

Title (en)

Multiple beam antenna and beamforming network

Title (de)

Mehrkeulenantenne und Strahlformungsnetzwerk

Title (fr)

Antenne à faisceaux multiples et un réseau de formation de faisceaux

Publication

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Application

EP 97307249 A 19970918

Priority

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Abstract (en)

An antenna element and beamforming network (10) preferably comprises a plurality of radiators (12), a plurality of band pass filters (14) and a plurality of test couplers (16). Each radiator (12) is coupled to a dedicated MMIC (18). The output of MMICs (18) are coupled to a power stripline combiner (20) to provide a single output. Each of MMICs (18) is independently controllable to shape the antenna beams as desired for producing nulls in pattern coverage. The output of stripline combiner (20) may also be coupled through an output test coupler (46) to a jammer detector and correlator (24). In one embodiment, radiators (12) are horns that include filters (14). The output of each horn is coupled to the input of its dedicated MMIC (18). In another embodiment, radiators (12) are a patch array coupled together by a stripline combiner. The output of the stripline combiner is coupled by band pass filter (14) to the input of the respective MMICs (18). The present invention integrates these components into a single package with reduced size and weight. <IMAGE>

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Citation (search report)

- [YA] US 5412414 A 19950502 - AST HARRY C [US], et al
- [Y] US 5353031 A 19941004 - RATHI DEV D [US]
- [A] EP 0620613 A2 19941019 - HUGHES AIRCRAFT CO [US]
- [A] US 5517203 A 19960514 - FIEDZIUSZKO SLAWOMIR J [US]
- [A] EP 0624008 A2 19941109 - LORAL SPACE SYSTEMS INC [US]

Cited by

CN115173069A; US9246225B2; ITRM20120003A1; EP2613408A1; JP2013141251A; CN111869005A; CN112162160A; US11831077B2

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