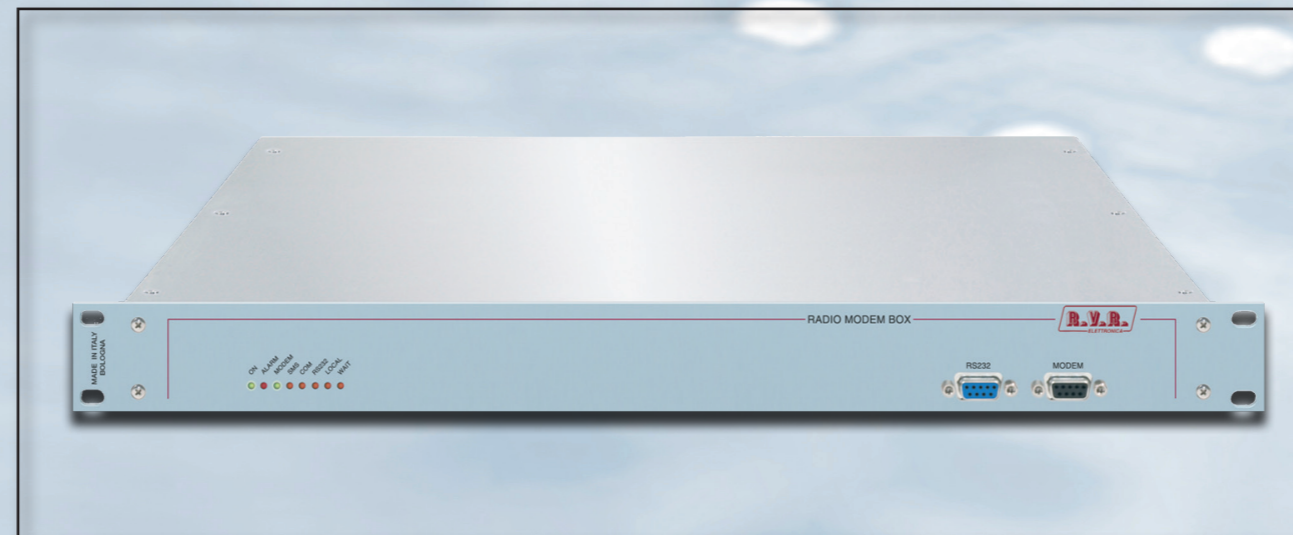




# RDMODWEB

TECHNICAL ANNEX  
VOLUME 2



## Appendix A Piani di montaggio, schemi elettrici, liste componenti / *Component layouts, schematics, bills of material*

Questa parte del manuale contiene i dettagli tecnici riguardanti la costruzione delle singole schede componenti il RDMODWEB. L'appendice è composta dalle seguenti sezioni:

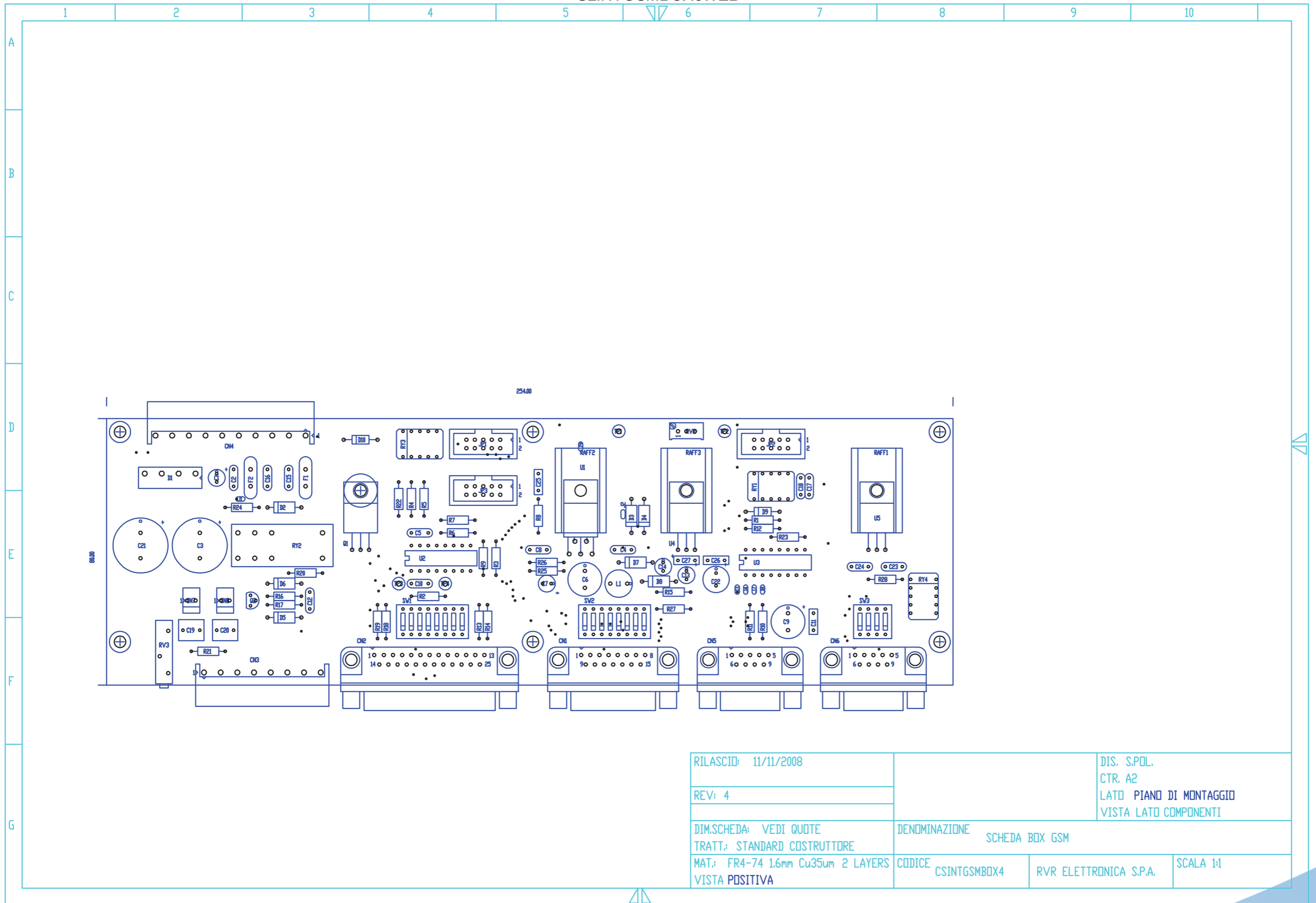
*This part of the manual contains the technical details about the different Cards of the RDMODWEB. This appendix is composed of the following sections:*

Description	RDMODWEB-TV.BN	Vers.	Page
GSM Box Card	SLINTGSMBOX5WEB	1.0	1
CPU 16Bit Card	SLCPU16V2TEX	1.6	4
CPU Interface Card	SLCPU16V9TEX	1.1	7
CPU 16Bit LED Card	SLCPU16LED01	1.0	9

### Document History

Date	Version	Reason	Code	Editor
29/10/2012	1.0	First Release	/	J.H. Berti

**SLINTGSMBOX5WEB**

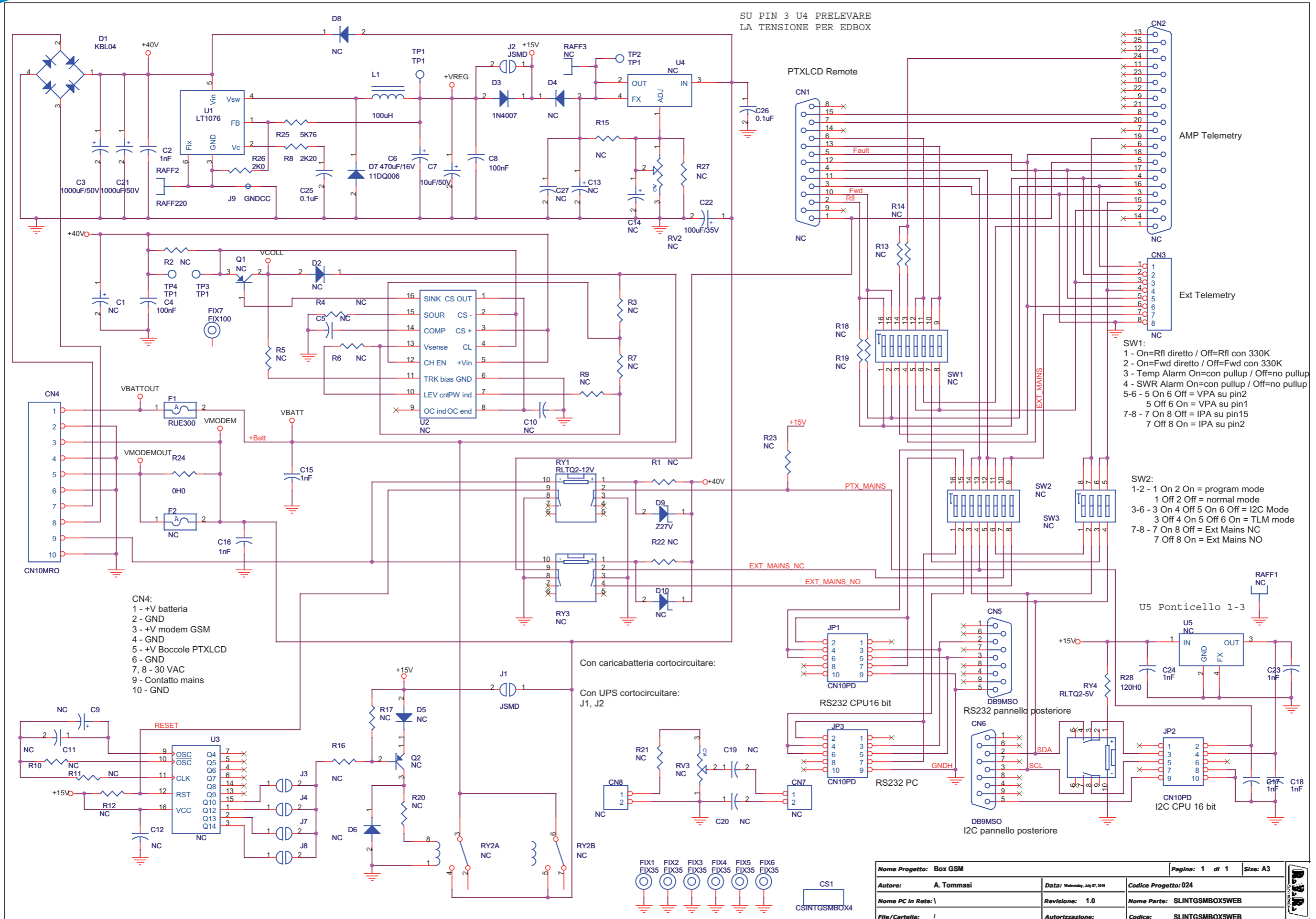


RILASCIO: 11/11/2008	DIS. S.POL. CTR. A2 LATO PIANO DI MONTAGGIO VISTA LATO COMPONENTI	
REV: 4		
DIM.SCHEDA: VEDI QUOTE TRATT.: STANDARD COSTRUTTORE	DENOMINAZIONE SCHEDA BOX GSM	
MAT: FR4-74 1.6mm Cu35um 2 LAYERS VISTA POSITIVA		



SLINTGSMBOX5WEB

SU PIN 3 U4 PRELEVARE LA TENSIONE PER EDBox



- CN4:
- 1 - +V batteria
  - 2 - GND
  - 3 - +V modem GSM
  - 4 - GND
  - 5 - +V Boccole PTXLCD
  - 6 - GND
  - 7, 8 - 30 VAC
  - 9 - Contatto mains
  - 10 - GND

- SW1:
- 1 - On=Rfl diretto / Off=Rfl con 330K
  - 2 - On=Fwd diretto / Off=Fwd con 330K
  - 3 - Temp Alarm On=con pullup / Off=no pullup
  - 4 - SWR Alarm On=con pullup / Off=no pullup
  - 5-6 - 5 On 6 Off = VPA su pin2
  - 5 Off 6 On = VPA su pin1
  - 7-8 - 7 On 8 Off = IPA su pin15
  - 7 Off 8 On = IPA su pin2

- SW2:
- 1-2 - 1 On 2 On = program mode
  - 1 Off 2 Off = normal mode
  - 3-6 - 3 On 4 Off 5 On 6 Off = I2C Mode
  - 3 Off 4 On 5 Off 6 On = TLM mode
  - 7-8 - 7 On 8 Off = Ext Mains NC
  - 7 Off 8 On = Ext Mains NO

Nome Progetto: Box GSM		Pagina: 1 di 1		Size: A3
Autore: A. Tommasi		Data: Wednesday, July 11, 2012		Codice Progetto: 024
Nome PC in Rete: \		Revisione: 1.0		Nome Parte: SLINTGSMBOX5WEB
File/Cartella: /		Autorizzazione:		Codice: SLINTGSMBOX5WEB

SLINTGSMBOX5WEB

SLINTGSMBOX5WEB Revised: Wednesday, July 07, 2010  
 SLINTGSMBOX5WEB Revision: 1.0

Box GSM  
 024

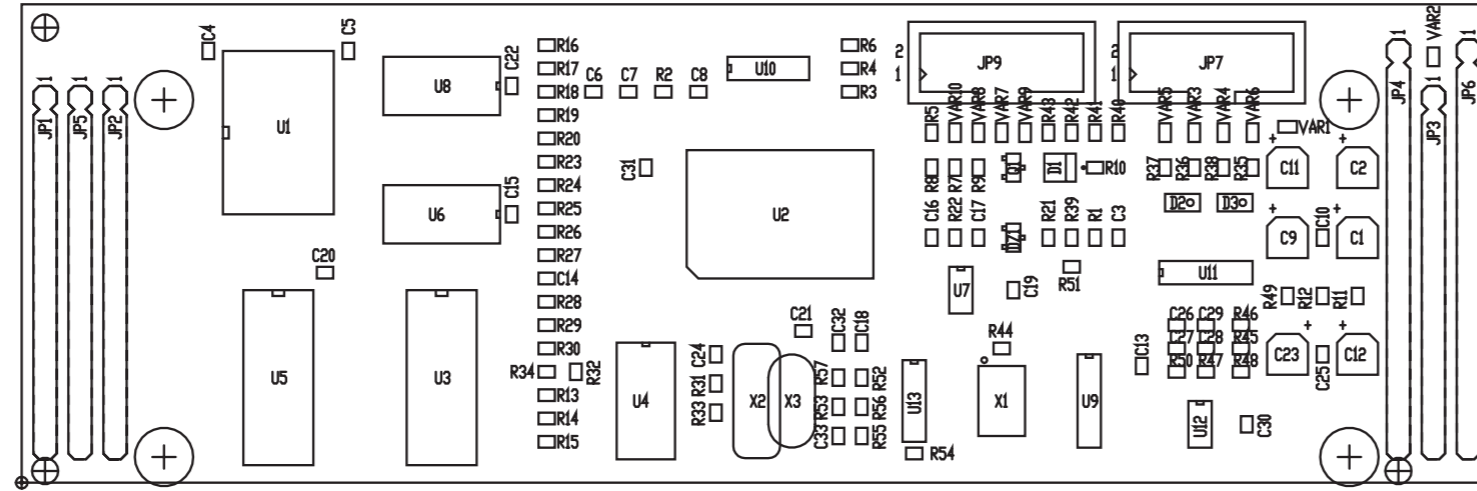
A. Tommasi

Item	Quantity	Reference	Part	Description
1	1	CN1	NC	Connettore DB15 mas. cs 90°
2	1	CN2	NC	Connettore DB25 mas. cs 90°
3	1	CN3	NC	Connettore KB 90° p. 5mm 8 pin
4	1	CN4	CN10MRO	Connettore KB p. 5mm 10 pin <span style="float:right">NOTA1</span>
5	2	CN5, CN6	DB9MSO	Connettore DB9 mas. cs 90°
6	2	CN7, CN8	NC	Connettore 2 poli Panduit
7	1	CS1	CSINTGSMBOX4	Circuito stampato
8	3	C1, C13, C14	NC	Cond. Elettr. Dia 5 P2.54
9	7	C2, C15, C16, C17, C18, C23, C24	1nF	Cond. ceramico multistrato p 5mm
10	2	C3, C21	1000uF/50V	Cond. Elettr. Dia 16 P7.62
11	2	C4, C8	100nF	Cond. ceramico multistrato p 5mm
12	3	C5, C10, C12	NC	Cond. ceramico multistrato p 5mm
13	1	C6	470uF/16V	Cond. Elettr. Dia 10 P5.08
14	1	C7	10uF/50V	Cond. Elettr. Dia 5 P2.54
15	1	C9	NC	Cond. Elettr. Dia 10 P5.08
16	2	C11, C27	NC	Cond. Poliestere p 5mm
17	2	C19, C20	NC	Cond. Poliestere p 5mm (5*7mm)
18	1	C22	100uF/35V	Cond. Elettr. Dia 8 P3
19	2	C25, C26	0.1uF	Cond. Poliestere p 5mm
20	1	D1	KBL04	Ponte diodi KBL/KBU
21	5	D2, D4, D5, D6, D8	NC	Diode plastico DO41
22	1	D3	1N4007	Diode plastico DO41
23	1	D7	11DQ006	Diode plastico DO41
24	1	D9	Z27V	1/2W Zener Diode
25	1	D10	NC	1/2W Zener Diode
26	6	FIX1, FIX2, FIX3, FIX4, FIX5, FIX6	FIX35	Foro fissaggio 3.5mm
27	1	FIX7	FIX100	Foro fissaggio 10mm
28	1	F1	RUE300	Fusibile autorip. 13mm
29	1	F2	NC	Fusibile autorip. 13mm
30	3	JP1, JP2, JP3	CN10PD	Connettore 10 poli Flat cs
31	6	J1, J2, J3, J4, J7, J8	J5MD	Pad SMD a saldare
32	1	J9	GNDCC	Non e' un componente
33	1	L1	100uH	Ind. verticale dia. 8 p 5
34	1	Q1	NC	Trans. PNP TO220
35	1	Q2	NC	Trans. PNP TO92
36	2	RAFF1, RAFF3	NC	Dissipatore TO220
37	1	RAFF2	RAFF220	Dissipatore TO220
38	1	RV2	NC	Trimmer Rg V 3296W
39	1	RV3	NC	Trimmer Rg H 3006
40	1	RY1	RLTQ2-12V	Rele' TQ2
40a	1	RY4	RLTQ2-5V	Rele' TQ2
41	1	RY2	NC	Rele' 2 vie 5A
42	1	RY3	NC	Rele' TQ2
43	23	R1, R2, R3, R4, R5, R6, R7, R9, R10, R11, R12, R13, R14, R15, R16, R17, R18, R19, R20, R21, R22, R23, R27	NC	Res. 1/4W 1%
44	1	R8	2K20	Res. 1/4W 1%
45	1	R24	0H0	Res. 1/4W 1%
46	1	R25	5K76	Res. 1/4W 1%
47	1	R26	2K0	Res. 1/4W 1%
48	1	R28	120H0	Res. 1/4W 1%
49	2	SW1, SW2	NC	Dip switch 8 vie
50	1	SW3	NC	Dip switch 4 vie
51	4	TP1, TP2, TP3, TP4	TP1	Test point
52	1	U1	LT1076	Regolatore switching
53	1	U2	NC	Controllo carica batt. PB
54	1	U3	NC	14 bit ripple counter w/osc
55	1	U4	NC	Stab. regolabile TO220
56	1	U5	NC	Stabilizzatore TO220 <span style="float:right">NOTA2</span>

NOTA Chiudere J1

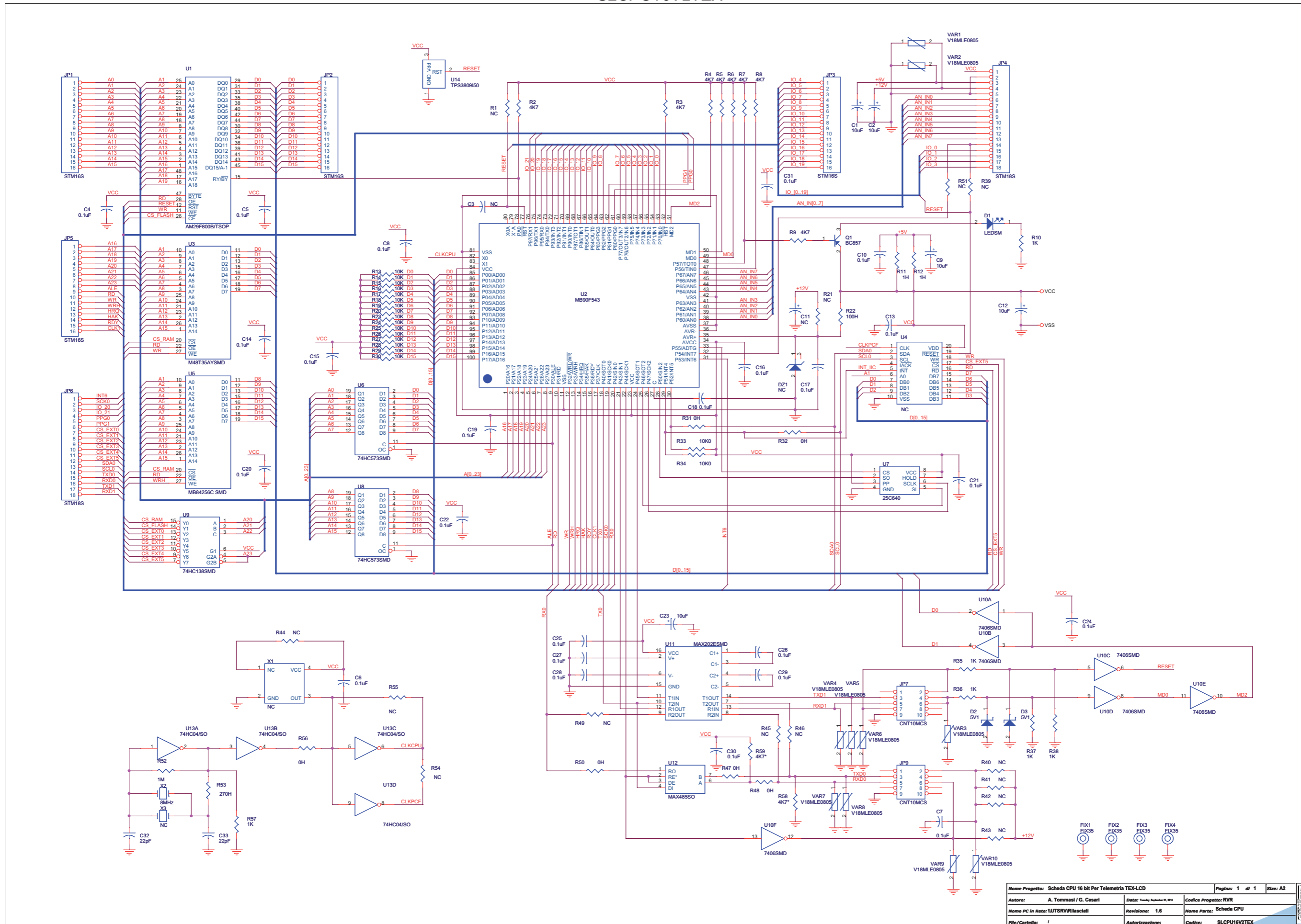
NOTA1 Compreso di femmina volante relativa

NOTA2 c.c. fra ingresso e uscita di U5



	NOME PROGETTO: PTX-LCD	NOME PARTE: SCHEDA CPU BUS 16BIT
AUTORE: S. Poluzzi - Rev.: Berti J.	DATA: 12/02/2004	REVISIONE: 2.1
ARCHIVIAZIONE ELETTRONICA: "CARTELLA PROGETTI" SU "UT_SRY"	SCALA: 1:1	SIZE: A4
MATERIALE: FR4-74 1.6mm Cu 35um 4 LAYER	CODICE PROGETTO: RV021	PAGINA: 1 DI 1
TRATTAMENTO: STANDARD COSTRUTTORE	CODICE DISEGNO: CSCPU16V2R02	STATO: <>
	PROFILO: Positivo	

SLCPU16V2TEX



Nome Progetto: Scheda CPU 16 bit Per Telemetria TEX-LCD	Pagina: 1 di 1	Size: A2
Autore: A. Tommasi / G. Cesari	Data: 29/10/12	Codice Progetto: RVR
Nome PC in Rete: WUTSRV\ilasciat	Revisione: 1.6	Nome Parte: Scheda CPU
File/Cartella: /	Autorizzazione:	Codice: SLCPU16V2TEX

## SLCPU16V2TEX

Scheda CPU Telemetria TEX  
SLCPU16V2TEX  
Rev.1.6 21/09/2010  
RVR  
A. Tommasi / A. Franceschi

Item	Q.ty	Reference	Part	Description	
1	5	C1,C2,C9,C12,C23	10uF	Cond. Elett. SMD d. 4mm	
2	24	C4,C5,C6,C7,C8,C10, C13,C14,C15,C16,C17,C18, C19,C20,C21,C22,C24,C25, C26,C27,C28,C29,C30,C31	0.1uF	Cond. SMD 0805	
3	1	C11	NC	Cond. Elett. SMD d. 4mm	
4	2	C32,C33	22pF	Cond. SMD 0805	
5	1	DZ1	NC	Diodi Zener SMD SOT23	
6	1	D1	LEDSM	LED SMD PLCC2	
7	2	D2,D3	5V1	MINIMELF SMD Zener Diode	
8	4	FIX1,FIX2,FIX3,FIX4	FIX35	Foro fissaggio	
9	4	JP1,JP2,JP3,JP5	STM16S	Strip maschio 16 pin	NOTA 1
10	2	JP4,JP6	STM18S	Strip maschio 18 pin	NOTA 1
11	2	JP9,JP7	CNT10MCS	Connettore 10 poli Flat cs a 90°	NOTA 3
12	1	Q1	BC857	Trans. PNP SOT23	
13	8	R2,R3,R4,R5,R6,R7,R8,R9	4K7	Res. SMD 0805	
13*	2	R58,R59	4K7*	Res. SMD 0805	NOTA 4
14	6	R10,R35,R36,R37,R38,R57	1K	Res. SMD 0805	
15	2	R12,R11	1H	Res. SMD 0805	
16	18	R13,R14,R15,R16,R17,R18, R19,R20,R23,R24,R25,R26, R27,R28,R29,R30,R33,R34	10K	Res. SMD 0805	
17	15	R21,R39,R40, R41,R42,R43,R44,R45,R46, R49,R51,R54,R55	NC	Res. SMD 0805	
18	1	R22	100H	Res. SMD 0805	
19	6	R31,R32,R47,R48,R50,R56	0H	Res. SMD 0805	
20	1	R52	1M	Res. SMD 0805	
21	1	R53	270H	Res. SMD 0805	
22	1	U1	AM29F800B	Flash Eprom SMD TSOP48	
23	1	U2	MB90F543	QFP100 SMD Microprocessor	
24	1	U3	M48T35AYSMD	RAM+RTC with Battery SMD	NOTA 2
25	1	U4	NC	IIC Bus controller SMD	
26	1	U5	MB84256C SMD	RAM+RTC with Battery SMD	
27	2	U6,U8	74HC573SMD	Octal Latch SMD	
28	1	U7	25C640	Serial EEPROM SMD	
29	1	U9	74HC138SMD	8 line decoder SMD	
30	1	U10	7406SMD	Hex inv OC SMD SO14	
31	1	U11	MAX202ESMD	RS232 Driver SMD SO16	
32	1	U12	MAX485SO	RS485 driver SMD SO8	
33	1	U13	74HC04/SO	Hex Inv. SMD SO14	
34	1	U14	TPS3809I50	Montare in R1-C3	
35	10	VAR1,VAR2,VAR3,VAR4,VAR5, VAR6,VAR7,VAR8,VAR9, VAR10	V18MLE0805	ESD SMD protector 0805	
36	1	X1	NC	Osc. quarzo SMD	
37	1	X2	8MHz	Quarzo SMD HC49SMD	
38	1	X3	NC	Quarzo HC18	

**NOTA 1** Montati lato 'saldature'

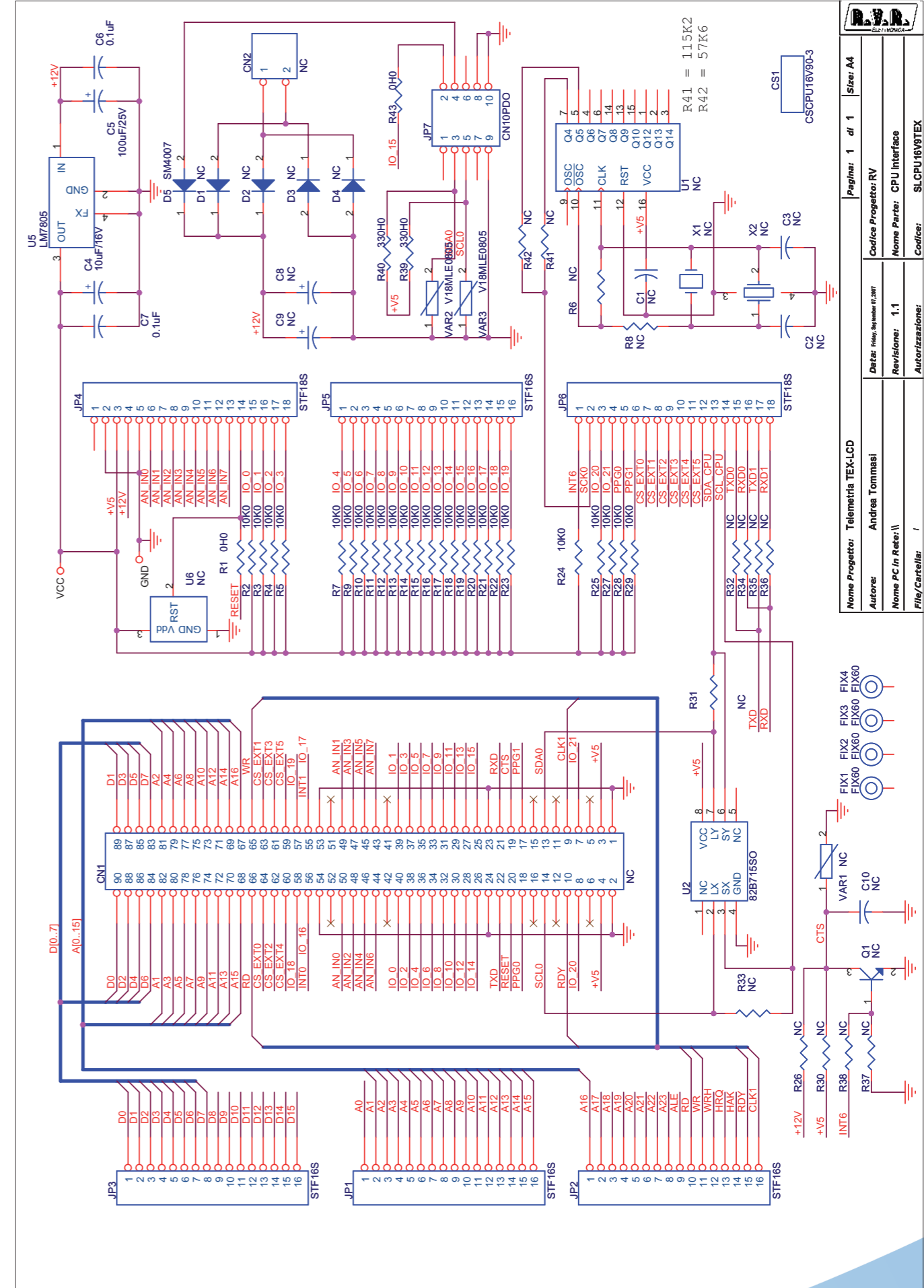
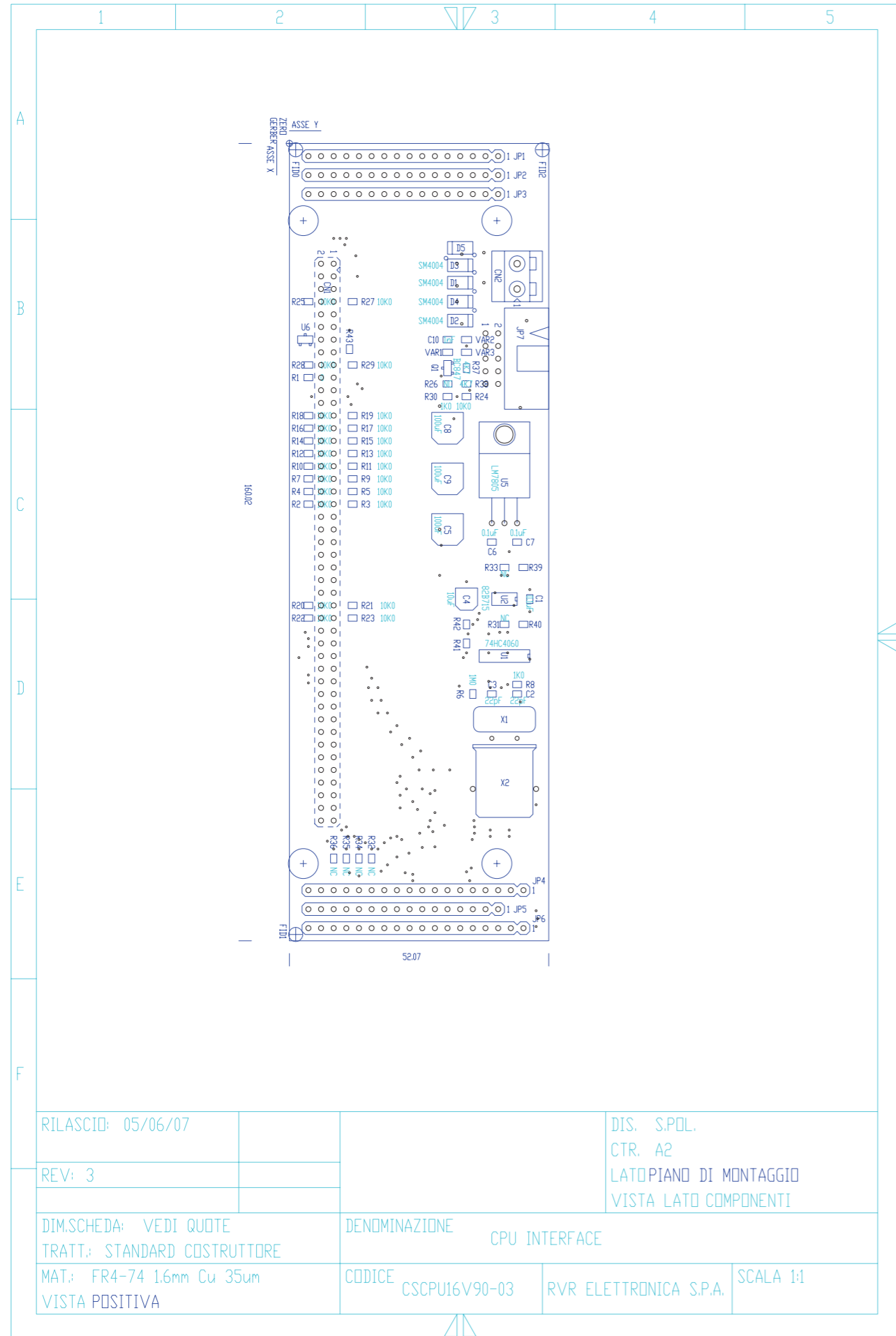
**NOTA 2** La batteria la inseriamo in RVR fornirla a corredo.

**NOTA 3** Montare MASCON 10X2

**NOTA 4** Montare a mano, vedi file istruzioni "20090624-ModRS485 (R58,R59).pdf"



**SLCPU16V9TEX**



RILASCIÒ: 05/06/07	DIS. S.POL. CTR. A2 LATOPIANO DI MONTAGGIO VISTA LATO COMPONENTI	
REV: 3		
DIM.SCHEDA: VEDI QUOTE TRATT.: STANDARD COSTRUTTORE	DENOMINAZIONE CPU INTERFACE	
MAT.: FR4-74 1.6mm Cu 35um VISTA POSITIVA	CODICE CSCPU16V90-03	RVR ELETTRONICA S.P.A. SCALA 1:1

Nome Progettista: Telemetria TEX-LCD		Pagina: 1 di 1		Size: A4
Autore: Andrea Tommasi		Codice Progettista: RV		
Nome PC In Rete: \\		Revisione: 1.1		
File/Cartella: /		Autorizzazione:		
		Nome Parte: CPU Interface		
		Codice: SLCPU16V90-03		
		Data: 19/06/2007		

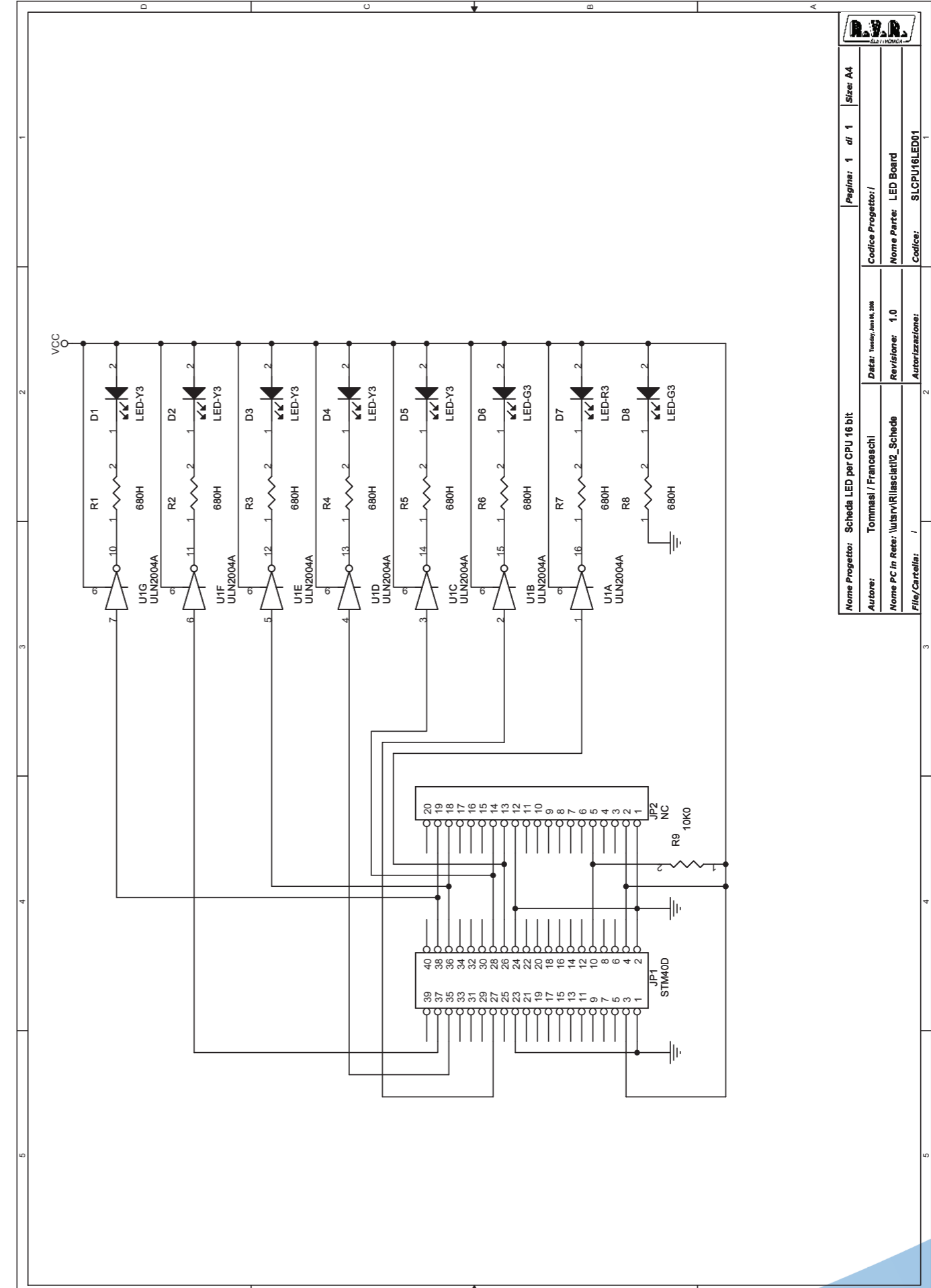
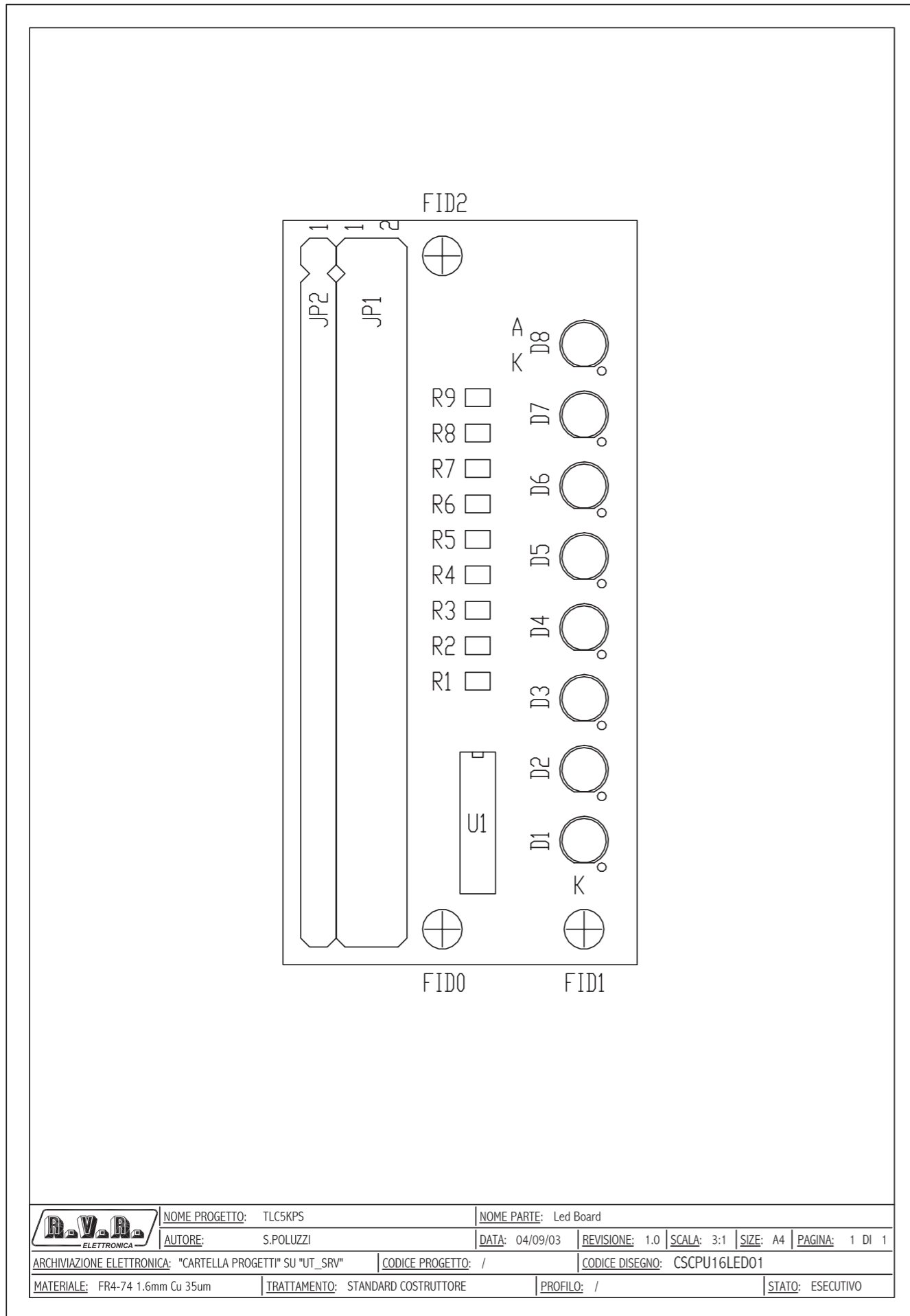
## SLCPU16V9TEX

CPU Interface Revised: Wednesday, June 11, 2007  
 SLCPU16V9TEX Revision: 1.1  
 Telemetria TEX-LCD

Item	Quantity	Reference	Part	Description	Code	
	1	CN1	NC	Strip maschio 45+45 pin		
	2	CN2	NC	Conn. tipo KRA a 2 poli		
	3	CS1	CSCPU16V90-3	Circuito stampato	CSCPU16V90-3	
	4	C1,C2,C3,C10	NC	Cond. SMD 0805		
	5	C4	10uF/16V	Cond. Elett. SMD d. 4mm	CES106A160	
	6	C5	100uF/25V	Cond. Elett. SMD d. 6.3mm	CES107E250	
	7	C6,C7	0.1uF	Cond. SMD 0805	CCC085104KXC	
	8	D1,D2,D3,D4	NC	MELF SMD Diode		
	9	D5	SM4007	MELF SMD Diode	DIS4007SMA	
	10	FIX1,FIX2,FIX3,FIX4	FIX60	Foro fissaggio 6mm		
	11	JP1,JP2,JP3,JP5	STF16S	Strip femmina 16 pin	CNTSTF16SDB	<b>Nota 1</b>
	12	JP4,JP6	STF18S	Strip femmina 18 pin	CNTSTF18SDB	<b>Nota 1</b>
	13	JP7	CN10PDO	Connettore 10 poli Flat cs a 90°	CNTMCS10AA	
	14	Q1	NC	Trans. NPN SOT23		
	15	R1,R43	0H0	Res. SMD 0805	RCH085F0000H	
	16	R2,R3,R4,R5,R7,R9,R10, R11,R12,R13,R14,R15,R16, R17,R18,R19,R20,R21,R22, R23,R24,R25,R27,R28,R29	10K0	Res. SMD 0805	RCH085F0010K	
	17	R6,R8,R26,R30,R31,R32, R33,R34,R35,R36,R37,R38, R41,R42	NC	Res. SMD 0805		
	18	R39,R40	330H0	Res. SMD 0805	RCH085F0330H	
	19	U1	NC	Divider SMD SO16		
	20	U2	82B715SO	IIC Bus driver SMD SO8	CID82B715S	
	21	U5	LM7805	Stabilizzatore TO220	CIL7805P	
	22	U6	NC	uP supply supervisor		
	23	VAR1	NC	ESD SMD protector		
	24	VAR2,VAR3	V18MLE0805	ESD SMD protector	MOV018V085	
	25	X1	NC	Quarzo SMD HC49SMD		
	26	X2	NC	Quarzo HC25 orizz.		

**Nota 1** Montate lato componenti

SLCPU16LED01



<b>R.V.R.</b> ELETTRONICA	
Nome Progetto: Scheda LED per CPU 16 bit	Pagina: 1 di 1 Size: A4
Autore: Tommasi / Franceschi	Codice Progetto: /
Nome PC in Rete: \utervir\laclat12_Scheda	Nome Parte: LED Board
File/Carrella: /	Revisione: 1.0
	Autorizzazione: /
	Codice: SLCPU16LED01
	Data: Tuesday, June 16, 2009

<b>R.V.R.</b> ELETTRONICA	NOME PROGETTO: TLC5KPS	NOME PARTE: Led Board
AUTORE: S.POLUZZI	DATA: 04/09/03	REVISIONE: 1.0
ARCHIVIAZIONE ELETTRONICA: "CARTELLA PROGETTI" SU "UT_SRV"	CODICE PROGETTO: /	SCALA: 3:1
MATERIALE: FR4-74 1.6mm Cu 35um	TRATTAMENTO: STANDARD COSTRUTTORE	PROFILO: /
		STATO: ESECUTIVO

## SLCPU16LED01

Scheda LED Revised: Friday, September 05, 2003

SLCPU16LED01 Revision: 1.0

Scheda LED per CPU 16 bit

RVR

Tommasi / Franceschi

Item	Quantity	Reference	Part	Description
1	5	D1,D2,D3,D4,D5	LED-Y3	LED Giallo dia. 3mm
2	2	D6,D8	LED-G3	LED Verde dia. 3mm
3	1	D7	LED-R3	LED Rosso dia. 3mm
4	1	JP1	STM40D	Strip maschio 20+20 pin
5	1	JP2	NC	Strip maschio 20 pin
6	8	R1,R2,R3,R4,R5,R6,R7,R8	680H	Res. SMD 0805
7	1	R9	10K0	Res. SMD 0805
8	1	U1	ULN2004A	Seven Inv. Buffer OC SMD