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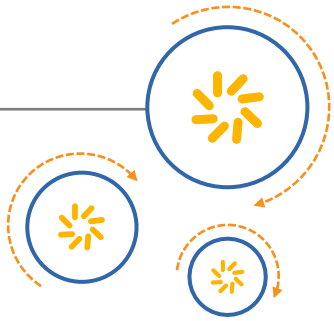

SAW Components

BAW Bluetooth/WLAN Filter

Datasheet

Series/type:	B8850
Ordering code:	B39242B8850P810
Date:	October 07, 2015
Version:	2.2

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RF360 Europe GmbH, Anzinger Str. 13, München, Germany

SAW Components

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Datasheet

Series/type:	**B8850**
Ordering code:	**B39242B8850P810**
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EPCOS AG is a TDK Group Company.

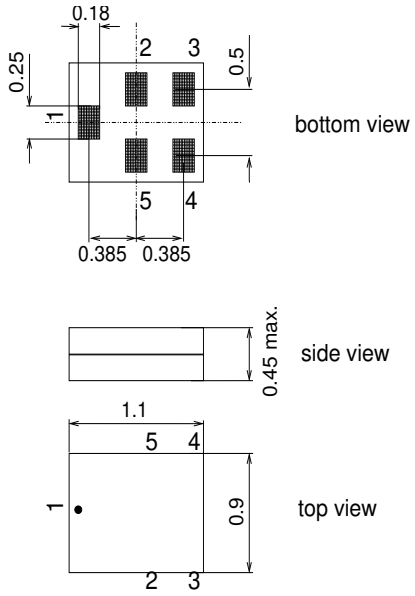
Datasheet SMD

Application

- Ultra low-loss BAW RF single filter for Bluetooth/WLAN with LTE Band 7 / Band 40 / Band 41 coexistence
- Usable passband 79.0 MHz
- Unbalanced to unbalanced operation
- Excellent insertion attenuation
- High out of band selectivity
- Filter impedance 50 Ω
- Good B40 attenuation
- Very low 2nd harmonic generation
- Excellent VSWR flatness across passband

Features

- Package size 1.1 x 0.9 mm²
- Package height 0.45 mm max
- RoHS compatible
- Approximate weight 0.0012 g
- Package for **S**urface **M**ount **T**echnology (**SMT**)
- Ni, gold-plated terminals
- **E**lectrostatic **S**ensitive **D**evice (**ESD**)
- **M**oisture **S**ensitivity **L**evel 3 (**MSL 3**)



Pin configuration

B8850 supports two I/O pinning configurations

1) For 2G only stand alone applications,
   recommend Pin 4 to PA, Pin 1 to ANT
   orientation for best harmonics performance.
2) For 2G+5G applications (with diplexer),
   filter supports either Pin 4 to PA, Pin 1 to ANT
   (or) Pin 4 to ANT, Pin 1 to PA configuration.

Pins 2,3,5 : To be grounded

Datasheet SMD

Characteristics of Filter

Temperature range for specification: T = –30 ˚C to +85 ˚C
Terminating source impedance: Z_S = 50 Ω shunt coil 8.2 nH
Terminating load impedance: Z_L = 50 Ω shunt coil 10 nH

Characteristics		min.	typ. @ 25 ˚C	max.	
Center frequency	f_C	—	2442.0	—	MHz
Maximum insertion attenuation - WLAN[1)]	α_{max}				
2403.1 ... 2420.9 MHz (channel 1)		—	1.35[1)]	1.9[1)]	dB
2408.1 ... 2425.9 MHz (channel 2)		—	1.15[1)]	1.8[1)]	dB
2413.1 ... 2470.9 MHz (channel 3-11)		—	1.00[1)]	1.8[1)]	dB
2458.1 ... 2475.9 MHz (channel 12)		—	1.05[1)]	1.8[1)]	dB
2463.1 ... 2480.9 MHz (channel 13)		—	1.25[1)]	2.0[1)]	dB
VSWR (Pin 1)					
2403.1 ... 2425.9 MHz		—	1.6	2.3[3)]	
2425.9 ... 2480.9 MHz		—	1.6	2.4	
VSWR (Pin 4)					
2403.1 ... 2425.9 MHz		—	1.4	2.3[3)]	
2425.9 ... 2480.9 MHz		—	1.4	2.4	
Attenuation	α				
699.0 ... 960.0 MHz		29	32	—	dB
1710.0 ... 2170.0 MHz		28	31	—	dB
2300.0 ... 2360.0 MHz		32	37	—	dB
2360.0 ... 2370.0 MHz		33[2)]	40[2)]	—	dB
2370.0 ... 2380.0 MHz		6[2)]	34[2)]	—	dB
2500.0 ... 2505.0 MHz		30[2)3)]	55[2)]	—	dB
2505.0 ... 2570.0 MHz		36[2)]	41[2)]	—	dB
2570.0 ... 2620.0 MHz		34[2)]	39[2)]	—	dB
2620.0 ... 2690.0 MHz		34[2)]	39[2)]	—	dB
4800.0 ... 5805.0 MHz		20	28	—	dB

1) Averaged values within each WiFi channel width of 17.8 MHz
2) Averaged value of linear S-parameter over any 5 MHz
3) From 25˚C to 85˚C

Maximum ratings

Operable temperature range	T	–30/+85	˚C	
Storage temperature range	T_{stg}	–40/+90	˚C	
DC voltage	V_{DC}	5[1)]	V	
ESD voltage	V_{ESD}	50[2)]	V	Machine Model
		300[3)]	V	Human Body Model
		600[4)]	V	Charged Device Model
Input power at PIN 1 or PIN 4 channel 1 to channel 13		+26	dBm	20 MHz OFDM signal, 65˚C, 5000hr

1) 168h Damp Heat Steady State acc. to IE C60068-2-67 Cy

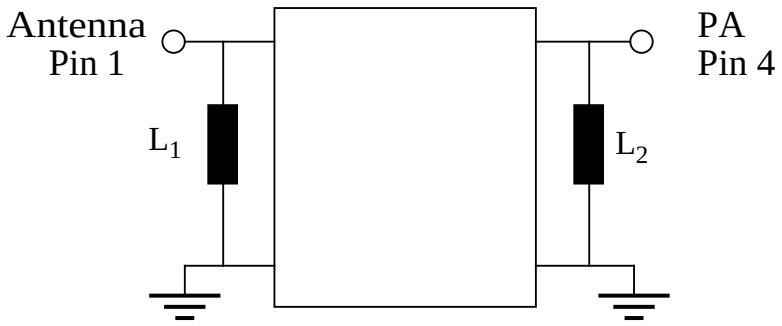
2) acc. to JESD22-A115B (MM - Machine Model), 10 negative and 10 positive pulses

3) acc. to JESD22-A114F (HBM - Human Body Model), 1 negative and 1 positive pulses

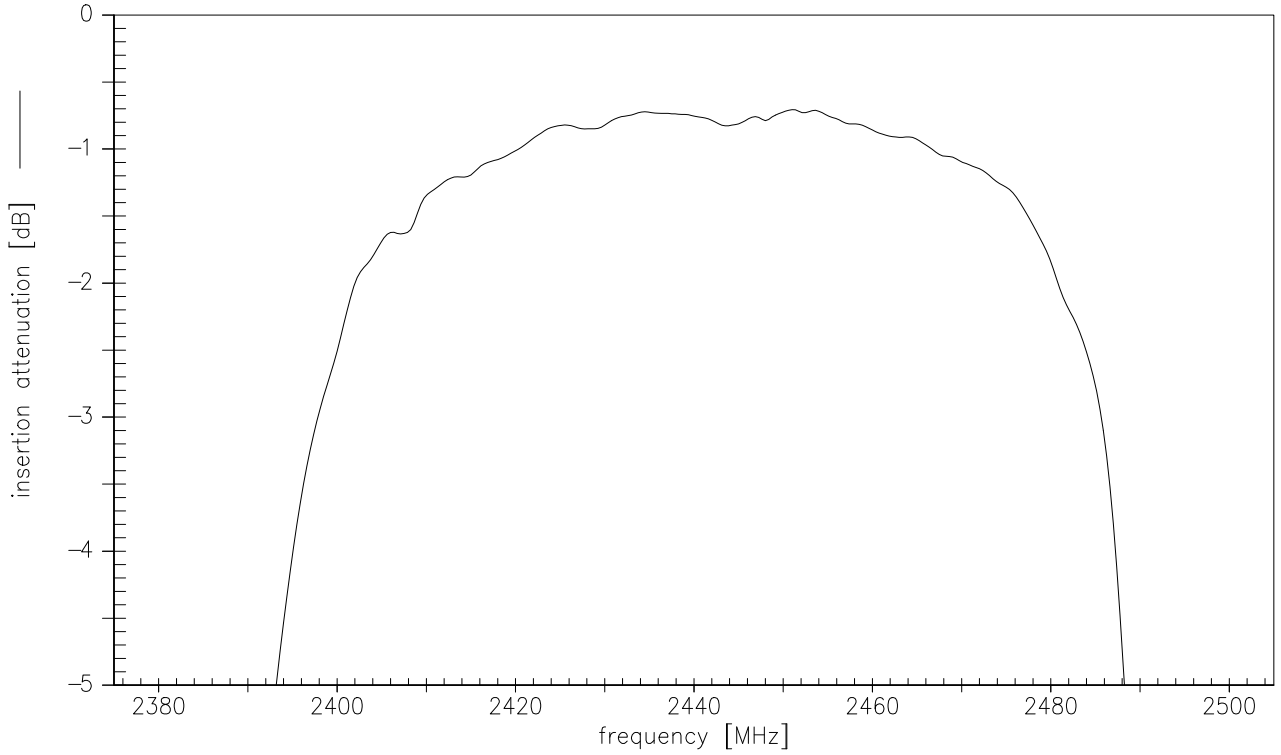
4) acc. to JESD22-C101C (CDM - Field Induced Charged Device Model), 3 negative and 3 positive pulses

Matching network

- L_1 = 8.2 nH
- L_2 = 10 nH
- Recommendation to use TDK MLG0603 P-series



Transfer function



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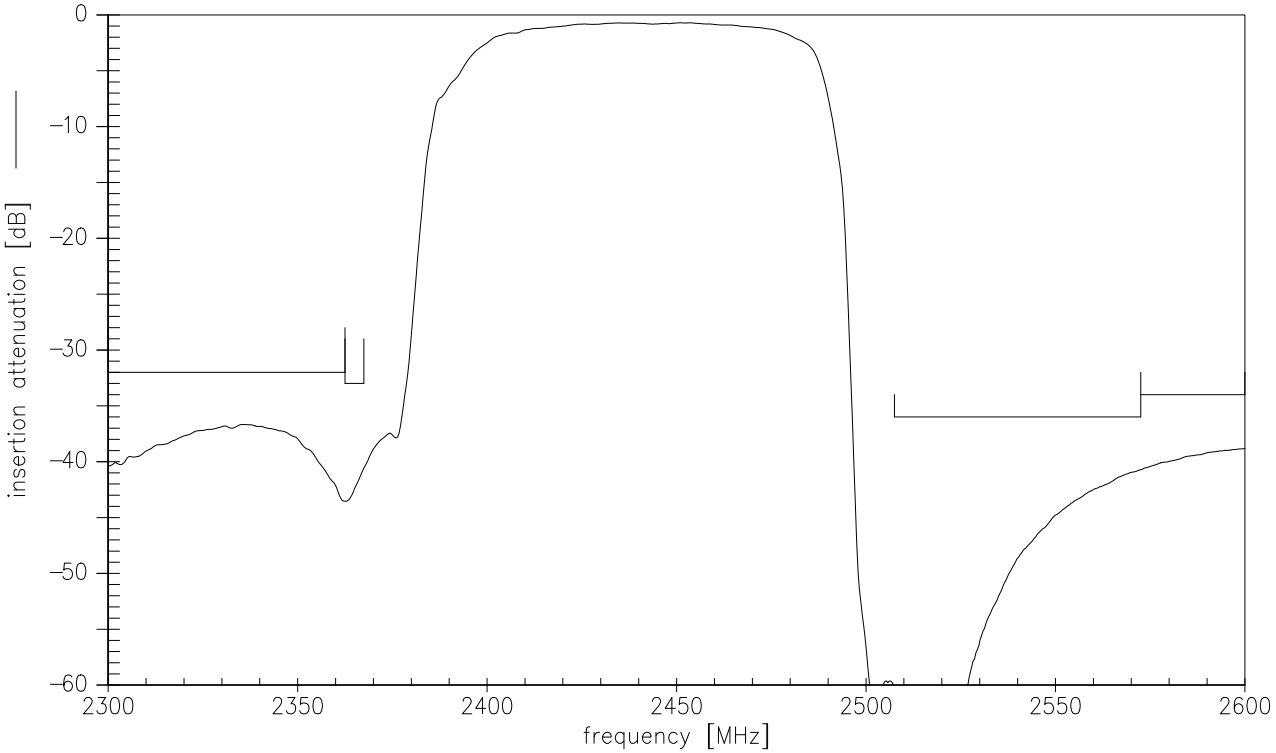

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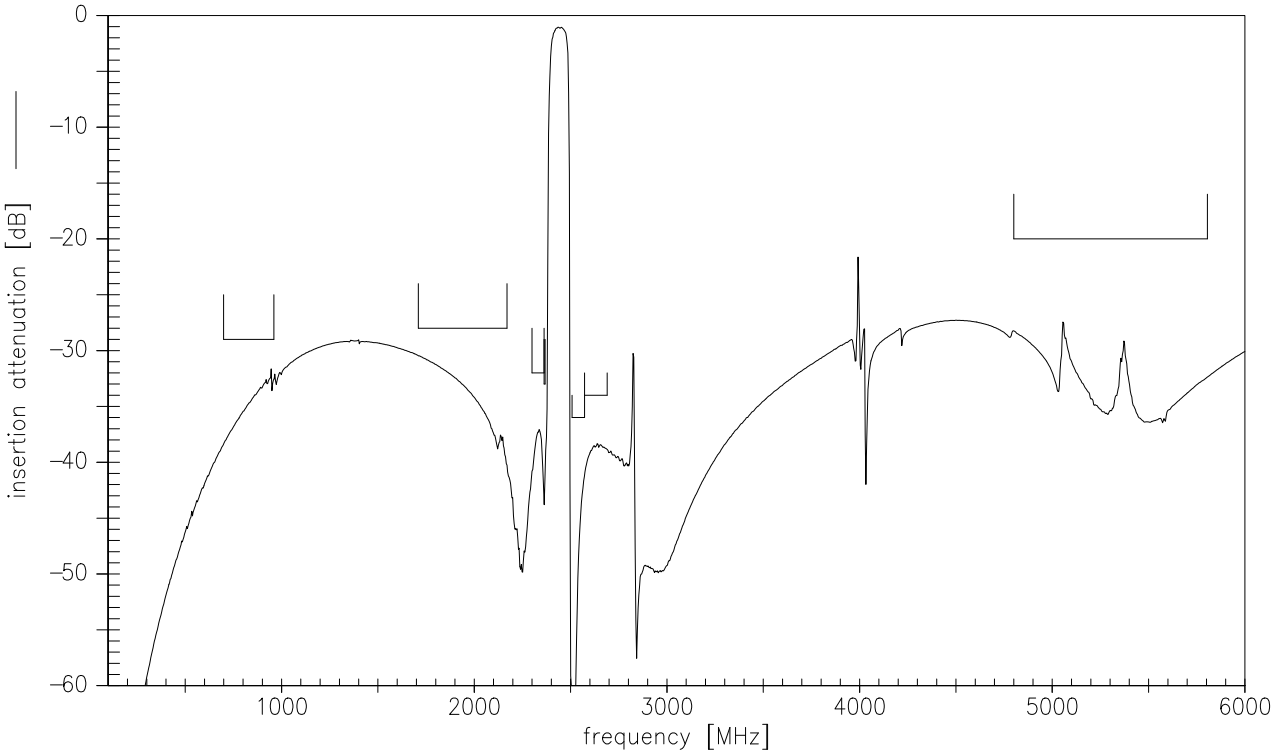
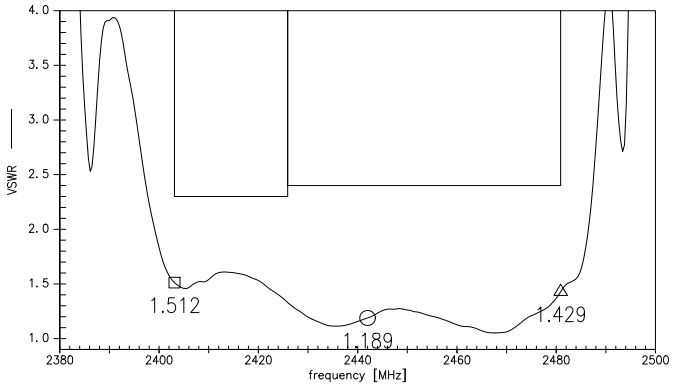
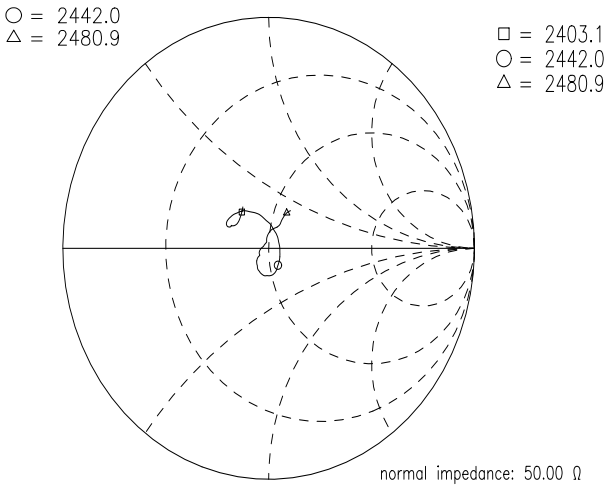
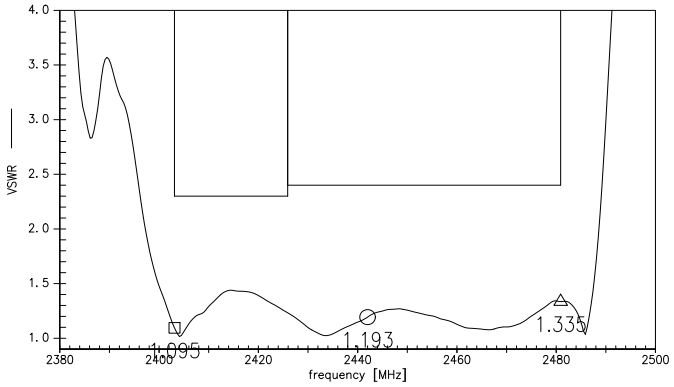


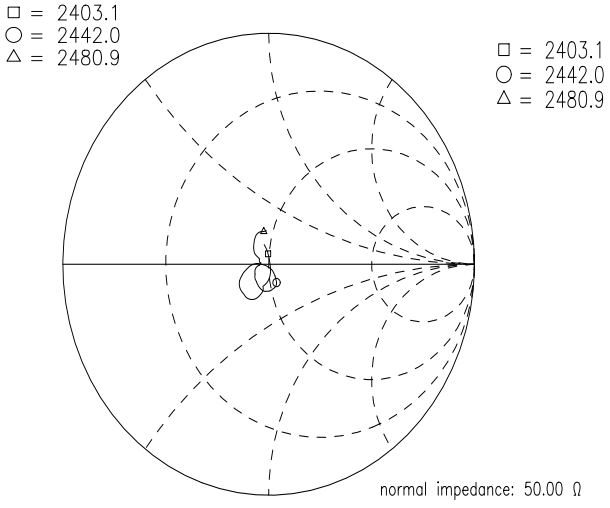
S11 VSWR Pin 1





S22 VSWR Pin 4





References

Type	B8850
Ordering code	B39242B8850P810
Marking and package	C61157-A8-A185
Packaging	F61074-V8255-Z000
Date codes	L_1126
S-parameters	B8850_HDWB.s2p 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.
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

For further information please contact your local EPCOS sales office or visit our webpage at www.epcos.com .

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