# MXG2320 3-axis digital compass IC

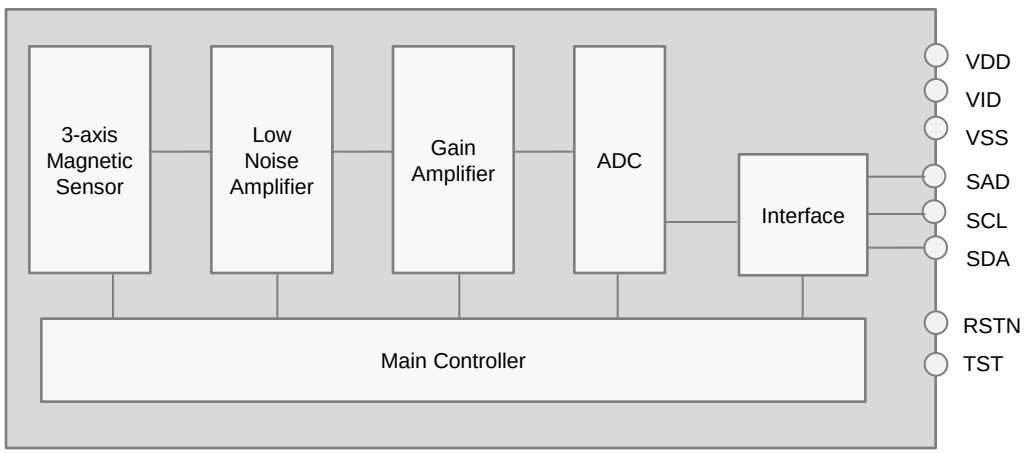
MagnaChip

The MXG2320 is a high sensitivity digital compass IC for measuring terrestrial magnetism in the X-axis, Y-axis, and Z-axis. It combines magnetic sensors for detecting terrestrial magnetism, a sensor driving circuit, low noise amplifier, high resolution ADC for each channel and control circuit for low power computation. The MXG2320 supports for low power mode in addition to normal mode to extend battery life. The built-in temperature sensor can compensate for offset drift caused by non-linear ADC characteristics for each temperature. With small footprint and low power consumption, the MXG2320 is suitable for mobile phones and mobile GPS systems.

## Key Feature

- 3-axis magnetometer dedicated to compass application
- Embedded ADC for magnetometer output
- 14-bit output data for each 3 axis magnetic components
  - ✓ Resolution: 0.60 µT/LSB typ.
  - ✓ Measurable range: ±4914 µT
- Serial interface:
  - ✓ $I^2C$: standard mode and fast mode compliant with Philips $I^2C$ specification Ver.2.1
- 7 operation modes including power down mode, single measurement mode, continuous measurement mode, self test mode and fuse ROM access mode
- Operating temperatures: -30˚C to +85˚C
- Operating supply voltage:
  - ✓ Analog power supply ($V_{DD}$): +2.5 V to +3.6 V (3.0V typ.)
  - ✓ Digital Interface supply ($V_{ID}$ ): +1.65 V to $V_{DD}$ (1.8V typ.)
- Current consumption
  - ✓ Power-down mode: 1.0 µA (typ.)
  - ✓ Average in continuous measurement mode: 2.4mA typ. (100Hz repetition rate)
- Package: 8-ball WLCSP
  - ✓ 1.2mm × 1.2mm × 0.5mm (typ.)

## Block Diagram




**For more information, please email at MXsensorQnA@magnachip.com**