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10305699.0 29 June 2010 (29.06.2010) EP(71) Applicant (for all designated States except US): **ALCATEL LUCENT** [FR/FR]; 3, avenue Octave Gréard, F-75007 Paris (FR).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **KOKKINOS, Titos** [GR/IE]; 19 Castleknock Grange, Laurel Lodge, Dublin 15 (IE).(74) Agent: **ALU Antw Patent Attorneys (No 365)**; Copernicuslaan 50, B-2018 Antwerp (BE).

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(54) Title: COUPLING MECHANISM FOR A PCB MOUNTED MICROWAVE RE-ENTRANT RESONANT CAVITY

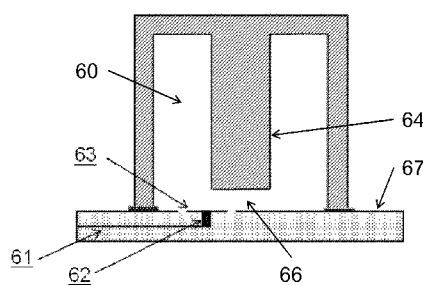


Fig. 4

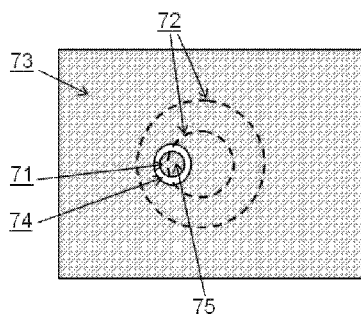


Fig. 5

(57) Abstract: A coupling mechanism to feed microwave signals to a 3-D PCB mounted resonant cavity. The microwave signals are coupled from a transmission line (61) embedded in a Printed Circuit Board PCB (67) to a resonant cavity (60) mounted on an external metalized surface (73) of this PCB. The coupling mechanism implements an easy-to-fabricate mechanism leading to high-quality filtering owing to the fact that the end of the transmission line is provided with a metalized feeding pad (63/71) located at the external layer of the PCB inside the resonant cavity. The resonant cavity is provided with a re-entrant inner stub (64) orthogonal to the PCB and separated from the PCB by a capacitive gap (66). The metalized feeding pad (63, 71) is facing the inner stub in the area of the capacitive gap and is offset from the axial direction of this inner stub. The metalized feeding pad (63, 71) is further separated from the external metalized surface of the PCB by a surface capacitive gap (74).