



# SAW Components

Data Sheet B7639





**SAW Components**

**B7639**

**Low-Loss Filter for Mobile Communication**

**836,5 / 881,5 MHz**

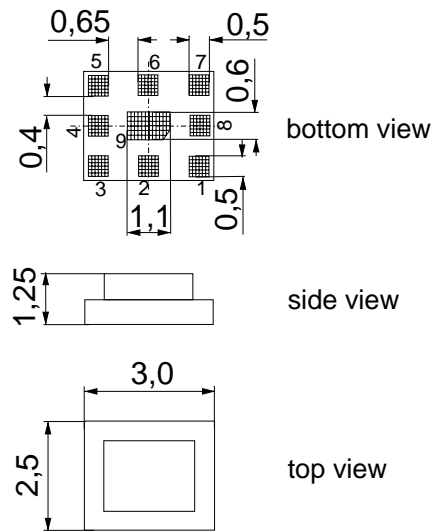
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**Chip Sized SAW Package QCS9L**

**Features**

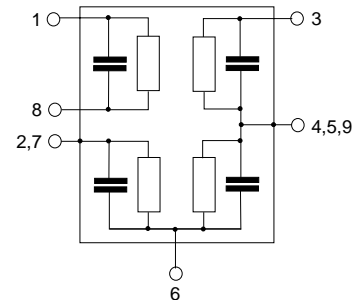
- Low-loss duplexer for cellular band mobile telephone systems
- fully matched by integrated matching network
- Package for **Surface Mounted Technology (SMT)**
- Small size and low height
- Balanced Rx port, single ended Tx port
- Impedance transformation from 50 Ω to 100 Ω in Rx path



Dimensions in mm, approx. weight 0,035 g

**Pin configuration**

- |               |                |
|---------------|----------------|
| 3             | se. TX Input   |
| 1,8           | bal. RX Output |
| 6             | Antenna        |
| 2, 4, 5, 7, 9 | Ground         |



Type	Ordering code	Marking and Package according to	Packing according to
B7639	B39881-B7639-P710	C61157-A3-A19	F61074-V8211-Z000

Electrostatic Sensitive Device (ESD)

**Maximum ratings**

Operating temperature range	$T$	- 25/+ 85	°C	source and load impedance 50 Ω } continuous wave } $T = 55^{\circ}\text{C}, 50.000\text{ h}$
Storage temperature range	$T_{\text{stg}}$	- 40/+ 85	°C	
DC voltage	$V_{\text{DC}}$	5	V	
ESD voltage	$V_{\text{ESD}}$	100 <sup>1)</sup>	V	
Input power max.	$P_{\text{IN}}$	27	dBm	
		10	dBm	

1) -acc. to JESD22-115A (Machine Model), 10 negatie & 10 positive pulses



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**Characteristics**

Operating temperature range  $T = -15$  to  $+80^{\circ}\text{C}$   
 ANT terminating impedance  $Z_{\text{ANT}} = 50 \Omega$   
 RX terminating impedance  $Z_{\text{RX}} = 100 \Omega$  (balanced)  
 TX terminating impedance  $Z_{\text{TX}} = 50 \Omega$

Characteristics TX - ANT		min.	typ.	max.	
<b>Center frequency</b>	$f_c$	—	836,50	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{\text{max}}$				
	824,00 ... 849,00 MHz	—	2,4	2,8	dB
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$				
	824,00 ... 849,00 MHz	—	0,9	1,3	dB
<b>Return loss</b>					
	824,00 ... 849,00 MHz	10,0	11,5	—	dB
<b>Attenuation</b>	$\alpha$				
	100,00 ... 779,00 MHz	30	39	—	dB
	779,00 ... 804,00 MHz	30	37	—	dB
	869,00 ... 894,00 MHz	45	49	—	dB
	1550,00 ... 1600,00 MHz	35	39	—	dB
	1648,00 ... 1698,00 MHz	30	37	—	dB
	2400,00 ... 2547,00 MHz	18	22	—	dB
	2547,00 ... 6000,00 MHz	—	3,0	—	dB



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 TX terminating impedance  $Z_{\text{TX}} = 50 \Omega$

<b>Characteristics ANT - RX</b>		<b>min.</b>	<b>typ.</b>	<b>max.</b>	
<b>Center frequency</b>	$f_c$	—	881,50	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{\text{max}}$	—	2,3	3,0	dB
	869,00 ... 894,00 MHz				
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$	—	0,8	1,5	dB
	869,00 ... 894,00 MHz				
<b>Return loss</b>		7,0	8,5	—	dB
	869,00 ... 894,00 MHz				
<b>Attenuation</b>	$\alpha$				
	100,00 ... 779,00 MHz	40	56	—	dB
	779,00 ... 824,00 MHz	40	53	—	dB
	824,00 ... 849,00 MHz	47	50	—	dB
	849,00 ... 854,00 MHz	30	35	—	dB
	914,00 ... 1693,00 MHz	30	35	—	dB
	1693,00 ... 1788,00 MHz	40	57	—	dB
	1788,00 ... 2400,00 MHz	40	56	—	dB
	2400,00 ... 2500,00 MHz	40	48	—	dB
	2500,00 ... 2682,00 MHz	40	47	—	dB
	2682,00 ... 5000,00 MHz	35	43	—	dB
	5150,00 ... 5825,00 MHz	—	46	—	dB
	5825,00 ... 6000,00 MHz	—	44	—	dB

<b>Characteristics TX - RX</b>		<b>min.</b>	<b>typ.</b>	<b>max.</b>	
<b>Isolation between TX and RX path</b>	$\alpha$				
	824,00 ... 849,00 MHz	49	53	—	dB
	869,00 ... 894,00 MHz	45	50	—	dB



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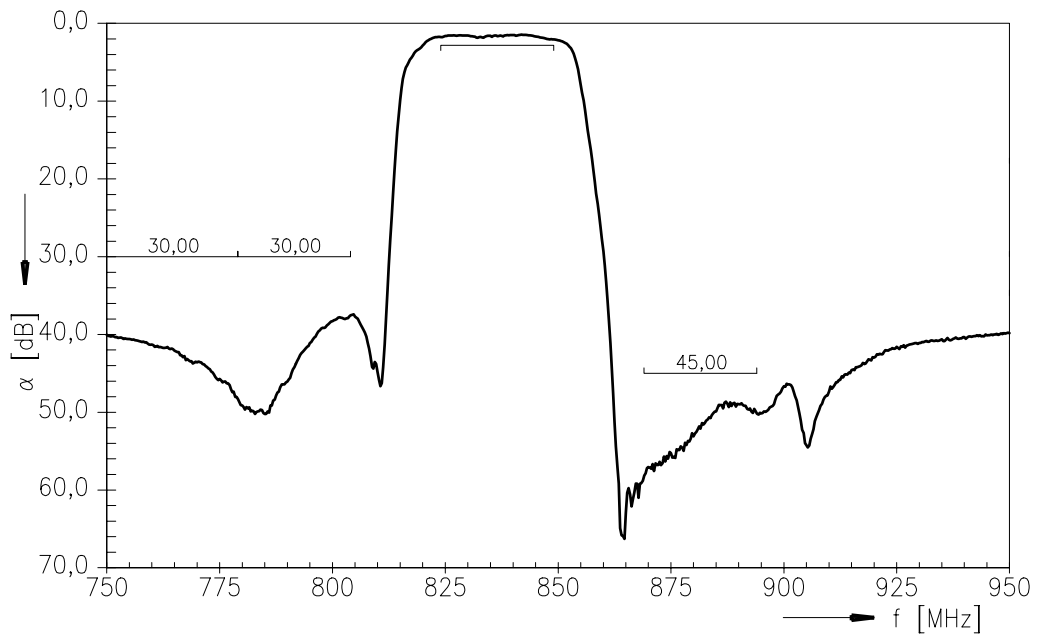
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836,5 / 881,5 MHz

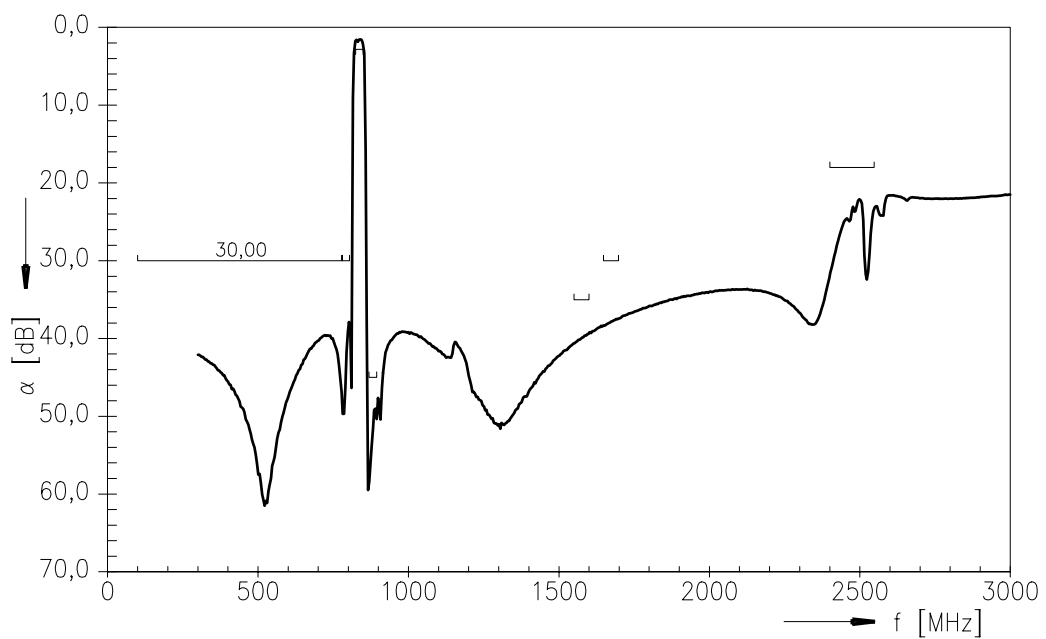
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### Frequency Response TX - ANT



### Frequency Response TX - ANT (wideband)





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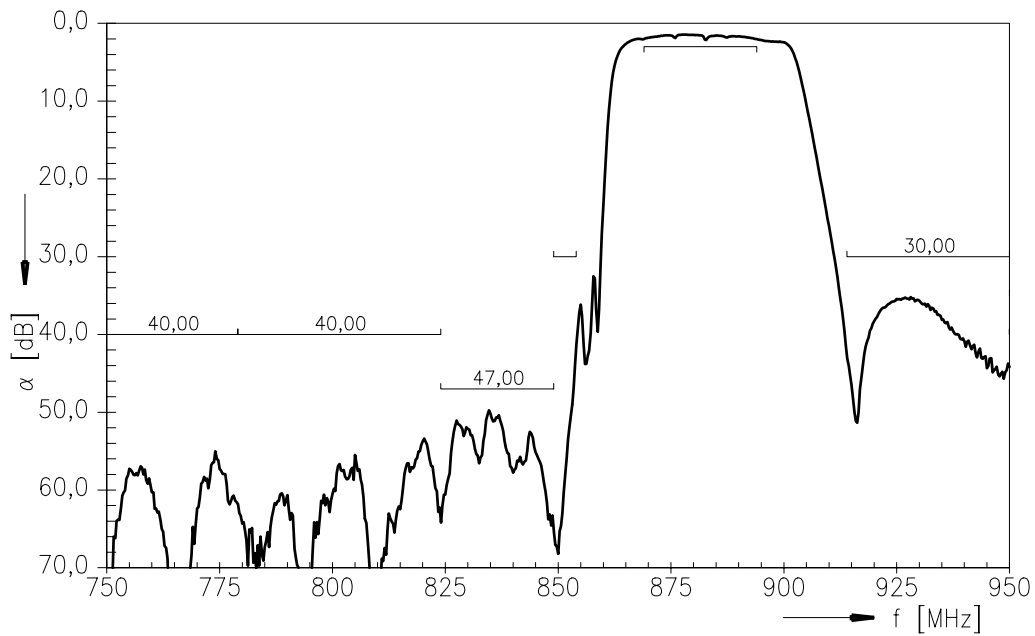
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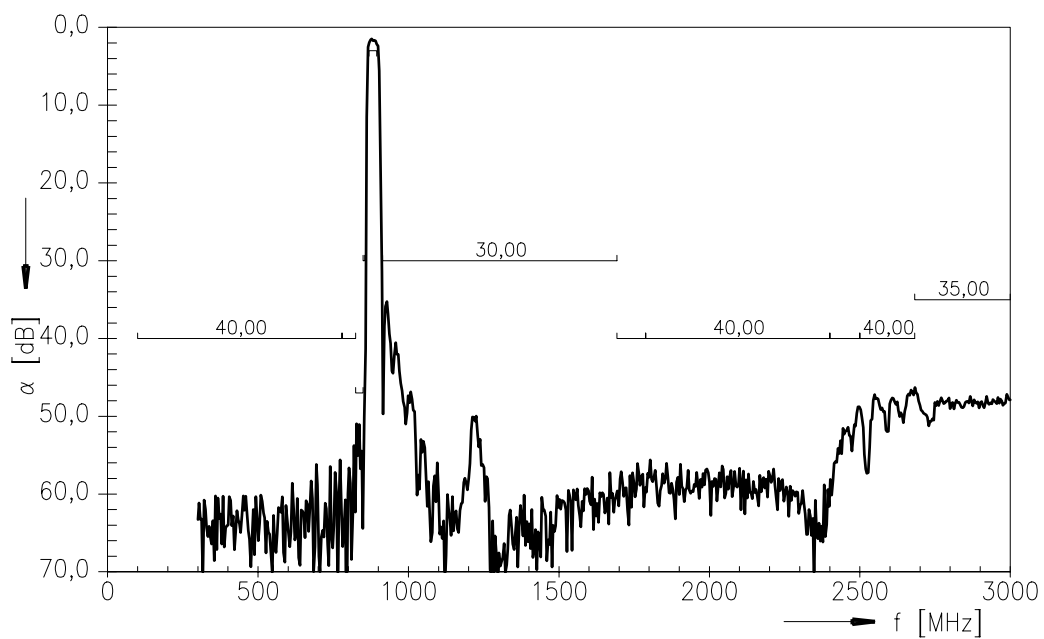
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Frequency Response ANT - RX



Frequency Response ANT - RX (wideband)





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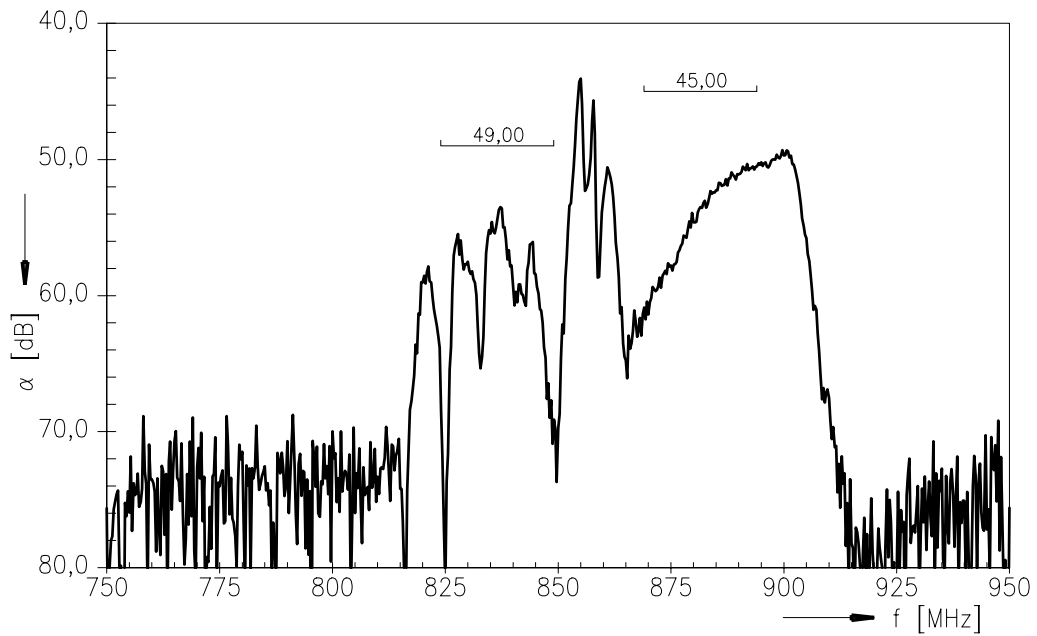
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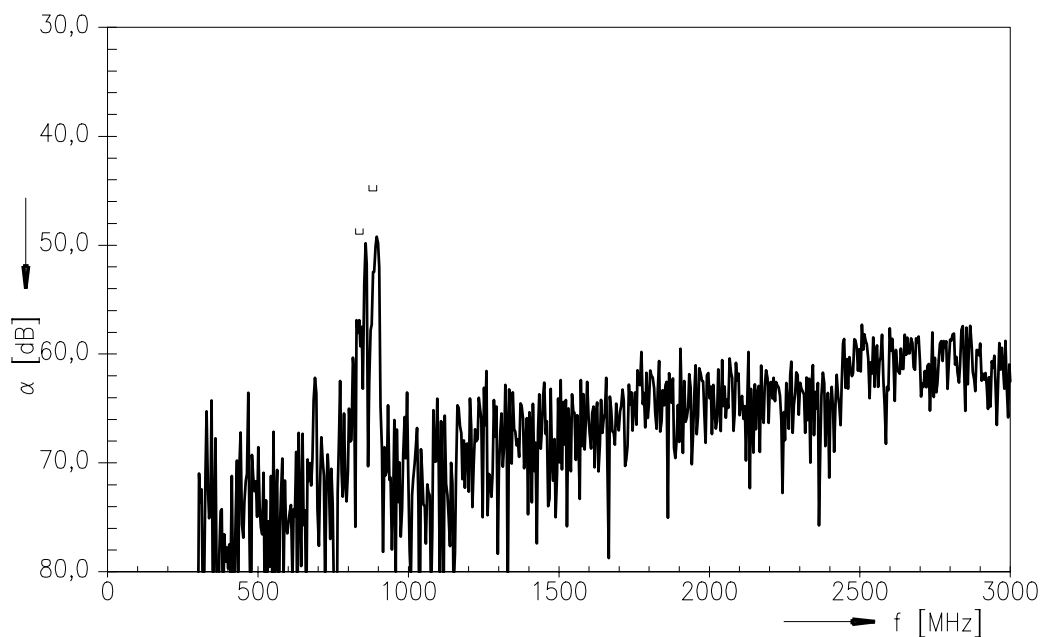
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### Frequency Response TX - RX



### Frequency Response TX - RX (wideband)





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