

Light-weight millimeter-wave antennas for Aviation & Space



Translating the revolutionary HUBER+SUHNER automotive ADAS* antenna into Aerospace

Technology

- Stacked, metal-coated injection molded slabs forming 3D-waveguide structures
- Direct coupling to MMICs
- Highly automated manufacturing process
- Materials space compatible

Performance

- Low loss waveguides (<10 dB/m)
- Broadband (60 GHz–140 GHz)
- High gain (>15 dBi)
- Low mass (1.7 g/cm³)
- Stable radiation patterns
- Wide spacing of apertures (>5 cm) for max. resolution

Applications

- Proximity sensing e.g. for rendez-vous maneuvers
- Situational awareness / object detection / imaging
- Steerable V & E band communication and data links

Offering

- Passive antenna
- Antenna integrated with MMIC (test board)
- Custom antenna designs
- Volumes: small series (10s of units) to mass manufacturing (10,000+)
- Full in-house characterization and testing facilities
- Demonstrator for technology testing

Environmental testing per ECSS-E-ST-10-03

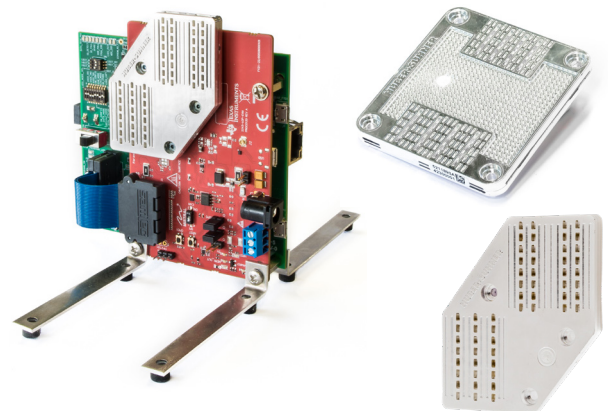
- Vibration, mechanical shock up to 30 g
 - Humidity 85% at 85 °C for 1500 h
 - -55 °C + 125 °C including vacuum 225 cycles
- No performance degradation

Radiation testing

- Electron irradiation to reproduce 4 years in LEO orbit
 - ⁶⁰Co, 280 kGy = 28 MRad
- No performance degradation

Outgas testing per ECSS-Q-ST-70-02C

- TML << 1%, RML << 1%, CVCM << 0.1%
- Pass



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* ADAS: Advanced Driver Assistance System

HUBER+SUHNER