



SAW Components

Preliminary Data Sheet B4219/LF18B

Data Sheet

A large, stylized graphic of a globe is shown, with the word "EPCOS" overlaid in large, glowing, white letters. The globe is rendered with a grid of latitude and longitude lines, and the letters are positioned diagonally across the lower half of the image, creating a sense of global reach and technological advancement.



SAW Components

B4219

Low-Loss Dual Band Filter for Mobile Communication

881,5 & 1960,0 MHz

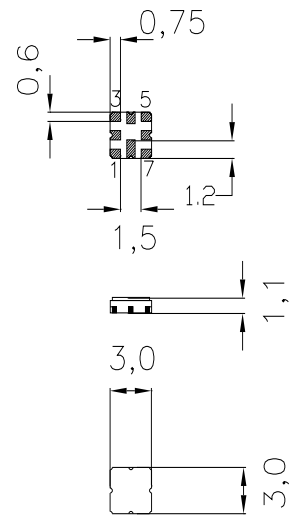
Preliminary Data Sheet



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)**



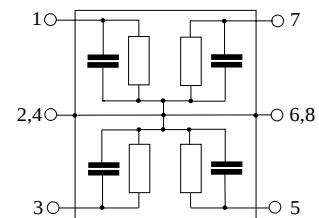
Terminals

- Ni, gold-plated

Dimensions in mm, approx. weight 0,037 g

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 Sensitive Device (ESD)

Maximum ratings

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



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Characteristics of PCS Rx filter

Operating temperature range: $T = -30$ 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	$\alpha_{\max}$				
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



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Characteristics of PCS Rx filter

Operating temperature range: $T = -30$ to $+70$ °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	$\alpha_{\max}$				
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



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Characteristics of PCS Rx filter

Operating temperature range: $T = 25 \pm 2^\circ \text{C}$
 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	$\alpha_{\max}$	—	3,4	3,7	dB
1930,0...1990,0MHz					
Amplitude ripple (p-p)	$\Delta\alpha$	—	1,6	1,9	dB
1930,0...1990,0MHz					
Input return loss		10,0	12,5	—	dB
1930,0...1990,0 MHz					
Output return loss		10,0	12,5	—	dB
1930,0...1990,0 MHz					
Attenuation	α	20,0	22,0	—	dB
30,0...1850,0 MHz		20,0	31,0	—	dB
2110,0...2400,0 MHz					
Tx band suppression		20,0	22,0	—	dB
1850,0...1910,0 MHz					



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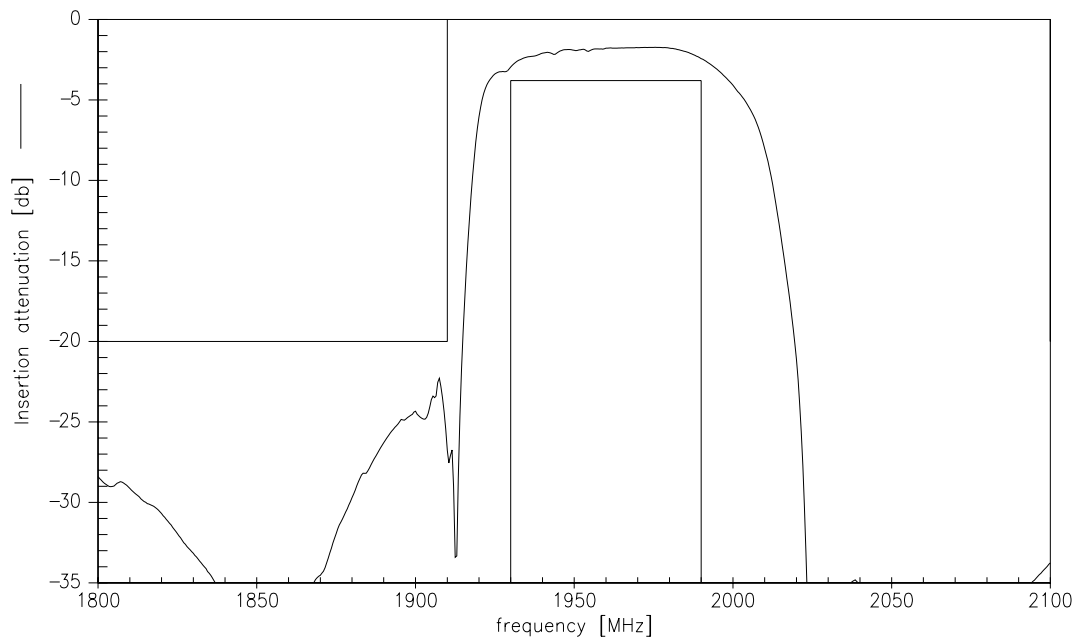
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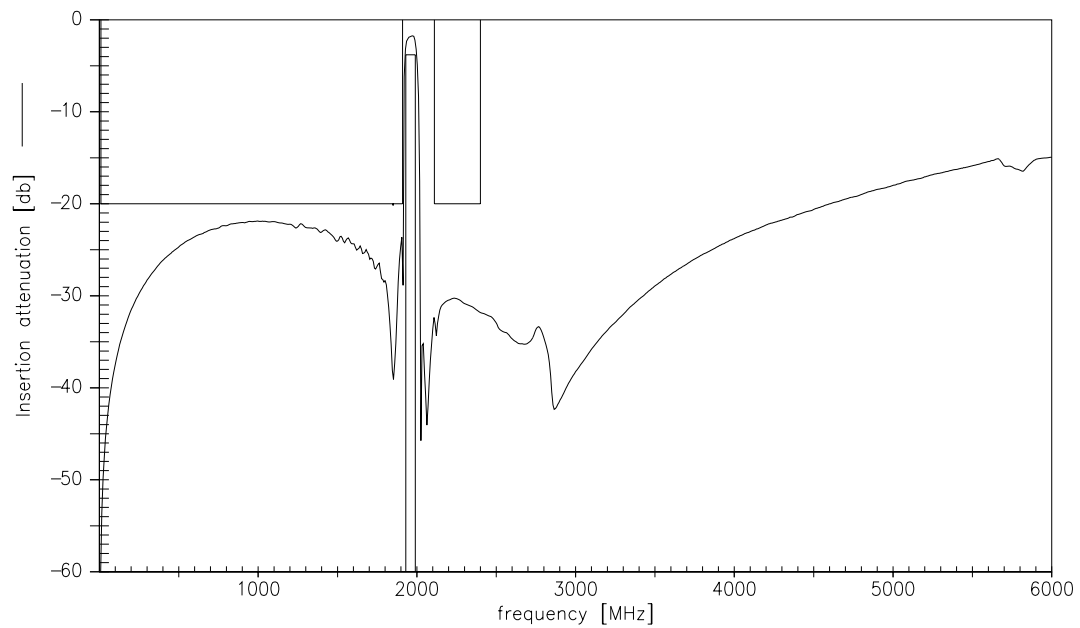
Preliminary Data Sheet



Transfer function of the PCS filter (narrow band measurement)



Transfer function of the PCS filter (wide band measurement)





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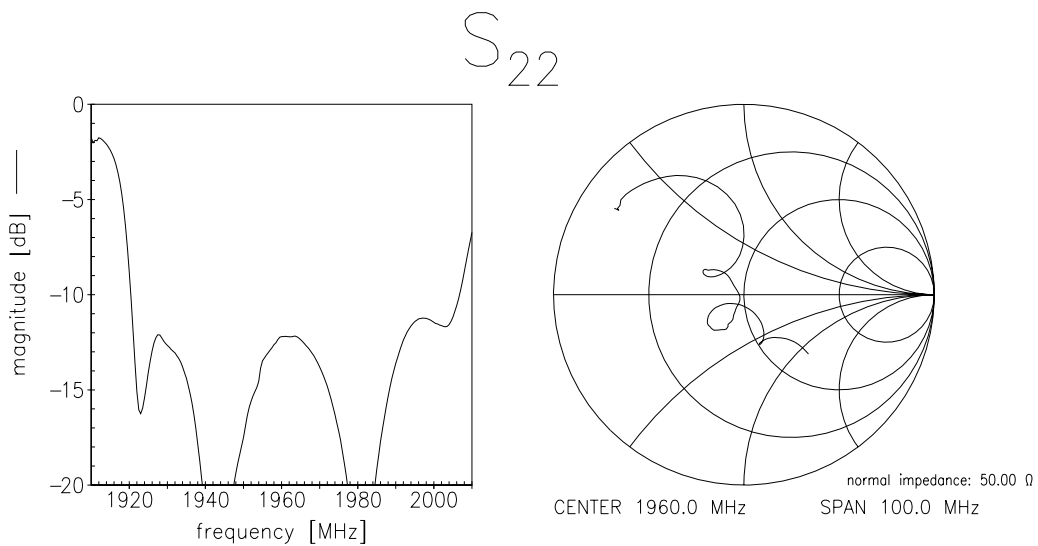
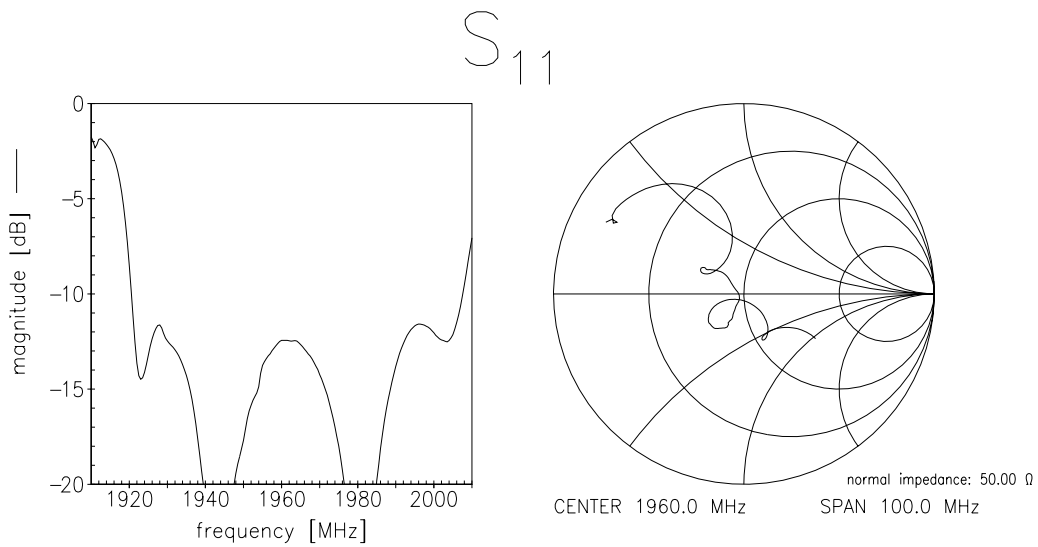
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Reflection coefficients of the PCS filter (measurement)





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Characteristics of AMPS Rx filter

Operating temperature range: $T = -30$ to $+70$ °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	$\alpha_{\max}$				
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



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Characteristics of AMPS Rx filter

Operating temperature range: $T = 25 \pm 2 \text{ }^{\circ}\text{C}$

Terminating source impedance: $Z_S = 50 \text{ } \Omega$

Terminating load impedance: $Z_L = 50 \text{ } \Omega$

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



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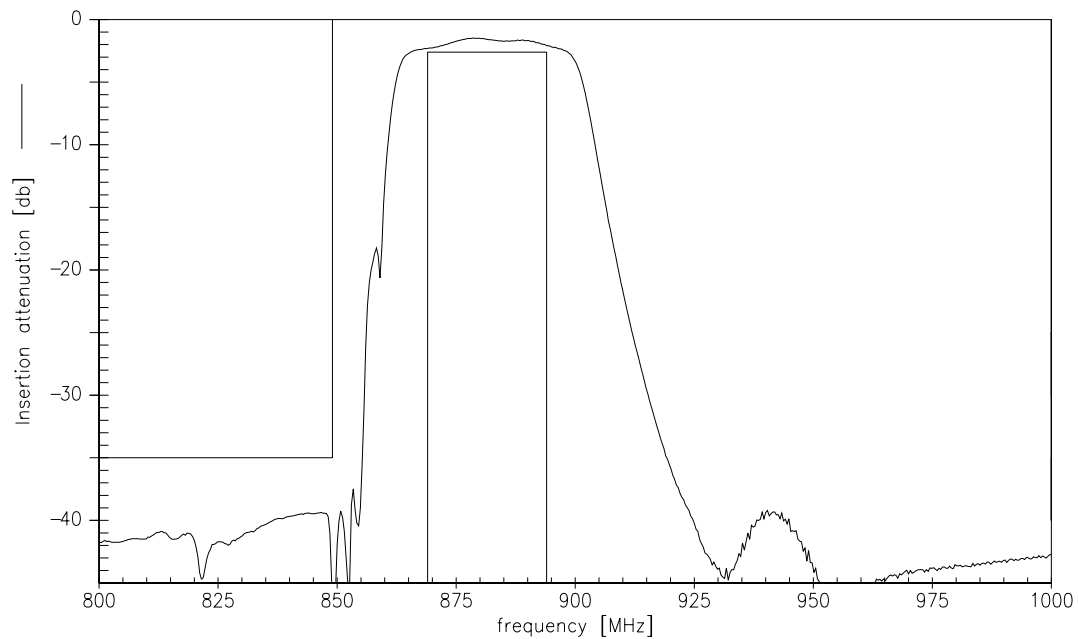
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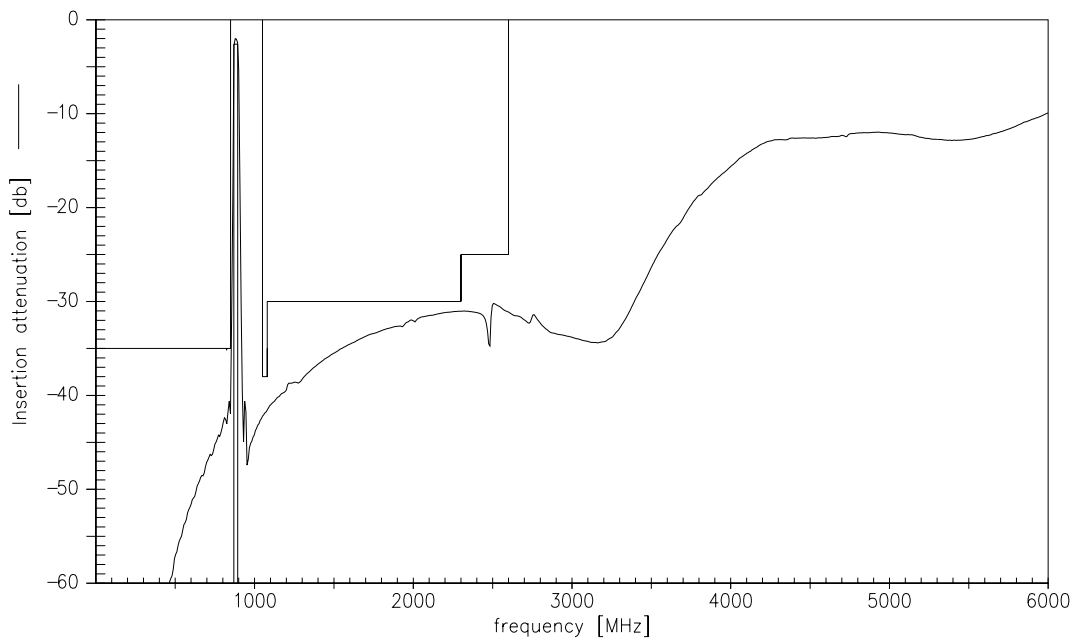
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Transfer function of the AMPS filter (narrow band measurement)



Transfer function of the AMPS filter (wide band measurement)





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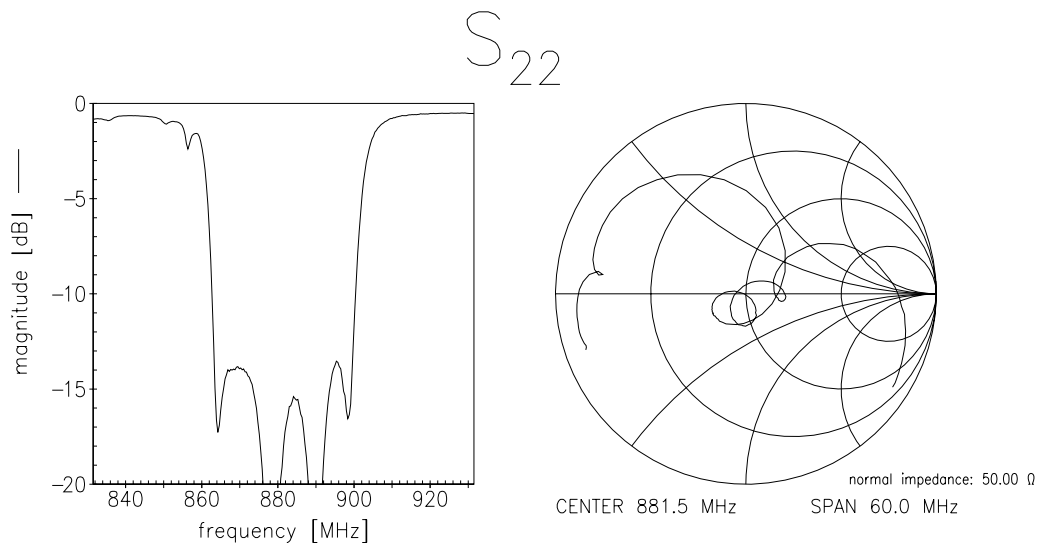
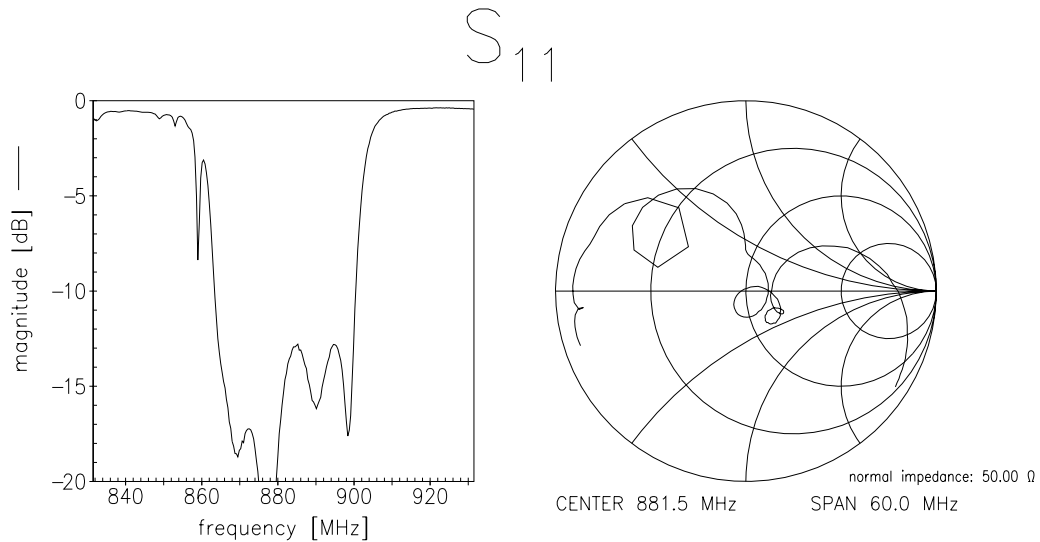
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Reflection coefficients of the AMPS filter (measurement)





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