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SAW Components

SAW Duplexer

LTE Band 20

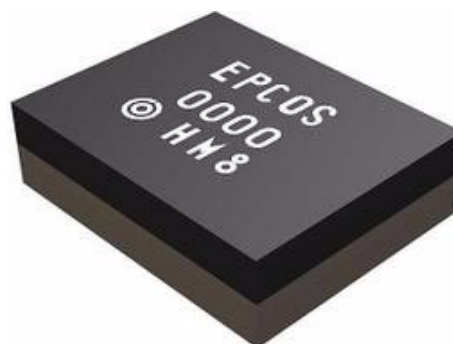
Series/type:	B8622
Ordering code:	B39851B8622P810
Date:	May 12, 2015
Version:	2.5

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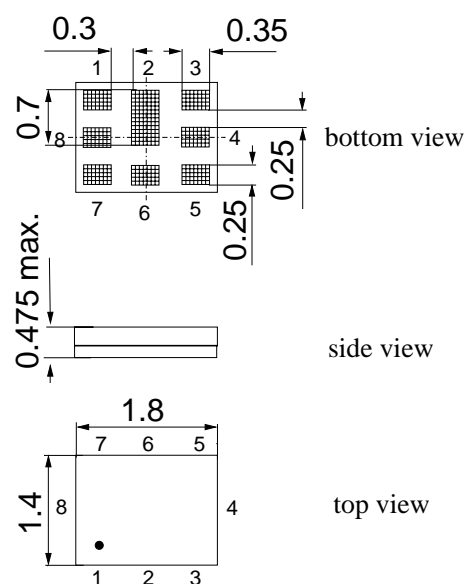
Application

- Low-loss SAW duplexer for LTE Band 20 systems
- Very high isolation
- Usable passband 30 MHz
- Single-ended duplexer
- Very small size and low height



Features

- Package size 1.8 * 1.4 mm²
- Maximum height : 0.475 mm
- RoHS compatible
- Approx. weight 0.0035g
- Package for **Surface Mount Technology (SMT)**
- Ni, Au-plated terminals
- **Electrostatic Sensitive Device (ESD)**
- **Moisture Sensitivity Level 3**



Pin configuration

- 3 Tx input
- 1 Rx output
- 6 Antenna
- 2, 4, 5, 7, 8 To be grounded

SAW Components
B8622
SAW Duplexer
847.0 / 806.0 MHz
DataSheet

Characteristics

Temperature range for specification:	T	=	-20 °C to +90 °C
TX terminating impedance:	Z _{Tx}	=	50 Ω + 3.9nH
ANT terminating impedance:	Z _{Ant}	=	50 Ω 11 nH
RX terminating impedance:	Z _{Rx}	=	50 Ω

Characteristics Tx-Antenna					min.	typ. @ 25 °C	max.	
Center frequency f_c						847.0		MHz
Maximum insertion attenuation α								
	832.0	...	862.0	MHz	—	1.7	2.5	dB
	832.0	...	862.0	MHz	—	1.7	2.0 ¹⁾	dB
Amplitude ripple (p-p) $\Delta\alpha$								
	832.0	...	862.0	MHz	—	0.7	1.7	dB
Error Vector Magnitude $EVM^{2)}$								
@ $f_{Carrier}$	834.4	...	859.6	MHz	—	2.1	4.0	
@ $f_{Carrier}$	834.4	...	859.6	MHz	—	2.1	3.0 ¹⁾	
Input VSWR (Tx port)								
	832.0	...	862.0	MHz	—	1.5	2.0	
Output VSWR (Ant Port)								
	832.0	...	862.0	MHz	—	1.6	2.0	
Absolute attenuation α								
	10.0	...	771.0	MHz	35	43	—	dB
	771.0	...	791.0	MHz	40	48	—	dB
	791.0	...	821.0	MHz	50	60	—	dB
	821.0	...	827.0	MHz	1.5	7	—	dB
	873.0	...	903.0	MHz	5	25	—	dB
	925.0	...	960.0	MHz	35	45	—	dB
	1565.0	...	1606.0	MHz	45	52	—	dB
	1664.0	...	2170.0	MHz	40	55	—	dB
	2400.0	...	2500.0	MHz	48	56	—	dB
	2500.0	...	2620.0	MHz	40	56	—	dB
	2620.0	...	2690.0	MHz	40	55	—	dB
	3328.0	...	3448.0	MHz	30	44	—	dB
	4000.0	...	6000.0	MHz	20	30	—	dB

1) At 25 °C

2) Error Vector Magnitude (EVM) based on definition in 3GPP TS 25.141

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Characteristics

Temperature range for specification:	T	=	-20 °C to +90 °C
TX terminating impedance:	Z _{Tx}	=	50 Ω + 3.9nH
ANT terminating impedance:	Z _{Ant}	=	50 Ω 11 nH
RX teminating impedance:	Z _{Rx}	=	50 Ω

Characteristics Antenna-Rx					min.	typ. @ 25 °C	max.	
Center frequency f_c						806.0		MHz
Maximum insertion attenuation α								
	791.0	...	821.0	MHz	—	1.7	3.0	dB
	791.0	...	821.0	MHz	—	1.7	2.5 ¹⁾	dB
Amplitude ripple (p-p) $\Delta\alpha$								
	791.0	...	821.0	MHz	—	0.7	2.2	dB
Input VSWR (Ant port)								
	791.0	...	821.0	MHz	—	1.6	2.0	
Output VSWR (Rx Port)								
	791.0	...	821.0	MHz	—	1.8	2.2	
Absolute attenuation α								
	10.0	...	771.0	MHz	40	44	—	dB
	771.0	...	782.0	MHz	10	25	—	dB
	832.0	...	862.0	MHz	50	60	—	dB
	873.0	...	903.0	MHz	40	54	—	dB
	1623.0	...	1683.0	MHz	40	47	—	dB
	2373.0	...	2570.0	MHz	40	45	—	dB
	4900.0	...	6000.0	MHz	13	17	—	dB

¹⁾ At 25 °C

Characteristics

Temperature range for specification:	T	=	-20 °C to +90 °C
TX terminating impedance:	Z _{Tx}	=	50 Ω + 3.9nH

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ANT terminating impedance:

$$Z_{\text{Ant}} = 50 \, \Omega \parallel 11 \, \text{nH}$$

RX terminating impedance:

$$Z_{\text{Rx}} = 50 \, \Omega$$

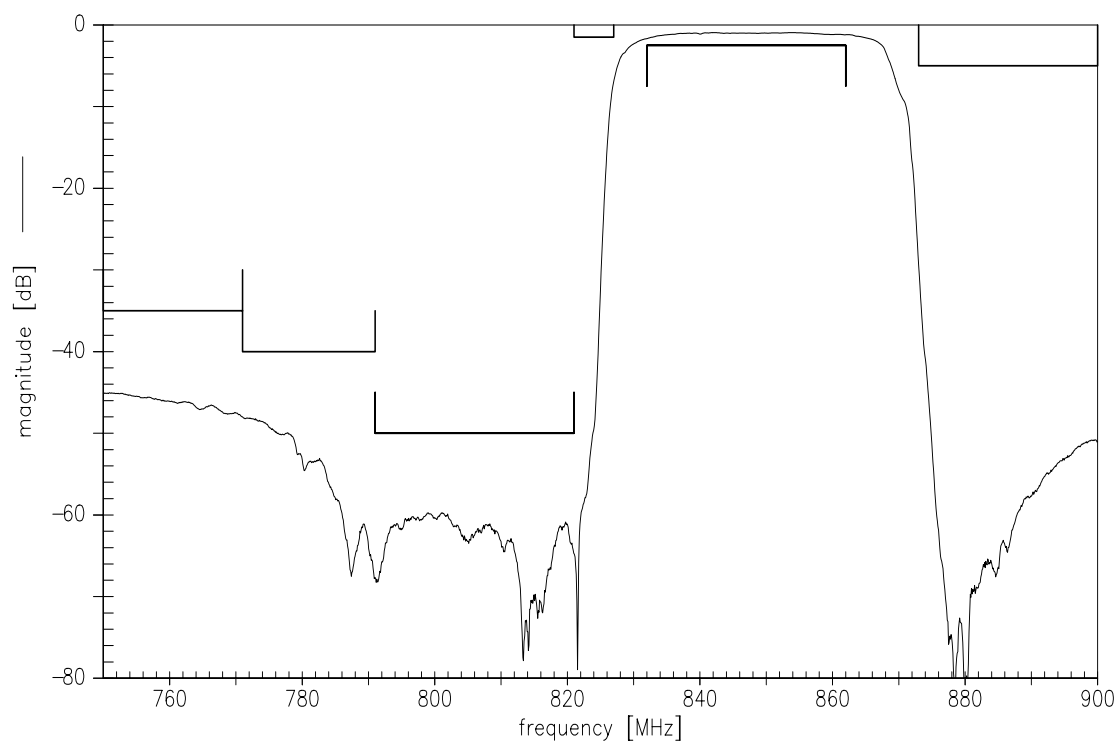
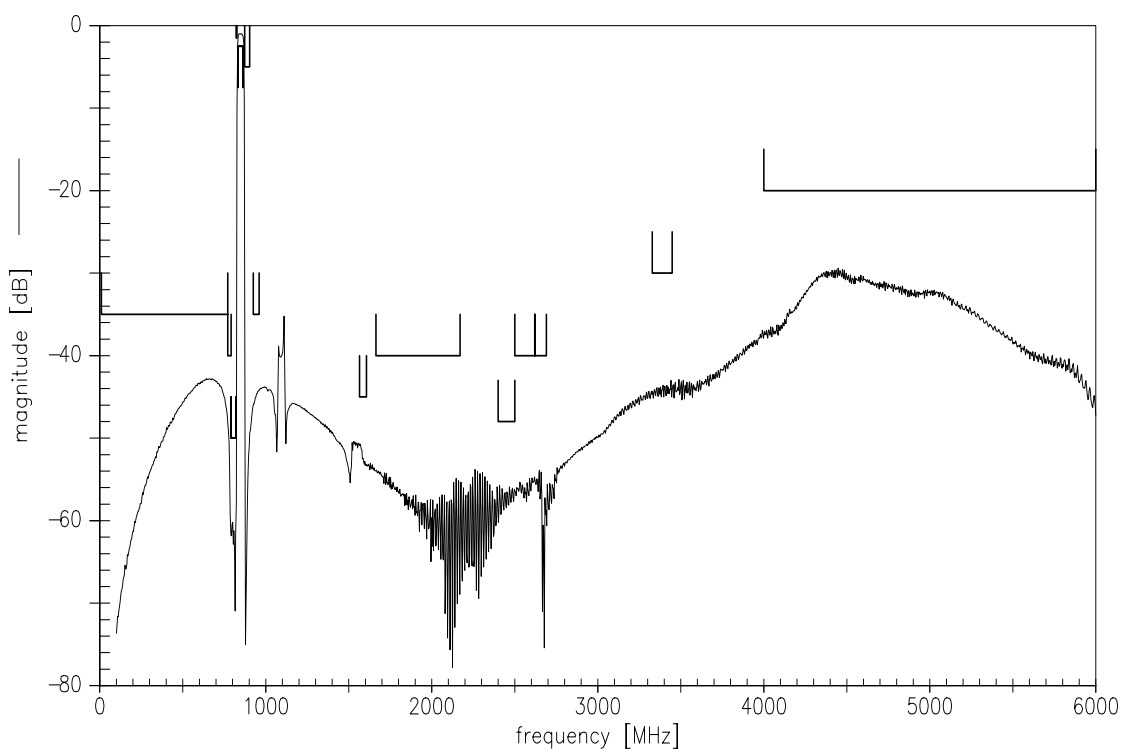
Characteristics Tx-Rx				min.	typ. @ 25 °C	max.	
Isolation							α
	791.34 ...	820.66 MHz		55	59	—	dB
	832.0 ...	862.0 MHz		57	62	—	dB
	1574.0 ...	1577.0 MHz		40	55	—	dB
	1664.0 ...	1724.0 MHz		20	55	—	dB
	2496.0 ...	2586.0 MHz		20	53	—	dB

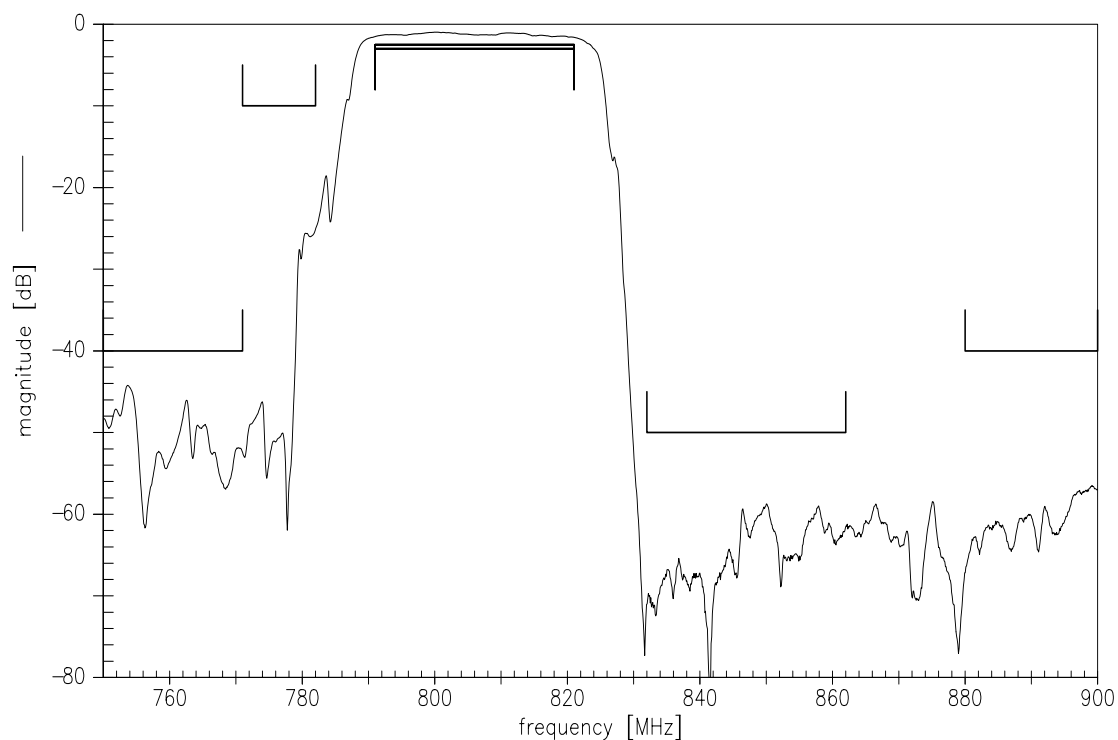
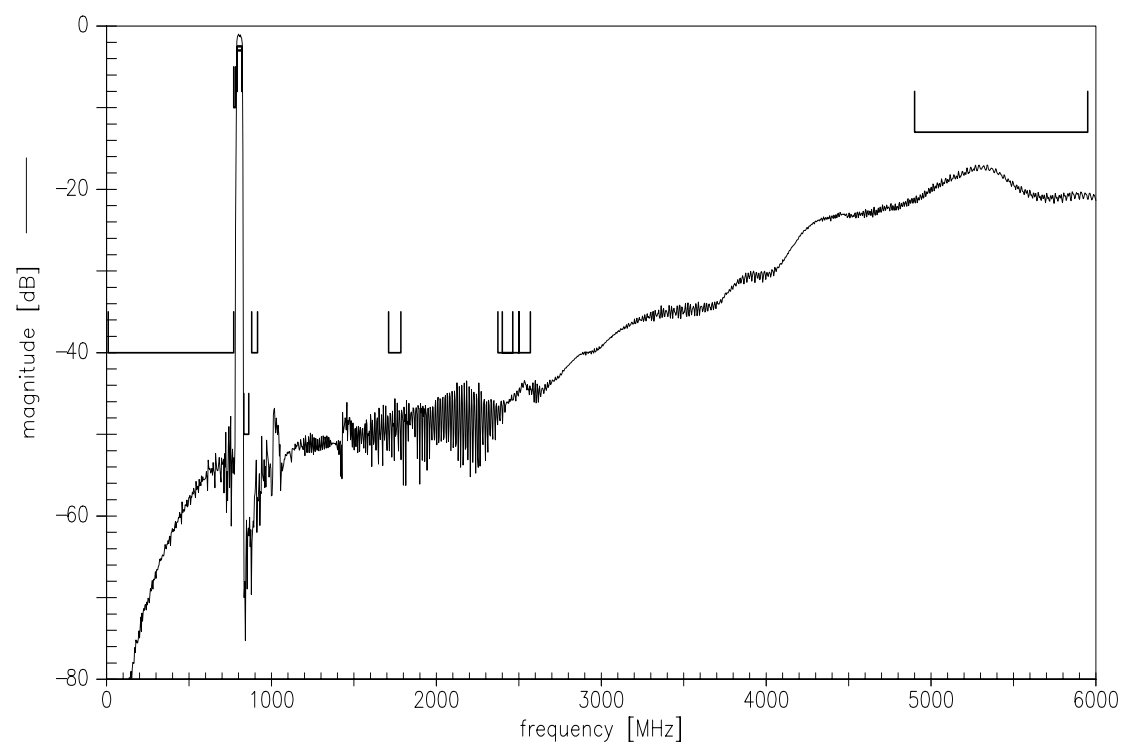
Maximum Ratings

Storage temperature range	T_{stg}	−40/+85	°C	
DC voltage	V_{DC}	0	V	
ESD voltage, Tx, Ant Port	V_{ESD}	300 ¹⁾	V	HB Model
ESD voltage	V_{ESD}	600 ²⁾	V	CD Model
Input power at Tx Port				
832.0 ...862.0 MHz	P_{in}	29	dBm	} LTE Up link 5MHz 50 °C, 5.000h
elsewhere	P_{in}	10	dBm	

1) Acc. to JESD22-A114F (HBM - Human Body Level), 1 negative & 1 positive pulses.

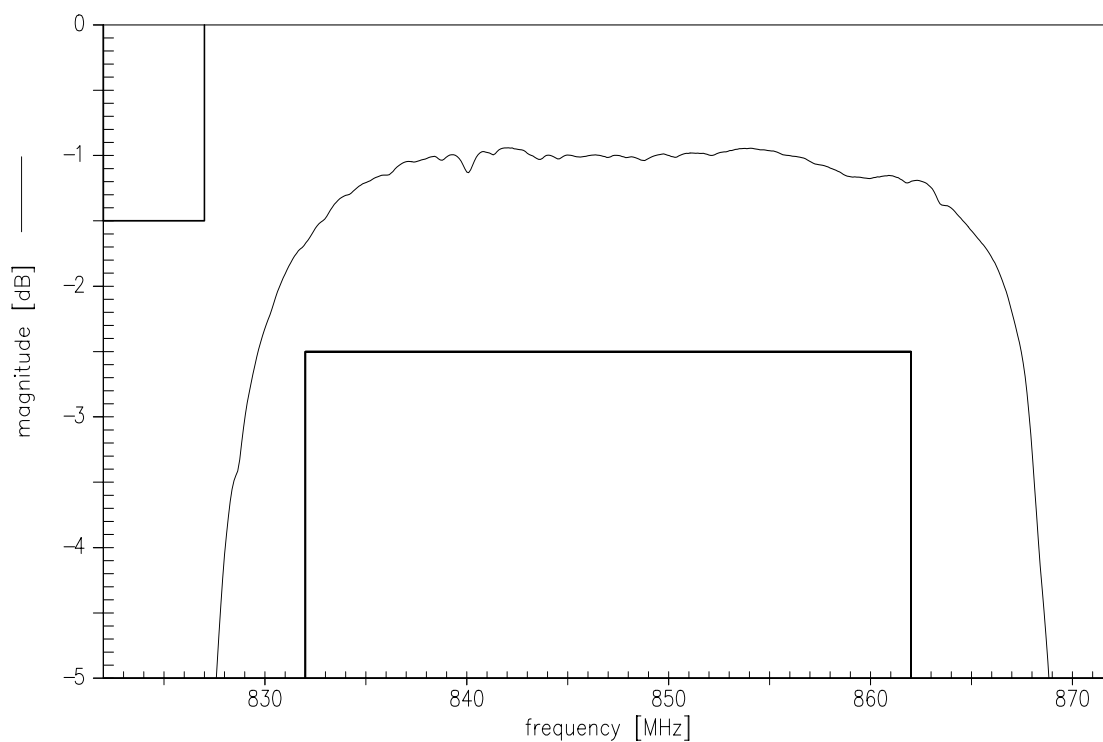
2) Acc. to JESD22-C101C (CDM - Fiel Inducted Charged Device Model), 3 negative & 3 positive pulses.

Frequency Response TX-ANT

Frequency Response TX-ANT


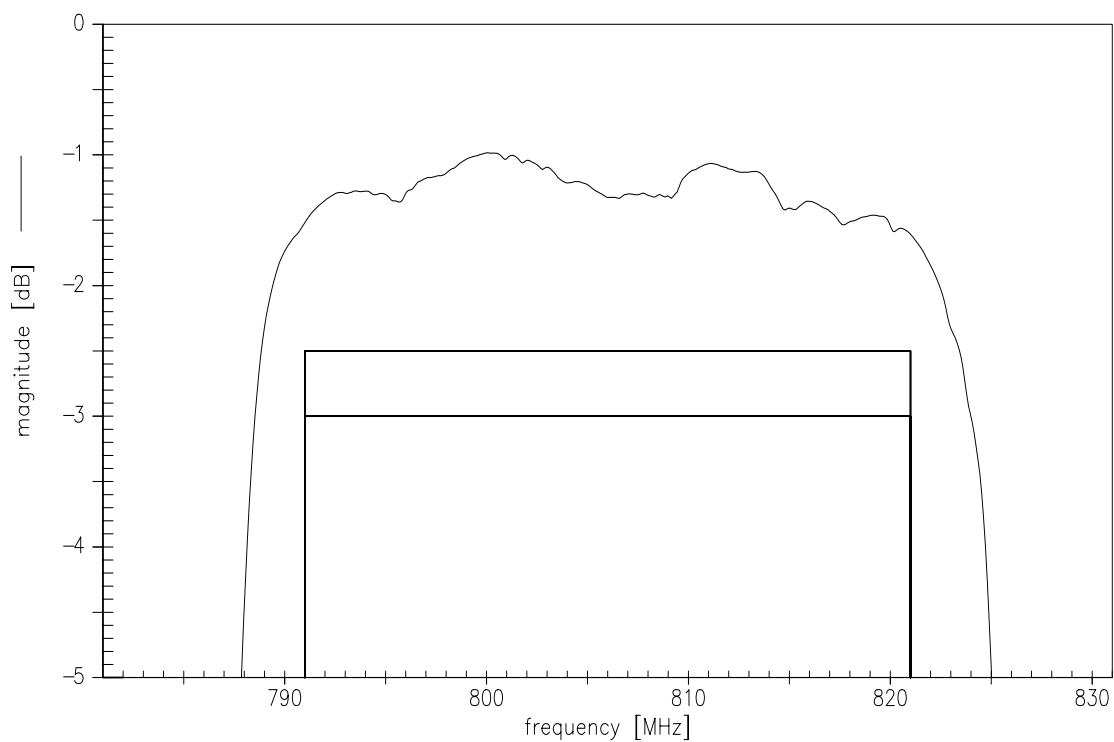
Frequency Response RX-ANT

Frequency Response RX-ANT




Frequency Response ANT-TX

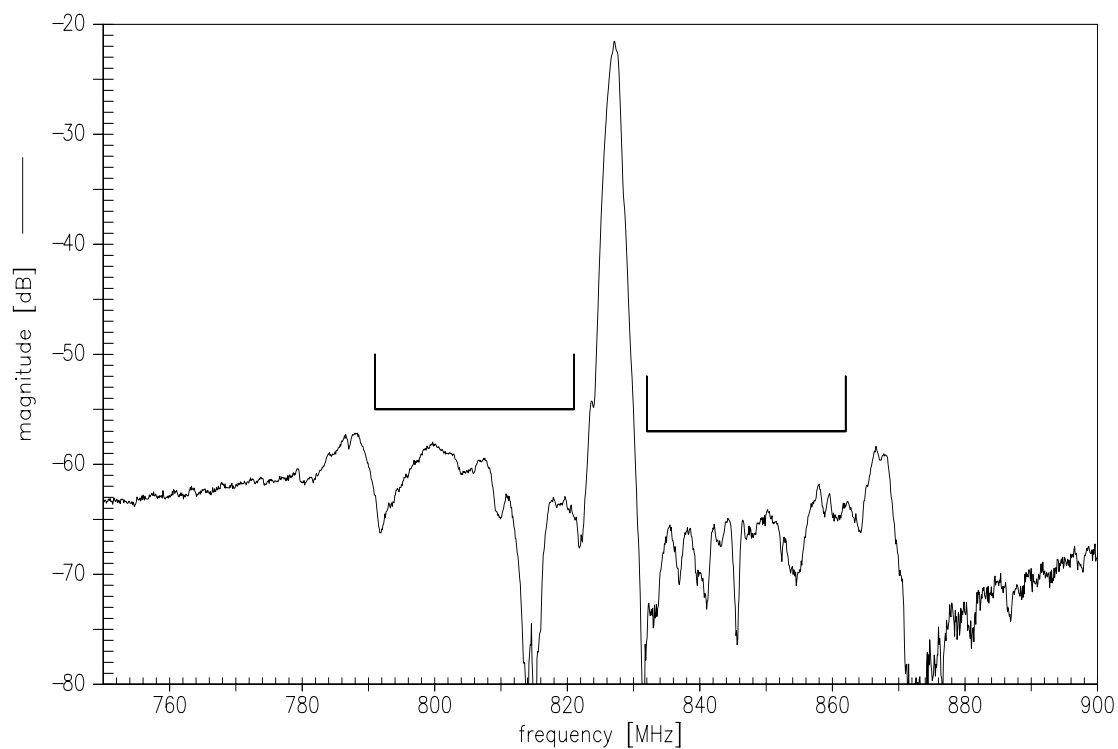


Frequency Response ANT-RX

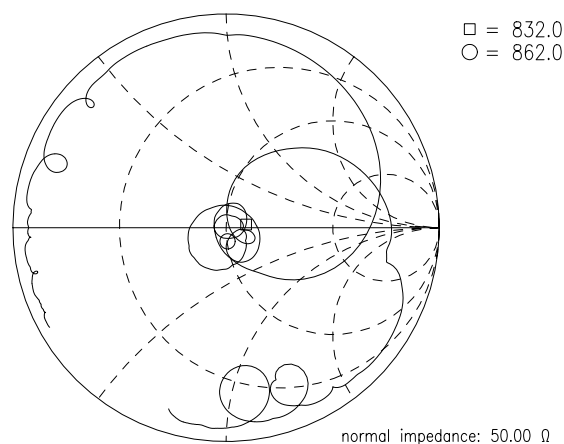
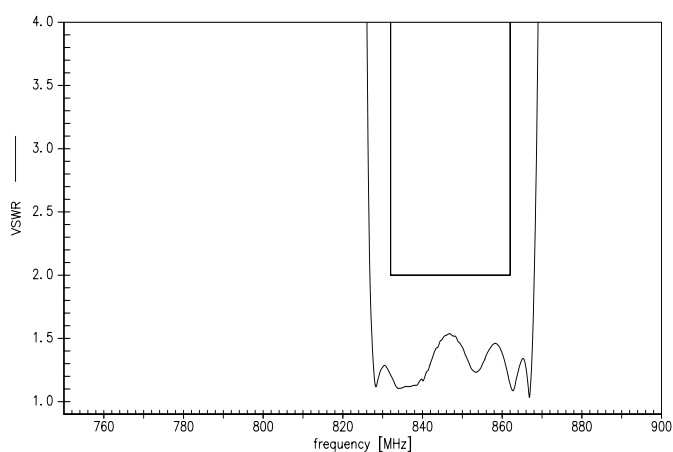




Frequency Response TX-RX (ISOLATION)



S11 VSWR (TX)



SAW Components

B8622

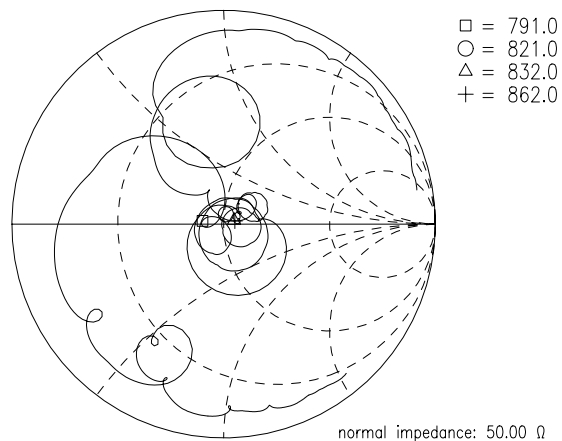
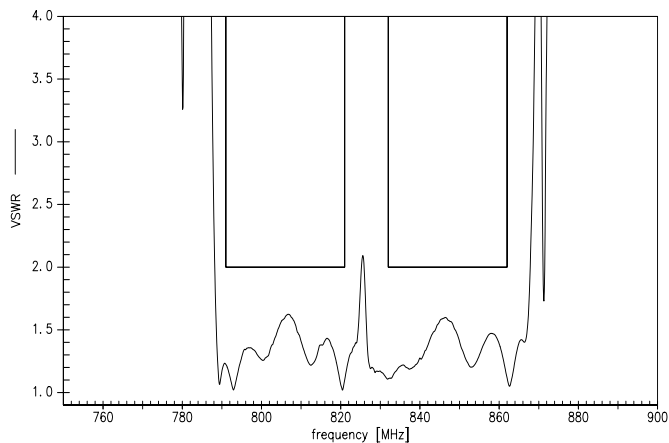
SAW Duplexer

847.0 / 806.0 MHz

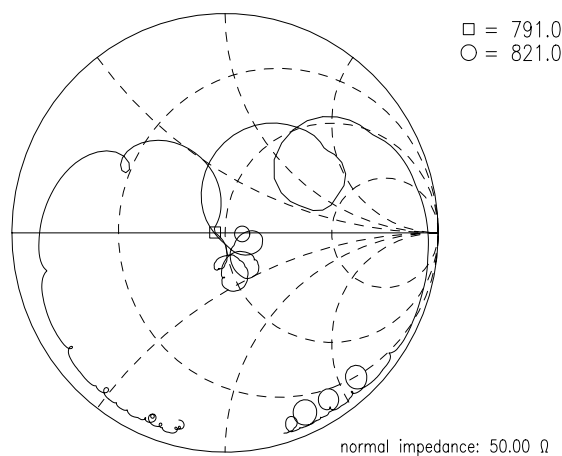
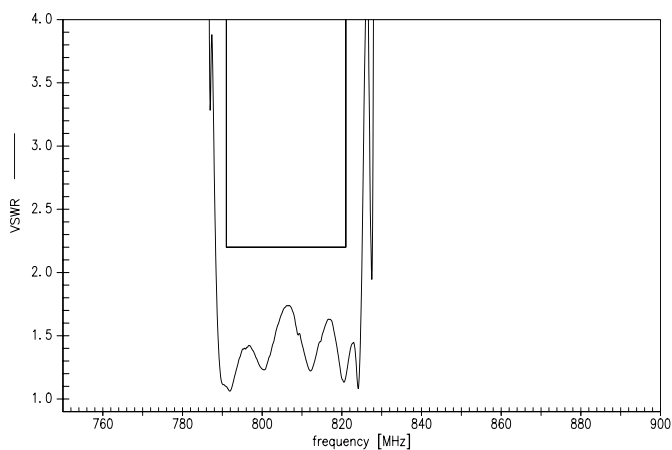
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S22 VSWR (ANT)



S33 VSWR (RX)



SAW Components
B8622
SAW Duplexer
847.0 / 806.0 MHz

DataSheet



References

Type	B8622
Ordering code	B39851B8622P810 B39851B8622P810S 5
Marking and package	C61157-A8-A68
Packaging	F61074-V8259-Z000
Date codes	L_1126
S-parameters	B8622_NB_UN.s3p, B8622_WB_UN.s3p See file header for port/pin assignment table.
Soldering profile	S_6001
RoHS compatible	RoHS-compatible means that products are compatible with the requirements according to Art. 4 (substance restrictions) of Directive 2011/65/EU of the European Parliament and of the Council of June 8 th , 2011, on the restriction of the use of certain hazardous substances in electrical and electronic equipment ("Directive") with due regard to the application of exemptions as per Annex III of the Directive in certain cases.
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Matching coils	See Inductor pdf-catalog http://www.tdk.co.jp/tefe02/coil.htm#aname1 and Data Library for circuit simulation http://www.tdk.co.jp/etvcl/index.htm

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Published by EPCOS AG

Systems, Acoustics, Waves Business Group

P.O. Box 80 17 09, 81617 Munich, GERMANY

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