



User manual of SMART READY

1. Introduction

Based on the S5JT200X48 (T200) SoC, the ARTIK Dongle WiFi module(SMART READY) enables a variety of platforms with high integration for development and evaluation products. It can be integrated into OEM products to quickly connect to Wi-Fi systems to provide Wi-Fi services.

The ARTIK Dongle module (SMART READY) includes the following components:

- S5JT200X48(T200) chip
- An integrated PA, LAN, T/R Switch to save cost and size, minimize tuning and tolerance
- 2.4GHz Metal antenna
- 16MB SPI Flash memory and etc.
- USB A-Type Connector

The T200 is a single band 2.4GHz 1x1 802.11 b/g/n device optimized for low-power embedded applications with single-stream capability for both Tx and Rx. It has an integrated network processor with a large set of TCP/IP with IPv4/IPv6-based services. These services can be accessed via a serial SPI link or by a UART link connected to an external host CPU.

The smart Dongle product is OPTION mounting device which installs on SMART READY product among Samsung Electronics life home appliance and which it operates the Wi-Fi function and SMART HOME.

- Application instrument

Samsung SMART READY home appliances (The refrigerator, air conditioner, air cleaner, washer, and oven)

The device hardware and software does not allow operation with laptop and operation in portable condition is not possible.



2. Hardware Architecture

2.1 Circuit Block Diagram

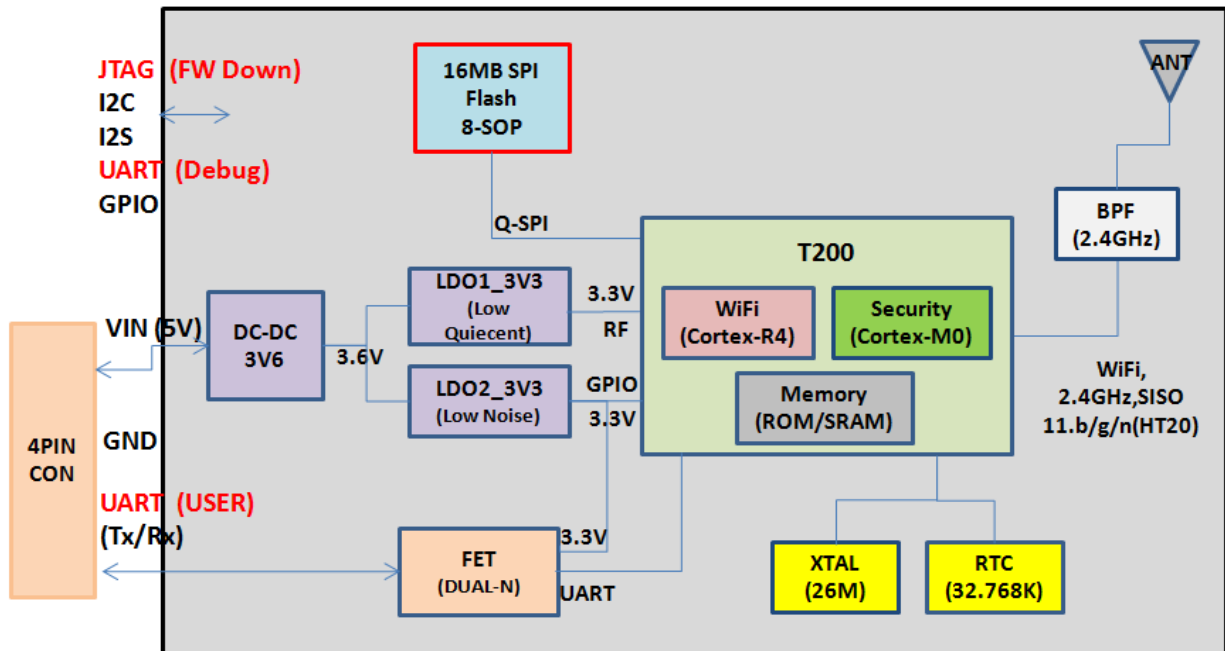


Figure 1-1 SMART READY block diagram and System Interface

3. WIFI link feature and Interface

3.1 RB02 Wi-Fi link features

- IEEE 802.11 b/g/n, single stream 1x1
- Single-band 2.4 GHz
- Integrated PA, LNA and T/R switch
- Green Tx power saving mode
- Low power listen mode
- Six-layer PCB design
- Data rates up to 150 Mbps
- Full security support : WEP64/128, WPA (personal), WPA2 (personal), AES, TKIP, WAPI, PUF(Physically Unclonable Function)

3.2 T200 manufacturing interface

- USB 2.0 interface with integrated controller and PHY for manufacturing test and configuration



3.3 T200 host interfaces

- SPI slave interface to the MCU. Host driver source code and programming APIs are available.
- UART host interface to a remote microcontroller with an AT style command set.

3.4 RB02 interface summary

- Host interface: SPI slave or master x 1, SDIO2.0 x 1, debug UART x 1
- High speed UART x 1
 - Up to 3Mbps data rate
- I2C master x 1, I2C slave x 1
 - Standard-mode and fast-mode
- I2S x 1
- PWM x 7
 - 18-bit resolution with 8-bit clock prescaler
- ADC x 4
 - 12-bit resolution, 400 Ksps for multiple channels and 1 Msps for single channel.
- All signal pins can be multiplexed as GPIO
- USB2.0 x 1

4. The caution for the safety

It is the content that keeps the user safety and prevents the damage to on property. Certainly, read well and use the product correctly.

The injury which doesn't follow the safety caution and which it happens or on damage Samsung Electronics doesn't take the responsibility.

Don't install on the other USB port of the Samsung Smart Ready home appliances in addition to.



In the product, discontinue the product use for some time if the heating is serious. -. In the product, in case of contacting the skin and long time by the condition where the heat happens, there is the worry about the low-temperature burn including the red spot, pigmentation, and etc.

The hot-air balloon (stove, microwave steamer, and etc.)Put on the, heating cooking tool and high pressure tool near or don't deposit in the inside. -. It has a fever in the product or can be caused by of the fire.
Drop the product or the external shock don't add. -. Put on the inclined place or don't keep the product. -. It can be damaged by the impact in case of falling. And it is caused by of the malfunction.

Be careful so that the child or infant or pet sucks the product or it doesn't may bite. -. The damage can be caused to the product.

Don't originally use the product for the use in addition to other purpose. Put on the dry place without the dampness or moisture. -. The moisture or liquid component can cause the damage to product part and circuit. -. After it doesn't connect with the case USB port where it gets wet and the removal does the moisture with the towel parched up, take to the service center.

Remodel into the user discretion or don't repair the separation. -. Free repair cannot be received in the user discretion in the revision, separation, and case that it collected. And certainly repair take advantage of the Samsung Electronics authorized service center.

Be careful when cleaning the product. -. When cleaning the product, wipe lightly with the soft stuff. -. Don't use the poisonous chemistry substance strong or the detergent etc. in order to clean the product. Product outer tube is discolored or it can be corroded.



<FCC Part 15 statement>

: This device complies with part 15 of the 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.

Caution: Any changes or modifications to the equipment not expressly approved by the party responsible for compliance could void user's authority to operate the equipment.

This appliance and its antenna must not be co-located or operation in conjunction with any other antenna or transmitter.

A minimum separation distance of 20 cm must be maintained between the antenna and the person for this appliance to satisfy the RF exposure requirements.

<RSS compliance statement>

This product complies with RSS-247 of Industry Canada. Operation is subject to the following two conditions: (1) this product may not cause harmful interference, and (2) this product must accept any interference received, including interference that may cause undesired operation. This Class B digital apparatus complies with Canadian ICES-003.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

- (1) l'appareil ne doit pas produire de brouillage, et
- (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Cet équipement doit être installé et utilisé avec un minimum de 20 cm de distance entre la source de rayonnement et votre corps.