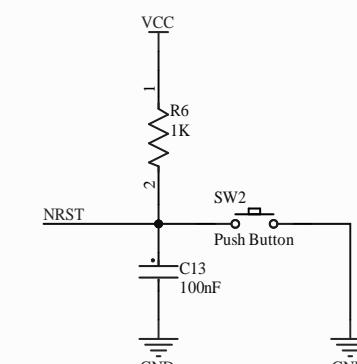
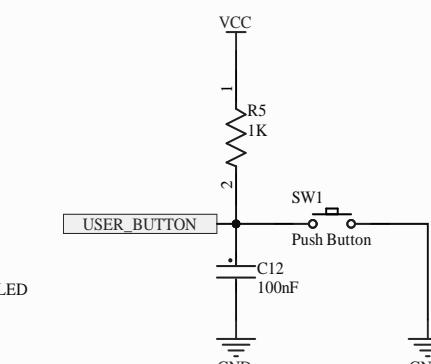
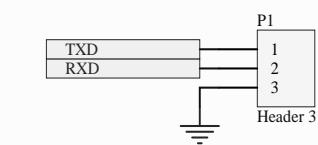
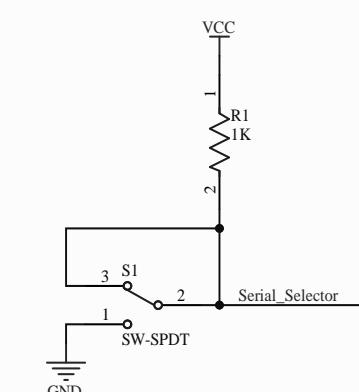
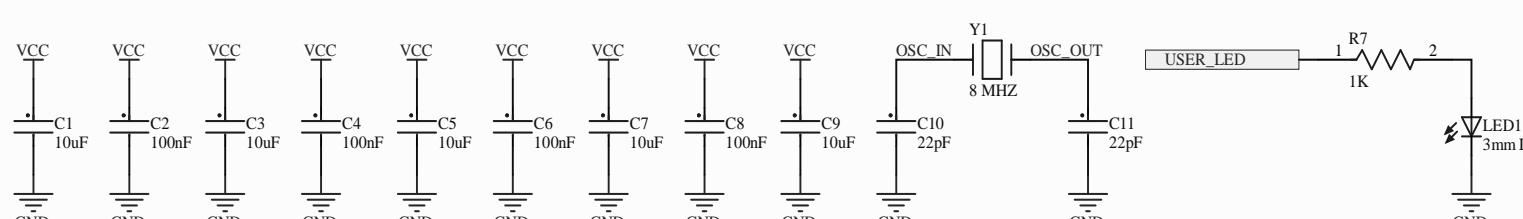
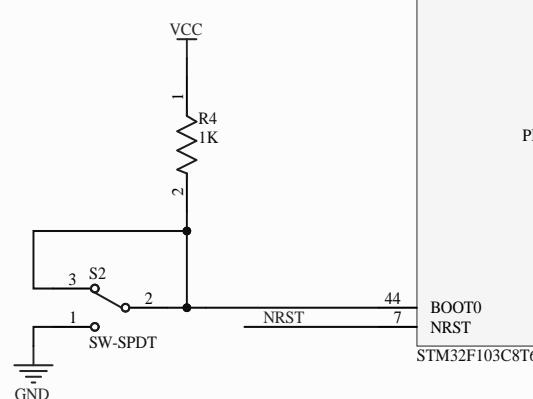
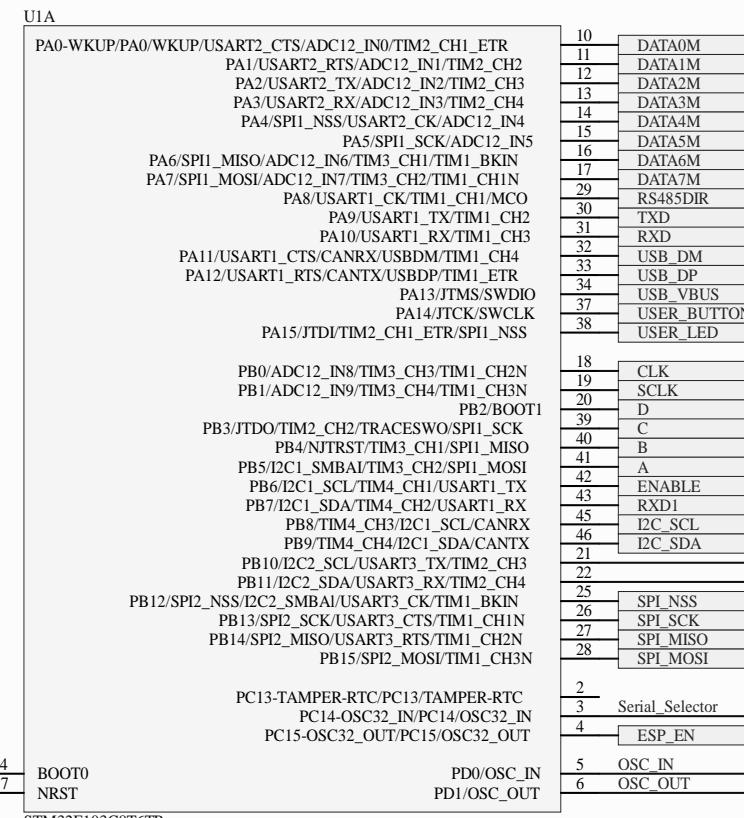
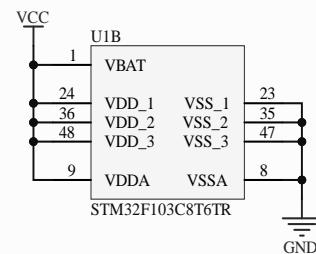
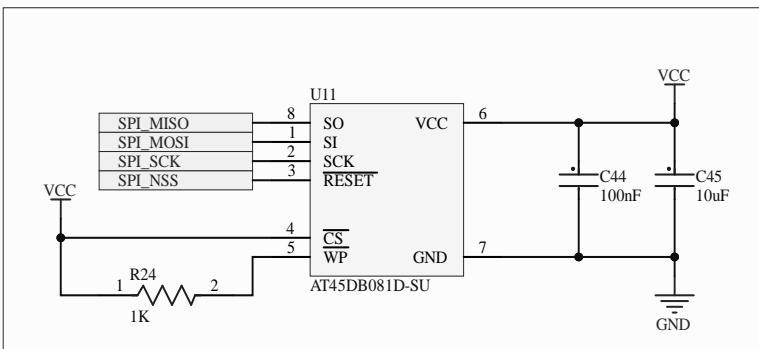


Microprocessor Unit

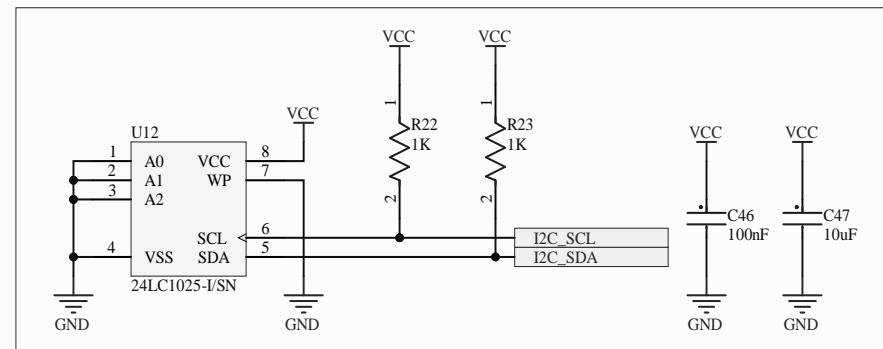


Flash/EEPROM Memory

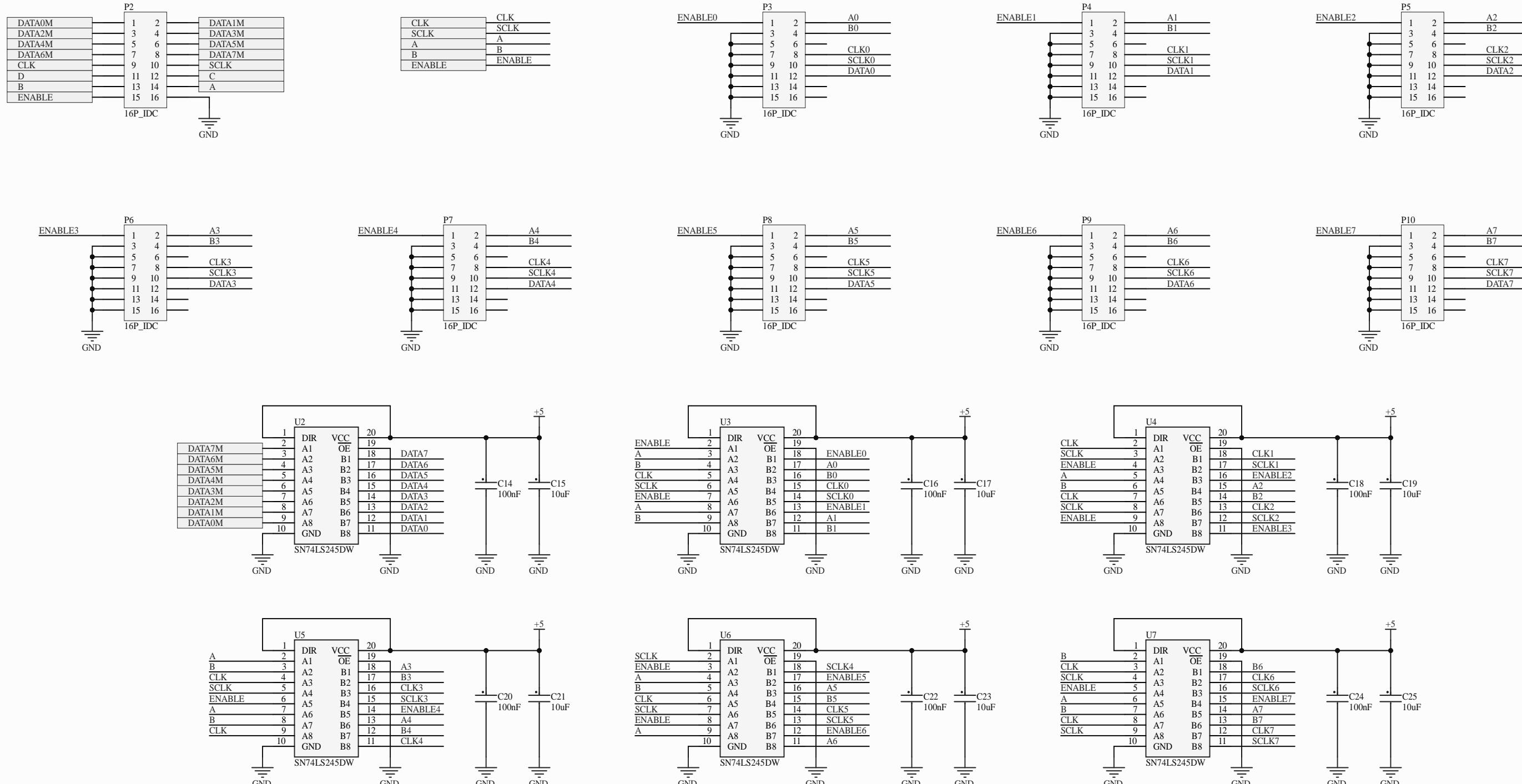
DATA Flash Memory



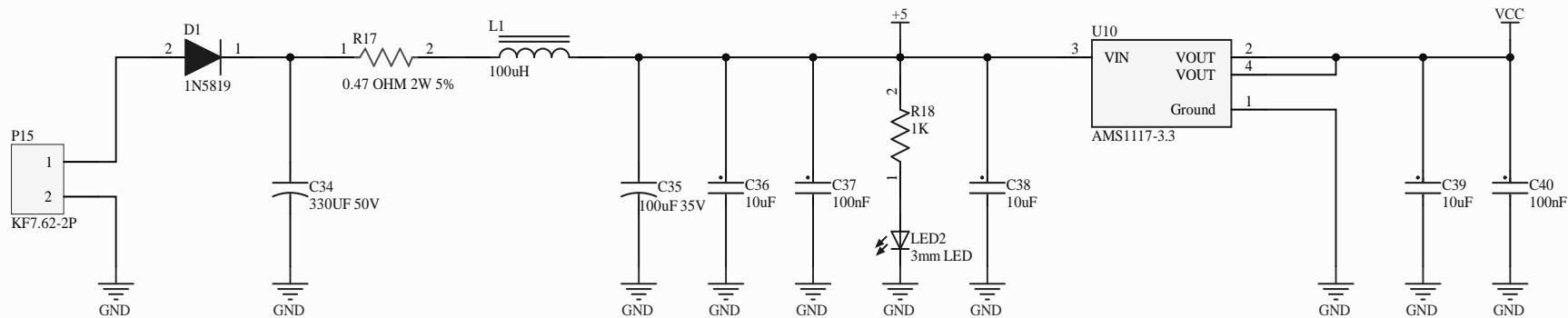
EEPROM Memory



DMD Output Interface



Power Management



Project Name: **DMD_Card.PjrPcb**

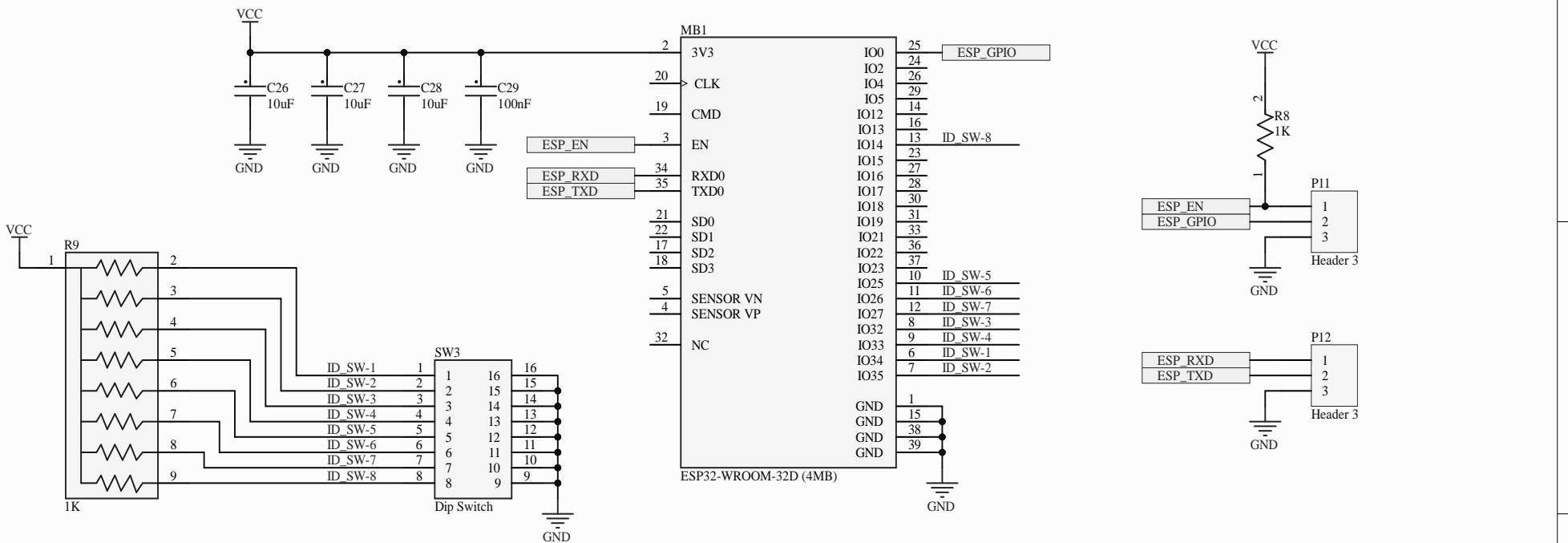
Size: A4	Doc Num: 4	Version: V-2.0
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Date: 4/5/2021	Time: 11:50:44 PM	Sheet 4 of 8
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File: Power_Management.SchDoc	Drawn by: Hanif
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AFRA TECHNOLOGY

WiFi Interface



Project Name: **DMD_Card.PjPcb**

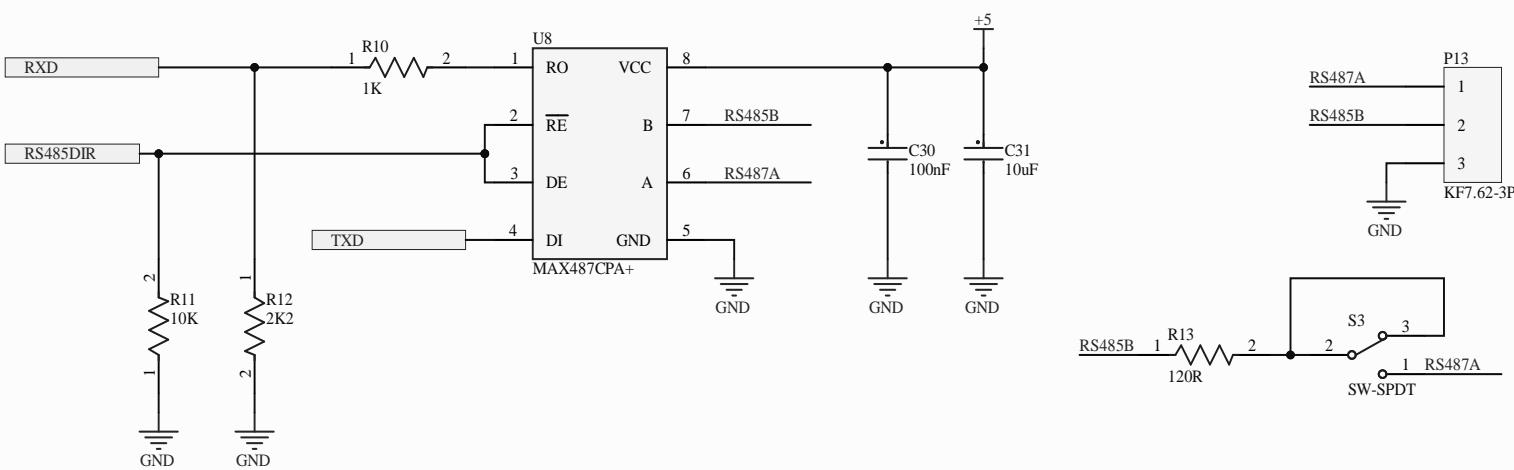
Size: A4 Doc Num: 5 Version: V-2.0

Date: 4/5/2021 Time: 11:50:44 PM Sheet 5 of 8

File: WiFi_Interface.SchDoc

AFRA TECHNOLOGY

Rs485 Interface



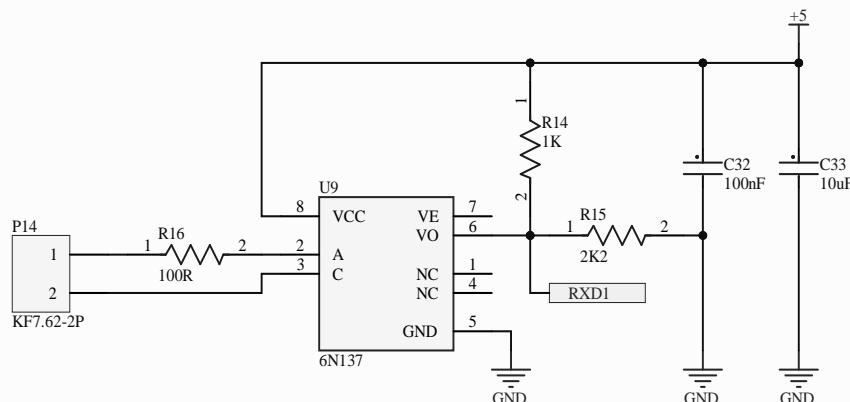
A

A

Rs232 Interface

B

B



C

C

D

D

Project Name: **DMD_Card.PrbPcb**

Size: A4	Doc Num: 7	Version: V-2.0
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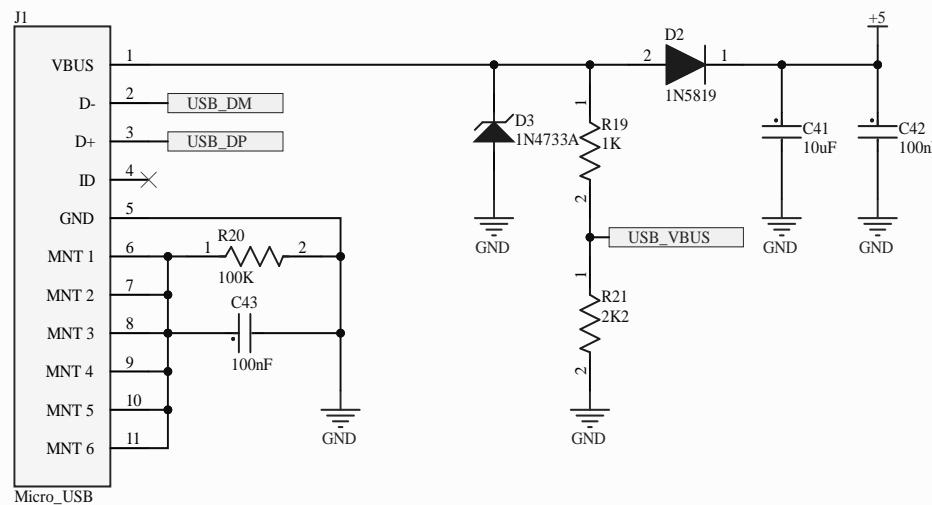
Date: 4/5/2021	Time: 11:50:44 PM	Sheet 7 of 8
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File: Rs232_Interface.SchDoc



Drawn by: Hanif

USB Interface



A

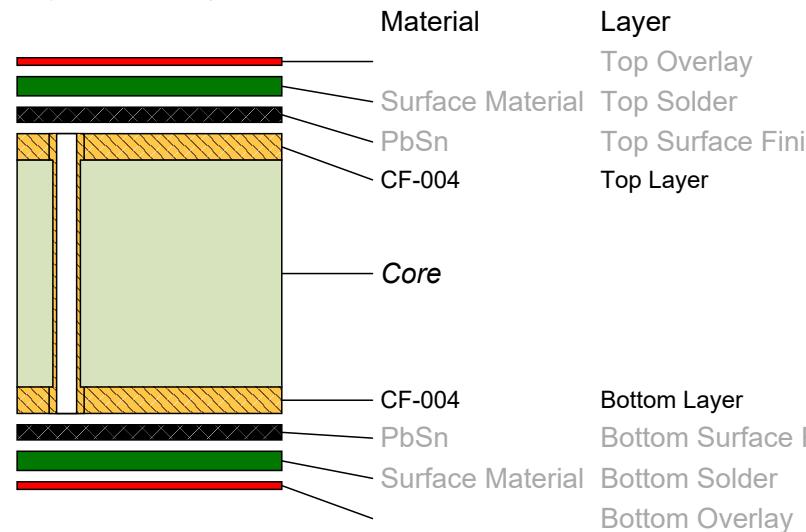
B

C

1

E

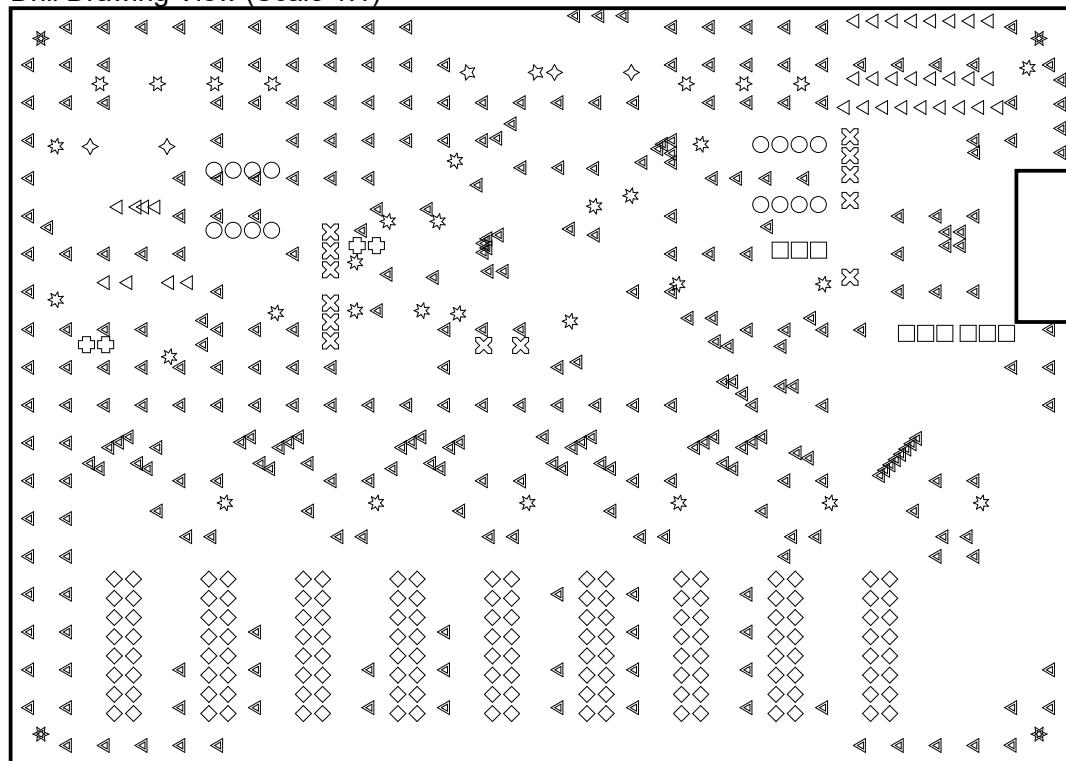
Layer Stack Legend



Total thickness: 1.60mm

Thickness	Dielectric Material	Type	Gerber
0.03mm	SM-001	Legend	GTO
0.02mm		Solder Mask	GTS
0.04mm		Surface Finish	
1.44mm	Core-043	Signal	GTL
		<i>Dielectric</i>	
0.04mm		Signal	GBL
0.02mm		Surface Finish	
0.03mm	SM-001	Solder Mask	GBS
		Legend	GBO

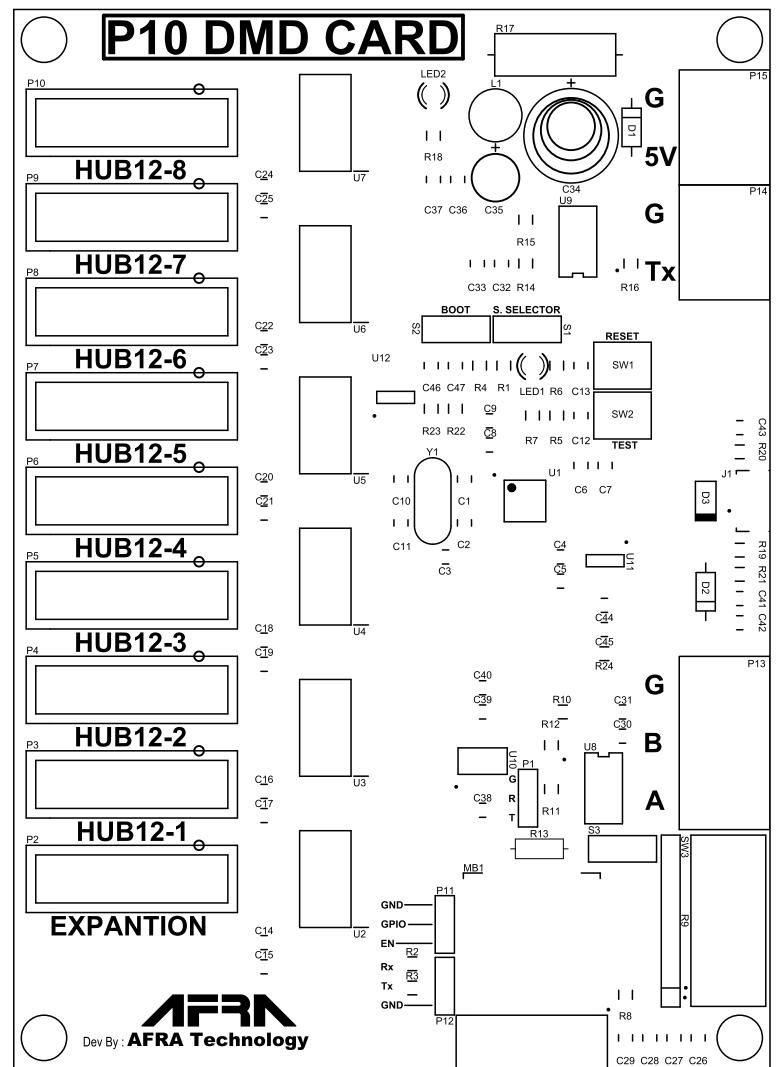
Drill Drawing View (Scale 1:1)



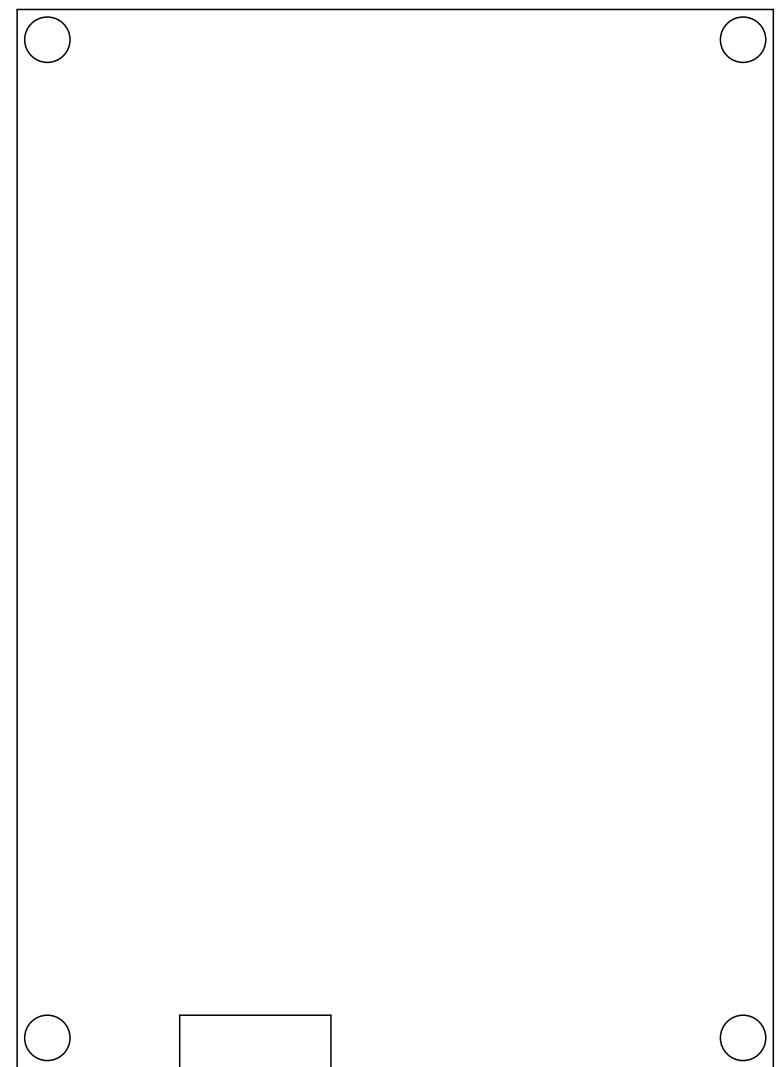
Drill Table

Symbol	Count	Hole Size	Plated	Hole Tolerance
▲	340	0.25mm	Plated	
★	24	0.50mm	Plated	
⊗	13	0.76mm	Plated	
△	33	0.80mm	Plated	
✚	4	0.81mm	Plated	
○	16	0.85mm	Plated	
□	9	0.90mm	Plated	
◇	144	1.02mm	Plated	
◆	4	1.05mm	Plated	
☆	2	1.15mm	Plated	
⊗	7	1.50mm	Plated	
※	4	3.20mm	Plated	
600 Total				

A B C D E
1
Top Overlay (Scale 1:1)

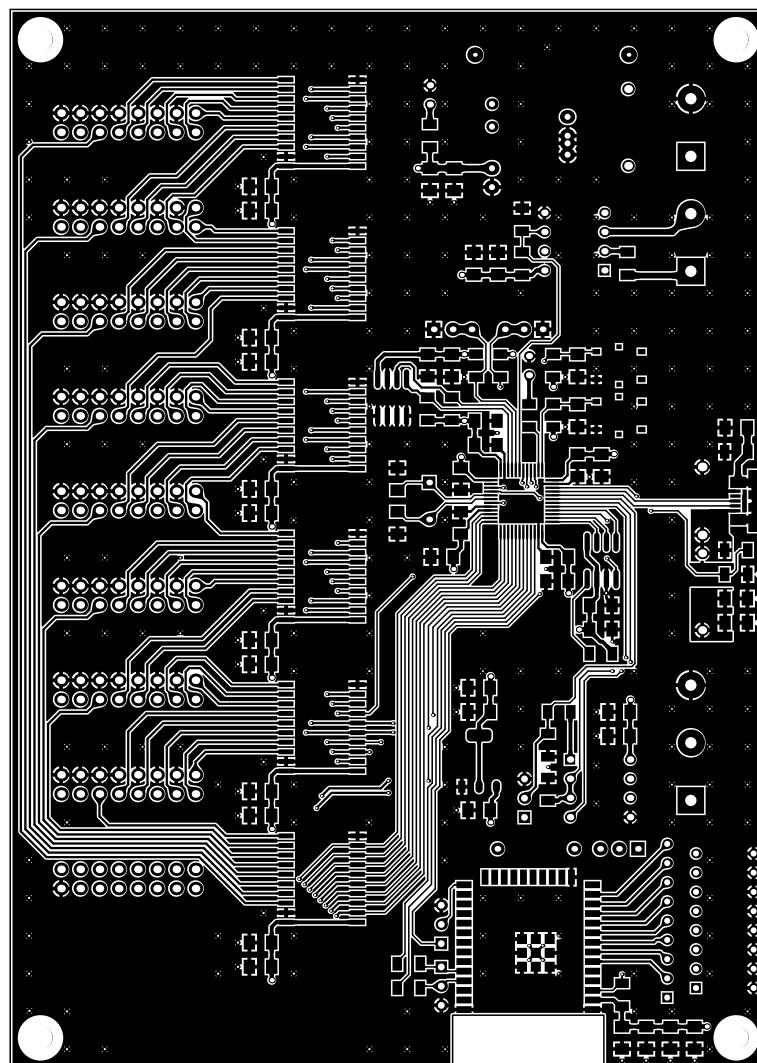


A B C D E
1
Bottom Overlay (Scale 1:1)

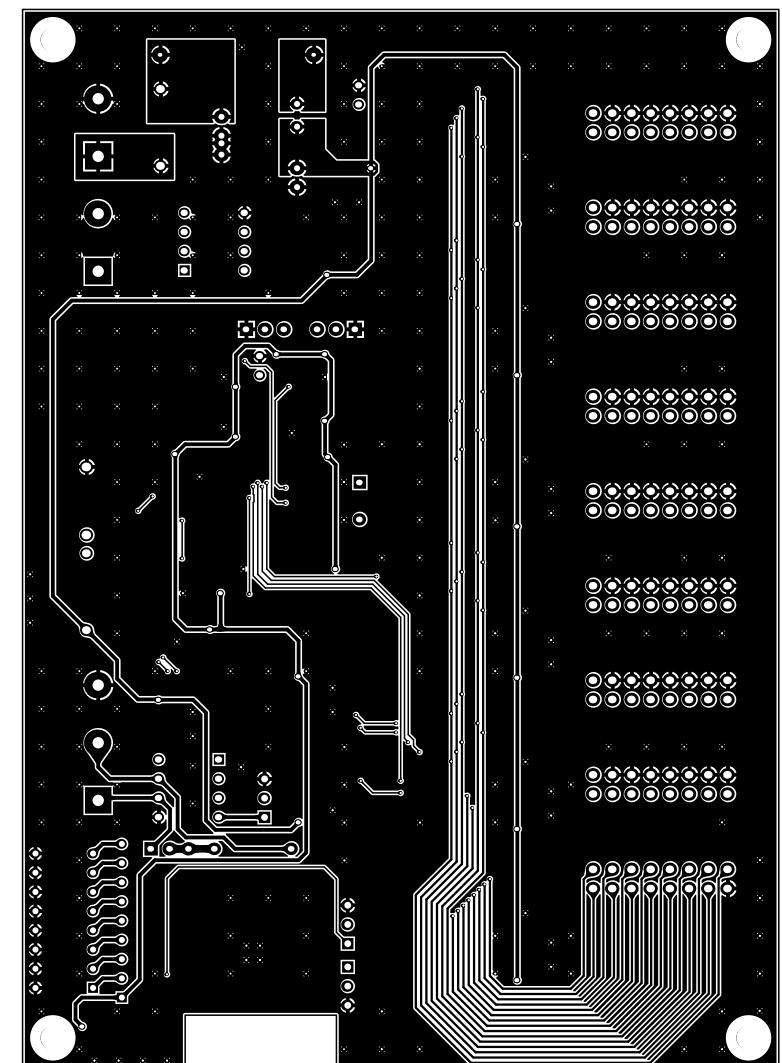


A B C D E

Top Layer (Scale 1:1)



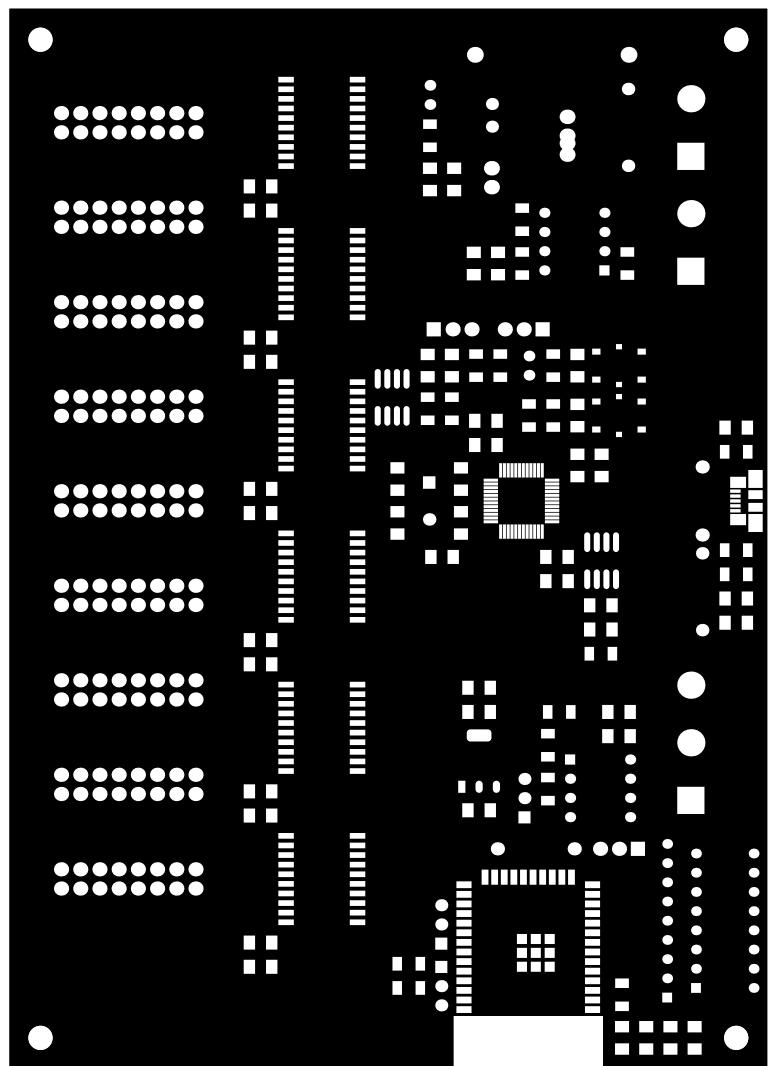
Bottom Layer (Scale 1:1)



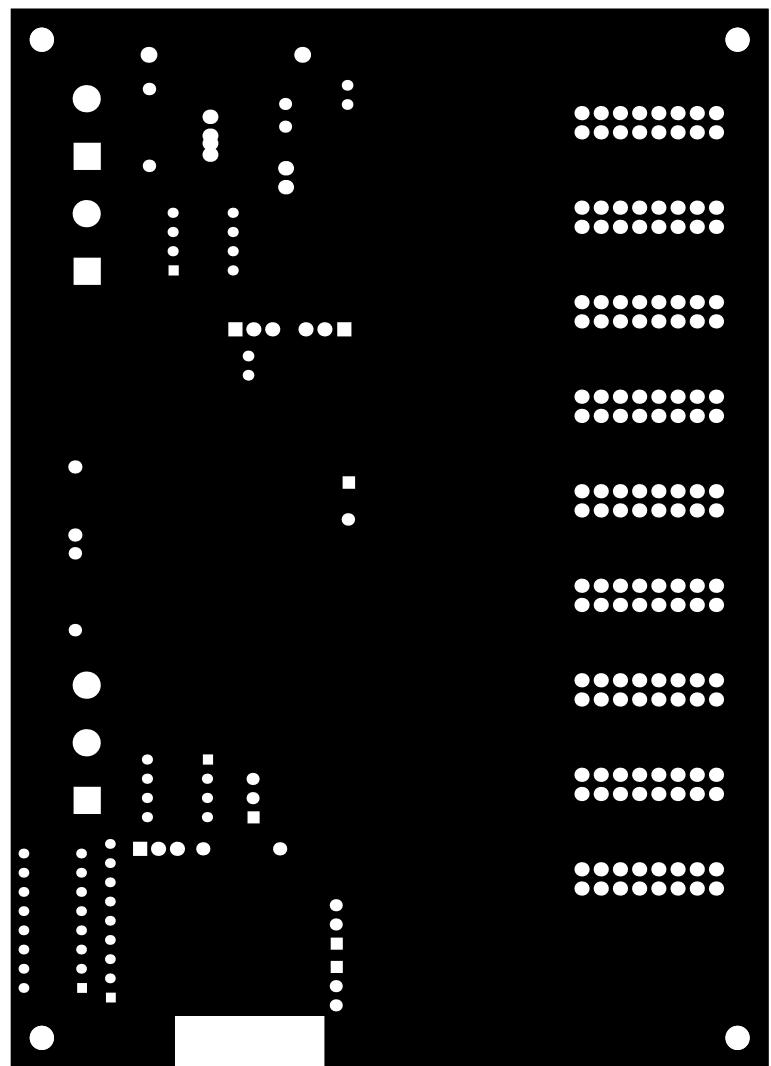
A B C D E

A B C D E

Top Solder (Scale 1:1)



Bottom Solder (Scale 1:1)



A B C D E

Component	Description	Orientation	Supplier	Q'ty	Quality
CAP-0.01UF 10V 0805 100nF 10V Ceramic Capacitor KOR1206 D216 Alumina	C13, C15, C17, C19 C21, C25, C26, C27 C28, C29, C41, C45, C47	Samsung_G31_IPC_A J31A10KQHNNWAE J30E	22		
CAP-0.01UF 50V KTR1206 10% 50V Ceramic Capacitor KTR1206 D216 Metallized	C13, C14, C16, C18, C20, C22, C24, C25, C26, C27, C41, C45, C46, C48, C49, C46	Samsung_G31_IPC_A J31B10K0BNFNFC J30E	21		
CAP-0.022UF 10V 0805 220nF 10V 1000V (W) Ceramic Capacitor COG, NP0 (2000 Hrs @ 100°C)	C30, C31	Samsung_G31_IPC_A J30E	2		
Aluminum Electrolytic Capacitor Radial Cap. - 10000Hrs @ 100°C	C34	Multic_UF_SV Multi_UF_Capacitors	1		
Aluminum Electrolytic Capacitors Radial, Cap. - 10000Hrs @ 100°C	C35	Electrolytic Capacitors_A,3 mm Diameter	1		
Rectifier - PIn Bridge Rectifier, Area, Tape and Reel	D1, D2	DiODE-41	ThosB19LG	2	
Zener Diode, 5.1V, 5.1V, 1W, 1000Hrs Avg. 2.7m DO-41, Body 2.7x 5.2x1,	D3	Zener Diode - 4.1-2.7V	Th4733A	1	
CONN_RCFP_USB2.0 MACH3_B_SMD_EA	D7	Micro_USB_4734b- 0001	Micro_USB_4734b- 0001	1	
Radio_FCCID:2AB82 IC:20942-601-M0000	L1	Radio_I3	NEBB012.101W1	1	
Green SMD Solderable Diode 1.9V Radial	LED_1022	LED3MM	Th14400	2	
Header 3-Pin	P1, P11, P12	Header3	Header3	1	
14P IDC	P2, P3, P4, P5, P6, P7, P8, P9, P10	Napa_IDC_Connector Bip-16-VUA	9		
K77.62-3P Barrier Terminal Block 7.2mm spacing Barrier terminals with the terminal slot. The terminal accepts wire gauge of 22-10AWG. Connectors are available black PA66 material.	P13	K77.62-3P Barrier Terminal Block	K77.62-3P Barrier Terminal Block	1	
K77.62-2P Barrier Terminal Block 7.2mm spacing Barrier terminals with the terminal slot. The terminal accepts wire gauge of 22-10AWG. Connectors are available black PA66 material.	P14, P15	K77.62-2P Barrier Terminal Block	K77.62-2P Barrier Terminal Block	2	
TE 0.4W 0.25W 1.0W Chip Resistor 1206 (2716 Metric) Moisture Resistant Thick Film	R1, R4, R5, R6, R7, R8, R10, R14, R16, R19 R21, R23, R24	VAEGO_BC1206- U_A5_IPC_A	RE1206UR-071KL	13	
TE 0.4W 0.25W 1.0W Bridge 1206 (2716 Metric) Moisture Resistant Thick Film	R2, R3, R11	VAEGO_BC106- U_A5_IPC_A	RE1206UR-071KL	3	
TE 0.15W 0.04W 0.83W 1W 0.4W 0.05W 0.1W 0.25W 0.05W 0.25W Per Element Busbar Resistor Network Array 0.100Ω/m² 5.5SF	R9	Wire_Resistor_Array Box_Bounds_46090. 01-102F	1		
TE 0.12W 0.04W 0.4W Mount Chip Resistor, Lead Free, IC Series, 2.2mm Pitch, 0.05W, 1W, 320V Rating Material	R12, R15, R21	VAEGO_BC106- U_A5_IPC_A	RE1206UR-070KL	5	
RESISTOR 0.1WATT 0.1WATT 0.1W FLAMEPROOF 0.47 VTHM/IN ALUM/LEAD	R13	XMAX_0.1W XMAX_0.4	0.02W 0.1W	1	
RESISTOR 0.1WATT 0.1WATT 0.1W FLAMEPROOF 0.47 VTHM/IN ALUM/LEAD	R16	VAEGO_BC1206- U_A5_IPC_A	RE1206UR-0700RL	1	
RESISTOR 0.1WATT 0.1WATT 0.1W FLAMEPROOF 0.47 VTHM/IN ALUM/LEAD	R17	Astal_0.6	DM0047	1	
RESISTOR 0.1WATT 0.1WATT 0.1W FLAMEPROOF 0.47 VTHM/IN ALUM/LEAD	R20	VAEGO_BC106- U_A5_IPC_A	RE1206UR-07100L	1	
SPDT Subminiature SMD, Right Angle Mounting, Vertical Mounting	S1, S2, S3	Toggle_Switch_SPDT	SPK-SPDT	3	
Push Button	SW1, SW2	Tactile_Switch_SPST	FT52520KGTSMTZL FT52520KGTSMTZL	2	
Dip-Switch	S93	Dip_Switch - 8 Position	Dip_Switch - 8 Position	1	
ARM Cortex-M0 1MHz 32bit 16MHz 16MHz 16MHz	S94	SOIC22P10300265- 02W	SOIC14P10300265- 02W	4	
Integrated Circuit Interface IC 64242485D06-6 MAX487CPA- Maxim	S12, U3, U4, U5, U6, U7	SOIC22P10300265- 02W	SOIC14P10300265- 02W	4	
IC_Viabay_AN137_se 12VDC/100mA 5.4V 12VDC/100mA 0.05P	U8	DIP_08	MAX487CPA+	1	
Fused 19.5 3.9 1.3W 0.80mA 301-223 0.80mA 301-223 Regulators(DO)	U9	DIP_08	IC_Viabay_AN137_as	1	
FLASH DRAM 4Mx16bit Memory 8MB DRAM (128Mx8bitx4) SRAM 512K	U10	Adressor, Monitorin g, Systems, AMB1117 _IPC_A	AMB1117-3.3	1	
16.0MHz 1.2V 1.3W 0.8-1.0V 500mA Industrial	U12	SOIC-8	14C1025-1/5N	1	
CRYSTAL 8.000MHz COFF TUBES	U1	CT1_AT5088B_J	CRYSTAL8.000MHz	1	