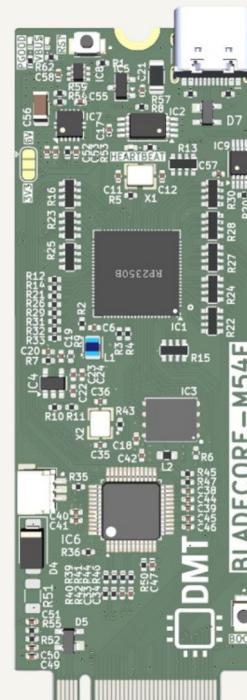


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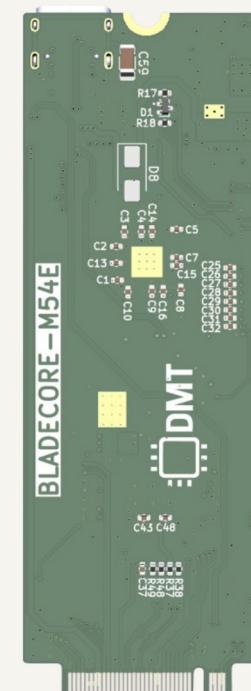
Page	Index
1	Cover Page
2	Block Diagram
3	Project Architecture
4	Microcontroller Peripherals
5	Microcontroller
6	Ethernet Interface
7	USB Interface and Power
8	Power - Sequencing
9	Revision History
10
11
12
13
14
15
16
17
18
19
20

PCB PREVIEW

TOP VIEW



BOTTOM VIEW



COMMENT GUIDELINES

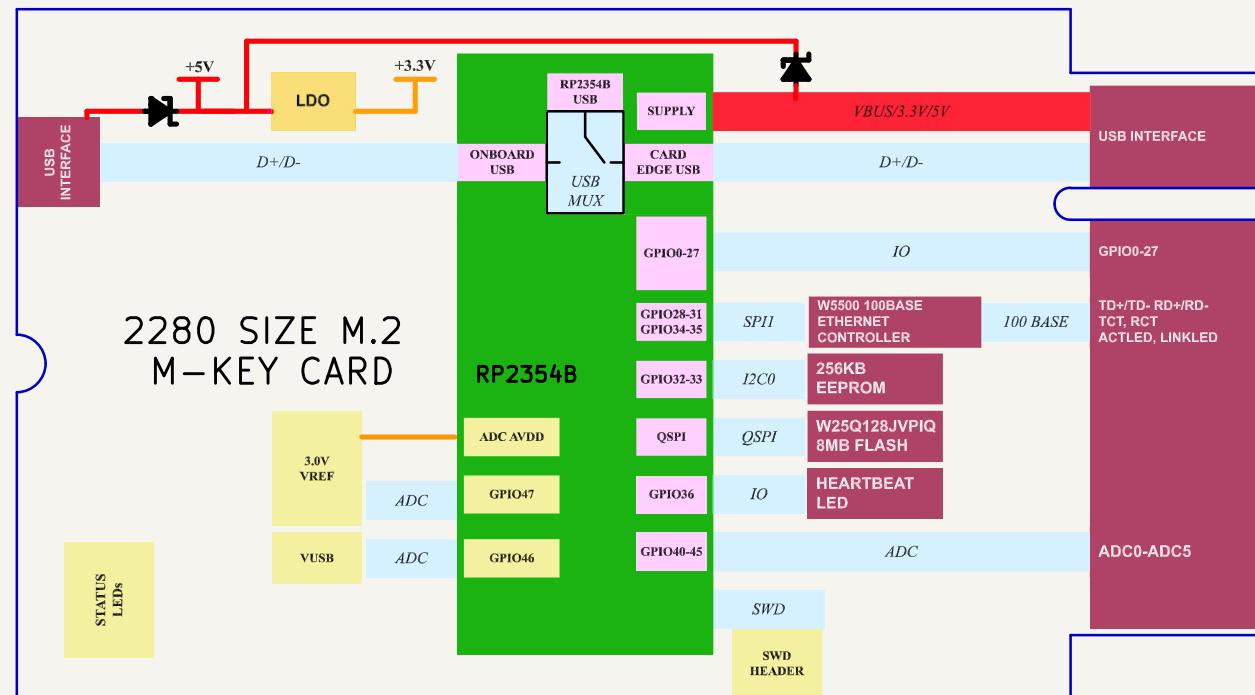
General comments are black, 50 mil size
 Design notes and guidelines are blue, 50 mil size
 Layout instructions are red, 50 mil size

NOTES

Not fitted components are marked as X

	Board Name: BladeCore	Project Name: M54
Date: 2026-01-31	File Name: BladeCore-M54E.kicad_sch	Revision: E
Sheet Title: Root	Company: DavidMakesThings	Designer: David Sipos
	Reviewer:	Size: A3
		Sheet: 1 of 9

[2] Block Diagram



Electrical specifications:

Input voltage:	3.3V - 5.5 V
Absolut maximum current consumption	480 mA
Typical current consummation	60mA
IO voltage	3.3V
Onboard LDO output capacity	1.5A
LDO Dropout	60mV
EEPROM	256 kbit
External Flash	8MB



Date: 2026-01-31

Sheet Title:
Block Diagram

Board Name:
BladeCore

File Name:
Block Diagram.kicad_sch

Company:
DvidMakesThings

Project Name:
M54

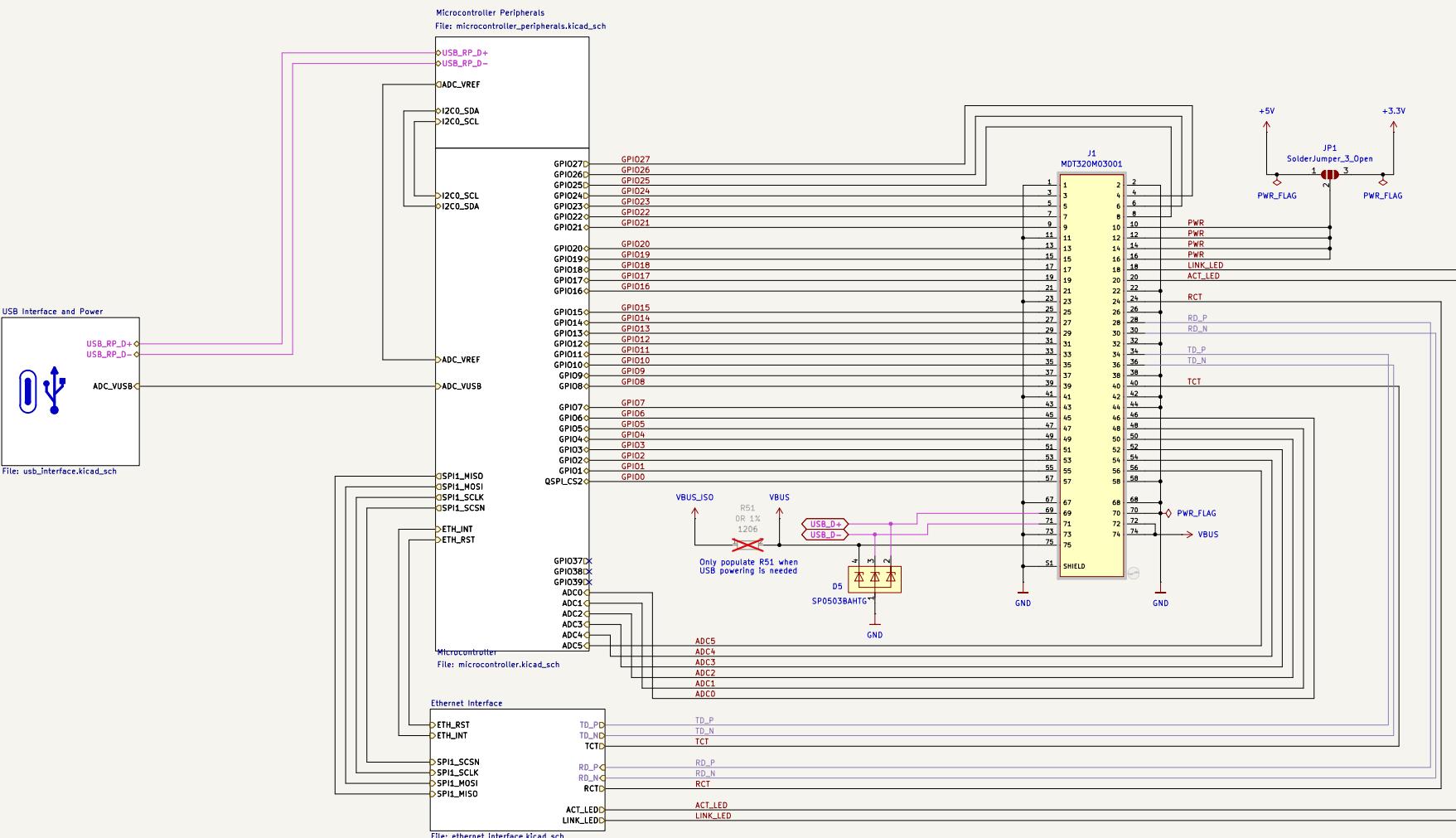
Revision:
1.0.0

Variant:
E

Size:
A3

Sheet:
2 of 9

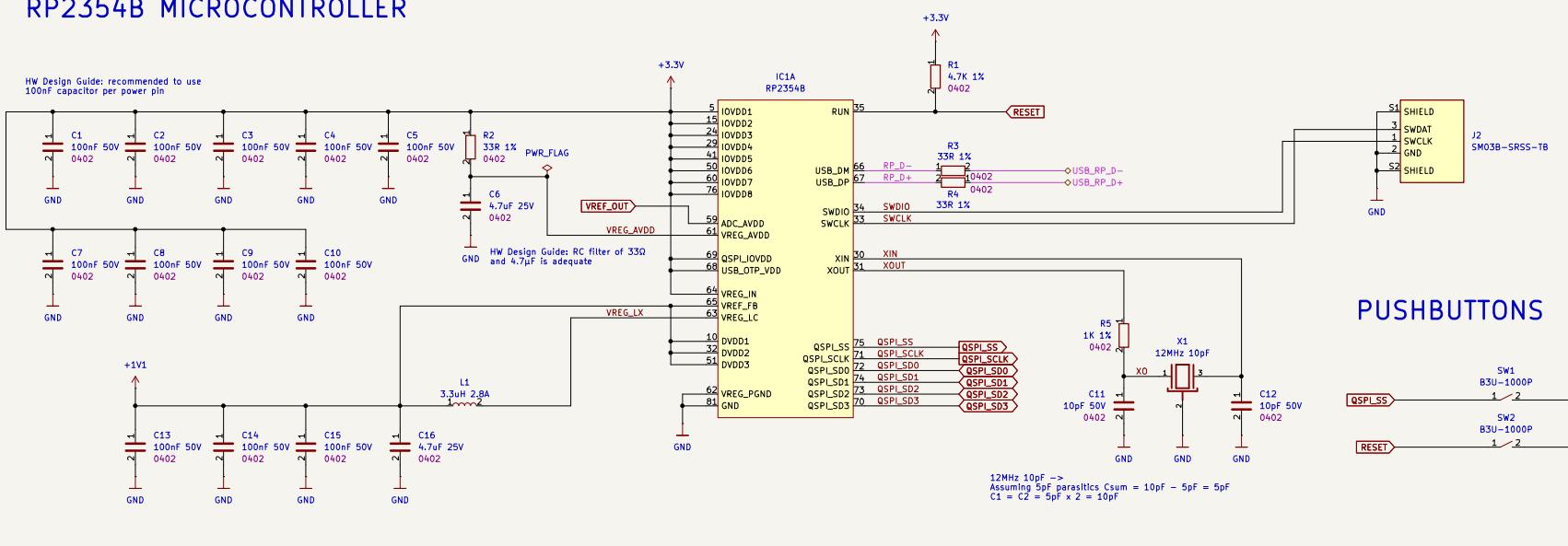
[3] Project Architecture



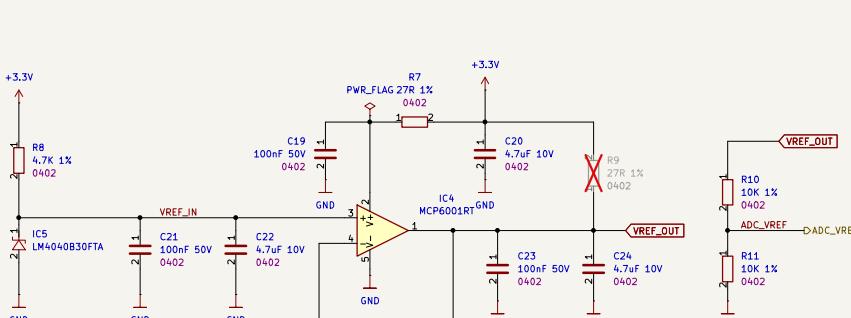
Board Name: BladeCore		Project Name: M54	
File Name: Project Architecture.kicad_sch		Revision:	Variant:
Sheet Title:	Company:	Designer:	Size:
Project Architecture	DvidMakesThings	David Sipos Reviewer:	A3 3 of 9

[4] Microcontroller Peripherals

RP2354B MICROCONTROLLER

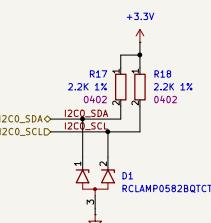


3.0V ADC VOLTAGE REFERENCE

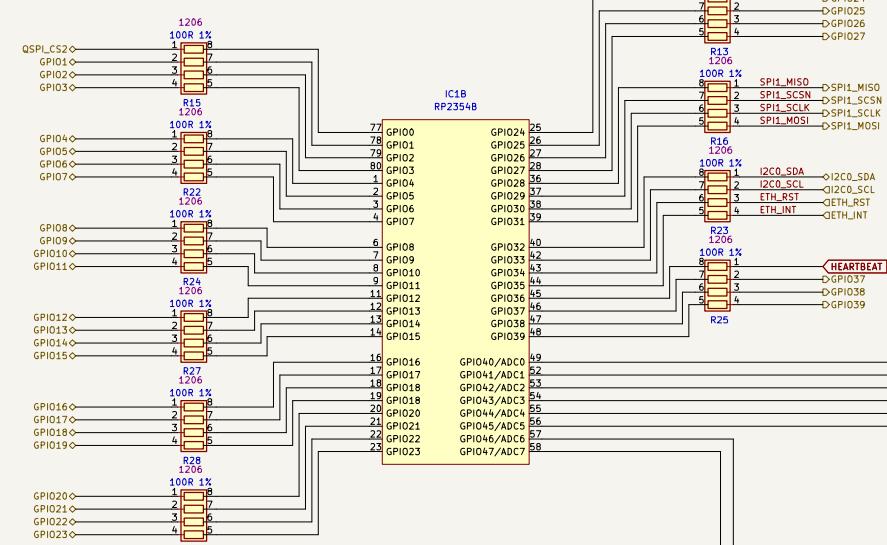


[5] Microcontroller

I2C PULLUP



RP2354B GPIO ASSIGNMENT



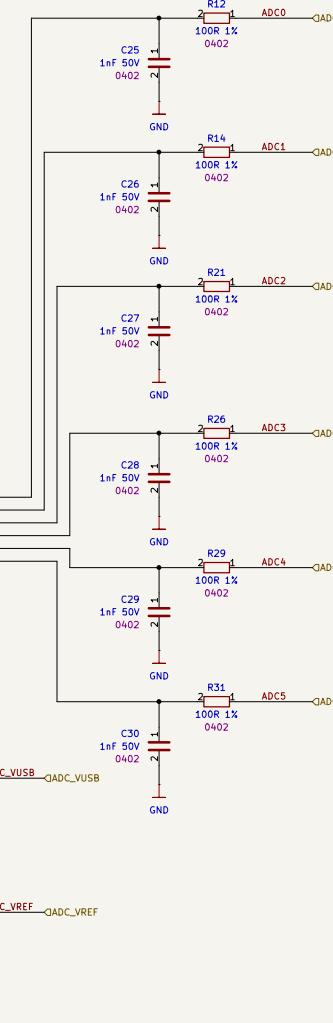
HEARTBEAT LED



Date: 2026-01-31

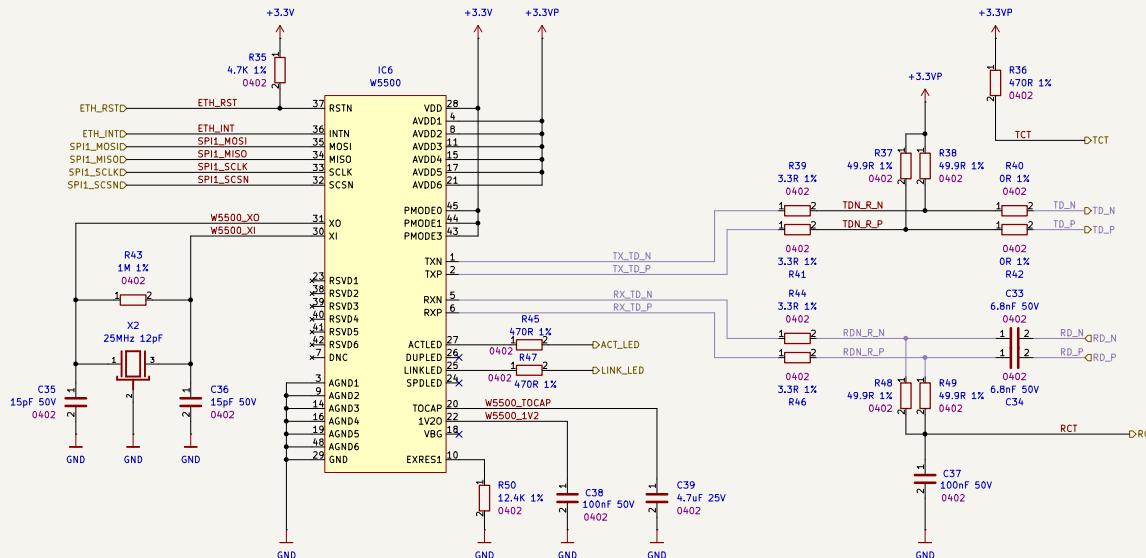
Sheet Title:
Microcontroller

Board Name:	BladeCore	Project Name:	M54
File Name:	microcontroller.kicad_sch	Revision:	E
Company:	DvidMakesThings	Designer:	David Sipos
Reviewer:		Size:	A3
		Sheet:	5 of 9

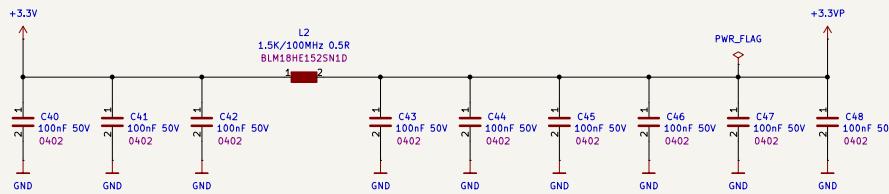


[6] Ethernet Interface

W5500 ETHERNET CONTROLLER WITH PHY



DECOUPLING



Date: 2026-01-31

Sheet Title:

Ethernet Interface

Board Name:
BladeCore

File Name:

ethernet_interface.kicad_sch

Company:

DavidMakesThings

Designer:

David Sipos

Reviewer:

Project Name:
M54

Revision:

E

Variant:

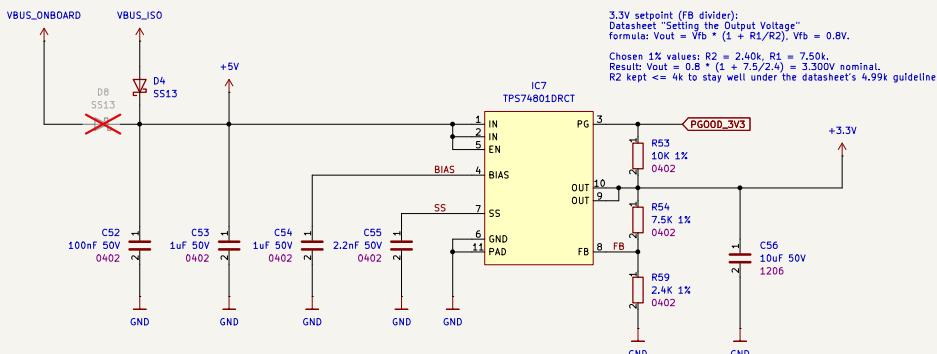
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Size:

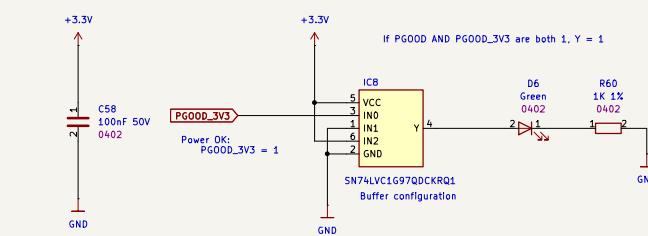
6 of **9**

[7] USB Interface and Power

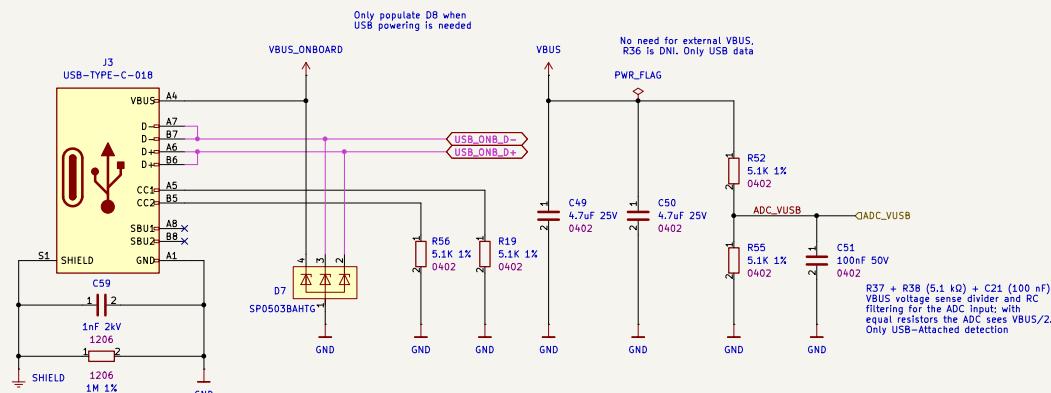
+5V to 3.3V PMIC



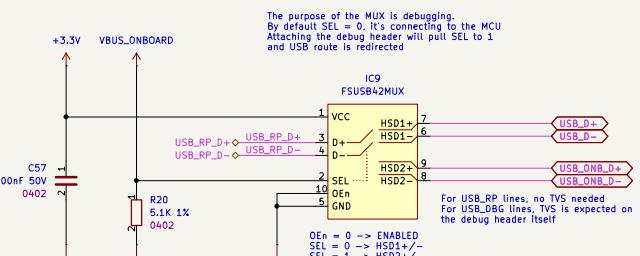
PGOOD LOGIC



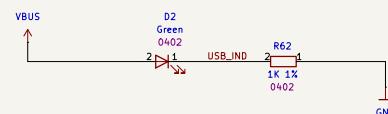
ONBOARD USB CONNECTOR



USB DATA-PATH SELECTOR

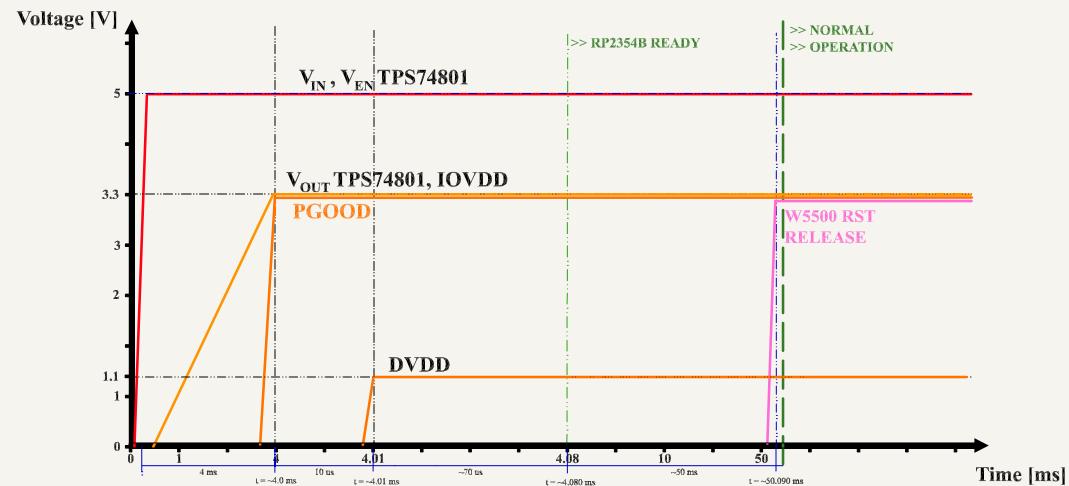


USB INDICATOR LED



Board Name:	BladeCore	Project Name:	M54
Date:	2026-01-31	Revision:	E
File Name:	usb_interface_and_power	Designer:	David Sipos
Sheet Title:	Company	Reviewer:	Size: A3
Sheet Title:	DvidMakesThings	Reviewer:	Sheet: 7 of 9

[8] Power - Sequencing



#	Stage	Δt	Total elapsed
1	VIN applied (5.0V)	0	0.000 ms
2	VEN high (TPS74801 EN)	0	0.000 ms
3	VOUT = 3.3V (soft-start)	4.000 ms	4.000 ms
4	PGOOD valid	0	4.000 ms
5	RP2354B 3.3V present	0	4.000 ms
6	RP2354B 1.1V valid (POR)	0.010 ms	4.010 ms
7	RP2354B ready	0.080 ms	4.090 ms
8	W5500 ready	50.000 ms	54.090 ms



Date: 2026-01-31

Sheet Title:
Power - Sequencing

Board Name:
BladeCore

File Name:
Power-Sequencing.kicad_sch

Project Name:
M54

Revision: 1.0.0
Variant: E

Company:
DavidMakesThings

Designer:
David Sipos

Reviewer:

Size: A3

Sheet:
8 of 9

[9] Revision History

DATE	REVISION	RESPONSIBLE	CHANGE
31.01.2026	1.0.0	DMT	INITIAL CREATION



Date: 2026-01-31

Sheet Title:
Revision History

Board Name:
BladeCore

File Name:
Revision History.kicad_sch

Company:
DvidMakesThings

Designer:
David Sipos

Reviewer:

Project Name:
M54

Revision:

E

Variant:

A3

Size:

**Sheet:
9 of 9**