

User manual of WSZWM110A00

1. Introduction

WSZWM110A00 is a Z-wave module compliant with ITU-T G.9959 optimized for low-power applications. The ZigBee chipset is from Sigma Designs, part number SD3503.

2. Hardware Architecture:

2.1 Main Chipset Information

Item	Vendor	Part Number
ITU-T G.9959	Sigma Designs	SD3503

2.2 Circuit Block Diagram

The major internal and external block diagram of WSZWM110A00 is illustrated in Figure 1-1.

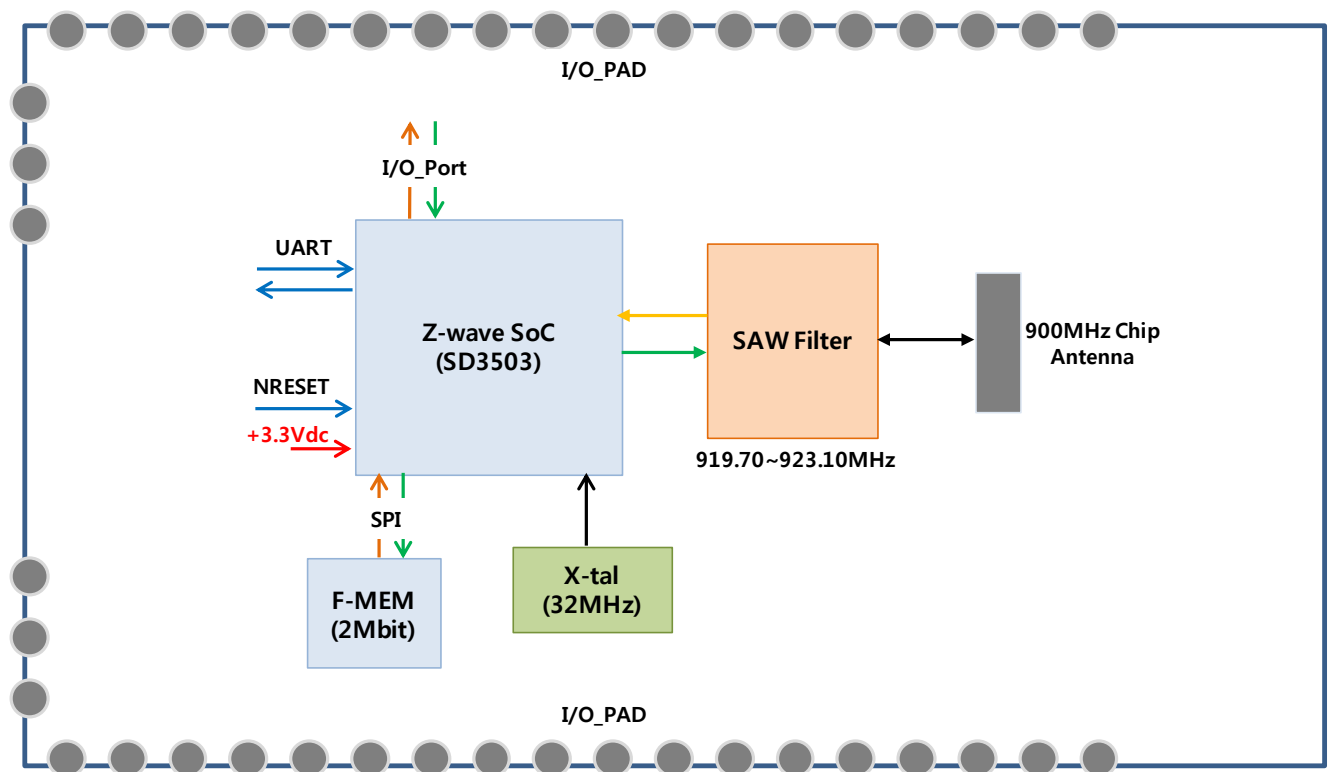


Figure 1-1 WSZWM110A00 block diagram and System Interface

3. Operational Description

WSZWM110A00 is the ITU-T G.9959 Z-wave Module that acts as a communication controller for users of a wireless device.

- Features

- > Z-Wave ITU-T G.9959
- > Z-Wave 9.6/40/100 kbit/s data rate
- > 128-bit AES security processor and hardware random number generator

- Time base of the RF frequency

For Z-wave IF and RF frequency, a crystal(32MHz) is a clock reference.

- Z-wave Transceiver

The WSZWM110A00 is a fully integrated module with an on-board antenna that allows the establishment of a Z-Wave network with minimum risk. The SD3503 chip is used with an external NVM (Serial Flash MEM), 32MHz crystal, power supply decoupling, SAW filter, matching circuit, and a PCB pattern Antenna.

- Z-wave Receiver

The module is converted into a digital signal through the available receive signal of 900MHz and low noise have a built-in amplifier to amplify the signal to the received signal to the low noise amplifiers to match the signal strength and the amplified signal is inside Chip ADC from the main processor the packet containing the information is interpreted.

- Product Details

> Data Modulation

Z-Wave : FSK/GFSK for ITU-T G.9959

> Frequency :

Z-wave

Data rate	9.6kbps	40kbps	100kbps	
Modulation	Frequency Shift Keying (FSK)	FSK	Gaussian Frequency Shift Keying (GFSK)	
Frequency deviation	$f_c \pm 20\text{kHz}$	$f_c \pm 20\text{kHz}$	$f_c \pm 29.3\text{kHz}$	
Coding	Manchester encoded	Non-return to Zero (NRZ)	NRZ	
United Arab Emirates	868.42 MHz	868.40 MHz	869.85 MHz	E
Australia	921.42 MHz	921.40 MHz	919.80 MHz	H
Brazil	921.42 MHz	921.40 MHz	919.80 MHz	H
Canada	908.42 MHz	908.40 MHz	916.00 MHz	U
Chile	908.42 MHz	908.40 MHz	916.00 MHz	U
China	868.42 MHz	868.40 MHz	869.85 MHz	E
European Union	868.42 MHz	868.40 MHz	869.85 MHz	E
Hong Kong	919.82 MHz	919.80 MHz	919.80 MHz	H
Israel	916.02 MHz	916.00 MHz	-	U
India	865.20 MHz	865.20 MHz	865.20 MHz	E
Japan	-	-	922.50 MHz	H
	-	-	923.90 MHz	H
	-	-	926.30 MHz	H
Korea	-	-	919.70 MHz	H
	-	-	921.70 MHz	H
	-	-	923.10 MHz	H
Mexico	908.42 MHz	908.40 MHz	916.00 MHz	U
Malaysia	868.12 MHz	868.10 MHz	868.10 MHz	E
New Zealand	921.42 MHz	921.40 MHz	919.80 MHz	H
Russia	869.02 MHz	869.00 MHz	-	E
Singapore	868.42 MHz	868.40 MHz	869.85 MHz	E
Taiwan	-	-	922.50 MHz	H
	-	-	923.90 MHz	H
	-	-	926.30 MHz	H
United States	908.42 MHz	908.40 MHz	916.00 MHz	U
South Africa	868.42 MHz	868.40 MHz	869.85 MHz	E

- Product pwr Spec.

Symbol	Parameter	Min	Typ.	Max	Unit
VDD	Power supply	3.0	3.3	3.6	V

- Product Spec.

> Z-wave

Parameter	Min	Typ.	Max	Unit
RF Characteristics(NA)				
RF Frequency Range	919.70	-	923.10	MHz
Output power	1	-	7	dBm
TX Frequency Tolerance	-25.0	-	25.0	KHz
TX Harmonics 2 nd Harmonics 3 rd Harmonics	-	-	-30	dBm
RX sensitivity PER at -85dBm	-	-	3	%
RX Spurious Emission 30.0MHz to 12.5GHz	-	-	-54	dBm

Instruction to OEM

This device complies with Industry Canada's license-exempt RSSs. 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 application and its antenna must not be co-located or operation in conjunction with any other antenna or transmitter. A minimum separation distance of 20cm must be maintained between the antenna and the person for this appliance to satisfy the RF exposure requirements.

Host labeling requirement: "Contains transmitter module

FCC ID: A3LWSZWM110C00

IC ID: 649E-WSZWM110C00

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.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

- (1) l'appareil ne doit pas produire de brouillage, et
- (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.