1. Description

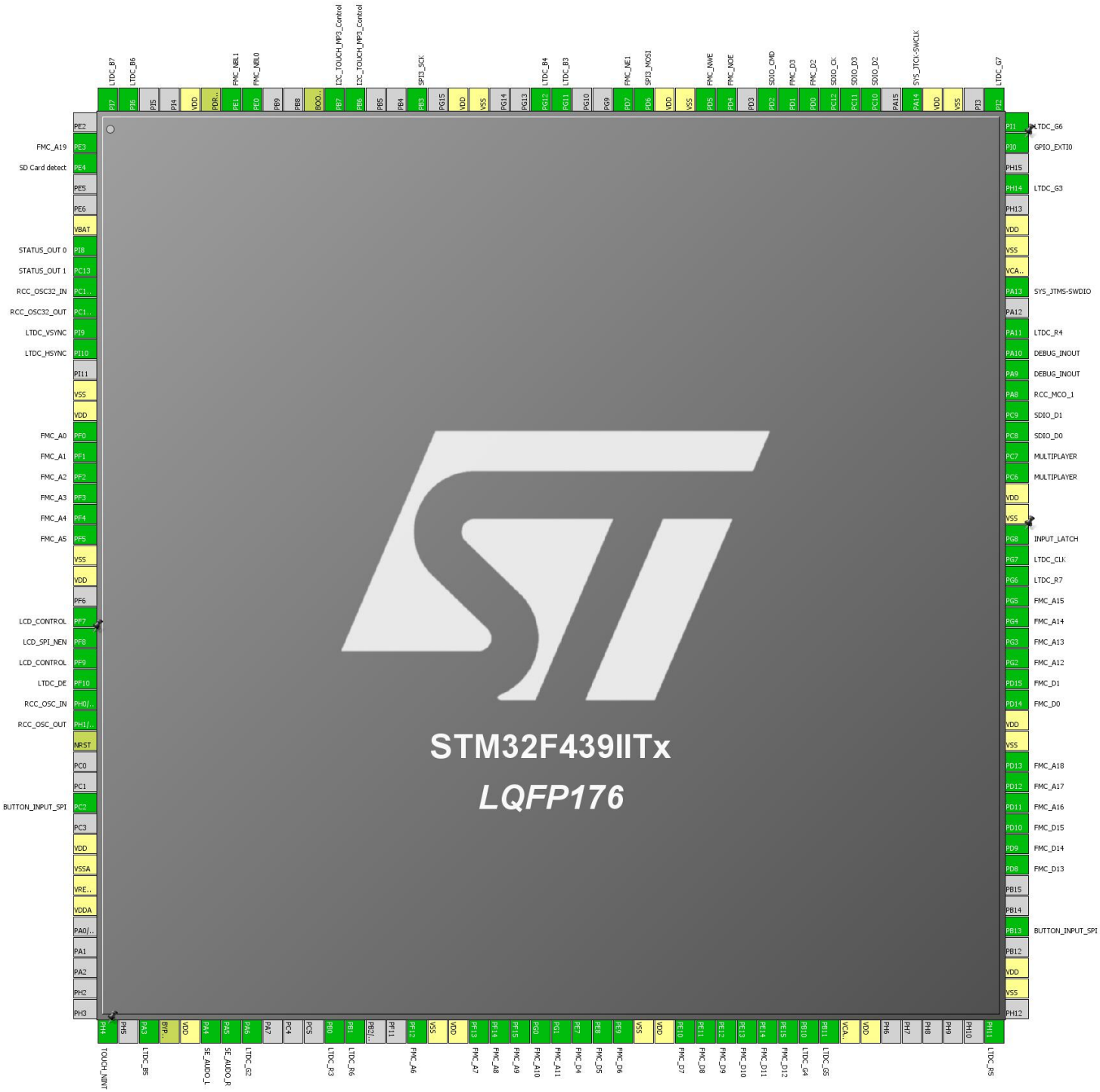
1.1. Project

Project Name	GameMan_Template
Generated with:	STM32CubeMX 4.5.0
Date	03/04/2015

1.2. MCU

MCU Serie	STM32F4
MCU Line	STM32F429/439
MCU name	STM32F439IITx
MCU Package	LQFP176
MCU Pin number	176

2. Pinout Configuration



3. IPs and Middlewares Configuration

IP	Mode	Fonction	Pin
DAC	OUT1 Configuration	DAC_OUT1	PA4
	OUT2 Configuration	DAC_OUT2	PA5
DMA2D	Activated	N/A	N/A
FMC:NOR Flash/PSRAM/SRAM/ROM 1	Chip select: NE1	FMC_NE1	PD7
	Memory type: SRAM	FMC_NOE	PD4
		FMC_NWE	PD5
	Address: 20 bits	FMC_A0	PF0
		FMC_A1	PF1
		FMC_A2	PF2
		FMC_A3	PF3
		FMC_A4	PF4
		FMC_A5	PF5
		FMC_A6	PF12
		FMC_A7	PF13
		FMC_A8	PF14
		FMC_A9	PF15
		FMC_A10	PG0
		FMC_A11	PG1
		FMC_A12	PG2
		FMC_A13	PG3
		FMC_A14	PG4
		FMC_A15	PG5
		FMC_A16	PD11
		FMC_A17	PD12
		FMC_A18	PD13
		FMC_A19	PE3
	Data: 16 bits	FMC_D0	PD14
		FMC_D1	PD15
		FMC_D2	PD0
		FMC_D3	PD1
		FMC_D4	PE7
		FMC_D5	PE8
		FMC_D6	PE9
		FMC_D7	PE10
		FMC_D8	PE11
		FMC_D9	PE12
		FMC_D10	PE13
		FMC_D11	PE14

IP	Mode	Fonction	Pin
		FMC_D12	PE15
		FMC_D13	PD8
		FMC_D14	PD9
		FMC_D15	PD10
	Byte enable: 16-bit byte enable	FMC_NBL0	PE0
		FMC_NBL1	PE1
I2C1	I2C: I2C	I2C1_SCL	PB6
		I2C1_SDA	PB7
LTDC	Display Type: RGB565 (16 bits)	LTDC_R3	PB0
		LTDC_R4	PA11
		LTDC_R5	PH11
		LTDC_R6	PB1
		LTDC_R7	PG6
		LTDC_G2	PA6
		LTDC_G3	PH14
		LTDC_G4	PB10
		LTDC_G5	PB11
		LTDC_G6	PI1
		LTDC_G7	PI2
		LTDC_B3	PG11
		LTDC_B4	PG12
		LTDC_B5	PA3
		LTDC_B6	PI6
		LTDC_B7	PI7
		LTDC_HSYNC	PI10
		LTDC_VSYNC	PI9
		LTDC_CLK	PG7
		LTDC_DE	PF10
RCC	High Speed Clock (HSE): Crystal/Ceramic Resonator	RCC_OSC_IN	PH0/OSC_IN
		RCC_OSC_OUT	PH1/OSC_OUT
	Low Speed Clock (LSE) : Crystal/Ceramic Resonator	RCC_OSC32_IN	PC14/OSC32_IN
		RCC_OSC32_OUT	PC15/OSC32_OUT
	Master Clock Output 1	RCC_MCO_1	PA8
RNG	Activated	N/A	N/A
SDIO	Mode: SD 4 bits Wide bus	SDIO_CK	PC12
		SDIO_CMD	PD2
		SDIO_D0	PC8
		SDIO_D1	PC9
		SDIO_D2	PC10
		SDIO_D3	PC11
SPI2	Mode: Receive Only Master	SPI2_MISO	PC2
		SPI2_SCK	PB13
	Mode:	SPI3_MOSI	PD6

IP	Mode	Fonction	Pin
SPI3	Transmit Only Master	SPI3_SCK	PB3
SPI5	Mode: Transmit Only Master	SPI5_MOSI	PF9
		SPI5_SCK	PF7
SYS	Debug: Serial Wire Debug (SWD)	SYS_JTCK-SWCLK	PA14
		SYS_JTMS-SWDIO	PA13
USART1	Mode: Asynchronous	USART1_RX	PA10
		USART1_TX	PA9
USART6	Mode: Asynchronous	USART6_RX	PC7
		USART6_TX	PC6

MiddleWare	Mode
FATFS	SD Card

4. Pins Configuration

Pin	Pos	Function(s)	Label
PE3	2	FMC_A19	
PE4 *	3	GPIO_Input	SD Card detect
PI8 *	7	GPIO_Output	STATUS_OUT 0
PC13 *	8	GPIO_Output	STATUS_OUT 1
PC14/OSC32_IN	9	RCC_OSC32_IN	
PC15/OSC32_OUT	10	RCC_OSC32_OUT	
PI9	11	LTDC_VSYNC	
PI10	12	LTDC_HSYNC	
PF0	16	FMC_A0	
PF1	17	FMC_A1	
PF2	18	FMC_A2	
PF3	19	FMC_A3	
PF4	20	FMC_A4	
PF5	21	FMC_A5	
PF7	25	SPI5_SCK	LCD_CONTROL
PF8 *	26	GPIO_Output	LCD_SPI_NEN
PF9	27	SPI5_MOSI	LCD_CONTROL
PF10	28	LTDC_DE	
PH0/OSC_IN	29	RCC_OSC_IN	
PH1/OSC_OUT	30	RCC_OSC_OUT	
PC2	34	SPI2_MISO	BUTTON_INPUT_SPI
PH4 *	45	GPIO_Input	TOUCH_NINT
PA3	47	LTDC_B5	
PA4	50	DAC_OUT1	SE_AUDO_L
PA5	51	DAC_OUT2	SE_AUDO_R
PA6	52	LTDC_G2	
PB0	56	LTDC_R3	
PB1	57	LTDC_R6	
PF12	60	FMC_A6	
PF13	63	FMC_A7	
PF14	64	FMC_A8	
PF15	65	FMC_A9	
PG0	66	FMC_A10	
PG1	67	FMC_A11	
PE7	68	FMC_D4	
PE8	69	FMC_D5	
PE9	70	FMC_D6	
PE10	73	FMC_D7	
PE11	74	FMC_D8	

Pin	Pos	Function(s)	Label
PE12	75	FMC_D9	
PE13	76	FMC_D10	
PE14	77	FMC_D11	
PE15	78	FMC_D12	
PB10	79	LTDC_G4	
PB11	80	LTDC_G5	
PH11	88	LTDC_R5	
PB13	93	SPI2_SCK	BUTTON_INPUT_SPI
PD8	96	FMC_D13	
PD9	97	FMC_D14	
PD10	98	FMC_D15	
PD11	99	FMC_A16	
PD12	100	FMC_A17	
PD13	101	FMC_A18	
PD14	104	FMC_D0	
PD15	105	FMC_D1	
PG2	106	FMC_A12	
PG3	107	FMC_A13	
PG4	108	FMC_A14	
PG5	109	FMC_A15	
PG6	110	LTDC_R7	
PG7	111	LTDC_CLK	
PG8 *	112	GPIO_Output	INPUT_LATCH
PC6	115	USART6_TX	MULTIPLAYER
PC7	116	USART6_RX	MULTIPLAYER
PC8	117	SDIO_D0	
PC9	118	SDIO_D1	
PA8	119	RCC_MCO_1	
PA9	120	USART1_TX	DEBUG_INOUT
PA10	121	USART1_RX	DEBUG_INOUT
PA11	122	LTDC_R4	
PA13	124	SYS_JTMS-SWDIO	
PH14	129	LTDC_G3	
PI0	131	GPIO_EXTI0	
PI1	132	LTDC_G6	
PI2	133	LTDC_G7	
PA14	137	SYS_JTCK-SWCLK	
PC10	139	SDIO_D2	
PC11	140	SDIO_D3	
PC12	141	SDIO_CK	
PD0	142	FMC_D2	
PD1	143	FMC_D3	
PD2	144	SDIO_CMD	

Pin	Pos	Function(s)	Label
PD4	146	FMC_NOE	
PD5	147	FMC_NWE	
PD6	150	SPI3_MOSI	
PD7	151	FMC_NE1	
PG11	154	LTDC_B3	
PG12	155	LTDC_B4	
PB3	161	SPI3_SCK	
PB6	164	I2C1_SCL	I2C_TOUCH_MP3_Control
PB7	165	I2C1_SDA	I2C_TOUCH_MP3_Control
PE0	169	FMC_NBL0	
PE1	170	FMC_NBL1	
PI6	175	LTDC_B6	
PI7	176	LTDC_B7	

* The pin is affected with an I/O function

5. Power Plugin report

5.1. Microcontroller Selection

Serie	STM32F4
Line	STM32F429/439
MCU	STM32F439IITx
Datasheet	024244_Rev4

5.2. Parameter Selection

Temperature	25
Vdd	3.3

6. Software Project

6.1. Project Settings

Name	Value
Project Name	GameMan_Template
Project Folder	C:\Users\brandonpollack\WORKINGCOPY\GameMan_Template
Toolchain / IDE	MDK-ARM 4.73
Firmware Package Name and Version	STM32Cube FW_F4 V1.3.0

6.2. 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	No
Set all free pins as analog (to optimize the power consumption)	No

6.3. Toolchains Settings

Name	Value
Compiler Optimizations	Balanced Size/Speed