

Ground Control – RockBLOCK 9704–P

Design requirements:– https://docs.google.com/document/d/102uSy-YxmOLSQODuI0je0U-dM38gha3h9kwTfMUPbio/edit?addon_store&tab=t.0#heading=h.smt7dn6e7kfa

Design Notes

RockBLOCK based on the 9704 module. Schematically identical to RB9704 1E, with exception of patch antenna and attenuator.

Version History

Date,	PCB ver,	Inc,	Description
30/01/2025	1A	1	Initial creation from RB9704 (non-P). Schematic matches RB9704 1E

BOM Change list

PI1	20/02/2025	1A	1	Initial Creation
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Variant Options

VARIANT should include U15A/B and one of the comms variants
E.G. <U15A RS232>

Name	Fit	Notes
FB_PG	---	Resistor divider bottom connection

Top schematic



File: Top sheet.kicad_sch



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Ground Control

Sheet: Root

File: rockBLOCK-9704-P.kicad_sch

Title: RockBLOCK 9704–P

Size: A4

Date: 2025-02-25

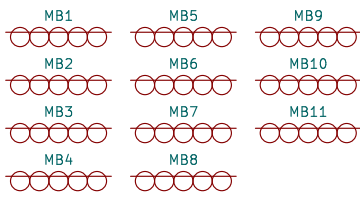
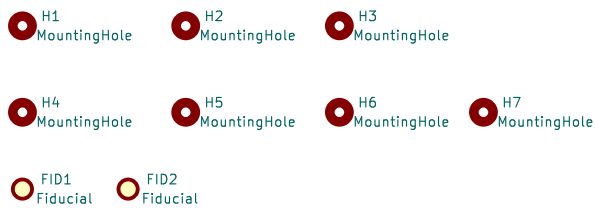
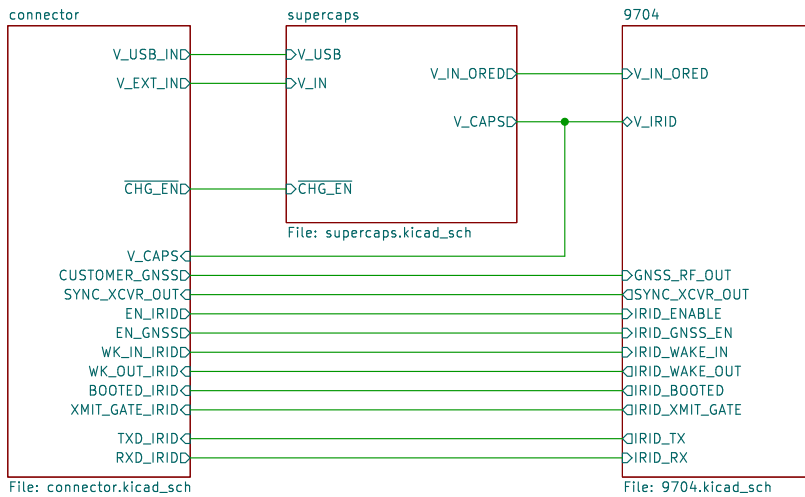
Ver: 1A

Itrn: 2

Fit Var:

KiCad E.D.A. 9.0.0

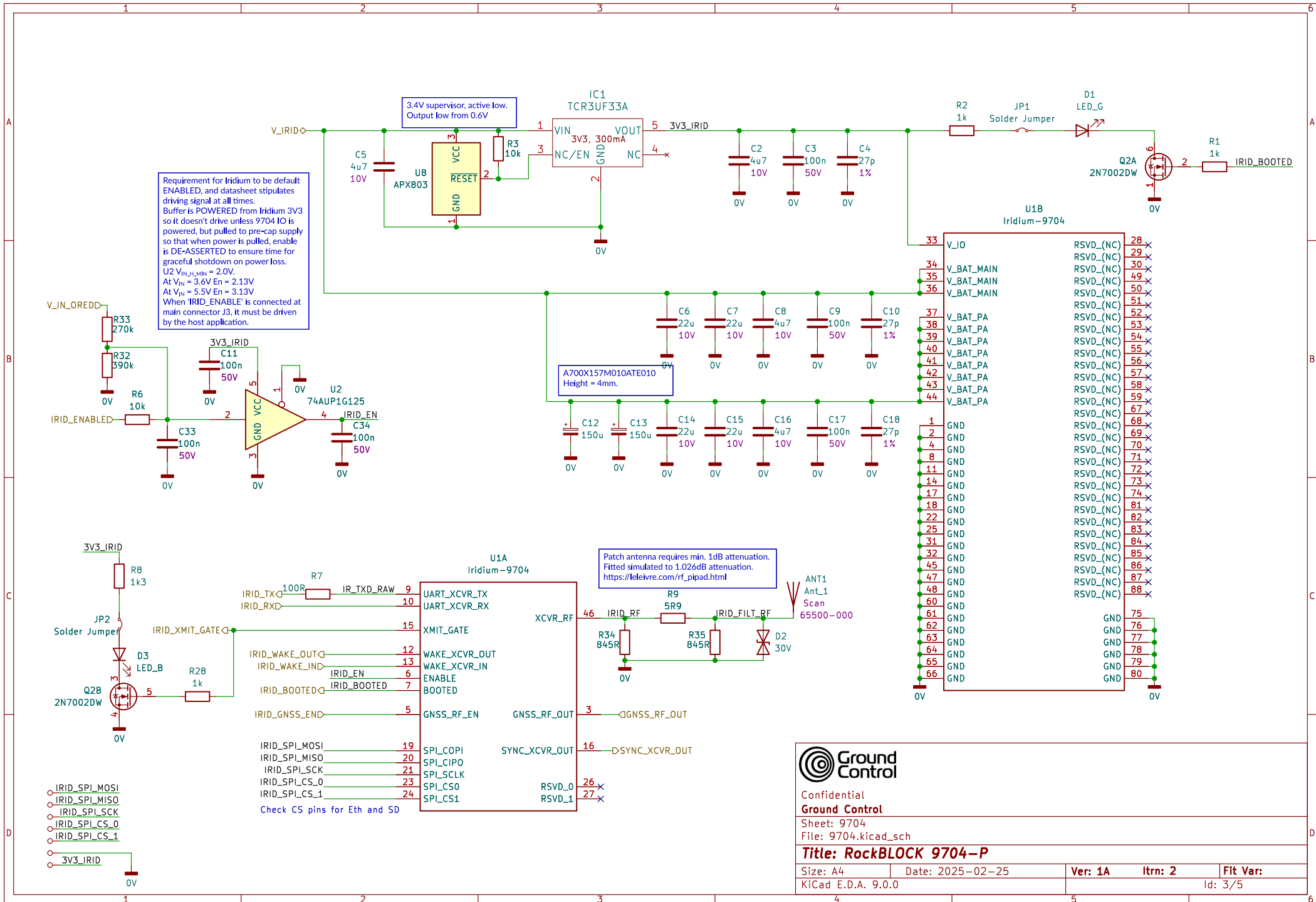
Id: 1/5



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Ground Control

Sheet: Top schematic
File: Top sheet.kicad_sch

Title: RockBLOCK 9704-P			
Size: A4	Date: 2025-02-25	Ver: 1A	Itrn: 2
KiCad E.D.A. 9.0.0		Fit Var:	
		Id: 2/5	

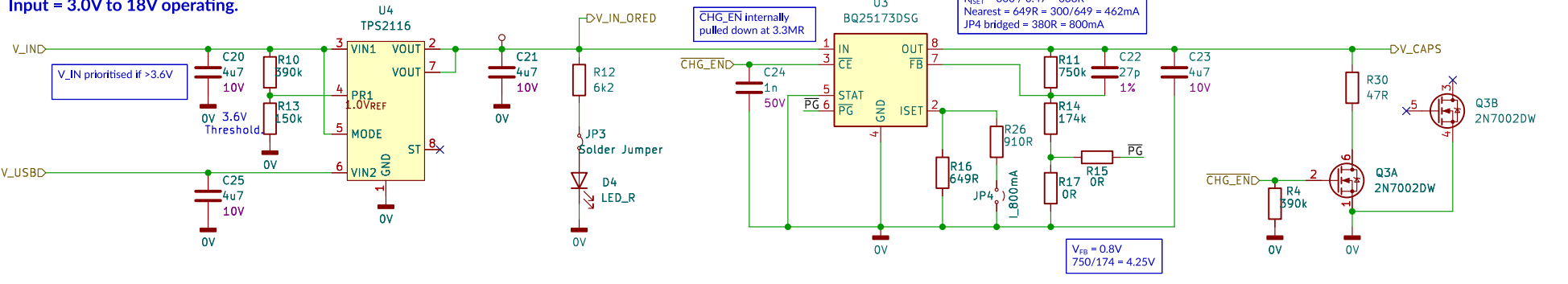


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Ground Control
 Sheet: 9704
 File: 9704.kicad_sch

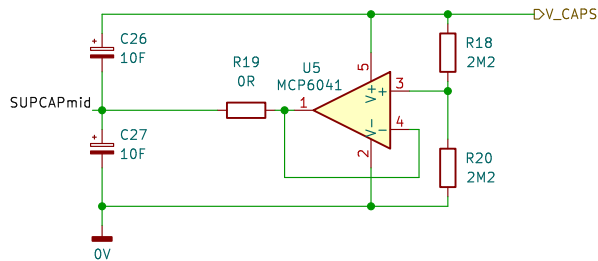
Title: RockBLOCK 9704-P

Size: A4	Date: 2025-02-25	Ver: 1A	Itrn: 2	Fit Var:
KiCad E.D.A. 9.0.0		Id: 3/5		

4V2 Supercap charger
BQ25173 4.2V 0.46A output
Input = 3.0V to 18V operating.



MCP6041
 Ultra low supply current, offset and input bias current.
 600nA per channel.
 1pA input bias.
 3mV input offset.
 sink/source $10 < 17mA$.



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Ground Control

Sheet: supercaps

File: supercaps.kicad_sch

Title: RockBLOCK 9704-P

Size: A4

Date: 2025-02-25

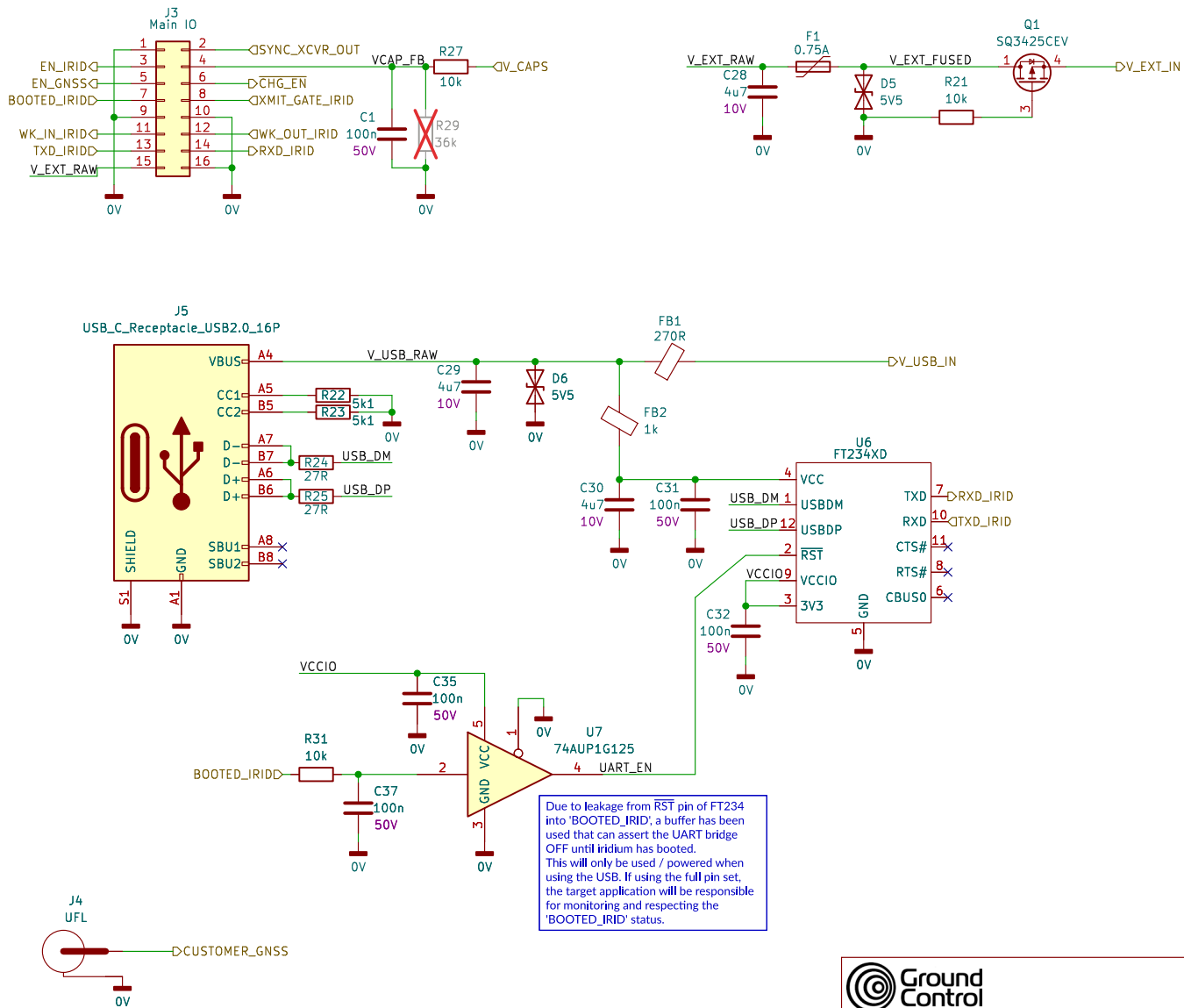
Ver: 1A

Itrn: 2

Fit Var:

KiCad E.D.A. 9.0.0

Id: 4/5



Due to leakage from RST pin of FT234 into 'BOOTED_IRIDD', a buffer has been used that can assert the UART bridge OFF until iridium has booted. This will only be used / powered when using the USB. If using the full pin set, the target application will be responsible for monitoring and respecting the 'BOOTED_IRIDD' status.



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Ground Control

Sheet: connector

File: connector.kicad_sch

Title: RockBLOCK 9704-P

Size: A4

Date: 2025-02-25

Ver: 1A

Itrn: 2

Fit Var:

KiCad E.D.A. 9.0.0

Id: 5/5