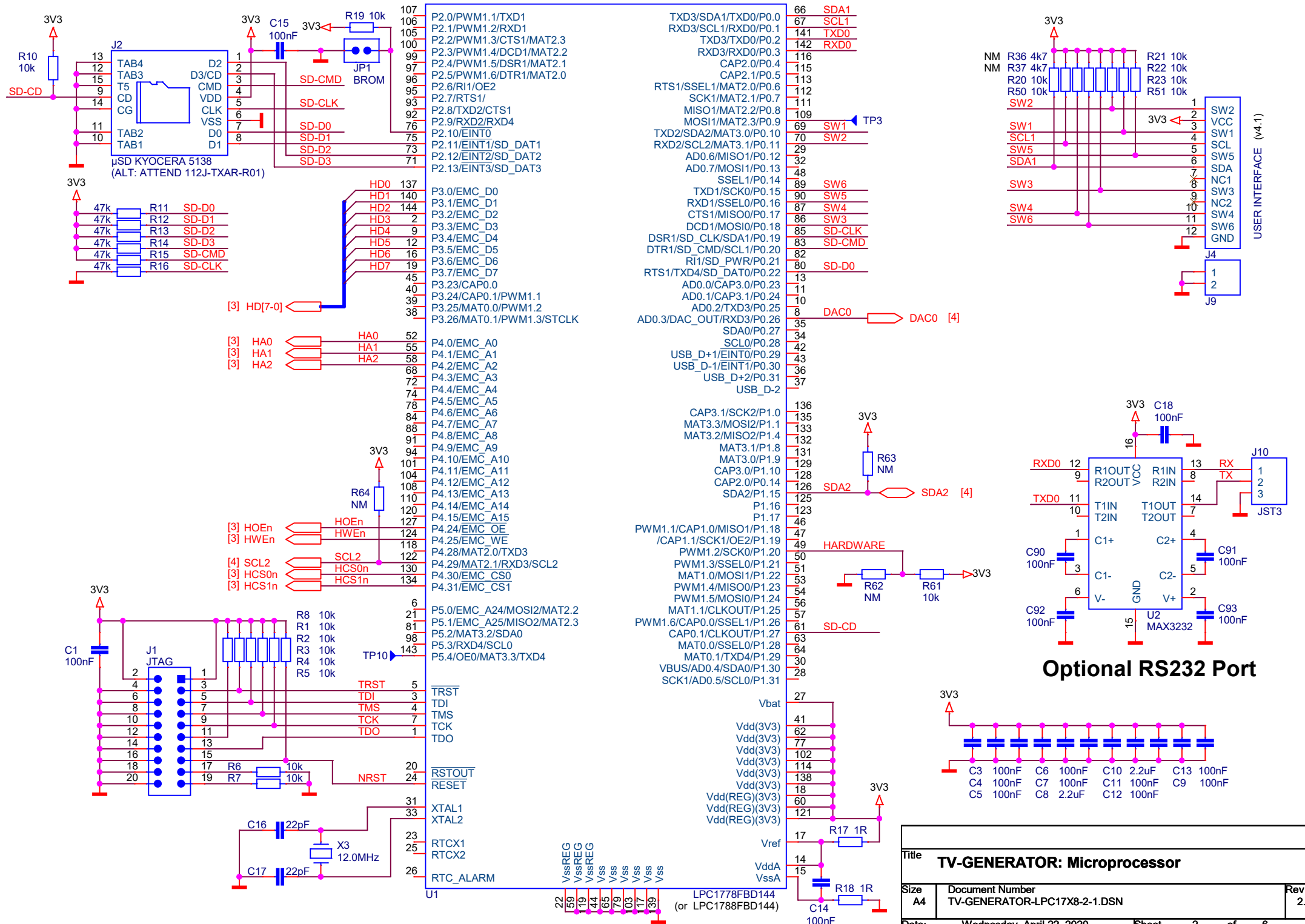


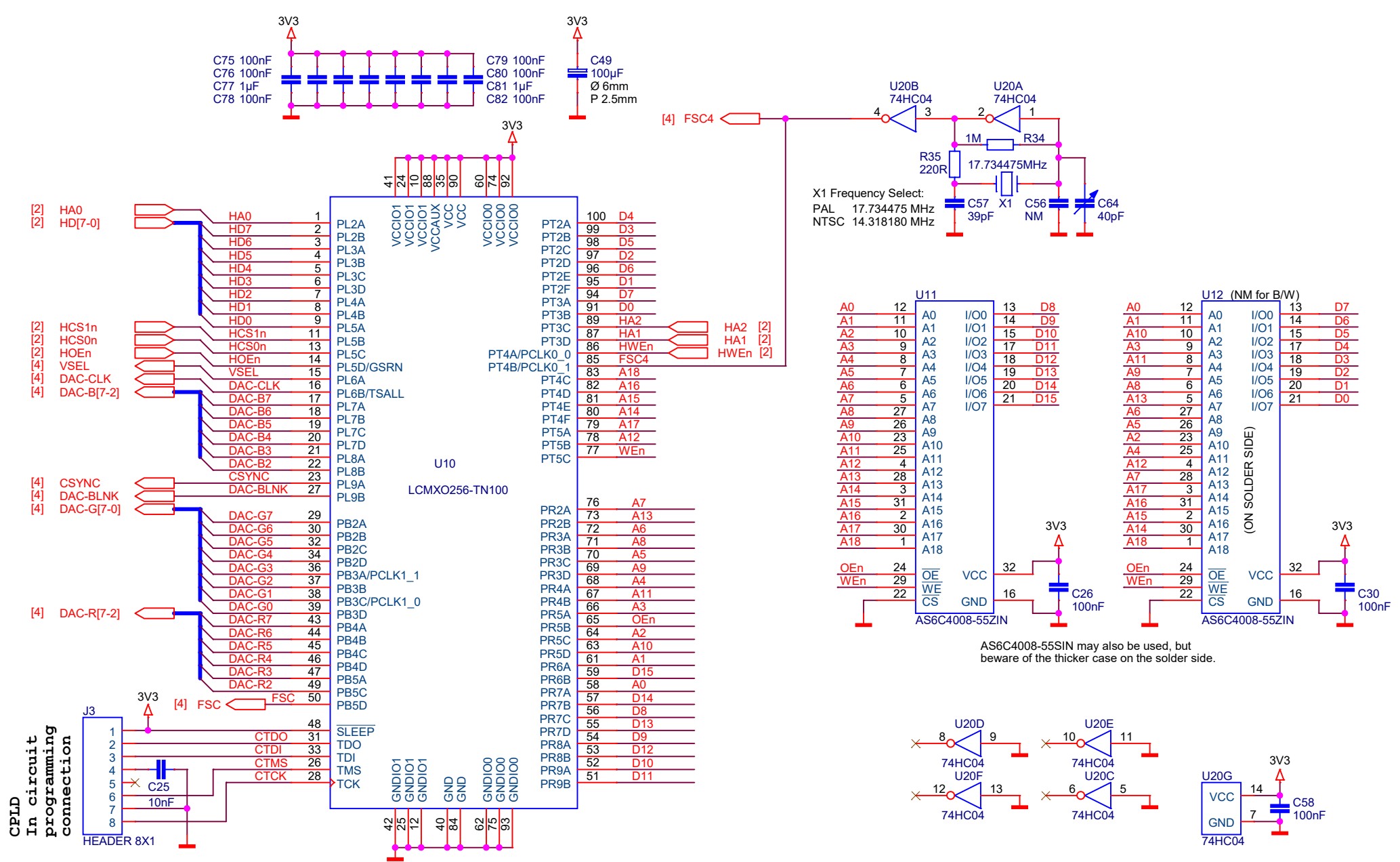
Power Option	T1	Pin3	Pin4	C31,C32	SW1	J5	J6	C20	C21	C22	C23	D1	C31,C32	U9	R9	U5
Normal Transformer	6V/2.8VA/EI30	AC2	AC1	4.7n	SW	AC	NM	22n	22n	22n	22n	Rect.	100n	Reg	NM	78M33
Electronic Transformer	Myrra 47122	+5V	0V	4.7n	NM	AC	NM	Wire	NM	Wire	NM	NM	NM	NM	0R	LDO
DC 7.8 Volts	NM	n.a.	n.a.	n.a.	NM	NM	JST3	NM	NM	NM	NM	NM	100n	Reg	NM	78M33
DC 5 Volts	NM	n.a.	n.a.	NM	NM	NM	JST3	NM	NM	NM	NM	NM	NM	NM	0R	LDO

Title		
<b>TV-GENERATOR: Block Diagram &amp; Power Supply</b>		
Size	Document Number	Rev
A4	TV-GENERATOR-LPC17X8-2-1.DSN	2.1
Date:	Friday, August 14, 2020	Sheet 1 of 6



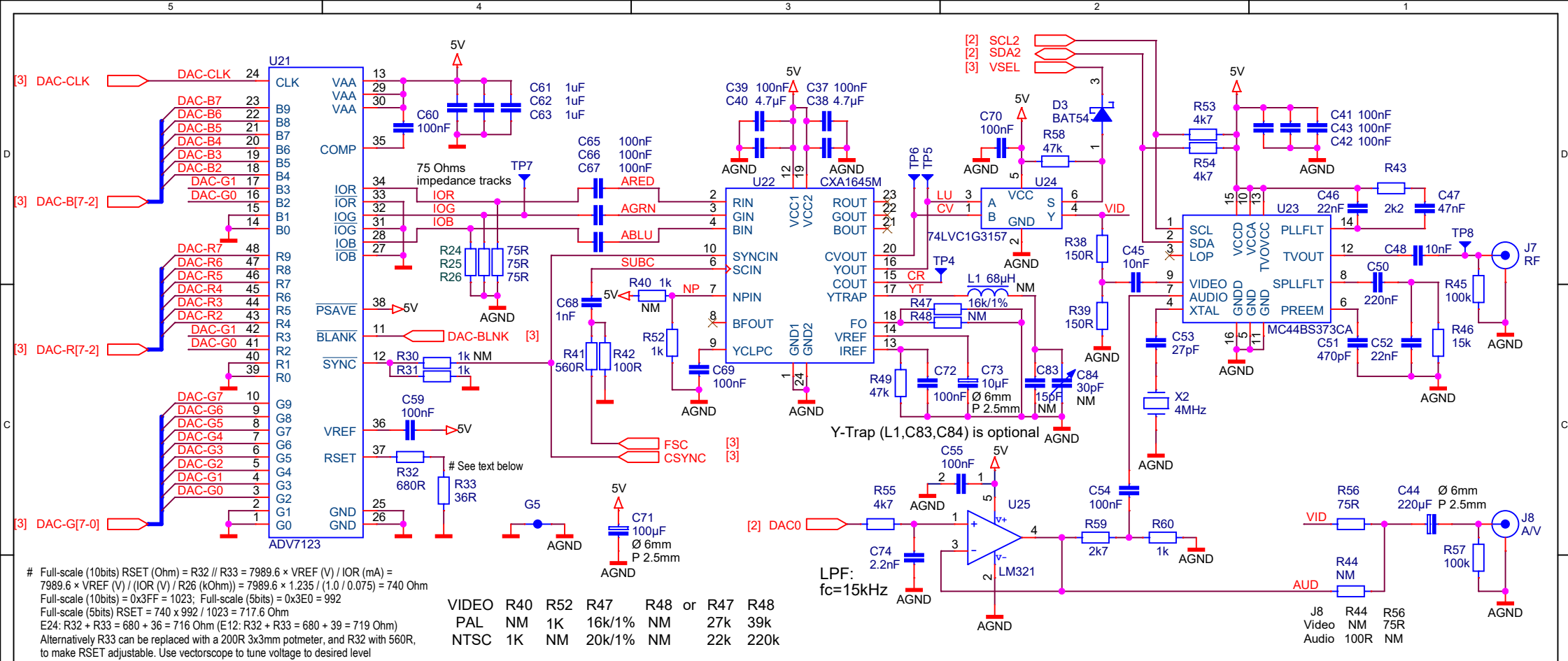
### Optional RS232 Port

Title <b>TV-GENERATOR: Microprocessor</b>		
Size A4	Document Number TV-GENERATOR-LPC17X8-2-1.DSN	Rev 2.1
Date: Wednesday, April 22, 2020	Sheet 2 of 6	



AS6C4008-55SIN may also be used, but beware of the thicker case on the solder side.

Title		
TV-GENERATOR: CPLD + Frame Buffer		
Size	Document Number	Rev
A4	TV-GENERATOR-LPC17X8-2-1.DSN	2.1
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### Alternative PAL encoder:

Instead of a CXA1645M, an AD724 or an AD725 can be used.

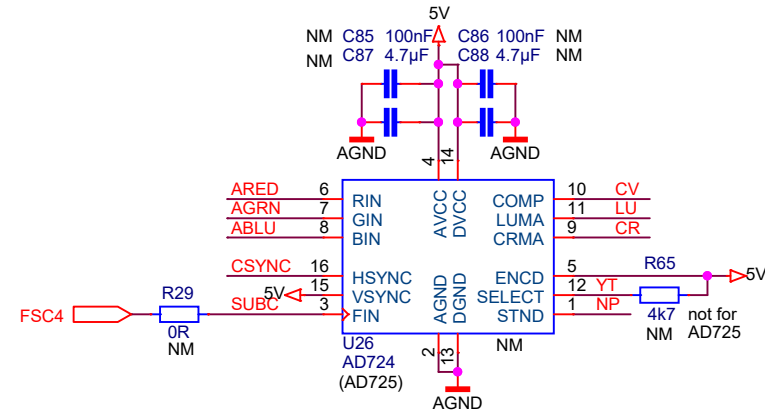
Do not place: U22, C37, C38, C39, C40, C68, C69, C72, C73, R47, R49, R41, R42

Place: U26, C85, C86, C87, C88, R29, R65\*

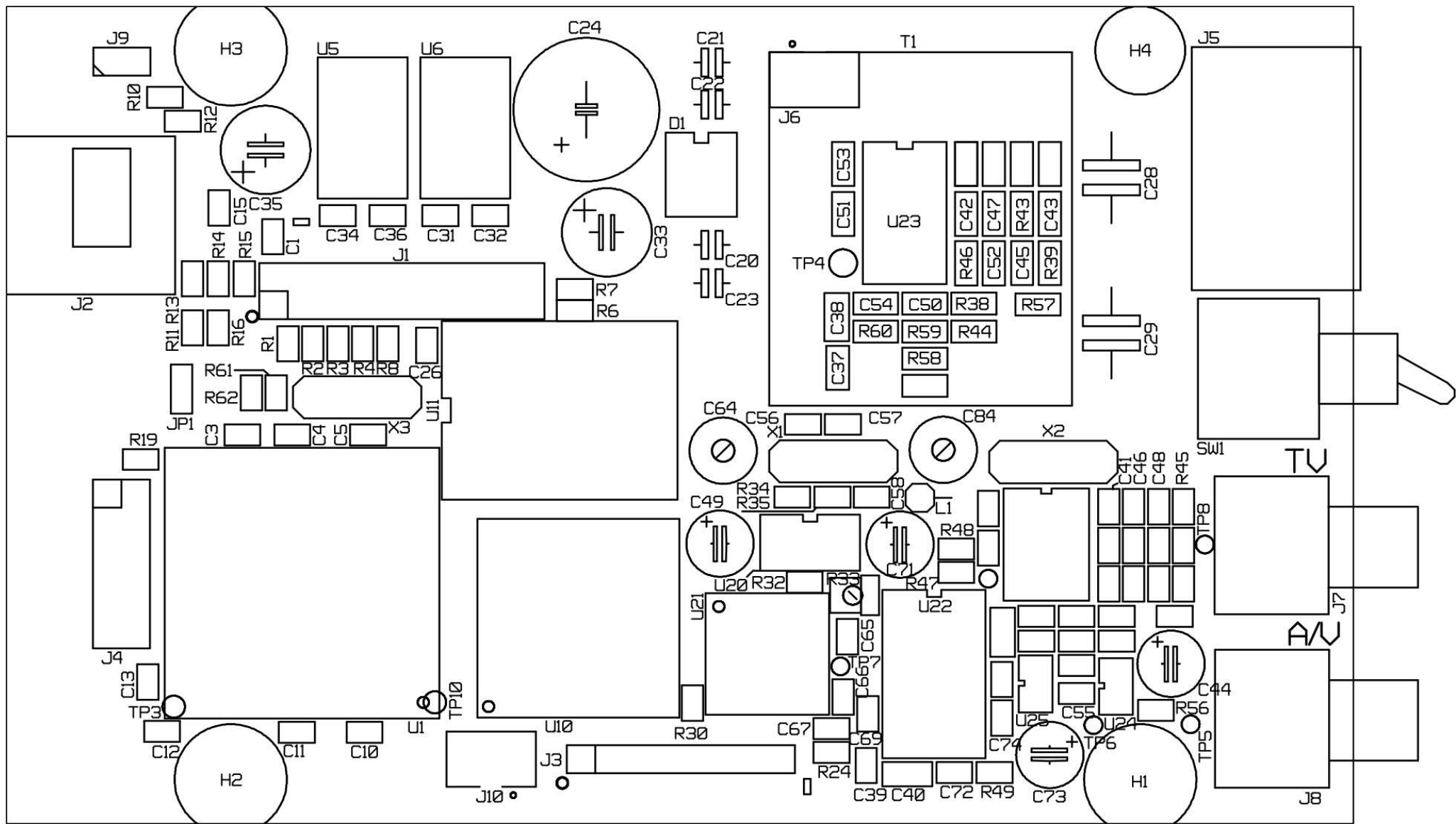
\*Note1: place R65 only when using AD724

\*Note2: optional Y trap only available when using AD725

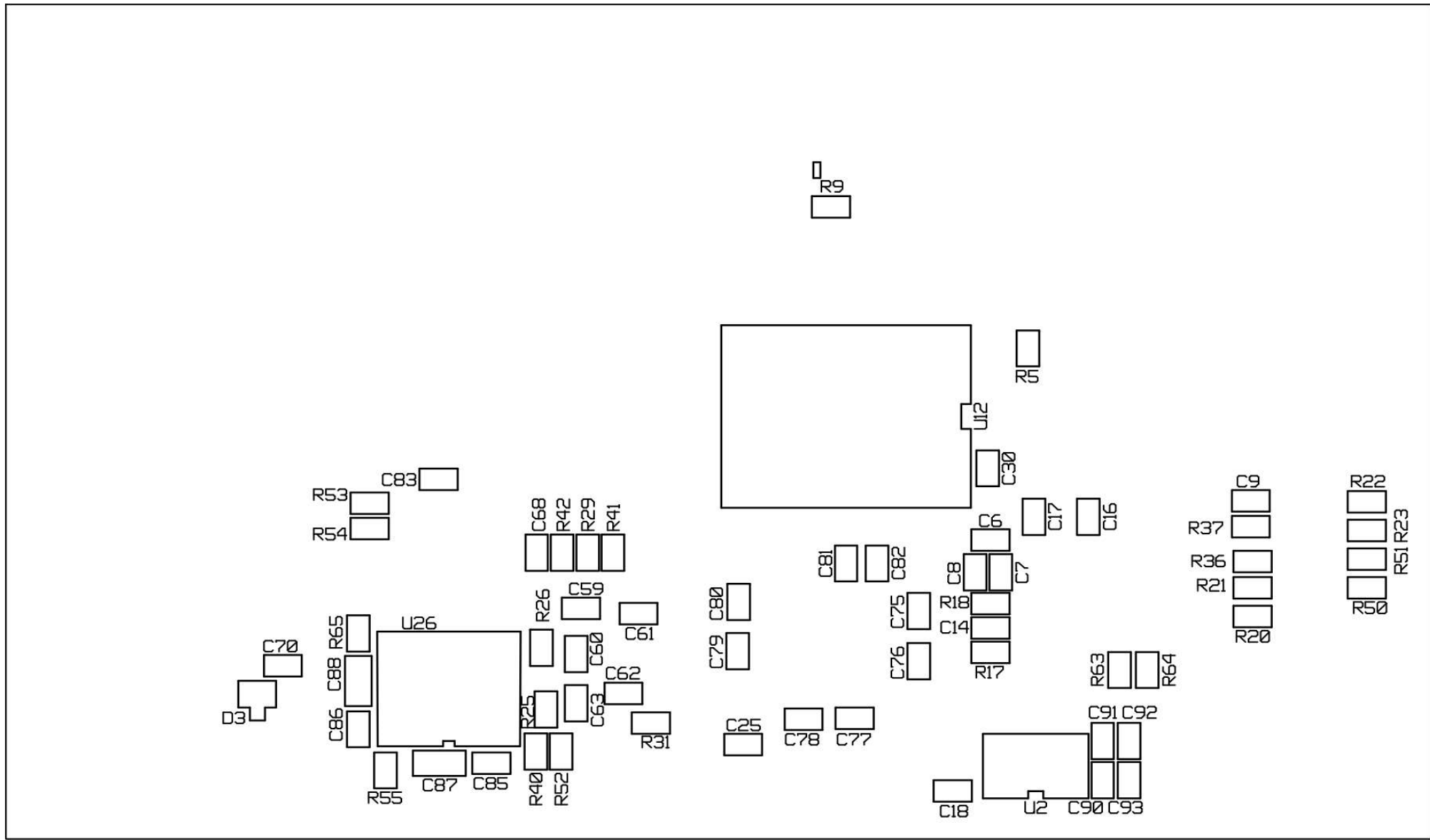
# Full-scale (10 bits): RSET (Ohm) =  $R32 // R33 = 7989.6 \times VREF (V) / IOR (mA) = 7989.6 \times VREF (V) / (IOR (V) / R26 (kOhm)) = 7989.6 \times 1.235 / (0.714 / 0.075) = 1036.5 \text{ Ohm}$   
 Correction for 5 bits  $992/1023 = 1005 \text{ Ohm}$   
 E24:  $R32 + R33 = 1000 + 5.1 = 1005.1 \text{ Ohm}$  (E12:  $R32 + R33 = 1000 + 4.7 = 1004.7 \text{ Ohm}$ )  
 Alternatively R33 can be replaced with a 500R 3x3mm potmeter, and R32 with 820R, to make RSET adjustable. Use vectorscope to tune voltage to desired level



Title		
TV-GENERATOR: Audio, Video, Power Supply		
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A4	TV-GENERATOR-LPC17X8-2-1.DSN	2.1
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Title		
<b>TV-GENERATOR: PCB</b>		
Size	Document Number	Rev
A4	TV-GENERATOR-LPC17X8-2-1.DSN	2.1
Date:	Thursday, May 14, 2020	Sheet 5 of 6



Title		
<b>TV-GENERATOR: PCB</b>		
Size	Document Number	Rev
A4	TV-GENERATOR-LPC17X8-2-1.DSN	2.1
Date:	Thursday, May 14, 2020	Sheet 6 of 6