

Filter-Antenna And Method for Making The Same



Communications & Information

Digital Broadcasting, Telecommunication and Optoelectronics

Sensors

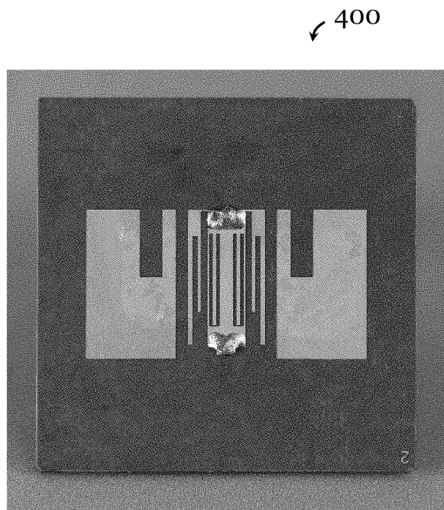


Figure 4A

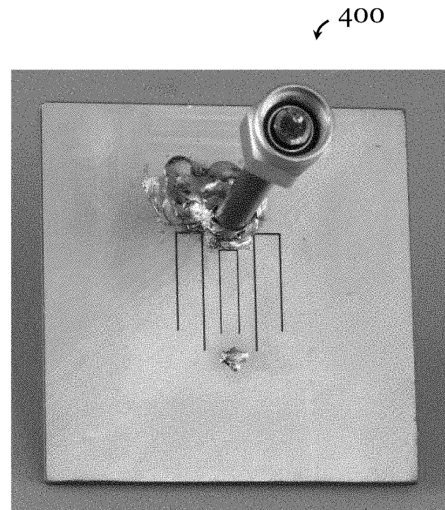
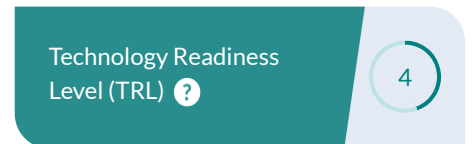
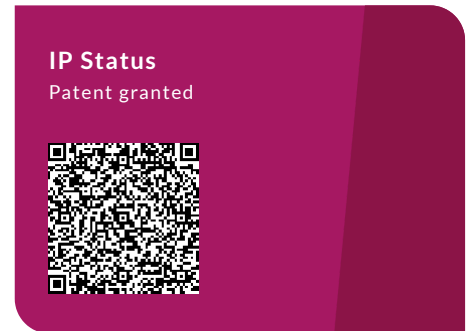


Figure 4B



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Opportunity

Filters and antennas are common and important components in communication devices. A filter-antenna (or filtering-antenna) is a device that combines an antenna and a filter.

Existing filter-antennas are reflective filter-antennas. These reflective filter-antennas reflect most of the incident energy in the stopband. The reflected energy may be transferred to other components (e.g., a power amplifier associated with the filter-antenna) in the system, which may lead to instability (e.g., self-oscillation in the power amplifier). One option to avoid or mitigate this instability problem is to use isolators, circulators, and/or attenuators in the system to reduce the effect of the reflected energy on the system. However, this option would increase the number of the components in the system, making the system cumbersome and expensive while potentially increasing the insertion loss.

Technology

The invention relates to a filter-antenna and a method for making the filter-antenna. The invention also relates to a communication device that includes the filter-antenna. The filter antenna includes a microstrip antenna, such as a patch antenna, integrated with an absorptive (e.g., bandstop) filter for absorbing or dissipating energy.

