

# SAS-542

## Folding Biconical Antenna

20 MHz - 330 MHz

Biconical Antenna with folding elements for portable applications.



Frequency Range:	20 MHz - 330 MHz
Antenna Factor:	8.5 to 21.5 dB
Gain:	-22 to 2.8 dBi
Maximum Continuous Power:	1 Watt
Max Radiated Field:	2 V/m
Pattern Type:	omni-directional
Impedance:	50 $\Omega$
VSWR:	2.0:1
Connector:	N-Type, female
Mounting:	ABC-B (included)
<b><u>Physical Dimensions:</u></b>	
Height:	29 in. (73.7 cm)
Width:	52 in. (132.1 cm)
Weight:	4.3 lb.'s (1.95 kg)

### Features

- Frequency Range of 20 MHz to 330 MHz
- Receive and Transmit
- Individually Calibrated (1, 3 and 10 Meter calibration included, horizontal polarization)
- FCC, MIL-STD, VDE and TEMPEST Testing
- Folding Elements for Easy Storage

The SAS-542 Folding Biconical Antenna was the first EMC antenna designed for portable compliance testing applications. The Biconical Elements unscrew from the balun and fold neatly into a small size for transportation. This Biconical antenna is ideal solution for any traveling compliance consultant performing site attenuation measurements.

ANSI, BELLCORE, CISPR, CE, EN, FCC, IEC, MIL-STD, SAE

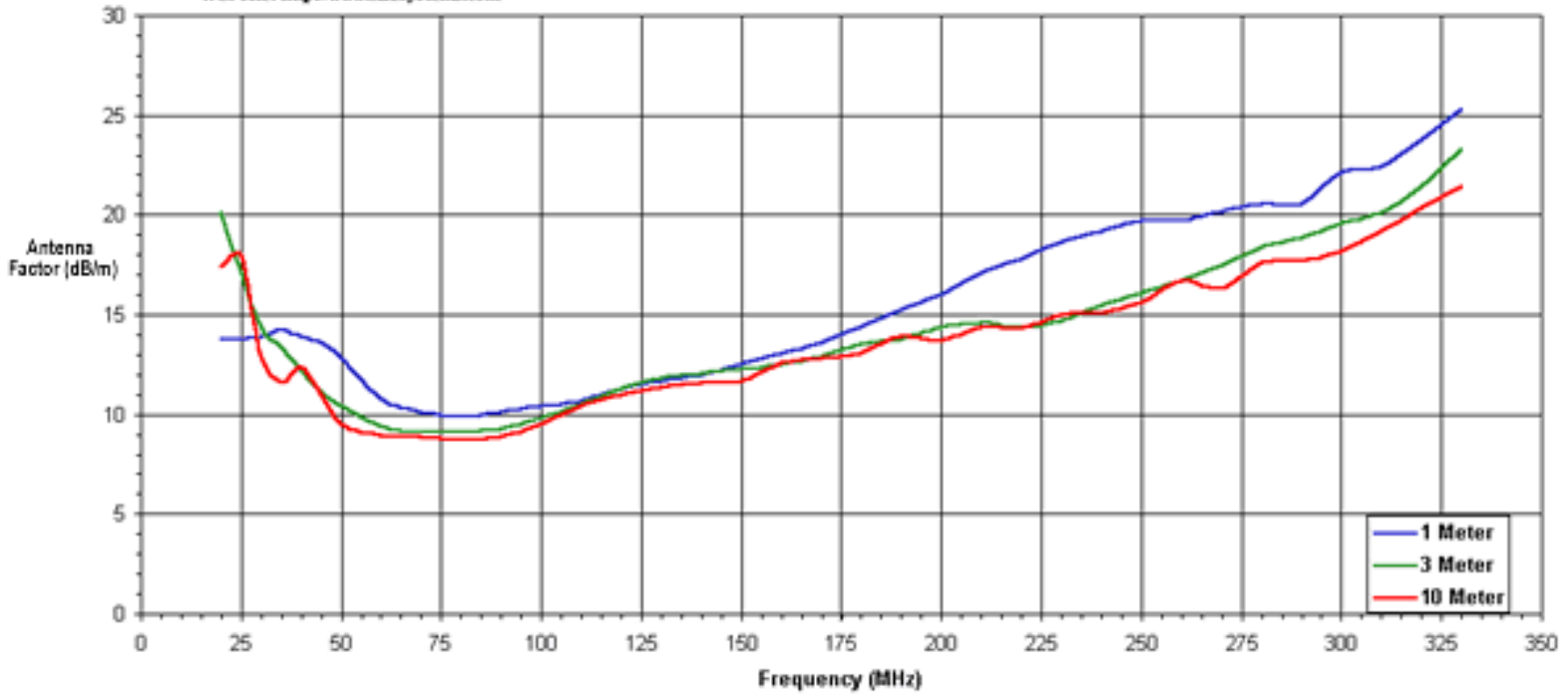


### A.H. Systems Inc.

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### Antenna Factor Folding Biconical Antenna Model SAS-542

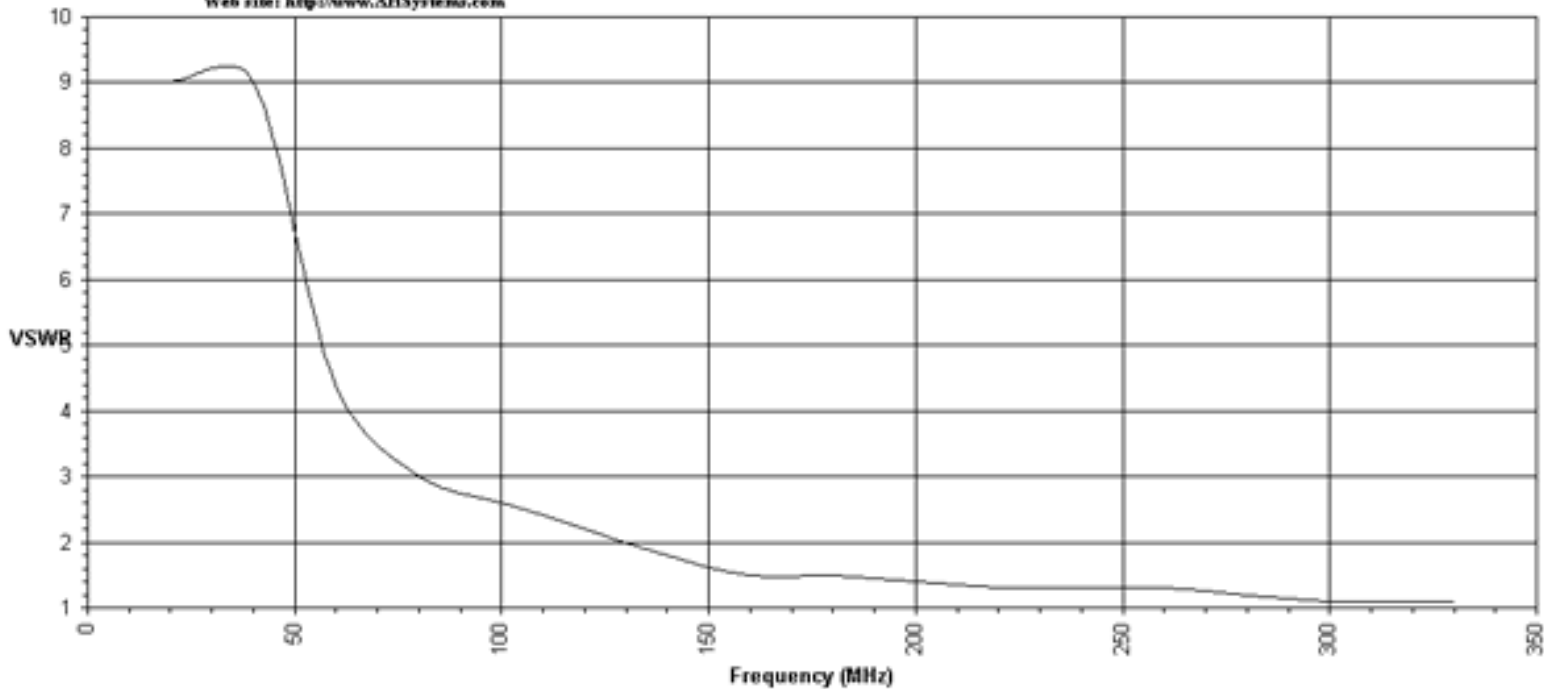
Conversion of meter reading  
to field strength:  
 $\text{dBuV/m} = \text{dBuV} + \text{AF} + \text{cable loss}$





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**Average VSWR**  
**Biconical Antenna**  
**Model SAS-542**



3 Meter Antenna Factor			
Frequency (MHz)	AF (dB/m)	Gain (dBi)	Gain (Numeric)
20	20.1	-23.8	0.00
25	17.2	-19.0	0.01
30	14.4	-14.6	0.03
35	13.4	-12.3	0.06
40	12.2	-9.9	0.10
45	11.1	-7.8	0.17
50	10.4	-6.2	0.24
60	9.4	-3.6	0.44
70	9.1	-2.0	0.64
80	9.1	-0.8	0.83
90	9.3	0.0	1.01
100	9.8	0.4	1.11
110	10.5	0.6	1.14
120	11.3	0.5	1.13
130	11.8	0.7	1.18
140	12.1	1.1	1.28
150	12.3	1.5	1.40
160	12.5	1.8	1.52
170	12.9	2.0	1.57
180	13.5	1.9	1.53
190	13.8	2.0	1.59
200	14.4	1.9	1.54
210	14.6	2.1	1.62
220	14.4	2.7	1.86
230	14.7	2.8	1.90
240	15.5	2.4	1.72
250	16.1	2.1	1.62
260	16.7	1.8	1.53
270	17.5	1.4	1.37
280	18.4	0.8	1.20
290	18.9	0.6	1.15
300	19.6	0.2	1.04
310	20.1	0.0	0.99
320	21.4	-1.1	0.79
330	23.3	-2.7	0.54

1 Meter Antenna Factor			
Frequency (MHz)	AF (dB/m)	Gain (dBi)	Gain (Numeric)
20	13.8	-17.5	0.02
25	13.8	-15.6	0.03
30	13.9	-14.1	0.04
35	14.2	-13.1	0.05
40	13.9	-11.6	0.07
45	13.6	-10.3	0.09
50	12.8	-8.6	0.14
60	10.8	-5.0	0.32
70	10.1	-3.0	0.51
80	9.9	-1.6	0.69
90	10.1	-0.8	0.84
100	10.4	-0.2	0.97
110	10.7	0.4	1.09
120	11.3	0.5	1.13
130	11.7	0.8	1.21
140	12.0	1.2	1.31
150	12.5	1.3	1.34
160	13.1	1.2	1.33
170	13.6	1.3	1.34
180	14.4	1.0	1.25
190	15.2	0.6	1.15
200	16.0	0.3	1.06
210	17.1	-0.4	0.91
220	17.8	-0.7	0.85
230	18.6	-1.1	0.77
240	19.2	-1.3	0.73
250	19.7	-1.5	0.71
260	19.7	-1.2	0.77
270	20.2	-1.3	0.74
280	20.6	-1.4	0.72
290	20.6	-1.1	0.78
300	22.1	-2.3	0.59
310	22.4	-2.3	0.59
320	23.7	-3.4	0.46
330	25.3	-4.7	0.34

10 Meter Antenna Factor			
Frequency (MHz)	AF (dB/m)	Gain (dBi)	Gain (Numeric)
20	17.4	-21.1	0.01
25	17.9	-19.7	0.01
30	12.9	-13.1	0.05
35	11.6	-10.5	0.09
40	12.4	-10.1	0.10
45	11.0	-7.7	0.17
50	9.5	-5.3	0.30
60	9.0	-3.2	0.48
70	8.9	-1.8	0.67
80	8.7	-0.4	0.91
90	8.9	0.4	1.10
100	9.5	0.7	1.19
110	10.4	0.7	1.17
120	11.0	0.8	1.21
130	11.4	1.1	1.30
140	11.6	1.6	1.44
150	11.7	2.1	1.61
160	12.6	1.7	1.49
170	12.8	2.1	1.61
180	13.1	2.3	1.68
190	13.9	1.9	1.56
200	13.7	2.6	1.81
210	14.4	2.3	1.69
220	14.3	2.8	1.90
230	15.0	2.5	1.77
240	15.1	2.8	1.88
250	15.6	2.6	1.82
260	16.7	1.8	1.53
270	16.3	2.6	1.81
280	17.6	1.6	1.44
290	17.7	1.8	1.51
300	18.2	1.6	1.44
310	19.2	0.9	1.22
320	20.3	0.0	1.01
330	21.4	-0.8	0.83