EXHIBIT 2

EXHIBIT P-9
SAMSUNG'S INVALIDITY CLAIM CHARTS FOR A.K. LEEPER, "INTEGRATION OF A CLEAR CAPACITIVE TOUCH SCREEN WITH A 1/8-VGA FSTN-LCD TO FORM LCD-BASED TOUCHPAD" ("LEEPER")

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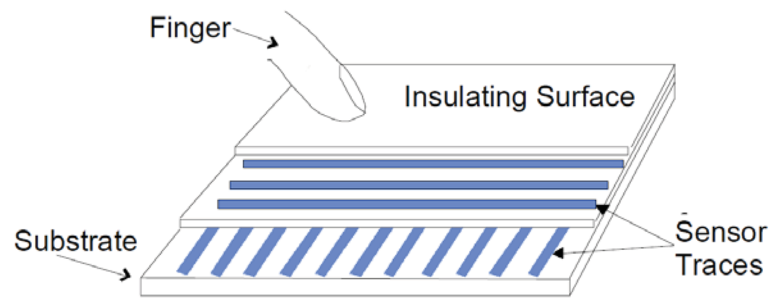
[1A] A touch panel comprising a transparent capacitive sensing medium configured to detect multiple touches or near touches that occur at a same time and at distinct locations in a plane of the touch panel and to produce distinct signals representative of a location of the touches on the plane of the touch panel for each of the multiple touches,	Leeper teaches a touch panel comprising a transparent capacitive sensing medium (e.g., Synaptics Capacitive TouchPad Sensor of Figure 2) configured to detect multiple touches or near touches that occur at a same time and at distinct locations in a plane of the touch panel and to produce distinct signals representative of a location of the touches on the plane of the touch panel for each of the multiple touches.  **Figure 2. Synaptics Capacitive TouchPad Sensor** Leeper states: "The Synaptics ClearPad is a unique and innovative touch screen for personal computers and portable handheld devices. The clear and thin sensing surface allows Synaptics proven capacitive touch sensing technology to be placed upon any surface without impacting the view-ability of the underlying component. Capacitive finger sensing is far

4 Leeper describes a commercial product from Synaptics Incorporated called the ClearPad (or cPad). This commercial product is also an invalidating reference in its own right. The invalidity analysis for this commercial product is believed to be identical (or substantially similar) to the analysis shown here. Samsung is in the process of requesting additional information about the ClearPad from Synaptics Incorporated and reserves the right to supplement this Exhibit after that information is received.

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	more sensitive than all other transparent membrane touch technologies." Id. at 187. "The Synaptics ClearPad is based on the same principles of operation as a standard Synaptics TouchPad (see Figure 2). The touch sensor is comprised of two arrays of sensor traces perpendicular to one another, separated by an insulating material, and covered by insulating surface material. To form a clear sensor, the traces are made of a clear conductor such as indium tin oxide (ITO) and the insulation layers consist of optically clear adhesives and clear polyethylene terephthalate (PET), a plastic resin and a form of polyester. Each trace possesses a capacitance to free space that can be measured by the controlling circuitry" Id. at 188. "Synaptics' proprietary ASIC utilizes a custom analog circuit to measure trace capacitance…. the controller is capable of computing finger pressure as an increase in the finger contact area (thereby adding capacitance to more traces), as well as detecting the presence of multiple fingers." Id. at 188.
[1B] wherein the transparent capacitive sensing medium comprises: a first layer having a plurality of transparent first conductive lines that are electrically isolated from one another; and	Leeper teaches a transparent capacitive sensing medium (e.g., Synaptics Capacitive TouchPad Sensor of Figure 2) comprising a first layer (e.g., first array of sensor traces of Figure 2) having a plurality of transparent first conductive lines that are electrically isolated from one another. See **[1A]**.
[1C] a second layer spatially separated from the first layer and having a plurality of transparent second conductive lines that are electrically isolated from one another,	Leeper teaches a second layer (e.g., second array of sensor traces of Figure 2) spatially separated from the first layer and having a plurality of transparent second conductive lines that are electrically isolated from one another. See **[1A]**.

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[1D] the second conductive lines being positioned transverse to the first conductive lines,	Leeper teaches the second conductive lines being positioned transverse to the first conductive lines. See **[1A]**.
[1E] the intersection of transverse lines being positioned at different locations in the plane of the touch panel, each of the second conductive lines being operatively coupled to capacitive monitoring circuitry;	Leeper teaches the intersection of transverse lines being positioned at different locations in the plane of the touch panel, each of the second conductive lines being operatively coupled to capacitive monitoring circuitry (e.g., custom analog circuit, controlling circuitry and/or module PCB). Leeper states: "The presence of a finger changes the capacitance of the nearest traces by about 10%. This capacitance change is measured by the controlling circuitry and finger position is computed from this information." Id. at 188. "Synaptics' proprietary ASIC utilizes a custom analog circuit to measure trace capacitance. This involves the controller outputting a fixed current over a set time period and then measuring the resultant voltage on each trace. Because finger presence is computed by changes in trace array capacitances, the controller is capable of computing finger pressure as an increase in the finger contact area (thereby adding capacitance to more traces), as well as detecting the presence of multiple fingers." Id. "To minimize transcapacitance and maximize sensor performance, the ClearPad sensor was transformed from a single sensor trail design into a double tail design with separate connections for the x and y sensor traces. This resulted in four individual tails that needed to be joined to the cPad module PCB (x/y tails of the LCD and the x/y tails of the ClearPad sensor)." Id.
[1F] wherein the capacitive monitoring circuitry is configured to detect changes in charge coupling between the first conductive lines and the second conductive lines.	Leeper teaches the claimed touch panel wherein capacitive monitoring circuitry (e.g., custom analog circuit and/or cPad module PCB) is configured to detect changes in charge coupling between the first conductive lines and the second conductive lines. See **[1E]**.

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[2] The touch panel as recited in claim 1 wherein the conductive lines on each of the layers are substantially parallel to one another.	Leeper teaches the touch panel as recited in claim 1 wherein the conductive lines on each of the layers are substantially parallel to one another. See **[1A]**.
[3] The touch panel as recited in claim 2 wherein the conductive lines on different layers are substantially perpendicular to one another.	Leeper teaches the touch panel as recited in claim 2 wherein the conductive lines on different layers are substantially perpendicular to one another. See **[1A]**.
[6] The touch panel as recited in claim 1 wherein the conductive lines are formed from indium tin oxide (ITO).	Leeper teaches the touch panel as recited in claim 1 wherein the conductive lines are formed from indium tin oxide (ITO). Leeper states: "To form a clear sensor, the traces are made of a clear conductor such as indium tin oxide (ITO) and the insulation layers consist of optically clear adhesives and clear polyethylene terephthalate (PET), a plastic resin and a form of polyester." Id. at 188.
[7] The touch panel as recited in claim 1, wherein the capacitive sensing medium is a mutual capacitance sensing medium.	Leeper teaches the touch panel as recited in claim 1, wherein the capacitive sensing medium is a mutual capacitance sensing medium. See **[1E]**.
[8] The touch panel as recited in claim 7, further comprising a virtual ground charge amplifier coupled to the touch panel for detecting the touches on the touch panel.	Leeper teaches the touch panel as recited in claim 7, further comprising a virtual ground charge amplifier coupled to the touch panel for detecting the touches on the touch panel. See **[1E]**. To the extent a virtual ground charge amplifier is not expressly disclosed or inherent in the proprietary ASIC or controlling circuitry disclosed in Leeper, the use of a virtual ground

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	charge amplifier coupled to the touch panel would have been obvious to one of ordinary skill in the art as a predictable variant and a matter of simple implementation design. For example, Perski ’455 shows a virtual ground charge amplifier coupled to the touch panel for detecting the touches on the touch panel. See **Exhibit P-1**, **[8]**. Because both Perski ’455 and Leeper describe very similar transparent capacitive touchscreens, it would have been obvious to include the charge amplifier of Perski ’455 into the Leeper design in order to filter the signals obtained from the touchscreen from stray or parasitic noise, as is common in signal processing techniques. The resulting implementation would have been a predictable variation well within the purview of one of ordinary skill in the art.
[10A] A display arrangement comprising: a display having a screen for displaying a graphical user interface; and	Leeper teaches a display arrangement comprising a display (e.g., LCD of Figure 1) having a screen for displaying a graphical user interface.  See **[1A]**. Leeper states: “Synaptics cPad, as pictured in Figure 1, is the trade name given to a specific application of the ClearPad sensor over a 40 by 60mm 1/8 VGA (240 x 160 pixel) LCD designed to function as an enhanced PC notebook TouchPad.”
[10B] a transparent touch panel allowing the screen to be viewed therethrough and capable of recognizing multiple touch events that	Leeper teaches a transparent touch panel allowing the screen to be viewed therethrough and capable of recognizing multiple touch events that occur at different locations on the touch panel at a same time and to output this information to a host device to form a pixilated image.

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occur at different locations on the touch panel at a same time and to output this information to a host device to form a pixilated image;	See **[1A]**.
[10C] wherein the touch panel includes a multipoint sensing arrangement configured to simultaneously detect and monitor the touch events and a change in capacitive coupling associated with those touch events at distinct points across the touch panel; and	Leeper teaches the claimed touch panel including a multipoint sensing arrangement configured to simultaneously detect and monitor the touch events and a change in capacitive coupling associated with those touch events at distinct points across the touch panel. See **[1A]**.
[10D] wherein the touch panel comprises: a first glass member disposed over the screen of the display;	Leeper teaches the claimed touch panel comprising a first glass member (e.g., substrate of Figure 2) disposed over the screen of the display. See **[1A]**. Even if Leeper did not expressly disclose a first glass member disposed over the screen of the display, the use of such a glass member would have been obvious to one of ordinary skill in the art as a simple design choice representing a trivial and predictable variation. Glass was already widely used as a transparent substrate in many touchscreen designs, and the plastic resins disclosed by Leeper were readily interchangeable with glass members. See **Exhibit P-1, [10D]**.
[10E] a first transparent conductive layer disposed over the first glass member,	Leeper teaches a first transparent conductive layer disposed over the first glass member. See **[1A]**.
[10F] the first transparent conductive layer comprising a plurality of spaced	Leeper teaches the first transparent conductive layer comprising a plurality of spaced apart parallel lines having the same pitch and linewidths.

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apart parallel lines having the same pitch and linewidths;	See **[1A]**.
[10G] a second glass member disposed over the first transparent conductive layer;	Leeper teaches a second glass member (e.g., insulating layer) disposed over the first transparent conductive layer. See **[1A]**. Even if Leeper did not expressly disclose a second glass member disposed over the first transparent conductive layer, such an arrangement would have been obvious to one of ordinary skill in the art as a simple design choice representing a trivial and predictable variation. Glass was already widely used as a transparent substrate in many touchscreen designs, and the plastic resins disclosed by Leeper were readily interchangeable with glass members. See **Exhibit P-1, [10D]**.
[10H] a second transparent conductive layer disposed over the second glass member,	Leeper teaches a second transparent conductive layer disposed over the second glass member. See **[1A]**. Even if Leeper did not expressly disclose a second transparent conductive layer disposed over the second glass member, such an arrangement would have been obvious to one of ordinary skill in the art as a simple design choice representing a trivial and predictable variation. Glass was already widely used as a transparent substrate in many touchscreen designs and the sensor traces disclosed in Leeper are transparent. See **Exhibit P-1, [10D]**.
[10I] the second transparent conductive layer comprising a plurality of spaced apart parallel lines having the same pitch and linewidths,	Leeper teaches the second transparent conductive layer comprising a plurality of spaced apart parallel lines having the same pitch and linewidths. See **[1A]**.

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[10J] the parallel lines of the second transparent conductive layer being substantially perpendicular to the parallel lines of the first transparent conductive layer;	Leeper teaches the parallel lines of the second transparent conductive layer being substantially perpendicular to the parallel lines of the first transparent conductive layer. See **[1A]**.
[10K] a third glass member disposed over the second transparent conductive layer; and	Leeper teaches a third glass member disposed over the second transparent conductive layer. See **[1A]**. Even if Leeper did not expressly a third glass member disposed over the second transparent conductive layer, such an arrangement would have been obvious to one of ordinary skill in the art as a simple design choice representing a trivial and predictable variation. Glass was already widely used as a transparent substrate in many touchscreen designs, and the plastic resins disclosed by Leeper were readily interchangeable with glass members. See **Exhibit P-1, [10D]**.
[10L] one or more sensor integrated circuits operatively coupled to the lines.	Leeper teaches one or more sensor integrated circuits operatively coupled to the lines. See **[1E]**.
[11] The display arrangement as recited in claim 10 further including dummy features disposed in the space between the parallel lines, the dummy features optically improving the visual appearance of the touch screen by more closely matching the optical index of the lines.	Leeper teaches the display arrangement as recited in claim 10 further including dummy features disposed in the space between the parallel lines, the dummy features optically improving the visual appearance of the touch screen by more closely matching the optical index of the lines. See **[1A]**. Since Leeper clearly contemplates a transparent sensor in the form of a touchscreen, it would have been obvious to one of ordinary skill in the art to incorporate "dummy features" that optically improve the visual appearance of the touchscreen by more closely matching the optical index of the lines, as taught by Perski '455, Morag '229 (Col. 12:64-13:32), or Mackey '935 (Col. 8:17-39), in order to reduce the visual differences between the conducting

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	and non-conducting areas. See, e.g., **Exhibit P-1, [11]**. In addition, both Leeper and Mackey '935 describe products by the same manufacturer and are assigned or authored by the same entity (Synaptics Incorporated), providing yet another reason one skilled in the art would combine the teachings of the references.