POWERCOM

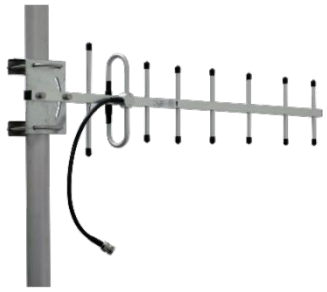
Product Data

PowerCom, Inc.
Tel: (425) 489-8549
22122 20th Ave SE #152
Bothell, WA 98021
Fax: (425) 487-1035

Outdoor Directional Yagi Antenna

OY-MN-V11P

746-896MHz, N-Female



- Covering 746-896MHz Public Safety Band
- Narrow beamwidth and High gain with 8 elements
- Suitable for donor antenna and aluminum finished
- Supporting antenna tilt adjustment

Electrical Specification

Product Model	OY-MN-V11P
Frequency (MHz)	746-896
Gain (dBi)	11.2
Polarization	Linear / Preinstalled with Vertical Pol.
Beamwidth Horizontal (°)	48
Beamwidth Vertical (°)	40
VSWR	≤ 1.5
Front to Back Ratio (dB)	≥ 15
Average Power, max (W)	100
Impedance (ohm)	50

Mechanical Specification

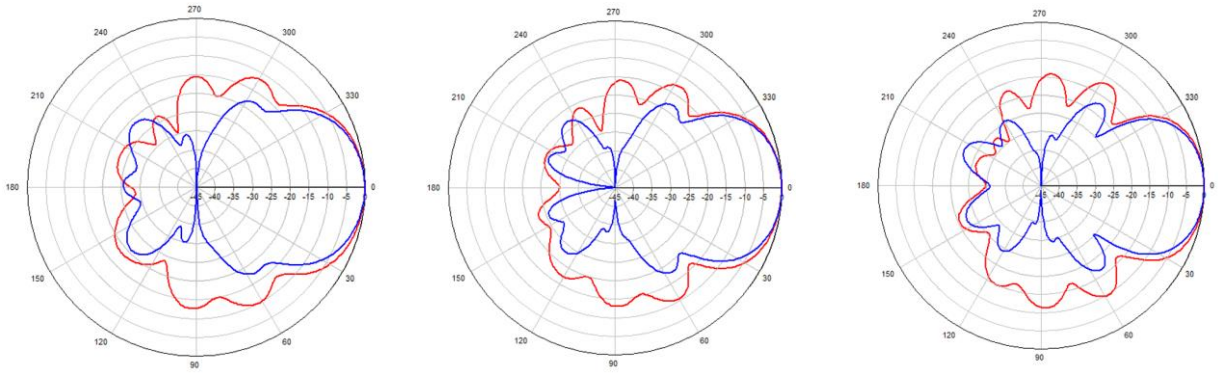
Dimension Diameter, height (in/mm)	33.5 x 7.5 x 2.0 / 850 x 190 x 50
Weight (lb./kg)	0.9 / 0.4
Shipping Dimension(in/mm)	35.6 x 9.1 x 2.4 / 905 x 230 x 60
Shipping Weight(lb./kg)	1.8 / 0.7
Radome Material & color	Aluminum finished, White
Diameter of the pole mounting pole (in/mm)	∅ 1.57-2.00 / ∅40-50
Antenna Tilt adjustment (°)	± 30° max
Maximum Wind Speed(mph)	186
Connector type	N-Female

Environment & Compliance

Application	Outdoor
Operating Temperature	-40°C to +60°C
Relative Humidity	Up to 95%
RoHS	Compliant
Environment	
Lightening protection	Direct Grounding

Antenna Pattern

Horizontal Vertical



746MHz 821MHz 896MHz

Comba Telecom Inc. 568 Gibraltar Drive, Milpitas, CA 95035. http://www.combausa.com/
Tel: +1 866 802 7961, combausa@comba-telecom.com, Fax: +1 408 526 0181

Installation Instruction

A. The antenna bracket and the antenna frame are pre-assembled for vertical polarization(default)

B. Put the antenna bracket and the mounting pole according to the position and direction shown in the drawing

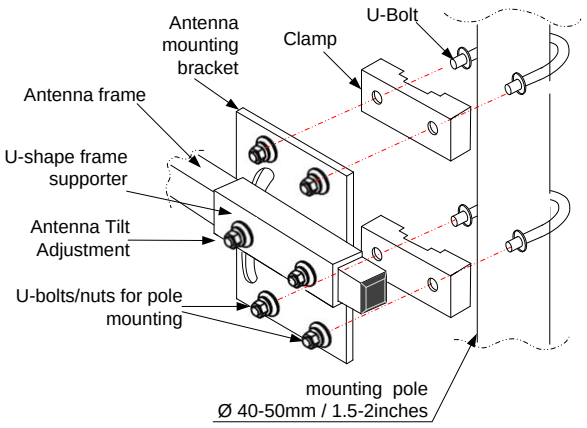
C. Fasten two U-bolts and clamps the antenna bracket to the mounting pole. (not included)

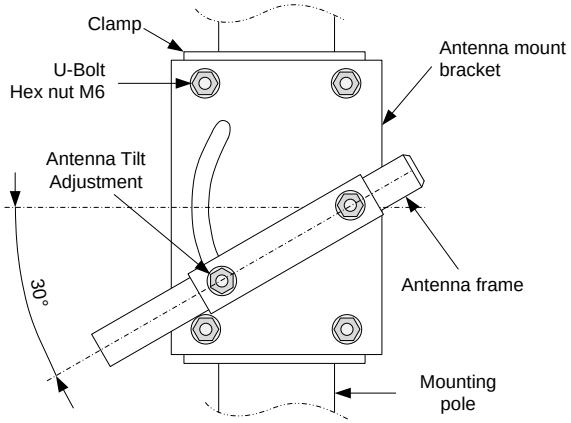
D. Adjust antenna tilt angle (max ± 30°) and fasten the nut (HEX M6)

E. Connect the equipment and antenna with their respective connectors

F. Ensure that all connections are waterproof

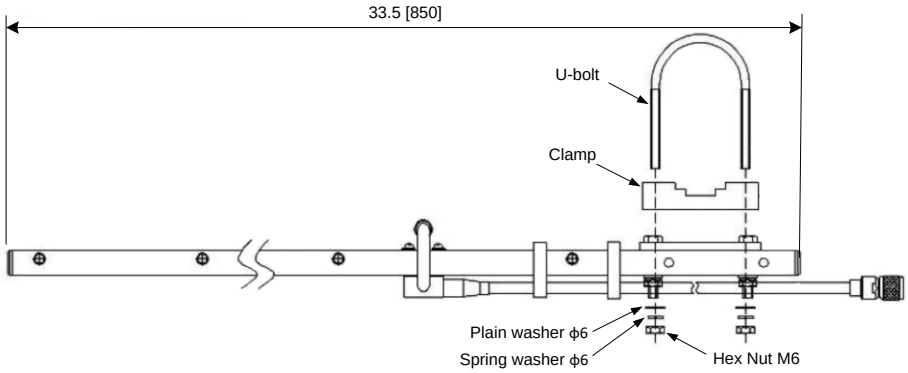
G. Fasten the cables of the antenna and equipment



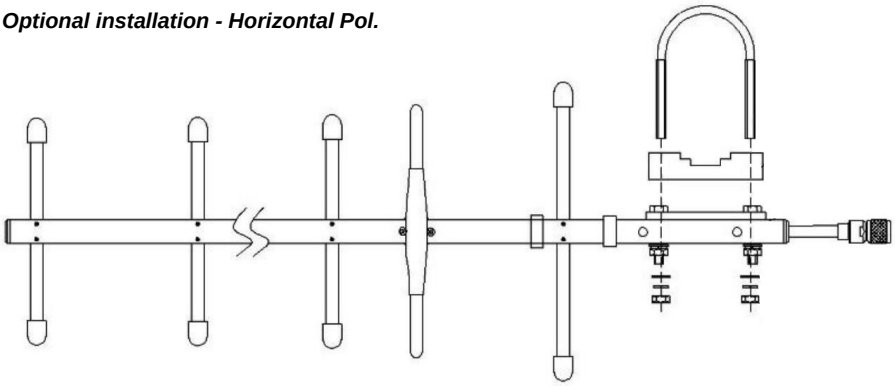


Antenna installation for vertical Pol. (default)

Unit: inch[mm]



Optional installation - Horizontal Pol.



Indoor Wide Band Omni Antenna

IX-MJN-V3P

698-2700MHz, N-Female

- Omni antenna wideband covering 698-2700MHz (700/800 Public Safety Band, 2G/3G/4G Network)
- Suitable for Indoor application, non-PIM rated
- Compact ceiling mount and cost-effective design

Electrical Specification

Product Model	IX-MJN-V3P			
Frequency (MHz)	698-806	806-960	1695-2200	2300-2700
Gain (dBi)	2.0 ± 1.0	2.0 ± 1.0	3.0 ± 1.0	4.0 ± 1.0
Polarization	Vertical			
Beamwidth Horizontal (°)	360			
VSWR	≤ 2.5	≤ 1.5	≤ 1.5	≤ 1.5
Average Power, max (W)	50			
Impedance (ohm)	50			

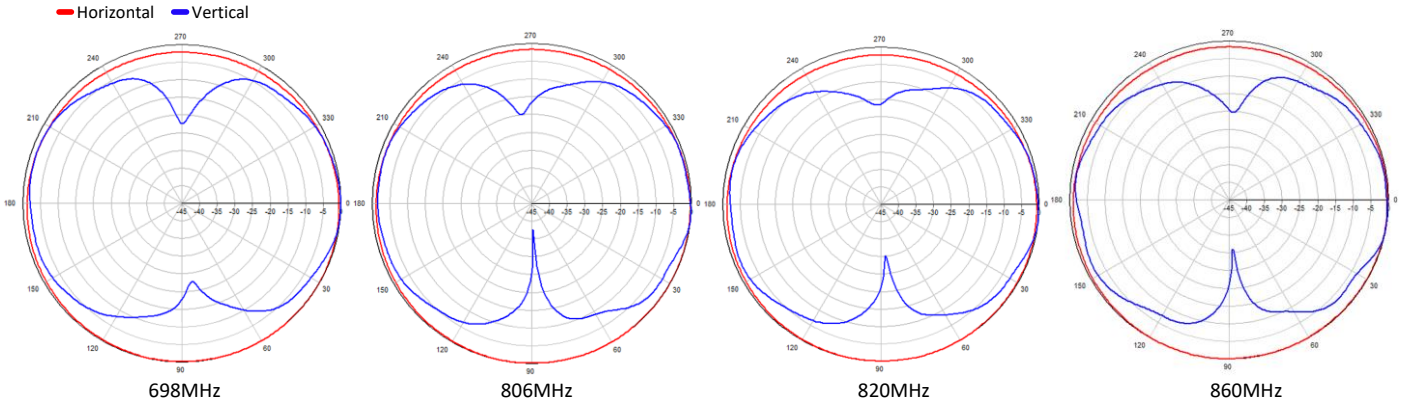
Mechanical Specification

Dimension Diameter, height (in/mm)	∅ 6.5x 3.7 / ∅ 165 x 94
Weight (lb./kg)	0.5 / 0.2
Shipping Dimension(in/mm)	5.7x5.7x5.5 / 145x145x140
Shipping Weight(lb./kg)	0.7/ 0.3
Radome Material & color	ABS, White
Mounting	Ceiling Mount
Connector type	N-Female

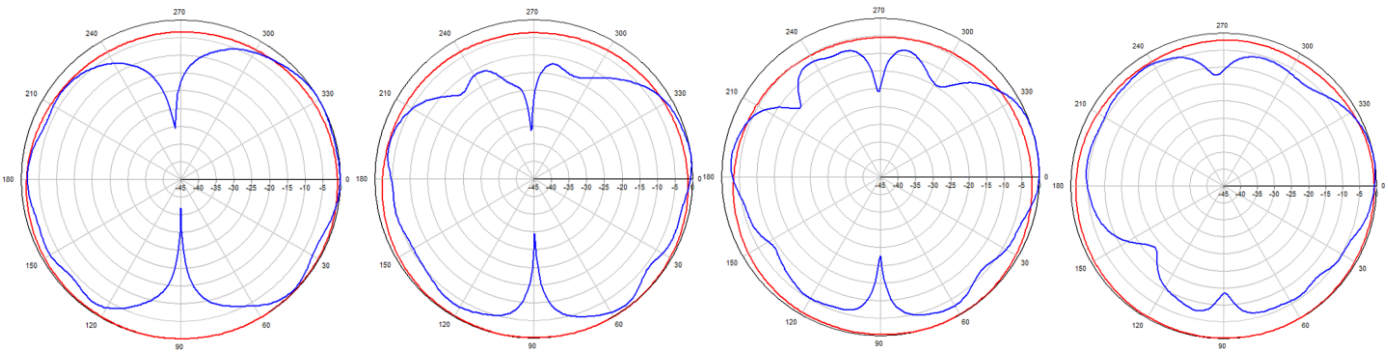
Environment & Compliance

Application	Indoor
Operating Temperature	-40°C to +70°C
Relative Humidity	Up to 95%
RoHS	Compliant

Antenna Pattern



698MHz 806MHz 820MHz 860MHz



1695MHz 2170MHz 2400MHz 2700MHz

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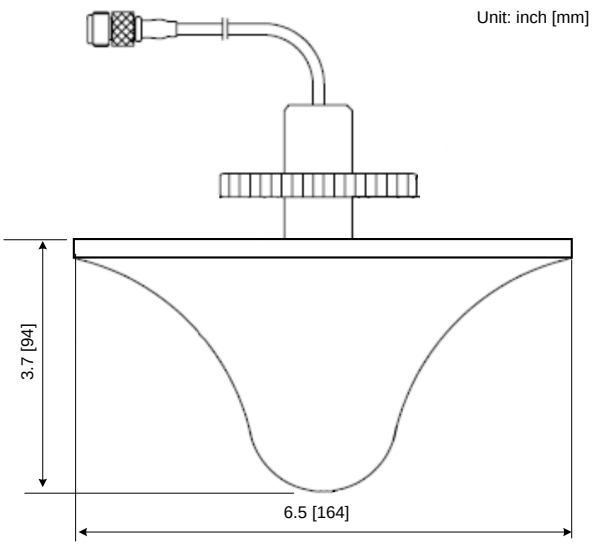
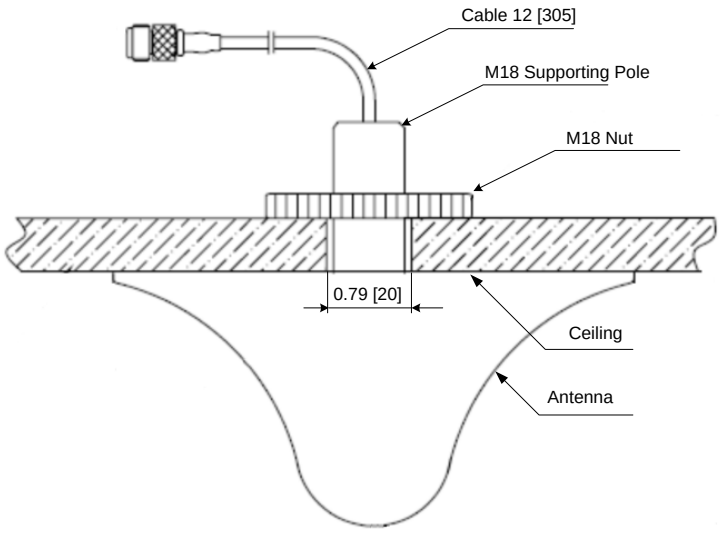
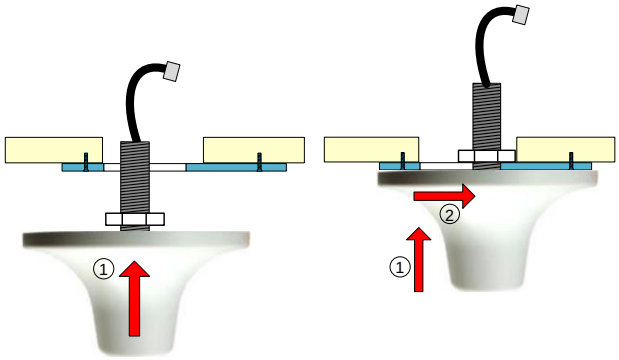
1. Standard Ceiling Mounting

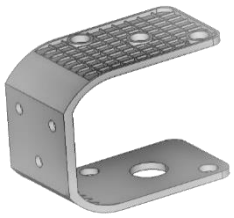


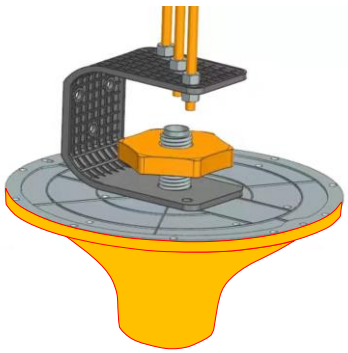


2. Hard Ceiling Mounting
Mounting Bracket: MT-DA-02. Please refer MT-DA-02 Installation instruction

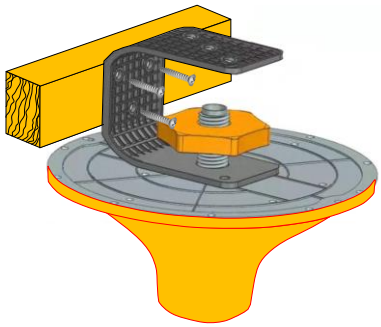


3. High Ceiling Mounting / Joist Mounting
Mounting Bracket: MT-ND-HC. Please refer MT-ND-HC Installation instruction





High Ceiling Mounting



Joist Mounting

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PRODUCT DATASHEET

ICA12-50JPLLR

1/2" ClearFill®Line Aluminum Plenum-Rated Air-Dielectric Coaxial Cable for In-Building Applications

ClearFill®Line 1/2" low-loss air dielectric cable, Plenum-rated, CMP

FEATURES / BENEFITS

- **Supports Multiple RF Signals**
- **Complete Shielding**
  The solid outer conductor of the ClearFill®Line coaxial cable creates a continuous RFI/EMI shield that minimizes system interference.
- **Outstanding Intermodulation Performance**
  RFS coaxial cable's solid inner and outer conductors virtually eliminate intermods. Intermodulation performance is also confirmed with state-of-the-art equipment at the RFS factory.
- **Wide Range of Applications**
  Typical areas of application are feedlines for plenum-space installations within occupied buildings or structures but also suitable for outdoor use due to jacket UV rating.

External Document Links

Notes

LINK TO VEX FILE

Technical features

APPLICATIONS

Applications		Wireless Communication	TV & Radio	HF Defense	Mobile Radio	Cable Solutions	In Building

STRUCTURE

Size		1/2
Inner Conductor Diameter	mm (in)	4.8 (0.19)
Inner Conductor Material		Copper-Clad Aluminum Wire
Dielectric Diameter	mm (in)	11.8 (0.464)
Dielectric Material		Extruded Polyethylene
Outer Conductor Diameter	mm (in)	13.8 (0.54)
Outer Conductor Material		Corrugated Aluminum
Jacket Diameter	mm (in)	15.93 (0.627)
Jacket Material		PVC, Plenum Rated / Color Red UV rated to ASTM G155, Water-resistant
Cable Type		Air-Dielectric, Corrugated

TESTING AND ENVIRONMENTAL

Fire Performance		Flame Retardant, Plenum-rated, CMP
Flame Retardant Jacket Specifications		Meets/Exceeds Steiner Tunnel Test Method UL 910, NEC 820-53 (a) CMP, NFPA-262.
Regulatory Compliance		NEC Article 800 Communication Circuits ETL Listed to UL444 Canadian CSA C.22.2/FT6
Installation Temperature	°C(°F)	-20 to 60 (-4 to 140)
Storage Temperature	°C (°F)	-40 to 85 (-40 to 185)
Operation Temperature	°C(°F)	-40 to 85 (-40 to 185)

ELECTRICAL SPECIFICATIONS

Impedance	Ω	50 +/- 1
Maximum Frequency	GHz	6
Velocity	%	91
Capacitance	pF/m (pF/ft)	75 (22.86)
Inductance	uH/m (uH/ft)	0.19 (0.058)
Peak Power Rating	kW	40
RF Peak Voltage	Volts	2000
Jacket Spark	Volt RMS	8000
Inner Conductor dc Resistance	Ω/1000 m (Ω/1000 ft)	1.48 (0.45)
Outer Conductor dc Resistance	Ω/1000 m (Ω/1000 ft)	2.29 (0.7)
Return Loss (VSWR) Performance		24 (1.13) @ 698-960 MHz 24 (1.13) @ 1395-1432 MHz 24 (1.13) @ 1700-2155 MHz 20 (1.22) @ 2300-2700 MHz 18 (1.29) @ 3550-4200 MHz 18 (1.29) @ 5150-6000 MHz
Temperature & Power		High Power Rating

MECHANICAL SPECIFICATIONS

Cable Weight, Nominal	kg/m (lb/ft)	0.19 (0.13)
Minimum Bending Radius, Single Bend	mm (in)	76 (3)
Minimum Bending Radius, Repeated Bends	mm (in)	127 (5)
Bending Moment	Nm (lb-ft)	5.4 (4)
Tensile Strength	N (lb)	549 (150)
Recommended / Maximum Clamp Spacing	m (ft)	0.5 / 0.9 (1.8 / 3)
Crush Strength	kg/mm (lb/ln)	1.25 (70)

ATTENUATION @ 20°C (68°F) AND POWER RATING @ 40°C (104°F)

Frequency, MHz	dB per 100m	dB per 100ft	Power, kW
0.5	0.16	0.05	40
1	0.23	0.07	32.80
1.5	0.29	0.09	26.80
2	0.33	0.10	23.20
10	0.74	0.23	10.30
20	1.06	0.32	7.22
30	1.30	0.40	5.89
50	1.68	0.51	4.55
88	2.25	0.69	3.40
100	2.41	0.73	3.18
108	2.51	0.76	3.05
150	2.98	0.91	2.57
174	3.22	0.98	2.38
200	3.46	1.05	2.21
300	4.29	1.31	1.79
400	5	1.52	1.53
450	5.32	1.62	1.44
500	5.63	1.72	1.36
512	5.71	1.74	1.34
600	6.22	1.90	1.23
700	6.76	2.06	1.14
750	7.02	2.14	1.09
800	7.28	2.22	1.06
824	7.40	2.25	1.04
894	7.74	2.36	0.99
900	7.76	2.37	0.99
925	7.88	2.40	0.98
960	8.05	2.45	0.96
1000	8.23	2.51	0.93
1250	9.32	2.84	0.83
1400	9.93	3.03	0.78
1500	10.30	3.15	0.75
1700	11.10	3.38	0.70
1800	11.50	3.49	0.67
2000	12.20	3.71	0.63
2100	12.50	3.81	0.62
2200	12.80	3.92	0.61
2300	13.20	4.02	0.59
2400	13.50	4.12	0.57
2500	13.80	4.22	0.56

2600	14.20	4.31	0.55
2700	14.50	4.41	0.54
3000	15.40	4.69	0.51
3500	16.90	5.14	0.46
3600	17.10	5.22	0.46
4000	18.30	5.56	0.43
4500	19.60	5.97	0.40
5000	20.90	6.36	0.38
5500	22.10	6.74	0.36
6000	23.30	7.11	0.34

Product Data Sheet **LCF12-50J**

1/2" CELLFLEX® Low-Loss Foam-Dielectric Coaxial Cable

Product Description

CELLFLEX® 1/2" low loss flexible cable

Application: OEM jumpers, Main feed transitions to equipment, GPS lines

1/2" CELLFLEX® Low-Loss Foam Dielectric Coaxial Cable

Features/Benefits

- **Low Attenuation**
  The low attenuation of CELLFLEX® coaxial cable results in highly efficient signal transferin your RF system.
- **Complete Shielding**
  The solid outer conductor of CELLFLEX® coaxial cable creates a continuous RFI/EMI shield that minimizes system interference.
- **Low VSWR**
  Special low VSWR versions of CELLFLEX® coaxial cables contribute to low system noise.
- **Outstanding Intermodulation Performance**
  CELLFLEX® coaxial cable?s solid inner and outer conductors virtually eliminate intermods. Intermodulation performance is also confirmed with state-of-the-art equipment at the RFS factory.
- **High Power Rating**
  Due to their low attenuation, outstanding heat transfer properties and temperature stabilized dielectric materials, CELLFLEX® cable provides safe long term operating life at high transmit power levels.
- **Wide Range of Application**
  Typical areas of application are: feedlines for broadcast and terrestrial microwave antennas, wireless cellular, PCS and ESMR base stations, cabling of antenna arrays, and radio equipment interconnects.

Technical Features

Structure

Inner conductor:	Copper-Clad Aluminum Wire	[mm (in)]	4.8 (0.19)
Dielectric:	Foam Polyethylene	[mm (in)]	11.9 (0.47)
Outer conductor:	Corrugated Copper	[mm (in)]	13.8 (0.54)
Jacket:	Polyethylene, PE	[mm (in)]	15.8 (0.62)

Mechanical Properties

Weight, approximately	[kg/m (lb/ft)]	0.2 (0.14)
Minimum bending radius, single bending	[mm (in)]	70 (3)
Minimum bending radius, repeated bending	[mm (in)]	125 (5)
Bending moment	[Nm (lb-ft)]	6.5 (4.79)
Max. tensile force	[N (lb)]	1100 (247)
Recommended / maximum clamp spacing	[m (ft)]	0.6 / 1 (2 / 3.25)

Electrical Properties

Characteristic impedance	[Ω]	50 +/- 1
Relative propagation velocity	[%]	88
Capacitance	[pF/m (pF/ft)]	76 (23.2)
Inductance	[µH/m (µH/ft)]	0.19 (0.058)
Max. operating frequency	[GHz]	8.8
Jacket spark test RMS	[V]	8000
Peak power rating	[kW]	38
RF Peak voltage rating	[V]	1950
DC-resistance inner conductor	[Ω/km (Ω/1000ft)]	1.57 (0.48)
DC-resistance outer conductor	[Ω/km (Ω/1000ft)]	2.7 (0.82)

Recommended Temperature Range

Storage temperature	[°C (°F)]	-70 to 85 (-94 to 185)
Installation temperature	[°C (°F)]	-40 to 60 (-40 to 140)
Operation temperature	[°C (°F)]	-50 to 85 (-58 to 185)

Other Characteristics

Fire Performance: Halogene Free

VSWR Performance: Standard — Contact RFS for your VSWR performance specification for your required frequency band.

Other Options: Phase stabilized and phase matched cables and assemblies are available upon request.

Frequency	Attenuation		Power
[MHz]	[dB/100m]	[dB/100ft]	[kW]
0.5	0.149	0.0454	38.0
1.0	0.211	0.0643	38.0
1.5	0.258	0.0788	32.9
2.0	0.298	0.0910	28.5
10	0.671	0.204	12.7
20	0.951	0.290	8.93
30	1.17	0.356	7.26
50	1.51	0.462	5.63
88	2.02	0.616	4.21
100	2.16	0.658	3.93
108	2.24	0.684	3.79
150	2.66	0.810	3.19
174	2.87	0.875	2.96
200	3.08	0.940	2.76
300	3.81	1.16	2.23
400	4.43	1.35	1.92
450	4.71	1.44	1.80
500	4.98	1.52	1.71
512	5.04	1.54	1.69
600	5.48	1.67	1.55
700	5.95	1.81	1.43
750	6.17	1.88	1.38
800	6.39	1.95	1.33
824	6.49	1.98	1.31
894	6.78	2.07	1.25
900	6.80	2.07	1.25
925	6.90	2.10	1.23
960	7.04	2.15	1.21
1000	7.20	2.19	1.18
1250	8.12	2.48	1.05
1400	8.64	2.63	0.983
1500	8.97	2.73	0.947
1700	9.61	2.93	0.884
1800	9.91	3.02	0.857
2000	10.5	3.20	0.809
2100	10.8	3.29	0.787
2200	11.1	3.38	0.765
2400	11.6	3.54	0.732
2500	11.9	3.62	0.714
2600	12.2	3.70	0.696
2700	12.4	3.78	0.685
3000	13.2	4.01	0.644
3500	14.4	4.38	0.590
4000	15.5	4.72	0.548
5000	17.6	5.37	0.483
6000	19.6	5.97	0.433
7000	21.4	6.54	0.397
8000	23.2	7.07	0.366
8800	24.6	7.49	0.345

Attenuation at 20°C (68°F) cable temperature
Mean power rating at 40°C (104°F) ambient temperature

RADIO FREQUENCY SYSTEMS
The Clear Choice®

N Male Connector for 1/2" Coaxial Cable, OMNI FIT™ Premium, Straight, Polymer claw and compression sealing

OMNI FIT™ high performance connectors are designed for use with both CELLFLEX® (copper) and CELLFLEX® Lite (aluminium) cables. They are designed specifically to provide the highest quality connector-cable interface while simplifying and speeding up connector attachment. All RFS connectors are fully tested for mechanical and electrical compliance to industry specifications.
The 7-16 connector is the most rugged RF connection meeting all requirements even under the most severe environmental conditions. Sealing against outer conductor and jacket by means of the polymer claw and 360° compression fit. Multifunctional, self-lubricating HighTech polymer assembly locks on cable corrugation, avoids electrochemical potential differences and compression-fits to the jacket.

OMNI FIT™ Premium Connectors

FEATURES / BENEFITS

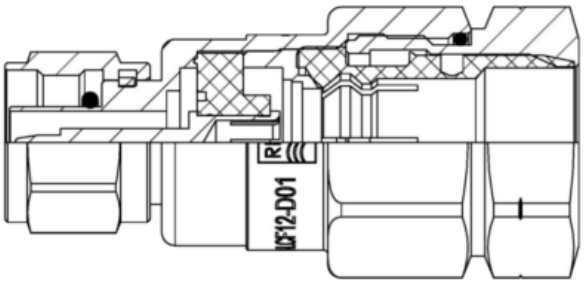
- Ultra high PIM performance i.e. reduced interference leading to high customer satisfaction
- Two-piece design i.e. visual inspection of interlocking leads to improved installation security
- OMNI FIT™ concept i.e. streamlined order management and reduced stock level
- Watertight sealing in mated and unmated condition, i.e. reduced efforts during installation and improved security during operation
- Unique NiTin plating i.e. extreme resistance against corrosion even under hardest climatic and environmental circumstances
- Multi-thread (Tristart) design i.e. simplified and accelerated tightening process
- RoHS (EU) and CRoHS (China) compliant i.e. can be used on a global basis

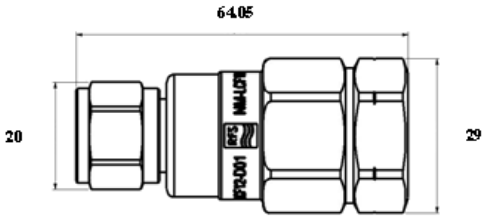
Technical Features

GENERAL SPECIFICATIONS		
Transmission Line Type		Coaxial Cable
Cable Size		1/2"
Cable Type		Foam Dielectric
Model Series		LCF12-50 Series|ICA12-50 Series
Connector Interface		N
Connector Type		OMNI FIT™ PREMIUM Straight
Sealing Method		Polymer claw + 360° Compression
Gender		Male
ELECTRICAL SPECIFICATIONS		
Nominal Impedance	Ohm	50
3rd Order IM Product @ 2x20 Watts	dBc	-156 ; typical -162
Maximum Frequency	GHz	6.0
VSWR, Return Loss	VSWR (dB)	0 < f ≤ 1.0 GHz: 1.02 (40.0) 1.0 < f ≤ 2.7 GHz: 1.03 (36.6) 2.7 < f ≤ 3.7 GHz: 1.06 (30.7)
MECHANICAL SPECIFICATIONS		
Plating Outer/Inner		NiTin/Silver
Length	mm (in)	64.05 (2.52)
Outer Diameter	mm (in)	29 (1.14)
Weight	kg (lb)	0.11 (0.24)
Inner Contact Attachment		Basket
Outer Contact Attachment		360° clamping
ACCESSORIES		
Wrench size front	mm (in)	18
Wrench size rear	mm (in)	26
Trimming Tool		TRIM-SET-L12-D01 TRIM-LCF12-D01-A
TESTING AND ENVIRONMENTAL		
Waterproof Level		IP68

RADIO FREQUENCY SYSTEMS
The Clear Choice®

N Male Connector for 1/2" Coaxial Cable, OMNI FIT™ Premium, Straight, Polymer claw and compression sealing



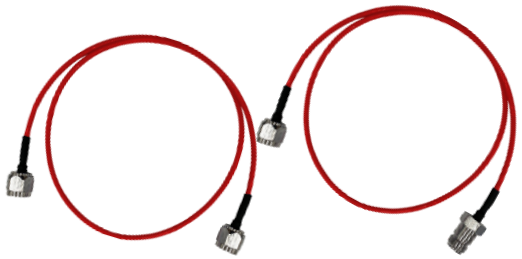


External Document Links	Notes
Installation Instruction	

Jumper Cable, 0.141 type, Plenum Rated

JS-NMNMxF-R141 / JS-NMNFxF-R141

DC-6.0GHz, N-type Connector, Red



- Flexible .141 type, Low loss and Low PIM Jumper
- Plenum Rated Jumper with red jacket
- Customized jumper length is available
- 100% tested and individually labeled with guaranteed PIM

Electrical Specification

Product Model	1.5 ft	3 ft	6 ft
N-type /M-M	JS-NMNM1.5F-R141	JS-NMNM3F-R141	JS-NMNM6F-R141
N-type /M-F	JS-NMNF1.5F-R141	JS-NMNF3F-R141	JS-NMNF6F-R141
Frequency (MHz)		DC-6000MHz	
Insertion Loss(dB). typical			
380MHz	0.25	0.41	0.72
500MHz	0.27	0.45	0.79
960MHz	0.34	0.57	1.10
1700MHz	0.43	0.75	1.38
1900MHz	0.47	0.80	1.46
2100MHz	0.49	0.84	1.54
2700MHz	0.57	0.96	1.75
3600MHz	0.67	1.12	2.05
3800MHz	0.69	1.15	2.08
6000MHz	0.85	1.45	2.66
Insulation Resistance (MΩ)		≥ 5000	
Insulation Withstanding Voltage (V)		750, RMS, 50Hz @ sea level	
VSWR	≤ 1.22	≤ 1.22	≤ 1.22
PIM (dBc)		≤ -158 @ 2 x 43dBm, N-type connector	
Impedance (ohm)		50	

Mechanical Specification

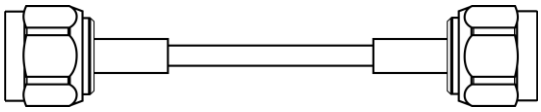
Cable Type	Flexible .141 type
Connector type	N-type with male to male & male to female
Cable Length	1.5ft, 3ft and 6ft. Can be customized
Outer Conductor Material	Brass, Tri-Alloy Plated
Inner Conductor Material	Brass, Ag Plated
Insulator	PTFE

Environment & Compliance

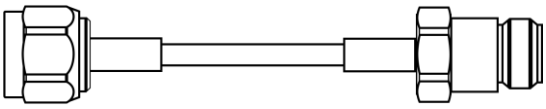
Application	Indoor/outdoor
Operating Temperature	-40°C to +125°C
Relative Humidity	Up to 95%
RoHS	Compliant
Environment	NA
Plenum rated class	UL-CMP

Outline Drawing

1. N-type connector jumpers

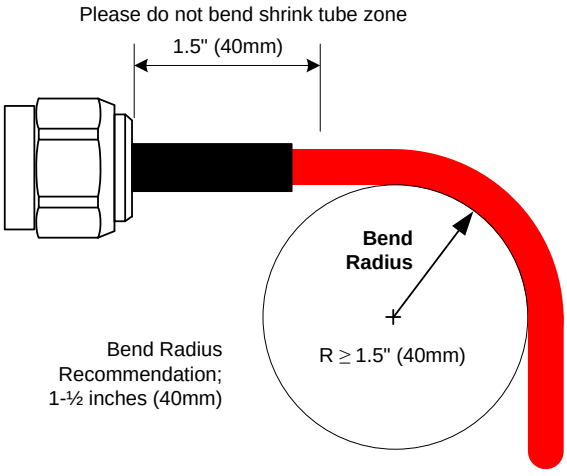


JS-NMNMxxF-R141



JS-NMNFxxF-R141

2. Jumper Bend Radius Guideline



Bend Radius Recommendation; 1-½ inches (40mm)

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ISO 9001 Certified

Times Protect™

LP-GTR-N Series

- DC Pass Multi-Strike Design
- Replaceable Gas Tube
- Broadband Bidirectional Design
- Excellent IL/RL Performance Over the Entire Operating Frequency Band
- Fully Weatherized Housing
- Solid Brass Constuction for Durability and Long Life
- Includes Universal Right Angle Bracket Adaptor

Lightning and Surge Protection for The 21st Century™

The **Times-Protect™** LP-GTR-N series is an exceptional broadband DC pass design for lightning protection applications requiring DC power to be supplied to the electronics. Offering outstanding surge performance, the LP-GTR-N series is the perfect protection solution for distributed antenna systems, tower mounted amplifiers, GPS systems and other applications requiring DC pass circuitry. These devices exhibit outstanding RF performance with high surge current handling characteristics and cover a broad range of power handling requirements from 50 to 550 watts. Its fully weatherized housing meeting IP67 standard allows for outdoor as well as indoor installation. The N connector designs cover the entire frequency spectrum from DC through 3000MHz.

LP-GTR-N Series:

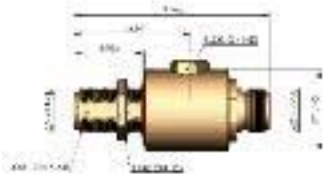
- LP-GTR-NFF (90Vdc/50W)
- LP-GTR-NFF-23 (230Vdc/210W)
- LP-GTR-NFF-35 (350Vdc/550W)

  N Female connectors on both sides - bidirectional
- LP-GTR-NFM (90Vdc/50W)
- LP-GTR-NFM-23 (230Vdc/210W)
- LP-GTR-NFM-35 (350Vdc/550W)

  N Male connector on one side & N Female connector on the other side - bidirectional

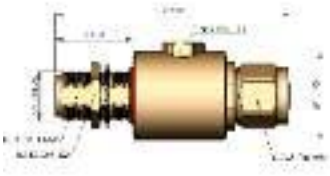
TIMES MICROWAVE SYSTEMS
An Amphenol Company

Times-Protect™



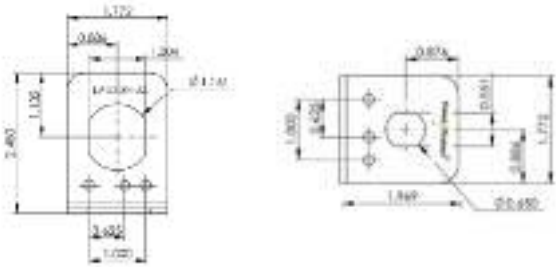
- LP-GTR-NFF
- LP-GTR-NFF-23
- LP-GTR-NFF-35

DC Pass N Type F/F



- LP-GTR-NFM
- LP-GTR-NFM-23
- LP-GTR-NFM-35

DC Pass N Type F/M



- Universal Right Angle Bracket Adaptor

*All Dimensions shown in inches

Electrical Specifications

Impedance	50 Ω		
Frequency Range	DC-3000 MHz		
VSWR/Return Loss	< 1.1:1 / <-26dB (DC-2800MHz) < 1.13:1 / <-24dB (2800-3000MHz)		
Insertion Loss	< 0.1dB (DC-1000MHz) < 0.2dB (1000-3000Mhz)		
Maximum Surge Current	20kA multiple (8x20µs wave-form)		
Part Number: LP-GTR	NFF/NFM	NFF-23/NFM-23	NFF-35/NFM-35
Impulse Sparkover	500V (1kV/µs)	700V (1kV/µs)	800V (1kV/µs)
Turn on	90Vdc	230Vdc	350Vdc
Average Power	50 Watts	210 Watts	550 Watts
Protection Circuit	DC Pass		

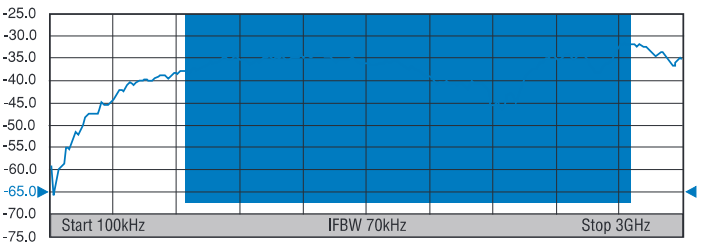
Mechanical / Environmental Specifications

Temp Range Storage/Operating	-40°C - +85°C
Weatherization	IEC 60068 40/085/21 & IP67
Thermal Shock	US MIL-STD 202, Meth.107,Cond.B
Vibration	US MIL-STD 202, Meth.204,Cond.B
Shock	US MIL-STD 202, Meth.213,Cond.I
RoHS Compliant	Yes
Wear/Mating Cycles	500 minimum
Recommended Coupling Nut Torque	7 to 10 lb-in
Unit Weight	0.2kg/pc \ 0.44lb

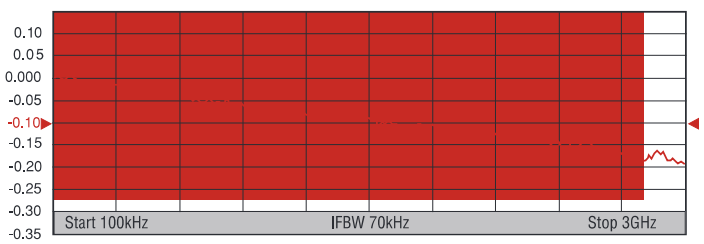
Material Specifications

Component	Material	Plating
Body	Brass	White Bronze
Inner Conductor Male	Brass	Silver
Inner Conductor	Phosphor Bronze	Silver
Washer	Brass	White Bronze
Coupling Nut	Brass	White Bronze
Insulator	TPX	--
O-Ring	Silicone Rubber	--

S11 **TYPICAL RETURN LOSS** (dB)



S21 **TYPICAL INSERTION LOSS** (dB)



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CriticalPoint™ Version 3 / Next Generation Public Safety Solution

Public Safety 700/800MHz Class A/B 27/33dBm Bi-directional Amplifier and Battery Backup Unit

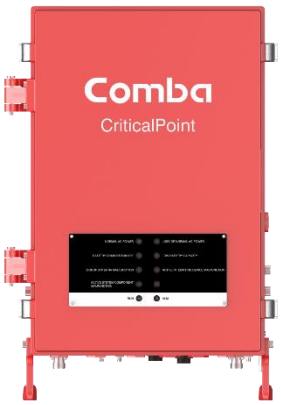
Features

Public Safety Standards Compliance

- Compliance with IFC / NFPA / UL2524
- FCC Class A: PX8RX78V2F-A / Class B: PX8RX78V2F-B
- UL 2524 Standard Certified – SGS Certificate No.: TBD
- ISED (IC): TBD
- UL50E Type 4 / NEMA 4 enclosure for BDA / BBU

Bi-directional Amplifier

- Supports P25 P1/P2, digital and conventional analog communications simultaneously
- Built-in cavity filtering to protect the unit from interference from FirstNet and other neighbor bands
- Up to 64 channels per band on single band models; up to 96 channels shared across bands on dual band models (maximum of 64 on individual band) (Class A)
- Channelized Auto Level Control (ALC) supported (Class A)
- Channelized Downlink and Uplink squelch supported (Class A)
- Uplink PA shutdown during no traffic periods to minimize noise being introduced to the network (Class A)
- Built-in mandatory isolation test to prevent BDA oscillation
- Auto shutdown with alarm upon oscillation detection
- Expandable to 700/800MHz V3/NG fiber system
- Web based GUI for intelligent configuration, SNMP supported
- Integrated Battery Charger Unit, Comba BBU V2 / BBU V3/NG supported
- License based switching between Class A or Class B, Single band or Dual band, 0.5W or 2W configurations
- NFPA / IFC / UL 2524 compliant dry contact alarms, with LED displays
- External Comba Annunciator Panel supported



Battery Backup Unit

- Optional dedicated Battery Backup Solution for BDA V3/NG platform
- Supports Lithium Iron Phosphate (LiFePO4) batteries
- Supports 12 hours backup power with 30AH battery option
- Supports 24 hours backup power with 60AH battery option
- Provides connections for EPO (Emergency Power Off) switch
- Provides AC convenience outlet inside BBU

Specifications - BDA

BDA		700MHz	800MHz
Passband (Downlink / Uplink)	MHz	Configuration S0 – 700MHz: 758-775 / 788 – 805, 800MHz: 851-861 / 806-816 Configuration S1 – 700MHz: 769-775 / 799 – 805, 800MHz: 851-851 / 806-816 Configuration C0 – 700MHz: 768-776 / 798 – 806, 800MHz: 851-869 / 806-824	
Total Output Power, Uplink	dBm	27	
Total Output Power, Downlink	dBm	27 / 33	27 / 33
Maximum System Gain (Uplink / Downlink)	dB	90	90
Gain Adjustment Range (1dB step) *	dB	60-90 / 35-65 / 10-40 (Under different gain limit modes)	60-90 / 35-65 / 10-40 (Under different gain limit modes)
Pass Band Ripple, p-p (Uplink / Downlink)	dB	S0: ≤3, S1: ≤7	S0: ≤3, S1: ≤7
Uplink Noise Figure	dB	<5 (90dB Uplink Gain), <9 (67dB Uplink Gain)	
Intermodulation	dBm	≤ -13	≤ -13
Spurious	dBm	FCC Compliance	FCC Compliance
Maximum RF Input Level without Damage	dBm	0	0
Maximum RF Input Level without Overdrive	dBm	-10	-10
Input VSWR		≤ 2	≤ 2
Impedance	Ω	50	50

Class A / Class B Specialized Filtering			
Number of Filters Downlink			64 per band
Number of Filter Uplink			96 Shared between 700/800MHz
Filter Bandwidth		KHz	12.5/25/75 (Class A) 75/100/150 (Class B Specialized Filtering) Additional 10MHz (LTE) for FirstNet
Filter	Bandwidth (kHz)	Delay(μs)	Out-of-Band Suppression
High rejection Filter Set	12.5	≤48	≥ 60dBc @ filter edge + 30KHz
	25	≤30	≥ 60dBc @ filter edge + 50KHz
	75	≤18	≥ 60dBc @ filter edge + 130KHz
	75 LD	≤15	≥ 60dBc @ filter edge + 200KHz
Low Delay Filter Set	12.5	≤30	≥ 60dBc @ filter edge + 65KHz
	25	≤27	≥ 60dBc @ filter edge + 75KHz
	37.5	≤26	≥ 60dBc @ filter edge + 75KHz
	50	≤26	≥ 60dBc @ filter edge + 100KHz
	75	≤15	≥ 60dBc @ filter edge + 200KHz
	100	≤14	≥ 60dBc @ filter edge + 200KHz
	150	≤13	≥ 60dBc @ filter edge + 205KHz

*Actual delay number is various according to version

Class B Wide Band		
Filter Bandwidth	MHz	0.6-10
Number of Filters		3
System Group Delay	μsec	≤ 14
Out-of-Band Suppression	dBc	≥ 60 @ filter edge + 1MHz

Mechanical - BDA

BDA				
Dimensions, H x W x D		mm / in	330 x 490 x 199 / 13.0 x 19.3 x 7.8	
Weight (without bracket)		kg / lbs	25 / 55.1	
Power Supply Input		VAC	100-240V / 50-60Hz / 0-4.5A	
Power Supply Output		VDC	40-60V (Typical: 53.5V) / 0-7.5A	
Maximum Charging Current		A	5	
Power Consumption		W	27 dBm	33 dBm
	Single Band		<75	<90
	Dual Band		<85	<100
Enclosure Cooling			Convection	
RF Connectors * 2			N-Female (MT, DT), SMA-Female (FOU DL, FOU UL)	
Test Port * 2			SMA-Female (DT-Test, MT-Test)	
LED * 10			Dry Contact Alarm LED 1 - 8, ALM/RUN	
Communication port *2			RJ45 (LAN, OMT)	
Reserved knock outs			3/4-inch hole x 1, 1/2-inch hole x 3, 1-inch hole x2	
Operating Temperature		°C	-40 to +55	
Operating Humidity			≤ 95%	
Environmental Class			UL50E Type 4 / NEMA 4	
MTBF		Hr	100,000	

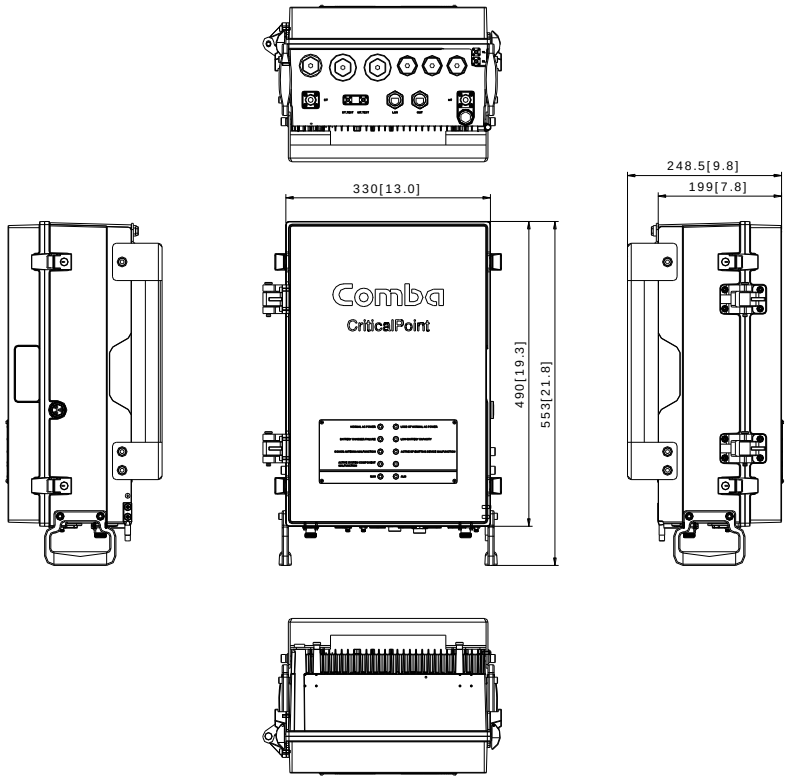
Battery Backup Unit

BBU				
Dimensions, H x W x D		mm / in	605 x 500 x 272.9 / 23.8 x 19.7 x 10.7	
Weight (without battery)		Kg / lbs	26 / 57.3	
LiFePO4 Output		VDC	Per Battery	
LiFePO4 Battery Communication Port			Serial port (RS485)	
Knockouts			3/4-inch hole x 4, 1/2-inch hole x 6	
Operating Temperature		°F (°C)	32 to 104 (0 to 40)	
Operating Humidity			≤ 95%	
Enclosure Environmental Class			UL50E Type 4 / NEMA 4	

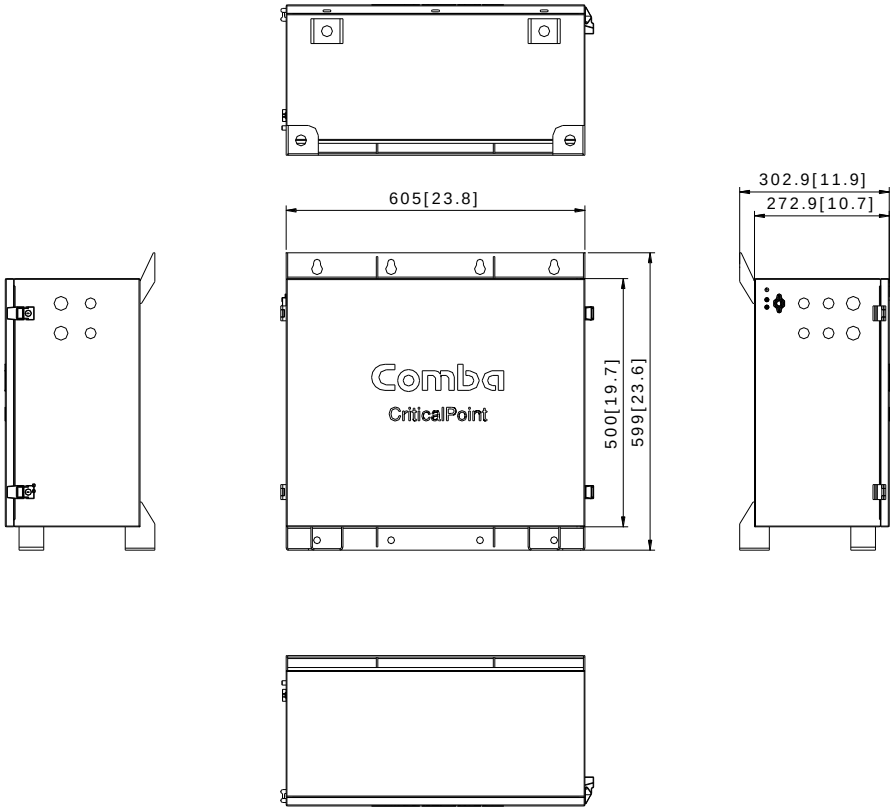
Battery				
Battery Type		(Lithium Iron Phosphate) LiFePO4		
System Required Quantity	pcs	1	1	1
Amp/Hour (Discharge at XC)		30AH	60AH	100AH
Nominal Voltage		51.2V	51.2V	51.2V
Battery Weight	lb(kg)	52.9 (24)	79.8 (36.2)	123.5 (56)
Battery Electrolyte Counts		0.456 Gallons / 4.6 lbs	0.913 Gallons / 9.1 lbs	1.758 Gallons / 17.6 lbs

Note: Gain adjusts down to 10dB total gain but is no longer FCC compliant for NF at that level
Note: Typical specifications at room temperature

Outline Drawing



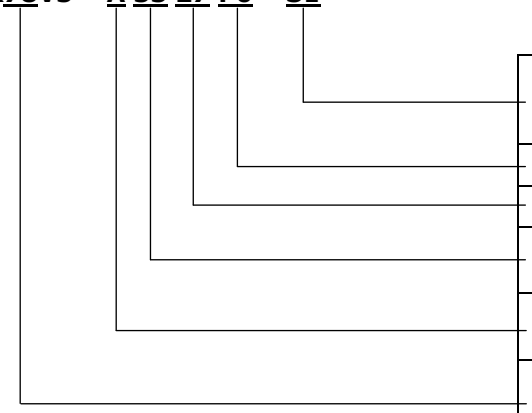
BDA V3 NG



BBU V3 NG

Part Numbers

RX78V3 – A 33 27 P0 – S1



BDA Band Configuration	S0 = 700MHz NB, 800MHz NB, FirstNet, ESMR S1 = 700MHz NB, 800MHz NB, High Rejection Duplexers C0 = Canada Version
BDA Power Supply	P0 = AC input with internal Charger
BDA UL Power	27 = 27dBm
BDA DL Power	33 = 33dBm 27 = 27dBm
BDA Class	A = Class A B = Class B
BDA Authorized Band	07 = 700MHz single band 08 = 800MHz single band 78 = 700MHz and 800MHz dual band

BDA Part Numbers	Band	Class	DL PWR	Duplexer Configuration
RX78V3-A3327P0-XX	700/800MHz	Class A	33dBm	XX=S1/S0/C0
RX07V3-A3327P0-XX	700MHz	Class A	33dBm	XX=S1/S0/C0
RX08V3-A3327P0-XX	800MHz	Class A	33dBm	XX=S1/S0/C0
RX78V3-A2727P0-XX	700/800MHz	Class A	27dBm	XX=S1/S0/C0
RX07V3-A2727P0-XX	700MHz	Class A	27dBm	XX=S1/S0/C0
RX08V3-A2727P0-XX	800MHz	Class A	27dBm	XX=S1/S0/C0
RX78V3-B3327P0-XX	700/800MHz	Class B	33dBm	XX=S1/S0/C0
RX07V3-B3327P0-XX	700MHz	Class B	33dBm	XX=S1/S0/C0
RX08V3-B3327P0-XX	700MHz	Class B	33dBm	XX=S1/S0/C0
RX78V3-B2727P0-XX	700/800MHz	Class B	27dBm	XX=S1/S0/C0

BBU Part Numbers	Battery Type	Capacity	Backup Hours
BBUV3-LFP48030	Lithium iron phosphate	30AH	>12H for 110W
BBUV3-LFP48060	Lithium iron phosphate	60AH	>24H for 110W, 12H for 220W
BBUV3-LFP48100	Lithium iron phosphate	100AH	>48H for 110W, 24H for 220W

License Part Numbers	Configuration	
RX78V3-L-2733AASS	27dBm to 33dBm upgrade license	27dBm to 33dBm upgrade license, for Single Band, Class A units
RX78V3-L-2733AADD		27dBm to 33dBm upgrade license, for Dual Band, Class A units
RX78V3-L-2733BBSS		27dBm to 33dBm upgrade license, for Single Band, Class B units
RX78V3-L-2733BBDD		27dBm to 33dBm upgrade license, for Dual Band, Class B units
RX78V3-L-3333AASD	Single Band to Dual Band upgrade license	Single band to Dual Band upgrade license, for 33dBm, Class A units
RX78V3-L-3333BBSD		Single band to Dual Band upgrade license, for 33dBm, Class B units
RX78V3-L-2727AASD		Single band to Dual Band upgrade license, for 27dBm, Class A units
Not Available		Single band to Dual Band upgrade license, for 27dBm, Class B units
RX78V3-L-3333BASS	Class B to Class A upgrade license	Class B to Class A upgrade license, for 33dBm, Single Band units
RX78V3-L-3333BADD		Class B to Class A upgrade license, for 33dBm, Dual Band units
RX78V3-L-2727BASS		Class B to Class A upgrade license, for 27dBm, Single Band units
RX78V3-L-2727BADD		Class B to Class A upgrade license, for 27dBm, Dual Band units

Wideband Tapper

CO-ExxNI

Low PIM (-161dBc), 138-960MHz, N-Female

- Wideband design covering 138-960MHz
  - Public Safety Band (VHF, UHF, 700/800)
- Available in 5, 7, 10, 13, 15 & 20dB values
- Suitable for indoor/outdoor environment
- High reliability and low insertion loss

Electrical Specification

Product Model	CO-E05NI	CO-E07NI	CO-E10NI	CO-E13NI	CO-E15NI	CO-E20NI
Frequency (MHz)	138-960					
Coupling Coefficient (dB)	5.0	7.0	10.0	13.0	15.0	20.0
Coupling Tolerance (dB)						
@138-200MHz	-6.3 ± 0.7	-8.1 ± 0.7	-10.7 ± 0.6	-13.3 ± 0.6	-15.5 ± 0.6	-20.2 ± 0.6
@200-250MHz	-5.7 ± 0.5	-7.5 ± 0.5	-10.2 ± 0.5	-12.8 ± 0.5	-15.3 ± 0.5	-20.2 ± 0.6
@250-380MHz	-5.4 ± 0.5	-7.2 ± 0.5	-10.0 ± 0.5	-12.7 ± 0.5	-15.0 ± 0.5	-20.0 ± 0.5
@380-520MHz	-5.0 ± 0.5	-6.9 ± 0.5	-10.0 ± 0.5	-12.7 ± 0.5	-15.0 ± 0.5	-20.0 ± 0.5
@520-617MHz	-4.8± 0.5	-6.8± 0.5	-10.0 ± 0.5	-12.7 ± 0.5	-15.0 ± 0.5	-20.0 ± 0.5
@617-960MHz	-4.6 ± 0.5	-6.6 ± 0.5	-10.0 ± 0.5	-12.7 ± 0.5	-15.0 ± 0.5	-20.0 ± 0.5
Coupled Loss (dB). Typical (dB)						
@138-250MHz	1.4	0.8	0.4	0.2	0.2	0.1
@250-520MHz	1.7	1.1	0.5	0.3	0.2	0.1
@520-617MHz	1.8	1.2	0.5	0.3	0.2	0.1
@617-960MHz	2.0	1.3	0.6	0.4	0.2	0.2
VSWR @ input port	≤ 1.4	≤ 1.3	≤ 1.25	≤ 1.2	≤ 1.15	≤ 1.15
PIM (dBc)	≤-161 @ 2 x 43dBm					
Average Power, max (W)	300					
Peak Power, max (W)	3000					
Impedance (ohm)	50					

Mechanical Specification

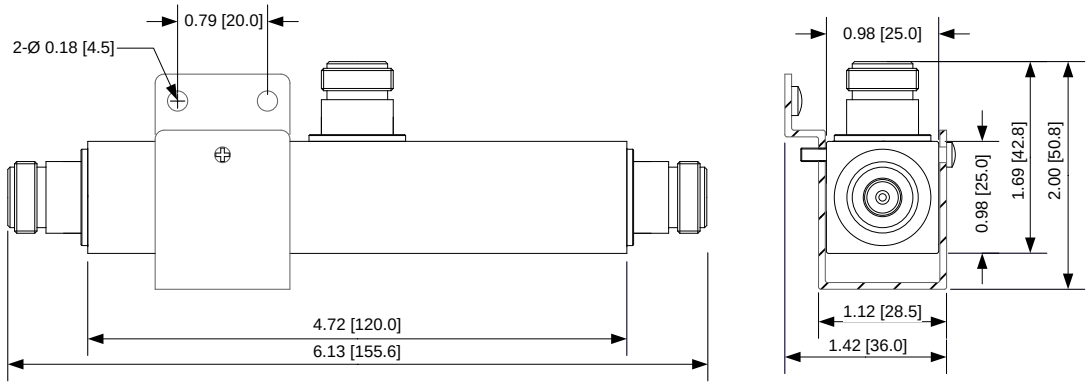
Dimension (in/mm)	4.72x0.98x0.98 / 120.0x25.0x25.0
Weight (lb./kg)	0.55 / 0.25
Shipping Dimension(in/mm)	6.89x3.46x1.50/ 175.0x88.0x38.0
Shipping Weight(lb./kg)	0.73 / 0.33
Connector	N-Female

Environment & Compliance

Application	Indoor / Outdoor
Operating Temperature	-35°C to +85°C
Environment	IP65
Relative Humidity	Up to 95%
RoHS	Compliant

Outline Drawing

Unit: inches [mm]



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Wideband Power Splitter

PS-E2-ON50M(XH)/PS-E3-ON50M(XH)/PS-E4-ON50M(XH)

2/3/4Way, Low PIM(-153dBc), 138-960MHz, N Female, 50W

- Wilkinson power splitter for Public Safety Band
- Wideband design covering 138-960MHz, Public Safety Band (VHF, UHF & 700/800HMz)
- Suitable for indoor/outdoor environment
- High reliability and low insertion loss

Electrical Specification

Product Model	PS-E2-ON50M(XH)	PS-E3-ON50M(XH)	PS-E4-ON50M(XH)
	2-Way	3-Way	4-Way
Frequency (MHz)		138-960	
Split Loss (dB)	3.0	4.8	6.0
Insertion Loss (dB)	≤ 0.5	≤ 0.8	≤ 0.7
Isolation (dB)	≥ 20	≥ 18	≥ 20
VSWR @ all ports	≤ 1.2	≤ 1.25	≤ 1.25
PIM (dBc) @550-960MHz		≤ -153 @ 2 x 43dBm	
Average Power, max (W)		50	
Impedance (ohm)		50	

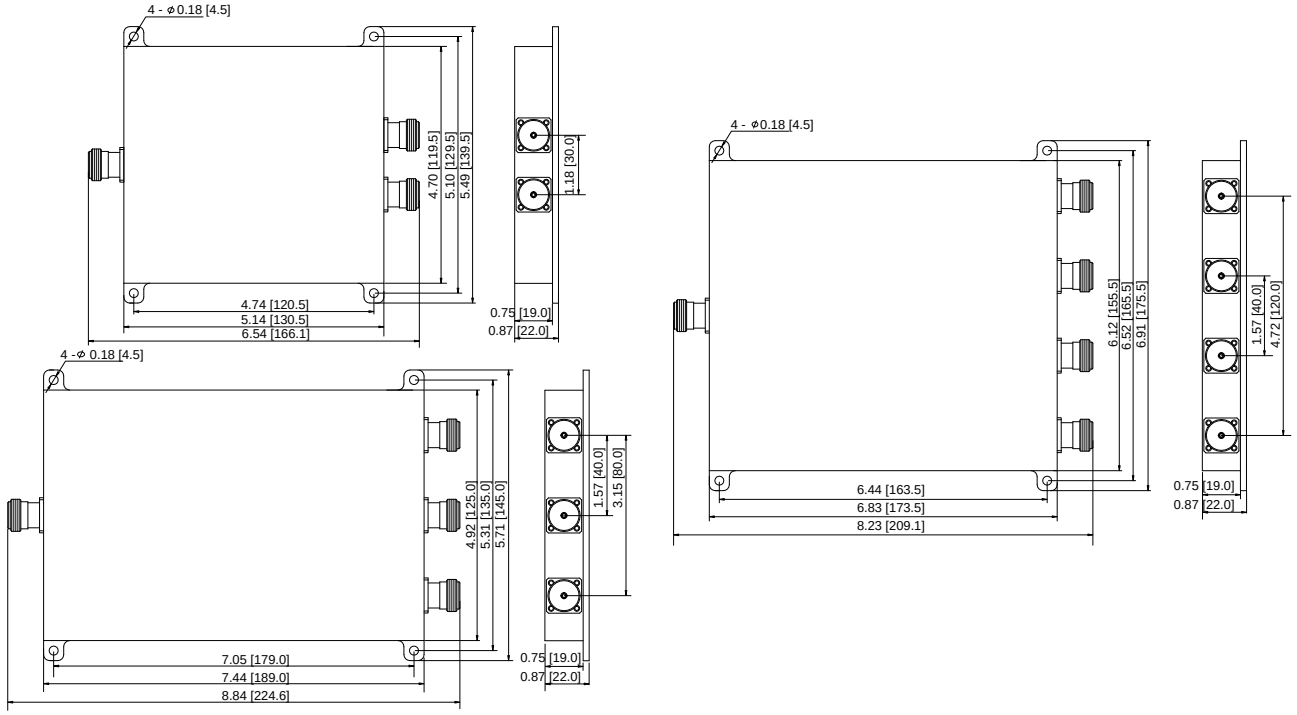
Mechanical Specification

Dimension (in/mm)	5.49x6.54x0.87 / 139.5x166.1x22.0	5.71x8.84x0.87 / 145.0x224.6x22.0	6.91x8.23x0.87 / 175.5x209.1x22.0
Weight (lb/kg)	1.28 /0.63	2.02 / 0.91	2.30 / 1.04
Connector Type	N Female	N Female	N Female

Environment & Compliance

Application	Indoor / Outdoor	**Operating Temperature**	-25°C to +85°C
Environment	IP65	**Relative Humidity**	Up to 100%
RoHS	Compliant		

Outline Drawing



Comba Telecom Inc. 235 Charcot Avenue, San Jose, CA 95131. http://www.combausa.com/
Tel: +1 866 802 7961, combausa@comba-telecom.com, Fax: +1 408 526 0181

Shop Drawings

PowerCom, Inc.
Tel: (425) 489-8549
22122 20th Ave SE #152
Bothell, WA 98021
Fax: (425) 487-1035

Systems information legend
Pierce County & Puyallup System / 700 MHz - P25 / 1 Sectors
Puyallup System / 800 MHz - SMR - P25 / 1 Sectors

Calculations legend
Pierce County & Puyallup System - 700 MHz - P25
Power/Channel [dBm]
Puyallup System - 800 MHz - SMR - P25
Power/Channel [dBm]

Cables legend
JS-NMNM3F-R141
LDF4-50A
WCW-ICA12-50JPLLR

Roof

OY-MN-V11P

Building Ground

Pierce County & Puyallup System
700 MHz
P25
Sector N/A
Nb. of ch.:17
BTSOut:40.00 [dBm]
EIRP:40.00 [dBm]
Distance:0.50 [mi]
FSL:-88.35 [dB]

Puyallup System
800 MHz - SMR
P25
Sector N/A
Nb. of ch.:2
BTSOut:40.00 [dBm]
EIRP:40.00 [dBm]
Distance:0.50 [mi]
FSL:-89.19 [dB]

Donor antenna azimuth:
Puyallup EOC - 178deg - 0.5miles

307.31 ft
CBL52_Roof

LP-GTR-NFF

42.22 ft
CBL3_L2

L2

ANT12_L2 -10.78 -11.35
59.24 ft CBL28_L2
SPT10_L2 PS-E2-ON50M(XH)
ANT13_L2 -11.70 -12.35
45.61 ft CBL20_L2
SPT12_L2 PS-E2-ON50M(XH)
26.43 ft CBL6_L2
ANT15_L2 -10.08 -10.81
ANT2_L2 -9.66 -10.36
35.65 ft CBL31_L2
SPT15_L2 PS-E2-ON50M(XH)
68.89 ft CBL18_L2
ANT16_L2 -11.01 -11.86
ANT1_L2 -11.75 -12.65
45.26 ft CBL42_L2
SPT11_L2 CO-E07NI
47.21 ft CBL13_L2
SPT13_L2 CO-E05NI
SPT14_L2 PS-E3-ON50M(XH)
58.17 ft CBL49_L2
ANT14_L2 -10.41 -11.23
55.96 ft CBL46_L2
ANT17_L2 -10.36 -11.17
ANT19_L2 -9.52 -10.25
66.98 ft CBL37_L2
ANT9_L2 -9.47 -10.16
ANT10_L2 -10.62 -11.42
70.16 ft CBL44_L2
SPT8_L2 PS-E3-ON50M(XH)
93.79 ft CBL43_L2
ANT3_L2 -11.15 -11.98
ANT18_L2 -11.60 -12.39
ANT8_L2 -10.85 -11.79
SPT5_L2 CO-E05NI
101.81 ft CBL41_L2
ANT4_L2 -11.47 -12.06
48.94 ft CBL12_L2
SPT6_L2 CO-E20NI
31.58 ft CBL21_L2
SPT9_L2 CO-E15NI
SPT16_L2 CO-E05NI
89.34 ft CBL40_L2
SPT7_L2 CO-E07NI
64.45 ft CBL47_L2
SPT4_L2 CO-E07NI
18.10 ft CBL39_L2
SPT3_L2 CO-E10NI
ANT7_L2 -12.21 -13.09
41.36 ft CBL24_L2
51.39 ft CBL8_L2
ANT11_L2 -10.89 -11.85
47.51 ft CBL48_L2
SPT2_L2 CO-E07NI
31.74 ft CBL15_L2
ANT5_L2 -10.13 -11.16
62.47 ft CBL38_L2
SPT1_L2 PS-E2-ON50M(XH)
22.00 ft CBL45_L2
ANT6_L2 -9.23 -10.20

L1

ANT12_L1 -10.40 -10.92
59.24 ft CBL23_L1
SPT10_L1 PS-E2-ON50M(XH)
ANT13_L1 -11.32 -11.92
45.61 ft CBL27_L1
SPT14_L1 PS-E2-ON50M(XH)
26.43 ft CBL29_L1
ANT15_L1 -9.70 -10.38
ANT2_L1 -9.27 -9.93
35.65 ft CBL35_L1
SPT15_L1 PS-E2-ON50M(XH)
68.89 ft CBL36_L1
ANT16_L1 -10.63 -11.43
ANT1_L1 -11.37 -12.22
45.26 ft CBL34_L1
SPT13_L1 CO-E07NI
47.21 ft CBL30_L1
SPT11_L1 CO-E05NI
SPT12_L1 PS-E3-ON50M(XH)
58.17 ft CBL32_L1
ANT14_L1 -10.03 -10.79
55.96 ft CBL33_L1
ANT17_L1 -9.98 -10.74
ANT19_L1 -9.13 -9.82
66.98 ft CBL26_L1
ANT9_L1 -9.08 -9.73
ANT10_L1 -10.24 -10.99
70.16 ft CBL17_L1
SPT8_L1 PS-E3-ON50M(XH)
93.79 ft CBL19_L1
ANT3_L1 -10.76 -11.55
ANT18_L1 -11.21 -11.95
ANT8_L1 -10.47 -11.36
SPT5_L1 CO-E05NI
101.81 ft CBL11_L1
ANT4_L1 -11.09 -11.63
48.94 ft CBL25_L1
SPT6_L1 CO-E20NI
31.58 ft CBL16_L1
SPT9_L1 CO-E15NI
SPT17_L1 CO-E05NI
89.34 ft CBL14_L1
SPT7_L1 CO-E07NI
64.45 ft CBL22_L1
SPT4_L1 CO-E07NI
18.10 ft CBL10_L1
SPT3_L1 CO-E10NI
ANT7_L1 -11.83 -12.66
41.36 ft CBL7_L1
51.39 ft CBL9_L1
ANT11_L1 -10.51 -11.42
47.51 ft CBL5_L1
SPT2_L1 CO-E07NI
31.74 ft CBL4_L1
ANT5_L1 -9.75 -10.73
62.47 ft CBL2_L1
SPT1_L1 PS-E2-ON50M(XH)
22.00 ft CBL1_L1
ANT6_L1 -8.85 -9.77

35.22 ft
CBL50_L1

SPT16_L1
PS-E2-ON50M(XH)

Attenuators for commissioning:

Comba CriticalPoint
RX78V3-A3327P0-S1

Building Ground

Comba CriticalPoint
BBUV3-LFP48060

24 Hour BBU

Hardwired dedicated 15AMP 110VAC circuit for BBU

Plywood Backboard

L1 Server A1132
2-hour fire rated room

(if Headend/Remote's location is changed, splitters must be re-evaluated)

DAS Alarms output to building FACP:

1. AC Fail
2. Battery Low
3. Charger Fail
4. Booster Fail
5. Donor Antenna Malfunction

POWERCOM
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Revision history

Rev	Date	Author
rev1.1	12/09/2025	IS

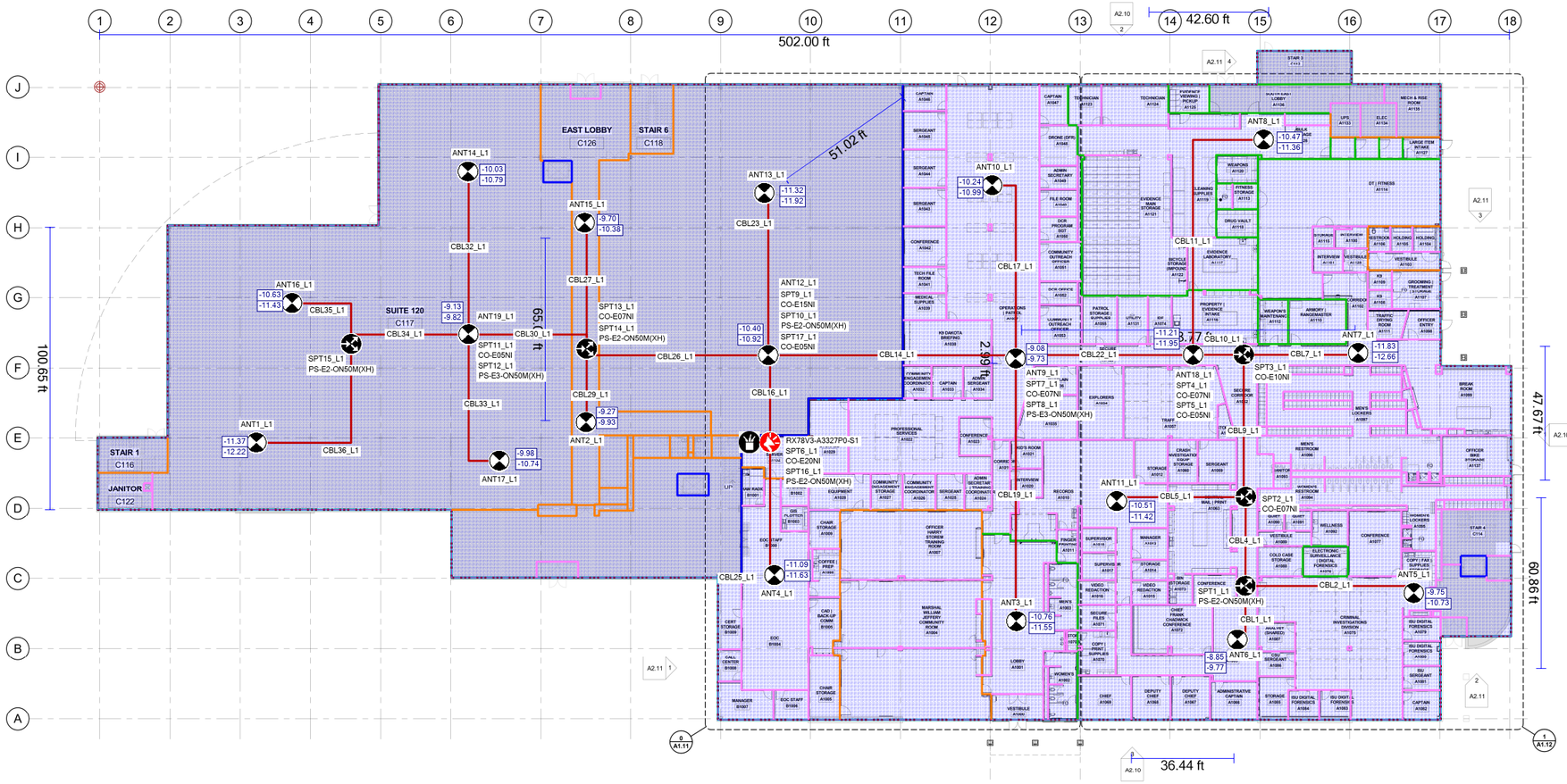
RDA re-located to L1 Server A1132

Project name: Puyallup Police

Designer name: IS

Design plan

3/13/2025



1 / A1.10 OVERALL FIRST FLOOR PLAN
1/16" = 1'-0"

Systems information legend
Pierce County & Puyallup System / 700 MHz - P25 / 1 Sectors
Puyallup System / 800 MHz - SMR - P25 / 1 Sectors

Cables legend
JS-NMNM3F-R141
WCW-ICA12-50JPLLR

Materials legend
Concrete [Heavy]
Concrete [Light]
Concrete [Medium]
Low E Glass
Plaster Board / Drywall [Heavy]
Concrete [Heavy]

Pictograms legend
Antenna
Repeater
Riser
Splitter

Indoor prediction legend

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Puyallup, WA, 98374

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POWERCOM

11049 REGISTERED ARCHITECT
BRETT L. HANSON
STATE OF WASHINGTON

REVISION SCHEDULE

Delta	Issued As	Issue Date

SHEET TITLE:
OVERALL FIRST FLOOR PLAN

SHEET
A1.10

JOB NO. **2170269.07**

Permit/Bid Set 03.04.2025
Autodesk Docs://PPSB Benaroya/26907-PPSB Benaroya-V23-A.rvt 3/3/2025 5:45:06 PM 1/16" = 1'-0"

Revision history

Rev	Date	Author
rev 1.1	12/26/2025	IS

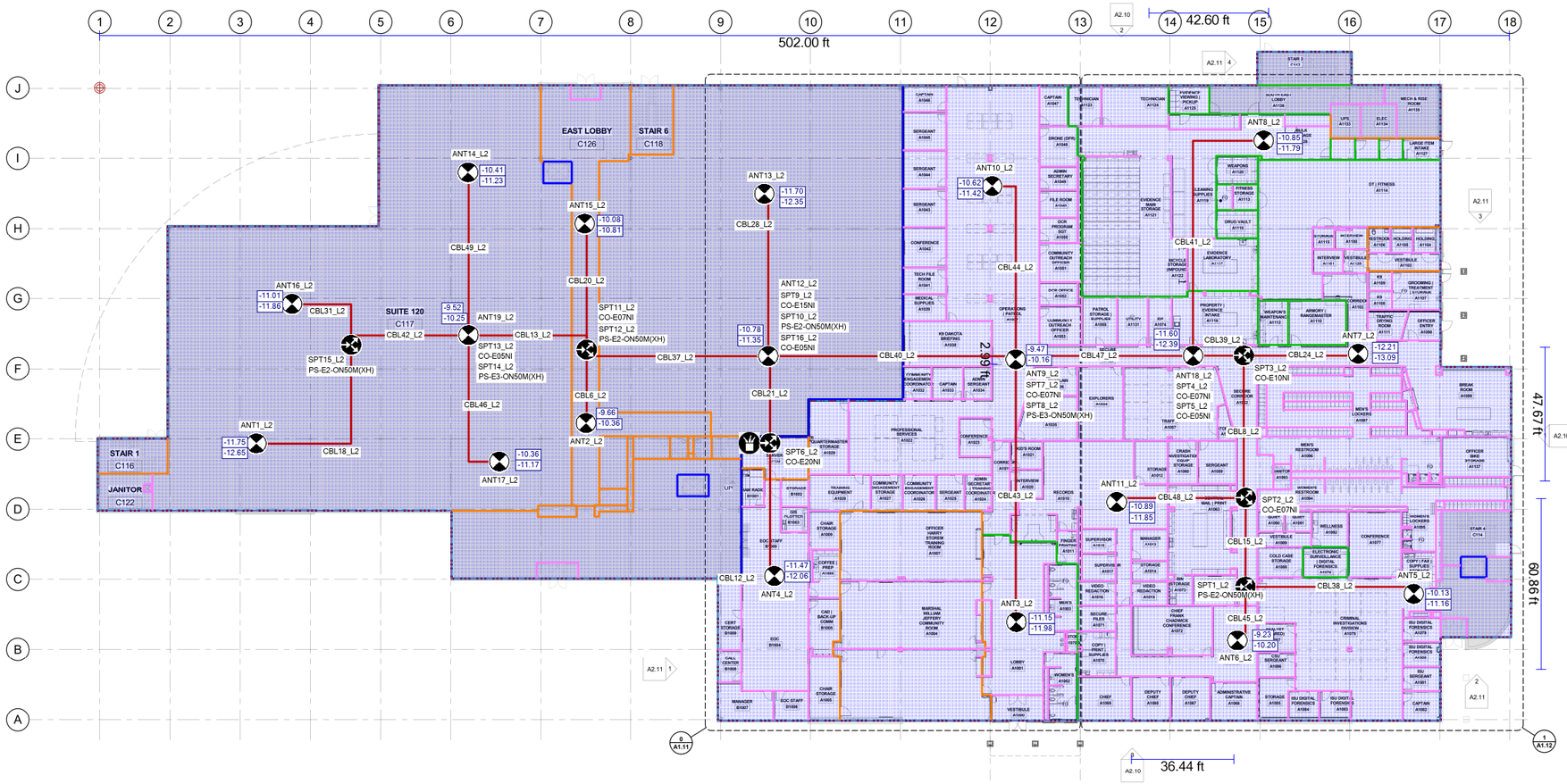
RDA re-located to L1 Server A1132

Project name
Puyallup Police

Designer name
IS

L1

3/13/2025



1 OVERALL FIRST FLOOR PLAN
A1.10 1/16" = 1'-0"

Systems information legend
Pierce County & Puyallup System / 700 MHz - P25 / 1 Sectors
Puyallup System / 800 MHz - SMR - P25 / 1 Sectors

Cables legend
JS-NMNM3F-R141
LDF4-50A
WCW-ICA12-50JPLLR

Materials legend
Concrete [Heavy]
Concrete [Light]
Concrete [Medium]
Low E Glass
Plaster Board / Drywall [Heavy]
Concrete [Heavy]

Pictograms legend
Antenna
Miscellaneous
Riser
Splitter

Indoor prediction legend

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Client

City of Puyallup

Project

Puyallup Public Safety Building
1015 39th Avenue SE,
Puyallup, WA, 98374

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1049 REGISTERED ARCHITECT
BRETT A. HANSON
STATE OF WASHINGTON

REVISION SCHEDULE

Delta	Issued As	Issue Date

SHEET TITLE:
OVERALL FIRST FLOOR PLAN

SHEET
A1.10

JOB NO. **2170269.07**

Permit/Bid Set 03.04.2025
Autodesk Docs://PPSB Benaroya/26907-PPSB Benaroya-V23-A.rvt 3/3/2025 5:45:06 PM 1/16" = 1'-0"

Revision history

Rev	Date	Author
rev1.1	12/29/2025	IS

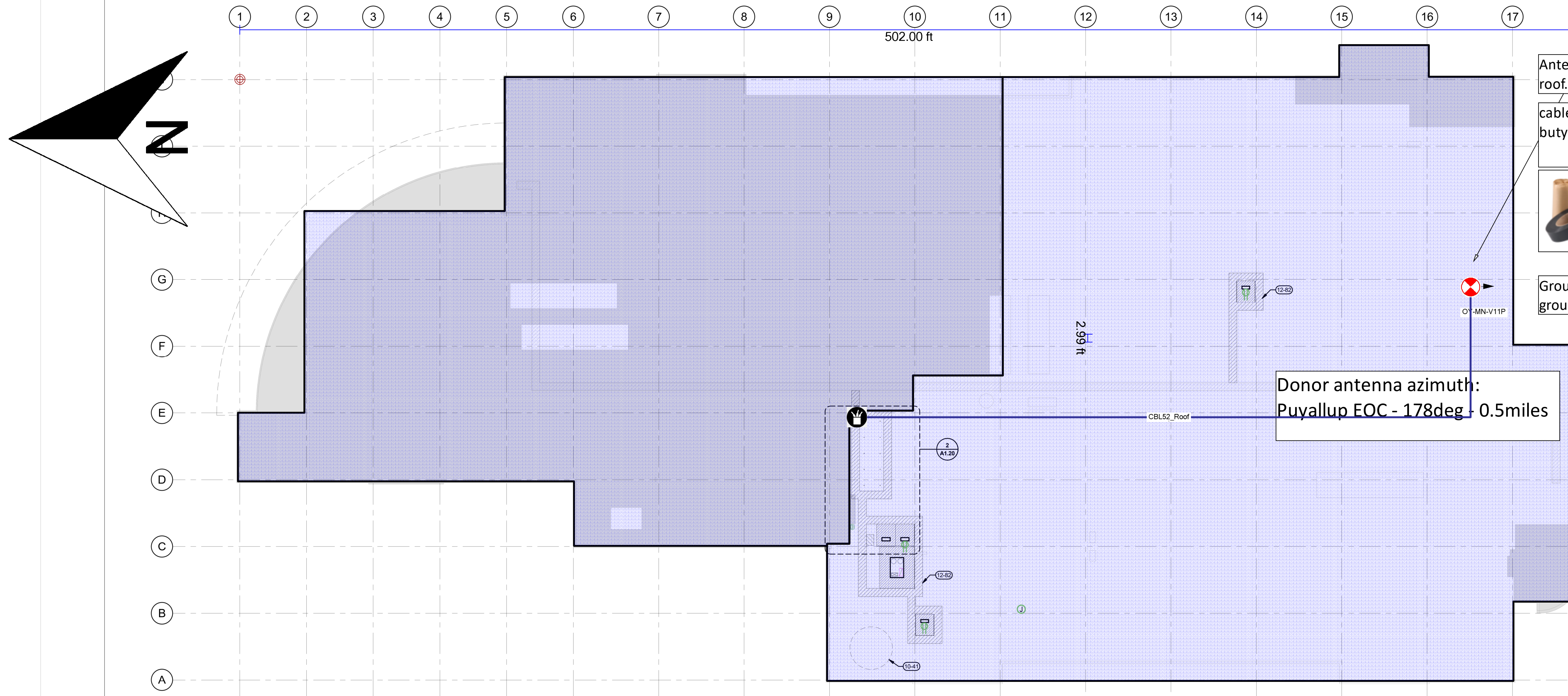
RDA re-located to L1 Server A1132

Project name
Puyallup Police

Designer name
IS

L2

3/13/2025



Antennas to be mounted above any objects on the roof.

cable connections to be weather proofed with butyl rubber and PVC tape during commissioning:

Ground Antenna Mount to existing building ground

Donor antenna azimuth:
Puyallup EOC - 178deg - 0.5miles

1 (A1.20) OVERALL ROOF PLAN
1/16" = 1'-0"

GENERAL NOTES

A. WALKWAY PADS ARE SHOWN SCHEMATICALLY. WALKWAY PADS SHOULD BE PROVIDED AT AREAS SHOWN AND TO INCLUDE ALL EQUIPMENT INSTALLATIONS, DOORWAYS, STAIR/LADDER LANDINGS, AND OTHER AREAS REQUIRING REGULAR MAINTENANCE.

B. CONTRACTOR TO PROVIDE COVERS, ENCLOSURES, AND/OR SEALANTS AT ALL ROOF ...TS, AND CONN... R TO ...ES FOR ADDIT... L CONDUIT PE... TRATIONS ... 03/A5.29 FOR MECHANICAL UNIT CURBS

Systems information legend
Pierce County & Puyallup System / 700 MHz - P25 / 1 Sectors
Puyallup System / 800 MHz - SMR - P25 / 1 Sectors

Cables legend
LDF4-50A

Materials legend
Concrete [Heavy]

LEGEND

NO WORK IN THIS AREA BELOW

EXISTING 18"x18" PRECAST WALKING SURFACE

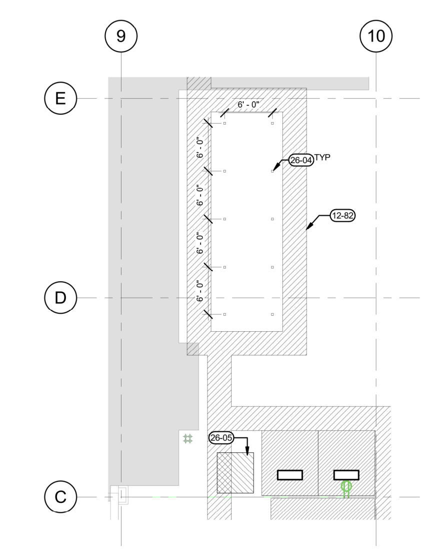
NEW 36" WIDE ROOF WALK PADS

Pictograms legend
Antenna
Riser

Indoor prediction legend

KEYNOTES

10-41	COMMERCIAL GRADE DRONE LAUNCH PAD. GC TO CONFIRM SIZE AND EXACT LOCATION WITH TENANT BEFORE INSTALLATION
12-82	NEW 36" WIDE ROOF WALK PADS. GC TO COORDINATE FINAL LOCATION WITH TENANT BEFORE INSTALLATION
26-04	3" DIAMETER ROOF PENETRATION(S) FOR 6FT TALL ANTENNA MAST POST, TYP. SEE ELECTRICAL AND STRUCTURAL FOR MORE INFORMATION
26-05	DOG HOUSE LOCATION, WILL RUN TO ANTENNA. BASIS OF DESIGN: NEWAVE TOWER COMPONENTS, ROOFTOP CABLE HOOD ENTRY (DOG HOUSE). SEE ELECTRICAL FOR MORE INFORMATION



2 (A1.20) ENLARGED ROOF PLAN
1/8" = 1'-0"

Permit/Bid Set 03.04.2025

Autodesk Docs://PPSB Benaroya/26907-PPSB Benaroya-V23-A.rvt 3/3/2025 8:57:33 AM As indicated

M.
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City of Puyallup

Project
Puyallup Public Safety Building
1015 39th Avenue SE,
Puyallup, WA, 98374

REGISTERED ARCHITECT
11049
BRETT L. HANSON
STATE OF WASHINGTON

REVISION SCHEDULE		
Delta	Issued As	Issue Date

SHEET TITLE:
OVERALL ROOF PLAN

SHEET
A1.20

JOB NO. **2170269.07**

POWERCOM
22122 20th Ave. SE
Suite 152
Bothell, WA 98021
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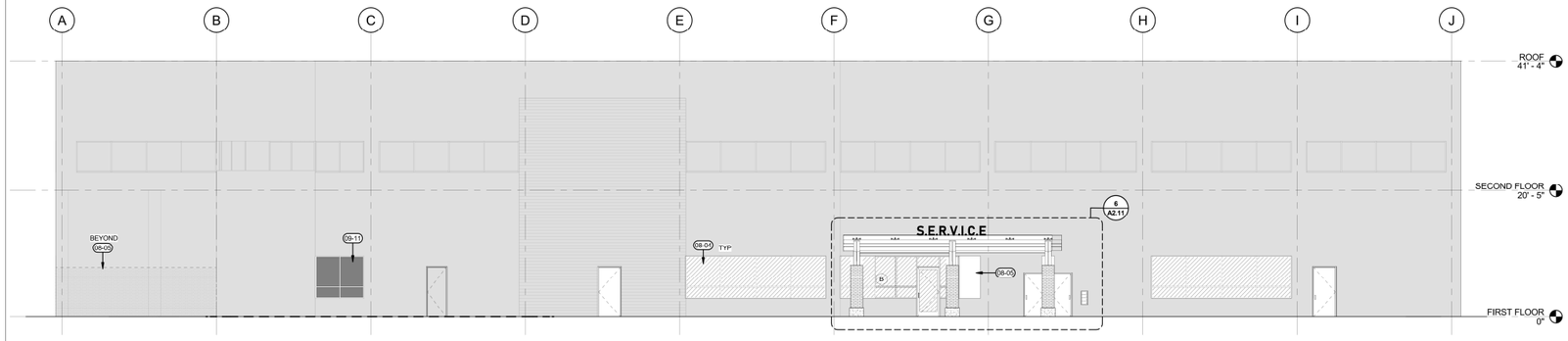
Revision history		
Rev	Date	Author
rev1.1	12/29/2025	IS
BDA re-located to L1 Server A1132		

Project name
Puyallup Police

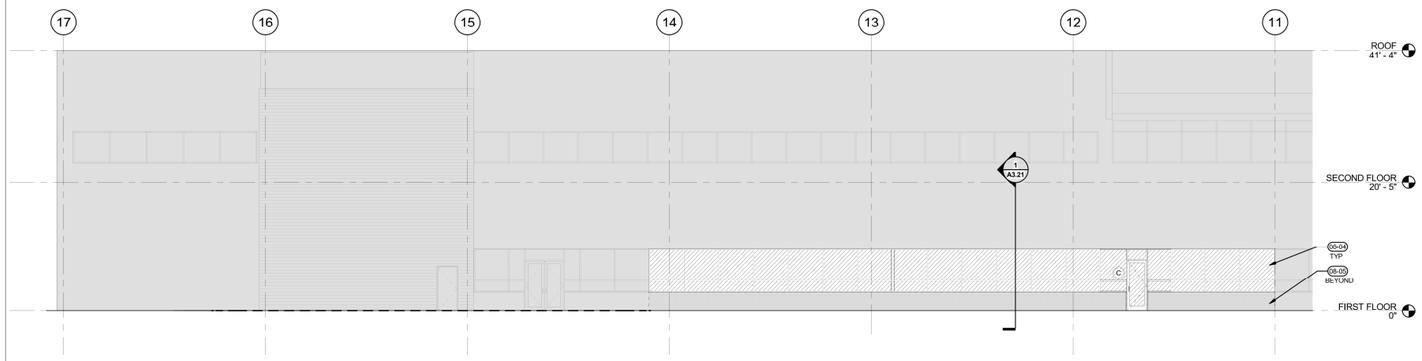
Designer name
IS

Roof

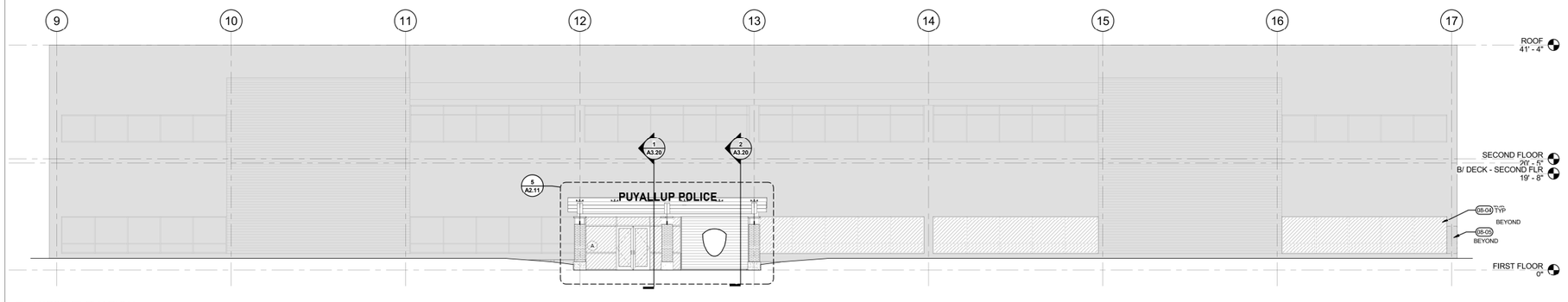
3/13/2025



1 A2.10 SOUTH ELEVATION
1/8" = 1'-0"



2 A2.10 EAST ELEVATION
1/8" = 1'-0"



3 A2.10 WEST ELEVATION
1/8" = 1'-0"

GENERAL NOTES

A. CONTRACTOR SHALL VERIFY AND CONFIRM DIMENSIONS AND LAYOUT INFORMATION. NOTIFY ARCHITECT OF ANY CONFLICTS OR DISCREPANCIES PRIOR TO CONSTRUCTION. DO NOT SCALE DRAWINGS.
B. REFER TO A6.10 FOR EXTERIOR WINDOW SCHEDULE.

LEGEND

- EXISTING TO REMAIN
- S-1, STUCCO, PAINTED — COLOR: TBD
- SV-1, STONE VENEER COLUMN WRAP TYP. — PRODUCT: ELDORADO STONE, STYLE: RUSTIC LEDGE, CASCADE
- WP-1, WOOD PLANK RAIN SCREEN — MATERIAL: WALNUT WOOD
- C-1, INTEGRAL COLOR CONCRETE — COLOR: SAN DIEGO BUFF 5237
- LEVEL 2 BALLISTIC INSULATED GLASS
- LEVEL 2 BALLISTIC PANELING (INTERIOR SIDE OF WALL)
- (X) WINDOW TAG - SEE EXTERIOR WINDOW SCHEDULE ON A6.10

KEYNOTES

08-04	PROVIDE AND INSTALL LEVEL-2 RATED BALLISTIC GLAZED FILM SYSTEM TO INBOARD LITE AT WINDOW ASSEMBLY, TYP. REFER TO EXTERIOR ELEVATIONS FOR LOCATIONS. BOD: SAFEHAVEN GLAZED FILM. PROVIDE LEVEL-2 RATED BALLISTIC GLAZING AT EXTERIOR DOORS AND DOOR LITES INDICATED, TYP.
08-05	ALTERNATE 1 - PROVIDE BALLISTIC RATED CURTAINWALL ASSEMBLY IN ENTIRETY WHERE LEVEL-2 RATED GLAZING IS INDICATED PER EXTERIOR ELEVATIONS, TYP. SELECTIVELY DEMOLISH EXISTING WINDOW ASSEMBLY AND REPLACE WITH ALUMINUM CURTAIN-WALL ASSEMBLY AT GROUND LEVEL WINDOWS INDICATED.
00-11	FROSTED WINDOW PRIVACY FILM (WF1) - LOCATE AT INTERIOR SIDE

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Project
City of Puyallup

Puyallup Public Safety Building
1015 39th Avenue SE, Puyallup, WA, 98374

REVISION SCHEDULE

Delta	Issued As	Issue Date

SHEET TITLE
EXTERIOR BUILDING ELEVATIONS

SHEET
A2.10

JOB NO. **2170269.07**

Permit/Bid Set 03.04.2025
Autodesk Docs://PPSB Benaroya/26907-PPSB Benaroya-V23-A.rvt 2/27/2025 4:17:29 PM As indicated

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Revision history

Rev	Date	Author
rev1.1	12/29/2025	IS

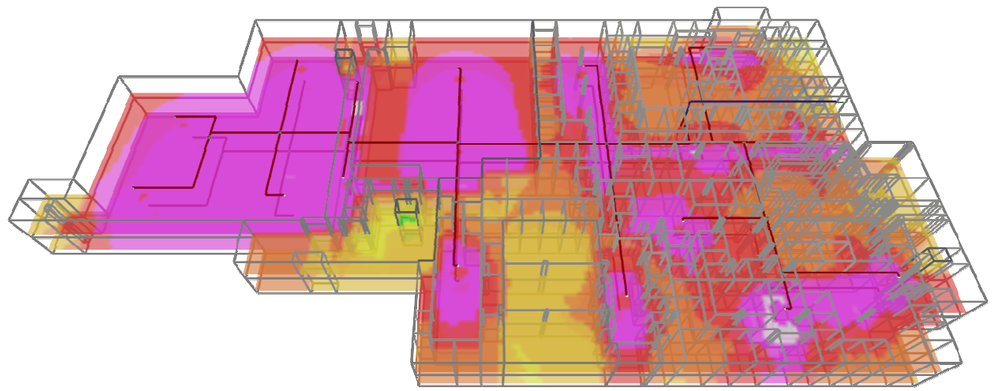
RDA re-located to L1 Server A1132

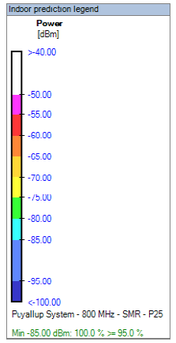
Project name
Puyallup Police

Designer name
IS

Elevation

3/13/2025





Project Name: Puyallup Police

Project Name: Puyallup Police

POWERCOM

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Revision history

Rev	Date	Author
rev1.1	12/29/2025	IS

RDA re-located to L1 Server A1132

Project name

Puyallup Police

Designer name

IS

3D

3/13/2025

Installation notes

When installing Passive DAS Components, keep in your mind following factors:

1. Troubleshooting.
   Splitters, antennas to be placed in easy to access obvious locations. If possible all splitters must be installed in riser rooms at 4-5 ft AFF.

2. Link Budget.
   Use as less/shorter jumpers and shorter cable runs if possbile.

3. Existing Infrustructure (to be discussed with general contractor/building owner).
   Use existing infrastructure: cable trays, wall penetrations, riser rooms etc.

4. In-buiding Antennas.
   Shall be placed in a middle of hallways.
   Maintain at least 5ft from any RF emmitting devices (wifi hot spots, antennas, etc.).
   Antenna can be moved within 5 ft from desinged location.
   If antenna location in a design is not optimal for installation, report designer suggested antenna location to change DAS model (to re-evaluate splitters, add more antennas, etc). When proposed antennas location is approved or design is changed - proceed installation.
   Antenna shall not cover any signs, fire sprinklers, etc.
   Antenna shall not be blocked by obstacles (HVAC, cabinets, metal mesh, etc).

5. Donor Antenna.
   Donor Antenna must have clear sight of view to Donor Radio Tower.
   To be mounted above any objects on the roof.
   Mount Antenna close to the edge of the roof and/or away from indoor antennas if possible to maintain best isolation.
   Don't weather-proof Bias-T and cable connections. To be done during commissioning.
   Ground Antenna Mount to existing building ground.
   Leave 30-50ft. coil of outdoor cable in case Donor antenna must be re-located.

6.Cables
   Shall be supported every 4 ft.

7. Splitters
   Shall be supported

8. Lables
   All components shall be labled - antennas, splitters, cables, active equipment.

Testing Requirements

to be provided before commissioning starts.

1. Cable Return Loss.
   -all terminated cables
   - Frequency span: 700-2200MHz
   - Limit: -20dB

2. Donor cable with attached donor antenna.
   - Frequency span: 700-2200MHz
   - Limit: -14dB

3. System Return Loss:
   - Completed DAS(with attached antennas) to be tested from Headend
   - Frequency span: 700-2200MHz
   - Limit: -14dB

POWERCOM

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Revision history

Rev	Date	Author
rev1.1	12/29/2025	IS

RDA re-located to L1 Server A1132

Project name

Puyallup Police

Designer name

IS

Installation Notes

3/13/2025

POWERCOM

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Revision history		
Rev	Date	Author
rev1.1	12/29/2025	IS
RDA re-located to L1 Server A1132		

Project name

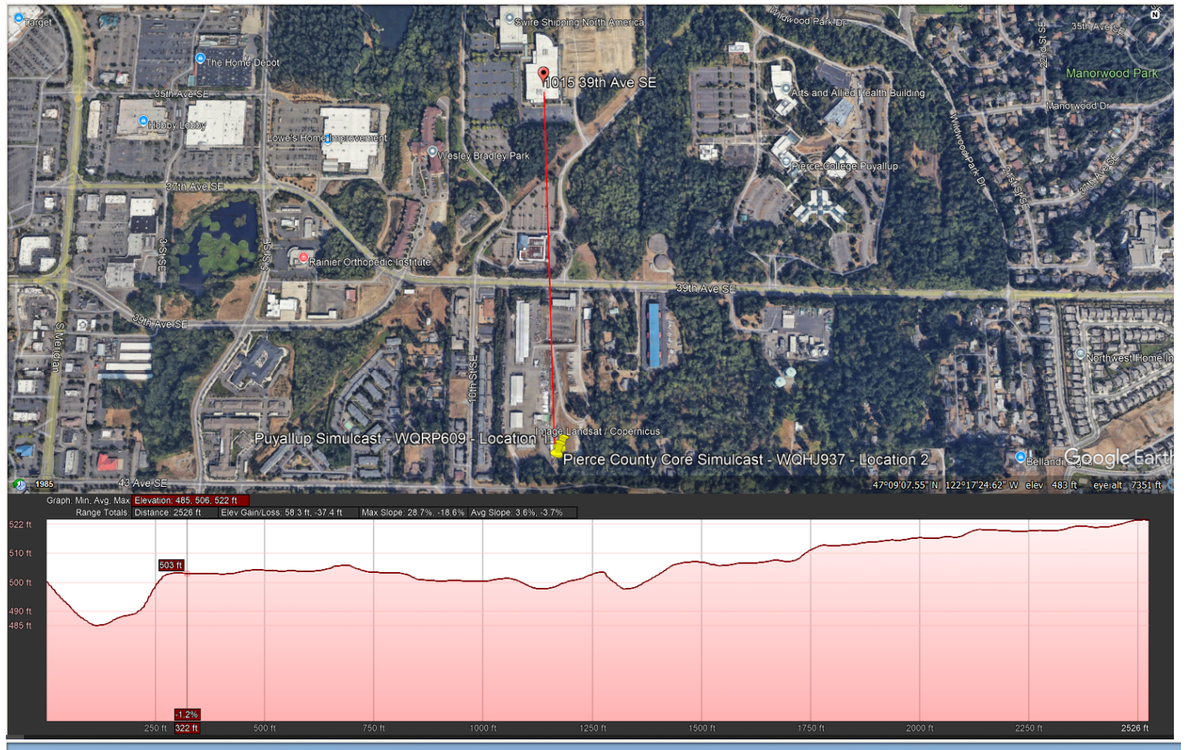
Puyallup Police

Designer name

IS

outside

3/13/2025



Puyallup System Area

Channel Name	Description	Receive Freq	Transmit Freq	Type
03AC 5 PUY CH01	7.x Trunking System Channel	808.6250 CC	853.6250 CC	TDMA
03AC 5 PUY CH02	7.x Trunking System Channel	808.4000	853.4000 CC	TDMA
03AC 5 PUY CH03	7.x Trunking System Channel	802.13125	772.13125 CC	TDMA
03AC 5 PUY CH04	7.x Trunking System Channel	801.88125	771.88125 CC	TDMA
03AC 5 PUY CH05	7.x Trunking System Channel	801.60625	771.60625	TDMA
03AC 5 PUY CH06	7.x Trunking System Channel	801.30625	771.30625	TDMA
03AC 5 PUY CH07	7.x Trunking System Channel	801.05625	771.05625	TDMA

Pierce County Core Simulcast

Channel Name	Description	Receive Freq	Transmit Freq	Type
01E7 PC/PT CH01	7.x Trunking System Channel	804.48125	774.48125 CC3	TDMA
01E7 PC/PT CH02	7.x Trunking System Channel	803.98125	773.98125 CC1	TDMA
01E7 PC/PT CH03	7.x Trunking System Channel	800.60625	770.60625 CC4	Dynamic Dual Mode
01E7 PC/PT CH04	7.x Trunking System Channel	800.35625	770.35625 CC2	Dynamic Dual Mode
01E7 PC/PT CH05	7.x Trunking System Channel	800.10625	770.10625	Dynamic Dual Mode
01E7 PC/PT CH06	7.x Trunking System Channel	799.85625	769.85625	Dynamic Dual Mode
01E7 PC/PT CH07	7.x Trunking System Channel	799.58125	769.58125	TDMA
01E7 PC/PT CH08	7.x Trunking System Channel	799.33125	769.33125 BSI	TDMA
01E7 PC/PT CH09	7.x Trunking System Channel	804.73125	774.73125	Dynamic Dual Mode
01E7 PC/PT CH10	7.x Trunking System Channel	803.45625	773.45625	Dynamic Dual Mode
01E7 PC/PT CH11	7.x Trunking System Channel	801.78125	771.78125	Dynamic Dual Mode
01E7 PC/PT CH12	7.x Trunking System Channel	800.85625	770.85625	Dynamic Dual Mode

POWERCOM

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Bothell, WA 98021

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Revision history

Rev	Date	Author
rev1.1	12/29/2025	IS

RDA re-located to L1 Server A1132

Project name

Puyallup Police

Designer name

IS

Donor Sites

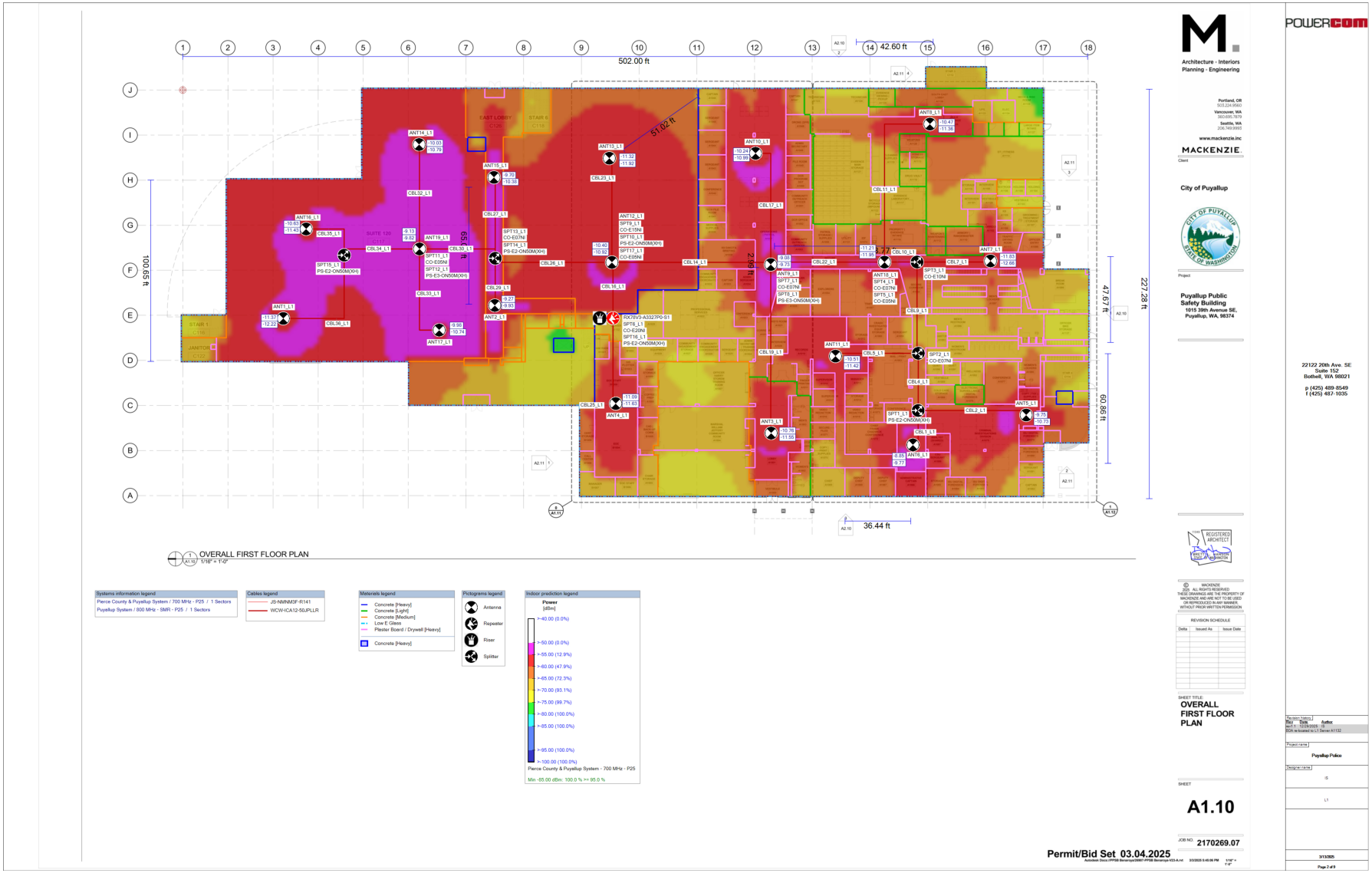
3/13/2025

Heat Maps

Tel: (425) 489-8549

PowerCom, Inc.
22122 20th Ave SE #152
Bothell, WA 98021

Fax: (425) 487-1035


502.00 ft
42.60 ft
51.02 ft
100.65 ft
227.28 ft
47.67 ft
60.86 ft
36.44 ft
OVERALL FIRST FLOOR PLAN
Architecture · Interiors
Planning · Engineering
MACKENZIE
City of Puyallup
Puyallup Public Safety Building
1015 39th Avenue SE, Puyallup, WA, 98374
POWERCOM
22122 20th Ave. SE
Suite 152
Bothell, WA 98021
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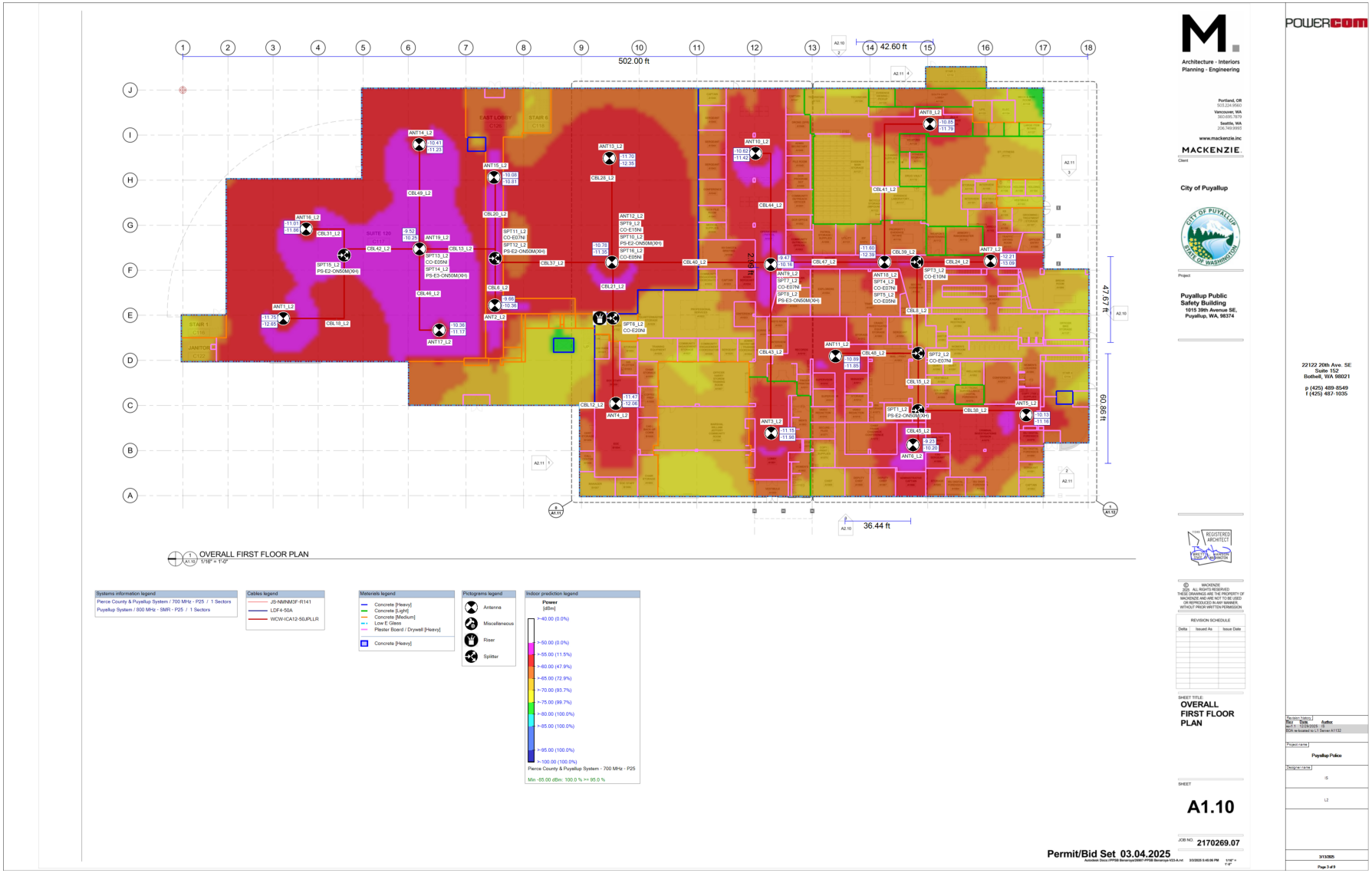
OVERALL FIRST FLOOR PLAN
A1.10
2170269.07
Permit/Bid Set 03.04.2025
Pierce County & Puyallup System - 700 MHz - P25
Min -85.00 dBm: 100.0 % >= 95.0 %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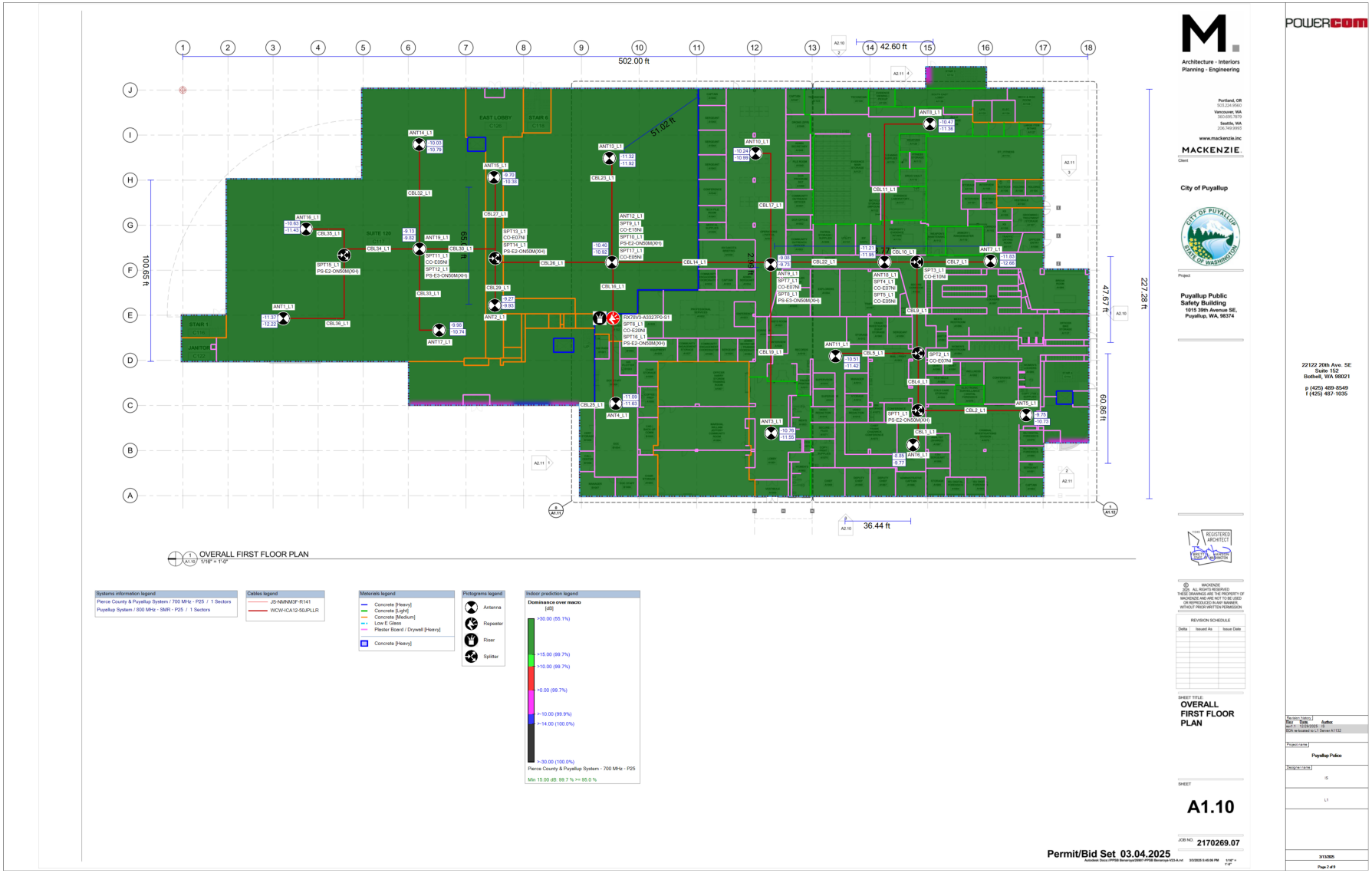
A1.10
2170269.07
Permit/Bid Set 03.04.2025
Puyallup Police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EAST LOBBY
STAIR E
SUITE 120
STAIR 1
JANITOR
OVERALL FIRST FLOOR PLAN
Systems information legend
Cables legend
Materials legend
Pictograms legend
Indoor prediction legend
Dominance over macro
Antenna
Repeater
Riser
Splitter
Concrete [Heavy]
Concrete [Light]
Concrete [Medium]
Low E Glass
Plaster Board / Drywall [Heavy]
Pierce County & Puyallup System - 700 MHz - P25
Min 15.00 dB: 99.7 % >= 95.0 %
Architecture · Interiors
Planning · Engineering
MACKENZIE
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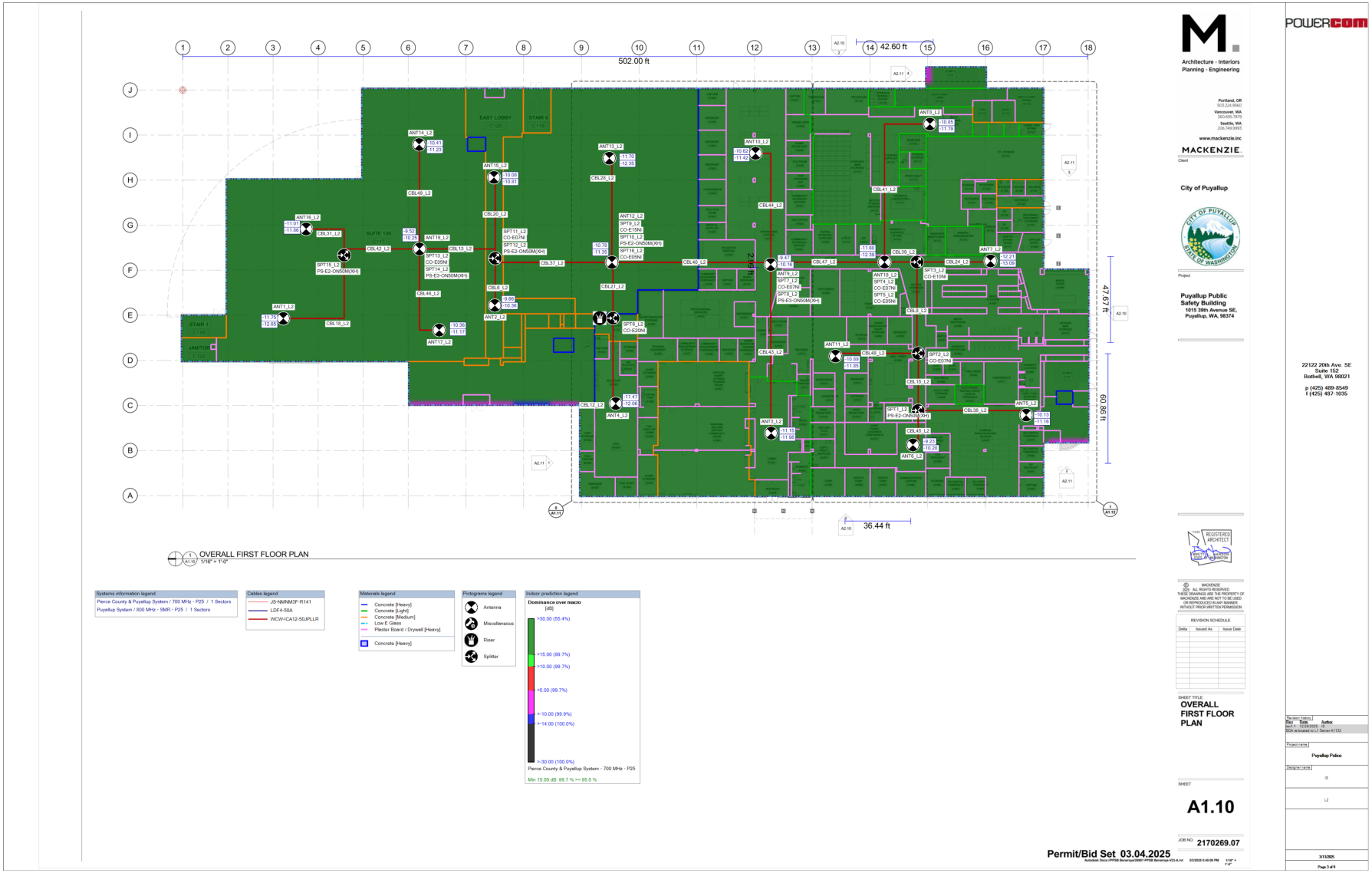

Architecture - Interiors
Planning - Engineering

Portland, OR
503.224.9560
Vancouver, WA
360.695.7879
Seattle, WA
206.749.9993
www.mackenzie.inc

MACKENZIE.

Client

City of Puyallup

Project

Puyallup Public Safety Building
1015 39th Avenue SE,
Puyallup, WA, 98374

REGISTERED ARCHITECT

REVISION SCHEDULE

Delta	Issued As	Issue Date

SHEET TITLE:
OVERALL FIRST FLOOR PLAN

SHEET
A1.10

JOB NO. 2170269.07

Permit/Bid Set 03.04.2025

POWERCOM

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Suite 152
Bothell, WA 98021

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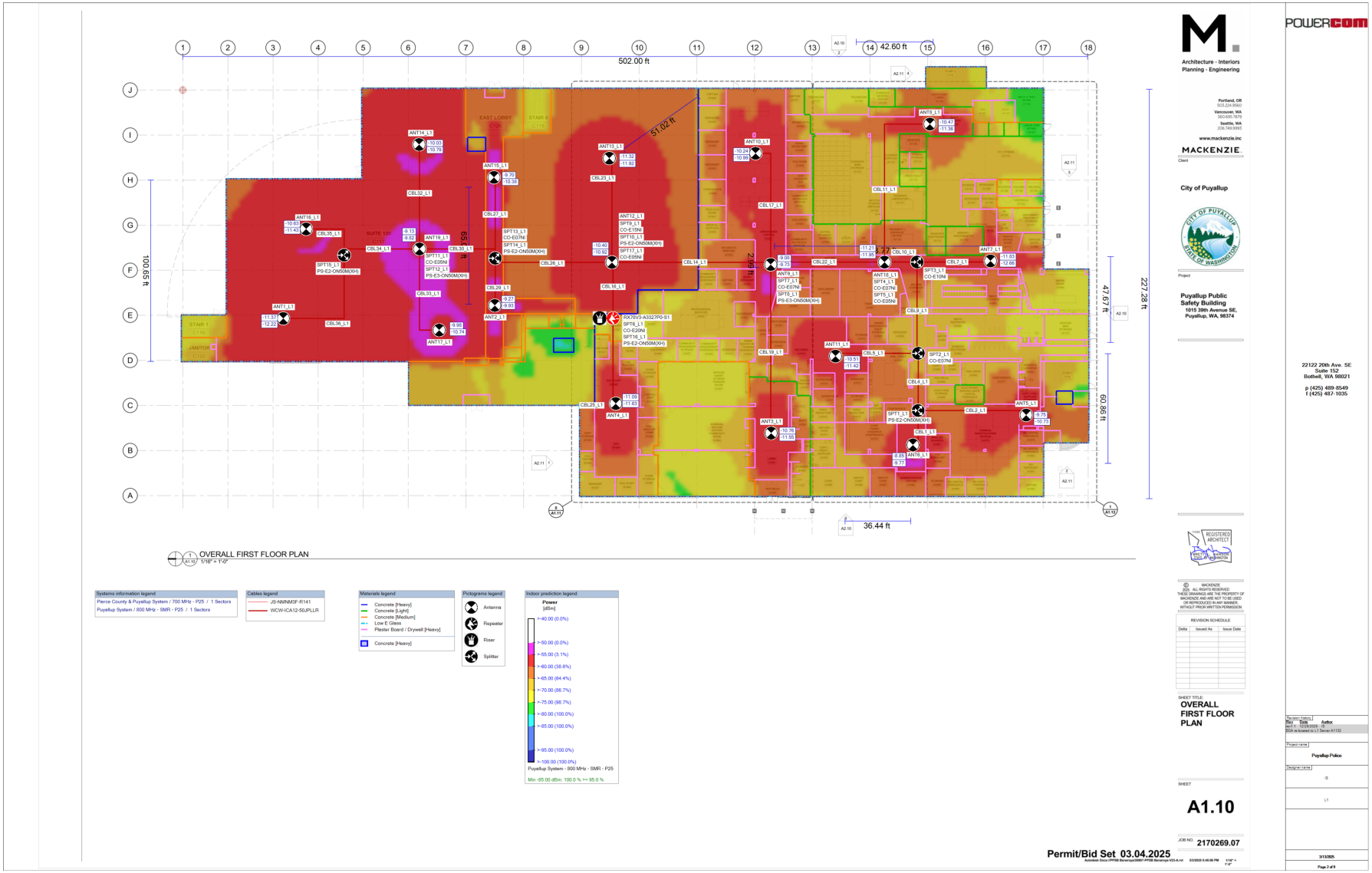
Revision history
Rev Note Author
ver1.1 12/29/2025 IS
ADA re-located to L1 Server A1132

Project name
Puyallup Police

Designer name
IS

L2

3/13/2025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OVERALL FIRST FLOOR PLAN
Systems information legend
Cables legend
Materials legend
Pictograms legend
Indoor prediction legend
Antenna
Repeater
Riser
Splitter
Puyallup System - 800 MHz - SMR - P25
Architecture - Interiors
Planning - Engineering
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A1.10
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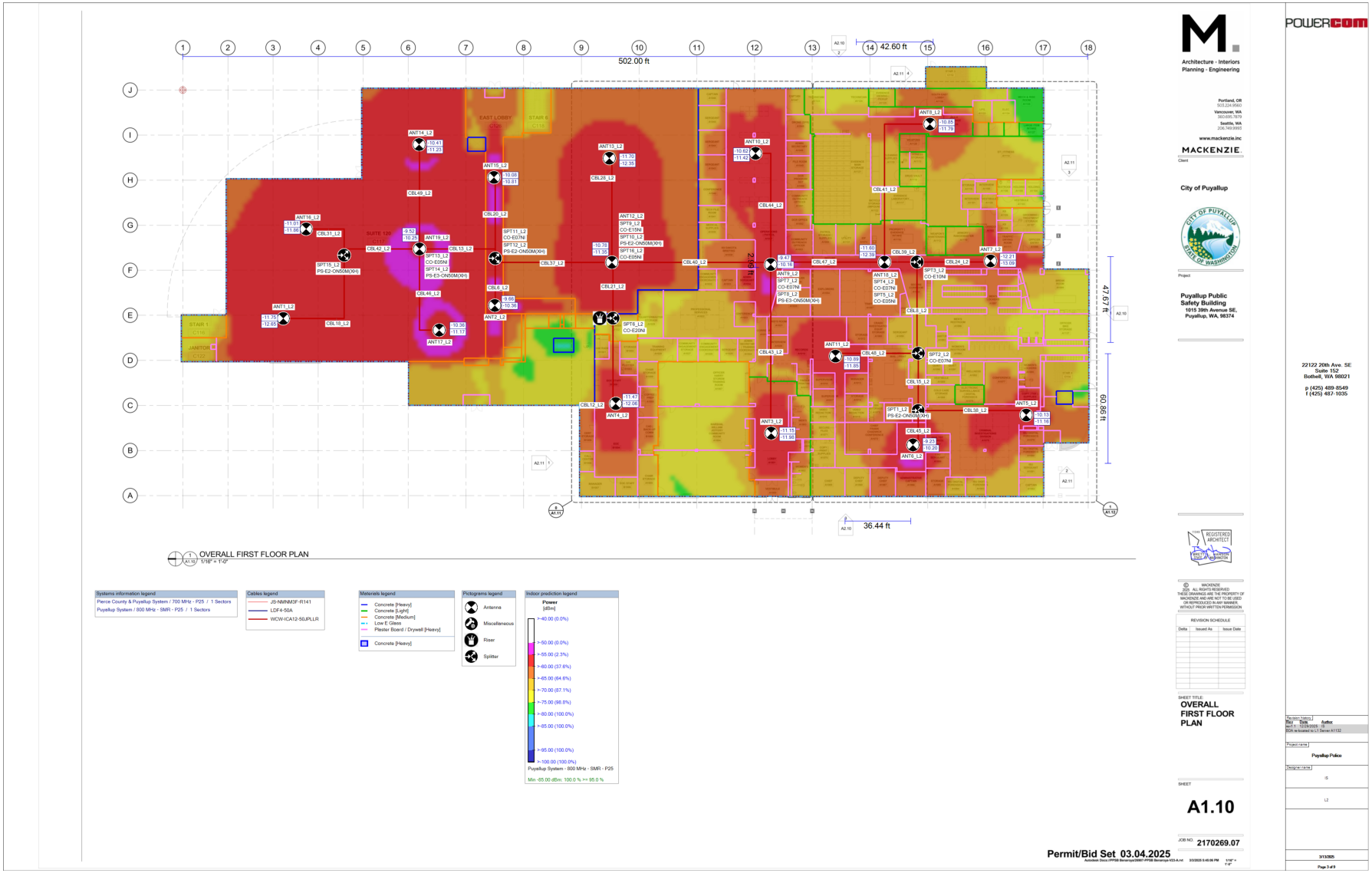
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OVERALL FIRST FLOOR PLAN
Indoor prediction legend
Power [dBm]
Puyallup System - 800 MHz - SMR - P25
Min -85.00 dBm: 100.0 % >= 95.0 %
Architecture · Interiors
Planning · Engineering
MACKENZIE
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JOB NO. 2170269.07
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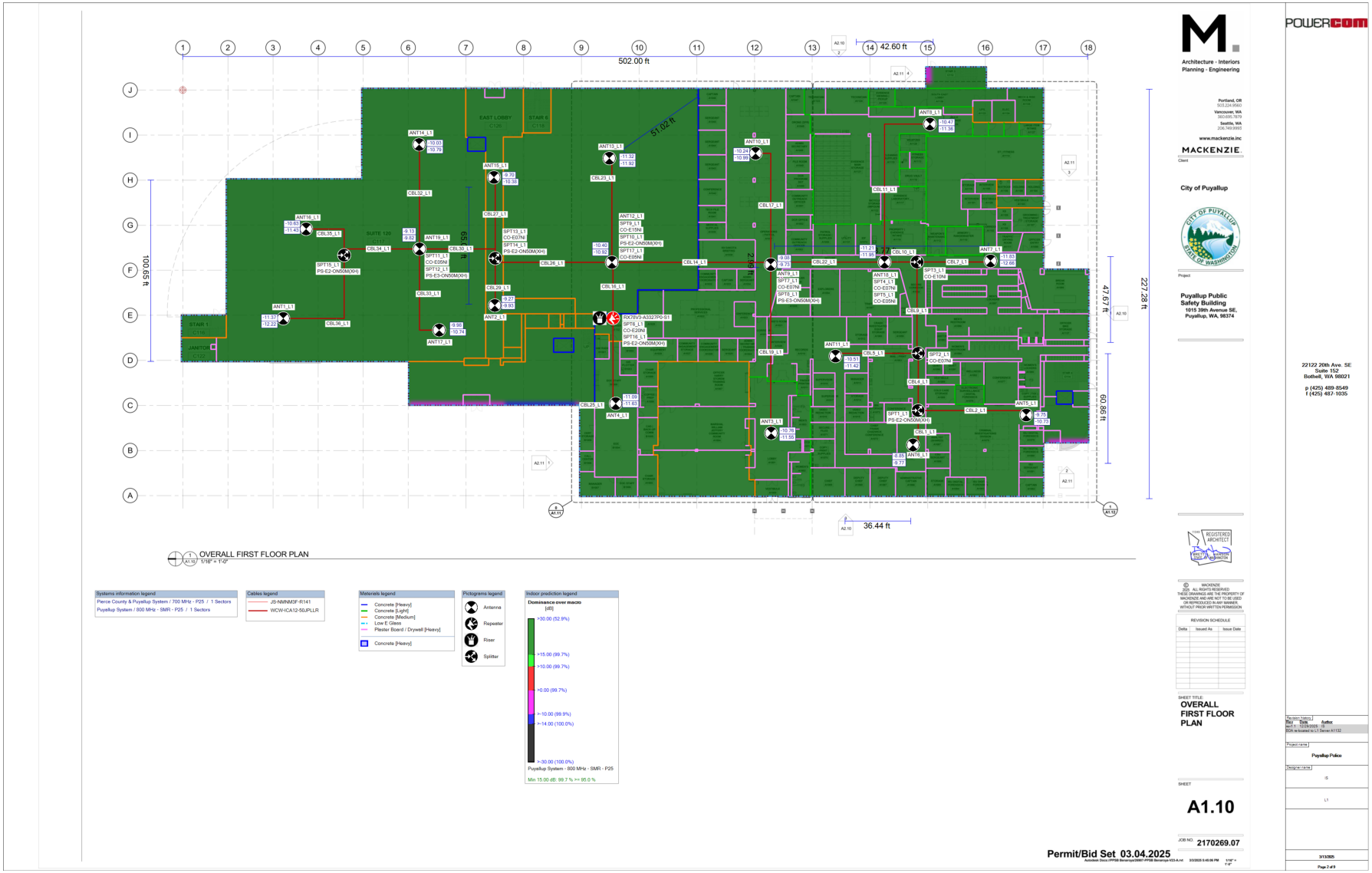
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Cables legend
Materials legend
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Dominance over macro
Puyallup System - 800 MHz - SMR - P25
Min 15.00 dB: 99.7 % >= 95.0 %
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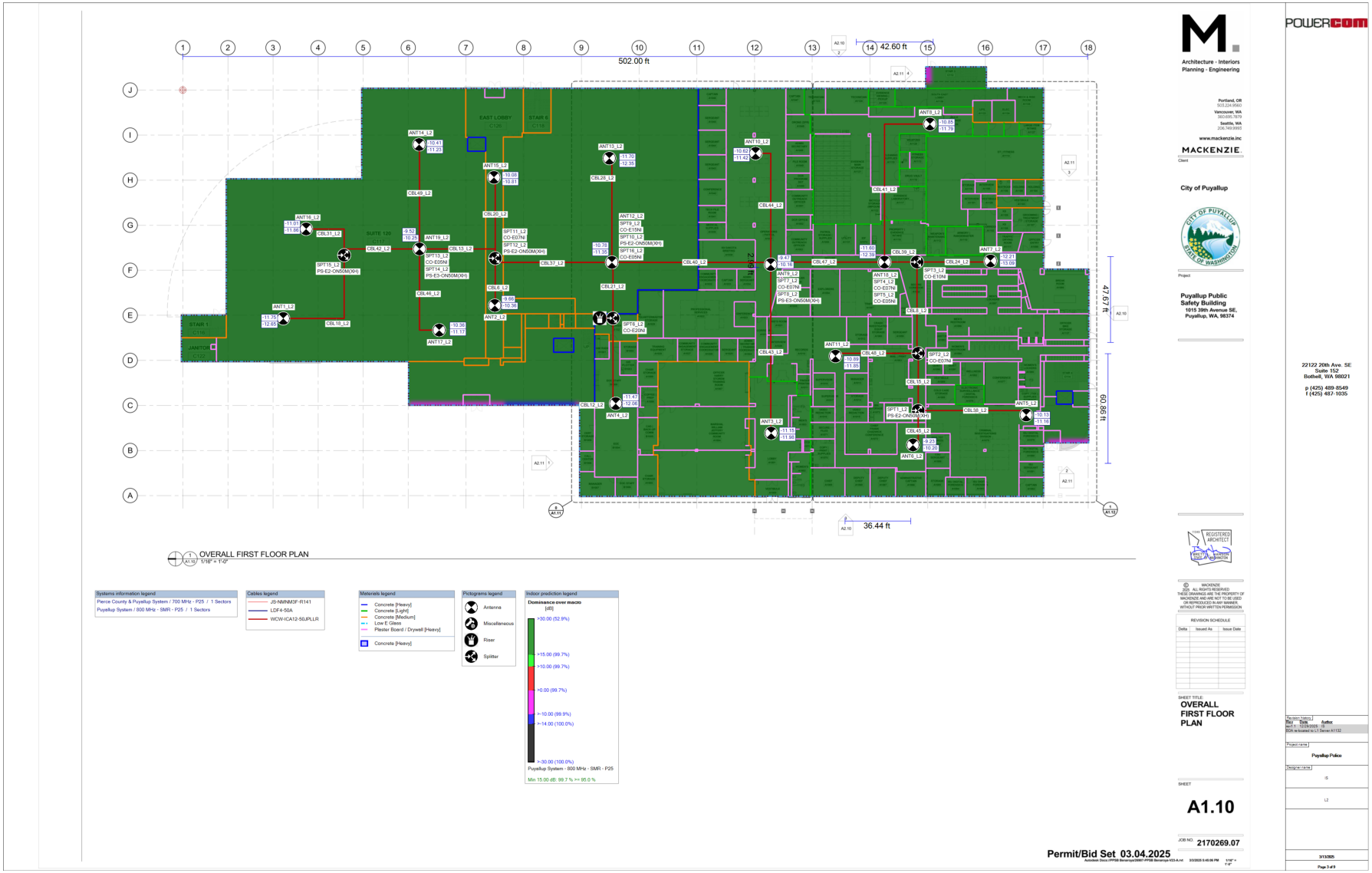
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Puyallup System - 800 MHz - SMR - P25
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MACKENZIE
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Puyallup Public Safety Building
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SHEET TITLE
OVERALL FIRST FLOOR PLAN
SHEET
A1.10
JOB NO. 2170269.07
Permit/Bid Set 03.04.2025
POWERCOM
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Suite 152
Bothell, WA 98021
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Link Budget

Tel: (425) 489-8549

PowerCom, Inc.
22122 20th Ave SE #152
Bothell, WA 98021

Fax: (425) 487-1035

Downlink Link Budget Report

Project name:	Puyallup Police	**Design company:**	22122 20th Ave. SE
Project creation date:	3/13/2025	**Designer:**	IS

DAS link budget report

ID	Model	Length (feet)	700 MHz - P25 - Sector N/A Gain/loss (dB)	(dBm)	800 MHz - SMR - P25 - Sector N/A Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)
ANT1_L1												
Donor (ANT1_Roof)	OY-MN-V11P	-	-97.20	-57.20	-97.66	-57.66	-	-	-	-	-	-
CBL52_Roof	LDF4-50A	307.31	-6.15	-63.34	-6.52	-64.18	-	-	-	-	-	-
MSC2	LP-GTR-NFF	-	-0.10	-63.44	-0.10	-64.28	-	-	-	-	-	-
CBL3_L2	WCW-ICA12-50JPLLR	42.22	-1.14	-64.58	-1.20	-65.48	-	-	-	-	-	-
RPT1_L1	RX78V3-A3327P0-S1	-	80.00	15.42	80.00	14.52	-	-	-	-	-	-
JMP12	JS-NMNM3F-R141	Jumper	-0.60	14.82	-0.60	13.92	-	-	-	-	-	-
SPT16_L1	PS-E2-ON50M(XH)	-	-3.30	11.52	-3.30	10.62	-	-	-	-	-	-
JMP4	JS-NMNM3F-R141	Jumper	-0.60	10.92	-0.60	10.02	-	-	-	-	-	-
SPT6_L1	CO-E20NI	-	-0.20	10.72	-0.20	9.82	-	-	-	-	-	-
CBL16_L1	WCW-ICA12-50JPLLR	31.58	-0.90	9.82	-0.95	8.87	-	-	-	-	-	-
SPT9_L1	CO-E15NI	-	-0.20	9.62	-0.20	8.67	-	-	-	-	-	-
JMP2	JS-NMNM3F-R141	Jumper	-0.60	9.02	-0.60	8.07	-	-	-	-	-	-
SPT17_L1	CO-E05NI	-	-4.60	4.42	-4.60	3.47	-	-	-	-	-	-
CBL26_L1	WCW-ICA12-50JPLLR	66.98	-1.69	2.73	-1.78	1.69	-	-	-	-	-	-
SPT13_L1	CO-E07NI	-	-1.30	1.43	-1.30	0.39	-	-	-	-	-	-
CBL30_L1	WCW-ICA12-50JPLLR	47.21	-1.25	0.19	-1.32	-0.93	-	-	-	-	-	-
SPT11_L1	CO-E05NI	-	-4.60	-4.41	-4.60	-5.53	-	-	-	-	-	-
CBL34_L1	WCW-ICA12-50JPLLR	45.26	-1.20	-5.62	-1.27	-6.80	-	-	-	-	-	-
SPT15_L1	PS-E2-ON50M(XH)	-	-3.30	-8.92	-3.30	-10.10	-	-	-	-	-	-

DAS link budget report												
ID	Model	Length (feet)	700 MHz - P25 - Sector N/A Gain/loss (dB)	(dBm)	800 MHz - SMR - P25 - Sector N/A Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)
CBL36_L1	WCW-ICA12-50JPLLR	68.89	-1.73	-10.65	-1.83	-11.93	-	-	-	-	-	-
MS signal range [feet]	-	-	155.59	-	131.35	-	-	-	-	-	-	-
MS RSSI [dBm]	-	-	-80.43	-	-82.12	-	-	-	-	-	-	-
ANT1_L1 (dBd)	IX-MJN-V3P	-	-0.72	-11.37	-0.29	-12.22	-	-	-	-	-	-

DAS link budget report												
ID	Model	Length (feet)	700 MHz - P25 - Sector N/A Gain/loss (dB)	(dBm)	800 MHz - SMR - P25 - Sector N/A Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)
ANT1_L2												
Donor (ANT1_Roof)	OY-MN-V11P	-	-97.20	-57.20	-97.66	-57.66	-	-	-	-	-	-
CBL52_Roof	LDF4-50A	307.31	-6.15	-63.34	-6.52	-64.18	-	-	-	-	-	-
MSC2	LP-GTR-NFF	-	-0.10	-63.44	-0.10	-64.28	-	-	-	-	-	-
CBL3_L2	WCW-ICA12-50JPLLR	42.22	-1.14	-64.58	-1.20	-65.48	-	-	-	-	-	-
RPT1_L1	RX78V3-A3327P0-S1	-	80.00	15.42	80.00	14.52	-	-	-	-	-	-
JMP12	JS-NMNM3F-R141	Jumper	-0.60	14.82	-0.60	13.92	-	-	-	-	-	-
SPT16_L1	PS-E2-ON50M(XH)	-	-3.30	11.52	-3.30	10.62	-	-	-	-	-	-
CBL50_L1	WCW-ICA12-50JPLLR	35.22	-0.98	10.54	-1.03	9.59	-	-	-	-	-	-
SPT6_L2	CO-E20NI	-	-0.20	10.34	-0.20	9.39	-	-	-	-	-	-
CBL21_L2	WCW-ICA12-50JPLLR	31.58	-0.90	9.44	-0.95	8.44	-	-	-	-	-	-
SPT9_L2	CO-E15NI	-	-0.20	9.24	-0.20	8.24	-	-	-	-	-	-
JMP15	JS-NMNM3F-R141	Jumper	-0.60	8.64	-0.60	7.64	-	-	-	-	-	-
SPT16_L2	CO-E05NI	-	-4.60	4.04	-4.60	3.04	-	-	-	-	-	-
CBL37_L2	WCW-ICA12-50JPLLR	66.98	-1.69	2.35	-1.78	1.26	-	-	-	-	-	-
SPT11_L2	CO-E07NI	-	-1.30	1.05	-1.30	-0.04	-	-	-	-	-	-
CBL13_L2	WCW-ICA12-50JPLLR	47.21	-1.25	-0.20	-1.32	-1.36	-	-	-	-	-	-
SPT13_L2	CO-E05NI	-	-4.60	-4.80	-4.60	-5.96	-	-	-	-	-	-
CBL42_L2	WCW-ICA12-50JPLLR	45.26	-1.20	-6.00	-1.27	-7.23	-	-	-	-	-	-
SPT15_L2	PS-E2-ON50M(XH)	-	-3.30	-9.30	-3.30	-10.53	-	-	-	-	-	-
CBL18_L2	WCW-ICA12-50JPLLR	68.89	-1.73	-11.03	-1.83	-12.36	-	-	-	-	-	-
MS signal range [feet]	-	-	149.76	-	125.78	-	-	-	-	-	-	-
MS RSSI [dBm]	-	-	-80.81	-	-82.55	-	-	-	-	-	-	-
ANT1_L2 (dBd)	IX-MJN-V3P	-	-0.72	-11.75	-0.29	-12.65	-	-	-	-	-	-

DAS link budget report												
ID	Model	Length (feet)	700 MHz - P25 - Sector N/A Gain/loss (dB)	(dBm)	800 MHz - SMR - P25 - Sector N/A Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)
ANT2_L1												
Donor (ANT1_Roof)	OY-MN-V11P	-	-97.20	-57.20	-97.66	-57.66	-	-	-	-	-	-
CBL52_Roof	LDF4-50A	307.31	-6.15	-63.34	-6.52	-64.18	-	-	-	-	-	-
MSC2	LP-GTR-NFF	-	-0.10	-63.44	-0.10	-64.28	-	-	-	-	-	-
CBL3_L2	WCW-ICA12-50JPLLR	42.22	-1.14	-64.58	-1.20	-65.48	-	-	-	-	-	-
RPT1_L1	RX78V3-A3327P0-S1	-	80.00	15.42	80.00	14.52	-	-	-	-	-	-
JMP12	JS-NMNM3F-R141	Jumper	-0.60	14.82	-0.60	13.92	-	-	-	-	-	-
SPT16_L1	PS-E2-ON50M(XH)	-	-3.30	11.52	-3.30	10.62	-	-	-	-	-	-
JMP4	JS-NMNM3F-R141	Jumper	-0.60	10.92	-0.60	10.02	-	-	-	-	-	-
SPT6_L1	CO-E20NI	-	-0.20	10.72	-0.20	9.82	-	-	-	-	-	-
CBL16_L1	WCW-ICA12-50JPLLR	31.58	-0.90	9.82	-0.95	8.87	-	-	-	-	-	-
SPT9_L1	CO-E15NI	-	-0.20	9.62	-0.20	8.67	-	-	-	-	-	-
JMP2	JS-NMNM3F-R141	Jumper	-0.60	9.02	-0.60	8.07	-	-	-	-	-	-
SPT17_L1	CO-E05NI	-	-4.60	4.42	-4.60	3.47	-	-	-	-	-	-
CBL26_L1	WCW-ICA12-50JPLLR	66.98	-1.69	2.73	-1.78	1.69	-	-	-	-	-	-
SPT13_L1	CO-E07NI	-	-6.60	-3.87	-6.60	-4.91	-	-	-	-	-	-
JMP19	JS-NMNM3F-R141	Jumper	-0.60	-4.47	-0.60	-5.51	-	-	-	-	-	-
SPT14_L1	PS-E2-ON50M(XH)	-	-3.30	-7.77	-3.30	-8.81	-	-	-	-	-	-
CBL29_L1	WCW-ICA12-50JPLLR	26.43	-0.79	-8.55	-0.83	-9.64	-	-	-	-	-	-
MS signal range [feet]	-	-	191.89	-	165.22	-	-	-	-	-	-	-
MS RSSI [dBm]	-	-	-78.33	-	-79.83	-	-	-	-	-	-	-
ANT2_L1 (dBd)	IX-MJN-V3P	-	-0.72	-9.27	-0.29	-9.93	-	-	-	-	-	-

DAS link budget report												
ID	Model	Length (feet)	700 MHz - P25 - Sector N/A Gain/loss (dB)	(dBm)	800 MHz - SMR - P25 - Sector N/A Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)
ANT2_L2												
Donor (ANT1_Roof)	OY-MN-V11P	-	-97.20	-57.20	-97.66	-57.66	-	-	-	-	-	-
CBL52_Roof	LDF4-50A	307.31	-6.15	-63.34	-6.52	-64.18	-	-	-	-	-	-
MSC2	LP-GTR-NFF	-	-0.10	-63.44	-0.10	-64.28	-	-	-	-	-	-
CBL3_L2	WCW-ICA12-50JPLLR	42.22	-1.14	-64.58	-1.20	-65.48	-	-	-	-	-	-
RPT1_L1	RX78V3-A3327P0-S1	-	80.00	15.42	80.00	14.52	-	-	-	-	-	-
JMP12	JS-NMNM3F-R141	Jumper	-0.60	14.82	-0.60	13.92	-	-	-	-	-	-
SPT16_L1	PS-E2-ON50M(XH)	-	-3.30	11.52	-3.30	10.62	-	-	-	-	-	-
CBL50_L1	WCW-ICA12-50JPLLR	35.22	-0.98	10.54	-1.03	9.59	-	-	-	-	-	-
SPT6_L2	CO-E20NI	-	-0.20	10.34	-0.20	9.39	-	-	-	-	-	-
CBL21_L2	WCW-ICA12-50JPLLR	31.58	-0.90	9.44	-0.95	8.44	-	-	-	-	-	-
SPT9_L2	CO-E15NI	-	-0.20	9.24	-0.20	8.24	-	-	-	-	-	-
JMP15	JS-NMNM3F-R141	Jumper	-0.60	8.64	-0.60	7.64	-	-	-	-	-	-
SPT16_L2	CO-E05NI	-	-4.60	4.04	-4.60	3.04	-	-	-	-	-	-
CBL37_L2	WCW-ICA12-50JPLLR	66.98	-1.69	2.35	-1.78	1.26	-	-	-	-	-	-
SPT11_L2	CO-E07NI	-	-6.60	-4.25	-6.60	-5.34	-	-	-	-	-	-
JMP9	JS-NMNM3F-R141	Jumper	-0.60	-4.85	-0.60	-5.94	-	-	-	-	-	-
SPT12_L2	PS-E2-ON50M(XH)	-	-3.30	-8.15	-3.30	-9.24	-	-	-	-	-	-
CBL6_L2	WCW-ICA12-50JPLLR	26.43	-0.79	-8.94	-0.83	-10.07	-	-	-	-	-	-
MS signal range [feet]	-	-	184.70	-	158.21	-	-	-	-	-	-	-
MS RSSI [dBm]	-	-	-78.71	-	-80.26	-	-	-	-	-	-	-
ANT2_L2 (dBd)	IX-MJN-V3P	-	-0.72	-9.66	-0.29	-10.36	-	-	-	-	-	-

DAS link budget report												
ID	Model	Length (feet)	700 MHz - P25 - Sector N/A Gain/loss (dB)	(dBm)	800 MHz - SMR - P25 - Sector N/A Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)
ANT3_L1												
Donor (ANT1_Roof)	OY-MN-V11P	-	-97.20	-57.20	-97.66	-57.66	-	-	-	-	-	-
CBL52_Roof	LDF4-50A	307.31	-6.15	-63.34	-6.52	-64.18	-	-	-	-	-	-
MSC2	LP-GTR-NFF	-	-0.10	-63.44	-0.10	-64.28	-	-	-	-	-	-
CBL3_L2	WCW-ICA12-50JPLLR	42.22	-1.14	-64.58	-1.20	-65.48	-	-	-	-	-	-
RPT1_L1	RX78V3-A3327P0-S1	-	80.00	15.42	80.00	14.52	-	-	-	-	-	-
JMP12	JS-NMNM3F-R141	Jumper	-0.60	14.82	-0.60	13.92	-	-	-	-	-	-
SPT16_L1	PS-E2-ON50M(XH)	-	-3.30	11.52	-3.30	10.62	-	-	-	-	-	-
JMP4	JS-NMNM3F-R141	Jumper	-0.60	10.92	-0.60	10.02	-	-	-	-	-	-
SPT6_L1	CO-E20NI	-	-0.20	10.72	-0.20	9.82	-	-	-	-	-	-
CBL16_L1	WCW-ICA12-50JPLLR	31.58	-0.90	9.82	-0.95	8.87	-	-	-	-	-	-
SPT9_L1	CO-E15NI	-	-0.20	9.62	-0.20	8.67	-	-	-	-	-	-
JMP2	JS-NMNM3F-R141	Jumper	-0.60	9.02	-0.60	8.07	-	-	-	-	-	-
SPT17_L1	CO-E05NI	-	-2.00	7.02	-2.00	6.07	-	-	-	-	-	-
CBL14_L1	WCW-ICA12-50JPLLR	89.34	-2.18	4.84	-2.31	3.76	-	-	-	-	-	-
SPT7_L1	CO-E07NI	-	-6.60	-1.76	-6.60	-2.84	-	-	-	-	-	-
JMP11	JS-NMNM3F-R141	Jumper	-0.60	-2.36	-0.60	-3.44	-	-	-	-	-	-
SPT8_L1	PS-E3-ON50M(XH)	-	-5.40	-7.76	-5.40	-8.84	-	-	-	-	-	-
CBL19_L1	WCW-ICA12-50JPLLR	93.79	-2.28	-10.04	-2.42	-11.26	-	-	-	-	-	-
MS signal range [feet]	-	-	165.28	-	140.45	-	-	-	-	-	-	-
MS RSSI [dBm]	-	-	-79.82	-	-81.45	-	-	-	-	-	-	-
ANT3_L1 (dBd)	IX-MJN-V3P	-	-0.72	-10.76	-0.29	-11.55	-	-	-	-	-	-

DAS link budget report												
ID	Model	Length (feet)	700 MHz - P25 - Sector N/A Gain/loss (dB)	(dBm)	800 MHz - SMR - P25 - Sector N/A Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)
ANT3_L2												
Donor (ANT1_Roof)	OY-MN-V11P	-	-97.20	-57.20	-97.66	-57.66	-	-	-	-	-	-
CBL52_Roof	LDF4-50A	307.31	-6.15	-63.34	-6.52	-64.18	-	-	-	-	-	-
MSC2	LP-GTR-NFF	-	-0.10	-63.44	-0.10	-64.28	-	-	-	-	-	-
CBL3_L2	WCW-ICA12-50JPLLR	42.22	-1.14	-64.58	-1.20	-65.48	-	-	-	-	-	-
RPT1_L1	RX78V3-A3327P0-S1	-	80.00	15.42	80.00	14.52	-	-	-	-	-	-
JMP12	JS-NMNM3F-R141	Jumper	-0.60	14.82	-0.60	13.92	-	-	-	-	-	-
SPT16_L1	PS-E2-ON50M(XH)	-	-3.30	11.52	-3.30	10.62	-	-	-	-	-	-
CBL50_L1	WCW-ICA12-50JPLLR	35.22	-0.98	10.54	-1.03	9.59	-	-	-	-	-	-
SPT6_L2	CO-E20NI	-	-0.20	10.34	-0.20	9.39	-	-	-	-	-	-
CBL21_L2	WCW-ICA12-50JPLLR	31.58	-0.90	9.44	-0.95	8.44	-	-	-	-	-	-
SPT9_L2	CO-E15NI	-	-0.20	9.24	-0.20	8.24	-	-	-	-	-	-
JMP15	JS-NMNM3F-R141	Jumper	-0.60	8.64	-0.60	7.64	-	-	-	-	-	-
SPT16_L2	CO-E05NI	-	-2.00	6.64	-2.00	5.64	-	-	-	-	-	-
CBL40_L2	WCW-ICA12-50JPLLR	89.34	-2.18	4.45	-2.31	3.33	-	-	-	-	-	-
SPT7_L2	CO-E07NI	-	-6.60	-2.15	-6.60	-3.27	-	-	-	-	-	-
JMP7	JS-NMNM3F-R141	Jumper	-0.60	-2.75	-0.60	-3.87	-	-	-	-	-	-
SPT8_L2	PS-E3-ON50M(XH)	-	-5.40	-8.15	-5.40	-9.27	-	-	-	-	-	-
CBL43_L2	WCW-ICA12-50JPLLR	93.79	-2.28	-10.43	-2.42	-11.69	-	-	-	-	-	-
MS signal range [feet]	-	-	159.09	-	134.49	-	-	-	-	-	-	-
MS RSSI [dBm]	-	-	-80.20	-	-81.88	-	-	-	-	-	-	-
ANT3_L2 (dBd)	IX-MJN-V3P	-	-0.72	-11.15	-0.29	-11.98	-	-	-	-	-	-

DAS link budget report												
ID	Model	Length (feet)	700 MHz - P25 - Sector N/A Gain/loss (dB)	(dBm)	800 MHz - SMR - P25 - Sector N/A Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)
ANT4_L1												
Donor (ANT1_Roof)	OY-MN-V11P	-	-97.20	-57.20	-97.66	-57.66	-	-	-	-	-	-
CBL52_Roof	LDF4-50A	307.31	-6.15	-63.34	-6.52	-64.18	-	-	-	-	-	-
MSC2	LP-GTR-NFF	-	-0.10	-63.44	-0.10	-64.28	-	-	-	-	-	-
CBL3_L2	WCW-ICA12-50JPLLR	42.22	-1.14	-64.58	-1.20	-65.48	-	-	-	-	-	-
RPT1_L1	RX78V3-A3327P0-S1	-	80.00	15.42	80.00	14.52	-	-	-	-	-	-
JMP12	JS-NMNM3F-R141	Jumper	-0.60	14.82	-0.60	13.92	-	-	-	-	-	-
SPT16_L1	PS-E2-ON50M(XH)	-	-3.30	11.52	-3.30	10.62	-	-	-	-	-	-
JMP4	JS-NMNM3F-R141	Jumper	-0.60	10.92	-0.60	10.02	-	-	-	-	-	-
SPT6_L1	CO-E20NI	-	-20.00	-9.08	-20.00	-9.98	-	-	-	-	-	-
CBL25_L1	WCW-ICA12-50JPLLR	48.94	-1.29	-10.37	-1.36	-11.34	-	-	-	-	-	-
MS signal range [feet]	-	-	160.05	-	139.35	-	-	-	-	-	-	-
MS RSSI [dBm]	-	-	-80.14	-	-81.53	-	-	-	-	-	-	-
ANT4_L1 (dBd)	IX-MJN-V3P	-	-0.72	-11.09	-0.29	-11.63	-	-	-	-	-	-

DAS link budget report												
ID	Model	Length (feet)	700 MHz - P25 - Sector N/A Gain/loss (dB)	(dBm)	800 MHz - SMR - P25 - Sector N/A Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)
ANT4_L2												
Donor (ANT1_Roof)	OY-MN-V11P	-	-97.20	-57.20	-97.66	-57.66	-	-	-	-	-	-
CBL52_Roof	LDF4-50A	307.31	-6.15	-63.34	-6.52	-64.18	-	-	-	-	-	-
MSC2	LP-GTR-NFF	-	-0.10	-63.44	-0.10	-64.28	-	-	-	-	-	-
CBL3_L2	WCW-ICA12-50JPLLR	42.22	-1.14	-64.58	-1.20	-65.48	-	-	-	-	-	-
RPT1_L1	RX78V3-A3327P0-S1	-	80.00	15.42	80.00	14.52	-	-	-	-	-	-
JMP12	JS-NMNM3F-R141	Jumper	-0.60	14.82	-0.60	13.92	-	-	-	-	-	-
SPT16_L1	PS-E2-ON50M(XH)	-	-3.30	11.52	-3.30	10.62	-	-	-	-	-	-
CBL50_L1	WCW-ICA12-50JPLLR	35.22	-0.98	10.54	-1.03	9.59	-	-	-	-	-	-
SPT6_L2	CO-E20NI	-	-20.00	-9.46	-20.00	-10.41	-	-	-	-	-	-
CBL12_L2	WCW-ICA12-50JPLLR	48.94	-1.29	-10.75	-1.36	-11.77	-	-	-	-	-	-
MS signal range [feet]	-	-	154.05	-	133.43	-	-	-	-	-	-	-
MS RSSI [dBm]	-	-	-80.53	-	-81.96	-	-	-	-	-	-	-
ANT4_L2 (dBd)	IX-MJN-V3P	-	-0.72	-11.47	-0.29	-12.06	-	-	-	-	-	-

DAS link budget report												
ID	Model	Length (feet)	700 MHz - P25 - Sector N/A Gain/loss (dB)	(dBm)	800 MHz - SMR - P25 - Sector N/A Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)
ANT5_L1												
Donor (ANT1_Roof)	OY-MN-V11P	-	-97.20	-57.20	-97.66	-57.66	-	-	-	-	-	-
CBL52_Roof	LDF4-50A	307.31	-6.15	-63.34	-6.52	-64.18	-	-	-	-	-	-
MSC2	LP-GTR-NFF	-	-0.10	-63.44	-0.10	-64.28	-	-	-	-	-	-
CBL3_L2	WCW-ICA12-50JPLLR	42.22	-1.14	-64.58	-1.20	-65.48	-	-	-	-	-	-
RPT1_L1	RX78V3-A3327P0-S1	-	80.00	15.42	80.00	14.52	-	-	-	-	-	-
JMP12	JS-NMNM3F-R141	Jumper	-0.60	14.82	-0.60	13.92	-	-	-	-	-	-
SPT16_L1	PS-E2-ON50M(XH)	-	-3.30	11.52	-3.30	10.62	-	-	-	-	-	-
JMP4	JS-NMNM3F-R141	Jumper	-0.60	10.92	-0.60	10.02	-	-	-	-	-	-
SPT6_L1	CO-E20NI	-	-0.20	10.72	-0.20	9.82	-	-	-	-	-	-
CBL16_L1	WCW-ICA12-50JPLLR	31.58	-0.90	9.82	-0.95	8.87	-	-	-	-	-	-
SPT9_L1	CO-E15NI	-	-0.20	9.62	-0.20	8.67	-	-	-	-	-	-
JMP2	JS-NMNM3F-R141	Jumper	-0.60	9.02	-0.60	8.07	-	-	-	-	-	-
SPT17_L1	CO-E05NI	-	-2.00	7.02	-2.00	6.07	-	-	-	-	-	-
CBL14_L1	WCW-ICA12-50JPLLR	89.34	-2.18	4.84	-2.31	3.76	-	-	-	-	-	-
SPT7_L1	CO-E07NI	-	-1.30	3.54	-1.30	2.46	-	-	-	-	-	-
CBL22_L1	WCW-ICA12-50JPLLR	64.45	-1.63	1.91	-1.72	0.74	-	-	-	-	-	-
SPT4_L1	CO-E07NI	-	-1.30	0.61	-1.30	-0.56	-	-	-	-	-	-
CBL10_L1	WCW-ICA12-50JPLLR	18.10	-0.60	0.00	-0.63	-1.19	-	-	-	-	-	-
SPT3_L1	CO-E10NI	-	-0.60	-0.60	-0.60	-1.79	-	-	-	-	-	-
CBL9_L1	WCW-ICA12-50JPLLR	51.39	-1.34	-1.94	-1.42	-3.21	-	-	-	-	-	-
SPT2_L1	CO-E07NI	-	-1.30	-3.24	-1.30	-4.51	-	-	-	-	-	-
CBL4_L1	WCW-ICA12-50JPLLR	31.74	-0.90	-4.14	-0.95	-5.46	-	-	-	-	-	-
SPT1_L1	PS-E2-ON50M(XH)	-	-3.30	-7.44	-3.30	-8.76	-	-	-	-	-	-

DAS link budget report												
ID	Model	Length (feet)	700 MHz - P25 - Sector N/A Gain/loss (dB)	(dBm)	800 MHz - SMR - P25 - Sector N/A Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)
CBL2_L1	WCW-ICA12-50JPLLR	62.47	-1.59	-9.03	-1.68	-10.44	-	-	-	-	-	-
MS signal range [feet]	-	-	183.03	-	152.50	-	-	-	-	-	-	-
MS RSSI [dBm]	-	-	-78.80	-	-80.63	-	-	-	-	-	-	-
ANT5_L1 (dBd)	IX-MJN-V3P	-	-0.72	-9.75	-0.29	-10.73	-	-	-	-	-	-

DAS link budget report												
ID	Model	Length (feet)	700 MHz - P25 - Sector N/A Gain/loss (dB)	(dBm)	800 MHz - SMR - P25 - Sector N/A Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)
ANT5_L2												
Donor (ANT1_Roof)	OY-MN-V11P	-	-97.20	-57.20	-97.66	-57.66	-	-	-	-	-	-
CBL52_Roof	LDF4-50A	307.31	-6.15	-63.34	-6.52	-64.18	-	-	-	-	-	-
MSC2	LP-GTR-NFF	-	-0.10	-63.44	-0.10	-64.28	-	-	-	-	-	-
CBL3_L2	WCW-ICA12-50JPLLR	42.22	-1.14	-64.58	-1.20	-65.48	-	-	-	-	-	-
RPT1_L1	RX78V3-A3327P0-S1	-	80.00	15.42	80.00	14.52	-	-	-	-	-	-
JMP12	JS-NMNM3F-R141	Jumper	-0.60	14.82	-0.60	13.92	-	-	-	-	-	-
SPT16_L1	PS-E2-ON50M(XH)	-	-3.30	11.52	-3.30	10.62	-	-	-	-	-	-
CBL50_L1	WCW-ICA12-50JPLLR	35.22	-0.98	10.54	-1.03	9.59	-	-	-	-	-	-
SPT6_L2	CO-E20NI	-	-0.20	10.34	-0.20	9.39	-	-	-	-	-	-
CBL21_L2	WCW-ICA12-50JPLLR	31.58	-0.90	9.44	-0.95	8.44	-	-	-	-	-	-
SPT9_L2	CO-E15NI	-	-0.20	9.24	-0.20	8.24	-	-	-	-	-	-
JMP15	JS-NMNM3F-R141	Jumper	-0.60	8.64	-0.60	7.64	-	-	-	-	-	-
SPT16_L2	CO-E05NI	-	-2.00	6.64	-2.00	5.64	-	-	-	-	-	-
CBL40_L2	WCW-ICA12-50JPLLR	89.34	-2.18	4.45	-2.31	3.33	-	-	-	-	-	-
SPT7_L2	CO-E07NI	-	-1.30	3.15	-1.30	2.03	-	-	-	-	-	-
CBL47_L2	WCW-ICA12-50JPLLR	64.45	-1.63	1.52	-1.72	0.30	-	-	-	-	-	-
SPT4_L2	CO-E07NI	-	-1.30	0.22	-1.30	-1.00	-	-	-	-	-	-
CBL39_L2	WCW-ICA12-50JPLLR	18.10	-0.60	-0.38	-0.63	-1.62	-	-	-	-	-	-
SPT3_L2	CO-E10NI	-	-0.60	-0.98	-0.60	-2.22	-	-	-	-	-	-
CBL8_L2	WCW-ICA12-50JPLLR	51.39	-1.34	-2.32	-1.42	-3.64	-	-	-	-	-	-
SPT2_L2	CO-E07NI	-	-1.30	-3.62	-1.30	-4.94	-	-	-	-	-	-
CBL15_L2	WCW-ICA12-50JPLLR	31.74	-0.90	-4.52	-0.95	-5.89	-	-	-	-	-	-

DAS link budget report												
ID	Model	Length (feet)	700 MHz - P25 - Sector N/A Gain/loss (dB)	(dBm)	800 MHz - SMR - P25 - Sector N/A Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)
SPT1_L2	PS-E2-ON50M(XH)	-	-3.30	-7.82	-3.30	-9.19	-	-	-	-	-	-
CBL38_L2	WCW-ICA12-50JPLLR	62.47	-1.59	-9.41	-1.68	-10.87	-	-	-	-	-	-
MS signal range [feet]	-	-	176.17	-	146.03	-	-	-	-	-	-	-
MS RSSI [dBm]	-	-	-79.19	-	-81.06	-	-	-	-	-	-	-
ANT5_L2 (dBd)	IX-MJN-V3P	-	-0.72	-10.13	-0.29	-11.16	-	-	-	-	-	-

DAS link budget report												
ID	Model	Length (feet)	700 MHz - P25 - Sector N/A Gain/loss (dB)	(dBm)	800 MHz - SMR - P25 - Sector N/A Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)
ANT6_L1												
Donor (ANT1_Roof)	OY-MN-V11P	-	-97.20	-57.20	-97.66	-57.66	-	-	-	-	-	-
CBL52_Roof	LDF4-50A	307.31	-6.15	-63.34	-6.52	-64.18	-	-	-	-	-	-
MSC2	LP-GTR-NFF	-	-0.10	-63.44	-0.10	-64.28	-	-	-	-	-	-
CBL3_L2	WCW-ICA12-50JPLLR	42.22	-1.14	-64.58	-1.20	-65.48	-	-	-	-	-	-
RPT1_L1	RX78V3-A3327P0-S1	-	80.00	15.42	80.00	14.52	-	-	-	-	-	-
JMP12	JS-NMNM3F-R141	Jumper	-0.60	14.82	-0.60	13.92	-	-	-	-	-	-
SPT16_L1	PS-E2-ON50M(XH)	-	-3.30	11.52	-3.30	10.62	-	-	-	-	-	-
JMP4	JS-NMNM3F-R141	Jumper	-0.60	10.92	-0.60	10.02	-	-	-	-	-	-
SPT6_L1	CO-E20NI	-	-0.20	10.72	-0.20	9.82	-	-	-	-	-	-
CBL16_L1	WCW-ICA12-50JPLLR	31.58	-0.90	9.82	-0.95	8.87	-	-	-	-	-	-
SPT9_L1	CO-E15NI	-	-0.20	9.62	-0.20	8.67	-	-	-	-	-	-
JMP2	JS-NMNM3F-R141	Jumper	-0.60	9.02	-0.60	8.07	-	-	-	-	-	-
SPT17_L1	CO-E05NI	-	-2.00	7.02	-2.00	6.07	-	-	-	-	-	-
CBL14_L1	WCW-ICA12-50JPLLR	89.34	-2.18	4.84	-2.31	3.76	-	-	-	-	-	-
SPT7_L1	CO-E07NI	-	-1.30	3.54	-1.30	2.46	-	-	-	-	-	-
CBL22_L1	WCW-ICA12-50JPLLR	64.45	-1.63	1.91	-1.72	0.74	-	-	-	-	-	-
SPT4_L1	CO-E07NI	-	-1.30	0.61	-1.30	-0.56	-	-	-	-	-	-
CBL10_L1	WCW-ICA12-50JPLLR	18.10	-0.60	0.00	-0.63	-1.19	-	-	-	-	-	-
SPT3_L1	CO-E10NI	-	-0.60	-0.60	-0.60	-1.79	-	-	-	-	-	-
CBL9_L1	WCW-ICA12-50JPLLR	51.39	-1.34	-1.94	-1.42	-3.21	-	-	-	-	-	-
SPT2_L1	CO-E07NI	-	-1.30	-3.24	-1.30	-4.51	-	-	-	-	-	-
CBL4_L1	WCW-ICA12-50JPLLR	31.74	-0.90	-4.14	-0.95	-5.46	-	-	-	-	-	-
SPT1_L1	PS-E2-ON50M(XH)	-	-3.30	-7.44	-3.30	-8.76	-	-	-	-	-	-

DAS link budget report												
ID	Model	Length (feet)	700 MHz - P25 - Sector N/A Gain/loss (dB)	(dBm)	800 MHz - SMR - P25 - Sector N/A Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)
CBL1_L1	WCW-ICA12-50JPLLR	22.00	-0.69	-8.13	-0.72	-9.48	-	-	-	-	-	-
MS signal range [feet]	-	-	200.24	-	167.84	-	-	-	-	-	-	-
MS RSSI [dBm]	-	-	-77.91	-	-79.67	-	-	-	-	-	-	-
ANT6_L1 (dBd)	IX-MJN-V3P	-	-0.72	-8.85	-0.29	-9.77	-	-	-	-	-	-

DAS link budget report												
ID	Model	Length (feet)	700 MHz - P25 - Sector N/A Gain/loss (dB)	(dBm)	800 MHz - SMR - P25 - Sector N/A Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)
ANT6_L2												
Donor (ANT1_Roof)	OY-MN-V11P	-	-97.20	-57.20	-97.66	-57.66	-	-	-	-	-	-
CBL52_Roof	LDF4-50A	307.31	-6.15	-63.34	-6.52	-64.18	-	-	-	-	-	-
MSC2	LP-GTR-NFF	-	-0.10	-63.44	-0.10	-64.28	-	-	-	-	-	-
CBL3_L2	WCW-ICA12-50JPLLR	42.22	-1.14	-64.58	-1.20	-65.48	-	-	-	-	-	-
RPT1_L1	RX78V3-A3327P0-S1	-	80.00	15.42	80.00	14.52	-	-	-	-	-	-
JMP12	JS-NMNM3F-R141	Jumper	-0.60	14.82	-0.60	13.92	-	-	-	-	-	-
SPT16_L1	PS-E2-ON50M(XH)	-	-3.30	11.52	-3.30	10.62	-	-	-	-	-	-
CBL50_L1	WCW-ICA12-50JPLLR	35.22	-0.98	10.54	-1.03	9.59	-	-	-	-	-	-
SPT6_L2	CO-E20NI	-	-0.20	10.34	-0.20	9.39	-	-	-	-	-	-
CBL21_L2	WCW-ICA12-50JPLLR	31.58	-0.90	9.44	-0.95	8.44	-	-	-	-	-	-
SPT9_L2	CO-E15NI	-	-0.20	9.24	-0.20	8.24	-	-	-	-	-	-
JMP15	JS-NMNM3F-R141	Jumper	-0.60	8.64	-0.60	7.64	-	-	-	-	-	-
SPT16_L2	CO-E05NI	-	-2.00	6.64	-2.00	5.64	-	-	-	-	-	-
CBL40_L2	WCW-ICA12-50JPLLR	89.34	-2.18	4.45	-2.31	3.33	-	-	-	-	-	-
SPT7_L2	CO-E07NI	-	-1.30	3.15	-1.30	2.03	-	-	-	-	-	-
CBL47_L2	WCW-ICA12-50JPLLR	64.45	-1.63	1.52	-1.72	0.30	-	-	-	-	-	-
SPT4_L2	CO-E07NI	-	-1.30	0.22	-1.30	-1.00	-	-	-	-	-	-
CBL39_L2	WCW-ICA12-50JPLLR	18.10	-0.60	-0.38	-0.63	-1.62	-	-	-	-	-	-
SPT3_L2	CO-E10NI	-	-0.60	-0.98	-0.60	-2.22	-	-	-	-	-	-
CBL8_L2	WCW-ICA12-50JPLLR	51.39	-1.34	-2.32	-1.42	-3.64	-	-	-	-	-	-
SPT2_L2	CO-E07NI	-	-1.30	-3.62	-1.30	-4.94	-	-	-	-	-	-
CBL15_L2	WCW-ICA12-50JPLLR	31.74	-0.90	-4.52	-0.95	-5.89	-	-	-	-	-	-

DAS link budget report												
ID	Model	Length (feet)	700 MHz - P25 - Sector N/A Gain/loss (dB)	(dBm)	800 MHz - SMR - P25 - Sector N/A Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)
SPT1_L2	PS-E2-ON50M(XH)	-	-3.30	-7.82	-3.30	-9.19	-	-	-	-	-	-
CBL45_L2	WCW-ICA12-50JPLLR	22.00	-0.69	-8.51	-0.72	-9.91	-	-	-	-	-	-
MS signal range [feet]	-	-	192.74	-	160.72	-	-	-	-	-	-	-
MS RSSI [dBm]	-	-	-78.29	-	-80.10	-	-	-	-	-	-	-
ANT6_L2 (dBd)	IX-MJN-V3P	-	-0.72	-9.23	-0.29	-10.20	-	-	-	-	-	-

DAS link budget report												
ID	Model	Length (feet)	700 MHz - P25 - Sector N/A Gain/loss (dB)	(dBm)	800 MHz - SMR - P25 - Sector N/A Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)
ANT7_L1												
Donor (ANT1_Roof)	OY-MN-V11P	-	-97.20	-57.20	-97.66	-57.66	-	-	-	-	-	-
CBL52_Roof	LDF4-50A	307.31	-6.15	-63.34	-6.52	-64.18	-	-	-	-	-	-
MSC2	LP-GTR-NFF	-	-0.10	-63.44	-0.10	-64.28	-	-	-	-	-	-
CBL3_L2	WCW-ICA12-50JPLLR	42.22	-1.14	-64.58	-1.20	-65.48	-	-	-	-	-	-
RPT1_L1	RX78V3-A3327P0-S1	-	80.00	15.42	80.00	14.52	-	-	-	-	-	-
JMP12	JS-NMNM3F-R141	Jumper	-0.60	14.82	-0.60	13.92	-	-	-	-	-	-
SPT16_L1	PS-E2-ON50M(XH)	-	-3.30	11.52	-3.30	10.62	-	-	-	-	-	-
JMP4	JS-NMNM3F-R141	Jumper	-0.60	10.92	-0.60	10.02	-	-	-	-	-	-
SPT6_L1	CO-E20NI	-	-0.20	10.72	-0.20	9.82	-	-	-	-	-	-
CBL16_L1	WCW-ICA12-50JPLLR	31.58	-0.90	9.82	-0.95	8.87	-	-	-	-	-	-
SPT9_L1	CO-E15NI	-	-0.20	9.62	-0.20	8.67	-	-	-	-	-	-
JMP2	JS-NMNM3F-R141	Jumper	-0.60	9.02	-0.60	8.07	-	-	-	-	-	-
SPT17_L1	CO-E05NI	-	-2.00	7.02	-2.00	6.07	-	-	-	-	-	-
CBL14_L1	WCW-ICA12-50JPLLR	89.34	-2.18	4.84	-2.31	3.76	-	-	-	-	-	-
SPT7_L1	CO-E07NI	-	-1.30	3.54	-1.30	2.46	-	-	-	-	-	-
CBL22_L1	WCW-ICA12-50JPLLR	64.45	-1.63	1.91	-1.72	0.74	-	-	-	-	-	-
SPT4_L1	CO-E07NI	-	-1.30	0.61	-1.30	-0.56	-	-	-	-	-	-
CBL10_L1	WCW-ICA12-50JPLLR	18.10	-0.60	0.00	-0.63	-1.19	-	-	-	-	-	-
SPT3_L1	CO-E10NI	-	-10.00	-10.00	-10.00	-11.19	-	-	-	-	-	-
CBL7_L1	WCW-ICA12-50JPLLR	41.36	-1.12	-11.11	-1.18	-12.37	-	-	-	-	-	-
MS signal range [feet]	-	-	148.52	-	125.65	-	-	-	-	-	-	-
MS RSSI [dBm]	-	-	-80.89	-	-82.56	-	-	-	-	-	-	-
ANT7_L1 (dBd)	IX-MJN-V3P	-	-0.72	-11.83	-0.29	-12.66	-	-	-	-	-	-

DAS link budget report												
ID	Model	Length (feet)	700 MHz - P25 - Sector N/A Gain/loss (dB)	(dBm)	800 MHz - SMR - P25 - Sector N/A Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)
ANT7_L2												
Donor (ANT1_Roof)	OY-MN-V11P	-	-97.20	-57.20	-97.66	-57.66	-	-	-	-	-	-
CBL52_Roof	LDF4-50A	307.31	-6.15	-63.34	-6.52	-64.18	-	-	-	-	-	-
MSC2	LP-GTR-NFF	-	-0.10	-63.44	-0.10	-64.28	-	-	-	-	-	-
CBL3_L2	WCW-ICA12-50JPLLR	42.22	-1.14	-64.58	-1.20	-65.48	-	-	-	-	-	-
RPT1_L1	RX78V3-A3327P0-S1	-	80.00	15.42	80.00	14.52	-	-	-	-	-	-
JMP12	JS-NMNM3F-R141	Jumper	-0.60	14.82	-0.60	13.92	-	-	-	-	-	-
SPT16_L1	PS-E2-ON50M(XH)	-	-3.30	11.52	-3.30	10.62	-	-	-	-	-	-
CBL50_L1	WCW-ICA12-50JPLLR	35.22	-0.98	10.54	-1.03	9.59	-	-	-	-	-	-
SPT6_L2	CO-E20NI	-	-0.20	10.34	-0.20	9.39	-	-	-	-	-	-
CBL21_L2	WCW-ICA12-50JPLLR	31.58	-0.90	9.44	-0.95	8.44	-	-	-	-	-	-
SPT9_L2	CO-E15NI	-	-0.20	9.24	-0.20	8.24	-	-	-	-	-	-
JMP15	JS-NMNM3F-R141	Jumper	-0.60	8.64	-0.60	7.64	-	-	-	-	-	-
SPT16_L2	CO-E05NI	-	-2.00	6.64	-2.00	5.64	-	-	-	-	-	-
CBL40_L2	WCW-ICA12-50JPLLR	89.34	-2.18	4.45	-2.31	3.33	-	-	-	-	-	-
SPT7_L2	CO-E07NI	-	-1.30	3.15	-1.30	2.03	-	-	-	-	-	-
CBL47_L2	WCW-ICA12-50JPLLR	64.45	-1.63	1.52	-1.72	0.30	-	-	-	-	-	-
SPT4_L2	CO-E07NI	-	-1.30	0.22	-1.30	-1.00	-	-	-	-	-	-
CBL39_L2	WCW-ICA12-50JPLLR	18.10	-0.60	-0.38	-0.63	-1.62	-	-	-	-	-	-
SPT3_L2	CO-E10NI	-	-10.00	-10.38	-10.00	-11.62	-	-	-	-	-	-
CBL24_L2	WCW-ICA12-50JPLLR	41.36	-1.12	-11.49	-1.18	-12.80	-	-	-	-	-	-
MS signal range [feet]	-	-	142.95	-	120.32	-	-	-	-	-	-	-
MS RSSI [dBm]	-	-	-81.27	-	-82.99	-	-	-	-	-	-	-
ANT7_L2 (dBd)	IX-MJN-V3P	-	-0.72	-12.21	-0.29	-13.09	-	-	-	-	-	-

DAS link budget report												
ID	Model	Length (feet)	700 MHz - P25 - Sector N/A Gain/loss (dB)	(dBm)	800 MHz - SMR - P25 - Sector N/A Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)
ANT8_L1												
Donor (ANT1_Roof)	OY-MN-V11P	-	-97.20	-57.20	-97.66	-57.66	-	-	-	-	-	-
CBL52_Roof	LDF4-50A	307.31	-6.15	-63.34	-6.52	-64.18	-	-	-	-	-	-
MSC2	LP-GTR-NFF	-	-0.10	-63.44	-0.10	-64.28	-	-	-	-	-	-
CBL3_L2	WCW-ICA12-50JPLLR	42.22	-1.14	-64.58	-1.20	-65.48	-	-	-	-	-	-
RPT1_L1	RX78V3-A3327P0-S1	-	80.00	15.42	80.00	14.52	-	-	-	-	-	-
JMP12	JS-NMNM3F-R141	Jumper	-0.60	14.82	-0.60	13.92	-	-	-	-	-	-
SPT16_L1	PS-E2-ON50M(XH)	-	-3.30	11.52	-3.30	10.62	-	-	-	-	-	-
JMP4	JS-NMNM3F-R141	Jumper	-0.60	10.92	-0.60	10.02	-	-	-	-	-	-
SPT6_L1	CO-E20NI	-	-0.20	10.72	-0.20	9.82	-	-	-	-	-	-
CBL16_L1	WCW-ICA12-50JPLLR	31.58	-0.90	9.82	-0.95	8.87	-	-	-	-	-	-
SPT9_L1	CO-E15NI	-	-0.20	9.62	-0.20	8.67	-	-	-	-	-	-
JMP2	JS-NMNM3F-R141	Jumper	-0.60	9.02	-0.60	8.07	-	-	-	-	-	-
SPT17_L1	CO-E05NI	-	-2.00	7.02	-2.00	6.07	-	-	-	-	-	-
CBL14_L1	WCW-ICA12-50JPLLR	89.34	-2.18	4.84	-2.31	3.76	-	-	-	-	-	-
SPT7_L1	CO-E07NI	-	-1.30	3.54	-1.30	2.46	-	-	-	-	-	-
CBL22_L1	WCW-ICA12-50JPLLR	64.45	-1.63	1.91	-1.72	0.74	-	-	-	-	-	-
SPT4_L1	CO-E07NI	-	-6.60	-4.69	-6.60	-5.86	-	-	-	-	-	-
JMP6	JS-NMNM3F-R141	Jumper	-0.60	-5.29	-0.60	-6.46	-	-	-	-	-	-
SPT5_L1	CO-E05NI	-	-2.00	-7.29	-2.00	-8.46	-	-	-	-	-	-
CBL11_L1	WCW-ICA12-50JPLLR	101.81	-2.46	-9.75	-2.61	-11.07	-	-	-	-	-	-
MS signal range [feet]	-	-	170.18	-	143.09	-	-	-	-	-	-	-
MS RSSI [dBm]	-	-	-79.53	-	-81.26	-	-	-	-	-	-	-
ANT8_L1 (dBd)	IX-MJN-V3P	-	-0.72	-10.47	-0.29	-11.36	-	-	-	-	-	-

DAS link budget report												
ID	Model	Length (feet)	700 MHz - P25 - Sector N/A Gain/loss (dB)	(dBm)	800 MHz - SMR - P25 - Sector N/A Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)
ANT8_L2												
Donor (ANT1_Roof)	OY-MN-V11P	-	-97.20	-57.20	-97.66	-57.66	-	-	-	-	-	-
CBL52_Roof	LDF4-50A	307.31	-6.15	-63.34	-6.52	-64.18	-	-	-	-	-	-
MSC2	LP-GTR-NFF	-	-0.10	-63.44	-0.10	-64.28	-	-	-	-	-	-
CBL3_L2	WCW-ICA12-50JPLLR	42.22	-1.14	-64.58	-1.20	-65.48	-	-	-	-	-	-
RPT1_L1	RX78V3-A3327P0-S1	-	80.00	15.42	80.00	14.52	-	-	-	-	-	-
JMP12	JS-NMNM3F-R141	Jumper	-0.60	14.82	-0.60	13.92	-	-	-	-	-	-
SPT16_L1	PS-E2-ON50M(XH)	-	-3.30	11.52	-3.30	10.62	-	-	-	-	-	-
CBL50_L1	WCW-ICA12-50JPLLR	35.22	-0.98	10.54	-1.03	9.59	-	-	-	-	-	-
SPT6_L2	CO-E20NI	-	-0.20	10.34	-0.20	9.39	-	-	-	-	-	-
CBL21_L2	WCW-ICA12-50JPLLR	31.58	-0.90	9.44	-0.95	8.44	-	-	-	-	-	-
SPT9_L2	CO-E15NI	-	-0.20	9.24	-0.20	8.24	-	-	-	-	-	-
JMP15	JS-NMNM3F-R141	Jumper	-0.60	8.64	-0.60	7.64	-	-	-	-	-	-
SPT16_L2	CO-E05NI	-	-2.00	6.64	-2.00	5.64	-	-	-	-	-	-
CBL40_L2	WCW-ICA12-50JPLLR	89.34	-2.18	4.45	-2.31	3.33	-	-	-	-	-	-
SPT7_L2	CO-E07NI	-	-1.30	3.15	-1.30	2.03	-	-	-	-	-	-
CBL47_L2	WCW-ICA12-50JPLLR	64.45	-1.63	1.52	-1.72	0.30	-	-	-	-	-	-
SPT4_L2	CO-E07NI	-	-6.60	-5.08	-6.60	-6.30	-	-	-	-	-	-
JMP17	JS-NMNM3F-R141	Jumper	-0.60	-5.68	-0.60	-6.90	-	-	-	-	-	-
SPT5_L2	CO-E05NI	-	-2.00	-7.68	-2.00	-8.90	-	-	-	-	-	-
CBL41_L2	WCW-ICA12-50JPLLR	101.81	-2.46	-10.13	-2.61	-11.50	-	-	-	-	-	-
MS signal range [feet]	-	-	163.80	-	137.02	-	-	-	-	-	-	-
MS RSSI [dBm]	-	-	-79.91	-	-81.70	-	-	-	-	-	-	-
ANT8_L2 (dBd)	IX-MJN-V3P	-	-0.72	-10.85	-0.29	-11.79	-	-	-	-	-	-

DAS link budget report												
ID	Model	Length (feet)	700 MHz - P25 - Sector N/A Gain/loss (dB)	(dBm)	800 MHz - SMR - P25 - Sector N/A Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)
ANT9_L1												
Donor (ANT1_Roof)	OY-MN-V11P	-	-97.20	-57.20	-97.66	-57.66	-	-	-	-	-	-
CBL52_Roof	LDF4-50A	307.31	-6.15	-63.34	-6.52	-64.18	-	-	-	-	-	-
MSC2	LP-GTR-NFF	-	-0.10	-63.44	-0.10	-64.28	-	-	-	-	-	-
CBL3_L2	WCW-ICA12-50JPLLR	42.22	-1.14	-64.58	-1.20	-65.48	-	-	-	-	-	-
RPT1_L1	RX78V3-A3327P0-S1	-	80.00	15.42	80.00	14.52	-	-	-	-	-	-
JMP12	JS-NMNM3F-R141	Jumper	-0.60	14.82	-0.60	13.92	-	-	-	-	-	-
SPT16_L1	PS-E2-ON50M(XH)	-	-3.30	11.52	-3.30	10.62	-	-	-	-	-	-
JMP4	JS-NMNM3F-R141	Jumper	-0.60	10.92	-0.60	10.02	-	-	-	-	-	-
SPT6_L1	CO-E20NI	-	-0.20	10.72	-0.20	9.82	-	-	-	-	-	-
CBL16_L1	WCW-ICA12-50JPLLR	31.58	-0.90	9.82	-0.95	8.87	-	-	-	-	-	-
SPT9_L1	CO-E15NI	-	-0.20	9.62	-0.20	8.67	-	-	-	-	-	-
JMP2	JS-NMNM3F-R141	Jumper	-0.60	9.02	-0.60	8.07	-	-	-	-	-	-
SPT17_L1	CO-E05NI	-	-2.00	7.02	-2.00	6.07	-	-	-	-	-	-
CBL14_L1	WCW-ICA12-50JPLLR	89.34	-2.18	4.84	-2.31	3.76	-	-	-	-	-	-
SPT7_L1	CO-E07NI	-	-6.60	-1.76	-6.60	-2.84	-	-	-	-	-	-
JMP11	JS-NMNM3F-R141	Jumper	-0.60	-2.36	-0.60	-3.44	-	-	-	-	-	-
SPT8_L1	PS-E3-ON50M(XH)	-	-5.40	-7.76	-5.40	-8.84	-	-	-	-	-	-
JMP8	JS-NMNM3F-R141	Jumper	-0.60	-8.36	-0.60	-9.44	-	-	-	-	-	-
MS signal range [feet]	-	-	195.58	-	168.50	-	-	-	-	-	-	-
MS RSSI [dBm]	-	-	-78.14	-	-79.63	-	-	-	-	-	-	-
ANT9_L1 (dBd)	IX-MJN-V3P	-	-0.72	-9.08	-0.29	-9.73	-	-	-	-	-	-

DAS link budget report												
ID	Model	Length (feet)	700 MHz - P25 - Sector N/A Gain/loss (dB)	(dBm)	800 MHz - SMR - P25 - Sector N/A Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)
ANT9_L2												
Donor (ANT1_Roof)	OY-MN-V11P	-	-97.20	-57.20	-97.66	-57.66	-	-	-	-	-	-
CBL52_Roof	LDF4-50A	307.31	-6.15	-63.34	-6.52	-64.18	-	-	-	-	-	-
MSC2	LP-GTR-NFF	-	-0.10	-63.44	-0.10	-64.28	-	-	-	-	-	-
CBL3_L2	WCW-ICA12-50JPLLR	42.22	-1.14	-64.58	-1.20	-65.48	-	-	-	-	-	-
RPT1_L1	RX78V3-A3327P0-S1	-	80.00	15.42	80.00	14.52	-	-	-	-	-	-
JMP12	JS-NMNM3F-R141	Jumper	-0.60	14.82	-0.60	13.92	-	-	-	-	-	-
SPT16_L1	PS-E2-ON50M(XH)	-	-3.30	11.52	-3.30	10.62	-	-	-	-	-	-
CBL50_L1	WCW-ICA12-50JPLLR	35.22	-0.98	10.54	-1.03	9.59	-	-	-	-	-	-
SPT6_L2	CO-E20NI	-	-0.20	10.34	-0.20	9.39	-	-	-	-	-	-
CBL21_L2	WCW-ICA12-50JPLLR	31.58	-0.90	9.44	-0.95	8.44	-	-	-	-	-	-
SPT9_L2	CO-E15NI	-	-0.20	9.24	-0.20	8.24	-	-	-	-	-	-
JMP15	JS-NMNM3F-R141	Jumper	-0.60	8.64	-0.60	7.64	-	-	-	-	-	-
SPT16_L2	CO-E05NI	-	-2.00	6.64	-2.00	5.64	-	-	-	-	-	-
CBL40_L2	WCW-ICA12-50JPLLR	89.34	-2.18	4.45	-2.31	3.33	-	-	-	-	-	-
SPT7_L2	CO-E07NI	-	-6.60	-2.15	-6.60	-3.27	-	-	-	-	-	-
JMP7	JS-NMNM3F-R141	Jumper	-0.60	-2.75	-0.60	-3.87	-	-	-	-	-	-
SPT8_L2	PS-E3-ON50M(XH)	-	-5.40	-8.15	-5.40	-9.27	-	-	-	-	-	-
JMP21	JS-NMNM3F-R141	Jumper	-0.60	-8.75	-0.60	-9.87	-	-	-	-	-	-
MS signal range [feet]	-	-	188.25	-	161.35	-	-	-	-	-	-	-
MS RSSI [dBm]	-	-	-78.52	-	-80.06	-	-	-	-	-	-	-
ANT9_L2 (dBd)	IX-MJN-V3P	-	-0.72	-9.47	-0.29	-10.16	-	-	-	-	-	-

DAS link budget report												
ID	Model	Length (feet)	700 MHz - P25 - Sector N/A Gain/loss (dB)	(dBm)	800 MHz - SMR - P25 - Sector N/A Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)
ANT10_L1												
Donor (ANT1_Roof)	OY-MN-V11P	-	-97.20	-57.20	-97.66	-57.66	-	-	-	-	-	-
CBL52_Roof	LDF4-50A	307.31	-6.15	-63.34	-6.52	-64.18	-	-	-	-	-	-
MSC2	LP-GTR-NFF	-	-0.10	-63.44	-0.10	-64.28	-	-	-	-	-	-
CBL3_L2	WCW-ICA12-50JPLLR	42.22	-1.14	-64.58	-1.20	-65.48	-	-	-	-	-	-
RPT1_L1	RX78V3-A3327P0-S1	-	80.00	15.42	80.00	14.52	-	-	-	-	-	-
JMP12	JS-NMNM3F-R141	Jumper	-0.60	14.82	-0.60	13.92	-	-	-	-	-	-
SPT16_L1	PS-E2-ON50M(XH)	-	-3.30	11.52	-3.30	10.62	-	-	-	-	-	-
JMP4	JS-NMNM3F-R141	Jumper	-0.60	10.92	-0.60	10.02	-	-	-	-	-	-
SPT6_L1	CO-E20NI	-	-0.20	10.72	-0.20	9.82	-	-	-	-	-	-
CBL16_L1	WCW-ICA12-50JPLLR	31.58	-0.90	9.82	-0.95	8.87	-	-	-	-	-	-
SPT9_L1	CO-E15NI	-	-0.20	9.62	-0.20	8.67	-	-	-	-	-	-
JMP2	JS-NMNM3F-R141	Jumper	-0.60	9.02	-0.60	8.07	-	-	-	-	-	-
SPT17_L1	CO-E05NI	-	-2.00	7.02	-2.00	6.07	-	-	-	-	-	-
CBL14_L1	WCW-ICA12-50JPLLR	89.34	-2.18	4.84	-2.31	3.76	-	-	-	-	-	-
SPT7_L1	CO-E07NI	-	-6.60	-1.76	-6.60	-2.84	-	-	-	-	-	-
JMP11	JS-NMNM3F-R141	Jumper	-0.60	-2.36	-0.60	-3.44	-	-	-	-	-	-
SPT8_L1	PS-E3-ON50M(XH)	-	-5.40	-7.76	-5.40	-8.84	-	-	-	-	-	-
CBL17_L1	WCW-ICA12-50JPLLR	70.16	-1.76	-9.52	-1.86	-10.70	-	-	-	-	-	-
MS signal range [feet]	-	-	174.19	-	148.54	-	-	-	-	-	-	-
MS RSSI [dBm]	-	-	-79.30	-	-80.89	-	-	-	-	-	-	-
ANT10_L1 (dBd)	IX-MJN-V3P	-	-0.72	-10.24	-0.29	-10.99	-	-	-	-	-	-

DAS link budget report												
ID	Model	Length (feet)	700 MHz - P25 - Sector N/A Gain/loss (dB)	(dBm)	800 MHz - SMR - P25 - Sector N/A Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)
ANT10_L2												
Donor (ANT1_Roof)	OY-MN-V11P	-	-97.20	-57.20	-97.66	-57.66	-	-	-	-	-	-
CBL52_Roof	LDF4-50A	307.31	-6.15	-63.34	-6.52	-64.18	-	-	-	-	-	-
MSC2	LP-GTR-NFF	-	-0.10	-63.44	-0.10	-64.28	-	-	-	-	-	-
CBL3_L2	WCW-ICA12-50JPLLR	42.22	-1.14	-64.58	-1.20	-65.48	-	-	-	-	-	-
RPT1_L1	RX78V3-A3327P0-S1	-	80.00	15.42	80.00	14.52	-	-	-	-	-	-
JMP12	JS-NMNM3F-R141	Jumper	-0.60	14.82	-0.60	13.92	-	-	-	-	-	-
SPT16_L1	PS-E2-ON50M(XH)	-	-3.30	11.52	-3.30	10.62	-	-	-	-	-	-
CBL50_L1	WCW-ICA12-50JPLLR	35.22	-0.98	10.54	-1.03	9.59	-	-	-	-	-	-
SPT6_L2	CO-E20NI	-	-0.20	10.34	-0.20	9.39	-	-	-	-	-	-
CBL21_L2	WCW-ICA12-50JPLLR	31.58	-0.90	9.44	-0.95	8.44	-	-	-	-	-	-
SPT9_L2	CO-E15NI	-	-0.20	9.24	-0.20	8.24	-	-	-	-	-	-
JMP15	JS-NMNM3F-R141	Jumper	-0.60	8.64	-0.60	7.64	-	-	-	-	-	-
SPT16_L2	CO-E05NI	-	-2.00	6.64	-2.00	5.64	-	-	-	-	-	-
CBL40_L2	WCW-ICA12-50JPLLR	89.34	-2.18	4.45	-2.31	3.33	-	-	-	-	-	-
SPT7_L2	CO-E07NI	-	-6.60	-2.15	-6.60	-3.27	-	-	-	-	-	-
JMP7	JS-NMNM3F-R141	Jumper	-0.60	-2.75	-0.60	-3.87	-	-	-	-	-	-
SPT8_L2	PS-E3-ON50M(XH)	-	-5.40	-8.15	-5.40	-9.27	-	-	-	-	-	-
CBL44_L2	WCW-ICA12-50JPLLR	70.16	-1.76	-9.90	-1.86	-11.13	-	-	-	-	-	-
MS signal range [feet]	-	-	167.66	-	142.23	-	-	-	-	-	-	-
MS RSSI [dBm]	-	-	-79.68	-	-81.32	-	-	-	-	-	-	-
ANT10_L2 (dBd)	IX-MJN-V3P	-	-0.72	-10.62	-0.29	-11.42	-	-	-	-	-	-

DAS link budget report												
ID	Model	Length (feet)	700 MHz - P25 - Sector N/A Gain/loss (dB)	(dBm)	800 MHz - SMR - P25 - Sector N/A Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)
ANT11_L1												
Donor (ANT1_Roof)	OY-MN-V11P	-	-97.20	-57.20	-97.66	-57.66	-	-	-	-	-	-
CBL52_Roof	LDF4-50A	307.31	-6.15	-63.34	-6.52	-64.18	-	-	-	-	-	-
MSC2	LP-GTR-NFF	-	-0.10	-63.44	-0.10	-64.28	-	-	-	-	-	-
CBL3_L2	WCW-ICA12-50JPLLR	42.22	-1.14	-64.58	-1.20	-65.48	-	-	-	-	-	-
RPT1_L1	RX78V3-A3327P0-S1	-	80.00	15.42	80.00	14.52	-	-	-	-	-	-
JMP12	JS-NMNM3F-R141	Jumper	-0.60	14.82	-0.60	13.92	-	-	-	-	-	-
SPT16_L1	PS-E2-ON50M(XH)	-	-3.30	11.52	-3.30	10.62	-	-	-	-	-	-
JMP4	JS-NMNM3F-R141	Jumper	-0.60	10.92	-0.60	10.02	-	-	-	-	-	-
SPT6_L1	CO-E20NI	-	-0.20	10.72	-0.20	9.82	-	-	-	-	-	-
CBL16_L1	WCW-ICA12-50JPLLR	31.58	-0.90	9.82	-0.95	8.87	-	-	-	-	-	-
SPT9_L1	CO-E15NI	-	-0.20	9.62	-0.20	8.67	-	-	-	-	-	-
JMP2	JS-NMNM3F-R141	Jumper	-0.60	9.02	-0.60	8.07	-	-	-	-	-	-
SPT17_L1	CO-E05NI	-	-2.00	7.02	-2.00	6.07	-	-	-	-	-	-
CBL14_L1	WCW-ICA12-50JPLLR	89.34	-2.18	4.84	-2.31	3.76	-	-	-	-	-	-
SPT7_L1	CO-E07NI	-	-1.30	3.54	-1.30	2.46	-	-	-	-	-	-
CBL22_L1	WCW-ICA12-50JPLLR	64.45	-1.63	1.91	-1.72	0.74	-	-	-	-	-	-
SPT4_L1	CO-E07NI	-	-1.30	0.61	-1.30	-0.56	-	-	-	-	-	-
CBL10_L1	WCW-ICA12-50JPLLR	18.10	-0.60	0.00	-0.63	-1.19	-	-	-	-	-	-
SPT3_L1	CO-E10NI	-	-0.60	-0.60	-0.60	-1.79	-	-	-	-	-	-
CBL9_L1	WCW-ICA12-50JPLLR	51.39	-1.34	-1.94	-1.42	-3.21	-	-	-	-	-	-
SPT2_L1	CO-E07NI	-	-6.60	-8.54	-6.60	-9.81	-	-	-	-	-	-
CBL5_L1	WCW-ICA12-50JPLLR	47.51	-1.25	-9.79	-1.32	-11.13	-	-	-	-	-	-
MS signal range [feet]	-	-	169.56	-	142.25	-	-	-	-	-	-	-

DAS link budget report												
ID	Model	Length (feet)	700 MHz - P25 - Sector N/A Gain/loss (dB)	(dBm)	800 MHz - SMR - P25 - Sector N/A Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)
MS RSSI [dBm]	-	-	-79.57	-	-81.32	-	-	-	-	-	-	-
ANT11_L1 (dBd)	IX-MJN-V3P	-	-0.72	-10.51	-0.29	-11.42	-	-	-	-	-	-

DAS link budget report												
ID	Model	Length (feet)	700 MHz - P25 - Sector N/A Gain/loss (dB)	(dBm)	800 MHz - SMR - P25 - Sector N/A Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)
ANT11_L2												
Donor (ANT1_Roof)	OY-MN-V11P	-	-97.20	-57.20	-97.66	-57.66	-	-	-	-	-	-
CBL52_Roof	LDF4-50A	307.31	-6.15	-63.34	-6.52	-64.18	-	-	-	-	-	-
MSC2	LP-GTR-NFF	-	-0.10	-63.44	-0.10	-64.28	-	-	-	-	-	-
CBL3_L2	WCW-ICA12-50JPLLR	42.22	-1.14	-64.58	-1.20	-65.48	-	-	-	-	-	-
RPT1_L1	RX78V3-A3327P0-S1	-	80.00	15.42	80.00	14.52	-	-	-	-	-	-
JMP12	JS-NMNM3F-R141	Jumper	-0.60	14.82	-0.60	13.92	-	-	-	-	-	-
SPT16_L1	PS-E2-ON50M(XH)	-	-3.30	11.52	-3.30	10.62	-	-	-	-	-	-
CBL50_L1	WCW-ICA12-50JPLLR	35.22	-0.98	10.54	-1.03	9.59	-	-	-	-	-	-
SPT6_L2	CO-E20NI	-	-0.20	10.34	-0.20	9.39	-	-	-	-	-	-
CBL21_L2	WCW-ICA12-50JPLLR	31.58	-0.90	9.44	-0.95	8.44	-	-	-	-	-	-
SPT9_L2	CO-E15NI	-	-0.20	9.24	-0.20	8.24	-	-	-	-	-	-
JMP15	JS-NMNM3F-R141	Jumper	-0.60	8.64	-0.60	7.64	-	-	-	-	-	-
SPT16_L2	CO-E05NI	-	-2.00	6.64	-2.00	5.64	-	-	-	-	-	-
CBL40_L2	WCW-ICA12-50JPLLR	89.34	-2.18	4.45	-2.31	3.33	-	-	-	-	-	-
SPT7_L2	CO-E07NI	-	-1.30	3.15	-1.30	2.03	-	-	-	-	-	-
CBL47_L2	WCW-ICA12-50JPLLR	64.45	-1.63	1.52	-1.72	0.30	-	-	-	-	-	-
SPT4_L2	CO-E07NI	-	-1.30	0.22	-1.30	-1.00	-	-	-	-	-	-
CBL39_L2	WCW-ICA12-50JPLLR	18.10	-0.60	-0.38	-0.63	-1.62	-	-	-	-	-	-
SPT3_L2	CO-E10NI	-	-0.60	-0.98	-0.60	-2.22	-	-	-	-	-	-
CBL8_L2	WCW-ICA12-50JPLLR	51.39	-1.34	-2.32	-1.42	-3.64	-	-	-	-	-	-
SPT2_L2	CO-E07NI	-	-6.60	-8.92	-6.60	-10.24	-	-	-	-	-	-
CBL48_L2	WCW-ICA12-50JPLLR	47.51	-1.25	-10.17	-1.32	-11.56	-	-	-	-	-	-

DAS link budget report												
ID	Model	Length (feet)	700 MHz - P25 - Sector N/A Gain/loss (dB)	(dBm)	800 MHz - SMR - P25 - Sector N/A Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)
MS signal range [feet]	-	-	163.20	-	136.21	-	-	-	-	-	-	-
MS RSSI [dBm]	-	-	-79.95	-	-81.75	-	-	-	-	-	-	-
ANT11_L2 (dBd)	IX-MJN-V3P	-	-0.72	-10.89	-0.29	-11.85	-	-	-	-	-	-
ANT12_L1												
Donor (ANT1_Roof)	OY-MN-V11P	-	-97.20	-57.20	-97.66	-57.66	-	-	-	-	-	-
CBL52_Roof	LDF4-50A	307.31	-6.15	-63.34	-6.52	-64.18	-	-	-	-	-	-
MSC2	LP-GTR-NFF	-	-0.10	-63.44	-0.10	-64.28	-	-	-	-	-	-
CBL3_L2	WCW-ICA12-50JPLLR	42.22	-1.14	-64.58	-1.20	-65.48	-	-	-	-	-	-
RPT1_L1	RX78V3-A3327P0-S1	-	80.00	15.42	80.00	14.52	-	-	-	-	-	-
JMP12	JS-NMNM3F-R141	Jumper	-0.60	14.82	-0.60	13.92	-	-	-	-	-	-
SPT16_L1	PS-E2-ON50M(XH)	-	-3.30	11.52	-3.30	10.62	-	-	-	-	-	-
JMP4	JS-NMNM3F-R141	Jumper	-0.60	10.92	-0.60	10.02	-	-	-	-	-	-
SPT6_L1	CO-E20NI	-	-0.20	10.72	-0.20	9.82	-	-	-	-	-	-
CBL16_L1	WCW-ICA12-50JPLLR	31.58	-0.90	9.82	-0.95	8.87	-	-	-	-	-	-
SPT9_L1	CO-E15NI	-	-15.00	-5.18	-15.00	-6.13	-	-	-	-	-	-
JMP13	JS-NMNM3F-R141	Jumper	-0.60	-5.78	-0.60	-6.73	-	-	-	-	-	-
SPT10_L1	PS-E2-ON50M(XH)	-	-3.30	-9.08	-3.30	-10.03	-	-	-	-	-	-
JMP16	JS-NMNM3F-R141	Jumper	-0.60	-9.68	-0.60	-10.63	-	-	-	-	-	-
MS signal range [feet]	-	-	171.41	-	149.62	-	-	-	-	-	-	-
MS RSSI [dBm]	-	-	-79.46	-	-80.82	-	-	-	-	-	-	-
ANT12_L1 (dBd)	IX-MJN-V3P	-	-0.72	-10.40	-0.29	-10.92	-	-	-	-	-	-

DAS link budget report												
ID	Model	Length (feet)	700 MHz - P25 - Sector N/A Gain/loss (dB)	(dBm)	800 MHz - SMR - P25 - Sector N/A Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)
ANT12_L2												
Donor (ANT1_Roof)	OY-MN-V11P	-	-97.20	-57.20	-97.66	-57.66	-	-	-	-	-	-
CBL52_Roof	LDF4-50A	307.31	-6.15	-63.34	-6.52	-64.18	-	-	-	-	-	-
MSC2	LP-GTR-NFF	-	-0.10	-63.44	-0.10	-64.28	-	-	-	-	-	-
CBL3_L2	WCW-ICA12-50JPLLR	42.22	-1.14	-64.58	-1.20	-65.48	-	-	-	-	-	-
RPT1_L1	RX78V3-A3327P0-S1	-	80.00	15.42	80.00	14.52	-	-	-	-	-	-
JMP12	JS-NMNM3F-R141	Jumper	-0.60	14.82	-0.60	13.92	-	-	-	-	-	-
SPT16_L1	PS-E2-ON50M(XH)	-	-3.30	11.52	-3.30	10.62	-	-	-	-	-	-
CBL50_L1	WCW-ICA12-50JPLLR	35.22	-0.98	10.54	-1.03	9.59	-	-	-	-	-	-
SPT6_L2	CO-E20NI	-	-0.20	10.34	-0.20	9.39	-	-	-	-	-	-
CBL21_L2	WCW-ICA12-50JPLLR	31.58	-0.90	9.44	-0.95	8.44	-	-	-	-	-	-
SPT9_L2	CO-E15NI	-	-15.00	-5.56	-15.00	-6.56	-	-	-	-	-	-
JMP5	JS-NMNM3F-R141	Jumper	-0.60	-6.16	-0.60	-7.16	-	-	-	-	-	-
SPT10_L2	PS-E2-ON50M(XH)	-	-3.30	-9.46	-3.30	-10.46	-	-	-	-	-	-
JMP22	JS-NMNM3F-R141	Jumper	-0.60	-10.06	-0.60	-11.06	-	-	-	-	-	-
MS signal range [feet]	-	-	164.98	-	143.27	-	-	-	-	-	-	-
MS RSSI [dBm]	-	-	-79.84	-	-81.25	-	-	-	-	-	-	-
ANT12_L2 (dBd)	IX-MJN-V3P	-	-0.72	-10.78	-0.29	-11.35	-	-	-	-	-	-

DAS link budget report												
ID	Model	Length (feet)	700 MHz - P25 - Sector N/A Gain/loss (dB)	(dBm)	800 MHz - SMR - P25 - Sector N/A Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)
ANT13_L1												
Donor (ANT1_Roof)	OY-MN-V11P	-	-97.20	-57.20	-97.66	-57.66	-	-	-	-	-	-
CBL52_Roof	LDF4-50A	307.31	-6.15	-63.34	-6.52	-64.18	-	-	-	-	-	-
MSC2	LP-GTR-NFF	-	-0.10	-63.44	-0.10	-64.28	-	-	-	-	-	-
CBL3_L2	WCW-ICA12-50JPLLR	42.22	-1.14	-64.58	-1.20	-65.48	-	-	-	-	-	-
RPT1_L1	RX78V3-A3327P0-S1	-	80.00	15.42	80.00	14.52	-	-	-	-	-	-
JMP12	JS-NMNM3F-R141	Jumper	-0.60	14.82	-0.60	13.92	-	-	-	-	-	-
SPT16_L1	PS-E2-ON50M(XH)	-	-3.30	11.52	-3.30	10.62	-	-	-	-	-	-
JMP4	JS-NMNM3F-R141	Jumper	-0.60	10.92	-0.60	10.02	-	-	-	-	-	-
SPT6_L1	CO-E20NI	-	-0.20	10.72	-0.20	9.82	-	-	-	-	-	-
CBL16_L1	WCW-ICA12-50JPLLR	31.58	-0.90	9.82	-0.95	8.87	-	-	-	-	-	-
SPT9_L1	CO-E15NI	-	-15.00	-5.18	-15.00	-6.13	-	-	-	-	-	-
JMP13	JS-NMNM3F-R141	Jumper	-0.60	-5.78	-0.60	-6.73	-	-	-	-	-	-
SPT10_L1	PS-E2-ON50M(XH)	-	-3.30	-9.08	-3.30	-10.03	-	-	-	-	-	-
CBL23_L1	WCW-ICA12-50JPLLR	59.24	-1.51	-10.60	-1.60	-11.63	-	-	-	-	-	-
MS signal range [feet]	-	-	156.41	-	135.35	-	-	-	-	-	-	-
MS RSSI [dBm]	-	-	-80.37	-	-81.82	-	-	-	-	-	-	-
ANT13_L1 (dBd)	IX-MJN-V3P	-	-0.72	-11.32	-0.29	-11.92	-	-	-	-	-	-

DAS link budget report												
ID	Model	Length (feet)	700 MHz - P25 - Sector N/A Gain/loss (dB)	(dBm)	800 MHz - SMR - P25 - Sector N/A Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)
ANT13_L2												
Donor (ANT1_Roof)	OY-MN-V11P	-	-97.20	-57.20	-97.66	-57.66	-	-	-	-	-	-
CBL52_Roof	LDF4-50A	307.31	-6.15	-63.34	-6.52	-64.18	-	-	-	-	-	-
MSC2	LP-GTR-NFF	-	-0.10	-63.44	-0.10	-64.28	-	-	-	-	-	-
CBL3_L2	WCW-ICA12-50JPLLR	42.22	-1.14	-64.58	-1.20	-65.48	-	-	-	-	-	-
RPT1_L1	RX78V3-A3327P0-S1	-	80.00	15.42	80.00	14.52	-	-	-	-	-	-
JMP12	JS-NMNM3F-R141	Jumper	-0.60	14.82	-0.60	13.92	-	-	-	-	-	-
SPT16_L1	PS-E2-ON50M(XH)	-	-3.30	11.52	-3.30	10.62	-	-	-	-	-	-
CBL50_L1	WCW-ICA12-50JPLLR	35.22	-0.98	10.54	-1.03	9.59	-	-	-	-	-	-
SPT6_L2	CO-E20NI	-	-0.20	10.34	-0.20	9.39	-	-	-	-	-	-
CBL21_L2	WCW-ICA12-50JPLLR	31.58	-0.90	9.44	-0.95	8.44	-	-	-	-	-	-
SPT9_L2	CO-E15NI	-	-15.00	-5.56	-15.00	-6.56	-	-	-	-	-	-
JMP5	JS-NMNM3F-R141	Jumper	-0.60	-6.16	-0.60	-7.16	-	-	-	-	-	-
SPT10_L2	PS-E2-ON50M(XH)	-	-3.30	-9.46	-3.30	-10.46	-	-	-	-	-	-
CBL28_L2	WCW-ICA12-50JPLLR	59.24	-1.51	-10.98	-1.60	-12.06	-	-	-	-	-	-
MS signal range [feet]	-	-	150.55	-	129.61	-	-	-	-	-	-	-
MS RSSI [dBm]	-	-	-80.75	-	-82.25	-	-	-	-	-	-	-
ANT13_L2 (dBd)	IX-MJN-V3P	-	-0.72	-11.70	-0.29	-12.35	-	-	-	-	-	-

DAS link budget report												
ID	Model	Length (feet)	700 MHz - P25 - Sector N/A Gain/loss (dB)	(dBm)	800 MHz - SMR - P25 - Sector N/A Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)
ANT14_L1												
Donor (ANT1_Roof)	OY-MN-V11P	-	-97.20	-57.20	-97.66	-57.66	-	-	-	-	-	-
CBL52_Roof	LDF4-50A	307.31	-6.15	-63.34	-6.52	-64.18	-	-	-	-	-	-
MSC2	LP-GTR-NFF	-	-0.10	-63.44	-0.10	-64.28	-	-	-	-	-	-
CBL3_L2	WCW-ICA12-50JPLLR	42.22	-1.14	-64.58	-1.20	-65.48	-	-	-	-	-	-
RPT1_L1	RX78V3-A3327P0-S1	-	80.00	15.42	80.00	14.52	-	-	-	-	-	-
JMP12	JS-NMNM3F-R141	Jumper	-0.60	14.82	-0.60	13.92	-	-	-	-	-	-
SPT16_L1	PS-E2-ON50M(XH)	-	-3.30	11.52	-3.30	10.62	-	-	-	-	-	-
JMP4	JS-NMNM3F-R141	Jumper	-0.60	10.92	-0.60	10.02	-	-	-	-	-	-
SPT6_L1	CO-E20NI	-	-0.20	10.72	-0.20	9.82	-	-	-	-	-	-
CBL16_L1	WCW-ICA12-50JPLLR	31.58	-0.90	9.82	-0.95	8.87	-	-	-	-	-	-
SPT9_L1	CO-E15NI	-	-0.20	9.62	-0.20	8.67	-	-	-	-	-	-
JMP2	JS-NMNM3F-R141	Jumper	-0.60	9.02	-0.60	8.07	-	-	-	-	-	-
SPT17_L1	CO-E05NI	-	-4.60	4.42	-4.60	3.47	-	-	-	-	-	-
CBL26_L1	WCW-ICA12-50JPLLR	66.98	-1.69	2.73	-1.78	1.69	-	-	-	-	-	-
SPT13_L1	CO-E07NI	-	-1.30	1.43	-1.30	0.39	-	-	-	-	-	-
CBL30_L1	WCW-ICA12-50JPLLR	47.21	-1.25	0.19	-1.32	-0.93	-	-	-	-	-	-
SPT11_L1	CO-E05NI	-	-2.00	-1.81	-2.00	-2.93	-	-	-	-	-	-
JMP14	JS-NMNM3F-R141	Jumper	-0.60	-2.41	-0.60	-3.53	-	-	-	-	-	-
SPT12_L1	PS-E3-ON50M(XH)	-	-5.40	-7.81	-5.40	-8.93	-	-	-	-	-	-
CBL32_L1	WCW-ICA12-50JPLLR	58.17	-1.49	-9.31	-1.58	-10.50	-	-	-	-	-	-
MS signal range [feet]	-	-	177.97	-	151.48	-	-	-	-	-	-	-
MS RSSI [dBm]	-	-	-79.08	-	-80.69	-	-	-	-	-	-	-
ANT14_L1 (dBd)	IX-MJN-V3P	-	-0.72	-10.03	-0.29	-10.79	-	-	-	-	-	-

DAS link budget report												
ID	Model	Length (feet)	700 MHz - P25 - Sector N/A Gain/loss (dB)	(dBm)	800 MHz - SMR - P25 - Sector N/A Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)
ANT14_L2												
Donor (ANT1_Roof)	OY-MN-V11P	-	-97.20	-57.20	-97.66	-57.66	-	-	-	-	-	-
CBL52_Roof	LDF4-50A	307.31	-6.15	-63.34	-6.52	-64.18	-	-	-	-	-	-
MSC2	LP-GTR-NFF	-	-0.10	-63.44	-0.10	-64.28	-	-	-	-	-	-
CBL3_L2	WCW-ICA12-50JPLLR	42.22	-1.14	-64.58	-1.20	-65.48	-	-	-	-	-	-
RPT1_L1	RX78V3-A3327P0-S1	-	80.00	15.42	80.00	14.52	-	-	-	-	-	-
JMP12	JS-NMNM3F-R141	Jumper	-0.60	14.82	-0.60	13.92	-	-	-	-	-	-
SPT16_L1	PS-E2-ON50M(XH)	-	-3.30	11.52	-3.30	10.62	-	-	-	-	-	-
CBL50_L1	WCW-ICA12-50JPLLR	35.22	-0.98	10.54	-1.03	9.59	-	-	-	-	-	-
SPT6_L2	CO-E20NI	-	-0.20	10.34	-0.20	9.39	-	-	-	-	-	-
CBL21_L2	WCW-ICA12-50JPLLR	31.58	-0.90	9.44	-0.95	8.44	-	-	-	-	-	-
SPT9_L2	CO-E15NI	-	-0.20	9.24	-0.20	8.24	-	-	-	-	-	-
JMP15	JS-NMNM3F-R141	Jumper	-0.60	8.64	-0.60	7.64	-	-	-	-	-	-
SPT16_L2	CO-E05NI	-	-4.60	4.04	-4.60	3.04	-	-	-	-	-	-
CBL37_L2	WCW-ICA12-50JPLLR	66.98	-1.69	2.35	-1.78	1.26	-	-	-	-	-	-
SPT11_L2	CO-E07NI	-	-1.30	1.05	-1.30	-0.04	-	-	-	-	-	-
CBL13_L2	WCW-ICA12-50JPLLR	47.21	-1.25	-0.20	-1.32	-1.36	-	-	-	-	-	-
SPT13_L2	CO-E05NI	-	-2.00	-2.20	-2.00	-3.36	-	-	-	-	-	-
JMP10	JS-NMNM3F-R141	Jumper	-0.60	-2.80	-0.60	-3.96	-	-	-	-	-	-
SPT14_L2	PS-E3-ON50M(XH)	-	-5.40	-8.20	-5.40	-9.36	-	-	-	-	-	-
CBL49_L2	WCW-ICA12-50JPLLR	58.17	-1.49	-9.69	-1.58	-10.94	-	-	-	-	-	-
MS signal range [feet]	-	-	171.30	-	145.05	-	-	-	-	-	-	-
MS RSSI [dBm]	-	-	-79.46	-	-81.13	-	-	-	-	-	-	-
ANT14_L2 (dBd)	IX-MJN-V3P	-	-0.72	-10.41	-0.29	-11.23	-	-	-	-	-	-

DAS link budget report												
ID	Model	Length (feet)	700 MHz - P25 - Sector N/A Gain/loss (dB)	(dBm)	800 MHz - SMR - P25 - Sector N/A Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)
ANT15_L1												
Donor (ANT1_Roof)	OY-MN-V11P	-	-97.20	-57.20	-97.66	-57.66	-	-	-	-	-	-
CBL52_Roof	LDF4-50A	307.31	-6.15	-63.34	-6.52	-64.18	-	-	-	-	-	-
MSC2	LP-GTR-NFF	-	-0.10	-63.44	-0.10	-64.28	-	-	-	-	-	-
CBL3_L2	WCW-ICA12-50JPLLR	42.22	-1.14	-64.58	-1.20	-65.48	-	-	-	-	-	-
RPT1_L1	RX78V3-A3327P0-S1	-	80.00	15.42	80.00	14.52	-	-	-	-	-	-
JMP12	JS-NMNM3F-R141	Jumper	-0.60	14.82	-0.60	13.92	-	-	-	-	-	-
SPT16_L1	PS-E2-ON50M(XH)	-	-3.30	11.52	-3.30	10.62	-	-	-	-	-	-
JMP4	JS-NMNM3F-R141	Jumper	-0.60	10.92	-0.60	10.02	-	-	-	-	-	-
SPT6_L1	CO-E20NI	-	-0.20	10.72	-0.20	9.82	-	-	-	-	-	-
CBL16_L1	WCW-ICA12-50JPLLR	31.58	-0.90	9.82	-0.95	8.87	-	-	-	-	-	-
SPT9_L1	CO-E15NI	-	-0.20	9.62	-0.20	8.67	-	-	-	-	-	-
JMP2	JS-NMNM3F-R141	Jumper	-0.60	9.02	-0.60	8.07	-	-	-	-	-	-
SPT17_L1	CO-E05NI	-	-4.60	4.42	-4.60	3.47	-	-	-	-	-	-
CBL26_L1	WCW-ICA12-50JPLLR	66.98	-1.69	2.73	-1.78	1.69	-	-	-	-	-	-
SPT13_L1	CO-E07NI	-	-6.60	-3.87	-6.60	-4.91	-	-	-	-	-	-
JMP19	JS-NMNM3F-R141	Jumper	-0.60	-4.47	-0.60	-5.51	-	-	-	-	-	-
SPT14_L1	PS-E2-ON50M(XH)	-	-3.30	-7.77	-3.30	-8.81	-	-	-	-	-	-
CBL27_L1	WCW-ICA12-50JPLLR	45.61	-1.21	-8.98	-1.28	-10.09	-	-	-	-	-	-
MS signal range [feet]	-	-	183.88	-	157.88	-	-	-	-	-	-	-
MS RSSI [dBm]	-	-	-78.76	-	-80.28	-	-	-	-	-	-	-
ANT15_L1 (dBd)	IX-MJN-V3P	-	-0.72	-9.70	-0.29	-10.38	-	-	-	-	-	-

DAS link budget report												
ID	Model	Length (feet)	700 MHz - P25 - Sector N/A Gain/loss (dB)	(dBm)	800 MHz - SMR - P25 - Sector N/A Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)
ANT15_L2												
Donor (ANT1_Roof)	OY-MN-V11P	-	-97.20	-57.20	-97.66	-57.66	-	-	-	-	-	-
CBL52_Roof	LDF4-50A	307.31	-6.15	-63.34	-6.52	-64.18	-	-	-	-	-	-
MSC2	LP-GTR-NFF	-	-0.10	-63.44	-0.10	-64.28	-	-	-	-	-	-
CBL3_L2	WCW-ICA12-50JPLLR	42.22	-1.14	-64.58	-1.20	-65.48	-	-	-	-	-	-
RPT1_L1	RX78V3-A3327P0-S1	-	80.00	15.42	80.00	14.52	-	-	-	-	-	-
JMP12	JS-NMNM3F-R141	Jumper	-0.60	14.82	-0.60	13.92	-	-	-	-	-	-
SPT16_L1	PS-E2-ON50M(XH)	-	-3.30	11.52	-3.30	10.62	-	-	-	-	-	-
CBL50_L1	WCW-ICA12-50JPLLR	35.22	-0.98	10.54	-1.03	9.59	-	-	-	-	-	-
SPT6_L2	CO-E20NI	-	-0.20	10.34	-0.20	9.39	-	-	-	-	-	-
CBL21_L2	WCW-ICA12-50JPLLR	31.58	-0.90	9.44	-0.95	8.44	-	-	-	-	-	-
SPT9_L2	CO-E15NI	-	-0.20	9.24	-0.20	8.24	-	-	-	-	-	-
JMP15	JS-NMNM3F-R141	Jumper	-0.60	8.64	-0.60	7.64	-	-	-	-	-	-
SPT16_L2	CO-E05NI	-	-4.60	4.04	-4.60	3.04	-	-	-	-	-	-
CBL37_L2	WCW-ICA12-50JPLLR	66.98	-1.69	2.35	-1.78	1.26	-	-	-	-	-	-
SPT11_L2	CO-E07NI	-	-6.60	-4.25	-6.60	-5.34	-	-	-	-	-	-
JMP9	JS-NMNM3F-R141	Jumper	-0.60	-4.85	-0.60	-5.94	-	-	-	-	-	-
SPT12_L2	PS-E2-ON50M(XH)	-	-3.30	-8.15	-3.30	-9.24	-	-	-	-	-	-
CBL20_L2	WCW-ICA12-50JPLLR	45.61	-1.21	-9.36	-1.28	-10.52	-	-	-	-	-	-
MS signal range [feet]	-	-	176.99	-	151.18	-	-	-	-	-	-	-
MS RSSI [dBm]	-	-	-79.14	-	-80.71	-	-	-	-	-	-	-
ANT15_L2 (dBd)	IX-MJN-V3P	-	-0.72	-10.08	-0.29	-10.81	-	-	-	-	-	-

DAS link budget report												
ID	Model	Length (feet)	700 MHz - P25 - Sector N/A Gain/loss (dB)	(dBm)	800 MHz - SMR - P25 - Sector N/A Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)
ANT16_L1												
Donor (ANT1_Roof)	OY-MN-V11P	-	-97.20	-57.20	-97.66	-57.66	-	-	-	-	-	-
CBL52_Roof	LDF4-50A	307.31	-6.15	-63.34	-6.52	-64.18	-	-	-	-	-	-
MSC2	LP-GTR-NFF	-	-0.10	-63.44	-0.10	-64.28	-	-	-	-	-	-
CBL3_L2	WCW-ICA12-50JPLLR	42.22	-1.14	-64.58	-1.20	-65.48	-	-	-	-	-	-
RPT1_L1	RX78V3-A3327P0-S1	-	80.00	15.42	80.00	14.52	-	-	-	-	-	-
JMP12	JS-NMNM3F-R141	Jumper	-0.60	14.82	-0.60	13.92	-	-	-	-	-	-
SPT16_L1	PS-E2-ON50M(XH)	-	-3.30	11.52	-3.30	10.62	-	-	-	-	-	-
JMP4	JS-NMNM3F-R141	Jumper	-0.60	10.92	-0.60	10.02	-	-	-	-	-	-
SPT6_L1	CO-E20NI	-	-0.20	10.72	-0.20	9.82	-	-	-	-	-	-
CBL16_L1	WCW-ICA12-50JPLLR	31.58	-0.90	9.82	-0.95	8.87	-	-	-	-	-	-
SPT9_L1	CO-E15NI	-	-0.20	9.62	-0.20	8.67	-	-	-	-	-	-
JMP2	JS-NMNM3F-R141	Jumper	-0.60	9.02	-0.60	8.07	-	-	-	-	-	-
SPT17_L1	CO-E05NI	-	-4.60	4.42	-4.60	3.47	-	-	-	-	-	-
CBL26_L1	WCW-ICA12-50JPLLR	66.98	-1.69	2.73	-1.78	1.69	-	-	-	-	-	-
SPT13_L1	CO-E07NI	-	-1.30	1.43	-1.30	0.39	-	-	-	-	-	-
CBL30_L1	WCW-ICA12-50JPLLR	47.21	-1.25	0.19	-1.32	-0.93	-	-	-	-	-	-
SPT11_L1	CO-E05NI	-	-4.60	-4.41	-4.60	-5.53	-	-	-	-	-	-
CBL34_L1	WCW-ICA12-50JPLLR	45.26	-1.20	-5.62	-1.27	-6.80	-	-	-	-	-	-
SPT15_L1	PS-E2-ON50M(XH)	-	-3.30	-8.92	-3.30	-10.10	-	-	-	-	-	-
CBL35_L1	WCW-ICA12-50JPLLR	35.65	-0.99	-9.91	-1.04	-11.14	-	-	-	-	-	-
MS signal range [feet]	-	-	167.52	-	142.11	-	-	-	-	-	-	-
MS RSSI [dBm]	-	-	-79.69	-	-81.33	-	-	-	-	-	-	-
ANT16_L1 (dBd)	IX-MJN-V3P	-	-0.72	-10.63	-0.29	-11.43	-	-	-	-	-	-

DAS link budget report												
ID	Model	Length (feet)	700 MHz - P25 - Sector N/A Gain/loss (dB)	(dBm)	800 MHz - SMR - P25 - Sector N/A Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)
ANT16_L2												
Donor (ANT1_Roof)	OY-MN-V11P	-	-97.20	-57.20	-97.66	-57.66	-	-	-	-	-	-
CBL52_Roof	LDF4-50A	307.31	-6.15	-63.34	-6.52	-64.18	-	-	-	-	-	-
MSC2	LP-GTR-NFF	-	-0.10	-63.44	-0.10	-64.28	-	-	-	-	-	-
CBL3_L2	WCW-ICA12-50JPLLR	42.22	-1.14	-64.58	-1.20	-65.48	-	-	-	-	-	-
RPT1_L1	RX78V3-A3327P0-S1	-	80.00	15.42	80.00	14.52	-	-	-	-	-	-
JMP12	JS-NMNM3F-R141	Jumper	-0.60	14.82	-0.60	13.92	-	-	-	-	-	-
SPT16_L1	PS-E2-ON50M(XH)	-	-3.30	11.52	-3.30	10.62	-	-	-	-	-	-
CBL50_L1	WCW-ICA12-50JPLLR	35.22	-0.98	10.54	-1.03	9.59	-	-	-	-	-	-
SPT6_L2	CO-E20NI	-	-0.20	10.34	-0.20	9.39	-	-	-	-	-	-
CBL21_L2	WCW-ICA12-50JPLLR	31.58	-0.90	9.44	-0.95	8.44	-	-	-	-	-	-
SPT9_L2	CO-E15NI	-	-0.20	9.24	-0.20	8.24	-	-	-	-	-	-
JMP15	JS-NMNM3F-R141	Jumper	-0.60	8.64	-0.60	7.64	-	-	-	-	-	-
SPT16_L2	CO-E05NI	-	-4.60	4.04	-4.60	3.04	-	-	-	-	-	-
CBL37_L2	WCW-ICA12-50JPLLR	66.98	-1.69	2.35	-1.78	1.26	-	-	-	-	-	-
SPT11_L2	CO-E07NI	-	-1.30	1.05	-1.30	-0.04	-	-	-	-	-	-
CBL13_L2	WCW-ICA12-50JPLLR	47.21	-1.25	-0.20	-1.32	-1.36	-	-	-	-	-	-
SPT13_L2	CO-E05NI	-	-4.60	-4.80	-4.60	-5.96	-	-	-	-	-	-
CBL42_L2	WCW-ICA12-50JPLLR	45.26	-1.20	-6.00	-1.27	-7.23	-	-	-	-	-	-
SPT15_L2	PS-E2-ON50M(XH)	-	-3.30	-9.30	-3.30	-10.53	-	-	-	-	-	-
CBL31_L2	WCW-ICA12-50JPLLR	35.65	-0.99	-10.29	-1.04	-11.57	-	-	-	-	-	-
MS signal range [feet]	-	-	161.24	-	136.08	-	-	-	-	-	-	-
MS RSSI [dBm]	-	-	-80.07	-	-81.76	-	-	-	-	-	-	-
ANT16_L2 (dBd)	IX-MJN-V3P	-	-0.72	-11.01	-0.29	-11.86	-	-	-	-	-	-

DAS link budget report												
ID	Model	Length (feet)	700 MHz - P25 - Sector N/A Gain/loss (dB)	(dBm)	800 MHz - SMR - P25 - Sector N/A Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)
ANT17_L1												
Donor (ANT1_Roof)	OY-MN-V11P	-	-97.20	-57.20	-97.66	-57.66	-	-	-	-	-	-
CBL52_Roof	LDF4-50A	307.31	-6.15	-63.34	-6.52	-64.18	-	-	-	-	-	-
MSC2	LP-GTR-NFF	-	-0.10	-63.44	-0.10	-64.28	-	-	-	-	-	-
CBL3_L2	WCW-ICA12-50JPLLR	42.22	-1.14	-64.58	-1.20	-65.48	-	-	-	-	-	-
RPT1_L1	RX78V3-A3327P0-S1	-	80.00	15.42	80.00	14.52	-	-	-	-	-	-
JMP12	JS-NMNM3F-R141	Jumper	-0.60	14.82	-0.60	13.92	-	-	-	-	-	-
SPT16_L1	PS-E2-ON50M(XH)	-	-3.30	11.52	-3.30	10.62	-	-	-	-	-	-
JMP4	JS-NMNM3F-R141	Jumper	-0.60	10.92	-0.60	10.02	-	-	-	-	-	-
SPT6_L1	CO-E20NI	-	-0.20	10.72	-0.20	9.82	-	-	-	-	-	-
CBL16_L1	WCW-ICA12-50JPLLR	31.58	-0.90	9.82	-0.95	8.87	-	-	-	-	-	-
SPT9_L1	CO-E15NI	-	-0.20	9.62	-0.20	8.67	-	-	-	-	-	-
JMP2	JS-NMNM3F-R141	Jumper	-0.60	9.02	-0.60	8.07	-	-	-	-	-	-
SPT17_L1	CO-E05NI	-	-4.60	4.42	-4.60	3.47	-	-	-	-	-	-
CBL26_L1	WCW-ICA12-50JPLLR	66.98	-1.69	2.73	-1.78	1.69	-	-	-	-	-	-
SPT13_L1	CO-E07NI	-	-1.30	1.43	-1.30	0.39	-	-	-	-	-	-
CBL30_L1	WCW-ICA12-50JPLLR	47.21	-1.25	0.19	-1.32	-0.93	-	-	-	-	-	-
SPT11_L1	CO-E05NI	-	-2.00	-1.81	-2.00	-2.93	-	-	-	-	-	-
JMP14	JS-NMNM3F-R141	Jumper	-0.60	-2.41	-0.60	-3.53	-	-	-	-	-	-
SPT12_L1	PS-E3-ON50M(XH)	-	-5.40	-7.81	-5.40	-8.93	-	-	-	-	-	-
CBL33_L1	WCW-ICA12-50JPLLR	55.96	-1.44	-9.26	-1.52	-10.45	-	-	-	-	-	-
MS signal range [feet]	-	-	178.85	-	152.27	-	-	-	-	-	-	-
MS RSSI [dBm]	-	-	-79.03	-	-80.64	-	-	-	-	-	-	-
ANT17_L1 (dBd)	IX-MJN-V3P	-	-0.72	-9.98	-0.29	-10.74	-	-	-	-	-	-

DAS link budget report												
ID	Model	Length (feet)	700 MHz - P25 - Sector N/A Gain/loss (dB)	(dBm)	800 MHz - SMR - P25 - Sector N/A Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)
ANT17_L2												
Donor (ANT1_Roof)	OY-MN-V11P	-	-97.20	-57.20	-97.66	-57.66	-	-	-	-	-	-
CBL52_Roof	LDF4-50A	307.31	-6.15	-63.34	-6.52	-64.18	-	-	-	-	-	-
MSC2	LP-GTR-NFF	-	-0.10	-63.44	-0.10	-64.28	-	-	-	-	-	-
CBL3_L2	WCW-ICA12-50JPLLR	42.22	-1.14	-64.58	-1.20	-65.48	-	-	-	-	-	-
RPT1_L1	RX78V3-A3327P0-S1	-	80.00	15.42	80.00	14.52	-	-	-	-	-	-
JMP12	JS-NMNM3F-R141	Jumper	-0.60	14.82	-0.60	13.92	-	-	-	-	-	-
SPT16_L1	PS-E2-ON50M(XH)	-	-3.30	11.52	-3.30	10.62	-	-	-	-	-	-
CBL50_L1	WCW-ICA12-50JPLLR	35.22	-0.98	10.54	-1.03	9.59	-	-	-	-	-	-
SPT6_L2	CO-E20NI	-	-0.20	10.34	-0.20	9.39	-	-	-	-	-	-
CBL21_L2	WCW-ICA12-50JPLLR	31.58	-0.90	9.44	-0.95	8.44	-	-	-	-	-	-
SPT9_L2	CO-E15NI	-	-0.20	9.24	-0.20	8.24	-	-	-	-	-	-
JMP15	JS-NMNM3F-R141	Jumper	-0.60	8.64	-0.60	7.64	-	-	-	-	-	-
SPT16_L2	CO-E05NI	-	-4.60	4.04	-4.60	3.04	-	-	-	-	-	-
CBL37_L2	WCW-ICA12-50JPLLR	66.98	-1.69	2.35	-1.78	1.26	-	-	-	-	-	-
SPT11_L2	CO-E07NI	-	-1.30	1.05	-1.30	-0.04	-	-	-	-	-	-
CBL13_L2	WCW-ICA12-50JPLLR	47.21	-1.25	-0.20	-1.32	-1.36	-	-	-	-	-	-
SPT13_L2	CO-E05NI	-	-2.00	-2.20	-2.00	-3.36	-	-	-	-	-	-
JMP10	JS-NMNM3F-R141	Jumper	-0.60	-2.80	-0.60	-3.96	-	-	-	-	-	-
SPT14_L2	PS-E3-ON50M(XH)	-	-5.40	-8.20	-5.40	-9.36	-	-	-	-	-	-
CBL46_L2	WCW-ICA12-50JPLLR	55.96	-1.44	-9.64	-1.52	-10.88	-	-	-	-	-	-
MS signal range [feet]	-	-	172.15	-	145.81	-	-	-	-	-	-	-
MS RSSI [dBm]	-	-	-79.42	-	-81.07	-	-	-	-	-	-	-
ANT17_L2 (dBd)	IX-MJN-V3P	-	-0.72	-10.36	-0.29	-11.17	-	-	-	-	-	-

DAS link budget report												
ID	Model	Length (feet)	700 MHz - P25 - Sector N/A Gain/loss (dB)	(dBm)	800 MHz - SMR - P25 - Sector N/A Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)
ANT18_L1												
Donor (ANT1_Roof)	OY-MN-V11P	-	-97.20	-57.20	-97.66	-57.66	-	-	-	-	-	-
CBL52_Roof	LDF4-50A	307.31	-6.15	-63.34	-6.52	-64.18	-	-	-	-	-	-
MSC2	LP-GTR-NFF	-	-0.10	-63.44	-0.10	-64.28	-	-	-	-	-	-
CBL3_L2	WCW-ICA12-50JPLLR	42.22	-1.14	-64.58	-1.20	-65.48	-	-	-	-	-	-
RPT1_L1	RX78V3-A3327P0-S1	-	80.00	15.42	80.00	14.52	-	-	-	-	-	-
JMP12	JS-NMNM3F-R141	Jumper	-0.60	14.82	-0.60	13.92	-	-	-	-	-	-
SPT16_L1	PS-E2-ON50M(XH)	-	-3.30	11.52	-3.30	10.62	-	-	-	-	-	-
JMP4	JS-NMNM3F-R141	Jumper	-0.60	10.92	-0.60	10.02	-	-	-	-	-	-
SPT6_L1	CO-E20NI	-	-0.20	10.72	-0.20	9.82	-	-	-	-	-	-
CBL16_L1	WCW-ICA12-50JPLLR	31.58	-0.90	9.82	-0.95	8.87	-	-	-	-	-	-
SPT9_L1	CO-E15NI	-	-0.20	9.62	-0.20	8.67	-	-	-	-	-	-
JMP2	JS-NMNM3F-R141	Jumper	-0.60	9.02	-0.60	8.07	-	-	-	-	-	-
SPT17_L1	CO-E05NI	-	-2.00	7.02	-2.00	6.07	-	-	-	-	-	-
CBL14_L1	WCW-ICA12-50JPLLR	89.34	-2.18	4.84	-2.31	3.76	-	-	-	-	-	-
SPT7_L1	CO-E07NI	-	-1.30	3.54	-1.30	2.46	-	-	-	-	-	-
CBL22_L1	WCW-ICA12-50JPLLR	64.45	-1.63	1.91	-1.72	0.74	-	-	-	-	-	-
SPT4_L1	CO-E07NI	-	-6.60	-4.69	-6.60	-5.86	-	-	-	-	-	-
JMP6	JS-NMNM3F-R141	Jumper	-0.60	-5.29	-0.60	-6.46	-	-	-	-	-	-
SPT5_L1	CO-E05NI	-	-4.60	-9.89	-4.60	-11.06	-	-	-	-	-	-
JMP1	JS-NMNM3F-R141	Jumper	-0.60	-10.49	-0.60	-11.66	-	-	-	-	-	-
MS signal range [feet]	-	-	158.02	-	134.86	-	-	-	-	-	-	-
MS RSSI [dBm]	-	-	-80.27	-	-81.85	-	-	-	-	-	-	-
ANT18_L1 (dBd)	IX-MJN-V3P	-	-0.72	-11.21	-0.29	-11.95	-	-	-	-	-	-

DAS link budget report												
ID	Model	Length (feet)	700 MHz - P25 - Sector N/A Gain/loss (dB)	(dBm)	800 MHz - SMR - P25 - Sector N/A Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)
ANT18_L2												
Donor (ANT1_Roof)	OY-MN-V11P	-	-97.20	-57.20	-97.66	-57.66	-	-	-	-	-	-
CBL52_Roof	LDF4-50A	307.31	-6.15	-63.34	-6.52	-64.18	-	-	-	-	-	-
MSC2	LP-GTR-NFF	-	-0.10	-63.44	-0.10	-64.28	-	-	-	-	-	-
CBL3_L2	WCW-ICA12-50JPLLR	42.22	-1.14	-64.58	-1.20	-65.48	-	-	-	-	-	-
RPT1_L1	RX78V3-A3327P0-S1	-	80.00	15.42	80.00	14.52	-	-	-	-	-	-
JMP12	JS-NMNM3F-R141	Jumper	-0.60	14.82	-0.60	13.92	-	-	-	-	-	-
SPT16_L1	PS-E2-ON50M(XH)	-	-3.30	11.52	-3.30	10.62	-	-	-	-	-	-
CBL50_L1	WCW-ICA12-50JPLLR	35.22	-0.98	10.54	-1.03	9.59	-	-	-	-	-	-
SPT6_L2	CO-E20NI	-	-0.20	10.34	-0.20	9.39	-	-	-	-	-	-
CBL21_L2	WCW-ICA12-50JPLLR	31.58	-0.90	9.44	-0.95	8.44	-	-	-	-	-	-
SPT9_L2	CO-E15NI	-	-0.20	9.24	-0.20	8.24	-	-	-	-	-	-
JMP15	JS-NMNM3F-R141	Jumper	-0.60	8.64	-0.60	7.64	-	-	-	-	-	-
SPT16_L2	CO-E05NI	-	-2.00	6.64	-2.00	5.64	-	-	-	-	-	-
CBL40_L2	WCW-ICA12-50JPLLR	89.34	-2.18	4.45	-2.31	3.33	-	-	-	-	-	-
SPT7_L2	CO-E07NI	-	-1.30	3.15	-1.30	2.03	-	-	-	-	-	-
CBL47_L2	WCW-ICA12-50JPLLR	64.45	-1.63	1.52	-1.72	0.30	-	-	-	-	-	-
SPT4_L2	CO-E07NI	-	-6.60	-5.08	-6.60	-6.30	-	-	-	-	-	-
JMP17	JS-NMNM3F-R141	Jumper	-0.60	-5.68	-0.60	-6.90	-	-	-	-	-	-
SPT5_L2	CO-E05NI	-	-4.60	-10.28	-4.60	-11.50	-	-	-	-	-	-
JMP3	JS-NMNM3F-R141	Jumper	-0.60	-10.88	-0.60	-12.10	-	-	-	-	-	-
MS signal range [feet]	-	-	152.10	-	129.14	-	-	-	-	-	-	-
MS RSSI [dBm]	-	-	-80.65	-	-82.29	-	-	-	-	-	-	-
ANT18_L2 (dBd)	IX-MJN-V3P	-	-0.72	-11.60	-0.29	-12.39	-	-	-	-	-	-

DAS link budget report												
ID	Model	Length (feet)	700 MHz - P25 - Sector N/A Gain/loss (dB)	(dBm)	800 MHz - SMR - P25 - Sector N/A Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)
ANT19_L1												
Donor (ANT1_Roof)	OY-MN-V11P	-	-97.20	-57.20	-97.66	-57.66	-	-	-	-	-	-
CBL52_Roof	LDF4-50A	307.31	-6.15	-63.34	-6.52	-64.18	-	-	-	-	-	-
MSC2	LP-GTR-NFF	-	-0.10	-63.44	-0.10	-64.28	-	-	-	-	-	-
CBL3_L2	WCW-ICA12-50JPLLR	42.22	-1.14	-64.58	-1.20	-65.48	-	-	-	-	-	-
RPT1_L1	RX78V3-A3327P0-S1	-	80.00	15.42	80.00	14.52	-	-	-	-	-	-
JMP12	JS-NMNM3F-R141	Jumper	-0.60	14.82	-0.60	13.92	-	-	-	-	-	-
SPT16_L1	PS-E2-ON50M(XH)	-	-3.30	11.52	-3.30	10.62	-	-	-	-	-	-
JMP4	JS-NMNM3F-R141	Jumper	-0.60	10.92	-0.60	10.02	-	-	-	-	-	-
SPT6_L1	CO-E20NI	-	-0.20	10.72	-0.20	9.82	-	-	-	-	-	-
CBL16_L1	WCW-ICA12-50JPLLR	31.58	-0.90	9.82	-0.95	8.87	-	-	-	-	-	-
SPT9_L1	CO-E15NI	-	-0.20	9.62	-0.20	8.67	-	-	-	-	-	-
JMP2	JS-NMNM3F-R141	Jumper	-0.60	9.02	-0.60	8.07	-	-	-	-	-	-
SPT17_L1	CO-E05NI	-	-4.60	4.42	-4.60	3.47	-	-	-	-	-	-
CBL26_L1	WCW-ICA12-50JPLLR	66.98	-1.69	2.73	-1.78	1.69	-	-	-	-	-	-
SPT13_L1	CO-E07NI	-	-1.30	1.43	-1.30	0.39	-	-	-	-	-	-
CBL30_L1	WCW-ICA12-50JPLLR	47.21	-1.25	0.19	-1.32	-0.93	-	-	-	-	-	-
SPT11_L1	CO-E05NI	-	-2.00	-1.81	-2.00	-2.93	-	-	-	-	-	-
JMP14	JS-NMNM3F-R141	Jumper	-0.60	-2.41	-0.60	-3.53	-	-	-	-	-	-
SPT12_L1	PS-E3-ON50M(XH)	-	-5.40	-7.81	-5.40	-8.93	-	-	-	-	-	-
JMP20	JS-NMNM3F-R141	Jumper	-0.60	-8.41	-0.60	-9.53	-	-	-	-	-	-
MS signal range [feet]	-	-	194.57	-	167.02	-	-	-	-	-	-	-
MS RSSI [dBm]	-	-	-78.19	-	-79.72	-	-	-	-	-	-	-
ANT19_L1 (dBd)	IX-MJN-V3P	-	-0.72	-9.13	-0.29	-9.82	-	-	-	-	-	-

DAS link budget report												
ID	Model	Length (feet)	700 MHz - P25 - Sector N/A Gain/loss (dB)	(dBm)	800 MHz - SMR - P25 - Sector N/A Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)
ANT19_L2												
Donor (ANT1_Roof)	OY-MN-V11P	-	-97.20	-57.20	-97.66	-57.66	-	-	-	-	-	-
CBL52_Roof	LDF4-50A	307.31	-6.15	-63.34	-6.52	-64.18	-	-	-	-	-	-
MSC2	LP-GTR-NFF	-	-0.10	-63.44	-0.10	-64.28	-	-	-	-	-	-
CBL3_L2	WCW-ICA12-50JPLLR	42.22	-1.14	-64.58	-1.20	-65.48	-	-	-	-	-	-
RPT1_L1	RX78V3-A3327P0-S1	-	80.00	15.42	80.00	14.52	-	-	-	-	-	-
JMP12	JS-NMNM3F-R141	Jumper	-0.60	14.82	-0.60	13.92	-	-	-	-	-	-
SPT16_L1	PS-E2-ON50M(XH)	-	-3.30	11.52	-3.30	10.62	-	-	-	-	-	-
CBL50_L1	WCW-ICA12-50JPLLR	35.22	-0.98	10.54	-1.03	9.59	-	-	-	-	-	-
SPT6_L2	CO-E20NI	-	-0.20	10.34	-0.20	9.39	-	-	-	-	-	-
CBL21_L2	WCW-ICA12-50JPLLR	31.58	-0.90	9.44	-0.95	8.44	-	-	-	-	-	-
SPT9_L2	CO-E15NI	-	-0.20	9.24	-0.20	8.24	-	-	-	-	-	-
JMP15	JS-NMNM3F-R141	Jumper	-0.60	8.64	-0.60	7.64	-	-	-	-	-	-
SPT16_L2	CO-E05NI	-	-4.60	4.04	-4.60	3.04	-	-	-	-	-	-
CBL37_L2	WCW-ICA12-50JPLLR	66.98	-1.69	2.35	-1.78	1.26	-	-	-	-	-	-
SPT11_L2	CO-E07NI	-	-1.30	1.05	-1.30	-0.04	-	-	-	-	-	-
CBL13_L2	WCW-ICA12-50JPLLR	47.21	-1.25	-0.20	-1.32	-1.36	-	-	-	-	-	-
SPT13_L2	CO-E05NI	-	-2.00	-2.20	-2.00	-3.36	-	-	-	-	-	-
JMP10	JS-NMNM3F-R141	Jumper	-0.60	-2.80	-0.60	-3.96	-	-	-	-	-	-
SPT14_L2	PS-E3-ON50M(XH)	-	-5.40	-8.20	-5.40	-9.36	-	-	-	-	-	-
JMP18	JS-NMNM3F-R141	Jumper	-0.60	-8.80	-0.60	-9.96	-	-	-	-	-	-
MS signal range [feet]	-	-	187.28	-	159.94	-	-	-	-	-	-	-
MS RSSI [dBm]	-	-	-78.57	-	-80.15	-	-	-	-	-	-	-
ANT19_L2 (dBd)	IX-MJN-V3P	-	-0.72	-9.52	-0.29	-10.25	-	-	-	-	-	-

System link budget											
Downlink	Model	700 MHz - P25 - Sector N/A Gain/loss (dB)	(dBm)	800 MHz - SMR - P25 - Sector N/A Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)	Gain/loss (dB)	(dBm)
OffAir1 (700 MHz - P25 - Sector N/A)											
Antenna Gain (dBd)	-	-2.15	37.85	-	-	-	-	-	-	-	-
Antenna Pattern Loss	-	-20.00	-57.20	-	-	-	-	-	-	-	-
Feeder losses	-	0.00	40.00	-	-	-	-	-	-	-	-
FSL (0.50 mi)	-	-88.35	-48.35	-	-	-	-	-	-	-	-
Isotropic offset	-	2.15	40.00	-	-	-	-	-	-	-	-
Isotropic offset	-	2.15	-37.20	-	-	-	-	-	-	-	-
OffAir- Donor Gain (dBd)	OY-MN-V11P	9.00	-39.35	-	-	-	-	-	-	-	-
TX comb. losses	-	0.00	40.00	-	-	-	-	-	-	-	-
Power out	-	-	-57.20	-	-	-	-	-	-	-	-
TX power/ch	-	-	40.00	-	-	-	-	-	-	-	-
OffAir2 (800 MHz - SMR - P25 - Sector N/A)											
Antenna Gain (dBd)	-	-	-	-2.15	37.85	-	-	-	-	-	-
Antenna Pattern Loss	-	-	-	-20.00	-57.66	-	-	-	-	-	-
Feeder losses	-	-	-	0.00	40.00	-	-	-	-	-	-
FSL (0.50 mi)	-	-	-	-89.19	-49.19	-	-	-	-	-	-
Isotropic offset	-	-	-	2.15	40.00	-	-	-	-	-	-
Isotropic offset	-	-	-	2.15	-37.66	-	-	-	-	-	-
OffAir- Donor Gain (dBd)	OY-MN-V11P	-	-	9.38	-39.81	-	-	-	-	-	-
TX comb. losses	-	-	-	0.00	40.00	-	-	-	-	-	-
Power out	-	-	-	-	-57.66	-	-	-	-	-	-
TX power/ch	-	-	-	-	40.00	-	-	-	-	-	-

System legend
Pierce County & Puyallup System / P25 / 700 MHz / Phase 1 / Nb. of channels: 17 / Nb. of sources: 1
Puyallup System / P25 / 800 MHz - SMR / NPSPAC / Nb. of channels: 2 / Nb. of sources: 1

Calculation legend
700 MHz - P25 - Sector N/A / MS RSSI [dBm] (at 98.43 [feet]) / MS signal range [feet] (for -85.00 [dBm])
800 MHz - SMR - P25 - Sector N/A / MS RSSI [dBm] (at 98.43 [feet]) / MS signal range [feet] (for -85.00 [dBm])

Compliance Report

Project name: Puyallup Police
Project creation date: 3/13/2025
Design company: 22122 20th Ave. SE
Designer: IS

Pierce County & Puyallup System - 700 MHz - P25

Dominance over macro		Average	Total area (Sq. feet)	Min 15.00 dB Target: 95.0 % Result (%)	Compliant	Result	Compliant	Result	Compliant	Result	Compliant
new building	L1	N/A	89945.75	99.7	Yes						
	L2	N/A	89945.75	99.7	Yes						
	All Floors	N/A	179891.50	99.7	Yes						
Signal strength		Average	Total area (Sq. feet)	Min -85.00 dBm Target: 95.0 % Result (%)	Compliant	Result	Compliant	Result	Compliant	Result	Compliant
new building	L1	N/A	89945.75	100.0	Yes						
	L2	N/A	89945.75	100.0	Yes						
	All Floors	N/A	179891.50	100.0	Yes						

Puyallup System - 800 MHz - SMR - P25

Dominance over macro		Average	Total area (Sq. feet)	Min 15.00 dB Target: 95.0 % Result (%)	Compliant	Result	Compliant	Result	Compliant	Result	Compliant
new building	L1	N/A	89945.75	99.7	Yes						
	L2	N/A	89945.75	99.7	Yes						
	All Floors	N/A	179891.50	99.7	Yes						
Signal strength		Average	Total area (Sq. feet)	Min -85.00 dBm Target: 95.0 % Result (%)	Compliant	Result	Compliant	Result	Compliant	Result	Compliant
new building	L1	N/A	89945.75	100.0	Yes						
	L2	N/A	89945.75	100.0	Yes						
	All Floors	N/A	179891.50	100.0	Yes						