

Radio Modem Evaluation System

INTRODUCTION

The Radio Modem Evaluation System (RMES) is a demonstration platform for the Odyssey™ SiW1502 Radio Modem Synthesizer and facilitates radio performance for Bluetooth™ wireless communications. Control of the SPI bus is performed through the PC's parallel interface. Measurements supported by the system include, but are not limited to, assessing the SiW1502 IC's Bluetooth modulated and unmodulated transmitter output waveforms and evaluating its receiver sensitivity. The transmitter output power is selectable in 8 steps of approximately 4.3 dB. Both transmit and receive can be examined on any Bluetooth channel.

The Radio Modem IC is the first fully integrated RF system-on-chip for Bluetooth wireless communications. The SiW1502 chip includes the entire receiver, transmitter, synthesizer (including the VCO), and burst modem. It is designed to meet all the Bluetooth radio specifications. All control functions are accessed through a register set programmed through the digital Serial Peripheral Interface (SPI) bus.

SYSTEM MINIMUM REQUIREMENTS

CPU	Pentium® class (Pentium II-333 or higher processor recommended)
OS	Microsoft® Windows NT® version 4.0 with Service Pack 3 or later and Microsoft Windows® 2000. Windows 98 is not currently supported, but may be in future RMES versions.
RAM	Windows NT/2000: 32 MB (64 MB recommended)
HD space	15 MB available
Display	VGA or higher (SVGA recommended)
Drives	CD-ROM drive
Ports	One standard parallel port
Mouse	Mouse or compatible pointing device
Software	For Windows NT, the user must be a local administrator for proper software installation

PACKAGE CONTENTS

The Radio Modem Evaluation System package contains the following:

Qty	Item
1	Radio Modem Evaluation System unit
1	Standard straight-through 25-pin parallel cable
1	120V/220V AC to 6V DC power adapter
1	CD-ROM <ul style="list-style-type: none">• <i>Read-Me.txt</i>• <i>license.txt</i>, license agreement between Silicon Wave and the user• Radio Modem Evaluation System 3.1 User's Guide (.pdf file)• Radio Modem Evaluation System Control software

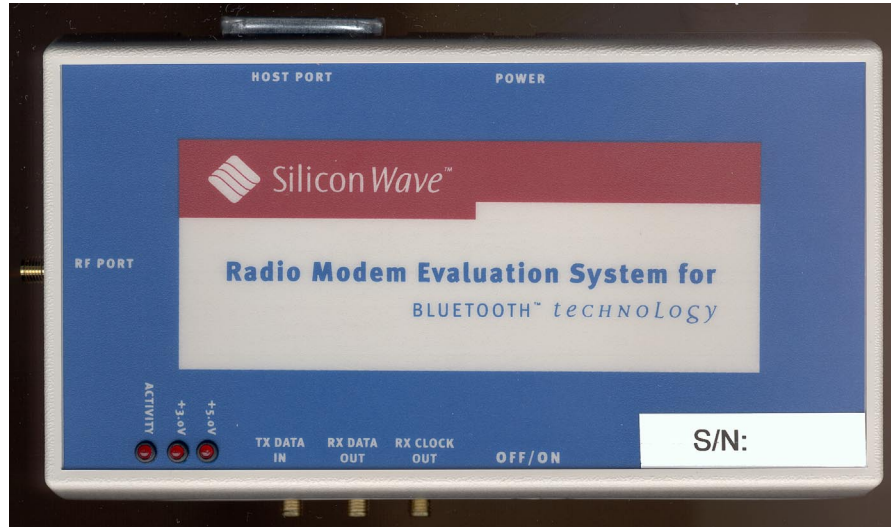


Figure 1: Diagram of RMES Top Panel

RF PORT	Connects directly to the Radio Modem RF board. The user can monitor the transmitter output at this point. A Bluetooth signal can also be input to the SiW1502 receiver through this connection.
HOST PORT	DB25 connector used for parallel port communication with the host PC. A cable is provided with each RMES unit.
POWER	This supplies power to the RMES via the provided 6 V DC supply.
RMES Serial Number	The serial number is needed when contacting Silicon Wave about a RMES issue. Detailed information on all components and boards within the RMES are stored in a database at Silicon Wave and are referenced by this serial number.
OFF/ON	Power for the RMES is routed through the OFF/ON switch.
RX CLOCK OUT	When the RMES is placed in receive mode and a Bluetooth signal is input through the RF Port, the recovered 1 MHz digital clock is output through this connector.
RX DATA OUT	When the RMES is in receive mode and a Bluetooth signal is input through the RF Port, the recovered 1 MHz digital data stream is output through this connector.
TX DATA IN	When the RMES is in transmit mode and the External Input source is selected via the RMES control software selection, the inputted digital data stream is up-converted and transmitted out the RF Port.
+5.0 V & +3.3 V	The voltage LEDs, +5.0 V and +3.3 V, indicate that the correct voltages are being provided to the internal boards. Both LEDs should be ON for proper operation. If they are OFF, check the AC power connections.
ACTIVITY	The Activity LED blinks about once every two seconds to indicate the system is ON and ready to accept commands via the RMES software.

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