MODULE OF BT534582

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BT534582 3WAY Dashcam Module

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	Version	*V1.2*
	Editor	**Henry Ho**
	Finished date	2025-1-3

Version	Editor	Participat or	Valid from	Remark
V1.2	**Henry Ho**		2025-1-3	

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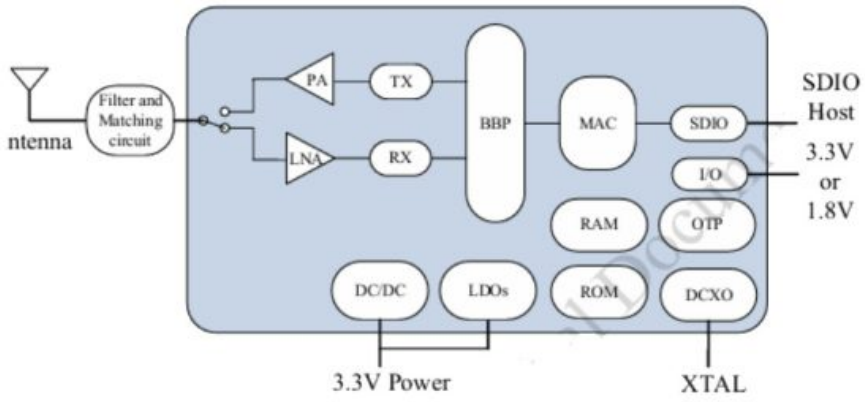
General Description

AB6062S4FB-44PCL series module is a highly integrated 802.11b/g/n/ax Wireless LAN (WLAN) 20/MHz bandwidth 1T1R device with SDIO interface (SDIO 2.0 compliant) and BLE 5.0, based on AltoBeam's ATBM6062 S4FB Wi-Fi6 chip.



Feature

Main chipset		AltoBeamATBM6062-S4FB
	Operating frequ ency	2.412 – 2.484 GHz
	Wi-Fi Standard	IEEE 802.111sigtax ITIR
	Modulation	802.116: CCK (I 1. 5.5Mbps), DQPSK (2Mbps). DBPS K (1Mbps) 802.11g/Max: OFDM
	Bandwidth	802.11 b/g/n/ax 20MHz: 20MHz 802.11nfax 40MHz: S4 0MHz

wi-li	PHY data rates	802.116: 1, 2, 5.5,11Mbps 802.1lg: 6. 9, 12, 18, 24, 36, 48, 54Mbps 802.11n: MC SO-7, up to 150Mbps 802.11ax: MCSO-11, up to 286.8 Mbps
	Receiver sensiti vity	802.11b 1Mbps: -97.5dBm; 802.1lb II Mbps: -90.OdBm; 802.11g 6Mbps: -93.5dBm: 802.11g 54Mbps: -76.5dBm ; 802.11 n MCS7 11120: -74.0dBm; 802.11n MCS71414 0: -71.0dBm 802.1lax MCSI 1 HE20: -64.OdBm: 802.11 ax MCSI 1 HE40: -60.5dBm
	Max. output po wer	802.1lb 1Mbps: 19dBm: 802.116 11Mbps: 19dBm: 802. 11g 6Mbps: lSdBm; 802.118 54Mbps: 16dBm; 802.11n HT20 MCS7: l6dBm; 802.1ln HT40 MCS7: 16(113m; 802.1lax HT20 MCSII: 13dBm; 802.11ax HMO MCS11: 13dBm
	Max. input pow er	-10dBm
Bluetooth	Frequency rang e	2.402 – 2.480 GHz
	Standard	BLE v4.2/5.0
	PHY data rates	1Mbps, 2Mbps
	Max. output po wer	Max. 14dBm (class I)
Host interface		SDIO 2.0
Operation range		More than ISO meters in open space
RF antenna		External antenna (2.4011z 5001m Resistance)

Security	WPA, WPA2, WPA3 personal
Power consumption	3.3VDC Max.320mA
Operating temperature	-20 – +70°C ambient temperature
Storage temperature	-50– +125°C ambient temperature
Humidity	5% to 90% maximum (non-condensing)
Dimension	Typical L12.00*W12.00*FII.90mm (±0.2mm) Note: The thickness of module with shield case is 2354.2mm.

Specification

3.1 Wi-Fi RF Performance

3.1.1 Output power

Mode	Data Rate	Unit	Channel 1		Channel 6		Channel 13	
			TYP	MAX	TYP	MAX	TYP	MAX
802.11b	1Mbps	dBm	18	19	18	19	18	19
	11 Mbps		18	19	18	19	18	19
802.11g	6Mbps		17	18	17	18	17	18
	54Mbps		15	16	15	16	15	16
802.11n	MCS7 HT20		14	16	14	16	14	16
	MCS7 HT40		14	16	14	16	14	16

802.11ax	MCSO_HE20		17	18	17	18	17	18
	MCSO HE40		17	18	17	18	17	18
	MCS11 _HE20		13	13	13	13	13	13
	MCS11 11 E40		13	13	13	13	13	13

Note: Max. output power is tested with spectral mask and EVM compliance.

3.1.2 EVM for Max. output power

Mode	Data Rate	Unit	Channel 1	Channel 6	Channel 13
802.11b	1Mbps	dB	-25	-25	-25
	11Mbps		-25	-25	-25
802.11g	6Mbps		-25	-25	-25
	54Mbps		-30	-30	-30
802.11n	MCS7 HT20		-30	-30	-30
	MCS7_HT40		-30	-30	-30
802. I 1 ax	MCSO HE20		-25	-25	-25
	MCSO HE40		-25	-25	-25

	MCSI1_HE20		-35	-35	-35
	MCS11 HE40		-35	-35	-35

3.1.3 Center frequency tolerance

Mode	Data Rate	Unit	MIN	TYP	MAX
802.11b	11Mbps	ppm	-10		+10
802.11g	54Mbps		-10		+10
802.11n	MCS7		-10		+10
802.11ax	MCS1 I		-10		+10

3.1.4 Receiver sensitivity

	Data Rate	Unit	Channel 1	Channel 6	Channel 13
802.11b	1Mbps	d Bin	-97.5	-97.5	-97.5
	11Mbps		–90.0	–90.0	–90.0
802.11g	6Mbps		-93.5	-93.5	-93.5
	54Mbps		-76.5	-76.5	-76.5
802.11n	MCS7_HT20		–74.0	–74.0	–74.0
	MCS7HT40		–71.0	–71.0	–71.0
802.1lax	MCS 11 HE 20		–64.0	–64.0	–64.0

	MCSI I HE40		-60.5	-60.5	-60.5

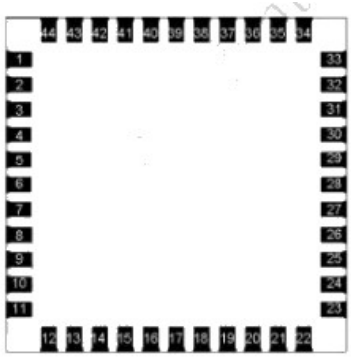
Drawing

4.1 Mechanical Specifications

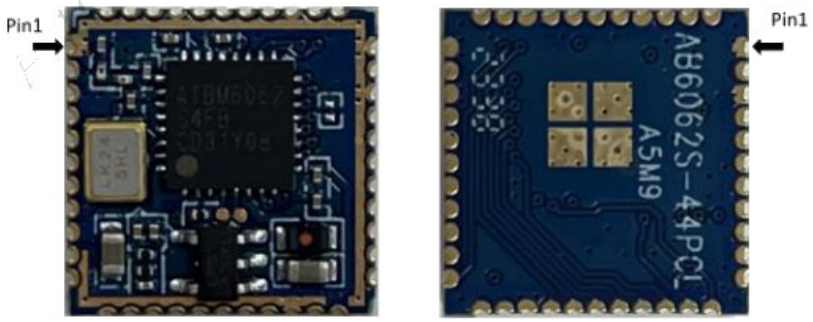
4.1.1 Outline drawing

The typical size of module is L12.00*W12.00*H1.90mm (±0.2mm).

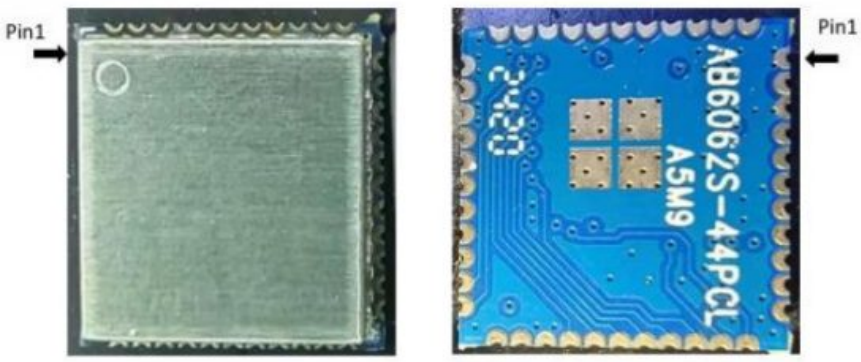
Note: The thickness of module with shield case is 2.35±0.2mm



Outline drawing (Top View)



AB6062S4FB-44PCL module appearance



AB6062S4FB-44PCL module with shield case appearance

4.1.2 Pin definition

Pin #	Pin name	Description
1	GND	GND
2	RF ANT	Connect Wi-Fi and 13L1antenna (2.4GHz 50ohm)
3	GND	GMD
4	NC	
5	NC	
6	NC	
7	NC	
8	NC	
9	VDD	3.3V power supply
10	NC	
11	NC	
12	CS	Hardware reset pin, low active
13	WAKE HOST	Wi-Fi wakes up host MCU
14	SDIO DAT2	SDIO data 2
15	SDIO_DAT3	SDIO data 3
16	SDIO CMD	SDIO command
17	SDIO_CLK	SDIO clock
18	SDIO_DATO	SDIO data 0
19	SDIO_DAT I	SDIO data 1
20	GND	GMD

21	NC	
22	VDDIO	1.8V or 3.3V I/O power supply
23	NC	GPI00/12C SDA for debug and module test, left it floating
24	NC	GPI01/12C SCL for debug and module test, left it floating
25	NC	
26	NC	
27	NC	
28	NC	
29	NC	
30	NC	
31	GND	GMD
32	NC	
33	GND	GMD
34	NC	
35	NC	
36	GND	GMD
37	NC	
38	NC	
39	NC	
40	NC	

41	GND	GMD
42	NC	
43	NC	
44	NC	

Remark

5.1 Storage Temperature and Humidity

The calculated shelf life in sealed bag is 12 months if stored between 0°C and 40°C at less than 90% relative humidity (RH). After the bag is opened, devices that are subjected to solder reflow or other high temperature processes must be handled in the following manner:

a) Mounted within 168-hours of factory conditions < 30 °C /60%RH

b) Storage humidity needs to maintained at <10% RH

c) Baking is necessary if customer exposes the component to air over 168 hours, baking condition: 125°C / 8hours

FCC Information

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: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications or change to this equipment. Such modifications or change could void the user's authority to operate the equipment.

Note: 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 or more 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.

RF Exposure Information:

This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. In order to avoid the possibility of exceeding the FCC radio frequency exposure limits, human proximity to the antenna shall not be less than 20cm during normal operation.

This module is for internal use only and not sold outside.

Antenna Information

It is 2.4GHz 3216 chip antenna, model 3216X02.

Additional testing, Part 15 Subpart B disclaimer: The modular transmitter is only FCC authorized for the specific rule parts (FCC Part 15.247) list 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 when contains digital circuity.

The modular must be installed in the host that assign by

Company name: Winplus Co., Ltd.

Product/PMN: 3WAY Dashcam Module

Model no./HVIN: BT534582

The Class II permissive changes is required for each specific host installation

Class II Permissive Change (C2PC) Test Plan for Host Devices

Test plan for Class II Permisive Changes (C2PC) on FCC ID: WUI-AICAM3WAY

1. Output power. (FCC Part 15.247(b))
2. Output Power Spectral Density. (FCC Part 15.247(e))
3. AC Conducted Emission. (FCC Part 15.207)
4. Radiated Emission (FCC Part 15.205/209, FCC Part 15.247(d))
5. Host cannot change the RF Exposure use conditions. If use conditions is changed the separate approval shall be required.

Note:

1. These tests be based on C63.10 and FCC Part 15.247 as guidance, according to the operating frequency High, mid and low channel test.
2. For these tests, all modes (IEEE 802.11b, IEEE 802.11g, IEEE 802.11n HT20, IEEE 802.11n HT40, IEEE 802.11ax-HE20, IEEE 802.11ax-HE40) need to be tested.

IC Information

This device contains license-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's license-exempt RSS(s). Operation is subject to the following two conditions:

- This device may not cause interference.
- This device must accept any interference, including interference that may cause undesired operation of the device.

This equipment complies with IC 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.

BT534582

3WAY Dashcam Module

Responsible Party:

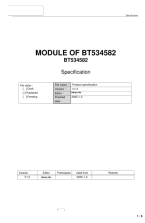
Horizon Brands

2975 Red Hill Ave., Ste. 100,

Costa Mesa, CA 92626, U.S.A.

Tel: 1.866.294.9244

Documents / Resources

	Winplus BT534582 3WAY Dashcam Module [pdf] Owner's Manual WUI-AICAM3WAY, WUIAICAM3WAY, aicam3way, BT534582 3WAY Dash cam Module, BT534582, 3WAY Dashcam Module, Dashcam Module, Mod ule

References

- User Manual

WINPLUS

3WAY Dashcam Module, aicam3way, BT534582, BT534582 3WAY Dashcam Module, Dashcam Module, Module, WINPLUS, WUI-AICAM3WAY, WUIAICAM3WAY

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