



**Data Sheet**  
**1582.4MHz SAW 1411**  
**SPT1582M1411A**

V1.1

**Description:**

The Spectron SPT1582M1411A is a GNSS SAW filter with usable passband 4.0 MHz for GPS, 4.1 MHz for COMPASS and 8.34 MHz for GLONASS. It is designed for applications in RF module, GNSS system, IOT, Information& Communications filed.

The design and manufacturing of the SPT1582M1411A exploit Spectron's exclusive TSAW technology to deliver competitive performance against state of the art at a low cost.

The SPT1582M1411A is compatible with high volume, lead-free SMT soldering processes.

**Features:**

- Single-Ended Input and Output
- Terminating Impedance: 50  $\Omega$
- Dimension: 1.40x1.1x0.60 mm
- Environmental
  - RoHS Compliant

**Specifications:**

- Operation Temperature:-40°C to +85°C
- Usable passband
  - 4.0 MHz for GPS
  - 4.1 MHz for COMPASS
  - 8.34 MHz for GLONASS
- Compact miniature size
  - 1.40x1.1 mm footprint
  - 0.6mm max-height

**Applications:**

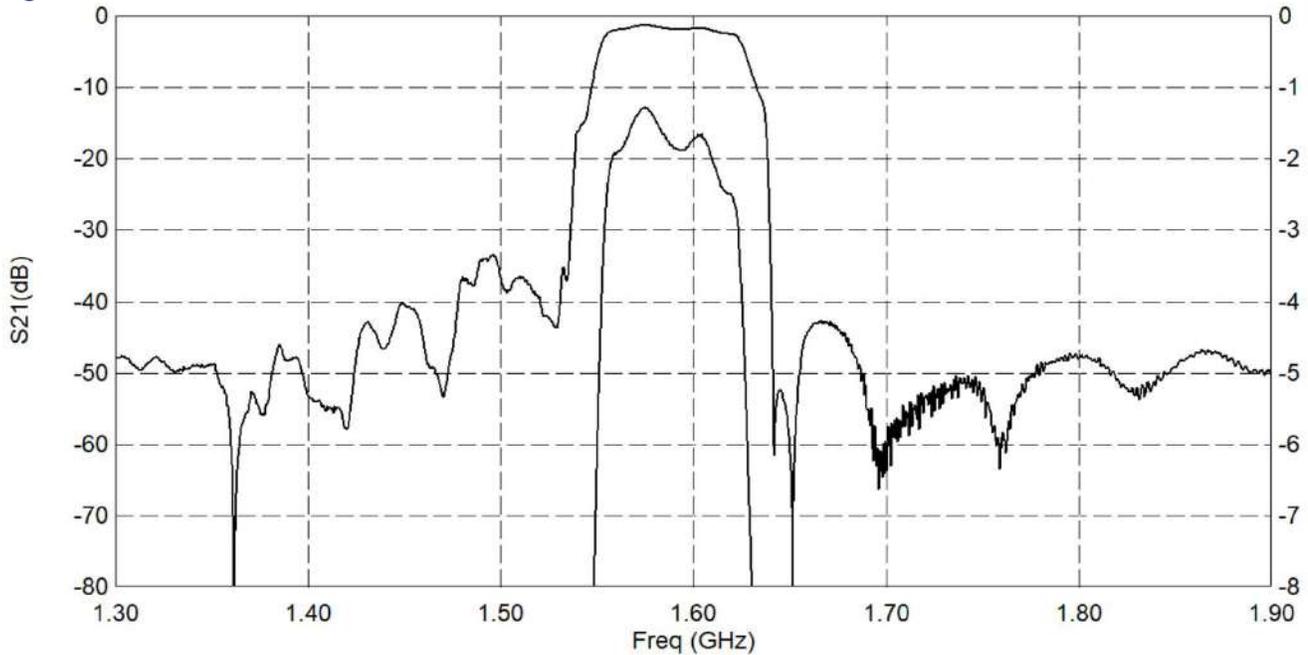
- RF module
- GNSS system
- Information& Communications Devices

## Electrical Specifications

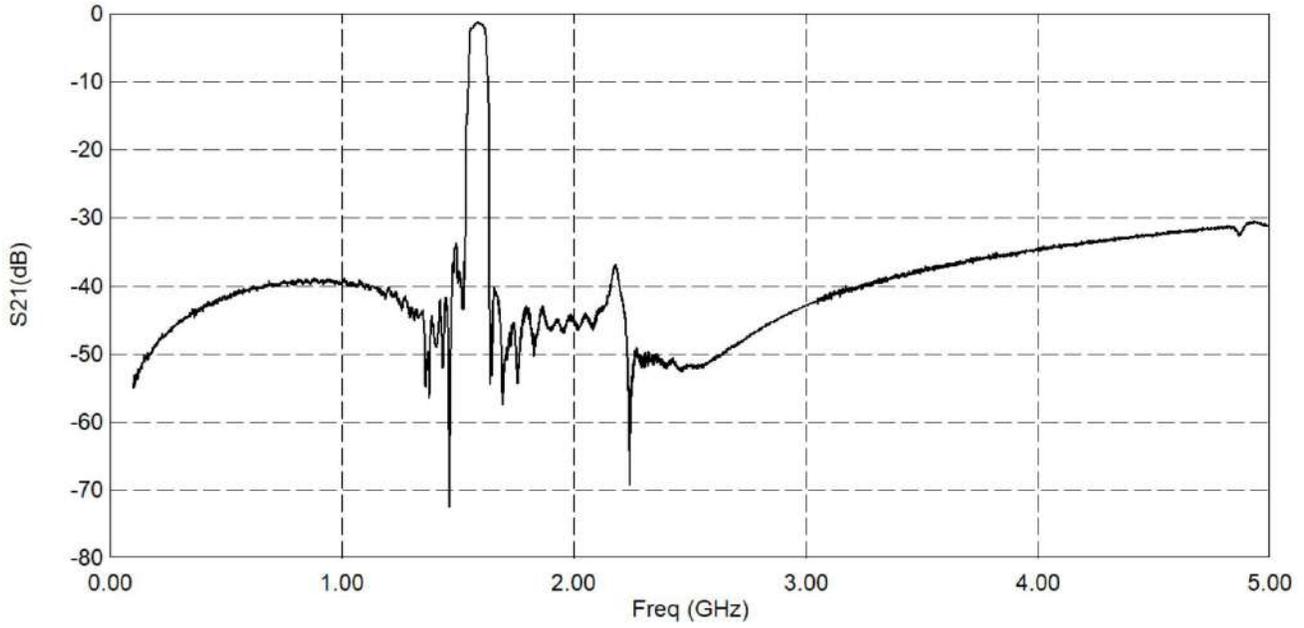
**Table 1** Electrical Specifications

Single Filter		Specification			
Parameter	Condition[MHz]	Minimum	Typical	Maximun	Unit
Center Frequency	-	-	1582.4	-	MHz
Insertion Loss	1559.05 - 1563.15	-	1.8	2.2	dB
	1574.42 - 1576.42	-	1.2	1.5	dB
	1597.78 - 1605.66	-	1.5	2.0	dB
Ripple Deviation	1559.05 - 1563.15	-	0.2	1.0	dB
	1574.42 - 1576.42	-	0.2	1.0	dB
	1597.78 - 1605.66	-	0.2	1.0	dB
VSWR	1559.05 - 1563.15	-	1.6	2.0	-
	1574.42 - 1576.42	-	1.2	2.0	-
	1597.78 - 1605.66	-	1.3	2.0	-
Attenuation	10 - 925	35	38	-	dB
	1427 - 1463	38	42	-	dB
	1710 - 1785	38	42	-	dB
	1850 - 2025	38	42	-	dB
	2300 - 3000	40	45	-	dB
	4800 - 5000	25	30	-	dB

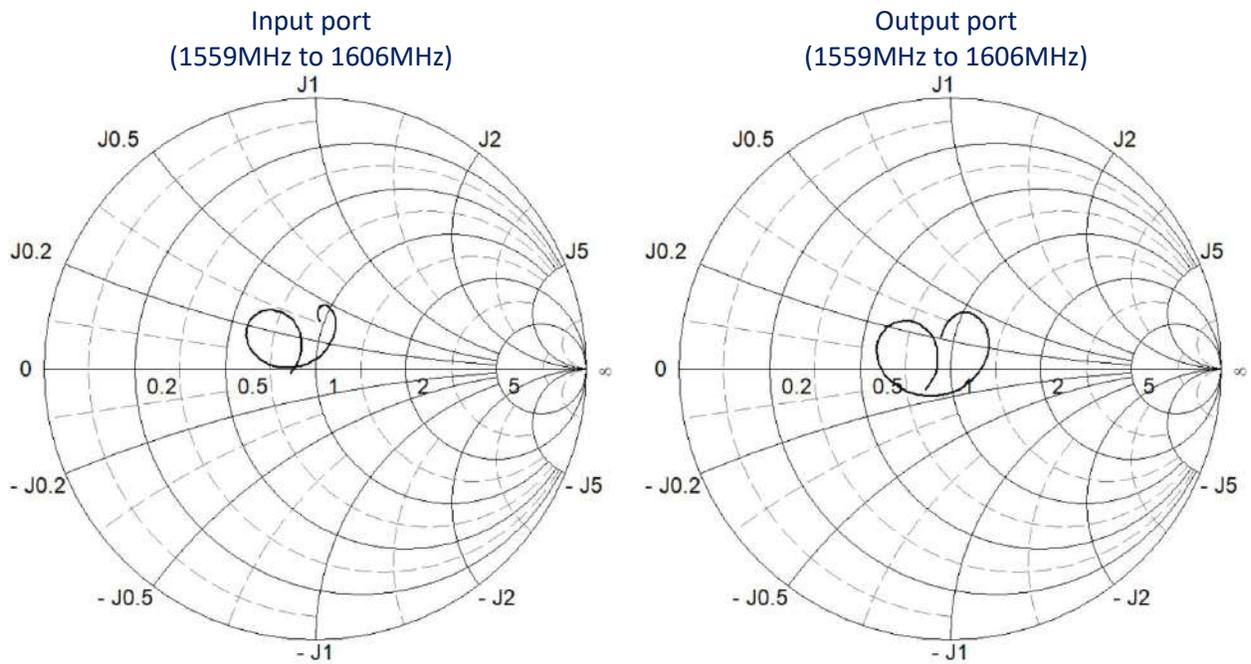
**Figure 1** Electrical Characteristics: Narrow band



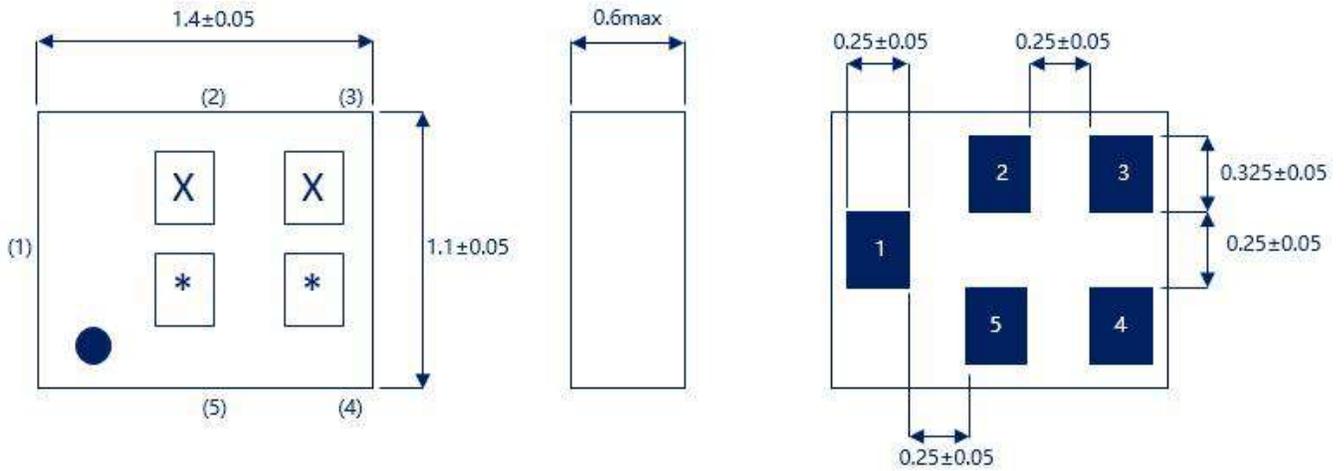
**Figure 2** Electrical Characteristics: Wide band



**Figure 3** Electrical Characteristics: Smith chart



**Package & Dimensions**

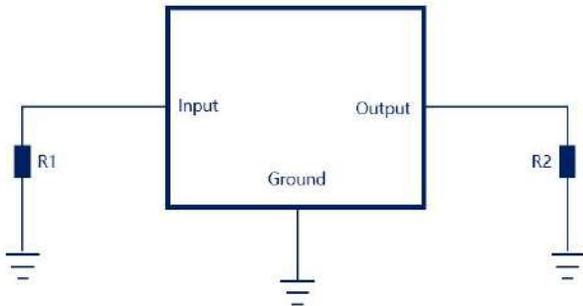


Marking Description	
-	Product Code
*#	Date Code

Pin Configuration	
1	Input
4	Output
Others	Ground

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

**Test circuit**



Port	Matching Component <sup>1</sup>
Input	R1: 50Ω
Output	R2: 50Ω

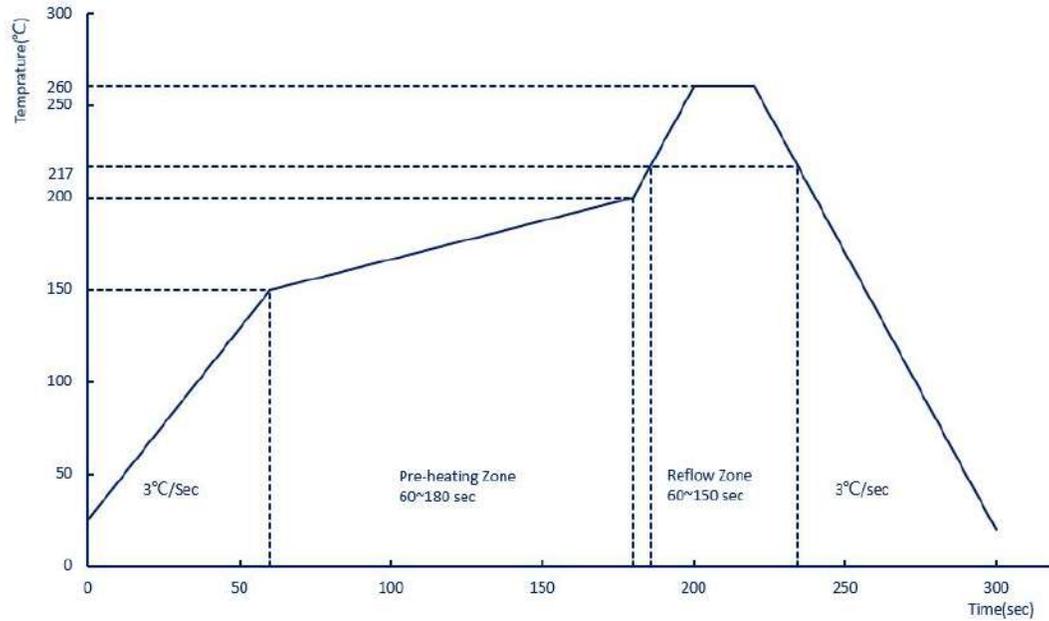
1. Matching component values shown are recommended based on the Spectron evaluation board. Value adjustment may be required on the end-user's circuit boards for the selected component manufacturer and PCB material.

## Maximum Ratings

Characteristic		Rating	Unit
Operation Temperature <sup>2</sup>	T	-40 ~ +85	°C
Storage Temperature	Tstg	-40 ~ +85	°C
RF Power Dissipation	P	10	dBm

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.

## Recommended SMT Solder Profile



## Ordering Information

Part Number	Number of Devices	Container
SPT1582M1411A	10000pcs	Tape and Reel



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