CITY OF ELK GROVE
SMUD SERVICES REQUEST
FOR TELECOMMUNICATOINS
SERVICE PROVIDER

Date of Request: 06/18/2020

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.

   671' North and 28' West from Barcella Drive and Cordially Way

2. California State, Zone 2, NAD83 in Feet: X,Y coordinate of the connection point:
   38.404534, -121.416990
   6728738.178ftUSE 1909680.211ftUSN

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: 8002070

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.

   338' North and 42' West from Bruceville Rd and Civic Center Dr.

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

38.406109, -121.417782
6728507.546ftUSE 1910252.329ftUSN

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: #612

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.

   90' West and 52' North from Bruceville Rd and Civic Center Dr.

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

   38.405340, -121.417926
   6728468.075ftUSE 1909972.015ftUSN

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.) **3**

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


Verizon Installation
SLT-8002070
38.406109, -121.417782
6728507.546ftUSE 1910252.329ftUSN
338' North and 42' West from Bruceville Rd and Civic Center Dr.
POS #612
POS #612
38.405340, -121.417926
6728468.075ftUSE 1909972.015ftUSN
90' West and 52' North from Bruceville Rd and Civic Center Dr.
Backer Ranch Rd
Civic Center Dr
Cordially Way
SMUD POC
SMUD POC
38.404534, -121.416990
6728738.178ftUSE 1909680.211ftUSN
671' North and 28' West from Barcella Drive and Cordially Way
Bruceville Rd
Caneria
Collie Way
Kugler Way
Debarnhart Way
Babylon Dr
Nasa Cir
268-167
Barcella Dr

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

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:	4/6/2020
Electrical Plan Sheet Number:	N/A

Project/Site ID:	CA_ELK GROVE_LAGUNA_094				
Installation Address:	9680 Bruceville Rd.				
Installation Coordinates:	38.40610739, -121.4177875				
Node Number:	LAGUNA_094				
Street Light Pole ID:	8002070				
City Service Address:	9696 Bruceville Rd.				
City Service Number:	0612				
SMUD Point of Connection Address:	9696 Bruceville Rd.				
SMUD Point of Connection Coordinates:	38.405267, -121.417957				
RF Configuration:	3	Radio Load:	416	Future Radio Load:	1248

Circuit Breaker:	#A 2.3 amps existing load						
Voltage:	☒ 120 V ☐ 277 V ☐ 480 V						
Number of Existing Loads:	SL-LED:	2	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)
80002072	9664 Bruceville Rd.	MA	110
8002070	9680 Bruceville Rd.	MA	110
Total of Proposed and Future Radio Loads: (watts):			1248
Grand total of Street Lighting and Radio loads: (watts):			1468

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

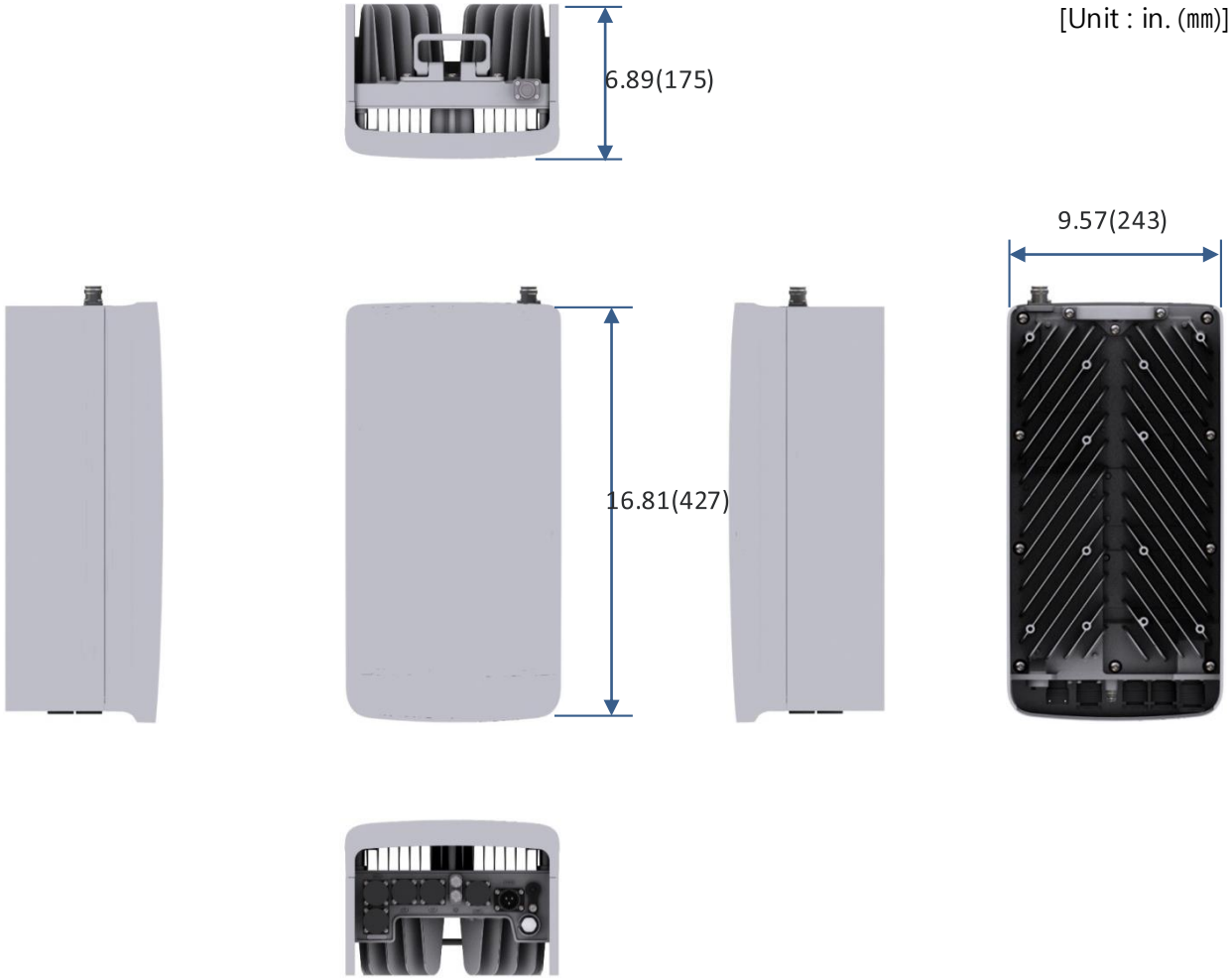
* Without Cover & GPS Port

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