



SAW Components

SAW Duplexer

Cellular / WCDMA band V

Series/type:	B7669
Ordering code:	B39881B7669A710
Date:	May 27, 2009
Version:	2.0



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B7669

SAW Duplexer

836.50 / 881.50 MHz

Data Sheet



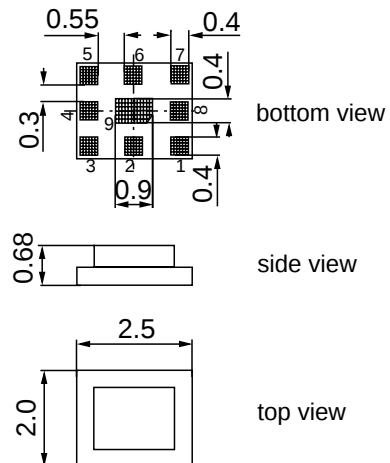
Application

- Low-loss SAW duplexer for mobile telephone Cellular / WCDMA band V systems
- Low insertion attenuation
- Low amplitude ripple



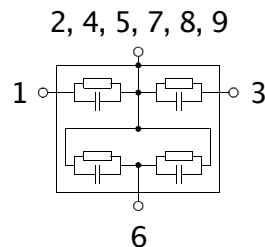
Features

- Package size 2.5 x 2.0 x 0.68 mm³
- Package code QCT9N
- RoHS compatible
- Approx. weight 0.013 g
- Package for Surface Mount Technology (SMT)
- Ni, gold-plated terminals
- Electrostatic Sensitive Device (ESD)



Pin configuration

- 1 TX Input
- 3 RX Output
- 6 Antenna
- 2, 4, 5, 7, 8, 9 To be grounded





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Characteristics

Temperature range for specification:	$T = -30\text{ °C to }+85\text{ °C}$
Antenna terminating impedance:	$Z_{ANT} = 50\ \Omega \parallel 8.2\text{ nH}$
RX terminating impedance:	$Z_{RX} = 50\ \Omega$
TX terminating impedance:	$Z_{TX} = 50\ \Omega$

Characteristics TX - ANT	min.	typ. @ 25 °C	max.	
Center frequency f_C		836.5		MHz
Maximum insertion attenuation α_{max}				
824.0 ... 849.0 MHz		1.8	2.3	dB
Amplitude ripple (p-p) $\Delta\alpha$				
824.0 ... 849.0 MHz		0.6	1.0	dB
Input VSWR (TX port)				
824.0 ... 849.0 MHz		1.9	2.1	
Output VSWR (ANT port)				
824.0 ... 849.0 MHz		1.6	2.0	



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RX terminating impedance:	Z _{RX} = 50 Ω
TX terminating impedance:	Z _{TX} = 50 Ω

Characterisitcs TX - ANT					min.	typ. @ 25 °C	max.	
Attenuation								
				α				
	0.3	...	779.0	MHz	25	33		dB
			779.0	...	27	29		dB
			869.0	...	43	46		dB
			1573.0	...	40	43		dB
			1648.0	...	36	39		dB
			2472.0	...	23	26		dB
			3296.0	...	10	18		dB



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RX terminating impedance:	$Z_{RX} = 50\ \Omega$
TX terminating impedance:	$Z_{TX} = 50\ \Omega$

Characteristics ANT - RX	min.	typ. @ 25 °C	max.	
Center frequency f_C		881.5		MHz
Maximum insertion attenuation α_{max}				
869.0 ... 894.0 MHz		2.4	3.0	dB
Amplitude ripple (p-p) $\Delta\alpha$				
869.0 ... 894.0 MHz		1.0	1.5	dB
Input VSWR (ANT port)				
869.0 ... 894.0 MHz		1.6	2.0	
Output VSWR (RX port)				
869.0 ... 894.0 MHz		1.7	2.0	



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RX terminating impedance:	$Z_{RX} = 50\ \Omega$
TX terminating impedance:	$Z_{TX} = 50\ \Omega$

Characterisitcs ANT - RX				min.	typ. @ 25 °C	max.	
Attenuation							
			α				
0.3	...	779.0	MHz	35	47		dB
779.0	...	804.0	MHz	38	52		dB
824.0	...	849.0	MHz	51	57		dB
1738.0	...	1788.0	MHz	40	57		dB
2400.0	...	2500.0	MHz	40	56		dB
2607.0	...	2682.0	MHz	35	45		dB
3476.0	...	3576.0	MHz	30	42		dB

Characterisitcs TX - RX				min.	typ. @ 25 °C	max.	
Isolation							
			α				
824.0	...	849.0	MHz	55	59		dB
869.0	...	894.0	MHz	45	48		dB



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Maximum ratings

Storage temperature range	T_{stg}	-40/+85	°C	
DC voltage	V_{DC}	5	V	
ESD voltage	V_{ESD}	100 ¹⁾	V	machine model, 10 pulses
Input power at	P_{IN}			source and load impedance 50 Ω
824.0 ... 849.0 MHz		30	dBm	} continuous wave $T = 55^\circ\text{C}$, 50.000 h
elsewhere		10	dBm	

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



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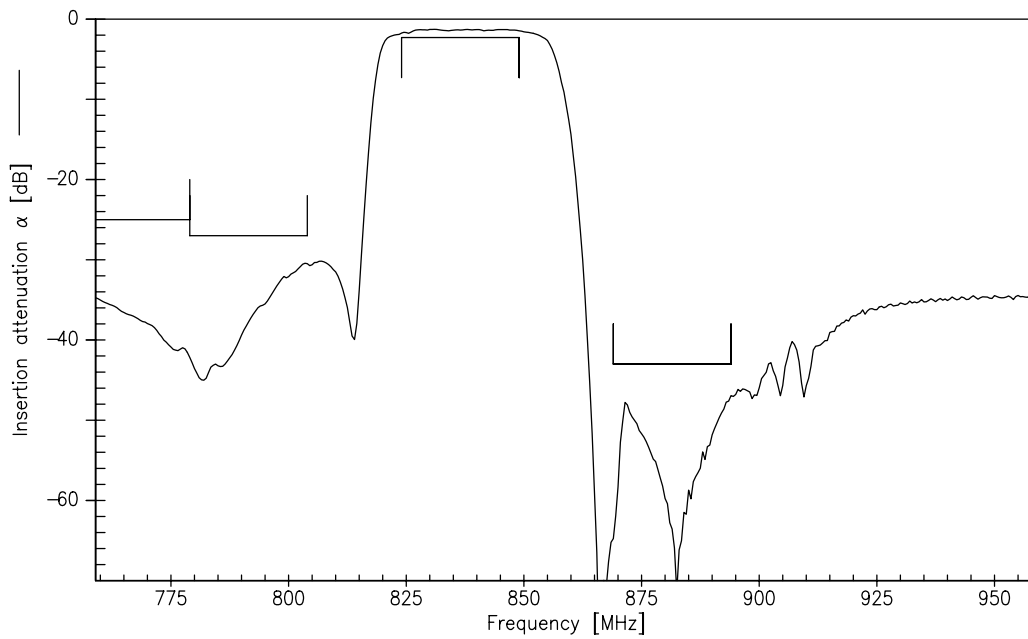
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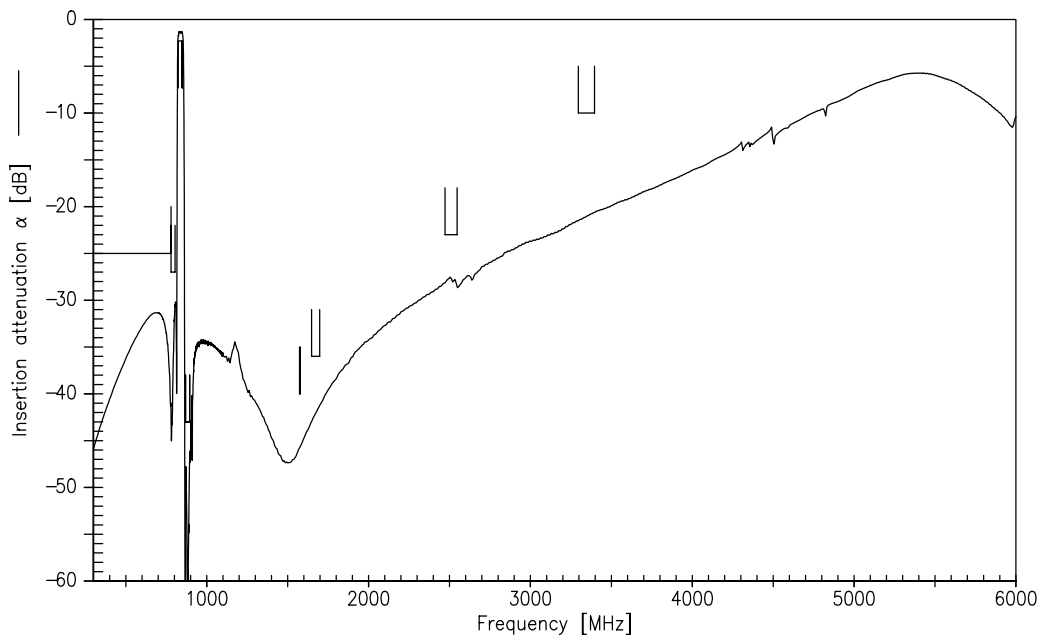
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Frequency Response TX-ANT



Frequency Response TX-ANT (wideband)



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



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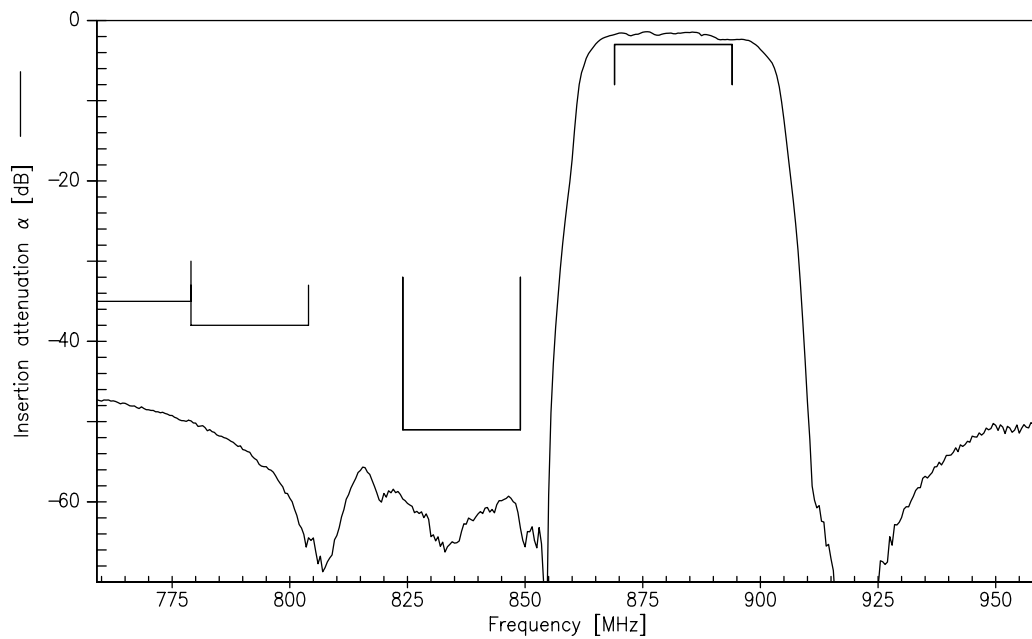
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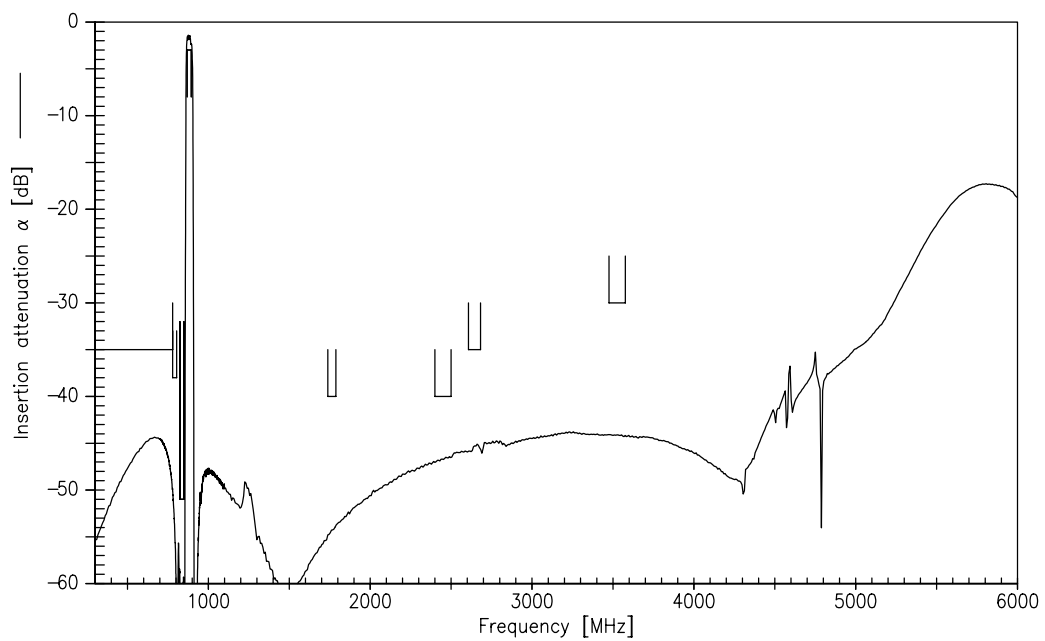
Data Sheet



Frequency Response RX-ANT



Frequency Response RX-ANT (wideband)



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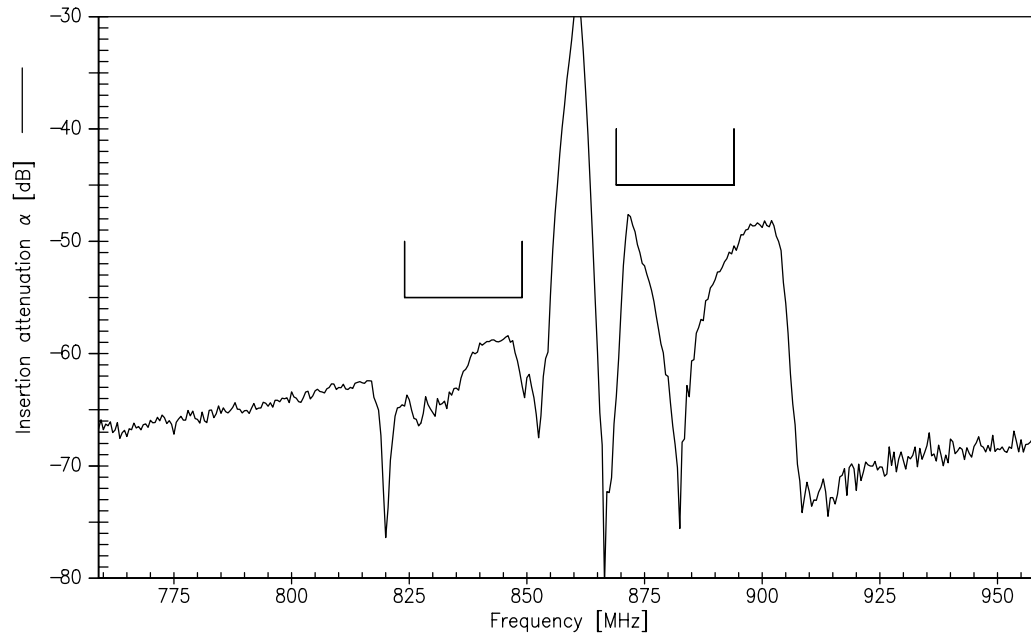
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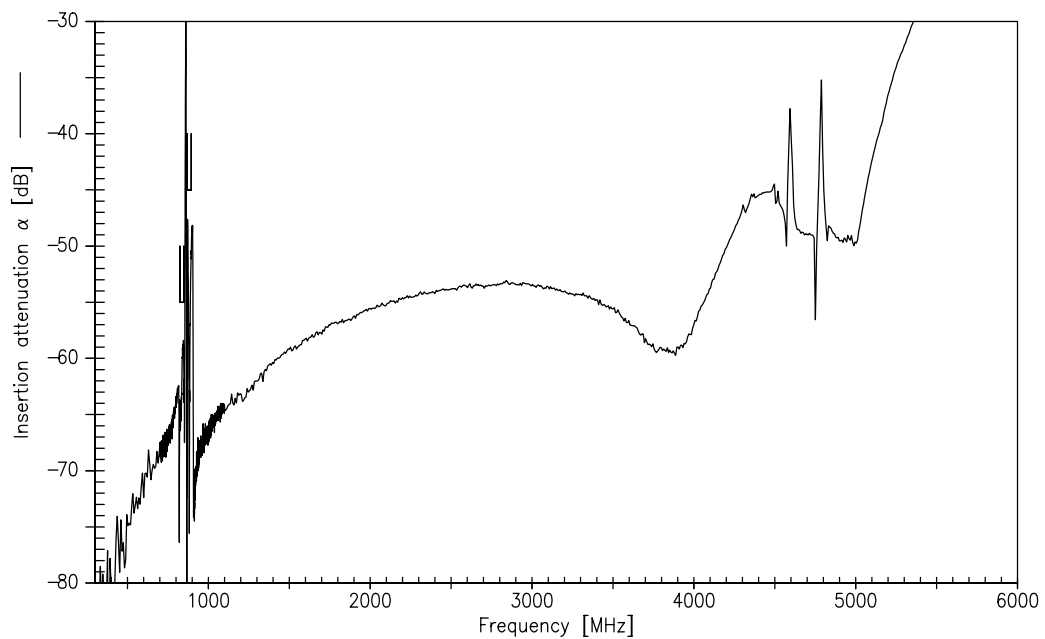
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Frequency Response TX-RX



Frequency Response TX-RX (wideband)



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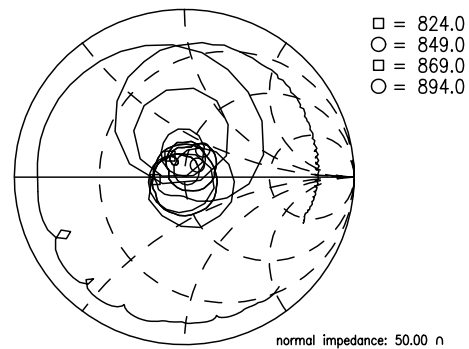
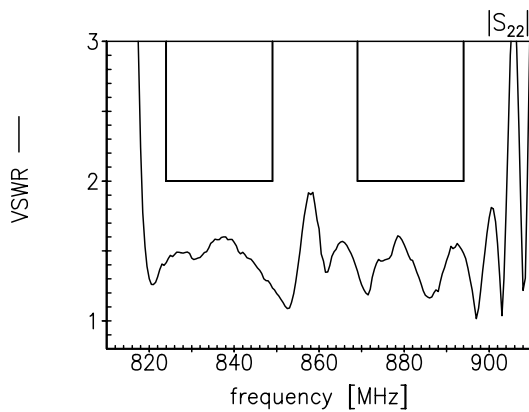
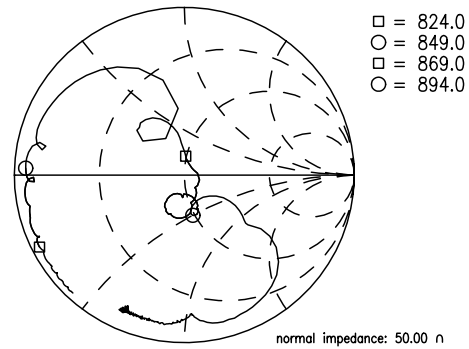
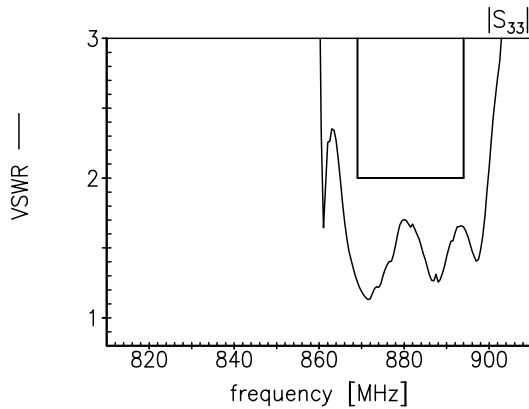
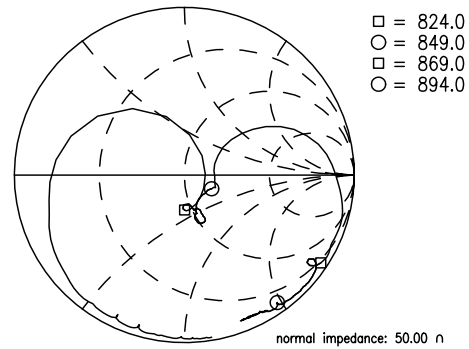
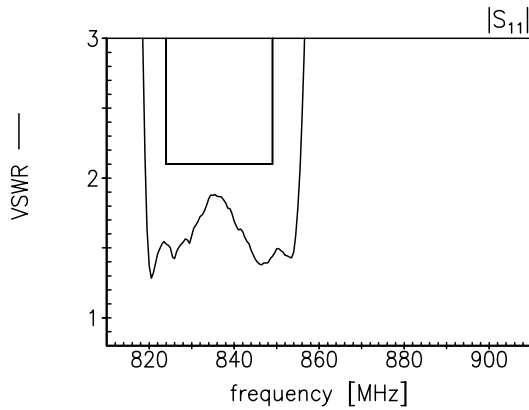


Return Loss

S_{11} TX- port

S_{22} ANT-port

S_{33} RX-port



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**References**

Type	B7669
Ordering code	B39881B7669A710
Marking and package	C61157-A3-A54
Packaging	F61074-V8153-Z000
Date codes	L_1126
S-parameters	B7669_NB.s3p B7669_WB.s3p See file header for port/pin assignment table.
Soldering profile	S_6001
RoHS compatible	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."

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