# 880543

## 428 MHz BAW Filter

## General Description

The 880543 is a 428 MHz wide-bandwidth Tuned Coupled Resonator BAW Filter (TCRF) module. It uses an internal BAW filter that is tuned internally to achieve a wide bandwidth and 50 Ohm impedance at the input and output. No external matching components are required, making the PCB design and implementation easy.

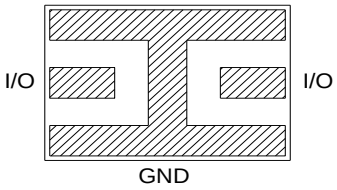
The filter is packaged in a small 7.62 x 5.08 x 1.873 mm surface mount package.


SMP package: 7.62 x 5.08 x 1.873 mm

## Product Features

- Single-ended operation
- Internally matched SMT
- Over Mold Laminate Surface Mount Package
- Small Size
- **RoHS** compliant**, Pb**-free
- Package Dimensions: 7.62 x 5.08 x 1.873 mm

## Functional Block Diagram




Bottom View

## Applications

- Telemetry Receivers
- Electronic Warfare (EW)

## Pin Configuration - Single Ended

| Pin No. | Label |
|---|---|
| I/O | Input/Output |
| GND | Ground |

## Ordering Information

| Part | ECCN | Description |
|---|---|---|
| 880543 | XI (C) | 428 MHz BAW Filter |

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## Absolute Maximum Ratings (1)

| Parameter | Rating |
|---|---|
| Storage Temperature | −55 to +100 °C |
| Operating Temperature | −40 to +85 °C |
| RF Input Power (1) | +17 dBm |

Notes:
1. Operation of this device outside the parameter ranges given may cause permanent damage.

## Electrical Specifications

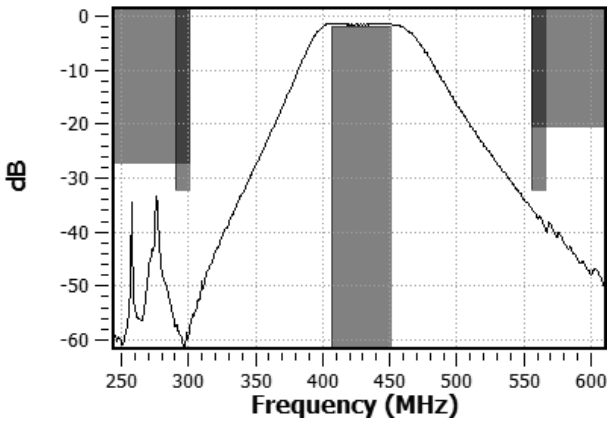
Specified Temperature Range: (1) -40 °C to +85 °C

| Parameter (2) | Conditions | Min | Typical (3) | Max | Units |
|---|---|---|---|---|---|
| Center Frequency (Fo) | | - | 428 | - | MHz |
| Passband | | 406 | | 450 | MHz |
| Passband Insertion Loss | | - | 1.6 | 1.9 | dB |
| Passband Ripple | | - | 0.5 | 0.8 | dB |
| Lower 30dB BW Corner | Reference loss at Fo | 300 | - | - | MHz |
| Upper 30dB BW Corner | Reference loss at Fo | - | - | 565 | MHz |
| Spurious Rejection 50MHz – 300MHz | Reference loss at Fo | 25 | - | - | dB |
| Spurious Rejection 555 – 1000MHz | Reference loss at Fo | 18.5 | - | - | dB |
| Passband Return Loss | | 11.25 | - | - | dB |
| Source Impedance (single-ended) (4) | | - | 50 | - | Ω |
| Load Impedance (single-ended) (4) | | - | 50 | - | Ω |

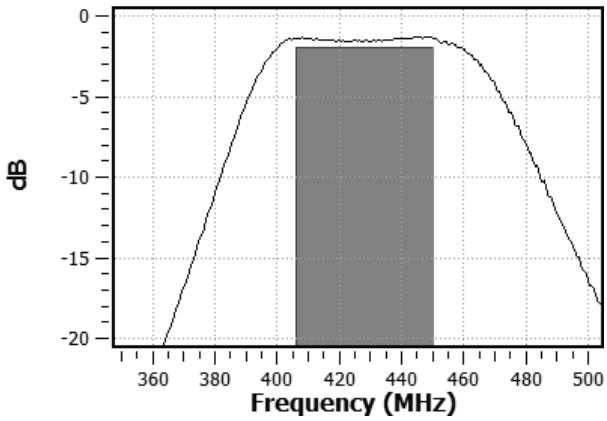
Notes:
1. In production, devices will be tested at room temperature to a guard-banded specification to ensure electrical compliance over temperature.
2. Electrical margin has been built into the design to account for the variations due to temperature drift and manufacturing tolerances
3. Typical values are based on average measurements at room temperature (25 °C ±5 °C)
4. This is the optimum impedance in order to achieve the performance shown.

## Performance Plots

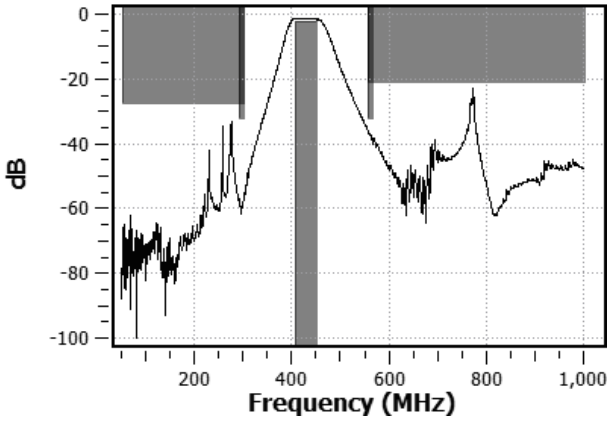
### Frequency Response



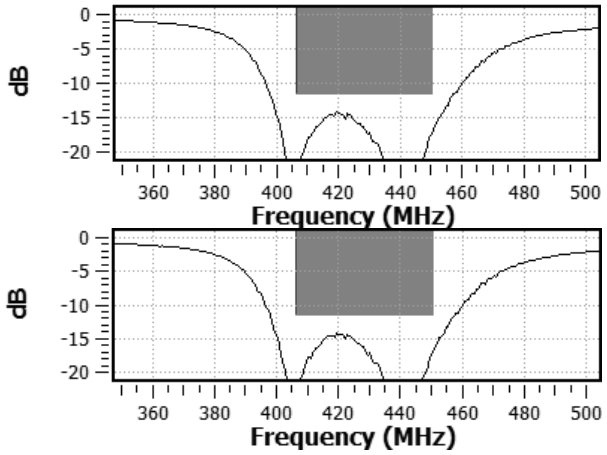

### Passband Response



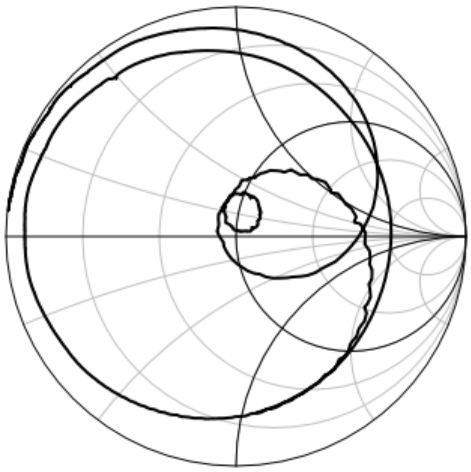

### Wideband Response



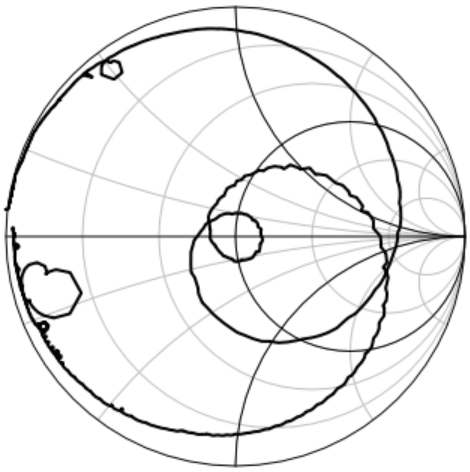

### Input / Output Return Loss




### Input Smith Chart



### Output Smith Chart



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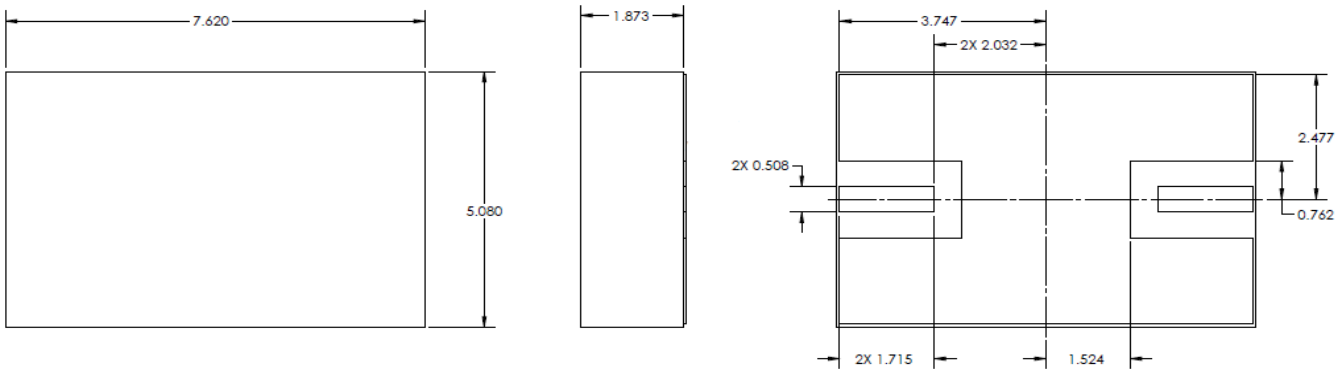
## Package Information, Marking and Dimensions





NOTES: UNLESS OTHERWISE SPECIFIED:

1. MATERIAL:
   PACKAGE BASE: LAMINATE
   PACKAGE LID: EPOXY (MOLD CAP)
2. PACKAGE EXPOSED METALLIZATION IS GOLD PLATED
3. PART IS EPOXY SEALED
4. BODY DIMENSIONS DO NOT INCLUDE LID SHIFT OR EPOXY RUN OUT WHICH CAN BE UP TO 20MILS PER SIDE
5. ALL DIMENSIONS ARE IN MILLIMETERS. ANGLES ARE IN DEGREES

   TOLERANCE: .XX = ± .25
   .XXX = ± .100
   .XXXX = ± .0254
   ANGLES = 0.5°

6. PARK MARKING:
   NO PIN 1 INDICATOR MARKING. MODULE IS ELECTRICALLY BI-DIRECTIONAL.
   880543: PART NUMBER
   YY: LAST TWO DIGITS OF THE CALENDER YEAR
   WW: SEQUENTIAL WEEK NUMBER
   Z: BIN LETTER
   MXXX: BATCH ID

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## Handling Precautions

| Parameter | Rating | Standard |
|---|---|---|
| ESD – Human Body Model (HBM) | Class 3B | ANSI / ESD / JEDEC JS-001 |
| ESD – Charge Device Model (CDM) | Class C3 | ANSI / ESD / JEDEC JS-002 |
| MSL – Moisture Sensitivity Level | Level 3 | IPC/JEDEC J-STD-020 |

Caution!
ESD-Sensitive Device

## Solderability

Compatible with both lead-free (260°C max. reflow temp.) and tin/lead (245°C max. reflow temp.) soldering processes.
Solder profiles available upon request.

Refer to **Soldering Profile** for recommended guidelines

## RoHS Compliance

This part is compliant with EU 2002/95/EC RoHS directive (Restrictions on the Use of Certain Hazardous Substances in Electrical and Electronic Equipment). This product also has the following attributes:

- Lead Free
- Halogen Free (Chlorine, Bromine)
- Antimony Free
- TBBP-A ($C_{15}H_{12}Br_4O_2$) Free
- PFOS Free
- SVHC Free
- Qorvo Green

## Contact Information

For the latest specifications, additional product information, worldwide sales and distribution locations:

**Web:** www.qorvo.com
**Tel:** 1-844-890-8163
**Email:** customer.support@qorvo.com

For technical questions and application information: **Email:** appsupport@qorvo.com

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