

# Photon ID63I Series

Indoor Customer Premise Equipment Datasheet

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## INTRODUCTION

Baicells ID63I 5G indoor CPE supports 5G Standalone (SA) and Non-Standalone (NSA) architectures. It provides 5G Sub-6 GHz access and dual-band Wi-Fi 6 connectivity for residential, enterprise and vertical-industry scenarios.

## MODEL OVERVIEW

| Parameter      | ID63I-R16-EG2095I                | ID63I-R16-EG39B6I                                               |
|----------------|----------------------------------|-----------------------------------------------------------------|
| 3GPP standard  | Release 16                       | Release 16                                                      |
| Cellular focus | n50; customized n40/n75/n77/n78  | Multi-band NR and LTE                                           |
| Ethernet       | 2× Gigabit Ethernet              | 1× Gigabit Ethernet                                             |
| Wi-Fi          | Wi-Fi 6 AX1200, dual-band        | Wi-Fi 6 AX1800, dual-band                                       |
| Cellular peak  | NR SA n50: DL 1460 / UL 460 Mbps | NR SA: DL 4670 / UL 1250 Mbps<br>NR NSA: DL 5470 / UL 1350 Mbps |

NOTE: Features, bands and optional functions can vary by model, customized version or region.

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Indoor Customer Premise Equipment Datasheet



## TECHNOLOGY

| Parameter         | ID63I-R16-EG2095I                                   | ID63I-R16-EG39B6I                                           |
|-------------------|-----------------------------------------------------|-------------------------------------------------------------|
| Standard          | 3GPP Release 16                                     | 3GPP Release 16                                             |
| Mode              | TDD                                                 | TDD/FDD                                                     |
| Channel bandwidth | Max. DL 80 MHz / UL 60 MHz; or 80 MHz for n50 only  | 5–100 MHz                                                   |
| NR bands          | n50<br>Customized: n40/n75/n77/n78                  | n1/n3/n5/n7/n8/n20/n28/n38/n40/n41/n66 /n77/n78             |
| LTE bands         | TDD customized: B40/B42<br>FDD customized: B1/B3/B7 | TDD: B38/B40/B41/B42/B43<br>FDD: B1/B3/B5/B7/B8/B20/B28/B32 |
| Multiplexing      | DL 4x4 MIMO; UL 2x2 MIMO                            | LTE DL 2x2 MIMO<br>NR DL 4x4 MIMO; UL 2x2 MIMO              |
| Security          | Firewall: IP/MAC/URL filter; ACL rule               | Firewall: IP/MAC/URL filter; ACL rule                       |

## INTERFACE

| Parameter   | ID63I-R16-EG2095I                                                              | ID63I-R16-EG39B6I                                                                    |
|-------------|--------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| Ethernet    | 1x GbE WAN/LAN<br>1x GbE LAN                                                   | 1x GbE LAN                                                                           |
| Voice port* | 1x RJ-45/11 for VoLTE and VoNR                                                 | Not stated in source                                                                 |
| Protocols   | IPv4/IPv6, UDP, TCP, IP, ICMP, SNMPv2c/v3c, HTTPS, SSH, TELNET, TR-069, TR-104 | IPv4/IPv6, UDP, TCP, IP, ICMP, SNMPv2c/v3c, HTTPS, SSH, TELNET, TR-069, TR-104, CBSD |
| Management  | Web GUI, ACS, OMC, SNMP                                                        | Web GUI, ACS, OMC, SNMP                                                              |
| VLAN        | Not stated in source                                                           | 802.1Q                                                                               |

\* The EG2095I source marks the voice port as optional/customizable.

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## PERFORMANCE

| Parameter           | ID63I-R16-EG2095I                          | ID63I-R16-EG39B6I                                                                       |
|---------------------|--------------------------------------------|-----------------------------------------------------------------------------------------|
| NR SA peak rate     | n50: DL max. 1460 Mbps<br>UL max. 460 Mbps | DL max. 4670 Mbps<br>UL max. 1250 Mbps                                                  |
| NR NSA peak rate    | Not stated in source                       | DL max. 5470 Mbps<br>UL max. 1350 Mbps                                                  |
| LTE peak rate       | Not stated in source                       | DL max. 1600 Mbps<br>UL max. 200 Mbps                                                   |
| Modulation          | DL/UL: QPSK, 16QAM, 64QAM, 256QAM          | DL/UL: QPSK, 16QAM, 64QAM, 256QAM                                                       |
| Carrier aggregation | Not stated in source                       | LTE: up to 5DL/2UL<br>EN-DC: up to LTE 4DL + FR1                                        |
| Transmit power      | Power Class 3: 23 dBm $\pm$ 1.5 dBm        | LTE/NR: Power Class 3, 23 dBm $\pm$ 1.5 dBm<br>n41: Power Class 2, 26 dBm $\pm$ 1.5 dBm |
| Receive sensitivity | n50 (80 MHz): -85 dBm                      | n41 (100 MHz): -85 dBm                                                                  |

Peak-rate values are model-specific maxima stated in the attachments; actual rates depend on spectrum, network configuration and radio conditions.

## FEATURES

| Parameter          | ID63I-R16-EG2095I                       | ID63I-R16-EG39B6I     |
|--------------------|-----------------------------------------|-----------------------|
| Network mode       | NAT or Bridge                           |                       |
| SIM                | PIN management; SIM lock                |                       |
| Network connection | Auto or manual                          |                       |
| LTE scan mode      | Full-band scan or frequency lock        |                       |
| VPN                | L2TP L2/L3, GRE L2/L3, NGMWAN*          | L2TP L2/L3, GRE L2/L3 |
| NAT                | Port forwarding, port trigger, DMZ, ALG |                       |

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|                    |                                                                                               |
|--------------------|-----------------------------------------------------------------------------------------------|
| <b>Diagnostics</b> | TCP dump, ping, traceroute                                                                    |
| <b>Statistics</b>  | LTE status; uptime; device status; DHCP clients; Wi-Fi stations; firewall status              |
| <b>Maintenance</b> | Date/time; reboot; factory reset; configuration restore/backup; local or OTA firmware upgrade |

## LINK BUDGET

| Parameter                  | ID63I-R16-EG2095I   | ID63I-R16-EG39B6I    |
|----------------------------|---------------------|----------------------|
| <b>Antenna type</b>        | Internal omni, 2T4R |                      |
| <b>Antenna gain</b>        | 2–5 dBi             | 2–6 dBi              |
| <b>Max. transmit power</b> | 23 dBm              | Not stated in source |
| <b>Maximum EIRP</b>        | 25–28 dBm           | Not stated in source |

\* NGMWWAN is marked with an asterisk in the EG2095I source.

## PHYSICAL

| Parameter             | ID63I-R16-EG2095I                                | ID63I-R16-EG39B6I               |
|-----------------------|--------------------------------------------------|---------------------------------|
| <b>LED indicators</b> | Power, WLAN, Internet, Cellular, Signal          | Power, WLAN, Internet, Cellular |
| <b>USIM</b>           | 1.8/3 V 4FF                                      |                                 |
| <b>Restore button</b> | Press for 10 seconds to restore factory settings |                                 |
| <b>WPS button</b>     | WPS or Easy Mesh* configuration                  |                                 |
| <b>Power switch</b>   | Push 1.5 s for ON/OFF                            |                                 |



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|                       |                                                  |       |
|-----------------------|--------------------------------------------------|-------|
| Operating temperature | 14°F to 113°F / -10°C to 45°C                    |       |
| Storage temperature   | -4°F to 158°F / -20°C to 70°C                    |       |
| Humidity              | 5%–95%                                           |       |
| Power consumption     | ≤12 W                                            | <20 W |
| Power supply          | DC adaptor: input 100–240 VAC; output 12 VDC 2 A |       |
| Weight                | About 1.32 lb / 0.6 kg                           |       |
| Dimensions            | 200 × 48 × 163 mm                                |       |

## WI-FI SPECIFICATIONS

|                           |                                                                                                             |
|---------------------------|-------------------------------------------------------------------------------------------------------------|
| Parameter                 | ID63I-R16-EG2095I / ID63I-R16-EG39B6I                                                                       |
| Standard                  | IEEE 802.11b/g/n/ax                                                                                         |
| Channel bandwidth         | 20/40/80 MHz                                                                                                |
| Frequency                 | 2.4 GHz, 5 GHz                                                                                              |
| MIMO                      | 2×2                                                                                                         |
| Peak rate                 | 802.11b: 11 Mbps; g: 54 Mbps; n: 300 Mbps; ac: 867 Mbps; ax: 1200 Mbps; <b>ax 2.4G: 286 Mbps / 574 Mbps</b> |
| Modulation                | DSSS/CCK, OFDM                                                                                              |
| Receive sensitivity — b/g | b BW20: -99.5 dBm (1M), -91 dBm (11M)<br>g BW20: -96 dBm (6M), -78 dBm (54M)                                |

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|                                 |                                                                                    |
|---------------------------------|------------------------------------------------------------------------------------|
| <b>Receive sensitivity — n</b>  | HT20: -95.5 dBm (MCS0), -75 dBm (MCS7)<br>HT40: -93 dBm (MCS0), -72 dBm (MCS7)     |
| <b>Receive sensitivity — ac</b> | VHT20: -95.5 dBm (MCS0), -71 dBm (MCS9)<br>VHT40: -93 dBm (MCS0), -69 dBm (MCS9)   |
| <b>Receive sensitivity — ax</b> | HE20: -95.5 dBm (MCS0), -65.5 dBm (MCS11)<br>HE40: -93 dBm (MCS0), -63 dBm (MCS11) |
| <b>Max. output power</b>        | 20 dBm ×2 + 20 dBm ×2                                                              |
| <b>Antenna</b>                  | Internal omni 2T2R; 3–5 dBi                                                        |
| <b>Users</b>                    | 64                                                                                 |

The source tables list IEEE 802.11b/g/n/ax under Standard while also providing 802.11ac performance values; both statements are retained without reinterpretation.