



# SAW Components

Data Sheet B7630





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B7630

Low-Loss Filter for Mobile Communication

836,5 / 881,5 MHz

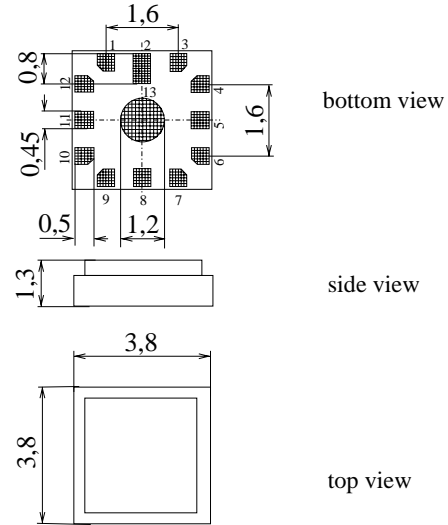
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Chip sized SAW package QCS12H

**Features**

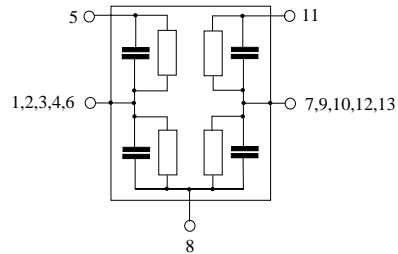
- Low-loss duplexer for cellular band mobile telephone systems
- 50 Ω ports by integrated matching network
- Multifunctional ceramic base material for Surface Mounted Technology (SMT)
- Small size and low height
- RoHS compliant



Dimensions in mm, approx. weight 0,08 g

**Pin configuration**

- 11 TX Input
- 5 RX Output
- 8 Antenna
- 1, 2, 3, 4, 6 Ground
- 7, 9, 10, 12, 13 Ground



Type	Ordering code	Marking and Package according to	Packing according to
B7630	B39881-B7630-P910	C61157-A3-A18	F61074-V8187-Z000

Electrostatic Sensitive Device (ESD)

**Maximum ratings**

Operable temperature range	$T$	- 30/+ 85	°C	MM, JESD22-A115-A HMB, JESD22-A114-B source and load impedance 50 Ω } continuous wave
Storage temperature range	$T_{stg}$	- 40/+ 85	°C	
DC voltage	$V_{DC}$	5	V	
ESD voltage	$V_{ESD}$	250	V	
	$V_{ESD}$	500	V	
Input power max.	$P_{IN}$	824,0 ... 849,0 MHz	30 dBm	
		elsewhere	10 dBm	



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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	$f_c$	—	836,50	—	MHz
Maximum insertion attenuation	$\alpha_{\text{max}}$				
	824,00 ... 849,00 MHz	—	1,9	2,3	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
	824,00 ... 849,00 MHz	—	0,5	0,9	dB
Return loss					
TX - Port	824,00 ... 849,00 MHz	9,0	10,5	—	dB
ANT - Port	824,00 ... 849,00 MHz	10,0	14,0	—	dB
Attenuation	$\alpha$				
	779,00 ... 804,00 MHz	21	35	—	dB
	869,00 ... 894,00 MHz	45	49	—	dB
	954,00 ... 1400,00 MHz	25	36	—	dB
	1400,00 ... 1698,00 MHz	35	41	—	dB
	1698,00 ... 2000,00 MHz	30	41	—	dB
	2000,00 ... 2400,00 MHz	25	37	—	dB
	2400,00 ... 2485,00 MHz	30	35	—	dB
	2485,00 ... 2700,00 MHz	25	37	—	dB
<b>TX band phase @ TX port reference plane</b>					
	824,00 MHz	—	250	—	°
	836,00 MHz	—	245	—	°
	849,00 MHz	—	275	—	°



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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 ANT - RX**

		min.	typ.	max.	
<b>Center frequency</b>	$f_c$	—	881,50	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{\text{max}}$				
	869,00 ... 894,00 MHz	—	2,7	3,2	dB
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$				
	869,00 ... 894,00 MHz	—	1,0	1,6	dB
<b>Return loss</b>					
ANT - Port	869,00 ... 894,00 MHz	8,0	8,5	—	dB
RX - Port	869,00 ... 894,00 MHz	9,0	10,0	—	dB
<b>Attenuation</b>	$\alpha$				
	779,00 ... 804,00 MHz	35	41	—	dB
	824,00 ... 849,00 MHz	53,5	56	—	dB
	954,00 ... 1700,00 MHz	35	40	—	dB
	1700,00 ... 2400,00 MHz	35	44	—	dB
	2400,00 ... 2500,00 MHz	30	42	—	dB
	2500,00 ... 3000,00 MHz	25	38	—	dB
<b>TX band phase @ RX port reference plane</b>					
	824,00 ... 849,00 MHz	—	150 - 220	—	°

**Characteristics TX - RX**

		min.	typ.	max.	
<b>Isolation between TX and RX path</b>	$\alpha$				
	824,00 ... 849,00 MHz	55	59	—	dB
	869,00 ... 894,00 MHz	46	49	—	dB
	1648,00 ... 1698,00 MHz	45	55	—	dB



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**Characteristics**

Operating temperature range  $T = -30$  to  $85^{\circ}\text{C}$   
 ANT terminating impedance  $Z_{\text{ANT}} = 50\ \Omega$   
 RX terminating impedance  $Z_{\text{RX}} = 50\ \Omega$   
 TX terminating impedance  $Z_{\text{TX}} = 50\ \Omega$

<b>Characteristics TX - ANT</b>		<b>min.</b>	<b>typ.</b>	<b>max.</b>	
<b>Center frequency</b>	$f_c$	—	836,50	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{\text{max}}$				
	824,00 ... 849,00 MHz	—	2,0	2,5	dB
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$				
	824,00 ... 849,00 MHz	—	0,5	1,0	dB
<b>Return loss</b>					
TX - Port	824,00 ... 849,00 MHz	9,0	10,0	—	dB
ANT - Port	824,00 ... 849,00 MHz	10,0	12,5	—	dB
<b>Attenuation</b>	$\alpha$				
	779,00 ... 804,00 MHz	21	35	—	dB
	869,00 ... 894,00 MHz	45	49	—	dB
	954,00 ... 1400,00 MHz	25	36	—	dB
	1400,00 ... 1698,00 MHz	35	41	—	dB
	1698,00 ... 2000,00 MHz	30	41	—	dB
	2000,00 ... 2400,00 MHz	25	37	—	dB
	2400,00 ... 2485,00 MHz	30	35	—	dB
	2485,00 ... 2700,00 MHz	25	37	—	dB
<b>TX band phase @ TX port reference plane</b>					
	824,00 MHz	—	250	—	°
	836,00 MHz	—	245	—	°
	849,00 MHz	—	275	—	°



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**Characteristics**

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

**Characteristics ANT - RX**

				min.	typ.	max.	
<b>Center frequency</b>		$f_c$		—	881,50	—	MHz
<b>Maximum insertion attenuation</b>		$\alpha_{max}$		—	2,8	3,5	dB
	869,00 ...	894,00 MHz					
<b>Amplitude ripple (p-p)</b>		$\Delta\alpha$		—	1,1	1,7	dB
	869,00 ...	894,00 MHz					
<b>Return loss</b>							
ANT - Port	869,00 ...	894,00 MHz		7,5	8,0	—	dB
RX - Port	869,00 ...	894,00 MHz		9,0	10,0	—	dB
<b>Attenuation</b>		$\alpha$					
	779,00 ...	804,00 MHz		35	41	—	dB
	824,00 ...	849,00 MHz		53,5	56	—	dB
	954,00 ...	1700,00 MHz		35	40	—	dB
	1700,00 ...	2400,00 MHz		35	44	—	dB
	2400,00 ...	2500,00 MHz		30	42	—	dB
	2500,00 ...	3000,00 MHz		25	38	—	dB
<b>TX band phase @ RX port reference plane</b>							
	824,00 ...	849,00 MHz		—	150 - 220	—	°

**Characteristics TX - RX**

				min.	typ.	max.	
<b>Isolation between TX and RX path</b>		$\alpha$					
	824,00 ...	849,00 MHz		54	59	—	dB
	869,00 ...	894,00 MHz		46	49	—	dB
	1648,00 ...	1698,00 MHz		45	55	—	dB



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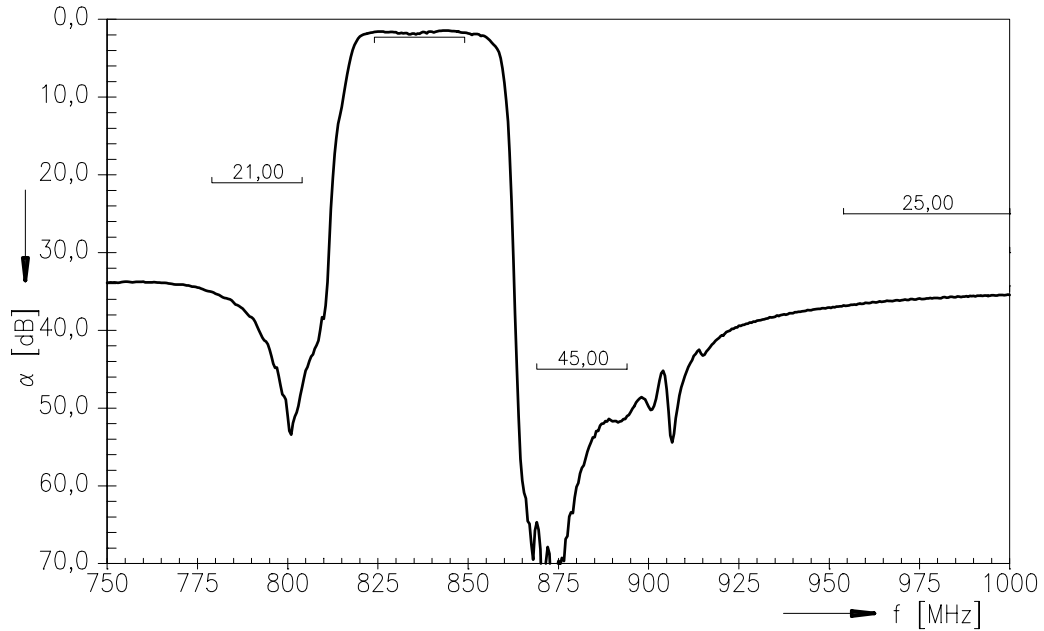
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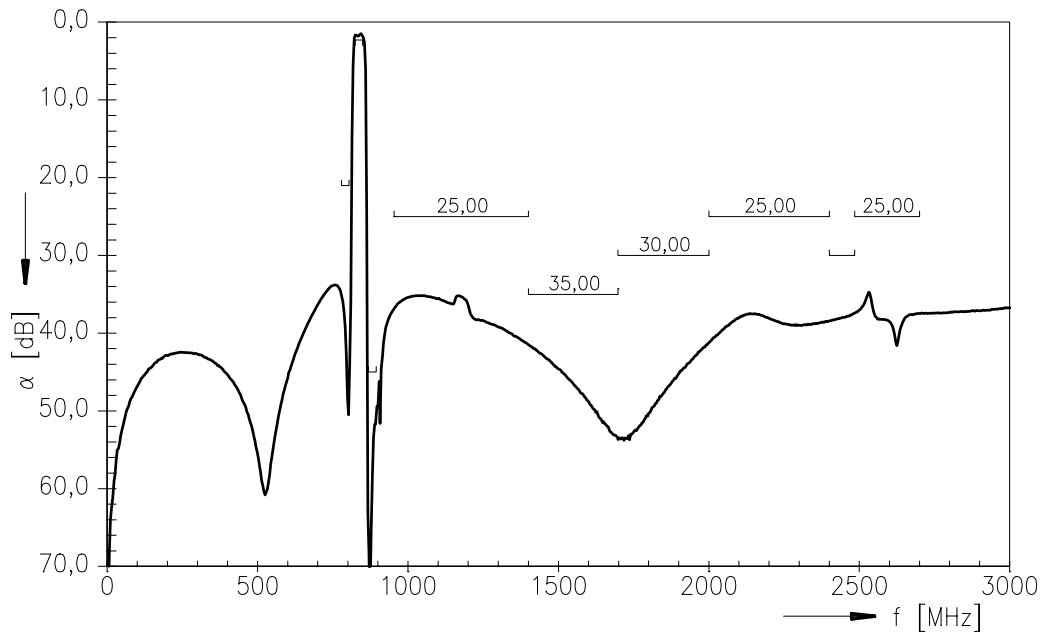
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### Frequency Response TX - ANT

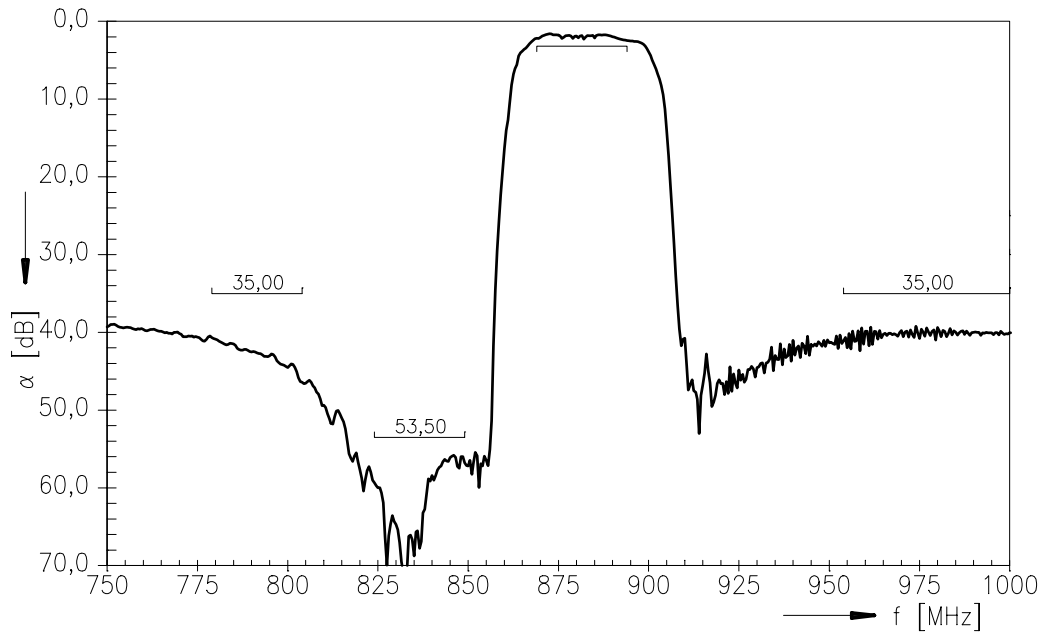


### Frequency Response TX - ANT (wideband)

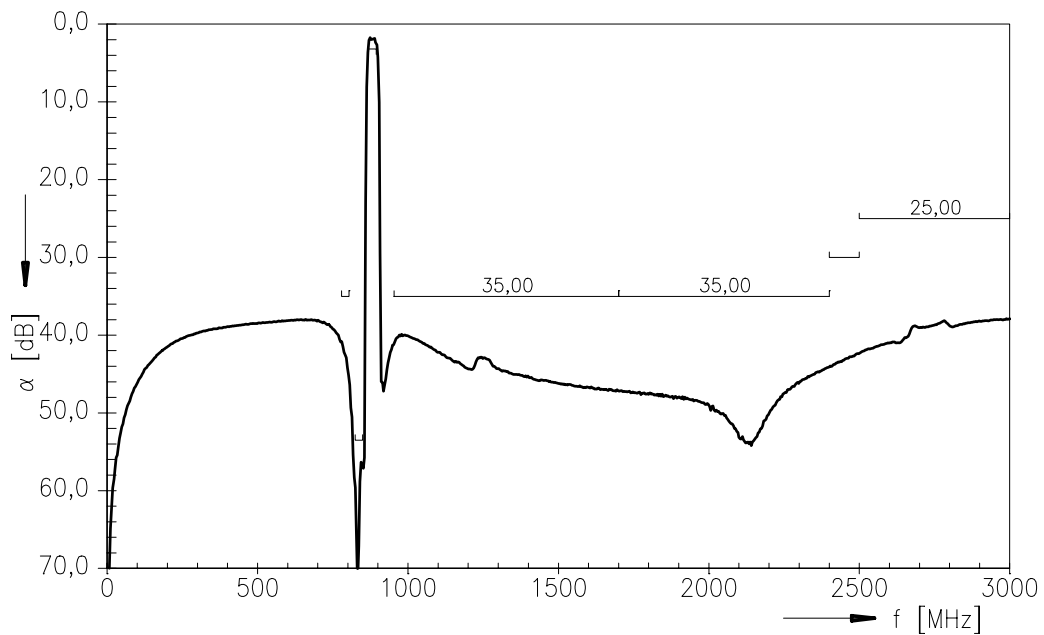




Frequency Response ANT - RX



Frequency Response ANT - RX (wideband)







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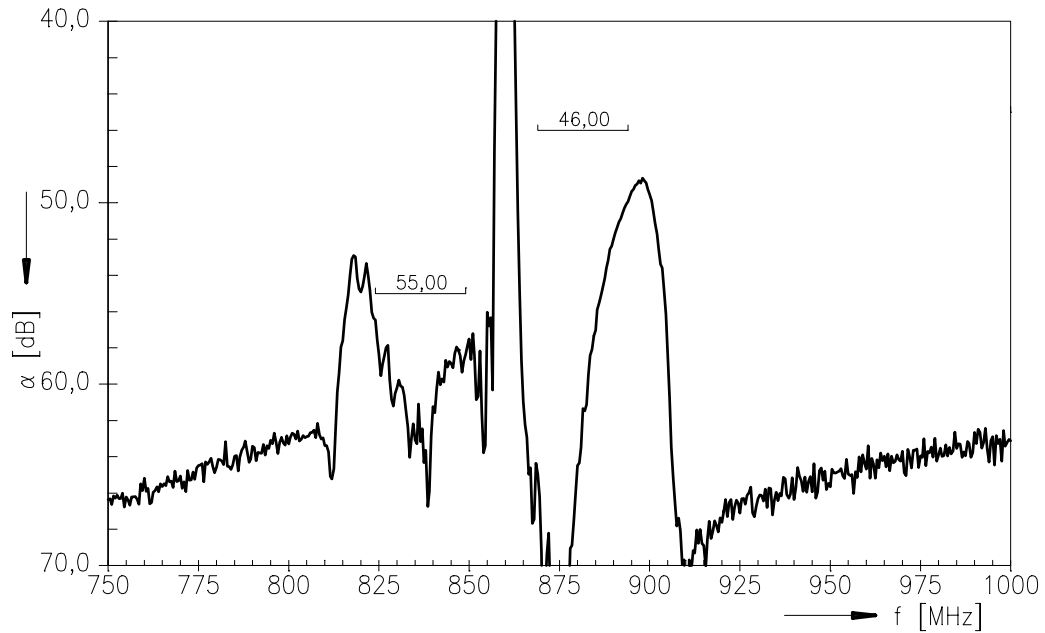
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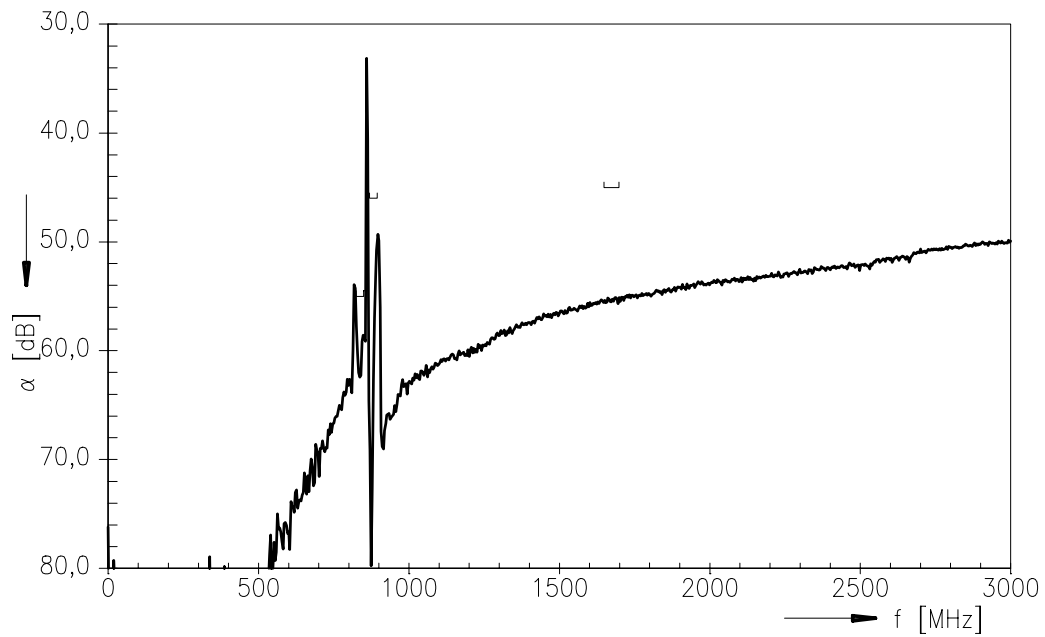
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### Frequency Response TX - RX



### Frequency Response TX - RX (wideband)





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