SAW Components

SAW Duplexer

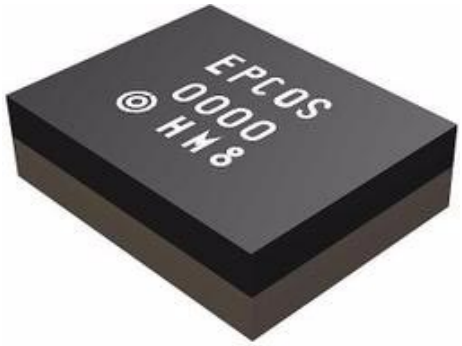
LTE Band 20

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

EPCOS AG is a TDK Group Company.

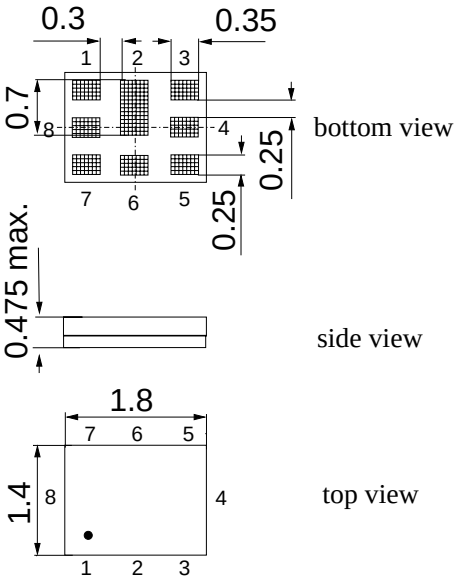
Application

- 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 **S**urface **M**ount **T**echnology (**SMT**)
- Ni, Au-plated terminals
- **E**lectrostatic **S**ensitive **D**evice (**ESD**)
- **M**oisture **S**ensitivity **L**evel **3**



Pin configuration

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

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 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)	Δα				
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

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)	Δα				
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

DataSheet SMD

ANT terminating impedance: Z_{Ant} = 50 Ω || 11 nH
RX teminating impedance: Z_{Rx} = 50 Ω

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

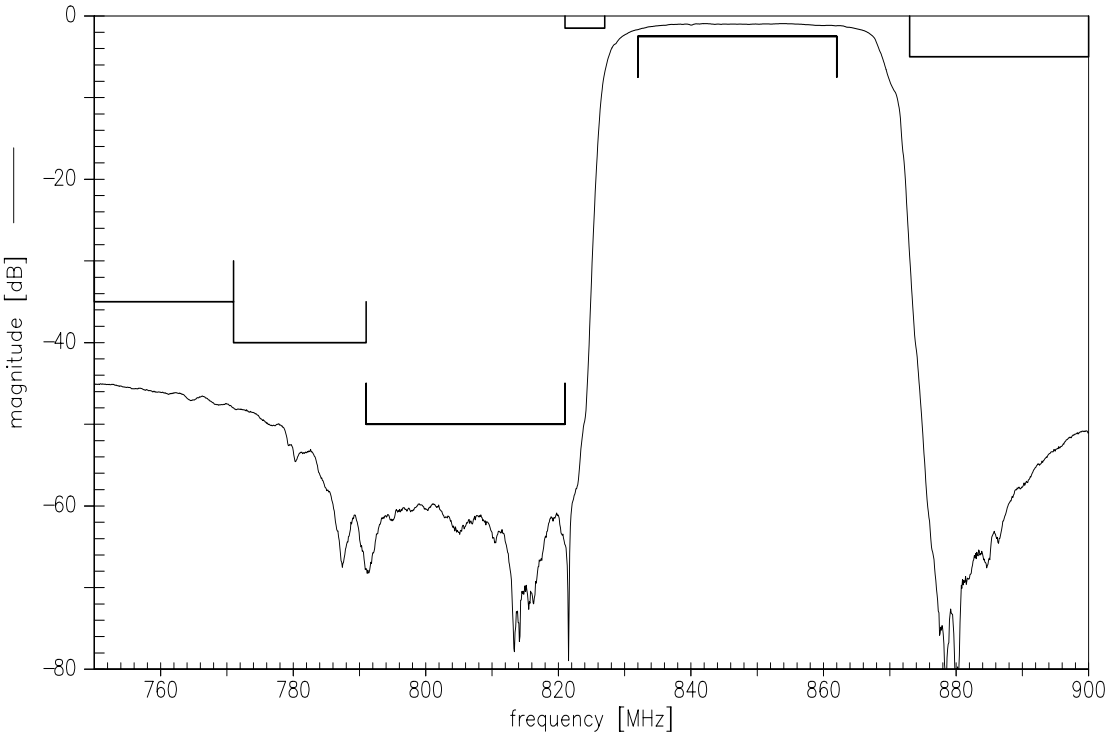
Maximum Ratings

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
elsewhere	P_{in}	10	dBm	50 °C, 5.000h

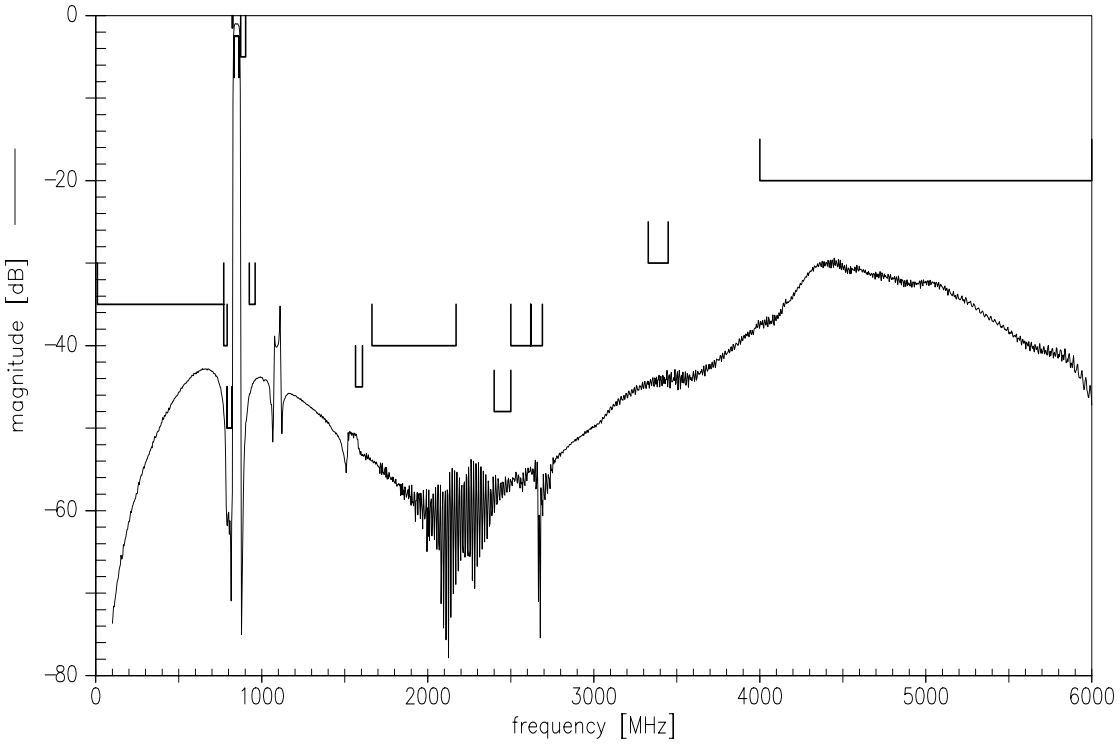
1) Acc. to JESD22-A114F (HBM - Human Body Level), 1 negative & 1 positive pulses.

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

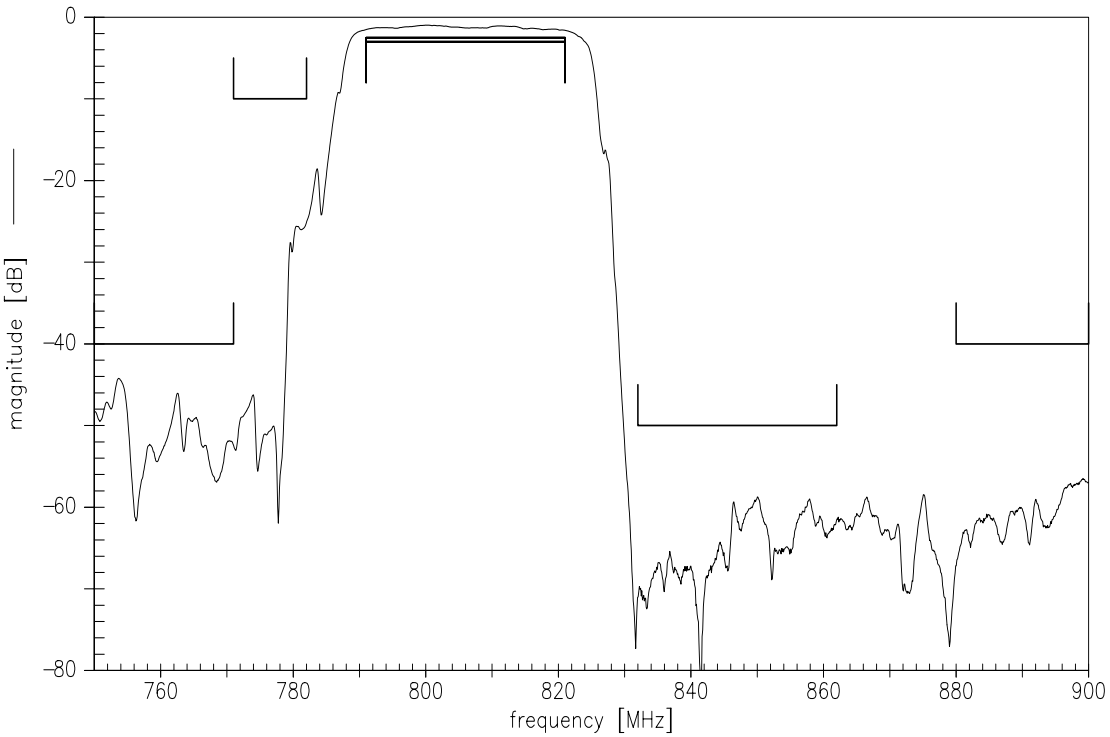
Frequency Response TX-ANT



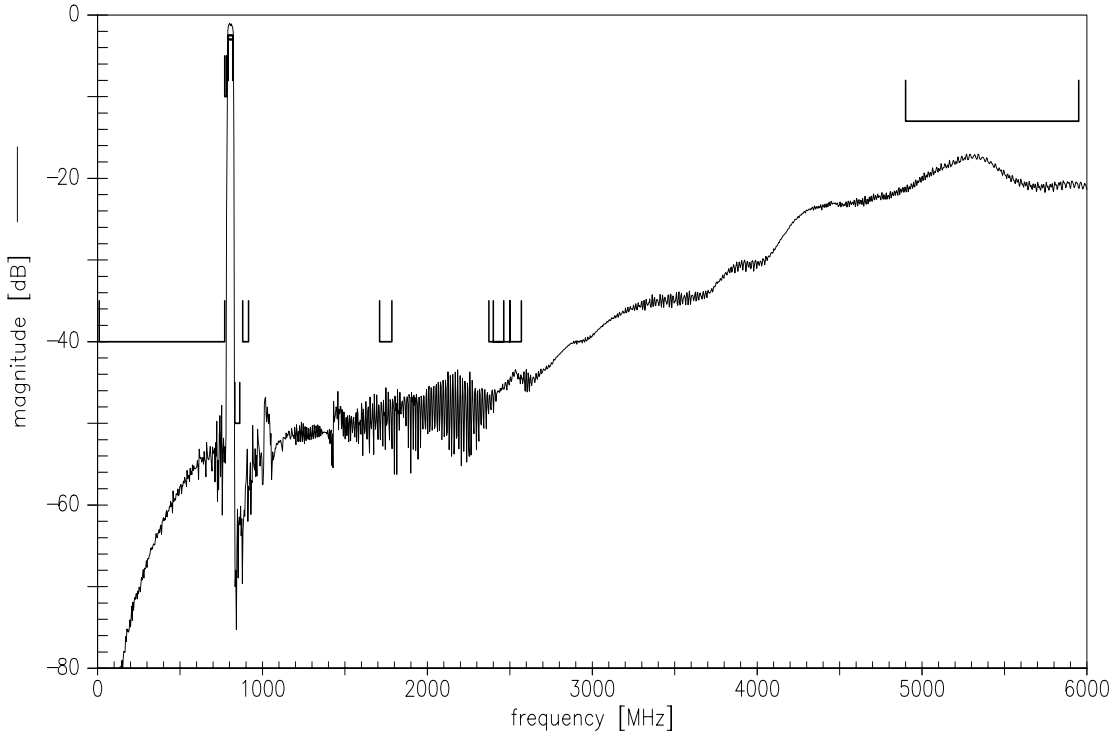
Frequency Response TX-ANT



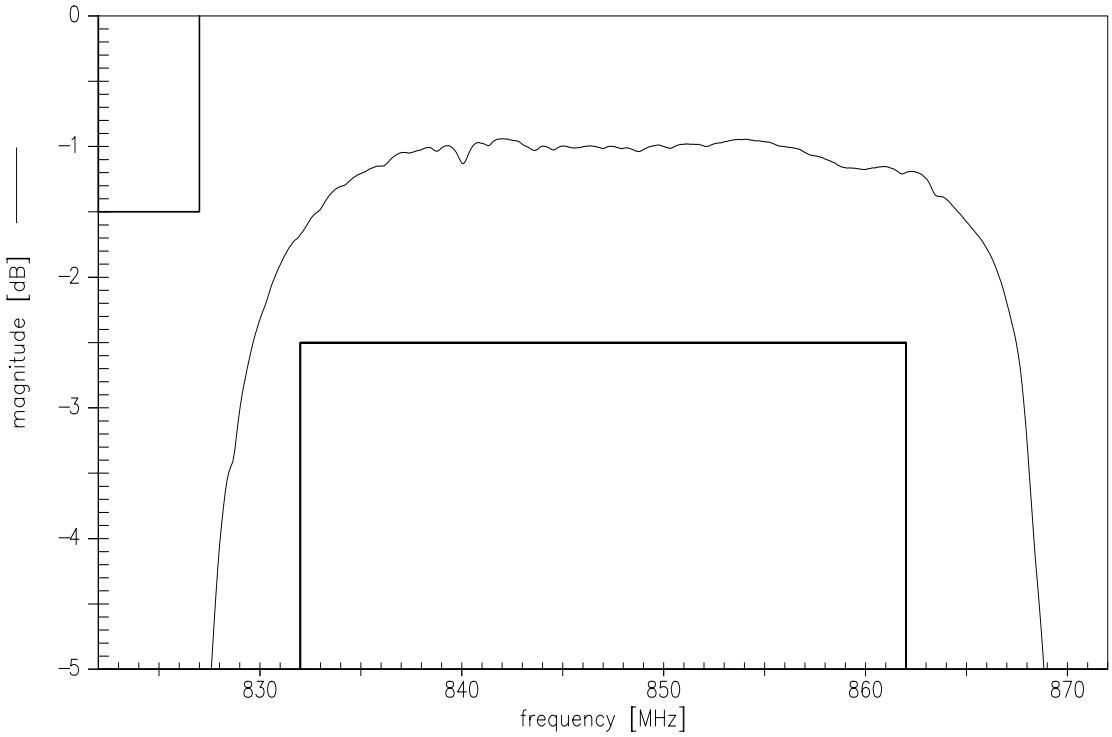
Frequency Response RX-ANT



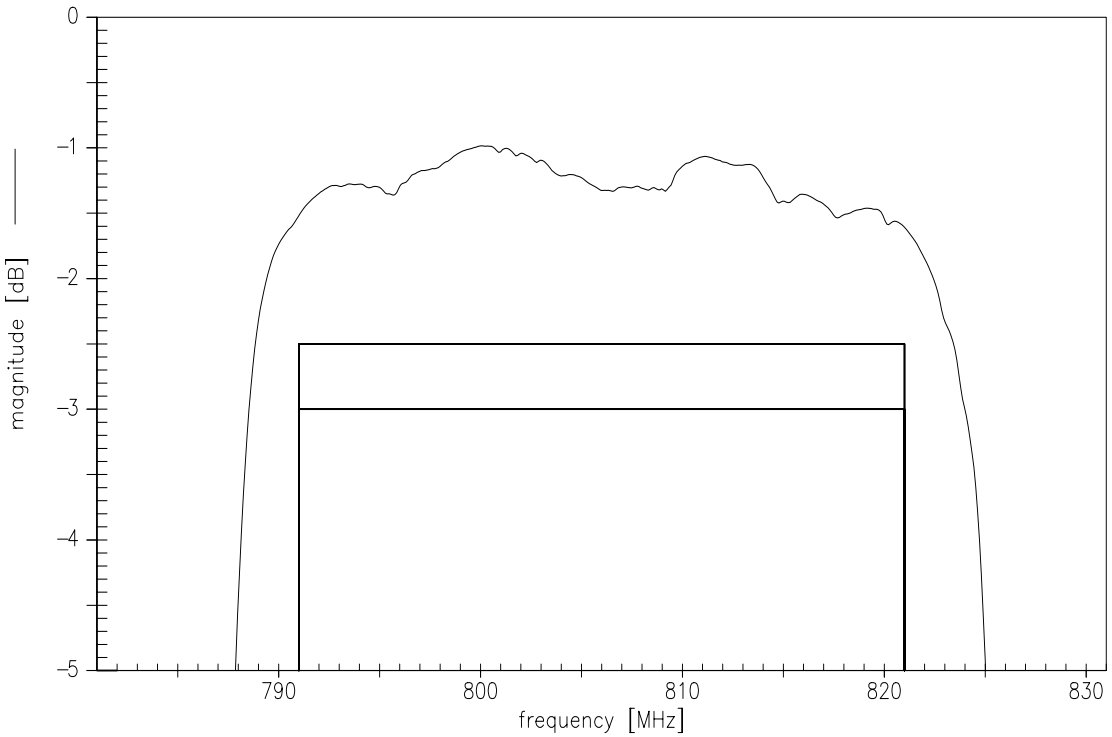
Frequency Response RX-ANT



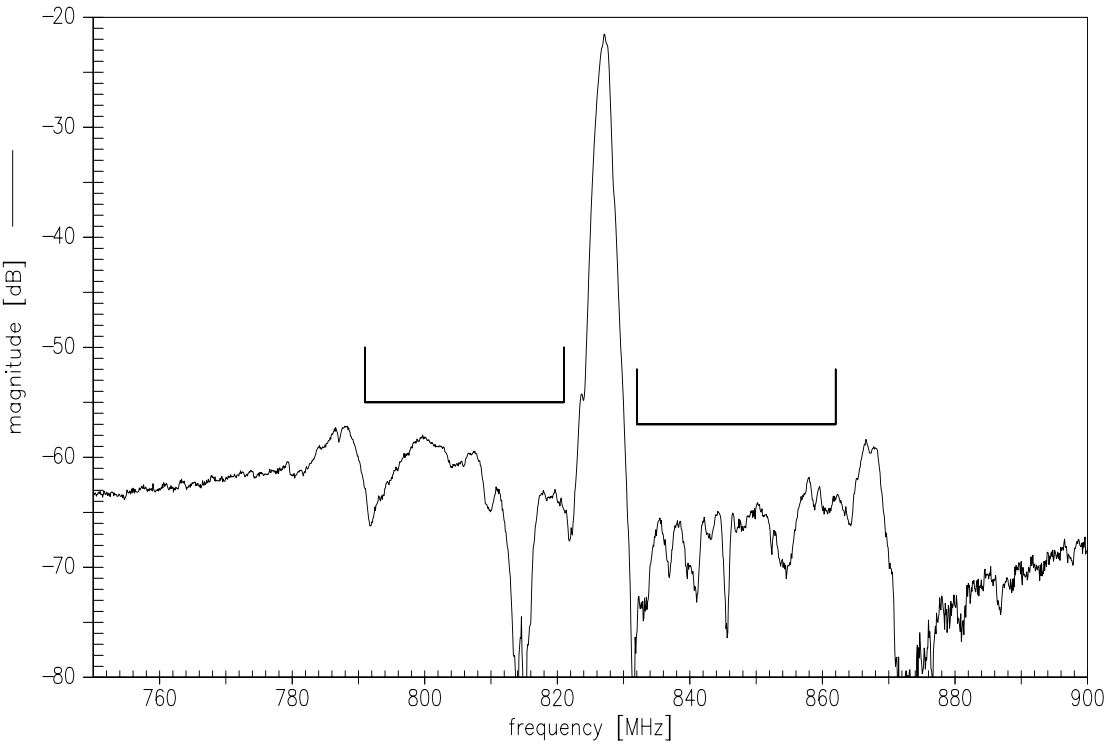
Frequency Response ANT-TX



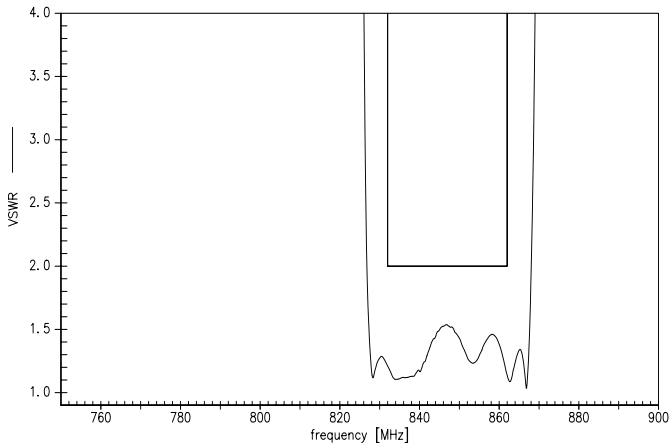
Frequency Response ANT-RX

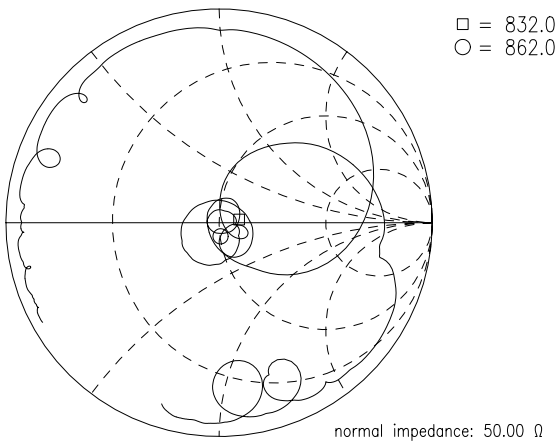


Frequency Response TX-RX (ISOLATION)

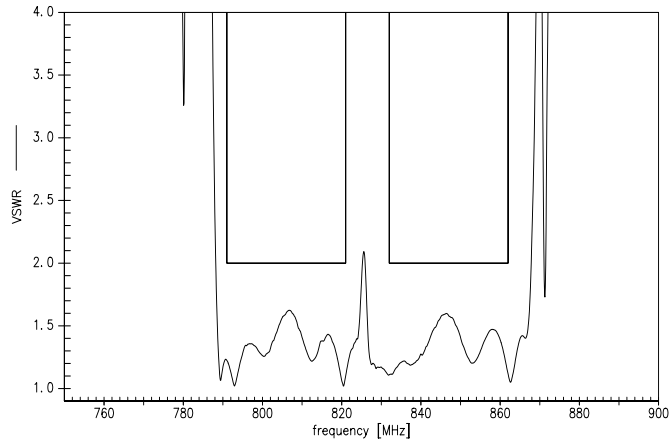


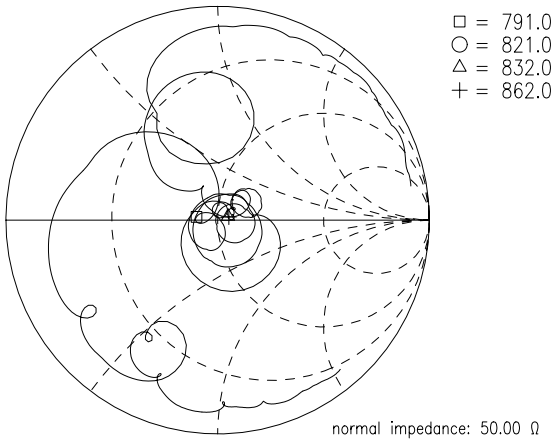
S11 VSWR (TX)



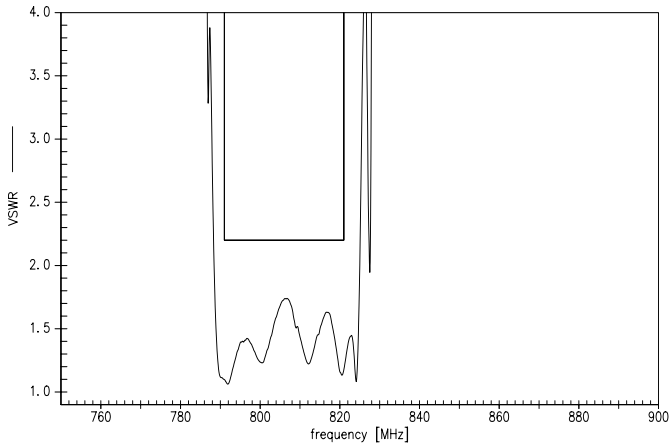


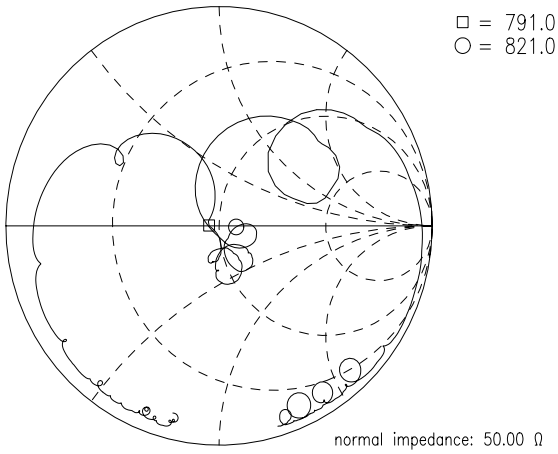
S22 VSWR (ANT)





S33 VSWR (RX)





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 8th, 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.
Moldability	Before using in overmolding environment, please contact your EPCOS sales office.
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