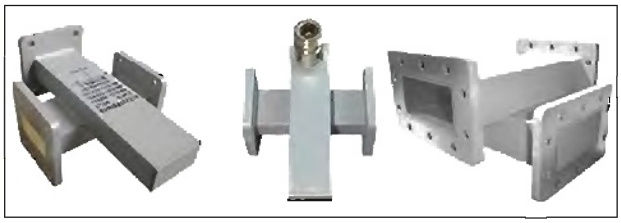
CROSSGUIDE DIRECTIONAL COUPLER

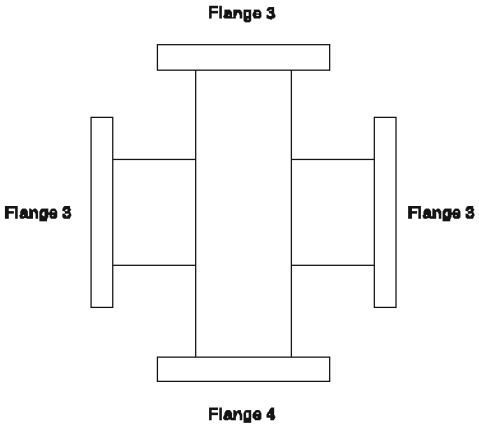
Shinhom Microwave manufactures Crossguide Directional Couplers covering a wide frequency range. Couplers are available in 3 or 4 port configuration. Standard coupling values are 20, 30, 40, 50 and 60 dB, with minimum Directivity of 18 dB. The compactness of crossguide coupler suits many applications 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.



ELECTRICAL CHARACTERISTICS:

Part No.	Freq Range (GHz)	Operating Bandwidth (%)	VSWR(Max)		Coupling (dB)	Directivity Min(dB)	WG Type		Flange	Material
			Main Line	Secondary Line			IEC	EIA		
SH-22W+C...	1.72-2.61	10-20	1.10	1.15	18-60	18	R22	WR430	FDP/FDM	Al/Cu
SH-26W+C...	2.17-3.30	10-20	1.10	1.15	18-60	18	R26	WR340	FDP/FDM	Al/Cu
SH-32W+C...	2.60-3.95	10-20	1.10	1.15	18-60	18	R32	WR284	FDP/FDM	Al/Cu
SH-40W+C...	3.22-4.90	10-20	1.10	1.15	18-60	18	R40	WR229	FDP/FDM	Al/Cu
SH-48W+C...	3.94-5.99	10-20	1.10	1.15	18-60	18	R48	WR187	FDP/FDM	Al/Cu
SH-58W+C...	4.64-7.05	10-20	1.10	1.15	18-60	18	R58	WR159	FDP/FDM	Al/Cu
SH-70W+C...	5.38-8.17	10-20	1.10	1.15	18-60	18	R70	WR137	FDP/FDM	Al/Cu
SH-84W+C...	6.57-9.99	10-20	1.10	1.15	18-60	18	R84	WR112	FBP/FBM/FBE	Al/Cu
SH-100W+C...	8.20-12.40	10-20	1.10	1.15	18-60	18	R100	WR90	FBP/FBM/FBE	Al/Cu
SH-120W+C...	9.84-15.0	10-20	1.10	1.15	18-60	18	R120	WR75	FBP/FBM/FBE	Al/Cu
SH-140W+C...	11.9-18.0	10-20	1.10	1.15	18-60	18	R140	WR62	FBP/FBM/FBE	Al/Cu
SH-180W+C...	14.5-22.0	10-20	1.10	1.15	18-60	18	R180	WR51	FBP/FBM/FBE	Al/Cu
SH-220W+C...	17.6-26.7	10-20	1.10	1.15	18-60	18	R220	WR42	FBP/FBM/FBE	Al/Cu
SH-260W+C...	21.7-33.0	10-20	1.10	1.15	18-60	18	R260	WR34	FBP/FBM/FBE	Al/Cu
SH-320W+C...	26.3-40.0	10-20	1.15	1.15	18-60	18	R320	WR28	FBP/FBM/FBE	Al/Cu

*Indicates Model Number. See Ordering Information for complete part number.
**Typical operating bandwidth of the crossguide coupler is up to 20% of waveguide bandwidth.
***Nominal Accuracy: ± 0.7dB
Frequency Sensitivity: ± 1dB



Ordering Information

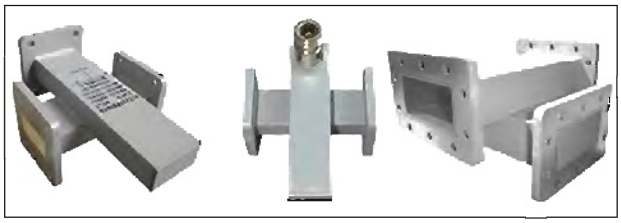
Example Part No: SH – 100 W+C 30 P M E M A

- SH – Shinhom Microwave
- 100 W – WG type: R100
- C – Product Type: Crossguide Directional Coupler (4 W G Ports)
- 30 – Coupling: C=30dB
- P – Flange 1 Type: FBP100
- M – Flange 2 Type: FBM100
- E – Flange 3 Type: FBE100
- M – Flange 4 Type: FBM100
- A – Material : A=Aluminum C=Copper

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

CROSSGUIDE DIRECTIONAL COUPLER

Shinhom Microwave manufactures 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.

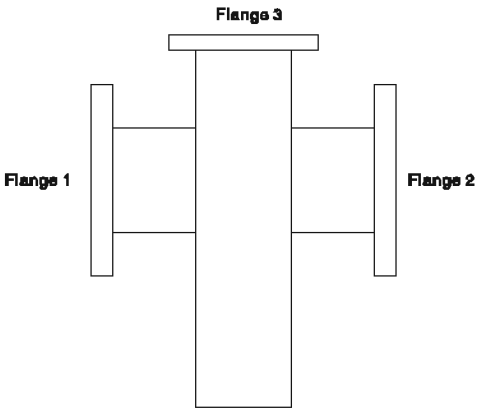


Style 2 – 3 Waveguide Ports

ELECTRICAL CHARACTERISTICS:

Part No.	Freq Range (GHz)	Operating Bandwidth (%)	VSWR(Max)		Coupling (dB)	Directivity Min(dB)	WG Type		Flange	Material
			Main Line	Secondary Line			IEC	EIA		
SH–22WL+C...	1.72–2.61	10–20	1.10	1.15	16–60	18	R22	WR430	FDP/DFM	Al/Cu
SH–26WL+C...	2.17–3.30	10–20	1.10	1.15	16–60	18	R26	WR340	FDP/DFM	Al/Cu
SH–32WL+C...	2.60–3.95	10–20	1.10	1.15	16–60	18	R32	WR284	FDP/DFM	Al/Cu
SH–40WL+C...	3.22–4.90	10–20	1.10	1.15	16–60	18	R40	WR229	FDP/DFM	Al/Cu
SH–48WL+C...	3.94–5.99	10–20	1.10	1.15	16–60	18	R48	WR187	FDP/DFM	Al/Cu
SH–58WL+C...	4.64–7.05	10–20	1.10	1.15	16–60	18	R58	WR159	FDP/DFM	Al/Cu
SH–70WL+C...	5.38–8.17	10–20	1.10	1.15	16–60	18	R70	WR137	FDP/DFM	Al/Cu
SH–84WL+C...	6.57–9.99	10–20	1.10	1.15	16–60	18	R84	WR112	FBP/FBM/FBE	Al/Cu
SH–100WL+C...	8.20–12.4	10–20	1.10	1.15	16–60	18	R100	WR90	FBP/FBM/FBE	Al/Cu
SH–120WL+C...	9.84–15.0	10–20	1.10	1.15	16–60	18	R120	WR75	FBP/FBM/FBE	Al/Cu
SH–140WL+C...	11.9–18.0	10–20	1.10	1.15	16–60	18	R140	WR62	FBP/FBM/FBE	Al/Cu
SH–180WL+C...	14.5–22.0	10–20	1.10	1.15	16–60	18	R180	WR51	FBP/FBM/FBE	Al/Cu
SH–220WL+C...	17.6–26.7	10–20	1.10	1.15	16–60	18	R220	WR42	FBP/FBM/FBE	Al/Cu
SH–260WL+C...	21.7–33.0	10–20	1.10	1.15	16–60	18	R260	WR34	FBP/FBM/FBE	Al/Cu
SH–320WL+C...	26.3–40.0	10–20	1.15	1.15	16–60	18	R320	WR28	FBP/FBM/FBE	Al/Cu

*Indicates Model Number. See Ordering Information for complete part number.
**Typical operating bandwidth of the crossguide coupler is up to 20% of waveguide bandwidth.
***Nominal Accuracy: ± 0.7dB
Frequency Sensitivity: ± 1dB



Ordering Information

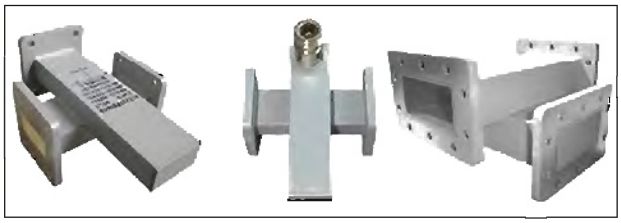
Example Part No: SH – 100 WL+C 30 P M E A

- Shinhom Microwave
- WG type: R100
- Product Type: Crossguide Directional Coupler (3 W G Ports)
- Coupling:C=30dB
- Flange 1 Type: FBP100
- Flange 2 Type: FBM100
- Flange 3 Type: FBE100
- Material : A=Aluminum C=Copper

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

CROSSGUIDE DIRECTIONAL COUPLER

Shinhom Microwave manufactures 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.

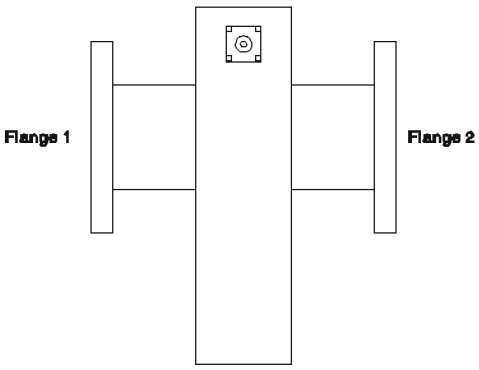


Style 3 - 2 Waveguide Ports, 1 Coax Port

ELECTRICAL CHARACTERISTICS:

Part 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			
SH–22WL+C...	1.72–2.61	10–20	1.10	1.25	18–60	18	R22	WR430	FDP/DFM	N	Al/Cu
SH–26WL+C...	2.17–3.30	10–20	1.10	1.25	18–60	18	R26	WR340	FDP/DFM	N	Al/Cu
SH–32WL+C...	2.60–3.95	10–20	1.10	1.25	18–60	18	R32	WR284	FDP/DFM	N	Al/Cu
SH–40WL+C...	3.22–4.90	10–20	1.10	1.25	18–60	18	R40	WR229	FDP/DFM	N	Al/Cu
SH–48WL+C...	3.94–5.99	10–20	1.10	1.25	18–60	18	R48	WR187	FDP/DFM	N	Al/Cu
SH–58WL+C...	4.64–7.05	10–20	1.10	1.25	18–60	18	R58	WR159	FDP/DFM	N	Al/Cu
SH–70WL+C...	5.38–8.17	10–20	1.10	1.25	18–60	18	R70	WR137	FDP/DFM	N	Al/Cu
SH–84WL+C...	6.57–9.99	10–20	1.10	1.25	18–60	18	R84	WR112	FBP/FBM/FBE	N	Al/Cu
SH–100WL+C...	8.20–12.4	10–20	1.10	1.25	18–60	18	R100	WR90	FBP/FBM/FBE	N	Al/Cu
SH–120WL+C...	9.84–15.0	10–20	1.10	1.25	18–60	18	R120	WR75	FBP/FBM/FBE	SMA	Al/Cu
SH–140WL+C...	11.9–18.0	10–20	1.10	1.25	18–60	18	R140	WR62	FBP/FBM/FBE	SMA	Al/Cu
SH–180WL+C...	14.5–22.0	10–20	1.10	1.30	18–60	18	R180	WR51	FBP/FBM/FBE	SMA	Al/Cu
SH–220WL+C...	17.6–26.7	10–20	1.10	1.50	18–60	18	R220	WR42	FBP/FBM/FBE	SMA	Al/Cu
SH–320WL+C...	26.3–40.0	10–20	1.15	1.50	18–60	18	R320	WR28	FBP/FBM/FBE	SMA	Al/Cu

*Indicates Model Number. See Ordering Information for complete part number.
**Typical operating bandwidth of the crossguide coupler is up to 20% of waveguide bandwidth.
***Nominal Accuracy: ± 0.7dB
Frequency Sensitivity: ± 1dB



Ordering Information

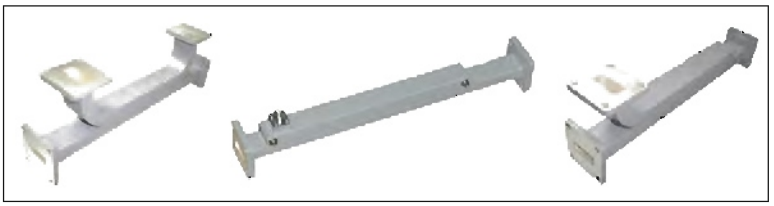
Example Part No: SH – 100 WL+C 30 N K P M A

- SH: Shinhom Microwave
- 100: WG type: R100
- WL+C: Product Type: Crossguide Directional Coupler (2 W G Ports,1 Coa x port)
- 30: Coupling:C=30dB
- N: Coax Connector Type:N=Type N,S=SMA, 2.92=K2.92mm,2.4=2.4mm,TNC=TNC
- K: J=Male,K=Female
- P: Flange 1 Type: FBP100
- M: Flange 2 Type: FBM100
- A: Material : A=Aluminum C=Copper

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

BROADWALL DIRECTIONAL COUPLER

Shinhom Microwave manufactures a standard product lineof 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.

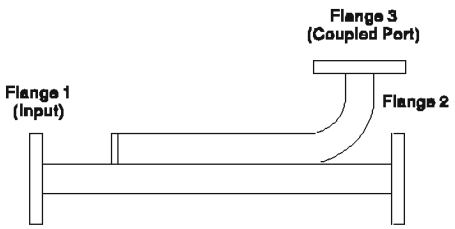


STYLE 1 – 3 WAVEGUIDE PORTS

ELECTRICAL CHARACTERISTICS:

Part No.	Freq Range (GHz)	VSWR(Max)		Coupling (dB)	Directivity Min(dB)	WG Type		Flange	Material
		Main Line	Secondary Line			IEC	EIA		
SH-14WC...	1.13-1.73	1.10	1.15	3-40	20-38	R14	WR650	FDP/FDM	Al/Cu
SH-18WC...	1.45-2.20	1.10	1.15	3-40	20-38	R18	WR510	FDP/FDM	Al/Cu
SH-22WC...	1.72-2.61	1.10	1.15	3-40	20-38	R22	WR430	FDP/FDM	Al/Cu
SH-26WC...	2.17-3.30	1.10	1.15	3-40	20-38	R26	WR340	FDP/FDM	Al/Cu
SH-32WC...	2.60-3.95	1.10	1.15	3-40	20-38	R32	WR284	FDP/FDM	Al/Cu
SH-40WC...	3.22-4.90	1.08	1.12	3-40	20-38	R40	WR229	FDP/FDM	Al/Cu
SH-48WC...	3.94-5.99	1.08	1.12	3-40	20-38	R48	WR187	FDP/FDM	Al/Cu
SH-58WC...	4.64-7.05	1.08	1.12	3-40	20-38	R58	WR159	FDP/FDM	Al/Cu
SH-70WC...	5.38-8.17	1.08	1.12	3-40	20-38	R70	WR137	FDP/FDM	Al/Cu
SH-84WC...	6.57-9.99	1.08	1.12	3-40	20-38	R84	WR112	FBP/FBM/FBE	Al/Cu
SH-100WC...	8.20-12.40	1.08	1.12	3-40	20-38	R100	WR90	FBP/FBM/FBE	Al/Cu
SH-120WC...	9.84-15.0	1.08	1.12	3-40	20-38	R120	WR75	FBP/FBM/FBE	Al/Cu
SH-140WC...	11.9-18.0	1.10	1.15	3-40	20-38	R140	WR62	FBP/FBM/FBE	Al/Cu
SH-180WC...	14.5-22.0	1.10	1.15	3-40	20-38	R180	WR51	FBP/FBM/FBE	Al/Cu
SH-220WC...	17.6-26.7	1.10	1.15	3-40	20-38	R220	WR42	FBP/FBM/FBE	Al/Cu
SH-260WC...	21.7-33.0	1.10	1.15	3-40	20-38	R260	WR34	FBP/FBM/FBE	Al/Cu
SH-320WC...	26.3-40.0	1.10	1.15	3-40	20-38	R320	WR28	FBP/FBM/FBE	Al/Cu

*Indicates Model Number. See Ordering Information for complete part number.
**Nominal Accuracy: ± 0.7dB
Frequency Sensitivity: ± 1dB



Ordering Information

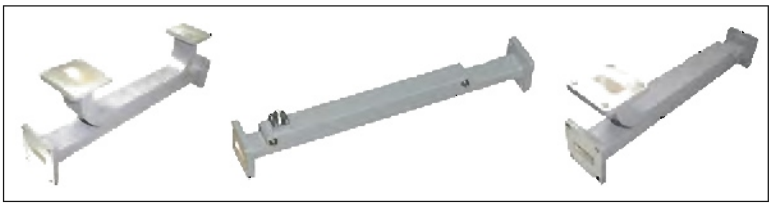
Example Part No: SH – 100 W C 30 P M E A

- Shinhom Microwave
- WG type: R100
- Product Type: Broadwall Directional Coupler
- Coupling: C=30dB
- Flange 1 Type: FBP100
- Flange 2 Type: FBM100
- Flange 3 Type: FBE100
- Material : A=Aluminum C=Copper

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

BROADWALL DIRECTIONAL COUPLER

Shinhom Microwave manufactures a standard product lineof 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.

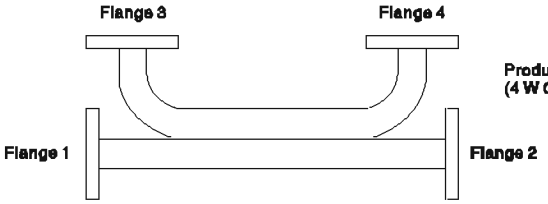


STYLE 2 – 4 WAVEGUIDE PORTS

ELECTRICAL CHARACTERISTICS:

Part No.	Freq Range (GHz)	VSWR(Max)		Coupling (dB)	Directivity Min(dB)	WG Type		Flange	Material
		Main Line	Secondary Line			IEC	EIA		
SH-26WUC...	2.17-3.30	1.10	1.15	3-40	20-35	R26	WR340	FDP/FDM	Al/Cu
SH-32WUC...	2.60-3.95	1.10	1.15	3-40	20-35	R32	WR284	FDP/FDM	Al/Cu
SH-40WUC...	3.22-4.90	1.08	1.12	3-40	20-35	R40	WR229	FDP/FDM	Al/Cu
SH-48WUC...	3.94-5.99	1.08	1.12	3-40	20-35	R48	WR187	FDP/FDM	Al/Cu
SH-58WUC...	4.64-7.05	1.08	1.12	3-40	20-35	R58	WR159	FDP/FDM	Al/Cu
SH-70WUC...	5.38-8.17	1.08	1.12	3-40	20-35	R70	WR137	FDP/FDM	Al/Cu
SH-84WUC...	6.57-9.99	1.08	1.12	3-40	20-35	R84	WR112	FBP/FBM/FBE	Al/Cu
SH-100WUC...	8.20-12.40	1.08	1.12	3-40	20-35	R100	WR90	FBP/FBM/FBE	Al/Cu
SH-120WUC...	9.84-15.0	1.08	1.12	3-40	20-35	R120	WR75	FBP/FBM/FBE	Al/Cu
SH-140WUC...	11.9-16.0	1.10	1.15	3-40	20-35	R140	WR62	FBP/FBM/FBE	Al/Cu
SH-180WUC...	14.5-22.0	1.10	1.15	3-40	20-35	R180	WR51	FBP/FBM/FBE	Al/Cu
SH-220WUC...	17.6-26.7	1.10	1.15	3-40	20-35	R220	WR42	FBP/FBM/FBE	Al/Cu
SH-260WUC...	21.7-33.0	1.10	1.15	3-40	20-35	R260	WR34	FBP/FBM/FBE	Al/Cu
SH-320WUC...	26.3-40.0	1.10	1.15	3-40	20-35	R320	WR28	FBP/FBM/FBE	Al/Cu

*Indicates Model Number. See Ordering Information for complete part number.
**Nominal Accuracy: ± 0.7dB
Frequency Sensitivity: ± 1dB



Ordering Information

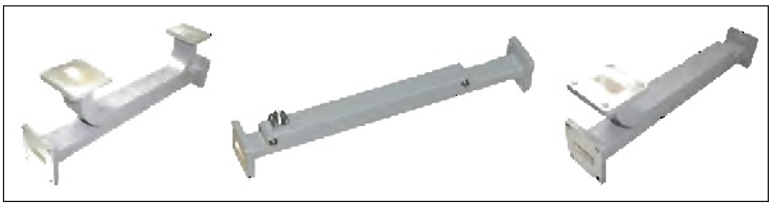
Example Part No: SH – 100 WUC 30 P M E M A

- SH: Shinhom Microwave
- 100: WG type: R100
- WUC: Product Type: Broadwall Directional Coupler (4 W G Ports)
- 30: Coupling: C=30dB
- P: Flange 1 Type: FBP100
- M: Flange 2 Type: FBM100
- E: Flange 3 Type: FBE100
- M: Flange 4 Type: FBM100
- A: Material : A=Aluminum C=Copper

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

BROADWALL DIRECTIONAL COUPLER

Shinhom Microwave manufactures a standard product lineof 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.

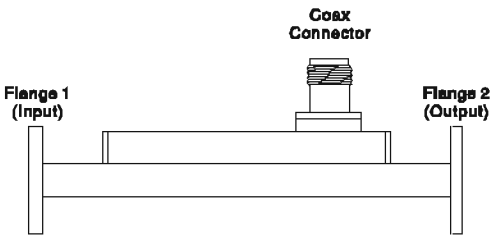


STYLE 3 – 2 WAVEGUIDE PORTS, 1 COAX PORT

ELECTRICAL CHARACTERISTICS:

Part No.	Freq Range (GHz)	VSWR(Max)		Coupling (dB)	Directivity Min(dB)	Coax Connector	WG Type		Flange	Material
		Main Line	Secondary Line				IEC	EIA		
SH–14WC...N	1.13–1.73	1.10	1.25	3–40	20–38	N	R14	WR650	FDP/FDM	Al/Cu
SH–18WC...N	1.45–2.20	1.10	1.25	3–40	20–38	N	R18	WR510	FDP/FDM	Al/Cu
SH–22WC...N	1.72–2.61	1.10	1.25	3–40	20–38	N	R22	WR430	FDP/FDM	Al/Cu
SH–26WC...N	2.17–3.30	1.10	1.25	3–40	20–38	N	R26	WR340	FDP/FDM	Al/Cu
SH–32WC...N	2.60–3.95	1.10	1.25	3–40	20–38	N	R32	WR284	FDP/FDM	Al/Cu
SH–40WC...N	3.22–4.90	1.08	1.25	3–40	20–38	N	R40	WR229	FDP/FDM	Al/Cu
SH–48WC...N	3.94–5.99	1.08	1.25	3–40	20–38	N	R48	WR187	FDP/FDM	Al/Cu
SH–58WC...N	4.64–7.05	1.08	1.25	3–40	20–38	N	R58	WR159	FDP/FDM	Al/Cu
SH–70WC...N	5.38–8.17	1.08	1.25	3–40	20–38	N	R70	WR137	FDP/FDM	Al/Cu
SH–84WC...N	6.57–9.99	1.08	1.25	3–40	20–38	N	R84	WR112	FBP/FBM/FBE	Al/Cu
SH–100WC...N	8.20–12.40	1.08	1.25	3–40	20–38	N	R100	WR90	FBP/FBM/FBE	Al/Cu
SH–120WC...S	9.84–15.0	1.08	1.25	3–40	20–38	N	R120	WR75	FBP/FBM/FBE	Al/Cu
SH–140WC...S	11.9–18.0	1.10	1.25	3–40	20–38	N	R140	WR62	FBP/FBM/FBE	Al/Cu
SH–180WC...S	14.5–22.0	1.10	1.25	3–40	20–38	N	R180	WR51	FBP/FBM/FBE	Al/Cu
SH–220WC...S	17.6–26.7	1.10	1.25	3–40	20–38	N	R220	WR42	FBP/FBM/FBE	Al/Cu
SH–260WC...S	21.7–33.0	1.10	1.25	3–40	20–38	N	R260	WR34	FBP/FBM/FBE	Al/Cu
SH–320WC...S	26.3–40.0	1.10	1.25	3–40	20–38	N	R320	WR28	FBP/FBM/FBE	Al/Cu

*Indicates Model Number. See Ordering Information for complete part number.
**Nominal Accuracy: ± 0.7dB
Frequency Sensitivity: ± 1 dB
*** These units are supplied with 2.92mm (K–type) connectors.



Ordering Information

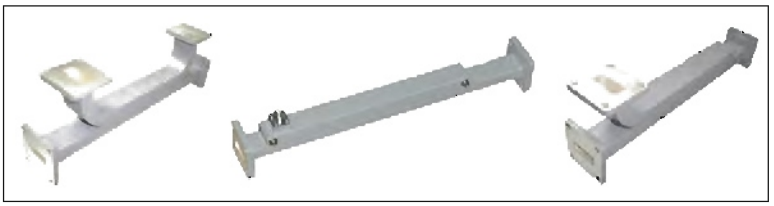
Example Part No: SH – 100 W C 30 N K P M A

- SH: Shinhom Microwave
- 100: WG type: R100
- W: Product Type: Broadwall Directional Coupler (2 W G Ports,1 CoaxPort)
- C: Coupling: C=30dB
- 30: Coax Connector Type: N=Type N, S=SMA, 2.92=K2.92mm, 2.4=2.4mm, TNC=TNC
- N: Coax Connector Type: N=Type N, S=SMA, 2.92=K2.92mm, 2.4=2.4mm, TNC=TNC
- K: J=Male, K=Female
- P: Flange 1 Type: FBP100
- M: Flange 2 Type: FBM100
- A: Material : A=Aluminum C=Copper

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

BROADWALL DIRECTIONAL COUPLER

Shinhom Microwave manufactures a standard product lineof 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.

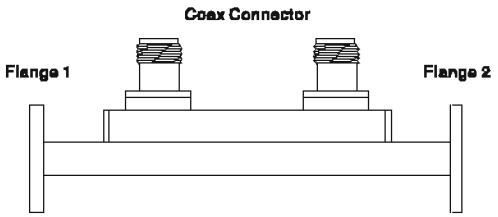


STYLE 4 – 2 WAVEGUIDE PORTS, 2 COAX PORTS

ELECTRICAL CHARACTERISTICS:

Part No.	Freq Range (GHz)	VSWR(Max)		Coupling (dB)	Directivity Min(dB)	Coax Connector	WG Type		Flange	Material
		Main Line	Secondary Line				IEC	EIA		
SH-14WUC...N	1.13-1.73	1.10	1.25	3-40	20-25	N	R14	WR650	FDP/FDM	Al/Cu
SH-18WUC...N	1.45-2.20	1.10	1.25	3-40	20-25	N	R18	WR510	FDP/FDM	Al/Cu
SH-22WUC...N	1.72-2.61	1.10	1.25	3-40	20-25	N	R22	WR430	FDP/FDM	Al/Cu
SH-26WUC...N	2.17-3.30	1.10	1.25	3-40	20-25	N	R26	WR340	FDP/FDM	Al/Cu
SH-32WUC...N	2.60-3.95	1.10	1.25	3-40	20-25	N	R32	WR284	FDP/FDM	Al/Cu
SH-40WUC...N	3.22-4.90	1.08	1.25	3-40	20-25	N	R40	WR229	FDP/FDM	Al/Cu
SH-48WUC...N	3.94-5.99	1.08	1.25	3-40	20-25	N	R48	WR187	FDP/FDM	Al/Cu
SH-58WUC...N	4.64-7.05	1.08	1.25	3-40	20-25	N	R58	WR159	FDP/FDM	Al/Cu
SH-70WUC...N	5.36-8.17	1.08	1.25	3-40	20-25	N	R70	WR137	FDP/FDM	Al/Cu
SH-84WUC...N	6.57-9.99	1.08	1.25	3-40	20-25	N	R84	WR112	FBP/FBM/FBE	Al/Cu
SH-100WUC...N	8.20-12.40	1.08	1.25	3-40	20-25	N	R100	WR90	FBP/FBM/FBE	Al/Cu
SH-120WUC...S	9.84-15.0	1.08	1.25	3-40	20-25	SMA	R120	WR75	FBP/FBM/FBE	Al/Cu
SH-140WUC...S	11.9-18.0	1.10	1.25	3-40	20-25	SMA	R140	WR62	FBP/FBM/FBE	Al/Cu
SH-180WUC...S	14.5-22.0	1.10	1.25	3-40	20-25	SMA	R180	WR51	FBP/FBM/FBE	Al/Cu
SH-220WUC...S	17.6-26.7	1.10	1.50	3-40	20-25	SMA,K...	R220	WR42	FBP/FBM/FBE	Al/Cu
SH-260WUC...S	21.7-33.0	1.10	1.60	3-40	20-25	SMA,K...	R260	WR34	FBP/FBM/FBE	Al/Cu
SH-320WUC...S	26.3-40.0	1.10	1.50	3-40	20-25	SMA,K...	R320	WR28	FBP/FBM/FBE	Al/Cu

*Indicates Model Number. See Ordering Information for complete part number.
**Nominal Accuracy: ± 0.7dB
Frequency Sensitivity: ± 1 dB
*** These units are supplied with 2.92mm (K-type) connectors.



Ordering Information

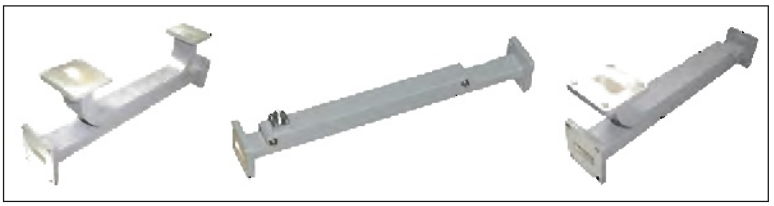
Example Part No: SH – 100 WUC 30 N K P M A

- SH: Shinhom Microwave
- 100: WG type: R100
- WUC: Product Type: Broadwall Directional Coupler (2 W G Ports,2 CoaxPort)
- 30: Coupling:C=30dB
- N: Coax Connector Type: N=Type N, S=SMA, 2.92=K2.92mm, 2.4=2.4mm, TNC=TNC
- K: J=Male, K=Female
- P: Flange 1 Type: FBP100
- M: Flange 2 Type: FBM100
- A: Material : A=Aluminum C=Copper

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

BROADWALL DIRECTIONAL COUPLER

Shinhom Microwave manufactures a standard product lineof 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.

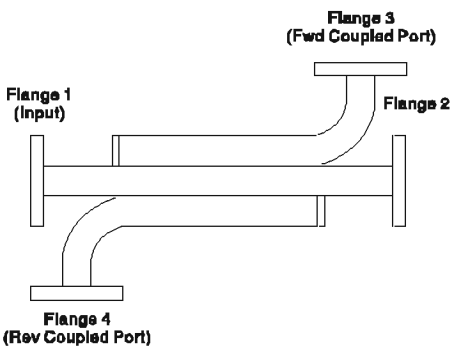


STYLE 5 – DUAL-ARM BROADWALL DIRECTIONAL COUPLER 4 WAVEGUIDE PORTS

ELECTRICAL CHARACTERISTICS:

Part No.	Freq Range (GHz)	VSWR(Max)		Coupling (dB)	Directivity Min(dB)	WG Type		Flange	Material
		Main Line	Secondary Line			IEC	EIA		
SH-26WDXC...	2.17-3.30	1.08	1.12	3-40	20-36	R26	WR340	FDP/FDM	Al/Cu
SH-32WDXC...	2.60-3.95	1.08	1.12	3-40	20-36	R32	WR284	FDP/FDM	Al/Cu
SH-40WDXC...	3.22-4.90	1.08	1.12	3-40	20-36	R40	WR229	FDP/FDM	Al/Cu
SH-48WDXC...	3.94-5.99	1.08	1.12	3-40	20-36	R48	WR187	FDP/FDM	Al/Cu
SH-58WDXC...	4.64-7.05	1.08	1.12	3-40	20-36	R58	WR159	FDP/FDM	Al/Cu
SH-70WDXC...	5.38-8.17	1.08	1.12	3-40	20-36	R70	WR137	FDP/FDM	Al/Cu
SH-84WDXC...	6.57-9.99	1.08	1.12	3-40	20-36	R84	WR112	FBP/FBM/FBE	Al/Cu
SH-100WDXC...	8.20-12.40	1.08	1.12	3-40	20-36	R100	WR90	FBP/FBM/FBE	Al/Cu
SH-120WDXC...	9.84-15.0	1.08	1.12	3-40	20-36	R120	WR75	FBP/FBM/FBE	Al/Cu
SH-140WDXC...	11.9-18.0	1.10	1.12	3-40	20-36	R140	WR62	FBP/FBM/FBE	Al/Cu
SH-180WDXC...	14.5-22.0	1.10	1.15	3-40	20-36	R180	WR51	FBP/FBM/FBE	Al/Cu
SH-220WDXC...	17.6-26.7	1.10	1.15	3-40	20-36	R220	WR42	FBP/FBM/FBE	Al/Cu
SH-260WDXC...	21.7-33.0	1.10	1.15	3-40	20-36	R260	WR34	FBP/FBM/FBE	Al/Cu
SH-320WDXC...	26.3-40.0	1.10	1.15	3-40	20-36	R320	WR28	FBP/FBM/FBE	Al/Cu

*Indicates Model Number. See Ordering Information for complete part number.
**Nominal Accuracy: ± 0.7dB
Frequency Sensitivity: ± 1dB



Ordering Information

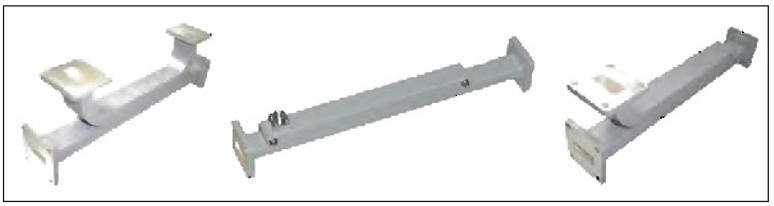
Example Part No: SH – 100 WDXC 30 P M E M A

- SH: Shinhom Microwave
- 100: WG type: R100
- WDXC: Product Type: Broadwall Directional Coupler
- 30: Coupling:C=30dB
- P: Flange 1 Type: FBP100
- M: Flange 2 Type: FBM100
- E: Flange 3 Type: FBE100
- M: Flange 4 Type: FBM100
- A: Material : A=Aluminum C=Copper

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

BROADWALL DIRECTIONAL COUPLER

Shinhom Microwave manufactures a standard product lineof 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.

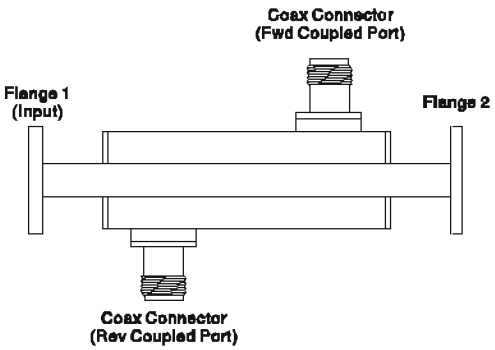


STYLE 6 – DUAL–ARM BROADWALL DIRECTIONAL COUPLER 2 WAVEGUIDE PORTS, 2 COAX PORTS

ELECTRICAL CHARACTERISTICS:

Part No.	Freq Range (GHz)	VSWR(Max)		Coupling (dB)	Directivity Min(dB)	Coax Connector	WG Type		Flange	Material
		Main Line	Secondary Line				IEC	EIA		
SH–26WDXC...N	2.17–3.30	1.10	1.25	3–40	20–36	N	R26	WR340	FDP/FDM	Al/Cu
SH–32WDXC...N	2.60–3.95	1.10	1.25	3–40	20–36	N	R32	WR284	FDP/FDM	Al/Cu
SH–40WDXC...N	3.22–4.90	1.08	1.25	3–40	20–36	N	R40	WR229	FDP/FDM	Al/Cu
SH–48WDXC...N	3.94–5.99	1.08	1.25	3–40	20–36	N	R48	WR187	FDP/FDM	Al/Cu
SH–58WDXC...N	4.64–7.05	1.08	1.25	3–40	20–36	N	R58	WR159	FDP/FDM	Al/Cu
SH–70WDXC...N	5.38–8.17	1.08	1.25	3–40	20–36	N	R70	WR137	FDP/FDM	Al/Cu
SH–84WDXC...N	6.57–9.99	1.08	1.25	3–40	20–36	N	R84	WR112	FBP/FBM/FBE	Al/Cu
SH–100WDXC...N	8.20–12.40	1.6	1.25	3–40	20–36	N	R100	WR90	FBP/FBM/FBE	Al/Cu
SH–120WDXC...N	9.84–15.0	1.08	1.25	3–40	20–36	SMA	R120	WR75	FBP/FBM/FBE	Al/Cu
SH–140WDXC...N	11.9–18.0	1.10	1.25	3–40	20–36	SMA	R140	WR62	FBP/FBM/FBE	Al/Cu
SH–180WDXC...N	14.6–22.0	1.10	1.25	3–40	20–36	SMA	R180	WR51	FBP/FBM/FBE	Al/Cu
SH–220WDXC...N	17.6–26.7	1.10	1.50	3–40	20–36	SMA,K...	R220	WR42	FBP/FBM/FBE	Al/Cu
SH–280WDXC...N	21.7–33.0	1.10	1.50	3–40	20–36	SMA,K...	R280	WR34	FBP/FBM/FBE	Al/Cu
SH–320WDXC...N	26.3–40.0	1.10	1.50	3–40	20–36	SMA,K...	R320	WR28	FBP/FBM/FBE	Al/Cu

*Indicates Model Number. See Ordering Information for complete part number.
**Nominal Accuracy: ± 0.7dB
Frequency Sensitivity: ± 1 dB
*** These units are supplied with 2.92mm (K–type) connectors.



Ordering Information

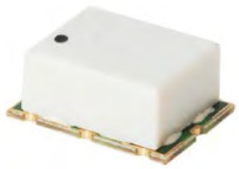
Example Part No: SH – 100 WDXC 30 N K P M A

- SH: Shinhom Microwave
- 100: WG type: R100
- WDXC: Product Type: Broadwall Directional Coupler (2 W G Ports,2 CoaxPort)
- 30: Coupling:C=30dB
- N: Coax Connector Type: N=Type N, S=SMA, 2.92=K2.92mm, 2.4=2.4mm, TNC=TNC
- K: J=Male, K=Female
- P: Flange 1 Type: FBP100
- M: Flange 2 Type: FBM100
- A: Material : A=Aluminum C=Copper

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

Directional Coupler

SH-SYD-20-33



50Ω,30 to 3000 MHz

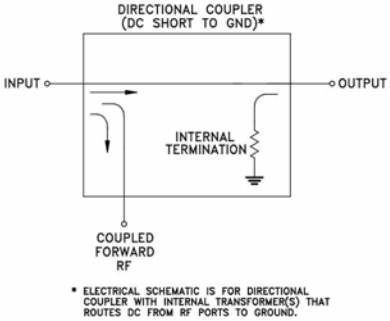
FEATURES

- Wideband, 30-3000 MHz
- Low mainline loss, 1.6 dB typ.
- Excellent VSWR, 1.15:1 typ; all ports
- Good flatness, ±0.6 dB typ.

APPLICATIONS

- VHF/UHF receivers/transmitters
- Cellular, PCS, PCN, UMTS

ELECTRICAL SCHEMATIC



* ELECTRICAL SCHEMATIC IS FOR DIRECTIONAL COUPLER WITH INTERNAL TRANSFORMER(S) THAT ROUTES DC FROM RF PORTS TO GROUND.

PAD CONNECTIONS

INPUT	8
OUTPUT	1
COUPLED	5
GROUND	2, 3,4,6, 7

MAXIMUM RATINGS

Parameter	Ratings
Operating temperature	-40℃-85℃
Storage temperature	-50℃-100℃

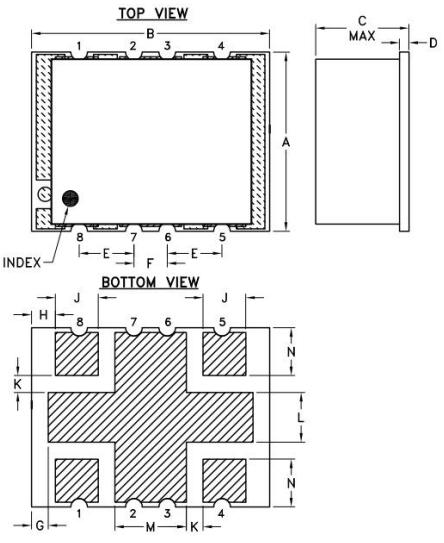
Permanent damage may occur if any of these limits are exceeded.

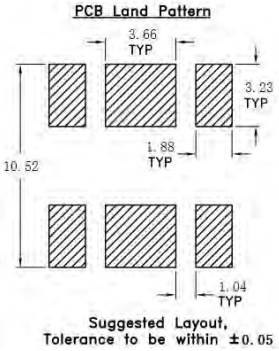
ELECTRICAL SPECIFICATIONS AT 25°C

Parameter	Condition (MHz)	Min.	Typ.	Max.	Units
Frequency Range		30		3000	MHz
Mainline Loss[1]	30-3000 800-1000 1700-2000 2300-2700	- - - -	1.6 1.1 1.3 1.5	2.5 1.5 1.8 2.1	dB
Coupling Nominal	30-3000 800-1000 1700-2000 2300-2700	- - - -	20.8±0.8 21.5±0.5 21.1±0.6 20.8±0.7	- - - -	dB
Coupling Flatness(±)	30-3000 800-1000 1700-2000 2300-2700	- - - -	1.4 0.3 0.5 0.5	- - - -	dB
Directivity	30-3000 800-1000 1700-2000 2300-2700	9 14 15 11	15 17 20 16	- - - -	dB
VSWR	30-3000 800-1000 1700-2000 2300-2700	- - - -	1.20 1.10 1.15 1.20	- - - -	:1
Input Power	30-3000	-	-	1	W

1. Mainline loss includes theoretical power loss at coupled port.

OUTLINE DRAWING

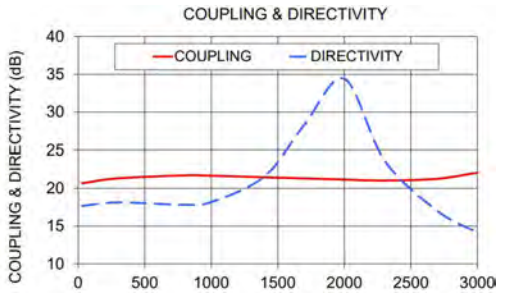


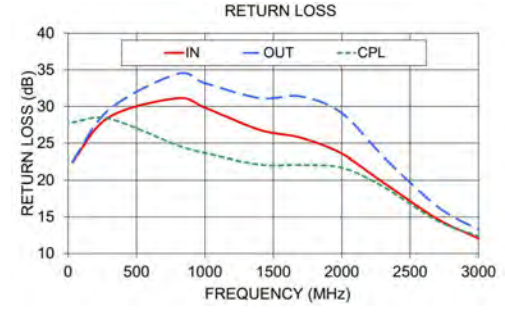


OUTLINE DIMENSIONS, Unit(mm)

A	9.65	H	1.27
B	12.7	L	2.29
C	6.35	K	1.02
D	0.51	L	2.67
E	2.92	M	3.56
F	1.78	N	2.41
G	0.89		
WT	0.8G		

TYPICAL PERFORMANCE CURVES





Single Directional Coupler

The single directional coupler can be used to monitor and control the output power and output spectrum of the transmitter. It can also be used as a power meter in combination with the detector and level indicator.

FEATURE

Broad Band
High Power
Low Insertion Loss

APPLICATION

Amplifier
Radio
Communication
Laboratory Tests

Operating Temperature:0 – +50 ℃ Storage Temperature:–20 – +70 ℃ Characteristic Impedance:50 Ω

ELECTRICAL CHARACTERISTICS:

Model	Freq (GHz)	Power (W)	Coupling (dB)	Insertion Loss (dB,max.)	Directivity (dB,min.)	VSWR (max.)	Connector	Dimensions (mm)
SH-0.01-250-K6-50-NS	0.00001-0.25	500	50 ± 1	0.4	20	1.25	SMA,N	256.4*52*80
SH-80-1000-K6-60-NS	0.08-1	600	60 ± 1	0.4	20	1.2	SMA,N	152.4*30*80
SH-100-700-10-10-S	0.1-0.7	10	10 ± 2	0.9	12	1.3	SMA	250*86*154
SH-130-470-50-6-S	0.13-0.47	50	6 ± 1.2	0.7	20	1.25	SMA	12*15*11
SH-200-2000-50-30-S	0.2-2	50	30 ± 1.5	0.8	15	1.3	SMA	270*20*11
SH-300-800-50-30-S	0.3-0.8	50	30 ± 1	0.3	10	1.2	SMA	180*15*11
SH-300-2400-30-10-S	0.3-2.4	30	10	1.0	16	1.3	SMA	115*15.5*11
SH-300-2400-30120-S	0.3-2.4	30	20	1.0	16	1.3	SMA	115*15.5*11
SH-300-2400-30-30-S	0.3-2.4	30	30	1.0	16	1.3	SMA	115*15.5*11
SH-400-2700-K4-40-N	0.4-2.7	400	40 ± 1.2	0.4	20	1.2	N	158*53*28
SH-400-3000-10-20-S	0.4-3	10	20 ± 1	0.5	20	1.3	SMA	149*25*14
SH-400-3900-K1-20-N	0.4-3.9	100	20 ± 2	0.6	17	1.2	SMA,N	99*42*22.5
SH-400-18000-50-10-S	0.4-18	50	10 ± 1.5	1.5	10	1.8	SMA	113*15*11
SH-400-18000-50-20-S	0.4-18	50	20 ± 1.5	1.5	10	1.8	SMA	113*15*11
SH-400-20000-10-20-S	0.4-20	10	20 ± 1.5	1.5	8	1.5	SMA	137*15.5*11
SH-450-2500-50-6-S	0.45-2.5	50	6 ± 1	0.8	18	1.2	SMA	112*17*11
SH-450-6000-30-10-S	0.45-6	30	10	1.2	12	1.5	SMA	115*16*11
SH-450-6000-30-20-S	0.45-6	30	20	1.2	12	1.5	SMA	115*16*11
SH-450-6000-30-30-S	0.45-6	30	30	1.2	12	1.5	SMA	115*16*11
SH-500-1000-30-10-S	0.5-1	30	10	0.4	20	1.3	SMA	120*26*14
SH-500-1000-30-20-S	0.5-1	30	20	0.4	20	1.3	SMA	120*26*14
SH-500-1000-30-30-S	0.5-1	30	30	0.4	20	1.3	SMA	120*26*14
SH-500-2000-10-15-S	0.5-2	15	15 ± 1	1.0	16	1.3	SMA	137*15.5*11
SH-500-2000-30-10-S	0.5-2	30	10	0.8	20	1.25	SMA	106*15.5*11
SH-500-2000-30-20-S	0.5-2	30	20	0.4	20	1.25	SMA	106*15.5*11
SH-500-2000-30-30-S	0.5-2	30	30	0.3	20	1.25	SMA	106*15.5*11
SH-500-6000-50-20-S	0.5-6	50	20 ± 1	0.6	18	1.25	SMA	113*15*11
SH-500-6000-50-10-S	0.5-6	50	10 ± 1	1.2	16	1.4	SMA	113*15*11
SH-500-6000-50-20-S	0.5-6	50	20 ± 1	1.2	12	1.5	SMA	113*15*11

*Dimensions do not include connectors.

ELECTRICAL CHARACTERISTICS:

Model	Freq (GHz)	Power (W)	Coupling (dB)	Insertion Loss (dB,max.)	Directivity (dB,min.)	VSWR (max.)	Connector	Dimensions (mm)
SH-500-18000-20-20-S	0.5-18	20	20 ± 1.5	2.0	10	1.7	SMA	115*16*11
SH-500-18000-30-10-S	0.5-18	30	10	1.8	10	1.7	SMA	115*16*11
SH-500-18000-30-20-S	0.5-18	30	20	1.8	10	1.7	SMA	115*16*11
SH-500-18000-30-30-S	0.5-18	30	30	1.8	10	1.7	SMA	115*16*11
SH-500-18000-50-20-N	0.5~18	50	20 ± 0.6	1.0	15	1.4	N	116.5*23*17.5
SH-600-6000-50-10-S	0.6-6	50	10 ± 1	1.0	15	1.3	SMA	112*17*12.7
SH-600-6000-50-30-S	0.6-6	50	30 ± 1	0.5	15	1.3	SMA	100*15*11
SH-700-6000-50-20-N	0.7-6	50	20 ± 1	0.7	16	1.3	N	125*20*20
SH-800-2500-K2-20-N	0.8-2.5	200	20 ± 1	0.3	18	1.25	N	170.7*43*20
SH-800-2700-50-10-S	0.8-2.7	50	10 ± 1	1.0	18	1.2	SMA	112*17*12.7
SH-1000-4000-20-10-S	1-4	20	10 ± 1	0.6	20	1.3	SMA	73*15*11
SH-1000-4000-30-10-S	1-4	30	10	1.0	20	1.3	SMA	73*15*11
SH-1000-4000-30-20-S	1-4	30	20	1.0	20	1.3	SMA	73*15*11
SH-1000-4000-30-30-S	1-4	30	30	0.5	20	1.3	SMA	73*15*11
SH-1000-4000-50-10-S	1-4	50	10 ± 1	0.8	20	1.3	SMA	73*15*11
SH-1000-4000-50-20-S	1-4	50	20 ± 1	0.4	20	1.3	SMA	73*15*11
SH-1000-4000-50-10-N	1-4	50	10 ± 1	0.8	20	1.3	N	83*20*10
SH-1000-4000-50-20-N	1-4	50	20 ± 1	0.4	20	1.3	N	83*20*10
SH-1000-6000-K1-10-N	1-6	100	10 ± 0.8	0.7	10	1.4	SMA	100*24*22
SH-1000-18000-30-10-S	1-18	30	10	1.5	10	1.6	SMA	90*15.5*11
SH-1000-18000-30-20-S	1-18	30	20	1.5	10	1.6	SMA	90*15.5*11
SH-1000-18000-30-30-S	1-18	30	30	1.5	10	1.6	SMA	90*15.5*11
SH-1000-40000-30-20-K	1-40	30	20 ± 1.2	2.8	10	1.7	2.92mm	84*15*12.7
SH-1000-44000-1-10-2M2	1-44	1	10	2.5	10	2	2.4mm	90.17*18.542*13.46
SH-2000-2500-K5-40-NS	2-2.5	500	40 ± 2	0.4	15	1.4	SMA,N	44*26*22
SH-2000-4000-50-10-S	2-4	50	10 ± 1	1.0	18	1.3	SMA	43*15*11
SH-2000-4000-50-20-S	2-4	50	20 ± 1	0.4	18	1.3	SMA	53*20*20
SH-2000-4000-50-30-S	2-4	50	30 ± 1	0.4	18	1.3	SMA	43*15*11
SH-2000-4000-50-10-N	2-4	50	10 ± 1	1.0	18	1.3	N	43*15*11
SH-2000-4000-50-20-N	2-4	50	20 ± 1	0.4	18	1.3	N	53*20*20
SH-2000-4000-50-30-N	2-4	50	30 ± 1	0.4	18	1.3	N	43*15*11
SH-2000-4000-K4-40-N	2-4	400	40 ± 1.5	0.5	10	1.3	SMA	50*50*19.5
SH-2000-8000-50-6-S	2-8	50	6 ± 1	0.2	18	1.3	SMA	43*15*11
SH-2000-8000-50-10-S	2-8	50	10 ± 1	1.2	16	1.3	SMA	43*15*11
SH-2000-12000-30-10-S	2-12	30	10 ± 1	1.1	12	1.5	SMA	51*16*11
SH-2000-18000-30-10-S	2-18	30	10	1.2	12	1.6	SMA	43*15*11
SH-2000-18000-30-20-S	2-18	30	20	1.0	12	1.6	SMA	43*15*11
SH-2000-18000-30-30-S	2-18	30	30	1.0	10	1.6	SMA	43*15*11
SH-2000-18000-K2-50-NS	2-18	200	50 ± 2	0.5	15	1.4	SMA,N	58*31.6*18
SH-2000-40000-30-10-K	2-40	30	10 ± 1.5	2	10	1.7	2.92mm	48*15*11
SH-2000-40000-30-16-K	2-40	30	16 ± 1.2	1.5	10	1.6	2.92mm	48*15*11

*Dimensions do not include connectors.

ELECTRICAL CHARACTERISTICS:

Model	Freq (GHz)	Power (W)	Coupling (dB)	Insertion Loss (dB,max.)	Directivity (dB,min.)	VSWR (max.)	Connector	Dimensions (mm)
SH-2000-67000-10-16-V	2-67	10	16 ± 1.4	3.5	8	2	1.85mm	62.9*15*11
SH-2300-2600-K5-40-NS	2.3-2.6	500	40 ± 0.5	0.4	20	1.25	SMA,N	44*26*22
SH-2500-6000-50-6-S	2.5-6	50	6 ± 1	0.8	20	1.2	SMA	43*15*11
SH-3000-6000-10-20-S	3-6	10	20 ± 1	0.5	18	1.3	SMA	43*15*11
SH-3400-4200-50-30-S	3.4-4.2	50	30 ± 1	0.5	15	1.3	SMA	43*15*11
SH-3500-4500-10-20-S	3.5-4.5	10	20 ± 1	0.5	20	1.3	SMA	43*15*11
SH-3800-4300-50-20-N	3.8-4.3	50	20 ± 1	0.5	20	1.3	N	53*20*20
SH-4000-6000-K4-40-SN	4-6	400	40 ± 1.5	0.6	10	1.3	SMA,N	50*50*19.5
SH-4000-8000-50-10-S	4-8	50	10 ± 1	1.0	16	1.3	SMA	43*15*11
SH-4000-12000-50-6-S	4-12	50	6 ± 1	1.2	12	1.5	SMA	33*15*11
SH-4000-16000-30-10-S	4-16	30	10 ± 1.2	1.2	12	1.5	SMA	43*15*11
SH-4000-18000-20-10-S	4-18	20	10 ± 1	1.0	12	1.5	SMA	33*15*11
SH-4000-18000-20-20-S	4-18	20	20 ± 1	1.0	12	1.5	SMA	33*15*11
SH-4000-18000-20-30-S	4-18	20	30 ± 1	1.0	10	1.5	SMA	33*15*11
SH-4000-30000-30-20-K	4-30	30	20 ± 1	1.5	12	1.6	2.92mm	48*15*11
SH-6000-18000-20-30-S	6-18	20	30 ± 1	1.0	10	1.5	SMA	33*15*11
SH-6000-18000-30-20-S	6-18	30	20 ± 1	1.0	12	1.5	SMA	33*15*11
SH-6000-18000-50-10-S	6-18	50	10 ± 1	1.0	12	1.5	SMA	33*15*11
SH-6000-18000-50-20-S	6-18	50	20 ± 1	0.6	12	1.5	SMA	33*15*11
SH-6000-18000-50-30-S	6-18	50	30 ± 1	0.6	12	1.5	SMA	33*15*11
SH-6500-11500-20-20-S	6.5-11.5	20	20 ± 1	1.0	12	1.5	SMA	33*15*11
SH-7000-12400-30-10-S	7-12.4	30	10 ± 1	1.2	15	1.3	SMA	33*15*11
SH-7000-12400-30-20-S	7-12.4	30	20 ± 1	1.2	15	1.3	SMA	33*15*11
SH-8000-8400-20-10-N	8-8.4	20	10 ± 1	1.0	12	1.6	N	47*22*19
SH-8000-8400-20-20-N	8-8.4	20	20 ± 1	1.0	12	1.6	N	47*22*19
SH-8000-12000-40-15-S	8-12	40	15 ± 1	0.8	12	1.5	SMA	43*15*11
SH-10750-12750-50-30-S	10.75-12.75	50	30 ± 1	0.5	15	1.4	SMA	33*15*11
SH-12000-13000-10-6-S	12-13	10	6 ± 1	0.8	12	1.5	SMA	56*15*11
SH-12000-18000-50-30-S	12-18	50	30 ± 1	1.0	12	1.5	SMA	33*15*11
SH-12400-18000-50-10-S	12.4-18	50	10 ± 1	0.8	12	1.4	SMA	33*15*11
SH-12400-18000-50-20-S	12.4-18	50	20 ± 1	0.8	12	1.4	SMA	33*15*11
SH-14000-15000-50-10-S	14-15	50	10 ± 1	0.6	15	1.4	SMA	33*15*11
SH-14000-15000-50-20-S	14-15	50	20 ± 1	0.6	15	1.4	SMA	33*15*11
SH-18000-31000-30-20-K	18-31	30	20 ± 1	1.4	12	1.6	2.92mm	26*15*11
SH-18000-40000-20-10-K	18-40	20	10 ± 1	1.6	10	1.6	2.92mm	26*15*11
SH-18000-40000-20-20-K	18-40	20	20 ± 1	1.6	10	1.6	2.92mm	26*15*11
SH-18000-40000-20-30-K	18-40	20	30 ± 1	1.6	10	1.6	2.92mm	28*15*11
SH-20000-50000-10-10-2	20-50	10	10 ± 1.2	1.8	10	1.9	2.4mm	26*15*11
SH-20000-50000-10-20-2	20-50	10	20 ± 1.2	1.6	10	1.9	2.4mm	26*15*11
SH-20000-50000-10-30-2	20-50	10	30 ± 1.2	1.2	8	1.9	2.4mm	26*15*11
SH-26000-30000-20-20-K	26-30	20	20 ± 1	1.4	12	1.6	2.92mm	26*15*11

*Dimensions do not include connectors.

WAVEGUIDE COUPLER

Structural Category

Part No.	Feature	Application	Image
Broadwall Directional Coupler	Full waveguide bandwidth,coupling selection is 2~60dBthe directivity is 40–20dB coupling flatness is best.	High precision measurement, monitoring and rmeasuringsystem.	
Crossguide Directional Coupler	20%~100% of waveguide bandwidth, coupling selectionis 20–60dB, coupling flatness isbetter than loop coupler, the directivity is 23–15dB	System monitoring and measurement.	
Waveguide Loop Coupler	20% of waveguide bandwidth,coupling selection is 20–60dB, the directivity is 20–15dB, small size.	Used under 10GHz of waveguide system monitoring and measurement.	
3dB Waveguide Coupler	20% of waveguide bandwidth,coupling selection is 3dB, the output phase difference of two lines is 90 degree.	Power combiner or divider.	
Waveguide Probe Coupler	20% of waveguide bandwidth,coupling selection is 10–60dB no directivity, smallest size.	Simple system testing.	

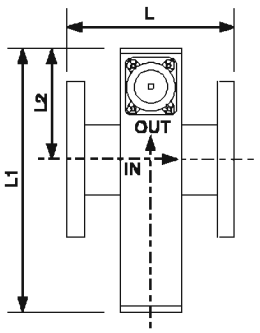
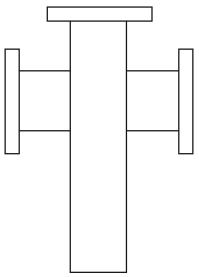
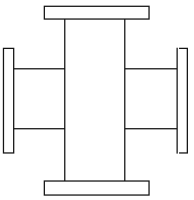
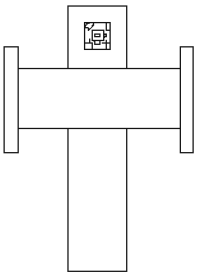
Crossguide Directional Coupler

WL+C…c

ELECTRICAL CHARACTERISTICS:

Part No.	WG Type EIA	Freq Range (GHz)	Working Band width	VSWR (Main Line)	VSWR (Secondary Line)	Optional Coupling (dB)	Directivity (dB)	Flange	Coupling Output Connector	Dimensions (mm) L*L1*L2	Material
SH-12WL+C…N	WR770	0.96-1.46	≤20%	≤1.10	≤1.25	20-60	≥15	FDP	N Female	400*760*250	Al
SH-14WL+C…N	WR650	1.13-1.73	≤20%	≤1.10	≤1.25	20-60	≥15	FDP	N Female	320*480*160	Al
SH-18WL+C…N	WR510	1.45-2.20	≤20%	≤1.10	≤1.25	20-60	≥15	FDP	N Female	285*510*180	Al
SH-22WL+C…N	WR430	1.72-2.61	≤20%	≤1.10	≤1.25	20-60	≥15	FDP	N Female	240*390*140	Al
SH-26WL+C…N	WR340	2.17-3.30	≤20%	≤1.10	≤1.25	20-60	≥15	FDP	N Female	180*280*110	Al
SH-32WL+C…N	WR284	2.60-3.95	≤20%	≤1.10	≤1.25	20-60	≥15	FDP	N Female	180*275*88	Al
SH-40WL+C…N	WR229	3.22-4.90	≤20%	≤1.10	≤1.25	20-60	≥15	FDP	N Female	170*240*90	Al
SH-48WL+C…N	WR187	3.94-5.99	≤20%	≤1.10	≤1.25	20-60	≥15	FDP	N Female	137*200*83	Al
SH-58WL+C…N	WR159	4.64-7.05	≤20%	≤1.10	≤1.25	20-60	≥15	FDP	N Female	120*170*65	Al
SH-70WL+C…N	WR137	5.38-8.17	≤20%	≤1.10	≤1.25	20-60	≥15	FDP	N Female	90*150*60	Al
SH-84WL+C…N	WR112	6.57-9.99	≤20%	≤1.10	≤1.25	20-60	≥15	FBP	N Female	82*120*50	Cu
SH-100WL+C…N	WR90	8.2-12.40	≤20%	≤1.10	≤1.25	20-60	≥15	FBP	N Female	70*85*40	Cu
SH-120WL+C…N	WR75	9.84-15.0	≤20%	≤1.10	≤1.25	20-60	≥15	FBP	N Female	60*83*35	Cu
SH-140WL+C…S	WR62	11.9-18.0	≤20%	≤1.10	≤1.25	20-60	≥15	FBP	SMA Female	60*65*30	Cu
SH-180WL+C…S	WR51	14.5-22.0	≤20%	≤1.10	≤1.25	20-60	≥15	FBP	SMA Female	60*70*30	Cu
SH-220WL+C…K	WR42	17.6-26.7	≤20%	≤1.10	≤1.50	20-60	≥15	FBP	2.92 Female	65*54*30	Cu
SH-260WL+C…K	WR34	21.7-33.0	≤20%	≤1.10	≤1.50	20-60	≥15	FBP	2.92 Female	60*50*25	Cu
SH-320WL+C…K	WR28	26.5-40.0	≤20%	≤1.10	≤1.50	20-60	≥15	FBP	2.92 Female	42*50*20	Cu

Crossguide Directional Coupler

Product Type	WL+C...c	WL+C...	W+C...	WL+CB...c
Schematic				
WG Type	WR975–WR28	WR975–WR10	WR975–WR10	WR975–WR28
Working Bandwidth	F0+10%	F0+10%	F0+10%	F0+10%
Optional Coupling...(dB)	20–60	20–60	20–60	20–60
Coupling Accuracy(dB)	+0.5–+1.0	+0.5–+1.0	+0.5–+1.0	+0.5–+1.0
Directivity(dB)	15–20	15–20	15–20	15–20
VSWR(Main Line)	1.10	1.10	1.10	1.10
Coupling Output	N,SMA,2.92	Waveguide	Waveguide	N,SMA,2.92

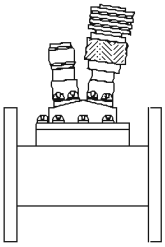
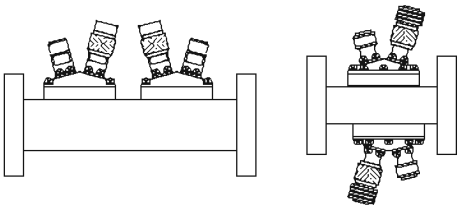
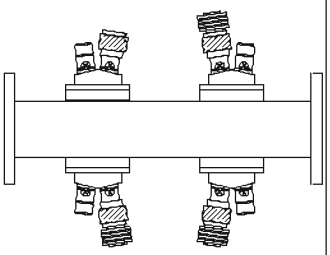
Waveguide Coupler

Waveguide Loop Coupler

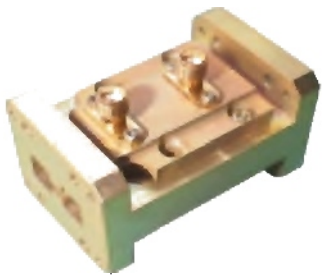
ELECTRICAL CHARACTERISTICS:

Part No.	WG Type EIA	Freq Range (GHz)	Working Band width	Optional Coupling (dB)	Directivity (dB)	VSWR (Main Line)	VSWR (Secondary Line)	Flange	Connector	Length (mm)	Material
SH-9WHC...N	WR975	0.75-1.15	≤20%	20-60	≥15	≤1.10	≤1.25	FDP	N Female	300	Al
SH-12WHC...N	WR770	0.96-1.46	≤20%	20-60	≥15	≤1.10	≤1.25	FDP	N Female	200	Al
SH-14WHC...N	WR650	1.13-1.73	≤20%	20-60	≥15	≤1.10	≤1.25	FDP	N Female	220	Al
SH-16WHC...N	WR510	1.45-2.20	≤20%	20-60	≥15	≤1.10	≤1.25	FDP	N Female	210	Al
SH-22WHC...N	WR430	1.72-2.61	≤20%	20-60	≥15	≤1.10	≤1.25	FDP	N Female	160	Al
SH-26WHC...N	WR340	2.17-3.30	≤20%	20-60	≥15	≤1.10	≤1.25	FDP	N Female	160	Al
SH-32WHC...N	WR284	2.60-3.95	≤20%	20-60	≥15	≤1.10	≤1.25	FDP	N Female	150	Al
SH-40WHC...N	WR229	3.22-4.90	≤20%	20-60	≥15	≤1.10	≤1.25	FDP	N Female	130	Al
SH-48WHC...N	WR187	3.94-5.99	≤20%	20-60	≥15	≤1.10	≤1.25	FDP	N Female	130	Al
SH-58WHC...N	WR159	4.64-7.05	≤20%	20-60	≥15	≤1.10	≤1.25	FDP	N Female	130	Al
SH-70WHC...N	WR137	5.38-8.17	≤20%	20-60	≥15	≤1.10	≤1.25	FDP	N Female	130	Al
SH-84WHC...N	WR112	6.57-9.99	≤20%	20-60	≥15	≤1.10	≤1.25	FBP	N Female	130	Cu
SH-100WHC...N	WR90	8.2-12.4	≤20%	20-60	≥15	≤1.10	≤1.25	FBP	N Female	100	Cu

Waveguide Loop Coupler

Description	Loop Coupler	Dual Directional Loop Coupler		Four Directional Loop Coupler
Model	WHC…c	WHHC…c	WDHC…c	WDHHC…c
Outline Drawings				
WG Type	WR975–WR28	WR975–WR28	WR975–WR28	WR975–WR28
Working Bandwidth	F0+10%	F0+10%	F0+10%	F0+10%
Optional Coupling..(dB)	20–60	20–60	20–60	20–60
Directivity(dB)	15	15	15	15
VSWR(Main Line)	1.10	1.10	1.10	1.10
VSWR(Secondary Line)	1.25	1.25	1.25	1.25
Connector	N or SMA	N or SMA	N or SMA	N or SMA

Waveguide Coupler



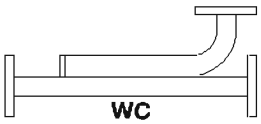
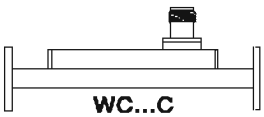
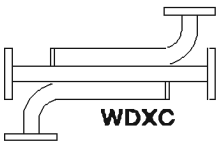
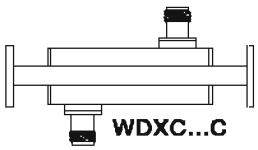
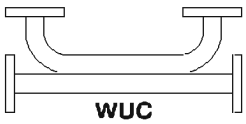
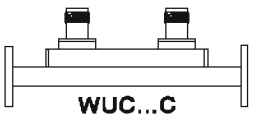
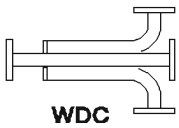
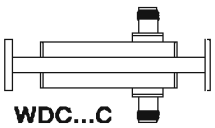
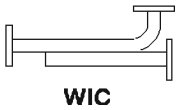
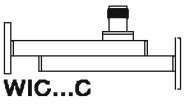
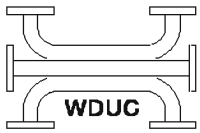
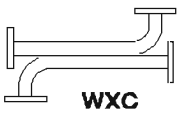
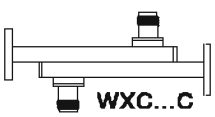
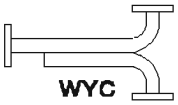
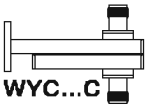
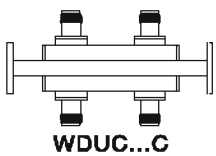
Double-Ridged Waveguide Loop Coupler

ELECTRICAL CHARACTERISTICS:

Part No.	WG Type EIA	Freq Range (GHz)	Optional Coupling (dB)	Directivity (dB)	VSWR (Main Line)	VSWR (Secondary Line)	Flange	Connector	Length (mm)	Material
SH-84DRWHC...N	WRD84	0.84-2	20-60	≥15	≤1.15	≤1.60	FP	N Female	300	Al
SH-150DRWHC...N	WRD150	1.5-3.6	20-60	≥15	≤1.15	≤1.60	FP	N Female	200	Al
SH-200DRWHC...N	WRD200	2-4.8	20-60	≥15	≤1.15	≤1.60	FP	N Female	160	Al
SH-250DRWHC...N	WRD250	2.6-7.8	20-60	≥15	≤1.15	≤1.60	FP	N Female	150	Al
SH-350DRWHC...N	WRD350	3.5-8.2	20-60	≥15	≤1.15	≤1.60	FP	N Female	120	Al
SH-475DRWHC..N	WRD475	4.75-11	20-60	≥15	≤1.15	≤1.60	FP	N Female	100	Al
SH-500DRWHC...N	WRD500	5-18	20-60	≥15	≤1.15	≤1.60	FP	N Female	100	Al
SH-580DRWHC..N	WRD580	5.8-18	20-60	≥15	≤1.15	≤1.60	FP	N Female	100	Al
SH-650DRWHC...N	WRD650	6.5-18	20-60	≥15	≤1.15	≤1.60	FP	N Female	100	Al
SH-750DRWHC...N	WRD750	7.5-18	20-60	≥15	≤1.15	≤1.60	FP	N Female	100	Al
SH-700DRWHC..N	WRD700	7-18.5	20-60	≥15	≤1.15	≤1.60	FP	N Female	100	Al
SH-1100DRWHC...N	WRD110	11-26.5	20-60	≥15	≤1.20	≤2.00	FP	SMA Female	80	Cu
SH-1800DRWHC...N	WRD180	18-40	20-60	≥15	≤1.20	≤2.00	FP	SMA Female	80	Cu

Waveguide Coupler

Broadwall Directional Coupler

Product Type	Outline Drawings	WG Type	Working Bandwidth	Optional Coupling dB	Avg Coupling Accuracy(dB)	Coupling Flatness(dB)	Directivity (dB)
Sigle Diretional	 WC	WR975–WR10	Full Band	3–60	±0.7–±1.5	±0.7–±1.5	30–40
	 WC...C	WR975–WR10	Full Band	3–60	±0.7–±1.5	±0.7–±1.5	30–40
Dual Diretional	 WDXC	WR975–WR10	Full Band	3–60	±0.7–±1.5	±0.7–±1.5	30–40
	 WDXC...C	WR975–WR10	Full Band	3–60	±0.7–±1.5	±0.7–±1.5	30–40
Dual Diretional	 WUC	WR975–WR10	Full Band	3–60	±0.7–±1.3	±0.5–±1.8	30–40
	 WUC...C	WR975–WR10	Full Band	3–60	±0.7–±1.3	±0.5–±1.8	30–40
Other	 WDC  WDC...C  WIC  WIC...C  WDUC						
	 WXC  WXC...C  WYC  WYC...C  WDUC...C						

Waveguide Coupler

Broadwall Directional Coupler

ELECTRICAL CHARACTERISTICS:

Part No.	WG Type EIA	Freq Range (GHz)	Optional Coupling (dB)	Directivity (dB)	VSWR (Main Line)	VSWR (Secondary Line)	Flange	Connector	Material
SH-9WC...N	WR975	0.75-1.15	3-60	30-40	≤1.10	≤1.25	FDP	N Female	Al
SH-12WC...N	WR770	0.96-1.46	3-60	30-40	≤1.10	≤1.25	FDP	N Female	Al
SH-14WC...N	WR650	1.13-1.73	3-60	30-40	≤1.10	≤1.25	FDP	N Female	Al
SH-18WC...N	WR510	1.45-2.20	3-60	30-40	≤1.10	≤1.25	FDP	N Female	Al
SH-22WC...N	WR430	1.72-2.61	3-60	30-40	≤1.10	≤1.25	FDP	N Female	Al
SH-26WC...N	WR340	2.17-3.30	3-60	30-40	≤1.10	≤1.25	FDP	N Female	Al
SH-32WC...N	WR284	2.60-3.95	3-60	30-40	≤1.10	≤1.25	FDP	N Female	Al
SH-40WC...N	WR229	3.22-4.90	3-60	30-40	≤1.10	≤1.25	FDP	N Female	Al
SH-48WC...N	WR187	3.94-5.99	3-60	30-40	≤1.10	≤1.25	FDP	N Female	Al
SH-58WC...N	WR159	4.64-7.05	3-60	30-40	≤1.10	≤1.25	FDP	N Female	Al
SH-70WC...N	WR137	5.36-8.17	3-60	30-40	≤1.10	≤1.25	FDP	N Female	Al
SH-84WC...N	WR112	6.57-9.99	3-60	30-40	≤1.10	≤1.25	FBP	N Female	Cu
SH-100WC...N	WR90	8.20-12.40	3-60	30-40	≤1.10	≤1.25	FBP	N Female	Cu
SH-120WC...N	WR75	9.84-15.0	3-60	30-40	≤1.10	≤1.25	FBP	N Female	Cu
SH-140WC...S	WR62	11.9-18.0	3-60	30-40	≤1.10	≤1.25	FBP	SMA Female	Cu
SH-180WC...S	WR51	14.5-22.0	3-60	30-40	≤1.10	≤1.25	FBP	SMA Female	Cu
SH-220WC...K	WR42	17.6-26.7	3-60	30-40	≤1.10	≤1.50	FBP	2.92 Female	Cu
SH-260WC...k	WR34	21.7-33.0	3-60	30-40	≤1.10	≤1.50	FBP	2.92 Female	Cu
SH-320WC...K	WR28	26.5-40.0	3-60	30-40	≤1.10	≤1.50	FBP	2.92 Female	Cu
SH-400WC...	WR22	32.9-50.1	3-60	30-40	≤1.10	≤1.25	FUGP	WR22	Cu
SH-500WC...	WR19	39.2-59.6	3-60	30-40	≤1.10	≤1.25	FUGP	WR19	Cu
SH-620WC...	WR15	49.8-75.8	3-60	30-40	≤1.10	≤1.25	FUGP	WR15	Cu
SH-740WC...	WR12	60.5-91.9	3-60	30-40	≤1.10	≤1.25	FUGP	WR12	Cu
SH-900WC...	WR10	73.8-112	3-60	30-40	≤1.10	≤1.25	FUGP	WR10	Cu

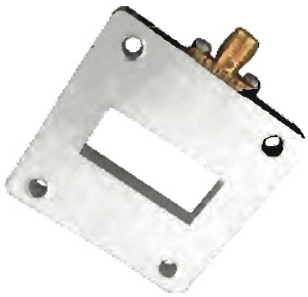
Waveguide Coupler

Double-Ridged Wavequide
Broadwall Directional Coupler

ELECTRICAL CHARACTERISTICS:

Part No.	WG Type EIA	Freq Range (GHz)	Optional Coupling (dB)	Coupling Coupling (dB)	Directivity (dB)	VSWR (Main Line)	VSWR (Secondary Line)	Flange	Connector	Material
SH-84DRWC...N	WRD84	0.84-2	20-60	±1.5	≥25	≤1.10	≤1.5	FP	N Female	Al
SH-150DRWC...N	WRD150	1.5-3.6	20-60	±1.5	≥25	≤1.10	≤1.5	FP	N Female	Al
SH-200DRWC...N	WRD200	2-4.8	20-60	±1.5	≥25	≤1.10	≤1.5	FP	N Female	Al
SH-250DRWC...N	WRD250	2.6-7.8	20-60	±1.5	≥25	≤1.10	≤1.5	FP	N Female	Al
SH-350DRWC...N	WRD350	3.5-8.2	20-60	±1.5	≥25	≤1.10	≤1.5	FP	N Female	Al
SH-475DRWC...N	WRD475	4.75-11	20-60	±1.5	≥25	≤1.10	≤1.5	FP	N Female	Al
SH-500DRWC...N	WRD500	5-18	20-60	±1.5	≥25	≤1.10	≤1.5	FP	N Female	Al
SH-580DRWC...N	WRD580	5.8-16	20-60	±1.5	≥25	≤1.10	≤1.5	FP	N Female	Al
SH-650DRWC...N	WRD650	6.5-18	20-60	±1.5	≥25	≤1.10	≤1.5	FP	N Female	Al
SH-750DRWC...N	WRD750	7.5-18	20-60	±1.5	≥25	≤1.10	≤1.5	FP	N Female	Al
SH-700DRWC...N	WRD700	7-18.5	20-60	±1.5	≥25	≤1.10	≤1.5	FP	N Female	Al
SH-1100DRWC...N	WRD110	11-26.5	20-60	±1.5	≥25	≤1.10	≤1.5	FP	SMA Female	Cu
SH-1800DRWC...N	WRD180	18-40	20-60	±1.5	≥25	≤1.10	≤1.5	FP	SMA Female	Cu

Waveguide Coupler

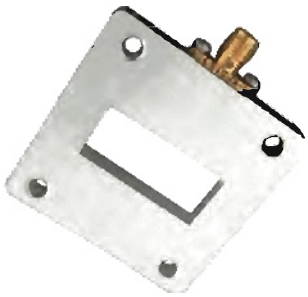


Waveguide Probe Coupler

ELECTRICAL CHARACTERISTICS:

Part No.	WG Type EIA	Freq Range (GHz)	Optional Coupling (dB)	Connector	VSWR (Main Line)	Flange	Material
SH-40WTC...N	WR229	3.22-4.90	30-60	N Female	≤1.05	FDP	Al
SH-48WTC...N	WR187	3.94-5.99	30-60	N Female	≤1.05	FDP	Al
SH-58WTC...N	WR159	4.64-7.05	30-60	N Female	≤1.05	FDP	Al
SH-70WTC...N	WR137	5.38-8.17	30-60	N Female	≤1.05	FDP	Al
SH-84WTC...N	WR112	6.57-9.99	30-60	N Female	≤1.05	FBP	Cu
SH-100WTC...N	WR90	8.20-12.40	30-60	N Female	≤1.05	FBP	Cu
SH-120WTC...N	WR75	9.84-15.0	30-60	N Female	≤1.05	FBP	Cu
SH-140WTC...S	WR62	11.9-18.0	30-60	SMA Female	≤1.05	FBP	Cu
SH-180WTC...S	WR51	14.5-22.0	30-60	SMA Female	≤1.05	FBP	Cu
SH-220WTC...K	WR42	17.6-26.7	30-60	2.92 Female	≤1.05	FBP	Cu
SH-260WTC...K	WR34	21.7-33.0	30-60	2.92 Female	≤1.05	FBP	Cu
SH-320WTC...K	WR28	26.5-40.0	30-60	2.92 Female	≤1.05	FBP	Cu

Waveguide Coupler



Circular Waveguide Probe Coupler

ELECTRICAL CHARACTERISTICS:

Part No.	Freq Range (GHz)	VSWR	Coupling (dB)	Inner Diameter (mm)	Connector	Material	Finish
SH-100CWTC30N	2.0~4.0	≤1.1	30	100	N Female	Al	Chromate Conversion
SH-61.04CWTC30N	3.3~3.8	≤1.1	30	61.04	N Female	Al	Chromate Conversion
SH-5199CWTC30N	3.89-5.33	≤1.1	30	51.99	N Female	Al	Chromate Conversion
SH-37CWTC30N	4.5~6.5	≤1.1	30	37	N Female	Al	Chromate Conversion
SH-27.78CWTC30S	7.4~9.0	≤1.1	30	27.78	SMA Female	Al	Chromate Conversion
SH-23.825CWTC30S	9.1~10.0	≤1.1	30	23.825	SMA Female	Al	Chromate Conversion
SH-20.244CWTC30S	8.5~10.5	≤1.1	30	20.244	SMA Female	Al	Chromate Conversion
SH-14CWTC30S	15.0~17.0	≤1.1	30	14	SMA Female	Cu	Silver Plating
SH-1125CWTC30S	18.2~24.9	≤1.1	30	11.25	SMA Female	Cu	Silver Plating
SH-11CWTC30S	17.7-21.2	≤1.1	30	11	SMA Female	Cu	Silver Plating
SH-7.137CWTC30S	27.5~31	≤1.1	30	7.137	SMA Female	Cu	Silver Plating

Waveguide Coupler

Waveguide Single Channel Rotary Joint

Model	Type	Product Image	VSWR WOW	IL WOW (dB)	Life Time (20 RPM)
I	I Type		≤0.05	≤0.05	3x10^6 Revolutions
L	L Type		≤0.05	≤0.05	3x10^6 Revolutions
U	U Type		≤0.05	≤0.05	3x10^6 Revolutions