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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						
-Trasporto a nostro carico						
-Pagamanto: come da capitolato						
-Consegna: nei tempi previsti dla capitolato						
Trieste 29/01/2024	Massimiliano Flego					
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	and the second s					

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



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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



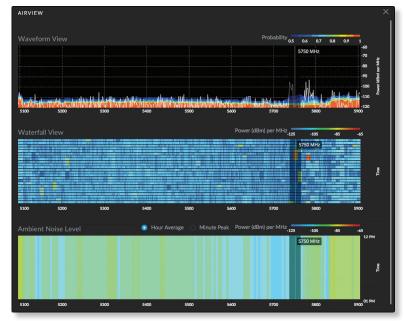
Constellation Diagram

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.

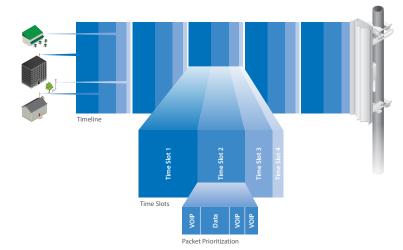
Ubiquiti's airMAX engine with custom IC dramatically improves TDMA latency and network scalability. The custom silicon provides hardware acceleration capabilities to the airMAX scheduler, to support the high data rates and dense modulation used in airMAX ac technology.

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

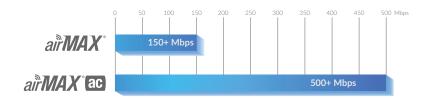


Up to 100 airMAX ac stations can be connected to an airMAX ac Sector; four airMAX ac stations are shown to illustrate the general concept.

airMAX ac Network Scalability



Superior Throughput Performance





Features

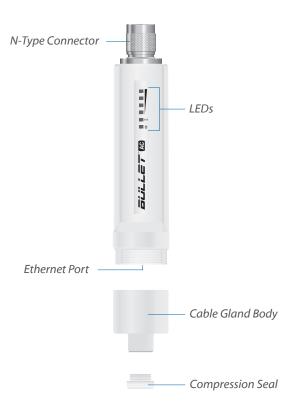
Dual-Band Frequency The Bullet AC covers both 2.4 and 5 GHz spectrums, covering a wide range of frequency bands that work well for both short and long-distance links.

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



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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.

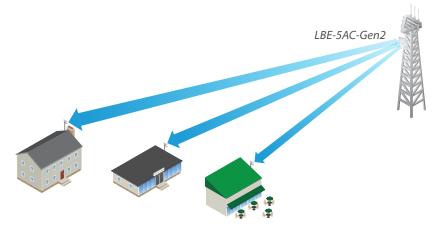
Powerful Wireless Features

- 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

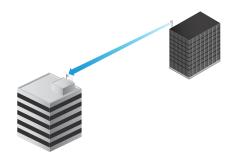
Usability Enhancements

- 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
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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
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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
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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

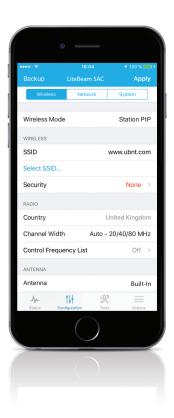
Model: LBE-5AC-Gen2

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

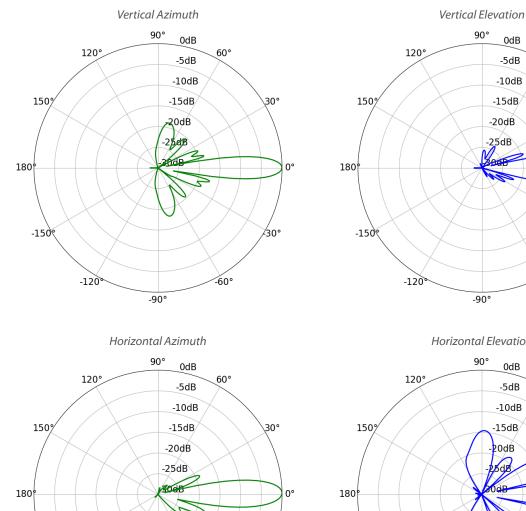
Operating Frequency (MHz)							
Worldwide				5150 - 5875			
US/CA	U-NII-1: 5150 - 5250	U-NII-2A: 5250 - 5350 MHz	U-NII-2C: 5470 - 5725 MHz	U-NII-3: 5725 - 5850			

	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



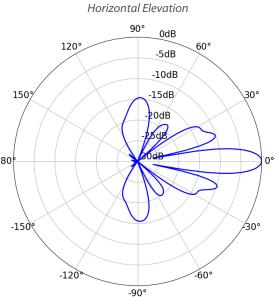
∕30°

-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	

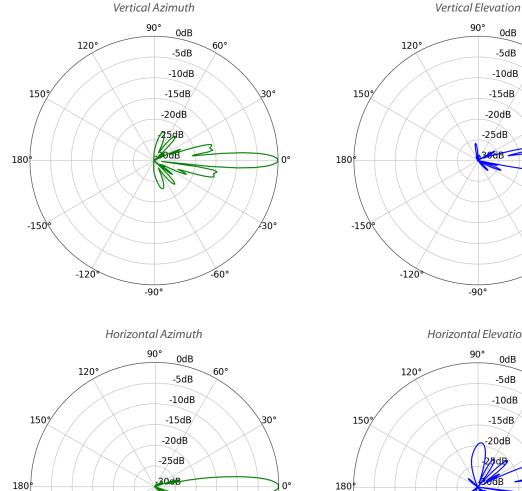
Operating Frequency (MHz)				
Worldwide				5150 - 5875
US/CA	U-NII-1: 5150 - 5250	U-NII-2A: 5250 - 5350 MHz	U-NII-2C: 5470 - 5725 MHz	U-NII-3: 5725 - 5850

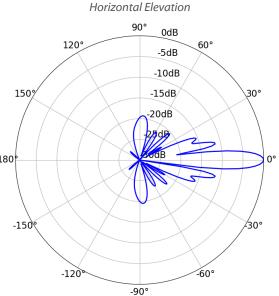
	Management Radio (MHz)
Worldwide	2412 - 2472
US/CA	2412 - 2462

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.



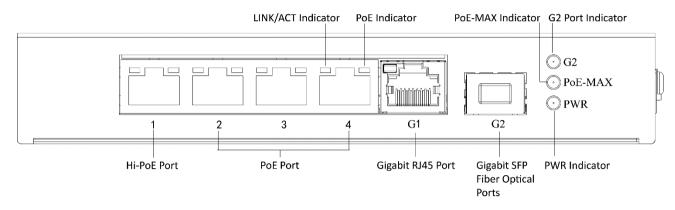


Model		DS-3T0306HP-E/HS
	Port number	3 \times 100M PoE ports, 1 \times Hi-PoE port, 1 \times gigabit RJ45 port and 1 \times
Network	Fort number	gigabit SFP Fiber Optical Port
	Port type	RJ45 port, full duplex, MDI/MDI-X adaptive
	Standard	IEEE 802.3, IEEE 802.3u, IEEE 802.3x, IEEE 802.3z and IEEE 802.3ab
	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)

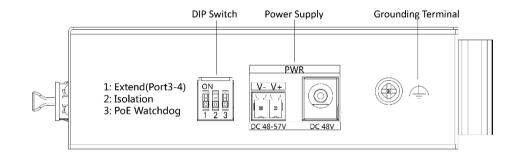


Physical Interface

Front panel:



Back panel:



Available Model

DS-3T0306HP-E



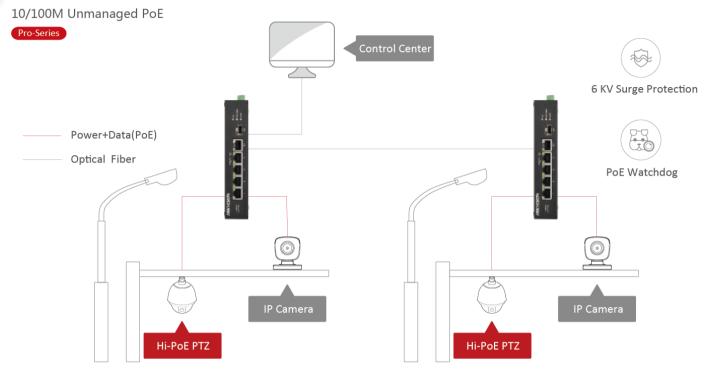
R

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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