



# **ZXSDR R8862A S7100**

## **User Manual**

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|                                                                                     |                                                                       |
|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------|
|  | CAUTION LASER                                                         |
|  | CAUTION HOT SURFACE                                                   |
|  | CAUTION ELECTRIC SHOCK                                                |
|  | <b>WARNING</b><br>The RRU must be lift with handle and hole together! |

## Catalog

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# 1 Overview

## 1.1 Introduction

This document provides a high level description of ZXSDR R8862A S7100 (hereinafter ZXSDR R8862A S7100), which is one new compact distributed RRU (Remote Radio Unit) used in ZTE wireless total solution. The RRU is based on common ZTE compacted RRU platform and can work in LTE single mode or Multi-Mode at the same frequency band.

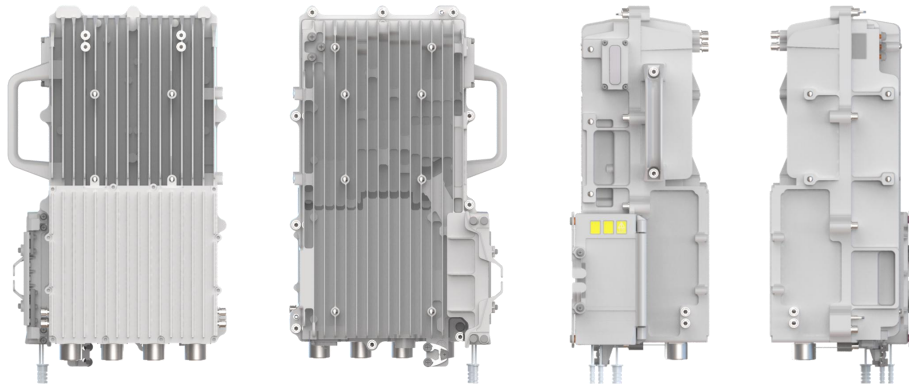
## 1.2 Benefits

- 2\*2 MIMO Capability, Better Performance  
ZXSDR R8862A S7100 is based on new compacted RRU platform and high efficiency Power Amplifier technology. With two transmitting channels and four receiving channels, it supports 2\*2 MIMO to improve coverage, data throughput and peak download speed.
- Faster deployment  
ZXSDR R8862A S7100 is 15L in volume and 17Kg in weight. It is portable to transport and flexible to install on the pole, tower and wall, thus reducing OPEX.
- Higher Efficiency, Lower TCO  
ZXSDR R8862A S7100's PA efficiency can reach up to 45% (The PA efficiency is different based on different working frequency bands);  
It supports dynamic adaptive PA power supply due to the output power, which reduces power consumption.  
It is passive thermal dissipation designed, so it is power saving and less noisy.
- Integrated lightning protection unit  
ZXSDR R8862A S7100 supports integrated Lightning protection unit (PIB), and the protection level is 20 KA.

## 2 Functionality

### 2.1 Physical Appearance

ZXSDR R8862A S7100



### 2.2 Functionality

ZXSDR R8862A S7100 is the remote radio unit of distributed base station. The signal is transmitted /received through ZXSDR R8862A S7100 to/from base band processing unit for further processing via standard CPRI interface.

By applying the distributed system, the feeder loss will be eliminated when the radio unit is positioned close to the antenna. The coverage is enlarged with this solution.

The functions of ZXSDR R8862A S7100 include:

- Support the LTE configuration of 1.4MHz/3MHz/5MHz/10MHz scalable bandwidth defined in 3GPP
- Band Supported: band 14
- Support 2T4R in one box which can optimize spectrum efficiency greatly and improve network uplink performance
- Support 64QAM modulation in both LTE downlink and uplink
- Support transmit power report function for every carrier
- Support overload protection function for power amplifier

- Support transmit channel switching on/off function
- ZXSDR R8862A S7100 software failure will not affect the running of BBU and other ZXSDR R8862A S7100s which are connected to it.

### 3 Technical Specifications

| indices                     | ZXSDR R8862A S7100                                    |
|-----------------------------|-------------------------------------------------------|
| Operation<br>Frequency Band | B14<br>Tx: 758 MHz - 768 MHz<br>Rx: 788 MHz - 798 MHz |
| Size (H*W*D)                | 422*218*165 mm,15L                                    |
| Weight                      | 17kg                                                  |
| Power<br>Consumption        | Average 210W, peak 400W                               |
| Power                       | -48 V DC/220 V AC                                     |
| Temperature                 | -40℃~+55℃                                             |
| Relative Humidity           | 5%RH~100%RH                                           |
| Waterproof/Dustproof        | IP65                                                  |
| MTBF                        | DC: ≥464,000 hours<br>AC: ≥442,000 hours              |
| MTTR                        | 1 hour                                                |
| Availability index          | DC: ≥99.999784%<br>AC: ≥99.999774%                    |
| Down duration               | DC: ≤1.133 min/year<br>AC: ≤1.189 min/year            |

## 4 Interface Indices

The external interfaces of the R8862A are located at the bottom and on the front side of the chassis.

For a description of the external interfaces at the bottom of the R8862A chassis, refer to Table 4-1.

Table 4-1 Description of the External Interfaces at the Bottom

| No. | Label        | Interface                                                                                   | Interface Type/Connector                       |
|-----|--------------|---------------------------------------------------------------------------------------------|------------------------------------------------|
| 1   | AISG/MON     | AISG equipment interface<br>MON external monitoring interface<br>LMT O&M Ethernet interface | DB15 connector                                 |
| 2   | GND          | Protective grounding interface                                                              | 16 mm <sup>2</sup> yellow-green round terminal |
| 3   | ANT1 (TX/RX) | TX/RX antenna interface                                                                     | 50 $\Omega$ DIN-mode connector                 |
| 4   | ANT2 (RX)    | RX antenna interface                                                                        | 50 $\Omega$ DIN-mode connector                 |
| 5   | ANT3 (RX)    | RX antenna interface                                                                        | 50 $\Omega$ DIN-mode connector                 |
| 6   | ANT4 (TX/RX) | TX/RX antenna interface                                                                     | 50 $\Omega$ DIN-mode connector                 |

For a description of the external interfaces on the right side of the R8862A chassis, refer to Table 4-2.

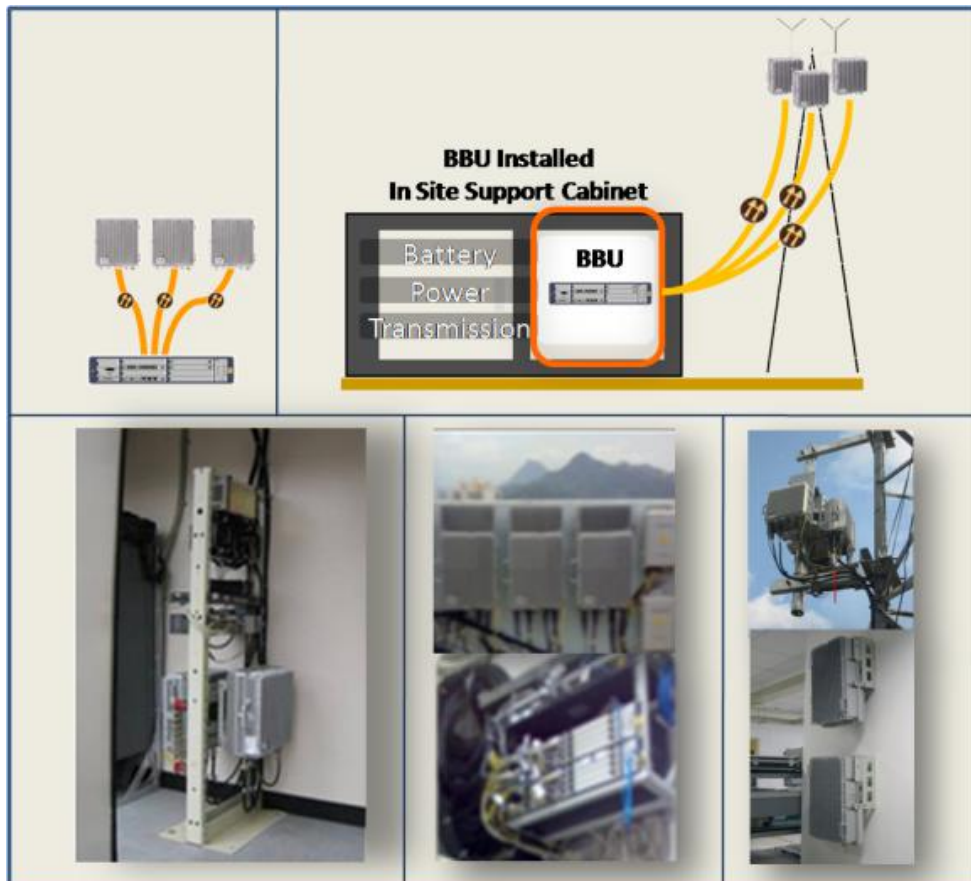
Table 4-2 Description of the External Interfaces on the Right Side

| No. | Label | Interface                                                                         | Interface Type/Connector            |
|-----|-------|-----------------------------------------------------------------------------------|-------------------------------------|
| 1   | OPT1  | Interface for communication between the RRU and a BBU, or RRU cascading interface | LC-type optical interface (IEC 874) |
| 2   | OPT2  | RRU cascading interface                                                           | LC-type optical interface (IEC 874) |
| 3   | PWR   | Power input interface                                                             | 2-pin customized connector          |

## 5 Application Scenarios

R8862A as the Remote Radio Unit (RRU) and Baseband Unit (BBU) comprise distributed macro eNodeB BS8700.

Typical application scenarios of BS8700 are shown in the following figure:



## **FCC Statement**

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates and can radiate radio frequency energy. If not installed and used in accordance with the instructions, it may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. Verification of harmful interference by this equipment to radio or television reception can be determined by turning it off and then on. The user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a different circuit to that of the receiver's outlet.
- Consult the dealer or an experienced radio/TV technician for help.

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.

Note: Any changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

## **FCC Radiation Exposure Statement:**

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter. This equipment should be installed and operated with minimum distance 500cm between the radiator & you body.