

## Log.Periodic Antenna Array

### S22015/02a

### 30 – 70 MHz



The S22015/02a is an array of two log-periodic antennas, especially designed for EMC susceptibility testing applications.

Several design features optimise the achieved field strength: It is capable of handling up to 10 kW input power. The short construction minimizes the distance from the phase center to the device under test especially at low frequencies.

The mechanical antenna design takes account of the harder environmental conditions of outdoor use. Mast and antenna are designed for maximum wind speeds up to 110 km/h and a wide temperature range.

Elevation and polarization can be easily changed by a hydraulic system with manual oil pump. Tires and attachment possibility at the towing pin of a vehicle allows moving of the antenna.

#### Technical Data

<b>Electrical</b>	Frequency range	30 – 70 MHz
	Gain in free space	typ. 9 dBi
	Half power beam width	E-plane: typ. 60° H-plane: typ. 40°
	Polarization	linear
	Nominal input impedance	50 Ω
	VSWR	2.5 : 1 (max.)
	RF input power	10 kW (CW)
	<b>Mechanical</b>	RF connector
Dimensions		see drawings
Polarization		vertical and horizontal, movement with manual hydraulic oil pump
Elevation		movement with manual hydraulic oil pump
	Weight inclusive mast	approx. 2 tons
<b>Environmental</b>	Intended for outdoor use	
	Maximum wind speed	110 km/h
	Temperature range	-30 to +50 °C

**Mechanical Data**

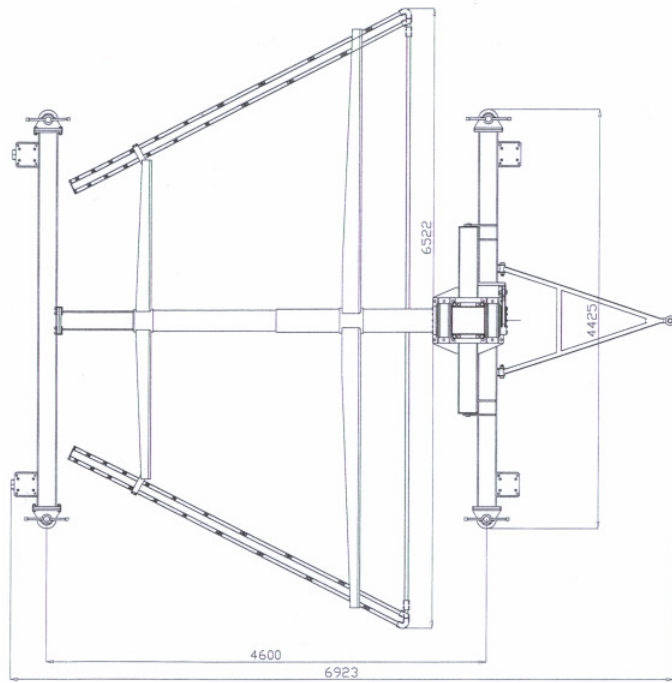


Figure 1: Top view of the antenna with main dimensions

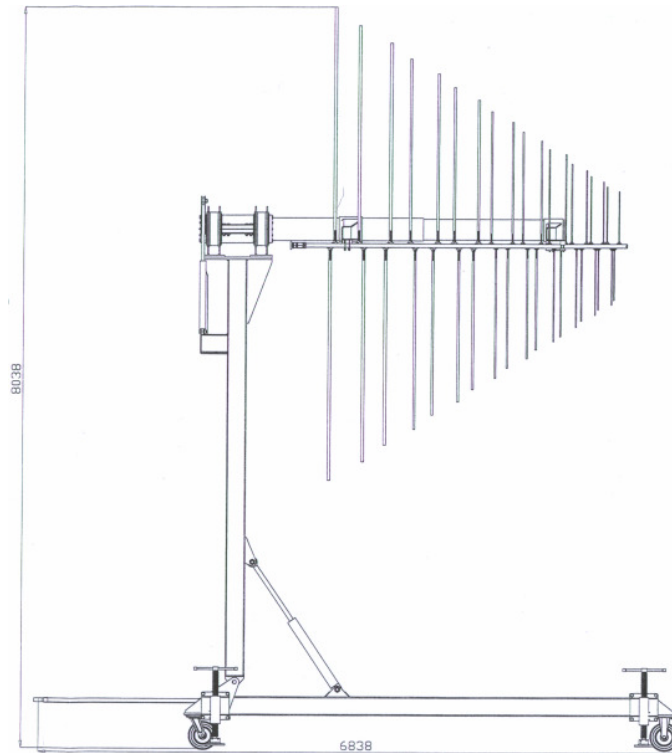


Figure 2: Side view of the antenna with main dimensions.



Figure 3: S22015/2a

**Electrical Data**

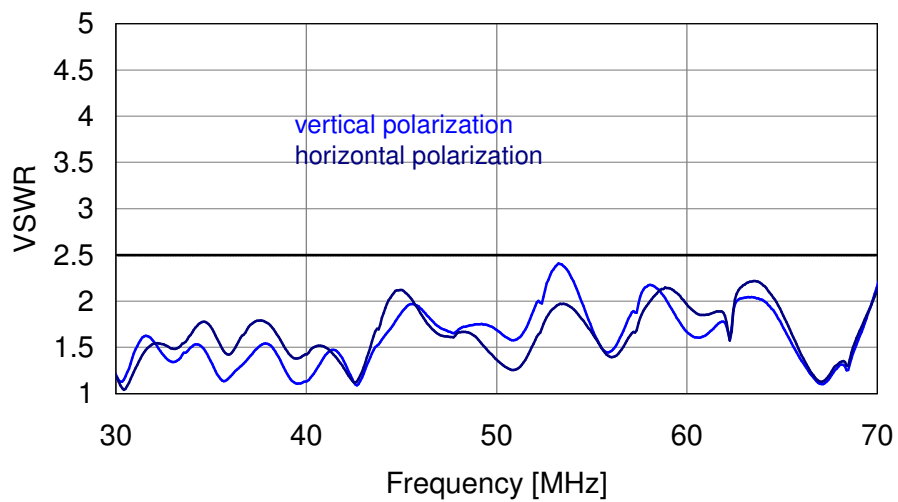


Figure 4: Measured VSWR

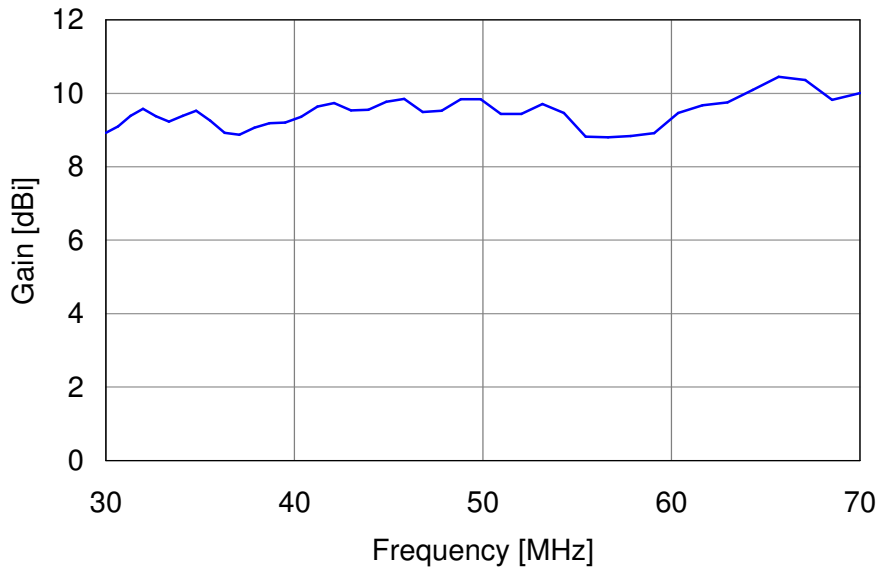


Figure 5: Simulated gain in free space

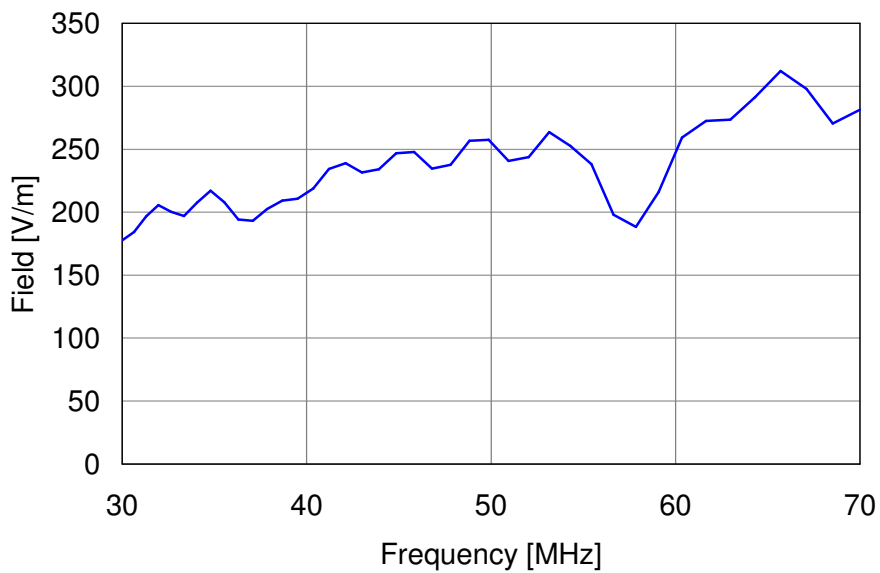
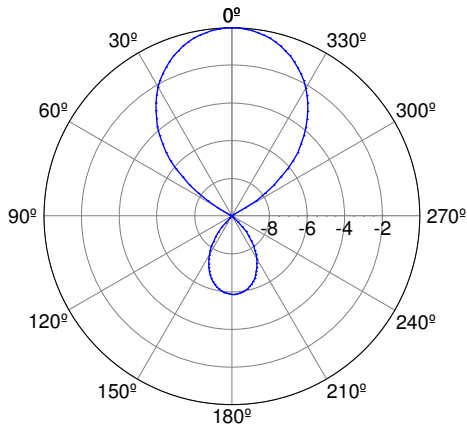
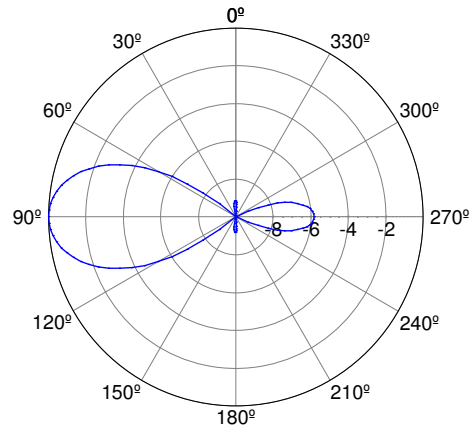


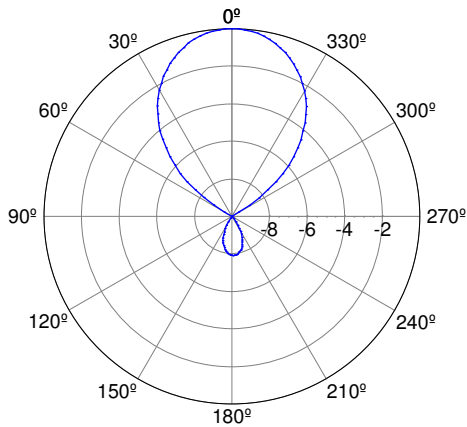
Figure 6: Simulated field in free space  
(Measurement point at 5 m distance from the antenna tip input power 10 kW)



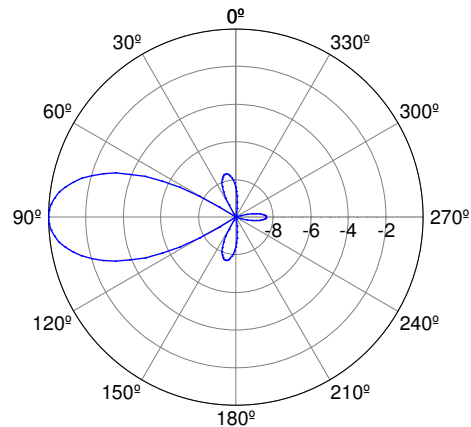
E-plane 30 MHz



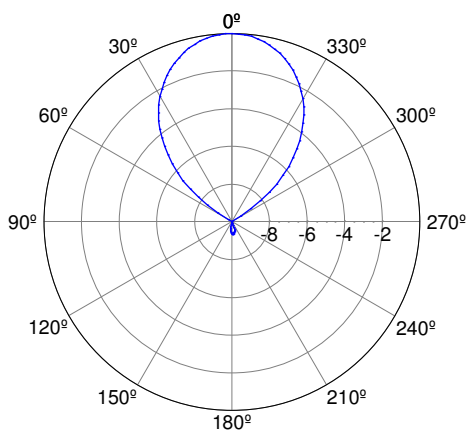
H-plane 30 MHz



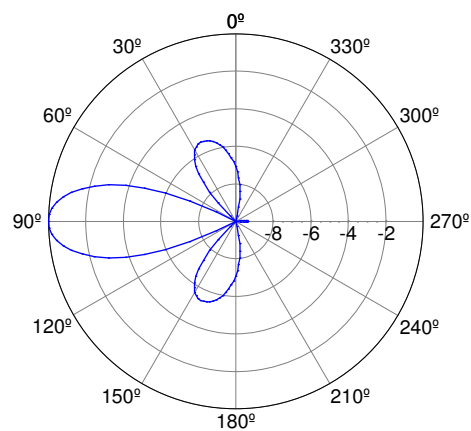
E-plane 50 MHz



H-plane 50 MHz



E-plane 70 MHz



H-plane 70 MHz

Figure 7a-f: Simulated E- and H-plane radiation patterns (power normalized in dB)