Robinson+Cole

KENNETH C. BALDWIN

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Also admitted in Massachusetts

January 12, 2017

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

Re: Notice of Exempt Modification – Facility Modification

40 Sherman Road, Woodstock, Connecticut

Dear Ms. Bachman:

Cellco Partnership d/b/a Verizon Wireless ("Cellco") currently maintains twelve (12) wireless telecommunications antennas at the top of an existing 140-foot tower at 40 Sherman Road in Woodstock, Connecticut (the "Property"). The tower is owned by American Tower Corporation ("ATC"). Cellco's use of the tower was approved by the Council in 2012 (Docket No. 369). Cellco now intends to replace three (3) of its existing antennas with three (3) model QUAD656C000, 700 MHz antennas, on the same antenna platform at top of the tower. Cellco also intends to replace three (3) remote radio heads ("RRHs") and install six (6) new RRHs and two (2) HYBRIFLEXTM antenna cables. Included in <u>Attachment 1</u> are specifications for Cellco's replacement antennas, RRHs and HYBRIFLEXTM cables.

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 Allan D. Walker, Jr., First Selectman of the Town of Woodstock. A copy of this letter is also being sent to Colin G. Hallquest and Karin and Wayne Scheufler, the owners of the Property and ATC, the tower owner.

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

15158230-v1

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Melanie A. Bachman January 12, 2017 Page 2

- 1. The proposed modifications will not result in an increase in the height of the existing tower. Cellco's new antennas and RRHs will be installed on its existing antenna platform at the top of the existing 140-foot tower.
- 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) safety standard. A cumulative General Power Density table for Cellco's modified facility is included in Attachment 2.
- 5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.
- 6. The tower and its foundation can support Cellco's proposed modifications. (*See* Structural Evaluation included in <u>Attachment 3</u>).

A copy of the Town Assessor's Parcel Map and property owner information is included in Attachment 4.

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:

Allan D. Walker, Jr., Woodstock First Selectman Colin G. Hallquest and Karin and Wayne Scheufler

ATC

Tim Parks

ATTACHMENT 1

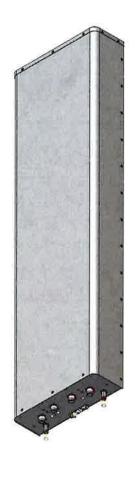


QUAD656C0000x

Twin Band | Quad Port | Panel Antenna | (2x) X-Pol | 65° / 65° | 15.0 / 15.0 dBi | Variable Tilt

- Twin band, quad-port panel antenna with variable electrical tilt
- 4x4 MIMO
- · Patented internal RET actuator adds no additional length to the antenna

Ordering Options			Model N	lumber			
When ordering, replace '	'x" in the model numl	per with one of the option	ns listed belo	w.			
Manual Electrical Tilt			QUAD6	56C0000M			
Remote Electrical Tilt AIS	G v2.0 / 3GPP with ar	MDCU RET Actuator	QUAD6	56C0000G			
Remote Electrical Tilt AIS	G v2.0 / 3GPP with ar	MDDU RET Actuator	QUAD6	56C0000L			
Mounting bracket kits an	d other accessories ar	e ordered separately.					
Electrical Characteristics			(2x) 696	-900 MHz			
Frequency Bands		696-806 MHz	!	806-900 MHz			
Polarization			(2x) ±45°	(Quad-Pol)			
Horizontal Beamwidth		67°		66°			
Vertical Beamwidth		13.6°		12.4°			
Gain		14.5 dBi		15.0 dBi			
Electrical Downtilt			0-	-12°			
Impedance			5	50Ω			
VSWR			≤ '	1.5:1			
Upper Sidelobe Suppress	sion	18 dB		18 dB			
Front-to-Back Ratio		> 25 dB		> 25 dB			
Inband Isolation			25 dB				
Isolation Between Bands			28 dB				
IM3 (2x20W carrier)			< -153 dBc				
Input Power			(4x) 500 W				
Total Number of Connecto	ors	Antennas has 4 connectors located at the bottom					
	696-900 MHz	(2x) 7/16-DIN Female					
Connectors Per Band	696-900 MHz	(2x) 7/16-DIN Female					
Diplexed		No					
Lightning Protection			Direct	Ground			
Operating Temperature		-4	0° to +60° C	(-40° to +140° F)			
Mechanical Characterist	ics		1 60				
Dimensions (Length x Wi	dth x Depth)	1889 x 520 x 182	mm	74.4 × 20.5 × 7.2	in		
Depth with Z-Brackets		227	mm	8.9	in		
Weight without Mounting	g Brackets: MET	24.5	kg	54.0	lbs		
Weight without Mounting	Brackets: RET	24.8	kg	54.7	lbs		
Survival Wind Speed		> 241	km/hr	> 150	mph		
	Front	0.98	m²	10.6	ft²		
Wind Area	Side	0.34	m²	3.7	ft²		
Wind Loads	Front	1200	N	270	lbf		
(160 km/hr or 100 mph)	Side	415	N	93	lbf		



Quoted performance parameters are provided to offer typical, peak or range values only and may vary as a result of normal testing, 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 products may be made without notice.



QUAD656C0000x

Twin Band | Quad Port | Panel Antenna | (2x) X-Pol | 65° / 65° | 15.0 / 15.0 dBi | Variable Tilt

II I a. b. Tile to disease				
trolled separately. Tilt indicator(s) are covered by removable transparent cap(s).				
A colored knob at the end of the tilt indicator allows change of the tilt without need of a tool. The knob color is identical to the corresponding connector ring color. To access the knob, remove the cap by turning it counterclockwise. It is re-installed by opposite rotation. Do not remove the transparent cap(s) from the antenna.				
Dual Unit (MDDU) inserted need for daisy chain cables RET control, the transparen	in the bottom of the between the bands; t caps must be in pla	antenna. A single actuator indi I. This module does not add an ace and locked. The tilt angle in	vidually contro y additional ler	ols the tilt of each band (no nigth to the antenna. For
Select one of the following	RET actuators when	ordering this antenna.		
Multi-Device Control Unit (MCDU)	electrical downtilt (RET) in Amp	henol antenna	s with factory embedded
Multi-Device Dual Unit (MDDU)		The MDDU allows two separate RET Controllers to independently drive the RETs in Amphenol antennas with factory installed motors (for antenna sharing). The MDDU is factory installed. Refer to ordering options.		
locked. Do not cut them from	om the antenna.		nt indicators m	nust be engaged and
Do not install the antenna v	vith the connectors f	acing upward.		
Part Number	Image	Fits Pipe Dia	meter	Weight
ely unless otherwise indicated	l. Select from the op	otions listed below.		
36210008		40-115 mm 1	6-4.5 in	6.9 kg 15.2 lbs
	identical to the correspond clockwise. It is re-installed The remote control of the Dual Unit (MDDU) inserted need for daisy chain cables RET control, the transparen antenna still has manual tilt Select one of the following Multi-Device Control Unit (MD In order to operate RET corlocked. Do not cut them for Do not install the antenna very unless otherwise indicated 36210008	identical to the corresponding connector ring of clockwise. It is re-installed by opposite rotation. The remote control of the electrical tilt is managed by Dual Unit (MDDU) inserted in the bottom of the need for daisy chain cables between the bands) RET control, the transparent caps must be in pleantenna still has manual tilt control (manual over Select one of the following RET actuators when Multi-Device Control Unit (MCDU) Multi-Device Dual Unit (MDDU) In order to operate RET control, the transparent locked. Do not cut them from the antenna. Do not install the antenna with the connectors of Part Number Image by unless otherwise indicated. Select from the operations are installed in the select from the operations.	identical to the corresponding connector ring color. To access the knob, remor clockwise. It is re-installed by opposite rotation. Do not remove the transparer. The remote control of the electrical tilt is managed by either a Multi-Device Co Dual Unit (MDDU) inserted in the bottom of the antenna. A single actuator indineed for daisy chain cables between the bands). This module does not add am RET control, the transparent caps must be in place and locked. The tilt angle in antenna still has manual tilt control (manual override). Select one of the following RET actuators when ordering this antenna. Multi-Device Control Unit (MCDU) Multi-Device Dual Unit (MDDU) The MDDU is an electronic more electrical downtilt (RET) in Ampmotors. The MDCU is factory in the MDDU allows two separate drive the RETs in Amphenol an antenna sharing). The MDDU is options. In order to operate RET control, the transparent caps covering the tilt adjustme locked. Do not cut them from the antenna. Do not install the antenna with the connectors facing upward. Part Number Image Fits Pipe Dialectrical downtilt (RET) in Ampmotors. The MDDU is options. 40-115 mm 1.	identical to the corresponding connector ring color. To access the knob, remove the cap by to clockwise. It is re-installed by opposite rotation. Do not remove the transparent cap(s) from the remote control of the electrical tilt is managed by either a Multi-Device Control Unit (MDDU) inserted in the bottom of the antenna. A single actuator individually controned for daisy chain cables between the bands). This module does not add any additional ler RET control, the transparent caps must be in place and locked. The tilt angle indicators alway antenna still has manual tilt control (manual override). Select one of the following RET actuators when ordering this antenna. Multi-Device Control Unit (MCDU) The MDCU is an electronic module that allow electrical downtilt (RET) in Amphenol antenna motors. The MDCU is factory installed. Refer The MDDU allows two separate RET controll drive the RETs in Amphenol antennas with factory installed. The MDDU is factory installed. Refer The MDDU is factory installed. The MDDU is factory installed. The MDDU is factory installed antennas with factory installed. Do not cut them from the antenna. Do not install the antenna with the connectors facing upward. Part Number Image Fits Pipe Diameter By unless otherwise indicated. Select from the options listed below. 36210008

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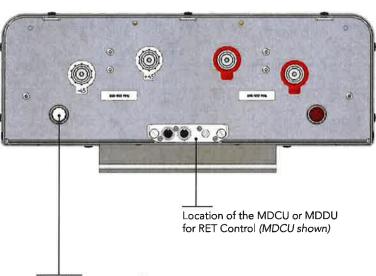
Dimensions



QUAD656C0000x

Twin Band | Quad Port | Panel Antenna | (2x) X-Pol | 65° / 65° | 15.0 / 15.0 dBi | Variable Tilt

Bottom View of Antenna



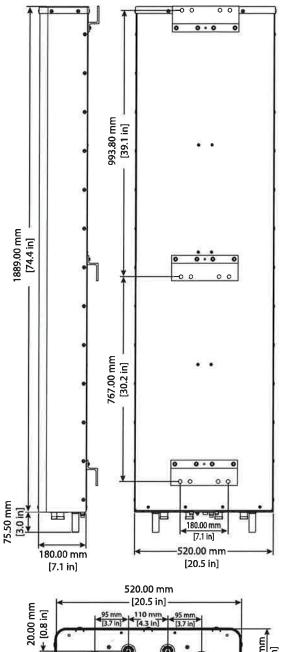
Tilt indicators covered by transparent caps.

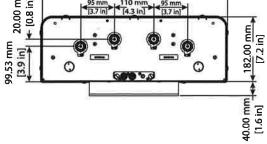
Manual adjustment is accessed by removing the caps.

Knob colors are the same as the connectors.



In order to operate RET control, the transparent caps covering the tilt adjustment indicators must be engaged and locked. Do not cut them from the antenna.



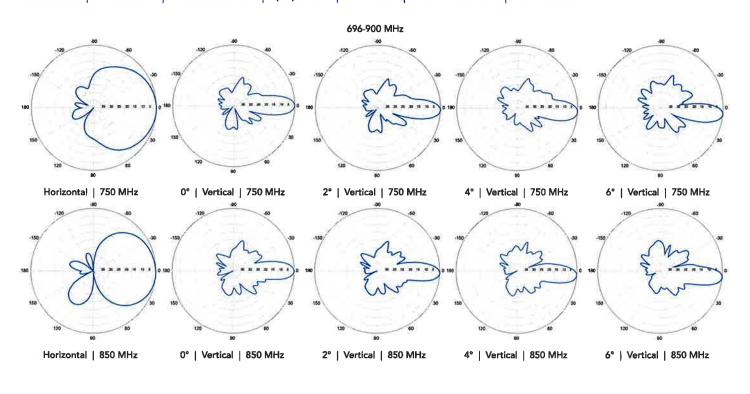


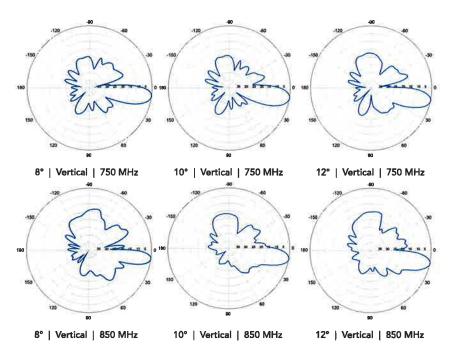
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QUAD656C0000x

Twin Band | Quad Port | Panel Antenna | (2x) X-Pol | 65° / 65° | 15.0 / 15.0 dBi | Variable Tilt





ALCATEL-LUCENT B13 RRH4X30-4R

Alcatel-Lucent B13 Remote Radio Head 4x30-4R is the newest addition of Remote Radio Head to the extended product line of Alcatel-Lucent's distributed Base Station solutions, aimed at facilitating smooth RF site acquisition and related civil engineering.

Supporting 2Tx/4Tx MIMO and 4-way Rx diversity, Alcatel-Lucent B13 RRH4x30-4R allows operators to have a compact radio solution to deploy LTE in the 700U band (700 MHz, 3GPP band 13), providing them with the means to achieve high capacity, high quality and high coverage with minimum site requirements.

The Alcatel-Lucent B13 RRH4x30-4R product has four transmit RF paths, offering the possibility to **select**, **via software only**, **2Tx or 4Tx MIMO configurations** with either 2x60 W or 4x30 W RF output power. It supports also 4-way Rx diversity and up to 10MHz instantaneous bandwidth.

The Alcatel-Lucent B13 RRH4x30-4R is a near zero-footprint solution and operates noise free, simplifying negotiations with site property owners and minimizing environmental impacts.

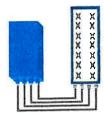
Its compactness and slim design makes the Alcatel-Lucent B13 RRH4x30-4R easy to install close to the antenna: operators can therefore locate this Remote Radio Head where RF design conditions are deemed ideal, minimizing trade-offs between available sites and RF optimum sites, together with reducing the RF feeder needs and installation costs.



- Supporting LTE in 700 MHz band (700U, 3GPP band 13)
- LTE 2Tx or 4Tx MIMO (SW switchable)
- Output power: Up to 2x60W or 4x30W
- 10MHz LTE carrier with 4Rx Diversity
- Convection-cooled (fan-less)
- Supports AISG 2.0 ALD devices (RET, TMA) through RS485 or RF ports

BENEFITS

- Compact to reduce additional footprint when adding LTE in 700U band
- MIMO scheme operation selection (2Tx or 4Tx) by software only
- Improves downlink spectral efficiency through MIMO4
- Increases LTE coverage thanks to 4Rx diversity capability and best in class Rx sensitivity
- Flexible mounting options: Pole or Wall



4x30W with 4T4R or 2x60W with 2T4R Can be switched between modes via SW w/o site



	Features & performance
Number of TX/RX paths	4 duplexed (either 4T4R or 2T4R by SW)
Frequency band	U700 (C) (3GPP bands 13): DL: 74 6 - 756 MHz / UL: 777 - 787 MHz
Instantaneous bandwidth - #carriers	10MHz - 1 LTE carrier (in 10MHz occupied bandwidth)
LTE carrier bandwidth	10 MHz
RF output power	2x60W or 4x30W (by SW)
Noise figure – RX Diversity schame	2 dB typ. (<2.5 dB max) – 2 or 4 way Rx diversity
Sizes (HxWxD) in mm (in.) Volume in L Weight in kg (lb) (w/o mounting HW)	$550 \times 305 \times 230 \ (21.6'' \times 12.0'' \times 9'')$ (with solar shield) 38 (with solar shield) 26 (57.2) (with solar shield)
DC voitage range DC power consumption	-40.5 to -57V at full performance, -38 to -57V with relaxation on power consumption 550W typical @100% RF load (in 2Tx or 4TX mode)
Environmental conditions Wind load (@150km/h or 93mph)	-40°C (-40°F) /+55°C (+131°F) IP65 Frontal:<200N / Lateral :<150N
Antenna ports	4 ports 7/16 DIN female (50 ohms) V5WR < 1.5
CPRI ports	2 CPRI ports (HW ready for Rate7, 9.8 Gbps) SFP single mode dual fiber
AISG interfaces	1 AISG2.0 output (RS485) Integrated Smart Bias Tees (x2)
Misc. Interfaces	4 external alarms (1 connector) – 4 RF Tx & 4 RF Rx monitor ports - 1 DC connector (2 pins)
Installation conditions	Pole and wall mounting
Regulatory compliance	3GPP 36.141 / 3GPP 36.113 / GR-1089-CORE / GR-3108-CORE / UL 60950-1 / FCC Part 27

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ALCATEL-LUCENT WIRELESS PRODUCT DATASHEET

RRH2X60-1900A-4R FOR BAND 2/25 APPLICATIONS

The Alcatel-Lucent RRH2x60-1900A-4R is a high power, small form factor Remote Radio Head operating in the PCS 1900MHz frequency band for WCDMA and LTE technologies. It is designed with an eco-efficient approach, providing operators with the means to achieve high quality and high capacity coverage with minimum site requirements and efficient operation.



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

The Alcatel-Lucent RRH2x60-1900A-4R 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.

SUPERIOR RF PERFORMANCE

The Alcatel-Lucent RRH2x60-1900A-4R integrates all the latest technologies. This allows operators to offer best-in-class characteristics.

It delivers an outstanding 120 watts of total RF power thanks to its two transmit RF paths of 60 W each.

It is ideally suited to support multiple-input multiple-output (MIMO) 2x2 operation.

It includes four RF receivers to natively support 4-way uplink reception diversity. This improves the radio uplink coverage and this can be used to extend the cell radius commensurate with 2x2MIMO 2x60 W for the downlink.

The latest generation power amplifiers (PA) used in this product achieve high efficiency (>40%), resulting in improved power consumption figures.

OPTIMIZED TCO

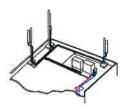
The Alcatel-Lucent RRH2x60-1900A-4R is designed to make available all the benefits of a distributed Node B, with excellent RF characteristics, with low capital expenditures (CAPEX) and low operating expenditures (OPEX).

The Alcatel-Lucent RRH2x60-1900A-4R is a very cost-effective solution to deploy LTE MIMO.

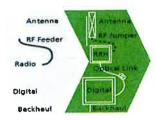
EASY INSTALLATION

The limited space available in some sites may prevent the installation of traditional single-cabinet equipment. However, many of these sites can host an Alcatel-RRH2x60-1900A-4R installation, providing more flexible selection and improved network quality along with greatly reduced installation time and costs. Alcatel-Lucent RRH2x60-1900A-4R is a zero-footprint solution and is convection cooled without fans for silent operation, simplifying negotiations with site property owners and minimizing environmental impacts.

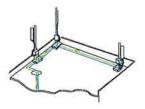
Installation can easily be done by a single person as the Alcatel–Lucent RRH2x60-190A-4R is compact and weighs about 21 kg, eliminating the need for a crane to hoist the BTS cabinet to the rooftop. A site can be in operation in less than one day



Масго



RRH for space-constrained cell sites



Distributed

FEATURES

- RRH2x60-1900A-4R integrates two power amplifiers of 60W rating (at each antenna connector)
- RRH2x60-1900A-4R can operate WCDMA only, LTE only or a mix of WCDMA and LTE
- RRH2x60-1900A-4R offers the possibility for WCDMA (non MIMO) to operate the two radio chains independently (2 blocks of 20 MHz anywhere in the band)
- RRH2x60-1900A-4R is a very compact and lightweight product
- Advanced power management techniques are embedded to provide power savings, such as PA bias control BENEFITS
- MIMO deployment and/or WCDMA and LTE simultaneous operation with only one single unit per sector
- Improved uplink coverage with builtin 4-way receive diversity capability
- RRH can be mounted close to the antenna, eliminating nearly all losses

- in RF cables and thus reducing power consumption by 50% compared to conventional solutions
- Distributed configurations provide easily deployable and cost-effective solutions, near zero footprint and silent solutions, with minimum impact on the neighborhood, which ease the deployment
- RETA and TMA support without additional hardware thanks to the AISG v2.0 port and the integrated Bias-Tees. Bias-Tees support AISG DC supply and signaling.

TECHNICAL SPECIFICATIONS

Specifications listed are hardware capabilities. Some capabilities depend on support in a specific software release or future release.

Dimensions and weights

- HxWxD: 500x285x208 mm (30l with solar shield)
- Weight: 21 kg (46 lbs) (with solar shield)

Electrical Data

- Power Supply: -48V DC (-40.5 to -57V)
- Power Consumption: 460W typ. @2x60W (100%RF)

RF Characteristics

- Supported spectrum: DL 1930-1990 / UL 1850-1910
- Frequency band: 3GPP band 2/25
- Output power: 2x60W at antenna connectors
- Technology supported: W-CDMA and LTE
- Instantaneous bandwidth: 20 MHz (MIMO) or 2x20 MHz (non MIMO)
- Rx diversity: 2-way and 4-way uplink reception

 Typical sensitivity without Rx diversity: -124.8dBm for WCDMA and -105 dBm for LTE

Connectivity

- Two CPRI optical ports for daisychaining and up to six RRHs per fiber
- Type of optical fiber: Single-Mode (SM) and Multi-Mode (MM) SFPs
- Optical fiber length: up to 500m using MM fiber, up to 15km using SM fiber
- TMA/RETA: AISG 2.0 (RS485 connector and internal Bias-Tee)
- Six external alarms
- Surge protection for all external ports (DC and RF)

Environmental specifications

- Operating temperature: -40°C to 55°C including solar load
- Operating relative humidity: 8% to 100%

- Environmental Conditions: ETS300-019-1-4 class4.1E
- Ingress Protection: IEC 60529 IP65
- Acoustic Noise: Noiseless (natural convection cooling)

Safety and Regulatory Data

- EMC: 3GPP 25113, EN 301 489-1, EN 301 489-23, GR 1089
- Safety: IEC60950-1, EN 60825-1
- Regulatory: CE Mark-European Directive 2002/95/EC (RoHS), 2002/96/EC (WEEE), 1999/5/EC (R&TTE)
- Health: EN 50385

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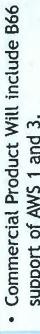
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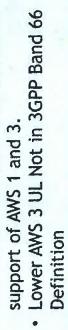
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B66A RRH 4X45 - PHYSICAL CHARACTERISTICS- TARGET 15.1

B4 RRH4x4	B4 RRH4x45-4R(AWS-Extension Band)
Frequency Band	LR15.1 – B4 / LR16.1 B66 (AWS 1 and 3 only)
RF Output Power	2x90W/4x45W (SW configurable)
Operational range	2110-2180 MHz, DL/ 1710-1780 MHz UL
Instantaneous Bandwidth	70MHz
Configuration (HW readiness)	LTE: 2T2R, 2T4R, 4T4R
Carrier Bandwidths	5, 10, 15 and 20 MHz
Interfaces	2x CPRI Rate 7 Ports Antenna Connectors 4.3-10
AISG Support	AISG 2.0 for RET Internal Smart Bias T
Monitor Ports	NA (Spec An to replace ports)
Environmental	GR487 Compliance / GR3178 Compliance (with exceptions)
Mounting options	Pole/Wall
Connectors location	All bottom
External Alarms	
Annual Return Rate (Target)	<2%
Operating Temperature	-40 C to +55 C (without solar load)









HYBRIFLEX™ RRH Hybrid Feeder Cabling Solution, 1-5/8", Single-Mode Fiber

Product Description

RFS' HYBRIFLEX Remote Radio Head (RRH) hybrid feeder cabling solution combines optical fiber and DC power for RRHs in a single lightweight aluminum corrugated cable, making it the world's most innovative solution for RRH deployments.

It was developed to reduce installation complexity and costs at Cellular sites. HYBRIFLEX allows mobile operators deploying an RRH architecture to standardize the RRH installation process and eliminate the need for and cost of cable grounding. HYBRIFLEX combines optical fiber (multi-mode or single-mode) and power in a single corrugated cable. It eliminates the need for junction boxes and can connect multiple RRHs with a single feeder. Standard RFS CELLFLEX® accessories can be used with HYBRIFLEX cable. Both pre-connectorized and on-site options are available.

- Aluminum corrugated armor with outstanding bending characteristics ភារាវាភារខ្មន installation time and enables mechanical protection and shielding
- Same accessories as 1 5/8" coaxial cable
- Outer conductor grounding Eliminates typical grounding requirements and saves on installation costs
- ¿Lightweight solution and compact design Decreases tower loading
- Robust cabling = Eliminates need for expensive cable trays and clucts
- Installation of tight bundled fiber optic cable pairs directly to the RRH Reduces CAPEX and wind load by eliminating need for interconnection
- Optical fiber and power cables housed in single corrugated cable Saves CAPEX by standardizing RRH cable installation and reducing installation requirements
- Outdoor polyethylene jacket Ensures long-lasting cable protection



Figure 1: HYBRIFLEX Series

Rechnical Specifications

Outer Conductor Armor	Corrugated Aluminum	Imm (in)]	46.5 (1.83)
Jacket:	Polyethylene, PE	[mm (in)]	50.3 (1.98)
UV-Protection	Individual and External Jacket		Yes
Weight, Approximate		[kg/m (lb/ft)]	1.9 (1.30)
Minimum Bending Radius,	Single Bending	[mm (in)]	200 (8)
Minimum Bending Radius,		[mm (in)]	500 (20)
Recommended/Maximum		[m (ft)]	1.0 / 1.2 (3.25 / 4.0)
DC-Resistance Outer Cond	luctor Armor	(Ω/km (Ω/1000ft))	068 (0.205)
DC-Resistance Power Cabl		[Ω/km (Ω/1000ft)]	
the Kente Aggress			
Version			Single-mode OM3
Quantity, Fiber Count			16 (8 pairs)
Core/Clad		(µm)	50/125
Primary Coating (Acrylate)		[µm]	245
Buffer Diameter, Nominal		(µm)	900
Secondary Protection, Jack	et, Nominal	[mm (in)]	2 0 (0 08)
Minimum Bending Radius		[mm (in)]	104 (4,1)
Insertion Loss @ waveleng	th 850nm	dB/km	3.0
Insertion Loss @ waveleng		d8/km	1.0
Standards (Meets or excee			UL34-V0, UL1666 RoHS Compliant

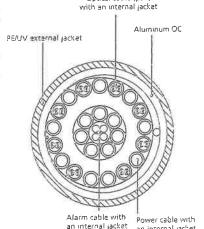
Size (Power)	[mm (AWG)]	8 4 (8)
Quantity, Wire Count (Power)		15 (8 pairs)
Size (Alarm)	[mm (AWG)]	0.8 (18)
Quantity, Wire Count (Alarm)		4 (2 pairs)
Type		UV protected
Strands		19
Primary Jacket Diameter, Nominal	' [mm (in _i)	6.8 (0.27)
Standards (Meets or exceeds)		NFPA 130, ICEA S-95-658 UL Type XHHVV-2, UL 44
		UL-LS Limited Smoke, UL VW-1 IEEE-383 (1974), IEEE1202/FT4 RoHS Compliant

-40 to +65 (-40 to 149) Installation Temperature -40 to +65 (-40 to 149) Operation Temperature

* This data is provisional and subject to change

NFS The Clear Choice®

HB158-1-08U8-58J18



Optical cable (pair)

Figure 3: Construction Detail

Print Date: 27.5.2012

23v: 21

Radio Frequency Systems

ATTACHMENT 2

	General	Power	Density					
Site Name: Woodstock NW								
Tower Height: 140'								
				CALC. POWER		MAX. PERMISS.	FRACTION	
CARRIER	# OF CHAN.	WATTS ERP	HEIGHT	DENS	FREQ.	EXP.	MPE	Total
*AT&T	2	565	127	880	0.0278	0.5867	0.47%	
*AT&T	2	875	127	1900	0.0430	1.0000	0.43%	
*AT&T	1	283	127	880	0.0070	0.5867	0.12%	
*AT&T	4	525	127	1900	0.0516	1.0000	0.52%	
*AT&T	1	1771	127	734	0.0435	0.4893	0.89%	
Verizon	11	467	137	0.0984	1970	1.0000	9.84%	
Verizon	6	390	137	0.0672	698	0.5793	11.61%	
Verizon	-	1750	137	0.0335	2145	1.0000	3.35%	
Verizon	-	1050	137	0.0201	746	0.4973	4.04%	
								31.3%
* Source: Siting Council								

ATTACHMENT 3



Structural Evaluation						
ATC Site Number & Name	415439, Woodstock Nw Pcs CT, CT					
Carrier Site Number & Name	N/A, Woodstock NW					
Site Location	40 Sherman Road					
	Woodstock, CT 06281-1901, Windham County					
	41.978611 N / -72.094444 W					
Tower Description	140 ft Monopole					
Basic Wind Speed	101 mph (3-Second Gust, V _{asd}) / 130 mph (3-Second Gust, V _{ult})					
Basic Wind Speed w/ Ice	50 mph (3-Second Gust) w/ 1" ice					
Code	ANSI/TIA-222-G / 2012 IBC / 2016 Connecticut State Building Code					

Existing and Reserved Equipment

Elevation	on¹ (ft)	Obi	Antenna	Mount Type	Lines	Carrier	
Mount	RAD	Qty	Antenna	Wiodrit Type	Lines	Carrier	
		6	Andrew HBXX-6517DS-A2M				
136.0	137.0	1	RFS DB-T1-6Z-8AB-0Z	Low Profile Platform	(11) 1 5/8" Coax	Verizon	
		3	Commscope LNX-8514DS-A1M	LOW I TOME I latioiiii	(1) 1 5/8" Hybriflex		
	136.0	1	VZW Unused Reserve: 13,031 sq in				
		9	RCU	*	(12) 1 5/8" Coax (4) 0.78" 8 AWG 6 (2) 0.39" Fiber Trunk	AT&T Mobility	
		9	Powerwave TT08-19DB111-001				
		2	Raycap DC6-48-60-18-8F				
127.0	127.0	12	Ericsson RRUS-11				
		9	Powerwave 7770.00				
		2	KMW AM-X-CD-17-65-00T-RET				
			1	Powerwave P65-17-XLH-RR			

Equipment to be Removed

Elevation	on¹ (ft)	Qty	Antenna	Mount Type	Lines	Carrier	
Mount	ount RAD		, alternia				
		3	Antel BXA-70063-6CF-EDIN-X				
137.0	137.0	3	Alcatel-Lucent RRH2x60 - AWS Band 4 (20" Height)	-	(1) 1 5/8" Coax	Verizon	



Proposed Equipment

Elevation	on¹ (ft)	Oh	Antenna	Mount Type	Lines	Carrier
Mount	RAD	Qty	Antenna	Mount Type	Lines	Carrier
		3	Alcatel-Lucent RRH2X60-1900			
139.0	1	RFS DB-T1-6Z-8AB-0Z				
136.0	136.0	3	Antel QUAD656C0000X	Low Profile Platform	(1) 1 5/8" Hybriflex	Verizon
127.0	3	Alcatel-Lucent RRH2x60 700				
	137.0	3	Alcatel-Lucent AWS4 4x45 RRH		_	

Mount elevation is defined as height above bottom of steel structure to bottom of mount, RAD elevation is defined as center of antenna above grade level (AGL).

Install proposed coax inside of the pole shaft.

The existing and proposed loads listed in the tables above are compared to the tower's current design capacity or previous structural analysis. The tower should be re-evaluated as future loads are added or if actual loads are found different from those listed in the tables. The subject tower and foundation *are adequate* to support the above stated loads in conformance with specified requirements.

ATTACHMENT 4



ashford brooklyn canterbur pomfret putnam scotland s:

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CT-169-5124-19-03

Description



Parcel Report Abutters Report

Owner: HALLQUEST COLIN GUNNAR +

Address: 40 SHERMAN RD

Town: Woodstock

Details

Owner Name
HALLQUEST COLIN GUNNAR +

Street Address
40 SHERMAN RD

Town N/A

Gis ID

CT-169-5124-19-03

Account Number 00291500

Property Type Fee Simple

Use Code 101

PropertyOwnership

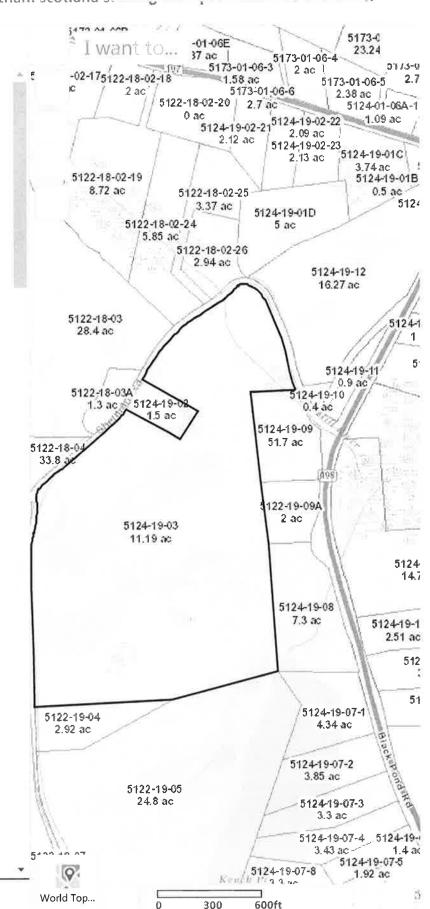
Private

SourceType
Tax Map









40 SHERMAN RD

Location 40 SHERMAN RD

Mblu 5124/ 19/ 09/ /

Acct# 00291500

Owner HALLQUEST COLIN GUNNAR

Assessment \$102,250

Appraisal \$175,700

PID 3052

Building Count 1

Current Value

	Appraisal		
Valuation Year	Improvements	Land	Total
2011	\$82,300	\$93,400	\$175,700
	Assessment		
Valuation Year	Improvements	Land	Total
2011	\$57,600	\$44,650	\$102,250

Owner of Record

Owner

HALLQUEST COLIN GUNNAR +

Co-Owner SCHEUFLER WAYNE + KARIN

Address

40 SHERMAN RD

WOODSTOCK, CT 06281

Sale Price

\$0

Certificate

Book & Page 570/499

Sale Date

07/23/2013

Ownership History

Ownership History				
Owner	Sale Price	Certificate	Book & Page	Sale Date
HALLQUEST COLIN GUNNAR +	\$0		570/ 499	07/23/2013
HALLQUEST COLIN GUNNAR	\$0	1	88/ 273	

Building Information

Building 1: Section 1

Year Built:

1962

Living Area:

1,344

Replacement Cost:

\$146,154

Building Percent

55

Good:

Replacement Cost

Less Depreciation:

\$80,400

Building Attributes

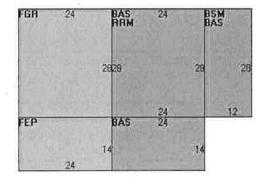
Field	Description
Style	Ranch
Model	Residential
Grade:	С
Stories:	1.0
Living Units	1
Exterior Wall 1	Wood
Exterior Wall 2	
Roof Structure:	Gable
Roof Cover	Asphalt Shingl
Interior Wall 1	Drywall
Interior Wall 2	
Interior Flr 1	Carpet
Interior Flr 2	
Heat Fuel	Oil
Heat Type:	Hot Water
АС Туре:	None
Total Bedrooms:	2 Bedrooms
Total Bthrms:	1
Total Half Baths:	1
Total Xtra Fixtrs:	0
Total Rooms:	5
Bath Style:	Average
Kitchen Style:	Average
Whirlpool Tubs	
Bsmt. Garages	1

Building Photo



(http://images.vgsi.com/photos/WoodstockCTPhotos/\\00\00\5

Building Layout



	Building Sub-Areas (sq ft)		<u>Legend</u>
Code	Description	Gross Area	Living Area
BAS	First Floor	1,344	1,344
BSM	Basement Area	336	0
FEP	Enclosed Porch	336	0
FGR	Garage	672	0
RRM	Basement, Rec Room Finish	672	0
		3,360	1,344

Extra Features

Extra Features Leg			<u>Legend</u>	
Code	Description	Size	Value	Bldg #
FPL1	Fireplace, 1 Sty	1 UNITS	\$1,900	1

Land

Use Code

101

Description

Single Family

Zone

Neighborhood

Alt Land Appr No

Category

Size (Acres)

11.19

Frontage

Depth

Assessed Value \$44,650

Appraised Value \$93,400

Outbuildings

Outbuildings	Legend
No Data for Outbuildings	

Valuation History

Appraisal			
Valuation Year	Improvements	Land	Total
2014	\$66,000	\$93,400	\$159,400
2013	\$58,700	\$93,400	\$152,100
2012	\$58,700	\$249,100	\$307,800

Assessment			
Valuation Year	Improvements	Land	Total
2014	\$46,200	\$44,650	\$90,850
2013	\$41,100	\$44,650	\$85,750
2012	\$41,100	\$44,620	\$85,720

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