STEP 4 INSTALLATION OF THE QWIKCAT BATTERY PACK

(a) The battery pack will be mounted between 15 feet and 26 feet from the base of the light pole **mast.**

(b) The **Qwickcat** battery pack mounting bracket will be secured on the **mast** with 2 steel straps.

(c) The battery pack will then be installed by sliding the two extended pegs on the top of the cover into the grooves on the mounting bracket.

(d) The battery pack will then slidedown until the threaded holes align with the bracket. It will be secured into the mount with 8 1/4x20 stainless bolts, 4 on each side.

(e) The bolts will be Torqued to 20ft-lbs.

(f) The branch power feed cable will be installed between the **Qwickcat** unit and the **GO2100.**

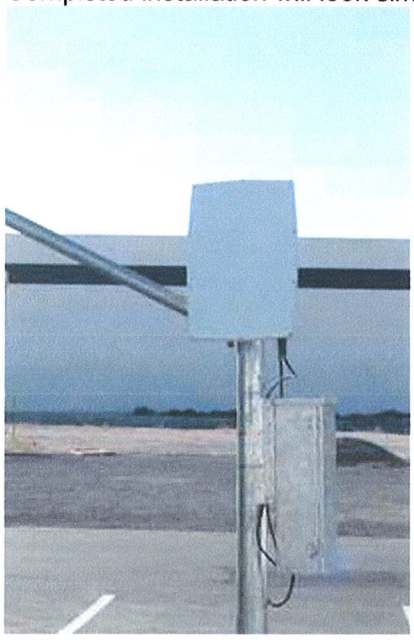
(g) The primary power feed (from the **fixture**) for the **Qwickcat** will then be connected.

(h) All exposed cables will secured and strapped at no more than every 12".

(I) An **information/warning** placard will installed on the **mast** approximately 1 foot below the **Qwickcat** battery pack.

(j) The lightpole's primary power feed will then be energized.

Completed installation will look similar to picture below.



NextWave WIRELESS

WLS 2100 Micro Cellular-Mesh Wi-Fi Sector Base Station

NextWave Mobile Broadband Wireless 2000 Series

Rural - Suburban - Metropolitan Scale
Superior Wi-Fi Performance, Coverage, and Economics

Key Features

- Industry's first micro cellular-mesh Wi-Fi sector base station
- Superior dual-radio 802.11 b/g access powered by xRF™ smart antenna technology
- Dedicated 802.11a radio for high-performance, reliable mesh networking
- Multiple virtual APs with multiple BSSIDs
- MBW EMS/NMS for real-time Element, Network and RF Optimization

MBW Advantage

- Superior range and coverage
- Maximum subscriber access and performance
- Reduce wireless networking equipment requirements
- Realize immediate upfront CAPEX savings and recurring OPEX savings

The Mobile Broadband Wireless (MBW) 2000 Series

NextWave is an innovative leader in carrier-class outdoor Wi-Fi and emerging WiMAX solutions. The NextWave MBW 2000 series and companion MBW 1000 series and MBW 500 series are the foundation for an innovative set of cellular-mesh Wi-Fi architectures. The MBW 2000 series comprises the WLS 2100 Micro Cellular-Mesh Wi-Fi Sector Base Station (WLS 2100). The WLS 2100 is a 120 degree multi-radio sector panel designed for building sides, rooftops, towers and utility poles. The WLS 2100 is equipped with two xRF™ powered adaptive beamforming 802.11 b/g access radios for high-performance coverage and a separate 802.11a radio for high-performance mesh networking. With xRF adaptive beamforming smart antenna technology, the WLP 2100 delivers unparalleled range, coverage, subscriber access, and performance. And like all of NextWave's products, the WLS 2100 is fully manageable by NextWave's MBW EMS/NMS platform. With the MBW management tools operators can perform device management as well as address system-wide network and RF optimization in real-time.

Cellular-Mesh Wi-Fi

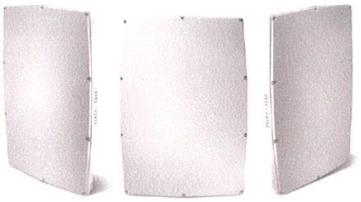
The MBW 2000 series, together with the MBW 1000 and MBW 500 series of cellular-mesh Wi-Fi products, form the foundation for an innovative, high-performance set of architectures for Wi-Fi and emerging WiMAX networking and service delivery. Combining the performance and scale of cellular-style wireless networking architectures with the flexibility and installability of Wi-Fi mesh-networking, the NextWave solution delivers superior performance, coverage, and economics for networks of any size. The MBW 2000 series serve as micro sector base stations ideal for providing top-down Wi-Fi coverage. The MBW 1000 series is designed for pico base station applications ideal for cost-effective street-level coverage; while the MBW 500 series is purpose-built for simple, economical femto cell deployments ideal for ad hoc networks and other on-demand capacity needs. All MBW Series systems are equipped with separate radios for mesh-networking enabling simple, dependable, and high-performance internetworking.

The xRF Smart Antenna Advantage

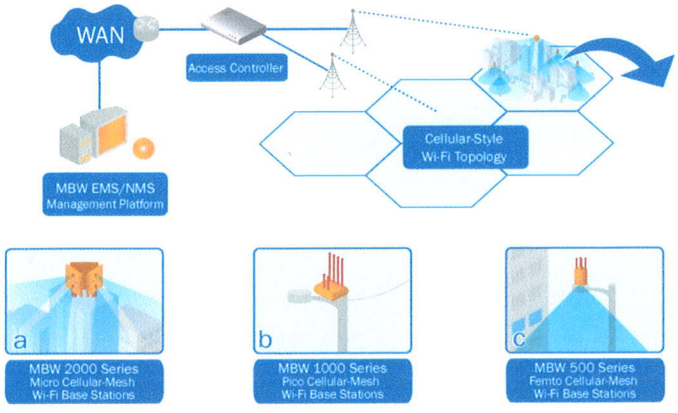
At the heart of the WLS 2100 is NextWave's innovative xRF smart antenna technology. xRF technology leverages state-of-the-art beamforming RF capabilities to deliver unmatched subscriber access, performance, coverage, and interference mitigation. With xRF technology, the WLS 2100 can overcome irregular interference and adapt to challenging topographies. This means better network performance with fewer access points.

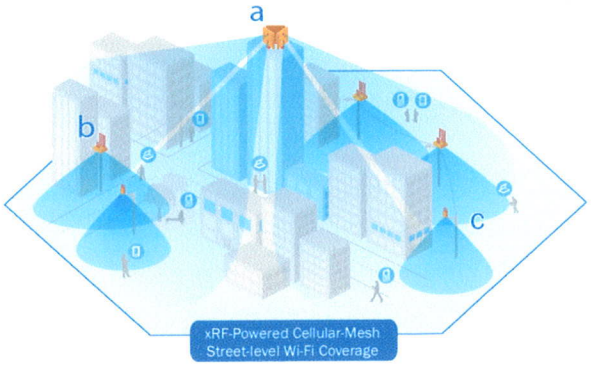
Superior Performance, Coverage, & Economics

NextWave's innovative cellular-mesh Wi-Fi solutions based on the MBW 2000, 1000, 500 series products and xRF smart antenna technology deliver superior performance, coverage, and economics. With NextWave's solution, Wi-Fi networking equipment requirements can be reduced, translating into real savings today and into the future. For any size deployment – rural, suburban, or metropolitan, NextWave's solutions can deliver immediate upfront CAPEX savings and recurring OPEX savings. See the difference NextWave can make with your network.



NextWave Cellular-Mesh Wi-Fi Solution





NextWave WIRELESS

Innovative Technology • Scalable Architectures • Proven Experience

About NextWave Wireless. NextWave Wireless provides software, systems, and silicon solutions that enable cutting-edge wireless broadband and mobile multimedia services. Our products and technologies include high-performance digital baseband WIMAX SOCs, multi-band RFICs, UMTS, and Wi-Fi based network systems, device-embedded mobile multimedia software, and end-to-end UMTS MBMS-based mobile broadcast solutions. Our customers include many of the largest mobile handset manufacturers and wireless service providers in the world.

Our carrier-grade Wi-Fi systems are designed for wide-area deployment by commercial and municipal operators, combine our proprietary xRF™ smart-antenna technology with a cellular-mesh Wi-Fi architecture to deliver cost-effective solutions capable of supporting bandwidth-intensive mobile broadband services such as video streaming, real-time gaming, video telephony, and other types of multimedia applications.

NextWave Wireless is headquartered in San Diego, CA, and operates sales and technology development centers around the world, including Las Vegas, NV; Charlotte, NC; Chicago, IL; Boston, MA; Calgary, Canada; Basel, Switzerland; Berlin, Germany; Nice, France; Tampere, Finland; Punjab, India; Seoul, Korea; Sao Paulo, Brazil; Tel Aviv, Israel; and Tokyo, Japan.

Technical Specifications

Wireless

- Wireless Network Standards: IEEE 802.11a/b/g
- Radio Interfaces:
  - Dual Simultaneous Access: 802.11b/g interface
  - Mesh: 802.11a interface
- Frequency bands: 2.412-2.472, 5.470-5.725, 5.725-5.825 GHz
- xRF™ smart antenna technology
- Antennas:
  - Internal Sector Directional 2.4GHz antenna array
    - ETSI : 120° Horizontal 40° Vertical 14.5dBi
    - FCC : 120° Horizontal 27° Vertical 16dBi
  - 5GHz antenna: RP-TNC connector for multiple antenna options
- Modulation:
  - 802.11b – DSSS (DBPSK , DQPSK, CCK):
  - 802.11a/g – OFDM (BPSK, QPSK, 16-QAM, 64-QAM)
- Tx Power (typical EIRP)
  - ETSI: 20 dBmi @ 2.4 GHz , 30 dBmi @ 5Ghz
  - FCC: 40 dBmi @ 2.4 GHz, 30 dBmi @ 5Ghz
- Rx Sensitivity:
  - 802.11b: -102 dBm @ 1 Mbps, -99 dBm @ 2 Mbps, -95 dBm @ 5.5 Mbps, -89 dBm @ 11 Mbps
  - 802.11g: -96 dBm @ 6 Mbps, -94 dBm @ 9 Mbps -92 dBm @ 12 Mbps, -90 dBm @ 18 Mbps, -88 dBm @ 24 Mbps, -86 dBm @ 36 Mbps, -82 dBm @ 48 Mbps, -80 dBm @ 54 Mbps
  - 802.11a: -92 dBm @ 6 Mbps, -91 dBm @ 9 Mbps, -91 dBm @ 12 Mbps, -89 dBm @ 18 Mbps, -87 dBm @ 24 Mbps, -84 dBm @ 36 Mbps, -80 dBm @ 48 Mbps, -77 dBm @ 54 Mbps

Networking

- 802.11s draft compatible meshing
- WDS CPE support
- Multiple ESSIDs' & BSSIDs'
- QoS, traffic classification
- WMM (based on the IEEE 802.11e draft standard)
- 802.1q VLAN
- Layer 2, 3 support
- DHCP Client

Management

- NextWave private, standard MIBs
- Carrier-grade EMS/NMS
- Local CLI via serial port
- Remote configuration upload/download
- SNMP v2 (NMS)
- Telnet/SSH CLI (configuration, statistics and alarms)
- (remote initial IP configuration) DHCP client
- Remote software upgrade
- FTP, TFTP, Web

Authentication & Security

- WPA/WPA2 (WPA-PSK, WPA-EAP)
- WEP 40/128 bit encryption
- MAC filtering
- Standard RADIUS server interface
- AES Mesh encryption

Interfaces

- IP67 Weatherproof RJ-45 100Base-T Ethernet with auto cross over
- IP67 Weatherproof RJ-45 Serial port (configurations)

Hardware

- Dimensions: 40 x 60 x 7 cm, 15.7 x 23.6 x 2.7 in (W x H x D)
- Weight: 7.6 kg, 16.75 lbs
- Power input: -48VDC
- Operating Temperature: -40° to 55°C, -40° to 131°F
- Storage Temperature: -40° to 60°C, -40° to 140°F
- Operating relative humidity (non-condensing): 15% - 100%
- Non-operating relative humidity (non-condensing): 5% - 95%
- Supplied Accessories:
  - Base Station power supply (AC to DC, -48 VDC, 48W)
  - Pole mounting kit

Standards Compliance

- Xin Bu Wu [2002] #353
- EMC Standards
  - US: FCC CRF 47 Part 15, Class B
  - Europe: EN 301.489-1 and -17
- EMI and Susceptibility (Class B)
  - US: FCC Part 15.107 and 15.109
  - Europe: EN 301.489-1 and -17
- Safety
  - US, Canada: UL 60950-1:2003
  - US, Canada: CAN/CSA-C22.2 No.60950-1-03
  - Europe: EN 60950-1
- Environmental
  - Wind survivability: >165 mph (Up to 100 mph sustaining, up to 165 mph gusts)
  - Europe: EN 300.019-2-4 class 4.1 and EN 300.019-2-2 class 2.3

Wi Fi bg CERTIFIED

Ordering Information

Part Number	Item
MBW-WLS-2100F	FCC WLAN Micro Base Station
MBW-WLS-2100E	ETSI WLAN Micro Base Station
MBW-WLS-2100M	MII WLAN Micro Base Station
MBW-WLS-2100I	IL WLAN Micro Base Station (dual 2.4Ghz radio)

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