



US 20220407488A1

(19) **United States**(12) **Patent Application Publication****Alkan et al.**(10) **Pub. No.: US 2022/0407488 A1**(43) **Pub. Date: Dec. 22, 2022**(54) **FILTER CIRCUIT**(71) Applicant: **PPC Broadband, Inc.**, East Syracuse, NY (US)(72) Inventors: **Erdogan Alkan**, Manlius, NY (US);  
**Raymond W. Palinkas**, Canastota, NY (US)(73) Assignee: **PPC Broadband, Inc.**, East Syracuse, NY (US)(21) Appl. No.: **17/892,815**(22) Filed: **Aug. 22, 2022**

Feb. 22, 2016, now Pat. No. 9,979,373, which is a division of application No. 13/918,639, filed on Jun. 14, 2013, now Pat. No. 9,306,530, which is a continuation of application No. 12/697,589, filed on Feb. 1, 2010, now Pat. No. 8,487,717.

**Publication Classification**(51) **Int. Cl.****H03H 7/01** (2006.01)**H03H 7/06** (2006.01)(52) **U.S. Cl.**

CPC ..... **H03H 7/0161** (2013.01); **H03H 7/06** (2013.01); **H03H 7/01** (2013.01); **H03H 7/0138** (2013.01); **H03H 7/1741** (2013.01)

**Related U.S. Application Data**

(60) Continuation of application No. 16/938,218, filed on Jul. 24, 2020, now Pat. No. 11,444,592, which is a continuation of application No. 16/359,335, filed on Mar. 20, 2019, now Pat. No. 10,790,793, which is a continuation of application No. 15/937,239, filed on Mar. 27, 2018, now Pat. No. 10,284,162, which is a continuation of application No. 15/049,805, filed on

(57)

**ABSTRACT**

A filter circuit includes a pass band filter portion configured to pass signals in a first frequency spectrum and attenuate or block signals in a second frequency spectrum. The first frequency spectrum and the second frequency spectrum do not overlap. The pass band filter portion is configured to cause a return loss of more than 10 decibels (dB) in the first frequency spectrum.

