

# CDMCM-200

## Technical Datasheet

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## Revision History

Version	Date	Description
1.0.0.	March 2012	Initial preliminary version
1.1.0	August 2012	H/W revision

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## 1. Introduction

**mconnect receiver CDMCM-200** is a complete solution for connected audio products such as Wi-Fi speaker, Wi-Fi music receiver, smartphone docking audio, component audio, and wireless AP router with audio receiver.

**mconnect receiver** adopts 802.11n Wi-Fi technology to assure high quality of audio and stable connectivity in various usage environments. The module supports DLNA/UPnP for playback streamed audio from DLNA Digital Media Server devices.

**mconnect receiver CDMCM-200's** compact size (35\*55mm) provides design flexibility for manufacturers of mconnect receiver based products and the module is customizable to meet various requirements of OEM's target products.

In addition to the mconnect receiver module, ConversDigital offers customizable iOS and Android Controller application – **mconnect player app.** - to enable manufacturers of mconnect receiver based products to have full coverage of product composition for consumer requirements.

### [Applications]

- Wi-Fi Speaker
- Wi-Fi Music Receiver
- Networked Component Audio
- Smartphone Docking Audio
- Portable Radio & Stereo
- AP router with audio receiver

## 2. Features

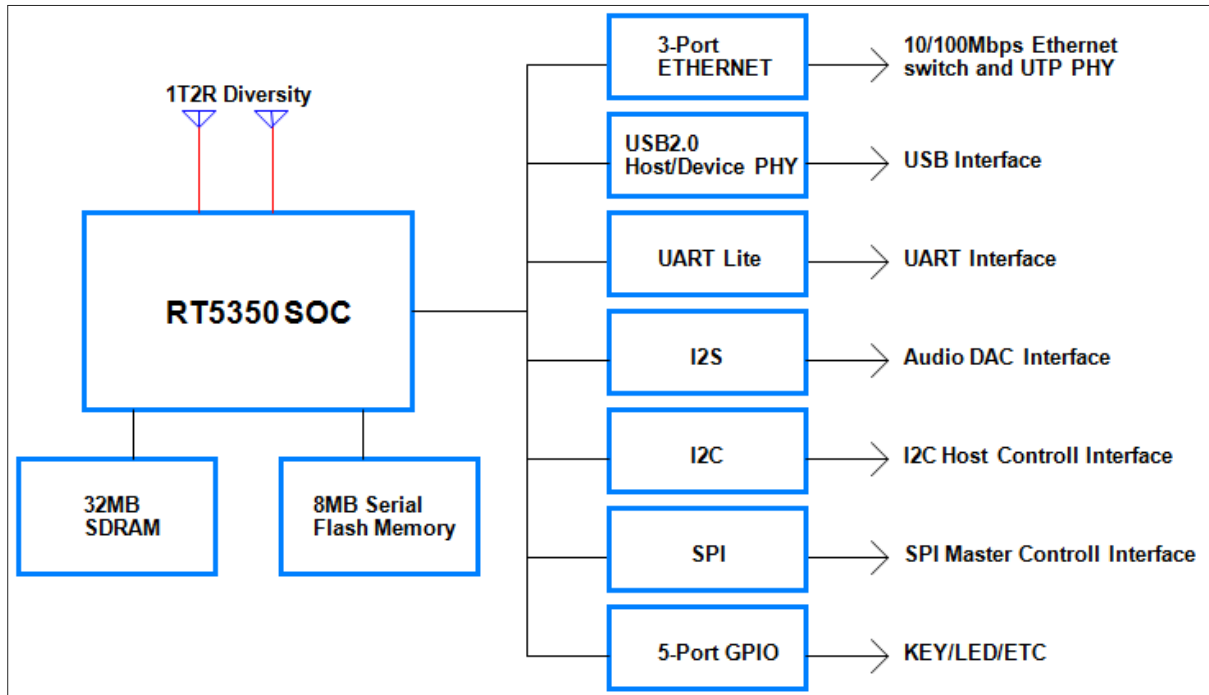
- DLNA/UPnP Compliant: supports DLNA Digital Media Renderer for playback streamed audio from Digital Media Server devices.
- Provides advanced Wi-Fi technology of IEEE 802.11n with 10/100 Ethernet.
- Supports Wireless Access Point.
- Supports stand-alone and slave implementation.
- Provides flexibility of product design with compact size of module
- Provides controller application for iOS and Android to support customer's comprehensive product design.

### [Specifications]

- IEEE 802.11n
- 10/100 Ethernet
- WEP/WPA/WPA2
- DHCP Server/Client
- USB Host/Device
- DLNA 1.5 & UPnP AV 1.0
- DLNA Digital Media Renderer
- Audio Formats Support: MP3, AAC, ATRAC, WMA, WAV, FLAC, ALAC
- Audio Channel: Stereo (2 channel)
- Resolution: 16bit
- Sampling rate: 12khz, 16khz, 22.05khz, 24Khz, 32khz, 44.1khz, 48khz, 96khz
- Dimensions: 35x55 mm

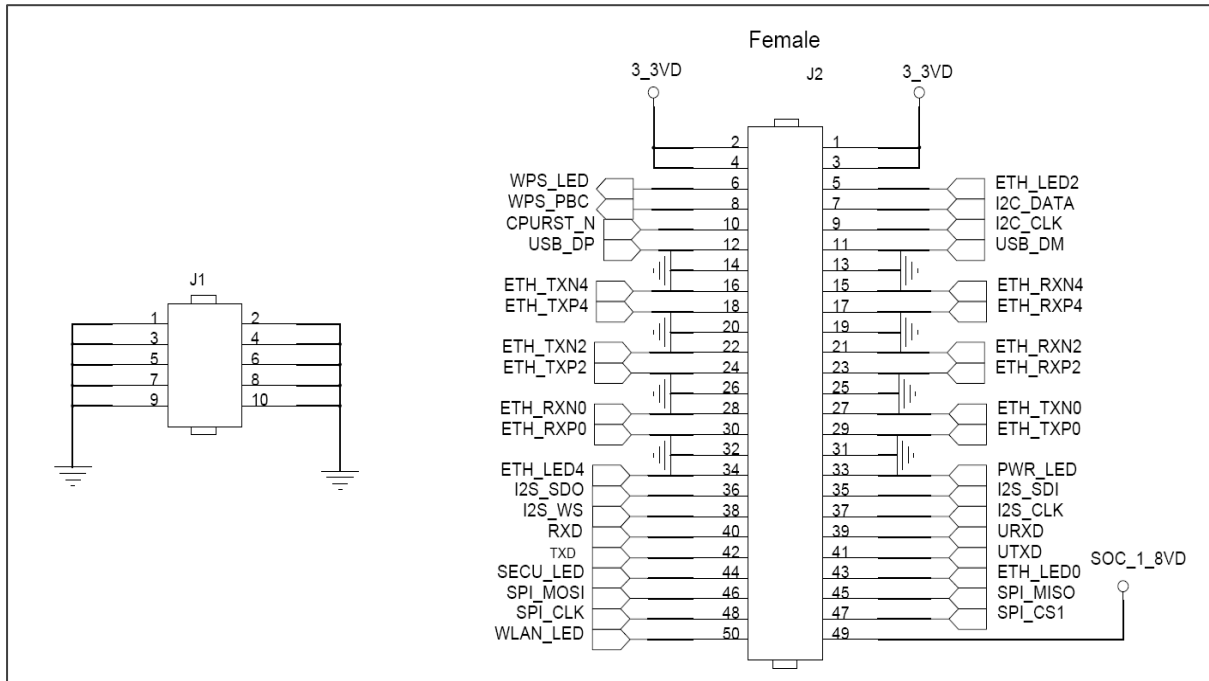
### 3. Block Diagram

CDMCM-200's block diagram is as below.



## 4. Pin Description

### 4-1. Pin Assignment



**4-2. Interface PIN (J2, 1~50PIN)**

<b>No</b>	<b>Description</b>	<b>Functional Description</b>
1	3_3VD	3.3V Power Supply
2	3_3VD	3.3V Power Supply
3	3_3VD	3.3V Power Supply
4	3_3VD	3.3V Power Supply
5	ETH_LED2	10/100 PHY Port #2 activity LED
6	WPS_LED	General Purpose LED Port
7	I2C DATA	I2C Data In/out
8	WPS_PBC	KEY INPUT GPIO
9	I2C CLK	I2C CLOCK out
10	CPURST	RESET for SOC(RT5350)
11	USB_DM	USB data pin Data-
12	USB_DP	USB data pin Data+
13	GND	GND
14	GND	GND
15	ETH_RXN4	10/100 PHY Port #4 RXN
16	ETH_TXN4	10/100 PHY Port #4 TXN
17	ETH_RXP4	10/100 PHY Port #4 RXP
18	ETH_TXP4	10/100 PHY Port #4 TXP
19	GND	GND
20	GND	GND
21	ETH_RXN2	10/100 PHY Port #2 RXN
22	ETH_TXN2	10/100 PHY Port #2 TXN
23	ETH_RXP2	10/100 PHY Port #2 RXP
24	ETH_TXP2	10/100 PHY Port #2 TXP
25	GND	GND
26	GND	GND
27	ETH_TXN0	10/100 PHY Port #0 TXN
28	ETH_RXN0	10/100 PHY Port #0 RXN
29	ETH_TXP0	10/100 PHY Port #0 TXP
30	ETH_RXP0	10/100 PHY Port #0 RXP
31	GND	GND
32	GND	GND
33	PWR_LED	General Purpose LED Port
34	ETH_LED4	10/100 PHY Port #4 activity LED
35	I2S_SDI	I2S Data in
36	I2S_SDO	I2S Data out
37	I2S_CLK	I2S bit Clock
38	I2S_WS	I2S Word Select Clock
39	URXD	UART RX
40	RXD	Not Used
41	UTXD	UART TX
42	TXD	Not Used
43	ETH_LED0	10/100 PHY Port #0 activity LED
44	SECU_LED	General Purpose LED Port
45	SPI_MISO	SPI Master in/Slave out
46	SPI_MOSI	SPI Master out/Slave in
47	SPI_CS1	SPI Chip Select
48	SPI_CLK	SPI Clock
49	SOC_1_8VD	Bias for Ethernet Trans Center TAB
50	WLAN_LED	10/100 PHY Port WAN activity LED





### 4-3. Interface PIN (J1, 1~10PIN)

No	Description	Functional Description
1	GND	GND
2	GND	GND
3	GND	GND
4	GND	GND
5	GND	GND
6	GND	GND
7	GND	GND
8	GND	GND
9	GND	GND
10	GND	GND

## 5. Electrical Characteristics

### 5.1. Electrical Characteristics

No	Parameters	Min	Typ	Max	Unit	Remark
1	Power Supply Voltage	3.0	3.3	3.6	V	
2	Current Consumption	600	850	1000	mA	
3	GPIO Source Current			4	mA	
4	GPIO Sink Current			4	mA	

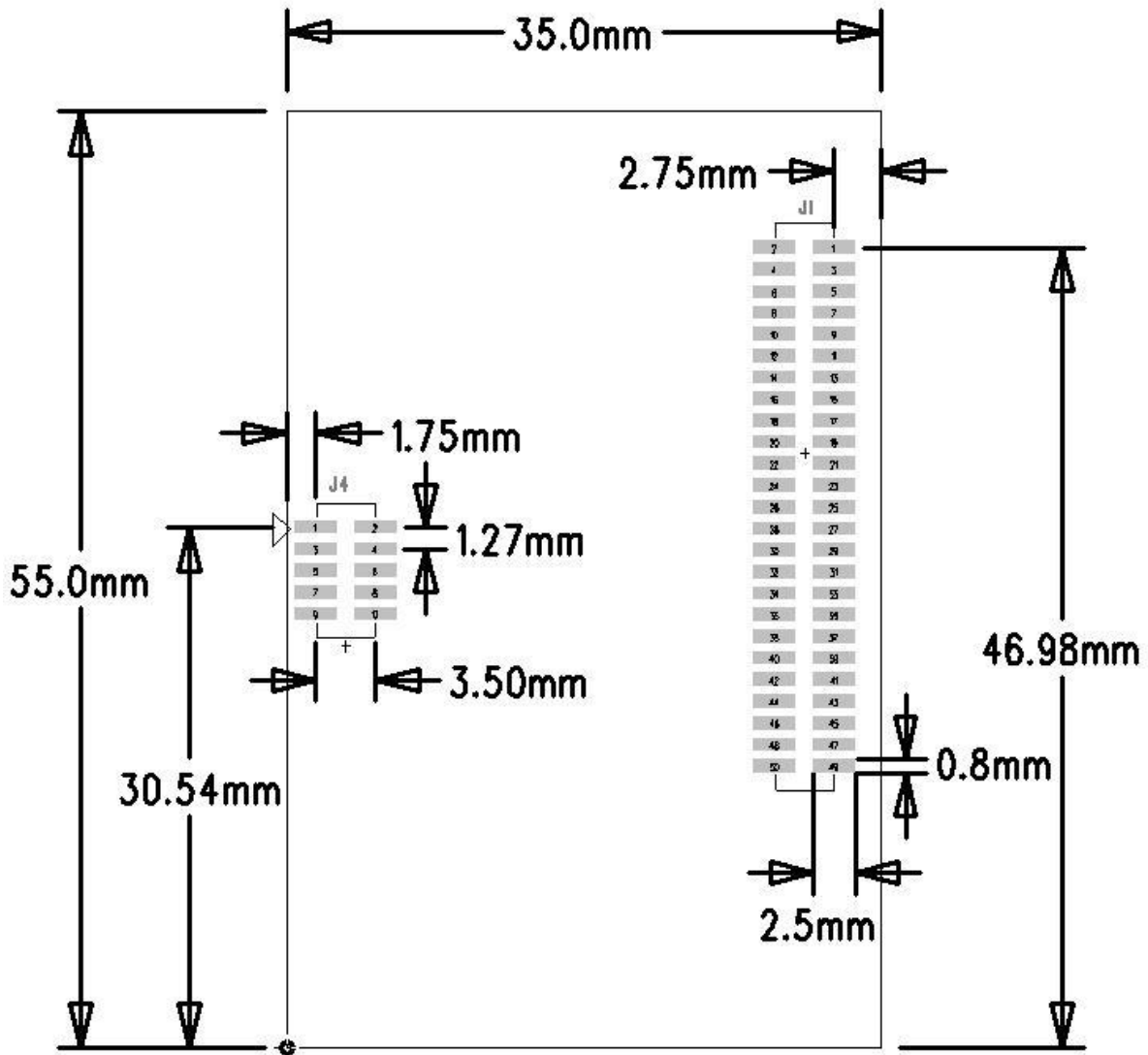
### 5.2. Radio Characteristics

No	Parameters	
1	RX/TX	1T1R 2.4GHz ISM Band
2	Channel	20MHz/40MHz channel width
3	RF Output Power	14 dBm
4	RX Sensitivity	-68 dBm@10%PER

### 5.3. General Specification

No	Parameters	Specification
1	Operating Temperature	-10 to 55°C
2	Storage temperature	-45°C ~ +95°C
3	Relative humidity	65% ±5%
4	MEMORY	Support 16bit SDR SDRAM (up-to 64M bytes)

## 7. Physical Dimensions

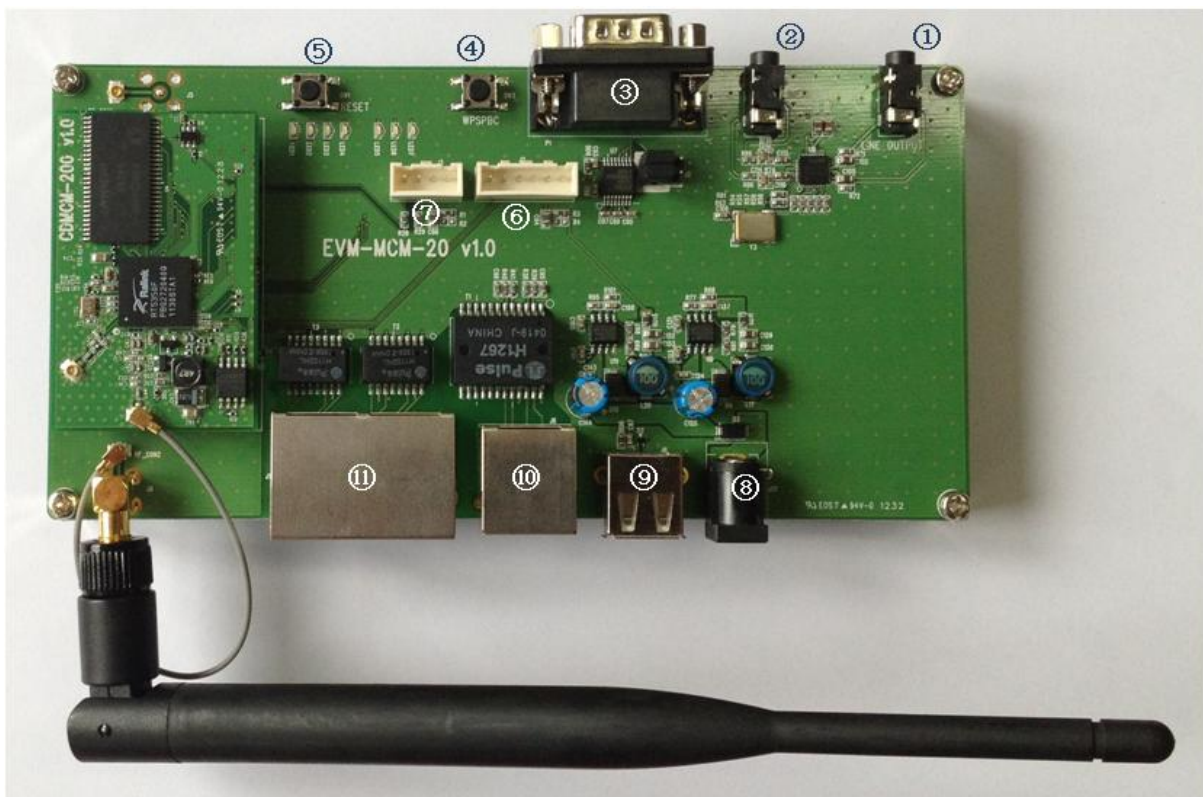


## 8. Evaluation Board

### 8.1. Overview

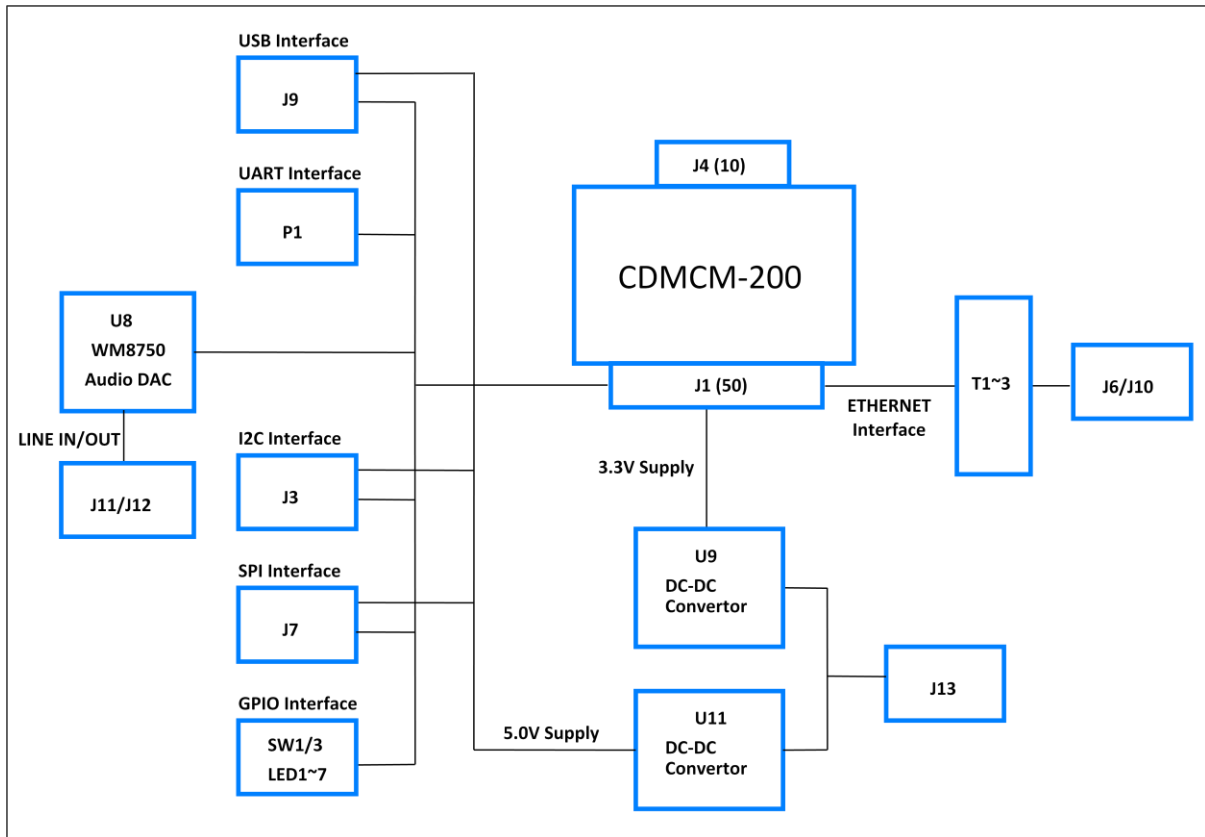
The EVM-MCM-20 evaluation board enables you to test and evaluate the CDMCM-200 before preparing and making your own target board.

[EVM-MCM-20 Evaluation Board Interfaces]



- |  |  |
|--|--|
| ① LINE out   | ⑥ SPI interface  |
| ② LINE in  | ⑦ I2C interface  |
| ③ UART   | ⑧ POWER connector                                      |
| ④ WPS button<br>: short term press(1 second) – WPS<br>: long term press(2~3 seconds) – Factory Default | ⑨ USB interface (for power supply to external devices) |
| ⑤ RESET button   | ⑩ WAN interface  |
|  | ⑪ LAN interface  |

## 8.2. Evaluation Board Block Diagram



## 9. Ordering Information

Part Number	Description
CDMCM-200	ConversDigital mconnect Wi-Fi media receiver module
EVM-MCM-20	Evaluation board for CDMCM-200