Qualcom

RF360 Europe GmbH

SAW Components

BeiDou/GPS/Glonass Extractor Filter

BeiDou/GPS/Glonass Extractor

Series/type:B8636Ordering code:B39162B8636P810

Date:December 16, 2014Version:2.1

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Series/ty	pe:
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B8636 B39162B8636P810

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SAW Components

BeiDou/GPS/Glonass Extractor Filter

Data Sheet

Application

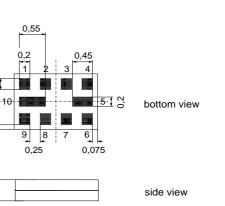
- Low-loss BeiDou/GPS/Glonass Extractor
- Using common antenna for BeiDou/GPS/Glonass and Cellular bands

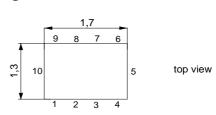
SMD

- Placed between antenna and cellular front-end switches and filters
- Usable passbands GNSS: 1559.05 -1563.144 MHz, 1574.42-1576.42 MHz, 1597.55-1605.89 MHz
- Usable passbands Cellular: 699 960 MHz, 1710 2690 MHz
- No switches and control lines required
- Integrated low loss BeiDou/GPS/Glonass filter with single ended output 50 Ω

Features

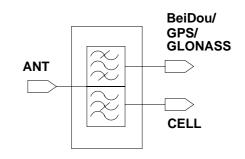
- Package size 1.7 x 1.3 x 0.4 mm³
- RoHS compliant
- Approx. weight 0.003 g
- Package for Surface Mount Technology (SMT)
- Ni, gold-plated terminals
- Electrostatic Sensitive Device (ESD)
- Moisture Sensitivity Level 3





Pin configuration

- 1 ANT input
- 4 BeiDou/GPS/Glonass output
- 9 CELL output
- 8 Shunt coil 9.1nH to ground
- 2,3,5,6,7,10 To be grounded







公TDK

699 - 2690 MHz

2

22

0,075

45 max

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Characteristics

Temperature range for specification:	T= −30 °C	to +85 °C
ANT terminating impedance:	Z _{ANT} =	50 Ω
BeiDou/GPS/Glonass terminating impedance:	Z _{BGG} =	50 Ω
CELL terminating impedance:	Z _{CEL} =	50 Ω

Maximum insertion attenuation α _{ma} ANT-BeiDou 1559.052 1563.144 MHz ANT-GPS 1574.42 1576.42 MHz ANT-Glonass 1597.55 1605.89 MHz	min.	typ. @ 25 °C	max.	N 41 1-
ANT-BeiDou 1559.0521563.144 MHz ANT-GPS 1574.421576.42 MHz	ax			N / I I
ANT-GPS 1574.42 1576.42 MHz		4.4		MHz
		1.1	2.6	dB
ANT-Glonass 1597 55 1605 89 MHz		0.8	1.5	dB
		1.45	3.5	dB
ANT-CELL 699.0 716.0 MHz		0.9	—	dB
ANT-CELL 704.0 824.0 MHz		0.9	1.8	dB
ANT-CELL 824.0 960.0 MHz		0.8	1.5	dB
ANT-CELL 1710.0 1990.0 MHz		1.5	2.5	dB
ANT-CELL 2110.0 2170.0 MHz		1.4	2.5	dB
ANT-CELL 2300.0 2400.0 MHz		1.3	2.5	dB
ANT-CELL 2500.0 2690.0 MHz		1.3	2.5	dB
Attenuation ANT-BeiDou/GPS/Glonass				
100.0 824.0 MHz		38	33	dB
824.0 960.0 MHz		48	33	dB
1710.0 1990.0 MHz		43	34	dB
2110.0 2170.0 MHz		40	30	dB
2400.0 2500.0 MHz		39	30	dB
2500.0 2690.0 MHz		36	29	dB
VSWR (Antenna port)				
BeiDou 1559.0521563.144 MHz		1.2	2.0	
GPS 1574.42 1576.42 MHz		1.3	2.0	
Glonass 1597.55 1605.89 MHz		1.5	2.0	
CELL 699.0 716.0 MHz		1.4	_	
CELL 704.0 824.0 MHz		1.4	2.0	
CELL 824.0 960.0 MHz		1.5	2.0	
CELL 1710.0 1990.0 MHz		1.5	2.5	
CELL 2110.0 2170.0 MHz		1.3	2.0	
CELL 2300.0 2400.0 MHz		1.2	2.0	
CELL 2500.0 2690.0 MHz		1.5	2.5	
VSWR (BeiDou/GPS/Glonass port)				
BeiDou 1559.0521563.144 MHz		1.2	2.0	
GPS 1574.42 1576.42 MHz		1.2	2.0	
Glonass 1597.55 1605.89 MHz		1.4	2.0	
			2.0	

SMD

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699 - 2690 MHz

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				B8636			
				min.	typ. @ 25 °C	max.	
VSWR (CELL port)							
699.0	716.0	MHz			1.35	—	
704.0	824.0	MHz			1.35	2.0	
824.0	960.0	MHz			1.5	2.0	
1710.0	1990.0	MHz			1.5	2.5	
2110.0	2170.0	MHz			1.3	2.5	
2300.0	2400.0	MHz			1.2	2.0	
2500.0	2690.0	MHz			1.5	2.5	
Isolation between CELL and	BeiDou/GP	S/Glo-	α				
nass path 699.0	824.0	MHz			50		dB
824.0	960.0	MHz			52		dB
1710.0	1990.0	MHz			46		dB
2110.0	2170.0	MHz			45		dB
2500.0					39		dB



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Maximum ratings

Storage temperature range DC voltage	T _{stg} V _{DC}	-40/+85 5 ¹⁾	°C V	
ESD voltage	V _{ESD}	50 ²⁾	v	Machine Model
	- E2D	300 ³⁾	V	Human Body Model
		600 ⁴⁾	V	Charge Device Model
Input power at CELL port				55° C, 5000 hours:
704 915 MHz	P _{IN}	27	dBm	CW signal
1710 2690 MHz	P _{IN}	27	dBm	CW signal
824 849 MHz	P _{IN}	35	dBm	GSM, duty cycle 1:8 effective power in On-state
880 915 MHz	P _{IN}	35	dBm	GSM, duty cycle 1:8 effective power in On-state
1710 1785 MHz	P _{IN}	33	dBm	GSM, duty cycle 1:8 effective power in On-state
1850 1910 MHz	P _{IN}	33	dBm	GSM, duty cycle 1:8 effective power in On-state

1) 5V, 168h Damp Heat Steady State acc. to IEC60068-2-67 Cy

²⁾ acc. to JESD22-A115B (MM - machine model), 1 negative & 1 positive pulses

³⁾ acc. to JESD22-A115F (HBM - Human Body Modell), 1 negative & 1 positive pulses

⁴⁾ acc. to JESD22-C101C (CDM - Field Inducted Charge Device Model), 3 negative & 3 positive pulses

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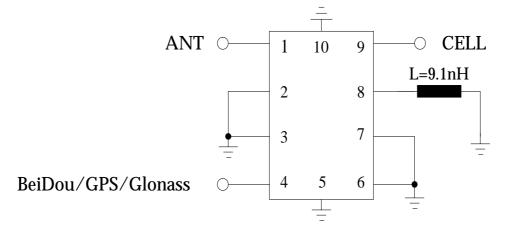
BeiDou/GPS/Glonass Extractor Filter

Data Sheet

Matching network

L = 9.1 nH

Recommended coil type: TDK MLG0603 P-series



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Please read cautions and warnings and

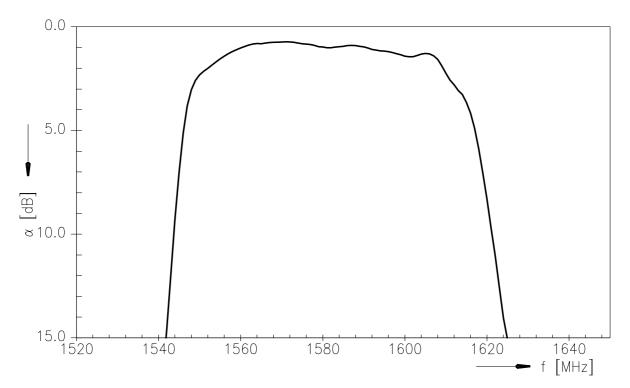
important notes at the end of this document.

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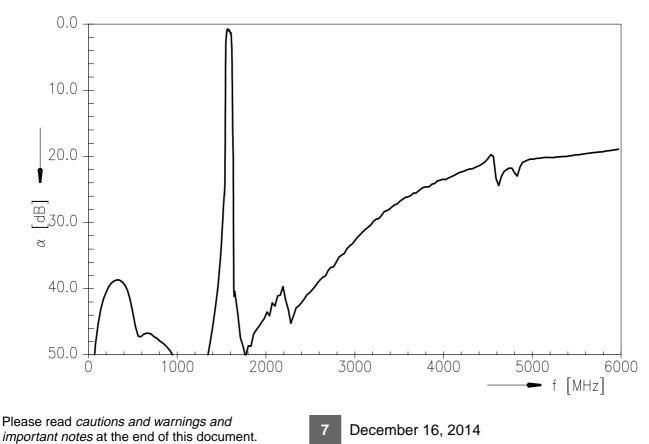


Data Sheet

ANT-BeiDou/GPS/Glonass (transfer function passband)



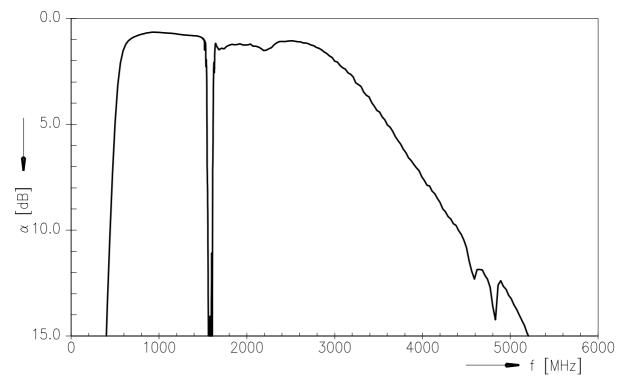
ANT-BeiDou/GPS/Glonass (transfer function wideband)



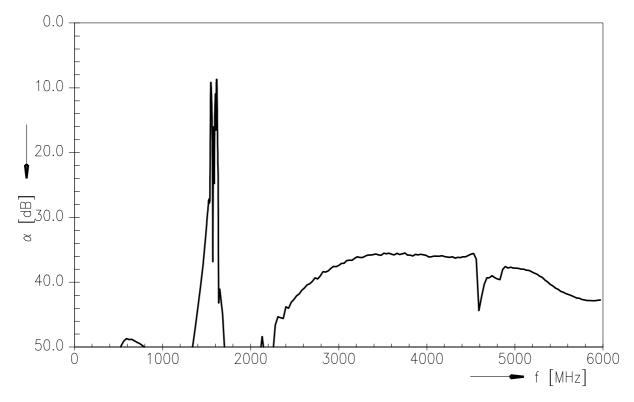


Data Sheet

ANT-CELL (transfer function)



GPS-CELL (isolation, transfer function)



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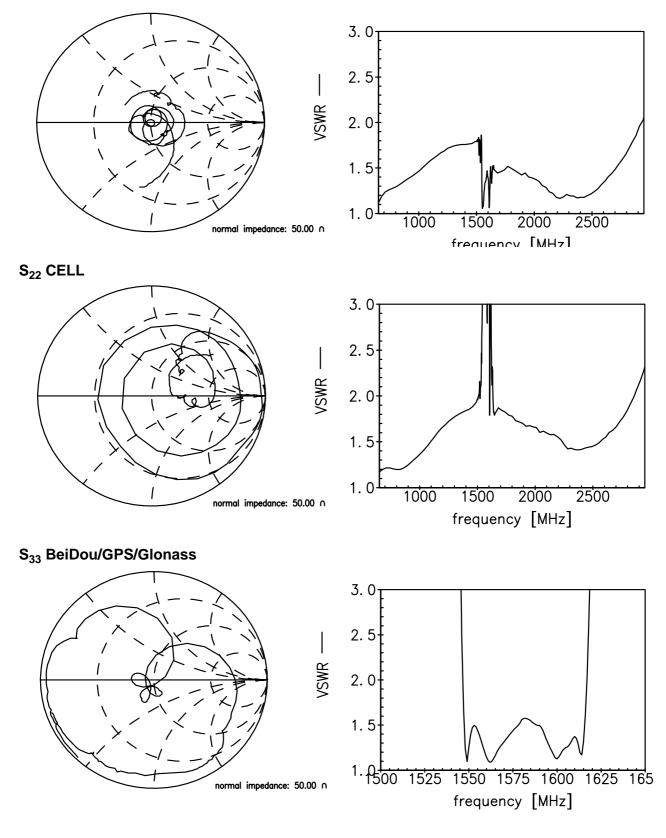
BeiDou/GPS/Glonass Extractor Filter

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<u>SMD</u>

Smith charts / VSWR

S₁₁ ANT



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Data Sheet

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References

Туре	B8636			
Ordering code	B39162B8636P810			
Marking and package	C61157-A8-A148			
Packaging	F61074-V8222-Z000			
Date codes	L_1126			
S-parameters	B8636_NB.s3p, B8636_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 maxi- mum concentration values for certain hazardous substances in electrical and electronic equipment."			
Moldability	Before using in overmolding environment, please contact your EPCOS sales office.			
Matching coils	See Inductor pdf-catalog <u>http://www.tdk.co.jp/tefe02/coil.htm#aname1</u> and Data Library for circuit simulation <u>http://www.tdk.co.jp/etvcl/index.htm</u>			

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