

Possible Micro-controller Options

- 1) Freescale MC568006 Digital Signal controller
Data sheet: http://cache.freescale.com/files/dsp/doc/data_sheet/MC56F8006.pdf?pspl=1
Power supply: min- 3v typ- 3.3v max- 3.6v
Size: 7 x 7 mm .5 pitch
Power Consumption: run: 41.52mA, low speed run: 340.75 uA, low power run: 166.30 uA
Pros: small form factor, 9 different power modes,
Cons: might consume more power then we want, No previous experience with this chip

- 2) TI TMS320C5535 Fixed Point Digital Signal Processor
Data Sheet: <http://www.ti.com/lit/ds/symlink/tms320c5535.pdf>
Power supply: 1.8-V, 2.5-V, 2.75-V, or 3.3-V
Size: 12 x 12 mm .8 pitch
Power Consumption: Active @ Room Temp 25°C, 75% DMAC 25% ADD + 0.15 mW/MHz @ 1.05 V, 50 MHz or 0.22 mW/MHz @ 1.3 V, 100 MHz
Pros: Only needs 1.8 V, FFT Hardware Accelerator
Cons: large package type, pitch of .8, No previous experience with chip

- 3) ON Semi Ayre Series of chips
Data Sheet: http://www.onsemi.com/pub_link/Collateral/SA3291-D.PDF
http://www.onsemi.com/pub_link/Collateral/GA3227-D.PDF
Power supply: 1.25 V
Size: 6.35 x 3.68 x 1.65 mm
Power Consumption: n/a
Pros: Handles noise cancellation, filtering, amplification, volume control. Has all of the features that a commercial hearing aid has
Cons: Not sure if there is an eval board (found in data sheet that an eval board can be ordered)