



## 1. Description

### 1.1. Project

Project Name	WiznetTest
Board Name	custom
Generated with:	STM32CubeMX 6.3.0
Date	08/21/2021

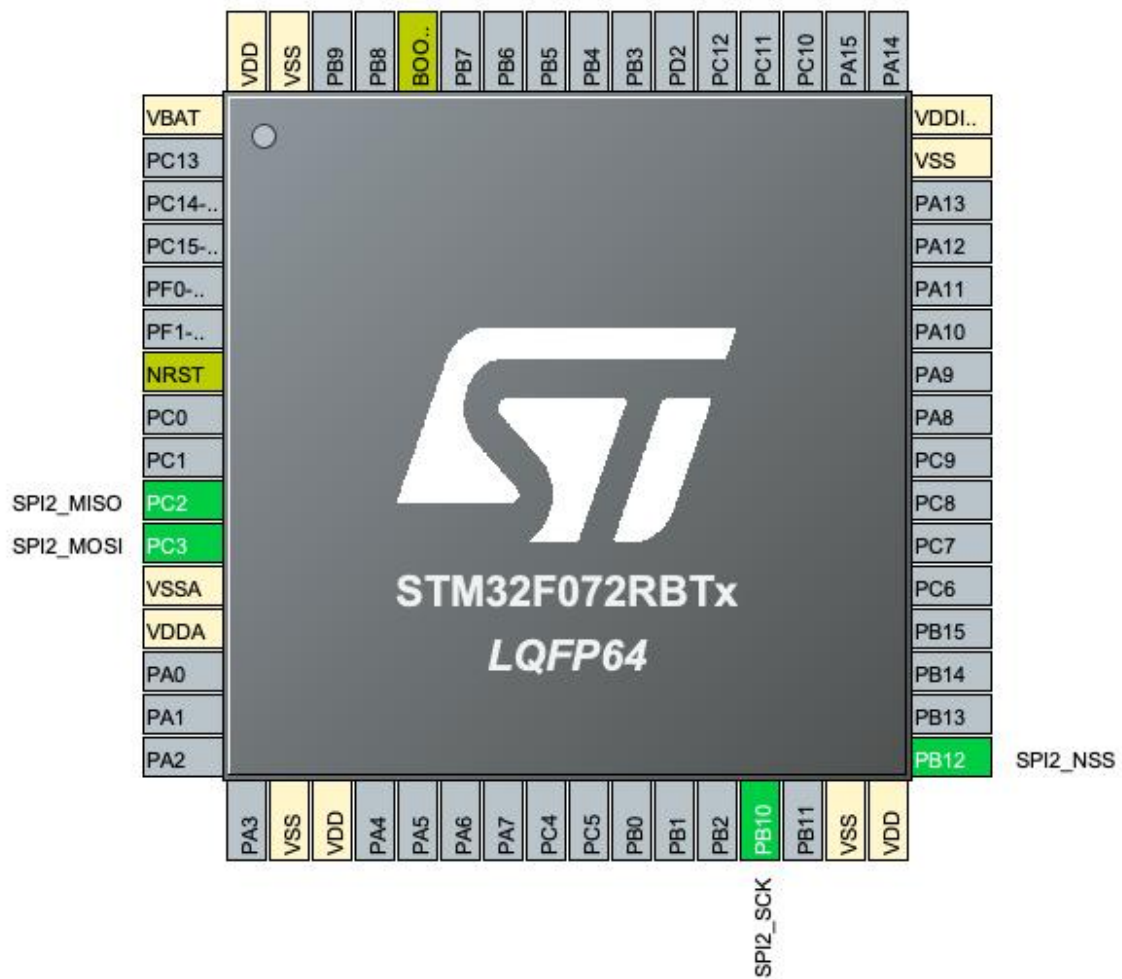
### 1.2. MCU

MCU Series	STM32F0
MCU Line	STM32F0x2
MCU name	STM32F072RBTx
MCU Package	LQFP64
MCU Pin number	64

### 1.3. Core(s) information

Core(s)	Arm Cortex-M0
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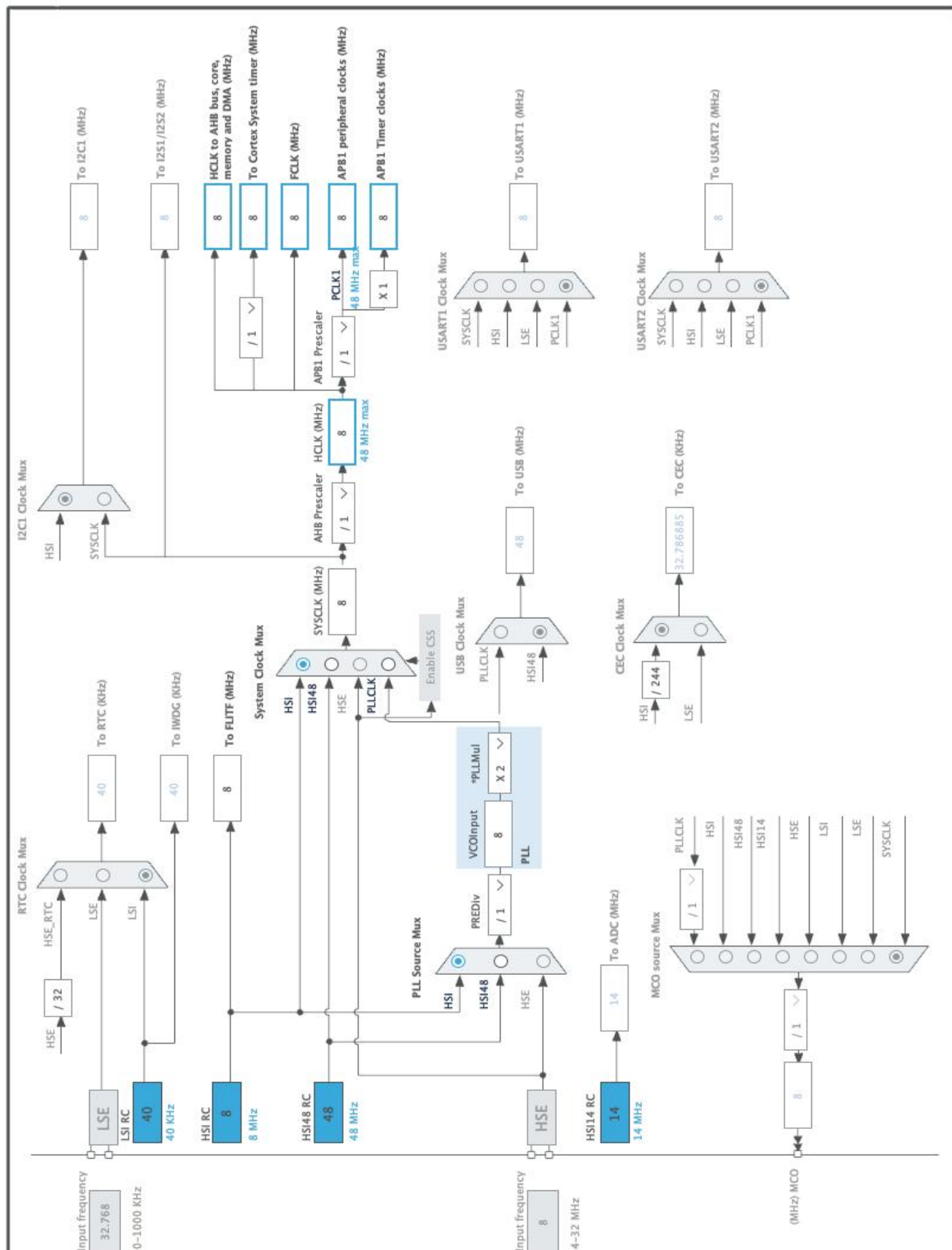
## 2. Pinout Configuration



### 3. Pins Configuration

Pin Number LQFP64	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
1	VBAT	Power		
7	NRST	Reset		
10	PC2	I/O	SPI2_MISO	
11	PC3	I/O	SPI2_MOSI	
12	VSSA	Power		
13	VDDA	Power		
18	VSS	Power		
19	VDD	Power		
29	PB10	I/O	SPI2_SCK	
31	VSS	Power		
32	VDD	Power		
33	PB12	I/O	SPI2_NSS	
47	VSS	Power		
48	VDDIO2	Power		
60	BOOT0	Boot		
63	VSS	Power		
64	VDD	Power		

## 4. Clock Tree Configuration



## 5. Software Project

### 5.1. Project Settings

Name	Value
Project Name	WiznetTest
Project Folder	/Users/raeee/STM32CubeIDE/BBAUV/WiznetTest
Toolchain / IDE	STM32CubeIDE
Firmware Package Name and Version	STM32Cube FW_F0 V1.11.2
Application Structure	Advanced
Generate Under Root	Yes
Do not generate the main()	No
Minimum Heap Size	0x200
Minimum Stack Size	0x400

### 5.2. 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

### 5.3. Advanced Settings - Generated Function Calls

Rank	Function Name	Peripheral Instance Name
1	SystemClock_Config	RCC
2	MX_GPIO_Init	GPIO
3	MX_SPI2_Init	SPI2

## 6. Power Consumption Calculator report

### 6.1. Microcontroller Selection

Series	STM32F0
Line	STM32F0x2
MCU	STM32F072RBTx
Datasheet	DS9826_Rev5

### 6.2. Parameter Selection

Temperature	25
Vdd	3.6

### 6.3. 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

#### 6.4. Sequence

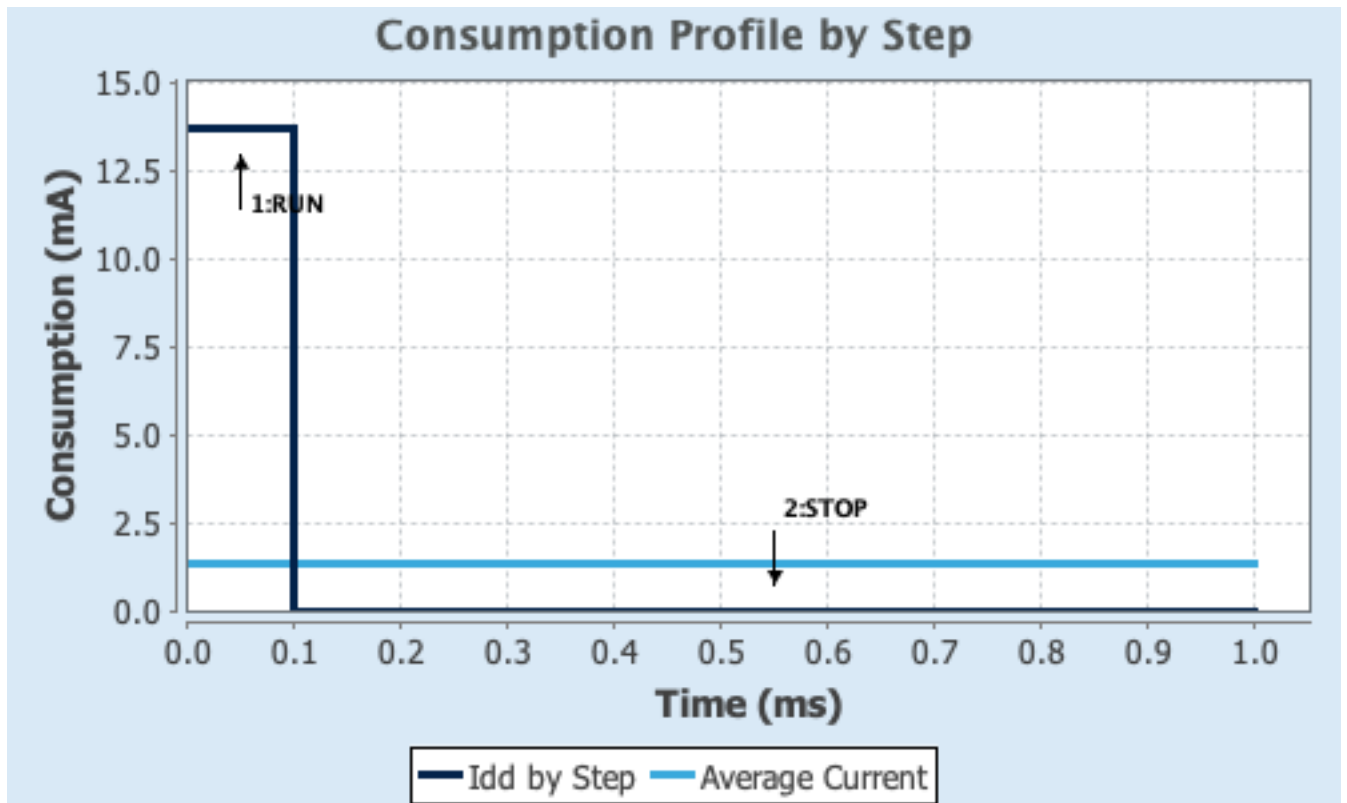
<b>Step</b>	Step1	Step2
<b>Mode</b>	RUN	STOP
<b>Vdd</b>	3.6	3.6
<b>Voltage Source</b>	Battery	Battery
<b>Range</b>	No Scale	No Scale
<b>Fetch Type</b>	FLASH	n/a
<b>CPU Frequency</b>	48 MHz	0 Hz
<b>Clock Configuration</b>	HSE PLL	Regulator LP
<b>Clock Source Frequency</b>	8 MHz	0 Hz
<b>Peripherals</b>		
<b>Additional Cons.</b>	0 mA	0 mA
<b>Average Current</b>	13.66 mA	6.5 $\mu$ A
<b>Duration</b>	0.1 ms	0.9 ms
<b>DMIPS</b>	0.0	0.0
<b>Ta Max</b>	102.84	105
<b>Category</b>	In DS Table	In DS Table

#### 6.5. Results

Sequence Time	1 ms	Average Current	1.37 mA
Battery Life	3 months, 11 days, 17 hours	Average DMIPS	0.0 DMIPS

#### 6.6. Chart





## 7. Peripherals and Middlewares Configuration

### 7.1. RCC

#### 7.1.1. 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

### 7.2. SPI2

**Mode: Full-Duplex Master**

**Hardware NSS Signal: Hardware NSS Output Signal**

#### 7.2.1. Parameter Settings:

##### Basic Parameters:

Frame Format	Motorola
Data Size	<b>8 Bits *</b>
First Bit	MSB First

##### Clock Parameters:

Prescaler (for Baud Rate)	<b>4 *</b>
Baud Rate	<b>2.0 MBits/s *</b>
Clock Polarity (CPOL)	Low
Clock Phase (CPHA)	1 Edge

##### Advanced Parameters:

CRC Calculation	Disabled
NSSP Mode	Enabled
NSS Signal Type	Output Hardware

### 7.3. SYS

**Timebase Source: SysTick**

**\* User modified value**

## 8. System Configuration

### 8.1. GPIO configuration

IP	Pin	Signal	GPIO mode	GPIO pull/up pull down	Max Speed	User Label
SPI2	PC2	SPI2_MISO	Alternate Function Push Pull	No pull-up and no pull-down	<b>High *</b>	
	PC3	SPI2_MOSI	Alternate Function Push Pull	No pull-up and no pull-down	<b>High *</b>	
	PB10	SPI2_SCK	Alternate Function Push Pull	No pull-up and no pull-down	<b>High *</b>	
	PB12	SPI2_NSS	Alternate Function Push Pull	No pull-up and no pull-down	<b>High *</b>	

### 8.2. DMA configuration

nothing configured in DMA service

### 8.3. NVIC configuration

#### 8.3.1. 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	0	0
PVD and VDDIO2 supply comparator interrupts through EXTI lines 16 and 31	unused		
Flash global interrupt	unused		
RCC and CRS global interrupts	unused		
SPI2 global interrupt	unused		

#### 8.3.2. 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

\* User modified value

## 9. System Views

### 9.1. Category view

#### 9.1.1. Current

#### Middleware

#### System Core

#### Analog

#### Timers

#### Connectivity

#### Multimedia

#### Computing

DMA

SPI2 

GPIO 

NVIC 

RCC 

SYS 

## 10. Docs & Resources

Type	Link
Datasheet	<a href="http://www.st.com/resource/en/datasheet/DM00090510.pdf">http://www.st.com/resource/en/datasheet/DM00090510.pdf</a>
Reference manual	<a href="http://www.st.com/resource/en/reference_manual/DM00031936.pdf">http://www.st.com/resource/en/reference_manual/DM00031936.pdf</a>
Programming manual	<a href="http://www.st.com/resource/en/programming_manual/DM00051352.pdf">http://www.st.com/resource/en/programming_manual/DM00051352.pdf</a>
Errata sheet	<a href="http://www.st.com/resource/en/errata_sheet/DM00096495.pdf">http://www.st.com/resource/en/errata_sheet/DM00096495.pdf</a>
Application note	<a href="http://www.st.com/resource/en/application_note/CD00160362.pdf">http://www.st.com/resource/en/application_note/CD00160362.pdf</a>
Application note	<a href="http://www.st.com/resource/en/application_note/CD00167594.pdf">http://www.st.com/resource/en/application_note/CD00167594.pdf</a>
Application note	<a href="http://www.st.com/resource/en/application_note/CD00211314.pdf">http://www.st.com/resource/en/application_note/CD00211314.pdf</a>
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Application note	<a href="http://www.st.com/resource/en/application_note/DM00024853.pdf">http://www.st.com/resource/en/application_note/DM00024853.pdf</a>
Application note	<a href="http://www.st.com/resource/en/application_note/DM00025071.pdf">http://www.st.com/resource/en/application_note/DM00025071.pdf</a>
Application note	<a href="http://www.st.com/resource/en/application_note/DM00042534.pdf">http://www.st.com/resource/en/application_note/DM00042534.pdf</a>
Application note	<a href="http://www.st.com/resource/en/application_note/DM00051986.pdf">http://www.st.com/resource/en/application_note/DM00051986.pdf</a>
Application note	<a href="http://www.st.com/resource/en/application_note/DM00052530.pdf">http://www.st.com/resource/en/application_note/DM00052530.pdf</a>
Application note	<a href="http://www.st.com/resource/en/application_note/DM00053084.pdf">http://www.st.com/resource/en/application_note/DM00053084.pdf</a>
Application note	<a href="http://www.st.com/resource/en/application_note/DM00072315.pdf">http://www.st.com/resource/en/application_note/DM00072315.pdf</a>
Application note	<a href="http://www.st.com/resource/en/application_note/DM00073742.pdf">http://www.st.com/resource/en/application_note/DM00073742.pdf</a>
Application note	<a href="http://www.st.com/resource/en/application_note/DM00080497.pdf">http://www.st.com/resource/en/application_note/DM00080497.pdf</a>
Application note	<a href="http://www.st.com/resource/en/application_note/DM00085385.pdf">http://www.st.com/resource/en/application_note/DM00085385.pdf</a>
Application note	<a href="http://www.st.com/resource/en/application_note/DM00087593.pdf">http://www.st.com/resource/en/application_note/DM00087593.pdf</a>
Application note	<a href="http://www.st.com/resource/en/application_note/DM00129215.pdf">http://www.st.com/resource/en/application_note/DM00129215.pdf</a>
Application note	<a href="http://www.st.com/resource/en/application_note/DM00145318.pdf">http://www.st.com/resource/en/application_note/DM00145318.pdf</a>
Application note	<a href="http://www.st.com/resource/en/application_note/DM00160482.pdf">http://www.st.com/resource/en/application_note/DM00160482.pdf</a>

Application note [http://www.st.com/resource/en/application\\_note/DM00188145.pdf](http://www.st.com/resource/en/application_note/DM00188145.pdf)

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Application note [http://www.st.com/resource/en/application\\_note/DM00210690.pdf](http://www.st.com/resource/en/application_note/DM00210690.pdf)

Application note [http://www.st.com/resource/en/application\\_note/DM00220769.pdf](http://www.st.com/resource/en/application_note/DM00220769.pdf)

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Application note [http://www.st.com/resource/en/application\\_note/DM00257177.pdf](http://www.st.com/resource/en/application_note/DM00257177.pdf)

Application note [http://www.st.com/resource/en/application\\_note/DM00296349.pdf](http://www.st.com/resource/en/application_note/DM00296349.pdf)

Application note [http://www.st.com/resource/en/application\\_note/DM00315319.pdf](http://www.st.com/resource/en/application_note/DM00315319.pdf)

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