Accurate clocking

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I'm interested in time and frequency. In order to generate accurate time ticks you need accurate clocks. Cell phones are a major user of accurate clocks. And vibrating quartz has been the standard for such clocks for a very long time. But there is a new kid on the block. Micro-Electro-Mechanical Systems (MEMS) oscillators made by Silicon Labs [1].

There are other MEMS oscillators on the market. The TCD4051 by Pletronics [2] is a favorite of mine due to its high stability and relatively low cost. Not to mention small size. So what is so special about the Silicon Labs oscillators? They are made on a single die, meaning the production process is seamless. So far their Si50x series [3] is at best good to 20 ppm compared to the Pletronics .1 ppm. But the key going forward is that standard foundries can produce the oscillators on their high-volume fabrication lines. Meaning ultimately very low costs.

However their production process is patented. So don't expect much price pressure in that area. For now.

M. Simon's e-mail can be found on the sidebar at Space-Time Productions [4].

Engineering is the art of making what you want from what you can get at a profit.

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Links:
[1] http://www.silabs.com/products/clocksoscillators/mems/pages/default.aspx
[2] http://www.mouser.com/ProductDetail/Pletronics-Inc/TCD4051-100M/?qs=sGAEpiMZZMscy%2f6qMaFHYzOd2hBOYKjreBJjAl1HC3E%3d
[3] http://www.silabs.com/Marcom%20Documents/Resources/cmems-solutions.pdf

[4] http://spacetimepro.blogspot.com/