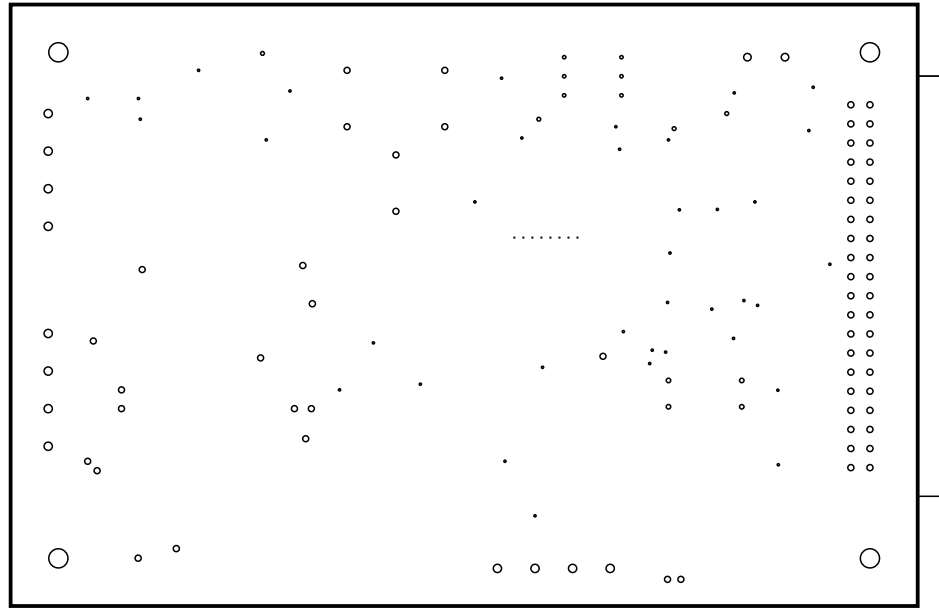
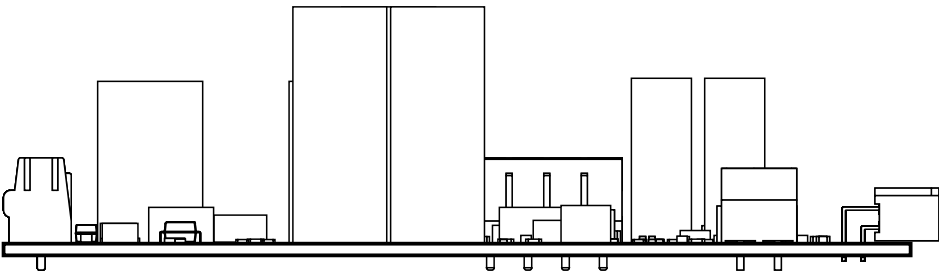
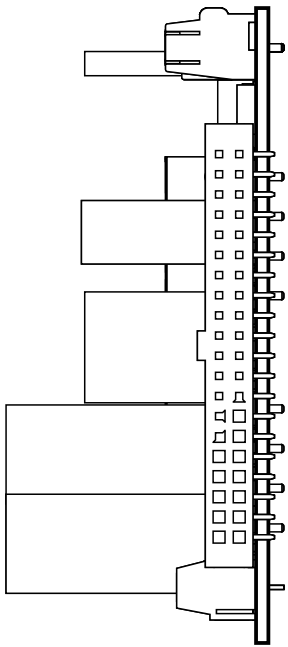
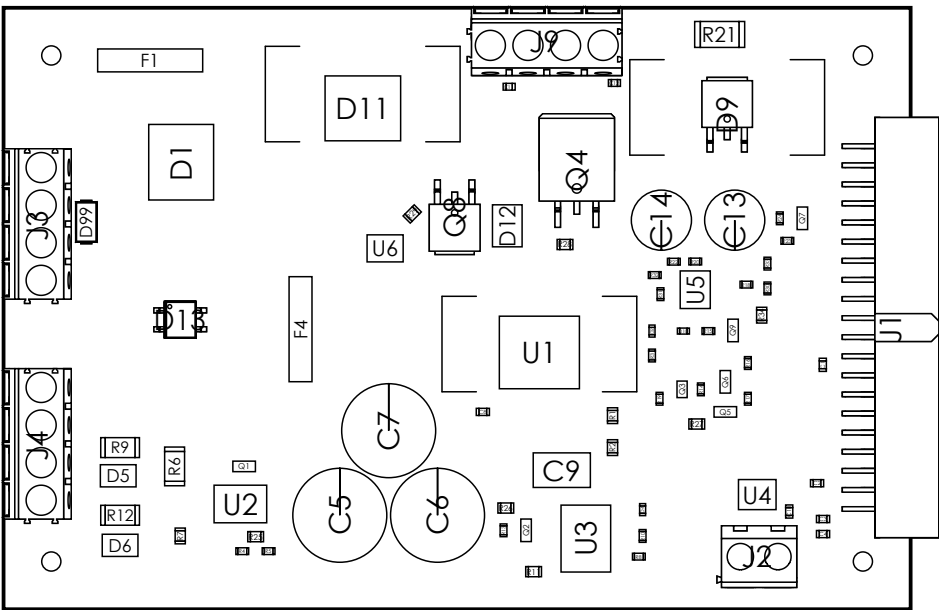
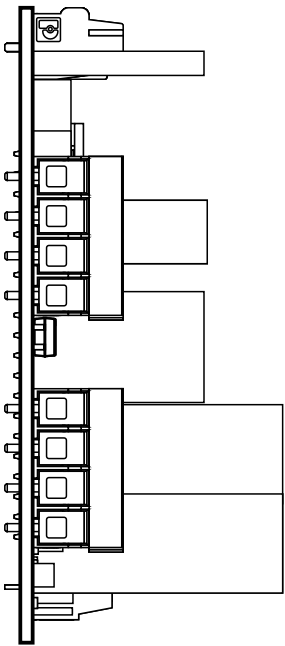
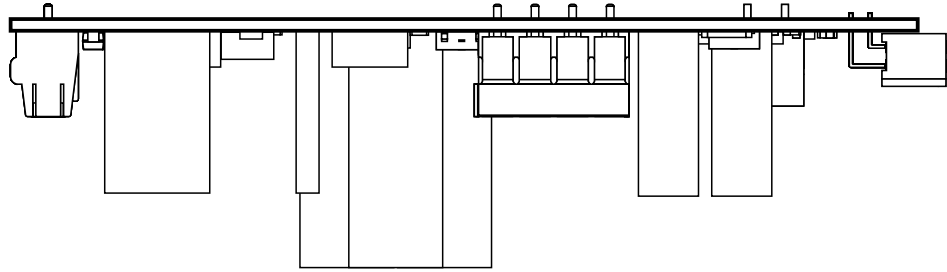


Bill Of Materials

Item	Designator	Manufacturer	Comment	Description	Quantity
1	C1-C4, C8, C10	KEMET	C0603C104K5RACTU	CAP CER 0.1UF 50V X7R 0603	6
2	C11, C12	Yageo	CC0603KRX7R9BB102	CAP CER 1nF 50V X7R 0603	2
3	C13, C14	Panasonic Electronic Components	EEU-FR1E561L	CAP ALUM 560UF 20% 25V RADIAL	2
4	C5-C7	United Chemi-Con	EKYB160ELL392MK30S	CAP ALUM 3900UF 20% 16V RADIAL	3
5	C9	KEMET	T495D226K035ATE260	CAP TANT 22UF 35V 10% 2917	1
6	D1, D11	Micro Commercial Co	MBRB20100CT-TP	DIODE ARRAY SCHOTTKY 100V D2PAK	2
7	D4, D10	Kingbright	APTD1608LSECK/J3-PF	LED RED CLEAR 0603 SMD	2
8	D12	SMC Diode Solutions	FR2KTATR	DIODE GEN PURP 800V 2A SMB	1
9	D13	Comchip Technology	CDBHM240L-HF	RECT BRIDGE GPP 6A 400V GBU	1
10	D2	Kingbright	APTD1608LZGCK	LED GREEN CLEAR 0603 SMD	1
11	D5, D6	Fairchild/ON Semiconductor	S1K	DIODE GEN PURP 400V 1A SMA	2
12	D9	Diodes Incorporated	SBR545D1-13	DIODE SBR 45V 10A DPAK	1
13	D99	Würth Electronics Inc.	824501301	TVS DIODE 30VWM 48.4VC DO214AC	1
14	F1	Littelfuse Inc.	RGEF900	POLYSWITCH RGE SERIES 9.0A HOLD	1
15	F4	Bel Fuse Inc.	OZCF0125FF2C	PTC RESTTBLE 33V 1.25A CHIP 2920	1
16	H1, H4, H5	Ohmite	DA-T263-201E-TR		3
17	J1	RaspberryPi	RaspberryPi	RaspberryPi	1
18	J2	TE Connectivity AMP Connectors	282836-2	TERM BLOCK 2POS SIDE ENTRY 5MM	1
19	J3, J4, J9	Phoenix Contact	1935187	TERM BLOCK PCB 4POS 5.0MM GREEN	3
20	Q3	Infineon Technologies	BSS209PWH6327XTSA1	MOSFET P-CH 20V 0.63A SOT-323	1
21	Q4	Nexperia USA Inc.	BUK9628-55A,118	MOSFET N-CH 55V 42A D2PAK	1
22	Q1, Q2, Q5-Q7, Q9	Diodes Incorporated	DMN5L06K-7	MOSFET N-CH 50V 300mA SOT23-3	6
23	Q8	Alpha & Omega Semiconductor Inc.	AOD4126	MOSFET N-CH 100V 43A TO252	1
24	R3, R8, R10	Yageo	RC0603FR-07470RL	RES SMD 470 OHM 1% 1/10W 0603	3
25	R15	Yageo	RC0603FR-071K6L	RES SMD 1.6K OHM 1% 1/10W 0603	1
26	R20, R31	Yageo	RC0603FR-07100KL	RES SMD 100K OHM 1% 1/10W 0603	2
27	R21	Panasonic Electronic Components	ERJ-MP4PF10MU _1	RES SMD 0.01 OHM 1% 2W 2512	1
28	R14, R16, R19, R22, R32, R33	Yageo	RC0603FR-071KL	RES SMD 1K OHM 1% 1/10W 0603	6
29	R4, R5, R18, R23	Yageo	RC0603FR-07300RL	RES SMD 300 OHM 1% 1/10W 0603	4
30	R13, R17, R24	Yageo	RC0603FR-0710KL	RES SMD 10K OHM 1% 1/10W 0603	3
31	R1, R2, R7, R11, R25-R29, R34	Yageo	RC0805FR	RES SMD 124 OHM 1% 1/8W 0805	10
32	R30	Yageo	RC0603FR-074K99L	RES SMD 4.99K OHM 1% 1/10W 0603	1
33	R6, R9, R12	Vishay Dale	CRCW2010100KFKEF	RES SMD 100K OHM 1% 3/4W 2010	3
34	U1	Exar Corporation	SPX29502T5-L	IC REG LDO ADJ 5A TO263-5	1
35	U2	CEL	PS2505L-1	OPTOISOLATOR 5KV TRANS 4SMD	1
36	U3	Fairchild/ON Semiconductor	MOC3083M	OPTOISOLATOR 4.17KV TRIAC 6DIP	1
37	U4	Maxim Integrated	MAX31855	IC CONV THERMOCOUPLE-DGTL SOIC Type K SPI	1
38	U5	STMicroelectronics	TSM109AIDT	IC CTRLR DUAL COMP/ VREF 8SOIC	1
39	U6	Toshiba Semiconductor and Storage	TLP155E(TPL,E)	OPTOISO 3.75KV GATE DRIVER 6SO-5	1

Note:

- 1
- Text element with square border.
- 2
- Text element with no border
- 3
- Text element with circle border



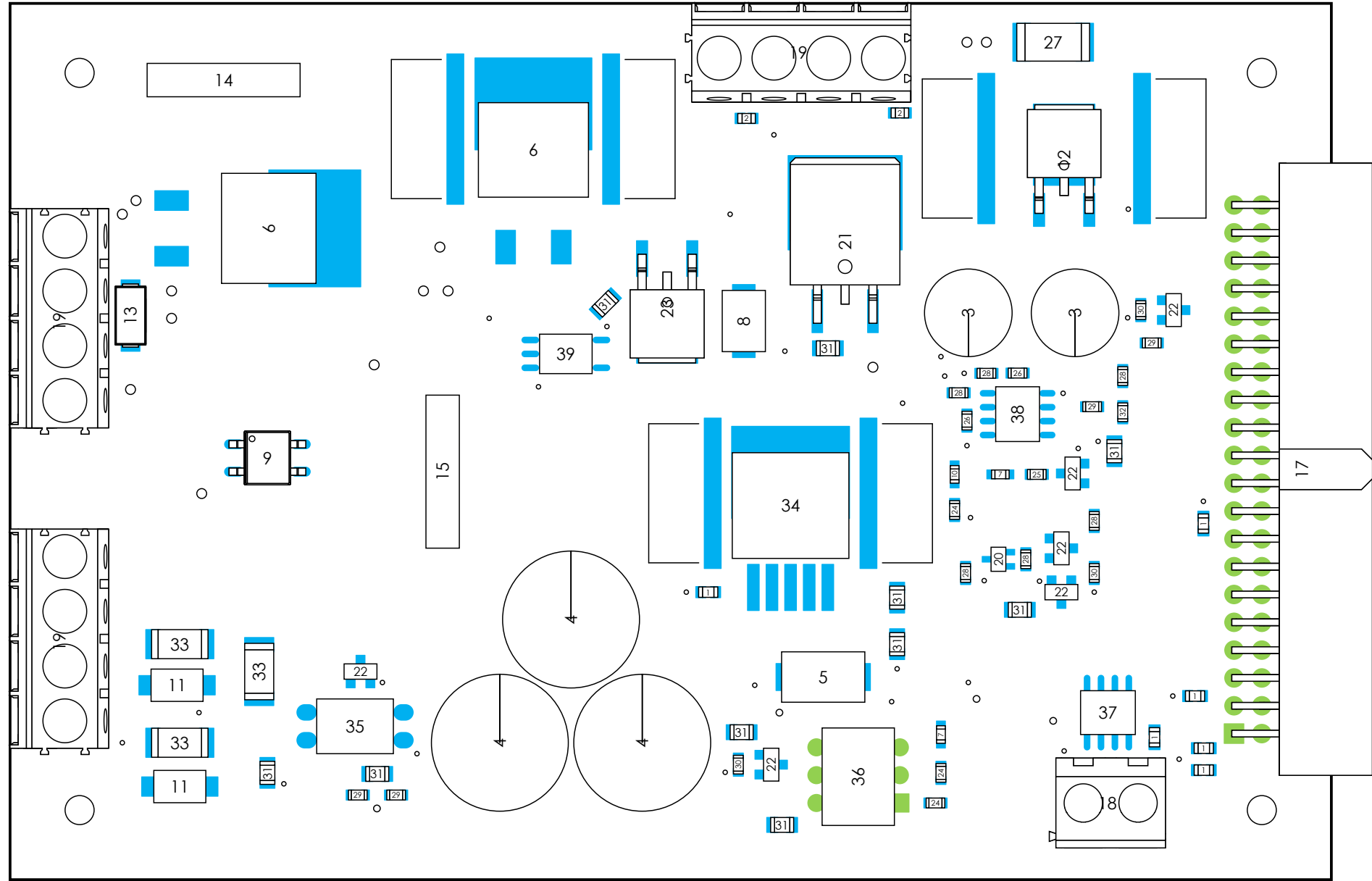
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PROPRIETARY AND CONFIDENTIAL

		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	
		DIMENSIONS ARE IN INCHES	DRAWN		8/20/2020	
		TOLERANCES:	CHECKED			
		FRACTIONAL: ±	ENG APPR.			
		ANGULAR: MACH: ± BEND ±	MFG APPR.			
		TWO PLACE DECIMAL ±	Q.A.			
		THREE PLACE DECIMAL ±	COMMENTS:			
		INTERPRET GEOMETRIC TOLERANCING PER:				
		MATERIAL				
		FINISH				
NEXT ASSY	USED ON					
APPLICATION		DO NOT SCALE DRAWING				

SIZE	DWG. NO.	
SCALE: 1:1	WEIGHT:	SHEET 1 OF 2

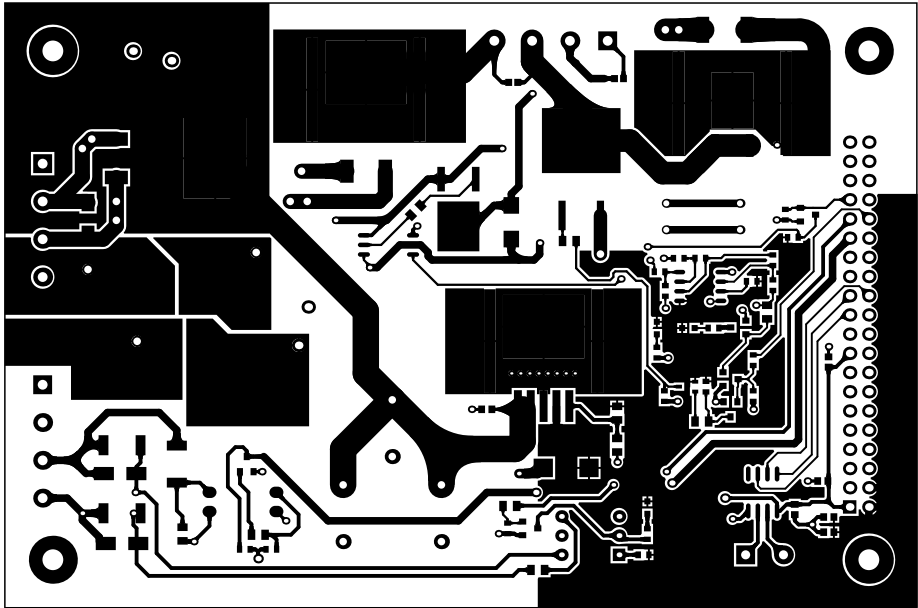
View from Top side (Scale 2:1)



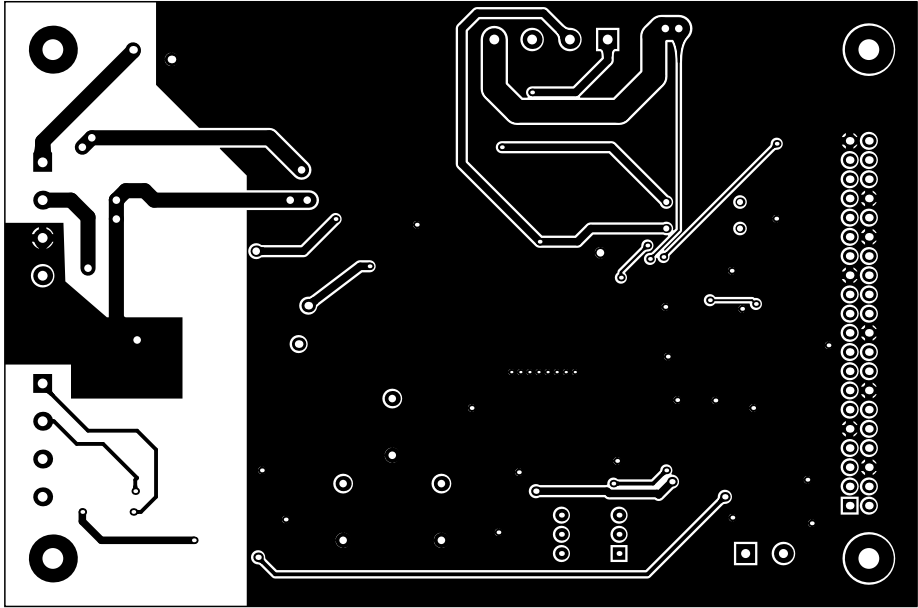
Layer Stack Legend

Material	Layer	Thickness	Dielectric Material	Type	Gerber
	Top Paste			Paste Mask	GTP
	Top Overlay			Legend	GTO
Surface Material	Top Solder	0.4mil (0.01mm)	Solder Resist	Solder Mask	GTS
Copper	Top Layer	2.8mil (0.071mm)		Signal	GTL
		55.6mil (1.412mm)	FR-4	Dielectric	
Copper	Bottom Layer	2.8mil (0.071mm)		Signal	GBL
Surface Material	Bottom Solder	0.4mil (0.01mm)	Solder Resist	Solder Mask	GBS
	Bottom Overlay			Legend	GBO
	Bottom Paste			Paste Mask	GBP
Total thickness: 62mil (1.575mm)					

Top Layer (Scale 1:1)



Bottom Layer (Scale 1:1)



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		UNLESS OTHERWISE SPECIFIED:		NAME	DATE			
		DIMENSIONS ARE IN INCHES	DRAWN		8/20/2020	TITLE		
		TOLERANCES:	CHECKED					
		FRACTIONAL ±	ENG APPR.					
		ANGULAR: MACH ± BEND ±	MFG APPR.					
		TWO PLACE DECIMAL ±	Q.A.			SIZE DWG. NO.		
		THREE PLACE DECIMAL ±	COMMENTS:					
		INTERPRET GEOMETRIC TOLERANCING PER:						
		MATERIAL						
		FINISH						
NEXT ASSY	USED ON	DO NOT SCALE DRAWING						
APPLICATION						SCALE: 1:1	WEIGHT:	SHEET 2 OF 2