

Concept 23.2

Hi-Fi Speaker Miniature

R9 Soapbar | Rapid Product Solutions | Supplier brief

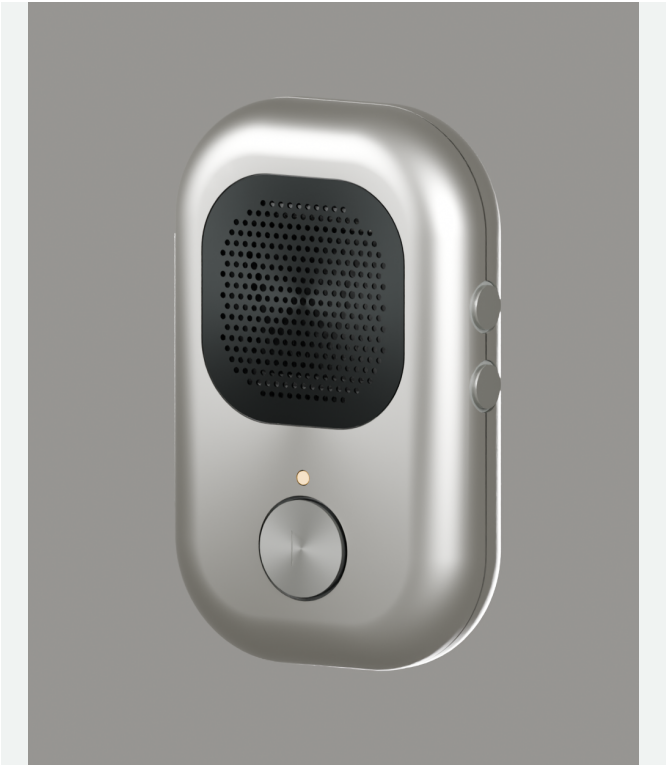
WIDTH (mm)	HEIGHT (mm)	DEPTH (mm)
80	128	28.5

Body dimensions. Overall including modeled controls and recessed rear screws: 81.4 × 128 × 29.4 mm (width × height × depth).

Inspiration photo



CAD assembly / R9 Soapbar



Appearance intent; CAD shows the current engineering proposal. Views are not to scale.

CAD front



CAD rear



CAD exploded



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Quote and materials

R9 Soapbar | Rapid Product Solutions | Rounded R28 soap-bar enclosure with R12 edge rolls, rebuilt insulated carrier and recessed rear closure.

Please review manufacturability and quote a staged enclosure prototype for Walkie One, a handheld push-to-talk voice device. We need to evaluate grip, button operation, speaker/microphone openings, status light, charging access and serviceability.

What to quote first

Quote CNC workholding/thin-wall review and process/fit coupons first, then one unpowered fit article and one appearance article. Confirm the 1.0 mm compound-curved shells and blind bosses are feasible before cutting a full metal set.

Materials and processes

Steel shells	304 stainless, 1.0 mm nominal skins with integral blind front bosses. Rapid lists 304 CNC machining, but this thin-wall construction needs specific workholding/process acceptance. A formed-shell alternative requires separate engineering; no developed shell blank is supplied.
Grille and finish	Separate 0.60 mm stainless grille; retain exact flat DXF. Longitudinal satin shells, radial satin play cap and black PVD grille are proposed. PVD and specialty grille cutting need direct/partner confirmation.
Internal parts	PA12 carrier, POM controls, silicone diaphragms, clear PMMA guide and PET isolation. Rear PC/ABS RF window must remain nonmetallic; no conductive plating/paint on that window.

Published capability is not acceptance of this specific geometry. Exact grades, fine tolerances, thin-section casting, specialty coatings/cutting and test services need Rapid confirmation. General website tolerances do not replace the finished drawing tolerances.

Build and inspect

Size and PTT	80 x 128 x 28.5 mm body; 81.4 x 128 x 29.4 mm overall. Outline R28, edge rolls R12, grille corners R18.1. PTT 69.4 x 10 mm; bottom Y-34, top Y35.4. USB cap gap 4.5 mm.
Blind fastening	Four M2 x 20 rear screws recessed 4 mm into rebuilt collars. Nominal engagement 3.3 mm; tip reserve 0.7 mm. STEP bores are major thread envelopes, not tap-drill sizes. Qualify head/drive, tapping, galling and torque.
Controls and USB	Test bending, guidance and actuation along the long PTT. Lower USB board/socket/interconnect are provisional envelopes; the modeled lower opening is not electrically connected to the original PCBA.
Mass and RF	Modeled shells total about 163.2 g; modeled custom parts/hardware about 233.4 g exclude electronics. Do not quote finished device mass. The small RF window/antenna zone is an unvalidated reservation.

Assembly order

1. Inspect finished metal, deburr touch surfaces and gauge blind bosses before fitting insulating carrier/controls. Trial control capture, guide bonds and grille stack; use Assembly_Traveler.csv for sequence.
2. Use the supplied PCBA at source scale for fit review. Install real battery, speaker, switches and lower USB assembly only after Walkie One supplies their approved definitions. Keep unresolved regions accessible.
3. Close from the rear with four screws only after thread/torque approval. Record shell fit, PTT end/center behavior, electrical isolation or agreed grounding, window bond and as-built mass; Walkie One owns powered/RF acceptance.

Keep separate

Formed shells, changed wall thickness, attached bosses and alternate black finishes are separate proposals. Do not treat the flat grille DXF as a flat pattern for the compound-curved shells.

Use the supplied artwork at its specified size and position. Approve physical color, texture and marking samples together; screen colors are visual intent. Keep finish and adhesive off guides, stops, acoustic openings, optical faces and service seams unless the drawing explicitly calls for them. Record any proposed substitution before using it.

Inputs and delivery

Rapid is asked to make, finish, inspect and optionally assemble agreed parts using Walkie One-supplied hardware. Walkie One owns electrical design, firmware, battery/charging, RF and acoustic validation. Rapid may quote specialist support separately; these services are not assumed from its website.

Before full metal machining	Rapid with Walkie One mechanical	Thin-wall workholding, minimum wall/deburr plan, blind threads and finish/cutting route; any thicker-wall proposal needs revised CAD approval.
Before functional assembly	Walkie One electrical/mechanical	Lower USB connector PCB/interconnect and mounting, actual battery/speaker, switch carriers/harness, microphone port/duct and approved control loads.
Before final metal/window commitment	Walkie One RF/electrical	Antenna choice and installed tests, shell grounding/ESD and charging/thermal plan. RF may require a larger window or layout change.

Quote and return

Quote each concept separately: one unpowered fit set and the priority samples on page 2, followed by one finished appearance article after sample approval. This is a comparison basis, not an order for all concepts. Show any minimum quantity; confirm the selected concept, quantity, delivery date and ship-to with Walkie One before work starts.

Please itemize parts, fixtures/coupons, tooling, finishing, assembly, inspection and shipping; state lead time from receipt of approved inputs. Identify partner-made work, exclusions and tolerances you cannot hold. Quote a feasible alternative with its effect on fit/appearance rather than silently changing the design.

Return identified parts/samples, the material and finish selections, measured critical dimensions, assembly photos and the completed applicable inspection record. List hand fitting, deviations and unresolved items. Leave unperformed tests blank or NOT TESTED. Walkie One approves samples and engineering changes before repeat finished units.

Use these files

This brief controls supplier scope and responsibilities. The current per-part STEP, BOM and finished-interface drawings retain the technical requirements. Stop and return a marked question if they disagree. Millimetres throughout. Assembly STEP is a reference, not a single part to print. Purchased hardware, foam, cloth and adhesive solids are not rigid-print instructions.

BOM: docs/BOM.csv

Records: docs/Assembly_Traveler.csv; docs/Open_Items_and_Qualification.csv; docs/Rapid_Open_Items.csv.

The six-page Engineering_Detail.pdf documents the new shape, fastener datums, electronics stack and verification. BOM and grille DXF define parts and the flat profile.

Supplier capabilities checked 06 Sep 2026. Source links and confirmation limits: docs/Rapid_Capabilities.md.
<https://www.rapid-products.com/>