



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

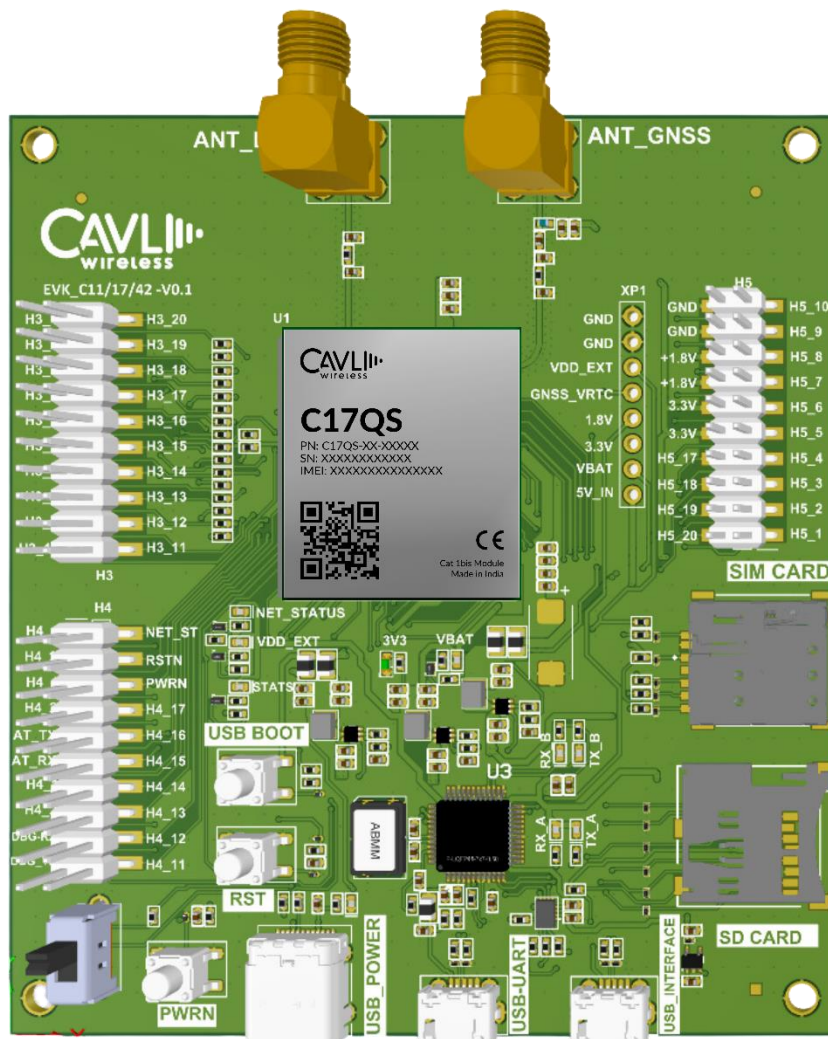


Figure 1: C17QS EVK Layout

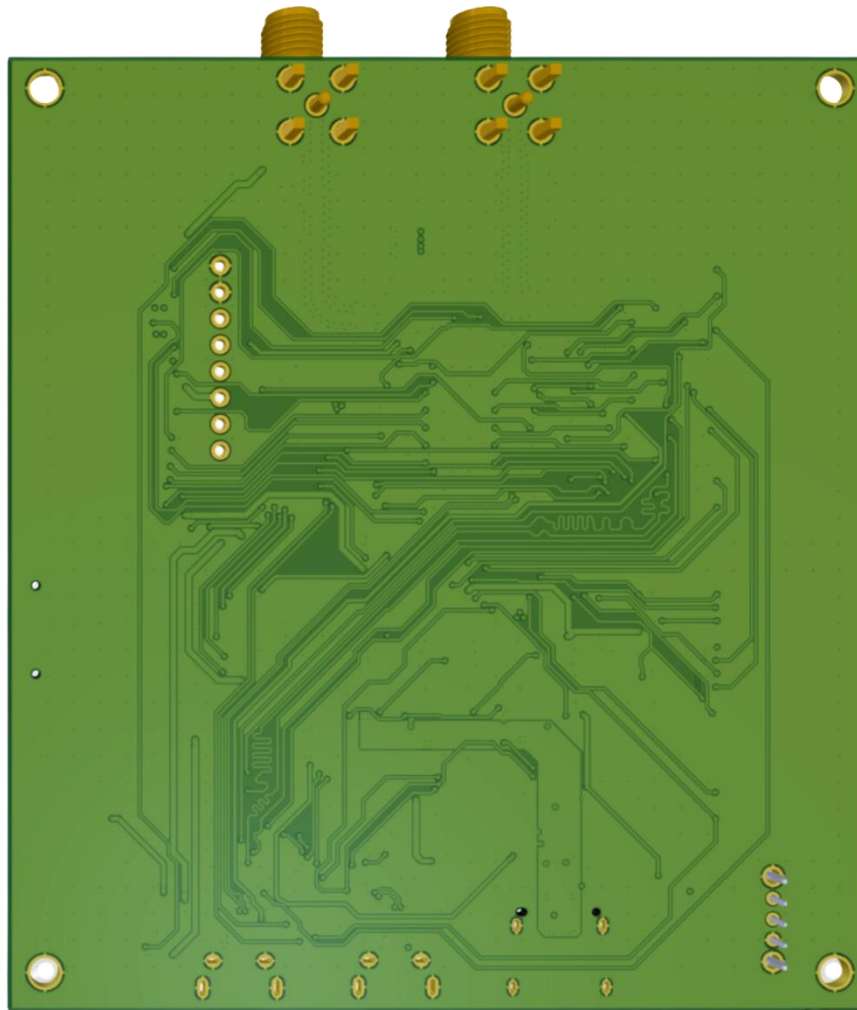


Figure 2 C17QS EVK Layout



2.3 Pin Layout

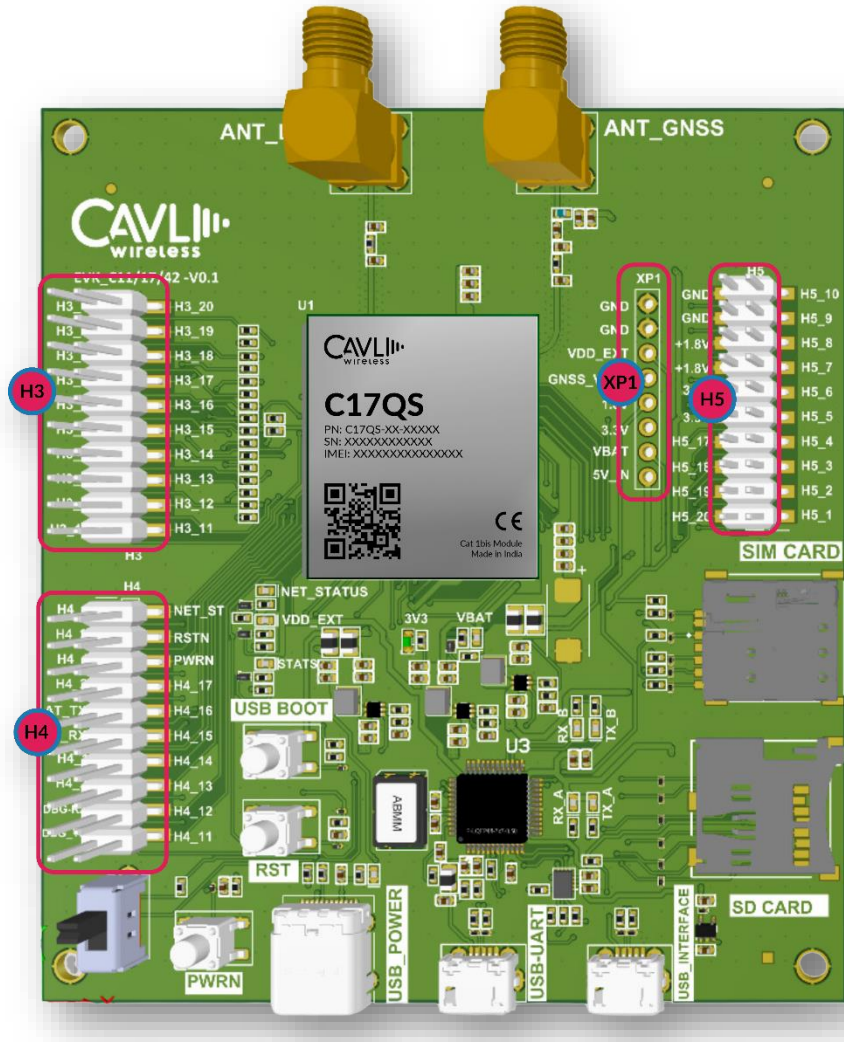


Figure 3: C17QS EVK Pinout

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

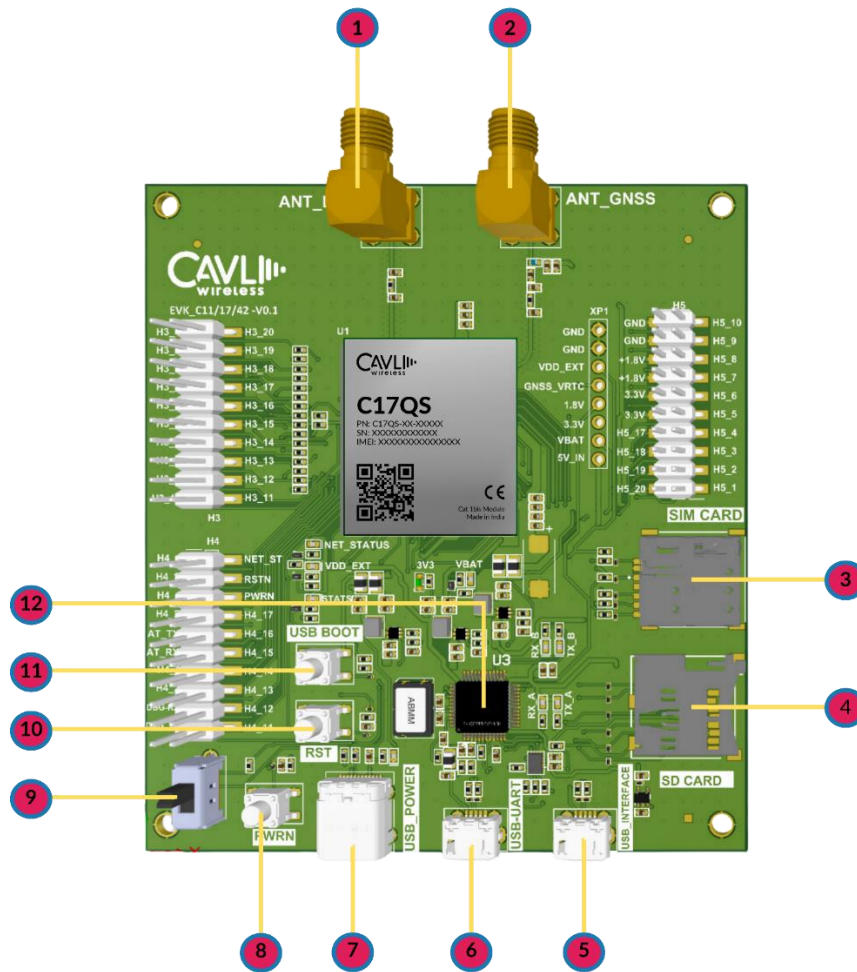


Figure 4 C17QS EVK Components

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

| 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

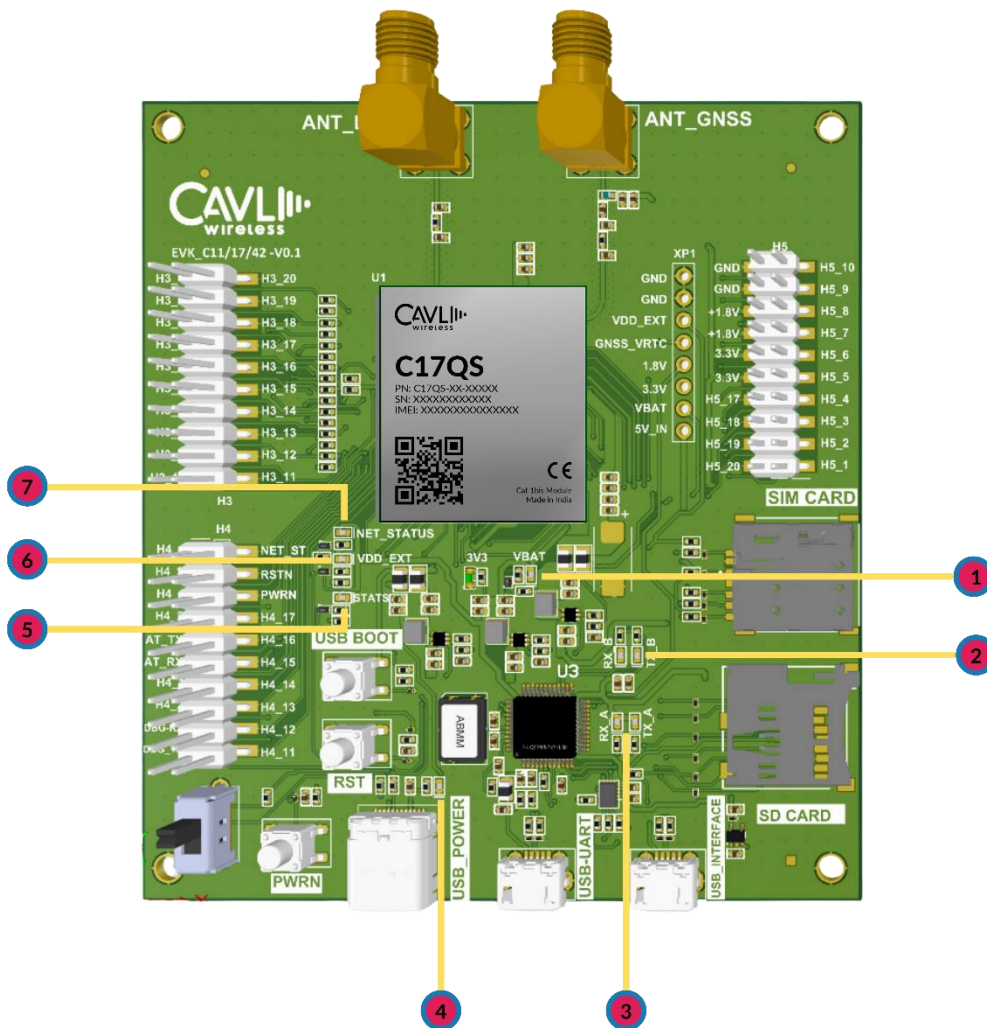


Figure 5 : C17QS LED indicators

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

