

Directional Coupler

C-1830-20

SMA Directional Coupler 20 dB Coupled Port from 300 MHz to 8 GHz

Directional couplers are important components for use in isolating, separating, replicating and combining microwave signals. They can serve as accurate attenuator measurements as they eliminate reflections. They are incredibly useful in sampling RF signals for use in detectors, gain control and feedback loops.

The C-1830-20 is part of Werbel Microwave's catalog of single and dual directional couplers that offer a wide range of coupling values and frequency ranges. Available with SMA female connectors.

Electrical Specifications at +25 °C, $Z_{in} = Z_{out} = 50 \Omega$, sea level

Parameter	Unit	Min	Typ.	Max
Frequency Range	MHz	300		8000
Coupling Value	dB		20	
Coupling Tolerance	±dB			1.2
Coupling Flatness	±dB			1.2
Directivity 0.3-6GHz	dB	18		
6-8GHz	dB	16		
Insertion Loss	dB			0.9
VSWR (Main Line)	:1			1.3
VSWR (Coupled Arm)	:1			1.3
Forward Power (CW)	W			20
Reverse Power (CW)	W			3
Operating Temperature	°C	-55		+85
Storage Temperature	°C	-55		+100
Weight	oz (g)		3.5 (86)	
Humidity (non-condensing)	%	10		90
Housing Material	Aluminum			
Connectors Material	Stainless Steel			

Insertion loss is above theoretical coupling loss.

Max input power rated for load VSWR better than 1.20:1.

Commonly used bands covered by this model include: UHF band 300-1000MHz, L band 1-2GHz, S band 2-4GHz, C band 4-8GHz, 2.6-5.2GHz, 3.1-3.5GHz.

Picture:



Features:

- Wide Bandwidth
- Flat Coupling Response

Applications:

- Test and Measurement
- Attenuators
- Military Radio
- Commercial Telecom
- Satcom

ISO 9001:2015 Certified



Made in USA



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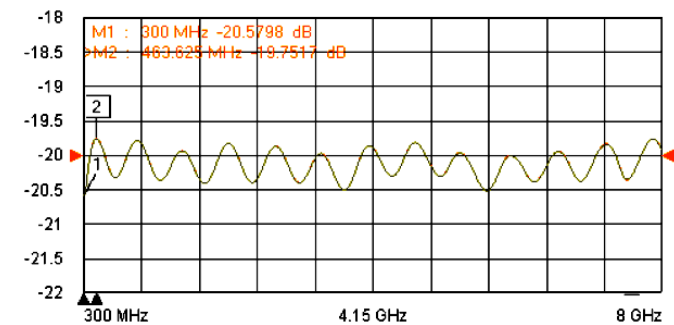
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Typical Performance at +25 °C

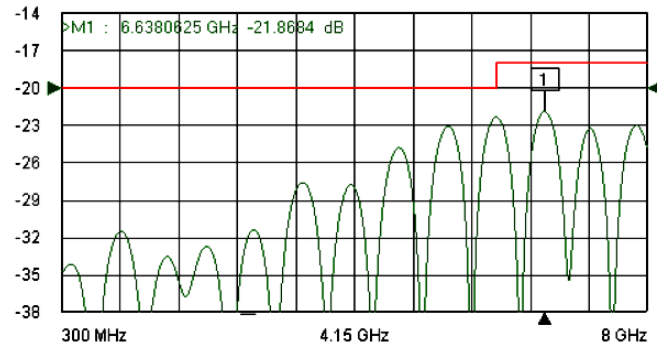
Coupling Value and Flatness

Coupling [D/M] S21 Trans LogM RefLvl: -20 dB Res: 0.5 dB/Div
M1 (Tr1)



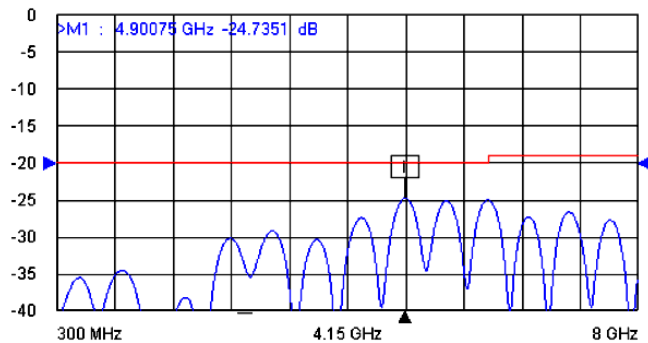
Directionality

Directivity [D/M] S21 Trans LogM RefLvl: -20 dB Res: 3 dB/Div



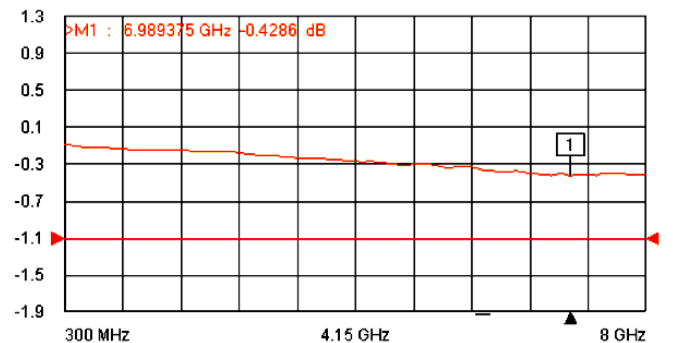
Return Loss

VSWR S11 RefL LogM RefLvl: -20 dB Res: 5 dB/Div



Insertion Loss

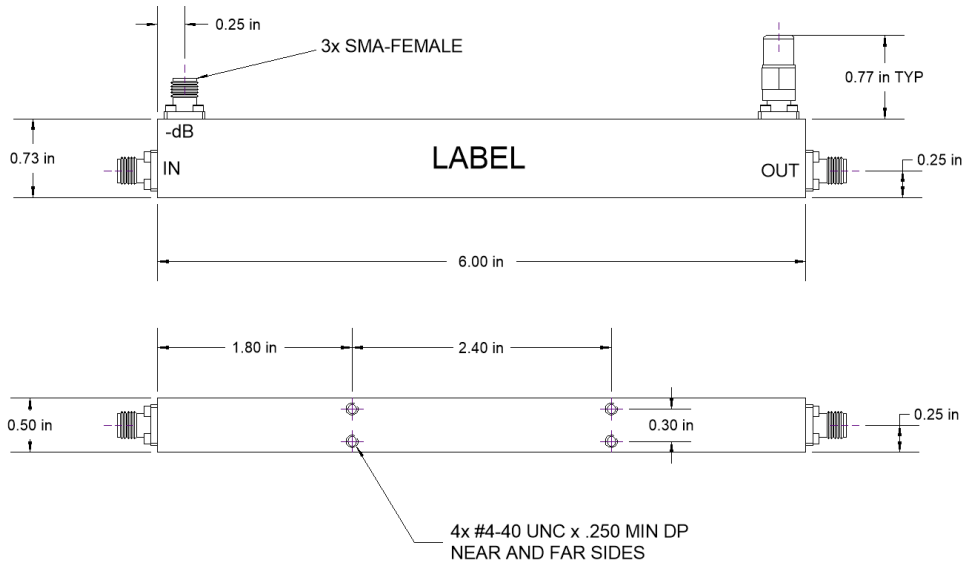
InsLoss S21 Trans LogM RefLvl: -1.1 dB Res: 0.4 dB/Div



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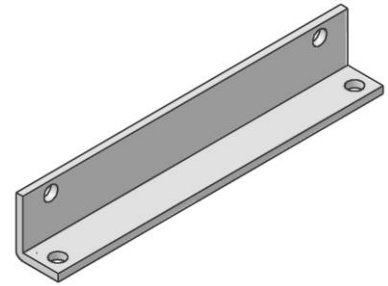
C-1830-20

Mechanical Outline Drawing



Horizontal Mounting Bracket
(Optional)

Part no. BKT-1185



Use with #4-40 UNC machine
screws.

UNLESS OTHERWISE SPECIFIED: Dimensions are in inches, [mm] shown for convenience.
Tolerances on 2-pl decimals: $\pm .03$. 3-pl decimals: $\pm .015$. Angles: $\pm 1^\circ$.

The information contained in this document is accurate to the best of our knowledge and representative of the part described herein. It may be necessary to make modifications to the part and/or documentation of the part, in order to implement improvements. Werbel Microwave reserves the right to make such changes as required without notice. Unless otherwise stated, all specifications are nominal. Werbel Microwave does not make any representation or warranty regarding the suitability of the part described herein for any particular purpose, and Werbel Microwave does not assume any liability arising out of the use of any part of documentation.