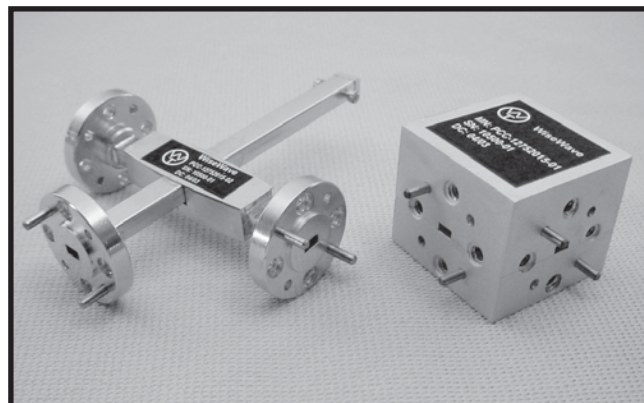


FEATURES

- ❖ Waveguide or split block configurations
- ❖ Light weight
- ❖ High performance
- ❖ Low insertion loss
- ❖ Low cost

APPLICATIONS

- ❖ Test benches
- ❖ Subsystems
- ❖ Power sampling



PCC Series

DESCRIPTION

PCC series crossguide directional couplers are offered for the frequency range of 18 to 110 GHz in seven waveguide bands. The standard coupling level is 20 dB with moderate operation bandwidth and directivity. The couplers are typically used for power sampling or frequency monitoring with minimum signal loss on the main transmitting path. The crossguide couplers perform similar system functions while delivering much shorter insertion length and lower insertion loss compared to their counterpart, multi-hole directional couplers. Because of its unique features, these directional couplers are ideal candidates for system integration. The crossguide couplers are offered in two physical configurations, waveguide and split block.

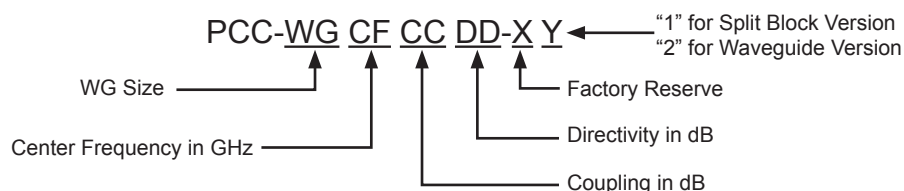
SPECIFICATIONS

Waveguide Band	K	KA	Q	U	V	E	W
Frequency Range (GHz)	18 to 26.5	26.5 to 40	33.0 to 50	40 to 60	50 to 75	60 to 90	75 to 110
Waveguide Size	WR-42	WR-28	WR-22	WR-19	WR-15	WR-12	WR-10
Bandwidth (GHz, Typical)	6	8	10	12	15	18	20
Coupling Level (dB @ Fo, Typical)	15 to 30	15 to 30	15 to 30	15 to 30	15 to 30	15 to 30	15 to 30
Coupling Flatness (dB, Maximum)	± 1.5	± 1.5	± 1.6	± 1.6	± 1.6	± 1.8	± 1.8
Insertion Loss (dB, Maximum) ¹	0.5	0.5	0.7	0.7	0.8	1.0	1.0
Directivity (dB, Typical)	16	16	16	15	15	15	15
Main Line VSWR (Maximum)	1.2:1	1.2:1	1.2:1	1.2:1	1.2:1	1.25:1	1.25:1
Secondary Line VSWR (Maximum)	1.2:1	1.2:1	1.2:1	1.2:1	1.2:1	1.25:1	1.3:1
Outline for Split Block Version	WT-E-7	WT-E-7	WT-E-7	WT-E-7	WT-E-7	WT-E-7	WT-E-7
Outline for Waveguide Version	WT-E-8	WT-E-8	WT-E-8	WT-E-8	WT-E-8	WT-E-8	WT-E-8

Note: 1. Insertion loss is defined as the power loss in addition to the coupling loss. Contact factory for other waveguide size or coupling level needs.

HOW TO ORDER

Specify Model Number



Example: To order a center frequency 94 GHz crossguide coupler with 20 dB coupling level, 15 dB minimum directivity and WR-10 waveguide interface and split block version, specify PCC-10942015-X1.

WT-E-1

WAVEGUIDE W/FLANGE
4 PLS

WiseWave
MIN: XXXXXX
S/N: XXXXXX
D/C: XXXXXX

BAND	L	H	A	H0
K	1.20	1.04	1.00	0.44
Ka	1.00	0.88	0.85	0.38
Q & U	1.40	1.27	1.16	0.57
V,E & W	1.00	0.88	0.80	0.38

4-40 x 0.25 DP
4 PLS

Dimensions are in inches

WT-E-2

WAVEGUIDE W/FLANGE
2 PLS

BAND	K	Ka	Q & U	V,E & W
L	Vary per Specifications			

Dimensions are in inches

WT-E-3

High Pass

WAVEGUIDE W/FLANGE
2 PLS

BAND	K	Ka	Q & U	V,E & W
L	3.00	2.60	2.20	1.80

Dimensions are in inches

WT-E-4

Low Pass

WAVEGUIDE W/FLANGE
2 PLS

BAND	K	Ka	Q & U	V,E & W
L	3.00	2.50	2.00	1.60

Dimensions are in inches

WT-E-5

COAXIAL CONNECTOR

WR-15 WAVEGUIDE
W/UG385/U FLANGE

BAND	X	WR-75	WR-62	K/WR-34	Ka,Q & U	V
L	1.40	1.25	1.20	0.85	1.00	1.05
L0	1.00	0.90	0.95	0.60	0.75	0.80

NOTES:
BOTH MALE AND FEMALE COAXIAL CONNECTORS ARE AVAILABLE FOR ALL BANDS

Dimensions are in inches

WT-E-6

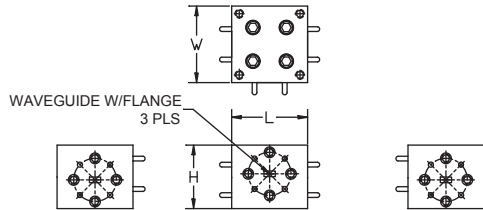
WAVEGUIDE W/FLANGE

PTW	BIGGER WAVEGUIDE BAND	K	Ka	Q	U	V	E
L		2.00	2.00	1.50	1.50	1.00	1.00

PRC	RECTANGULAR WG BAND	K	Ka	Q	U	V	E	W
L		2.00	1.50	1.30	1.30	1.10	1.10	1.10

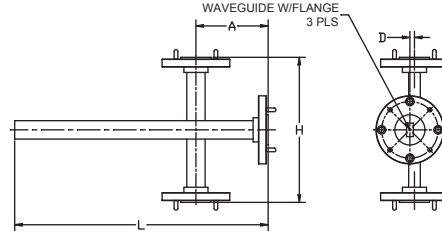
Dimensions are in inches

The flange pattern shown is for illustration purpose. Refer to Technical Reference Section for flange pattern details. The outline drawings shown are standard versions. Contact factory for your specific package requirements.

WT-E-7


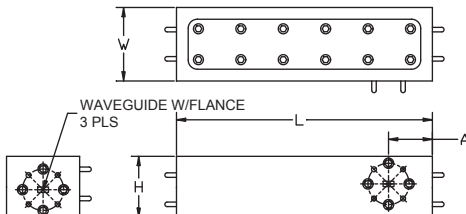
BAND	K	Ka	Q	U	V	E	W
L	1.20	1.00	1.30	1.30	1.00	1.00	1.00
W	1.20	1.00	1.30	1.30	1.00	1.00	1.00
H	1.06	0.90	1.25	1.23	0.83	0.82	0.81

Dimensions are in inches

WT-E-8


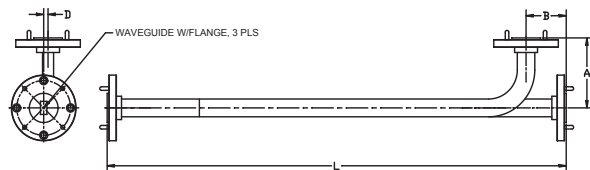
Band	X	WR-75	Ku	K	Ka	Q	U	V	E	W
L	5.46	4.80	4.66	4.24	3.46	3.26	2.66	2.56	2.56	2.46
A	1.73	1.65	1.58	1.52	1.23	1.23	0.98	0.98	0.98	0.98
D	0.45	0.43	0.35	0.21	0.18	0.15	0.13	0.11	0.10	0.09
H	3.46	3.30	3.16	3.04	2.46	2.46	1.96	1.96	1.96	1.96

Dimensions are in inches

WT-E-9


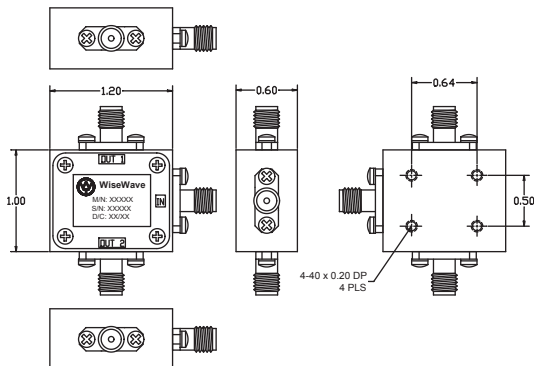
BAND	Q	U	V	E	W
L	5.50	5.50	3.50	3.50	3.50
W	1.30	1.30	1.00	1.00	1.00
H	1.25	1.23	0.83	0.82	0.81
A	0.80	0.80	0.60	0.60	0.60

Dimensions are in inches

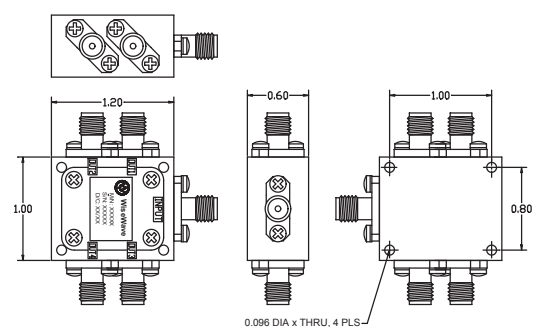
WT-E-10


Band	X	WR-75	Ku	K	Ka	Q	U	V	E	W
L	19.50	16.50	13.00	11.00	10.00	8.00	6.50	6.00	5.50	5.00
A	1.90	1.85	1.75	1.50	1.40	1.20	1.20	1.00	1.00	1.00
B	0.95	0.95	0.90	0.70	0.60	0.70	0.70	0.60	0.60	0.60
D	0.45	0.43	0.35	0.21	0.18	0.15	0.13	0.11	0.10	0.09

Dimensions are in inches

WT-E-11


Dimensions are in inches

WT-E-12


Dimensions are in inches

The flange pattern shown is for illustration purpose. Refer to Technical Reference Section for flange pattern details. The outline drawings shown are standard versions. Contact factory for your specific package requirements.