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Wireless Module 802.11abgn, Wide Temperature WYSBMVGX4-I & WBSBMVGX4-I Overview

August 19, 2013 Version 2.0

WYSBMVGX4-I Wireless Module: 802.11abgn Wide Temperature

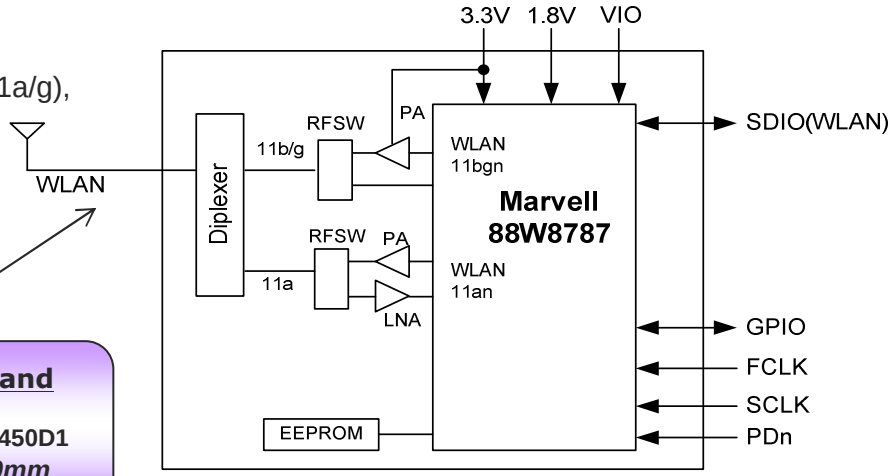
Features

- IEEE802.11a/b/g/n standard conformity
- 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)
- Interface : SDIO
- 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

2.4/5GHz Dual Band

AH 104N2450D1
10x4x1.0mm

Block Diagram



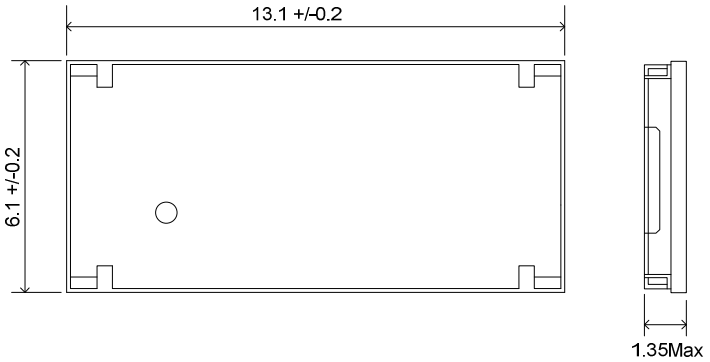
Applications

- Hand Held Device

General Electrical Specification

Parameter	Description	Min.	Typ.	Max.	Units
Operation Voltage	Core_3.3V	3.2	3.3	3.6	V
	Core_1.8V	1.71	1.8	1.89	V
	VIO	2.97	3.3	3.63	V
TX Output Power (11b/g/n) (11a)	2G:11b/11g/11n-MCS7-40M 5G:11a/11n-MCS7-40M		16/15/14 14/13		dBm
RX Sensitivity (11b/g/n) (11a)	2G:11b/11g/11n-MCS7-40M 5G:11a/11n-MCS7-40M		-87/-74/-67 -75/-70	-84/-71/-64 -72/-67	dBm
TX Power Consumption	11b/11M (Duty45%)		520		mW
RX Power Consumption	11n/MCS7-HT40		242		mW
Power Consumption	Deep Sleep Mode		3.0		mW
General Operation Temperature Range		-30	25	85	deg-C

Outline



Unit: mm

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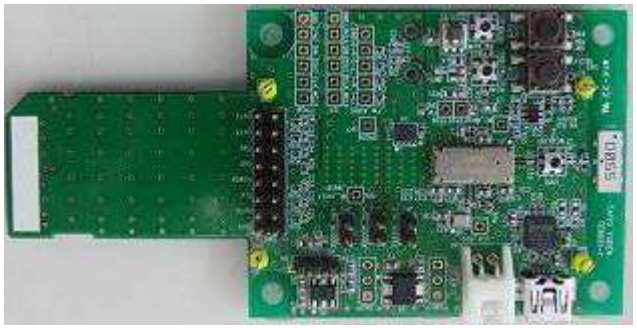
WBSBMVGX4-I: Wireless LAN Module Evaluation Kit

To Evaluate WLAN Module WYSBMVGX4-I, You Will Need WBSBMVGX4-I

WBSBMVGX4-I is the evaluation kit for WLAN Module **WYSBMVGX4-I.** This kit has everything you need to evaluate the performance of this module.

1 WBSBMVGX4-I



WBSBMVGX4-I Kit includes:

No.	Item	Description	Qty
1	WBSBMVGX4-I	Evaluation Board for WLAN module WYSBMVGX4-I with SDIO interface	1
2	Red & Blue Cable	Power Supply Cable	1

2 Red & Blue Cable

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 Card have the same slot shape, they are not compatible. WLAN Module and Evaluation Board will not work if they are connected to SD memory card slot.***
- 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

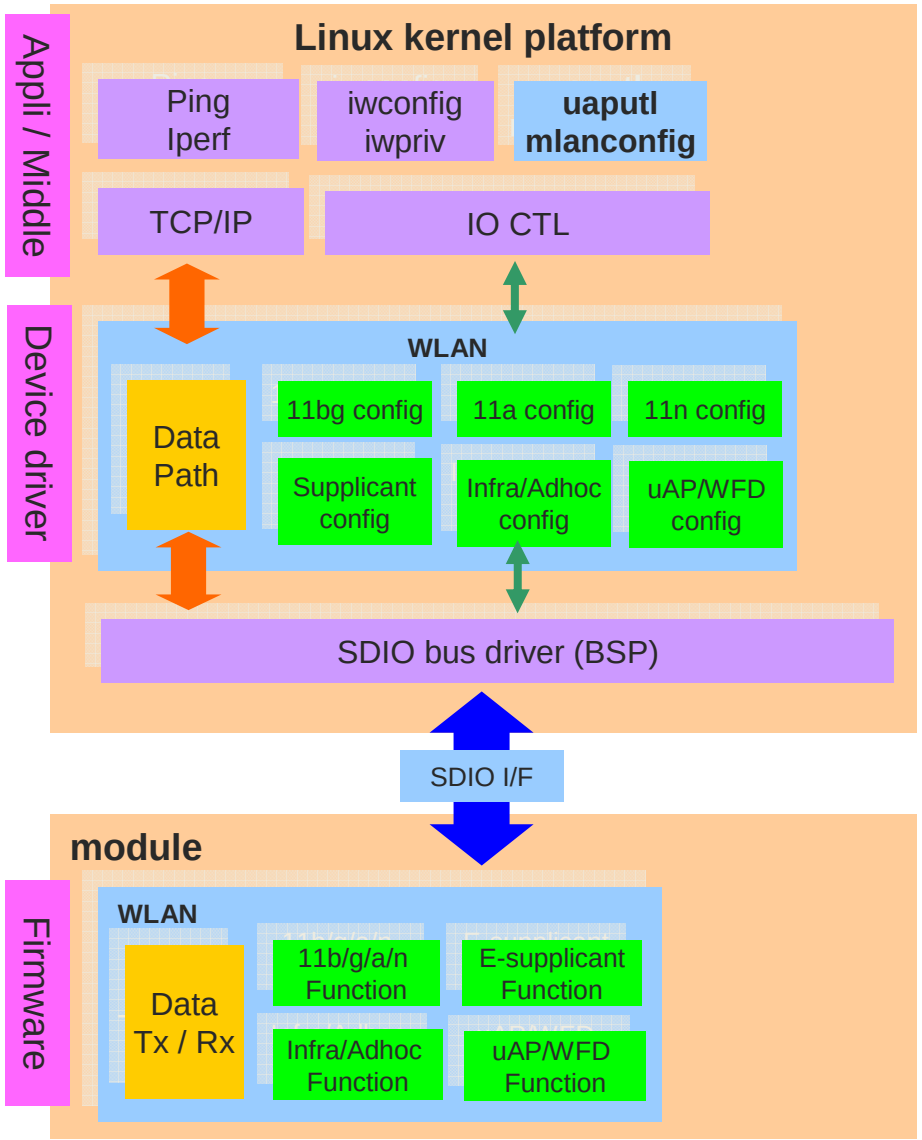
Attention: ***There is a possibility that export control could limit customer's access WLAN Device Driver and the API Specification depending on the customer's country or application.***

Software Structure

Sample Application
- uaputl , mlanconfig (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 Infa or Adhoc mode.
- uAP/WFD config
  Configure the uAP or WFD mode.

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.



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

Software Feature Set

General

- 802.11/b 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 configurations on different interfaces.
- Enhanced Power Save.
  (AP-STA simultaneous power save)

Wi-Fi Direct/P2P

- Autonomous Group Owner (GO) Mode.
- P2P Client mode.
- P2P Client association with WLAN AP.
- P2P Client power save.
- P2P Client WMM PS (UAPSD).
- GO WMM PS / IEEE PS for associated P2P clients.
- 8 Client Support, Provision discovery.

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 - Configuration tools - WLAN driver, BT driver(*), Firmware
			Document - Install guide - Demo guide
	RF control tool (LABtool)	CPU : x86 (PC) OS : Windows XP	Driver Object - WinXP Driver, Firmware
			Document - User guide
Object package for Freescale	Device driver	CPU: Freescale i.mx51evk (MCIMX51EVKJ) OS : Linux 2.6.35	Driver object - Configuration tools - WLAN driver, BT driver(*), Firmware
			Document - Install guide
Object package for TI OMAP	Device driver	CPU : TI OMAP DM3730 (TMDSEVM3730) OS : Linux 2.6.37	Driver object - Configuration tools - WLAN driver, BT driver(*), Firmware
			Document - Install guide

(*) BT driver is included in the package, however, the module does not support BT functionality.

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