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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SAW Components

BeiDou/GPS/GIonass Extractor Filter

BeiDou/GPS/Glonass Extractor

| Series/ty | pe: |
|-----------|-------|
| Ordering | code: |

B8636 B39162B8636P810

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SAW Components

BeiDou/GPS/Glonass Extractor Filter

Data Sheet

Application

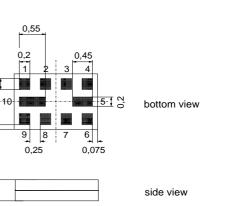
- Low-loss BeiDou/GPS/Glonass Extractor
- Using common antenna for BeiDou/GPS/Glonass and Cellular bands

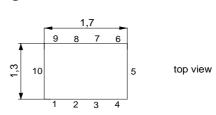
SMD

- 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

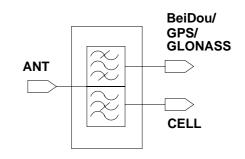
- Package size 1.7 x 1.3 x 0.4 mm³
- RoHS compliant
- Approx. weight 0.003 g
- Package for Surface Mount Technology (SMT)
- Ni, gold-plated terminals
- Electrostatic Sensitive Device (ESD)
- Moisture Sensitivity Level 3





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

| SAW Components |
|----------------|
| |

BeiDou/GPS/Glonass Extractor Filter

Data Sheet

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

3

B8636

699 - 2690 MHz

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BeiDou/GPS/Glonass Extractor Filter

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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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BeiDou/GPS/Glonass Extractor Filter

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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

5

699 - 2690 MHz



B8636

699 - 2690 MHz

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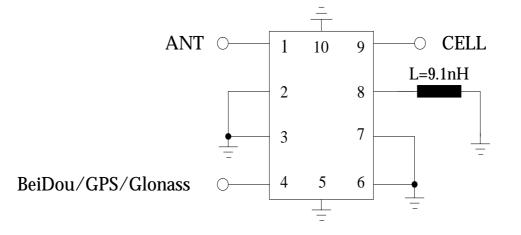
BeiDou/GPS/Glonass Extractor Filter

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

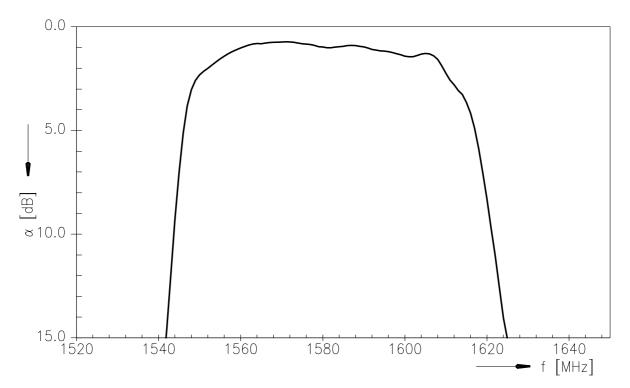
important notes at the end of this document.

6

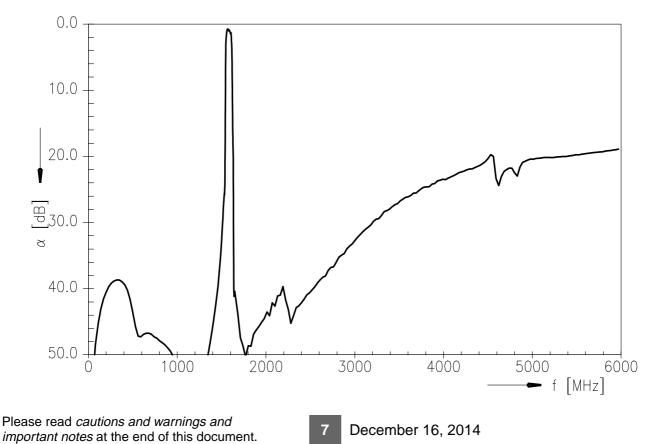


Data Sheet

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



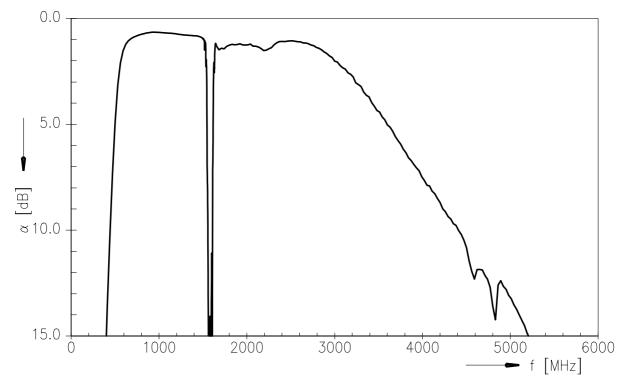
ANT-BeiDou/GPS/Glonass (transfer function wideband)



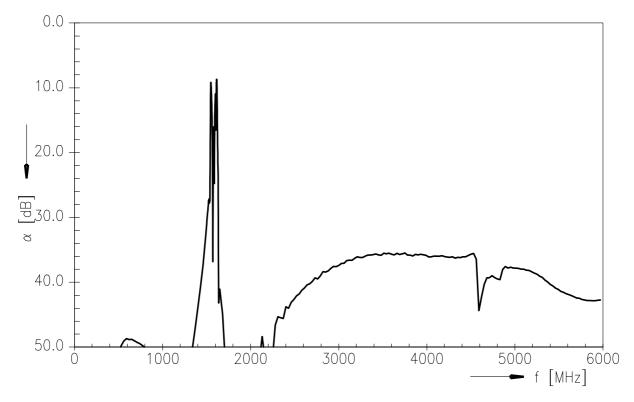


Data Sheet

ANT-CELL (transfer function)



GPS-CELL (isolation, transfer function)



8

B8636

699 - 2690 MHz

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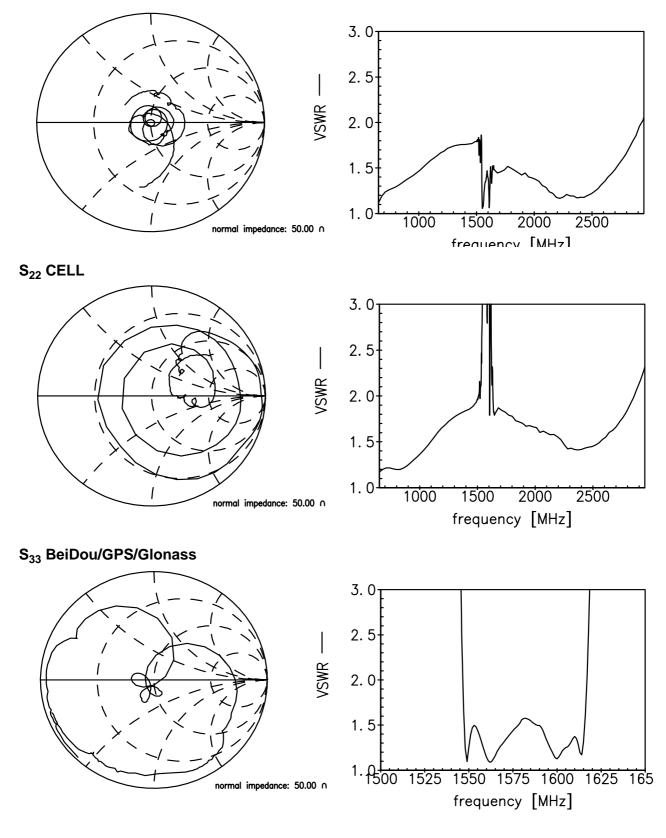
BeiDou/GPS/Glonass Extractor Filter

Data Sheet

<u>SMD</u>

Smith charts / VSWR

S₁₁ ANT



9



BeiDou/GPS/Glonass Extractor Filter

B8636

699 - 2690 MHz

Data Sheet

SMD

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> | | | |

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

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| Data Sheet | SMD | |

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