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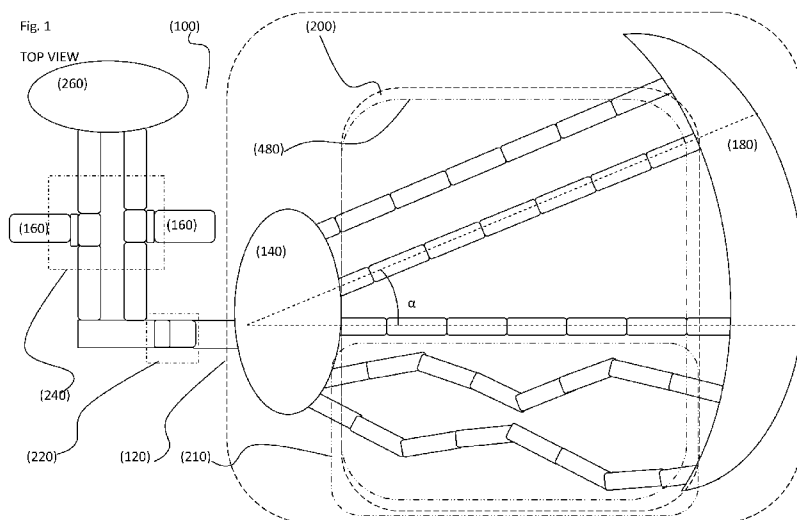
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- (54) **Title:** INTEGRATED, THREE-DIMENSIONAL CELL CONFIGURATION, INTEGRATED COOLING ARRAY AND CELL-BASED INTEGRATED CIRCUIT



- (57) **Abstract:** The present invention relates to an integrated, three-dimensional cell configuration, comprising: a dielectric substrate; and at least one thermoelectric cooling arrangement arranged within and part of the dielectric substrate for heat dissipation, the thermoelectric cooling arrangement comprising: one first main region of a first conductivity type; at least one second main region; and at least one independently controllable thermoelectric cooling region arranged between the first main region and the at least one second main region and wherein the at least one thermoelectric cooling region comprises at least one Thermocouple element. The present invention further relates to an integrated cooling array and a cell-based integrated circuit.

