WL72917 V00 User guide

Brand: AMPAK Technology Inc

Model: WL72917

Pin Descriptions

NO	Name	Type	Description
1	GND	P	Ground
2	EXT_RF_ANT	RF	External RF Antenna I/O Interface
3	GND	P	Ground
4	GPIO_27	I/O	Refer to GPIO Muxing Tables for Released configuration; Option 2: SPI_MOSI
5	GPIO_25	I/O	Refer to GPIO Muxing Tables for Released configuration; Option 2: SPI_SCLK
6	GPIO_26	I/O	Refer to GPIO Muxing Tables for Released configuration; Option 2: SPI_CS
7	GPIO_10	I/O	Refer to GPIO Muxing Tables for Released configuration
8	GPIO_12	I/O	Refer to GPIO Muxing Tables for Released configuration
9	GPIO_11	I/O	Refer to GPIO Muxing Tables for Released configuration
10	GPIO_46	I/O	Refer to GPIO Muxing Tables for Released configuration
11	GPIO_51	I/O	Refer to GPIO Muxing Tables for Released configuration
12	GPIO_50	I/O	Refer to GPIO Muxing Tables for Released configuration
13	GPIO_49	I/O	Refer to GPIO Muxing Tables for Released configuration
14	GPIO_47	I/O	Refer to GPIO Muxing Tables for Released configuration
15	GPIO_48	I/O	Refer to GPIO Muxing Tables for Released configuration
16	UULP_VBAT_GPIO_0	I/O	Ultra-low power mode and also in the retention and deep sleep mode of operation
17	GND	P	Ground
18	PA2G_AVDD	P	Power supply for the 2.4 GHz RF Power Amplifier : 3.3V only
19	GND	P	Ground
20	JTAG_TMS_SWDIO	I/O	JTAG interface Test Mode Select signal. Bi-directional data pin for SWD Interface.
21	JTAG_TDO_SWO	O	JTAG interface output data. Serial wire output for SWD Interface. (This pin can also be used as ISP_ENABLE. Pull down to enable ISP mode.)
22	JTAG_TCK_SWCLK	I/O	JTAG interface clock or serial wire clock.
23	JTAG_TDI	I	JTAG interface input data.
24	ULP_GPIO_11	I/O	Refer to GPIO Muxing Tables for Released configuration

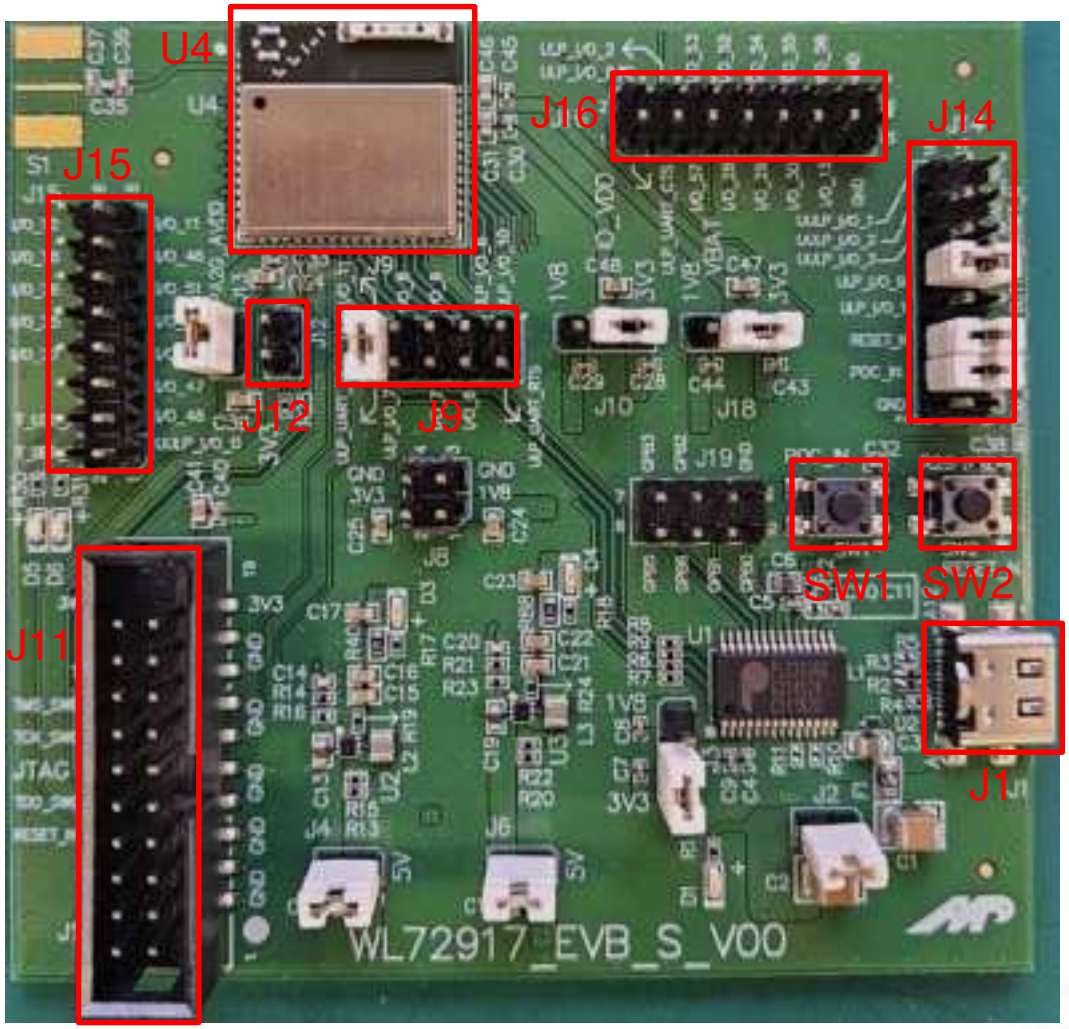
Pin Descriptions

NO	Name	Type	Description
25	ULP_GPIO_7	I/O	Refer to GPIO Muxing Tables for Released configuration
26	GPIO_8	I/O	Refer to GPIO Muxing Tables for Released configuration; Option 1: UART_RX
27	GPIO_7	I/O	Refer to GPIO Muxing Tables for Released configuration
28	GPIO_9	I/O	Refer to GPIO Muxing Tables for Released configuration; Option 1: UART_TX
29	GPIO_6	I/O	Refer to GPIO Muxing Tables for Released configuration
30	ULP_GPIO_6	I/O	Refer to GPIO Muxing Tables for Released configuration
31	ULP_GPIO_10	I/O	Refer to GPIO Muxing Tables for Released configuration
32	GND	P	Ground
33	POC_IN	I	Power On Control (POC) input. The POC_IN and RESET_N signals can be controlled from external source like R/C circuits and or another MCU's
34	RESET_N	I	Active-low reset asynchronous reset signal
35	ULP_GPIO_1	I/O	Refer to GPIO Muxing Tables for Released configuration
36	ULP_GPIO_9	I/O	Refer to GPIO Muxing Tables for Released configuration
37	UULP_VBAT_GPIO_3	I/O	Ultra-low power mode and also in the retention and deep sleep mode of operation
38	UULP_VBAT_GPIO_2	I/O	Ultra-low power mode and also in the retention and deep sleep mode of operation
39	UULP_VBAT_GPIO_1	I/O	Ultra-low power mode and also in the retention and deep sleep mode of operation
40	GND	P	Ground
41	IO_VDD	P	I/O Power supplies for GPIOs. Always-on VBATT supply to the UULP GPIO Domains.
42	GND	P	Ground
43	VBAT	P	Always-on VBATT Power supply to the RF. Power supply for the on-module Internal DC Buck. Power supply for Internal 1.8V LDO Input Power.
44	VBAT	P	
45	GND	P	Ground
46	GND	P	Ground

Pin Descriptions

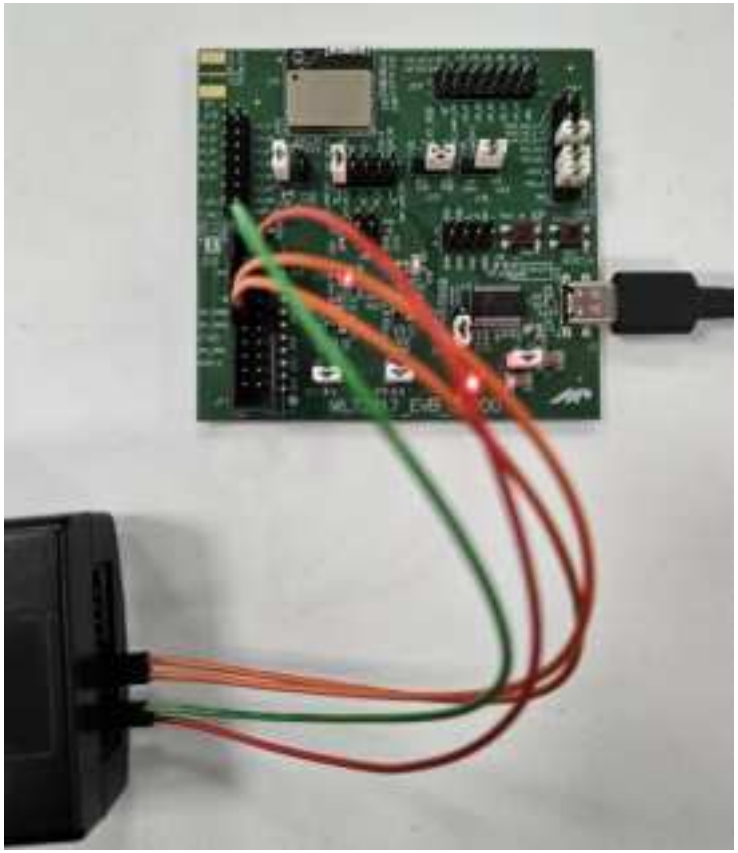
NO	Name	Type	Description
47	ULP_GPIO_8	I/O	Refer to GPIO Muxing Tables for Released configuration
48	ULP_GPIO_2	I/O	Refer to GPIO Muxing Tables for Released configuration
49	GPIO_53	I/O	Refer to GPIO Muxing Tables for Released configuration
50	GPIO_52	I/O	Refer to GPIO Muxing Tables for Released configuration
51	GPIO_54	I/O	Refer to GPIO Muxing Tables for Released configuration
52	GPIO_55	I/O	Refer to GPIO Muxing Tables for Released configuration
53	GPIO_56	I/O	Refer to GPIO Muxing Tables for Released configuration
54	GPIO_15	I/O	Refer to GPIO Muxing Tables for Released configuration
55	GPIO_30	I/O	Refer to GPIO Muxing Tables for Released configuration
56	GPIO_29	I/O	Refer to GPIO Muxing Tables for Released configuration
57	GPIO_28	I/O	Refer to GPIO Muxing Tables for Released configuration; Option 2: SPI_MISO
58	GPIO_57	I/O	Refer to GPIO Muxing Tables for Released configuration
59	GND	P	Ground
60	GND	P	Ground
61	GND	P	Ground

Test Board Function



1. U4 : WL72917_8M Module
2. SW1 : Power On Control(POC) Button
3. SW2 : Reset Button
4. J11 : JTAG Interface
5. J1 : Type C USB
6. J12 : In-System Programming(ISP) Enable
7. J9, J14, J15 & J16 : Module I/O Pin

J-Link Download Connection



If the cable do not match, you can use a cable dupont connection.

RF connection

The EVK provides SMA antenna connectors , external RFout and I-PEX connector.
If user wants to connect the I-PEX connector, need to put on C26 but C29 off. Looks like left of figure.

Warning

Ant List

Antenna Number	Brand Name	Model Name	Peak Gain	Type
Antenna 1	SparkLAN	AD-305N	5	Dipole
Antenna 2	SparkLAN	AD-103AG	2.02	Dipole
Antenna 3	SparkLAN	AD-301N	4.4	Dipole
Antenna 4	SparkLAN	AD-302N	3.14	Dipole
Antenna 5	SparkLAN	AD-303N	3.14	Dipole
Antenna 6	Pulse	TZ2412W	3.60	Dipole
Antenna 7	Pulse	ANT8010LL04R2400A	0.7	Chip
Antenna 8	TSKY	A8-A006-00XXX	1.02	PIFA
Antenna 9	TSKY	A8-A006-00739	1.02	PIFA

Warning

Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

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.

Warning

IMPORTANT NOTE:

This module is intended for OEM integrator. This module is only FCC authorized for the specific rule parts 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. The final host product still requires Part 15 Subpart B compliance testing with the modular transmitter installed.

Additional testing and certification may be necessary when multiple modules are used.

OEM integrators that they must use the equivalent antennas or C2PC will be required.

This equipment complies with FCC mobile radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20cm between the radiator & your body. If the module is installed in a portable host, a separate SAR evaluation is required to confirm compliance with relevant FCC portable RF exposure rules.

Any changes or modifications not expressly approved by the manufacturer could void the user's authority to operate this equipment.

The host manufacturer should reference KDB Publication 996369 D04 Module Integration Guide.

USERS MANUAL OF THE END PRODUCT:

In the users manual of the end product, the end user has to be informed to keep at least 20cm separation with the antenna while this end product is installed and operated. The end user has to be informed that the FCC radio-frequency exposure guidelines for an uncontrolled environment can be satisfied.

The end user has to also be informed that any changes or modifications not expressly approved by the manufacturer could void the user's authority to operate this equipment.

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.

Warning

LABEL OF THE END PRODUCT:

The final end product must be labeled in a visible area with the following " Contains TX FCC ID: ZQ6-WL72917 ".

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.

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.

Cet appareil contient des émetteurs / récepteurs exempts de licence qui sont conformes au (x) RSS (s) exemptés de licence d'Innovation, Sciences et Développement économique Canada. L'opération est soumise aux deux conditions suivantes:

(1) Cet appareil ne doit pas provoquer d'interférences.

(2) Cet appareil doit accepter toute interférence, y compris les interférences susceptibles de provoquer un fonctionnement indésirable de l'appareil.

This radio transmitter [11956A-WL72917] has been approved by Innovation, Science and Economic Development Canada to operate with the antenna types listed below, with the maximum permissible gain indicated. Antenna types not included in this list that have a gain greater than the maximum gain indicated for any type listed are strictly prohibited for use with this device.

Le présent émetteur radio (11956A-WL72917) a été approuvé par Innovation, Sciences et Développement économique Canada pour fonctionner avec les types d'antenne énumérés ci-dessous et ayant un gain admissible maximal d'antenne. Les types d'antennes non inclus dans cette liste qui ont un gain supérieur au gain maximal indiqué pour tout type listé sont strictement interdits pour une utilisation avec cet appareil.

Warning

IMPORTANT NOTE:

This module is intended for OEM integrator. The OEM integrator is responsible for the compliance to all the rules that apply to the product into which this certified RF module is integrated.

Additional testing and certification may be necessary when multiple modules are used.

OEM integrators that they must use the equivalent antennas or C2PC will be required.

The distance greater than 20 cm has to be able to be maintained between the antenna and the users for the host this module is integrated into. Under such configuration, the IC RSS-102 radiation exposure limits set forth for a population/uncontrolled environment can be satisfied.

Any changes or modifications not expressly approved by the manufacturer could void the user's authority to operate this equipment.

USERS MANUAL OF THE END PRODUCT:

In the users manual of the end product, the end user has to be informed to keep greater than 20 cm separation with the antenna while this end product is installed and operated. The end user has to be informed that the IC radio-frequency exposure guidelines for an uncontrolled environment can be satisfied.

The end user has to also be informed that any changes or modifications not expressly approved by the manufacturer could void the user's authority to operate this equipment. Operation is subject to the following two conditions: (1) this device may not cause harmful interference (2) this device must accept any interference received, including interference that may cause undesired operation.

LABEL OF THE END PRODUCT:

The final end product must be labeled in a visible area with the following " Contains IC: 11956A-WL72917 ".

The Host Model Number (HMN) must be indicated at any location on the exterior of the end product or product packaging or product literature which shall be available with the end product or online.