



SAW Components

SAW filter for base station

TD-LTE Band F

Series/type:	B5305
Ordering code:	B39192B5305U410
Date:	October 16, 2013
Version:	1.0

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SAW Components**B5305****SAW filter for base station****1900.00 MHz**

Preliminary data

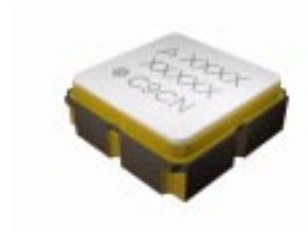
**Revision History: Changes compared to previous iteration issue**

ISSUE	ORIGINATOR	DETAILED SEPECIFICATION CHANGES	DATE
DGAG66S01	Ee Kok Meng	Initial release	April 16, 2013
AG66A_v1.0	Ee Kok Meng	First sample release. Relax attenuation@1830...1850MHz from 30dB to 27dB.	May 27, 2013
AG66B_v1.0	Ee Kok Meng	First sample release. Spec compliant with DGAG66S01.	July 26, 2013
B5305_v1.0	Ee Kok Meng	Pilot run	Oct 16, 2013

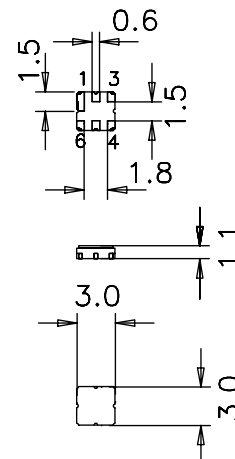
Preliminary data

Application

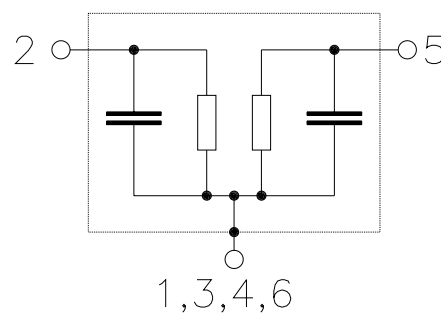
- Low-loss RF filter for TD-LTE Band F base station
- Usable passband 40 MHz
- Unbalanced to unbalanced operation


Features

- Package size 3.0 x3.0 x 1.1 mm³
- Package code DCC6C
- RoHS compatible
- Approximate weight 0.037 g
- Ceramic Package for **Surface Mount Technology (SMT)**
- Ni, gold-plated terminals
- **Electrostatic Sensitive Device (ESD)**
- **Moisture Sensitivity Level 1**
- Filter surface passivated


Pin configuration

- 2 Input
- 5 Output
- 1,3,4,6 Case grounded



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Characteristics

Temperature range for specification: $T = -40\text{ °C to }+95\text{ °C}$
 Terminating source impedance: $Z_S = 50\ \Omega$
 Terminating load impedance: $Z_L = 50\ \Omega$

				B5305			
				min.	typ. @ 25 °C	max.	
Center frequency	f_C			—	1900.00	—	MHz
1880.0 ... 1920.0	MHz						
Maximum insertion attenuation	α_{\max}			—	1.9	3.0	dB
1880.0 ... 1920.0	MHz						
Amplitude ripple (p-p)	$\Delta\alpha$			—	0.8	1.3	dB
1880.0 ... 1920.0	MHz						
Group delay ripple (p-p)				—	7	30	ns
1880.0 ... 1920.0	MHz						
VSWR				—	1.5	2.0	
1880.0 ... 1920.0	MHz						
Absolute Attenuation	α_{abs}						
50.0 ... 960.0	MHz			30	37	—	dB
960.0 ... 1805.0	MHz			30	37	—	dB
1805.0 ... 1830.0	MHz			30	51	—	dB
1830.0 ... 1850.0	MHz			30	42	—	dB
1950.0 ... 2010.0	MHz			15	27	—	dB
2010.0 ... 2025.0	MHz			48	55	—	dB
2110.0 ... 2170.0	MHz			35	48	—	dB
2300.0 ... 2400.0	MHz			35	51	—	dB
2400.0 ... 3000.0	MHz			28	43	—	dB

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Maximum ratings

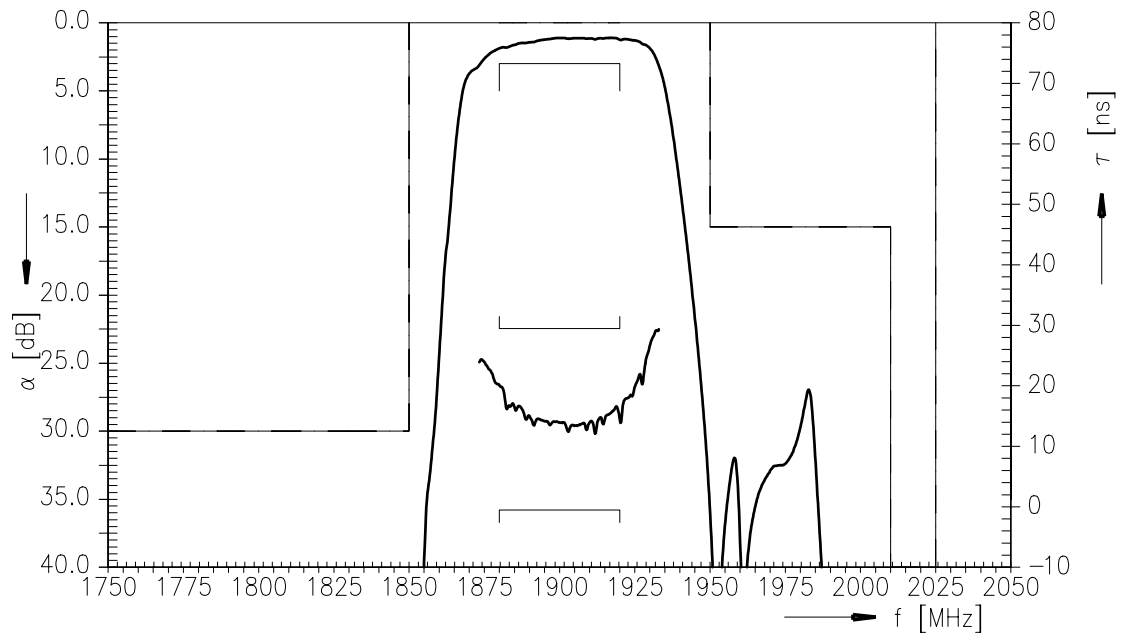
Operable temperature range	T	-45/+125	°C	
Storage temperature range	T _{stg}	-45/+125	°C	
DC voltage	V _{DC}	6	V	
ESD voltage	V _{ESD}	50 ¹⁾	V	machine model, 10 pulses
Input power at 1880.0...1920.0MHz	P _{IN}	15 23	dBm dBm	CW, 100000 hrs @95deg CW, 24hrs @95deg

¹⁾ acc. to JESD22-A115B (machine model), 10 negative & 10 positive pulses.

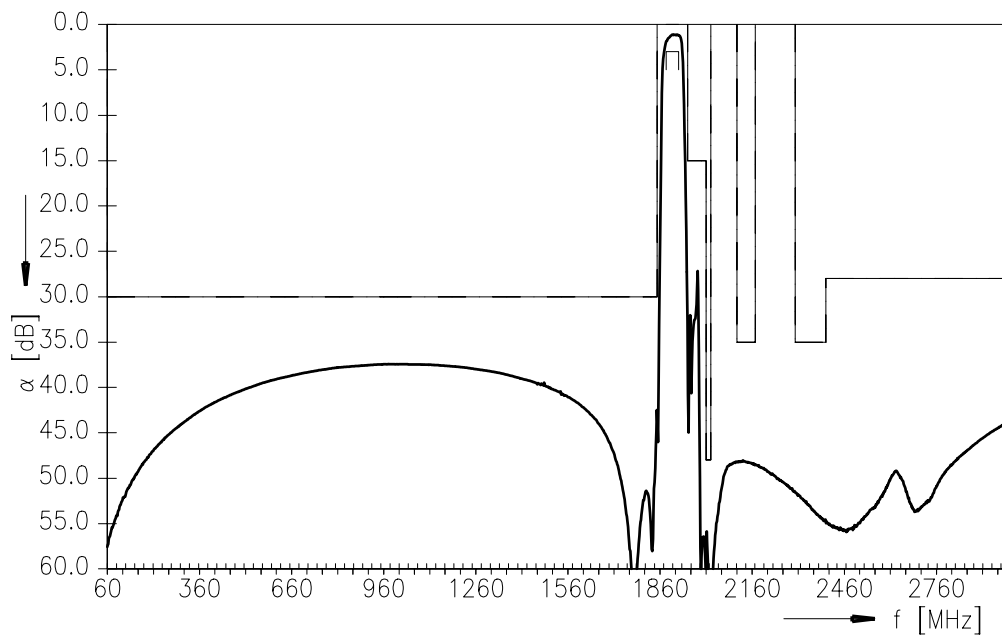
Preliminary data



Transfer function



Transfer function (wideband)

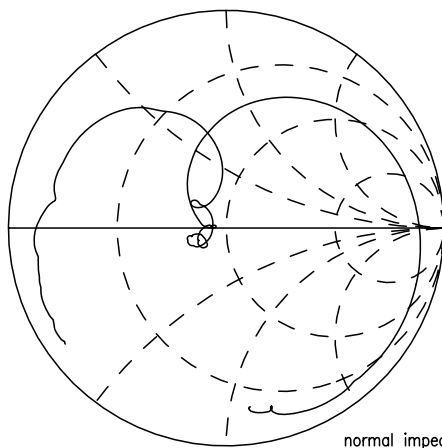


Preliminary data

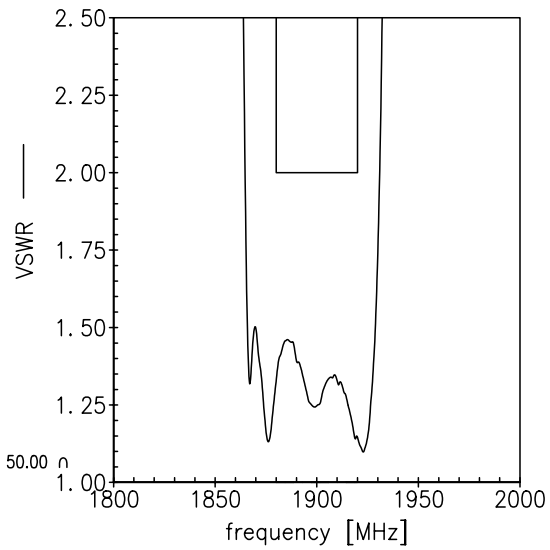


Smith charts

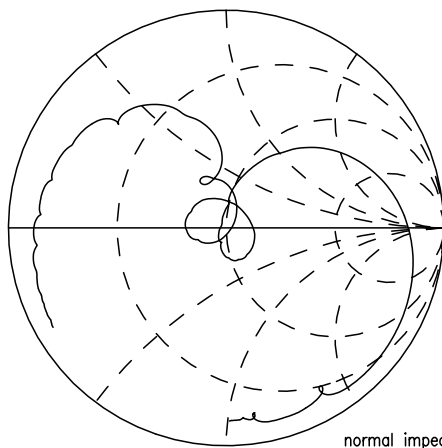
S_{11} function



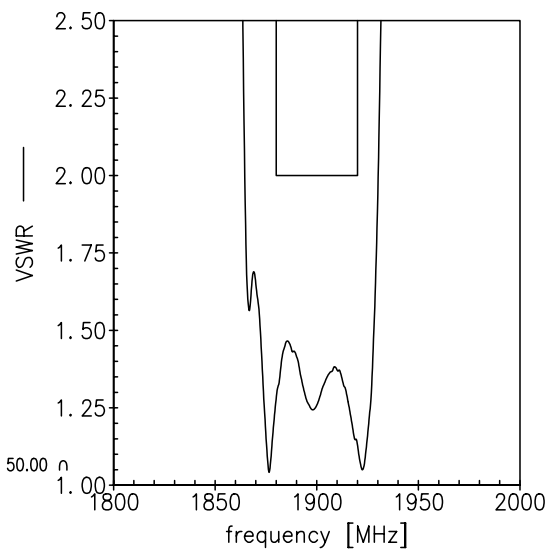
normal impedance: 50.00 Ω



S_{22} function



normal impedance: 50.00 Ω



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References

Type	B5305
Ordering code	B39192B5305U410
Marking and package	C61157-A7-A67
Packaging	F61074-V8228-Z000
Date codes	L_1126
S-parameters	B5305_NB.s2p , B5305_WB.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.
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 a large variety of matching coils.

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