

KENNETH C. BALDWIN

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Also admitted in Massachusetts  
and New York

September 24, 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  
19 Main Street, Old Saybrook, 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 facility consists of antennas and remote radio heads attached to roof-top masts within a radio frequency transparent enclosure and related equipment on the roof. The roof-top facility was approved by the Siting Council (“Council”) in June 2015 (Petition No. 1155). A copy of the Council’s Petition No 1155 Decision and Staff Report is included in Attachment 1.

Cellco now intends to modify its facility by replacing six (6) existing antennas with three (3) Samsung MT6407-77A antennas and three (3) MX06FIT465-02 antennas on its existing masts. Cellco also intends to replace six (6) existing remote radio heads (“RRHs”) with six (6) new RRHs behind the roof-top parapet. 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 Old Saybrook’s Chief Elected Official and Land Use Officer.

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 tower.
2. The proposed modifications will not involve any change to ground-mounted equipment and, therefore, will not require the extension of the site boundary.
3. The proposed modifications will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.
4. The 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. Far Field approximation tables for Cellco's modified facility are 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, including review of existing mounting structure ("SL"), the host building and antenna screening frame structure can support Cellco's proposed 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.  
September 24, 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:

Carl P. Fortuna, Jr., First Selectman for the Town of Old Saybrook  
Christina Costa, Old Saybrook Town Planner  
231ST SRS LLC, Property Owner  
Alex 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](mailto:siting.council@ct.gov)

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

### CERTIFIED MAIL RETURN RECEIPT REQUESTED

June 1, 2015

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

RE: **PETITION NO. 1155** - Cellco Partnership d/b/a Verizon Wireless petition for a declaratory ruling that no Certificate of Environmental Compatibility and Public Need is required for the proposed installation of a small cell telecommunications facility on the roof of an existing commercial building located at 19 Main Street, Old Saybrook, Connecticut.

Dear Attorney Baldwin:

At a public meeting held on May 28, 2015, the Connecticut Siting Council (Council) considered and ruled that the above-referenced proposal would not have a substantial adverse environmental effect, and pursuant to Connecticut General Statutes § 16-50k, would not require a Certificate of Environmental Compatibility and Public Need 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;
- If the facility ceases to provide wireless services for a period of one year the Petitioner shall dismantle the facility and remove all associated equipment or reapply for any continued or new use to the Council within 90 days from the one year period of cessation of service. The Petitioner may submit a written request to the Council for an extension of the 90 day period not later than 60 days prior to the expiration of the 90 day period; and
- This Declaratory Ruling may be transferred or partially transferred, provided both the facility owner/operator/transferor and the transferee are current with payments to the Council for their respective annual assessments and invoices under Conn. Gen. Stat. §16-50v. The Council shall be notified of such sale and/or transfer and of any change in contact information for the individual or representative responsible for management and operations of the facility within 30 days of the sale and/or transfer. Both the facility owner/operator/transferor and the transferee shall provide the Council with a written agreement as to the entity responsible for any quarterly assessment charges under Conn. Gen. Stat. §16-50v(b)(2) that may be associated with this facility.

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 petition dated April 28, 2015.

Enclosed for your information is a copy of the staff report on this project.

Very truly yours,

A handwritten signature in blue ink that reads "Robert Stein" with the initials "MAB" written to the right of the name.

Robert Stein  
Chairman

RS/RM/lm

Enclosure: Staff Report dated May 28, 2015

- c: The Honorable Carl P. Fortuna, Jr., First Selectman, Town of Old Saybrook
- Christine Nelson, Town Planner, Town of Old Saybrook
- Prospect Realty Partners LLC c/o Alex Wagner



# STATE OF CONNECTICUT

## CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051

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

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

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

### Petition No. 1155

#### Cellco Partnership d/b/a Verizon Wireless

19 Main Street, Old Saybrook

Staff Report

May 28, 2015

On April 28, 2015, the Connecticut Siting Council (Council) received a petition from Cellco Partnership d/b/a Verizon Wireless (Cellco) for a declaratory ruling that no Certificate of Environmental Compatibility and Public Need is required for the proposed installation of a small cell telecommunications facility on a commercial building at 19 Main Street (Route 154) in Old Saybrook. Cellco seeks to improve 700 MHz and 2100 MHz services in the surrounding area.

The target service area consists of a heavily developed, mostly commercial area centered around the intersection of Route 1 and Route 154 in Old Saybrook. Due to the high volume of data traffic, two adjacent Cellco sites that provide wireless service to this area are beyond their capacity limits. The proposed site would alleviate capacity issues at these two sites as well as provide some coverage to existing 2100 MHz service gaps in the area.

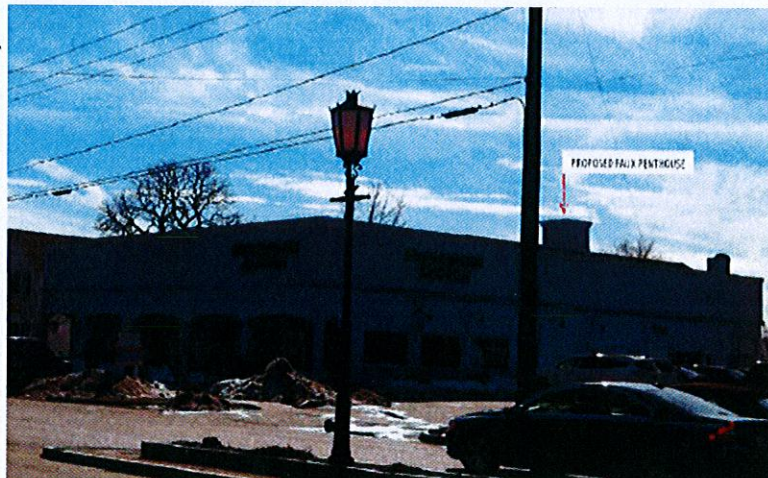
Cellco would install six antennas with six remote radio heads on three tower masts mounted to the roof of the building. The masts and antennas would be concealed by a RF transparent enclosure designed to appear as a rooftop penthouse. It would extend 12 feet above a roof parapet and would have a stucco finish to match the existing building exterior.

Radio equipment would be installed within a room on the first floor of the building. Power and telephone service would be connected to existing service inside the building.

The power density would be 41 percent of the applicable limit as established by the Federal Communications Commission (FCC), based on a far-field calculations in accordance with methodology prescribed by the FCC Office of Engineering and Technology Bulletin No. 65E, Edition 97-01 (August 1997).

The visual impact of the project is expected to be negligible as the faux penthouse appears similar to the building structure. The building is located in a commercial zone. The small cell would not be an aviation hazard.

Notice was provided to the Town of Old Saybrook, the property owner, and abutting property owners. No comments have been received to date.



Affirmative Action / Equal Opportunity Employer

# **ATTACHMENT 2**

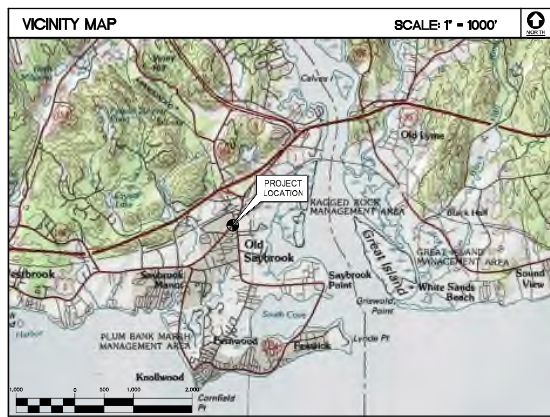




# OLD SAYBROOK CTR CT - A 19 MAIN STREET OLD SAYBROOK, CT 06475

GENERAL NOTES	
1. ALL WORK SHALL BE IN ACCORDANCE WITH THE 2015 INTERNATIONAL BUILDING CODE AS MODIFIED BY THE 2018 CONNECTICUT SUPPLEMENT, INCLUDING THE IA/DA-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 SUBSTANTIAL TO ANY ORDINANCES, LAWS, CODES, RULES, OR REGULATIONS APPLYING TO 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		
<b>FROM:</b> 20 ALEXANDER DRIVE WALLINGFORD, CONNECTICUT		<b>TO:</b> 19 MAIN ST. OLD SAYBROOK, CT 06475
1. START OUT CONC NORTH ON ALEXANDER DR TOWARD BARNES INDUSTRIAL RD.	0.18 MI	
2. TURN RIGHT ONTO BARNES INDUSTRIAL RD.	0.11 MI	
3. TAKE FIRST RIGHT ONTO CT-68.	2.75 MI	
4. TURN SLIGHT LEFT ONTO DURHAM RD/CT-68. CONTINUE TO FOLLOW CT-68.	4.23 MI	
5. TURN RIGHT ONTO MAIN ST/CT-17.	0.85 MI	
6. STAY STRAIGHT TO GO ONTO MADISON RD/CT-79. CONTINUE TO FOLLOW CT-79.	8.16 MI	
7. ENTER NEXT ROUNDABOUT AND TAKE THE 2ND EXIT ONTO DURHAM RD/CT-79.	3.05 MI	
8. TURN LEFT ONTO HORSE POND RD/CT-450. CONTINUE TO FOLLOW CT-450.	3.23 MI	
9. TURN LEFT TO TAKE THE I-95 N RAMP TOWARD NEW LONDON.	0.01 MI	
10. MERGE ONTO I-95 N.	10.12 MI	
11. TAKE THE CT-154 EXIT, EXIT 67 TOWARD OLD SAYBROOK.	0.13 MI	
12. MERGE ONTO CT-154 TOWARD R R STATION.	0.64 MI	
13. TURN SLIGHT LEFT ONTO MAIN ST/CT-154.	0.07 MI	
14. 19 MAIN ST, OLD SAYBROOK, CT 06475-1511, 19 MAIN ST IS ON THE RIGHT.		



PROJECT SUMMARY	
1. THE PROPOSED UPGRADE SCOPE OF WORK AT THE EXISTING UNMANNED TELECOMMUNICATIONS FACILITY GENERALLY INCLUDES THE FOLLOWING:	
A. AT THE EXISTING RF-TRANSPARENT ANTENNA ENCLOSURE MOUNTED ANTENNA SECTORS:	
<ul style="list-style-type: none"> <li>REMOVE (6) EXISTING ANDREW - SBNH-1065A ANTENNAS.</li> <li>REMOVE (6) EXISTING NOKIA RRUs.</li> <li>REMOVE (1) EXISTING OVP-6 BOX.</li> <li>REMOVE (1) EXISTING 6x12 HYBRID CABLE.</li> <li>INSTALL (3) NEW JMA - MX06FT1465-02.</li> <li>INSTALL (3) NEW SAMSUNG - RF4439d-25A RRUs TO PROPOSED MOUNT.</li> <li>INSTALL (3) NEW SAMSUNG - RF4440d-13A RRUs TO PROPOSED MOUNT.</li> <li>INSTALL (3) NEW SAMSUNG - RT-8808-77A RRUs TO PROPOSED MOUNT.</li> <li>INSTALL (3) NEW JMA - 91900314-02 ANTENNA MOUNTS.</li> <li>INSTALL (1) NEW OVP-12 BOX TO PROPOSED MOUNT.</li> <li>INSTALL (1) NEW 12x24 HYBRIFLEX LI CABLE.</li> </ul>	

PROJECT INFORMATION	
SITE NAME:	OLD SAYBROOK CTR CT - A
SITE ADDRESS:	19 MAIN ST. OLD SAYBROOK, CT 06475
LESSEE/TENANT:	CELCO PARTNERSHIP c/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°-17'-47.0076" N LONGITUDE: 72°-22'-38.2536" W COORDINATES BASED ON VERIZON WIRELESS RFDs, DATED AUGUST 18, 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

CONSTRUCTION DRAWINGS - ISSUED FOR CONSTRUCTION  
CONSTRUCTION DRAWINGS - REVISED PER RFPS DATED 08/18/21  
CONSTRUCTION DRAWINGS - ISSUED FOR CLEAR REVIEW

Celco Partnership d/b/a Verizon Wireless

**OLD SAYBROOK CTR CT-A**

19 MAIN STREET  
OLD SAYBROOK, CT 06475

DATE: 08/18/21  
SCALE: AS NOTED  
JOB NO. 2100741

**TITLE SHEET**

**T-1**

Sheet No. 1 of 1

**NOTES AND SPECIFICATIONS**

**DESIGN BASIS:**

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

- DESIGN CRITERIA:
  - RISK CATEGORY: II (BASED ON TABLE 1604.5 OF THE 2015 IBC)
  - ULTIMATE DESIGN SPEED (BUILDING): 136 MPH (V<sub>W</sub>) (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:**

- ALL CONSTRUCTION SHALL BE IN COMPLIANCE WITH THE GOVERNING BUILDING CODE.
- 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.
- 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.
- DIMENSIONS AND DETAILS SHALL BE CHECKED AGAINST EXISTING FIELD CONDITIONS.
- THE CONTRACTOR SHALL VERIFY AND COORDINATE THE SIZE AND LOCATION OF ALL OPENINGS, SLEEVES AND ANCHOR BOLTS AS REQUIRED BY ALL TRADES.
- 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.
- 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.
- 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.
- 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.
- 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.
- REFER TO DRAWING T1 FOR ADDITIONAL NOTES AND REQUIREMENTS.

NO.	DATE	BY	DESCRIPTION
0	08/18/21	ANC	CONSTRUCTION DRAWINGS - ISSUED FOR CONSTRUCTION
1	08/19/21	ANC	CONSTRUCTION DRAWINGS - REVISED PER RFPE DATED 08/18/21
2	08/19/21	ANC	CONSTRUCTION DRAWINGS - ISSUED FOR CLIENT REVIEW
3	08/19/21	ANC	CONSTRUCTION DRAWINGS - ISSUED FOR CLIENT REVIEW



**CENTEK** Engineering  
 203.686.4360  
 203.688.8387 Fax  
 652 North Branch Road  
 Waterford, CT 06495  
 www.CentekEng.com

**Cellco Partnership d/b/a Verizon Wireless**  
**OLD SAYBROOK CTR CT-A**  
 19 MAIN STREET  
 OLD SAYBROOK, CT 06475

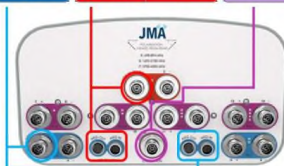
DATE: 08/18/21  
 SCALE: AS NOTED  
 JOB NO. 21007.41

NOTES AND SPECIFICATIONS

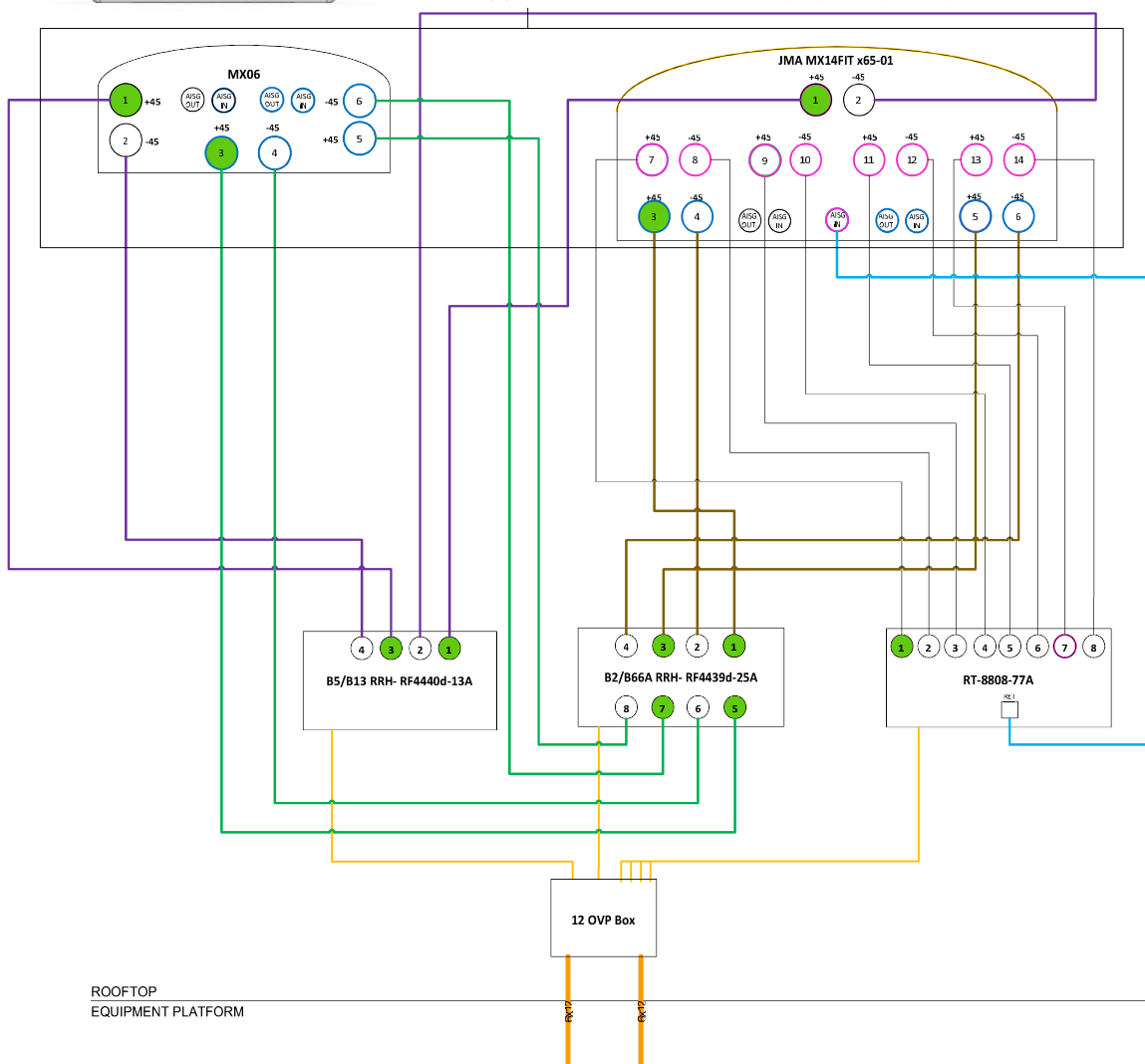
**N-1**



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



91900314-02



**NOTES:**  
 1. INFORMATION SHOWN HEREIN IS FOR USE BY VERIZON WIRELESS EQUIPMENT OPERATIONS.  
 2. THIS B.O.M. DRAWING IS BASED OFF FACILITY UPGRADE DESIGN DRAWINGS PREPARED BY CENTEK ENGINEERING (REV.0 DATED: 08.23.21), & VERIZON WIRELESS RF ANTENNA EQUIPMENT RECOMMENDATION (DATED 08.18.21).

TECHNOLOGY		BILL OF MATERIALS	
	QUANTITY		ANTENNA
LTE 5G			
LTE 5G	3	JMA ANTENNA MODEL:	MX06FIT465-02
LTE 5G			
LTE 5G	3	JMA ANTENNA MODEL:	MX14FIT465-01
LTE 5G			

CABLES	QUANTITY	LENGTH	COMMENTS
HYBRID CABLE	1	±100FT	12X24 HYBRIFLEX LU

RADIOS	QUANTITY	COMMENTS
LTE PCS 1900	2	SAMSUNG MODEL: RF4439d-25A
LTE AWS 2100		
LTE 700 5G	2	SAMSUNG MODEL: RF4440d-13A
LTE 850 5G		
5G		
5G	2	SAMSUNG MODEL: RT-8808-77A

DIPLEXERS	QUANTITY	COMMENTS
-	-	-

OVP BOXES	QUANTITY	COMMENTS
OVP-12	1	RAYCAP MODEL: DB-C1-12C-24AB-0Z

ANTENNA MOUNT	QUANTITY	COMMENTS
SIDE-BY-SIDE MOUNTING KIT	3	JMA MODEL: 91900314-02

**PLUMBING DIAGRAM NOTES**

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

RET DC SIGNAL PASS FOR RET (PORT THAT 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 ASIS AND HYBRIFLEX CABLE. FOR THE COAX COLORS, FOLLOW COAX COLORS GUIDE ABOVE.

ASIS CABLE

RET DC SIGNAL PASS FOR RET (PORT THAT WILL CONTROL RET)

ROOFTOP  
EQUIPMENT PLATFORM

PROFESSIONAL ENGINEER SEAL

**verizon**  
 Centek Engineering  
 0203 886-8360  
 0203 888-8387 Fax  
 652 North Brookfield Road  
 Westford, CT 06096  
 www.CentekEng.com

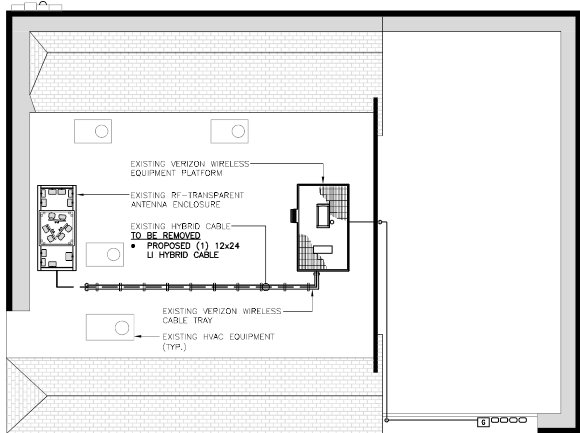
**Cellco Partnership d/b/a Verizon Wireless**  
**OLD SAYBROOK CTR CT-A**  
 19 MAIN STREET  
 OLD SAYBROOK, CT 06475

DATE: 08/18/21  
 SCALE: AS NOTED  
 JOB NO. 21007.41

RF BILL OF MATERIALS

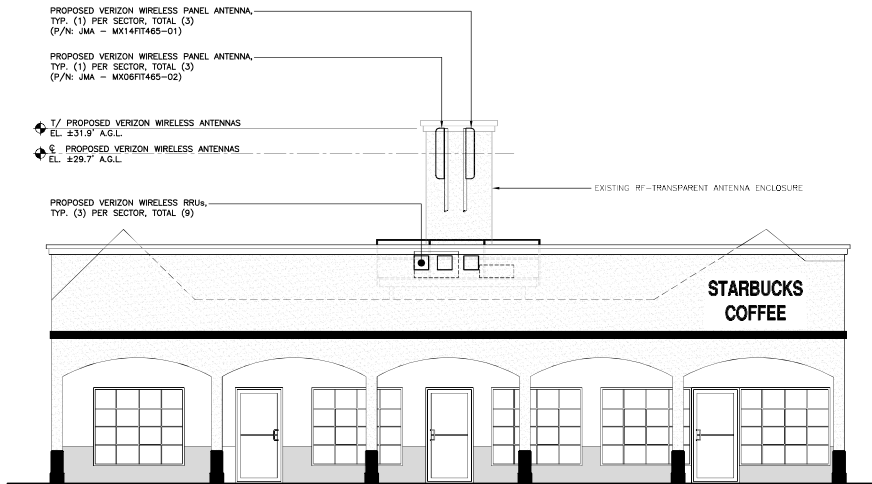
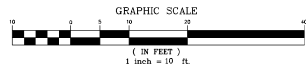
**B-1**  
 Sheet No. 2 of 1

**STRUCTURAL NOTE**  
 1. REFER TO PASSING BUILDING STRUCTURAL LETTER PREPARED BY CENTEK ENGINEERING DATED 08/13/2021. CENTEK PROJECT NO. 21007.41 FOR ADDITIONAL INFORMATION.



2  
C-1

1 ROOF PLAN - PROPOSED  
 SCALE: 1" = 10'

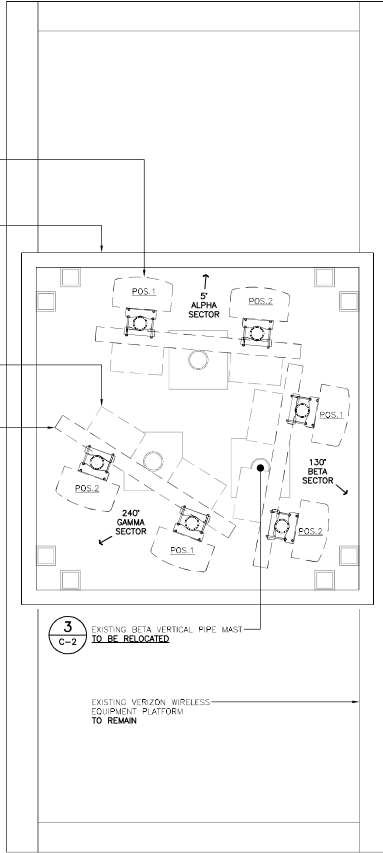


2 EAST ELEVATION - PROPOSED  
 SCALE: 1" = 8'

PROFESSIONAL ENGINEER SEAL		CONSTRUCTION DRAWINGS - ISSUED FOR CONSTRUCTION
		CONSTRUCTION DRAWINGS - REVISED PER PERMITS DATED 08/18/21
DATE	BY	ISSUED FOR CLIENT REVIEW
08/16/21	JMA	ISSUED FOR CLIENT REVIEW
<b>CENTEK</b> Engineering <small>Contractors &amp; Builders</small> (203) 466-6360 (203) 466-6367 Fax 65-2 North Ironbrook Road Meriden, CT 06460 www.CentekEng.com		
Celco Partnership d/b/a Verizon Wireless <b>OLD SAYBROOK CTR CT-A</b> 19 MAIN STREET OLD SAYBROOK, CT 06475		
DATE:	08/16/21	
SCALE:	AS NOTED	
JOB NO.:	21007.41	
COMPOUND PLAN AND ELEVATION		
<b>C-1</b> Sheet No. 1 of 1		

EXISTING ANTENNA CONFIGURATIONS

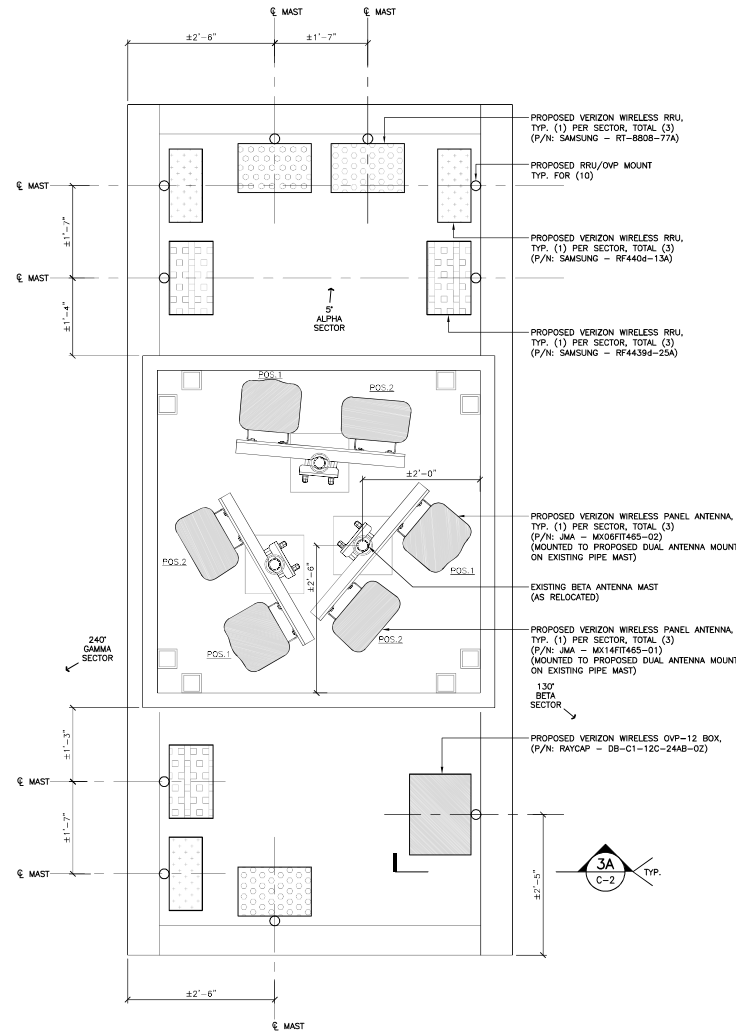
- EXISTING VERIZON WIRELESS PANEL ANTENNA, TYP. (2) PER SECTOR, TOTAL (6) (P/N: ANDREW - 5BN1HH-1D65A) TO BE REMOVED
- EXISTING OF TRANSPARENT STEALTH ENCLOSURE TO REMAIN
- EXISTING VERIZON WIRELESS RRU, TYP. (1) PER SECTOR, TOTAL OF (3) TO BE REMOVED
- EXISTING HORIZONTAL PIPE TYP. (1) PER SECTOR, TOTAL OF (3) TO BE REMOVED
- EXISTING BETA VERTICAL PIPE MAST TO BE RELOCATED
- EXISTING VERIZON WIRELESS EQUIPMENT PLATFORM TO REMAIN



**1** EXISTING SECTOR CONFIGURATION PLAN  
 SCALE: 1" = 1'-0"



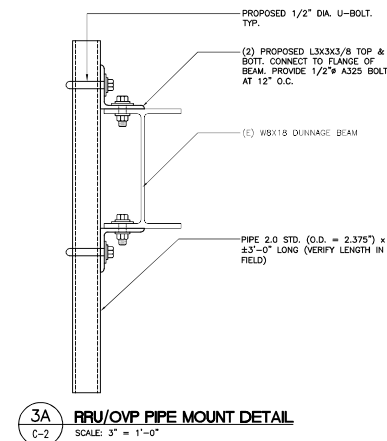
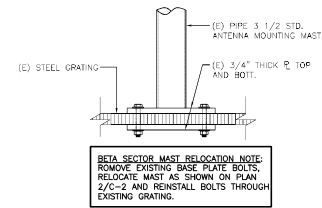
PROPOSED ANTENNA CONFIGURATIONS



**2** PROPOSED SECTOR CONFIGURATION PLAN  
 SCALE: 1" = 1'-0"



**3** ANTENNA MAST RELOCATION DETAIL  
 SCALE: 1 1/2" = 1'-0"



**3A** RRU/OVP PIPE MOUNT DETAIL  
 SCALE: 3\"/>

CONSTRUCTION DRAWINGS - ISSUED FOR CONSTRUCTION	DATE	08/18/21
CONSTRUCTION DRAWINGS - REVISED PER RFPS DATED 08/18/21	DATE	08/18/21
CONSTRUCTION DRAWINGS - ISSUED FOR CLIENT REVIEW	DATE	08/18/21
CONSTRUCTION DRAWINGS - REVISED PER RFPS DATED 08/18/21	DATE	08/18/21
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CONSTRUCTION DRAWINGS - ISSUED FOR CLIENT REVIEW	DATE	08/18/21

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 PROFESSIONAL ENGINEER SEAL

**Centek Engineering, Inc.**  
 2001 664-6560  
 2001 668-6587 Fax  
 652 North Brookfield Road  
 Brookfield, CT 06804  
 www.CentekEng.com

**Celco Partnership d/b/a Verizon Wireless**  
**OLD SAYBROOK CTR CT-A**  
 19 MAIN STREET  
 OLD SAYBROOK, CT 06475

DATE: 08/18/21  
 SCALE: AS NOTED  
 JOB NO.: 2100741

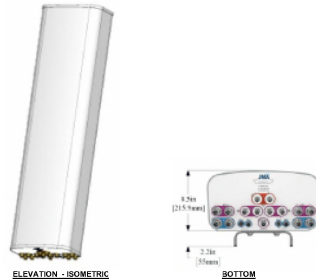
ANTENNA SECTOR CONFIGURATION DETAILS

**C-2**  
 Sheet No. 2 of 1



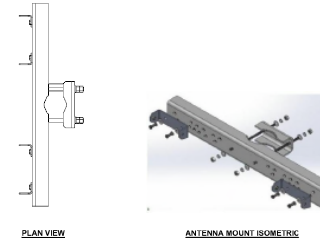
HEX-PORT SECTOR ANTENNA		
EQUIPMENT	DIMENSIONS	WEIGHT
MAKE: JMA MODEL: MX06FT1465-02	52.5"L x 12.2"W x 10.7"D	38 LBS. (W/OUT MOUNT KIT)

1 SECTOR ANTENNA DETAIL  
C-3 NOT TO SCALE



14-PORT SECTOR ANTENNA		
EQUIPMENT	DIMENSIONS	WEIGHT
MAKE: JMA MODEL: MX14FT1465-01	55.0"L x 14.2"W x 8.5"D	63 LBS. (W/OUT MOUNT KIT)

2 SECTOR ANTENNA DETAIL  
C-3 NOT TO SCALE



DUAL ANTENNA MOUNTING KIT	
EQUIPMENT	DESCRIPTION
MOUNT MAKE: JMA MODEL: 919003314	<ul style="list-style-type: none"> <li>SIDE-BY-SIDE MOUNTING KIT, ACCOMMODATES (2) COMPATIBLE ANTENNAS</li> <li>2 BRACKETS REQUIRED FOR 4"-6" ANTENNAS</li> <li>3 BRACKETS REQUIRED FOR 6"-8" ANTENNAS</li> </ul>

3 DUAL ANTENNA MOUNT DETAIL  
C-3 NOT TO SCALE



OVP BOX		
EQUIPMENT	DIMENSIONS	WEIGHT
MAKE: RAYCAP MODEL: DB-C1-12C-24AB-0Z	29.5"H x 16.5"W x 12.6"D	32 LBS.

NOTES:  
1. CONTRACTOR TO CONFIRM OVP BOX MAKE/MODEL AND QUANTITY WITH VERIZON WIRELESS CONSTRUCTION MANAGER PRIOR TO ORDERING.

4 PROPOSED OVER-VOLTAGE PROTECTION BOX  
C-3 NOT TO SCALE



DUAL BAND RRU (REMOTE RADIO UNIT)			
EQUIPMENT	BANDS	DIMENSIONS	WEIGHT
MAKE: SAMSUNG MODEL: RF44394-25A	B2S: 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.

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



DUAL BAND RRU (REMOTE RADIO UNIT)			
EQUIPMENT	BANDS	DIMENSIONS	WEIGHT
MAKE: SAMSUNG MODEL: RF4404-13A	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.

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

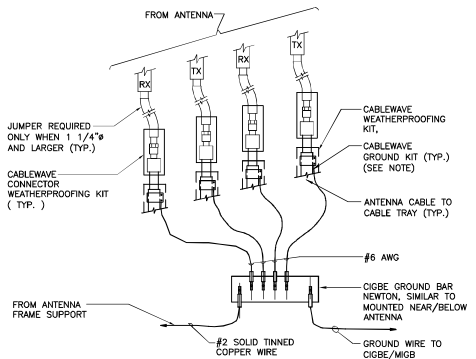


C BAND 8TR 320W RRU (REMOTE RADIO UNIT)			
EQUIPMENT	BANDS	DIMENSIONS	WEIGHT
MAKE: SAMSUNG MODEL: RT-8808-77A	N77: 3700 MHz	15.0"H x 15.0"W x 6.8"D	59.5 LBS.

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

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

PROFESSIONAL ENGINEER SEAL  
  
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**CENTEK Engineering**  
 Centek on Solutions®  
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 Meriden, CT 06445  
 www.CentekEng.com  
**Cellco Partnership d/b/a Verizon Wireless**  
**OLD SAYBROOK CTR CT-A**  
 19 MAIN STREET  
 OLD SAYBROOK, CT 06475  
 DATE: 08/18/21  
 SCALE: AS NOTED  
 JOB NO. 2100741  
 RF DETAILS  
**C-3**  
 Sheet No. 8 of 1

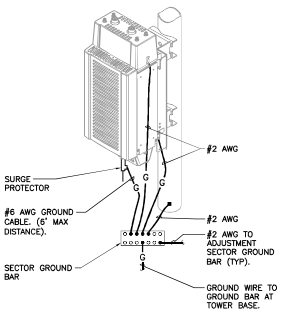


**NOTES**

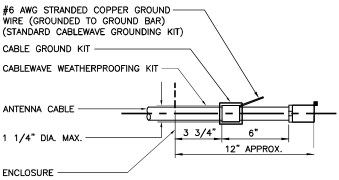
- DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO CIGBE

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

- EACH RRH CABINET SHALL BE GROUNDED IN THE FOLLOWING MANNER:
- AT TOP OF THE CABINET
  - AT RIGHT SIDE OF THE CABINET.



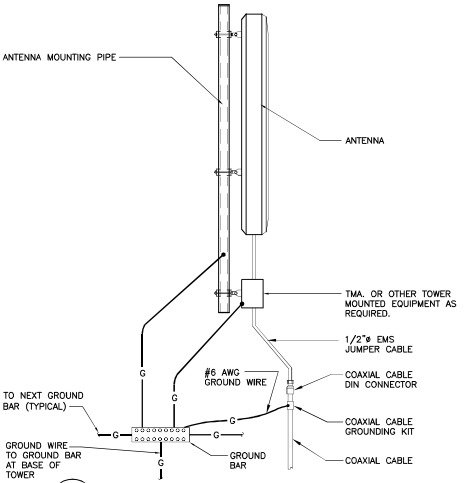
**2 RRH POLE MOUNT GROUNDING**  
E-1 NOT TO SCALE



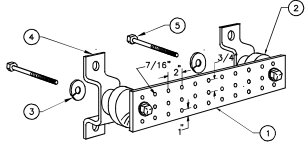
**NOTES**

- 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.

CONSTRUCTION DRAWINGS - ISSUED FOR CONSTRUCTION	DMD	08/18/21
CONSTRUCTION DRAWINGS - REVISED PER PERMITS	DMD	08/18/21
CONSTRUCTION DRAWINGS - ISSUED FOR CLIENT REVIEW	DMD	08/18/21
DATE	BY	DESCRIPTION

PROFESSIONAL ENGINEER SEAL

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**CENTEK Engineering, Inc.**  
Contractors in this state:  
2023 686-6560  
2023 688-6587 Fax  
652 North Vernon Road  
Meriden, CT 06465  
www.CentekEng.com

**Cellco Partnership d/b/a Verizon Wireless**

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19 MAIN STREET  
OLD SAYBROOK, CT 06475

DATE:	08/18/21
SCALE:	AS NOTED
JOB NO.:	2100741

**E-1**

Sheet No. **I** of **I**

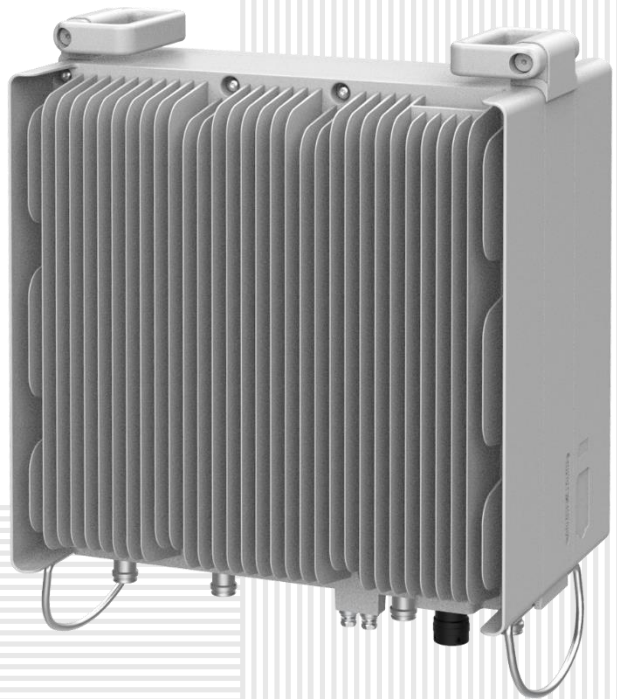
# SAMSUNG

## 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](https://www.samsungnetworks.com)



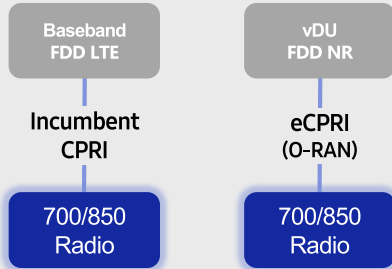
Youtube  
[www.youtube.com/samsung5g](https://www.youtube.com/samsung5g)



## Points of Differentiation

### Continuous Migration

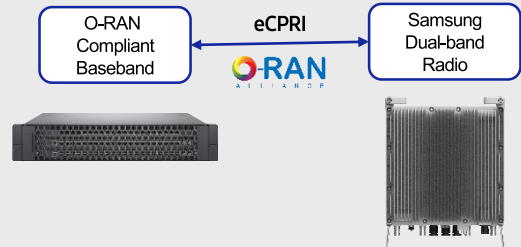
Samsung's 700/850MHz macro radio can support each incumbent CPRI interface as well as an advanced eCPRI interface. This feature provides installable options for both legacy LTE networks and added NR networks.



### O-RAN Compliant

A standardized O-RAN radio can help when implementing cost-effective networks because it is capable of sending more data without compromising additional investments.

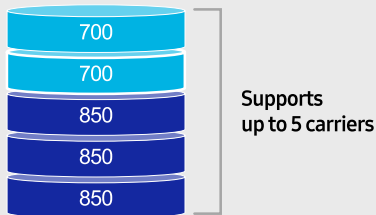
Samsung's state-of-the-art O-RAN technology will help accelerate the effort toward constructing a solid O-RAN ecosystem.



### Optimum Spectrum Utilization

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

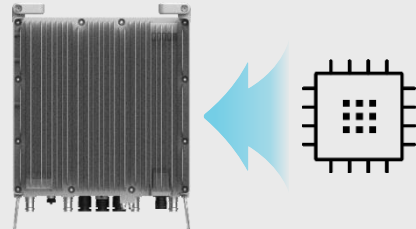
The new 700/850MHz dual-band radio can support up to 2 carriers in the B13 (700MHz) band and 3 carriers in the B5 (850MHz) band, respectively.



### 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

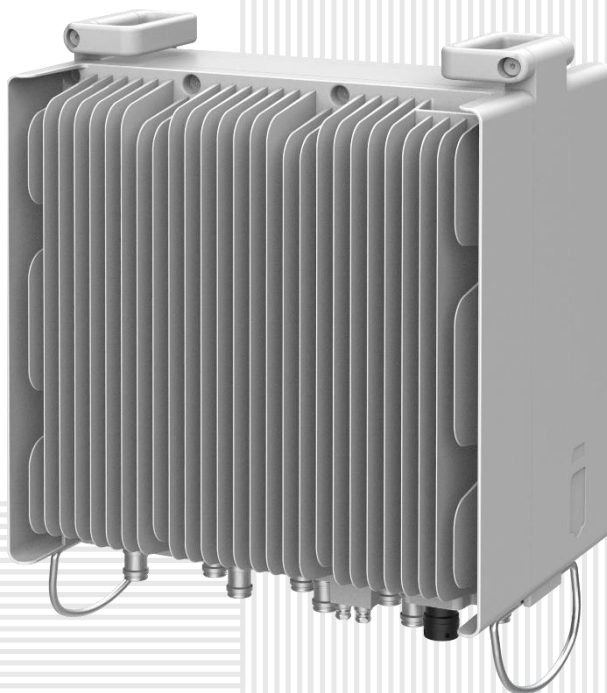
# SAMSUNG

## 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](http://samsungnetworks.com)

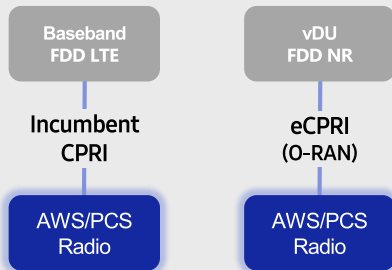


Youtube  
[www.youtube.com/samsung5g](http://www.youtube.com/samsung5g)

## Points of Differentiation

### Continuous Migration

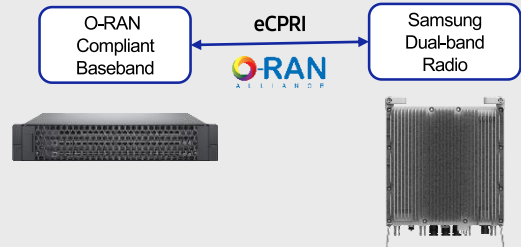
Samsung's AWS/PCS macro radio can support each incumbent CPRI interface as well as advanced eCPRI interfaces. This feature provides installable options for both legacy LTE networks and added NR networks.



### 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.

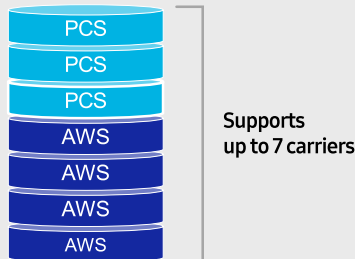
Samsung's state-of-the-art O-RAN technology will help accelerate the effort toward constructing a solid O-RAN ecosystem.



### Optimum Spectrum Utilization

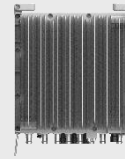
The number of required carriers varies according to site (region). Supporting many carriers is essential for using all frequencies that the operator has available.

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

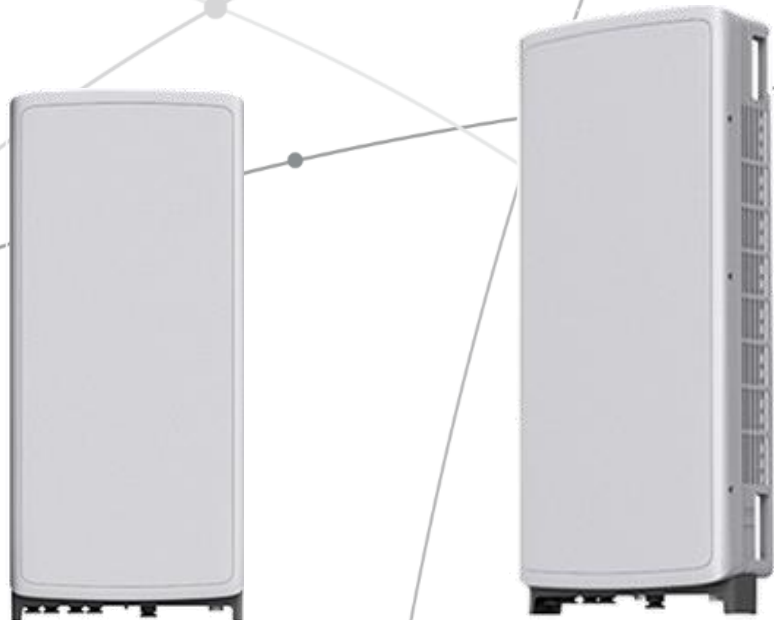
Item	Specification
Tech	LTE / NR
Brand	B25(PCS), B66(AWS)
Frequency Band	DL: 1930 – 1995MHz, UL: 1850 – 1915MHz DL: 2110 – 2200MHz, UL: 1710 – 1780MHz
RF Power	(B25) 4 × 40W or 2 × 60W (B66) 4 × 60W or 2 × 80W
IBW/OBW	(B25) 65MHz / 30MHz (B66) DL 90MHz, UL 70MHz / 60MHz
Installation	Pole, Wall
Size/Weight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

## **SAMSUNG** C-Band 64T64R Massive MIMO Radio

for High Capacity and Wide Coverage

Samsung C-Band 64T64R Massive MIMO Radio enables mobile operators to increase coverage range, boost data speeds and ultimately offer enriched 5G experiences to users in the U.S..

Model Code : MT6407-77A



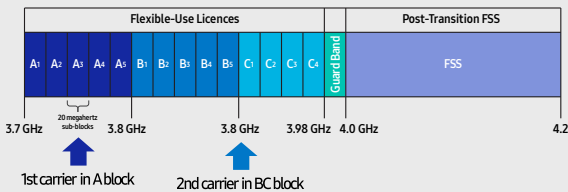
## Points of Differentiation

### Wide Bandwidth

With capability to support up to 2 CC carrier configuration, Samsung C-Band massive MIMO Radio supports 200 MHz bandwidth in the C-Band spectrum.

Samsung C-Band massive MIMO Radio covers the entire C-Band 280 MHz spectrum, so it can meet the operator's needs in current A block and future B/C blocks

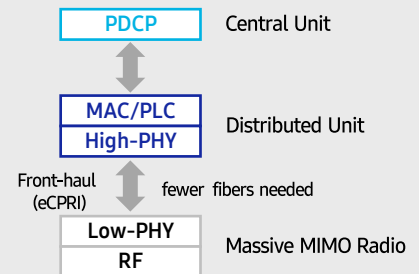
C-Band spectrum supported by Massive MIMO Radio



### Future Proof Product

Samsung C-Band 64T64R Massive MIMO radio supports not only CPRI but also eCPRI as front-haul interface.

It enables operators can cut down on OPEX/CAPEX by reducing front-haul bandwidth through low layer split and using ethernet based higher efficient line.

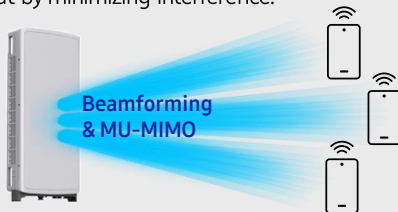


### Enhanced Performance

C-Band massive MIMO Radio creates sharp beams and extends networks' coverage on the critical mid-band spectrum using a large number of antenna elements and high output power to boost data speeds.

This helps operators reduce their CAPEX as they now need less products to cover the same area than before.

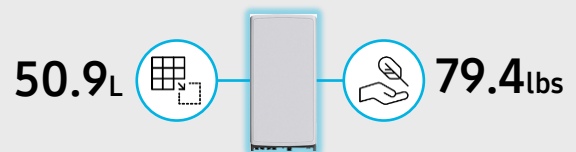
Furthermore, as C-Band massive MIMO Radio supports MU-MIMO (Multi-user MIMO), it enables to increase user throughput by minimizing interference.



### Well Matched Design

Samsung C-Band Massive MIMO radio utilizes 64 antennas, supports up to 280MHz bandwidth, and delivers a 200W output power. despite the above advanced performance, the Radio has a compact size of 50.9L and 79.4lbs. This makes it easy to install the Radio.

It is designed to look solid and compact, with a low profile appearance so that, when installed, harmonizes well with the surrounding environment.



## Technical Specifications

Item	Specification
Tech	NR
Band	n77
Frequency Band	3700 - 3980 MHz
EIRP	78.5dBm (53.0 dBm+25.5 dBi)
IBW/OBW	280 MHz / 200 MHz
Installation	Pole/Wall
Size/Weight	16.06 x 35.06 x 5.51 inch (50.86L) / 79.4 lbs



# SAMSUNG



## **About Samsung Electronics Co., Ltd.**

Samsung inspires the world and shapes the future with transformative ideas and technologies. The company is redefining the worlds of TVs, smartphones, wearable devices, tablets, digital appliances, network systems, and memory, system LSI, foundry and LED solutions.

129 Samsung-ro, Yeongtong-gu, Suwon-si Gyeonggi-do, Korea

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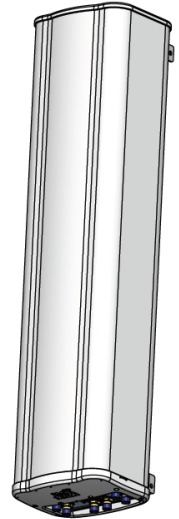
# MX06FIT465-02

## NWAV™ X-Pol Hex-Port Antenna

**X-Pol, Hex-Port 4 ft, 65° macro FIT (Form in Tigher):**

**2 ports 698-894 MHz and 4 ports 1695-2180 MHz**

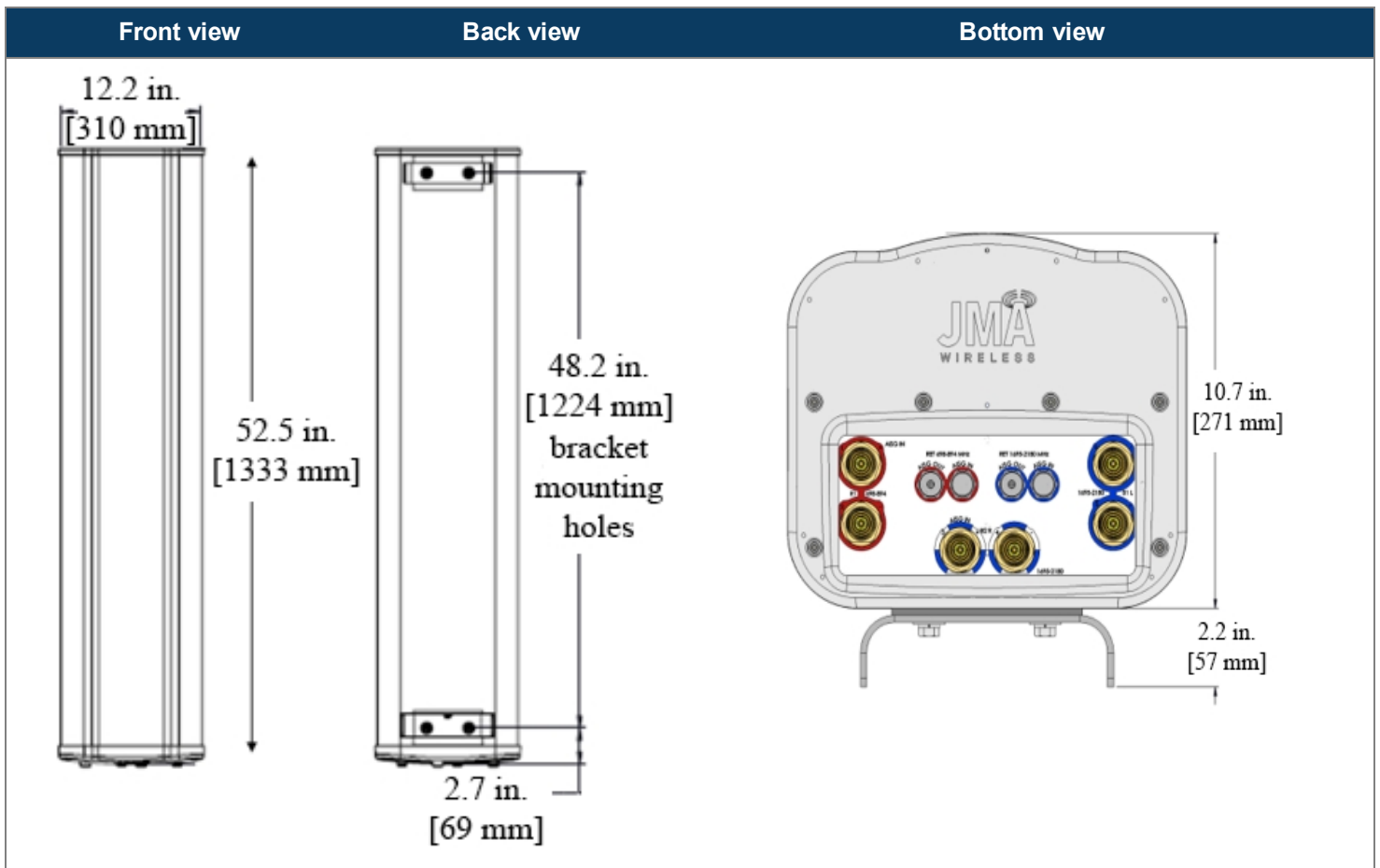
- Excellent passive intermodulation (PIM) performance reduces harmful interference.
- Fully integrated (iRETs) with independent RET control for low and high bands for ease of network optimization
- SON-Ready array spacing supports beamforming capabilities
- Suitable for LTE/CDMA/PCS/UMTS/GSM air interface technologies
- Integrated Smart Bias-Ts reduce leasing costs
- Optimized width for reduced wind loading




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°		
Average gain over all tilts, dBi	13.4	13.5	16.4	16.8	17.2
Horizontal beamwidth (HBW), degrees	66.0	60.0	63.0	60.0	57.0
Front-to-back ratio, co-polar power @180°± 30°, dB	>21	>21	>26.0	>25.0	>25.0
X-Pol discrimination (CPR) at boresight, dB	>15.4	>14	>23	>22	>20
Sector power ratio, percent	<5.5	<3.0	<5.1	<3.8	<3.6
Vertical beamwidth (VBW), degrees <sup>1</sup>	17.5	16.0	8.0	7.4	7.1
Electrical downtilt (EDT) range, degrees	2-16	2-16	0-9		
First upper side lobe (USLS) suppression, dB <sup>1</sup>	≤-15	≤-16	≤-18	≤-18	≤-18
Cross-polar isolation, port-to-port, dB <sup>1</sup>	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, watts	1500				

<sup>1</sup> Typical value over frequency and tilt

Mechanical specifications	
Dimensions height/width/depth, inches (mm)	52.5/ 12.2/ 10.7 (1331/ 310/ 273)
Shipping dimensions length/width/height, inches (mm)	62/ 20/ 15 (1625/ 508/ 381)
No. of RF input ports, connector type, and location	6 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)	38 (17.27)
Shipping weight, lb (kg)	76 (34.55)
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, lateral, and rear wind loading @ 150 km/h, lbf (N)	64 (283), 50 (222), 81 (360)
Equivalent flat plate @ 100 mph and Cd=2, sq ft	0.95



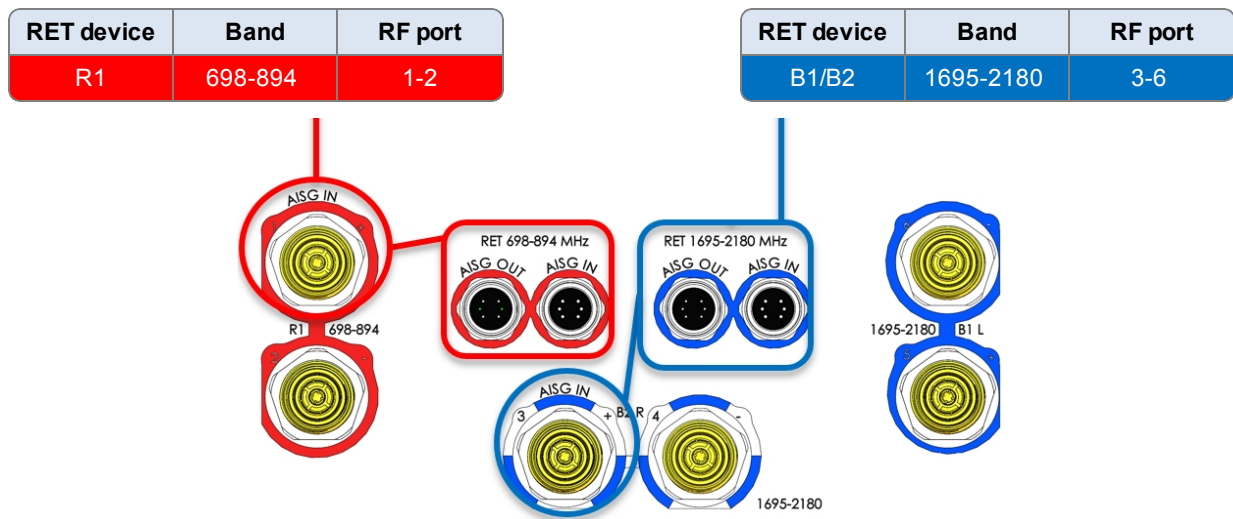
Ordering information	
<b>Antenna model</b>	<b>Description</b>
MX06FIT465-02	4F X-Pol HEX FIT 65°, 2-16° / 0-9° RET, 4.3-10 & SBT
<b>Optional accessories</b>	
<a href="#">AISG cables</a>	M/F cables for AISG connections
<a href="#">PCU-1000 RET controller</a>	Stand-alone controller for RET control and configurations



Remote electrical tilt (RET 1000) information	
RET location	Integrated into antenna
RET interface connector type	8-pin AISG connector per IEC 60130-9
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
RET interface connector location	Bottom of the antenna
Total no. of internal RETs (low bands)	1
Total no. of internal RETs (high bands)	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 port as shown below:



### Array topology

3 sets of radiating arrays R1: 698-894 MHz B1: 1695-2180 MHz B2: 1695-2180 MHz	<table border="1"> <thead> <tr> <th>Band</th> <th>RF port</th> </tr> </thead> <tbody> <tr> <td>1695-2180</td> <td>3-4</td> </tr> <tr> <td>698-894</td> <td>1-2</td> </tr> <tr> <td>1695-2180</td> <td>5-6</td> </tr> </tbody> </table>	Band	RF port	1695-2180	3-4	698-894	1-2	1695-2180	5-6	
Band	RF port									
1695-2180	3-4									
698-894	1-2									
1695-2180	5-6									

# **ATTACHMENT 3**

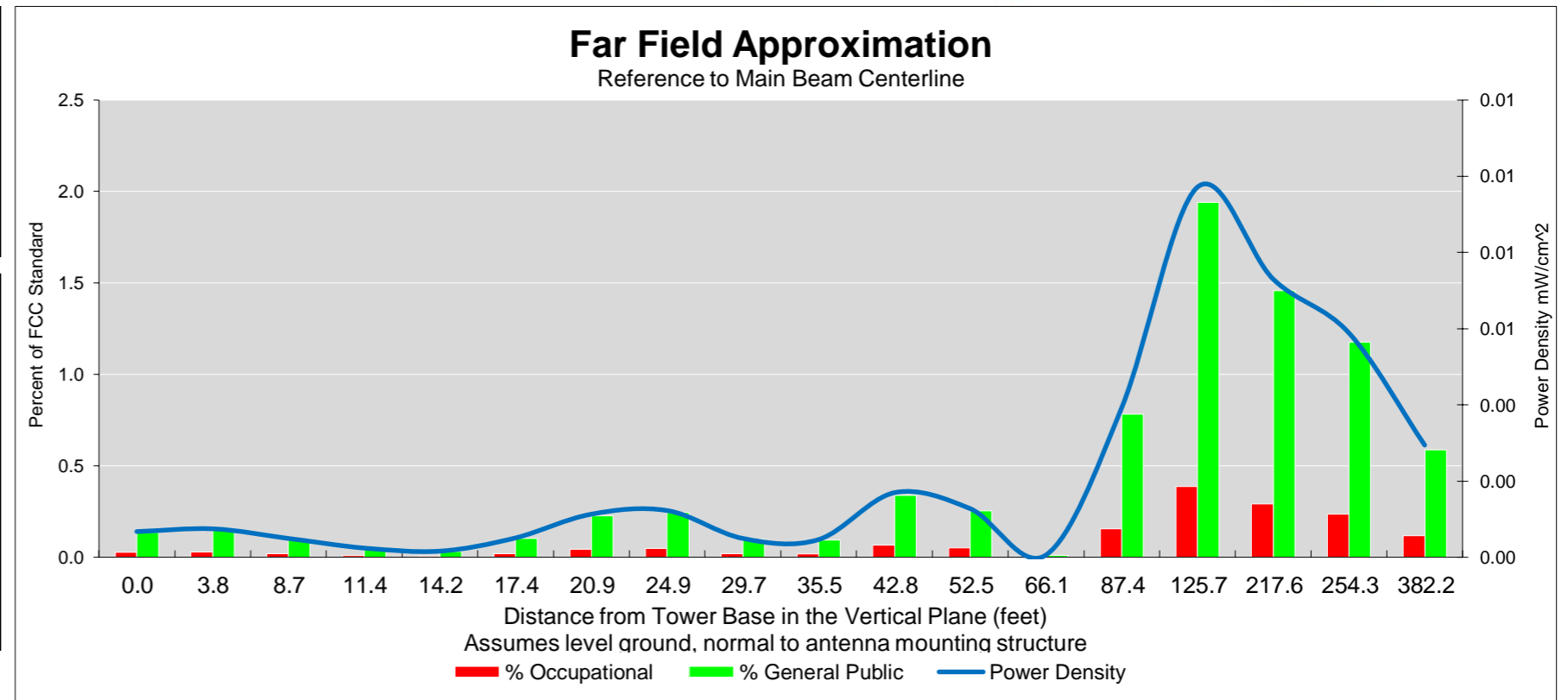
Far Field Approximation  
with downtilt variation

**Estimated Radiated Emission  
Single Emitter Far Field Model  
Dipole/Wire/Yagi Antenna Types**



Location:	Old Saybrook Center CT
Site #:	2-0523
Date:	09/22/21
Name:	Stephen Nerkowski
File Name:	Old Saybrook Center CT - FF Power

Antenna Type:	MX14FIT456-01
Operating Freq. (MHz):	751
Antenna Height (ft):	29.7
Antenna Gain (dBi):	11.1
Downtilt (degrees):	2.0
Feedline Loss (dB):	0.0
Tx Power (W):	40.0
No. of Channels:	4



Calc Angle	90.0	82.0	72.0	67.0	62.0	57.0	52.0	47.0	42.0	37.0	32.0	27.0	22.0	17.0	12.0	7.0	6.0	4.0
Solve for r, dx to antenna	26.7	27.0	28.1	29.0	30.3	31.9	33.9	36.5	39.9	44.4	50.4	58.9	71.3	91.4	128.5	219.3	255.7	383.1
Distance from Antenna Structure Base in Horizontal plane	0.0	3.8	8.7	11.4	14.2	17.4	20.9	24.9	29.7	35.5	42.8	52.5	66.1	87.4	125.7	217.6	254.3	382.2
Angle from Main Beam (reference to horizontal plane)	90.0	80.0	70.0	65.0	60.0	55.0	50.0	45.0	40.0	35.0	30.0	25.0	20.0	15.0	10.0	5.0	4.0	2.0
dB down from centerline (referenced to centerline)	29.7	29.2	30.6	33.4	34.9	29.4	25.4	24.4	27.6	26.9	20.2	20.1	31.7	11.4	4.5	1.1	0.7	0.2
Reflection Coefficient (1 to 4, 2.56 typical)	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56
Power Density (mW/cm <sup>2</sup> )	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.00
Percent of Occupational Standard	0.03	0.03	0.02	0.01	0.01	0.02	0.05	0.05	0.02	0.02	0.07	0.05	0.00	0.16	0.39	0.29	0.24	0.12
Percent of General Population Standard	0.14	0.15	0.10	0.05	0.03	0.10	0.23	0.25	0.10	0.09	0.34	0.25	0.01	0.78	1.94	1.46	1.18	0.59

Max%: **1.94%**

Instructions:

- 1) Fill in Site Location, Site number, Date, Name of Person Responsible for Date, and enter File Name to be saved as.
- 2) References to J4 refer to a point where the transmission line exits the equipment shelter and proceeds to the antenna(s). There is typically a connector located here where power measurements are made.
- 3) Enter Antenna Height (in feet to bottom of antenna), Antenna Gain (expressed as dBi, add 2.17 to dBd to obtain dBi), Antenna Size (vertical size in inches), Downtilt (in Degrees, enter zero if none), Feedline loss from J4 to Antenna, and J4 Power (in watts).
- 4) From manufacturer's plots, or data sheet, input Angle from mainbeam and dB below mainbeam centerline.
- 5) Enter Reflection coefficient (2.56 would be typical, 1 for free space)
- 6) Spreadsheet calculates actual power density, then relates as Occupational or General Population percentage of FCC Standard.
- 7) An odd distance may be entered in the rightmost column of the lower table.

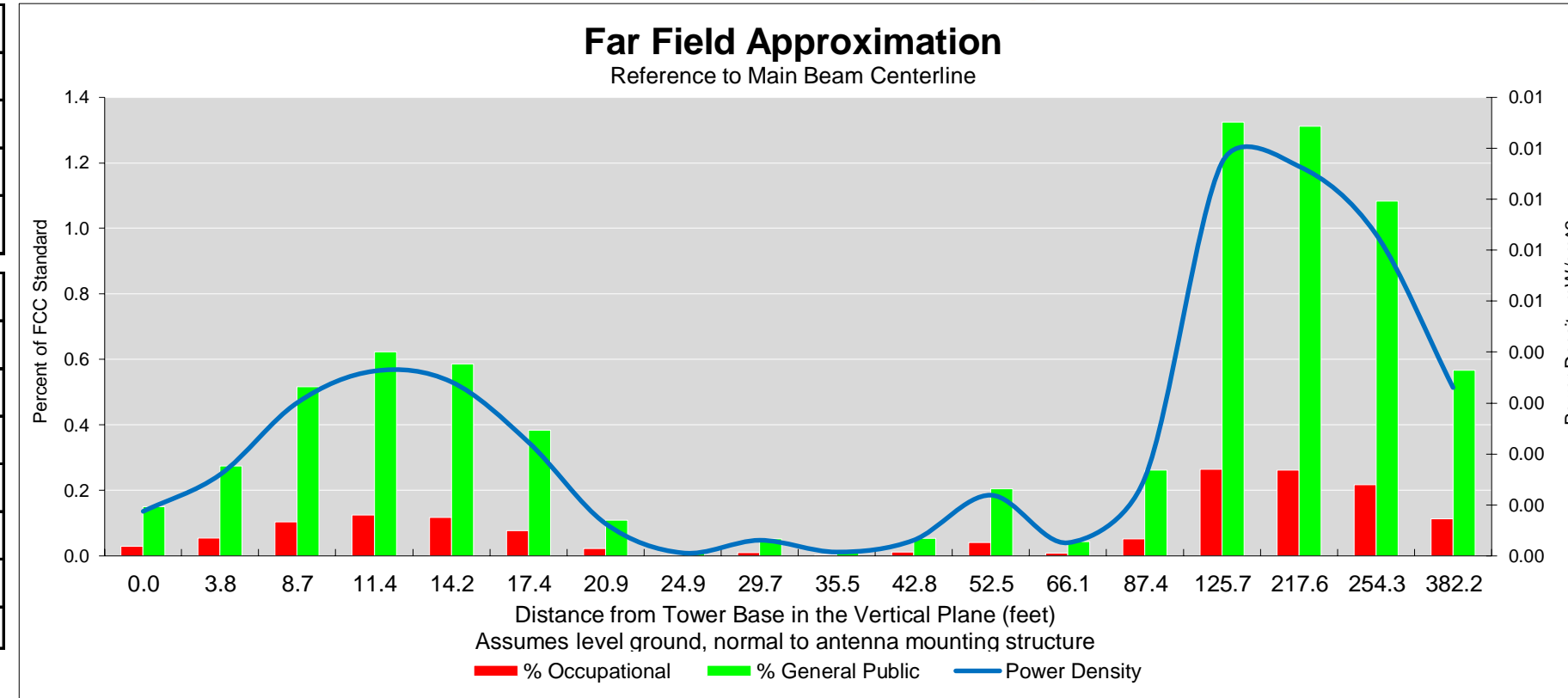
Far Field Approximation  
with downtilt variation

**Estimated Radiated Emission  
Single Emitter Far Field Model  
Dipole/Wire/Yagi Antenna Types**



Location:	Old Saybrook Center CT
Site #:	2-0523
Date:	09/22/21
Name:	Stephen Nerkowski
File Name:	Old Saybrook Center CT - FF Power

Antenna Type:	MX14FIT456-01
Operating Freq. (MHz):	874
Antenna Height (ft):	29.7
Antenna Gain (dBi):	11.6
Downtilt (degrees):	2.0
Feedline Loss (dB):	0.0
Tx Power (W):	40.0
No. of Channels:	4



Calc Angle	90.0	82.0	72.0	67.0	62.0	57.0	52.0	47.0	42.0	37.0	32.0	27.0	22.0	17.0	12.0	7.0	6.0	4.0	
Solve for r, dx to antenna	26.7	27.0	28.1	29.0	30.3	31.9	33.9	36.5	39.9	44.4	50.4	58.9	71.3	91.4	128.5	219.3	255.7	383.1	
Distance from Antenna Structure Base in Horizontal plane	0.0	3.8	8.7	11.4	14.2	17.4	20.9	24.9	29.7	35.5	42.8	52.5	66.1	87.4	125.7	171.6	217.6	254.3	382.2
Angle from Main Beam (reference to horizontal plane)	90.0	80.0	70.0	65.0	60.0	55.0	50.0	45.0	40.0	35.0	30.0	25.0	20.0	15.0	10.0	5.0	4.0	2.0	
dB down from centerline (referenced to centerline)	29.1	26.4	23.3	22.2	22.1	23.5	28.4	38.3	30.2	35.4	28.1	20.9	25.9	16	6	1.4	0.9	0.2	
Reflection Coefficient (1 to 4, 2.56 typical)	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	
Power Density (mW/cm²)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.00	
Percent of Occupational Standard	0.03	0.05	0.10	0.12	0.12	0.08	0.02	0.00	0.01	0.00	0.01	0.04	0.01	0.05	0.26	0.26	0.22	0.11	
Percent of General Population Standard	0.15	0.27	0.52	0.62	0.59	0.38	0.11	0.01	0.05	0.01	0.05	0.20	0.04	0.26	1.32	1.31	1.08	0.57	

Max%: 1.32%

**Instructions:**

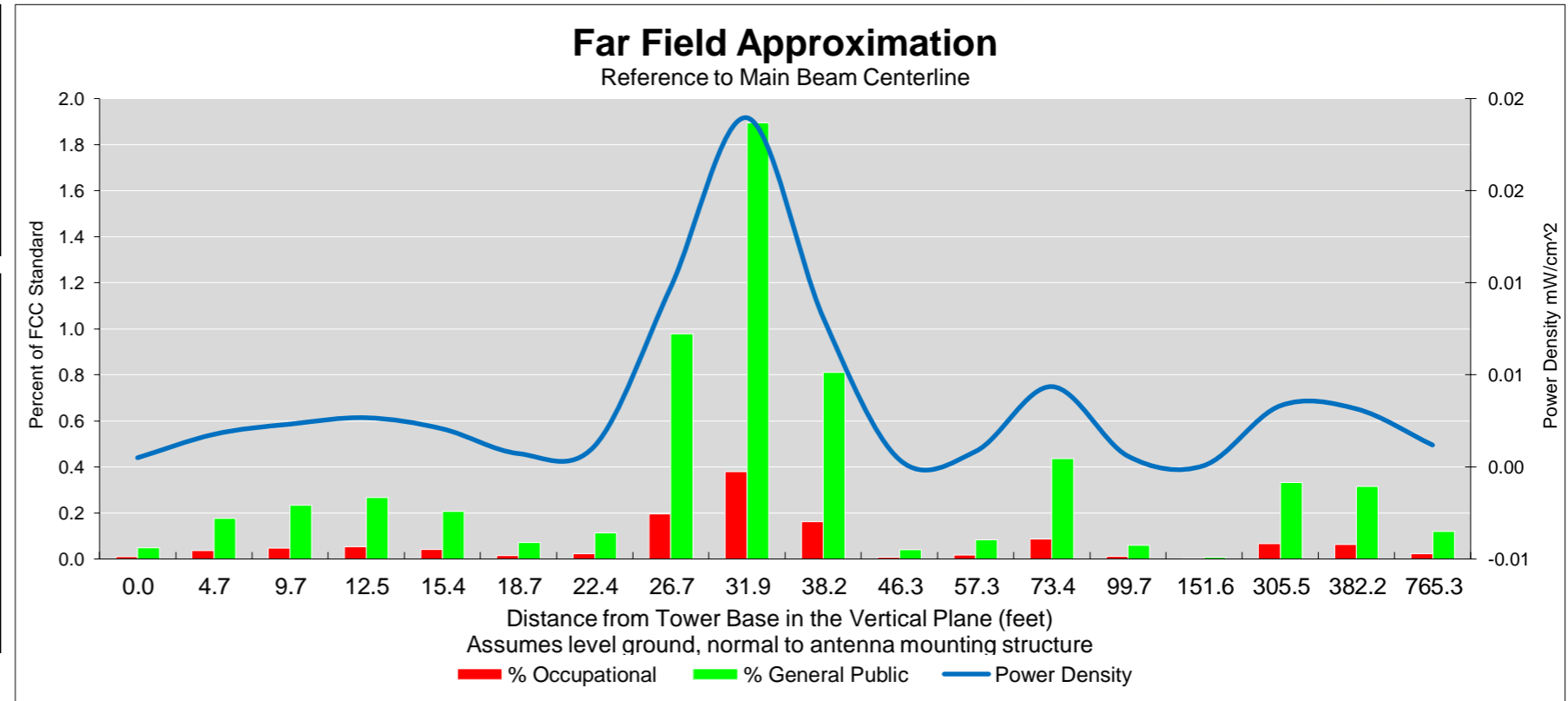
- 1) Fill in Site Location, Site number, Date, Name of Person Responsible for Date, and enter File Name to be saved as.
- 2) References to J4 refer to a point where the transmission line exits the equipment shelter and proceeds to the antenna(s). There is typically a connector located here where power measurements are made.
- 3) Enter Antenna Height (in feet to bottom of antenna), Antenna Gain (expressed as dBi, add 2.17 to dBd to obtain dBi), Antenna Size (vertical size in inches), Downtilt (in Degrees, enter zero if none), Feedline loss from J4 to Antenna, and J4 Power (in watts).
- 4) From manufacturer's plots, or data sheet, input Angle from mainbeam and dB below mainbeam centerline.
- 5) Enter Reflection coefficient (2.56 would be typical, 1 for free space)
- 6) Spreadsheet calculates actual power density, then relates as Occupational or General Population percentage of FCC Standard.
- 7) An odd distance may be entered in the rightmost column of the lower table.

Far Field Approximation  
with downtilt variation



**Estimated Radiated Emission  
Single Emitter Far Field Model  
Dipole/Wire/Yagi Antenna Types**

Location:	Old Saybrook Center CT
Site #:	2-0523
Date:	09/22/21
Name:	Stephen Nerkowski
File Name:	Old Saybrook Center CT - FF Power
Antenna Type:	MX14FIT456-01
Operating Freq. (MHz):	1978
Antenna Height (ft):	29.7
Antenna Gain (dBi):	13.3
Downtilt (degrees):	0.0
Feedline Loss (dB):	0.0
Tx Power (W):	40.0
No. of Channels:	4



Calc Angle	90.0	80.0	70.0	65.0	60.0	55.0	50.0	45.0	40.0	35.0	30.0	25.0	20.0	15.0	10.0	5.0	4.0	2.0
Solve for r, dx to antenna	26.7	27.1	28.4	29.5	30.9	32.6	34.9	37.8	41.6	46.6	53.4	63.2	78.1	103.3	153.9	306.6	383.1	765.7
Distance from Antenna Structure Base in Horizontal plane	0.0	4.7	9.7	12.5	15.4	18.7	22.4	26.7	31.9	38.2	46.3	57.3	73.4	99.7	151.6	305.5	382.2	765.3
Angle from Main Beam (reference to horizontal plane)	90.0	80.0	70.0	65.0	60.0	55.0	50.0	45.0	40.0	35.0	30.0	25.0	20.0	15.0	10.0	5.0	4.0	2.0
dB down from centerline (referenced to centerline)	33.3	27.6	26	25.1	25.8	29.9	27.3	17.3	13.6	16.3	28.3	23.5	14.5	20.8	26	3.8	2.1	0.3
Reflection Coefficient (1 to 4, 2.56 typical)	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56
Power Density (mW/cm <sup>2</sup> )	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Percent of Occupational Standard	0.01	0.04	0.05	0.05	0.04	0.01	0.02	0.20	0.38	0.16	0.01	0.02	0.09	0.01	0.00	0.07	0.06	0.02
Percent of General Population Standard	0.05	0.18	0.23	0.27	0.21	0.07	0.11	0.98	1.90	0.81	0.04	0.08	0.44	0.06	0.01	0.33	0.32	0.12

Max%: **1.90%**

Instructions:

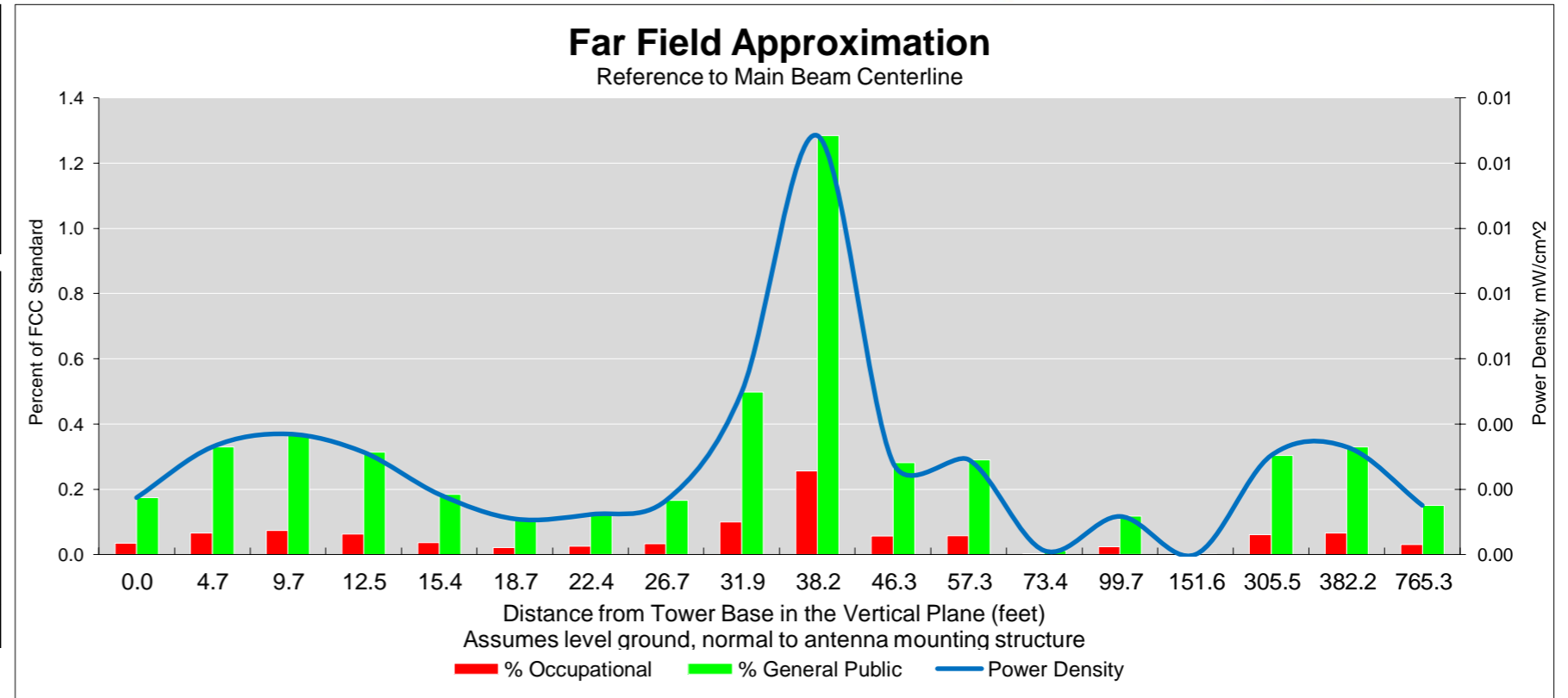
- 1) Fill in Site Location, Site number, Date, Name of Person Responsible for Date, and enter File Name to be saved as.
- 2) References to J4 refer to a point where the transmission line exits the equipment shelter and proceeds to the antenna(s). There is typically a connector located here where power measurements are made.
- 3) Enter Antenna Height (in feet to bottom of antenna), Antenna Gain (expressed as dBi, add 2.17 to dBd to obtain dBi), Antenna Size (vertical size in inches), Downtilt (in Degrees, enter zero if none), Feedline loss from J4 to Antenna, and J4 Power (in watts).
- 4) From manufacturer's plots, or data sheet, input Angle from mainbeam and dB below mainbeam centerline.
- 5) Enter Reflection coefficient (2.56 would be typical, 1 for free space)
- 6) Spreadsheet calculates actual power density, then relates as Occupational or General Population percentage of FCC Standard.
- 7) An odd distance may be entered in the rightmost column of the lower table.

Far Field Approximation  
with downtilt variation



**Estimated Radiated Emission  
Single Emitter Far Field Model  
Dipole/Wire/Yagi Antenna Types**

Location:	Old Saybrook Center CT
Site #:	2-0523
Date:	09/22/21
Name:	Stephen Nerkowski
File Name:	Old Saybrook Center CT - FF Power
Antenna Type:	MX14FIT456-01
Operating Freq. (MHz):	2120
Antenna Height (ft):	29.7
Antenna Gain (dBi):	14.7
Downtilt (degrees):	0.0
Feedline Loss (dB):	0.0
Tx Power (W):	40.0
No. of Channels:	4



Calc Angle	90.0	80.0	70.0	65.0	60.0	55.0	50.0	45.0	40.0	35.0	30.0	25.0	20.0	15.0	10.0	5.0	4.0	2.0
Solve for r, dx to antenna	26.7	27.1	28.4	29.5	30.9	32.6	34.9	37.8	41.6	46.6	53.4	63.2	78.1	103.3	153.9	306.6	383.1	765.7
Distance from Antenna Structure Base in Horizontal plane	0.0	4.7	9.7	12.5	15.4	18.7	22.4	26.7	31.9	38.2	46.3	57.3	73.4	99.7	151.6	305.5	382.2	765.3
Angle from Main Beam (reference to horizontal plane)	90.0	80.0	70.0	65.0	60.0	55.0	50.0	45.0	40.0	35.0	30.0	25.0	20.0	15.0	10.0	5.0	4.0	2.0
dB down from centerline (referenced to centerline)	29.2	26.3	25.4	25.8	27.7	29.5	28.4	26.4	20.8	15.7	21.1	19.5	31.5	19.2	45.3	5.6	3.3	0.7
Reflection Coefficient (1 to 4, 2.56 typical)	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56
Power Density (mW/cm²)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Percent of Occupational Standard	0.03	0.07	0.07	0.06	0.04	0.02	0.02	0.03	0.10	0.26	0.06	0.06	0.00	0.02	0.00	0.06	0.07	0.03
Percent of General Population Standard	0.17	0.33	0.37	0.31	0.18	0.11	0.12	0.17	0.50	1.28	0.28	0.29	0.01	0.12	0.00	0.30	0.33	0.15

Max%: **1.28%**

Instructions:

- 1) Fill in Site Location, Site number, Date, Name of Person Responsible for Date, and enter File Name to be saved as.
- 2) References to J4 refer to a point where the transmission line exits the equipment shelter and proceeds to the antenna(s). There is typically a connector located here where power measurements are made.
- 3) Enter Antenna Height (in feet to bottom of antenna), Antenna Gain (expressed as dBi, add 2.17 to dBd to obtain dBi), Antenna Size (vertical size in inches), Downtilt (in Degrees, enter zero if none), Feedline loss from J4 to Antenna, and J4 Power (in watts).
- 4) From manufacturer's plots, or data sheet, input Angle from mainbeam and dB below mainbeam centerline.
- 5) Enter Reflection coefficient (2.56 would be typical, 1 for free space)
- 6) Spreadsheet calculates actual power density, then relates as Occupational or General Population percentage of FCC Standard.
- 7) An odd distance may be entered in the rightmost column of the lower table.

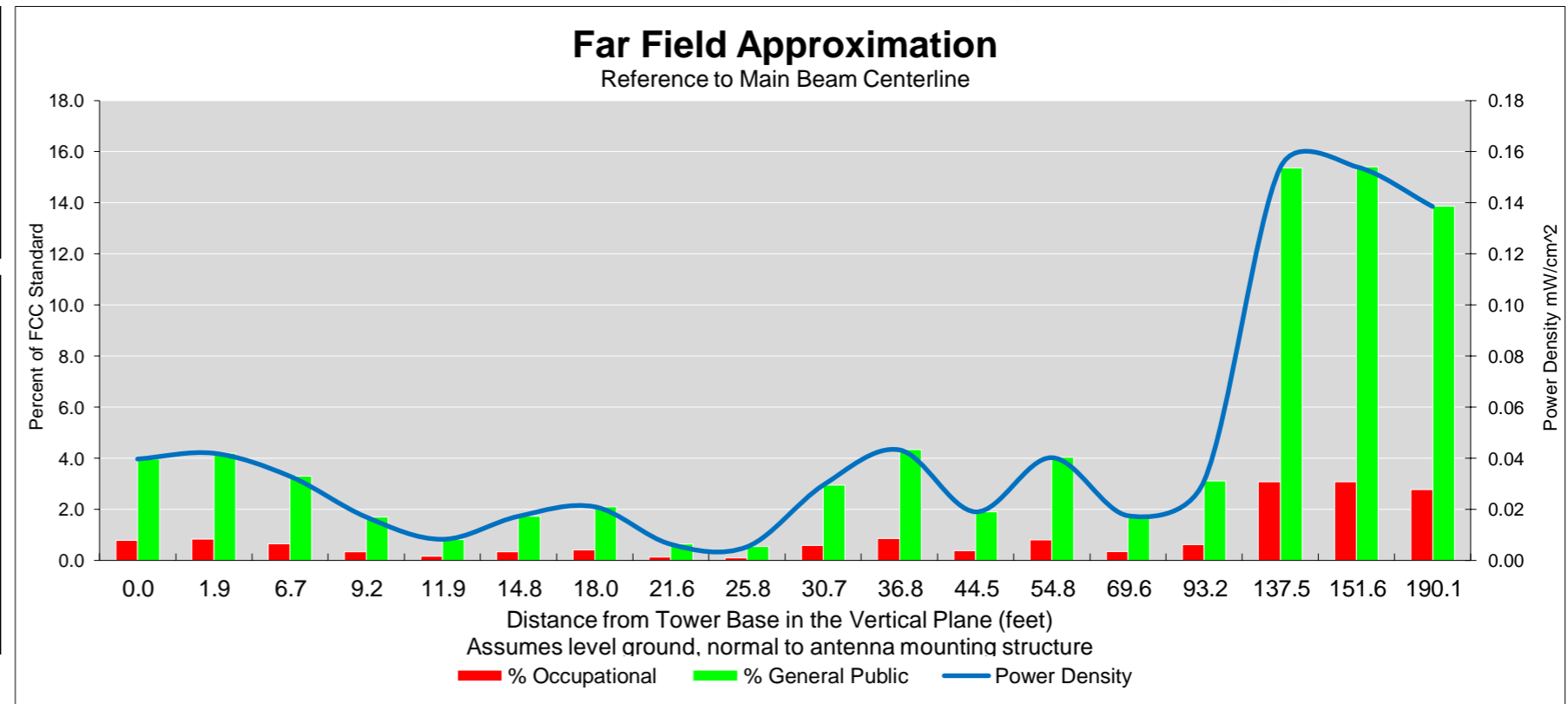
Far Field Approximation  
with downtilt variation

**Estimated Radiated Emission  
Single Emitter Far Field Model  
Dipole/Wire/Yagi Antenna Types**



Location:	Old Saybrook Center CT
Site #:	2-0523
Date:	09/22/21
Name:	Stephen Nerkowski
File Name:	Old Saybrook Center CT - FF Power

Antenna Type:	VZ-MT6407-77A
Operating Freq. (MHz):	3730
Antenna Height (ft):	29.7
Antenna Gain (dBi):	23.4
Downtilt (degrees):	6.0
Feedline Loss (dB):	0.0
Tx Power (W):	30.2
No. of Channels:	4



Calc Angle	90.0	86.0	76.0	71.0	66.0	61.0	56.0	51.0	46.0	41.0	36.0	31.0	26.0	21.0	16.0	11.0	10.0	8.0
Solve for r, dx to antenna	26.7	26.8	27.5	28.3	29.2	30.5	32.2	34.4	37.1	40.7	45.5	51.9	61.0	74.6	97.0	140.1	153.9	192.0
Distance from Antenna Structure Base in Horizontal plane	0.0	1.9	6.7	9.2	11.9	14.8	18.0	21.6	25.8	30.7	36.8	44.5	54.8	69.6	93.2	137.5	151.6	190.1
Angle from Main Beam (reference to horizontal plane)	90.0	80.0	70.0	65.0	60.0	55.0	50.0	45.0	40.0	35.0	30.0	25.0	20.0	15.0	10.0	5.0	4.0	2.0
dB down from centerline (referenced to centerline)	23.06	22.8	23.6	26.25	29.08	25.49	24.19	28.8	28.85	20.69	18.06	20.49	15.83	17.7	12.92	2.79	1.96	0.5
Reflection Coefficient (1 to 4, 2.56 typical)	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56
Power Density (mW/cm <sup>2</sup> )	0.04	0.04	0.03	0.02	0.01	0.02	0.02	0.01	0.01	0.03	0.04	0.02	0.04	0.02	0.03	0.15	0.15	0.14
Percent of Occupational Standard	0.79	0.84	0.66	0.34	0.17	0.35	0.42	0.13	0.11	0.59	0.87	0.38	0.81	0.35	0.62	3.07	3.08	2.77
Percent of General Population Standard	3.97	4.20	3.30	1.70	0.83	1.74	2.10	0.64	0.54	2.95	4.34	1.90	4.03	1.75	3.11	15.37	15.41	13.86

Max%: **15.41%**

Instructions:

- 1) Fill in Site Location, Site number, Date, Name of Person Responsible for Date, and enter File Name to be saved as.
- 2) References to J4 refer to a point where the transmission line exits the equipment shelter and proceeds to the antenna(s). There is typically a connector located here where power measurements are made.
- 3) Enter Antenna Height (in feet to bottom of antenna), Antenna Gain (expressed as dBi, add 2.17 to dBd to obtain dBi), Antenna Size (vertical size in inches), Downtilt (in Degrees, enter zero if none), Feedline loss from J4 to Antenna, and J4 Power (in watts).
- 4) From manufacturer's plots, or data sheet, input Angle from mainbeam and dB below mainbeam centerline.
- 5) Enter Reflection coefficient (2.56 would be typical, 1 for free space)
- 6) Spreadsheet calculates actual power density, then relates as Occupational or General Population percentage of FCC Standard.
- 7) An odd distance may be entered in the rightmost column of the lower table.

# **ATTACHMENT 4**



August 13, 2021

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

Re: *Structural Letter ~ Antenna Mounts*  
*Verizon – Site Ref: Old Saybrook CTR*  
*19 Main Street*  
*Old Saybrook, CT 06475*

Centek Project No. 21007.41

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 RF screen frame 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).

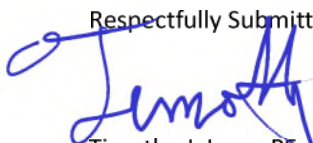
The Verizon loads considered in this evaluation consist of the following:

- **Verizon (Proposed Final Configuration):**  
**All Sectors: Three (3) JMA MX06FIT465-02 panel antennas and three (3) JMA MX14FIT465-01 panel antennas mounted within an existing RF transparent enclosure on the roof of the host building with a RAD center elevation of +/- 29.7-ft AGL. Three (3) Samsung RF4439d-25A RRUs, three (3) Samsung RF4440d-13 A RRUs, three (3) Samsung RT-8808-77A RRUs and one (1) OVP box to the RF transparent enclosure steel support frame on the roof of the host building.**

All antennas will be mounted within the existing enclosure and RRHs will be mounted on the steel support frame behind the building roof parapet resulting in no increase to the overall loading on the existing host building support framing above the original design.

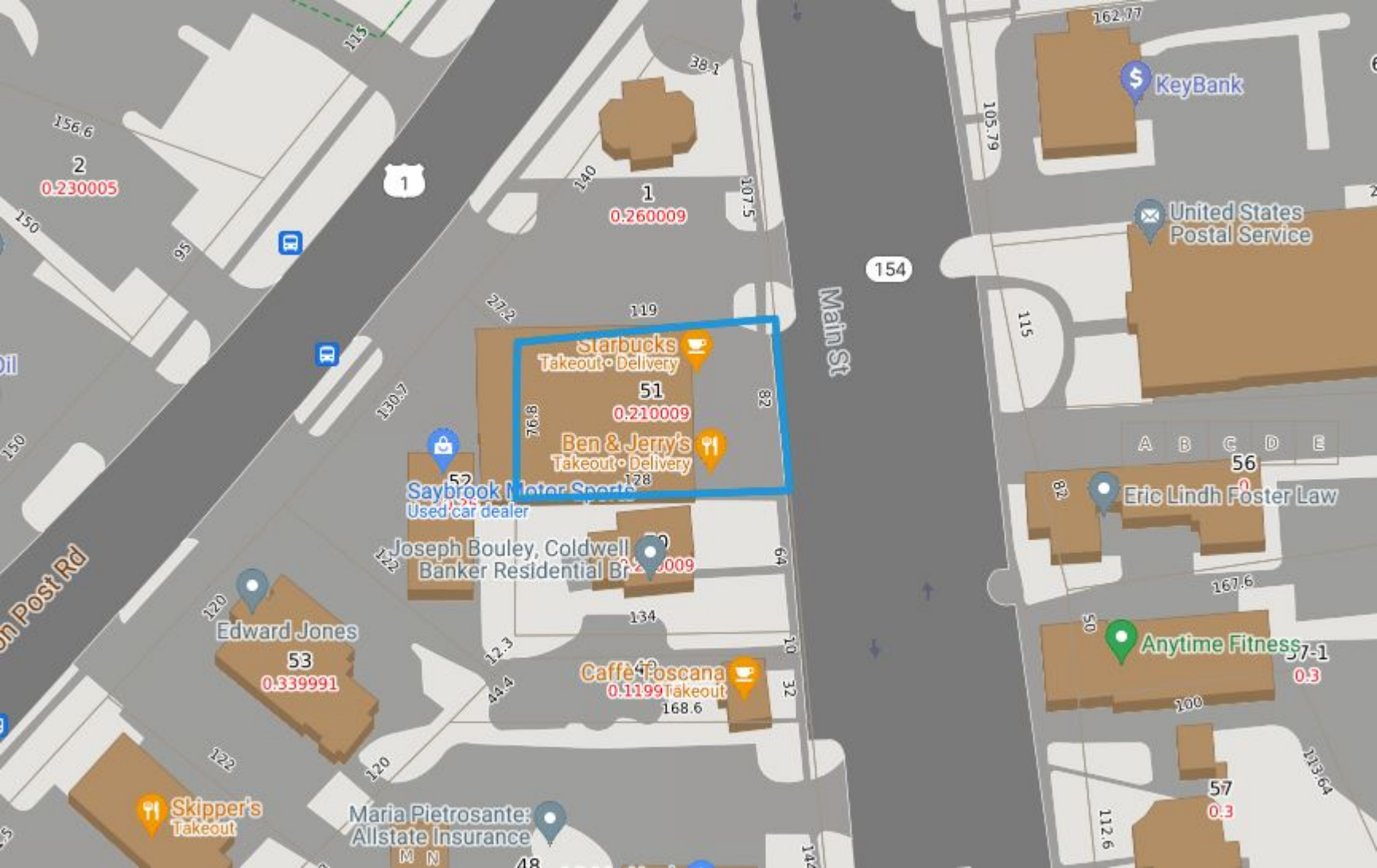
Based on our review of the installation, it is our opinion that the subject RF screen frame and host building **have sufficient capacity** to support the aforementioned equipment configuration. Our findings are based on the assumption that the hosting structure, all structural members and appurtenances 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**



156.6  
2  
0.230005

1

1  
0.260009

154

KeyBank

United States  
Postal Service

Starbucks  
Takeout • Delivery

51  
0.210009

Ben & Jerry's  
Takeout • Delivery

Saybrook Motor Sports  
Used car dealer

Joseph Bouley, Coldwell  
Banker Residential Brokerage

Edward Jones  
53  
0.339991

Caffe Posciana  
0.1199 Takeout

Eric Lindh Foster Law

Anytime Fitness  
57-1  
0.3

Skipper's  
Takeout

Maria Pietrosante  
Allstate Insurance



# OLD SAYBROOK, CT

19 MAIN ST

**Location**

19 MAIN ST

**MBLU**

037/ 051/ / /

**Acct#**

00453000

**Owner**

231ST SRS LLC

**Assessment**

\$1,423,500

**Appraisal**

\$2,033,600

**PID**

3607

**Building Count**

1

Current Value

**Appraisal**

Valuation Year	Improvements	Land	Total
2018	\$1,538,600	\$495,000	\$2,033,600

**Assessment**

Valuation Year	Improvements	Land	Total
2018	\$1,077,000	\$346,500	\$1,423,500

**Owner of Record****Owner** 231ST SRS LLC**Co-Owner****Address** PO BOX 656  
YONKERS, NY 10702**Sale Price** \$3,000,000**Certificate****Book & Page** 0667/0414**Sale Date** 08/13/2021**Instrument** 00

## Ownership History

**Ownership History**

Owner	Sale Price	Certificate	Book & Page	Instrument	Sale Date
DCR1519 MAIN LLC	\$2,100,000		0623/1027	00	05/15/2017
PROSPECT REALTY PARTNERS LLC	\$240,000		0340/0961		01/10/1997

## Building Information

Building 1 : Section 1

**Year Built:** 1940**Living Area:** 6,882**Building Attributes**

Field	Description
STYLE	Strip Stores
MODEL	Commercial
Grade	Excellent
Stories:	1
Occupancy	4.00
Exterior Wall 1	Stucco/Masonry
Exterior Wall 2	

# **ATTACHMENT 6**



OLD SAYBROOK CENTER  
Certificate of Mailing — Firm

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	TOTAL NO. of Pieces Received at Post Office™ <b>3</b>	Affix Stamp Here Postmark with Date of Receipt.  neopost <sup>®</sup> 09/24/2021 <b>US POSTAGE \$002.99<sup>0</sup></b>  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.	Carl P. Fortuna, Jr., First Selectman Town of Old Saybrook 302 Main Street Old Saybrook, CT 06475				
2.	Christina Costa, Town Planner Town of Old Saybrook 302 Main Street Old Saybrook, CT 06475				
3.	231ST SRS LLC P.O. Box 656 Yonkers, NY 10702				
4.					
5.					
6.					