

A softer, built-in curve.

The inspiration, prior CAD and rebuilt CAD are shown separately. Only R9 images describe the delivered parts.



Inspiration / concept image



R8 / previous CAD



R9 / rebuilt CAD

28 mm plan corners, 12 mm edge rolls

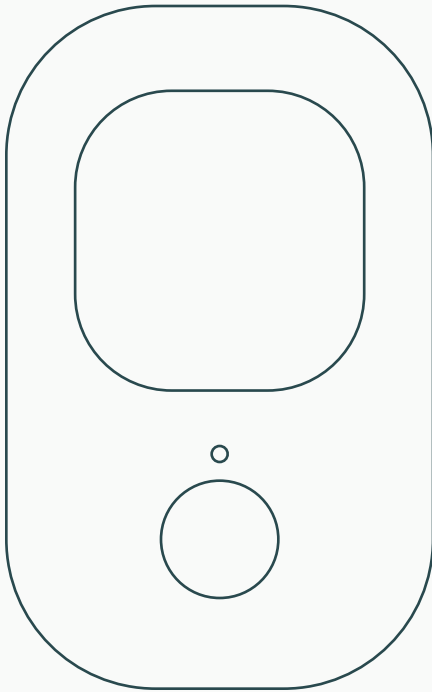
The old 12 mm outline radius is replaced with R28. Top and bottom straight lengths reduce from 56 to 24 mm; side straights reduce from 104 to 72 mm. The grille corner radius grows from 12.1 to 18.1 mm.

Same body envelope; new dependent parts

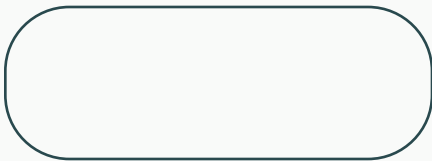
Body: **80 x 128 x 28.5 mm**. Overall with controls: **81.4 x 128 x 29.4 mm**. The shells, carrier clearance, rear RF window, adhesive and fastener stack follow the new surfaces. R8 and R9 parts are not interchangeable.

Geometry that can be rebuilt.

Millimetres throughout. X is width, Y is height, Z runs from the rear to the front. STEP controls 3D surfaces.



FRONT OUTLINE / 80 W x 128 H



MID-BODY SECTION / 80 W x 28.5 D

Exterior

Outline corner R28

Front/rear roll R12

Nominal skin 1.0

Body depth 28.5

Front/rear seam 0.6

Front controls

Grille 54.2 x 56.2, R18.1

Grille center Y=20

Play diameter 22, Y=-36

Status diameter 3, Y=-20

Volume Y=20 and Y=2

PTT and charging

PTT cap 69.4 x 10; Y=-34 to +35.4

PTT opening 71.4 x 12; center Y=0.7

USB opening 13 x 7; Y=-45, Z=15.3

Vertical cap-to-USB opening gap: 4.5

Proposed machining ± 0.10 mm and PA12 ± 0.25 mm require supplier confirmation. Finished edge breaks 0.15-0.25 mm. Compare actual finished parts to the per-part STEP; these overview diagrams do not replace inspection drawings or an agreed tolerance stack.

Closure follows the curved back.

Four rear-access screws, with rebuilt bearing collars and carrier towers. No front fastener holes.



Rear closure datums

Upper screws $X=\pm 30$, $Y=43$

Lower screws $X=\pm 24$, $Y=-52$

Hardware: M2 x 20

Head back: $Z=4.0$

Head bearing: $Z=5.3$

Rear-to-carrier seat: $Z=7.3$

Carrier-to-front boss: $Z=22.0$

Screw tip: $Z=25.3$

Blind bore end: $Z=26.0$

Nominal engagement: 3.3

Tip clearance: 0.7

Bore-floor screening: 1.1 minimum

Use a qualified fastening stack

The four 4 mm-deep rear recesses keep standard head envelopes inside the rounded shell. CAD bores show thread-major envelopes, not pilot drills or helical threads. Supplier must select actual screw head/drive, pilot, useful thread, torque and anti-galling treatment.

Rear RF window

The 46 x 12 mm projected window at $Y=54$ follows the same curved envelope. PC/ABS is an unfilled candidate with a nominal 1.8 mm skin and a conformal internal bond flange. No conductive finish; final antenna selection, window sizing and RF tuning remain open.

Separate parts, separate processes.

The exploded view uses illustrative offsets. It does not prove an assembly path.



Metal and insulating structure

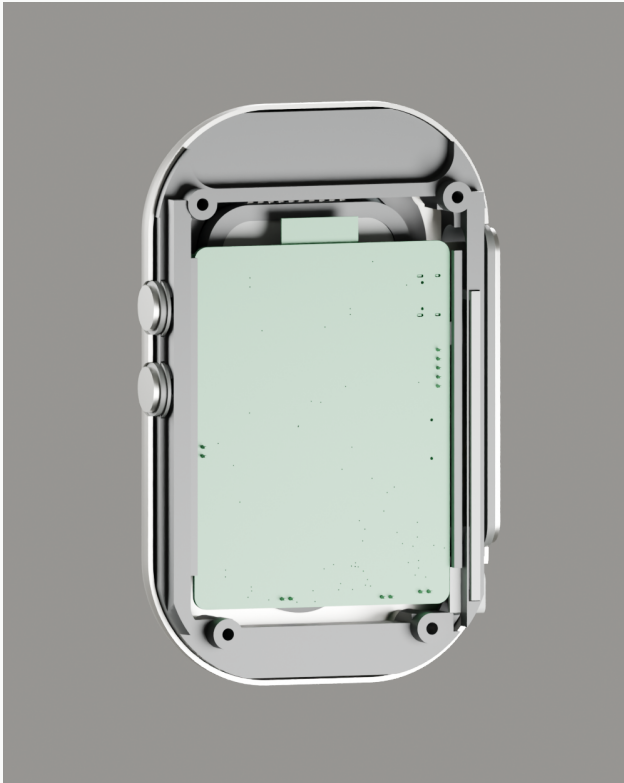
304 stainless shell skins: nominal 1.0 mm with integral blind bosses. Black stainless grille: 0.6 mm with 1.4/1.8 mm bores. PA12 carrier and supports; POM guides/actuator; silicone diaphragms. Estimated shell pair: **163.2 g**. All modeled parts/hardware: **226.2 g**, excluding electronics and unmodeled items.

Supplier request

Quote thin-wall CNC/workholding review and process/fit coupons first, then an unpowered fit article and an appearance article after acceptance. Confirm finishing, edges, wall stability, tapped bosses and inspection. A formed-shell alternative requires separate tooling and attached-boss development. No compound-shell flat pattern is supplied.

Package the actual electronics.

The original PCBA is unchanged and unscaled. Other component models are explicitly provisional.



Nominal rear-to-front Z

Isolation 1.3-1.8
Tray base 1.8-2.8
Battery 3.2-9.2
Actual PCBA 10.1-19.6
Play board 21.0-22.2
Play switch 22.2-24.4
Speaker 21.0-26.0
Grille support 26.3-27.5
Grille bond 27.5-27.85
Grille 27.85-28.45
Front skin outer Z=28.5
Play cap 28.4-29.4

Functional design inputs still required

Select the lower USB receptacle, separate connector PCB, mount and electrical interconnect to the main PCBA. The old main-board connector remains a reference, not a completed charging connection. Select final battery/protection, speaker, side switches/supports, antenna and microphone duct before a powered build.

Validate the complete device

Measure PTT force and bending at top, center and bottom; qualify guides, diaphragm and switch return. Check battery swelling, routing, electrical isolation/ESD, charging heat, acoustics, antenna tuning and service access. The supplied CSV records retain the open items and responsible roles.

Verified CAD. Physical tests next.

Geometry evidence applies to this revision and these exported files only.

What was checked

28 valid individual single-solid parts; 0 positive-volume static intersections. Exported STEP validity and volume agreement, watertight STL, sampled 0-0.3 mm rigid control travel, 4 mm driver access and actual-board scale preservation are recorded in the validation folder.

What to fabricate first

Use material/fit coupons and an unpowered fit article to evaluate the new outline, shell finish, closure stack, port access and button clearances. Do not print the whole assembly as one part. Purchased screws, adhesive, foam and reference electronics are not rigid printed components.

Portable sources and deliverables

code/build_revision.py is the parametric source. step/ contains case and reference assemblies plus individual parts; stl/ contains matching meshes. drawings/ contains the exact planar grille DXF and coupons. previews/ includes CAD views and the editable Blender scene. docs/ contains BOM, traveler, source provenance and package inventory.

File consistency

Rebuild in the order described in README.md. The final package inventory binds files by SHA-256 and the ZIP is CRC-verified. New geometry requires new exports, evidence, renders, documents and website assets. The reference image is kept separate from CAD imagery.

Scope and release

This is a supplier engineering-review package, not an order or a production release. Walkie One owns electrical, firmware, battery/charging, RF and acoustic qualification. No drop, ingress, thermal or lifecycle rating is asserted. Resolve discrepancies between the STEP, BOM and instructions before fabrication.