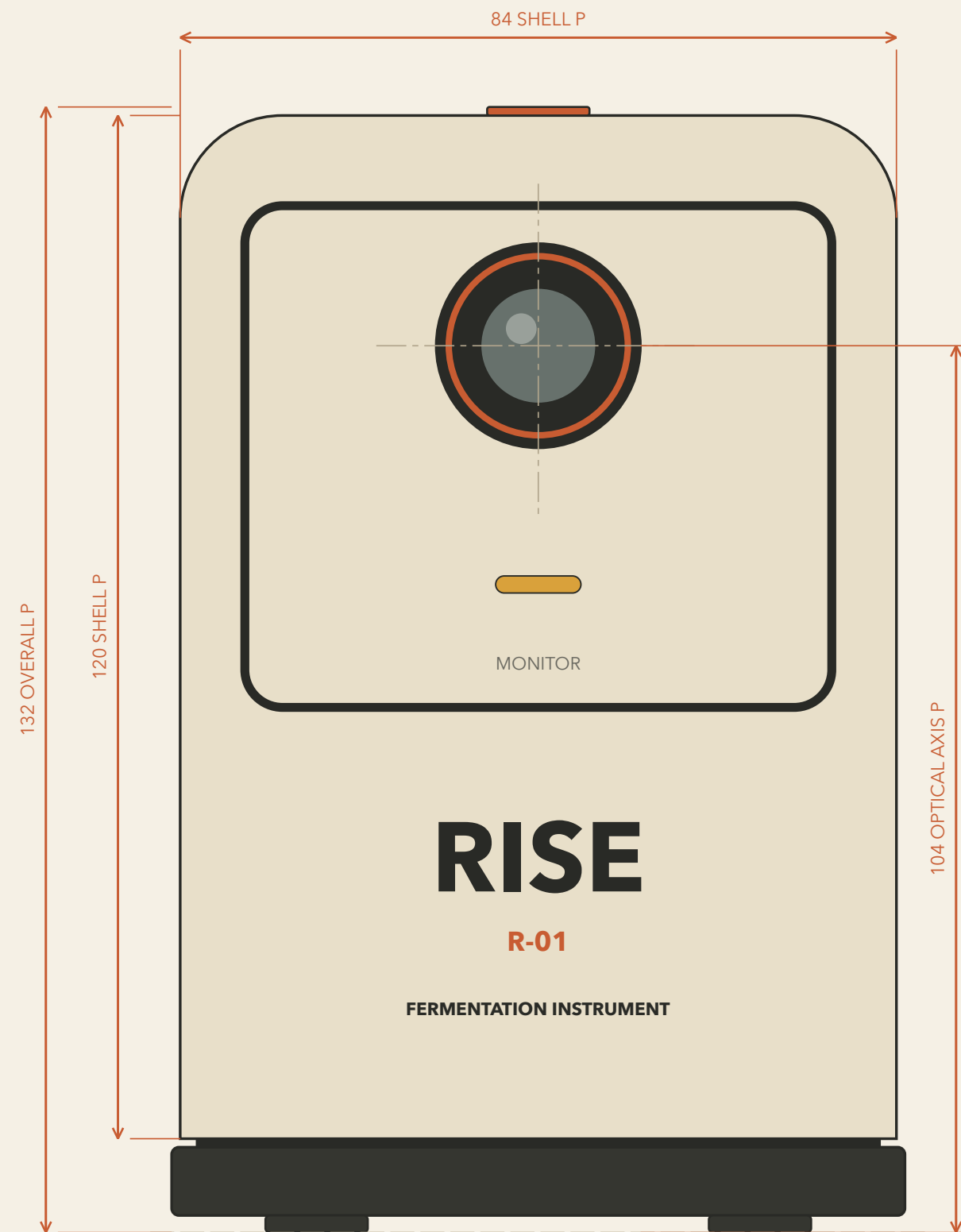


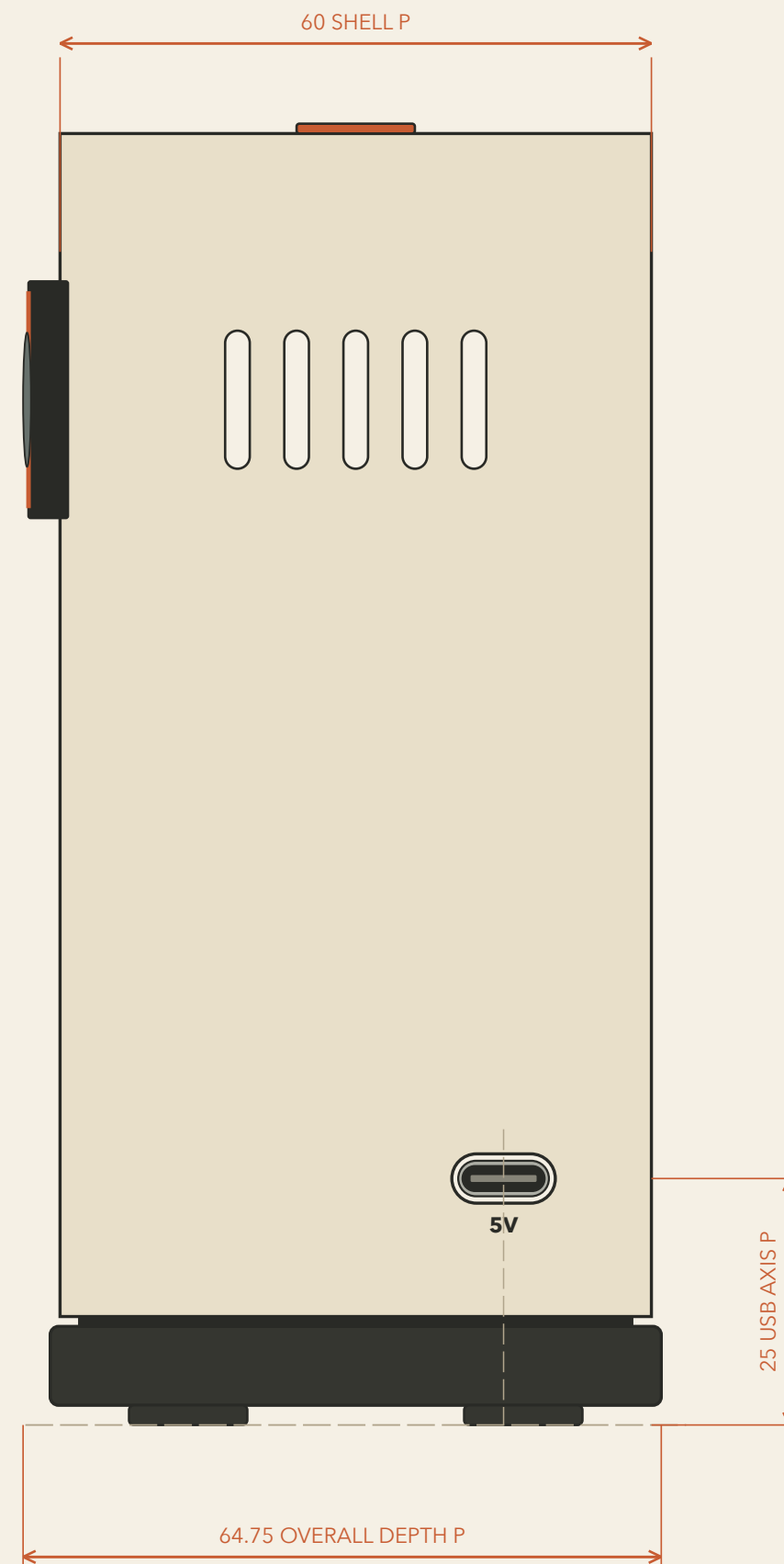
01 / FRONT

Camera faces -Y; X right



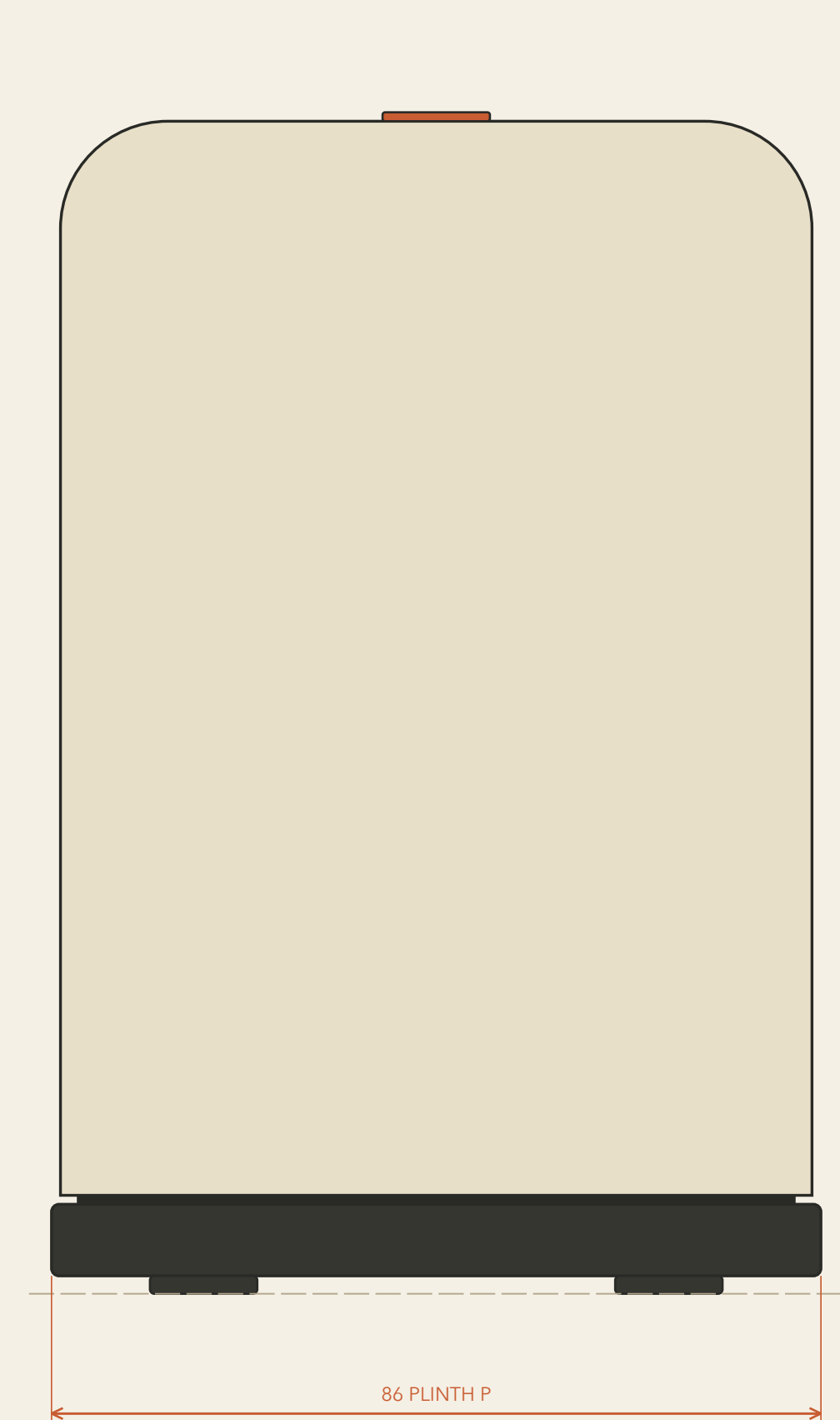
02 / RIGHT

Front at left; port faces +X

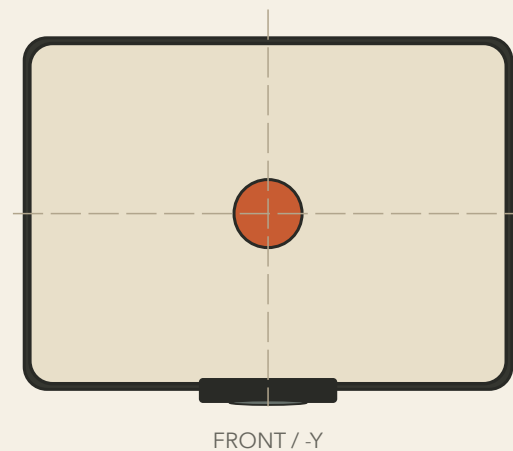


03 / REAR

Viewed toward -Y; X reversed



04 / PLAN ENVELOPES



NEW GEOMETRY / STUDY C

84 x 60 shell, R12 X/Z upper shoulders and R4 plan corners. Plinth 86 x 62 x 8. Physical shell z11..131; 1 mm shadow seam z10..11.

FRONT FACE AND OPTICS

Face panel 68 x 58 R4 at x0/z91; 0.8 inset and 0.8 reveal. Bezel diameter 24; glass diameter 13.6. Status 10 x 2 at z76. Top button diameter 12; 1 mm exposed.

DATUM / MODEL COORDINATES

Z0 = support plane; X right; Y rear. Feet z0..2. Front face Y-30, right side X+42. Camera axis Z104; USB axis Y+15/Z25.

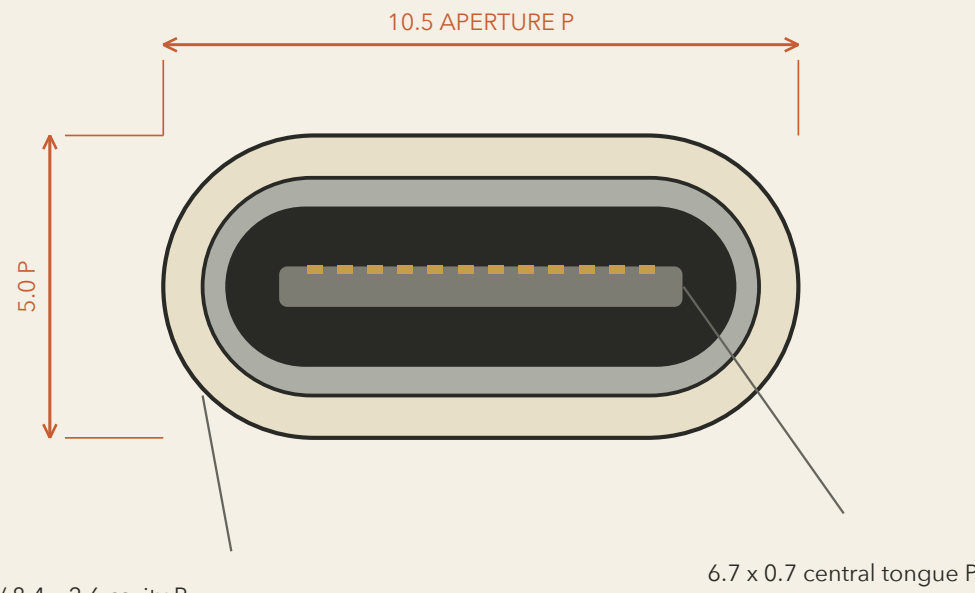
REVISION BOUNDARY

This new form replaces the prior enclosure geometry. Earlier mechanical sheets and DXF remain previous-revision references. Do not mix their M dimensions with these P dimensions.

Right-side 5V sink input, sectioned mating geometry and assembly sequence

01 / RIGHT-SIDE RECEPTACLE FACE

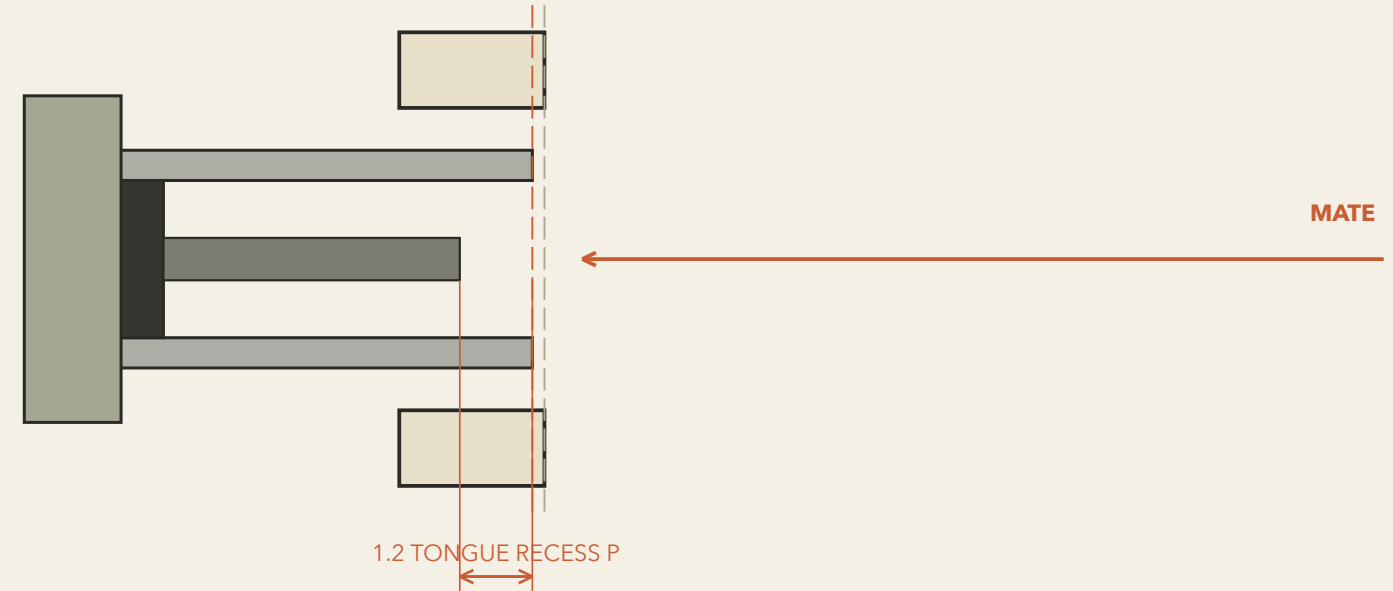
Look toward -X. Model geometry at 8x display scale; not a connector specification.



Symmetric capsule and recessed tongue distinguish the USB-C interface.

02 / LONGITUDINAL SECTION

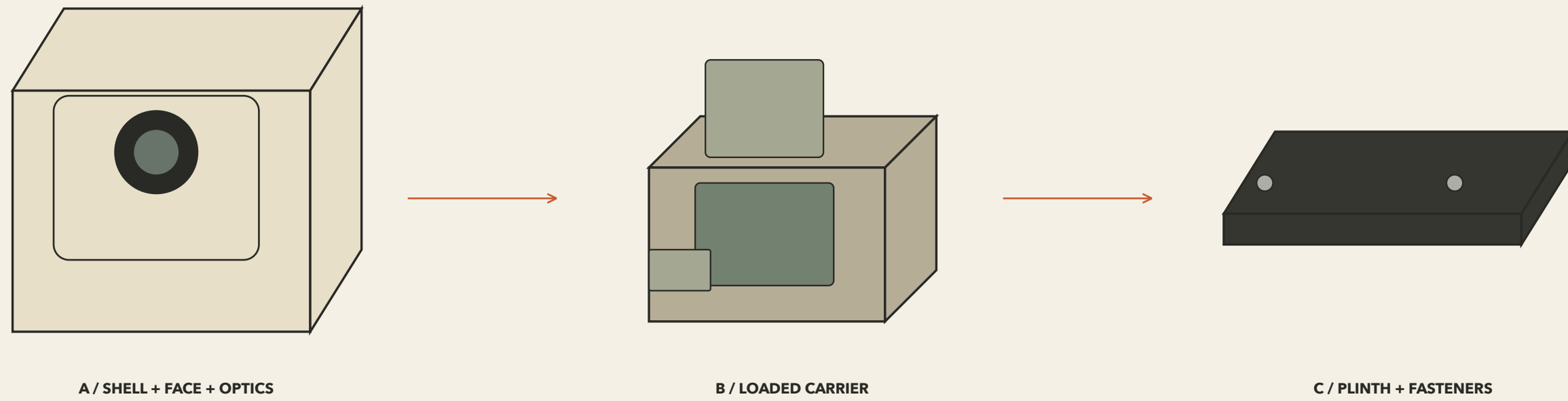
X/Z section at Y15; mate toward -X. Connector rear is illustrative.



SEATING AND SUPPORT

Mouth X41.8: 0.2 recessed from side face X42. Aperture Y15/Z25. Module secured to carrier; solder joints must not carry cable insertion loads. Exact retention design TBD.

03 / PROPOSED ASSEMBLY ORDER

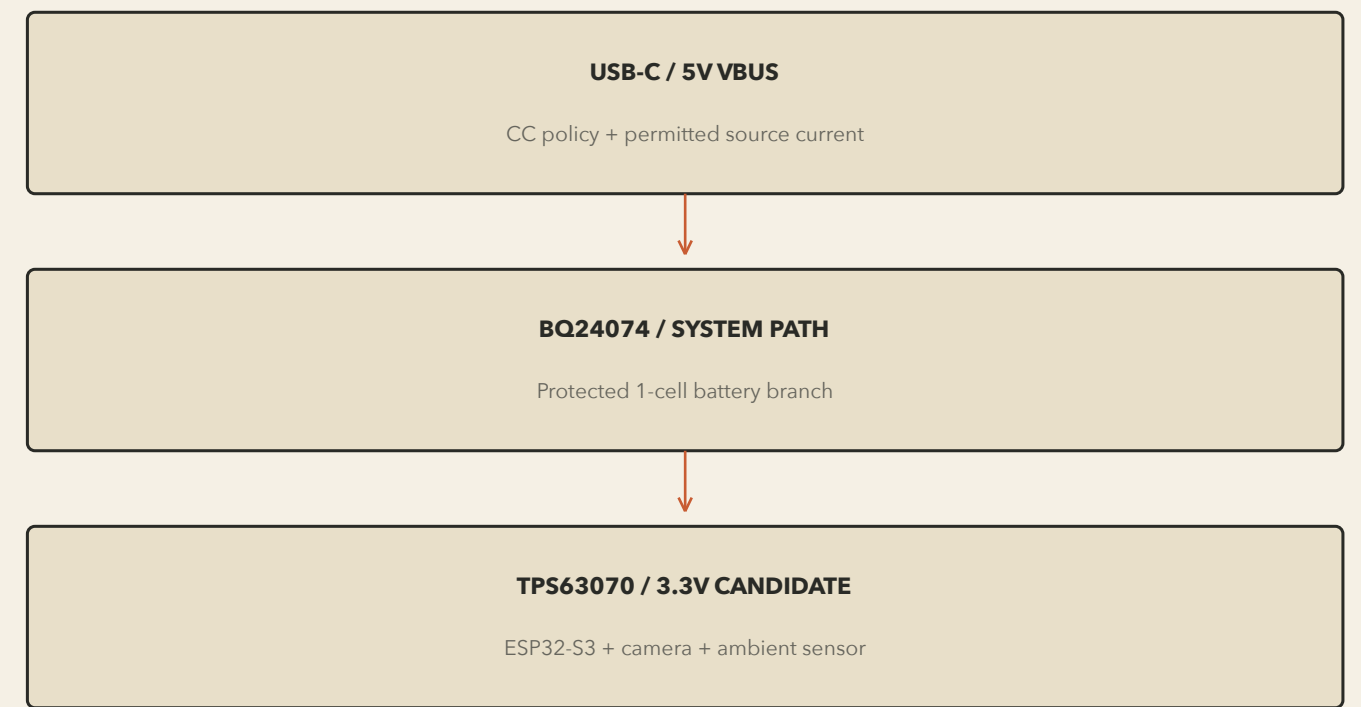


ASSEMBLY SCHEMATIC / NOT SCALED

Fit camera and interface to carrier. Route harness, test optics and connector alignment, then close the plinth. Service access, insert retention and tool clearances remain unvalidated.

Reference: gct.co/connector/usb4105 - Type-C form reference only; exact receptacle and footprint are TBD.

04 / 5V SINK POWER PATH



NO USB-PD VOLTAGE REQUEST

Architecture retained from prior electrical sheets 04-05. No footprint, pin assignment, current budget or component values are implied.

RISE

ELECTRICAL / POWER ARCHITECTURE

R-01

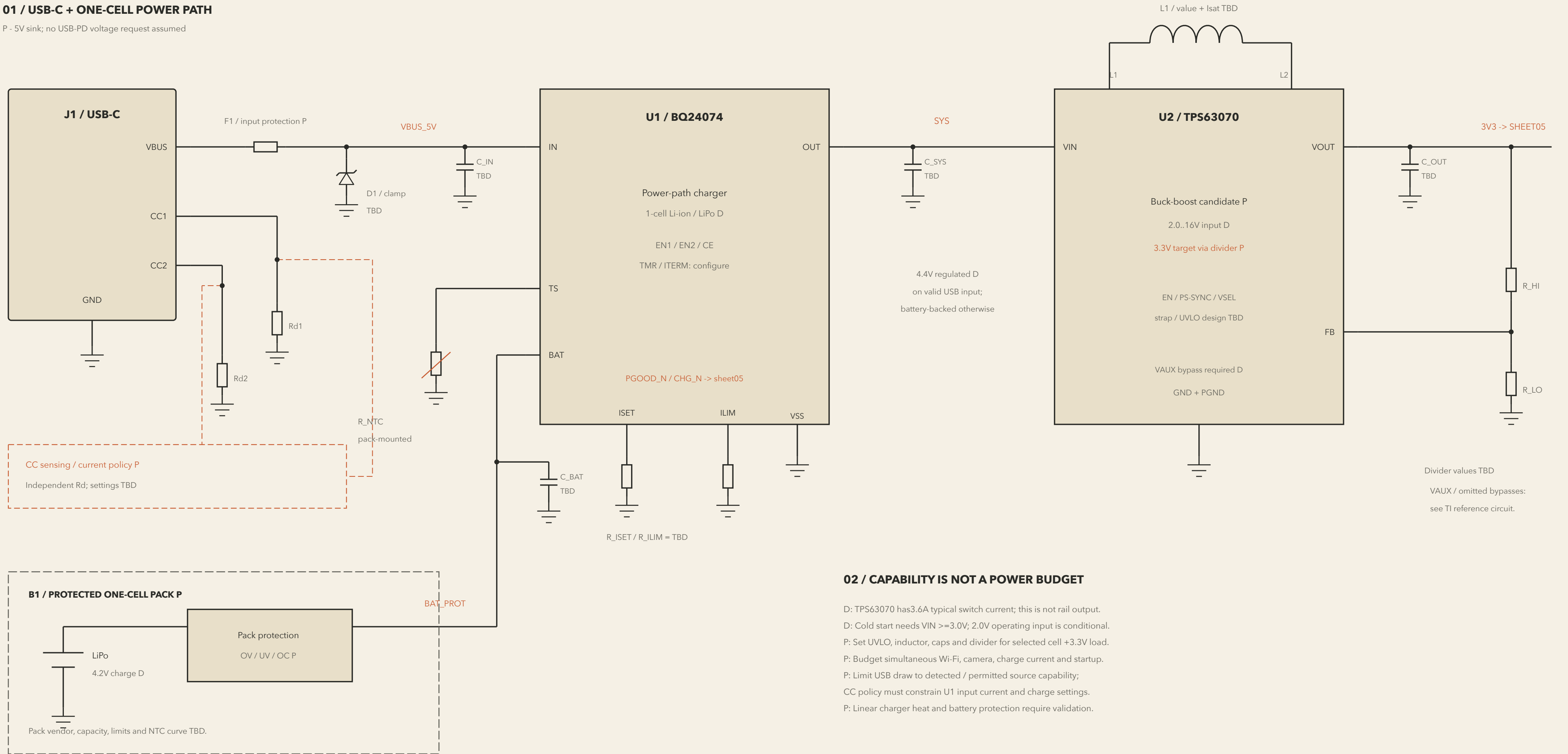
Proposed power path and component candidates; functional connections with unassigned values

ELECTRICAL CONCEPT / REV A

RISE-CAD-004 / ELECTRICAL 1 OF 2

01 / USB-C + ONE-CELL POWER PATH

P - 5V sink; no USB-PD voltage request assumed



02 / CAPABILITY IS NOT A POWER BUDGET

D: TPS63070 has 3.6A typical switch current; this is not rail output.
D: Cold start needs VIN >=3.0V; 2.0V operating input is conditional.
P: Set UVLO, inductor, caps and divider for selected cell +3.3V load.
P: Budget simultaneous Wi-Fi, camera, charge current and startup.
P: Limit USB draw to detected / permitted source capability;
CC policy must constrain U1 input current and charge settings.
P: Linear charger heat and battery protection require validation.

PRIMARY SOURCES / DEVICE CAPABILITIES (D)

[1] TI BQ24074 / SLUS810N, pin functions + PowerPath
<https://www.ti.com/lit/ds/symlink/bq24074.pdf>

[3] TI Type-C primer / SLYY109B, CC termination + current detection
<https://www.ti.com/lit/wp/slyy109b/slyy109b.pdf>

[2] TI TPS63070 / SLVSC58B, pins, startup + typical application
<https://www.ti.com/lit/ds/symlink/tps63070.pdf>

SCHEMATIC CONCEPT | FUNCTIONAL PIN NAMES | VALUES / PINOUT TBD

P = proposed architecture D = verified device capability Solid wire = net; filled dot = junction

NOT A FABRICATION SCHEMATIC

No PCB, BOM, pin assignments, timing or worst-case power budget validated.

RISE

ELECTRICAL / SIGNALS + INTERFACES

R-01

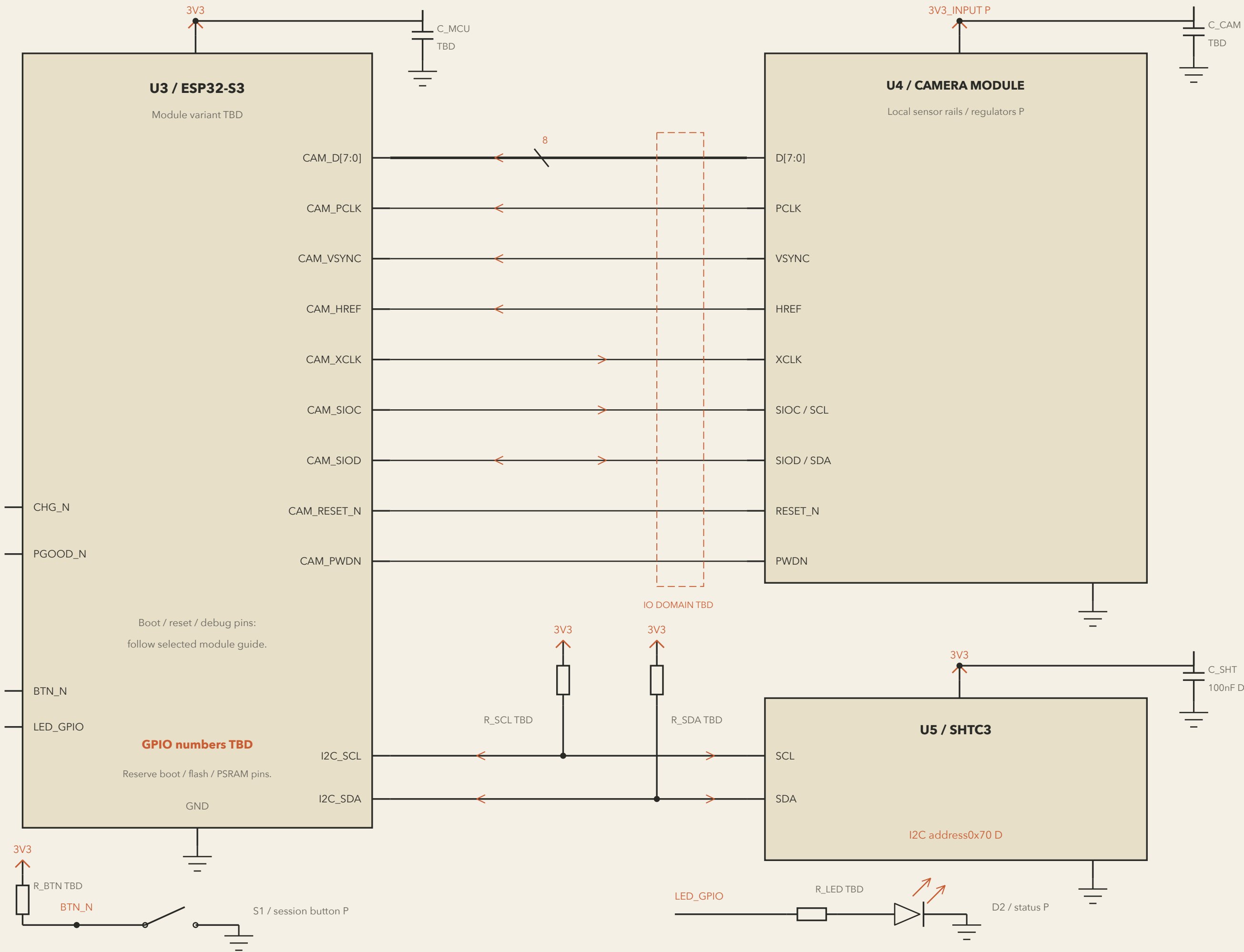
Proposed digital topology with camera, ambient sensor and user interface; no GPIO assignments

ELECTRICAL CONCEPT / REV A

RISE-CAD-005 / ELECTRICAL 2 OF 2

01 / CAMERA + SENSOR NETS

P - camera module includes local sensor regulators; logic compatibility still required



02 / INTERFACE CONTRACT

NET / GROUP	DIRECTION	STATE
D[7:0] + sync	Camera -> MCU	D / GPIO TBD
XCLK	MCU -> camera	D / rate TBD
SCCB SIOC	MCU -> camera	D / level TBD
SCCB SIOD	Bidirectional	D / level TBD
RESET / PWDN	MCU -> camera	P / optional
Sensor SCL	Clock / stretch	D / speed TBD
Sensor SDA	Bidirectional	D / pullups
BTN_N / LED	UI <-> MCU	P / GPIO TBD
CHG_N / PGOOD_N	U1 -> MCU	D / pullups
BAT monitor	Gauge or ADC	P / optional

03 / ELECTRICAL DESIGN NOTES

- D: SHTC3 supports 1.62..3.6V supply, I2C and 0x70.
D: Place 100nF at SHTC3 VDD/VSS.
P: Camera input supply 3.3V only for a compatible module.
P: Local sensor regulators do not establish 3.3V IO.
P: Verify IO levels; add correct translation if required.
P: SCCB pullups / control polarity follow chosen module.
P: I2C pullup values follow capacitance, speed and sink limits.
P: U1 CHG_N / PGOOD_N open-drain: pull up to 3V3.
P: Keep RF / switching / charger heat away from RH sensor.
P: Camera FPC pinout, GPIO map, reset and timing TBD.
P: Select ADC divider / gauge before connecting BAT_PROT.

PRIMARY SOURCES / DEVICE CAPABILITIES (D)

[4] Espressif esp32-camera / functional signal definitions
https://github.com/espressif/esp32-camera/blob/master/driver/include/esp_camera.h

[6] Espressif ESP32-S3 hardware design guidelines / supply + module integration
<https://documentation.espressif.com/esp-hardware-design-guidelines/en/latest/esp32s3/index.html>

[5] Sensirion SHTC3 / supply, I2C + application circuit
https://sensirion.com/file/datasheet_shtc3

SCHEMATIC CONCEPT | FUNCTIONAL PIN NAMES | VALUES / PINOUT TBD

P = proposed architecture D = verified device capability Solid wire = net; filled dot = junction

NOT A FABRICATION SCHEMATIC

No PCB, BOM, pin assignments, timing or worst-case power budget validated.