arcadyan WN9722OAX22-DM-MAIN
Heos 7.0 Platform Module

arcadyan WN9722OAX22-DM-MAIN Heos 7.0 Platform Module User Manual

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Contents

SPECIFICATION

Basic Specification

2. Item	Contents

Manufacture	Arcadyan			
Product Name	HEOS 7.0 Platform Module			
Model Name	WN9722OAX22-DM-MAIN (AIOS7.0)			
Chip	SOC		Vendor	Model name
	CPU		Mediatek	
	2.4GHz MAC/BB/RF		Mediatek	
	2.4GHz PA(Tx)		Mediatek	
	2.4GHz LNA(Rx)		Mediatek	
	2.4GHz BPF(Rx)		ACX DP1608	
	5GHz MAC/BB/RF		Mediatek	
	5GHz PA(Tx)		Mediatek	
	5GHz LNA(Rx)		Mediatek	
	5GHz BPF(Rx)		ACX DP1608	
	PHY	WAN	None	
		LAN	Realtek	
OS				
FW	ODM		Arcadyan	
	FW spec			
Driver/Utility	Driver		Utility	
	OEM		Arcadyan	
Support Band	Refer wireless spec			
Interface	Item	Link Rate	Number of ports	
	LAN	1000Mbps	1	

	HDMI	2.0	1
	USB	2.0	1
	PCIe	2.0	1
Supply Voltage	5V		
Power consumption	13.08W (maximum)		
Weight	Under 78g		
Dimensions	95.6 x 75 x 1.2mm		
Design life time	5years at 25 degrees		

Detail Specification

Product Specification

Items		Contents		
CPU	Vendor	MTK		
	Parts number			
	Operation frequency	1.7GHz		
RAM	Type	DDR3		
	Width	16bit		
	Operation Freq	2133MHz		
	Capacity	128MB		
ROM	Type	eMMC		
	I/O speed	50ns		
	Capacity	8Gb		
Wired LAN	Number of port	1		
	Connector Type	RJ45		
	Chip		Vendor	
		MAC	MTK	
		PHY	Realtek	
	Standard	10BASE-T/100BASE-T/1000BASE-Tx		

USB	Number of port	2	
	Connector	USB Type A Connector	
	Standard	USB2.0	
HDMI	Chip	Vendor	
		MTK	
	Standard	HDMI 2.0	

Item	Specification	Remark
Chip		
Interface	SDIO	
Frequency	2400~2483.5MHz(FCC, CE, JP) 2471~2497MHz(JP) 5150~5250MHz(W52, U-NII-1, Band 1) 5250~5350MHz(W53, U-NII-2A, Band 2) 5470~5725MHz(W56, U-NII-2C, Band 3) 5725~5850MHz(W58, U-NII-3, Band 4) DFS support**6GHz band** 5955~7125MHz	
Data Rate	IEEE 802.11b: 11, 5.5, 2, 1Mbps IEEE 802.11a 54, 48, 36, 24, 18, 12, 9, 6Mbps IEEE 802.11n HT20 Up to 144Mbps IEEE 802.11n HT40 Up to 300Mbps IEEE 802.11ac VHT80 Up to 866.7Mbps IEEE 802.11ax HE80 Up to 1200Mbps	
MIMO	2T2R	
Antenna Port	U.FL compatible connector	

Bluetooth Specification

Item	Specification	Reark
Chip		
Interface	SDIO	
Operating Frequency	2.4 - 2.4835 GHz	
Modulation	GFSK 250kHz Adaptive Frequency Hopping, 24bit CRC 128bit AES CCM	
Channel Spacing	1MHz	
Receive Sensitivity	-86dBm at 0.1% BER	
Antenna	External U.FL connector Impedance: 50 Ohm	

Normal Setup

- EUT 1G ETH RJ45 link PC IP domain set to 192.168.50.xxx , use telnet and set IP to 92.168.50.100 input ”root” then press “enter” button.

Fig. Windows CMD

Fig. Login for telnet 192.168.50.100

- Setup EUT to link AP:
  Prepare an AP device (with wi-fi 5G function) set IP address to 192.168.0.102 and set SSID of 5G to “5G” / password : 12345678 # telnet command:
- python3 arc_wifi.py -s 5G -p 12345678 -I 192.168.0.102 #connect AP and EUT set IP address of wlan0 to

192.168.0.102

- ping 192.168.0.101 -I 192.168.0.102 # use wlan0 (192.168.0.102) of EUT to ping 192.168.0.101 which is the IP address of the PC/NB linked AP LAN port.

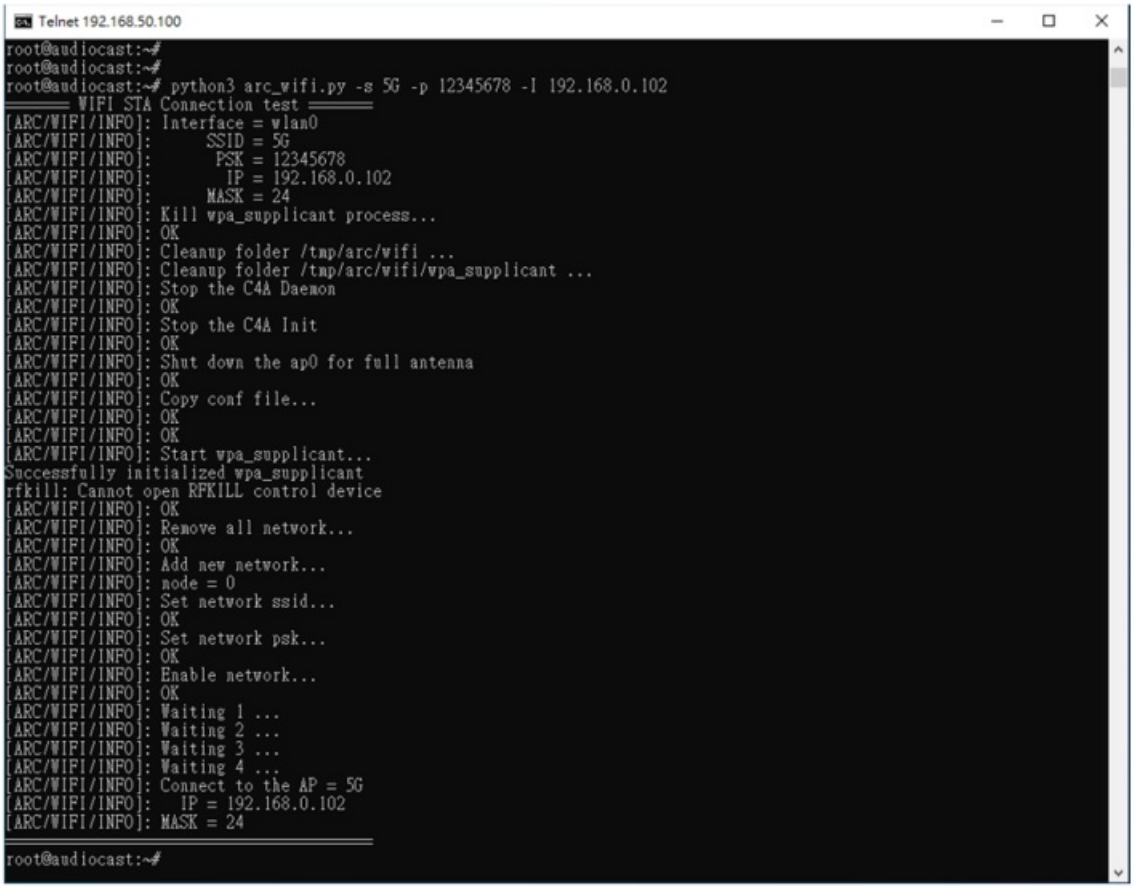


Fig. Set up Wi-Fi connection between DUT and AP

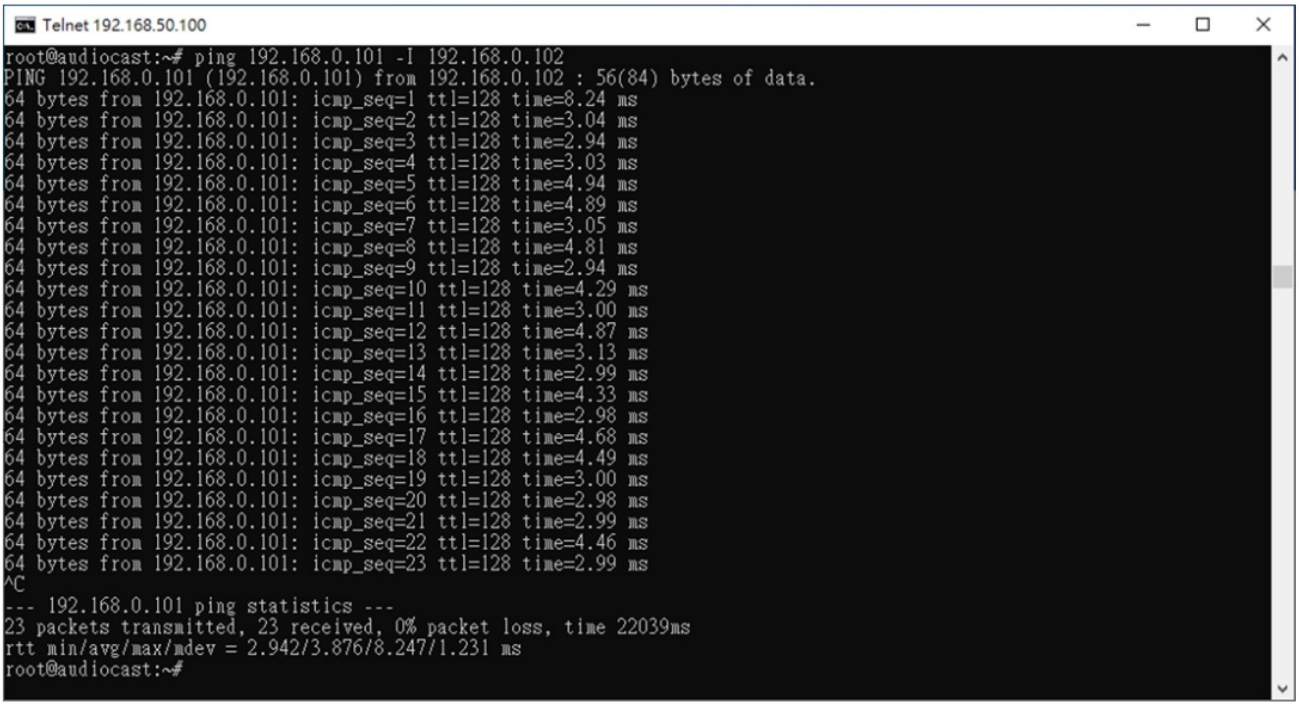


Fig. ping 192.168.0.101 from 192.168.0.102

FCC Statement

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.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

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.

For product available in the USA/Canada market, only channel 1~11 can be operated. Selection of other channels is not possible.

This device is restricted for indoor use.
Operation of transmitters in the 5.925-7.125 GHz band is prohibited for control of or Communications with unmanned aircraft systems.

IMPORTANT NOTE:

FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.
This module is intended for OEM integrator only. 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 are responsible for ensuring that the end-user has no manual instructions to remove or install module

The module is limited to installation in mobile or fixed applications, according to Part 2.1091(b).
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.

If the labelling area is small than the palm of the hand, then additional FCC part 15.19 statement is required to be available in the user's manual: 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.

Operation of transmitters in the 5.925-7.125 GHz band is prohibited for control of or Communications with unmanned aircraft systems.

LABEL OF THE END PRODUCT

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

RAXAIOS7 ".

If the labelling area is larger than the palm of the hand, 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.

FCC regulations restrict the operation of this device to indoor use only.

Dynamic Frequency Selection (DFS) for devices operating in the bands 5250- 5350 MHz, 5470-5600 MHz and 5650-5725 MHz.

The device for operation in the band 5150–5250 MHz is only for indoor use to reduce the potential for harmful interference to co-channel mobile satellite systems.

The maximum antenna gain permitted for devices in the bands 5250-5350 MHz and 5470-5725 MHz shall be such that the equipment still complies with the e.i.r.p. limit.

The maximum antenna gain permitted for devices in the band 5725-5850 MHz shall be such that the equipment still complies with the e.i.r.p. limits specified for point-to-point and non-point-to-point operation as appropriate.

For indoor use only.

Devices shall not be used for control of or communications with unmanned aircraft systems.

IC Radiation Exposure Statement:

This equipment complies with IC RSS-102 radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

For product available in the USA/Canada market, only channel 1~11 can be operated. Selection of other channels

is not possible.

This radio transmitter (IC: 4711A-AIOS7) has been approved by Industry Canada to operate with the antenna types listed below with the maximum permissible gain indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

IMPORTANT NOTE

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.

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 at least 20cm 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 and (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: 4711A-AIOS7 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.

Devices shall not be used for control of or communications with unmanned aircraft systems.

CE Statement

For MPE Statement – Mobile device

This equipment complies with EU radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

All operational modes:

2.4GHz: 802.11b, 802.11g, 802.11n (HT20), 802.11n (HT40) , 802.11n (VHT20),
802.11 n (VHT40), ,802.11 ax (HEW20),802.11 ax (HEW40), Bluetooth(BR/EDR, LE),
5GHz: 802.11a, 802.11n (HT20), 802.11n (HT40), 802.11ac (VHT20), 802.11ac (VHT40),
802.1 1ac (VHT80) ,802.11ax (HEW80), 802.11ax(HEW20),802.11 ax (HEW40)

The frequency and the maximum transmitted power iin EU are listed below:

2412-2472MHz: 20 dBm

2402-2480MHz (BR/EDR): 20 dBm
2402-2480MHz (LE): 20 dBm
5180-5240MHz: 23 dBm
5260-5320MHz: 20 dBm
5500-5700MHz: 20 dBm
5745-5825 MHz: 13.98 dBm
5955-6415MHz: 23 dBm

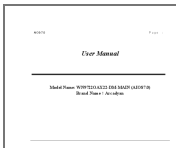
	AT	BE	BG	HR	CY	CZ	DK
	EE	FI	FR	DE	EL	HU	IIE
	IT	LV	LT	LU	MT	NL	PL
	PT	RO	SK	SI	ES	SE	UK(NI)

WLAN: restricted to indoor use only when operating in 5150-5350 MHz band.
The device is restricted to indoor use only when operating in the 5945 to 6425MHz frequency range.

Arcadyan Germany Technology GmbH
Koelner Strasse 1 Ob, 65760 Eschborn, Germany
Telec Statement
5GHz band (W52, W53): Indoor use only (except communicate to high power radio)

Set	**Ant.**	**Port**	**Brand**	**Model Name**	**Antenna Type**	**Connector**	**Gain (dBi)**			
							2.4GHz	**5GHz**	**6GHz**	**Bluetooth**
1	1	1	WIESON	ARY196-0383-005-00	Dipole Antenna	I-PEX	–	–	–	2.1
	2	1	WIESON	ARY196-0383-006-00	Dipole Antenna	I-PEX	2.2	2.7	2.8	–
	3	2	WIESON	ARY196-0383-007-00	Dipole Antenna	I-PEX	1.7	1.6	1.7	–
2	1	1	WIESON	ARY196-0383-008-00	Dipole Antenna	I-PEX	–	–	–	1.7
	2	1	WIESON	ARY196-0383-009-00	Dipole Antenna	I-PEX	2.0	2.2	2.3	–
	3	2	WIESON	ARY196-0383-0010-00	Dipole Antenna	I-PEX	1.1	1.0	0.9	–

Documents / Resources

	arcadyan WN9722OAX22-DM-MAIN Heos 7.0 Platform Module [pdf] User Manual RAXAIOS7, RAXAIOS7, WN9722OAX22-DM-MAIN, WN9722OAX22-DM-MAIN Heos 7.0 Platform Module, Heos 7.0 Platform Module, 7.0 Platform Module, Platform Module, Module

References

- User Manual