



UWBM07: IEEE 802.11b/g/n + BT 4.0 Module

Rev 1.0

Revision History

Date	Revision	Description
2017 May	1.0	First Draft

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2 Overview

This document describes the UWBM07.

The 802.11a/b/g/n + BT 4.0 + FM RX Wireless Sip module UWBM07.



The module is based on Broadcom 4334 chipset which is a Wi-Fi + BT SoC. The Radio architecture & high integration MAC/BB chip provide excellent sensitivity. The module is designed as single antenna for Wi-Fi and Bluetooth for the application of small size hand held device.

In addition to WPA, WPA2 and TKIP, AES, CCX is supported to provide the latest security requirement on your network.

Features

- Lead Free design which supporting Green design requirement, RoHS Compliance, and halogen-free
- Support single antenna for Wi-Fi and Bluetooth.
- Small size suitable for low volume system integration. Low power consumption & excellent power management performance extend battery life.
- Easy for integration into mobile and handheld device with flexible system configuration and antenna design.

3 Specifications

Feature specifications

Features	Description
WLAN Standards	IEEE 802 Part 11 b/g/n (802.11 b/g/n)
Bluetooth	Bluetooth™ 4.0+HS compliance
Antenna Port	Support Single Antenna for both WiFi and BT
Frequency Band	2.4 to 2.497GHz (1 to 14 channels)

Items	Specifications	Units	Remarks
Operating Temperature	-20° to 70°	°C	Ambient temperature
Operating humidity	60	%RH	Non condensing
Storage temperature	-40 ~ 135	°C	

Electrical specifications

Voltage

Items	Specifications			Units	Remarks
	Min.	Typ.	Max.		
VBAT	3.6	3.9	4.0	V	Voltage Supply
VDD_FEM	3.2	3.3	3.6	V	
VDDIO	1.71	1.8/3.3	3.63	V	

RADIO SPECIFICATIONS 802.11/B/G/N 802.11G TRANSMIT

Item	Condition	Min. ^{*d}	Typ. ^{*c}	Max. ^{*d}	Unit
Target Output Power Level ^{*b}	6~54Mbps	-	14	-	dBm
Transmit center frequency tolerance ^{*a}		-25	-	25	ppm
Transmit Modulation Accuracy (EVM)	54Mbps		-28	-25 ^{*a}	dB
	6Mbps		-28	-5 ^{*a}	dB
Transmit Spectral	@ +/-11MHz		-	-20 ^{*a}	dBr

Mask	@ +/-20MHz		-	-28 ^{*a}	dBr
	@ +/-30MHz		-	-40 ^{*a}	dBr

- Note: a. Refer to IEEE802.11 specification.
- Output power tolerance is +/- 2dB
 - Based on the test result at room temperature and typical voltage.
 - Based on the test result at the corner temperature and voltage operating.

802.11B TRANSMIT

Item	Condition	Min. ^{*d}	Typ. ^{*c}	Max. ^{*d}	Unit
Target Output Power Level ^b	1~11M bps	-	17	-	dBm
Transmit center frequency tolerance ^{*a}		-25	-	25	ppm
Transmit spectral mask	@ +/-11MHz	-	-	-30 ^{*a}	dBr
	@ +/-22MHz	-	-	-50 ^{*a}	dBr

- * Note: a. Refer to IEEE802.11 specification.
- b. Output power tolerance is +/- 2dB
 - c. Based on the test result at room temperature and typical voltage.
 - d. Based on the test result at the corner temperature and voltage operating.

2.4GHZ 802.11N TRANSMITTING – HT20

Item	Condition	Min. ^{*d}	Typ. ^{*c}	Max. ^{*d}	Unit
Target Output Power Level ^b	MCS0 ~ MCS7	-	13	-	dBm
Transmit Center Frequency Tolerance ^{*a}		-25	-	25	ppm
Transmit Modulation Accuracy (EVM)	MCS7	-	-29	-28 ^{*a}	dB
	MCS0	-	-29	-5 ^{*a}	dB
Transmit Spectral Mask	@ +/-11MHz	-	-	-20 ^{*a}	dBr
	@ +/-20MHz	-	-	-28 ^{*a}	dBr
	@ +/-30MHz	-	-	-45 ^{*a}	dBr

- * Note: a. Refer to IEEE802.11 specification.
- b. Output power tolerance is +/- 2dB.
 - c. Based on the test result at room temperature and typical voltage.
 - d. Based on the test result at the corner temperature and voltage operating.

The Radio specification is compliant with the Bluetooth™ 2.1 + EDR specification

Features	Description
Frequency Band	2400 MHz ~ 2483.5 MHz
Number of Channels	79 channels
Modulation	FHSS (Frequency Hopping Spread Spectrum) , GFSK, DPSK
Antenna Port	Single Antenna for WiFi and BT

Standards Compliance

Part Number: 6A0-1010

Model: UWBM07

FCC ID: 2AGRR-UWBM07

IC : 8110A-UWBM07

Modular certification for US, Canada, Europe,

List of All Suitable Antennas:

ARISTOTLE ENTERPRISES INC. : RFA-25-G158-70B-50-1

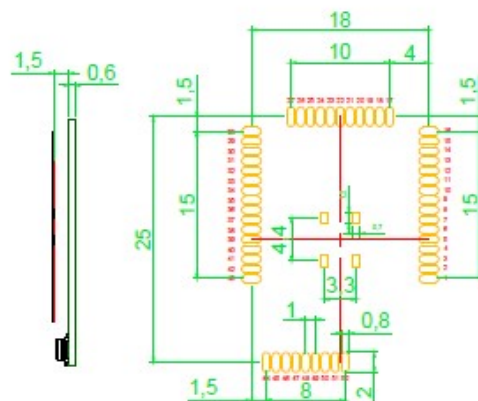
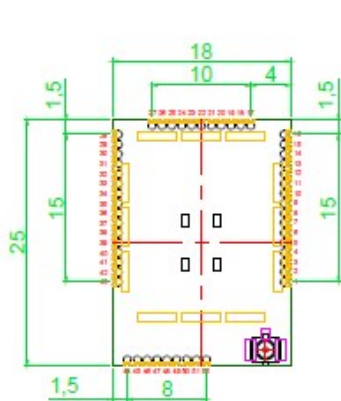
ARISTOTLE ENTERPRISES INC. : RFA-25-AP531-70-155

Mechanical Specifications

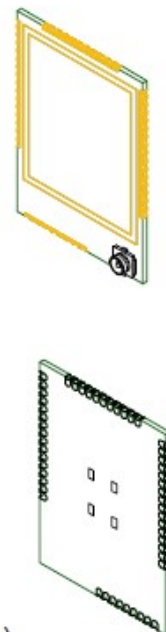
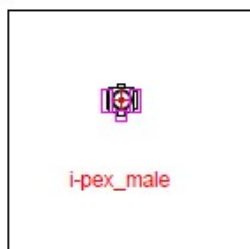
Yellow Lines: Pads on the top side of the PCB

Dark Gray Lines: Pads on the bottom side of the PCB

Deep Green Lines: The outlines of the PCB



Recommended Main
PCB footprint(Top View)





UWBM07 Datasheet

The final end product must be labeled in a visible area with the following: “Contains FCC ID: 2AGRR-UWBM07 and IC: 8110A-UWBM07

This module has been granted modular approval for mobile applications. OEM integrators for host products may use the module in their final products without additional FCC / IC (Industry Canada) certification if they meet the following conditions. Otherwise, additional FCC / IC approvals must be obtained.

- The host product with the module installed must be evaluated for simultaneous transmission requirements.
- The users manual for the host product must clearly indicate the operating requirements and conditions that must be observed to ensure compliance with current FCC / IC RF exposure guidelines.
- To comply with FCC / IC regulations limiting both maximum RF output power and human exposure to RF radiation, the maximum antenna gain including cable loss in a mobile-only exposure condition must not exceed {Insert Reference to Your Antenna Information Here.

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

Federal Communications Commission (FCC) Statement

You are cautioned that changes or modifications not expressly approved by the part responsible for compliance could void the user’s authority to operate the equipment.

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.

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 of the device.

RF Radiation Exposure Statement:

1. This Transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
2. This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body.

Canada, Industry Canada (IC) Notices

This device complies with Industry Canada licence-exempt RSS standard(s).

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

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.

Caution: Exposure to Radio Frequency Radiation.

To comply with RSS 102 RF exposure compliance requirements, a separation distance of at least 20 cm must be maintained between the antenna of this device and all persons.

Pour se conformer aux exigences de conformité CNR 102 RF exposition, une distance de séparation d'au moins 20 cm doit être maintenue entre l'antenne de cet appareil et toutes les personnes