

# High Frequency Ceramic Solutions

Ultra Miniature 2.45GHz Impedance Matched FCC / ETSI Compliant Low Pass

P/N 2450FM07A0035

Filter: Optimized for Nordic's Chipset nRF52832-CIAA

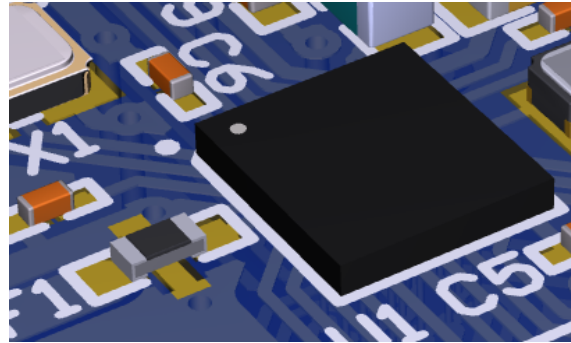
Detail Specification: 10/18/2017

Page 1 of 4

AEC-Q200 qualified component available, contact us at: [www.johansontechnology.com/ask-a-question](http://www.johansontechnology.com/ask-a-question)

## General Specifications

|                                               |                                                               |
|-----------------------------------------------|---------------------------------------------------------------|
| Part Number                                   | 2450FM07A0035                                                 |
| Frequency (MHz)                               | 2400 - 2500                                                   |
| Insertion loss (dB)                           | 0.35 Typ. (0.75 max.)                                         |
| Return Loss (dB)                              | 10 Typ. (10 min.)                                             |
| Input Impedance<br>(Terminal Towards Chipset) | Impedance matched to<br>Nordic Semiconductor<br>nRF52832-CIAA |
| Output Impedance                              | 50Ω                                                           |
| Power Capacity                                | 3W max. (CW)                                                  |
| Attenuation (dB)                              |                                                               |
| 4800~5000MHz                                  | 26 typ.@25°C 24 min.                                          |
| 7200~7500MHz                                  | 17 typ.@25°C 15 min.                                          |



|                                                             |                                                    |
|-------------------------------------------------------------|----------------------------------------------------|
| Reel Quantity                                               | 10,000 pcs                                         |
| Operating Temperature                                       | -40 to +85°C                                       |
| Recommended Storage<br>Conditions for unused<br>T&R product | +5 to +35°C, Humidity:<br>45-75%RH, 18 mo.<br>Max. |

You can download measured s-parameters of this component at: [www.johansontechnology.com/nordic](http://www.johansontechnology.com/nordic)

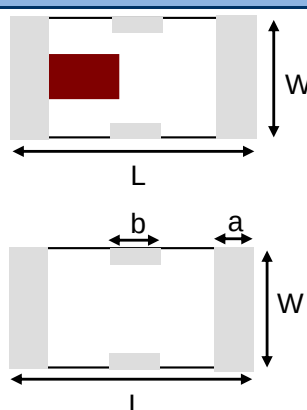
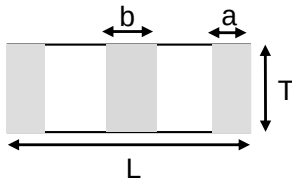
## Part Number Explanation

|            |                   |          |               |                            |
|------------|-------------------|----------|---------------|----------------------------|
| P/N Suffix | Packaging Style   | Bulk     | Suffix = S    | E.g. 2450FM07A0035S        |
|            |                   | T & R    | Suffix = T    | E.g. 2450FM07A0035T        |
|            | Termination Style | 100% Tin | Suffix = None | E.g. 2450FM07A0035(T or S) |

For the Full App Note and Layout Files, go to: [www.johansontechnology.com/nordic](http://www.johansontechnology.com/nordic)

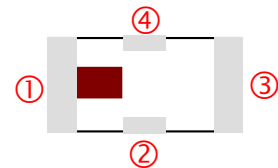
## Mechanical Dimensions

|   | In            | mm          |
|---|---------------|-------------|
| L | 0.039 ± 0.002 | 1.00 ± 0.05 |
| W | 0.020 ± 0.002 | 0.50 ± 0.05 |
| T | 0.016 max.    | 0.40 max.   |
| a | 0.007 ± 0.004 | 0.18 ± 0.10 |
| b | 0.010 ± 0.004 | 0.25 ± 0.10 |



## Terminal Configuration

| No. | Function          |
|-----|-------------------|
| 1   | IN (To the nRF52) |
| 2   | GND               |
| 3   | OUT (To Antenna)  |
| 4   | GND               |



Johanson Technology, Inc. reserves the right to make design changes without notice.

All sales are subject to Johanson Technology, Inc. terms and conditions.



Ver. 1.0

[www.johansontechnology.com](http://www.johansontechnology.com)

4001 Calle Tecate • Camarillo, CA 93012, USA • TEL +1.805.389.1166

2017 Johanson Technology, Inc. All Rights Reserved

# High Frequency Ceramic Solutions

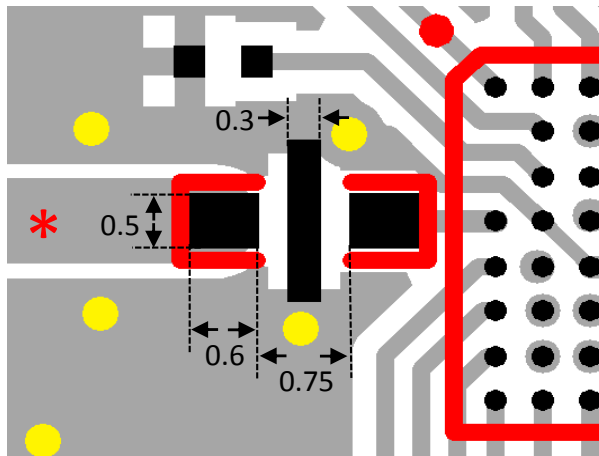
Ultra Miniature 2.45GHz Impedance Matched FCC / ETSI Compliant Low Pass Filter:  
Optimized for Nordic's Chipset nRF52832-CIAA

P/N 2450FM07A0035

Detail Specification: 10/18/2017

Page 2 of 4

## Mounting Pad Dimensions

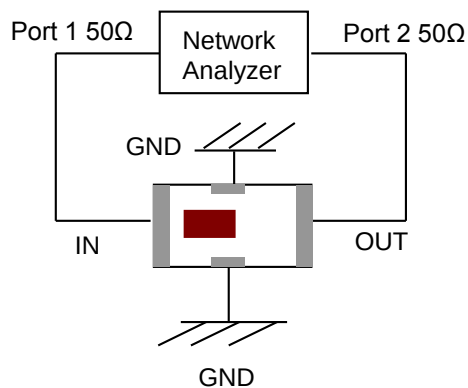


- Solder Resist
- Land
- Through-hole ( $\phi 0.20$ )

\*Line width should be designed to match 50 $\Omega$  characteristic impedance, depending on PCB material and thickness.

Do you need the layout files of the above? Go to: [www.johansontechnology.com/nordic](http://www.johansontechnology.com/nordic) or send us a message to review your layout at: [www.johansontechnology.com/ask-a-question](http://www.johansontechnology.com/ask-a-question)

## Measurement Schematic



Port 1: Filter IN (marking side)  
Port 2: Filter OUT

Johanson Technology, Inc. reserves the right to make design changes without notice.  
All sales are subject to Johanson Technology, Inc. terms and conditions.



Ver. 1.0

[www.johansontechnology.com](http://www.johansontechnology.com)

4001 Calle Tecate • Camarillo, CA 93012, USA • TEL +1.805.389.1166

2017 Johanson Technology, Inc. All Rights Reserved

# High Frequency Ceramic Solutions

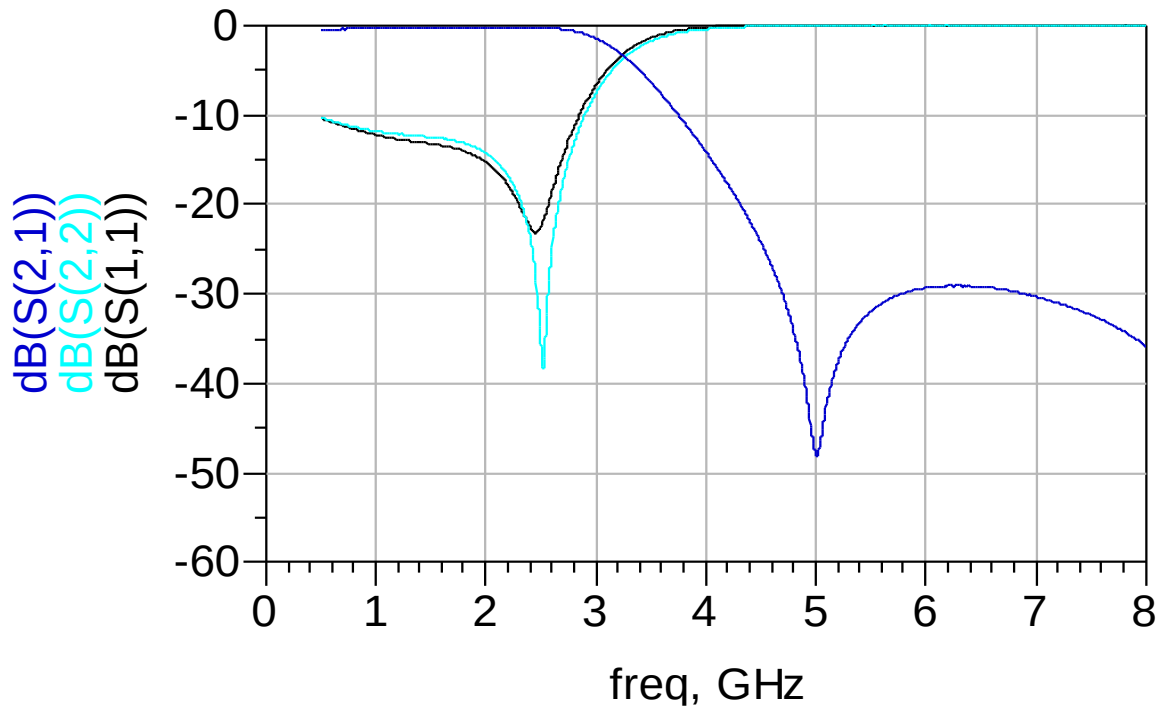
Ultra Miniature 2.45GHz Impedance Matched FCC / ETSI Compliant Low Pass Filter:  
Optimized for Nordic's Chipset nRF52832-CIAA

P/N 2450FM07A0035

Detail Specification: 10/18/2017

Page 3 of 4

## Typical Electrical Characteristics (T=25°C)



If you would like recommendation on a mini 2.4G embedded antenna, free layout verification, reference design files (gerbers, schematic, etc) or s-parameter files, please contact us at:

[www.johansontechnology.com/ask-a-question](http://www.johansontechnology.com/ask-a-question)

Johanson Technology, Inc. reserves the right to make design changes without notice.  
All sales are subject to Johanson Technology, Inc. terms and conditions.



[www.johansontechnology.com](http://www.johansontechnology.com)  
4001 Calle Tecate • Camarillo, CA 93012, USA • TEL +1.805.389.1166  
Ver. 1.0 2017 Johanson Technology, Inc. All Rights Reserved

# High Frequency Ceramic Solutions

Ultra Miniature 2.45GHz Impedance Matched FCC / ETSI Compliant Low Pass Filter:  
Optimized for Nordic's Chipset nRF52832-CIAA

P/N 2450FM07A0035

Detail Specification: 10/18/2017

Page 4 of 4

## Application Notes, Layout Files, and more

[www.johansontechnology.com/nordic](http://www.johansontechnology.com/nordic)

## Packaging information

[www.johansontechnology.com/tape-reel-packaging](http://www.johansontechnology.com/tape-reel-packaging)

## Soldering Information

[www.johansontechnology.com/ipcsoldering-profile](http://www.johansontechnology.com/ipcsoldering-profile)

## MSL Info

[www.johansontechnology.com/msl-rating](http://www.johansontechnology.com/msl-rating)

## Recommended Storage Condition and Max Shelf Life

[www.johansontechnology.com/recommended-storage-conditions](http://www.johansontechnology.com/recommended-storage-conditions)

## RoHS Compliance

[www.johansontechnology.com/technical-notes/rohs-compliance](http://www.johansontechnology.com/technical-notes/rohs-compliance)

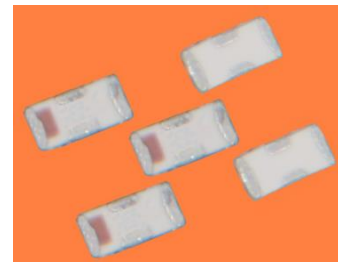
## Antenna layout and tuning techniques

[www.johansontechnology.com/tuning](http://www.johansontechnology.com/tuning)

## Antenna layout review, tuning, and characterization services

[www.johansontechnology.com/ipc-antenna-services](http://www.johansontechnology.com/ipc-antenna-services)

Johanson uses 6/6 RoHS Green Low-Temperature-Co-fired-Ceramic (LTCC) integrated passive technology in a 4-pin (Sn plated) monolithic structure. This component is 100% RF Tested, making it a more reliable system, impedance controlled environment, consistent-guaranteed RF performance in a very small RF front end-solution compared to the L/C discrete solution.



Johanson Technology, Inc. reserves the right to make design changes without notice.  
All sales are subject to Johanson Technology, Inc. terms and conditions.



Ver. 1.0

[www.johansontechnology.com](http://www.johansontechnology.com)

4001 Calle Tecate • Camarillo, CA 93012, USA • TEL +1.805.389.1166

2017 Johanson Technology, Inc. All Rights Reserved