



## SAW Components

SAW filter

WLAN

<b>Series/type:</b>	<b>B9455</b>
<b>Ordering code:</b>	<b>B39252B9455M410</b>
Date:	August 14, 2009
Version:	2.0



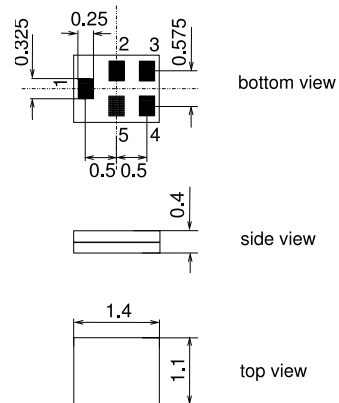
### Application

- Low-loss RF filter for WLAN
- 50 Ω / 50 Ω unbalanced to unbalanced operation
- Low insertion attenuation
- Usable passband 100.0 MHz



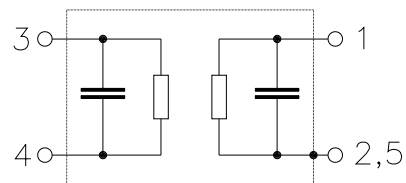
### Features

- Package size 1.4 x 1.1 x 0.4 mm<sup>3</sup>
- Package code QCS51
- RoHS compatible
- Approximate weight 0.003 g
- Package for **Surface Mount Technology (SMT)**
- Ni, gold-plated terminals
- **Electrostatic Sensitive Device (ESD)**



### Pin configuration

- 1 Input unbalanced
- 4 Output unbalanced
- 3 To be grounded via coil (see matching circuit on page 4)
- 2,5 To be grounded





Data Sheet



Characteristics of Filter Utilizing Matching Circuit

Temperature range for specification:  $T = -30^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$   
 Terminating source impedance:  $Z_S = 50\ \Omega$  + matching network  
 Terminating load impedance:  $Z_L = 50\ \Omega$  + matching network

		B9455			
		min.	typ. @ 25 °C	max.	
<b>Center frequency</b>	$f_C$	—	2450.0	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{\text{max}}$	—	1.7	2.0	dB
2400.0 ... 2500.0 MHz					
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$	—	0.5	1.0	
2400.0 ... 2500.0 MHz					
<b>VSWR (Input and Output)</b>		—	1.5	2.0	
2400.0 ... 2500.0 MHz					
<b>Attenuation</b>	$\alpha$				
50.0 ... 1350.0 MHz		40	43	—	dB
1350.0 ... 1990.0 MHz		35	37	—	dB
1990.0 ... 2170.0 MHz		25	29	—	dB
2750.0 ... 4800.0 MHz		11	13	—	dB
4800.0 ... 5000.0 MHz		28	32	—	dB
5000.0 ... 5500.0 MHz		25	28	—	dB
5500.0 ... 6000.0 MHz		22	26	—	dB
6000.0 ... 7500.0 MHz		—	23	—	dB



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SAW filter

2450.0 MHz

Data Sheet



Maximum ratings

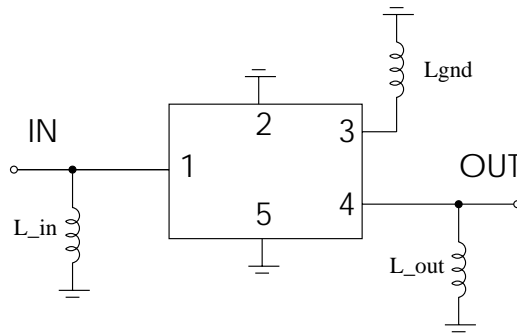
Operable temperature range	T	-30/+85	°C	
Storage temperature range	T <sub>stg</sub>	-40/+85	°C	
DC voltage	V <sub>DC</sub>	3	V	
ESD voltage	V <sub>ESD</sub>	50 <sup>1)</sup>	V	machine model, 10 pulses
Input power at 2400,0 ... 2500,0 MHz	P <sub>IN</sub>	24	dBm	CW signal, +65°C, 2000hr

<sup>1)</sup> acc. to JESD22-A115A (machine model), 10 negative & 10 positive pulses.

Matching Circuit

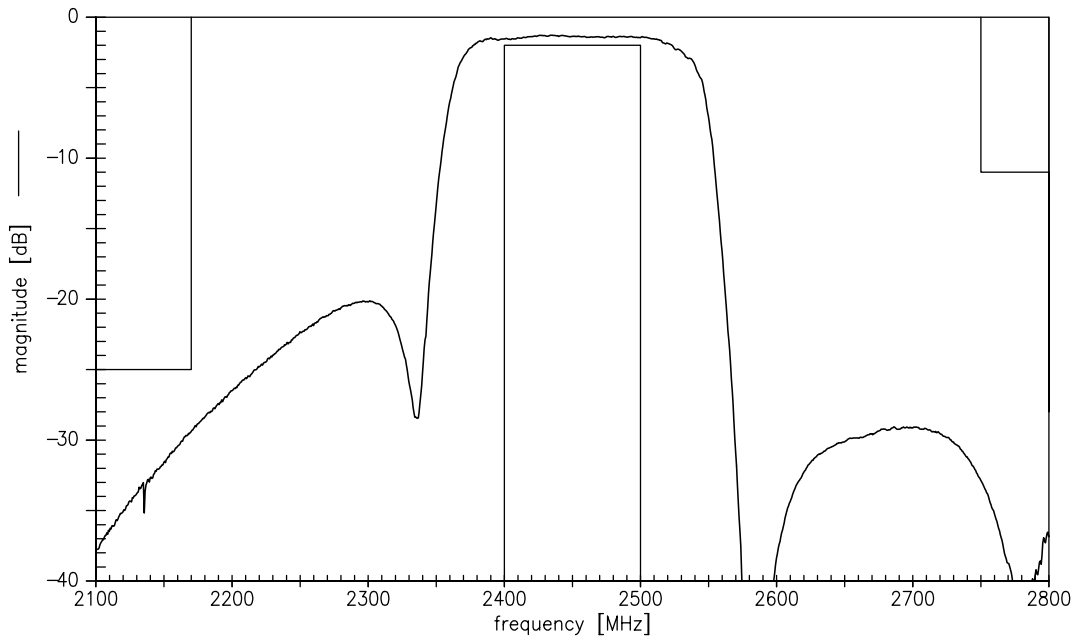
Matching element values  
(ideal coils, Q = ∞):

L<sub>in</sub> = 1.8 nH  
L<sub>out</sub> = 2.5 nH  
L<sub>gnd</sub> = 1.9 nH

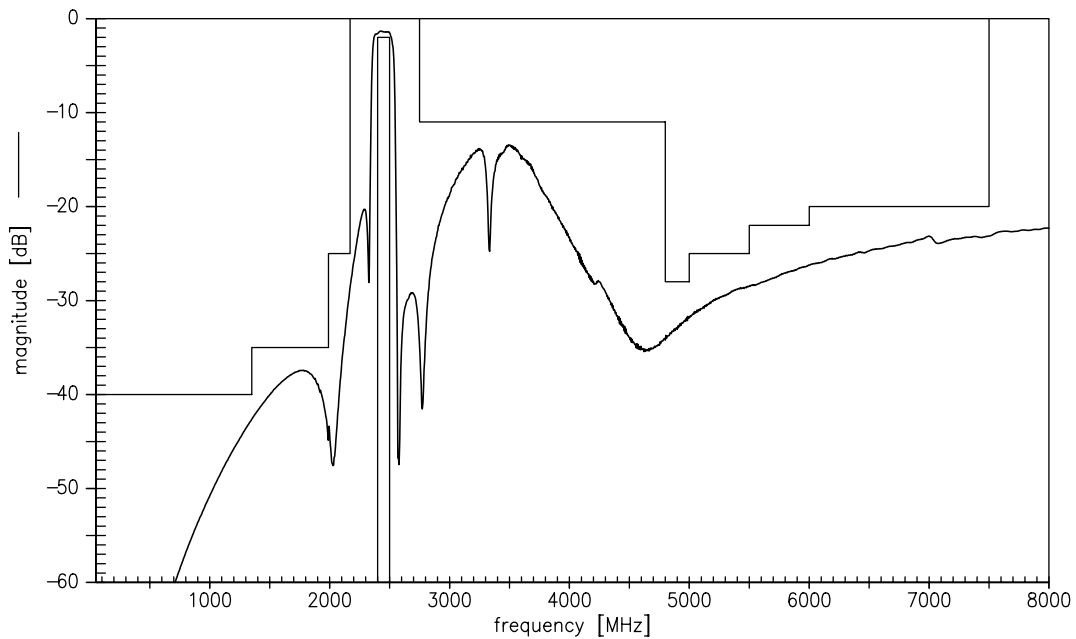




Transfer Function Including Matching Circuit



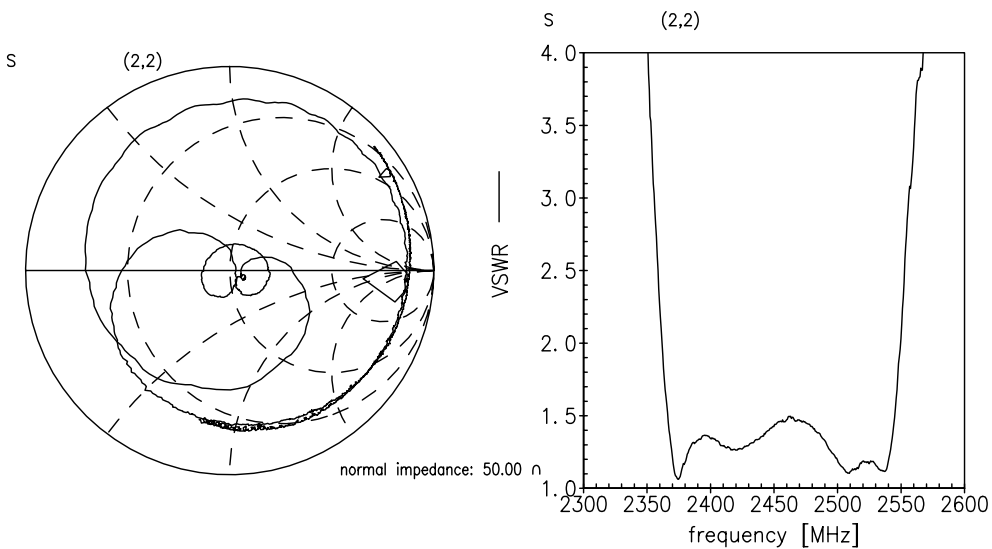
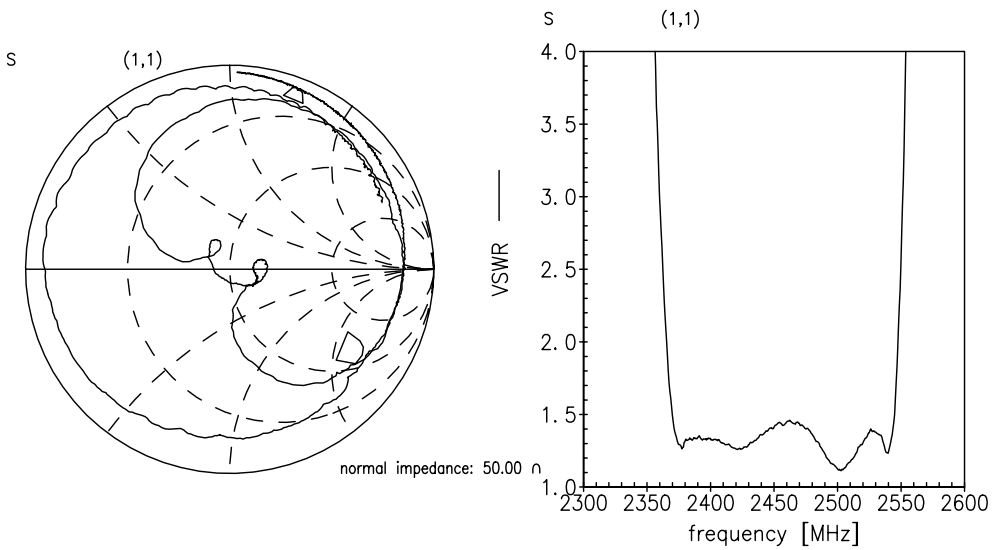
Transfer Function Including Matching Circuit (wideband)



Please read *cautions and warnings* and *important notes* at the end of this document.



Smith Charts Including Matching Circuit





<b>SAW Components</b>	<b>B9455</b>
<b>SAW filter</b>	<b>2450.0 MHz</b>
Data Sheet	

## References

<b>Type</b>	B9455
<b>Ordering code</b>	B39252B9455M410
<b>Marking and package</b>	C61157-A8-A3
<b>Packaging</b>	F61074-V8237-Z000
<b>Date codes</b>	L_1126
<b>S-parameters</b>	B9455_NB.s3p B9455_WB.s3p See file header for pin/port assignment
<b>Soldering profile</b>	S_6001
<b>RoHS compatible</b>	defined as compatible with the following documents: "DIRECTIVE 2002/95/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 27 January 2003 on the restriction of the use of certain hazardous substances in electrical and electronic equipment. 2005/618/EC from April 18th, 2005, amending Directive 2002/95/EC of the European Parliament and of the Council for the purposes of establishing the maximum concentration values for certain hazardous substances in electrical and electronic equipment."
<b>Moldability</b>	Before using in overmolding environment, please contact your EPCOS sales office.

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