VISTA: Virtual Road – Simulation and Test Area

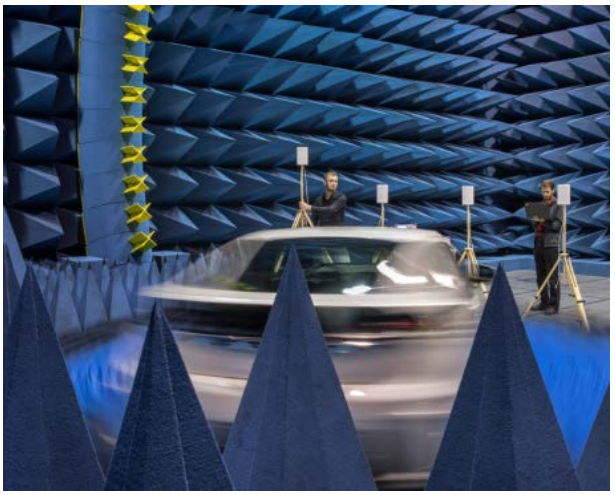
The Virtual Road – Simulation and Test Area (VISTA) serves research, development and system evaluation of automotive radio services as well as for real time connection of test labs. The test area consists of a pyramid absorber-lined and air-conditioned shielded chamber of size 16 m × 12 m × 9 m.

The main frequency range from 400 up to 6,000 MHz is covered with 111 dual polarised antennas in the elevation range from -20° to +90°. Radio services like DVB-T, GNSS, SDARS, LTE, and ITS-G5 operate in this range. The side frequency range from 70 up to 400 MHz is covered with 22 dual polarised antennas and enables to additionally address analogue and digital audio broadcast. The turntable has a diameter of 6.5 m and can be adjusted over 360° with 0.1° resolution. The maximal distance for EMC measurements is 5 m. A dynamometer with maximal mechanical load of 2,500 kg and a wheel base up to 3.5 m provides driving speeds up to 100 km/h.

„VISTA – Virtual Road – Simulation- and Test Area“

- Combination of radio and automotive technological measurement methods (virtual reality, over-the-air)
- Emulation of environmental and operational conditions and their interactions
- Innovative connected mobility concepts (e.g. C2X, ITS, 5G): Automotive antennas, car sensor technology, EMC, human exposure, vehicle control, driver assistance, convergence of services: Mobile- and satellite communications, radar, navigation

Shielded chamber	16 m × 12 m × 9 m
Frequency range	70…6000 MHz
Turntable	Ø 6.5 m, (360±0.1)°
EMC distance	≤ 5 m
Speed	≤ 100 km/h
Car wheel base	≤ 3.5 m, Mass load ≤ 2.5



Antenna Measurements in VISTA

- Measurement of automotive antennas as mounted
- Radiation pattern, gain, XPD or AR
- Antenna arch with multi probe technology

Manufacturer	Satimo Industries SAS
Technology	Spherical near field measurement
Frequency range	70…6000 MHz
Probes (resolution)	111 at 400…6000 MHz (1^o) 22 at 70…400 MHz (5^o)
Max. object size	4 m (<220 MHz) 5.2 m (<3300 MHz) 3 m (5800 MHz)
Measurement time typ.	30 min for 3D pattern at up to 10 frequency points