

(12) **United States Patent**
Christiansson et al.

(10) **Patent No.:** **US 9,411,444 B2**
(45) **Date of Patent:** **Aug. 9, 2016**

(54) **TOUCH DETERMINATION BY
TOMOGRAPHIC RECONSTRUCTION**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 472 days.

(21) Appl. No.: **13/824,026**

(22) PCT Filed: **Oct. 7, 2011**

(86) PCT No.: **PCT/SE2011/051201**

§ 371 (c)(1),
(2), (4) Date: **Jun. 4, 2013**

(87) PCT Pub. No.: **WO2012/050510**

PCT Pub. Date: **Apr. 19, 2012**

(65) **Prior Publication Data**

US 2013/0249833 A1 Sep. 26, 2013

Related U.S. Application Data

(60) Provisional application No. 61/391,764, filed on Oct. 11, 2010.

(30) **Foreign Application Priority Data**

Oct. 11, 2010 (SE) 1051061

(51) **Int. Cl.**
G06F 3/041 (2006.01)
G06F 3/042 (2006.01)

(52) **U.S. Cl.**
CPC **G06F 3/041** (2013.01); **G06F 3/0428** (2013.01); **G06F 2203/04109** (2013.01)

(58) **Field of Classification Search**
CPC G06F 3/0423; G06F 2203/04109; G06F 3/0428; G06F 3/041

See application file for complete search history.

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(57) **ABSTRACT**

A touch-sensitive apparatus comprises a panel for conducting signals from incoupling points to outcoupling points. Detection lines are defined between pairs of incoupling and outcoupling points. A signal generator is coupled to the incoupling points to generate the signals. A data processor processes the output signal to generate a set of data samples, which are non-uniformly arranged in a two-dimensional sample space. Each data sample is indicative of detected energy on a detection line and is defined by a signal value and first and second dimension values defining the location of the detection line on the surface portion. Adjustment factors are obtained for the data samples, each adjustment factor being representative of the local density of data samples in the sample space. The data samples are processed by tomographic reconstruction, while applying the adjustment factors, to generate a reconstructed distribution of an energy-related parameter within the surface portion.

23 Claims, 19 Drawing Sheets

