Meeting tomorrow’s challenges
Waveguide systems for aerospace and defense
1. Design
We understand the specific needs of the aerospace and defense community, and design our solutions to meet these needs. We use our own mechanical and electrical design departments to implement customer requirements.

Process
- Customer provision of data sheet and drawing
- Mechanical design of 3D model
- Electromagnetic simulation and design of 3D model
- Development of technical manufacturing concepts

2. Milling
Our waveguides are milled on five-axis DMU 50 evolution milling machines. We use specially designed waveguide and flange profiles or standard aluminum round material.

Some general figures
- 600 mm maximum outside milling length for straight waveguides
- 35 mm maximum side length for angles at minimum inside radius of 1.2 mm
- Waveguide milling for all types ranging from WR28 to WR229

Advantages
- Design with Rohde & Schwarz standard milling parts
- Short delivery times and high availability due to standard parts supermarket
- Reduced testing effort
- 100 % replications with excellent electrical performance

3. Soldering/brazing
Standard parts are bonded by means of soldering and brazing.

Advantages
- Tolerance for single parts ±0.02 mm
- Soft soldering (soldering) and hard soldering (brazing) in line with AWS C3.7 class A
- Solution heat treatment and recrystallization of structural conditions

4. Surface
Our waveguides are finished with silver coatings meeting customer requirements to yield extraordinary electrical values. The outside of our waveguides is protected with paint in standard RAL colors.

Advantages
- Standard specification for electrodeposited coatings of silver with ±3 µm coating thickness tolerance in line with ASTM-B700
- Chemical conversion coatings in line with MIL-C-5541E
- Paint or powder coating

5. Test
All waveguides or parts leaving our premises are produced and tested in line with the highest quality standards. This is ensured by means of extensive test procedures and documentation fulfilling aerospace industry regulations.

Advantages
- 100 % mechanical tests
- Electrical testing and dent tuning
- First article inspection and certificate of conformity