1. Description

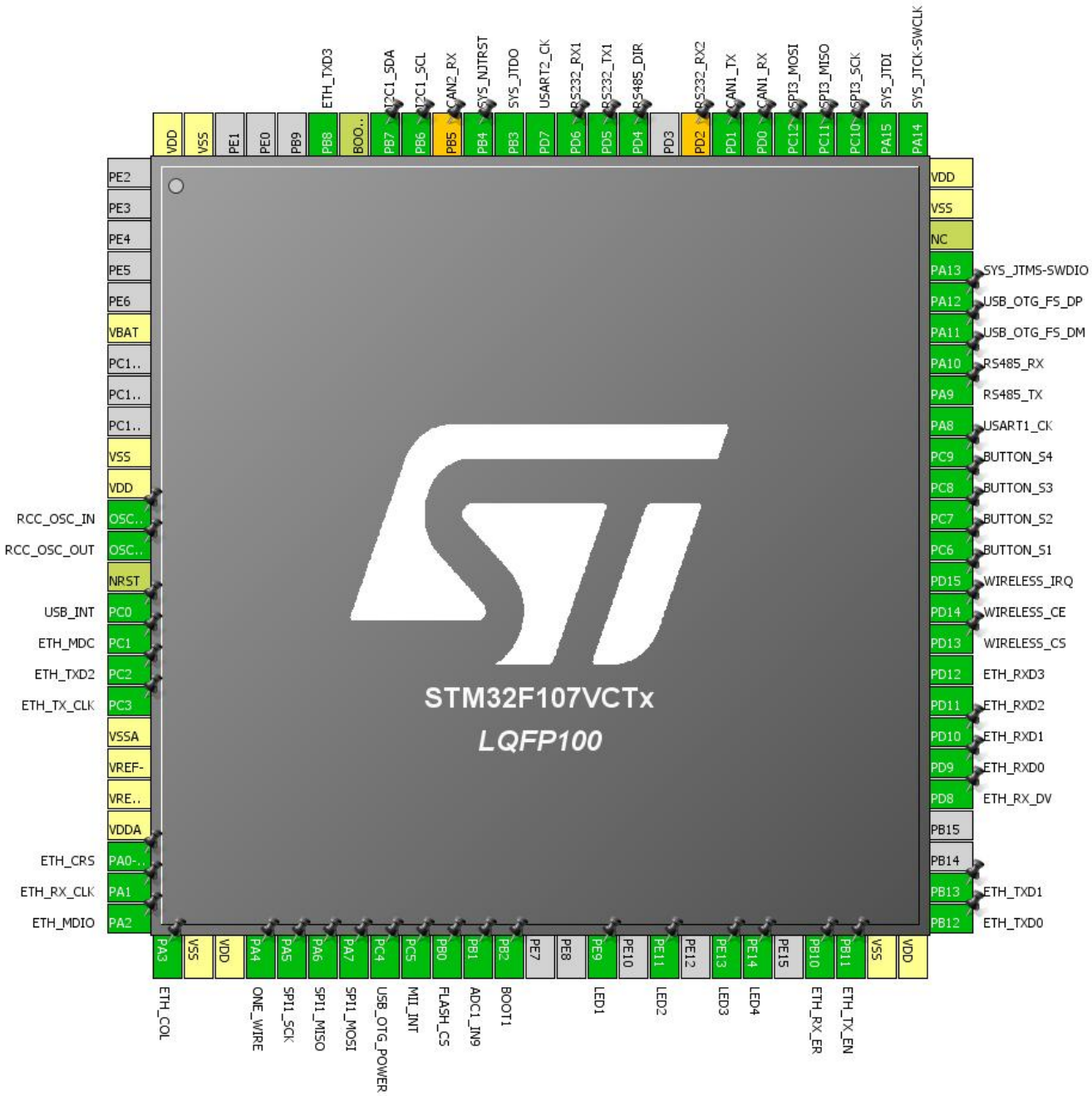
1.1. Project

Project Name	ZQ_STM32F107_MINI_V3_0
Board Name	ZQ_STM32F107_MINI_V3_0
Generated with:	STM32CubeMX 4.14.0
Date	03/27/2016

1.2. MCU

MCU Series	STM32F1
MCU Line	STM32F105/107
MCU name	STM32F107VCTx
MCU Package	LQFP100
MCU Pin number	100

2. Pinout Configuration



3. Pins Configuration

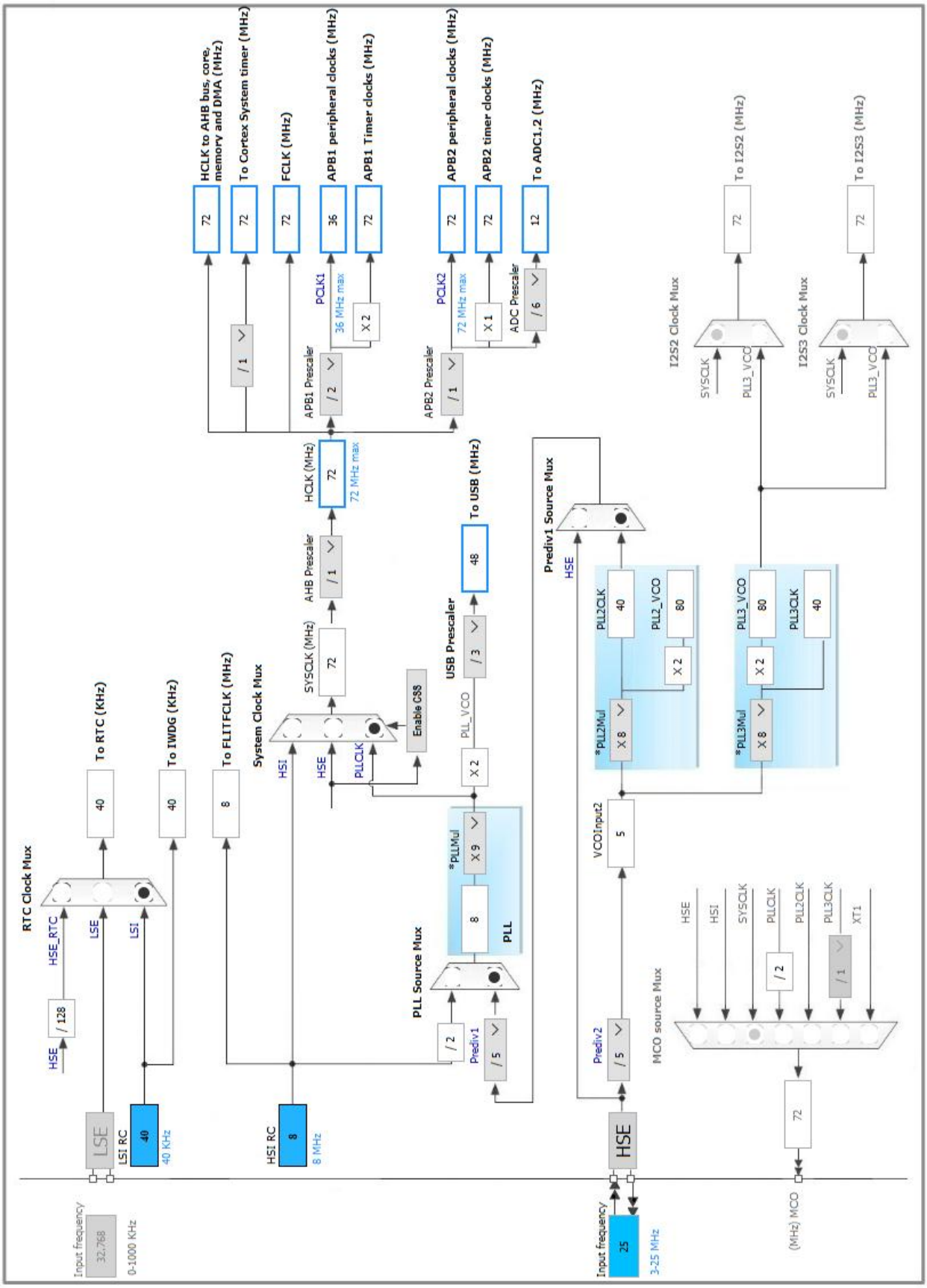
Pin Number LQFP100	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
6	VBAT	Power		
10	VSS	Power		
11	VDD	Power		
12	OSC_IN	I/O	RCC_OSC_IN	
13	OSC_OUT	I/O	RCC_OSC_OUT	
14	NRST	Reset		
15	PC0	I/O	GPIO_EXTI0	USB_INT
16	PC1	I/O	ETH_MDC	
17	PC2	I/O	ETH_TXD2	
18	PC3	I/O	ETH_TX_CLK	
19	VSSA	Power		
20	VREF-	Power		
21	VREF+	Power		
22	VDDA	Power		
23	PA0-WKUP	I/O	ETH_CRS	
24	PA1	I/O	ETH_RX_CLK	
25	PA2	I/O	ETH_MDIO	
26	PA3	I/O	ETH_COL	
27	VSS	Power		
28	VDD	Power		
29	PA4 *	I/O	GPIO_Input	ONE_WIRE
30	PA5	I/O	SPI1_SCK	
31	PA6	I/O	SPI1_MISO	
32	PA7	I/O	SPI1_MOSI	
33	PC4 *	I/O	GPIO_Output	USB_OTG_POWER
34	PC5 *	I/O	GPIO_Output	MII_INT
35	PB0 *	I/O	GPIO_Output	FLASH_CS
36	PB1	I/O	ADC1_IN9	
37	PB2 *	I/O	GPIO_Input	BOOT1
40	PE9 *	I/O	GPIO_Output	LED1
42	PE11 *	I/O	GPIO_Output	LED2
44	PE13 *	I/O	GPIO_Output	LED3
45	PE14 *	I/O	GPIO_Output	LED4
47	PB10	I/O	ETH_RX_ER	
48	PB11	I/O	ETH_TX_EN	
49	VSS	Power		

Pin Number LQFP100	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
50	VDD	Power		
51	PB12	I/O	ETH_TXD0	
52	PB13	I/O	ETH_TXD1	
55	PD8	I/O	ETH_RX_DV	
56	PD9	I/O	ETH_RXD0	
57	PD10	I/O	ETH_RXD1	
58	PD11	I/O	ETH_RXD2	
59	PD12	I/O	ETH_RXD3	
60	PD13 *	I/O	GPIO_Output	WIRELESS_CS
61	PD14 *	I/O	GPIO_Output	WIRELESS_CE
62	PD15	I/O	GPIO_EXTI15	WIRELESS_IRQ
63	PC6 *	I/O	GPIO_Input	BUTTON_S1
64	PC7 *	I/O	GPIO_Input	BUTTON_S2
65	PC8 *	I/O	GPIO_Input	BUTTON_S3
66	PC9 *	I/O	GPIO_Input	BUTTON_S4
67	PA8	I/O	USART1_CK	
68	PA9	I/O	USART1_TX	RS485_TX
69	PA10	I/O	USART1_RX	RS485_RX
70	PA11	I/O	USB_OTG_FS_DM	
71	PA12	I/O	USB_OTG_FS_DP	
72	PA13	I/O	SYS_JTMS-SWDIO	
73	NC	NC		
74	VSS	Power		
75	VDD	Power		
76	PA14	I/O	SYS_JTCK-SWCLK	
77	PA15	I/O	SYS_JTDI	
78	PC10	I/O	SPI3_SCK	
79	PC11	I/O	SPI3_MISO	
80	PC12	I/O	SPI3_MOSI	
81	PD0	I/O	CAN1_RX	
82	PD1	I/O	CAN1_TX	
83	PD2 **	I/O	UART5_RX	RS232_RX2
85	PD4 *	I/O	GPIO_Output	RS485_DIR
86	PD5	I/O	USART2_TX	RS232_TX1
87	PD6	I/O	USART2_RX	RS232_RX1
88	PD7	I/O	USART2_CK	
89	PB3	I/O	SYS_JTDO	
90	PB4	I/O	SYS_NJTRST	
91	PB5 **	I/O	CAN2_RX	

Pin Number LQFP100	Pin Name (function after reset)	Pin Type	Alternate Function(s)	Label
92	PB6	I/O	I2C1_SCL	
93	PB7	I/O	I2C1_SDA	
94	BOOT0	Boot		
95	PB8	I/O	ETH_TXD3	
99	VSS	Power		
100	VDD	Power		

* The pin is affected with an I/O function
** The pin is affected with a peripheral function but no peripheral mode is activated

4. Clock Tree Configuration



5. IPs and Middleware Configuration

5.1. ADC1

mode: IN9

mode: Temperature Sensor Channel

mode: Vrefint Channel

5.1.1. Parameter Settings:

ADCs_Common_Settings:	
Mode	Independent mode
ADC_Settings:	
Data Alignment	Right alignment
Scan Conversion Mode	Disabled
Continuous Conversion Mode	Disabled
Discontinuous Conversion Mode	Disabled
ADC_Regular_ConversionMode:	
Enable Regular Conversions	Enable
Number Of Conversion	1
External Trigger Conversion Edge	None
Rank	1
Channel	Channel 9
Sampling Time	1.5 Cycles
ADC_Injected_ConversionMode:	
Number Of Conversions	0
WatchDog:	
Enable Analog WatchDog Mode	false

5.2. CAN1

mode: Mode

5.2.1. Parameter Settings:

Bit Timings Parameters:	
Prescaler (for Time Quantum)	16
Time Quantum	**444.44444444444446 ***

Time Quanta in Bit Segment 1	1 Time
Time Quanta in Bit Segment 2	1 Time
Time for one Bit	**1333 ***
ReSynchronization Jump Width	1 Time

Basic Parameters:

Time Triggered Communication Mode	Disable
Automatic Bus-Off Management	Disable
Automatic Wake-Up Mode	Disable
No-Automatic Retransmission	Disable
Receive Fifo Locked Mode	Disable
Transmit Fifo Priority	Disable

Advanced Parameters:

Operating Mode	Normal

5.3. CRC

mode: Activated

5.4. ETH

Mode: MII

mode: Activate Rx Err signal

5.4.1. Parameter Settings:

Advanced : Ethernet Media Configuration:

Auto Negotiation	Enabled

General : Ethernet Configuration:

Ethernet MAC Address	00:80:E1:00:00:00
PHY Address	1

Ethernet Basic Configuration:

Rx Mode	Interrupt Mode
TX IP Header Checksum Computation	By hardware

5.4.2. Advanced Parameters:

External PHY Configuration:

PHY Reset delay these values are based on a 1 ms Systick interrupt	**0x000000FF ***
PHY Configuration delay	

	0x00000FFF *
PHY Read TimeOut	**0x0000FFFF ***
PHY Write TimeOut	**0x0000FFFF ***

Common : External PHY Configuration:

Transceiver Basic Control Register	**0x00 ***
Transceiver Basic Status Register	**0x01 ***
PHY Reset	**0x8000 ***
Select loop-back mode	**0x4000 ***
Set the full-duplex mode at 100 Mb/s	**0x2100 ***
Set the half-duplex mode at 100 Mb/s	**0x2000 ***
Set the full-duplex mode at 10 Mb/s	**0x0100 ***
Set the half-duplex mode at 10 Mb/s	**0x0000 ***
Enable auto-negotiation function	**0x1000 ***
Restart auto-negotiation function	**0x0200 ***
Select the power down mode	**0x0800 ***
Isolate PHY from MII	**0x0400 ***
Auto-Negotiation process completed	**0x0020 ***
Valid link established	**0x0004 ***
Jabber condition detected	**0x0002 ***

Extended : External PHY Configuration:

PHY status register Offset	**0x10 ***
MII Interrupt Control Register	**0x11 ***
MII Interrupt Status and Misc. Control Register	**0x12 ***
PHY Link mask	**0x0001 ***
PHY Speed mask	**0x0002 ***
PHY Duplex mask	**0x0004 ***
PHY Enable interrupts	**0x0002 ***
PHY Enable output interrupt events	**0x0001 ***
Enable Interrupt on change of link status	**0x0020 ***
HY link status interrupt mask	**0x2000 ***

5.5. I2C1

I2C: I2C

5.5.1. 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

5.6. IWDG

mode: Activated

5.6.1. Parameter Settings:

Clocking:

IWDG counter clock prescaler	4
IWDG down-counter reload value	4095

5.7. RCC

High Speed Clock (HSE): Crystal/Ceramic Resonator

5.7.1. Parameter Settings:

System Parameters:

VDD voltage (V)	3.3
Instruction Cache	Enabled
Prefetch Buffer	Enabled
Data Cache	Enabled
Flash Latency(WS)	2 WS (3 CPU cycle)

RCC Parameters:

HSI Calibration Value	16

5.8. RTC

RTC OUT: No RTC Output

5.8.1. Parameter Settings:

General:

Auto Predivider Calculation	Enabled
Asynchronous Predivider value	Automatic Predivider Calculation Enabled
Output	No output on the TAMPER pin

Calendar Time:

Data Format	BCD data format
Hours	1
Minutes	0
Seconds	0

Calendar Date:

Week Day	Monday
Month	January
Date	1
Year	0

5.9. SPI1

Mode: Full-Duplex Master

5.9.1. Parameter Settings:

Basic Parameters:

Frame Format	Motorola
Data Size	8 Bits
First Bit	MSB First

Clock Parameters:

Prescaler (for Baud Rate)	**64 ***
Baud Rate	**1.125 MBits/s ***
Clock Polarity (CPOL)	Low
Clock Phase (CPHA)	1 Edge

Advanced Parameters:

CRC Calculation	Disabled

NSS Signal Type	Software

5.10. SPI3

Mode: Full-Duplex Master

5.10.1. Parameter Settings:

Basic Parameters:

Frame Format	Motorola
Data Size	8 Bits
First Bit	MSB First

Clock Parameters:

Prescaler (for Baud Rate)	2
Baud Rate	**18.0 MBits/s ***
Clock Polarity (CPOL)	Low
Clock Phase (CPHA)	1 Edge

Advanced Parameters:

CRC Calculation	Disabled
NSS Signal Type	Software

5.11. SYS

Debug: JTAG(5-pins)

Timebase Source: TIM5

5.12. TIM1

Slave Mode: Trigger Mode

Trigger Source: ITR0

Clock Source : Internal Clock

5.12.1. Parameter Settings:

Counter Settings:

Prescaler (PSC - 16 bits value)	0
Counter Mode	Up
Counter Period (AutoReload Register - 16 bits value)	0

Internal Clock Division (CKD)	No Division
Repetition Counter (RCR - 8 bits value)	0
Slave Mode Controller	Trigger Mode

Trigger Output (TRGO) Parameters:

Master/Slave Mode	Disable (no sync between this TIM (Master) and its Slaves
Trigger Event Selection	Reset (UG bit from TIMx_EGR)

5.13. TIM6

mode: Activated

5.13.1. Parameter Settings:

Counter Settings:

Prescaler (PSC - 16 bits value)	0
Counter Mode	Up
Counter Period (AutoReload Register - 16 bits value)	0

Trigger Output (TRGO) Parameters:

Trigger Event Selection	Reset (UG bit from TIMx_EGR)

5.14. TIM7

mode: Activated

5.14.1. Parameter Settings:

Counter Settings:

Prescaler (PSC - 16 bits value)	0
Counter Mode	Up
Counter Period (AutoReload Register - 16 bits value)	0

Trigger Output (TRGO) Parameters:

Trigger Event Selection	Reset (UG bit from TIMx_EGR)

5.15. USART1

Mode: Synchronous

5.15.1. 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

Clock Parameters:

Clock Polarity	Low
Clock Phase	One Edge
Clock Last Bit	Disable

5.16. USART2

Mode: Synchronous

5.16.1. 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

Clock Parameters:

Clock Polarity	Low
Clock Phase	One Edge
Clock Last Bit	Disable

5.17. USB_OTG_FS

Mode: Device_Only

5.17.1. Parameter Settings:

Speed	Device Full Speed 12MBit/s
Endpoint 0 Max Packet size	64 Bytes
Low power	Disabled
VBUS sensing	Disabled

5.18. WWDG

mode: Activated

5.18.1. Parameter Settings:

Watchdog Clocking:

WWDG counter clock prescaler	1
WWDG window value	64
WWDG free-running downcounter value	64

5.19. FATFS

mode: User-defined

5.19.1. 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)	Enabled
FS_TIMEOUT (Timeout ticks)	1000
SYNC_t (O/S sync object)	osSemaphoreId
FS_LOCK (Number of files opened simultaneously)	2

5.20. FREERTOS

mode: Enabled

5.20.1. Config parameters:

Versions:

CMSIS-RTOS version	1.02
FreeRTOS version	8.2.1

Kernel settings:

USE_PREEMPTION	Enabled
CPU_CLOCK_HZ	SystemCoreClock
TICK_RATE_HZ	1000
MAX_PRIORITIES	7
MINIMAL_STACK_SIZE	128
MAX_TASK_NAME_LEN	16
USE_16_BIT_TICKS	Disabled
IDLE_SHOULD_YIELD	Enabled
USE_MUTEXES	Enabled
USE_RECURSIVE_MUTEXES	Disabled

USE_COUNTING_SEMAPHORES	Disabled
QUEUE_REGISTRY_SIZE	8
USE_APPLICATION_TASK_TAG	Disabled
TOTAL_HEAP_SIZE	4096
Memory Management scheme	heap_4
USE_ALTERNATIVE_API	Disabled
ENABLE_BACKWARD_COMPATIBILITY	Enabled
USE_PORT_OPTIMISED_TASK_SELECTION	Disabled
USE_TICKLESS_IDLE	Disabled

Hook function related definitions:

USE_IDLE_HOOK	Disabled
USE_TICK_HOOK	Disabled
USE_MALLOC_FAILED_HOOK	Disabled
CHECK_FOR_STACK_OVERFLOW	Disabled

Run time and task stats gathering related definitions:

USE_TRACE_FACILITY	Enabled
GENERATE_RUN_TIME_STATS	Disabled

Co-routine related definitions:

USE_CO_ROUTINES	Disabled
MAX_CO_ROUTINE_PRIORITIES	2

Software timer definitions:

USE_TIMERS	Disabled
TIMER_TASK_PRIORITY	2
TIMER_QUEUE_LENGTH	10

Interrupt nesting behaviour configuration:

LIBRARY_LOWEST_INTERRUPT_PRIORITY	15
LIBRARY_MAX_SYSCALL_INTERRUPT_PRIORITY	5

5.20.2. Include parameters:

Include definitions:

vTaskPrioritySet	Enabled
uxTaskPriorityGet	Enabled
vTaskDelete	Enabled
vTaskCleanUpResources	Disabled
vTaskSuspend	Enabled
vTaskDelayUntil	Disabled
vTaskDelay	Enabled
xTaskGetSchedulerState	Enabled
xTaskResumeFromISR	Enabled
xQueueGetMutexHolder	Disabled

xSemaphoreGetMutexHolder	Disabled
pcTaskGetTaskName	Disabled
uxTaskGetStackHighWaterMark	Disabled
xTaskGetCurrentTaskHandle	Disabled
eTaskGetState	Disabled
xEventGroupSetBitFromISR	Disabled
xTimerPendFunctionCall	Disabled

5.21. LWIP

mode: Enabled

Advanced parameters are not listed except if modified by user.

5.21.1. General:

LwIP Version:

LwIP Version (Version of LwIP supported by CubeMX)	1.4.1

DHCP Option:

LWIP_DHCP (DHCP Module)	Enabled

RTOS Settings:

WITH_RTOS (Use FREERTOS ** CubeMX specific **)	Enabled

Protocols Options:

LWIP_ICMP (ICMP Module Activation)	Enabled
LWIP_IGMP (IGMP Module)	Disabled
LWIP_DNS (DNS Module)	Disabled
LWIP_UDP (UDP Module)	Enabled
MEMP_NUM_UDP_PCB (Number of UDP Connections)	4
LWIP_TCP (TCP Module)	Enabled
MEMP_NUM_TCP_PCB (Number of TCP Connections)	5

5.21.2. All LwIP Options:

Platform Specific Locking:

SYS_LIGHTWEIGHT_PROT (Memory Functions Protection)	Disabled
NO_SYS (LwIP Facilities)	LwIP Facilities Enabled
NO_SYS_NO_TIMERS (Drop Support For sys_timeout)	Disabled

Memory Options:

MEM_SIZE (Heap Memory Size)	1600

Internal Memory Pool Sizes:

MEMP_NUM_PBUF (Number of Memory Pool struct Pbufs)	16
MEMP_NUM_RAW_PCB (Number of Raw Protocol Control Blocks)	4
MEMP_NUM_TCP_PCB_LISTEN (Number of Listening TCP Connections)	8
MEMP_NUM_TCP_SEG (Number of TCP Segments simultaneously queued)	16
MEMP_NUM_LOCALHOSTLIST (Number of Host Entries in the Local Host List)	1

Pbuf Options:

PBUF_POOL_SIZE (Number of Buffers in the Pbuf Pool)	16
PBUF_POOL_BUFSIZE (Size of each pbuf in the pbuf pool)	592

ARP Options:

LWIP_ARP (ARP Functionality)	Enabled

SNMP Options:

LWIP_SNMP (SNMP Module)	Disabled

TCP Options:

TCP_TTL (Number of Time-To-Live Used by TCP Packets)	255
TCP_WND (TCP Receive Window Maximum Size)	2144
TCP_QUEUE_OOSEQ (Allow Out-Of-Order Incoming Packets)	Enabled
TCP_MSS (Maximum Segment Size)	536
TCP_SND_BUF (TCP Sender Buffer Space)	1072
TCP_SND_QUEUELEN (Number of Packet Buffers Allowed for TCP Sender)	9

Network Interfaces Options:

LWIP_NETIF_STATUS_CALLBACK (Callback Function on Interface Status Changes)	Disabled
LWIP_NETIF_LINK_CALLBACK (Callback Function on Interface Link Changes)	Disabled
LWIP_NETIF_LOOPBACK (NETIF Loopback)	Disabled

Thread Options:

TCPIP_THREAD_NAME (TCPIP Thread Name)	"tcpip_thread"
TCPIP_THREAD_STACKSIZE (TCPIP Thread Stack Size)	1024
TCPIP_THREAD_PRIO (TCPIP Thread Priority Level)	3
TCPIP_MBOX_SIZE (TCPIP Mailbox Size)	0
DEFAULT_THREAD_NAME (Default LwIP Thread Name)	"lwIP"
DEFAULT_THREAD_STACKSIZE (Default LwIP Thread Stack Size)	1024
DEFAULT_THREAD_PRIO (Default LwIP Thread Priority Level)	3
DEFAULT_RAW_RECVMBOX_SIZE (Default Mailbox Size on a NETCONN Raw)	0
DEFAULT_TCP_RECVMBOX_SIZE (Default Mailbox Size on a NETCONN TCP)	0
DEFAULT_ACCEPTMBOX_SIZE (Default Mailbox Size for Incoming Connections)	0

Sequential Layer options:

LWIP_NETCONN (NETCONN API)	Enabled

Socket Options:

LWIP_SOCKET (Socket API)	Enabled
LWIP_COMPAT_SOCKETS (BSD-style Socket Functions Names)	Enabled

Statistics Options:

LWIP_STATS (Statictics Collection)	Disabled

Checksum Options:

CHECKSUM_BY_HARDWARE (Hardware Checksum ** CubeMX specific **)	Disabled
CHECKSUM_GEN_IP (Generate Software Checksum for Outgoing IP Packets)	Disabled
CHECKSUM_GEN_UDP (Generate Software Checksum for Outgoing UDP Packets)	Disabled
CHECKSUM_GEN_TCP (Generate Software Checksum for Outgoing TCP Packets)	Disabled
CHECKSUM_GEN_ICMP (Generate Software Checksum for Outgoing ICMP Packets)	Disabled
CHECKSUM_CHECK_IP (Generate Software Checksum for Incoming IP Packets)	Disabled
CHECKSUM_CHECK_UDP (Generate Software Checksum for Incoming UDP Packets)	Disabled
CHECKSUM_CHECK_TCP (Generate Software Checksum for Incoming TCP Packets)	Disabled

5.21.3. Debug:

Debugging Options:

LWIP_DBG_MIN_LEVEL (Minimum Level)	All

5.22. USB_DEVICE

Class For FS IP: Audio Device Class

5.22.1. Parameter Settings:

Basic Parameters:

USBD_MAX_NUM_INTERFACES (Maximum number of supported interfaces)	1
USBD_MAX_NUM_CONFIGURATION (Maximum number of supported configuration)	1
USBD_MAX_STR_DESC_SIZ (Maximum size for the string descriptors)	512
USBD_SUPPORT_USER_STRING (Enable user string descriptor)	Disabled
USBD_SELF_POWERED (Enabled self power)	Enabled
USBD_DEBUG_LEVEL (USBD Debug Level)	0: No debug message

Class Parameters:

USBD_AUDIO_FREQ (Audio sample frequency rate)	22100

5.22.2. Device Descriptor:

Device Descriptor:

VID (Vendor IDentifier)	1155
LANGID_STRING (Language Identifier)	English(United States)
MANUFACTURER_STRING (Manufacturer Identifier)	STMicroelectronics

Device Descriptor FS:

PID (Product IDentifier)	22336

PRODUCT_STRING (Product Identifier)	STM32 Audio Class
SERIALNUMBER_STRING (Serial number)	00000000001A
CONFIGURATION_STRING (Configuration Identifier)	AUDIO Config
INTERFACE_STRING (Interface Identifier)	AUDIO Interface

*** User modified value**

6. System Configuration

6.1. GPIO configuration

IP	Pin	Signal	GPIO mode	GPIO pull/up pull down	Max Speed	User Label
ADC1	PB1	ADC1_IN9	Analog mode	n/a	n/a	
CAN1	PD0	CAN1_RX	Input mode	No pull-up and no pull-down	n/a	
	PD1	CAN1_TX	Alternate Function Push Pull	n/a	**High ***	
ETH	PC1	ETH_MDC	Alternate Function Push Pull	n/a	High	
	PC2	ETH_TXD2	Alternate Function Push Pull	n/a	High	
	PC3	ETH_TX_CLK	Input mode	No pull-up and no pull-down	n/a	
	PA0-WKUP	ETH_CRS	Input mode	No pull-up and no pull-down	n/a	
	PA1	ETH_RX_CLK	Input mode	No pull-up and no pull-down	n/a	
	PA2	ETH_MDIO	Alternate Function Push Pull	n/a	High	
	PA3	ETH_COL	Input mode	No pull-up and no pull-down	n/a	
	PB10	ETH_RX_ER	Input mode	No pull-up and no pull-down	n/a	
	PB11	ETH_TX_EN	Alternate Function Push Pull	n/a	High	
	PB12	ETH_TXD0	Alternate Function Push Pull	n/a	High	
	PB13	ETH_TXD1	Alternate Function Push Pull	n/a	High	
	PD8	ETH_RX_DV	Input mode	No pull-up and no pull-down	n/a	
	PD9	ETH_RXD0	Input mode	No pull-up and no pull-down	n/a	
	PD10	ETH_RXD1	Input mode	No pull-up and no pull-down	n/a	
	PD11	ETH_RXD2	Input mode	No pull-up and no pull-down	n/a	
	PD12	ETH_RXD3	Input mode	No pull-up and no pull-down	n/a	
	PB8	ETH_TXD3	Alternate Function Push Pull	n/a	High	
I2C1	PB6	I2C1_SCL	Alternate Function Open Drain	n/a	**High ***	
	PB7	I2C1_SDA	Alternate Function Open Drain	n/a	**High ***	
RCC	OSC_IN	RCC_OSC_IN	n/a	n/a	n/a	
	OSC_OUT	RCC_OSC_OUT	n/a	n/a	n/a	
SPI1	PA5	SPI1_SCK	Alternate Function Push Pull	n/a	**High ***	
	PA6	SPI1_MISO	Input mode	No pull-up and no pull-down	**n/a**	
	PA7	SPI1_MOSI	Alternate Function Push Pull	n/a	**High ***	
SPI3	PC10	SPI3_SCK	Alternate Function Push Pull	n/a	**High ***	
	PC11	SPI3_MISO	Input mode	No pull-up and no pull-down	**n/a**	
	PC12	SPI3_MOSI	Alternate Function Push Pull	n/a	**High ***	
SYS	PA13	SYS_JTMS-	n/a	n/a	n/a	

IP	Pin	Signal	GPIO mode	GPIO pull/up pull down	Max Speed	User Label
		SWDIO				
	PA14	SYS_JTCK-SWCLK	n/a	n/a	n/a	
	PA15	SYS_JTDI	n/a	n/a	n/a	
	PB3	SYS_JTDO	n/a	n/a	n/a	
	PB4	SYS_NJTRST	n/a	n/a	n/a	
USART1	PA8	USART1_CK	Alternate Function Push Pull	n/a	**High ***	
	PA9	USART1_TX	Alternate Function Push Pull	n/a	**High ***	RS485_TX
	PA10	USART1_RX	Input mode	No pull-up and no pull-down	**n/a**	RS485_RX
USART2	PD5	USART2_TX	Alternate Function Push Pull	n/a	**High ***	RS232_TX1
	PD6	USART2_RX	Input mode	No pull-up and no pull-down	**n/a**	RS232_RX1
	PD7	USART2_CK	Alternate Function Push Pull	n/a	**High ***	
USB_OTG_FS	PA11	USB_OTG_FS_DM	n/a	n/a	n/a	
	PA12	USB_OTG_FS_DP	n/a	n/a	n/a	
Single Mapped Signals	PD2	UART5_RX	Input mode	No pull-up and no pull-down	n/a	RS232_RX2
	PB5	CAN2_RX	Input mode	No pull-up and no pull-down	n/a	
GPIO	PC0	GPIO_EXTI0	External Interrupt Mode with Rising edge trigger detection	No pull-up and no pull-down	n/a	USB_INT
	PA4	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	ONE_WIRE
	PC4	GPIO_Output	Output Push Pull	n/a	Low	USB_OTG_POWER
	PC5	GPIO_Output	Output Push Pull	n/a	Low	MII_INT
	PB0	GPIO_Output	Output Push Pull	n/a	Low	FLASH_CS
	PB2	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	BOOT1
	PE9	GPIO_Output	Output Push Pull	n/a	Low	LED1
	PE11	GPIO_Output	Output Push Pull	n/a	Low	LED2
	PE13	GPIO_Output	Output Push Pull	n/a	Low	LED3
	PE14	GPIO_Output	Output Push Pull	n/a	Low	LED4
	PD13	GPIO_Output	Output Push Pull	n/a	Low	WIRELESS_CS
	PD14	GPIO_Output	Output Push Pull	n/a	Low	WIRELESS_CE
	PD15	GPIO_EXTI15	External Interrupt Mode with Rising edge trigger detection	No pull-up and no pull-down	n/a	WIRELESS_IRQ
	PC6	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	BUTTON_S1
	PC7	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	BUTTON_S2
	PC8	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	BUTTON_S3
	PC9	GPIO_Input	Input mode	No pull-up and no pull-down	n/a	BUTTON_S4
	PD4	GPIO_Output	Output Push Pull	n/a	Low	RS485_DIR

6.2. DMA configuration

DMA request	Stream	Direction	Priority
ADC1	DMA1_Channel1	Peripheral To Memory	**Medium ***

ADC1: DMA1_Channel1 DMA request Settings:

Mode:	**Circular ***
Peripheral Increment:	Disable
Memory Increment:	**Enable ***
Peripheral Data Width:	Half Word
Memory Data Width:	Half Word

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
Prefetch fault, memory access fault	true	0	0
Undefined instruction or illegal state	true	0	0
Debug monitor	true	0	0
System tick timer	true	15	0
DMA1 channel1 global interrupt	true	5	0
TIM5 global interrupt	true	0	0
Ethernet global interrupt	true	5	0
USB OTG FS global interrupt	true	5	0
Window watchdog interrupt	unused		
PVD interrupt through EXTI line 16	unused		
RTC global interrupt	unused		
Flash global interrupt	unused		
RCC global interrupt	unused		
EXTI line0 interrupt	unused		
ADC1 and ADC2 global interrupts	unused		
CAN1 TX interrupt	unused		
CAN1 RX0 interrupt	unused		
CAN1 RX1 interrupt	unused		
CAN1 SCE interrupt	unused		
TIM1 break interrupt	unused		
TIM1 update interrupt	unused		
TIM1 trigger and commutation interrupts	unused		
TIM1 capture compare interrupt	unused		
I2C1 event interrupt	unused		
I2C1 error interrupt	unused		
SPI1 global interrupt	unused		
USART1 global interrupt	unused		
USART2 global interrupt	unused		
EXTI line[15:10] interrupts	unused		
RTC alarm interrupt through EXTI line 17	unused		
SPI3 global interrupt	unused		
TIM6 global interrupt	unused		
TIM7 global interrupt	unused		
Ethernet wake-up interrupt through EXTI line 19	unused		

*** User modified value**

7. Power Plugin report

7.1. Microcontroller Selection

Series	STM32F1
Line	STM32F105/107
MCU	STM32F107VCTx
Datasheet	15274_Rev9

7.2. Parameter Selection

Temperature	25
Vdd	3.3

8. Software Project

8.1. Project Settings

Name	Value
Project Name	ZQ_STM32F107_MINI_V3_0
Project Folder	X:\agrg\Software\ZQ_STM32F107_MINI_V3_0\cube\ZQ_STM32F107_MINI_V3_
Toolchain / IDE	MDK-ARM V5
Firmware Package Name and Version	STM32Cube FW_F1 V1.3.1

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