



# SAW Components

Data Sheet B7821





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Low-Loss Filter for Mobile Communication

1842,50 MHz

Data Sheet



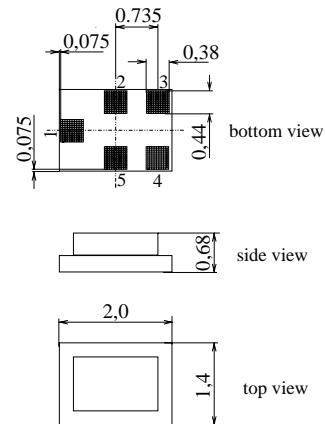
Chip sized SAW package QCS5C

**Features**

- Low-loss RF filter for mobile telephone PCN systems, receive path
- Low amplitude ripple
- Usable passband 75 MHz
- Unbalanced to balanced operation
- Impedance transformation from 50Ω to 150Ω
- Suitable for GPRS class 1 to 12
- Package for **Surface Mount Technology (SMT)**

**Terminals**

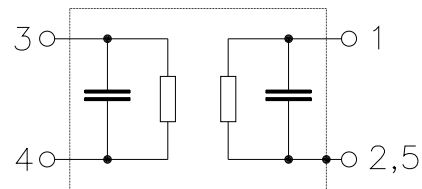
- Ni, gold-plated



Dimensions in mm, approx. weight 0,007 g

**Pin configuration**

- 1 Input, unbalanced
- 3, 4 Output, balanced
- 2, 5 Case ground



Type	Ordering code	Marking and Package according to	Packing according to
B7821	B39182-B7821-C710	C61157-A7-A111	F61074-V8151-Z000

Electrostatic Sensitive Device (ESD)

**Maximum ratings**

Operable temperature range	$T$	- 30 / + 85	°C	Machine Model, 10 pulses
Storage temperature range	$T_{stg}$	- 40 / + 85	°C	
DC voltage	$V_{DC}$	5	V	
ESD voltage	$V_{ESD}^{1)}$	50	V	
Input power at				peak power of GSM signal, duty cycle 4:8
GSM850, GSM900	$P_{IN}$	15	dBm	
GSM1800, GSM1900	$P_{IN}$	12	dBm	
Tx bands				

1) -acc. to JESD22-A115A (Machine Model), 10 negative & 10 positive pulses



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**Characteristics**

Operating Temperature Range:  $T = +25 \pm 2 \text{ }^\circ\text{C}$   
 Terminating source impedance:  $Z_S = 50\Omega$  (unbalanced)  
 Terminating load impedance:  $Z_L = 150\Omega$  (balanced) || 15 nH

		min.	typ.	max.	
<b>Center frequency</b>	$f_C$	—	1842,5	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{\max}$				
1805,0 ... 1880,0 MHz		—	2,2	2,8	dB
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$				
1805,0 ... 1880,0 MHz		—	0,7	1,5	dB
<b>Input VSWR</b>					
1805,0 ... 1880,0 MHz		—	2,0	2,3	
<b>Output VSWR</b>					
1805,0 ... 1880,0 MHz		—	1,8	2,2	
<b>Output amplitude balance (<math> S_{31} / S_{21} </math>)</b>					
1805,0 ... 1880,0 MHz		-1,2	+0,6 / -1,0	1,2	dB
<b>Output phase balance (<math>\phi(S_{31})-\phi(S_{21})+180^\circ</math>)</b>					
1805,0 ... 1880,0 MHz		-12	+6 / -8	12	°
<b>Attenuation</b>	$\alpha$				
0,0 ... 1000,0 MHz		40	55	—	dB
1000,0 ... 1550,0 MHz		30	45	—	dB
1550,0 ... 1705,0 MHz		26	34	—	dB
1705,0 ... 1785,0 MHz		16	18	—	dB
1920,0 ... 1980,0 MHz		16	20	—	dB
1980,0 ... 2400,0 MHz		26	30	—	dB
2400,0 ... 5145,0 MHz		30	38	—	dB
5145,0 ... 5640,0 MHz		38	53	—	dB
5640,0 ... 6000,0 MHz		30	55	—	dB



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<b>Center frequency</b>	$f_C$	—	1842,5	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{\max}$	—	2,4	3,2	dB
1805,0 ... 1880,0 MHz					
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$	—	0,9	1,9	dB
1805,0 ... 1880,0 MHz					
<b>Input VSWR</b>		—	2,0	2,3	
1805,0 ... 1880,0 MHz					
<b>Output VSWR</b>		—	1,8	2,2	
1805,0 ... 1880,0 MHz					
<b>Output amplitude balance (<math> S_{21}/S_{31} </math>)</b>		-1,2	+0,6 / -1,0	1,2	dB
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1980,0 ... 2400,0 MHz		22	30	—	dB
2400,0 ... 5145,0 MHz		30	38	—	dB
5145,0 ... 5640,0 MHz		38	53	—	dB
5640,0 ... 6000,0 MHz		30	55	—	dB



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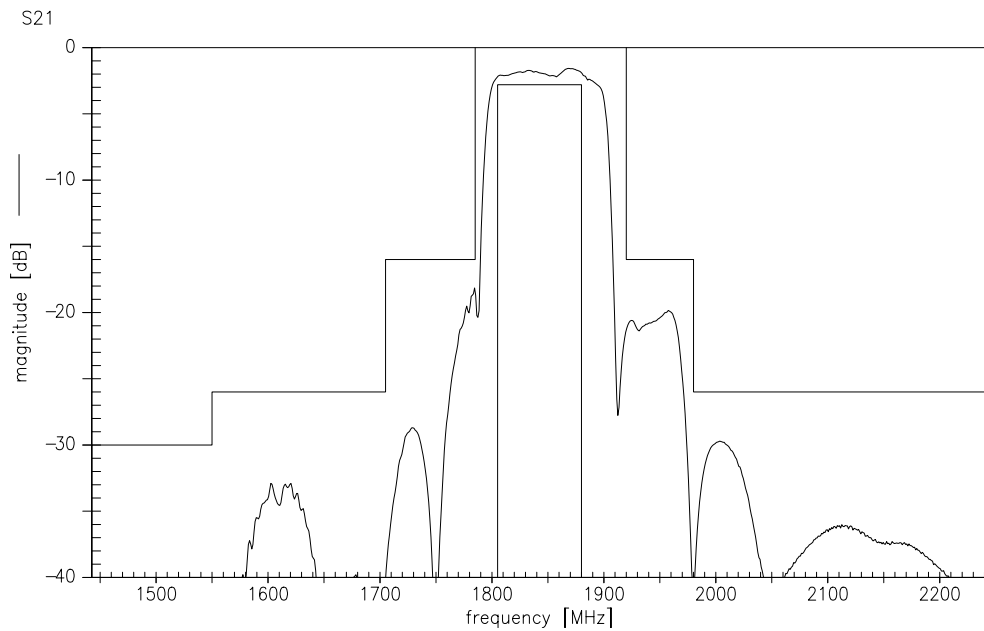
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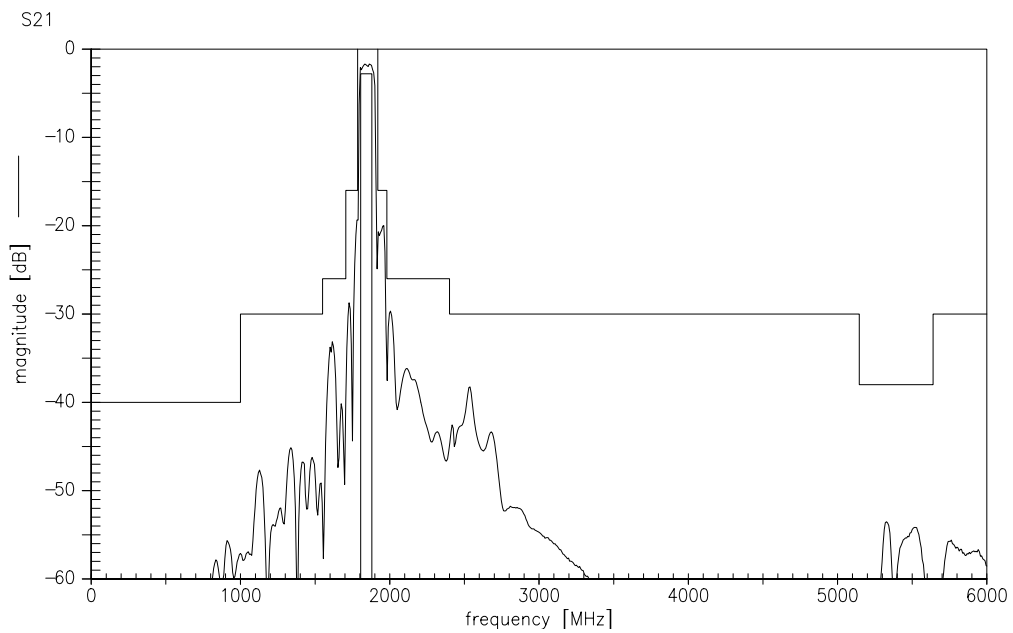
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Transfer function (spec for 25° C)



Transfer function (wideband)





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