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

Qualcomm Technologies – a leader in SAW filters
Here we present SAW filter highlights for sub 1 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.

We provide a wide product range of filters for all regional specific frequency bands:

- **EMEA**
  - 433.92 MHz
  - 862 - 876 MHz

- **Americas**
  - 915 MHz

- **Asia Pacific**
  - 920 MHz

- **Japan**
  - 925 MHz

Examples for wireless sub-1 GHz IoT Standards

- Lora®
- Sigfox
- Halow
- Z-Wave
- Elstra
- Wi-Sun
- OMS®
- proprietary protocols

Application Examples

- **INDUSTRIAL**
  - Smart meter
  - Industry 4.0

- **INFRASTRUCTURE / SMART CITY**
  - Traffic control
  - Street light
  - Vending machines

- **SECURITY & SURVEILLANCE**
  - Door lock, door bell
  - Camera

- **SMART HOME / HOME COMFORT**
  - Temperature control, thermostat
  - Light control
  - Routers, access points

- **WEARABLES & SMALL DEVICES**
  - Smart watch, fitness tracker
  - Headset, hearing aid

This material is subject to change without notice.
87-61724-1 Rev. A
### Sub-1 GHz

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Package size [mm x mm]</th>
<th>fc [MHz]</th>
<th>BW [MHz]</th>
<th>IL, typ [dB]</th>
<th>IL, max [dB]</th>
<th>Highlight</th>
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<tr>
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<td>3.0 x 3.0</td>
<td>433.92</td>
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<td>2.7</td>
<td>Top, max=125 °C</td>
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<td>14.0</td>
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<tr>
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<td>optimized for low insertion attenuation</td>
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<td>869.00</td>
<td>2.0</td>
<td>2.7</td>
<td>3.1</td>
<td>optimized for best performance at 25 °C, high attenuation at 862 MHz (LTE B20 Tx) and B8 Tx combines high attenuation at 862 MHz (LTE B20 Tx) and B8 Tx with low insertion loss @ -40 to +85 °C; Top, max=125 °C</td>
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<td>3.3</td>
<td>diplexer; covers all typical sub-1 GHz frequencies, 2 output lines can be combined into 1 output line</td>
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</tr>
</tbody>
</table>

**IoT front end example**

![IoT front end example diagram](image)

**Block diagram example with diplexer B9972**

![Block diagram example with diplexer B9972 diagram](image)

For datasheets see: rffe.qualcomm.com