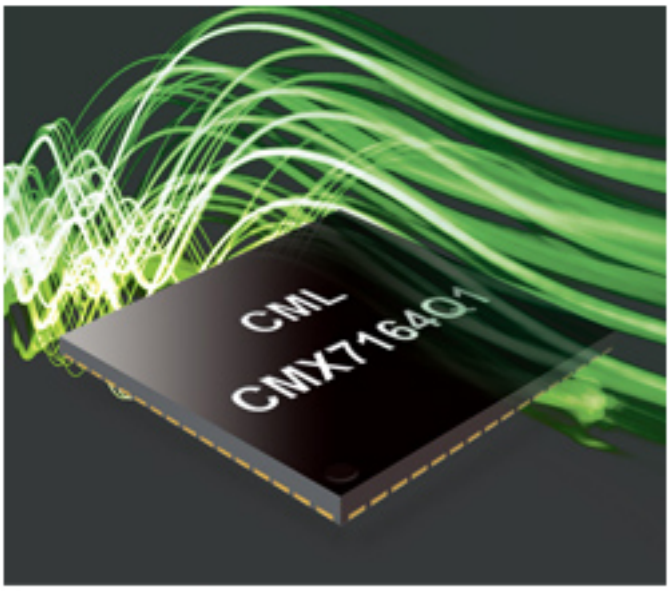
Multi-mode Wireless Data Modem Supports QAM and Legacy Modulation Schemes



CML Microcircuits (www.cmlmicro.com [1]) today announced the launch of the CMX7164 Multi Mode wireless data modem IC.

The CMX7164 provides 4/16/64-QAM and root raised cosine 2/4FSK baseband modem functions in a single chip, replacing the current need for user programmed DSP plus codec ICs. This development includes digital IF filters, auxiliary codecs, clock generator and I/O functions that lower total BOM cost and chip count.

The device is a complete baseband modem system delivering multiple modulations for narrowband applications. These include M2M systems over dedicated channels, digital Software Defined Radio (SDR), high-speed wireless data and SCADA systems. The half-duplex device operates up to 96kbps in 25kHz and it supports 6.25kHz, 12.5kHz and 25kHz bandwidths, making it ideal for narrowbanding migration worldwide.

The high level of total integration reduces unnecessary technical risk and time to market. Device capabilities are expandable and additional modulation types such as GMSK/GFSK will be provided. QAM provides new, higher data rates and legacy RRC 4FSK and GMSK/GFSK features provide backward compatibility with legacy systems.

The device utilises CML's proprietary FirmASIC® component technology. On-chip sub-systems are configured by a Function Image™ data file that is uploaded during device initialisation and defines the device’s function and features set. The device's functions and features can be enhanced by subsequent Function Image™ releases, facilitating in-the-field upgrades.

The CMX7164 logical interface provides addressable configuration parameters that ease host driver development.Selectable modulation, symbol rate and FEC suit a wide range of application requirements without hardware reconfiguration.

Important features include direct I/Q analogue inputs and outputs, channel estimation and equalization, pulse shape filtering, RAMDAC capability for ramping PA power control, and a C-BUS SPI compatible serial interface to the host microcontroller. Four auxiliary ADCs with six selectable input paths, four auxiliary DACs and two programmable system clock outputs are provided to aid design and operational flexibility.

The CMX7164 operates at 3.3V supply and includes selectable power saving modes. It is available in 64-VQFN and 64-LQFP packages. For a datasheet, application notes and product support information, visit CML: www.cmlmicro.com [1].

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[1] http://www.cmlmicro.com