

# Acoustics 2Go

A Bluetooth A2DP Technology Enabled  
Wireless Audio Streaming Player

- ▶ Bluetooth Transceiver stereo channel
- ▶ FM Radio
- ▶ Clock/Alarm setting
- ▶ Speak Phone conference
- ▶ Dial up via remote control

## Wireless Speaker System



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# System Diagram



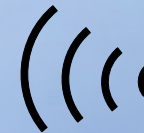
iPOD



Bluetooth A2DP Speaker



Notebook



PDA



PC + BT Dongle

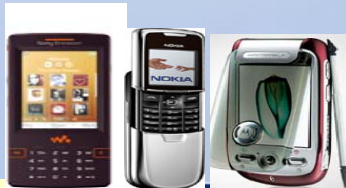
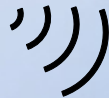


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## Bluetooth A2DP Technology

### Advanced Audio Distribution Profile (A2DP)

The A2DP profile describes how stereo quality audio can be streamed from a media source to a sink. The profile defines two roles of an audio source and sink. A typical usage scenario can be considered as the “walkman” class of media player. The audio source would be the music player and the audio sink is the wireless headset. A2DP defines the protocols and procedures that realize distribution of audio content of high-quality in mono or stereo on ACL channels.



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## Bluetooth AVRCP Technology

### Audio/Video Remote Control Profile (AVRCP)

AVRCP is designed to provide a standard interface to control TVs, Hi-fi equipment, etc. This profile is used to allow a single remote control (or other device) to control all the A/V equipment that a user has access to. AVRCP defines how to control characteristics of streaming media. This includes pausing, stopping, and starting playback and volume control as well as other types of remote control operations.



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## Wireless Link to Cellar phone

### Dial-up Networking Profile (DUN)

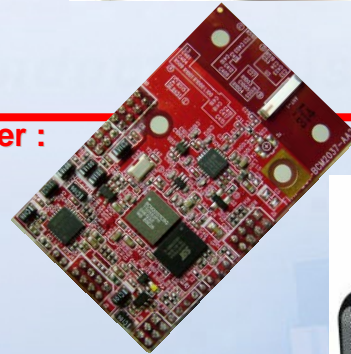
DUN provides a standard to access the Internet and other dial-up services over Bluetooth wireless technology. The most common scenario is accessing the Internet from a laptop by dialing up on a mobile phone, wirelessly.



# Market Outlook



Tape/CD/MD/HDD Micro System Player :  
US\$299 ~ US\$499



iPOD Docking / MP3 Player : US\$129 ~ US\$149

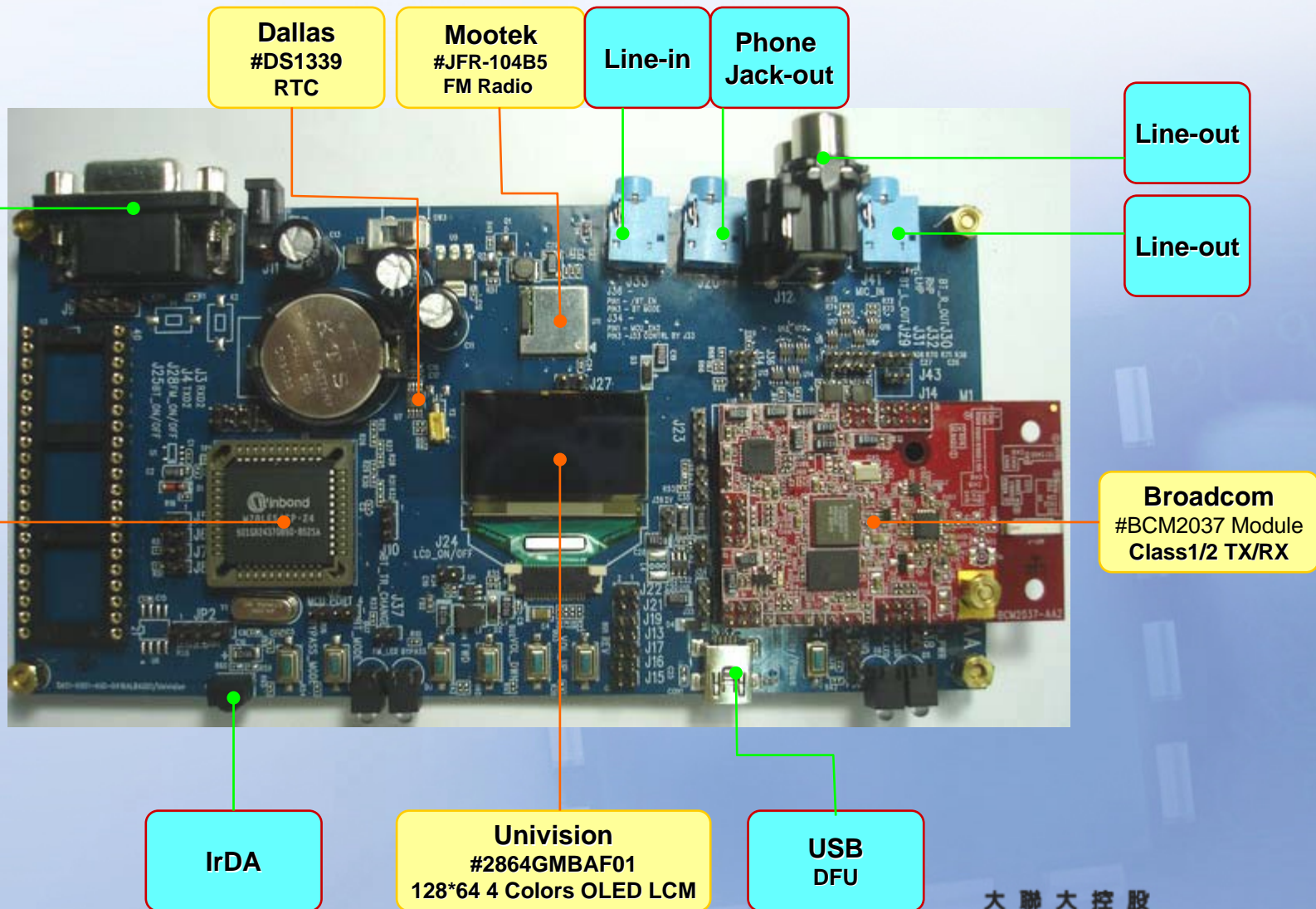


Boom Box / CD Player / Walkman : US\$ 99

# Benefit of Portable Speaker System

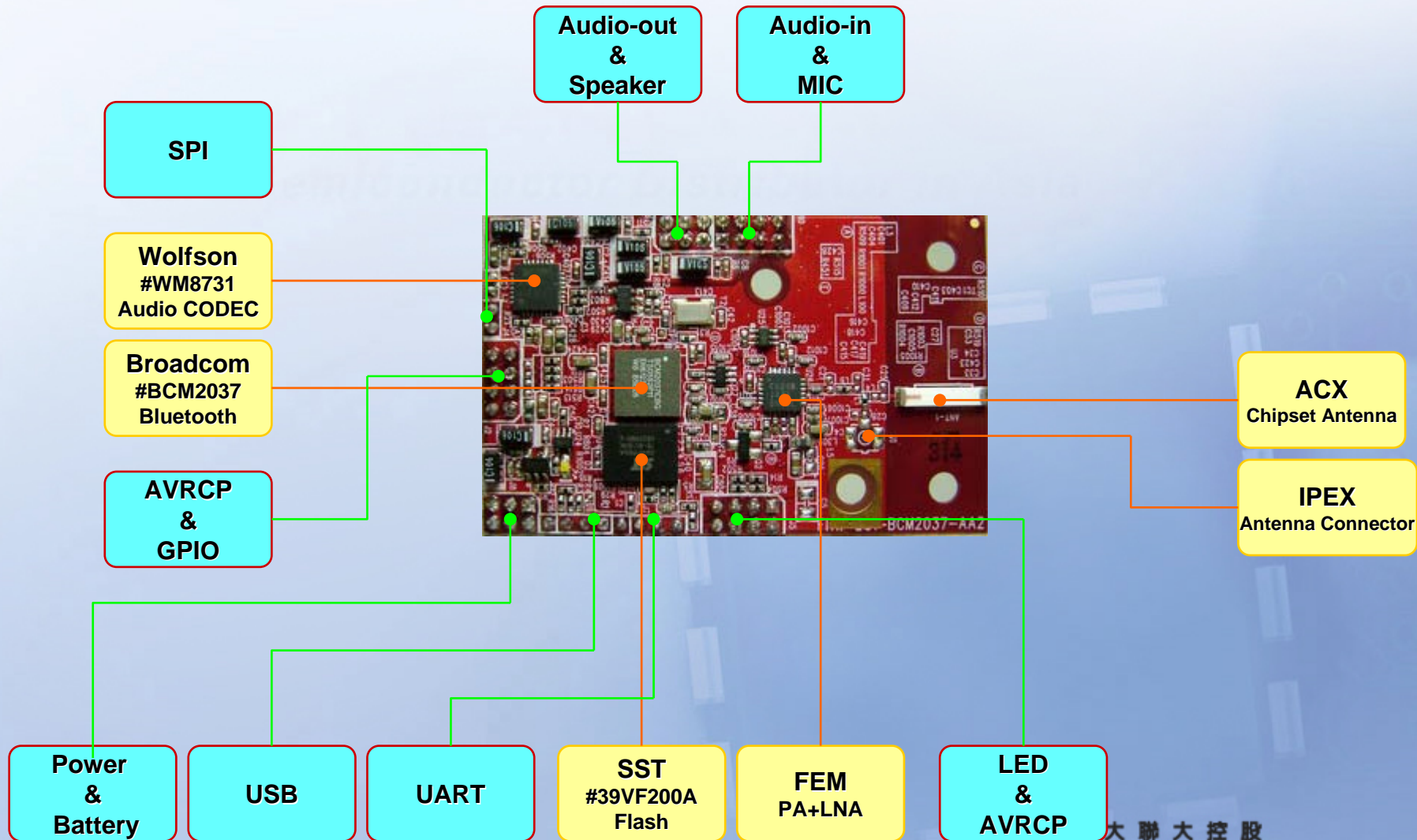
- ▶ Wireless Audio Streaming
- ▶ Flexible / Sufficient interface
- ▶ A/V Remote Control
- ▶ MIC- in for speak phone / conference
- ▶ FM tuner to be one transmitter wireless channel

# System Block Diagram





# Module Block Diagram



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# System Function Description – 1/6

Category	Item	Description
Interface	RS-232	The MCU Console Interface
	USB2.0	Power-in & DFU( Device F/W Upgrade) Interface
	Line-in	3.5mm Audio AUX-in
	MIC-in	Speaker Phone Support
	Line-out	RCA type connector *2 for the Amplifier Connecting
	Phone Jack Out	Headset Connection
Control Button	Volume UP	
	Volume Down	
	Forward	
	Backward	
	Play/Pause/Pick up	

# System Function Description – 2/6

Category	Item	Description
Radio	FM Turner	Transmit the FM Radio to the BT receiver in TX mode
Voice	Pick-up	Pick-up Cellular Phone via Control Button
	Dial-up	Dial-up via Remote Control Button
	Call waiting	Resume Cellular Phone Call
	Speaker Phone	Via MIC-in
LCD Display	Caller ID	Show the Call-in Number
	Clock	A timepiece that shows the time of day
	Alarm	A clock that wakes sleeper at preset time

# System Function Description – 3/6



Category	Item
Control Buttons	Power
	Language
	Bluetooth TX/RX
	FM/AV
	Mute
	ESC
	Enter
	Volume UP
	Volume DOWN
	Channel UP
	Channel DOWM
Number Keys	0 ~ 9

# Bluetooth Module Specification – 4/6

Category	Item	Description
Standard	Bluetooth SIG	V2.0 Tranceiver( TX/RX Combo) Supports Enhanced Data Rate( EDR) ,backward compatible to V1.2 & V1.1
	Profiles	A2DP (Advanced Audio Distribution Profile)
		AVRCP (Audio Video Remote Control Profile)
		Headset Profile
Power Supply	5V	Control pin 25 & 26 for the Class 1 output
	2.0~3.3V	Control pin 24 for the Class 2 output
	3.3V	Control pin 46 for Class 1 output with power consumption saving
General	Dimension	55mm(L) * 35mm(W) * 12mm(H)

# Bluetooth Module Specification – 5/6

Category	Item	Description
RF	Frequency Band	2.402 ~ 2.480GHz with Frequency Hopping
	Modulation	FSK,QPSK and 8-PSK for BT V1.2 & V2.0 EDR
	Output Power	Class 1:Typically 7dBm up to 40m in open space
		Class 2:Typically 0dBm up to 6m in open space
	Sensitivity	Class 1: -86dBm < 0.1% BER
		Class 2: -80dBm < 0.1% BER
Antenna	Dipole or Chip Antenna	

# Bluetooth Module Specification – 6/6

Category	Item	Description
Power Dissipation	Class 1	100 ~ 110 mA @ 5V
	Class 2	40 ~ 60 mA @ 5V
Interface	GPIO	11 GPIOs for the extension
	Audio	Stereo out * 2
		Stereo in * 1
		Mono MIC in * 1
	UART	Up to 921600 bps
	LED	2 indicator pins
USB	Support DFU( Device Firmware Upgrade)	