



1. Description

1.1. Project

Project Name	N13
Board Name	custom
Generated with:	STM32CubeMX 6.9.2
Date	11/06/2023

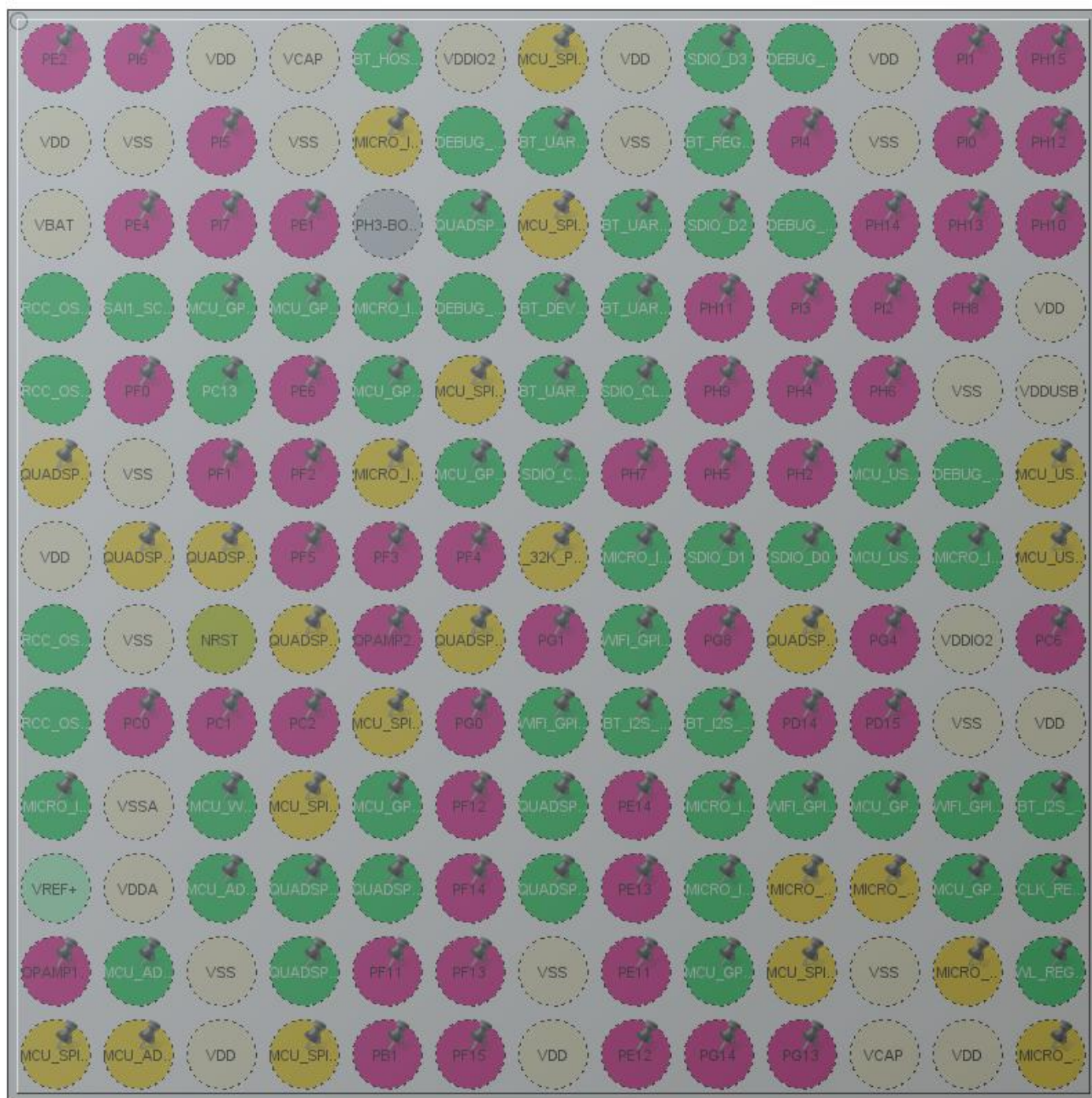
1.2. MCU

MCU Series	STM32U5
MCU Line	STM32U575/585
MCU name	STM32U585Allx
MCU Package	UFBGA169
MCU Pin number	169

1.3. Core(s) information

Core(s)	ARM Cortex-M33
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2. Pinout Configuration



UFBGA169 (Top view)

3. Pins Configuration

Pin Number UFBGA169	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
A1	PE2	I/O		
A2	PI6	I/O		
A3	VDD	Power		
A4	VCAP	Power		
A5	PG15 *	I/O	GPIO_Input	BT_HOST_WAKE
A6	VDDIO2	Power		
A7	PG9 **	I/O	SPI3_SCK	MCU_SPI4_SCK
A8	VDD	Power		
A9	PC11	I/O	SDMMC1_D3	SDIO_D3
A10	PA15 (JTDI)	I/O	DEBUG_JTDI	
A11	VDD	Power		
A12	PI1	I/O		
A13	PH15	I/O		
B1	VDD	Power		
B2	VSS	Power		
B3	PI5	I/O		
B4	VSS	Power		
B5	PB6 **	I/O	I2C1_SCL	MICRO_I2C1_SCL
B6	PB4 (NJTRST)	I/O	DEBUG_JTRST	
B7	PD6	I/O	USART2_RX	BT_UART_TXD
B8	VSS	Power		
B9	PD0 *	I/O	GPIO_Output	BT_REG_ON
B10	PI4	I/O		
B11	VSS	Power		
B12	PI0	I/O		
B13	PH12	I/O		
C1	VBAT	Power		
C2	PE4	I/O		
C3	PI7	I/O		
C4	PE1	I/O		
C6	PB5 *	I/O	GPIO_Output	QUADSPI_BK2_NCS
C7	PG10 **	I/O	SPI3_MISO	MCU_SPI4_MISO
C8	PD4	I/O	USART2_RTS	BT_UART_CTS_L
C9	PC10	I/O	SDMMC1_D2	SDIO_D2
C10	PA14 (JTCK/SWCLK)	I/O	DEBUG_JTCK-SWCLK	
C11	PH14	I/O		

Pin Number UFBGA169	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
C12	PH13	I/O		
C13	PH10	I/O		
D1	PC14-OSC32_IN (PC14)	I/O	RCC_OSC32_IN	
D2	PE5	I/O	SAI1_SCK_A	
D3	PE3 *	I/O	GPIO_Input	MCU_GPIO_0
D4	PE0 *	I/O	GPIO_Input	MCU_GPIO_30
D5	PB9	I/O	SAI1_FS_A	MICRO_I2S2_WS
D6	PB3 (JTDO/TRACESWO)	I/O	DEBUG_JTDO-SWO	
D7	PD7 *	I/O	GPIO_Output	BT_DEV_WAKE
D8	PD3	I/O	USART2_CTS	BT_UART_RTS_L
D9	PH11	I/O		
D10	PI3	I/O		
D11	PI2	I/O		
D12	PH8	I/O		
D13	VDD	Power		
E1	PC15-OSC32_OUT (PC15)	I/O	RCC_OSC32_OUT	
E2	PF0	I/O		
E3	PC13 *	I/O	EVENTOUT	PC13
E4	PE6	I/O		
E5	PB8 *	I/O	GPIO_Input	MCU_GPIO_28
E6	PG12 **	I/O	SPI3_NSS	MCU_SPI4_NSS
E7	PD5	I/O	USART2_TX	BT_UART_RXD
E8	PC12	I/O	SDMMC1_CK	SDIO_CLK
E9	PH9	I/O		
E10	PH4	I/O		
E11	PH6	I/O		
E12	VSS	Power		
E13	VDDUSB	Power		
F1	PF8 **	I/O	OCTOSPIM_P1_IO0	QUADSPI_BK1_IO1
F2	VSS	Power		
F3	PF1	I/O		
F4	PF2	I/O		
F5	PB7 **	I/O	I2C1_SDA	MICRO_I2C1_SDA
F6	PD1 *	I/O	GPIO_Output	MCU_GPIO_26
F7	PD2	I/O	SDMMC1_CMD	SDIO_CMD
F8	PH7	I/O		
F9	PH5	I/O		
F10	PH2	I/O		
F11	PA10	I/O	USART1_RX	MCU_USART1_RX

Pin Number UFBGA169	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
F12	PA13 (JTMS/SWDIO)	I/O	DEBUG_JTMS-SWDIO	
F13	PA12 **	I/O	USART1_RTS	MCU_USART1_RTS
G1	VDD	Power		
G2	PF7 **	I/O	OCTOSPIM_P1_IO2	QUADSPI_BK1_IO2
G3	PF9 **	I/O	OCTOSPIM_P1_IO1	QUADSPI_BK1_IO1
G4	PF5	I/O		
G5	PF3	I/O		
G6	PF4	I/O		
G7	PA8 **	I/O	RCC_MCO	_32K_PWM_OUT
G8	PG7	I/O	SAI1_MCLK_A	MICRO_I2S_MCLK
G9	PC9	I/O	SDMMC1_D1	SDIO_D1
G10	PC8	I/O	SDMMC1_D0	SDIO_D0
G11	PA9	I/O	USART1_TX	MCU_USART1_TX
G12	PC7	I/O	SAI2_MCLK_B	MICRO_I2S2_CK
G13	PA11 **	I/O	USART1_CTS	MCU_USART1_CTS
H1	PH0-OSC_IN (PH0)	I/O	RCC_OSC_IN	
H2	VSS	Power		
H3	NRST	Reset		
H4	PF10 **	I/O	OCTOSPIM_P1_CLK	QUADSPI_CLK
H5	OPAMP2_VINM	MonolO		
H6	PF6 **	I/O	OCTOSPIM_P1_IO3	QUADSPI_BK1_IO3
H7	PG1	I/O		
H8	PE10 *	I/O	GPIO_Output	WIFI_GPIO_3
H9	PG8	I/O		
H10	PG6 **	I/O	OCTOSPIM_P1_DQS	QUADSPI_BK1_NCS
H11	PG4	I/O		
H12	VDDIO2	Power		
H13	PC6	I/O		
J1	PH1-OSC_OUT (PH1)	I/O	RCC_OSC_OUT	
J2	PC0	I/O		
J3	PC1	I/O		
J4	PC2	I/O		
J5	PA7 **	I/O	SPI1_MOSI	MCU_SPI_MOSI
J6	PG0	I/O		
J7	PE9 *	I/O	GPIO_Output	WIFI_GPIO_2
J8	PG3	I/O	SAI2_FS_B	BT_I2S_WS
J9	PG5	I/O	SAI2_SD_B	BT_I2S_D0
J10	PD14	I/O		
J11	PD15	I/O		

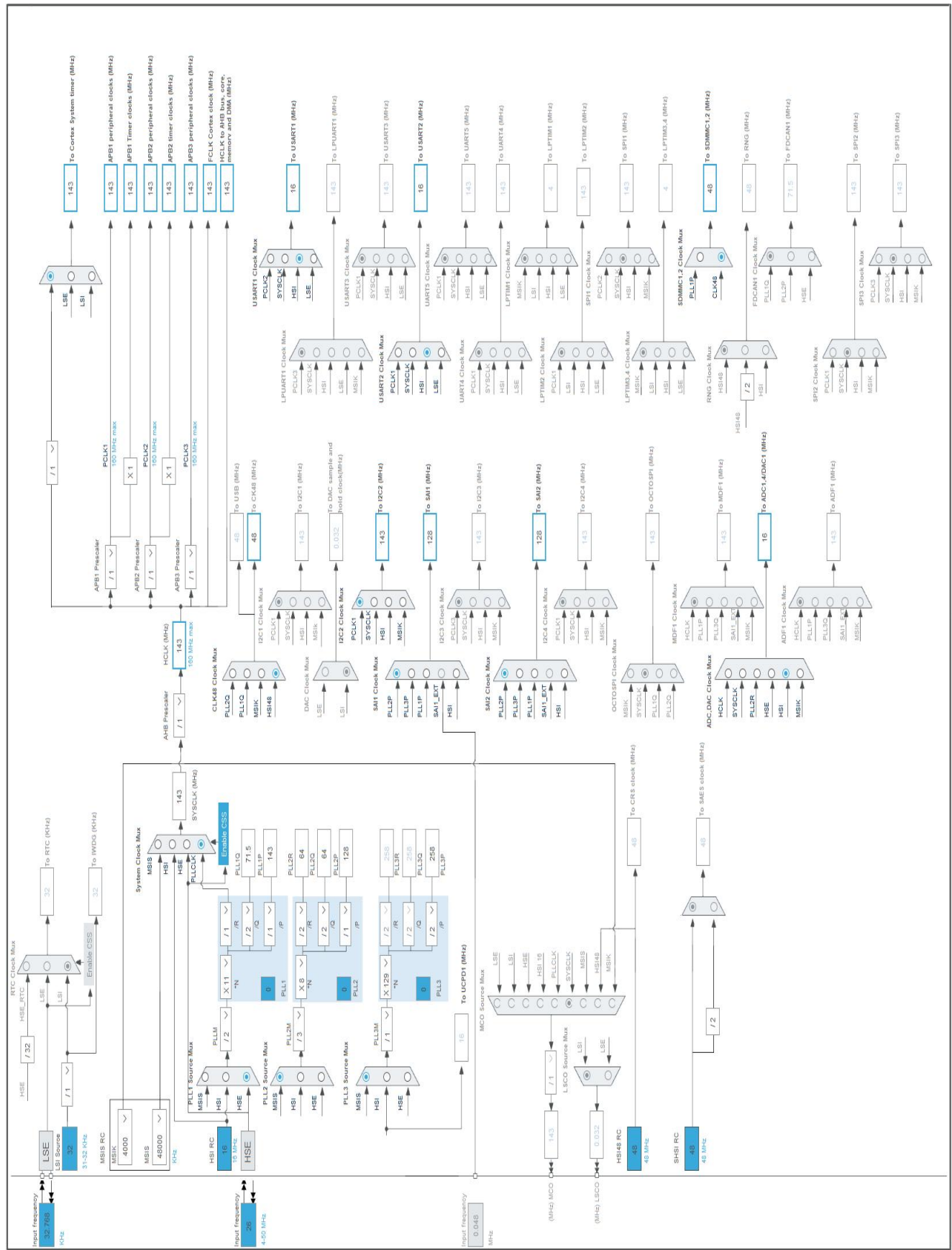
Pin Number UFBGA169	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
J12	VSS	Power		
J13	VDD	Power		
K1	PC3	I/O	SAI1_SD_A	MICRO_I2S2_SD
K2	VSSA	Power		
K3	PA0	I/O	PWR_WKUP1	MCU_WAKEUP
K4	PA5 **	I/O	SPI1_SCK	MCU_SPI_SCK
K5	PB0 *	I/O	GPIO_Input	MCU_GPIO_5
K6	PF12	I/O		
K7	PE8 *	I/O	GPIO_Output	QUADSPI_BK2_IO1
K8	PE14	I/O		
K9	PB10	I/O	I2C2_SCL	MICRO_I2C_SCL
K10	PD12 *	I/O	GPIO_Output	WIFI_GPIO_0
K11	PD10 *	I/O	GPIO_Input	MCU_GPIO_25
K12	PD13 *	I/O	GPIO_Output	WIFI_GPIO_1
K13	PG2	I/O	SAI2_SCK_B	BT_I2S_CLK
L2	VDDA	Power		
L3	PA1	I/O	ADC1_IN6	MCU_ADC_IN_1
L4	PC4 *	I/O	GPIO_Output	QUADSPI_BK2_IO2
L5	PB2 *	I/O	GPIO_Input	QUADSPI_CLK
L6	PF14	I/O		
L7	PE7 *	I/O	GPIO_Output	QUADSPI_BK2_IO1
L8	PE13	I/O		
L9	PB11	I/O	I2C2_SDA	MICRO_I2C1_SDA
L10	PB12 **	I/O	SPI2_NSS	MICRO_SPI2_NSS
L11	PB15 **	I/O	SPI2_MOSI	MICRO_SPI2_MOSI
L12	PD8 *	I/O	GPIO_Input	MCU_GPIO_27
L13	PD9 *	I/O	GPIO_Output	CLK_REQ_INT
M1	OPAMP1_VINM	MonoIO		
M2	PA2	I/O	ADC1_IN7	MCU_ADC_IN_2
M3	VSS	Power		
M4	PC5 *	I/O	GPIO_Output	QUADSPI_BK2_IO3
M5	PF11	I/O		
M6	PF13	I/O		
M7	VSS	Power		
M8	PE11	I/O		
M9	PE15 *	I/O	GPIO_Input	MCU_GPIO_16
M10	PG11 **	I/O	SPI3_MOSI	MCU_SPI4_MOSI
M11	VSS	Power		
M12	PB14 **	I/O	SPI2_MISO	MICRO_SPI2_MISO

Pin Number UFBGA169	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
M13	PD11 *	I/O	GPIO_Output	WL_REG_ON
N1	PA4 **	I/O	SPI1_NSS	MCU_SPI_NSS
N2	PA3 **	I/O	ADC1_IN8	MCU_ADC_IN_3
N3	VDD	Power		
N4	PA6 **	I/O	SPI1_MISO	MCU_SPI_MISO
N5	PB1	I/O		
N6	PF15	I/O		
N7	VDD	Power		
N8	PE12	I/O		
N9	PG14	I/O		
N10	PG13	I/O		
N11	VCAP	Power		
N12	VDD	Power		
N13	PB13 **	I/O	SPI2_SCK	MICRO_SPI2_SCK

* The pin is affected with an I/O function

** The pin is affected with a peripheral function but no peripheral mode is activated

4. Clock Tree Configuration



5. Software Project

5.1. Project Settings

Name	Value
Project Name	N13
Project Folder	C:\Users\steve\Documents\sandbox\stm32\N13
Toolchain / IDE	EWARM V8.50
Firmware Package Name and Version	STM32Cube FW_U5 V1.3.0
Application Structure	Advanced
Generate Under Root	No
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 all used libraries into the project folder
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_ADC1_Init	ADC1
4	MX_I2C2_Init	I2C2
5	MX_MEMORYMAP_Init	MEMORYMAP
6	MX_SAI1_Init	SAI1
7	MX_SAI2_Init	SAI2
8	MX_SDMMC1_SD_Init	SDMMC1
9	MX_USART1_UART_Init	USART1
10	MX_USART2_UART_Init	USART2

1. Power Consumption Calculator report

1.1. Microcontroller Selection

Series	STM32U5
Line	STM32U575/585
MCU	STM32U585Allx
Datasheet	DS13086_Rev1

1.2. Parameter Selection

Temperature	25
Vdd	3.0

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

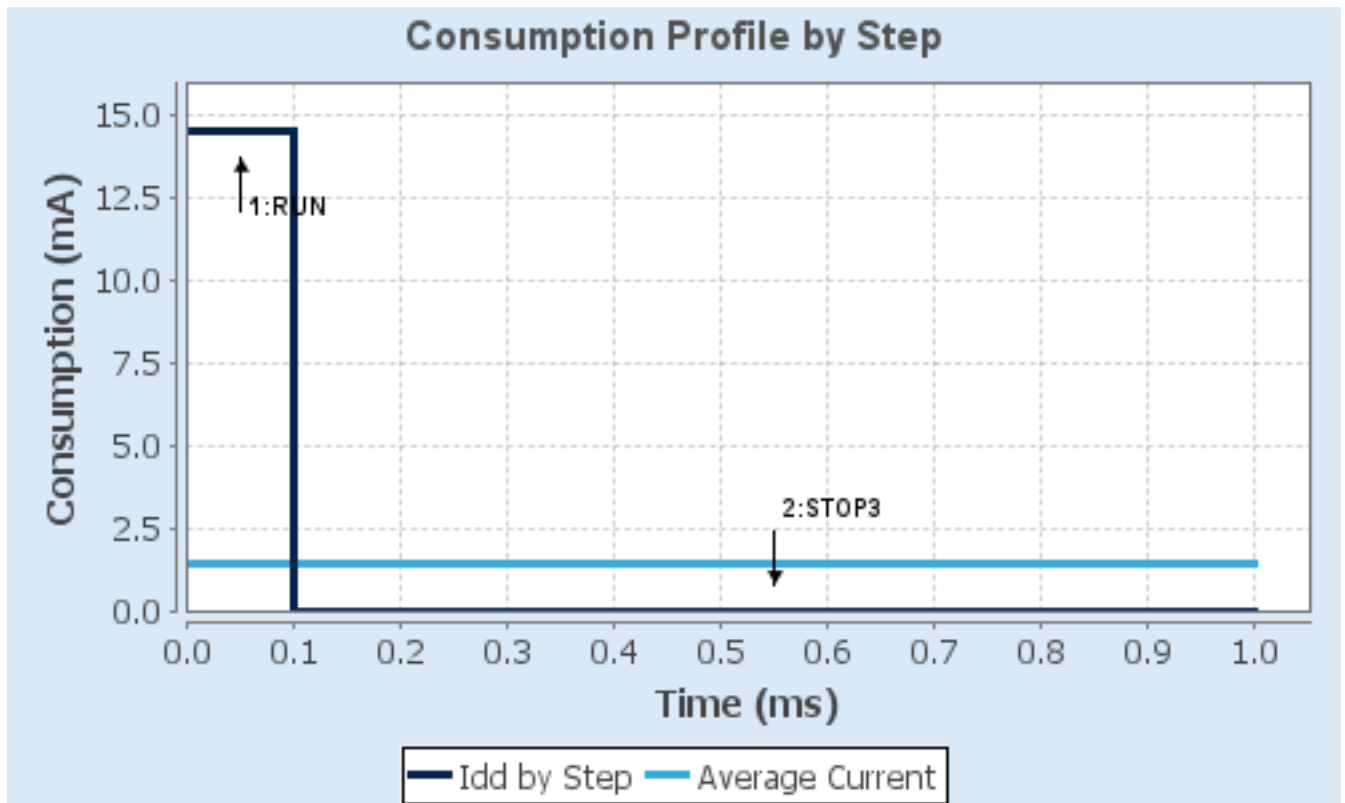
1.4. Sequence

Step	Step1	Step2
Mode	RUN	STOP3
Vdd	3.0	3.0
Voltage Source	Battery	Battery
Range	Range1-High	NoScale/SMPS
Fetch Type	FLASH_PwrDwnBank2/ART/ Cache2Ways	FLASH
CPU Frequency	160 MHz	0 Hz
Clock Configuration	HSE BYP PLL ALL RAM RETENTION	ALL_CLOCKS_OFF
Clock Source Frequency	16 MHz	0 Hz
Peripherals		
Additional Cons.	0 mA	0 mA
Average Current	14.5 mA	1.8 μ A
Duration	0.1 ms	0.9 ms
DMIPS	200.0	0.0
Ta Max	103.43	105
Category	In DS Table	In DS Table

1.5. Results

Sequence Time	1 ms	Average Current	1.45 mA
Battery Life	3 months, 6 days, 2 hours	Average DMIPS	20.0 DMIPS

1.6. Chart



2. Peripherals and Middlewares Configuration

2.1. ADC1

IN6: IN6 Differential

2.1.1. Parameter Settings:

ADCs_Common_Settings:

Mode Independent mode

ADC_Settings:

Clock Prescaler	Asynchronous clock mode divided by 1
Resolution	ADC 14-bit resolution
Gain Compensation	0
Scan Conversion Mode	Disabled
Continuous Conversion Mode	Disabled
Discontinuous Conversion Mode	Disabled
Trigger Frequency	High frequency
End Of Conversion Selection	End of single conversion
Overrun behaviour	Overrun data preserved
Left Bit Shift	No bit shift
Conversion Data Management Mode	Regular Conversion data stored in DR register only
Low Power Auto Wait	Disabled

ADC_Regular_ConversionMode:

Enable Regular Conversions	Disable
Oversampling Ratio	1

ADC_Injected_ConversionMode:

Enable Injected Conversions	Disable
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2.2. DEBUG

Debug: JTAG (5 pins)

2.3. I2C2

I2C: I2C

2.3.1. Parameter Settings:

Timing configuration:

I2C Speed Mode	Standard Mode
I2C Speed Frequency (KHz)	100
Rise Time (ns)	0
Fall Time (ns)	0

Coefficient of Digital Filter	0
Analog Filter	Enabled
Timing	0x30808CD3 *

Slave Features:

Clock No Stretch Mode	Disabled
General Call Address Detection	Disabled
Primary Address Length selection	7-bit
Dual Address Acknowledged	Disabled
Primary slave address	0

Autonomous Mode:

Autonomous Mode	Disable
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2.4. LPBAM

mode: LPBAM Scenario uses resources from Smart Run Domain only

mode: LPBAM Scenario is hosted by LPDMA1

2.5. LPBAMQUEUE

mode: QUEUE MODE

2.5.1. Parameter Settings:

DMA Channel Configuration:

Priority	Low
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DMA Channel Interrupt Configuration:

Data Transfer Error Interrupt	Disable
Update Link Error Interrupt	Disable
User Setting Error Interrupt	Disable
Transfer Complete Interrupt	Disable
Trigger Overrun Interrupt	Disable

2.6. MEMORYMAP

mode: Activated

2.7. PWR

mode: Wake-Up 1

mode: Privilege attributes

mode: Control Vdda isolation

2.7.1. PWR Privilege :

Privilege PWR:

PWR Privilege	Disable
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2.8. RCC

High Speed Clock (HSE): Crystal/Ceramic Resonator

Low Speed Clock (LSE) : Crystal/Ceramic Resonator

2.8.1. RCC Privilege :

Privilege RCC:

Privilege of RCC Non-Secure Items	Disable
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2.8.2. Parameter Settings:

System Parameters:

VDD voltage (V)	3.3
Flash Latency(WS)	4 WS (5 CPU cycle)

RCC Parameters:

HSI Calibration Value	16
MSI Calibration Value	16
MSIS/MSIK Auto Calibration	Disabled
HSE Startup Timeout Value (ms)	100
LSE Startup Timeout Value (ms)	5000

Power Parameters:

Power Regulator Voltage Scale	Power Regulator Voltage Scale 1
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PLL1/2/3 Parameters:

PLL1M BOOST EPOD Clock Divider	2
PLL1 input frequency range	Between 8 and 16 MHz
PLL2 input frequency range	Between 8 and 16 MHz

Low Power Parameters:

MSI in Stop mode	Disabled
HSI in Stop mode	Disabled

2.9. SAI1

Mode: Master with Master Clock Out

2.9.1. Parameter Settings:

SAI A:

Synchronization Inputs	Asynchronous
Protocol	Free
Audio Mode	Master Transmit
Frame Length	8 bits
Data Size	8 Bits
Slot Size	DataSize
Output Mode	Stereo
Companding Mode	No companding mode
SAI SD Line Output Mode	Driven
First Bit	MSB First
Frame Synchro Active Level Length	1
Frame Synchro Definition	Start Frame
Frame Synchro Polarity	Active Low
Frame Synchro Offset	First Bit
First Bit Offset	0
Number of Slots	1
Slot Active Final Value	0x00000000
Slot Active	Neither
Clock Source	SAI PLL Clock
Master Clock No Divider	Enabled
Audio Frequency	192 KHz
Real Audio Frequency	250.0 KHz *
Error between Selected	30.2 % *
Clock Strobing	Falling Edge
Fifo Threshold	Empty
Output Drive	Disabled

2.10. SAI2

Mode: Master with Master Clock Out

2.10.1. Parameter Settings:

SAI B:

Synchronization Inputs	Asynchronous
Protocol	Free

Audio Mode	Master Transmit
Frame Length	8 bits
Data Size	8 Bits
Slot Size	DataSize
Output Mode	Stereo
Companding Mode	No companding mode
SAI SD Line Output Mode	Driven
First Bit	MSB First
Frame Synchro Active Level Length	1
Frame Synchro Definition	Start Frame
Frame Synchro Polarity	Active Low
Frame Synchro Offset	First Bit
First Bit Offset	0
Number of Slots	1
Slot Active Final Value	0x00000000
Slot Active	Neither
Clock Source	SAI PLL Clock
Master Clock No Divider	Enabled
Audio Frequency	192 KHz
Real Audio Frequency	250.0 KHz *
Error between Selected	30.2 % *
Clock Strobing	Falling Edge
Fifo Threshold	Empty
Output Drive	Disabled

2.11. SDMMC1

Mode: SD 4 bits Wide bus

2.11.1. Parameter Settings:

SDMMC parameters:

Clock transition on which the bit capture is made	Rising transition
SDMMC Clock output enable when the bus is idle	Disable the power save for the clock
SDMMC hardware flow control	The hardware control flow is disabled
SDMMC clock divide factor	0
Is external transceiver present ?	no

2.12. SYS

Timebase Source: SysTick

2.13. USART1

Mode: Asynchronous

2.13.1. Parameter Settings:

Basic Parameters:

Baud Rate	115200
Word Length	8 Bits (including Parity)
Parity	None
Stop Bits	1

Advanced Parameters:

Data Direction	Receive and Transmit
Over Sampling	16 Samples
Single Sample	Disable
ClockPrescaler	1
Fifo Mode	Disable
Txfifo Threshold	1 eighth full configuration
Rxfifo Threshold	1 eighth full configuration
Autonomous Mode	Disable

Advanced Features:

Auto Baudrate	Disable
TX Pin Active Level Inversion	Disable
RX Pin Active Level Inversion	Disable
Data Inversion	Disable
TX and RX Pins Swapping	Disable
Overrun	Enable
DMA on RX Error	Enable
MSB First	Disable

2.14. USART2

Mode: Asynchronous

Hardware Flow Control (RS232): CTS/RTS

2.14.1. Parameter Settings:

Basic Parameters:

Baud Rate	115200
Word Length	8 Bits (including Parity)
Parity	None

Stop Bits 1

Advanced Parameters:

Data Direction	Receive and Transmit
Over Sampling	16 Samples
Single Sample	Disable
ClockPrescaler	1
Fifo Mode	Disable
Txfifo Threshold	1 eighth full configuration
Rxfifo Threshold	1 eighth full configuration

Advanced Features:

Auto Baudrate	Disable
TX Pin Active Level Inversion	Disable
RX Pin Active Level Inversion	Disable
Data Inversion	Disable
TX and RX Pins Swapping	Disable
Overrun	Enable
DMA on RX Error	Enable
MSB First	Disable

* User modified value

3. System Configuration

3.1. GPIO configuration

IP	Pin	Signal	GPIO mode	GPIO pull/up pull down	Max Speed	User Label
ADC1	PA1	ADC1_IN6	Analog mode	No pull-up and no pull-down	n/a	MCU_ADC_IN_1
	PA2	ADC1_IN7	Analog mode	No pull-up and no pull-down	n/a	MCU_ADC_IN_2
DEBUG	PA15 (JTDI)	DEBUG_JTDI	n/a	n/a	n/a	
	PB4 (NJTRST)	DEBUG_JTRST	n/a	n/a	n/a	
	PA14 (JTCK/SWCLK)	DEBUG_JTCK-SWCLK	n/a	n/a	n/a	
	PB3 (JTDO/TRACESWO)	DEBUG_JTDO-SWO	n/a	n/a	n/a	
	PA13 (JTMS/SWDIO)	DEBUG_JTMS-SWDIO	n/a	n/a	n/a	
I2C2	PB10	I2C2_SCL	Alternate Function Open Drain	No pull-up and no pull-down	Low	MICRO_I2C_SCL
	PB11	I2C2_SDA	Alternate Function Open Drain	No pull-up and no pull-down	Low	MICRO_I2C1_SDA
PWR	PA0	PWR_WKUP1	n/a	n/a	n/a	MCU_WAKEUP
RCC	PC14-OSC32_IN (PC14)	RCC_OSC32_IN	n/a	n/a	n/a	
	PC15-OSC32_OUT (PC15)	RCC_OSC32_OUT	n/a	n/a	n/a	
	PH0-OSC_IN (PH0)	RCC_OSC_IN	n/a	n/a	n/a	
	PH1-OSC_OUT (PH1)	RCC_OSC_OUT	n/a	n/a	n/a	
SAI1	PE5	SAI1_SCK_A	Alternate Function Push Pull	No pull-up and no pull-down	Low	
	PB9	SAI1_FS_A	Alternate Function Push Pull	No pull-up and no pull-down	Low	MICRO_I2S2_WS
	PG7	SAI1_MCLK_A	Alternate Function Push Pull	No pull-up and no pull-down	Low	MICRO_I2S_MCLK
	PC3	SAI1_SD_A	Alternate Function Push Pull	No pull-up and no pull-down	Low	MICRO_I2S2_SD
SAI2	PC7	SAI2_MCLK_B	Alternate Function Push Pull	No pull-up and no pull-down	Low	MICRO_I2S2_CLK
	PG3	SAI2_FS_B	Alternate Function Push Pull	No pull-up and no pull-down	Low	BT_I2S_WS
	PG5	SAI2_SD_B	Alternate Function Push Pull	No pull-up and no pull-down	Low	BT_I2S_D0
	PG2	SAI2_SCK_B	Alternate Function Push Pull	No pull-up and no pull-down	Low	BT_I2S_CLK
SDMMC1	PC11	SDMMC1_D3	Alternate Function Push Pull	No pull-up and no pull-down	High	SDIO_D3

IP	Pin	Signal	GPIO mode	GPIO pull/up pull down	Max Speed	User Label
	PC10	SDMMC1_D2	Alternate Function Push Pull	No pull-up and no pull-down	High	SDIO_D2
	PC12	SDMMC1_CK	Alternate Function Push Pull	No pull-up and no pull-down	High	SDIO_CLK
	PD2	SDMMC1_CMD	Alternate Function Push Pull	No pull-up and no pull-down	High	SDIO_CMD
	PC9	SDMMC1_D1	Alternate Function Push Pull	No pull-up and no pull-down	High	SDIO_D1
	PC8	SDMMC1_D0	Alternate Function Push Pull	No pull-up and no pull-down	High	SDIO_D0
USART1	PA10	USART1_RX	Alternate Function Push Pull	No pull-up and no pull-down	Low	MCU_USART1_RX
	PA9	USART1_TX	Alternate Function Push Pull	No pull-up and no pull-down	Low	MCU_USART1_TX
USART2	PD6	USART2_RX	Alternate Function Push Pull	No pull-up and no pull-down	Low	BT_UART_TXD
	PD4	USART2_RTS	Alternate Function Push Pull	No pull-up and no pull-down	Low	BT_UART_CTS_L
	PD3	USART2_CTS	Alternate Function Push Pull	No pull-up and no pull-down	Low	BT_UART_RTS_L
	PD5	USART2_TX	Alternate Function Push Pull	No pull-up and no pull-down	Low	BT_UART_RXD
Single Mapped Signals	PG9	SPI3_SCK	Alternate Function Push Pull	No pull-up and no pull-down	Low	MCU_SPI4_SCK
	PB6	I2C1_SCL	Alternate Function Open Drain	No pull-up and no pull-down	Low	MICRO_I2C1_SCL
	PG10	SPI3_MISO	Alternate Function Push Pull	No pull-up and no pull-down	Low	MCU_SPI4_MISO
	PG12	SPI3_NSS	Alternate Function Push Pull	No pull-up and no pull-down	Low	MCU_SPI4_NSS
	PF8	OCTOSPIM_P1_IO0	Alternate Function Push Pull	No pull-up and no pull-down	Very High	QUADSPI_BK1_IO1
	PB7	I2C1_SDA	Alternate Function Open Drain	No pull-up and no pull-down	Low	MICRO_I2C1_SDA
	PA12	USART1_RTS	Alternate Function Push Pull	No pull-up and no pull-down	Low	MCU_USART1_RTS
	PF7	OCTOSPIM_P1_IO2	Alternate Function Push Pull	No pull-up and no pull-down	Very High	QUADSPI_BK1_IO2
	PF9	OCTOSPIM_P1_IO1	Alternate Function Push Pull	No pull-up and no pull-down	Very High	QUADSPI_BK1_IO1
	PA8	RCC_MCO	Alternate Function Push Pull	No pull-up and no pull-down	High	_32K_PWM_OUT
	PA11	USART1_CTS	Alternate Function Push Pull	No pull-up and no pull-down	Low	MCU_USART1_CTS
	PF10	OCTOSPIM_P1_CLK	Alternate Function Push Pull	No pull-up and no pull-down	Very High	QUADSPI_CLK
	PF6	OCTOSPIM_P1_IO3	Alternate Function Push Pull	No pull-up and no pull-down	Very High	QUADSPI_BK1_IO3
	PG6	OCTOSPIM_P1_DQS	Alternate Function Push Pull	No pull-up and no pull-down	Very High	QUADSPI_BK1_NCS
	PA7	SPI1_MOSI	Alternate Function Push Pull	No pull-up and no pull-down	Low	MCU_SPI_MOSI
	PA5	SPI1_SCK	Alternate Function Push Pull	No pull-up and no pull-down	Low	MCU_SPI_SCK
	PB12	SPI2_NSS	Alternate Function Push Pull	No pull-up and no pull-down	Low	MICRO_SPI2_NSS
	PB15	SPI2_MOSI	Alternate Function Push Pull	No pull-up and no pull-down	Low	MICRO_SPI2_MOSI
	PG11	SPI3_MOSI	Alternate Function Push Pull	No pull-up and no pull-down	Low	MCU_SPI4_MOSI
	PB14	SPI2_MISO	Alternate Function Push Pull	No pull-up and no pull-down	Low	MICRO_SPI2_MISO
	PA4	SPI1_NSS	Alternate Function Push Pull	No pull-up and no pull-down	Low	MCU_SPI_NSS
	PA3	ADC1_IN8	Analog mode	No pull-up and no pull-down	n/a	MCU_ADC_IN_3
	PA6	SPI1_MISO	Alternate Function Push Pull	No pull-up and no pull-down	Low	MCU_SPI_MISO

IP	Pin	Signal	GPIO mode	GPIO pull/up pull down	Max Speed	User Label
	PB13	SPI2_SCK	Alternate Function Push Pull	No pull-up and no pull-down	Low	MICRO_SPI2_SCK
GPIO	PG15	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	BT_HOST_WAKE
	PD0	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	BT_REG_ON
	PB5	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	QUADSPI_BK2_NCS
	PE3	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	MCU_GPIO_0
	PE0	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	MCU_GPIO_30
	PD7	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	BT_DEV_WAKE
	PC13	EVENTOUT	Alternate Function Push Pull	No pull-up and no pull-down	Low	PC13
	PB8	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	MCU_GPIO_28
	PD1	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	MCU_GPIO_26
	PE10	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	WIFI_GPIO_3
	PE9	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	WIFI_GPIO_2
	PB0	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	MCU_GPIO_5
	PE8	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	QUADSPI_BK2_IO1
	PD12	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	WIFI_GPIO_0
	PD10	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	MCU_GPIO_25
	PD13	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	WIFI_GPIO_1
	PC4	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	QUADSPI_BK2_IO2
	PB2	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	QUADSPI_CLK
	PE7	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	QUADSPI_BK2_IO1
	PD8	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	MCU_GPIO_27
	PD9	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	CLK_REQ_INT
	PC5	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	QUADSPI_BK2_IO3
	PE15	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	MCU_GPIO_16
	PD11	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	WL_REG_ON

3.2. GPDMA1

3.3. LINKEDLIST

3.4. LPDMA1

3.5. NVIC configuration

3.5.1. 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
Flash non-secure global interrupt	unused		
RCC non-secure global interrupt	unused		
ADC1 global interrupt	unused		
I2C2 Event interrupt	unused		
I2C2 Error interrupt	unused		
USART1 global interrupt	unused		
USART2 global interrupt	unused		
PWR wake up from Stop3 interrupt	unused		
SDMMC1 global interrupt	unused		
Serial Audio Interface 1 global interrupt	unused		
Serial Audio Interface 2 global interrupt	unused		
FPU global interrupt	unused		

3.5.2. 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

4. System Views

4.1. Category view

4.1.1. Current

Middleware

Additional Software

System Core	Analog	Timers	Connectivity	Multimedia	Security	Computing	Trace and Debug	Power and Thermal	Utilities	Other
CORTEX_M33 ✓	ADC1 ✓		I2C2 ✓	SAI1 ✓			DEBUG ✓	PWR ✓	LINKEDLIST	
GPDMA1			SDMMC1 ✓	SAI2 ✓						
GPIO ⚠			USART1 ✓							
LPDMA1			USART2 ✓							
NVIC ✓										
RCC ✓										
SYS ✓										

5. Software Pack Report

5.1. Software Pack selected

Vendor	Name	Version	Component
Infineon	AIROC-Wi-Fi-Bluetooth-STM32	1.5.1	Class : Wireless Group : Bluetooth SubGroup : btstack Variant : BLE_SOFTFP Version : 1.5.1 Class : Wireless Group : Bluetooth SubGroup : btstack- integration Version : 1.5.1 Class : Wireless Group : Wifi SubGroup : network-interface Variant : LWIP Version : 1.5.1 Class : Wireless Group : Wifi SubGroup : wcm Variant : WCM Version : 1.5.1 Class : Wireless Group : Wifi SubGroup : wifi- host-driver Version : 1.5.1 Class : Wireless Group : Wifi

			SubGroup : whd- bsp-integration Version : 1.5.1 Class : Wireless Group : Wifi SubGroup : connectivity- utilities Version : 1.5.1 Class : Wireless Group : Wifi SubGroup : secure-sockets Version : 1.5.1 Class : Wireless Group : Wifi SubGroup : LwIP Version : 1.5.1 Class : Wireless Group : Wifi SubGroup : mbedtls Version : 1.5.1 Class : Wireless Group : Wifi SubGroup : lpa Version : 1.5.1 Class : Wireless Group : Platform SubGroup : pal Version : 1.5.1 Class : Wireless Group : Platform SubGroup : abstraction-rtos Variant :
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			FreeRTOS Version : 1.5.1 Class : Wireless Group : Platform SubGroup : device Variant : CYW4343W Version : 1.5.1
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6. Docs & Resources

Type	Link
BSDL files	https://www.st.com/resource/en/bsdl_model/stm32u5_bsd.zip
IBIS models	https://www.st.com/resource/en/ibis_model/stm32u5_ibis.zip
System View Description	https://www.st.com/resource/en/svd/stm32u5_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_stm32u5_series_product_overview.pdf
Brochures	https://www.st.com/resource/en/brochure/brstm32ulp.pdf
Flyers	https://www.st.com/resource/en/flyer/flstm32nucleo.pdf
Flyers	https://www.st.com/resource/en/flyer/flstm32u5.pdf
Application Notes	https://www.st.com/resource/en/application_note/an1181-electrostatic-discharge-sensitivity-measurement-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/an2606-stm32-microcontroller-system-memory-boot-mode-stmicroelectronics.pdf
Application Notes	https://www.st.com/resource/en/application_note/an2639-soldering-recommendations-and-package-information-for-leadfree-ecopack-mcus-and-mpus-stmicroelectronics.pdf
Application Notes	https://www.st.com/resource/en/application_note/an2834-how-to-get-the-best-adc-accuracy-in-stm32-microcontrollers-stmicroelectronics.pdf
Application Notes	https://www.st.com/resource/en/application_note/an2867-oscillator-

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Application Notes for related Tools & Software	https://www.st.com/resource/en/application_note/an4841-digital-signal-processing-for-stm32-microcontrollers-using-cmsis-stmicroelectronics.pdf
Application Notes for related Tools & Software	https://www.st.com/resource/en/application_note/an5054-secure-programming-using-stm32cube programmer-stmicroelectronics.pdf
Application Notes for related Tools & Software	https://www.st.com/resource/en/application_note/an5360-getting-started-with-projects-based-on-the-stm32mp1-series-in-stm32cubeide-stmicroelectronics.pdf
Application Notes for related Tools & Software	https://www.st.com/resource/en/application_note/an5361-getting-started-with-projects-based-on-dualcore-stm32h7-microcontrollers-in-stm32cubeide-stmicroelectronics.pdf
Application Notes for related Tools & Software	https://www.st.com/resource/en/application_note/an5394-getting-started-with-projects-based-on-the-stm32l5-series-in-stm32cubeide-stmicroelectronics.pdf
Application Notes for related Tools & Software	https://www.st.com/resource/en/application_note/an5418-how-to-build-a-simple-usbp-d-sink-application-with-stm32cubemx-stmicroelectronics.pdf
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/an4865-lowpower-timer-lptim-applicative-use-cases-on-stm32-mcus-and-mpus-stmicroelectronics.pdf
Application Notes for related Tools & Software	https://www.st.com/resource/en/application_note/an5701-stm32cube-mcu-package-examples-for-stm32u5-series-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-smbuspmibus-expansion-package-for-stm32cube-stmicroelectronics.pdf
Application Notes for related Tools & Software	https://www.st.com/resource/en/application_note/an4879-introduction-to-usb-hardware-and-pcb-guidelines-using-stm32-mcus-stmicroelectronics.pdf
Device Option Lists	https://www.st.com/resource/en/device_option_list/opl_stm32u585.txt
Errata Sheets	https://www.st.com/resource/en/errata_sheet/es0499-stm32u575xx-and-stm32u585xx-device-errata-stmicroelectronics.pdf
Datasheet	https://www.st.com/resource/en/datasheet/dm00639779.pdf
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