



1 Millimeter wave sensor applications help to handle brown-out during landing

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2 94 GHz radar module used for the helicopter landing aid

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## MILLIMETER WAVE SENSORS FOR HELICOPTER LANDING AID

The millimeter wave frequency range ( $f > 30$  GHz) of the electromagnetic spectrum is increasingly addressed by sensor technologies, due to its fascinating properties. Millimeter waves easily penetrate dust, snow, fog as well as fabrics. Operation distances up to a few hundred meters are feasible. Amongst others, Fraunhofer IAF has developed a helicopter landing aid operating with millimeter waves.

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### Technical data

- 94 GHz frequency modulated continuous wave radar
- Proven metamorphic HEMT technology
- Single Rx/Tx antenna
- 6 GHz tuning bandwidth
- Max. 10 mW output power
- Low power consumption < 500 mW

### Features

- Distance sensor for brown- and white-out conditions
- For distances up to 200 meters
- Single chip solution (integrates VCO, LNA, MPA, coupler, I/Q-mixer)
- Low cost packaging technology
- Flight tests successfully accomplished (aviation certification ongoing)