

Wideband Power Divider 4-way SMA Female 4 to 18 GHz

## 4-way SMA Power Divider 4 to 18 GHz

### Product Description

AmpliTech offers a wide selection of High-Quality RF power dividers, featuring Wilkinson design. Model APTPD-4-04001800-SMA is a wideband 4-way in-line power divider that operates from 4 to 18 GHz in a compact enclosure measuring 1.98 x 1.46 x 0.38 inches. The device is RoHS compliant.

Specifications	Min	Typ	Max	Min
Frequency	4		18	GHz
Impedance		50		Ohm
Return Loss (Port S)	12	13		dB
Return Loss (Port 1-4)	14	16		dB
Insertion Loss (Above theoretical 6.02 dB)		0.7	1.0	dB
Isolation	18	21		dB
Amplitude Balance		0.4	0.6	dB
Phase Balance		6	10	Degrees
Input Power (CW) <sup>1</sup>			30	Watts

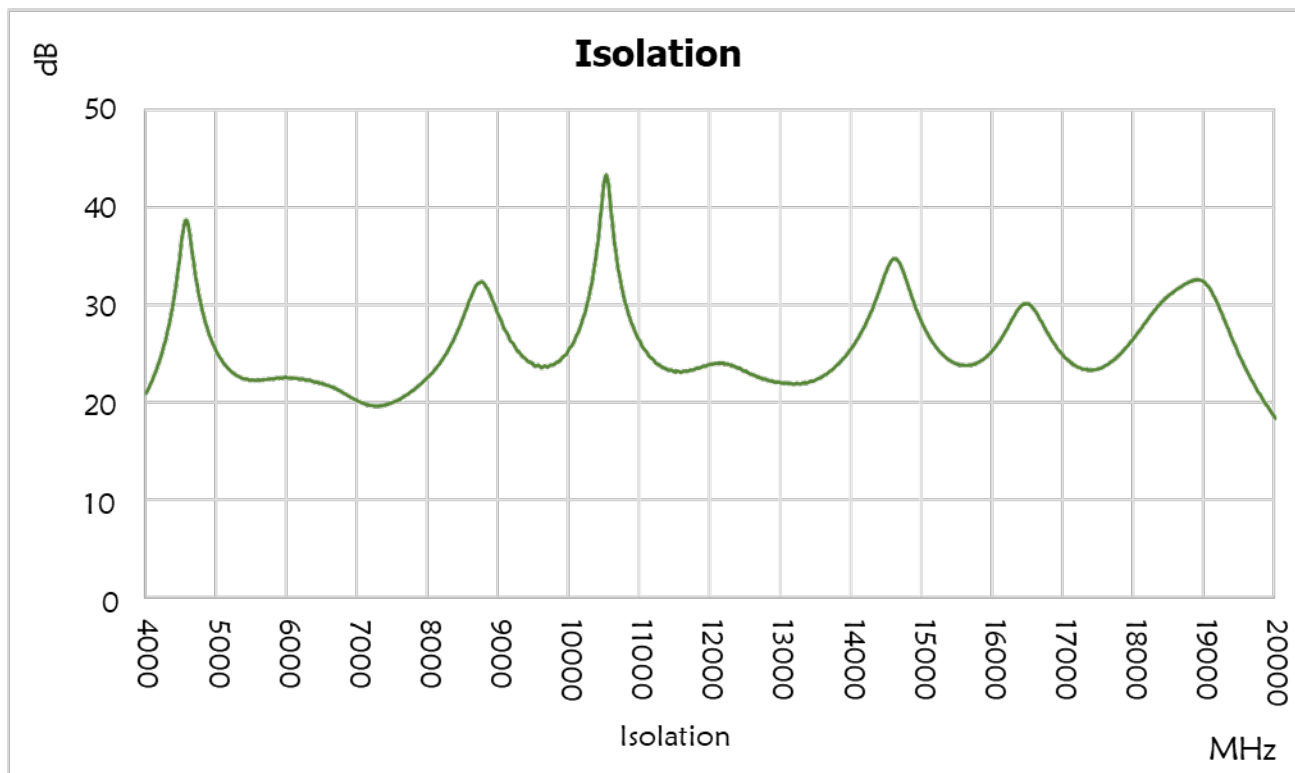
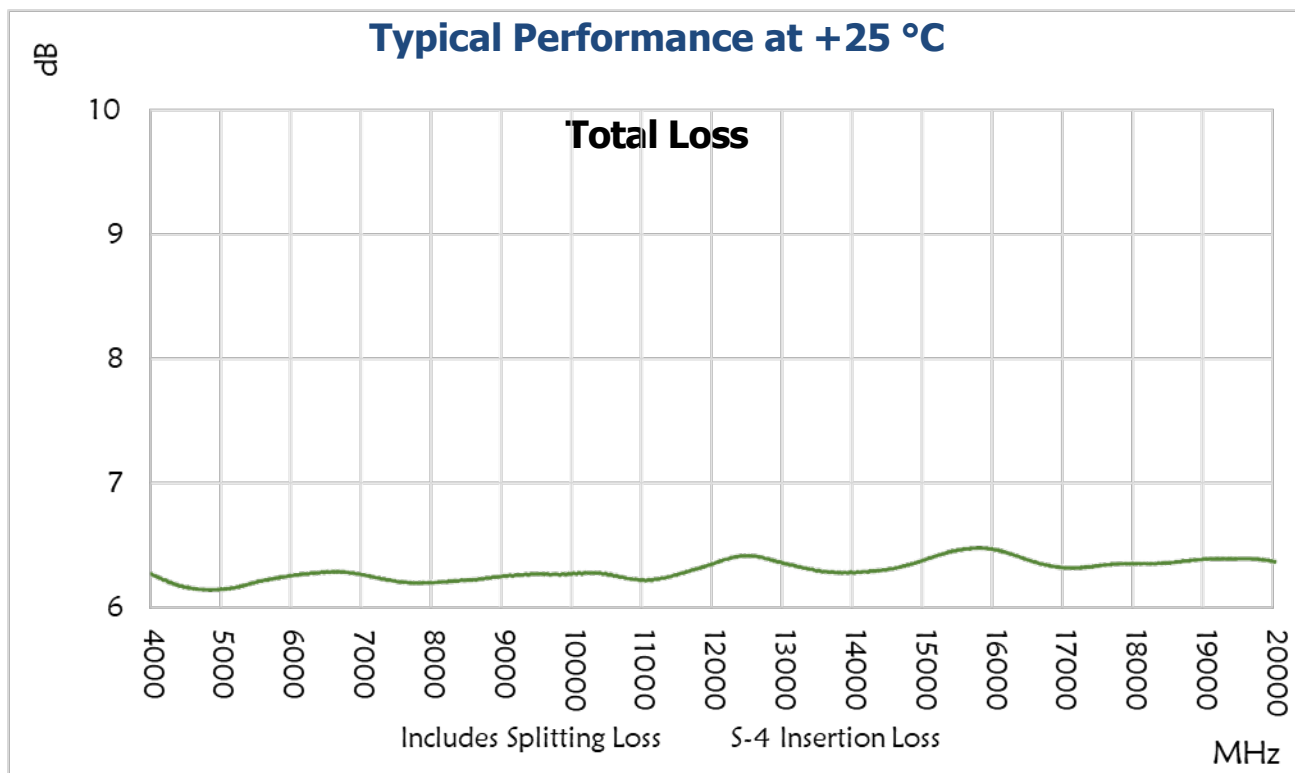
### Mechanical

Connector Interface	SMA-Female
Operating Temperature <sup>2</sup>	-55 to +85 °C
Storage Temperature	-55 to +100 °C
Weight Estimate	2.2 oz (62 g)
Humidity	10-90% non-condensing
Environment	Indoors Use Only

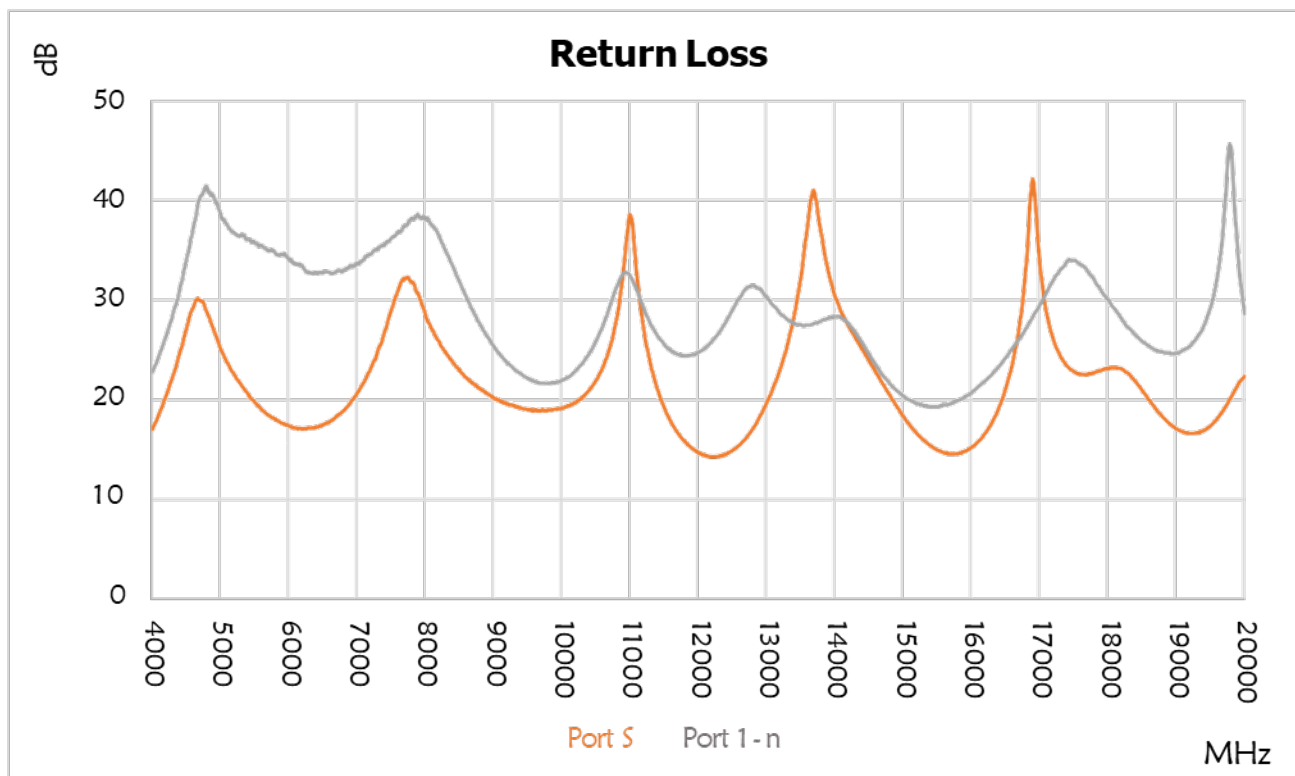
### Materials

RoHS /REACH Compliant <sup>3</sup>	Yes
Enclosure	Aluminum
Connectors	Stainless Steel
Contacts	Be Cu, Gold Plated
Insulators	PTFE
Finish	Gray Paint

1. All output ports should be terminated in a 50-ohm load with 1.2:1 max VSWR.
2. Electrical specifications at +25 °C only.
3. To the best of our knowledge at the time of publication.
4. Non-RoHS solder is available upon request.



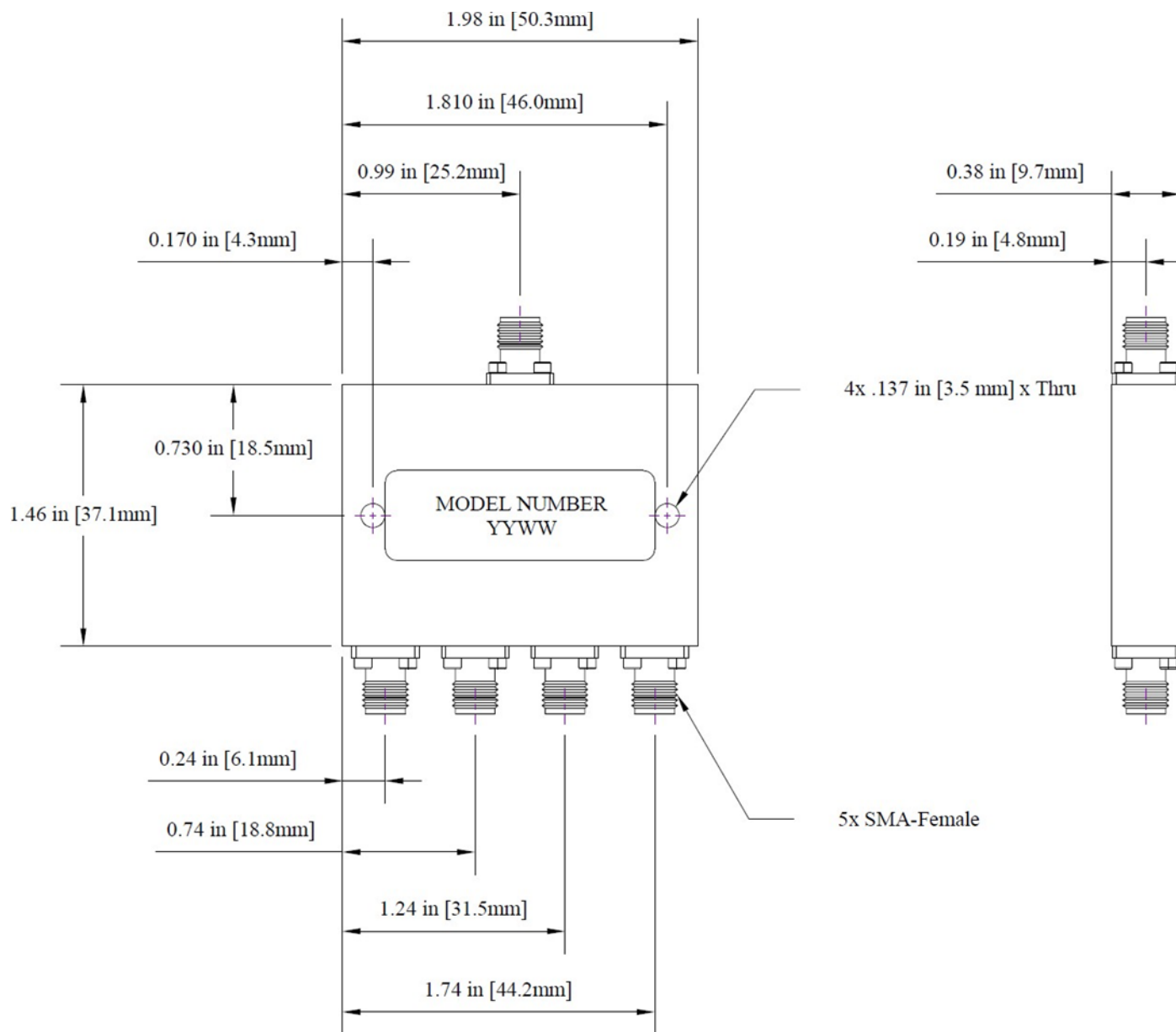
**Typical Performance at +25 °C**



## Typical Performance Data at +25 °C

Frequency (MHz)	Return Loss (dB)			Total Loss (dB)		Isolation (dB) 1-2
	Port 5	Port 1	Port 4	S-1	S-4	
4000	17.8	23.8	17.9	6.0	6.1	21.3
4500	28.3	35.1	28.1	6.1	6.2	38.1
5000	24.7	37.5	25.0	6.1	6.2	24.8
5500	19.6	36.0	19.7	6.3	6.3	22.4
6000	17.5	33.8	17.3	6.2	6.2	22.5
6500	18.1	33.7	18.1	6.3	6.3	22.0
7000	20.9	32.9	20.9	6.3	6.2	20.1
7500	30.8	36.7	30.5	6.2	6.2	20.2
8000	28.2	37.8	28.0	6.2	6.3	23.0
8500	22.9	31.2	22.8	6.2	6.2	29.5
9000	20.0	24.9	20.0	6.5	6.6	28.7
9500	19.2	22.2	19.2	6.2	6.1	23.7
10000	19.5	22.3	19.6	6.2	6.3	25.9
10500	22.5	26.6	22.5	6.4	6.3	43.8
11000	37.1	32.0	37.7	6.1	6.3	25.8
11500	18.9	25.5	18.9	6.4	6.4	23.5
12000	14.7	25.0	14.6	6.4	6.4	24.0
12500	15.3	29.7	15.3	6.4	6.4	23.2
13000	20.3	30.0	20.3	6.4	6.4	22.1
13500	34.2	27.4	34.6	6.2	6.3	22.5
14000	30.1	28.7	29.9	6.3	6.3	26.1
14500	23.6	24.3	23.5	6.3	6.4	34.3
15000	18.1	20.3	18.1	6.4	6.4	27.7
15500	15.0	19.5	15.1	6.5	6.5	23.9
16000	15.5	21.1	15.5	6.4	6.4	25.8
16500	22.1	24.7	22.2	6.4	6.4	30.1
17000	31.6	30.2	31.9	6.3	6.4	24.6
17500	22.8	34.0	22.9	6.3	6.3	23.6
18000	23.4	29.7	23.3	6.4	6.4	27.1
18500	20.8	25.9	20.7	6.4	6.4	31.3
19000	17.1	24.8	17.2	6.3	6.3	32.1
19500	17.8	30.3	17.9	6.5	6.6	24.3
20000	22.8	27.1	22.8	6.3	6.5	18.2

## Outline Dimensions



Dimensions are in inches, [mm] shown for convenience.  
Tolerances on 2-pl decimals:  $\pm .03$ . 3-pl decimals:  $\pm .015$ .