1. Description

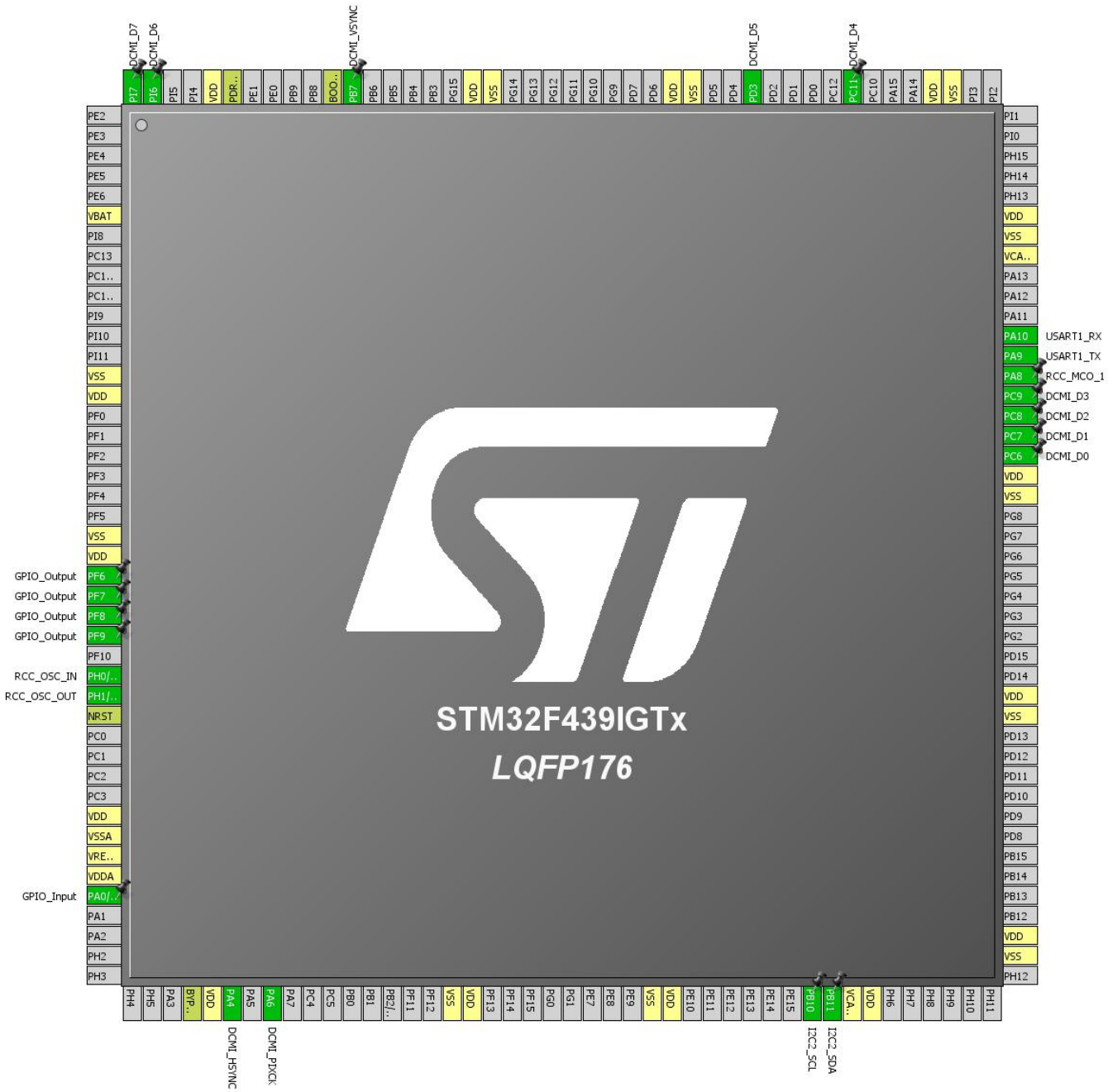
1.1. Project

Project Name	STM32F429I
Board Name	STM32F429I
Generated with:	STM32CubeMX 4.11.0
Date	11/27/2015

1.2. MCU

MCU Series	STM32F4
MCU Line	STM32F429/439
MCU name	STM32F439IGTx
MCU Package	LQFP176
MCU Pin number	176

2. Pinout Configuration



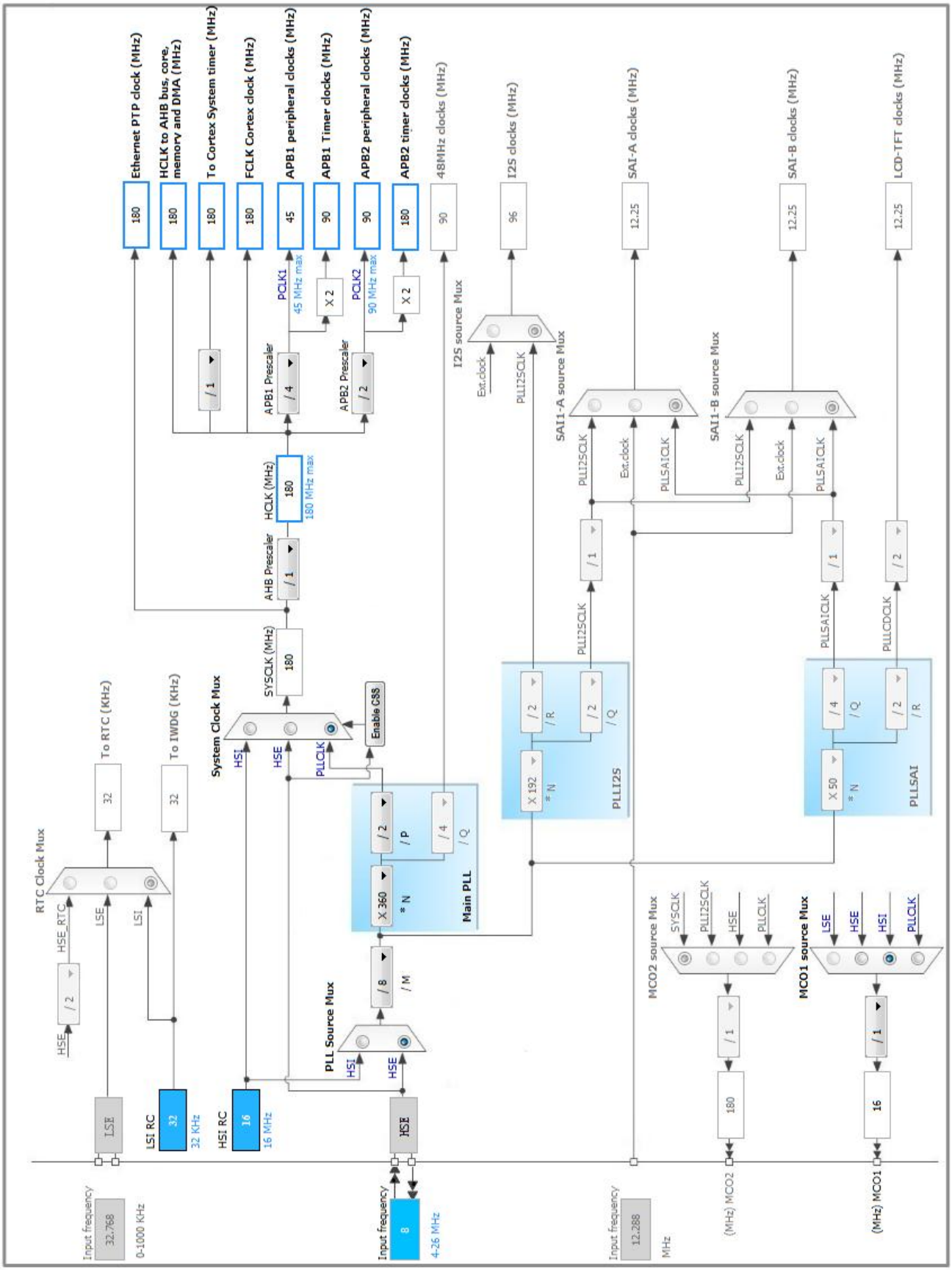
3. Pins Configuration

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		
24	PF6 *	I/O	GPIO_Output	
25	PF7 *	I/O	GPIO_Output	
26	PF8 *	I/O	GPIO_Output	
27	PF9 *	I/O	GPIO_Output	
29	PH0/OSC_IN	I/O	RCC_OSC_IN	
30	PH1/OSC_OUT	I/O	RCC_OSC_OUT	
31	NRST	Reset		
36	VDD	Power		
37	VSSA	Power		
38	VREF+	Power		
39	VDDA	Power		
40	PA0/WKUP *	I/O	GPIO_Input	
48	BYPASS_REG	Reset		
49	VDD	Power		
50	PA4	I/O	DCMI_HSYNC	
52	PA6	I/O	DCMI_PIXCK	
61	VSS	Power		
62	VDD	Power		
71	VSS	Power		
72	VDD	Power		
79	PB10	I/O	I2C2_SCL	
80	PB11	I/O	I2C2_SDA	
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		
115	PC6	I/O	DCMI_D0	

Pin Number LQFP176	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
116	PC7	I/O	DCMI_D1	
117	PC8	I/O	DCMI_D2	
118	PC9	I/O	DCMI_D3	
119	PA8	I/O	RCC_MCO_1	
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		
140	PC11	I/O	DCMI_D4	
145	PD3	I/O	DCMI_D5	
148	VSS	Power		
149	VDD	Power		
158	VSS	Power		
159	VDD	Power		
165	PB7	I/O	DCMI_VSYNC	
166	BOOT0	Boot		
171	PDR_ON	Reset		
172	VDD	Power		
175	PI6	I/O	DCMI_D6	
176	PI7	I/O	DCMI_D7	

* The pin is affected with an I/O function

4. Clock Tree Configuration



5. IPs and Middleware Configuration

5.1. DCMI

DCMI: Slave 8 bits External Synchro

5.1.1. Parameter Settings:

Mode Config:

Pixel clock polarity	**Active on Rising edge ***
Vertical synchronization polarity	Active Low
Horizontal synchronization polarity	Active Low
Frequency of frame capture	All frames are captured
JPEG mode	**Enabled ***

5.2. I2C2

I2C: I2C

5.2.1. Parameter Settings:

Master Features:

I2C Speed Mode	Standard Mode
I2C Clock Speed (Hz)	100000

Slave Features:

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

5.3. RCC

High Speed Clock (HSE): Crystal/Ceramic Resonator

mode: Master Clock Output 1

5.3.1. Parameter Settings:

System Parameters:

VDD voltage (V)	3.3
Instruction Cache	Enabled
Prefetch Buffer	Enabled
Data Cache	Enabled
Flash Latency(WS)	5 WS (6 CPU cycle)

RCC Parameters:

HSI Calibration Value	16
TIM Prescaler Selection	Disabled

Power Parameters:

Power Regulatror Voltage Scale	Power Regulator Voltage Scale 1
Power Over Drive	Enabled

5.4. USART1

Mode: Asynchronous

5.4.1. 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

*** User modified value**

6. System Configuration

6.1. GPIO configuration

IP	Pin	Signal	GPIO mode	GPIO pull/up pull down	Max Speed	User Label
DCMI	PA4	DCMI_HSYNC	Alternate Function Push Pull	No pull-up and no pull-down	Low	
	PA6	DCMI_PIXCK	Alternate Function Push Pull	No pull-up and no pull-down	Low	
	PC6	DCMI_D0	Alternate Function Push Pull	No pull-up and no pull-down	Low	
	PC7	DCMI_D1	Alternate Function Push Pull	No pull-up and no pull-down	Low	
	PC8	DCMI_D2	Alternate Function Push Pull	No pull-up and no pull-down	Low	
	PC9	DCMI_D3	Alternate Function Push Pull	No pull-up and no pull-down	Low	
	PC11	DCMI_D4	Alternate Function Push Pull	No pull-up and no pull-down	Low	
	PD3	DCMI_D5	Alternate Function Push Pull	No pull-up and no pull-down	Low	
	PB7	DCMI_VSYNC	Alternate Function Push Pull	No pull-up and no pull-down	Low	
	PI6	DCMI_D6	Alternate Function Push Pull	No pull-up and no pull-down	Low	
	PI7	DCMI_D7	Alternate Function Push Pull	No pull-up and no pull-down	Low	
I2C2	PB10	I2C2_SCL	Alternate Function Open Drain	Pull-up	**High ***	
	PB11	I2C2_SDA	Alternate Function Open Drain	Pull-up	**High ***	
RCC	PH0/OSC_IN	RCC_OSC_IN	n/a	n/a	n/a	
	PH1/OSC_OUT	RCC_OSC_OUT	n/a	n/a	n/a	
	PA8	RCC_MCO_1	Alternate Function Push Pull	No pull-up and no pull-down	Low	
USART1	PA9	USART1_TX	Alternate Function Push Pull	Pull-up	**High ***	
	PA10	USART1_RX	Alternate Function Push Pull	Pull-up	**High ***	
GPIO	PF6	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	
	PF7	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	
	PF8	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	
	PF9	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	
	PA0/WKUP	GPIO_Input	Input mode	**Pull-up ***	n/a	

6.2. DMA configuration

DMA request	Stream	Direction	Priority
USART1_TX	DMA2_Stream7	Memory To Peripheral	**High ***
DCMI	DMA2_Stream1	Peripheral To Memory	**Very High ***

USART1_TX: DMA2_Stream7 DMA request Settings:

Mode:	Normal
Use fifo:	**Enable ***
FIFO Threshold:	Full
Peripheral Increment:	Disable
Memory Increment:	**Enable ***
Peripheral Data Width:	Byte
Memory Data Width:	Byte
Peripheral Burst Size:	Single
Memory Burst Size:	Single

DCMI: DMA2_Stream1 DMA request Settings:

Mode:	Normal
Use fifo:	**Enable ***
FIFO Threshold:	Full
Peripheral Increment:	Disable
Memory Increment:	**Enable ***
Peripheral Data Width:	**Word ***
Memory Data Width:	Word
Peripheral Burst Size:	Single
Memory Burst Size:	Single

6.3. NVIC configuration

Interrupt Table	Enable	Preenmption Priority	SubPriority
System tick timer	true	0	0
DMA2 stream1 global interrupt	true	0	0
DMA2 stream7 global interrupt	true	0	0
DCMI global interrupt	true	0	0
Non maskable interrupt	unused		
Memory management fault	unused		
Pre-fetch fault, memory access fault	unused		
Undefined instruction or illegal state	unused		
Debug monitor	unused		
PVD interrupt through EXTI line 16	unused		
Flash global interrupt	unused		
RCC global interrupt	unused		
I2C2 event interrupt	unused		
I2C2 error interrupt	unused		
USART1 global interrupt	unused		

*** User modified value**

7. Power Plugin report

7.1. Microcontroller Selection

Series	STM32F4
Line	STM32F429/439
MCU	STM32F439IGTx
Datasheet	024244_Rev6

7.2. Parameter Selection

Temperature	25
Vdd	null

8. Software Project

8.1. Project Settings

Name	Value
Project Name	STM32F429I
Project Folder	C:\Users\Administrator\Desktop\stm32cube\STM32F429I\18.OV2640
Toolchain / IDE	MDK-ARM V5
Firmware Package Name and Version	STM32Cube FW_F4 V1.9.0

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