

90° Hybrid, 6-18GHz, SMA Female

WMQH-6-18-S

Key Features

- Octave band.
- High isolation.
- Excellent return loss.
- Low unbalance.

Model WMQH-6-18-S is a quad 90 degrees 3dB hybrid covering the 6-18GHz band. covers X band and Ku band. Typical insertion loss is only 0.8dB above split. A rugged aluminum enclosure that measures 1.00 x 0.50 x 0.38 inches is fitted with durable stainless-steel SMA female connectors. Assembled and tested in USA.



Photo is representative.

Specifications	Min.	Typ.	Max.	Units
Frequency	6	--	18	GHz
Impedance	--	50	--	Ohm
Phase Difference	--	90	--	Degrees
Total Loss ¹ (J1-J3 and J1-J4)	--	3.8±0.4	±0.8	dB
Isolation	15	17	--	dB
Return Loss (all ports)	13	16	--	dB
Amplitude Balance (±)	--	0.3	0.6	dB
Phase Balance (±)	--	4.4	8.0	Degrees
Input Power (CW) ²	--	--	30	Watts

Mechanical

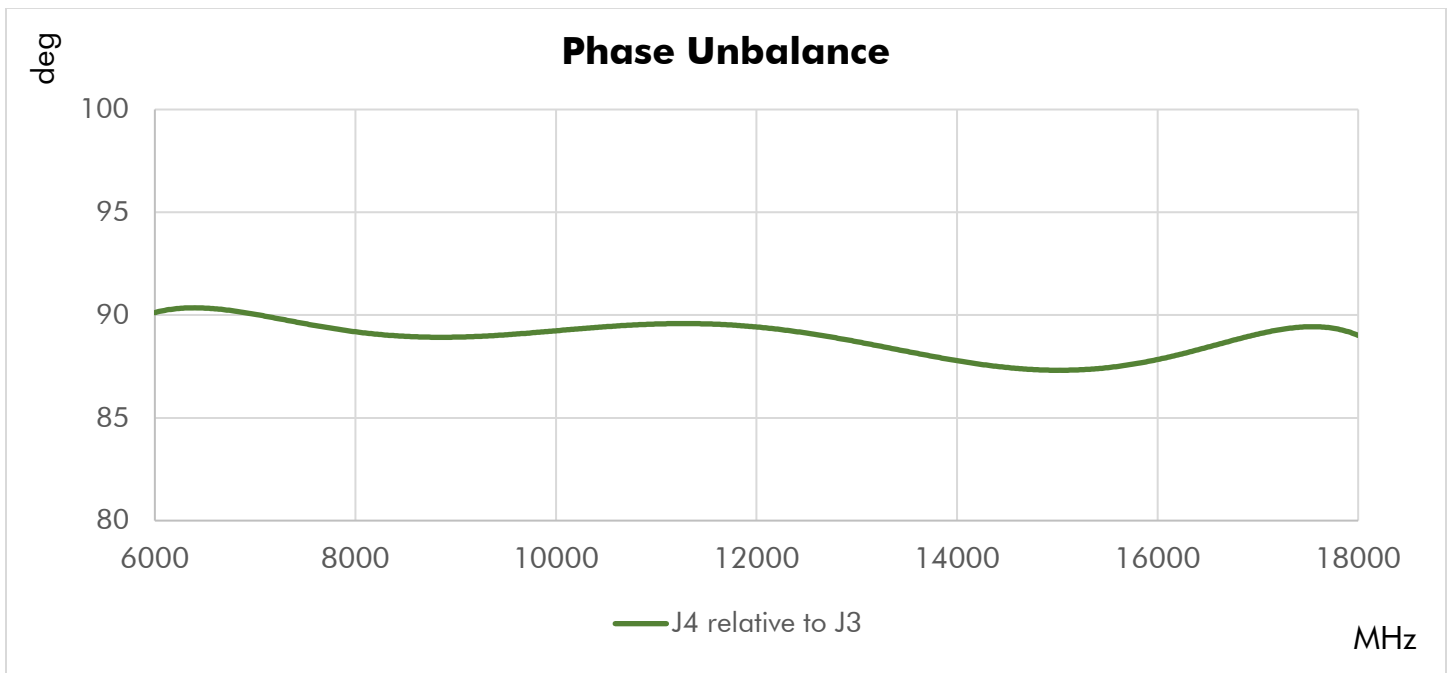
Connector Interface	SMA-Female
Operating Temperature ³	-40 to +85 °C
Storage Temperature	-55 to +100 °C
Weight	0.6 oz (16.7 g)
Humidity	10-90% non-condensing
Environment	Indoor Use Only

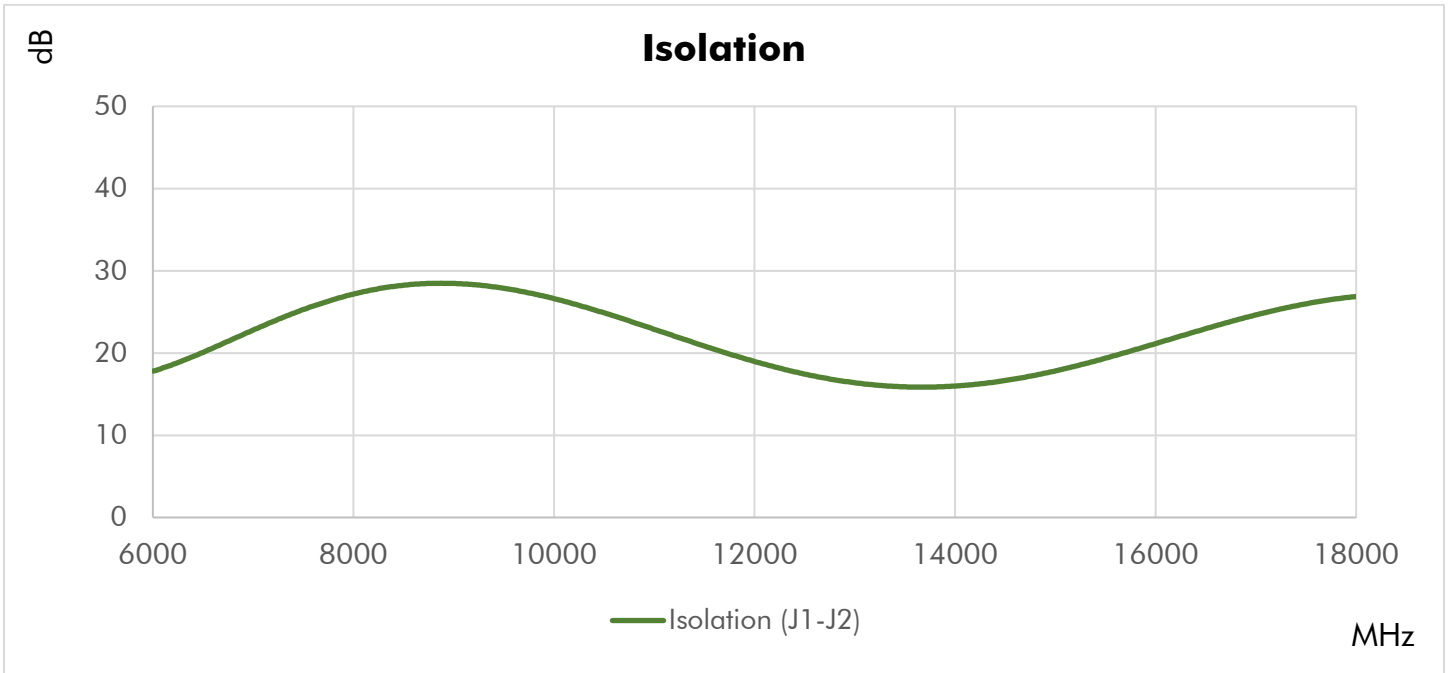
1. Total Loss includes insertion loss and frequency sensitivity.
2. All output ports should be terminated in a 50-ohm load with 1.2:1 max VSWR.
3. Electrical specifications are at +25°C.
4. To the best of our knowledge at the time of publication.

Materials

RoHS and REACH Compliant ⁴	
Enclosure	Aluminum
Connectors	Stainless Steel
Contacts	Be Cu, Gold Plated
Insulators	PTFE
Finish	Green Paint

Typical Performance at +25 °C

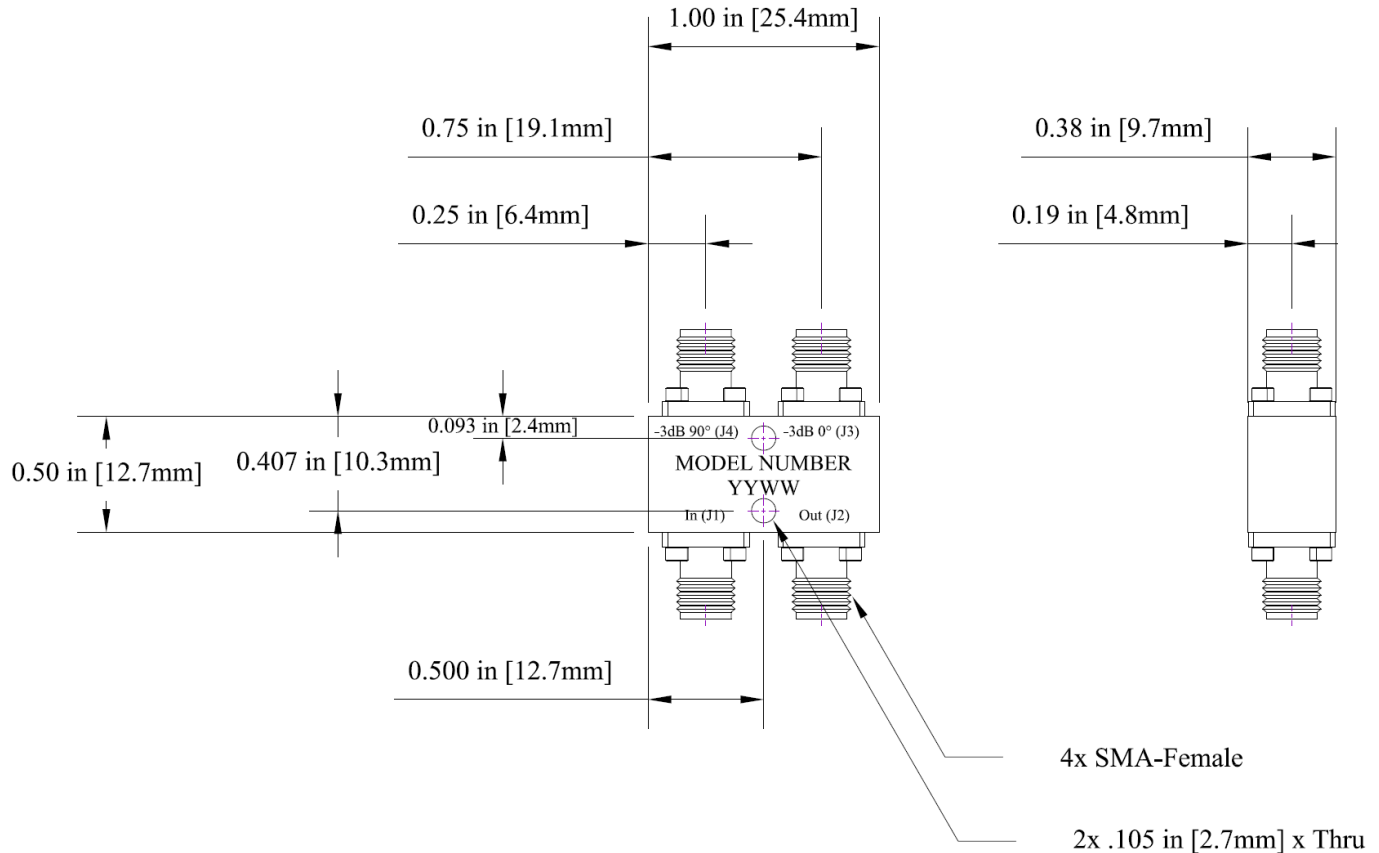




Typical Performance at +25 °C

Frequency (MHz)	Insertion Loss (dB)	Coupling (dB)	Amplitude Unbalance	Phase Unbalance	Isolation (dB)	Return Loss (dB)
	J1-J3	J1-J4	(dB)	(deg)	J1-J2	J1
6000	3.1	3.4	0.3	90.2	19.1	20.0
6500	3.2	3.3	0.0	90.3	20.0	20.4
7000	3.3	3.2	0.1	90.1	21.6	20.8
7500	3.3	3.1	0.2	89.6	24.0	22.7
8000	3.4	3.2	0.2	89.4	27.1	25.4
8500	3.3	3.1	0.1	88.9	29.3	27.4
9000	3.2	3.2	0.0	88.8	30.9	26.9
9500	3.1	3.3	0.1	88.6	29.6	23.3
10000	3.1	3.4	0.3	89.1	26.4	21.2
10500	3.1	3.5	0.4	89.7	23.1	19.3
11000	3.1	3.5	0.4	90.0	20.7	17.3
11500	3.2	3.5	0.3	90.1	19.1	16.1
12000	3.3	3.4	0.1	89.4	18.2	15.9
12500	3.3	3.4	0.1	88.5	17.9	16.4
13000	3.4	3.5	0.1	88.2	17.8	17.1
13500	3.4	3.4	0.0	88.3	17.9	17.8
14000	3.5	3.4	0.1	87.9	17.9	18.2
14500	3.5	3.4	0.2	87.8	17.5	18.4
15000	3.6	3.3	0.3	87.5	17.2	18.2
15500	3.6	3.3	0.2	87.2	17.3	18.6
16000	3.5	3.3	0.2	87.8	18.3	20.1
16500	3.5	3.4	0.1	88.6	21.0	21.9
17000	3.5	3.4	0.1	89.1	27.2	23.4
17500	3.3	3.5	0.2	89.1	30.2	25.2
18000	3.2	3.7	0.6	89.6	20.9	24.6

Outline Dimensions



Outline # OL-Q0408

Dimensions are in inches, [mm] shown for convenience.

Tolerances on 2-pl decimals: $\pm .03$. 3-pl decimals: $\pm .015$.

Port Configuration

		OUTPUT			
		J1	J2	J3	J4
INPUT	J1	--	ISO	0°	+90°
	J2	ISO	--	+90°	0°
	J3	0°	+90°	--	ISO
	J4	+90°	0°	ISO	--

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 LLC reserves the right to make such changes as required without notice. Unless otherwise stated, all specifications and dimensions 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 LLC does not assume any liability arising out of the use of any part of documentation. This document gives only a description of the product(s) and shall not form part of any contract. Please contact a Werbel Microwave LLC Applications Engineer for the most current specification drawing.