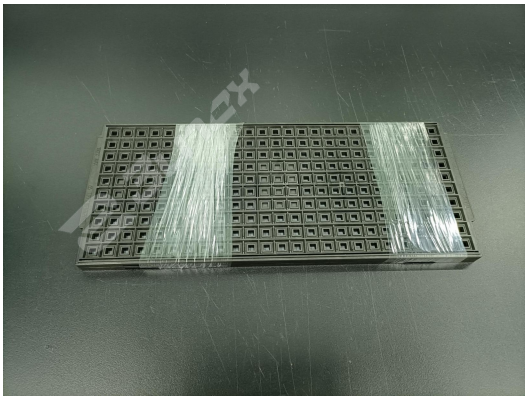
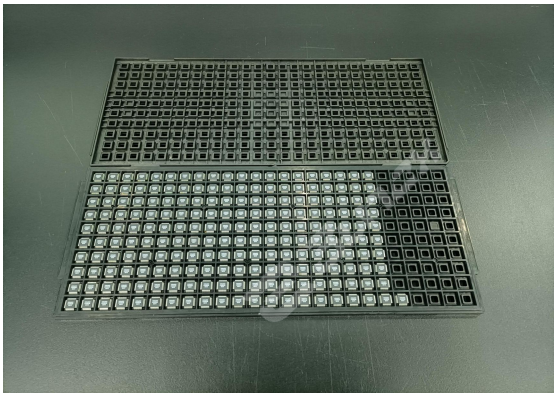
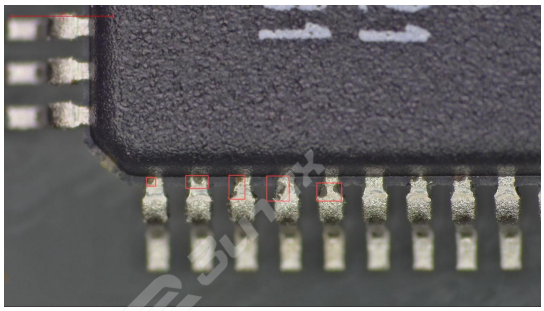
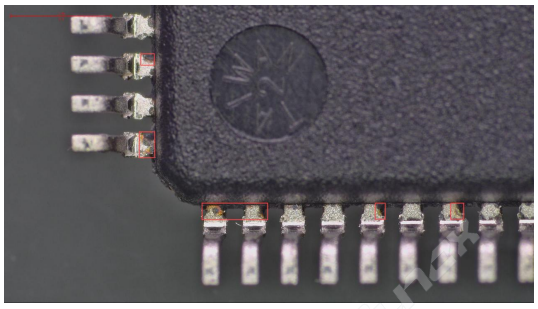
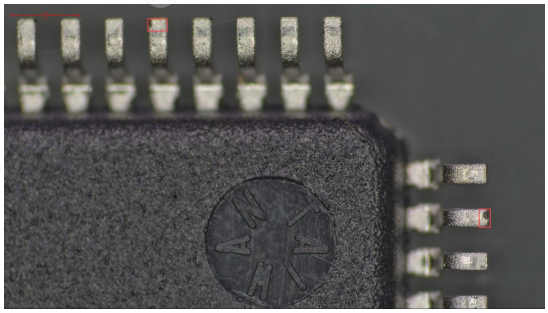
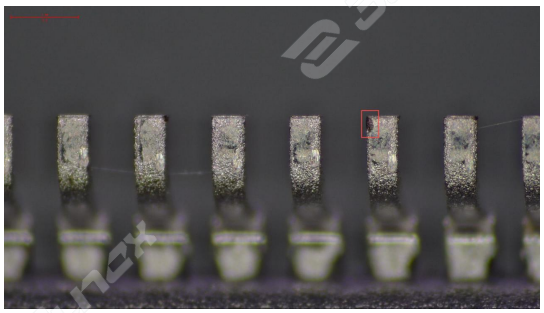
Solderability Test Case

Tested Model: GL850A-MNG21

In the morning, the customer contacted our team regarding a batch of chips with date code 10+, requesting solderability testing to verify whether they could be properly soldered for use. After receiving the shipment in the afternoon, the engineer verified the model and quantity, then proceeded with the inspection.

Sampling was carried out first. Since a visual inspection had already been performed on this batch by the customer, and oxidation/discoloration (yellowing and blackening) was found on the leads, samples exhibiting more severe discoloration were deliberately selected for testing.

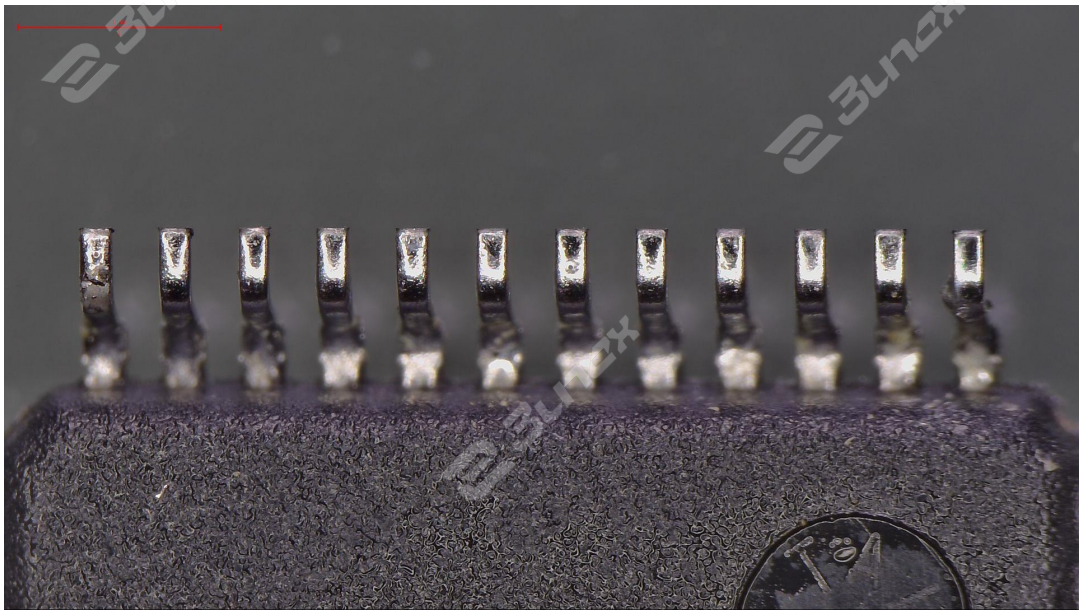
As shown in the images above, irregular black spots were observed on the leads, and discoloration was present at the lead roots. If such conditions occur at the critical soldering areas of the chip, it is highly likely to result in poor solderability, negatively affecting lead connections and signal transmission.

Solderability testing was then performed as follows:

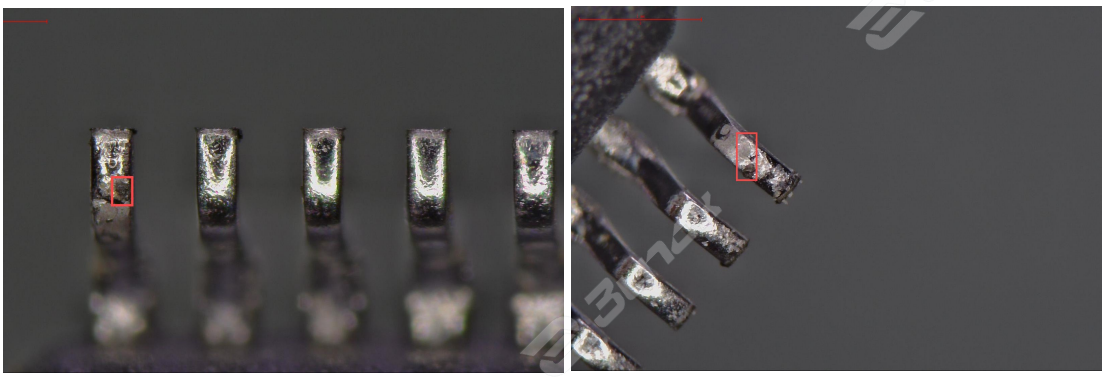
Step 1: Preconditioning. The soldering areas of the component were dipped in flux up to 1.5 mm from the component body, held for approximately 5− 10 seconds, then removed and allowed to drip dry for about 10− 60 seconds.

Step 2: Testing. Using the dip soldering method, the soldering areas were immersed in molten solder for a specified duration, then removed. The wettability of the critical areas of the leads or terminations was examined under a microscope.

Step 3: Evaluation of solderability results. Observation revealed that most of the critical areas on the sample were successfully soldered, with the solder coverage appearing uniform, bright, and full. However, the bottom of one lead was not covered by solder, indicating a non-wetting condition.



Further magnified observation showed irregular black spots at the non-wetted area. Wiping the area with a cotton swab dipped in alcohol resulted in no change. Viewed from another angle, it was evident that the area marked by the red box remained uncovered by solder, thereby compromising soldering quality.



Conclusion:

Based on the solderability testing, it can be concluded that the batch with date code 10 + exhibits poor solderability and does not meet the soldering requirements for production use.