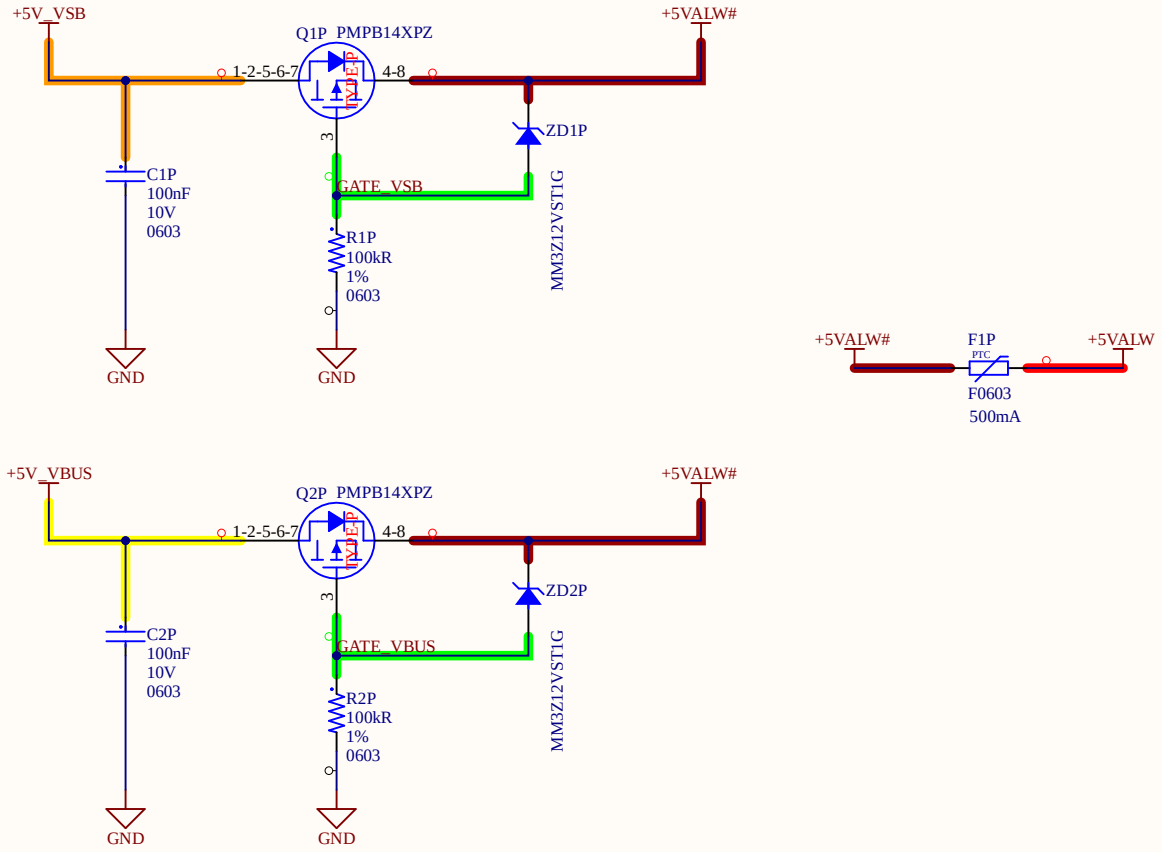


Title: ***Power_Path***		**Author:** Alcatraz	**DHNLAB PVT LTD**
Size: A4	**Prj:** ESP8266-Deskop_Power	**Approved:** Alcatraz	*DHANBAD*
		PUBLIC	*JHARKHAND*
Date: 06-12-2024 20:12:58	Sheet 1 of 10	**Edited:** 24-11-2024	*INDIA*
Git Hash: 437		**Variant:** [No Variations]	*ASIA*
File: C:\Users\desktop\Documents\Project Files\Altium\Projects\Project - Devlopment\ESP8266-Deskop_Power\1_Power_Path.SchDoc		**SW Version:** 24.10.1.45	

SGM2019-ADJ
Populate R0L, R1L and R2L

SGM2019-3.3
Only Populate R2L With 100nF Cap
DNP - R0L, R1L

HT7833
DNP - R0L, R1L and R2L

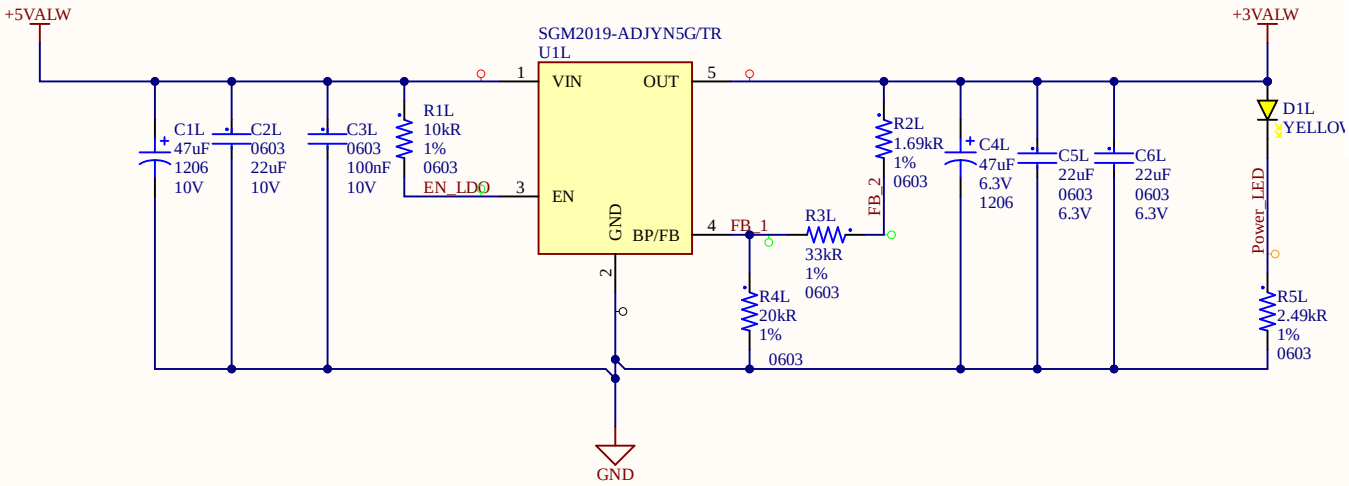
SGM2019-ADJYN5G/TR
Vout = 3.3V
Register Values For
R0L, R1L and R2L
R1L=R0B+R1L

Values From Datasheet

Standard 1% Resistor Values for Common Output Voltages of Adjustable Voltage Version

V_{OUT} (V)	R_1 (kΩ)	R_2 (kΩ)
1.2	0	63.4
1.5	10.5	42.2
1.8	34	63.4
2.8	84.5	63.4
3.0	63.4	42.2
3.3	73.2	42.2
3.6	84.5	42.2
4.2	105	42.2

NOTE: $V_{OUT} = (R_1 + R_2)/ R_2 \times 1.207$



Here are the calculated values of R1L (in kΩ) for VOUT= 3.3 V with different R2L values:
IF R0L= 0Ω
R2L=10kΩ:R1L≈17.34kΩ
R2L=20kΩ:R1L≈34.68kΩ
R2L=30kΩ:R1L≈52.02kΩ
R2L=40kΩ:R1L≈69.36kΩ
R2L=50kΩ:R1L≈86.70kΩ
R2L=60kΩ:R1L≈104.04kΩ
R2L=70kΩ:R1L≈121.38kΩ
R2L=80kΩ:R1L≈138.72kΩ
R2L=90kΩ:R1L≈156.06kΩ
R2L=100kΩ:R1L≈173.41kΩ

Title: LDO		**Author:** Alcatraz	**DHNLAB PVT LTD**
Size: A4	**Prj:** ESP8266-Deskop_Power	**Approved:** Alcatraz	*DHANBAD*
		PUBLIC	*JHARKHAND*
Date: 06-12-2024 20:12:58	Sheet 2 of 10	**Edited:** 06-12-2024	*INDIA*
Git Hash: 477		**Variant:** [No Variations]	*ASIA*
File: C:\Users\desktop\Documents\Project Files\Altium\Projects\Project - Devlopment\ESP8266-Deskop_Power\2_LDO.SchDoc		**SW Version:** 24.10.1.45	

PIN NAMES

GPIO16(D0)
GPIO5(D1)=I2C=SCL=_N
GPIO4(D2)=I2C=SDA=_P
GPIO0(D3)
GPIO2(D4)
GPIO14(D5)
GPIO12(D6)
GPIO13(D7)
GPIO15(D8)
GPIO3(RX)= UART0
GPIO1(TX)= UART0
GPIO9(SD2)
GPIO10(SD3)

PIN IS HIGH ON BOOT

D0 = GPIO16
D2 = GPIO4
RX = GPIO3
TX = GPIO1
SD2 = GPIO9
SD3 = GPIO10

BOOT FAILURE
IF PULLED LOW

D3 = GPIO0
D2 = GPIO4
TX = GPIO1

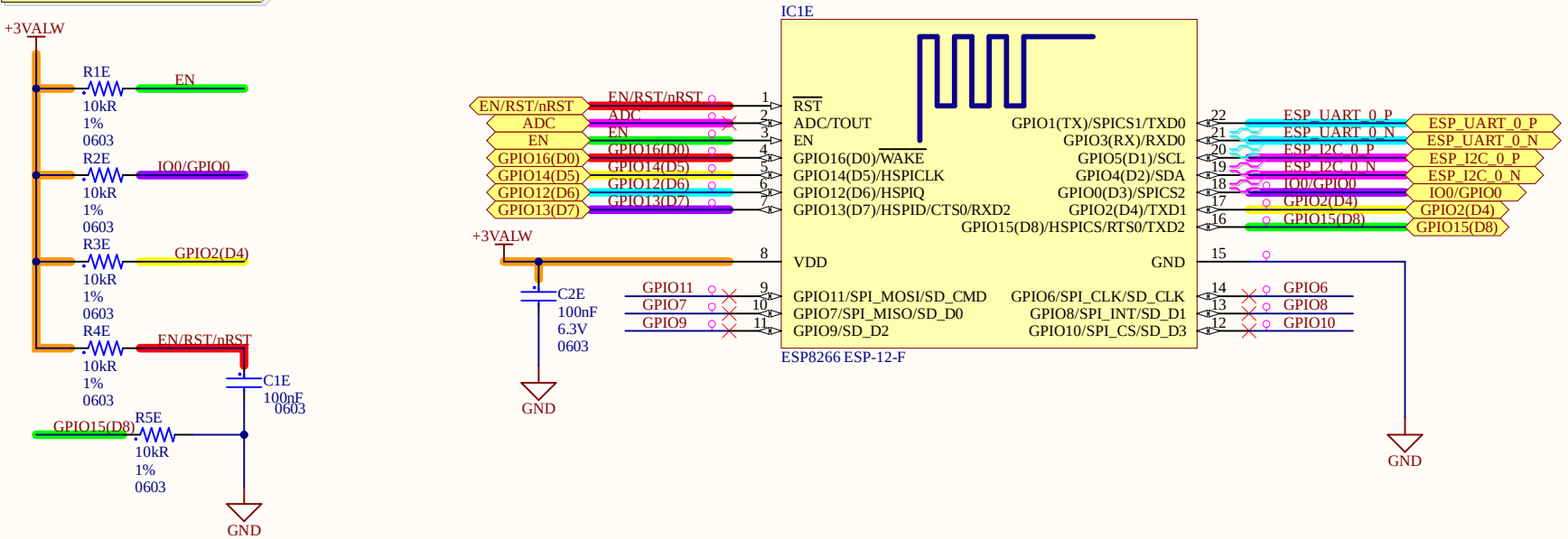
BOOT FAILURE
IF PULLED HIGH

D8 = GPIO15

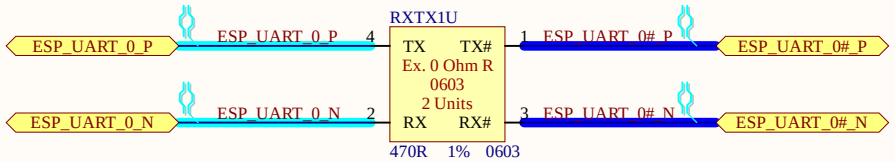
BEST PINS FOR
INPUT (BEST TO WORST)
D1 = GPIO5
D2 = GPIO4
D5 = GPIO14
D6 = GPIO12
D7 = GPIO13
*HIGH ON BOOT
D0 = GPIO16
SD2 = GPIO9
SD3 = GPIO10

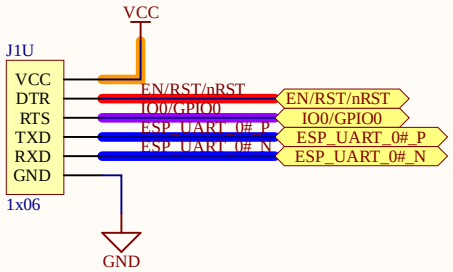
BEST PINS FOR
OUTPUT (BEST TO WORST)
D1 = GPIO5
D2 = GPIO4
D5 = GPIO14
D6 = GPIO12
D7 = GPIO13
*BOOT FAILURE
IF PULLED HIGH
D8 = GPIO15

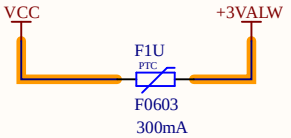
BESP Pins For Smart LED(Pixel)
ESP8266_UART0 = GPIO1(TX)
ESP8266_UART1 = GPIO2(D4)
ESP8266_DMA = GPIO3(RX)
ESP8266_ASYNC_UART0 = GPIO1(TX)
ESP8266_ASYNC_UART1 = GPIO2(D4)
ESP8266_SPI_DATA = GPIO13(D7)
ESP8266_SPI_CLOCK = GPIO14(D5)



Title: 3_ESP8266_Core.SchDoc		Author: Alcatraz	DHNLAB PVT LTD DHANBAD JHARKHAND INDIA ASIA
Size: A4	Prj: ESP8266-Deskop_Power	Approved: Alcatraz	
		PUBLIC	
Date: 06-12-2024 20:12:58	Sheet 3 of 10	Edited: 04-12-2024	
Git Hash: 464		Variant: [No Variations]	
File: C:\Users\desktop\Documents\Project Files\Altium\Projects\Project - Devlopment\ESP8266-Deskop_Power\3_ESP8266_Core.SchDoc		SW Version: 24.10.1.45	

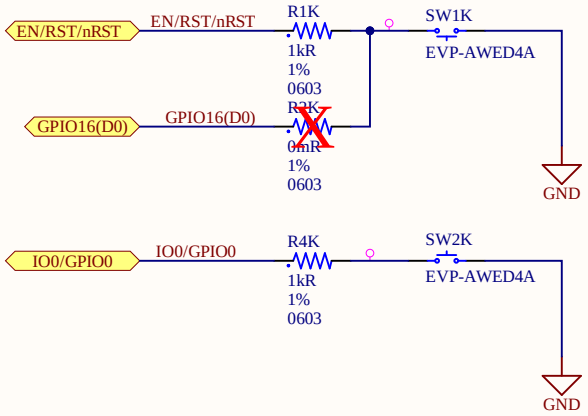




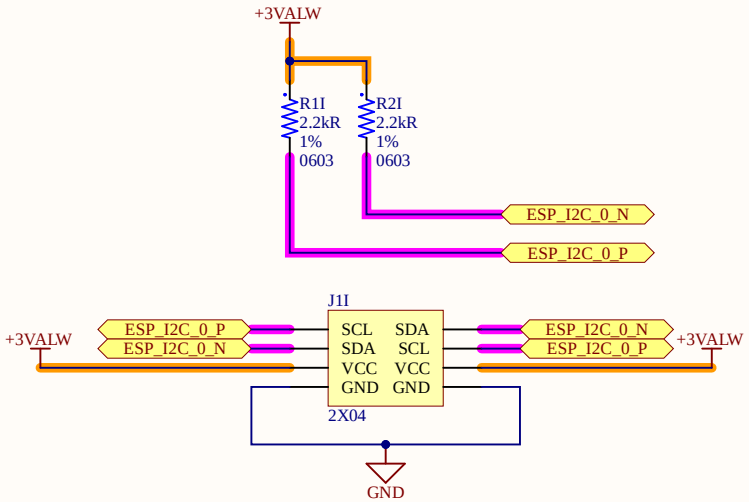


Title: *4_USB_TO_UART*		**Author:** Alcatraz	**DHNLAB PVT LTD**
Size: A4	**Prj:** ESP8266-Deskop_Power	**Approved:** Alcatraz	*DHANBAD*
		PUBLIC	*JHARKHAND*
Date: 06-12-2024 20:12:59	Sheet 4 of 10	**Edited:** 02-12-2024	*INDIA*
Git Hash: 448		**Variant:** [No Variations]	*ASIA*
		SW Version: 24.10.1.45	

File: C:\Users\desktop\Documents\Project Files\Altium\Projects\Project - Devlopment\ESP8266-Deskop_Power\4_USB_TO_UART.SchDoc

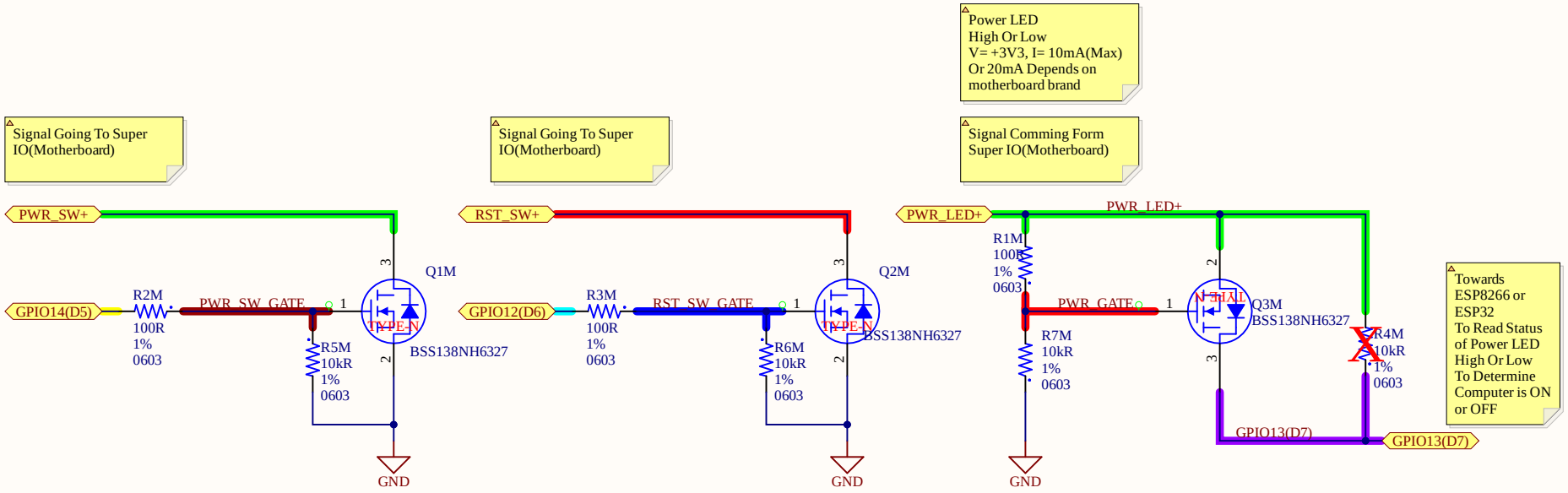


Title: ***KEYS***		**Author:** Alcatraz	**DHNLAB PVT LTD**
Size: A4	**Prj:** ESP8266-Deskop_Power	**Approved:** Alcatraz	*DHANBAD*
		PUBLIC	*JHARKHAND*
Date: 06-12-2024 20:12:59	Sheet 5 of 10	**Edited:** 06-12-2024	*INDIA*
Git Hash: 480		**Variant:** [No Variations]	*ASIA*
File: C:\Users\desktop\Documents\Project Files\Altium\Projects\Project - Devlopment\ESP8266-Deskop_Power\5_Keys.SchDoc		**SW Version:** 24.10.1.45	

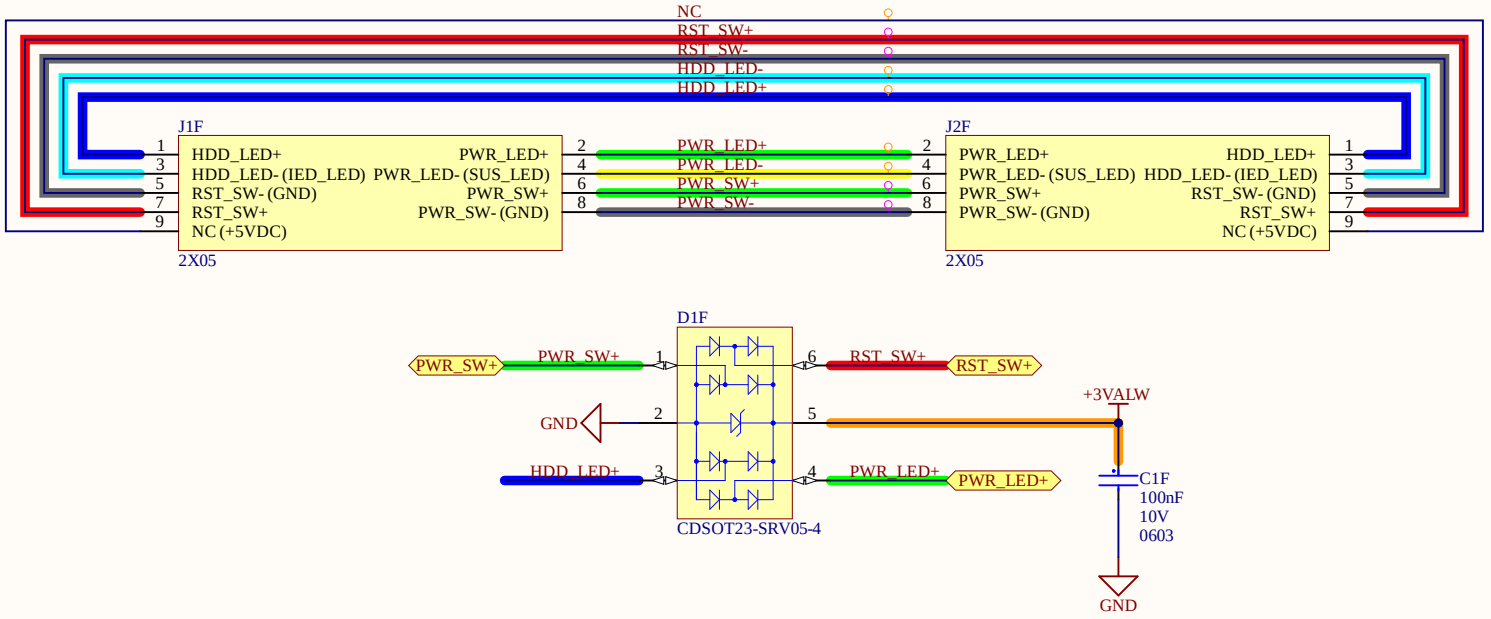


Title: *I2C_Sensors*		**Author:** Alcatraz	**DHNLAB PVT LTD**
Size: A4	**Prj:** ESP8266-Deskop_Power	**Approved:** Alcatraz	*DHANBAD*
		PUBLIC	*JHARKHAND*
Date: 06-12-2024 20:12:59	Sheet 6 of 10	**Edited:** 02-12-2024	*INDIA*
Git Hash: 442		**Variant:** [No Variations]	*ASIA*
		SW Version: 24.10.1.45	

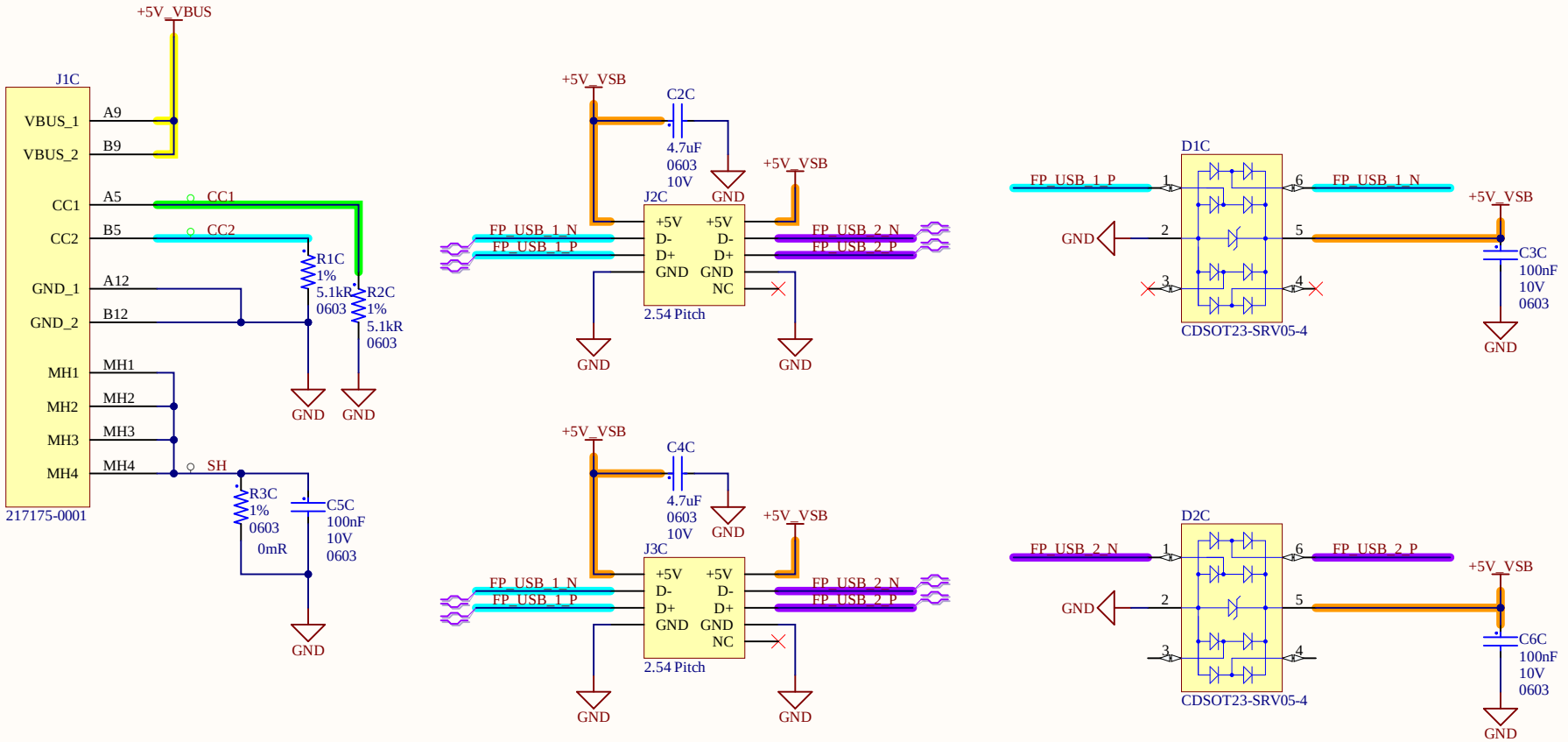
File: C:\Users\desktop\Documents\Project Files\Altium\Projects\Project - Devlopment\ESP8266-Deskop_Power\6_I2C_Sensors.SchDoc



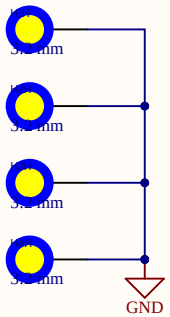
Title: *Mosfets*		**Author:** Alcatraz	**DHNLAB PVT LTD**
Size: A4	**Prj:** ESP8266-Deskop_Power	**Approved:** Alcatraz	*DHANBAD*
		PUBLIC	*JHARKHAND*
Date: 06-12-2024 20:12:59	Sheet 7 of 10	**Edited:** 01-12-2024	*INDIA*
Git Hash: 438		**Variant:** [No Variations]	*ASIA*
File: C:\Users\desktop\Documents\Project Files\Altium\Projects\Project - Devlopment\ESP8266-Deskop_Power\7_Mosfets.SchDoc		**SW Version:** 24.10.1.45	



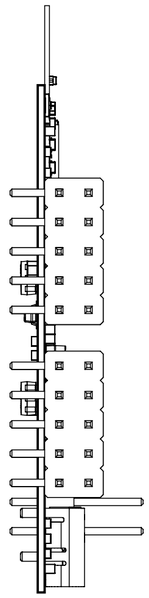
Title: *Front Pannel Con*		**Author:** Alcatraz	**DHNLAB PVT LTD**
Size: A4	**Prj:** ESP8266-Deskop_Power	**Approved:** Alcatraz	*DHANBAD*
		PUBLIC	*JHARKHAND*
Date: 06-12-2024 20:12:59	Sheet 8 of 10	**Edited:** 24-11-2024	*INDIA*
Git Hash: 438		**Variant:** [No Variations]	*ASIA*
File: C:\Users\desktop\Documents\Project Files\Altium\Projects\Project - Devlopment\ESP8266-Deskop_Power\8_Front_Pannel_Con.SchDoc		**SW Version:** 24.10.1.45	

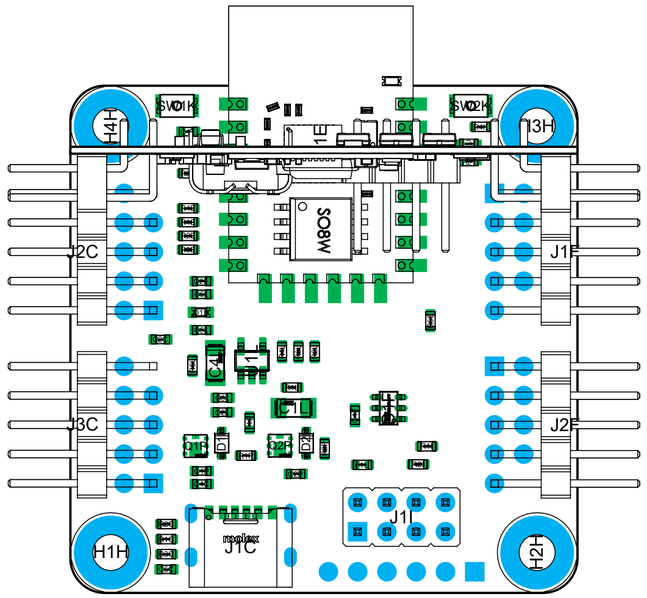


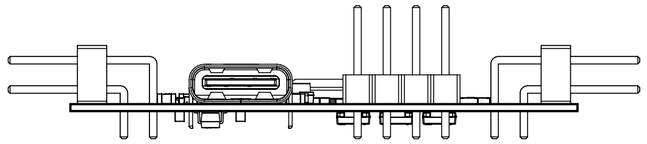
Title: *Front Pannel USB Con*		**Author:** Alcatraz	**DHNLAB PVT LTD**
Size: A4	**Prj:** ESP8266-Deskop_Power	**Approved:** Alcatraz	*DHANBAD*
		PUBLIC	*JHARKHAND*
Date: 06-12-2024 20:12:59	Sheet 9 of 10	**Edited:** 24-11-2024	*INDIA*
Git Hash: 437		**Variant:** [No Variations]	*ASIA*
File: C:\Users\desktop\Documents\Project Files\Altium\Projects\Project - Devlopment\ESP8266-Deskop_Power\9_Front_Pannel_USB_Con.SchDoc		**SW Version:** 24.10.1.45	

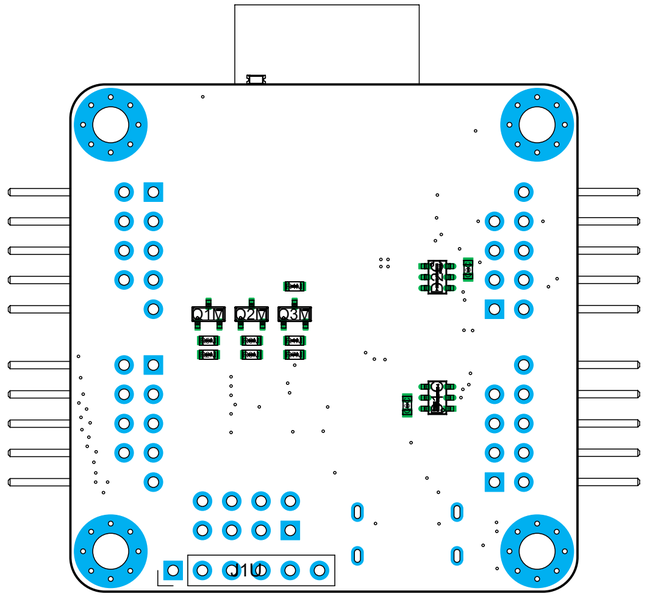


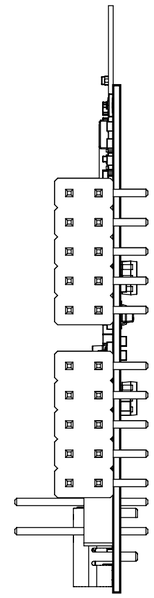
Title: ***MountingHoles***		**Author:** Alcatraz	**DHNLAB PVT LTD** *DHANBAD JHARKHAND INDIA ASIA*
Size: A4	**Prj:** ESP8266-Deskop_Power	**Approved:** Alcatraz	
		PUBLIC	
Date: 06-12-2024 20:12:59	Sheet 10 of 10	**Edited:** 23-11-2024	
Git Hash: 436		**Variant:** [No Variations]	
File: C:\Users\desktop\Documents\Project Files\Altium\Projects\Project - Devlopment\ESP8266-Deskop_Power\10_MountingHoles.SchDoc		**SW Version:** 24.10.1.45	











Note:

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

NEXT ASSY	USED ON	
APPLICATION		

UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL±
ANGULAR: MACH± BEND ±
TWO PLACE DECIMAL ±
THREE PLACE DECIMAL ±
INTERPRET GEOMETRIC TOLERANCING PER:
MATERIAL
FINISH
DO NOT SCALE DRAWING

	NAME	DATE
DRAWN		06-12-2024
CHECKED		
ENG APPR.		
MFG APPR.		
Q.A.		

COMMENTS:

TITLE

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

PCB MANUFACTURING SPECIFICATIONS
"=ProjectTitle"

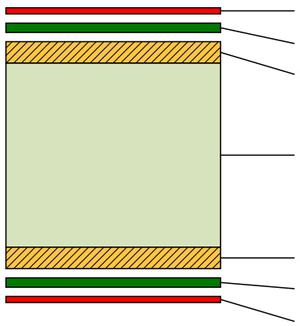
SPECIFICATIONS

NOTE #	NOTE
1	ALL SPECIFICATIONS REFERENCED ARE OF THE REVISION SPECIFIED IN THE TITLE BLOCK
2	SUPPLIER SHALL NOT MODIFY THE DESIGN OR APPROVED STACK-UP WITHOUT WRITTEN PERMISSION
3	ALL MATERIALS SHALL BE RoHS COMPLIANT AND FINAL PRODUCT SHALL BE ACCEPTABLE TO USE IN RoHS ASSEMBLY. RoHS LOGO SHALL BE MARKED IN SILKSCREEN INK BY THE SUPPLIER WHERE INDICATED BY THE TEXT "PLACE MARKINGS HERE"
4	COPPER FOIL: REFER TO LAYER STACK LEGEND FOR Cu THICKNESS DETAILS. ALL Cu THICKNESSES ARE FINISHED AND INCLUDE BASE FOIL PLUS Cu PLATING ON PLATED LAYERS
5	ELECTRICAL TEST: ALL PRINTED CIRCUITS SHALL BE 100% ELECTRICALLY TESTED FOR OPENS/SHORTS USING PROVIDED NETLIST. REJECTED PRINTED BOARDS MUST BE CLEARLY MARKED WITH NON-CONDUCTIVE, PERMANENT INK.
6	MARKINGS: VENDOR MARKING AND DATE/LOT CODES SHALL BE LOCATED ON THE BOARD IN THE RESERVED AREA AS SPECIFIED IN THE GERBER LAYER "PCBM_NOTES" BY THE TEXT "PLACE MARKINGS HERE".
7	MARKINGS: THE SIDE ONTO WHICH PLACE THE MARKINGS IS AT THE SUPPLIER DISCRESSION UNLESS OTHERWISE NOTED ONTO THE LAYER "PCBM_NOTES"
8	SUPPLIER SHALL CHECK PCBM_NOTES LAYER BEFORE ASKING FOR CLARIFICATIONS
9	MANUFACTURE TENTED/PLUGGED VIAS AS SPECIFIED IN THE GERBER FILES

SPECIFICATIONS

LENGHT	**44.00mm**
WIDTH	**44.00mm**
LAYERS	**2**
MATERIAL	**FR-4**
MATERIAL MIN TG	**130-140**
TRACK WIDTH/CLEARANCE	**10 mils / 10 mils**
THICKNESS	**0.6mm**
COPPER THICKNESS	**35um (1oz)**
SOLDERMASK	**YES, TOP AND BOTTOM**
SOLDERMASK COLOR	**GREEN**
SILKSCREEN	**YES, TOP AND BOTTOM**
SILKSCREEN COLOR	**WHITE**
SURFACE FINISH	**HASL LEAD FREE**
GOLD FINGERS	NO
CHAMFERING	YES
IMPEDANCE CONTROL	YES
HALF-CUT/CASTELLATED HOLES	NO
BURIED/BLIND VIAS	NO
VIAS FILLED WITH RESIN	NO
CARBON MASK	NO
COUNTERSINKS/COUNTERBORES	NO
Z-AXIS MILLING	NO
PEELABLE SOLDERMASK	NO

Layer Stack Legend



Material	Layer	Thickness	Dielectric Material	Type	Gerber
	Top Overlay			Legend	GTO
Surface Material	Top Solder	0.02mm	Solder Resist	Solder Mask	GTS
Copper	Top Layer	0.04mm		Signal	GTL
Core		*0.50mm*	*FR-4*	*Dielectric*	
Copper	Bottom Layer	0.04mm		Signal	GBL
Surface Material	Bottom Solder	0.02mm	Solder Resist	Solder Mask	GBS
	Bottom Overlay			Legend	GBO

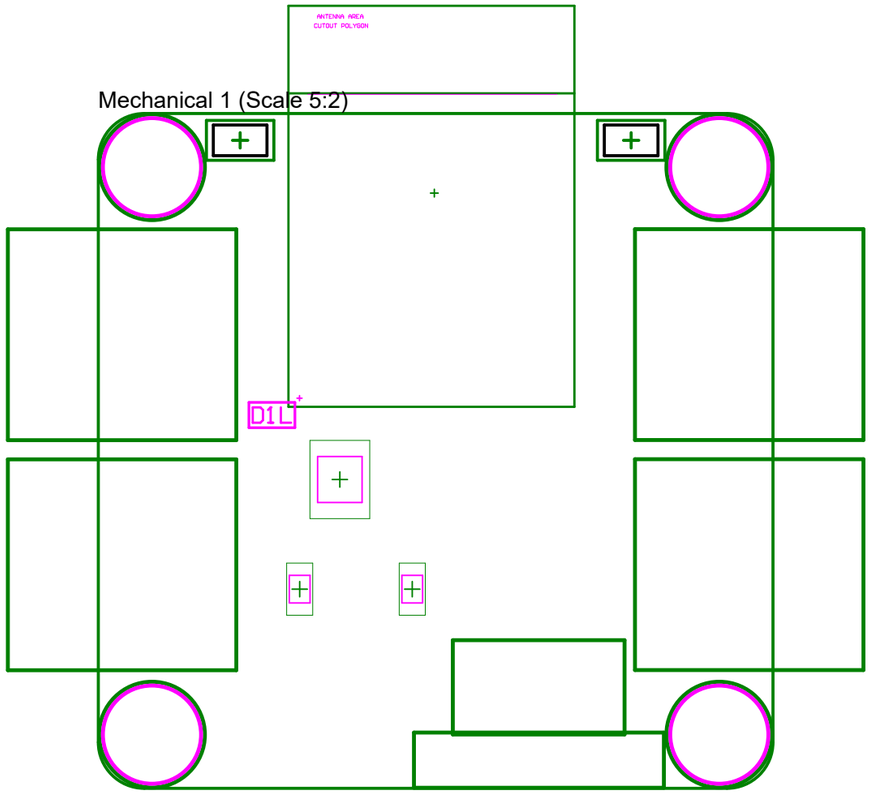
Total thickness: 0.60mm

NON-COPPER LAYER THICKNESS FOR REFERENCE ONLY
LAYERS OF TYPE "INTERNAL PLANE" ARE NEGATIVE

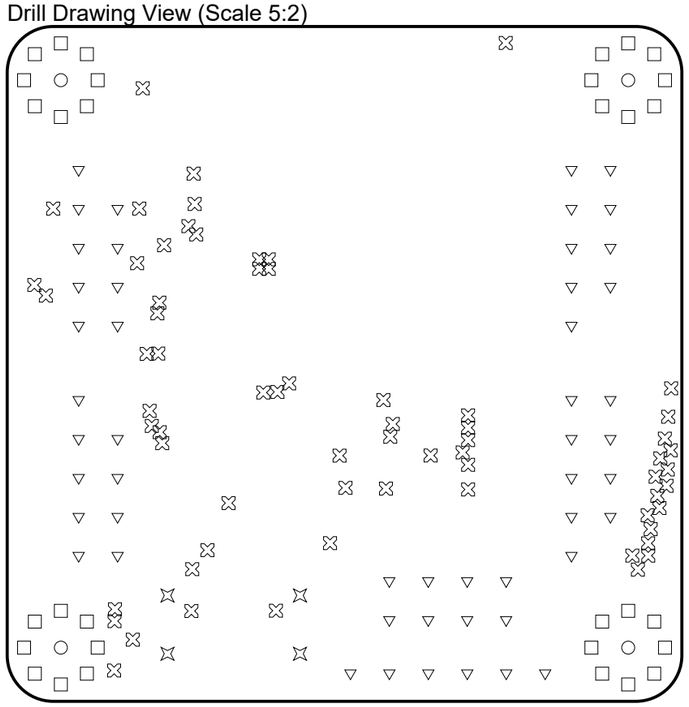
Title: =ProjectTitle		**Author:**	**CONFIDENTIAL**
		Approved:	**My Company**
Size: A3	**Prj:** =ProjectTitle	**Edited:** 06-12-2024	Address Line 1
Unit: mm		**Variant:** [No Variations]	Address Line 2
Date: 06-12-2024 08:13	**Sheet** 1 of 3	**SW version:** 24.10.1.45	Address Line 3
Git Hash:			Address Line 4
File: C:\Users\desktop\Documents\Project Files\Altium\Projects\Project - Devlopment\ESP8266-Deskop_Power\PCB_MANUFACTURING_P			

[YOUR LOGO HERE]

Mechanical 1 (Scale 5:2)



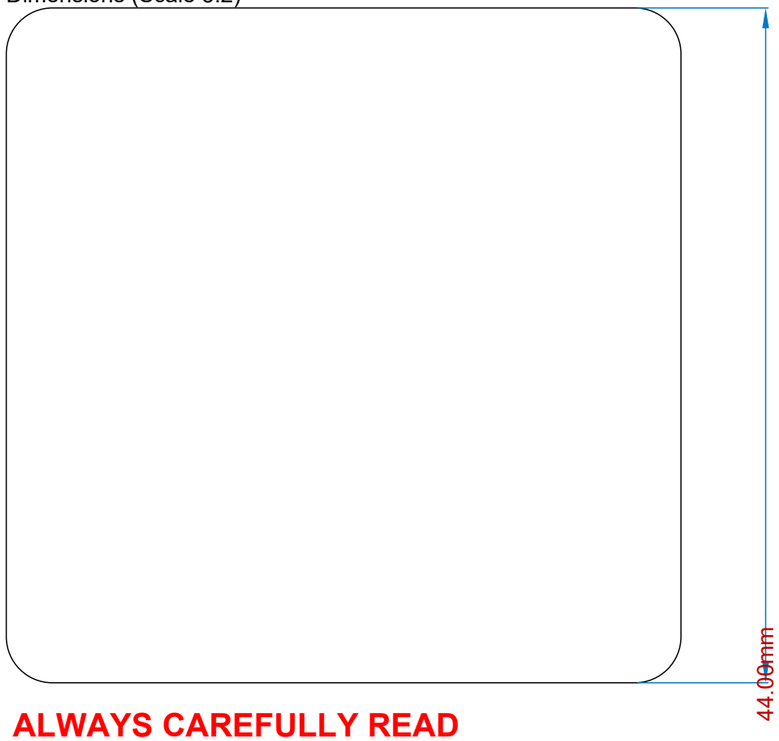
Drill Drawing View (Scale 5:2)



Drill Table

Symbol	Count	Hole Size	Plated	Hole Tolerance
⊠	66	0.30mm	Есть	
□	32	0.50mm	Есть	
▽	50	1.00mm	Есть	
⊠	4	1.20mm	Есть	
○	4	3.20mm	Есть	
	156 Total			

Dimensions (Scale 5:2)



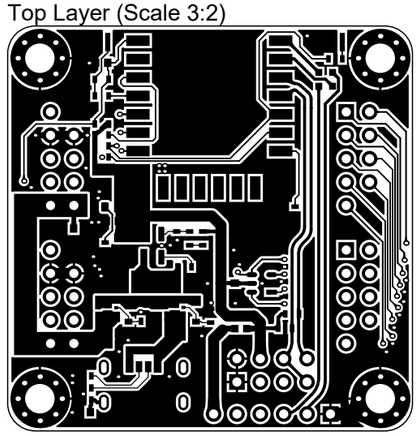
ALWAYS CAREFULLY READ THE NOTES ON THIS LAYER!

Title: =ProjectTitle		**Author:**	**CONFIDENTIAL**
		Approved:	**My Company**
Size: A3	**Prj:** =ProjectTitle	**Edited:** 06-12-2024	Address Line 1
Unit: mm		**Variant:** [No Variations]	Address Line 2
Date: 06-12-2024 08:13	**Sheet** 2 of 3	**SW version:** 24.10.1.45	Address Line 3
Git Hash: 486 [No modification]			Address Line 4

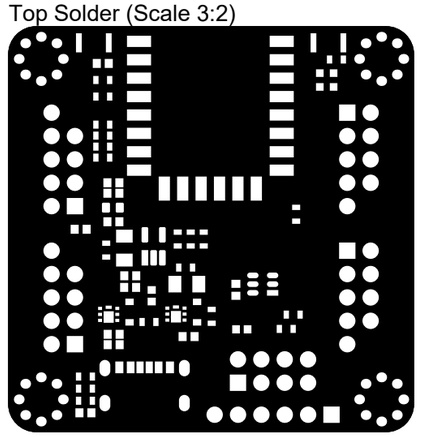
[YOUR LOGO HERE]

File: C:\Users\desktop\Documents\Project Files\Altium\Projects\Project - Devlopment\ESP8266-Deskop_Power\PCB_MANUFACTURING_F

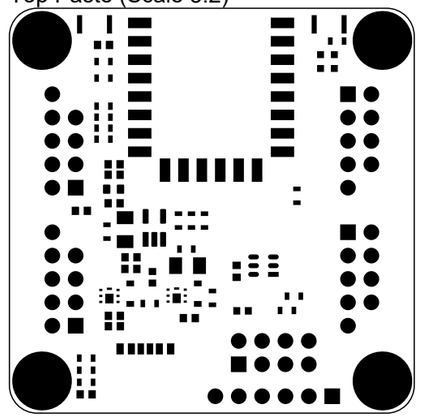
Top Layer (Scale 3:2)



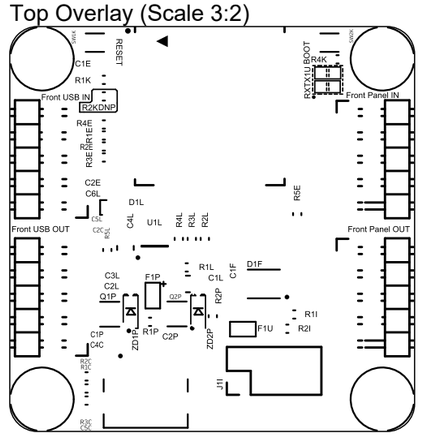
Top Solder (Scale 3:2)



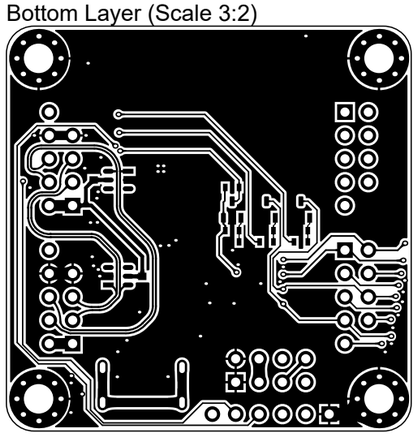
Top Paste (Scale 3:2)



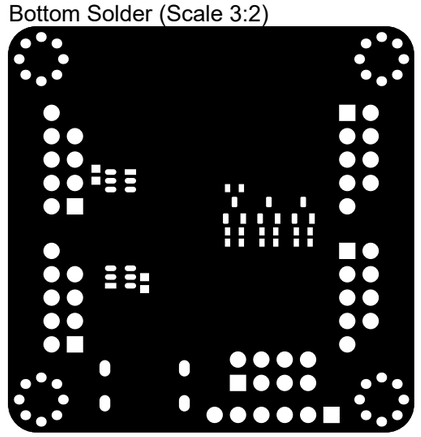
Top Overlay (Scale 3:2)



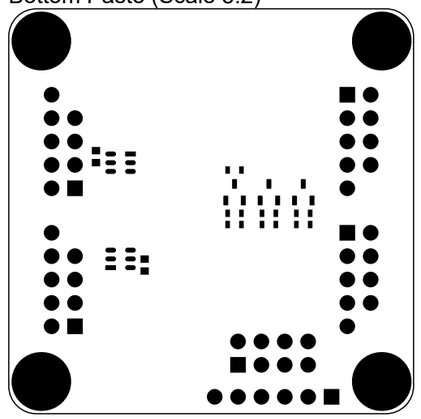
Bottom Layer (Scale 3:2)



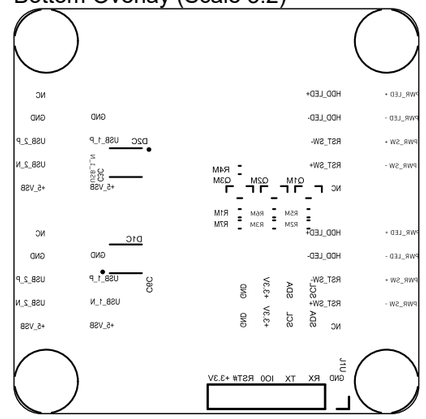
Bottom Solder (Scale 3:2)



Bottom Paste (Scale 3:2)



Bottom Overlay (Scale 3:2)



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		Approved:	**My Company**
Size: A3	**Prj:** =ProjectTitle	**Edited:** 06-12-2024	Address Line 1
Unit: mm		**Variant:** [No Variations]	Address Line 2
Date: 06-12-2024 08:13	**Sheet** 3 of 3	**SW version:** 24.10.1.45	Address Line 3
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File: C:\Users\desktop\Documents\Project Files\Altium\Projects\Project - Devlopment\ESP8266-Deskop_Power\PCB_MANUFACTURING_E			

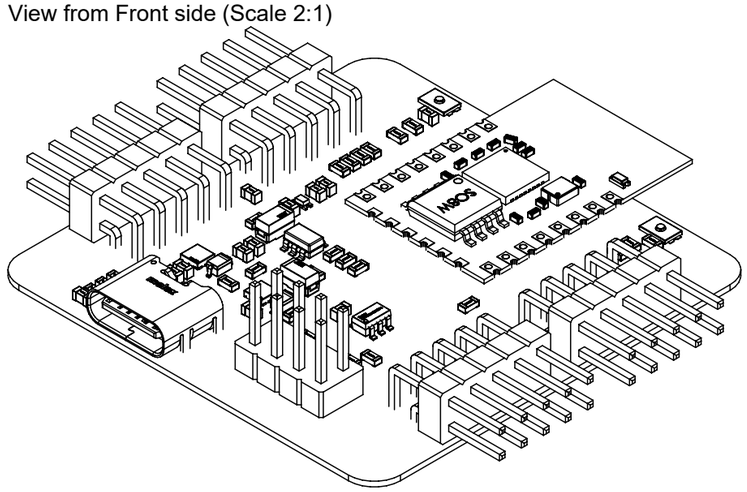
[YOUR LOGO HERE]

PCB ASSEMBLY SPECIFICATIONS
"=ProjectTitle"
Variant: "[No Variations]"

SPECIFICATIONS

NOTE #	NOTE
1	ALL SPECIFICATIONS REFERENCED SHALL BE OF THE LATEST REVISION UNLESS OTHERWISE NOTED
2	SUPPLIER SHALL NOT MODIFY THE DESIGN WITHOUT WRITTEN PERMISSION
3	REFER TO EXCEL BOM FOR UP-TO-DATE INFORMATION
4	THE BOM IN THIS DOCUMENT IS PURELY AN AID TO ASSEMBLY OPERATIONS AND MAY NOT HAVE THE MOST UP-TO-DATE DATA OR ALL APPROVED COMPONENT ALTERNATIVE.

View from Front side (Scale 2:1)



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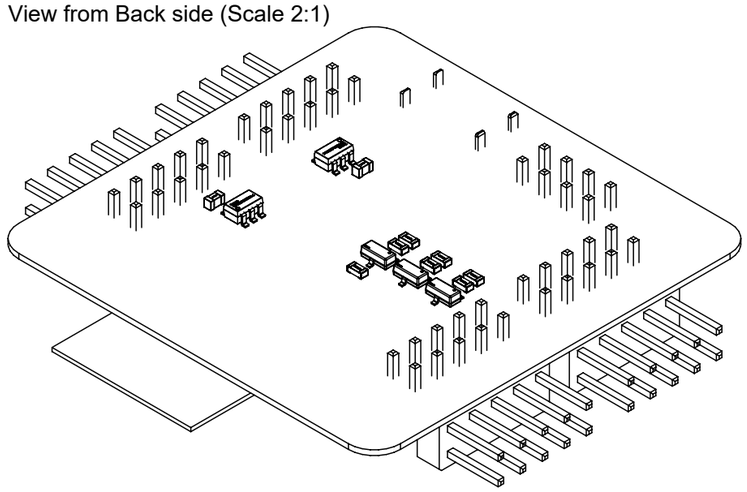

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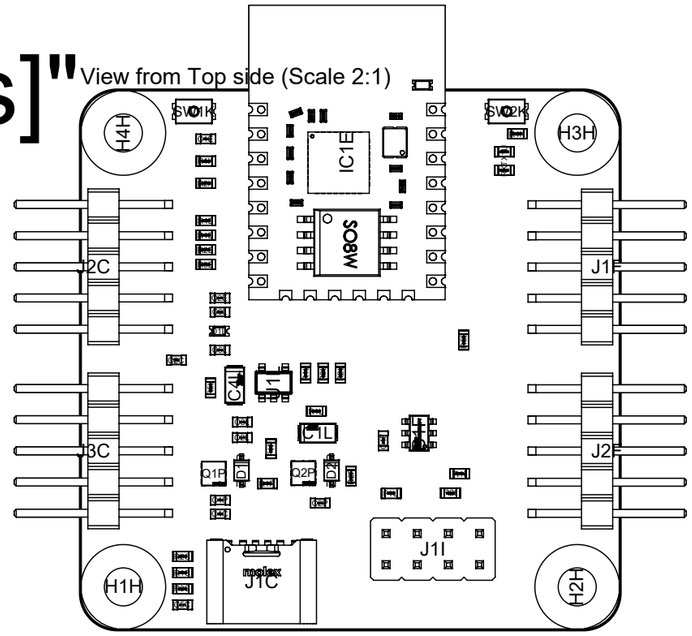
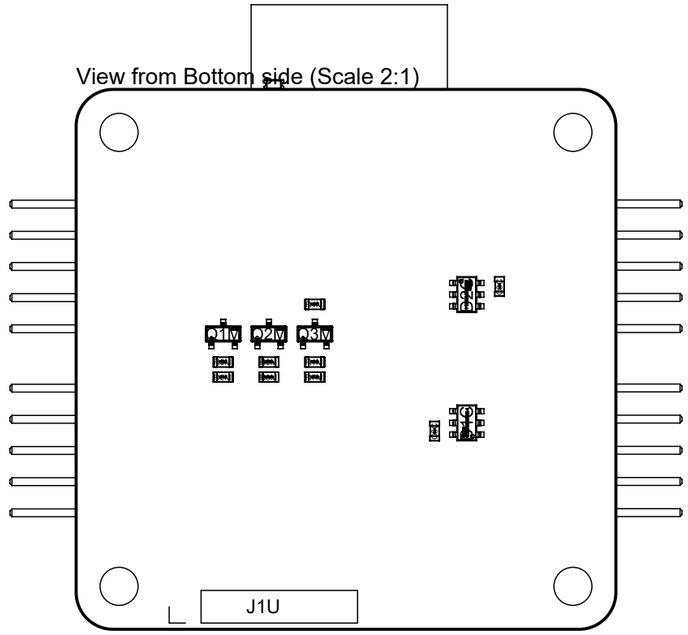


View from Bottom side (Scale 2:1)



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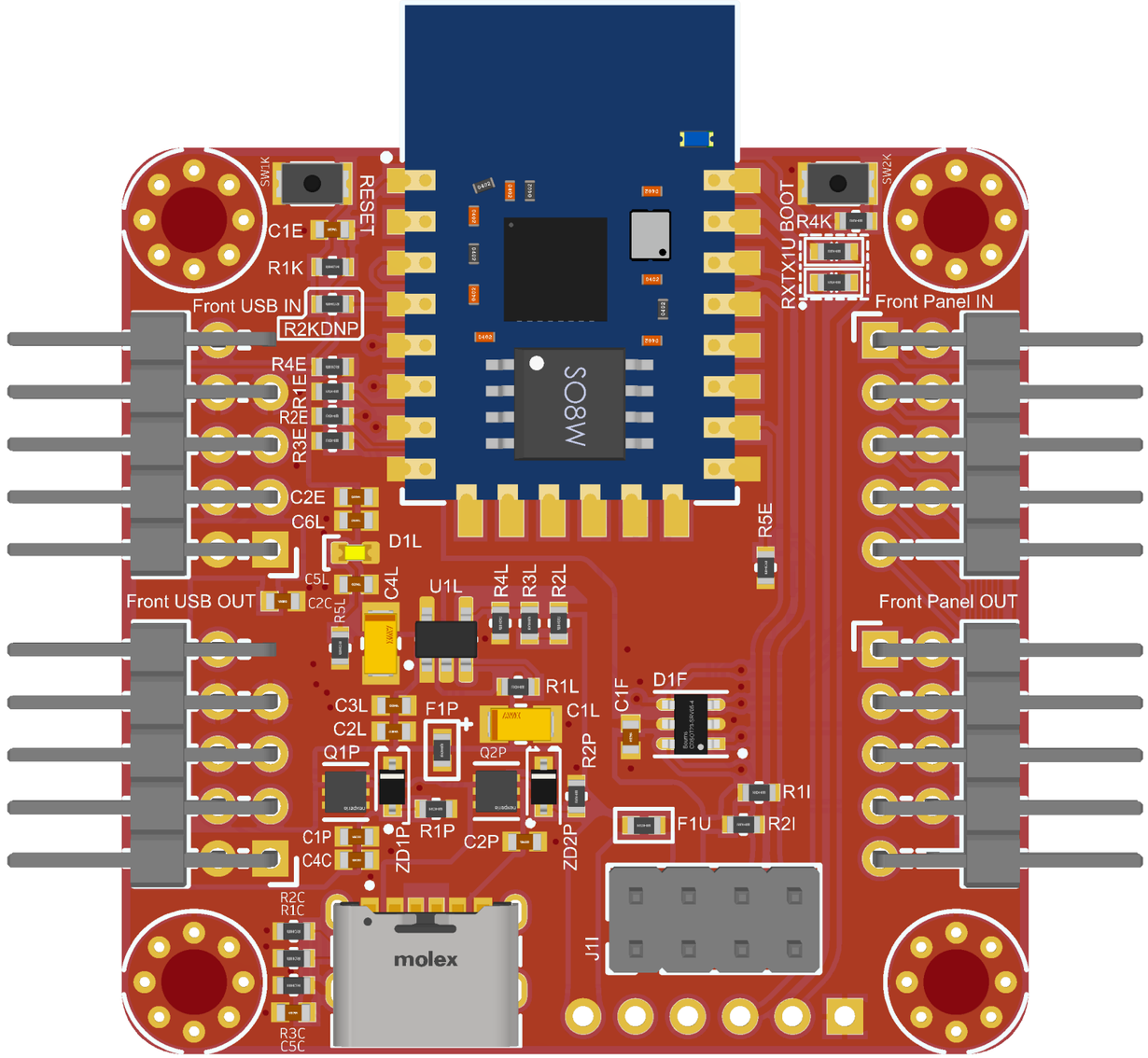
Realistic View TOP



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Git Hash: 486 [No modification]			Address Line 4
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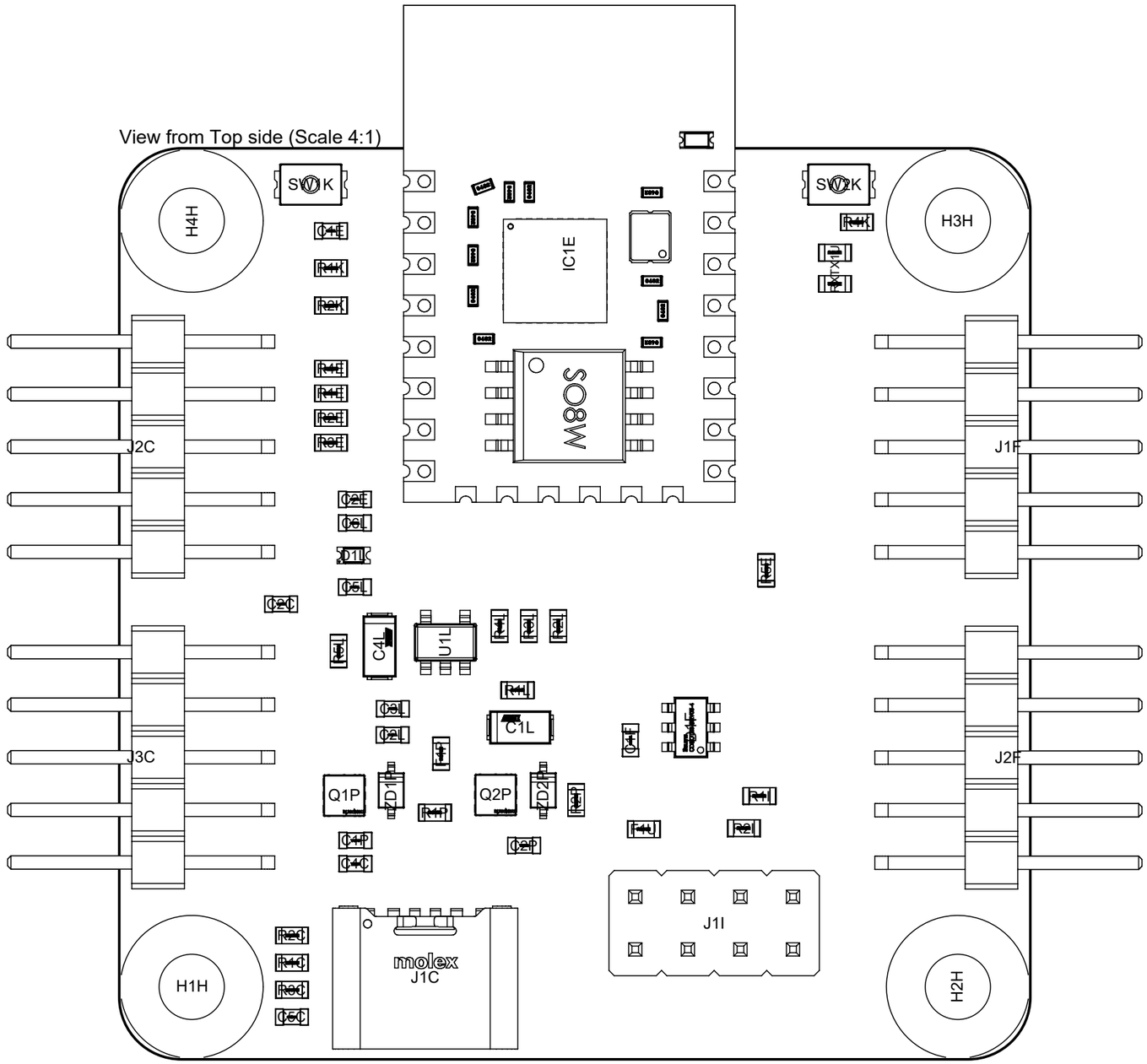
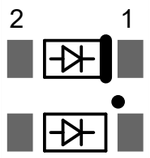
View from Top side (Scale 4:1)



DIODE ORIENTATION

Name	ANODE
Short name	A
Pin number	2
Silkscreen	thin line
assembly view	no dot ( )



Name	CATHODE
Short name	K
Pin number	1
Silkscreen	thick line / dot
assembly view	dot (•)

Title: =ProjectTitle		**Author:**	**CONFIDENTIAL**
		Approved:	**My Company**
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Unit: mm		**Variant:** [No Variations]	Address Line 2
Date: 06-12-2024 08:13	**Sheet** 3 of 9	**SW version:** 24.10.1.45	Address Line 3
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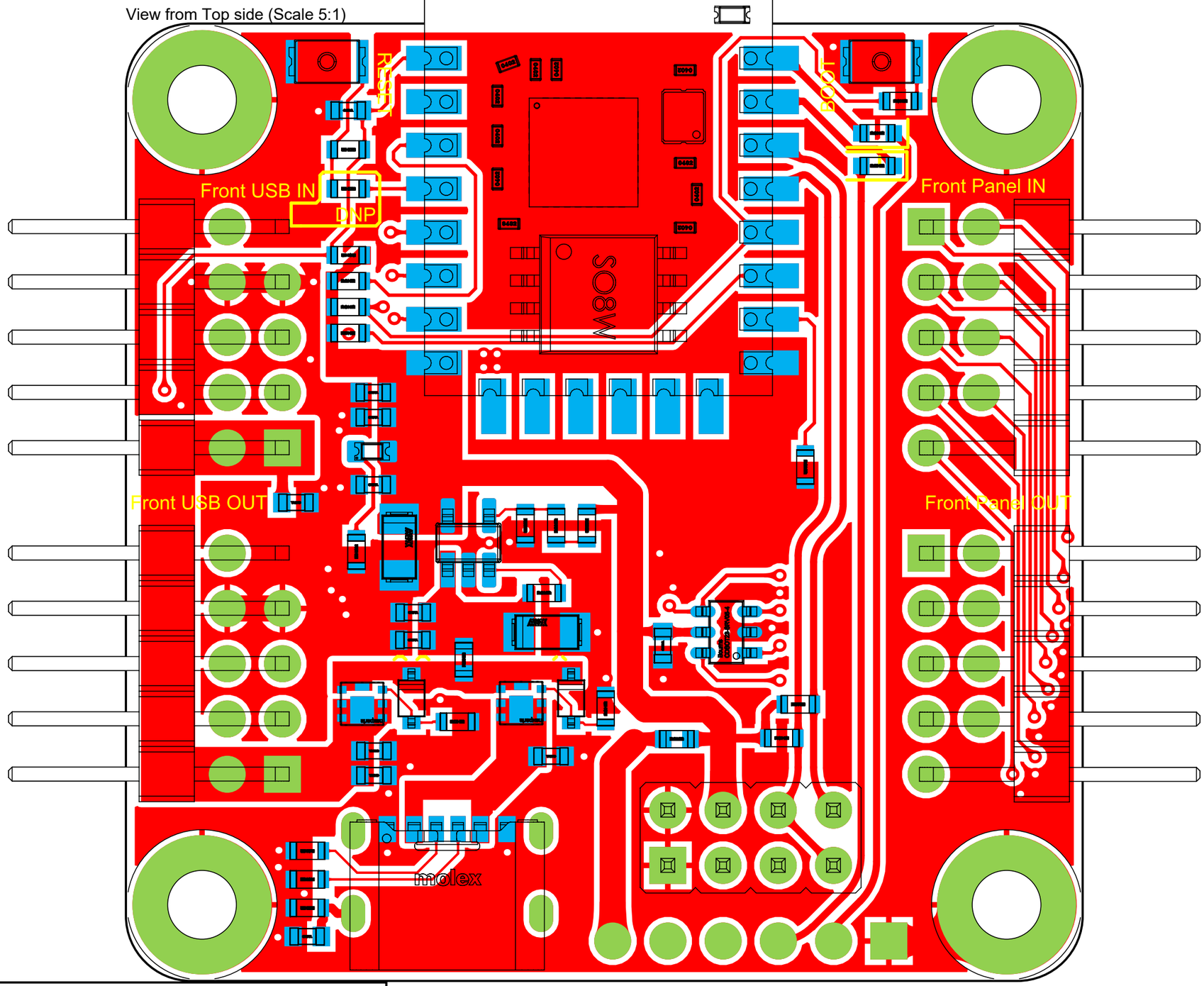
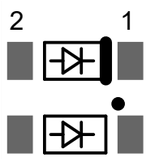
[YOUR LOGO HERE]

View from Top side (Scale 5:1)



DIODE ORIENTATION

Name	ANODE
Short name	A
Pin number	2
Silkscreen	thin line
assembly view	no dot ( )



Name	CATHODE
Short name	K
Pin number	1
Silkscreen	thick line / dot
assembly view	dot (•)

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Unit: mm		**Variant:** [No Variations]	Address Line 2
Date: 06-12-2024 08:13	**Sheet** 4 of 9	**SW version:** 24.10.1.45	Address Line 3
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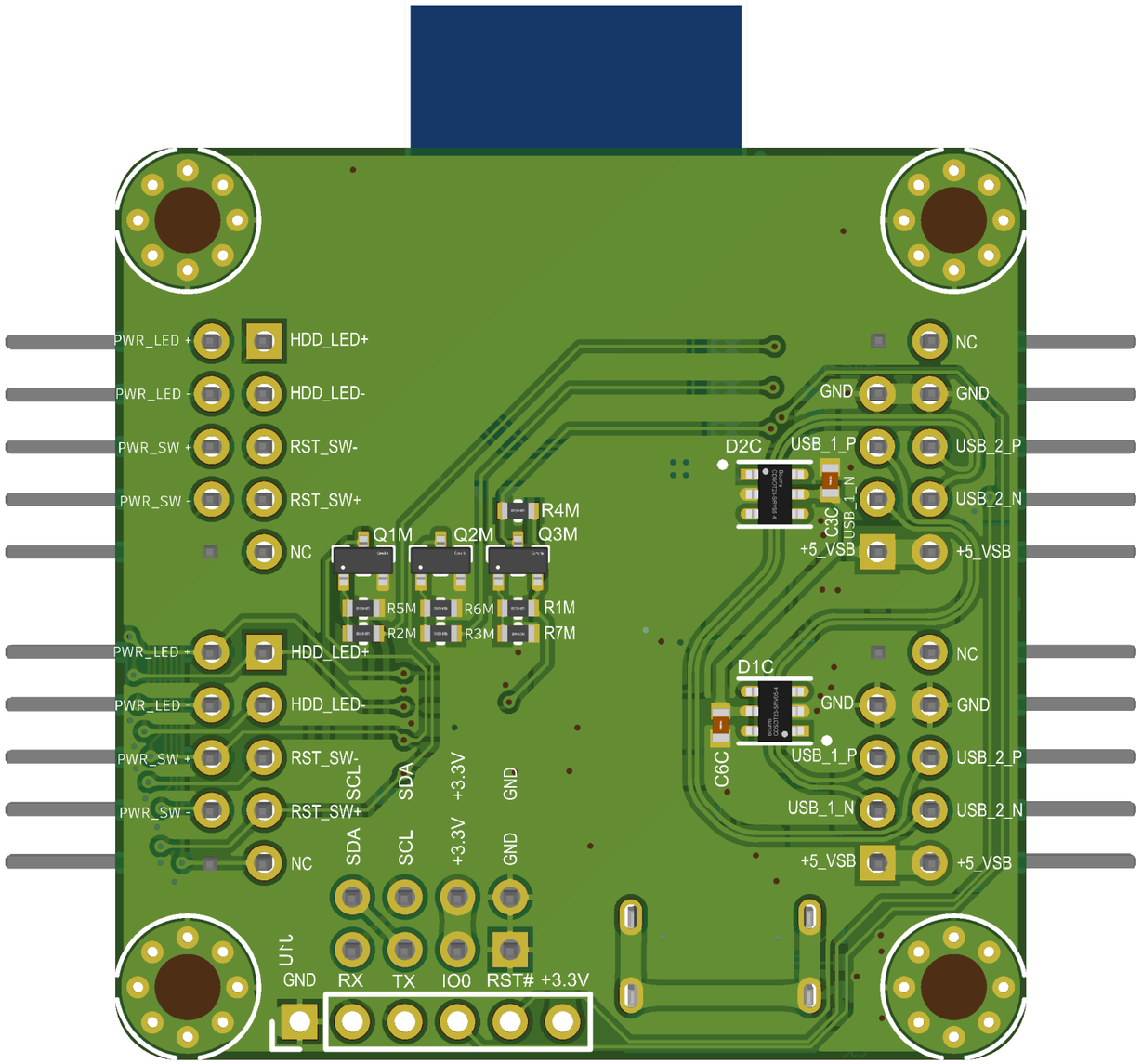
Realistic View BOTTOM



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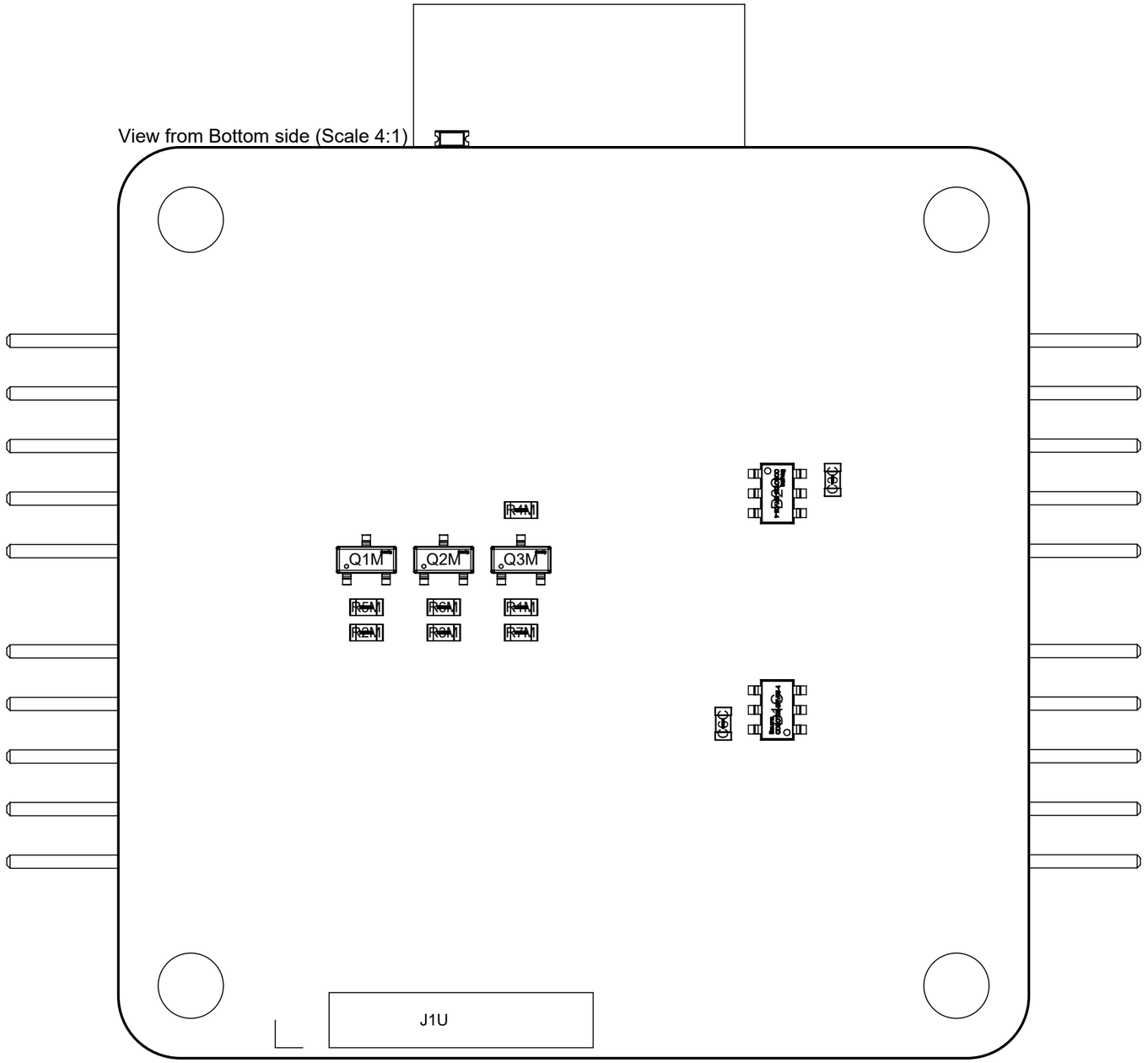
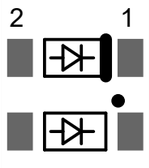
[YOUR LOGO HERE]

View from Bottom side (Scale 4:1)



DIODE ORIENTATION

Name	ANODE
Short name	A
Pin number	2
Silkscreen	thin line
assembly view	no dot ( )



Name	CATHODE
Short name	K
Pin number	1
Silkscreen	thick line / dot
assembly view	dot (•)

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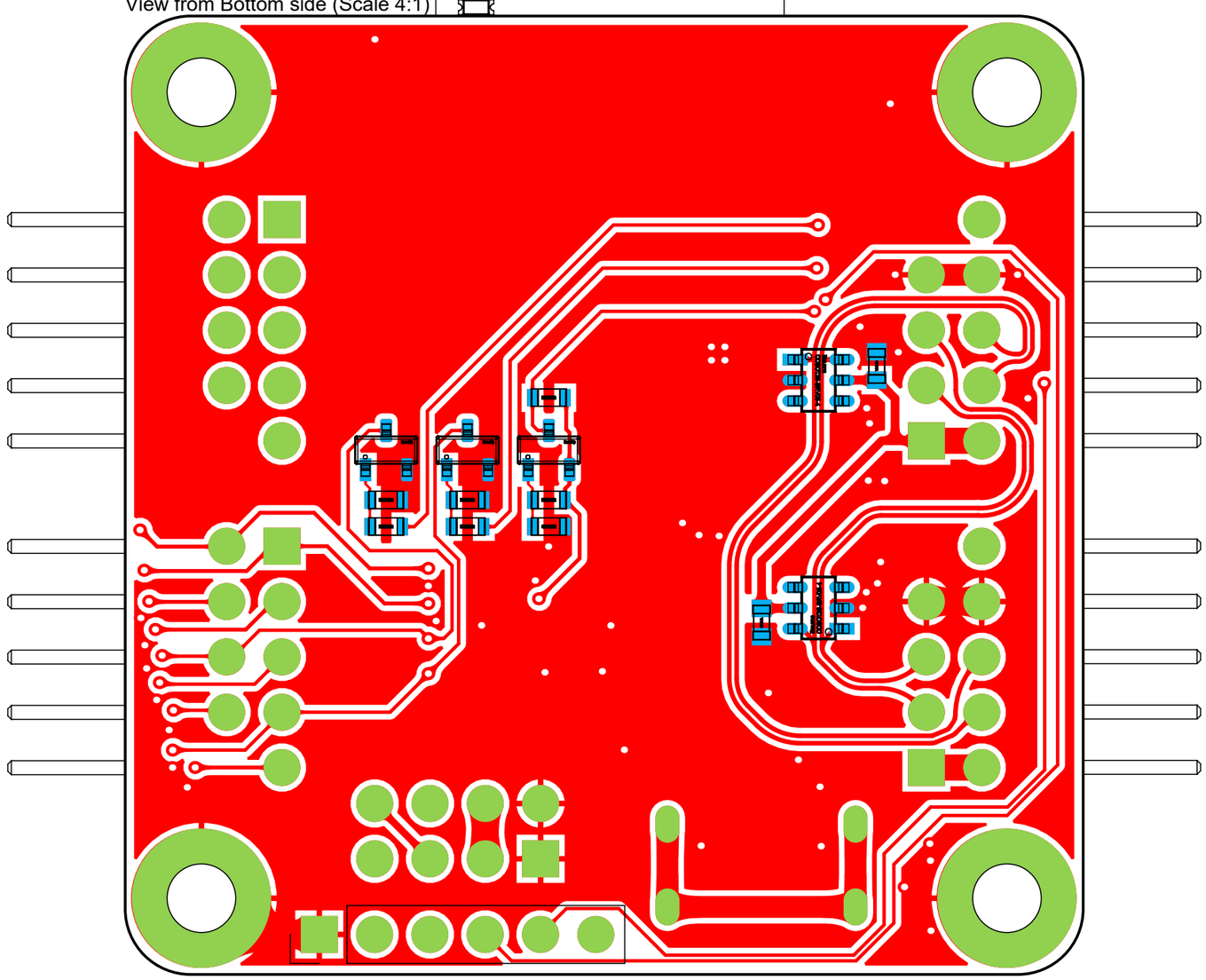
[YOUR LOGO HERE]

View from Bottom side (Scale 4:1)



DIODE ORIENTATION

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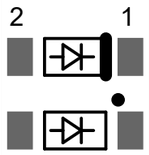
Pin number	2
Silkscreen	thin line
assembly view	no dot ( )



Name	CATHODE
Short name	K
Pin number	1
Silkscreen	thick line / dot
assembly view	dot (•)

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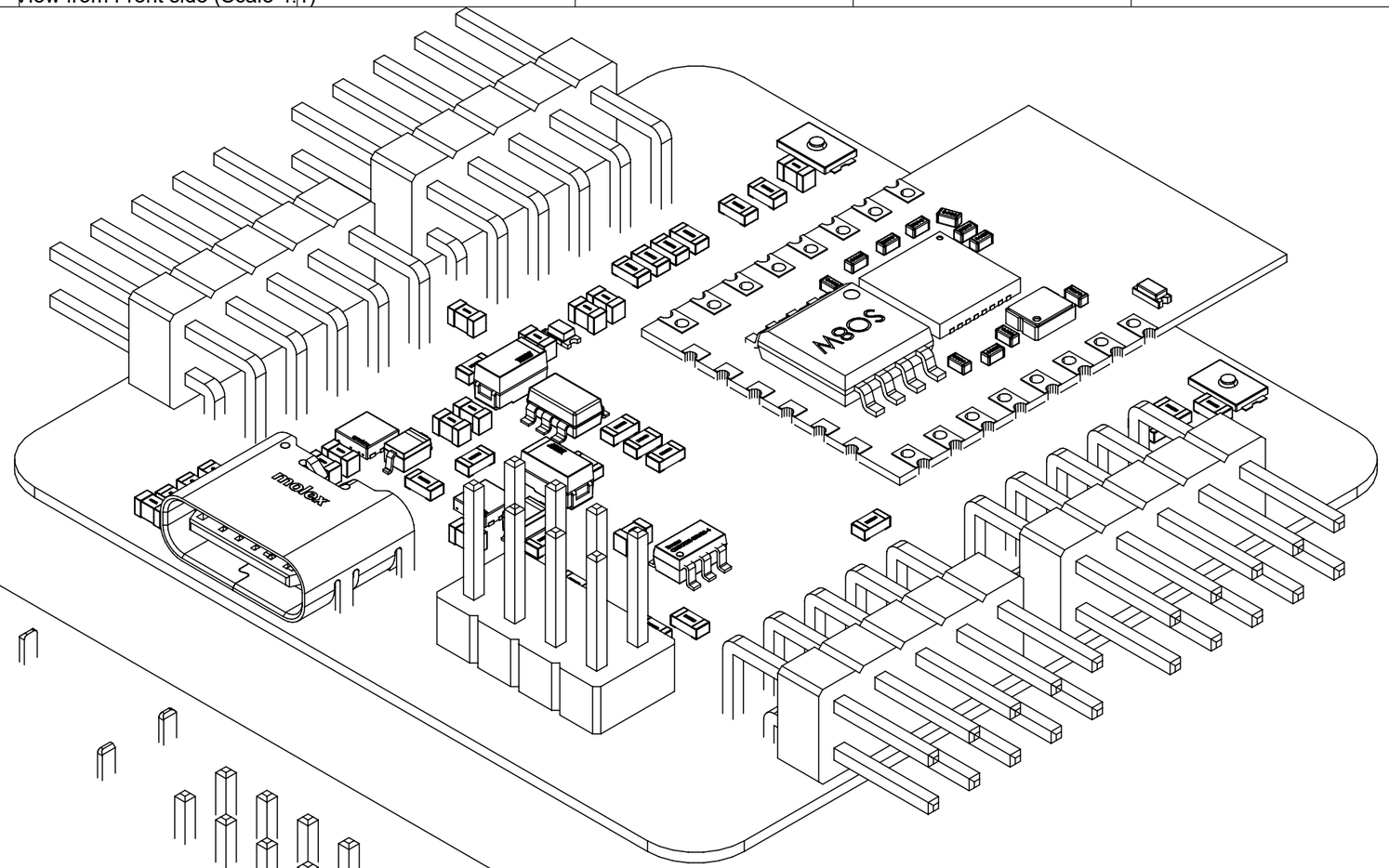
View from Front side (Scale 4:1)



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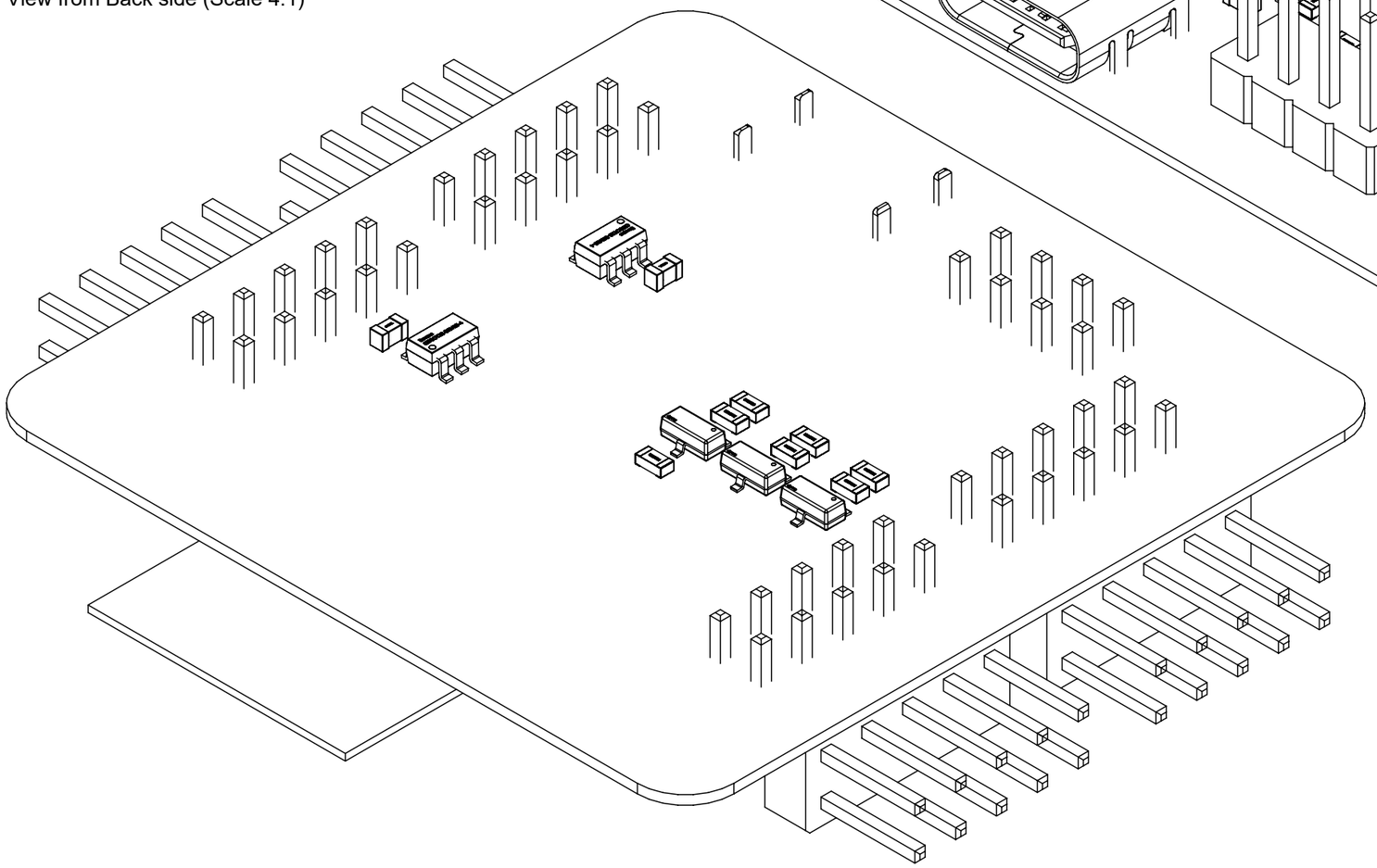

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[YOUR LOGO HERE]

Bill Of Materials

Line #	Description	Designator	Quantity	Manufacturer Part Number 1	Part Number	Layer
	Cap Cer 0.1UF 6.3V X7R 0603	C1E, C2E	2	KGM15AR70J104KM		
	Multilayer Ceramic Capacitor, 0.1 uF, 10 V, ± 10%, X7R, 0603 [1608 Metric]	C1F, C1P, C2P, C3C, C3L, C5C, C6C	7	C0603C104K8RAC7867		
	Surface Mount Tantalum Capacitor, 47 uF, 10 V, ± 20%, -55 °C, 125 °C, 1206 [3216-12 Metric]	C1L	1			
	Multilayer Ceramic Capacitor, 4.7 uF, 10 V, ± 10%, X5R, 0603 [1608 Metric]	C2C, C4C	2	CL10A475KP8NNNC		
	Multilayer Ceramic Capacitor, 22 uF, 10 V, ± 20%, X5R, 0603 [1608 Metric]	C2L	1	GRM188R61A226ME15D		
	47uF Solid MnO2 Tantalum Electrolytic Capacitor; 6.3 V dc +/-20%; T491 Series	C4L	1	T491A476M006AT		
	Multilayer Ceramic Capacitor, 22 uF, 6.3 V, ± 20%, X5R, 0603 [1608 Metric]	C5L, C6L	2	GRM188R60J226MEA0D		
	TVS DIODE 5V 15V SOT23-6	D1C, D1F, D2C	3			
	LED 0603 YELLOW SMD	D1L	1			
	Fuse PPTC SMD 0603	F1P	1			
	Fuse PPTC SMD 0603	F1U	1			
		H1H, H2H, H3H, H4H	4			
	ESP8266 ESP-12-F	IC1E	1			
	Connector USB Type C Female 6Positions 0.5mm Right Angle SMT Embossed T/R - Tape and Reel	J1C	1			
		J1F, J2F	2			
		J1I	1			
		J1U	1			
		J2C, J3C	2			
	Single N-Channel 60 V 3.5 Ohm 1 nC SIPMOS® Small Signal Mosfet - SOT-23	Q1M, Q2M, Q3M	3	BSS138N		
	PMPB14XPZ	Q1P, Q2P	2	PMPB14XPZ		
	SMD Chip Resistor, 5.1 kOhm, ± 1%, 100 mW, 0603 [1608 Metric], Thick Film, General Purpose	R1C, R2C	2	CRCW06035K10FKEA		
	SMD Chip Resistor, 10 kOhm, ± 1%, 100 mW, 0603 [1608 Metric], Thick Film, General Purpose	R1E, R1L, R2E, R3E, R4E, R4M, R5E, R5M, R6M, R7M	10	RC0603FR-0710KL		
	SMD Chip Resistor, 2.2 kOhm, ± 1%, 100 mW, 0603 [1608 Metric], Thick Film, General Purpose	R1I, R2I	2	RC0603FR-072K2L		
	SMD Chip Resistor, 1 kOhm, ± 1%, 100 mW, 0603 [1608 Metric], Thick Film, General Purpose	R1K, R4K	2	RC0603FR-101KL		
	SMD Chip Resistor, 100 Ohm, ± 1%, 100 mW, 0603 [1608 Metric], Thick Film, General Purpose	R1M, R2M, R3M	3	AC0603FR-07100RL		
	SMD Chip Resistor, 100 kOhm, ± 1%, 100 mW, 0603 [1608 Metric], Thick Film, General Purpose	R1P, R2P	2	AC0603FR07100KL		
	Zero Ohm Resistor, Jumper, 0603 [1608 Metric], Thick Film, 100 mW, 1 A, Surface Mount	R2K, R3C	2	RC0603JR-070RL		
	Surface Mount Thick Film Chip Resistor 0603 Case 1.69K Ohms 1% Tolerance 100 PPM	R2L	1	MCR03EZPFX1691		
	Res Thick Film 0603 33K Ohm 1% 0.1W(1/10W) ±100ppm/C Pad SMD Automotive T/R	R3L	1	ERJ-3EKF3302V		
	SMD Chip Resistor, 20 kOhm, ± 1%, 100 mW, 0603 [1608 Metric], Thick Film, General Purpose	R4L	1	CR0603-FX-2002ELF		
	Res Thick Film 0603 2.49K Ohm 1% 1/10W ±100ppm/°C Molded SMD SMD Paper T/R	R5L	1	MCR03EZPFX2491		
	UART RX/TX Pokayoke	RXTX1U	1			
	3.0MM X 2.0MM / 3.3N / 0.15MM ST	SW1K, SW2K	2	EVP-AWED4A	EVP-AWED4A	
	LDO U-Reg Adj 0, 3A SOT23-5	U1L	1			
	MM3Z12VST1G Zener Diode, 12V 2% 200 mW SMT 2-Pin SOD-323 | ON Semiconductor MM3Z12VST1G	ZD1P, ZD2P	2			

Please consider LCSC (立创商城) as our first supplier
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Title: =ProjectTitle		**Author:**	CONFIDENTIAL
		Approved:	My Company
Size: A3	**Prj:** =ProjectTitle	**Edited:** 06-12-2024	Address Line 1
Unit: mm		**Variant:** [No Variations]	Address Line 2
Date: 06-12-2024 08:13	**Sheet** 9 of 9	**SW version:** 24.10.1.45	Address Line 3
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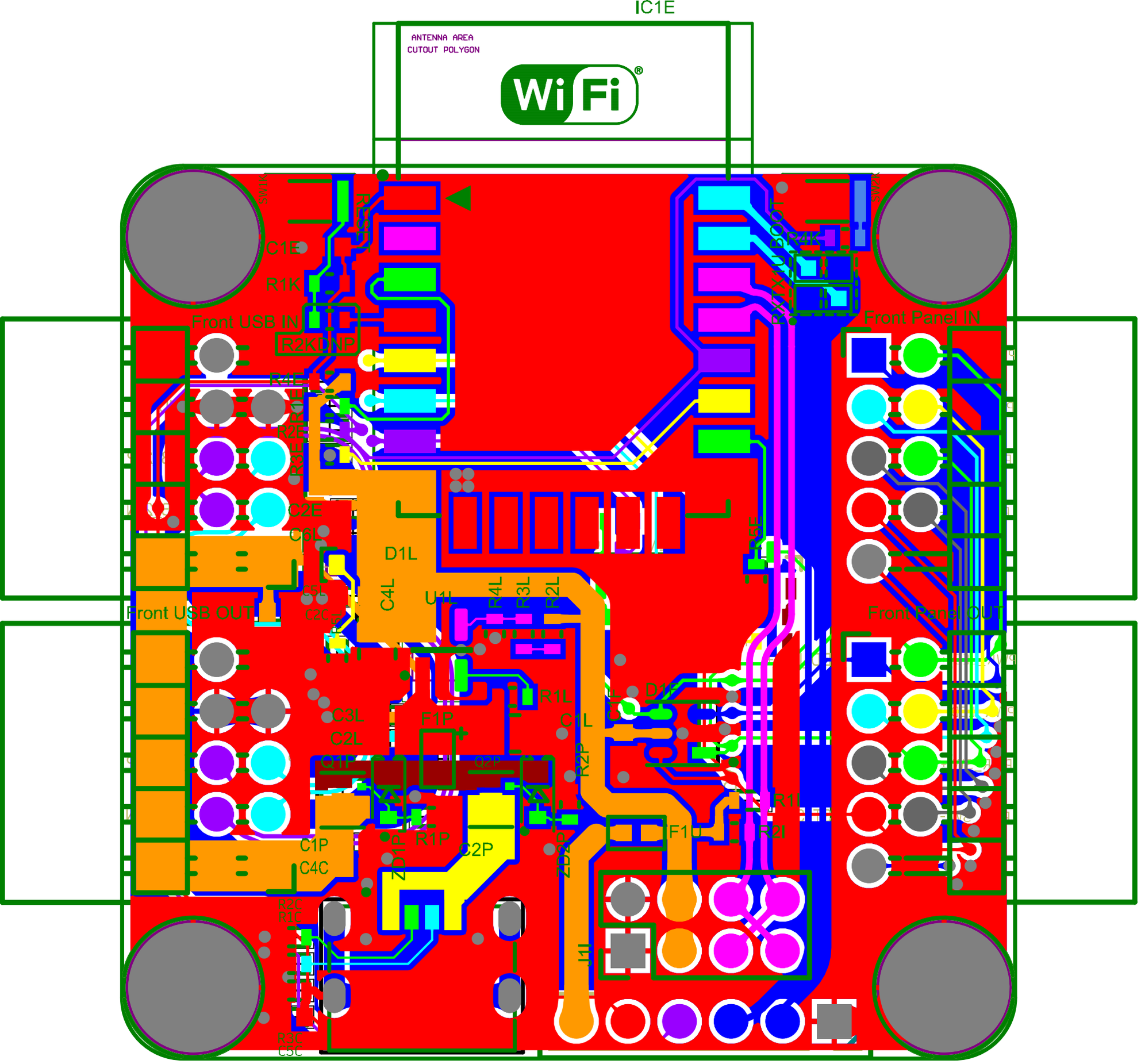
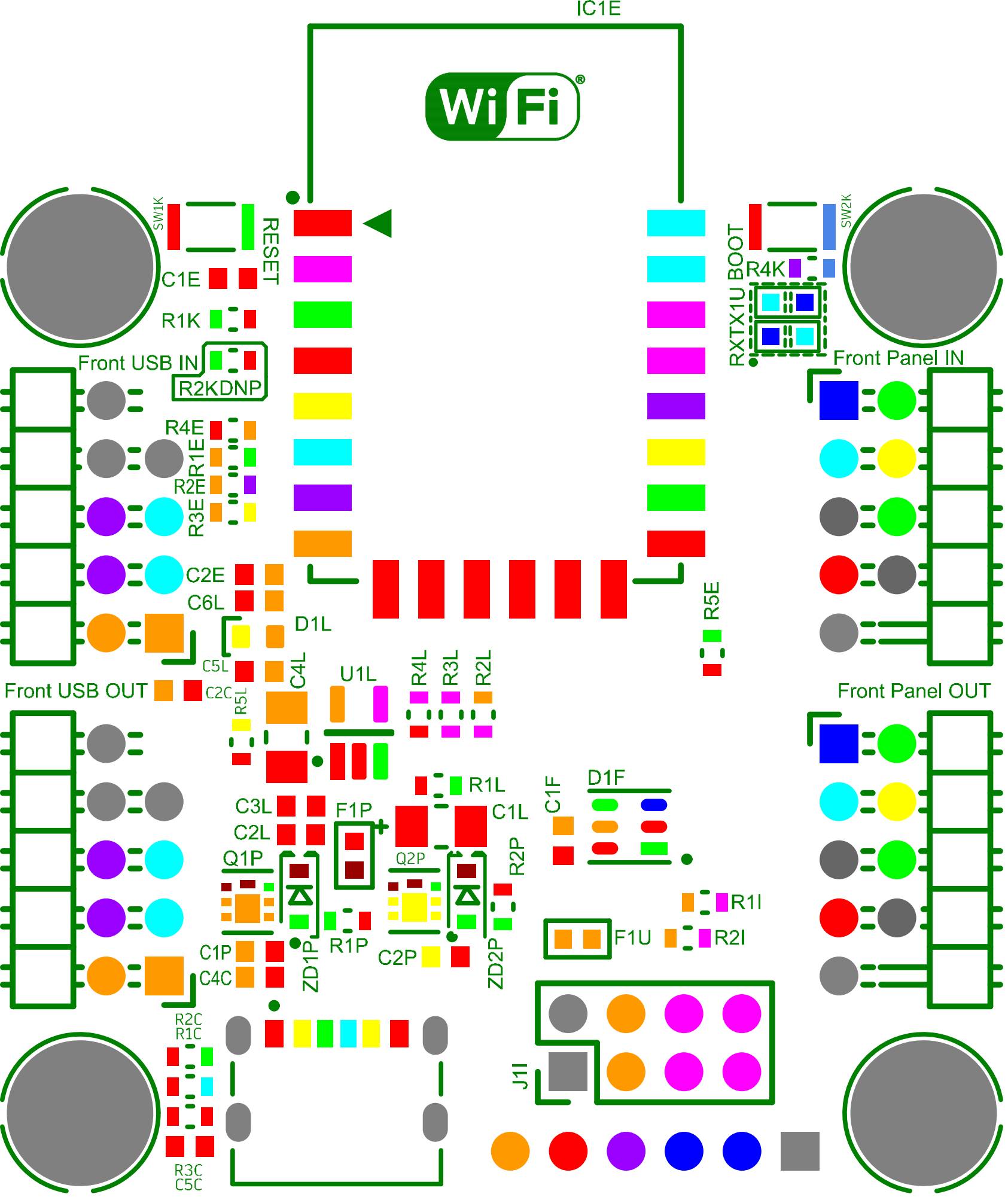

IC1E
ANTENNA AREA
CUTOUT POLYGON
Wi Fi
C1E
R1K
Front USB IN
R2KDNP
R4E
R1E
R2E
R3E
C2E
C6L
D1L
C4L
U1L
R4L
R3L
R2L
C5L
C2C
Front USB OUT
R1L
D1P
C3L
F1P
C2L
C1L
Q1L
C2P
R2P
R1P
C1P
C4C
Z1P
Z2P
F1L
R1I
R2I
R2C
R1C
J1L
R3C
C5C
R4K
BOOT
Front Panel IN
Front Panel OUT


IC1E
SW1K
RESET
C1E
R1K
SW2K
R4K
RXTX1U BOOT
Front USB IN
R2KDNP
Front Panel IN
R4E
R1E
R2E
R3E
C2E
C6L
D1L
R5E
C5L
C4L
U1L
R4L
R3L
R2L
Front USB OUT
C2C
R5L
Front Panel OUT
R1L
C3L
F1P
C1L
C1F
D1F
C2L
Q1P
Q2P
R2P
R1I
F1U
R2I
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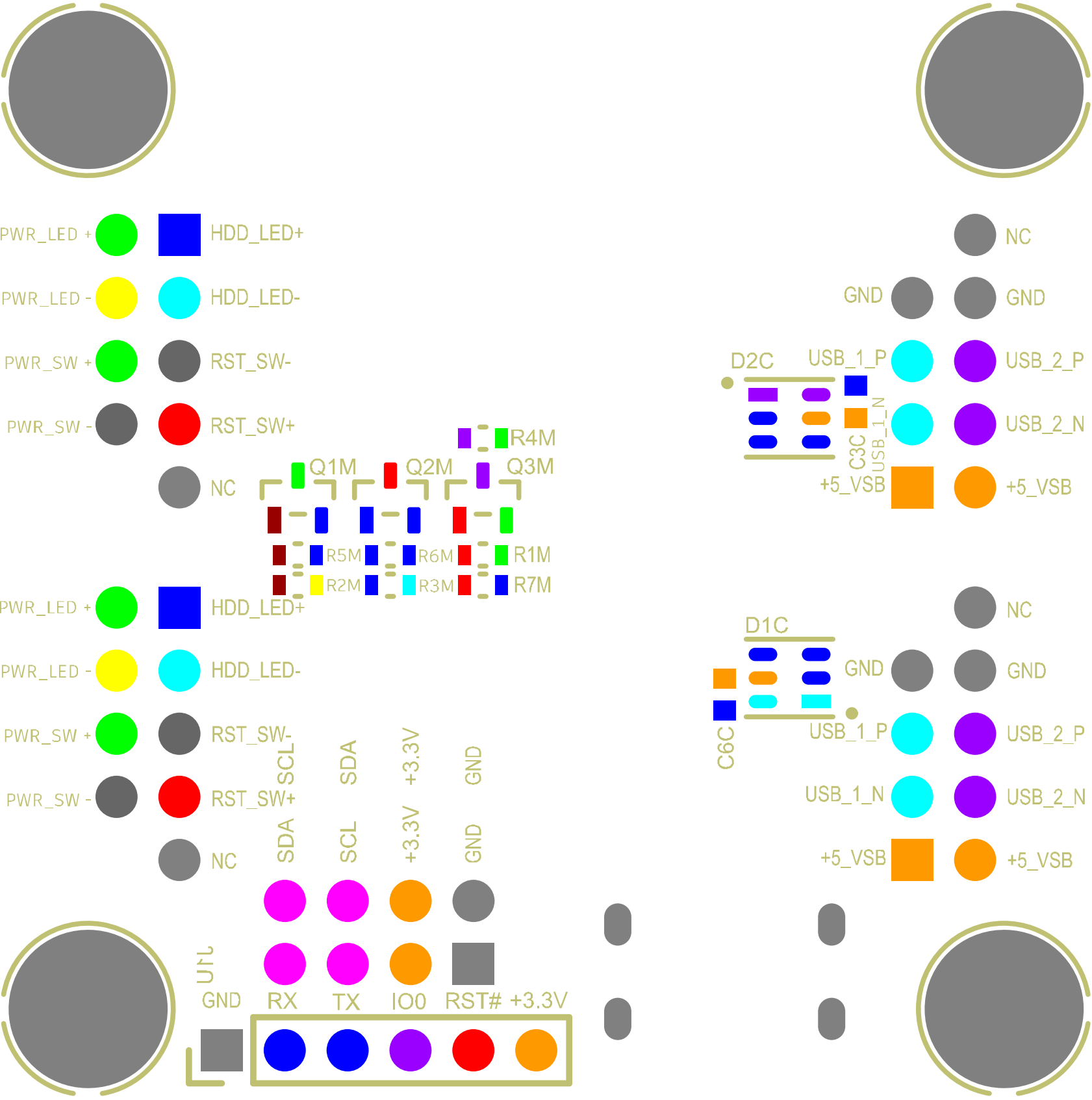
R2C
R1C
J1I
R3C
C5C


PWR_LED +
HDD_LED+
PWR_LED -
HDD_LED-
PWR_SW +
RST_SW-
PWR_SW -
RST_SW+
NC
R4M
Q1M
Q2M
Q3M
R5M
R6M
R1M
R2M
R3M
R7M
PWR_LED +
HDD_LED+
PWR_LED -
HDD_LED-
PWR_SW +
RST_SW-
PWR_SW -
RST_SW+
NC
SCL
SDA
+3.3V
GND
SDA
SCL
+3.3V
GND
GND
RX
TX
IO0
RST#
+3.3V
NC
GND
GND
D2C
USB_1_P
USB_2_P
C3C
USB_1_N
USB_2_N
+5_VSB
+5_VSB
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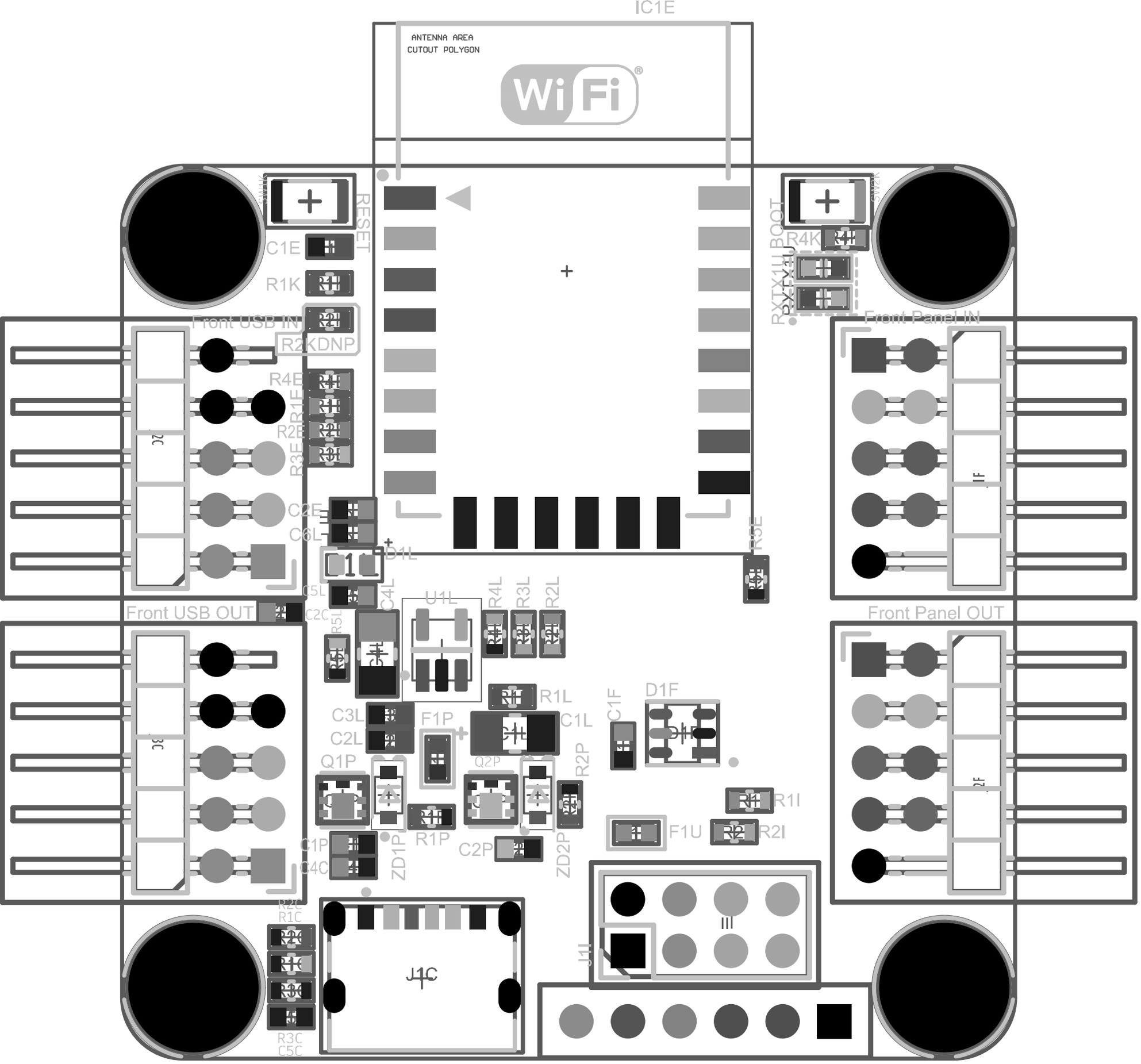
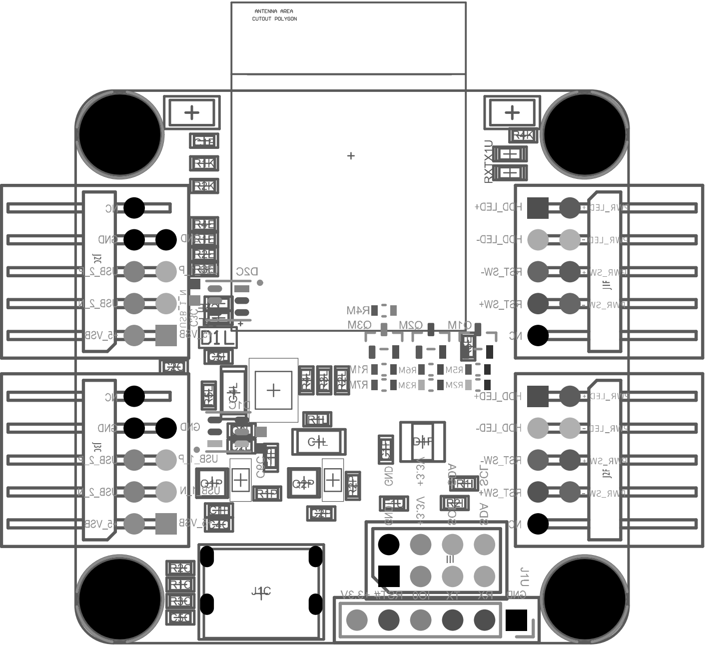
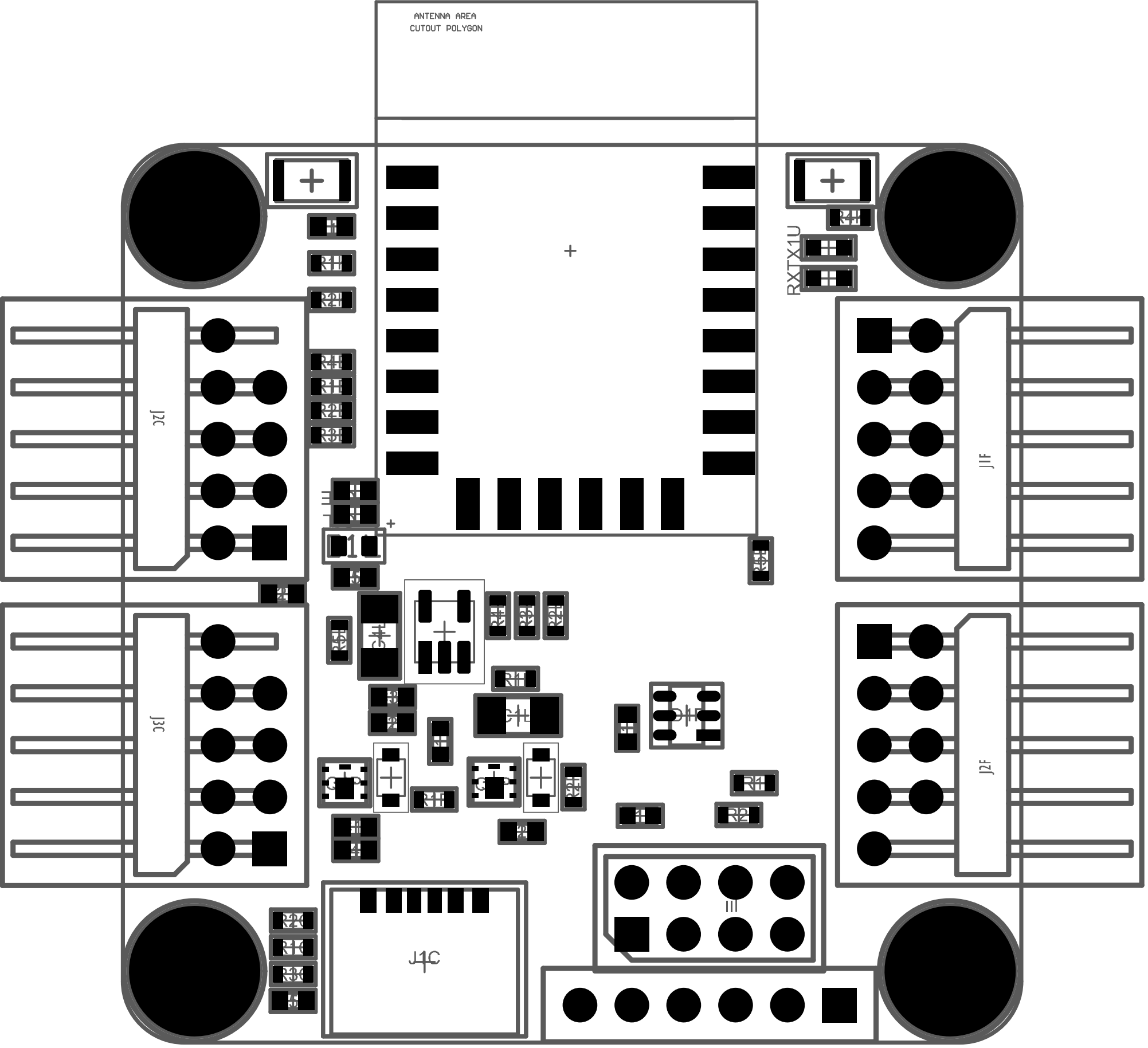
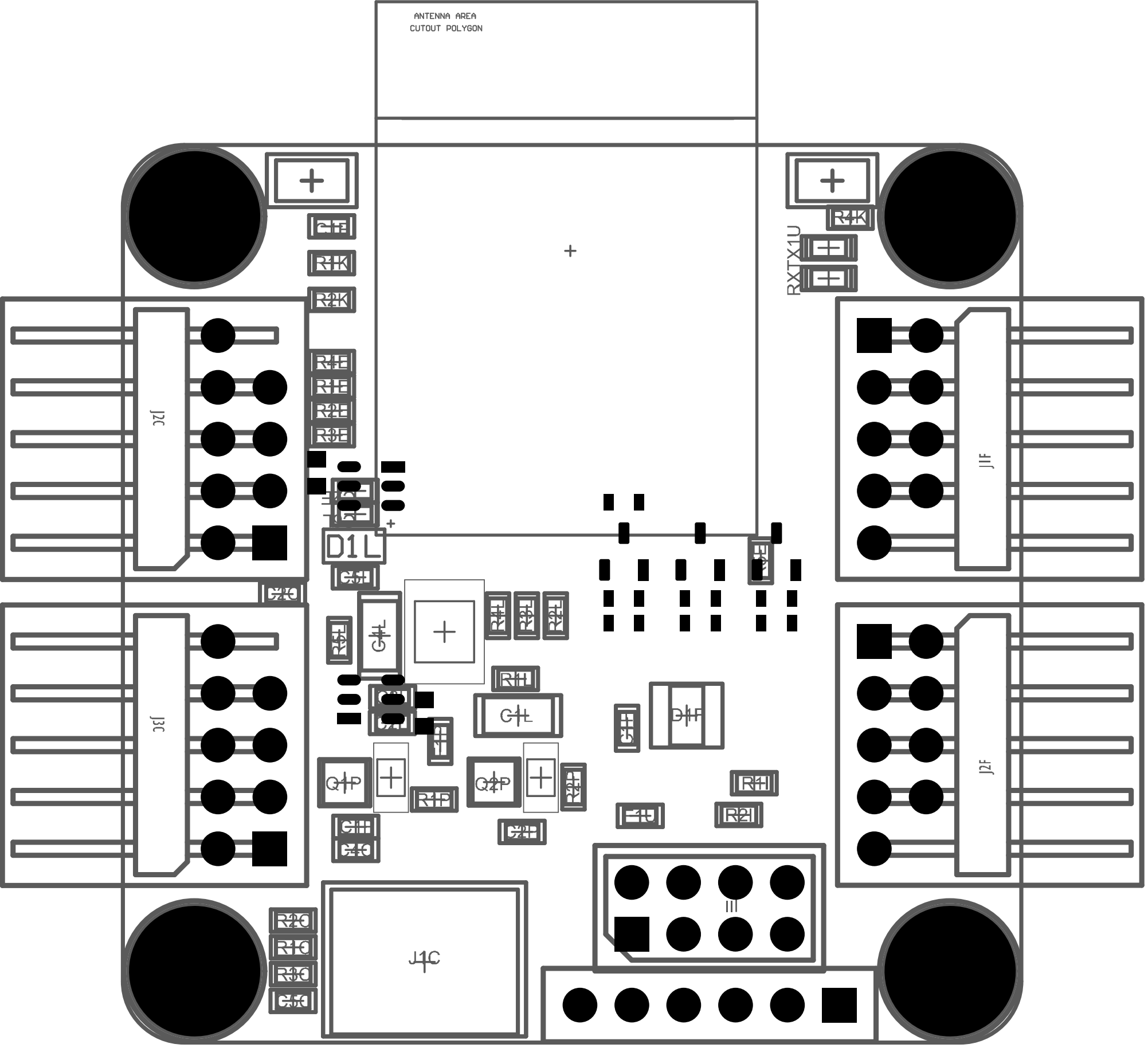
USB_1_N
USB_2_N
+5_VSB
+5_VSB

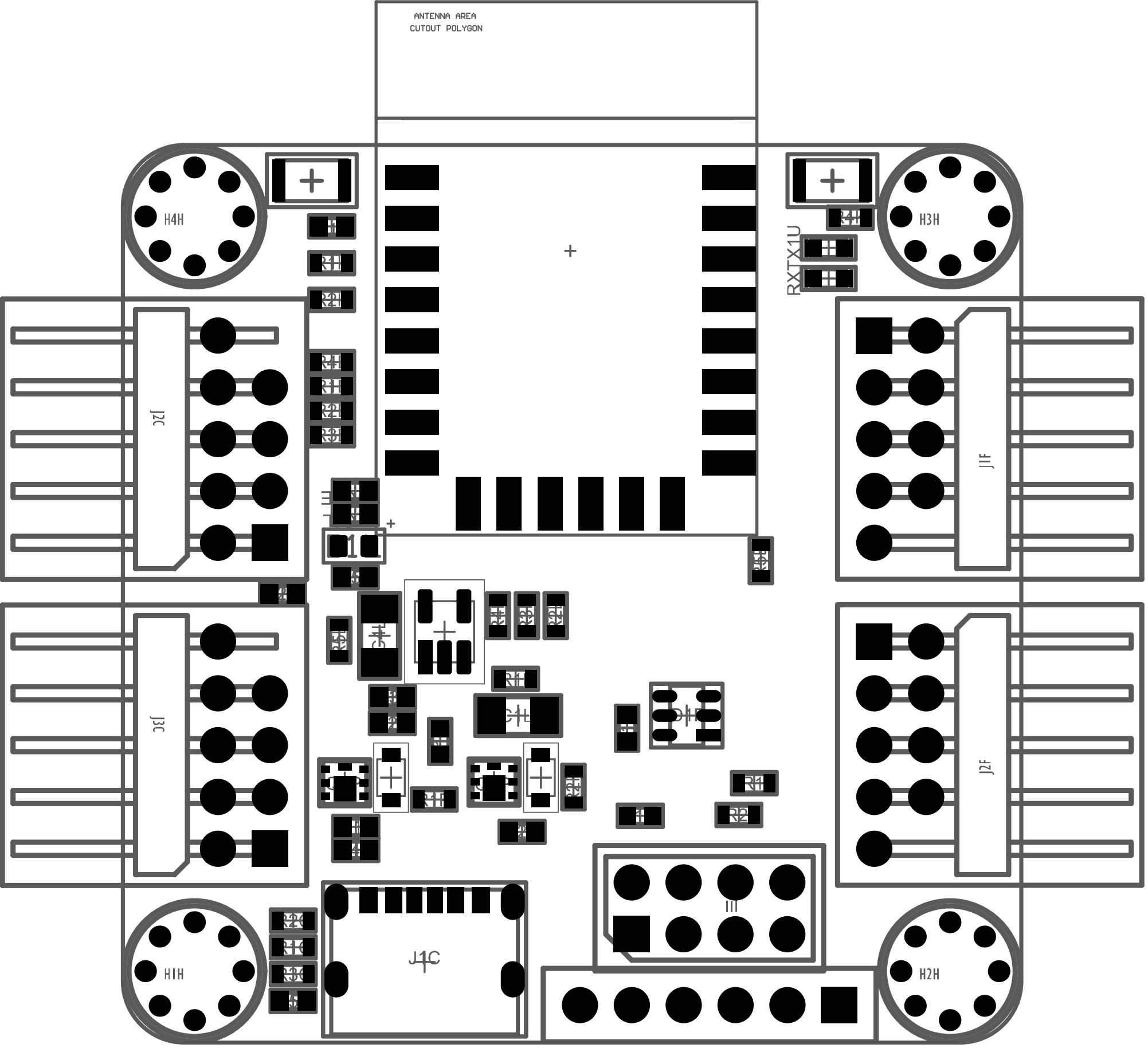

IC1E
ANTENNA AREA
CUTOUT POLYGON
Wi Fi
RESET
C1E
R1K
Front USB IN
R2KDNP
R4E
R1E
R2E
R3E
C2E
C6L
D4L
C5L
C4L
U1F
R4L
R3L
R2L
Front USB OUT
C2C
R5L
R1L
C3L
C2L
F1P
C1L
C1F
D1F
Q1P
Q2P
R2P
R1I
F1U
R2I
C1P
C4C
R1P
C2P
ZD1P
ZD2P
R2C
R1C
R3C
C5C
J1L
R3E
R4K
RXTX1U
BOOT
SWCK
SWDIO
Front Panel IN
Front Panel OUT

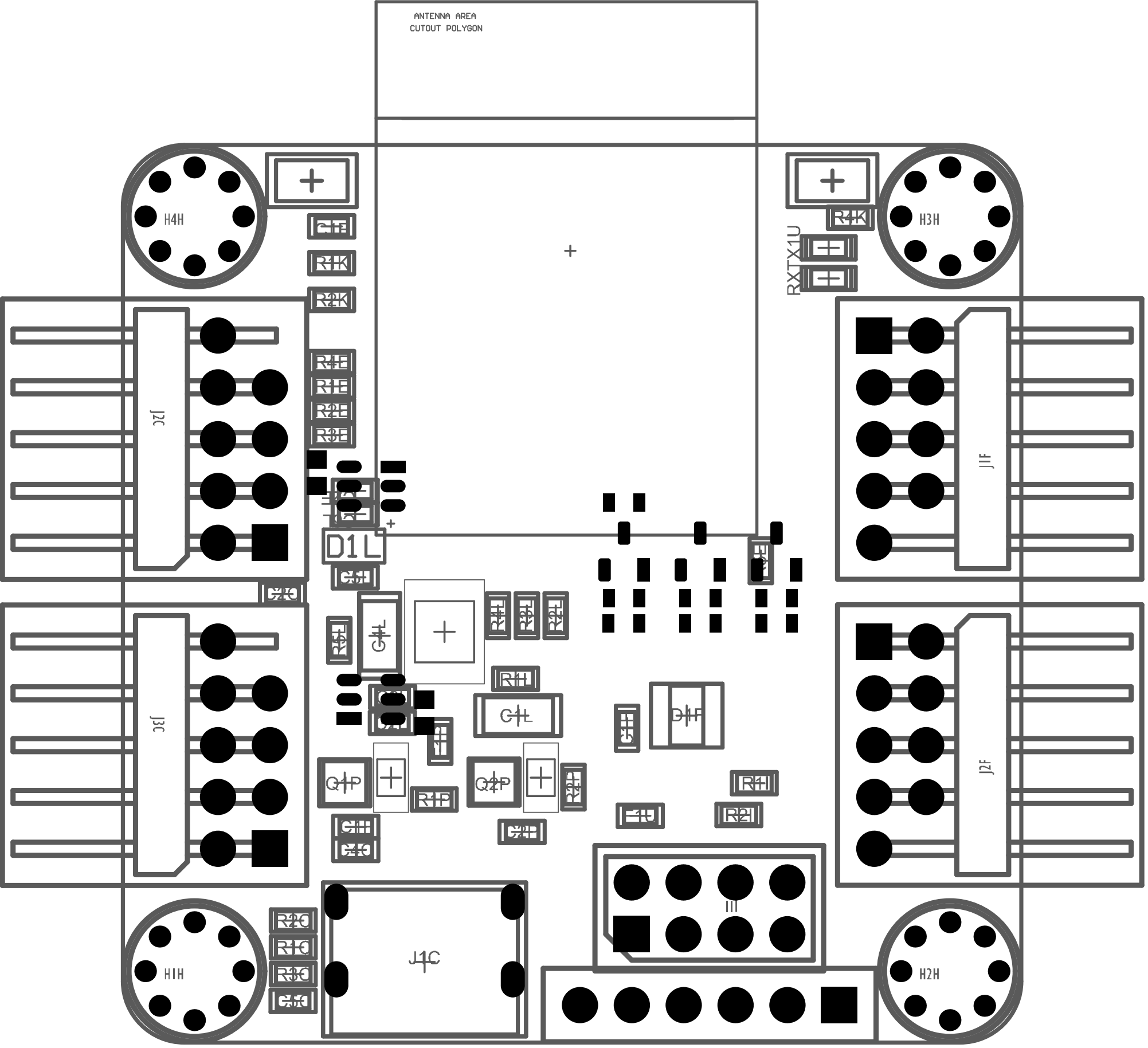


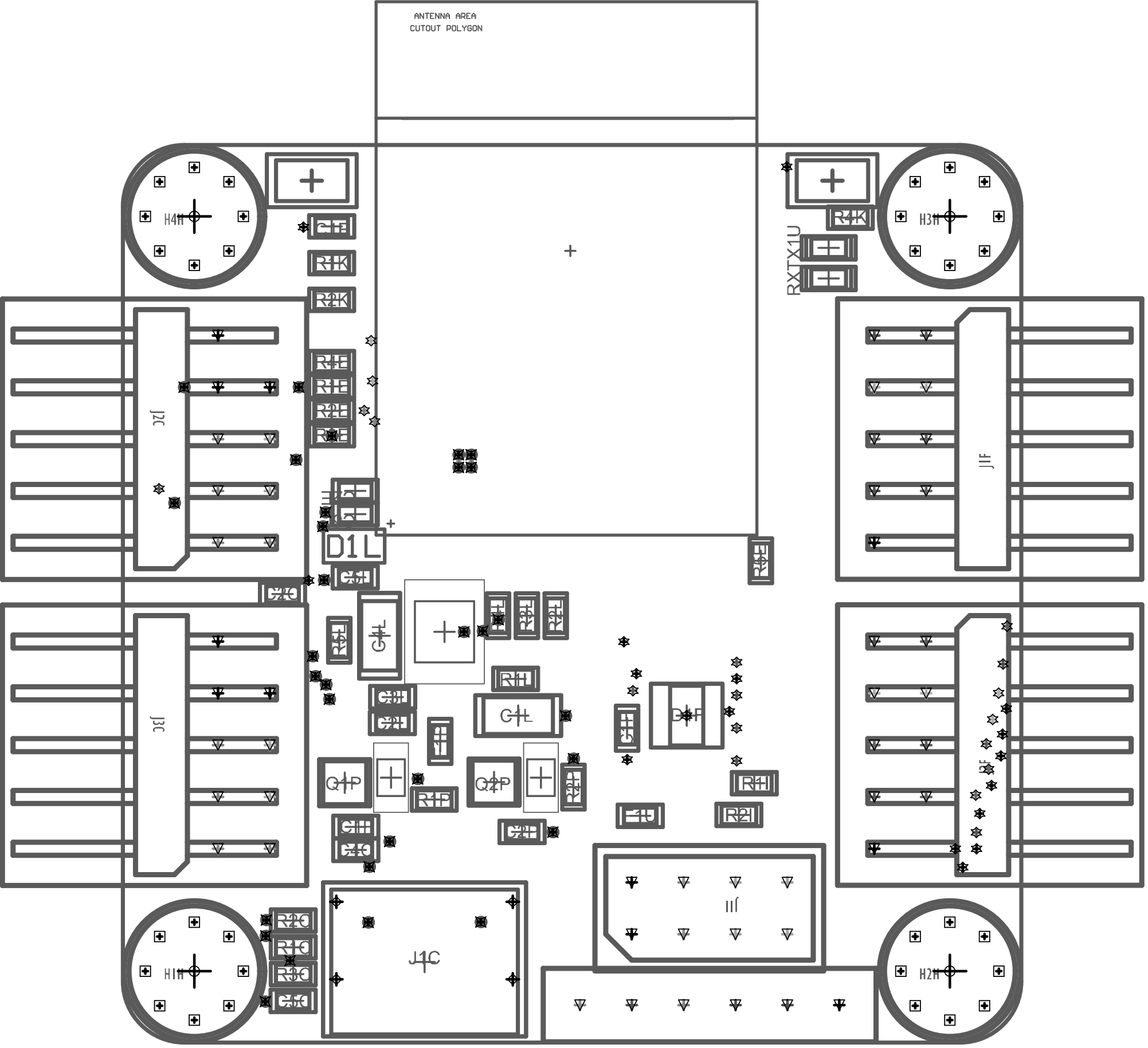
ANTENNA AREA
CUTOUT POLYGON
RXTX1U
HDD_LED+
HDD_LED-
RST_SW-
RST_SW+
NC
GND
+3.3V
SDA
SCL
5DV

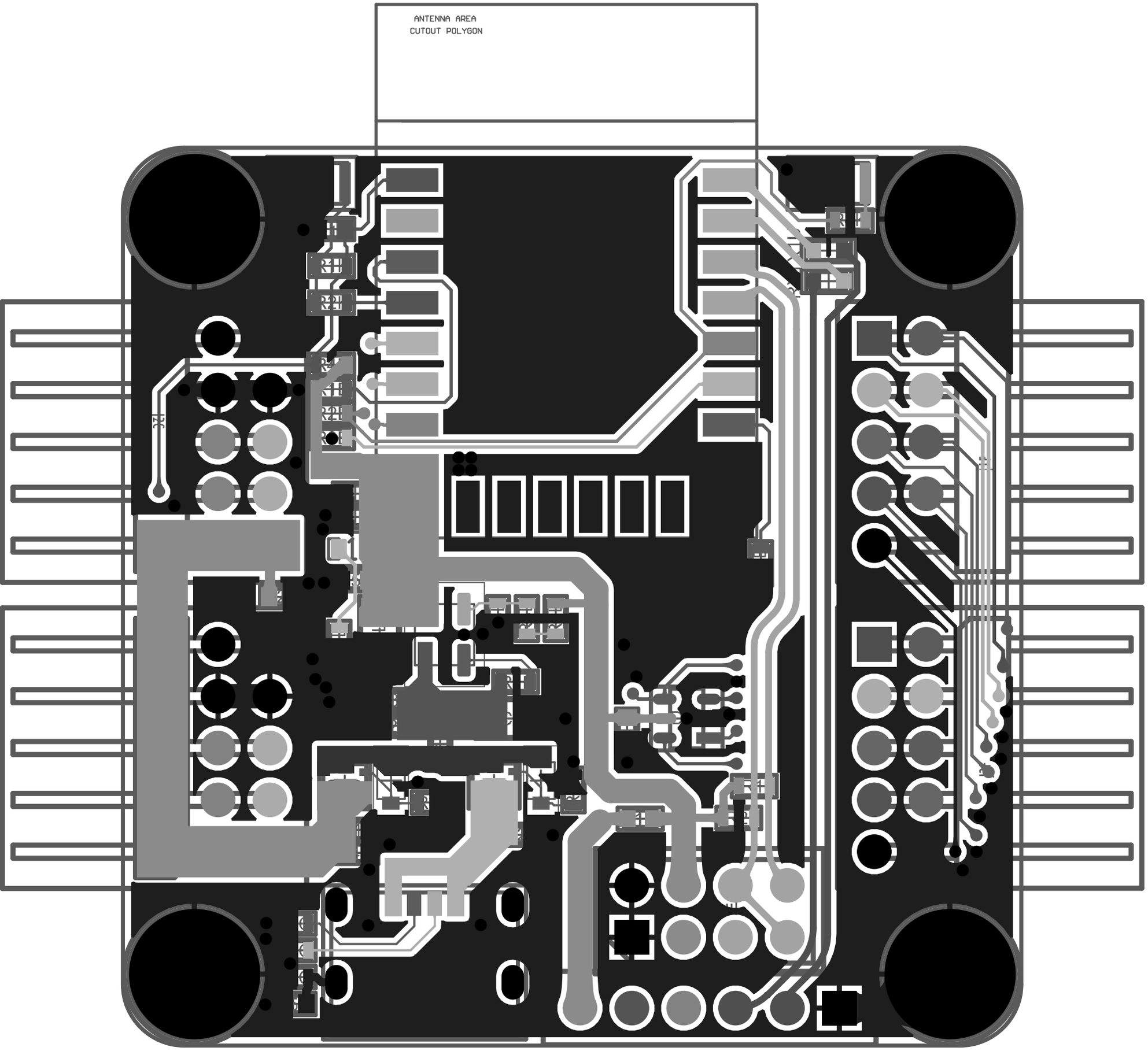

ANTENNA AREA
CUTOUT POLYGON
RXTX1U
J1F
J2F

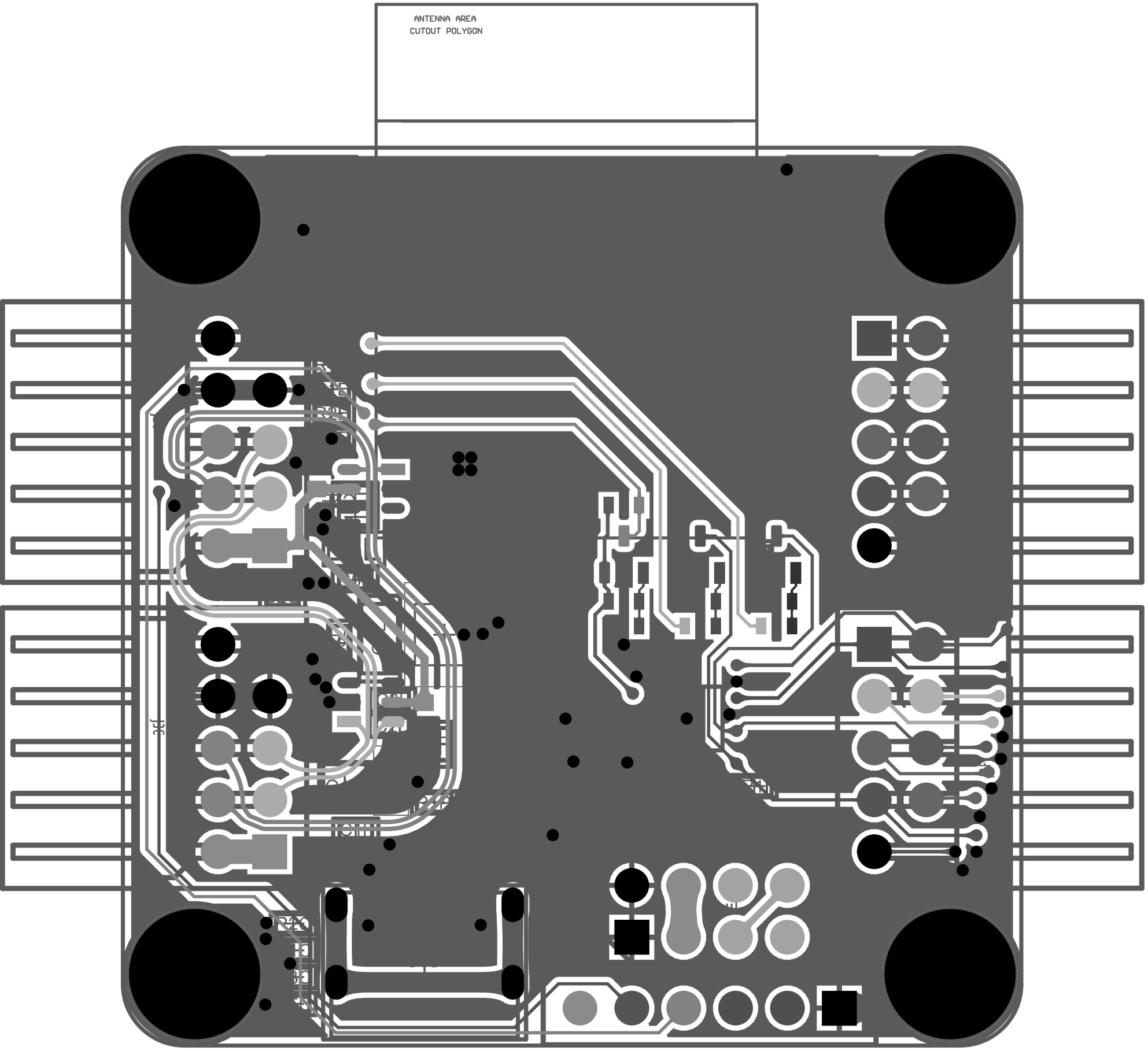

ANTENNA AREA
CUTOUT POLYGON
RXTX1U
D1L
J1F
J2F
J2F
J2F
J1C

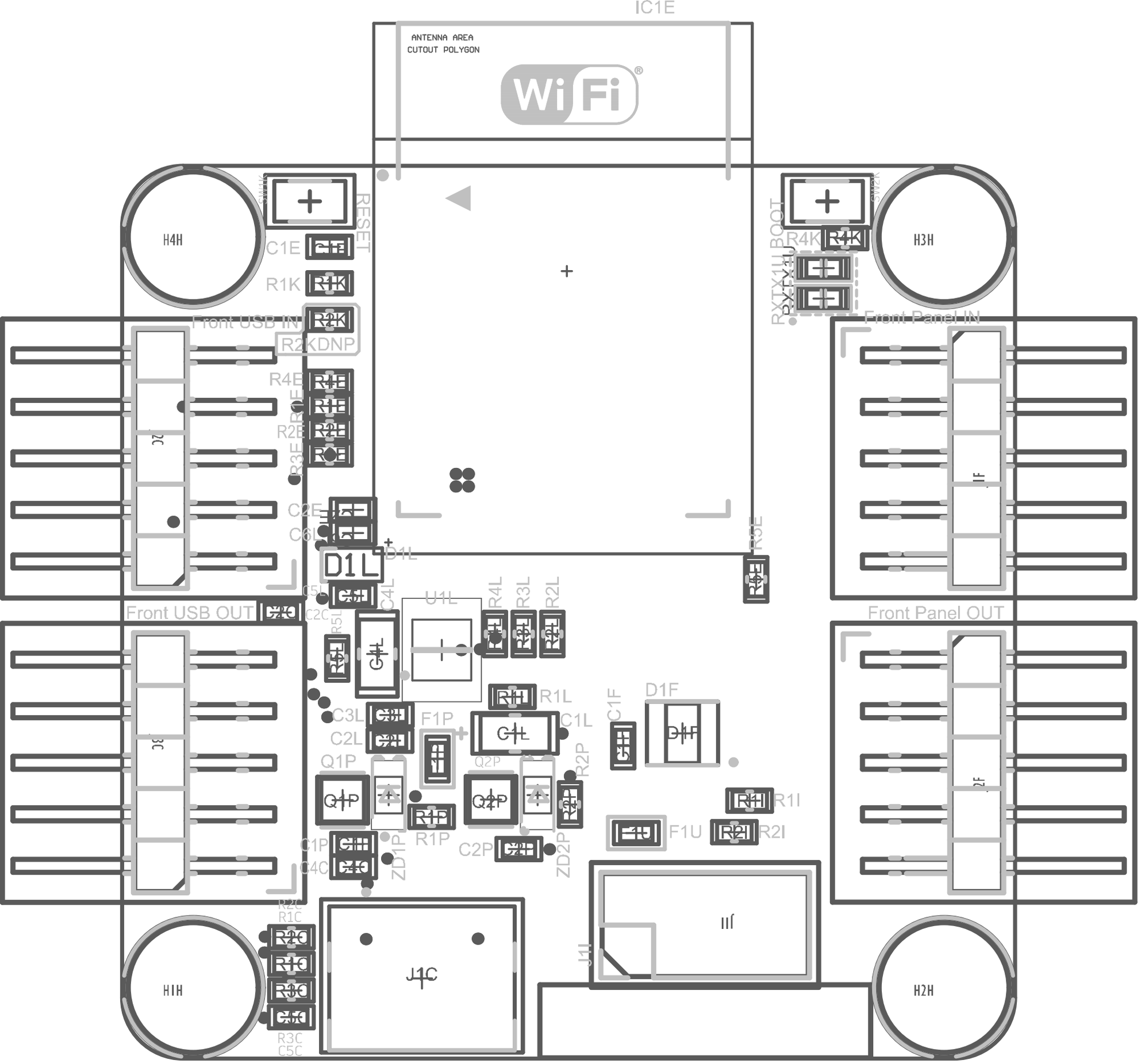

ANTENNA AREA
CUTOUT POLYGON
H4H
H3H
H1H
H2H
RXTX1U
J2F
J1F


ANTENNA AREA
CUTOUT POLYGON
H4H
H3H
H1H
H2H
RXTX1U
D1L
J1F
J2F
J1C

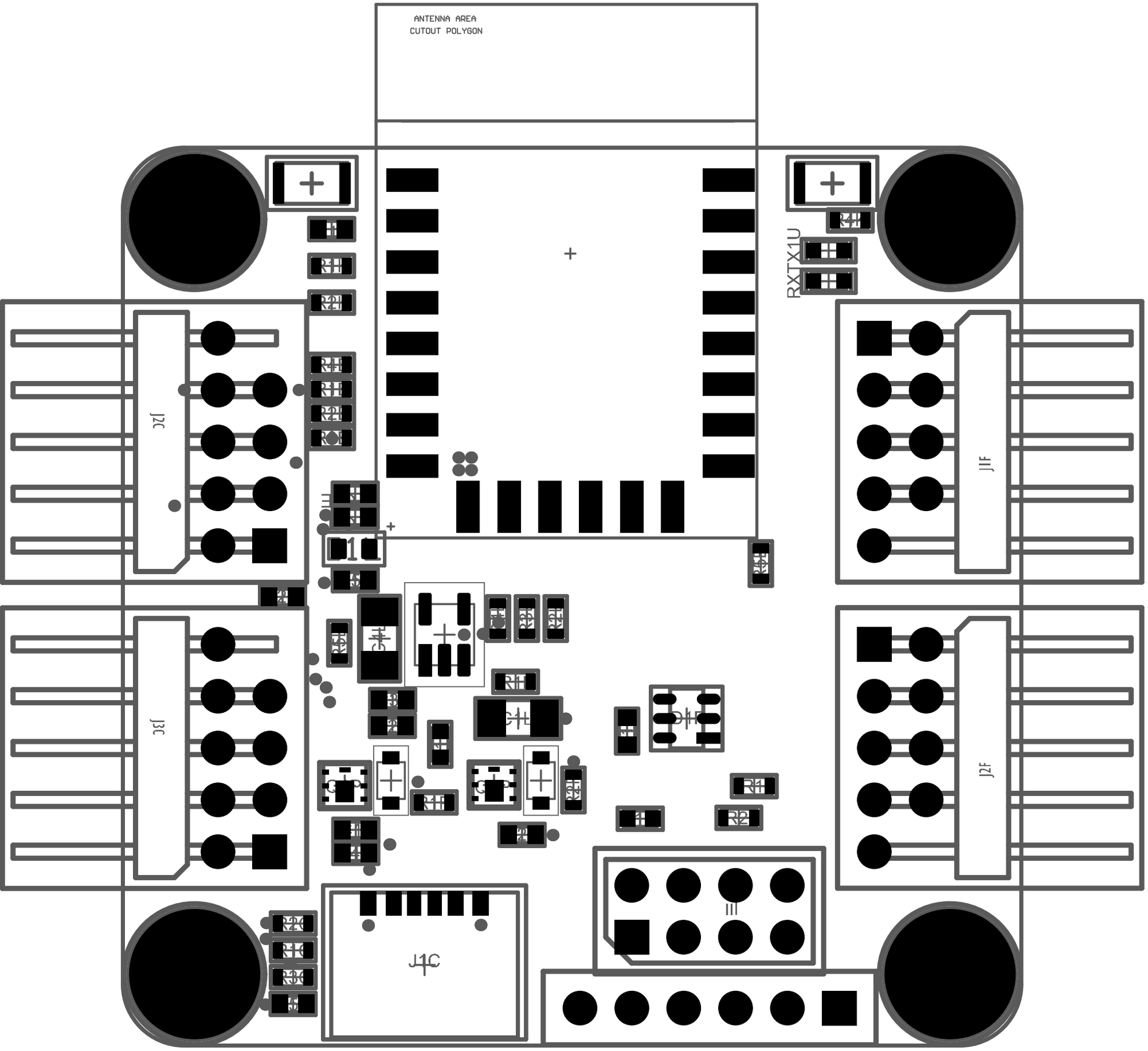

ANTENNA AREA
CUTOUT POLYGON
H4
H3
H1
H2
RXTX1U
D1L
J1C
J1I
J1F

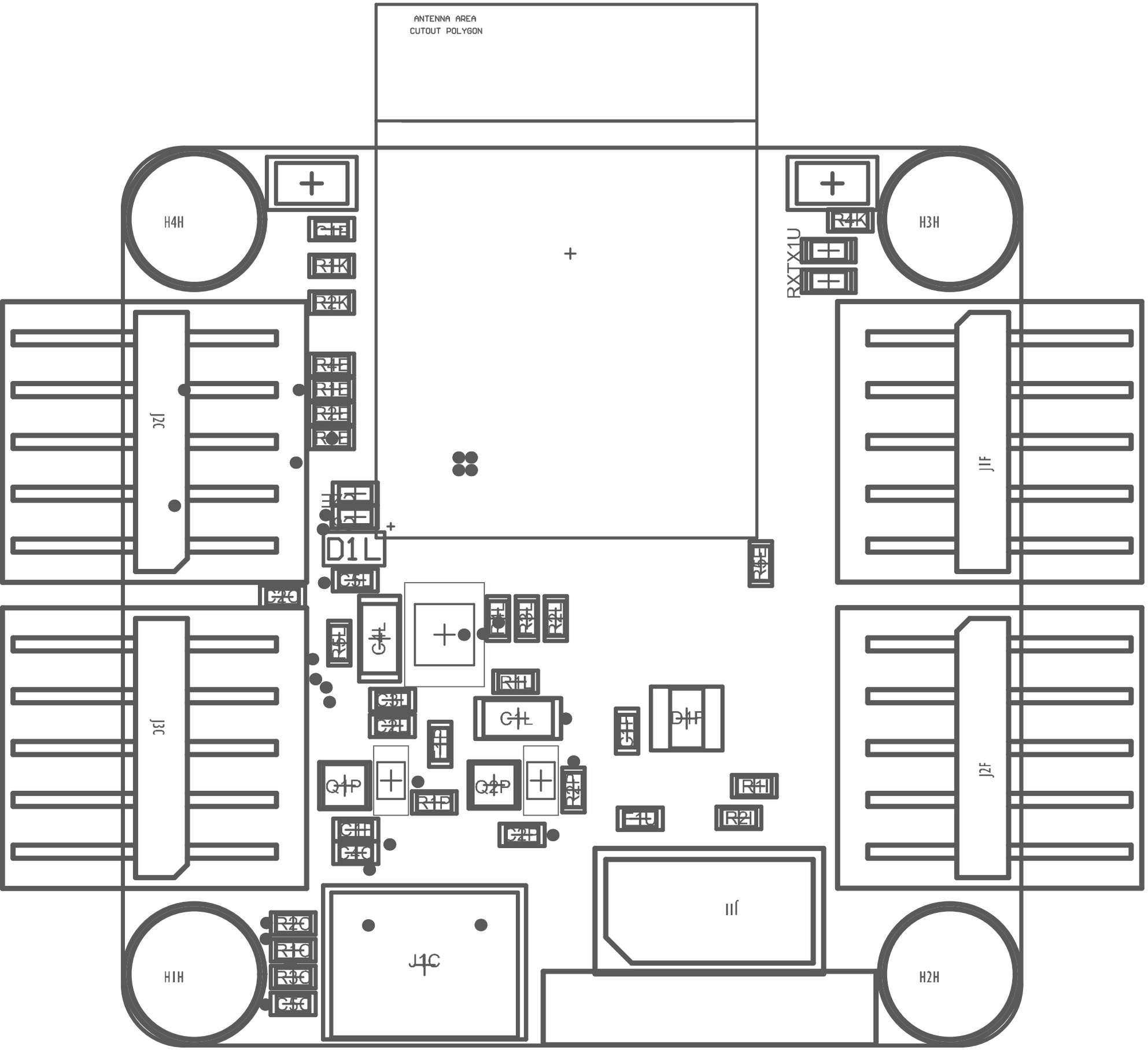

ANTENNA AREA
CUTOUT POLYGON
I2C

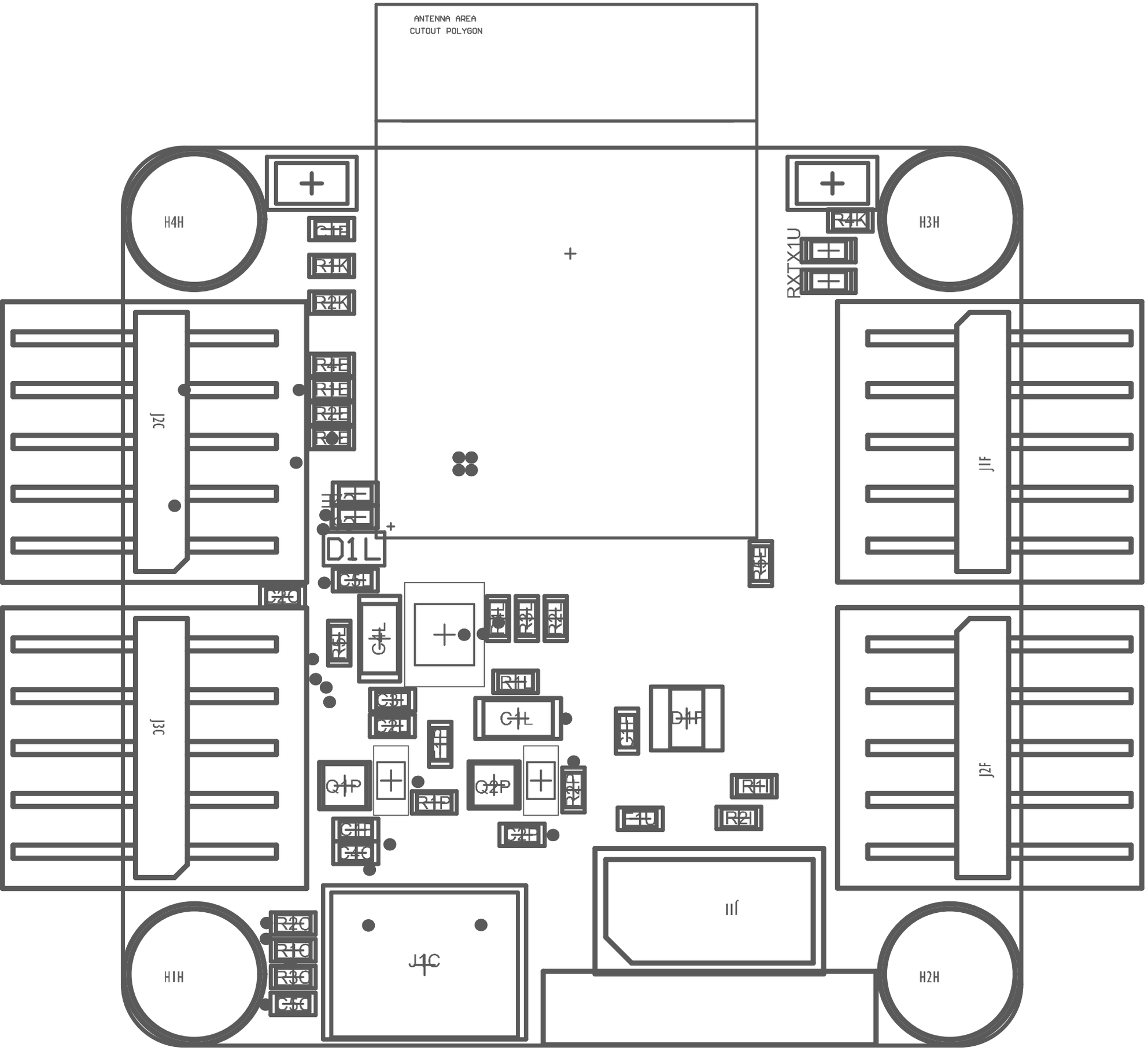

ANTENNA AREA
CUTOUT POLYGON

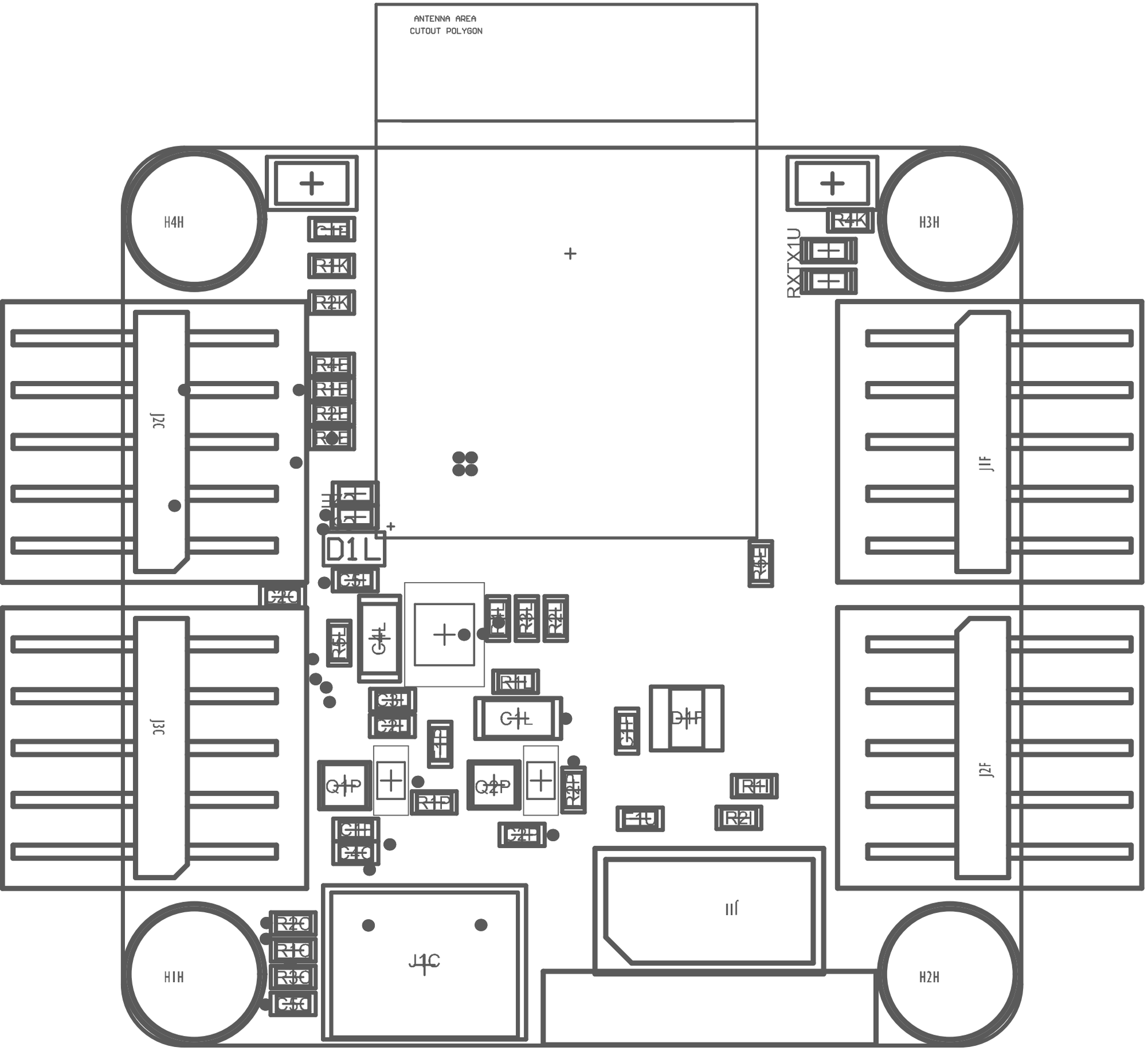

IC1E
ANTENNA AREA
CUTOUT POLYGON
Wi Fi
H4H
H3H
H1H
H2H
SW1E
RESET
C1E
R1K
R2K
R2KDNP
Front USB IN
R4E
R3E
R2E
R1E
C2E
C6E
D1L
D4L
C5L
C4L
U1L
R4L
R3L
R2L
R5L
C2C
Front USB OUT
R1L
C3L
C2L
C1L
F1P
Q1P
Q2P
R2P
R1P
C1P
C4C
C2P
ZD1P
ZD2P
C1F
D1F
F1U
R1I
R2I
R3E
SW2K
R4K
BOOT
RXTX1U
Front Panel IN
Front Panel OUT
R2C
R1C
R3C
C5C
J1C
J1L

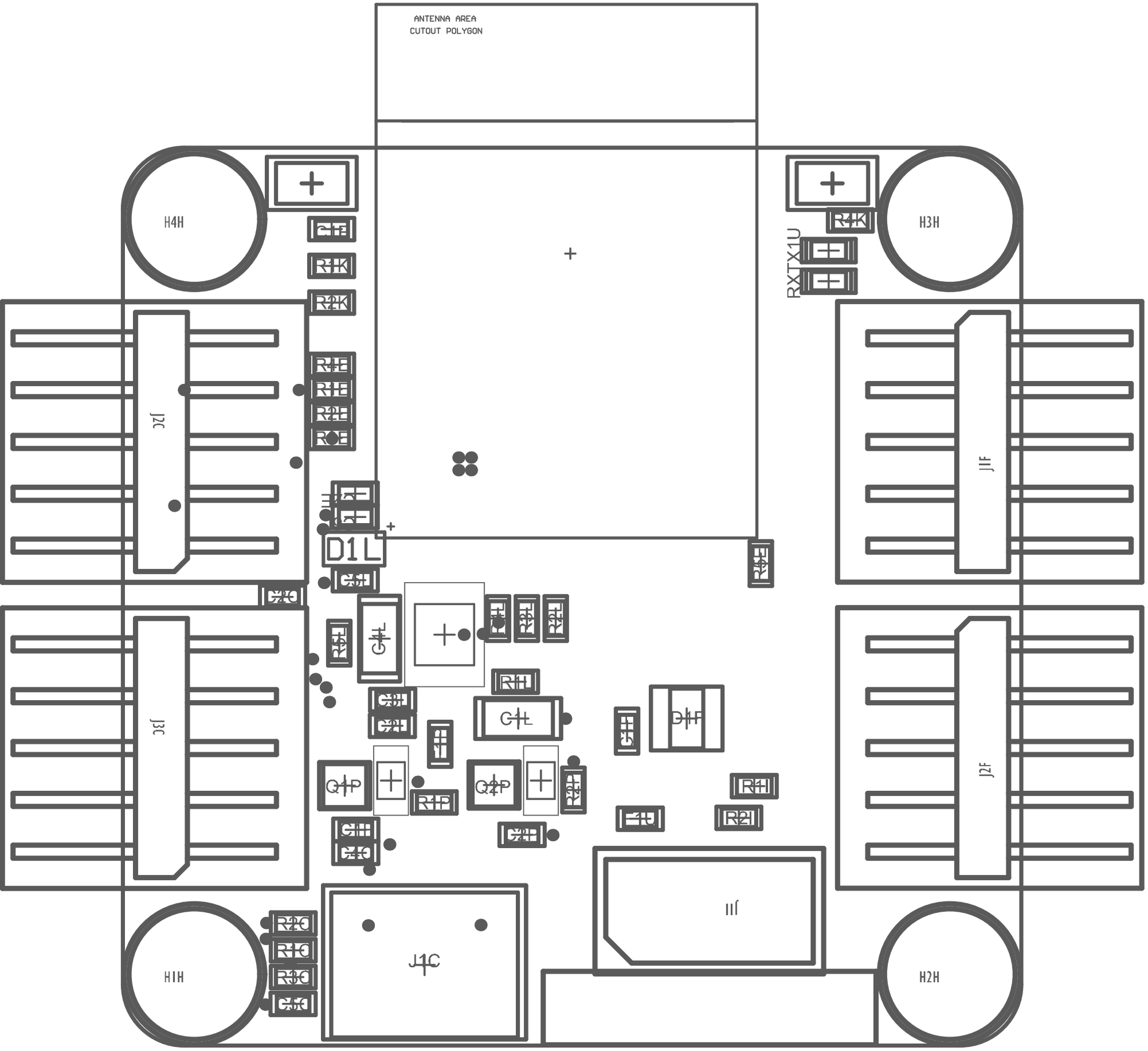
ANTENNA AREA
CUTOUT POLYGON

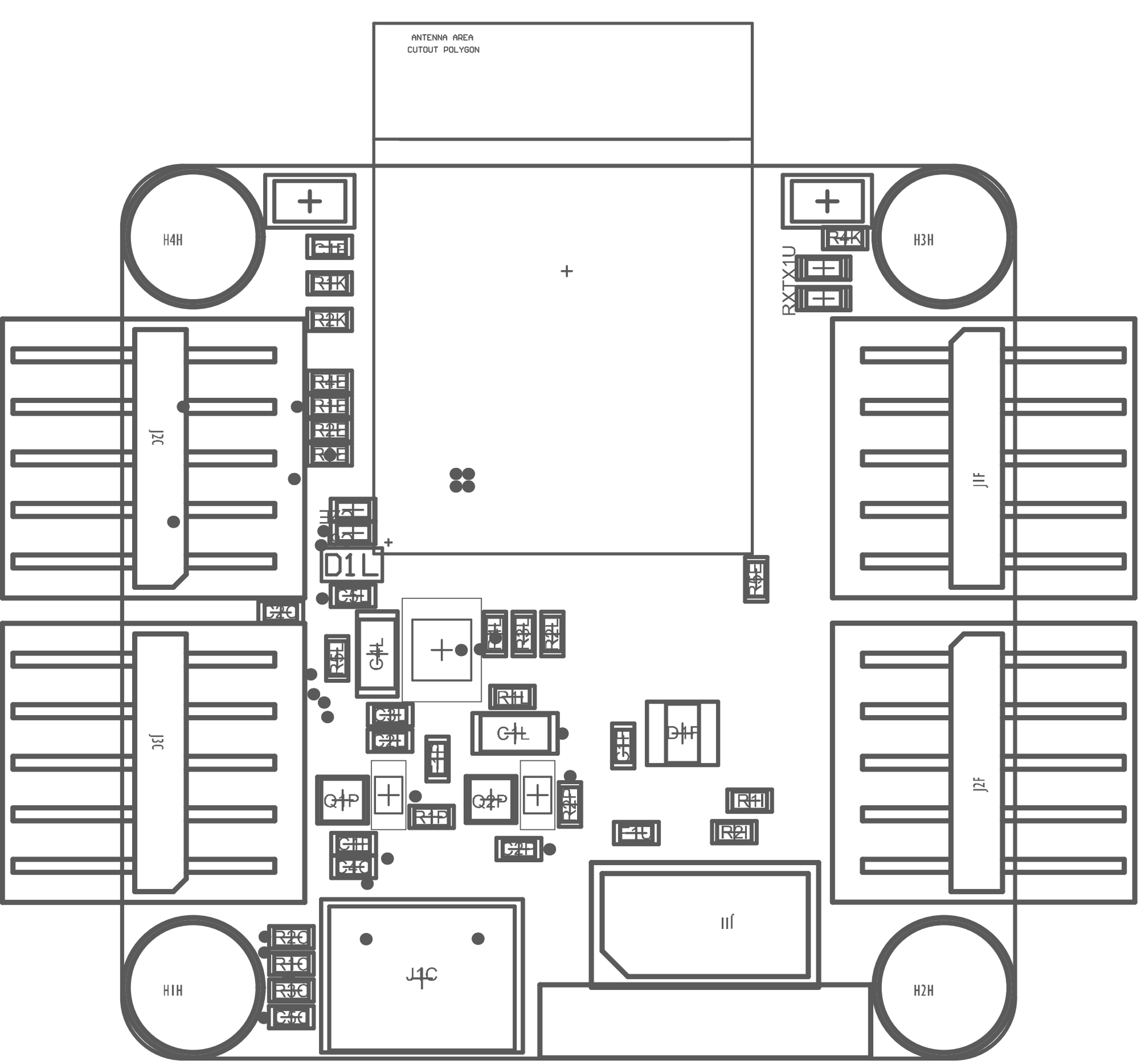

ANTENNA AREA
CUTOUT POLYGON
RXTX1U
J2F
J1F
J3C
J2C

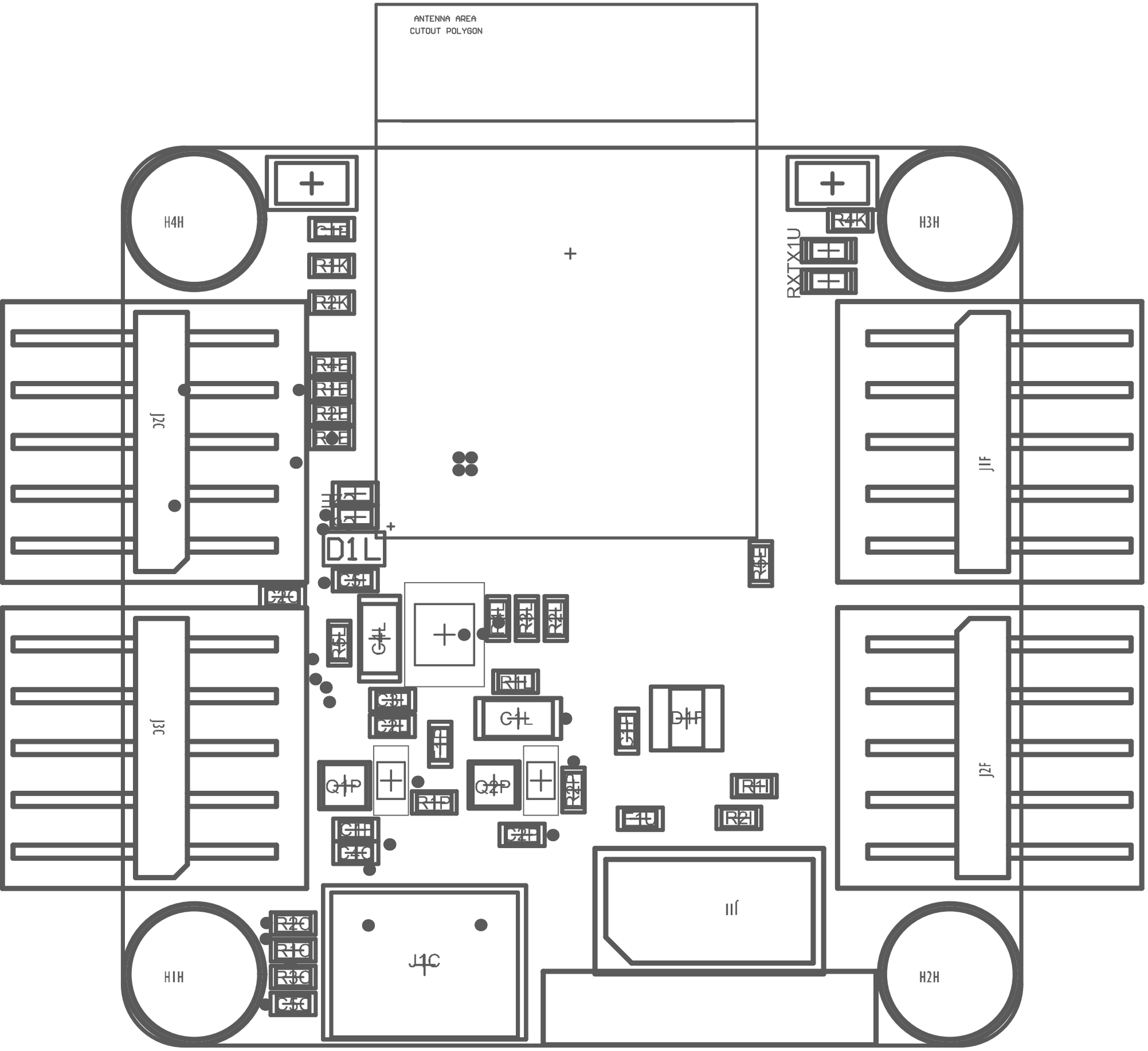

ANTENNA AREA
CUTOUT POLYGON
H4H
H3H
H1H
H2H
RXTX1U
D1L
J2F
J1F
J3F
J4F
J1F

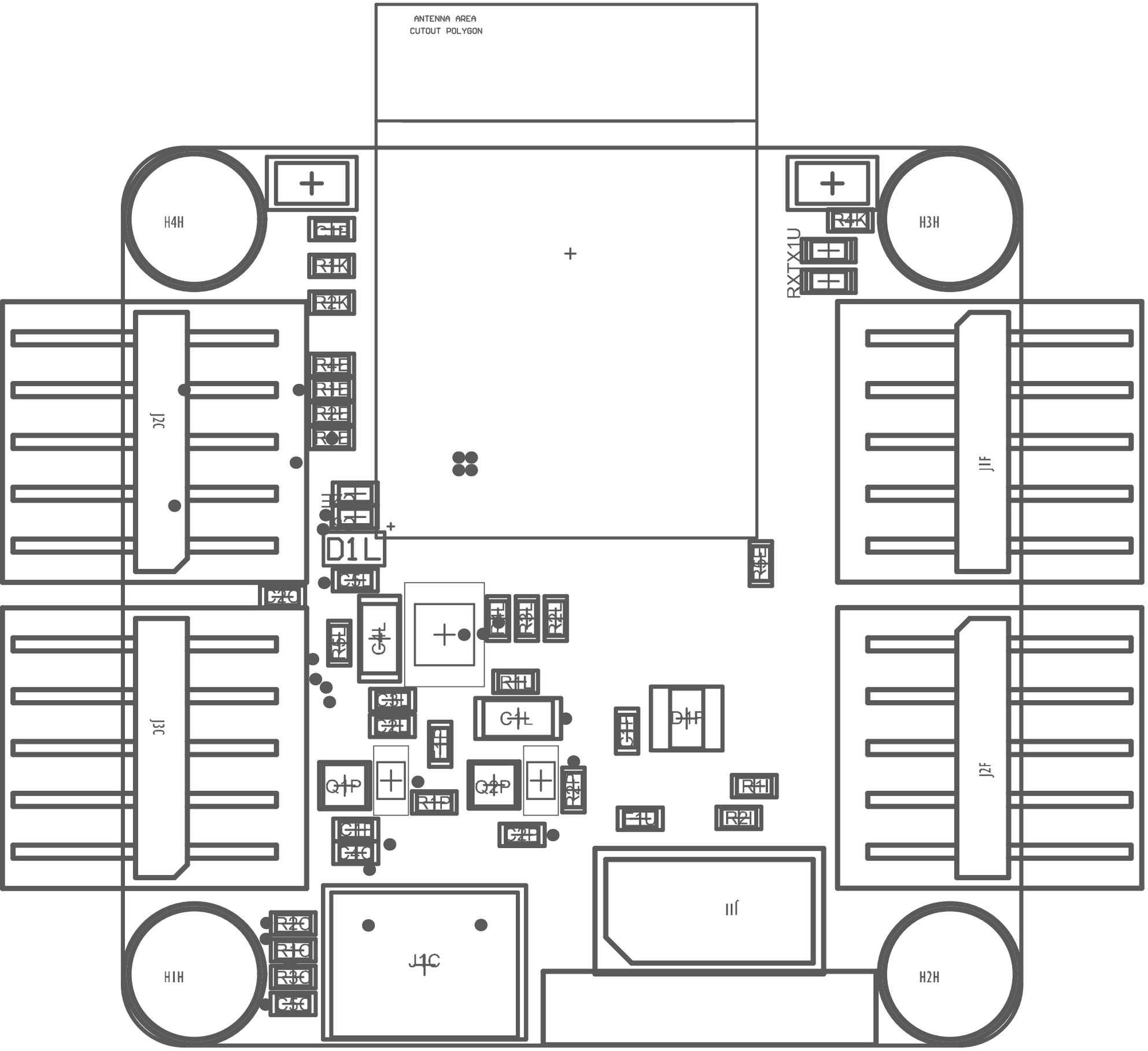

ANTENNA AREA
CUTOUT POLYGON
H4H
H3H
H1H
H2H
RXTX1U
D1L
J2F
J1F
J3F
J4F
J1F

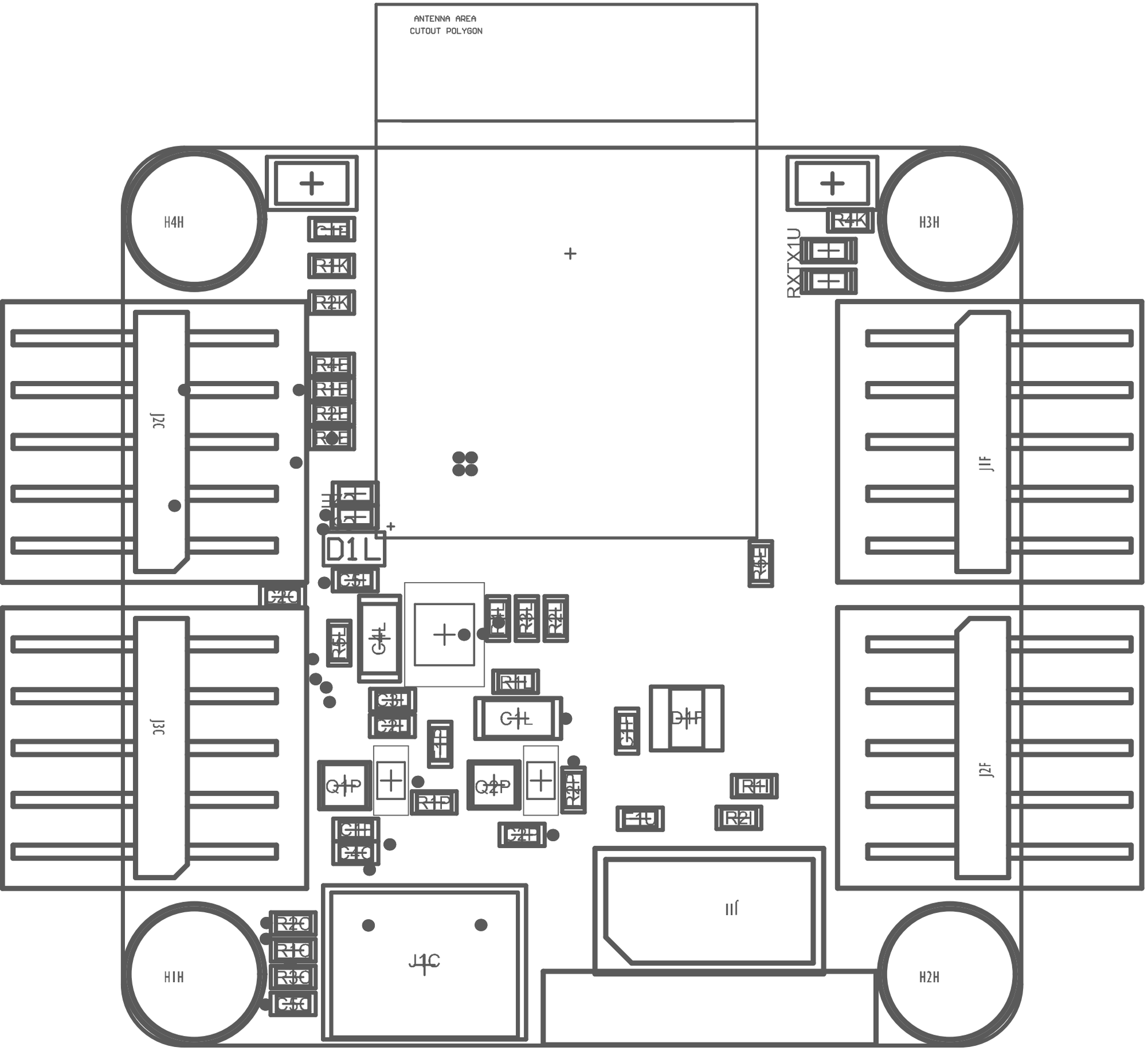

ANTENNA AREA
CUTOUT POLYGON
H4H
H3H
H1H
H2H
RXTX1U
D1L
J2F
J1F
J3F
J4F
J1F

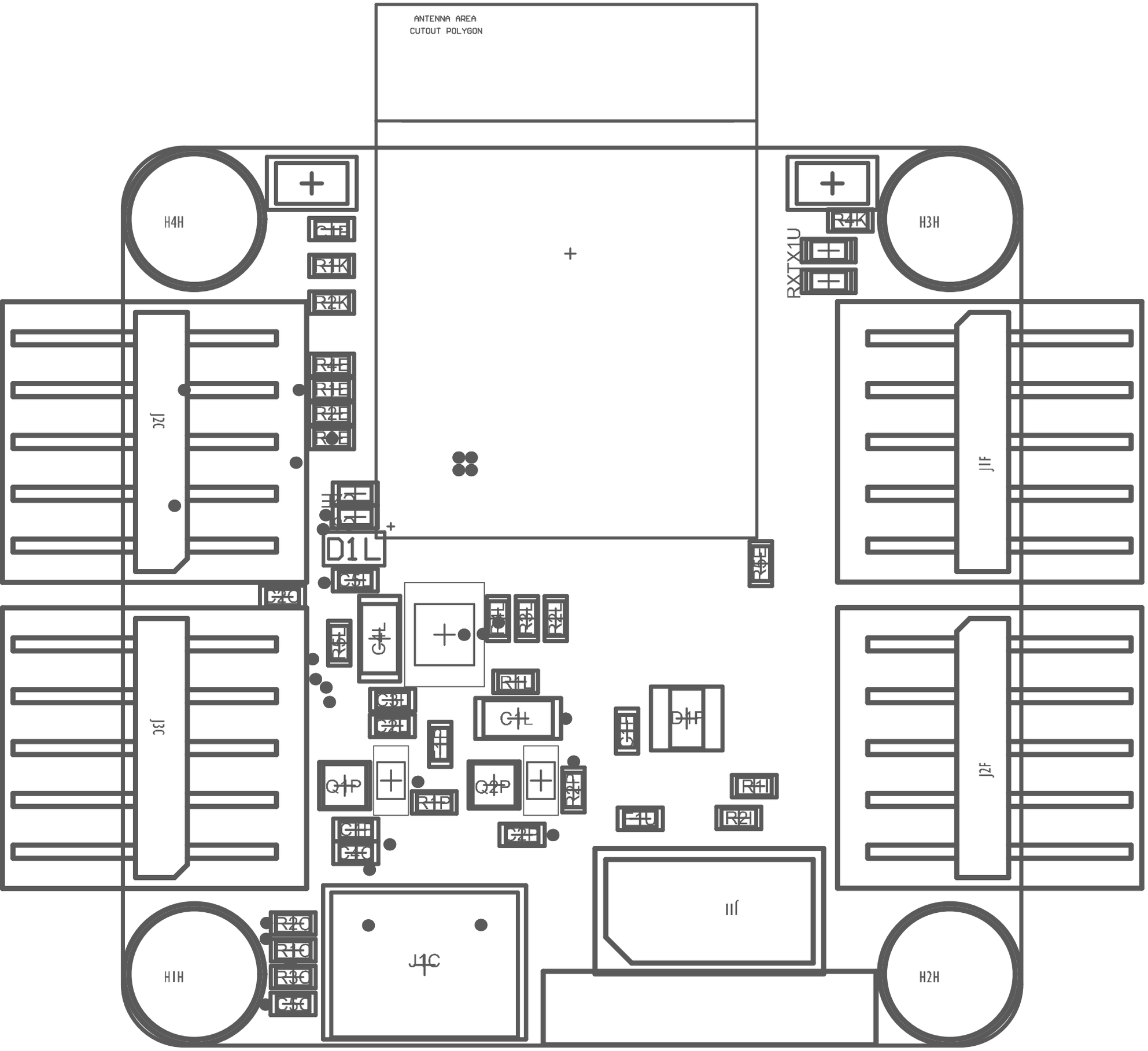

ANTENNA AREA
CUTOUT POLYGON
H4H
H3H
H1H
H2H
RXTX1U
D1L
J2F
J1F
J3F
J4F
J1F

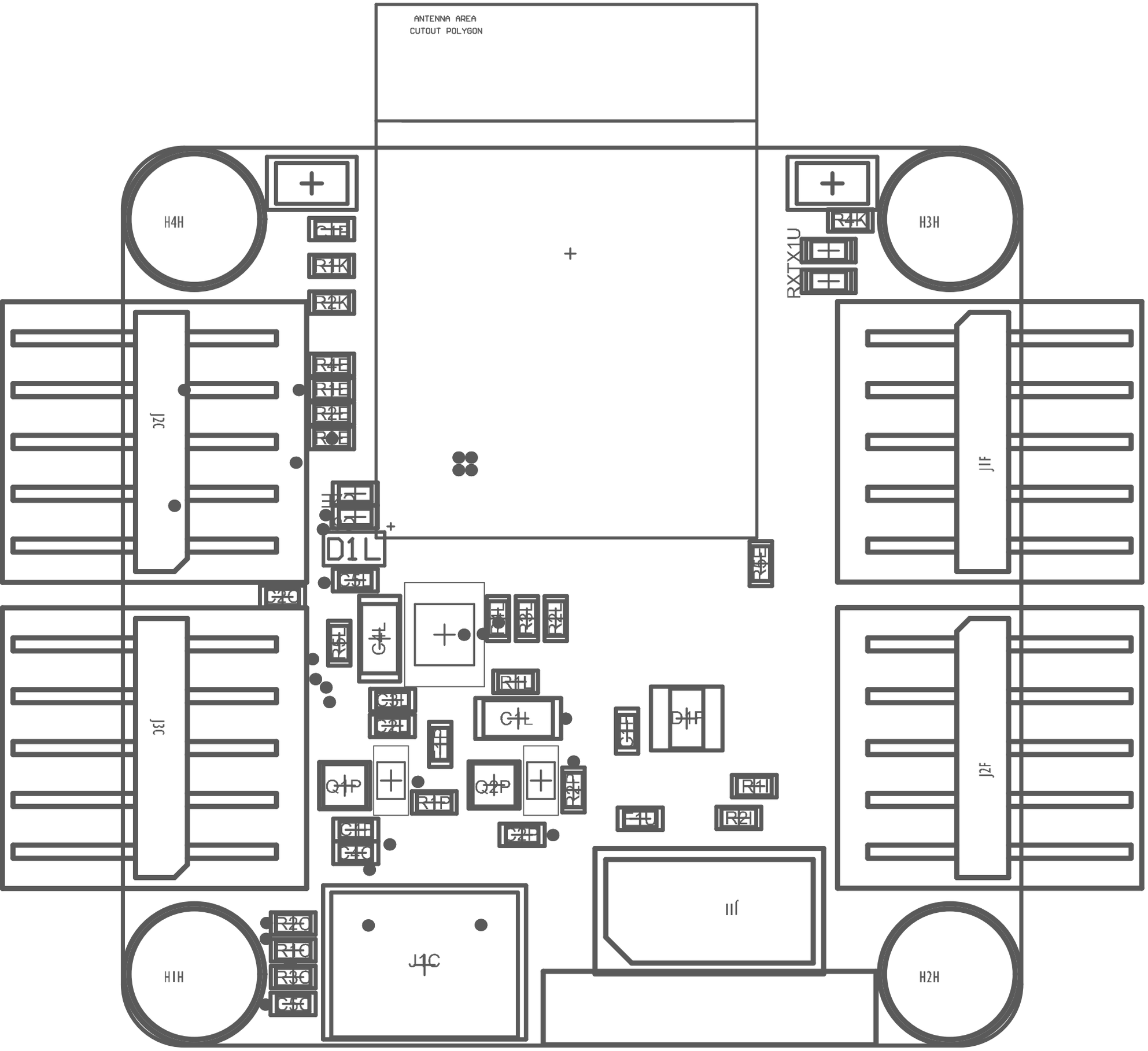

ANTENNA AREA
CUTOUT POLYGON
H4H
H3H
H1H
H2H
RXTX1U
D1L
J2F
J1F
J1I
J1C
J2C
J3C

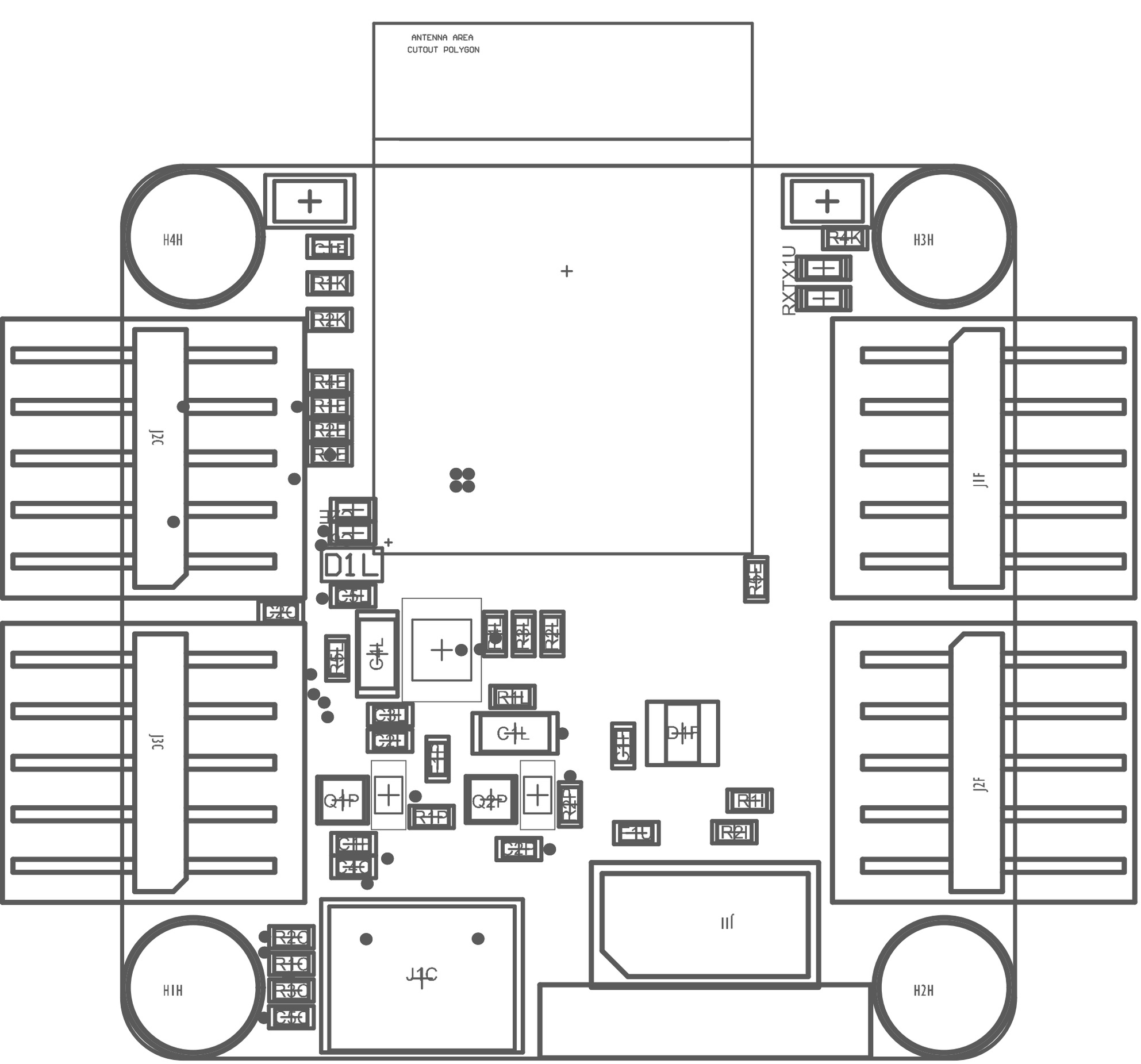

ANTENNA AREA
CUTOUT POLYGON
H4H
H3H
H1H
H2H
RXTX1U
D1L
J2F
J1F
J3F
J4F
J1F

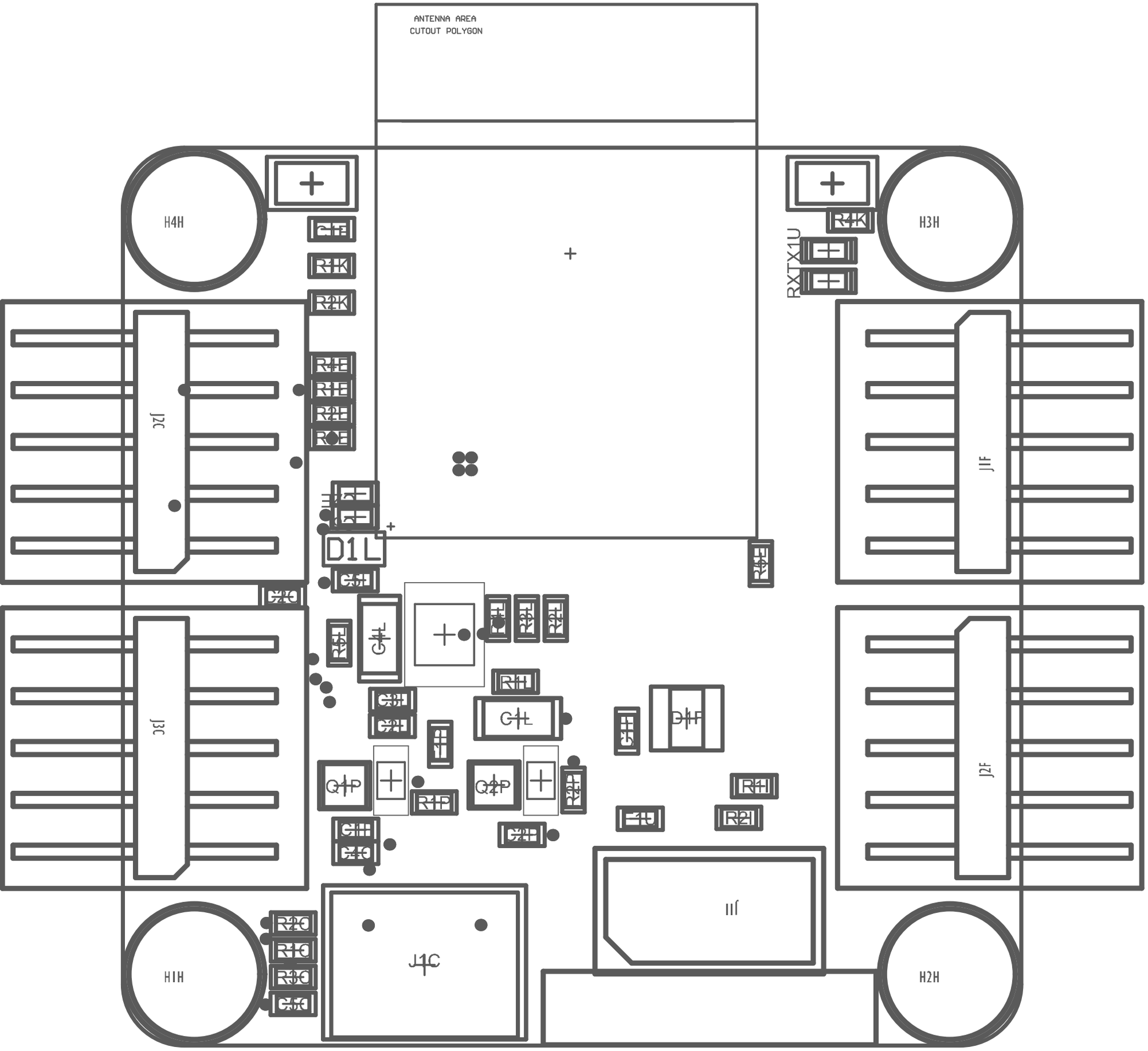

ANTENNA AREA
CUTOUT POLYGON
H4H
H3H
H1H
H2H
RXTX1U
D1L
J2F
J1F
J3F
J4F
J1F

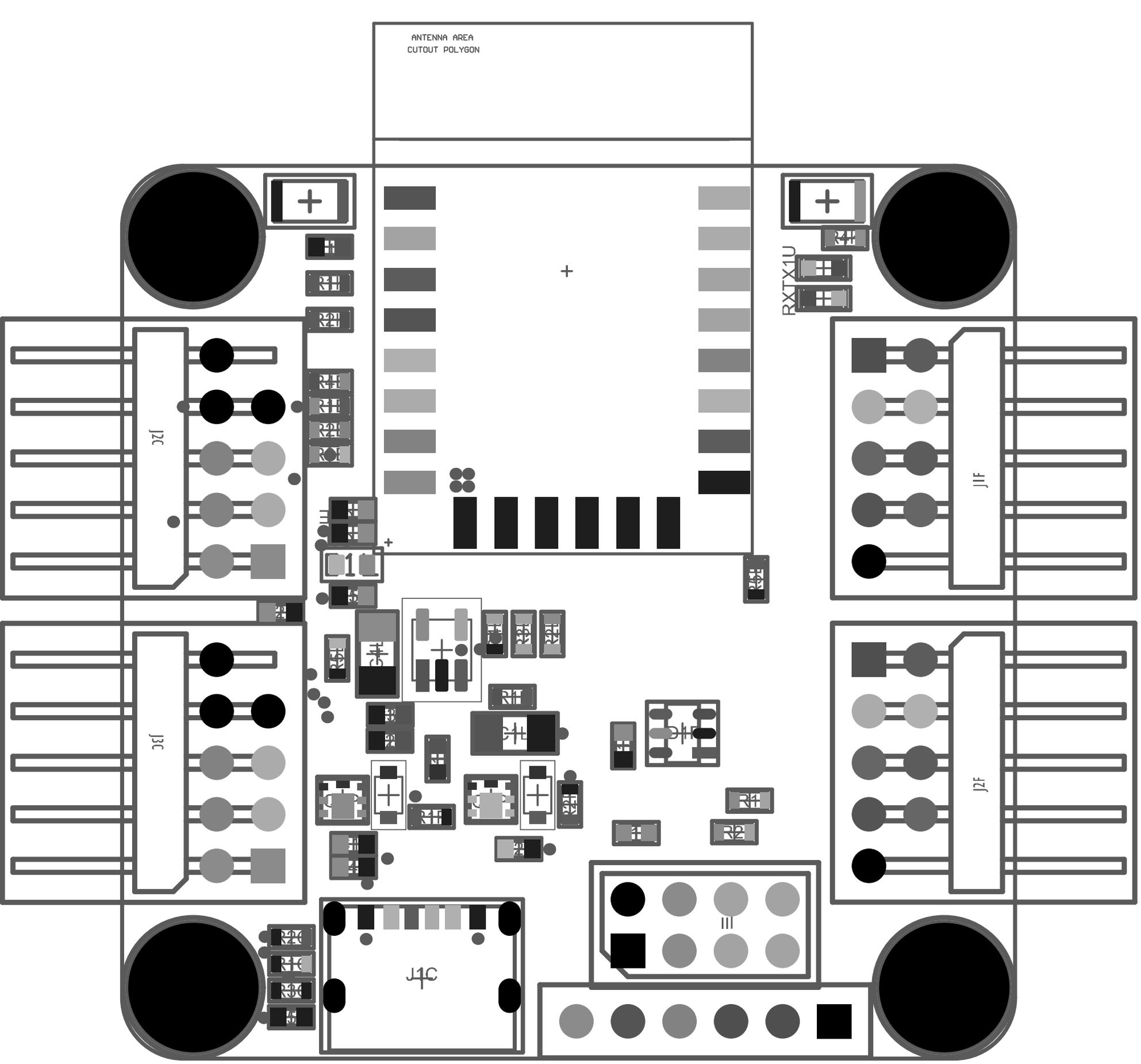

ANTENNA AREA
CUTOUT POLYGON
H4H
H3H
H1H
H2H
RXTX1U
J2F
J1F
J3F
J4F
D1L

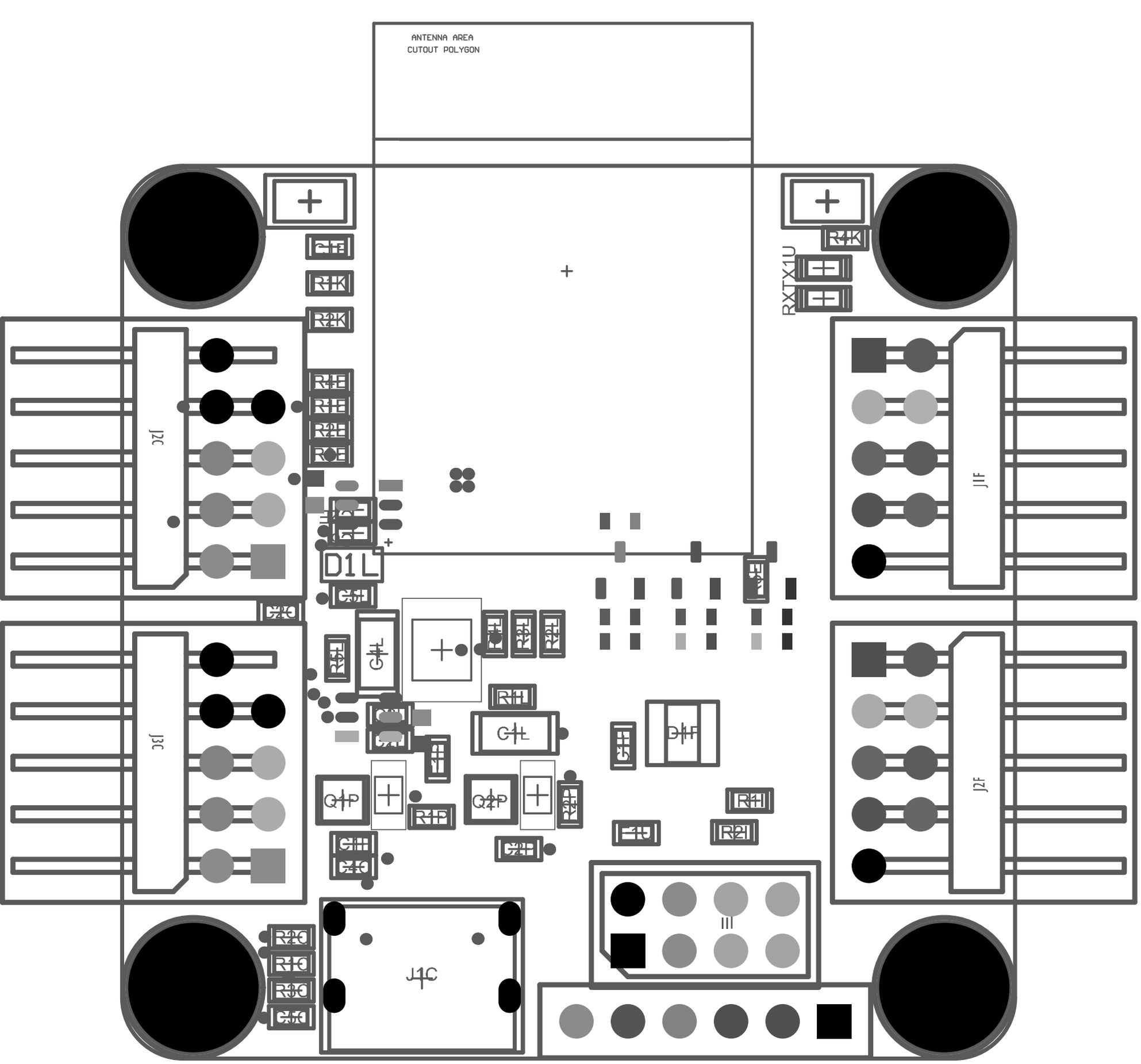

ANTENNA AREA
CUTOUT POLYGON
H4H
H3H
H1H
H2H
RXTX1U
J2F
J1F
J3F
J4F
D1L

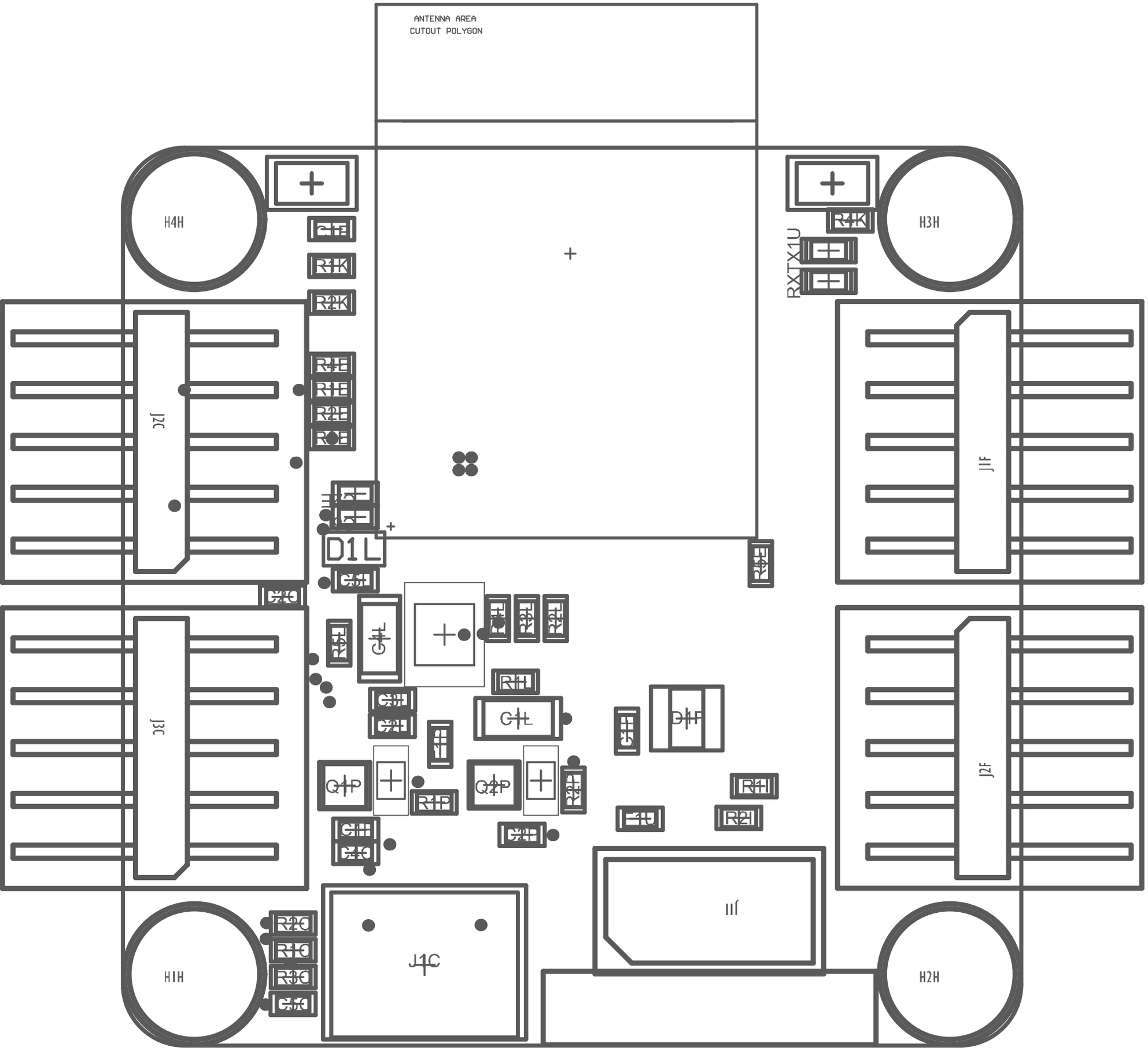

ANTENNA AREA
CUTOUT POLYGON
H4H
H3H
H1H
H2H
RXTX1U
D1L
J2F
J1F
J3F
J4F
J1F

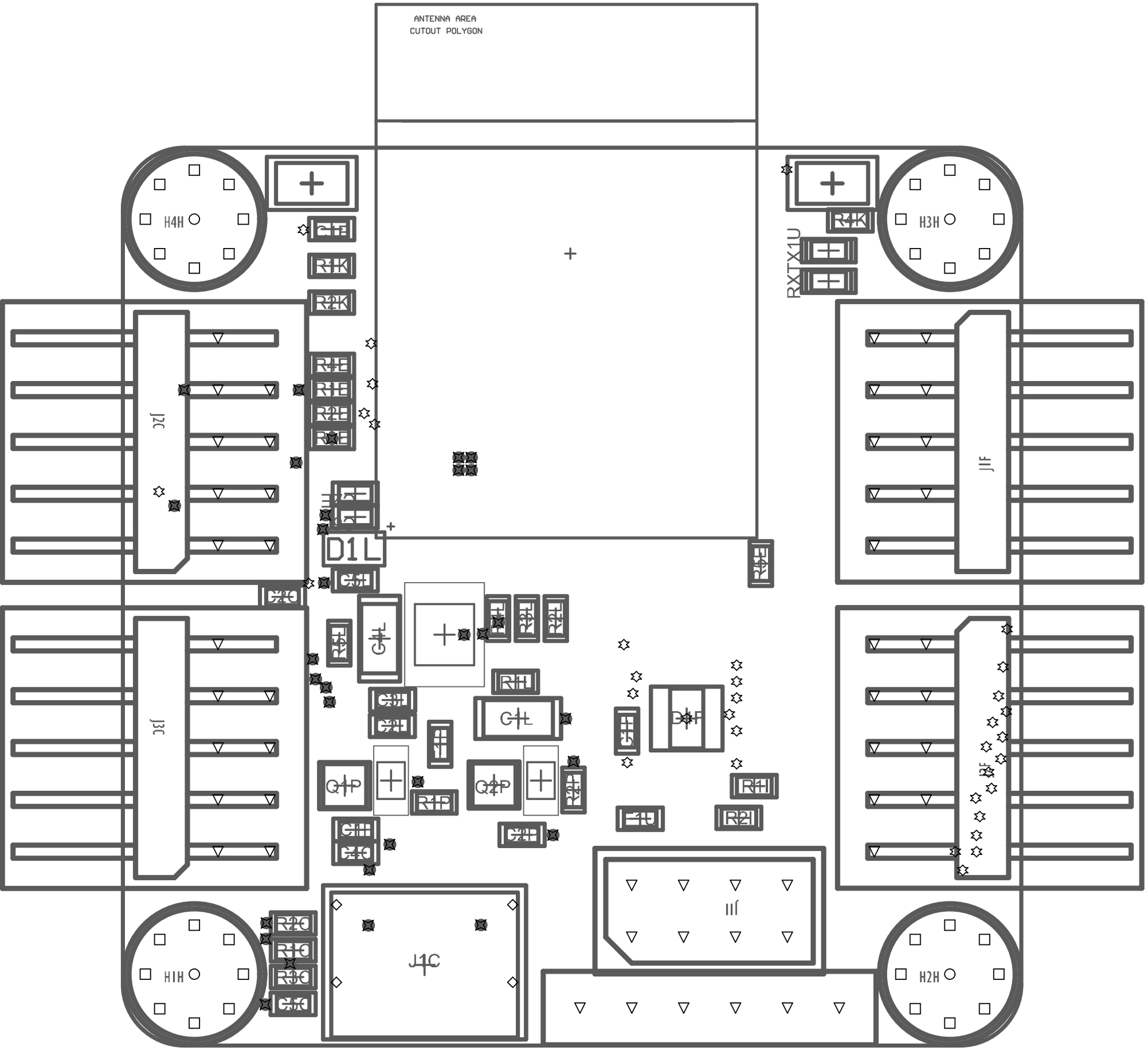

ANTENNA AREA
CUTOUT POLYGON
H4H
H3H
H1H
H2H
RXTX1U
D1L
J1F
J2F
J1I
J2C
J3C
J3T

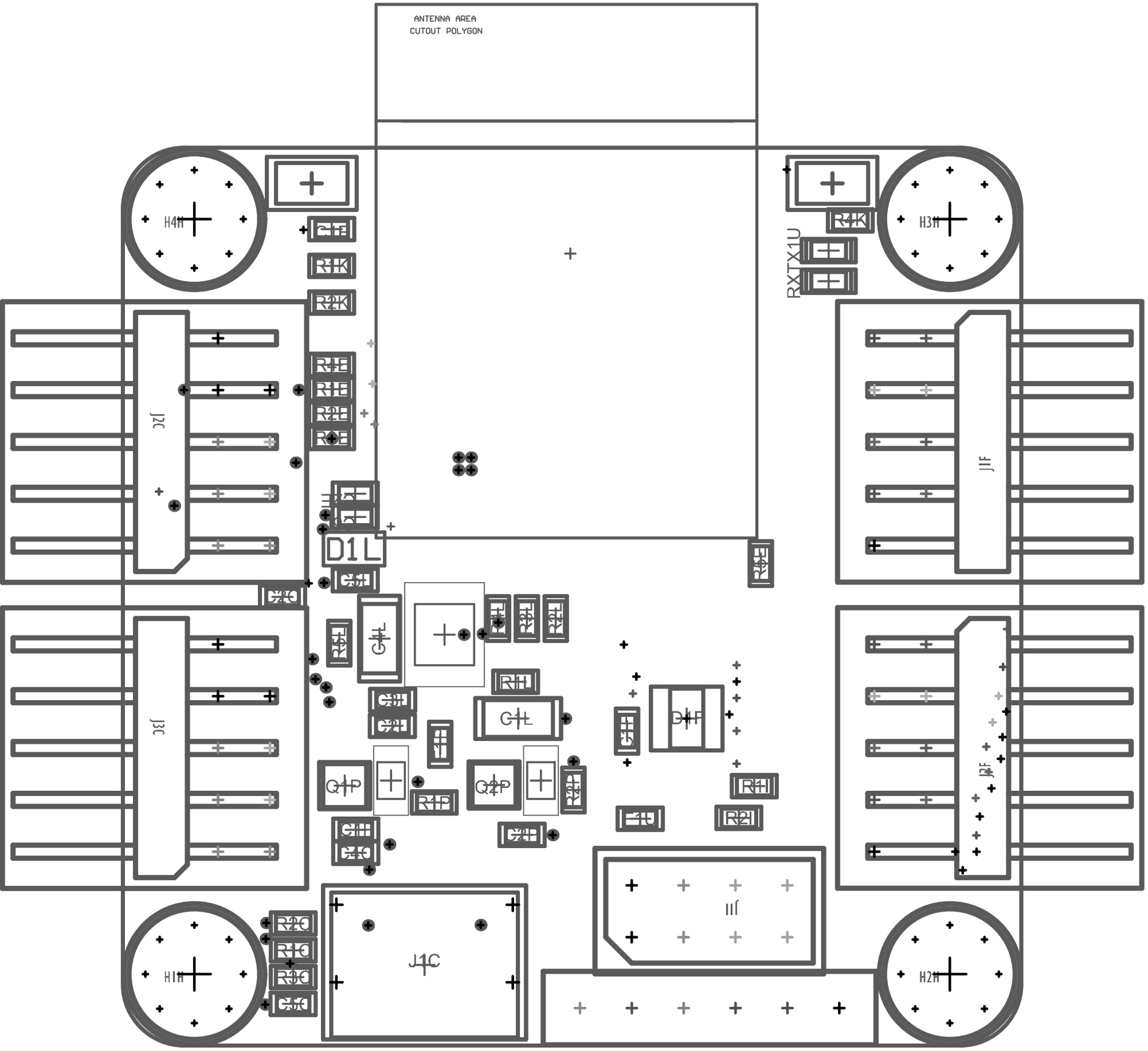

ANTENNA AREA
CUTOUT POLYGON
H4H
H3H
H1H
H2H
RXTX1U
D1L
J2F
J1F
J3F
J4F
J1F

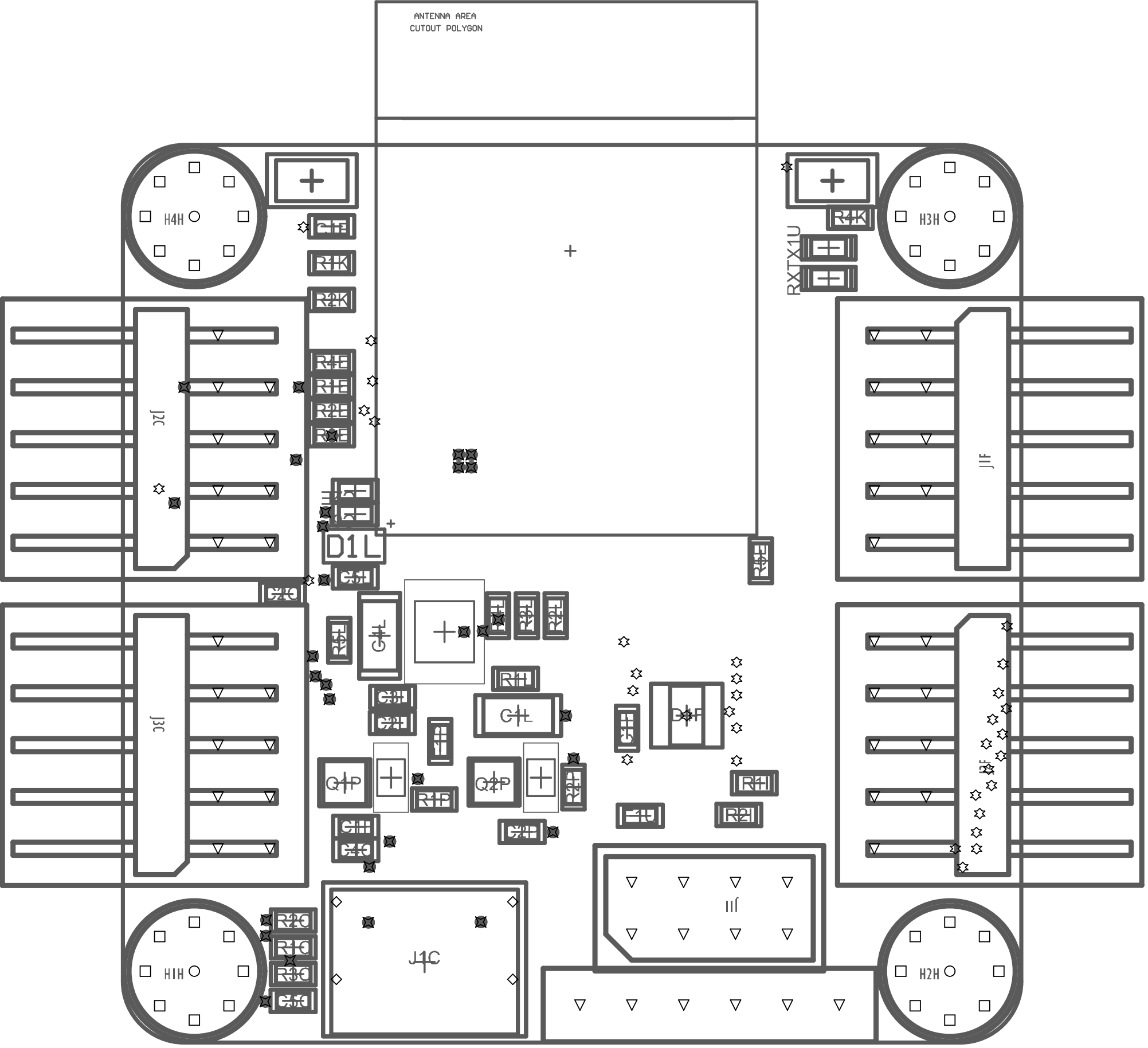

ANTENNA AREA
CUTOUT POLYGON
RXTX1U
J2F
J1F
J3F
J4F

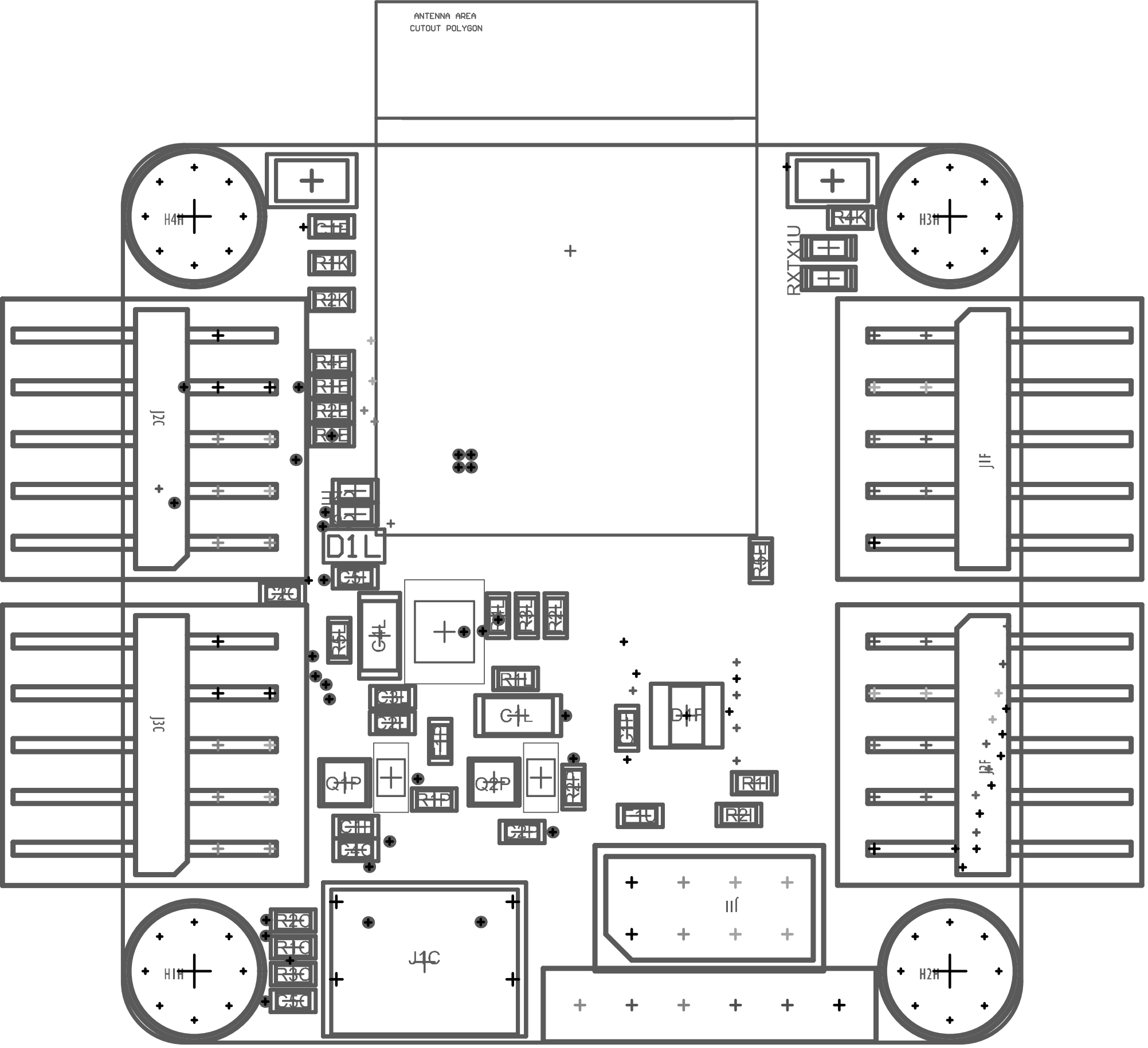

ANTENNA AREA
CUTOUT POLYGON
RXTX1U
D1L
J1F
J2F
J2F
J2F


ANTENNA AREA
CUTOUT POLYGON
H4H
H3H
H1H
H2H
RXTX1U
D1L
J2F
J1F
J3F
J4F
J1F


ANTENNA AREA
CUTOUT POLYGON
H4H
H3H
H1H
H2H
RXTX1U
J2F
J1F
J3F
J1C
J1I
D1L


ANTENNA AREA
CUTOUT POLYGON
H4
H3
H1
H2
RXTX1U
D1L
J2
J1
J3
J4
J5


ANTENNA AREA
CUTOUT POLYGON
H4H
H3H
H1H
H2H
RXTX1U
D1L
J1C
J1I
J1F


ANTENNA AREA
CUTOUT POLYGON
H4
H3
H1
H2
RXTX1U
D1L
J1C
J1I
J1F
J1E
Q1P
Q2P
D1F

Comment	Description	Designator	Footprint	LibRef	Quantity	Manufacturer Part Number	Value	Tolerance	Voltage Rating
KGM15AR70J104KM	Cap Cer 0.1UF 6.3V X7R 0603	C1E, C2E	C0603-IPC_C_No_Silk	100nF_6.3V	2	KGM15AR70J104KM	100nF		
C0603C104K8RACTU	Multilayer Ceramic Capacitor, 0.1 uF, 10 V, ± 10%, X7R, 0603 [1608 Metric]	C1F, C1P, C2P, C3C, C3L, C5C, C6C	C0603-IPC_C_No_Silk	100nF_10V	7	C0603C104K8RACTU	100nF	10%	10V
TCTAL1A476M8R	Surface Mount Tantalum Capacitor, 47 uF, 10 V, ± 20%, -55 °C, 125 °C, 1206 [3216-12 Metric]	C1L	CAP POL 1206_3216-MFG	47uF_10V	1	TCTAL1A476M8R	47uF	20%	10V
CL10A475KP8NNNC	Multilayer Ceramic Capacitor, 4.7 uF, 10 V, ± 10%, X5R, 0603 [1608 Metric]	C2C, C4C	C0603-IPC_C_No_Silk	4.7uF_10V	2	CL10A475KP8NNNC	4.7uF	10%	10V
GRM188R61A226ME15D	Multilayer Ceramic Capacitor, 22 uF, 10 V, ± 20%, X5R, 0603 [1608 Metric]	C2L	C0603-IPC_C_No_Silk	22uF_10V	1	GRM188R61A226ME15D	22uF	20%	10V
T491A476M006AT	47uF Solid MnO2 Tantalum Electrolytic Capacitor; 6.3 V dc +/- 20%; T491 Series	C4L	CAP POL 1206_3216-MFG	47uF_6.3V	1	T491A476M006AT	47uF		
GRM188R60J226ME0D	Multilayer Ceramic Capacitor, 22 uF, 6.3 V, ± 20%, X5R, 0603 [1608 Metric]	C5L, C6L	C0603-IPC_C_No_Silk	22uF_6.3V	2	GRM188R60J226MEA0D	22uF	20%	6.3V
CDSOT23-SRV05-4	TVS DIODE 5V 15V SOT23-6	D1C, D1F, D2C	SOT23-6-IPC_C	SRV05-4	3	CDSOT23-SRV05-4			
YELLOW	LED 0603 YELLOW SMD	D1L	LED_0603_YELLOW	LED_0603_YELLOW	1				
F0603	Fuse PPTC SMD 0603	F1P, F1U	R0603-IPC_C	FUSE_PPTC_0603	2		500mA, 300mA		
3.2 mm		H1H, H2H, H3H, H4H	MountingHole_3.2mm_M3_Pad_Via_Mask	MountingHole_Pad_3.2mm	4		3.2 mm		
ESP8266 ESP-12-F	ESP8266 ESP-12-F	IC1E	ESP8266 ESP-12-Large	ESP8266 ESP-12-F	1				
217175-0001	Connector USB Type C Female 6Positions 0.5mm Right Angle SMT Embossed T/R - Tape and Reel	J1C	USB-Type-C-6-Pin-SMT	USB-Type-C-6-Pin-SMT	1				
2X05		J1F, J2F	Front_Pannel_2x05_P2.54mm_Horizontal_Right	Front_Pannel_2x05_P2.54mm	2				
2X04		J1I	PinHeader_2x04_P2.54mm_Vertical	I2C_2X04_P2.54mm	1				
1x06		J1U	PinHeader_1x06_P2.54mm_Vertical_No_3D	UART_1X06_P2.54mm_2	1				
2.54 Pitch		J2C, J3C	USB_Front_Pannel_2x05_P2.54mm_Horizontal_Right	USB_Front_Pannel_2x05_P2.54mm	2				
BSS138NH6327	Single N-Channel 60 V 3.5 Ohm 1 nC SIPMOS® Small Signal Mosfet - SOT-23	Q1M, Q2M, Q3M	SOT-23-3-IPC_C	BSS138NH6327	3	BSS138NH6327			
PMPB14XPZ	PMPB14XPZ	Q1P, Q2P	DFN2020MD-MFG	PMPB14XPZ	2	PMPB14XPZ			
CRCW06035K10FKEA	SMD Chip Resistor, 5.1 kOhm, ± 1%, 100 mW, 0603 [1608 Metric], Thick Film, General Purpose	R1C, R2C	R0603-MFG	5.1K	2	CRCW06035K10FKEA	5.1kR	1%	75V
RC0603FR-0710KL	SMD Chip Resistor, 10 kOhm, ± 1%, 100 mW, 0603 [1608 Metric], Thick Film, General Purpose	R1E, R1L, R2E, R3E, R4E, R4M, R5E, R5M, R6M, R7M	R0603-MFG	10K	10	RC0603FR-0710KL	10kR	1%	75V
RC0603FR-072K2L	SMD Chip Resistor, 2.2 kOhm, ± 1%, 100 mW, 0603 [1608 Metric], Thick Film, General Purpose	R1I, R2I	R0603-MFG	2.2K	2	RC0603FR-072K2L	2.2kR	1%	50V
RC0603FR-101KL	SMD Chip Resistor, 1 kOhm, ± 1%, 100 mW, 0603 [1608 Metric], Thick Film, General Purpose	R1K, R4K	R0603-MFG	1K	2	RC0603FR-101KL	1kR	1%	50V
AC0603FR-07100RL	SMD Chip Resistor, 100 Ohm, ± 1%, 100 mW, 0603 [1608 Metric], Thick Film, General Purpose	R1M, R2M, R3M	R0603-MFG	100R	3	AC0603FR-07100RL	100R	1%	50V
AC0603FR-07100KL	SMD Chip Resistor, 100 kOhm, ± 1%, 100 mW, 0603 [1608 Metric], Thick Film, General Purpose	R1P, R2P	R0603-MFG	100K	2	AC0603FR-07100KL	100kR	1%	50V
RC0603JR-070RL	Zero Ohm Resistor, Jumper, 0603 [1608 Metric], Thick Film, 100 mW, 1 A, Surface Mount	R2K, R3C	R0603-MFG	0R	2	RC0603JR-070RL	0mR	1%	50V
MCR03EZPFX1691	Surface Mount Thick Film Chip Resistor 0603 Case 1.69K Ohms 1% Tolerance 100 PPM	R2L	R0603-MFG	1.69K	1	MCR03EZPFX1691	1.69kR	1%	
ERJ-3EKF3302V	Res Thick Film 0603 33K Ohm 1% 0.1W(1/10W) ±100ppm/C Pad SMD Automotive T/R	R3L	R0603-MFG	33K	1	ERJ-3EKF3302V	33kR	1%	75V
CR0603-FX-2002ELF	SMD Chip Resistor, 20 kOhm, ± 1%, 100 mW, 0603 [1608 Metric], Thick Film, General Purpose	R4L	R0603-MFG	20K	1	CR0603-FX-2002ELF	20kR	1%	50V
MCR03EZPFX2491	Res Thick Film 0603 2.49K Ohm 1% 1/10W ±100ppm/°C Molded SMD SMD Paper T/R	R5L	R0603-MFG	2.49K	1	MCR03EZPFX2491	2.49kR	1%	
UART_TX_RX	UART RX/TX Pokayoke	RXTX1U	UART_TX_RX_0603	UART_TX_RX_0603	1		470R		
EVP-AWED4A	3.0MM X 2.0MM / 3.3N / 0.15MM ST	SW1K, SW2K	PANASONIC EVPAW	EVP-AWED4A	2				
SGM2019-ADJYN5G/TR	LDO U-Reg Adj 0.3A SOT23-5	U1L	TSOT-23-5-IPC-A	SGM2019-ADJYN5G/TR	1	SGM2019-ADJYN5G/TR			
MM3Z12VST1G	MM3Z12VST1G Zener Diode, 12V 2% 200 mW SMT 2-Pin SOD-323 | ON Semiconductor MM3Z12VST1G	ZD1P, ZD2P	SOD-323	MM3Z12VST1G	2	MM3Z12VST1G		2%	

Design Rules Verification Report

Filename : C:\Users\desktop\Documents\Project Files\Altium\Projects\Project - Development\ESP8266-Deskop_Power\ESP8266-Deskop_Power.Pc

Warnings 0
Rule Violations 0

Warnings	
Total	0

Rule Violations	
Clearance Constraint (Gap=4mm) (InNetClass('PowerRails_HighVoltage_AC') Or	0
Clearance Constraint (Gap=0.254mm) (InComponentClass('Via_Plugged')),(IsPad)	0
Clearance Constraint (Gap=0.254mm) (All),(All)	0
Short-Circuit Constraint (Allowed=No) (All),(not IsBoardCutoutRegion)	0
Un-Routed Net Constraint ((All))	0
Modified Polygon (Allow modified: No), (Allow shelved: No)	0
Width Constraint (Min=0.18mm) (Max=0.4mm) (Preferred=0.254mm) (InNetClass('Power_Signal'))	0
Width Constraint (Min=0.2mm) (Max=25.4mm) (Preferred=0.3mm) (InNetClass('PowerRails_LowVoltage_DC'))	0
Width Constraint (Min=0.2mm) (Max=25.4mm) (Preferred=0.3mm) (InNetClass('GND'))	0
Width Constraint (Min=0.11mm) (Max=0.11mm) (Preferred=0.11mm) (InNetClass('Signal'))	0
Width Constraint (Min=0.303mm) (Max=0.303mm) (Preferred=0.303mm) (InNetClass('Signal_50_ohm'))	0
Routing Layers(All)	0
Routing Via (MinHoleWidth=0.3mm) (MaxHoleWidth=0.5mm) (PreferredHoleWidth=0.3mm) (MinWidth=0.45mm)	0
Differential Pairs Uncoupled Length using the Gap Constraints (Min=0.127mm) (Max=0.127mm) (Prefered=0.127mm)	0
Differential Pairs Uncoupled Length using the Gap Constraints (Min=0.381mm) (Max=0.381mm) (Prefered=0.381mm)	0
Differential Pairs Uncoupled Length using the Gap Constraints (Min=0.381mm) (Max=0.381mm) (Prefered=0.381mm)	0
SMD To Corner (Distance=0.127mm) (All)	0
SMD Neck-Down Constraint (Percent=90%) (not IsTestpoint)	0
SMD Entry (Side = Allowed) (Corner = Allowed) (Any Angle = Not Allowed) (Ignore First Corner = Allowed)	0
Power Plane Connect Rule(Relief Connect)(Expansion=0.508mm) (Conductor Width=0.254mm) (Air Gap=0.254mm)	0
Minimum Annular Ring (Minimum=0.2mm) (IsThruPin)	0
Minimum Annular Ring (Minimum=0.075mm) (IsVia)	0
Acute Angle Constraint [Tracks Only] (Minimum=60.000) (All)	0
Hole Size Constraint (Min=0.3mm) (Max=6.3mm) (All)	0
Pads and Vias to follow the Drill pairs settings	0
Hole To Hole Clearance (Gap=0.45mm) (ispad),(IsPad)	0
Minimum Solder Mask Sliver (Gap=0.13mm) (All),(All)	0
Silk To Solder Mask (Clearance=0.15mm) (All),(All)	0
Silk to Silk (Clearance=0.102mm) (All),(All)	0
Net Antennae (Tolerance=0mm) (All)	0
Board Clearance Constraint (Gap=0mm) ((OnLayer('Top Layer') OR OnLayer('Bottom Layer')))	0
Height Constraint (Min=0mm) (Max=1816.048mm) (Prefered=12.7mm) (All)	0
Total	0

Electrical Rules Check Report

Class	Document	Message
		Successful Compile for ESP8266-Deskop_Power.PrjPcb

Different Descriptions Schematic Object	PCB Object
MM3Z12VST1G Zener Diode, 12V 2% 200 mW SMT 2-Pin SOD-323	ON Semiconductor MM3Z12VST1G [ZD1P]
MM3Z12VST1G Zener Diode, 12V 2% 200 mW SMT 2-Pin SOD-323	ON Semiconductor MM3Z12VST1G [ZD2P]