SN2X/RF-Eval

RF evaluation kit

Data Brief

Features

The SN2X/RF-Eval RF hardware evaluation kit is the ideal system to calculate the performance of the SN250 and SN260 under various radio frequency (RF) conditions and during all stages of wireless evaluation and development.

This kit has been developed by our partner Ember around a EM250 device that is 100% compatible in terms of features and performances with the STMicroelectronics SN250.

The obtained results are valid for both the SN250 system-on-chip (SoC) or the SN260 network processor which are based on exactly the same radio silicon implementation.

- Range testing
- RF transmit power
  - Tone test
  - Character stream test
- RF receive sensitivity
- Energy scan test
- Deep sleep power usage test
- ADC test

Description

Introducing the SN2X/RF-Eval RF evaluation kit with InSight™ desktop software: The ideal RF evaluation platform for the SN250/260 family of transceivers.

The SN2X/RF-Eval RF evaluation kit includes everything needed to assess RF-level connectivity in any environment you choose. This easy-to-use system is ready to go “out of the box” because there is no software programming required to perform tests. For RF evaluation out in the field, the system can also operate battery-powered for convenient portability.

The RF evaluation kit can measure the SN250/260 RF chip functionality in normal mode and optionally in “boost” mode for those applications requiring a higher level of RF performance.

1 Device overview

1.1 RF evaluation hardware

The kit includes two EM250 radio modules with external antennas and two RF carrier boards. They combine to form the RF evaluation board which performs all the vital functions required to test RF communications. The RF Evaluation kit is applicable to both SN250 and SN260 transceivers because the SN250 and SN260 RF transceivers share the same RF analog core. The evaluation boards can easily switch between line-powered and battery-powered modes.

Each evaluation board includes a full array of control buttons and jumpers to perform several RF-related tests including transmit/receive testing and packet error rate analysis. It also includes a 2-line LCD and buzzer to provide realtime visual and audio feedback. The evaluation boards can perform various functional tests in a portable stand-alone mode, or in combination with a PC running InSight desktop software.

InSight™ desktop evaluation software

The InSight™ desktop evaluation kit software provides the ideal RF testing control console for hardware-level RF analysis. InSight desktop runs on any windows-compatible PC and easily interfaces with the hardware evaluation boards via a USB cable. InSight desktop allows you to quickly configure the RF evaluation boards to perform hardware tests right from the PC while providing graphical real-time testing feedback. In addition to hardware range testing, InSight desktop tests other chip features such as the random number generator, ADC, and deep sleep functions. Further, InSight desktop software includes test logging capability for detailed post processing by the user. The InSight desktop evaluation software is fully compatible with any customer developed SN250-enabled module, as well as the SN250 radio modules included with the kit.

2 Ordering information

The kit is available from STMicroelectronics (see order code below) and ST distributors, or from Ember and their distributors.

Table 1. Ordering information

Order code	Description
SN2X/RF-Eval	RF evaluation kit with InSight™ Desktop software for the SN250/260 family of transceivers. – Two radio modules with carrier board – Four AA batteries – Two power supplies – Two USB cables – Two antennas – One InSight desktop software – One user guide

3 Revision history

Table 2. Document revision history

Date	Revision	Changes
5-Jul-2007	1	Initial release.

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