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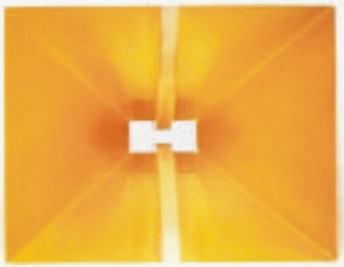
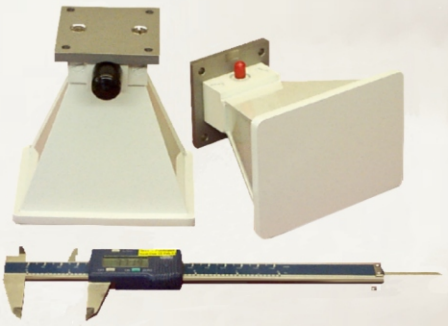
Horn Antennas

Standard Gain & Multi-Octave





Summer 2005

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CATALOGUE OF WAVEGUIDE HORNS

Q-par Angus designs and manufactures microwave components and antenna systems, across the radio frequency spectrum from decimetre to sub-millimetre wavelengths. The range of products includes many types of broad band antennas, duplexers, filters, mixers, high power sources & special components, for use in communication systems, surveillance, radar and electronic warfare, as well as in many industrial and medical applications.

This catalogue gives details of the standard range of horn antennas, including precision standard gain horns and wide-band and multi-octave horns. A measured calibration chart of gain versus frequency is supplied with every horn. Measured radiation patterns can be supplied if required. The horns are usually supplied with integral Type N or SMA coaxial to waveguide transitions, but they can be provided with standard waveguide flange inputs. Mounting brackets are supplied as standard. Protective windows can be incorporated as an option.

Although this catalogue describes the standard range of horns, the company is always willing to consider unusual requirements for bandwidth, gain and gain slope.

All specifications are correct at time of going to press
and may change without notice.

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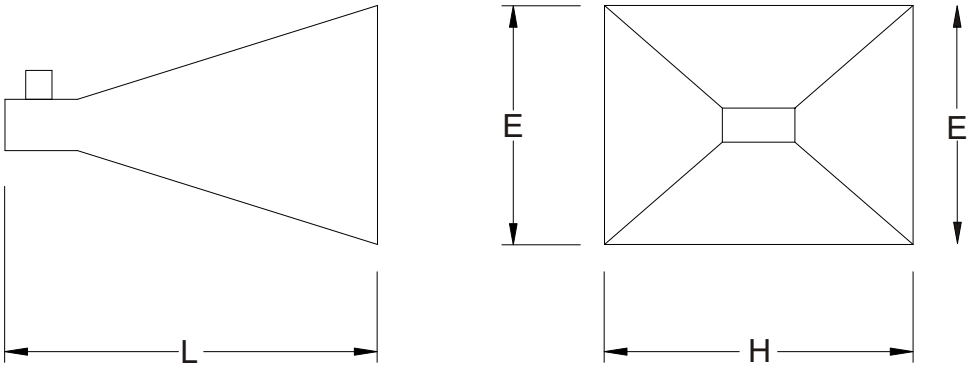

Standard Gain Horns

These precision standard gain horns are manufactured from brass, copper or aluminium alloy. The horns come in 3 ranges with nominal gains at midband of 10, 15 and 20 dBi with a spread of about 3 dB across the frequency band. A calibration curve of gain versus frequency is supplied with each horn. The horns are normally fitted with an integral coaxial-to-waveguide transition, but can be supplied with a waveguide flange.

Details of horn specifications can be found on the following pages.

Mounting brackets are included at no extra cost. Non standard gains and frequency bands are also available.

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TABLE OF 20 dBi STANDARD GAIN HORNS

FLANGED

Part Number	WG	WR	Freq		(GHz)	H (mm)	E (mm)	L (mm)	Connector Type
QSH5F20WA	5	770	0.9	-	1.5	1113	804	2130	FLANGE
QSH6F20WA	6	650	1.1	-	1.7	960	702	1796	FLANGE
QSH7F20WA	7	510	1.4	-	2.2	670	470	1340	FLANGE
QSH8F20WA	8	430	1.7	-	2.6	575	410	1200	FLANGE
QSH9AF20WA	9A	340	2.2	-	3.3	450	320	930	FLANGE
QSH10F20W	10	284	2.6	-	4.0	380	270	750	FLANGE
QSH11AF20W	11A	229	3.3	-	4.9	300	215	615	FLANGE
QSH12F20	12	187	3.9	-	5.9	250	180	530	FLANGE
QSH13F20	13	159	4.9	-	7.1	200	150	460	FLANGE
QSH14F20	14	137	5.8	-	8.2	175	125	390	FLANGE
QSH15F20	15	112	7.0	-	10.0	145	105	320	FLANGE
QSH16F20	16	90	8.2	-	12.4	120	85	265	FLANGE
QSH17F20	17	75	10.0	-	15.0	100	70	220	FLANGE
QSH18F20	18	62	12.4	-	18.0	80	60	175	FLANGE
QSH19F20	19	51	15.0	-	22.0	70	50	150	FLANGE
QSH20F20	20	42	18.0	-	26.5	55	40	130	FLANGE
QSH22F20	22	28	26.5	-	40.0	37	26	95	FLANGE
QSH23F20	23	22	33.0	-	50.0	30	21	80	FLANGE
QSH24F20	24	19	40.0	-	60.0	24	18	70	FLANGE
QSH25F20	25	15	50.0	-	75.0	20	15	60	FLANGE
QSH26F20	26	12	60.0	-	92.0	18	13	53	FLANGE
QSH27F20	27	10	75.0	-	110.0	15	11	45	FLANGE
QSH28F20	28	8	92.0	-	140.0	12	9	35	FLANGE

WITH INTEGRAL CONNECTOR

A '#' in the part number denotes a choice of N or SMA input connector; replace the # with either N or S accordingly.

Part Number	WG	WR	Freq		(GHz)	H (mm)	E (mm)	L (mm)	Connector Type
QSH5N20WA	5	770	0.9	-	1.5	1113	804	2130	N
QSH6N20WA	6	650	1.1	-	1.7	960	702	1796	N
QSH7N20WA	7	510	1.4	-	2.2	670	470	1340	N
QSH8N20WA	8	430	1.7	-	2.6	575	410	1150	N
QSH9AN20WA	9A	340	2.2	-	3.3	450	320	930	N
QSH10N20W	10	284	2.6	-	4.0	380	270	750	N
QSH11AN20W	11A	229	3.3	-	4.9	300	215	615	N
QSH12#20S	12	187	3.9	-	5.9	250	180	530	N/SMA
QSH13#20S	13	159	4.9	-	7.1	200	150	460	N/SMA
QSH14#20S	14	137	5.8	-	8.2	175	125	390	N/SMA
QSH15#20S	15	112	7.0	-	10.0	145	105	315	N/SMA
QSH16#20S	16	90	8.2	-	12.4	120	85	265	N/SMA
QSH17#20S	17	75	10.0	-	15.0	100	70	215	N/SMA
QSH18#20S	18	62	12.4	-	18.0	80	60	175	N/SMA
QSH19S20S	19	51	15.0	-	22.0	70	50	150	SMA
QSH20S20S	20	42	18.0	-	26.5	55	40	130	SMA
QSH22K20S	22	28	26.5	-	40.0	37	26	95	K

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TABLE OF 15 dBi STANDARD GAIN HORNS

FLANGED

Part Number	WG	WR	Freq		(GHz)	H (mm)	E (mm)	L (mm)	Connector Type
QSH5F15WA	5	770	0.9	-	1.5	590	470	960	FLANGE
QSH6F15WA	6	650	1.1	-	1.7	510	400	820	FLANGE
QSH7F15WA	7	510	1.4	-	2.2	400	320	640	FLANGE
QSH8F15WA	8	430	1.7	-	2.6	330	260	525	FLANGE
QSH9AF15WA	9A	340	2.2	-	3.3	260	210	410	FLANGE
QSH10F15W	10	284	2.6	-	4.0	220	180	345	FLANGE
QSH11AF15W	11A	229	3.3	-	4.9	180	145	280	FLANGE
QSH12F15S	12	187	3.9	-	5.9	150	120	230	FLANGE
QSH13F15S	13	159	4.9	-	7.1	125	100	190	FLANGE
QSH14F15S	14	137	5.8	-	8.2	105	85	165	FLANGE
QSH15F15S	15	112	7.0	-	10.0	85	70	135	FLANGE
QSH16F15S	16	90	8.2	-	12.4	75	60	110	FLANGE
QSH17F15S	17	75	10.0	-	15.0	60	50	90	FLANGE
QSH18F15S	18	62	12.4	-	18.0	50	40	80	FLANGE
QSH19F15S	19	51	15.0	-	22.0	45	35	65	FLANGE
QSH20F15S	20	42	18.0	-	26.5	35	30	55	FLANGE
QSH22F15S	22	28	26.5	-	40.0	27	20	45	FLANGE

WITH INTEGRAL CONNECTOR

Part Number	WG	WR	Freq		(GHz)	H (mm)	E (mm)	L (mm)	Connector Type
QSH5N15WA	5	770	0.9	-	1.5	590	470	960	N
QSH6N15WA	6	650	1.1	-	1.7	510	400	820	N
QSH7N15WA	7	510	1.4	-	2.2	400	320	640	N
QSH8N15WA	8	430	1.7	-	2.6	330	260	525	N
QSH9AN15WA	9A	340	2.2	-	3.3	260	210	410	N
QSH10N15W	10	284	2.6	-	4.0	220	180	345	N
QSH11AN15W	11A	229	3.3	-	4.9	180	145	280	N
QSH12#15S	12	187	3.9	-	5.9	150	120	230	N/SMA
QSH13#15S	13	159	4.9	-	7.1	125	100	190	N/SMA
QSH14#15S	14	137	5.8	-	8.2	105	85	165	N/SMA
QSH15#15S	15	112	7.0	-	10.0	85	70	135	N/SMA
QSH16#15S	16	90	8.2	-	12.4	75	60	110	N/SMA
QSH17#15S	17	75	10.0	-	15.0	60	50	90	N/SMA
QSH18#15S	18	62	12.4	-	18.0	50	40	80	N/SMA
QSH19S15S	19	51	15.0	-	22.0	45	35	65	SMA
QSH20S15S	20	42	18.0	-	26.5	35	30	55	SMA
QSH22K15S	22	28	26.5	-	40.0	27	20	45	K

A '#' in the part number above denotes a choice of N or SMA input connector;
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TABLE OF 10 dBi STANDARD GAIN HORNS

FLANGED

Part Number	WG	WR	Freq	(GHz)	H (mm)	E (mm)	L (mm)	Connector Type
QSH5F10WA	5	770	0.9	- 1.5	360	270	635	FLANGE
QSH6F10WA	6	650	1.1	- 1.7	310	230	545	FLANGE
QSH7F10WA	7	510	1.4	- 2.2	245	180	425	FLANGE
QSH8F10WA	8	430	1.7	- 2.6	205	150	345	FLANGE
QSH9AF10WA	9A	340	2.2	- 3.3	160	120	270	FLANGE
QSH10F10W	10	284	2.6	- 4.0	140	100	230	FLANGE
QSH11AF10W	11A	229	3.3	- 4.9	110	85	185	FLANGE
QSH12F10S	12	187	3.9	- 5.9	95	70	150	FLANGE
QSH13F10S	13	159	4.9	- 7.1	80	60	125	FLANGE
QSH14F10S	14	137	5.8	- 8.2	65	50	110	FLANGE
QSH15F10S	15	112	7.0	- 10.0	55	40	90	FLANGE
QSH16F10S	16	90	8.2	- 12.4	45	35	75	FLANGE
QSH17F10S	17	75	10.0	- 15.0	40	30	60	FLANGE
QSH18F10S	18	62	12.4	- 18.0	35	25	55	FLANGE
QSH19F10S	19	51	15.0	- 22.0	30	20	45	FLANGE
QSH20F10S	20	42	18.0	- 26.5	25	18	35	FLANGE
QSH22F10S	22	28	26.5	- 40.0	17	15	30	FLANGE

WITH INTEGRAL CONNECTOR

Part Number	WG	WR	Freq	(GHz)	H (mm)	E (mm)	L (mm)	Connector Type
QSH5N10WA	5	770	0.9	- 1.5	360	270	635	N
QSH6N10WA	6	650	1.1	- 1.7	310	230	545	N
QSH7N10WA	7	510	1.4	- 2.2	245	180	425	N
QSH8N10WA	8	430	1.7	- 2.6	205	150	345	N
QSH9AN10WA	9A	340	2.2	- 3.3	160	120	270	N
QSH10N10W	10	284	2.6	- 4.0	140	100	230	N
QSH11AN10W	11A	229	3.3	- 4.9	110	85	185	N
QSH12#10S	12	187	3.9	- 5.9	95	70	150	N/SMA
QSH13#10S	13	159	4.9	- 7.1	80	60	125	N/SMA
QSH14#10S	14	137	5.8	- 8.2	65	50	110	N/SMA
QSH10#10S	15	112	7.0	- 10.0	55	40	90	N/SMA
QSH16#10S	16	90	8.2	- 12.4	45	35	75	N/SMA
QSH17#10S	17	75	10.0	- 15.0	40	30	60	N/SMA
QSH18#10S	18	62	12.4	- 18.0	35	25	55	N/SMA
QSH19S10S	19	51	15.0	- 22.0	30	20	45	SMA
QSH20S10S	20	42	18.0	- 26.5	25	18	35	SMA
QSH22K10S	22	28	26.5	- 40.0	17	15	30	K

A '#' in the part number above denotes a choice of N or SMA input connector;
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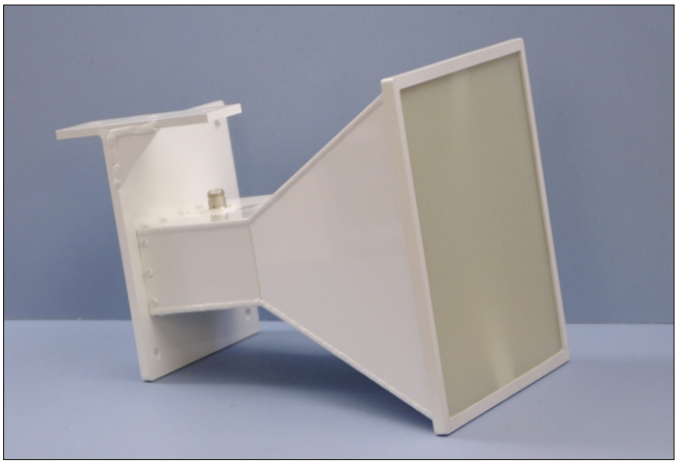

Broadband Ridged Horns

These horns offer an unrivalled facility for EMI/RFI testing, evaluation and electronic surveillance. Bandwidths range from 1 - 2, 8 - 18 GHz and beyond, including 2 - 18 GHz & 18 - 40 GHz single and dual polar antennas. Details are available on the following pages for our range of 2 - 18 & 18 - 40 GHz single and dual polar and high gain horn antennas.

The horns are normally fitted with an integral coaxial connector. The Broadband Ridged Horns that are compatible with WRD ridged waveguide can also be supplied with a waveguide flange.

Shown overleaf are just some of the models that we produce. We are happy to discuss any specific frequency band, gain requirements or beamwidths.

The horn pictured is a 0.85 to 2 GHz model, produced to customer requirements.

Construction	Aluminium / Brass
Connector	SMA or N (others available)
Temperature	-40 to +70 deg C
Finish	White Gloss (others available)

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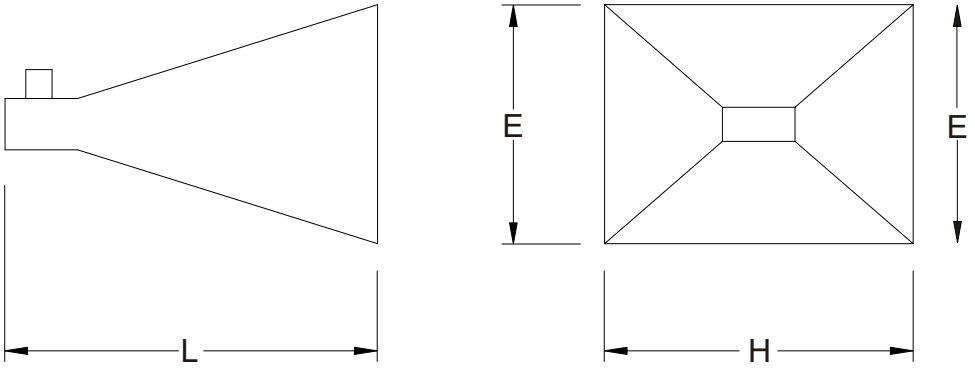
TABLE OF BROADBAND HORNS



Part No.	Freq (GHz)	Gain (dBi)	Beamwidth E-plane	Beamwidth H plane	Dimensions (mm) H	Dimensions (mm) E	Dimensions (mm) L	Connector Type
WBH1-2N10D	1-2	8-12	50 -30	60 -35	285	285	340	N
WBH1-7N10D	1-7	6-13	80 -30	60 -24	210	150	210	N
WBH2-4N14D	2-4	13-15	30 -20	35 -20	290	220	330	N
WBH2-8N14D	2-8	12-15	50 -20	50 -20	325	240	440	N
WBH4-8N14D	4-8	13-15	35 -20	40 -20	145	110	170	N
WBH6-12N15D	6-12	13-16	35 -20	40 -25	170	160	215	N
WBH8-18N15S	8-18	13-16	35 -23	42 -22	75	60	95	N
WBH8-18F15	8-18	13-16	35 -23	42 -22	75	60	85	FLANGE
QSH180K	18-40	12-14	40 -35	40 -22	35	28	73	TYPE K
QSH180F	18-40	12-14	40 -35	40 -22	35	28	38	FLANGE

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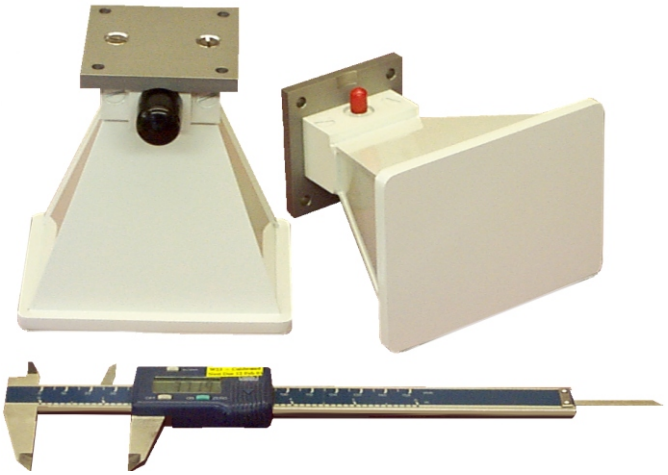

2 - 18 GHz Wide Band Antenna

Model Number WBH2-18N/S

This compact, high performance ridged waveguide horn model number WBH2-18N (Type N), or WBH2-18S (SMA) is ideal for EMI/RFI testing, EMC measurements, wide band surveillance, materials evaluation etc. The high gain and low VSWR over a wide frequency band make the antenna ideal for receiving low level signals or for transmitting moderate power levels.

Techniques have been incorporated to prevent higher order waveguide modes. The horn may be mounted in a parabolic reflector to increase directional resolution and gain.

Extended frequency range 2 to 24.5 GHz, Model Number WBH2-24S, & extra high gain, model number WBH2-18HN/S are also available, see pages 11 - 13, and 14 - 16 for further details.

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SPECIFICATION

Model Number WBH2-18N/S

Frequency	2 - 18 GHz
Nominal Gain	7 - 13 dBi across the band
Nominal Beamwidth	19 - 86 degrees (3 dB)
VSWR	< 2.5 :1
Cross Polar	< -20 dB
Power Handling	50 Watts c.w. N, 20 Watts c.w. SMA
Construction	Metal/Glass-Resin composite
Dimensions	119 mm x 86 mm x 119 mm long
Connector	N Type or SMA (others available)
Weight	420g N, 370g SMA (including Mount Plate)
Temperature	-40 C - +70 C

GAIN TABLE

Frequency (GHz)	Gain (dBi)
2.0	7
4.0	10
6.0	10
8.0	10
10.0	11
12.0	13
14.0	13
16.0	13
18.0	10

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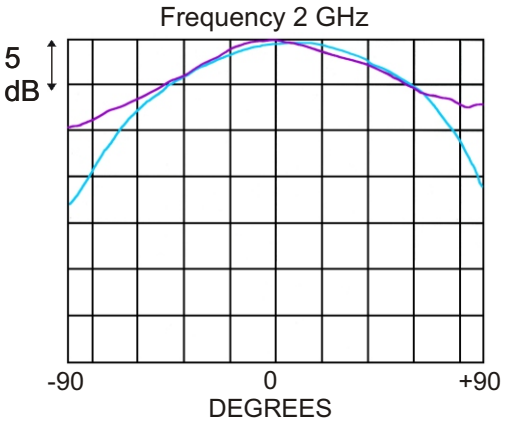
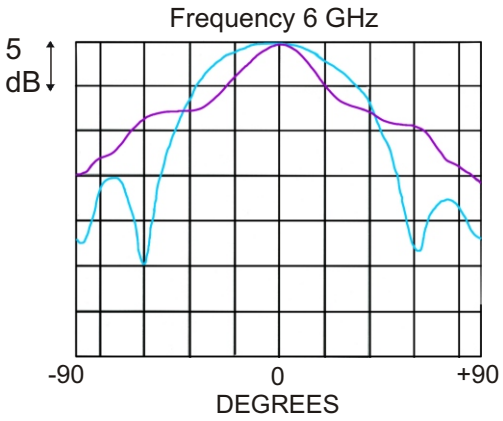
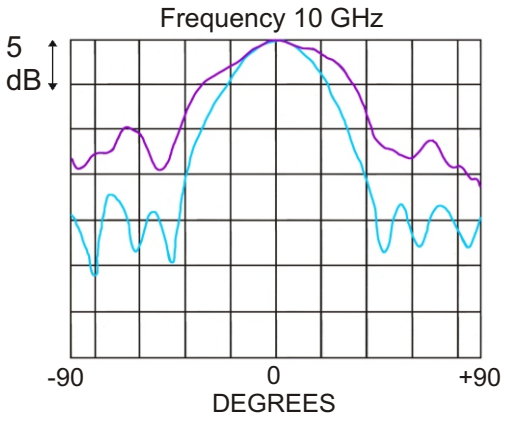
2 - 18 GHz Horn
Broadband Horn
WBH2-18N/S

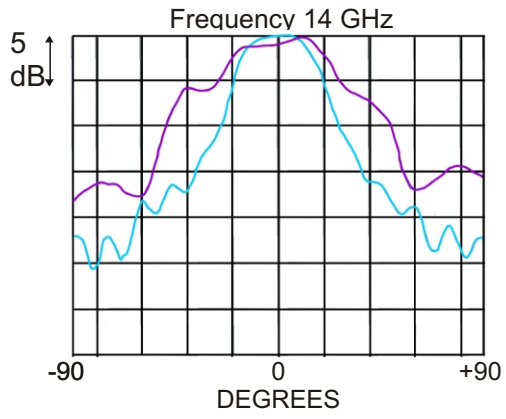
H PLANE

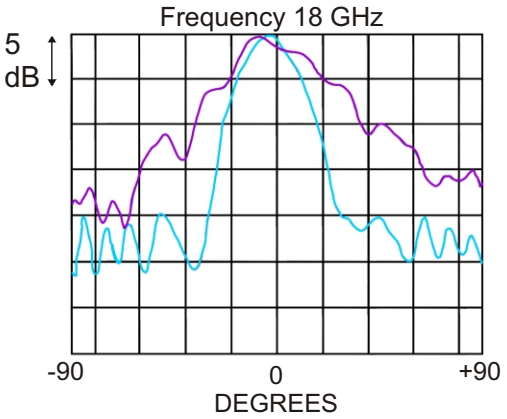
E PLANE











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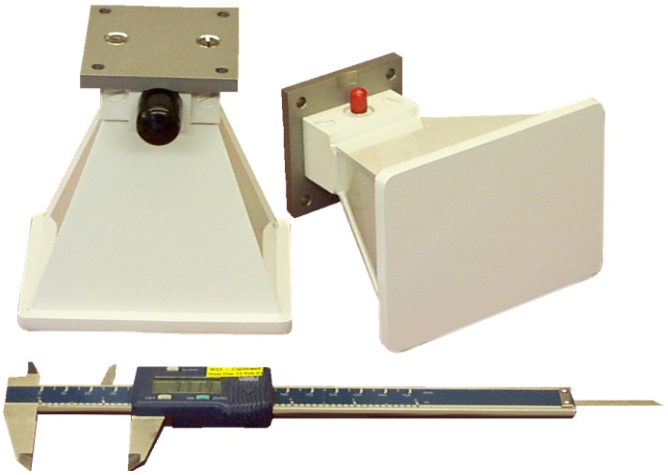

2 - 24.5 GHz Wide Band Antenna

Model Number WBH2-24S

This compact, high performance ridged waveguide horn model number WBH2-24S (SMA only) is ideal for very wide band EMI/RFI testing, EMC measurements, surveillance, materials evaluation, etc. The high gain and low VSWR over the wider frequency band make the antenna ideal for receiving low level signals or for transmitting moderate power levels.

Techniques have been incorporated to prevent higher order waveguide modes.

Standard 2 to 18 GHz, Model Number WBH2-18N/S & extra high gain WBH2-18HN/S models are also available, see pages 8 - 10, and 14 - 16 of this catalogue respectively.

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SPECIFICATION

Model Number WBH2-24S

Frequency	2 - 24.5 GHz
Nominal Gain	7 - 13 dBi across the band
Nominal Beamwidth	19 - 86 degrees (3 dB)
VSWR	< 2.5 : 1 (2 - 18 GHz)
Cross Polar	< -20 dB (2 - 18 GHz)
Power Handling	10 Watts c.w.
Construction	Metal/Glass-Resin composite
Dimensions	119 mm x 86 mm x 119 mm long
Connector	SMA Female
Weight	420 g (including Mount Plate)
Temperature	-40 C - +70 C

GAIN TABLE

Frequency (GHz)	Gain (dBi)
2	7
4	10
6	10
8	10
10	11
12	13
14	13
16	13
18	10

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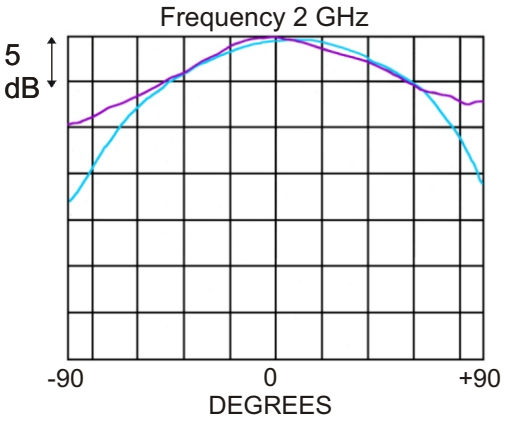
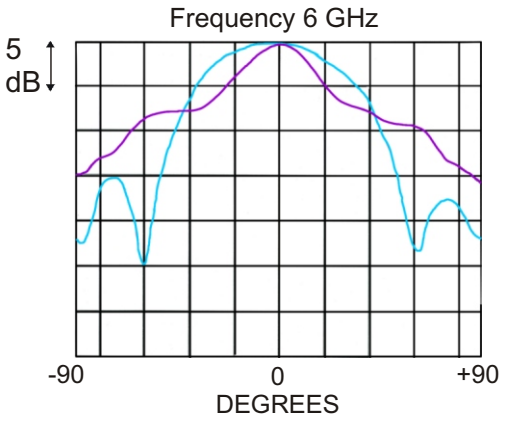
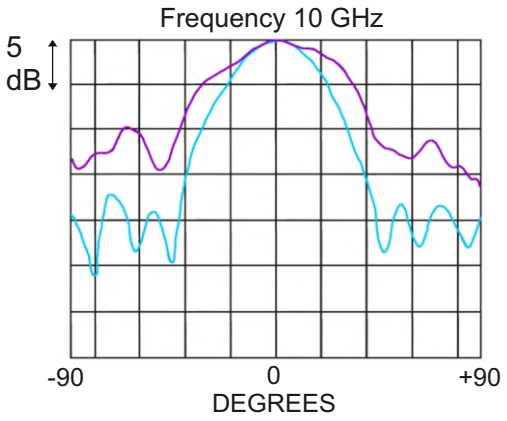
2 - 24.5 GHz Horn
Broadband Horn
WBH2-24S

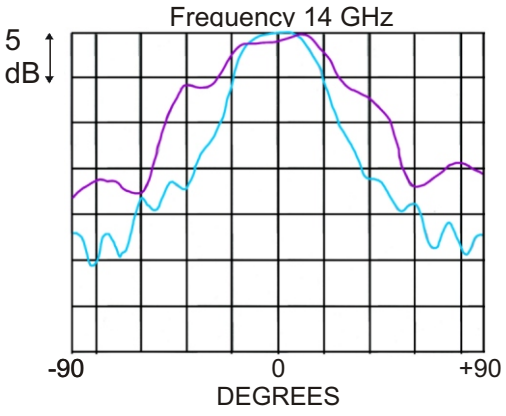
H PLANE

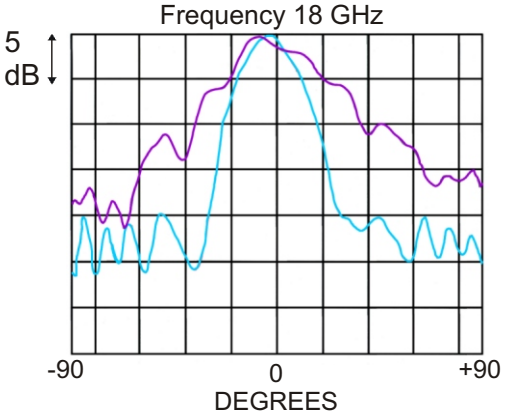
E PLANE











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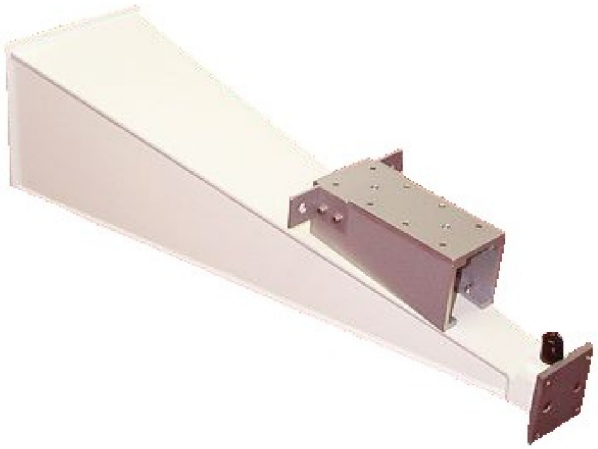

2 - 18 GHz High Gain Horn Antenna

Model Number WBH2-18HN/S

This high gain high performance ridged waveguide horn, Model Number WBH2-18HN/S is ideal for EMI/RFI testing, EMC measurements, wide band spectrum surveillance or materials evaluation etc. The horn covers frequencies used for PCN, PCS, GSM, GPS, direct to home satellite broadcasting, and many others. It is especially useful for receiving very low signals or transmitting moderate power levels. The horn can be used where a parabolic reflector antenna may previously have been used to increase the gain, or where it is not practical to install a wide band standard reflector antenna. The horn is cheaper than an equivalent feed and reflector antenna assembly. Both Type N and SMA versions are available.

Special techniques have been incorporated to prevent higher order waveguide modes. The construction is a metal/glass composite. The horn comes with a specially designed weatherproof radome which provides good protection against the elements but has very little loss across the frequency band.

A mounting bracket similar to shown is provided at no extra cost.

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SPECIFICATION

Model Number WBH2-18HN/S

Frequency	2 - 18 GHz
Nominal Gain	10 - 22 dBi
Nominal Beamwidth	60 - 11 degrees
VSWR	< 2.5:1 (Typically < 2.0:1)
Cross Polar	< -17 dB
Power Handling	SMA 50 Watts cw, Type N 80 Watts cw
Construction	Metal/Glass-Resin composite
Dimensions	622 x 165 x 165 mm approx.
Connector	SMA or Type N (others available)
Weight	2.7 kg
Temperature	-40 C - +70 C

GAIN TABLE

Frequency (GHz)	Gain (dBi)
2	10
4	15
6	17
8	18
10	19
12	20
14	20
16	20
18	22

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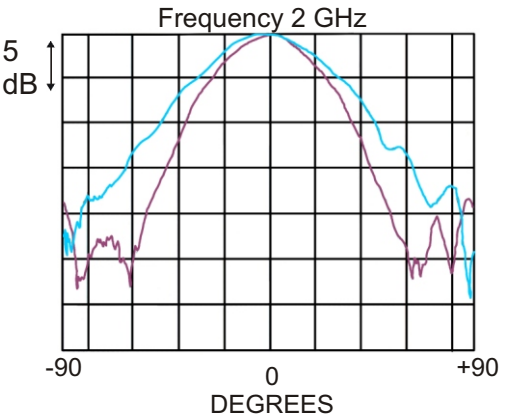
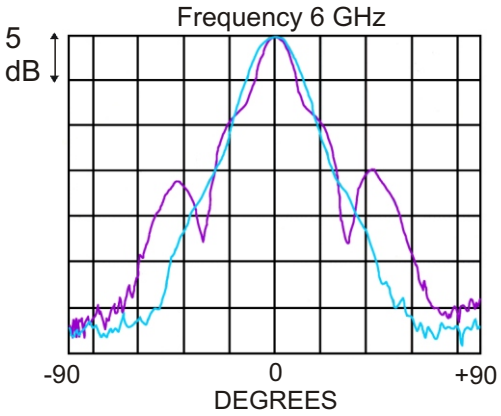
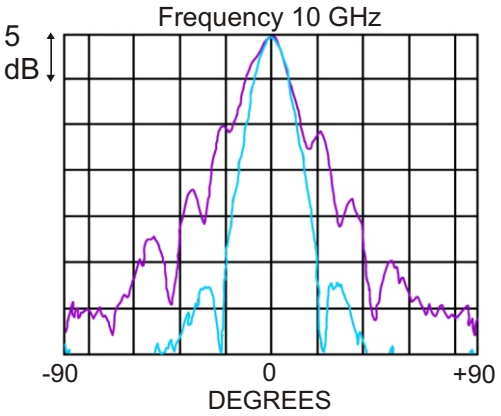
2 - 18 GHz
High Gain Broadband Horn
WBH2-18HN/S

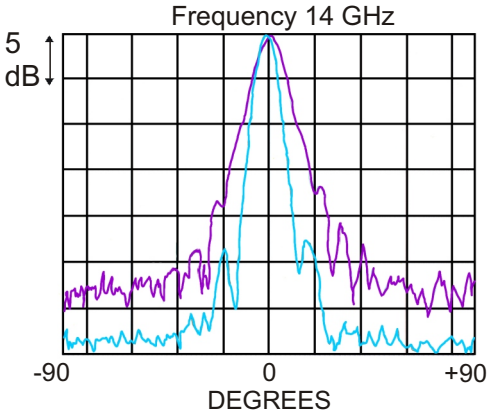
H PLANE

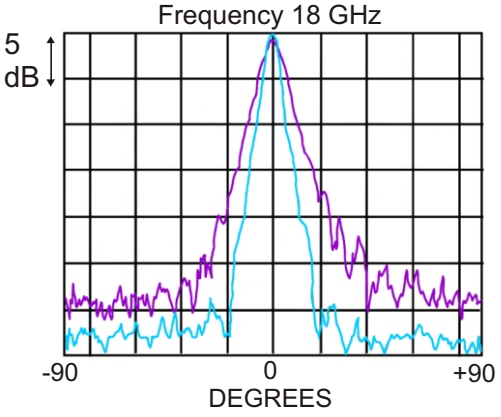
E PLANE











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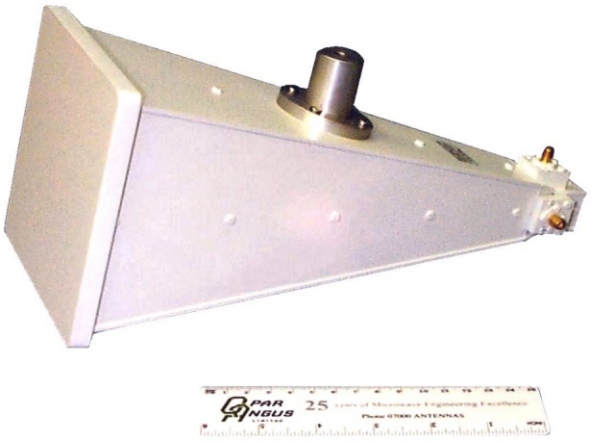

Broadband Dual Polarised Horn 2 - 18 GHz

Model Number WBH2-18DPS

The 2 - 18 GHz dual polarised quad-ridged horn model number WBH2-18DPS is manufactured from aluminium. The horn is supplied with integral type SMA coaxial to waveguide transitions. Gain varies from 6 - 20 dB across the frequency band. A calibration curve of gain versus frequency is provided with each horn. Isolation is greater than 20 dB across the band.

A mounting bracket is included as standard.

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SPECIFICATION

Model Number WBH2-18DPS

Frequency	2 - 18 GHz
Nominal Gain	6 - 20 dBi
Nominal Beamwidth	72 - 10 degrees
VSWR	< 2.5:1
Isolation	> 20 dB
Construction	Aluminium
Dimensions	124 mm x 124 mm x 304 mm
Connector	SMA Female
Weight	2.5 kg
Temperature	-40 C - +70 C

GAIN TABLE

Frequency (GHz)	Gain (dBi)
2	6
4	11
6	13
8	15
10	14
12	17
14	17
16	18
18	20

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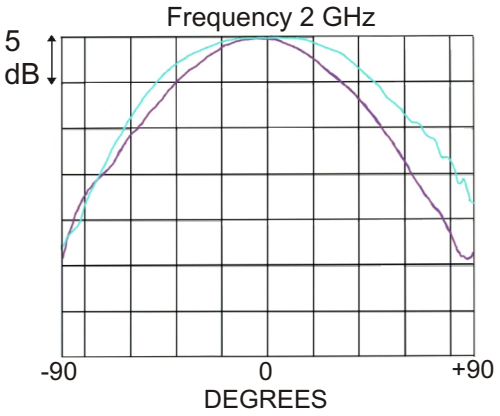
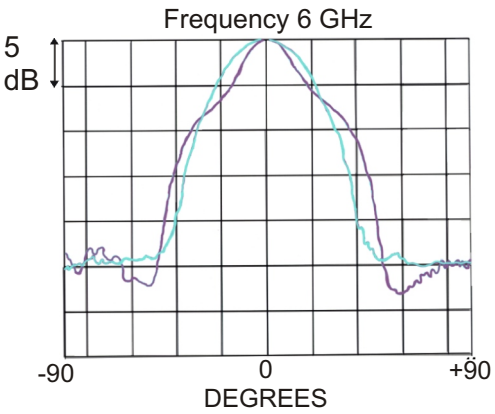
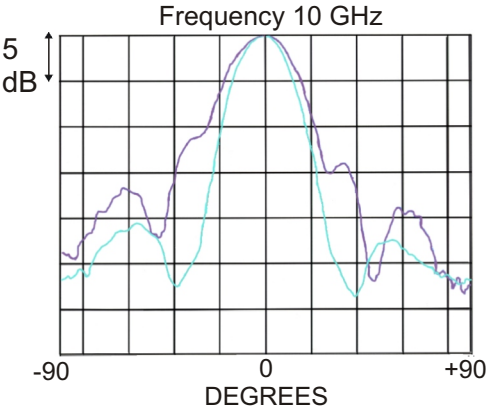
2 - 18 GHz
Broadband Dual Polar Horn
WBH2-18DPS

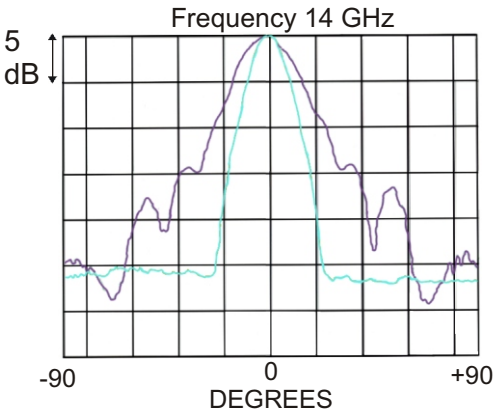
H PLANE

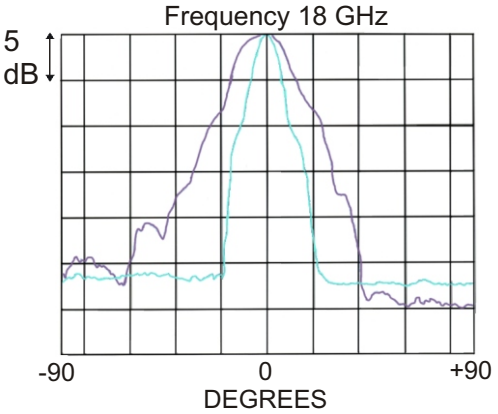
E PLANE











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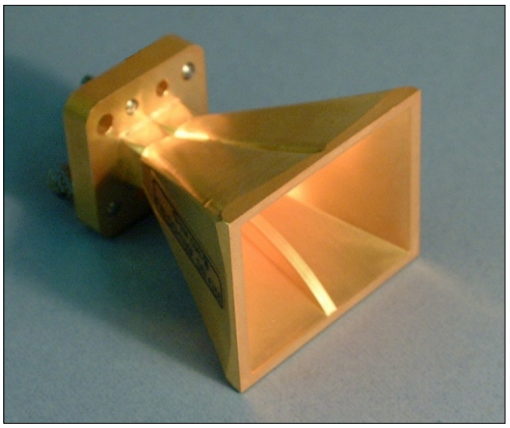

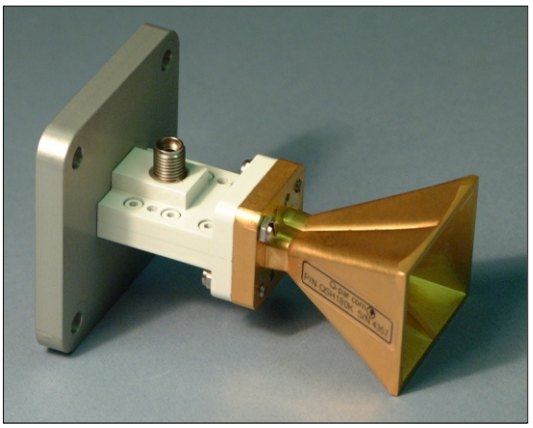

Broadband Single Polarised Horn 18 - 40 GHz

Model Number QSH180F

Model Number QSH180K

The 18 - 40 GHz broad band horn is ideally suited for feeding high gain dishes for direction-finding and surveillance applications. With a reasonably high gain these horns, when used for EMC emissions testing, enable a reduction in system noise floor - an important feature when low emissions are being measured.

The 18 - 40 GHz single polarised horn, model number QSH180F/K, is manufactured from electroformed copper & aluminium. There are two versions available, the **QSH180F** is the standard horn with a WRD180 flange; the **QSH180K** additionally adds a 'K' Type adaptor. An aperture window can be fitted for environmental sealing, if required. Gain varies from 12 - 14 dBi across the frequency band. A calibration antenna report including gain versus frequency is provided with each horn.

A mounting bracket is included as standard on the QSH180K.

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SPECIFICATION

Model Number QSH180F/K

Frequency	18 - 40 GHz
Nominal Gain	12 - 14 dBi
Nominal Beamwidth	40 - 22 degrees
VSWR	< 1.7 : 1, < 1.8 : 1 (QSH180K)
Construction	Electroformed Copper & Aluminium
Dimensions	35 mm x 28 mm x 38 mm 35 mm x 28 mm x 73 mm (QSH180K)
Connector	WRD180 Flange (QSH180F)
Connector	K Type (2.9mm) (QSH180K)
Weight	50 g, 140 g (QSH180K)
Temperature	-40 C - +70 C
Power Handling	200 W c.w, 20 W c.w. (QSH180K)

GAIN TABLE

Frequency (GHz)	Gain (dBi)
18	12
24	14
30	14
36	14
40	14

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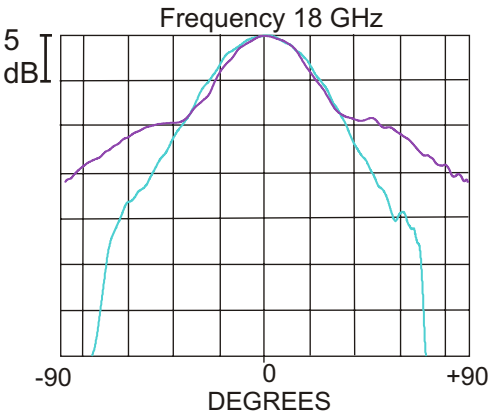
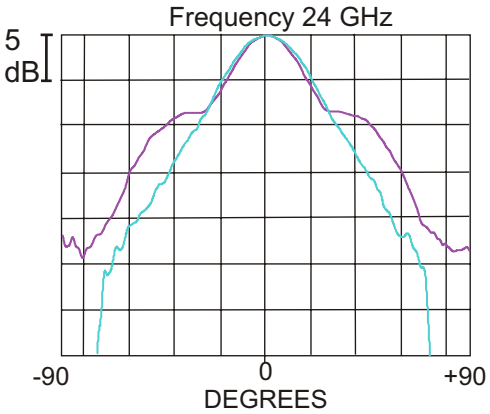
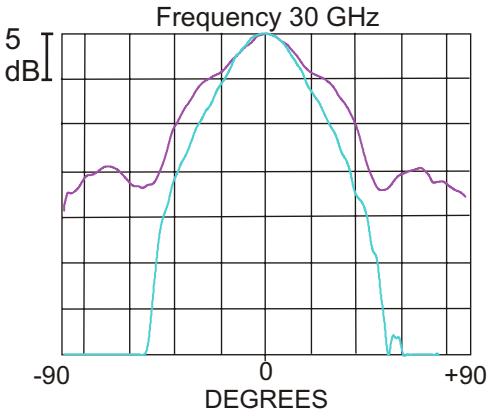
18 - 40 GHz
Broadband Single Polar Horn
QSH180F/K

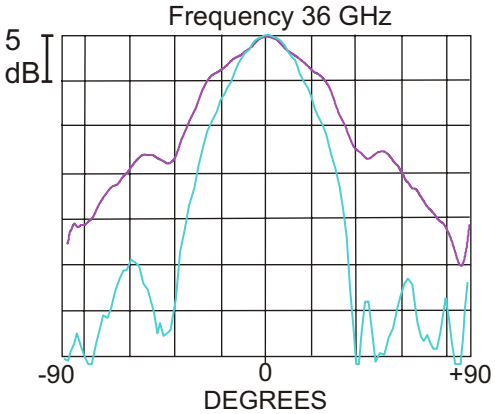
H PLANE

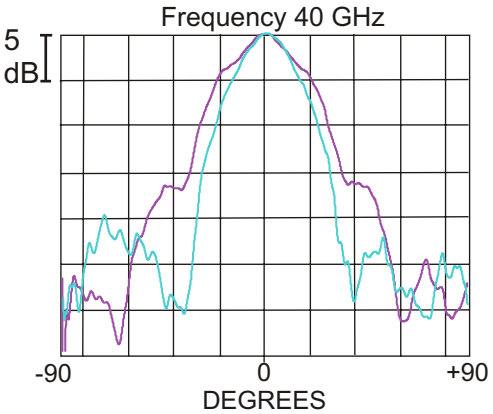
E PLANE











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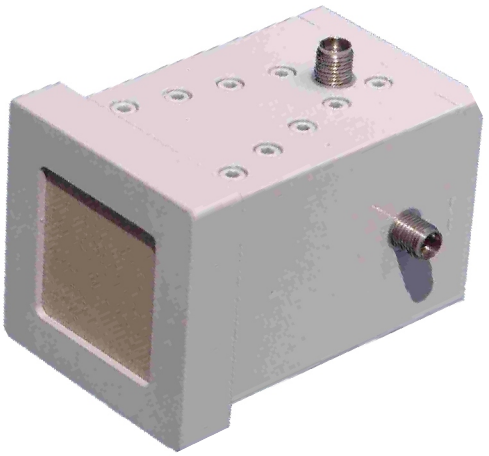

Broadband Dual Polarised Horn 18 - 40 GHz

Model Number WBH18-40DPK

The 18 - 40 GHz dual polarised quad-ridged horn model number WBH18-40DPK is manufactured from aluminium alloy. The horn has two Type K female (2.9 mm) connectors. Gain varies from 11 - 15 dB across the frequency band.

A calibration curve of gain versus frequency is provided with each horn. Isolation is greater than 30 dB across the band.

A mounting bracket is included as standard.

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SPECIFICATION

Model Number WBH18-40DPK

Frequency	18 - 40 GHz
Nominal Gain	11 - 15 dBi
Nominal Beamwidth	40 - 21 degrees
VSWR	< 2.8:1
Isolation	> 30 dB
Power Handling	20 Watts, c.w.
Construction	Aluminium Alloy
Dimensions	47 mm x 47 mm x 68 mm
Connector	K Type Female on two sides
Weight	270 g
Temperature	-40 C - +70 C

GAIN TABLE

Frequency (GHz)	Gain (dBi)
18	11
24	12
30	13
36	14
40	15

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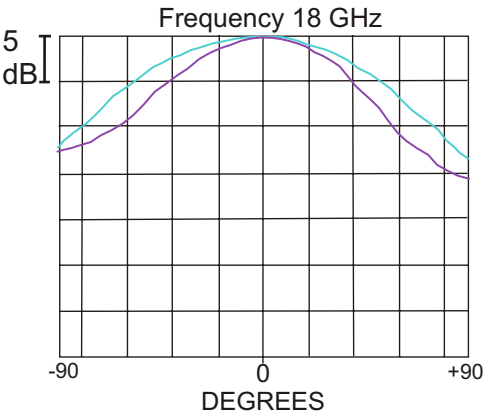
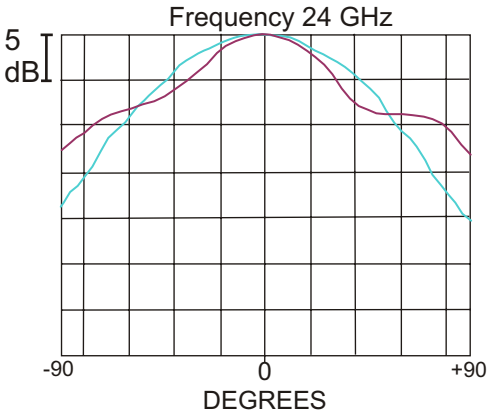
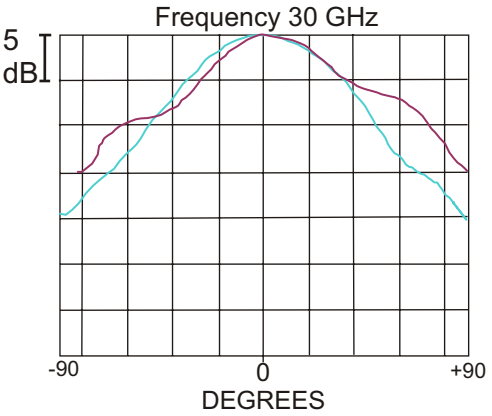
18 - 40 GHz
Broadband Dual Polar Horn
WBH18-40DPK

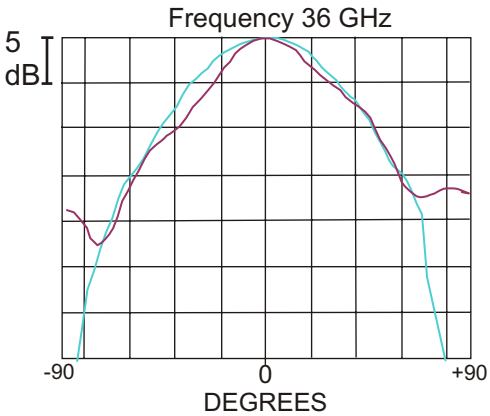
H PLANE

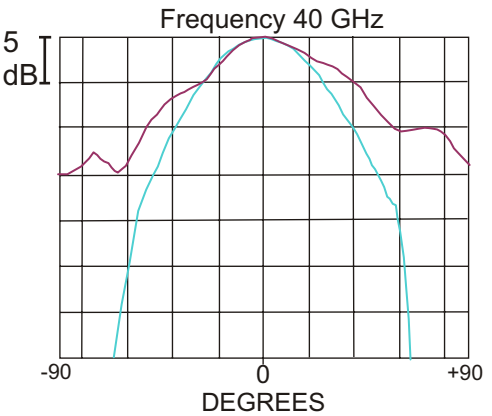
E PLANE











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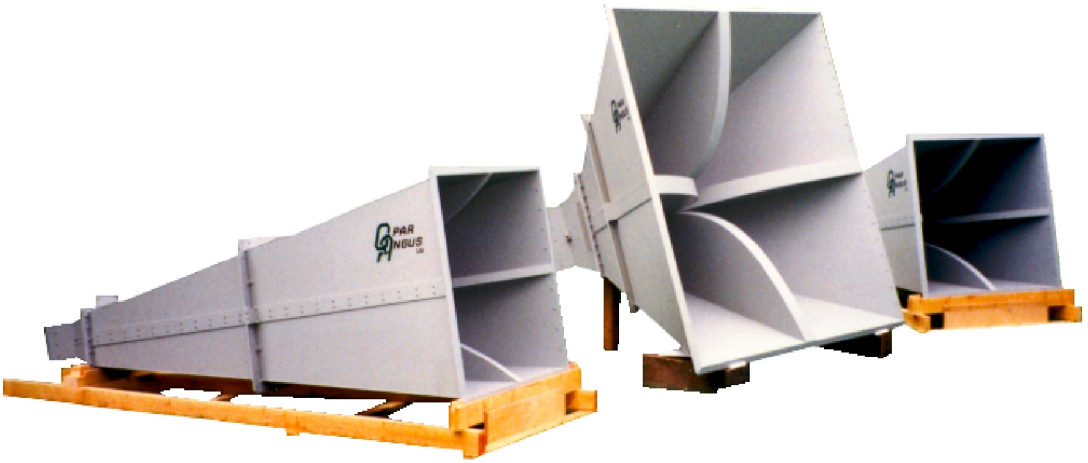

Low Frequency Single and Dual Polarised Ridged Broadband Horns

Q-par Angus are world leaders in the design and construction of large, low frequency, wide-band, double and quadruple ridged horns. The examples shown are dual polarised antennas operating over the frequency ranges 220 MHz to 2 GHz and 100 MHz to 1 GHz.

Full details are available on request.

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100 MHz - 1 GHz Double Ridged Horn

The 100 MHz to 1 GHz Double Ridged Horn Antenna is manufactured from aluminium. It is ideal for Wide Band surveillance, susceptability and EMC applications. The horn is supplied with a precision type 'N' connector. Gain varies from 4 - 10 dBi across the frequency band. A theoretical calibration curve of gain versus frequency is provided with each horn. Horns can be supplied with or without mounts, fully customised to your needs.

Frequency	100 MHz - 1 GHz
Gain	4 - 10 dBi
VSWR	< 2.5 : 1
Dimensions	1.4 m x 2.1 m (L) 2.25 m
Weight	180 kg (400 lbs)

An optional fully adjustable 2 axis (azimuth and elevation) stand is also available to allow easy manoeuverability and alignment, saving time and energy during measurements.

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