MLA Stack - v6.04 (Beta Release)

June 14, 2013

**MRF24W Release Notes**

Software requirements

1. MPLAB X IDE 1.80
2. XC32 compiler v1.21 or later

Applicable Product

1. MRF24WG

Supported Application Demos

1. Web Server Demo

Directory “.\Beta\_v6.00.04\_20130531\tcpip\tcpip\_web\_server\_demo\_app\tcpip\_pic32\_e16\_mrf24wg\_web\_server\_demo\_app.X”

* 1. SNMPv3, multi-port connection (Ethernet + Wi-Fi)
  2. Network type supported: Infrastructure (Client STA)
  3. **Security mode supported: Open , WEP 64/128 Open, WPS, WPA/WPA2 PSK TKIP/AES**

1. Console Demo

Directory

“.\Beta\_v6.00.04\_20130531\tcpip\tcpip\_wifi\_console\_demo\_app\tcpip\_pic32\_e16\_mrf24wg\_console\_demo\_app.X”

* 1. Network benchmark debug/test support such as iPerf, etc via system command line access.
  2. Network type supported: Infrastructure (Client STA), Ad-Hoc, Wi-Fi Direct

If testing Wifi-Direct, use RF module FW version 0x3107.

RF module FW version 0x3108 does NOT have support for Wi-Fi Direct.

1. EasyConfig Demo

Directory

“.\Beta\_v6.00.04\_20130531\tcpip\tcpip\_wifi\_easyconfig\_demo\_app\tcpip\_pic32\_e16\_mrf24wg\_wifi\_easyconfig\_demo\_app.X”

* 1. Network provision allowing configurations of an embedded decide on a wireless network. (SoftAP, Ad-Hoc)
  2. Network type supported: SoftAP, Ad-Hoc

Key Features

Verified

1. SNMPv3
2. DHCP Server/Client - server supports up to max 4 IPs
3. SoftAP is able to support up to max 4 clients (STAs)

Requires RF module FW version 0x3108.

RF module FW version 0x3107 only supports 1 client for SoftAP.

1. Ad-Hoc network with support for up to max 4 STAs
2. Multi-Ethernet ports (Ethernet and Wi-Fi)
3. Serial console 115,200 baud

Supported

1. ZeroConfig/Bonjour (with mDNS)
2. SNMP v1, 2c, v3
3. SMTP
4. SSL (512, 1024, 2048-bit)
5. HTTP2
6. ICMP
7. DNS
8. NBNS
9. Iperf
10. TCP/UDP modules
11. TCPIP Network Commands
12. TCPIP Storage Service
13. Announce
14. ARP (Gratuitous)
15. Berkeley API
16. ZeroConfig/Bonjour (with mDNS)
17. Power management / Power Save

* Active mode (Known as normal mode in v5 stack)
* Doze mode (Known as PS-Polling mode in v5 stack)

Supported but not verified

1. Telnet
2. TFTP
3. SNTP
4. Reboot Server
5. IPV6 : This is currently not supported due to a defect of software multicast filter of MRF24WG 3107 or the older FW.  The problem will be fixed with upcoming 3108 FW, and thereby the IPv6 will get supported for Wi-Fi.
6. **FTP**

In order to test ESK board

* Ethernet Starter Kit (ESK) is valid for Web server demo
* ESK + MRF24WG
  + Please note that in order to use the MRF24WG module with the PIC32ESK you need to use an I/O Expansion board (DM320002) and insert the MRF24WG module in one of the PICtail Plus slots (SPI1 position is the default).
  + You need to connect the **J10/PMPA4/56 and J10/INT1/37** pins on the I/O Expansion board so that the MRF24WG interrupt signal reaches the PIC32 processor. For this configuration the MRF24WG driver uses a CN (change notice) interrupt.