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EMBEDDED PROXIMITY SENSOR UNDERNEATH THE KEYCAP OF POWER BUTTON KEY IN KEYBOARD FOR X360 CONVERTIBLE NOTEBOOKS TO PREVENT POWER BUTTON KEY FALSE-TRIGGER IN TABLET MODE

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Embedded proximity sensor underneath the keycap of power button key in keyboard for x360 convertible notebooks to prevent power button key false-trigger in tablet mode

A mechanism is disclosed here to prevent x360 keyboard's power button key false-trigger in tablet mode.

The trend of consumer notebook design is to remove buttons likes power on/off, volume up/down, and webcam kill switch, etc., and move those functions to be included in keyboard (a.k.a. super keyboard). E.g. use power button key in the keyboard to replace power button.

There is a problem for x360 notebooks designed with a super keyboard which has a power button key: In tablet mode where keyboard is folded back to the rear side of the LCD display, the power button key could be easily false triggered by putting the keyboard on lap or putting the notebook in a backpack.

The mechanism provided here can reduce the risks of false triggering the power button key in tablet mode's user scenarios.

Disclosed by Tsung-Yi Liu, HP Inc.

Fig. 1 below is the block diagram which illustrates how a P-sensor (Proximity sensor) implemented into the keyboard.

Fig. 1

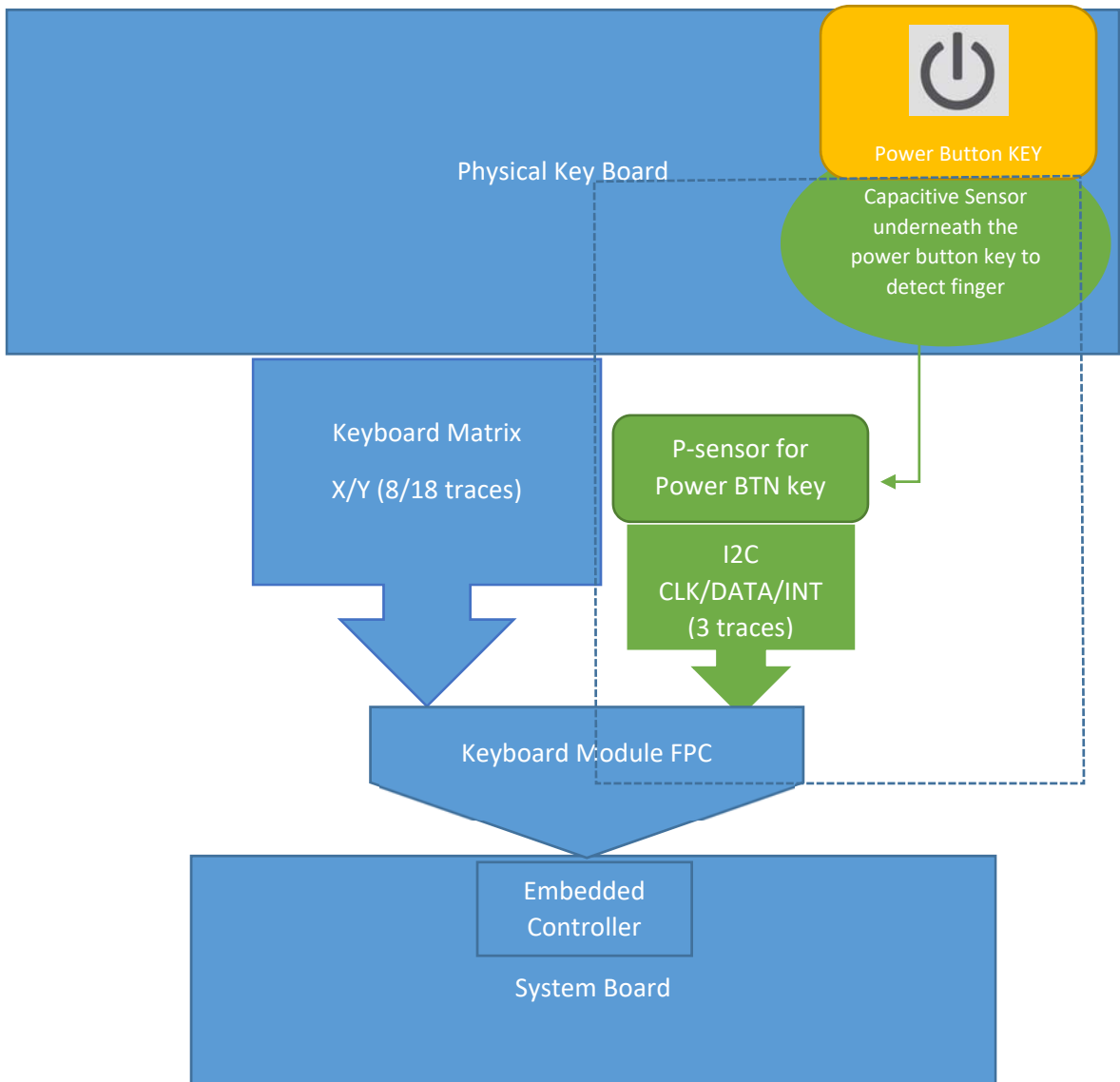


Fig. 2 below is a reference design/algorithm of a filter for EC (embedded controller) to judge an effective power on event from user by finger-pushing the power on key in tablet mode.

Fig. 2

