Log.Periodic Antenna Array

S22015/02b

70 – 220 MHz

The S22015/02b 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

Electrical	Frequency range	70 -220 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)
Mechanical	RF connector	EIA 1 5/8"
	Dimensions	see drawings
	Polarization	vertical and horizontal, movement with manual hydraulic oil pump
	Elevation	movement with manual hydraulic oil pump
	Weight inclusive mast	approx. 1.1 tons
Environmental	Intended for outdoor use	
	Maximum wind speed	110 km/h
	Temperature range [°C]	-30 to +50

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Mechanical Data

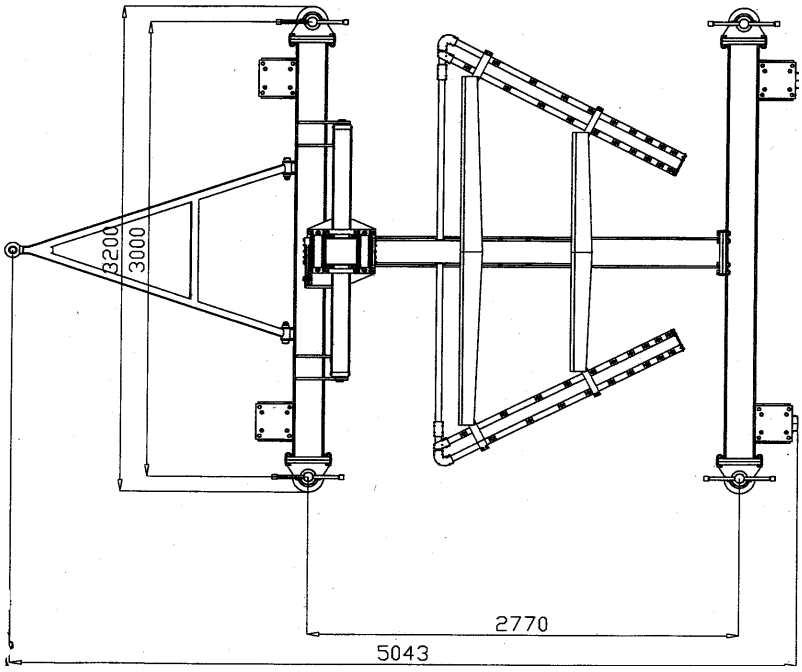

Figure 1: Top view of the antenna with main dimensions

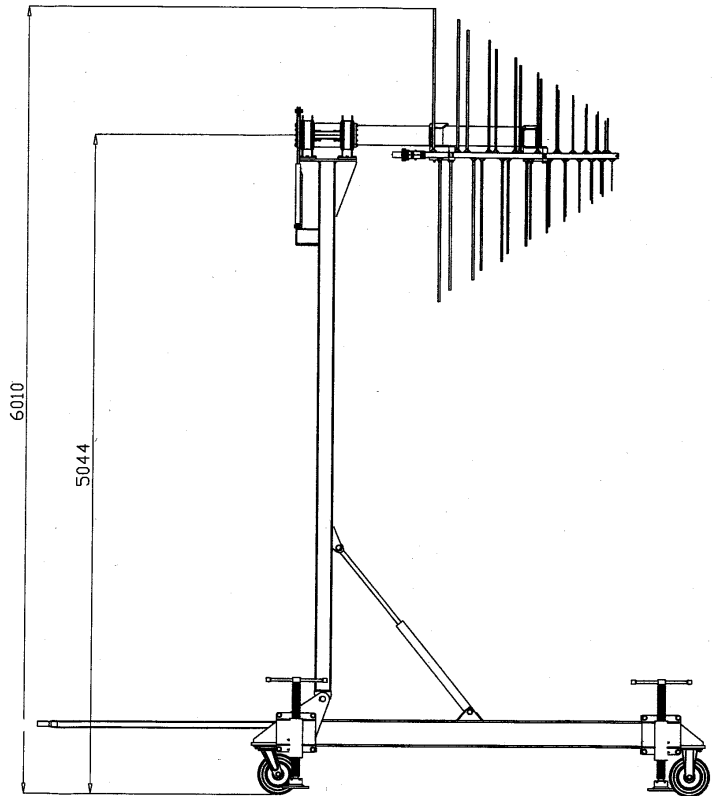

Figure 2: Side view of the antenna with main dimensions

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Figure 3: S22015/2b

Electrical Data

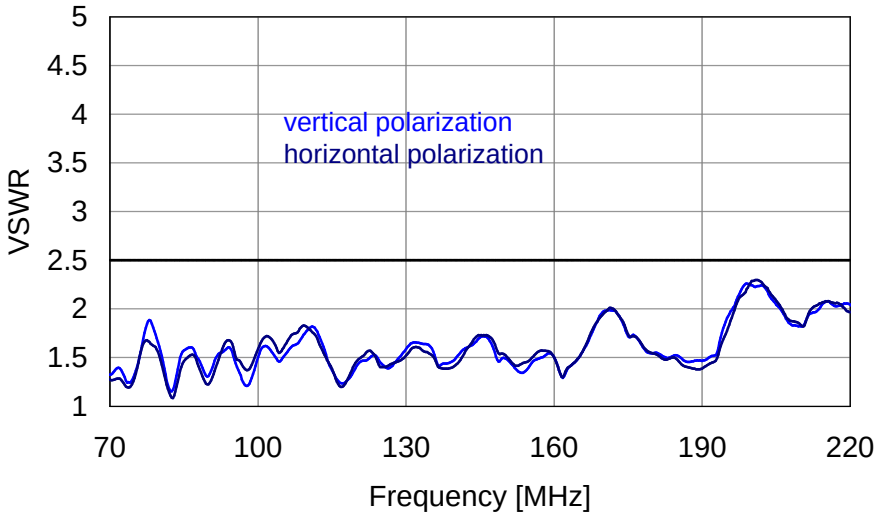

Figure 4: Measured VSWR

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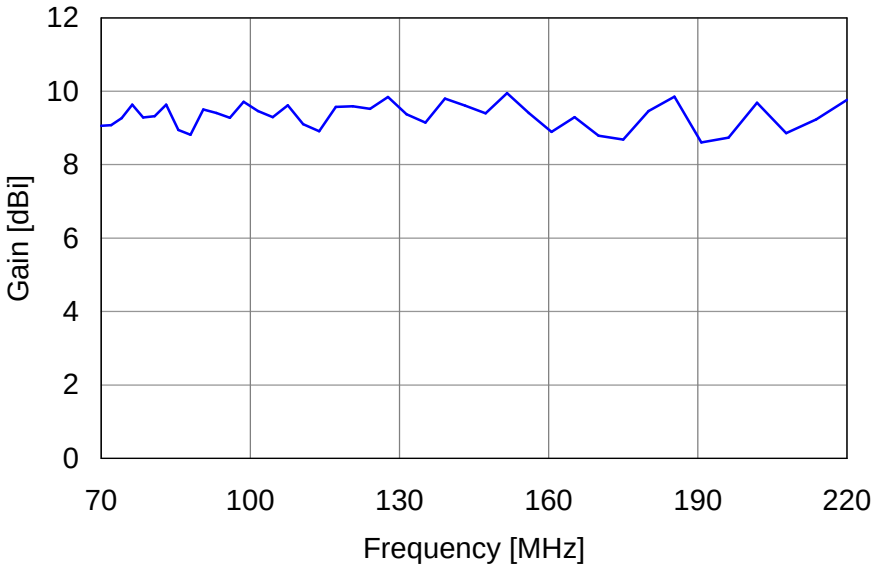

Figure 5: Simulated gain in free space

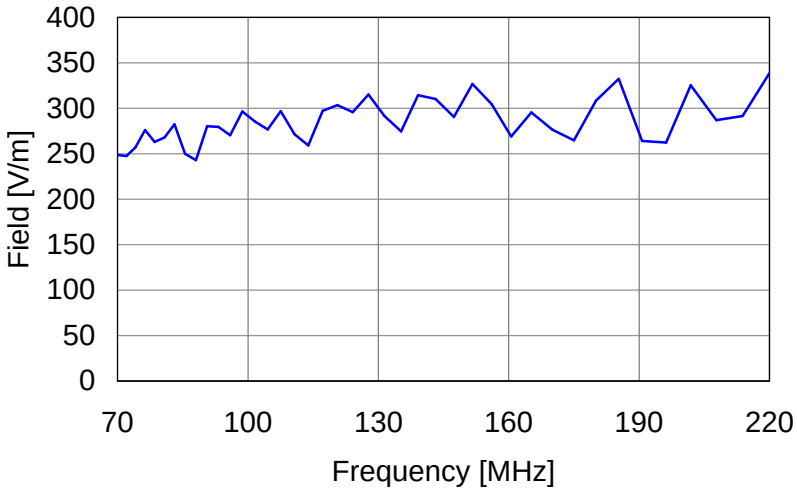

Figure 6: Simulated field in free space
(Measurement point at 5 m distance from the antenna tip input power 10 kW)

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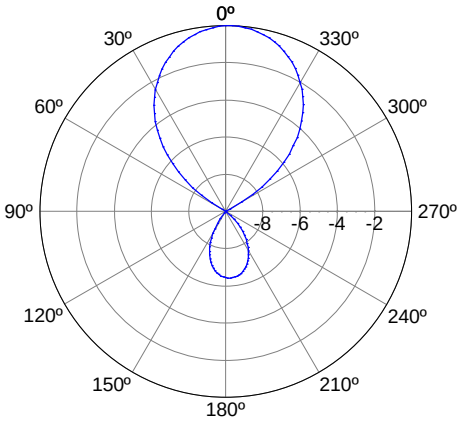
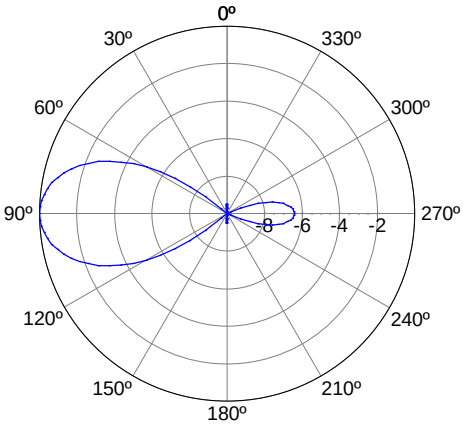
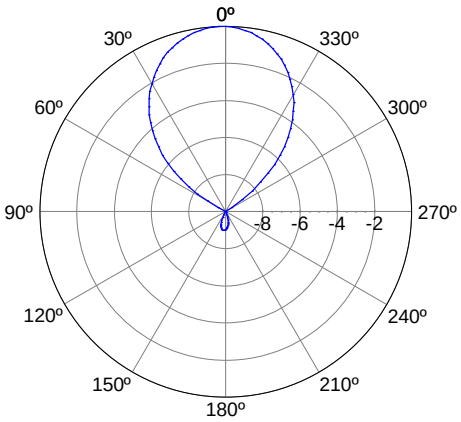


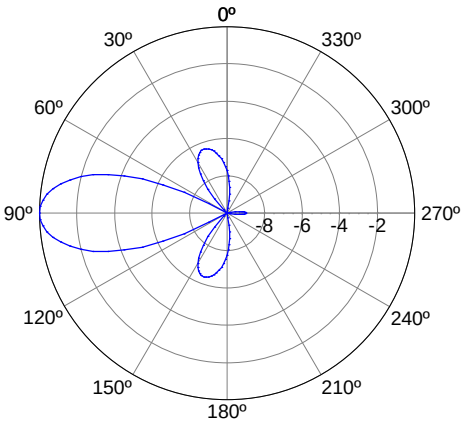
70 MHz E-Plane



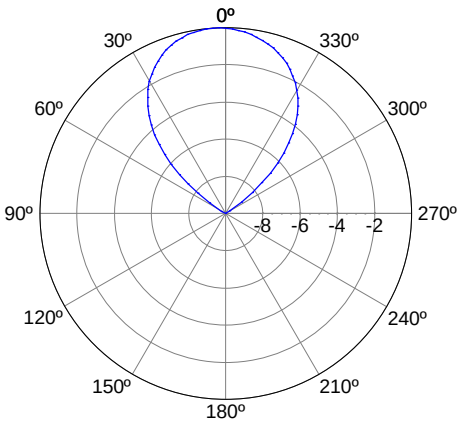
70° MHz H-Plane



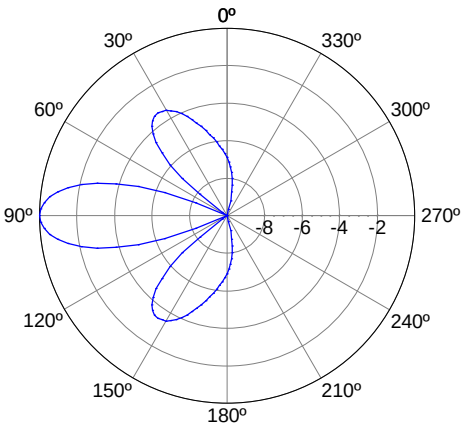
150° E-Plane



150 MHz H-Plane



220 MHz E-Plane



220° MHz H-Plane

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

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