**CITY OF ELK GROVE**
**SMUD SERVICES REQUEST**
**FOR TELECOMMUNICATOINS**
**SERVICE PROVIDER**

Date of Request: 06/19/2020

Approximate Date Service Connection is Needed:

START _____ DISCONNECT _____ TRANSFER OF SERVICE

Telecommunications Service Provider (TSP) Name: Verizon Wireless
TSP Billing Address: PO BOX 21074, Tulsa, OK 74121
Contact Person and Number: DeeAnn Jurach (916) 612-3789

Point of Connection (POC): City Service# (XXXX)
**SMUD POC** to City Conductor:

1. Descriptive Address: Measurements must be from the street center line and must be listed as x feet, the side of the street, and include north/south and east/west directions. For example: 50 feet of East Street and 10 feet South of J Street.

   49' North and 165' West from Big Horn Blvd and Bruceville Rd

2. California State, Zone 2, NAD83 in Feet: X,Y coordinate of the connection point:

   38.430707, -121.418441
   6728261.379ftUSE 1919209.044ftUSN

3. Attach City Map with SMUD POC to City Conductor with an X or highlight on the map. (Note: please only submit the drawing with this location. Do not submit all drawing pages.)
   **See attached map.**

City Pole Number: 8000830

Location of TSP Devices on City Street lights:

1. Descriptive Address: Measurements must be from the street center line and must be listed as x feet, the side of the street, and include north/south and east/west directions. For example: 50 feet of East Street and 10 feet South of J Street.

   74' East and 175' South from Big Horn Blvd and Bruceville Rd

2. California State, Zone 2, NAD83 in Feet: X,Y coordinate of the connection point:
   38.430117, -121.417618

6728498.511ftUSE 1918995.692ftUSN

3. Attach City Map with location of TSP devices on City Street light with an X or highlight on the map. (Note: please only submit the drawing with this location. Do not submit all drawing pages.) **See attached map.**

Point of Service (**CITY POS**): SMUD POS: #734

1. Descriptive Address: Measurements must be from the street center line and must be listed as x feet, the side of the street, and include north/south and east/west directions. For example: 50 feet of East Street and 10 feet South of J Street.

   57' North and 152' West from Big Horn Blvd and Bruceville Rd

2. California State, Zone 2, NAD83 in Feet: X,Y coordinate of the connection point:

   38.430707, -121.418347
   6728288.306ftUSE 1919209.216ftUSN

3. Attach City Map with SMUD POC to City Conductor with an X or highlight on the map. (Note: please only submit the drawing with this location. Do not submit all drawing pages.) **See attached map.**

Number/Type of Devices: (How many transmitters, antennae, etc.) **2**

Make and Model of Devices: **Samsung AT1K0I 5G NR AU**

Maximum Wattage of each Device: **416**

Small cell attachment equipment specification sheet attached **__X___**
Note:

This area reserved for SMUD use

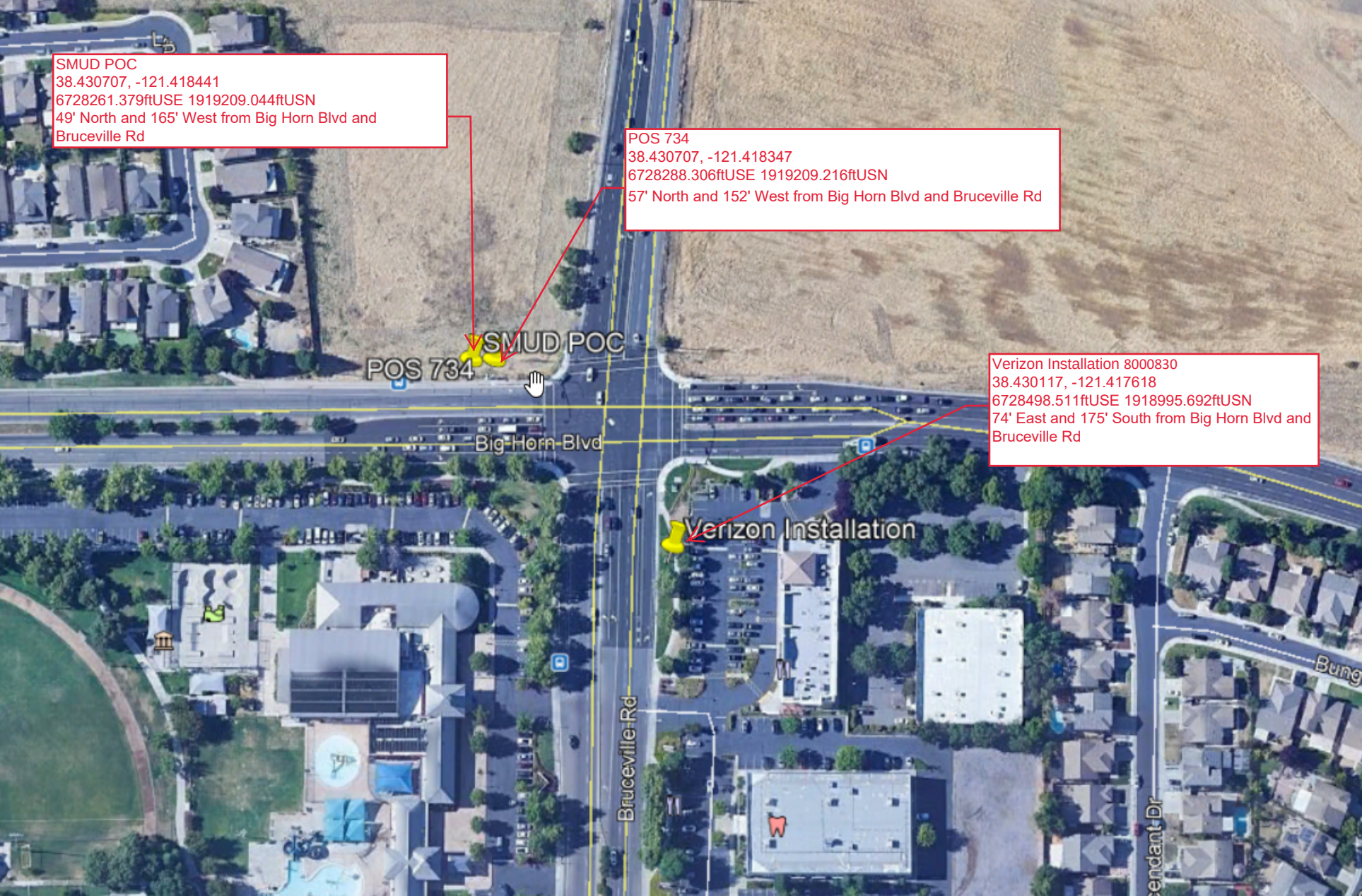
# ATTACHMENTS (IN THIS ORDER)

1. LOCATION MAP: GOOGLE MAP SHOWING: (Do not change orientation of the map)
    a. POC (Source that feeds the service pedestal)
    b. POS (City service pedestal)

2. PE CERTIFICATION: Signed and with seal from Electrical Engineer

3. FIELD VERIFICATION: Small Cell Load Summary sheet(s)

4. EQUIPMENT SPECS: Specific to each SMUD Service Notice Request


SMUD POC
38.430707, -121.418441
6728261.379ftUSE 1919209.044ftUSN
49' North and 165' West from Big Horn Blvd and Bruceville Rd
POS 734
38.430707, -121.418347
6728288.306ftUSE 1919209.216ftUSN
57' North and 152' West from Big Horn Blvd and Bruceville Rd
Verizon Installation 8000830
38.430117, -121.417618
6728498.511ftUSE 1918995.692ftUSN
74' East and 175' South from Big Horn Blvd and Bruceville Rd
SMUD POC
POS 734
Big Horn Blvd
Verizon Installation
Bruceville Rd

240 Stockton Street, 3rd Floor
San Francisco, CA 94108
www.modusllc.com

June 18, 2020

Carrier: Verizon Wireless
2785 Mitchell Drive, Suite 9
Walnut Creek, CA 94598

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To Whom It May Concern,

I, Manan Christian PE state that Samsung Distributed 5G Radio/Antenna Unit model #AT1K01 is designed to use a maximum of 416 watts per unit at 120 volts and that the electrical power load presented in this document meets the requirements of the California Electrical Code 2019 , NEC 2017 and National electrical safety code 2017.

Scenario 1 : Three distributed DU-RU Radio/Antenna Units

| Unit | W |
|---|---|
| Distributed DU-RU | 416 |
| Distributed DU-RU | 416 |
| Distributed DU-RU | 416 |
| Total | 1248 |

Scenario 2 : Three distributed DU-RU Radio/Antenna Units

| Unit | W |
|---|---|
| Distributed DU-RU | 416 |
| Distributed DU-RU | 416 |
| Total | 832 |

Sincerely,


Manan H Christian, P.E. – E.E.
California License: E22864
Expiration Date: 12/31/2020

# FIELD WALK DATA COLLECTION FORM

| | |
|---|---|
| Vendor/Carrier Name: | VERIZON WIRELESS |
| City Project Number: | |
| Site Walk Date & Time: | 4/10/2020 |
| Electrical Plan Sheet Number: | N/A |

| | | | | | |
|---|---|---|---|---|---|
| Project/Site ID: | CA_ELK GROVE_LAGUNA_007 | | | | |
| Installation Address: | 9063 Bruceville Rd. | | | | |
| Installation Coordinates: | 38.430115, -121.417622 | | | | |
| Node Number: | LAGUNA_007 | | | | |
| Street Light Pole ID: | 8000830 | | | | |
| City Service Address: | NW Corner Bruceville Rd. & Big Horn Blvd. | | | | |
| City Service Number: | 0734 | | | | |
| SMUD Point of Connection Address: | NW Corner Bruceville Rd. & Big Horn Blvd. | | | | |
| SMUD Point of Connection Coordinates: | 38.430687, -121.418439 | | | | |
| RF Configuration: | 2 | Radio Load: | 416 | Future Radio Load: | 832 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Circuit Breaker: | #1 3.6 amps existing load | | | | | | |
| Voltage: | ☒ 120 V ☐ 277 V ☐ 480 V | | | | | | |
| Number of Existing Loads: | SL-LED: | 3 | SL-HPS: | | LP-LED: | | LP-HPS: |
| Other Existing Loads: | | | | | | | |

| | Street Light Poles Requiring Photocell Retrofit | | |
|---|---|---|---|
| Street Light Pole ID | Pole Address | Pole Type (MA, PT, ORN) | Fixture Rating (Watts) |
| 31391 | 915 Bruceville Rd. (Traffic Signal) | MA | 110 |
| 31388 | NW Corner Bruceville Rd. & Big Horn Blvd. | MA | 110 |
| 8000830 | 9063 Bruceville Rd. | MA | 110 |
| | | | |
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| | | | |
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| | | | |
| | | | |
| Total of Proposed and Future Radio Loads: (watts): | | | 832 |
| Grand total of Street Lighting and Radio loads: (watts): | | | 1162 |

# 5G NR AU (AT1K01) Product Overview

| | **28GHz** |
|---|---|
| Integrated AU |  |
| Operating frequency | 26.5 ~ 29.5GHz |
| IBW/OBW | 850MHz/800MHz |
| EIRP | 60dBm |
| Antenna Gain | 24dBi |
| Tx/Rx | 4T4R |
| Antenna Elements | 1,024 |
| Beam Scan Range | 120H / 40V |
| Size/Weight | 9.57 x 16.81 x 6.89 in (<18.16L) / <15.8Kg (33.07lbs) * |
| Input Power | -48VDC / 100 ~ 240VAC |
| Power Consumption | AC Version: 416W, DC Version: 402W (Load 100%, Temp. 55℃, TDD Ratio 4:1) |
| Midhaul (gNB-CU Interface) | 10G Optic x 2 ports |
| Installation | Outdoor Pole/Wall Mount |
| Clock Synchronization | GPS and IEEE 1588v2 |
| Operating Temperature | -40 deg C to +55 deg C with solar load |
| Cooling | Natural Convection |

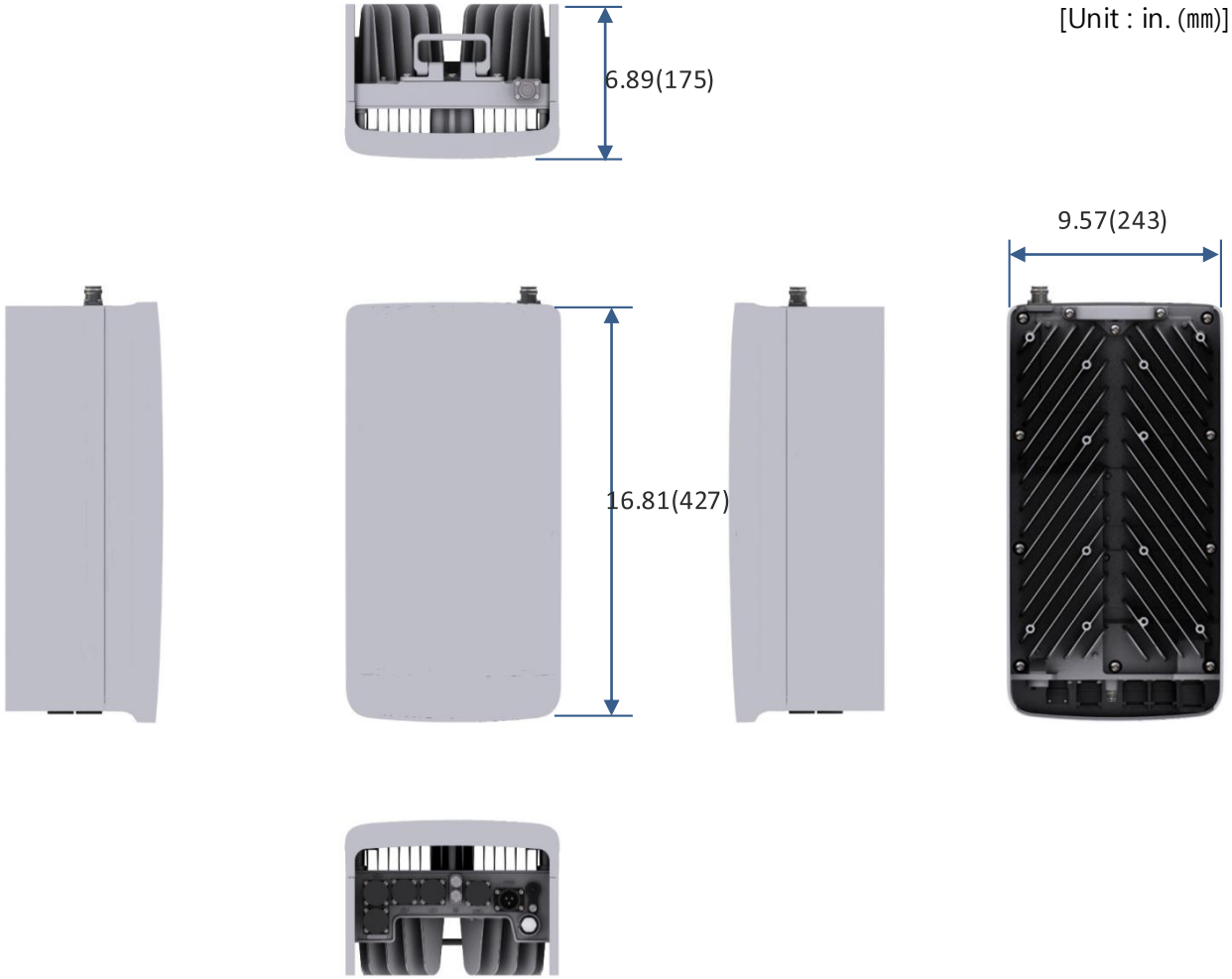
* Without Cover & GPS Port

# 5G NR AU (AT1K01) Product Specifications

| Item | AT1K01 |
|---|---|
| Technology | 5G NR |
| Operating Frequency | 27.5 to 28.35 GHz |
| RF Chain | 1024 TR/unit |
| Antenna Array | |
| Configuration | 1024 AE (4T4R) |
| Element | 256 AE (16H16V)/path, 1024 AE/unit |
| Gain | 28 dBi/path |
| IBW/OBW | 850/800 MHz |
| Channel Bandwidth/Capacity | 100 MHz |
| Max 8CC (50/200/400 MHz will be supported in ES2, SVR19A: 100 MHz) | |
| RF Output Power | EIRP 54dBM/path , 60dBm/unit |
| Input Voltage | -48 V DC (-36 to -58 V DC) or 100 to 240 V AC |
| Input Current | 8.4 A @ -48 V DC |
| | 4.3 A @ 100 to 240 V AC |
| LED | Total: 1 EA |
| | Powered, Operational, Fail (3 Status w/different colors) |
| Operational Temperature | -40~55°C (with solar load) |
| Humidity | TBD |
| IP rating | IP65 |
| EMC | FCC Title 47 CFR Part 15 Subpart B |
| Safety | UL 60950 or 62368 |
| Installation | Pole/Wall/Tower mounting |
| Dimension (W × D × H) | · 9.57 in. (243 mm) × 6.89 in. (175 mm) × 16.81 in. (427 mm) •(@without cover) |
| | · 9.57 in. (243 mm) × 6.89 in. (175 mm) × 19.4 in. (493 mm) (@with cover & GPS Port) |
| Volume | < 18.16 L |
| Weight | < 33.07 lb. (15.8 kg) |

# Appearance

[Unit : in. (㎜)]



# ■ 28GHz AU(AT1K01-A00) – Label attached location