



## 29 Linear Polarization Horn Antenna

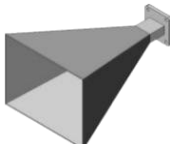
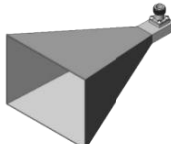
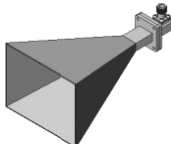
Vector Telecom manufactures a high quality line of linear polarization horn antenna. The common products are pyramidal horn antennas, conical horn antennas and lens antennas. Please call us with your specification and discuss your needs with one of our sales engineers.

### 29.1 Pyramidal Horn Antenna

Pyramid horn antenna is feeder by TE<sub>10</sub> mode waveguide, and stimulated open metal pyramid horn to form radiation. Its advantage is when gain is less than 22 dB, horn antenna has a simple structure, E plane and H plane direction pattern and beam width can respectively control, has stable and reliable performance. The disadvantage is that when require the high gain, beam width is getting narrow, horn antenna length size that relative to the diameter, becomes very long and uncoordinated and inconvenient for use. Pyramid horn antenna can be input waveguide port, also can design with coaxial input directly, or input waveguide type horn + waveguide to coaxial input.

Pyramid horn antenna can be used as a separate transmit and receive antennas, can also be used as a reflector antenna feed source, or array antenna unit.

#### 【Product Type】

Type	With Waveguide Input Style	With Built-in Coaxial Input Style	With Coaxial Connector Style
Model No*	HAA°×B°	HAA°×B°N	HAA°×B°+N
Outline			

#### 【Specifications】

Model No*	WG Type EIA	Freq Range	Optional Beam Width Range(A°×B°)	VSWR	Connector	Material
VT3HAA°×B°N	WR2300	0.32-0.49	30°~ 60°	≤1.5	N Female	Al
VT4HAA°×B°N	WR2100	0.35-0.53	30°~ 60°	≤1.5	N Female	Al



Model No*	WG Type EIA	Freq Range	Optional Beam Width Range(A°XB°)	VSWR	Connector	Material
VT5HAA°XB°N	WR1800	0.41-0.62	30°~60°	≤1.5	N Female	Al
VT6HAA°XB°N	WR1500	0.49-0.75	30°~60°	≤1.5	N Female	Al
VT8HAA°XB°N	WR1150	0.64-0.98	20°~60°	≤1.5	N Female	Al
VT9HAA°XB°N	WR975	0.75-1.15	20°~60°	≤1.5	N Female	Al
VT12HAA°XB°N	WR770	0.96-1.46	20°~60°	≤1.5	N Female	Al
VT14HAA°XB°N	WR650	1.13-1.73	20°~60°	≤1.5	N Female	Al
VT18HAA°XB°N	WR510	1.45-2.20	20°~60°	≤1.5	N Female	Al
VT22HAA°XB°N	WR430	1.72-2.61	20°~60°	≤1.5	N Female	Al
VT26HAA°XB°N	WR340	2.17-3.30	20°~60°	≤1.5	N Female	Al
VT32HAA°XB°N	WR284	2.60-3.95	20°~60°	≤1.5	N Female	Al
VT40HAA°XB°N	WR229	3.22-4.90	20°~60°	≤1.5	N Female	Al
VT48HAA°XB°N	WR187	3.94-5.99	20°~60°	≤1.5	N Female	Al
VT58HAA°XB°N	WR159	4.64-7.05	20°~60°	≤1.5	N Female	Al
VT70HAA°XB°N	WR137	5.38-8.17	20°~60°	≤1.5	N Female	Al
VT84HAA°XB°N	WR112	6.57-9.99	20°~60°	≤1.5	N Female	Al
VT100HAA°XB°N	WR90	8.20-12.40	20°~60°	≤1.5	N Female	Al
VT120HAA°XB°N	WR75	9.84-15.0	20°~60°	≤1.5	N Female	Al
VT140HAA°XB°S	WR62	11.9-18.0	20°~60°	≤1.5	SMA Female	Al
VT180HAA°XB°S	WR51	14.5-22.0	20°~60°	≤1.5	SMA Female	Cu
VT220HAA°XB°K	WR42	17.6-26.7	20°~60°	≤1.5	2.92 Female	Cu
VT260HAA°XB°K	WR34	21.7-33.0	20°~60°	≤1.5	2.92 Female	Cu
VT320HAA°XB°K	WR28	26.5-40.0	20°~60°	≤1.5	2.92 Female	Cu
VT400HAA°XB°	WR22	32.9-50.1	20°~60°	≤1.35	FUGP	Cu
VT500HAA°XB°	WR19	39.2-59.6	20°~60°	≤1.35	FUGP	Cu
VT620HAA°XB°	WR15	49.8-75.8	20°~60°	≤1.35	FUGP	Cu
VT740HAA°XB°	WR12	60.5-91.9	20°~60°	≤1.35	FUGP	Cu
VT900HA A°XB°	WR10	73.8-112	20°~60°	≤1.35	FUGP	Cu
VT1200HAA°XB°	WR8	92.2-140	20°~60°	/	FUGP	Cu
VT1400HA AXB°	WR7	113-173	20°~60°	/	FUGP	Cu
VT1800HA AXB°	WR5	145-220	20°~60°	/	FUGP	Cu
VT2200HA AXB°	WR4	172-261	20°~60°	/	FUGP	Cu
VT2600HA AXB°	WR3	217-330	20°~60°	/	FUGP	Cu

\*Indicates Model Number. See Ordering Information for complete part number.

### 【Ordering Information】

**Example Part No:** VT 100 HA A° X B° N  
 Vector Telecom  
 Freq Range: 2-18GHz  
 Product Type: Horn Antenna

Coax Connector Type: N=Type N, S=SMA, 2.92=K2.92mm  
 H-Width: B°  
 E-Width: A°

- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus black top coat



## 29.2 Conical Horn Antenna

Conical horn antenna series use electroforming or whole processing and work in linear polarization, can change polarization mode through a combination of circular polarizer, and make it work in circular polarization.



### 【Specifications】

Model No*	Freq Range (GHz)	Working Bandwidth (%)	Optional Gain Range X(dB)	VSWR	Circular Waveguide Inner Diameter (mm)	Material	Finish
VT114.58CHAX	1.76-2.42	20~40	≤13	≤1.50	Φ114.58	Al	Chromate conversion
VT97.87CHAX	2.1-2.8	20~40	≤13	≤1.50	Φ97.87	Al	Chromate conversion
VT83.62CHAX	2.45-3.3	20~40	≤13	≤1.50	Φ83.62	Al	Chromate conversion
VT71.42CHAX	2.83-3.88	20~40	≤13	≤1.50	Φ71.42	Al	Chromate conversion
VT51.99CHAX	3.9-5.3	20~40	≤15	≤1.50	Φ51.99	Al	Chromate conversion
VT44.45CHAX	4.55-6.23	20~40	≤15	≤1.50	Φ44.45	Al	Chromate conversion
VT38.1CHAX	5.3-7.3	20~40	≤15	≤1.50	Φ38.1	Al	Chromate conversion
VT32.537CHAX	6.3-8.5	20~40	≤15	≤1.50	Φ32.537	Al	Chromate conversion
VT27.788CHAX	7.3-9.5	20~40	≤18	≤1.50	Φ27.788	Al	Chromate conversion
VT23.825CHAX	8.5-11.5	20~40	≤18	≤1.50	Φ23.825	Al	Chromate conversion
VT17.415CHAX	11.6-15.9	20~40	≤18	≤1.50	Φ17.415	Al	Chromate conversion
VT15.088CHAX	13.4-18.4	20~40	≤18	≤1.50	Φ15.088	Al	Chromate conversion
VT12.7CHAX	15.9-21.8	20~40	≤20	≤1.50	Φ12.7	Cu	Silver Plating
VT9.525CHAX	21.2-29.1	20~40	≤20	≤1.50	Φ9.525	Cu	Silver Plating
VT8.331CHAX	24.3-33.2	20~40	≤20	≤1.50	Φ8.331	Cu	Silver Plating
VT7.137CHAX	28.3-38.8	20~40	≤22	≤1.50	Φ7.137	Cu	Silver Plating
VT5.563CHAX	36.4-49.8	20~40	≤22	≤1.50	Φ5.563	Cu	Gold Plating
VT4.369CHAX	46.3-63.5	20~40	≤22	≤1.50	Φ4.369	Cu	Gold Plating
VT3.581CHAX	56.6-77.5	20~40	≤24	≤1.50	Φ3.581	Cu	Gold Plating
VT3.175CHAX	63.5-87.2	20~40	≤24	≤1.50	Φ3.17	Cu	Gold Plating
VT2.388CHAX	84.8-116.	20~40	≤24	≤1.50	Φ2.388	Cu	Gold Plating
VT1.91CHAX	115-140	20~40	≤24	≤1.50	Φ1.91	Cu	Gold Plating
VT1.50CHAX	140-160	20~40	≤24	≤1.50	Φ1.50	Cu	Gold Plating
VT1.00CHAX	200-300	20~40	≤24	≤1.50	Φ1.00	Cu	Gold Plating
VT0.7CHAX	280-400	20~40	≤24	≤1.50	Φ0.7	Cu	Gold Plating

\*Indicates Model Number. See Ordering Information for complete part number.

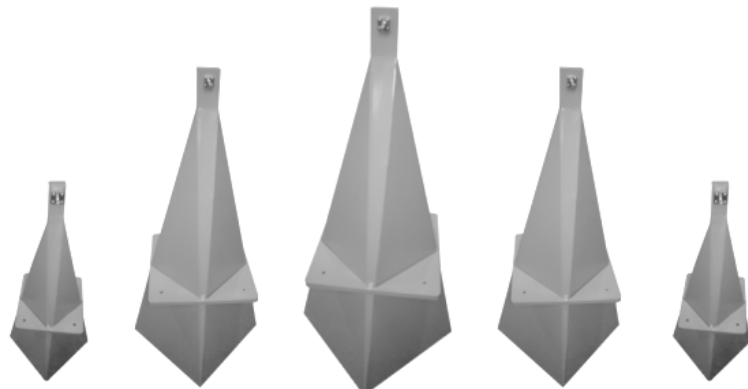
### 【Ordering Information】

**Example Part No:** VT 114.58 CHA N  
 Vector Telecom  
 Circular WG Inner Diameter: 114.58mm  
 Product Type: Conical Horn Antennas  
 Coax Connector Type: N=Type N, S=SMA, 2.92=K2.92mm

- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus black top coat

### 29.3 Low Side Lobe Diagonal Horn Antenna

The low side lobe diagonal horn antenna series is composed of electroformed rectangular-diagonal square waveguide conversion and square horn antenna. It has low side lobe level and equalized E-plane and H-plane beam width on both E and H plane. The frequency of the low side lobe diagonal horn antenna series covers each waveguide frequency band within 2,000 to 60,000 MHz, and the gain is optional from 10 to 25 dB. It should be emphasized that the low side lobes of the diagonal horn only appear on the E and H planes, when they deviate from these two angles, the phenomenon of low side lobes becomes significantly worse.



#### 【Specifications】

Model No*	Freq Range (GHz)	Gain (dB)	Sidelobe Level (dB)		VSWR	Connector	Diagonal length of antenna aperture (mm)	Length (mm)	Material
			E plane	H plane					
VT22RTHA15N	1.8-2.6	15	<-25	<-30	≤1.5	N Female	420	350	Aluminum
VT26RTHA15N	2.2-3.3	15	<-25	<-30	≤1.5	N Female	350	320	Aluminum
VT32RTHA15N	2.6-4.0	15	<-25	<-30	≤1.5	N Female	290	260	Aluminum
VT40RTHA18N	3.2-4.9	18	<-25	<-30	≤1.5	N Female	325	325	Aluminum
VT48RTHA18N	4.0-5.9	18	<-25	<-30	≤1.5	N Female	225	225	Aluminum
VT58RTHA20N	4.9-7.0	20	<-25	<-30	≤1.5	N Female	270	334	Aluminum
VT70RTHA20N	5.9-8.2	20	<-25	<-30	≤1.5	N Female	225	256	Aluminum
VT84RTHA20N	7.0-10.0	20	<-25	<-30	≤1.5	N Female	188	200	Aluminum
VT100RTHA20N	8.2-12.5	20	<-25	<-30	≤1.5	N Female	135.77	160	Aluminum
VT100RTHA25N	8.2-12.5	25	<-25	<-30	≤1.5	N Female	273	500	Aluminum
VT120RTHA20N	10.0-15.0	20	<-25	<-30	≤1.5	N Female	132	150	Aluminum
VT140RTHA20S	12.5-18.0	20	<-25	<-30	≤1.5	SMA Female	113.14	135.5	Aluminum
VT180RTHA22S	14.5-22.0	22	<-25	<-30	≤1.5	SMA Female	215	260	Copper
VT220RTHA22K	18.0-26.5	22	<-25	<-30	≤1.5	2.92 Female	175	200	Copper
VT260RTHA22K	22.0-33.0	22	<-25	<-30	≤1.5	2.92 Female	150	170	Copper
VT320RTHA22K	26.5-40.0	22	<-25	<-30	≤1.5	2.92 Female	110	120	Copper
VT400RTHA22V	33.0-50.0	22	<-25	<-30	≤1.35	V2.4 Female	95	100	Copper
VT500RTHA22V	40.0-59.0	22	<-25	<-30	≤1.35	V2.4 Female	75	90	Copper

\*Indicates Model Number. See Ordering Information for complete part number.

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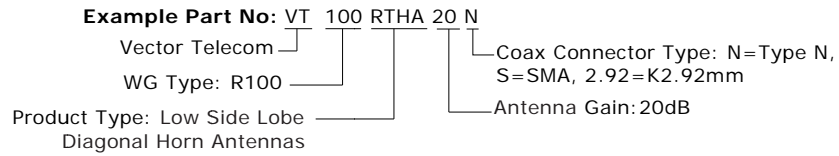
Vector Telecom Pty Ltd

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Email: [sales@vectortele.com](mailto:sales@vectortele.com)



## 【Ordering Information】



- Finish: Corrosion protection plus black top coat

## 29.4 Wideband Horn Antenna

Wideband horn antenna's bandwidth is between the full waveguide frequency (40%) and octave bandwidth, usually it refers to the wideband horn antenna within the octave. Therefore, its performance is slightly lower than ordinary horn antenna, and better than ultra-wideband antenna.

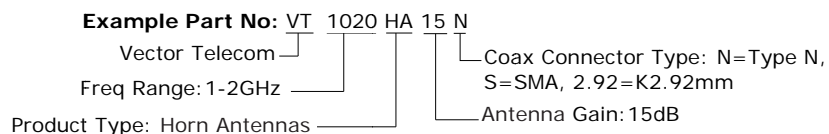


## 【Specifications】

Model No*	Freq Range (GHz)	Gain (dB)	Beam Width	VSWR	Dimension (mm) W*H*L	Connector	Material
VT1020HA15N	1-2	10~15	35°~55°	≤1.5	456*386*583	N Female	Al
VT2040HA15N	2-4	10~15	15°~55°	≤1.5	367*267*543	N Female	Al
VT4080HA15N	4-8	10~15	15°~55°	≤1.5	144*104*246	N Female	Al
VT80180HA20N	8-18	15~20	15°~55°	≤1.5	133*103*247	N Female	Al
VT180400HA20K	18-40	15~20	15°~55°	≤1.5	68*51*174	2.92 Female	Cu

\*Indicates Model Number. See Ordering Information for complete part number.

## 【Ordering Information】



- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus black top coat


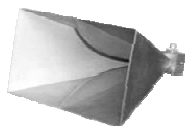



## 29.5 Octave Double-ridged Horn Antenna

Octave Double-ridged Horn Antennas use the international standard of double ridged waveguide interface, working frequency range covers all band double ridged waveguide. Within 0.5-40 GHz, each corresponding double ridged waveguide frequencies, VT has a corresponding broadband horn antenna and matches the different gain requirements. Each horn antenna will provide gain vs frequency calibration curve, the gain value error is less than 0.7 dB.

This series of antenna has the three gain specifications of 10dB, 13dB and 15dB. It can be customized according to requirements.

### 【Product Type】

Type	WG Input	Built-in Coaxial Input	With Coaxial Connector
Model	DRHAX	DRHAX...	DRHAX+...
Outline			

### 【DRHAX... Specification】

Model No*	WG Type	Freq Range (GHz)	Gain (dB)	Beam Width	VSWR	Connector	Material
	EIA						
VT84DRHA10N	WRD84	0.84-2.0	5-12	30°~70°	≤2	N Female	Al
VT150DRHA10N	WRD150	1.5-3.6	8-12	30°~60°	≤2	N Female	Al
VT200DRHA10N	WRD200	2.0-4.8	8-12	30°~60°	≤2	N Female	Al
VT250DRHA10N	WRD250	2.6-7.8	8-12	30°~60°	≤2	N Female	Al
VT350DRHA10N	WRD350	3.5-8.2	8-12	30°~60°	≤2	N Female	Al
VT475DRHA10N	WRD475	4.75-11.0	8-12	30°~60°	≤2	N Female	Al
VT500DRHA10S	WRD500	5.0-18.0	8-12	30°~60°	≤2	SMA Female	Al
VT580DRHA10S	WRD580	5.8-16.0	8-12	30°~60°	≤2	SMA Female	Al
VT650DRHA10S	WRD650	6.5-18.0	8-12	30°~60°	≤2	SMA Female	Al
VT750DRHA10S	WRD750	7.5-18.0	8-12	30°~60°	≤2	SMA Female	Al
VT700DRHA10S	WRD700	7.0-18.5	8-12	30°~60°	≤2	SMA Female	Al
VT1100DRHA10S	WRD110	11.0-26.5	8-12	30°~60°	≤2	SMA Female	Cu
VT1800DRHA10K	WRD180	18.0-40.0	8-12	30°~60°	≤2	2.92 Female	Cu

\*Indicates Model Number. See Ordering Information for complete part number.

### 【Ordering Information】

**Example Part No: VT 650 DRHA 10 N**

Vector Telecom

WG Type: WRD650

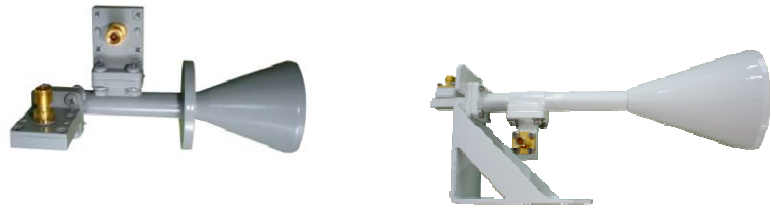
Product Type: Double-ridged Horn Antennas

Coax Connector Type: N=Type N, S=SMA, 2.92=K2.92mm

Antenna Gain: 10dB

- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus black top coat

## 29.6 Dual Linear Polarization Horn Antenna



Double polarization horn antenna can use OMT and conical horn scheme, and the realization of the OMT form is divided into two methods, one is OMT by routine, its design and process is simple, the bandwidth is narrow; another is using symmetry feeder structure form of OMT, its disadvantage is that design and process is complicated, advantage is that can achieve 40% bandwidth, polarization isolation can get more than 30 dB.

### 【Specification】

Model No*	WG Type EIA	Freq Range (GHz)	Working Bandwidth	Gain X(dB)	Polarization Isolation (dB)	VSWR	Connector	Material
VT84DPHAXN	WR112	7-10	≤5%	10/15	≥20	≤1.5	N Female	Al
			≤40%		≥30			
VT100DPHAXN	WR90	8-12.4	≤5%	10/15	≥20	≤1.5	N Female	Al
			≤40%		≥30			
VT120DPHAXN	WR75	10-15	≤5%	10/15	≥20	≤1.6	N Female	Al
			≤40%		≥30			
VT140DPHAXS	WR62	12-18	≤5%	10/15	≥20	≤1.6	SMA Female	Al
			≤40%		≥30			
VT180DPHAXS	WR51	15-22	≤5%	10/15/20	≥20	≤1.6	SMA Female	Cu
			≤40%		≥30			
VT220DPHAXK	WR42	17.6-26.7	≤5%	10/15/20	≥20	≤1.6	2.92 Female	Cu
			≤40%		≥30			
VT260DPHAXK	WR34	22-33	≤5%	10/15/20	≥20	≤1.6	2.92 Female	Cu
			≤40%		≥30			
VT320DPHAXK	WR28	26.5-40	≤5%	10/15/20	≥20	≤1.6	2.92 Female	Cu
			≤40%		≥30			
VT400DPHAX	WR22	33-50	≤5%	10/15/20	≥20	≤1.5	WR22	Cu
			≤40%		≥30			
VT500DPHAX	WR19	40-60	≤5%	10/15/20	≥20	≤1.5	WR19	Cu
			≤40%		≥30			
VT620DPHAX	WR15	50-75	≤5%	10/15/20	≥20	≤1.5	WR15	Cu
			≤40%		≥30			
VT740DPHAX	WR12	60-90	≤5%	10/15/20	≥20	≤1.5	WR12	Cu
			≤40%		≥30			
VT900DPHAX	WR10	75-110	≤5%	10/15/20	≥20	≤1.6	WR10	Cu
			≤40%		≥30			

\*Indicates Model Number. See Ordering Information for complete part number.

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## Linear Polarization Horn Antenna



Vector Telecom Pty Ltd

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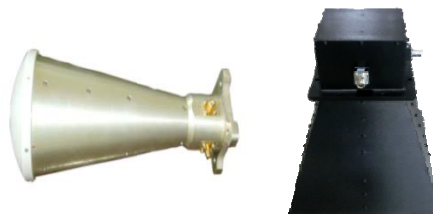
## 【Ordering Information】

**Example Part No:** VT 650 DPHA 10 N  
 Vector Telecom  
 WG Type: WRD650  
 Product Type: Dual Linear Polarization  
 Horn Antennas  
 Coax Connector Type: N=Type N,  
 S=SMA, 2.92=K2.92mm  
 Antenna Gain: 10dB

- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus black top coat

## 29.7 Ultra Broadwall Dual Linear Polarization Four Ridged Horn Antenna

In EMC, EMI, and antenna measurements, multi-polarization function requirement is more and more. The double polarization four ridged horn antenna series Vector Telecom researched and developed can work for you. In addition, with broadband bridge can make the antenna series to broadband double circular polarized antenna. This series of antenna cover octave frequency bandwidth, and even as high as dozens of octave bandwidth, the polarization isolation is > 20 dB.



## 【Specification】

Model No*	Working Bandwidth (GHz)	Gain (dB)	VSWR	Polarization Isolation (dB)	Dimensions (mm)			Connector
					W	H	L	
VT0840DPHA6N	0.8-4	6~10	≤2.5	≥20	250	250	400	N Female
VT1040DPHAXN	1-4	6~10	≤2.5	≥20	280	280	420	N Female
VT20180DPHA6S	2-18	6~16	≤2.5	≥20	120	120	169	SMA Female
VT180400DPHA16K	18-40	14~17	≤2.5	≥20	Φ63x146			2.92 Female
VT260400DPHA18K	26-40	18~20	≤2.5	≥20	Φ46.5x135			2.92 Female

\*Indicates Model Number. See Ordering Information for complete part number.

## 【Ordering Information】





**Example Part No:** VT 1040 DPHA 10 N  
 Vector Telecom  
 Freq Range: 1-4GHz  
 Product Type: Dual Linear Polarization  
 Horn Antennas  
 Coax Connector Type: N=Type N,  
 S=SMA, 2.92=K2.92mm  
 Antenna Gain: 10dB

- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus black top coat

## 29.8 Open Boundary Dual Linear Polarization Four Ridged Horn Antenna

Open Boundary Dual Linear Polarization Four Ridged Horn Antennas is using the latest design of open borders, due to the opening of the border, the antenna's working band can expand to the low end, compared the same size of four ridged horn antenna with boundary between, the antenna performance is improved, and the size of the compression also makes change sensitivity of the antenna phase center decline along with the change of frequency.



### 【Specification】

Model No*	VT0460DPOBHA10S	VT0880DPOBHA8S	VT30180DPOBHA10S
Freq Range	0.4 - 6 GHz	0.8 - 8 GHz	3 - 18 GHz
Gain	4-13dB	2-10dB	6-14dB
VSWR	≤ 3.0	≤ 3.0	≤ 3.0
Isolation (dB)	≥20 dB	≥20 dB	≥20 dB
Dimensions (W×H×L)	500×500×550mm	350×350×400mm	175×175×200mm
Connector	SMA Female	SMA Female	SMA Female

\*Indicates Model Number. See Ordering Information for complete part number.

### 【Ordering Information】

**Example Part No:** VT 0880 DPOBHA 10 S  
 Vector Telecom  
 Freq Range: 0.8-8GHz  
 Product Type: Open Boundary Dual Linear  
 Polarization Four Ridged Horn Antennas  
 Coax Connector Type: N=Type N,  
 S=SMA, 2.92=K2.92mm  
 Antenna Gain: 10dB

Flange type: Multiple types available - see VT Flanges page

- Finish: Corrosion protection plus black top coat



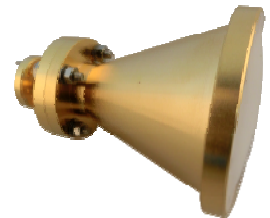
## 29.9 Lens Antenna

Lens antenna in working principle is similar to parabolic reflector antenna, are based on the principle of optical design. Its design principle is that the lens antenna's calibre size must be greater than the wavelength. Lens material requires stable dielectric constant, small dielectric loss, easy to forming, and lighter in weight.

Lens antenna has a conical horn lens antenna, pyramid horn lens antenna, feed radiation type lens antenna, spot focusing lens antenna, a metamaterial lens antenna, etc. In order to reduce the weight of the lens, in narrow-band application it adopts zoned lenses or a metamaterial lens design method.

### 29.9.1 Conical Horn Lens Antenna

Low sidelobe lens horn antenna is composed of conical horn or conical corrugated horn and planoconvex lens. It is characterized by short axial dimensions (versus ordinary horn), low sidelobe level, working in linear polarization, when increase the VTCWPS90° type circular waveguide polarization phase shifter, can make its work in the circular polarization.



#### 【Specification】

Model No*	WG Type EIA	Freq Range (GHz)	Gain (dB)	Sidelobe Level (dB)		Beam Width (°)	VSW R	Interface	Antenna Diameter (Φmm)	Length (mm)
				E plane	H plane					
VT100LHA250	WR90	8.2-12.4	25	≤-15	≤-26	7~10	≤2.5	FBP-100	250	270
VT120LHA250	WR75	10.0-15.0	26	≤-15	≤-26	7~10	≤2.5	FBP-120	250	270
VT140LHA150	WR62	12.5-18.0	23	≤-15	≤-26	7~10	≤2.5	FBP-140	150	170
VT140LHA200	WR62	12.5-18.0	26	≤-15	≤-26	5~8	≤2.5	FBP-140	200	220
VT140LHA250	WR62	12.4-18.0	28	≤-15	≤-26	3~6	≤2.5	FBP-140	250	270
VT180LHA100	WR51	14.5-22.0	22	≤-15	≤-26	9~12	≤2.5	FBP-180	100	120
VT180LHA150	WR51	14.5-22.0	25	≤-15	≤-26	6~9	≤2.5	FBP-180	150	170
VT180LHA200	WR51	14.5-22.0	28	≤-15	≤-26	4~7	≤2.5	FBP-180	200	220
VT220LHA80	WR42	18.0-26.5	21	≤-15	≤-26	9~12	≤2.5	FBP-220	80	100
VT220LHA100	WR42	18.0-26.5	23	≤-15	≤-26	7~10	≤2.5	FBP-220	100	120
VT220LHA150	WR42	18.0-26.5	27	≤-15	≤-26	4~7	≤2.5	FBP-220	150	170
VT220LHA200	WR42	18.0-26.5	29	≤-15	≤-26	3~6	≤2.5	FBP-220	200	220
VT260LHA50	WR34	22.0-33.0	19	≤-15	≤-26	12~16	≤2.5	FBP-260	50	80
VT260LHA80	WR34	22.0-33.0	23	≤-15	≤-26	7~10	≤2.5	FBP-260	80	100



Model No*	WG Type EIA	Freq Range (GHz)	Gain (dB)	Sidelobe Level (dB)		Beam Width (°)	VSWR	Interface	Antenna Diameter (Φmm)	Length (mm)
				E plane	H plane					
VT260LHA100	WR34	22.0-33.0	25	≤-15	≤-26	6~9	≤2.5	FBP-260	100	120
VT260LHA150	WR34	22.0-33.0	29	≤-15	≤-26	3~6	≤2.5	FBP-260	150	170
VT260LHA200	WR34	22.0-33.0	31	≤-15	≤-26	2~4	≤2.5	FBP-260	200	220
VT320LHA50	WR28	26.5-40.0	21	≤-15	≤-26	10~13	≤2.5	FBP-320	50	80
VT320LHA80	WR28	26.5-40.0	25	≤-15	≤-26	6~9	≤2.5	FBP-320	80	100
VT320LHA100	WR28	26.5-40.0	27	≤-15	≤-26	4~7	≤2.5	FBP-320	100	120
VT320LHA150	WR28	26.5-40.0	31	≤-15	≤-26	3~5	≤2.5	FBP-320	150	170
VT320LHA200	WR28	26.5-40.0	33	≤-15	≤-26	2~4	≤2.5	FBP-320	200	220

\*Indicates Model Number. See Ordering Information for complete part number.

### 【Ordering Information】

Example Part No: VT 100 LHA 250

Vector Telecom —  
WG Type: R100 —  
Antenna Diameter: 250mm —  
Product Type: Conical Horn Lens Antennas —

- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus black top coat

### 29.9.2 Pyramidal Horn Lens Antennas

Horn lens antenna can be composed of pyramidal Horn and planoconvex lens. It is characterized by short axial dimensions (versus ordinary horn), low sidelobe level, working in linear polarization, antenna size can be customized according to the requirements. The disadvantage is that increasing the weight of the lens.



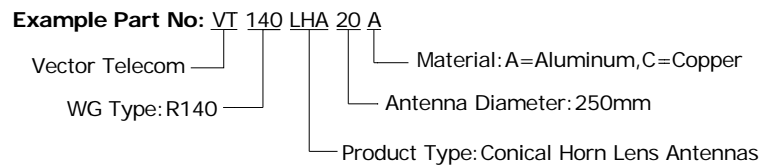
### 【Specification】

Model No*	WG Type EIA	Freq Range (GHz)	Gain (dB)	Sidelobe Level (dB)		VSWR	Interface	Antenna Diameter (mm)	Length (mm)
				E	H				
VT140LHA20A	WR62	11.9-18.0	20	≤-15	≤-26	≤2.5	FBP-140	120×90	205
VT260LHA25A	WR34	21.7-33.0	25	≤-15	≤-26	≤2.5	FBP-260	89×89	175

\*Indicates Model Number. See Ordering Information for complete part number.



## 【Ordering Information】

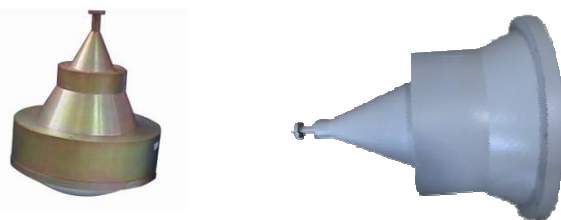


- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus black top coat

### 29.9.3 Point Focusing Horn Lens Antenna

Point focusing lens antenna is composed of conical horn or conical corrugated horn and convex lens. Its characteristic is beam forms a focal spot under the designed focus. The focal length and diameter size can be customized according to the customer requirements. When the focus of the two point focusing lens antenna overlaps, the transmission loss between the two antennas is minimum. Because the area nearby intersection point is lesser, it is one of the best ways to study microwave potter permeability and reflection characteristics of special materials and substances in a local.

Note that the electrical parameters of the point focusing lens antenna cannot define and test in accordance with the general antenna. In the absence of the definition of beam width and antenna gain, so their electrical parameters are mainly: operating frequency range, focal length, and the focal spot size.



## 【Specification】

Model No*	WG Type EIA	Freq Range (GHz)	Antenna Diameter (Φmm)	Focal Length (mm)	Focal Spot Diameter (mm)	VSWR	Interface
VT32PLHA300F500	WR284	2.6-4	300	500	≤200	≤2.5	FDP-32
VT40PLHA300F500	WR229	3.3-4.9	300	500	≤200	≤2.5	FDP-40
VT48PLHA300F500	WR187	4-6	300	500	≤120	≤2.5	FDP-48
VT58PLHA250F500	WR159	4.9-7.0	250	500	≤80	≤2.5	FDP-58
VT70PLHA250F500	WR137	5.38-8.17	250	500	≤80	≤2.5	FDP-70
VT84PLHA250F500	WR112	6.57-9.99	250	500	≤60	≤2.5	FBP-84
VT100PLHA200F300	WR90	8.2-12.4	200	300	≤60	≤2.5	FBP-100

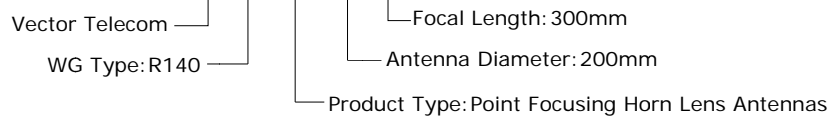


Model No*	WG Type EIA	Freq Range (GHz)	Antenna Diameter (Φmm)	Focal Length (mm)	Focal Spot Diameter (mm)	VSWR	Interface
VT120PLHA200F300	WR75	9.84-15.0	200	300	≤60	≤2.5	FBP-120
VT140PLHA200F300	WR62	11.9-18.0	200	300	≤50	≤2.5	FBP-140
VT180PLHA100F200	WR51	14.5-22.0	100	200	≤40	≤2.5	FBP-180
VT220PLHA100F200	WR42	17.6-26.7	100	200	≤35	≤2.5	FBP-220
VT260PLHA100F100	WR34	21.7-33.0	100	100	≤30	≤2.5	FBP-260
VT320PLHA100F100	WR28	26.5-40.0	100	100	≤25	≤2.5	FBP-320

\*Indicates Model Number. See Ordering Information for complete part number.

### 【Ordering Information】

Example Part No: VT 140 PLHA 200 F300



- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus black top coat

### 29.9.4 Feed Irradiation Lens Antennas

In order to improve the performance of the lens antenna, Vector Telecom adopts the method of irradiating the lens with a feed, by changing the irradiation function to the lens, the amplitude and phase distribution of the aperture field of the lens antenna is changed accordingly, to achieve the required antenna performance.



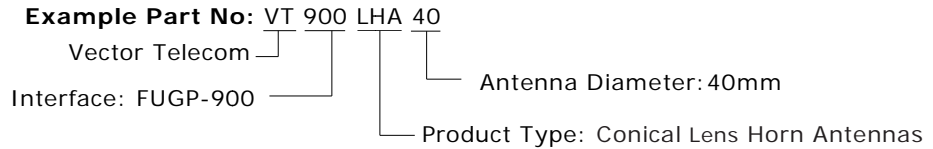
### 【Specification】

Model No*	Freq Range (GHz)	Gain (dB)	Sidelobe Level (dB)		VSWR	Interface	Antenna Diameter (mm)	Length (mm)
			E Plane	H Plane				
VT900LHA38.4	91.8-95.8	28	≤-25	≤-25	≤2	FUGP-900	Φ38.4	74
VT260LHA200	22-30	30	≤-25	≤-25	≤2	FBP-260	Φ200	275

\*Indicates Model Number. See Ordering Information for complete part number



## 【Ordering Information】



- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus black top coat

## 29.10 Corrugated Horn and Multimode Horn Antennas

The wide-angle corrugated horn antenna adopts broadband technology with variable slot depth and slot width to make it have good VSWR and radiation characteristics in the bandwidth closely to the octave band. It is widely used in high-performance broadband frond feed or offset feed antennas, such as: C-Band, Ku-Band communication antenna, can provide product frequency range up to 300GHz. In the full bandwidth, the low-end frequency, VSWR <1.30, in the narrow-band, VSWR <1.06, and at the -15dB E-H lobe equalization  $< \pm 5^\circ$ . It can also be customized according to user requirements for frequency range and lobe width.



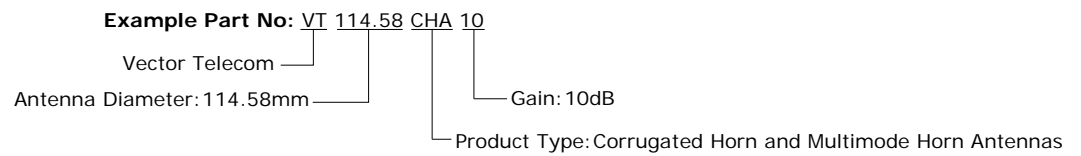
## 【Specification】

Model No*	Freq Range (GHz)	Horn caliber (mm)	Gain (dB)	VSWR	Input interface (mm)
VT114.58CHA10	1.76-2.42	Φ245	10	≤1.5	Φ114.58
VT97.87CHA10	2.1-2.8	Φ205	10	≤1.5	Φ97.87
VT83.62CHA10	2.45-3.3	Φ176	10	≤1.5	Φ83.62
VT71.42CHA10	2.83-3.88	Φ154	10	≤1.5	Φ71.42
VT51.99CHA10	3.9-5.3	Φ110	10	≤1.5	Φ51.99
VT44.45CHA10	4.55-6.23	Φ96	10	≤1.5	Φ44.45
VT38.1CHA10	5.3-7.3	Φ84	10	≤1.5	Φ38.1
VT32.537CHA10	6.3-8.5	Φ70	10	≤1.5	Φ32.537
VT27.788CHA10	7.3-9.5	Φ62	10	≤1.5	Φ27.788
VT23.825CHA10	8.5-11.5	Φ54	10	≤1.5	Φ23.825
VT17.415CHA10	11.6-15.9	Φ42	10	≤1.5	Φ17.415
VT15.088CHA10	13.4-18.4	Φ35	10	≤1.5	Φ15.088
VT12.7CHA10	15.9-21.8	Φ30	10	≤1.5	Φ12.7

Model No*	Freq Range (GHz)	Horn caliber (mm)	Gain (dB)	VSWR	Input interface (mm)
VT9.525CHA10	21.2-29.1	Φ24	10	≤1.5	Φ9.525
VT8.331CHA10	24.3-33.2	Φ20	10	≤1.5	Φ8.331
VT7.137CHA10	28.3-38.8	Φ18	10	≤1.5	Φ7.137
VT5.563CHA10	36.4-49.8	Φ15	10	≤1.5	Φ5.563
VT4.369CHA10	46.3-63.5	Φ12	10	≤1.5	Φ4.369
VT3.581CHA10	56.6-77.5	Φ10	10	≤1.5	Φ3.581
VT3.175CHA10	63.5-87.2	Φ9	10	≤1.5	Φ3.17
VT2.388CHA10	84.8-116	Φ7.5	10	≤1.5	Φ2.388

\*Indicates Model Number. See Ordering Information for complete part number.

### 【Ordering Information】



- Flange type: Multiple types available - see VT Flanges page
- Finish: Corrosion protection plus black top coat

# 29

## Linear Polarization Horn Antenna



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