

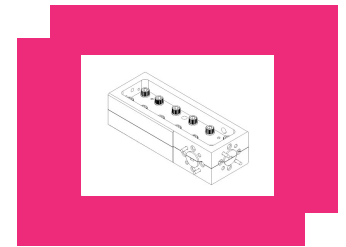
C10-1000WG

WR-10 High Directivity Waveguide Coupler, 10dB, 75-110GHz

DEVICE OVERVIEW

General Description

The C10-1000WG is a WR10 10dB waveguide coupler featuring high directivity over a 75-110GHz operational bandwidth. These waveguide components are built with high precision and then gold plated for high corrosion resistance. They have very low loss and excellent VSWR. Manufactured to rigid specifications, these transmission line components provide minimum detrimental effects on overall system VSWR.



[Download s-parameters here](#)

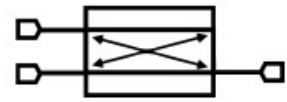
Features

- 10dB Coupling
- Low Loss
- High Directivity
- WR-10 Waveguide
- UG-387/U Input and Output Flanges

Applications

- mmWave Applications
- High Power Applications

Functional Block Diagram



Part Ordering Options

Part Number	Description	Package	Green Status	Product Lifecycle	Export Classification
C10-1000WG	WR-10 High Directivity Waveguide Coupler, 10dB, 75-110GHz	WR-10	Consult Factory	Released	EAR99

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Revision History

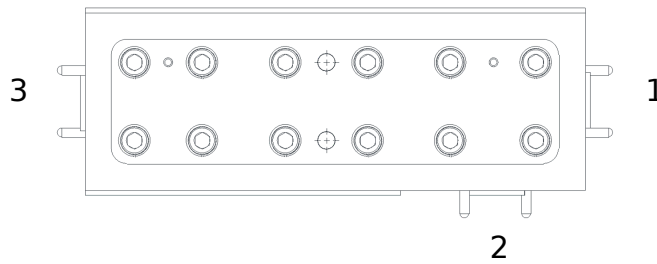
Revision Code	Revision Date	Comment
-	2024-03-15	Initial Datasheet Release

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Port Configuration and Functions

Port Diagram



Port Functions

Port	Function	Connector Type	Description	Equivalent Circuit for Package
Port 1	Input	WR-10-UG-387/U	-	-
Port 2	Coupled	WR-10-UG-387/U	-10dB coupled output port	-
Port 3	Output	WR-10-UG-387/U	-	-

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Specifications

Absolute Maximum Ratings

The Absolute Maximum Ratings indicate limits beyond which damage may occur to the device. If these limits are exceeded, the device may be inoperable or have a reduced lifetime.

Parameter	Maximum Rating	Unit
Maximum Operating Temperature	85	°C
Maximum Storage Temperature	125	°C
Minimum Operating Temperature	-40	°C
Minimum Storage Temperature	-55	°C

Package Information

Parameter	Details	Rating
ESD	This device is not sensitive to ESD.	N/A
Dimensions	-	83.31 x 30.48 x 21.84 mm

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Electrical Specifications

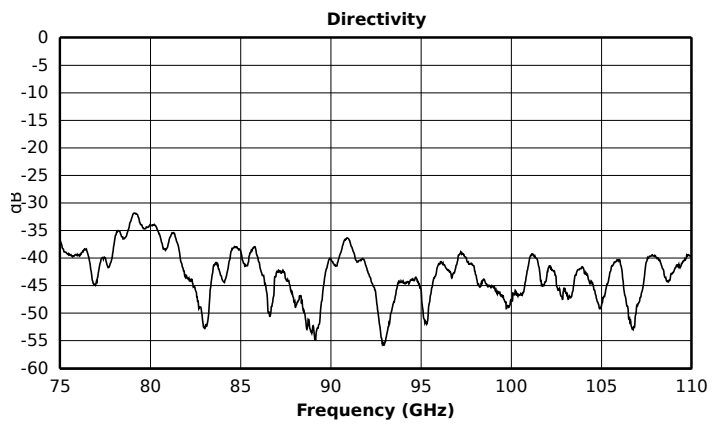
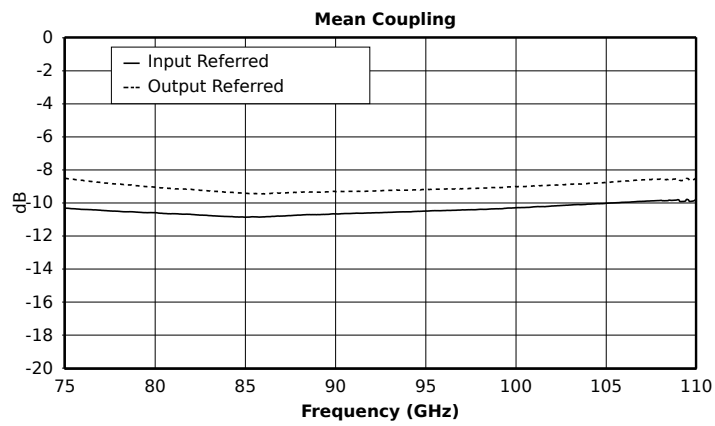
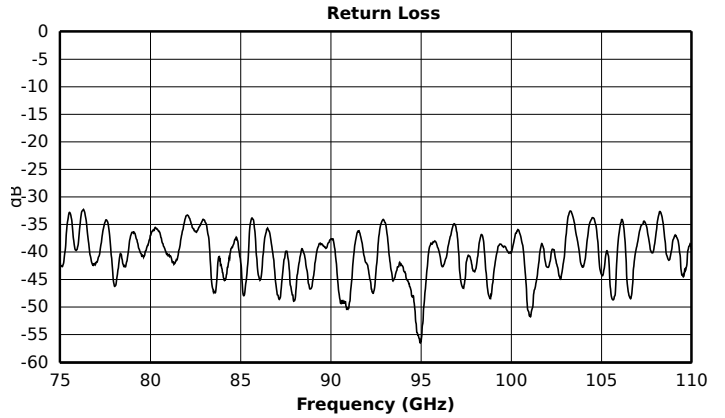
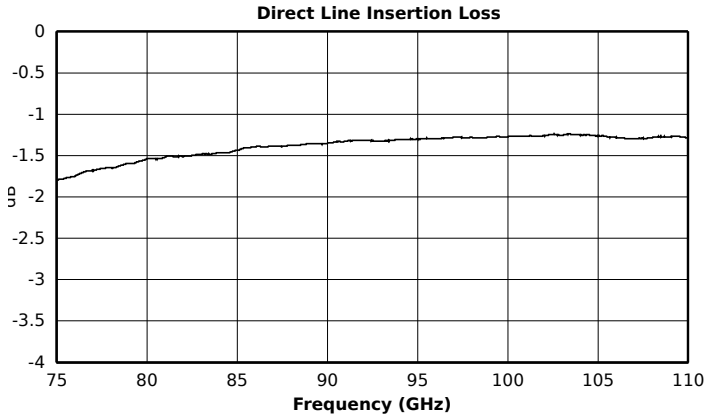
Min and Max limits are guaranteed at Ta = 25°C

Parameter	Test Conditions	Minimum Frequency (GHz)	Maximum Frequency (GHz)	Min	Typ	Max	Unit
Directivity	-	75	110	30	42.5	-	dB
Direct Line Insertion Loss	-	75	110	-	1.3	-	dB
Mean Coupling	Output Referred	75	110	-	9	-	dB
Mean Coupling (Input Referred)	-	75	110	-	10.5	-	dB
Return Loss	-	75	110	20	35	-	dB

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Typical Performance Plots



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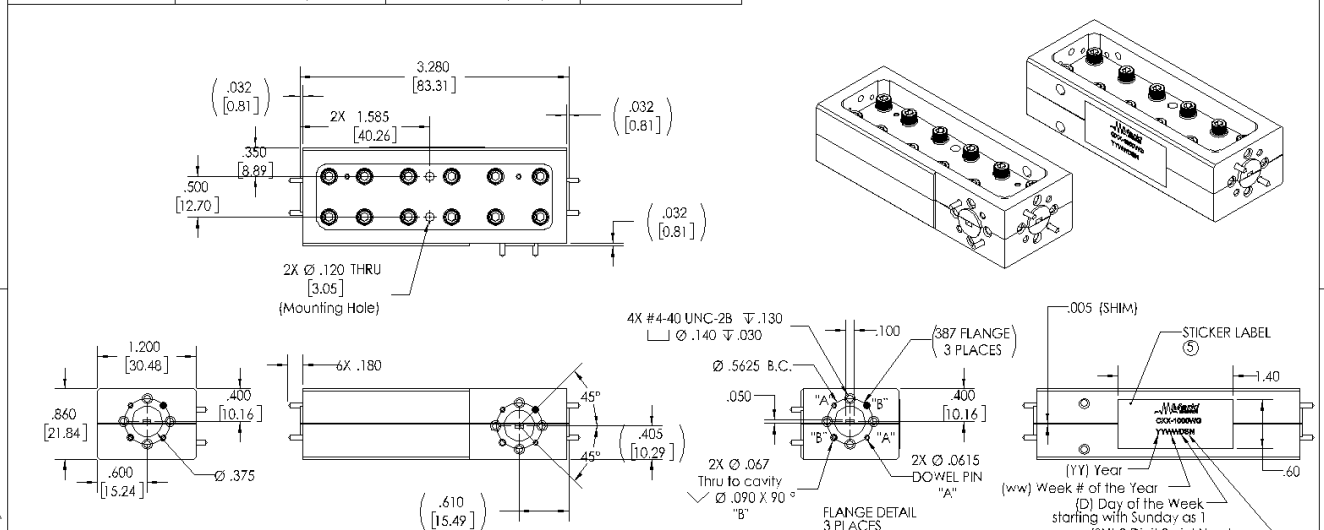
Mechanical Data

Outline Drawing

Download : [Outline 2D Drawing](#) | [Outline 3D Drawing](#) | [Outline 3D STP](#)

1	2	3	4
MODULES	DESCRIPTION	SHIM	STICKER LABEL
C10-1000WG	Outline, WR-10 Coupler, 10dB	421-116901-10 (10dB)	961-09695-1010
C20-1000WG	Outline, WR-10 Coupler, 20dB	421-117001-20 (20dB)	961-09695-1020
C30-1000WG	Outline, WR-10 Coupler, 30dB	421-117101-30 (30dB)	961-09695-1030
C40-1000WG	Outline, WR-10 Coupler, 40dB	421-117201-40 (40dB)	961-09695-1040

REV. SIONS				
ECN	REV.	DESCRIPTION	DATE	APPROVED
	A	INITIAL RF PART	03-20-2024	TNN

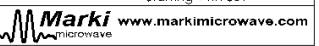


NOTES: UNLESS OTHERWISE SPECIFIED

- ALL DIMENSIONS ARE IN INCH [METRIC].
- HOUSING & SHIM MATERIAL: HALF HARD BRASS.
- FINISH: 100 MICRONS BRIGHT NICKEL, 10 MICRONS GOLD.
- SEE THE TABLE FOR DIFFERENT DRAWING NUMBERS (MODULE) & SHIM.

⑤ STICKS LABEL AS SHOWN [SEE THE TABLE].

STICKER LABEL
 (YY) Year
 (ww) Week # of the Year
 (D) Day of the Week starting with Sunday as 1
 (SN) 3 Digit Serial Number Starting with 001

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES FINISHES ARE: *NONE *208 *201 *202 *203 *204 *205 *206 *207 *208 *209 *210 *211 *212 *213 *214 *215 *216 *217 *218 *219 *220 *221 *222 *223 *224 *225 *226 *227 *228 *229 *230 *231 *232 *233 *234 *235 *236 *237 *238 *239 *240 *241 *242 *243 *244 *245 *246 *247 *248 *249 *250 *251 *252 *253 *254 *255 *256 *257 *258 *259 *260 *261 *262 *263 *264 *265 *266 *267 *268 *269 *270 *271 *272 *273 *274 *275 *276 *277 *278 *279 *280 *281 *282 *283 *284 *285 *286 *287 *288 *289 *290 *291 *292 *293 *294 *295 *296 *297 *298 *299 *300 *301 *302 *303 *304 *305 *306 *307 *308 *309 *310 *311 *312 *313 *314 *315 *316 *317 *318 *319 *320 *321 *322 *323 *324 *325 *326 *327 *328 *329 *330 *331 *332 *333 *334 *335 *336 *337 *338 *339 *340 *341 *342 *343 *344 *345 *346 *347 *348 *349 *350 *351 *352 *353 *354 *355 *356 *357 *358 *359 *360 *361 *362 *363 *364 *365 *366 *367 *368 *369 *370 *371 *372 *373 *374 *375 *376 *377 *378 *379 *380 *381 *382 *383 *384 *385 *386 *387 *388 *389 *390 *391 *392 *393 *394 *395 *396 *397 *398 *399 *400 *401 *402 *403 *404 *405 *406 *407 *408 *409 *410 *411 *412 *413 *414 *415 *416 *417 *418 *419 *420 *421 *422 *423 *424 *425 *426 *427 *428 *429 *430 *431 *432 *433 *434 *435 *436 *437 *438 *439 *440 *441 *442 *443 *444 *445 *446 *447 *448 *449 *450 *451 *452 *453 *454 *455 *456 *457 *458 *459 *460 *461 *462 *463 *464 *465 *466 *467 *468 *469 *470 *471 *472 *473 *474 *475 *476 *477 *478 *479 *480 *481 *482 *483 *484 *485 *486 *487 *488 *489 *490 *491 *492 *493 *494 *495 *496 *497 *498 *499 *500 *501 *502 *503 *504 *505 *506 *507 *508 *509 *510 *511 *512 *513 *514 *515 *516 *517 *518 *519 *520 *521 *522 *523 *524 *525 *526 *527 *528 *529 *530 *531 *532 *533 *534 *535 *536 *537 *538 *539 *540 *541 *542 *543 *544 *545 *546 *547 *548 *549 *550 *551 *552 *553 *554 *555 *556 *557 *558 *559 *560 *561 *562 *563 *564 *565 *566 *567 *568 *569 *570 *571 *572 *573 *574 *575 *576 *577 *578 *579 *580 *581 *582 *583 *584 *585 *586 *587 *588 *589 *590 *591 *592 *593 *594 *595 *596 *597 *598 *599 *600 *601 *602 *603 *604 *605 *606 *607 *608 *609 *610 *611 *612 *613 *614 *615 *616 *617 *618 *619 *620 *621 *622 *623 *624 *625 *626 *627 *628 *629 *630 *631 *632 *633 *634 *635 *636 *637 *638 *639 *640 *641 *642 *643 *644 *645 *646 *647 *648 *649 *650 *651 *652 *653 *654 *655 *656 *657 *658 *659 *660 *661 *662 *663 *664 *665 *666 *667 *668 *669 *670 *671 *672 *673 *674 *675 *676 *677 *678 *679 *680 *681 *682 *683 *684 *685 *686 *687 *688 *689 *690 *691 *692 *693 *694 *695 *696 *697 *698 *699 *700 *701 *702 *703 *704 *705 *706 *707 *708 *709 *710 *711 *712 *713 *714 *715 *716 *717 *718 *719 *720 *721 *722 *723 *724 *725 *726 *727 *728 *729 *730 *731 *732 *733 *734 *735 *736 *737 *738 *739 *740 *741 *742 *743 *744 *745 *746 *747 *748 *749 *750 *751 *752 *753 *754 *755 *756 *757 *758 *759 *760 *761 *762 *763 *764 *765 *766 *767 *768 *769 *770 *771 *772 *773 *774 *775 *776 *777 *778 *779 *780 *781 *782 *783 *784 *785 *786 *787 *788 *789 *790 *791 *792 *793 *794 *795 *796 *797 *798 *799 *800 *801 *802 *803 *804 *805 *806 *807 *808 *809 *810 *811 *812 *813 *814 *815 *816 *817 *818 *819 *820 *821 *822 *823 *824 *825 *826 *827 *828 *829 *830 *831 *832 *833 *834 *835 *836 *837 *838 *839 *840 *841 *842 *843 *844 *845 *846 *847 *848 *849 *850 *851 *852 *853 *854 *855 *856 *857 *858 *859 *860 *861 *862 *863 *864 *865 *866 *867 *868 *869 *870 *871 *872 *873 *874 *875 *876 *877 *878 *879 *880 *881 *882 *883 *884 *885 *886 *887 *888 *889 *890 *891 *892 *893 *894 *895 *896 *897 *898 *899 *900 *901 *902 *903 *904 *905 *906 *907 *908 *909 *910 *911 *912 *913 *914 *915 *916 *917 *918 *919 *920 *921 *922 *923 *924 *925 *926 *927 *928 *929 *930 *931 *932 *933 *934 *935 *936 *937 *938 *939 *940 *941 *942 *943 *944 *945 *946 *947 *948 *949 *950 *951 *952 *953 *954 *955 *956 *957 *958 *959 *960 *961 *962 *963 *964 *965 *966 *967 *968 *969 *970 *971 *972 *973 *974 *975 *976 *977 *978 *979 *980 *981 *982 *983 *984 *985 *986 *987 *988 *989 *990 *991 *992 *993 *994 *995 *996 *997 *998 *999 *1000		P180981 V. ACC. CONTROL P. 010 P. AS/NZS 1145:2020 1, 1145:2020 B & (14.5.0A-200P)	
DRAWN BY: TNN DATE: 01-02-2024 GR: 03-02-2024	TITLE: OUTLINE DRAWING, WR-10 COUPLER	SIZE: B CAGE CODE: 0UC32 DRAWING NO.: CXX-1000WG-OUT SCALE: NONE SHEET 1 OF 1	

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