

3dB Hybrid Couplers

FEATURES:

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

APPLICATIONS:

- ❖ Communication systems
- ❖ Radar
- ❖ Indoor distribution systems



CHC Series

DESCRIPTION:

Cernexwave's CHC Series 3dB Hybrid couplers are offered for the frequency range of 0.2 to 40 GHz at 90° and 180° phase shifts. They achieve high isolation and low VSWR. The couplers are typically used for power sampling, frequency monitoring, splitting or combining with minimum signal loss.

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 Size LXWXH
CHCU2U4U322T90	200-400	0.3	3±1.0	22	100	1.2:1	SMA-F	*
CHCU2060119T90	200-6000	1.3	3±1.0	19	*	1.3:1	SMA-F	*
CHCU2U5U322T90	250-500	0.3	3±1.0	22	100	1.2:1	SMA-F	*
CHCU2U4U223T90-02	225-400	0.25	3±1.0	23	50	1.2:1	SMA-F	1.65x1.62x0.5in
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	*
CHCU4U9U320T90-01	450-900	0.3	3±1.0	20	50	1.20	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	6.4x1.2x0.5in
CHCU5040118K90	500-4000	1.2	3±1.0	18	20	1.35:1	SMA-F	125x30x10mm
CHCU5070119K90	500-7000	1.3	3±1.0	19	20	1.30:1	SMA-F	207x32x13mm
CHCU5070120K90	500-7000	1.3	3±1.0	20	50	1.50	SMA-F	141x27x11mm
CHCU5090119T90▲	500-9000	1.5	3±1.0	19	20	1.4:1	SMA	8.5x1.4x0.5in
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	*



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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	115x30x16mm
CHCU803U820T90	800-3000	0.8	3±1.0	20	100	1.3:1	SMA-F	*
CHCDU8030516T90	800-3100	0.5	3±1.0	16	200	1.30	*	56x20.3x5.2mm
CHC0102U322T90	1000-2000	0.3	3±1.0	22	100	1.2:1	SMA-F	*
CHC0104U520T90-01	1000-4000	0.5	3±1.0	20	50	1.25	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	*
CHC01080118T90	1000-8000	1.4	3±1.0	18	*	1.40	SMA-F	101x36x11mm
CHC01120118T90▲	1000-12400	1.4	3±1.0	18	30	1.4:1	SMA-F	78.5x25x11mm
CHC01120120K90	1000-12400	1.4	3±1.0	20	20	1.30:1	SMA-F	118x32x13mm
CHC01180217K90	1000-18000	2.0	3±1.0	17	20	1.35:1	SMA-F	119x32x13mm
CHC01180197T90▲	1000-18000	1.9	3±1.0	17	20	1.35	SMA	4.65x1.25x0.5in
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	*
CHC0102U322T90	1500-2500	0.3	3±1.0	22	100	1.20	SMA-F	*
CHC0103U322T90	1500-3000	0.3	3±1.0	22	50	1.2:1	SMA-F	39.8x13x11mm
CHC0102U322T90	1700-2500	0.3	3±1.0	22	120	1.25:1	N-F	63x40x23mm
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	*
CHC01360412K90	1700-36000	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	72x28x10mm
CHC02120118T90▲	2000-12400	1.2	3±1.0	18	20	1.3	SMA	2.85x1.1x0.5in
CHC02180117T90▲	2000-18000	1.3	3±1.0	17	20	1.35	SMA	2.85x1.1x0.5in
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	72x28x13mm
CHC02260114T90▲	2000-26500	1.7	3±1.0	14	20	1.6	SMA	2.85x1.1x0.5in
CHC0202U220T90	2350-2550	0.2	3±1.0	20	600	1.20	N-F	*
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 1.2x0.5in



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CHC04120116T90	4000-12400	1.0	3±1.0	16	20	1.4	SMA-F	36x25x11mm
CHC04120118T90	4000-12400	1.0	3±1.0	18	50	1.35	SMA-F	60x25x11mm
CHC04180117T90▲	4000-18000	1.6	3±1.0	17	20	1.4	SMA	2.4x1.2x0.5in
CHC04260115T90▲	4000-26500	1.8	3±1.0	15	20	1.6	SMA	2.4x1.2x0.5in
CHC06180115T90	6000-18000	1.4	3±1.0	15	30	1.6:1	SMA-F	0.72x0.86x0.5in
CHC06180115T90-01	6000-18000	1.4	3±1.0	15	30	1.6	SMA-F	*
CHC06200114K90	6000-20000	1.0	3±1.0	14	20	1.45:1	SMA-F	32x22x11mm
CHC06260115T90▲	6000-26500	1.5	3±1.0	15	20	1.6:1	SMA	1.72x0.86x0.5in
CHC06400213T90▲	6000-40000	2	3±1.0	13	20	1.7:1	SMA	1.72x0.86x0.5in
CHC10260115K90	10000-26500	1.3	3±1.0	15	20	1.61:1	2.92mm-F	26x16x13mm
CHC10260116T90▲	10000-26500	1.3	3±1.0	16	20	1.6:1	SMA	1.72x0.86x0.5in
CHC10400212T90	10000-40000	2.0	3±1.0	12	20	1.8	2.92mm-F	44x22x12.7mm
CHC10400213T90▲	10000-40000	2	3±1.0	13	20	1.7:1	K	1.72x0.86x0.5in
CHC10400212K90	10000-40000	2.0	3±1.0	12	20	1.80:1	2.92mm-F	26x16x13mm
CHC18260112T90	18000-26500	1.6	3±1.0	12	10	1.8	SMA-F	43.7x15x13mm
CHC18260116T90	18000-26500	1.5	3±1.0	16	1	1.50	2.92mm-F	25.4x15x11mm
CHC18400214T90▲	18000-40000	2.0	3±1.0	14	20	1.7:1	K	1.72x0.86x0.5in
CHC26400214T90	26500-40000	2.0	3±1.0	14	20	1.7	K-F	44x22x12.7mm
CHC27290215T90	27000-29000	2.0	3±1.0	15	30	1.8	K-F	25.4x16x11mm

OTHER FREQUENCIES AND DIVIDERS ARE ALSO AVAILABLE

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
CHCV3V8U616T90D	30-88	0.60	3±1.0	16	100	1:301	2-way	*
CHCV5U1U323T90D	50-110	0.30	3±1.0	23	100	1:20:1	2-way	*
CHCU1U2U318T90D	100-200	0.30	3±1.0	18	100	1.20:1	2-way	*
CHCU1U2U320T90D	100-200	0.30	3±1.0	20	100	1.20:1	2-way	*
CHCU1U1U320T90D	108-174	0.30	3±1.0	20	100	1.20:1	2-way	*
CHCU1U2U320T90D	190-270	0.30	3±1.0	20	100	1.20:1	2-way	*
CHCU2U4U320T90D	200-400	0.30	3±1.0	20	100	1.20:1	2-way	*
CHCU2U5U320T90D	250-500	0.30	3±1.0	20	100	1.20:1	2-way	*



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CHCU2U4U320T90D	225-400	0.30	3±1.0	20	100	1.20:1	2-way	*
CHCU2U5U320T90D	225-512	0.30	3±1.0	20	100	1.20:1	2-way	*
CHCU3U5U320T90D	380-512	0.30	3±1.0	20	100	1.20:1	2-way	*
CHCU4U8U320T90D	400-800	0.30	3±1.0	20	100	1.20:1	2-way	*
CHCU501U320T90D	500-1000	0.3	3±1.0	20	100	1.2:1	2-way	*
CHCU701U318T90D	750-1500	0.30	3±1.0	18	100	1.25:1	2-way	*
CHCU901U318T90D	950-1225	0.30	3±1.0	18	100	1.25:1	2-way	*
CHCU901U620T90D	965-1565	0.60	3±1.0	20	100	1.20:1	4-way	*
CHC0102U318T90D	1000-2000	0.3	3±1.0	18	100	1.25:1	2-way	*
CHC0101U320T90D	1200-1400	0.30	3±1.0	20	100	1.25:1	2-way	*
CHC0103U318T90D	1500-3000	0.35	3±1.0	18	100	1.3:1	2-way	*
CHC0103U317T90D	1700-3400	0.35	3±1.0	17	100	1.3:1	2-way	*
CHC0204U317T90D	2000-4000	0.35	3±1.0	17	100	1.3:1	2-way	*
CHC0202U317T90D	2200-2900	0.35	3±1.0	17	100	1.3:1	2-way	*
CHC0303U317T90D	3100-3400	0.35	3±1.0	17	100	1.3:1	2-way	*
CHC06180116T90-02	6000-18000	1.0	3±1.0	16	50	1.4:1	*	*

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
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	*
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°



3dB Hybrid Couplers

Model Number	Frequency Range (MHz)	Insertion Loss (dB) Max.	Coupling (dB)	Isolation (dB) Min.	Power Avg (W) Max.	VSWR Max.	Connecto Type	Case Type LXWXH
CHCU5040214K180	500-4000	2.0	3±1.0	14	20	1.35	SMA-F	*
CHCU5040214T180	500-4000	2.0	3±1.0	14	20	1.35	SMA-F	180x40x11mm
CHCU5040218K180	500-4000	2.0	3±1.0	18	50	1.65	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	SMA-F	*
CHCU7060220T180▲	750-6000	2	3±1.0	20	20	1.4	SMA-F	6.7x1.65x0.5in
CHCU7120320T180▲	750-12400	3	3±1.0	20	20	1.6	SMA-F	6.7x1.65x0.5in
CHCU7180420T180▲	750-18000	4.6	3±1.0	20	20	1.6	SMA-F	6.7x1.65x0.5in
CHC0102U622T180	1000-2000	0.6	3±1.0	22	10	1.40	SMA-F	*
CHC01120217K180	1000-12400	2.10	3±1.0	17	20	1.60	SMA-F	140x34x10mm
CHC01120217T180▲	1000-12400	2.1	3±1.0	17	20	1.6	SMA	5.9x1.75x0.5in
CHC01180215T180▲	1000-18000	2.9	3±1.0	15	20	1.7	SMA	5.9x1.75x0.5in
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	SMA-F	140x34x10mm
CHC0102U520T180-01	1600-2200	0.5	3±1.0	20	20	1.25	SMA-F	*
CHC0204U620T180	2000-4000	0.6	3±1.0	20	50	1.60	SMA-F	*
CHC0204U622T180	2000-4000	0.6	3±1.0	22	50	1.6	SMA-F	82x36x11mm
CHC02080118K180	2000-8000	1.1	3±1.0	18	20	1.40	SMA-F	83x34x10mm
CHC02080118K180-01	2000-8000	1.2	3±1.0	18	20	1.40	SMA-F	82x36x11mm
CHC02120117T180▲	2000-12400	1.8	3±1.0	17	20	1.5	SMA	3.1x1.35x0.5in
CHC02180216T180▲	2000-18000	2	3±1.0	16	20	1.6	SMA	3.1x1.35x0.5in
CHC02180215K180	2000-18000	2.0	3±1.0	15	20	1.70	SMA-F	77x34x10mm
CHC02180214T180	2000-18000	2.5	3±1.0	14	10	1.80	SMA-F	*
CHC04120115T180	4000-12400	1.5	3±1.0	15	20	1.7	SMA-F	57x36x11mm
CHC0412U917K180	4000-12400	0.9	3±1.0	17	20	1.60	SMA-F	48x32x10mm
CHC0412U918T180▲	4000-12400	0.9	3±1.0	18	20	1.40	SMA	3.1x1.35x0.5in
CHC04180115T180▲	4000-18000	1.8	3±1.0	15	10	1.80	SMA-F	*
CHC06120118T180▲	6000-12400	1.4	3±1.0	18	20	1.4	SMA	2.7x1.4x0.5in
CHC06180115T180▲	6000-18000	1.5	3±1.0	15	20	1.6	SMA	1.6x1.25x0.5in
CHC06200115K180	6000-20000	1.2	3±1.0	15	20	1.70	SMA-F	38x32x10mm
CHC06260114K180	6000-26500	1.6	3±1.0	14	20	1.70	SMA-F	40x40x10mm
CHC06260114T180	6000-26500	1.6	3±1.0	14	50	1.80	SMA-F	32x22x11mm
CHC06260115T180	6000-26500	1.8	3±1.0	15	20	1.7	SMA-F	40x41x12.7mm
CHC06400313T180▲	6000-40000	3.5	3±1.0	13	20	1.8	SMA	1.6x1.25x0.5in
CHC09100118T180	9500-10500	1.4	3±1.0	18	20	1.6	SMA-F	*



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CHC10260215T180	10000-26500	2.5	3±1.0	15	20	1.7	SMA-F	29.6x24x11mm
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	1.6x1.25x0.5in
CHC14150118T180	14400-15400	1.5	3±1.0	18	20	1.6	SMA-F	*
CHC18400314T180▲	18000-40000	3.5	3±1.0	14	20	1.8	SMA	1.6x1.25x0.5in
CHC18400215T180	18000-40000	2.9	3±1.0	15	20	1.8	K-F	40x41x12.7mm
CHC26400314T180▲	26500-40000	3.5	3±1.0	14	20	1.8	K	1.6x1.25x0.5in
CHC26400315T180	26500-40000	3.0	3±1.0	15	20	1.7	K-F	40x41x12.7mm

OTHER FREQUENCIES AND DIVIDERS ARE ALSO AVAILABLE

▲ Removable Connector

CERNEXWAVE RESERVE THE RIGHT TO CHANGE THE SPECIFICATIONS WITHOUT NOTICE