

# PONCELL Product Introduction

# Product Overview

PONCELL is a distributed cellular device that takes point-to-multipoint time-division fronthaul technology as its core and reuses the PON network.

# Technical Features

- ✓ Time Division Multiplexing based Fronthaul Patent Technology
- ✓ Point-to-Multipoint Architecture
- ✓ Reuses existing PON network optical paths without impacting the original broadband services
- ✓ Supports MIMO
- ✓ Features low deployment cost and simple operation and maintenance

# Application Scenarios

- ✓ In-home Distributed Blind Spot Coverage
- ✓ Urban Village Continuous Coverage, Road Blind Spot Remediation, Small Natural Villages
- ✓ Elevator Coverage
- ✓ Large-Area Underground Parking Lot Coverage
- ✓ Remote Village Wide-Area Coverage

# Product Specifications

LTE-BBU (PON-CWDM)



| LTE-BBU (PON-CWDM)      |                                                                                            |
|-------------------------|--------------------------------------------------------------------------------------------|
| Protocol                | 3GPP R15                                                                                   |
| Cell No.                | 2 cells                                                                                    |
| Carrier bandwidth       | 5/10/15/20 MHz                                                                             |
| Peak rate               | DL/150Mbps; UL/50Mbps<br>(FDD,20MHz/carrier BW)                                            |
| User No.                | Supports 2*64 access users, 2*32 service users                                             |
| Network functions       | Supports TR069 network management protocol, VLAN function, IP-RAN and PON network backhaul |
| Synchronous mode        | RGPS, 1588; $\pm 0.01\text{ppm}$                                                           |
| CWDM interface          | 2*1*CWDM                                                                                   |
| FTTH                    | LTE signal follows PON into home                                                           |
| Backhaul interface      | 2*1*RJ45 GE; 2*1*SFP+ GE                                                                   |
| Networking capability   | 2*4*SFP+ connect to RU                                                                     |
| Maintenance interface   | 2*1*RJ45 GE                                                                                |
| Operating temp/humidity | -25°C ~ +45°C; 10% ~ 90%                                                                   |
| IP rating               | IP30                                                                                       |
| Power consumption       | $\leq 40\text{W}$                                                                          |
| Power supply mode       | AC 220V or DC 48V power supply                                                             |
| Dimension (L*W*H)       | $\leq 441\text{mm} \times 264\text{mm} \times 44\text{mm}$                                 |
| Weight                  | $\leq 4.5\text{kg}$                                                                        |
| Installation            | Standard cabinet installation, wall mounted                                                |

# Product Specifications

NR-BBU (PON-CWDM)



| NR-BBU (PON-CWDM)       |                                                                                                                                                                                                                                                                                                                                                                                             |
|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Protocol                | 3GPP R15                                                                                                                                                                                                                                                                                                                                                                                    |
| Cell No.                | 3 cells                                                                                                                                                                                                                                                                                                                                                                                     |
| Carrier bandwidth       | TDD: 10MHz/20MHz/40MHz/60MHz/80MHz/100MHz<br>FDD: 10MHz/20MHz/30MHz/40MHz                                                                                                                                                                                                                                                                                                                   |
| Subcarrier spacing      | TDD: 30kHz<br>FDD: 15kHz                                                                                                                                                                                                                                                                                                                                                                    |
| Peak rate               | TDD:<br>1.DDDDD DDSUU frame structure<br>4-channel downstream 1.35Gbps, upstream 210Mbps<br>2-channel downstream 700Mbps, upstream 210Mbps;<br>2.DDDSU DDSUU frame structure<br>2-channel downstream 675Mbps, upstream 337.5Mbps<br>3.DSUUU frame structure<br>2-channel downstream 315Mbps, upstream 612Mbps<br>FDD (40M) :<br>Downstream 2-stream 370Mbps, upstream single stream 200Mbps |
| User No.                | TDD:800 access users,400 service users/cell<br>FDD:400 access users,200 service users/cell                                                                                                                                                                                                                                                                                                  |
| Network functions       | Supports TR069 protocol, VLAN function, IPRAN and PON network backhaul                                                                                                                                                                                                                                                                                                                      |
| Synchronous mode        | GPS,RGPS,1588;±0.01ppm                                                                                                                                                                                                                                                                                                                                                                      |
| GPS interface           | 1*SMA                                                                                                                                                                                                                                                                                                                                                                                       |
| Backhaul interface      | 1*SFP+ 10GE                                                                                                                                                                                                                                                                                                                                                                                 |
| Networking capability   | eCPRI 2*SFP+ 10Gbps                                                                                                                                                                                                                                                                                                                                                                         |
| Maintenance interface   | 1*RJ45 GE                                                                                                                                                                                                                                                                                                                                                                                   |
| Operating temp/humidity | -25°C ~ +45°C; 10% ~ 90%                                                                                                                                                                                                                                                                                                                                                                    |
| IP rating               | IP30                                                                                                                                                                                                                                                                                                                                                                                        |
| Power consumption       | ≤190W                                                                                                                                                                                                                                                                                                                                                                                       |
| Power supply mode       | AC 220V or DC 48V power supply                                                                                                                                                                                                                                                                                                                                                              |
| Dimension (L*W*H)       | ≤438mm*380mm*44mm                                                                                                                                                                                                                                                                                                                                                                           |
| Weight                  | ≤5.6kg                                                                                                                                                                                                                                                                                                                                                                                      |
| Installation            | Standard cabinet installation, wall mounted                                                                                                                                                                                                                                                                                                                                                 |

# Product Specifications

PONCELL-250mW RU



| PONCELL-250mW RU        |                                                                             |
|-------------------------|-----------------------------------------------------------------------------|
| Band                    | B1/B3/B5/B8/B28/B7                                                          |
| IBW                     | 5/10/15/20 MHz                                                              |
| Max. output power       | 2*24dBm                                                                     |
| MIMO                    | 2TR or 2T2R                                                                 |
| Antenna                 | Built in omnidirectional antenna or two external SMA RF interfaces          |
| Networking              | Supports connection to BBU, with a maximum support of 2 levels of cascading |
| EVM                     | QPSK < 17.5%, 16QAM < 12.5%, 64QAM < 5%                                     |
| Sensitivity             | $\leq -100\text{dBm/ANT}$ (FDD LTE:3GPP TS 36.141)                          |
| ACLR                    | $\leq -45\text{dBc}$                                                        |
| VSWR                    | $\leq 1.5$                                                                  |
| Operating temp/humidity | -25°C ~ +45°C; 10% ~ 90%                                                    |
| IP rating               | IP30                                                                        |
| Power consumption       | $\leq 20\text{W}$                                                           |
| Power supply mode       | AC 220V to DC 12V power adapter                                             |
| Dimension (L*W*H)       | $\leq 180\text{mm} \times 130\text{mm} \times 49\text{mm}$                  |
| Weight                  | $\leq 1\text{kg}$                                                           |
| Installation            | Flat, ceiling mounted, wall mounted                                         |

# Product Specifications

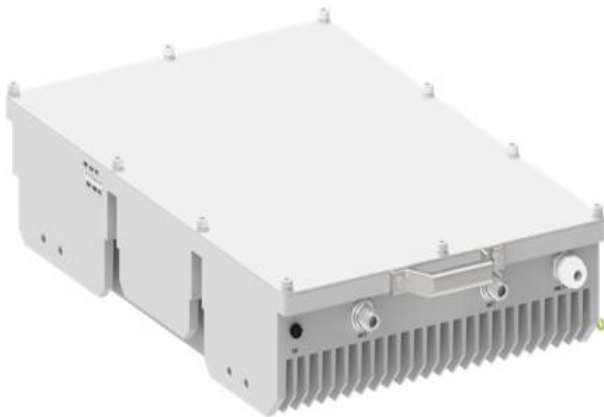
PONCELL-5W RU



| PONCELL-5W RU           |                                                                             |
|-------------------------|-----------------------------------------------------------------------------|
| Band                    | B3/B5/B8/B1                                                                 |
| IBW                     | 5/10/15/20 MHz                                                              |
| Max. output power       | 2*37dBm                                                                     |
| MIMO                    | 2TR or 2T2R                                                                 |
| Antenna                 | Built in omnidirectional antenna or two external N-K RF interfaces          |
| Networking              | Supports connection to BBU, with a maximum support of 2 levels of cascading |
| EVM                     | QPSK < 17.5%, 16QAM < 12.5%, 64QAM < 5%                                     |
| Sensitivity             | ≤-100dBm/ANT(FDD LTE:3GPP TS 36.141)                                        |
| ACLR                    | ≤-45dBc                                                                     |
| VSWR                    | ≤1.5                                                                        |
| Operating temp/humidity | -40°C ~ +55°C; 10% ~ 90%                                                    |
| IP rating               | IP65                                                                        |
| Power consumption       | ≤100W                                                                       |
| Power supply mode       | AC 220V/DC-48V                                                              |
| Dimension (L*W*H)       | ≤370mm*295mm*88.5mm                                                         |
| Weight                  | ≤10kg                                                                       |
| Installation            | wall mounted                                                                |

# Product Specifications

PONCELL-LTE/NR-40W RU



| PONCELL-40W RU          |                                                                                |
|-------------------------|--------------------------------------------------------------------------------|
| Band                    | LTE:B1/B3/B5/B8/B28/B7<br>NR:N1/N28                                            |
| Carrier bandwidth       | 5/10/15/20/30/40MHz                                                            |
| Nominal output power    | 2*46dBm/2*47.8dBm                                                              |
| MIMO                    | 2T2R                                                                           |
| Antenna                 | 2*N -K                                                                         |
| CPRI                    | 2*SFP+,10Gbps                                                                  |
| Networking              | Supports connection to BBU/EU, with a maximum support of 2 levels of cascading |
| EVM                     | QPSK < 17.5%, 16QAM < 12.5%,<br>64QAM < 5%, 256QAM < 3.5%                      |
| Sensitivity             | ≤-100dBm/ANT(FDD LTE:3GPP TS 36.141)<br>≤-103dBm/ANT(FDD NR:3GPP TS 38.141)    |
| ACLR                    | ≤-45dBc                                                                        |
| VSWR                    | ≤1.5                                                                           |
| Operating temp/humidity | -40°C ~ +55°C; 10% ~ 90%                                                       |
| IP rating               | IP65                                                                           |
| Power consumption       | ≤400W(2*46dBm)<br>≤550W(2*47.8dBm)                                             |
| Power supply mode       | AC 220V or DC 48V                                                              |
| Dimension (L*W*H)       | ≤380mm*280mm*160mm(2*46dBm)<br>≤450mm*315mm*181mm(2*47.8dBm)                   |
| Weight                  | ≤12.5kg(2*46dBm); < 18kg(2*47.8dBm)                                            |
| Installation            | Wall mounted, pole mounted                                                     |