



## **SAW Components**

### **SAW Tx Filter**

LTE Band 17

<b>Series/type:</b>	<b>B9493</b>
<b>Ordering code:</b>	<b>B39711B9493M410</b>
<b>Date:</b>	<b>October 03, 2011</b>
<b>Version:</b>	<b>2.0</b>



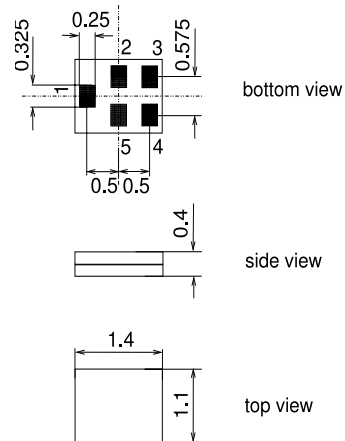
**Application**

- Low-loss RF filter for LTE systems (Tx)
- Impedance 50Ω input and output
- Unbalanced / unbalanced operation
- Usable passband 12MHz



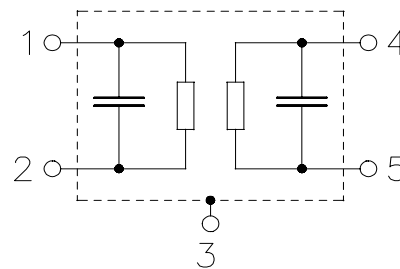
**Features**

- Package size 1.4 x 1.1 x 0.4 mm<sup>3</sup>
- Package code QCS51
- RoHS compatible
- Approximate weight 0.003 g
- Package for **Surface Mount Technology (SMT)**
- Ni, gold-plated terminals
- **Electrostatic Sensitive Device (ESD)**
- **Moisture Sensitivity Level 3**



**Pin configuration**

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





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**Characteristics**

Temperature range for specification: T = -30 °C to +85 °C  
 Terminating source impedance: Z<sub>S</sub> = 50 Ω (unbalanced)  
 Terminating load impedance: Z<sub>L</sub> = 50 Ω (unbalanced)

		min.	typ. @ 25 °C	max.	
<b>Center frequency</b>	f <sub>C</sub>		710.0		MHz
<b>Maximum insertion attenuation</b>	α <sub>max</sub>				
704.0 ... 716.0 MHz			1.8	2.5 <sup>1)</sup>	dB
704.0 ... 716.0 MHz			1.8	3.0	dB
<b>Amplitude ripple (p-p)</b>					
704.0 ... 716.0 MHz			0.6	2.2	dB
<b>Input VSWR</b>					
704.0 ... 716.0 MHz			1.6	2.0	
<b>Output VSWR</b>					
704.0 ... 716.0 MHz			1.5	2.0	
<b>Absolute attenuation</b>	α				
10.0 ... 692.0 MHz		30	44		dB
722.0 ... 723.5 MHz		5	15		dB
723.5 ... 728.0 MHz		10	20		dB
728.0 ... 734.0 MHz		25	34		dB
734.0 ... 746.0 MHz		36	40		dB
746.0 ... 805.0 MHz		30	44		dB
869.0 ... 894.0 MHz		30	68		dB
1408.0 ... 1432.0 MHz		25	55		dB
1565.0 ... 1607.0 MHz		45	53		dB
1805.0 ... 1990.0 MHz		30	49		dB
2110.0 ... 2170.0 MHz		40	45		dB
2400.0 ... 2484.0 MHz		35	46		dB
2816.0 ... 2864.0 MHz		15	44		dB
3000.0 ... 6000.0 MHz		10	20		dB
<b>Absolute mean attenuation<sup>2)</sup></b>	α <sub>mean</sub>				
736.5 ... 743.5 MHz		38	42		dB

<sup>1)</sup> Maximum Insertion Loss in temperature range -10 °C to +70 °C.  
<sup>2)</sup> Mean Attenuation is the integrated value of attenuation in every 5MHz channel over the specified band



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**Maximum ratings**

Operable temperature range	T	-30/+85	°C	machine model, 1 pulse
Storage temperature range	T <sub>stg</sub>	-40/+85	°C	
DC voltage	V <sub>DC</sub>	5	V	
ESD voltage	V <sub>ESD</sub>	100 <sup>1)</sup>	V	
Input power	P <sub>IN</sub>	10	dBm	

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



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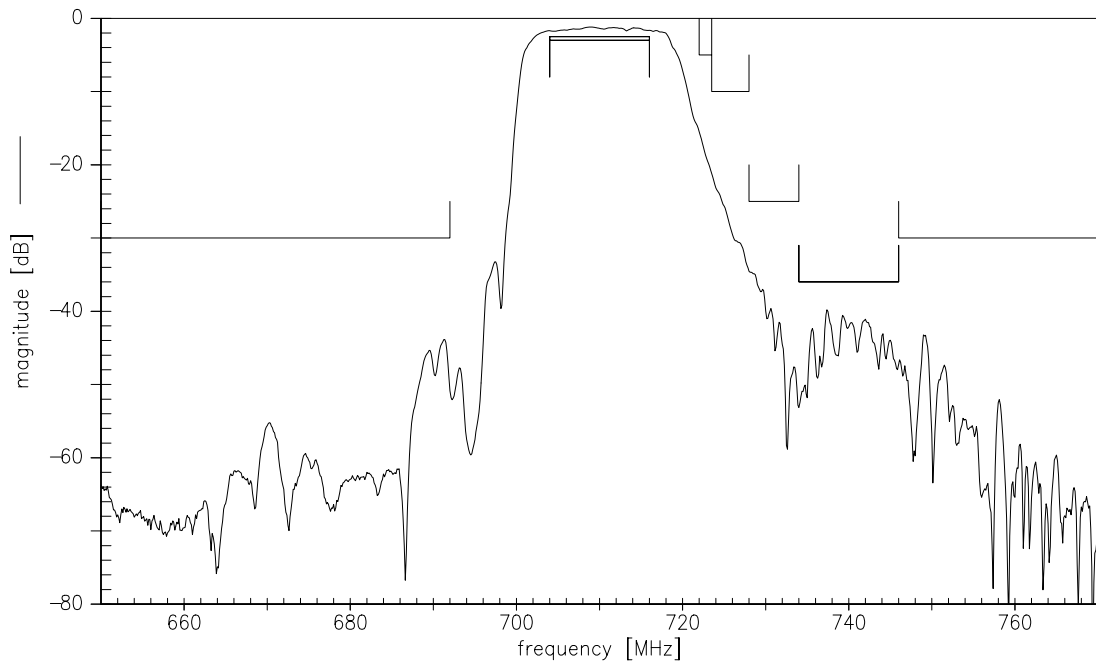
SAW Tx Filter

710.0 MHz

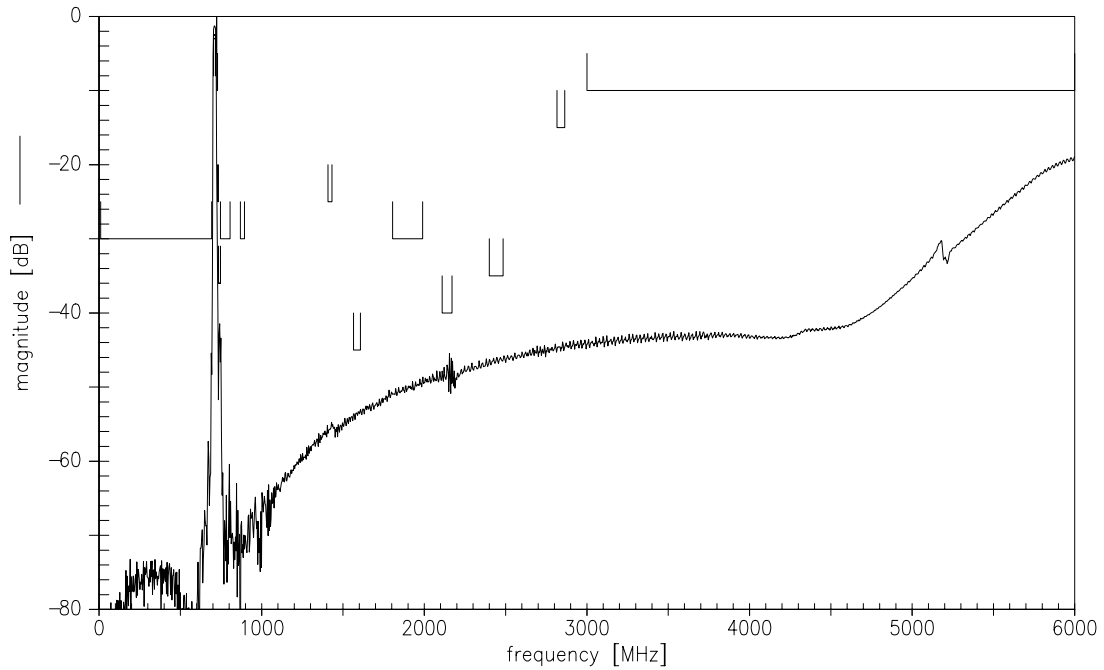
Data sheet



Transfer function (narrowband)



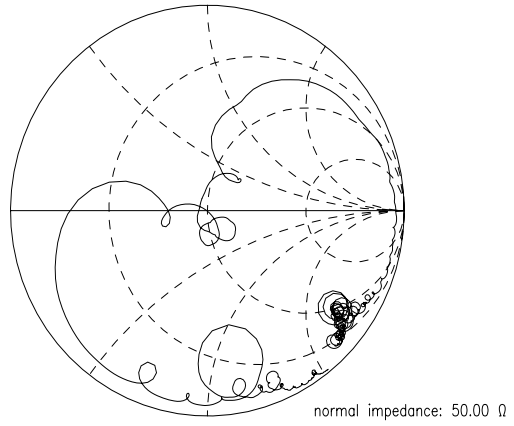
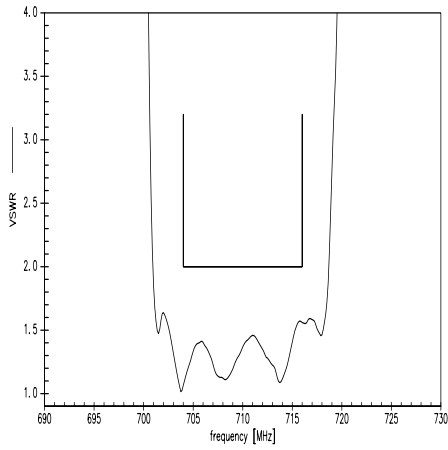
Transfer function (wideband)



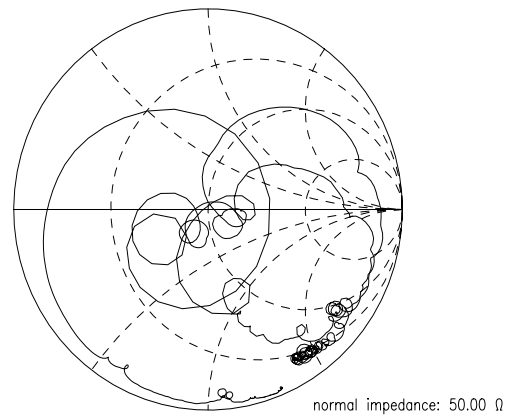
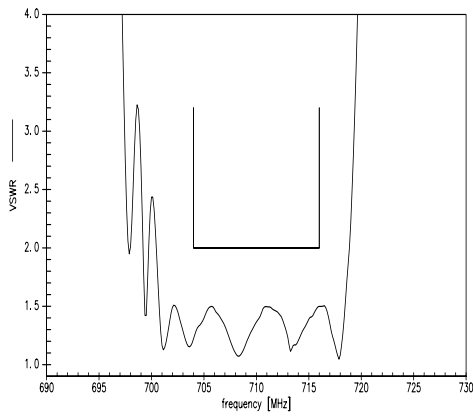
Please read *cautions and warnings* and *important notes* at the end of this document.



S11 VSWR



S22 VSWR



**SAW Components****B9493****SAW Tx Filter****710.0 MHz**

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**References**

<b>Type</b>	B9493
<b>Ordering code</b>	B39711B9493M410
<b>Marking and package</b>	C61157-A8-A3
<b>Packaging</b>	F61074-V8237-Z000
<b>Date codes</b>	L_1126
<b>S-parameters</b>	B9493_NB.s2p B9493_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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