

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
and New York

October 7, 2021

Via Electronic Mail

Melanie A. Bachman, Esq.
Executive Director/Staff Attorney
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

Re: **Notice of Exempt Modification – Facility Modification
37 North Main Street, Wallingford, Connecticut**

Dear Attorney Bachman:

Cellco Partnership d/b/a Verizon Wireless (“Cellco”) currently maintains an existing wireless telecommunications facility at the above-referenced property address (the “Property”). The Cellco facility consists of antennas attached to two masts on the roof of the building, within two faux chimney concealment enclosures. Equipment associated with the antennas is located inside the attic of the building. Cellco’s existing roof-top facility was approved by the Council in December of 2015 (PE1133-VER-20151113). A copy of the Sub-Petition (PE1133-VER-20151113) approval letter is included in Attachment 1.

Cellco now intends to modify its facility by replacing its three (3) existing antennas with three (3) MX14FIT665-01 antennas on modified antenna mounting hardware within the same concealment enclosures. New Remote Radio Heads (“RRHs”) will be installed inside the attic of the building. A set of project plans showing Cellco’s proposed facility modifications and new antennas and RRH specifications are included in Attachment 2.

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 Wallingford’s Chief Elected Official and Land Use Officer.

Melanie A. Bachman, Esq.
October 7, 2021
Page 2

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 antenna structures. Cellco's replacement antennas will be installed at same height as its existing antennas on the roof.
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 installation of Cellco's new 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 calculation table for the modified facility is included in Attachment 3. The modified facility will be capable of providing Cellco's 5G wireless service.
5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.
6. According to the attached Structural Letter (SL), the antenna mounts, radio frequency transparent enclosures and host building can support Cellco's proposed antenna modifications. A copy of the SL is included in Attachment 4.

A copy of the parcel map and Property owner information is included in Attachment 5. A Certificate of Mailing verifying that this filing was sent to municipal officials and the property owner is included in Attachment 6.

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).

Melanie A. Bachman, Esq.
October 7, 2021
Page 3

Sincerely,

A handwritten signature in black ink, appearing to read "Kenneth C. Baldwin". The signature is fluid and cursive, with a long horizontal stroke at the end.

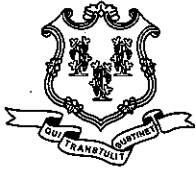
Kenneth C. Baldwin

Enclosures

Copy to:

William W. Dickinson, Jr., Wallingford Mayor
Kevin Pagini, Wallingford Town Planner
Wallace Realty Inc.
Aleksey Tyurin

ATTACHMENT 1



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

www.ct.gov/esc

December 29, 2015

Kenneth C. Baldwin, Esq.
Robinson & Cole LLP
280 Trumbull Street
Hartford, CT 06103-3597

RE: PE1133-VER-20151113 – Cellco Partnership d/b/a Verizon Wireless sub-petition for a declaratory ruling for approval of an eligible facility request for modifications to an existing telecommunications facility located at 37 North Main Street, Wallingford, Connecticut.

Dear Attorney Baldwin:

The Connecticut Siting Council (Council) hereby approves your Eligible Facilities Request (EFR) to install antennas and associated equipment at the above-referenced facility pursuant to the Federal Communications Commission Wireless Infrastructure Report and Order, with the following conditions:

- Within 45 days after completion of construction, the Council shall be notified in writing that construction has been completed;
- Any nonfunctioning antenna and associated antenna mounting equipment on this facility owned and operated by the Petitioner shall be removed within 60 days of the date the antenna ceased to function;
- The validity of this action shall expire one year from the date of this letter; and
- The petitioner 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.

This decision is under the exclusive jurisdiction of the Council and is not applicable to any other modification or construction. All work is to be implemented as specified in the EFR received November 13, 2015.

Thank you for your attention and cooperation.

Very truly yours,

Melanie Bachman
Acting Executive Director

MB/RM/CW

c: Honorable William W. Dickinson, Jr, Mayor, Town of Wallingford
Kacie Costello, Town Planner, Town of Wallingford

ATTACHMENT 2



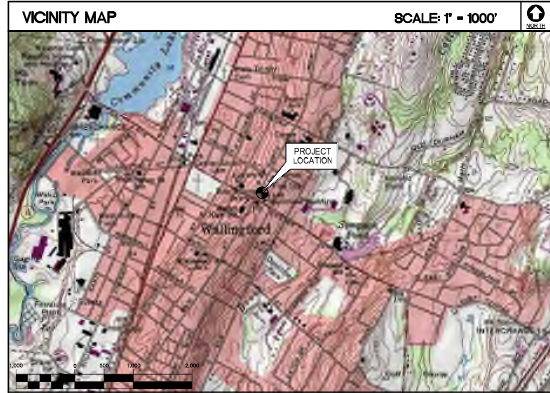
WALLINGFORD 4 CT - A

37 N MAIN STREET

WALLINGFORD, CT 06492

GENERAL NOTES	
1. ALL WORK SHALL BE IN ACCORDANCE WITH THE 2015 INTERNATIONAL BUILDING CODE AS MODIFIED BY THE 2018 CONNECTICUT SUPPLEMENT, INCLUDING THE IBC/ISA-222 REVISION "C" STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND SUPPORTING STRUCTURES, 2017 CONNECTICUT FIRE SAFETY CODE, NATIONAL ELECTRICAL CODE, AND LOCAL CODES.	11. ALL UTILITY WORK SHALL BE IN ACCORDANCE WITH LOCAL UTILITY COMPANY REQUIREMENTS AND SPECIFICATIONS.
2. SHOULD ANY FIELD CONDITIONS PRECLUDE COMPLIANCE WITH THE DRAWINGS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER AND SHALL NOT PROCEED WITH ANY AFFECTED WORK.	12. ALL EQUIPMENT AND PRODUCTS PURCHASED ARE TO BE REVIEWED BY CONTRACTOR AND ALL APPLICABLE SUBCONTRACTORS FOR ANY CONDITION PER MFR.'S RECOMMENDATIONS. CONTRACTOR TO SUPPLY THESE ITEMS AT NO COST TO OWNER OR CONSTRUCTION MANAGER.
3. CONTRACTOR SHALL REVIEW ALL DRAWINGS AND SPECIFICATIONS IN THE CONTRACT DOCUMENT SET. CONTRACTOR SHALL COORDINATE ALL WORK SHOWN IN THE SET OF DRAWINGS. THE CONTRACTOR SHALL PROVIDE A COMPLETE SET OF DRAWINGS TO ALL SUBCONTRACTORS AND ALL RELATED PARTIES. THE SUBCONTRACTORS SHALL EXAMINE ALL THE DRAWINGS AND SPECIFICATIONS FOR THE INFORMATION THAT AFFECTS THEIR WORK.	13. ANY AND ALL ERRORS, DISCREPANCIES, AND "MISSED" ITEMS ARE TO BE BROUGHT TO THE ATTENTION OF THE VERIZON WIRELESS CONSTRUCTION MANAGER DURING THE BIDDING PROCESS BY THE CONTRACTOR. ALL THESE ITEMS ARE TO BE INCLUDED IN THE BID. NO "EXTRA" WILL BE ALLOWED FOR MISSED ITEMS.
4. CONTRACTOR SHALL PROVIDE A COMPLETE BUILD-OUT WITH ALL FINISHES, STRUCTURAL, MECHANICAL, AND ELECTRICAL COMPONENTS AND PROVIDE ALL ITEMS AS SHOWN OR INDICATED ON THE DRAWINGS OR IN THE WRITTEN SPECIFICATIONS.	14. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ON-SITE SAFETY FROM THE TIME THE JOB IS AWARDED UNTIL ALL WORK IS COMPLETE AND ACCEPTED BY THE OWNER.
5. CONTRACTOR SHALL FURNISH ALL MATERIAL, LABOR AND EQUIPMENT TO COMPLETE THE WORK AND FURNISH A COMPLETED JOB ALL IN ACCORDANCE WITH LOCAL AND STATE GOVERNING AUTHORITIES AND OTHER AUTHORITIES HAVING LAWFUL JURISDICTION OVER THE WORK.	15. CONTRACTOR TO REVIEW ALL SHOP DRAWINGS AND SUBMIT COPY TO ENGINEER FOR APPROVAL. DRAWINGS MUST BEAR THE CHECKER'S INITIALS BEFORE SUBMITTING TO THE CONSTRUCTION MANAGER FOR REVIEW.
6. CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS AND ALL INSPECTIONS REQUIRED AND SHALL ALSO PAY FEES REQUIRED FOR THE GENERAL CONSTRUCTION, AND ALL TRADES AS APPLICABLE. PERMITS SHALL BE PAID FOR BY THE RESPECTIVE SUBCONTRACTORS.	16. THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS, ELEVATIONS, ANGLES, AND EXISTING CONDITIONS AT THE SITE, PRIOR TO FABRICATION AND/OR INSTALLATION OF ANY WORK IN THE CONTRACT AREA.
7. CONTRACTOR SHALL MAINTAIN A CURRENT SET OF DRAWINGS AND SPECIFICATIONS ON SITE AT ALL TIMES AND INSURE DISTRIBUTION OF NEW DRAWINGS TO SUBCONTRACTORS AND OTHER RELEVANT PARTIES AS SOON AS THEY ARE MADE AVAILABLE. ALL OLD DRAWINGS SHALL BE MARKED VOID AND REMOVED FROM THE CONTRACT AREA. THE CONTRACTOR SHALL FURNISH AN "AS-BUILT" SET OF DRAWINGS TO OWNER UPON COMPLETION OF PROJECT.	17. COORDINATION, LAYOUT, FURNISHING AND INSTALLATION OF CONDUIT AND ALL APPURTENANCES REQUIRED FOR PROPER INSTALLATION OF ELECTRICAL AND TELECOMMUNICATION SERVICE SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
8. LOCATION OF EQUIPMENT, AND WORK SUPPLIED BY OTHERS THAT IS DIAGRAMMATICALLY INDICATED ON THE DRAWINGS SHALL BE DETERMINED BY THE CONTRACTOR. THE CONTRACTOR SHALL DETERMINE LOCATIONS AND DIMENSIONS SUBJECT TO STRUCTURAL CONDITIONS AND WORK OF THE SUBCONTRACTORS.	18. ALL EQUIPMENT AND PRODUCTS PURCHASED ARE TO BE REVIEWED BY CONTRACTOR AND ALL APPLICABLE SUB- CONTRACTORS FOR ANY CONDITION PER THE MANUFACTURER'S RECOMMENDATIONS.
9. THE CONTRACTOR IS SOLELY RESPONSIBLE TO DETERMINE CONSTRUCTION PROCEDURE AND SEQUENCE, AND TO ENSURE THE SAFETY OF THE EXISTING STRUCTURES AND ITS COMPONENT PARTS DURING CONSTRUCTION. THIS INCLUDES THE ADDITION OF WHATEVER SHORING, BRACING, UNDERPINNING, ETC. THAT MAY BE NECESSARY. MAINTAIN EXISTING BUILDING'S/PROPERTY'S OPERATIONS, COORDINATE WORK WITH BUILDING/PROPERTY OWNER.	19. ALL DAMAGE CAUSED TO ANY EXISTING STRUCTURE SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR WILL BE HELD LIABLE FOR ALL REPAIRS REQUIRED FOR EXISTING STRUCTURES IF DAMAGED DURING CONSTRUCTION ACTIVITIES.
10. DRAWINGS INDICATE THE MINIMUM STANDARDS, BUT IF ANY WORK SHOULD BE INDICATED TO BE SUBSTANDARD TO ANY ORDINANCES, LAWS, CODES, RULES, OR REGULATIONS BEARING ON THE WORK, THE CONTRACTOR SHALL INCLUDE IN HIS WORK AND SHALL EXECUTE THE WORK CORRECTLY IN ACCORDANCE WITH SUCH ORDINANCES, LAWS, CODES, RULES OR REGULATIONS WITH NO INCREASE IN COSTS.	20. THE CONTRACTOR SHALL CONTACT "CALL BEFORE YOU DIG" AT LEAST 48 HOURS PRIOR TO ANY EXCAVATIONS AT 1-800-922-4455. ALL UTILITIES SHALL BE IDENTIFIED AND CLEARLY MARKED PRIOR TO ANY EXCAVATION WORK. CONTRACTOR SHALL MAINTAIN AND PROTECT MARKED UTILITIES THROUGHOUT PROJECT COMPLETION.

SITE DIRECTIONS		
FROM:	20 ALEXANDER DRIVE WALLINGFORD, CONNECTICUT	TO: 37 N MAIN ST. WALLINGFORD, CT 06492
1. START OUT GOING NORTH ON ALEXANDER DR TOWARD BARNES INDUSTRIAL RD.	0.18 MI	
2. TURN LEFT ONTO BARNES INDUSTRIAL RD.	0.32 MI	
3. TURN LEFT ONTO N MAIN STREET EXT.	0.31 MI	
4. N MAIN STREET EXT BECOMES N MAIN ST.	1.30 MI	
5. 37 N MAIN ST. WALLINGFORD, CT 06492-3709, 37 N MAIN ST IS ON THE LEFT.		



PROJECT SUMMARY	
1. THE PROPOSED UPGRADE SCOPE OF WORK AT THE EXISTING UNMANNED TELECOMMUNICATIONS FACILITY GENERALLY INCLUDES THE FOLLOWING:	
A. AT THE EXISTING FAUX CHIMNEY ANTENNA ENCLOSURE MOUNTED ANTENNA SECTORS:	
<ul style="list-style-type: none"> REMOVE (3) EXISTING ANDREW – 5BNHH-10658 ANTENNAS. RETAIN (2) EXISTING 6x12 HYBRID CABLES. INSTALL (3) JMA – MX14FT1665-01 ANTENNAS. MODIFY THE EXISTING STANDARD JMA ANTENNA MOUNTING HARDWARE AT (3) PROPOSED ANTENNA LOCATIONS. SEE DETAIL 3/C-2 FOR ADDITIONAL INFORMATION. 	
B. AT THE EXISTING ATTIC EQUIPMENT SPACE:	
<ul style="list-style-type: none"> REMOVE (6) EXISTING NOKIA RADIOS. REMOVE (6) RFS DIPLEXERS RETAIN (2) EXISTING OVP-6 BOXES INSTALL (3) SAMSUNG – RF4439D-25A RRU's. INSTALL (3) SAMSUNG – RF4440G-13A RRU's. INSTALL (3) SAMSUNG – RF4440G-13A RRU's. INSTALL (3) COMSCOPE – SDX1926Q-43 DIPLEXERS. 	

PROJECT INFORMATION	
SITE NAME:	WALLINGFORD 4 CT-A
SITE ADDRESS:	37 N MAIN ST. WALLINGFORD, CT 06492
LESSEE/TENANT:	CELCO PARTNERSHIP c.b.o. VERIZON WIRELESS 20 ALEXANDER DRIVE WALLINGFORD, CT 06492
CONTACT PERSON:	WALTER CHARCZNSKI (CONSTRUCTION MANAGER) VERIZON WIRELESS (860) 306-1806
ENGINEER:	CENITEK ENGINEERING, INC. 63-2 NORTH BRANFORD RD. BRANFORD, CT 06405 (203) 498-0580
PROJECT COORDINATES:	LATITUDE: 41°-27'-17.138" N LONGITUDE: 72°-49'-3.46" W COORDINATES BASED ON VERIZON WIRELESS RFD'S, DATED SEPTEMBER 08, 2021.

SHEET INDEX		
SHT. NO.	DESCRIPTION	REV.
T-1	TITLE SHEET	0
N-1	NOTES AND SPECIFICATIONS	0
B-1	RF BILL OF MATERIALS	0
C-1	ROOF PLAN AND ELEVATION	0
C-2	ANTENNA SECTOR CONFIGURATION DETAILS	0
C-3	RF DETAILS	0
E-1	ELECTRICAL DETAILS AND SPECIFICATIONS	0

PROFESSIONAL ENGINEER SEAL

DATE: 08/26/21

CONSTRUCTION DRAWINGS – ISSUED FOR CONSTRUCTION
 CONSTRUCTION DRAWINGS – REVISED PER CLIENT COMMENTS
 CONSTRUCTION DRAWINGS – ISSUED FOR CLIENT REVIEW

06/21/21 ANC
 09/08/21 ANC
 08/26/21 DATE

WALLINGFORD 4 CT-A
 37 N MAIN STREET
 WALLINGFORD, CT 06492

08/26/21 DATE
 21007.42 JOB NO.

SCALE: AS NOTED

T-1
 SHEET NO. 1 OF 1

www.CenitekEng.com

NOTES AND SPECIFICATIONS

DESIGN BASIS:

GOVERNING CODE: 2015 INTERNATIONAL BUILDING (IBC) AS MODIFIED BY THE 2018 CT STATE BUILDING CODE AND AMENDMENTS.

1. DESIGN CRITERIA:
 - RISK CATEGORY: II (BASED ON TABLE 1604.5 OF THE 2015 IBC)
 - NOMINAL DESIGN SPEED (TOWER): 125 MPH (Wind) (EXPOSURE B/IMPORTANCE FACTOR 1.0 BASED ON ASCE 7-10) PER 2015 INTERNATIONAL BUILDING CODE (IBC) AS MODIFIED BY THE 2018 CONNECTICUT STATE BUILDING CODE.
 - SEISMIC LOAD (DOES NOT CONTROL): PER ASCE 7-10 MINIMUM DESIGN LOADS FOR BUILDING AND OTHER STRUCTURES.

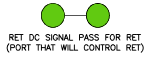
GENERAL NOTES:

1. ALL CONSTRUCTION SHALL BE IN COMPLIANCE WITH THE GOVERNING BUILDING CODE.
2. DRAWINGS INDICATE THE MINIMUM STANDARDS, BUT IF ANY WORK SHOULD BE INDICATED TO BE SUBSTANDARD TO ANY ORDINANCES, LAWS, CODES, RULES, OR REGULATIONS BEARING ON THE WORK, THE CONTRACTOR SHALL INCLUDE IN HIS WORK AND SHALL EXECUTE THE WORK CORRECTLY IN ACCORDANCE WITH SUCH ORDINANCES, LAWS, CODES, RULES OR REGULATIONS WITH NO INCREASE IN COSTS.
3. BEFORE BEGINNING THE WORK, THE CONTRACTOR IS RESPONSIBLE FOR MAKING SUCH INVESTIGATIONS CONCERNING PHYSICAL CONDITIONS (SURFACE AND SUBSURFACE) AT OR CONTIGUOUS TO THE SITE WHICH MAY AFFECT PERFORMANCE AND COST OF THE WORK.
4. DIMENSIONS AND DETAILS SHALL BE CHECKED AGAINST EXISTING FIELD CONDITIONS.
5. THE CONTRACTOR SHALL VERIFY AND COORDINATE THE SIZE AND LOCATION OF ALL OPENINGS, SLEEVES AND ANCHOR BOLTS AS REQUIRED BY ALL TRADES.
6. ALL DIMENSIONS, ELEVATIONS, AND OTHER REFERENCES TO EXISTING STRUCTURES, SURFACE, AND SUBSURFACE CONDITIONS ARE APPROXIMATE. NO GUARANTEE IS MADE FOR THE ACCURACY OR COMPLETENESS OF THE INFORMATION SHOWN. THE CONTRACTOR SHALL VERIFY AND COORDINATE ALL DIMENSIONS, ELEVATIONS, ANGLES WITH EXISTING CONDITIONS AND WITH ARCHITECTURAL AND SITE DRAWINGS BEFORE PROCEEDING WITH ANY WORK.
7. AS THE WORK PROGRESSES, THE CONTRACTOR SHALL NOTIFY THE OWNER OF ANY CONDITIONS WHICH ARE IN CONFLICT OR OTHERWISE NOT CONSISTENT WITH THE CONSTRUCTION DOCUMENTS AND SHALL NOT PROCEED WITH SUCH WORK UNTIL THE CONFLICT IS SATISFACTORILY RESOLVED.
8. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE SAFETY CODES AND REGULATIONS DURING ALL PHASES OF CONSTRUCTION. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR PROVIDING AND MAINTAINING ADEQUATE SHORING, BRACING, AND BARRICADES AS MAY BE REQUIRED FOR THE PROTECTION OF EXISTING PROPERTY, CONSTRUCTION WORKERS, AND FOR PUBLIC SAFETY.
9. THE CONTRACTOR IS SOLELY RESPONSIBLE TO DETERMINE CONSTRUCTION PROCEDURE AND SEQUENCE AND TO ENSURE THE SAFETY OF THE EXISTING STRUCTURES AND ITS COMPONENT PARTS DURING CONSTRUCTION. THIS INCLUDES THE ADDITION OF WHATEVER SHORING, BRACING, UNDERPINNING, ETC. THAT MAY BE NECESSARY. MAINTAIN EXISTING SITE OPERATIONS, COORDINATE WORK WITH NORTHEAST UTILITIES.
10. ALL DAMAGE CAUSED TO ANY EXISTING STRUCTURE SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR WILL BE HELD LIABLE FOR ALL REPAIRS REQUIRED FOR EXISTING STRUCTURES IF DAMAGED DURING CONSTRUCTION ACTIVITIES.
11. REFER TO DRAWING T1 FOR ADDITIONAL NOTES AND REQUIREMENTS.

 PROFESSIONAL ENGINEER SEAL	 verizon	 CENTEK Engineering <small>Contractors & Builders</small> (203) 688-6360 (203) 688-8587 Fax 652 North Meriden Road Meriden, CT 06460 www.CentekEng.com	Cellco Partnership d/b/a Verizon Wireless WALLINGFORD 4 CT-A 37 N MAIN STREET WALLINGFORD, CT 06492	DATE: 08/26/21 SCALE: AS NOTED JOB NO. 2100742	NOTES AND SPECIFICATIONS
N-1					
Sheet No. 2 of 1					

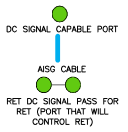
PLUMBING DIAGRAM NOTES:

1. PORTS 1 & 2 ARE FOR LOW BAND (698-896 MHz).
2. PORTS 3, 4, 5 & 6 ARE FOR HIGH BAND (1695-2360 MHz).
3. SMART BIAS TEE (SBT) IS THROUGH ANTENNA PORTS 1 & 3 (1 FOR LOW BAND AND 3 FOR HIGH BAND).
4. AISC CABLE IS ONLY NEEDED WHEN DRAWN IN THE DIAGRAMS ABOVE. IF IT IS NOT DRAWN THEN SBT IS ENOUGH TO CONTROL ALL RET MOTORS.
5. NOT ALL SBT PORTS ARE NEEDED TO CONTROL RET. ONLY GREEN PORT CONNECTION TO GREEN PORT WILL CONTROL RET.

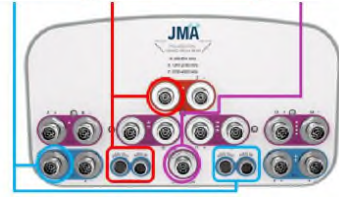


PLUMBING DIAGRAM COMMENTS:

- DIAGRAMS SHOW ANTENNA PORT CONFIGURATIONS AS VIEWED FROM BELOW ANTENNAS.
- ANTENNA POSITIONS ARE INDICATED AS VIEWED FROM IN FRONT OF ANTENNAS.
- CAP AND WEATHERPROOF UNUSED ANTENNA PORTS.
- ALL PLUMBING DIAGRAM COLORS ARE IRRELEVANT EXCEPT FOR AISC AND HYBRIFLEX CABLE. (FOR THE COAX COLORS, FOLLOW COAX COLORS GUIDE ABOVE)



Band	RF port	Band	RF port	Band	RF port
1695-2180	3-6	698-894	1-2	3700-4200	7-14



NOTES:

- INFORMATION SHOWN HEREIN IS FOR USE BY VERIZON WIRELESS EQUIPMENT OPERATIONS.
- THIS B.O.M. DRAWING IS BASED OFF FACILITY UPGRADE DESIGN DRAWINGS PREPARED BY CENTEK ENGINEERING (REV.0 DATED: 09.21.21), & VERIZON WIRELESS RF ANTENNA EQUIPMENT RECOMMENDATION (DATED 09.08.21).

BILL OF MATERIALS		
TECHNOLOGY	QUANTITY	ANTENNA
LTE 700		
LTE 850 5G		
LTE 1900	3	JMA ANTENNA MODEL: MX14FIT665-01
LTE AWS 2100 5G		

CABLES	QUANTITY	LENGTH	COMMENTS
-	-	-	-

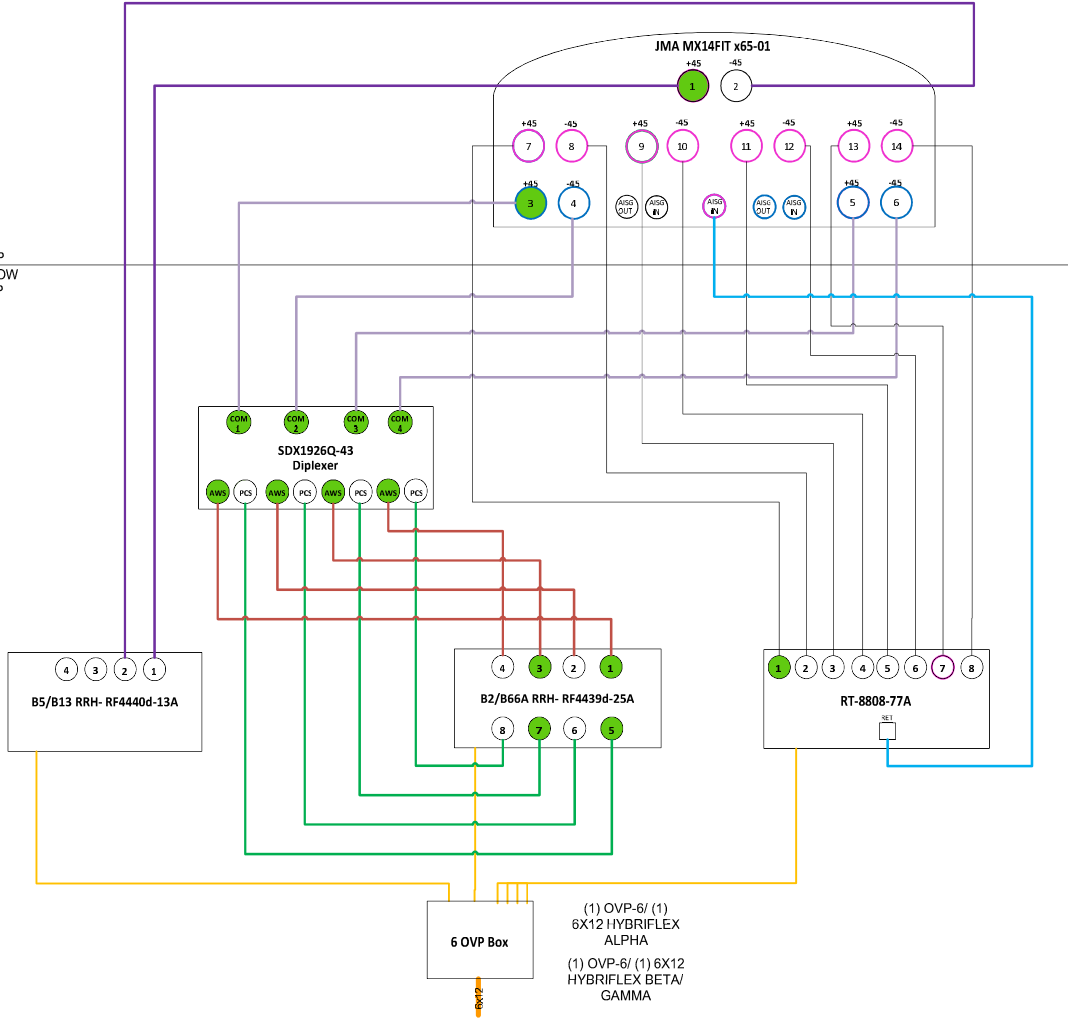
RADIOS		
TECHNOLOGY	QUANTITY	COMMENTS
LTE PCS 1900		
LTE AWS 2100	3	SAMSUNG MODEL: RF4439d-25A
LTE 700		
LTE 850 5G	3	SAMSUNG MODEL: RF4440d-13A
5G	3	SAMSUNG MODEL: RT-8808-77A

DIPLEXERS		
TECHNOLOGY	QUANTITY	COMMENTS
COMMSCOPE DIPLEXER	3	COMMSCOPE MODEL: SDX1926Q-43

OVP BOXES		
TECHNOLOGY	QUANTITY	COMMENTS
-	-	-

ANTENNA MOUNT		
TECHNOLOGY	QUANTITY	COMMENTS
-	-	-

ROOFTOP
ATTIC BELOW
ROOFTOP



PROFESSIONAL ENGINEER SEAL

verizon
Engineering
 CENTEK Engineering, Inc.
 02031 686-6360
 02031 688-8387 Fax
 65-2 North Meriden Road
 Meriden, CT 06460
 www.CentekEng.com

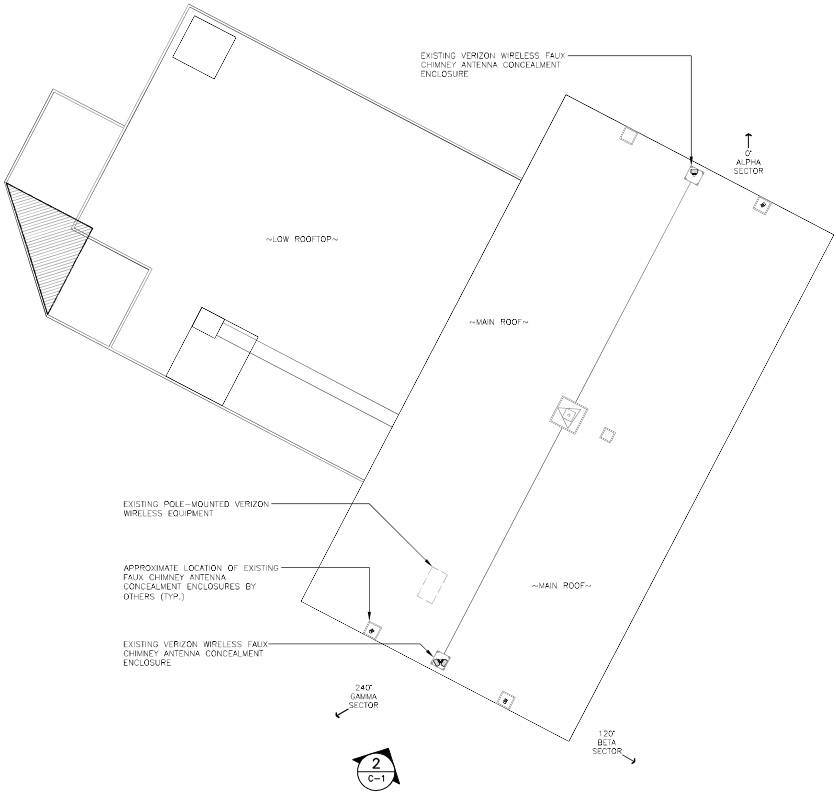
Cellco Partnership d/b/a Verizon Wireless
WALLINGFORD 4 CT-A
 37 N MAIN STREET
 WALLINGFORD, CT 06492

DATE: 08/26/21
SCALE: AS NOTED
JOB NO. 2100742

RF BILL OF MATERIALS

B-1
Sheet No. 2 of 1

STRUCTURAL NOTE
 1. REFER TO PASSING TOWER STRUCTURAL LETTER REPORT PREPARED BY CENTEK ENGINEERING DATED 08/18/2021, CENTEK PROJECT NO. 21007-42 FOR ADDITIONAL INFORMATION.



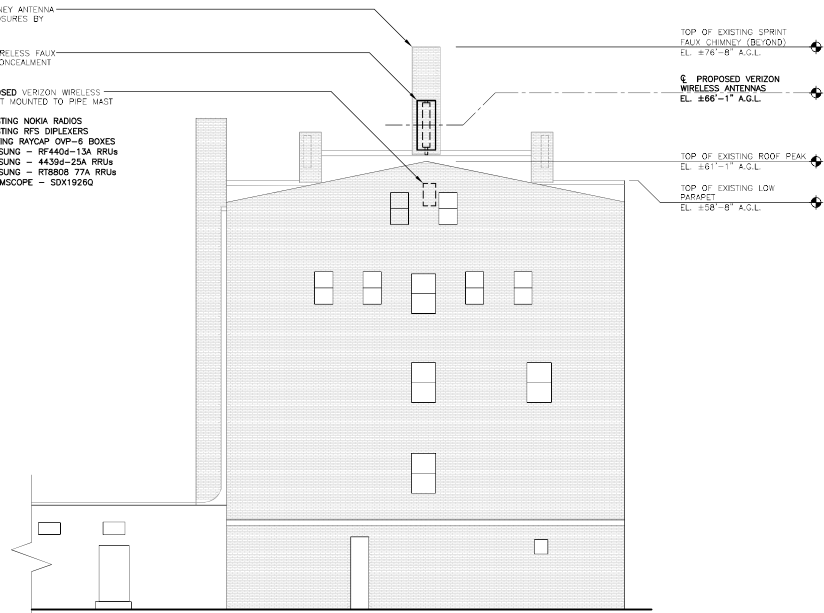
1 PARTIAL ROOF PLAN
 SCALE: 1" = 10'
 APPROXIMATE NORTH

EXISTING FAUX CHIMNEY ANTENNA CONCEALMENT ENCLOSURES BY OTHERS (TYP.)

EXISTING VERIZON WIRELESS FAUX CHIMNEY ANTENNA CONCEALMENT ENCLOSURE

EXISTING AND PROPOSED VERIZON WIRELESS AUXILIARY EQUIPMENT MOUNTED TO PIPE MAST WITHIN ATTIC SPACE

- REMOVE (6) EXISTING NOKIA RADIOS
- REMOVE (6) EXISTING RFS DIPLEXERS
- RETAIN (2) EXISTING RAYCAP OVP-6 BOXES
- INSTALL (3) SAMSUNG - RF4400-13A RRUs
- INSTALL (2) SAMSUNG - 44390-22A RRUs
- INSTALL (3) SAMSUNG - RT8808 77A RRUs
- INSTALL (3) COMSCOPE - SDX19260 DIPLEXERS



2 PARTIAL SOUTHWEST BUILDING ELEVATION - PROPOSED
 SCALE: 1" = 8'

DATE	08/26/21
SCALE	AS NOTED
JOB NO.	21007-42
COMPOUND PLAN AND ELEVATION	
C-1	
Sheet No. <u>4</u> of <u>1</u>	

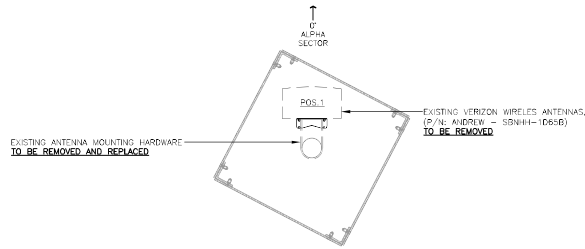
PROFESSIONAL ENGINEER SEAL						
CONSTRUCTION DRAWINGS	ISSUED FOR CONSTRUCTION					
CONSTRUCTION DRAWINGS	REVISED PER CLIENT COMMENTS					
CONSTRUCTION DRAWINGS	ISSUED FOR CLIENT REVIEW					
REV.	DATE	BY	SCALE	DATE	BY	SCALE

verizon

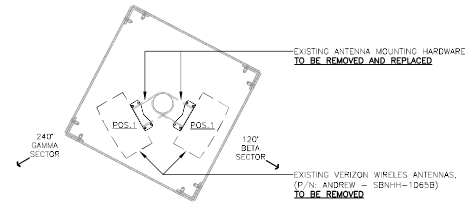
Centek Engineering
 Centek on Solutions™
 (203) 868-6360
 (203) 868-6387 Fax
 652 North Ironwood Road
 Wallingford, CT 06492
 www.CentekEng.com

Cellco Partnership d/b/a Verizon Wireless
WALLINGFORD 4 CT-A
 37 N MAIN STREET
 WALLINGFORD, CT 06492

EXISTING ANTENNA CONFIGURATIONS

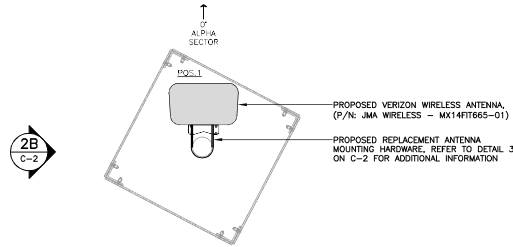


1
C-2
SCALE: 1" = 1'-0"
APPROXIMATE NORTH

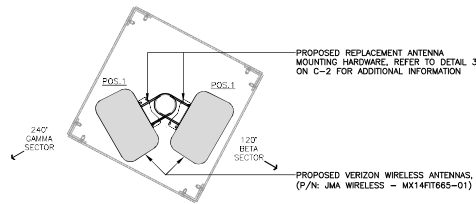


1A
C-2
SCALE: 1" = 1'-0"
APPROXIMATE NORTH

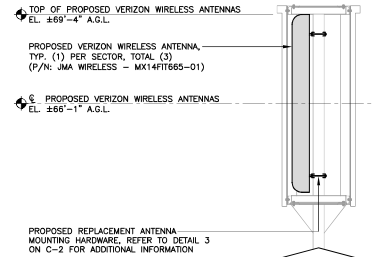
PROPOSED ANTENNA CONFIGURATIONS



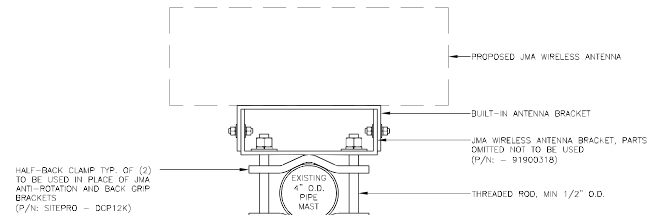
2
C-2
SCALE: 1 1/2" = 1'-0"
APPROXIMATE NORTH



2A
C-2
SCALE: 1" = 1'-0"
APPROXIMATE NORTH



2B
C-2
SCALE: 1/2" = 1'-0"



3
C-2
SCALE: 3" = 1'-0"

DATE:	08/26/21
SCALE:	AS NOTED
JOB NO.:	2100742
ANTENNA SECTOR CONFIGURATION DETAILS	
C-2	
Sheet No. 2 of 1	

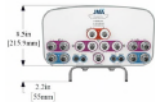
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0203 468-8387 Fax
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WALLINGFORD 4 CT-A
37 N MAIN STREET
WALLINGFORD, CT 06492

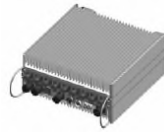


ELEVATION - ISOMETRIC

BOTTOM

14-PORT SECTOR ANTENNA		
EQUIPMENT	DIMENSIONS	WEIGHT
MAKE: JMA MODEL: MX14FIT665-01	72.0"L x 14.2"W x 8.5"D	63 LBS. (W/OUT MOUNT KIT)

1 SECTOR ANTENNA DETAIL
C-3 NOT TO SCALE



RRU - ISOMETRIC

C BAND 8TR 320W RRU (REMOTE RADIO UNIT)			
EQUIPMENT	BANDS	DIMENSIONS	WEIGHT
MAKE: SAMSUNG MODEL: RT-8808-77A	N77: 3700 MHz	15.0"H x 15.0"W x 6.8"D	59.5 LBS.

NOTES:
1. CONTRACTOR TO COORDINATE FINAL EQUIPMENT MODEL SELECTION WITH VERIZON WIRELESS CONSTRUCTION MANAGER PRIOR TO ORDERING.

2 C-BAND 8TR 320W RADIO UNIT DETAIL
C-3 NOT TO SCALE



DIPLEXER

EQUIPMENT	DESCRIPTION	DIMENSIONS	WEIGHT
MAKE: COMMSCOPE MODEL: SDX1928Q-43	ULTRA COMPACT PCS/AWS	4.2"H x 6.9"W x 2.9"D	—

NOTES:
1. CONTRACTOR TO COORDINATE FINAL EQUIPMENT MODEL SELECTION WITH VERIZON WIRELESS CONSTRUCTION MANAGER PRIOR TO ORDERING.

3 DIPLEXER DETAIL
C-2 NOT TO SCALE



RRU - ISOMETRIC

DUAL BAND RRU (REMOTE RADIO UNIT)			
EQUIPMENT	BANDS	DIMENSIONS	WEIGHT
MAKE: SAMSUNG MODEL: RF4439d-25A	B25: PCS (1900 MHz) B66: AWS (2100 MHz)	15.0"H x 15.0"W x 10.0"D	74.7 LBS.

NOTES:
1. CONTRACTOR TO COORDINATE FINAL EQUIPMENT MODEL SELECTION WITH VERIZON WIRELESS CONSTRUCTION MANAGER PRIOR TO ORDERING.

4 DUAL-BAND AWS/PCS MACRO RADIO UNIT DETAIL
C-3 NOT TO SCALE



RRU - ISOMETRIC

DUAL BAND RRU (REMOTE RADIO UNIT)			
EQUIPMENT	BANDS	DIMENSIONS	WEIGHT
MAKE: SAMSUNG MODEL: RF440d-13A	B5: 850 MHz B13: 700 MHz	15.0"H x 15.0"W x 9.0"D	70.3 LBS.

NOTES:
1. CONTRACTOR TO COORDINATE FINAL EQUIPMENT MODEL SELECTION WITH VERIZON WIRELESS CONSTRUCTION MANAGER PRIOR TO ORDERING.

5 DUAL-BAND 700/850 MHZ MACRO RADIO UNIT DETAIL
C-3 NOT TO SCALE

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0203468367 Fax
65-2 North Iroquois Road
Meriden, CT 06460
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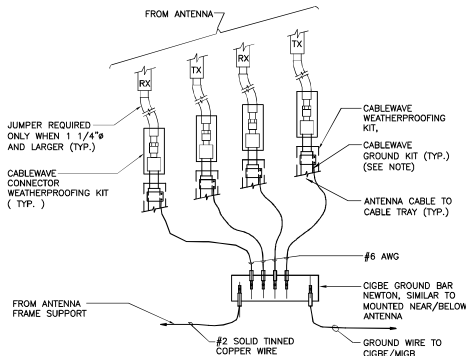
Cellco Partnership d/b/a Verizon Wireless
WALLINGFORD 4 CT-A
37 N MAIN STREET
WALLINGFORD, CT 06492

DATE: 08/26/21
SCALE: AS NOTED
JOB NO.: 21007-42

RF DETAILS

C-3
Sheet No. 8 of 1

CONSTRUCTION DRAWINGS - ISSUED FOR CONSTRUCTION
CONSTRUCTION DRAWINGS - REVIEWED PER CLIENT COMMENTS
CONSTRUCTION DRAWINGS - ISSUED FOR CLIENT REVIEW
CONSTRUCTION DRAWINGS - ISSUED FOR CLIENT REVIEW

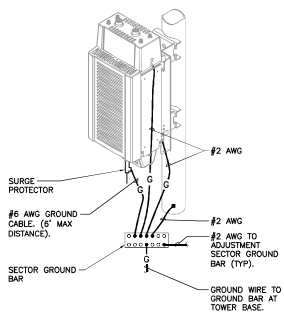


NOTES

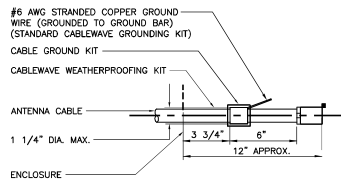
- DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO CIGBE

1 CONNECTION OF GROUND WIRES TO GROUND BAR
E-1 NOT TO SCALE

EACH RRH CABINET SHALL BE GROUNDED IN THE FOLLOWING MANNER:



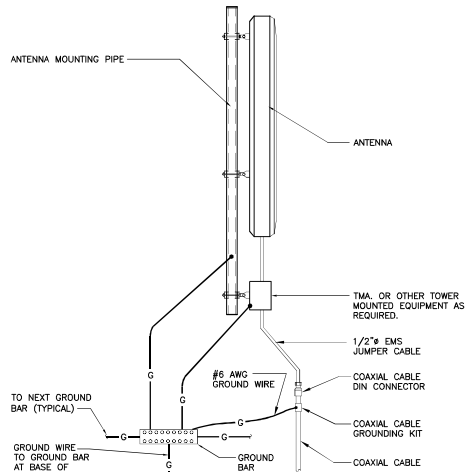
2 RRH POLE MOUNT GROUNDING
E-1 NOT TO SCALE



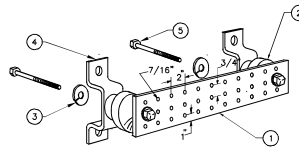
NOTES

- DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.

3 ANTENNA CABLE GROUNDING DETAIL
E-1 NOT TO SCALE



4 TYPICAL ANTENNA GROUNDING DETAIL
E-1 NOT TO SCALE



NOTES

- TINNED COPPER GROUND BAR, 1/4" x 4" x 20", NEWTON INSTRUMENT CO. HOLE CENTERS TO MATCH NEMA DOUBLE LUG CONFIGURATION.
- INSULATORS, NEWTON INSTRUMENT CAT. NO. 3061-4.
- 5/8" LOCK WASHERS, NEWTON INSTRUMENT CO. CAT. NO. 3015-8.
- WALL MOUNTING BRACKET, NEWTON INSTRUMENT CO. CAT. NO. A-6056.
- 5/8"-11 x 1" STAINLESS STEEL TRUSS SPANNER MACHINE SCREWS.

5 GROUND BAR DETAIL
E-1 NOT TO SCALE

ELECTRICAL SPECIFICATIONS

SECTION 16010

1.01. SCOPE OF WORK

A. WORK SHALL INCLUDE ALL LABOR, EQUIPMENT AND SERVICES REQUIRED TO COMPLETE (MAKE READY FOR OPERATION) ALL THE ELECTRICAL WORK INCLUDING, BUT NOT LIMITED TO, THE FOLLOWING:

- CELLULAR GROUNDING SYSTEMS CONSISTING OF ANTENNA GROUNDING, GROUND BARS, ETC.

1.02. GENERAL REQUIREMENTS

A. THE ENTIRE ELECTRICAL INSTALLATION SHALL BE MADE IN STRICT ACCORDANCE WITH ALL LOCAL, STATE AND NATIONAL CODES AND REGULATIONS WHICH MAY APPLY AND NOTHING IN THE DRAWINGS OR SPECIFICATIONS SHALL BE INTERPRETED AS AN INFRINGEMENT OF SUCH CODES OR REGULATIONS.

B. THE ELECTRICAL CONTRACTOR IS TO BE RESPONSIBLE FOR THE COMPLETE INSTALLATION AND COORDINATION OF THE ENTIRE ELECTRICAL SERVICE. ALL ACTIVITIES TO BE COORDINATED THROUGH OWNERS REPRESENTATIVE, DESIGN ENGINEER AND OTHER AUTHORITIES HAVING JURISDICTION OF TRADES.

C. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND PAY ALL FEES THAT MAY BE REQUIRED FOR THE ELECTRICAL WORK AND FOR SCHEDULING OF ALL INSPECTIONS THAT MAY BE REQUIRED BY THE LOCAL AUTHORITY.

D. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH THE BUILDING OWNER FOR NEW AND/OR DEMOLITION WORK INVOLVED.

E. NO MATERIAL OTHER THAN THAT CONTAINED IN THE "LATEST LIST OF ELECTRICAL FITTINGS" APPROVED BY THE UNDERWRITERS' LABORATORIES, SHALL BE USED IN ANY PART OF THE WORK. ALL MATERIAL FOR WHICH LABEL SERVICE HAS BEEN ESTABLISHED SHALL BEAR THE U.L. LABEL.

F. THE CONTRACTOR SHALL GUARANTEE ALL NEW WORK FOR A PERIOD OF ONE YEAR FROM THE ACCEPTANCE DATE BY THE OWNER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING WARRANTIES FROM ALL EQUIPMENT MANUFACTURERS FOR SUBMISSION TO THE OWNER.

G. DRAWINGS INDICATE GENERAL ARRANGEMENT OF WORK INCLUDED IN CONTRACT. CONTRACTOR SHALL, WITHOUT EXTRA CHARGE, MAKE MODIFICATIONS TO THE LAYOUT OF THE WORK TO PREVENT CONFLICT WITH WORK OF OTHER TRADES AND FOR THE PROPER INSTALLATION OF WORK. CHECK ALL DRAWINGS AND VISIT JOB SITE TO VERIFY SPACE AND TYPE OF EXISTING CONDITIONS IN WHICH WORK WILL BE DONE, PRIOR TO SUBMITTAL OF BID.

H. THE ELECTRICAL CONTRACTOR SHALL SUPPLY THREE (3) COMPLETE SETS OF APPROVED DRAWINGS, ENGINEERING DATA SHEETS, MAINTENANCE AND OPERATING INSTRUCTION MANUALS FOR ALL SYSTEMS AND THEIR RESPECTIVE EQUIPMENT. THESE MANUALS SHALL BE INSERTED IN VINYL COVERED 3-RING BINDERS AND TURNED OVER TO OWNERS REPRESENTATIVE ONE (1) WEEK PRIOR TO FINAL PUNCH LIST.

I. ALL WORK SHALL BE INSTALLED IN A NEAT AND WORKMAN LIKE MANNER AND WILL BE SUBJECT TO THE APPROVAL OF THE OWNER'S REPRESENTATIVE.

J. ALL EQUIPMENT AND MATERIALS TO BE INSTALLED SHALL BE NEW, UNLESS OTHERWISE NOTED.

K. BEFORE FINAL PAYMENT, THE CONTRACTOR SHALL PROVIDE A COMPLETE SET OF PRINTS (AS-BUILTS), LEGIBLY MARKED IN RED PENCIL TO SHOW ALL CHANGES FROM THE ORIGINAL PLANS.

L. ENTIRE ELECTRICAL INSTALLATION SHALL BE IN ACCORDANCE WITH OWNER'S SPECIFICATIONS, AND REQUIREMENTS OF ALL LOCAL AUTHORITIES HAVING JURISDICTION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE WITH APPROPRIATE INDIVIDUALS TO OBTAIN ALL SUCH SPECIFICATIONS AND REQUIREMENTS. NOTHING CONTAINED IN, OR OMITTED FROM, THESE DOCUMENTS SHALL RELIEVE CONTRACTOR FROM THIS OBLIGATION.

SECTION 16450

1.01. GROUNDING

A. ALL NON-CURRENT CARRYING PARTS OF THE ELECTRICAL AND TELEPHONE CONDUIT SYSTEMS SHALL BE MECHANICALLY AND ELECTRICALLY CONNECTED TO PROVIDE AN INDEPENDENT RETURN PATH TO THE EQUIPMENT GROUNDING SOURCES.

B. GROUNDING SYSTEM WILL BE IN ACCORDANCE WITH THE LATEST ACCEPTABLE EDITION OF THE NATIONAL ELECTRICAL CODE AND REQUIREMENTS PER LOCAL INSPECTOR HAVING JURISDICTION.

C. EQUIPMENT GROUNDING CONDUCTOR:

- EACH EQUIPMENT GROUND CONDUCTOR SHALL BE SIZED IN ACCORDANCE WITH THE N.E.C. ARTICLE 250-122.
- THE MINIMUM SIZE OF EQUIPMENT GROUND CONDUCTOR SHALL BE #12 AWG COPPER.

D. CELLULAR GROUNDING SYSTEM:

PROVIDE THE CELLULAR GROUNDING SYSTEM AS SPECIFIED ON DRAWINGS, INCLUDING, BUT NOT LIMITED TO:

- GROUND BARS
- ANTENNA GROUND CONNECTIONS AND PLATES.

E. ALL EQUIPMENT SHALL BE BONDED TO GROUND AS REQUIRED BY N.E.C., MFG. SPECIFICATIONS, AND OWNER'S SPECIFICATIONS.

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02031 868-8387 Fax
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37 N MAIN STREET
WALLINGFORD, CT 06492

DATE: 08/26/21
SCALE: AS NOTED
JOB NO. 2100742

E-1
Sheet No. 1 of 1

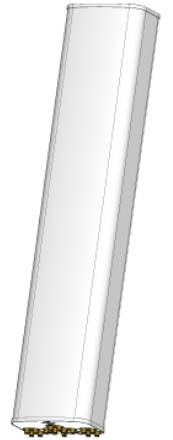
MX14FIT665-01

NWAV™ X-Pol 14-Port Antenna

X-Pol 14-Port 6 ft, 65° Form in Tighter with Smart Bias Ts, 698-4200 MHz:

2 ports 698-894 MHz, 4 ports 1695-2180 MHz, and 8 ports 3700-4200 MHz

- Combination of Hex Port Antenna with integrated 5G 3.5 GHz 8T8R beamforming capability
- Optimized antenna array design for all 3.5 GHz beamforming combinations
- Maintains existing low and mid band RF performance
- New optimized form factor for reduced wind loading
- Lower antenna weight with new Integrated RF distribution design
- Excellent passive intermodulation (PIM) performance reduces harmful interference.
- Fully integrated internal (iRETs) with SBT for independent RET control on all bands




Electrical specification (minimum/maximum)	Ports 1, 2		Ports 3, 4, 5, 6		
Frequency bands, MHz	698-798	824-894	1695-1880	1850-1990	1920-2180
Polarization	± 45°		± 45°		
Gain over all tilts, dBi	14.4	15.0	17.3	17.7	18.0
Horizontal beamwidth (HBW), degrees ¹	66	62	66	63.0	58.0
Front-to-back ratio, @180°, dB	>26.0	>27.0	>28.0	>26.0	>25.0
X-Pol discrimination (CPR) at boresight, dB	>20.0	>18.0	>19.0	>17.0	>17.0
Vertical beamwidth (VBW), degrees ¹	14	12	5.7	5.3	4.8
Electrical downtilt (EDT) range, degrees	2-14		0-9		
First upper side lobe (USLS) suppression, dB ¹	≤-16.0	≤-16.0	≤-16.0	≤-16.0	≤-16.0
Cross-polar isolation, port-to-port, dB ¹	25	25	25	25	25
Max VSWR / return loss, dB	1.5:1 / -14.0		1.5:1 / -14.0		
Max passive intermodulation (PIM), 2x20W carrier, dBc	-153		-153		
Max input power per any port, watts	300		250		
Total composite power all ports (1-14), watts	1500				

¹ Typical value over frequency and tilt

Electrical specification (minimum/maximum)	Ports 7, 8, 9, 10, 11, 12, 13, 14
Frequency bands, MHz	3700-4200
Gain over all tilts, dBi	15.7
Horizontal beamwidth (HBW), degrees ¹	85
Horizontal beam width tolerance, degrees	±5
Front-to-back ratio, @180°, dB	27
Vertical beamwidth (VBW), degrees ¹	7.5
Vertical beam width tolerance, degrees	±0.3
Beam tilt, degrees	2-12
First upper side lobe (USLS) suppression, dB ¹	15
Coupling level, Amp, Antenna port to Cal port, dB	26
Coupling level, max Amp Δ, Antenna port to Cal port, dB	±0.7
Coupler, max Amp Δ, Antenna port to Cal port, dB	0.65
Coupler, max Phase Δ, Antenna port to Cal port, degrees	4
Cross-polar isolation, port-to-port, dB ¹	25
Isolation, Inter-band, dB	25
Max VSWR / return loss, dB	1.5 / -14.0
PIM, 3rd Order, 2 x 20 W, dBc	-145
Max input power per any port at 50 °C, watts	75

¹ Typical value over frequency and tilt

Electrical specification, Broadcast 65°	Ports 7, 8, 9, 10, 11, 12, 13, 14
Frequency bands, MHz	3700-4200
Gain over all tilts, dBi	21.2
Horizontal beamwidth (HBW), degrees ¹	65
Horizontal beamwidth tolerance, degrees	±4
Vertical beamwidth (VBW), degrees ¹	7.5
Vertical beamwidth tolerance, degrees	±0.3
First upper side lobe (USLS) suppression, dB ¹	<-16

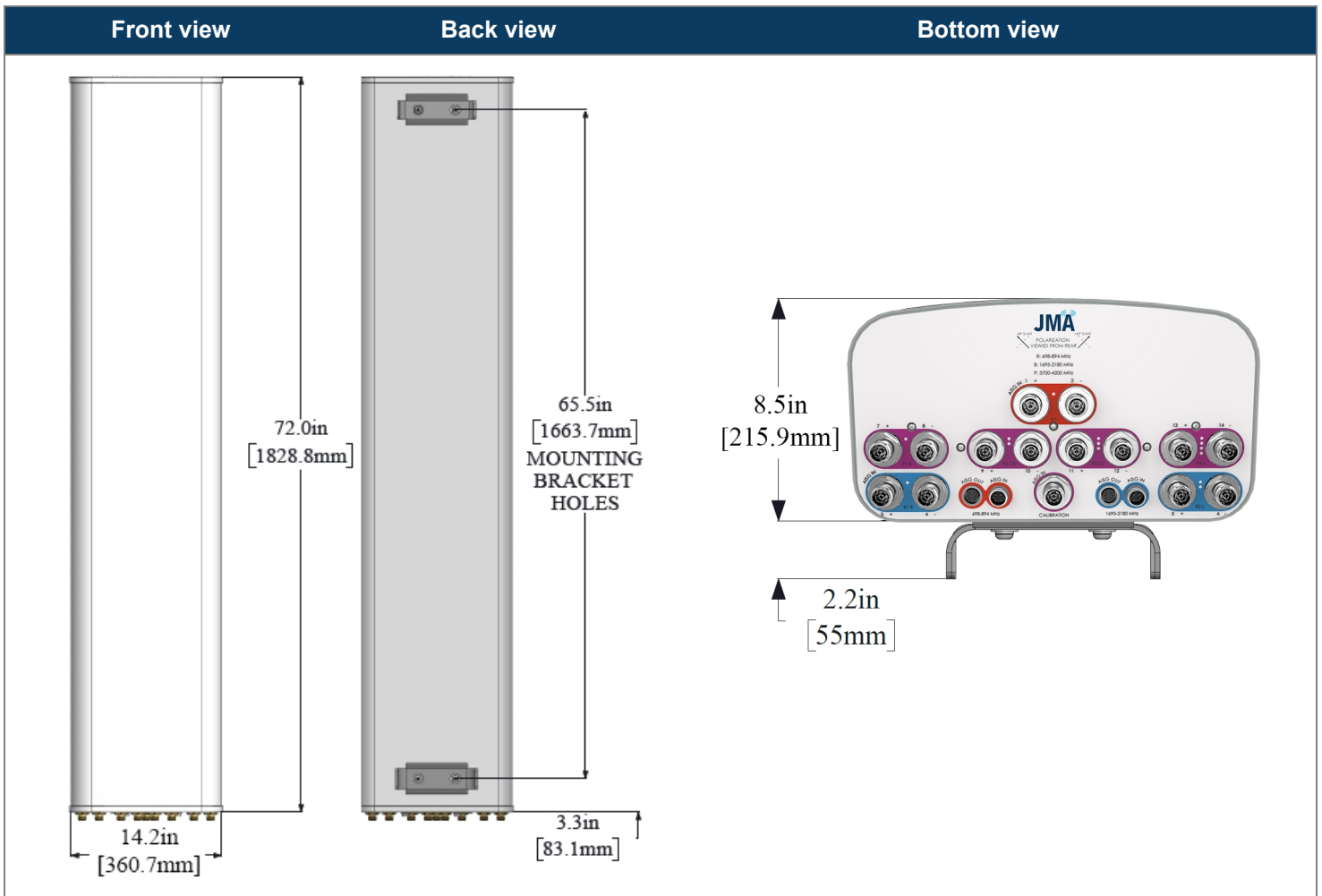
Electrical specification, Service Beam	Ports 7, 8, 9, 10, 11, 12, 13, 14
Frequency bands, MHz	3700-4200
Steered 0° gain, dBi	21.2
Steered 0° Gain tolerance, dBi	±0.6
Steered 0° Beamwidth, Horizontal, degrees	24
Steered 0° CPR at beampeak, dB	18
Steered 0° Horizontal Sidelobe, dB	12
Steered 30° Gain, dBi (max)	20.5
Steered 30° Gain tolerance, dBi	±0.6
Steered 30° Gain, dBi	20.7
Steered 30° Beamwidth, Horizontal, degree	22
Steered 30° CPR at beampeak, dB	18
Steered 30° Horizontal Sidelobe, dB	10

Electrical specification, Soft Split	Ports 7, 8, 9, 10, 11, 12, 13, 14
Frequency bands, MHz	3700-4200
Gain over all tilts, dBi	19.8
Horizontal beamwidth (HBW), degrees ¹	33
First upper side lobe (USLS) suppression, dB ¹	15

Beamforming weighting table available upon request

Ordering information	
Antenna model	Description
MX14FIT665-01	6F X-Pol 14 Port FIT 65° 2-14°/ 0-9°/ 2-12° RET, 4.3-10 & SBT
Optional accessories	
AISG cables	M/F cables for AISG connections
PCU-1000 RET controller	Stand-alone controller for RET control and configurations
91900314-03	Dual Mount Bracket (see 91900314 bracket document for details)

Mechanical specifications	
Dimensions height/width/depth, inches (mm)	72.0/ 14.2/ 8.5 (1828.8/ 360.7/ 215.9)
Shipping dimensions length/width/height, inches (mm)	82/ 20/ 15 (2082.8/ 508/ 381)
No. of RF input ports, connector type, and location	14 x 4.3-10 female, bottom
Calibration interface port, connector type & location	1 x 4.3-10 female, bottom
RF connector torque	96 lbf-in (10.85 N·m or 8 lbf-ft)
Net antenna weight, lb (kg)	63 (28.57)
Shipping weight, lb (kg)	101 (45.81)
Antenna mounting and downtilt kit included with antenna	91900318
Net weight of the mounting and downtilt kit, lb (kg)	18 (8.18)
Range of mechanical up/down tilt	-2° to 12°
Rated wind survival speed, mph (km/h)	150 (241)
Frontal and lateral wind loading @ 150 km/h, lbf (N)	67.0 (298.3), 28.1 (124.9)
Effective projected area (EPA) @ 150 km/h, Frontal & Lateral, ft2 (m2)	3.01 (0.28), 1.26 (0.12)

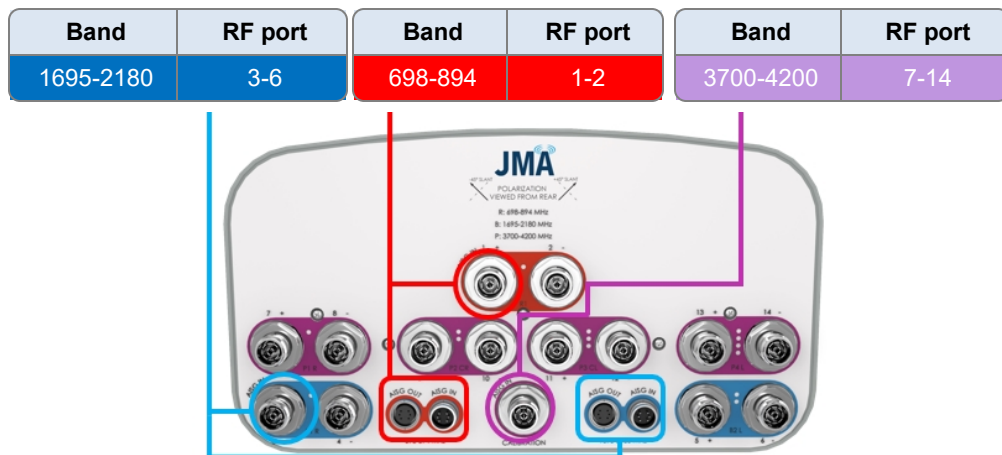


Remote electrical tilt (RET 1000) information

RET location	Integrated into antenna
RET interface connector type	8-pin AISG connector per IEC 60130-9 or RF port bias-t
RET connector torque	Min 0.5 N·m to max 1.0 N·m (hand pressure & finger tight)
RET interface connector quantity	2 pairs of AISG male/female connectors and 3 RF port bias-ts
RET interface connector location	Bottom of the antenna
Total no. of internal RETs 698-894 MHz	1
Total no. of internal RETs 1695-2180 MHz	1
Total no. of internal RETs 3700-4200 MHz	1
RET input operating voltage, vdc	10-30
RET max power consumption, idle state, W	≤ 2.0
RET max power consumption, normal operating conditions, W	≤ 13.0
RET communication protocol	AISG 2.0 / 3GPP

RET and RF connector topology

Each RET device can be controlled either via the designated external AISG connector or RF smart bias-t port as shown below:

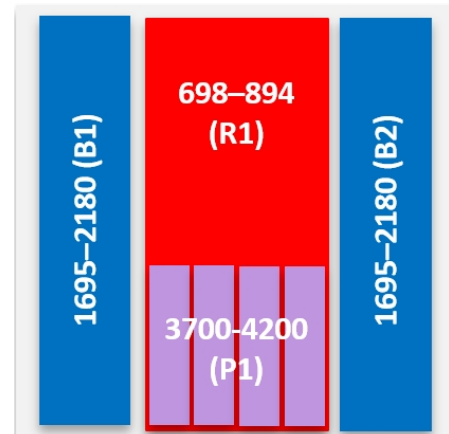


Array topology

4 sets of radiating arrays

R1: 698-894 MHz
 B1: 1695-2180 MHz
 B2: 1695-2180 MHz
 P1: 3700-4200 MHz

Band	RF port
698-894	1-2
1695-2180	3-4
1695-2180	5-6
3700-4200	7-14



SAMSUNG

AWS/PCS MACRO RADIO

DUAL-BAND AND HIGH POWER
FOR MACRO COVERAGE

Samsung's future proof dual-band radio is designed to help effectively increase the coverage areas in wireless networks. This AWS/PCS 4T4R dual-band radio has 4Tx/4Rx to 2Tx/2Rx RF chains options and a total output power of 320W, making it ideal for macro sites.

Model Code RF4439d-25A



Homepage
samsungnetworks.com

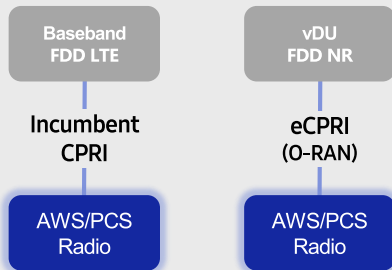


Youtube
www.youtube.com/samsung5g

Points of Differentiation

Continuous Migration

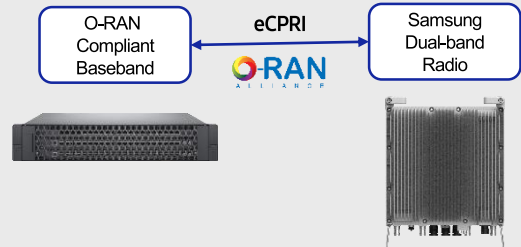
Samsung's AWS/PCS macro radio can support each incumbent CPRI interface as well as advanced eCPRI interfaces. This feature provides installable options for both legacy LTE networks and added NR networks.



O-RAN Compliant

A standardized O-RAN radio can help in implementing cost-effective networks, which are capable of sending more data without compromising additional investments.

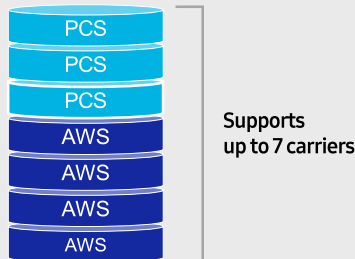
Samsung's state-of-the-art O-RAN technology will help accelerate the effort toward constructing a solid O-RAN ecosystem.



Optimum Spectrum Utilization

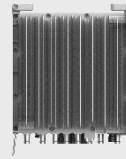
The number of required carriers varies according to site (region). Supporting many carriers is essential for using all frequencies that the operator has available.

The new AWS/PCS dual-band radio can support up to 3 carriers in the PCS (1.9GHz) band and 4 carriers in the AWS (2.1GHz) band, respectively.



Brand New Features in a Compact Size

Samsung's AWS/PCS macro radio offers several features, such as dual connectivity for baseband for both CDU and vDU, O-RAN capability, more carriers and an enlarged PCS spectrum, combined into an incumbent radio volume of 36.8L.



- 2 FH connectivity
- O-RAN capability
- More carriers and spectrum

Same as an incumbent radio volume

Technical Specifications

Item	Specification
Tech	LTE / NR
Brand	B25(PCS), B66(AWS)
Frequency Band	DL: 1930 – 1995MHz, UL: 1850 – 1915MHz DL: 2110 – 2200MHz, UL: 1710 – 1780MHz
RF Power	(B25) 4 × 40W or 2 × 60W (B66) 4 × 60W or 2 × 80W
IBW/OBW	(B25) 65MHz / 30MHz (B66) DL 90MHz, UL 70MHz / 60MHz
Installation	Pole, Wall
Size/Weight	14.96 x 14.96 x 10.04inch (36.8L) / 74.7lb

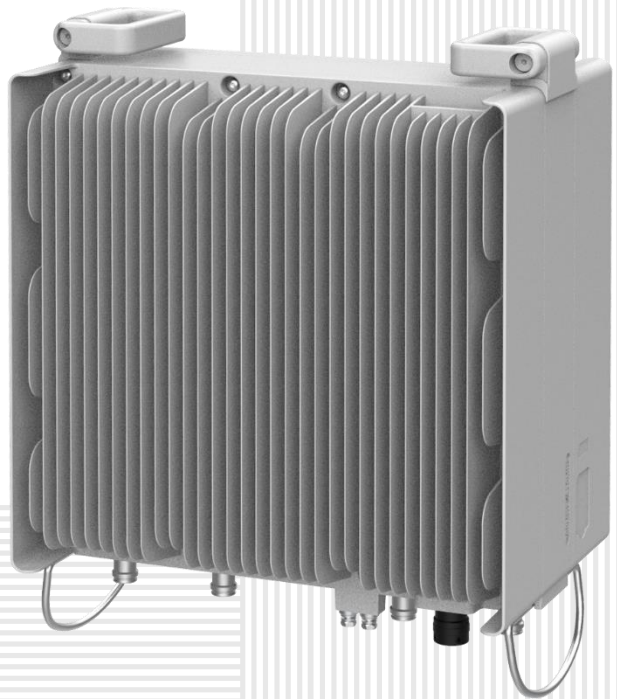
SAMSUNG

700/850MHZ MACRO RADIO

DUAL-BAND AND HIGH POWER
FOR MACRO COVERAGE

Samsung's future proof dual-band radio is designed to help effectively increase the coverage areas in wireless networks. This 700/850MHz 4T4R dual-band radio has 4Tx/4Rx to 2Tx/2Rx RF chains options and a total output power of 320W, making it ideal for macro sites.

Model Code RF4440d-13A



Homepage
samsungnetworks.com

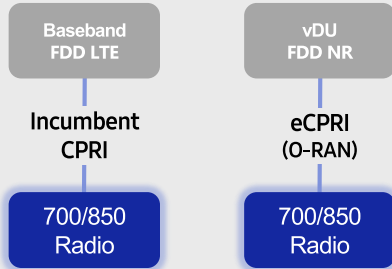


Youtube
www.youtube.com/samsung5g

Points of Differentiation

Continuous Migration

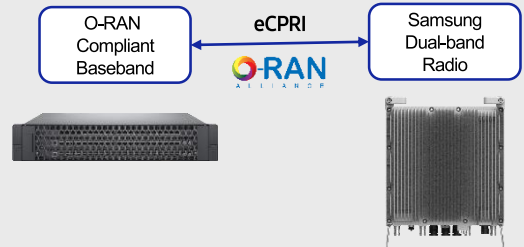
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O-RAN Compliant

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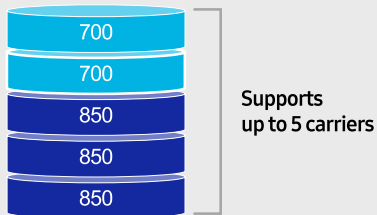
Samsung's state-of-the-art O-RAN technology will help accelerate the effort toward constructing a solid O-RAN ecosystem.



Optimum Spectrum Utilization

The number of required carriers varies according to site (region). The ability to support many carriers is essential for using all frequencies that the operator has available.

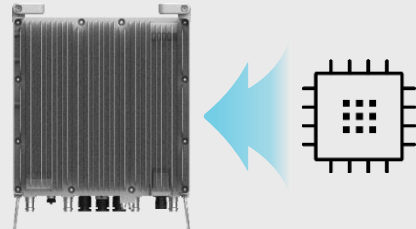
The new 700/850MHz dual-band radio can support up to 2 carriers in the B13 (700MHz) band and 3 carriers in the B5 (850MHz) band, respectively.



Secured Integrity

Access to sensitive data is allowed only to authorized software.

The Samsung radio's CPU can protect root of trust, which is credential information to verify SW integrity, and secure storage provides access control to sensitive data by using dedicated hardware (TPM).



Technical Specifications

Item	Specification
Tech	LTE / NR
Brand	B13(700MHz), B5(850MHz)
Frequency Band	DL: 746 – 756MHz, UL: 777 – 787MHz DL: 869 – 894MHz, UL: 824 – 849MHz
RF Power	(B13) 4 × 40W or 2 × 60W (B5) 4 × 40W or 2 × 60W
IBW/OBW	(B13) 10MHz / 10MHz (B5) 25MHz / 25MHz
Installation	Pole, Wall
Size/Weight	14.96 x 14.96 x 9.05inch (33.2L) / 70.33 lb

SAMSUNG

102 RRU Product Specification

for RT8808-77A

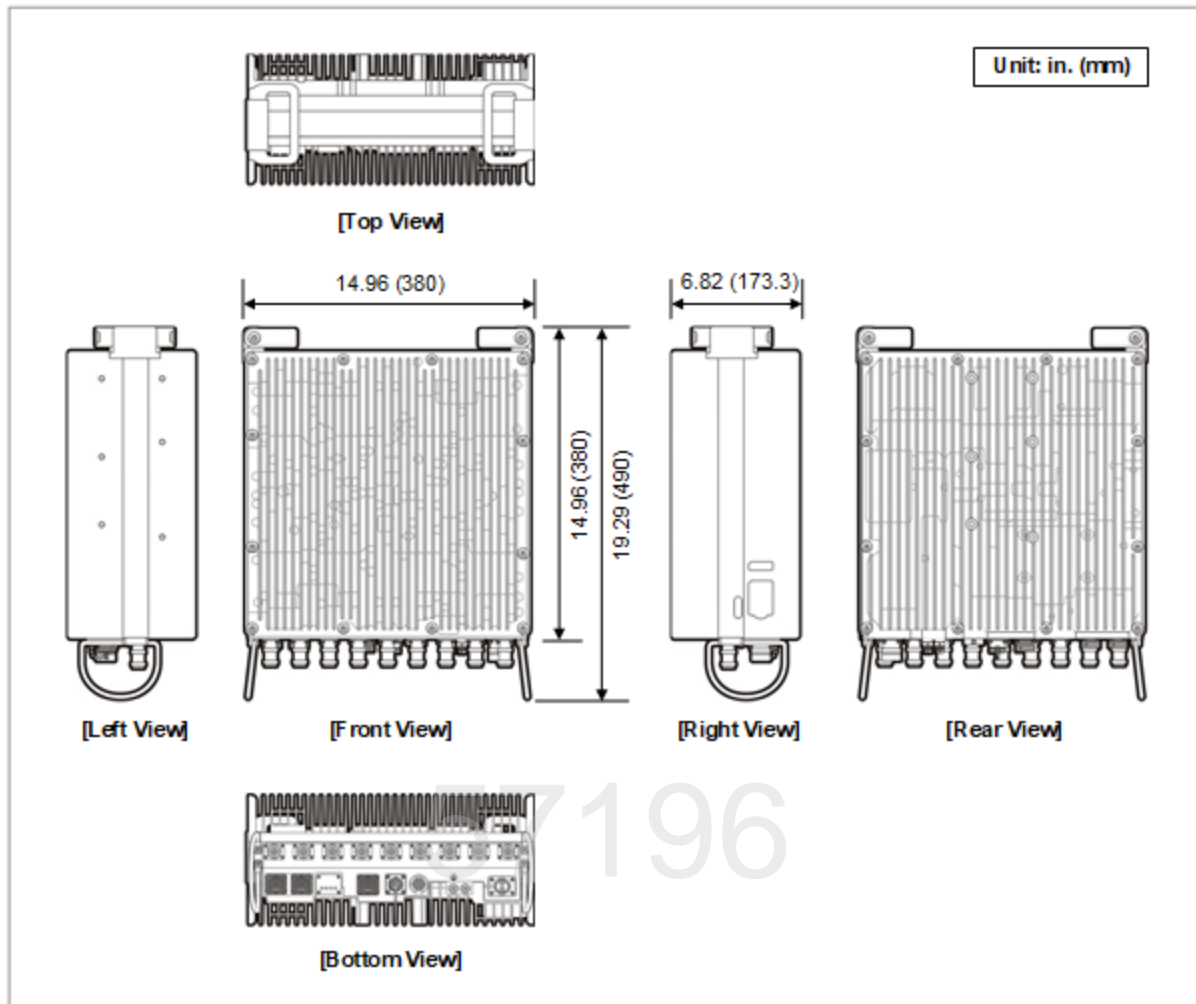
Specifies hardware configuration, functions, specifications, components, ports, and LED information for the radio units.

Document Version 1.0
June 2021

Radio Access Network

Document Number: 2600-00T7PZGA2

Figure 1. Appearance



The RT8808-77A can be mounted on a wall or pole as displayed in the following installation scenario:

Specifications

The following table outlines the main specifications of RT8808-77A.

Table 2. Specifications (RT8808-77A)

Item	RT8808-77A
Radio Technology	5G NR
Operating Frequency	3700 to 3980 MHz
Channel Bandwidth	20/40/60/80/100 MHz
RF Chain	<ul style="list-style-type: none"> • 8T8R, 4T4R+4T4R Bi-sector • 2T2R+2T2R+2T2R Tri-sector • 4T8R+4T8R split mode
RF Output Power	Max. 320W (8 x 40W)
Capacity	Total Max 2C
CPRI interface	15km, 2 ports (25Gbps x 2), SFP28, single mode, Bi-di (Option: Duplex)
Input Voltage	-48 V DC (-38 V DC to -57 V DC)
Power Consumption (Max.)	1,192 W (100% load, 25°C) (w/o RET)
Operating Humidity	5% to 100%RH (Condensing, not to exceed 30g/m3 absolute humidity)
Operating Temperature	-40°C to 55°C (without solar load)
Dimension (in./mm)	14.96/380 (W) x 6.82/173.3(D) x 14.96/380 (H)
Weight (kg)	27 or less than
Cooling	Natural convection
Waterproof/Dustproof	IP65
Wind Resistance	Telcordia GR-487-CORE Issue5 <ul style="list-style-type: none"> • Wind Resistance (Section 3.36)
Earthquake Specification	Telcordia GR-63-CORE, Issue5, <ul style="list-style-type: none"> □ Earthquake (Section 4.4.1)
Vibration Specification	Telcordia GR-63-CORE, Issue5, <ul style="list-style-type: none"> • Office Vibration (Section 4.4.4) • Transportation Vibration (Section 4.4.5)
Altitude	Telcordia GR-63-CORE, Issue5, <ul style="list-style-type: none"> • Altitude (Section 4.1.3)
EMC	FCC Title 47 CFR Part 15
RF	FCC Title 47 CFR Part 27, 24
Safety	UL 62368-1, 2nd Edition
Installation	Pole, Wall, Tower



The power consumption is predicted with a simulation and the measured value is subject to change by $\pm 10\%$

ATTACHMENT 3

Site Name: **WALLINGFORD 4 CT**
Cumulative Power Density

Operator	Operating Frequency	Number of Trans.	ERP Per Trans.	Total ERP	Distance to Target	Calculated Power Density	Maximum Permissible Exposure*	Fraction of MPE
	(MHz)		(watts)	(watts)	(feet)	(mW/cm ²)	(mW/cm ²)	(%)
VZW 700	751	2	616	1233	67.02	0.0099	0.5007	1.97%
VZW Cellular	874	2	660	1321	67.02	0.0106	0.5827	1.81%
VZW PCS	1975	4	1393	5573	67.02	0.0446	1.0000	4.46%
VZW AWS	2120	4	1513	6051	67.02	0.0485	1.0000	4.85%
VZW CBAND	3730.08	4	6531	26125	67.02	0.2092	1.0000	20.92%
Total Percentage of Maximum Permissible Exposure								34.01%

*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

**Calculation includes a -10 dB Off Beam Antenna Pattern Adjustment pursuant to Attachments B and C of the Siting Council's November 10, 2015 Memorandum for Exempt Modification filings

MHz = Megahertz

mW/cm² = milliwatts per square centimeter

ERP = Effective Radiated Power

Absolute worst case maximum values used.

ATTACHMENT 4

September 22, 2021

Mr. Andrew Leone
Verizon Wireless
20 Alexander Drive
Wallingford, CT 06492

Re: *Structural Letter ~ Antenna Mounts*
Verizon – Site Ref: Wallingford 4
37 North Main Street
Wallingford, CT 06492

Centek Project No. 21007.42

Dear Mr. Leone,

Centek Engineering, Inc. has reviewed the Verizon equipment upgrade at the above referenced site. The purpose of the review is to determine the structural adequacy of the existing mounts, RF transparent enclosures and host building to accommodate the proposed equipment configuration. The review considered the effects of wind load, dead load and ice load in accordance with the 2015 International Building Code as modified by the 2018 Connecticut State Building Code (CTBC).

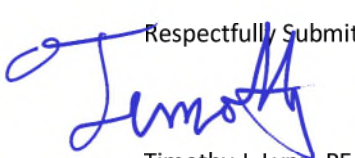
The Verizon loads considered in this evaluation consist of the following:

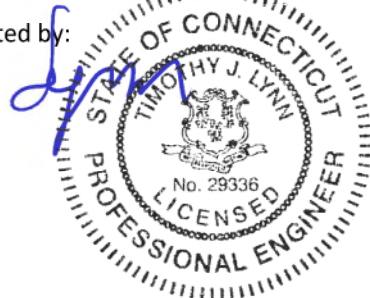
- **Verizon (Proposed Final Configuration):**
All Sectors: Three (3) JMA MX14FIT665-01 panel antennas and three (3) Commscope SDX1926Q-43 diplexers mounted within two (2) existing RF transparent enclosures on the roof of the host building with a RAD center elevation of +/- 67-ft AGL. Three (3) Samsung RF4439d-25A RRUs, three (3) Samsung RF4440d-13A RRUs, three (3) Samung RT-8808-77A RRUs and two (2) OVP boxes mounted within the building attic.

All antennas will be mounted within the existing enclosures resulting in no increase to the overall loading on the existing host building support framing above the original design.

Based on our review of the installation, it is our opinion that the subject mounts, RF transparent enclosures and host building **have sufficient capacity** to support the aforementioned equipment configuration. 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. If there are any questions regarding this matter, please feel free to call

Respectfully Submitted by:


Timothy J. Lynn, PE
Structural Engineer



ATTACHMENT 5

37 NORTH MAIN ST X Q



Lot Classification: Bus. District

LOCATION: 37 NORTH MAIN ST
OWNER 1: WALLACE REALTY INC
OWNER 2:
MAIL ADDRESS: 33 N MAIN ST
MAIL CITY: WALLINGFORD
MAIL STATE: CT
MAIL ZIP: 06492
SALE DATE: 12/5/1990, 7:00 PM
SALE PRICE: 0.00
OCC DESCRIPTION: MIXED USE M94
STYLE DESCRIPTION: Store/Apartment
BUILDING LIVING AREA: 29868
YEAR BUILT: 1900
STORIES: 4
OCCUPANCY: 24
INTERIOR FLOOR 1: Carpet
INTERIOR FLOOR 2: Hardwood
INTERIOR WALL 1: Drywall
INTERIOR WALL 2:
EXTERIOR WALL 1: Brick Veneer
[Zoom to](#)




150



60ft
-72.817 41.455 Degrees

ATTACHMENT 6



Name and Address of Sender Kenneth C. Baldwin, Esq. Robinson & Cole LLP 280 Trumbull Street Hartford, CT 06103	TOTAL NO. of Pieces Listed by Sender 3	TOTAL NO. of Pieces Received at Post Office™ 13	Affix Stamp Here <i>Postmark with Date of Receipt.</i> neopost SM 10/07/2021 US POSTAGE \$002.99⁰  ZIP 06103 041L12203937 			
	Postmaster, per (name of receiving employee) 					

USPS® Tracking Number Firm-specific Identifier	Address (Name, Street, City, State, and ZIP Code™)	Postage	Fee	Special Handling	Parcel Airlift
1.	William W. Dickinson, Jr., Mayor Town of Wallingford 45 South Main Street Wallingford, CT 06492				
2.	Kevin Pagini, Town Planner Town of Wallingford 45 South Main Street Wallingford, CT 06492				
3.	Wallace Realty Inc. 33 North Main Street Wallingford, CT 06492				
4.					
5.					
6.					