



# SAW Components

SAW Tx Filter  
KPCS & UMTS 1700

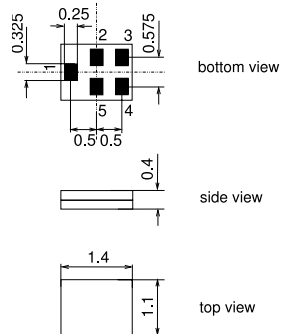
<b>Series/Type:</b>	<b>B9441</b>
<b>Ordering code:</b>	<b>B39182B9441M410</b>
<b>Date:</b>	<b>Jul 23, 2009</b>
<b>Version:</b>	<b>2.1</b>


**Application**

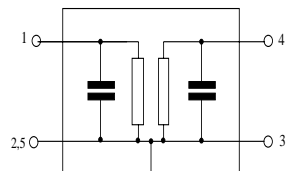
- Low loss RF filter for mobile telephone KPCS and UMTS systems, transmit path (Tx)
- Low insertion attenuation
- Low amplitude ripple
- Usable passband 35.0 MHz
- Unbalanced to unbalanced operation
- No matching network required for operation at 50 Ω
- Suitable for GPRS class 1 to 12


**Features**

- Package size 1.4 x 1.1 x 0.4 mm<sup>3</sup>
- Package code QCS5I
- RoHS compatible
- Approx. weight 0.003g
- Package for **Surface Mount Technology (SMT)**
- Ni, gold-plated terminals
- **Electrostatic Sensitive Device (ESD)**


**Pin configuration**

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



Data sheet



**Characteristics**

Temperature range for specification:  $T = -30\text{ °C to }+85\text{ °C}$   
 Terminating source impedance:  $Z_S = 50\ \Omega$   
 Terminating load impedance:  $Z_L = 50\ \Omega$

				min.	typ. @ 25°C	max.	min./ max.
<b>Center frequency</b>		$f_C$		—	1767.4	—	MHz
<b>Maximum insertion attenuation</b>		$\alpha_{max}$		—	1.6	2.0	dB CTQ
1749.9 ... 1784.9 MHz							
<b>Amplitude ripple (p-p)</b>		$\Delta\alpha$		—	0.6	1.2	dB
1749.9 ... 1784.9 MHz							
<b>Input VSWR</b>				—	1.6	2.0	
1749.9 ... 1784.9 MHz							
<b>Output VSWR</b>				—	1.6	2.0	
1749.9 ... 1784.9 MHz							
<b>Attenuation</b>		$\alpha$					
DC ... 1574.0 MHz				25	34	—	dB
1574.0 ... 1577.0 MHz				35	41	—	dB
1577.0 ... 1690.0 MHz				25	41	—	dB
1840.0 ... 1880.0 MHz				38	45	—	dB
1880.0 ... 1920.0 MHz				25	40	—	dB
2110.0 ... 2170.0 MHz				27	40	—	dB
2400.0 ... 2500.0 MHz				25	40	—	dB
3490.0 ... 3570.0 MHz				30	45	—	dB
5240.0 ... 5355.0 MHz				20	33	—	dB


**Maximum ratings**

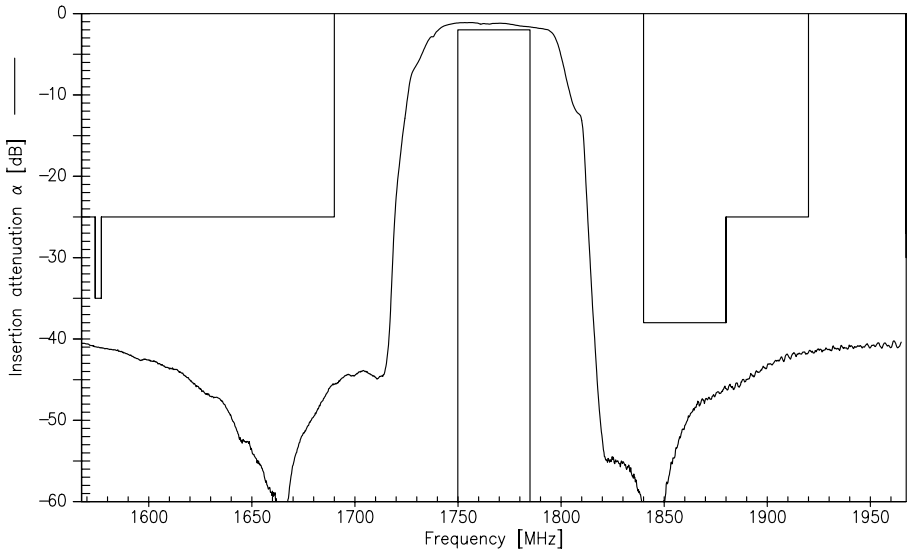
Operable temperature range	T	-40/+85	°C	
Storage temperature range	T <sub>stg</sub>	-40/+85	°C	
DC voltage	V <sub>DC</sub>	5	V	
ESD voltage	V <sub>ESD</sub>	50 <sup>1)</sup>	V	machine model, 1 pulse
Input Power at KPCS & UMTS Tx bands	P <sub>IN</sub>	13	dBm	continuous wave

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

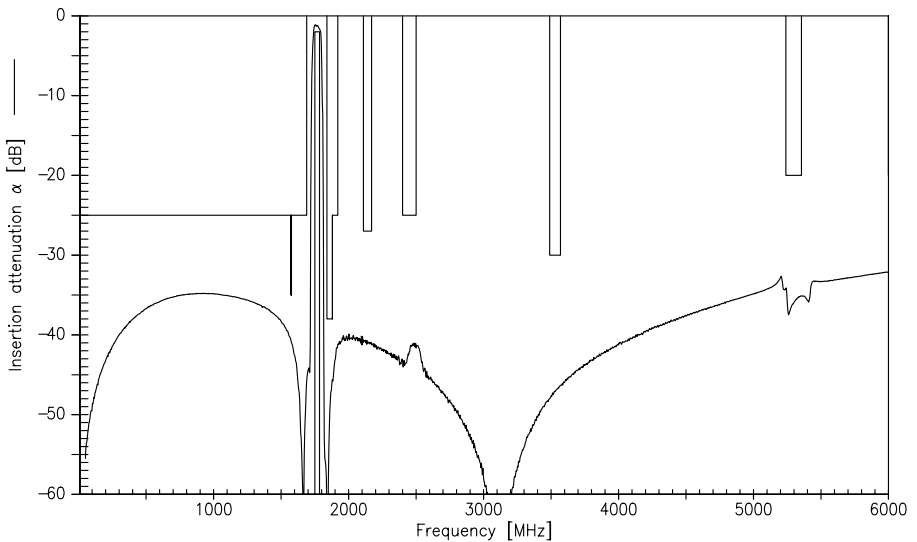
Data sheet



**Transfer function (narrowband)**



**Transfer function (wideband)**

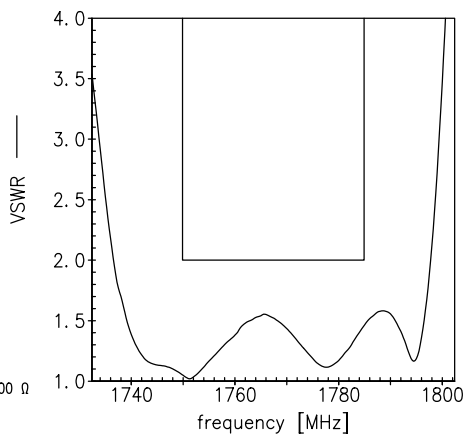
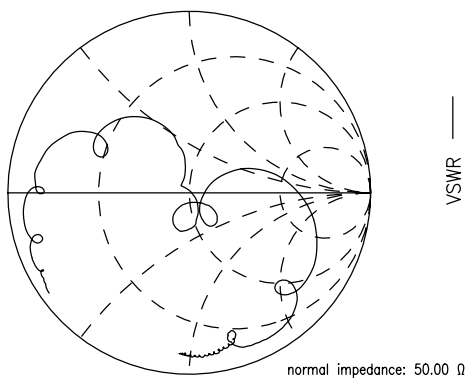


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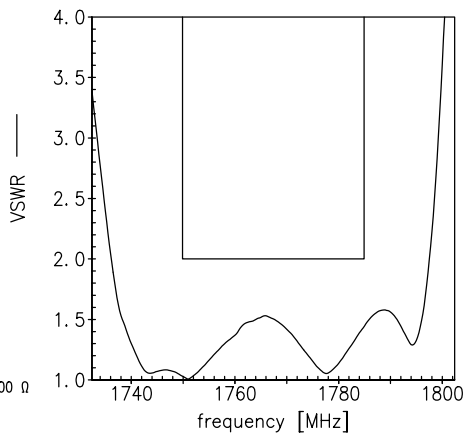
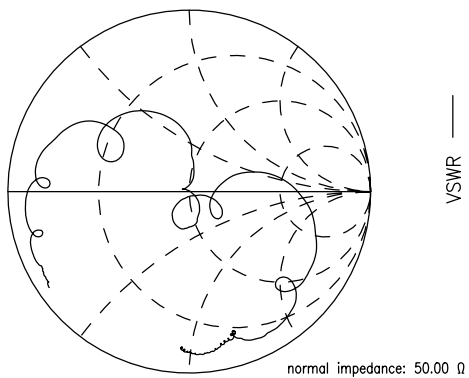


Smith chart

$S_{11}$  function



$S_{22}$  function



<b>SAW Components</b>	<b>B9441</b>
<b>SAW Tx Filter</b>	<b>1767.4 MHz</b>

Data sheet



## References

<b>Type</b>	B9441
<b>Ordering code</b>	B39182B9441M410
<b>Marking and package</b>	C61157-A8-A3
<b>Packaging</b>	F61074-V8237-Z000
<b>Date codes</b>	L_1126
<b>S-parameters</b>	B9441_NB.s2p B9441_WB.s2p
<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.

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