

MultiCarrier Rebroadcast Agreement

This MultiCarrier Rebroadcast Agreement ("Agreement") is made as of June 7, 2017, between Collin County, Texas, with a principal place of business at 2300 Bloomdale, Suite 3160, McKinney, TX 75071, ("Permittee"), and Dallas MTA, L.P. d/b/a Verizon Wireless, with a principal place of business at One Verizon Way, Mail Stop 4AW100, Basking Ridge, NJ 07920 ("Permitter").

Background

A. Permittee is the owner of a building at 7117 CR 166, McKinney, Collin County, Texas (the "Premises"), which is located within the geographic area of a license to provide wireless services issued by the Federal Communications Commission ("FCC") to Permitter, and Permittee desires to purchase and operate an in-building repeater as described in Exhibit A (the "System") which is designed for use by multiple carriers to enhance wireless services on the Premises by operating the System on frequencies licensed to Permitter by the FCC and potentially on frequencies licensed to others by the FCC.

B. The FCC rules applicable to the licenses granted by the FCC require that Permitter control the frequencies which it has been licensed to use, and resolve interference complaints created by the use of those frequencies. Accordingly, Permitter and Permittee agree to permit Permittee's System to operate on Permitter's FCC licensed frequencies only on the terms and conditions set out in this Agreement.

Agreement

1. General. Permitter hereby grants to Permittee, the right to rebroadcast Permitter's signal through Permittee's System within the Premises on the terms herein. Permittee agrees not to broadcast any other signals, whether FCC licensed or unlicensed, through that part of the System which broadcasts Permitter's FCC licensed frequencies.

2. Operational Requirements.

a. Permittee shall own the entire System and be responsible for its physical requirements, inputs (e.g. electrical requirements) and outputs, as well as assuring that the System is maintained, repaired and replaced as needed so as to remain in good operating condition, as defined by Permitter, at all times. Nonetheless, Permitter shall have full control of its FCC licensed frequencies at all times, including full right of access to that part of the System which broadcasts Permitter's FCC licensed frequencies and the right to shut down that part of the System on a 7 day by 24 hour basis.

b. Permittee and its vendors/contractors will work with Permitter and its contractors throughout the process of designing, installing, maintaining, adjusting, fixing, modifying and removing that part of the System which broadcasts Permitter's FCC licensed frequencies. For example, Permittee will consult with Permitter on the creation (or, in the case of an existing system, the modification) of the System design and only implement that design after receiving Permitter's written approval. The System will only provide coverage in the Premises.

c. Should the System cause any radio frequency interference or other problems, or otherwise require repair or replacement, Permittee agrees, and will ensure that, Permitter has the right to require changes, or repair/replacement, to that part of the System which broadcasts Permitter's FCC licensed frequencies, and that such changes will be implemented within 30 days by either Permittee or a contractor determined by Permittee so that the proper quality of signal transmission is maintained. Permittee is responsible for the cost of implementing the changes, repairs or replacements, as needed, unless other arrangements are made and agreed to in writing by Permitter. Permittee acknowledges that this obligation requires it to obtain and assure the right to make changes, repairs and replacements from its contractors/vendors prior to the occurrence of radio interference or other problems or the need for replacement or repair.

3. Term & Termination.

a. The term of this Agreement shall be five (5) years with four (4) automatic five (5)-year renewal terms, unless the Permitter terminates it at the end of the then current term by giving the Permittee written notice of intent to terminate at least six (6) months prior to the end of the then current term.

b. Notwithstanding anything to the contrary contained herein, Permitter shall have the right to terminate this Agreement at any time without cause provided that thirty (30) days prior notice is given the Permittee, as Permitter at all times has complete control of its FCC licensed frequencies.

c. In the event Permitter defaults in the performance of any of its covenants or obligations hereunder and such default continues for a period of sixty (60) days after written notice thereof from Permittee (unless the nature of the event takes longer to cure and Permitter commences a cure within the time period and diligently pursues it), Permittee may thereafter terminate this Agreement by written notice to Permitter.

d. This Agreement may only be terminated in accordance with its terms. Termination of this Agreement shall trigger the parties' cessation obligations under Section 4.

4. Cessation. Permittee agrees that the System shall be deemed to be and remain at all times personal property of Permittee and not part of the real estate on which it is located. If Permittee decides to cease using that part of the System which broadcasts Permitter's FCC licensed frequencies, or to vacate the Premises, Permittee agrees to give Permitter 30 days prior written notice that Permittee will stop using Permitter's FCC licensed frequencies and decommission that part of the System which broadcasts Permitter's FCC licensed frequencies so that it can no longer use or otherwise benefit from Permitter's FCC licensed frequencies. If Permittee vacates the Premises to another location that is also within Permitter's FCC license area, and Permittee desires to rebroadcast Permitter's signal, then Permittee must enter into an Agreement with Permitter like this one regarding such new location prior to placing the that part of System which broadcasts Permitter's FCC licensed frequencies in service.

5. Consideration. In consideration for the rights granted herein, Permittee's Premises will receive the benefits of enhanced wireless communications arising from operation of the System at no charge to Permitter.

6. Indemnification, Insurance.

a. To the extent allowed by law, Permittee shall indemnify, defend, and hold harmless Permittor, its affiliates and each of their respective directors, officers, employees, agents, and/or any assignees thereof (and their respective heirs and legal representatives) ("Indemnified Parties") against any obligations, losses, damages, actions, suits, costs, or liabilities (including, but not limited to, reasonable fees and disbursements of counsel and court costs) ("Claim") arising or alleged to have arisen in whole or in part from the System, including any acts or omissions of its contractors or vendors. Permittor will provide Permittee with written notice of any Claim covered by this indemnification and will cooperate appropriately with Permittee in connection with Permittee's defense thereof. Promptly after receipt of such request, Permittee shall assume the defense of such Claim with counsel reasonably satisfactory to the Indemnified Party. In such case, Permittee shall not settle or compromise any such Claim or consent to the entry of any judgment without the prior written consent of each Indemnified Party and without an unconditional release of all claims by each claimant or plaintiff in favor of each Indemnified Party.

b. Permittee shall procure and maintain throughout the term of this Agreement comprehensive general public liability insurance, and property damage insurance under policies with limits of not less than one million dollars (\$1,000,000) per bodily injury, death, or for damage or injury to or destruction of property (including the loss of use thereof) for any one occurrence. The parties waive and release any and all rights of action for negligence against the other which may arise on account of damage to the Premises or to property, resulting from any fire, or other casualty of the kind covered by standard fire insurance policies with extended coverage, regardless of whether or not, or in what amounts, such insurance is now or hereafter carried by the parties, or either of them. These waivers and releases shall apply between the parties and to any claims under or through either party as a result of any asserted right of subrogation. All policies of insurance covering property damage obtained by either party concerning or including the Premises or property shall waive the insurer's right of subrogation against the other party. Permittee agrees that Permittor may self-insure.

7. Disclaimer. PERMITTOR IS PERMITTING PERMITTEE TO BENEFIT FROM PERMITTOR'S LICENSED FREQUENCY ON THE TERMS HEREIN. PERMITTOR SPECIFICALLY MAKES NO WARRANTIES, EXPRESS OR IMPLIED HEREUNDER ABOUT ANYTHING IN THIS AGREEMENT OR THE FREQUENCIES, AND SPECIFICALLY DISCLAIMS ANY WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, TITLE OR NON-INFRINGEMENT, OR ANY WARRANTY ARISING BY USAGE OF TRADE, COURSE OF DEALING, OR PERFORMANCE.

8. Limitation of Liability. Permittor shall not be liable for any act or omission of Permittee hereunder or in connection with the System. The foregoing notwithstanding, whether the cause of any damage, loss or liability is insurable, insured or not insured, foreseen or unforeseen, in no event shall Permittor be responsible or liable to Permittee for anticipatory profits or any indirect, special, incidental or consequential damages of any kind or nature arising directly or indirectly in connection with the construction, use or operation of the Premises or the exercise of any rights

related thereto, whether based on an action or claim in contract or tort, including negligence, strict liability or otherwise.

9. Representations and Warranties. Permittee represents and warrants that (i) no lead paint, asbestos or other hazardous substance as defined by any applicable state, federal or local law or regulation, is present at any part of the Premises at which Permittor its authorized representatives may access hereunder; (ii) Permittee owns or leases the Premises on which the System has been or will be installed, and has obtained all required consents or approvals from any landlord, mortgagee or other person or entity having an interest therein; (iii) Permittee has obtained or will obtain all required permits, inspections or other approvals necessary for the installation and operation of the System; and (iv) Permittee has no knowledge of any equipment (such as equipment that may be sensitive to RF signals), wiring or other conditions on the Premises, or within the building where the Premises are located, that may be adversely affected by, or may adversely affect, installation or operation of the System.
10. Assignment. Neither party may assign this Agreement without the written consent of the other party except as stated herein. This Agreement may be assigned by Permittor to its affiliates or any entity which acquires all or substantially all of Permittor's assets in the market defined by the FCC in which the Premises are located.
11. Notices & Contacts. All notices hereunder must be in writing and shall be sent certified mail, return receipt requested, to Permittee at Collin County, Purchasing Department, 2300 Bloomdale, Suite 3160 McKinney, TX 75071 and to Permittor at 180 Washington Valley Road, Bedminster, NJ 07921, Attention Network – Real Estate.
12. Miscellaneous. This Agreement contains all agreements, promises and understandings between Permittor and Permittee regarding this transaction, and no oral agreement, promises or understandings shall be binding upon either Permittor or Permittee in any dispute, controversy or proceeding. This Agreement may not be amended or varied except in a writing signed by all parties. This Agreement shall extend to and bind the heirs, personal representatives, successors and assigns hereto. The failure of either party to insist upon strict performance of any of the terms or conditions of this Agreement or to exercise any of its rights hereunder shall not waive such rights and such party shall have the right to enforce such rights at any time. This Agreement and the performance thereof shall be governed interpreted, construed and regulated by the laws of the state in which the Premises are located without reference to its choice of law rules.
13. Expenses for Enforcement. In the event either Party hereto is required to employ an attorney to enforce the provisions of this Agreement or is required to commence legal proceedings to enforce the provisions hereof, the prevailing Party shall be entitled to recover from the other, reasonable attorney's fees and court costs incurred in connection with such enforcement, including collection.

[SIGNATURE PAGE TO FOLLOW]

IN WITNESS WHEREOF, the authorized representatives of the parties hereto execute this Agreement below, intending to be bound.

PERMITTEE

Collin County, Texas

By: 

Name: Michaela Reins

Title: Purchasing Agent

Date: 5-24-17

Per. C.O. No. 2017-358-05-22

PERMITTOR

Dallas MTA, L.P.

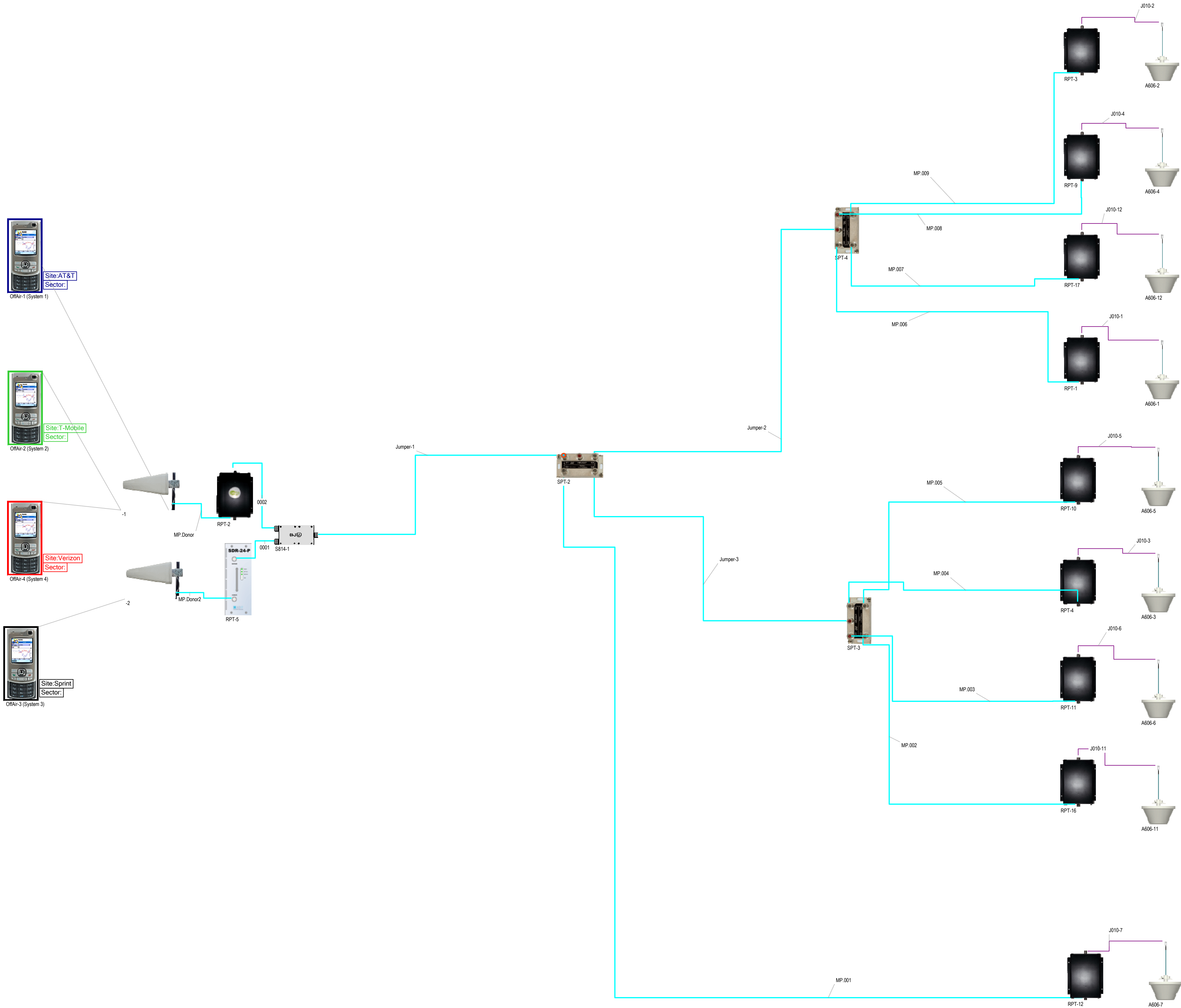
d/b/a Verizon Wireless

By: Verizon Wireless Texas, LLC,
Its General Partner

By: 

Todd Thornton Jason Leiker
Director – Network Field Engineering

Date: 6-7-17



Revision history		
Initial	6/20/2016	Dan Rowe, PE
Preliminary	Not for Construction	
1	11/13/2016	Dan Rowe, PE
Construction Release		

Project name

Collin County - Myers Park

Plan name

D.200 Design Plan

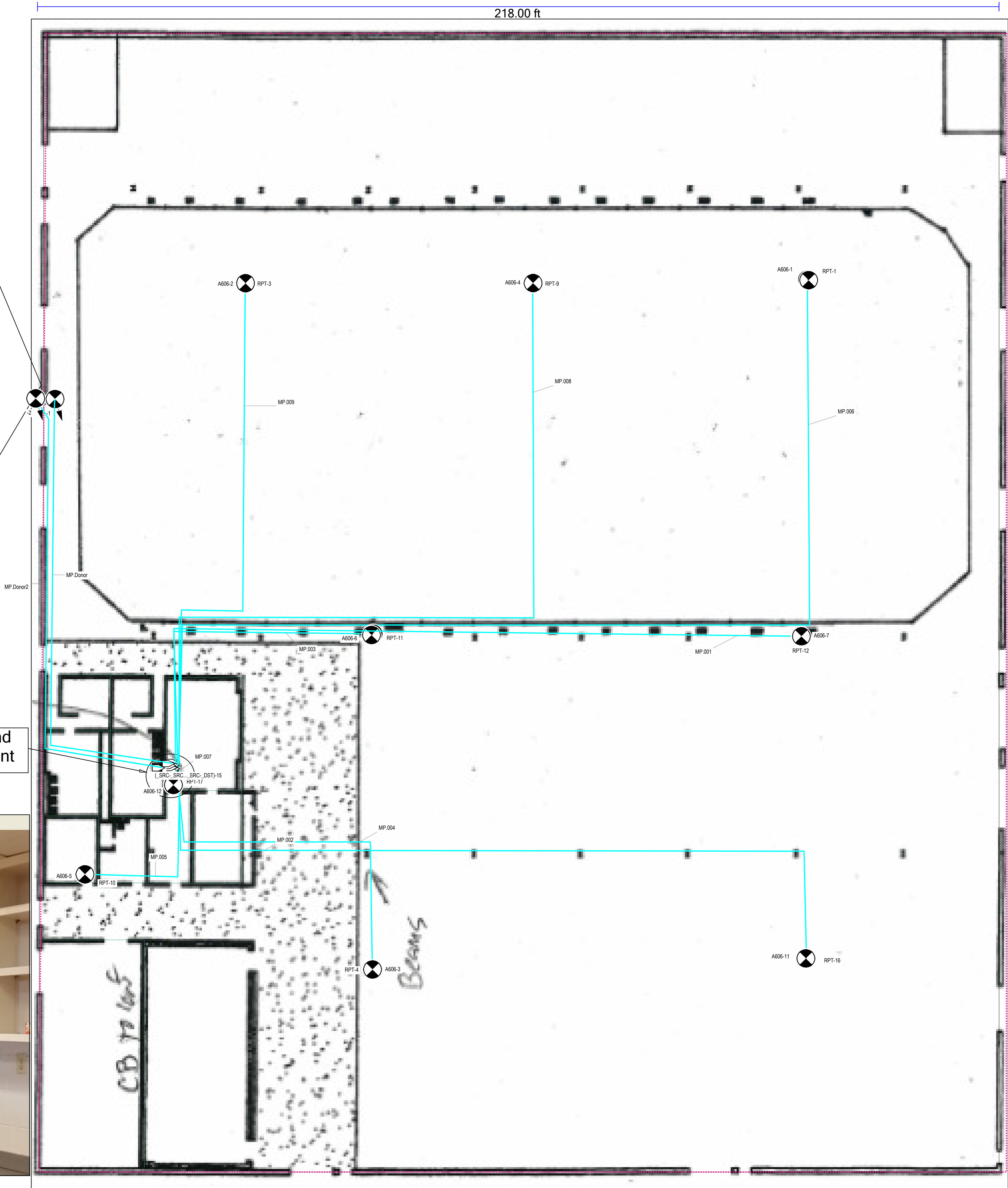
See Layout XX.X



Wall mount rack optional
locations to be approved by
Collin County.



Head End
Equipment

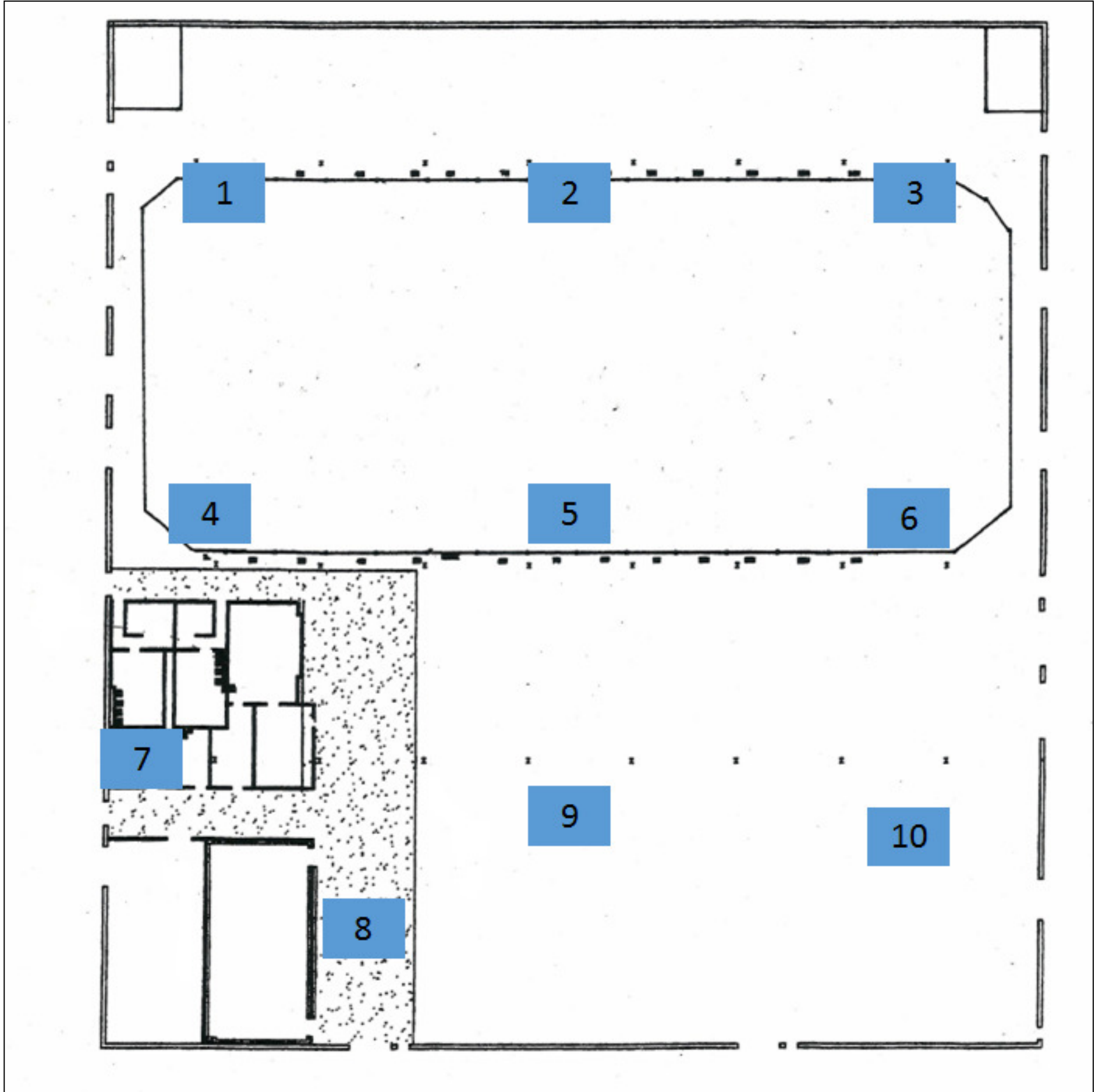


Indoor prediction legend

Revision history
Initial 6/20/2016 Dan Rowe, PE
Preliminary Not for Construction
1 11/13/2016 Dan Rowe, PE
Construction Release

Project name
Collin County - Myers Park

Plan name
D.300 - Floor 1



Test Locations

Test Location	700MHz		850MHz		1950MHz		2100MHz		Data Speeds	
	pre-installation (dBm)	pre-installation (dBm)	pre-installation (dBm)	pre-installation (dBm)	pre-installation (dBm)	pre-installation (dBm)	pre-installation (dBm)	pre-installation (dBm)	pre-installation (mbps) UL/DL	pre-installation (mbps) UL/DL
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										

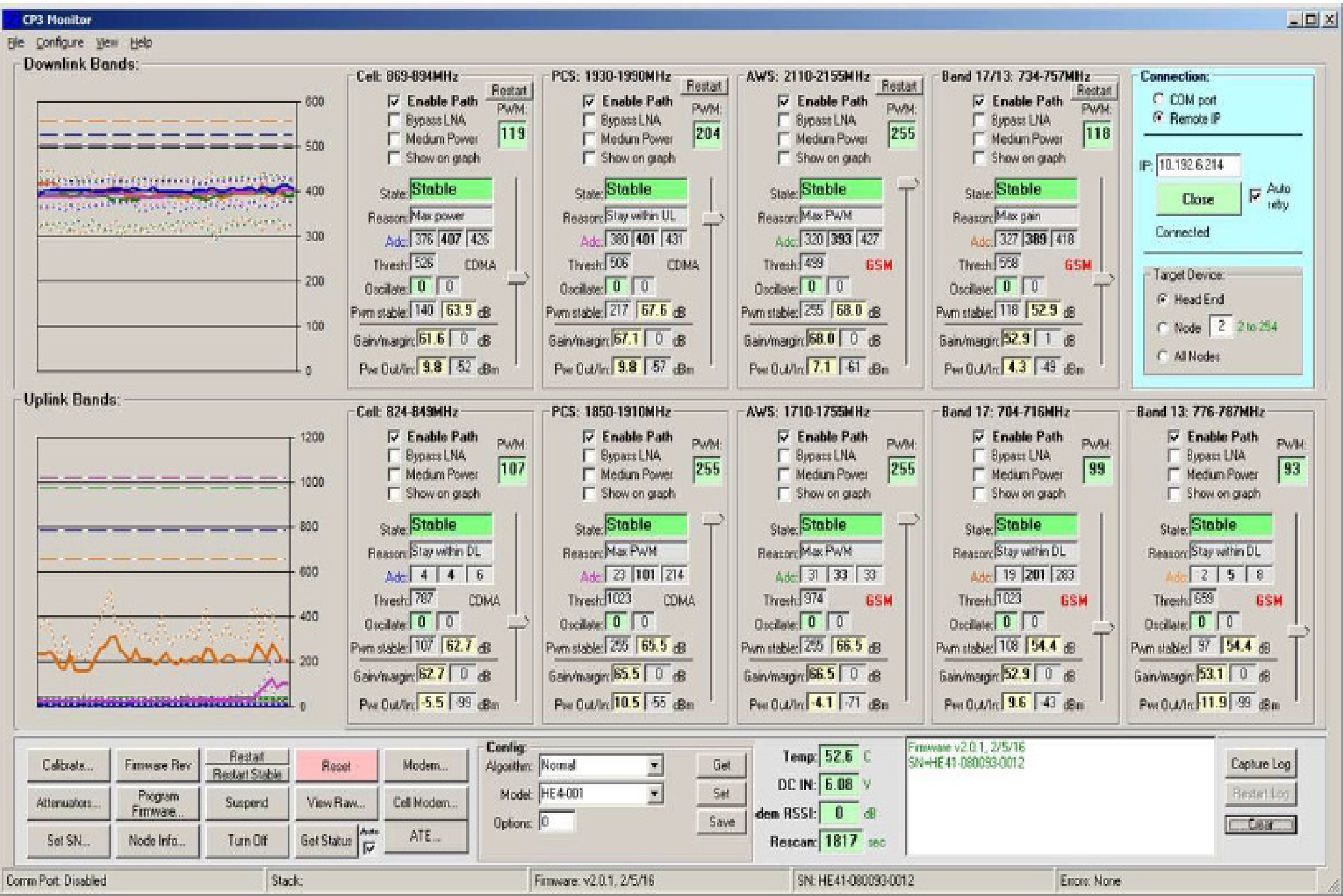
Test Results

Revision history		
Initial	6/29/2016	Dan Rowe, PE
Preliminary	Not for Construction	
1	11/13/2016	Dan Rowe, PE
Construction Release		

Project name
Collin County - Myers Park

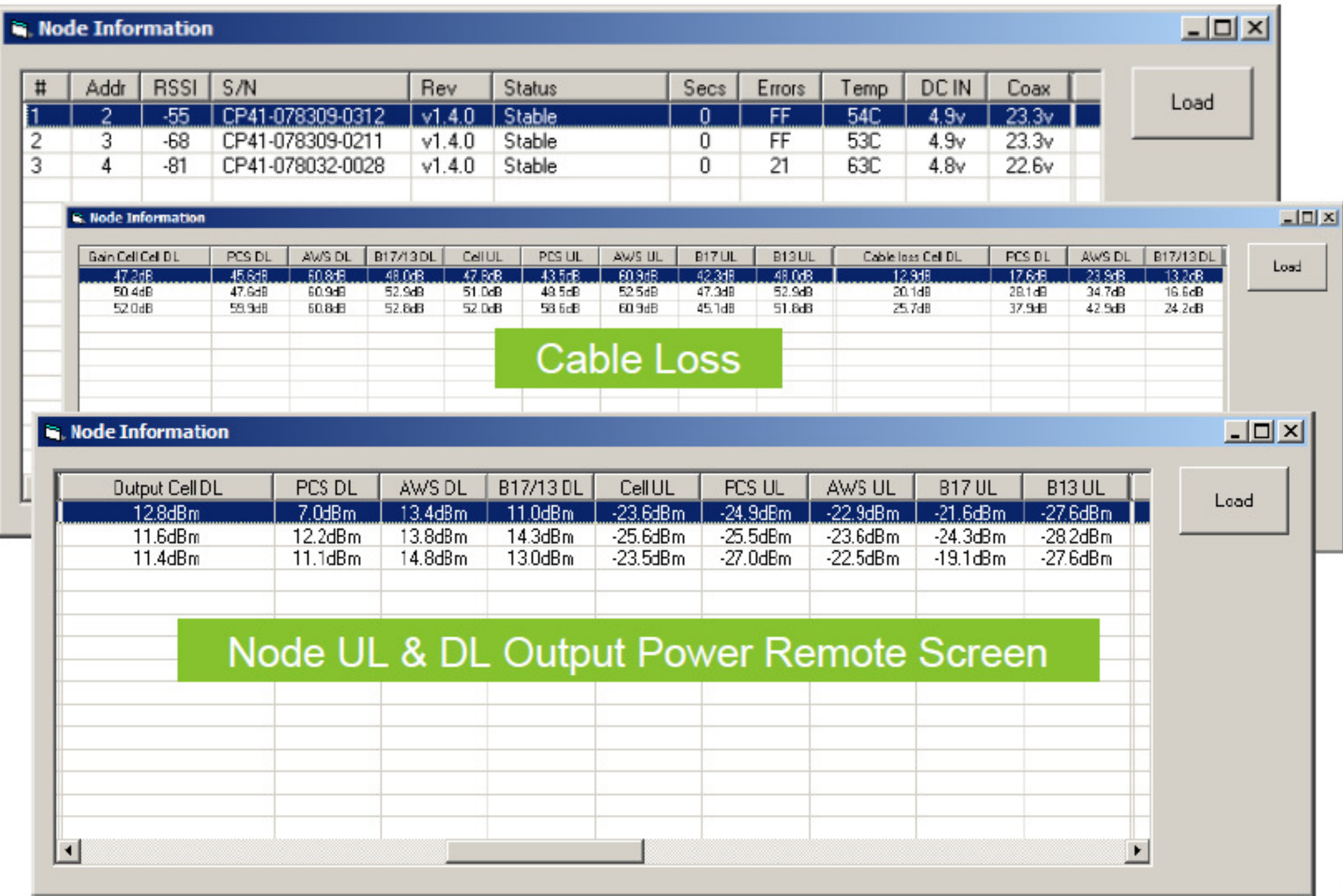
Plan name
D.401 - System Test Results

Head-end Remote Screen



Head End Configuration

Remote Node Information



Node UL & DL Output Power Remote Screen

Remote Node Configuration

Revision history	
Initial	6/28/2016 Dan Rowe, PE
Preliminary	Not for Construction
1	11/13/2016 Dan Rowe, PE
Construction Release	
Project name	
Collin County - Myers Park	
Plan name	
D.400 - System Configuration	

Equipment Description	Qty
HE4-001 Broadband Head-End including modem	1
CP4-001 Broadband Coverage Node	9
WDA-003 Broadband Donor antenna	1
In-Building Broadband Ceiling Mount Antenna	9
C4W-002 4-way splitter	3
Surge Arrestor	1
POC-001 12V power supply/power inserter	1
POC-002 24V power supply/power inserter	2
HE4-6V Head-End power supply	1
CC110-001 Jumper cable to antenna	9
J2-001 18" Jumper Cable	15
19" Wall Mounted Cabinet	1
RG11 Coaxial Cable	1500
F-type connectors	24
100' LMR400 pre-terminated donor cable (50 Ohm)	1
UPS	1

Revision history

Initial	6/28/2016	Dan Rowe, PE
Preliminary	Not for Construction	
1	11/13/2016	Dan Rowe, PE
Construction Release		

Project name

Collin County - Myers Park

Plan name

D.102 - Equipment List



2300 Bloomdale Road Ste. 3160
McKinney, TX 75071

PLAN INDEX	PROJECT SITE OVERVIEW	PROJECT SUMMARY INFORMATION
D.100 Cover Sheet D.101 Technical Data D.102 Equipment List D.200 Design Plan D.300 Floor 1 D.400 System Configuration D.401 System Test Results		<p>This project is pursuant to the Collin County RFP ID: 2016-207 for installation of a Cellular Antenna System for the Myers Park Show Barn.</p> <p>The distributed antenna system (DAS) vendor is Whoop Wireless LLC.</p> <p>The DAS is designed to support wireless services from AT&T, Verizon Wireless, Sprint, & T-Mobile through the use of the Whoop Wireless LLC equipment. This equipment is a low-powered Bi-Directional Amplifier (BDA) system.</p> <p>The system will be on a 1 hr battery back-up (BBU) unit from APC.</p> <p>The head-end equipment, which consists of the HE4, BBU, and DC-power injectors, will be installed inside of a secured wall-mounted 6RU unit.</p> <p>See sheet D.101 - Technical Data for all equipment used in this project.</p>
PROJECT MEMBERS	INSTALLATION INSTRUCTIONS	OTHER TRADE WORK INFORMATION
<p>iBWireless Solutions LLC Daniel Rowe P.E., Owner/Principal Engineer 214.924.5599 sales@ibwirelessolutions.com</p> <p>Collin County Texas Mike Bush, Director of IT 972.548.4197 mbush@co.collin.tx.us</p> <p>Sara Hoglund, Purchasing Department 972.548.4104 shoglund@co.collin.tx.us</p> <p>Installation Sub-Contractor Tom Washburn, RCDD Superior Fiber & Data Services, Inc. 972.245.6014 twashburn@sfdcabling.com</p>	<p>All RG11 coaxial cable runs to each CP4 shall be single runs from the head-end equipment. See sheet D.300 for specific room location.</p> <p>All RG11 coaxial cable shall be sweep tested for DTF (Distance to Fault: limit = 25dB) and RL (Return Loss: limit = 15dB)</p> <p>All RG11 coaxial cable runs shall be attached to structural beams within the arena. All CP4/Antenna units are located on sheet D.300 in conjunction with structural beams.</p> <p>All cables will be labeled on each end with the IDs shown on D.300.</p> <p>The system donor antenna shall be oriented at approximately 170 degrees. Installer to contact iBWireless Solutions when ready to orient this antenna.</p>	<div>Revision history Initial : 6/28/2016 Dan Rowe, PE Preliminary: Not for Construction 1 : 11/13/2016 Dan Rowe, PE Construction Release</div> <div>Project name Collin County - Myers Park</div> <div>Plan name Cover Sheet</div>

Enterprise Era Solutions for In-Building Cellular Coverage

Product Model

Uplink Frequency Range

Downlink Frequency Range

In-building Network Impedance

Antenna impedance

Maximum Gain

Modulation Supported

Uplink Noise Figure

Downlink Noise Figure

Power Input

Power Output

Max RF Output Power

RF Connectors

Housing

HE4-001

LTE Band 17: 704-716 MHz

LTE Band 13: 776-787 MHz

Cellular: 824-843 MHz

AWS: 1710-1755 MHz

PCS: 1850-1915 MHz

LTE Band 17: 734-746 MHz

LTE Band 13: 746-757 MHz

Cellular: 869-894 MHz

AWS: 2110-2155 MHz

PCS: 1950-1995 MHz

75 Ohm

50 Ohm

75 dB

LTE, HSPA+, GSM, GPRS, EDGE, CDMA-2000, EV-DO,

VCDMA, HSPA

Max. Gain 5.0 dB

Min. Gain 15 dB

Max. Gain 5.0 dB

Min. Gain 15 dB

AC 110V, 60 Hz

DC 6V, 5A

2.3 dBi

Type F Female in-building

Type N Female antenna

Plenum Rated Plastic

10" x 8.25" x 2.5"

Whoop Wireless LLC
Phone: (888) 983-7381

Email: info@whoopwireless.com
www.whoopwireless.com

CP4 Coverage Node

Overview

The CP4 coverage node is part of the Whoop Wireless's Intelligent Distributed Antenna System (DAS) family of products. The system supports Cellular, PCS, LTE and AWS mobile communications. The Intelligent DAS works with multiple CP4 coverage nodes strategically placed within the building to provide reliable texting, data, and voice communications. The head end unit manages all of the CP4 coverage nodes in the system in real-time along with local and remote access for monitoring and status checking. The built in amplifiers compensate for any cable loss in the system.

The major features include high speed data services, active system, extensive monitoring and diagnostics, low power operation, network protection, and status reporting.

Major Features

- High Performance LTE data performance
- Clear voice calling
- Supports LTE, HSPA+, GSM, GPRS, EDGE, CDMA-2000, EV-DO, WCDMA, and HSPA.
- Each antenna has an active signal source creating predictable coverage
- Frequencies range supported from 700 MHz to 2150 MHz
- Comprehensive network protection
- CP4 captures and minimizes uplink noise at the antenna
- Uplink sleep mode active when no activity detected
- Signal integrity status reporting
- Comprehensive diagnostics during installation and operation
- Ultra-low power consumption
- Dynamic self-optimizing network to ease installation and predictable system performance
- Up to 40 simultaneous users per node
- Flexible power options supporting standard AC 110V wall plugs or power over cable

Monitoring Features

- Downlink/uplink gain and power levels
- Total gain in each band
- Power and damage detection
- Operating temperature
- DC input power voltage
- Firmware version
- Remote upgrading
- Network protection
- Weak signal detection
- Cable loss calculation
- Each node addressable

Major Networks Supported

AT&T, Verizon, Sprint and T-Mobile

About Whoop Wireless

Whoop develops high performance distributed antennas systems (DAS) that serve venues ranging from 20,000 SF up to 500,000 SF that are technically competitive in functionality and effectiveness to high-end DAS systems at a fraction of the cost. Customers include universities, hospitals, hotels and Fortune 500 companies.

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Enterprise Era Solutions for In-Building Cellular Coverage

Product Model

Uplink Frequency Range

Downlink Frequency Range

In-building Network Impedance

Antenna impedance

Maximum Gain

Modulation Supported

Uplink Noise Figure

Downlink Noise Figure

Power Input

Power Output

Max RF Output Power

RF Connectors

Housing

CPA-001

LTE Band 17: 704-716 MHz

LTE Band 13: 776-787 MHz

Cellular: 824-848 MHz

AWG: 1710-1755 MHz

PCS: 1850-1915 MHz

LTE Band 17: 734-746 MHz

LTE Band 13: 746-757 MHz

Cellular: 869-894 MHz

AWG: 2110-2155 MHz

PCS: 1930-1995 MHz

75 Ohm

50 Ohm

60 dB

LTE, HSPA+, GSM, GPRS, EDGE, CDMA-2000, EV-DO, WCDMA, HSPA

Max. Gain 5.0 dB

Min. Gain 16 dB

Max. Gain 4.5 dB

Min. Gain 6.0 dB

AC 110V, 60 Hz

DC 9V, 3A

20 dBm

Type F Female In-building,

Type N Female antenna

Premium Rated Plastic

8" x 5.25" x 1.25"

Whoop Wireless LLC
Phone: (888) 983-7381

Email: info@whoopwireless.com
www.whoopwireless.com

WDA-N03

698-960 MHz / 1700-2200 MHz
Log Periodic Directional Antenna

Mobile Broadband for Buildings

MULTI-BAND DONOR DIRECTIONAL ANTENNA

The WDA-N03 is an outdoor wideband directional mast mounted antenna. It is designed to provide an excellent cellular signal feed into the in-building system that is optimized for signal requirements at 698-960 MHz and 1700-2200 MHz supporting GSM, DCS, UMTS, HSPA, HSPA+, CDMA, CDMA-1X, EV-DO, LTE and public safety. The antenna features a light weight package with the survivability of up to 140 MPH winds.

Horizontal Pattern

Vertical Pattern

Specifications

Frequency range	698-960 MHz, 1700-2200MHz
VSWR	1.6:1
Input impedance	50Ω
Peak Gain	8 ±0.5 dBi (698-950MHz) 9 ± 1 dBi (1700-2200MHz)
Beam width @ ½ power	60° average AZ
Beam width @ ¼ power	85° average EL
Polarization type	Vertical
Max power	50W
Lightning protection	DC ground
Connector type	N-female
Cable length	10"
Weight	2.64 lbs.
Dimension	17.3"x8.3"x2.4"
Radome material	ABS
Color	White
Working Temperature	-40°C to +60°C
Mounting	Mast mounting kit

Whoop Wireless LLC
Phone: (888) 983-7381
Email: info@whoopwireless.com
www.whoopwireless.com

WOA-N11

698-950 MHz / 1700-2500 MHz
Ceiling Mount Antenna

Mobile Broadband for Buildings

MULTI-BAND CEILING MOUNTED OMNI-DIRECTIONAL ANTENNA

The WOA-N11 is an indoor wideband omni-directional ceiling mounted antenna. It is designed to provide signal coverage that is optimized for indoor coverage requirements at 698-950 MHz and 1700-2500 MHz supporting GSM, DCS, UMTS, HSPA, HSPA+, CDMA, CDMA-1X, EV-DO, LTE, and public safety. The antenna features a radiated pattern that has been shaped to provide optimal performance from a ceiling



Horizontal Pattern

Vertical Pattern

Specifications


Frequency range	698-950 MHz, 1700-2500MHz
VSWR	<1.6
Input Impedance	50Ω
Peak Gain	3 ±0.5 dBi (698-950MHz) 4 ± 1 dBi (1700-2500MHz)
Horizontal Plane	360°
Vertical Plane	115° (698-950MHz) 90° (1700-2500MHz)
Polarization type	Vertical or horizontal
Max power	50W
Lightning protection	DC ground
Connector type	N-female
Cable length	10'
Weight	307g
Dimension	Diameter 6.5" × Height 4" installed
Radome material	ABS
Color	White
Working Temperature	-40°C to +60°C
Mounting	Flush mount with screw and anchor

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<h1>Smart-UPS</h1> <h2>Extended Run Rack/Tower Convertible 2U models</h2>															
	<small>SMX150</small> <small>SMX170MC</small>	SMX1900	<small>SMX1500RM2U</small> <small>SMX1500RM2UNC</small>	<small>SMX2000RM1V2U</small> <small>SMX2000RM1V2UNC</small>	<small>SMX2200RM1V2U</small> <small>SMX2200RM1V2UNC</small>	<small>SMX3000RM1V2U</small> <small>SMX3000RM1V2UNC</small>									
Output															
Power capacity	800 W/750 VA	800 W/1000 VA	1200 W/1500 VA	1800 W/2000 VA	1800 W/2200 VA	2700 W/3000 VA									
Nominal output voltage	120 V														
Output frequency	47 – 53 Hz for 50 Hz nominal; 57 – 63 Hz for 60 Hz nominal														
Wave form type				<small>Sine wave</small> (3) 5-15R L5-20R											
Output connections (NEMA)	(B) 5-15R			(1)	(B) 5-15R (2) 5-20R	(3) 5-15R (3) 5-20R (1) L5-30R									
Switched outlet groups	1	2	3												
Input															
Nominal input voltage	120 V			100 - 127 V											
Input voltage range for main operations (Max adjustable range)	82 – 144 V (75 – 154 V)			70 - 153 V											
Input frequency	50/60 Hz \pm 3 Hz (auto sensing)														
Input connection	5-15P			6-20P	L5-30P										
Batteries and runtime															
Battery type	Maintenance-free sealed lead-acid battery with suspended electrolyte; leak proof														
Replacement battery (BPS)	APCRBC116		APCRBC115		APCRBC117										
External Battery Pack (BXP)	SMW498MBP2U		SMW1209MBP2U												
Replacement battery (BXP)	APCRBC116		APCRBC118												
Typical backup time at varying load conditions, and with external battery packs	Please refer to www.apc.com for runtime charts														
Communication and management															
Interface ports	Serial (RJ45), USB, and SmartGlot "NC" versions: have a AP9651 network management card preinstalled in the SmartGlot														
Control panel and audible alarm	Alpha-numeric LCD display with LED status indicators, alarm on battery, distinctive low battery alarm and configurable delays														
Emergency power off (EPO)	Yes														
Physical															
Maximum height (inches)	3.5	3.5	3.5	3.5	3.5	3.5									
Maximum width (inches)	17.9	17.9	17.9	17.9	17.9	17.9									
Maximum depth (inches)	19.0	19.0	19.0	26.5	26.5	26.5									
Net weight (pounds)	49	50	55	85	85	85									
Conformance															
Regulatory	UL 1778, CSA														
Warranty and equipment protection policy	3-year electronics, 2-years battery, and \$150,000 lifetime EPP														
															

NetShelter™ WX Wallmount Cabinets


APC by Schneider Electric offers a set of NetShelter WX Wallmount IT cabinets in a convenient flat packaged option in multiple heights & depths for remote wall-mounted applications.



Top view

CABLE ACCESS ROOF / BASE


- > Two removable panels provide access or mounting spaces for accessories
- > Up to 8 additional U-spaces for small accessories such as patch panels



Front view

VERTICAL MOUNTING RAILS


- > Simple vertical adjustment with two equipment mounting rails at the front
- > Numbered 1 positions
- > Adjust to 6 different depth positions
- > U-spaces compatible with any standard 1, 2, or 3U accessory devices



Rear view

WALL MOUNTED


- > Dedicated space for remote IT assets that frees up floor space
- > Secure space to prevent random access to remote IT assets



Accessory Mounting U-Space

ACCESSORY MOUNTING U-SPACE


- > Removable panels provide 4 U-spaces top/bottom
- > Standard U-spaces allow a 4 U-spaces with any standard 1, 2, or 3U accessory devices such as patch panels, NetBoz.




AR213 Fan tray

FLAT PACKAGED


- > Flat packaged for protection and ease of transport in non freight transport options
- > Simple and quick assembly



AR106 6U



AR109 9U




AR112 12U

OTHER FEATURES

- > Static Load Capacity 200 lb
- > Includes hardware kit: 24 cage nuts, screws, washers, cage nut tool, screwdriver combo tool
- > APC logo badge & Schneider Electric logo label
- > Perforated front screen is reversible
- > Door, sides, roof, and rails are bonded to frame
- > Flat packaged for protection and ease of transport and storage with simple and quick assembly

Description	Part
6U x 24in Wide x 16in Deep NetShelter WX Wallmount Cabinet	AR106
9U x 24in Wide x 16in Deep NetShelter WX Wallmount Cabinet	AR109
12U x 24in Wide x 24in Deep NetShelter WX Wallmount Cabinet	AR112
Accessories specific to AR106, AR109 and AR112	Part
NetShelter WX Roof Fan Tray for AR106, AR109, AR112	AR213



APC
by Schneider Electric

Revision history	
Initial	6/29/2016 Dan Rowe, PE
Preliminary: Not for Construction	
1	11/13/2016 Dan Rowe, PE
Construction Release	
Project name	
Collin County - Myers Park	
Plan name	
D.101 - Technical Data	