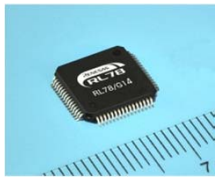
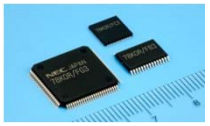
GainSpan Solution for Renesas MCU Families

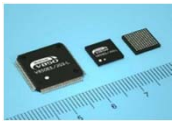

RL78

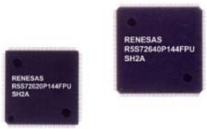

78K0


78K0R


R8C

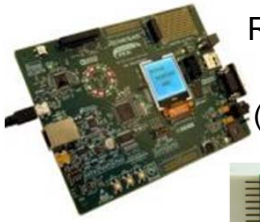

RX


V850


SuperH

RENESAS

Development/Evaluation


Renesas RDK

IAR Workbench (Kickstart Edition)


GainSpan Wi-Fi Adapter Board

Serial to Wi-Fi
Drivers for UART or SPI

Family of Pin – Compatible Modules
- Easy to use – **Serial to Wi-Fi**
- Wireless provisioning
- OTA firmware updates
- Networking services
- FCC, Wi-Fi certified


GS1011MI (Low Power)

GS1011ME (Extended Range)


GS1500M (b/g/n)


Customize Module Features
SDK-Builder™

Public Internet


Server/Roaming ADK

Develop Mobile & Web Apps
- **GainSpan ADK with GSLink™**
- Provisioning, setup
- Applications
- Firmware updates
- Use **HTTP methods with XML**

GainSpan

FDI Future Designs, Inc. Your Development Partner

Renesas- MCU's support

- **Wi-Fi Adapter Board plugs into multiple Renesas RDK's**
  - Two connectors – PMOD plus Legacy RDK Application Header
- **Drivers being developed to support Renesas MCUs**
  - RX, V850, SuperH, RL78, R8C, 78K0, 78K0R
  - Small footprint drivers for UART and SPI
  - Work with IAR Workbench- Kickstart Edition (Free version)
  - Multiple demos being developed using sensors available on RDK
    - Temperature, Light, Acceleration

Renesas- Driver Development

MCU	IF	App	IDE	Availability
RL78	UART/SPI	S2W	IAR	Now
RX62	UART/SPI	S2W	IAR/ HEW	Now
RX63	UART/SPI	S2W	IAR/ HEW	Nov
78K0, 78K0R	UART/SPI	S2W	IAR	Dec
R8C	UART/SPI	S2W	IAR	Nov
SuperH	UART/SPI	S2W	HEW	Now
V850	UART/SPI	S2W	IAR	Dec

Renesas- Wi-Fi Adapter Board

- **Wi-Fi Adapter Board developed by FDI**
  - Two versions:
    - WAB –GW-GS1011MIP (802.11b, ultra low power, lower price module)
    - WAB-GW-GS1500M (802.11 b/g/n)
  - Retail packaged version for Digi-Key stocking or Renesas support
  - Jumper for measuring current, selecting SPI/ UART
    - Currently two separate drivers
  - Switches for Reset and Factory Restore
  - Built-in external flash for reliable over the air firmware upgrade, factory restore configuration as well as data storage such as for web pages.

Renesas- Demo Development

- **Demonstrable Features**
  - By default will be set in Limited AP provisioning mode
    - Showing embedded web pages
  - Could be provisioned as Client through provisioning or WPS
    - WPS demonstrated by pushing button on RDK
  - Client/ server
    - UDP, TCP, HTTP(S) post/ get
    - Posting RDK sensor data on Pachube
  - OTA FW upgrade
  - Low power consumption
- **Next Phase**
  - Posting sensor data on PC, iPhone, Android
    - XML based messages
  - Home healthcare demo