PROJECT REQUIREMENT

WE HAVE BATTERY OPERATED PRODUCT SO CONTROLLER INPUT VOLTAGE RANGE VARY FROM 2.7V TO 4.3V.

PART NUMBER: CH32V003J4M6

WE CHANGE OUR CLOCK FREQUENCY TO 8MHZ BECAUSE OF LESS POWER CONSUMPTION.

FIRST PART:-

WE WANT TO GET PRECISE VCC VOLTAGE (INPUT VOLTAGE OF CONTROLLER) BY INTERNAL REFERENCE VOLTAGE.
FOR THAT WE USED FORMULA (VCC = 1024*1.2/adc_val IN WHICH adc_val IS ADC_Channel_Vrefint ADC SOFTWARE CONVERSION VALUE) (AS SUGGESTED BY ANKUSH SIR)
BUT I CAN'T GET PRECISE VALUE.(I TRIED IN EVALUATION BOARD)
WE ALSO TRY TO GET AVERAGE OF 20 SAMPLES BUT WE ALWAYS GET SOME VOLTAGE DIFFERENCE.

3.3.3 Embedded reference voltage

Table 3-5 Embedded reference voltage

Symbol	Parameter	Condition	Min.	Typ.	Max.	Unit
V_{REFINT}	Internal reference voltage	$T_A = -40°C \sim 85°C$	1.17	1.2	1.23	V
$T_{S\_vrefint}$	ADC sampling time when reading the internal reference voltage		3		500	$1/f_{ADC}$

ABOVE IS ELECTRICAL PARAMETER GIVEN IN YOUR DATASHEET.
IN WHICH INTERNAL VOLATEG REFRENCE HAS SOME MINIMUM AND MAXIMUM VALUE.
SO IN QUANTITY PRODUCTION HOW TO GET EXCAT INTERNAL REFRENCE VOLTAGE FROM CONTROLLER.

WE REQUIRE BETTER SOLUTION FROM YOUR SIDE FOR ABOVE PROBLEM.

SECOND PART:-

WE ARE USING PD4 (A7) OF PIN 8 OF CONTROLLER. (CH32V003J4M6)

HOWEVER, WHEN WE CONFIGURE THIS PIN AS **A7** AND LOAD PROGRAM IN CONTROLLER AFTER THAT WE CANNOT DETECT CONTROLLER.
AS WE SEEN THERE IS USART CONFIGURE BY DEFAULT IN THIS PIN BUT WHEN WE REMOVE THIS CONFIGURATION AND CONFIGURE AS **A7** PIN THAN WE CAN LOAD PROGRAM MULTIPLE TIMES BUT WE CANNOT DEBUG OUR PROGRAM.

OUR PCBS ARE ALREADY MADE. SO, WE CANNOT CHANGE THIS PIN.

WA WANT SOLUTION FOR ABOVE PROBLEM

THIRD PART:-

WE WANT TO USE PIN 5 AND PIN 6 IN PWM MODE. (CH32V003J4M6)
FOR THAT WE ARE PLANNING TO USE TIM 2.
PLEASE REMEMBER OUR CLOCK FREQUENCY IS 8MHZ.
IN WHICH OUR ON TIME AS WELL AS OFF TIME CAN VARY FROM 0.03SECOND TO 0.5 SECOND.

AS WE SEEN THERE ARE ALTERNET FUNCTION AVAILABLE T2CH4_ AND T2CH2_
WE NEED CONFIGURATION PART FREOM YOUR SIDE.

(BOTH PIN IN THIS MODE ARE USED AS PUSHPULL MODE)

PLEASE ALSO CLARIFY US WHAT IS DIFFERENCE BETWEEN T2CH4_ AND T2CH4.

FOURTH PART:-

WE USE TWO ADC CHANNELS ADC_Channel_Vrefint (FOR VCC CALCULATION) AND ADC_Channel_7.

MOREOVER, WE WANT TO SENSE ADC EVERY 5 TO 15 SECONDS IN BETWEEN.

RIGHT NOW OUR PRODUCT IS BATTERY OPERATED SO WE WANT LONG BACKUP AS WE KNOW ADC TAKE MORE POWER.

IN ADDITION, WE WANT TO USE REGULAR CHANNEL CONVERSATION FOR ABOVE BOTH CHANNEL. WE ALSO WANT ADC END OF CONVERSATION INTERRUPT.

SO, FROM YOUR SIDE WE WANT CONFIGURATION PART THAT CAN FULLFILL ABOVE ALL REQUIREMENT AND WE CAN GET BETTER ADC RESOLUTION.