



SAW Components

SAW RF Filter

TD-SCDMA

Series/type:	B7904
Ordering code:	B39192B7904C710
Date:	March 10, 2009
Version:	2.0



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B7904

Low-Loss Filter for Mobile Communication

1900.0 MHz

Data sheet



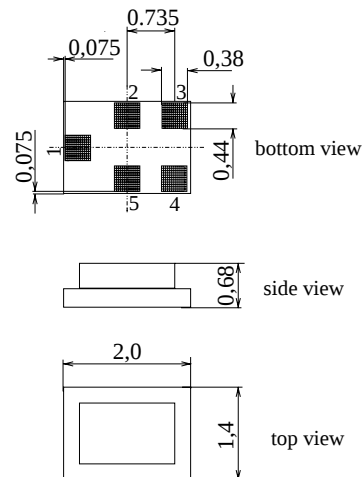
Application

- Low-loss RF filter module for TD-SCDMA mobile telephone systems
- Usable passband 40 MHz
- Low amplitude ripple
- High selectivity up to 6 GHz



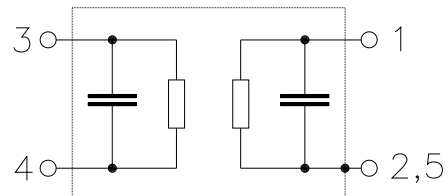
Features

- Package size 1.4 x 2.0 x 0.68 mm³
- Package code QCS5C
- RoHS compatible
- Approximate weight 0.007g
- Package for **Surface Mount Technology (SMT)**
- Ni, gold-plated terminals
- **Electrostatic Sensitive Device (ESD)**



Pin configuration

- 1 Input, unbalanced
- 4 Output, unbalanced
- 2,5 Case ground to be grounded
- 3





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Characteristics

Temperature range for specification:	T	=	−30 °C to +85 °C
Terminating source impedance:	Z _S	=	50 Ω (unbalanced)
Terminating load impedance:	Z _L	=	50 Ω (unbalanced)

		min.	typ. @ 25 °C	max.	
Center frequency	f _C	—	1900.0	—	MHz
Maximum insertion attenuation	α _{max}	—	1.9	2.3	dB
	1880.0 ... 1920.0 MHz				
Amplitude ripple (p-p)	Δα	—	0.6	1.0	dB
	1880.0 ... 1920.0 MHz				
Input VSWR		—	1.9	2.3	
	1880.0 ... 1920.0 MHz				
Output VSWR		—	1.9	2.3	
	1880.0 ... 1920.0 MHz				
Attenuation	α				
	0.3 ... 1395.0 MHz	25	33	—	dB
	1395.0 ... 1435.0 MHz	30	33	—	dB
	1435.0 ... 1805.0 MHz	25	33	—	dB
	1805.0 ... 1840.0 MHz	15	25	—	dB
	2000.0 ... 2135.0 MHz	15	25	—	dB
	2135.0 ... 2175.0 MHz	35	40	—	dB
	2175.0 ... 3500.0 MHz	25	30	—	dB
	3500.0 ... 6000.0 MHz	20	30	—	dB

Maximum ratings

Operable temperature range	T	−30/+85	°C	
Storage temperature range	T _{stg}	−40/+85	°C	
DC voltage	V _{DC}	3	V	
ESD voltage	V _{ESD}	50 ¹⁾	V	Machine model, 10 pulses
Input power	P _{IN}	10	dBm	CW signal

¹⁾ acc. to JESD22-A115A (machine model), 10 negative & 10 positive pulses.

Please read *cautions and warnings and important notes* at the end of this document.



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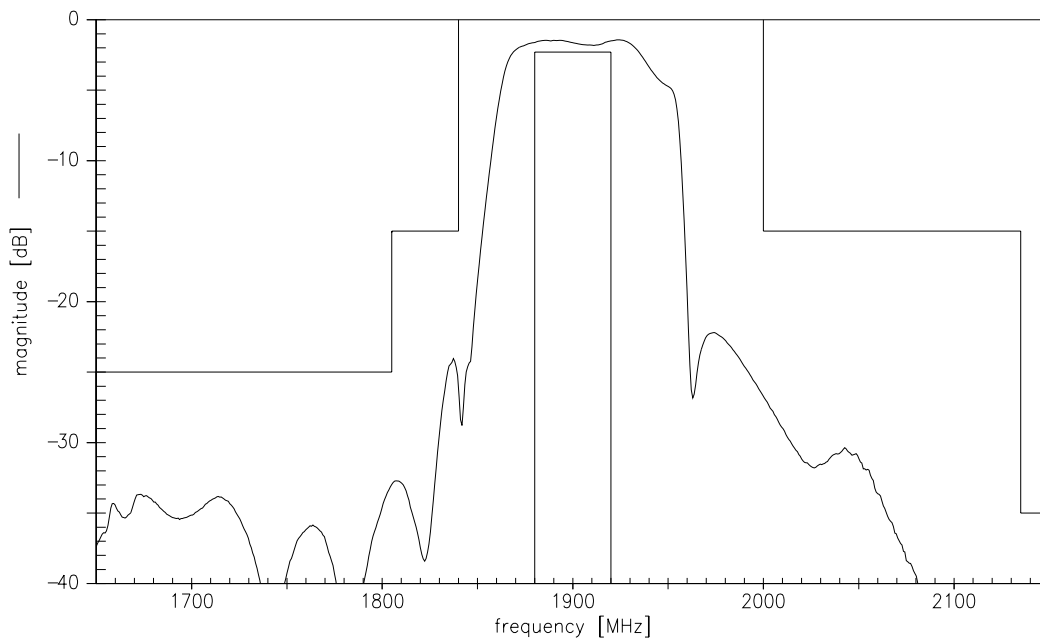
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1900.0 MHz

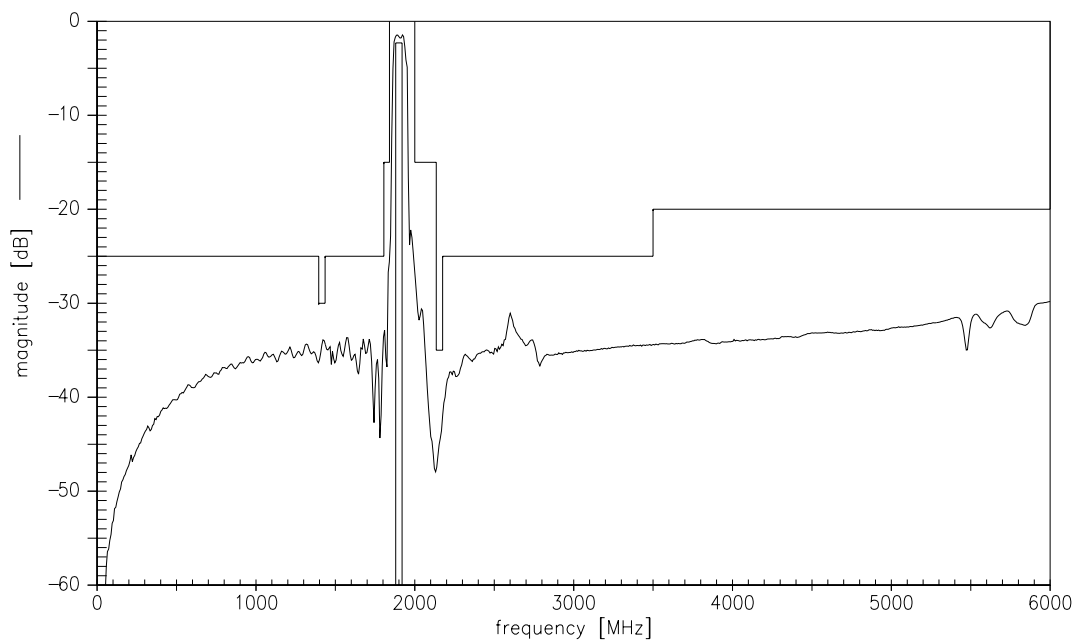
Data sheet



Transfer function



Transfer function (wideband)



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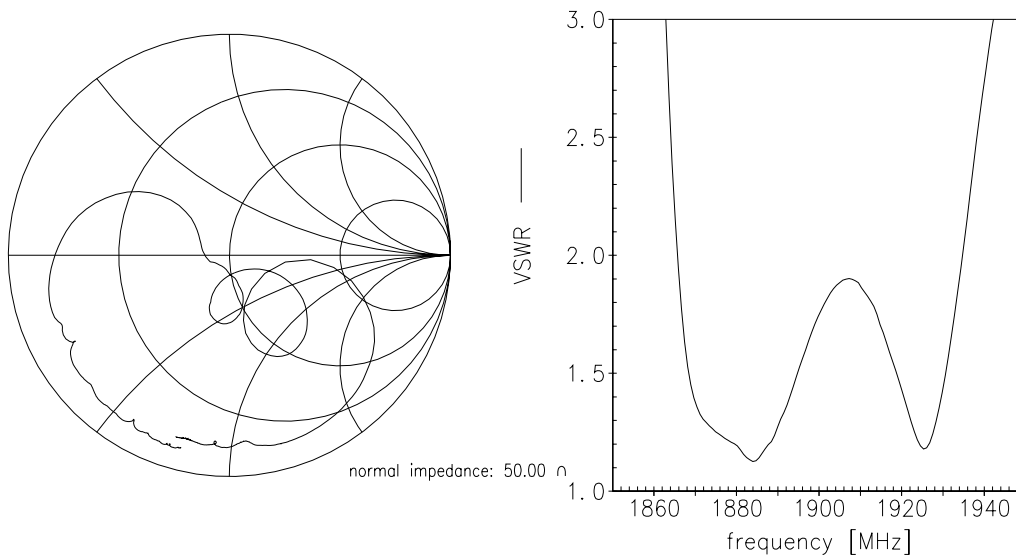
1900.0 MHz

Data sheet

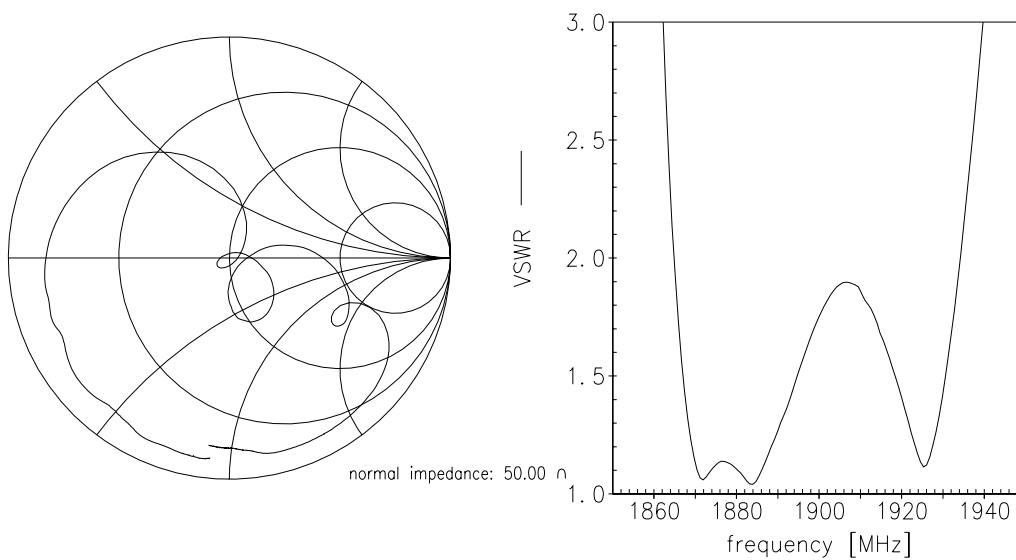


Smith charts

S_{11} function



S_{22} function



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		min.	typ. @ 25 °C	max.	
Center frequency	f _C	—	1900.0	—	MHz
Maximum insertion attenuation	α _{max}				
1880.0 ... 1920.0 MHz		—	1.8	2.3	dB
Amplitude ripple (p-p)					
1880.0 ... 1920.0 MHz Δα		—	0.5	1.0	dB
Input VSWR					
1880.0 ... 1920.0 MHz		—	1.4	2.0	
Output VSWR					
1880.0 ... 1920.0 MHz		—	1.4	2.0	
Attenuation	α				
0.3 ... 1395.0 MHz		25	32	—	dB
1395.0 ... 1435.0 MHz		30	32	—	dB
1435.0 ... 1805.0 MHz		25	32	—	dB
1805.0 ... 1840.0 MHz		15	25	—	dB
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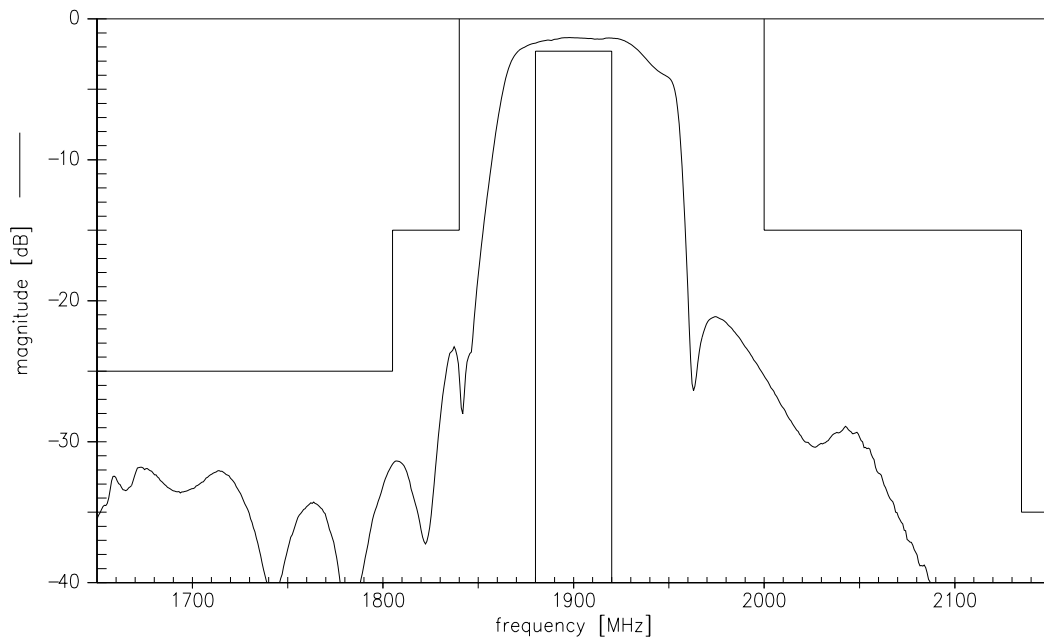
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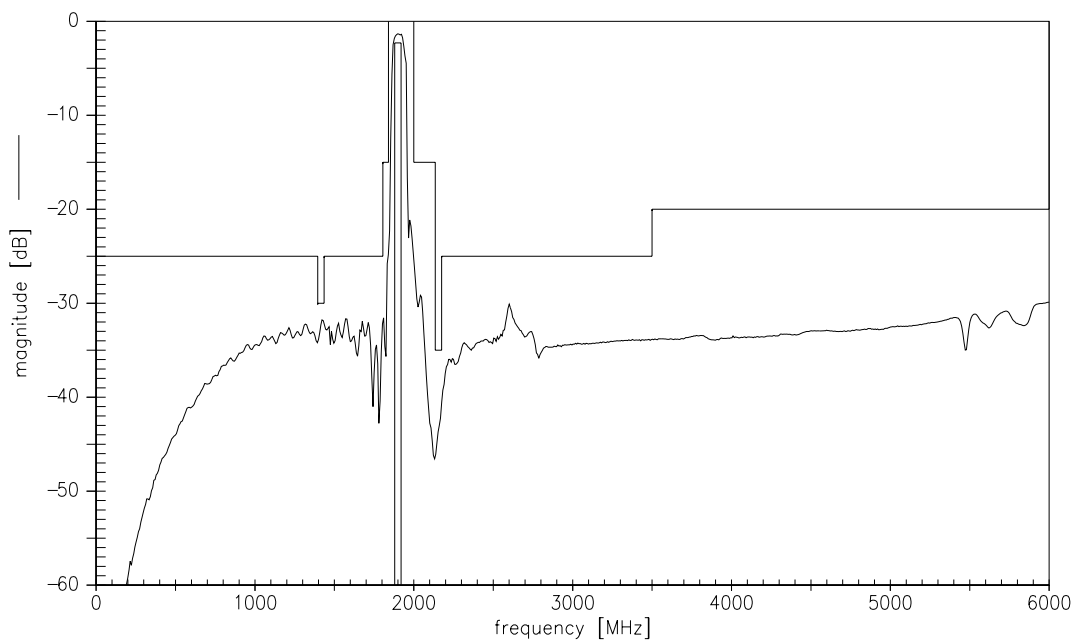
Data sheet



Transfer function (matched)



Transfer function (wideband)



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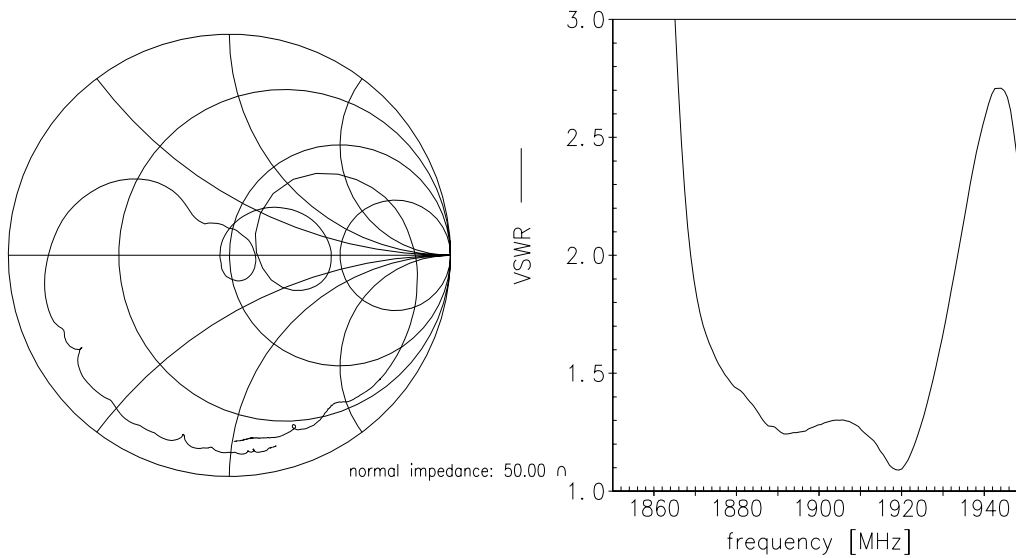
1900.0 MHz

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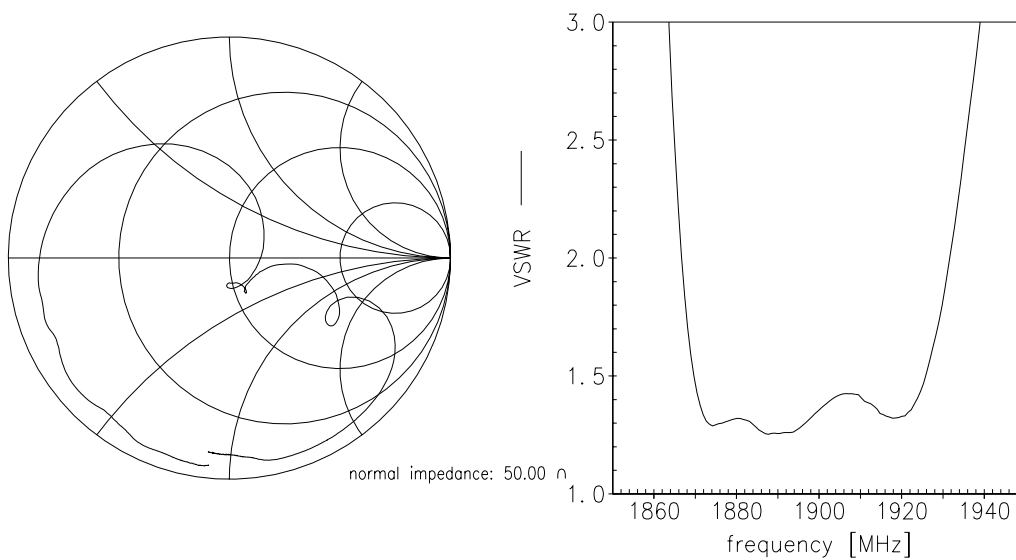


Smith charts

S_{11} function



S_{22} function



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**References**

Type	B7904
Ordering code	B39192B7904C710
Marking and package	C61157-A7-A111
Packaging	F61074-V8151-Z000
Date codes	L_1126
S-parameters	B7904_NB_UN.s2p B7904_WB_UN.s2p See file header for port/pin assignment table
Soldering profile	S_6001
RoHS compatible	defined as compatible with the following documents: "DIRECTIVE 2002/95/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 27 January 2003 on the restriction of the use of certain hazardous substances in electrical and electronic equipment. 2005/618/EC from April 18th, 2005, amending Directive 2002/95/EC of the European Parliament and of the Council for the purposes of establishing the maximum concentration values for certain hazardous substances in electrical and electronic equipment."

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Published by EPCOS AG

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P.O. Box 80 17 09, 81617 Munich, GERMANY

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