



TP6614

USB uTouch widget with touchpad mouse

Application Note

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discontinue this product without notice.**

tenx technology inc.

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PRODUCT NAME

TP6614

TITLE

USB uTouch Widget touchpad mouse

APPLICATION NOTE

1. Introduction to the product’s functions

This product is a USB capacitive touchpad mouse with matching Widget software applications, to which Google and software gadgets shared on Internet can be added at will. These Widget software applications can be edited and saved into personalized tool bar to facilitate quick launch.

2. Introduction to software and hardware functions

There are ten basic default functions on the planning tool bar in the hidden popup for the USB uTouch Widget application software. : Notepad, Timer clock, Calendar, weather forecasts, computer, RSS webpage clip, Windows Media Player, system monitor, tape recorder, Photo viewer, etc. Users can configure and edit relevant contents using function of the uTouch Widget application software and select the desired gadgets to execute programs through pressing and sliding on the touchpad or integrate the application on the touchpad mouse.



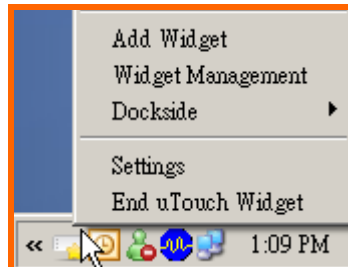
Toolbar is hidden



Toolbar is in display

2.1 Introduction to the editing function of the software

Right click the mouse on the uTouch Widget icon in the lower right corner of the computer operating system, and the selection related to editing will show up for the user to perform function setup as shown in the following figure :



- (1) uTouch Add Widget function to facilitate adding new Widgets by the user.
- (2) uTouch Widget Management function to facilitate managing and editing Widgets by the user.
- (3) uTouch Widget Dockside function to facilitate setting up the display location of the toolbar by the user; it provides up, down, left, right direction to choose from.
- (4) uTouch Widget Settings function to facilitate setting the sensitivity of the USB capacitive touch device, the size of the toolbar icons, and the rotation direction of the toolbar, and the rotation speed of the toolbar etc. by the user.

2.2 Introduction to hardware functions

- (1) Support 2 capacitive touchpad.
- (2) Support the integration of touch-pad module.
- (3) Product prototype is shown in the following figure :



3. Notes for circuit design

- (1). Please use the circuits proposed in the application circuit as the bases for circuit design.
- (2). Place the layout of the added passive components as close to the IC as possible.
- (3). 10-mil trace width is recommended for circuit design (excluding power traces, ground traces, and CLK traces).
- (4). Keep trace widths at least 20 mils for power traces, ground traces, and CLK traces during circuit design.
- (5). The area of PAD (touch copper foil) should be larger than 12.5mm X 12.5mm as shown in Figure 1.
- (6). The traces between PAD's (induction foil) should be placed on the central area of the PCB board as possible (but not right underneath PAD or be far away from the edge of the PCB board to avoid malfunction).
- (7). The length of TP[0] and TP[1] should be the same and the number of Via should be kept no more than 1 as possible so that the parasitic effect of TP[0] and TP[1] will be close. The conducting lines should be kept as far away as possible; at least by more than 1mm. In particular, stay away from high-frequency signal lines as well; do not run parallel to high-frequency signal lines, perpendicular at the most.
- (8). The traces connecting PAD (induction foil) should be kept on a different Layout layer from PAD. They can be connected through one Via. The component should be kept on a different layer from PAD as well.
- (9). Please refer to the circuit application selection to design VF0 and VF1 voltage. Changing the charging resistors, R3 and R4 (3.3M ohms recommended), will change the variation amount of touch buttons.

- (10). DP, DM should run parallel, equal length, and trying to not to go through vias ◦
- (11). FR4 1.6mm is recommended as the thickness of the PCB board, and PCB needs to be plated with 1/1000 mil of chemical gold.
- (12). PCB board with large area copper pour is not recommended to use with this product, it will reduce the variation amount of touch buttons.
- (13). The thickness of dielectric must be 1mm.
- (14). The dielectric should be placed right next to the top of the touch copper foil (using adhesive) as tight as possible, best without air if possible.
- (15). The spacing between two PAD's is recommended to be 8mm.
- (16). It is recommended to put a piece of 22mm X 11.5mm copper foil right underneath PAD to enhance the variation rate as shown in Figure 2.

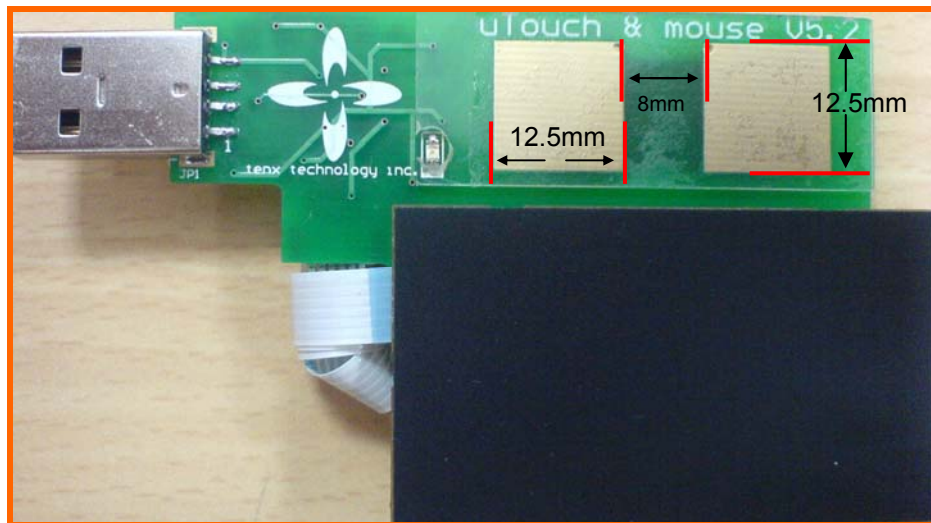


Figure 1 The front of the device

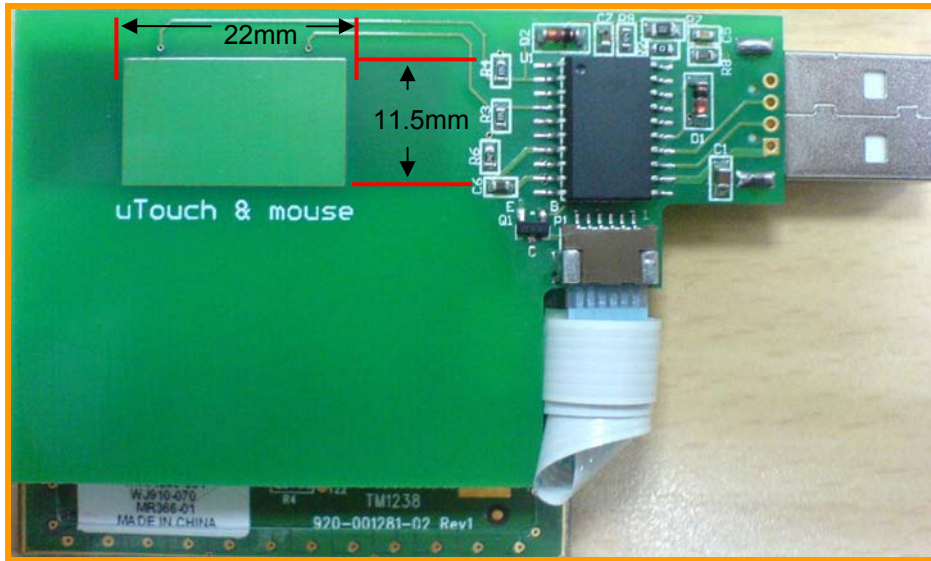


Figure 2 The back of the device

4. Application Circuit

