

WIZ-RF30 Datasheet

(Version 1.0)



©2010 WIZnet Co., Ltd. All Rights Reserved.

☞ For more information, visit our website at <http://www.wiznet.co.kr>

Document Revision History

Date	Revision	Changes
2010-09-01	V1.0	Official Release

COPYRIGHT NOTICE

Copyright 2010 WIZnet Co., Ltd. All Rights Reserved.

Technical Support: support@wiznet.co.kr

Sales & Distribution: sales@wiznet.co.kr

For more information, visit our website at <http://www.wiznet.co.kr>

Table of Contents

1.	Introduction.....	1
1.1	Feature	1
1.2	Specification	2
2.	Hardware Specification.....	3
2.1	Dimension	3

Figures

FIGURE 1.	WIZ-RF20 DIMENSIONS (UNIT: MM)	3
-----------	--------------------------------------	---

Tables

TABLE 1.	SPECIFICATION	2
TABLE 2.	PIN HEADER CONNECTOR PIN-ASSIGNMENT	5

1. Introduction

The RF-communication circuit and a highly effective STM32 MCU are embedded in module WIZ-RF30; user can write programs and attach various sensors to the module to use the module as a sensor node, or the user can control the system by using I/O of MCU.

1.1 Feature

- Worldwide 2.4GHz ISM band operation, 126 RF channels
- Ultra low power, compact and low cost RF transceiver
- Up to 2Mbps on-air data rate
- Enhanced ShockBurst™ hardware link layer
- Selective auto acknowledgement with payload
- Embedded Chip ANT for efficient radiation
- Dynamic payload length and Auto retransmit
- Embedded ARM 32bit Cortex-M3 CPU(64Kbytes of Flash memory)
- Support JTAG interface
- Support 7-Timers / I2C / USART / SPI / GPIO interface
- Compact design 30mm x 40mm x 14mm (L x W x H)
- RoHS Compliant

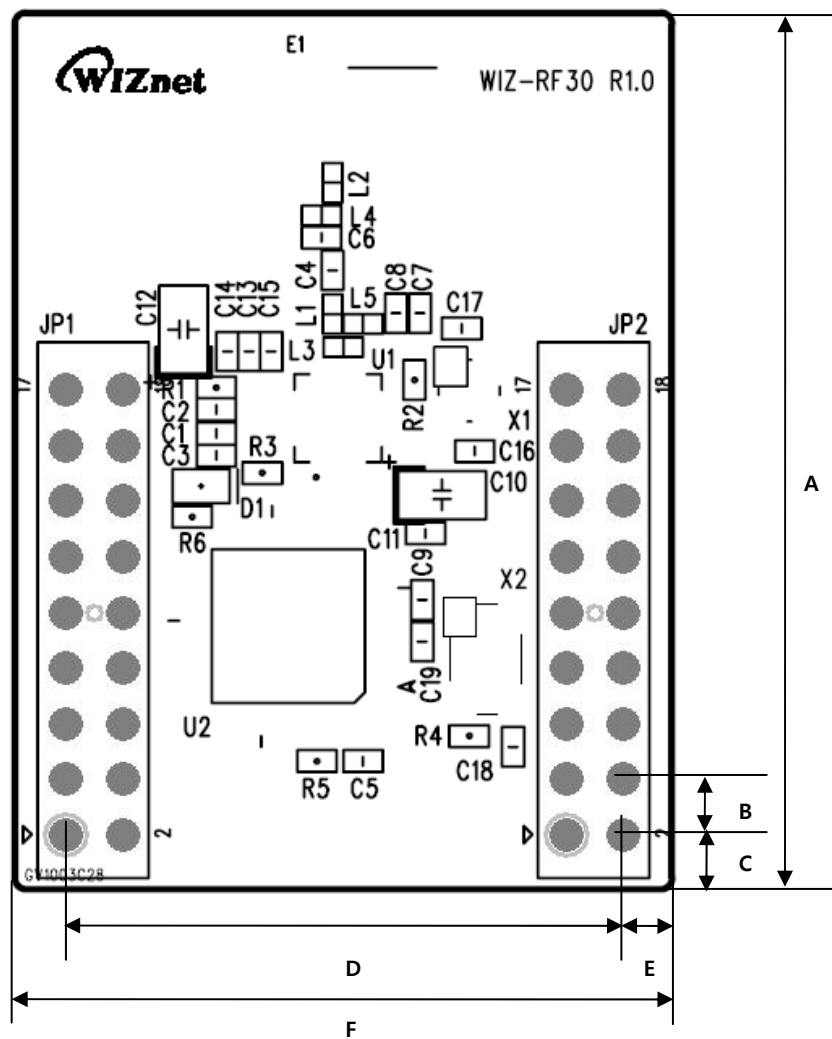
1.2 Specification

General RF Conditions	Radio Frequency	2.400 ~ 2.4835GHz
	Crystal Frequency	16MHz
	Frequency Deviation@2MHz	±30ppm
	Air Data Rate	250 ~ 2000kbps
	Non-overlapping Channel Spacing @2MHz	2MHz
	Modulation	GFSK
	Sensitivity(0.1%BER) @2MHz	-82dBm ※ Chipset (nRF24L01P)
Internal Comm. Interface	USART	TXD, RXD, CTS, RTS, CK
	SPI	MOSI, MISO, SCK, NSS1
	I2C	SDA, SCL, SMBAL
	JTAG	JNTRST, JTDI, JTDO, JTCK, RST
	GPIO	PAX, PBx, PCx
Power on reset		1us ~ 50ms(Power ramp up time)
Dimension		30mm x 40mm x 14mm (Include connector size)
Connector type		2.54mm Pitch Pin-header, 18pin(2*9, 2EA)
Input voltage		1.9V ~ 3.6V
Power consumption		Active mode(Tx, 0dBm) : 11.1mA Active mode(Rx, 2Mbps) : 13.3mA Stanby mode : 1mA Deep sleep mode : 0.5uA MCU core(8MHz, 4MIPS) : 4mA
Temperature		-40℃ ~ +85℃
Humidity		10 ~ 90 %

Table 1. Specification

2. Hardware Specification

2.1 Dimension



A	B	C	D	E	F
40.00	2.54	2.54	25.40	2.30	30.00

Figure 1. WIZ-RF30 Dimensions (unit: mm)

2.2 Connector Specification

JP1

REF.	Pin	Signal	Description
JP1	1	SPI2_MOSI	SPI2 Master Out Slave In
JP1	2	VCC	Power Input(1.9V ~ 3.6V)
JP1	3	SPI2_MISO	SPI2 Master In Slave Out
JP1	4	PC13	GPIO Port C 13 th
JP1	5	SPI2_SCK	SPI2 Clock
JP1	6	PC14	GPIO Port C 14 th
JP1	7	SPI2_NSSI	SPI2 NSSI
JP1	8	PC15	GPIO Port C 15 th
JP1	9	PB2/BOOT1	GPIO Port B 2 nd /BOOT Fuse
JP1	10	UART2_CTS	Uart2 Clear to Send
JP1	11	PB8	GPIO Port B 8 th
JP1	12	UART2_RTS	Uart2 Request to Send
JP1	13	PB9	GPIO Port B 9 th
JP1	14	UART2_TX	Uart2 Transmitted Data
JP1	15	/RESET	MCU RESET
JP1	16	UART2_RX	Uart2 Received Data
JP1	17	GND	Ground(0V)
JP1	18	GND	Ground(0V)

JP2

REF.	Pin.	Signal	Description
JP2	1	VCC	Power Input(1.9V ~ 3.6V)
JP2	2	JNTRST	JTAG Port
JP2	3	PB10	GPIO Port B 10 th
JP2	4	JTDO	JTAG Port
JP2	5	PB11	GPIO Port B 11 th
JP2	6	JTDI	JTAG Port
JP2	7	BOOT0	Boot 0 fuse
JP2	8	JTCK	JTAG Port
JP2	9	I2C_SDA	I2C Data
JP2	10	JTMS	JTAG Port
JP2	11	I2C_SCL	I2C Clock

JP2	12	UART1_RTS	Uart1 Request to Send
JP2	13	I2C_SMBAI	I2C SMBAI
JP2	14	UART1_CTS	Uart1 Clear to Send
JP2	15	UART1_CK	Uart1 Transmitter Clock Out
JP2	16	UART1_TX	Uart1 Transmitted Data
JP2	17	GND	Ground(0V)
JP2	18	UART1_RX	Uart1 Received Data

Table 2. Pin Header Connector PIN-Assignment