



1. Description

1.1. Project

| | |
|-----------------|--------------------|
| Project Name | test1 |
| Board Name | custom |
| Generated with: | STM32CubeMX 6.14.1 |
| Date | 05/15/2025 |

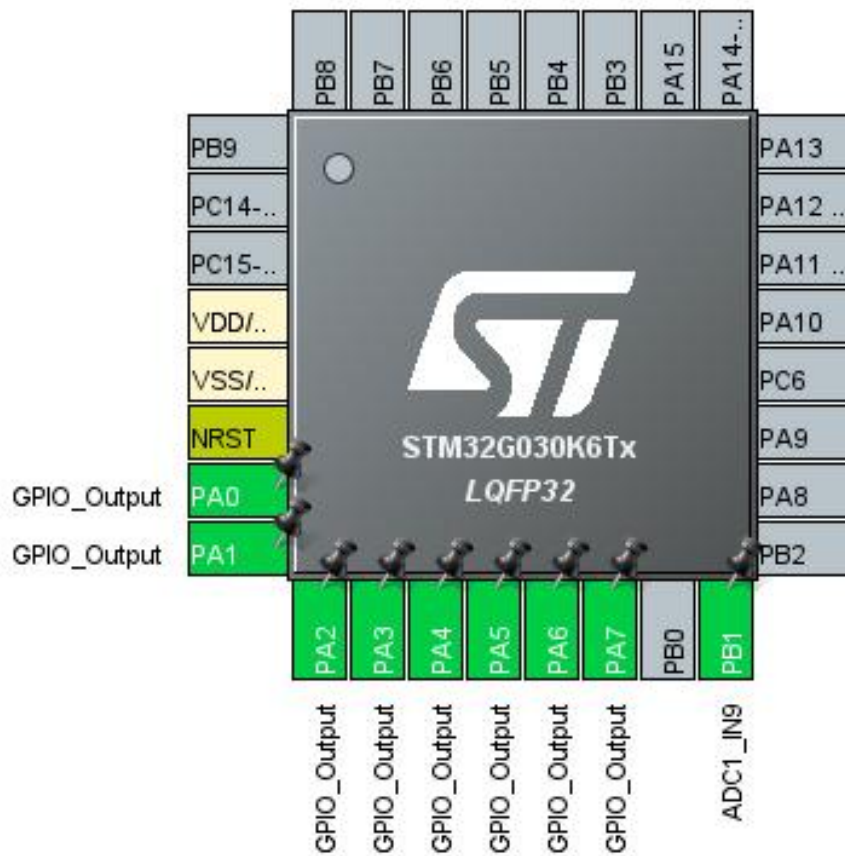
1.2. MCU

| | |
|----------------|----------------------|
| MCU Series | STM32G0 |
| MCU Line | STM32G0x0 Value line |
| MCU name | STM32G030K6Tx |
| MCU Package | LQFP32 |
| MCU Pin number | 32 |

1.3. Core(s) information

| | |
|---------|----------------|
| Core(s) | ARM Cortex-M0+ |
|---------|----------------|

2. Pinout Configuration

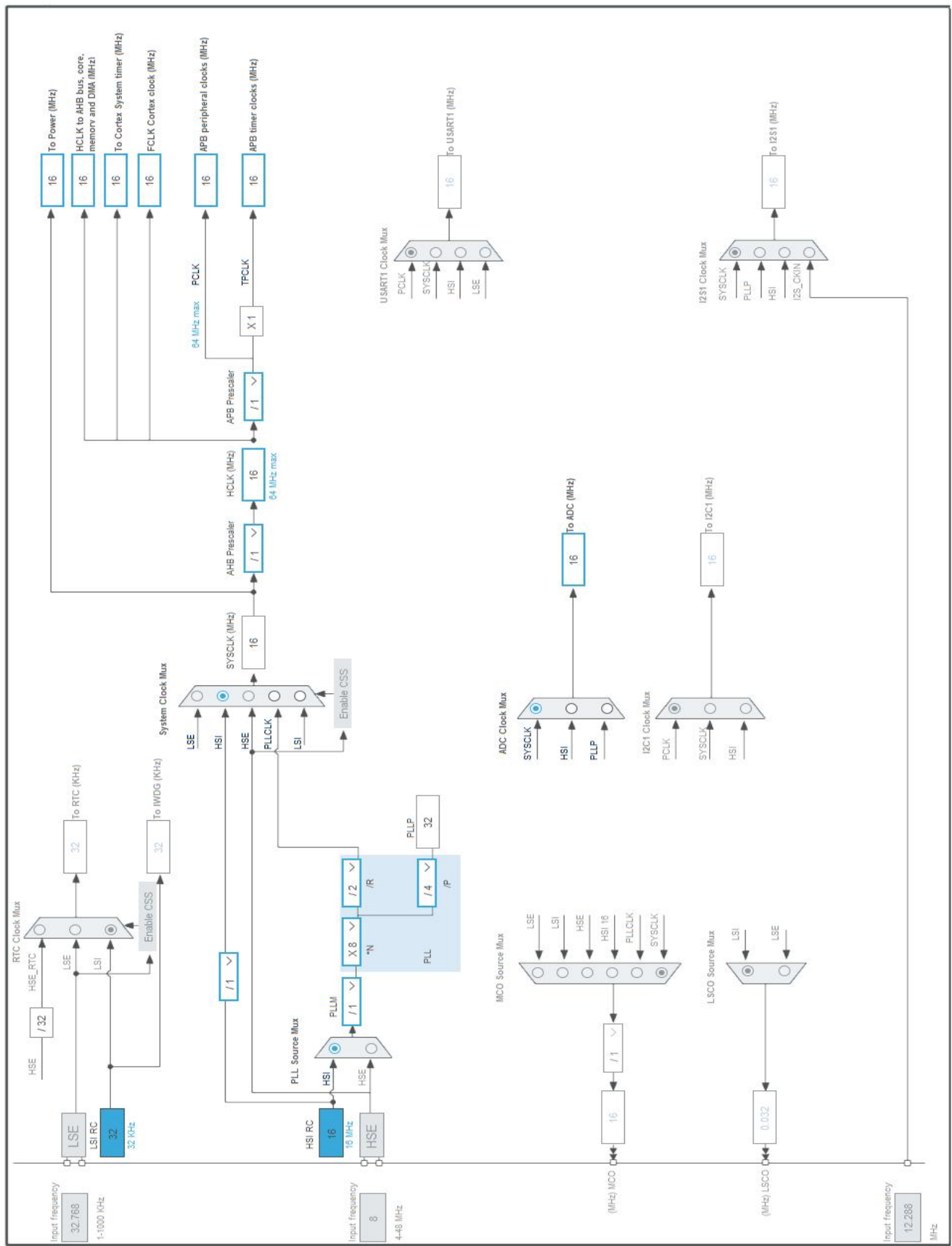


3. Pins Configuration

| Pin Number LQFP32 | Pin Name (function after reset) | Pin Type | Alternate Function(s) | Label |
|----------------------|---------------------------------------|----------|--------------------------|-------|
| 4 | VDD/VDDA | Power | | |
| 5 | VSS/VSSA | Power | | |
| 6 | NRST | Reset | | |
| 7 | PA0 * | I/O | GPIO_Output | |
| 8 | PA1 * | I/O | GPIO_Output | |
| 9 | PA2 * | I/O | GPIO_Output | |
| 10 | PA3 * | I/O | GPIO_Output | |
| 11 | PA4 * | I/O | GPIO_Output | |
| 12 | PA5 * | I/O | GPIO_Output | |
| 13 | PA6 * | I/O | GPIO_Output | |
| 14 | PA7 * | I/O | GPIO_Output | |
| 16 | PB1 | I/O | ADC1_IN9 | |

* The pin is affected with an I/O function

4. Clock Tree Configuration



1. Power Consumption Calculator report

1.1. Microcontroller Selection

| | |
|-----------|----------------------|
| Series | STM32G0 |
| Line | STM32G0x0 Value line |
| MCU | STM32G030K6Tx |
| Datasheet | DS12991_Rev1 |

1.2. Parameter Selection

| | |
|-------------|-----|
| Temperature | 25 |
| Vdd | 3.0 |

1.3. Battery Selection

| | |
|-------------------|------------------|
| Battery | Li-SOCL2(AAA700) |
| Capacity | 700.0 mAh |
| Self Discharge | 0.08 %/month |
| Nominal Voltage | 3.6 V |
| Max Cont Current | 10.0 mA |
| Max Pulse Current | 30.0 mA |
| Cells in series | 1 |
| Cells in parallel | 1 |

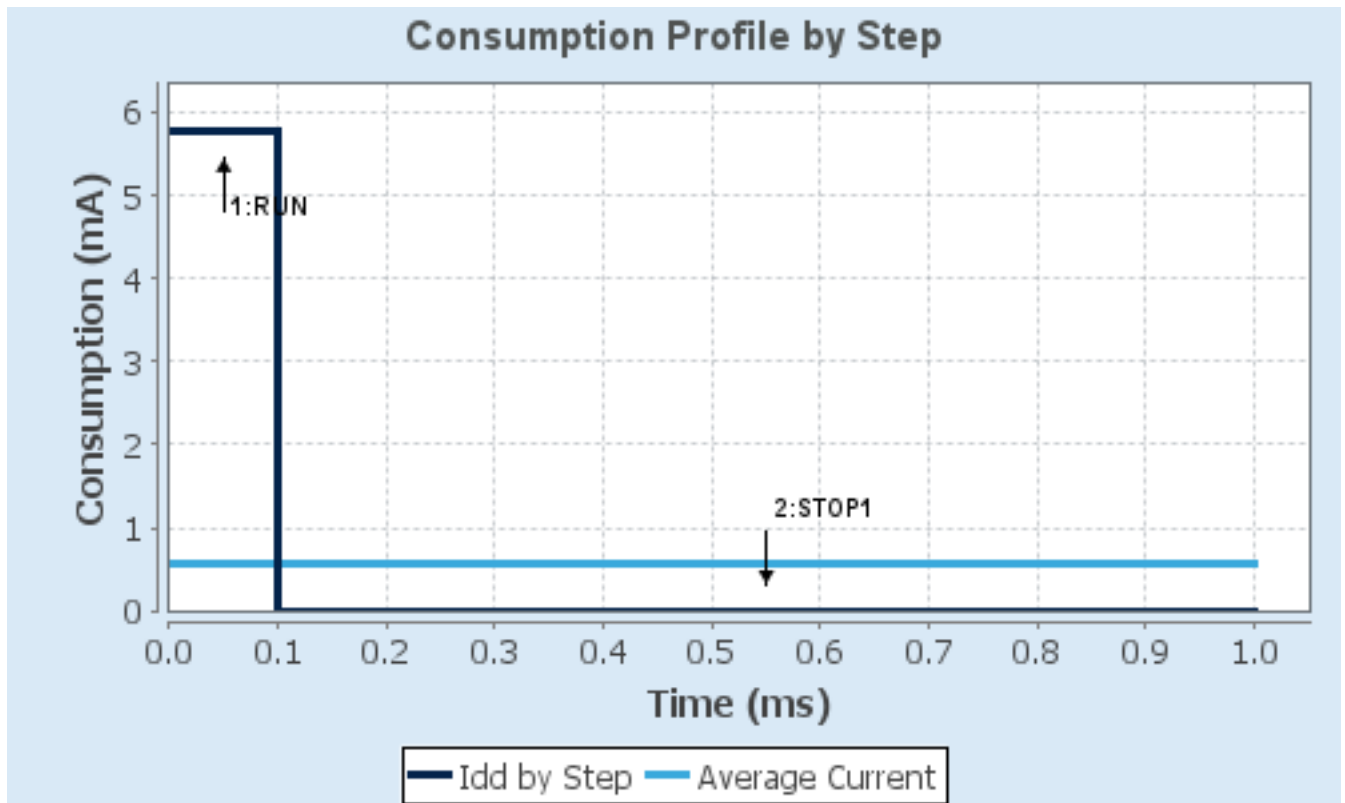
1.4. Sequence

| | | |
|-------------------------------|-------------|-----------------|
| Step | Step1 | Step2 |
| Mode | RUN | STOP1 |
| Vdd | 3.0 | 3.0 |
| Voltage Source | Battery | Battery |
| Range | Range1-High | NoRange |
| Fetch Type | FLASH | Flash-PowerDown |
| CPU Frequency | 64 MHz | 16 MHz |
| Clock Configuration | HSI PLL | HSI |
| Clock Source Frequency | 16 MHz | 16 MHz |
| Peripherals | | |
| Additional Cons. | 0 mA | 0 mA |
| Average Current | 5.77 mA | 3.7 μ A |
| Duration | 0.1 ms | 0.9 ms |
| DMIPS | 80.0 | 0.0 |
| Ta Max | 128.68 | 130 |
| Category | In DS Table | In DS Table |

1.5. Results

| | | | |
|---------------|-------------------------------|-----------------|----------------|
| Sequence Time | 1 ms | Average Current | 580.33 μ A |
| Battery Life | 1 month, 19 days, 18 hours | Average DMIPS | 80.0 DMIPS |

1.6. Chart



2. Software Project

2.1. Project Settings

| Name | Value |
|-----------------------------------|--|
| Project Name | test1 |
| Project Folder | C:\Users\singh\STM32CubeIDE\workspace_1.18.1\test1 |
| Toolchain / IDE | STM32CubeIDE |
| Firmware Package Name and Version | STM32Cube FW_G0 V1.6.2 |
| 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 | MX_ADC1_Init | ADC1 |
| 4 | MX_TIM3_Init | TIM3 |

3. Peripherals and Middlewares Configuration

3.1. ADC1

mode: IN9

3.1.1. Parameter Settings:

ADC_Settings:

Clock Prescaler

Resolution

Data Alignment

Sequencer

Scan Conversion Mode

Continuous Conversion Mode

DMA Continuous Requests

End Of Conversion Selection

Overrun behaviour

Low Power Auto Wait

Auto Off

Oversampling Mode

Asynchronous clock mode divided by 1 *

ADC 12-bit resolution

Right alignment

Sequencer set to fully configurable

Disabled

Enabled *

Disabled

End of single conversion

Overrun data preserved

Disabled

Disabled

Disabled

ADC_Regular_ConversionMode:

SamplingTime Common 1

SamplingTime Common 2

Number Of Conversion

External Trigger Conversion Source

External Trigger Conversion Edge

Trigger Frequency

Rank

Channel

Sampling Time

1.5 Cycles

1.5 Cycles

1

Regular Conversion launched by software

None

High frequency

1

Channel 9

Sampling time common 1

Analog Watchdog 1:

Enable Analog WatchDog1 Mode

false

Analog Watchdog 2:

Enable Analog WatchDog2 Mode

false

Analog Watchdog 3:

Enable Analog WatchDog3 Mode

false

3.2. RCC

3.2.1. Parameter Settings:

System Parameters:

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

RCC Parameters:

| | |
|--------------------------------|------|
| HSI Calibration Value | 64 |
| HSE Startup Timeout Value (ms) | 100 |
| LSE Startup Timeout Value (ms) | 5000 |

Power Parameters:

| | |
|-------------------------------|---------------------------------|
| Power Regulator Voltage Scale | Power Regulator Voltage Scale 1 |
|-------------------------------|---------------------------------|

Peripherals Clock Configuration:

| | |
|--|------|
| Generate the peripherals clock configuration | TRUE |
|--|------|

3.3. SYS

Timebase Source: SysTick

3.4. TIM3

mode: Clock Source**Channel1: Output Compare No Output****3.4.1. Parameter Settings:****Counter Settings:**

| | |
|---|-------------|
| Prescaler (PSC - 16 bits value) | 0 |
| Counter Mode | Up |
| Counter Period (AutoReload Register - 16 bits value) | 65535 |
| Internal Clock Division (CKD) | No Division |
| auto-reload preload | Disable |

Trigger Output (TRGO) Parameters:

| | |
|------------------------------|--|
| Master/Slave Mode (MSM bit) | Disable (Trigger input effect not delayed) |
| Trigger Event Selection TRGO | Reset (UG bit from TIMx_EGR) |

Clear Input:

| | |
|--------------------|---------|
| Clear Input Source | Disable |
|--------------------|---------|

Output Compare No Output Channel 1:

| | |
|-----------------------|-------------------------------|
| Mode | Frozen (used for Timing base) |
| Pulse (16 bits value) | 0 |

| | |
|------------------------|---------|
| Output compare preload | Disable |
| CH Polarity | High |

* **User modified value**

4. System Configuration

4.1. GPIO configuration

| IP | Pin | Signal | GPIO mode | GPIO pull/up pull down | Max Speed | User Label |
|------|-----|-------------|------------------|-----------------------------|-----------|------------|
| ADC1 | PB1 | ADC1_IN9 | Analog mode | No pull-up and no pull-down | n/a | |
| GPIO | PA0 | GPIO_Output | Output Push Pull | No pull-up and no pull-down | High * | |
| | PA1 | GPIO_Output | Output Push Pull | No pull-up and no pull-down | High * | |
| | PA2 | GPIO_Output | Output Push Pull | No pull-up and no pull-down | High * | |
| | PA3 | GPIO_Output | Output Push Pull | No pull-up and no pull-down | High * | |
| | PA4 | GPIO_Output | Output Push Pull | No pull-up and no pull-down | High * | |
| | PA5 | GPIO_Output | Output Push Pull | No pull-up and no pull-down | High * | |
| | PA6 | GPIO_Output | Output Push Pull | No pull-up and no pull-down | High * | |
| | PA7 | GPIO_Output | Output Push Pull | No pull-up and no pull-down | High * | |

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 |
| System service call via SWI instruction | true | 0 | 0 |
| Pendable request for system service | true | 0 | 0 |
| System tick timer | true | 3 | 0 |
| TIM3 global interrupt | true | 0 | 0 |
| Flash global interrupt | unused | | |
| RCC global interrupt | unused | | |
| ADC1 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 |
| System service call via SWI instruction | false | true | false |
| Pendable request for system service | false | true | false |
| System tick timer | false | true | true |
| TIM3 global interrupt | false | true | true |

* User modified value

5. System Views

5.1. Category view

5.1.1. Current

Middleware

System Core

Analog

Timers

Connectivity

Multimedia

Computing

DMA

ADC1



TIM3



GPIO



IIVIC



RCC



SYS



6. Docs & Resources

| Type | Link |
|-------------------------|---|
| IBIS models | https://www.st.com/resource/en/ibis_model/stm32g0_ibis.zip |
| System View Description | https://www.st.com/resource/en/svd/stm32g0-svd.zip |
| Presentations | https://www.st.com/resource/en/product_presentation/stm32-stm8_embedded_software_solutions.pdf |
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| 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/an2606-stm32-microcontroller-system-memory-boot-mode-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

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Application Notes https://www.st.com/resource/en/application_note/an4991-how-to-wake-up-an-stm32-microcontroller-from-lowpower-mode-with-the-usart-or-the-lpuart-stmicroelectronics.pdf

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Application Notes https://www.st.com/resource/en/application_note/an4777-how-to-optimize-power-consumption-on-stm32-mcus-stmicroelectronics.pdf

Application Notes https://www.st.com/resource/en/application_note/an4894-how-to-use-eeeprom-emulation-on-stm32-mcus-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

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| Technical Notes & Articles | https://www.st.com/resource/en/technical_note/tn1163-description-of-wlcsp-for-microcontrollers-and-recommendations-for-its-use-stmicroelectronics.pdf |
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|-------------------------------|---|
| 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 |
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| User Manuals | https://www.st.com/resource/en/user_manual/um3083-stm32g0-series-iec-60730-selftest-library-user-guide-stmicroelectronics.pdf |