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(74) Agent: ALLEN & GLEDHILL LLP; One Marina Boulevard, #28-00, Singapore 018989 (SG).

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(71) Applicant (for all designated States except US):
AGENCY FOR SCIENCE, TECHNOLOGY AND RESEARCH [SG/SG]; 20 Biopolis Way, #07-01 Centros, Singapore 138668 (SG).

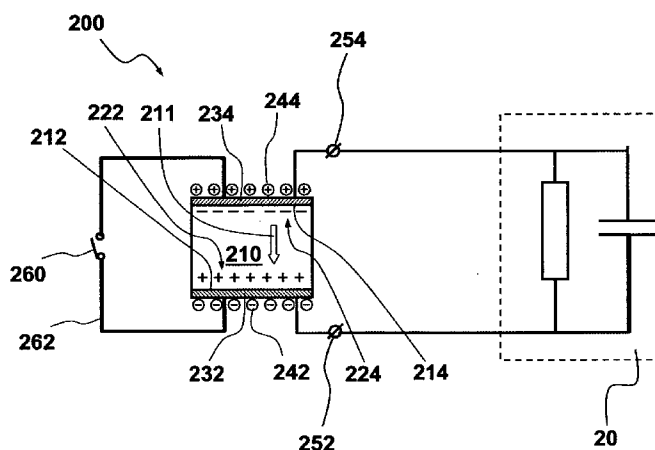
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(72) Inventors; and

(75) Inventors/Applicants (for US only): **YAO, Kui** [CN/SG]; c/o Institute of Materials Research and Engineering, 3 Research Link, Singapore 117602 (SG). **TAN, Yee Yuan** [SG/SG]; c/o Institute of Materials Research and Engineering, 3 Research Link, Singapore 117602 (SG).

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(54) Title: POWER SUPPLY DEVICE AND SYSTEM



(57) Abstract: A power supply device and system have an electrically polarized element in which a remnant electrical polarization is formed and retained. Electrodes are formed on the electrically polarized elements and the remnant electrical polarization generates an electrical potential on the electrodes. Electrical circuits are coupled to the electrically polarized element to control the external electric charges attracted and distributed on the electrodes, for establishing the electrical potential on the electrodes. The electrodes can output electric currents by controlling the external electric charges distribution. The electrically polarized element may be made of ferroelectric material, including a ferroelectric bulk ceramic, ferroelectric multilayer ceramic, ferroelectric single crystal, ferroelectric thin film, ferroelectric thick film and ferroelectric polymer, and all the other materials with electric polarization retained therein. Power supply devices and systems made according to the present invention have very long standby time, small in size and efficient for many applications including RF systems.

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