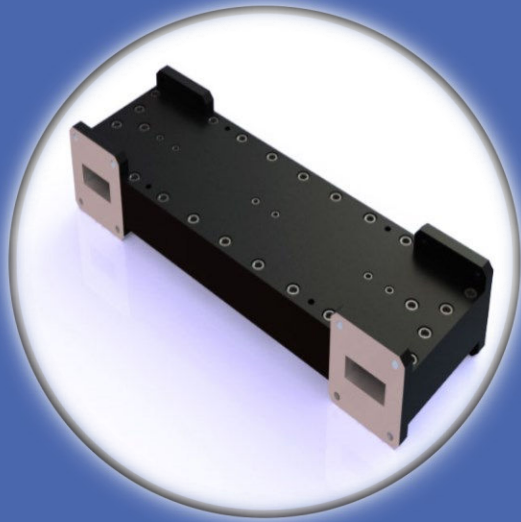


# WR90 Full Band Hybrid Coupler



## Description

The WR90 Hybrid Coupler is an advanced directional coupler tailored for applications within the X-band spectrum, specifically designed for rectangular waveguides. Operating with 3 dB coupling, it evenly divides input signals between two output ports. Covering the full frequency range of the standard waveguide WR90, it excels in achieving a deep matching level and maintaining a remarkably flat response for phase difference. It showcases a modest 1.15 dB magnitude imbalance between coupling and through ports. This hybrid coupler is a key tool for balanced amplifier optimization, marked by high matching capabilities and minimal insertion loss. Beyond its application in phased array antennas, it demonstrates versatility in power divider and combiner configurations, efficiently managing signal distribution for nuanced power division. In test and measurement systems, it facilitates reliable signal monitoring and measurement, enhancing precision in assessing RF components.

## Electrical Specifications

<b>Frequency :</b>	8.20 – 12.40 GHz
<b>VSWR :</b>	1.07: 1
<b>Insertion Loss :</b>	0.1 dB
<b>Isolation :</b>	29.5 dB
<b>Amplitude Imbalance :</b>	3.0 dB $\pm$ 1.13 dB
<b>Phase Unbalance :</b>	90.0 $\pm$ 3 deg

## Mechanical Specifications

<b>Waveguide Size :</b>	WR90
<b>Interface – I/O Ports :</b>	Waveguide
<b>Material :</b>	Aluminum 6061/Copper/Brass
<b>Finish:</b>	Chromate/Plated
<b>Paint:</b>	As per request

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## WR90 Hybrid Coupler Measured Results

