1. Description

1.1. Project

Project Name	Proj_Cube_FATFS
Board Name	Proj_Cube_FATFS
Generated with:	STM32CubeMX 4.14.0
Date	02/24/2021

1.2. MCU

MCU Series	STM32F4
MCU Line	STM32F429/439
MCU name	STM32F429IGTx
MCU Package	LQFP176
MCU Pin number	176

2. Pinout Configuration
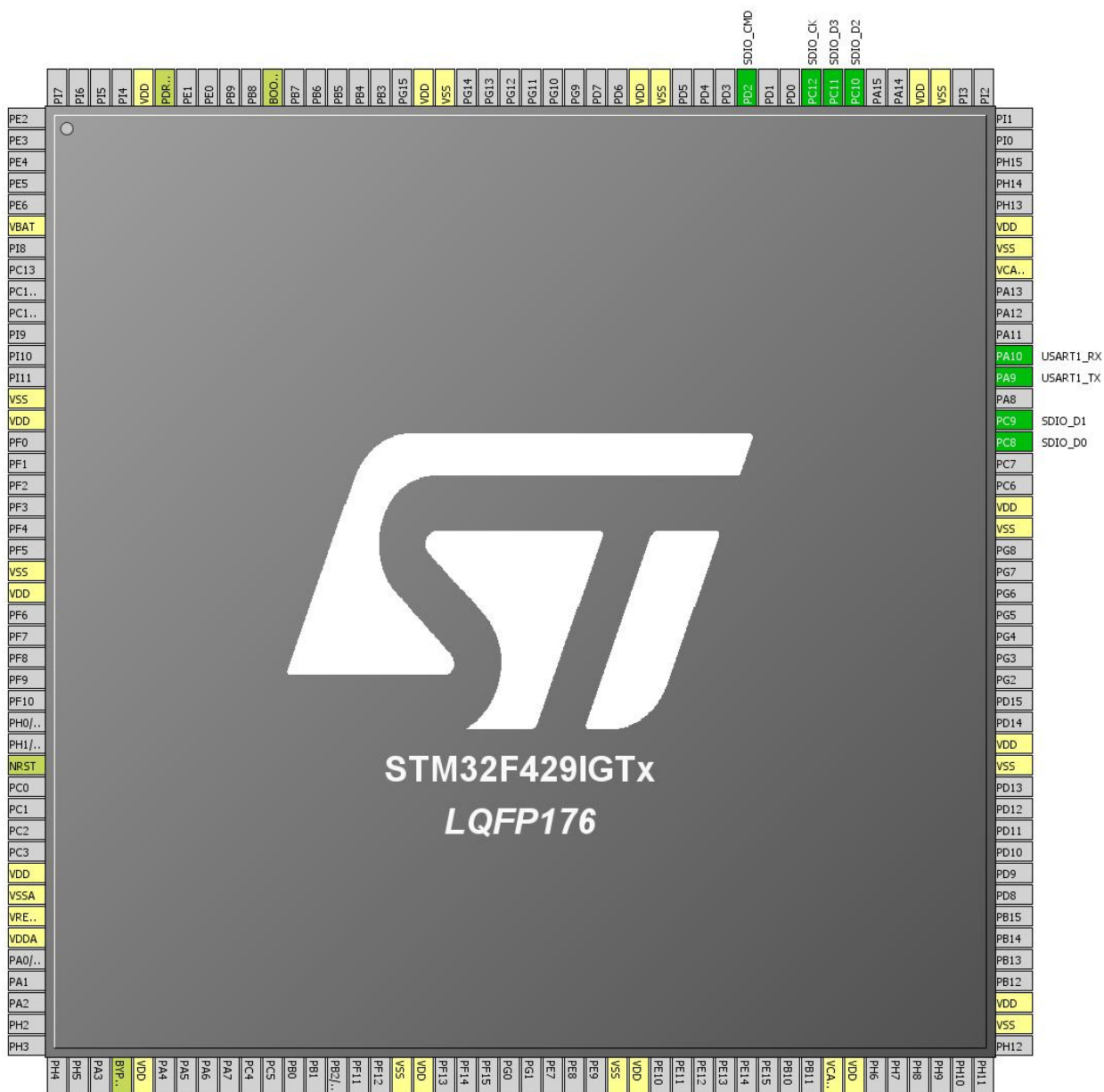
3. Pins Configuration

Pin Number LQFP176	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
6	VBAT	Power		
14	VSS	Power		
15	VDD	Power		
22	VSS	Power		
23	VDD	Power		
31	NRST	Reset		
36	VDD	Power		
37	VSSA	Power		
38	VREF+	Power		
39	VDDA	Power		
48	BYPASS_REG	Reset		
49	VDD	Power		
61	VSS	Power		
62	VDD	Power		
71	VSS	Power		
72	VDD	Power		
81	VCAP_1	Power		
82	VDD	Power		
90	VSS	Power		
91	VDD	Power		
102	VSS	Power		
103	VDD	Power		
113	VSS	Power		
114	VDD	Power		
117	PC8	I/O	SDIO_D0	
118	PC9	I/O	SDIO_D1	
120	PA9	I/O	USART1_TX	
121	PA10	I/O	USART1_RX	
125	VCAP_2	Power		
126	VSS	Power		
127	VDD	Power		
135	VSS	Power		
136	VDD	Power		
139	PC10	I/O	SDIO_D2	
140	PC11	I/O	SDIO_D3	
141	PC12	I/O	SDIO_CK	

Pin Number LQFP176	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
144	PD2	I/O	SDIO_CMD	
148	VSS	Power		
149	VDD	Power		
158	VSS	Power		
159	VDD	Power		
166	BOOT0	Boot		
171	PDR_ON	Reset		
172	VDD	Power		

4. Clock Tree Configuration

5. IPs and Middleware Configuration

5.1. SDIO

Mode: SD 4 bits Wide bus

5.1.1. Parameter Settings:

SDIO parameters:

SDIOCLK clock divide factor	0

5.2. SYS

Timebase Source: SysTick

5.3. USART1

Mode: Asynchronous

5.3.1. 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

5.4. FATFS

mode: SD Card

5.4.1. Set Defines:

Version:

FATFS version	R0.11

Function Parameters:

FS_TINY (Tiny mode)	Disabled
FS_READONLY (Read-only mode)	Disabled
FS_MINIMIZE (Minimization level)	Disabled
USE_STRFUNC (String functions)	Enabled with LF -> CRLF conversion
USE_FIND (Find functions)	Disabled
USE_MKFS (Make filesystem function)	Enabled
USE_FORWARD (Forward function)	Disabled
USE_LABEL (Volume label functions)	Disabled
USE_FASTSEEK (Fast seek function)	Enabled

Locale and Namespace Parameters:

CODE_PAGE (Code page on target)	Latin 1 (Windows)
USE_LFN (Use Long Filename)	Disabled
MAX_LFN (Max Long Filename)	255
LFN_UNICODE (Enable Unicode)	ANSI/OEM
STRF_ENCODE (Character encoding)	UTF-8
FS_RPATH (Relative Path)	Disabled

Physical Drive Parameters:

VOLUMES (Logical drives)	1
MAX_SS (Maximum Sector Size)	512
MIN_SS (Minimum Sector Size)	512
MULTI_PARTITION (Volume partitions feature)	Disabled
USE_TRIM (Erase feature)	Disabled
FS_NOFSINFO (Force full FAT scan)	0

System Parameters:

FS_NORTC (Timestamp feature)	Dynamic timestamp
NORTC_YEAR (Year for timestamp)	2015
NORTC_MON (Month for timestamp)	6
NORTC_MDAY (Day for timestamp)	4
WORD_ACCESS (Platform dependent access option)	Byte access
FS_REENTRANT (Re-Entrancy)	Disabled
FS_TIMEOUT (Timeout ticks)	1000
SYNC_t (O/S sync object)	osSemaphoreId
FS_LOCK (Number of files opened simultaneously)	2

5.4.2. IPs instances:

SDIO/SDMMC:

SDIO instance	SDIO1

* User modified value

6. System Configuration

6.1. GPIO configuration

IP	Pin	Signal	GPIO mode	GPIO pull/up pull down	Max Speed	User Label
SDIO	PC8	SDIO_D0	Alternate Function Push Pull	No pull-up and no pull-down	High	
	PC9	SDIO_D1	Alternate Function Push Pull	No pull-up and no pull-down	High	
	PC10	SDIO_D2	Alternate Function Push Pull	No pull-up and no pull-down	High	
	PC11	SDIO_D3	Alternate Function Push Pull	No pull-up and no pull-down	High	
	PC12	SDIO_CK	Alternate Function Push Pull	No pull-up and no pull-down	High	
	PD2	SDIO_CMD	Alternate Function Push Pull	No pull-up and no pull-down	High	
USART1	PA9	USART1_TX	Alternate Function Push Pull	Pull-up	**High ***	
	PA10	USART1_RX	Alternate Function Push Pull	Pull-up	**High ***	

6.2. DMA configuration

nothing configured in DMA service

6.3. 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
Debug monitor	true	0	0
System tick timer	true	0	0
PVD interrupt through EXTI line 16	unused		
Flash global interrupt	unused		
RCC global interrupt	unused		
USART1 global interrupt	unused		
SDIO global interrupt	unused		

* User modified value

7. Power Plugin report

7.1. Microcontroller Selection

Series	STM32F4
Line	STM32F429/439
MCU	STM32F429IGTx
Datasheet	024030_Rev8

7.2. Parameter Selection

Temperature	25
Vdd	null

8. Software Project

8.1. Project Settings

Name	Value
Project Name	Proj_Cube_FATFS
Project Folder	C:\1D\1SEU\2020.09_USRP_E310\C\C_proj\ChanEst_BCH_simplified\MDK5\Pr
Toolchain / IDE	MDK-ARM V5
Firmware Package Name and Version	STM32Cube FW_F4 V1.11.0

8.2. Code Generation Settings

Name	Value
STM32Cube Firmware Library Package	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