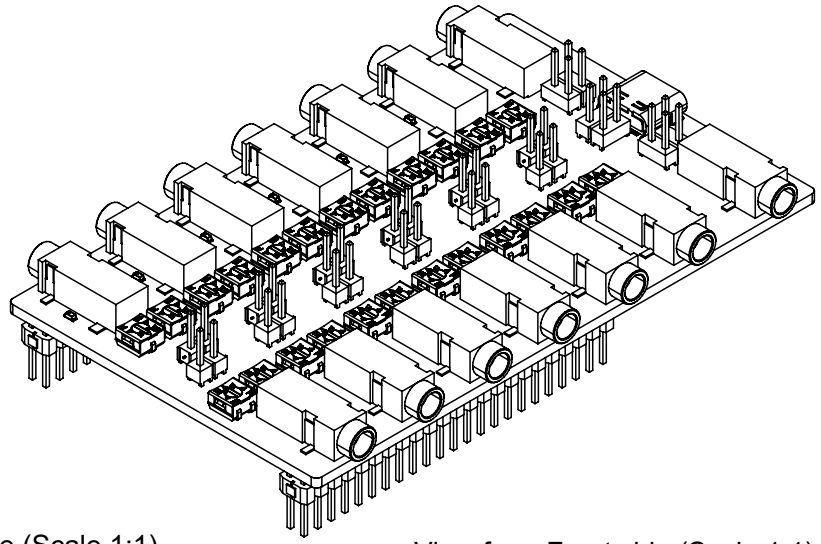
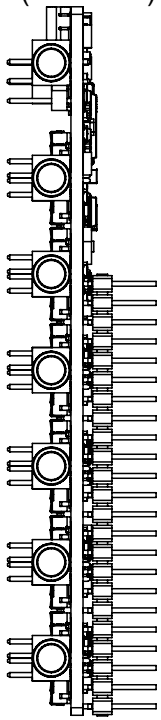
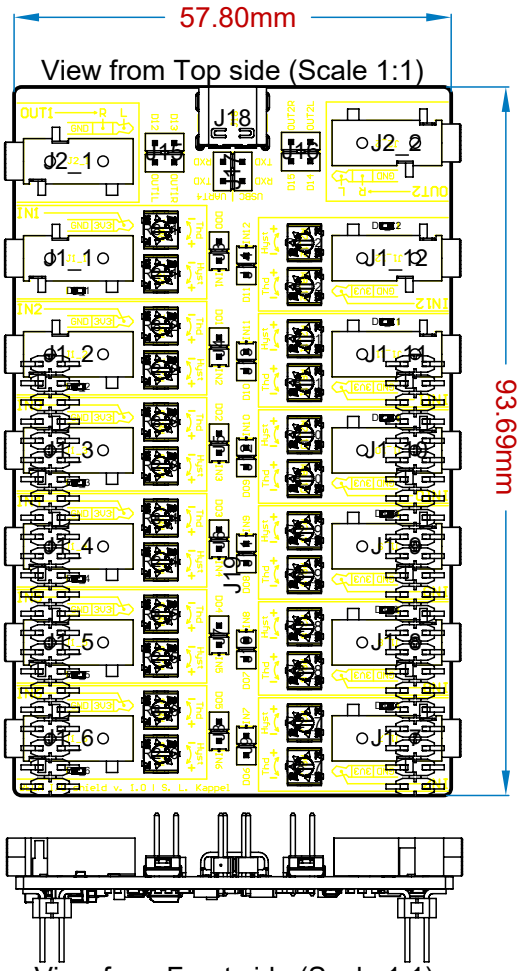


View from Front side (Scale 1:1)

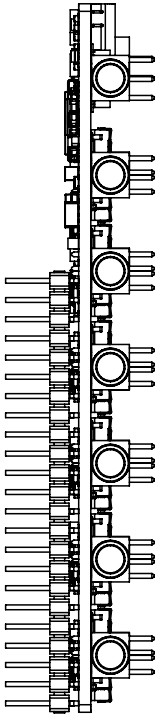
View from Right side (Scale 1:1)



View from Top side (Scale 1:1)

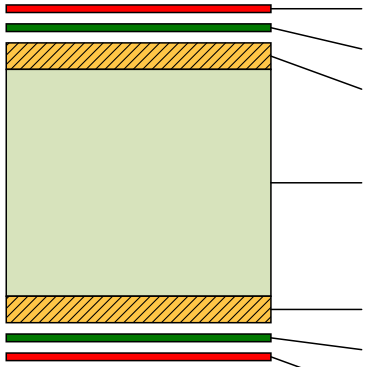


View from Left side (Scale 1:1)



View from Front side (Scale 1:1)

Layer Stack



Material	Layer	Thickness	Type	Gerber
	Top Overlay		Legend	GTO
Surface Material	Top Solder	0.010mm	Solder Mask	GTS
CF-004	**Top Layer**	**0.035mm**	**Signal**	**GTL**
Core		*1.530mm*	*Dielectric*	
CF-004	**Bottom Layer**	**0.035mm**	**Signal**	**GBL**
Surface Material	Bottom Solder	0.010mm	Solder Mask	GBS
	Bottom Overlay		Legend	GBO

Total thickness: 1.620mm

Bill Of Materials TOP side

Designator	Name	Quantity	Footprint	Description
D1_1, D1_2, D1_3, D1_4, D1_5, D1_6, D1_7, D1_8, D1_9, D1_10, D1_11, D1_12	LY L29K-J1K2-26	12	LY L29K	Yellow LED (587nm), 0603, Low power, 1.8V
J1_1, J1_2, J1_3, J1_4, J1_5, J1_6, J1_7, J1_8, J1_9, J1_10, J1_11, J1_12, J2_1, J2_2	35RASMT2BHNTRX	14	35RASMT2BHNTRX	3.5mm stereo jack connector, SMD
J3, J4, J5, J6, J7, J8, J9, J10, J11, J12, J13, J14	TSW-102-07-L-S	12	TSW-102-07-L-S	1x2 pos pin header, 2.54mm pin spacing
J15, J16, J17	TSW-102-07-L-D	3	TSW-102-07-L-D	2x2 pos pin header, 2.54mm pin spacing
J18	105450-0101	1	FP-1054500101-MFG	USB Shielded I/O Receptacle; Type C; Right Angle; Surface Mount; Gold over Nickel
J19	BELA P8 & P9	1	BELA P8 & P9	two 2-23 pos SMD pin header, 2.54mm pin spacing
R2_1, R2_2, R2_3, R2_4, R2_5, R2_6, R2_7, R2_8, R2_9, R2_10, R2_11, R2_12	750kR	12	3314J-1	SMD Trimmer, 750K Ohm, 1/4W
R8_1, R8_2, R8_3, R8_4, R8_5, R8_6, R8_7, R8_8, R8_9, R8_10, R8_11, R8_12	10kR	12	3314J-1	SMD Trimmer, 10K Ohm, 1/4W

Bill Of Materials BOTTOM side

Designator	Name	Quantity	Footprint	Description
C1, C3	22µF	2	1206_Cap_IPC_MD	1206, X7R, 16V, 20%
C2, C5, C10	4.7µF	3	0805_Cap_IPC_MD	0805, X7R, 16V, 10%, TDK, Low ESR
C4, C9, C12, C13	100nF	4	0603_Cap_IPC_MD	0603, X7R, 50V, 10%, TDK
C6	10nF	1	0603_Cap_IPC_MD	0603, X7R
C7, C8	47pF	2	0603_Cap_IPC_MD	0603, X7R
C11	4.7nF	1	0603_Cap_IPC_LD	0603, X7R
D1_1, D1_2, D1_3, D1_4, D1_5, D1_6, D1_7, D1_8, D1_9, D1_10, D1_11, D1_12	LY L29K-J1K2-26	12	LY L29K	Yellow LED (587nm), 0603, Low power, 1.8V
FB1	MI0805K400R-10	1	0805_Res_IPC_MD	Ferite bead, 0805, 50mR@DC, 40R@100MHz, 1.5A, 25%
J1_1, J1_2, J1_3, J1_4, J1_5, J1_6, J1_7, J1_8, J1_9, J1_10, J1_11, J1_12, J2_1, J2_2	35RASMT2BHNTRX	14	35RASMT2BHNTRX	3.5mm stereo jack connector, SMD
J3, J4, J5, J6, J7, J8, J9, J10, J11, J12, J13, J14	TSW-102-07-L-S	12	TSW-102-07-L-S	1x2 pos pin header, 2.54mm pin spacing
J15, J16, J17	TSW-102-07-L-D	3	TSW-102-07-L-D	2x2 pos pin header, 2.54mm pin spacing
J18	105450-0101	1	FP-1054500101-MFG	USB Shielded I/O Receptacle; Type C; Right Angle; Surface Mount; Gold over Nickel
J19	BELA P8 & P9	1	BELA P8 & P9	two 2-23 pos SMD pin header, 2.54mm pin spacing
Q1_1, Q1_2, Q2_1, Q2_2	QS6M4TR	4	SOT-457T	N-Channel/P-Channel 30V/-20V 1.5A 1.25 W Surface Mount MOSFET - TSMT-6
R1_1, R1_2, R1_3, R1_4, R1_5, R1_6, R1_7, R1_8, R1_9, R1_10, R1_11, R1_12, R10_1, R10_2, R10_3, R10_4, R10_5, R10_6, R10_7, R10_8, R10_9, R10_10, R10_11, R10_12, R12_1, R12_2, R15_1, R15_2, R24_1, R24_2, R25_1, R25_2	10kR	32	0603_Res_IPC_MD	0603, 1%, Thin film
R2_1, R2_2, R2_3, R2_4, R2_5, R2_6, R2_7, R2_8, R2_9, R2_10, R2_11, R2_12	750kR	12	3314J-1	SMD Trimmer, 750K Ohm, 1/4W
R3_1, R3_2, R3_3, R3_4, R3_5, R3_6, R3_7, R3_8, R3_9, R3_10, R3_11, R3_12	620R	12	0603_Res_IPC_MD	0603, 1%, Thin film
R4_1, R4_2, R4_3, R4_4, R4_5, R4_6, R4_7, R4_8, R4_9, R4_10, R4_11, R4_12, R9_1, R9_2, R9_3, R9_4, R9_5, R9_6, R9_7, R9_8, R9_9, R9_10, R9_11, R9_12, R17, R18, R26_1, R26_2, R27_1, R27_2	100kR	30	0603_Res_IPC_MD	0603, 1%, Thin film
R5_1, R5_2, R5_3, R5_4, R5_5, R5_6, R5_7, R5_8, R5_9, R5_10, R5_11, R5_12	110kR	12	0603_Res_IPC_MD	0603, 1%, Thin film
R6_1, R6_2, R6_3, R6_4, R6_5, R6_6, R6_7, R6_8, R6_9, R6_10, R6_11, R6_12	100R	12	0603_Res_IPC_MD	0603, 1%, Thin film
R7_1, R7_2, R7_3, R7_4, R7_5, R7_6, R7_7, R7_8, R7_9, R7_10, R7_11, R7_12	150kR	12	0603_Res_IPC_MD	0603, 1%, Thin film
R8_1, R8_2, R8_3, R8_4, R8_5, R8_6, R8_7, R8_8, R8_9, R8_10, R8_11, R8_12	10kR	12	3314J-1	SMD Trimmer, 10K Ohm, 1/4W
R11_1, R11_2, R14_1, R14_2	0R	4	0603_Res_IPC_MD	0603, 1%, Thin film
R13_1, R13_2, R16_1, R16_2, R23	1MR	5	0603_Res_IPC_MD	0603, 1%, Thin film
R19, R20	27R	2	0603_Res_IPC_MD	0603, 1%, Thin film
R21, R22	5k1R	2	0603_Res_IPC_MD	0603, 1%, Thin film
TP1, TP2, TP3	S2751-46R	3	S2751-46R-Footprint-1	Test Point, 0805, 1.4mm height
U1_1, U1_2, U1_3, U1_4, U1_5, U1_6, U1_7, U1_8, U1_9, U1_10, U1_11, U1_12	LMC7211BIM	12	SOT23-5_IPC_MD	Single Voltage Comparator, push-pull output, General Purpose, SOT23-5
U2	MAX889SESA+	1	SOIC8	Regulated inverting charge pump, Vout=-Vin, 200mA, 1.25 MHz, SOIC8
U3	ISO7721FDR	1	FP-D0008A-IPC_A	Digital isolator, dual-channel, channels in the opposite direction, SOIC8, 3kV isolation
U4	FT231XS-R	1	FP-SSOP-20-IPC_A	IC USB SERIAL FULL UART 20SSOP
U5_1, U5_2, U5_3, U5_4, U5_5, U5_6, U5_7, U5_8, U5_9, U5_10, U5_11, U5_12, U6_1, U6_2, U7_1, U7_2	74LVC1G14GW,125	16	FP-SOT353-1-IPC_B	1ch Schmitt Trigger inverter