



SAW Components

Data Sheet B7662





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Low-Loss Filter for Mobile Communication

1765,0 / 1855,0 MHz

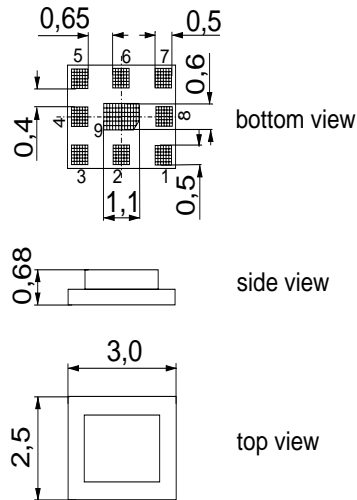
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Chip Sized SAW Package QCS9K

Features

- Low-loss duplexer for Korean PCS mobile telephone systems
- Very small size and low height
- Package for **Surface Mounted Technology (SMT)**



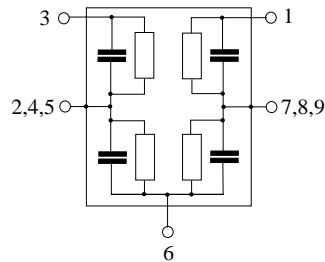
Terminals

Ni, gold-plated

Dimensions in mm, approx. weight 0,028 g

Pin configuration

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



Type	Ordering code	Marking and Package according to	Packing according to
B7662	B39192-B7662-P610	C61157-A3-A15	F61074-V8156-Z000

Electrostatic Sensitive Device (ESD)

Maximum ratings

Operating temperature range	T	- 30/+ 85	$^{\circ}\text{C}$	machine model, 10 pulses source and load impedance 50 Ω } continuous wave
Storage temperature range	T_{stg}	- 40/+ 85	$^{\circ}\text{C}$	
DC voltage	V_{DC}	5	V	
ESD voltage	V_{ESD}	50 ¹⁾	V	
Input power max.	P_{IN}	29	dBm	
1750,0 ... 1780,0 MHz elsewhere		10	dBm	

1) -acc. to JEDEC22-115A (Machine Model), 10 negative & 10 positive pulses



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Characteristics

Operating temperature range $T = 25 \pm 2^\circ\text{C}$
 ANT terminating impedance $Z_{\text{ANT}} = 50 \Omega$
 RX terminating impedance $Z_{\text{RX}} = 50 \Omega$
 TX terminating impedance $Z_{\text{TX}} = 50 \Omega$

Characteristics TX - ANT		min.	typ.	max.	
Center frequency	f_c	—	1765,0	—	MHz
Maximum insertion attenuation	α_{max}				
	1750,00 ... 1780,00 MHz	—	1,6	1,8	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
	1750,00 ... 1780,00 MHz	—	0,4	0,7	dB
Return loss					
	1750,00 ... 1780,00 MHz	9,0	11	—	dB
Attenuation	α				
	1840,00 ... 1870,00 MHz	40	49	—	dB
	2000,00 ... 3000,00 MHz	25	30	—	dB

Characteristics ANT - RX		min.	typ.	max.	
Center frequency	f_c	—	1855,0	—	MHz
Maximum insertion attenuation	α_{max}				
	1840,00 ... 1870,00 MHz	—	1,9	2,3	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
	1840,00 ... 1870,00 MHz	—	0,2	0,7	dB
Return loss					
	1840,00 ... 1870,00 MHz	9,0	12	—	dB
Attenuation	α				
	1750,00 ... 1780,00 MHz	52	62	—	dB
	2000,00 ... 3000,00 MHz	35	55	—	dB

Characteristics TX - RX		min.	typ.	max.	
Isolation between TX and RX path	α				
	1750,00 ... 1780,00 MHz	60	64	—	dB
	1840,00 ... 1870,00 MHz	45	50	—	dB



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Characteristics

Operating temperature range $T = -30$ to 85 °C
 ANT terminating impedance $Z_{ANT} = 50$ Ω
 RX terminating impedance $Z_{RX} = 50$ Ω
 TX terminating impedance $Z_{TX} = 50$ Ω

Characteristics TX - ANT		min.	typ.	max.	
Center frequency	f_c	—	1765,0	—	MHz
Maximum insertion attenuation	α_{max}				
	1750,00 ... 1780,00 MHz	—	1,6	2,0	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
	1750,00 ... 1780,00 MHz	—	0,4	0,9	dB
Return loss					
	1750,00 ... 1780,00 MHz	9,0	11	—	dB
Attenuation	α				
	1840,00 ... 1870,00 MHz	40	47	—	dB
	2000,00 ... 3000,00 MHz	25	30	—	dB

Characteristics ANT - RX		min.	typ.	max.	
Center frequency	f_c	—	1855,0	—	MHz
Maximum insertion attenuation	α_{max}				
	1840,00 ... 1870,00 MHz	—	2,1	2,5	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
	1840,00 ... 1870,00 MHz	—	0,5	0,9	dB
Return loss					
	1840,00 ... 1870,00 MHz	9,0	12	—	dB
Attenuation	α				
	1750,00 ... 1780,00 MHz	52	60	—	dB
	2000,00 ... 3000,00 MHz	35	55	—	dB

Characteristics TX - RX		min.	typ.	max.	
Isolation between TX and RX path	α				
	1750,00 ... 1780,00 MHz	58	63	—	dB
	1840,00 ... 1870,00 MHz	43	48	—	dB



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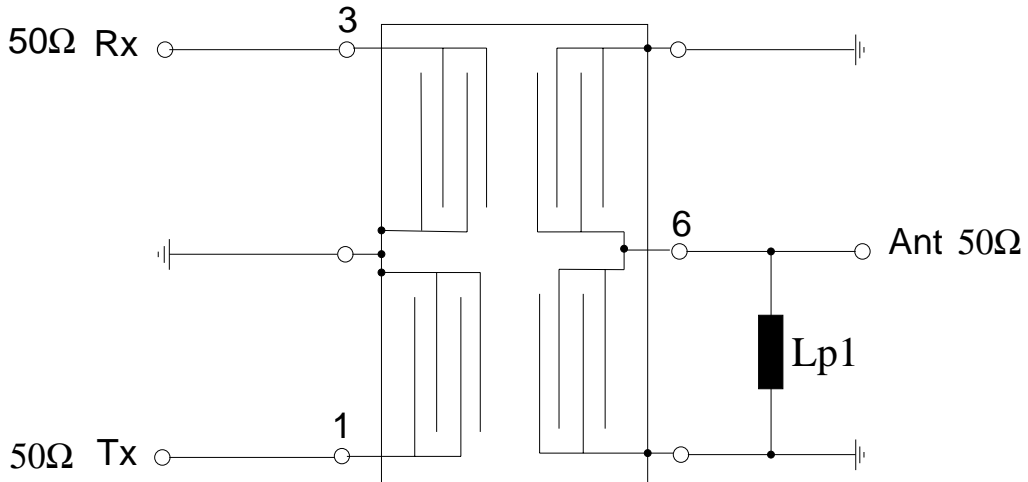
1765,0 / 1855,0 MHz

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Matching circuit to terminating impedances

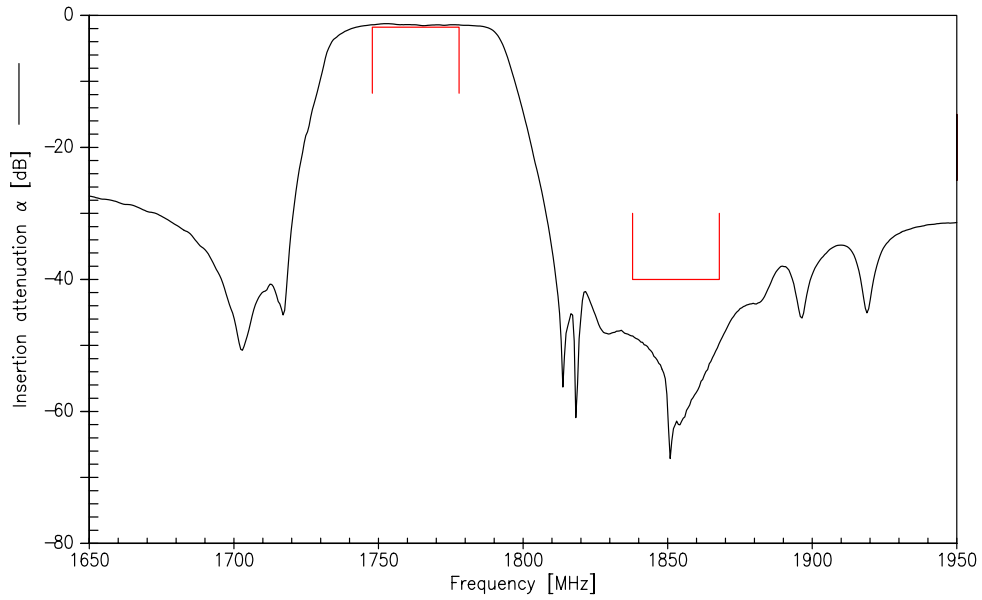
(Element values depend upon PCB layout)



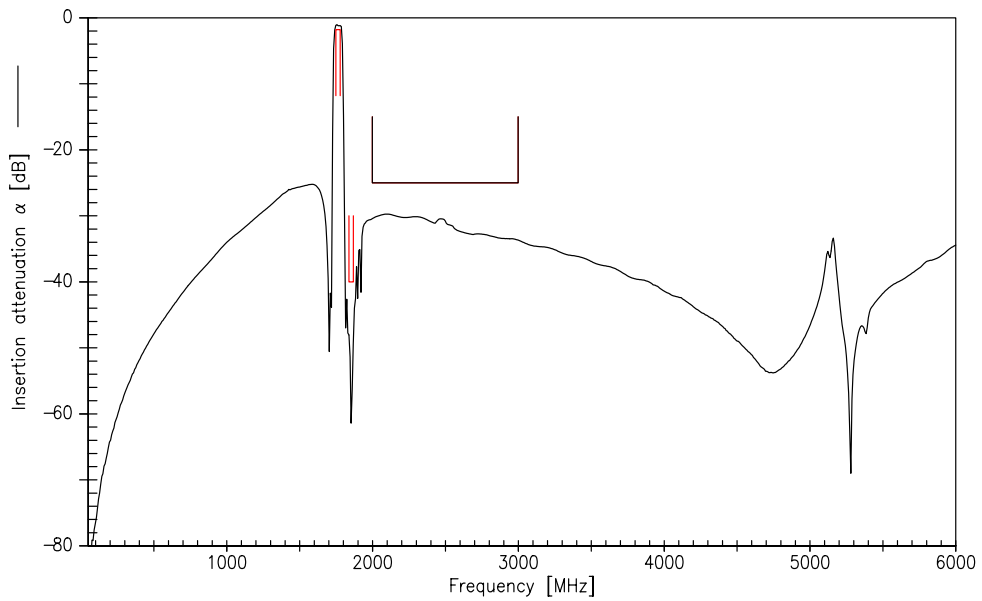
$$L_{p1} = 3.3 \text{ nH}$$



Frequency Response TX-ANT

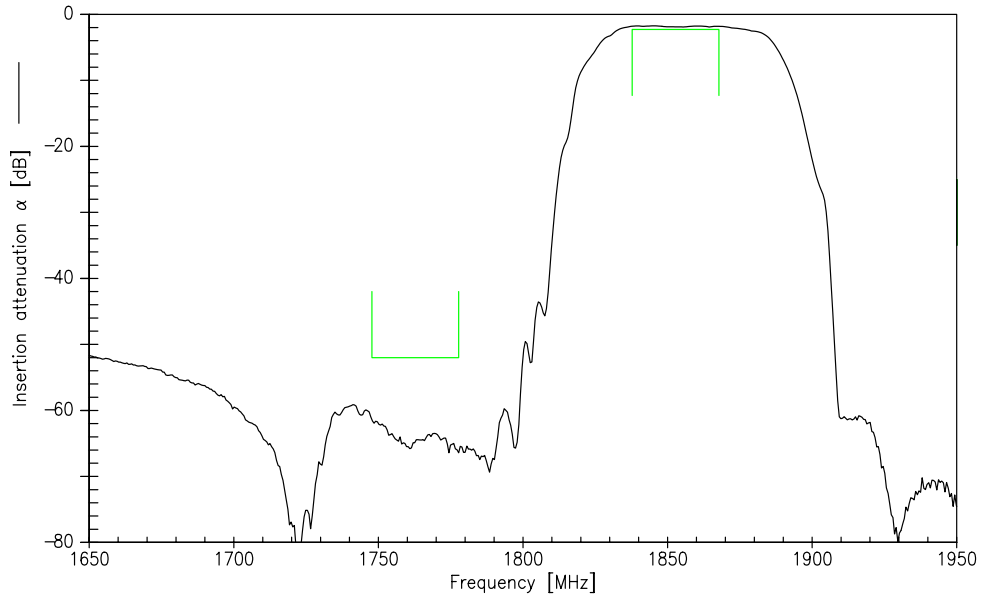


Frequency Response TX-ANT (wideband)

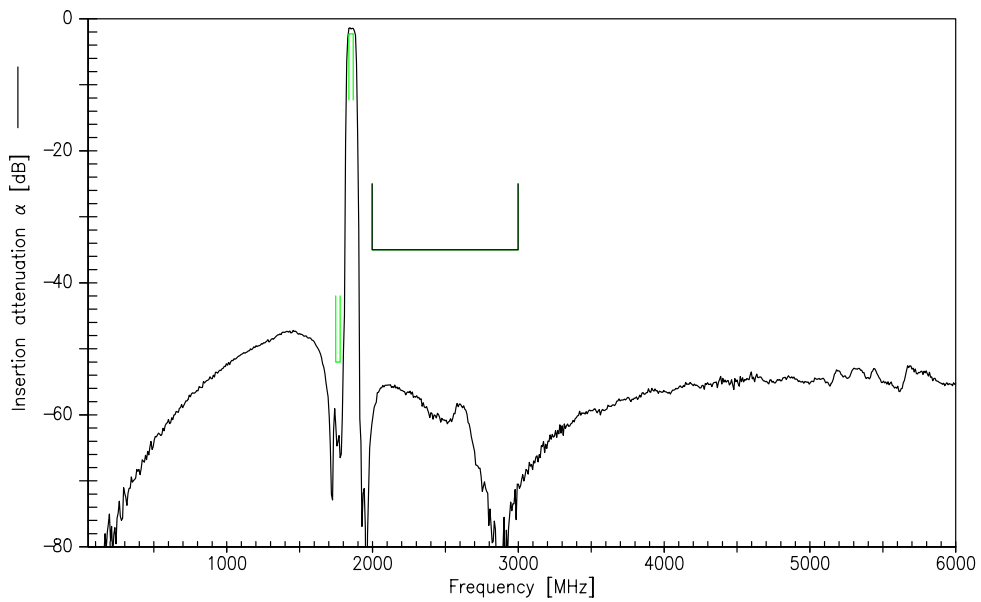




Frequency Response RX-ANT



Frequency Response RX-ANT (wideband)





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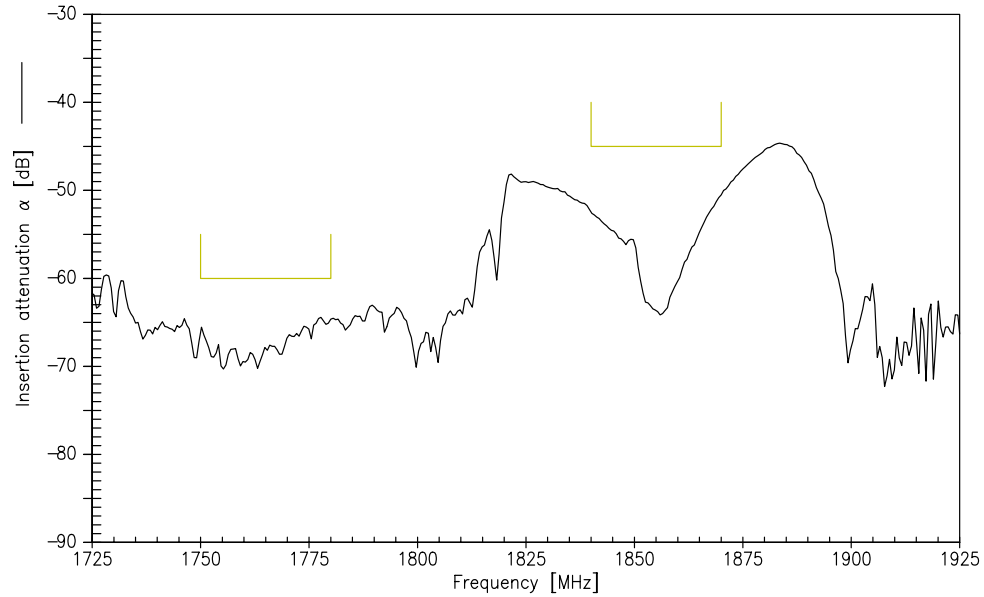
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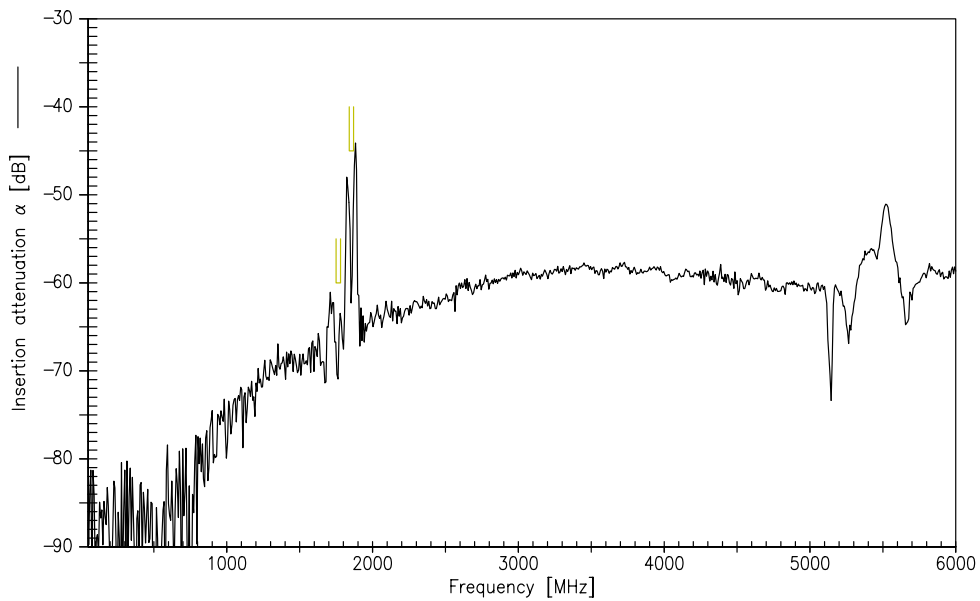
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Frequency Response TX-RX



Frequency Response TX-RX (wideband)





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