

Title (en)  
A COMPOUND DIELECTRIC MULTI-CONDUCTOR TRANSMISSION LINE

Publication  
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Application  
**EP 86900457 A 19851212**

Priority  
• US 68353584 A 19841219  
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• US 80153785 A 19851127

Abstract (en)  
[origin: WO8603891A2] A transmission line comprising a multi-layer dielectric slab structure including: a dielectric substrate layer (30) having a thickness  $d_s$  and permittivity  $\epsilon_s$ ; a conductive ground plane (31) on the bottom surface of the dielectric substrate layer (30); a dielectric guiding layer (32) having a thickness  $h$  and permittivity  $\epsilon_g$ , where  $\epsilon_g > \epsilon_s$ , attached to the top surface of dielectric substrate layer (30); at least one elongated and relatively narrow dielectric loading strip layer (33) having a width  $W$ , thickness  $d_l$ , and permittivity  $\epsilon_l$ , where  $\epsilon_g > \epsilon_l$ , attached to the top surface of the dielectric guiding layer (32); and a conductive coating (34) on the top surface of the dielectric loading strip layer (32). Such a structure permits single mode propagation over a relatively wide band. Radiation losses due to coupling of the desired mode to the substrate modes and the conductors are furthermore reduced and the polarization of the dominant mode is such as to render said structure relatively insensitive to small deviations from parallelism among the different interfaces.

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**H01P 1/10**; **H01P 1/20**; **H01P 1/37**; **H01P 1/38**; **H01P 3/08**; **H01P 5/08**; **H01Q 13/24**; **H01Q 13/28**

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Citation (examination)  
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