

KENNETH C. BALDWIN

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

Also admitted in Massachusetts

May 4, 2015

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

Re: Notice of Exempt Modification – Facility Modification 300 Tresser Boulevard, Stamford, Connecticut

Dear Ms. Bachman:

Cellco Partnership d/b/a Verizon Wireless ("Cellco") currently maintains twelve (12) wireless telecommunications antennas attached to the façade of a mechanical penthouse on the roof of the building at 300 Tresser Boulevard in Stamford (the "Property"). Equipment associated with Cellco's antennas is located inside the building. The building and the Property are owned by Cornerstone/Bayview Inc. The Council approved Cellco's Tresser Boulevard wireless installation in 1987 (Docket No. 73), and retains jurisdiction over this roof-top facility. Cellco now intends to install three (3) additional remote radio heads ("RRHs") below its existing 1900 MHz antennas and one (1) new HYBRIFLEX<sup>TM</sup> antenna cable. Included in <u>Attachment 1</u> are the specifications for the RRHs and HYBRIFLEX<sup>TM</sup> cable.

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 David Martin, Mayor for the City of Stamford.

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

13783416-v1

## Robinson+Cole

Melanie A. Bachman May 4, 2015 Page 2

- 1. The proposed modifications will not result in an increase in the height of the existing structure or façade-mounted antennas. The RRHs will be installed below Cellco's existing 1900 MHz antennas on the façade of the roof-top penthouse.
- 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 General Power Density table with 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 structure can support Cellco's proposed modifications. (*See* Structural Evaluation Letter included in Attachment 3).

Sincerely,

Kenneth C. Baldwin

Enclosures Copy to:

David Martin, Mayor Tim Parks

# **ATTACHMENT 1**

# LA6.0.1/13.3

# RRH1900 2X60 - HW CHARACTERISTICS PCS RF MODULES

DT Or street to Dougle	RRH2x60
RF Output Power	AAAAA
Instantaneous Bandwidth	ZUMHZ
Transmitter	2 TX
Receiver 1900 HW version 1900A HW version	2 Branch RX – LA6.0.1 4 Branch RX – LR13.3
Features	AISG 2.0 for RET/TMA
	Internal Smart Bias-T
Power	-48VDC
CPRI Ports	2 CPRI Rate 3 Ports
External Alarms	4 External User Alarms
Monitor Ports	TX
Environmental	GR487 Compliance
RF Connectors	7/16 DIN (top mounted)

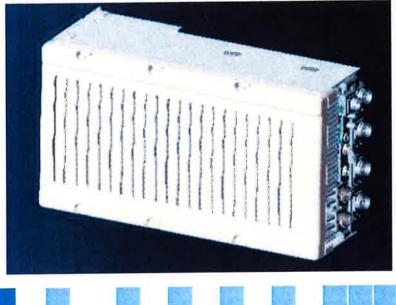


<sup>\*\*</sup> Not a Verizon Wireless deployed product

# **NEW PCS RF MODULES FOR VZW** RRH2X60 - HW CHARACTERISTICS

LR14.3

	RRH2x60
RF Output Power	2x60W (4x30W HW Ready)
Instantaneous Bandwidth	60MHz
Target Reliability (Annual Return Rate)	<2%
Receiver	4 Branch Rx
Features	AISG 2.0 for RET/TMA
Power	-48VDC
	Internal Smart Bias-T
CPRI Ports	2 CPRI Rate 5 Ports
External Alarms	4 External User Alarms
Monitor Ports	TX, RX
Environmental	GR487 Compliance
RF Connectors	7/16 DIN (downward facing)
Dimensions	22"(h) x 12"(w)x 9.4" (d)**
Weight	55lb**



<sup>\*\*-</sup> Includes solar shield but not mounting brackets (8 lbs.)

HYBRIFLEXTM 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.

### Features/Benefits

- Aluminum corrugated armor with outstanding bending characteristics ជារកកោខែទទ installation time and enables mechanical protection and shielding
- Same accessories as 1 5/8" coaxial cable
- Outer conductor grounding Siminates 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 ducts
- 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: MYBRIFLEX Series

### Technical Specifications

Outer Conductor Armor. Corrugated Aluminum

Jacket:	Polyethylene, PE	[mm (in)]	50.3 (1.98)
UV-Protection	Individual and External Jacket		Yes
Mary - the - the			
Weight, Approximate		[kg/m (lb/ft)]	1 9 (1.30)
Minimum Bending Rai	dius, Single Bending	[mm (in)]	200 (8)
Minimum Bending Rai	dius, Repeated Bending	[mm (in)]	500 (20)
Recommended/Maxim	ium Clamp Spacing	[m (ft)]	1.0 / 1.2 (3.25 / 4.0)
Engritor - roberton			
DC-Resistance Outer (	Ionductor Armor	$[\Omega/\text{km} (\Omega/1000\text{ft})]$	
DC-Resistance Power	Cable, 8.4mm <sup>1</sup> (8AWG)	(Ω/km (Ω/1000ft)	2.1 (0.307)
20 a 10 a			
Version			Single-mode ONI3
Quantity, Fiber Count			16 (8 pairs)
Core/Clad		(µm)	50/125
Primary Coating (Acryl	ate)	(µm)	245
Buffer Diameter, Nomi	nal	(um)	900
Secondary Protection,	Jacket, Nominal	[mm (in)]	2.0 (0.08)
Minimum Bending Rac	dius	(mm (in))	104 (4.1)
Insertion Loss @ wavel	ength 850nm	dB/km	3.0
			7.4
nsertion Loss @ wavel	ength 1310nm	d8/km	1.0
Insertion Loss @ wavel Standards (Meets or ex		dB/km	UL94-V0, UL1666

Imm (in)

The sign of plaining to continue	f ( p) ( ( )	0.4 (9)
Size (Power)	[mm (AWG)]	8 4 (8)
Quantity, Wire Count (Power)		16 (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))	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
and the second		

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

Ha153-1-03118-33118

46.5 (1.83)

with an internal lacket Aluminum OC PE/UV external jacket Alarm cable with Power cable with an internal jacket

Optical cable (pair)

Figure 3: Construction Detail

\* This data is provisional and subject to change RFS The Clear Choice®

23v: 21

Print Date: 27.5.2012

information contained in the present datasheet is subject to confirmation at time of ordering

# **ATTACHMENT 2**

STAMFORD, CT **Cumulative Power Density** Site Name:

Operator	Operating Frequency	Number of Trans.	ERP Per Trans.	Total	Distance to Target	Calculated Power Density	Maximum Permissable Exposure*	Fraction of MPE
	(MHz)		(watts)	(watts)	(feet)	(mW/cm^2)	(mW/cm^2)	(%)
VZW PCS	1970	1	1604	1604	205	0.0137	1.0	1.37%
VZW Cellular	698	တ	358	3222	205	0.0276	0.579333333	4.76%
VZW AWS	2145	-	1750	1750	205	0.0150	1.0	1.50%
VZW 700	746	6	612	612	205	0.0052	0.497333333	1.05%
Total Percentage	ntage of Ma	of Maximum Permissible Exposure	ermissib	le Expos	ure			8.68%

\*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^2 = milliwatts per square centimeter ERP = Effective Radiated Power

Absolute worst case maximum values used.

# **ATTACHMENT 3**



Centered on Solutions®

December 03, 2014

Mr. Tom Nolan Verizon Wireless 99 East River Drive East Hartford, CT 06108

Re: Structural Evaluation Letter ~ Antenna Upgrade Verizon Wireless Site Ref ~ Stamford 300 Tresser Blvd. Stamford, CT 06901

Centek Project No. 14309.006

Dear Mr. Nolan,

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 twenty-one story, 211-ft +/- tall host building to support the proposed modified antenna configuration. The existing antenna installation consists of 6-ft long steel pipe masts mounted to the masonry façade of the host building penthouse. 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 Connecticut State Supplement.

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

### Verizon (Existing to Remain – All Sectors):

Antennas: Three (3) Antel BXA-70063-6CF panel antennas, three (3) Andrew LNX-6514DS-VTM panel antennas, six (6) Andrew HBXX-6516DS-VTM panel antennas, three (3) Alcatel-Lucent RH\_2X40-AWS Remote Radio Heads, three (3) Alcatel-Lucent RH\_2x40-700 Remote Radio Heads, three (3) RFS DB-E1-3B-8AB-0Z sector distribution boxes, and one (1) RFS DB-T1-6Z-8AB-0Z main distribution box pipe mounted to the façade of the existing penthouse with a RAD center elevation of 208-ft +/- AGL.

<u>Coax:</u> Eighteen (18) 1-5/8-in dia. coaxial cables routed within existing roof mounted cable tray. One (1) 1-5/8-in dia. Hybriflex Fiber feeder cable routed from the existing Verizon Wireless equipment room to the main distribution box. Three (3) 1-1/4-in dia. Hybriflex Fiber jumper cables routed from the main distribution box to the sector distribution boxes.

### Verizon (Proposed – All Sectors):

Antennas: Three (3) Alcatel-Lucent RH\_2x60-PCS Remote Radio Heads, three (3) RFS DB-E1-3B-8AB-0Z sector distribution boxes, and one (1) RFS DB-T1-6Z-8AB-0Z main distribution box to be pipe mounted to the façade of the existing penthouse with a RAD center elevation of 208-ft +/- AGL.

<u>Cables:</u> One (1) 1-5/8-in dia. Hybriflex Fiber feeder cable to be routed from the existing Verizon Wireless equipment room to the main distribution box. Three (3) 1-1/4-in dia. Hybriflex Fiber jumper cables to be routed from the main distribution box to the sector distribution boxes.

CENTEK engineering, INC. Structural Evaluation Letter Verizon Wireless ~ Stamford 300 Tresser Blvd. Stamford, CT 06901

The proposed antenna installation meets the requirements of the 2005 Connecticut State Building Code considering the basic wind speed (3-second gust) of 110 mph as required in Appendix K of the Connecticut supplement per Table 1609.3.1 considering Exposure Category B. 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 antenna support structure or 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