

USB Absorptive Coaxial SP4T Switch 1–2GHz



Key Features

- Wide Band Operation 1-2GHz
- USB Controlled and Powered.
- Low Insertion Loss and High Isolation
- Customization available upon request
- Control SW included.

Typical Applications

- Wireless Infrastructure
- Military and Aerospace
- Test and Measurement
- Radar and Satellite
- 5G LTE Communications

Electrical Specifications, TA=+25°C, USB Powered

Description	PN: RFSP4TA0102GUSB2			
	SP4T Absorptive Switch			
	Low Power Cold Switching			
Parameters	Min.	Typ.	Max.	Units
Frequency Range	1-2			GHz
Insertion Loss		0.7	1.1	dB
Insertion Loss Temperature Coefficient		0.003		dB/ °C
Isolation	70	80		dB
Input VSWR		1.2	1.5	: 1
Output VSWR		1.2	1.5	: 1
RF Input Power (CW)			30	dBm
DC Power Dissipation		0.7		W
0.1dB Compression Point (P0.1dB)		30		dBm
IIP3		40		dBm
Switching Speed	500 Typ.			ns
Weight	1.8 Max.			OZ
Impedance	50			Ω
Bias Current	150 Max.			mA
Control Interface	USB 2.0 (Control Cable Included)			
Input / Output Connectors	SMA-Female			
Finish	Gold Plated or Nickel Plated			
Material	Aluminum			

Ordering Information

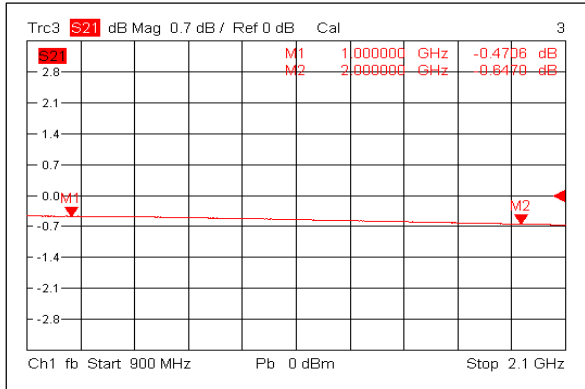
Part Number	Description
RFSP4TA0102GUSB2	SP4T 1-2GHz PIN Diode Switch

Environmental Specifications and Test Standards

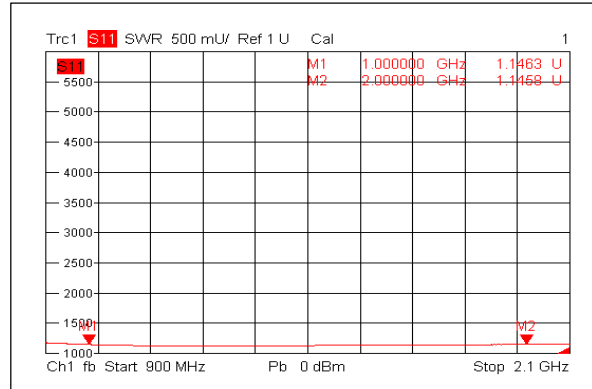
Parameter	Description
Operational Temperature	-40°C~+85°C (Case Temperature)
Storage Temperature	-50°C~+105°C
Thermal Shock	-40°C → +85°C (5 Cycles / 10 hours)
Random Vibration	MIL-STD-202G Table 214-I, Test Condition Letter C 1.5 Hours Per Axis
High Temperature Burn In	Temperature +85°C for 72 Hours
Shock	1. Weight >20g, 50g half sine wave for 11ms, Speed variation 3.44m/s 2. Weight <=20g, 100g Half sine wave for 6ms, Speed variation 3.75m/s 3. Total 18 times (6 directions, 3 repetitions per direction).
Altitude	Standard: 30,000 Ft (Epoxy Sealed Controlled Environment) Optional: Hermetically Sealed (60,000 ft. 1.0 PSI min)
Hermetically Sealed (Optional)	MIL-STD-883 (For Hermetically Sealed Units)

Typical Performance Plots

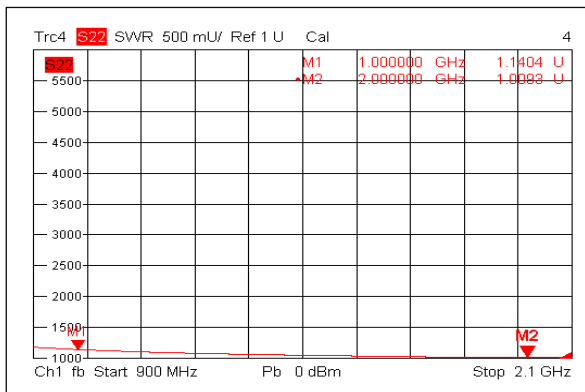
Insertion Loss @+25°C



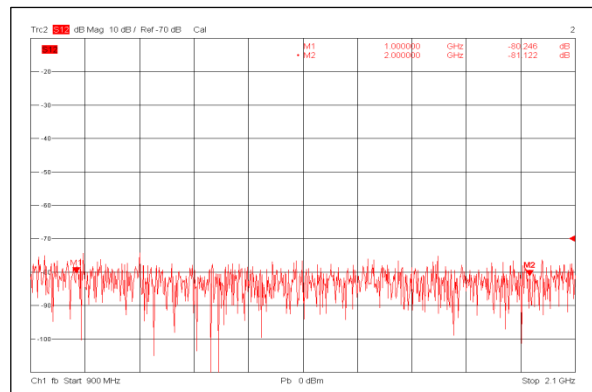
Input VSWR @+25°C



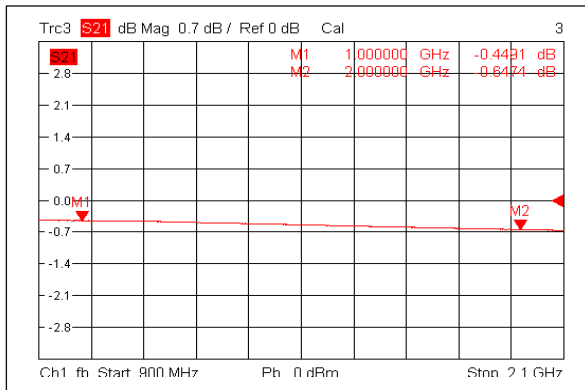
Output VSWR @+25°C



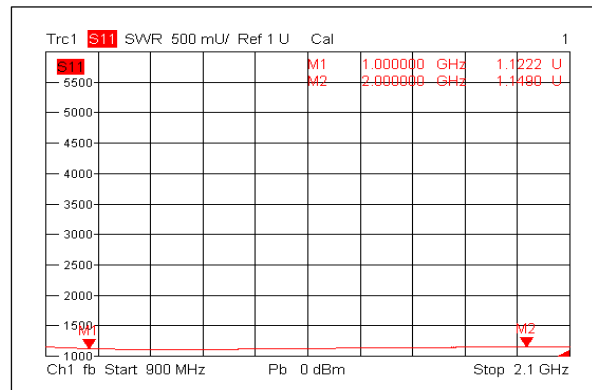
Isolation @+25°C



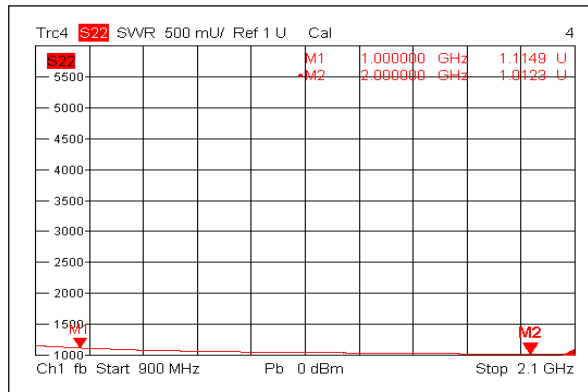
Insertion Loss @-40°C



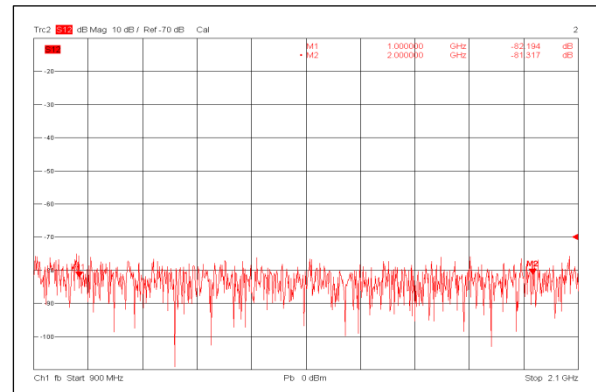
Input VSWR @-40°C



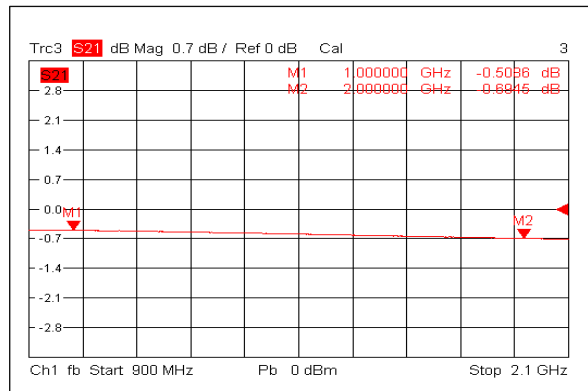
Output VSWR @-40°C



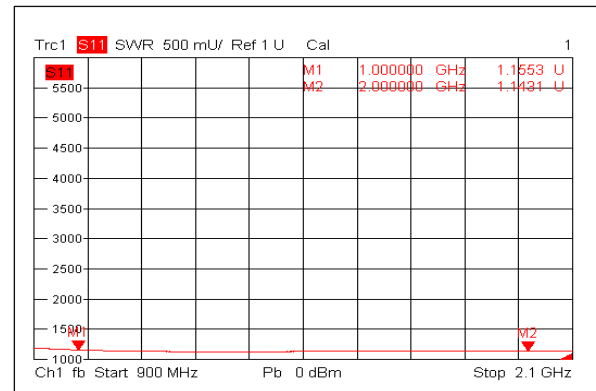
Isolation @-40°C



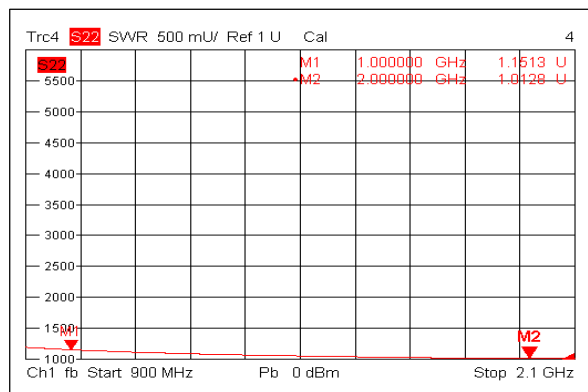
Insertion Loss @+85°C



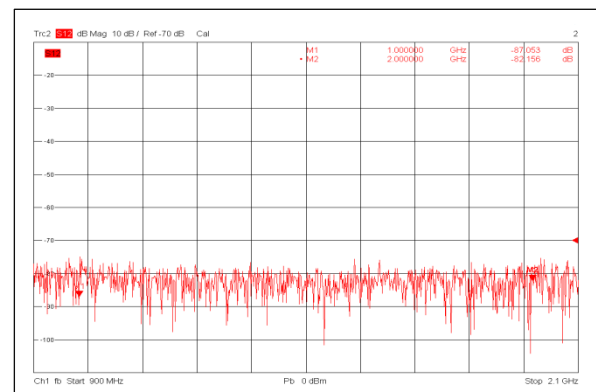
Input VSWR @+85°C



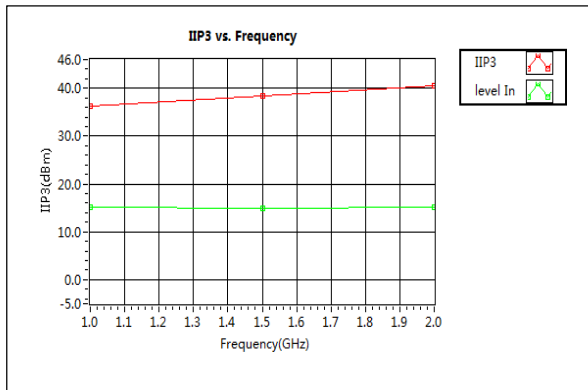
Output VSWR @+85°C



Isolation @+85°C

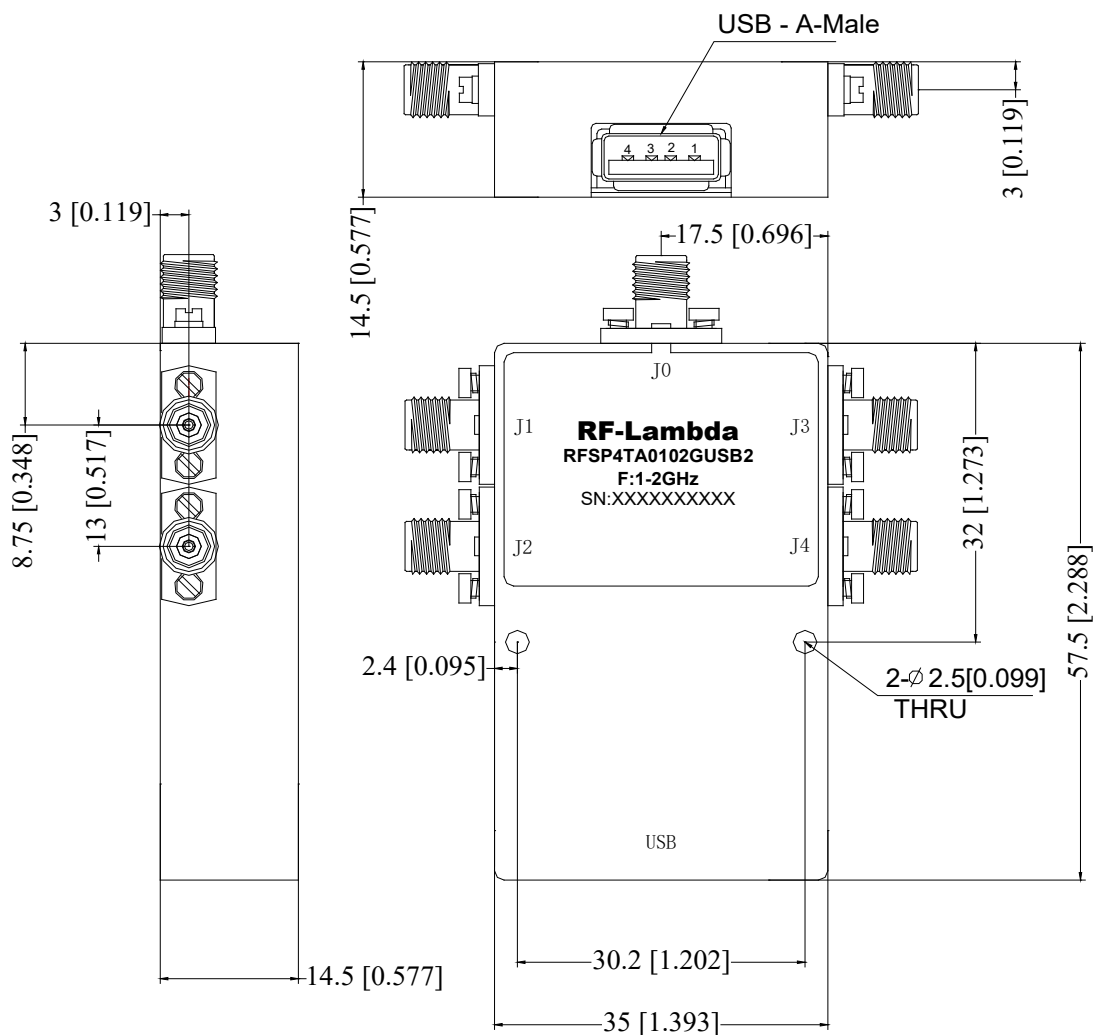


IIP3



Outline Drawing

All Dimensions in mm [inches]
Housing Tolerances ± 0.1 [0.004]



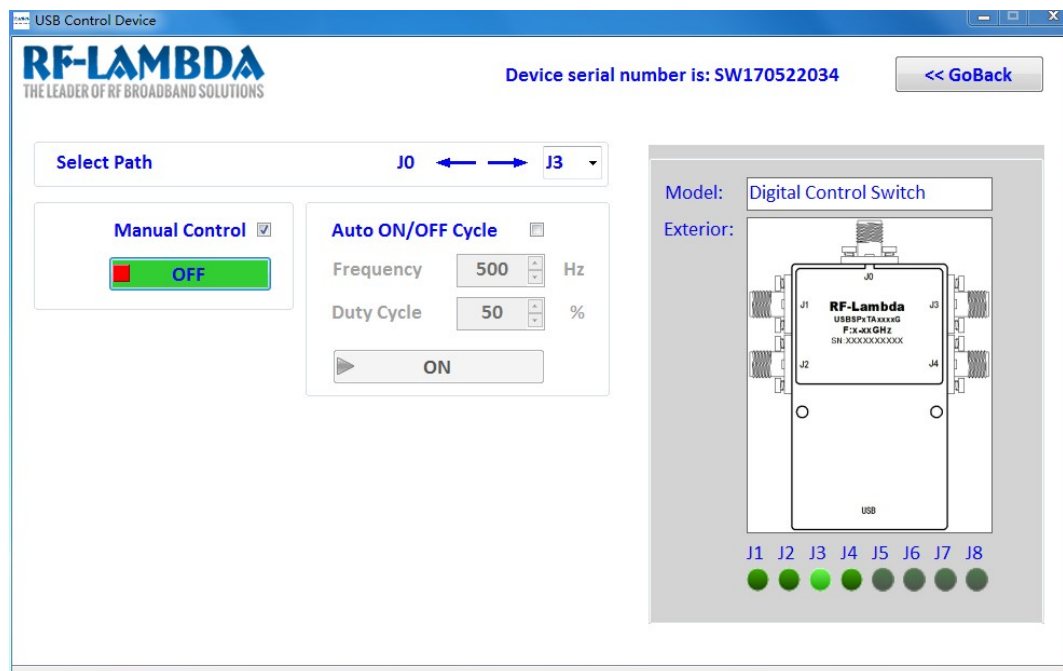
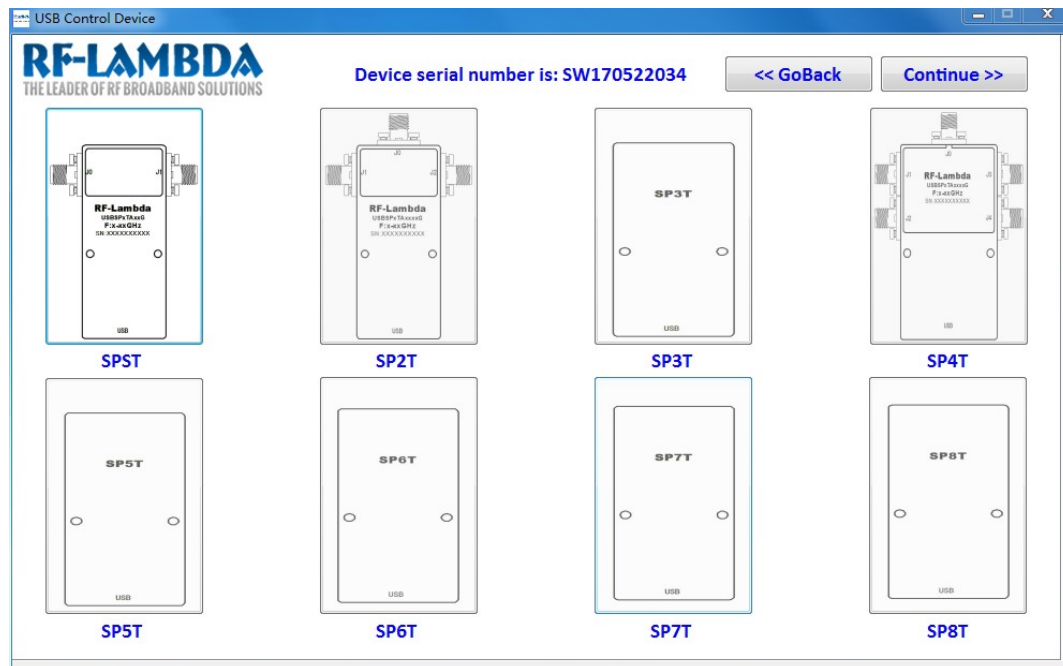
Note: Standard torque wrench must be used to secure RF connectors.





Figure 1 (USB Control Panel)





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