

Application Note

CEC CH TO CH

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1. Preface

This application note describes the sample software of CEC_CH_TO_CH using Consumer Electronics Control (CEC). This document helps the user check operation of a product under development and develop its program.

2. Technical Term

Term/Abbreviation	Definition
CEC	Consumer Electronics Control
UART	Universal Asynchronous Receiver Transmitter

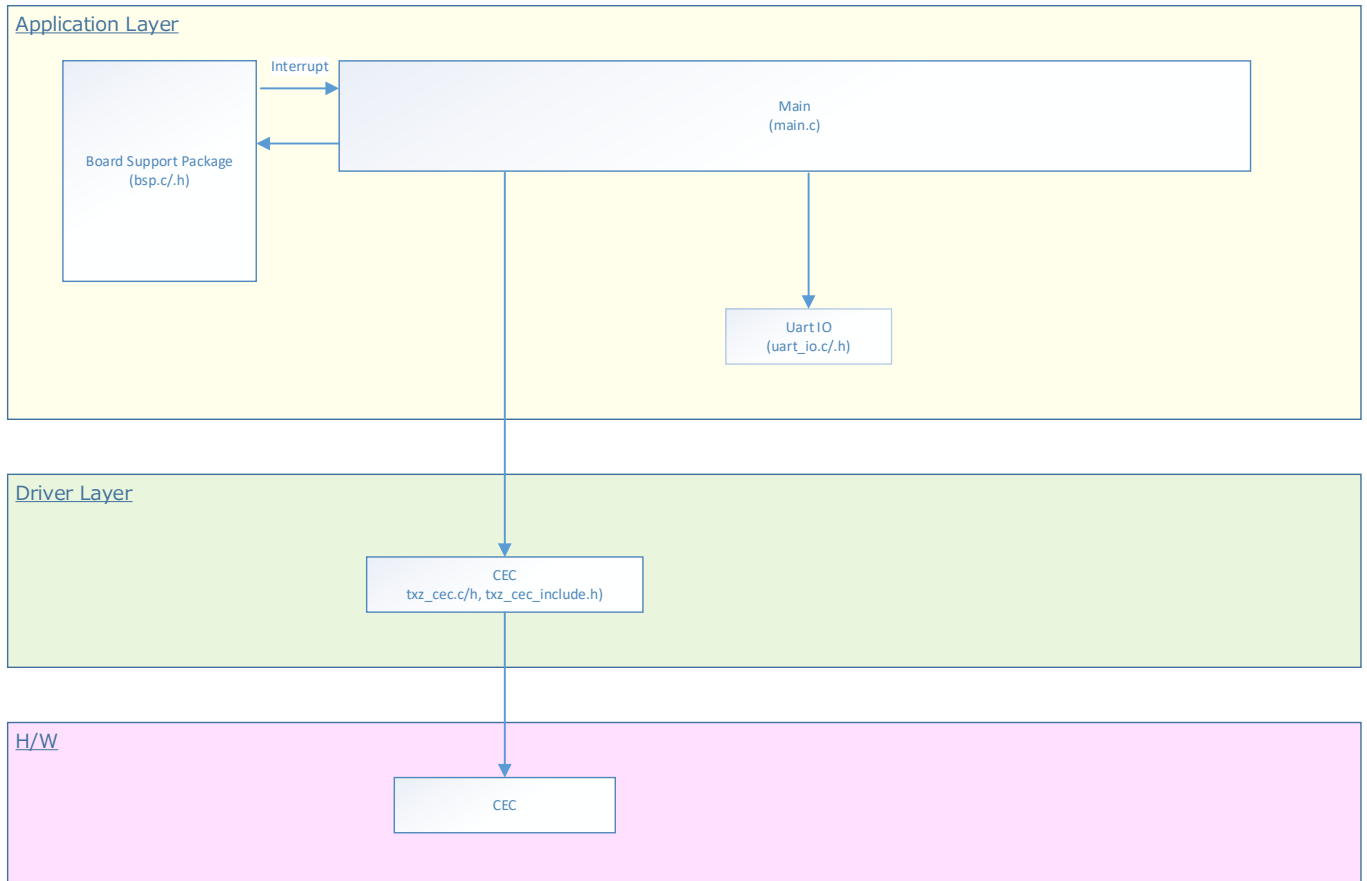
3. Reference Document

Document	Notes
Data sheet	Refer to the data sheet of MCU to be used.
Reference manual	Refer to the reference manual of each IP to be used.
Application note MCU User Guide	Refer to the MCU user manual to be used.

4. Target Sample Program

Sample Program	Outlines
CEC_CH_TO_CH	Sample of CEC communication function

5. Configuration Diagram



6. Sample Program: CEC_CH_TO_CH

This sample program transmits and receives data using CEC function, and outputs the received data on the terminal emulator.

6.1. Outlines of Operation

Two boards are connected by using the CEC function, and the data which is input from the terminal emulator of one board is transmitted to another board, and the receiver displays the reception data.

When the terminal emulator displays "Input =", a 1-byte header at first and 29-byte or less data should be input for data transmission. Then input "Return", the header and the data are displayed following "CEC Snd =", and the header and the data are transmitted. The header shows a transmitter in the upper 4 bits and a receiver in the lower 4 bits, respectively. For example, if the transmitter address is "7" and the receiver address is "5", 0x75 = 'u' should be set.

When the data is received, the 1-byte header and the reception data are displayed after "CEC Rcv =", and a new line is started.

6.2. Function to Use

The functions to use are as follows.

For the Port assignment of each channel, refer to the MCU user manual.

IP	Channel	Objective
CEC	-	CEC function
UART	BSP_UART_0	Communication with the terminal emulator

6.3. Interrupt to Use

Interrupt	Outlines
UART Interrupt	UART transmission interrupt
	UART reception interrupt
CEC Interrupt	CEC transmission interrupt
	CEC reception interrupt

6.4. Configuration

Nothing.

6.5. Example of Terminal Emulator Output

6.5.1. Normal Operation

Terminal display when sending

```
CEC Address = 5  
CEC Address = 7  
Input = uabcdef  
CEC Snd = uabcdef  
Input =  
CEC Rcv = W012345
```

Terminal display when receiving

```
CEC Address = 5  
CEC Address = 7  
Input =  
CEC Rcv = uabcdef  
W012345  
CEC Snd = W012345  
Input =
```

6.5.2. Case of Error Occurrence

When send address is error.

```
***No ACK***  
ACK Error
```

7. CEC Driver

7.1. List of Drivers

The CEC is controlled by using the following drivers.
For an example of use, refer to the source code.

Interface Name	Control Outlines
cec_deinit	CEC object is released.
cec_discard_receive	Reception is discarded.
cec_discard_transmit	Transmission is discarded.
cec_get_rx_status	RX status is acquired.
cec_get_tx_status	TX status is acquired.
cec_init	CEC object is initialized.
cec_receiveIt	Data is received. Non-blocking communication.
cec_transmitIt	Data is transmitted. Non-blocking communication.

8. Revision History

Revision	Date	Description
1.0	2021-10-13	First release

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