

Engineering revision handoff

Engineering file ID 23.2 | E1 builds on R9 Soapbar

Front-button mechanism now uses the supplied Omron B3F4000 with a bolted carrier and reaction plate. Stainless exterior and visible cap retained.

Partial internal rebuild. Review the represented geometry and listed changes. Remaining CAD and physical qualification are explicit below.

Body: 80 x 128 x 28.5 mm. Overall including modeled controls and recessed rear screws: 81.4 x 128 x 29.4 mm (width x height x depth).



Use these files first

00_Handoff.pdf explains scope and assembly. 01_Current_CAD contains the E1 STEP and imported-solid Fusion assemblies. BOM_Represented_Parts.csv identifies the represented part files; Rapid_Open_Items.csv lists unresolved work.

The primary package supersedes earlier files only for the E1 represented geometry. Earlier documents and appearance films remain historical references.

Changes and evidence

CAD checks apply to the revised interfaces and their represented neighbours

What changed

- Removed the provisional 6 mm tactile switch and its reference daughterboard from the revised assembly.
- Extended the rigid pusher, added a nominal 0.14 mm rest gap and separate 0.65 mm stop.
- Fastened the guide bridge to the insulating chassis and added a removable reaction plate with pin passages.
- Relieved the corner adjacent to populated PCB component 112 and moved mounting screws inward to clear the curved steel shell.

What was checked

- The actual front switch, new support parts and fasteners clear the represented populated PCB.
- New carrier, reaction plate and screw heads clear the represented case and reference geometry.
- Sampled straight travel is clear through 0.65 mm; a 0.66 mm probe contacts the stop. Two module STL files are watertight.

Static or sampled rigid-body checks do not prove force, allowable switch overtravel, rocking, spring return, tolerance extremes, fatigue, electrical function or production readiness.

Assembly and service

Sequence for the changed interface; complete device assembly remains open

1. Retain the existing front cap and captive actuator flange; verify their attachment on a physical sample.
2. Insert the B3F4000 into its rear-open carrier and fit the reaction plate with four M2 x 5 screws.
3. Engage the extended pusher in the guide. Fasten the bridge to the chassis using two M2 x 6 screws from the front.
4. Fit the steel cover after fastening the internal bridge; preserve rear access for the main enclosure screws.
5. Provide wiring strain relief and test button return, edge presses and force before powered assembly.

Material and fastener assumptions

Confirm polymer and elastomer grades, manufacturing process, finished tolerances and surface treatment with the supplier. Modeled screw envelopes do not specify a purchased drive or thread profile. A 1.7 mm pilot, where used for M2, is a prototype assumption requiring process and torque qualification.

No adhesive or flexible gasket envelope is permission to print that layer as a rigid solid. Review the material role of every part. Nominal switch case bearing faces require actual dimensional and clamping checks.

Remaining work before release

These items are not marked passed by the new CAD or website publication

1. Actual side switches, rigid pushers and mechanically retained side mechanisms remain to be designed.
2. The current battery and speaker references are still provisional and do not match Elian's supplied parts.
3. Actual antenna packaging, a suitable nonconductive RF window and RF validation remain open.
4. Microphone path, mechanical retention, board-derived USB and complete wiring still require work.

Manufacturing decision

Review and quote the current engineering work with these limitations. Select and verify the affected process and hardware before making functional parts. Complete the missing mechanical work, full assembly checks and physical fit prototype before approving a working device or production batch.

Version control

Use E1 together with this handoff and its file inventory. Do not mix E1 replacement components with earlier carriers, switches or untrimmed layers. The website preserves historical download URLs; those files are not the current engineering instruction.