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Hartford, CT 06103-3597  
Main (860) 275-8200  
Fax (860) 275-8299  
kbaldwin@rc.com  
Direct (860) 275-8345

Also admitted in Massachusetts

June 20, 2014

RECEIVED  
JUN 26 2014

CONNECTICUT  
SITING COUNCIL

Melanie A. Bachman  
Acting Executive Director  
Connecticut Siting Council  
10 Franklin Square  
New Britain, CT 06051

Re: **Completion of Construction Activity**

Dear Ms. Bachman:

The purpose of this letter is to notify the Siting Council that construction activity associated with the Cellco Partnership d/b/a Verizon Wireless telecommunications facility modifications listed below has been completed.

- EM-VER-007-130226 – 260 Beckley Road, Berlin, Connecticut
- EM-VER-011-130125 – 811 Blue Hills Avenue, Bloomfield, Connecticut
- EM-VER-011-130214 – 785 Park Avenue, Bloomfield, Connecticut
- EM-VER-012-130107 – 130 Vernon Road, Bolton, Connecticut
- EM-VER-043-130220 – 148 Roberts Road, East Hartford, Connecticut
- EM-VER-057-130214 – Butternut Hollow Road, Greenwich, Connecticut
- EM-VER-059-130220 – 68 Groton Long Point Road, Groton, Connecticut
- EM-VER-062-130128 – 265 Benham Street, Hamden, Connecticut
- EM-VER-062-130220 – 890 Evergreen Avenue, Hamden, Connecticut
- EM-VER-064-130125 – 590-600 Asylum Avenue, Hartford, Connecticut
- EM-VER-064-130220 – 439-455 Homestead Avenue, Hartford, Connecticut
- EM-VER-077-130220A – 60 Adams Street, Manchester, Connecticut
- EM-VER-077-130220B – 266 Center Street, Manchester, Connecticut
- EM-VER-080-130128 – 38 Elm Street, Meriden, Connecticut
- EM-VER-096-130125 – 586 Danbury Road, New Milford, Connecticut
- EM-VER-094-130114 – 605 Willard Avenue, Newington, Connecticut
- EM-VER-094-130220 – 123 Costello Road, Newington, Connecticut
- EM-VER-144-130227 – Indian Ledge Road, Trumbull, Connecticut
- EM-VER-146-130123 – 777 Talcottville Road, Vernon, Connecticut
- EM-VER-152-130301 – 41 Manitock Hill Road, Waterford, Connecticut
- EM-VER-156-130227 – 85 Plainfield Avenue, West Haven, Connecticut



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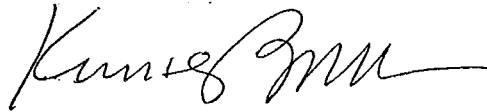
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Melanie A. Bachman  
June 20, 2014  
Page 2

**EM-VER-164-130128 – 482 Pigeon Hill Road, Windsor, Connecticut**  
**EM-VER-169-130220 – 445 Prospect Street, Woodstock, Connecticut**

If you have any questions or need any additional information regarding this facility please do not hesitate to contact me.

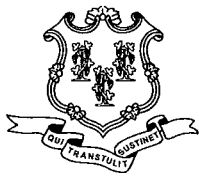
Sincerely,



Kenneth C. Baldwin

Copy to:  
Sandy M. Carter





STATE OF CONNECTICUT  
CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051

Phone: (860) 827-2935 Fax: (860) 827-2950

E-Mail: [siting.council@ct.gov](mailto:siting.council@ct.gov)

[www.ct.gov/csc](http://www.ct.gov/csc)

February 21, 2013

Kenneth C. Baldwin, Esq.  
Robinson & Cole LLP  
280 Trumbull Street  
Hartford, CT 06103

RE: **EM-VER-064-130125** - Cellco Partnership d/b/a Verizon Wireless notice of intent to modify an existing telecommunications facility located at 590-600 Asylum Avenue, Hartford, Connecticut.

Dear Attorney Baldwin:

The Connecticut Siting Council (Council) hereby acknowledges your notice to modify this existing telecommunications facility, pursuant to Section 16-50j-73 of the Regulations of Connecticut State Agencies with the following conditions:

- Any deviation from the proposed modification as specified in this notice and supporting materials with Council shall render this acknowledgement invalid;
- Any material changes to this modification as proposed shall require the filing of a new notice with the Council;
- Within 45 days after completion of construction, the Council shall be notified in writing that construction has been completed;
- The validity of this action shall expire one year from the date of this letter; and
- The applicant may file a request for an extension of time beyond the one year deadline provided that such request is submitted to the Council not less than 60 days prior to the expiration;

The proposed modifications including the placement of all necessary equipment and shelters within the tower compound are to be implemented as specified here and in your notice dated January 22, 2013. The modifications are in compliance with the exception criteria in Section 16-50j-72 (b) of the Regulations of Connecticut State Agencies as changes to an existing facility site that would not increase tower height, extend the boundaries of the tower site, increase noise levels at the tower site boundary by six decibels, and increase the total radio frequencies electromagnetic radiation power density measured at the tower site boundary to or above the standard adopted by the State Department of Environmental Protection pursuant to General Statutes § 22a-162. This facility has also been carefully modeled to ensure that radio frequency emissions are conservatively below State and federal standards applicable to the frequencies now used on this tower.

This decision is under the exclusive jurisdiction of the Council. Please be advised that the validity of this action shall expire one year from the date of this letter. Any additional change to this facility will require explicit notice to this agency pursuant to Regulations of Connecticut State Agencies Section 16-50j-73. Such notice shall include all relevant information regarding the proposed change with cumulative worst-case modeling of radio frequency exposure at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin 65. Thank you for your attention and cooperation.

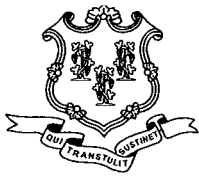
Very truly yours,

Linda Roberts  
Executive Director

LR/CDM/jb

c: The Honorable Pedro E. Segarra, Mayor, City of Hartford  
Sandra Kee Borges, Acting Chief Operating Officer, City of Hartford  
MATP LLC





STATE OF CONNECTICUT  
CONNECTICUT SITING COUNCIL

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[www.ct.gov/csc](http://www.ct.gov/csc)

February 4, 2013

The Honorable Pedro E. Segarra  
Mayor  
City of Hartford  
Municipal Building  
550 Main Street  
Hartford, CT 06103

RE: **EM-VER-064-130125** - Cellco Partnership d/b/a Verizon Wireless notice of intent to modify an existing telecommunications facility located at 590-600 Asylum Avenue, Hartford, Connecticut.

Dear Mayor Segarra:

The Connecticut Siting Council (Council) received a request to modify an existing telecommunications facility, pursuant to Regulations of Connecticut State Agencies Section 16-50j-72, a copy of which has already been provided to you.

If you have any questions or comments regarding the proposal, please call me or inform the Council by February 20, 2013.

Thank you for your cooperation and consideration.

Very truly yours,

Linda Roberts  
Executive Director

LR/jb

c: Sandra Kee Borges, Acting Chief Operating Officer, City of Hartford



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Also admitted in Massachusetts

January 22, 2013

RECEIVED  
JAN 25 2013  
CONNECTICUT  
SITING COUNCIL

Linda Roberts  
Executive Director  
Connecticut Siting Council  
10 Franklin Square  
New Britain, CT 06051

Re: **Notice of Exempt Modification – Antenna Swap  
590-600 Asylum Avenue, Hartford, Connecticut**

Dear Ms. Roberts:

Cellco Partnership d/b/a Verizon Wireless (“Cellco”) currently maintains twenty (20) wireless telecommunications antennas on the roof of the building at the above-referenced address. The building is owned by MATP LLC. The Council approved Cellco’s roof-top telecommunications facility in Petition No. 325 on August 9, 1994, and maintains jurisdiction. Cellco now intends to replace six (6) of its twenty (20) antennas with two (2) model BXA-185040-8CF PCS antennas; one (1) model BXA-185063-8CF PCS antenna; and three (3) model BXA-171063-8BF AWS antennas. Cellco also intends to install six (6) remote radio heads (“RRHs”) behind its antennas. Attached behind Tab 1 are the specifications for the replacement antennas and RRHs.



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Please accept this letter as notification pursuant to R.C.S.A. § 16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to Pedro E. Segarra, Mayor for the City of Hartford. A copy of this letter is also being sent to MATP LLC, the owner of the property at 590-600 Asylum Avenue.

The planned modifications to the facility fall squarely within those activities explicitly provided for in R.C.S.A. § 16-50j-72(b)(2).

1. The proposed modifications will not result in an increase in the height of the existing building.

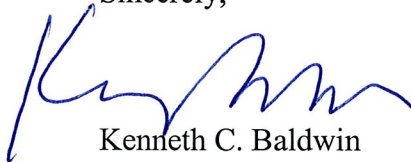
# ROBINSON & COLE<sub>LLP</sub>

Linda Roberts  
January 22, 2013  
Page 2

2. The proposed modifications will not involve any change to ground-mounted equipment and, therefore, will not require the extension of the site boundary.
3. The proposed modifications will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.
4. The operation of the replacement antennas will not increase radio frequency (RF) emissions at the facility to a level at or above the Federal Communications Commission (FCC) adopted safety standard. A cumulative power density table for Cellco's modified facility is included behind Tab 2.
5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.
6. The building can support Cellco's proposed modifications. (*See* Structural Letter attached behind Tab 3).

For the foregoing reasons, Cellco respectfully submits that the proposed modifications to the above-referenced telecommunications facility constitutes an exempt modification under R.C.S.A. § 16-50j-72(b)(2).

Sincerely,



Kenneth C. Baldwin

Enclosures

Copy to:

Pedro E. Segarra, Hartford Mayor  
MATP LLC  
Sandy M. Carter



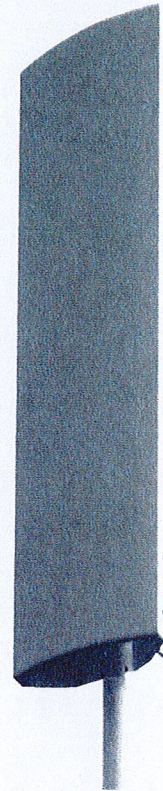


## BXA-185040-8CF-EDIN-X

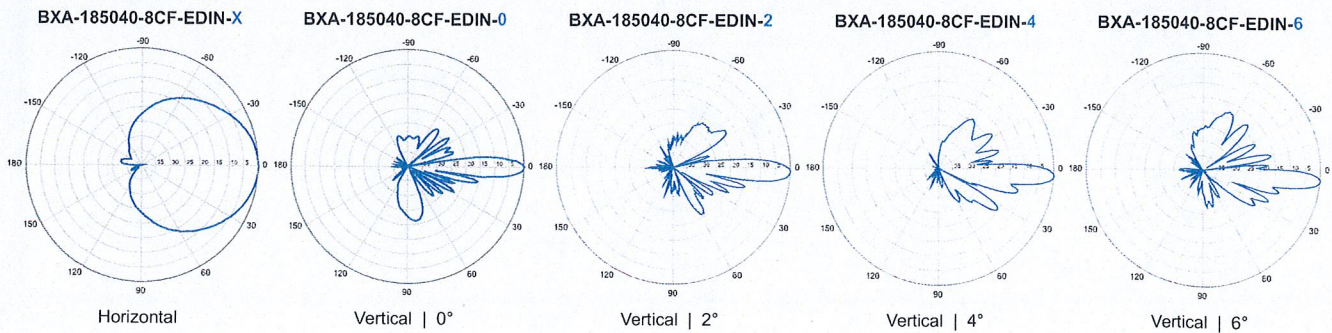
X-Pol | FET Panel | 40° | 19.5 dBi

Replace "X" with desired electrical downtilt.

Antenna is also available with NE connector(s). Replace "EDIN" with "NE" in the model number when ordering.



Electrical Characteristics		1850-1990 MHz		
Frequency bands	1850-1990 MHz			
Polarization	Slant ±45°			
Horizontal beamwidth	40°			
Vertical beamwidth	7°			
Gain	19.5 dBi			
Electrical downtilt (X)	0, 2, 4, 6			
Impedance	50Ω			
VSWR	≤1.5:1			
Null fill	5% (-26.02 dB)			
Isolation between ports	< -30 dB			
Input power	250 W			
Lightning protection	Direct Ground			
Connector(s)	2 Ports / EDIN or NE / Female / Center (Back)			
Mechanical Characteristics				
Dimensions Length x Width x Depth	1240 x 300 x 120 mm	48.8 x 11.8 x 4.7 in		
Depth with z-brackets	160 mm	6.3 in		
Weight without mounting brackets	5.9 kg	13 lbs		
Survival wind speed	> 201 km/hr	> 125 mph		
Wind area	Front: 0.37 m <sup>2</sup> Side: 0.15 m <sup>2</sup>	Front: 4.0 ft <sup>2</sup> Side: 1.6 ft <sup>2</sup>		
Wind load @ 161 km/hr (100 mph)	Front: 531 N Side: 234 N	Front: 119 lbf Side: 53 lbf		
Mounting Options		Part Number	Fits Pipe Diameter	Weight
2-Point Mounting & Downtilt Bracket Kit	21699999	50-102 mm 2.0-4.0 in	5.4 kg 12.0 lbs	
Concealment Configurations	For concealment configurations, order BXA-185040-8CF-EDIN-X-FP			



Quoted performance parameters are provided to offer typical or range values only and may vary as a result of normal manufacturing and operational conditions. Extreme operational conditions and/or stress on structural supports is beyond our control. Such conditions may result in damage to this product. Improvements to product may be made without notice.



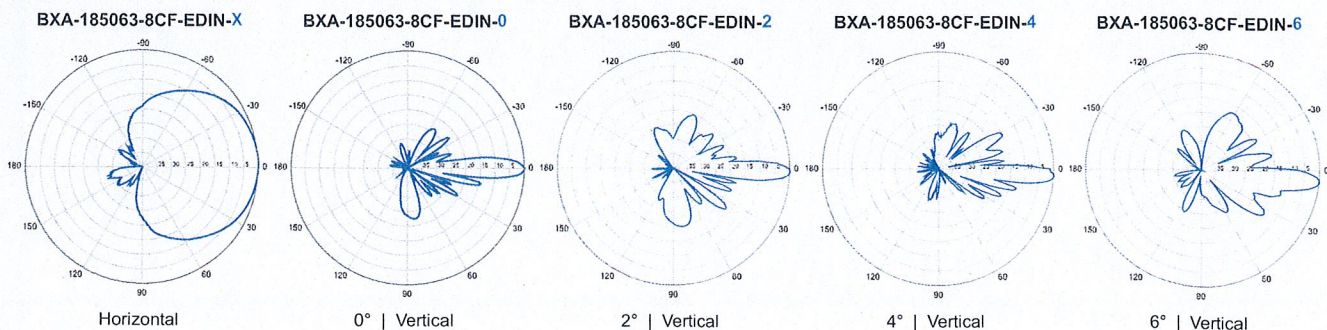
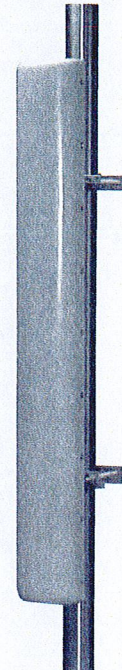
## BXA-185063-8CF-EDIN-X

X-Pol | FET Panel | 63° | 18.5 dBi

Replace "X" with desired electrical downtilt.

Antenna is also available with NE connector(s). Replace "EDIN" with "NE" in the model number when ordering.

Electrical Characteristics		
Frequency bands	1850-1990 MHz	
Polarization	±45°	
Horizontal beamwidth	63°	
Vertical beamwidth	7°	
Gain	16.4 dBd (18.5 dBi)	
Electrical downtilt (X)	0, 2, 4, 6	
Impedance	50Ω	
VSWR	≤1.4:1	
Null fill	5% (-26.02 dB)	
Isolation between ports	< -30 dB	
Input power	250 W	
Lightning protection	Direct Ground	
Connector(s)	2 Ports / EDIN or NE / Female / Center (Back)	
Mechanical Characteristics		
Dimensions Length x Width x Depth	1238 x 154 x 80 mm      48.8 x 6.1 x 3.2 in	
Depth with t-brackets	108 mm      4.3 in	
Weight without mounting brackets	4.5 kg      10.0 lbs	
Survival wind speed	> 201 km/hr      > 125 mph	
Wind area	Front: 0.19 m <sup>2</sup> Side: 0.10 m <sup>2</sup> Front: 2.1 ft <sup>2</sup> Side: 1.1 ft <sup>2</sup>	
Wind load @ 161 km/hr (100 mph)	Front: 288 N    Side: 170 N      Front: 65 lbf    Side: 38 lbf	
Mounting Options		
Part Number	Fits Pipe Diameter	Weight
2-Point Mounting Bracket Kit	26799997	50-102 mm    2.0-4.0 in      2.3 kg    5.0 lbs
2-Point Mounting & Downtilt Bracket Kit	26799999	50-102 mm    2.0-4.0 in      3.6 kg    8.0 lbs
Concealment Configurations	For concealment configurations, order BXA-185063-8CF-EDIN-X-FP	



Quoted performance parameters are provided to offer typical or range values only and may vary as a result of normal manufacturing and operational conditions. Extreme operational conditions and/or stress on structural supports is beyond our control. Such conditions may result in damage to this product. Improvements to product may be made without notice.

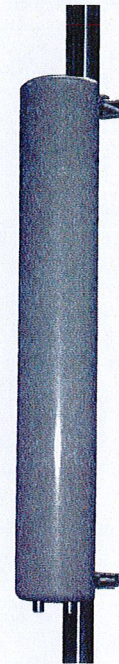


## BXA-171063-8BF-EDIN-X

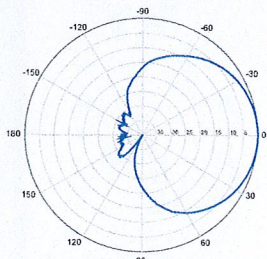
Replace "X" with desired electrical downtilt.

X-Pol | FET Panel | 63° | 17.4 dBi

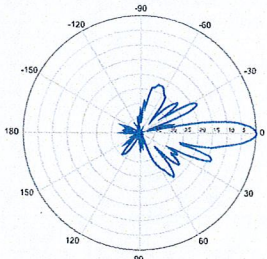
Electrical Characteristics	1710-2170 MHz		
Frequency bands	1710-1880 MHz	1850-1990 MHz	1920-2170 MHz
Polarization	±45°	±45°	±45°
Horizontal beamwidth	68°	65°	60°
Vertical beamwidth	7°	7°	7°
Gain	14.5 dBd / 16.6 dBi	14.9 dBd / 17.0 dBi	15.3 dBd / 17.4 dBi
Electrical downtilt (X)	0, 2, 4, 8		
Impedance	50Ω		
VSWR	≤1.5:1		
First upper sidelobe	< -17 dB		
Front-to-back isolation	> 30 dB		
In-band isolation	> 28 dB		
IM3 (20W carrier)	< -150 dBc		
Input power	300 W		
Lightning protection	Direct Ground		
Connector(s)	2 Ports / EDIN / Female / Bottom		
Operating temperature	-40° to +60° C / -40° to +140° F		
Mechanical Characteristics			
Dimensions Length x Width x Depth	1232 x 154 x 105 mm	48.5 x 6.1 x 4.1 in	
Depth with t-brackets	133 mm	5.2 in	
Weight without mounting brackets	4.8 kg	10.5 lbs	
Survival wind speed	296 km/hr	184 mph	
Wind area	Front: 0.19 m <sup>2</sup> Side: 0.14 m <sup>2</sup>	Front: 2.0 ft <sup>2</sup>	Side: 1.5 ft <sup>2</sup>
Wind load @ 161 km/hr (100 mph)	Front: 281 N Side: 223 N	Front: 63 lbf	Side: 50 lbf
Mounting Options	Part Number	Fits Pipe Diameter	Weight
2-Point Mounting Bracket Kit	26799997	50-102 mm 2.0-4.0 in	2.3 kg 5 lbs
2-Point Mounting & Downtilt Bracket Kit	26799999	50-102 mm 2.0-4.0 in	3.6 kg 8 lbs
Concealment Configurations	For concealment configurations, order BXA-171063-8BF-EDIN-X-FP		



BXA-171063-8BF-EDIN-X

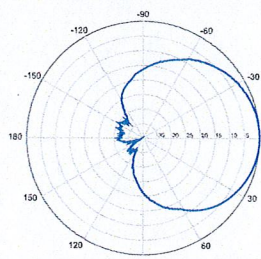


Horizontal | 1710-1880 MHz  
BXA-171063-8BF-EDIN-0

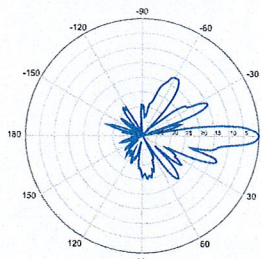


0° | Vertical | 1710-1880 MHz

BXA-171063-8BF-EDIN-X

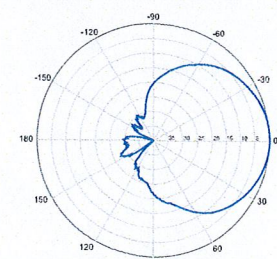


Horizontal | 1850-1990 MHz  
BXA-171063-8BF-EDIN-0

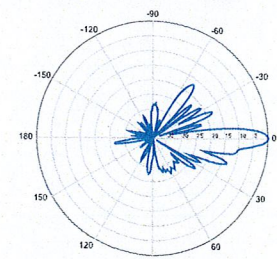


0° | Vertical | 1850-1990 MHz

BXA-171063-8BF-EDIN-X



Horizontal | 1920-2170 MHz  
BXA-171063-8BF-EDIN-0



0° | Vertical | 1920-2170 MHz

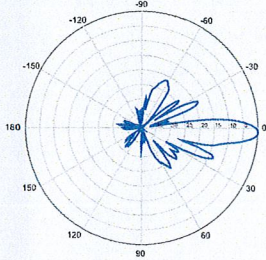
Quoted performance parameters are provided to offer typical or range values only and may vary as a result of normal manufacturing and operational conditions. Extreme operational conditions and/or stress on structural supports is beyond our control. Such conditions may result in damage to this product. Improvements to product may be made without notice.



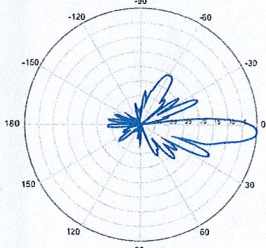
**BXA-171063-8BF-EDIN-X**

X-Pol | FET Panel | 63° | 17.4 dBi

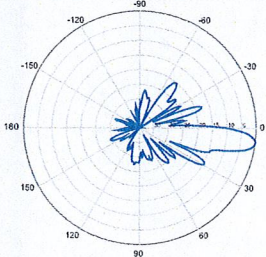
**BXA-171063-8BF-EDIN-2**



2° | Vertical | 1710-1880 MHz  
**BXA-171063-8BF-EDIN-4**

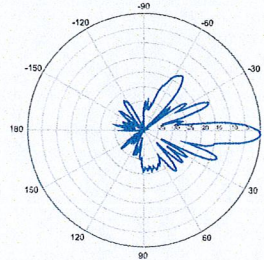


2° | Vertical | 1850-1990 MHz  
**BXA-171063-8BF-EDIN-4**

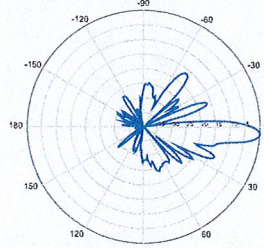


2° | Vertical | 1920-2170 MHz  
**BXA-171063-8BF-EDIN-8**

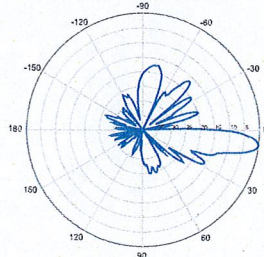
**BXA-171063-8BF-EDIN-2**



4° | Vertical | 1710-1880 MHz  
**BXA-171063-8BF-EDIN-4**

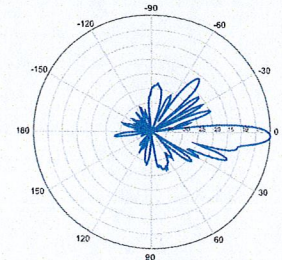


4° | Vertical | 1850-1990 MHz  
**BXA-171063-8BF-EDIN-8**

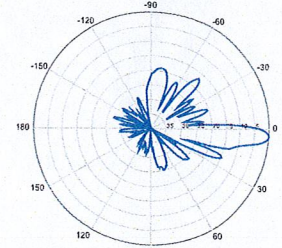


4° | Vertical | 1920-2170 MHz  
**BXA-171063-8BF-EDIN-8**

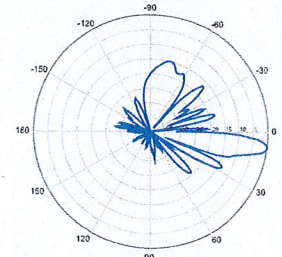
**BXA-171063-8BF-EDIN-2**



8° | Vertical | 1710-1880 MHz  
**BXA-171063-8BF-EDIN-4**



8° | Vertical | 1850-1990 MHz  
**BXA-171063-8BF-EDIN-8**



8° | Vertical | 1920-2170 MHz  
**BXA-171063-8BF-EDIN-8**

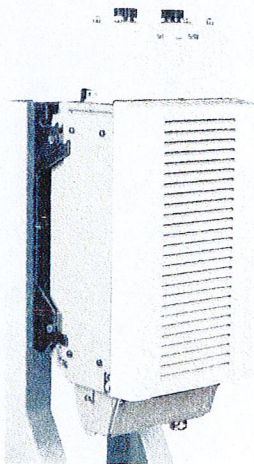
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## Alcatel-Lucent RRH2x40-AWS

### REMOTE RADIO HEAD

The Alcatel-Lucent RRH2x40-AWS is a high-power, small form-factor Remote Radio Head (RRH) operating in the AWS frequency band (1700/2100MHz - 3GPP Band 4). The Alcatel-Lucent RRH2x40-AWS is designed with an eco-efficient approach, providing operators with the means to achieve high quality and capacity coverage with minimum site requirements.



A distributed eNodeB expands deployment options by using two components, a Base Band Unit (BBU) containing the digital assets and a separate RRH containing the radio-frequency (RF) elements. This modular design optimizes available space and allows the main components of an eNodeB to be installed separately, within the same site or several kilometres apart.

The Alcatel-Lucent RRH2x40-AWS is linked to the BBU by an optical-fiber connection carrying downlink and uplink digital radio signals along with operations, administration and maintenance (OA&M) information. The Alcatel-Lucent RRH2x40-AWS has two transmit RF paths, 40 W RF output power per transmit path, and is designed to manage up to four-way receive diversity. The device is ideally suited to support macro coverage, with multiple-input multiple-output (MIMO) 2x2 operation in up to 20 MHz of bandwidth.

The Alcatel-Lucent RRH2x40-AWS is designed to make available all the benefits of a distributed eNodeB, with excellent RF characteristics, with low

capital expenditures (CAPEX) and low operating expenditures (OPEX). The limited space available in some sites may prevent the installation of traditional single-cabinet BTS equipment or require costly cranes to be employed, leaving coverage holes. However, many of these sites can host an Alcatel-Lucent RRH2x40-AWS installation, providing more flexible site selection and improved network quality along with greatly reduced installation time and costs.

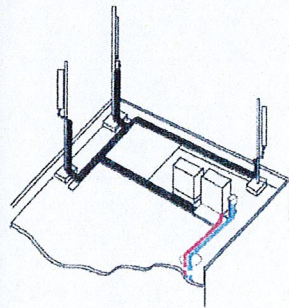
#### Fast, low-cost installation and deployment

The Alcatel-Lucent RRH2x40-AWS is a zero-footprint solution and operates noise-free, simplifying negotiations with site property owners and minimizing environmental impacts. Installation can easily be done by a single person because the Alcatel-Lucent RRH2x40-AWS is compact and weighs less than 20 kg (44 lb), eliminating the need for a crane to hoist the BTS cabinet to the rooftop. A site can be in operation in less than one day — a fraction of the time required for a traditional BTS.



## Excellent RF performance

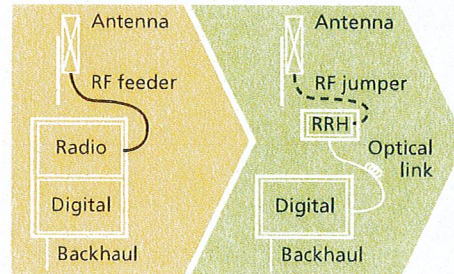
Because of its small size and weight, the Alcatel-Lucent RRH2x40-AWS can be installed close to the antenna. Operators can therefore locate the Alcatel-Lucent RRH2x40-AWS where RF engineering is deemed ideal, minimizing trade-offs between available sites and RF optimum sites. The RF feeder cost and installation costs are reduced or eliminated, and there is no need for a Tower Mounted Amplifier (TMA) because losses introduced by the RF feeder are greatly reduced. The Alcatel-Lucent RRH2x40-AWS provides more RF power while at the same time consuming less electricity.



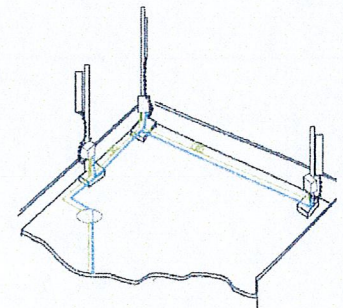
Macro

## Features

- Zero-footprint deployment
- Easy installation, with a lightweight unit can be carried and set up by one person
- Optimized RF power, with flexible site selection and elimination of a TMA
- Convection-cooled (fanless)
- Noise-free
- Best-in-class power efficiency, with significantly reduced energy consumption



RRH for space-constrained cell sites



Distributed

## Benefits

- Leverages existing real estate with lower site costs
- Reduces installation costs, with fewer installation materials and simplified logistics
- Decreases power costs and minimizes environmental impacts, with the potential for eco-sustainable power options
- Improves RF performance and adds flexibility to network planning

## Technical specifications

### Physical dimensions

- Height: 620 mm (24.4 in.)
- Width: 270 mm (10.63 in.)
- Depth: 170mm (6.7 in.)
- Weight (without mounting kit): less than 20 kg (44 lb)

### Power

- Power supply: -48VDC

### Operating environment

- Outdoor temperature range:
  - With solar load: -40°C to +50°C (-40°F to +122°F)
  - Without solar load: -40°C to +55°C (-40°F to +131°F)

- Passive convection cooling (no fans)
- Enclosure protection
  - IP65 (International Protection rating)

### RF characteristics

- Frequency band: 1700/2100 MHz (AWS); 3GPP Band 4
- Bandwidth: up to 20 MHz
- RF output power at antenna port: 40 W nominal RF power for each Tx port
- Rx diversity: 2-way or 4-way with optional Rx Diversity module
- Noise figure: below 2.0 dB typical
- Antenna Line Device features
  - TMA and Remote electrical tilt (RET) support via AISG v2.0

### Optical characteristics

#### Type/number of fibers

- Single-mode variant
  - One Single Mode Single Fiber per RRH2x, carrying UL and DL using CWDM
  - Single mode dual fiber (SM/DF)
- Multi-mode variant
  - Two Multi-mode fibers per RRH2x: one carrying UL, the other carrying DL

### Optical fiber length

- Up to 500 m (0.31 mi), using MM fiber
- Up to 20 km (12.43 mi), using SM fiber

### Digital Ports and Alarms

- Two optical ports to support daisy-chaining
- Six external alarms

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General Power Density

Site Name: Hartford W, CT  
 Cumulative Power Density

Operator	Operating Frequency (MHz)	Number of Trans.	ERP Per Trans. (watts)	Total ERP (watts)	Distance to Target (feet)	Calculated Power Density (mW/cm <sup>2</sup> )	Maximum Permissible Exposure* (mW/cm <sup>2</sup> )	Fraction of MPE (%)
VZW PCS	1970	11	269	2959	99.1	0.1084	1.0	10.84%
VZW Cellular	869	9	269	2421	99.1	0.0887	0.5793333333	15.30%
VZW AWS	2145	1	1750	1750	99.1	0.0641	1.0	6.41%
VZW 700	698	1	876	876	99.1	0.0321	0.4653333333	6.89%

**Total Percentage of Maximum Permissible Exposure**

39.44%

\*Guidelines adopted by the FCC on August 1, 1996, 47 CFR Part 1 based on NCRP Report 86, 1986 and generally on ANSI/IEEE C95.1-1992

MHz = Megahertz

mW/cm<sup>2</sup> = milliwatts per square centimeter

ERP = Effective Radiated Power

Absolute worst case maximum values used.

January 09, 2013

Mr. Steve Schadler  
Verizon Wireless  
99 East River Drive  
East Hartford, CT 06108

*Re: Structural Evaluation Letter ~ Antenna Upgrade  
Verizon Wireless Site Ref ~ Hartford West  
600 Asylum Avenue,  
Hartford, CT 06105*

*Centek Project No. 12124.CO40 ~ Rev 1.*

Dear Mr. Schadler,

Centek Engineering, Inc. has reviewed the proposed Verizon Wireless antenna upgrade at the above referenced site. The purpose of the review is to determine the structural adequacy of the existing ten (10) story, 110-ft +/- tall host building to support the proposed modified antenna configuration. The existing antenna installation consists of four (4) antenna sectors, pipe mounted to four (4) existing penthouse structures of the host building.

The review considered the effects of wind load, dead load, ice load and seismic forces in accordance with the 2005 Connecticut State Building Code as amended by the 2009 CT State Supplement.

The existing, proposed and future Verizon Wireless loads considered in this analysis consist of the following:

▪ Verizon (Existing to Remain):

Antennas:

Alpha 1 Sector: Two (2) Antel LPA 80040/4CF panel antennas and two (2) Antel LPA-185040-8CF panel antennas pipe mounted to existing building with a RAD center elevation of 99-ft+/- AGL.

Alpha 2 Sector: Two (2) Antel LPA 80040/4CF panel antennas and one (1) Antel BXA-70040/6CF pipe mounted to the existing building with a RAD center elevation of 108-ft+/- AGL.

Beta Sector: Two (2) Andrew DB844G65AXY panel antennas and one (1) Antel BXA-70040/6CF pipe mounted to the existing building with a RAD center elevation of 99-ft+/-AGL.

Gamma Sector: Two (2) Antel LPA 80040/4CF panel antennas and one (1) Antel BXA-70040/6CF pipe mounted to the existing building with a RAD center elevation of 99-ft+/-AGL.

Coaxial Cables: Twenty four (24) 1-5/8in dia. coaxial cables routed within the existing roof top mounted cable tray system.



CENTEK engineering, INC.  
Structural Certification Letter  
Verizon Wireless ~ Hartford West  
600 Asylum Avenue,  
Hartford, CT 06105

▪ Verizon (Existing to be Removed):

Antennas:

Alpha 2 Sector: Two (2) Antel LPA 185040-8CF panel antennas pipe mounted to the existing building with a RAD center elevation of 108-ft+/-AGL.

Beta Sector: Two (2) Antel LPA 185063-8CF panel antennas mounted to the existing building with a RAD center elevation of 99-ft+/-AGL.

Gamma Sector: Two (2) Antel LPA 185040-8CF panel antennas pipe mounted to the existing building mounts with a RAD center elevation of 99-ft+/-AGL.

▪ Verizon (Proposed):

Antennas:

Alpha 2 Sector: One (1) Antel BXA-185040/8CF panel antenna and one (1) BXA-171063/8BF panel antenna pipe mounted to the existing building with a RAD center elevation of 108-ft +/- AGL.

Beta Sector: One (1) BXA-185063/8CF panel antenna and one (1) BXA-171063/8BF panel antenna pipe mounted to the existing building with a RAD center elevation of 99-ft +/- AGL.

Gamma Sector: One (1) Antel BXA-185040/8CF panel antenna and one (1) BXA-171063/8BF panel antenna pipe mounted to the existing building with a RAD center elevation of 99-ft +/- AGL.

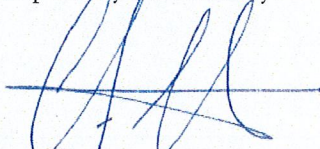
Misc. Equipment: Three (3) Alcatel-Lucent RRH2x40-AWS Remote Radio Heads, three (3) Alcatel-Lucent RRH2x40-07-L Remote Radio Heads and three (3) RFS DB-E1-3B-8AB-OZ sector distribution boxes wall mounted to three (3) existing building penthouses. One (1) RFS DB-T1-6Z-8AB-0Z main distribution box wall mounted to the existing Verizon Wireless rooftop equipment shelter.

Cables: One (1) 1-5/8" dia. main Hybriflex Fiber with power cable and three (3) 1-1/4" dia. AWS Fiber with power jumper cables to follow the route of the existing cable tray system.

The proposed antenna installation meets the requirements of the 2005 Connecticut State Building Code considering the basic wind speed (3-second gust) of 95 mph as required in Appendix K of the Connecticut supplement per Table 1609.3.1. Our findings are based on the assumption that the hosting structure, all structural members and appurtenances were properly designed, detailed, fabricated, installed and have been properly maintained since erection.

In conclusion, the proposed Verizon antenna upgrade will not negatively impact the structural integrity of the existing host building. If there are any questions regarding this matter, please feel free to call.

Respectfully Submitted by:



Carlo F. Centore, PE

Principal ~ Structural Engineer

