



# Coexistence & Bandedge Wi-Fi Filter Solutions

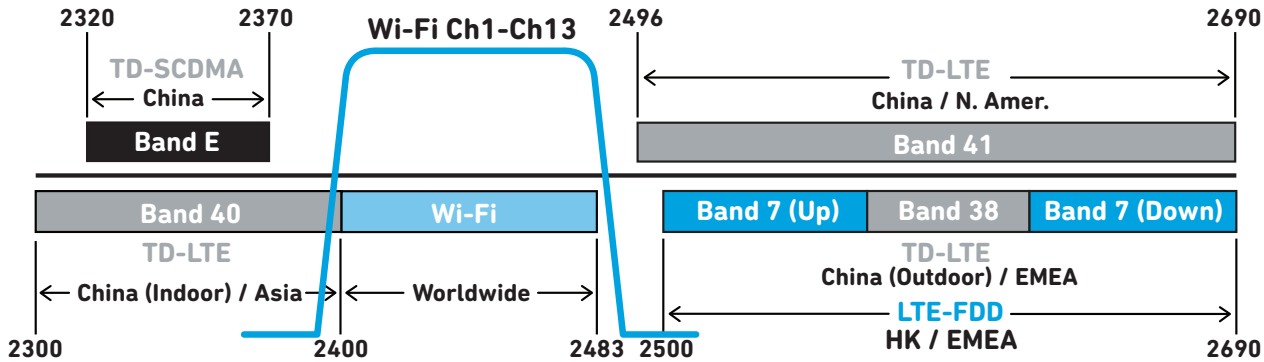


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# Leveraging Qorvo® Filter Technology for Coexistence

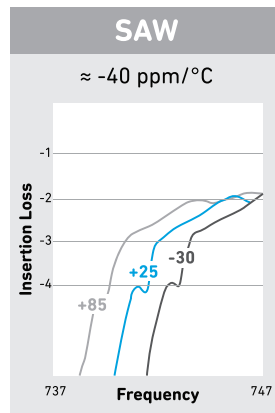
As LTE deployments accelerate worldwide, Qorvo's LowDrift™ filters are solving LTE coexistence issues. For example, the 2400-2482MHz spectrum used by Wi-Fi lies between bands 40 and 41, which are used to deliver TDD-LTE service in China. The upper edge of band 40 (2400MHz) directly abuts the Wi-Fi spectrum, with no transition band at all. Solving this Wi-Fi coexistence challenge requires RF filters that are capable of rejecting closely adjacent frequencies.

## Spectrum Example of Asia & EMEA

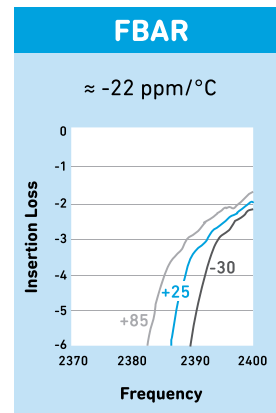


## Breakthrough Filter Performance

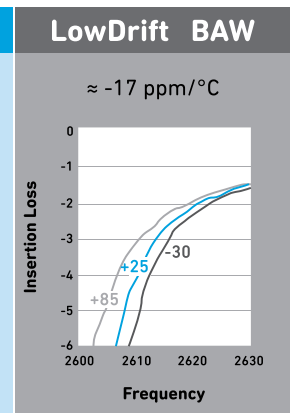
Qorvo's LowDrift BAW filter technologies enable system designers to solve band coexistence problems which are unaddressed by any other technology. As more LTE bands are squeezed into the crowded global RF spectrum, the space between bands is shrinking. In some cases, the transition between the passband and stopband is as small as 2MHz, which makes it almost impossible to meet requirements using traditional filter technologies. That's because the variation in filter response, which is dominated by temperature drift, can exceed the width of the transition band itself. The result is unacceptable interference, high insertion loss, or both.



Market Player



Competition



Market Leader

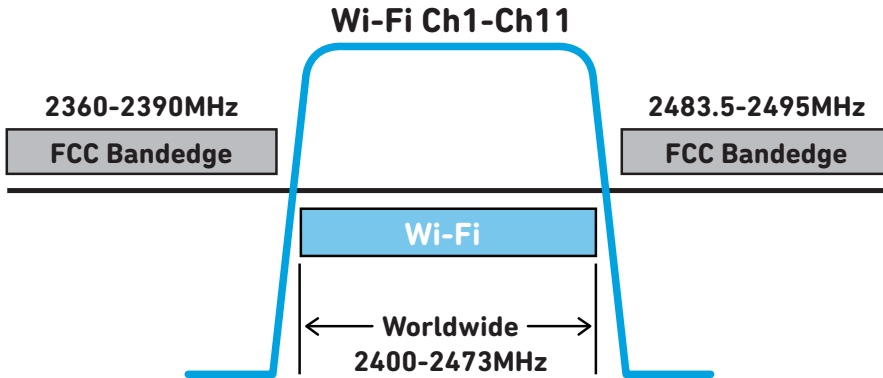
Qorvo's new advanced LowDrift BAW technology filters dramatically reduce temperature sensitivity for some of today's most challenging interference specifications. They combine low insertion loss with extremely precise selectivity. Using temperature-compensated filters, operators and manufacturers can deliver higher speeds and greater bandwidth by utilizing spectrum that might be lost with older filtering technologies.

Band	Description	Filter Technology	Size (mm)	Features	Part Number
Wi-Fi	2.4GHz Bandpass Filter, Wi-Fi/LTE Coexist	LowDrift BAW	1.4x1.2	Supports Wi-Fi Ch1-13, Temp -40 to 95°C	885017
Wi-Fi	2.4GHz Bandpass Filter, Wi-Fi/LTE Coexist	LowDrift BAW	1.4x1.2	Supports Wi-Fi Ch1-13, +28dBm Avg MCS7, High Rejection in B38/40, Hermetic MSL0, Temp -40 to 95°C	885062
Wi-Fi	2.4GHz Bandpass Filter, Wi-Fi/LTE Coexist	LowDrift BAW	1.4x1.2	Supports Wi-Fi Ch1-13, +29dBm Avg MCS7, High Rejection in B7/41, Hermetic MSL0, Temp -40 to 95°C	885071
Wi-Fi	2.4GHz Bandpass Filter, Wi-Fi/LTE Coexist	LowDrift BAW	1.1x0.9	Supports Wi-Fi Ch1-13, Industry's Smallest Package, +28dBm MCS7, Temp -40 to 95°C	885128
Wi-Fi	2.4GHz Notch/Bandstop Filter, Wi-Fi/LTE Coexist	LowDrift BAW	1.7x1.3	Rejects 2.4GHz Wi-Fi, +28dBm Avg MCS7	885008
Wi-Fi	2.4GHz Notch/Bandstop Filter, Wi-Fi/LTE Coexist	LowDrift BAW	1.7x1.3	Rejects 2.4GHz Wi-Fi/BT, +28dBm Avg MCS7	885010
Wi-Fi	2.4GHz Diplexer, Wi-Fi Extractor	LowDrift BAW	1.7x1.3	Single Antenna Port, Diplexing LTE/Wi-Fi, Antenna Wi-Fi Extraction Bandpass + Bandstop	885137

# Leveraging Qorvo Filter Technology for Bandedge

Wi-Fi operates between 2400MHz (Ch1) to 2473MHz (Ch11). Using Qorvo LowDrift BAW technology allows Wi-Fi transmitters to operate close to the upper and lower FCC bandedge frequencies of 2390MHz and 2483.5MHz. Qorvo advanced filter technology not only allows optimum system performance over temperature but also enables customers to meet the latest FCC requirements of Wi-Fi systems.

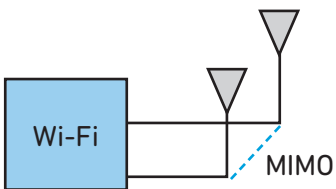
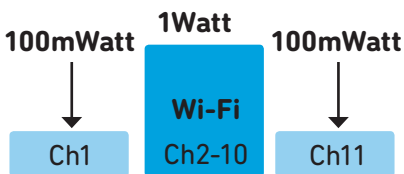
## Spectrum Example of Wi-Fi & Bandedge



## Expanding Wi-Fi Bandedge Performance

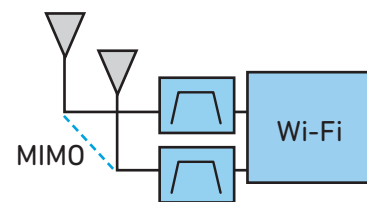
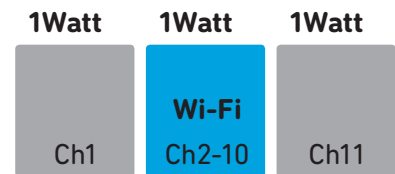
Qorvo’s high power Bulk Acoustic Wave (BAW) bandedge filters have extremely steep skirts, simultaneously exhibiting low insertion loss in the Wi-Fi band and high rejection in both the bandedge and adjacent LTE/TD-LTE bands. Adding Qorvo Wi-Fi bandedge filters increases full channel performance. Manufacturers can deliver higher power equally increasing customer speeds and bandwidth by utilizing spectrum that might be lost.

### Wi-Fi/LTE System Models (with/without bandedge filters)



- Extend range in Ch1 and Ch11 by 2-3 times
- FCC compliance up to +28dBm per chain
- Improve system throughput by >15%
- Enable Mu-MIMO with less co-channel interface

• 3 to 6dB Ch1 & Ch11 back-off to meet FCC



• Ch1 to Ch11/12 FCC compliant without backoff

Band	Description	Filter Technology	Size (mm)	Features	Part Number
Wi-Fi	2.4GHz Bandpass Filter Wi-Fi Bandedge	LowDrift BAW	1.7x1.3	Supports Wi-Fi Ch1-11, +28dBm MCS7, Bandedge Rejection 2390 & 2483.5MHz, Hermetic MSL0, Temp -40 to 95°C	885070
Wi-Fi	2.4GHz Bandpass Filter Wi-Fi Bandedge	LowDrift BAW	1.7x1.3	Supports Wi-Fi Ch1-12, +28dBm MCS7, Bandedge Rejection 2390 & 2483.5MHz, Temp -40 to 95°C	885135
Wi-Fi	2.4GHz Band Pass Filter Wi-Fi Bandedge	LowDrift BAW	1.1x0.9	Supports Wi-Fi Ch1-11, +28dBm MCS7, Bandedge Rejection 2390 & 2483.5MHz, Temp -40 to 95°C	885136

