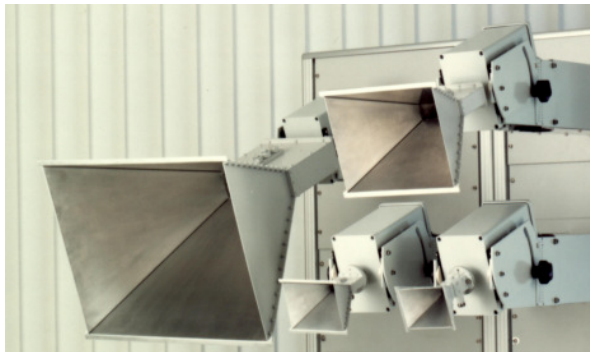


## Horn Antenna Group

### S17010/43/1-1 to 5

1 – 40 GHz



The horn antenna group series S17010/43 is made up of four individual horn radiators, and covers a frequency range of 1-40 GHz. When fed from 200 W TWT amplifiers the generation of fieldstrengths 150 to 250 V/m for EMC measurements is possible (at 2 m distance). Optional mounting for each horn is available, which includes a tilt assembly where by the tilt of the horn can be manually set over the limits of  $\pm 20^\circ$  (elevation). The horns have linear polarization. The setting of polarization in the range of  $\pm 90^\circ$  can be effected manually or by remote control using the model S42050 controller.

#### Technical Data

Type S17010/43-1-	1	2	3	4	5
<b>Electrical</b>					
Frequency Range [GHz]	1 – 2	2 - 4	4 - 8	8 - 18	18 - 40
Gain [dBi]	13 – 17	13 - 16.5	12.5 - 16.1	16 - 17.5	15 – 17
Polarization	linear				
Input Impedance [ $\Omega$ ]	50 $\Omega$				
VSWR (max.)	1.75 : 1				2 : 1
Power Handling [W]	325	235	185	115	25
<b>Mechanical</b>					
RF Connector	N-socket			K-socket	
Dimensions	[mm]				
Width	525	270	140	114	52
Height	425	220	114	93	42
Length	595	295	154	142	70
Weight [kg]	5.8	1.0	0.5	0.4	0.3

**Electrical Data**

The horns S17010/43-1-1...5 and the horn type S17010/05 cover the frequency range from 500 MHz – 40 GHz. One individual horn covers one octave or slightly more. All types are fully scaled from a prototype horn. This means that the electrical behaviour of all horns is similar.

The data shown in this document are obtained by simulations. But they agree very good to measured results.

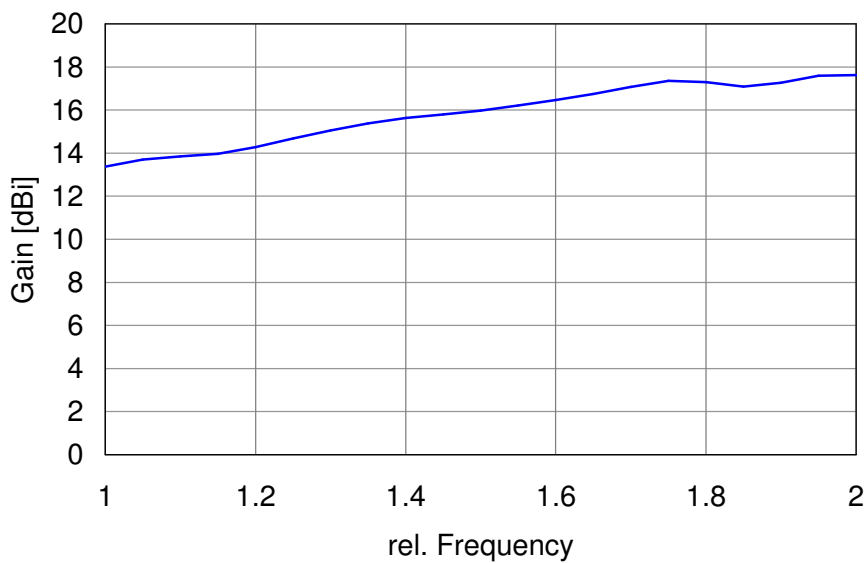
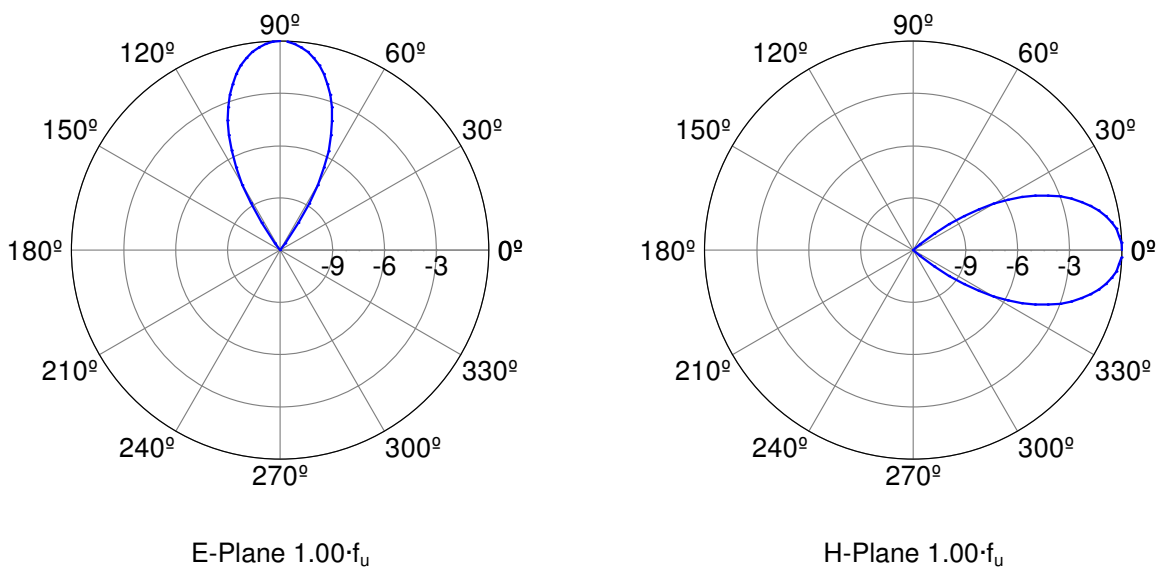
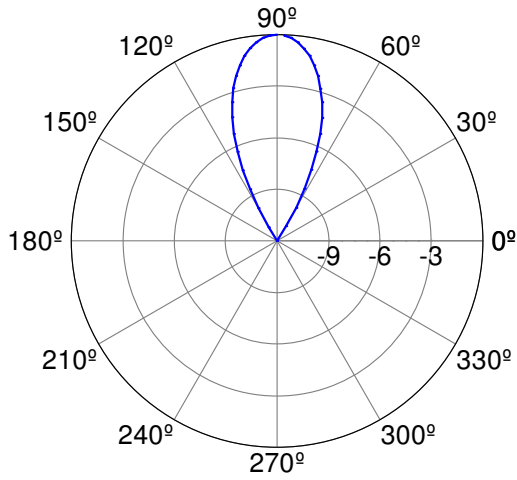
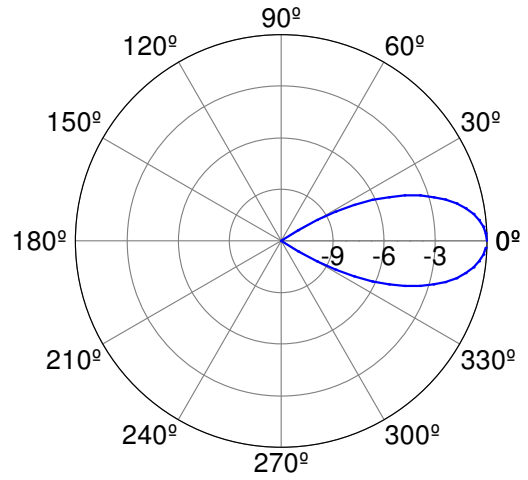


Figure 1: Typical gain.  
(Frequency is normalized to the lowest frequency  $f_u$ )

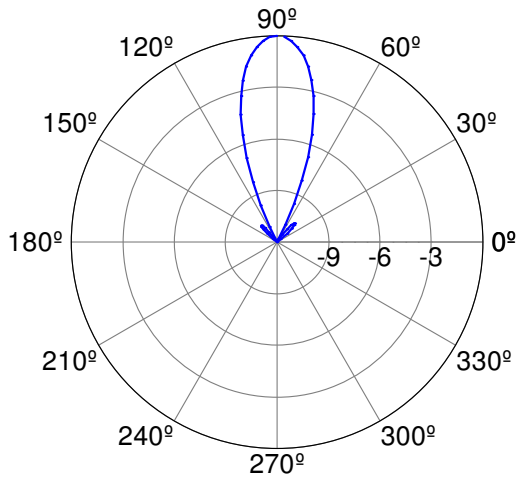




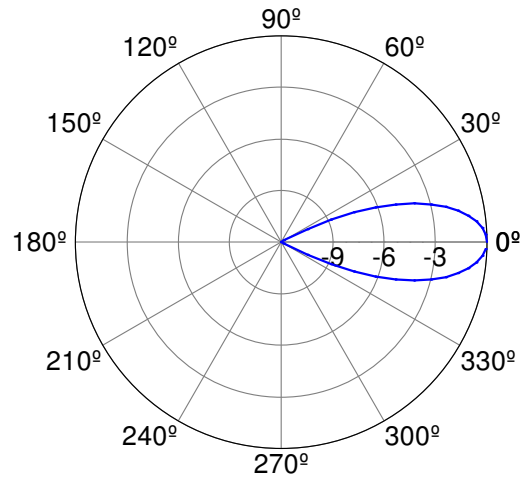
E-plane  $1.25 \cdot f_u$



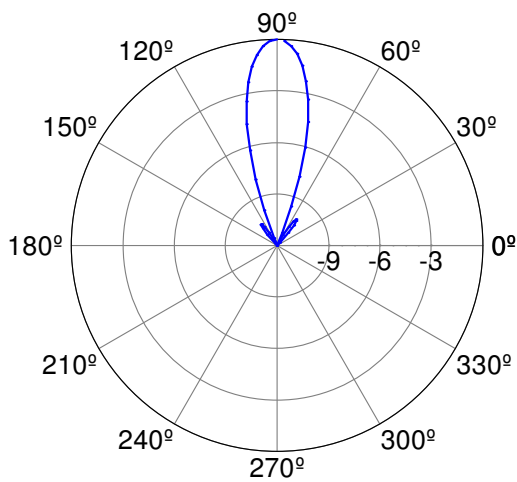
H-plane  $1.25 \cdot f_u$



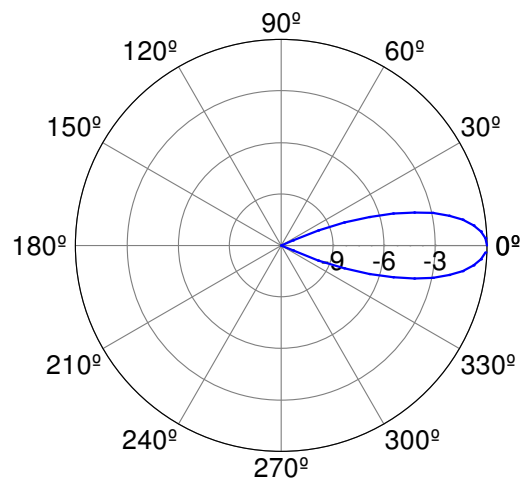
E-plane  $1.50 \cdot f_u$



H-plane  $1.50 \cdot f_u$



E-plane  $1.75 \cdot f_u$



H-plane  $1.75 \cdot f_u$

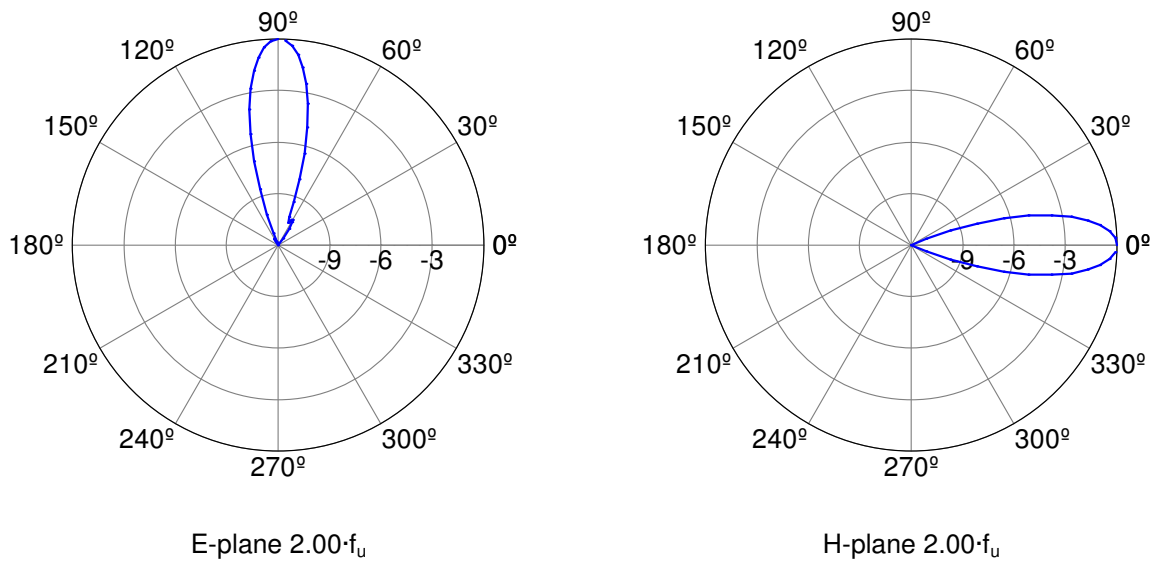


Figure 2: Radiation patterns (normalized, scale in dB)  
(based on simulation)