November 20, 2018

LIGHTING BAR CODE

HP INC

Lighting Bar Code

The current issue is the 2D barcode easy be scratch by pencil or nail. The scratch always makes scanner failure. For a test, standard needs using the 2H pencil to repeat scratch barcode and the barcode still could be read.

The invention carving the barcode inside the cover and illumination with light. The pattern will appear at the outside of cover then barcode could be read by the scanner.

• Current Solution

The current design has used the painting on cover directly or paint on sticker and paste onto cover respectively. But two processes with some risky on the scratch issue. Direct paint on cover easy be scratch by foreign matter. The sticker is too thin which easy to peel off by manual operation.

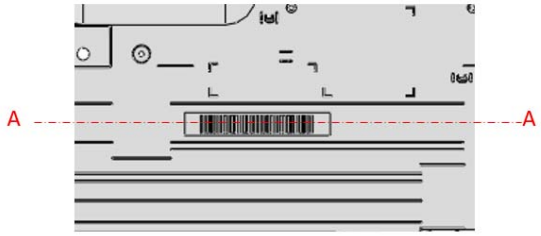
The other side that sticker need manual to paste onto cover. The assembly cost is high and easy assembly in correct position.

Stick type

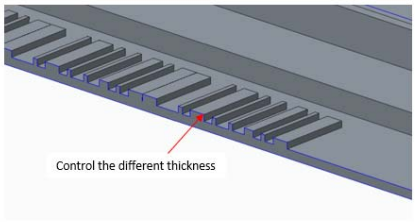
Stick type (After Scratch test)

- **Production Solution**

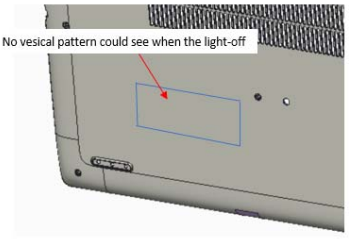
This invention, we develop a method to show the barcode that usage light form back side of cover and changed the back of cover thickness to control the light penetration cover.



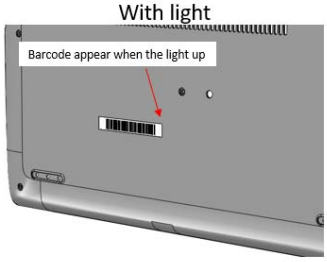
A-A Section



Without light

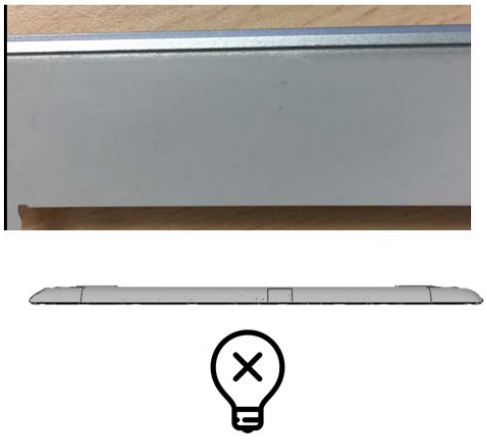


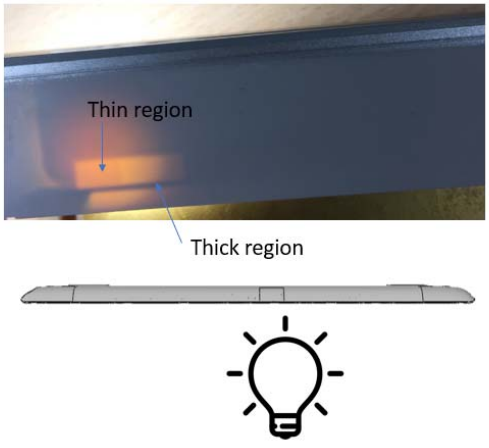
With light



- **Operating principles**

Utility light black by difference material thickness to appearance barcode. the light can penetrate the thin region and will be black by thick region





- **Advantage**
    - The new way to appear barcode.
    - No sticker on outside surface of door. The appearance is neater.
    - No solid sticker on the outside surface, no chance be peel off or scratched.
    - Cost saving because no need stick barcode.
    - The barcode can design on plastic cover and manufacture by injection molding. No need for other manual process.
    - The S/N or P/N number or some produce code not easy be visual. The invention has more secret protect information.

Disclosed by Edward Chen, Kun-Hung Lin and Allen Chen, HP Inc.