



## **SAW Components**

**SAW Tx filter**

UMTS

|                       |                        |
|-----------------------|------------------------|
| <b>Series/type:</b>   | <b>B7745</b>           |
| <b>Ordering code:</b> | <b>B39192B7745C810</b> |
| <b>Date:</b>          | <b>March 02, 2006</b>  |
| <b>Version:</b>       | <b>2.0</b>             |



## SAW Components

B7745

### SAW Tx filter

1950.0 MHz

#### Data Sheet



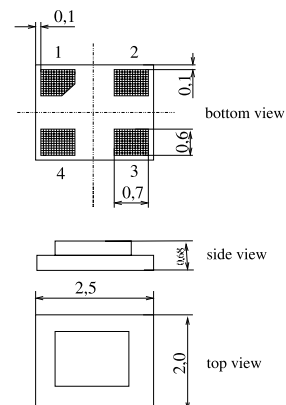
#### Application

- Low-loss RF filter for mobile telephone UMTS systems, transmit path (TX)
- Filter impedance 50  $\Omega$
- Unbalanced to unbalanced operation
- Very low insertion attenuation
- Low amplitude ripple
- Usable passband 60 MHz
- Suitable for GPRS class 1 to 12



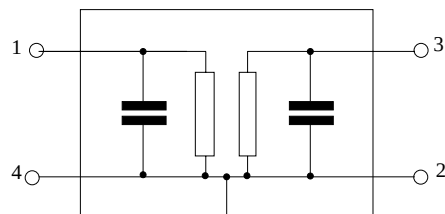
#### Features

- Package size 2.5 x 2.0 x 0.8 mm<sup>3</sup>
- Package code DCS4D
- RoHS compatible
- Approximate weight 0.015 g
- Package for **Surface Mount Technology (SMT)**
- Ni, gold-plated terminals
- **Electrostatic Sensitive Device (ESD)**



#### Pin configuration

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





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#### Data Sheet



#### Characteristics

Operating temperature range:  $T = -20\text{ °C to }+75\text{ °C}$   
Terminating source impedance:  $Z_S = 50\ \Omega$   
Terminating load impedance:  $Z_L = 50\ \Omega$

|                                      |                 | min. | typ.<br>@ 25 °C | max. |     |
|--------------------------------------|-----------------|------|-----------------|------|-----|
| <b>Center frequency</b>              | $f_C$           | —    | 1950.0          | —    | MHz |
| <b>Maximum insertion attenuation</b> | $\alpha_{\max}$ |      |                 |      |     |
| 1920.0 ... 1980.0 MHz                |                 | —    | 2.4             | 2.8  | dB  |
| <b>Amplitude ripple (p-p)</b>        | $\Delta\alpha$  |      |                 |      |     |
| 1920.0 ... 1980.0 MHz                |                 | —    | 1.0             | 1.4  | dB  |
| <b>Input VSWR</b>                    |                 |      |                 |      |     |
| 1920.0 ... 1980.0 MHz                |                 | —    | 1.6             | 1.8  |     |
| <b>Output VSWR</b>                   |                 |      |                 |      |     |
| 1920.0 ... 1980.0 MHz                |                 | —    | 1.8             | 2.0  |     |
| <b>Attenuation</b>                   | $\alpha$        |      |                 |      |     |
| 0.0 ... 1000.0 MHz                   |                 | 36   | 40              | —    | dB  |
| 1000.0 ... 1600.0 MHz                |                 | 35   | 38              | —    | dB  |
| 1705.0 ... 1715.0 MHz                |                 | 30   | 34              | —    | dB  |
| 1805.0 ... 1880.0 MHz                |                 | 22   | 27              | —    | dB  |
| 2110.0 ... 2170.0 MHz                |                 | 28   | 31              | —    | dB  |
| 2300.0 ... 2360.0 MHz                |                 | 31   | 34              | —    | dB  |
| 2490.0 ... 2550.0 MHz                |                 | 33   | 37              | —    | dB  |
| 2680.0 ... 2740.0 MHz                |                 | 35   | 40              | —    | dB  |
| 2360.0 ... 3120.0 MHz                |                 | 31   | 35              | —    | dB  |
| 3840.0 ... 3960.0 MHz                |                 | 27   | 33              | —    | dB  |
| 4000.0 ... 6000.0 MHz                |                 | 20   | 27              | —    | dB  |



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#### Characteristics

Operating temperature range:  $T = -10\text{ °C to }+85\text{ °C}$   
Terminating source impedance:  $Z_S = 50\ \Omega$   
Terminating load impedance:  $Z_L = 50\ \Omega$

|                                      |                 | min. | typ.<br>@ 25 °C | max. |     |
|--------------------------------------|-----------------|------|-----------------|------|-----|
| <b>Center frequency</b>              | $f_C$           | —    | 1950.0          | —    | MHz |
| <b>Maximum insertion attenuation</b> | $\alpha_{\max}$ |      |                 |      |     |
| 1920.0 ... 1980.0 MHz                |                 | —    | 2.4             | 2.9  | dB  |
| <b>Amplitude ripple (p-p)</b>        | $\Delta\alpha$  |      |                 |      |     |
| 1920.0 ... 1980.0 MHz                |                 | —    | 1.0             | 1.5  | dB  |
| <b>Input VSWR</b>                    |                 |      |                 |      |     |
| 1920.0 ... 1980.0 MHz                |                 | —    | 1.6             | 1.8  |     |
| <b>Output VSWR</b>                   |                 |      |                 |      |     |
| 1920.0 ... 1980.0 MHz                |                 | —    | 1.8             | 2.0  |     |
| <b>Attenuation</b>                   | $\alpha$        |      |                 |      |     |
| 0.0 ... 1000.0 MHz                   |                 | 36   | 40              | —    | dB  |
| 1000.0 ... 1600.0 MHz                |                 | 35   | 38              | —    | dB  |
| 1705.0 ... 1715.0 MHz                |                 | 30   | 34              | —    | dB  |
| 1805.0 ... 1880.0 MHz                |                 | 22   | 27              | —    | dB  |
| 2110.0 ... 2170.0 MHz                |                 | 28   | 31              | —    | dB  |
| 2300.0 ... 2360.0 MHz                |                 | 31   | 34              | —    | dB  |
| 2490.0 ... 2550.0 MHz                |                 | 33   | 37              | —    | dB  |
| 2680.0 ... 2740.0 MHz                |                 | 35   | 40              | —    | dB  |
| 2360.0 ... 3120.0 MHz                |                 | 31   | 35              | —    | dB  |
| 3840.0 ... 3960.0 MHz                |                 | 27   | 33              | —    | dB  |
| 4000.0 ... 6000.0 MHz                |                 | 20   | 27              | —    | dB  |

**SAW Components****B7745****SAW Tx filter****1950.0 MHz****Data Sheet****Maximum ratings**

|                                  |                  |                  |     |                                 |
|----------------------------------|------------------|------------------|-----|---------------------------------|
| Operable temperature range       | T                | −20/+85          | °C  |                                 |
| Storage temperature range        | T <sub>stg</sub> | −40/+85          | °C  |                                 |
| DC voltage                       | V <sub>DC</sub>  | 3                | V   |                                 |
| ESD voltage                      | V <sub>ESD</sub> | 50 <sup>1)</sup> | V   | machine model, 10 pulses        |
| Input power at<br>GSM850, GSM900 | P <sub>IN</sub>  | 10               | dBm | effective power in the on-state |

<sup>1)</sup> acc. to JESD22-A115A (machine model), 10 negative & 10 positive pulses.



## SAW Components

B7745

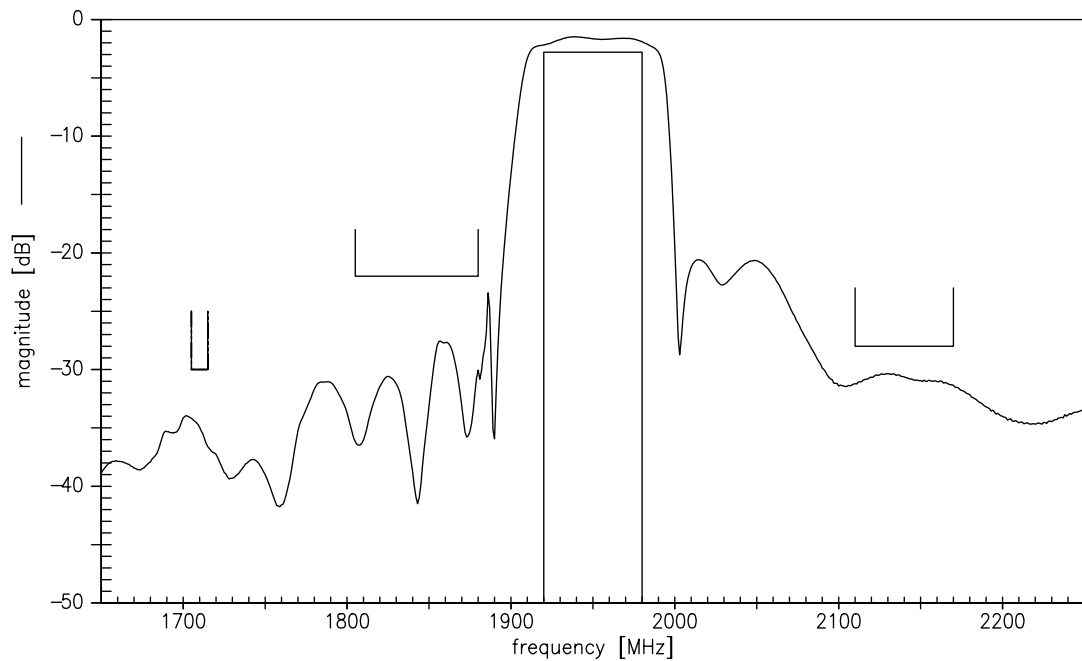
### SAW Tx filter

1950.0 MHz

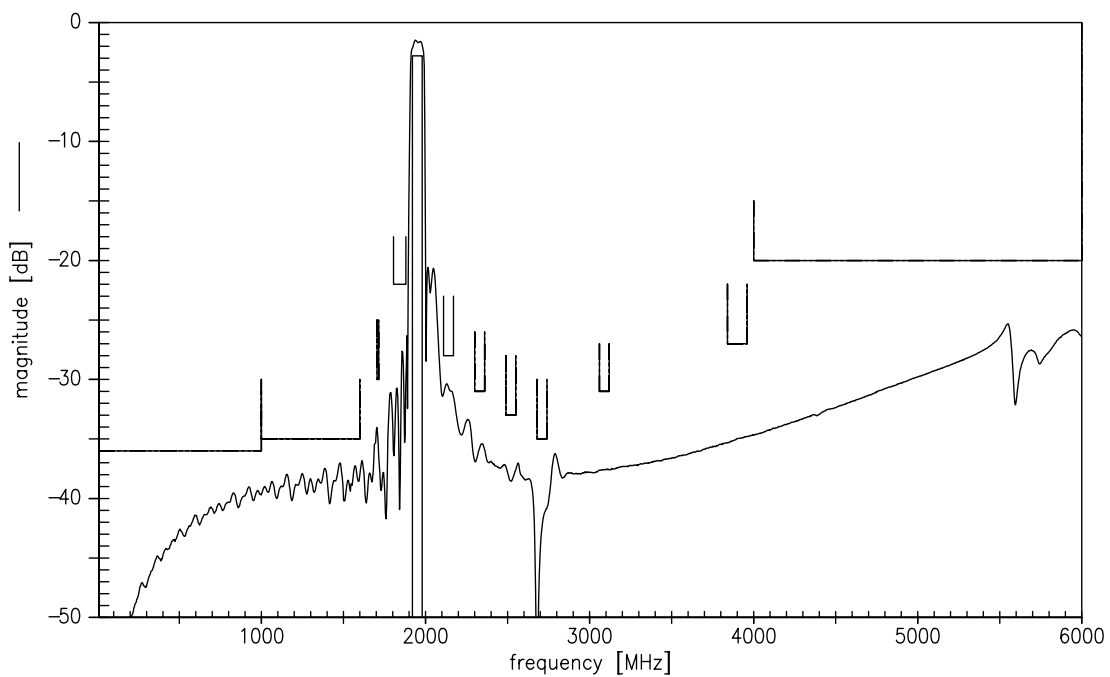
#### Data Sheet



#### Transfer function



#### Transfer function (wideband)



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

**SAW Components****B7745****SAW Tx filter****1950.0 MHz**

Data Sheet

**References**

|                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Type                | B7745                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Ordering code       | B39192B7745C810                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Marking and package | C61157-A7-A89                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Packaging           | F61074-V8125-Z000                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Date codes          | L_1126                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| S-parameters        | B7745_NB.s2p<br>B7745_WB.s2p                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Soldering profile   | S_6001                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| RoHS compatible     | defined as compatible with the following documents:<br>"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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Please read *cautions and warnings and important notes* at the end of this document.

7 March 02, 2006



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