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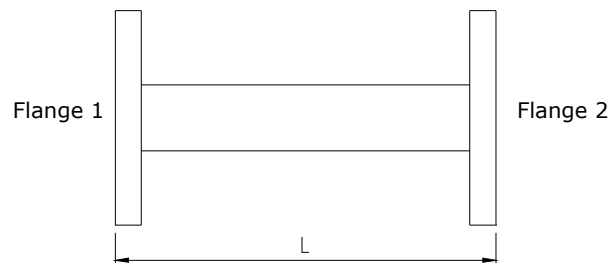
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## Waveguide Components

### 1 Straight waveguide

Synergy Telecom offers a standard product line of straight waveguides covering waveguide sizes WR10 thru WR2300.

We also supply other special configurations to meet customer's specific requirements. For more information please contact us and discuss your needs with our sales engineer.



#### 【Specifications】

Model No*	Freq Range (GHz)	VSWR (Max)	WG Type		Flange	Material
			IEC	EIA		
ST-3WAL...	0.32-0.49	1.10	R3	WR2300	FDP/FDM	Al
ST-4WAL...	0.35-0.53	1.10	R4	WR2100	FDP/FDM	Al
ST-5WAL...	0.41-0.62	1.10	R5	WR1800	FDP/FDM	Al
ST-6WAL...	0.49-0.75	1.10	R6	WR1500	FDP/FDM	Al
ST-8WAL...	0.64-0.98	1.10	R8	WR1150	FDP/FDM	Al
ST-9WAL...	0.75-1.15	1.10	R9	WR975	FDP/FDM	Al
ST-12WAL...	0.96-1.46	1.05	R12	WR770	FDP/FDM	Al
ST-14WAL...	1.13-1.73	1.05	R14	WR650	FDP/FDM	Al
ST-18WAL...	1.45-2.20	1.05	R18	WR510	FDP/FDM	Al
ST-22WAL...	1.72-2.61	1.05	R22	WR430	FDP/FDM	Al/Cu
ST-26WAL...	2.17-3.30	1.05	R26	WR340	FDP/FDM	Al/Cu
ST-32WAL...	2.60-3.95	1.05	R32	WR284	FDP/FDM	Al/Cu

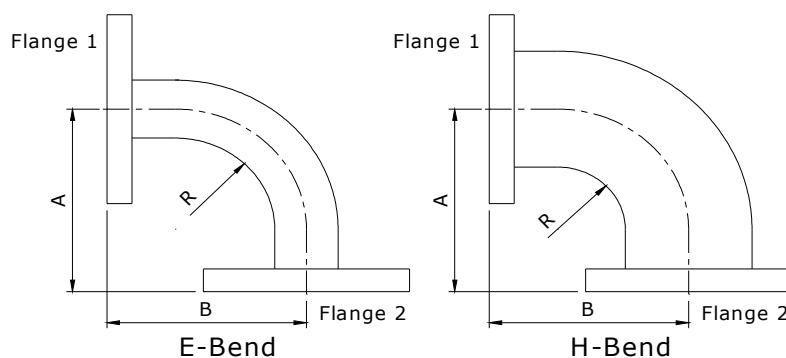
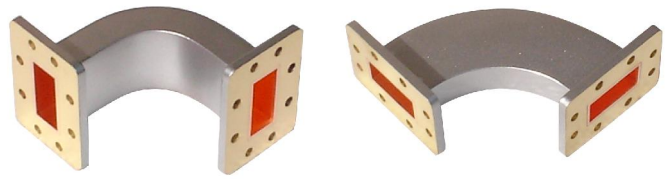
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ST-40WAL...	3.22-4.90	1.05	R40	WR229	FDP/FDM	Al/Cu
ST-48WAL...	3.94-5.99	1.05	R48	WR187	FDP/FDM	Al/Cu
ST-58WAL...	4.64-7.05	1.05	R58	WR159	FDP/FDM	Al/Cu
ST-70WAL...	5.38-8.17	1.05	R70	WR137	FDP/FDM	Al/Cu
ST-84WAL...	6.57-9.99	1.05	R84	WR112	FBP/FBM/FBE	Al/Cu
ST-100WAL...	8.20-12.40	1.05	R100	WR90	FBP/FBM/FBE	Al/Cu
ST-120WAL...	9.84-15.0	1.05	R120	WR75	FBP/FBM/FBE	Al/Cu
ST-140WAL...	11.9-18.0	1.05	R140	WR62	FBP/FBM/FBE	Al/Cu
ST-180WAL...	14.5-22.0	1.05	R180	WR51	FBP/FBM/FBE	Al/Cu
ST-220WAL...	17.6-26.7	1.05	R220	WR42	FBP/FBM/FBE	Al/Cu
ST-260WAL...	21.7-33.0	1.05	R260	WR34	FBP/FBM/FBE	Al/Cu
ST-320WAL...	26.3-40.0	1.05	R320	WR28	FBP/FBM/FBE	Al/Cu
ST-400WAL...	32.9-50.1	1.10	R400	WR22	FUGP	Cu
ST-500WAL...	39.2-59.6	1.10	R500	WR19	FUGP	Cu
ST-620WAL...	49.8-75.8	1.10	R620	WR15	FUGP	Cu
ST-740WAL...	60.5-91.9	1.10	R740	WR12	FUGP	Cu
ST-900WAL...	73.8-112	1.10	R900	WR10	FUGP	Cu

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

## 2 Waveguide Bend

Synergy Telecom offers a standard product line of E-bends and H-bends covering waveguide sizes WR10 thru WR430. Multi-degrees, additional sizes, configurations and combinations are available on request.



### 【Specifications】

Model No*	Freq Range (GHz)	VSWR (Max)	Std Dimensions A×B×R (mm)**	WG Type		Flange	Material
				IEC	EIA		
ST-22WEB...	1.72-2.61	1.15	190×190×95	R22	WR430	FDP/FDM	Al/Cu
ST-22WHB...	1.72-2.61	1.15	250×250×152	R22	WR430	FDP/FDM	Al/Cu
ST-26WEB...	2.17-3.30	1.15	100×100×40	R26	WR340	FDP/FDM	Al/Cu
ST-26WHB...	2.17-3.30	1.15	180×180×100	R26	WR340	FDP/FDM	Al/Cu
ST-32WEB...	2.60-3.95	1.10	100×100×40	R32	WR284	FDP/FDM	Al/Cu
ST-32WHB...	2.60-3.95	1.10	160×160×100	R32	WR284	FDP/FDM	Al/Cu
ST-40WEB...	3.22-4.90	1.10	80×80×40	R40	WR229	FDP/FDM	Al/Cu
ST-40WHB...	3.22-4.90	1.10	120×120×78	R40	WR229	FDP/FDM	Al/Cu
ST-48WEB...	3.94-5.99	1.10	80×80×40	R48	WR187	FDP/FDM	Al/Cu
ST-48WHB...	3.94-5.99	1.10	80×80×40	R48	WR187	FDP/FDM	Al/Cu
ST-58WEB...	4.64-7.05	1.10	80×80×40	R58	WR159	FDP/FDM	Al/Cu
ST-58WHB...	4.64-7.05	1.10	80×80×40	R58	WR159	FDP/FDM	Al/Cu
ST-70WEB...	5.38-8.17	1.10	60×60×30	R70	WR137	FDP/FDM	Al/Cu
ST-70WHB...	5.38-8.17	1.10	80×80×50	R70	WR137	FDP/FDM	Al/Cu
ST-84WEB...	6.57-9.99	1.10	50×50×25	R84	WR112	FDP/FDM	Al/Cu
ST-84WHB...	6.57-9.99	1.10	60×60×35	R84	WR112	FDP/FDM	Al/Cu

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ST-100WEB...	8.20-12.40	1.10	40×40×20	R100	WR90	FBP/FBM/FBE	Al/Cu
ST-100WHB...	8.20-12.40	1.10	55×55×35	R100	WR90	FBP/FBM/FBE	Al/Cu
ST-120WEB...	9.84-15.0	1.10	40×40×20	R120	WR75	FBP/FBM/FBE	Al/Cu
ST-120WHB...	9.84-15.0	1.10	45×45×30	R120	WR75	FBP/FBM/FBE	Al/Cu
ST-140WEB...	11.9-18.0	1.10	40×40×20	R140	WR62	FBP/FBM/FBE	Al/Cu
ST-140WHB...	11.9-18.0	1.10	40×40×25	R140	WR62	FBP/FBM/FBE	Al/Cu
ST-180WEB...	14.5-22.0	1.10	30×30×15	R180	WR51	FBP/FBM/FBE	Al/Cu
ST-180WHB...	14.5-22.0	1.10	35×35×20	R180	WR51	FBP/FBM/FBE	Al/Cu
ST-220WEB...	17.6-26.7	1.15	30×30×15	R220	WR42	FBP/FBM/FBE	Al/Cu
ST-220WHB...	17.6-26.7	1.15	35×35×20	R220	WR42	FBP/FBM/FBE	Al/Cu
ST-260WEB...	21.7-33.0	1.15	30×30×15	R260	WR34	FBP/FBM/FBE	Al/Cu
ST-260WHB...	21.7-33.0	1.15	35×35×20	R260	WR34	FBP/FBM/FBE	Al/Cu
ST-320WEB...	26.3-40.0	1.15	25×25×10	R320	WR28	FBP/FBM/FBE	Al/Cu
ST-320WHB...	26.3-40.0	1.15	30×30×15	R320	WR28	FBP/FBM/FBE	Al/Cu
ST-400WEB...	32.9-50.1	1.20	25×25×10	R400	WR22	FUGP	Cu
ST-400WHB...	32.9-50.1	1.20	20×20×10	R400	WR22	FUGP	Cu
ST-500WEB...	39.2-59.6	1.20	25×25×10	R500	WR19	FUGP	Cu
ST-500WHB...	39.2-59.6	1.20	25×25×10	R500	WR19	FUGP	Cu
ST-620WEB...	49.8-75.8	1.20	20×20×10	R620	WR15	FUGP	Cu
ST-620WHB...	49.8-75.8	1.20	25×25×10	R620	WR15	FUGP	Cu
ST-740WEB...	60.5-91.9	1.20	20×20×10	R740	WR12	FUGP	Cu
ST-740WHB...	60.5-91.9	1.20	25×25×10	R740	WR12	FUGP	Cu
ST-900WEB...	73.8-100	1.20	20×20×10	R900	WR10	FUGP	Cu
ST-900WHB...	73.8-100	1.20	25×25×10	R900	WR10	FUGP	Cu

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

*\*\*Legs (A,B) available in other sizes. Consult sales engineer for more information.*

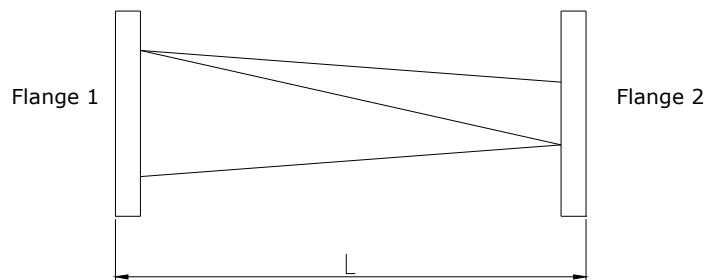
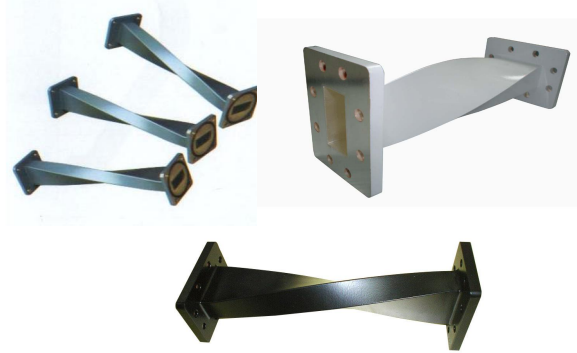
## 【Ordering Information】

- Flange type: Multiple types available - see Flanges page
- Finish: Corrosion protection plus black/grey top coat
- Bends other than 90° available on request
- Mitered bends available on request

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## 3 Waveguide Twist

Synergy Telecom offers a standard product line of waveguide twist covering waveguide sizes WR10 thru WR430. Twist angle, twist direction and flange types can be custom made as per customer's specific requirements.



### 【 Specifications 】

Model No*	Freq Range (GHz)	VSWR (Max)	Minimum Length (mm)	WG Type		Flange	Material
				IEC	EIA		
ST-22WTA...	1.72-2.61	1.10	800	R22	WR430	FDP/FDM	Al/Cu
ST-26WTA...	2.17-3.30	1.10	400	R26	WR340	FDP/FDM	Al/Cu
ST-32WTA...	2.60-3.95	1.10	300	R32	WR284	FDP/FDM	Al/Cu
ST-40WTA...	3.22-4.90	1.10	250	R40	WR229	FDP/FDM	Al/Cu
ST-48WTA...	3.94-5.99	1.10	200	R48	WR187	FDP/FDM	Al/Cu
ST-58WTA...	4.64-7.05	1.10	170	R58	WR159	FDP/FDM	Al/Cu
ST-70WTA...	5.38-8.17	1.10	150	R70	WR137	FDP/FDM	Al/Cu
ST-84WTA...	6.57-9.99	1.10	120	R84	WR112	FBP/FBM/FBE	Al/Cu
ST-100WTA...	8.20-12.40	1.10	60	R100	WR90	FBP/FBM/FBE	Al/Cu
ST-120WTA...	9.84-15.0	1.10	60	R120	WR75	FBP/FBM/FBE	Al/Cu
ST-140WTA...	11.9-18.0	1.10	50	R140	WR62	FBP/FBM/FBE	Al/Cu
ST-180WTA...	14.5-22.0	1.10	50	R180	WR51	FBP/FBM/FBE	Al/Cu
ST-220WTA...	17.6-26.7	1.10	50	R220	WR42	FBP/FBM/FBE	Al/Cu
ST-260WTA...	21.7-33.0	1.15	50	R260	WR34	FBP/FBM/FBE	Al/Cu
ST-320WTA...	26.3-40.0	1.15	50	R320	WR28	FBP/FBM/FBE	Al/Cu
ST-400WTA...	32.9-60.1	1.15	50	R400	WR22	FUGP	Cu
ST-500WTA...	39.2-59.6	1.15	50	R500	WR19	FUGP	Cu
ST-620WTA...	49.8-75.8	1.15	50	R620	WR15	FUGP	Cu
ST-740WTA...	60.5-91.9	1.15	50	R740	WR12	FUGP	Cu
ST-900WTA...	73.8-112	1.15	50	R900	WR10	FUGP	Cu

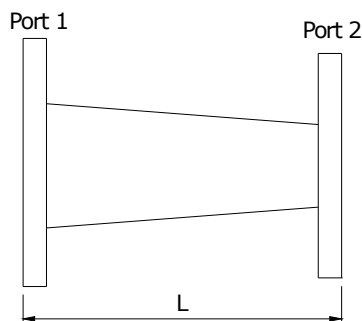
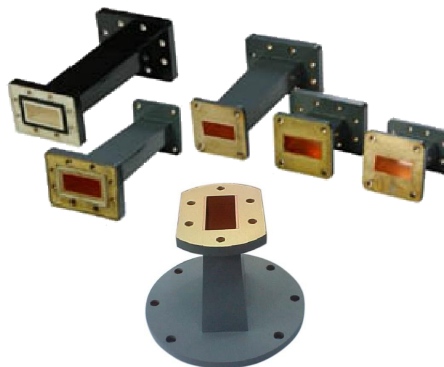
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- Flange type: Multiple types available - see Flanges page
- Finish: Corrosion protection plus black/grey top coat
- Twist angle other than 90° available on request



## 4 Waveguide Transition

Synergy Telecom Has a wide variety of waveguide transitions ranging from standard rectangular waveguide transitions in overlapping bands to custom transitions spanning multiple bands. Additional sizes, extended range, and custom design configurations are available on request.



### 4.1 Rectangular to Rectangular Transitions in Overlapping Bands

#### 【 Specifications 】

Model No*	Freq Range (GHz)	VSWR (Max)	Length (mm)	Port1 WG Type		Port2 WG Type		Flange	Material
				IEC	EIA	IEC	EIA		
ST-34WA...	0.35-0.49	1.10	1000	R3	WR2300	R4	WR2100	FDP/FDM	Al
ST-45WA...	0.41-0.53	1.10	1000	R4	WR2100	R5	WR1800	FDP/FDM	Al
ST-56WA...	0.49-0.62	1.10	900	R5	WR1800	R6	WR1500	FDP/FDM	Al
ST-68WA...	0.64-0.75	1.10	800	R6	WR1500	R8	WR1150	FDP/FDM	Al
ST-89WA...	0.75-0.98	1.10	600	R8	WR1150	R9	WR975	FDP/FDM	Al
ST-912WA...	0.96-1.15	1.10	500	R9	WR975	R12	WR770	FDP/FDM	Al
ST-1214WA...	1.13-1.46	1.10	400	R12	WR770	R14	WR650	FDP/FDM	Al
ST-1418WA...	1.45-1.73	1.10	350	R14	WR650	R18	WR510	FDP/FDM	Al
ST-1822WA...	1.72-2.20	1.10	300	R18	WR510	R22	WR430	FDP/FDM	Al/Cu

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ST-2226WA...	2.17-2.61	1.10	250	R22	WR430	R26	WR340	FDP/FDM	Al/Cu
ST-2632WA...	2.60-3.30	1.10	200	R26	WR340	R32	WR284	FDP/FDM	Al/Cu
ST-3240WA...	3.22-3.95	1.10	200	R32	WR284	R40	WR229	FDP/FDM	Al/Cu
ST-4048WA...	3.94-4.90	1.10	180	R40	WR229	R48	WR187	FDP/FDM	Al/Cu
ST-4858WA...	4.64-5.99	1.10	180	R48	WR187	R58	WR159	FDP/FDM	Al/Cu
ST-5870WA...	5.38-7.05	1.10	150	R58	WR159	R70	WR137	FDP/FDM	Al/Cu
ST-7084WA...	6.57-8.17	1.10	130	R70	WR137	R84	WR112	FDP/FDM	Al/Cu
ST-84100WA...	8.20-9.99	1.10	100	R84	WR112	R100	WR90	FBP/FBM/FBE	Al/Cu
ST-100120WA...	9.84-12.4	1.10	80	R100	WR90	R120	WR75	FBP/FBM/FBE	Al/Cu
ST-120140WA...	11.9-15.0	1.10	75	R120	WR75	R140	WR62	FBP/FBM/FBE	Al/Cu
ST-140180WA...	14.5-18.0	1.10	60	R140	WR62	R180	WR51	FBP/FBM/FBE	Al/Cu
ST-180220WA...	17.6-22.0	1.10	50	R180	WR51	R220	WR42	FBP/FBM/FBE	Al/Cu
ST-220260WA...	21.7-26.7	1.15	50	R220	WR42	R260	WR34	FBP/FBM/FBE	Al/Cu
ST-260320WA...	26.3-33.0	1.15	50	R260	WR34	R320	WR28	FBP/FBM/FBE	Al/Cu
ST-320400WA...	32.9-40.0	1.15	50	R320	WR28	R400	WR22	FBP/FBM/FBE	Al/Cu
ST-400500WA...	39.2-60.1	1.20	50	R400	WR22	R500	WR19	FUGP	Cu
ST-500620WA...	49.8-59.6	1.20	50	R500	WR19	R620	WR15	FUGP	Cu
ST-620740WA...	60.5-75.8	1.20	50	R620	WR15	R740	WR12	FUGP	Cu
ST-740900WA...	73.8-91.9	1.20	50	R740	WR12	R900	WR10	FUGP	Cu

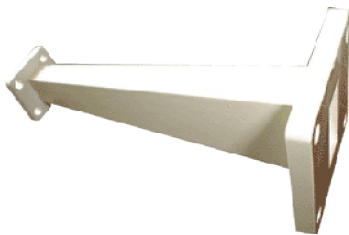
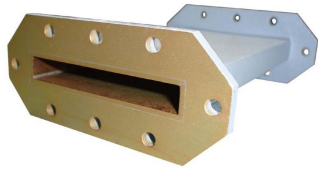
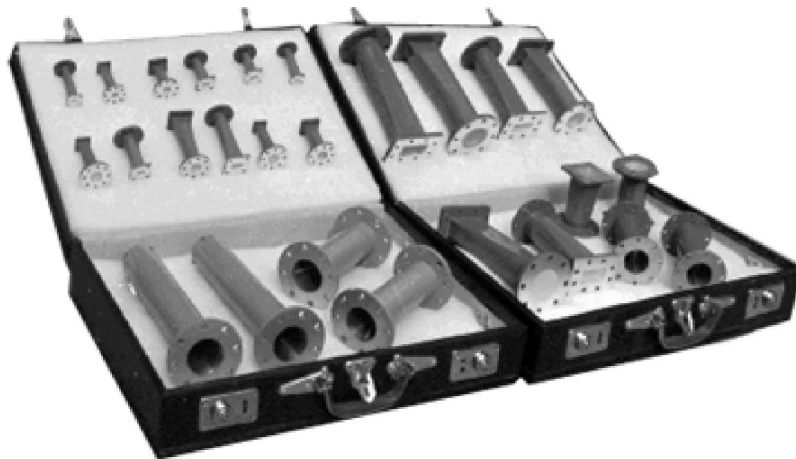
- Flange type: Multiple types available - see Flanges page
- Finish: Corrosion protection plus black/grey top coat

## 4.2 Special Transitions

Transitions spanning multiple bands, rectangular to circular waveguide transitions are available.

Please consult sales engineer for more information.

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## 5 Waveguide to Coaxial Adapter

### 5.1 Waveguide to Coaxial Adapter (Right Angle)

Synergy Telecom Has

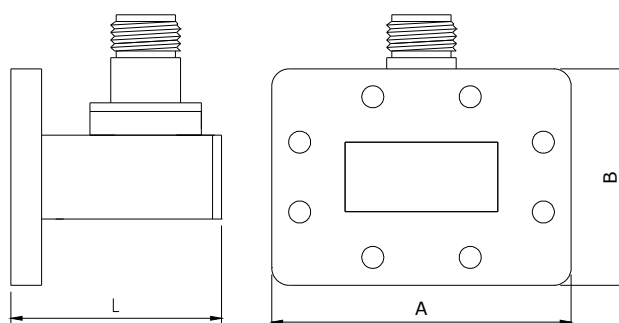
Waveguide to Coaxial Adapters

covering a full frequency range for

Rectangular Waveguides, with



multiple flange and coaxial connector types and configurations available. For more information feel free to call us and discuss your needs with one of our sales engineers.



### Type N Waveguide to Coaxial Adapters

#### 【Specifications】

Model No*	Freq Range (GHz)	VSWR (Max)	Dimensions L*B*A (mm)	WG Type		Flange	Material
				IEC	EIA		
ST-3WCAN...	0.32-0.49	1.25	400*384*676	R3	WR2300	FDP/FDM	Al
ST-4WCAN...	0.35-0.53	1.25	380*359*626	R4	WR2100	FDP/FDM	Al
ST-5WCAN...	0.41-0.62	1.25	350*318*546	R5	WR1800	FDP/FDM	Al
ST-6WCAN...	0.49-0.75	1.25	300*280*470	R6	WR1500	FDP/FDM	Al
ST-8WCAN...	0.64-0.98	1.25	260*235*381	R8	WR1150	FDP/FDM	Al
ST-9WCAN...	0.75-1.15	1.25	231*212*336	R9	WR975	FDP/FDM	Al
ST-12WCAN...	0.96-1.46	1.25	166*187*285	R12	WR770	FDP/FDM	Al
ST-14WCAN...	1.13-1.73	1.25	150*138*220	R14	WR650	FDP/FDM	Al

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ST-18WCAN...	1.45-2.20	1.25	120*120*185	R18	WR510	FDP/FDM	Al/Cu
ST-22WCAN...	1.72-2.61	1.25	100*106*161	R22	WR430	FDP/FDM	Al/Cu
ST-26WCAN...	2.17-3.30	1.25	90*95*138	R26	WR340	FDP/FDM	Al/Cu
ST-32WCAN...	2.60-3.95	1.25	72*76*114	R32	WR284	FDP/FDM	Al/Cu
ST-40WCAN...	3.22-4.90	1.25	65*70*98	R40	WR229	FDP/FDM	Al/Cu
ST-48WCAN...	3.94-5.99	1.25	54*63*89	R48	WR187	FDP/FDM	Al/Cu
ST-58WCAN...	4.64-7.05	1.25	50*62*81	R58	WR159	FDP/FDM	Al/Cu
ST-70WCAN...	5.38-8.17	1.25	48*49*68	R70	WR137	FDP/FDM	Al/Cu
ST-84WCAN...	6.57-9.99	1.25	40*48*48	R84	WR112	FBP/FBM/FBE	Al/Cu
ST-100WCAN...	8.20-12.4	1.25	38*41*41	R100	WR90	FBP/FBM/FBE	Al/Cu
ST-120WCAN...	9.84-15.0	1.25	30*38*38	R120	WR75	FBP/FBM/FBE	Al/Cu
ST-140WCAN...	11.9-18.0	1.25	27*33*33	R140	WR62	FBP/FBM/FBE	Al/Cu
ST-180WCAN...	14.5-22.0	1.25	27*30*30	R180	WR51	FBP/FBM/FBE	

- Flange type: Multiple types available - see Technical Reference page
- Finish: Corrosion protection plus black/grey top coat
- Standard unit provided not sealed pressure tight unless otherwise specified

## SMA Waveguide to Coaxial Adapters

### 【Specifications】

Model No*	Freq Range (GHz)	VSWR (Max)	Dimensions L*B*A (mm)	WG Type		Flange	Material
				IEC	EIA		
ST-100WCAS...	8.20-12.4	1.25	38*41*41	R100	WR90	FBP/FBM/FBE	Al/Cu
ST-120WCAS...	9.84-15.0	1.25	30*38*38	R120	WR75	FBP/FBM/FBE	Al/Cu
ST-140WCAS...	11.9-18.0	1.25	27*33*33	R140	WR62	FBP/FBM/FBE	Al/Cu

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ST-180WCAS...	14.5-22.0	1.25	27*30*30	R180	WR51	FBP/FBM/FBE	Al/Cu
ST-220WCAS...	17.6-26.7	1.40	25*22*22	R220	WR42	FBP/FBM/FBE	Al/Cu
ST-320WCAS...	26.3-40.0	1.50	25*19*19	R320	WR28	FBP/FBM/FBE	Al/Cu

- Flange type: Multiple types available - see Flanges page
- Finish: Corrosion protection plus black top coat
- Standard unit provided not sealed pressure tight unless otherwise specified.

## K2.92mm Waveguide to Coaxial Adapters

### 【Specifications】

Model No*	Freq Range (GHz)	VSWR (Max)	Dimensions L*B*A (mm)	WG Type		Flange	Material
				IEC	EIA		
ST-220WCA2.92...	17.6-26.7	1.35	33*22*22	R220	WR42	FBP/FBM/FBE	Al/Cu
ST-260WCA2.92...	21.7-33.0	1.35	27*21*21	R260	WR34	FBP/FBM/FBE	Al/Cu
ST-320WCA2.92...	26.3-40.0	1.25	25*19*19	R320	WR28	FBP/FBM/FBE	Al/Cu
ST-400WCA2.92...	33.0-50.0	1.80	31*28.6*28.6	R400	WR22	FUGP	Cu

- Flange type: Multiple types available - see Flanges page

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- Finish: Corrosion protection plus black top coat
- Standard unit provided not sealed pressure tight unless otherwise specified.

## 2.4mm Waveguide to Coaxial Adapters

Model No*	Freq Range (GHz)	VSWR (Max)	Dimensions L*B*A (mm)	WG Type		Flange	Material
				IEC	EIA		
ST-220WCA2.4...	17.6-26.7	1.35	36*22*22	R220	WR42	FBP/FBM/FBE	Al/Cu
ST-260WCA2.4...	21.7-33.0	1.35	27*21*21	R260	WR34	FBP/FBM/FBE	Al/Cu
ST-320WCA2.4...	26.3-40.0	1.35	25*19*19	R320	WR28	FBP/FBM/FBE	Al/Cu
ST-400WCA2.4...	33.0-50.0	1.50	25*28.6*28.6	R400	WR22	FUGP	Cu

- Flange type: Multiple types available - see Flanges page
- Finish: Corrosion protection plus black top coat
- Standard unit provided not sealed pressure tight unless otherwise specified.

## 1.85mm Waveguide to Coaxial Adapters

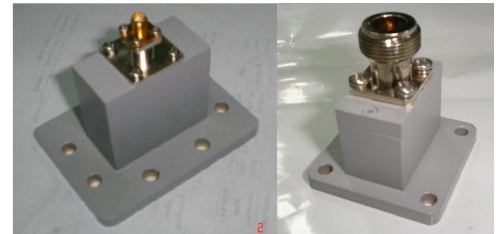
Model No*	Freq Range (GHz)	VSWR (Max)	Dimensions L*B*A (mm)	WG Type		Flange	Material
				IEC	EIA		
HD-400WCA1.85...	33-50	1.50	27*28.6*28.6	R400	WR22	FUGP	Cu
HD-500WCA1.85...	40-60	1.50	27*28.6*28.6	R500	WR19	FUGP	Cu
HD-620WCA1.85...	55-65	1.80	30*19.1*19.1	R620	WR15	FUGP	Cu
HD-740WCA1.85...	55-65	1.80	28*28.6*28.6	R740	WR12	FUGP	Cu

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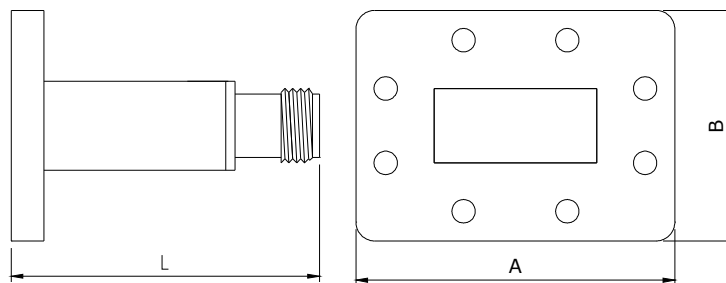
- Flange type: Multiple types available - see Flanges page
- Finish: Corrosion protection plus black top coat
- Standard unit provided not sealed pressure tight unless otherwise specified.

## 5.2 Waveguide to Coaxial Adapter (End-launch)

Synergy Telecom Has End-launch Waveguide to Coaxial Adapters covering a full frequency range for Rectangular Waveguides, with multiple flange and coaxial connector types and configurations available. For more



information feel free to call us and discuss your needs with one of our sales engineers.



### 【Specifications】

Model No*	Freq Range (GHz)	VSWR (Max)	Connector Type	Dimensions L*B*A (mm)	WG Type		Flange	Material
					IEC	EIA		
ST-22WECAN...	1.72-2.61	1.25	N	128.7*106*161	R22	WR430	FDP/FDM	Al/Cu
ST-22WECAS...	1.72-2.61	1.25	SMA	113.4*106*161	R22	WR430	FDP/FDM	Al/Cu
ST-26WECAN...	2.17-3.30	1.25	N	118.7*95*138	R26	WR340	FDP/FDM	Al/Cu
ST-32WECAN...	2.60-3.95	1.25	N	108.7*76*114	R32	WR284	FDP/FDM	Al/Cu
ST-40WECAN...	3.22-4.90	1.25	N	94.7*70*98	R40	WR229	FDP/FDM	Al/Cu



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ST-48WECAN...	3.94-5.99	1.25	N	74.7*63*89	R48	WR187	FDP/FDM	Al/Cu
ST-48WECAS...	3.94-5.99	1.25	SMA	78.4*63*89	R48	WR187	FDP/FDM	Al/Cu
ST-58WECAN...	4.64-7.05	1.25	N	72.4*62*81	R58	WR159	FDP/FDM	Al/Cu
ST-70WECAN...	5.38-8.17	1.25	N	68.8*49*68	R70	WR137	FDP/FDM	Al/Cu
ST-84WECAN...	6.57-9.99	1.25	N	58.8*48*48	R84	WR112	FBP/FBM/FBE	Al/Cu
ST-84WECAS...	6.57-9.99	1.25	SMA	49.5*48*48	R84	WR112	FBP/FBM/FBE	Al/Cu
ST-100WECAN...	8.20-12.40	1.25	N	49.3*41*41	R100	WR90	FBP/FBM/FBE	Al/Cu
ST-100WECAS...	8.20-12.40	1.25	SMA	40*41*41	R100	WR90	FBP/FBM/FBE	Al/Cu
ST-120WECAN...	9.84-15.0	1.25	N	46.3*38*38	R120	WR75	FBP/FBM/FBE	Al/Cu
ST-120WECAS...	9.84-15.0	1.25	SMA	37*38*38	R120	WR75	FBP/FBM/FBE	Al/Cu
ST-140WECAN...	11.9-18.0	1.25	N	43.3*33*33	R140	WR62	FBP/FBM/FBE	Al/Cu
ST-140WECAS...	11.9-18.0	1.25	SMA	34*33*33	R140	WR62	FBP/FBM/FBE	Al/Cu
ST-220WECAS...	17.6-26.7	1.50	SMA	26.5*22*22	R220	WR42	FBP/FBM/FBE	Al/Cu
ST-220WECAK...	17.6-26.7	1.50	K2.92mm	27.8*22*22	R220	WR42	FBP/FBM/FBE	Al/Cu
ST-260WECAS...	21.7-33.0	1.50	SMA	26.1*21*21	R260	WR34	FBP/FBM/FBE	Al/Cu
ST-260WECAK...	21.7-33.0	1.50	K2.92mm	29*21*21	R260	WR34	FBP/FBM/FBE	Al/Cu
ST-320WECAS...	26.3-40.0	1.50	SMA	25.9*19*19	R320	WR28	FBP/FBM/FBE	Al/Cu
ST-320WECAK...	26.3-40.0	1.50	K2.92mm	28.9*19*19	R320	WR28	FBP/FBM/FBE	Al/Cu
ST-400WECAV...	33.0-50.0	1.50	V2.4mm	19*28.6*28.6	R400	WR22	FUGP	Cu
ST-620WEC1.85	50.0-67.0	1.80	1.85mm	17.65*19.1*19.1	R620	WR19	FUGP	Cu

- Flange type: Multiple types available - see Flanges page
- Finish: Corrosion protection plus black top coat
- Standard unit provided not sealed pressure tight unless otherwise specified.

## 6 Crossguide Directional Coupler

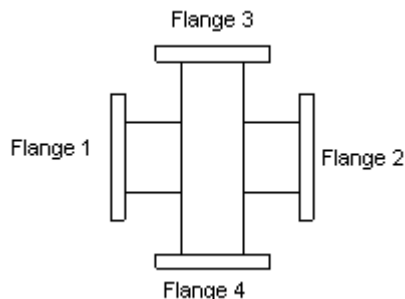


Synergy Telecom Has Crossguide Directional Couplers covering a wide frequency range.

Couplers are available in 3 or 4 port configuration. Standard coupling values are 20, 30, 40, 50 and 60 dB, with minimum Directivity of 18 dB. The compactness of crossguide coupler suits many applications where space is at a premium and directivity is not the prime consideration.

Models are available with combinations of waveguide and coaxial ports. Special multi-port crossguide couplers can be manufactured to suit customer's special requirements.

### Style 1 — 4 Waveguide Ports



### 【Specifications】

Model No*	Freq Range (GHz)	Operating Bandwidth (%)**	VSWR (Max)		Coupling*** (dB)	Directivity (Min) (dB)	WG Type		Flange	Material
			Main Line	Secondary Line			IEC	EIA		
ST-22W+C...	1.72-2.61	10-20	1.10	1.15	18~60	18	R22	WR430	FDP/FDM	Al/Cu
ST-26W+C...	2.17-3.30	10-20	1.10	1.15	18~60	18	R26	WR340	FDP/FDM	Al/Cu
ST-32W+C...	2.60-3.95	10-20	1.10	1.15	18~60	18	R32	WR284	FDP/FDM	Al/Cu
ST-40W+C...	3.22-4.90	10-20	1.10	1.15	18~60	18	R40	WR229	FDP/FDM	Al/Cu
ST-48W+C...	3.94-5.99	10-20	1.10	1.15	18~60	18	R48	WR187	FDP/FDM	Al/Cu
ST-58W+C...	4.64-7.05	10-20	1.10	1.15	18~60	18	R58	WR159	FDP/FDM	Al/Cu

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ST-70W+C...	5.38-8.17	10-20	1.10	1.15	18~60	18	R70	WR137	FDP/FDM	Al/Cu
ST-84W+C...	6.57-9.99	10-20	1.10	1.15	18~60	18	R84	WR112	FBP/FBM/FBE	Al/Cu
ST-100W+C...	8.20-12.40	10-20	1.10	1.15	18~60	18	R100	WR90	FBP/FBM/FBE	Al/Cu
ST-120W+C...	9.84-15.0	10-20	1.10	1.15	18~60	18	R120	WR75	FBP/FBM/FBE	Al/Cu
ST-140W+C...	11.9-18.0	10-20	1.10	1.15	18~60	18	R140	WR62	FBP/FBM/FBE	Al/Cu
ST-180W+C...	14.5-22.0	10-20	1.10	1.15	18~60	18	R180	WR51	FBP/FBM/FBE	Al/Cu
ST-220W+C...	17.6-26.7	10-20	1.10	1.15	18~60	18	R220	WR42	FBP/FBM/FBE	Al/Cu
ST-260W+C...	21.7-33.0	10-20	1.10	1.15	18~60	18	R260	WR34	FBP/FBM/FBE	Al/Cu
ST-320W+C...	26.3-40.0	10-20	1.15	1.15	18~60	18	R320	WR28	FBP/FBM/FBE	Al/Cu

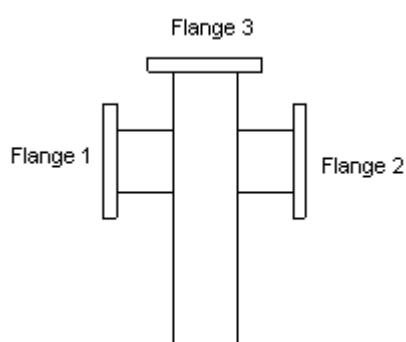
**\*\*Typical operating bandwidth of the crossguide coupler is up to 20% of waveguide bandwidth.**

**\*\*\*Nominal Accuracy:  $\pm 0.7\text{dB}$**

**Frequency Sensitivity:  $\pm 1\text{dB}$**

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

## Style 2 — 3 Waveguide Ports



### 【Specifications】

Model No*	Freq Range (GHz)	Operating Bandwidth (%)**	VSWR (Max)	Coupling*** (dB)	Directivity (Min) (dB)	WG Type	Flange	Material
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			Main Line	Secondary Line			IEC	EIA		
		10-20	1.10	1.15	18~60	18	R22	WR430	FDP/FDM	Al/Cu
		10-20	1.10	1.15	18~60	18	R26	WR340	FDP/FDM	Al/Cu
ST-32WL+C...	2.60-3.95	10-20	1.10	1.15	18~60	18	R32	WR284	FDP/FDM	Al/Cu
ST-40WL+C...	3.22-4.90	10-20	1.10	1.15	18~60	18	R40	WR229	FDP/FDM	Al/Cu
ST-48WL+C...	3.94-5.99	10-20	1.10	1.15	18~60	18	R48	WR187	FDP/FDM	Al/Cu
ST-58WL+C...	4.64-7.05	10-20	1.10	1.15	18~60	18	R58	WR159	FDP/FDM	Al/Cu
ST-70WL+C...	5.38-8.17	10-20	1.10	1.15	18~60	18	R70	WR137	FDP/FDM	Al/Cu
ST-84WL+C...	6.57-9.99	10-20	1.10	1.15	18~60	18	R84	WR112	FBP/FBM/FBE	Al/Cu
ST-100WL+C	8.20-12.4	10-20	1.10	1.15	18~60	18	R100	WR90	FBP/FBM/FBE	Al/Cu
ST-120WL+C	9.84-15.0	10-20	1.10	1.15	18~60	18	R120	WR75	FBP/FBM/FBE	Al/Cu
ST-140WL+C	11.9-18.0	10-20	1.10	1.15	18~60	18	R140	WR62	FBP/FBM/FBE	Al/Cu
ST-180WL+C	14.5-22.0	10-20	1.10	1.15	18~60	18	R180	WR51	FBP/FBM/FBE	Al/Cu
ST-220WL+C	17.6-26.7	10-20	1.10	1.15	18~60	18	R220	WR42	FBP/FBM/FBE	Al/Cu
ST-260WL+C	21.7-33.0	10-20	1.10	1.15	18~60	18	R260	WR34	FBP/FBM/FBE	Al/Cu
ST-320WL+C	26.3-40.0	10-20	1.15	1.15	18~60	18	R320	WR28	FBP/FBM/FBE	Al/Cu

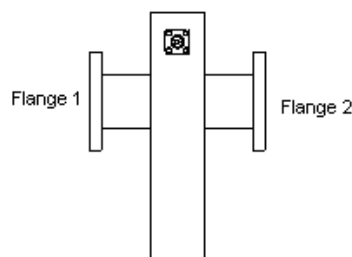
**\*\*Typical operating bandwidth of the crossguide coupler is up to 20% of waveguide bandwidth.**

**\*\*\*Nominal Accuracy:  $\pm 0.7\text{dB}$**

**Frequency Sensitivity:  $\pm 1\text{dB}$**

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

## Style 3 — 2 Waveguide Ports, 1 Coax Port



# Synergy Telecom P Ltd.

## 【Specifications】

Model No*	Freq Range (GHz)	Operating Bandwidth (%)**	VSWR (Max)		Coupling** * (dB)	Directivity (Min) (dB)	WG Type		Flange	Coax Con	Material
			Main Line	Secondary Line			IEC	EIA			
ST-22WL+C...	1.72-2.	10-20	1.10	1.25	18~60	18	R22	WR43	FDP/FDM	N	Al/Cu
ST-26WL+C...	2.17-3.	10-20	1.10	1.25	18~60	18	R26	WR34	FDP/FDM	N	Al/Cu
ST-32WL+C...	2.60-3.	10-20	1.10	1.25	18~60	18	R32	WR28	FDP/FDM	N	Al/Cu
ST-40WL+C...	3.22-4.	10-20	1.10	1.25	18~60	18	R40	WR22	FDP/FDM	N	Al/Cu
ST-48WL+C...	3.94-5.	10-20	1.10	1.25	18~60	18	R48	WR18	FDP/FDM	N	Al/Cu
ST-58WL+C...	4.64-7.	10-20	1.10	1.25	18~60	18	R58	WR15	FDP/FDM	N	Al/Cu
ST-70WL+C...	5.38-8.	10-20	1.10	1.25	18~60	18	R70	WR13	FDP/FDM	N	Al/Cu
ST-84WL+C...	6.57-9.	10-20	1.10	1.25	18~60	18	R84	WR11	FBP/FBM/FB	N	Al/Cu
ST-100WL+C...	8.20-12	10-20	1.10	1.25	18~60	18	R10	WR90	FBP/FBM/FB	N	Al/Cu
ST-120WL+C...	9.84-15	10-20	1.10	1.25	18~60	18	R12	WR75	FBP/FBM/FB	SMA	Al/Cu
ST-140WL+C...	11.9-18	10-20	1.10	1.25	18~60	18	R14	WR62	FBP/FBM/FB	SMA	Al/Cu
ST-180WL+C...	14.5-22	10-20	1.10	1.30	18~60	18	R18	WR51	FBP/FBM/FB	SMA	Al/Cu
ST-220WL+C...	17.6-26	10-20	1.10	1.50	18~60	18	R22	WR42	FBP/FBM/FB	SMA	Al/Cu
ST-320WL+C...	26.3-40	10-20	1.15	1.50	18~60	18	R32	WR28	FBP/FBM/FB	SMA	Al/Cu

\*\*Typical operating bandwidth of the crossguide coupler is up to 20% of waveguide bandwidth.

\*\*\*Nominal Accuracy:  $\pm 0.7\text{dB}$

Frequency Sensitivity:  $\pm 1\text{dB}$

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

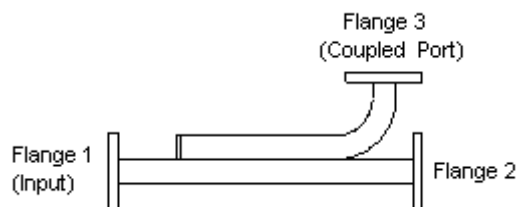
## 7 Broadwall Directional Coupler



Synergy Telecom Has a standard product line of multi-hole broadwall directional couplers covering a wide frequency range. The optimum electrical characteristics of high directivity and coupling flatness are achieved utilizing a precision machined Tchebyscheff coupling hole distribution and a precision ground tapered load element in the secondary arm.

Directional couplers are typically used for power sampling, frequency monitoring, especially in the test setups where power reflection measurements are required. Additional sizes and special configurations are available on request.

### Style 1 — 3 Waveguide Ports



### 【Specifications】

Model No*	Freq Range (GHz)	VSWR (Max)		Coupling** (dB)	Directivity (Min) (dB)	WG Type		Flange	Material
		Main Line	Secondary Line			IEC	EIA		
ST-14WC...	1.13-1.73	1.10	1.15	3-40	20-38	R14	WR650	FDP/FDM	Al/Cu
ST-18WC...	1.45-2.20	1.10	1.15	3-40	20-38	R18	WR510	FDP/FDM	Al/Cu
ST-22WC...	1.72-2.61	1.10	1.15	3-40	20-38	R22	WR430	FDP/FDM	Al/Cu
ST-26WC...	2.17-3.30	1.10	1.15	3-40	20-38	R26	WR340	FDP/FDM	Al/Cu
ST-32WC...	2.60-3.95	1.10	1.15	3-40	20-38	R32	WR284	FDP/FDM	Al/Cu
ST-40WC...	3.22-4.90	1.08	1.12	3-40	20-38	R40	WR229	FDP/FDM	Al/Cu
ST-48WC...	3.94-5.99	1.08	1.12	3-40	20-38	R48	WR187	FDP/FDM	Al/Cu
ST-58WC...	4.64-7.05	1.08	1.12	3-40	20-38	R58	WR159	FDP/FDM	Al/Cu
ST-70WC...	5.38-8.17	1.08	1.12	3-40	20-38	R70	WR137	FDP/FDM	Al/Cu

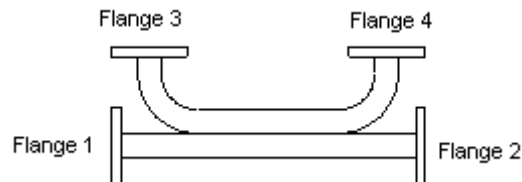
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ST-84WC...	6.57-9.99	1.08	1.12	3-40	20-38	R84	WR112	FBP/FBM/FBE	Al/Cu
ST-100WC...	8.20-12.40	1.08	1.12	3-40	20-38	R100	WR90	FBP/FBM/FBE	Al/Cu
ST-120WC...	9.84-15.0	1.08	1.12	3-40	20-38	R120	WR75	FBP/FBM/FBE	Al/Cu
ST-140WC...	11.9-18.0	1.10	1.15	3-40	20-38	R140	WR62	FBP/FBM/FBE	Al/Cu
ST-180WC...	14.5-22.0	1.10	1.15	3-40	20-38	R180	WR51	FBP/FBM/FBE	Al/Cu
ST-220WC...	17.6-26.7	1.10	1.15	3-40	20-38	R220	WR42	FBP/FBM/FBE	Al/Cu
ST-260WC...	21.7-33.0	1.10	1.15	3-40	20-38	R260	WR34	FBP/FBM/FBE	Al/Cu
ST-320WC...	26.3-40.0	1.10	1.15	3-40	20-38	R320	WR28	FBP/FBM/FBE	Al/Cu

**\*\*Nominal Accuracy:  $\pm 0.7\text{dB}$**

**Frequency Sensitivity:  $\pm 1\text{dB}$**

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



## 【Specifications】

Model No*	Freq Range (GHz)	VSWR (Max)		Coupling** (dB)	Directivity (Min) (dB)	WG Type		Flange	Material
		Main Line	Secondary Line			IEC	EIA		
ST-26WUC...	2.17-3.30	1.10	1.15	3-40	20-38	R26	WR340	FDP/FDM	Al/Cu
ST-32WUC...	2.60-3.95	1.10	1.15	3-40	20-38	R32	WR284	FDP/FDM	Al/Cu
ST-40WUC...	3.22-4.90	1.08	1.12	3-40	20-38	R40	WR229	FDP/FDM	Al/Cu
ST-48WUC...	3.94-5.99	1.08	1.12	3-40	20-38	R48	WR187	FDP/FDM	Al/Cu
ST-58WUC...	4.64-7.05	1.08	1.12	3-40	20-38	R58	WR159	FDP/FDM	Al/Cu
ST-70WUC...	5.38-8.17	1.08	1.12	3-40	20-38	R70	WR137	FDP/FDM	Al/Cu
ST-84WUC...	6.57-9.99	1.08	1.12	3-40	20-38	R84	WR112	FBP/FBM/FBE	Al/Cu
ST-100WUC...	8.20-12.40	1.08	1.12	3-40	20-38	R100	WR90	FBP/FBM/FBE	Al/Cu
ST-120WUC...	9.84-15.0	1.08	1.12	3-40	20-38	R120	WR75	FBP/FBM/FBE	Al/Cu

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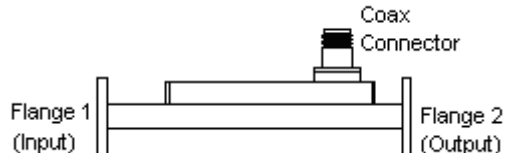
ST-140WUC...	11.9-18.0	1.10	1.15	3-40	20-38	R140	WR62	FBP/FBM/FBE	Al/Cu
ST-180WUC...	14.5-22.0	1.10	1.15	3-40	20-38	R180	WR51	FBP/FBM/FBE	Al/Cu
ST-220WUC...	17.6-26.7	1.10	1.15	3-40	20-38	R220	WR42	FBP/FBM/FBE	Al/Cu
ST-260WUC...	21.7-33.0	1.10	1.15	3-40	20-38	R260	WR34	FBP/FBM/FBE	Al/Cu
ST-320WUC...	26.3-40.0	1.10	1.15	3-40	20-38	R320	WR28	FBP/FBM/FBE	Al/Cu

**\*\*Nominal Accuracy:  $\pm 0.7\text{dB}$**

**Frequency Sensitivity:  $\pm 1\text{dB}$**

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

## Style 3 — 2 Waveguide Ports, 1 Coax Port



### 【Specifications】

Model No*	Freq Range (GHz)	VSWR (Max)		Coupling** (dB)	Directivity (Min) (dB)	Coax Connector	WG Type		Flange	Material
		Main Line	Secondary Line				IEC	EIA		
ST-14WC...N	1.13-1.73	1.10	1.25	3-40	20-38	N	R14	WR650	FDP/FDM	Al/Cu
ST-18WC...N	1.45-2.20	1.10	1.25	3-40	20-38	N	R18	WR510	FDP/FDM	Al/Cu
ST-22WC...N	1.72-2.61	1.10	1.25	3-40	20-38	N	R22	WR430	FDP/FDM	Al/Cu
ST-26WC...N	2.17-3.30	1.10	1.25	3-40	20-38	N	R26	WR340	FDP/FDM	Al/Cu
ST-32WC...N	2.60-3.95	1.10	1.25	3-40	20-38	N	R32	WR284	FDP/FDM	Al/Cu
ST-40WC...N	3.22-4.90	1.08	1.25	3-40	20-38	N	R40	WR229	FDP/FDM	Al/Cu
ST-48WC...N	3.94-5.99	1.08	1.25	3-40	20-38	N	R48	WR187	FDP/FDM	Al/Cu
ST-58WC...N	4.64-7.05	1.08	1.25	3-40	20-38	N	R58	WR159	FDP/FDM	Al/Cu
ST-70WC...N	5.38-8.17	1.08	1.25	3-40	20-38	N	R70	WR137	FDP/FDM	Al/Cu
ST-84WC...N	6.57-9.99	1.08	1.25	3-40	20-38	N	R84	WR112	FBP/FBM/FBE	Al/Cu
ST-100WC...N	8.20-12.40	1.08	1.25	3-40	20-38	N	R100	WR90	FBP/FBM/FBE	Al/Cu



# Synergy Telecom P Ltd.

ST-120WC...S	9.84-15.0	1.08	1.25	3-40	20-38	SMA	R120	WR75	FBP/FBM/FBE	Al/Cu
ST-140WC...S	11.9-18.0	1.10	1.25	3-40	20-38	SMA	R140	WR62	FBP/FBM/FBE	Al/Cu
ST-180WC...S	14.5-22.0	1.10	1.25	3-40	20-38	SMA	R180	WR51	FBP/FBM/FBE	Al/Cu
ST-220WC...S	17.6-26.7	1.10	1.50	3-40	20-38	SMA,K***	R220	WR42	FBP/FBM/FBE	Al/Cu
ST-260WC...S	21.7-33.0	1.10	1.60	3-40	20-38	SMA,K***	R260	WR34	FBP/FBM/FBE	Al/Cu
ST-320WC...S	26.3-40.0	1.10	1.50	3-40	20-38	SMA,K***	R320	WR28	FBP/FBM/FBE	Al/Cu

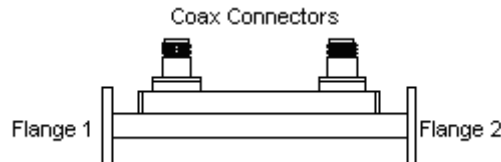
\*\*Nominal Accuracy:  $\pm 0.7\text{dB}$

Frequency Sensitivity:  $\pm 1\text{ dB}$

\*\*\* These units are supplied with 2.92mm (K-type) connectors.

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

## Style 4 — 2 Waveguide Ports, 2 Coax Ports



### 【Specifications】

Model No*	Freq Range (GHz)	VSWR (Max)		Coupling** (dB)	Directivity (Min) (dB)	Coax Connector	WG Type		Flange	Material
		Main Line	Secondary Line				IEC	EIA		
ST-14WUC...N	1.13-1.73	1.10	1.25	3-40	20-25	N	R14	WR650	FDP/FDM	Al/Cu
ST-18WUC...N	1.45-2.20	1.10	1.25	3-40	20-25	N	R18	WR510	FDP/FDM	Al/Cu
ST-22WUC...N	1.72-2.61	1.10	1.25	3-40	20-25	N	R22	WR430	FDP/FDM	Al/Cu
ST-26WUC...N	2.17-3.30	1.10	1.25	3-40	20-25	N	R26	WR340	FDP/FDM	Al/Cu
ST-32WUC...N	2.60-3.95	1.10	1.25	3-40	20-25	N	R32	WR284	FDP/FDM	Al/Cu
ST-40WUC...N	3.22-4.90	1.08	1.25	3-40	20-25	N	R40	WR229	FDP/FDM	Al/Cu
ST-48WUC...N	3.94-5.99	1.08	1.25	3-40	20-25	N	R48	WR187	FDP/FDM	Al/Cu
ST-58WUC...N	4.64-7.05	1.08	1.25	3-40	20-25	N	R58	WR159	FDP/FDM	Al/Cu

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ST-70WUC...N	5.38-8.17	1.08	1.25	3-40	20-25	N	R70	WR137	FDP/FDM	Al/Cu
ST-84WUC...N	6.57-9.99	1.08	1.25	3-40	20-25	N	R84	WR112	FBP/FBM/FBE	Al/Cu
ST-100WUC...N	8.20-12.40	1.08	1.25	3-40	20-25	N	R100	WR90	FBP/FBM/FBE	Al/Cu
ST-120WUC...S	9.84-15.0	1.08	1.25	3-40	20-25	SMA	R120	WR75	FBP/FBM/FBE	Al/Cu
ST-140WUC...S	11.9-18.0	1.10	1.25	3-40	20-25	SMA	R140	WR62	FBP/FBM/FBE	Al/Cu
ST-180WUC...S	14.5-22.0	1.10	1.25	3-40	20-25	SMA	R180	WR51	FBP/FBM/FBE	Al/Cu
ST-220WUC...S	17.6-26.7	1.10	1.50	3-40	20-25	SMA,K***	R220	WR42	FBP/FBM/FBE	Al/Cu
ST-260WUC...S	21.7-33.0	1.10	1.60	3-40	20-25	SMA,K***	R260	WR34	FBP/FBM/FBE	Al/Cu
ST-320WUC...S	26.3-40.0	1.10	1.50	3-40	20-25	SMA,K***	R320	WR28	FBP/FBM/FBE	Al/Cu

\*\*Nominal Accuracy:  $\pm 0.7\text{dB}$

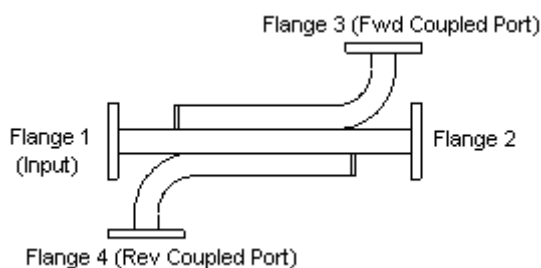
Frequency Sensitivity:  $\pm 1\text{ dB}$

\*\*\* These units are supplied with 2.92mm (K-type) connectors.

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

## Style 5 — Dual-arm Broadwall Directional Coupler

### 4 Waveguide Ports



### 【Specifications】

Model No*	Freq Range (GHz)	VSWR (Max)		Coupling** (dB)	Directivity (Min) (dB)	WG Type		Flange	Material
		Main Line	Secondary Line			IEC	EIA		
ST-26WDXC...	2.17-3.30	1.08	1.12	3-40	20-38	R26	WR340	FDP/FDM	Al/Cu
ST-32WDXC...	2.60-3.95	1.08	1.12	3-40	20-38	R32	WR284	FDP/FDM	Al/Cu
ST-40WDXC...	3.22-4.90	1.08	1.12	3-40	20-38	R40	WR229	FDP/FDM	Al/Cu

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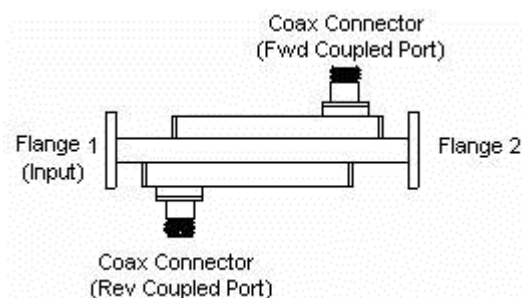
ST-48WDXC...	3.94-5.99	1.08	1.12	3-40	20-38	R48	WR187	FDP/FDM	Al/Cu
ST-58WDXC...	4.64-7.05	1.08	1.12	3-40	20-38	R58	WR159	FDP/FDM	Al/Cu
ST-70WDXC...	5.38-8.17	1.08	1.12	3-40	20-38	R70	WR137	FDP/FDM	Al/Cu
ST-84WDXC...	6.57-9.99	1.08	1.12	3-40	20-38	R84	WR112	FDP/FDM	Al/Cu
ST-100WDXC...	8.20-12.40	1.08	1.12	3-40	20-38	R100	WR90	FDP/FDM	Al/Cu
ST-120WDXC...	9.84-15.0	1.08	1.12	3-40	20-38	R120	WR75	FDP/FDM	Al/Cu
ST-140WDXC...	11.9-18.0	1.10	1.12	3-40	20-38	R140	WR62	FDP/FDM	Al/Cu
ST-180WDXC...	14.5-22.0	1.10	1.15	3-40	20-38	R180	WR51	FDP/FDM	Al/Cu
ST-220WDXC...	17.6-26.7	1.10	1.15	3-40	20-38	R220	WR42	FDP/FDM	Al/Cu
ST-260WDXC...	21.7-33.0	1.10	1.15	3-40	20-38	R260	WR34	FDP/FDM	Al/Cu
ST-320WDXC...	26.3-40.0	1.10	1.15	3-40	20-38	R320	WR28	FDP/FDM	Al/Cu

**\*\*Nominal Accuracy:  $\pm 0.7\text{dB}$**

**Frequency Sensitivity:  $\pm 1\text{dB}$**

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

## Style 6 — Dual-arm Broadwall Directional Coupler 2 Waveguide Ports, 2 Coax Ports



### 【Specifications】

Model No*	Freq Range (GHz)	VSWR (Max)		Coupling** (dB)	Directivity (Min) (dB)	Coax Connector	WG Type		Flange	Material
		Main Line	Secondary Line				IEC	EIA		

# Synergy Telecom P Ltd.

ST-26WDXC...N	2.17-3.30	1.10	1.25	3-40	20-38	N	R26	WR340	FDP/FDM	Al/Cu
ST-32WDXC...N	2.60-3.95	1.10	1.25	3-40	20-38	N	R32	WR284	FDP/FDM	Al/Cu
ST-40WDXC...N	3.22-4.90	1.08	1.25	3-40	20-38	N	R40	WR229	FDP/FDM	Al/Cu
ST-48WDXC...N	3.94-5.99	1.08	1.25	3-40	20-38	N	R48	WR187	FDP/FDM	Al/Cu
ST-58WDXC...N	4.64-7.05	1.08	1.25	3-40	20-38	N	R58	WR159	FDP/FDM	Al/Cu
ST-70WDXC...N	5.38-8.17	1.08	1.25	3-40	20-38	N	R70	WR137	FDP/FDM	Al/Cu
ST-84WDXC...N	6.57-9.99	1.08	1.25	3-40	20-38	N	R84	WR112	FBP/FBM/FBE	Al/Cu
ST-100WDXC...N	8.20-12.40	1.08	1.25	3-40	20-38	N	R100	WR90	FBP/FBM/FBE	Al/Cu
ST-120WDXC...S	9.84-15.0	1.08	1.25	3-40	20-38	SMA	R120	WR75	FBP/FBM/FBE	Al/Cu
ST-140WDXC...S	11.9-18.0	1.10	1.25	3-40	20-38	SMA	R140	WR62	FBP/FBM/FBE	Al/Cu
ST-180WDXC...S	14.5-22.0	1.10	1.25	3-40	20-38	SMA	R180	WR51	FBP/FBM/FBE	Al/Cu
ST-220WDXC...S	17.6-26.7	1.10	1.50	3-40	20-38	SMA,K***	R220	WR42	FBP/FBM/FBE	Al/Cu
ST-260WDXC...S	21.7-33.0	1.10	1.50	3-40	20-38	SMA,K***	R260	WR34	FBP/FBM/FBE	Al/Cu
ST-320WDXC...S	26.3-40.0	1.10	1.50	3-40	20-38	SMA,K***	R320	WR28	FBP/FBM/FBE	Al/Cu

**\*\*Nominal Accuracy:  $\pm 0.7$ dB**

**Frequency Sensitivity:  $\pm 1$  dB**

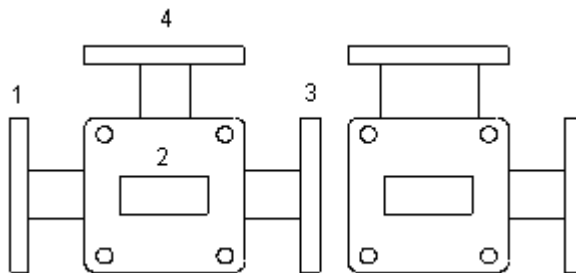
**\*\*\* These units are supplied with 2.92mm (K-type) connectors.**

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

## 8 Waveguide Tee

### 8.1 Magic Hybrid Tee

Synergy Telecom's Magic Hybrid Tee is four-port coupler for matching, balance and isolation. E-plane to H-plane Isolation is a function of the symmetry which is carefully balanced on each unit. If the E-plane port 4 or the H-plane port 2 are used as inputs the split is on the output collinear ports 1 and 3. When the input is E plane port 4 the outputs are out of phase 180 deg. When the input is H plane port 2 the outputs are in phase. The in-phase and equal amplitude signals inputting into two collinear ports can result combined signals at H-plane port and cancelled signal at E-plane port. This feature is widely used in monopulse antenna feed structure and phasing testing setup.



### 【Specifications】

Model No*	Freq Range (GHz)	Operating Bandwidth (%)**	VSWR (Max)		Isolation (H&E Arms) (dB)	Unbalance (Max) (dB)	WG Type		Flange	Material
			H-Arm	E-Arm			IEC	EIA		
ST-3WMT...	0.32-0.49	10-15	1.30	1.50	35	±0.25	R3	WR2300	FDP/FDM	Al
ST-4WMT...	0.35-0.53	10-15	1.30	1.50	35	±0.25	R4	WR2100	FDP/FDM	Al
ST-5WMT...	0.41-0.62	10-15	1.30	1.50	35	±0.25	R5	WR1800	FDP/FDM	Al
ST-6WMT...	0.49-0.75	10-15	1.30	1.50	35	±0.25	R6	WR1500	FDP/FDM	Al
ST-8WMT...	0.64-0.98	10-15	1.30	1.50	35	±0.25	R8	WR1150	FDP/FDM	Al
ST-9WMT...	0.75-1.15	10-15	1.30	1.50	35	±0.25	R9	WR975	FDP/FDM	Al
ST-12WMT...	0.96-1.46	10-15	1.20	1.50	35	±0.25	R12	WR770	FDP/FDM	Al
ST-14WMT...	1.13-1.73	10-15	1.20	1.50	35	±0.25	R14	WR650	FDP/FDM	Al
ST-18WMT...	1.45-2.20	10-15	1.20	1.50	35	±0.25	R18	WR510	FDP/FDM	Al
ST-22WMT...	1.72-2.61	10-15	1.30	1.50	35	±0.4	R22	WR430	FDP/FDM	Al/Cu

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ST-26WMT...	2.17-3.30	10-15	1.30	1.50	35	±0.4	R26	WR340	FDP/FDM	Al/Cu
ST-32WMT...	2.60-3.95	10-15	1.30	1.50	35	±0.4	R32	WR284	FDP/FDM	Al/Cu
ST-40WMT...	3.22-4.90	10-15	1.20	1.30	35	±0.4	R40	WR229	FDP/FDM	Al/Cu
ST-48WMT...	3.94-5.99	10-15	1.20	1.30	35	±0.4	R48	WR187	FDP/FDM	Al/Cu
ST-58WMT...	4.64-7.05	10-15	1.20	1.30	35	±0.4	R58	WR159	FDP/FDM	Al/Cu
ST-70WMT...	5.38-8.17	10-15	1.20	1.30	35	±0.4	R70	WR137	FDP/FDM	Al/Cu
ST-84WMT...	6.57-9.99	10-15	1.20	1.30	35	±0.4	R84	WR112	FBP/FBM/FBE	Al/Cu
ST-100WMT...	8.20-12.4	10-15	1.20	1.30	35	±0.4	R100	WR90	FBP/FBM/FBE	Al/Cu
ST-120WMT...	9.84-15.0	10-15	1.20	1.30	35	±0.4	R120	WR75	FBP/FBM/FBE	Al/Cu
ST-140WMT...	11.9-18.0	10-15	1.20	1.30	35	±0.4	R140	WR62	FBP/FBM/FBE	Al/Cu
ST-180WMT...	14.5-22.0	10-15	1.20	1.30	35	±0.4	R180	WR51	FBP/FBM/FBE	Al/Cu
ST-220WMT...	17.6-26.7	10-15	1.20	1.50	30	±0.4	R220	WR42	FBP/FBM/FBE	Al/Cu
ST-260WMT...	21.7-33.0	10-15	1.20	1.50	30	±0.4	R260	WR34	FBP/FBM/FBE	Al/Cu
ST-320WMT...	26.3-40.0	10-15	1.20	1.50	30	±0.4	R320	WR28	FBP/FBM/FBE	Al/Cu
ST-400WMT...	32.9-60.1	5-10	1.50	1.60	20	±0.5	R400	WR22	FUGP	Cu
ST-500WMT...	39.2-59.6	5-10	1.50	1.60	20	±0.5	R500	WR19	FUGP	Cu
ST-620WMT...	49.8-75.8	5-10	1.50	1.60	20	±0.5	R620	WR15	FUGP	Cu
ST-740WMT...	60.5-91.9	5-10	1.50	1.60	20	±0.5	R740	WR12	FUGP	Cu
ST-900WMT...	73.8-112	5-10	1.50	1.60	20	±0.5	R900	WR10	FUGP	Cu

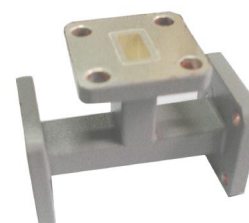
*\*\*Typical operating bandwidth of the hybrid tee is up 20% of waveguide bandwidth. Performance degradation may occur while it covers wider waveguide bandwidth.*

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

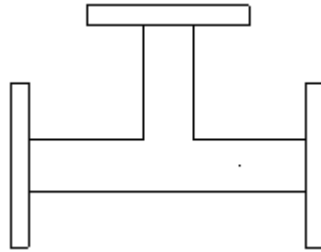
## 8.2 E-Plane Tee

Synergy Telwecom's manufactures a wide variety of E-Plane Tees.

The junction of the auxiliary arm is made on the broad wall of the main waveguide.



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## 【Specifications】

Model No	Freq Range (GHz)	WG Type		Flange	Material
		IEC	EIA		
ST-3WET	0.32-0.49	R3	WR2300	FDP/FDM	Al
ST-4WET	0.35-0.53	R4	WR2100	FDP/FDM	Al
ST-5WET	0.41-0.62	R5	WR1800	FDP/FDM	Al
ST-6WET	0.49-0.75	R6	WR1500	FDP/FDM	Al
ST-8WET	0.64-0.98	R8	WR1150	FDP/FDM	Al
ST-9WET	0.75-1.15	R9	WR975	FDP/FDM	Al
ST-12WET	0.96-1.46	R12	WR770	FDP/FDM	Al
ST-14WET	1.13-1.73	R14	WR650	FDP/FDM	Al
ST-18WET	1.45-2.20	R18	WR510	FDP/FDM	Al
ST-22WET	1.72-2.61	R22	WR430	FDP/FDM	Al/Cu
ST-26WET	2.17-3.30	R26	WR340	FDP/FDM	Al/Cu
ST-32WET	2.60-3.95	R32	WR284	FDP/FDM	Al/Cu
ST-40WET	3.22-4.90	R40	WR229	FDP/FDM	Al/Cu
ST-48WET	3.94-5.99	R48	WR187	FDP/FDM	Al/Cu
ST-58WET	4.64-7.05	R58	WR159	FDP/FDM	Al/Cu
ST-70WET	5.38-8.17	R70	WR137	FDP/FDM	Al/Cu
ST-84WET	6.57-9.99	R84	WR112	FBP/FBM/FBE	Al/Cu
ST-100WET	8.20-12.4	R100	WR90	FBP/FBM/FBE	Al/Cu
ST-120WET	9.84-15.0	R120	WR75	FBP/FBM/FBE	Al/Cu
ST-140WET	11.9-18.0	R140	WR62	FBP/FBM/FBE	Al/Cu
ST-180WET	14.5-22.0	R180	WR51	FBP/FBM/FBE	Al/Cu
ST-220WET	17.6-26.7	R220	WR42	FBP/FBM/FBE	Al/Cu
ST-260WET	21.7-33.0	R260	WR34	FBP/FBM/FBE	Al/Cu
ST-320WET	26.3-40.0	R320	WR28	FBP/FBM/FBE	Al/Cu

# Synergy Telecom P Ltd.

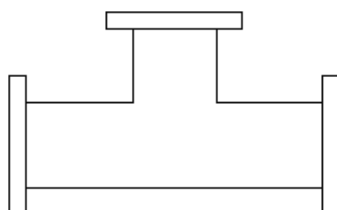
ST-400WET	32.9-60.1	R400	WR22	FUGP	Cu
ST-500WET	39.2-59.6	R500	WR19	FUGP	Cu
ST-620WET	49.8-75.8	R620	WR15	FUGP	Cu
ST-740WET	60.5-91.9	R740	WR12	FUGP	Cu
ST-900WET	73.8-112	R900	WR10	FUGP	Cu

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

## 8.3 H-Plane Tee

Synergy Telecom's manufactures a wide variety of H-Plane Tees.

The junction of the auxiliary arm is made on the narrow wall of the main waveguide.



### 【Specifications】

Model No	Freq Range (GHz)	WG Type		Flange	Material
		IEC	EIA		
ST-3WHT	0.32-0.49	R3	WR2300	FDP/FDM	Al
ST-4WHT	0.35-0.53	R4	WR2100	FDP/FDM	Al
ST-5WHT	0.41-0.62	R5	WR1800	FDP/FDM	Al
ST-6WHT	0.49-0.75	R6	WR1500	FDP/FDM	Al



# Synergy Telecom P Ltd.

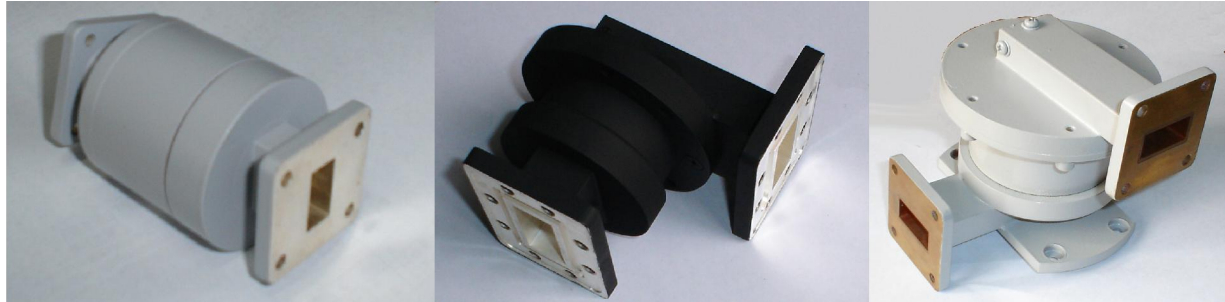
ST8WHT	0.64-0.98	R8	WR1150	FDP/FDM	Al
ST-9WHT	0.75-1.15	R9	WR975	FDP/FDM	Al
ST-12WHT	0.96-1.46	R12	WR770	FDP/FDM	Al
ST-14WHT	1.13-1.73	R14	WR650	FDP/FDM	Al
ST-18WHT	1.45-2.20	R18	WR510	FDP/FDM	Al
ST-22WHT	1.72-2.61	R22	WR430	FDP/FDM	Al/Cu
ST-26WHT	2.17-3.30	R26	WR340	FDP/FDM	Al/Cu
ST-32WHT	2.60-3.95	R32	WR284	FDP/FDM	Al/Cu
ST-40WHT	3.22-4.90	R40	WR229	FDP/FDM	Al/Cu
ST-48WHT	3.94-5.99	R48	WR187	FDP/FDM	Al/Cu
ST-58WHT	4.64-7.05	R58	WR159	FDP/FDM	Al/Cu
ST-70WHT	5.38-8.17	R70	WR137	FDP/FDM	Al/Cu
ST-84WHT	6.57-9.99	R84	WR112	FBP/FBM/FBE	Al/Cu
ST-100WHT	8.20-12.4	R100	WR90	FBP/FBM/FBE	Al/Cu
ST-120WHT	9.84-15.0	R120	WR75	FBP/FBM/FBE	Al/Cu
ST-140WHT	11.9-18.0	R140	WR62	FBP/FBM/FBE	Al/Cu
ST-180WHT	14.5-22.0	R180	WR51	FBP/FBM/FBE	Al/Cu
ST-220WHT	17.6-26.7	R220	WR42	FBP/FBM/FBE	Al/Cu
ST-260WHT	21.7-33.0	R260	WR34	FBP/FBM/FBE	Al/Cu
ST-320WHT	26.3-40.0	R320	WR28	FBP/FBM/FBE	Al/Cu
ST-400WHT	32.9-60.1	R400	WR22	FUGP	Cu
ST-500WHT	39.2-59.6	R500	WR19	FUGP	Cu
ST-620WHT	49.8-75.8	R620	WR15	FUGP	Cu
ST-740WHT	60.5-91.9	R740	WR12	FUGP	Cu
ST-900WHT	73.8-112	R900	WR10	FUGP	Cu

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

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## 9 Waveguide Rotary Joint

### 9.1 Waveguide Single Channel Rotary Joint

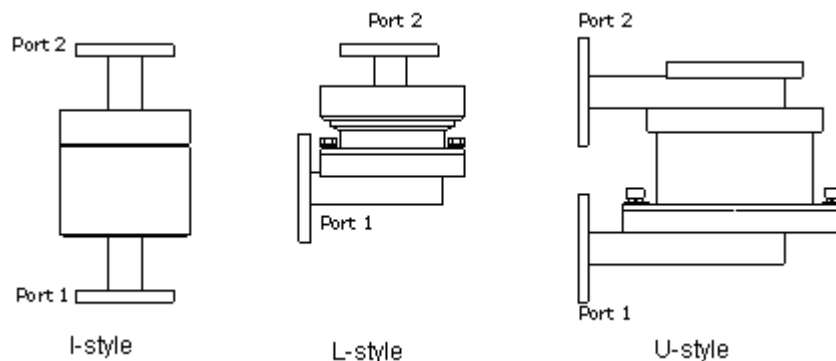


Rotary Joints (rotary couplers) are used to transmit microwave energy from stationary lines to rotating lines. The rotary joint is an electro-mechanical device with RF performance dependent upon rigorous electrical and mechanical design. Available styles are defined by physical geometry as follows:

I-style - Two in-line arms both collinear with the axis of rotation.

L-style - One arm is perpendicular to the axis of rotation.

U-style - Both arms are perpendicular to the axis of rotation.



### 【Specifications】

Model No	Freq Range (GHz)	Operating Bandwidth (MHz)	VSWR (Max)	VSWR WOW	IL(dB) (Max)	IL WOW (dB)	WG Type		Material
							IEC	EIA	
ST-32WRJI	2.60-3.95	200	1.20	0.05	0.3	0.1	R32	WR284	Al/Cu
ST-32WRJL	2.60-3.95	200	1.20	0.05	0.3	0.1	R32	WR284	Al/Cu
ST-32WRJU	2.60-3.95	200	1.20	0.05	0.3	0.1	R32	WR284	Al/Cu
ST-40WRJI	3.22-4.90	200	1.20	0.05	0.3	0.1	R40	WR229	Al/Cu
ST-40WRJL	3.22-4.90	200	1.20	0.05	0.3	0.1	R40	WR229	Al/Cu
ST-40WRJU	3.22-4.90	200	1.20	0.05	0.3	0.1	R40	WR229	Al/Cu
ST-48WRJI	3.94-5.99	200	1.20	0.05	0.3	0.1	R48	WR187	Al/Cu

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ST-48WRJL	3.94-5.99	200	1.20	0.05	0.3	0.1	R48	WR187	Al/Cu
ST-48WRJU	3.94-5.99	200	1.20	0.05	0.3	0.1	R48	WR187	Al/Cu
ST-58WRJI	4.64-7.05	300	1.25	0.05	0.25	0.1	R58	WR159	Al/Cu
ST-58WRJL	4.64-7.05	300	1.25	0.05	0.25	0.1	R58	WR159	Al/Cu
ST-58WRJU	4.64-7.05	300	1.25	0.05	0.25	0.1	R58	WR159	Al/Cu
ST-70WRJI	5.38-8.17	700	1.25	0.05	0.25	0.1	R70	WR137	Al/Cu
ST-70WRJL	5.38-8.17	700	1.25	0.05	0.25	0.1	R70	WR137	Al/Cu
ST-70WRJU	5.38-8.17	700	1.25	0.05	0.25	0.1	R70	WR137	Al/Cu
ST-84WRJI	6.57-9.99	300	1.20	0.05	0.3	0.1	R84	WR112	Al/Cu
ST-84WRJL	6.57-9.99	300	1.20	0.05	0.3	0.1	R84	WR112	Al/Cu
ST-84WRJU	6.57-9.99	300	1.20	0.05	0.3	0.1	R84	WR112	Al/Cu
ST-100WRJI	8.20-12.4	300	1.20	0.05	0.3	0.1	R100	WR90	Al/Cu
ST-100WRJL	8.20-12.4	300	1.20	0.05	0.3	0.1	R100	WR90	Al/Cu
ST-100WRJU	8.20-12.4	300	1.20	0.05	0.3	0.1	R100	WR90	Al/Cu
ST-120WRJI	9.84-15.0	500	1.25	0.05	0.3	0.1	R120	WR75	Al/Cu
ST-120WRJL	9.84-15.0	500	1.25	0.05	0.3	0.1	R120	WR75	Al/Cu
ST-120WRJU	9.84-15.0	500	1.25	0.05	0.3	0.1	R120	WR75	Al/Cu
ST-140WRJI	11.9-18.0	1000	1.3	0.05	0.4	0.1	R140	WR62	Al/Cu
ST-140WRJL	11.9-18.0	1000	1.3	0.05	0.4	0.1	R140	WR62	Al/Cu
ST-140WRJU	11.9-18.0	1000	1.3	0.05	0.4	0.1	R140	WR62	Al/Cu
ST-180WRJI	14.5-22.0	1000	1.3	0.05	0.4	0.1	R180	WR51	Al/Cu
ST-180WRJL	14.5-22.0	1000	1.3	0.05	0.4	0.1	R180	WR51	Al/Cu
ST-180WRJU	14.5-22.0	1000	1.3	0.05	0.4	0.1	R180	WR51	Al/Cu
ST-220WRJI	17.6-26.7	2000	1.4	0.05	1.0	0.1	R220	WR42	Al/Cu
ST-220WRJL	17.6-26.7	2000	1.4	0.05	1.0	0.1	R220	WR42	Al/Cu
ST-220WRJU	17.6-26.7	2000	1.4	0.05	1.0	0.1	R220	WR42	Al/Cu
ST-260WRJI	21.7-33.0	2000	1.4	0.05	1.0	0.1	R260	WR34	Al/Cu
ST-260WRJL	21.7-33.0	2000	1.4	0.05	1.0	0.1	R260	WR34	Al/Cu
ST-260WRJU	21.7-33.0	2000	1.4	0.05	1.0	0.1	R260	WR28	Al/Cu
ST-320WRJI	26.3-40.0	2000	1.4	0.05	1.0	0.1	R320	WR28	Al/Cu
ST-320WRJL	26.3-40.0	2000	1.4	0.05	1.0	0.1	R320	WR28	Al/Cu
ST-320WRJU	26.3-40.0	2000	1.4	0.05	1.0	0.1	R320	WR28	Al/Cu

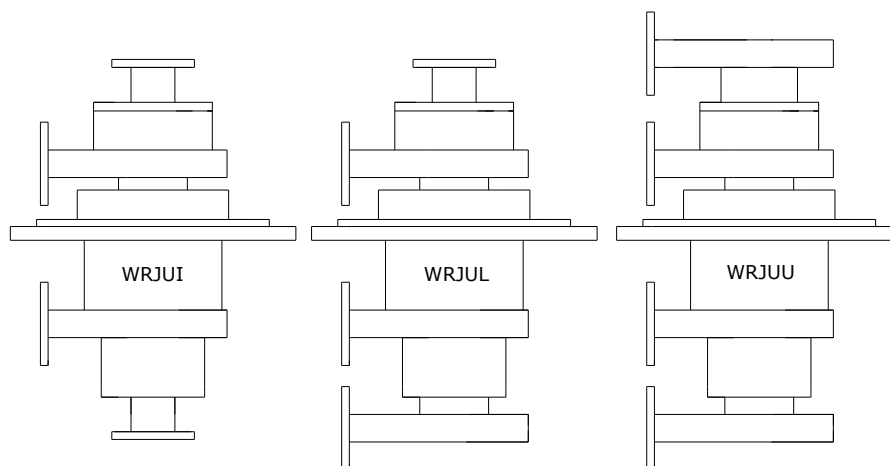
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- Flange type: Multiple types available - see Flanges page
- Finish: Corrosion protection plus black top coat

## 9.2 Waveguide Double Channel Rotary Joint



Synergy Telecom offers a standard product line of Rotary Joints covering waveguide sizes WR28 thru WR284. Rotary Joints (rotary couplers) are used to transmit microwave energy from stationary lines to rotating lines. The rotary joint is an electro-mechanical device with RF performance dependent upon rigorous electrical and mechanical design. Available styles are defined by physical geometry as follows:



### 【Specifications】

Model No	Freq Range (GHz)	Operating Bandwidth (MHz)	VSWR (Max)	VSWR WOW	IL(dB) (Max)	IL WOW (dB)	Max. ISO (dB) in two channels	WG Type		Material
								IEC	EIA	
ST-32WRJUI	2.60-3.95	60	1.30	0.10	0.6	0.10	50	R32	WR284	Al/Cu
ST-32WRJUL	2.60-3.95	100	1.30	0.10	0.3	0.10	50	R32	WR284	Al/Cu
ST-32WRJUU	2.60-3.95	100	1.30	0.10	0.3	0.10	50	R32	WR284	Al/Cu
ST-40WRJUI	3.22-4.90	100	1.30	0.10	0.3	0.10	50	R40	WR229	Al/Cu
ST-40WRJUL	3.22-4.90	100	1.30	0.10	0.3	0.10	50	R40	WR229	Al/Cu
ST-40WRJUU	3.22-4.90	100	1.30	0.10	0.3	0.10	50	R40	WR229	Al/Cu

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ST-48WRJUI	3.94-5.99	100	1.30	0.10	0.3	0.10	50	R48	WR187	Al/Cu
ST-48WRJUL	3.94-5.99	100	1.30	0.10	0.3	0.10	50	R48	WR187	Al/Cu
ST-48WRJUU	3.94-5.99	100	1.30	0.10	0.3	0.10	50	R48	WR187	Al/Cu
ST-58WRJUI	4.64-7.05	100	1.30	0.10	0.25	0.10	50	R58	WR159	Al/Cu
ST-58WRJUL	4.64-7.05	100	1.30	0.10	0.25	0.10	50	R58	WR159	Al/Cu
ST-58WRJUU	4.64-7.05	100	1.30	0.10	0.25	0.10	50	R58	WR159	Al/Cu
ST-70WRJUI	5.38-8.17	100	1.30	0.10	0.25	0.10	50	R70	WR137	Al/Cu
ST-70WRJUL	5.38-8.17	100	1.30	0.10	0.25	0.10	50	R70	WR137	Al/Cu
ST-70WRJUU	5.38-8.17	100	1.30	0.10	0.25	0.10	50	R70	WR137	Al/Cu
ST-84WRJUI	6.57-9.99	100	1.30	0.10	0.3	0.10	50	R84	WR112	Al/Cu
ST-84WRJUL	6.57-9.99	100	1.30	0.10	0.3	0.10	50	R84	WR112	Al/Cu
ST-84WRJUU	6.57-9.99	100	1.30	0.10	0.3	0.10	50	R84	WR112	Al/Cu
ST-100WRJUI	8.20-12.4	100	1.30	0.10	0.3	0.10	50	R100	WR90	Al/Cu
ST-100WRJUL	8.20-12.4	100	1.30	0.10	0.3	0.10	50	R100	WR90	Al/Cu
ST-100WRJUU	8.20-12.4	100	1.30	0.10	0.3	0.10	50	R100	WR90	Al/Cu
ST-120WRJUI	9.84-15.0	200	1.30	0.10	0.3	0.10	50	R120	WR75	Al/Cu
ST-120WRJUL	9.84-15.0	200	1.30	0.10	0.3	0.10	50	R120	WR75	Al/Cu
ST-120WRJUU	9.84-15.0	200	1.30	0.10	0.3	0.10	50	R120	WR75	Al/Cu
ST-140WRJUI	11.9-18.0	200	1.40	0.10	0.4	0.10	50	R140	WR62	Al/Cu
ST-140WRJUL	11.9-18.0	200	1.40	0.10	0.4	0.10	50	R140	WR62	Al/Cu
ST-140WRJUU	11.9-18.0	200	1.40	0.10	0.4	0.10	50	R140	WR62	Al/Cu
ST-180WRJUI	14.5-22.0	200	1.40	0.10	0.4	0.10	50	R180	WR51	Al/Cu
ST-180WRJUL	14.5-22.0	200	1.40	0.10	0.4	0.10	50	R180	WR51	Al/Cu
ST-180WRJUU	14.5-22.0	200	1.40	0.10	0.4	0.10	50	R180	WR51	Al/Cu
ST-220WRJUI	17.6-26.7	200	1.50	0.10	1.0	0.10	50	R220	WR42	Al/Cu
ST-220WRJUL	17.6-26.7	200	1.50	0.10	1.0	0.10	50	R220	WR42	Al/Cu
ST-220WRJUU	17.6-26.7	200	1.50	0.10	1.0	0.10	50	R220	WR42	Al/Cu
ST-260WRJUI	21.7-33.0	200	1.50	0.10	1.0	0.10	50	R260	WR34	Al/Cu
ST-260WRJUL	21.7-33.0	200	1.50	0.10	1.0	0.10	50	R260	WR34	Al/Cu
ST-260WRJUU	21.7-33.0	200	1.50	0.10	1.0	0.10	50	R260	WR28	Al/Cu
ST-320WRJUI	26.3-40.0	200	1.50	0.10	1.0	0.10	50	R320	WR28	Al/Cu
ST-320WRJUL	26.3-40.0	200	1.50	0.10	1.0	0.10	50	R320	WR28	Al/Cu
ST-320WRJUU	26.3-40.0	200	1.50	0.10	1.0	0.10	50	R320	WR28	Al/Cu

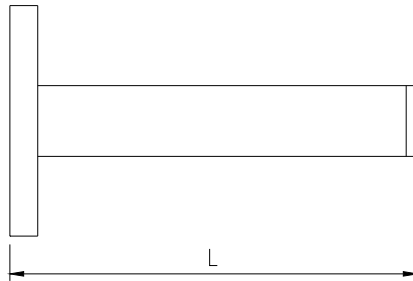
- Flange type: Multiple types available - see Flanges page
- Finish: Corrosion protection plus black top coat

## 10 Waveguide Termination (Dummy Load)

### 10.1 Waveguide Low Power Termination



Synergy Telecom's standard product line of low power terminations utilizes precision conical load elements for optimum electrical performance. This series of terminations is designed for low power input. VSWR is less than 1.05 over the full waveguide bandwidth.



#### 【Specifications】

Model No*	Freq Range (GHz)	VSWR (Max)	Avg Power (W)	Length (L) (mm)	WG Type		Flange	Material
					IEC	EIA		
ST-3WL1.05...	0.32-0.49	1.05	2	2005	R3	WR2300	FDP/FDM	Al
ST-4WL1.05...	0.35-0.53	1.05	2	1900	R4	WR2100	FDP/FDM	Al
ST-5WL1.05...	0.41-0.62	1.05	2	1600	R5	WR1800	FDP/FDM	Al
ST-6WL1.05...	0.49-0.75	1.05	2	1300	R6	WR1500	FDP/FDM	Al
ST-8WL1.05...	0.64-0.98	1.05	2	1100	R8	WR1150	FDP/FDM	Al
ST-9WL1.03...	0.75-1.15	1.03	2	660	R9	WR975	FDP/FDM	Al
ST-12WL1.05...	0.96-1.46	1.05	2	680	R12	WR770	FDP/FDM	Al
ST-14WL1.03...	1.13-1.73	1.03	2	570	R14	WR650	FDP/FDM	Al
ST-18WL1.05...	1.45-2.20	1.05	2	550	R18	WR510	FDP/FDM	Al/Cu
ST-22WL1.03...	1.72-2.61	1.03	2	470	R22	WR430	FDP/FDM	Al/Cu
ST-26WL1.03...	2.17-3.30	1.03	2	350	R26	WR340	FDP/FDM	Al/Cu
ST-32WL1.03...	2.60-3.95	1.03	2	278	R32	WR284	FDP/FDM	Al/Cu
ST-40WL1.03...	3.22-4.90	1.03	2	275	R40	WR229	FDP/FDM	Al/Cu
ST-48WL1.03...	3.94-5.99	1.03	2	170	R48	WR187	FDP/FDM	Al/Cu
ST-58WL1.03...	4.64-7.05	1.03	2	135	R58	WR159	FDP/FDM	Al/Cu
ST-70WL1.03...	5.38-8.17	1.03	2	180	R70	WR137	FDP/FDM	Al/Cu

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ST-84WL1.03...	6.57-9.99	1.03	2	150	R84	WR112	FBP/FBM/FBE	Al/Cu
ST-100WL1.03...	8.20-12.40	1.03	2	130	R100	WR90	FBP/FBM/FBE	Al/Cu
ST-120WL1.03...	9.84-15.0	1.03	2	110	R120	WR75	FBP/FBM/FBE	Al/Cu
ST-140WL1.03...	11.9-18.0	1.03	2	90	R140	WR62	FBP/FBM/FBE	Al/Cu
ST-180WL1.03...	14.5-22.0	1.03	2	75	R180	WR51	FBP/FBM/FBE	Al/Cu
ST-220WL1.03...	17.6-26.7	1.03	2	85	R220	WR42	FBP/FBM/FBE	Al/Cu
ST-260WL1.03...	21.7-33.0	1.03	2	55	R260	WR34	FBP/FBM/FBE	Al/Cu
ST-320WL1.03...	26.3-40.0	1.03	2	40	R320	WR28	FBP/FBM/FBE	Al/Cu

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

## 10.2 Waveguide High Power Termination



Synergy Telecom Has a wide selection of high power terminations. Please call us and discuss your special needs with one of our sales engineers.

### 【Specification】

Model No*	Freq Range (GHz)	VSWR** (Max)	Avg Power (W)	WG Type		Flange	Material
				IEC	EIA		
ST-14WHPL100...	1.13-1.73	1.20	100	R14	WR650	FDP/FDM	Al
ST-14WHPL350...	1.13-1.73	1.20	350	R14	WR650	FDP/FDM	Al
ST-14WHPL500...	1.13-1.73	1.20	500	R14	WR650	FDP/FDM	Al
ST-14WHPL1000...	1.13-1.73	1.20	1000	R14	WR650	FDP/FDM	Al



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ST-18WHPL100...	1.45-2.20	1.20	100	R18	WR510	FDP/FDM	Al/Cu
ST-18WHPL300...	1.45-2.20	1.20	300	R18	WR510	FDP/FDM	Al/Cu
ST-18WHPL500...	1.45-2.20	1.20	500	R18	WR510	FDP/FDM	Al/Cu
ST-18WHPL1000...	1.45-2.20	1.20	1000	R18	WR510	FDP/FDM	Al/Cu
ST-22WHPL100...	1.72-2.61	1.15	100	R22	WR430	FDP/FDM	Al/Cu
ST-22WHPL250...	1.72-2.61	1.15	250	R22	WR430	FDP/FDM	Al/Cu
ST-26WHPL300...	2.17-3.30	1.15	300	R26	WR340	FDP/FDM	Al/Cu
ST-26WHPL800...	2.17-3.30	1.15	800	R26	WR340	FDP/FDM	Al/Cu
ST-32WHPL250...	2.60-3.95	1.10	250	R32	WR284	FDP/FDM	Al/Cu
ST-32WHPL500...	2.60-3.95	1.10	500	R32	WR284	FDP/FDM	Al/Cu
ST-40WHPL300...	3.22-4.90	1.10	500	R40	WR229	FDP/FDM	Al/Cu
ST-48WHPL70...	3.94-5.99	1.10	70	R48	WR187	FDP/FDM	Al/Cu
ST-48WHPL100...	3.94-5.99	1.10	100	R48	WR187	FDP/FDM	Al/Cu
ST-48WHPL400...	3.94-5.99	1.10	400	R48	WR187	FDP/FDM	Al/Cu
ST-48WHPL500...	3.94-5.99	1.10	500	R48	WR187	FDP/FDM	Al/Cu
ST-48WHPL1000...	3.94-5.99	1.10	1000	R48	WR187	FDP/FDM	Al/Cu
ST-58WHPL50...	4.64-7.05	1.10	50	R58	WR159	FDP/FDM	Al/Cu
ST-58WHPL800...	4.64-7.05	1.10	800	R58	WR159	FDP/FDM	Al/Cu
ST-70WHPL75...	5.38-8.17	1.10	75	R70	WR137	FDP/FDM	Al/Cu
ST-70WHPL150...	5.38-8.17	1.10	150	R70	WR137	FDP/FDM	Al/Cu
ST-70WHPL200...	5.38-8.17	1.10	200	R70	WR137	FDP/FDM	Al/Cu
ST-70WHPL250...	5.38-8.17	1.10	250	R70	WR137	FDP/FDM	Al/Cu
ST-70WHPL300...	5.38-8.17	1.10	300	R70	WR137	FDP/FDM	Al/Cu
ST-70WHPL500...	5.38-8.17	1.10	500	R70	WR137	FDP/FDM	Al/Cu
ST-70WHPL550...	5.38-8.17	1.10	550	R70	WR137	FDP/FDM	Al/Cu
ST-84WHPL300...	6.57-9.99	1.10	300	R84	WR112	FDP/FDM	Al/Cu
ST-84WHPL500...	6.57-9.99	1.10	500	R84	WR112	FDP/FDM	Al/Cu
ST-100WHPL100...	8.20-12.40	1.10	100	R100	WR90	FDP/FDM	Al/Cu
ST-100WHPL200...	8.20-12.40	1.10	200	R100	WR90	FDP/FDM	Al/Cu
ST-100WHPL300...	8.20-12.40	1.10	300	R100	WR90	FDP/FDM	Al/Cu
ST-120WHPL50...	9.84-15.0	1.10	50	R120	WR75	FDP/FDM	Al/Cu
ST-120WHPL75...	9.84-15.0	1.10	75	R120	WR75	FDP/FDM	Al/Cu
ST-120WHPL150...	9.84-15.0	1.10	150	R120	WR75	FDP/FDM	Al/Cu



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ST-120WHPL200...	9.84-15.0	1.10	200	R120	WR75	FBP/FBM/FBE	Al/Cu
ST-120WHPL400...	9.84-15.0	1.10	400	R120	WR75	FBP/FBM/FBE	Al/Cu
ST-140WHPL50...	11.9-18.0	1.10	50	R140	WR62	FBP/FBM/FBE	Al/Cu
ST-140WHPL100...	11.9-18.0	1.10	100	R140	WR62	FBP/FBM/FBE	Al/Cu
ST-140WHPL200...	11.9-18.0	1.10	200	R140	WR62	FBP/FBM/FBE	Al/Cu
ST-140WHPL300...	11.9-18.0	1.10	300	R140	WR62	FBP/FBM/FBE	Al/Cu
ST-140WHPL400...	11.9-18.0	1.10	400	R140	WR62	FBP/FBM/FBE	Al/Cu
ST-140WHPL500...	11.9-18.0	1.10	500	R140	WR62	FBP/FBM/FBE	Al/Cu
ST-180WHPL50...	14.5-22.0	1.15	50	R180	WR51	FBP/FBM/FBE	Al/Cu
ST-180WHPL500...	14.5-22.0	1.15	500	R180	WR51	FBP/FBM/FBE	Al/Cu
ST-220WHPL100...	17.6-26.7	1.15	100	R220	WR42	FBP/FBM/FBE	Al/Cu
ST-220WHPL200...	17.6-26.7	1.15	200	R220	WR42	FBP/FBM/FBE	Al/Cu
ST-260WHPL100...	21.7-33.0	1.15	100	R260	WR34	FBP/FBM/FBE	Al/Cu
ST-320WHPL30...	26.3-40.0	1.15	30	R320	WR28	FBP/FBM/FBE	Al/Cu
ST-400WHPL10...	32.9-50.1	1.15	10	R400	WR22	FUGP	Cu
ST-400WHPL20...	32.9-50.1	1.15	20	R400	WR22	FUGP	Cu

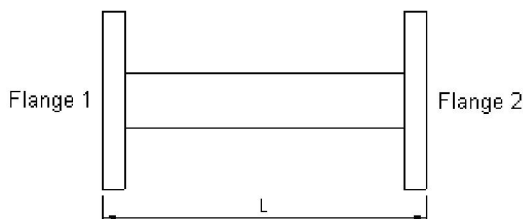
*\*\*VSWR refers to 30% of waveguide bandwidth.*

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

## 11 Waveguide Attenuator

Synergy Telecom offers a series of rectangular waveguide attenuators. Typical Attenuation values are 3dB, 6dB, 10dB, 20dB and 30dB (other attenuation values available, consult sales engineers for details). The assembly construction includes a precision element for optimum electrical performance, but note that Attenuation vs. Frequency can vary greatly depending on the attenuation at a given frequency. Waveguide Fixed Attenuators with normal and high power units are also available. For more information feel free to call us and discuss your needs with one of our sales engineers.

### 11.1 Waveguide Fixed Attenuator



#### 【 Specifications 】

Model No*	Freq Range (GHz)	VSWR (Max)	Power (W)	Attenuation** (dB)	WG Type		Flange	Material
					IEC	EIA		
ST-14WFA...	1.13-1.73	1.20	2	3/6/10/20/30	R14	WR650	FDP/FDM	Al
ST-18WFA...	1.45-2.20	1.20	2	3/6/10/20/30	R18	WR510	FDP/FDM	Al
ST-22WFA...	1.72-2.61	1.20	2	3/6/10/20/30	R22	WR430	FDP/FDM	Al/Cu
ST-26WFA...	2.17-3.30	1.20	2	3/6/10/20/30	R26	WR340	FDP/FDM	Al/Cu
ST-32WFA...	2.60-3.95	1.15	2	3/6/10/20/30	R32	WR284	FDP/FDM	Al/Cu
ST-40WFA...	3.22-4.90	1.15	2	3/6/10/20/30	R40	WR229	FDP/FDM	Al/Cu
ST-48WFA...	3.94-5.99	1.15	2	3/6/10/20/30	R48	WR187	FDP/FDM	Al/Cu
ST-58WFA...	4.64-7.05	1.15	2	3/6/10/20/30	R58	WR159	FDP/FDM	Al/Cu
ST-70WFA...	5.38-8.17	1.15	2	3/6/10/20/30	R70	WR137	FDP/FDM	Al/Cu

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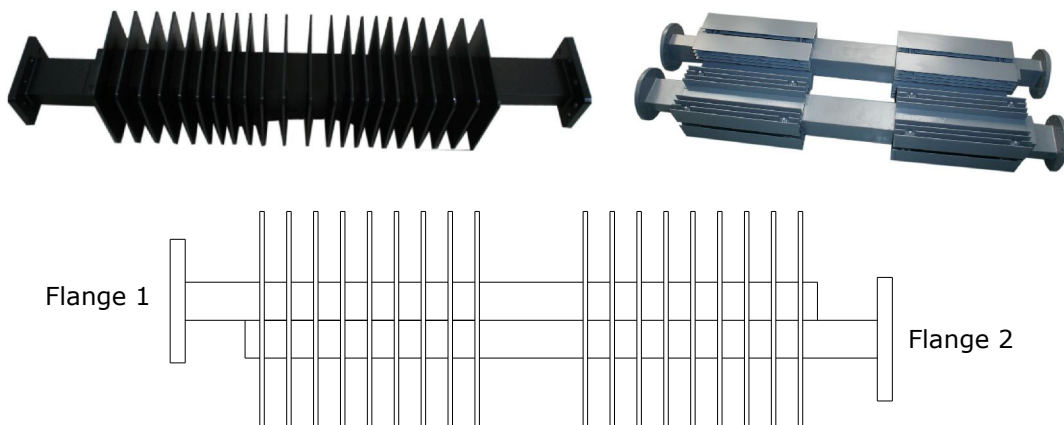
ST-84WFA...	6.57-9.99	1.15	2	3/6/10/20/30	R84	WR112	FBP/FBM/FB	Al/Cu
ST-100WFA	8.20-12.40	1.15	2	3/6/10/20/30	R100	WR90	FBP/FBM/FB	Al/Cu
ST-120WFA	9.84-15.0	1.15	2	3/6/10/20/30	R120	WR75	FBP/FBM/FB	Al/Cu
ST-140WFA	11.9-18.0	1.15	2	3/6/10/20/30	R140	WR62	FBP/FBM/FB	Al/Cu
ST-180WFA	14.5-22.0	1.15	2	3/6/10/20/30	R180	WR51	FBP/FBM/FB	Al/Cu
ST-220WFA	17.6-26.7	1.20	2	3/6/10/20/30	R220	WR42	FBP/FBM/FB	Al/Cu
ST-260WFA	21.7-33.0	1.20	2	3/6/10/20/30	R260	WR34	FBP/FBM/FB	Al/Cu
ST-320WFA	26.3-40.0	1.20	2	3/6/10/20/30	R320	WR28	FBP/FBM/FB	Al/Cu

**\*\* Nominal Attenuation Accuracy:  $\pm 0.5\text{dB}$**

**Frequency Sensitivity:  $\pm 0.7\text{dB}$**

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

## 11.2 Waveguide High Power Fixed Attenuator



### 【 Specifications 】

# Synergy Telecom P Ltd.

Model No*	Freq Range (GHz)	VSWR (Max)	Power (W)	Attenuation** (dB)	WG Type		Flange	Material
					IEC	EIA		
ST-48WHPFA...	5.4-5.9	1.25	50	10/20	R48	WR187	FDP/FDM	Al/Cu
ST-70WHPFA...	5.85-7.025	1.20	500	55	R70	WR137	FDP/FDM	Al/Cu
ST-100WHPFA	8.5-9.6	1.10	250	10	R100	WR90	FDP/FDM	Al/Cu
ST-120WHPFA	9.84-15.0	1.15	50	10/20/30	R120	WR75	FDP/FDM	Al/Cu
ST-140WHPFA	14.5-15.5	1.25	100	40	R140	WR62	FDP/FDM	Al/Cu
ST-320WHPFA	26.3-40.0	1.25	20	10	R320	WR28	FDP/FDM	Al/Cu

\*\* Nominal Attenuation Accuracy:  $\pm 0.5\text{dB}$

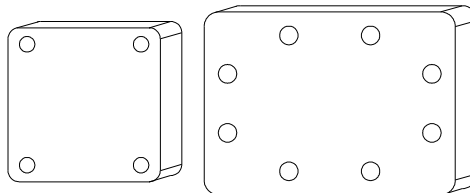
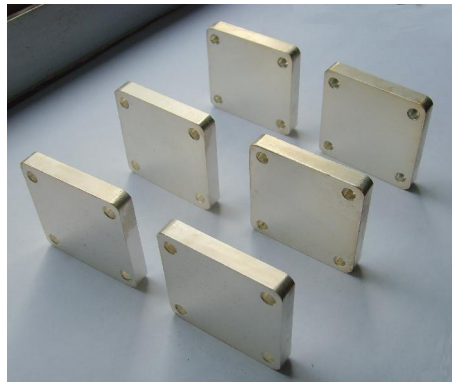
Frequency Sensitivity:  $\pm 0.7\text{dB}$

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

## 12 Waveguide Short

Synergy Telecom offers a standard product line of waveguide short plates which provide high reflection short circuits for terminating all standard waveguides. HengDa Microwave offers a cover, all-clear configuration as a standard product. Alternate materials and configurations are available upon request.

### 12.1 Waveguide Short Plate



#### 【Specifications】

Model No*	Freq Range (GHz)	VSWR (Min)	Thickness (mm)	WG Type		Flange	Material
				IEC	EIA		
ST-3WS...	0.32-0.49	60	23	R3	WR2300	FDP	Al
ST-4WS...	0.35-0.53	60	23	R4	WR2100	FDP	Al
ST-5WS...	0.41-0.62	60	18	R5	WR1800	FDP	Al
ST-6WS...	0.49-0.75	60	18	R6	WR1500	FDP	Al
ST-8WS...	0.64-0.98	60	14	R8	WR1150	FDP	Al
ST-9WS...	0.75-1.15	60	14	R9	WR975	FDP	Al
ST-12WS...	0.96-1.46	60	12	R12	WR770	FDP	Al
ST-14WS...	1.13-1.73	60	12	R14	WR650	FDP	Al

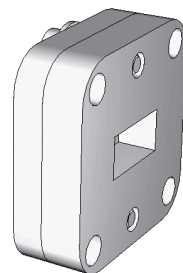
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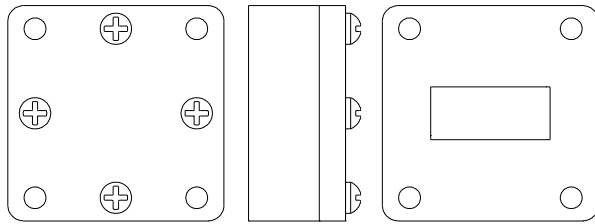
ST-18WS...	1.45-2.20	60	12	R18	WR510	FDP	Al/Cu
ST-22WS...	1.72-2.61	60	10	R22	WR430	FDP	Al/Cu
ST-26WS...	2.17-3.30	60	10	R26	WR340	FDP	Al/Cu
ST-32WS...	2.60-3.95	60	8	R32	WR284	FDP	Al/Cu
ST-40WS...	3.22-4.90	60	8	R40	WR229	FDP	Al/Cu
ST-48WS...	3.94-5.99	60	7	R48	WR187	FDP	Al/Cu
ST-58WS...	4.64-7.05	60	7	R58	WR159	FDP	Al/Cu
ST-70WS...	5.38-8.17	60	7	R70	WR137	FDP	Al/Cu
ST-84WS...	6.57-9.99	60	5	R84	WR112	FBP	Al/Cu
ST-100WS...	8.20-12.40	60	5	R100	WR90	FBP	Al/Cu
ST-120WS...	9.84-15.0	60	5	R120	WR75	FBP	Al/Cu
ST-140WS...	11.9-18.0	60	5	R140	WR62	FBP	Al/Cu
ST-180WS...	14.5-22.0	60	5	R180	WR51	FBP	Al/Cu
ST-220WS...	17.6-26.7	60	4	R220	WR42	FBP	Al/Cu
ST-260WS...	21.7-33.0	60	4	R260	WR34	FBP	Al/Cu
ST-320WS...	26.3-40.0	60	4	R320	WR28	FBP	Al/Cu
ST-400WS...	32.9-50.1	60	4	R400	WR22	FUGP	Cu
ST-500WS...	39.2-59.6	60	4	R500	WR19	FUGP	Cu
ST-620WS...	49.8-75.8	60	4	R620	WR15	FUGP	Cu
ST-740WS...	60.5-91.9	60	4	R740	WR12	FUGP	Cu
ST-900WS...	73.8-112	60	4	R900	WR10	FUGP	Cu

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

## 12.2 Waveguide Offset Short

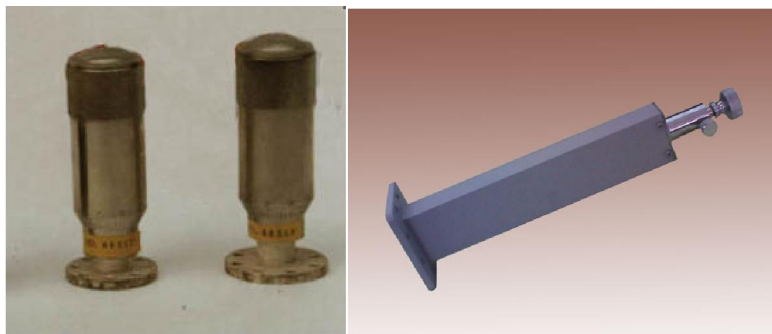
Waveguide offset shorts are available on special order. These are designed to have a specific shorting distance as required.





## 12.3 Waveguide Sliding Short

Waveguide sliding shorts are available. Please consult sales engineer for more information.



# Synergy Telecom P Ltd.

## 13 Waveguide Circulator

Synergy Telecom offers a standard product line of waveguide circulators ranging from WR10 to WR 137. For more information feel free to call us and discuss your needs with one of our sales engineers.



### 【 Specifications 】

Model No	Freq Range (GHz)	Operating Bandwidth (MHz)	VSWR (Max)	IL (dB) (Max)	Isolation (dB) (Min)	WG Type		Flange	Material
						IEC	EIA		
ST-70WCIC	5.38-8.17	700	1.20	0.3	20	R70	WR137	FDP/FDM	Al/Cu
ST-84WCIC	6.57-9.99	700	1.20	0.3	20	R84	WR112	FBP/FBM/FBE	Al/Cu
ST-100WCIC	8.20-12.40	800	1.20	0.3	20	R100	WR90	FBP/FBM/FBE	Al/Cu
ST-120WCIC	9.84-15.0	1000	1.20	0.3	20	R120	WR75	FBP/FBM/FBE	Al/Cu
ST-140WCIC	11.9-18.0	1000	1.20	0.3	20	R140	WR62	FBP/FBM/FBE	Al/Cu
ST-180WCIC	14.5-22.0	1000	1.20	0.3	20	R180	WR51	FBP/FBM/FBE	Al/Cu
ST-220WCIC	17.6-26.7	2000	1.20	0.3	20	R220	WR42	FBP/FBM/FBE	Al/Cu
ST-260WCIC	21.7-33.0	2000	1.20	0.3	20	R260	WR34	FBP/FBM/FBE	Al/Cu
ST-320WCIC	26.3-40.0	2000	1.20	0.3	20	R320	WR28	FBP/FBM/FBE	Al/Cu
ST-400WCIC	32.9-50.1	2000	1.30	0.6	20	R400	WR22	FUGP	Cu
ST-500WCIC	39.2-59.6	2000	1.30	0.6	20	R500	WR19	FUGP	Cu
ST-620WCIC	49.8-75.8	2000	1.30	0.6	20	R620	WR15	FUGP	Cu
ST-740WCIC	60.5-91.9	2000	1.30	0.8	20	R740	WR12	FUGP	Cu
ST-900WCIC	73.8-112	2000	1.30	1.0	20	R900	WR10	FUGP	Cu

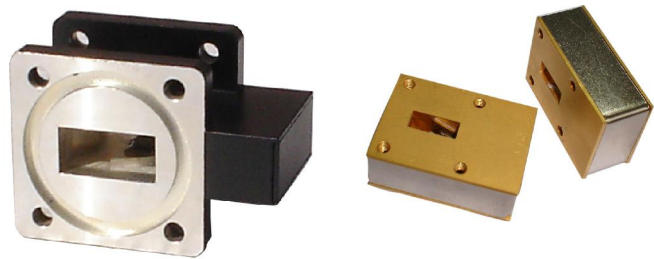
- Flange type: Multiple types available - see Technical Reference page
- Finish: Corrosion protection plus black/grey top coat



# Synergy Telecom P Ltd.

## 14 Waveguide Isolator

Synergy Telecom offers a standard product line of waveguide isolators ranging from WR10 to WR 137. For more information feel free to call us and discuss your needs with one of our sales engineers.



### 【 Specifications 】

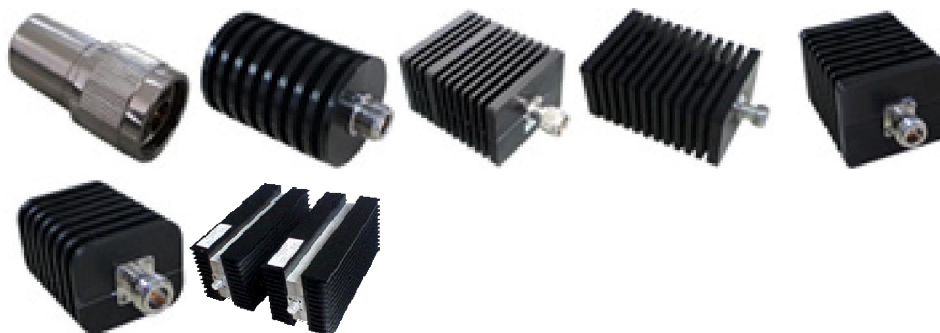
Model No	Freq Range (GHz)	Operating Bandwidth (MHz)	VSWR (Max)	IL (dB) (Max)	Isolation (dB) (Min)	WG Type		Flange	Material
						IEC	EIA		
ST-70WISO	5.38-8.17	700	1.20	0.3	20	R70	WR137	FDP/FDM	Al/Cu
ST-84WISO	6.57-9.99	700	1.20	0.3	20	R84	WR112	FBP/FBM/FBE	Al/Cu
ST-100WISO	8.2-12.5	800	1.20	0.3	20	R100	WR90	FBP/FBM/FBE	Al/Cu
ST-120WISO	9.84-15.0	1000	1.20	0.3	20	R120	WR75	FBP/FBM/FBE	Al/Cu
ST-140WISO	11.9-18.0	1000	1.20	0.3	20	R140	WR62	FBP/FBM/FBE	Al/Cu
ST-180WISO	14.5-22.0	1000	1.20	0.3	20	R180	WR51	FBP/FBM/FBE	Al/Cu
ST-220WISO	17.6-26.7	2000	1.20	0.3	20	R220	WR42	FBP/FBM/FBE	Al/Cu
ST-260WISO	21.7-33.0	2000	1.20	0.3	20	R260	WR34	FBP/FBM/FBE	Al/Cu
ST-320WISO	26.3-40.0	2000	1.20	0.3	20	R320	WR28	FBP/FBM/FBE	Al/Cu
ST-400WISO	32.9-60.1	2000	1.30	0.6	20	R400	WR22	FUGP	Cu
ST-500WISO	39.2-59.6	2000	1.30	0.6	20	R500	WR19	FUGP	Cu
ST-620WISO	49.8-75.8	2000	1.30	0.6	20	R620	WR15	FUGP	Cu
ST-740WISO	60.5-91.9	2000	1.30	0.8	20	R740	WR12	FUGP	Cu
ST-900WISO	73.8-112	2000	1.30	1.0	20	R900	WR10	FUGP	Cu

- Flange type: Multiple types available - see Technical Reference page
- Finish: Corrosion protection plus black/grey top coat

## Coaxial Components

### 15 Coaxial Termination

Synergy Telecom supplies high quality Coaxial Terminations up to 18 GHz. Our Free Standing Convection Cooled Terminations offer great flexibility for all your engineering applications. Please call us with your requirements and discuss your needs with one of our sales engineers.



#### 【Specifications】

Model No	Avg Power (W)	Peak Power (kW)	Freq Range (GHz)	VSWR	Coax Connector Type	Impedance (Ω)
ST-124CL2S	2	0.25	DC-12.4	1.10-1.25	SMA	50
ST-040CL2S	2	0.25	DC-4	≤ 1.20	SMA	50
ST-400CL2S	2	0.25	DC-40	1.10-1.40	SMA	50
ST-180CL2S1	2	0.25	DC-18	1.10-1.30	SMA	50
ST-180CL2S2	2	0.25	DC-18	1.05-1.30	SMA	50
ST-180CL2S3	2	0.5	DC-18	≤ 1.25	SMA	50
ST-400CL5S	5	0.5	DC-40	≤ 1.40	SMA	50
ST-180CL10S	10	0.5	DC-18	≤1.45	SMA	50
ST-060CL2N	2	0.5	DC-6	1.10-1.25	N,SMA,BNC,TNC,7/16	50
ST-180CL2N	2	0.5	DC-18	1.10-1.30	N,BNC,SMA,TNC,7/16	50
ST-030CL2	2	1	DC-3	≤1.10	7/16 (M)	50
ST-080CL2N	2	0.5	DC-8	1.10-1.25	N(M)	50
ST-060CL5N1	5	0.5	DC-6	1.10-1.30	N,BNC,SMA,TNC,7/16	50
ST-060CL5N2	5	1	DC-6	1.10-1.25	N(M)	50
ST-180CL5N1	5	0.5	DC-18	1.10-1.30	N	50
ST-180CL5N2	5	0.5	DC-18	1.10-1.30	N,BNC,SMA,TNC	50
ST-060CL10N	10	1	DC-6	1.10-1.30	N,BNC,SMA,TNC,7/16	50
ST-100CL10N	10	1	DC-10	1.10-1.45	N	50

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ST-180CL10N1	10	1	DC-18	1.10-1.40	N,SMA,BNC,TNC	50
ST-180CL10N2	10	1	DC-18	1.10-1.30	N	50
ST-060CL25N	25	1	DC-6	1.10-1.25	SMA,N,7/16,TNC,BNC	50
ST-100CL25N	25	1	DC-10	1.10-1.45	N	50
ST-180CL25N	25	1	DC-18	1.15-1.35	N,SMA,TNC	50
ST-060CL30N	30	10	DC-6	1.10-1.30	N,SMA,7/16,TNC,BNC	50
ST-100CL30N	30	1	DC-10	1.10-1.45	N	50
ST-040CL50N1	50	10	DC-4	1.05-1.20	N,SMA,7/16,TNC	50
ST-060CL50N	50	1	DC-6	1.10-1.25	N,BNC,7/16,TNC	50
ST-100CL50N	50	1	DC-10	1.10-1.45	N	50
ST-180CL50N1	50	1	DC-18	1.10-1.45	N,SMA	50
ST-180CL50N2	50	5	DC-18	1.10-1.55	N,7/16,SMA	50
ST-040CL80N1	80	10	DC-4	1.05-1.25	N,7/16,TNC	50
ST-180CL80N1	80	1	DC-18	1.15-1.45	N	50
ST-180CL80N2	80	5	DC-18	1.15-1.55	N	50
ST-040CL100N1	100	10	DC-4	1.10-1.25	N,7/16	50
ST-180CL100N1	100	5	DC-18	1.10-1.25	N	50
ST-180CL100N2	100	5	DC-18	1.10-1.55	N	50
ST-040CL150N	150	10	DC-4	1.15-1.30	N,7/16	50
ST-180CL150N1	150	10	DC-18	1.15-1.50	N	50
ST-180CL150N2	150	5	DC-18	1.15-1.55	N	50
ST-040CL200N	200	10	DC-4	1.15-1.30	N,7/16	50
ST-100CL200N	200	5	DC-10	1.10-1.35	N,7/16	50
ST-040CL250N	250	10	DC-4	1.15-1.35	N,7/16	50
ST-100CL25N2	25	5	DC-10	1.10-1.35	N,7/16	50
ST-040CL300N1	300	10	DC-4	1.15-1.40	N,7/16	50
ST-100CL300N	300	5	DC-10	1.10-1.35	N,7/16	50
ST-040CL400N	400	10	DC-4	1.15-1.45	N,7/16	50
ST-100CL400N	400	10	DC-10	1.10-1.50	N,7/16	50
ST-040CL500N1	500	10	DC-4	1.15-1.40	N,7/16	50
ST-040CL500N2	500	5	DC-4	1.15-1.55	N,7/16	50
ST-040CL800N	800	10	DC-4	1.20-1.45	N,7/16	50
ST-040CL1000N	1000	10	DC-4	≤1.40	N,7/16,L27	50
ST-040CL1500N	1500	10	DC-4	≤1.40	N,7/16,L27	50
ST-040CL2000N	2000	10	DC-4	≤1.40	N,7/16,L27	50
ST-020CL1000N	1000	50	DC-2	≤1.30	N,7/16,L27	50

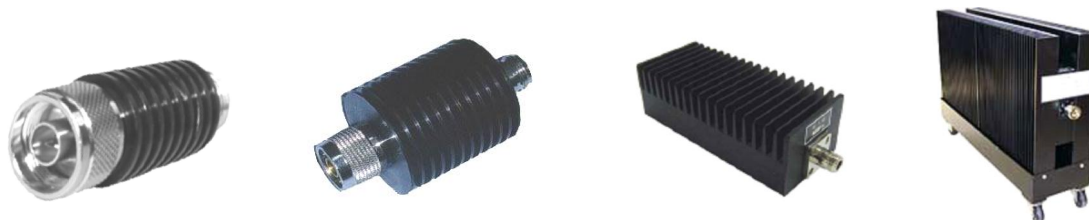
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ST-020CL2000N	2000	50	DC-2	≤1.30	N,7/16,L27	50
ST-020CL3000N	3000	50	DC-2	≤1.30	L27, 7/16,L36	50
ST-010CL5000N	5000	100	DC-1	≤1.40	L27, 7/16,L52	50
ST-030CL1N	1	0.5	DC-3	≤1.20	N, NBC	75
ST-030CL2N	2	0.5	DC-3	≤1.20	N, NBC	75
ST-030CL5N	5	0.5	DC-3	≤1.20	N, NBC	75
ST-030CL50N	50	5	DC-3	≤1.05	N	50
ST-030CL150N	150	5	DC-3	≤1.05	N	50
ST-085CL30N	30	5	DC-8.5	≤1.30	N,SMA	50
ST-180CL50N3	50	5	DC-18	≤1.55	N,SMA	50
ST-180CL75N	75	5	DC-18	≤1.55	N,SMA	50
ST-180CL150N3	150	5	DC-18	≤1.55	N	50
ST-040CL50N2	50	10	DC-4	≤1.30	N	50
ST-040CL100N2	100	10	DC-4	≤1.30	N	50
ST-040CL300N2	300	10	DC-4	≤1.40	N	50
ST-180CL50N4	50	5	DC-18	≤1.55	N	50
ST-180CL100N3	100	5	DC-18	≤1.55	N	50
ST-180CL200N	200	5	DC-18	≤1.55	N	50
ST-0820CL300N	300	5	0.8-2	≤1.20	N	50
ST-0820CL350N	350	5	0.8-2	≤1.20	N	50
ST-1214CL300N	300	12	1.2-1.4	≤1.20	N	50
ST-040CL25N	25	1	DC-4	≤1.20	N	50
ST-040CL30N	30	1	DC-4	≤1.20	N	50
ST-040CL50N3	50	1	DC-4	≤1.20	N	50
ST-040CL80N2	80	1	DC-4	≤1.20	N	50
ST-040CL100N3	100	5	DC-4	≤1.20	N	50

# Synergy Telecom P Ltd.

## 16 Coaxial Fixed Attenuator

Synergy Telecom supplies a wide selection of high quality Fixed Attenuators ranging from 2 W to 10 kW in standard Attenuation values of 3, 6, 10, 20, 30, 40 and 50 dB. Please call us with your requirements and discuss your needs with one of our sales engineers.



### 【Specifications】

Model No	Avg Power (W)	Peak Power (kW)	Freq Range (GHz)	VSWR	Nom Attenuation Value(dB)	Coax Connector Type	Impedance ( $\Omega$ )
ST-180CFA2S1	2	0.5	DC-18	1.15-1.35	1-6,7-8,9-12	SMA	50
ST-180CFA2S2	2	0.5	DC-18	1.15-1.35	1-9,10,20,30	SMA	50
ST-180CFA2S3	2	0.5	DC-18	1.10-1.30	1-9,10,20,30	SMA	50
ST-265CFA2S	2	0.5	DC-26.5	1.10-1.35	1-9,10,20,30	SMA	50
ST-180CFA2S4	2	0.5	DC-18	1.15-1.35	1-9,10,20,30	SMA	50
ST-180CFA3N	3	0.5	DC-18	1.15-1.35	40,50,60,70,80,90	N,SMA,TNC	50
ST-180CFA5S	5	0.5	DC-18	1.15-1.40	3,6,10,20	SMA	50
ST-180CFA10S	10	0.5	DC-18	1.15-1.40	3,6,10,20,30	SMA	50
ST-040CFA2N	2	0.5	DC-4	1.10-1.20	1-9,10,20,30,40	N,BNC,SMA,TNC,L16	50
ST-180CFA2N1	2	0.5	DC-18	1.15-1.35	1-9,10,20,30,40	N,SMA	50
ST-180CFA2N2	2	0.5	DC-18	1.15-1.35	50,60,70,80,90	N,SMA	50
ST-040CFA5N	5	0.5	DC-4	1.10-1.20	1-9,10,20,30,40	N,BNC,SMA,TNC	50
ST-180CFA5N1	5	0.5	DC-18	1.15-1.35	10,20,30,40	N,SMA	50
ST-180CFA5N2	5	0.5	DC-18	1.15-1.35	50,60,70,80,90	N.SMA	50
ST-040CFA10N	10	1	DC-4	1.10-1.20	1-9,10,20,30,40	N,SMA,TNC,BNC,7/16	50
ST-180CFA10N1	10	1	DC-18	1.15-1.35	10,20,30,40	N,SMA	50
ST-180CFA10N2	10	1	DC-18	1.15-1.35	10,20,30,40,50,60,70,80,90	N,SMA,TNC	50
ST-040CFA25N	25	1	DC-4	1.10-1.20	1-9,10,20,30,40,50	N,SMA,TNC,BNC	50
ST-180CFA25N1	25	1	DC-18	1.15-1.35	10,20,30,40	N,SMA,TNC,BNC	50
ST-180CFA25N2	25	1	DC-18	1.10-1.40	10,20,30,40,50,60,70,80,90	N,SMA,TNC,BNC	50
ST-040CFA30N	30	1	DC-4	1.10-1.20	1-9,10,20,30,40	N.SMA,7/16,TNC,BNC	50

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ST-040CFA50N1	50	10	DC-4	1.10-1.35	10,20,30,40,50	N,SMA,7/16,TNC,BNC	50
ST-040CFA50N	50	10	DC-4	1.10-1.20	10,20,30,40	N,SMA,7/16,TNC,BNC	50
ST-180CFA50N	50	10	DC-18	1.15-1.35	10,20,30,40	N,SMA,7/16,TNC,BNC	50
ST-100CFA50N1	50	5	DC-10	1.10-1.35	3/6,10,20,30,40	N,7/16	50
ST-100CFA50N2	50	5	DC-10	1.10-1.35	3/6,10,20,30,40	N,7/16	50
ST-040CFA80N	80	10	DC-4	1.10-1.35	10,20,30,40,50	N,7/16,TNC,BNC	50
ST-180CFA80N	80	1	DC-18	1.10-1.45	10,20,30,40	N,SMA	50
ST-100CFA80N	80	5	DC-10	1.10-1.35	3/6,10,20,30,40	N,7/16	50
ST-040CFA100N1	100	10	DC-4	1.10-1.35	10,20,30,40,50	N,7/16	50
ST-180CFA100N	100	1	DC-18	1.20-1.45	10,20,30,40	N,SMA	50
ST-100CFA100N1	100	5	DC-10	1.10-1.35	20,30,40,50	N,7/16	50
ST-040CFA150N	150	10	DC-4	1.15-1.35	10,20,30,40,50	N,7/16	50
ST-180CFA150N	150	1	DC-18	1.20-1.60	30,40	N	50
ST-100CFA150N	150	5	DC-10	1.10-1.35	20,30,40	N,7/16	50
ST-040CFA200N	200	10	DC-4	1.15-1.40	10,20,30,40,50	N,7/16	50
ST-100CFA200N1	200	5	DC-10	1.15-1.45	10,20,30,40,50	N,7/16	50
ST-040CFA250N	250	10	DC-4	1.15-1.40	10,20,30,40,50	N,7/16	50
ST-100CFA250N	250	5	DC-10	1.15-1.45	10,20,30,40	N,7/16	50
ST-040CFA300N1	300	10	DC-4	1.15-1.50	10,20,30,40,50	N,7/16	50
ST-100CFA300N	300	5	DC-10	1.25-1.45	30,40	N	50
ST-040CFA400N	400	10	DC-4	1.20-1.50	10,20,30,40,50	N,7/16	50
ST-080CFA400N	400	5	DC-8	1.25-1.45	40,50	N	50
ST-040CFA500N	500	10	DC-4	1.20-1.50	10,20,30,40,50	N,7/16	50
ST-075CFA500N	500	5	DC-7.5	1.25-1.50	40,50	N	50
ST-040CFA800N	800	10	DC-4	1.20-1.50	40,50,60	N,7/16	50
ST-030CFA1000N	1000	10	DC-3	≤1.40	40,50	N,L27,7/16	50
ST-030CFA1500N	1500	10	DC-3	≤1.40	40,50	N,L27,7/16	50
ST-030CFA2000N	2000	10	DC-3	≤1.40	40,50	N,L27,7/16	50
ST-020CFA1000N	1000	50	DC-2	≤1.30	30,40,50	N,L27,7/16	50
ST-020CFA2000N	2000	50	DC-2	≤1.30	30,40,50	N,L27,7/16	50
ST-020CFA3000N	3000	50	DC-2	≤1.30	30,40,50	N,L27,7/16	50
ST-010CFA4000N	4000	100	DC-1	≤1.40	30,40,50	N,L27,7/16	50
ST-010CFA5000N	5000	100	DC-1	≤1.40	30,40,50	L29,L36,L50	50
ST-010CFA10000N	10000	200	DC-1	≤1.40	30,40,50	L29,L36,L50	50
ST-010CFA1F1	1	0.5	DC-1	≤1.15	10,20,30,40	F,N	75
ST-010CFA1F2	1	0.5	DC-1	≤1.10	1,2,4,8,16,20	F	75
ST-030CFA2N	2	0.5	DC-3	≤1.25	1-9,10,20,30	N,BNC	75
ST-030CFA5N	5	0.5	DC-3	≤1.25	1-9,10, 20, 30	N,BNC	75

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ST-040CFA50N2	50	10	DC-4	≤1.35	3,6,10,20,30,40	N,SMA	50
ST-040CFA100N2	100	10	DC-4	≤1.40	3,6,10,20,30,40	N,SMA	50
ST-040CFA300N2	300	10	DC-4	≤1.40	3,6,10,20,30,40	N,SMA	50
ST-100CFA50N3	50	10	DC-10	≤1.35	10,20,30,40	N,SMA	50
ST-100CFA100N2	100	10	DC-10	≤1.40	10,20,30,40	N,SMA	50
ST-100CFA200N2	200	10	DC-10	≤1.40	10,20,30,40	N,SMA	50

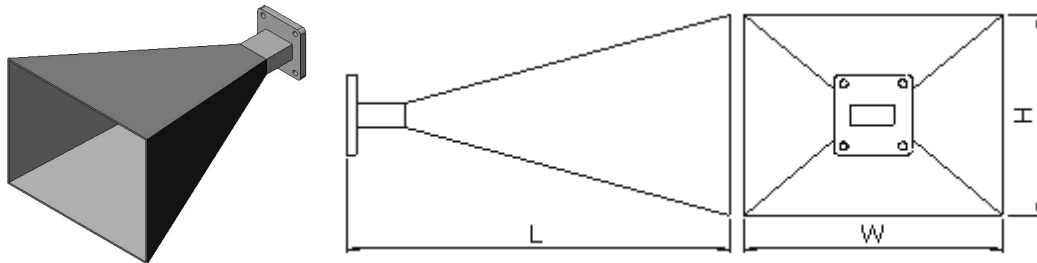
## Microwave & Millimeterwave Antennas

### 17 Standard Gain Horn Antenna

Synergy Telecom Has a high quality line of standard gain horn antennas that are linearly polarized, lightweight and corrosion resistant. The most common Gain values available are 10, 15, 20, 25dB. Other Gain values and Horn sizes can be designed to your requirement. Please call us with your specification and discuss your needs with one of our sales engineers.



#### 17.1 Standard Gain Horn Antenna, 10 dB



Style 1 — Waveguide Input

#### 【Specifications】

Model No	Freq Range (GHz)	Gain* (dB)	3dB Beamwidth* (Nom)	Dimensions (mm)			WG Type		Flange
				L	W	H	IEC	EIA	
ST-3SGAH10	0.32-0.49	10	55°	850	1150	800	R3	WR2300	FDP
ST-4SGAH10	0.35-0.53	10	55°	800	1050	720	R4	WR2100	FDP
ST-5SGAH10	0.41-0.62	10	55°	800	900	660	R5	WR1800	FDP
ST-6SGAH10	0.49-0.75	10	55°	700	700	500	R6	WR1500	FDP
ST-8SGAH10	0.64-0.98	10	55°	590	620	440	R8	WR1150	FDP
ST-9SGAH10	0.75-1.15	10	55°	300	480	336	R9	WR975	FDP
ST-12SGAH10	0.96-1.46	10	55°	300	400	280	R12	WR770	FDP
ST-14SGAH10	1.13-1.73	10	55°	280	315	235	R14	WR650	FDP
ST-18SGAH10	1.45-2.20	10	55°	245	249	184	R18	WR510	FDP
ST-22SGAH10	1.72-2.61	10	55°	210	209	154	R22	WR430	FDP
ST-26SGAH10	2.17-3.30	10	55°	160	165	125	R26	WR340	FDP
ST-32SGAH10	2.60-3.95	10	55°	150	144	114	R32	WR284	FDP
ST-40SGAH10	3.22-4.90	10	55°	120	113	88	R40	WR229	FDP
ST-48SGAH10	3.94-5.99	10	55°	110	98	73	R48	WR187	FDP



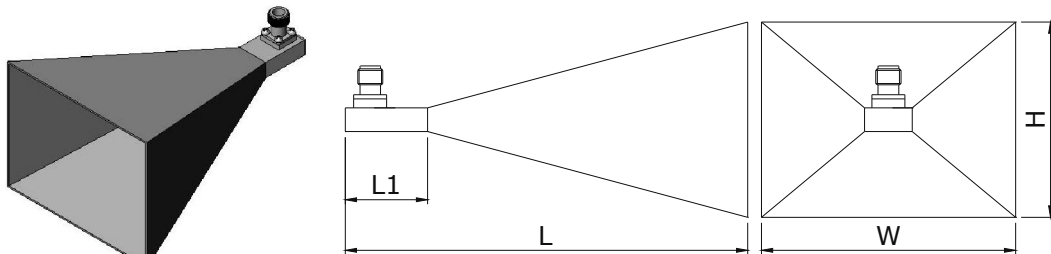
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ST-58SGAH10	4.64-7.05	10	55°	100	83	63	R58	WR159	FDP
ST-70SGAH10	5.38-8.17	10	55°	75	67	52	R70	WR137	FDP
ST-84SGAH10	6.57-9.99	10	55°	70	57	42	R84	WR112	FBP
ST-100SGAH10	8.20-12.40	10	55°	50	47	37	R100	WR90	FBP
ST-120SGAH10	9.84-15.0	10	55°	55	40	29	R120	WR75	FBP
ST-140SGAH10	11.9-18.0	10	55°	55	37	27	R140	WR62	FBP
ST-180SGAH10	14.5-22.0	10	55°	50	30	20	R180	WR51	FBP
ST-220SGAH10	17.6-26.7	10	55°	45	24	17	R220	WR42	FBP
ST-260SGAH10	21.7-33.0	10	55°	35	20	14	R260	WR34	FBP
ST-320SGAH10	26.5-40.0	10	55°	30	17	12	R320	WR28	FBP
ST-400SGAH10	32.9-50.1	10	55°	36	10.8	7.9	R400	WR22	FUGP
ST-500SGAH10	39.2-59.6	10	55°	30	9	6.4	R500	WR19	FUGP
ST-620SGAH10	49.8-75.8	10	55°	25	7.5	5.3	R620	WR15	FUGP
ST-740SGAH10	60.5-91.9	10	55°	20	5.9	4.5	R740	WR12	FUGP
ST-900SGAH10	73.8-112	10	55°	20	5.3	4	R900	WR10	FUGP

*\*Gain and 3dB Beamwidth values have been calculated by computer simulation.*

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

## Style 2 — Built-in Coaxial Input



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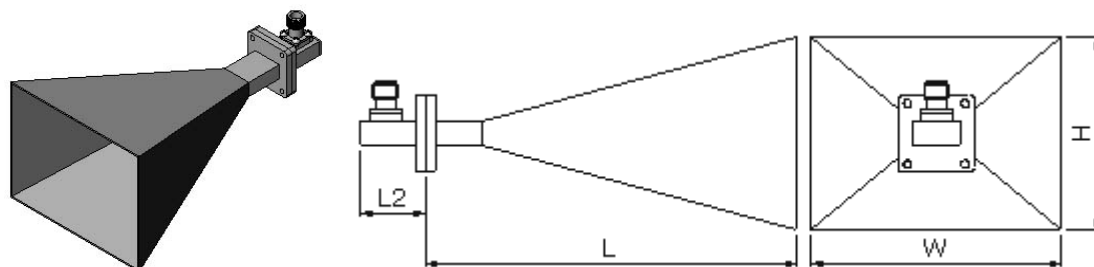
## 【Specifications】

Model No*	Freq Range (GHz)	Gain** (dB)	3dB Beamwidth** (Nom)	Dimensions (mm)			WG Type		Connector
				L	W	H	IEC	EIA	
	0.32-0.49	10	55°	850	1150	800	R3	WR2300	N Type
ST-4SGAH10N...	0.35-0.53	10	55°	800	1050	720	R4	WR2100	N Type
ST-5SGAH10N...	0.41-0.62	10	55°	800	900	660	R5	WR1800	N Type
ST-6SGAH10N...	0.49-0.75	10	55°	700	700	500	R6	WR1500	N Type
ST-8SGAH10N...	0.64-0.98	10	55°	590	620	440	R8	WR1150	N Type
ST-9SGAH10N...	0.75-1.15	10	55°	480	480	336	R9	WR975	N Type
ST-12SGAH10N...	0.96-1.46	10	55°	400	400	280	R12	WR770	N Type
ST-14SGAH10N...	1.13-1.73	10	55°	370	315	235	R14	WR650	N Type
ST-18SGAH10N...	1.45-2.20	10	55°	310	249	184	R18	WR510	N Type
ST-22SGAH10N...	1.72-2.61	10	55°	260	209	154	R22	WR430	N Type
ST-26SGAH10N...	2.17-3.30	10	55°	200	165	125	R26	WR340	N Type
ST-32SGAH10N...	2.60-3.95	10	55°	175	144	114	R32	WR284	N Type
ST-40SGAH10N...	3.22-4.90	10	55°	150	113	88	R40	WR229	N Type
ST-48SGAH10N...	3.94-5.99	10	55°	145	98	73	R48	WR187	N Type
ST-58SGAH10N...	4.64-7.05	10	55°	135	83	63	R58	WR159	N Type
ST-70SGAH10N...	5.38-8.17	10	55°	110	57	42	R70	WR137	N Type
ST-84SGAH10N...	6.57-9.99	10	55°	95	57	42	R84	WR112	N Type
ST-100SGAH10N...	8.20-12.40	10	55°	75	47	37	R100	WR90	N Type
ST-120SGAH10S...	9.84-15.0	10	55°	75	40	29	R120	WR75	SMA
ST-140SGAH10S...	11.9-18.0	10	55°	75	37	27	R140	WR62	SMA
ST-180SGAH10S...	14.5-22.0	10	55°	75	30	20	R180	WR51	SMA
ST-220SGAH10S...	17.6-26.7	10	55°	75	24	17	R220	WR42	SMA
ST-260SGAH10K...	21.7-33.0	10	55°	53	20	14	R260	WR34	K2.92mm
ST-320SGAH10K...	26.5-40.0	10	55°	54	17	12	R320	WR28	K2.92mm

\*\*Gain and 3dB Beamwidth values have been calculated by computer simulation.

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

## Style 3 — with Coaxial Connector



### 【Specifications】

Model No*	Freq Range (GHz)	Gain** (dB)	3dB Beamwidth** (Nom)	Dimensions (mm)				WG Type		Connector
				L	L2	W	H	IEC	EIA	
ST-3SGAH10+N...	0.32-0.49	10	55°	1600	400	1150	800	R3	WR2300	N Type
ST-4SGAH10+N...	0.35-0.53	10	55°	1400	380	1050	720	R4	WR2100	N Type
ST-5SGAH10+N...	0.41-0.62	10	55°	1300	350	900	660	R5	WR1800	N Type
ST-6SGAH10+N...	0.49-0.75	10	55°	1100	300	700	500	R6	WR1500	N Type
ST-8SGAH10+N...	0.64-0.98	10	55°	1200	260	620	440	R8	WR1150	N Type
ST-9SGAH10+N...	0.75-1.15	10	55°	520	220	480	336	R9	WR975	N Type
ST-12SGAH10+N...	0.96-1.46	10	55°	466	166	400	280	R12	WR770	N Type
ST-14SGAH10+N...	1.13-1.73	10	55°	430	150	315	235	R14	WR650	N Type
ST-18SGAH10+N...	1.45-2.20	10	55°	360	120	249	184	R18	WR510	N Type
ST-22SGAH10+N...	1.72-2.61	10	55°	310	100	209	154	R22	WR430	N Type
ST-26SGAH10+N...	2.17-3.30	10	55°	245	85	165	125	R26	WR340	N Type
ST-32SGAH10+N...	2.60-3.95	10	55°	222	72	144	114	R32	WR284	N Type
ST-40SGAH10+N...	3.22-4.90	10	55°	185	65	113	88	R40	WR229	N Type
ST-48SGAH10+N...	3.94-5.99	10	55°	164	54	98	73	R48	WR187	N Type
ST-58SGAH10+N...	4.64-7.05	10	55°	150	50	83	63	R58	WR159	N Type
ST-70SGAH10+N...	5.38-8.17	10	55°	123	48	67	52	R70	WR137	N Type
ST-84SGAH10+N...	6.57-9.99	10	55°	110	40	57	42	R84	WR112	N Type
ST-100SGAH10+N...	8.20-12.40	10	55°	83	33	47	37	R100	WR90	N Type
ST-120SGAH10+S...	9.84-15.0	10	55°	55	30	40	29	R120	WR75	SMA
ST-140SGAH10+S...	11.9-18.0	10	55°	55	27	37	27	R140	WR62	SMA

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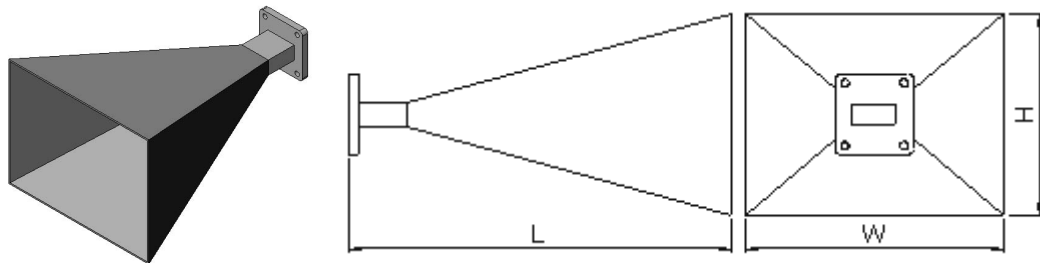
ST-180SGAH10+S...	14.5-22.0	10	55°	77	27	30	20	R180	WR51	SMA
ST-220SGAH10+S...	17.6-26.7	10	55°	70	25	24	17	R220	WR42	SMA
ST-260SGAH10+K...	21.7-33.0	10	55°	62	27	20	14	R260	WR34	K2.92mm
ST-320SGAH10+K...	26.5-40.0	10	55°	56	26	17	12	R320	WR28	K2.92mm

*\*\*Gain and 3dB Beamwidth values have been calculated by computer simulation.*

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

## 17.2 Standard Gain Horn Antenna, 15 dB

### Style 1 — Waveguide Input



### 【Specifications】

Model No	Freq Range (GHz)	Gain* (dB)	3dB Beamwidth* (Nom)	Dimensions (mm)			WG Type		Flange
				L	W	H	IEC	EIA	
ST-9SGAH15	0.75-1.15	15	30°	640	850	580	R9	WR975	FDP
ST-12SGAH15	0.96-1.46	15	30°	600	700	480	R12	WR770	FDP
ST-14SGAH15	1.13-1.73	15	30°	430	550	380	R14	WR650	FDP
ST-18SGAH15	1.45-2.20	15	30°	365	456	316	R18	WR510	FDP
ST-22SGAH15	1.72-2.61	15	30°	310	380	265	R22	WR430	FDP

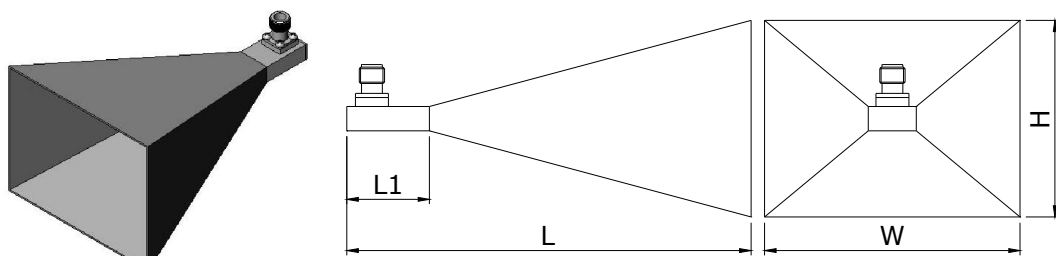
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ST-26SGAH15	2.17-3.30	15	30°	250	297	216	R26	WR340	FDP
ST-32SGAH15	2.60-3.95	15	30°	230	275	190	R32	WR284	FDP
ST-40SGAH15	3.22-4.90	15	30°	180	205	145	R40	WR229	FDP
ST-48SGAH15	3.94-5.99	15	30°	160	169	119	R48	WR187	FDP
ST-58SGAH15	4.64-7.05	15	30°	130	141	97	R58	WR159	FDP
ST-70SGAH15	5.38-8.17	15	30°	110	122	84	R70	WR137	FDP
ST-84SGAH15	6.57-9.99	15	30°	100	105	71	R84	WR112	FBP
ST-100SGAH15	8.20-12.40	15	30°	80	81	56	R100	WR90	FBP
ST-120SGAH15	9.84-15.0	15	30°	75	68	47	R120	WR75	FBP
ST-140SGAH15	11.9-18.0	15	30°	80	57	40	R140	WR62	FBP
ST-180SGAH15	14.5-22.0	15	30°	55	47	33	R180	WR51	FBP
ST-220SGAH15	17.6-26.7	15	30°	45	39	27	R220	WR42	FBP
ST-260SGAH15	21.7-33.0	15	30°	40	32	22	R260	WR34	FBP
ST-320SGAH15	26.5-40.0	15	30°	35	26	19	R320	WR28	FBP
ST-400SGAH15	32.9-50.1	15	30°	30	22	15.5	R400	WR22	FUGP
ST-500SGAH15	39.2-59.6	15	30°	25	19	13	R500	WR19	FUGP
ST-620SGAH15	49.8-75.8	15	30°	21	15	11	R620	WR15	FUGP
ST-740SGAH15	60.5-91.9	15	30°	20	13.5	9.5	R740	WR12	FUGP
ST-900SGAH15	73.8-112	15	30°	18	11	8	R900	WR10	FUGP

*\*Gain and 3dB Beamwidth values have been calculated by computer simulation.*

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

## Style 2 — Built-in Coaxial Input



# Synergy Telecom P Ltd.

## 【Specifications】

Model No*	Freq Range (GHz)	Gain** (dB)	3dB Beamwidth** (Nom)	Dimensions (mm)			WG Type		Connector
				L	W	H	IEC	EIA	
ST-9SGAH15N...	0.75-1.15	15	30°	820	850	580	R9	WR975	N Type
ST-12SGAH15N...	0.96-1.46	15	30°	700	700	480	R12	WR770	N Type
ST-14SGAH15N...	1.13-1.73	15	30°	520	550	380	R14	WR650	N Type
ST-18SGAH15N...	1.45-2.20	15	30°	430	456	316	R18	WR510	N Type
ST-22SGAH15N...	1.72-2.61	15	30°	360	380	265	R22	WR430	N Type
ST-26SGAH15N...	2.17-3.30	15	30°	290	297	216	R26	WR340	N Type
ST-32SGAH15N...	2.60-3.95	15	30°	255	275	190	R32	WR284	N Type
ST-40SGAH15N...	3.22-4.90	15	30°	210	205	145	R40	WR229	N Type
ST-48SGAH15N...	3.94-5.99	15	30°	195	169	119	R48	WR187	N Type
ST-58SGAH15N...	4.64-7.05	15	30°	165	141	97	R58	WR159	N Type
ST-70SGAH15N...	5.38-8.17	15	30°	145	122	84	R70	WR137	N Type
ST-84SGAH15N...	6.57-9.99	15	30°	125	105	71	R84	WR112	N Type
ST-100SGAH15N...	8.20-12.40	15	30°	105	81	56	R100	WR90	N Type
ST-120SGAH15S...	9.84-15.0	15	30°	95	68	47	R120	WR75	SMA
ST-140SGAH15S...	11.9-18.0	15	30°	100	57	40	R140	WR62	SMA
ST-180SGAH15S...	14.5-22.0	15	30°	80	47	33	R180	WR51	SMA
ST-220SGAH15S...	17.6-26.7	15	30°	75	39	27	R220	WR42	SMA
ST-260SGAH15K...	21.7-33.0	15	30°	58	32	22	R260	WR34	K2.92mm
ST-320SGAH15K...	26.5-40.0	15	30°	59	26	19	R320	WR28	K2.92mm

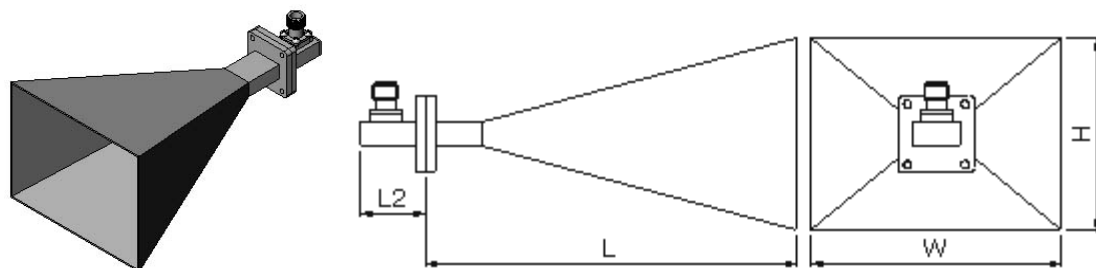
\*

\*\*Gain and 3dB Beamwidth values have been calculated by computer simulation.

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

### Style 3 — with Coaxial Connector

# Synergy Telecom P Ltd.



## 【Specifications】

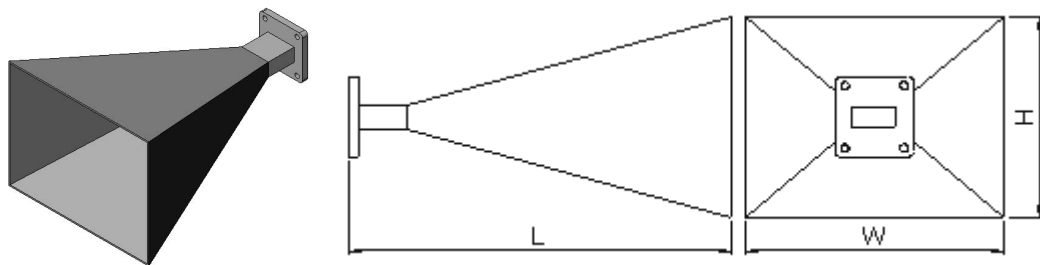
Model No*	Freq Range (GHz)	Gain** (dB)	3dB Beamwidth** (Nom)	Dimensions (mm)				WG Type		Connector
				L	L2	W	H	IEC	EIA	
ST-9SGAH15+N...	0.75-1.15	15	30°	820	231	850	580	R9	WR975	N Type
ST-12SGAH15+N...	0.96-1.46	15	30°	766	166	700	480	R12	WR770	N Type
ST-14SGAH15+N...	1.13-1.73	15	30°	580	150	550	380	R14	WR650	N Type
ST-18SGAH15+N...	1.45-2.20	15	30°	480	120	456	316	R18	WR510	N Type
ST-22SGAH15+N...	1.72-2.61	15	30°	410	100	380	265	R22	WR430	N Type
ST-26SGAH15+N...	2.17-3.30	15	30°	335	85	297	216	R26	WR340	N Type
ST-32SGAH15+N...	2.60-3.95	15	30°	320	90	275	190	R32	WR284	N Type
ST-40SGAH15+N...	3.22-4.90	15	30°	245	65	205	145	R40	WR229	N Type
ST-48SGAH15+N...	3.94-5.99	15	30°	214	54	169	119	R48	WR187	N Type
ST-58SGAH15+N...	4.64-7.05	15	30°	180	50	141	97	R58	WR159	N Type
ST-70SGAH15+N...	5.38-8.17	15	30°	158	48	122	84	R70	WR137	N Type
ST-84SGAH15+N...	6.57-9.99	15	30°	140	40	105	71	R84	WR112	N Type
ST-100SGAH15+N...	8.20-12.40	15	30°	115	35	81	56	R100	WR90	N Type
ST-120SGAH15+S...	9.84-15.0	15	30°	105	30	68	47	R120	WR75	SMA
ST-140SGAH15+S...	11.9-18.0	15	30°	107	27	57	40	R140	WR62	SMA
ST-180SGAH15+S...	14.5-22.0	15	30°	82	27	47	33	R180	WR51	SMA
ST-220SGAH15+S...	17.6-26.7	15	30°	70	25	39	27	R220	WR42	SMA
ST-260SGAH15+K...	21.7-33.0	15	30°	67	27	32	22	R260	WR34	K2.92mm
ST-320SGAH15+K...	26.5-40.0	15	30°	61	26	26	19	R320	WR28	K2.92mm

\*\*Gain and 3dB Beamwidth values have been calculated by computer simulation.

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

## 17.3 Standard Gain Horn Antenna, 20 dB

### Style 1 — Waveguide Input



### 【Specifications】

Model No	Freq Range (GHz)	Gain* (dB)	3dB Beamwidth* (Nom)	Dimensions (mm)			WG Type		Flange
				L	W	H	IEC	EIA	
ST-32SGAH20	2.60-3.95	20	18°	700	476	346	R32	WR284	D Type
ST-40SGAH20	3.22-4.90	20	18°	520	345	264	R40	WR229	D Type
ST-48SGAH20	3.94-5.99	20	18°	440	280	212	R48	WR187	D Type
ST-58SGAH20	4.64-7.05	20	18°	400	245	175	R58	WR159	D Type
ST-70SGAH20	5.38-8.17	20	18°	290	197	153	R70	WR137	D Type
ST-84SGAH20	6.57-9.99	20	18°	290	180	128	R84	WR112	B Type
ST-100SGAH20	8.20-12.40	20	18°	220	138	107	R100	WR90	B Type
ST-120SGAH20	9.84-15.0	20	18°	200	115	83	R120	WR75	B Type
ST-140SGAH20	11.9-18.0	20	18°	150	93	72	R140	WR62	B Type
ST-180SGAH20	14.5-22.0	20	18°	140	80	56	R180	WR51	B Type
ST-220SGAH20	17.6-26.7	20	18°	125	70	49	R220	WR42	B Type
ST-260SGAH20	21.7-33.0	20	18°	110	54	42	R260	WR34	B Type
ST-320SGAH20	26.5-40.0	20	18°	90	47	33	R320	WR28	B Type
ST-400SGAH20	32.9-50.1	20	18°	70	36	27	R400	WR22	FUGP

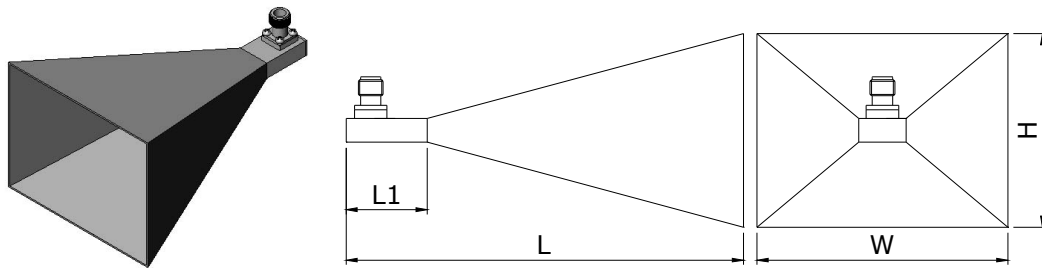


# Synergy Telecom P Ltd.

ST-500SGAH20	39.2-59.6	20	18°	60	31.4	23	R500	WR19	FUGP
ST-620SGAH20	49.8-75.8	20	18°	55	25	18	R620	WR15	FUGP
ST-740SGAH20	60.5-91.9	20	18°	50	22	16	R740	WR12	FUGP
ST-900SGAH20	73.8-112	20	18°	45	18	13	R900	WR10	FUGP

\*Gain and 3dB Beamwidth values have been calculated by computer simulation.

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



## 【Specifications】

Model No*	Freq Range (GHz)	Gain** (dB)	3dB Beamwidth** (Nom)	Dimensions (mm)			WG Type		Connector
				L	W	H	IEC	EIA	
ST-32SGAH20N...	2.60-3.95	20	18°	725	476	346	R32	WR284	N Type
ST-40SGAH20N...	3.22-4.90	20	18°	550	345	264	R40	WR229	N Type
ST-48SGAH20N...	3.94-5.99	20	18°	475	280	212	R48	WR187	N Type
ST-58SGAH20N...	4.64-7.05	20	18°	435	245	175	R58	WR159	N Type
ST-70SGAH20N...	5.38-8.17	20	18°	325	197	153	R70	WR137	N Type
ST-84SGAH20N...	6.57-9.99	20	18°	315	180	128	R84	WR112	N Type
ST-100SGAH20N...	8.20-12.40	20	18°	245	138	107	R100	WR90	N Type
ST-120SGAH20S...	9.84-15.0	20	18°	220	115	83	R120	WR75	SMA
ST-140SGAH20S...	11.9-18.0	20	18°	170	93	72	R140	WR62	SMA
ST-180SGAH20S...	14.5-22.0	20	18°	165	80	56	R180	WR51	SMA

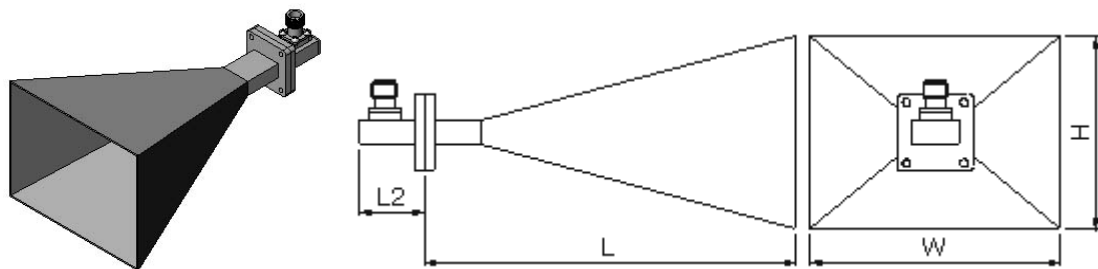
# Synergy Telecom P Ltd.

ST-220SGAH20S...	17.6-26.7	20	18°	155	70	49	R220	WR42	SMA
ST-260SGAH20K...	21.7-33.0	20	18°	128	54	42	R260	WR34	K2.92mm
ST-320SGAH20K...	26.5-40.0	20	18°	114	47	33	R320	WR28	K2.92mm

*\*\*Gain and 3dB Beamwidth values have been calculated by computer simulation.*

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

## Style 3 — with Coaxial Connector



### 【Specifications】

Model No*	Freq Range (GHz)	Gain** (dB)	3dB Beamwidth** (Nom)	Dimensions (mm)				WG Type		Connector
				L	L2	W	H	IEC	EIA	
ST-32SGAH20+N...	2.60-3.95	20	18°	772	72	476	346	R32	WR284	N Type
ST-40SGAH20+N...	3.22-4.90	20	18°	585	65	345	264	R40	WR229	N Type
ST-48SGAH20+N...	3.94-5.99	20	18°	494	54	280	212	R48	WR187	N Type
ST-58SGAH20+N...	4.64-7.05	20	18°	450	50	245	175	R58	WR159	N Type
ST-70SGAH20+N...	5.38-8.17	20	18°	338	48	197	153	R70	WR137	N Type
ST-84SGAH20+N...	6.57-9.99	20	18°	330	40	180	128	R84	WR112	N Type
ST-100SGAH20+N...	8.20-12.40	20	18°	255	35	138	107	R100	WR90	N Type
ST-120SGAH20+S...	9.84-15.0	20	18°	230	30	115	83	R120	WR75	SMA

# Synergy Telecom P Ltd.

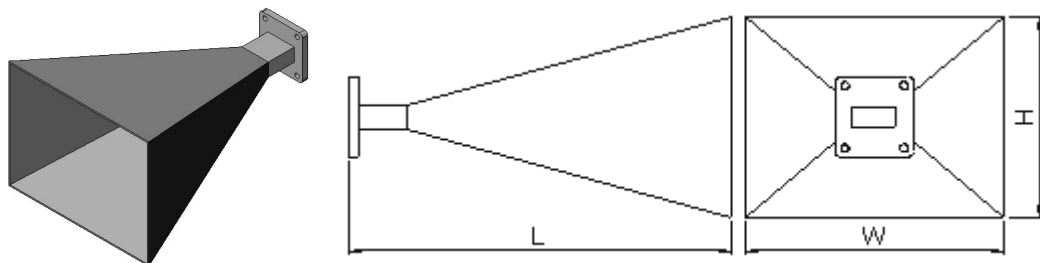
ST-140SGAH20+S...	11.9-18.0	20	18°	177	27	93	72	R140	WR62	SMA
ST-180SGAH20+S...	14.5-22.0	20	18°	167	27	80	56	R180	WR51	SMA
ST-220SGAH20+K...	17.6-26.7	20	18°	150	25	70	49	R220	WR42	K2.92mm
ST-260SGAH20+K...	21.7-33.0	20	18°	137	27	54	42	R260	WR34	K2.92mm
ST-320SGAH20+K...	26.5-40.0	20	18°	116	26	47	33	R320	WR28	K2.92mm

*\*\*Gain and 3dB Beamwidth values have been calculated by computer simulation.*

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

## 17.4 Standard Gain Horn Antenna, 25 dB

### Style 1 — Waveguide Input



### 【Specifications】

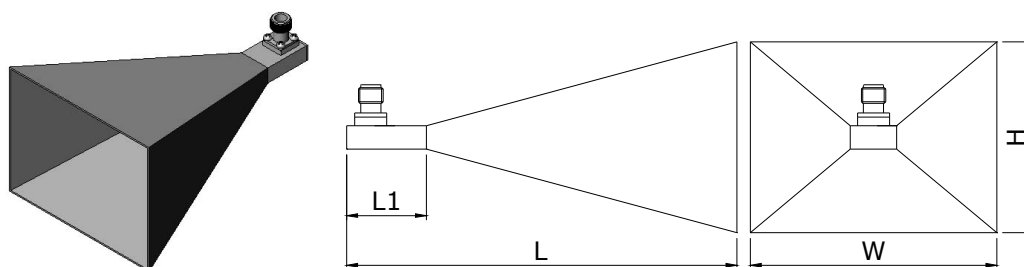
Model No	Freq Range (GHz)	Gain* (dB)	3dB Beamwidth* (Nom)	Dimensions (mm)			WG Type		Flange
				L	W	H	IEC	EIA	
ST-100SGAH25	8.20-12.40	25	10°	740	250	180	R100	WR90	FBP
ST-120SGAH25	9.84-15.0	25	10°	550	200	155	R120	WR75	FBP
ST-140SGAH25	11.9-18.0	25	10°	520	175	120	R140	WR62	FBP
ST-180SGAH25	14.5-22.0	25	10°	400	134	104	R180	WR51	FBP
ST-220SGAH25	17.6-26.7	25	10°	350	120	85	R220	WR42	FBP
ST-260SGAH25	21.7-33.0	25	10°	300	92	70	R260	WR34	FBP

# Synergy Telecom P Ltd.

ST-320SGAH25	26.5-40.0	25	10°	240	80	56	R320	WR28	FBP
ST-400SGAH25	32.9-50.1	25	10°	205	66	46	R400	WR22	FUGP
ST-500SGAH25	39.2-59.6	25	10°	160	53	37	R500	WR19	FUGP
ST-620SGAH25	49.8-75.8	25	10°	130	43	31	R620	WR15	FUGP
ST-740SGAH25	60.5-91.9	25	10°	120	37	26	R740	WR12	FUGP
ST-900SGAH25	73.8-112	25	10°	100	30	23	R900	WR10	FUGP

*\*Gain and 3dB Beamwidth values have been calculated by computer simulation.*

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



## 【Specifications】

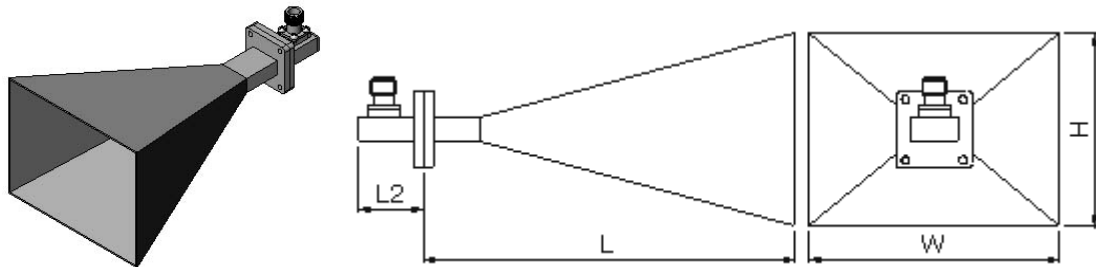
Model No*	Freq Range (GHz)	Gain** (dB)	3dB Beamwidth** (Nom)	Dimensions (mm)			WG Type		Connector
				L	W	H	IEC	EIA	
ST-100SGAH25N...	8.20-12.40	25	10°	760	250	180	R100	WR90	N Type
ST-120SGAH25S...	9.84-15.0	25	10°	570	200	155	R120	WR75	SMA
ST-140SGAH25S...	11.9-18.0	25	10°	540	175	120	R140	WR62	SMA
ST-180SGAH25S...	14.5-22.0	25	10°	424	134	104	R180	WR51	SMA
ST-220SGAH25K...	17.6-26.7	25	10°	375	120	85	R220	WR42	K2.92mm
ST-260SGAH25K...	21.7-33.0	25	10°	313	92	70	R260	WR34	K2.92mm
ST-320SGAH25K...	26.5-40.0	25	10°	259	80	56	R320	WR28	K2.92mm

*\*\*Gain and 3dB Beamwidth values have been calculated by computer simulation.*

# Synergy Telecom P Ltd.

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

## Style 3 – with Coaxial Connector



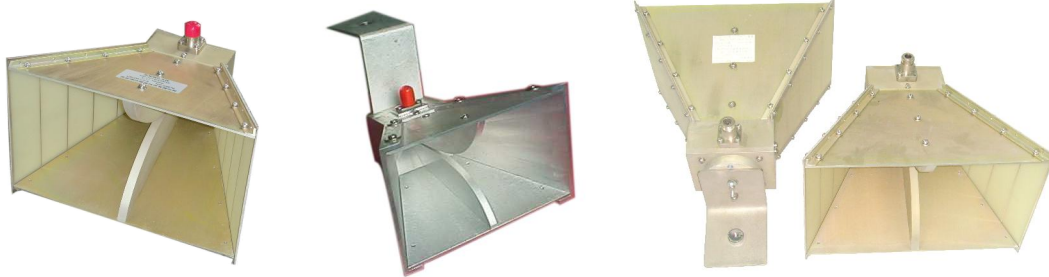
### 【Specifications】

Model No*	Freq Range (GHz)	Gain** (dB)	3dB Beamwidth** (Nom)	Dimensions (mm)				WG Type		Connector
				L	L2	W	H	IEC	EIA	
ST-100SGAH25+N...	8.20-12.40	25	10°	775	35	250	180	R100	WR90	N Type
ST-120SGAH25+S...	9.84-15.0	25	10°	550	30	200	155	R120	WR75	SMA
ST-140SGAH25+S...	11.9-18.0	25	10°	547	27	175	120	R140	WR62	SMA
ST-180SGAH25+S...	14.5-22.0	25	10°	427	27	134	104	R180	WR51	SMA
ST-220SGAH25+K...	17.6-26.7	25	10°	375	25	120	85	R220	WR42	K2.92mm
ST-260SGAH25+K...	21.7-33.0	25	10°	327	27	92	70	R260	WR34	K2.92mm
ST-320SGAH25+K...	26.5-40.0	25	10°	266	26	80	56	R320	WR28	K2.92mm

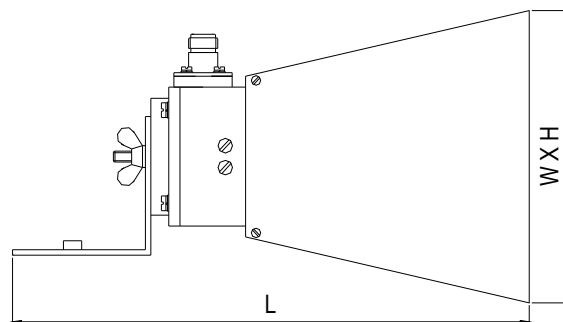
\*\*Gain and 3dB Beamwidth values have been calculated by computer simulation.

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

## 18 Wideband Horn Antenna



HengDa Microwave manufactures a high quality line of dual-ridged horn antennas typically used for EMI testing, surveillance equipment, antenna gain and pattern measurement. Wideband dual-ridged horn antennas are linearly polarized with high Gain, low VSWR, lightweight, covering from 0.2GHz to 40GHz. Please contact us with your specification and discuss your needs with one of our sales engineers.



### 【Specifications】

# Synergy Telecom P Ltd.

Model No	Freq Range (GHz)	Gain (dB)	3dB Beamwidth		VSWR (Max)	Dimensions (mm)			Input Coax Connector Type
			E-Plane	H-Plane		L	W	H	
ST-10180DRHA10S...	1.0-18.0	8.2-14.6	30°-77°	23°-60°	2.5	284	160	245	SMA
ST-10180DRHA10N...	1.0-18.0	8.2-14.6	30°-77°	23°-60°	2.5	284	160	245	Type N
ST-80180DRHA10N...	8.0-18.0	10-12	21°-34°	21°-44°	2.5	114.5	63	53	Type N
ST-80180DRHA10S...	8.0-18.0	10-12	21°-34°	21°-44°	2.5	114.5	63	53	SMA
ST-180400DRHA15K...	18.0 - 40.0	9-15.6	17°-44°	18°-33°	2.5	100	42	57	K2.4mm

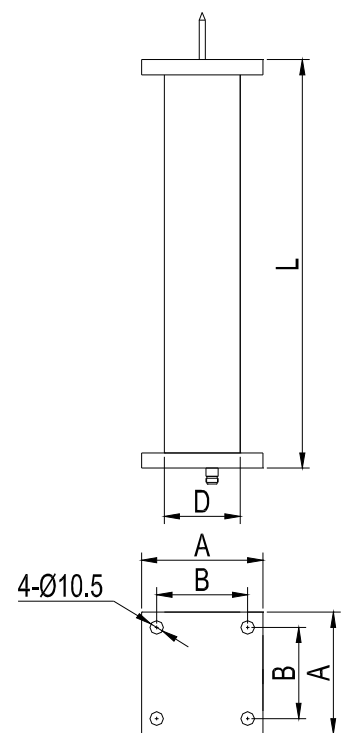
- Flange type: Multiple types available - see Flanges page
- Finish: Corrosion protection plus black top coat

## 19 MMDS Transmitting Antenna

Synergy Telecom Has a high quality line of MMDS transmitting antennas. Please call us with your specification and discuss your needs with one of our sales engineers.

### Features:

- High radiation efficiency
- Wide frequency range
- Low VSWR
- More Gain values available
- Power rating 300W (CW)
- Light weight aluminium material
- Well sealed
- Easy for installation
- Direct lightning protection
- Ground wind velocity 25m/s



### 【Specifications】

Model No	Freq Range (GHz)	VSWR (Max)	Gain (dB)	Polarization	Beamwidth (Azimuth)	Beamwidth (Elevation)	Dimensions (D*L) (mm)	Dimensions (A*B) (mm)	Power Handling (W)	Connector
ST-2527HOA10	2.5-2.7	1.5	10	Horizontal	360°	6°	130*1000	180*152	300	N-F
ST-2527HOA12	2.5-2.7	1.5	12	Horizontal	360°	5°	130*1300	180*152	300	N-F
ST-2527HOA16	2.5-2.7	1.5	13	Horizontal	360°	4°	130*1600	180*152	300	N-F
ST-2527VOA10	2.5-2.7	1.5	10	Vertical	360°	6°	170*1000	220*180	300	N-F
ST-2527VOA12	2.5-2.7	1.5	12	Vertical	360°	5°	170*1300	220*180	300	N-F



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ST-2527VOA16	2.5-2.7	1.5	13	Vertical	360°	4°	170*1600	220*180	300	N-F
ST-2527HCA10	2.5-2.7	1.5	13	Horizontal	180°	6°	130*1000	180*152	300	N-F
ST-2527HCA12	2.5-2.7	1.5	15	Horizontal	180°	5°	130*1300	180*152	300	N-F
ST-2527HCA16	2.5-2.7	1.5	16	Horizontal	180°	4°	130*1600	180*152	300	N-F
ST-2527VCA10	2.5-2.7	1.5	13	Vertical	180°	6°	170*1000	220*180	300	N-F
ST-2527VCA12	2.5-2.7	1.5	15	Vertical	180°	5°	170*1300	220*180	300	N-F
ST-2527VCA16	2.5-2.7	1.5	16	Vertical	180°	4°	170*1600	220*180	300	N-F

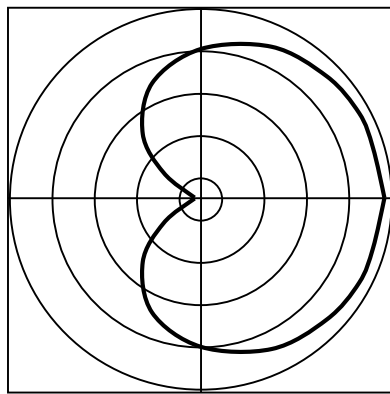
## Antenna Type:

**HOA** - Omni-directional, Horizontal polarized

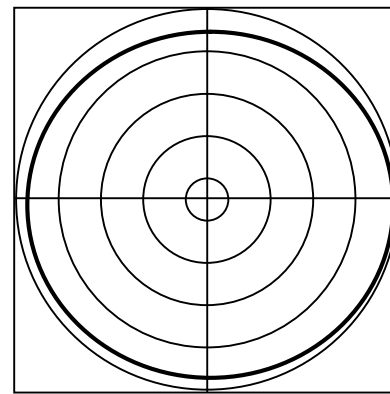
**HCA** - Half-directional, Horizontal polarized

**VOA** - Omni-directional, Vertical polarized

**VCA** - Half -directional, Vertical polarized



180°



360°

**Azimuth Beam Pattern**

## Technical Reference

### 20 Rectangular Waveguide Tubing Information

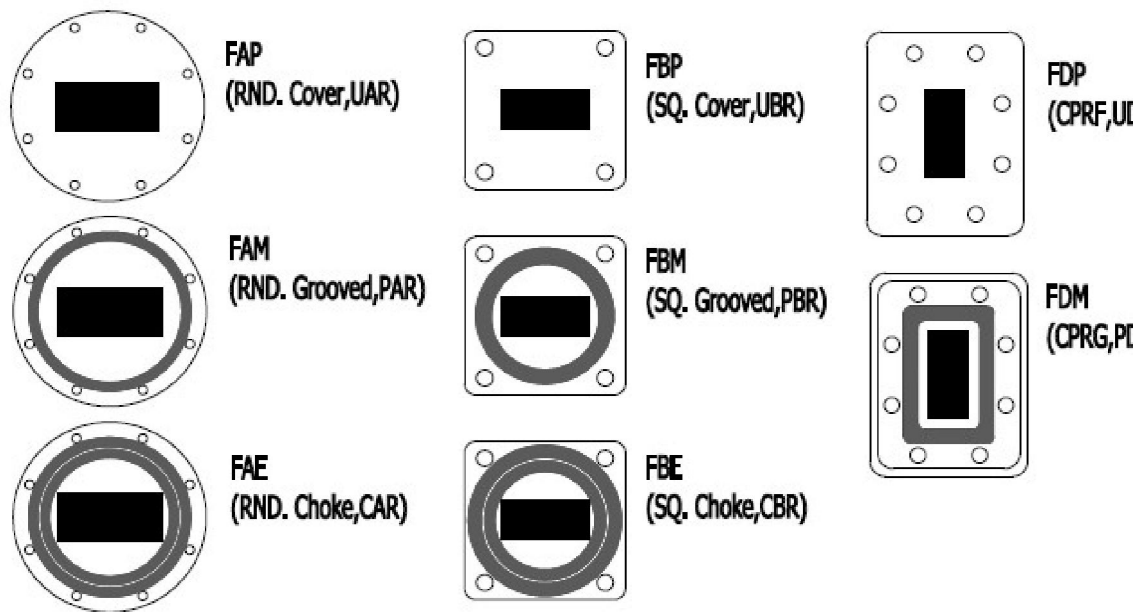
Model No	EIA WG Designation	IEC WG Designation	Freq Range (GHz)	Material (Stock)	Inside Dimensions (mm)	Std Tol ± Inside Dim (mm)	Nom Wall Thickness (mm)	Outside Dimensions (mm)	Std Tol ± Outside Dim (mm)	Freq of Cut-Off for TE <sub>1,0</sub> Mode (GHz)	Wave-length of Cut-Off for TE <sub>1,0</sub> Mode (mm)	Theoretical Attenuation lowest to highest freq (dB/100ft)	
												Al	Cu
STBJ3	WR2300	R3	0.32-0.49	Aluminum	584.2*292.1		6			0.257	1169.2	0.270-0.400	
STBJ4	WR2100	R4	0.35-0.53	Aluminum	533.4*266.7		5			0.281	1067.5	0.310-0.460	
STBJ5	WR1800	R5	0.41-0.62	Aluminum	457.2*228.6	0.51	5			0.328	915.0	0.390-0.580	
STBJ6	WR1500	R6	0.49-0.75	Aluminum	381*190.5	0.38	3.18			0.393	762.5	0.510-0.760	
STBJ8	WR1150	R8	0.64-0.98	Aluminum	292.1*146.05	0.38	3.18			0.513	584.6	0.760-0.113	
STBJ9	WR975	R9	0.76-1.15	Aluminum	247.65*123.82		3.18			0.605	495.6	0.098-0.145	
STBJ12	WR770	R12	0.96-1.46	Aluminum	195.58*97.79		3.18			0.766	391.4	0.140-0.206	
STBJ14	WR650	R14	1.13-1.73	Copper Aluminum	165.1*82.55	0.33	2.03	169.16*86.61	0.2	0.908	330.4	0.180-0.266	0.214-0.317
STBJ18	WR510	R18	1.45-2.2	Copper Aluminum	129.54*64.77	0.26	2.03	133.6*68.83	0.2	1.157	259.1	0.259-0.382	0.309-0.456

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STBJ22	WR430	R22	1.72-2.61	Copper Aluminum	109.22*54.61	0.22	2.03	113.28*58.67	0.2	1.372	218.4	0.334-0.494	0.399-0.588
STBJ26	WR340	R26	2.17-3.3	Copper Aluminum	86.36*43.18	0.17	2.03	90.42*47.24	0.17	1.736	172.7	0.475-0.702	0.567-0.837
STBJ32	WR284	R32	2.6-3.95	Copper Aluminum	72.14*34.04	0.14	2.03	76.2*38.1	0.14	2.078	144.3	0.652-0.953	0.777-1.136
STBJ40	WR229	R40	3.22-4.9	Copper Aluminum	58.17*29.08	0.12	1.625	61.42*32.33	0.12	2.577	116.3	0.860-1.270	1.026-1.514
STBJ48	WR187	R48	3.94-5.99	Copper Aluminum	47.549*22.149	0.095	1.625	50.8*25.4	0.1	3.153	95.1	1.231-1.795	1.467-2.140
STBJ58	WR159	R58	4.64-7.05	Copper Aluminum	40.386*20.193	0.081	1.625	43.64*23.44	0.08	3.712	80.77	1.487-2.195	1.773-2.617
STBJ70	WR137	R70	5.38-8.17	Copper Aluminum	34.849*15.799	0.07	1.625	38.1*19.05	0.08	4.301	69.7	2.004-2.910	2.390-3.470
STBJ84	WR112	R84	6.57-9.99	Copper Aluminum	28.499*12.624	0.057	1.625	31.75*15.88	0.05	5.260	57	2.761-3.993	3.292-4.761
STBJ100	WR90	R100	8.2-12.5	Copper Aluminum	22.86*10.16	0.046	1.27	25.4*12.7	0.05	6.557	45.72	3.833-5.547	4.570-6.614
STBJ120	WR75	R120	9.84-15	Copper Aluminum	19.05*9.525	0.038	1.27	21.59*12.06	0.05	7.869	38.1	4.590-6.775	5.472-8.078
STBJ140	WR62	R140	11.9-18	Copper Aluminum	15.799*7.899	0.031	1.015	17.83*9.93	0.05	9.488	31.6	6.077-8.971	7.246-10.696
STBJ180	WR51	R180	14.5-22	Copper Aluminum	12.95*6.477	0.026	1.015	14.99*8.51	0.05	11.575	25.91	8.185-12.082	9.759-14.406
STBJ220	WR42	R220	17.6-26.7	Copper Aluminum	10.668*4.318	0.021	1.015	12.7*6.35	0.05	14.051	21.34	12.970-18.487	15.464-22.042
STBJ260	WR34	R260	21.7-33	Copper Aluminum	8.636*4.318	0.02	1.015	10.67*6.35	0.05	17.358	17.27	15.036-22.197	17.928-26.465
STBJ320	WR28	R320	26.3-40	Copper Aluminum	7.12*3.556	0.02	1.015	9.14*5.59	0.05	21.053	14.22	20.120-29.701	23.989-35.413
STBJ400	WR22	R400	32.9-50.1	Copper Aluminum	5.69*2.845	0.02	1.015	7.72*4.88	0.05	26.344	11.38	28.119-41.508	33.526-49.491
STBJ500	WR19	R500	39.2-59.6	Copper	4.775*2.388	0.02	1.015	6.81*4.42	0.05	31.393	9.55		43.603-64.367
STBJ620	WR15	R620	49.8-75.8	Copper	3.795*1.88	0.02	1.015	5.79*3.91	0.05	39.499	7.52		62.425-92.152
STBJ740	WR12	R740	60.5-91.9	Copper	3.0988*1.5494	0.0127	1.015	5.13*3.58	0.05	48.374	6.2		83.409-123.128
STBJ900	WR10	R900	73.8-112	Copper	2.54*1.27	0.0127	1.015	4.57*3.3	0.05	59.016	5.08		112.397-165.92 0

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## 21 Flange Types Designations



Click Flange Type No to see the detailed outline drawings.

WG Type		A Type			B Type			D Type		FUGP
EIA Std	IEC Std	FAP (RND COVER)	FAM (RND GROOVED)	FAE (RND CHOKE)	FBP (SQ COVER)	FBM (SQ GROOVED)	FBE (SQ CHOKE)	FDP (CPRF)	FDM (CPRG)	
WR2300	R3							<a href="#">FDP3</a>	<a href="#">FDM3</a>	
WR2100	R4							<a href="#">FDP4</a>	<a href="#">FDM4</a>	
WR1800	R5							<a href="#">FDP5</a>	<a href="#">FDM5</a>	
WR1500	R6							<a href="#">FDP6</a>	<a href="#">FDM6</a>	

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WR1150	R8							<a href="#">FDP8</a>	<a href="#">FDM8</a>	
WR975	R9							<a href="#">FDP9</a>	<a href="#">FDM9</a>	
WR770	R12							<a href="#">FDP12</a>	<a href="#">FDM12</a>	
WR650	R14							<a href="#">FDP14</a>	<a href="#">FDM14</a>	
WR510	R18							<a href="#">FDP18</a>	<a href="#">FDM18</a>	
WR430	R22							<a href="#">FDP22</a>	<a href="#">FDM22</a>	
WR340	R26							<a href="#">FDP26</a>	<a href="#">FDM26</a>	
WR284	R32	<a href="#">FAP32</a>	<a href="#">FAM32</a>	<a href="#">FAE32</a>				<a href="#">FDP32</a>	<a href="#">FDM32</a>	
WR229	R40	<a href="#">FAP40</a>	<a href="#">FAM40</a>	<a href="#">FAE40</a>				<a href="#">FDP40</a>	<a href="#">FDM40</a>	
WR187	R48	<a href="#">FAP48</a>	<a href="#">FAM48</a>	<a href="#">FAE48</a>				<a href="#">FDP48</a>	<a href="#">FDM48</a>	
WR159	R58	<a href="#">FAP58</a>	<a href="#">FAM58</a>	<a href="#">FAE58</a>				<a href="#">FDP58</a>	<a href="#">FDM58</a>	
WR137	R70	<a href="#">FAP70</a>	<a href="#">FAM70</a>	<a href="#">FAE70</a>				<a href="#">FDP70</a>	<a href="#">FDM70</a>	
WR112	R84				<a href="#">FBP84</a>	<a href="#">FBM84</a>	<a href="#">FBE84</a>	<a href="#">FDP84</a>	<a href="#">FDM84</a>	
WR90	R100				<a href="#">FBP100</a>	<a href="#">FBM100</a>	<a href="#">FBE100</a>	<a href="#">FDP100</a>	<a href="#">FDM100</a>	
WR75	R120				<a href="#">FBP120</a>	<a href="#">FBM120</a>	<a href="#">FBE120</a>	<a href="#">FDP120</a>	<a href="#">FDM120</a>	
WR62	R140				<a href="#">FBP140</a>	<a href="#">FBM140</a>	<a href="#">FBE140</a>	<a href="#">FDP140</a>	<a href="#">FDM140</a>	
WR51	R180				<a href="#">FBP180</a>	<a href="#">FBM180</a>	<a href="#">FBE180</a>	<a href="#">FDP180</a>	<a href="#">FDM180</a>	
WR42	R220				<a href="#">FBP220</a>	<a href="#">FBM220</a>	<a href="#">FBE220</a>			
WR34	R260				<a href="#">FBP260</a>	<a href="#">FBM260</a>	<a href="#">FBE260</a>			
WR28	R320				<a href="#">FBP320</a>	<a href="#">FBM320</a>	<a href="#">FBE320</a>			
WR22	R400	<a href="#">FAP400</a>	<a href="#">FAM400</a>							<a href="#">FUGP400</a>
WR18	R500	<a href="#">FAP500</a>	<a href="#">FAM500</a>							<a href="#">FUGP500</a>

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WR14	R620	<a href="#">FAP620</a>	<a href="#">FAM620</a>							<a href="#">FUGP620</a>
WR12	R740	<a href="#">FAP740</a>	<a href="#">FAM740</a>							<a href="#">FUGP740</a>
WR10	R900	<a href="#">FAP900</a>	<a href="#">FAM900</a>							<a href="#">FUGP900</a>