1. Description

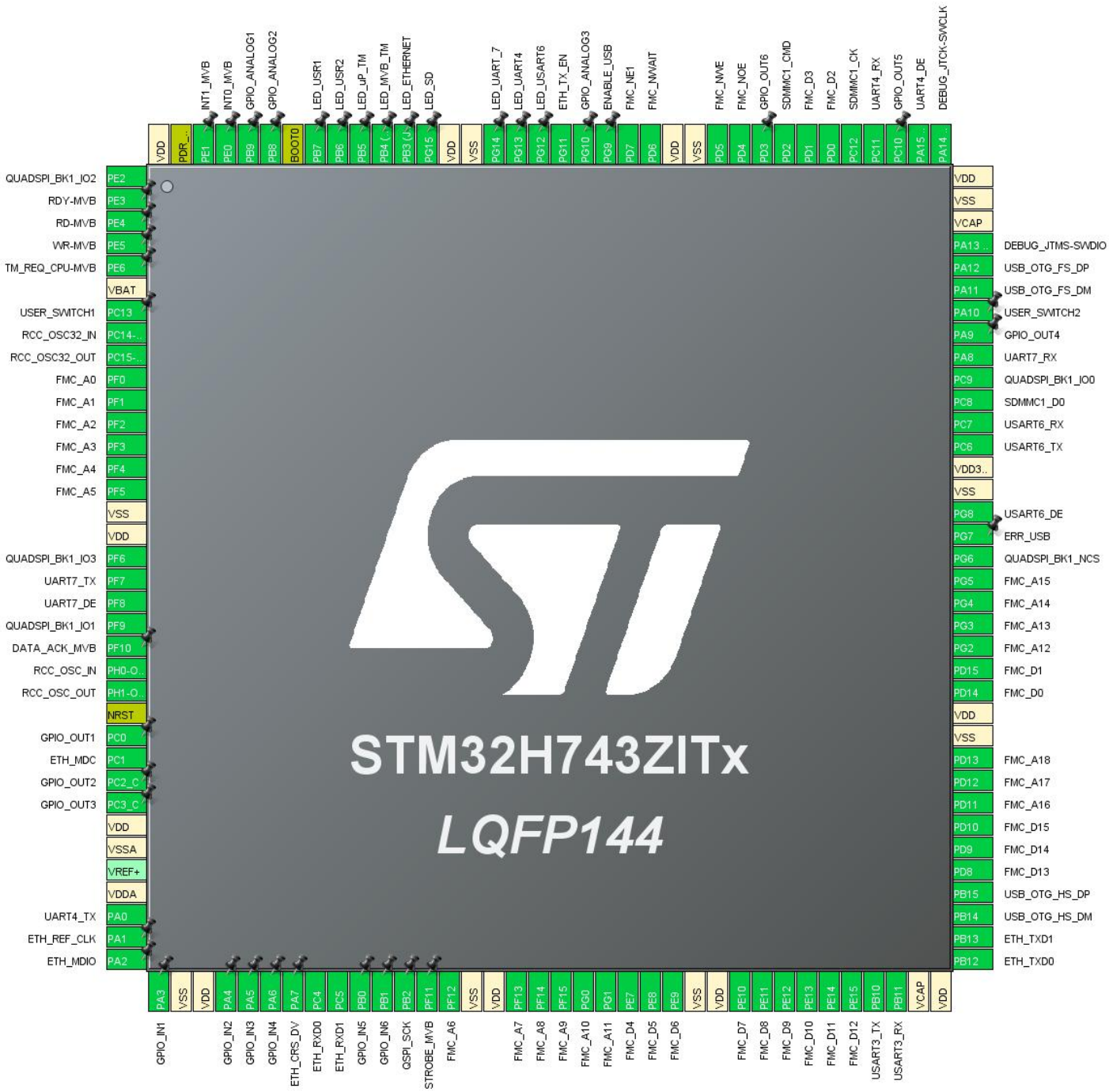
1.1. Project

Project Name	STM32 Project
Board Name	custom
Generated with:	STM32CubeMX 5.6.1
Date	07/18/2020

1.2. MCU

MCU Series	STM32H7
MCU Line	STM32H743/753
MCU name	STM32H743ZITx
MCU Package	LQFP144
MCU Pin number	144

2. Pinout Configuration



3. Pins Configuration

Pin Number LQFP144	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
1	PE2	I/O	QUADSPI_BK1_IO2	
2	PE3 *	I/O	GPIO_Input	RDY-MVB
3	PE4 *	I/O	GPIO_Output	RD-MVB
4	PE5 *	I/O	GPIO_Output	WR-MVB
5	PE6 *	I/O	GPIO_Output	TM_REQ_CPU-MVB
6	VBAT	Power		
7	PC13 *	I/O	GPIO_Input	USER_SWITCH1
8	PC14-OSC32_IN (OSC32_IN)	I/O	RCC_OSC32_IN	
9	PC15-OSC32_OUT (OSC32_OUT)	I/O	RCC_OSC32_OUT	
10	PF0	I/O	FMC_A0	
11	PF1	I/O	FMC_A1	
12	PF2	I/O	FMC_A2	
13	PF3	I/O	FMC_A3	
14	PF4	I/O	FMC_A4	
15	PF5	I/O	FMC_A5	
16	VSS	Power		
17	VDD	Power		
18	PF6	I/O	QUADSPI_BK1_IO3	
19	PF7	I/O	UART7_TX	
20	PF8	I/O	UART7_DE	
21	PF9	I/O	QUADSPI_BK1_IO1	
22	PF10 *	I/O	GPIO_Input	DATA_ACK_MVB
23	PH0-OSC_IN (PH0)	I/O	RCC_OSC_IN	
24	PH1-OSC_OUT (PH1)	I/O	RCC_OSC_OUT	
25	NRST	Reset		
26	PC0 *	I/O	GPIO_Output	GPIO_OUT1
27	PC1	I/O	ETH_MDC	
28	PC2_C *	I/O	GPIO_Output	GPIO_OUT2
29	PC3_C *	I/O	GPIO_Output	GPIO_OUT3
30	VDD	Power		
31	VSSA	Power		
33	VDDA	Power		
34	PA0	I/O	UART4_TX	
35	PA1	I/O	ETH_REF_CLK	

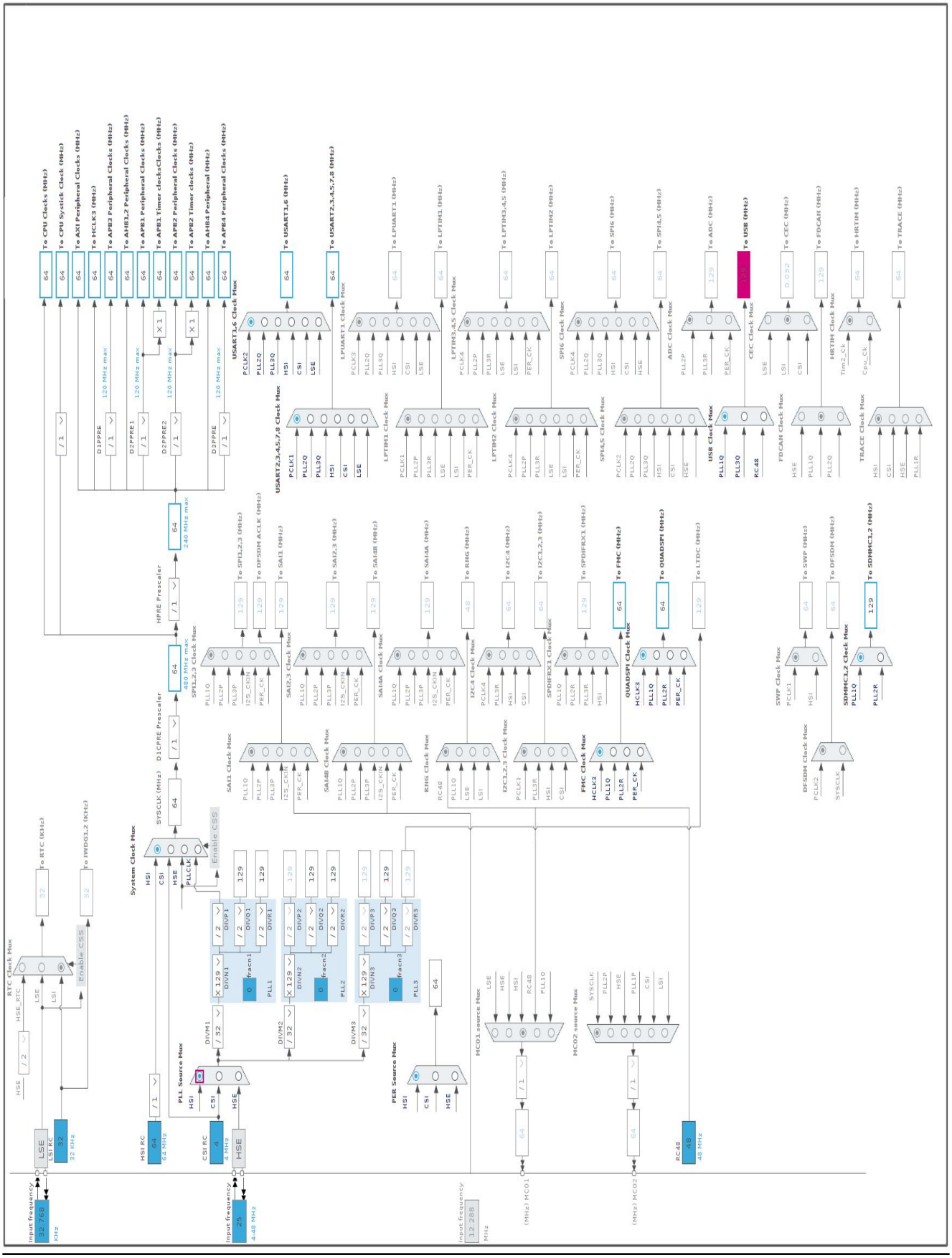
Pin Number LQFP144	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
36	PA2	I/O	ETH_MDIO	
37	PA3 *	I/O	GPIO_Input	GPIO_IN1
38	VSS	Power		
39	VDD	Power		
40	PA4 *	I/O	GPIO_Input	GPIO_IN2
41	PA5 *	I/O	GPIO_Input	GPIO_IN3
42	PA6 *	I/O	GPIO_Input	GPIO_IN4
43	PA7	I/O	ETH_CRS_DV	
44	PC4	I/O	ETH_RXD0	
45	PC5	I/O	ETH_RXD1	
46	PB0 *	I/O	GPIO_Input	GPIO_IN5
47	PB1 *	I/O	GPIO_Input	GPIO_IN6
48	PB2	I/O	QUADSPI_CLK	QSPI_SCK
49	PF11 *	I/O	GPIO_Input	STROBE_MVB
50	PF12	I/O	FMC_A6	
51	VSS	Power		
52	VDD	Power		
53	PF13	I/O	FMC_A7	
54	PF14	I/O	FMC_A8	
55	PF15	I/O	FMC_A9	
56	PG0	I/O	FMC_A10	
57	PG1	I/O	FMC_A11	
58	PE7	I/O	FMC_D4	
59	PE8	I/O	FMC_D5	
60	PE9	I/O	FMC_D6	
61	VSS	Power		
62	VDD	Power		
63	PE10	I/O	FMC_D7	
64	PE11	I/O	FMC_D8	
65	PE12	I/O	FMC_D9	
66	PE13	I/O	FMC_D10	
67	PE14	I/O	FMC_D11	
68	PE15	I/O	FMC_D12	
69	PB10	I/O	USART3_TX	
70	PB11	I/O	USART3_RX	
71	VCAP	Power		
72	VDD	Power		
73	PB12	I/O	ETH_TXD0	
74	PB13	I/O	ETH_TXD1	

Pin Number LQFP144	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
75	PB14	I/O	USB_OTG_HS_DM	
76	PB15	I/O	USB_OTG_HS_DP	
77	PD8	I/O	FMC_D13	
78	PD9	I/O	FMC_D14	
79	PD10	I/O	FMC_D15	
80	PD11	I/O	FMC_A16	
81	PD12	I/O	FMC_A17	
82	PD13	I/O	FMC_A18	
83	VSS	Power		
84	VDD	Power		
85	PD14	I/O	FMC_D0	
86	PD15	I/O	FMC_D1	
87	PG2	I/O	FMC_A12	
88	PG3	I/O	FMC_A13	
89	PG4	I/O	FMC_A14	
90	PG5	I/O	FMC_A15	
91	PG6	I/O	QUADSPI_BK1_NCS	
92	PG7 *	I/O	GPIO_Input	ERR_USB
93	PG8	I/O	USART6_DE	
94	VSS	Power		
95	VDD33_USB	Power		
96	PC6	I/O	USART6_TX	
97	PC7	I/O	USART6_RX	
98	PC8	I/O	SDMMC1_D0	
99	PC9	I/O	QUADSPI_BK1_IO0	
100	PA8	I/O	UART7_RX	
101	PA9 *	I/O	GPIO_Output	GPIO_OUT4
102	PA10 *	I/O	GPIO_Input	USER_SWITCH2
103	PA11	I/O	USB_OTG_FS_DM	
104	PA12	I/O	USB_OTG_FS_DP	
105	PA13 (JTMS/SWDIO)	I/O	DEBUG_JTMS-SWDIO	
106	VCAP	Power		
107	VSS	Power		
108	VDD	Power		
109	PA14 (JTCK/SWCLK)	I/O	DEBUG_JTCK-SWCLK	
110	PA15 (JTDI)	I/O	UART4_DE	
111	PC10 *	I/O	GPIO_Output	GPIO_OUT5
112	PC11	I/O	UART4_RX	
113	PC12	I/O	SDMMC1_CK	

Pin Number LQFP144	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
114	PD0	I/O	FMC_D2	
115	PD1	I/O	FMC_D3	
116	PD2	I/O	SDMMC1_CMD	
117	PD3 *	I/O	GPIO_Output	GPIO_OUT6
118	PD4	I/O	FMC_NOE	
119	PD5	I/O	FMC_NWE	
120	VSS	Power		
121	VDD	Power		
122	PD6	I/O	FMC_NWAIT	
123	PD7	I/O	FMC_NE1	
124	PG9 *	I/O	GPIO_Output	ENABLE_USB
125	PG10 *	I/O	GPIO_Analog	GPIO_ANALOG3
126	PG11	I/O	ETH_TX_EN	
127	PG12 *	I/O	GPIO_Output	LED_USART6
128	PG13 *	I/O	GPIO_Output	LED_UART4
129	PG14 *	I/O	GPIO_Output	LED_UART_7
130	VSS	Power		
131	VDD	Power		
132	PG15 *	I/O	GPIO_Output	LED_SD
133	PB3 (JTDO/TRACESWO) *	I/O	GPIO_Output	LED_ETHERNET
134	PB4 (NJTRST) *	I/O	GPIO_Output	LED_MVB_TM
135	PB5 *	I/O	GPIO_Output	LED_uP_TM
136	PB6 *	I/O	GPIO_Output	LED_USR2
137	PB7 *	I/O	GPIO_Output	LED_USR1
138	BOOT0	Boot		
139	PB8 *	I/O	GPIO_Analog	GPIO_ANALOG2
140	PB9 *	I/O	GPIO_Analog	GPIO_ANALOG1
141	PE0 *	I/O	GPIO_Input	INT0_MVB
142	PE1 *	I/O	GPIO_Input	INT1_MVB
143	PDR_ON	Reset		
144	VDD	Power		

* The pin is affected with an I/O function

4. Clock Tree Configuration



5. Software Project

5.1. Project Settings

Name	Value
Project Name	STM32 Project
Project Folder	/mnt/Shared/GitHub/Repos/TesisCESE/STM32 Project
Toolchain / IDE	EWARM V8.32
Firmware Package Name and Version	STM32Cube FW_H7 V1.7.0

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
Delete previously generated files when not re-generated	Yes
Set all free pins as analog (to optimize the power consumption)	No

6. Power Consumption Calculator report

6.1. Microcontroller Selection

Series	STM32H7
Line	STM32H743/753
MCU	STM32H743ZITx
Datasheet	DS12110_Rev5

6.2. Parameter Selection

Temperature	25
Vdd	3.0

6.3. Battery Selection

Battery	Alkaline(9V)
Capacity	625.0 mAh
Self Discharge	0.3 %/month
Nominal Voltage	9.0 V
Max Cont Current	200.0 mA
Max Pulse Current	0.0 mA
Cells in series	1
Cells in parallel	1

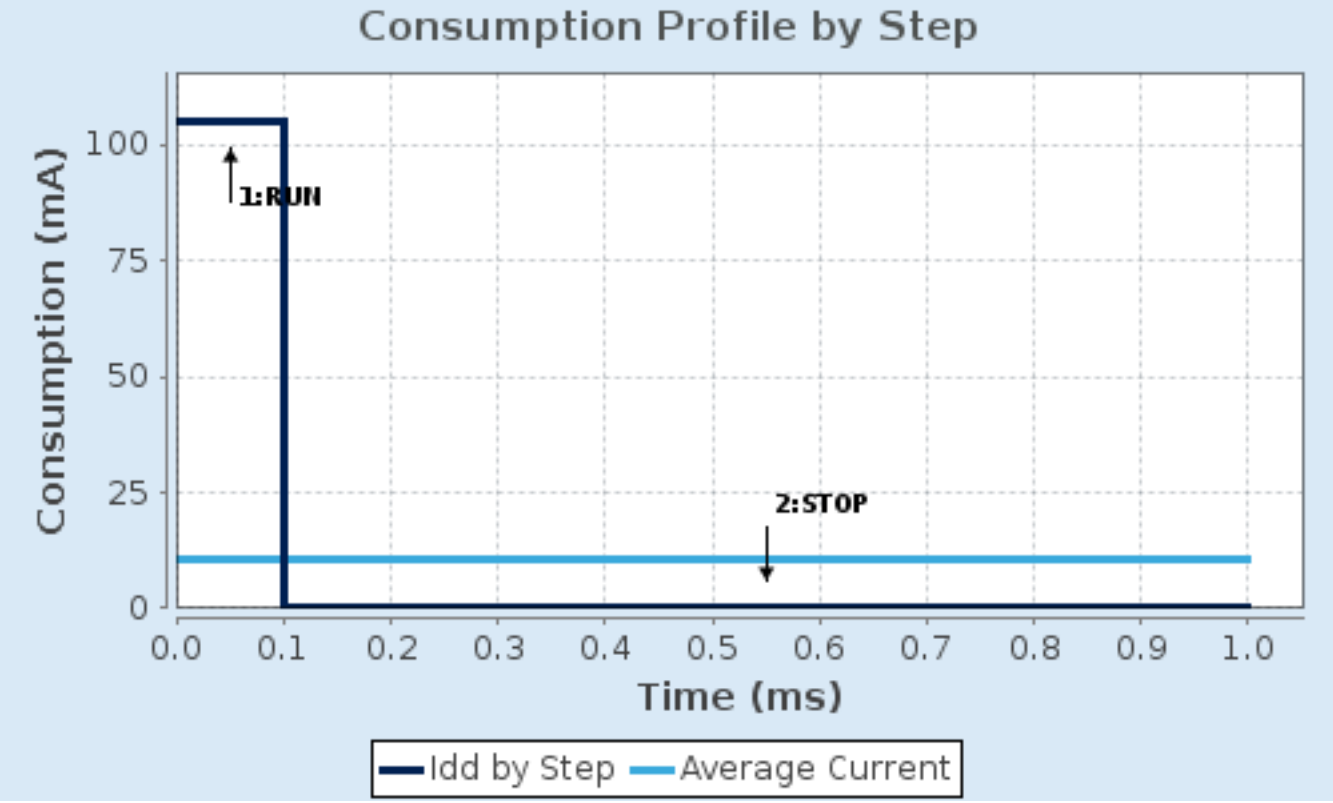
6.4. Sequence

Step	Step1	Step2
Mode	RUN	STOP
Vdd	3.0	3.0
Voltage Source	Battery	Battery
Range	VOS1: Scale1-High	SVOS5: System-Scale5
D1 Mode	DRUN/CRUN	DSTANDBY
D2 Mode	DSTANDBY	DSTANDBY
D3 Mode	DRUN	DSTOP
Fetch Type	FLASH_A	NA
CPU Frequency	400 MHz	0 Hz
Clock Configuration	HSE BYP PLL Flash-ON Cache-ON	Flash-LP
Clock Source Frequency	25 MHz	0 Hz
Peripherals		
Additional Cons.	0 mA	0 mA
Average Current	105 mA	170 µA
Duration	0.1 ms	0.9 ms
DMIPS	856.0	0.0
Ta Max	111.14	124.98
Category	In DS Table	In DS Table

6.5. RESULTS

Sequence Time	1 ms	Average Current	10.65 mA
Battery Life	2 days, 10 hours	Average DMIPS	856.0 DMIPS

6.6. Chart


Consumption Profile by Step
Consumption (mA)
100
75
50
25
0
1:RUN
2:STOP
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0
Time (ms)
Idd by Step
Average Current

7. IPs and Middleware Configuration

7.1. DEBUG

Debug: Serial Wire

7.2. ETH

Mode: RMII

7.2.1. Parameter Settings:

General : Ethernet Configuration:

Warning	The ETH can work only when RAM is pointing at 0x24000000
Note	PHY Driver must be configured from the LwIP 'Platform Settings' top right tab
Ethernet MAC Address	00:80:E1:00:00:00
Tx Descriptor Length	4
First Tx Descriptor Address	**0x30040060 ***
Rx Descriptor Length	4
First Rx Descriptor Address	**0x30040000 ***
Rx Buffers Address	**0x30040200 ***
Rx Buffers Length	1524

7.3. FMC

NOR Flash/PSRAM/SRAM/ROM/LCD 1

Chip Select: NE1

Memory type: SRAM

Address: 19 bits

Data: 16 bits

Wait: Asynchronous

7.3.1. NOR/PSRAM 1:

NOR/PSRAM control:

Memory type	SRAM
Bank	Bank 1 NOR/PSRAM 1
Write operation	Disabled
Write FIFO	Enabled
Extended mode	Disabled
Wait signal polarity	Low polarity

NOR/PSRAM timing:

Address setup time in HCLK clock cycles	15
Data setup time in HCLK clock cycles	255
Bus turn around time in HCLK clock cycles	15

7.3.2. Bank Mapping:

Mapping parameters:

FMC bank mapping	Default mapping

7.4. GPIO

7.5. QUADSPI

QuadSPI Mode: Bank1 with Quad SPI Lines

7.5.1. Parameter Settings:

General Parameters:

Clock Prescaler	255
Fifo Threshold	1
Sample Shifting	No Sample Shifting
Flash Size	1
Chip Select High Time	1 Cycle
Clock Mode	Low
Flash ID	Flash ID 1
Dual Flash	Disabled

7.6. RCC

High Speed Clock (HSE): Crystal/Ceramic Resonator

Low Speed Clock (LSE) : Crystal/Ceramic Resonator

7.6.1. Parameter Settings:

SupplySource	PWR_LDO_SUPPLY

RCC Parameters:

TIM Prescaler Selection	Disabled
HSE Startup Timout Value (ms)	100
LSE Startup Timout Value (ms)	5000
CSI Calibration Value	16

HSI Calibration Value	32

System Parameters:

VDD voltage (V)	3.3
Flash Latency(WS)	0 WS (1 CPU cycle)

Power Parameters:

Power Regulator Voltage Scale	Power Regulator Voltage Scale 3

PLL range Parameters:

PLL1 clock Input range	Between 2 and 4 MHz
PLL1 clock Output range	Wide VCO range

7.7. SDMMC1

Mode: SD 1 bit

7.7.1. 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

7.8. SYS

Timebase Source: SysTick

7.9. UART4

Mode: Asynchronous

mode: Hardware Flow Control (RS485)

7.9.1. 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	clock /1
Fifo Mode	FIFO mode disable
Txfifo Threshold	1 eighth full configuration
Rxfifo Threshold	1 eighth full configuration
Polarity	High
Assertion Time	0
Deassertion Time	0

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

7.10. UART7

Mode: Asynchronous

mode: Hardware Flow Control (RS485)

7.10.1. 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	clock /1
Fifo Mode	FIFO mode disable
Txfifo Threshold	1 eighth full configuration
Rxfifo Threshold	1 eighth full configuration
Polarity	High
Assertion Time	0
Deassertion Time	0

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

7.11. USART3

Mode: Asynchronous

7.11.1. 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	clock /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

7.12. USART6

Mode: Asynchronous

mode: Hardware Flow Control (RS485)

7.12.1. 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	clock /1
Fifo Mode	Disable
Txfifo Threshold	1 eighth full configuration
Rxfifo Threshold	1 eighth full configuration
Polarity	High
Assertion Time	0
Deassertion Time	0

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

7.13. USB_OTG_FS

Mode: Device_Only

7.13.1. Parameter Settings:

Speed	Full Speed 12MBit/s
Enable internal IP DMA	Disabled
Low power	Disabled
Battery charging	Disabled

Link Power Management	Disabled
Use dedicated end point 1 interrupt	Disabled
VBUS sensing	Disabled
Signal start of frame	Disabled

7.14. USB_OTG_HS

Internal FS Phy: Host_Only

7.14.1. Parameter Settings:

Speed	Host Full Speed 12MBit/s
Enable internal IP DMA	Disabled
Physical interface	Internal Phy
Signal start of frame	Disabled

*** User modified value**

8. System Configuration

8.1. GPIO configuration

IP	Pin	Signal	GPIO mode	GPIO pull/up pull down	Max Speed	User Label
DEBUG	PA13 (JTMS/SWDIO)	DEBUG_JTMS-SWDIO	n/a	n/a	n/a	
	PA14 (JTCK/SWCLK)	DEBUG_JTCK-SWCLK	n/a	n/a	n/a	
ETH	PC1	ETH_MDC	Alternate Function Push Pull	No pull-up and no pull-down	Low	
	PA1	ETH_REF_CLK	Alternate Function Push Pull	No pull-up and no pull-down	Low	
	PA2	ETH_MDIO	Alternate Function Push Pull	No pull-up and no pull-down	Low	
	PA7	ETH_CRS_DV	Alternate Function Push Pull	No pull-up and no pull-down	Low	
	PC4	ETH_RXD0	Alternate Function Push Pull	No pull-up and no pull-down	Low	
	PC5	ETH_RXD1	Alternate Function Push Pull	No pull-up and no pull-down	Low	
	PB12	ETH_TXD0	Alternate Function Push Pull	No pull-up and no pull-down	Low	
	PB13	ETH_TXD1	Alternate Function Push Pull	No pull-up and no pull-down	Low	
	PG11	ETH_TX_EN	Alternate Function Push Pull	No pull-up and no pull-down	Low	
FMC	PF0	FMC_A0	Alternate Function Push Pull	No pull-up and no pull-down	Very High	
	PF1	FMC_A1	Alternate Function Push Pull	No pull-up and no pull-down	Very High	
	PF2	FMC_A2	Alternate Function Push Pull	No pull-up and no pull-down	Very High	
	PF3	FMC_A3	Alternate Function Push Pull	No pull-up and no pull-down	Very High	
	PF4	FMC_A4	Alternate Function Push Pull	No pull-up and no pull-down	Very High	
	PF5	FMC_A5	Alternate Function Push Pull	No pull-up and no pull-down	Very High	
	PF12	FMC_A6	Alternate Function Push Pull	No pull-up and no pull-down	Very High	
	PF13	FMC_A7	Alternate Function Push Pull	No pull-up and no pull-down	Very High	
	PF14	FMC_A8	Alternate Function Push Pull	No pull-up and no pull-down	Very High	
	PF15	FMC_A9	Alternate Function Push Pull	No pull-up and no pull-down	Very High	
	PG0	FMC_A10	Alternate Function Push Pull	No pull-up and no pull-down	Very High	
	PG1	FMC_A11	Alternate Function Push Pull	No pull-up and no pull-down	Very High	
	PE7	FMC_D4	Alternate Function Push Pull	No pull-up and no pull-down	Very High	
	PE8	FMC_D5	Alternate Function Push Pull	No pull-up and no pull-down	Very High	
	PE9	FMC_D6	Alternate Function Push Pull	No pull-up and no pull-down	Very High	
	PE10	FMC_D7	Alternate Function Push Pull	No pull-up and no pull-down	Very High	
	PE11	FMC_D8	Alternate Function Push Pull	No pull-up and no pull-down	Very High	
	PE12	FMC_D9	Alternate Function Push Pull	No pull-up and no pull-down	Very High	
	PE13	FMC_D10	Alternate Function Push Pull	No pull-up and no pull-down	Very High	
	PE14	FMC_D11	Alternate Function Push Pull	No pull-up and no pull-down	Very High	
	PE15	FMC_D12	Alternate Function Push Pull	No pull-up and no pull-down	Very High	
	PD8	FMC_D13	Alternate Function Push Pull	No pull-up and no pull-down	Very High	

IP	Pin	Signal	GPIO mode	GPIO pull/up pull down	Max Speed	User Label
	PD9	FMC_D14	Alternate Function Push Pull	No pull-up and no pull-down	Very High	
	PD10	FMC_D15	Alternate Function Push Pull	No pull-up and no pull-down	Very High	
	PD11	FMC_A16	Alternate Function Push Pull	No pull-up and no pull-down	Very High	
	PD12	FMC_A17	Alternate Function Push Pull	No pull-up and no pull-down	Very High	
	PD13	FMC_A18	Alternate Function Push Pull	No pull-up and no pull-down	Very High	
	PD14	FMC_D0	Alternate Function Push Pull	No pull-up and no pull-down	Very High	
	PD15	FMC_D1	Alternate Function Push Pull	No pull-up and no pull-down	Very High	
	PG2	FMC_A12	Alternate Function Push Pull	No pull-up and no pull-down	Very High	
	PG3	FMC_A13	Alternate Function Push Pull	No pull-up and no pull-down	Very High	
	PG4	FMC_A14	Alternate Function Push Pull	No pull-up and no pull-down	Very High	
	PG5	FMC_A15	Alternate Function Push Pull	No pull-up and no pull-down	Very High	
	PD0	FMC_D2	Alternate Function Push Pull	No pull-up and no pull-down	Very High	
	PD1	FMC_D3	Alternate Function Push Pull	No pull-up and no pull-down	Very High	
	PD4	FMC_NOE	Alternate Function Push Pull	No pull-up and no pull-down	Very High	
	PD5	FMC_NWE	Alternate Function Push Pull	No pull-up and no pull-down	Very High	
	PD6	FMC_NWAIT	Alternate Function Push Pull	No pull-up and no pull-down	Very High	
	PD7	FMC_NE1	Alternate Function Push Pull	No pull-up and no pull-down	Very High	
QUADSPI	PE2	QUADSPI_BK1_IO2	Alternate Function Push Pull	No pull-up and no pull-down	Low	
	PF6	QUADSPI_BK1_IO3	Alternate Function Push Pull	No pull-up and no pull-down	Low	
	PF9	QUADSPI_BK1_IO1	Alternate Function Push Pull	No pull-up and no pull-down	Low	
	PB2	QUADSPI_CLK	Alternate Function Push Pull	No pull-up and no pull-down	Low	QSPI_SCK
	PG6	QUADSPI_BK1_NCS	Alternate Function Push Pull	No pull-up and no pull-down	Low	
	PC9	QUADSPI_BK1_IO0	Alternate Function Push Pull	No pull-up and no pull-down	Low	
RCC	PC14-OSC32_IN (OSC32_IN)	RCC_OSC32_IN	n/a	n/a	n/a	
	PC15-OSC32_OUT	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	
SDMMC1	PC8	SDMMC1_D0	Alternate Function Push Pull	No pull-up and no pull-down	Very High	
	PC12	SDMMC1_CK	Alternate Function Push Pull	No pull-up and no pull-down	Very High	
	PD2	SDMMC1_CMD	Alternate Function Push Pull	No pull-up and no pull-down	Very High	

IP	Pin	Signal	GPIO mode	GPIO pull/up pull down	Max Speed	User Label
UART4	PA0	UART4_TX	Alternate Function Push Pull	No pull-up and no pull-down	Low	
	PA15 (JTDI)	UART4_DE	Alternate Function Push Pull	No pull-up and no pull-down	Low	
	PC11	UART4_RX	Alternate Function Push Pull	No pull-up and no pull-down	Low	
UART7	PF7	UART7_TX	Alternate Function Push Pull	No pull-up and no pull-down	Low	
	PF8	UART7_DE	Alternate Function Push Pull	No pull-up and no pull-down	Low	
	PA8	UART7_RX	Alternate Function Push Pull	No pull-up and no pull-down	Low	
USART3	PB10	USART3_TX	Alternate Function Push Pull	No pull-up and no pull-down	Low	
	PB11	USART3_RX	Alternate Function Push Pull	No pull-up and no pull-down	Low	
USART6	PG8	USART6_DE	Alternate Function Push Pull	No pull-up and no pull-down	Low	
	PC6	USART6_TX	Alternate Function Push Pull	No pull-up and no pull-down	Low	
	PC7	USART6_RX	Alternate Function Push Pull	No pull-up and no pull-down	Low	
USB_OTG_FS	PA11	USB_OTG_FS_DM	Alternate Function Push Pull	No pull-up and no pull-down	Low	
	PA12	USB_OTG_FS_DP	Alternate Function Push Pull	No pull-up and no pull-down	Low	
USB_OTG_HS	PB14	USB_OTG_HS_DM	Alternate Function Push Pull	No pull-up and no pull-down	Low	
	PB15	USB_OTG_HS_DP	Alternate Function Push Pull	No pull-up and no pull-down	Low	
GPIO	PE3	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	RDY-MVB
	PE4	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	RD-MVB
	PE5	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	WR-MVB
	PE6	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	TM_REQ_CPU-MVB
	PC13	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	USER_SWITCH1
	PF10	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	DATA_ACK_MVB
	PC0	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	GPIO_OUT1
	PC2_C	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	GPIO_OUT2
	PC3_C	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	GPIO_OUT3
	PA3	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	GPIO_IN1
	PA4	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	GPIO_IN2
	PA5	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	GPIO_IN3
	PA6	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	GPIO_IN4
	PB0	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	GPIO_IN5
	PB1	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	GPIO_IN6
	PF11	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	STROBE_MVB
	PG7	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	ERR_USB
	PA9	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	GPIO_OUT4
	PA10	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	USER_SWITCH2
	PC10	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	GPIO_OUT5
	PD3	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	GPIO_OUT6
	PG9	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	ENABLE_USB

IP	Pin	Signal	GPIO mode	GPIO pull/up pull down	Max Speed	User Label
	PG10	GPIO_Analog	Analog mode	No pull-up and no pull-down	n/a	GPIO_ANALOG3
	PG12	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	LED_USART6
	PG13	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	LED_UART4
	PG14	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	LED_UART_7
	PG15	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	LED_SD
	PB3 (JTDO/TRACESWO)	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	LED_ETHERNET
	PB4 (NJTRST)	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	LED_MVB_TM
	PB5	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	LED_uP_TM
	PB6	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	LED_USR2
	PB7	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	LED_USR1
	PB8	GPIO_Analog	Analog mode	No pull-up and no pull-down	n/a	GPIO_ANALOG2
	PB9	GPIO_Analog	Analog mode	No pull-up and no pull-down	n/a	GPIO_ANALOG1
	PE0	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	INT0_MVB
	PE1	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	INT1_MVB

8.2. DMA configuration

DMA request	Stream	Direction	Priority
MEMTOMEM	DMA1_Stream0	Memory To Memory	Low

MEMTOMEM: DMA1_Stream0 DMA request Settings:

Mode:	Normal
Use fifo:	**Enable ***
FIFO Threshold:	Full
Src Memory Increment:	**Enable ***
Dst Memormy Increment:	**Enable ***
Src Memory Data Width:	Byte
Dst Memormy Data Width:	Byte
Src Memory Burst Size:	Single
Dst Memormy Burst Size:	Single

8.3. BDMA configuration

nothing configured in DMA service

8.4. MDMA configuration

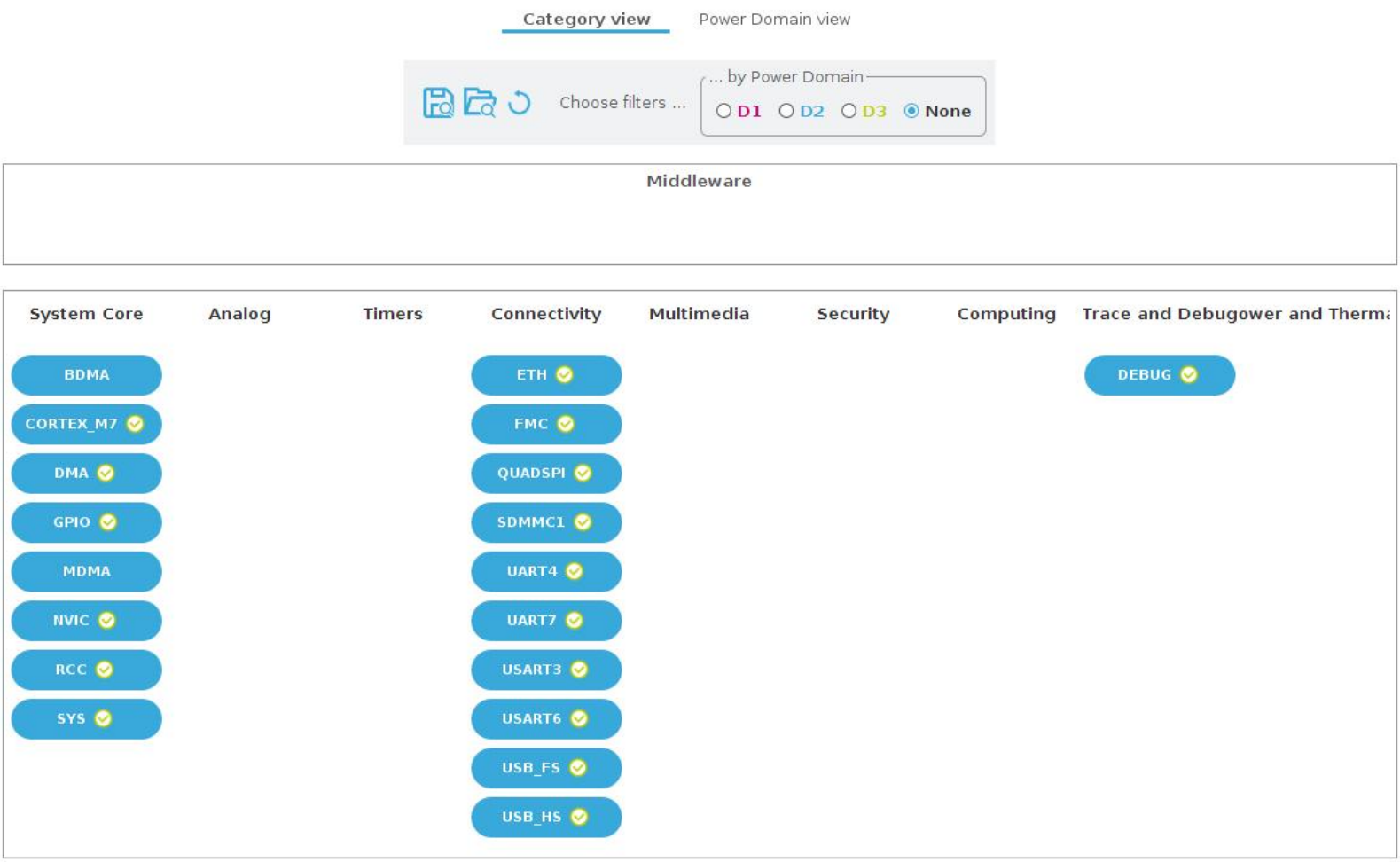
nothing configured in DMA service

8.5. NVIC configuration

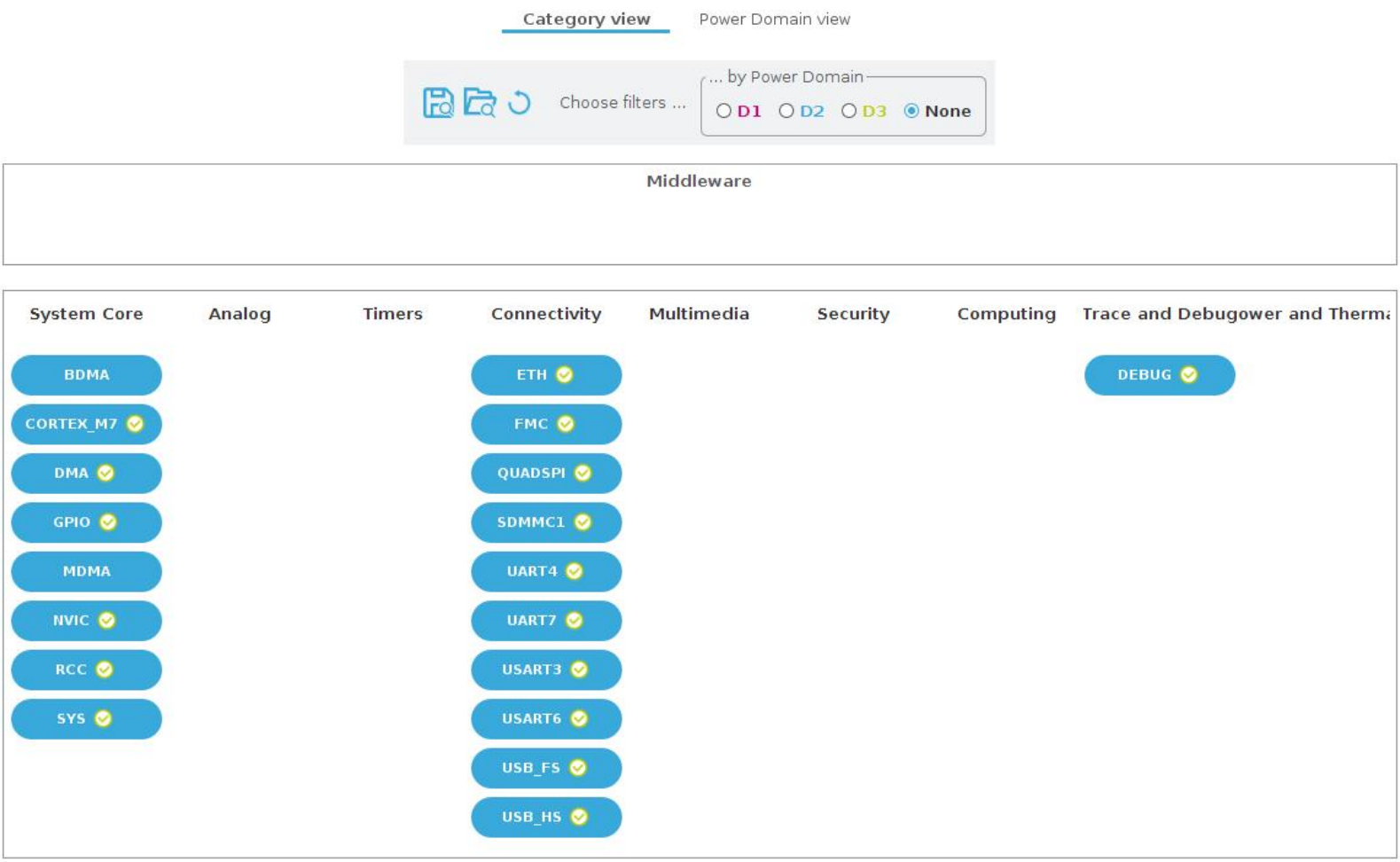
Interrupt Table	Enable	Preenmption Priority	SubPriority
Non maskable interrupt	true	0	0
Hard fault interrupt	true	0	0
Memory management fault	true	0	0
Pre-fetch fault, memory access fault	true	0	0
Undefined instruction or illegal state	true	0	0
System service call via SWI instruction	true	0	0
Debug monitor	true	0	0
Pendable request for system service	true	0	0
System tick timer	true	0	0
PVD and AVD interrupts through EXTI line 16	unused		
Flash global interrupt	unused		
RCC global interrupt	unused		
DMA1 stream0 global interrupt	unused		
USART3 global interrupt	unused		
SDMMC1 global interrupt	unused		
UART4 global interrupt	unused		
Ethernet global interrupt	unused		
Ethernet wake-up interrupt through EXTI line 86	unused		
USART6 global interrupt	unused		
USB On The Go HS End Point 1 Out global interrupt	unused		
USB On The Go HS End Point 1 In global interrupt	unused		
USB On The Go HS global interrupt	unused		
FPU global interrupt	unused		
UART7 global interrupt	unused		
QUADSPI global interrupt	unused		
USB On The Go FS End Point 1 Out global interrupt	unused		
USB On The Go FS End Point 1 In global interrupt	unused		
USB On The Go FS global interrupt	unused		
HSEM1 global interrupt	unused		

*** User modified value**

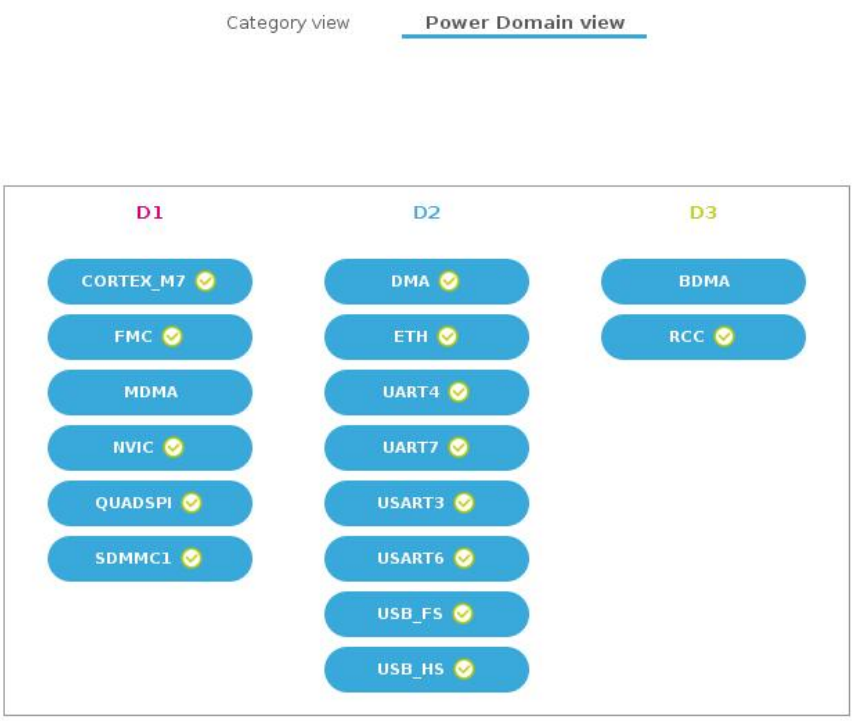
9. Predefined Views - Category view : Current



10. Predefined Views - Category view : Without filters



11. Predefined Views - Power Domain view



12. Software Pack Report