EPCOS

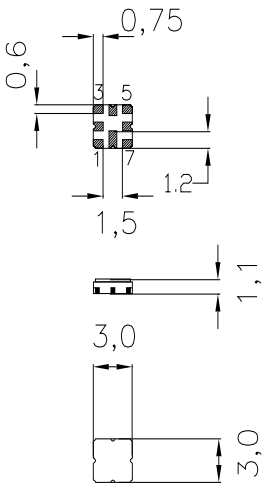
SAW Components

Preliminary Data Sheet B4219/LF18B

Ceramic package **QCC8D**

Features

- Low-loss 2-in-1 RF filter for mobile telephone AMPS and PCS CDMA systems, receive path
- Device with two integrated Rx-filters
- Usable passband of PCS Rx filter: 60 MHz
- Usable passband of AMPS Rx-filter: 25 MHz
- No matching network required for operation at 50 Ω
- Package for **S**urface **M**ounted **T**echnology (**SMT**)



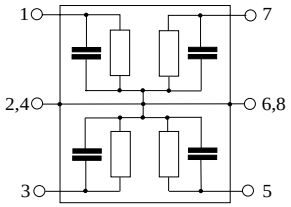
Dimensions in mm, approx. weight 0,037 g

Terminals

- Ni, gold-plated

Pin configuration

1	Input PCS filter
7	Output PCS filter
3	Input AMPS filter
5	Output AMPS filter
2,4,6,8	Case-ground, to be grounded



Type	Ordering code	Marking and Package according to	Packing according to
B4219	B39202-B4219-U810	C61157-A7-A72	F61074-V8101-Z0000

Electrostatic **S**ensitive **D**evice (**ESD**)

Maximum ratings

Operable temperature range	T	– 30 /+ 85	˚C	
Storage temperature range	T_{stg}	– 40 /+ 85	˚C	
DC voltage	V_{DC}	3	V	
Input power max.				
824...849 MHz	P_{IN}	13	dBm	source and load impedance 50 Ω continuous wave
1850...1910 MHz		13	dBm	continuous wave

Characteristics of PCS Rx filter

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

		min.	typ.	max.	
Center frequency	f_c	—	1960,0	—	MHz
Maximum insertion attenuation	α_{max}				
1930,0...1990,0MHz		—	3,7	4,3	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
1930,0...1990,0MHz		—	1,9	2,5	dB
Input return loss					
1930,0...1990,0 MHz		10,0	11,5	—	dB
Output return loss					
1930,0...1990,0 MHz		10,0	11,5	—	dB
Attenuation	α				
30,0...1850,0 MHz		20,0	22,0	—	dB
2110,0...2400,0 MHz		20,0	31,0	—	dB
Tx band suppression					
1850,0...1910,0 MHz		13,0	20,0	—	dB

Characteristics of PCS Rx filter

Operating temperature range: T = -30 to +70 °C
Terminating source impedance: Z_S = 50 Ω
Terminating load impedance: Z_L = 50 Ω

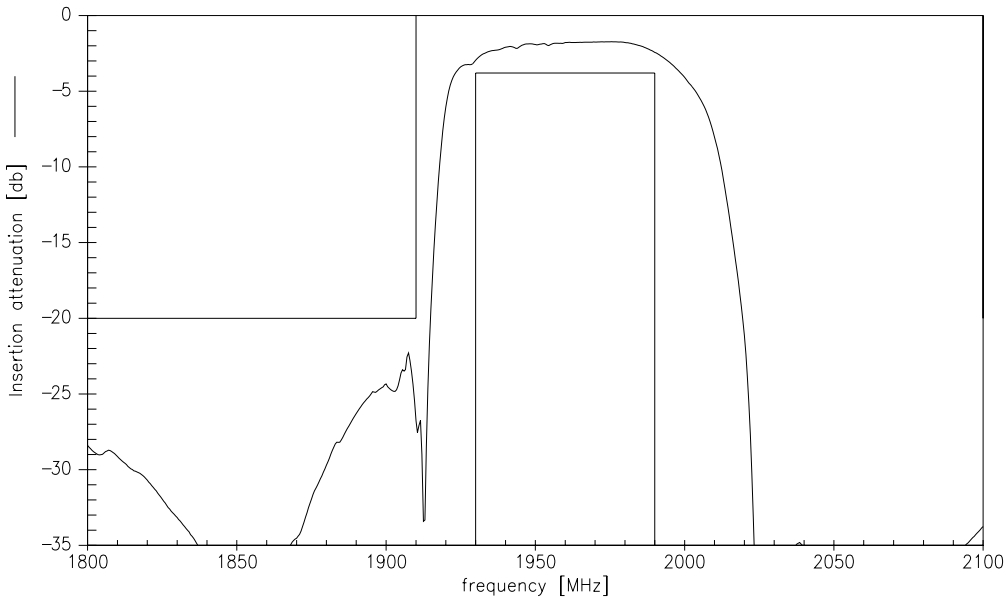
		min.	typ.	max.	
Center frequency	f_c	—	1960,0	—	MHz
Maximum insertion attenuation	α_{max}				
1930,0...1990,0MHz		—	3,7	4,2	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
1930,0...1990,0MHz		—	1,9	2,4	dB
Input return loss					
1930,0...1990,0 MHz		10,0	12,0	—	dB
Output return loss					
1930,0...1990,0 MHz		10,0	12,0	—	dB
Attenuation	α				
30,0...1850,0 MHz		20,0	22,0	—	dB
2110,0...2400,0 MHz		20,0	31,0	—	dB
Tx band suppression					
1850,0...1910,0 MHz		15,0	20,0	—	dB

Characteristics of PCS Rx filter

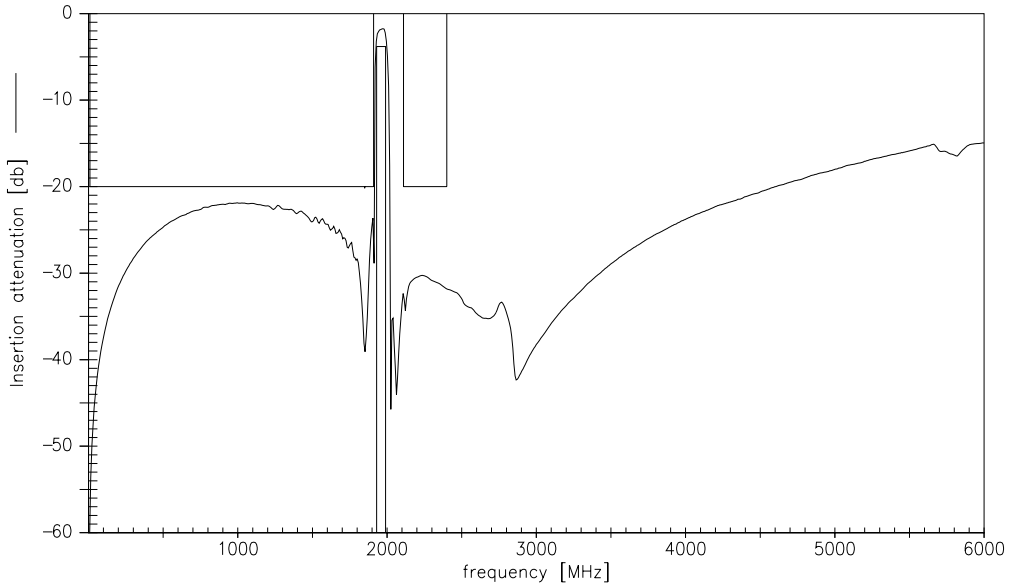
Operating temperature range: T = 25 ± 2°C
Terminating source impedance: Z_S = 50 Ω
Terminating load impedance: Z_L = 50 Ω

		min.	typ.	max.	
Center frequency	f_c	—	1960,0	—	MHz
Maximum insertion attenuation	α_{max}				
1930,0...1990,0MHz		—	3,4	3,7	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
1930,0...1990,0MHz		—	1,6	1,9	dB
Input return loss					
1930,0...1990,0 MHz		10,0	12,5	—	dB
Output return loss					
1930,0...1990,0 MHz		10,0	12,5	—	dB
Attenuation	α				
30,0...1850,0 MHz		20,0	22,0	—	dB
2110,0...2400,0 MHz		20,0	31,0	—	dB
Tx band suppression					
1850,0...1910,0 MHz		20,0	22,0	—	dB

Transfer function of the PCS filter (narrow band measurement)

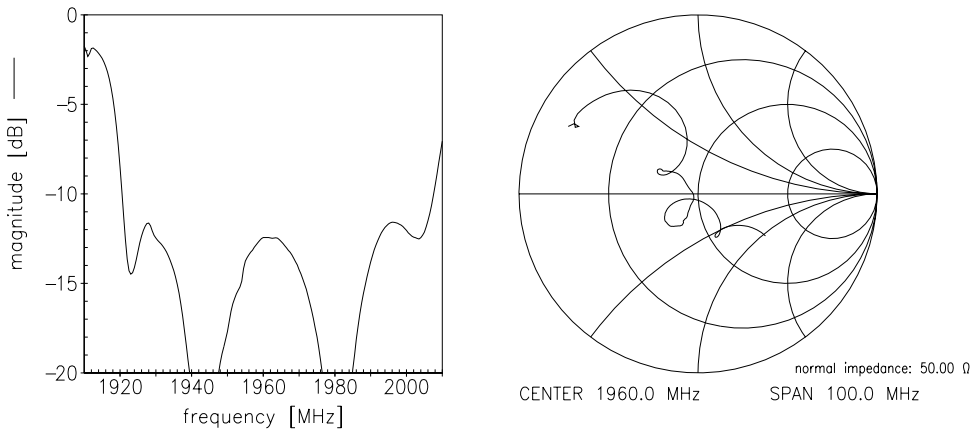


Transfer function of the PCS filter (wide band measurement)

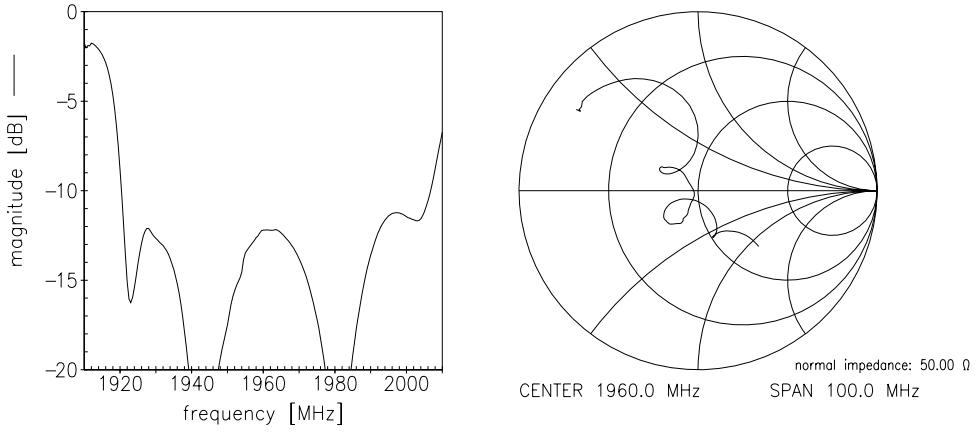


Reflection coefficients of the PCS filter (measurement)

S_{11}



S_{22}



Characteristics of AMPS Rx filter

Operating temperature range: T = -30 to +70 ˚C *
Terminating source impedance: Z_S = 50 Ω
Terminating load impedance: Z_L = 50 Ω

		min.	typ.	max.	
Center frequency	f_c	—	881,5	—	MHz
Maximum insertion attenuation	α_{max}				
869,0...894,0MHz		—	2,5	3,0	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
869,0...894,0MHz		—	0,9	1,4	dB
Input return loss					
869,0...894,0 MHz		10,0	12,0	—	dB
Output return loss					
869,0...894,0 MHz		10,0	13,0	—	dB
Attenuation	α				
30,0...824,0MHz		35,0	42,0	—	dB
1050,0...1080,0MHz		38,0	42,0	—	dB
1080,0...2300,0MHz		30,0	31,5	—	dB
2300,0...2600,0MHz		25,0	30,0	—	dB
Tx band suppression					
824,0...849,0MHz		35,0	40,0	—	dB

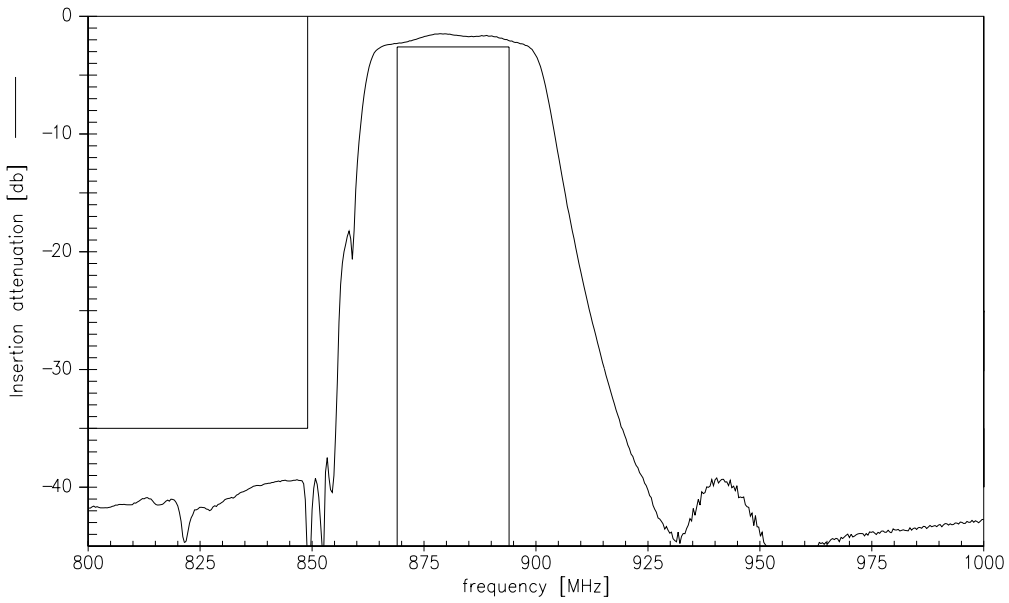
* all values also fulfill the temperature range -30 to +85 ˚C

Characteristics of AMPS Rx filter

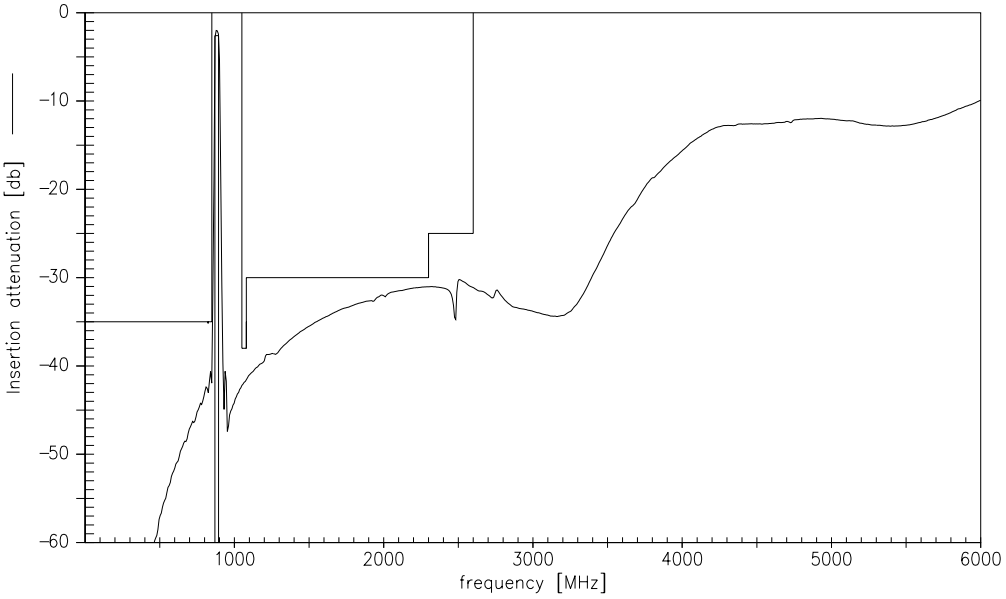
Operating temperature range: T = 25 ± 2 °C
Terminating source impedance: Z_S = 50 Ω
Terminating load impedance: Z_L = 50 Ω

		min.	typ.	max.	
Center frequency	f_c	—	881,5	—	MHz
Maximum insertion attenuation	α_{max}				
869,0...894,0MHz		—	2,4	2,6	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
869,0...894,0MHz		—	0,6	1,1	dB
Input return loss					
869,0...894,0 MHz		10,0	12,5	—	dB
Output return loss					
869,0...894,0 MHz		10,0	13,5	—	dB
Attenuation	α				
30,0...824,0MHz		35,0	42,0	—	dB
1050,0...1080,0MHz		38,0	42,0	—	dB
1080,0...2300,0MHz		30,0	31,5	—	dB
2300,0...2600,0MHz		25,0	30,0	—	dB
Tx band suppression					
824,0...849,0MHz		35,0	40,0	—	dB

Transfer function of the AMPS filter (narrow band measurement)

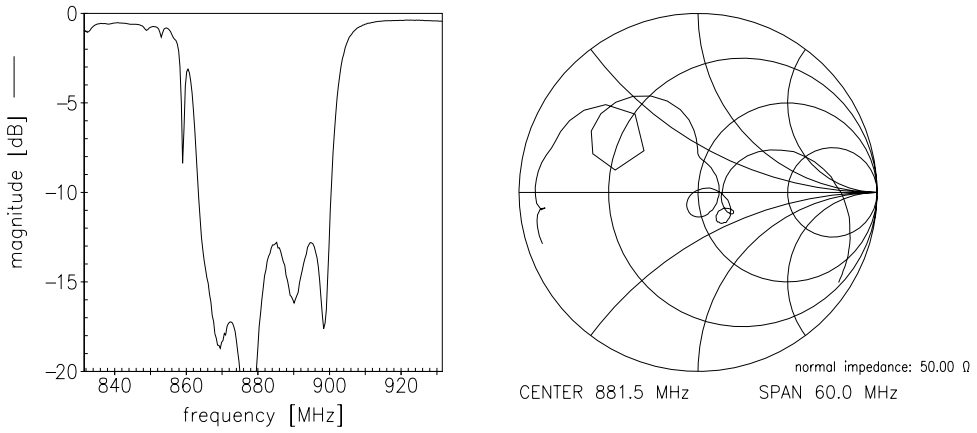


Transfer function of the AMPS filter (wide band measurement)

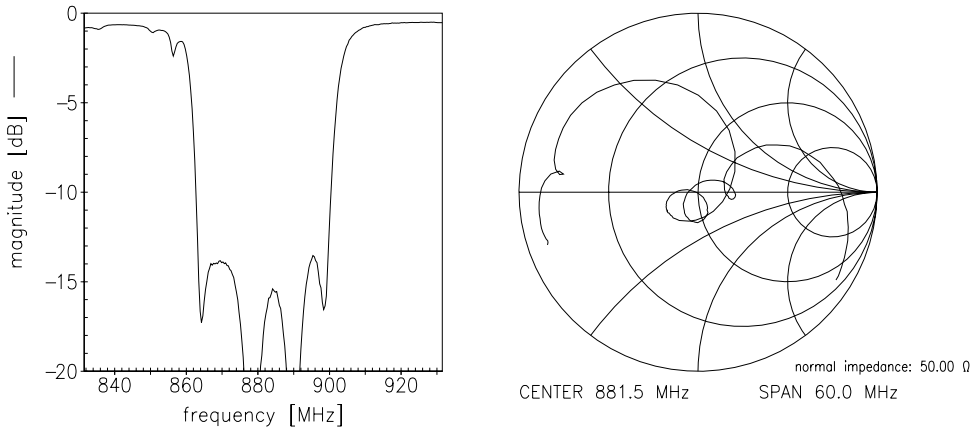


Reflection coefficients of the AMPS filter (measurement)

S_{11}



S_{22}



Published by EPCOS AG
Surface Acoustic Wave Components Division, SAW MC WT
P.O. Box 80 17 09, D-81617 München

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