

## Modification History

| Date | Revision   | Editor | Comment |
|------|------------|--------|---------|
| 0.1  | 2014/10/15 |        |         |
|      |            |        |         |
|      |            |        |         |

# Wi-Fi module Specification

|                       |                     |                                                |
|-----------------------|---------------------|------------------------------------------------|
| Product Name          |                     | Wi-Fi module                                   |
| Model Number          |                     | Home Extender Family                           |
| Host interface        |                     | Wifi, Fast Ethernet ,USB, I2c,SPI,UART         |
| Wireless LAN          | Band                | 2.4G ISM                                       |
|                       | Channels            | USA and Canada: ch1~ch11                       |
|                       | Standard            | 802.11 n 20HT                                  |
|                       | TX power(high gain) | 802.11n:17~19dbm                               |
|                       | RX sensitivity      | 802.11n:-61dbm                                 |
|                       | Antenna gain        | 5dbi                                           |
| Wire LAN              |                     | Fast Ethernet(10/100M) x2                      |
| Led indicator         |                     | Wireless x1, Ethernet x2, power x1             |
| Input power           |                     | DC5V/2.1A                                      |
| Power consumption     |                     | <15W                                           |
| Temperature Range     |                     | Operating Temp:-10~60℃<br>Storage Temp:-10~65℃ |
| Humidity              |                     | Operation Humidity: 10~90% Non-condensing      |
| PCB Dimension         |                     | 70x57.66mm                                     |
| Regulatory compliance |                     | FCC                                            |

## Detail description

### 1 Description

802.11n 20HT Wi-Fi Board, High Power High Gain

### 2 System

CPU : 580 MHz MIPS® 24K™ CPU core / MT7620A

Flash : 16MB

DDR2 : 64MB

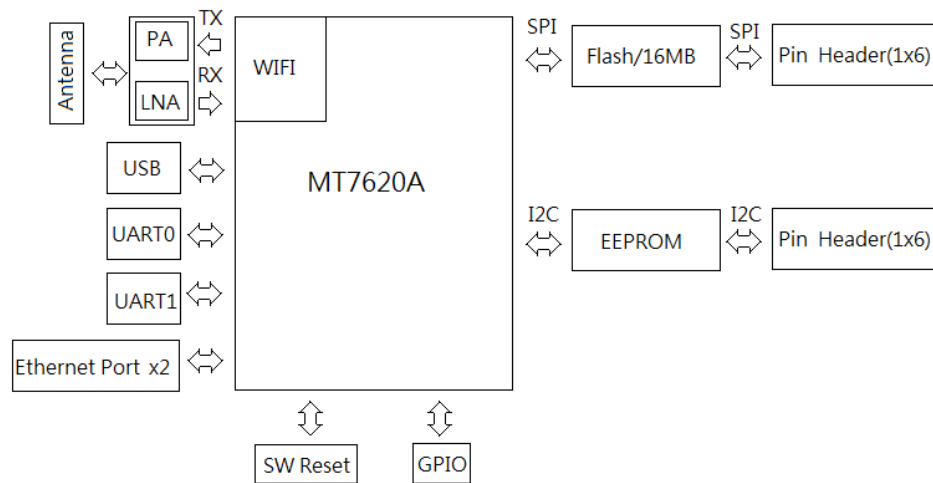
RTC : NO

RF : 1T1R,802.11n 20HT,High power

Ethernet : 10/100Mbps Fast ethernet

## 3 Function

### 3.0 Function Block



#### 3.1 Wi-Fi spec

Compliance IEEE802.11n 20HT

#### 3.2 Ethernet

Compliance IEEE802.3u

#### 3.4 USB

Support USB2.0 host

#### 3.5 I2c

Support standard speed (100kbps)

#### 3.6 SPI

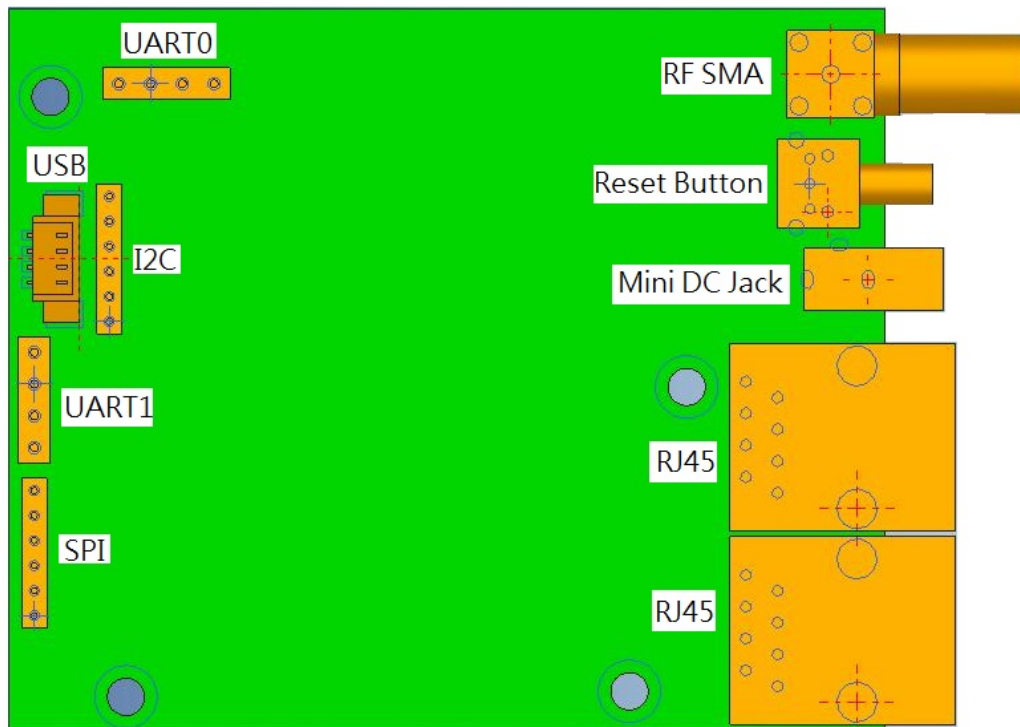
#### 3.7 UART

Compatible with RS232

## 4 HW interface

| Interface       | Connector      | MT7620A                                               |                            |
|-----------------|----------------|-------------------------------------------------------|----------------------------|
|                 |                | Function                                              | Pin                        |
| Wi-Fi           | SMA            | N/A                                                   | N/A                        |
| Ethernet port 0 | RJ45           | MDI_TN_P0<br>MDI_TP_P0<br>MDI_RN_P0<br>MDI_RP_P0      | U17<br>U16<br>T15<br>U15   |
| Ethernet port 4 | RJ45           | MDI_RP_P0<br>MDI_TP_P4<br>MDI_RN_P4<br>MDI_RN_P4      | M17<br>M16<br>N17<br>N16   |
| USB             | Mini USB       | UPHY0_PADM<br>UPHY0_PADP                              | C16<br>C17                 |
| UART0           | Pin header 1x4 | TXD<br>RXD                                            | R12<br>P12                 |
| UART1           | Pin header 1x4 | TXD2<br>RXD2                                          | P13<br>P14                 |
| I2C             | Pin header 1x6 | I2C_SCLK<br>I2C_SD                                    | U14<br>T14                 |
| SPI             | Pin header 1x6 | SPI_CS0<br>SPI_CLK<br>SPI_MOSI<br>SPI_MISO<br>SPI_CS1 | C7<br>D8<br>A8<br>C8<br>C9 |
| Reset Button    | Tack switch    | ND_D0                                                 | P8                         |
| Power Jack      | Mini DC Jack   | N/A                                                   | N/A                        |
| GPIO            | Test point     | ND_D3<br>ND_D4                                        | U10<br>T9                  |

## 5 PCB Placement



### Warning:

This device must be professionally installed. The intended use is generally not for the general public. It is generally for industry/commercial use. Installers must be provided with antenna installation instructions and transmitter operating conditions for satisfying RF exposure compliance.

### IMPORTANT NOTE:

This module is intended for OEM integrator. The OEM integrator is still responsible for the FCC compliance requirement of the end product which integrates this module.

### USERS MANUAL OF THE END PRODUCT:

In the users manual of the end product, the end user has to also be informed that any changes or modifications not expressly approved by the manufacturer could void the user's authority to operate this equipment. If the size of the end product is smaller

than 8x10cm, then additional FCC part 15.19 statement is required to be available in the users manual: This device complies with Part 15 of FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference and (2) this device must accept any interference received, including interference that may cause undesired operation.

**LABEL OF THE END PRODUCT:**

The final end product must be labeled in a visible area with the following " Contains TX FCC ID: TFJHE7620. If the size of the end product is larger than 8x10cm, then the following FCC part 15.19 statement has to also be available on the label: This device complies with Part 15 of FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference and (2) this device must accept any interference received, including interference that may cause undesired operation.