



## **SAW Components**

### **SAW Rx Filter**

WCDMA Band VII

<b>Series/Type:</b>	<b>B9478</b>
<b>Ordering code:</b>	<b>B39272B9478P810</b>
<b>Date:</b>	<b>November 04, 2010</b>
<b>Version:</b>	<b>2.0</b>

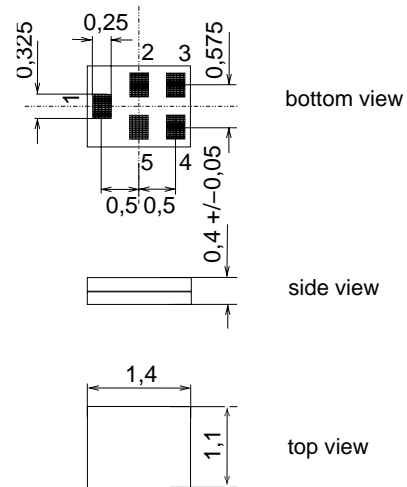
**Application**

- Low-loss RF filter for mobile telephone WCDMA band VII systems, receive path (RX)
- Useable for antenna diversity systems
- Impedance transform from 50 Ω to 100 Ω
- Unbalanced to balanced operation
- Very low insertion attenuation
- Low amplitude ripple
- Usable passband 70 MHz



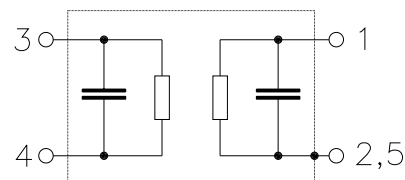
**Features**

- Package size 1.4 x 1.1 x 0.4 mm<sup>3</sup>
- RoHS compatible
- Approx. weight 0.003 g
- Package for **Surface Mount Technology (SMT)**
- Ni, gold-plated terminals
- **Electrostatic Sensitive Device (ESD)**
- **Moisture Sensitive Level 3**



**Pin configuration**

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





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2655.0 MHz

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**Characteristics**

Operating temperature range:  $T = -20\text{ °C to }+85\text{ °C}$   
 Terminating source impedance:  $Z_S = 50\ \Omega$  (unbalanced)  
 Terminating load impedance:  $Z_L = 100\ \Omega \parallel 18.0\text{nH}$  (balanced)

		min.	typ. @ 25 °C	max.	
<b>Center frequency</b>	$f_c$	—	2655.0	—	MHz
<b>Maximum insertion attenuation</b>					
	2620.0 ... 2690.0MHz $\alpha_{\max}$	—	2.8	3.3	dB
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$				
	2620.0 ... 2690.0MHz	—	1.4	2.0	dB
<b>Input VSWR</b>					
	2620.0 ... 2690.0MHz	—	1.8	2.2	
<b>Output VSWR</b>					
	2620.0 ... 2690.0MHz	—	1.8	2.2	
<b>Input amplitude balance (<math> S_{31}/S_{21} </math>)</b>					
	2620.0 ... 2690.0MHz	—	+/-0.5	+/-1.3	dB
<b>Input phase balance (<math>\phi(S_{31}) - \phi(S_{21}) + 180^\circ</math>)</b>					
	2620.0 ... 2690.0MHz	—	+/-8.0	+/-14	°
<b>Attenuation</b>	$\alpha$				
	0.0 ... 2500.0MHz	40	51	—	dB
	2500.0 ... 2570.0MHz	46	53	—	dB
	2750.0 ... 6000.0MHz	40	44	—	dB



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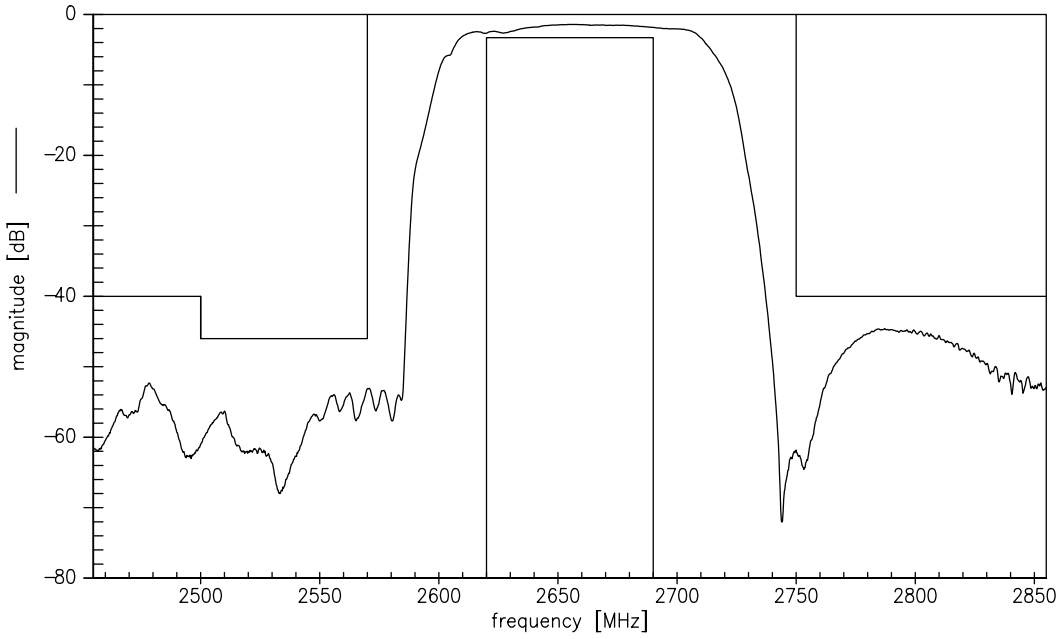
### Maximum ratings

Operable temperature range	T	-30/+85	°C	
Storage temperature range	T <sub>stg</sub>	-40/+85	°C	
DC voltage	V <sub>DC</sub>	5	V	
ESD voltage	V <sub>ESD</sub>	50 <sup>1)</sup>	V	machine model, 1 pulse
Source Power				
Input Power at Band 7 Tx Band	P <sub>S</sub>	15	dBm	cw signal @ 50°C, 2000Hrs

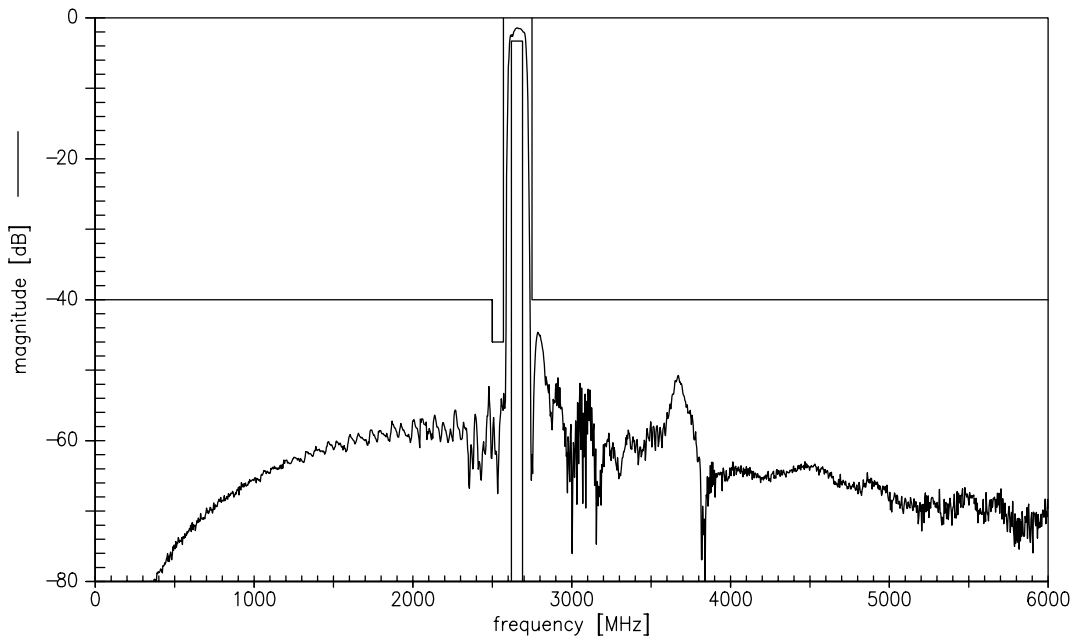
<sup>1)</sup> acc. to JESD22-A115A (machine model), 1 negative & 1 positive pulse.



Transfer function

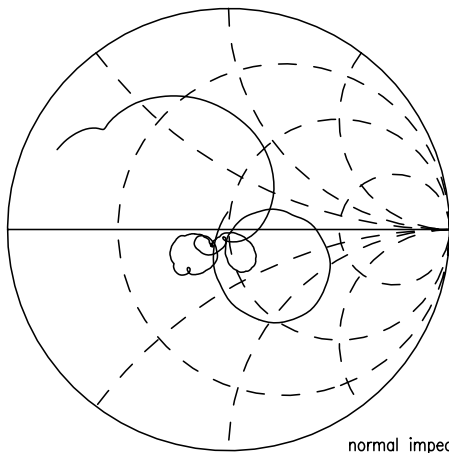


Transfer function (wideband)

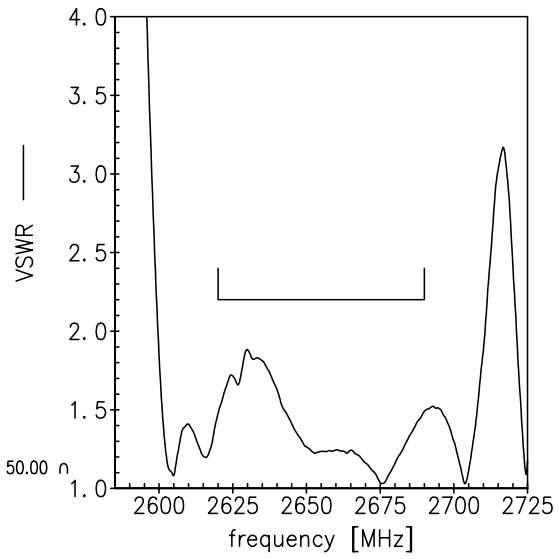


Smith charts

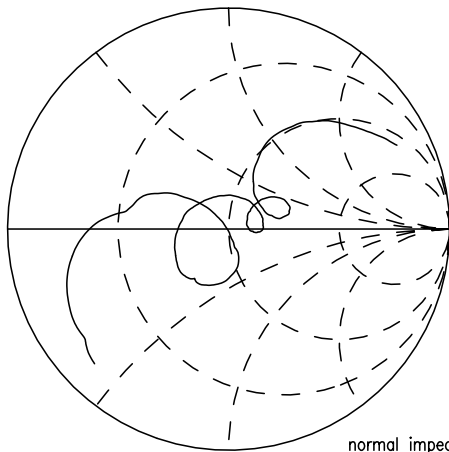
**S<sub>11</sub> function**



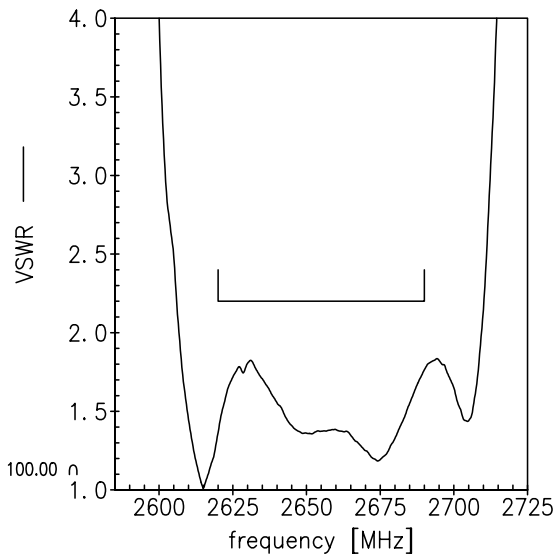
normal impedance: 50.00 Ω



**S<sub>22</sub> function**



normal impedance: 100.00 Ω



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**References**

<b>Type</b>	B9478
<b>Ordering code</b>	B39272B9478P810
<b>Marking and package</b>	C61157-A8-A3
<b>Packaging</b>	F61074-V8237-Z000
<b>Date codes</b>	L_1126
<b>S-parameters</b>	LT45F_NB.s3p, LT45F_WB.s3p 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."
<b>Moldability</b>	Before using in overmolding environment, please contact your EPCOS sales office.
<b>Matching coils</b>	See <a href="http://www.tdk.co.jp/tefe02/coil.htm#aname1">http://www.tdk.co.jp/tefe02/coil.htm#aname1</a> <a href="http://www.tdk.co.jp/etvcl/index.htm">http://www.tdk.co.jp/etvcl/index.htm</a> for a large variety of matching coils.

For further information please contact your local EPCOS sales office or visit our webpage at [www.epcos.com](http://www.epcos.com).

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