



**MS-20.10DBA180**

**Instruction Manual**

Date	Prepared by	Approved by	Document nos	Revision
17 Dec 2019	Ray Ling	Patrick Yeo	MS-20.10DBA180-IM-001	00

**TABLE OF CONTENTS:**

**1.00 BEAMS & CONNECTORS:**

- 1.10 Plan View Resultant Beam And Connector Layout
- 1.20 Connector Details
- 1.30 Connector Ports Table

**2.00 PATTERN DIAGRAM**

- 2.10 Plan View HB Beam Pattern:
- 2.20 Side View HB Beam Pattern:
- 2.30 Plan View LB Beam Pattern:
- 2.40 Side View LB Beam Pattern:

**3.00 TRANSPORTATION / INSTALLATION**

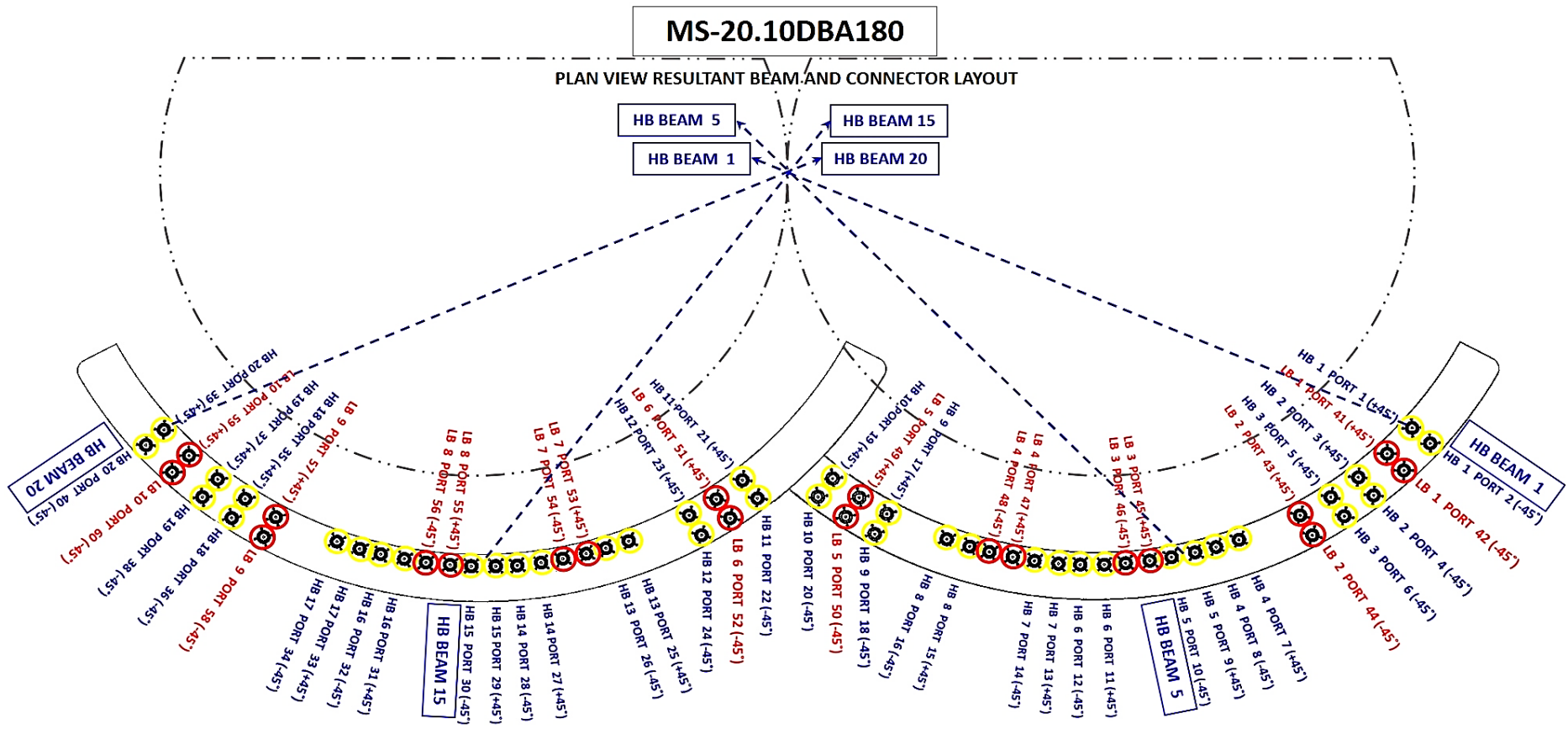
- 3.10 Transportation (From Point to Point)
- 3.20 Bracket Mounting
- 3.30 Installation using a crane
- 3.31 Lifting the Antenna
- 3.40 Antenna Installation
- 3.41 Antenna Leveling
- 3.42 Digital Level Gauge Calibration
- 3.43 Adjustment Requirement

**Revision History:**

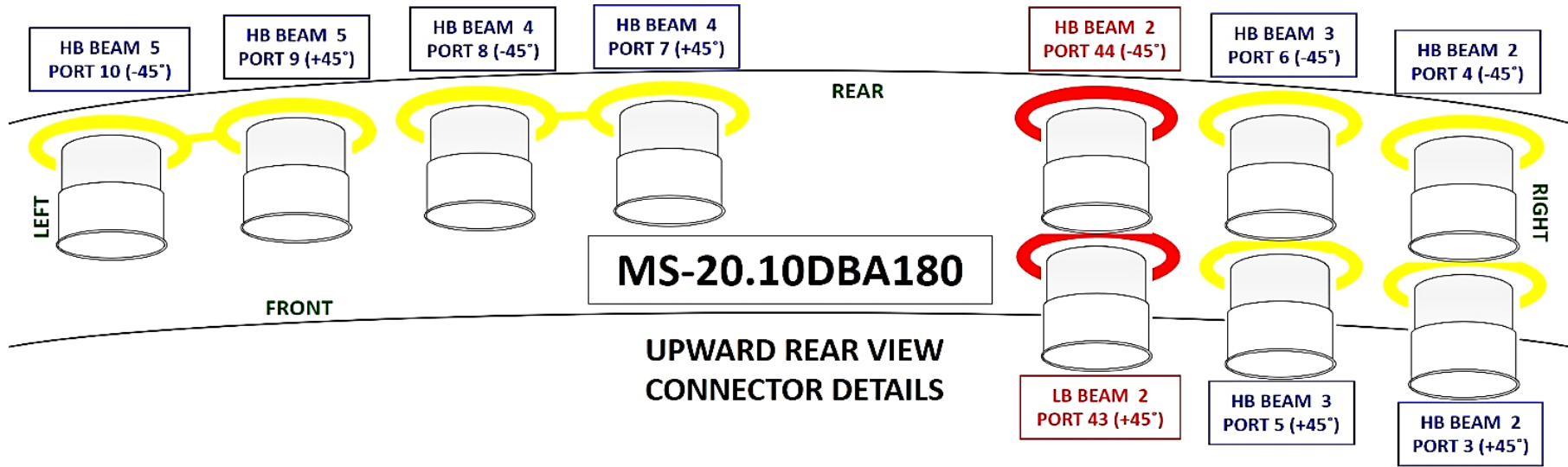
Date	Description	Revised by	Revision nos.

# 1.00 BEAMS & CONNECTORS:

## 1.10 Plan View Resultant Beam And Connector Layout



### 1.20 Connector Details



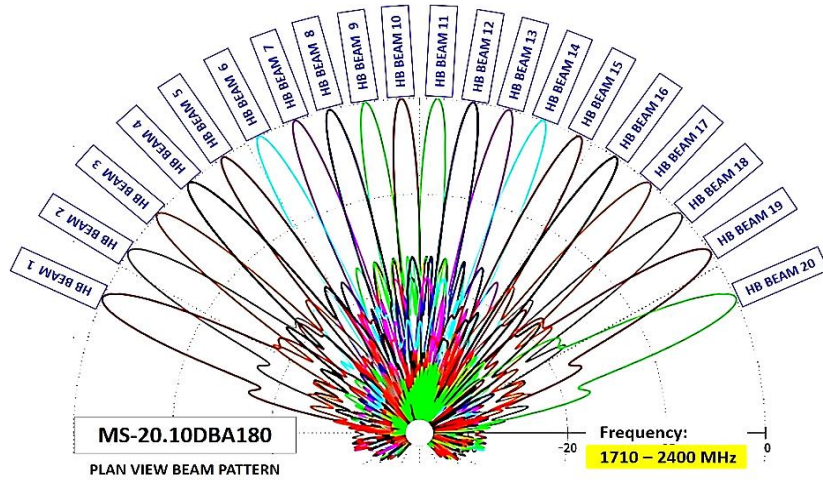
### 1.30 Connector Ports Table

HB BEAM 10	LB BEAM 5	HB BEAM 9	HB BEAM 8		LB BEAM 4		HB BEAM 7		HB BEAM 6		LB BEAM 3		HB BEAM 5		HB BEAM 4		LB BEAM 2	HB BEAM 3	HB BEAM 2	LB BEAM 1	HB BEAM 1
PORT 19 (+45°)	PORT 41 (+45°)	PORT 17 (+45°)	PORT 16 (-45°)	PORT 15 (+45°)	PORT 48 (-45°)	PORT 47 (+45°)	PORT 14 (-45°)	PORT 13 (+45°)	PORT 12 (-45°)	PORT 11 (+45°)	PORT 46 (-45°)	PORT 45 (+45°)	PORT 10 (-45°)	PORT 9 (+45°)	PORT 8 (-45°)	PORT 7 (+45°)	PORT 43 (+45°)	PORT 5 (+45°)	PORT 3 (+45°)	PORT 41 (+45°)	PORT 1 (+45°)
PORT 20 (-45°)	PORT 42 (-45°)	PORT 18 (-45°)	left side<		REAR VIEW OF ANTENNA RIGHT SIDE										> right side		PORT 44 (-45°)	PORT 6 (-45°)	PORT 4 (-45°)	PORT 42 (-45°)	PORT 2 (-45°)

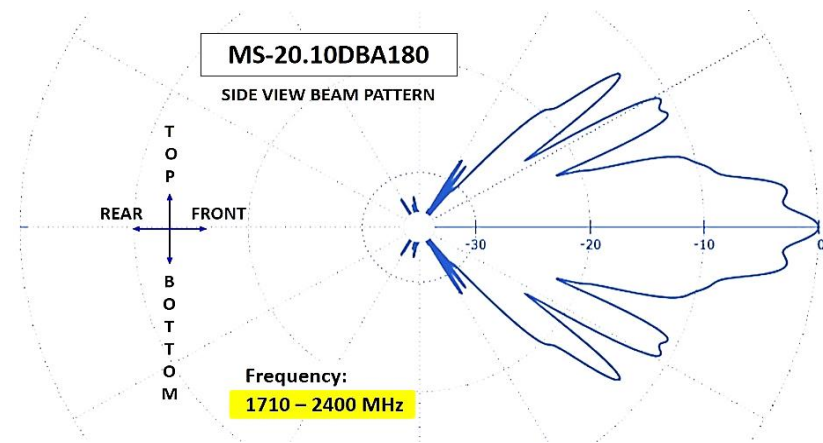
HB BEAM 20	LB BEAM 10	HB BEAM 19	HB BEAM 18	LB BEAM 9	HB BEAM 17		HB BEAM 16		LB BEAM 8		HB BEAM 15		HB BEAM 14		LB BEAM 7		HB BEAM 13		HB 12	LB BEAM 6	HB 11
PORT 39 (+45°)	PORT 59 (+45°)	PORT 37 (+45°)	PORT 35 (+45°)	PORT 57 (+45°)	PORT 34 (-45°)	PORT 33 (+45°)	PORT 32 (-45°)	PORT 31 (+45°)	PORT 56 (-45°)	PORT 55 (+45°)	PORT 30 (-45°)	PORT 29 (+45°)	PORT 28 (-45°)	PORT 27 (+45°)	PORT 54 (-45°)	PORT 53 (+45°)	PORT 26 (-45°)	PORT 25 (+45°)	PORT 23 (+45°)	PORT 51 (+45°)	PORT 21 (+45°)
PORT 40 (-45°)	PORT 60 (-45°)	PORT 38 (-45°)	PORT 36 (-45°)	PORT 58 (-45°)	left side<		REAR VIEW OF ANTENNA LEFT SIDE										> right side		PORT 24 (-45°)	PORT 52 (-45°)	PORT 22 (-45°)

## 2.00 PATTERN DIAGRAM

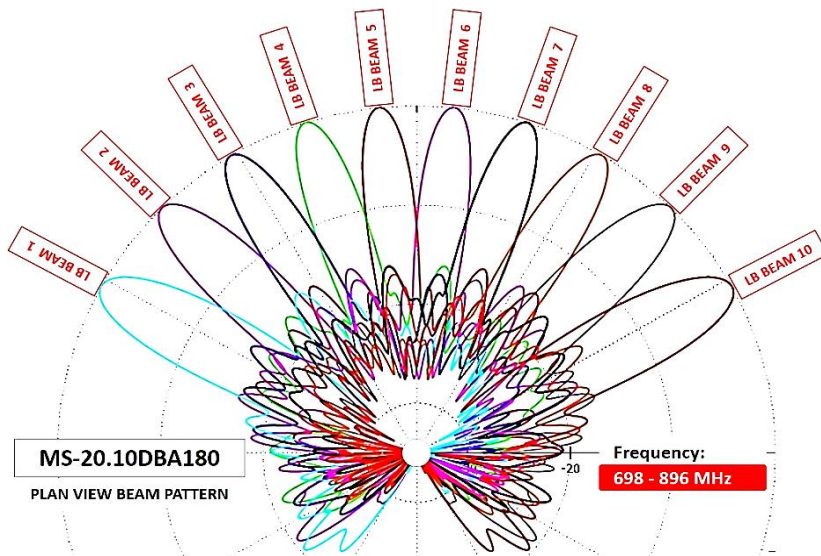
### 2.10 Plan View HB Beam Pattern:



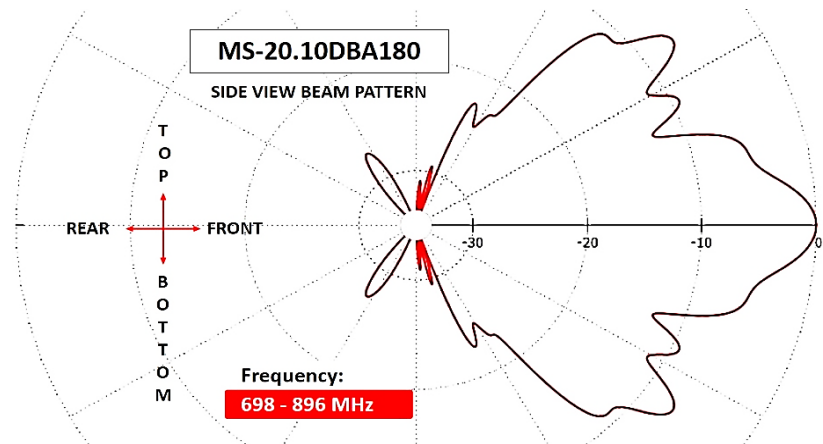
### 2.20 Side View HB Beam Pattern:



### 2.30 Plan View LB Beam Pattern:



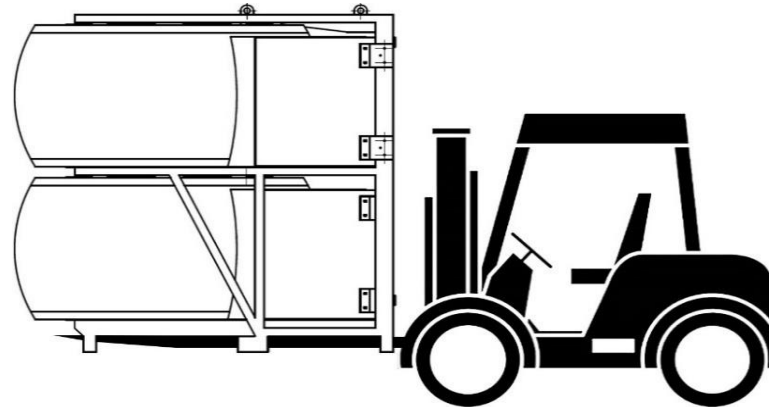
### 2.40 Side View LB Beam Pattern:



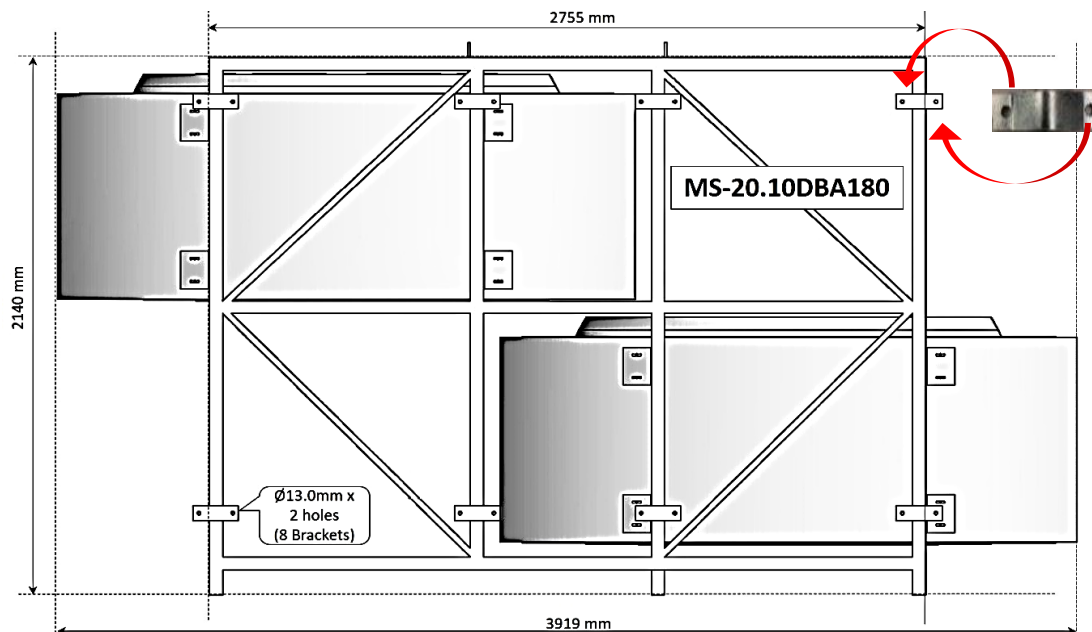
### 3.00 TRANSPORTATION / INSTALLATION

#### 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 transporting of large or heavy equipment. Appropriate material handling machine should be used. **(Risk Assessment applies for Forklift or Pallet Truck Lifting)**



#### 3.20 Bracket Mounting



Model	Bracket Qty (pc)	Bolt & Nuts Size	Bolts Set (pc)
MS-20.10DBA180	8	M12 x 15cm	16

**Tighten to the pole with Bolt & Nuts Sets**



#### **Important Notes:**

End User is required to **CUSTOM-MAKE** the additional supporting bracket and tighten it to the existing Antenna bracket to meet the deployment needs.

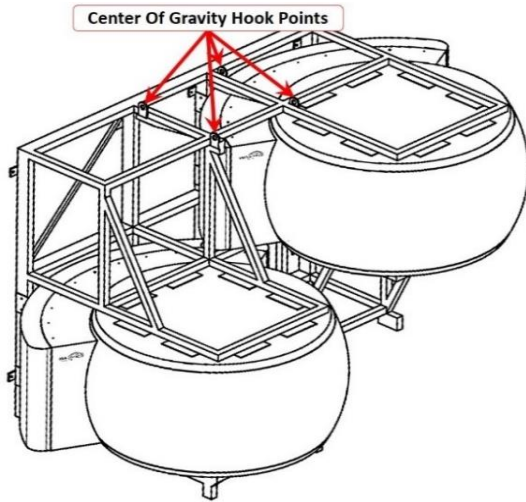


### 3.30 Installation using a crane

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 4 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.

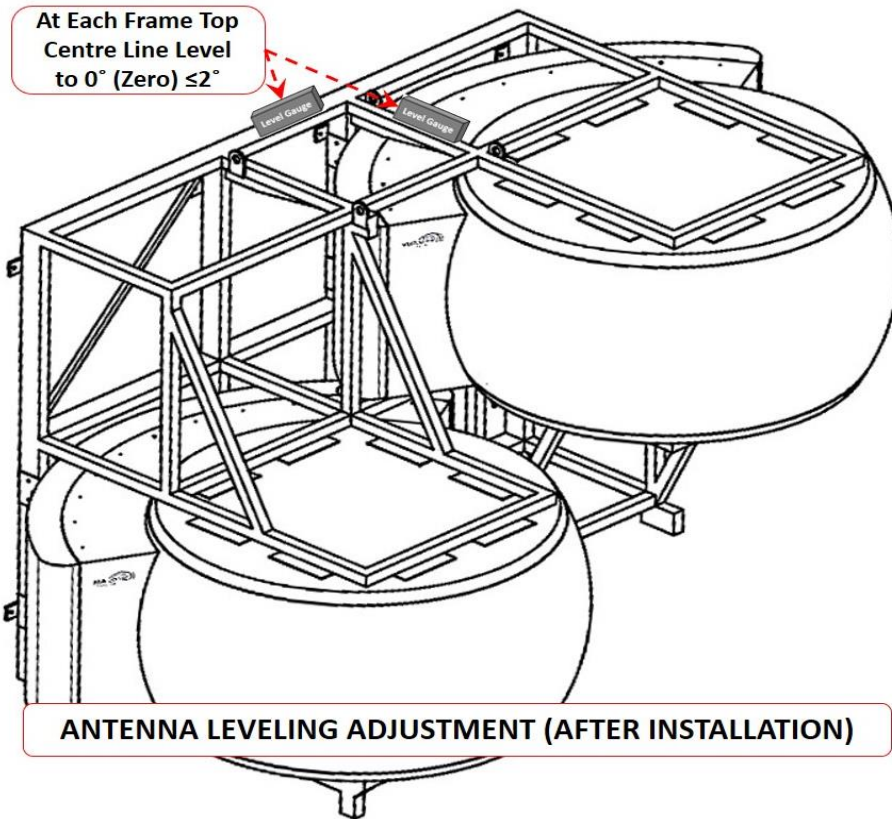


### 3.40 Antenna Installation

With reference to Item 3.2 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 2 sides of the frame top level. (Rear, Right & Left=As shown in picture)



### 3.42 Digital Level Gauge Calibration



### 3.43 Adjustment Requirement

