

## Hybrid integrated fibre-amplifier-antenna module for radio applications at 60 GHz

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A 60 GHz transmit module comprising fibre input, high-gain MMIC amplifier, and planar antenna is presented. The novel coplanar packaging approach uses substrate-integrated subpackages, coplanar feedthroughs, and absorbers to suppress parasitic substrate modes. A special transition enables the module integration of the planar antenna. An overall gain of 55 dB and an isolation of better than 80 dB are achieved.

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