



SAW Components

Data Sheet B7705

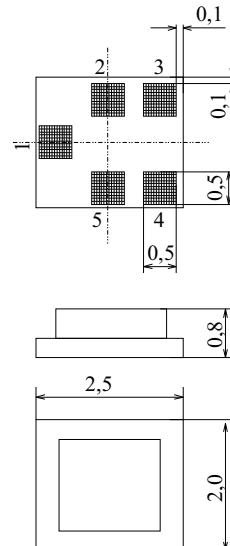
Data Sheet

A large, semi-transparent watermark graphic is centered on the page. It features a stylized globe with visible continents and a grid pattern. Overlaid on the globe is the word "EPCOS" in a large, white, serif font. The letters are slightly curved and overlap each other, creating a sense of depth. The background of the entire page is a dark gray color, which provides a high contrast to the white text and the watermark.

SAW Components
B7705
Low-Loss Filter for Mobile Communication
942,5 MHz
Data Sheet

Features

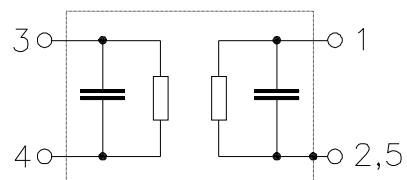
- Low-loss RF filter for mobile telephone EGSM system, receive path
- Low amplitude ripple
- Usable passband 35 MHz
- Unbalanced to balanced operation
- Excellent symmetry
- Impedance transformation from 50Ω to 150Ω
- Ceramic package for **Surface Mounted Technology (SMT)**

Chip sized SAW package QCS5A


Dimensions in mm, approx. weight 0,015 g

Terminals

- Ni, gold-plated



Type	Ordering code	Marking and Package according to	Packing according to
B7705	B39941-B7705-B610	C61157-A7-A71	F61074-V8104-Z000

Electrostatic Sensitive Device (ESD)
Maximum ratings

Operable temperature range	T	-25 / +85	°C	
Storage temperature range	T_{stg}	-40 / +85	°C	
DC voltage	V_{DC}	3,5	V	
Input power max.	P_{IN}		dBm	
880 ... 915 MHz		18		source impedance 50Ω , load impedance 150Ω ; CW input for min. 2000h
925 ... 960 MHz		8		
1710 ... 1910 MHz		18		
1920 ... 1980 MHz		10		
2402 ... 2480 MHz		4		
elsewhere		0	dBm	



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**Characteristics**

Operating temperature range: $T = +25^\circ\text{C}$
Terminating source impedance: $Z_S = 50 \Omega$
Terminating load impedance: $Z_L = 150 \Omega$

			min.	typ.	max.	
Center frequency		f_C	—	942,5	—	MHz
Maximum insertion attenuation		α_{\max}	—	2,7	3,2	dB
	925,0 ... 960,0	MHz				
Amplitude ripple (p-p)		$\Delta\alpha$	—	0,9	1,6	dB
	925,0 ... 960,0	MHz				
Input VSWR			—	2,2	2,4	
	925,0 ... 960,0	MHz				
Output VSWR			—	2,2	2,3	
	925,0 ... 960,0	MHz				
Output phase balance ($\phi(S_{31}) - \phi(S_{21}) + 180^\circ$)			-5	0	5	degree
	925,0 ... 960,0	MHz				
Output amplitude balance (S_{31}/S_{21})			-0,5	0	0,5	dB
	925,0 ... 960,0	MHz				
Attenuation		α				
	0,0 ... 880,0	MHz	50	75	—	dB
	880,0 ... 905,0	MHz	30	45	—	dB
	905,0 ... 915,0	MHz	23	27	—	dB
	980,0 ... 1050,0	MHz	23	26	—	dB
	1050,0 ... 6000,0	MHz	50	60	—	dB



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**Characteristics**

Operating temperature range: $T = -10$ to $+80$ °C
Terminating source impedance: $Z_S = 50 \Omega$
Terminating load impedance: $Z_L = 150 \Omega$

			min.	typ.	max.	
Center frequency		f_C	—	942,5	—	MHz
Maximum insertion attenuation		α_{\max}	—	2,8	3,5	dB
	925,0 ... 960,0	MHz				
Amplitude ripple (p-p)		$\Delta\alpha$	—	1,0	1,9	dB
	925,0 ... 960,0	MHz				
Input VSWR			—	2,2	2,4	
	925,0 ... 960,0	MHz				
Output VSWR			—	2,2	2,3	
	925,0 ... 960,0	MHz				
Output phase balance ($\phi(S_{31}) - \phi(S_{21}) + 180^\circ$)			-5	0	5	degree
	925,0 ... 960,0	MHz				
Output amplitude balance ($ S_{31}/S_{21} $)			-0,5	0	0,5	dB
	925,0 ... 960,0	MHz				
Attenuation		α				
	0,0 ... 880,0	MHz	50	75	—	dB
	880,0 ... 905,0	MHz	30	40	—	dB
	905,0 ... 915,0	MHz	18	27	—	dB
	980,0 ... 1050,0	MHz	23	25	—	dB
	1050,0 ... 6000,0	MHz	50	60	—	dB



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**Characteristics**

Operating temperature range: $T = -20$ to $+80$ °C
Terminating source impedance: $Z_S = 50 \Omega$
Terminating load impedance: $Z_L = 150 \Omega$

			min.	typ.	max.	
Center frequency		f_C	—	942,5	—	MHz
Maximum insertion attenuation		α_{\max}	—	2,9	3,7	dB
	925,0 ... 960,0	MHz				
Amplitude ripple (p-p)		$\Delta\alpha$	—	1,0	2,1	dB
	925,0 ... 960,0	MHz				
Input VSWR			—	2,2	2,4	
	925,0 ... 960,0	MHz				
Output VSWR			—	2,2	2,3	
	925,0 ... 960,0	MHz				
Output phase balance ($\phi(S_{31}) - \phi(S_{21}) + 180^\circ$)			-5	0	5	degree
	925,0 ... 960,0	MHz				
Output amplitude balance ($ S_{31}/S_{21} $)			-0,5	0	0,5	dB
	925,0 ... 960,0	MHz				
Attenuation		α				
	0,0 ... 880,0	MHz	50	75	—	dB
	880,0 ... 905,0	MHz	30	40	—	dB
	905,0 ... 915,0	MHz	18	27	—	dB
	980,0 ... 1050,0	MHz	22	25	—	dB
	1050,0 ... 6000,0	MHz	50	60	—	dB



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**Characteristics**

Operating temperature range: $T = -30$ to $+85$ °C
Terminating source impedance: $Z_S = 50 \Omega$
Terminating load impedance: $Z_L = 150 \Omega$

			min.	typ.	max.	
Center frequency		f_C	—	942,5	—	MHz
Maximum insertion attenuation		α_{\max}	—	3,5	4,0	dB
	925,0 ... 960,0	MHz				
Amplitude ripple (p-p)		$\Delta\alpha$	—	1,5	2,4	dB
	925,0 ... 960,0	MHz				
Input VSWR			—	2,2	2,5	
	925,0 ... 960,0	MHz				
Output VSWR			—	2,2	2,5	
	925,0 ... 960,0	MHz				
Output phase balance ($\phi(S_{31}) - \phi(S_{21}) + 180^\circ$)			-5	0	5	degree
	925,0 ... 960,0	MHz				
Output amplitude balance ($ S_{31}/S_{21} $)			-0,5	0	0,5	dB
	925,0 ... 960,0	MHz				
Attenuation		α				
	0,0 ... 880,0	MHz	50	75	—	dB
	880,0 ... 905,0	MHz	30	40	—	dB
	905,0 ... 915,0	MHz	10	15	—	dB
	980,0 ... 1050,0	MHz	21	23	—	dB
	1050,0 ... 6000,0	MHz	50	60	—	dB



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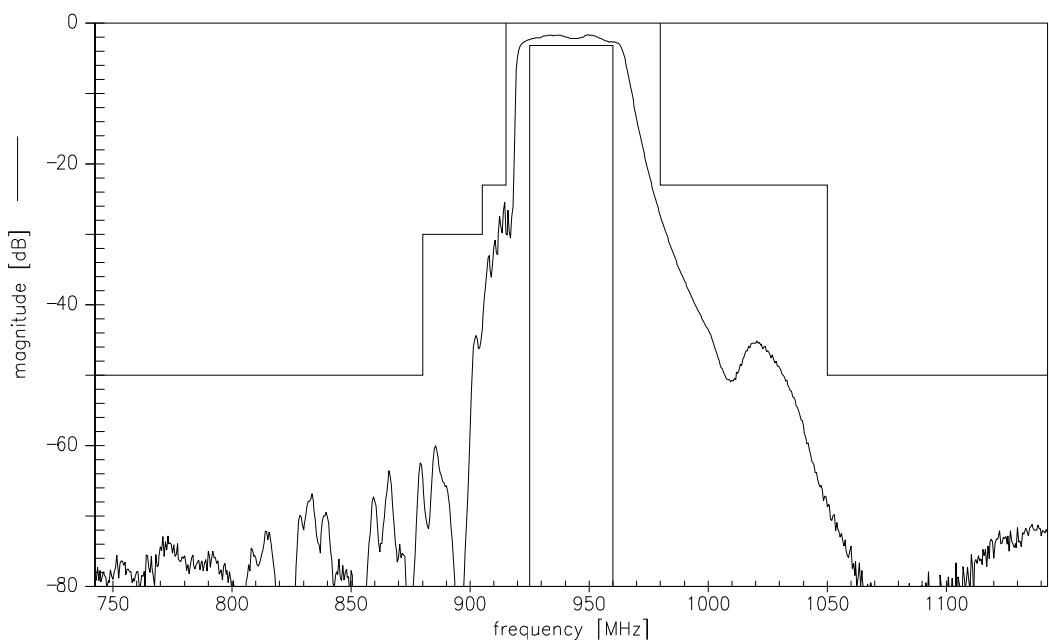
Low-Loss Filter for Mobile Communication

942,5 MHz

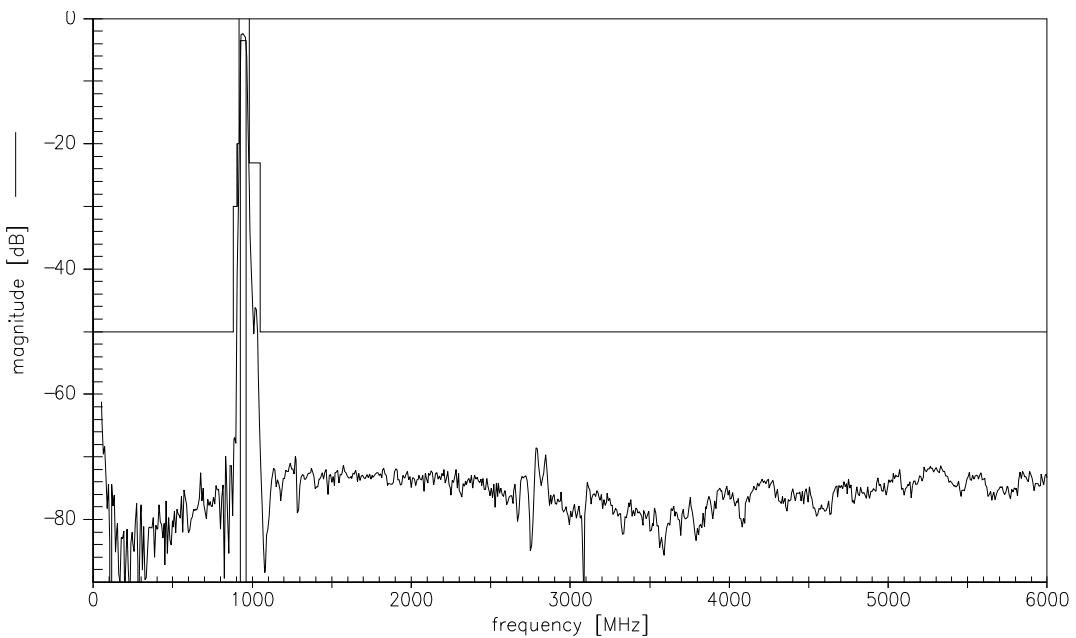
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Transfer function



Transfer function (wideband)





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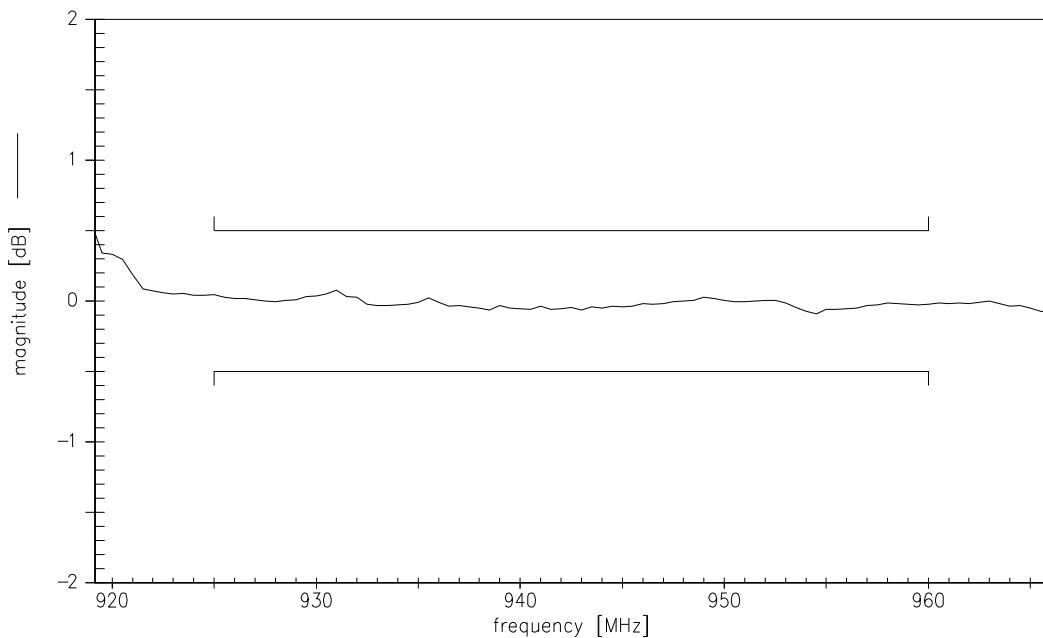
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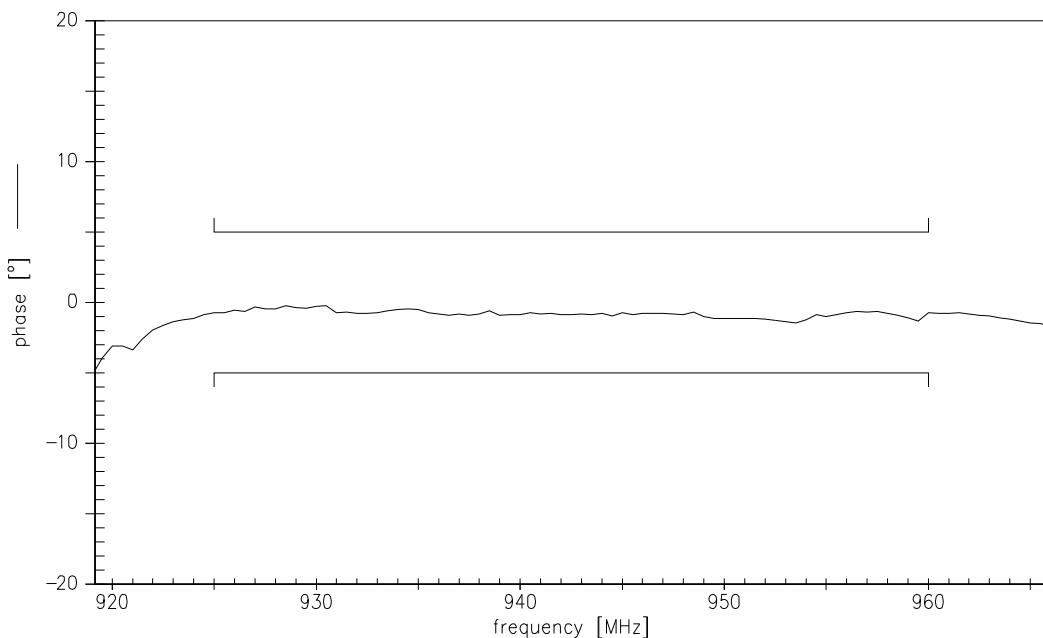
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Output amplitude balance ($|S_{31}/S_{21}|$)



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





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Data Sheet	The SMD logo is a small rectangular box containing the letters "SMD" in a bold, sans-serif font.

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