AtomID15M-HP

Indoor Customer Premise Equipment Datasheet

INTRODUCTION

The Baicells AtomID15M-HP Indoor Customer Premise Equipment (CPE) provides superior performance and routing capabilities to bring broadband data services to end-users.

The AtomID15M-HP has an embedded Wi-Fi Access Point (AP), operates on standard LTE TDD, supports multiple bands, and complies with 3GPP Release 11 CAT15 standards.

Wireless and wired devices, including mobile phones, laptops, tablets, and other smart devices, can simultaneously access the CPE.

The CPE design incorporates UL 2x2 and DL 4x4 MIMO and RX diversity, enabling improved cell coverage and high-speed wireless communications. It also supports Carrier Aggregation (CA), which extends bandwidth, increases data rates, and improves overall network performance.

The product comes with a standard one-year warranty; an extended warranty is available.

HIGHLIGHTS

NOTE: Features can vary based on model or region.

- Supports LTE Bands 41*/42/43/48
  - Customization can be requested:
    - Email sales_na@baicells.com for North America.
    - Email contact@baicells.com for all other regions.
- Complies with 3GPP Release 11 CAT15 standards
- Supports 4CC Inter/Intra-Bands CA
- Supports HPUE Maximum TX Power 30 dBm
- Supports Wi-Fi 6 2.4 GHz and 5 GHz
- 1000 Mbps Ethernet interface
- Peak data rate of up to DL 580 Mbps, UL 30 Mbps
- 256 QAM for DL and 64 QAM for UL as the highest order modulation formats
- GUI-based local and remote Web management
- Excellent Non-Line-of-Sight (NLOS) coverage
- Supports TR-069 network management interface protocol
- Cell lock, SIM lock, and pin lock
- User-friendly LED status indicators
- Supports Bluetooth BLE5.2 and ZigBee protocols for Internet of Things (IoT)
- Supports Transparent Bridge Mode* (L2 Support)
- Compatible with Alexa*
- Compatible with EasyMesh*

** Planned for future release*

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TECHNOLOGY

LTE Standard	3GPP Release 11, CAT15
LTE Mode	TDD
Channel Bandwidth	SC: 5/10/15/20 MHz CA: 80 MHz as maximum aggregated bandwidth
Frequency Bands	B41/42/43/48
Multiplexing	DL 4x4 MIMO, UL 2x2 MIMO
Security	Firewall: IP/MAC/URL filter; ACL rule

INTERFACE

Ethernet Interface	3 RJ-45 port 10/100/1000 auto-sensing, auto-MDX
Protocols Used	IPv4/IPV6, UDP, TCP, IP, ICMP, SNMPv2c, SNMPv3c, HTTPS, SSH, TELNET, TR-069, CBSD
Network Management	Web GUI, ACS, OMC, SNMP
VLAN	802.1Q

PERFORMANCE

Peak Rate	**4x20 MHz (CA)**	**DL (2x2 MIMO, 256 QAM)**	**UL (64 QAM)**
	TDD UL/DL Config. 1	420 Mbps	60 Mbps
	TDD UL/DL Config. 2	580 Mbps	30 Mbps
	2x20 MHz (CA)	**DL (4x4 MIMO, 64 QAM)**	**UL (64 QAM)**
	TDD UL/DL Config. 1	320 Mbps	60 Mbps
	TDD UL/DL Config. 2	440 Mbps	30 Mbps
Modulation	DL: QPSK, 16 QAM, 64 QAM, 256 QAM UL: QPSK, 16 QAM, 64 QAM		
Receive Sensitivity	-96 ± 2 dBm @ QPSK, 20 MHz, 25°C, -102 ± 2 dBm @ 4RX Diversity		

MODULATION LEVELS (TDD UL/DL CONFIG 2)

DL MCS	DL Modulation	CQI Index	Theoretical Data Rate
0–4	QPSK	1–3	10 Mbps–70 Mbps
5–10	16 QAM	4–6	100 Mbps–190 Mbps
11–19	64 QAM	7–11	200 Mbps–350 Mbps
20–27	256 QAM	12–15	400 Mbps–580 Mbps

UL MCS	UL Modulation	Theoretical Data Rate
0–10	QPSK	0.5 Mbps–7 Mbps
11–20	16 QAM	7 Mbps–17 Mbps
21–28	64 QAM	17 Mbps–30 Mbps

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FEATURES

Network Mode	NAT or Bridge
SIM	PIN management, SIM lock
Network Connection	Auto or manual
LTE Scan Mode	Full band scan or frequency lock
WLAN	MSSID isolation
VPN	L2TP L2/L3, GRE L2/L3
NAT	Port forwarding, port trigger, DMZ, ALG
Diagnostics	TCP dump, ping, traceroute
Statistics	LTE status; connection/system up time; device status; DHCP client list; Wi-Fi station list; firewall status
Maintenance	Date and time setting; reboot; restore factory settings; restore or back up configuration file; firmware upgrade locally or OTA

LINK BUDGET

Antenna Type	Internal omni, 2T4R
Antenna Gain	6 dBi to 7 dBi
Max Transmit Power	30 dBm (combined, to regional EIRP limit)
Maximum EIRP	36 dBm to 37 dBm

WLAN

Standard	IEEE 802.11b/g/n/ac/ax
Channel Bandwidth	20 MHz, 40 MHz, 80 MHz, 160 MHz
Frequency	2.4 GHz, 5 GHz
MIMO	2x2
Peak Rate	• 802.11b: 11 Mbps • 802.11g: 54 Mbps • 802.11n: 300 Mbps • 802.11ac: 866 Mbps • 802.11ax 5 GHz: 2400 Mbps • 802.11ax 2.4 GHz: 574 Mbps
Modulation	DSSS/CCK, OFDM

Sensitivity	• 802.11b BW20: -99.5 dBm (1 M), -91 dBm (11 M) • 802.11g BW20: -96 dBm (6 M), -78 dBm (54 M) • 802.11n: HT20: -95.5 dBm (MCS0), -75 dBm (MCS7) • 802.11n: HT40: -93 dBm (MCS0), -72 dBm (MCS7) • 802.11ac: VHT20: -95.5 dBm (MCS0), -71 dBm (MCS9) • 802.11ac: VHT40: -93 dBm (MCS0), -69 dBm (MCS9) • 802.11ax: HE20: -95.5 dBm (MCS0), -65.5 dBm (MCS11) • 802.11ax: HE40: -93 dBm (MCS0), -63 dBm (MCS11)
Max Output Power	23.5 dBm
Antenna Type	Internal omni, 2T2R
Antenna Gain	3 dBi to 5 dBi
Active Users	128

PHYSICAL

LED Indicators	Power, WLAN, LTE, LTE Signal
USIM	1.8 V/3 V 4FF
Restore Button	Press for 10 seconds to restore the CPE to its factory settings
WPS Button	Press for WPS or EasyMesh configuration
Power Switch	Push 1.5 seconds for ON/OFF
Temperature	• 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% to 95%
Power Consumption	<20 W
Power Supply	With DC Adaptor: • INPUT 100–240 VAC • OUTPUT 12 VDC 2 A
Weight	2.5 lb/1.13 kg
Dimensions (HxWxD)	8.9 x 3.8 x 4.3 inches 226.5 x 97.2 x 108.9 millimeters

GLOBAL PART NUMBERS

EG30105M-HP	Atom Indoor CAT15, 2T4R, 2.4 GHz, 5 GHz, 3 dBi to 5 dBi, 1 GE, 12 VDC 1 A, B42/43/48 CPE • FCC certification: TBD • IC certification: TBD

NOTE: Customized versions can be requested.