



THE DATASHEET OF WYSBMVGXB



Wireless Module

802.11abgn & Bluetooth

WYBMVGXB & WBSBMVG

Overview

August 19, 2013 Version 2.0

WYSBMVGXB Wireless Module: 802.11abgn &

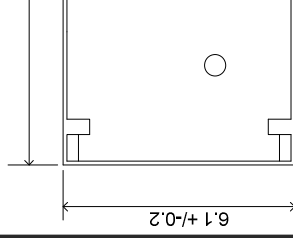
Features

- IEEE802.11a/b/g/n standard conformity, BT3.0, 2.1+EDR
- Low standby current (with advanced power save and sleep mode)
- Transmit speed : 11/5.5/2/1 Mbps(11b), 54/48/36/24/18/12/9/6 Mbps(11a/g), 150~6.5 Mbps (11n)
- Channel Number : 1 to 13 channel (11bg), W52/W53/W56(11a), 79 channel (BT)
- Interface : SDIO, PCM
- Multi Clock support: 26, 38.4 MHz
- Built-in EEPROM, Diplexer, 2G-PA, 5G-PA, 5G-LNA
- Security: WEP (64/128), TKIP, AES, WPA/WPA2,WAPI
- Small Outline: 13.1 x 6.1 x 1.35(Max) mm
- Package: Metal case package
- RoHS Conformity

General Electrical Specification

Parameter	Description	Min.	Typ.	Max.	Units
Operation Voltage	Core_3.3V	3.2	3.3	4.3	V
	Core_1.8V	1.71	1.8	1.89	V
	VIO	1.62/2.97	1.8/3.3	1.98/3.63	V
TX Output Power (11b/g/n) (11a) (BT BR)	2G:11b/11g/11n-MCS7-40M	14/13/12	16/15/14	18/17/16	dBm
	5G:11a/11n-MCS7-40M BT	12/11 6	14/13 8	16/15 10	
RX Sensitivity (11b/g/n) (11a) (BT BR)	2G:11b/11g/11n-MCS7-40M		-87/-74/-67	-84/-71/-64	dBm
	5G:11a/11n-MCS7-40M BT		-75/-70 -86	-72/-67 -70	
TX Power Consumption	11b/11M (Duty45%)		520		mW
RX Power Consumption	11n/MCS7-HT40		242		mW
Power Consumption	Deep Sleep Mode VIO3.3V/VIO1.8V		3.0/0.81		mW
General Operation Temperature Range		-20	25	70	deg-C

Outline

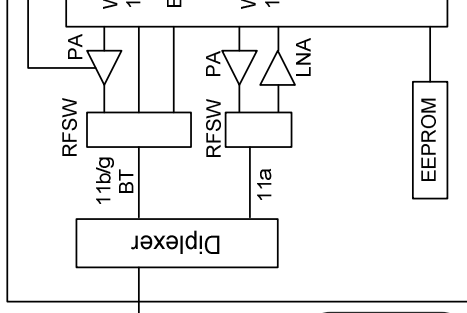


2.4/5GHz Dual Band



AH 104N2450D1
10x4x1.0mm

Block Diagram



Note: The Bluetooth® word mark and logos are owned by the Bluetooth SIG, Inc. and any use of such marks by TAIYO YUDEN

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WBSBMVGXB-1: Wireless LAN Module Evaluation

To Evaluate WLAN Module WYSBMVGX4 or WYSBMVGXB
You Will Need WBSBMVGXB-1

WBSBMVGXB-1

is the evaluation kit for WLAN Module WYSBMVGX4 or WYSBMVGXB. This kit has everything you need to evaluate the performance of this module.

WBSBMVGX4-1 Kit includes:

No.	Item	Description	Qty
1	WBSBMVGXB-1	Evaluation Board for WLAN module WYSBMVGX4 / WYSBMVGXB with SDIO interface	1
2	Red & Blue Cable	Power Supply Cable	1



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Supplemental Product Information

WLAN Module Operating Environment

- PC with Linux Fedora13 with software development option and SDIO interface
- **Attention: PC with SDIO is required. Although SDIO and SD Memory are the same slot shape, they are not compatible. WLAN Module and Evaluation Board will not work if they are connected to SD memory card.**
- i.MX51evk, Linux kernel ver. 2.6.35
- OMAP DM3730, Linux kernel ver. 2.6.37

What will be provided if the Evaluation Board is purchased

- Data Report: Detail Module information
- Application Note: Peripheral design guide
- Evaluation Board Manual: Manual on how to evaluate the Module with the Evaluation Board
- Labtool User Guide: RF Control Tool Guide
- Labtool: RF Control Tool
- WLAN Device Driver Software
 - ◆ for Linux PC, Fedora13
 - ◆ for i.MX51evk, Linux kernel ver. 2.6.35
 - ◆ for OMAP DM3730, Linux kernel ver. 2.6.37

Attention: There is a possibility that export control could limit customer's ability to use the Device Driver and the API Specification depending on the customer's country or application.

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Software Structure

Sample Application

- uaputl , mlancfg (Configuration tools)

WLAN Device driver

- Data path
 - Communicate data such as TCP or UDP.
 - 11bg config/11a config/11n config
- Configure the such as Ch/Rate/band/mode.
- Supplicant config
 - Configure the generated key by supplicant of middleware.
- Infra/Adhoc config
 - Configure the Infra or Adhoc mode.
- uAP/WFD config
 - Configure the uAP or WFD mode.

Bluetooth Device driver

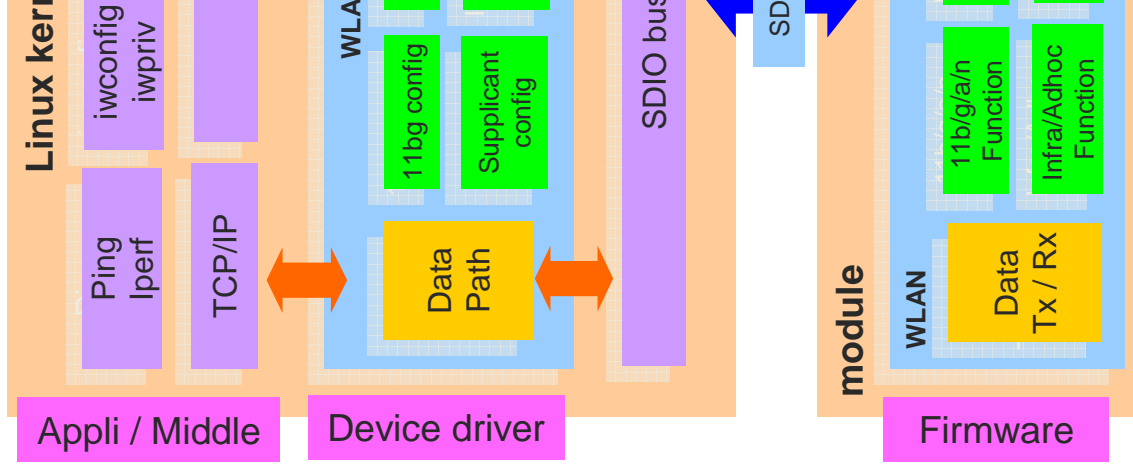
- Bluetooth (FM) driver

Firmware

- Data Tx/Rx
 - Transmit and receive data on the air, such as TCP or UDP.
- 11b/g/a/n function
 - Execute the function of such as Ch/Rate/Band/Mode.
- E-supplicant function
 - Generate the key of WPA/WPA2.
- Infra/Adhoc function
 - Execute the function of Infra or Adhoc mode.
- uAP/WFD function
 - Execute the function of uAP or WFD mode.
- Bluetooth 3.0

*WFD : Wi-Fi Direct , E-supplicant : Embedded

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Software Feature Set

General

- 802.11b Data rates of 1,2 ,5.5 and 11 Mbps.
- 802.11a/g Data rates 6 - 48, and 54 Mbps.
- 802.11n Data rates up to 72 and 150 Mbps.
- 802.11d International roaming.
- 802.11e Qos block ack.
- 802.11h Transmit power control, DFS.
- 802.11i WPA / WPA2 and 802.11X.
- Infrastructure and ad-hoc mode.
- Security WEP 64 and 128-bit, TKIP and AES-CCMP for WPA / WPA2.
- WMM Support, WMM PS (UAPSD).
- IEEE Power Save, Auto Deep Sleep / Host Sleep.
- Embedded Supplicant.
- Support for Tx and Rx of AMPDU and AMSDU-4k Packets.
- Support for Only Tx of AMSDU-8k Packets.
- Background Scan, Vendor specific IE

Access point

- Multi-BSS Support (2 BSS).
- Association support up to 10 Stations.
- ACS (Automatic Channel Selection).

Simultaneous AP-STA Operation

- AP-STA functionality.
- Independent security control interfaces.
- Enhanced Power Save. (AP-STA simultaneous power save)

Wi-Fi Direct/P2P

- Autonomous Group Owner
- P2P Client mode.
- P2P Client association with P2P Client
- P2P Client power save.
- P2P Client WMM PS (U-APSD)
- GO WMM PS / IEEE PS
- 8 Client Support, Provisional

Bluetooth

- BT 3.0 + HS , Adaptive Frequency
- Multi slot ACL with eSCO
- Support for class 1.5 operation
- BT and AMP over SDIO, USB

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Driver Package

Driver package (Platform)	Software	CPU / OS Type	Content
Object package for PC	Device driver	CPU : x86 (PC) OS : Fedora 13 (Linux 2.6.33)	Driver object - Configurat - WLAN driv Document - Install guid - Demo guid
	RF control tool (LABtool)	CPU : x86 (PC) OS : Windows XP	Driver Objec - WinXP Driv Document - User guide
Object package for Freescale	Device driver	CPU: Freescale i.mx51evk (MCIMX51EVKJ) OS : Linux 2.6.35	Driver object - Configurat - WLAN driv Document - Install guid
Object package for TI OMAP	Device driver	CPU : TI OMAP DM3730 (TMDSEVM3730) OS : Linux 2.6.37	Driver object - Configurat - WLAN driv Document - Install guid

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- ✓ Shortage Management
- ✓ Alternative Solution
- ✓ Excess Inventory Management