REYAX
TECHNOLOGY CORPORATION, LTD

19-JUL-2022 56312E30

RYLR998

UART Interface
868/915 MHz Lora
Antenna Transceiver Module

Datasheet

PRODUCT DESCRIPTION

The RYLR998 transceiver module feature the Lora long range modem that provides ultra-long range spread spectrum communication and high interference immunity whilst minimizing current consumption.

FEATURES

- NUVOTON MCU & Semtech LoRa Engine
- Excellent blocking immunity
- Smart receiving power saving mode
- High sensitivity
- Control easily by AT commands
- Built-in antenna

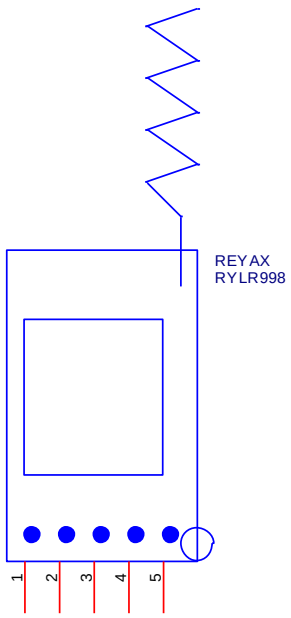
APPLICTIONS

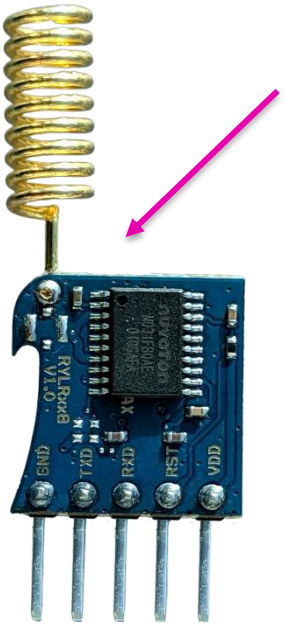
- IoT Applications
- Mobile Equipment
- Home Security
- Industrial Monitoring and Control Equipment

CERTIFICATION

- FCC (Under test)
- NCC (Under test)

PIN DESCRIPTION

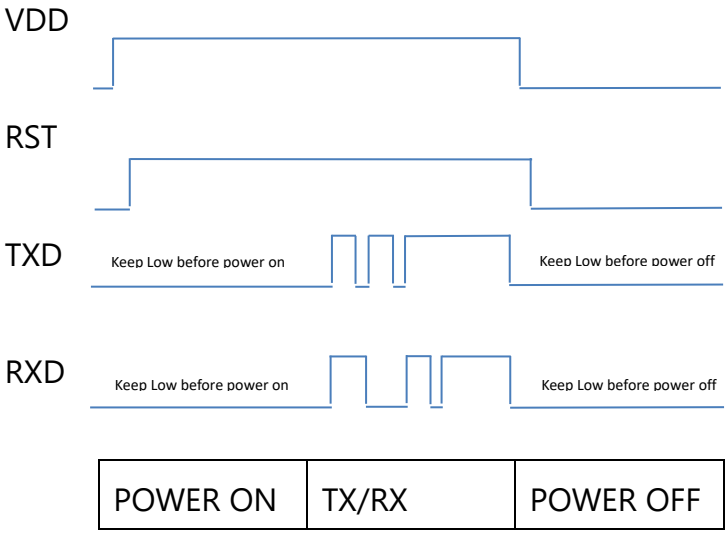




I-PEX MHF4 connector
reserved position

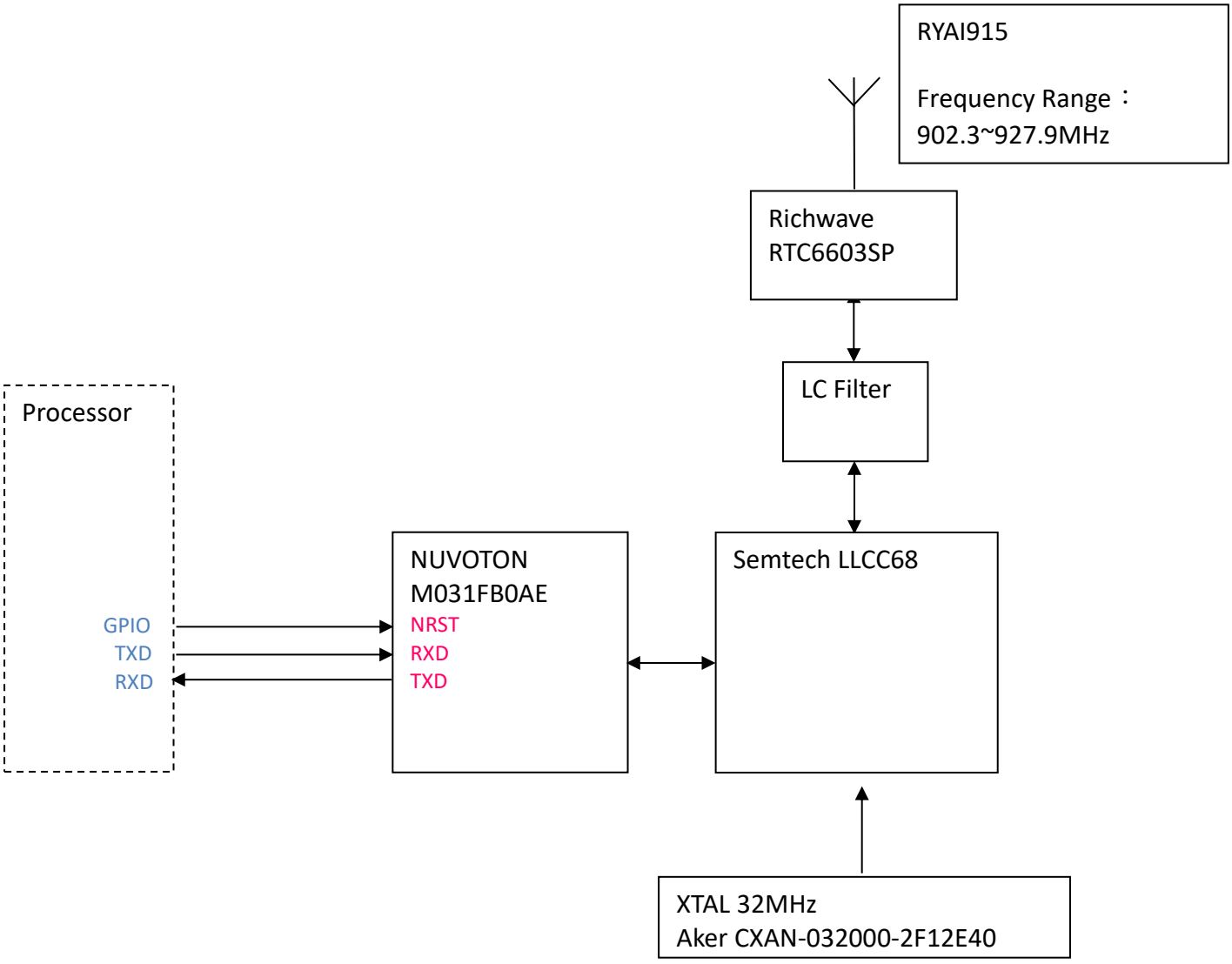
Pin	Name	I/O	Condition
1	VDD	I	Power Supply
2	NRST	I	RESET(Active Low) 100KΩ Internal pull up, Pull down at least 100ms
3	RXD	I	UART Data Input
4	TXD	O	UART Data Output
5	GND	-	Ground

TIMING DIAGRAM



POWER ON	TX/RX	POWER OFF

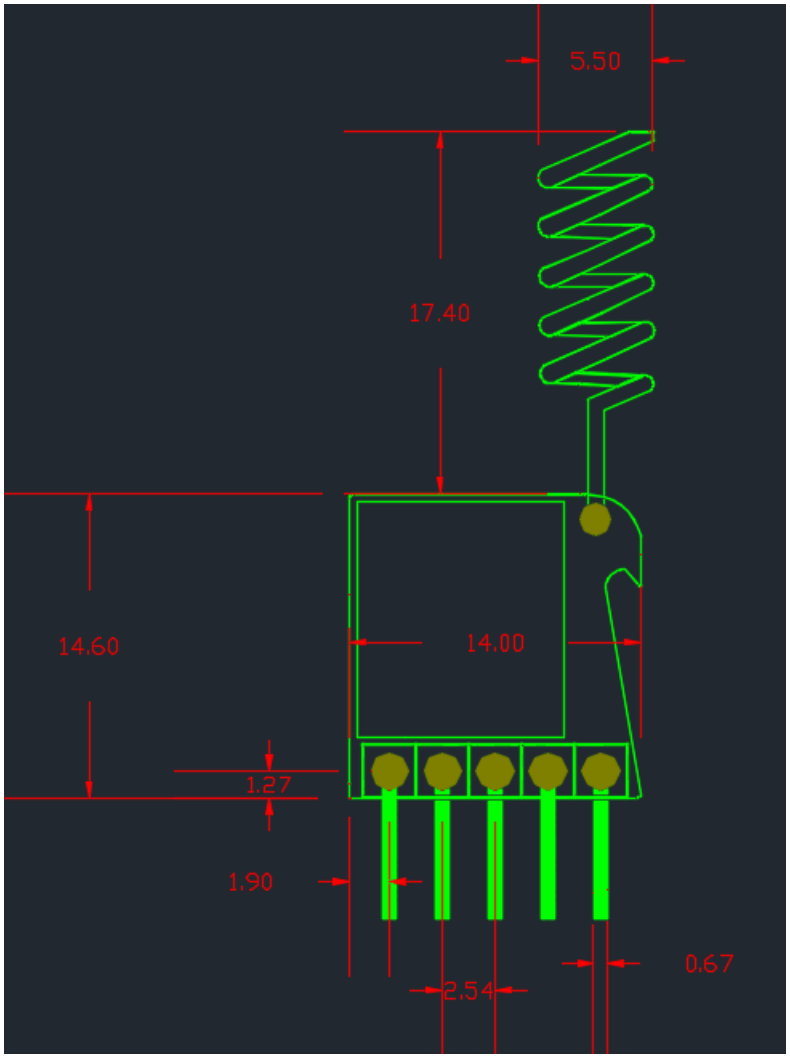
BLOCK DIAGRAM

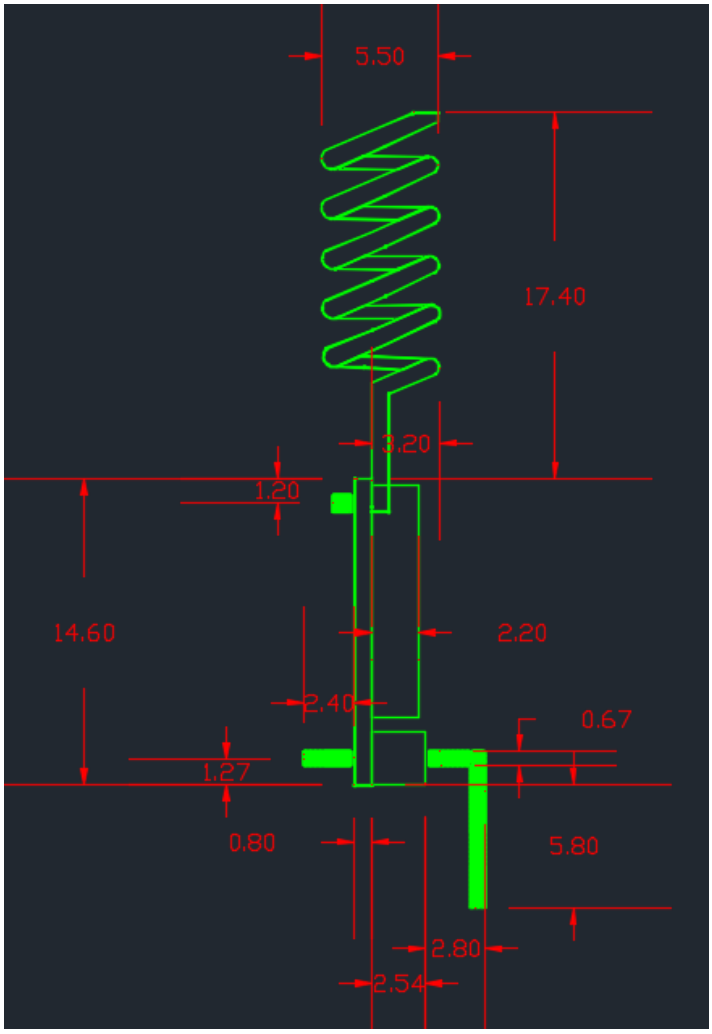


SPECIFICATION

Item	Min.	Typical	Max.	Unit	Condition
VDD Power supply	1.8	3.3	3.6	V	VDD
RF Output power range	-20		22	dBm	
Filter insertion loss	1	2	3	dB	
RF Sensitivity	-129			dBm	
RF Input level			10	dBm	
Frequency range	902.3	915	927.9	MHz	For FCC
Frequency range	920		925	MHz	For NCC
Channel Separation		0.2		MHz	For FCC
Dwell Time in 20s		150		ms	For FCC
One burst time		30		ms	For FCC
Frequency accuracy		±10		ppm	
Transmit Mode current		140		mA	RFOP = +22dBm
Receive Mode current		17.5		mA	
Sleep mode current		15		uA	AT+MODE=1
Smart receiving power saving mode average current	0.02	2.7	5.5	mA	AT+MODE=2,3000,3000
Baud rate	300	115200	115200	bps	8, N, 1
Digital Input Level High	0.7*VDD		VDD	V	VIH
Digital Input Level Low	0		0.3*VDD	V	VIL
Digital Output Level High	0.9		VDD	V	VOH
Digital Output Level Low			0.1	V	VOL
Cycling (erase / write) Flash data memory		200		K	Cycles
Weight		2		g	
Operating temperature	-40	25	+85	˚C	

DIMENSIONS

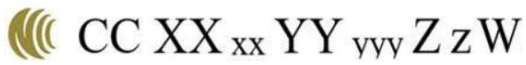




Unit : mm

CERTIFICATION INFORMATION

取得審驗證明之低功率射頻器材，非經核准，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。低功率射頻器材之使用不得影響飛航安全及干擾合法通信;經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。前述合法通信，指依街信管理法規定作業之無線電通信。低功率射頻器材須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾



若此認證標籤隨同 RYLR998 安裝在主體裝置或設備內而無法看見，則安裝 RYLR998 之主體裝置或設備上必須標示【內含發射器模組: CC XX xx YY yyy Z z W】。

Radiation Exposure Statement:

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 or nearby persons.

CFR 47 FCC PART 15 SUBPART C (15.247) has been investigated. It is applicable to the modular transmitter.

Additional testing, Part 15B disclaimer :
This module only complied with FCC 15.247 requirements as listed on the grant, and therefore, the host product manufacturer is responsible for FCC Part 15B compliance testing with the modular transmitter installed.

The modular transmitter is only FCC authorized for the specific rule parts (i.e., FCC transmitter rules) listed on the grant. OEM integrators are responsible for host-product evaluation or any additional compliance requirements with this modular transmitter installed.

LABEL OF THE END PRODUCT:

The final end product must be labeled in a visible area with the following " Contains TX FCC ID : QLYRYLR998 ". If the size of the end product is larger than 8x10cm, then the following FCC part 15.19 statement has to also be available on the label: 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, including interference that may cause undesired operation.
If the FCC ID is not visible when the RYRL998 is installed inside another device, then the outside of the device into which the RYLR998 is installed must also display a label such as the following Transceiver Module FCC ID : QLYRYLR998.

ORDER INFORMATION

Ordering No.	Pin Header	Antenna
RYLR998	90 Degree Angle	Antenna

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