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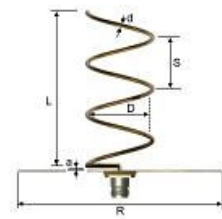
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Helix antenna design and construction details

Input data (design requirements)

Design frequency	<input type="text" value="1320"/> MHz
Number of turns	<input type="text" value="5"/>
Turn spacing	<input type="text" value="0.02"/> wavelengths
	<input type="button" value="Calculate"/>

The results



Legend. The letters in the image are used in the table below.

To get a large version, click on the image.

Wavelength		<input type="text" value="227.2"/> mm
Ideal diameter (internal)	D=	<input type="text" value="77.1"/> mm
Gain		<input type="text" value="13.64"/> dBi
Conductor diameter	d=	<input type="text" value="4.5"/> mm
Winding step (between centers)	S=	<input type="text" value="4.5"/> mm
Separation of the adapter section	a=	<input type="text" value="2.1"/> mm
Total conductor length		<input type="text" value="1211.5"/> mm
Minimum reflector diameter	R=	<input type="text" value="140.9"/> mm
Total antenna length	L=	<input type="text" value="22.7"/> mm

Design performance

Bandwidth (@ -1dB)	Fmax/Fmin:	<input type="text" value="1.05"/>
	Fmax:	<input type="text" value="1358.04"/> MHz
	Fmin:	<input type="text" value="1283.01"/> MHz
Bandwidth (@ -3dB)	Fmax/Fmin:	<input type="text" value="1.17"/>
	Fmax:	<input type="text" value="1429.39"/> MHz
	Fmin:	<input type="text" value="1218.97"/> MHz

Beam width (@ -3dB)

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164.4 degrees