

Samsung CY-WDCA6UR UWB Radio Module User Guide

INTRODUCTION

The CY-WDCA6UR UWB Radio module is a complete compact UWB radio implemented in a standard PC Mini-Card format that is intended to be used with compatible Samsung monitor products to provide UWB functionality.

The CY-WDCA6UR combines the Alereon AL5000 chipset along with on board power supplies, and an internal UWB antenna a USB function controller and a USB 2.0 system interface.

1.0 REFERENCE DESIGN FEATURES

- Optimized Performance with AL5100 (3.1GHz to 8.976GHz) WiMedia BG#1, 3, 6
- Complete Baseband Processor (BBP) and Media Access Controller (MAC)
- High Precision Data Path and Data Converters allowing reliable link at extended ranges
- Fully Integrated MAC Protocol Engine Supports All Industry Standards WiMedia protocols
 - Certified Wireless USB
 - WiMedia Link Layer Protocol
 - Bluetooth 3.0 (supported by future SW releases)
- Industry Standard Interfaces
 - USB 2.0 – Data
 - USB 2.0 – WiMedia Cable Association
- Operates from a single (+3.3 V, regulated) supply

2.0 Usage and Documentation

The CY-WDCA6UR is a complete, self-contained UWB radio module requiring only +3.3V regulated power from the host system and providing USB 2.0 interfaces to the host system for data and the WiMedia association function. The CY-WDCA6UR is intended to provide a simple path for an enabled USB product to add UWB functionality.

The CY-WDCA6UR is a wireless USB certified platform and has received FCC approval as a UWB transmitter under subpart F of the FCC rules with the FCC ID: A3LCYWDCA6UR .

This document provides an outline of the purpose and functionality provided by the CY-WDCA6UR ,

The Samsung CY-WDCA6UR connects to enabled products through a TTA-20 connector.

3.0 I/O Interface Connector

CY-WDCA6UR Connector

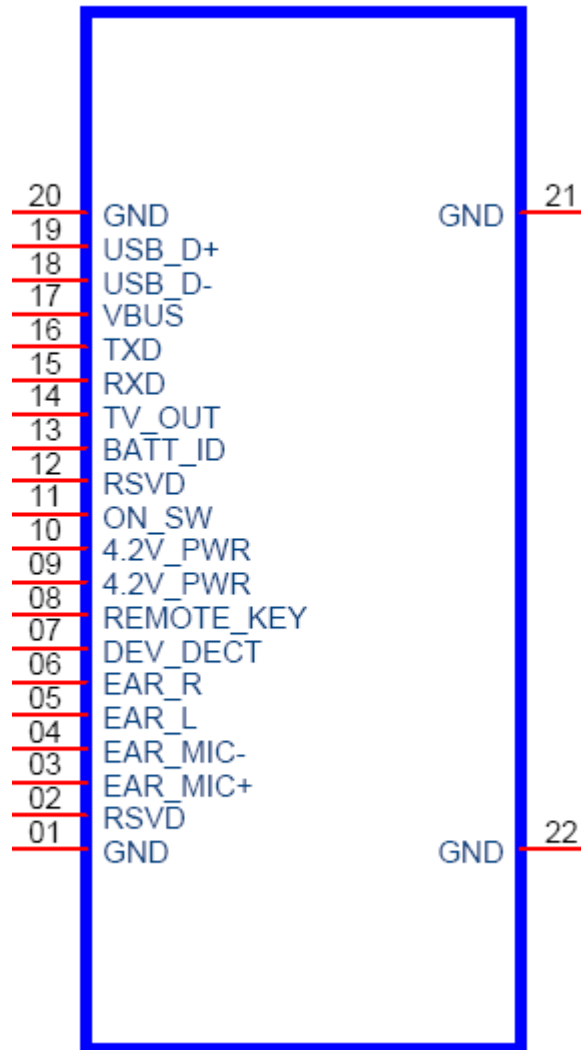


Figure 1, Connector Pins Configuration

CY-WDCA6UR Pin Function Description			
Pin #	Pin Name	I/O	Description
1	GND		Ground connection
2	RSVD		+3.3V
3	EAR_MIC+		+3.3V
4	EAR_MIC-		+3.3V
5	EAR_L		+3.3V
6	EAR_R	O	LED drive pin, Host_Connect_LED
7	DEV_DETECT		Not used, connect to ground
8	REMOTE_KEY	O	AL5350 MAC GPIO 1
9	4.2V POWER		Not used, connect to ground
10	4.2V POWER	I/O	USB D+ data signal from host system
11	ON_SW	I	UART_RXD
12	RSVD	I/O	USB D- data signal from host system
13	BATT_ID		Not used, connect to ground
14	TV_OUT	O	UART_TXD
15	RXD		Not used, connect to ground
16	TXD	O	AL5350 MAC GPIO 5
17	VBUS	O	AL5350 MAC GPIO 0
18	USB_D-		Not used, connect to ground
19	USB_D+	O	AL5350 MAC GPIO 3
20	GND		Ground connection
21	GND		Ground connection
22	GND		Ground connection

Table 1. Pin Descriptions

4.0 DESIGN CONSIDERATIONS

4.1 Power

One +3.3 V power supply at max data rate average current of 500 mA with peak at 750 mA. Connector pins #2 and 52 (+3.3V) are connected in common, both should connect to the host system power rail. Connector pins #4, 9, 15, 18, 21, 26, 27, 29, 34, 35, 40, and 50 are connected in common, all should connect to the host system ground.

5.0 Regulatory Information

The CY-WDCA6UR is approved under subpart F of the FCC rules as a UWB Transmitter.

The product into which the CY-WDCA6UR is incorporated must bear a label per the FCC requirements which shows the FCC ID assigned to the CY-WDCA6UR as follows.

FCC ID: U9YCY-WDCA6UR

The following information must be conveyed in the information supplied to the End User of the product into which the CY-WDCA6UR is incorporated.

The compliance statement exactly as prescribed by the FCC:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This device is authorized under 47 CFR 15.519 (the FCC Rules and Regulations). The operation of this device is subject to the following restriction: This UWB device shall transmit only when it is sending information to an associated receiver. This UWB device shall cease transmission within 10 seconds unless it receives an acknowledgement from the associated receiver that its transmission is being received. An acknowledgement of reception must continue to be received by the transmitting device at least every 10 seconds of operation or the UWB device must cease transmitting.

The users manual or instruction manual shall caution the user that changes or modifications to the equipment not expressly approved by the party responsible for the grant of equipment authorization issued by the FCC could void the user's authority to operate the equipment under the grant of equipment authorization, an example:

Warning: Changes or modifications to this device not expressly approved by Samsung could void the users authority to operate the device under the FCC Equipment Authorization. This includes changes or substitutions of the antenna which is furnished with the device.