

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) |
|--------------|-----------------------|--------------------------|---------------|---------------------|--------------------|-----------|----------------|----------------------|
| CHCU2U4U322T | 200-400 | 0.3 | 3±1.0 | 22 | 100 | 1.2:1 | SMA-F | * |
| CHCU2U5U322T | 250-500 | 0.3 | 3±1.0 | 22 | 100 | 1.2:1 | SMA-F | * |
| CHCU3U7U322T | 350-700 | 0.3 | 3±1.0 | 22 | 100 | 1.2:1 | SMA-F | * |
| CHCU3U5U322T | 380-520 | 0.3 | 3±1.0 | 22 | 100 | 1.25:1 | N-F | * |
| CHCU4U8U322T | 400-800 | 0.3 | 3±1.0 | 22 | 100 | 1.2:1 | SMA-F | * |
| CHCU4U9U322T | 450-900 | 0.3 | 3±1.0 | 22 | 100 | 1.2:1 | SMA-F | * |
| CHCU501U322T | 500-1000 | 0.3 | 3±1.0 | 22 | 100 | 1.2:1 | SMA-F | * |
| CHCU5040118K | 500-4000 | 1.2 | 3±1.0 | 18 | 20 | 1.35:1 | SMA-F | 125x30x10 |
| CHCU5070119K | 500-7000 | 1.3 | 3±1.0 | 19 | 20 | 1.30:1 | SMA-F | 207x32x13 |
| CHCU701U322T | 750-1500 | 0.3 | 3±1.0 | 22 | 100 | 1.2:1 | SMA-F | * |
| CHCU8U9U425S | 800-960 | 0.4 | 3±1.0 | 25 | 150 | 1.2:1 | N-F | 144x62x32 |
| CHCU801U322T | 800-1000 | 0.3 | 3±1.0 | 22 | 100 | 1.25:1 | N-F | * |
| CHCU8020323H | 800-2500 | 3.5 | 3±0.5 | 23 | 150 | 1.2:1 | N-F | * |
| CHCU802U322T | 800-2500 | 0.3 | 3±1.0 | 22 | 100 | 1.3:1 | N-F | * |
| CHCU803U820T | 800-3000 | 0.8 | 3±1.0 | 20 | 100 | 1.3:1 | SMA-F | * |
| CHCU8U80320S | 870-880 | 3.5 | 3±1.0 | 20 | 100 | 1.3:1 | SMA | 95x75x25 |
| CHCU9U90320S | 935-960 | | | | | | | |
| CHC0102U322T | 1000-2000 | 0.3 | 3±1.0 | 22 | 100 | 1.2:1 | SMA-F | * |
| CHC0104U820T | 1000-4000 | 0.8 | 3±1.0 | 20 | 100 | 1.3:1 | SMA-F | * |
| CHC01120120K | 1000-12400 | 1.4 | 3±1.0 | 20 | 20 | 1.30:1 | SMA-F | 118x32x13 |
| CHC01180217K | 1000-18000 | 2.0 | 3±1.0 | 17 | 20 | 1.35:1 | SMA-F | 119x32x13 |



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|--------------|-----------------------|--------------------------|---------------|---------------------|--------------------|-----------|----------------|----------------------|
| CHC0103U322T | 1500-3000 | 0.3 | 3±1.0 | 22 | 100 | 1.2:1 | SMA-F | * |
| CHC0102U322T | 1700-2500 | 0.3 | 3±1.0 | 22 | 120 | 1.25:1 | N-F | 63x40x23 |
| CHC01010320S | 1805-1880 | 3.5 | 3±1.0 | 20 | 100 | 1.3:1 | SMA | 95x56x33 |
| CHC01010323S | 1805-1880 | 3.2 | 3±1.0 | 23 | 250 | 1.15:1 | N-F | 84x62x32 |
| CHC01010325S | 1880-1920 | 3.2 | 3±1.0 | 25 | 100 | 1.15:1 | N-F | 60x60x24 |
| CHC0204U322T | 2000-4000 | 0.3 | 3±1.0 | 22 | 100 | 1.2:1 | SMA-F | * |
| CHC02080118T | 2000-8000 | 1.0 | 3±1.0 | 18 | 100 | 1.35:1 | SMA-F | * |
| CHC0208U619K | 2000-8000 | 0.65 | 3±1.0 | 19 | 20 | 1.25:1 | SMA-F | 72x28x10 |
| CHC02180115T | 2000-18000 | 1.8 | 3±1.0 | 15 | 100 | 1.6:1 | SMA-F | * |
| CHC02180117K | 2000-18000 | 1.4 | 3±1.0 | 17 | 20 | 1.35:1 | SMA-F | 72x28x13 |
| CHC0205U322T | 2600-5200 | 0.3 | 3±1.0 | 22 | 100 | 1.2:1 | SMA-F | * |
| CHC0408U318T | 4000-8000 | 0.35 | 3±1.0 | 18 | 100 | 1.35:1 | SMA-F | * |
| CHC04180115T | 4000-18000 | 1.6 | 3±1.0 | 15 | 100 | 1.6:1 | SMA-F | * |
| CHC04050320H | 4700-5300 | 3.5 | 3±0.5 | 20 | 100 | 1.25:1 | SMA-F | * |
| CHC06180115T | 6000-18000 | 1.4 | 3±1.0 | 15 | 30 | 1.6:1 | SMA-F | * |
| CHC06200114K | 6000-20000 | 1.0 | 3±1.0 | 14 | 20 | 1.45:1 | SMA-F | 32x22x11 |
| CHC10260115K | 10000-26500 | 1.3 | 3±1.0 | 15 | 20 | 1.61:1 | 2.92mm-F | 26X16X13 |
| CHC10400212K | 10000-40000 | 2.0 | 3±1.0 | 12 | 20 | 1.80:1 | 2.92mm-F | 26x16x13 |

OTHER FREQUENCIES AND DIVIDERS ARE ALSO AVAILABLE

- CONSULT THE FACTORY

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) |
|----------------|-----------------------|--------------------------|---------------|---------------------|--------------------|-----------|-------------|----------------------|
| CHCV3V8U616T-D | 30-88 | 0.60 | 3±1.0 | 16 | 100 | 1:301 | 2-way | * |
| CHCV5U1U323T-D | 50-110 | 0.30 | 3±1.0 | 23 | 100 | 1:20:1 | 2-way | * |
| CHCU1U2U318T-D | 100-200 | 0.30 | 3±1.0 | 18 | 100 | 1.20:1 | 2-way | * |
| CHCU1U2U320T-D | 100-200 | 0.30 | 3±1.0 | 20 | 100 | 1.20:1 | 2-way | * |
| CHCU1U1U320T-D | 108-174 | 0.30 | 3±1.0 | 20 | 100 | 1.20:1 | 2-way | * |
| CHCU1U2U320T-D | 190-270 | 0.30 | 3±1.0 | 20 | 100 | 1.20:1 | 2-way | * |
| CHCU2U4U320T-D | 200-400 | 0.30 | 3±1.0 | 20 | 100 | 1.20:1 | 2-way | * |
| CHCU2U5U320T-D | 250-500 | 0.30 | 3±1.0 | 20 | 100 | 1.20:1 | 2-way | * |
| CHCU2U4U320T-D | 225-400 | 0.30 | 3±1.0 | 20 | 100 | 1.20:1 | 2-way | * |



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|----------------|-----------------------|--------------------------|---------------|---------------------|--------------------|-----------|-------------|----------------------|
| CHCU2U5U320T-D | 225-512 | 0.30 | 3±1.0 | 20 | 100 | 1.20:1 | 2-way | * |
| CHCU3U5U320T-D | 380-512 | 0.30 | 3±1.0 | 20 | 100 | 1.20:1 | 2-way | * |
| CHCU4U8U320T-D | 400-800 | 0.30 | 3±1.0 | 20 | 100 | 1.20:1 | 2-way | * |
| CHCU501U320T-D | 500-1000 | 0.3 | 3±1.0 | 20 | 100 | 1.2:1 | 2-way | * |
| CHCU701U318T-D | 750-1500 | 0.30 | 3±1.0 | 18 | 100 | 1.25:1 | 2-way | * |
| CHCU901U318T-D | 950-1225 | 0.30 | 3±1.0 | 18 | 100 | 1.25:1 | 2-way | * |
| CHCU901U620T-D | 965-1565 | 0.60 | 3±1.0 | 20 | 100 | 1.20:1 | 4-way | * |
| CHC0102U318T-D | 1000-2000 | 0.3 | 3±1.0 | 18 | 100 | 1.25:1 | 2-way | * |
| CHC0101U320T-D | 1200-1400 | 0.30 | 3±1.0 | 20 | 100 | 1.25:1 | 2-way | * |
| CHC0103U318T-D | 1500-3000 | 0.35 | 3±1.0 | 18 | 100 | 1.3:1 | 2-way | * |
| CHC0103U317T-D | 1700-3400 | 0.35 | 3±1.0 | 17 | 100 | 1.3:1 | 2-way | * |
| CHC0204U317T-D | 2000-4000 | 0.35 | 3±1.0 | 17 | 100 | 1.3:1 | 2-way | * |
| CHC0202U317T-D | 2200-2900 | 0.35 | 3±1.0 | 17 | 100 | 1.3:1 | 2-way | * |
| CHC0303U317T-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) |
|--------------|-----------------------|--------------------------|---------------|---------------------|--------------------|-----------|----------------|----------------------|
| CHCU3U5U225T | 380-520 | 0.2 | 3±1.0 | 25 | 100 | 1.2:1 | N-F | * |
| CHCU801U225T | 800-1000 | 0.2 | 3±1.0 | 25 | 100 | 1.2:1 | N-F | * |
| CHCU802U222T | 800-2500 | 0.2 | 3±1.0 | 22 | 100 | 1.3:1 | N-F | * |
| CHC0102U222T | 1700-2500 | 0.2 | 3±1.0 | 22 | 100 | 1.25:1 | N-F | * |
| CHCU3U5U225T | 380-520 | 0.2 | 3±1.0 | 25 | 100 | 1.2:1 | 7/16 type | * |
| CHCU801U225T | 800-1000 | 0.2 | 3±1.0 | 25 | 100 | 1.2:1 | 7/16 type | * |
| CHCU802U222T | 800-2500 | 0.2 | 3±1.0 | 22 | 100 | 1.3:1 | 7/16 type | * |
| CHC0102U222T | 1700-2500 | 0.2 | 3±1.0 | 22 | 100 | 1.25:1 | 7/16 type | * |

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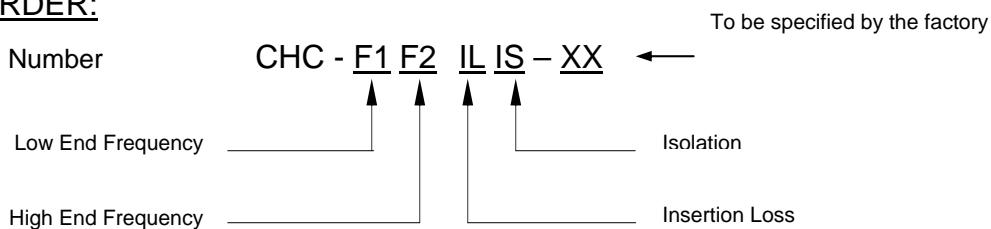
180°

| 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) |
|--------------|-----------------------|--------------------------|---------------|---------------------|--------------------|-----------|----------------|----------------------|
| CHCU701U622T | 750-1500 | 0.6 | 3±1.0 | 22 | 10 | 1.40:1 | SMA-F | * |
| CHC0102U622T | 1000-2000 | 0.6 | 3±1.0 | 22 | 10 | 1.40:1 | SMA-F | * |
| CHC01120217K | 1000-12400 | 2.10 | 3±1.0 | 17 | 20 | 1.60:1 | SMA-F | 140x34x10 |
| CHC01180215K | 1000-18000 | 2.9 | 3±1.0 | 15 | 20 | 1.70:1 | SMA-F | 140x34x10 |
| CHC0204U620T | 2000-4000 | 0.6 | 3±1.0 | 20 | 10 | 1.60:1 | SMA-F | * |
| CHC02080118K | 2000-8000 | 1.1 | 3±1.0 | 18 | 20 | 1.40:1 | SMA-F | 83x34x10 |
| CHC02180215K | 2000-18000 | 2.0 | 3±1.0 | 15 | 20 | 1.70:1 | SMA-F | 77x34x10 |
| CHC02180214T | 2000-18000 | 2.5 | 3±1.0 | 14 | 10 | 1.80:1 | SMA-F | * |
| CHC0412U917K | 4000-12400 | 0.9 | 3±1.0 | 17 | 20 | 1.60:1 | SMA-F | 48x32x10 |
| CHC04180215T | 4000-18000 | 2.0 | 3±1.0 | 15 | 10 | 1.80:1 | SMA-F | * |
| CHC06200115K | 6000-20000 | 1.2 | 3±1.0 | 15 | 20 | 1.70:1 | SMA-F | 38x32x10 |
| CHC06260114K | 6000-26500 | 1.6 | 3±1.0 | 14 | 20 | 1.70:1 | SMA-F | 40x40x10 |

OTHER FREQUENCIES AND DIVIDERS ARE ALSO AVAILABLE

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