

ARES_R06_Power

V0.1

V0.10_00p_01_ARESR기반 회로도 생성
V0.10_00p_02_Capacitor 파리미터에 F표시

V0.10_01p_01_connector변경(53253-0270/Molex)
V0.10_01p_02_보호회로변경
V0.10_01p_03_FG 회로 변경
V0.10_01p_04_제어전원 분리
V0.10_01p_05_B2B 커넥터 변경(1.27mm)
V0.10_01p_06_CNO2추가
V0.10_01p_07_bolt 촐 2개 삭제
V0.10_01p_08_TVS DIODE 추가-zujo.20.07.14

P-MOSFET 변경(SQJ481EP)
FUSE 변경(0448.005)
FUSE 변경(0448.015)
Reverse Protection 회로 변경
PGND, AGND, DGND 분리 저항 변경(Beed)
P-MOSFET 변경(SQJ481EP)
제어전원 커넥터 변경(P01331-0207)

V0.10_02p_01_converter 패트 변경(MAXM17575)
V0.10_02p_02_converter 주변 회로 변경

V0.10_04p_01_MOSFET 변경

V0.2

V0.20_01p_01 C103,104,113,114 CAP 변경
C121,122,123,124 변경 및 추가
D101 변경(UDZVFHT18B)
FUSE 변경(0448.010)
P_MOSFET 변경(BSC061N08NS5)(Q421,422,431,432,441,442)
R451, 452, Net(V48P) 삭제
V0.20_01p_02 CN1 커넥터 및 펈맵 변경, MOT 펈맵 변경
V0.20_02p_03_NET 변경
V0.20_03p_01_Sigma Delta#1,2 NET 변경
V0.20_05p_01_HALL_CT 추가
V0.20_02p_03_FB211 추가(lb_3216)

V0.21

V0.21_01p_01_CNO1 패트 원복(22pin -> 20pin)
V0.21_01p_02_NET 삭제 .CURR_U, CURR_V
V0.21_01p_03_CNO2 삭제
V0.21_01p_04_MOT 펈맵 원복
V0.21_02p_01_NET 원복

V0.21_03p_01_Sigma Delta#1,2 NET 원복
V0.21_05p_01_HALL_CT Page 삭제(U501, 502)

V0.22

V0.22_01p_01_부품 이동(F101,D102)
부품 이동(F111,D104)
제어전원 PIN MAP 변경
CNO2 8,10,12 PIN 변경
BRK Connector변경(DF1B-2P-2.5DSA/HRS)
TP NAME 변경
V0.22_02p_01_U220 삭제
TP 삭제(V5U, V5V)
V0.22_03p_01_전류센서 변경(U301, 311, 331)
DCLink LED 변경 RED->BLUE LED
INA240 Vref 전압 생성 회로 추가
V0.22_04p_01_MOSFET 변경(BSC026N08NS5)
MOSFET 저항 변경(180->100[R], 18->10[R])
AL CAP 추가

V0.23

V0.23_01p_Power LCL 필터(L101, C101,102) 삭제
Control LCL 필터(L111, C111, 112) 삭제
V0.23_04p_01_AL CAP 변경(10uF -> 22uF)

V0.23_03p_Power U341(Vref_C) 회로 삭제
V0.23_03p_Power Vref_C = +5V

V0.24

V0.24_01p_01_C131, R131 값 변경
F102 삭제 및 F101 변경
FG 병렬저항(R131A, C131A) 삭제
C116 추가
V0.24_03p_01_R333, 343 제거 -> SIZE & 값 변경
C332, 342 제거, C331,341, R335, 345 값변경
R334, 344 SIZE & 값 변경
V0.24_04p_01_C404 추가
PGND, DGND 정리 삭제
C402, 405 추가 및 변경
D453 변경 B560C -> US1M

-	UNIT	mm	SCALE	N/S	TITLE	ARES_R06_Power	
DWG.	DESIGNED	CHECKED	APPROVED	SUBJECT		00.ChangeLog.SchDoc	
-	212115				SUBJECT	00.ChangeLog.SchDoc	
Related DWG. No.		DWG. No.	Ver.			0	
HIGEN			V0.21			5	

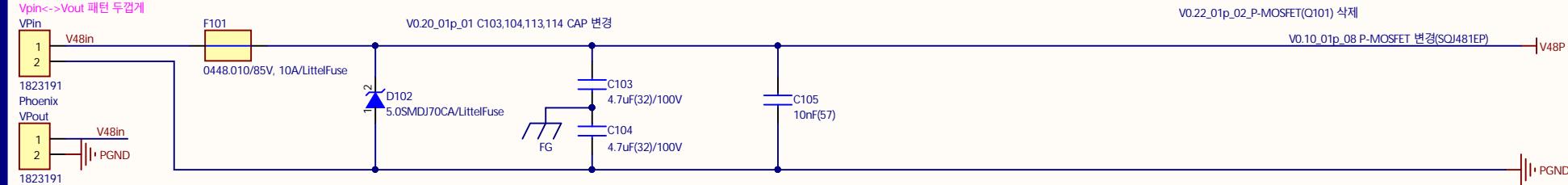
V0.10_01p_02_보호회로변경

V0.22_01p_01_부품 이동(F101,D102)

V0.10_01p_08_TVS DIODE 추가

V0.20_01p_01_FUSE 변경(0448.010)
V0.10_01p_08_FUSE 변경(0448.005)**Main Power connector**

입력 커넥터 부터 회로 순서대로 부품 배치 할 것.



V0.10_01p_08_제어전원 커넥터 변경(501331-0207)

V0.10_01p_04_제어전원 분리
V0.22_01p_01_부품 이동(F111,D104)

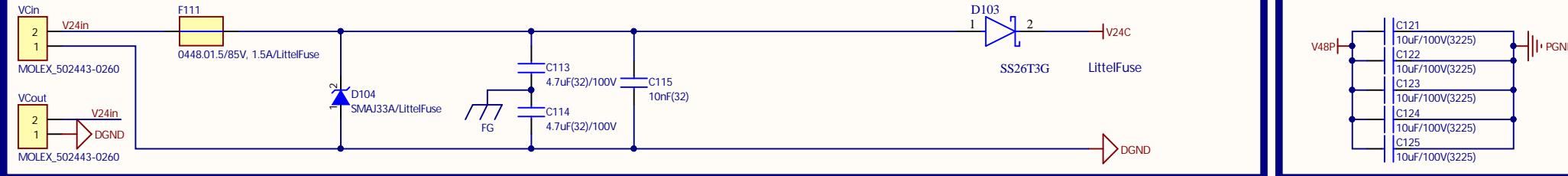
V0.10_01p_08_Safety board 용 전원 절파 추가(V24S_Ba)

V0.10_01p_08_FUSE 변경(0448.015)

V0.20_01p_01 C121,122,123,124 변경 및 추가

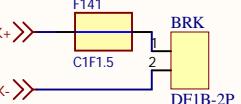
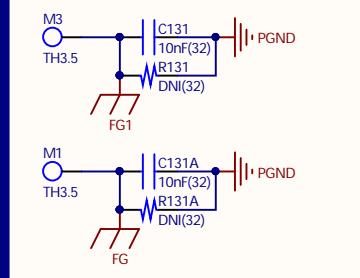
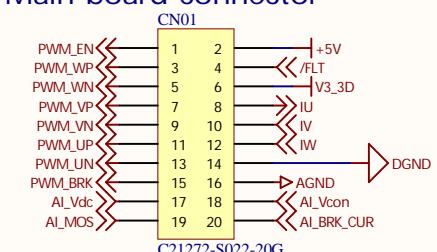
Control Power connector

입력 커넥터 부터 회로 순서대로 부품 배치 할 것.

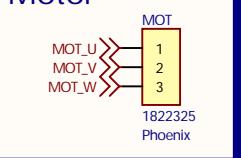


V0.10_01p_01_connector변경(53253-0270/Molex)

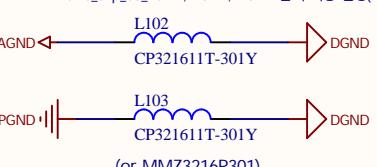
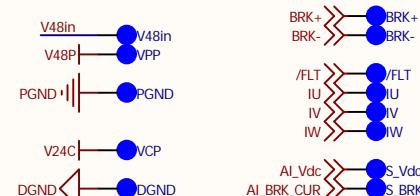
V0.22_01p_01_connector변경(DF1R-2P-2.5DSA/HRS)

BrakeV0.10_01p_03_FG 회로 변경
V0.10_01p_07_bolt 틀 2개 삭제**FG****Main board connector**

V0.21_01p_03_NET 삭제 (CURR_U, CURR_V)

V0.21_01p_02_CN02 삭제
V0.22_01p_01_CN02 8.10,12 PIN 변경**Motor**V0.11_01p_01_커넥터 변경
V0.20_01p_02 CN1 커넥터 및 핀맵 변경, MOT 핀맵 변경
V0.21_01p_04 MOT 핀맵 원복

V0.10_01p_08_PGND, AGND, DGND 분리 서양(Bead)

**Test points**

-	UNIT	mm	SCALE	N/S	TITLE	ARES_R06_Power		
DWG.	DESIGNED	CHECKED		APPROVED	SUBJECT	01.Connector.SchDoc		
-	212115				DWG. No.	Related DWG. No.		

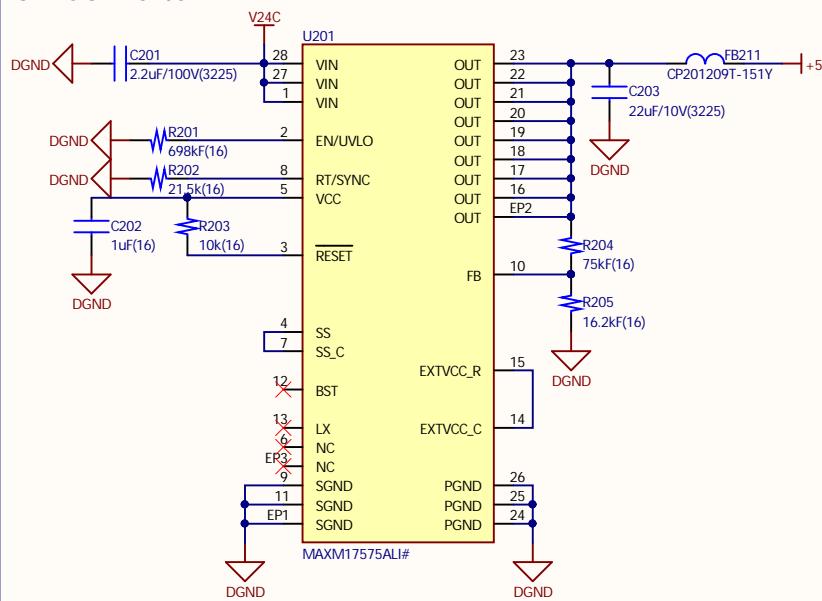
HIGEN

1
5
Ver.
V0.21

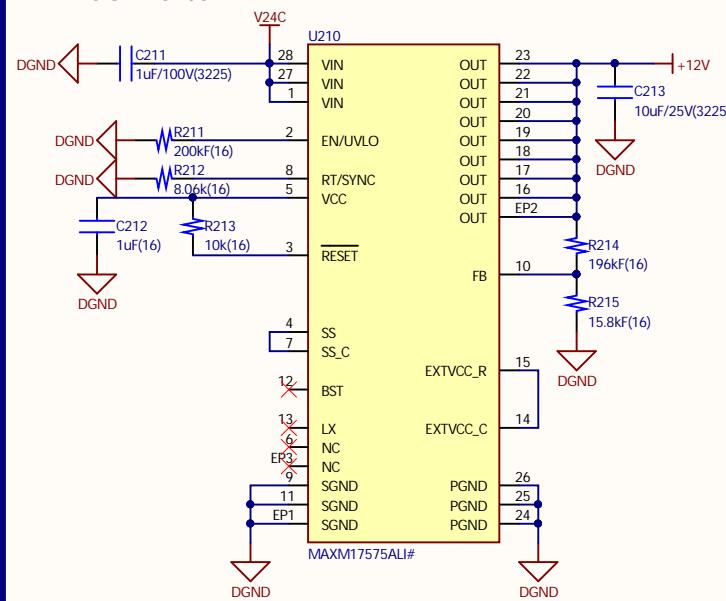
V0.10_02p_01_converter 파트 변경(MAXM17575)
V0.10_02p_02_converter 주변 회로 변경

V0.20_02p_03_FB211 추가(lib_3216)

5V Converter



12V Converter



V0.10_02p_03_NET 변경
V0.21_02p_01_NET 원복
V0.22_02p_01_U220 삭제

3.3V for Analog

V3_3D — FB241 CP201209T-151Y — +3.3V

Test Points

+3.3V — LDO3_3

+12V — V12G
+5V — V5C

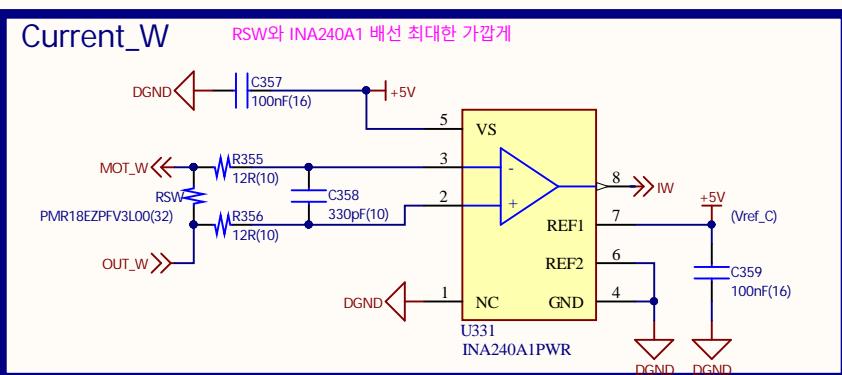
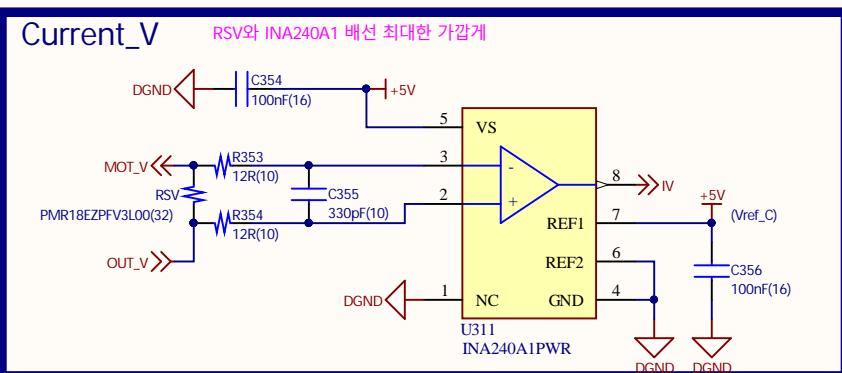
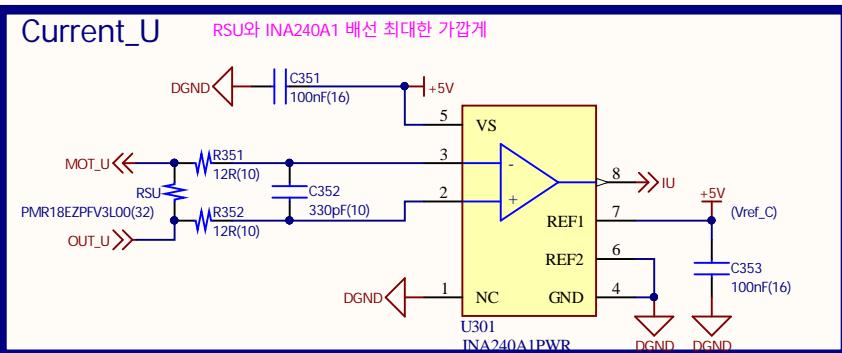
V0.22_02p_01_TP 삭제(V5U, V5V)

-	UNIT	mm	SCALE	N/S	TITLE	ARES_R06_Power	
DWG.	DESIGNED	CHECKED		APPROVED	SUBJECT	02.DC-DCConverter.SchDoc	
-	212115						
		Related DWG. No.			DWG. No.		

HIGEN

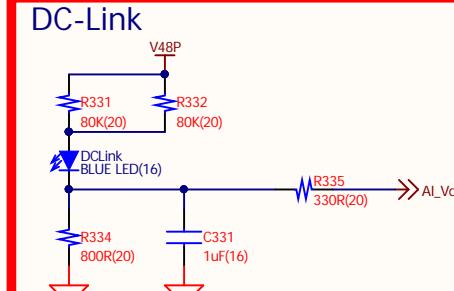
V0.20_03p_01_Sigma Delta#1,2 NET 변경
V0.21_03p_01_Sigma Delta#1,2 NET 원복
V0.22_03p_01 전류센서 변경(U301, 311, 331)
V0.23_03p Power Vref_C = +5V
V0.23_03p_Power U341(Vref_C) 삭제

V0.22_03P_01_INA240 Vref 전압 생성 회로 추가

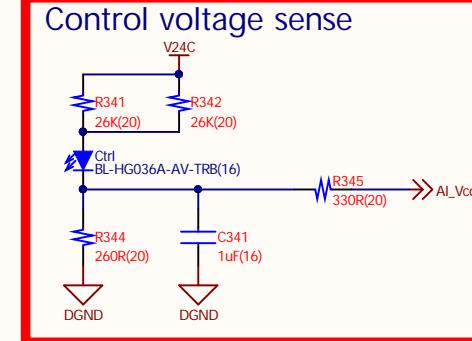


메인보드에 가리지 않는 영역 배치 잘보이는곳

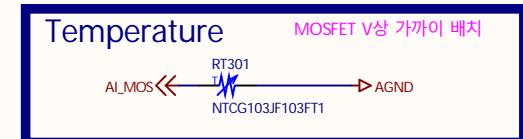
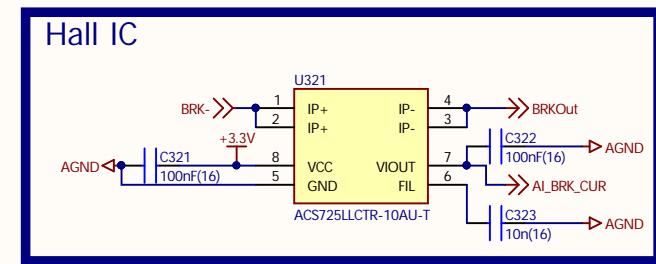
V0.22_03p_01_LED변경 RED->BLUE LED(DCLink LED)



메인보드에 가리지 않는 영역 배치 잘보이는곳



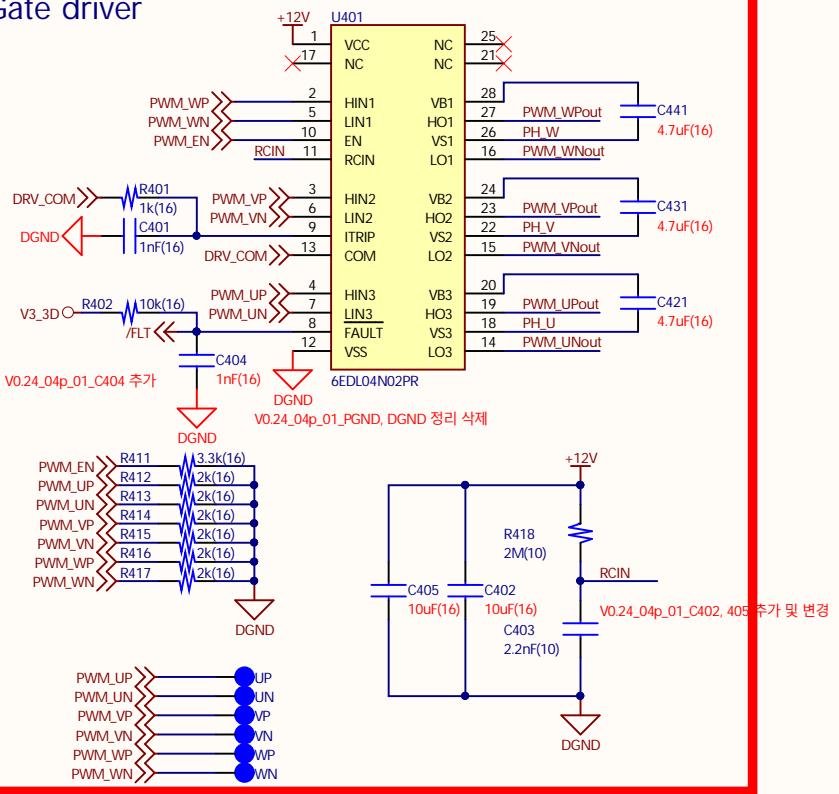
V0.22_03p_01_LED변경 RED->BLUE LED(DCLink LED)
V0.24_03P_01_R333, 343 제거 -> SIZE & 값 변경
C332, 342 제거, C331, 341, R335, 345 값변경
GND 변경(PGND->DGND)
R334, 344 SIZE & 값 변경



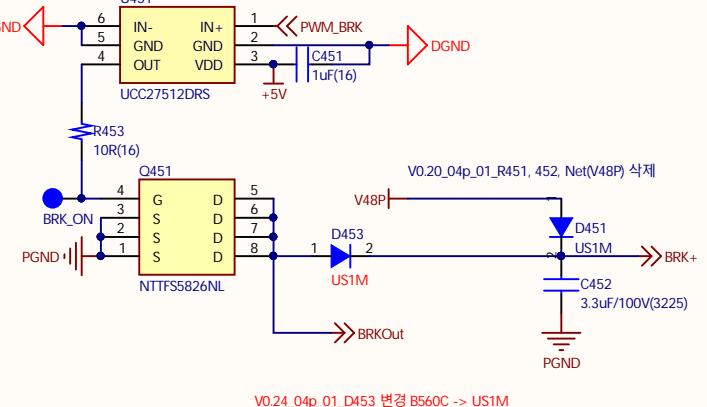
-	UNIT	mm	SCALE	N/S	TITLE	ARES_R06_Power	
DWG.	DESIGNED	CHECKED		APPROVED	SUBJECT	03.Sensing.SchDoc	
-	212115						
		Related DWG. No.			DWG. No.		

HIGEN

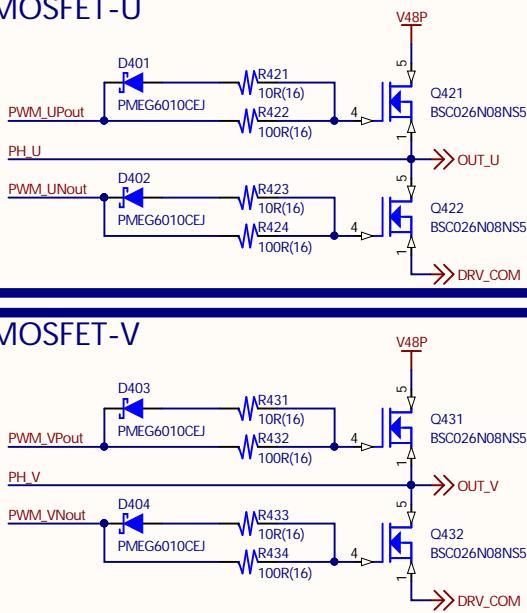
Gate driver



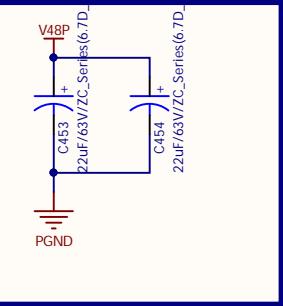
Gate driver



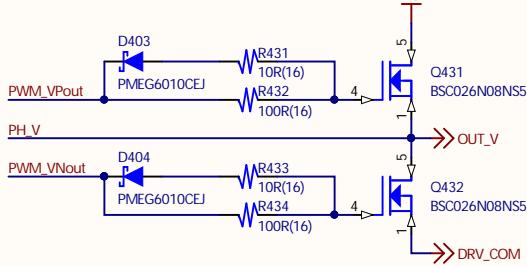
MOSFET-U



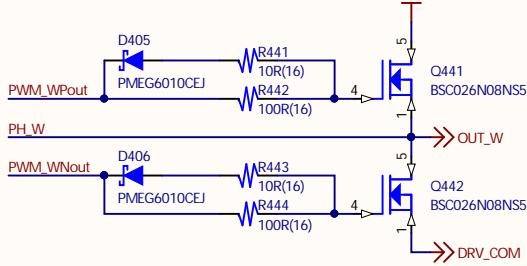
DC LINK CAP



MOSFET-V



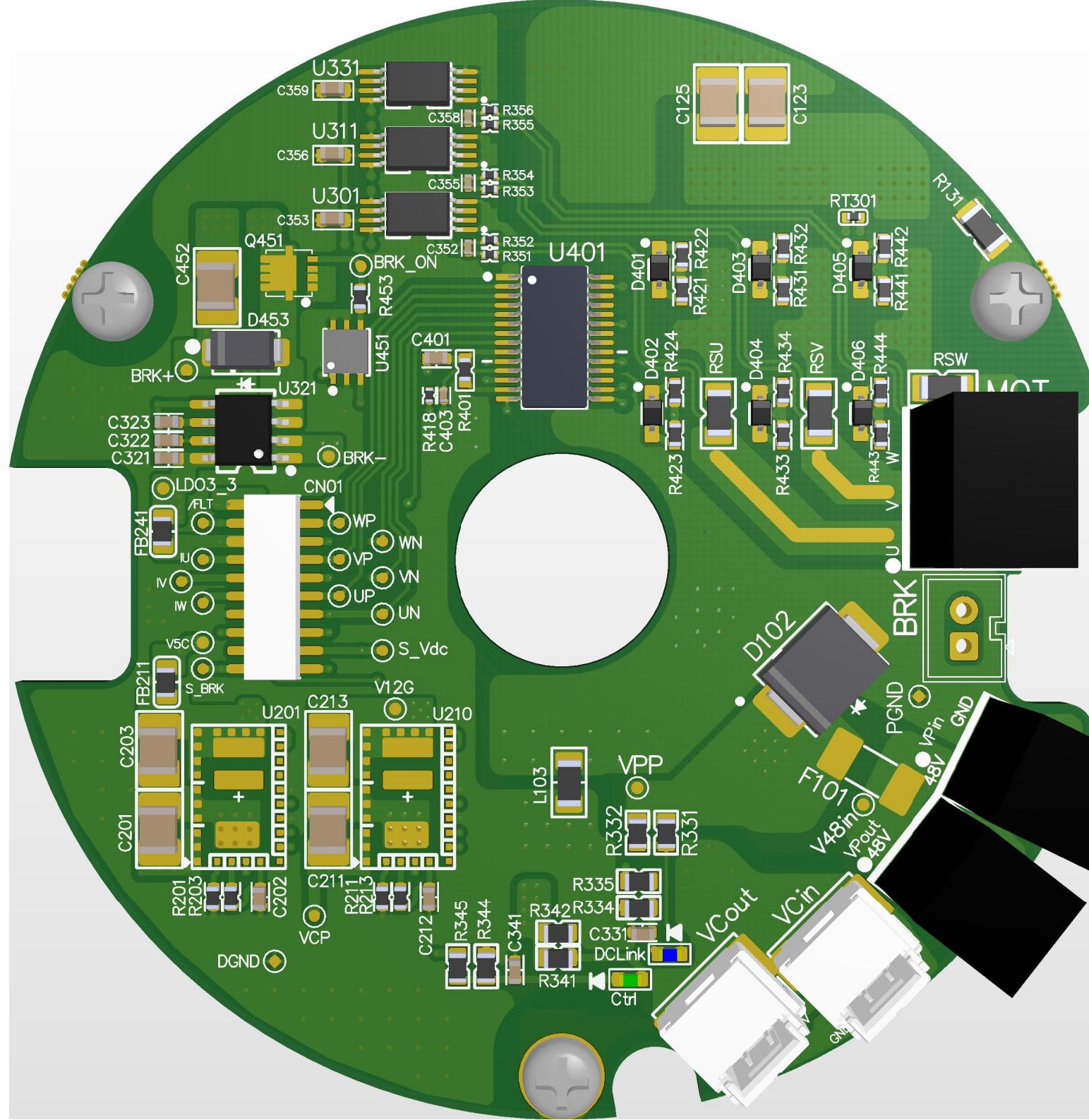
MOSFET-W

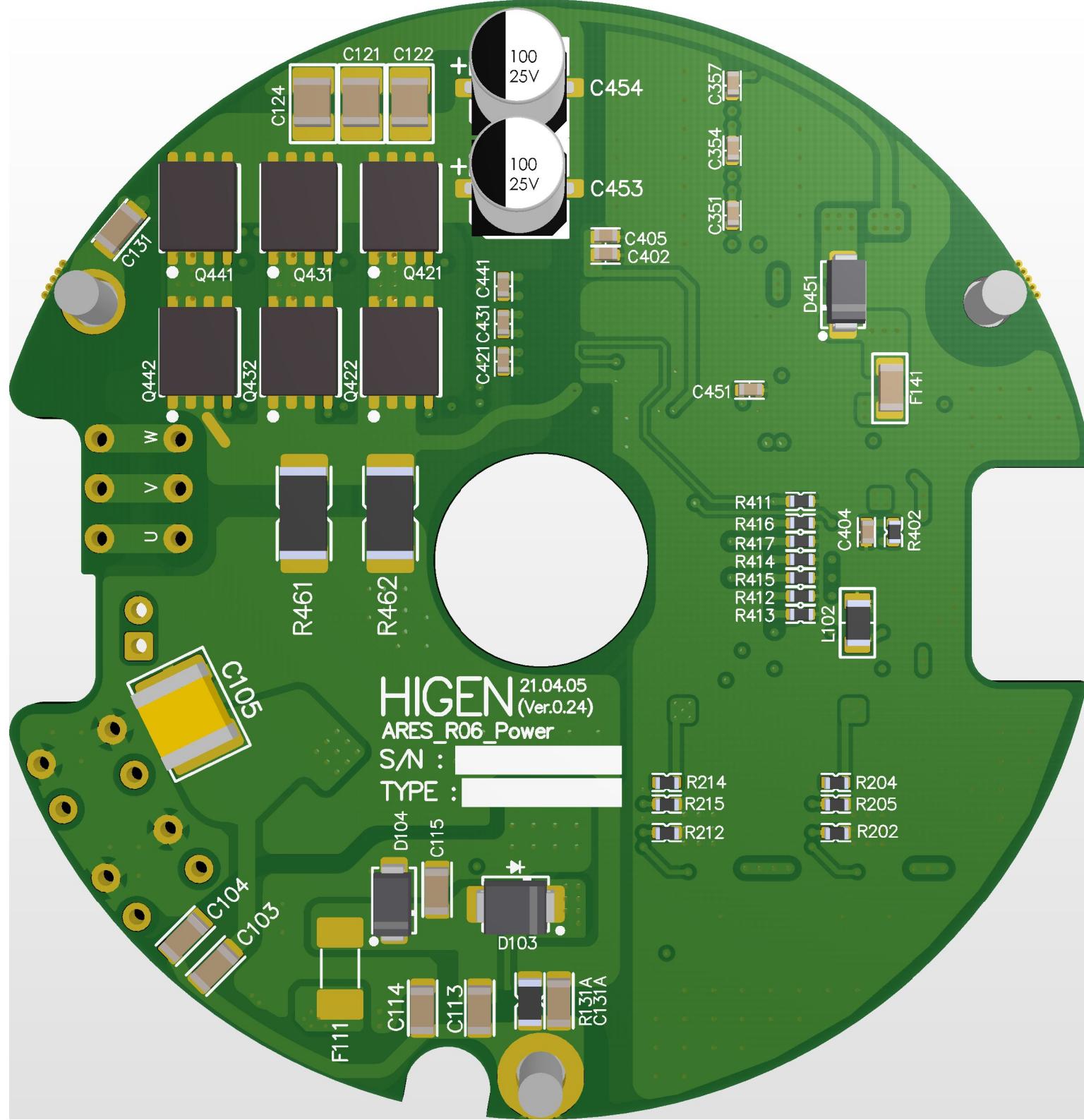


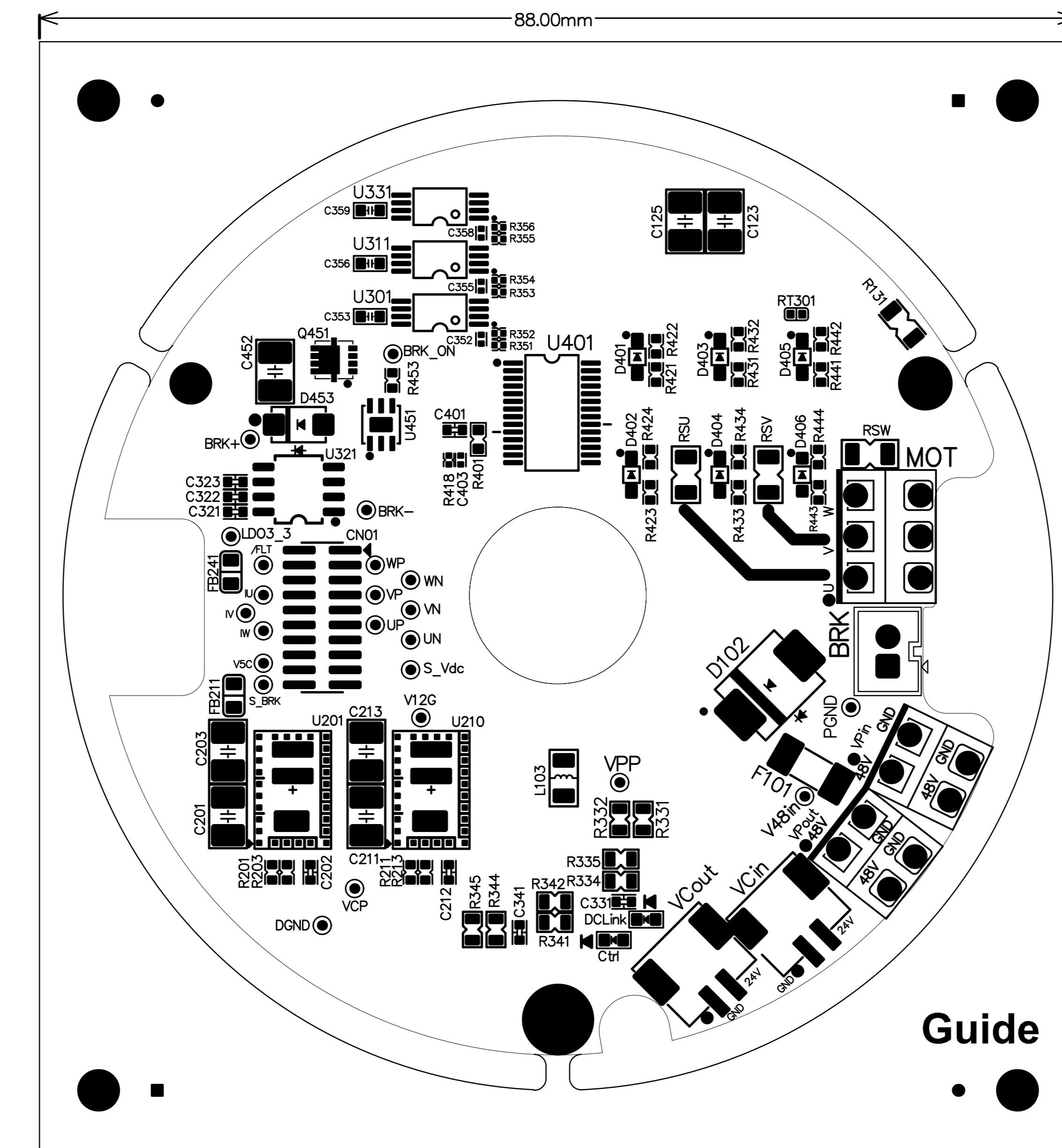
P-N Current Limit



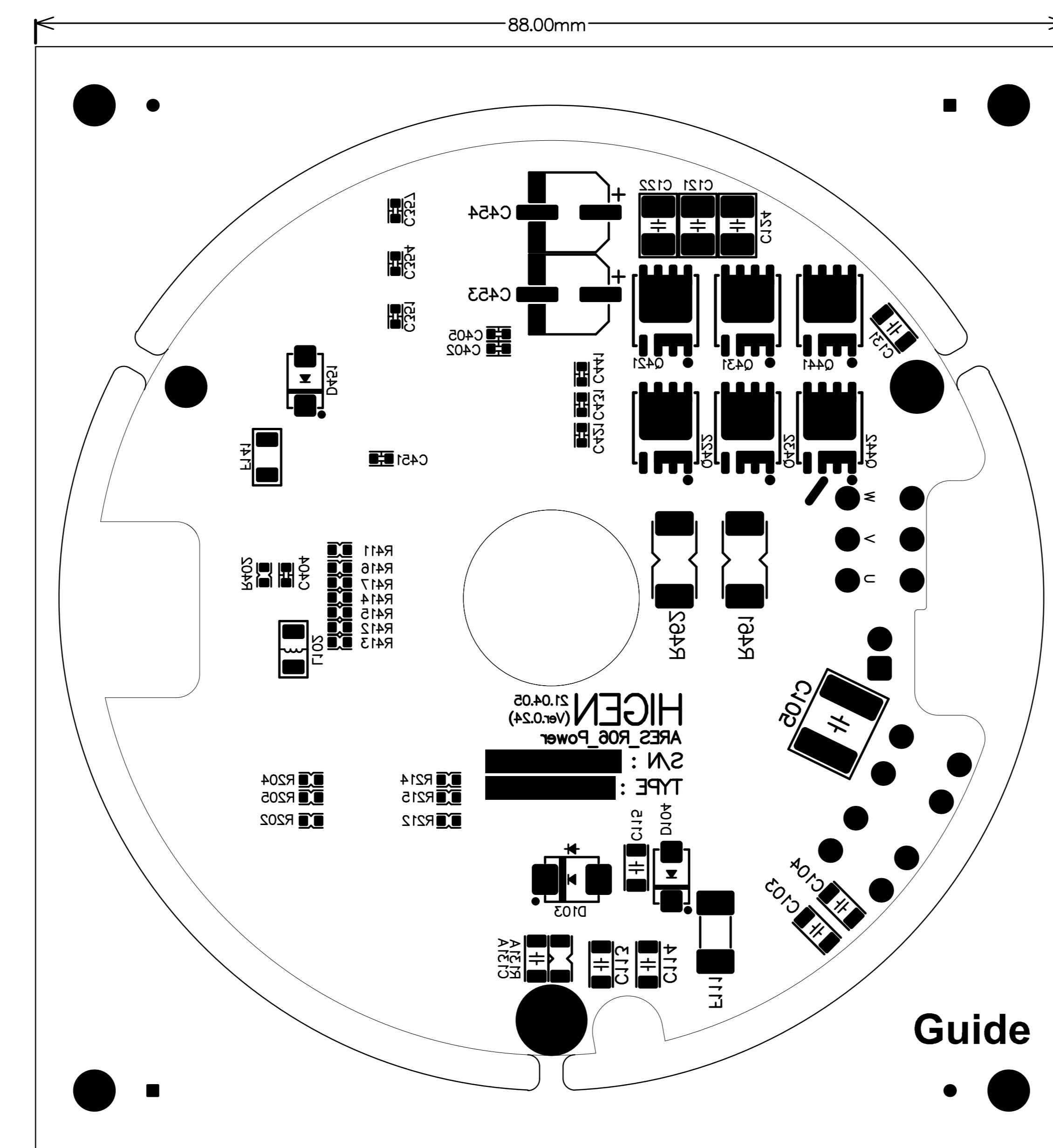
	UNIT	mm	SCALE	N/S	TITLE	ARES_R06_Power
DWG.	DESIGNED	CHECKED	APPROVED		SUBJECT	04.MOSFET.SchDoc
-	212115				SUBJECT	04.MOSFET.SchDoc
Related DWG. No.				DWG. No.	V0.21	
HIGEN				Ver. 5		



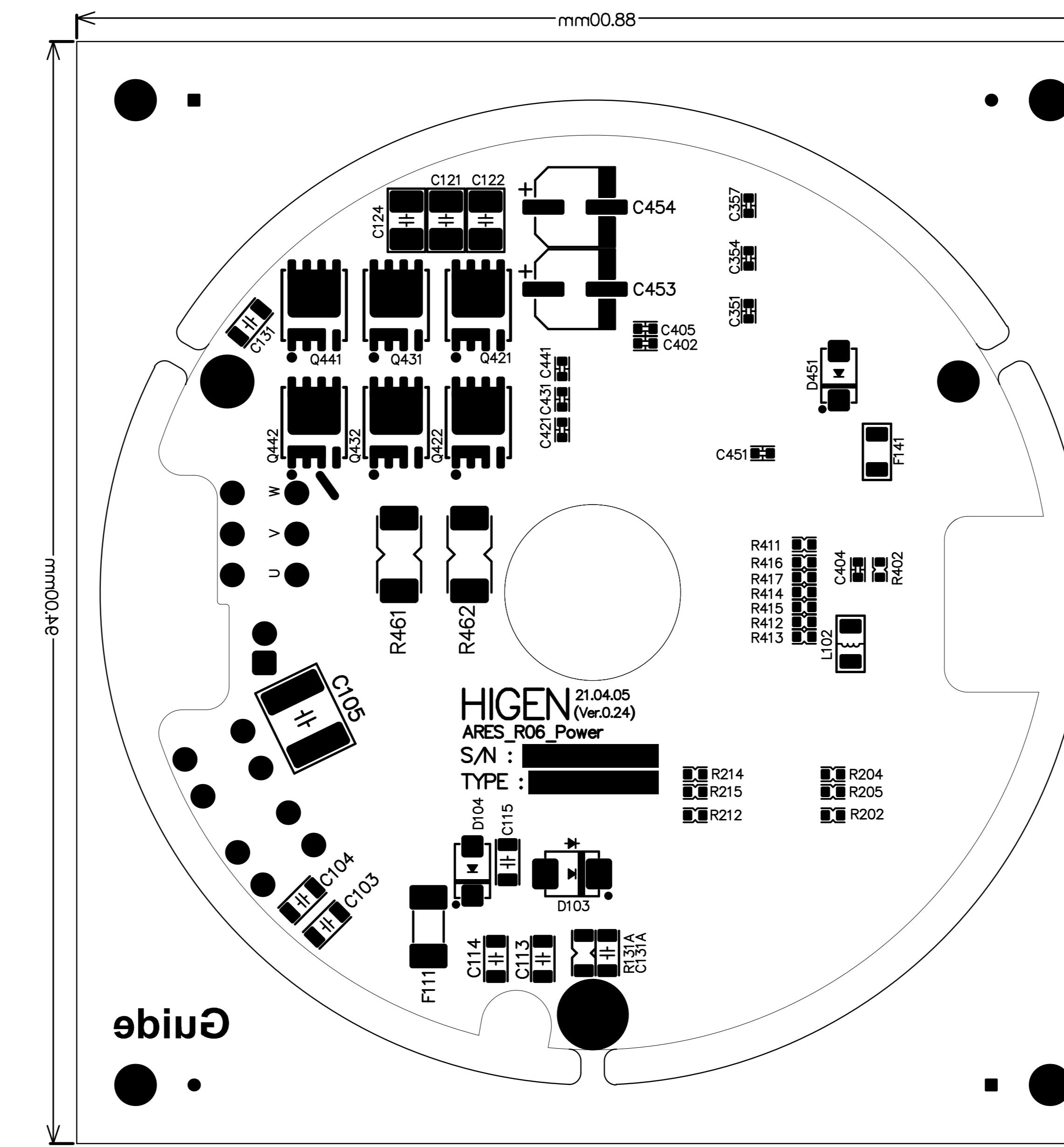




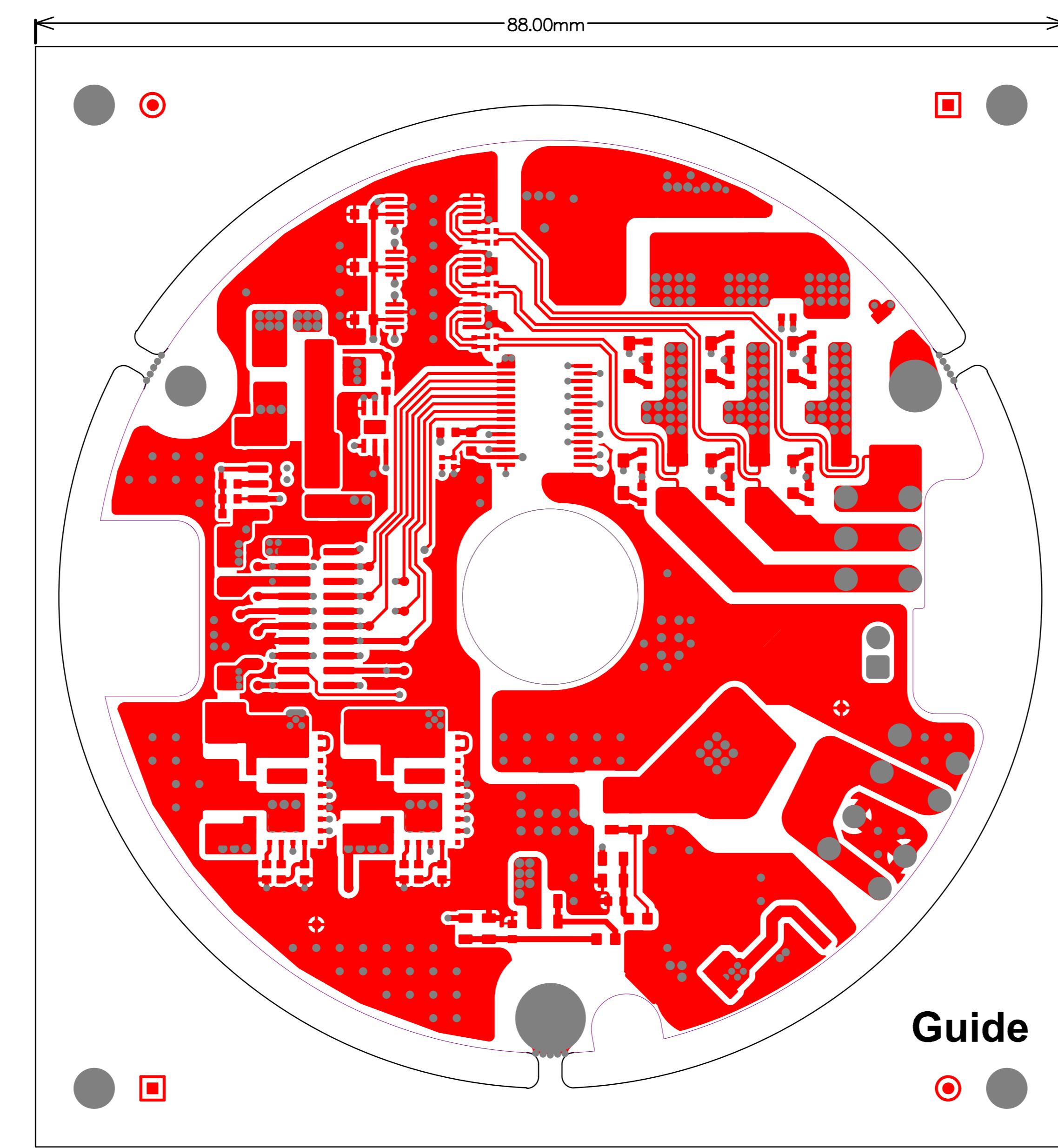
Size	88mm X 94mm	Customer	Higen
Thickness	1.6T	Design Name	ARES_R06_Power
Meterial	FR-4	Rev	0.24
Surface Preparation	OSP	Designer	KHH
Solder Mask	BLUE	Last Data	2021.04.02.
Silk Screen	White	C&K	



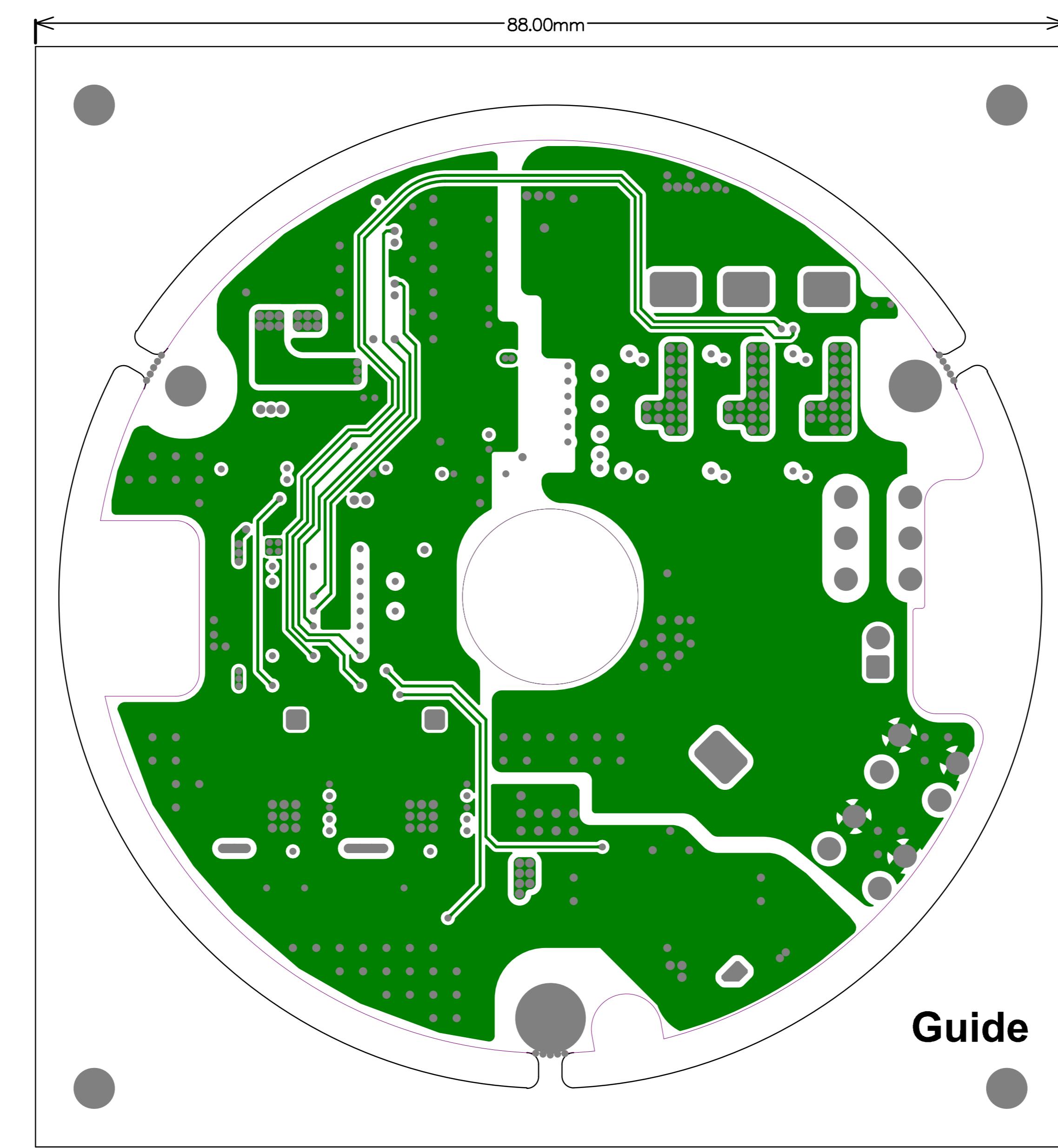
Size	88mm X 94mm	Customer	Higen
Thickness	1.6T	Design Name	ARES_R06_Power
Meterial	FR-4	Rev	0.24
Surface Preparation	OSP	Designer	KHH
Solder Mask	BLUE	Last Data	2021.04.02.
Silk Screen	White	C&K	



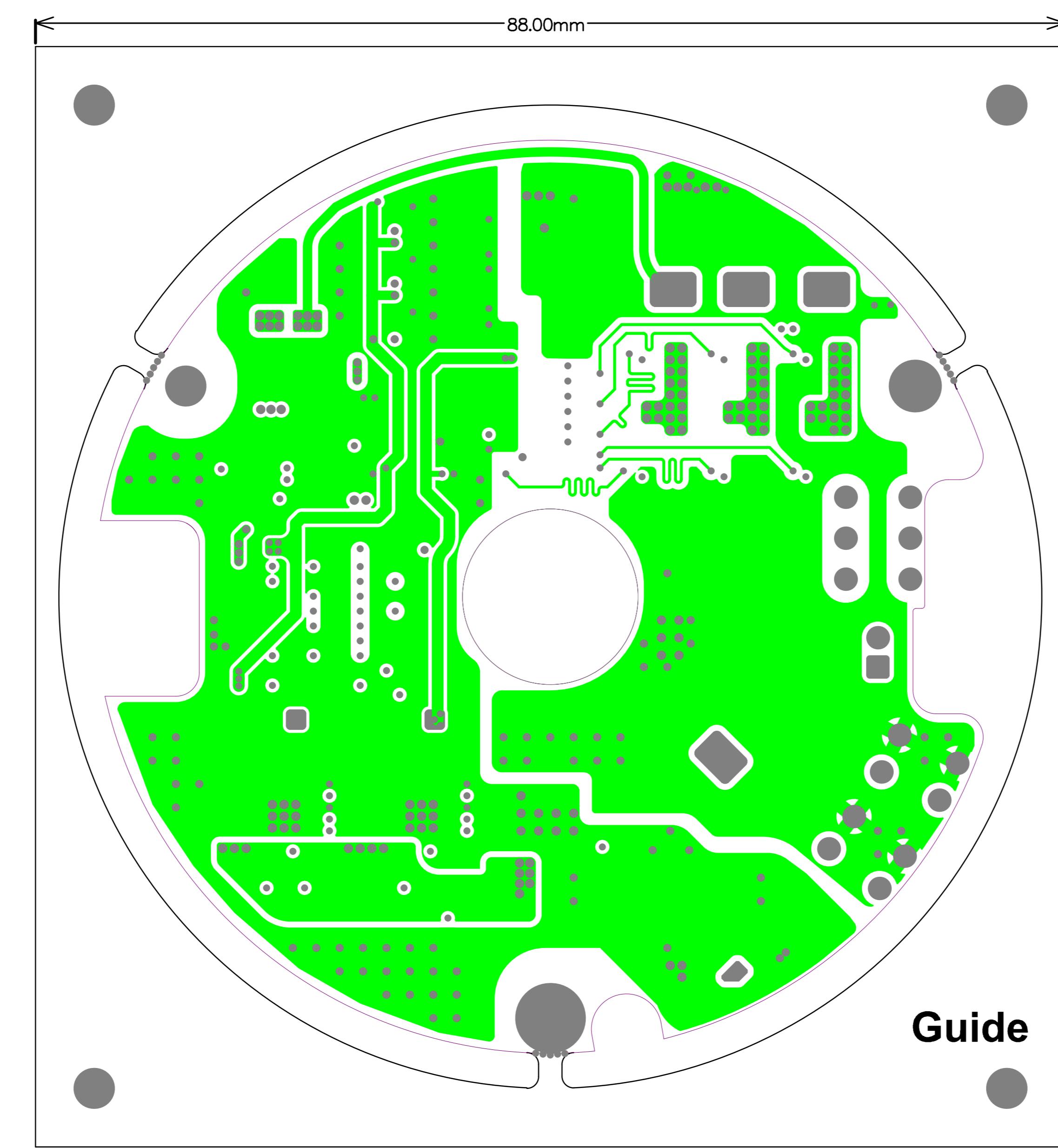
Size	88mm X 94mm
Thickness	1.6T
Material	FR-4
Surface Preparation	OSP
Solder Mask	BLUE
Stencil Screen	Wlife
C&K	C&K
Last Data	2021.04.05.
Designer	KHH
Rev	0.24
Design Name	ARES_R06_Power
Customer	Hidem



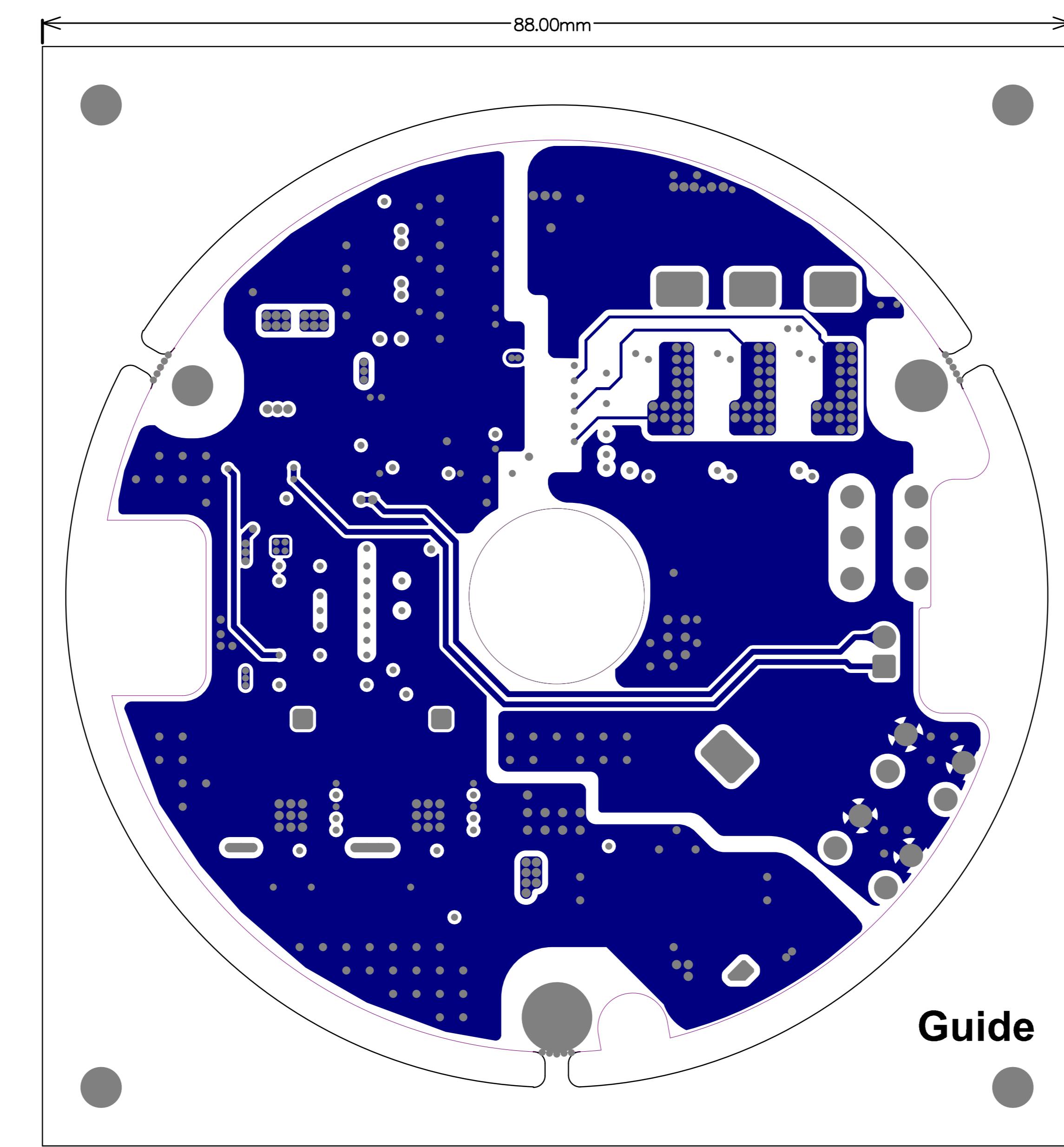
Size	88mm X 94mm	Customer	Higen
Thickness	1.6T	Design Name	ARES_R06_Power
Material	FR-4	Rev	0.24
Surface Preparation	OSP	Designer	KHH
Solder Mask	BLUE	Last Data	2021.04.02.
Silk Screen	White	C&K	



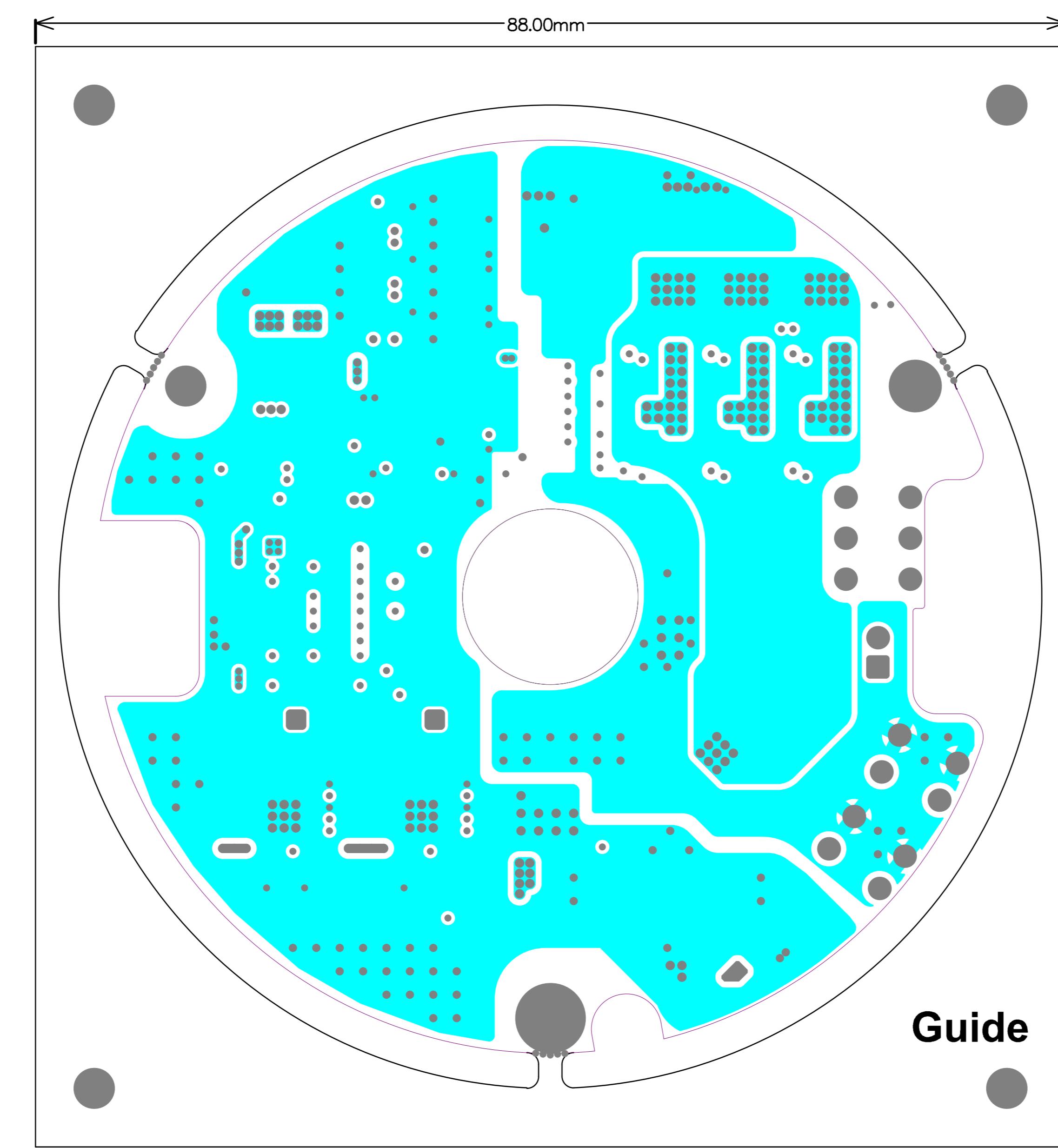
Size	88mm X 94mm	Customer	Higen
Thickness	1.6T	Design Name	ARES_R06_Power
Material	FR-4	Rev	0.24
Surface Preparation	OSP	Designer	KHH
Solder Mask	BLUE	Last Data	2021.04.02.
Silk Screen	White	C&K	



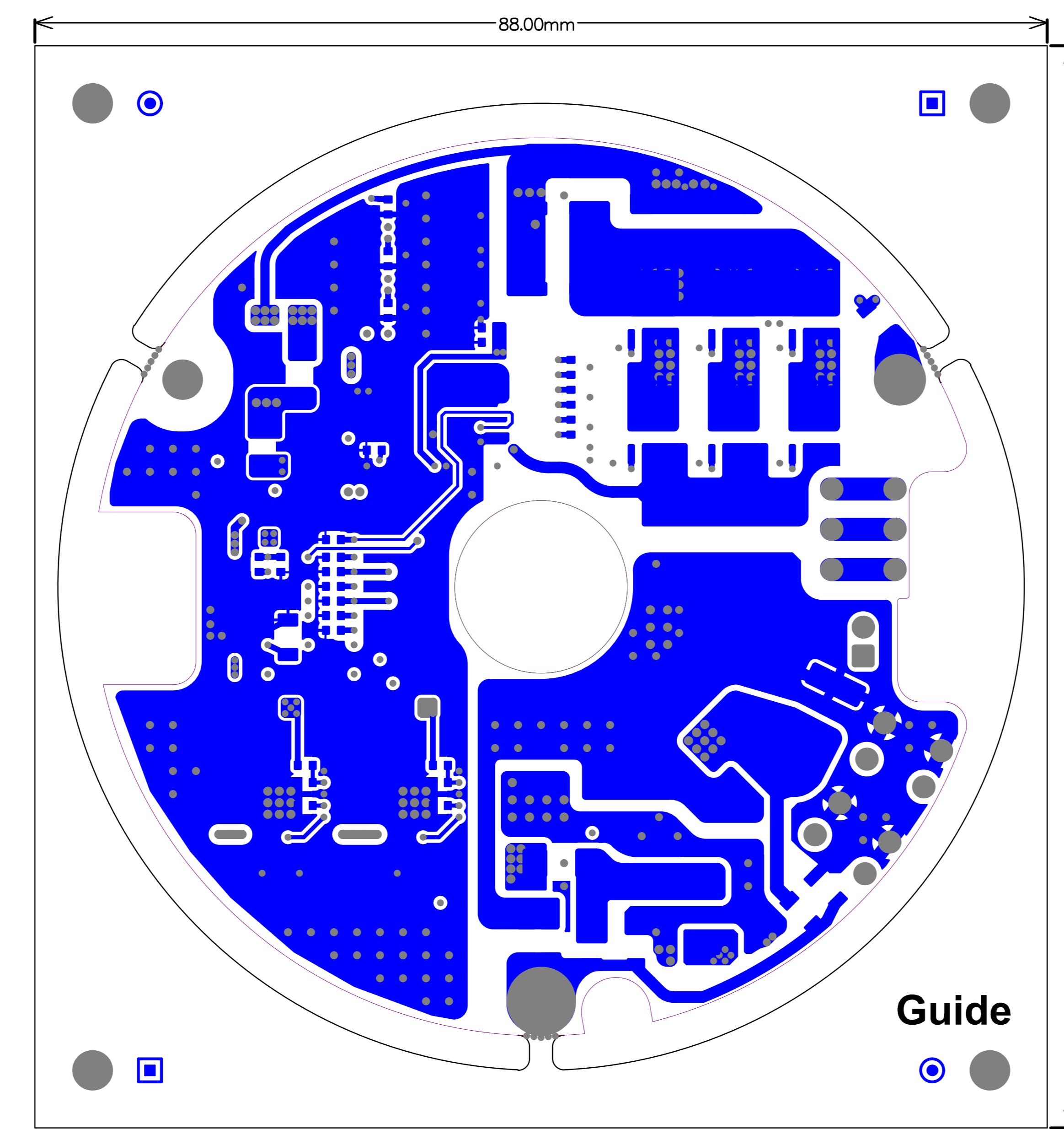
Size	88mm X 94mm	Customer	Higen
Thickness	1.6T	Design Name	ARES_R06_Power
Material	FR-4	Rev	0.24
Surface Preparation	OSP	Designer	KHH
Solder Mask	BLUE	Last Data	2021.04.02.
Silk Screen	White	C&K	



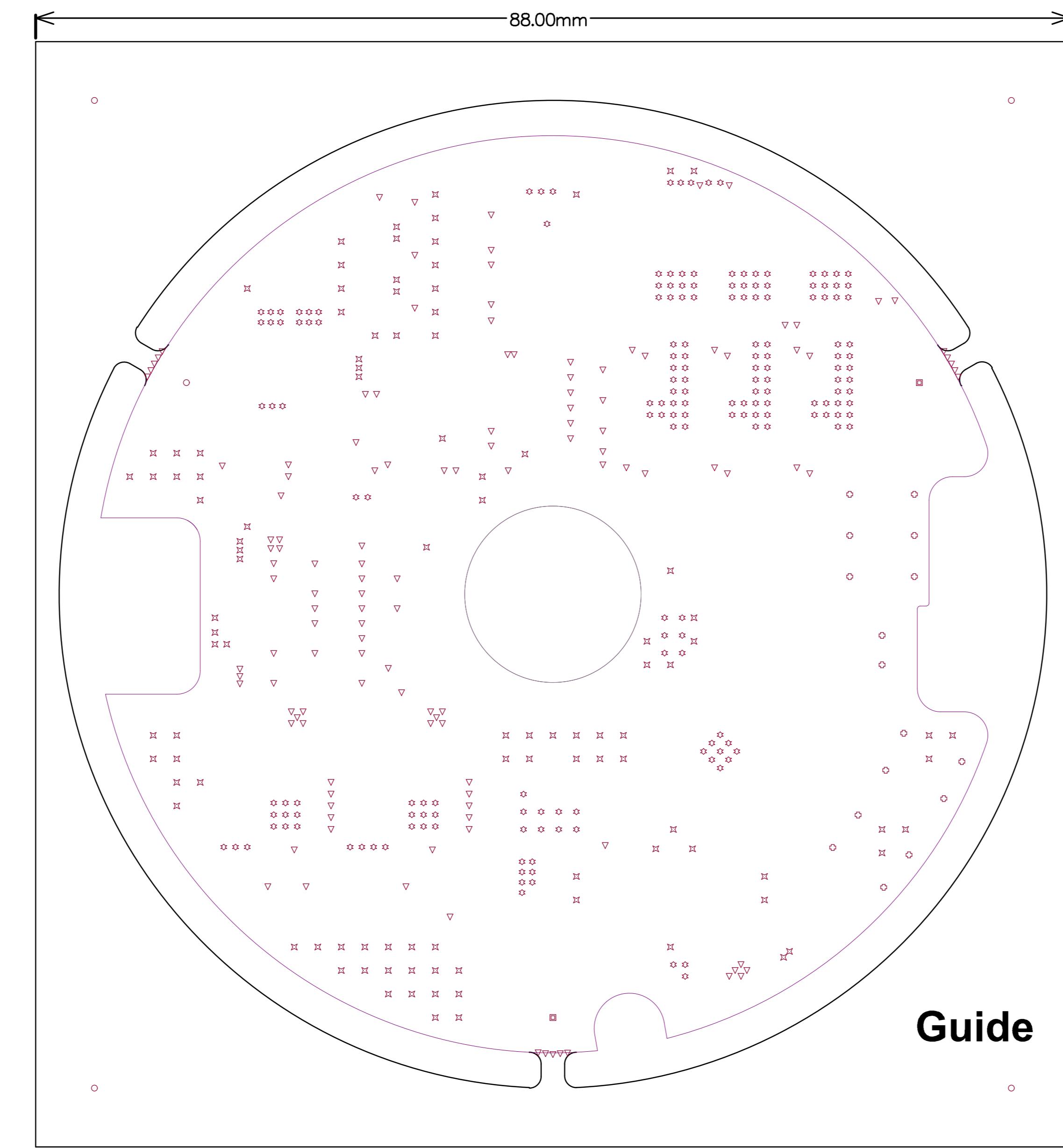
Size	88mm X 94mm	Customer	Higen
Thickness	1.6T	Design Name	ARES_R06_Power
Material	FR-4	Rev	0.24
Surface Preparation	OSP	Designer	KHH
Solder Mask	BLUE	Last Data	2021.04.02.
Silk Screen	White	C&K	



Size	88mm X 94mm	Customer	Higen
Thickness	1.6T	Design Name	ARES_R06_Power
Material	FR-4	Rev	0.24
Surface Preparation	OSP	Designer	KHH
Solder Mask	BLUE	Last Data	2021.04.02.
Silk Screen	White	C&K	



Size	88mm X 94mm	Customer	Higen
Thickness	1.6T	Design Name	ARES_R06_Power
Material	FR-4	Rev	0.24
Surface Preparation	OSP	Designer	KHH
Solder Mask	BLUE	Last Data	2021.04.02.
Silk Screen	White	C&K	



Symbol	Count	Hole Size	Plated	Hole Type	Via/Pad	Pad Shape
▽	130	0.300mm (11.81mil)	PTH	Round	Via	Rounded
☒	104	0.350mm (13.78mil)	PTH	Round	Via	Rounded
❖	181	0.400mm (15.75mil)	PTH	Round	Via	Rounded
+/-	16	1.100mm (43.31mil)	PTH	Round	Pad	(Mixed)
○	5	3.500mm (137.80mil)	NPTH	Round	Pad	Rounded
□	2	3.500mm (137.80mil)	PTH	Round	Pad	Rounded
438 Total						

Size	88mm X 94mm	Customer	Higen
Thickness	1.6T	Design Name	ARES_R06_Power
Material	FR-4	Rev	0.24
Surface Preparation	OSP	Designer	KHH
Solder Mask	BLUE	Last Data	2021.04.02.
Silk Screen	White	C&K	