

I.S. Triad production batch 1 yield issues.

Order shipped 8.29.2024, consisting of 40 boards on 10 panels had 16 serious defects resulting in a loss of function.

- 1) Issue 1: Barometric pressure sensor damage:
13 boards (serial numbers 18,19,20,35,75,82,83,84,85,87,217,219,220) had damaged barometers.
The damage is consistent with a failure of the masking on the barometer during cleaning. See images below.

Figure 1 Undamaged Barometer (Serial number 81)

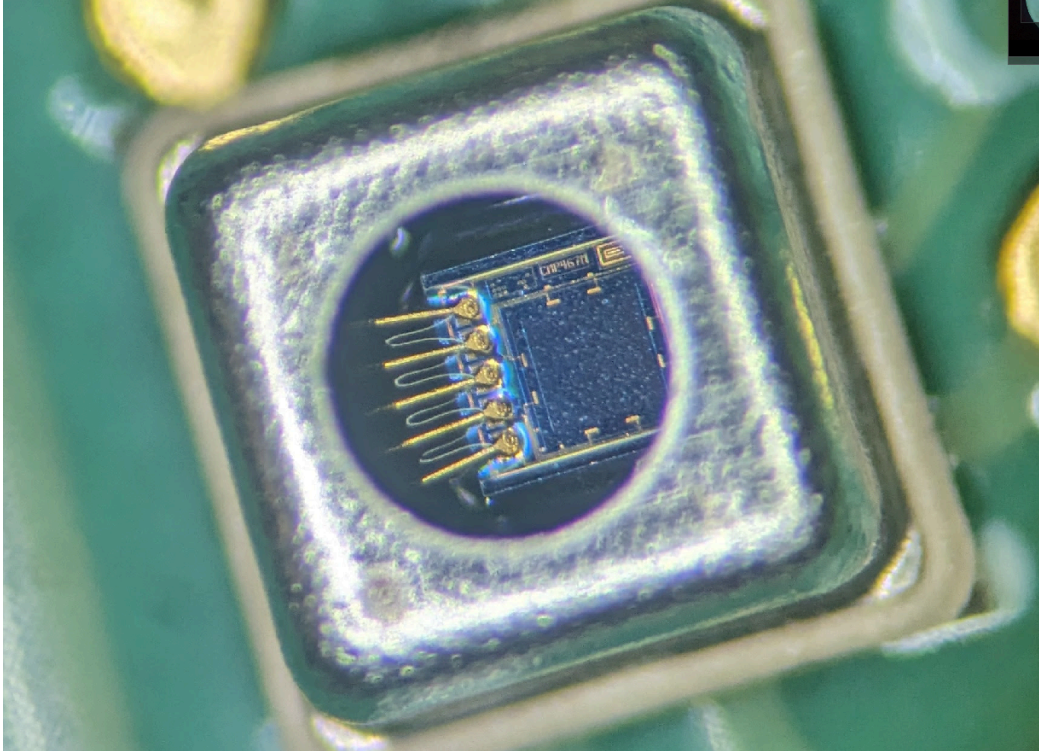
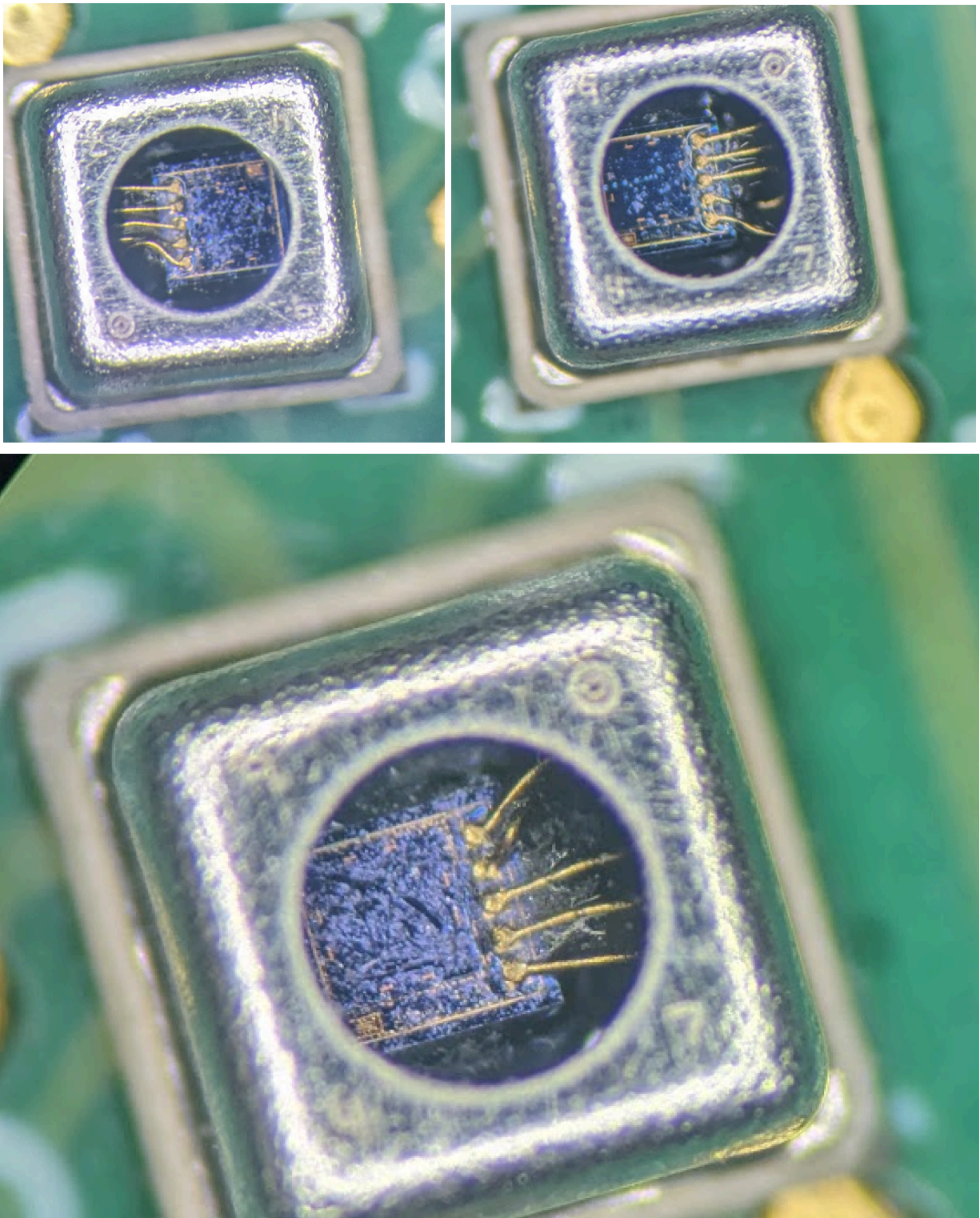


Figure 2 Damaged barometers (sns 82-84)



- 2) Issue 2: incomplete DFN package solder joints on the rear side of the PCBA (2 defects)
2 boards (serial number 19, 33.) Had incomplete joints on DFN packages, similar to the defects observed on the first articles. PCBA 19 has incomplete connections on U210A. PCBA 33 has incomplete connections on U11C.

Figure 3 serial # 19 U210A closeup showing no joint/incomplete fill on pins 1, 5, 6

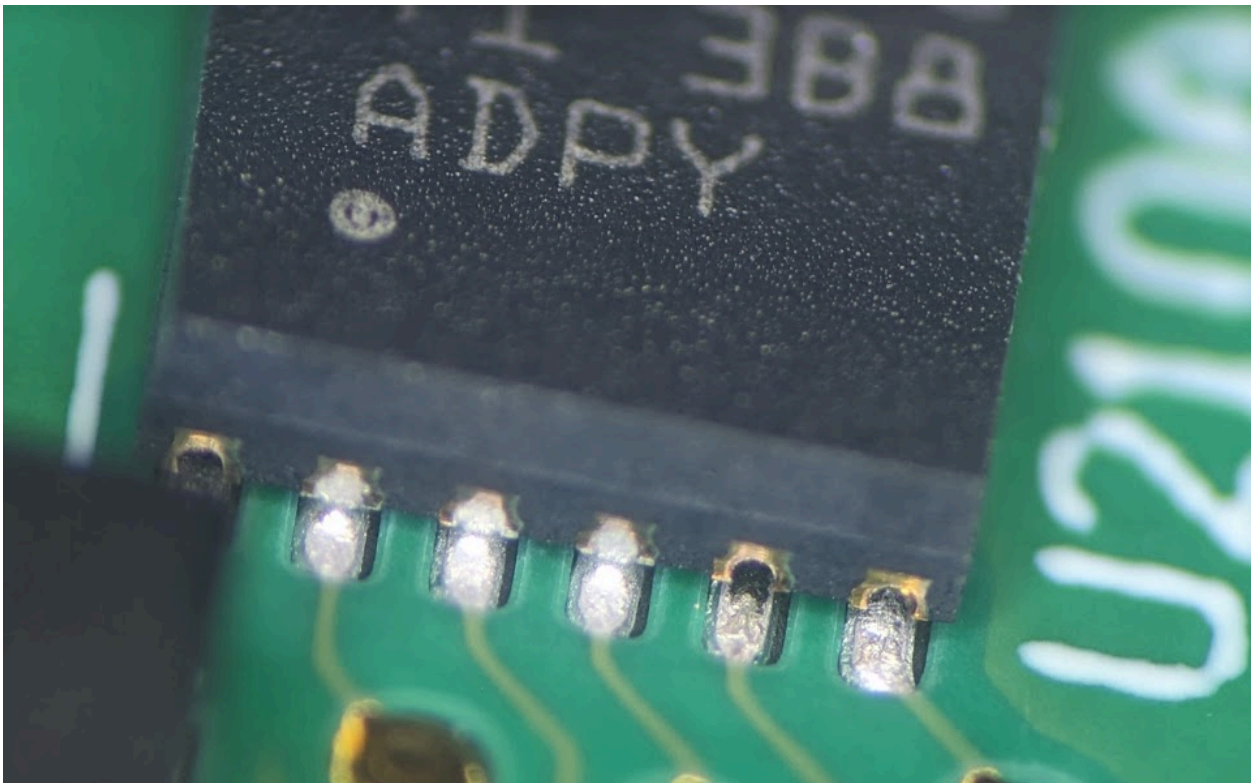
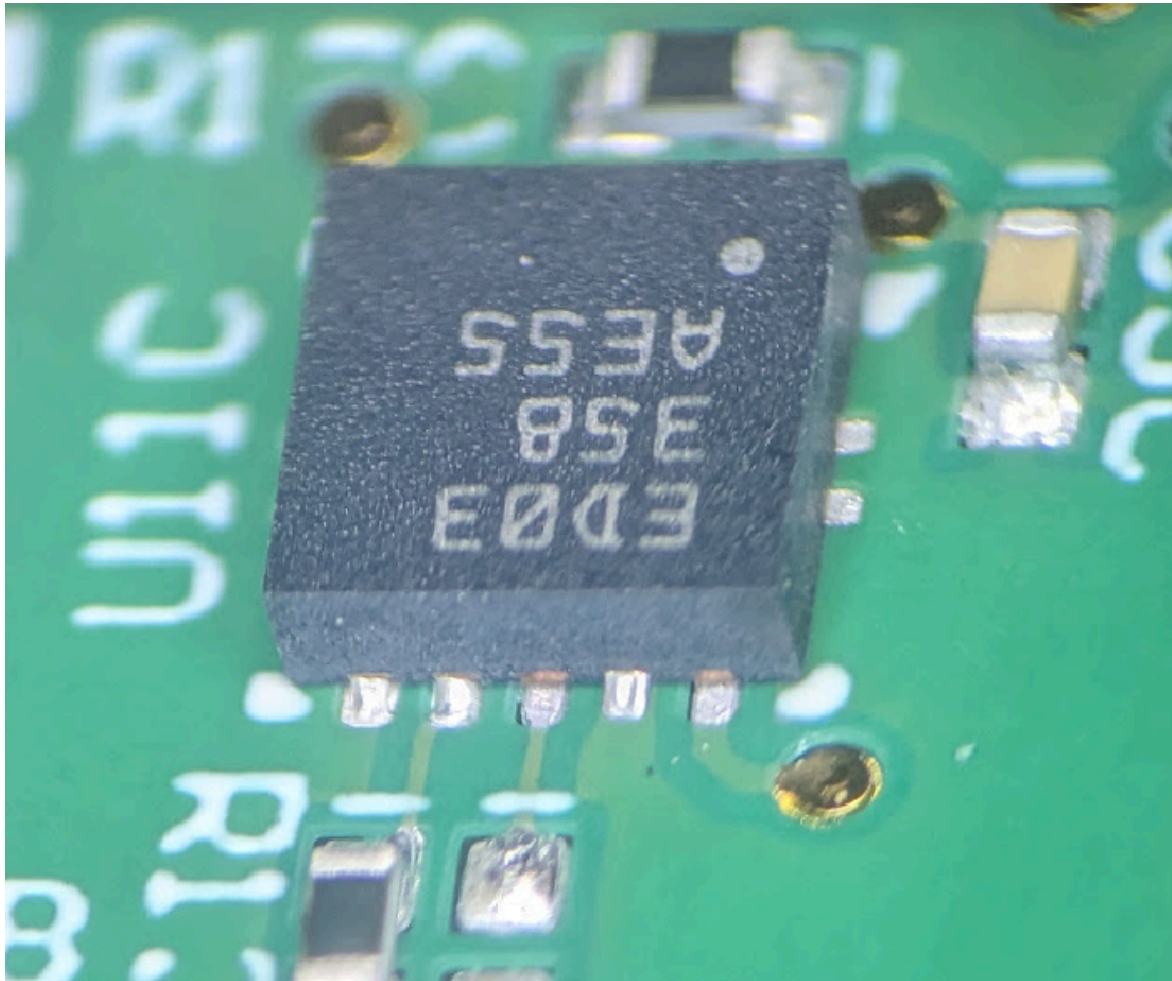
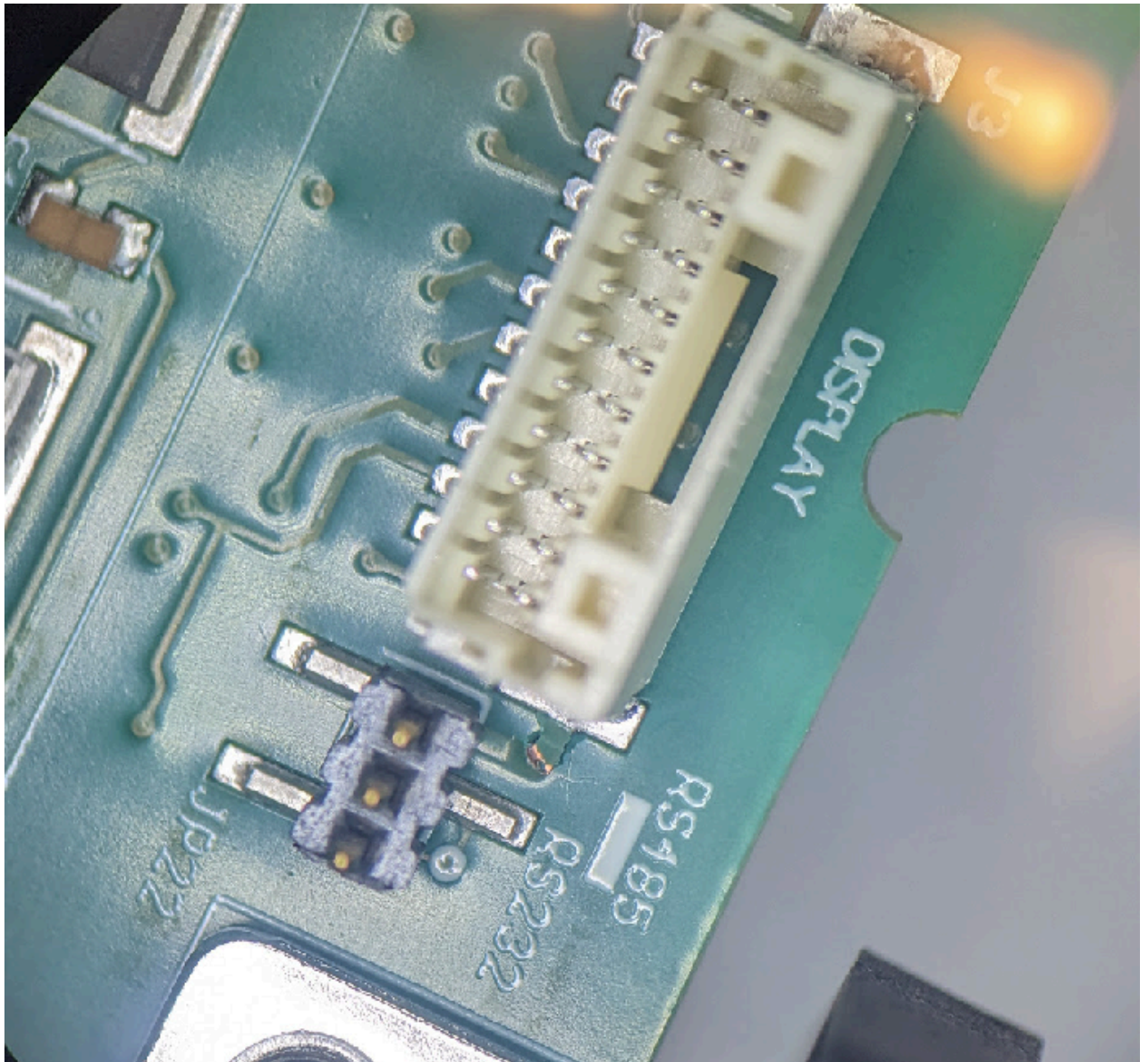


Figure 4 Incomplete joints on pins 8 and 10 on U11C (sn 33).



3) Issue 3: Handling damage to J3.

One PCBA showed a lifted pad and via associated with J3.



Requested corrective actions:

- 1) Identify the root cause of the inconsistent masking performance for the barometers and implement a mitigation. Perform 100% inspection either microscope assisted visual or x-ray to identify barometer damage until the mitigation is validated.
- 2) Amend the rear stencil/solder mask application procedure with similar modifications to those already implemented for the front stencil to ensure reliable joints of the rear DFN packages.
- 3) Resume staking the J3 connector to improve mechanical reliability.