

3dB Hybrid Couplers (Coaxial)

FEATURES:

- ❖ Low VSWR
- ❖ High Directivity
- ❖ High Power capability
- ❖ Low Cost

APPLICATIONS:

- ❖ 3G Communication system
- ❖ Radar
- ❖ Indoor distribution system



CHC Series

DESCRIPTION:

Cernex CHC Series 3dB Hybrid couplers are offered for the frequency range of 0.5 to 40 GHz. The standard coupling levels are 3, 6, 10, 30 and 40 dB with full waveguide operational bandwidth. The high directivity is achieved via low VSWR built-in termination. The couplers are typically used for power sampling or frequency monitoring with minimum signal loss on the main transmitting path. The multi-hole couplers are especially used in the test setups where power reflection measurement is required.

SPECIFICATIONS:

90°

Model Number	Frequency Range (MHz)	Insertion Loss (dB) Max.	Coupling (dB)	Isolation (dB) Min.	Power Avg (W) Max.	VSWR Max.	Connector Type	Case Type LXWXH (mm)
CHCU2U4U322T90	200-400	0.3	3±1.0	22	100	1.2:1	SMA-F	*
CHCU2U5U322T90	250-500	0.3	3±1.0	22	100	1.2:1	SMA-F	*
CHCU3U7U322T90	350-700	0.3	3±1.0	22	100	1.2:1	SMA-F	*
CHCU3U5U322T90	380-520	0.3	3±1.0	22	100	1.25:1	N-F	*
CHCU4U8U322T90	400-800	0.3	3±1.0	22	100	1.2:1	SMA-F	*
CHCU4U9U322T90	450-900	0.3	3±1.0	22	100	1.2:1	SMA-F	*
CHCU501U322T90	500-1000	0.3	3±1.0	22	100	1.2:1	SMA-F	*
CHCU5030122T90▲	500-3000	1.1	3±1.0	22	100	1.2:1	SMA	6.4 X 1.2 X0.5
CHCU5040118K90	500-4000	1.2	3±1.0	18	20	1.35:1	SMA-F	125x30x10
CHCU5070119K90	500-7000	1.3	3±1.0	19	20	1.30:1	SMA-F	207x32x13
CHCU5090119T90▲	500-9000	1.5	3±1.0	19	20	1.4:1	SMA	8.5 X 1.4 X0.5
CHCU701U322T90	750-1500	0.3	3±1.0	22	100	1.2:1	SMA-F	*
CHCU801U322T90	800-1000	0.3	3±1.0	22	100	1.25:1	N-F	*
CHCU802U322T90	800-2500	0.3	3±1.0	22	100	1.3:1	N-F	*
CHCU8020420T90	800-2700	0.4	3±1.0	20	200	1.25:1	N-F	115x30x16
CHCU803U820T90	800-3000	0.8	3±1.0	20	100	1.3:1	SMA-F	*
CHC0102U322T90	1000-2000	0.3	3±1.0	22	100	1.2:1	SMA-F	*
CHC0104U820T90	1000-4000	0.8	3±1.0	20	100	1.3:1	SMA-F	*
CHC01041017K90	1000-4000	1.0	3±1.0	17	-	1.30	SMA	-



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CHC01120118T90▲	1000-12400	1.4	±1.0	18	30	1.4:1	SMA-F	78.5 x 25 x 11
CHC01120120K90	1000-12400	1.4	3±1.0	20	20	1.30:1	SMA-F	118x32x13
CHC01180217K90	1000-18000	2.0	3±1.0	17	20	1.35:1	SMA-F	119x32x13
CHC01180197T90▲	1000-18000	1.9	3±1.0	17	20	1.35	SMA	4.65 x 1.25 x 0.5
CHC01180212K90	1400-18000	2.7	3±1.0	12	20	1.70:1	SMA-F	-
CHC01260312K90	1400-26500	3.0	3±1.0	12	20	1.80:1	SMA-F	-
CHC01320312K90	1400-32000	3.5	3±1.0	12	20	1.90:1	K	-
CHC0103U322T90	1500-3000	0.3	3±1.0	22	50	1.2:1	SMA-F	39.8x13x11
CHC0102U322T90	1700-2500	0.3	3±1.0	22	120	1.25:1	N-F	63x40x23
CHC01180315K90	1700-18000	3.20	3±1.0	15	20	1.75	SMA-F	-
CHC01260314K90	1700-26500	3.40	3±1.0	14	20	1.85	SMA-F	-
CHC01400412K90	1700-40000	4.35	3±1.0	12	20	1.85	K	-
CHC0204U322T90	2000-4000	0.3	3±1.0	22	100	1.2:1	SMA-F	*
CHC02080118T90	2000-8000	1.0	3±1.0	18	100	1.35:1	SMA-F	*
CHC0208U619K90	2000-8000	0.65	3±1.0	19	20	1.25:1	SMA-F	72x28x10
CHC02120118T90▲	2000-12400	1.2	3±1.0	18	20	1.3	SMA	2.85 X 1.1 X 0.5
CHC02180117T90▲	2000-18000	1.3	3±1.0	17	20	1.35	SMA	2.85 X 1.1 X 0.5
CHC02180115T90	2000-18000	1.8	3±1.0	15	100	1.6:1	SMA-F	*
CHC02180117K90	2000-18000	1.4	3±1.0	17	20	1.35:1	SMA-F	72x28x13
CHC02260114T90▲	2000-26500	1.7	3±1.0	14	20	1.6	SMA	2.85X1.1x0.5
CHC0205U322T90	2600-5200	0.3	3±1.0	22	100	1.2:1	SMA-F	*
CHC0408U318T90	4000-8000	0.35	3±1.0	18	100	1.35:1	SMA-F	*
CHC04180115T90	4000-18000	1.6	3±1.0	15	100	1.6:1	SMA-F	*
CHC04120120T90▲	4000-12400	1	3±1.0	20	20	1.35	SMA	2.4 x 1.2 0.5
CHC04180117T90▲	4000-18000	1.6	3±1.0	17	20	1.4	SMA	2.4 x 1.2 0.5
CHC04260115T90▲	4000-26500	1.8	3±1.0	15	20	1.6	SMA	2.4 x 1.2 0.5
CHC06180115T90	6000-18000	1.4	3±1.0	15	30	1.6:1	SMA-F	.72 x 0.86 x 0.5
CHC06200114K90	6000-20000	1.0	3±1.0	14	20	1.45:1	SMA-F	32x22x11
CHC06260115T90▲	6000-26500	1.5	3±1.0	15	20	1.6:1	SMA	1.72 x 0.86 x 0.5
CHC06400213T90▲	6000-40000	2	3±1.0	13	20	1.7:1	SMA	1.72 x 0.86 x 0.5
CHC10260115K90	10000-26500	1.3	3±1.0	15	20	1.61:1	2.92mm-F	26X16X13
CHC10260116T90▲	10000-26500	1.3	3±1.0	16	20	1.6:1	SMA	1.72 x 0.86 x 0.5
CHC10400213T90▲	10000-40000	2	3±1.0	13	20	1.7:1	K	1.72 x 0.86 x 0.5
CHC10400212K90	10000-40000	2.0	3±1.0	12	20	1.80:1	2.92mm-F	26x16x13
CHC18400214T90▲	18000-40000	2.0	3±1.0	14	20	1.7:1	K	1.72 x 0.86 0.5

OTHER FREQUENCIES AND DIVIDERS ARE ALSO AVAILABLE



3dB Hybrid Couplers (Coaxial)

90° DROP-IN

Model Number	Frequency Range (MHz)	Insertion Loss (dB) Max.	Coupling (dB)	Isolation (dB) Min.	Power Avg (W) Max.	VSWR Max.	Description	Case Type LXWXH (mm)
CHCV3V8U616T90-D	30-88	0.60	3±1.0	16	100	1:30:1	2-way	*
CHCV5U1U323T90-D	50-110	0.30	3±1.0	23	100	1:20:1	2-way	*
CHCU1U2U318T90-D	100-200	0.30	3±1.0	18	100	1.20:1	2-way	*
CHCU1U2U320T90-D	100-200	0.30	3±1.0	20	100	1.20:1	2-way	*
CHCU1U1U320T90-D	108-174	0.30	3±1.0	20	100	1.20:1	2-way	*
CHCU1U2U320T90-D	190-270	0.30	3±1.0	20	100	1.20:1	2-way	*
CHCU2U4U320T90-D	200-400	0.30	3±1.0	20	100	1.20:1	2-way	*
CHCU2U5U320T90-D	250-500	0.30	3±1.0	20	100	1.20:1	2-way	*
CHCU2U4U320T90-D	225-400	0.30	3±1.0	20	100	1.20:1	2-way	*
CHCU2U5U320T90-D	225-512	0.30	3±1.0	20	100	1.20:1	2-way	*
CHCU3U5U320T90-D	380-512	0.30	3±1.0	20	100	1.20:1	2-way	*
CHCU4U8U320T90-D	400-800	0.30	3±1.0	20	100	1.20:1	2-way	*
CHCU501U320T90-D	500-1000	0.3	3±1.0	20	100	1.2:1	2-way	*
CHCU701U318T90-D	750-1500	0.30	3±1.0	18	100	1.25:1	2-way	*
CHCU901U318T90-D	950-1225	0.30	3±1.0	18	100	1.25:1	2-way	*
CHCU901U620T90-D	965-1565	0.60	3±1.0	20	100	1.20:1	4-way	*
CHC0102U318T90-D	1000-2000	0.3	3±1.0	18	100	1.25:1	2-way	*
CHC0101U320T90-D	1200-1400	0.30	3±1.0	20	100	1.25:1	2-way	*
CHC0103U318T90-D	1500-3000	0.35	3±1.0	18	100	1.3:1	2-way	*
CHC0103U317T90-D	1700-3400	0.35	3±1.0	17	100	1.3:1	2-way	*
CHC0204U317T90-D	2000-4000	0.35	3±1.0	17	100	1.3:1	2-way	*
CHC0202U317T90-D	2200-2900	0.35	3±1.0	17	100	1.3:1	2-way	*
CHC0303U317T90-D	3100-3400	0.35	3±1.0	17	100	1.3:1	2-way	*

90° Cavity

Model Number	Frequency Range (MHz)	Insertion Loss (dB) Max.	Coupling (dB)	Isolation (dB) Min.	Power Avg (W) Max.	VSWR Max.	Connector Type	Case Type LXWXH (mm)
CHCU3U5U225T90	380-520	0.2	3±1.0	25	100	1.2:1	N-F	*
CHCU801U225T90	800-1000	0.2	3±1.0	25	100	1.2:1	N-F	*
CHCU802U222T90	800-2500	0.2	3±1.0	22	100	1.3:1	N-F	*
CHC0102U222T90	1700-2500	0.2	3±1.0	22	100	1.25:1	N-F	*
CHCU3U5U225T90	380-520	0.2	3±1.0	25	100	1.2:1	7/16 type	*



3dB Hybrid Couplers (Coaxial)

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CHCU801U225T90	800-1000	0.2	3±1.0	25	100	1.2:1	7/16 type	*
CHCU802U222T90	800-2500	0.2	3±1.0	22	100	1.3:1	7/16 type	*
CHC0102U222T90	1700-2500	0.2	3±1.0	22	100	1.25:1	7/16 type	*

180°

Model Number	Frequency Range (MHz)	Insertion Loss (dB) Max.	Coupling (dB)	Isolation (dB) Min.	Power Avg (W) Max.	VSWR Max.	Connector Type	Case Type LXWXH (mm)
CHCU5040214K180	500-4000	2.0	3±1.0	14	20	1.35	SMA-F	-
CHCU5070216K180	500-7000	2.8	3±1.0	16	20	1.40	K	-
CHCU701U622T180	750-1500	0.6	3±1.0	22	10	1.40:1	SMA-F	*
CHCU7060220T180▲	750-6000	2	3±1.0	20	20	1.4	SMA-F	6.65x1.65x0.5
CHCU7120320T180▲	750-12400	3	3±1.0	20	20	1.6	SMA-F	6.65x1.65x0.5
CHCU7180420T180▲	750-18000	4.6	3±1.0	20	20	1.6	SMA-F	6.65x1.65x0.5
CHC0102U622T180	1000-2000	0.6	3±1.0	22	10	1.40:1	SMA-F	*
CHC01120217K180	1000-12400	2.10	3±1.0	17	20	1.60:1	SMA-F	140x34x10
CHC01120217T180▲	1000-12400	2.1	3±1.0	17	20	1.6	SMA	5.9x 1.75 x 0.5
CHC01180215T180▲	1000-18000	2.9	3±1.0	15	20	1.7	SMA	5.9 x 1.75 x0.5
CHC01260315K180	1000-26500	3.0-3.6	3±1.0	15	20	1.95	SMA	-
CHC01180215K180	1000-18000	2.9	3±1.0	15	20	1.70:1	SMA-F	140x34x10
CHC0204U620T180	2000-4000	0.6	3±1.0	20	50	1.60:1	SMA-F	*
CHC02080118K180	2000-8000	1.1	3±1.0	18	20	1.40:1	SMA-F	83x34x10
CHC02120117T180▲	2000-12400	1.8	3±1.0	17	20	1.5	SMA	3.1 X1.35 X0.5
CHC02180216T180▲	2000-18000	2	3±1.0	16	20	1.6	SMA	3.1 X1.35 X0.5
CHC02180215K180	2000-18000	2.0	3±1.0	15	20	1.70:1	SMA-F	77x34x10
CHC02180214T180	2000-18000	2.5	3±1.0	14	10	1.80:1	SMA-F	*
CHC0412U917K180	4000-12400	0.9	3±1.0	17	20	1.60:1	SMA-F	48x32x10
CHC0412U918T180▲	4000-12400	0.9	3±1.0	18	20	1.40:1	SMA	3.1 x 1.35 x0.5
CHC04180115T180▲	4000-18000	1.8	3±1.0	15	10	1.80:1	SMA-F	*
CHC06120118T180▲	6000-12400	1.4	3±1.0	18	20	1.4	SMA	2.7 x 1.4 X0.5
CHC06180115T180▲	6000-18000	1.5	3±1.0	15	20	1.6	SMA	1.6 x 1.25 x0.5
CHC06200115K180	6000-20000	1.2	3±1.0	15	20	1.70:1	SMA-F	38x32x10
CHC06260114K180	6000-26500	1.6	3±1.0	14	20	1.70:1	SMA-F	40x40x10
CHC06260114T180	6000-26500	1.6	3±1.0	14	50	1.80:1	SMA-F	32x22x11
CHC06400313T180▲	6000-40000	3.5	3±1.0	13	20	1.8	SMA	1.6 x 1.25 x0.5

3dB Hybrid Couplers (Coaxial)

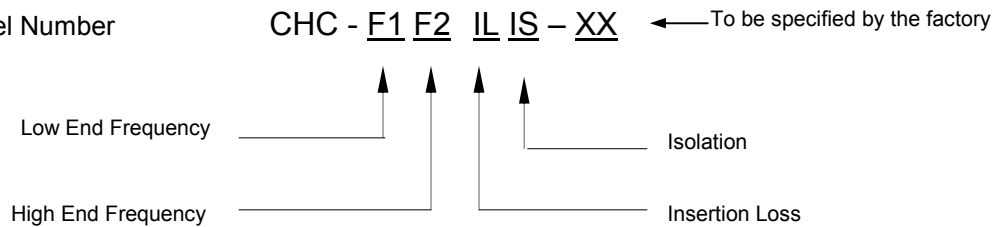
Model Number	Frequency Range (MHz)	Insertion Loss (dB) Max.	Coupling (dB)	Isolation (dB) Min.	Power Avg (W) Max.	VSWR Max.	Connector Type	Case Type LXWXH (mm)
CHC10400112K180	10000-40000	1.70	3±1.0	12	20	1.80	K	-
CHC10400314T180▲	10000-40000	3.5	3±1.0	14	20	1.8	SMA	1.6x 1.25 x0.5
CHC18400314T180▲	18000-40000	3.5	3±1.0	14	20	1.8	SMA	1.6x 1.25 x0.5
CHC26400314T180▲	26500-40000	3.5	3±1.0	14	20	1.8	K	1.6x 1.25 x0.5

OTHER FREQUENCIES AND DIVIDERS ARE ALSO AVAILABLE

▲ Removable Connector

HOW TO ORDER:

Specify Model Number



Example: To order a 3dB Hybrid coupler with F1 at 1.8GHz and F2 at 1.9 GHz with Insertion Loss of 3.2dB and a Power of 100W, specify CHC-010132100-XX.

CERNEX RESERVE THE RIGHT TO CHANGE THE SPECIFICATIONS WITHOUT NOTICE