

SiW1701, SiW1702, and SiW1703 Radio Modems

Product Summary

Advance Information



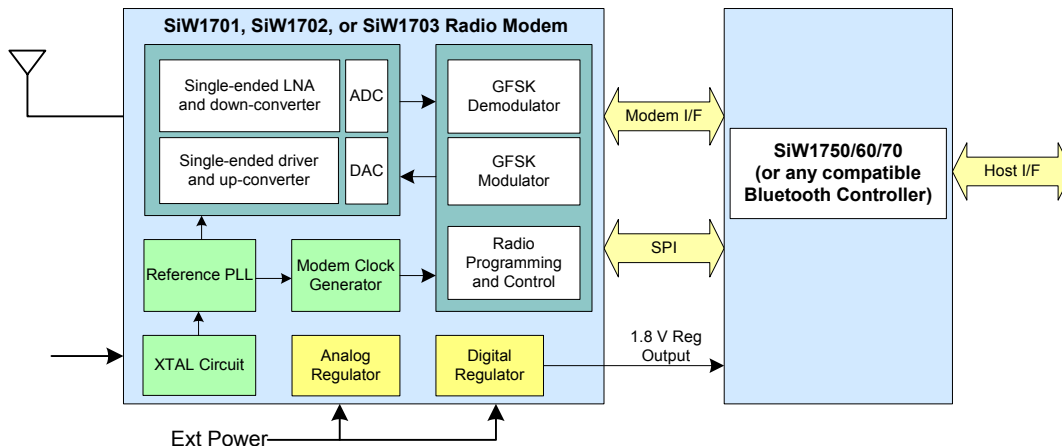
INTRODUCTION

The SiW1701/02/03 Radio Modem ICs are new additions to Silicon Wave's product family for Bluetooth™ wireless communications. The SiW1702 and SiW1703 are specifically designed for cellular telephone applications and the SiW1701 is optimized for all other Bluetooth wireless communications.

SiW1701/02/03 ICs combine a 2.4-GHz radio transceiver and GFSK modem with digital control functions. The 100% digital interfaces on the SiW1701/02/03 family are highly configurable and

are designed to interface with Bluetooth baseband ICs from Silicon Wave and other manufacturers.

The SiW1701/02/03 continue to advance the marks previously set by the SiW1502 Radio Modem IC by lowering system cost, reducing power consumption, and minimizing size. Higher functional integration and simplified system design with reduced external components are the major accomplishments of these new products.



Bluetooth Subsystem Using the SiW1701, SiW1702, or SiW1703 Radio Modem ICs

FEATURES

- Very low power consumption in active and standby modes.
- Radio and modem on a single IC.
- Fully compliant with Bluetooth specification 1.1.
- Class 1 with external power amplifier (+20 dBm) and output power control.
- Class 2 transmit output power (+4 dBm) with output power control.
- Class 3 transmit output power (0 dBm) with output power control.
- Single-ended RF I/O reduces system BOM.
- Available with industrial or commercial temperature ratings.
- Direct-conversion architecture with no external channel filter or VCO resonator components.
- On-chip voltage regulation simplifies voltage input requirement. Direct input from battery supply is possible. No external voltage regulator is necessary.
- Programmable digital interface with selectable output data sampling rate.
- Supports multiple crystal reference frequencies including 12 MHz, 13 MHz, 32 MHz, and 48 MHz.
- Accepts multiple reference clock frequencies from the host. Common references such as 12 MHz, 13 MHz, 19.68 MHz and 38.4 MHz are among those supported.
- Exceptional adjacent channel rejection and blocking performance for ease of integration.

APPLICATIONS

The SiW1701/02/03 family can be applied to a wide range of applications requiring Bluetooth wireless communications. For specific applications that each IC is optimized for, please refer to the table below.

- **Mobile phones:** Handset integration and accessories.
- **Computing:** Notebook and desktop PCs, printers, accessories, wireless keyboards, and mice.
- **Mobile data:** PDAs, palmtops, and personal organizer communications.
- **Consumer electronics:** MP3 players, digital cameras, game consoles, and controls.
- **Automotive and industrial:** Hands-free car phone kits, barcode scanners, and POS terminals.

Radio Modem	Specific Applications
SiW1701	Generic radio modem optimized for use with the SiW1750 baseband IC.
SiW1702	Optimized for CDMA cellular telephone applications.
SiW1703	Optimized for GSM cellular telephone applications.

SYSTEM SPECIFICATIONS

Parameter	Min	Typ	Max	Units
Supply voltage to on-chip regulator	3.0		5.2	V
Operating temperature (industrial grade)	-40		+85	°C
Receiver sensitivity		-85	-80	dBm
Output power	-3	0		dBm

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