

## DIELECTRIC MATERIALS FOR POWER TRANSFER SYSTEM

### ABSTRACT

A contactless power transfer system is proposed. The power transfer system comprises a field-focusing element comprising a dielectric material. The dielectric material comprises a composition that is selected from the family of (Ba,Sr)TiO<sub>3</sub> or CaCu<sub>3</sub>Ti<sub>4</sub>O<sub>12</sub>. The compositions of the (Ba, Sr)TiO<sub>3</sub> include the materials such as Ca<sub>1-x-y</sub>Ba<sub>x</sub>Sr<sub>y</sub>Ti<sub>1-z</sub>Cr<sub>z</sub>O<sub>3-δ</sub>N<sub>p</sub>, wherein  $0 < x < 1$ ;  $0 < y < 1$ ;  $0 \leq z \leq 0.01$ ;  $0 \leq \delta \leq 1$ ; and  $0 \leq p \leq 1$ . The compositions of the CaCu<sub>3</sub>Ti<sub>4</sub>O<sub>12</sub> include the materials such as Ca<sub>1-x-y</sub>Ba<sub>x</sub>Sr<sub>y</sub>(Ca<sub>1-z</sub>Cu<sub>z</sub>)Cu<sub>2</sub>Ti<sub>4-δ</sub>Al<sub>δ</sub>O<sub>12-0.5δ</sub>, wherein  $0 \leq x < 0.5$ ;  $0 \leq y < 0.5$ ;  $0 \leq z \leq 1$ ; and  $0 \leq \delta \leq 0.1$ .

Figure 1