

Title (en)

Inline waveguide filter with up to two out-of-band transmission zeros

Title (de)

Inline-Mikrowellenfilter mit bis zu zwei Übertragungsnullstellen ausserhalb des Bandes.

Title (fr)

Filtre micro-onde en ligne possédant jusqu'à deux zéros de transmission hors la bande passante.

Publication

EP 1564835 B1 20100414 (EN)

Application

EP 04425096 A 20040216

Priority

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Abstract (en)

[origin: EP1564835A1] An inline microwave filter implemented by means of a metallic hollow body having a given number N of resonant cavities separated to each other by coupling means, such as capacitive/inductive irises and/or inductive posts, arranged to obtain a given N<th> order Chebyshev frequency response. Two input/output waveguide ports are coupled to the respective ending resonant cavities in a manner that at least one waveguide port is also directly coupled to another resonant cavity adjacent to the ending one, to obtain an extra transmission zero outside the passband of the filter. The distance of the extra transmission zero from the corresponding limit of the passband increases with the offset of the waveguide from the midline between the coupled cavities. In a first embodiment of the filter a capacitive iris delimits the adjacent resonant cavities coupled to the waveguide port, to obtain an extra transmission zero in the lower out-of-band frequency range. In a second embodiment of the filter an inductive iris delimits the adjacent resonant cavities coupled to the waveguide port, to obtain an extra transmission zero in the higher out-of-band frequency range. In a third embodiment of the filter a capacitive iris and an inductive one delimit the adjacent resonant cavities respectively coupled to each waveguide port, to obtain two extra transmission zeros in the out-of-band frequency ranges at the two sides of the passband. In a fourth embodiment of the filter two capacitive irises delimit the adjacent resonant cavities respectively coupled to each waveguide port, to obtain two extra transmission zeros in the lower out-of-band frequency range. In a fifth embodiment of the filter two inductive irises delimit the adjacent resonant cavities respectively coupled to each waveguide port, to obtain two extra transmission zeros in the higher out-of-band frequency range. (fig. 10) <IMAGE>

IPC 8 full level

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CPC (source: EP)

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Cited by

CN103490124A; CN108847516A; CN107565929A; GB2517987A; CN116345096A; CN103000975A; CN105406159A; CN109149034A; CN110676542A; CN112635940A; CN113054375A; CN115313003A; US11031664B2; WO2015058809A1; WO2018162032A1; US9998085B2; US10964991B2

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