High Power 200–2000MHz SPDT T/R Switch

AM022050S2-0H
September 2020
Rev 0

DESCRIPTION

AMCOM's AM022050S2-0H is a high-power broadband SPDT power switch module. It has 0.6dB typical insertion loss, good isolation and less than 2:1 VSWR from 200 to 2000MHz. This SPDT switch can handle up to 100W CW RF power from 500 to 2000MHz. Switching time is less than 10 microseconds. Switch needs +28V voltage supply and TTL control to switch between ports.

FEATURES

- Broadband from 200 to 2000MHz
- CW Power handling is 50dBm
- Typical 0.6 dB Insertion Loss
- Input & output matched to 50 Ohms

APPLICATIONS

- T/R modules
- Instrumentation
- Lab Measurements
- Modulators

TYPICAL PERFORMANC * (Bias= 28V / 230mA)

Parameters	Minimum	Typical	Maximum
Frequency		200 – 2000MHz	
Insertion loss		0.6dB	1.0dB
Input Return Loss	10 dB	17dB	
Isolation 200 – 500MHz Isolation 500 – 1000MHz Isolation 500 – 2000MHz		> 55dB > 45dB > 25dB	
Maximum CW power from 100 to 500MHz Maximum CW TX power from 500 to 2000MHz		0.2W * Freq. (MHz) 100W	
TX to RX mode Switching Time		< 10µsec.	
+28V Current		200 to 300mA	
TTL Voltage Control Vc (TTL=0 THROW2 ON) TTL Voltage Control Vc (TTL=1 THROW1 ON)		0 to 0.7V 2.2 to 3.3V	

*Specifications subject to change without notice

** CW RF Power rated at 0.3dB compression

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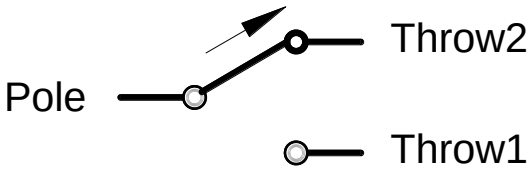
ABSOLUTE MAXIMUM RATING

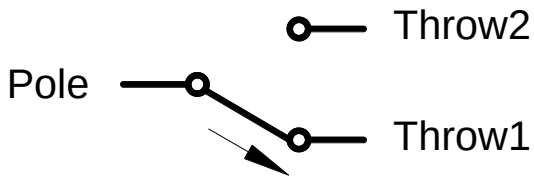
Parameters	Symbol	Rating
Supply Voltage (+28V)	+28V	35V
RF Power	POLE	100W
Ambient Temperature		60°C
Storage Temperature		-40°C to 125°C

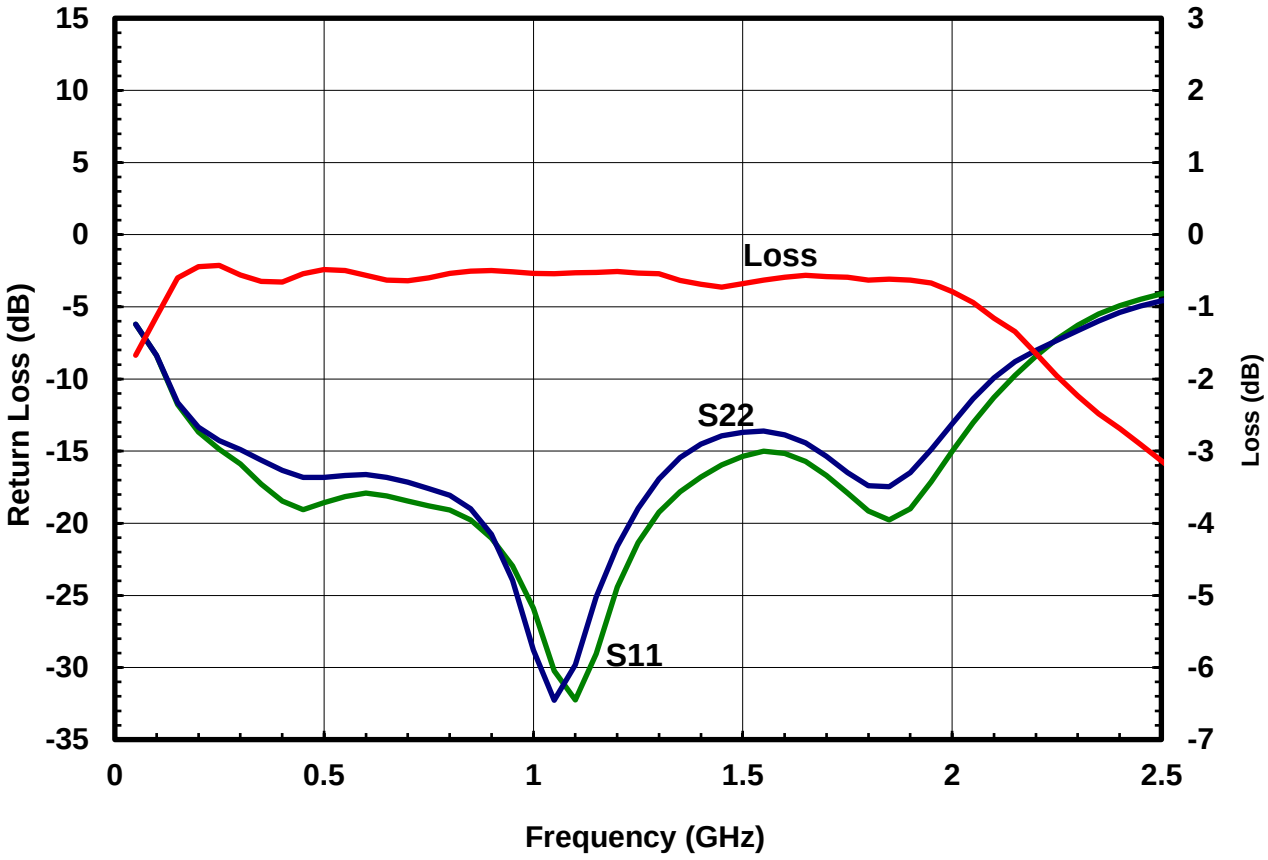
SMALL SIGNAL DATA*

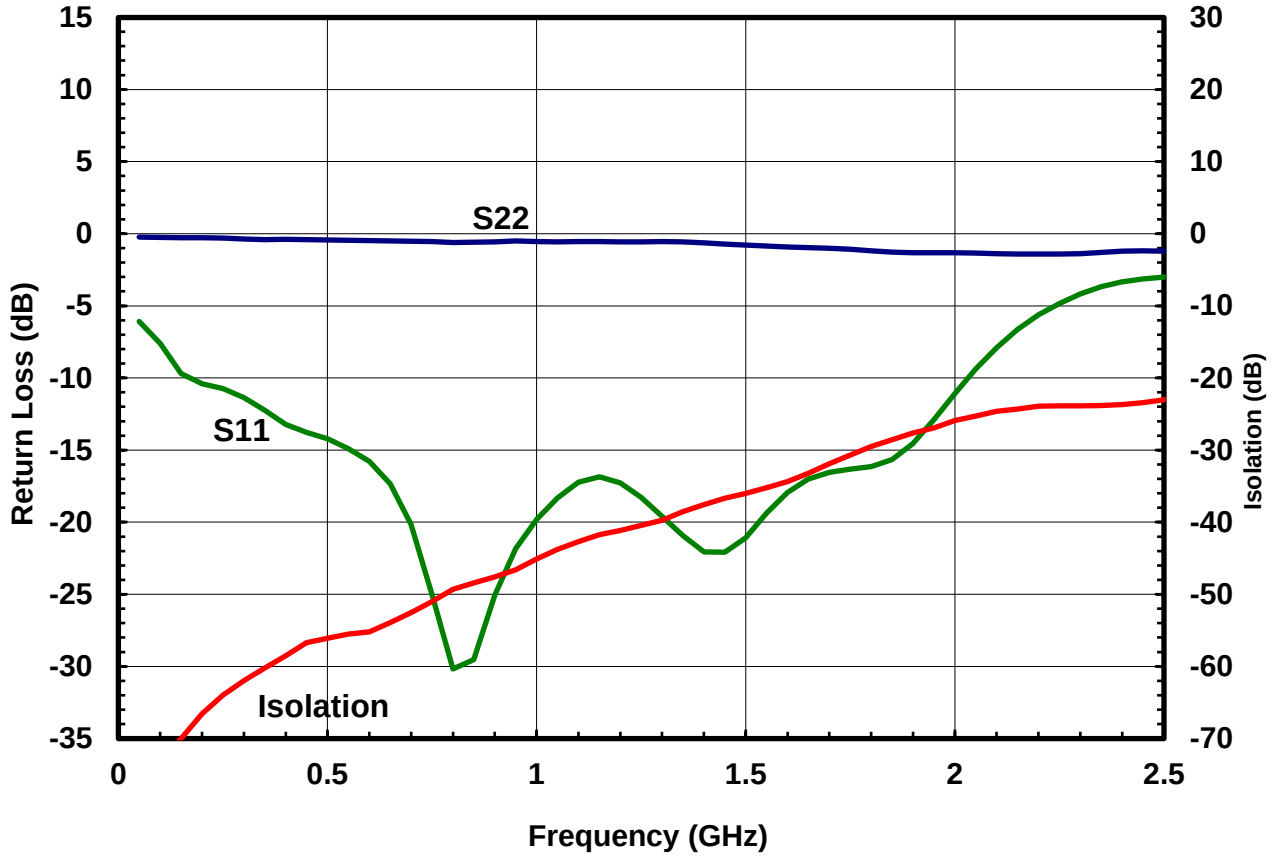
State 1 TTL=0
(Vc = 0V)



State 2 TTL=1
(Vc = +3V)



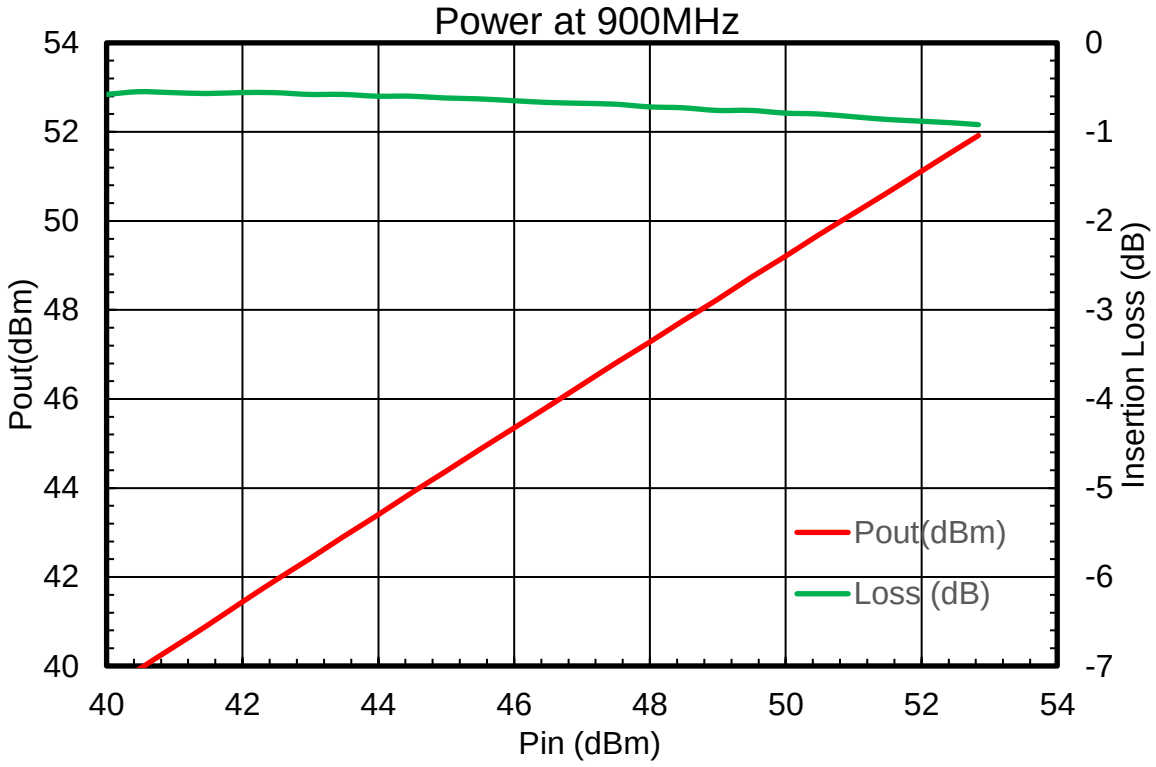


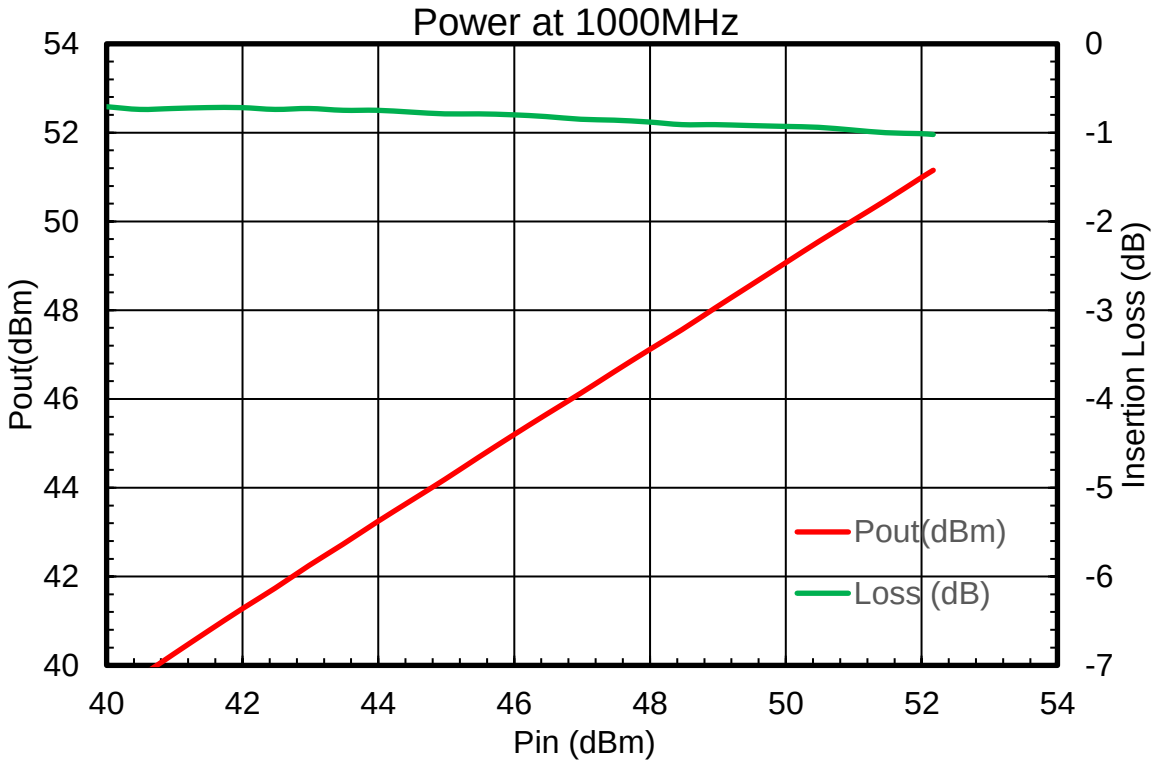


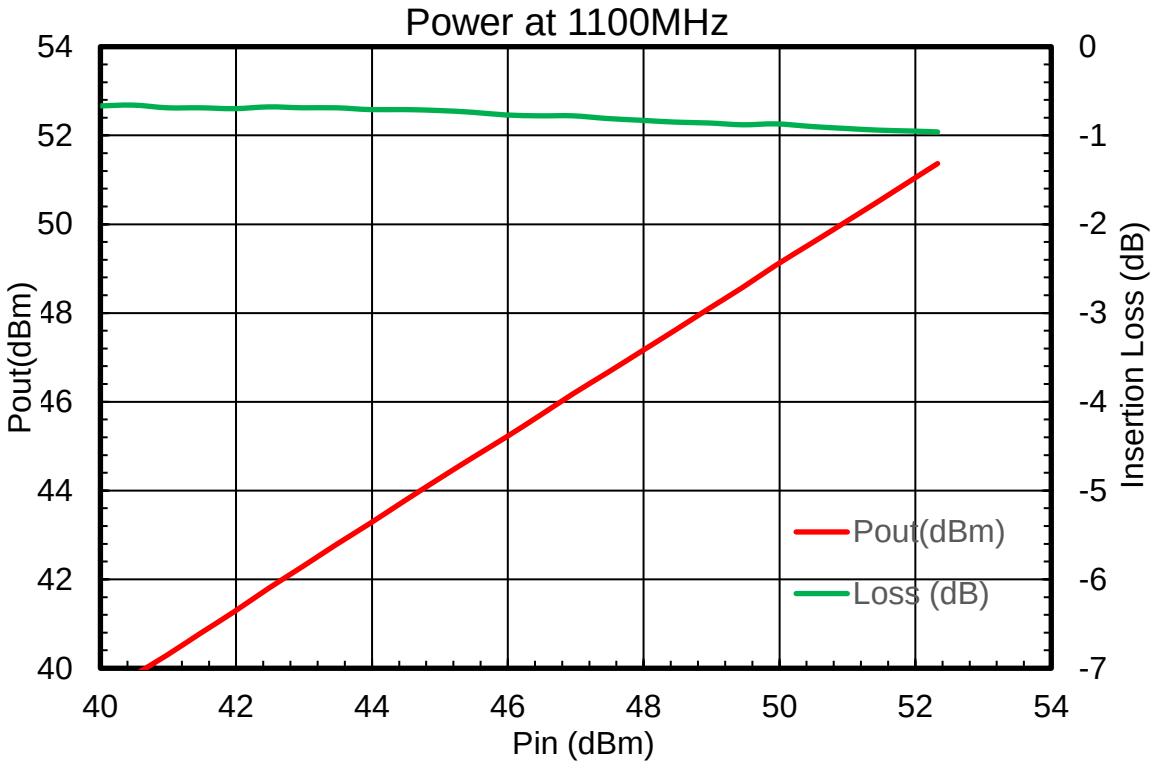
* Small signal S-parameters do not change with voltage supply

POWER **

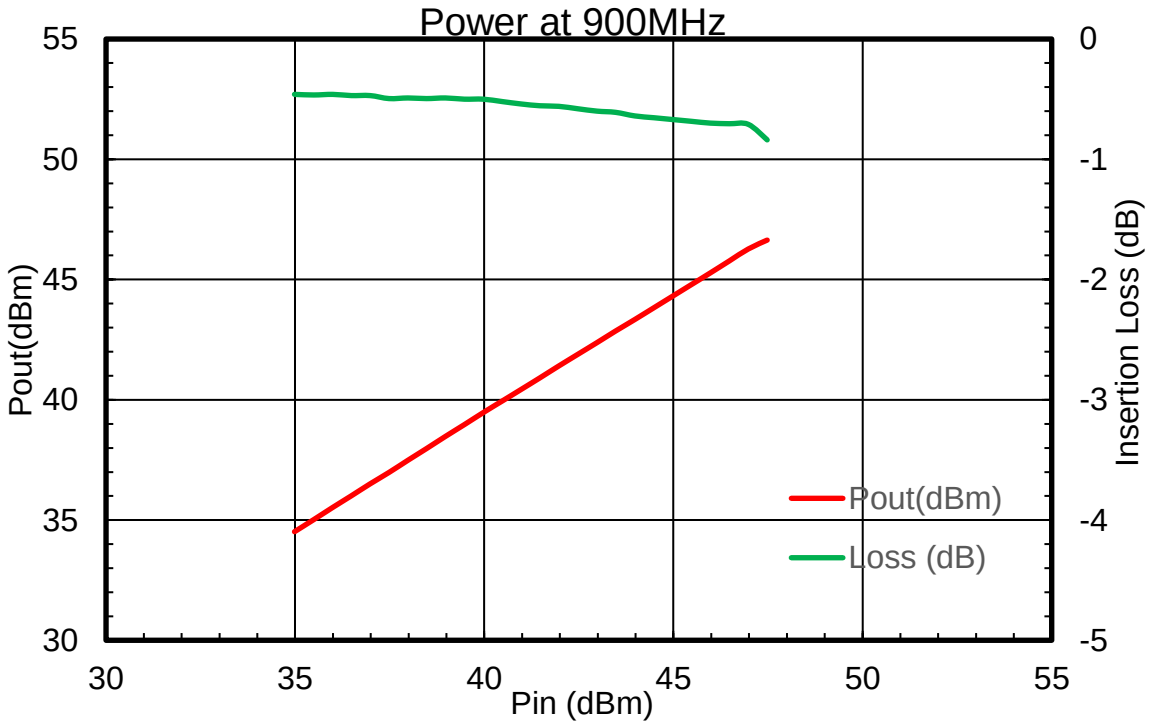
a) CW Power at +28V/230mA Supply





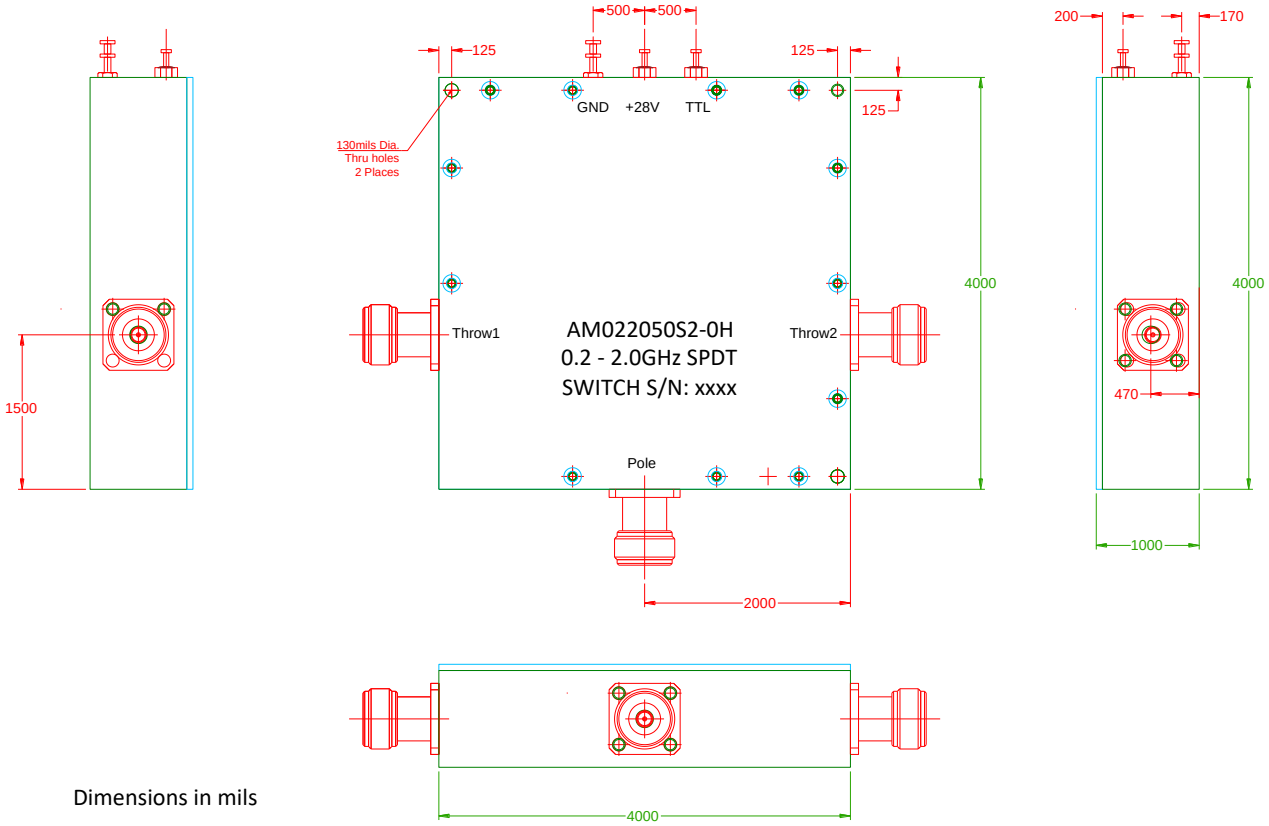


b) CW Power at +15V/120mA Supply



** Power changes with voltage supply

PACKAGE OUTLINE



Dimensions in mils

Notes:

1- TTL=0 for Pole to Throw1, TTL=1 for Pole to Throw2.

2- Maximum RF power is 100W (50dBm) from 500MHz to 2000MHz. Maximum power from 100 to 500MHz is according to the formula P_{max}=0.2W x Frequency (in MHz).

3- Switch is symmetric.

4- All ports have female N-type connectors.