

RS4

Wireless Adapter Card

User Guide

Version 1.1

June., 2014

Revision History

Release	Date	Revision	Initials
1.1	2014-06-06	First release.	

STATEMENT and Warning

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.

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.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

FCC RF Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

IC

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body.

French:

Cet appareil radio est conforme au CNR-210 d'Industrie Canada. L'utilisation de ce dispositif est autorisée seulement aux deux conditions suivantes : (1) il ne doit pas produire de brouillage, et (2) l'utilisateur du dispositif doit être prêt à accepter tout brouillage radioélectrique reçu, même si ce brouillage est susceptible de compromettre le fonctionnement du dispositif.

Cet équipement est conforme aux limites d'exposition aux rayonnements IC établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec un minimum de 20 cm de distance entre la source de rayonnement et votre corps.

This device is intended only for OEM integrators under the following conditions:

- The antenna must be installed such that 20 cm is maintained between the antenna and users, and
- The transmitter module may not be co-located with any other transmitter or antenna.

As long as 2 conditions above are met, further transmitter test will not be required. However, the OEM integrator is still responsible for testing their end-product for any additional compliance requirements required with this module installed

IMPORTANT NOTE: In the event that these conditions can not be met (for example certain laptop configurations or co-location with another transmitter), then the FCC authorization is no longer considered valid and the FCC ID cannot be used on the final product. In these circumstances, the OEM integrator will be responsible for re-evaluating the end product (including the transmitter) and obtaining a separate FCC authorization.

End Product Labeling

This transmitter module is authorized only for use in device where the antenna may be installed such that 20 cm may be maintained between the antenna and users. The final end product must be labeled in a visible area with the following: “Contains FCC ID: MBBDMRS4”, “contains IC: 11657A-DMRS4”. The grantee's FCC ID can be used only when all FCC/ IC compliance requirements are met.

Manual Information To the End User

The OEM integrator has to be aware not to provide information to the end user regarding how to install or remove this RF module in the user’s manual of the end product which integrates this module.

CE

Hereby declares that this WiFi module is in compliance with the essential requirements and other relevant provisions of R&TTE Directive 1999/5/EC. The standards for complying are as following:

ETSI EN 301 489-1 V1.9.2: 2011-09

ETSI EN 301 489-17 V2.2.1: 2012-09

ETSI EN 300 328 V1.8.1:2012-06

ETSI EN 301 893 V1.7.1: 2012-06

EN 62311: 2008

EN 60950-1:2006+A11:2009+A1:2010+A12:2011



This is a class B product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.

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National Restrictions

This device is intended for home and office use in all EU countries (and other countries following the EU directive 1999/5/EC).

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Package Contents

The following items should be found in your package:

- RS4 Wireless Adapter Card

Conventions:

The 'Module' mentioned in this user guide stands for PW-MN5275 WLAN Adapter Card without any explanation.

Chapter 1 Introduction

Thank you for choosing the **RS4 Wireless Adapter Card!**

1.1 Overview of the Product

The Module is an OEM module (35x35mm) based on the IA3S4. It is a compressed wireless digital audio transceiver operating in the 2.4GHz bands. The wireless audio link supports 1 stereo audio stream and comes together with additional features such as: pairing functionality, seamless and bi-direction transmission of high quality audio, I2S sampling frequency detection, support Sleep mode, Programmable end-to-end audio latency, Control Channel ability, support no audio detection, Robust packet error correction.

Note:

The RS4 is designed to be used inside consumer electronic products, such as TV, Blue-Ray, Home Theater, etc.

1.2 Features

- 2.4GHz band
- GFSK digital modulation
- Support 1-1 duplex mode or 1-N broadcasting mode
- I2S digital audio interfaces
- Audio format 16bit, 32/44.1/48KHz sampling rate
- I2C control with external device
- Support no audio detection function
- Robust packet error correction
- Low power consumption
- Low audio delay time < 20ms

Chapter 2 Linux Installation Guide (For Consumer Electronics)

2.1 Hardware Installation

For the Consumer Electronics products which use RS4, it must provide a corresponding connector for the module. After connecting the module to the device, the hardware installation is finished.

2.2 Software Installation

For the Consumer Electronics products, the Linux Driver of RS4 is embedded in default. So the module is a plug and play device. After connecting the module to the device, RS4 will work well.

2.3 Pin Definitions

No.	Pin Name	I/O	Descriptions
1	VCCIO	PWR	VCC supply
2	GND	GND	Ground
3	GND	GND	Ground
4	BLUE_LED	I/O	GPIO
5	RED_LED	I/O	GPIO
6	NC	I/O	Test Point
7	NC	I/O	Test Point
8	I2S_DATA	I/O	Data pin of I2S signal
9	GND	GND	Ground
10	I2C_CLK	I/O	Clock pin of I2C control signal
11	I2C_DATA	I/O	Data pin of I2C control signal
12	SPI_DI	I/O	Data input pin of SPI interface
13	SPI_DO	I/O	Data out pin of SPI interface
14	SPI_CLK	I/O	Clock pin of SPI interface
15	SPI_CS	I/O	Chip select pin of SPI interface
16	SPI_WP	I/O	Write protect pin of SPI interface, low active
17	LDO_RESET	I	Reset pin of IA3, low active
18	P_SENSE	I/O	GPIO
19	P_CTL	I/O	GPIO
20	PWM_RST	I/O	GPIO
21	AMP_PDN	I/O	GPIO
22	AMP_SD	I/O	GPIO
23	Wireless_Ready	I/O	GPIO
24	I2S_BCK	I/O	BCK pin of I2S signal
25	GND	GND	Ground
26	I2S_LRCK	I/O	LRCK pin of I2S

Appendix A: Specifications

Normal	
Interface	FPC connector
Radio Data Rate	2Mbps
Modulation	GFSK
Frequency	2.403 ~ 2.478GHz
Operating Voltage	3.0Vdc to 3.6Vdc, Normal is 3.3Vdc
Safety & Emissions	FCC/ IC, CE

Environmental and Physical	
Operating Temp.	0 ~55
Humidity	10% ~ 90% RH, Non-condensing
Product Dimensions	35.0* 35.0 mm