

# SAW Filter Highlights

for Sub-1 GHz and 2.4 GHz  
wireless connections



More and more devices in homes and public and industrial areas are connected for seamless operation, typically wirelessly using ISM bands in the sub-1 GHz or 2.4 GHz area.

Qualcomm Technologies – a leader in SAW filters

Here we present SAW filter highlights for sub 1 GHz and 2.4 GHz based wireless connected smart devices operating with various standards and protocols. Our SAW filters support most existing wireless IoT short range and LP-WAN standards.

Independent from wireless standards

The usage of our filters is independent of the wireless standards, the frequency band is the only deciding criteria.

Reference designs

You will find our filters in many of our and other IC makers' transceiver/receiver reference designs.

## Wireless IoT standards

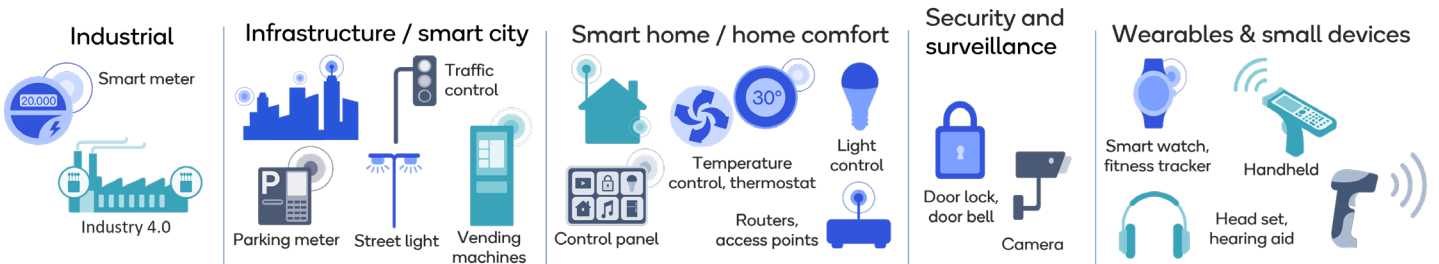
### Sub-1 GHz standards

Lora®, Sigfox, Z-Wave  
Zigbee, Halow, OMS®

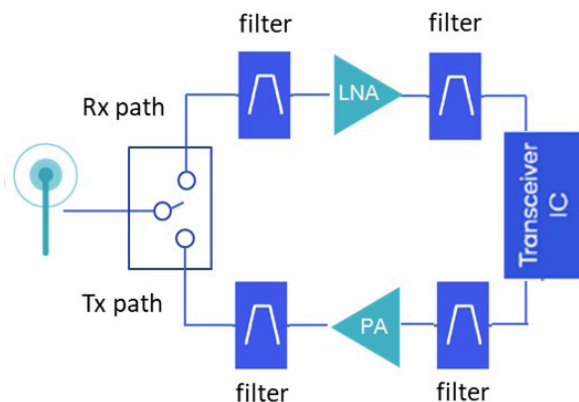
### 2.4 GHz standards

Wi-Fi, Bluetooth®,  
Zigbee

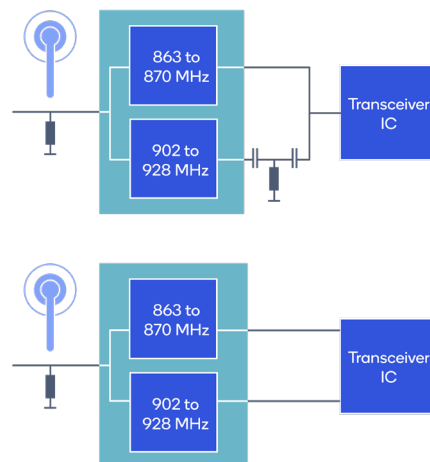
## Application Examples



## IoT front end example



## Block diagram example with diplexer B9972



For datasheets see [rffe.qualcomm.com](http://rffe.qualcomm.com)

# Product Range

## Sub-1 GHz

Part Number	Package size [mm x mm]	fc [MHz]	BW [MHz]	IL, typ [dB]	IL, max [dB]	Highlight
B39431B3710U410	3.0 x 3.0	433.92	1.7	2.0	2.7	Top, max=125 °C
B39871B4377P810	14 x 1.1	866.50	7.0	2.3	3.5	Top, max=125 °C
B39871B2600P810	14 x 1.1	869.00	14.0	1.6	3.0	wide band filter; Top, max=125 °C
B39871B4316P810	14 x 1.1	869.00	2.0	2.0	2.9	
B39871B2674P810	14 x 1.1	869.00	2.0	1.8	2.8	optimized for low insertion attenuation
B39871B2636P810	14 x 1.1	869.00	2.0	2.7	3.1	optimized for best performance at 25 °C, high attenuation at 862 MHz (LTE B20 Tx) and B8 Tx
B39871B4365P810	14 x 1.1	869.00	2.0	2.5	3.3	combines high attenuation at 862 MHz (LTE B20 Tx) and B8 Tx with low insertion loss @ -40 to +85 °C; Top, max=125 °C
B39921B2671P810	1.1 x 0.9	915.00	26.0	1.5	1.9	
B39921B4301F210	14 x 1.1	915.00	26.0	1.5	2.5	optimized for high out-of-band attenuation
B39921B2625P810	14 x 1.1	915.00	26.0	1.7	2.3	Top, max=125 °C
B39921B4344P810	14 x 1.1	915.00	26.0	2.8	4.0	optimized for high attenuation at 894 MHz (LTE B5/25 Rx)
B39921B2672P810	14 x 1.1	915.00	26.0	1.1	1.5	optimized for low insertion loss
B39921B9972P810	1.5 x 1.1	866.50 915.00	7.0 26	2.6 1.9	3.3 3.0	diplexer; covers all typical sub-1 GHz frequencies, 2 output lines can be combined into 1 output line
B39921B9660P810	14 x 1.1	916.00	3.5	24	3.0	
B39921B2615P810	14 x 1.1	921.50	13	14	2.0	Top, max=125 °C
B39921B2619P810	14 x 1.1	922.50	5	14	1.9	Top, max=125 °C
B39921B2616P810	14 x 1.1	924.50	5	2.1	3.4	Top, max=125 °C
B39931B4336P810	14 x 1.1	925.15	5.9	1.7	3.0	
B39931B8331P810	14 x 1.1	925.15	5.9	1.8	2.7	
B39931B2645P810	14 x 1.1	925.20	5.8	1.3	1.8	optimized for low insertion loss; Top, max=125 °C

## 2.4 GHz Wi-Fi and Bluetooth

Part Number	Package size [mm x mm]	fc [MHz]	BW [MHz]	IL, typ [dB]	IL, max [dB]	Highlight
B39242B7544L210*	0.9 x 0.7	2442	77.8	1,0-1,4	1,6-2,1	B7/B40/B41 coexistence, very low insertion loss
B39242B7530L210	0.9 x 0.7	2442	77.8	0,6-1,0	1,2-1,9	superior B7/B40/B41 coexistence
B39242B7520P810*	1.1 x 0.9	2442	77.8	0,9-1,4	1,5-2,0	B7/B40/B41 coexistence, very low insertion loss
B39242B7509L210	1.1 x 0.9	2442	77.8	1,1-1,7	1,7-2,5	superior B7/B40/B41 coexistence
B39242B7506P810*	1.1 x 0.9	2442	77.8	1,0-1,4	1,5-1,9	very low insertion loss

\* Require no matching circuit

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