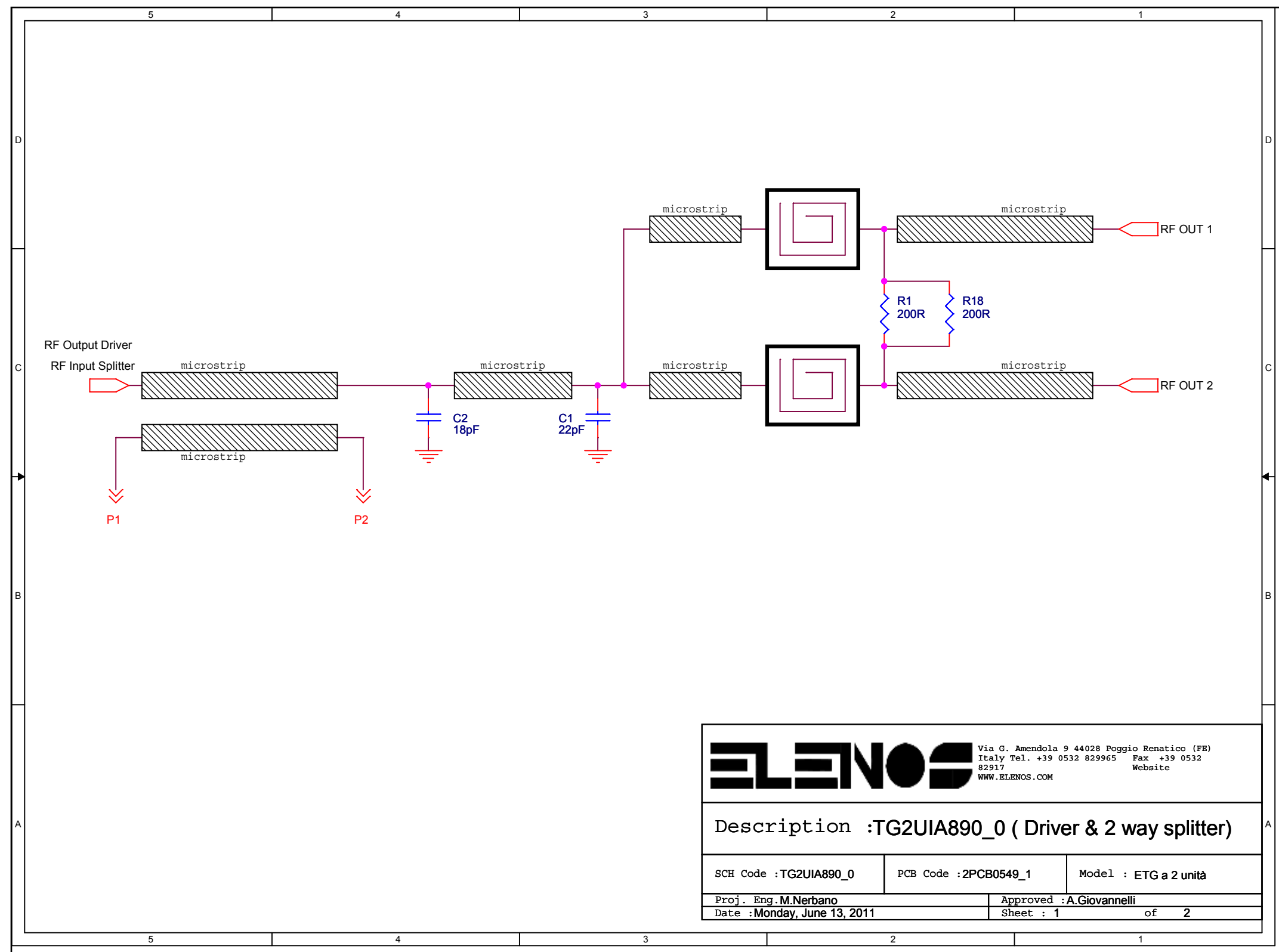
By this board the three RF amplifier modules are combined and their output powers summed.



2-WAY DIVIDER WITH DRIVER (TG2UIA890-0)







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Italy Tel. +39 0532 829965 Fax +39 0532
82917 Website
WWW.ELENOS.COM

Description :TG2UIA890_0 (Driver & 2 way splitter)

SCH Code :TG2UIA890_0

PCB Code :2PCB0549_1

Model : ETG a 2 unità

Proj. Eng. M.Nerbano

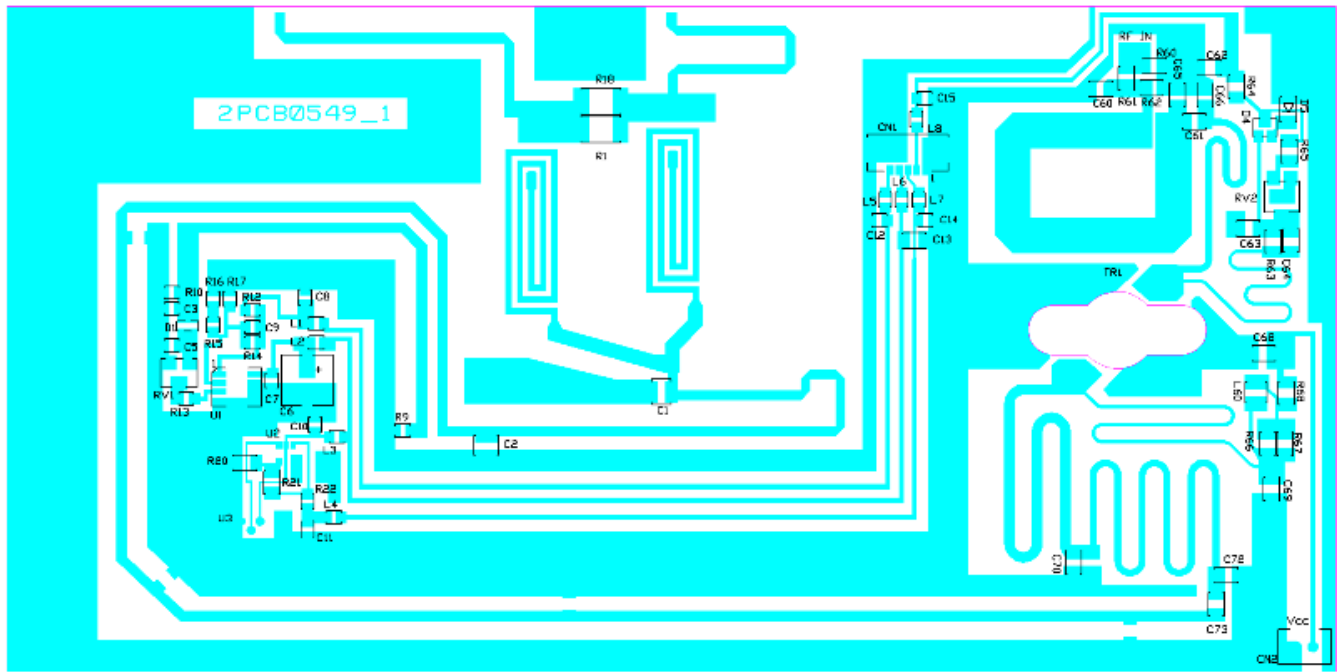
Approved :A.Giovannelli

Date :Monday, June 13, 2011

Sheet : 1 of 2

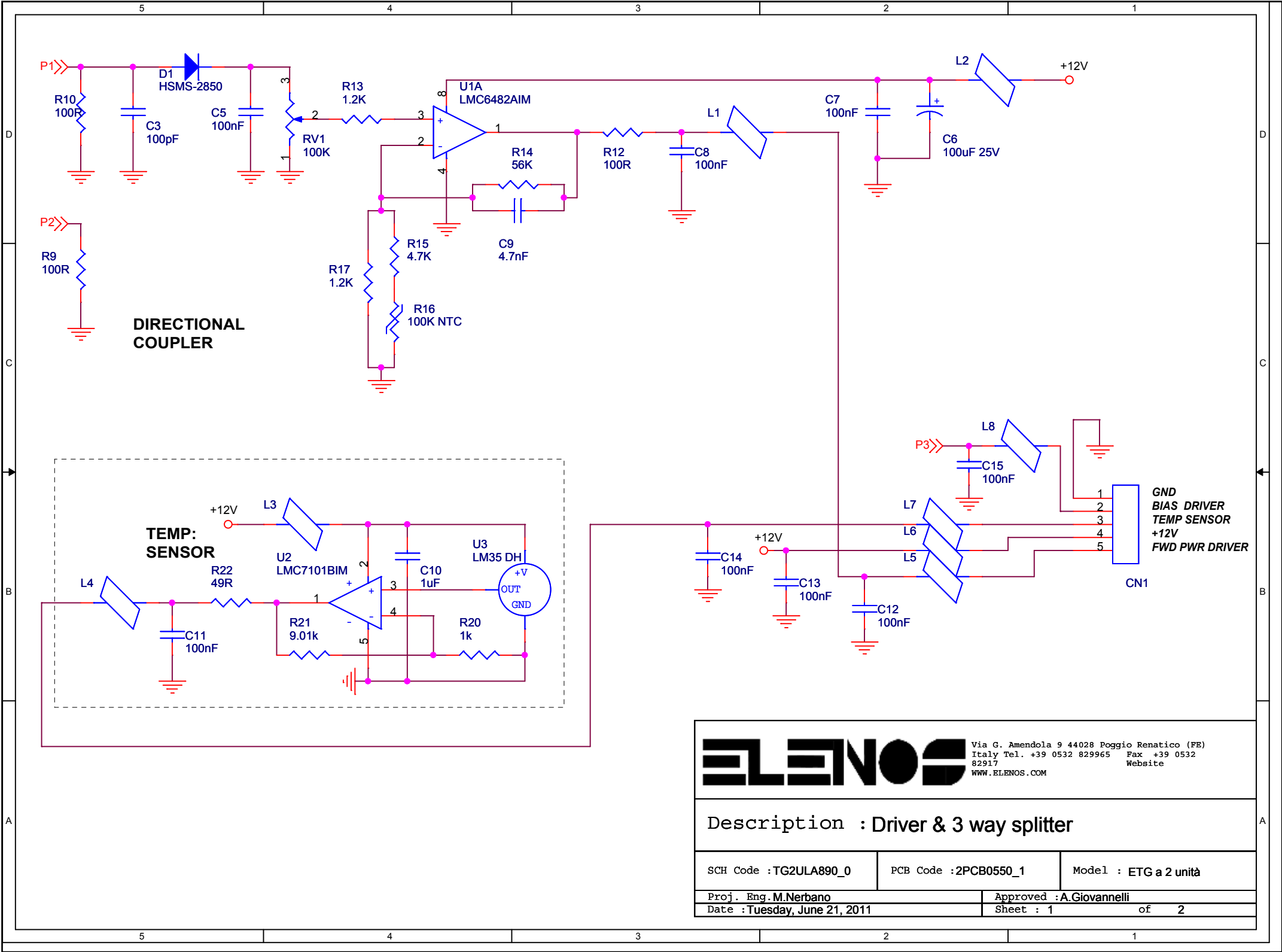
Functional block description / connectors pinout:

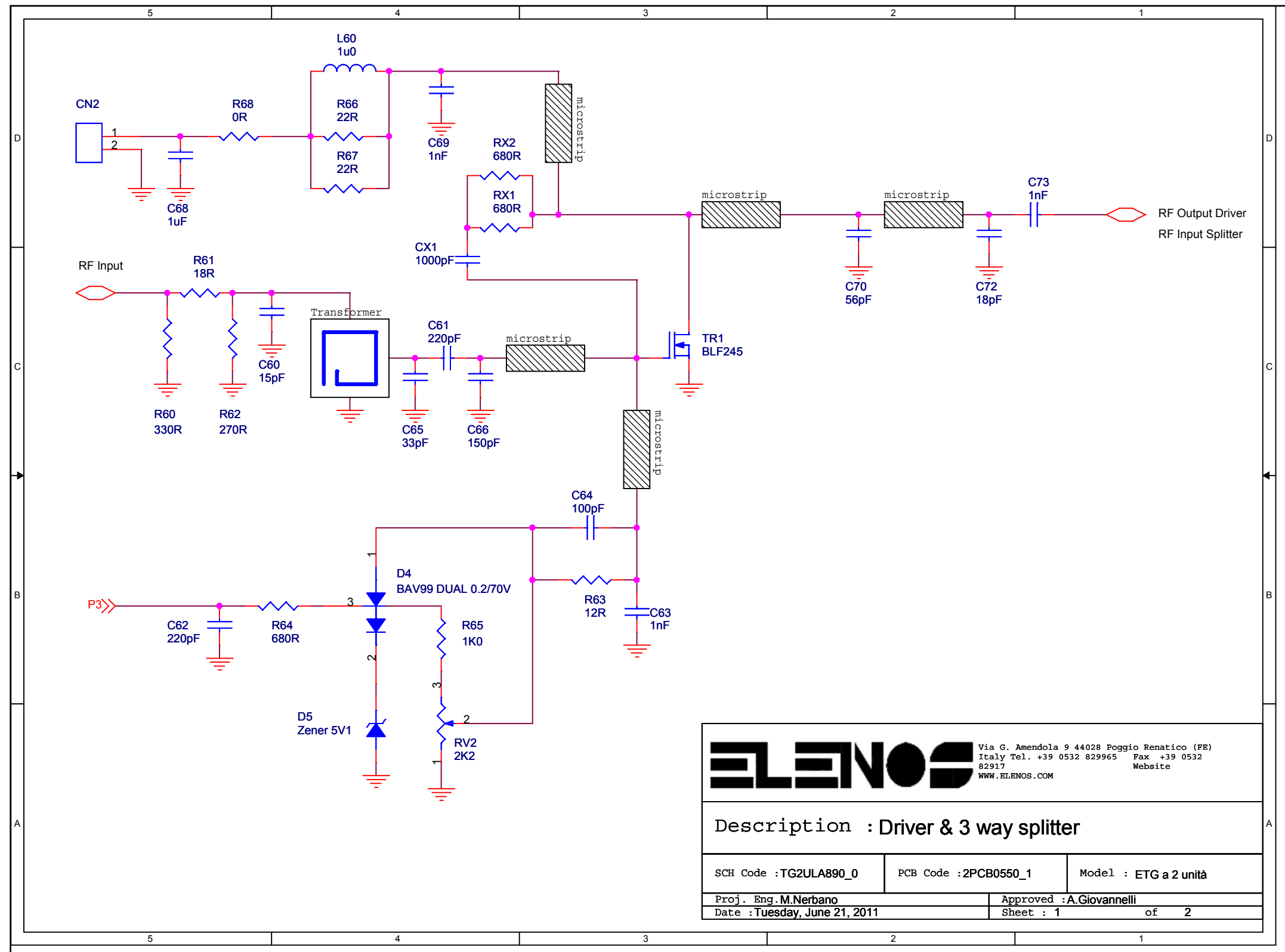
It contains the RF preamplifier, and the circuitry for splitting its output power for the two amplifier modules.



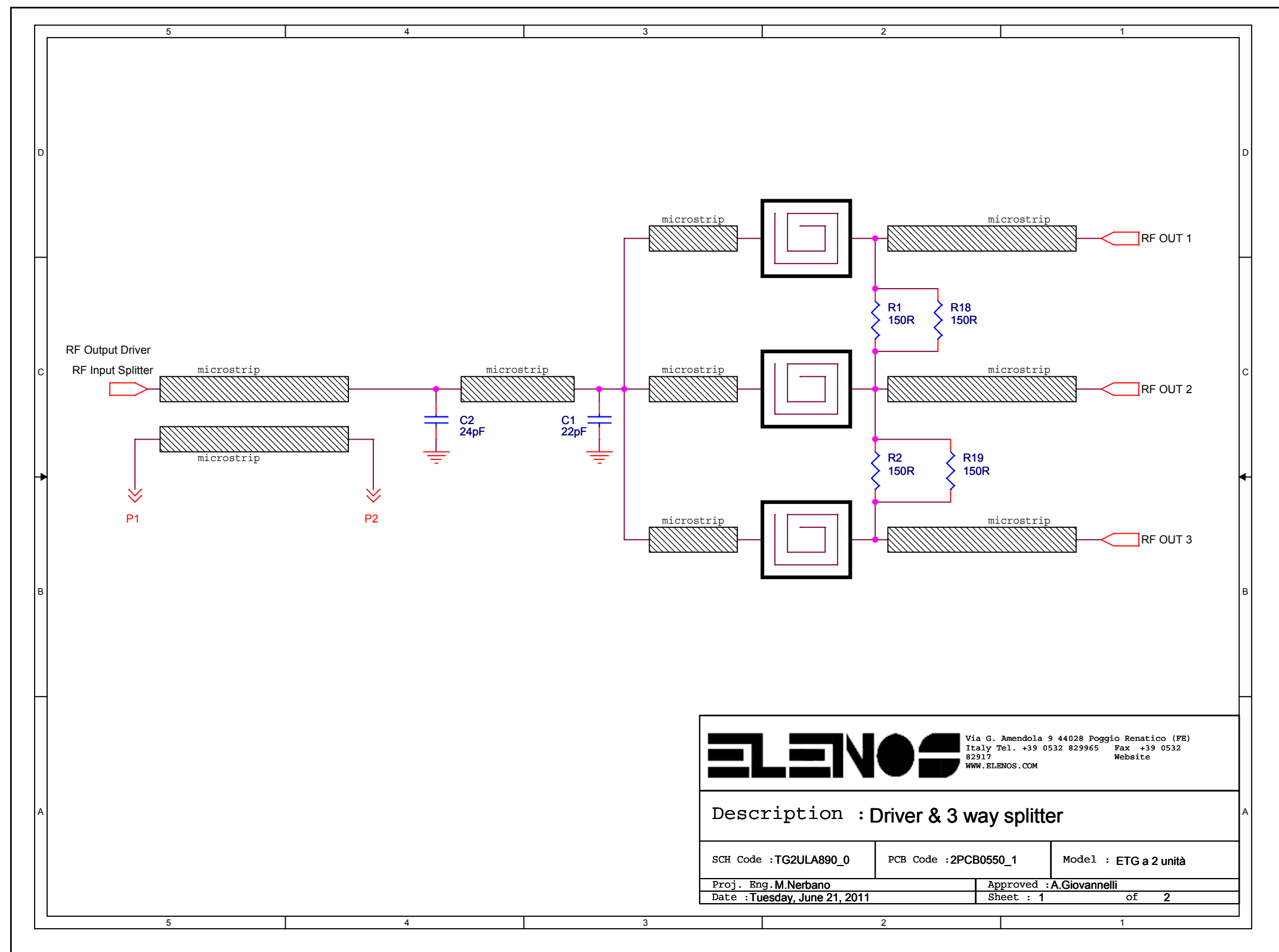
Connector	Pin No.	Signal	Note
CN1			
	1	GND / Common	
	2	V_Bias driver	
	3	Thermal probe	10mV / °C
	4	+12Vdc	
	5	Forward power driver	

3-WAY DIVIDER WITH DRIVER (TG2ULA890-0)





ELENOS		
Via G. Amendola 9 44028 Poggio Renatico (FE) Italy Tel. +39 0532 829965 Fax +39 0532 82917 WWW.ELENOS.COM Website		
Description : Driver & 3 way splitter		
SCH Code :TG2ULA890_0	PCB Code :2PCB0550_1	Model : ETG a 2 unità
Proj. Eng. M.Nerbano Date :Tuesday, June 21, 2011	Approved :A.Giovannelli Sheet : 1 of 2	



Via G. Amendola 9 44028 Poggio Renatico (FE)
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WWW.ELENNOS.COM Website

Description : Driver & 3 way splitter

SCH Code : TG2ULA890_0

PCB Code : 2PCB0550_1

Model : ETG a 2 unità

Proj. Eng. M. Nerbano

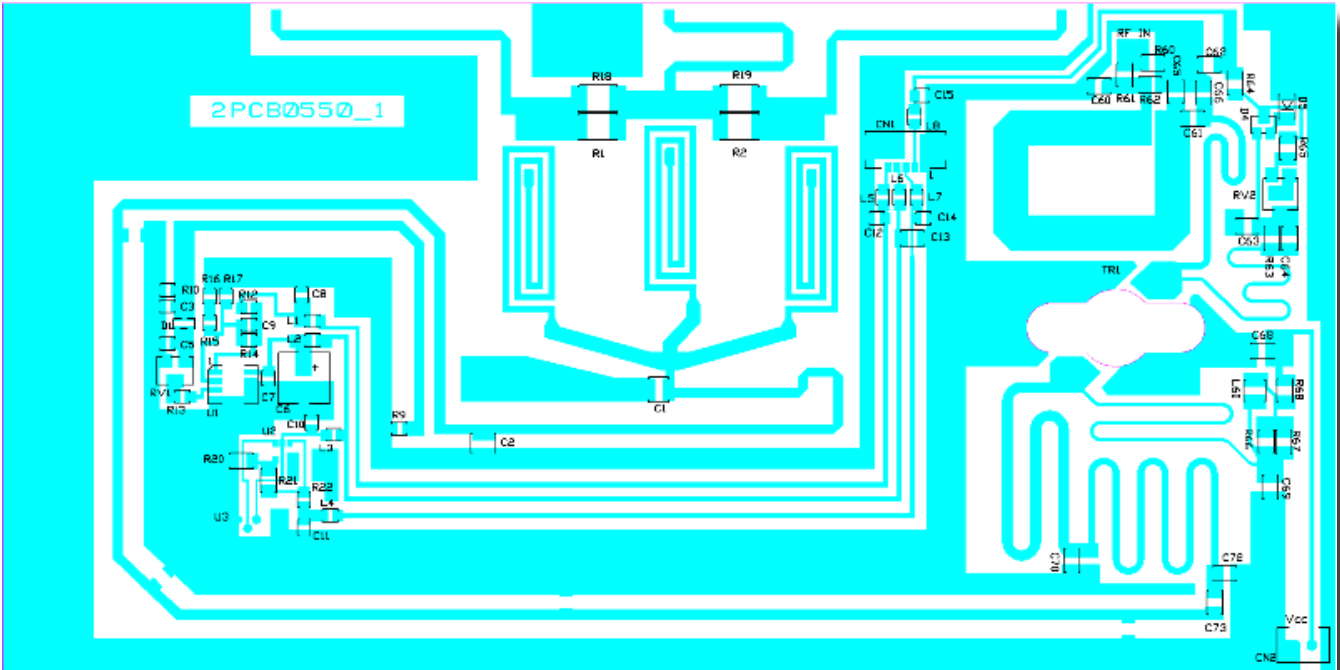
Approved : A. Giovannelli

Date : Tuesday, June 21, 2011

Sheet : 1 of 2

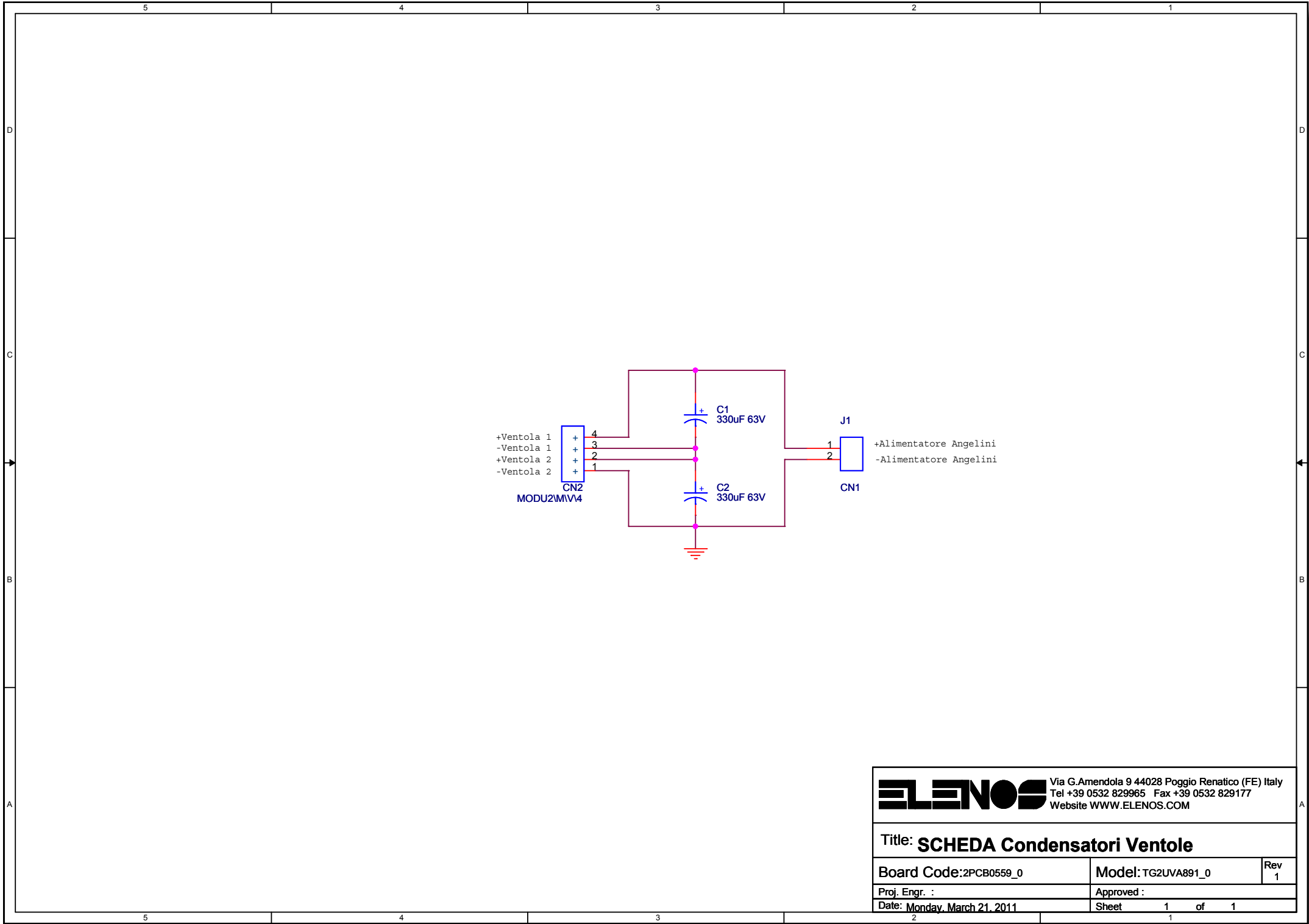
Functional block description / connectors pinout:

It contains the RF preamplifier, and the circuitry for splitting its output power for the three amplifier modules.



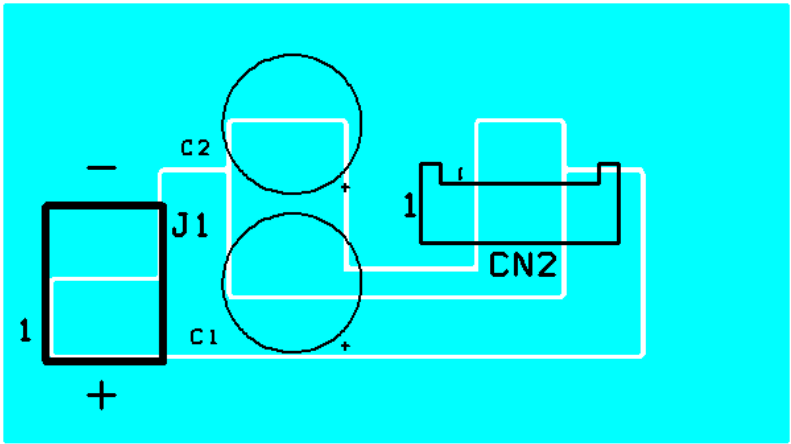
Connector	Pin No.	Signal	Note
CN1			
	1	GND / Common	
	2	V_Bias driver	
	3	Thermal probe	10mV / °C
	4	+12Vdc	
	5	Forward power driver	

FAN STARTER (TG2UVA891-0)



Functional block description / connectors pinout:

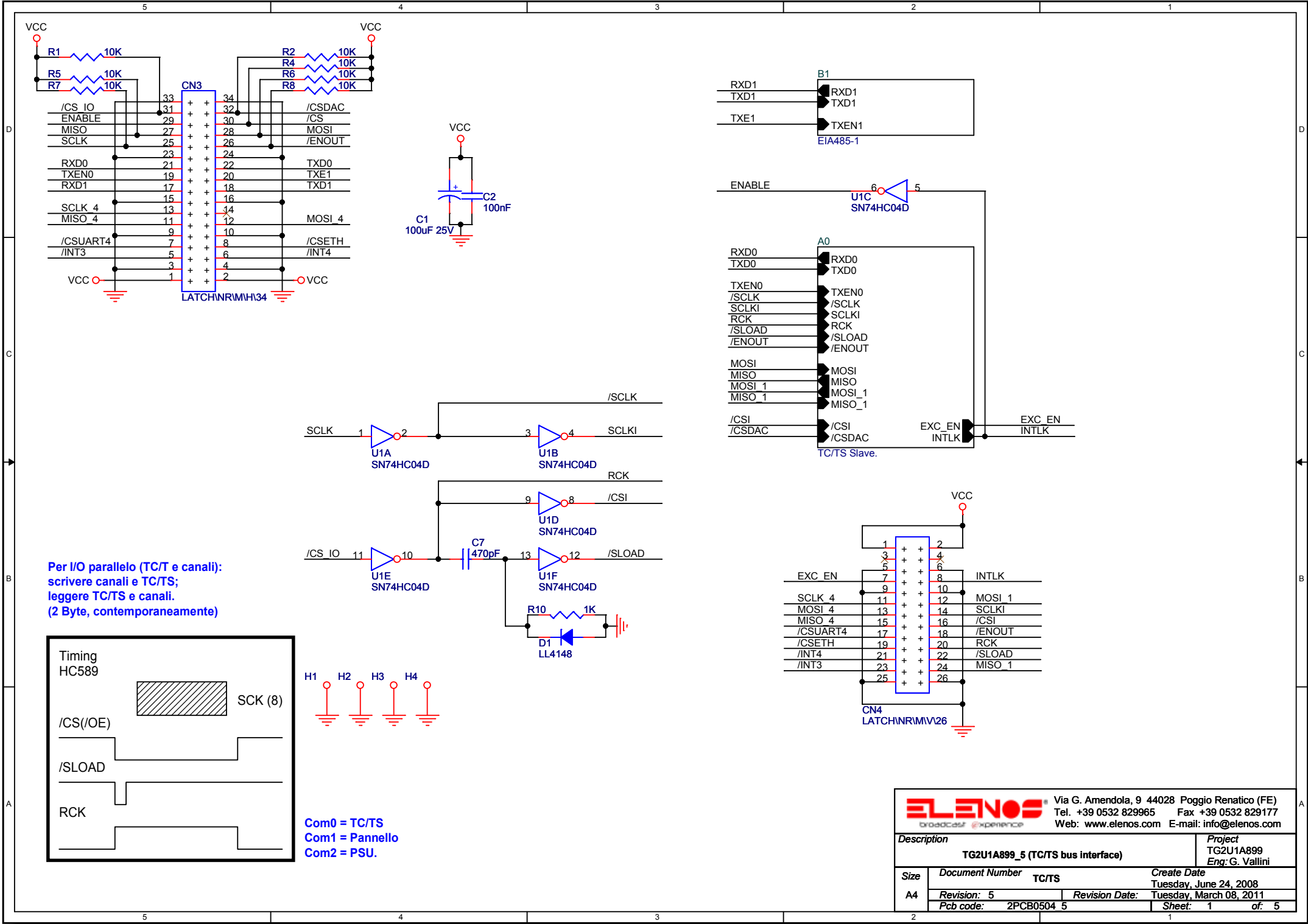
It balances the supply voltage for the cooling fans in order to ensure their start up in any condition.

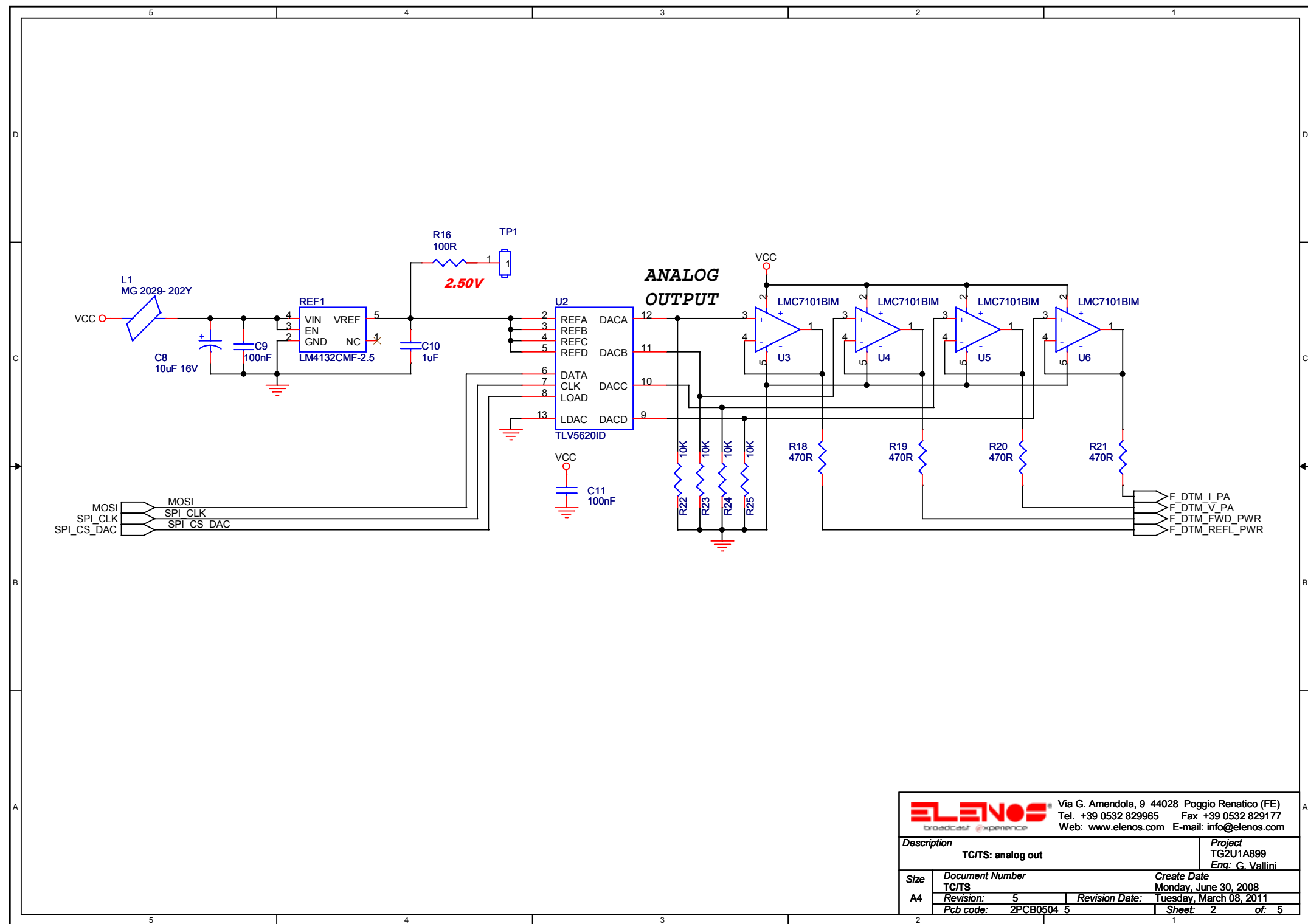


Connector	Pin No.	Signal	Note
J1			
	1	+Vdc	(30..50V)
	2	GND / Common	

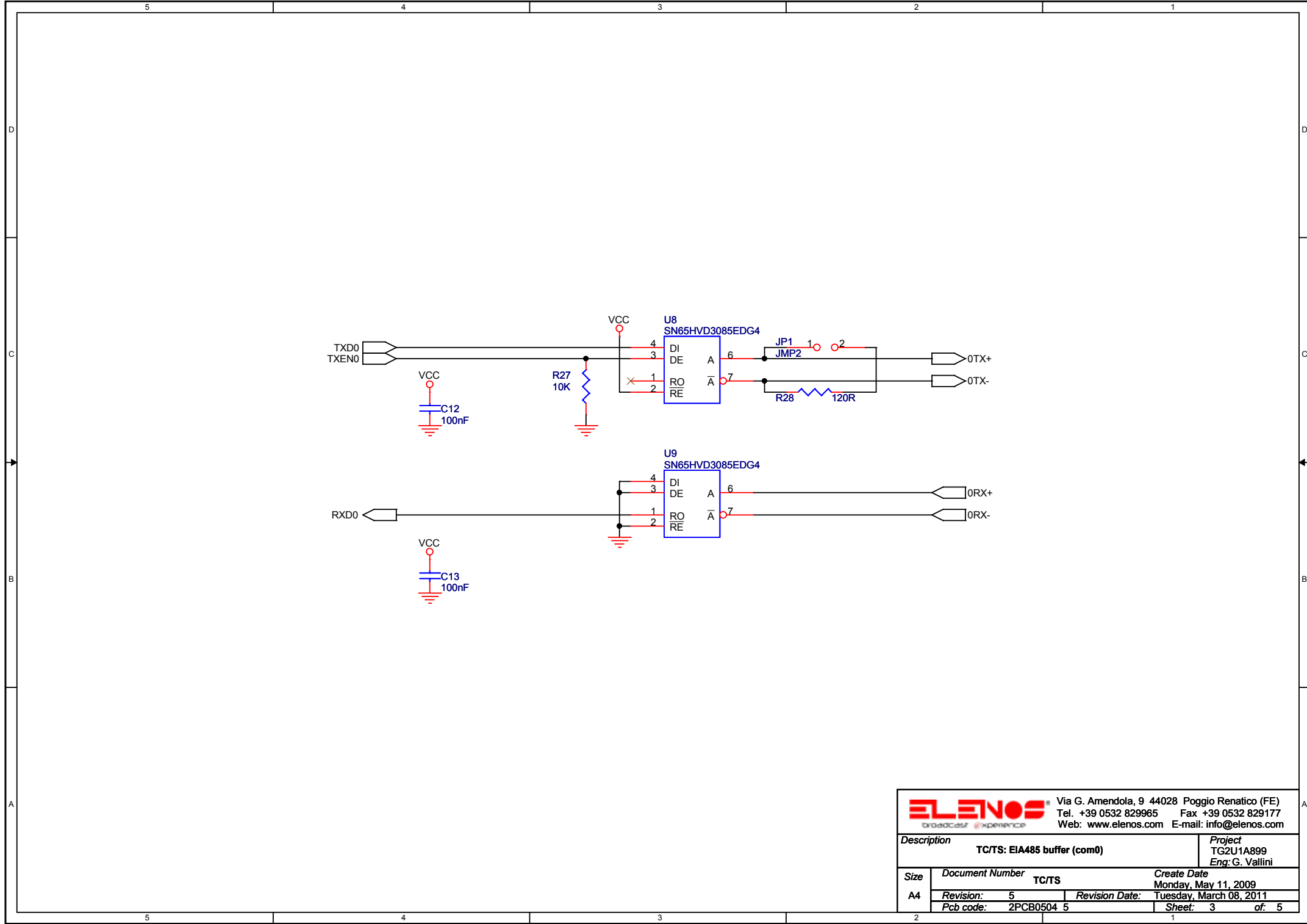
Connector	Pin No.	Signal	Note
CN2			
	1	+Vdc	FAN1
	2	GND / Common	FAN1
	3	+Vdc	FAN2
	4	GND / Common	FAN2

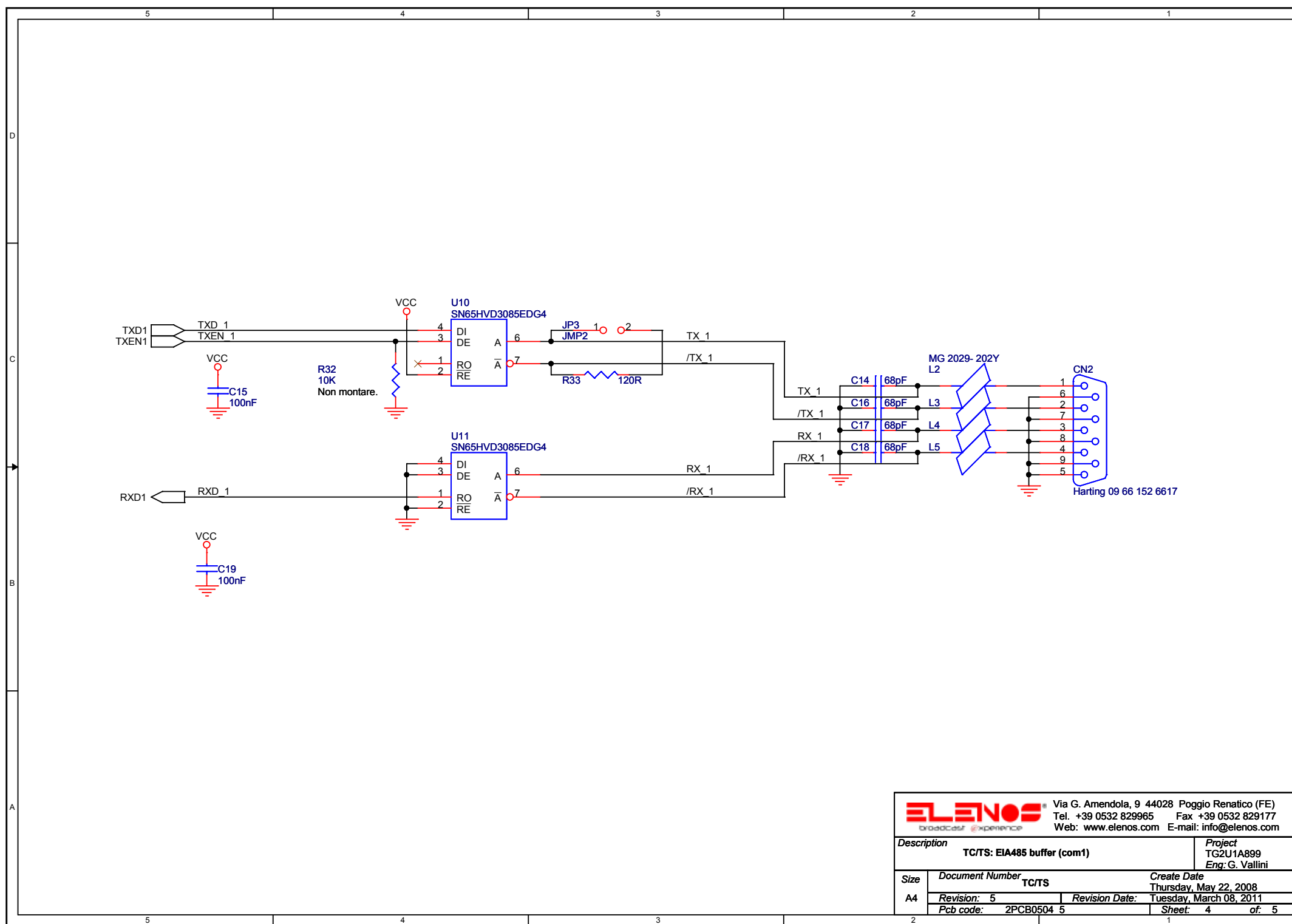
TC/TS BOARD (TG2U1A899_5)





ELENOS broader experience		Via G. Amendola, 9 44028 Poggio Renatico (FE) Tel. +39 0532 829965 Fax +39 0532 829177 Web: www.eLENOS.com E-mail: info@elenos.com	
Description TC/TS: analog out		Project TG2U1A899 Eng: G. Vallini	
Size A4	Document Number TC/TS		Create Date Monday, June 30, 2008
	Revision: 5	Revision Date:	Tuesday, March 08, 2011
	Pcb code: 2PCB0504 5	Sheet: 2	of: 5

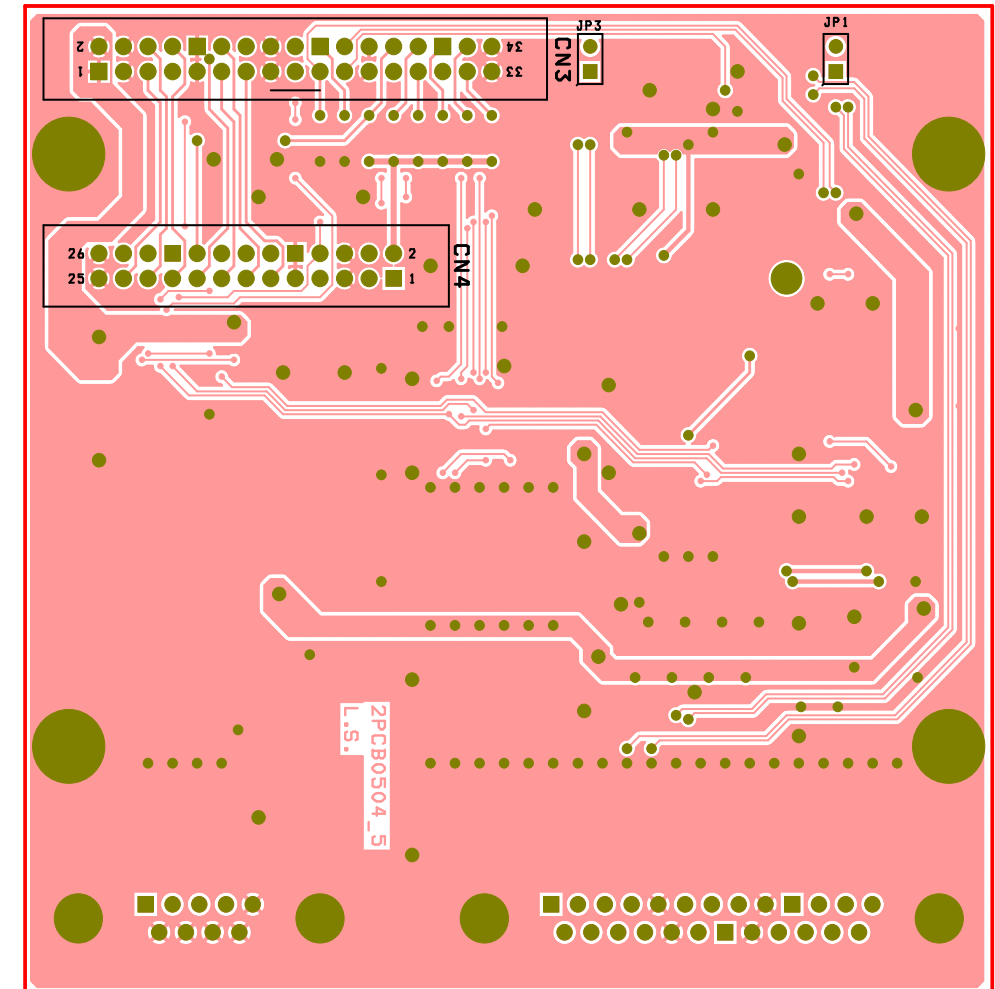
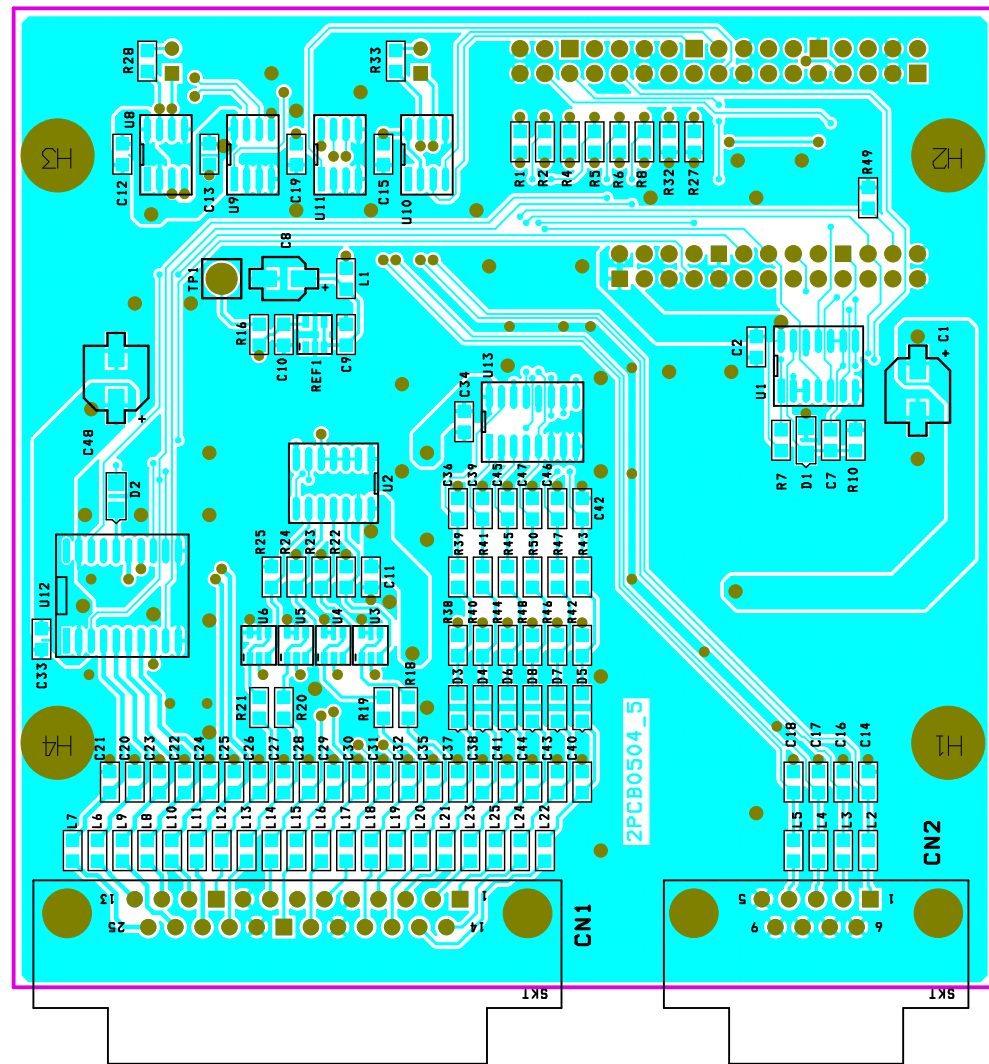


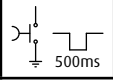
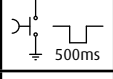
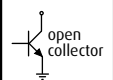
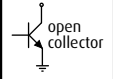
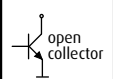


ELENOS Via G. Amendola, 9 44028 Poggio Renatico (FE)
 Tel. +39 0532 829965 Fax +39 0532 829177
 Web: www.elenos.com E-mail: info@elenos.com

Description		Project	
TC/TS: EIA485 buffer (com1)		TG2U1A899	
		Eng: G. Vallini	
Size	Document Number	Create Date	
A4	TC/TS	Thursday, May 22, 2008	
	Revision: 5	Revision Date: Tuesday, March 08, 2011	
	Pcb code: 2PCB0504 5	Sheet: 4 of: 5	





Connector	Pin No.	Signal	Note
CN1			
	1	F_TC_INTRLCK	Interlock (Enable) Pin connected to ground = command active
	2	F_TC_TX_ON	TX ON Pin connected to ground = command active
	3	F_TC_TX_OFF	TX OFF Pin connected to ground = command active
	4	F_DTM_REFL_PWR	Analog voltage output re- flected power (see 5.4.7.1 paragraph user manual)
	5	GND / Common	
	6	F_RX-	EIA485
	7	-	Not connected
	8	F_TX-	EIA485
	9	GND / Common	
	10	F_DTM_I_PA	Analog voltage output cur- rent Power Amplifier (see 5.4.7.1 paragraph user manual)
	11	F_TS_/FLT_MAIN	FAULT status mains Pin must be externally powered. "Open" status → Fault active
	12	F_TS_TX_ON	TX ON status Pin must be externally powered. "Closed to ground" status → TX ON
	13	F_TS_WARNING	Warning Pin must be externally powered. "Closed to ground" status → Warning active
	14	F_TC_ALRM_RST	Reset allarms Pin connected to ground = command active
	15	-	Spare pin
	16	-	Reserved Elenos
	17	F_DTM_FWD_PWR	Analog voltage output direct power (see 5.4.7.1 paragraph user manual)
	18	GND / Common	
	19	F_RX+	EIA485
	20	F_TX+	EIA485
	21	GND / Common	
	22	F_DTM_V_PA	Analog voltage output voltage Power Amplifier (see 5.4.7.1 paragraph user manual)
	23	F_TS_FLT_AUDIO	Allarm FAULT audio Pin must be externally powered. "Closed to ground" status → Alarm active
	24	F_TS_/FLT	Allarm FAULT Pin must be externally powered. "Open" status → Alarm active
	25	F_TS_REMOTE	Remote status Pin must be externally powered. "Closed to ground" status → Remote signal active

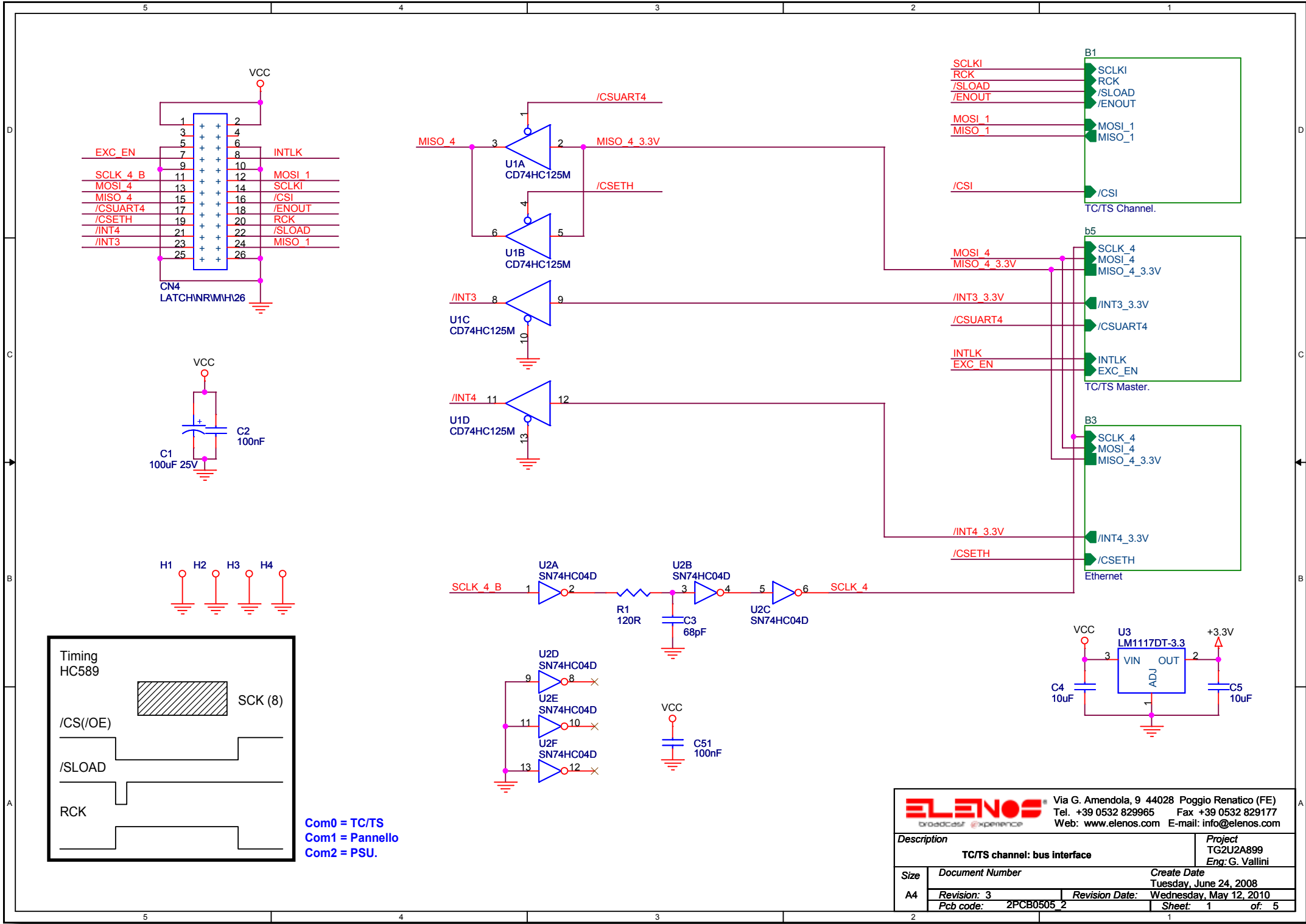
Schematics

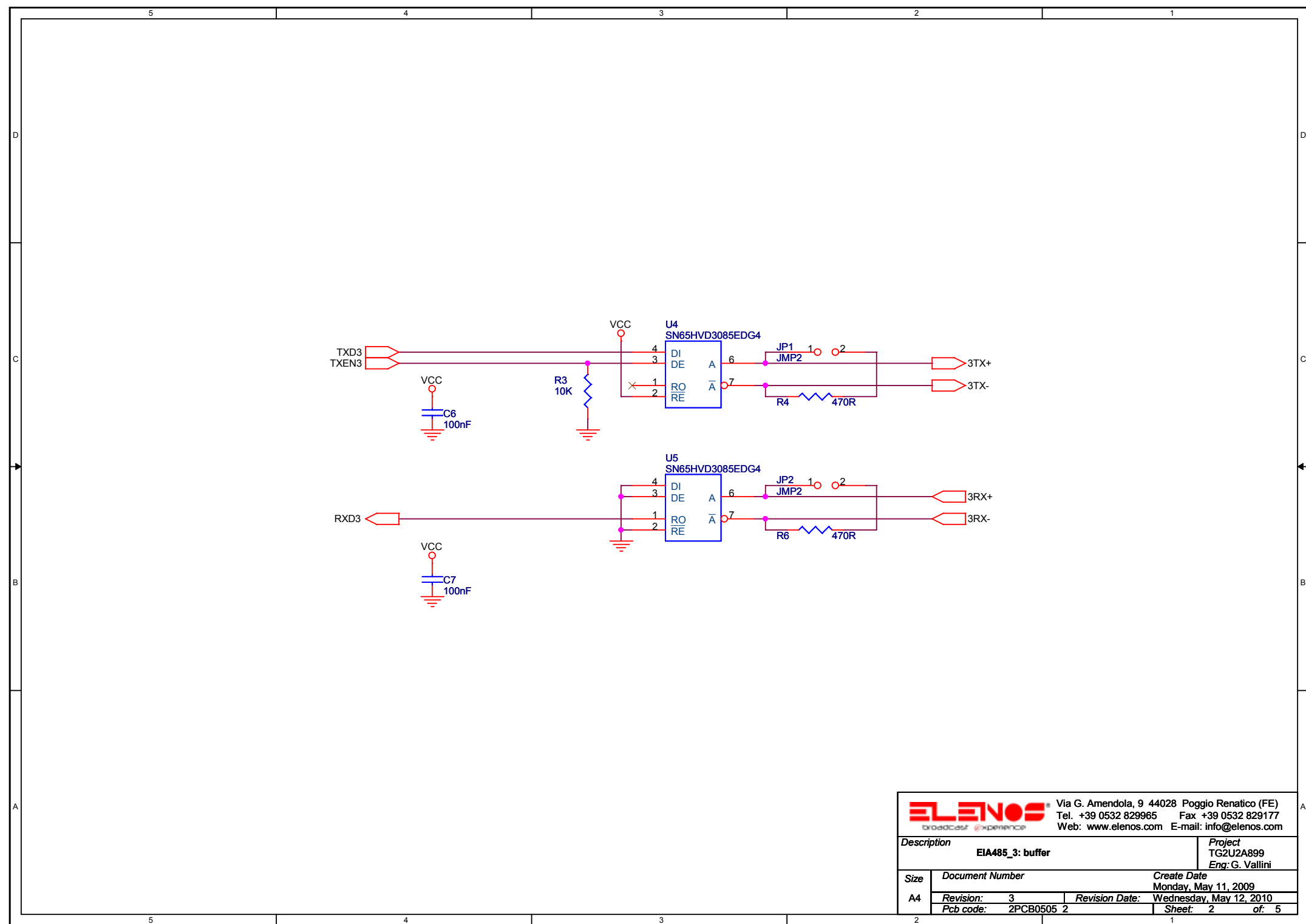
Connector	Pin No.	Signal	Note
CN2			
	1	TX_1	EIA485
	2	/TX_1	EIA485
	3	RX_1	EIA485
	4	/RX_1	EIA485
	5	GND / Common	
	6	GND / Common	
	7	GND / Common	
	8	GND / Common	
	9	GND / Common	

Connector	Pin No.	Signal	Note
CN3			
	1	+Vcc	
	2	+Vcc	
	3	GND / Common	
	4	GND / Common	
	5	/INT3	
	6	/INT4	
	7	/CSUART4	
	8	/CSETH	
	9	GND / Common	
	10	GND / Common	
	11	MISO_4	
	12	MOSI_4	
	13	SCLK_4	
	14	-	Not connected
	15	GND / Common	
	16	GND / Common	
	17	RXD1	
	18	TXD1	
	19	TXEN0	
	20	TXE1	
	21	RXD0	
	22	TXD0	
	23	GND / Common	
	24	GND / Common	
	25	SCLK	
	26	/ENOUT	
	27	MISO	
	28	MOSI	
	29	ENABLE	
	30	/CS	
	31	/CS_IO	
	32	/CSDAC	
	33	GND / Common	
	34	GND / Common	

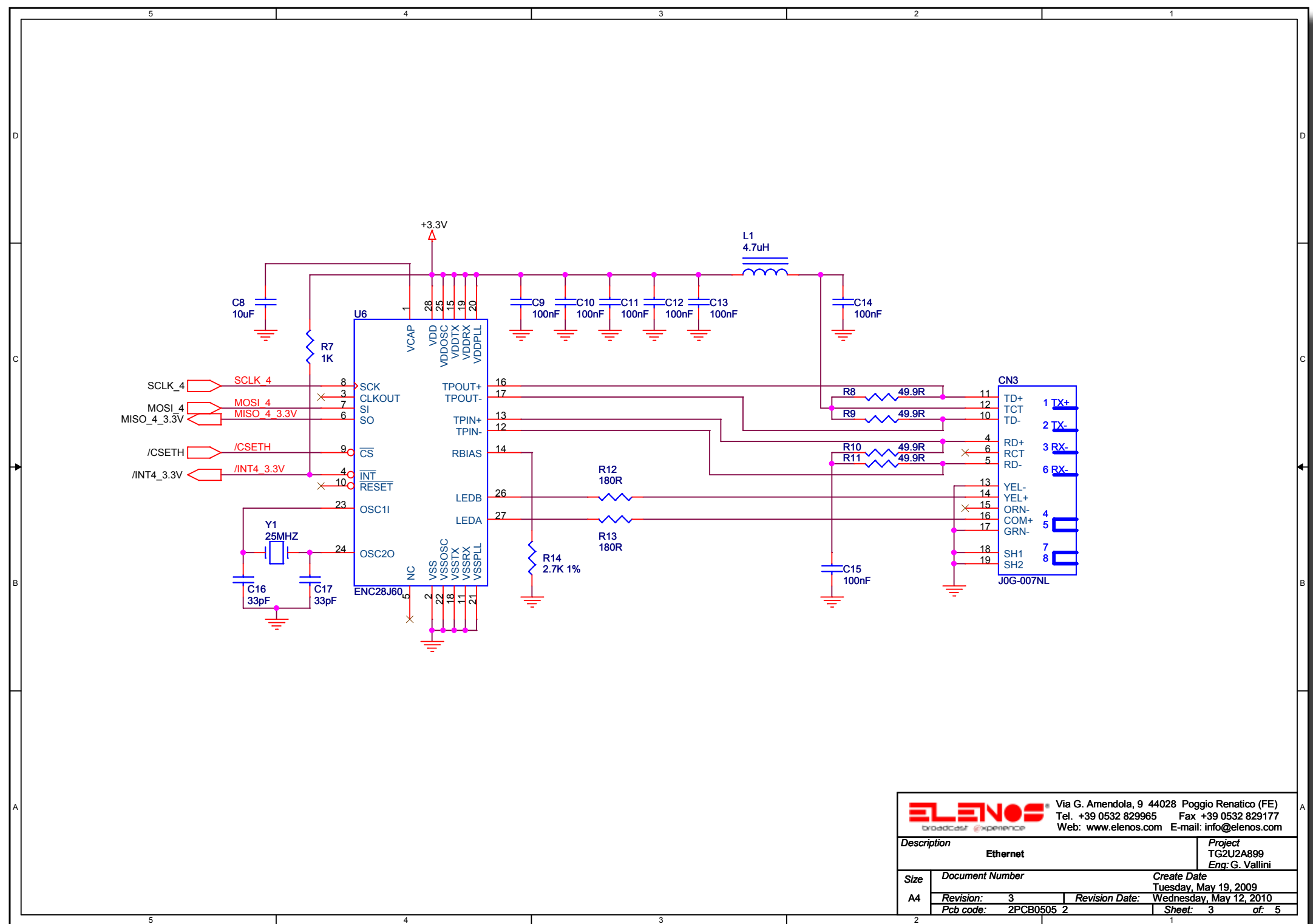
Connector	Pin No.	Signal	Note
CN4			
	1	+Vcc	
	2	+Vcc	
	3	-	Not connected
	4	-	Not connected
	5	GND / Common	
	6	GND / Common	
	7	EXC_EN	
	8	INTLK	
	9	GND / Common	
	10	GND / Common	
	11	SCLK_4	
	12	MOSI_1	
	13	MOSI_4	
	14	SCLKI	
	15	MISO_4	
	16	/CSI	
	17	/CSUART4	
	18	/ENOUT	
	19	/CSETH	
	20	RCK	
	21	/INT4	
	22	/SLOAD	
	23	/INT3	
	24	MISO_1	
	25	GND / Common	
	26	GND / Common	

CHANNEL BOARD (TG2U2A899_3)





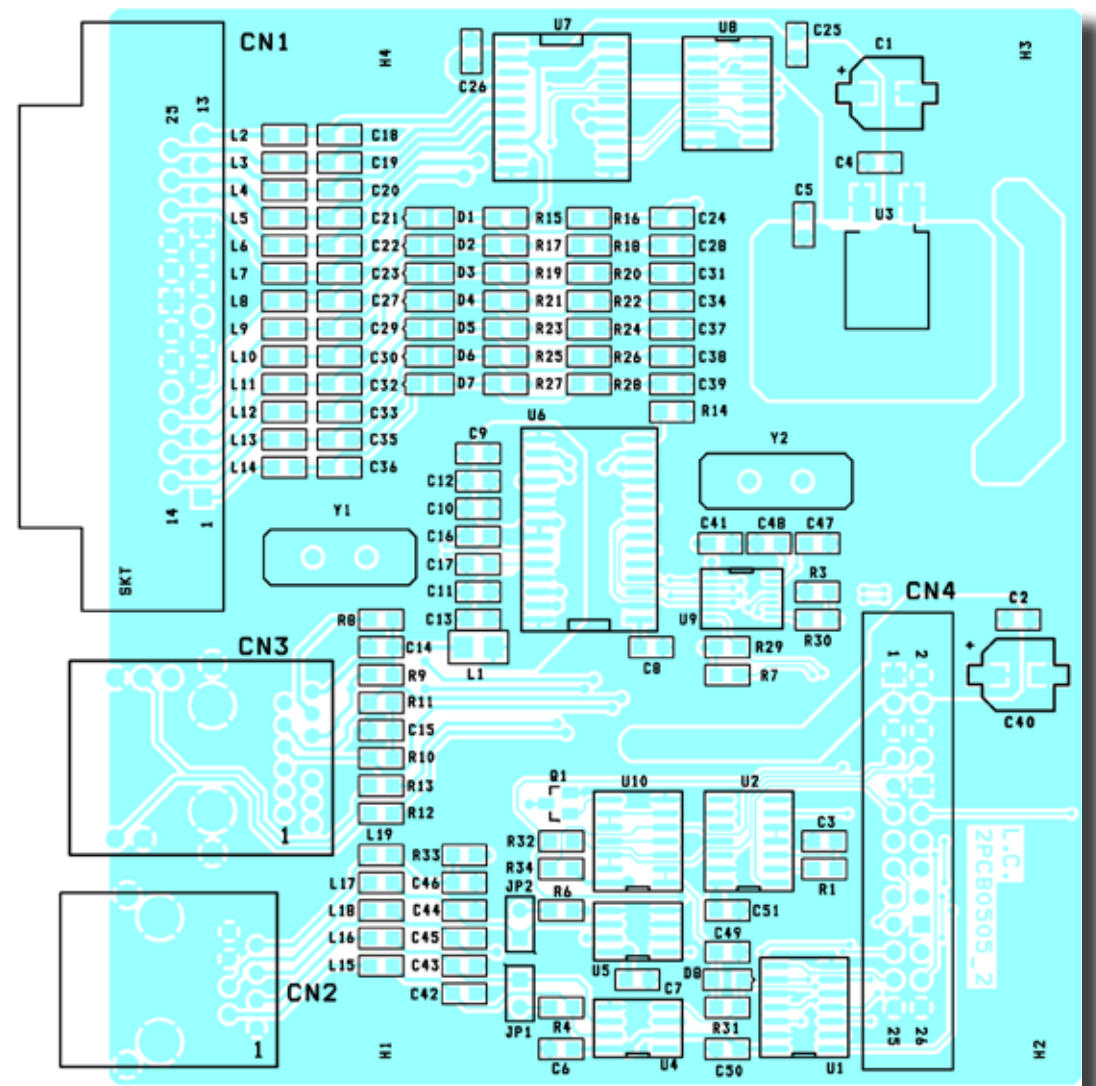
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Description EIA485_3: buffer		Project TG2U2A899 Eng: G. Vallini	
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		Sheet: 3		of: 5	





Connector	Pin No.	Signal	Note
CN1			
	1	Telecontrol input channel 1 (0V..12V)	0V..24V
	2	Telecontrol input channel 3 (0V..12V)	0V..24V
	3	Telecontrol input channel 5 (0V..12V)	0V..24V
	4	Telecontrol input channel reserve (0V..12V)	0V..24V
	5	GND / Common	
	6	GND / Common	
	7	-	Not connected
	8	GND / Common	
	9	GND / Common	
	10	GND / Common	
	11	Telesignal output channel 5 (0V..24V)	Max current 50mA
	12	Telesignal output channel 3 (0V..24V)	Max current 50mA
	13	Telesignal output channel 1 (0V..24V)	Max current 50mA
	14	Telecontrol input channel 2 (0V..12V)	0V..24V
	15	Telecontrol input channel 4 (0V..12V)	0V..24V
	16	Telecontrol input channel 6 (0V..12V)	0V..24V
	17	-	Not connected
	18	GND / Common	
	19	GND / Common	
	20	GND / Common	
	21	GND / Common	
	22	GND / Common	
	23	Telesignal output channel 6 (0V..24V)	Max current 50mA
	24	Telesignal output channel 4 (0V..24V)	Max current 50mA
	25	Telesignal output channel 2 (0V..24V)	Max current 50mA

Connector	Pin No.	Signal	Note
CN2			
	1	GND / Common	Standard EIA485 (0..5V)
	2	Signal TX-	Standard EIA485 (0..5V)
	3	Signal TX+	Standard EIA485 (0..5V)
	4	Signal RX+	Standard EIA485 (0..5V)
	5	Signal RX-	
	6	GND / Common	
	7	Interlock	Open Collector signal without protection diode
	8	GND / Common	

Connector	Pin No.	Signal	Note
CN3			
	1	ETHERNET connector	
	2	ETHERNET connector	
	3	ETHERNET connector	
	4	ETHERNET connector	
	5	ETHERNET connector	
	6	ETHERNET connector	
	7	ETHERNET connector	
	8	ETHERNET connector	

Connector	Pin No.	Signal	Note
CN4			
	1	+VCC	
	2	+VCC	
	3	-	Not connected
	4	-	Not connected
	5	GND / Common	
	6	GND / Common	
	7	EXC_EN	
	8	INTLK	
	9	GND / Common	
	10	GND / Common	
	11	SCLK_4_B	
	12	MOSI_1	
	13	MOSI_4	
	14	SCLKI	
	15	MISO_4	
	16	/CSI	
	17	/CSUART4	
	18	/ENOUT	
	19	/CSETH	
	20	RCK	
	21	/INT4	
	22	/SLOAD	
	23	/INT3	
	24	MISO_1	
	25	GND / Common	
	26	GND / Common	