



1. Description

1.1. Project

| | |
|-----------------|--------------------|
| Project Name | LV_ARM |
| Board Name | custom |
| Generated with: | STM32CubeMX 6.15.0 |
| Date | 10/02/2025 |

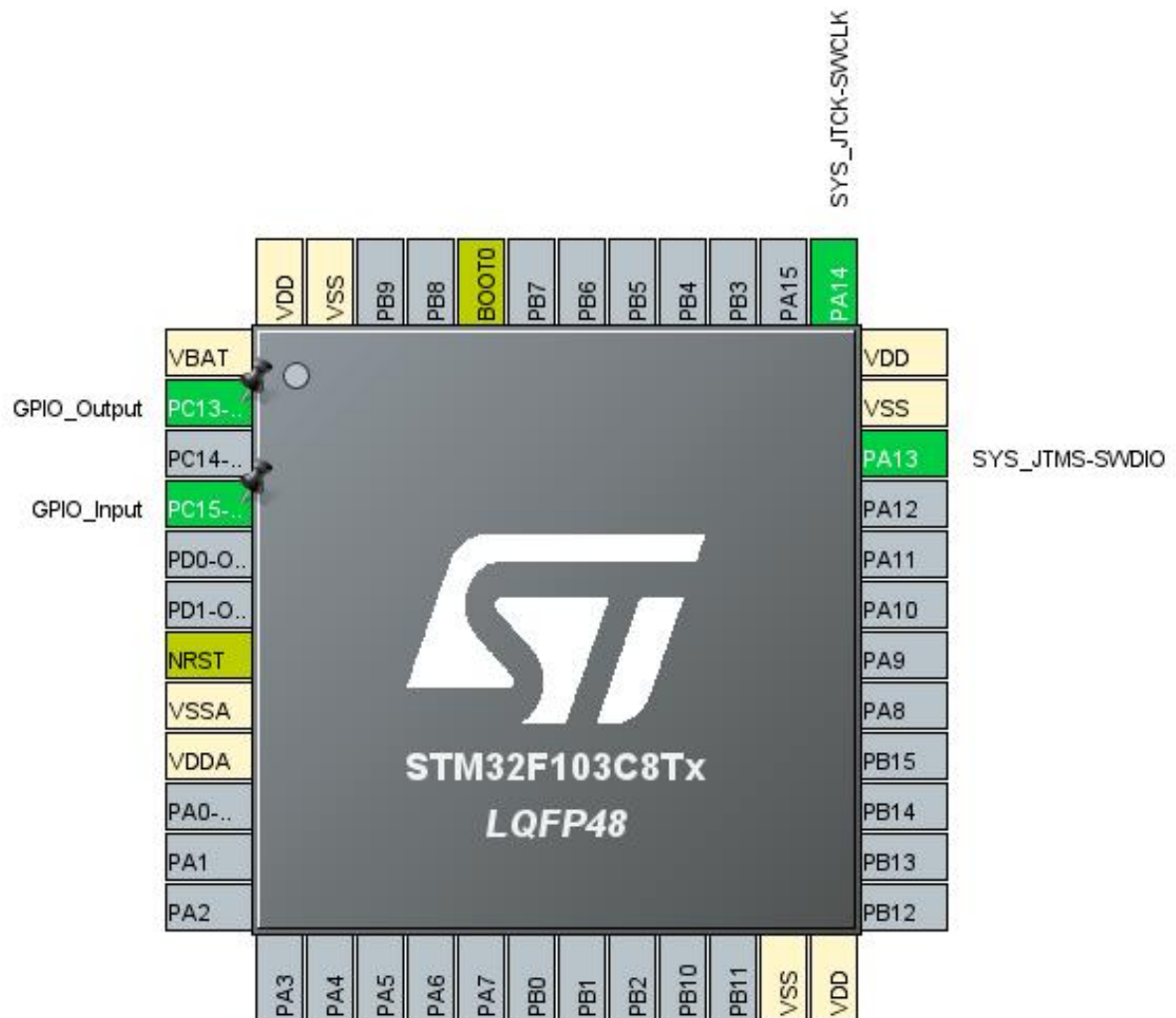
1.2. MCU

| | |
|----------------|---------------|
| MCU Series | STM32F1 |
| MCU Line | STM32F103 |
| MCU name | STM32F103C8Tx |
| MCU Package | LQFP48 |
| MCU Pin number | 48 |

1.3. Core(s) information

| | |
|---------|---------------|
| Core(s) | Arm Cortex-M3 |
|---------|---------------|

2. Pinout Configuration

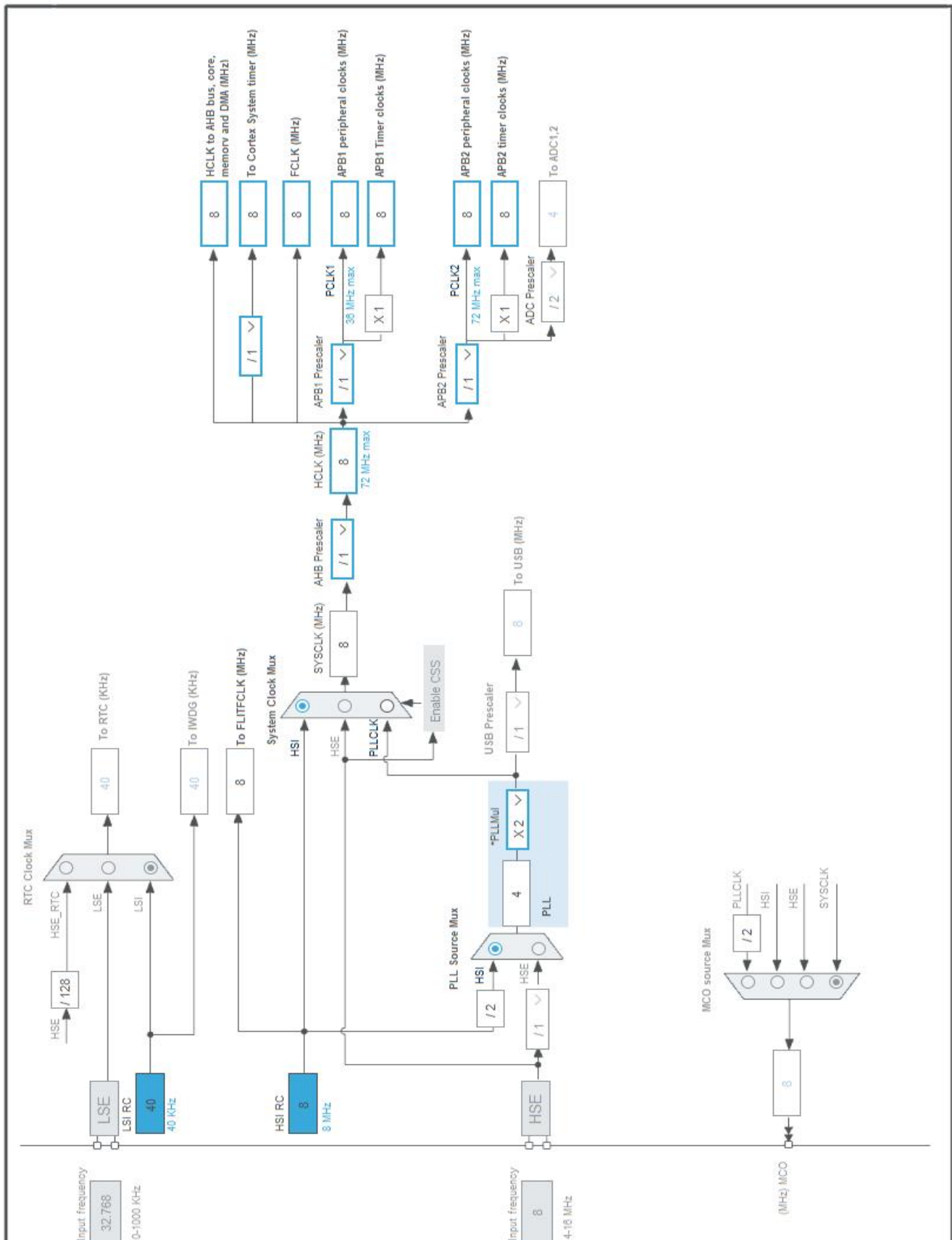


3. Pins Configuration

| Pin Number LQFP48 | Pin Name (function after reset) | Pin Type | Alternate Function(s) | Label |
|----------------------|---------------------------------------|----------|--------------------------|-------|
| 1 | VBAT | Power | | |
| 2 | PC13-TAMPER-RTC * | I/O | GPIO_Output | |
| 4 | PC15-OSC32_OUT * | I/O | GPIO_Input | |
| 7 | NRST | Reset | | |
| 8 | VSSA | Power | | |
| 9 | VDDA | Power | | |
| 23 | VSS | Power | | |
| 24 | VDD | Power | | |
| 34 | PA13 | I/O | SYS_JTMS-SWDIO | |
| 35 | VSS | Power | | |
| 36 | VDD | Power | | |
| 37 | PA14 | I/O | SYS_JTCK-SWCLK | |
| 44 | BOOT0 | Boot | | |
| 47 | VSS | Power | | |
| 48 | VDD | Power | | |

* The pin is affected with an I/O function

4. Clock Tree Configuration



1. Power Consumption Calculator report

1.1. Microcontroller Selection

| | |
|-----------|---------------|
| Series | STM32F1 |
| Line | STM32F103 |
| MCU | STM32F103C8Tx |
| Datasheet | DS5319_Rev17 |

1.2. Parameter Selection

| | |
|-------------|-----|
| Temperature | 25 |
| Vdd | 3.3 |

1.3. Battery Selection

| | |
|-------------------|-----------------|
| Battery | Li-SOCL2(A3400) |
| Capacity | 3400.0 mAh |
| Self Discharge | 0.08 %/month |
| Nominal Voltage | 3.6 V |
| Max Cont Current | 100.0 mA |
| Max Pulse Current | 200.0 mA |
| Cells in series | 1 |
| Cells in parallel | 1 |

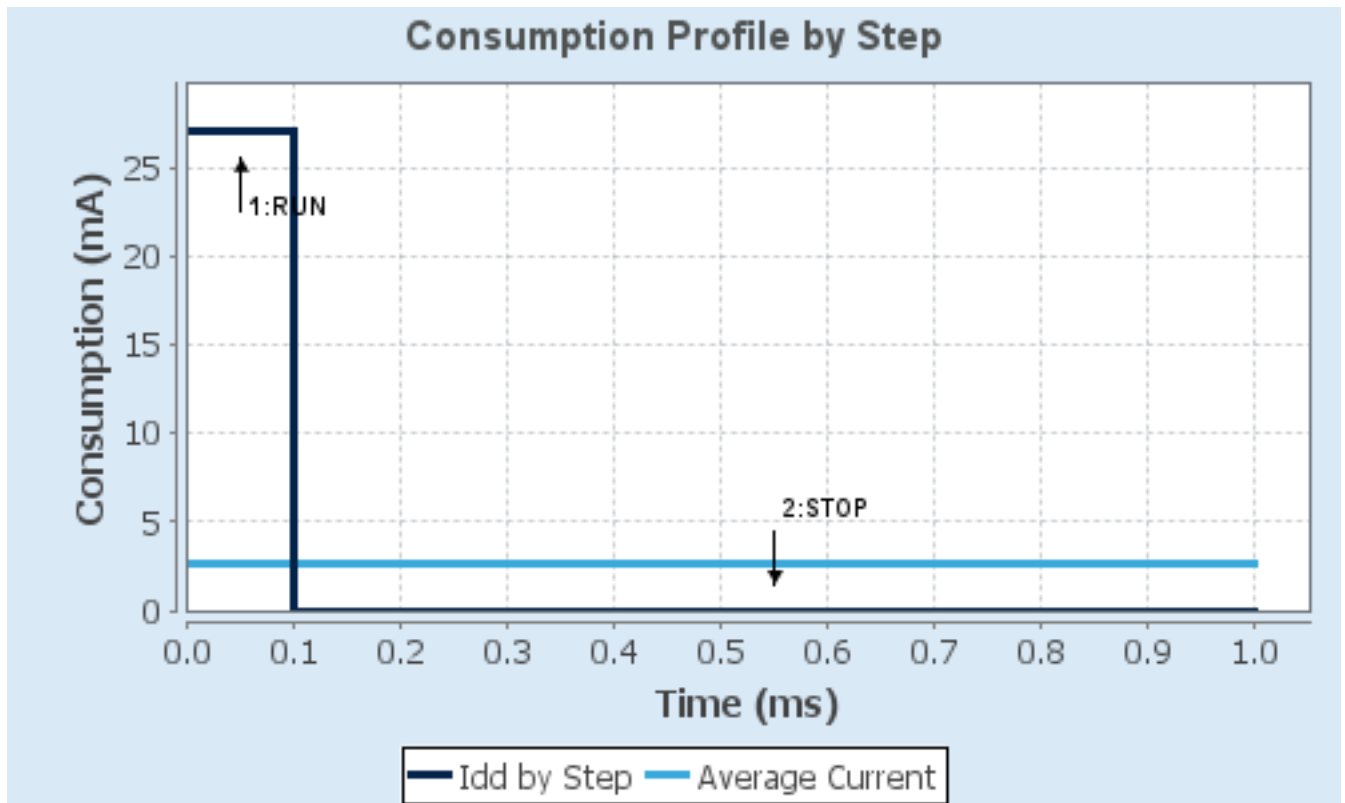
1.4. Sequence

| | | |
|-------------------------------|-------------|--------------|
| Step | Step1 | Step2 |
| Mode | RUN | STOP |
| Vdd | 3.3 | 3.3 |
| Voltage Source | Battery | Battery |
| Range | No Scale | No Scale |
| Fetch Type | FLASH | n/a |
| CPU Frequency | 72 MHz | 0 Hz |
| Clock Configuration | HSE PLL | Regulator LP |
| Clock Source Frequency | 8 MHz | 0 Hz |
| Peripherals | | |
| Additional Cons. | 0 mA | 0 mA |
| Average Current | 27 mA | 14 μ A |
| Duration | 0.1 ms | 0.9 ms |
| DMIPS | 90.0 | 0.0 |
| Ta Max | 100.1 | 105 |
| Category | In DS Table | In DS Table |

1.5. Results

| | | | |
|---------------|-------------------------------|-----------------|------------|
| Sequence Time | 1 ms | Average Current | 2.71 mA |
| Battery Life | 1 month, 21 days, 17 hours | Average DMIPS | 61.0 DMIPS |

1.6. Chart



2. Software Project

2.1. Project Settings

| Name | Value |
|-----------------------------------|---|
| Project Name | LV_ARM |
| Project Folder | C:\Users\arwae\STM32CubeIDE\workspace_1.19.0\LV_ARM |
| Toolchain / IDE | STM32CubeIDE |
| Firmware Package Name and Version | STM32Cube FW_F1 V1.8.6 |
| Application Structure | Advanced |
| Generate Under Root | Yes |
| Do not generate the main() | No |
| Minimum Heap Size | 0x200 |
| Minimum Stack Size | 0x400 |

2.2. Code Generation Settings

| Name | Value |
|---|---------------------------------------|
| STM32Cube MCU packages and embedded software | Copy only the necessary library files |
| Generate peripheral initialization as a pair of '.c/.h' files | No |
| Backup previously generated files when re-generating | No |
| Keep User Code when re-generating | Yes |
| Delete previously generated files when not re-generated | Yes |
| Set all free pins as analog (to optimize the power consumption) | No |
| Enable Full Assert | No |

2.3. Advanced Settings - Generated Function Calls

| Rank | Function Name | Peripheral Instance Name |
|------|--------------------|--------------------------|
| 1 | SystemClock_Config | RCC |
| 2 | MX_GPIO_Init | GPIO |

3. *Peripherals and Middlewares Configuration*

3.1. RCC

3.1.1. Parameter Settings:

System Parameters:

| | |
|-------------------|--------------------|
| VDD voltage (V) | 3.3 |
| Prefetch Buffer | Enabled |
| Flash Latency(WS) | 0 WS (1 CPU cycle) |

RCC Parameters:

| | |
|--------------------------------|------|
| HSI Calibration Value | 16 |
| HSE Startup Timeout Value (ms) | 100 |
| LSE Startup Timeout Value (ms) | 5000 |

3.2. SYS

Debug: Serial Wire

Timebase Source: SysTick

* User modified value

4. System Configuration

4.1. GPIO configuration

| IP | Pin | Signal | GPIO mode | GPIO pull/up pull down | Max Speed | User Label |
|------|-----------------|----------------|------------------|-----------------------------|-----------|------------|
| SYS | PA13 | SYS_JTMS-SWDIO | n/a | n/a | n/a | |
| | PA14 | SYS_JTCK-SWCLK | n/a | n/a | n/a | |
| GPIO | PC13-TAMPER-RTC | GPIO_Output | Output Push Pull | No pull-up and no pull-down | Low | |
| | PC15-OSC32_OUT | GPIO_Input | Input mode | No pull-up and no pull-down | n/a | |

4.2. DMA configuration

nothing configured in DMA service

4.3. NVIC configuration

4.3.1. NVIC

| Interrupt Table | Enable | Preenmption Priority | SubPriority |
|---|--------|----------------------|-------------|
| Non maskable interrupt | true | 0 | 0 |
| Hard fault interrupt | true | 0 | 0 |
| Memory management fault | true | 0 | 0 |
| Prefetch fault, memory access fault | true | 0 | 0 |
| Undefined instruction or illegal state | true | 0 | 0 |
| System service call via SWI instruction | true | 0 | 0 |
| Debug monitor | true | 0 | 0 |
| Pendable request for system service | true | 0 | 0 |
| System tick timer | true | 15 | 0 |
| PVD interrupt through EXTI line 16 | unused | | |
| Flash global interrupt | unused | | |
| RCC global interrupt | unused | | |

4.3.2. NVIC Code generation

| Enabled interrupt Table | Select for init sequence ordering | Generate IRQ handler | Call HAL handler |
|---|-----------------------------------|----------------------|------------------|
| Non maskable interrupt | false | true | false |
| Hard fault interrupt | false | true | false |
| Memory management fault | false | true | false |
| Prefetch fault, memory access fault | false | true | false |
| Undefined instruction or illegal state | false | true | false |
| System service call via SWI instruction | false | true | false |
| Debug monitor | false | true | false |
| Pendable request for system service | false | true | false |
| System tick timer | false | true | true |

* User modified value

5. System Views

5.1. Category view

5.1.1. Current

Middleware

System Core

Analog

Timers

Connectivity

Computing

DMA

GPIO 

IVIC 

RCC 

SYS 

6. Docs & Resources

| Type | Link |
|-------------------------|---|
| BSDL files | https://www.st.com/resource/en/bsdl_model/stm32f1_bsd.zip |
| IBIS models | https://www.st.com/resource/en/ibis_model/stm32f1-ibis.zip |
| System View Description | https://www.st.com/resource/en/svd/stm32f1_svd.zip |
| Presentations | https://www.st.com/resource/en/product_presentation/stm32-stm8_embedded_software_solutions.pdf |
| Presentations | https://www.st.com/resource/en/product_presentation/stm32_eval_tools_portfolio.pdf |
| Presentations | https://www.st.com/resource/en/product_presentation/stm32_stm8_functional-safety-packages.pdf |
| Presentations | https://www.st.com/resource/en/product_presentation/stm32-stm8_software_development_tools.pdf |
| Presentations | https://www.st.com/resource/en/product_presentation/microcontrollers-stm32-family-overview.pdf |
| Brochures | https://www.st.com/resource/en/brochure/products-and-solutions-for-plcs-and-smart-i-os.pdf |
| Flyers | https://www.st.com/resource/en/flyer/flstm32nucleo.pdf |
| Flyers | https://www.st.com/resource/en/flyer/fldpstpf11120.pdf |
| Product Certifications | https://www.st.com/resource/en/certification_document/1239988349.pdf |
| Product Certifications | https://www.st.com/resource/en/certification_document/stm32_authentication_can.pdf |
| Security Bulletin | https://www.st.com/resource/en/technical_note/tn1489-security-bulletin-tn1489stpsirt-physical-attacks-on-stm32-and-stm32cube-firmware-stmicroelectronics.pdf |
| Application Notes | https://www.st.com/resource/en/application_note/an1709-emc-design-guide-for-stm8-stm32-and-legacy-mcus-stmicroelectronics.pdf |
| Application Notes | https://www.st.com/resource/en/application_note/an2586-getting-started-with-stm32f10xxx-hardware-development-stmicroelectronics.pdf |

Application Notes https://www.st.com/resource/en/application_note/an2604-stm32f101xx-and-stm32f103xx-rtc-calibration-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an2606-stm32-microcontroller-system-memory-boot-mode-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an2945-stm8s-and-stm32-mcus-a-consistent-832bit-product-line-for-painless-migration-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an3070-managing-the-driver-enable-signal-for-rs485-and-iolink-communications-with-the-stm32s-usart-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an3095-stevalisv002v1-stevalisv002v2-3-kw-gridconnected-pv-system-based-on-the-stm32f103xx-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an3108-stlm75-firmware-library-for-the-stm32f10x-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an3126-audio-and-waveform-generation-using-the-dac-in-stm32-products-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an3128-stm32-embedded-graphic-objectstouchscreen-library-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an3155-usart-protocol-used-in-the-stm32-bootloader-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an3156-usb-dfu-protocol-used-in-the-stm32-bootloader-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an3364-migration-and-compatibility-guidelines-for-stm32-microcontroller-applications-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an3422-migration-of-microcontroller-applications-from-stm32f1-to-stm32l1-series-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an3427-migrating-a-microcontroller-application-from-stm32f1-to-stm32f2-series-stmicroelectronics.pdf

- Application Notes https://www.st.com/resource/en/application_note/an3429-stm32-proprietary-code-protection-overview-stmicroelectronics.pdf
- Application Notes https://www.st.com/resource/en/application_note/an3961-stevalime003v1-demonstration-board-based-on-the-sthv748-ultrasound-pulser-stmicroelectronics.pdf
- Application Notes https://www.st.com/resource/en/application_note/an4070-250-w-grid-connected-microinverter-stmicroelectronics.pdf
- Application Notes https://www.st.com/resource/en/application_note/an4076-two-or-three-shunt-resistor-based-current-sensing-circuit-design-in-3phase-inverters-stmicroelectronics.pdf
- Application Notes https://www.st.com/resource/en/application_note/an4088-migrating-between-stm32f1-and-stm32f0-series-microcontrollers-stmicroelectronics.pdf
- Application Notes https://www.st.com/resource/en/application_note/an4228-migrating-from-stm32f1-series-to-stm32f3-series-microcontrollers-stmicroelectronics.pdf
- Application Notes https://www.st.com/resource/en/application_note/an4649-migrating-from-stm32f1-series-to-stm32l4-series--stm32l4-series-microntrrollers-stmicroelectronics.pdf
- Application Notes https://www.st.com/resource/en/application_note/an4655-virtually-increasing-the-number-of-serial-communication-peripherals-in-stm32-applications-stmicroelectronics.pdf
- Application Notes https://www.st.com/resource/en/application_note/an4724-stm32cube-firmware-examples-for-stm32f1-series-stmicroelectronics.pdf
- Application Notes https://www.st.com/resource/en/application_note/an4750-handling-of-soft-errors-in-stm32-applications-stmicroelectronics.pdf
- Application Notes https://www.st.com/resource/en/application_note/an4776-generalpurpose-timer-cookbook-for-stm32-microcontrollers-stmicroelectronics.pdf
- Application Notes https://www.st.com/resource/en/application_note/an4803-highspeed-si-simulations-using-ibis-and-boardlevel-simulations-using-hyperlynx-si-on-stm32-mcus-and-mpus-stmicroelectronics.pdf
- Application Notes https://www.st.com/resource/en/application_note/an4904-migration-of-microcontroller-applications-from-stm32f1-series-to-stm32f4-access-lines-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an4989-stm32-microcontroller-debug-toolbox-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an5027-interfacing-pdm-digital-microphones-using-stm32-mcus-and-mpus-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an4899-stm32-microcontroller-gpio-hardware-settings-and-lowpower-consumption-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an5612-esd-protection-of-stm32-mcus-and-mpus-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an4838-introduction-to-memory-protection-unit-management-on-stm32-mcus-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an4879-introduction-to-usb-hardware-and-pcb-guidelines-using-stm32-mcus-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an5225-introduction-to-usb-typec-power-delivery-for-stm32-mcus-and-mpus-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an5537-how-to-use-adc-oversampling-techniques-to-improve-signal-to-noise-ratio-on-stm32-mcus-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an5036-guidelines-for-thermal-management-on-stm32-applications-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an2548-introduction-to-dma-controller-for-stm32-mcus-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an4013-introduction-to-timers-for-stm32-mcus-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an4277-how-to-use-pwm-shutdown-for-motor-control-and-digital-power-conversion-on-stm32-mcus-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an4908-getting-started-with-uart-automatic-baud-rate-detection-for-stm32-mcus-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an5156-introduction-to-security-for-stm32-mcus-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an5543-guidelines-for-enhanced-spi-communication-on-stm32-mcus-and-mpus-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/cd00211314-how-to-optimize-the-adc-accuracy-in-the-stm32-mcus-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an2639-soldering-recommendations-and-package-information-for-leadfree-ecopack2-mcus-and-mpus-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an3154-how-to-use-can-protocol-in-bootloader-on-stm32-mcus-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an4566-how-to-extend-the-dac-performance-on-stm32-mcus-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an2557-stm32f10x-for-related-Tools-&Software-in-application-programming-using-the-usart-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an2592-achieving-32bit-timer-resolution-with-software-expansion-for-stm32cube-and-standard-peripheral-library-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an2594-eeeprom-emulation-in-stm32f10x-microcontrollers-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an2598-smartcard-interface-with-stm32f10x-and-stm32l1xx-microcontrollers-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an2629-stm32f101xx-stm32f102xx-and-stm32f103xx-lowpower-modes-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an2656-stm32f10xxx-lcd-glass-driver-firmware-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an2668-improving-stm32f1-series-stm32f3-series-and-stm32lx-series-adc-resolution-by-related-Tools-&Software

| | |
|-------------------|---|
| & Software | oversampling-stmicroelectronics.pdf |
| Application Notes | https://www.st.com/resource/en/application_note/an2739-how-to-use-the-highdensity-stm32f103xx-microcontroller-to-play-audio-files-with-an-external-is-audio-codec-stmicroelectronics.pdf |
| for related Tools | |
| & Software | |
| Application Notes | https://www.st.com/resource/en/application_note/an2784-using-the-highdensity-stm32f10xxx-fsmc-peripheral-to-drive-external-memories-stmicroelectronics.pdf |
| for related Tools | |
| & Software | |
| Application Notes | https://www.st.com/resource/en/application_note/an2790-tft-lcd-interfacing-with-the-highdensity-stm32f10xxx-fsmc-stmicroelectronics.pdf |
| for related Tools | |
| & Software | |
| Application Notes | https://www.st.com/resource/en/application_note/an2820-driving-bipolar-stepper-motors-using-a-mediumdensity-stm32f103xx-microcontroller-stmicroelectronics.pdf |
| for related Tools | |
| & Software | |
| Application Notes | https://www.st.com/resource/en/application_note/an2821-clockcalendar-implementation-on-the-stm32f10xxx-microcontroller-rtc-stmicroelectronics.pdf |
| for related Tools | |
| & Software | |
| Application Notes | https://www.st.com/resource/en/application_note/an2824-stm32f10xxx-ic-optimized-examples-stmicroelectronics.pdf |
| for related Tools | |
| & Software | |
| Application Notes | https://www.st.com/resource/en/application_note/an2841-led-dimming-implemented-on-stm32-microcontroller-stmicroelectronics.pdf |
| for related Tools | |
| & Software | |
| Application Notes | https://www.st.com/resource/en/application_note/an2868-stm32f10xxx-internal-rc-oscillator-hsi-calibration-stmicroelectronics.pdf |
| for related Tools | |
| & Software | |
| Application Notes | https://www.st.com/resource/en/application_note/an2931-implementing-the-adpcm-algorithm-in-highdensity-stm32f103xx-microcontrollers-stmicroelectronics.pdf |
| for related Tools | |
| & Software | |
| Application Notes | https://www.st.com/resource/en/application_note/an2953-how-to-migrate-from-the-stm32f10xxx-firmware-library-v203-to-the-stm32f10xxx-standard-peripheral-library-v300-stmicroelectronics.pdf |
| for related Tools | |
| & Software | |
| Application Notes | https://www.st.com/resource/en/application_note/an3012-getting-started-with-uclinux-for-stm32f10x-highdensity-devices-stmicroelectronics.pdf |
| for related Tools | |
| & Software | |

Application Notes [https://www.st.com/resource/en/application_note/an3078-stm32-for-related-Tools](https://www.st.com/resource/en/application_note/an3078-stm32-for-related-Tools-inapplication-programming-over-the-ic-bus-stmicroelectronics.pdf)
& Software

Application Notes https://www.st.com/resource/en/application_note/an3109-communication-peripheral-fifo-emulation-with-dma-and-dma-timeout-in-stm32f10x-microcontrollers-stmicroelectronics.pdf
& Software

Application Notes https://www.st.com/resource/en/application_note/an3116-stm32s-adc-modes-and-their-applications-stmicroelectronics.pdf
& Software

Application Notes https://www.st.com/resource/en/application_note/an3174-implementing-receivers-for-infrared-remote-control-protocols-using-stm32f10xxx-microcontrollers-stmicroelectronics.pdf
& Software

Application Notes https://www.st.com/resource/en/application_note/an3240-ultrasound-hv-pulser-demonstration-board-stmicroelectronics.pdf
& Software

Application Notes https://www.st.com/resource/en/application_note/an3241-qvga-tftlcd-direct-drive-using-the-stm32f10xx-fsmc-peripheral-stmicroelectronics.pdf
& Software

Application Notes https://www.st.com/resource/en/application_note/an3307-guidelines-for-obtaining-iec-60335-class-b-certification-for-any-stm32-application-stmicroelectronics.pdf
& Software

Application Notes https://www.st.com/resource/en/application_note/an3970-plm-smartplug-v2-getting-started-stmicroelectronics.pdf
& Software

Application Notes https://www.st.com/resource/en/application_note/an3991-how-to-drive-multiple-stepper-motors-with-the-l6470-motor-driver-stmicroelectronics.pdf
& Software

Application Notes https://www.st.com/resource/en/application_note/an4075-stevalifp016v2-iolink-communication-master-transceiver-demonstration-board-stmicroelectronics.pdf
& Software

Application Notes https://www.st.com/resource/en/application_note/an4323-getting-started-with-stemwin-library-stmicroelectronics.pdf
& Software

Application Notes https://www.st.com/resource/en/application_note/an4435-guidelines-for-

for related Tools obtaining-ulcsaiec-607301603351-class-b-certification-in-any-stm32-
& Software application-stmicroelectronics.pdf

Application Notes [https://www.st.com/resource/en/application_note/an4453-implementing-](https://www.st.com/resource/en/application_note/an4453-implementing-the-adpcm-algorithm-in-stm32l1xx-microcontrollers-stmicroelectronics.pdf)
for related Tools the-adpcm-algorithm-in-stm32l1xx-microcontrollers-stmicroelectronics.pdf
& Software

Application Notes [https://www.st.com/resource/en/application_note/an4499-stm32--](https://www.st.com/resource/en/application_note/an4499-stm32--nrf51822-bluetooth-low-energy-system-solution-stmicroelectronics.pdf)
for related Tools nrf51822-bluetooth-low-energy-system-solution-stmicroelectronics.pdf
& Software

Application Notes [https://www.st.com/resource/en/application_note/an4578-16channels-led-](https://www.st.com/resource/en/application_note/an4578-16channels-led-driver-with-independent-pwm-dimming-control-based-on-led7708-stmicroelectronics.pdf)
for related Tools driver-with-independent-pwm-dimming-control-based-on-led7708-
& Software stmicroelectronics.pdf

Application Notes [https://www.st.com/resource/en/application_note/an4657-stm32-](https://www.st.com/resource/en/application_note/an4657-stm32-inapplication-programming-iap-using-the-usart-stmicroelectronics.pdf)
for related Tools inapplication-programming-iap-using-the-usart-stmicroelectronics.pdf
& Software

Application Notes [https://www.st.com/resource/en/application_note/an4724-stm32cube-](https://www.st.com/resource/en/application_note/an4724-stm32cube-firmware-examples-for-stm32f1-series-stmicroelectronics.pdf)
for related Tools firmware-examples-for-stm32f1-series-stmicroelectronics.pdf
& Software

Application Notes [https://www.st.com/resource/en/application_note/an4841-digital-signal-](https://www.st.com/resource/en/application_note/an4841-digital-signal-processing-for-stm32-microcontrollers-using-cmsis-stmicroelectronics.pdf)
for related Tools processing-for-stm32-microcontrollers-using-cmsis-stmicroelectronics.pdf
& Software

Application Notes [https://www.st.com/resource/en/application_note/an4903-generating-jerk-](https://www.st.com/resource/en/application_note/an4903-generating-jerk-limited-move-profiles-with-the-stevalihm042v1-evaluation-board-stmicroelectronics.pdf)
for related Tools limited-move-profiles-with-the-stevalihm042v1-evaluation-board-
& Software stmicroelectronics.pdf

Application Notes [https://www.st.com/resource/en/application_note/an5360-getting-started-](https://www.st.com/resource/en/application_note/an5360-getting-started-with-projects-based-on-the-stm32mp1-series-in-stm32cubeide-stmicroelectronics.pdf)
for related Tools with-projects-based-on-the-stm32mp1-series-in-stm32cubeide-
& Software stmicroelectronics.pdf

Application Notes [https://www.st.com/resource/en/application_note/an5361-getting-started-](https://www.st.com/resource/en/application_note/an5361-getting-started-with-projects-based-on-dualcore-stm32h7-microcontrollers-in-stm32cubeide-stmicroelectronics.pdf)
for related Tools with-projects-based-on-dualcore-stm32h7-microcontrollers-in-
& Software stm32cubeide-stmicroelectronics.pdf

Application Notes [https://www.st.com/resource/en/application_note/an5394-getting-started-](https://www.st.com/resource/en/application_note/an5394-getting-started-with-projects-based-on-the-stm32l5-series-in-stm32cubeide-stmicroelectronics.pdf)
for related Tools with-projects-based-on-the-stm32l5-series-in-stm32cubeide-
& Software stmicroelectronics.pdf

Application Notes [https://www.st.com/resource/en/application_note/an5418-how-to-build-a-](https://www.st.com/resource/en/application_note/an5418-how-to-build-a-simple-usbp-d-sink-application-with-stm32cubemx-stmicroelectronics.pdf)
for related Tools simple-usbp-d-sink-application-with-stm32cubemx-stmicroelectronics.pdf

& Software

| | |
|--|---|
| Application Notes for related Tools & Software | https://www.st.com/resource/en/application_note/an5426-migrating-graphics-middleware-projects-from-stm32cubemx-540-to-stm32cubemx-550-stmicroelectronics.pdf |
| Application Notes for related Tools & Software | https://www.st.com/resource/en/application_note/an5564-getting-started-with-projects-based-on-dualcore-stm32wl-microcontrollers-in-stm32cubeide-stmicroelectronics.pdf |
| Application Notes for related Tools & Software | https://www.st.com/resource/en/application_note/an5698-adapting-the-xcubestl-functional-safety-package-for-stm32-iec-61508-compliant-to-other-safety-standards-stmicroelectronics.pdf |
| Application Notes for related Tools & Software | https://www.st.com/resource/en/application_note/an5731-stm32cubemx-and-stm32cubeide-threadsafe-solution-stmicroelectronics.pdf |
| Application Notes for related Tools & Software | https://www.st.com/resource/en/application_note/an4502-stm32-smbuspmbus-expansion-package-for-stm32cube-stmicroelectronics.pdf |
| Application Notes for related Tools & Software | https://www.st.com/resource/en/application_note/an5952-how-to-use-cmake-in-stm32cubeide-stmicroelectronics.pdf |
| Application Notes for related Tools & Software | https://www.st.com/resource/en/application_note/an5054-how-to-perform-secure-programming-using-stm32cubeprogrammer-stmicroelectronics.pdf |
| Application Notes for related Tools & Software | https://www.st.com/resource/en/application_note/an6179-how-to-integrate-the-stl-firmware-into-a-time-critical-user-application-stmicroelectronics.pdf |
| Application Notes for related Tools & Software | https://www.st.com/resource/en/application_note/an6127-getting-started-with-stm32h7rx7sx-mcus-in-stm32cubeide-stmicroelectronics.pdf |
| Device Option Lists | https://www.st.com/resource/en/device_option_list/opl_stm32f103_64k.zip |
| Errata Sheets | https://www.st.com/resource/en/errata_sheet/es096-stm32f101x8b-stm32f102x8b-and-stm32f103x8b-mediumdensity-device-limitations-stmicroelectronics.pdf |
| Datasheet | https://www.st.com/resource/en/datasheet/cd00161566.pdf |

| | |
|----------------------------|---|
| Programming Manuals | https://www.st.com/resource/en/programming_manual/pm0056-stm32f10xxx20xxx21xxx1xxxx-cortexm3-programming-manual-stmicroelectronics.pdf |
| Programming Manuals | https://www.st.com/resource/en/programming_manual/pm0075-stm32f10xxx-flash-memory-microcontrollers-stmicroelectronics.pdf |
| Reference Manuals | https://www.st.com/resource/en/reference_manual/rm0008-stm32f101xx-stm32f102xx-stm32f103xx-stm32f105xx-and-stm32f107xx-advanced-armbased-32bit-mcus-stmicroelectronics.pdf |
| Technical Notes & Articles | https://www.st.com/resource/en/technical_note/tn0516-overview-of-the-stm32f0xf100xxf103xx-and-stm32f2xxf30xf4xx-mcus-pmsm-singledual-foc-sdk-v40-stmicroelectronics.pdf |
| Technical Notes & Articles | https://www.st.com/resource/en/technical_note/tn1163-description-of-wlcsp-for-microcontrollers-and-recommendations-for-its-use-stmicroelectronics.pdf |
| Technical Notes & Articles | https://www.st.com/resource/en/technical_note/tn1204-tape-and-reel-shipping-media-for-stm32-microcontrollers-in-bga-packages-stmicroelectronics.pdf |
| Technical Notes & Articles | https://www.st.com/resource/en/technical_note/tn1205-tape-and-reel-shipping-media-for-stm8-and-stm32-microcontrollers-in-fpn-packages-stmicroelectronics.pdf |
| Technical Notes & Articles | https://www.st.com/resource/en/technical_note/tn1206-tape-and-reel-shipping-media-for-stm8-and-stm32-microcontrollers-in-qfp-packages-stmicroelectronics.pdf |
| Technical Notes & Articles | https://www.st.com/resource/en/technical_note/tn1207-tape-and-reel-shipping-media-for-stm8-and-stm32-microcontrollers-in-so-packages-stmicroelectronics.pdf |
| Technical Notes & Articles | https://www.st.com/resource/en/technical_note/tn1208-tape-and-reel-shipping-media-for-stm8-and-stm32-microcontrollers-in-tssop-and-ssop-packages-stmicroelectronics.pdf |
| Technical Notes & Articles | https://www.st.com/resource/en/technical_note/tn1433-reference-device-marking-schematics-for-stm32-microcontrollers-and-microprocessors-stmicroelectronics.pdf |
| User Manuals | https://www.st.com/resource/en/user_manual/um1561-stevalisv003v1-firmware-user-manual-stmicroelectronics.pdf |

User Manuals https://www.st.com/resource/en/user_manual/um1573-st7540-power-line-modem-firmware-stack-stmicroelectronics.pdf