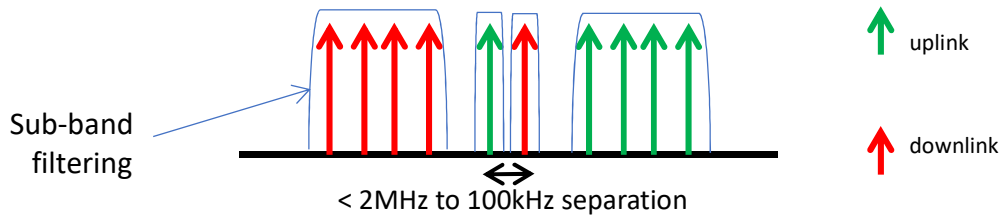


Application Note AN-VU1

VHF and UHF Interlaced and Close-in TXRX pairs

Tunable “sub-band” filtering RF front-end design avoids large and costly duplexers.

The SAFE-Com Wireless BDA and Fiber DAS Coverage Enhancement System is unique in that it can handle close-in TXRX frequency pairs as well as interlaced frequencies often found in the VHF and UHF bands. An example of the challenging frequency set is shown below:

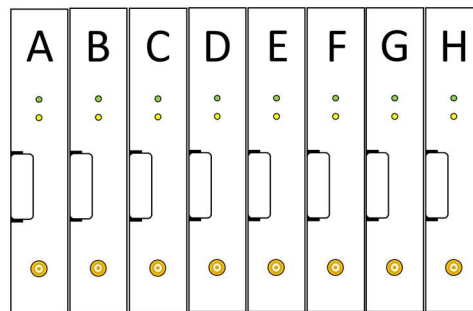


The SAFE-1000 series BDA and Fiber DAS is unique in that, for the first time, a modular card system with “sub-band filtering” has been introduced to deliver flexibility in sub-band configurations. In the example above, the SAFE-1000 uses multiple stage IF filters to reject the close-in transmit path from the receive path. The two key features that permit this solution are:

1. Sub-band filtering and
2. Robust front-end super-het receiver

The robust front-end receiver is critical to the solution as it absorbs high level of TX signal ingress while the sub-band filtering does its job in rejecting the unwanted signal with advance filtering.

- A: Sub-band filter 1
- B: Sub-band filter 2
- C-H : Channel cards, per frequency



Safe-Com 1000 Series Modular Card System

Sub-band filters first carve out the wide-band segments shown above, while the Channel cards deliver both additional narrow-band filtering plus power amplification on a per channel basis.

The result: highly filtered complex signals handled cleanly. Costly, long lead, large duplexers avoided.

Conclusion: SAFE-Com 100 Series has unique capability in handling close-in TXRX pairs as well as interlaced frequencies. Call us to solve your RF challenge.

For more information, please contact sales at 202-780-SAFE (7233) or info@safe-comwireless.com