



## Data Sheet

### WiFi Filter 1109

### SPT2G44ACG1

2021/10/25  
V1.1

#### Description:

The Spectron SPT2G44ACG1 is a miniature WIFI filter designed for applications in mobile equipment with Wi-Fi band, and other hotspots and mobile routers.

The SPT2G44ACG1 provides +24 dBm power handling, low insertion loss and high out of band rejection.

The design and manufacturing of the SPT2G44ACG1 exploit Spectron's exclusive TSAW technology to deliver competitive performance against state of the art at a low cost.

The SPT2G44ACG1 is compatible with lead-free SMT soldering processes.

#### Features:

- Unbalanced to unbalanced operation
- Terminating Impedance: 50  $\Omega$
- Compact miniature size
  - 1.1 mm  $\times$  0.5 mm footprint
  - 0.5 mm max-height
- Environmental
  - RoHS 6 Compliant

#### Specifications:

- Performance specified from -20°C to +85°C
- Useable passband 78MHz
- The rejection in Band40 of LTE: 31 dB<sub>INT</sub> Typ
- The rejection in Band41 of LTE: 35 dB<sub>INT</sub> Typ
- 

#### Applications:

- ISM band applications
- Smart Meters
- Other hotspots and mobile routers

## Electrical Specifications

**Table 1** Electrical Specifications: Single filter.

Single Filter			Specification		
Parameter	Condition [MHz]	Unit	Minimum <sup>1</sup>	Typical <sup>2</sup>	Maximum <sup>1</sup>
Insertion Loss	2403.00 ~ 2481.00	dB <sub>INT</sub>	-	2.0	3.7
	2406.00 ~ 2478.00	dB <sub>INT</sub>	-	1.9	3.2
Inband Ripple	2401.00 ~ 2483.00	dB	-	1.5	3.7
VSWR	2401.00 ~ 2483.00	-	-	1.6	2.2
Absolute Attenuation	10.00 ~ 1559.00	dB	23	30	-
	1710.00 ~ 1785.00	dB	23	30	-
	1805.00 ~ 1880.00	dB	23	30	-
	1850.00 ~ 1990.00	dB	23	30	-
	2110.00 ~ 2170.00	dB	20	25	-
	2302.50 ~ 2367.50	dB <sub>INT</sub>	27	30	-
	2370.50 ~ 2377.50	dB <sub>INT</sub>	27	33	-
	2500.00 ~ 2505.00	dB <sub>INT</sub>	28	30	-
	2507.50 ~ 2687.50	dB <sub>INT</sub>	29	38	-
	2555.00 ~ 2655.00	dB <sub>INT</sub>	25	30	-
	2620.00 ~ 2690.00	dB <sub>INT</sub>	27	31	-
2690.00 ~ 6000.00	dB	18	23	-	

1. Min/Max specifications are guaranteed at the indicated temperature (unless otherwise noted).
2. Typical data is the average value (arithmetic mean) of the parameter over the indicated frequency range at +25°C.

**Figure 1** Electrical Characteristics: Narrowband.

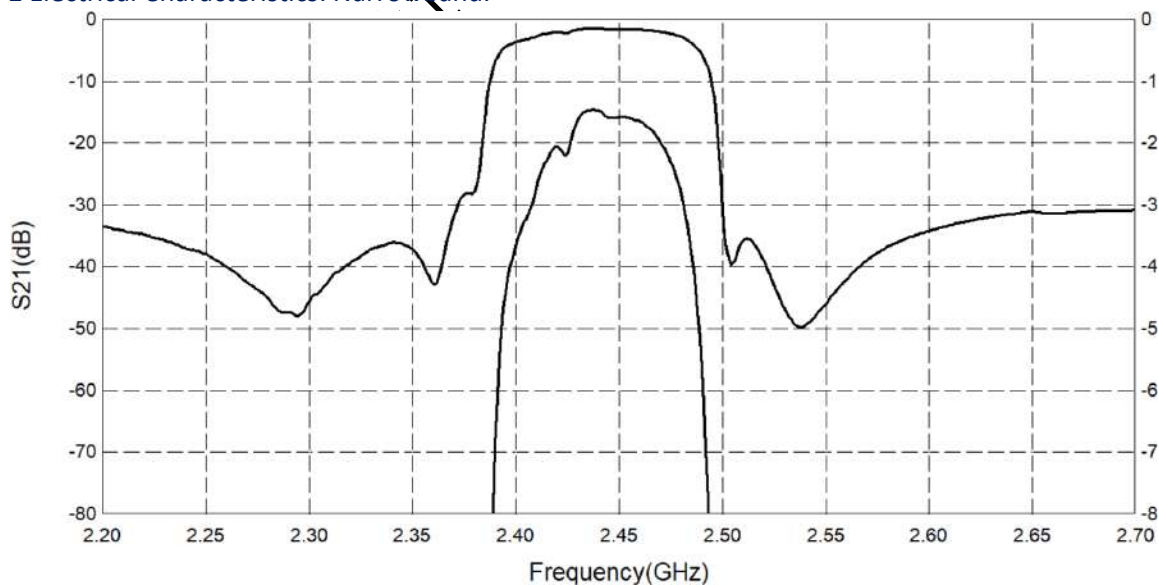


Figure 2 Electrical Characteristics: Wideband.

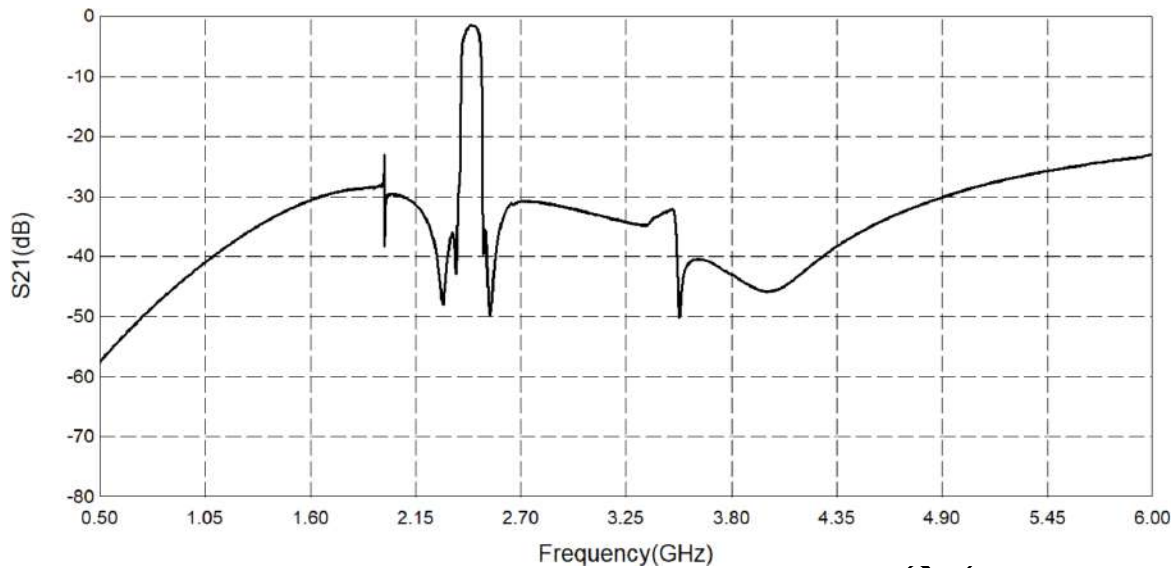
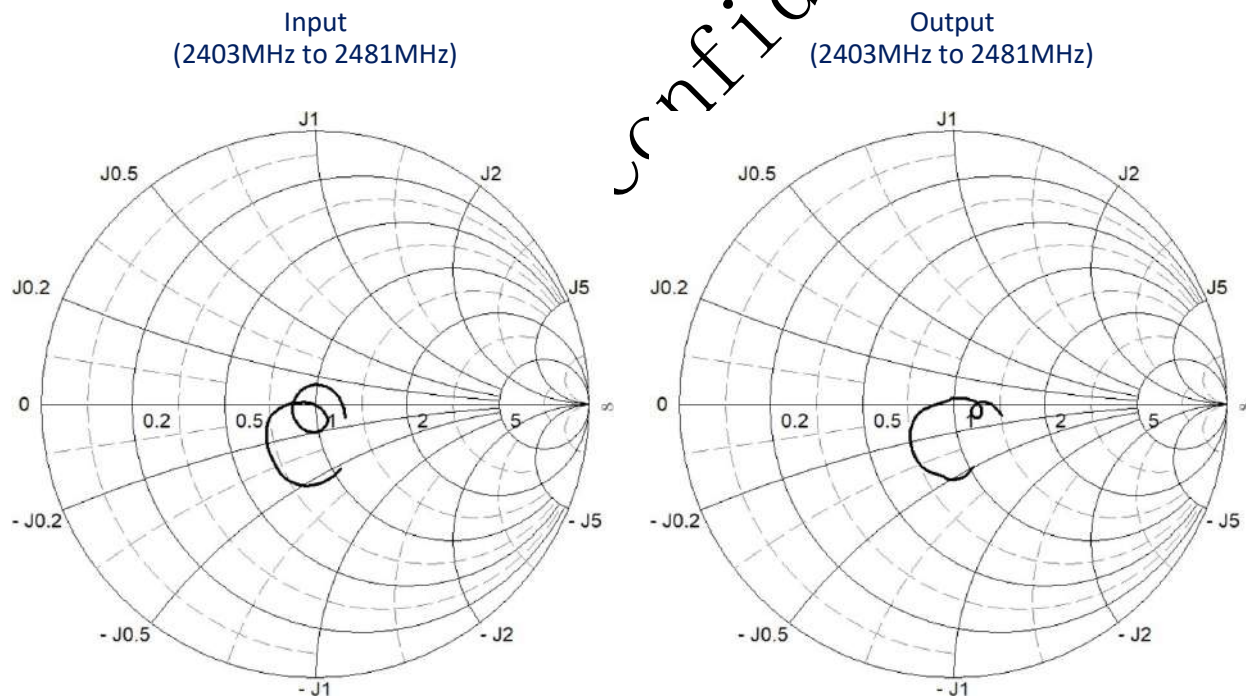
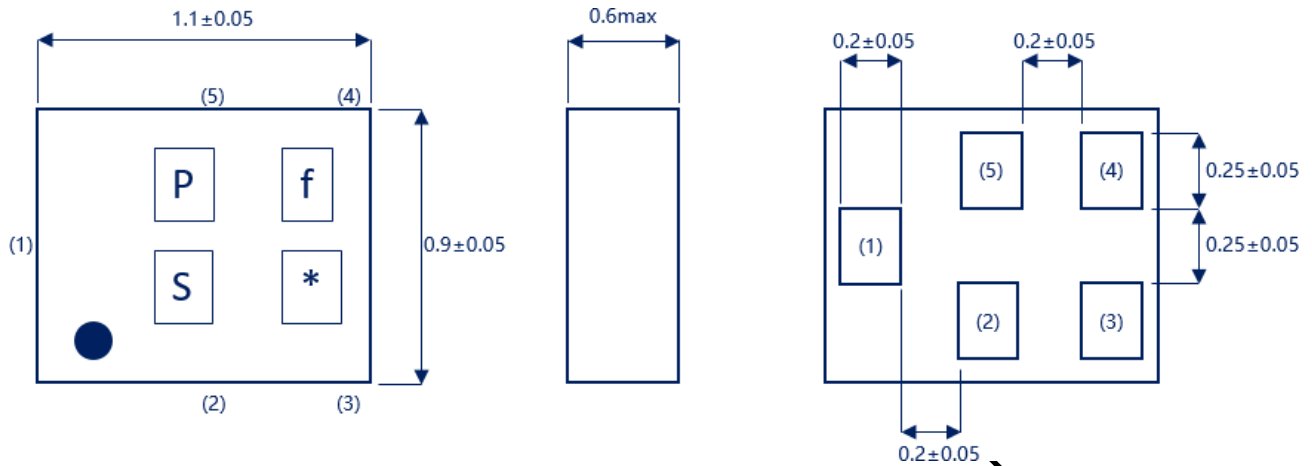


Figure 3 Input and Output Impedances.



Package & Dimensions<sup>1</sup>

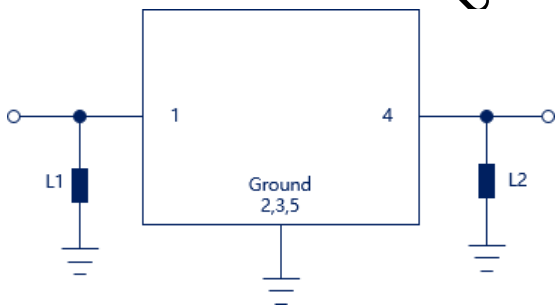


Marking Description	
P	Status Code
f	Band Code
S	Date Code
*	Lot Number

Pin Configuration	
1	Input
4	Output
2,3,5	Ground

1. All dimensions are in millimeters. Angles are in degrees.

Matching



Port	Matching Component <sup>1</sup>
Input	L1 : 4.3 nH (Ideal inductor)
Output	L2 : 4.3 nH (Ideal inductor)

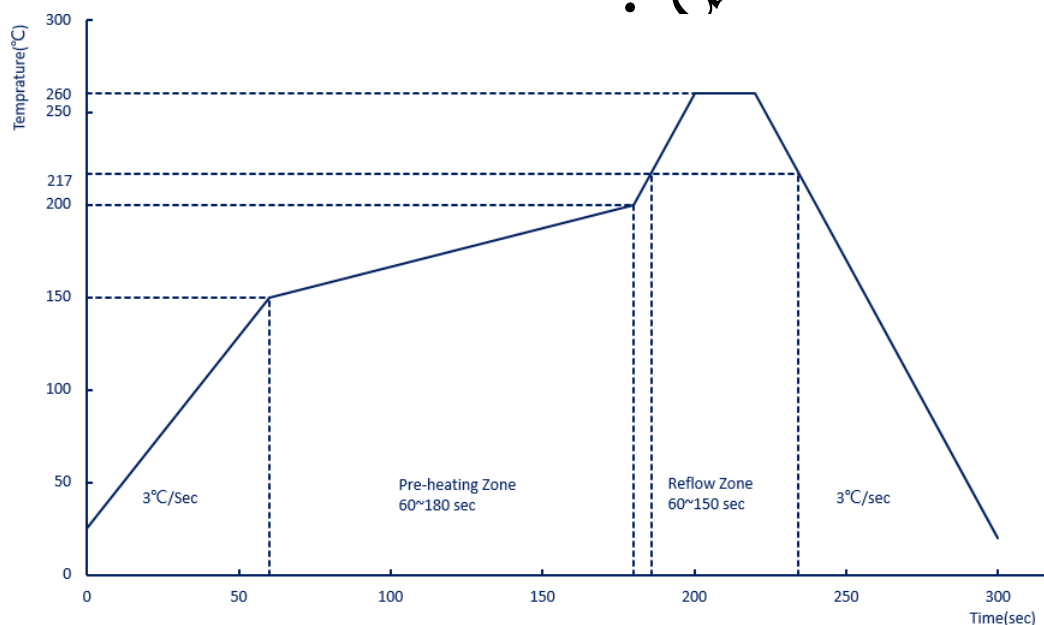
1. Matching component values shown are recommended based on the Spectron evaluation board. Value adjustment may be required on the end-user's circuit boards for the selected component manufacturer and PCB material.

## Maximum Ratings<sup>1</sup>

Characteristic	Rating	Unit
Operating Temperature <sup>2</sup>	-20 ~ +85	°C
Storage Temperature	-40 ~ +85	°C
Maximum Input Power <sup>3,4</sup>	+24	dBm
DC Voltage Between The Terminals <sup>5</sup>	3	V
ESD Voltage (HBM)	> 100	V
ESD Voltage (CDM)	> 100	V
Moisture Sensitivity Levels	3	/

1. Operation exceeding any one of these conditions may result in permanent damage to the device.
2. The device will function over the recommended range without degradation in reliability or permanent change in performance but is not guaranteed to meet electrical specifications.
3. LTE modulation. Applies over a temperature range of TC = -20° to +85°C.
4. Maximum input power is only specified for input power of SPT2G44ACG1 (Pin 1).
5. The DC resistance from Pin 1 and 4 (Input/Output) to Pin2, Pin3 and Pin5(Ground) of this device is typically hundreds of kΩ to MΩ.

## Recommended SMT Solder Profile



## Ordering Information

Part Number	Number of Devices	Container
SPT2G44ACG1-1	10000pcs	Tape and Reel

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