

An aerial photograph showing a winding asphalt road that curves through a dense, vibrant green forest. The road is flanked by a deep blue lake on both sides. The perspective is from directly above, looking down at the road and the surrounding natural landscape.

APWAVES

5G and Autonomous driving are run on antennas, we hold the key

Radar Automotive Antennas

Automotive radar antennas



Compact, efficient, high gain antennas for automotive radar solutions



Exceptional Performance – Twice the target detection area compared to traditional technologies



Compact formfactor - 3D building practice reduces the size of a radar with up to 50%



Superior cooling – 3D building practice using metal enables superior thermal handling

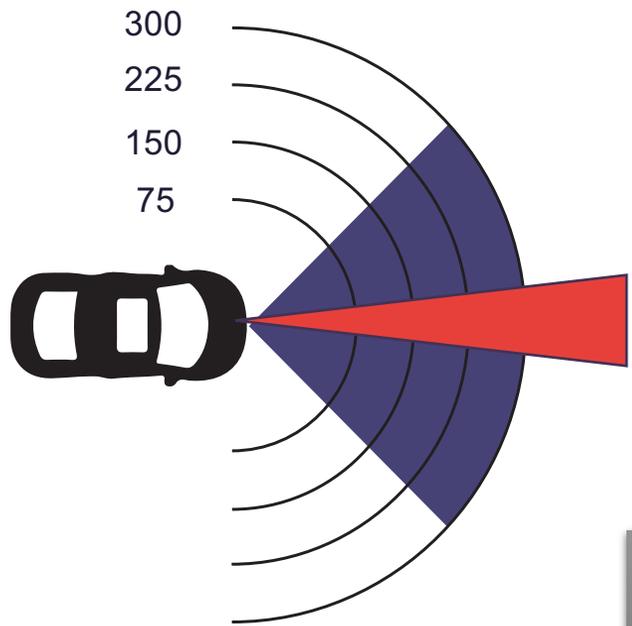


Flexible design - Supports easy adaptation to all radar types



Reduced cost - Reduces the cost with 25% compared to existing technologies

Waveguide antennas are essential for tomorrow's 77/79 GHz automotive radars



- 1 Broader view
- 2 Reduced size
- 3 Higher resolution

Improved system gain of 5 dB on a 77 GHz radar sensor compared with a patch antenna, confirmed by customer



Compact formfactor - 3D building practice reduces the size of a radar with up to 50%

- **Typical corner radar antenna size is 40x40mm**
- **Allows component placement under antenna up to 2mm component height**
- **Compact and robust PCB transition to waveguide structure ensures minimum routing losses**

Enables radar size from 50x50mm



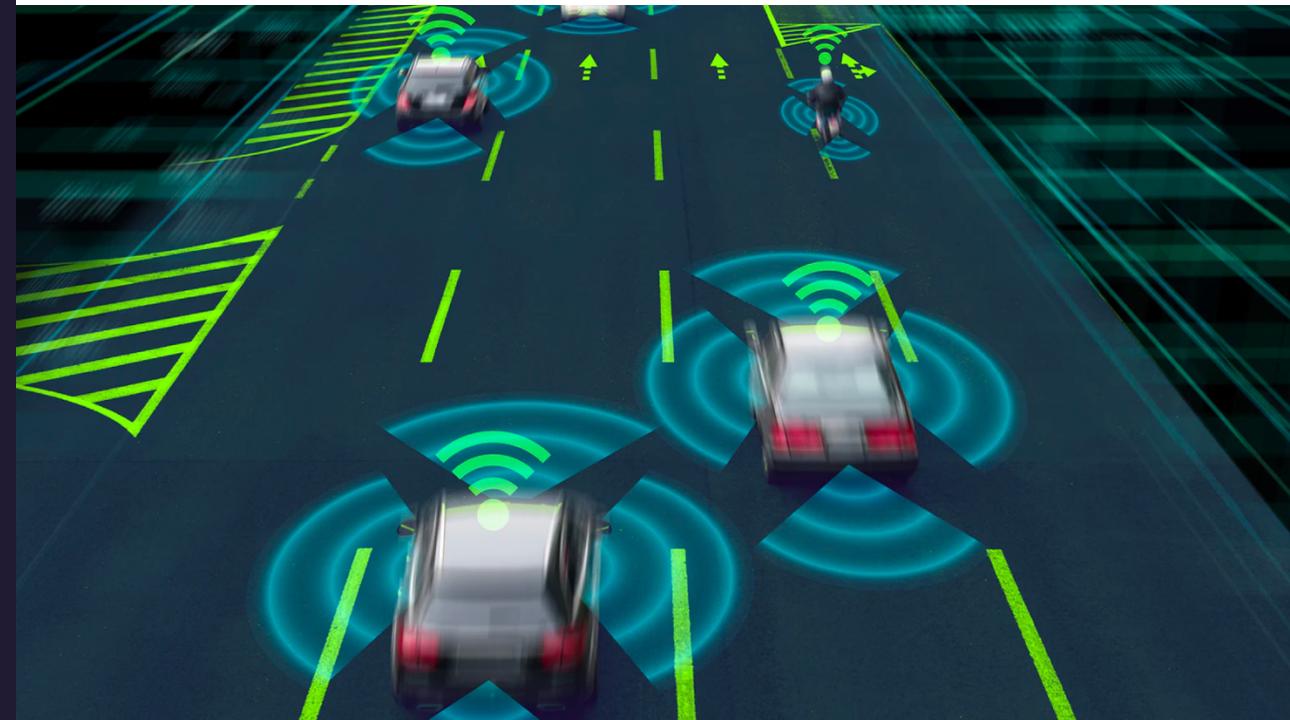
77 GHz radar concept with Gapwaves antenna

Reduced cost - 25% lower compared to existing technologies

- **High frequency PCB is 2nd cost driver for today's radars – Reduced by at least 50%**
- **Overall shrinkage in size of radar reduces radome, chassis and other component material cost.**
- **Radar variants by changing antennas only**



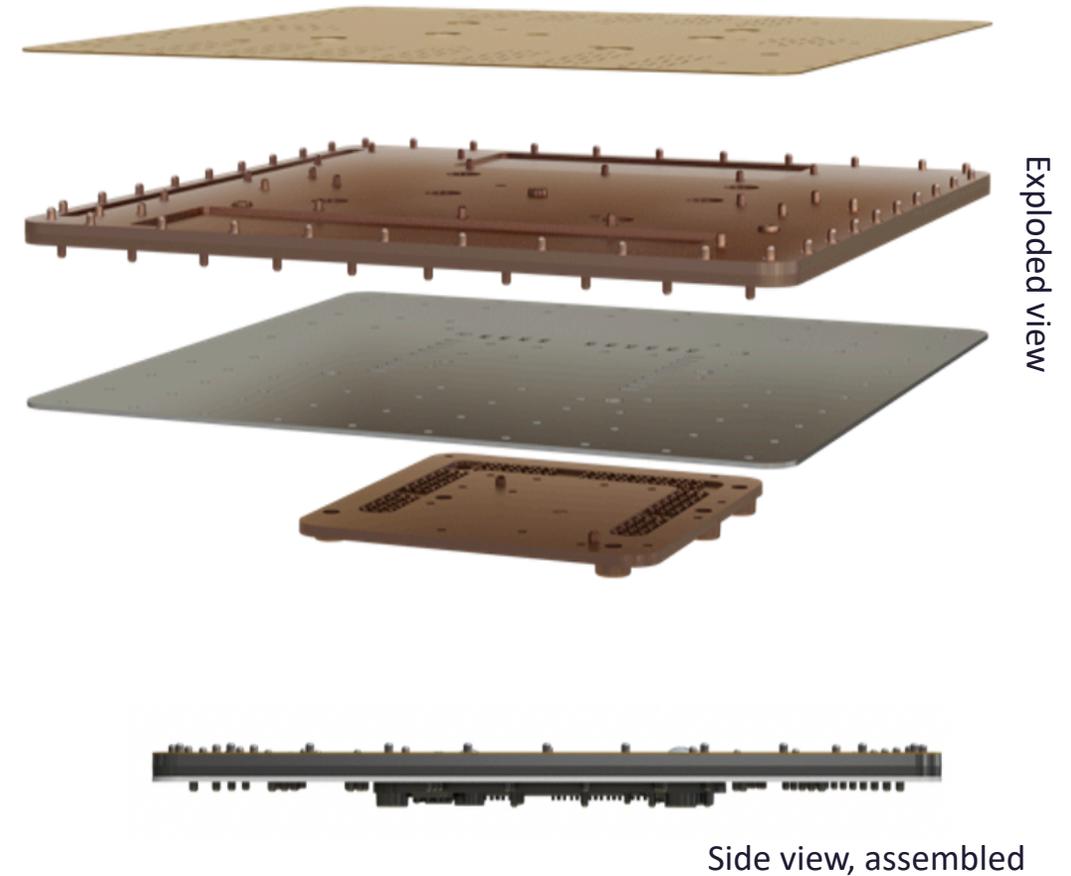
77 GHz radar concept with Gapwaves antenna



Flexible design - Supports all radar types

Antenna designs can be adopted with all advantages to short range, long range and large high resolutions radars

- 76-81GHz frequency range
- Antenna placement from $\lambda/2$ spacing
- Optimized antenna to radome material and geometry



77 GHz Imaging radar antenna (10x10 cm)

An aerial photograph of a black sand beach during sunset. The ocean is on the left, and the dark sand beach is on the right. The sky is filled with soft, golden light from the setting sun, with some wispy clouds. In the distance, there are mountains and a small body of water. The website URL 'www.gapwaves.com' is overlaid in white text across the center of the image.

www.gapwaves.com