



## SAW Components

### SAW filter

PCS+G RF Tx filter

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



**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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**SMD**

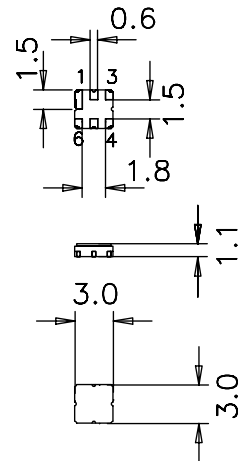
### Application

- 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



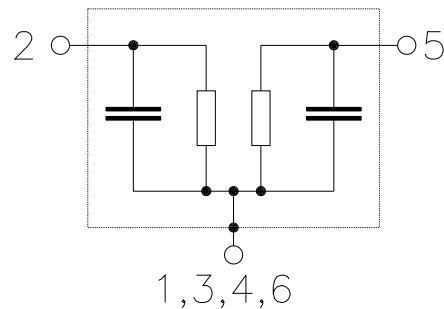
### Features

- Package size 3.0 x 3.0 x 1.1 mm<sup>3</sup>
- 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



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



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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 <sup>1)</sup>			
		min.	typ. @ 25 °C	max.	
<b>Center frequency</b>	$f_C$	—	1962.50	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{max}$	—	2.9	4.0	dB
	1930 ... 1995 MHz				
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$	—	1.2	2.4	dB
	1930 ... 1995 MHz				
<b>Return loss</b>					
Input	1930 ... 1995 MHz	8	11	—	dB
Output	1930 ... 1995 MHz	8	12	—	dB
<b>Attenuation</b>	$\alpha_{abs}$				
	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 <sub>stg</sub>	-40/+85	°C	
DC voltage	V <sub>DC</sub>	0	V	
ESD voltage	V <sub>ESD</sub>	50 <sup>1)</sup>	V	machine model, 1 pulse
		150 <sup>2)</sup>	V	human body model, 1 pulse
Input power				
1930 ... 1995 MHz	P <sub>IN</sub>	10	dBm	CW

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

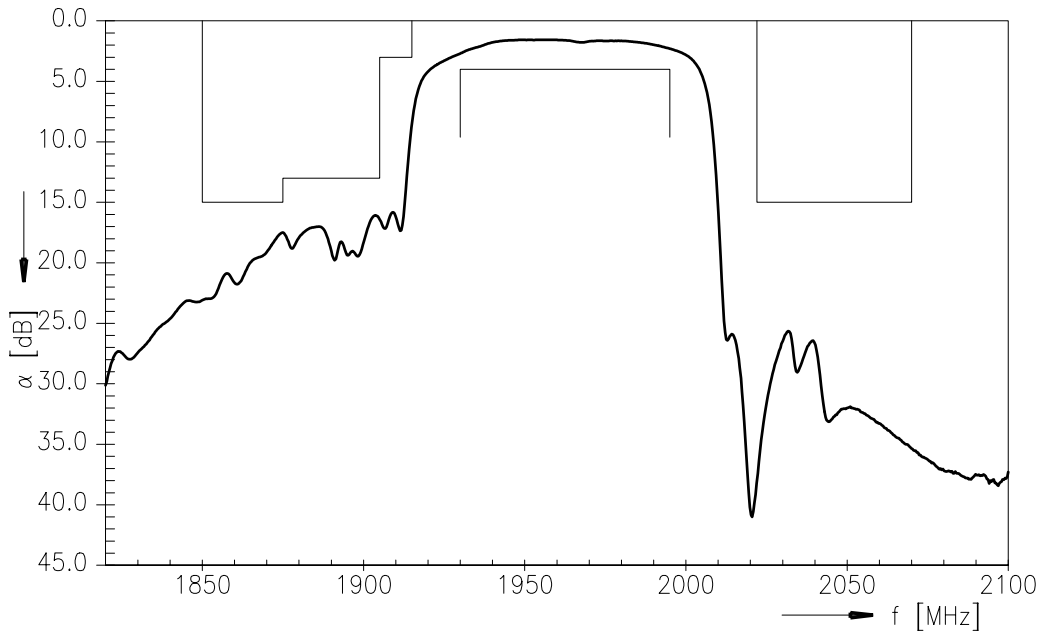
2) acc. to JESD22-A114B (human body model), 1 negative & 1 positive pulse.



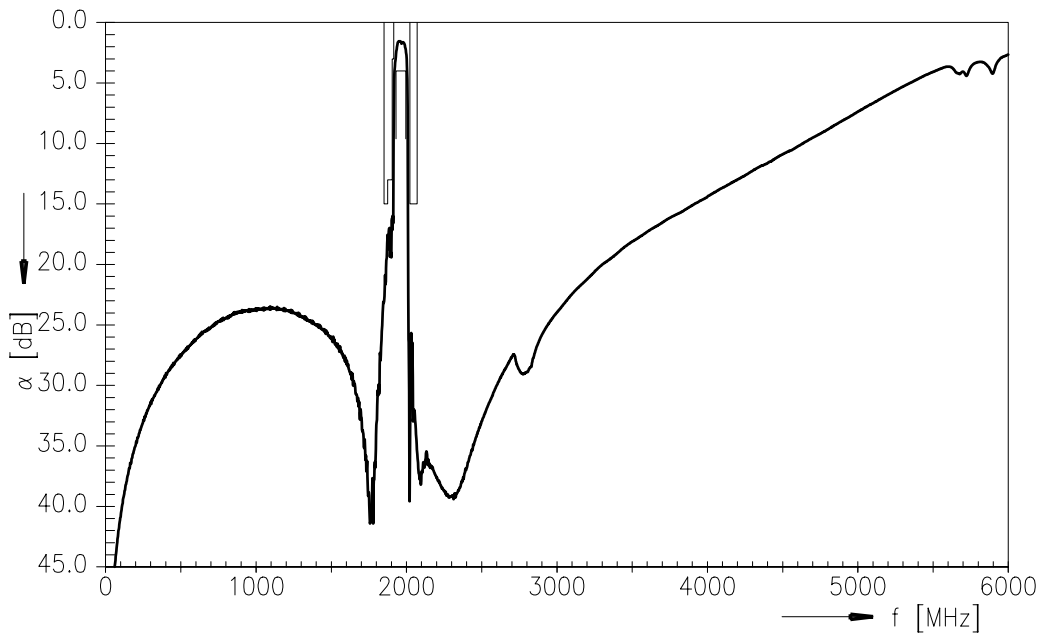
Preliminary data



Transfer function



Transfer function (wideband)



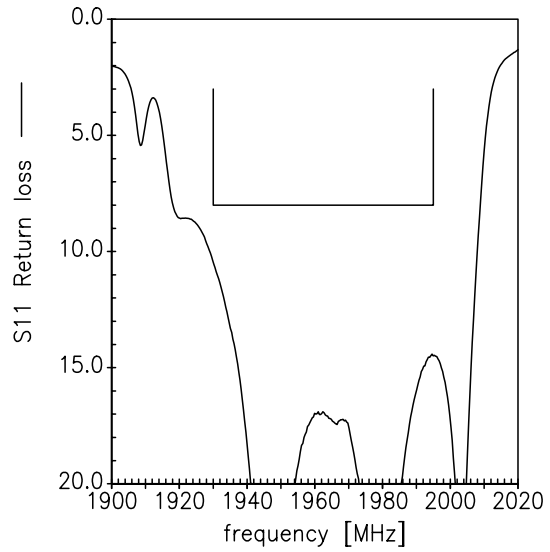
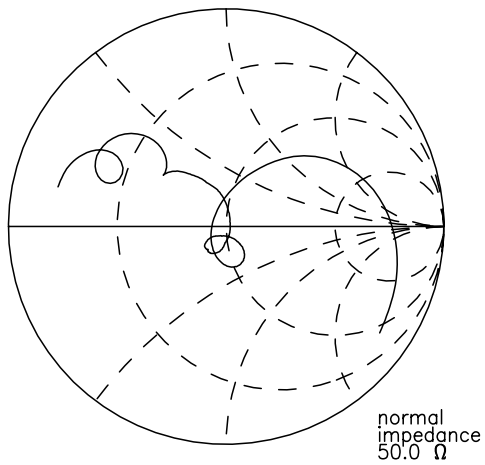
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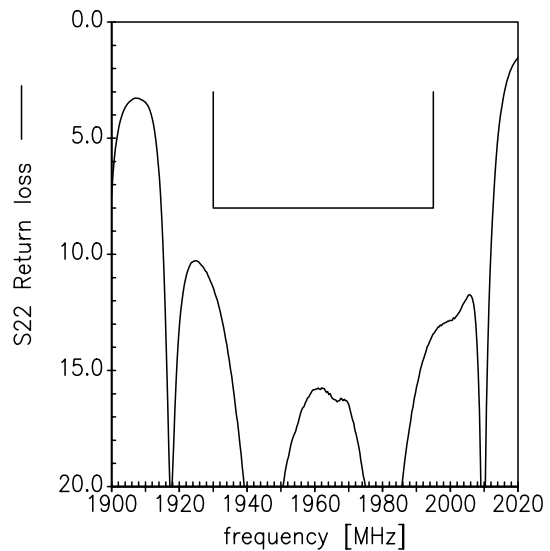
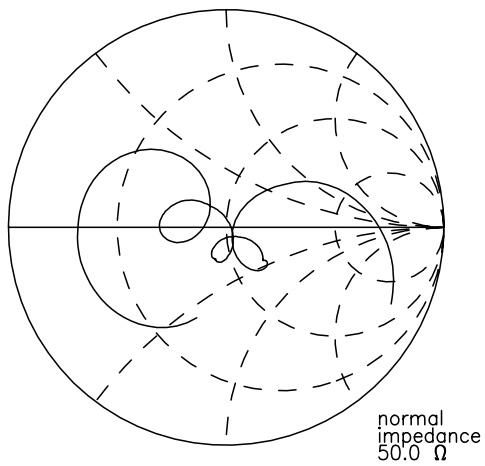


Smith charts

S<sub>11</sub> function



S<sub>22</sub> function





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### References

<b>Type</b>	B5142
<b>Ordering code</b>	B39202B5142U410
<b>Marking and package</b>	C61157-A7-A67
<b>Packaging</b>	F61074-V8168-Z000
<b>Date codes</b>	L_1126
<b>S-parameters</b>	B5142_NB.s2p B5142_WB.s2p See file header for port/pin assignment table
<b>Soldering profile</b>	S_6001
<b>RoHS compatible</b>	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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