

## HyperLink Wireless 2.4 GHz 802.11b and 802.11g Compatible Full Band 4-Pole Ultra High Q WiFi Bandpass Filters

### Features

- Ultra-High Quality Microwave Cavity Filter
- Ultra Low Insertion Loss (.25 dB nominal)
- For 2400 MHz Full Band Applications
- Reduce Interference Outside the ISM Band and Improve Performance
- Industrial Grade
- Rugged Aluminum Construction
- Indoor and Outdoor Models
- 100 MHz Bandwidth
- Provides Lightning Protection (DC Short)
- Ideal for high data rate 802.11b and 802.11g Wireless LAN applications
- Compact Size
- N-Female Connectors
- Optional mast mounting kit available



**Model: BPF2400A**




**Model: BPF2400**

### Description

#### Superior Performance

The HyperLink 2.4 GHz 4-Pole Ultra-High Q Wi-Fi full band channel filters are ideal for co-located equipment installations. These filters are designed for full band applications. By reducing interference outside the 2400 MHz ISM band, improved performance of co-located equipment can be achieved. These bandpass filters are wide enough to pass high data rate 802.11g signals without degradation. The BPF2400 features rugged aluminum construction and is for use indoors or in weather-resistant enclosures. For outdoor applications, the BPF2400A features weatherproof construction.

#### Optional Mast Mounting Kit

Model	Description
 <b>HGX-PMT14</b>	Mast Mounting Kit for HyperLink outdoor filters. For mounting to 1-1/4" (31.7mm) to 2" (51mm) dia. masts. This kit contains an aluminum mounting bracket, zinc plated steel 1/4-20 x 2" u-bolt with serrated flange nuts and filter mounting hardware.

## Specifications

Models	BPF2400	BPF2400A
Center Frequencies	2448 MHz	
Bandwidth (0.5 dB)	100 MHz	
Insertion Loss	.25 dB nominal	
Passband Ripple	< 0.25 dB	
Return Loss	> 15 dB	
Out of Band Rejection	> 80 dB @ < 2000 MHz > 60 dB @ > 2700 MHz	
Impedance	50 Ohm	
Power Handling	50 Watts	
Connectors	(2) N-Female	
Number of Cavities	4	
Operating Temperature	-40° F to 185° F (-40° C to +85° C)	
Dimensions	2.2" x 2.2" x .8" (56 x 56 x 21 mm)	3.0" x 3.0" x 1.2" (78 x 78 x 31 mm)
Weight	0.50 lbs. (0.23 Kg)	0.84 lbs. (0.38 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.

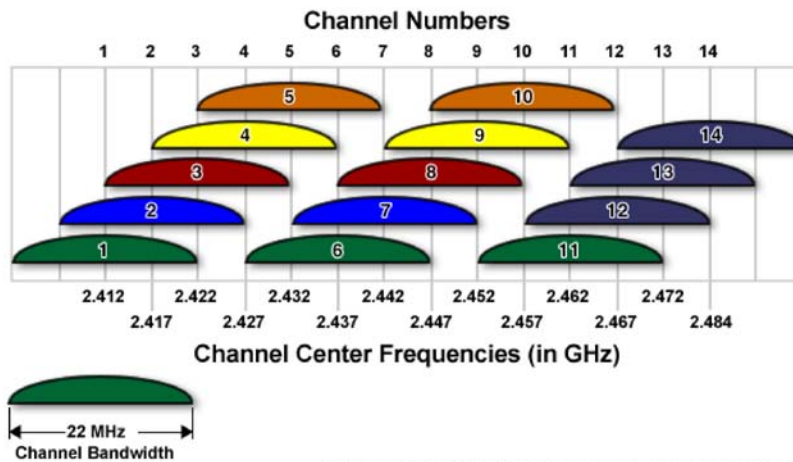
**Question: What is the difference between the number of poles?**

**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**