



SAW Components

Data Sheet B3510





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Low-Loss Dual Band Filter for Telematics Application

881,5 & 1960,0 MHz

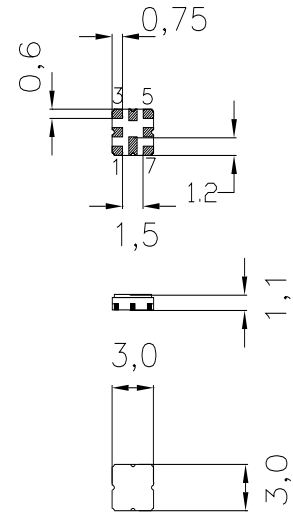
Data Sheet



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 **Surface Mounted Technology (SMT)**
- Extended temperature range for automotiv application
- Passivation layer: Elpas



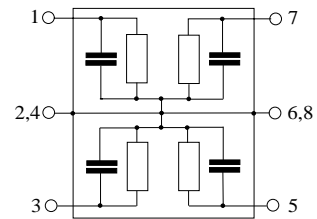
Dimensions in mm, approx. weight 0,037 g

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
B3510	B39192-B3510-U810	C61157-A7-A72	F61074-V8101-Z0000

Electrostatic Sensitive Device (ESD)

Maximum ratings

Operable temperature range	T	-40 / +85	°C	
Storage temperature range	T_{stg}	-40 / +85	°C	
DC voltage	V_{DC}	0	V	
Input power max.	P_{IN}	13	dBm	source and load impedance 50 Ω
824...849 MHz				continuous wave
1850...1910 MHz				continuous wave



Characteristics of PCS Rx filter

Operating temperature range: $T = -30$ to $+75$ °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}	—	3,7	4,2	dB
	1930,0... 1990,0MHz				
Amplitude ripple (p-p)	$\Delta\alpha$	—	1,9	2,9	dB
	1930,0... 1990,0MHz				
Input return loss		7,0	9,0	—	dB
	1930,0... 1990,0 MHz				
Output return loss		7,0	9,0	—	dB
	1930,0... 1990,0 MHz				
Attenuation	α	20,0	22,0	—	dB
	10,0... 1850,0 MHz				
	2110,0... 2400,0 MHz	20,0	30,0	—	dB
Tx band suppression		10,0	12,0	—	dB
	1850,0... 1910,0 MHz				



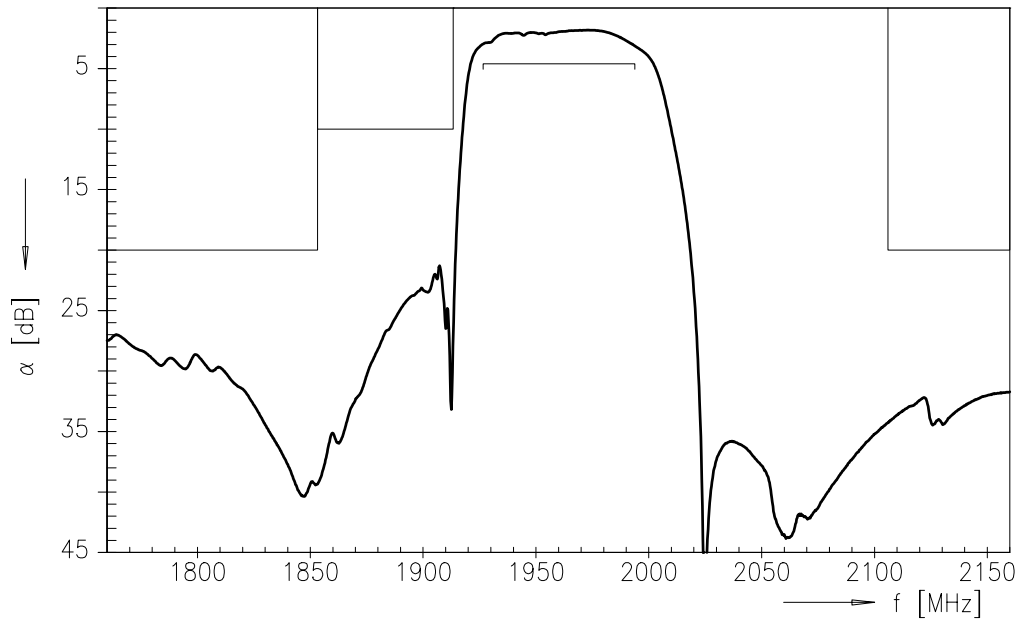
Characteristics of PCS Rx filter

Operating temperature range: $T = -40$ to $+85$ °C
 Terminating source impedance: $Z_S = 50 \Omega$
 Terminating load impedance: $Z_L = 50 \Omega$

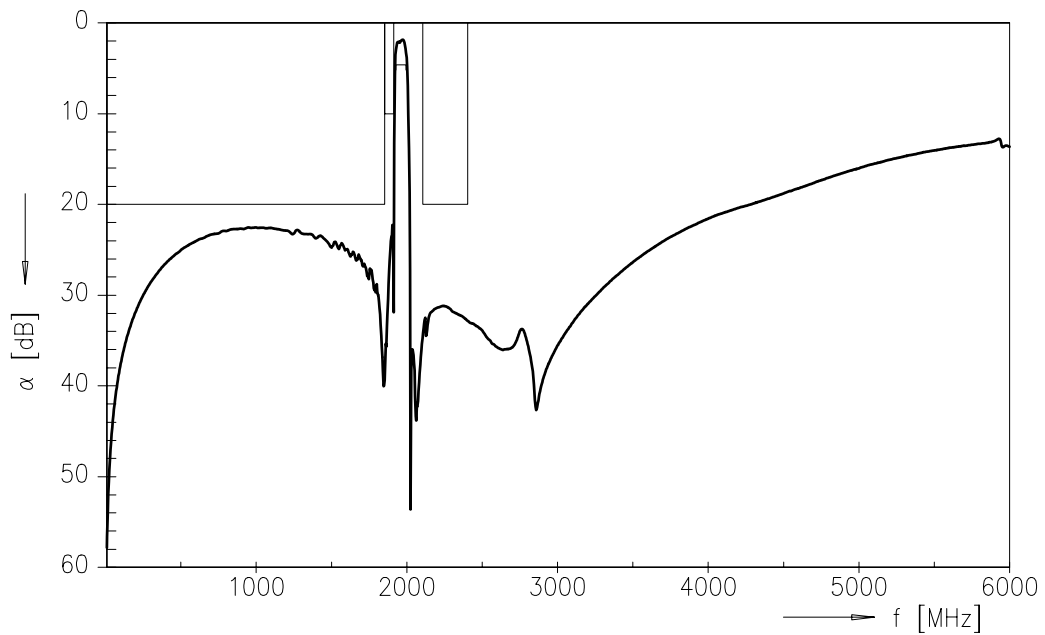
		min.	typ.	max.	
Center frequency	f_c	—	1960,0	—	MHz
Maximum insertion attenuation	α_{max}	—	3,7	4,6	dB
	1930,0... 1990,0MHz				
Amplitude ripple (p-p)	$\Delta\alpha$	—	2,0	2,9	dB
	1930,0... 1990,0MHz				
Input return loss		7,0	9,0	—	dB
	1930,0... 1990,0 MHz				
Output return loss		7,0	9,0	—	dB
	1930,0... 1990,0 MHz				
Attenuation	α	20,0	22,0	—	dB
	10,0... 1850,0 MHz				
	2110,0... 2400,0 MHz	20,0	30,0	—	dB
Tx band suppression		7,0	10,0	—	dB
	1850,0... 1910,0 MHz				



Transfer function of the PCS filter (narrow band measurement)

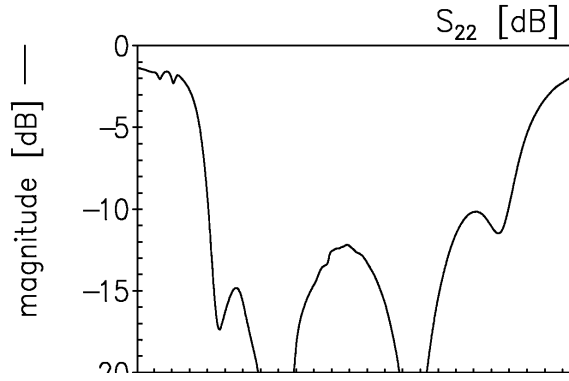
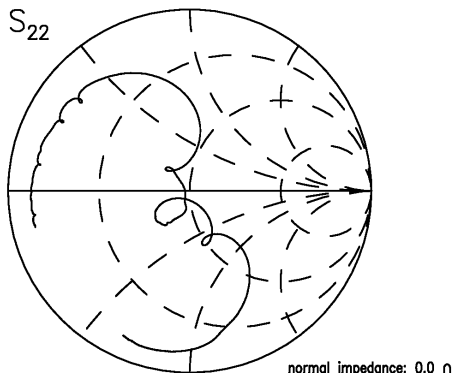
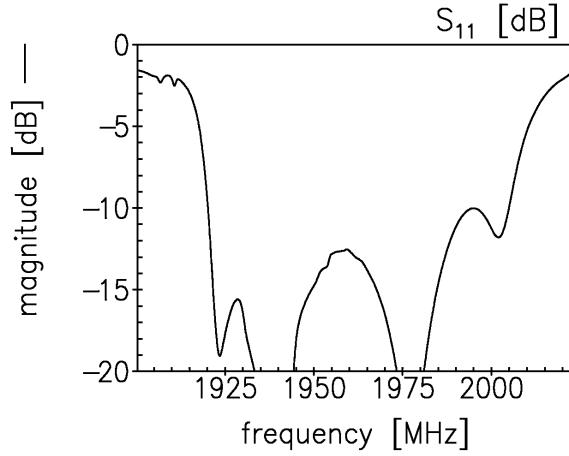
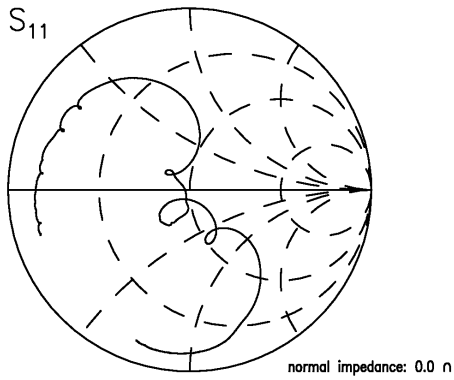


Transfer function of the PCS filter (wide band measurement)





Reflection coefficients of the PCS filter (measurement)





Characteristics of AMPS Rx filter

Operating temperature range: $T = -30$ to $+75$ °C
 Terminating source impedance: $Z_S = 50 \Omega$
 Terminating load impedance: $Z_L = 50 \Omega$

		min.	typ.	max.	
Center frequency	f_c	—	881,5	—	MHz
Maximum insertion attenuation	α_{max}	—	2,6	3,1	dB
869,0...894,0MHz					
Amplitude ripple (p-p)	$\Delta\alpha$	—	1,0	1,5	dB
869,0...894,0MHz					
Input return loss		10,0	11,0	—	dB
869,0...894,0 MHz					
Output return loss		10,0	12,0	—	dB
869,0...894,0 MHz					
Attenuation	α				
30,0...824,0MHz		35,0	42,0	—	dB
1050,0...1080,0MHz		38,0	42,0	—	
1080,0...2300,0MHz		30,0	32,0	—	
2300,0...2600,0MHz		25,0	30,0	—	
Tx band suppression		35,0	40,0	—	dB
824,0...849,0MHz					



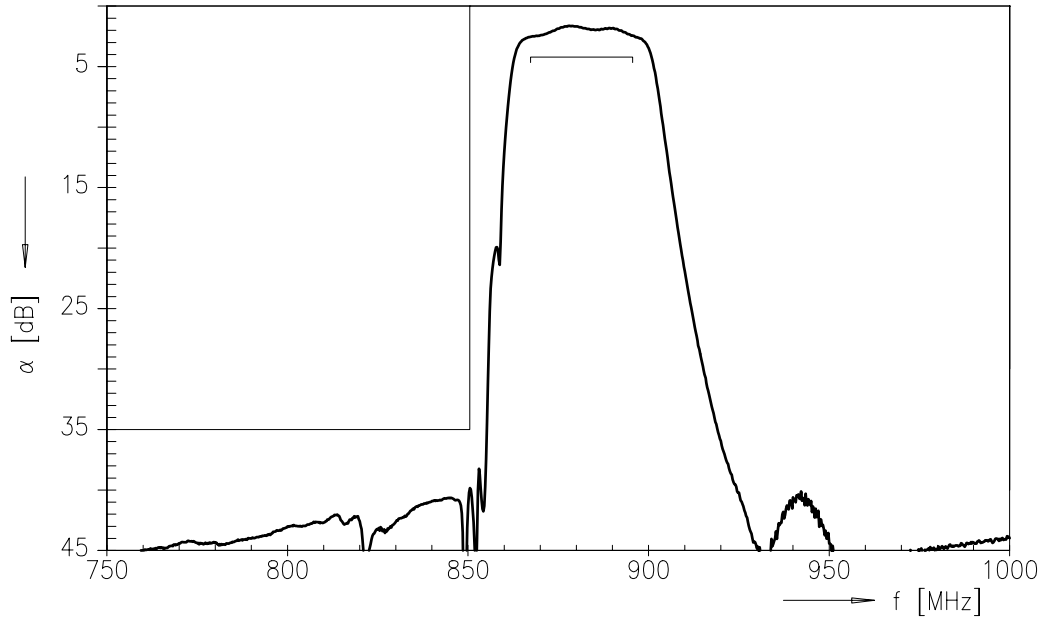
Characteristics of AMPS Rx filter

Operating temperature range: $T = -40$ to $+85$ °C
 Terminating source impedance: $Z_S = 50 \Omega$
 Terminating load impedance: $Z_L = 50 \Omega$

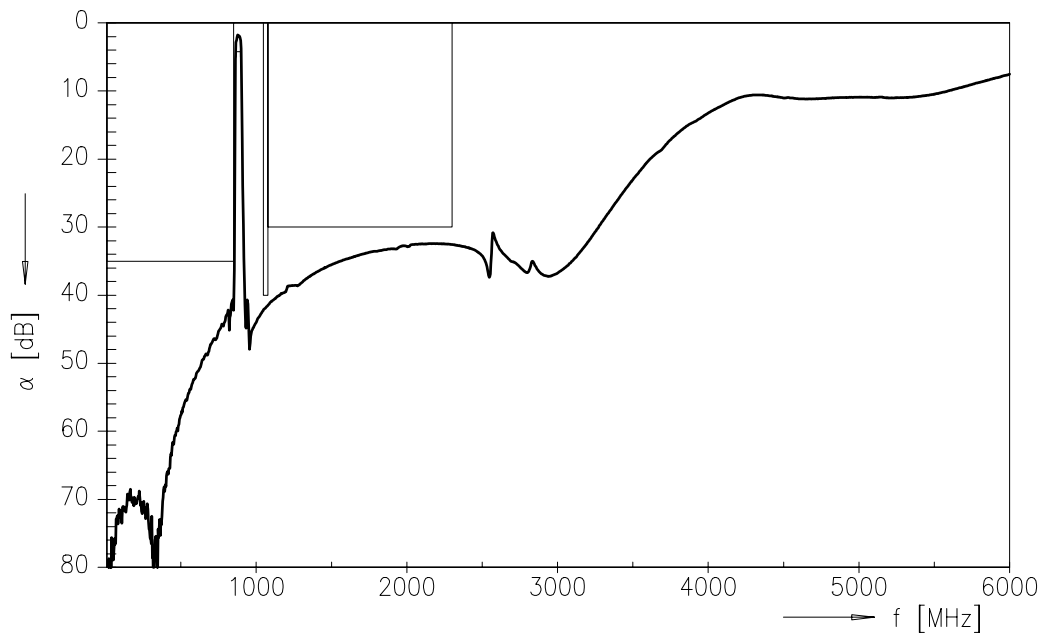
		min.	typ.	max.	
Center frequency	f_c	—	881,5	—	MHz
Maximum insertion attenuation	α_{max}	—	2,6	3,3	dB
869,0...894,0MHz					
Amplitude ripple (p-p)	$\Delta\alpha$	—	1,0	1,5	dB
869,0...894,0MHz					
Input return loss		9,5	11,0	—	dB
869,0...894,0 MHz					
Output return loss		9,5	12,0	—	dB
869,0...894,0 MHz					
Attenuation	α				
30,0...824,0MHz		35,0	42,0	—	dB
1050,0...1080,0MHz		38,0	42,0	—	
1080,0...2300,0MHz		30,0	32,0	—	
2300,0...2600,0MHz		25,0	30,0	—	
Tx band suppression		35,0	40,0	—	dB
824,0...849,0MHz					



Transfer function of the AMPS filter (narrow band measurement)

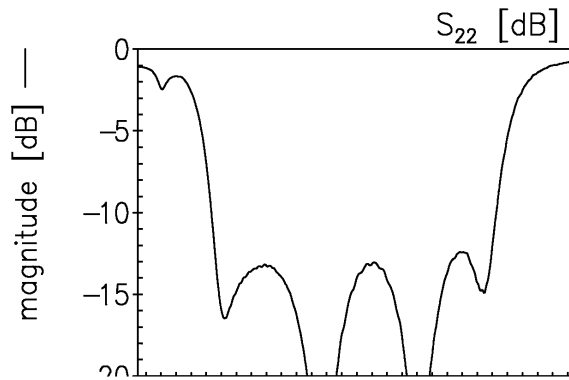
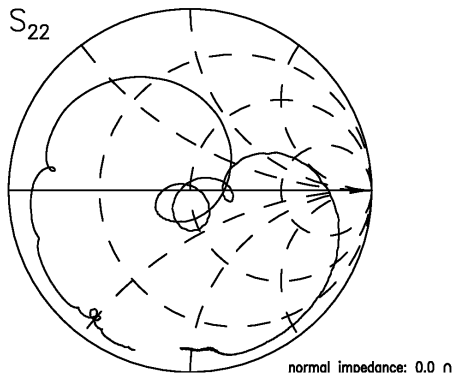
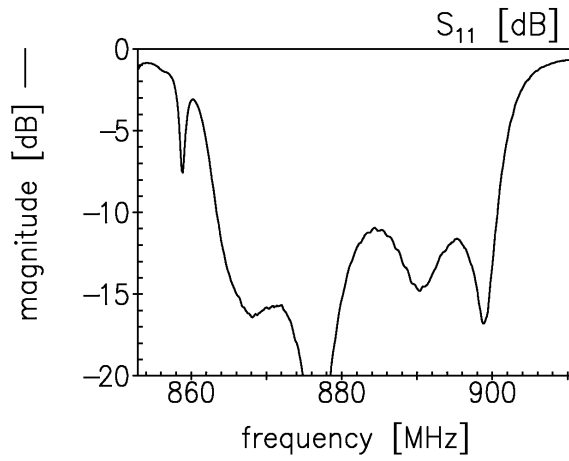
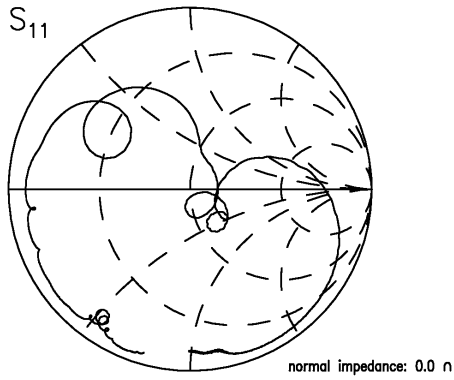


Transfer function of the AMPS filter (wide band measurement)





Reflection coefficients of the AMPS filter (measurement)





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881,5 & 1960,0 MHz

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