

INSTRUCTION MANUAL MS-16F60

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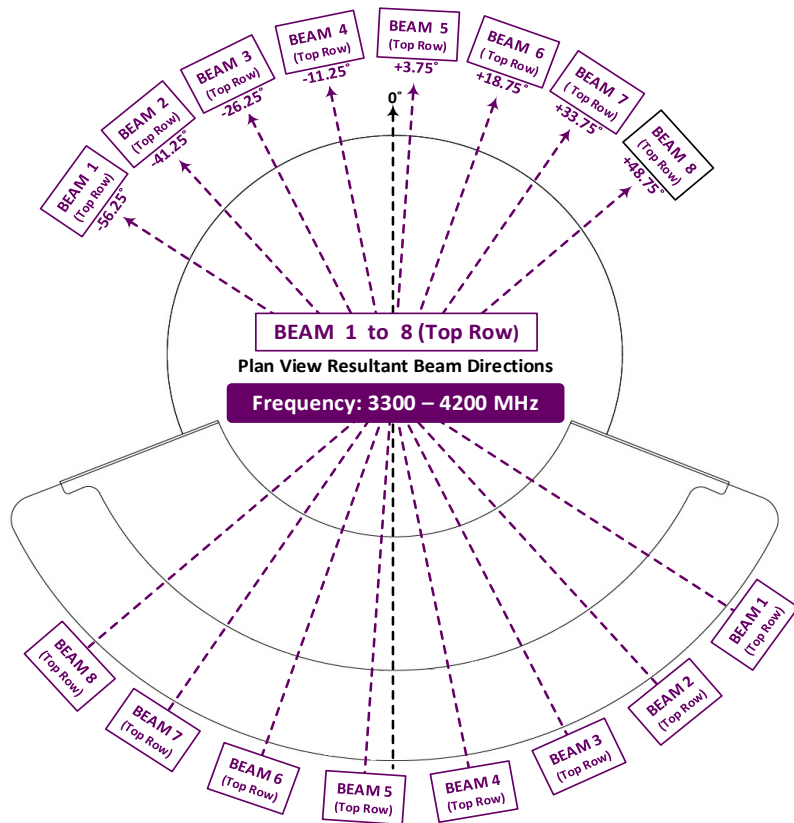
Revision History:

| Date | Description | Revised by | Revision nos. |
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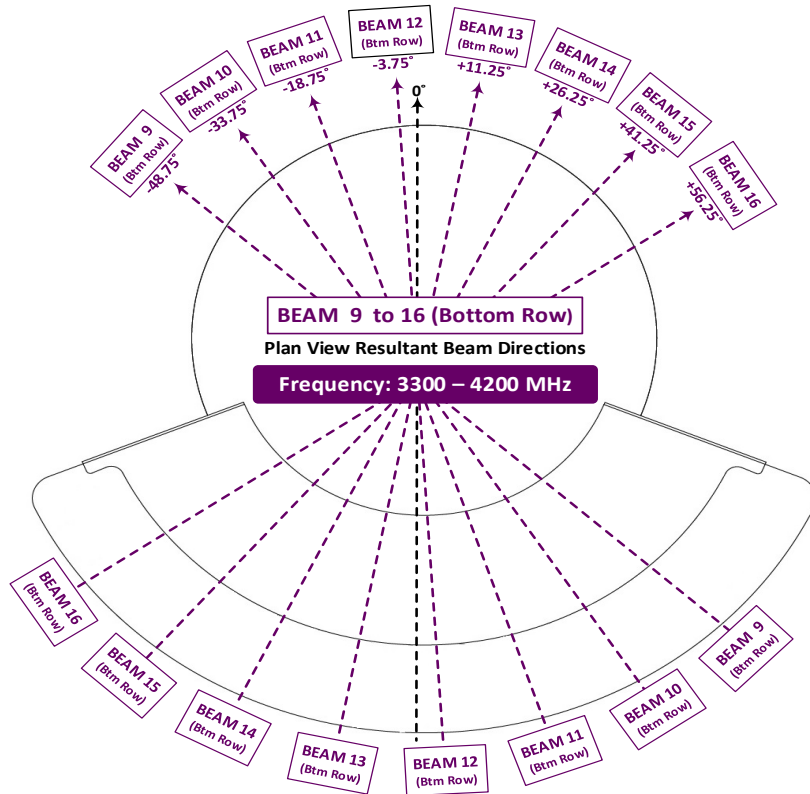
1.00 BEAMS & CONNECTORS:

1.10 Plan View Resultant Beam Direction

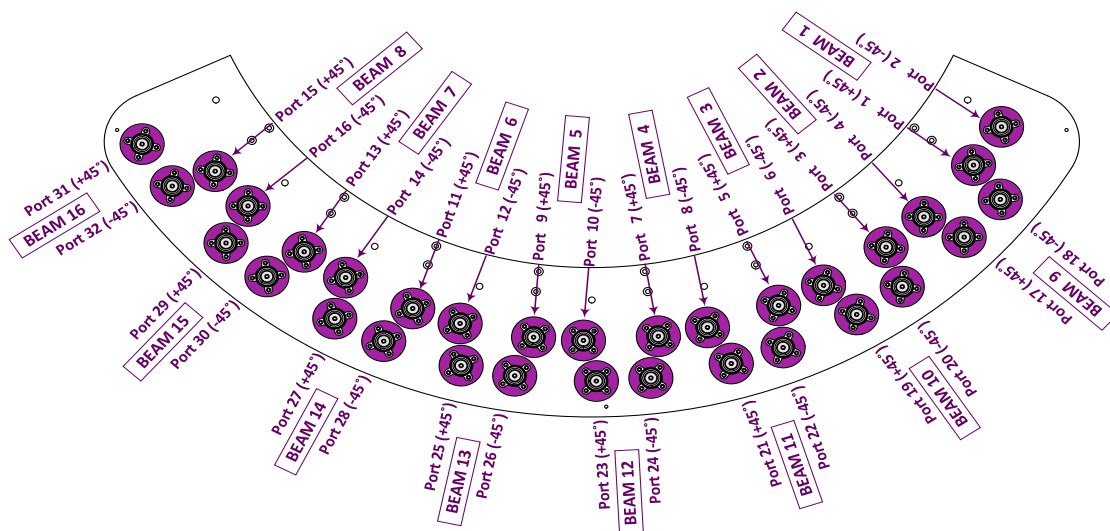
1.11 Beam 1-8 (Top Row)



1.12 Beam 9-16 (Bottom Row)



1.20 Plan View Connector Layout



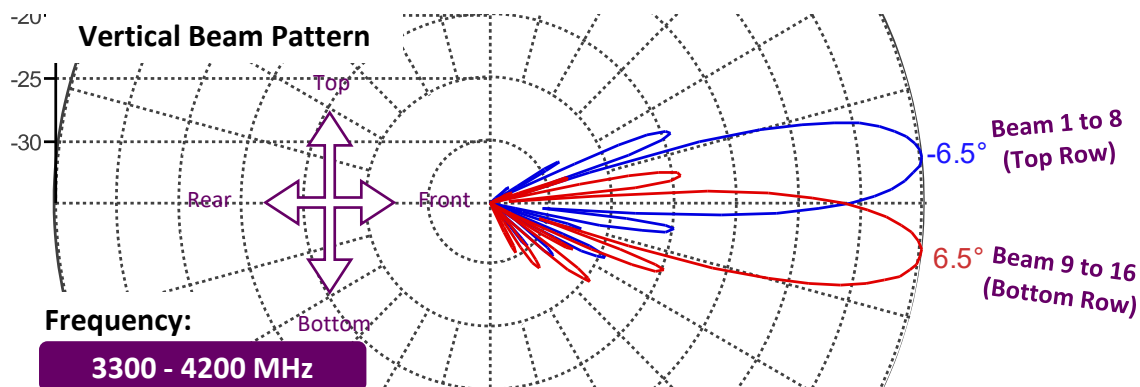
1.30 Connector Ports Table

| Top Row | BEAM 8 | | BEAM 7 | | BEAM 6 | | BEAM 5 | | BEAM 4 | | BEAM 3 | | BEAM 2 | | BEAM 1 | |
|---------|----------------|----------------|----------------|----------------|----------------|----------------|---------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| | PORT 15 (+45°) | PORT 16 (-45°) | PORT 13 (+45°) | PORT 14 (-45°) | PORT 11 (+45°) | PORT 12 (-45°) | PORT 9 (+45°) | PORT 10 (-45°) | PORT 7 (+45°) | PORT 8 (-45°) | PORT 5 (+45°) | PORT 6 (-45°) | PORT 3 (+45°) | PORT 4 (-45°) | PORT 1 (+45°) | PORT 2 (-45°) |
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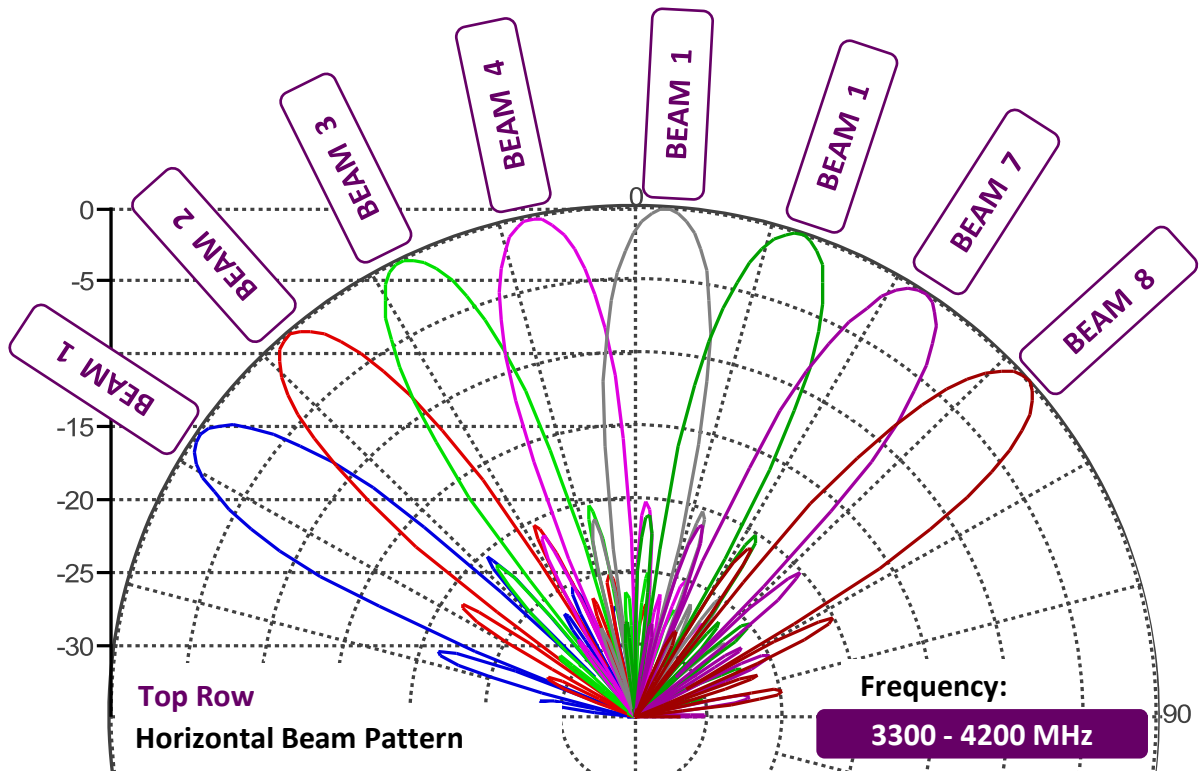
| BEAM 16 | BEAM 15 | BEAM 14 | BEAM 13 | BEAM 12 | BEAM 11 | BEAM 10 | BEAM 9 | Bottom Row |
|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|------------|
| PORT 31 (+45°) | PORT 32 (-45°) | PORT 29 (+45°) | PORT 30 (-45°) | PORT 27 (+45°) | PORT 28 (-45°) | PORT 25 (+45°) | PORT 26 (-45°) | |
| PORT 23 (+45°) | PORT 24 (-45°) | PORT 21 (+45°) | PORT 22 (-45°) | PORT 19 (+45°) | PORT 20 (-45°) | PORT 17 (+45°) | PORT 18 (-45°) | |

2.00 PATTERN DIAGRAM

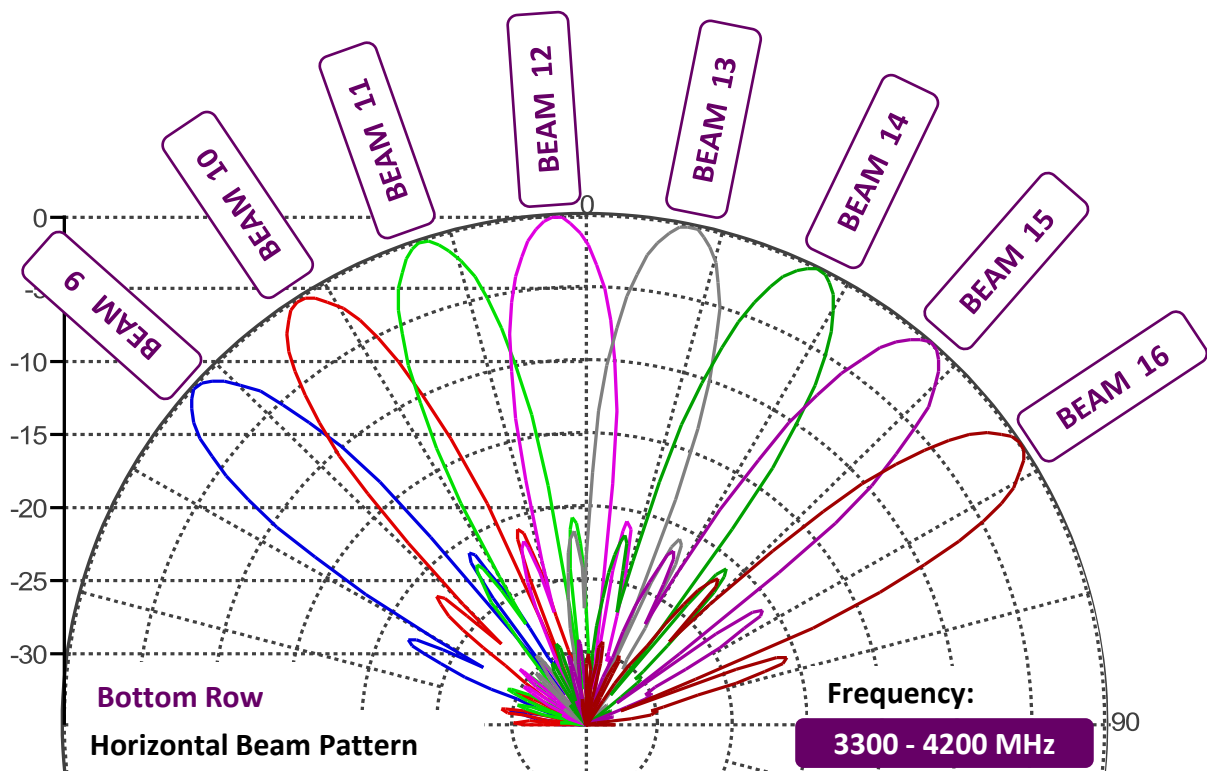
2.10 Vertical Beam Pattern



2.20 Horizontal Beam Pattern (Top Row)



2.30 Horizontal Beam Pattern (Bottom Row)

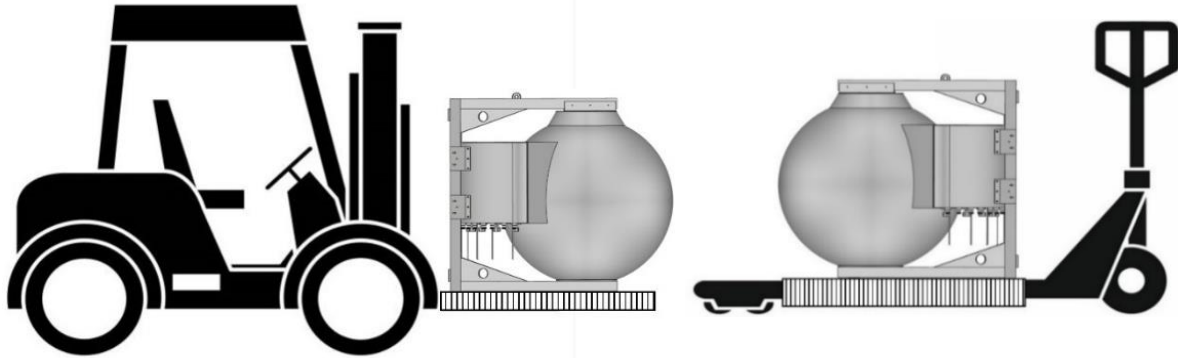


3.00 TRANSPORTATION / INSTALLATION

3.10 Transportation (From Point to Point)

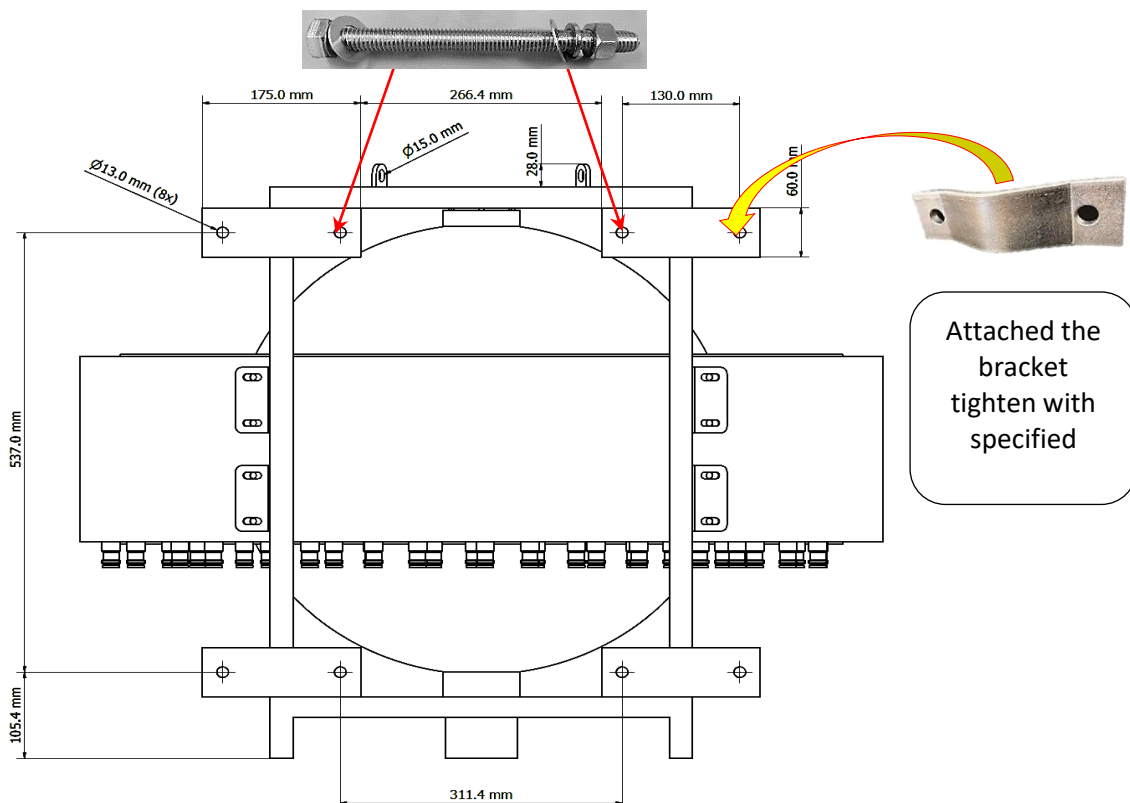
Strictly comply to the Local authority and regulatory on Workplace Safety and Health Control and Measure when moving and transportation of large or heavy equipment, appropriate material handling machine should be use.

(Risk Assessment apply for Forklift or Pallet Truck Lifting)



3.20 Bracket Mounting

| Item | Lens/Types | Holes Size | Bracket Qty | <u>OPEN</u> end bolt & nuts sets |
|------|---------------|------------|-------------|----------------------------------|
| 1 | 30cm to 120cm | Ø13mm x 8 | 4 | M12 x 15cm=8sets |



Important Notes:

End User is require to Custom-Make the additional supporting bracket and tighten to the existing Antenna bracket to meet the deployment needs.

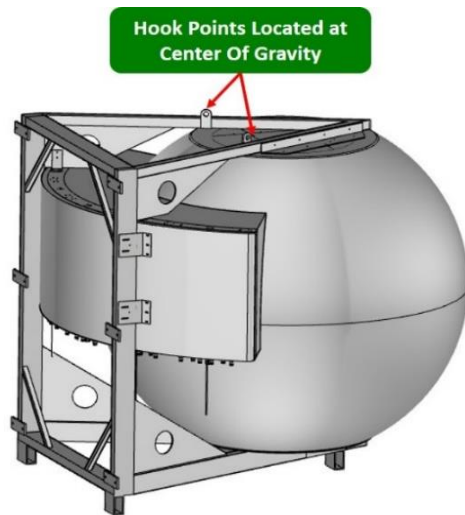
3.30 Installation using a crane

Strictly comply to the local authority and regulatory on Workplace Safety and Health Control and Measure when performing lifting of large or heavy equipment, appropriate material handling machine should be used and only certified personnel should perform the task.

(Risk Assessment requirement applies for both Up-Lifting and Down-Lifting.)

3.31 Lifting the Antenna

The antenna has 2 hook points installed on the top frame (located slightly behind the center of the sphere). These hooks are designed at the center of gravity point of the antenna. A cable, rope can be securely fastened to the hooks and the antenna can be lifted using a crane as pictured below.

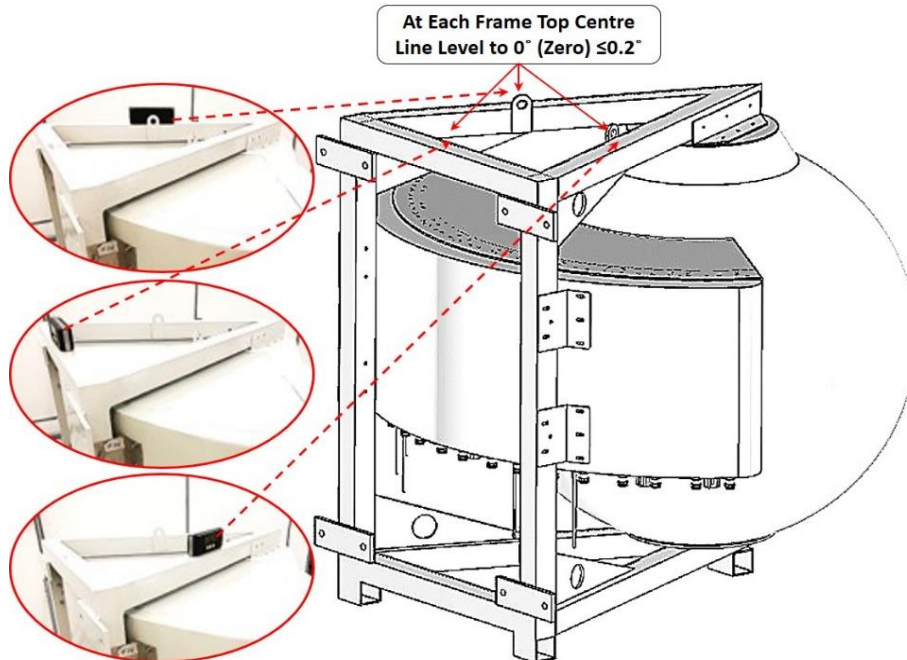


3.40 Antenna Installation

With reference to **Item Bracket Mounting Procedure**, End user is required to Custom-Make the additional supporting bracket and tighten it to the existing Antenna bracket to meet the deployment needs.

3.41 Antenna Leveling

After the Antenna is mounted to the bracket, it is required to be adjusted to 0° (Zero Degree) with $\leq 0.2^\circ$ on 3 sides of the frame top level. (Rear, Right & Left=As shown in picture)



ANTENNA LEVELING ADJUSTMENT (AFTER INSTALLATION)

3.42 Digital Level Gauge Calibration



3.43 Adjustment Requirement



ANTENNA LEVELING ACCEPTED



REQUIRE ADJUSTMENT