

MATSING[®]

LENS TECHNOLOGY ENABLED

MS-MBA-3-L4A2

Low-Band Lens Panel Antenna Delivering
High-Capacity Mobile Connectivity and
Fixed Wireless Access (FWA)



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MS-MBA-3-L4A2

Ideal Coverage and Capacity Solution for Suburban, Rural & Fixed Wireless Access (FWA) Networks

Better Signal Quality

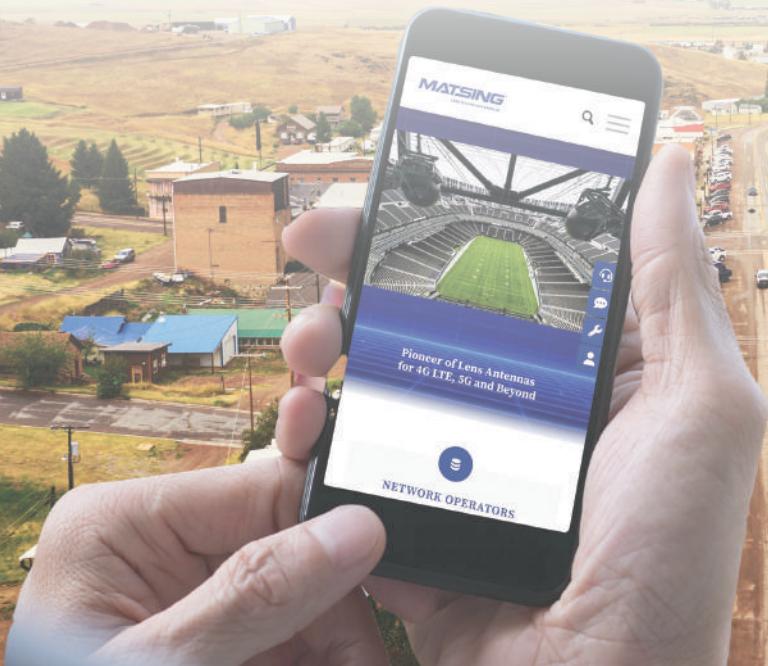
High Gain, Narrow Vertical Beamwidth

Improved Capacity & Data Throughput

High SINR, Reduced Sidelobes & Backlobes

Rapid & Cost Effective Scalability

Quick Deployment, Minimal Infrastructure



MS-MBA-3-L4A2

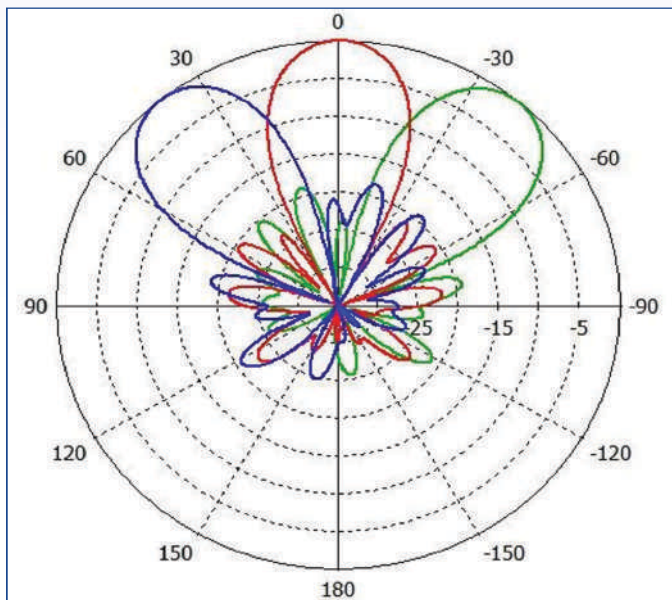
Lens Technology Enabled™ Multi-Beam Base-Station Antenna perfect for 9 sector LTE cell site deployments, utilizes a patented spherical lens design with 3 isolated low-frequency (698-960MHz) cross-polarized beams. Each beam has 4 cross-polarized ports for supporting 4x4 MIMO.



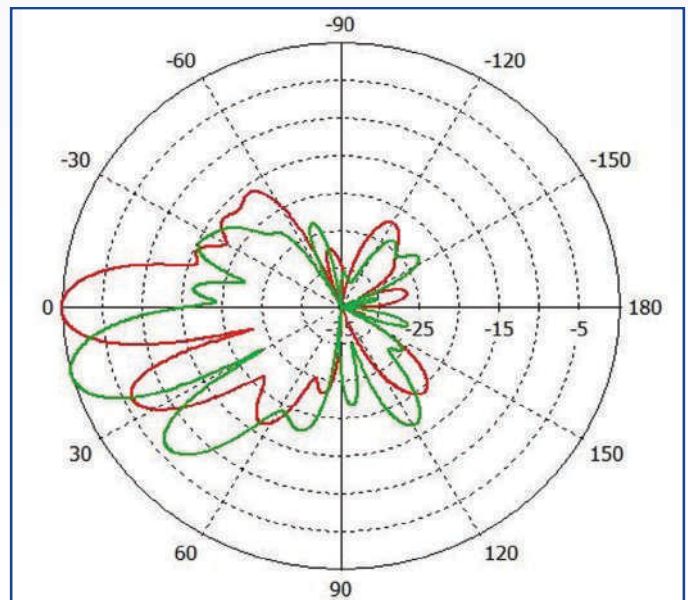
RET AISG 2.0, 0-15 degrees.
Each beam has an independent tilt setting.

PATTERN RESULTS:

Horizontal Pattern: (800MHz)



Vertical Pattern at 0° tilt and 15° tilt: (800MHz)



TECHNICAL SPECIFICATIONS	
Frequency	698 – 960 MHz
Gain	18dBi
VSWR	<1.5:1
Polarization	Dual Slant $\pm 45^\circ$
Horizontal Coverage	120°
Horizontal Beamwidth (10 dB) level	40°
Horizontal Beamwidth (3 dB) level	24°
Vertical Beamwidth (3 dB) level	15°
Beam Cross-over	10dB typical
Total Number of Beams	3
Number of Ports per Beam	4
Number of Ports Total	12
RET Per Cross-Pol	0° to 15°
First Sidelobe level	<-15dB
Front to Back Ratio	>28dB
Isolation Port to Port - Polarization	>28dB
Isolation Port to Port - Beam	>26dB
Power Rating	150W per port
Intermodulation	<-153dBc
Impedance	50 Ohm
Connector Quantity and Type	12 x 4.3-10 female

MECHANICAL DATA	
Dimensions (H x W x D)	241.8 x 93.4 x 108.4 cm 95.2 x 36.8 x 42.7 inch
Antenna Weight	95kg 209.4lbs
Radome Material	Fiber Glass
Mounting	Standard position pipe mount Compatible pipe diameter: 6.1 – 11.4 cm 2.4 – 4.5 inch

ENVIRONMENTAL RATINGS	
Humidity	95% RH @ +30°C
Temperature	-40°C to +70°C
Wind load @ 150 km/hr	N/lbf Frontal: 1584/356.1 Lateral: 2371/533 Rear: 1858/417.7

Instruction Manual

1.0 BEAMS & CONNECTORS:

- 1.10 Plan View Resultant Beam Layout
- 1.20 Connector Port Table
- 1.30 Connector Detail
- 1.40 Connector Layout

2.0 PATTERN DIAGRAM

- 2.10 Horizontal Pattern
- 2.20 Vertical Pattern

3.0 MANUAL TILT ADJUSTMENT

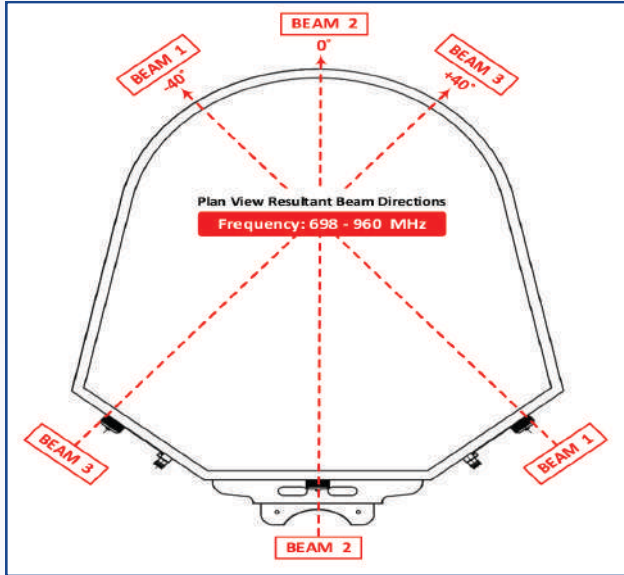
4.0 BRACKET INSTALLATION

- 4.10 Bolts & Nuts Requirements
 - 4.11 Bolts & Nuts
 - 4.12 Bracket
- 4.20 Tools Requirement
 - 4.21 Adjustable Spanner
 - 4.22 M12 Spanner
- 4.30 Bracket Spacing & Installation Sample

1.0 BEAMS AND CONNECTORS

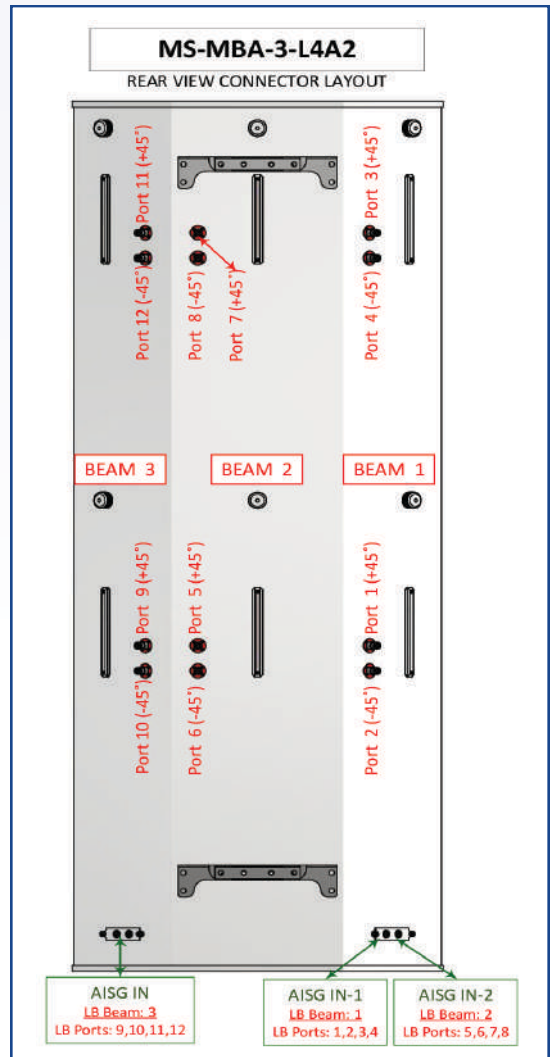
1.20 Connector Port Table

1.10 Plan View Resultant Beam Layout

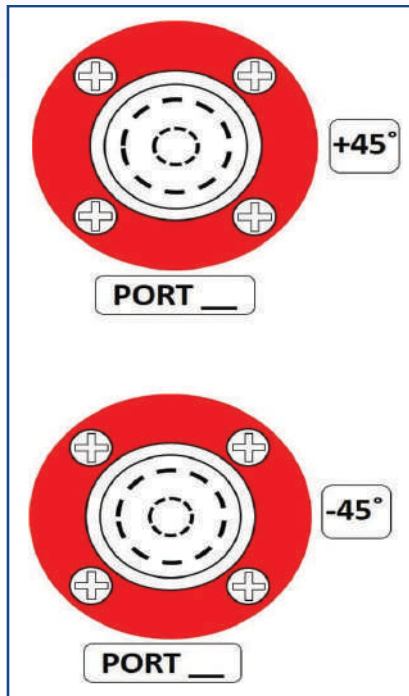


BEAM 3	BEAM 2	BEAM 1
Port 11 (+45°)	Port 7 (+45°)	Port 3 (+45°)
Port 12 (-45°)	Port 8 (-45°)	Port 4 (-45°)
Port 9 (+45°)	Port 5 (+45°)	Port 1 (+45°)
Port 10 (-45°)	Port 6 (-45°)	Port 2 (-45°)

1.40 Connector Layout

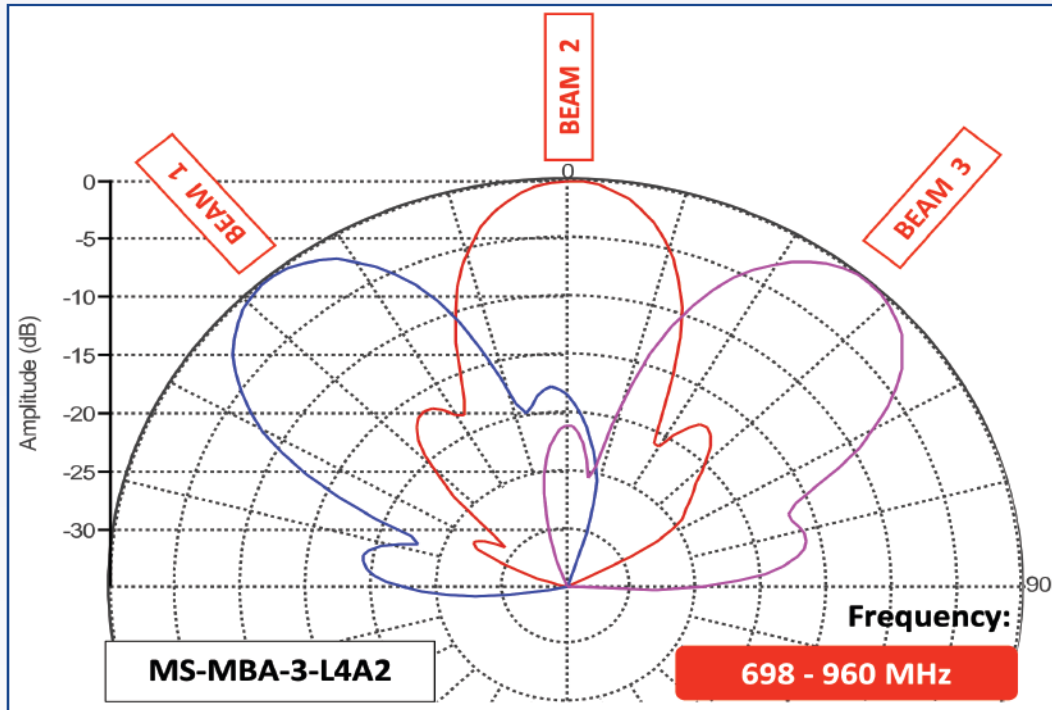


1.30 Connector Detail

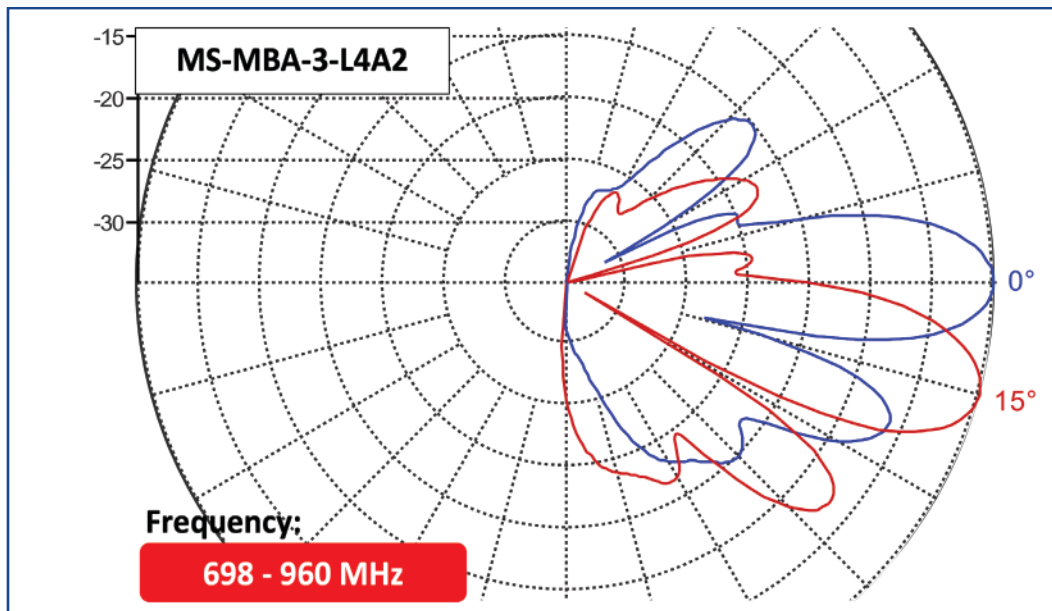


2.0 PATTERN DIAGRAM

2.10 Horizontal Pattern

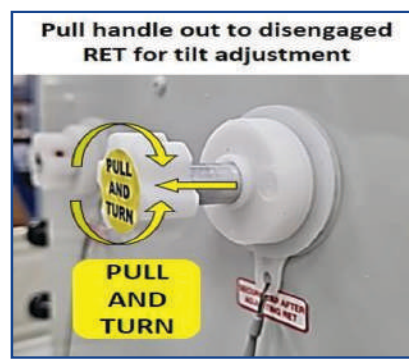
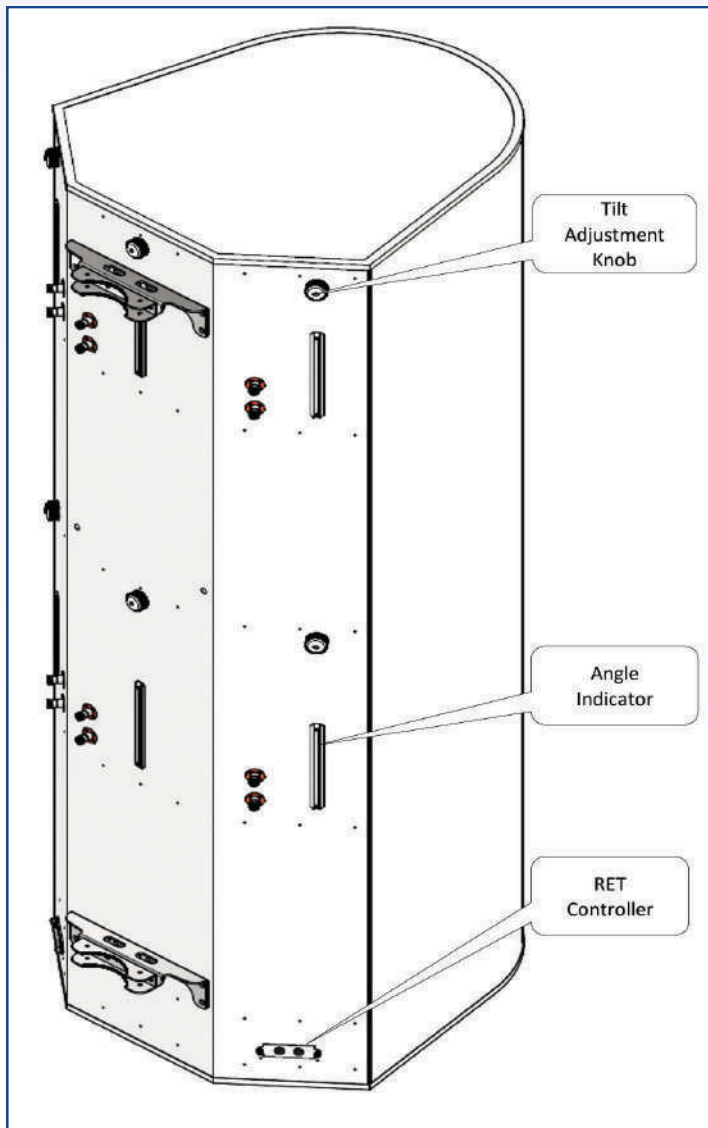


2.20 Vertical Pattern



3.0 MANUAL TILT ADJUSTMENT

- | | |
|----------|--|
| 1 | The MBA antenna come in RET mode as default, but if needed can also be manually adjusted. To do so, please unscrew the waterproof cap behind the element whose tilt is to be adjusted. |
| 2 | By Default the knob is on engaged mode, pull out the handle for manual tilt adjustment, turn the handle to change the tilt. |
| 3 | When done, push the handle back in, screw the waterproof cap back to the position. |



4.0 BRACKET INSTALLATION

4.10 Bolts and Nuts Requirements

Bracket		Bolts		Nuts	
Qty	Size	Qty	Size	Qty	Size
2	M12 x 200mm	4	M12	10	

4.11 Bolts and Nuts



4.12 Bracket



4.20 Tool Requirements

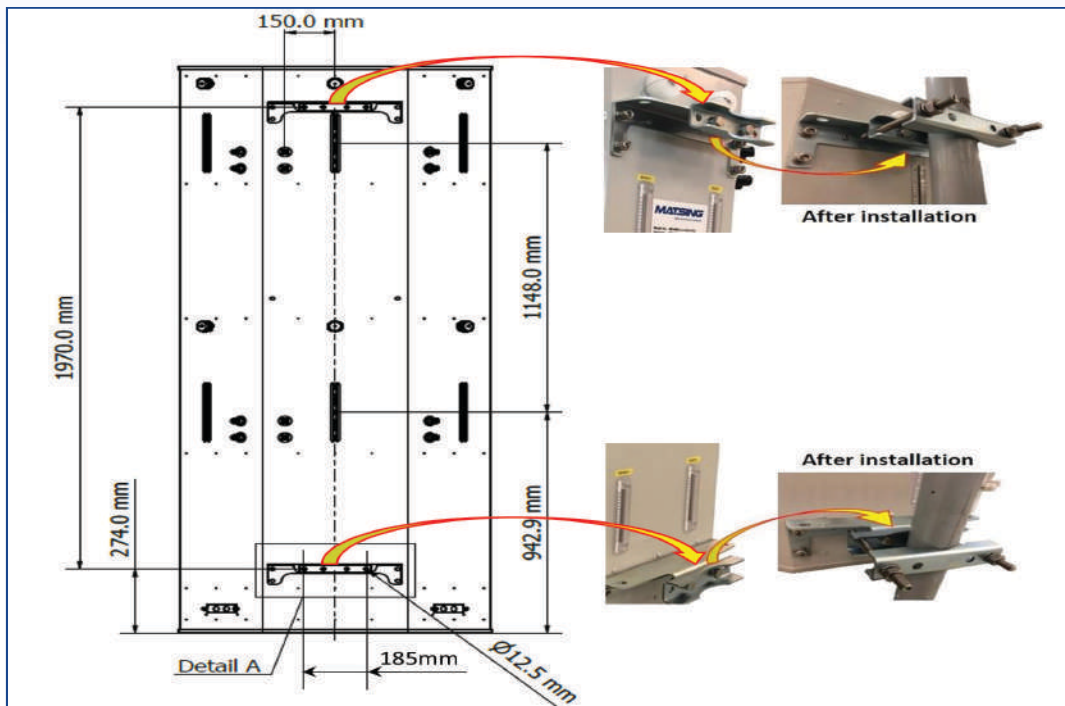
4.21 Adjustable Spanner



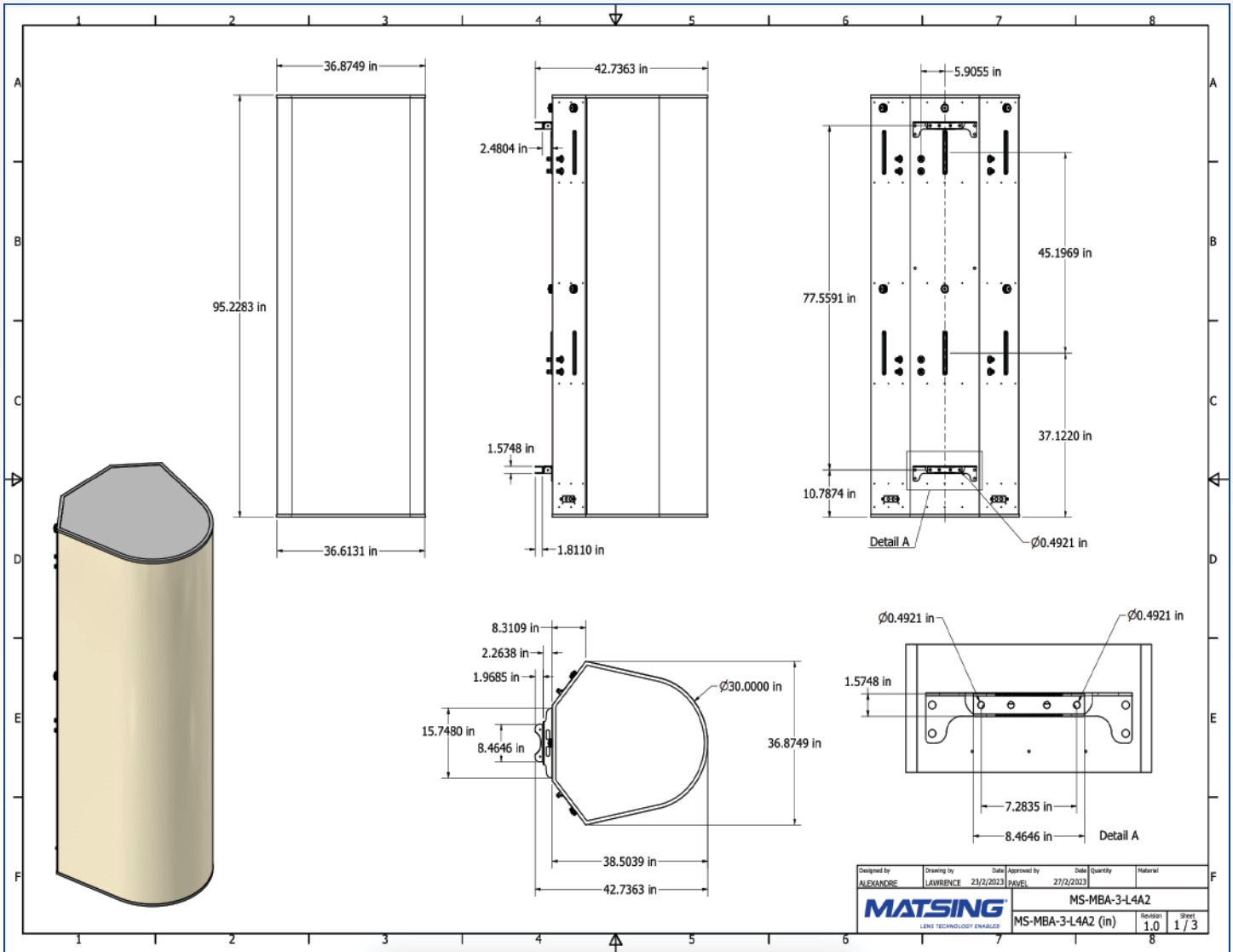
4.22 M12 Spanner



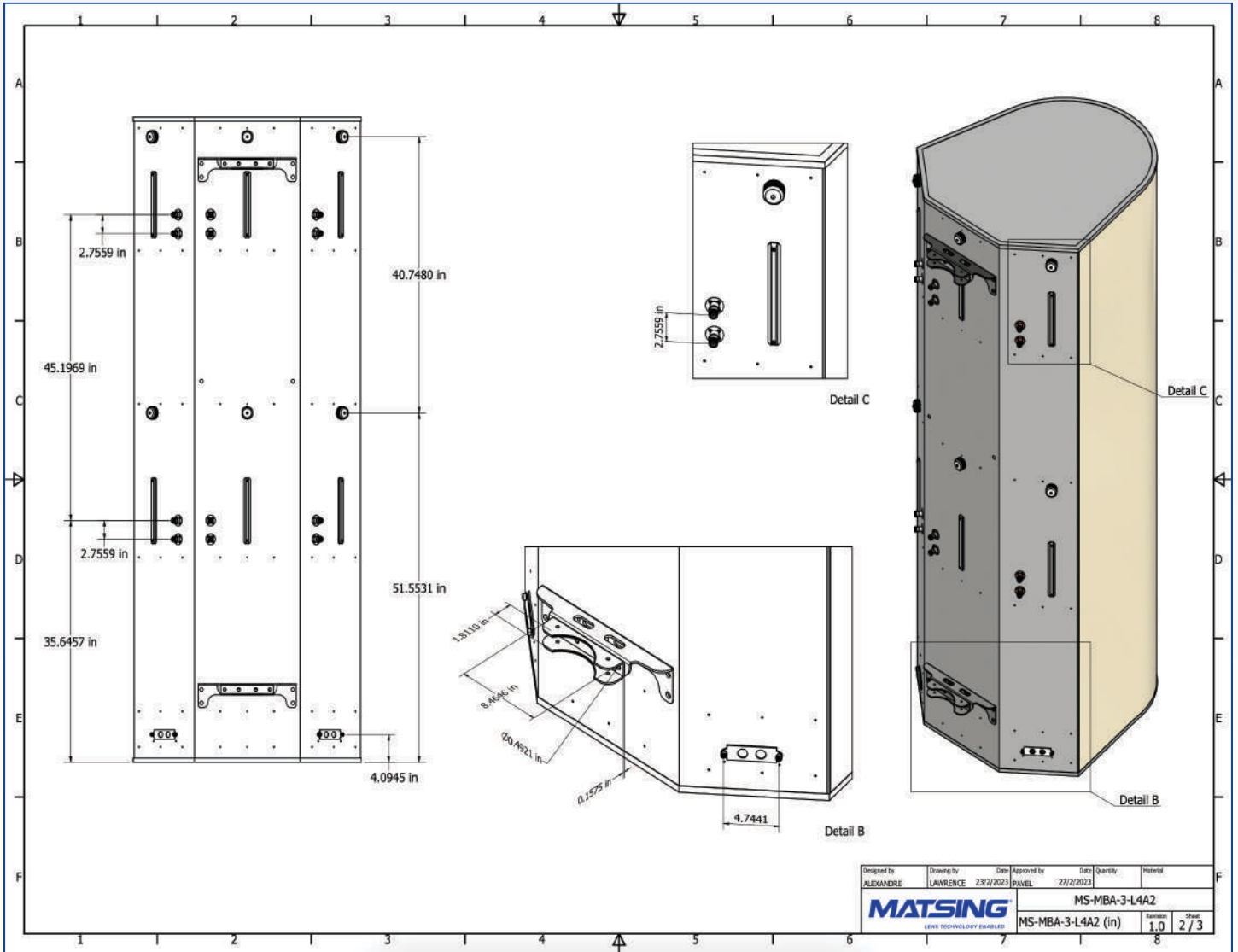
4.30 Bracket Spacing and Installation Sample



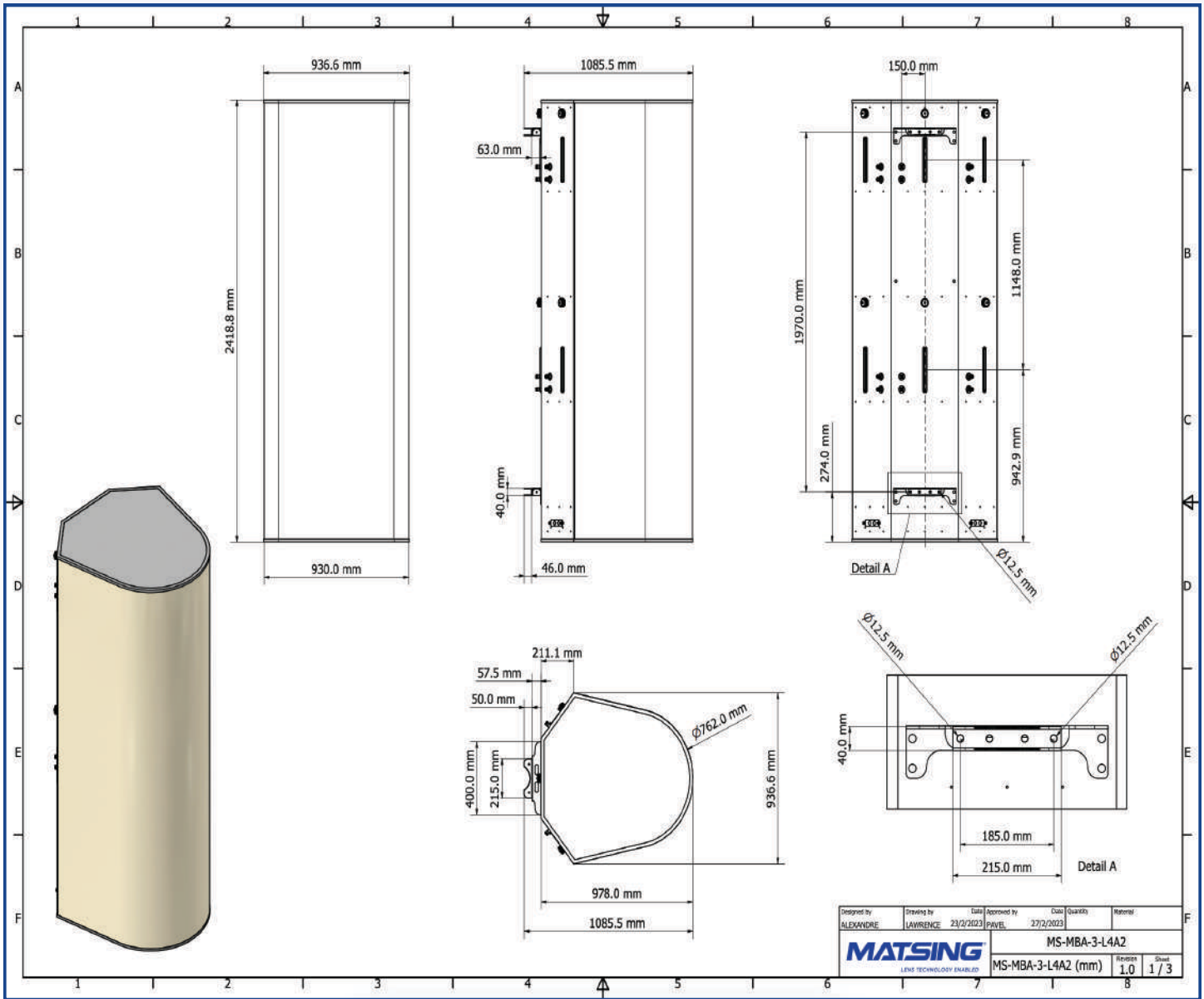
Mechanical Drawings (inches)



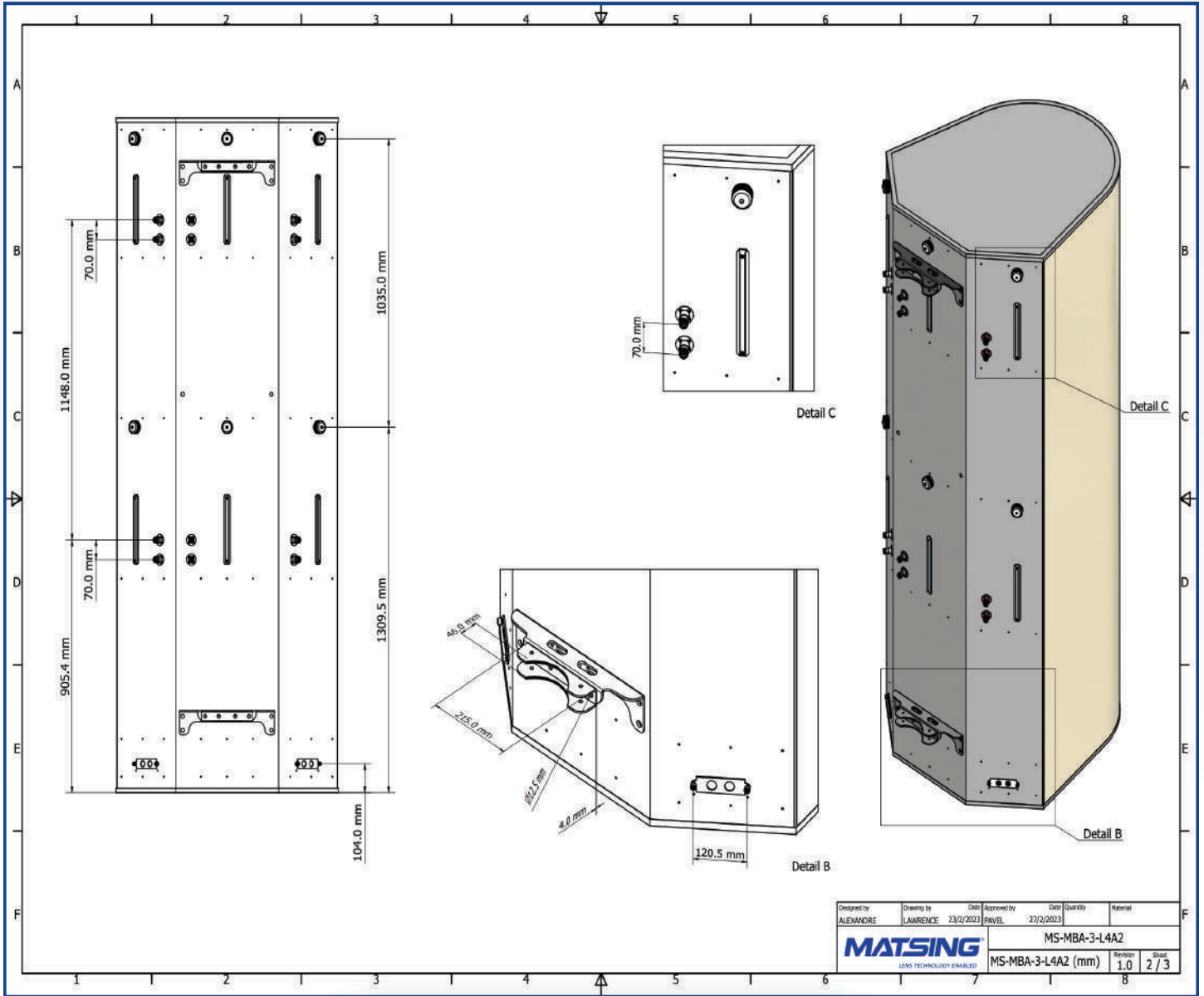
MECHANICAL DRAWINGS (INCHES)



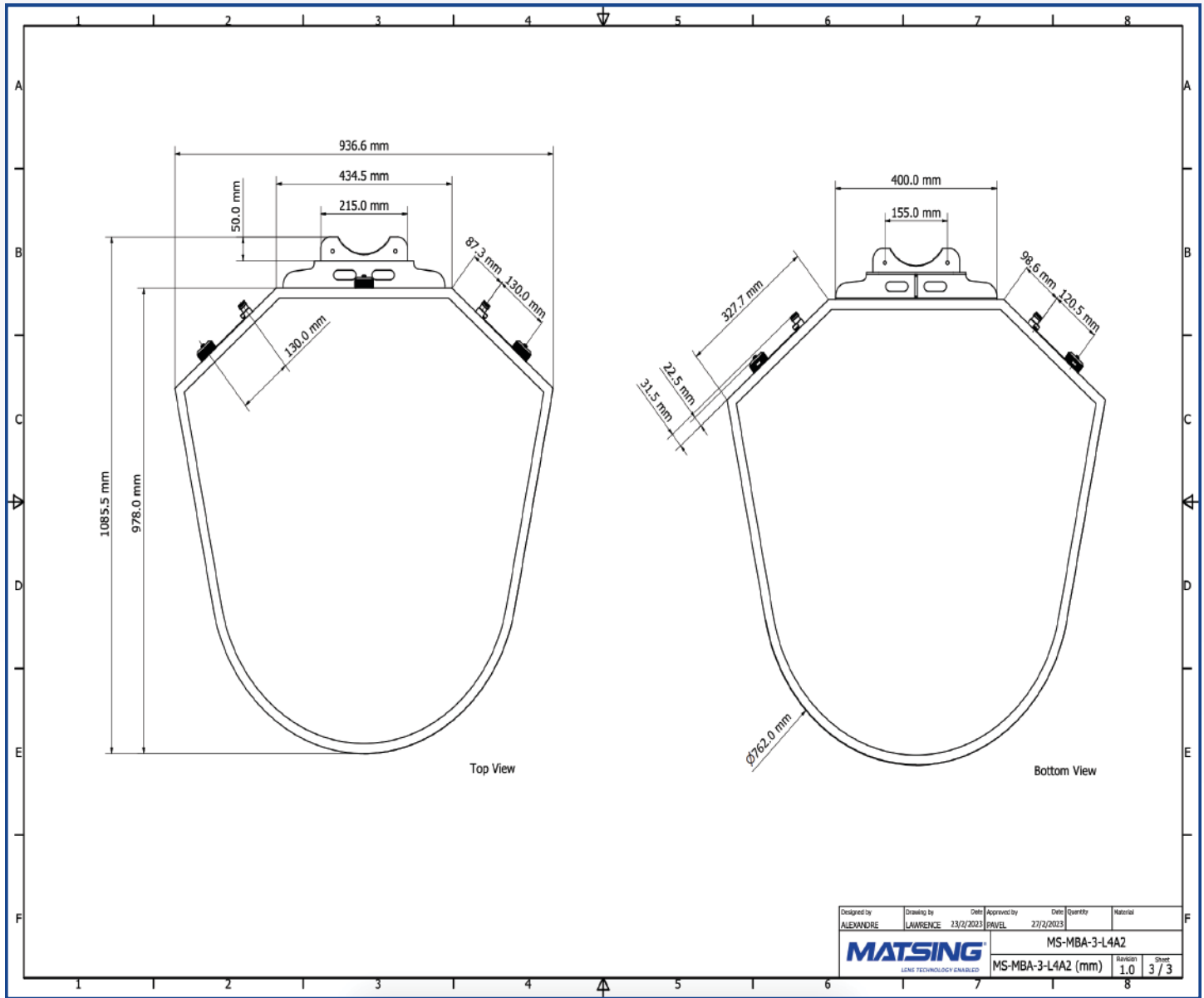
Mechanical Drawings (millimeters)



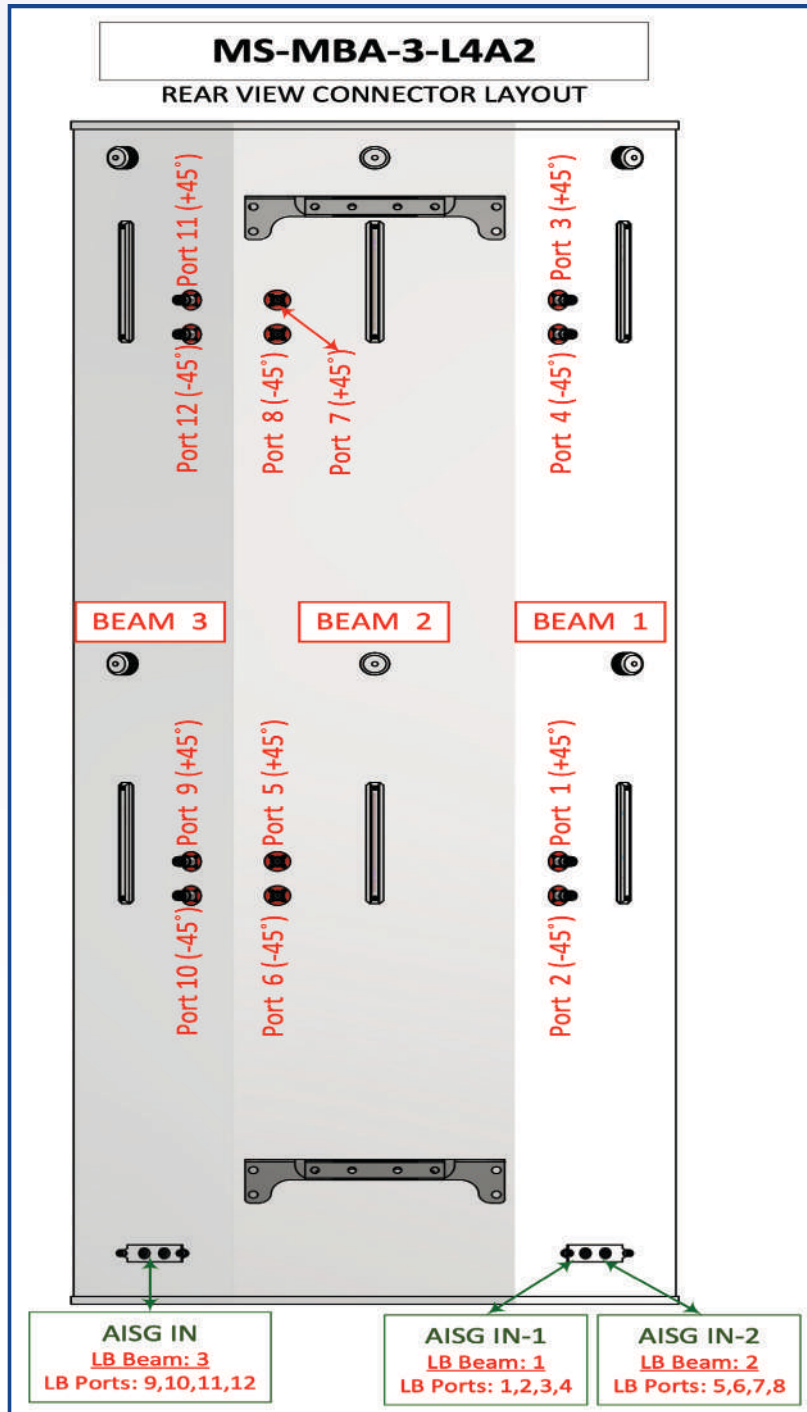
MECHANICAL DRAWINGS (MILIMETERS)



MECHANICAL DRAWINGS (MILIMETERS)

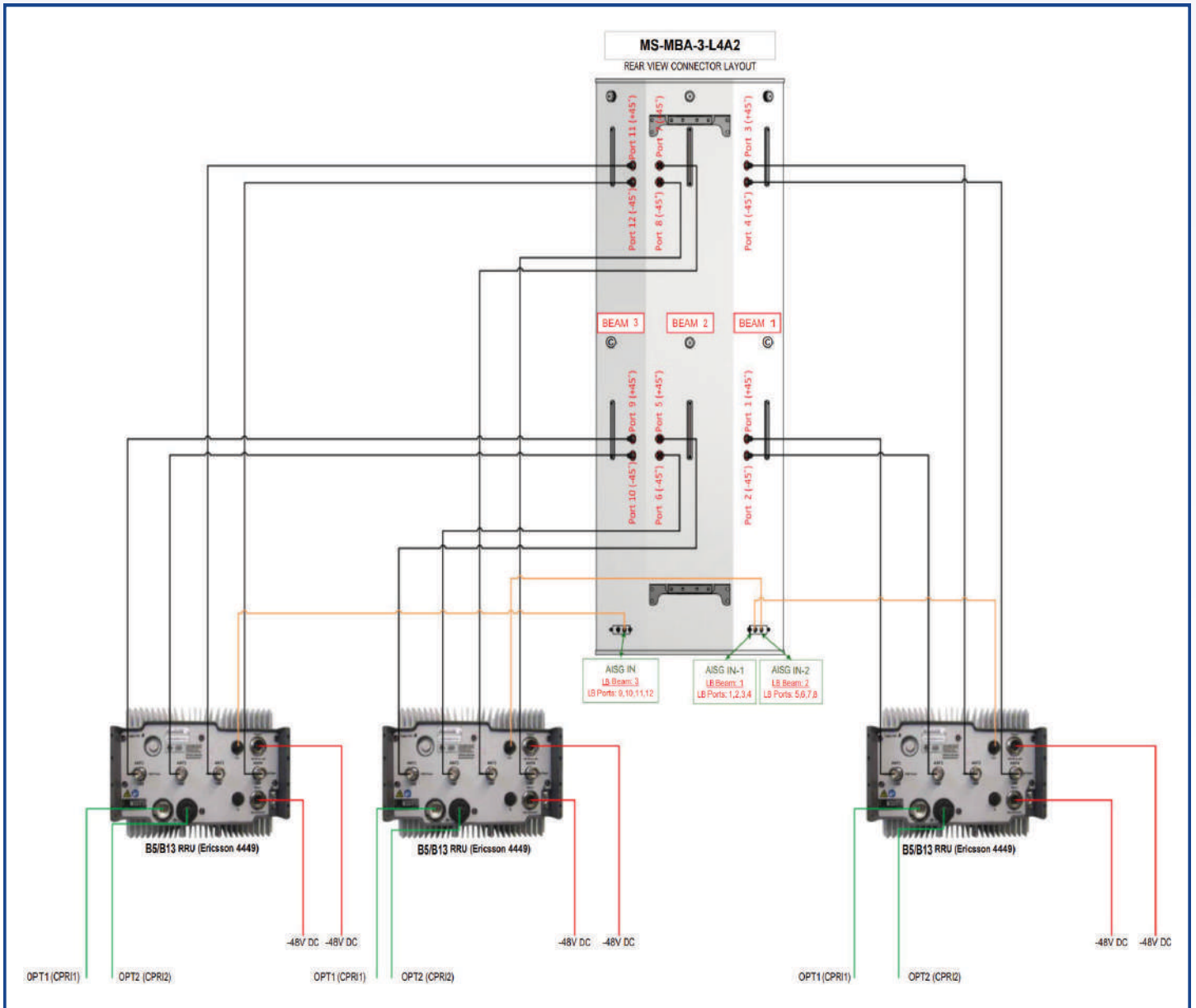


Connector Layout

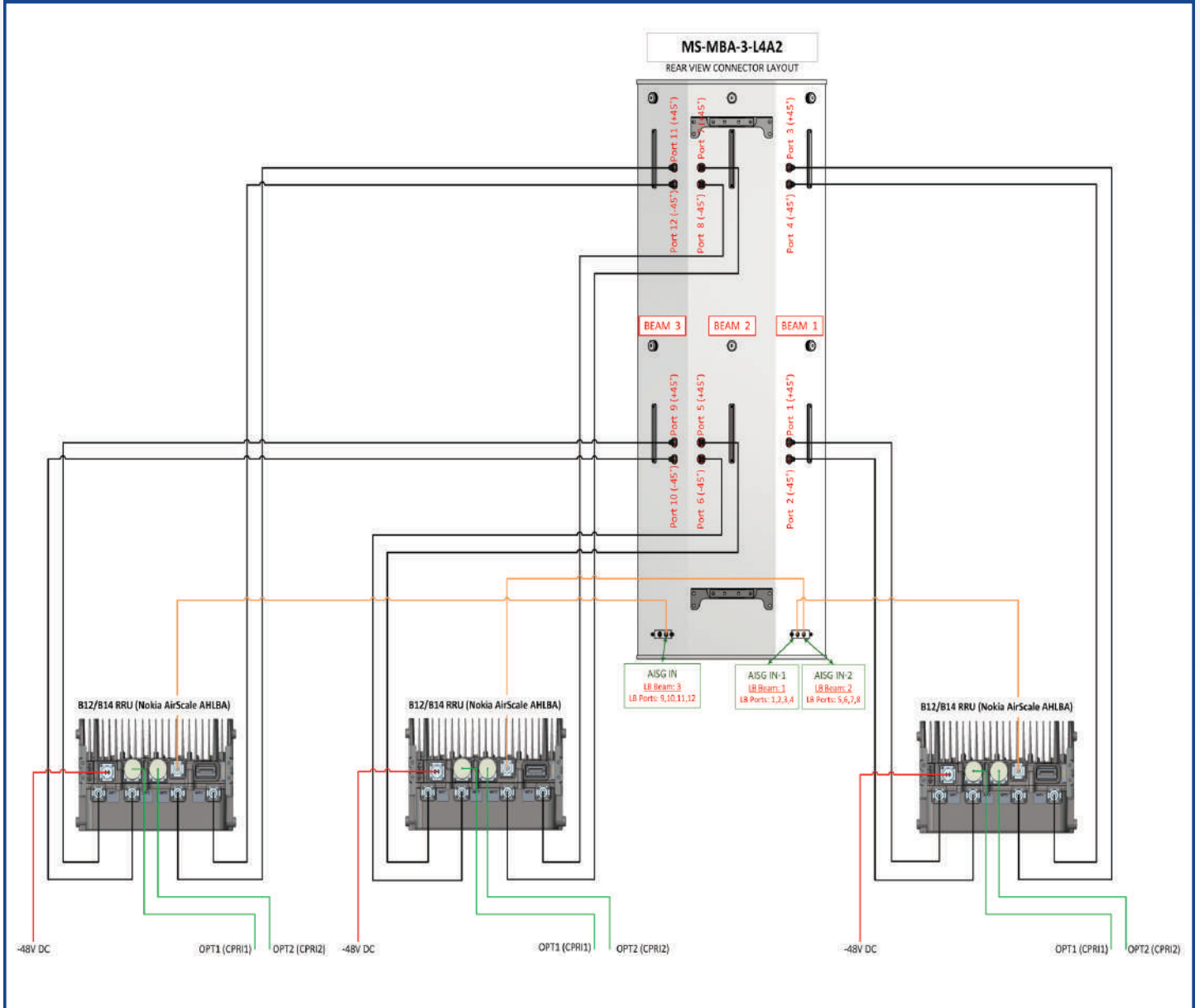


Plumbing Diagrams

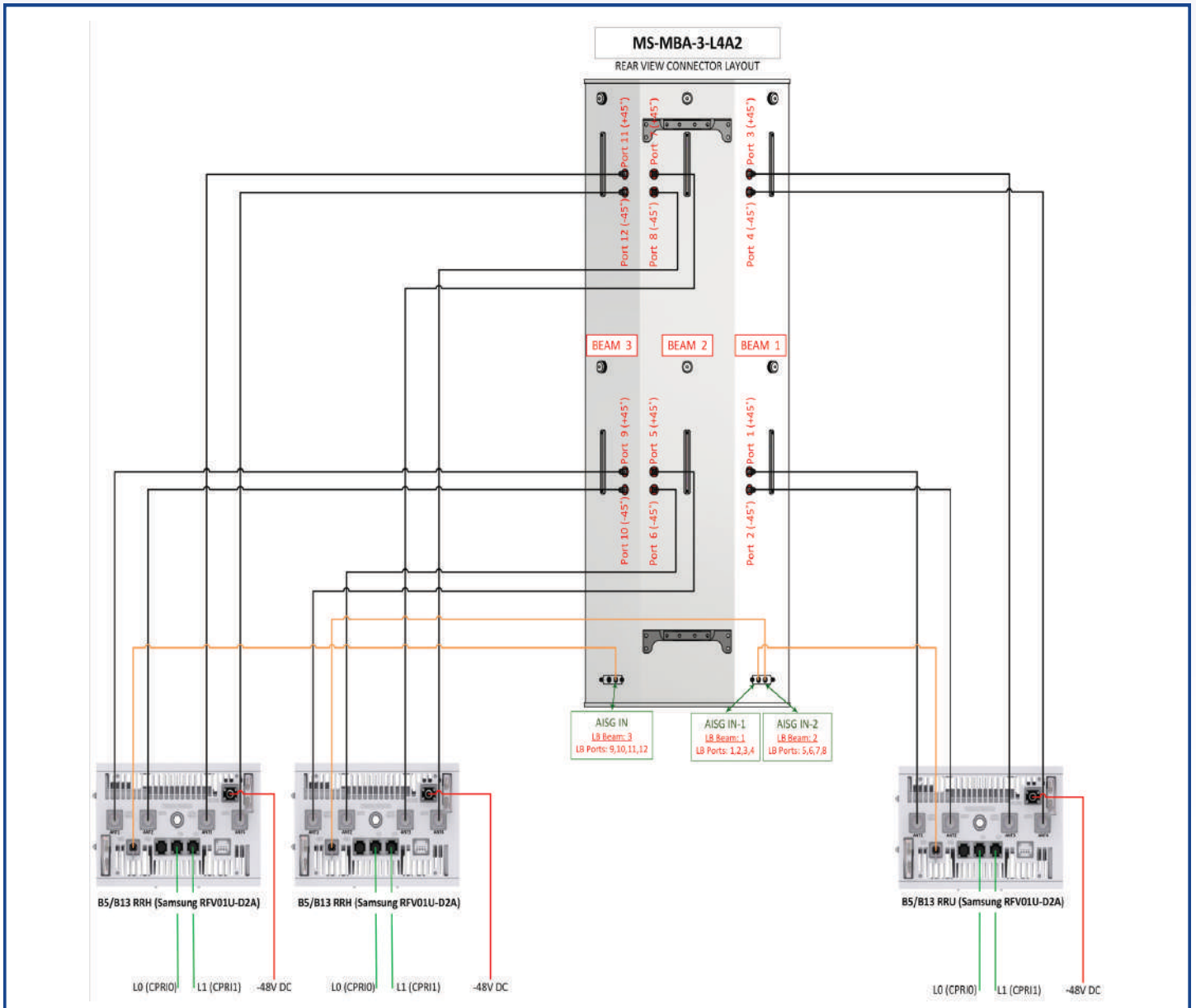
ERICSSON - RRUS 4449



NOKIA - AIRSCALE AHLBA



SAMSUNG - RFV01U-D2A



Wind Loading

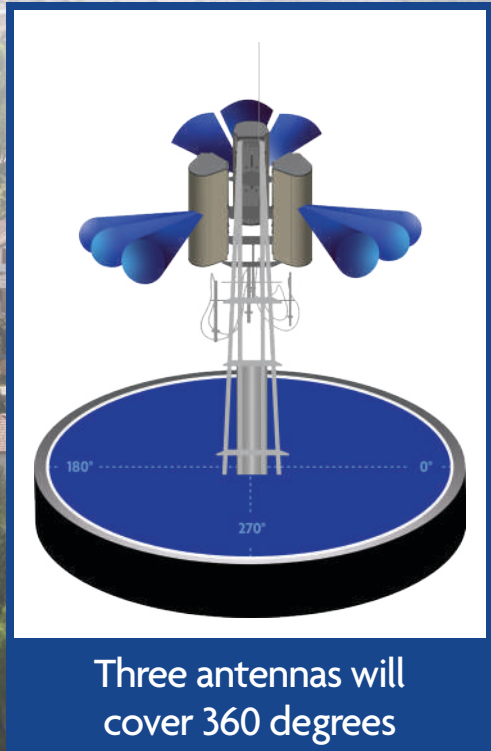
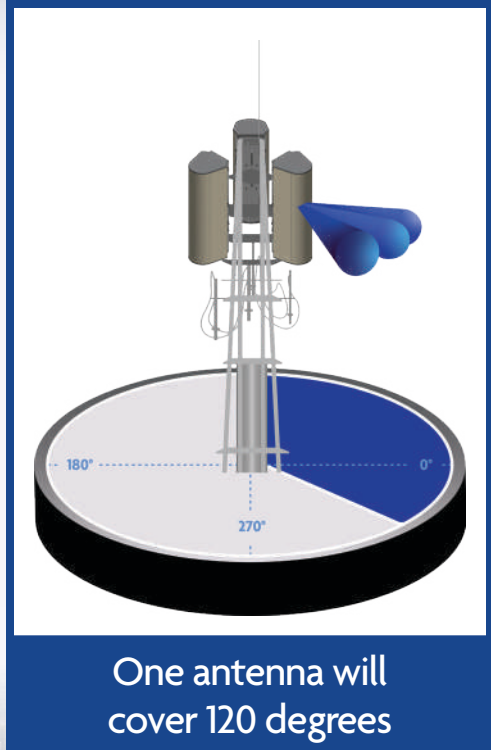
ANTENNA MS-MBA-3-L4A2

Antenna Model Number
MS-MBA-3-L4A2
Velocity [km/h]
150
Dimensions: [mm]
Length: 2418



RESULTS

	Frontal	Lateral	Rear
Profile Drag Coefficient	1.0	1.42	1.29
Antenna Correction Coefficient	0.6	0.6	0.6
Antenna Drag Coefficient	0.66	0.85	0.77
Wind Load [N/lbf]	1584 / 356.1	2371 / 533	1858 / 417.7



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