

## TECHNO OFFER

# Operation and integration optimization of Oven Controlled Resonator and Oscillator

Keywords : OCXO / OCSO / VCXO / VCSO and related systems and devices



## CONTEXT

The energy consumption and different element integration of OCXO, OCSO, VCXO, VCSO devices are parameters which makes the addition of functions to the related system difficult.

Indeed, the temperature control needed for resonator and oscillator operation implies an important energy intake not available for other functions.

To increase related instrument functionality with energy optimization, it is key to work on energy consumption reduction and miniaturization of Oven Controlled Resonator or Oscillator.

## DESCRIPTION

As a solution, the invention proposes an interconnection of different elements of Oven Controlled Resonator or Oscillator by reducing the total number of connections.

This solution achieves an energy consumption reduction of the entire component (OCXO, OCSO, etc...) of at least 10%.

Besides, the solution brings an integration simplification and a fabrication process cost reduction (through less steps).

The reduction of occupied component space on the electronic card also allows miniaturization.

Overall, the entire component and device start-up speed is increased.

## COMPETITIVE ADVANTAGES

- At least 10% of energy consumption reduction of entire device (OCXO, OCSO, etc...)
- Integration simplification / Fabrication process cost reduction
- Miniaturization
- Entire component & device start-up speed increased



## Markets & applications

### Markets

- ❖ Telecommunication systems
- ❖ High precision instruments integrating frequency reference device

### Applications

- ❖ Frequency reference device



## Development stage

TRL 3 to 4, proof of concept at laboratory scale



## Research team

Laboratory FEMTO-ST



## Intellectual property

1 Patent under deposition



## Target partnership

Patent licensing/cession

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