



SI-RT5350

IEEE 802.11b/g/n USB Wireless Storage Module

Datasheet

Version 1.0

Document Release	Date	Modification	Initials	Approved
Version 1.0	2012/12/10	First Version	DeanDeng	



1. Introduction

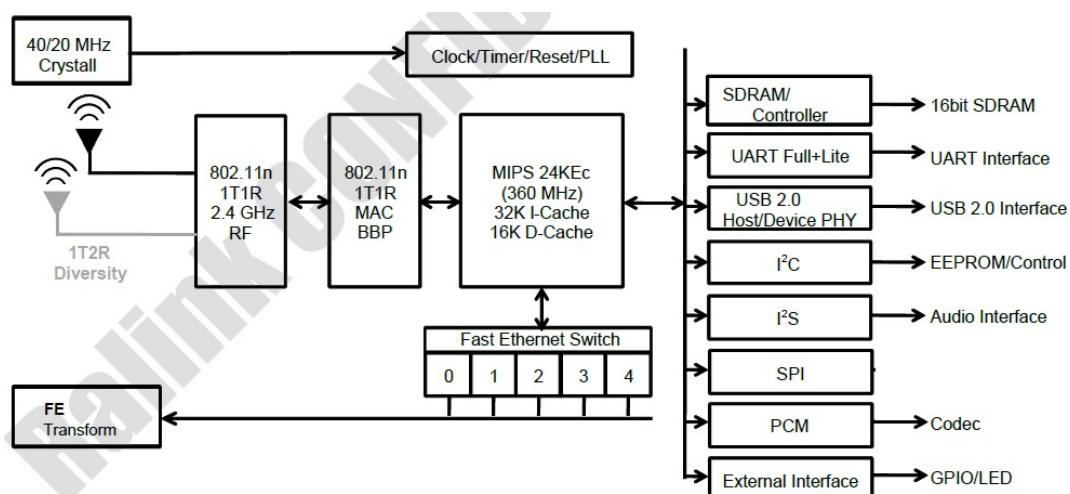
Product Description

The SI-RT5350 is a highly integrated MAC/BBP and 2.4 GHz RF/PA/LNA single chip with 150Mbps PHY rate supporting for access the external USB storage. It fully complies with IEEE 802.11n and IEEE 802.11 b/g feature rich wireless connectivity at high standards, delivers reliable, cost-effective, throughput from an extended distance. Optimized RF architecture and baseband algorithms provide superb performance and low power consumption. Intelligent MAC design deploys a high efficient DMA engine and hardware data processing accelerators without overloading the host processor. The SI-RT5350 is designed to support standard based features in the areas of security, quality of service and international regulation, giving end users the greatest performance anytime in any circumstance.

Features

- *MIPS Technology with PA, LNA, RF, Baseband, and MAC Integrated.
- *1T1R Mode with 150Mbps PHY Rate for Both Transmit and Receiving.
- *Legacy and High Throughput Modes.
- *20MHz/40MHz Bandwidth.
- * WPA, WPA2,TKIP, AES.
- *USB 2.0 Host for external USB device.
- *Low Power with Advanced Power Management.
- *Operating Systems – ROTS.

2. Simplified block diagram of the SI-RT5350 module is depicted in the figure below.



3. General Specifications



Model Name	SI-RT5350
Product Description	USB 2.0 Wireless Storage Module
WLAN Standard	IEEE 802.11 b/g/n ,Wi-Fi compliant
Dimension	35mm x 25mm x 7mm
Major Chipset	Ralink RT5350
Memory	32MB SDRAM / 4MB SPI Flash
USB Device(2.0/1.1)	Mass storage class Read /Write
Configuration	Web base
Maximum User Login	4 User
Network	DHCP Server Local and DHCP Client for WAN
WebDAV Server	One user account for 4 user access at same time
Samba Server	One user account for 4 user access at same time
Media Server (UTF8 supported)	UPnP AV/DLNA DMS(CTT1.5) XBOX360/PS3/WMP12/DLNA DMP compatible
System Tools	Web Firmware Upgrade, Reboot, Factory Defaults
Support OS	XP(SP3), Vista(SP2),Windows7、8 / MAC OS X (10.5.X) / Linux (Samba 3.X),iOS 5.X , An-droid 2.3 or late
File System	FAT32(support 4K byte ~64K byte cluster size) ExFAT(support 32K byte ~1M byte cluster size)
Single file maximum	127GB
Min Capacity	4GB
Max Capacity	4TB
Operating Conditions	
Voltage	3.3V
Operating Temperature	0-40°C
Humidity Non-Operating	90% RH non-condensing (12 months among 0~40°C)
Electrical Specification	
Frequency Range	2.412~2.462GHZ
Transmission Distance	15M(The transmission speed may vary according to the environment)
Data Rate	11n:150/135/120/90/60//54/45/30/15Mbps 72/65/57.8/43.3/28.9/21.7/14.4/7.2Mbps 11b:1/2/5.5/11Mbps 11g:6/9/12/24/36/48/54Mbps 11b:1/2/5.5/11Mbps 11g:6/9/12/24/36/48/54Mbps
Transmit power	13 dbm
Receiver Sensitivity	150M:-71dbm@10%PER



Environment	135M: -71dbm@10%PER
	54M:-71dbm@10%PER
	11M:-84dbm@10%PER
	6M:-89dbm@10%PER
	1M:-93dbm@10%PER
Environment	Storage Temperature:-40~70°C(-40°F ~158°F)
	Relative humidity:10%-90%
	Non-condensing
	Storage Humidity:5%~95%
	Non-condensing

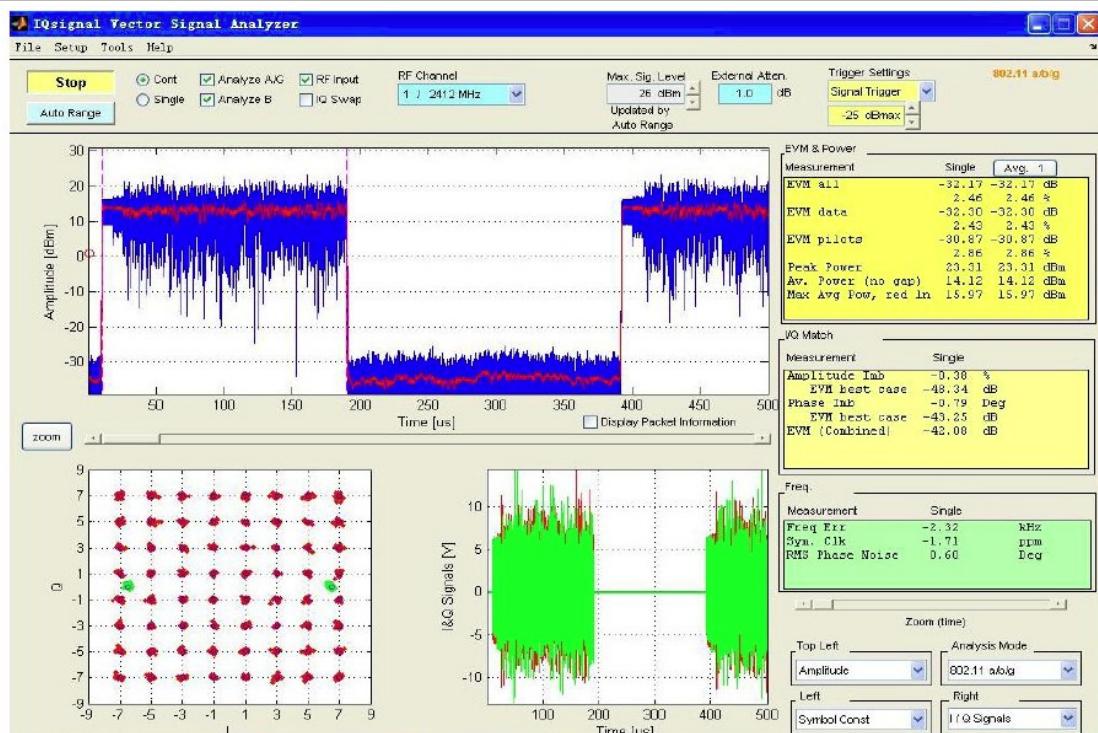
4. Power Consumption

Parameters	Sym	Conditions	Min	Typ	Max	Unit
3.3V Supply Voltage	Vcc33		3.0	3.3	3.6	V
1.5V Supply Voltage	Vcc15	*1	1.45		3.6	V
3.3V Current Consumption (include integrated PA)	Icc33			460		mA
1.5V Current Consumption	Icc15			430		mA
1.8V Current Consumption (@transformer center tap)	Icc18	EPHY speed 100M		220		mA

5. Pin Description-J1

PIN1	VCC	PIN9	GND
PIN2	VCC	PIN10	WLAN LED
PIN3	GND	PIN11	USB DP
PIN4	BAT LOW	PIN12	BGD LED
PIN5	POWER OFF	PIN13	USB DM
PIN6	REV IO1	PIN14	SYS LED
PIN7	RST PCB	PIN15	GND
PIN8	GND	PIN16	REV IO2

6. TEST PARAMETER



Test Item	TX Power	EVM	Freq ERR	RX SENS
Test Result (54M)	13 dbm	-32 dbm	-2.32 khz	-70 dbm

7. OEM INTEGRATOR MANUAL

Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

Reorient or relocate the receiving antenna.

Increase the separation between the equipment and receiver.

Connect the equipment into an outlet on a circuit different from that to which the receiver is connected

Consult the dealer or an experienced radio/TV technician for help.



FCC Caution:

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

FCC Compliance information

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

For product available in the USA market, only channel 1~11 can be operated. Selection of other channels is not possible.

This device and its antenna(s) must not be co-located or operation in conjunction with any other antenna or transmitter.

This device is going to be operated in 2412~2472GHz frequency range, it is restricted in indoor environment only.

FCC Radiation Exposure Statement:

This modular was suitable for a mobile device that is defined as a transmitting device designed to be used in other than fixed locations and to generally be used in such a way that a separation distance of at least 20 centimeters is normally maintained between the transmitter's radiating structure(s) and the body of the user or nearby persons.

This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

IMPORTANT NOTE:

This module is intended for OEM integrator. The OEM integrator is still responsible for the FCC compliance requirement of the end product, which integrates this module.

20cm minimum distance has to be able to be maintained between the antenna and the users for the host this module is integrated into. Under such configuration, the FCC radiation exposure limits set forth for an population/uncontrolled environment can be satisfied.

Any changes or modifications not expressly approved by the manufacturer could void the user's authority to operate this equipment.

USERS MANUAL OF THE END PRODUCT:

In the users manual of the end product, the end user has to be informed to keep at least 20cm separation with the antenna while this end product is installed and operated. The end user has to be informed that the FCC radio-frequency exposure guidelines for an uncontrolled environment can be satisfied. The end user has to also be informed that any changes or modifications not expressly approved by the manufacturer could void the



user's authority to operate this equipment. If the size of the end product is smaller than 8x10cm, then additional FCC part 15.19 statement is required to be available in the users manual: This device complies with Part 15 of FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference and (2) this device must accept any interference received,

Label and manual requirements for the End Product

For an end product using the 5350WIFI there must be a label containing, at least, the following information. FCC ID certification number for model : 5350WIFI

This device contains FCC ID : LAJ-5350WIFI

The label must be affixed on an exterior surface of the end product such that it will be visible upon inspection in compliance with the modular approval guidelines developed by the FCC

Where the 5350WIFI will be installed in final products larger than 8cm x 10cm following statements has to be placed onto the device .

"Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation."

Assure compliance

The use of the modular transmitter is only approved to be used inside the specified equipment which compliance with all the instruction was subjected. We assure the compliance of the end product when it is assembled inside the specified equipment.

Caution

Modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Antenna

This device shall only be used with the tested antenna and separate approval is required for all other operating configurations.

RF exposure compliance

The antenna(s) used for this transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.