



SAW Components

SAW filter

PCS+G RF Tx filter

Series/type:	B5142
Ordering code:	B39202B5142U410
Date:	March 08, 2010
Version:	1.0

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SAW Components	B5142
SAW filter	1962.50 MHz

Preliminary data



Revision History: Changes compared to previous iteration issue

ISSUE	ORIGINATOR	DETAIL SPEC CHANGES	DATE
DGLW58S01			
0.1	Wilson GOH	Initial release	08.Jan.2010
LW58A			
1.0	Wilson GOH	Max. AR limit relaxed from 2.2 to 2.4 dB	24.Feb.2010
B5142			
1.0	Wilson GOH	Ordering code added Specifications for 1905~1915MHz added	08.Mar.2010

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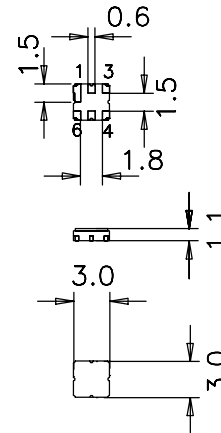
Application

- Low-loss RF filter for PCS+G base-station Tx path
- Low amplitude ripple
- No matching required for operation at 50Ω
- Usable passband 65 MHz



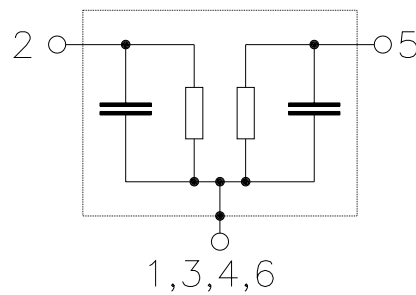
Features

- Package size 3.0 x 3.0 x 1.1 mm³
- Package code DCC6C
- RoHS compatible
- Approximate weight 0.037 g
- Package for **Surface Mount Technology (SMT)**
- Ni, gold-plated terminals
- **Electrostatic Sensitive Device (ESD)**



Pin configuration

- 2 Input unbalanced
- 5 Output unbalanced
- 1,3,4,6 To be grounded



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Characteristics

Temperature range for specification: $T = -40\text{ °C to }+85\text{ °C}$
 Terminating source impedance: $Z_S = 50\ \Omega$
 Terminating load impedance: $Z_L = 50\ \Omega$

					LW58A ¹⁾				
					min.	typ. @ 25 °C	max.		
Center frequency			f_C		—	1962.50	—	MHz	
Maximum insertion attenuation			α_{\max}		—	2.9	4.0	dB	
	1930	...	1995	MHz					
Amplitude ripple (p-p)			$\Delta\alpha$		—	1.2	2.4	dB	
	1930	...	1995	MHz					
Return loss									
Input	1930	...	1995	MHz	8	11	—	dB	
Output	1930	...	1995	MHz	8	12	—	dB	
Attenuation			α_{abs}						
	1850	...	1875	MHz	15	17	—	dB	
	1875	...	1905	MHz	13	16	—	dB	
	1905	...	1915	MHz	3	8	—	dB	
	2022	...	2070	MHz	15	25	—	dB	

¹⁾ Values in columns min, typ and max indicate the development status of the current version.



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Maximum ratings

Operable temperature range	T	-40/+85	°C	
Storage temperature range	T _{stg}	-40/+85	°C	
DC voltage	V _{DC}	0	V	
ESD voltage	V _{ESD}	50 ¹⁾	V	machine model, 1 pulse
	V _{ESD}	150 ²⁾	V	human body model, 1 pulse
Input power				
	1930 ... 1995 MHz	P _{IN}	10	dBm

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

2) acc. to JESD22-A114B (human body model), 1 negative & 1 positive pulse.

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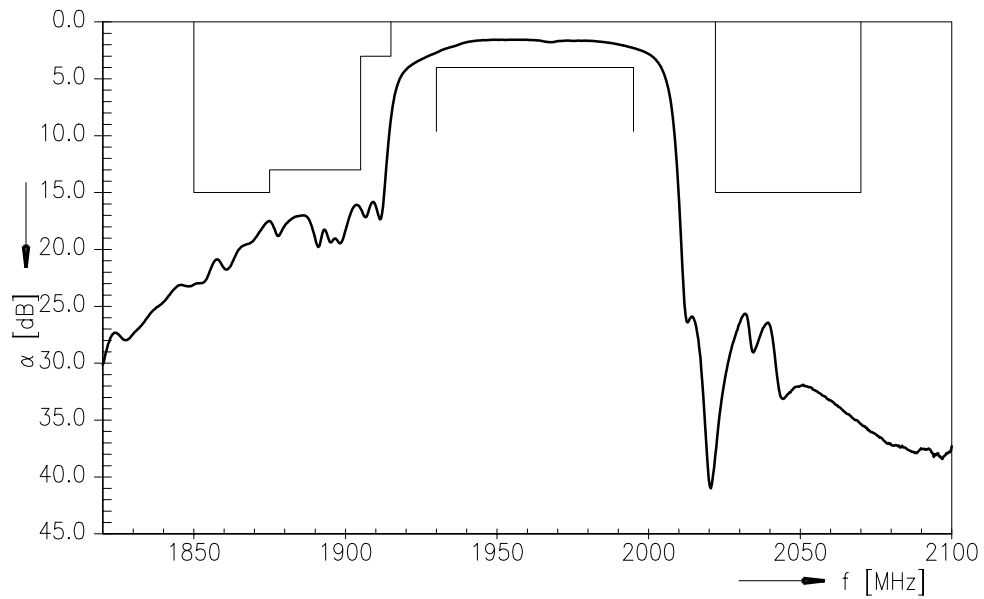
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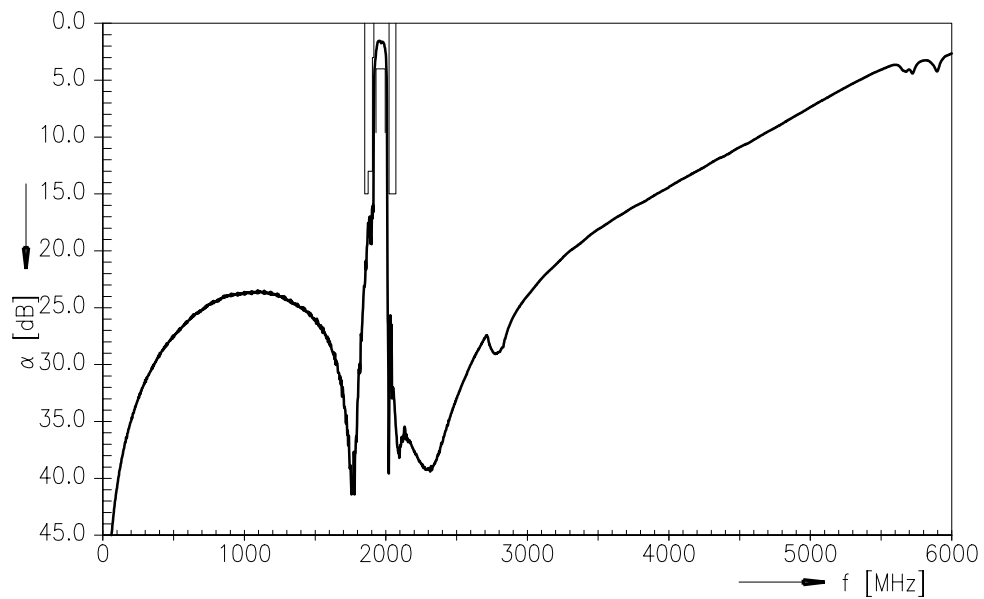
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Transfer function



Transfer function (wideband)



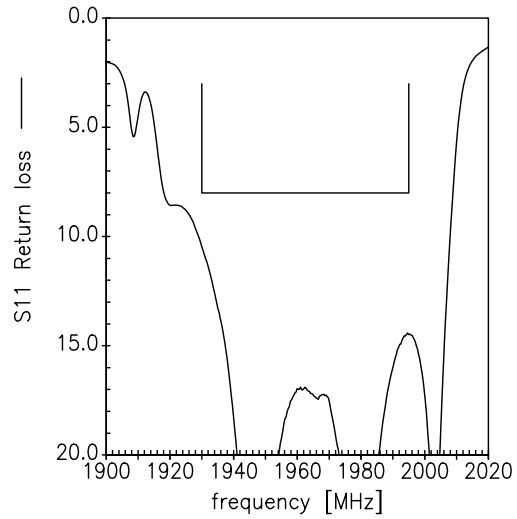
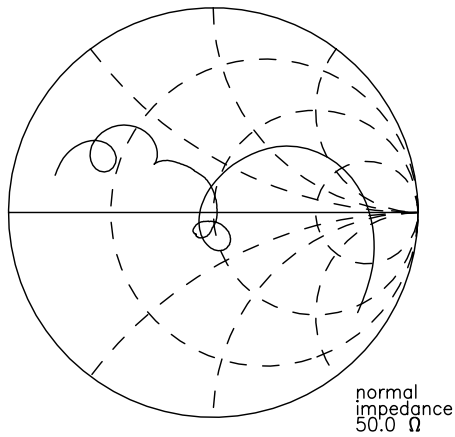
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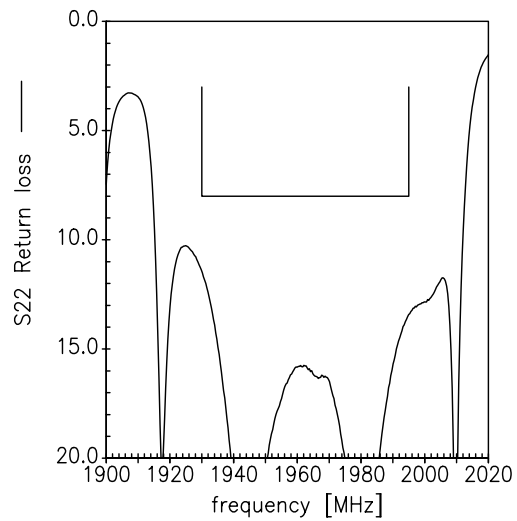
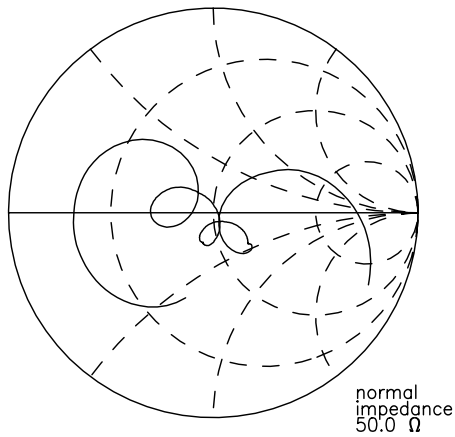


Smith charts

S_{11} function



S_{22} function



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References

Type	B5142
Ordering code	B39202B5142U410
Marking and package	C61157-A7-A67
Packaging	F61074-V8168-Z000
Date codes	L_1126
S-parameters	B5142_NB.s2p B5142_WB.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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