Jorjin SIP module sales kit

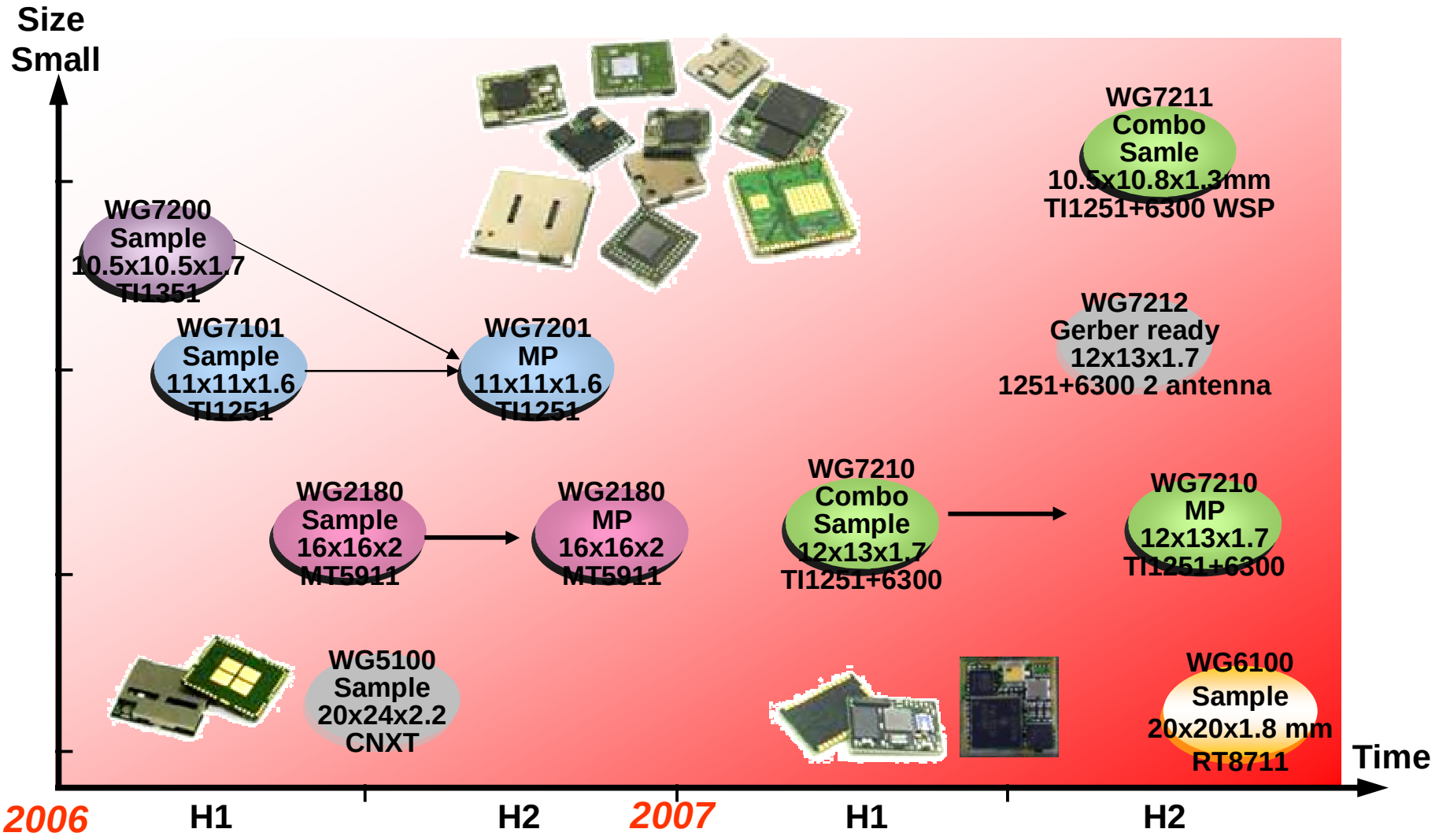
Agenda

- Product Roadmap
- Products brief Kit by project
- Technical support
- Q&A

Prepare by MT

Date:10/2/'08

Module Roadmap



Module Roadmap

WG2200
Sample
10 x9.5 x 1.6cm
MT5911P WiFi

WG7301
Sample
10x10x1.3
TI1271(WiFi/BT/FM)

WG9210
Sample
10.9x10.9x1.6mm
8686+CSR combo

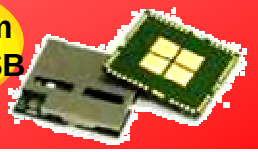
WP3300
Sample
15.9x13.1mm
AR uN 3010GPS module

WP3300
MP
15.9x13.1 mm
ARuN3010GPSmodule

WR1100
Sample
Internet Radio
USB Dongle

WG6100/WG6200
MP
20x20x1.7 mm
RT8711 (SDIO/USB)

WN8010
Sample
1.5cm x 3.8cm
RT3070 11n USB



Size
Small

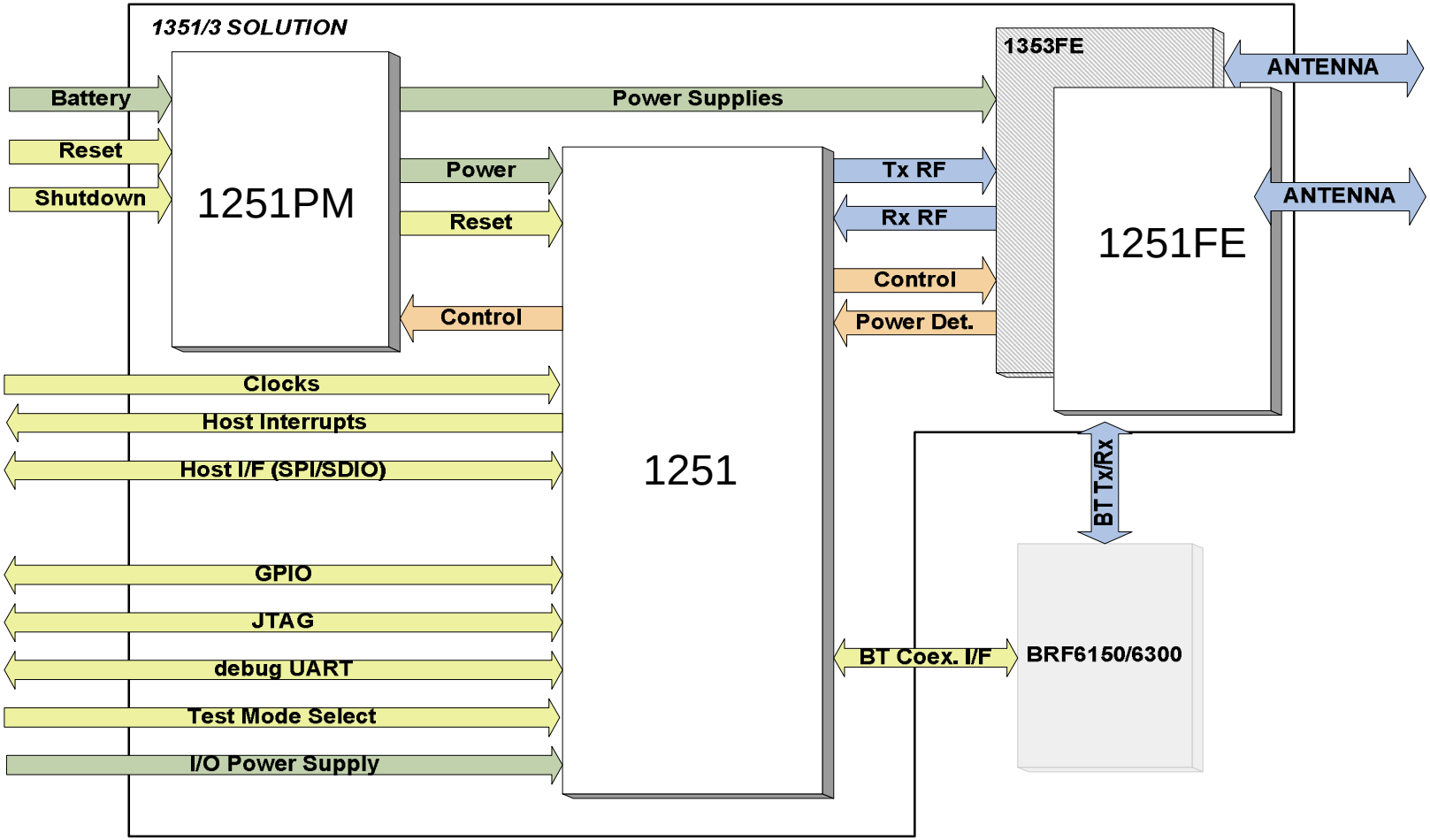
Time

2008 Q1 Q2 Q3 Q4

WG7201: Major Chips

- The WG7201 WLAN Module was designed from ground up for mobile/ portable/ battery applications
  - 1251: single chip 802.11abg RF/BB/MAC 90 nm CMOS IC,
    - SDIO/SPI Interface 1251:
    - Package: 6x6mm, 1.0 mm thick BGA or
    - 4.8 x 4.8 mm Wafer Scale Package (WSP)
  - 1251FE b/g RF Front End (RFFE):
    - Integrated Power Amplifier/coupler detector, LNA and T/R switch
    - Integrated Bias control for DC power optimization vs. Output Power
    - Package: 3x3mm, 0.6mm thick QFN
  - 1251PM: Power Management IC
    - Integrated High input voltage power management IC with 2.2V buck converter, Low noise LDO and RFFE switch.
    - Package: 3x3mm, 0.61mm thick BGA

WG7201 Interface Block Diagram



WG7201 Feature

Item		Specification
WG7201	Standard	IEEE 802.11b/g, 802.11d,e(draft),i and k(draft)
	Major chipsets	WL1251 (WLAN MAC), WL1251 FE (PN/LNA), WL1251PM (power management chip)
	Vbattery (power supply) range	2.7~5.5V
	Surface Mount Type	Land Grid Array with 56 pins
	Dimension	11X11X1.6mm
	Channel	11 Channels for USA, 13 Channels for Europe, 14 Channels for Japan
	Modulation	DBPSK, DQPSK, 16QAM, 64QAM and OFDM
	Frequency (MHz)	2412, 2417, 2422, 2427, 2432, 2437, 2442, 2447, 2452, 2457, 2462, 2467, 2472, 2484
	OS compatibility	Montavista Linux 2.6 / WinCE 5.0
	One Antenna Port	Antenna RF port 1 (for transmitter and receiver and BT)
	Ambient Operating Temperature	-10~+55 ℃
	Storage Temperature	-20~+85℃
	Power mode	Shut down, Deep Sleep, Standby, Transmit active, Receive active modes
	Security	64-, 128-, 256-bit WEP, WPA, WPA2, and 802.11i (including HW accelerated AES)

WG7201 marketing targets

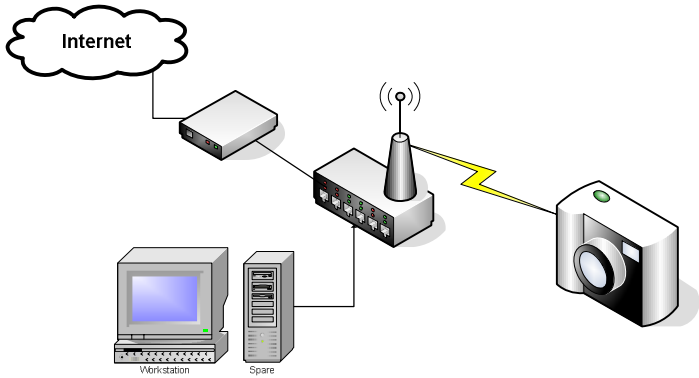
- Jorjin is TI sole WiFi module partner in Great China area.
- Application

1 Smart Phone
  - OMAP 850, OMAP 2430

2 VoIP Phone
  - OMAP 1710

3 Digital Still Cameras (Portable), Portable Media Players (Portable)
  - DM320, 270, 350, DMXXX products
  - Processors with ARM9 or equivalent and SDIO interface

4 Portable Gaming Systems (Portable)
  - Processors with ARM9 or equivalent and SDIO interface



WG72xx platform Readiness

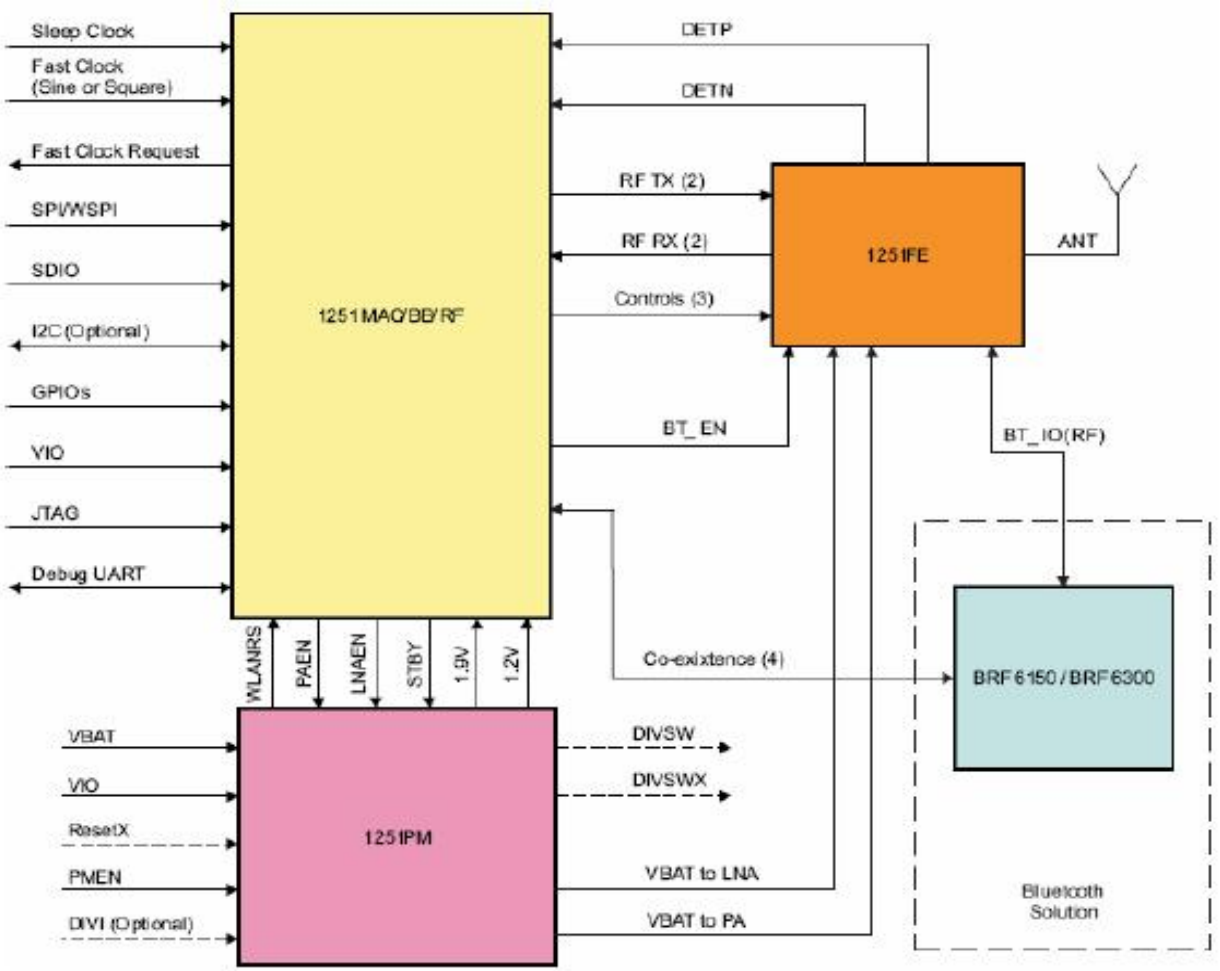
	OS	Platform	Ver	SDIO	SPI	Customer
Mobile	WinMobile (5.0/6.0)	Omap850/1030/2430	5.0	Done	Done	
		Marvell PXA3xx	6.0	Done		
		S3C24xx	5.0/6.0		Done	
		Qualcomm	6.0	Done		
Consumer	Linux (2.6.X / 2.4.X)	Omap1710	2.6.18	Done		
		DM350/DM355	2.6.18	Done	Done	
		DM320 / DM270(Same)	2.4.18 / 2.4.19	Done / Doing		
		DM64XX	2.6.10	Done	Done	
		Omap24XX	2.6.18	Done		
		S3C24xx	2.6.14	Doing	Doing	
		PXA300/PXA310	2.6.14	Doing		
	WinCE(5.0/6.0)	iMx31	5.0	Done		
		S3C24xx	5.0/6.0	Done	Done	
		PXA300/PXA310/270	5.0/6.0	Done		
		DM64xx	6.0		Done	
	iTron	DM350	eSol 4.0	Done	Done	

WG7210: WiFi +BT combo

- The WG7210 WLAN Module was designed from ground up for mobile/ portable/ battery applications
  - 1251: single chip 802.11abg RF/BB/MAC 90 nm CMOS IC,
    - SDIO/SPI Interface 1251:
    - Package: 6x6mm, 1.0 mm thick BGA or
    - 4.8 x 4.8 mm Wafer Scale Package (WSP)
  - 1251FE b/g RF Front End (RFFE):
    - Integrated Power Amplifier/coupler detector, LNA and T/R switch
    - Integrated Bias control for DC power optimization vs. Output Power
    - Package: 3x3mm, 0.6mm thick QFN
  - 1251PM: Power Management IC
    - Integrated High input voltage power management IC with 2.2V buck converter, Low noise LDO and RFFE switch.
    - Package: 3x3mm, 0.61mm thick BGA

- The BT chip
  - BRF6300: BT v2.0 EDR solution

WG72XX Block Diagram



WG7201:

WiFi module only and didn't include Bluetooth module

WG7210:

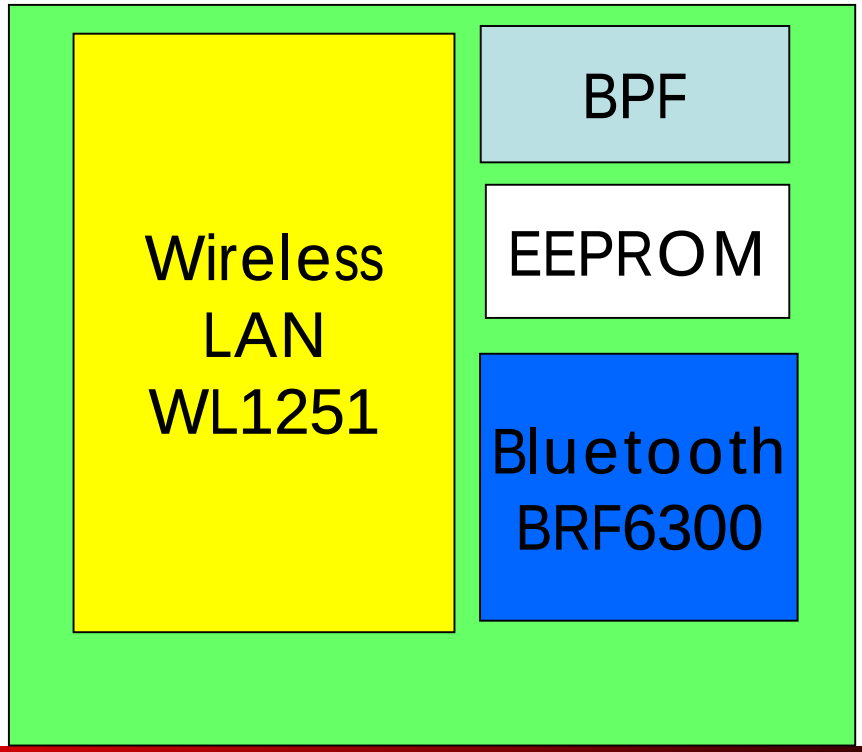
WiFi and BRF6300 (BT 2.0+EDR)

WG7210 WLAN+BT Combo Module

Item		Specification
WG7210	Standard	IEEE 802.11b/g, 802.11d,e(draft),i and k(draft); BT2.0+EDR
	Major chipsets	WL1251 (WLAN MAC), WL1251 FE (PN/LNA), WL1251PM (power management chip) BRF6300
	Vbattery (power supply) range	2.7~5.5V
	Surface Mount Type	Land Grid Array with 64 pins
	Dimension	12X13X1.7mm
	Channel	11 Channels for USA, 13 Channels for Europe, 14 Channels for Japan
	Modulation	DBPSK, DQPSK, 16QAM, 64QAM and OFDM
	Frequency (MHz)	2412, 2417, 2422, 2427, 2432, 2437, 2442, 2447, 2452, 2457, 2462, 2467, 2472, 2484
	OS compatibility	Montavista Linux 2.6 / Windows Mobile 5.0
	One Antenna Port	Antenna RF port 1 (for transmitter and receiver and BT)
	Ambient Operating Temperature	-10~+55 ℃
	Storage Temperature	-20~+85℃
	Power mode	Shut down, Deep Sleep, Standby, Transmit active, Receive active modes
	Security	64-, 128-, 256-bit WEP, WPA, WPA2, and 802.11i (including HW accelerated AES)

WG7210 WLAN+BT Module

- It is a WLAN+BT combo module with TI BT coexistence technology (EEPROM could be an option)
- It is good for handset design to reserve one module space with same pin out for different WiFi or BT application



WG7210 BT profile support

- WinCE & Win Mobile: Microsoft default

--Today, MSFT has more than that to support BT operation. There are profiles below that MSFT supports:

--Conforming Profiles: GAP, GOEP, SPP

--Interoperability Profiles: DUN, OPP, HSP, HFP, HID, A2DP, AVRCP, ActiveSync, BPP, BIP, SAP, PAN*, FTP* (both PAN and FTP don't have UI)

- Linux: TI 3rd party

There are two TI's 3rd parties for BT profiles,
--one is KTwo, an India company, the contact is Yathi
Yathi.TJ@Ktwo.co.in
--The other one is Stonestreetone, a USA based company, the contact is Greg
greg.chang@stonestreetone.com

WG7210 differential features

- Flexibility:
  - WG7210 could be either combo, WLAN or BT module with same pin out
  - Simplify platform HW and system test program & interface design for one module space with different Wifi and BT applications
- Cost saving:
  - WiFi & BT share one antenna to save BOM and space
  - One BPF shared for both WiFi and BT
- Power saving:
  - Individual VIO input for WiFi and BT separately to maximize the power saving when application is off
- Best coexistence:
  - TI WiFi and Bluetooth with SoftGemini™ 2.0 algorithm enable the "Voice + Voice" application

WG6100 and WWG6200 WiFi solution for CE

- WG6100 is a **low cost** WiFi module solution best for Consumer electronics products to enable networking function.
- WG6100 is also a **low power** consumption and **small size** WiFi module solution best for portable devices such as
  - printer, MFP, projector, wireless audio, wireless data terminal, digital photo frame, digital video recorder, digital TV or any other consumer electronic device or embedded systems.

WG6100 EVB

Home Automation and Control

Satellite radio player

IP WiFi camera Video phone

UMPC, Notebook

Digital photo frame

printer

WG6100 SDIO interface

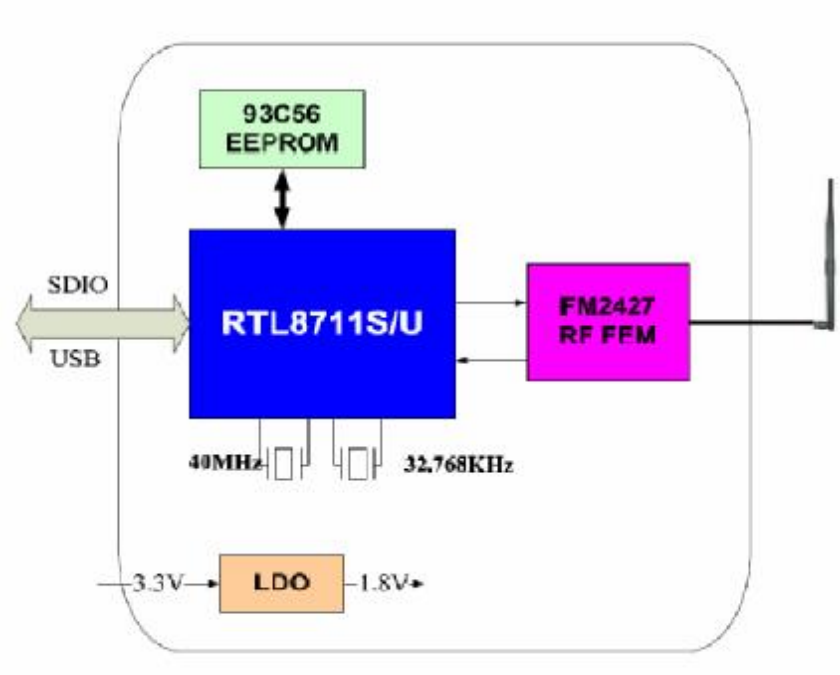
Module Spec		Specification
Module Type	Perforation type module	Perforation with 56 pins
	Dimension	20X20x1.6mm
Chipset	RF/MAC/BB	RT8711S
	Key parts	Embedded LDOs, EEPROM, 40MHz and 32.768KHz crystals
	RFFE	Epicom FM2427
Temperature	Storage	-30 ~ +85 ˚C
	Ambient Operating	-10 ~ +70 ˚C
Operating Voltage		Power input : 3.3 V with internal LDO
Interface		SDIO v1.1 for RT8711S
Antenna Port		Support antenna diversity
WOL function		Supports Wake-On-LAN (WOL) function and remote wake-up (Magic Packet and Microsoft® wake-up frame)
Driver support OS		Windows CE, Linux, μITRON, Windows XP
Certification		WiFi WPA2, WiFi WPS, WMM, WMM Power save, WHQL – USBIF (for WG6200 WiFi module with USB 2.0 I/F)

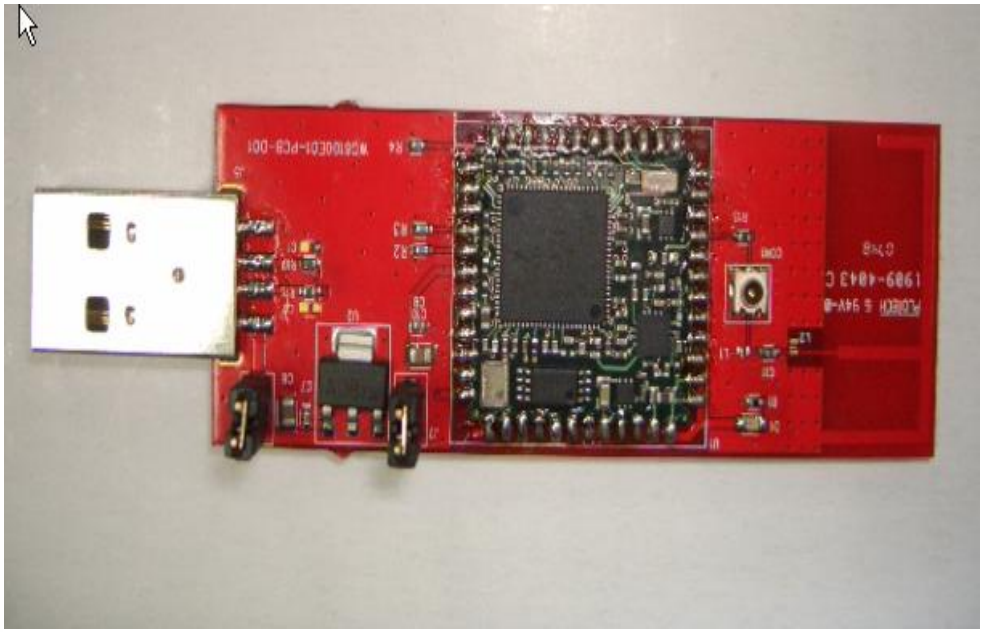
WG6100 Detail SPEC

WiFi Standard		Specification
802.11b/g Specification	Standard	IEEE 802.11b/g
	Protocol	CSMA/CA with ACK
	Security	Support IEEE 802.11i encryption/decryption engine, including 64-bit/128-bit WEP, TKIP, and AES, WPA and WPA2
	QoS	WMM, WMM U-PASD, EDCA
	Channel	11 Channels for USA, 13 Channels for Europe, 14 channels for Japan
	Spurious Emission	FCC Part 15 Class B/C, 15.247, 15.249 and 15.109 for USA
		ETSI 300 328-2, 301 489-1/-17, EN60950, CE Marker for Europe
	Transmit Spectrum Mask	Conform to IEEE802.11b/g Spectrum Mask
	Power saving	Support 802.11e CFBs, block ACKs, APSD for better power efficiency
	Data Rate	1, 2, 5.5, 6, 9, 11, 12, 18, 24, 36, 48, and 54Mbps
Bluetooth Coexistence		Support 802.15.2 PTA (Compatible to CSR and NXP Bluetooth chips)
Power consumption		**Specification**
Current Consump-tion	Continuous TX (54Mbps OFDM @ EVM=4.7%, Pout=15dBm) *	303mA @3.3V (Support dynamic power consumption)
	Continuous RX	287mA @3.3 V (Support dynamic power consumption)
	Power Save mode	1.92mA @ 3.3V

WG6200 USB interface

- WG6200 EVB





Platform Readiness

WG6x00	OS	Platform	Ver	SDIO	USB	Customer
Consumer	Linux (2.6.X / 2.4.X)	Davinci	2.6.10	Doing		
		DM350/DM355	2.6.18	Done(WG6100)		
		ST	2.6.18		Done (WG6200)	20M
	eCos	MP		Done		

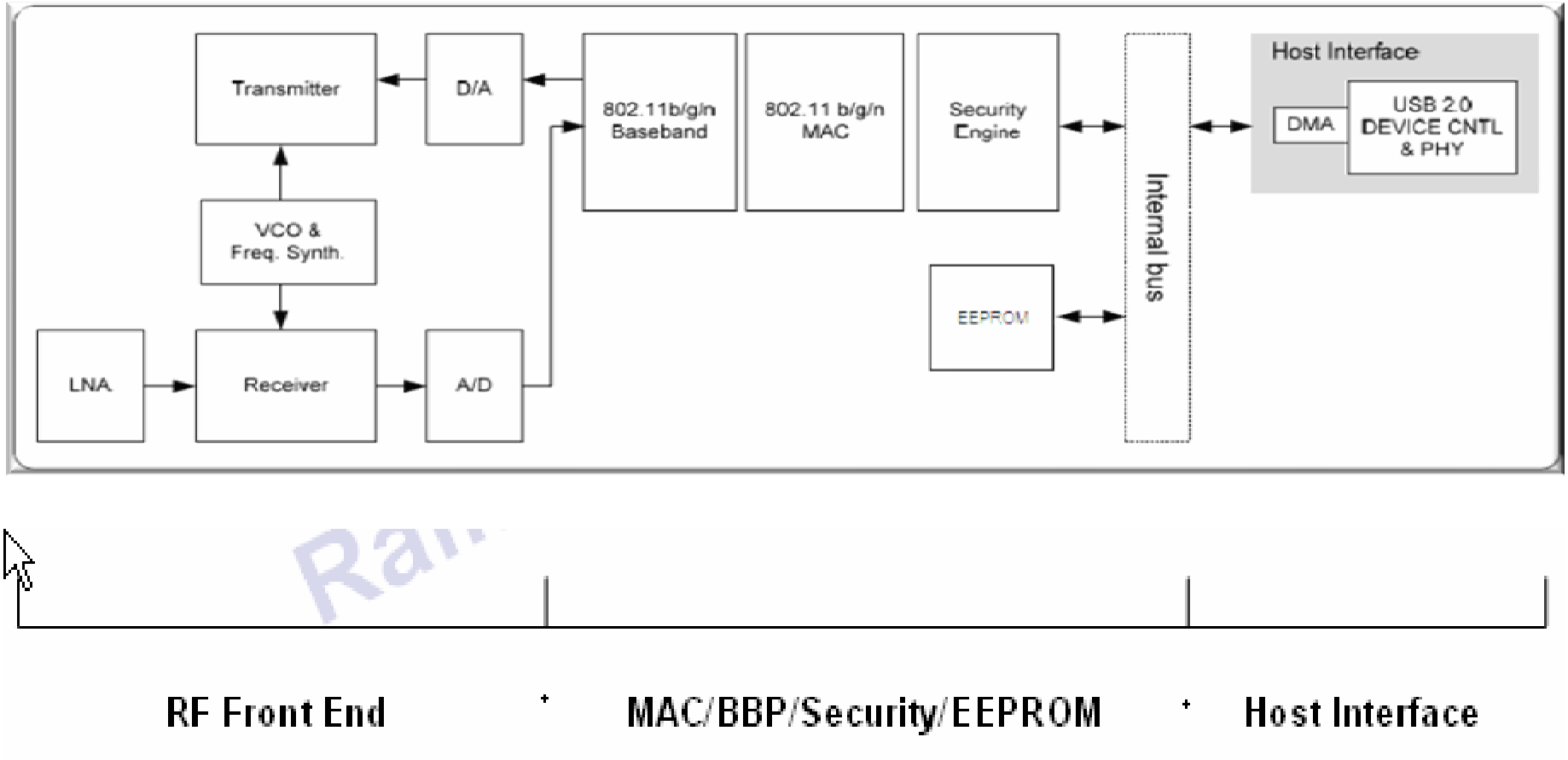
WN8010 : 11b/g/n dongle

- RT3070 Single Chip
- Smallest 802.11n USB dongle: 1.5cm x 3.8cm
- Almost Half the size of competing solutions!

- Overview
  - High performance, Cost-effective, 802.11n single chip (MAC/BB/RF)
  - 1T1R USB single band
  - Target Market
    - Ideal solution for 802.11n USB adapters and embedded systems
    - Low-cost 11n solution to replace 802.11b/g

WN8010 Block Diagram

Highly Integrated 11n Single Chip USB Solution



WN8010 Specification 1/2

- Feature

	Description
RFB SKUs	**USB Dongle (1.8cm x 3.8cm)**
Package	**9mm x 9mm, QFN 76-pin**
Frequency Band	**Single band 2.4GHz**
Configuration	**1T x 1R**
Interface	**USB 2.0 device mode**
Integration	**MAC/BB/RF, EEPROM**
IEEE Feature Sets	**802.11 b/g/n draft 3.0 compliant**
Performance	**Reverse Data Grant (RDG)** **Compressed Block Ack** **Hardware Frame Aggregation** **SDM (PHY-modulation)** **Short Guard Interval (PHY)** **MPDU/MSDU aggregation (MAC)** **40MHz channel bandwidth**

WN8010 Specification 2/2

	Description
Security 802.11i	**Authentication : TKIP/AES Engine** **Encryption 802.1x :WEP/WPA/WPA2**
Usability	**WPS : Wi-Fi Protected Setup (PIN/PBC)** **Microsoft Windows Vista (Standard)**
Management	**CCX v3.0/4.5/5.0***
International Regulatory	**802.11d+h, DFS, DFS2**
QoS	**802.11e WMM**
Link Robustness	**Green Field** **Legacy co-existence**

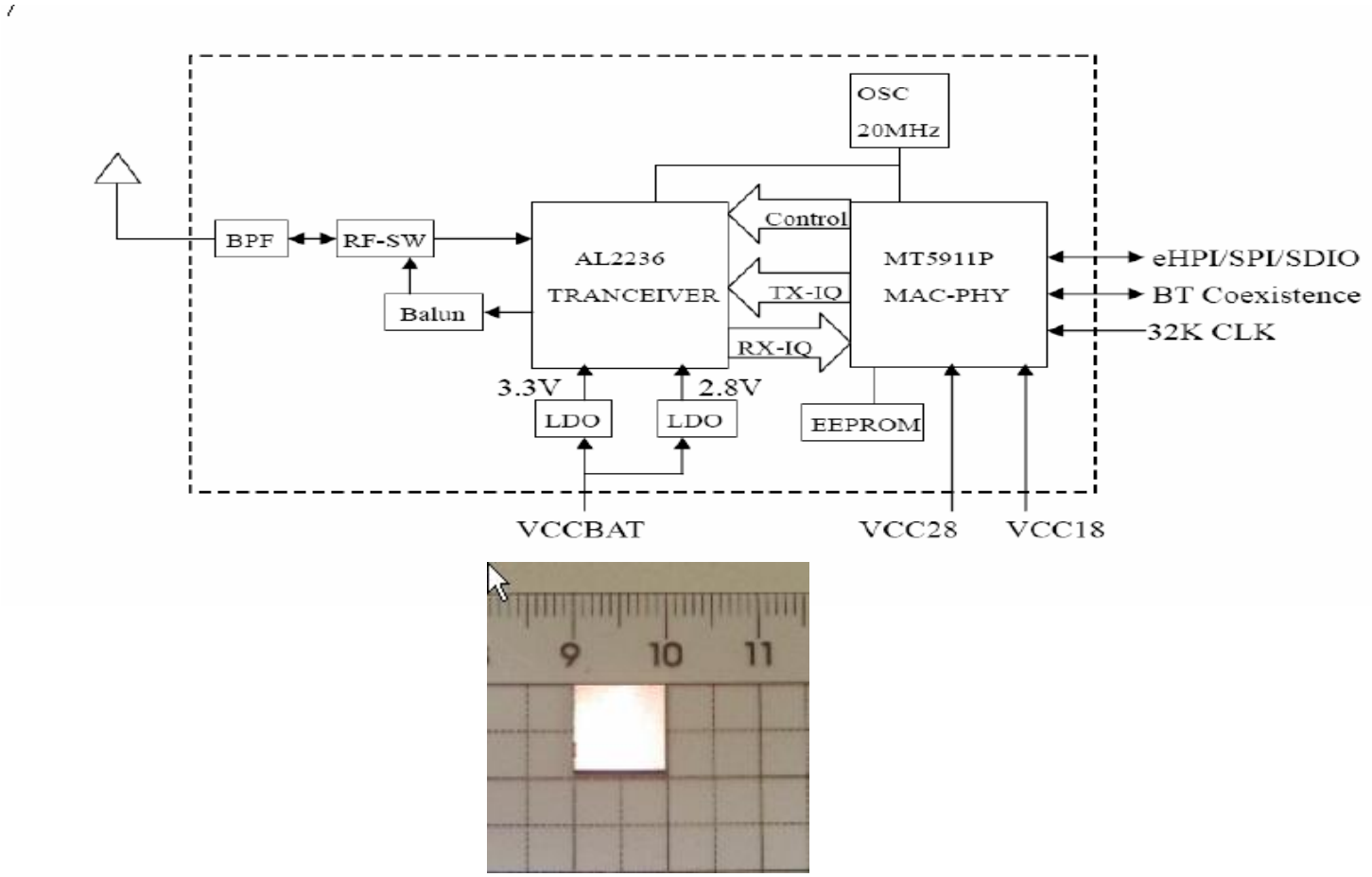
OS support

	USB
Window 2000 (32/64)	√
Window XP (32/64)	√
Window Vista (32/64)	√
Mac 10.3.x	√
Mac 10.4.x	√
Mac 10.5.x	√
Linux (32/64)	√

WN8010 Platform Readiness

WN8010	OS	Platform	Ver	USB		Mark
Consumer	Linux (2.6.X / 2.4.X)	Davinci	2.6.10	Done		40M
		DM350/DM355	2.6.18	Done		20M
		ST	2.6.18	Doing		??
		Sigma Design	2.6	Done		??

WG2200 Block Diagram



WG2200 Specification

Feature

- OFDM,DBPSK,DQPSK, and CCK modulation.
- Adjacent channel interference rejection support.
- TX auto rate election support and auto power level control.
- Frequency offset and DC offset compensation
- 80.11i(AES, TKIP,802.1X) compliant.
- WEP(64/128/152bits).
- WPA(TKIP+802.1X) support
- CCX support
- 20MHz Crystal oscillator embedded

Size

- 10*9.5*1.6

Interface

- SDIO
- SPI
- eHPI

SW

- Win CE 4.2
- Win CE 5.0
- Linux

Application

- Cell phones
- Handheld devices

Software support

- Win CE 5.0 (PXA310 270 , Samsungxxx ,TI MAP, Qualcomm MSM7XX)
- Win Mobile v 5.0/6.1 (PXA310 270 , Samsungxxx,TI OMAP, Qualcomm MSM7XX)
- Win Mobile v 7.0 (planning)
- Linux v 2.6 (Intel PXA 27XX)

MTK platform support list, MT6225, 6228, 6229, 6230,

6235,6238

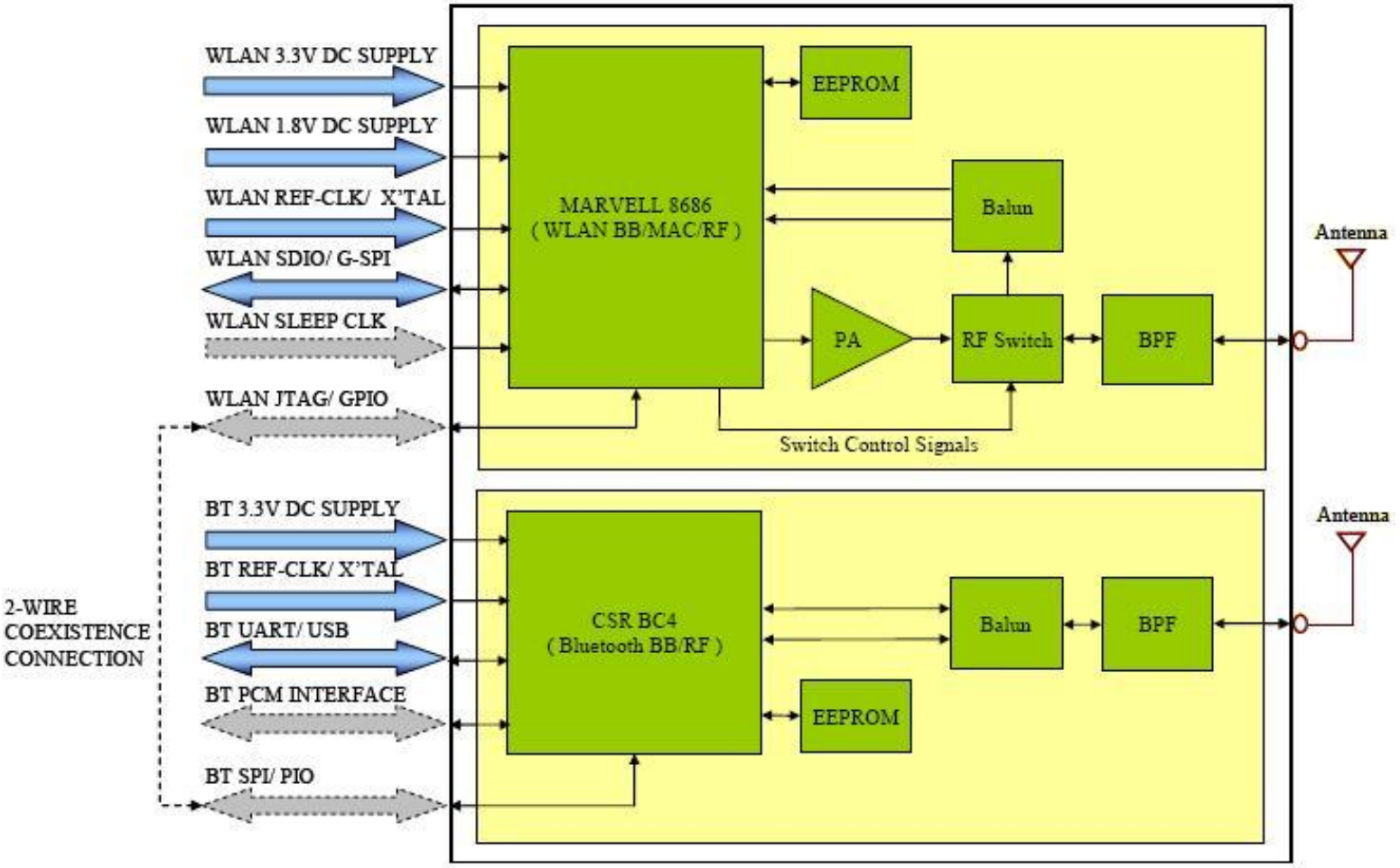
WG921x Major Chips

- The Combo Module was designed for cellular handsets and consumer electronic devices that require low power consumption
  - Marvell 8686
    - Compliant with 802.11b and 802.11g
    - SDIO / SPI interface
  - CSR BC4 ROM
    - BT v2.0 EDR
    - UART / USB interface

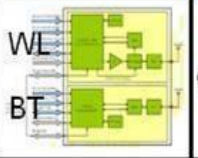
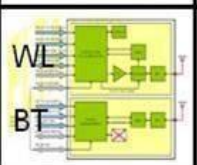
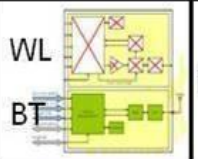
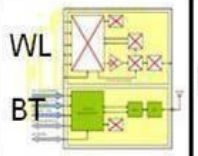
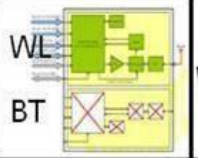
WG921x Specification

Item		Specification
WG921x	Standard	IEEE 802.11b/g, 802.11d,e(draft),i and k(draft); BT2.0+EDR
	Major chipsets	Marvell 8686 CSR BC4 ROM
	Vbattery (power supply) range	2.8~3.3V
	Surface Mount Type	101 pins
	Dimension	10.9X10.9X1.6mm
	Channel	11 Channels for USA, 13 Channels for Europe, 14 Channels for Japan
	Modulation	DBPSK, DQPSK, 16QAM, 64QAM and OFDM
	Frequency (MHz)	2412, 2417, 2422, 2427, 2432, 2437, 2442, 2447, 2452, 2457, 2462, 2467, 2472, 2484
	OS compatibility	WinCE 5.0 / Linux 2.6 / Windows Mobile 5.0
	Antenna Port	Support single Antenna / dual Antenna
	Ambient Operating Temperature	-25~+80 ℃
	Storage Temperature	-40~+110℃
	Power mode	Shut down, Deep Sleep, Standby, Transmit active, Receive active modes
	Security	64-, 128-, 256-bit WEP, WPA, WPA2, and 802.11i (including HW accelerated AES)

WG921x Block Diagram



WG921x serial overview

No	Product Name	Hypocorism	Block Diagram	Features						
				Product Property	PCB Kind	802.11bg WLAN	v2.0+EDR Bluetooth	BT EEPROM	2-Wire Coexist	3-Wire Coexist
1	WG9212	Combo 2-Wire		Combo Module	Unique	Yes	Yes	Yes	Yes	No
2	WG9213	Combo 3-Wire		Combo Module		Yes	Yes	No	Yes	Yes
3	WG921B	BT with Brain		Bluetooth Combo		No	Yes	Yes	Yes	No
4	WG921P	BT w/o Brain (P)		Bluetooth Combo		No	Yes	No	Yes	Yes
5	WG921W	WLAN Only		WLAN Combo		Yes	No	No	Yes	Yes

WG921x support platform (Marvell)

		SDIO (1-bit / 4-bit)					G-SPI		
		WinCE5.0	WinCE6.0	Linux2.6	WinXP	Vista	WinCE 5.0	WinCE 6.0	Linux2.6
Embedded System	Intel PXA270	✓	N/A	✓	N/A	N/A	✓	N/A	✓
	Intel PXA272	✓	N/A	✓	N/A	N/A	✓	N/A	✓
	Samsung 2440	✓	N/A	N/A	N/A	N/A	✓	N/A	N/A
	Samsung 2442	✓	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Samsung 2443	✓	✓	N/A	N/A	N/A	✓	N/A	✓
	Freescale iMx31	✓	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Marvell Pxa310	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PC	X86	N/A	N/A	N/A	✓	✓	N/A	N/A	N/A

WG921x support platform (CSR)

		UART				USB	
		WinCE 5.0	Linux 2.6	WinXP	Vista	WinCE 5.0 / WinMobile 6.0	Linux 2.6
Embedded System	Samsung 2440	✓	✓	N/A	N/A	✓	N/A
	Samsung 2442	✓	✓	N/A	N/A	✓	N/A
	Samsung 2443	✓	✓	N/A	N/A	✓	N/A
	Intel PXA270	✓	✓	N/A	N/A	✓	N/A
	Freescale iMx31	✓	N/A	N/A	N/A	✓	N/A
	Centrality Altas-II+III	✓	N/A	N/A	N/A	N/A	N/A
	Marvell Pxa310	N/A	N/A	N/A	N/A	N/A	N/A
PC	X86	N/A	✓	✓	✓	N/A	✓

WG921x Bluetooth profile support

Application	BT profile
Mobile phone	SPP DUN PAN A2DP
Digital Photo Frame	OBEX FTP
Car Kit / Skype phone	HFP HSP SPP
GPS	SPP

WG921x differential features

- Flexibility:
  - WG921x could be either combo, WLAN or BT module with same pin out
  - Simplify platform HW and system test program & interface design for one module space with different Wifi and BT applications
  - Two Crystal Mode / Single XOSC mode verified
  - Single antenna / dual antenna support
- Cost saving:
  - Good flexibility for customization design to shorten development time
- Power saving:
  - Lower power dissipation 22% current saved when WiFi TX
- Best coexistence:
  - 2WBCA (2-Wire Coexist Arbitration) / 3WBCA supported
  - Fine coexistence performance on embedded platforms

WR1100 WiFi Radio

WiFi radio for music player:

MP3/CD audio player

Digital photo frame

Any other multimedia player with USB storage interface

Benefit:

. Traditional MP3/WMA music player with USB port become internet radio just plug and play

. High quality audio

. Listen to the radio over the world

WR1100 WiFi Radio

WR1100 Features

Internet radio Support internet radio with http mp3 streaming. Access over 6000 of internet radio stations on the internet.

Interface• USB 1.1 device

Network Support DHCP or static IP

Wireless Features• Interoperable with 802.11b/g WLAN•Security FeaturesWEP 64/128-bits•Automatically join AP with pre setup AP profile or no encryption AP while power up

PC Management software Features•Support Windows 2000/XP/Vista OS•Connect WR1100 via PC USB, append radio stations more easy•Site survey WLAN AP•Setup 8 sets WLAN AP profile•Listening to over 6000 internet radio stations and select by genre or country•Add to my favorite over 500 stations and store to WR1100 automatically. •WR1100 firmware upgrade via USB

Power supply From USB power. 5V/<0.4A

Dimension (TBD)

Technical support

- Jorjin Support.
  - Platform Porting
  - Manufacture System
  - System and WiFi certification
- Platform performance
- Summary

Platform Porting
Hardware EMI API

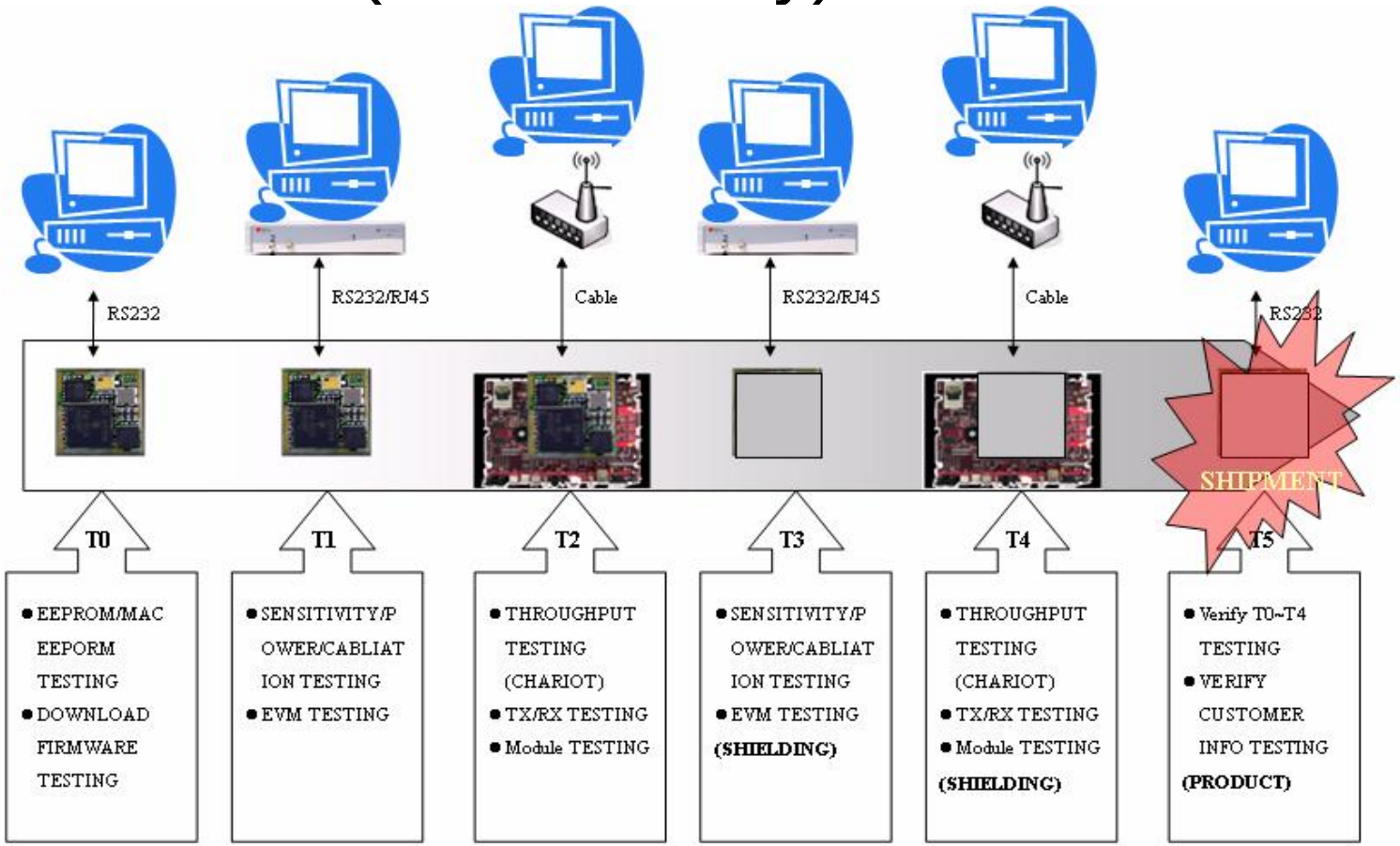
- EMI issue.
  - Support API (Carrier wave / Continue Test)
- Product CTX / CRX
  - Support API

3. Project Control Table.

Stage	Task	Owner	Lead time	From	To	Doc / Owner
PS	Evaluation Project	Jorjin /Customer	1 week	9/28	9/28	WG-DPF file
	WG7210 HW/SW design guide study and discussion	Jorjin HW / Customer HW	1 week	9/29	9/29	WG7201-SPC WG7201-HDG WG7201-SRL
	Customer layout with WG7210	Customer HW	1 week			☐ , Email Note
	Customer platform document study	Jorjin SW	1 week			☐ , Email Note
	Setup complier/development environment	Jorjin SW	1 week			☐ , AE/FAE Check
	Get one platform sample from Customer	Customer HW	3 days			☐ , AE/FAE Check
DS	HW jump wire with WG7210 and debug	Jorjin HW	1 week			☐ , Email Note
	Verify SDIO bus work	Jorjin HW/SW	1 week			☐ , Email Note
	WiFi driver porting and ping	Jorjin SW	1 week			☐ , Email Note
	Return platform sample for Customer verification	Jorjin HW	3 days			☐ , Email Note WG7210-TI-Doc
	Customer new platform w/ WG7210 ready	Customer HW	4 weeks			☐ , AE/FAE Check
	Functional test and report	Jorjin TE	1 week			WG7210-TXX-STP
QS	Discuss MP test plan	Jorjin SW / Customer HW/SW	1 week			☐ , AE/FAE Check
	Provide IQC and MP test program and fixture	Jorjin SW	4 week			WG7210-SXX-SQP
	SW fine tune if required	Jorjin SW / Customer SW	2 week			WG7210-TXX-STP

Manufacture System

- Flow / IOT (Automaticlly)



Pic 9 TESTING SW Flow

System and WiFi certification

Test Report 1/4

Doc No: WG7201-PFT-v04

CONTENTS

System and WiFi certification

Test Report 2/4

System and WiFi certification

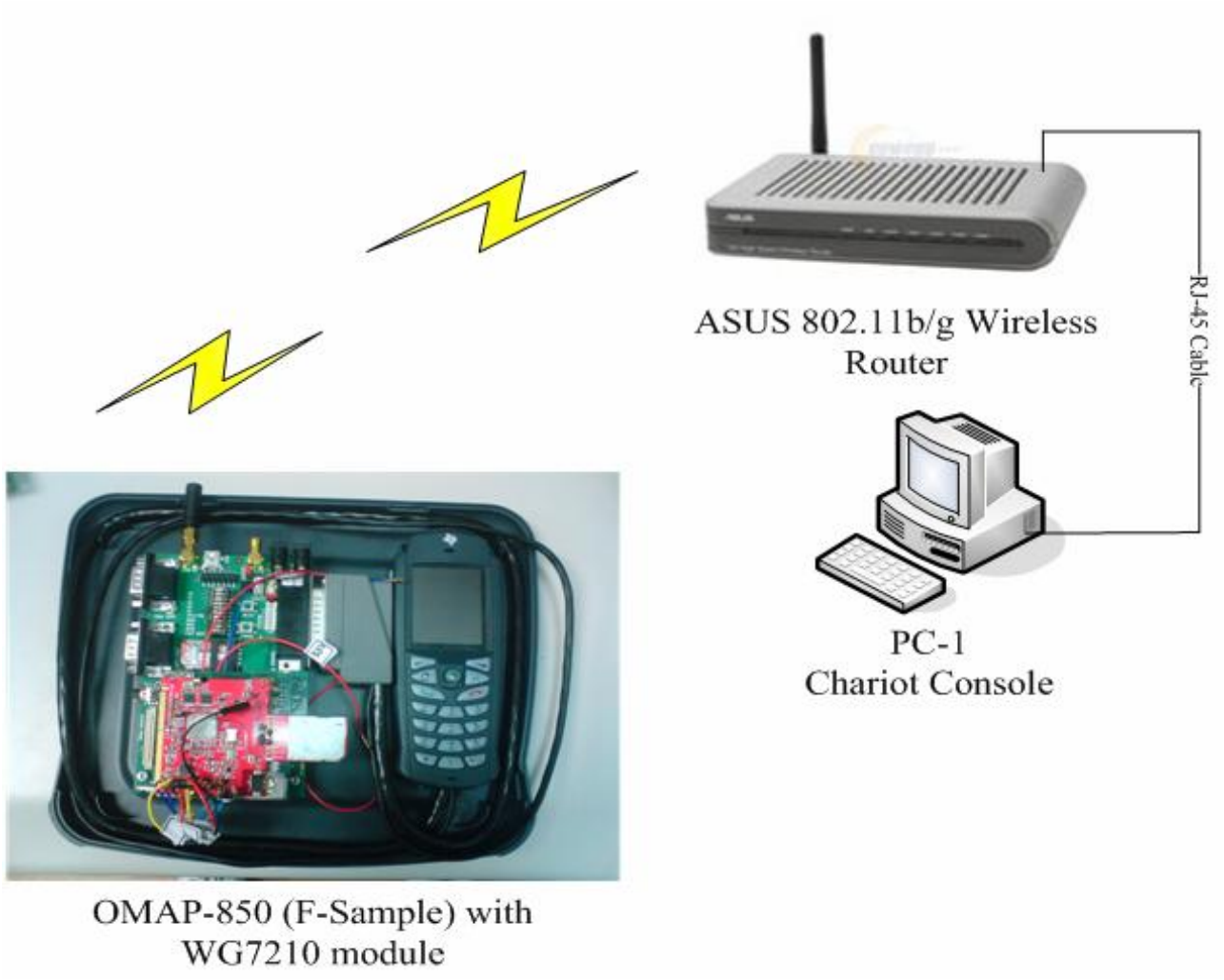
Test Report 3/4

System and WiFi certification

Test Report 4/4

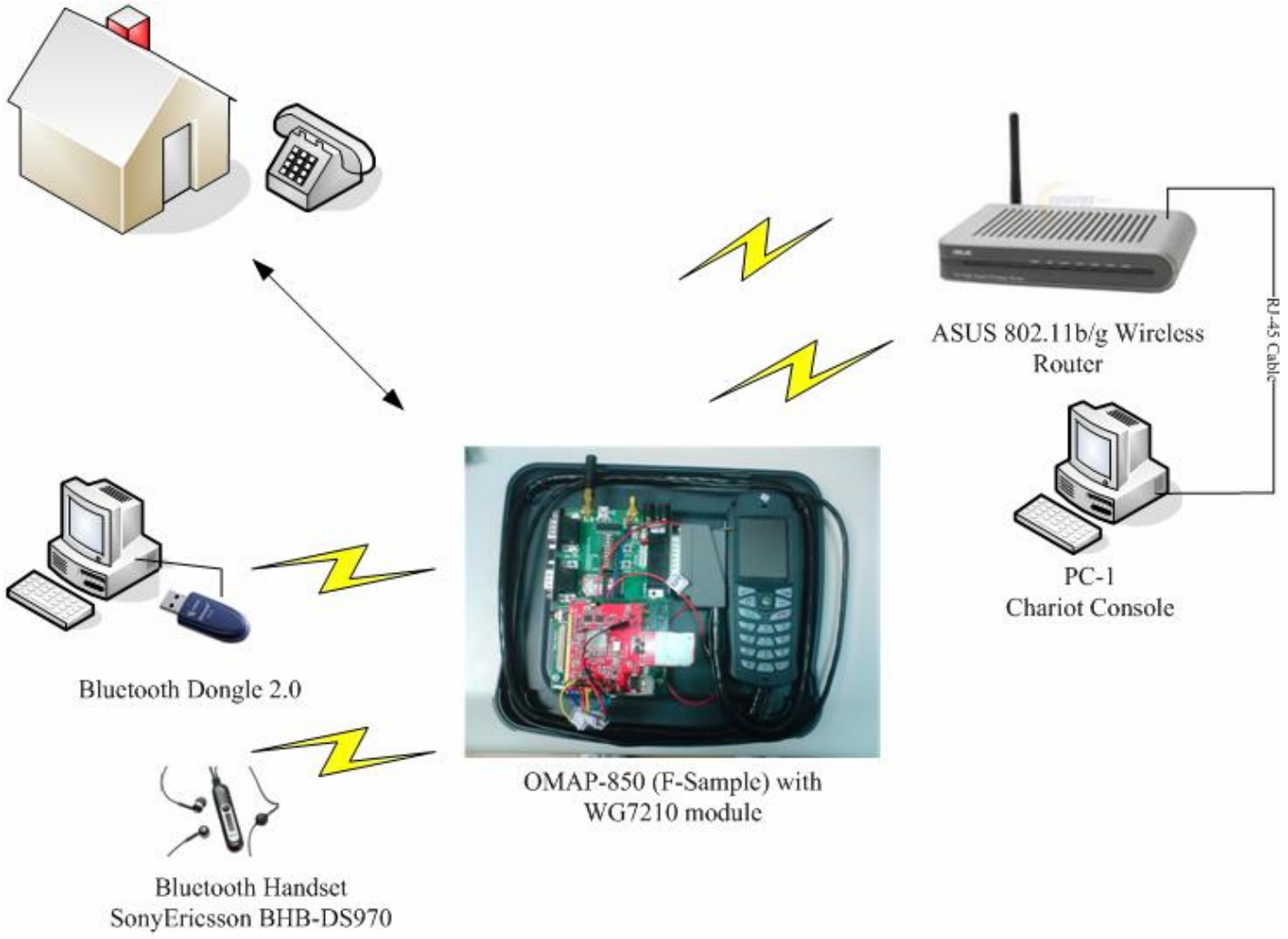
System and WiFi certification

Wireless Test Environment



System and WiFi certification

Co-existence Test Environment



System and WiFi certification

- ASD Plan Support
  - Wi-Fi Application Specific Device (ASD) Test Plans : Status:Fully Documented, ActiveTesting Days Needed:20 hoursAbstract:Abstract and procedures only available from WFANotes:Pre-certification offered to WFA members only.
- WiFi Logo Support (Lab , procedure)

Platform Performance

Jorjin Module	Upload (TX)	Download (RX)
OMAP 850/WinMobile SDIO	3~4 Mbps	4~5 Mbps
OMAP 850/WinMobile SDIO HX (Jorjin)	5~5.5 Mbps	7~7.5 Mbps
OMAP 1710/Linux SDIO (Jorjin)	6~7 Mbps	10~11 Mbps
OMAP2430/Winmobile SDIO	3~4 Mbps	4~5 Mbps
OMAP 2430/WinMobile SDIO HX (Jorjin)	7~7.5 Mbps	10~11 Mbps
DM644X/Linux SDIO (Jorjin)	14~16Mbps	20~24 Mbps
OMAP 850/WinMobile SPI (Jorjin)	2~2.5 Mbps	2.5~3.5 Mbps
OMAP 1030/WinMobile SPI (Jorjin)	2~2.5 Mbps	2.5~3.5 Mbps

Summary

- SW/HW verify for platform support
- Performance fine tune support.
- Power save final tune support
- Co-existance fine tune support
- EMI support
- Manufacture / IOT support
- ASD support

Q&A