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MULTI-KEY LATCH SECURE POWER CONTROL

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Multi-key latch secure power control

Current power button on keyboard has some problem which is easily in trigger on by usage from unexpected actions, and for tablet mode, the power key is not accessible. To solve this problem, a second security power key which is integrated into keyboard design is proposed, to avoid the accidently usage through the normal working both clamshell and tablet mode. The second key is more security to ensure the device is working on safe state, the implementation both hardware and electrical design is illustrated

The new design is proposed by using a secure key which is integrated into the keyboard design ,to avoid the accidently usage through the normal working. Fig. 1 shows one of example of the secure key for power on/off design , the secure key can be placed on any location on the keyboard, where is far way enough to void the unexpected touch, during time of usage with PC. Two cases of control power is illustrated.

1. Press Secure Power Key 1 + Press Power Key 2 = ON/Off
2. First Press Secure power key then press power key 2 = ON/Off

Fig. 2 shows another example of secure power key on keyboard design, which is press Secure Power Key 1 + Press Power Key= ON/Off.

Implementation with electrical design is shown in Fig. 3.

Both keys are on keyboard scan line, so power button function can be interpret by EC. Any two key combinations are flexible, so it allow user to define his own power button function.

The advantages are below:

- More security to ensure the device is working in safe state
- Easily use in tablet mode

Fig. 1. Example of secure power key on keyboard design

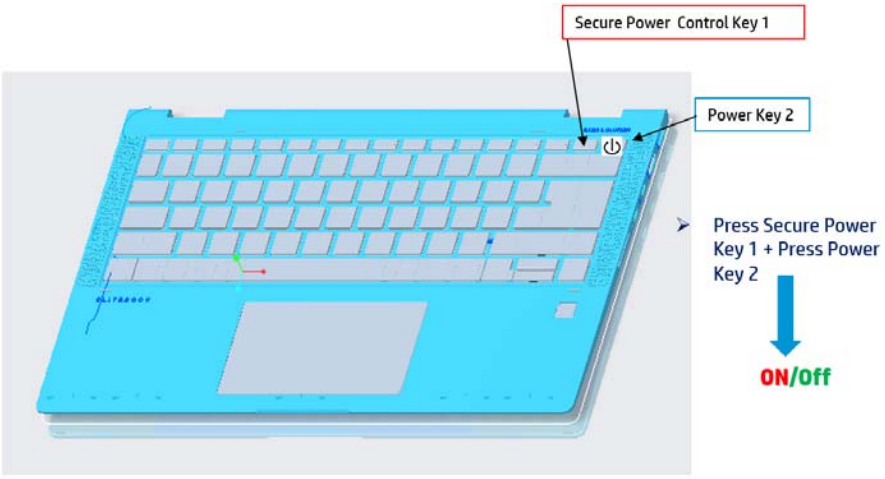

Fig. 2. Example of secure power key on keyboard design

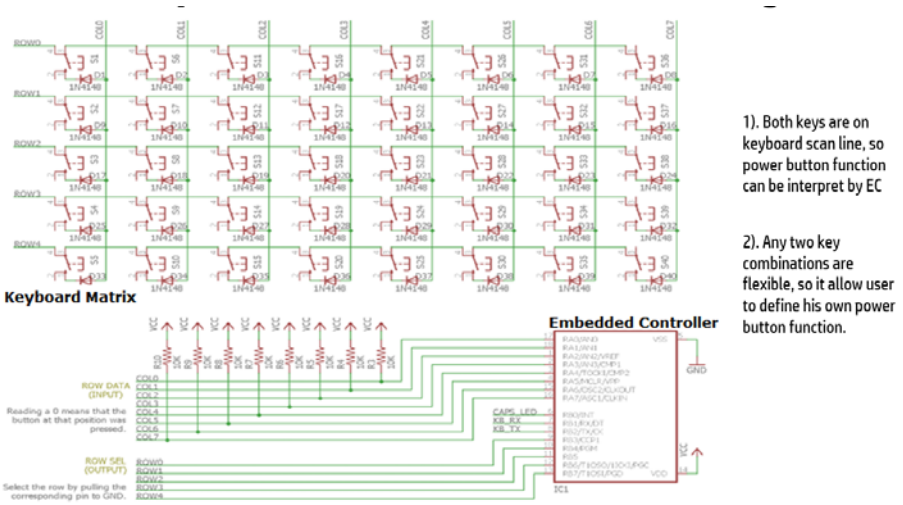

Fig. 3. implementation with electrical design

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