

ESSYS BWR-Y89359 WiFi-Bluetooth Combo Module User Manual

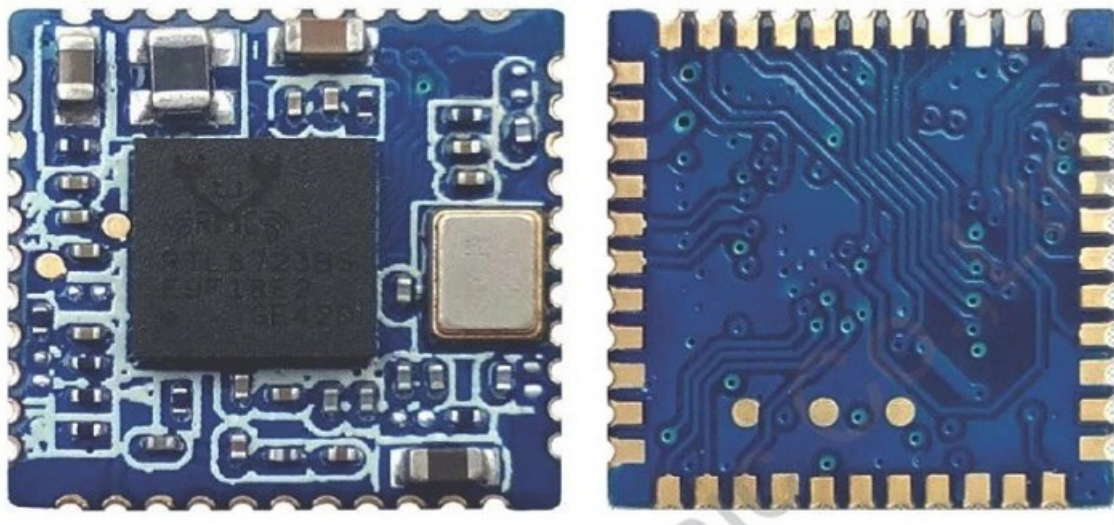
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ESSYS BWR-Y89359 WiFi-Bluetooth Combo Module

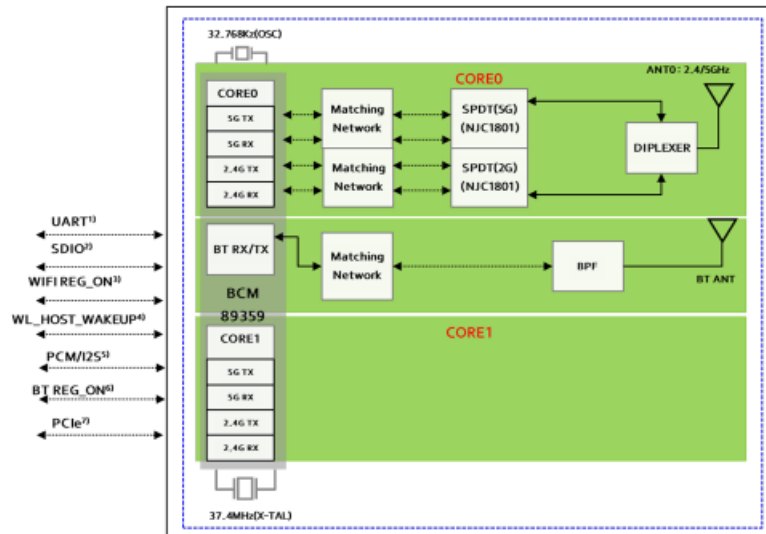


BWR-Y89359 Information

- BWR-Y89359SMA is a WiFi/Bluetooth Combo Module
- **Module type:** 48 pin SMD type

- RoHS compliant
- This module has deployed part which are AEC-Q100 qualified

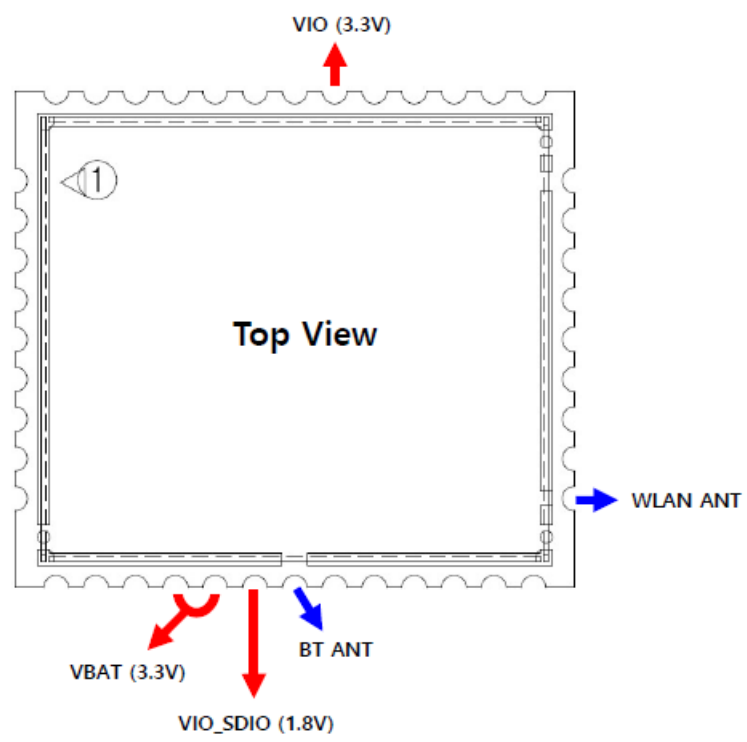
Configuration



1. **Host Interface for Bluetooth:** 4 Pins (BT_UART_TXD, BT_UART_RXD, BT_UART_CTS, BT_UART_RTS)
2. **Audio Interface for Bluetooth:** 4 Pins (BT_PCM_CLK, BT_PCM_SYNC, BT_PCM_IN, BT_PCM_OUT)
3. **Host Interface for Wi-Fi:** 6Pins (SDIO_CMD, SDIO_CLK, SDIO_DATA0, SDIO_DATA1, SDIO_DATA2, SDIO_DATA3)
4. **Bluetooth/Wi-Fi On/Off and Reset:** 2Pins (BT_REG_ON for Bluetooth, WIFI_REG_ON for Wi-Fi)
5. Controlled by Module to wake-up Host. (Optional)
6. External LPO 32.768KHz Clock. (Optional)
7. **Host Interface for WIFI:** PCIe or SDIO

Specification

1. **Operating temperature Range:** -40 ~ +85°C
2. **Power Voltage:** 3.3V



| | | | | | |
|----|------------|----|-----------------|----|---------------|
| 1 | PCIE_CLK_P | 17 | WL_REG_ON | 33 | BT_UART_RTS_N |
| 2 | PCIE_CLK_N | 18 | BT_REG_ON | 34 | BT_UART_CTS_N |
| 3 | PCIE_TD_N | 19 | BT_PCM_CLK | 35 | BT_UART_RXD |
| 4 | PCIE_TD_P | 20 | BT_PCM_SYNC | 36 | BT_UART_TXD |
| 5 | SDIO_CLK | 21 | BT_PCM_IN | 37 | VIO |
| 6 | SDIO_CMD | 22 | BT_PCM_OUT | 38 | SDIO_DIS |
| 7 | SDIO_DATA3 | 23 | WL_ANT_CORE0 | 39 | PCIE_EN |
| 8 | SDIO_DATA2 | 24 | GND | 40 | PCIE_PME_L |
| 9 | SDIO_DATA1 | 25 | LPO | 41 | PCIE_PERST_N |
| 10 | SDIO_DATA0 | 26 | GND | 42 | PCIE_CLKREQ |
| 11 | SECI_IN | 27 | VER_VOLTAGE | 43 | PCIE_RD_P |
| 12 | SECI_OUT | 28 | WL_HOST_WAKE_UP | 44 | PCIE_RD_N |
| 13 | VBAT | 29 | GND | 45 | GND |
| 14 | VBAT | 30 | GND | 46 | GND |
| 15 | VIO_SDIO | 31 | WL_ANT_CORE1 | 47 | GND |
| 16 | BT_ANT | 32 | SDIO_PAD | 48 | GND |

Module Integration Guide

1. Applicable FCC Rule

- CFR 47 Part 15.247, 15.407

2. Operational Condition

- The module is limited to OEM installation ONLY. The OEM integrator is responsible for ensuring that the end-user has no manual instruction to remove or install module.

3. Limited Module Procedure

- BWR-B89359SMA is limited Module. The module doesn't have its own power supply regulation. Therefore, the host product manufacturer must design the host product so that a constant voltage of 3.3V is applied to the module.

4. Trace antenna designs: N/A

5. RF Exposure consideration (CFR 47 Part 1, 1.1307(b), 1.1310)

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

6. Antenna

- This modular has PCB pattern antenna. Any changes of antenna designs might require additional assessment. The Host antenna type shall be same type and antenna gain shall be less or equal to below information

| Antenna Gain | | |
|--------------|-----------------|--------------------|
| | Frequency (MHz) | Antenna Gain (dBi) |
| Bluetooth | 2 400 ~ 2 483.5 | 3.36 |
| WLAN (2.4G) | 2 400 ~ 2 483.5 | 1.22 |
| WLAN (5G) | 5 150 ~ 5 250 | 3.49 |
| | 5 250 ~ 5 350 | 3.98 |
| | 5 470 ~ 5 725 | 4.83 |
| | 5 725 ~ 5 850 | 2.30 |

1. Label and compliance information

- The end user manual shall include all required regulatory information/warning as shown in this manual. If the FCC identification number is not visible when the module is installed inside another device, then the

outside of the device into which the module is installed must also display a label referring to the enclosed module. This exterior label can use wording such as the following: “Contains FCC ID : 2ADQJ-Y89359” any similar wording that expresses the same meaning may be used.

2. Information on test modes and additional testing requirements

- This modular was tested in standalone configuration. Integration of this modular into a host equipment would require additional testing.

3. Additional testing, Part 15 Subpart B disclaimer

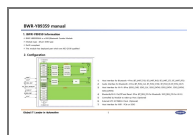
- The grantee should include a statement that the modular transmitter is only FCC authorized for the specific rule parts (i.e., FCC transmitter rules) listed on the grant, and that the host product manufacturer is responsible for compliance to any other FCC rules that apply to the host not covered by the modular transmitter grant of certification. If the grantee markets their product as being Part 15 Subpart B compliant (when it also contains unintentional-radiator digital circuitry), then the grantee shall provide a notice stating that the final host product still requires Part 15 Subpart B compliance testing with the modular transmitter installed.

4. ISED Statement

- This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada’s licence- exempt RSS(s). Operation is subject to the following two conditions
 1. This device may not cause interference..
 2. This device must accept any interference, including interference that may cause undesired operation of the device.
- Please notice that if the IC identification number is not visible when the module is installed inside another device, then the outside of the device into which the module is installed must also display a label referring to the enclosed module. This exterior label can use wording such as the following: “Contains IC : 28512-Y89359” any similar wording that expresses the same meaning may be used.
- This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 cm (7.8 inches) between the antenna and your body.

NOTE: THE MANUFACTURER IS NOT RESPONSIBLE FOR ANY RADIO OR TV INTERFERENCE CAUSED BY UNAUTHORIZED MODIFICATIONS TO THIS EQUIPMENT. SUCH MODIFICATIONS COULD VOID THE USER’S AUTHORITY TO OPERATE THE EQUIPMENT.

Documents / Resources



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