

# High Frequency Ceramic Solutions

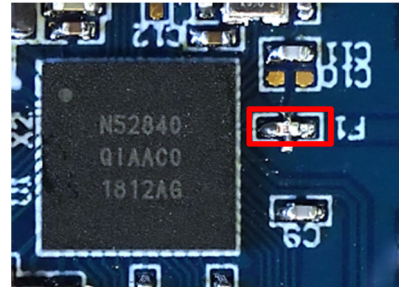
Miniature 2.4GHz Impedance Matched FCC / ETSI Compliant Low Pass Filter: Optimized for Nordic Semiconductor Chipset nRF52840-QIAA, nRF52833-QIAA, nRF52833-QDAA P/N 2450FM07B0037

Detail Specification: 7/13/2020

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AEC-Q200 qualified component available, contact us at: <https://www.johansontechnology.com/ask-a-question>

General Specifications	
Part Number	2450FM07B0037
Frequency (MHz)	2400 - 2500
Insertion loss (dB)	0.4 typ. (0.8 max.)
Return Loss (dB)	10 min.
Input Impedance (Terminal Towards Chipset)	Impedance matched to Nordic Semiconductor nRF52840-QIAA nRF52833-QIAA nRF52833-QDAA
Output Impedance	50Ω
Power Capacity	3W max. (CW)
Attenuation (dB)	
4800 - 5000MHz	23 min.
7200 - 7500MHz	31 min.
9600 - 10000MHz	30 min.
12000 - 12500MHz	25 min.



For the Full App Note and Layout Files, go to: <https://www.johansontechnology.com/nordic>

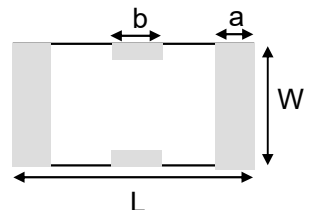
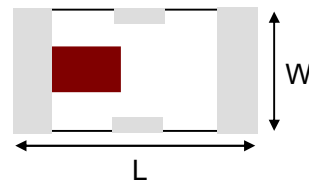
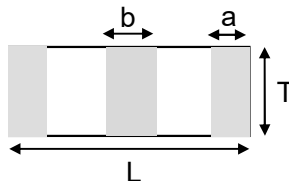
Reel Quantity	10,000 pcs/reel
Operating Temperature	-40 to +85°C
Recommended Storage Conditions for unused T&R product	+5 to +35°C Humidity: 45-75%RH 18 months max.

## Part Number Explanation

P/N Suffix	Packaging Style	Bulk	Suffix = S	E.g. 2450FM07B0037S
		T & R	Suffix = T	E.g. 2450FM07B0037T
	Termination Style	100% Tin	Suffix = None	E.g. 2450FM07B0037(T or S)

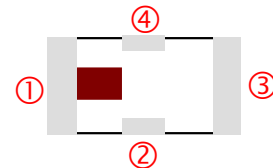
## Mechanical Dimensions

	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 or PA)
4	GND



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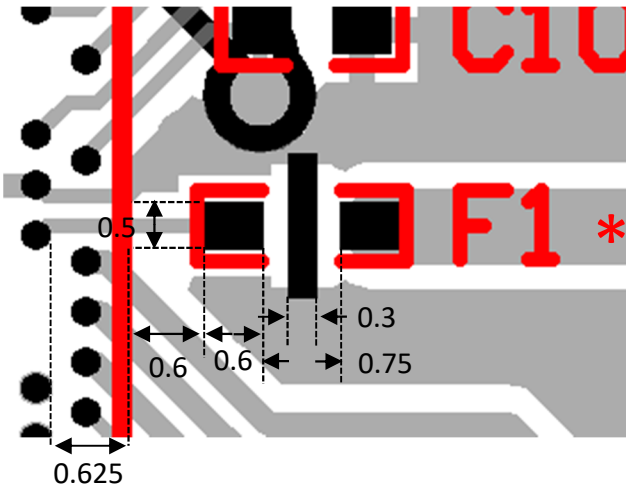
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## Mounting Pad Dimensions (nRF52840-QIAA)

Units in mm



■ Solder Resist

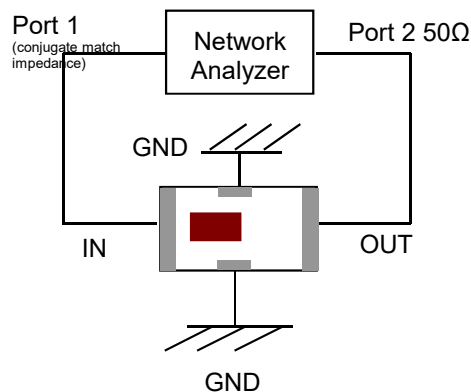
■ Land

● 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: <https://www.johansontechnology.com/nordic> or send us a message to review your layout at: <https://www.johansontechnology.com/ask-a-question>

## Measurement Schematic



Port 1: Filter IN (marking side)

Port 2: Filter OUT

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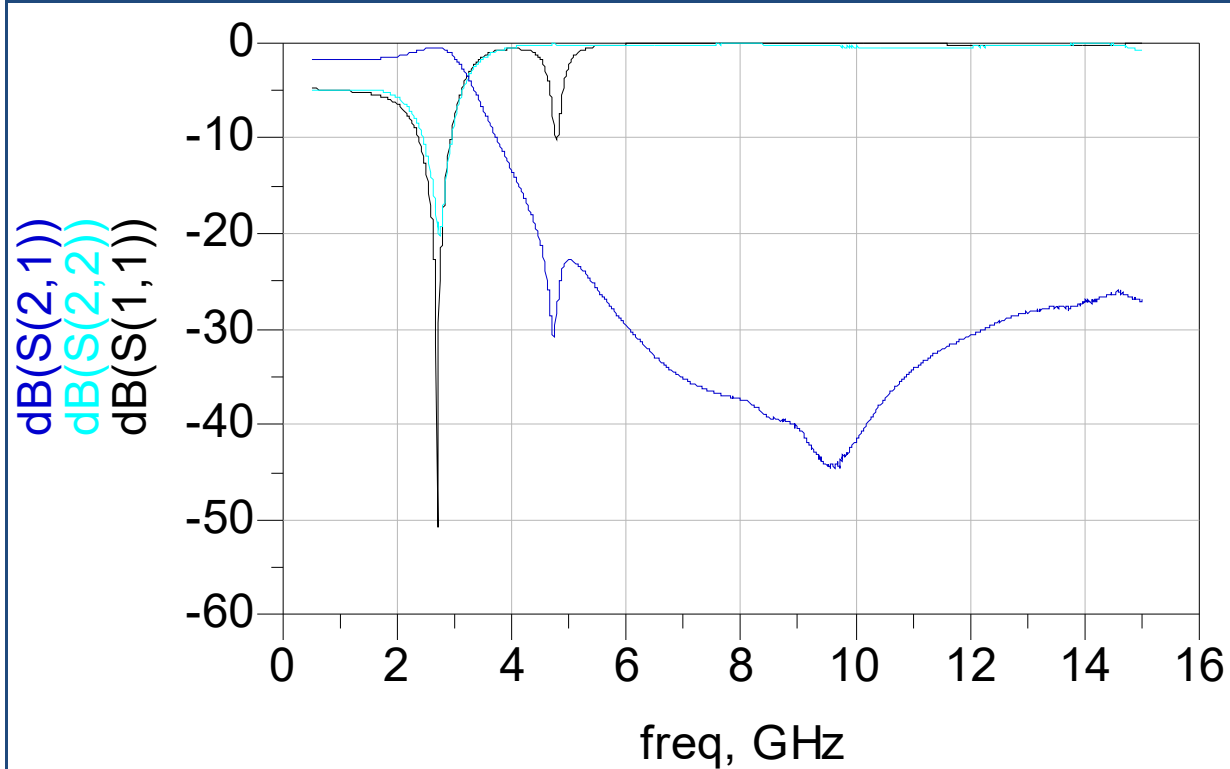
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## Typical Electrical Characteristics (T=25°C)



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:

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Nordic Semiconductor Chipset nRF52840-QIAA, nRF52833-QIAA, nRF52833-QDAA

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## Application Notes, Layout Files, and more

<https://www.johansontechnology.com/nordic>

## Packaging information

<https://www.johansontechnology.com/tape-reel-packaging>

## Soldering Information

<https://www.johansontechnology.com/ipcsoldering-profile>

## MSL Info

<https://www.johansontechnology.com/msl-rating>

## Recommended Storage Condition and Max Shelf Life

<https://www.johansontechnology.com/recommended-storage-conditions>

## RoHS Compliance

<https://www.johansontechnology.com/technical-notes/rohs-compliance>

## Antenna layout and tuning techniques

<https://www.johansontechnology.com/tuning>

## Antenna layout review, tuning, and characterization services

<https://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.



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