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LUO et al.(10) **Pub. No.: US 2022/0399868 A1**(43) **Pub. Date: Dec. 15, 2022**(54) **ULTRA-WIDE PASSBAND FIVE-ORDER
BAND-PASS FILTER BASED ON LTCC
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(57)

ABSTRACT

The disclosure relates to an ultra-wide passband five-order band-pass filter based on an LTCC process. The ultra-wide passband five-order band-pass filter comprises a ceramic substrate, a bottom input electrode, a bottom output electrode and a bottom grounding electrode. Five parallel resonators, a grounding polar plate, two series connection capacitors, two series connection inductors, a cross-coupling capacitor and a parallel inductor are arranged in the ceramic substrate; the two series connection capacitors comprise a first series capacitor and a second series capacitor; the two series connection inductors comprise a first series inductor and a second series inductor; and according to the filter, a five-order parallel resonance structure is adopted, out-of-band suppression is deepened through the five parallel resonance units, a cross coupling capacitor, a parallel inductor and two series connection inductors are innovatively introduced.

