

SAW and Qualcomm® ultraBAW™ Filters

Qualcomm

for Wi-Fi and Bluetooth 2.4 GHz and Wi-Fi 5 GHz to 7 GHz

More and more devices in homes and public and industrial areas are connected for seamless operation with many of them wirelessly using Wi-Fi and/or Bluetooth®. While 2.4 GHz is the typically used Wi-Fi and Bluetooth frequency band, the frequency area between 5 and 7 GHz becomes more and more important for more reliable and faster connection (e.g. Wi-Fi 6, Wi-Fi 6E and Wi-Fi 7). Qualcomm ultraBAW filters ensure simultaneous operation in the 5 and 6 GHz bands enabling the full potential of Wi-Fi 6/6E/7 to provide highest data rate and widest bandwidth.

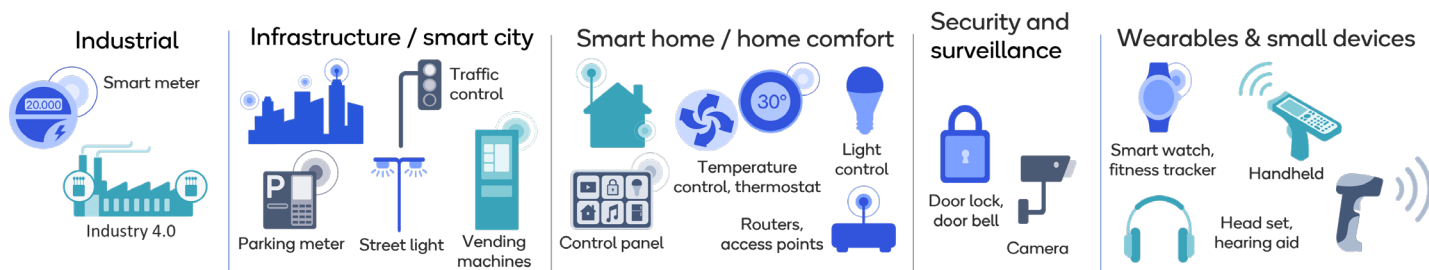
Qualcomm Technologies – a leader in SAW filters

Here we present SAW and Qualcomm ultraBAW filters for Wi-Fi systems operating in the 2.4 GHz and 5 to 7 GHz areas.

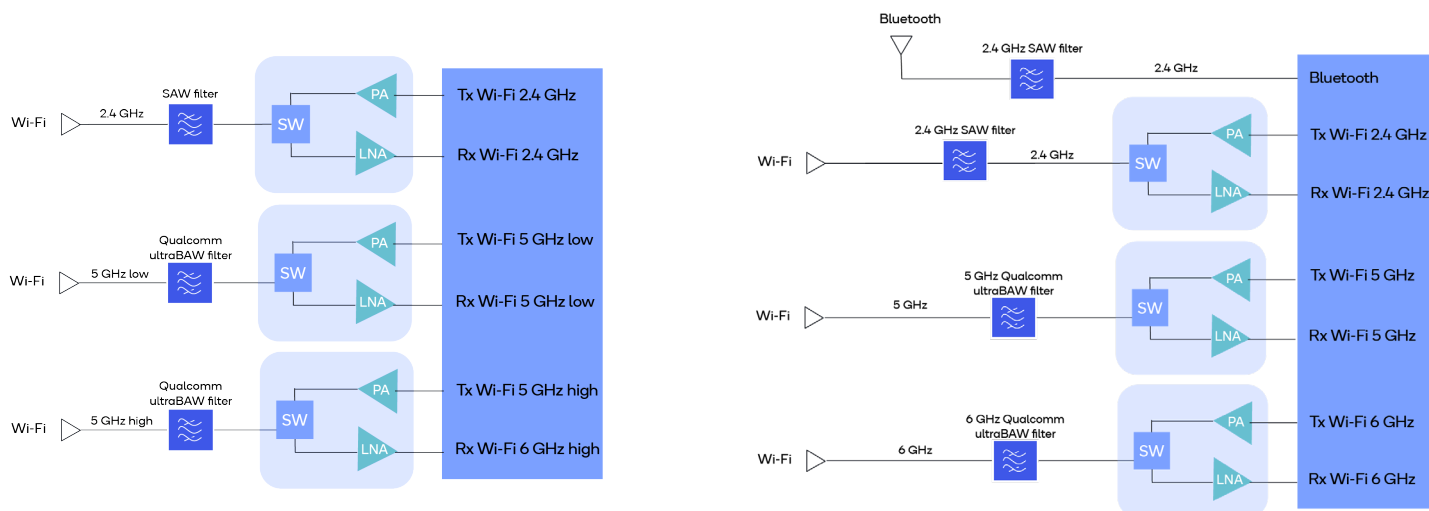
Reference designs

You will find our filters in many of our reference designs.

Application Examples

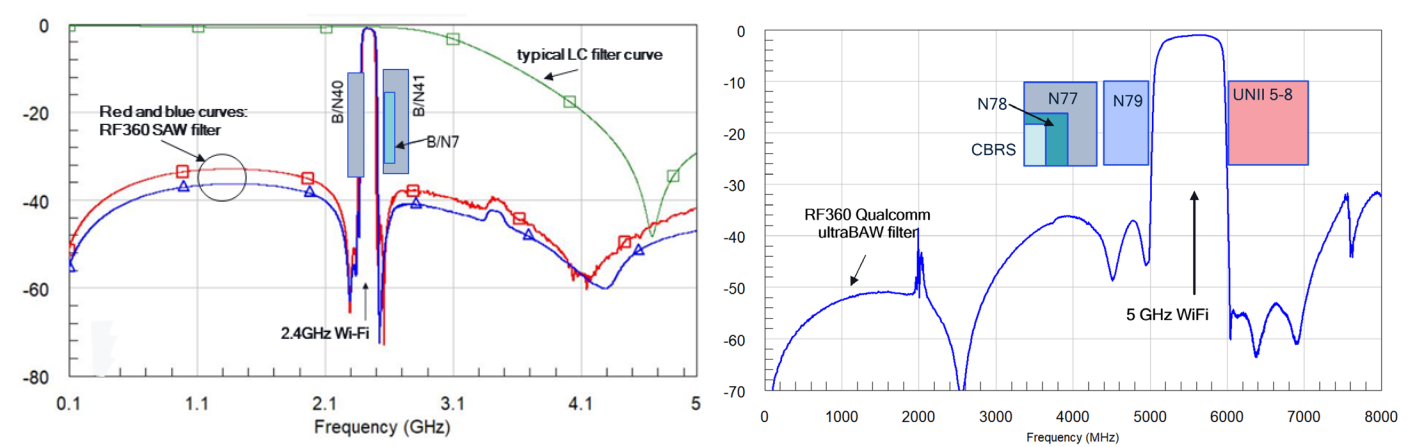


Example of Wi-Fi Front End Design



Qualcomm® ultraSAW™ and Qualcomm ultraBAW filters are designed for Wi-Fi spectrum coexistence challenging applications. Acoustic filters offer superior performance to other technologies.

Coexistence of LTE and/or 5G NR can interfere with Wi-Fi channels in 2.4 GHz and 5-7 GHz spectrums during operation. The 2.4 GHz Wi-Fi channel is adjacent to the LTE / 5G bands 41, 40, and 7, while 5-7 GHz Wi-Fi is adjacent to the n79. Also of concern is the relative nearness of n77/78 and even the CBRS spectrum at 3.5 GHz. Due to their excellent nearby attenuation, Qualcomm SAW and Qualcomm ultraBAW filters are able to suppress interferer from the mentioned sources and ensure seamless operation of the Wi-Fi device.



Frequency Bands	2.4 GHz Ch 1-11 Ch 12-13 Ch 14	...	UNII 1 5170 5250	UNII 2A 5350	UNII 2B 5470	UNII 2C 5725	UNII 3 5835 5850	UNII 4 5895 5925	UNII 5 5945 6105 6425	UNII 6 6525	UNII 7 6825	UNII 8 7125	Type code	Package size [mm x mm]
Standard coexistence performance	B7520 B7544 smaller B7506 Bluetooth		B8379 UNII-5 partial CoEx B8377			B8378 B8394 improved att / @UNII-5			B8385 UNII-4 CoEx				B7540 B8377 B8378 B8379 B8380 B8381 B8382 B8385 B8388 B8393 B8394 B8395	1.1 x 0.9 1.4 x 1.1 1.4 x 1.1 1.4 x 1.1 1.8 x 1.4 1.4 x 1.1 1.4 x 1.1 1.8 x 1.4 1.8 x 1.4 1.4 x 1.1 1.4 x 1.1 1.8 x 1.4 1.1 x 0.9 1.1 x 0.9 0.9 x 0.7 1.1 x 0.9 1.1 x 0.9 1.1 x 0.9 1.4 x 1.1
Superior coexistence performance	B7539 band edge B7509 B7530 smaller size B7511 band edge B9645 harsh environment B9634 harsh environment		B8381 UNII-5 CoEx			B8393			B8380 UNII-3 CoEx B8399 improved UNII-3 CoEx B8388 B8395				B7539 B7509 B7530 B7511 B7520 B7544 B7506 B9645 B9634	1.1 x 0.9 1.1 x 0.9 0.9 x 0.7 1.1 x 0.9 1.1 x 0.9 0.9 x 0.7 1.1 x 0.9 1.1 x 0.9 1.4 x 1.1

For datasheets see [rfe.qualcomm.com](https://www.qualcomm.com/rfe)