



## **SAW Components**

SAW RF filter

WLAN

<b>Series/type:</b>	<b>B9430</b>
<b>Ordering code:</b>	<b>B39252B9430M410</b>
Date:	September 02, 2008
Version:	2.1



**SAW Components**

**B9430**

**SAW RF Filter**

**2450.0 MHz**

Data Sheet



### Revision History

Changes compared to previously issued iteration

<b>Issue</b>	<b>Originator</b>	<b>Detailed specification changes</b>	<b>Date</b>
2.0	K. Morozumi	Initial release	Jul. 11, 2007
2.1	K. Morozumi	changed Lg_out, 1.4nH -> 1.5nH	Sep. 02, 2008

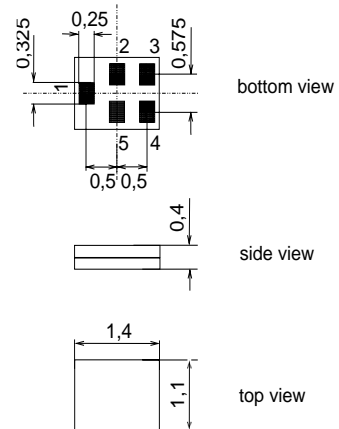
**Application**

- Low-loss RF filter for WLAN
- Unbalanced to unbalanced operation
- Low insertion attenuation
- Usable passband 100 MHz



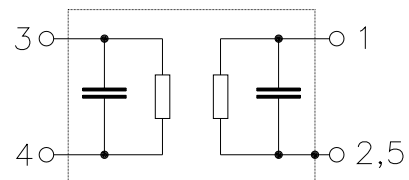
**Features**

- 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 Unbalanced input
- 4 Unbalanced output
- 3 Output ground
- 2,5 To be grounded





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**Characteristics**

Temperature range for specification: T = +25 °C  
 Terminating source impedance: Z<sub>S</sub> = 50Ω + matching network  
 Terminating load impedance: Z<sub>L</sub> = 50Ω + matching network

				min.	typ. @ 25 °C	max.	
<b>Center frequency</b>	f <sub>C</sub>			—	2450.0	—	MHz
<b>Maximum insertion attenuation</b>	α <sub>max</sub>			—	2.2	2.6 <sup>1)</sup>	dB
2400.0 ... 2500.0 MHz							
<b>Amplitude ripple (p-p)</b>	Δα			—	0.7	1.2	dB
2400.0 ... 2500.0 MHz							
<b>Input VSWR</b>				—	1.7	2.0	
2400.0 ... 2500.0 MHz							
<b>Output VSWR</b>				—	1.7	2.0	
2400.0 ... 2500.0 MHz							
<b>Attenuation</b>	α						
100.0 ... 960.0 MHz				33	36	—	dB
960.0 ... 1570.0 MHz				32	34	—	dB
1570.0 ... 1580.0 MHz				32	34	—	dB
1580.0 ... 1710.0 MHz				32	34	—	dB
1710.0 ... 1910.0 MHz				32	34	—	dB
1910.0 ... 1980.0 MHz				32	34	—	dB
2110.0 ... 2170.0 MHz				36	40	—	dB
2750.0 ... 3200.0 MHz				15	19	—	dB
3200.0 ... 4900.0 MHz				15	19	—	dB
4900.0 ... 6000.0 MHz				25	29	—	dB

<sup>1)</sup> including a pcb loss of 0.2dB



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**Characteristics**

Temperature range for specification: T = -30 °C to +85 °C  
 Terminating source impedance: Z<sub>S</sub> = 50Ω + matching network  
 Terminating load impedance: Z<sub>L</sub> = 50Ω + matching network

				min.	typ. @ 25 °C	max.	
<b>Center frequency</b>	f <sub>C</sub>			—	2450.0	—	MHz
<b>Maximum insertion attenuation</b>	α <sub>max</sub>						
2400.0 ... 2500.0 MHz				—	2.5	2.8 <sup>1)</sup>	dB
<b>Amplitude ripple (p-p)</b>	Δα						
2400.0 ... 2500.0 MHz				—	0.8	1.3	dB
<b>Input VSWR</b>							
2400.0 ... 2500.0 MHz				—	1.7	2.0	
<b>Output VSWR</b>							
2400.0 ... 2500.0 MHz				—	1.7	2.0	
<b>Attenuation</b>	α						
100.0 ... 960.0 MHz				33	36	—	dB
960.0 ... 1570.0 MHz				32	34	—	dB
1570.0 ... 1580.0 MHz				32	34	—	dB
1580.0 ... 1710.0 MHz				32	34	—	dB
1710.0 ... 1910.0 MHz				32	34	—	dB
1910.0 ... 1980.0 MHz				32	34	—	dB
2110.0 ... 2170.0 MHz				36	40	—	dB
2750.0 ... 3200.0 MHz				15	19	—	dB
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4900.0 ... 6000.0 MHz				25	29	—	dB

<sup>1)</sup> including a pcb loss of 0.2dB



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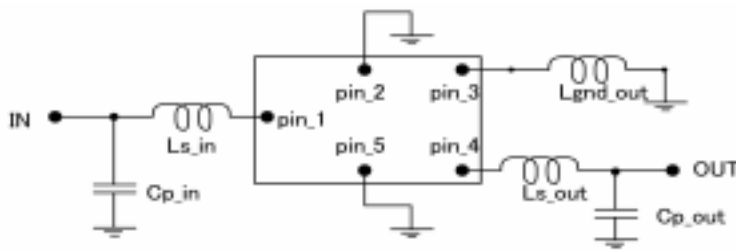


**Maximum ratings**

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...2500.0MHz	P <sub>IN</sub>	24	dBm	CW, +65°C 2000hr
2400.0...2500.0MHz	P <sub>IN</sub>	27	dBm	CW, +50°C 2000hr

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

**Matching circuit**

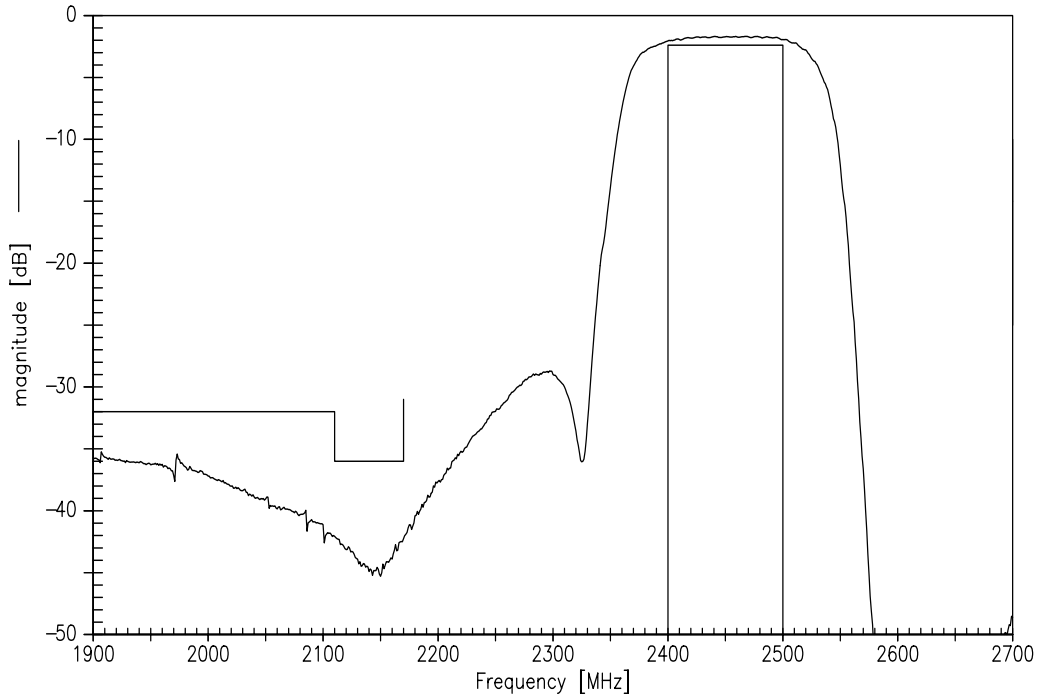


Ls\_in = 3.7nH  
Cp\_in = 1.6pF

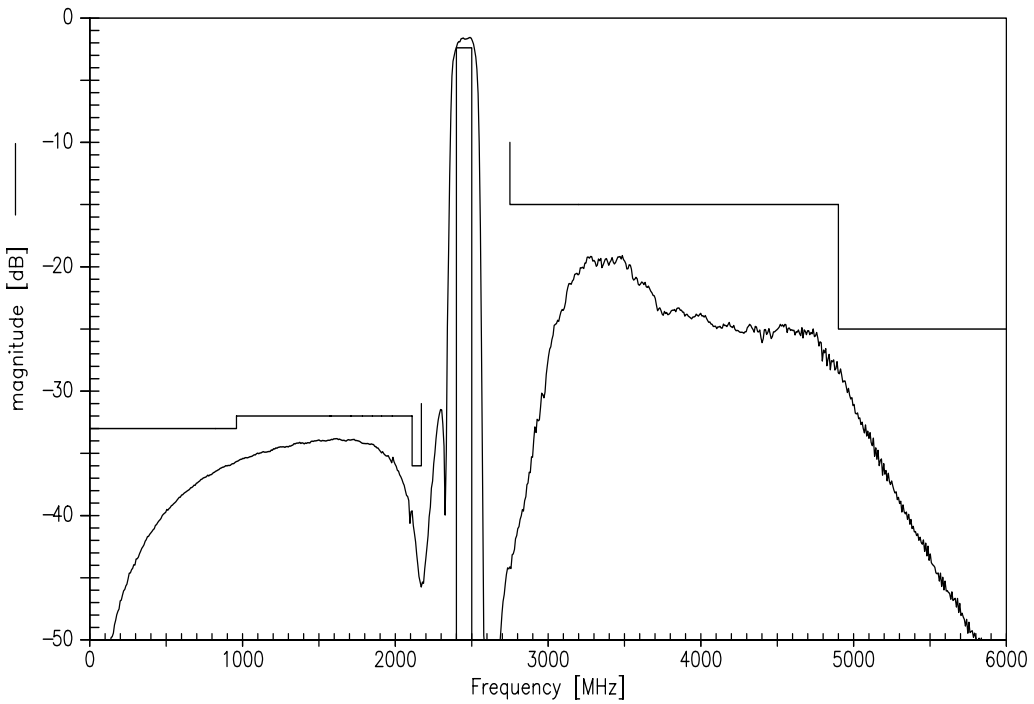
Ls\_out = 3.8nH  
Cp\_out = 1.1pF  
Lg\_out = 1.5nH



Transfer function



Transfer function (wideband)





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### References

<b>Type</b>	B9430
<b>Ordering code</b>	B39252B9430M410
<b>Marking and package</b>	C61157-A8-A3
<b>Packaging</b>	F61074-V8212-Z000
<b>Date codes</b>	L_1126
<b>S-parameters</b>	B9430_NB.s3p B9430_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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