1. Description

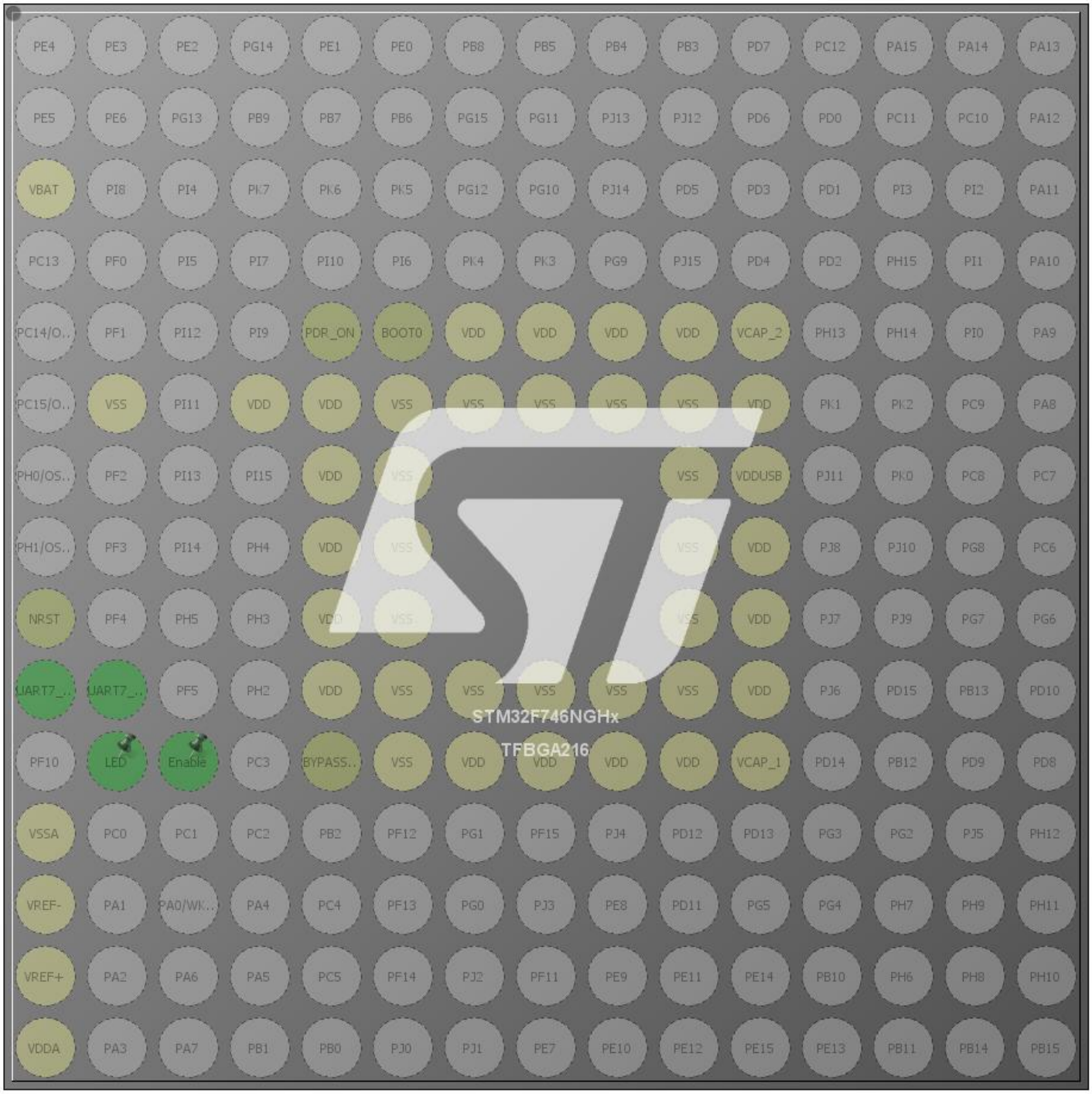
1.1. Project

Project Name	ESP TEST
Board Name	STM32F746G-DISCO
Generated with:	STM32CubeMX 4.16.1
Date	11/27/2016

1.2. MCU

MCU Series	STM32F7
MCU Line	STM32F7x6
MCU name	STM32F746NGHx
MCU Package	TFBGA216
MCU Pin number	216

2. Pinout Configuration



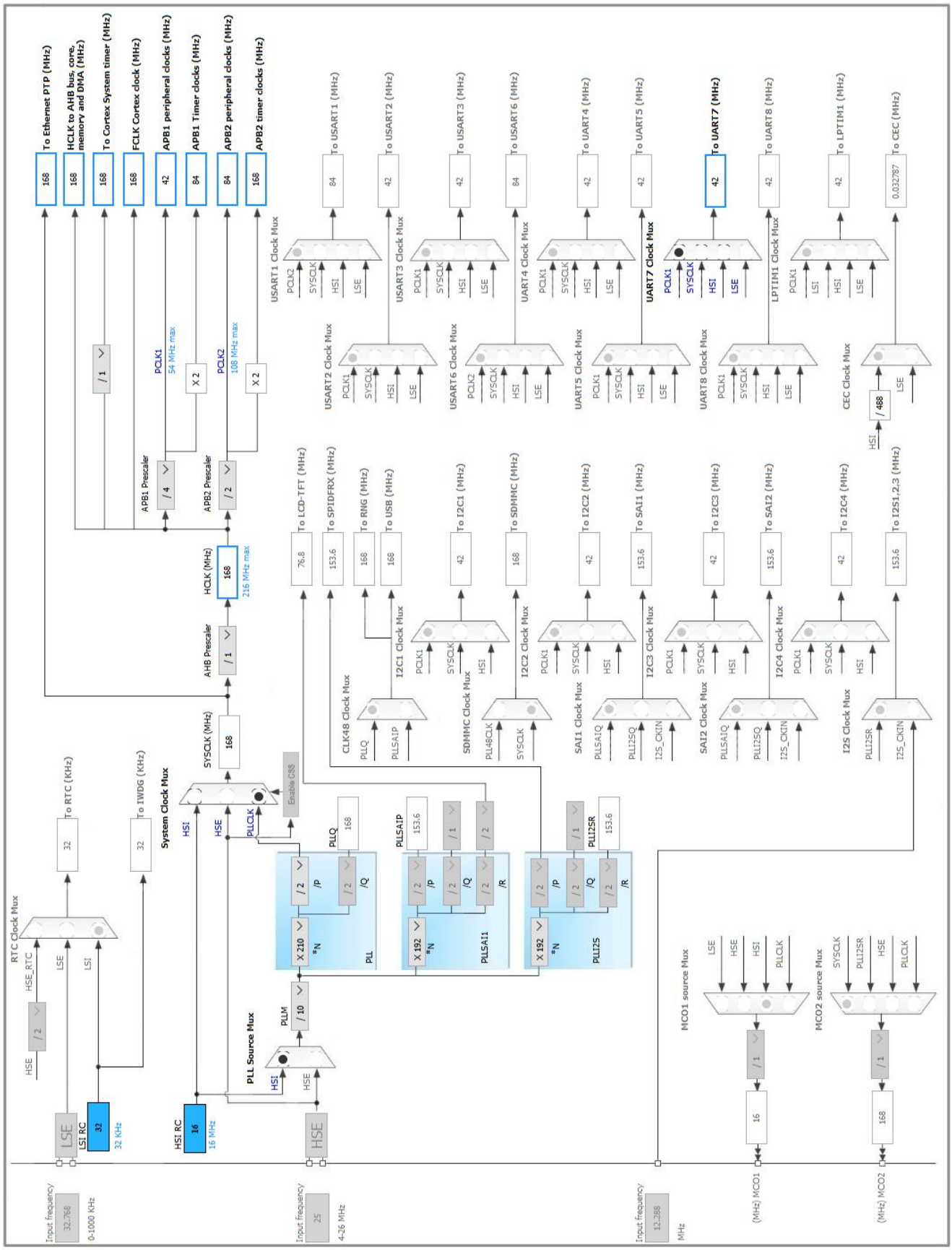
3. Pins Configuration

Pin Number TFBGA216	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
C1	VBAT	Power		
E5	PDR_ON	Reset		
E6	BOOT0	Boot		
E7	VDD	Power		
E8	VDD	Power		
E9	VDD	Power		
E10	VDD	Power		
E11	VCAP_2	Power		
F2	VSS	Power		
F4	VDD	Power		
F5	VDD	Power		
F6	VSS	Power		
F7	VSS	Power		
F8	VSS	Power		
F9	VSS	Power		
F10	VSS	Power		
F11	VDD	Power		
G5	VDD	Power		
G6	VSS	Power		
G10	VSS	Power		
G11	VDDUSB	Power		
H5	VDD	Power		
H6	VSS	Power		
H10	VSS	Power		
H11	VDD	Power		
J1	NRST	Reset		
J5	VDD	Power		
J6	VSS	Power		
J10	VSS	Power		
J11	VDD	Power		
K1	PF7	I/O	UART7_TX	
K2	PF6	I/O	UART7_RX	
K5	VDD	Power		
K6	VSS	Power		
K7	VSS	Power		
K8	VSS	Power		

Pin Number TFBGA216	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
K9	VSS	Power		
K10	VSS	Power		
K11	VDD	Power		
L2	PF9 *	I/O	GPIO_Output	LED
L3	PF8 *	I/O	GPIO_Output	Enable
L5	BYPASS_REG	Reset		
L6	VSS	Power		
L7	VDD	Power		
L8	VDD	Power		
L9	VDD	Power		
L10	VDD	Power		
L11	VCAP_1	Power		
M1	VSSA	Power		
N1	VREF-	Power		
P1	VREF+	Power		
R1	VDDA	Power		

* The pin is affected with an I/O function

4. Clock Tree Configuration



5. IPs and Middleware Configuration

5.1. SYS

Timebase Source: SysTick

5.2. UART7

Mode: Asynchronous

5.2.1. 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

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**

6. System Configuration

6.1. GPIO configuration

IP	Pin	Signal	GPIO mode	GPIO pull/up pull down	Max Speed	User Label
UART7	PF7	UART7_TX	Alternate Function Push Pull	Pull-up	**Very High ***	
	PF6	UART7_RX	Alternate Function Push Pull	Pull-up	**Very High ***	
GPIO	PF9	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	LED
	PF8	GPIO_Output	Output Push Pull	No pull-up and no pull-down	Low	Enable

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
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 interrupt through EXTI line 16	unused		
Flash global interrupt	unused		
RCC global interrupt	unused		
FPU global interrupt	unused		
UART7 global interrupt	unused		

*** User modified value**

7. Power Consumption Calculator report

7.1. Microcontroller Selection

Series	STM32F7
Line	STM32F7x6
MCU	STM32F746NGHx
Datasheet	027590_Rev4

7.2. Parameter Selection

Temperature	25
Vdd	3.3

8. Software Project

8.1. Project Settings

Name	Value
Project Name	ESP TEST
Project Folder	C:\Users\Ecto1\Documents\GitHub\-Embedded-systems-\dicsovery esp test\ESP
Toolchain / IDE	SW4STM32
Firmware Package Name and Version	STM32Cube FW_F7 V1.4.1

8.2. Code Generation Settings

Name	Value
STM32Cube Firmware Library Package	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
Delete previously generated files when not re-generated	Yes
Set all free pins as analog (to optimize the power consumption)	No