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| Infonair Srl | | | | | | |
| Via Costalunga 115 | | | | | | |
| 34149 Trieste | | | | | | |
| Spett.le | | | | | | |
| Istituto Nazionale di Oceanografia e di Geofisica Sperimentale – OGS | | | | | | |
| Borgo Grotta Gigante 42/c 34010 Sgonico (TS) | | | | | | |
| Tramite PEC | | | | | | |
| | | | | Prezzo unitario P | Prezzo totale non | |
| Descrizione | Marca | Modello/Codice | q.tà | non ivato | ivato | Prezzo totale con IVA |
| LOTTO 2 | | | | | | |
| Switch ethernet - Caratteristiche tecniche: compatibile con barra DIN 46277 a 5 porte (Analogo a Moxa EDS 205 5p) | Hikvision | DS-3T0310HP-E/HS | 14 | 125,00 | 1.750,00 | 2.135,00 |
| Radio 5GHz POE - Caratteristiche tecniche: porta ethernet: $1 \times 10/100$ Base-TX (RJ45); frequenza operativa 5.475GHz - 5.825GHz; (Analoga a Ubiquiti Bullet M5 TI) | | BULLETAC-IP67 | 4 | 135,00 | 540,00 | 658,80 |
| Radio Antenna compatte 5GHz POE - Analoga a Ubiquiti LiteBeam 5AC Gen2 LBE-5AC-GEN2 | Ubiquiti | LBE-5AC-Gen2-EU | 8 | 70,00 | 560,00 | 683,20 |
| Router wireless 4g - analogo a Teltonika RUT955 | Mikrotik | LTAP MINI LTE KI | 12 | 140,00 | 1.680,00 | 2.049,60 |
| Totali | | | | | 4.530,00 | 5.526,60 |
| Condizioni di vendita: | | | | | | |
| -IVA a vosto carico | | | | | | |
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| Trieste 29/01/2024 | Massimiliano Flego | | | | | |
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DATASHEET

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| | - AP X BUILT AC VESSA |



Dual-Band airMAX[®] ac Radio with Dedicated Wi-Fi Management

Model: B-DB-AC

airMAX ac Technology for 300+ Mbps Throughput at 5 GHz

Superior Processing by airMAX Engine with Custom IC

Plug and Play Integration with airMAX Antennas



SICE DISTRIBUTORE UFFICIALE: www.sicetelecom.it

Overview

Installation Options

1111

Ubiquiti Networks designed airMAX[®] ac radios for high performance and ease of installation. You have the freedom to deploy the Bullet[™] AC anywhere in the world, as it allows for a high degree of flexibility in configuring channel bandwidths (subject to local country regulations).

Zero-Variable Deployment

The Bullet AC eliminates the need to use RF cables and requires no special antenna or tools to install. No radio card / host board issues. No RF cable quality concerns. No mechanical stability concerns. No enclosure mounting requirements. With the Bullet AC, operators can just plug and go.

Software airOS[°]8

airOS[®] 8 is the revolutionary operating system for Ubiquiti[®] airMAX ac products.

Powerful Wireless Features

- Access Point PtMP airMAX Mixed
 Mode
- airMAX ac Protocol Support
- Long-Range Point-to-Point (PtP) Link Mode
- Selectable Channel Width
 - PtP: 10/20/30/40/50/60/80 MHz
- PtMP: 10/20/30/40 MHz
- Automatic Channel Selection
- Transmit Power Control: Automatic/Manual
- Automatic Distance Selection (ACK Timing)
- Strongest WPA2 Security

Usability Enhancements

- airMagic[®] Channel Selection Tool
- Redesigned User Interface
- Dynamic Configuration Changes
- Instant Input Validation
- HTML5 Technology
- Optimization for Mobile Devices
- · Detailed Device Statistics
- Comprehensive Array of Diagnostic Tools, including RF Diagnostics and airView[®] Spectrum Analyzer





Advanced RF Analytics

airMAX ac devices feature a multi-radio architecture to power a revolutionary RF analytics engine.

An independent processor on the PCBA powers a second, dedicated radio, which persistently analyzes the full 5 GHz spectrum and every received symbol to provide you with the most advanced RF analytics in the industry.

Data from the spectrum analysis and RF performance monitoring is displayed on the Dashboard and airView Spectrum Analyzer.

Real-Time Reporting

airOS 8 displays the following RF information:

- Persistent RF Error Vector Magnitude (EVM) constellation diagrams
- Signal, Noise, and Interference (SNI) diagrams
- Carrier to Interference-plus-Noise Ratio (CINR) histograms

Spectral Analysis

airView allows you to identify noise signatures and plan your networks to minimize noise interference. airView performs the following functions:

- Constantly monitors environmental noise
- Collects energy data points in real-time spectral views
- Helps optimize channel selection, network design, and wireless performance

airView runs in the background without disabling the wireless link, so there is no disruption to the network.

In airView, there are three spectral views, each of which represents different data.

- Waterfall Aggregate energy collected for each frequency
- Waveform Aggregate energy collected
- Ambient Noise Level Background noise energy shown as a function of frequency

airView provides powerful spectrum analyzer functionality, eliminating the need to rent or purchase additional equipment for conducting site surveys.

Multi-Radio Architecture



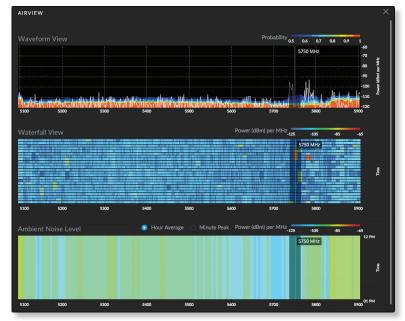
Constellation Diagram

| INR OW | | | 26 | dB dB | | | | REM CIN | | | 26 | dB dB dBr | | | |
|-----------|-----|------------|-----|----------|----|----|-----|------------|------|-----|-----|-----------------|-----|-----|-----|
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SNI Diagram and CINR Histogram



Dedicated Spectral Analysis



Technology airMAX®

Unlike standard Wi-Fi protocol, Ubiquiti's Time Division Multiple Access (TDMA) airMAX ac protocol allows each client to send and receive data using pre-designated time slots scheduled by an intelligent AP controller.

This time slot method eliminates hidden node collisions and maximizes airtime efficiency, so airMAX ac technology provides performance improvements in latency, noise immunity, scalability, and throughput compared to other outdoor systems in its class.

Intelligent Qos Priority assigned to voice/video for seamless streaming.

Scalability High capacity and scalability.

Long Distance Capable of high-speed, carrier-class links.

Superior Performance

The next-generation airMAX ac technology boosts the advantages of our proprietary TDMA protocol.

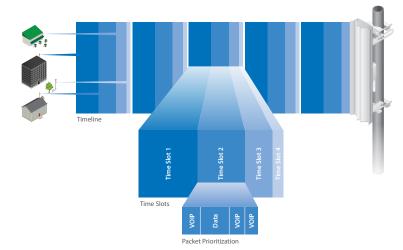
Ubiquiti's airMAX engine with custom IC dramatically improves TDMA latency and network scalability. The custom silicon provides hardware acceleration capabilities to the airMAX scheduler, to support the high data rates and dense modulation used in airMAX ac technology.

Throughput Breakthrough

airMAX ac supports high data rates, which require dense modulation: 256QAM – a significant increase from 64QAM, which is used in airMAX.

With their use of proprietary airMAX ac technology, airMAX ac products supports up to 500+ Mbps (maximum 80 MHz channel width) real TCP/IP throughput – up to triple the throughput of standard airMAX products.

airMAX ac TDMA Technology

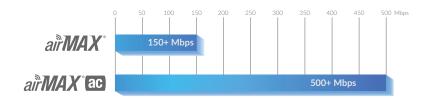


Up to 100 airMAX ac stations can be connected to an airMAX ac Sector; four airMAX ac stations are shown to illustrate the general concept.

airMAX ac Network Scalability



Superior Throughput Performance





Features

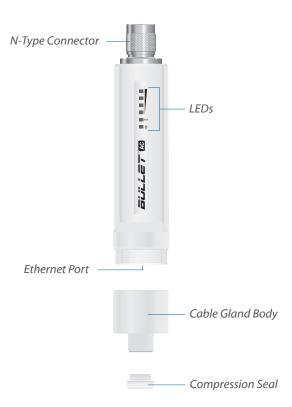
Dual-Band Frequency The Bullet AC covers both 2.4 and 5 GHz spectrums, covering a wide range of frequency bands that work well for both short and long-distance links.

Passive Power over Ethernet (PoE) 24V Passive PoE functionality is included. Both power and data are carried over a single Ethernet cable to the Bullet AC. Use the included PoE Adapter or an optional PoE switch.

Output Power The Bullet AC offers up to 22 dBm of output power.

Weatherproof Design The Bullet AC features a weatherproof design. Made from a high-grade, powder-coated aluminum, the casing can withstand nature's harshest outdoor elements.

Hardware Overview



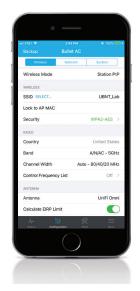
UNMS App

The Bullet AC integrates a separate Wi-Fi radio for fast and easy setup using the Ubiquiti Network Management System (UNMS) app on your mobile device.

Accessing airOS via Wi-Fi

The UNMS[™] app provides instant accessibility to the airOS configuration interface and can be downloaded from the App Store (iOS) or Google Play[™] (Android). UNMS allows you to set up, configure, and manage your device, and offers various configuration options once you're connected or logged in.

UNMS Configuration Screen



| | Bullet AC |
|--------------------------------|--|
| Dimensions | 190 x 46 mm (7.48 x 1.81") |
| Weight | 196 g (6.91 oz) |
| Enclosure | Powder-Coated Aluminum |
| Networking Interface | Gigabit Ethernet Port |
| Antenna Connector | N-Type Connector |
| LEDs | Power, Ethernet, (4) Signal Strength |
| Throughput 2.4 GHz 5 GHz | 160+ Mbps 300+ Mbps |
| Max. Power Consumption | 8W |
| Output Power | 22 dBm |
| Power Supply | AC to 24VDC, 0.5A Gigabit PoE Adapter |
| Power Method | 24V Passive PoE (Pairs 4, 5+; 7, 8 Return) |
| ESD/EMP Protection | ± 24 kV Contact / Air |
| Operating Temperature | -40 to 70° C (-40 to 158° F) |
| Operating Humidity | 5 to 95% Condensing |
| Shock and Vibration | ETSI300-019-1.4 |
| Certifications | CE, FCC, IC |

| Bullet AC Output Power: 22 dBm | | | | | | | | |
|--------------------------------|-----------------|-----------|-------------|-------------------------|----------------|-------------|-------------|--|
| | TX Power Specif | fications | | RX Power Specifications | | | | |
| Modulation | Data Rate | Avg. TX | Tolerance | Modulation | Data Rate | Sensitivity | Tolerance | |
| | 1x BPSK (1/2) | 22 dBm | ± 2 dB | | 1x BPSK (1/2) | -93 dBm | ± 2 dB | |
| | 2x QPSK (1/2) | 22 dBm | ± 2 dB | | 2x QPSK (1/2) | -92 dBm | ±2 dB | |
| | 2x QPSK (¾) | 22 dBm | $\pm 2 dB$ | | 2x QPSK (¾) | -89 dBm | $\pm 2 dB$ | |
| ac | 4x 16QAM (1/2) | 22 dBm | $\pm 2 dB$ | ac | 4x 16QAM (1/2) | -87 dBm | $\pm 2 dB$ | |
| | 4x 16QAM (¾) | 22 dBm | $\pm 2 dB$ | | 4x 16QAM (¾) | -83 dBm | ±2 dB | |
| airMAX | 6x 64QAM (⅔) | 22 dBm | $\pm 2 dB$ | airMAX | 6x 64QAM (⅔) | -80 dBm | $\pm 2 dB$ | |
| ai | 6x 64QAM (¾) | 21 dBm | $\pm 2 dB$ | ai | 6x 64QAM (¾) | -74 dBm | $\pm 2 dB$ | |
| | 6x 64QAM (%) | 20 dBm | ± 2 dB | | 6x 64QAM (%) | -71 dBm | $\pm 2 dB$ | |
| | 8x 256QAM (¾) | 18 dBm | $\pm 2 dB$ | | 8x 256QAM (¾) | -66 dBm | $\pm 2 dB$ | |
| | 8x 256QAM (%) | 18 dBm | $\pm 2 dB$ | | 8x 256QAM (5%) | -62 dBm | $\pm 2 dB$ | |

| | Operating Frequency (MHz) |
|-----------|---------------------------|
| Worldwide | 5150 - 5875 |
| USA | 5725 - 5850 |

| | Management Radio (MHz) |
|-----------|------------------------|
| Worldwide | 2412 - 2472 |
| USA | 2412 - 2462 |

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Datasheet



LiteBeam® AC GEN2

airMAX® ac CPE with Dedicated Management Radio

Model: LBE-5AC-Gen2, LBE-5AC-LR

Lightweight, Low-Cost Solution

Full Adjustment Flexibility

Quick Assembly and Installation



SICE DISTRIBUTORE UFFICIALE: www.sicetelecom.it

Overview

Ubiquiti Networks launches the latest generation of airMAX[®] CPE (Customer Premises Equipment), the LiteBeam[®] 5AC Gen 2, with dedicated Wi-Fi management.

Improved Noise Immunity

The LiteBeam 5AC Gen 2 directs RF energy in a tighter beamwidth. With the focus in one direction, the LiteBeam 5AC Gen 2 blocks or spatially filters out noise, so noise immunity is improved. This feature is especially important in an area crowded with other RF signals of the same or similar frequency.

Innovative Design

Ubiquiti's InnerFeed® technology integrates the radio into the feedhorn of an antenna, so there is no need for a cable. This improves performance because it eliminates cable losses.

Featuring high performance and innovative mechanical design, the LiteBeam 5AC Gen 2 is versatile and cost-effective to deploy.

Software airOS[°]8

airOS[®] v8 is the revolutionary operating system for Ubiquiti[®] airMAX ac products.

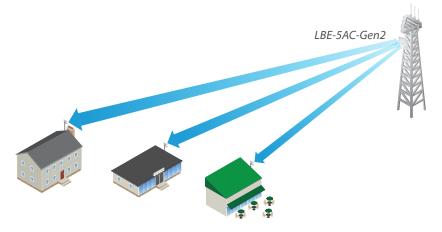
Powerful Wireless Features

- Access Point PtMP airMAX Mixed Mode
- airMAX ac Protocol Support
- Long-Range Point-to-Point (PtP) Link Mode
- Selectable Channel Width
 - PtP: 10/20/30/40/50/60/80 MHz
- PtMP: 10/20/30/40 MHz
- Automatic Channel Selection
- Transmit Power Control: Automatic/Manual
- Automatic Distance Selection (ACK Timing)
- Strongest WPA2 Security

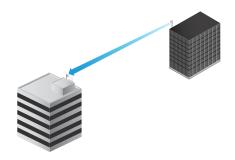
Usability Enhancements

- airMagic[®] Channel Selection Tool
- Redesigned User Interface
- Dynamic Configuration Changes
- Instant Input Validation
- HTML5 Technology
- · Optimization for Mobile Devices
- Detailed Device Statistics
- Comprehensive Array of Diagnostic Tools, including RF Diagnostics and airView[®] Spectrum Analyzer

Application Examples



LiteBeam as a cost-effective WISP deployment in an airMAX ac Point-to-MultiPoint network.





| LiteBeam 5AC Ger 04:18:D6:4E:E | E2:18 CARACITY | AIRTIME | _ | C_DEMO | 0.4 % | 40.37 <u>THROUGHPUT</u> CARACITY 498.42 | LiteBeam 5AC |
|--|--|---|--|--|--|--|---|
| TX PO -4 | WER Mbps | | | | | Mops | TX POWER -4 dBm |
| | 5750 (40) MHz | | | | | | |
| | 5,740 | 5,760 | 5,780 | 5,000 | | 5,820 | 5,840 |
| LOCAL SIGNAL -6 | 3 / -64 dBm | | NOISE FLOOR -91 dBm | REMOTE SIGNAL -4 | 14 / -49 _{dBm} | | NOISE FLOOI |
| EXPECTED RATE 80 | x | | CURRENT RATE 8x (256QAM 2x2) | E EXPECTED RATE 8X | t | | CURRENT RATE 8x (256 |
| 1X 2X | 40. | đΧ | ax. | 1X 2X | 4X | ax | 8X |
| | REAL-TIME CAPACITY/SPEED | SIGNAL, NOISE & INTERF | FERENCE | | REAL-TIME CAPACITY/SPEED | SIGNAL, NOISE & INTERF | ERENCE |
| | | | 800 | | | | |
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| Capa | acity RX Capacity TX | ◆ Speed RX → Speed RX | Mbps | RATE DISTRIBUTIO | | - Speed RX - Spee ax | ed TX 📲 Latency EX |
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| Capa RATE DISTRIBUTIO | ncity RX Capacity TX DN 2X 4X | ۵X | ed TX | RATE DISTRIBUTIO | N 2X 4X LiteBeam SAC Gen2 Station PtMP | ex VERSION LAST IP | v8.1.2-beta2-cs 10.10.10.92 |
| Capa RATE DISTRIBUTIO IX LOCAL DEVICE DEVICE MODEL | ncity RX Capacity TX DN 22 45 LiteBeam SAC Gen2 | éx VERSION | Mbps ef 12: 48-Latency ex More Details 10 v4.1.2-beta2-c5.32877 (KC) | RATE DISTRIBUTIO | N 2X 4X LiteBeam SAC Gen2 Station PtMP Router | 4X VERSION LAST IP CNR | v8.1.2-beta2-cs 10.10.10.92 +26.68 |
| Capa RATE DISTRIBUTIO 2X LOCAL DEVICE DEVICE MODEL WIRELESS MODE NITWORK MODE DATE | LiteBeen SAC Gen2 APPURD aiMAX AC Router 2017-03-01 (5:2303 | AX VERSION LAN SPEED CINR DISTANCE | Migs at XX @ Latency EX VALUE Control 1000 Migs-123297 000 1000 Migs-12020 1000 Migs-1200 Migs-1200 1000 Migs-120 | RATE DISTRIBUTIO 1X REMOTE DEVICE DEVICE MODEL WIRELESS MODE NETWORK MODE DATE | N 22 4X LifeBeam JAC Gen2 Station PIMP Router 2017-03-01 15:23:02 | ex VERSION LAST IP CINR DISTANCE | v8.12-beta2-cs 10.10.10.02 +26.68 0.2 miles (0.3 km) |
| Capa RATE DISTRIBUTIO IX LOCAL DEVICE DEVICE MODEL WIRLESS MODE NETWORK MODE DATE UPTIME | LiteBean SAC Gen2 AP FISP SAC Gen2 AP FISP SACK AC Rester 2017-03-01 552:030 023504 | AX VERSION LAN SPEED CINR DISTANCE TX/RX BYTES | Maps ef TX # Larency ex ex vers Details # v0.2544x2-r34370.02 xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx | REMOTE DEVICE DEVICE MODEL WIRLISS MODE NETWORK MODE DATE UPTIME | N LiteBeam SAC Gen2 Station PtMP Router 2017-03-01 15:23:02 011:24-45 | VERSION LAST IP CINR DISTANCE TX/IRX BYTES | v8.12-beta2-cs 10.10.10.92 +26.d8 0.2 miles (0.3 km) 931 K / 1.07 M |
| Capa RATE DISTRIBUTIO 2X LOCAL DEVICE DEVICE MODEL NETWORK MODE NETWORK MODE NETWORK MODE DATE LOCATE LOCAL DEVICE | LiteBern 3AC Gen2 AP 1920 AMX XC Roter 2017-9-01 152303 013504 WR2 | AX VERSION LAN SPEED CINR DISTANCE DISTANCE TORKEYTES CARE SHR | Migs of TX * Lateracy Alter Cotally = v8.12-bete2-es.32877 (KL) 1000 Mage-Full v2448 02-misso 33-beta 1039/M 1/22M 1030/B | RATE DISTRIBUTIO | N LiteBeam SAC Gen2 Station PtMP Router 2017-09-01 15:23:02 01:34:15 | eX VERSION LAST IP CINR DISTANCE TX/IRK BYTES CABLE SNR | v8.12-btta2-cs 10.1010.02 +26 dB 0.2 mile(0.8 km) 931K / 107 M +30 dB |
| Capa RATE DISTRIBUTIO IX LOCAL DEVICE DEVICE MODEL WIRELISS MODE NETWORK MODE DATE UPTIME SECURITY NOSE FLOOR | LiteBean SAC Gen2 AP FISP SAC Gen2 AP FISP SACK AC Rester 2017-03-01 552:030 023504 | AX VERSION LAN SPEED CHR DISTANCE TX/RKPTTS CABE LBHGTH | Maps ef TX # Larency ex ex vers Details # v0.2544x2-r34370.02 xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx | RATE DISTRIBUTIO | N LiteBeam SAC Gen2 Sation PMoP Rooter 2017-09-01 1523 02 0134:45 0134:45 -96 dBm | VERSION LAST IP CNR DISTARCE TXRAR TTSS CABLE SIR CABLE LENGTH | v8.12-beta2-cs 10.1010.02 +26.68 0.2 miles (0.8 km) 931K / 1.07 M +30.68 < 20 m |
| Capa RATE DISTRIBUTIO 2X LOCAL DEVICE DEVICE MODEL NETWORK MODE NETWORK MODE NETWORK MODE DATE LOCATE LOCAL DEVICE | LiteBern 3AC Gen2 AP 1920 AMX XC Roter 2017-9-01 152303 013504 WR2 | AX VERSION LAN SPEED CINR DISTANCE DISTANCE TORKEYTES CARE SHR | Migs of TX * Lateracy Alter Cotally = v8.12-bete2-es.32877 (KL) 1000 Mage-Full v2448 02-misso 33-beta 1039/M 1/22M 1030/B | RATE DISTRIBUTIO | N LiteBeam SAC Gen2 Station PtMP Router 2017-09-01 15:23:02 01:34:15 | eX VERSION LAST IP CINR DISTANCE TX/IRK BYTES CABLE SNR | v8.12-btta2-cs 10.1010.02 +26 dB 0.2 mile(0.8 km) 931K / 107 M +30 dB |

UNMS App

The LiteBeam 5AC Gen 2 integrates a separate Wi-Fi radio for fast and easy setup using your mobile device.

Accessing airOS via Wi-Fi

The UNMS[™] app provides instant accessibility to the airOS configuration interface and can be downloaded from the App Store (iOS) or Google Play[™] (Android). UNMS allows you to set up, configure, and manage the LiteBeam 5AC Gen 2. It offers the following options once you're connected or logged in to the device:

Status Check link status information or the basic configuration settings of the LiteBeam 5AC Gen 2.

Configuration Change or update the existing configuration of the LiteBeam 5AC Gen 2.

Tools Access tools for initial installation and configuration of the LiteBeam 5AC Gen 2.

Actions Back up or update the configuration, upload new firmware, reboot the device, reset the device to factory defaults, access the airOS UI in the web browser, or disconnect from the LiteBeam 5AC Gen 2.

Models

The LiteBeam 5AC Gen 2 offers quick and easy alignment and enhanced protection against power surges. There are two models available:

LiteBeam[®] AC GEN2

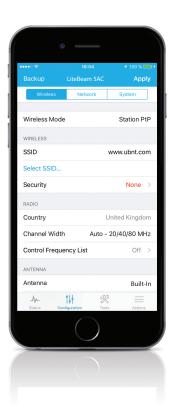
Model: LBE-5AC-Gen2

The LBE-5AC-Gen2 features a robust mount with separate azimuth and elevation adjustments.



Model: LBE-5AC-LR

Designed for long-range applications, the LBE-5AC-LR features a larger reflector size and elevation adjustment (azimuth is adjusted by rotation around the pole).





| Dimensions358 x 271.95 x 272.5 mm (14.09 x 10.71 x 10.73 mm)Wight Without Mount With MountConstant StatumePower SupplyConstant ConstantMax. Power ConsumptionConstant ConstantPower MethodConstant Constant ConstantSupported Voltage RangeConstant <br< th=""></br<> |
|--|
| Without Mount800 g (1.76 lb) 980 g (2.16 lb)Power SupplyMax. Power Consumption24V, 0.3A Gigabit PoE Adapter (Included)Max. Power ConsumptionPower MethodSupported Voltage RangeGainNetworking InterfaceProcessor SpecsMemoryLEDsChannel SizesPtP ModePtP ModeInterfacePtoSupported Voltage SizesProcessor SpecsMemoryChannel SizesPtP ModePtP ModePtD ModeIntoZoJO/40/50/60/80 MHzIntoZoJO/40/50/60/80 MHzMethodStander GranderStander Grander< |
| Max. Power Consumption Max. Power Consumption The second |
| Power MethodPassive PoE (Pairs 4, 5+; 7, 8 Return)Supported Voltage Range24V ± 10%GainG23 d BlNetworking Interface(1) 10/1000 Ethernet PortProcessor SpecsGMIPS 74KcMemoryG64 MB DDR2LEDsPtP ModePower, EthernetChannel SizesPtP ModePtMDP ModeIn 10/20/30/40/50/60/80 MHz10/20/30/40 MHzEnclosure CharacteristicsGScotteristics |
| Supported Voltage Range Supported Volt |
| Gain 23 dBi Networking Interface (1) 10/100/1000 Ethernet Port Processor Specs (1) 10/100/1000 Ethernet Port Memory (1) 10/100/1000 Ethernet Port LEDs (1) 10/100/1000 Ethernet Port Channel Sizes PtP Mode 10/20/30/40/50/60/80 MHz PtMP Mode Enclosure Characteristics (1) 10/20/30/40/50/60/80 MHz |
| Networking Interface (1) 10/100/1000 Ethernet Port Processor Specs (1) 10/100/1000 Ethernet Port Memory MIPS 74Kc LEDs 64 MB DDR2 Channel Sizes PtP Mode 10/20/30/40/50/60/80 MHz PtMP Mode Enclosure Characteristics Getter Street St |
| Processor Specs MIPS 74Kc Memory 64 MB DDR2 LEDs 9000000000000000000000000000000000000 |
| Memory 64 MB DDR2 LEDs 64 MB DDR2 Channel Sizes Power, Ethernet 10/20/30/40/50/60/80 MHz 010/20/30/40 MHz Enclosure Characteristics Genetation of the sector (SGCC 0.6T) / Plastic: PC |
| LEDs Power, Ethernet Channel Sizes PtP Mode 10/20/30/40/50/60/80 MHz 10/20/30/40 MHz Enclosure Characteristics Call |
| Channel Sizes PtP Mode PtMP Mode 10/20/30/40/50/60/80 MHz 10/20/30/40 MHz Enclosure Characteristics Reflector (SGCC 0.6T) / Plastic: PC |
| Interview Interview 10/20/30/40/50/60/80 MHz 10/20/30/40 MHz Enclosure Characteristics Reflector (SGCC 0.6T) / Plastic: PC |
| Enclosure Characteristics Reflector (SGCC 0.6T) / Plastic: PC |
| |
| Mounting Pole-Mounting Kit (Included) |
| |
| Wind Loading 275 N @ 200 km/h (61.8 lbf @ 125 mph) |
| Wind Survivability 200 km/h (125 mph) |
| ESD/EMP Protection ± 24 kV Contact / Air |
| Operating Temperature -40 to 70° C (-40 to 158° F) |
| Operating Humidity 5 to 95% Noncondensing |
| Certifications CE, FCC, IC |

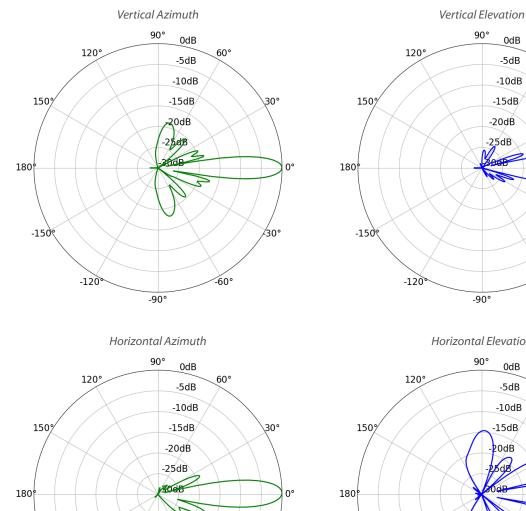
| Operating Frequency (MHz) | | | | | | | |
|---------------------------|-------------------------|------------------------------|------------------------------|-------------------------|--|--|--|
| Worldwide | | | | 5150 - 5875 | | | |
| US/CA | U-NII-1: 5150 - 5250 | U-NII-2A: 5250 - 5350 MHz | U-NII-2C: 5470 - 5725 MHz | U-NII-3: 5725 - 5850 | | | |
| | | | | | | | |

| | Management Radio (MHz) |
|-----------|------------------------|
| Worldwide | 2412 - 2472 |
| US/CA | 2412 - 2462 |

| | LBE-5AC-Gen2 Output Power: 25 dBm | | | | | | | | | |
|------------|-----------------------------------|-----------|--------------------|-------------------------|----------------|--------------|-----------|--|--|--|
| | TX Power Speci | fications | | RX Power Specifications | | | | | | |
| Modulation | Data Rate | Avg. TX | Tolerance | Modulation | Data Rate | Sensitivity | Tolerance | | | |
| | 1x BPSK (1/2) | 25 dBm | $\pm 2 \text{ dB}$ | | 1x BPSK (1/2) | -96 dBm Min. | ± 2 dB | | | |
| | 2x QPSK (1/2) | 25 dBm | ± 2 dB | | 2x QPSK (1/2) | -95 dBm | ± 2 dB | | | |
| | 2x QPSK (¾) | 25 dBm | ± 2 dB | | 2x QPSK (¾) | -92 dBm | ± 2 dB | | | |
| ac | 4x 16QAM (1/2) | 25 dBm | $\pm 2 \text{ dB}$ | ac | 4x 16QAM (1/2) | -90 dBm | ± 2 dB | | | |
| | 4x 16QAM (¾) | 25 dBm | ± 2 dB | | 4x 16QAM (¾) | -86 dBm | ± 2 dB | | | |
| airMAX | 6x 64QAM (⅔) | 25 dBm | ± 2 dB | airMAX | 6x 64QAM (3) | -83 dBm | ± 2 dB | | | |
| ai | 6x 64QAM (¾) | 24 dBm | ± 2 dB | ai | 6x 64QAM (¾) | -77 dBm | ± 2 dB | | | |
| | 6x 64QAM (%) | 23 dBm | ± 2 dB | | 6x 64QAM (%) | -74 dBm | ± 2 dB | | | |
| | 8x 256QAM (¾) | 21 dBm | ± 2 dB | | 8x 256QAM (¾) | -69 dBm | ± 2 dB | | | |
| | 8x 256QAM (%) | 21 dBm | ± 2 dB | | 8x 256QAM (%) | -65 dBm | ± 2 dB | | | |

LiteBeam[®] AG GENZ

DATASHEET



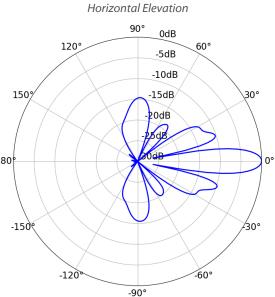
∕30°

-60°

-90°

-150%

-120



-90°

90°

0dB

-5dB

-10dB

-15dB

-20dB -25dB

Bab

60°

-60°

∖30°

230°

0°

| | LBE-5AC-LR | | |
|---------------------------------------|--------------------------|--|--|
| Dimensions | | 512.5 x 385.75 x 258.3 mm (20.18 x 15.19 x 10.17") | |
| Weight Without Mount With Mount | | 1.360 kg (2.998 lb) 1.735 kg (3.825 lb) | |
| Power Supply | | 24V, 0.3A Gigabit PoE Adapter (Included) | |
| Max. Power Consumption | | 7W | |
| Power Method | | Passive PoE (Pairs 4, 5+; 7, 8 Return) | |
| Supported Voltage Range | | $24V \pm 10\%$ | |
| Gain | | 26 dBi | |
| Networking Interface | | (1) 10/100/1000 Ethernet Port | |
| Processor Specs | | MIPS 74Kc | |
| Memory | | 64 MB DDR2 | |
| LEDs | | Power, Ethernet | |
| Channel Sizes | PtP Mode PtMP Mode | | |
| | 10/20/30/40/50/60/80 MHz | 10/20/30/40 MHz | |
| Enclosure Characteristics | | Reflector (Aluminum) / Plastic: PC | |
| Mounting | | Pole-Mounting Kit (Included) | |
| Wind Loading | | 550 N @ 200 km/h (123.6 lbf @ 125 mph) | |
| Wind Survivability | | 200 km/h (125 mph) | |
| ESD/EMP Protection | | ± 24 kV Contact / Air | |
| Operating Temperature | | -40 to 70° C (-40 to 158° F) | |
| Operating Humidity | | 5 to 95% Noncondensing | |
| Certifications | | CE, FCC, IC | |
| | | | |

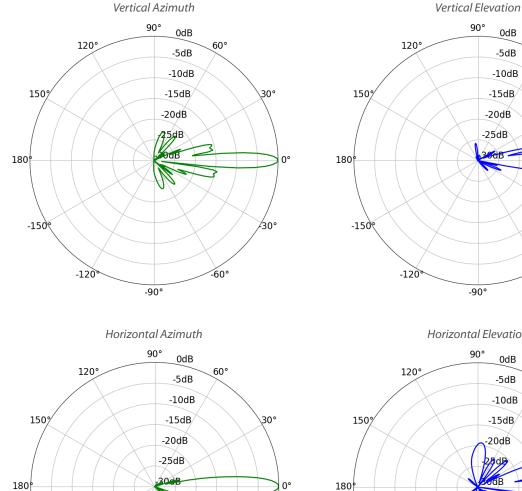
| Operating Frequency (MHz) | | | | |
|---------------------------|-------------------------|------------------------------|------------------------------|-------------------------|
| Worldwide | | | | 5150 - 5875 |
| US/CA | U-NII-1: 5150 - 5250 | U-NII-2A: 5250 - 5350 MHz | U-NII-2C: 5470 - 5725 MHz | U-NII-3: 5725 - 5850 |
| | | | | |

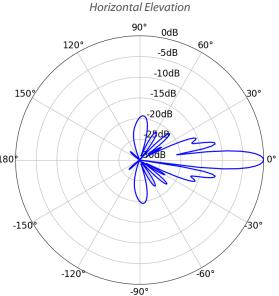
| | Management Radio (MHz) |
|-----------|------------------------|
| Worldwide | 2412 - 2472 |
| US/CA | 2412 - 2462 |

| LBE-5AC-LR Output Power: 25 dBm | | | | | | | |
|---------------------------------|-------------------------|---------|--------------------|-------------------------|----------------|--------------|--------------------|
| | TX Power Specifications | | | RX Power Specifications | | | |
| Modulation | Data Rate | Avg. TX | Tolerance | Modulation | Data Rate | Sensitivity | Tolerance |
| | 1x BPSK (1/2) | 25 dBm | ± 2 dB | | 1x BPSK (1/2) | -96 dBm Min. | ± 2 dB |
| | 2x QPSK (1/2) | 25 dBm | ± 2 dB | | 2x QPSK (1/2) | -95 dBm | ± 2 dB |
| | 2x QPSK (¾) | 25 dBm | ± 2 dB | | 2x QPSK (¾) | -92 dBm | $\pm 2 \text{ dB}$ |
| ac | 4x 16QAM (1/2) | 25 dBm | $\pm 2 dB$ | ac | 4x 16QAM (1/2) | -90 dBm | $\pm 2 \text{ dB}$ |
| | 4x 16QAM (¾) | 25 dBm | ± 2 dB | airMAX é | 4x 16QAM (¾) | -86 dBm | $\pm 2 \text{ dB}$ |
| airMAX | 6x 64QAM (3) | 25 dBm | $\pm 2 dB$ | | 6x 64QAM (⅔) | -83 dBm | $\pm 2 dB$ |
| ai | 6x 64QAM (¾) | 24 dBm | ± 2 dB | | 6x 64QAM (¾) | -77 dBm | ± 2 dB |
| | 6x 64QAM (5%) | 23 dBm | ± 2 dB | | 6x 64QAM (%) | -74 dBm | ± 2 dB |
| | 8x 256QAM (¾) | 21 dBm | ± 2 dB | | 8x 256QAM (¾) | -69 dBm | ± 2 dB |
| | 8x 256QAM (%) | 21 dBm | $\pm 2 \text{ dB}$ | | 8x 256QAM (%) | -65 dBm | $\pm 2 \text{ dB}$ |

LiteBeam[®] AG GEN2

DATASHEET





-90°

90°

0dB

-5dB

-10dB

-15dB

-20dB -25dB

30dB

60°

-60°

30°

230°

0°

Specifications are subject to change. Ubiquiti products are sold with a limited warranty described at: www.ubnt.com/support/warranty The limited warranty requires the use of arbitration to resolve disputes on an individual basis, and, where applicable, specify arbitration instead of jury trials or class actions.

∕30°

-60°

-90°

-150%

-120

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LtAP mini series

The LtAP mini LTE kit is a small weatherproof wireless access point with a built in cellular modem that supports 2G (international version only), 3G and 4G (LTE) connectivity. It is also available separately, without the modem, so you can use your own.

Connect to the LtAP mini's built-in 802.11b/g/n wireless and access the LTE network from your phone or any other wireless device. The LtAP mini LTE also has one 10/100 Ethernet LAN port for your wired devices. The RS232 serial port gives you console access for debugging.



- 2.4 GHz AP in a rugged case
- miniPCle for LTE
- Two SIM slots
- Built in GPS
- Serial port for other devices
- Perfect for cars or outdoor mobile applications

LtAP mini has a special enclosure with with a wall mounting kit, two SIM slots to alternate between cellular providers, and integrated GPS support, making this a perfect device for use in moving vehicles like cars, buses or trains. External GPS antenna is available for ordering separately (not included, product code ACGPSA).

The LTE card is connected to two internal antennas with u.FL connectors, so if you want, you can unplug the connectors and add your own external LTE antenna for better coverage. The unit has several powering options: 10-57 V PoE-in by Ethernet port, DC jack and microUSB.

Use the built in GPS module to track the location of your vehicle in real time, we have even provided a simple tracking application example in the RouterOS documentation, to help you start development of your platform.





PoE injector 24 V 1.2 A power adapter

A External DC oter cable

C Screw kit

K-55



Three versions are available:

- LtAP mini LTE kit (RB912R-2nD-LTm&R11e-LTE) includes LTE modem that supports International LTE bands 1,2,3,7,8,20,38 and 40.
- LtAP mini LTE kit-US (RB912R-2nD-LTm&R11e-LTE-US) includes LTE modem that supports LTE bands 2,4,5 and 12, mostly used by mobile operators in United States, Canada and Latin America.
- LtAP mini (RB912R-2nD-LTm) is shipped with without LTE card installed (empty miniPCI-e slot), so you can use your own LTE card.



| Product code | RB912R-2nD-LTm&R11e-LTE | RB912R-2nD-LTm&R11e-LTE-US | RB912R-2nD-LTm |
|-------------------------|--|--|---|
| CPU | QCA9531 650 MHz | | |
| Size of RAM | 64 MB | | |
| Storage | 16 MB | | |
| 10/100 Ethernet ports | 1 | | |
| Wireless | Built-in 2.4 GHz 802.11b/g/n, dual-chain | | |
| Wireless chip model | QCA9531 | | |
| Wireless regulations | Specific frequency range can be limited by | y country regulations | |
| Antenna beam width | 360° | | |
| Wireless antenna gain | 1.5 dBi | | |
| GPS | Built-in MT3337V, with u.FL RF connector (external antenna required) | | |
| PoE in | Yes | | |
| SIM slot | 2 Mini SIM slots | | |
| LTE modem | Included Included None (slot for miniPut | | None (slot for miniPCI-e LTE card available) |
| LTE category | 4 (150Mbps Downlink, 50Mbps Uplink) | | - |
| 3G category | R7 (21Mbps Downlinks, 5.76Mbps Uplink) | R8 (Cat24 - 42.2Mbps Downlink) R7 (Cat14 - 21.1Mbps Downlink) | - |
| 2G category | Class12 | | - |
| LTE antenna gain | 3.5 dBi (with uFL connector) | | |
| Serial port | RS232 (shared with GPS port) | | |
| Supported input voltage | PoE in: 10 V - 57 V (Passive PoE and 802.3af/at with unshielded cable) DC jack: 8 - 30 V MicroUSB: 5 V | | |
| Dimensions | 139 x 77 x 28,5 mm | | |
| Operating temperature | -40°C +50°C tested | | |
| License level | 4 | | |
| Operating System | RouterOS | | |
| Max Power consumption | 9 W 4 W | | |

Wireless specifications

| 1MBit/s | 22 | -96 |
|----------|----|-----|
| 11MBit/s | 22 | -89 |
| 6MBit/s | 20 | -93 |
| 54MBit/s | 18 | -74 |
| MCS0 | 20 | -93 |
| MCS7 | 16 | -71 |
| MCS7 | 16 | -71 |

Supported bands

| RB912R-2nD-LTm&R11e-LTE | | |
|-------------------------|--|--|
| LTE (FDD) bands | 1/2/3/7/8/20 (2100/1900/1800/2600/900/800) | |
| LTE (TDD) bands | 38/40 (2600/2300) | |
| 3G bands | 1/2/5/8 (2100/1900/800/900) | |
| 2G bands | 2/3/5/8 (1900/1800/800/900) | |

RB912R-2nD-LTm&R11e-LTE-US

| LTE (FDD) bands | 2(1900)/4(1700)/5(850)/12(700) |
|-----------------|--------------------------------|
| 3G bands | 2(1900)/5(850) |



DS-3T0306HP-E/HS 4-Port 100M Unmanaged Hi-PoE Switch

DS-3T0306HP-E/HS switches are layer 2 Hi-PoE switches, providing advanced PoE power supply technology and wider temperature (-30 to 65 °C) design on the basis of high-performance access to ensure stable data upload. The switches support Hi-PoE, long range, port isolation, and PoE watchdog function.



Key Feature

- 3 × 100M PoE ports, 1 × Hi-PoE port, 1 × gigabit RJ45 port and 1 × gigabit SFP Fiber Optical Port.
- IEEE 802.3at/af/bt standard for Hi-PoE port (Max. 60 W PoE output).
- IEEE 802.3at/af standard for PoE ports (Max. 30 W PoE output).
- IEEE 802.3, IEEE 802.3u, IEEE 802.3x, IEEE 802.3z and IEEE 802.3ab standard.
- 6 KV surge protection for PoE ports.
- Up to 300 m long-range transmission.
- PoE watchdog to auto detect and restart the cameras that do not respond.
- Port isolation to improve network security.
- Wire-speed forwarding.
- Wider temperature (-30 to 65 °C) design.
- Store-and-forward switching.
- Solid high-strength metal shell.
- Reliable fan-free design.



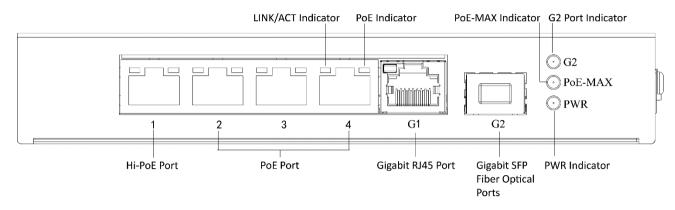


| Model | | DS-3T0306HP-E/HS |
|-------------------------|--------------------------------------|--|
| | Port number | 3 \times 100M PoE ports, 1 \times Hi-PoE port, 1 \times gigabit RJ45 port and 1 \times |
| Network | Fort number | gigabit SFP Fiber Optical Port |
| | Port type | RJ45 port, full duplex, MDI/MDI-X adaptive |
| | Standard | IEEE 802.3, IEEE 802.3u, IEEE 802.3x, IEEE 802.3z and IEEE 802.3ab |
| | Forwarding mode | Store-and-forward switching |
| | Working mode | Standard mode (default), Extend mode, Isolation mode, PoE watchdog mode |
| parameters | Ports for long-distance transmission | Ports 3 and 4 |
| | MAC address table | 2 К |
| | Switching capacity | 4.8 Gbps |
| | Packet forwarding rate | 3.5712 Mpps |
| | Internal cache | 1.0 Mbits |
| | PoE standard | Port 1: IEEE 802.3af, IEEE 802.3at, IEEE 802.3bt Ports 2 to 4: IEEE 802.3af, IEEE 802.3at |
| PoE power | PoE power pin | Ports 1 to 4: Ethernet cables 1/2/3/6 and 4/5/7/8 provide power supply simultaneously. |
| supply | PoE port | Ports 2 to 4 |
| oupp.) | Hi-PoE port | Port 1 |
| | Max. port power | Port 1: 60 W Ports 2 to 4: 30 W |
| | PoE power budget | 60 W |
| Dialing function | Long range | Ports 3 and 4: up to 300 m. |
| | Port isolation | Ports 1 to 4: port isolation mode to improve network security. |
| | PoE watchdog | Ports 1 to 4: auto detect and restart the cameras that do not respond. |
| | Shell | Metal material, fan-free design |
| | Gross weight | 0.915 kg (2.02 lb) |
| | Net weight | 0.35 kg (0.77 lb) |
| | Dimension (L × H × D) | 158 mm × 101.2 mm × 31.6 mm (6.22" × 3.98" × 1.24") |
| | Operating temperature | -30 °C to 65 °C (-22 °F to 149°F) |
| | Storage temperature | -40 °C to 85 °C (-40 °F to 185 °F) |
| General | Operating humidity | 5% to 95% (no condensation) |
| | Storage humidity | 5% to 95% (no condensation) |
| | Power supply | 48 to 57 VDC, 1.35 A Max. |
| | Power consumption in idle | < 5 W |
| | Max. power consumption | 65 W |
| | Power source | 65 W |
| Approval | EMC | FCC (47 CFR Part 15, Subpart B); CE-EMC (EN 55032: 2015, EN 61000- 3-2: 2014, EN 61000-3-3: 2013, EN 55024: 2010 +A1: 2015); RCM (AS/NZS CISPR 32: 2015); IC (ICES-003: Issue 6, 2016) |
| | Safety | UL (UL 60950-1); CB (IEC 60950-1:2005 + Am 1:2009 + Am 2:2013); CE LVD (EN 60950-1:2005 + Am 1:2009 + Am 2:2013) |
| | Chemistry | CE-RoHS (2011/65/EU); WEEE (2012/19/EU); Reach (Regulation (EC) No 1907/2006) |

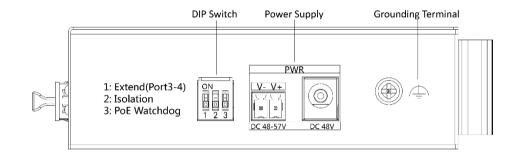


Physical Interface

Front panel:



Back panel:



Available Model

DS-3T0306HP-E



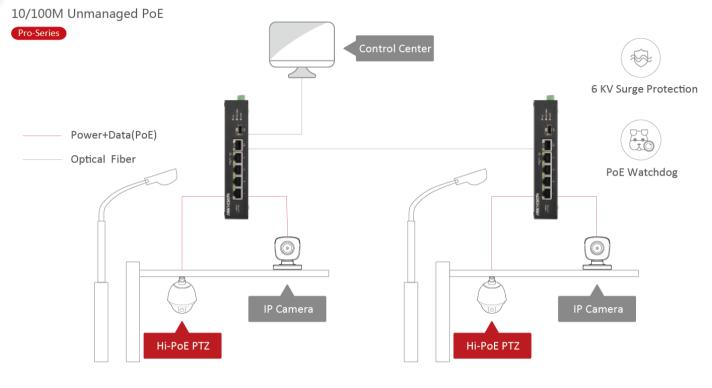
R

Dimension (unit: mm) 31.6 158 0 0 101.2 \bigcirc \bigcirc <u>Inna</u>



Typical Application

4-Port 10/100M PoE



Distributed by

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