

```

/*****
MPLAB Harmony Application Header File

Company:
    Microchip Technology Inc.

File Name:
    app.h

Summary:
    This header file provides prototypes and definitions for the application.

Description:
    This header file provides function prototypes and data type definitions for
    the application.  Some of these are required by the system (such as the
    "APP_Initialize" and "APP_Tasks" prototypes) and some of them are only used
    internally by the application (such as the "APP_STATES" definition).  Both
    are defined here for convenience.
*****/

//DOM-IGNORE-BEGIN
/*****
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*****/

//DOM-IGNORE-END

#ifndef _APP_H
#define _APP_H

// ****
// ****
// Section: Included Files
// ****
```

```
// *****

#include <stdint.h>
#include <stdbool.h>
#include <stddef.h>
#include <stdlib.h>
#include "system_config.h"
#include "system_definitions.h"

// DOM-IGNORE-BEGIN
#ifdef __cplusplus // Provide C++ Compatibility

extern "C" {

#endif
// DOM-IGNORE-END

// *****
// *****
// Section: Type Definitions
// *****
// *****

// *****
/* Application states

Summary:
    Application states enumeration

Description:
    This enumeration defines the valid application states. These states
    determine the behavior of the application at various times.
*/

typedef enum
{
    /* Application's state machine's initial state. */
    APP_STATE_INIT=0,
    APP_STATE_SERVICE_TASKS,
    APP_STATE_WAIT,

    /* TODO: Define states used by the application state machine. */
} APP_STATES;

// *****
/* Application Data

Summary:
    Holds application data
```

**Description:**

This structure holds the application's data.

**Remarks:**

Application strings and buffers are be defined outside this structure.

\*/

typedef struct

{

/\* The application's current state \*/

APP\_STATES state;

/\* TODO: Define any additional data used by the application. \*/

} APP\_DATA;

// \*\*\*\*\*

// \*\*\*\*\*

// Section: Application Callback Routines

// \*\*\*\*\*

// \*\*\*\*\*

/\* These routines are called by drivers when certain events occur.

\*/

// \*\*\*\*\*

// \*\*\*\*\*

// Section: Application Initialization and State Machine Functions

// \*\*\*\*\*

// \*\*\*\*\*

/\*\*\*\*\*

**Function:**

void APP\_Initialize ( void )

**Summary:**

MPLAB Harmony application initialization routine.

**Description:**

This function initializes the Harmony application. It places the application in its initial state and prepares it to run so that its APP\_Tasks function can be called.

**Precondition:**

All other system initialization routines should be called before calling this routine (in "SYS\_Initialize").

**Parameters:**

None.

**Returns:**

None.

## Example:

```
<code>
APP_Initialize();
</code>
```

## Remarks:

This routine must be called from the SYS\_Initialize function.

\*/

```
void APP_Initialize ( void );
```

```
void UpdateAppState(APP_STATES newState);
```

```
void Get_ADC_Values(uint16_t index);
```

```
/******
```

## Function:

```
void APP_Tasks ( void )
```

## Summary:

MPLAB Harmony Demo application tasks function

## Description:

This routine is the Harmony Demo application's tasks function. It defines the application's state machine and core logic.

## Precondition:

The system and application initialization ("SYS\_Initialize") should be called before calling this.

## Parameters:

None.

## Returns:

None.

## Example:

```
<code>
APP_Tasks();
</code>
```

## Remarks:

This routine must be called from SYS\_Tasks() routine.

\*/

```
void APP_Tasks( void );
```

```
#endif /* _APP_H */
```

```
//DOM-IGNORE-BEGIN
#ifdef __cplusplus
}
#endif
//DOM-IGNORE-END

/*****
End of File
*/
```