

SAW Filters

for smoke detectors

Qualcomm

More and more smoke detectors in private homes and public and industrial buildings are wirelessly connected to each other within various network constellations using standards like Wi-Fi, Bluetooth, Lora, Sigfox, or Z-Wave. In many cases smoke detectors are linked to a central control unit. Smoke detectors require a long battery life (if not connected to a power supply line) and the highest operational reliability despite an increasing number of noise sources like Wi-Fi and mobile phones.

Our SAW filters are designed for spectrum challenging applications. With their small packaging footprint as little as 0.9 mm x 0.7 mm they can easily be incorporated into the smallest smoke detector applications. These SAW filters provide an excellent out-of-band attenuation for best-in-class noise protection (e.g. from LTE and Wi-Fi signals) and very low insertion loss to save battery life.

Product Range

Sub-1 GHz

Device	Type	Package size [mm x mm]	Start Freq [MHz]	Center Freq [MHz]	Stop Freq [MHz]	IL, typ [dB]	IL, max [dB]	Highlight
Single	B3710	3.0 x 3.0	433.0	433.92	434.71	2.0	2.7	
Single	B4377	1.4 x 1.1	863.0	866.5	870.0	2.3	3.5	
Single	B2600	1.4 x 1.1	862.0	869.0	876.0	1.6	3.0	wide band filter
Single	B2636	1.4 x 1.1	868.0	869.0	870.0	2.7	3.1	optimized for best performance at 25 °C, high attenuation at 862 MHz
Single	B2674	1.4 x 1.1	868.0	869.0	870.0	1.8	2.8	optimized for low insertion loss
Single	B2672	1.4 x 1.1	902.0	915.0	928.0	1.1	1.5	optimized for low insertion loss
Single	B4301	1.4 x 1.1	902.0	915.0	928.0	1.5	2.5	optimized for high out-of-band attenuation
Single	B2615	1.4 x 1.1	915.0	921.5	928.0	1.4	2.0	
Single	B8331	1.4 x 1.1	922.2	925.15	928.1	1.8	2.7	
Diplexer	B9972	1.5 x 1.1	863.0	866.5	870.0	2.6	3.3	covers all typical sub-1 GHz frequencies, 2 output lines can be combined into 1 output line
			902.0	915.0	928.0	1.9	3.0	

All single filters require no matching circuit

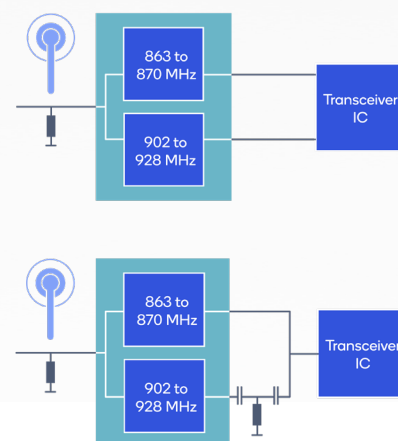
2.4 GHz

Device	Type	Package size [mm x mm]	Start Freq [MHz]	Center Freq [MHz]	Stop Freq [MHz]	IL, typ [dB]	IL, max [dB]	Highlight
Single	B7544*	0.9 x 0.7	2403.1	2442.0	2480.9	1.0–1.4	1.7–2.1	B7/B40/B41 coexistence, very low insertion loss
Single	B7530	0.9 x 0.7	2403.1	2442.0	2480.9	0.6–1.0	1.2–1.9	superior B7/B40/B41 coexistence
Single	B7520*	1.1 x 0.9	2403.1	2442.0	2480.9	0.9–1.4	1.5–2.0	B7/B40/B41 coexistence, very low insertion loss
Single	B7509	1.1 x 0.9	2403.1	2442.0	2480.9	1.1–1.7	1.7–2.5	superior B7/B40/B41 coexistence
Single	B7506*	1.1 x 0.9	2403.1	2442.0	2480.9	1.0–1.4	1.5–1.9	very low insertion loss
Single	B2653	1.1 x 0.9	2400.0	2450.0	2500.0	0.9	1.3	ultra low insertion loss

*Require no matching circuit

87-27154-1 Rev. C

Block diagram examples with diplexer B9972



Qualcomm products mentioned herein are products of Qualcomm Technologies, Inc. and/or its subsidiaries.

This material is subject to change without notice.

©2021 Qualcomm Technologies, Inc. and/or its affiliated companies. All Rights Reserved. Qualcomm is a trademark or registered trademark of Qualcomm Incorporated. Other products and brand names may be trademarks or registered trademarks of their respective owners. 0821A