

## HyperLink Wireless 2.4 GHz 802.11b and 802.11g Compatible 8-Pole Ultra High Q WiFi Bandpass Filters

### Features

- Ultra-High Quality Microwave Cavity Filter
- Ultra Low Insertion Loss (<2 dB)
- Reduce Interference and Improve Performance
- Rugged Aluminum Construction
- 22 MHz Bandwidth
- Provides Lightning Protection (DC Short)
- Ideal for high data rate 802.11b and 802.11g Wireless LAN applications
- Ideal for Minimizing Adjacent Channel Interference
- Compact Size
- N-Female Connectors

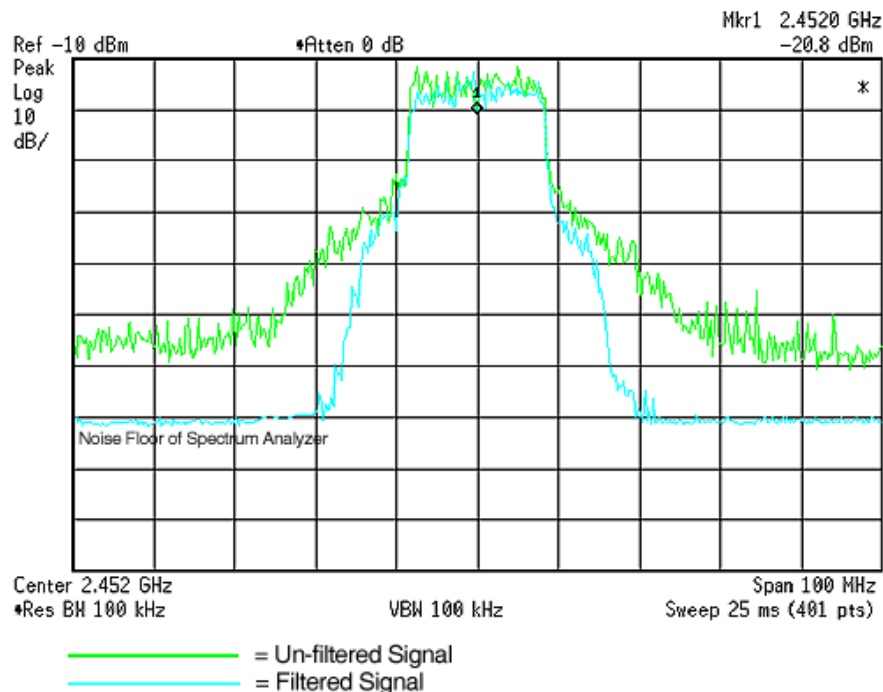


### Description

#### Superior Performance

The HyperLink 2.4 GHz 8-Pole Ultra-High Q Wi-Fi channel filters are ideal for co-located equipment installations. Available in five versions for Channel 1, 3, 6, 9, 11, 13 and 14, they provide excellent adjacent channel rejection. By reducing interference from both inside and outside the band, improved performance of co-located equipment can be achieved. These bandpass filters are bi-directional, so either end can be connected to the antenna.

The following plot demonstrates how the filter cleans up the adjacent channel spectrum.



(54 mBit 802.11g Radio on Channel 9)

## Specifications

Models	Center Frequencies	Out of Band Rejection
BPF24-801	2412 MHz - Channel 1	>60 dB @ 2387 MHz >60 dB @ 2437 MHz
BPF24-803	2422 MHz - Channel 3	>60 dB @ 2397 MHz >60 dB @ 2447 MHz
BPF24-806	2437 MHz - Channel 6	>60 dB @ 2412 MHz >60 dB @ 2462 MHz
BPF24-809	2452 MHz - Channel 9	>60 dB @ 2427 MHz >60 dB @ 2477 MHz
BPF24-811	2462 MHz - Channel 11	>60 dB @ 2437 MHz >60 dB @ 2487 MHz
BPF24-813	2472 MHz - Channel 13	>60 dB @ 2447 MHz >60 dB @ 2497 MHz
BPF24-814	2484 MHz - Channel 14	>60 dB @ 2459 MHz >60 dB @ 2509 MHz

General Specifications (All Models)	
Bandwidth (-3 dB)	22 MHz
Insertion Loss	3 dB nominal
Passband Ripple	< 0.25 dB
Return Loss	> 15 dB
Harmonic Rejection	> 90 dBc
Impedance	50 Ohm
Power Handling	50 Watts
Connectors	(2) N-Female
Number of Cavities	8
Operating Temperature	-40° F to 185° F (-40° C to +85° C)
Dimensions	4.3" x 2.2" x .8" (108 x 56 x 21 mm)
Weight	0.69 lbs. (0.31 Kg)

### Guaranteed Quality

This product is backed by L-Com's Limited Warranty.

### Bandpass Filter Q & A

#### Question: Why do I need a Hyperlink Ultra High Q band pass filter?

##### Answers:

- To reduce interference thus improving radio reception.
- To increase performance of co-located equipment.

#### Question: What is interference and why do I want to eliminate it?

##### Answers:

- Interference is caused by transmission sources near the channel you are transmitting on. It can be identified by signal strength and frequency.
- Unwanted transmissions, interference, may confuse your receiver or cover up the signal you are trying to receive.

**Question: How do the Hyperlink Ultra High Q band pass filters work?**

**Answers:**

- The filter will only pass the frequency, channel, you are transmitting or receiving and reduce the interference of signals outside your channel.
- The filter will NOT reduce interference on your channel caused by other signals or users on the same channel.

**Question: What is meant by channel filtering?**

**Answers:**

- The passing of one channel while rejecting all other non-overlapping channels.
- The isolation of between channels when installing co-located equipment.
- The protection against signals outside your band such as cellular.

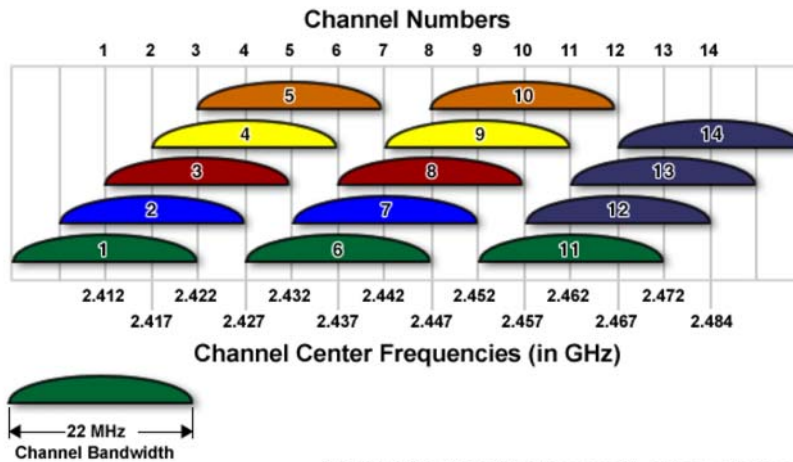
**Question: What is the difference between the number of poles?**

**Answers:**

- Each pole represents a filtering circuit. The more poles, the more filtering strength.
- The 4-pole band pass filters are recommended to filter out weaker interference signals.
- The 8-pole band pass filters are recommended in high wifi zones or zones with strong RF signals.

### 802.11 Channel-to-Frequency Mappings

There are 14 total frequency sub-channels available for the wireless radios in the 2.4 GHz band, as listed in the chart below. Although there are several different frequency channel settings, there is a slight overlap between the channels. For example, there are three non-overlapping channels available in the FCC regulatory domain. When choosing frequency channels for wireless stations in the vicinity of each other, you should choose frequency channels that are several channels apart from each other (e.g. Channels 1, 6, and 11). Channels 12-14 are for use outside the US.



**IEEE 802.11 RF Channelization Scheme**