Re-imagining Cellular IoT Solutions

Cavli C17QS EVK

User Manual

External Release Version 1.0

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VERSION HISTORY

Version	Edit	Date
1.0	Initial Version	21-02-2025

1 Introduction

1.1 Overview

This document aims to familiarize the reader on the different functionalities and interfaces of C17QS Evaluation board.
It also helps the customer in getting started with the C17QS EVK.

The EVK is a tool designed for engineers, programmers and developers who are looking to:

- Debug and/or improve applications based on Cavli C17QS modules.
- Develop a first-pass proof-of-concept device for new application.

1.2 References

The present document is based on the following document:

Cavli C17QS Hardware Manual

2 Interfaces

2.1 Chapter Overview

Description:

This chapter contains all the necessary information on C17QS EVK Interfaces and Pin-outs.

2.2 EVK Layout

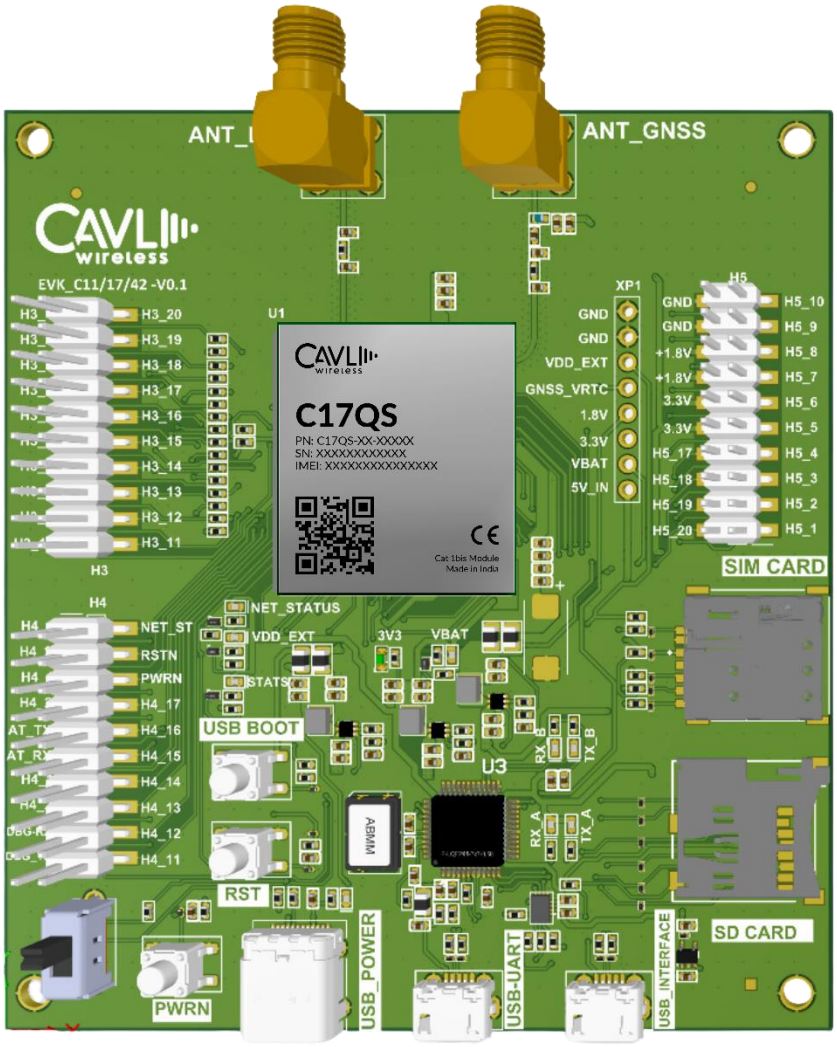

Figure 1: C17QS EVK Layout

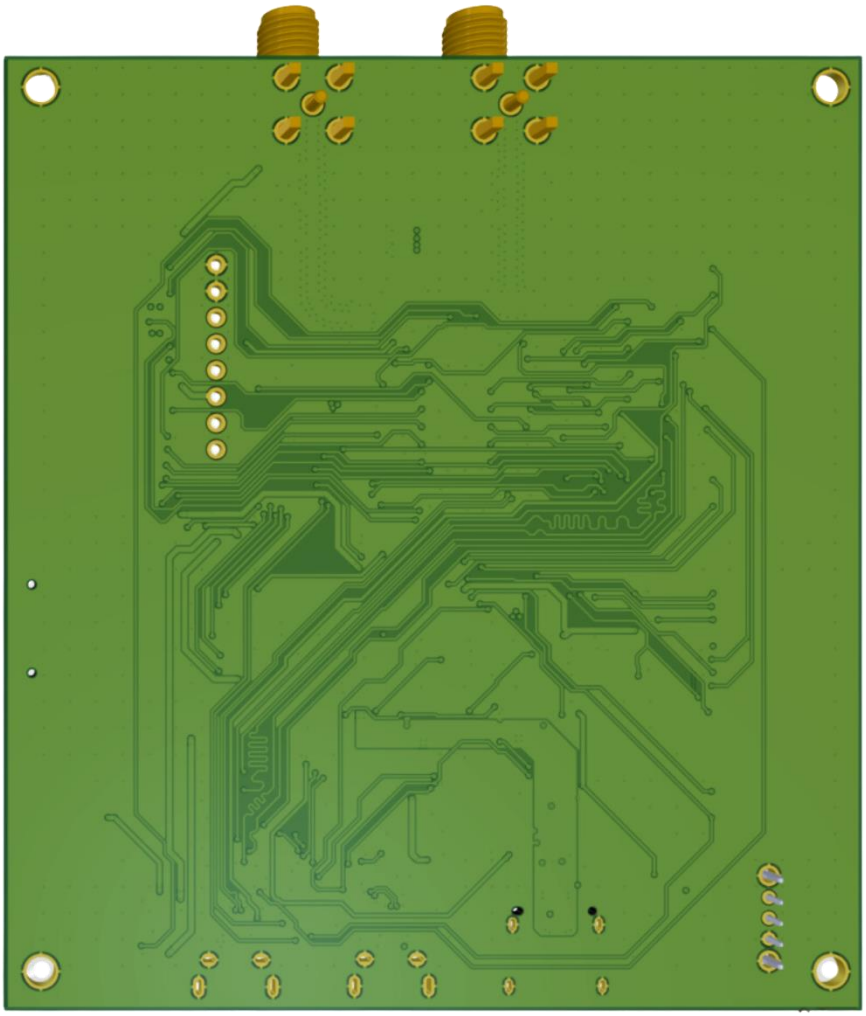

Figure 2 C17QS EVK Layout

2.3 Pin Layout

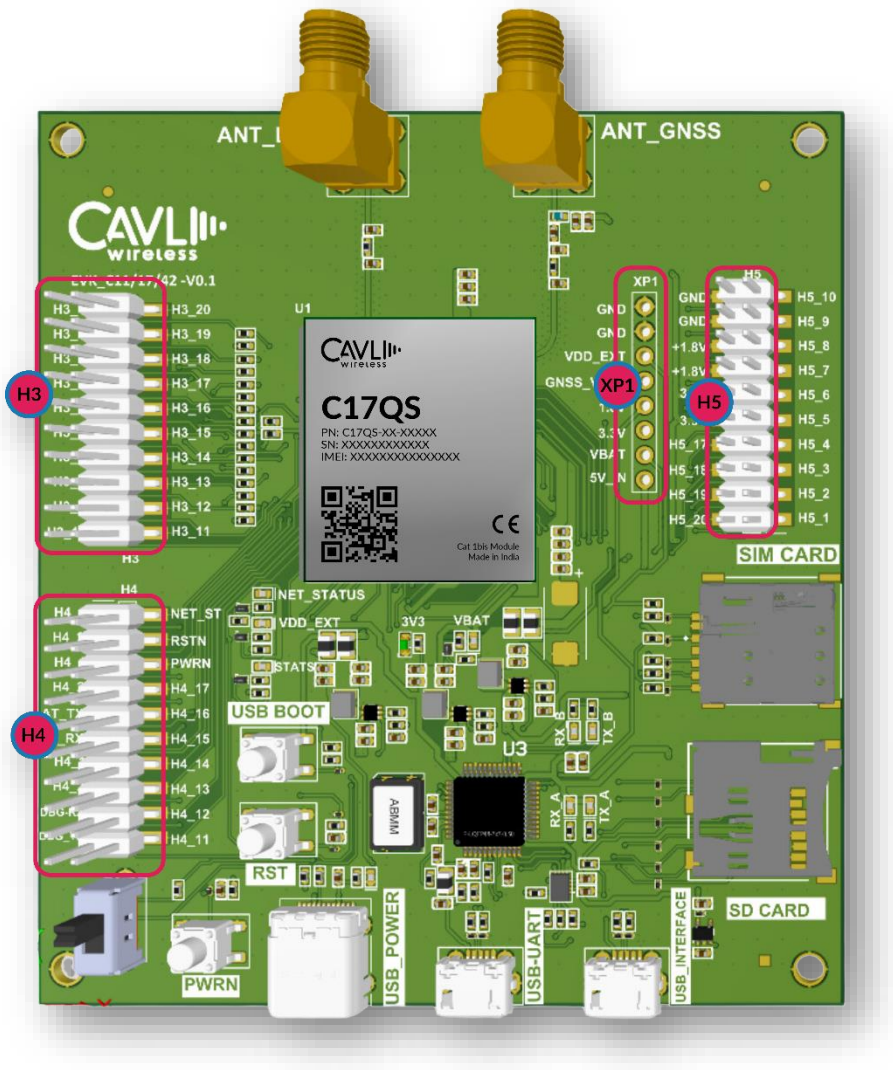

Figure 3: C17QS EVK Pinout

2.3.1 H3 Pinout

Pin No	Pin name	Pin No.	Pin name
1	GPIO_28	2	GPIO54
3	QCG110_UART1_DEBUG_RX	4	QCG110_UART1_DEBUG_TX
5	RESERVED	6	RESERVED

7	UART2_RTS	**8**	UART2_CTS
9	I2C_SCL	**10**	I2C_SDA
11	GPIO49	**12**	UART1_DTR
13	UART1_DCD	**14**	ADC0
15	ADC1	**16**	I2S_DOUT
17	I2S_DIN	**18**	I2S_LRCK
19	I2S_MCLK	**20**	GPIO16

2.3.2 H4 Pinout

Pin No	Pin name	Pin No.	Pin name
1	GPIO17	**2**	I2S_BLK
3	GPIO19	**4**	GPIO18
5	UART1_TXD	**6**	UART1_RXD
7	UART1_CTS	**8**	UART1_RTS
9	DBG_RXD	**10**	DBG_TXD
11	SPI_MOSI	**12**	SPI_MISO
13	SPI_CS	**14**	SPI_CLK
15	AP_READY	**16**	STATUS
17	W_DISABLE	**18**	PWRKEY_N
19	RSTN	**20**	NET_LIGHT

2.3.3 H5 Pinout

Pin No	Pin name	Pin No.	Pin name
1	SWCLK	2	GPIO52
3	SPI1_CLK	4	SPI1_CS
5	SPI1_MISO	6	SPI1_MOSI
7	UART2_TXD	8	UART2_RXD
9	GPIO20	10	RESERVED
11	GND	12	GND
13	1V8	14	1V8
15	3V3	16	3V3
17	GNSS_PPS_OUT	18	SWDIO
19	GPIO29	20	GPIO48

2.3.3 XP1 Pinout

Pin No	Pin name	Pin No.	Pin name
1	GND	2	GND
3	VDD_EXT	4	GNSS_VRTC
5	1.8V	6	3.3V
7	VBAT	8	5V_IN

3 Component Description

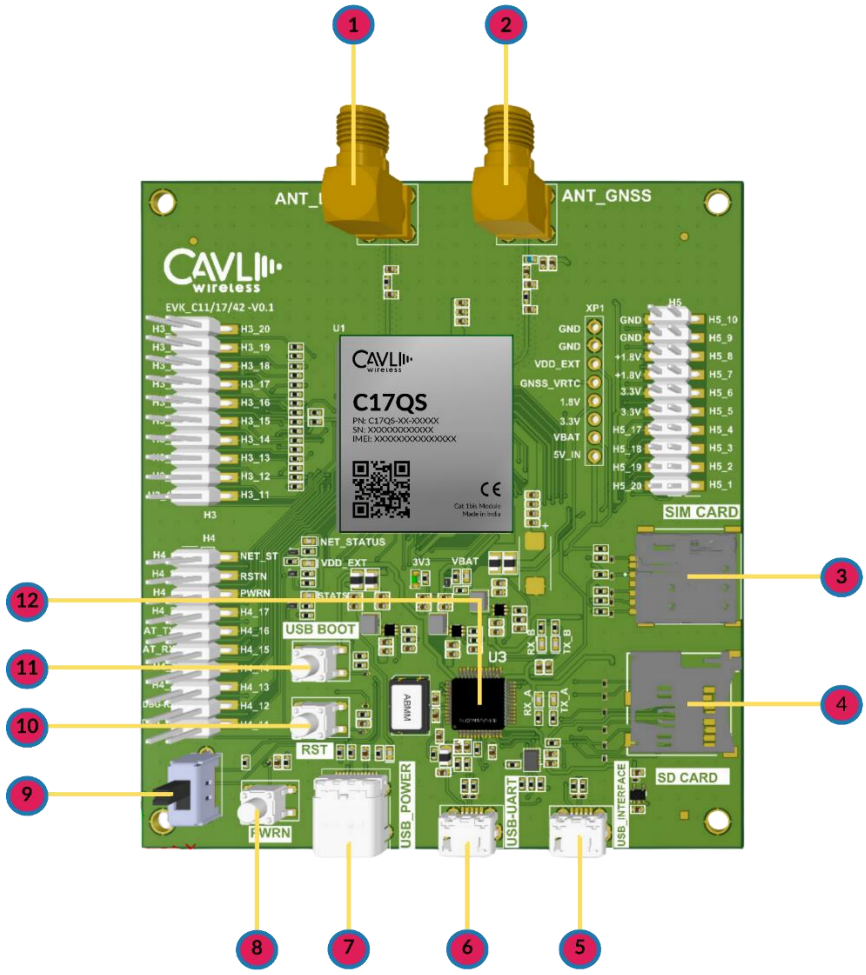

Figure 4 C17QS EVK Components

1. LTE Main Antenna
2. GNSS Antenna
3. SIM card socket
4. SD card socket
5. USB interface
6. USB-UART interface
7. Input Power Port (Type C)
8. Power Button
9. Input power toggle switch
10. Reset Button
11. USB boot button
12. FTDI interface IC

Pin No.	Pin name	Description
1	LTE Main antenna	C17QS EVK comes with an SMA Antenna connector for interfacing an external LTE Antenna.
2	GNSS antenna	C17QS EVK comes with an SMA Antenna connector along with active antenna of voltage 3.3V for interfacing external GNSS Antenna.
3	SIM card socket	You can insert your external SIM card to the micro-SIM card push-push socket.
4	SD card socket	This interface is used to access the files from SD card using the module.
5	USB interface	This port can be used to access the USB port of the modem.
6	USB-UART interface	This port can be used to access the USB-UART port of the modem
7	Power input port (Type C)	It is recommended to use a 5V adapter for the input power supply. The user can also use PC USB port to power the modules.
8	Power Button	This button is used to power on the module. It is an interrupt going to the module to power on the module.
9	Input Power toggle Switch	It is used to enable the input power source.
10	Reset Button	This button is used to reset the Module.
11	USB boot button	Used to toggle to EDL mode

3.1 LED Indicators

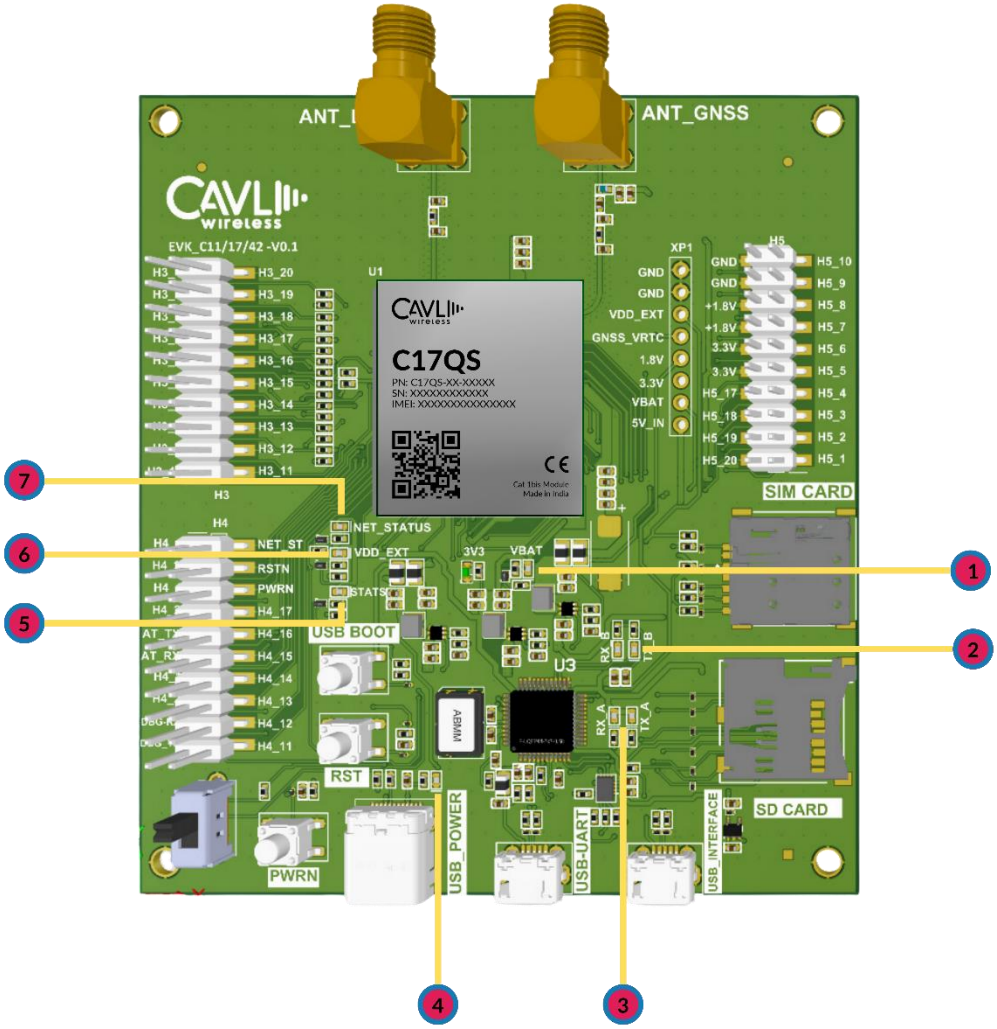

Figure 5 : C17QS LED indicators

Led Indicators of C17QS EVK are:

1. VBATT power indicator
2. FTDI Channel-B Rx and Tx indicator
3. FTDI Channel-A Rx and Tx indicator
4. Input Power indicator
5. Status Indicator
6. 1.8 V Power indicator
7. Network Status indicator

4 EVK Accessories

4.1 List of Accessories

Figure 6 C17QS USB_C

Figure 7 C17QS Micro_B Cable

Figure 8 C17QS Main Antenna

Figure 9 C17QS GNSS Antenna

5 Setup Guide

4.1 Basic Start-up Steps

Given below are the various steps involved in powering on the C17QS Module.

1. Place the EVK on an insulated platform.
2. Connect the GNSS Antenna (if needed) to the corresponding SMA Connectors.
3. Power the EVK by connecting to the Input Power Port (Type C).
4. Connect the USB Type B to USB-UART interface to access the AT port.
5. Connect the USB Type B to USB-INTERFACE.
6. Enable the Input Power toggle switch.
7. Press the Power Button to turn the module ON
8. After toggling the Input Power Switch, 5 LED's glows up. (VBAT LED, FTDI channel-1 Rx LED, FTDI