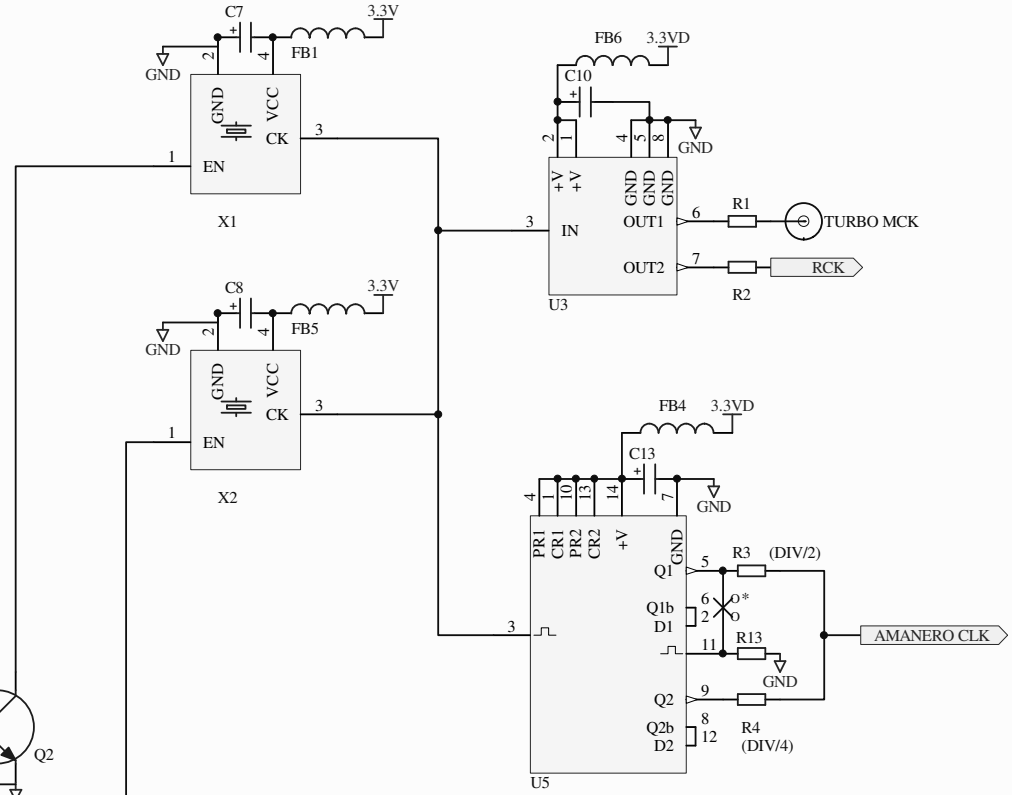
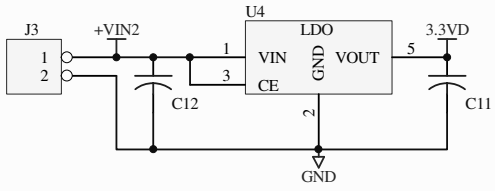
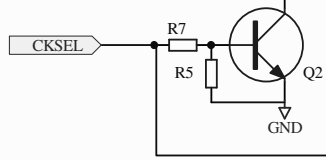
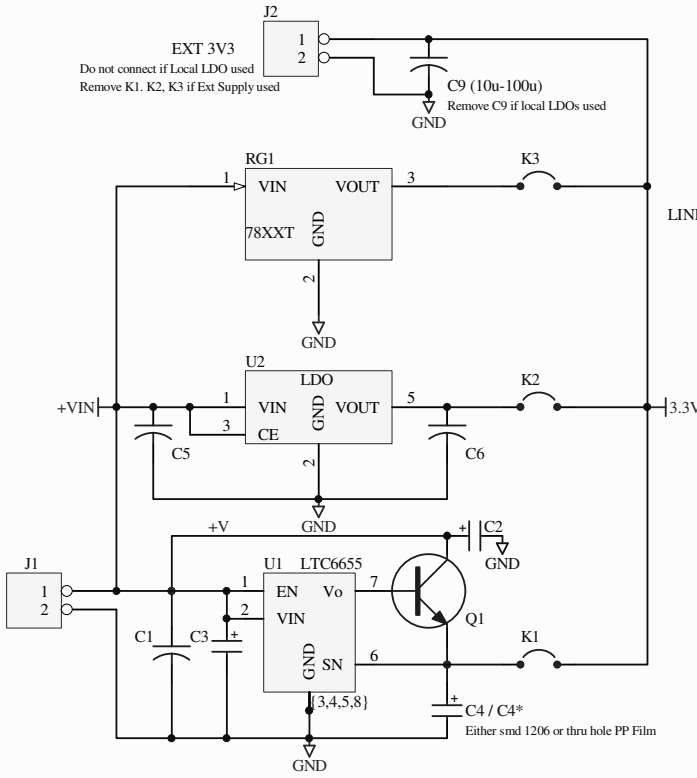


AKL-AMN-S03 1 of 2

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Size A4	FCSM No.	DWG No.	Rev
Scale	Sheet		



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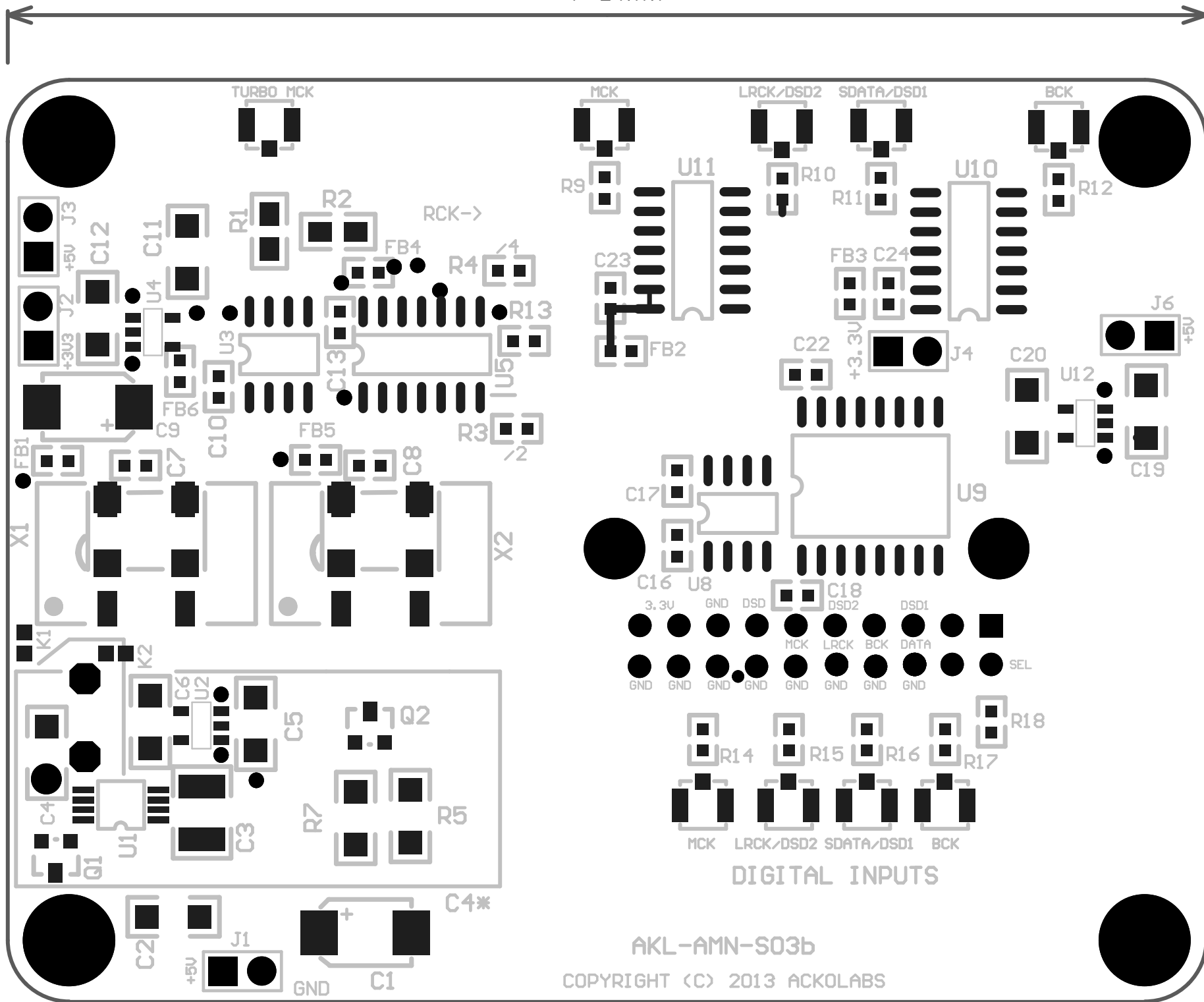
AKL-AMN-S03 2 of 2

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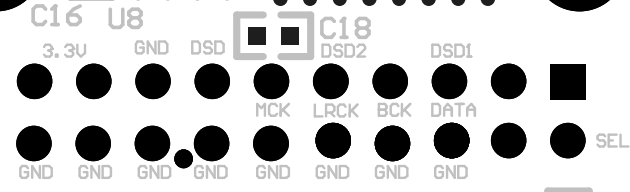
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Scale	Sheet		

78mm

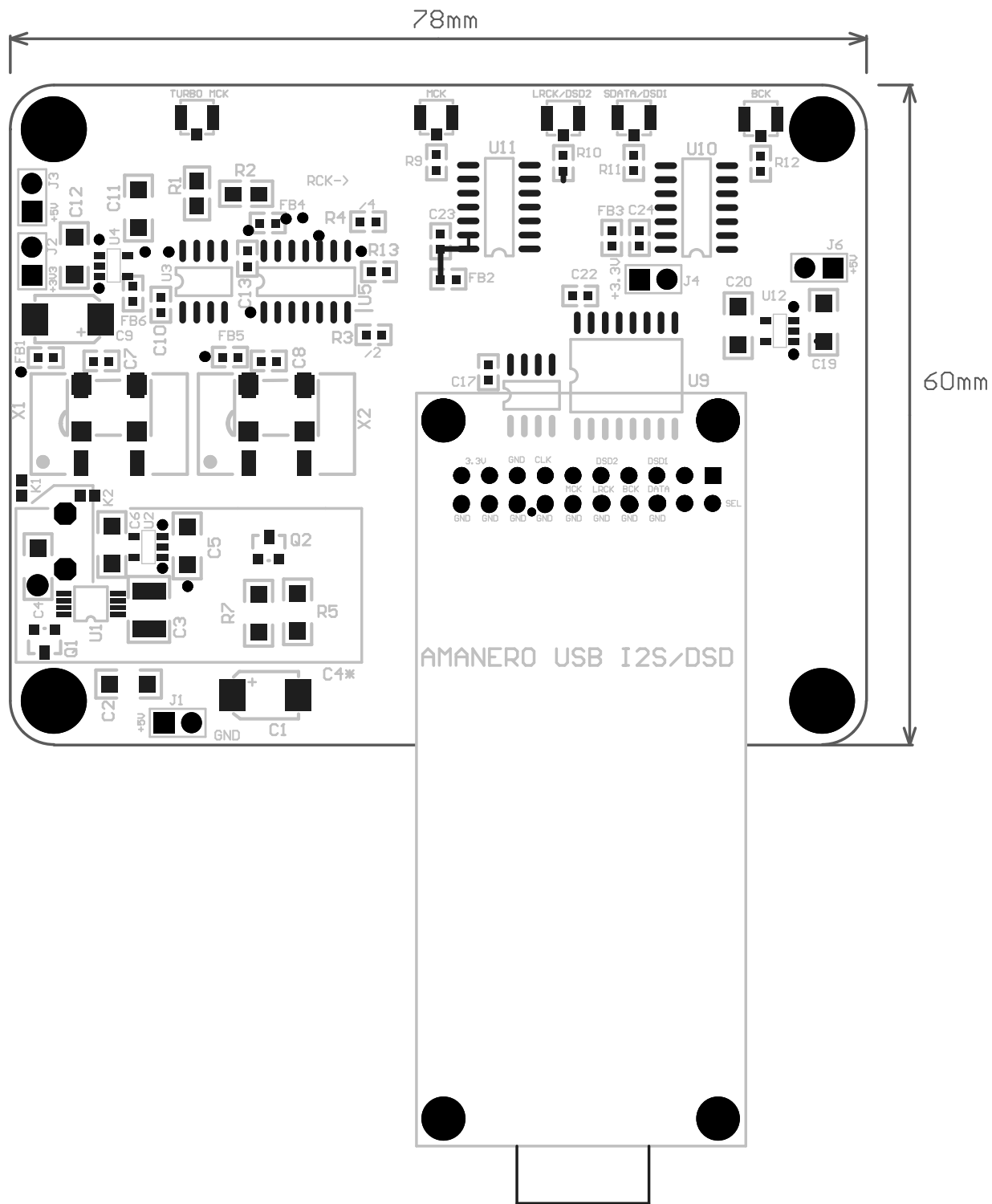


60mm

AKL-AMN-S03b
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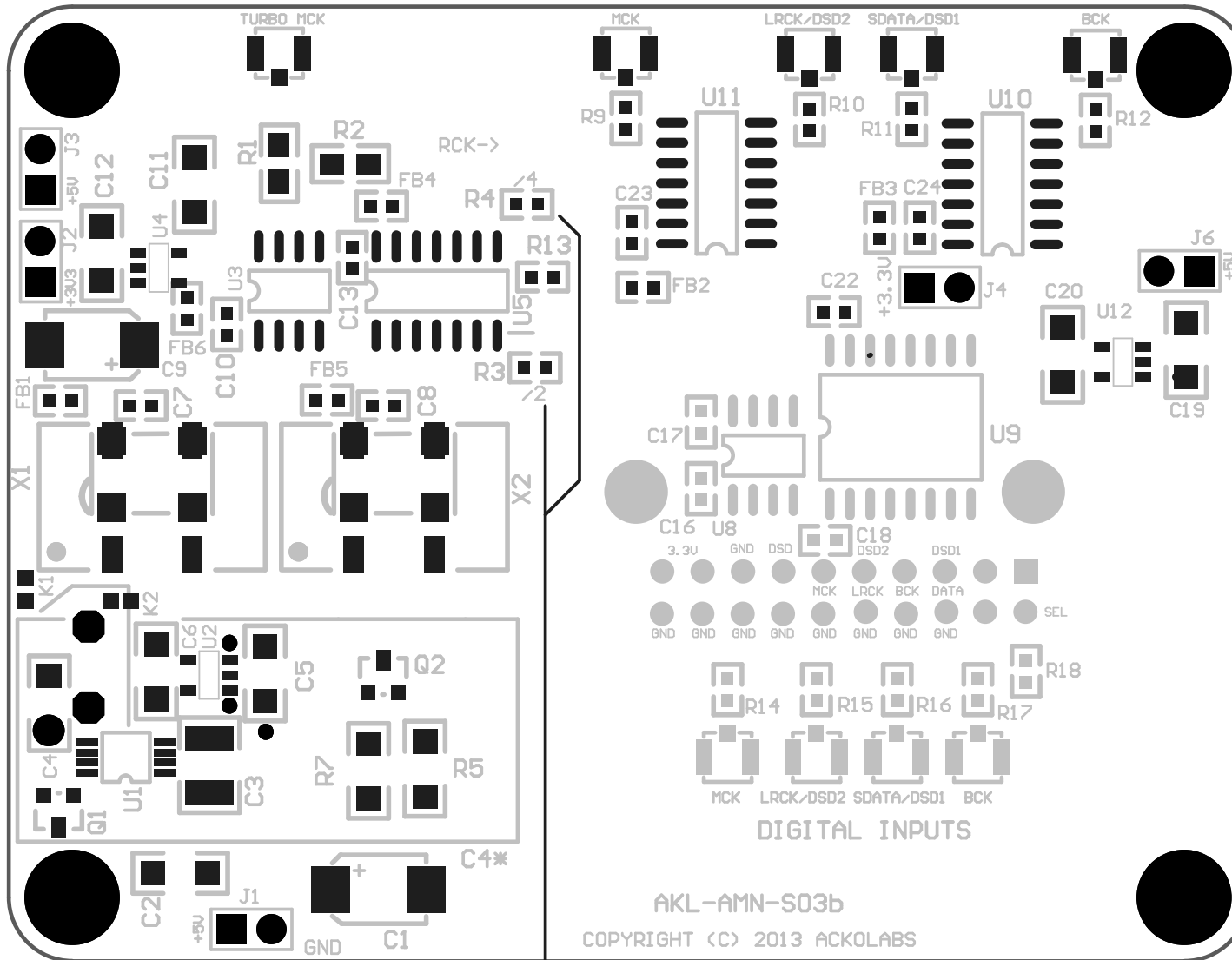
DIGITAL INPUTS



SYNCHRONOUS MASTER CLOCKS

TURBO MCK for
ESS DACs only

Std MCK for ESS or
other DACs



AKL-AMN-S03b

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NOTES:

1. Before connecting, update Amanero firmware to 1080 or later
-Prescaler: MCLK/1, Slave Mode, Pin11:24.576Mkz

2. Select one only (R3 or R4). according to X1/X2 freq. See BOM

BOM

PART NO AKL-AMN-503
 DESCRIPTION DIGITAL ISOLATOR/SYNCHRONOUS RE-CLOCKER FOR AMANERO
 (Dual Clock version for Full Turbo Sync Re-Clocking of ESS9018 DAC)

Component	Vendor Code	Description	Qty	Unit Price	Line Price	VENDOR	Remarks
BOARD	R01, S03	BAISE BOARD	1	\$	25.00	ACCOLABS	
DA, D12	ADP150ALZ-3.3-87CT-ND	ADP150ALZ-3.3V	2	\$	1.91	DIKEY	Alternative: LY1761, ADP151 or similar
D9	330-1062-5-ND	330-1062-5-ND	1	\$	9.50	DIKEY	Alternative: S8440 (Display P/N: 330-1760-5-ND)
D8	390-1111-6-ND	6-112 02H D05 B0A S00C	1	\$	7.81	DIKEY	
U9, U11, U10	PD742474A	DUAL D.F.F.	3	\$	3.00	DIKEY	9.00 POT ITEM
R9, R10, R11, R12	A103067CT-ND	22R 0603 THIN FILM RES	4	\$	0.34	DIKEY	
R1, R2	A103079CT-ND	22R 0603 THIN FILM RES	2	\$	0.34	DIKEY	
C16, C17, C18, C22	445-1313-1-ND	47NF 0603 MLCC X7R 18V	2	\$	0.18	DIKEY	
C15, C24	445-3961-1-ND	100NF 0603 COB	2	\$	0.18	DIKEY	
C11, C12, C19, C20	445-1316-1-ND	100NF 0603 MLCC X7R 18V	3	\$	0.18	DIKEY	
C1, C2, C3, C5	445-1801-1-ND	100UF CER CAP X7R 18V	4	\$	0.34	DIKEY	
J1, J2, J3, J6	A26545-ND	5WAY 0.1INCH HEADER GOLD PLATED	5	\$	0.88	DIKEY	
TURBO MCK, MCK, LOCK, SDATA, BCK	H9141CT-ND	1.5-16-SDMATHIO COAX	5	\$	1.81	DIKEY	
F81, F82, F83, F84, F85, F86	445-1651-1-ND	FERRITE 0603	6	\$	0.07	DIKEY	
R3*	A103067CT-ND	22R 0603 THIN FILM RES	1	\$	0.34	DIKEY	Mount only if DC 300MHz-2000MHz X1,X2 used. Ty lower values, or even CR link.
R3*	A103067CT-ND	22R 0603 THIN FILM RES	1	\$	0.34	DIKEY	Mount only if 49.152MHz-45.1584MHz X1,X2 used. Ty lower values, or even CR link.
R13, R18	F10905CT-ND	10K 0603 RES	2	\$	0.10	DIKEY	
R7	M47105-ND	M47105 RES	1	\$	0.09	DIKEY	
R5	F47R105-ND	47K 105E	1	\$	0.10	DIKEY	
C7, C8, C10, C13	445-5564-1-ND	100NF 0603 COB	4	\$	0.34	DIKEY	
U4	PD74249872A	CAP ALUM 47UF 10.5V 20% SMD	1	\$	3.00	DIKEY	
C1		2 OH BUFFER	1	\$	3.00	DIKEY	POT ITEM
R1*		100 SMD 50' or 5014mm (90.3168MHz or 45.1584MHz)	1	\$	30.00	DIKEY	e.g. CCHE957 25-45 1584MHz, S690' or equiv
X2*		100 SMD 50' or 5014mm (98.304MHz or 49.152MHz)	1	\$	30.00	DIKEY	e.g. CCHE957 25-49 152MHz, S690' or equiv
C2	MMBT2222A-FDCT-ND	1N4148 1N4148 TRANSISTOR CER EQUIV 5014	1	\$	0.14	DIKEY	
		TOTAL		\$	141.82		

*X1,X2 Notes:
 The S508 CMOS, Display P/N & description:
 590CD-ADG-ND, OSC, PROG 3.3V CMOS HIGH
 You will also have to specify the frequencies
 Although they have 6 pins only pins 1,3,4 & 6
 are used 2 & 5 are not connected, the pads on the
 903 board match these "used" pins.

CLOCK POWER SUPPLY, Lead as required

OPTION #1: On BOARD LDO

Component	Vendor Code	Description	Qty	Unit Price	Line Price	VENDOR/P/N	Remarks
D1	ADM7151ARZ-02-ND	ADM7151 Ultra Low Noise Reg SOIC-8	1	\$	8.10	DIKEY	
C4		1UF CAPACITOR (CER)	1	\$	0.28	DIKEY	
C2, C3, C5	445-1801-1-ND	100UF CER CAP X7R 18V	3	\$	0.34	DIKEY	

OPTION #2: EXT 3.3V

Component	Vendor Code	Description	Qty	Unit Price	Line Price	VENDOR	Remarks
C9	PCES50CT-ND	10-180UF 6.3V SMD	1	\$	3.00	DIKEY	*As required. Do not connect if on-board LDOs are used
		TOTAL		\$	154.36		

BOM

PART NO AKL-AMN-503
 DESCRIPTION DIGITAL ISOLATOR/SYNCHRONOUS RE-CLOCKER
 (Single Clock version for Async Re-Clocking -all DACs)

Component	Vendor Code	Description	Qty	Unit Price	Line Price	VENDOR	Remarks
BOARD	RKL-AMN-503	BASE BOARD	1	\$ 25.00	\$ 25.00	ACKOLABS	
DA_U12	ADPT150LDC3.3R7C1-ND	ADPT150 LDC 3.3V	2	\$ 1.00	\$ 2.00	DIGIKEY	Alternative: LT1781, ADPT51 or similar
U8	390-1802-5-ND	390-1802-5-ND	1	\$ 9.50	\$ 9.50	DIGIKEY	Alternative: S8840 (Display P/N: 336-1760-5-ND)
U11, U10	PC07467A	PC07467A	2	\$ 3.00	\$ 6.00	POSTSEM	
R8, R16, R11, R12	A10309CT-ND	22R 0603 THIN FILM RES	4	\$ 0.34	\$ 1.36	DIGIKEY	
R1, R2	A10309CT-ND	22R 0603 THIN FILM RES	2	\$ 0.34	\$ 0.68	DIGIKEY	
C18, C22	445-1313-1-ND	47NF 0603 MLCC X7R 16V	2	\$ 0.10	\$ 0.20	DIGIKEY	
C24, C26	445-2962-1-ND	10NF 0603 C0G	2	\$ 0.34	\$ 0.68	DIGIKEY	
C11, C12, C19, C20	445-1313-1-ND	100NF 0603 MLCC X7R 16V	3	\$ 0.10	\$ 0.30	DIGIKEY	
H_1, C_1, J_6	445-1801-1-ND	10UF CER CAP X7R 16V	4	\$ 0.34	\$ 1.36	DIGIKEY	
U12, U13, U4	626545-ND	SWAY 3.3V I/O HEADERS GOLD PLATED	5	\$ 0.85	\$ 4.25	DIGIKEY	
U15, U16, U17, U18, U19, U20, U21, U22, U23, U24, U25, U26, U27, U28, U29, U30, U31, U32, U33, U34, U35, U36, U37, U38, U39, U40, U41, U42, U43, U44, U45, U46, U47, U48, U49, U50, U51, U52, U53, U54, U55, U56, U57, U58, U59, U60, U61, U62, U63, U64, U65, U66, U67, U68, U69, U70, U71, U72, U73, U74, U75, U76, U77, U78, U79, U80, U81, U82, U83, U84, U85, U86, U87, U88, U89, U90, U91, U92, U93, U94, U95, U96, U97, U98, U99, U100	445-1801-1-ND	47UF 0603 MLCC X7R 16V	3	\$ 1.81	\$ 5.43	DIGIKEY	
U1	445-1801-1-ND	REFRES 1.8V	4	\$ 0.05	\$ 0.20	DIGIKEY	
C1, C19	445-2962-1-ND	10NF 0603 C0G	2	\$ 0.34	\$ 0.68	DIGIKEY	
U1	390-1802-5-ND	CAP ALUM 47UF 25V 20% SMD	1	\$ 2.25	\$ 2.25	DIGIKEY	
U3	PC074638B72A	2 CH BUFFER	1	\$ 3.00	\$ 3.00	POSTASSEMB	
X1	744-1454-ND	80 SMD 5v or 5v44mm 100MHz	1	\$ 27.00	\$ 27.00	DIGIKEY	Module PN:549-CG-03-7R-50-100
					TOTAL		\$ 96.91

CLOCK POWER SUPPLY. Load as required

Component	Vendor Code	Description	Qty	Unit Price	Line Price	VENDOR/P/N	Remarks
U1	1115555C-M5B-3.3PFB-ND	LT1555 VREF 3.3V 1uV Ultra Low Noise	1	\$ 7.69	\$ 7.69	DIGIKEY	
C3	PC1130BCT-ND	100NF PPS CAPACITOR 1210	1	\$ 1.64	\$ 1.64	DIGIKEY	CER CAP ON C4. PP FILM ON C4'. REMOVE C4 & C4'
C4 & C4'	445-1425-1-ND	47UF CAPACITOR (CER/FILM)	1	\$ 0.28	\$ 0.28	DIGIKEY	IS USED. PP CAP 4u7 from Farnell P/N: 2303061 \$8.47 or Newark P/N:2982511
C2	490-4504-1-ND	100NF C0G CAP 1206	1	\$ 1.20	\$ 1.20	DIGIKEY	
U1	MMBT2222-NPN-F06CT-ND	MMBT2222 NPN TRANSISTOR	1	\$ 0.14	\$ 0.14	DIGIKEY	

OPTION #2

Component	Vendor Code	Description	Qty	Unit Price	Line Price	VENDOR	Remarks
U2	ADPT150LDC3.3R7C1-ND	ADPT150 3.3V Sw Low Noise LDC	1	\$ 1.00	\$ 1.00	DIGIKEY	Alternative: LT1781, etc
C5, C6	445-1801-1-ND	10UF CER CAP X7R 16V	2	\$ 0.34	\$ 0.68	DIGIKEY	

OPTION #3

Component	Vendor Code	Description	Qty	Unit Price	Line Price	VENDOR	Remarks
R01	3-TERM REG 3.3V	3 TERM REG 3.3V	1	\$ 3.05	\$ 3.05	DIGIKEY	*As required. Remove X1, X2, X3
C9	PC0350CT-ND	10-180UF 6.3V SMD	1	\$ 3.05	\$ 3.05	DIGIKEY	*As required. Do not connect if on-board LDCs are used
					TOTAL		\$ 106.71