



# SAW Components

Data Sheet B7711, Pb-Free

Data Sheet

A large, stylized, 3D-rendered graphic of the EPCOS logo. The letters "EPCOS" are rendered in a bold, sans-serif font, appearing to be part of a curved, metallic-looking structure. The background is dark and textured, suggesting a globe or a complex circuit board layout.



SAW Components

B7711

Low-Loss Filter for Mobile Communication

1950,0 MHz

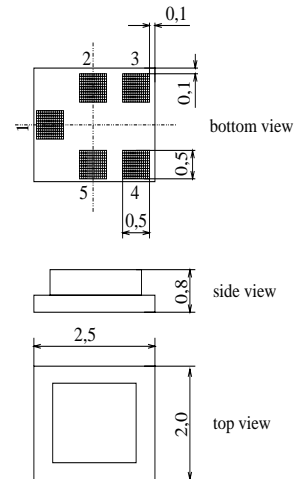
Data Sheet



Chip Sized SAW Package QCS5H

**Features**

- Low-loss RF filter for W-CDMA mobile telephone system, transmit path
- Low amplitude ripple
- Usable passband 60 MHz
- Balanced to unbalanced operation
- Impedance transformation from 200Ω to 50Ω
- Pb-Free
- Package for **Surface Mounted Technology (SMT)**



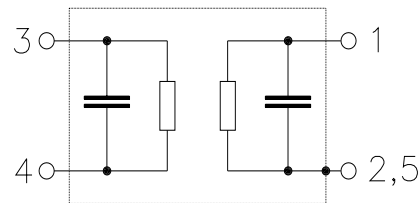
**Terminals**

- Ni, gold-plated

Dimensions in mm, approx. weight 0,015 g

**Pin configuration**

- 1 Output, unbalanced
- 2, 5 Output ground
- 3, 4 Input, balanced
- 2, 5 To be grounded



Type	Ordering code	Marking and Package according to	Packing according to
B7711	B39202-B7711-K910	C61157-A7-A139	F61074-V8189-Z000

Electrostatic Sensitive Device (ESD)

**Maximum ratings**

Operable temperature range	$T$	- 20 /+ 85	°C	
Storage temperature range	$T_{stg}$	- 40 /+ 85	°C	
DC voltage	$V_{DC}$	5	V	
ESD voltage	$V^*_{ESD}$	50*	V	
Source power	$P_S$	10	dBm	

\*-acc. to JESD22-A115A (Machine Model), 10 negative & 10 positive pulse



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**Characteristics**

Operating temperature range:  $T = +25\text{ °C}$   
 Terminating source impedance:  $Z_S = 200\ \Omega$  (balanced) || 22 nH  
 Terminating load impedance:  $Z_L = 50\ \Omega$  || 6,8 nH

		<b>min.</b>	<b>typ.</b>	<b>max.</b>	
<b>Center frequency</b>	$f_C$	—	1950,0	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{\max}$	—	2,3	2,7	dB
1920,0 ... 1980,0 MHz					
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$	—	0,4	0,7	dB
1920,0 ... 1980,0 MHz					
<b>Amplitude ripple per 5MHz channel (p-p)</b>	$\Delta\alpha_{5\text{MHz}}$	—	0,2	0,3	dB
1920,0 ... 1980,0 MHz					
<b>Input VSWR</b>		—	1,8	2,0	
1920,0 ... 1980,0 MHz					
<b>Output VSWR</b>		—	1,8	2,0	
1920,0 ... 1980,0 MHz					
<b>Input amplitude balance (<math> S_{31} / S_{21} </math>)</b>		-1,0	0	1,4	dB
1920,0 ... 1980,0 MHz					
<b>Input phase balance (<math>\phi(S_{31})-\phi(S_{21})+180^\circ</math>)</b>		-10	0	10	°
1920,0 ... 1980,0 MHz					
<b>Attenuation</b>	$\alpha$				
50,0 ... 1350,0 MHz		40	45	—	dB
1350,0 ... 1800,0 MHz		29	31	—	dB
1800,0 ... 1880,0 MHz		20	22	—	dB
2110,0 ... 2170,0 MHz		23	25	—	dB
2170,0 ... 2300,0 MHz		30	34	—	dB
2300,0 ... 3200,0 MHz		35	40	—	dB
3200,0 ... 5000,0 MHz		45	55	—	dB
5000,0 ... 6000,0 MHz		40	45	—	dB



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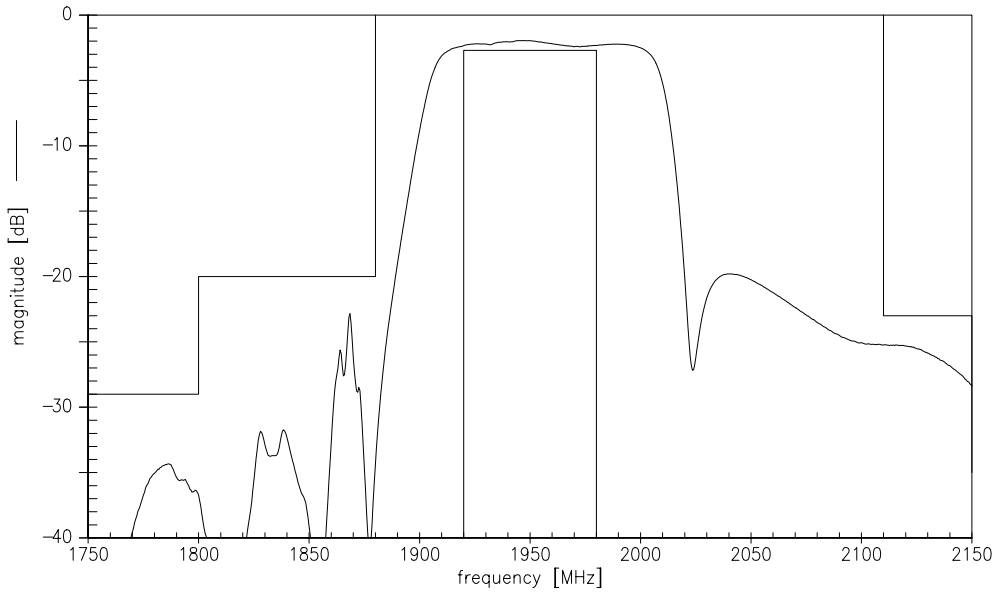
**Characteristics**

Operating temperature range:  $T = -20$  to  $+85$  °C  
 Terminating source impedance:  $Z_S = 200 \Omega$  (balanced) || 22 nH  
 Terminating load impedance:  $Z_L = 50 \Omega$  || 6,8 nH

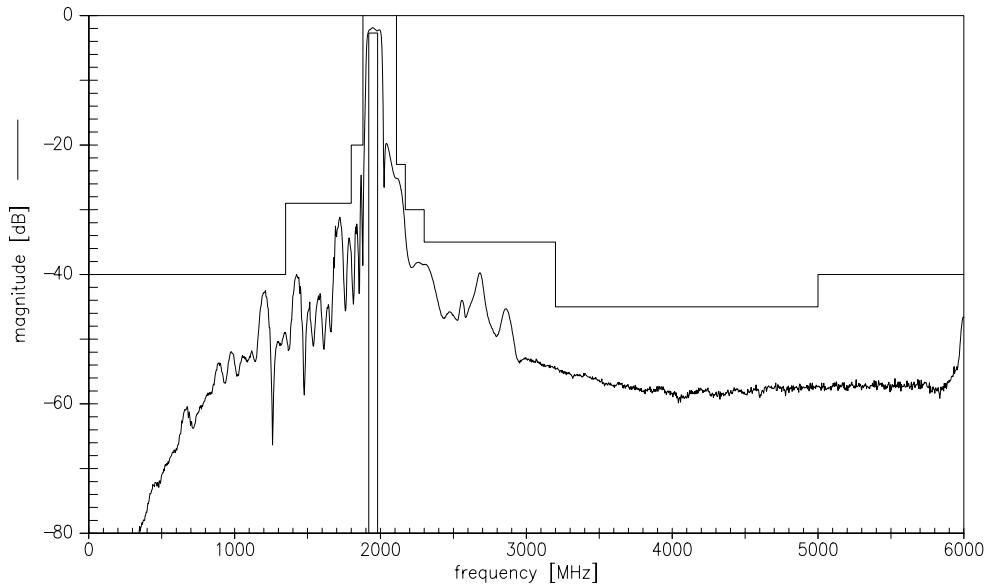
		<b>min.</b>	<b>typ.</b>	<b>max.</b>	
<b>Center frequency</b>	$f_C$	—	1950,0	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{max}$				
	1920,0 ... 1980,0 MHz	—	2,6	3,0	dB
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$				
	1920,0 ... 1980,0 MHz	—	0,4	1,0	dB
<b>Amplitude ripple per 5MHz channel (p-p)</b>	$\Delta\alpha_{5MHz}$				
	1920,0 ... 1980,0 MHz	—	0,3	0,5	dB
<b>Input VSWR</b>					
	1920,0 ... 1980,0 MHz	—	1,8	2,1	
<b>Output VSWR</b>					
	1920,0 ... 1980,0 MHz	—	1,8	2,1	
<b>Input amplitude balance (<math> S_{31}/S_{21} </math>)</b>					
	1920,0 ... 1980,0 MHz	-1,0	0	1,4	dB
<b>Input phase balance (<math>\phi(S_{31})-\phi(S_{21})+180^\circ</math>)</b>					
	1920,0 ... 1980,0 MHz	-10	0	10	°
<b>Attenuation</b>	$\alpha$				
	50,0 ... 1350,0 MHz	40	45	—	dB
	1350,0 ... 1800,0 MHz	29	31	—	dB
	1800,0 ... 1880,0 MHz	20	22	—	dB
	2110,0 ... 2170,0 MHz	23	25	—	dB
	2170,0 ... 2300,0 MHz	30	33	—	dB
	2300,0 ... 3200,0 MHz	35	40	—	dB
	3200,0 ... 5000,0 MHz	45	55	—	dB
	5000,0 ... 6000,0 MHz	40	45	—	dB



Transfer function:

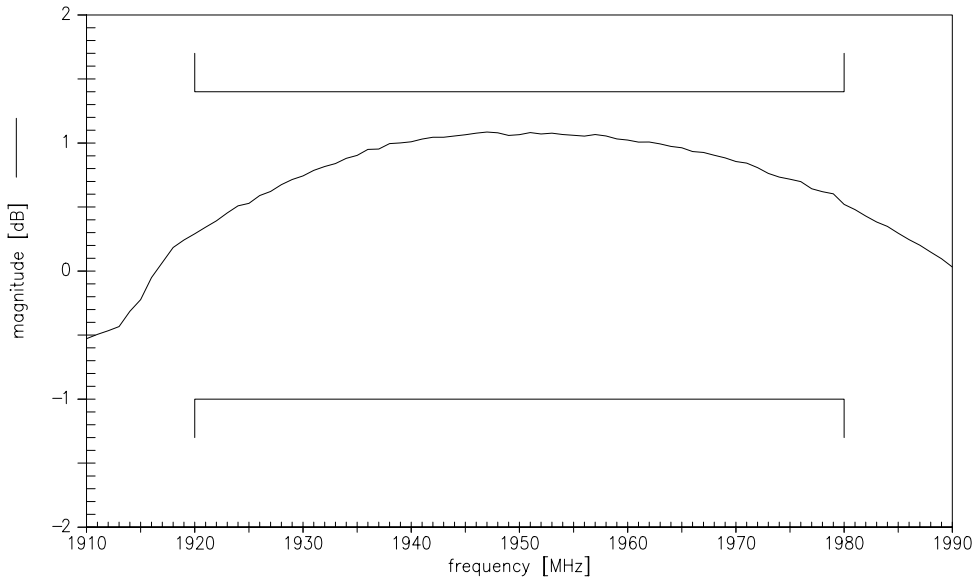


Transfer function (wide band):

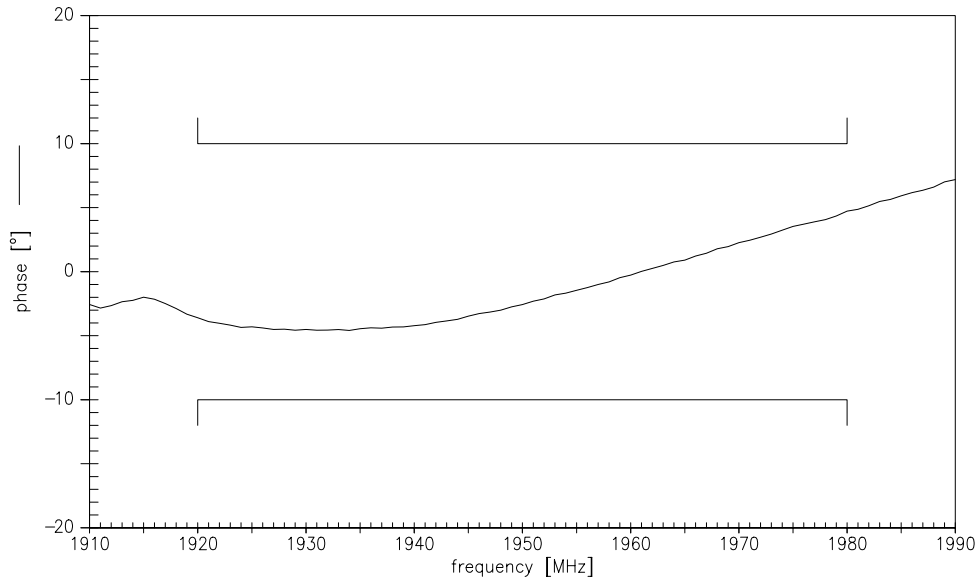




**Input amplitude balance ( $S_{31}/S_{21}$ ):**



**Input phase balance ( $\phi(S_{31})-\phi(S_{21})+180^\circ$ ):**





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