

MATSING[®]

LENS TECHNOLOGY ENABLED

MS-MBA-3.2-H8-L4

(VS Version)

Instruction Manual

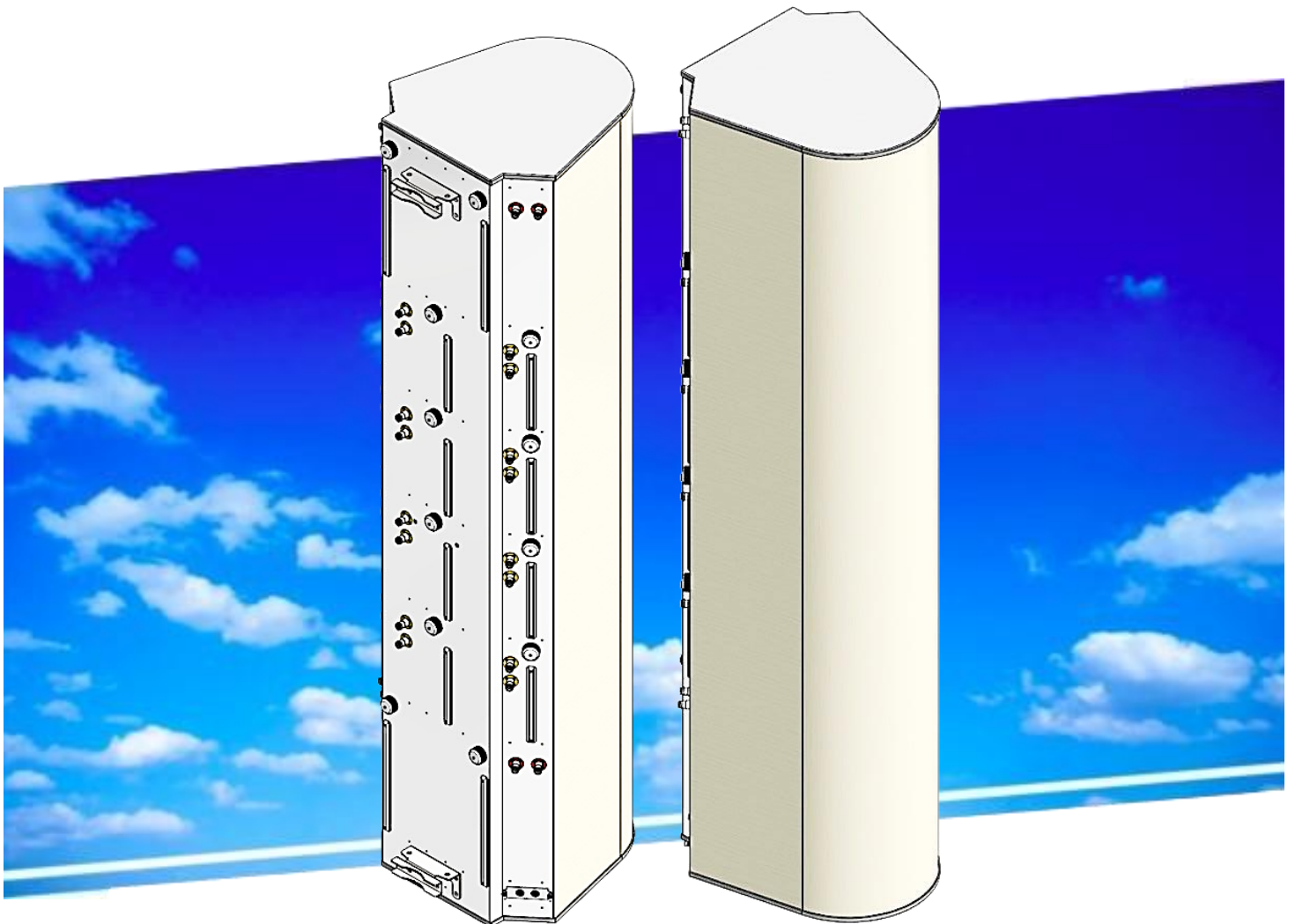


Table Of Contents

1.00 PATTERN DIAGRAM

- 1.10 High Band
 - 1.11 Horizontal Pattern
 - 1.12 Vertical Pattern
- 1.20 Low Band
 - 1.21 Horizontal Pattern
 - 1.22 Vertical Pattern

2.00 BEAMS & CONNECTOR

- 2.10 Plan View Resultant Beam Layout
- 2.20 Connector Port Table
- 2.30 Connector Detail
- 2.40 Connector Layout
 - 2.41 1 Dual + 1 Single Channel Controller
 - 2.42 2 Dual Channel Controller

3.00 RET OPERATIONS / INFORMATION

- 3.10 Example of S/N 33 Label Reference
 - 3.11 1 Dual + 1 Single Channel Controller Display
 - 3.12 Beam Nos & Port Nos Display
- 3.20 Example of S/N 39 Label Reference
 - 3.21 2 Dual Channel Controller Display
 - 3.22 Beam Nos & Port Nos Display

4.00 MANUAL TILT ADJUSTMENT

5.00 BRACKET INSTALLATION

- 5.10 Bolts & Nuts / Tools
 - 5.11 Bolts & Nuts
 - 5.12 Bracket
- 5.20 Tools Requirement
 - 5.21 Adjustable Spanner
 - 5.22 M12 Spanner
- 5.30 Bracket Spacing & Installation Sample

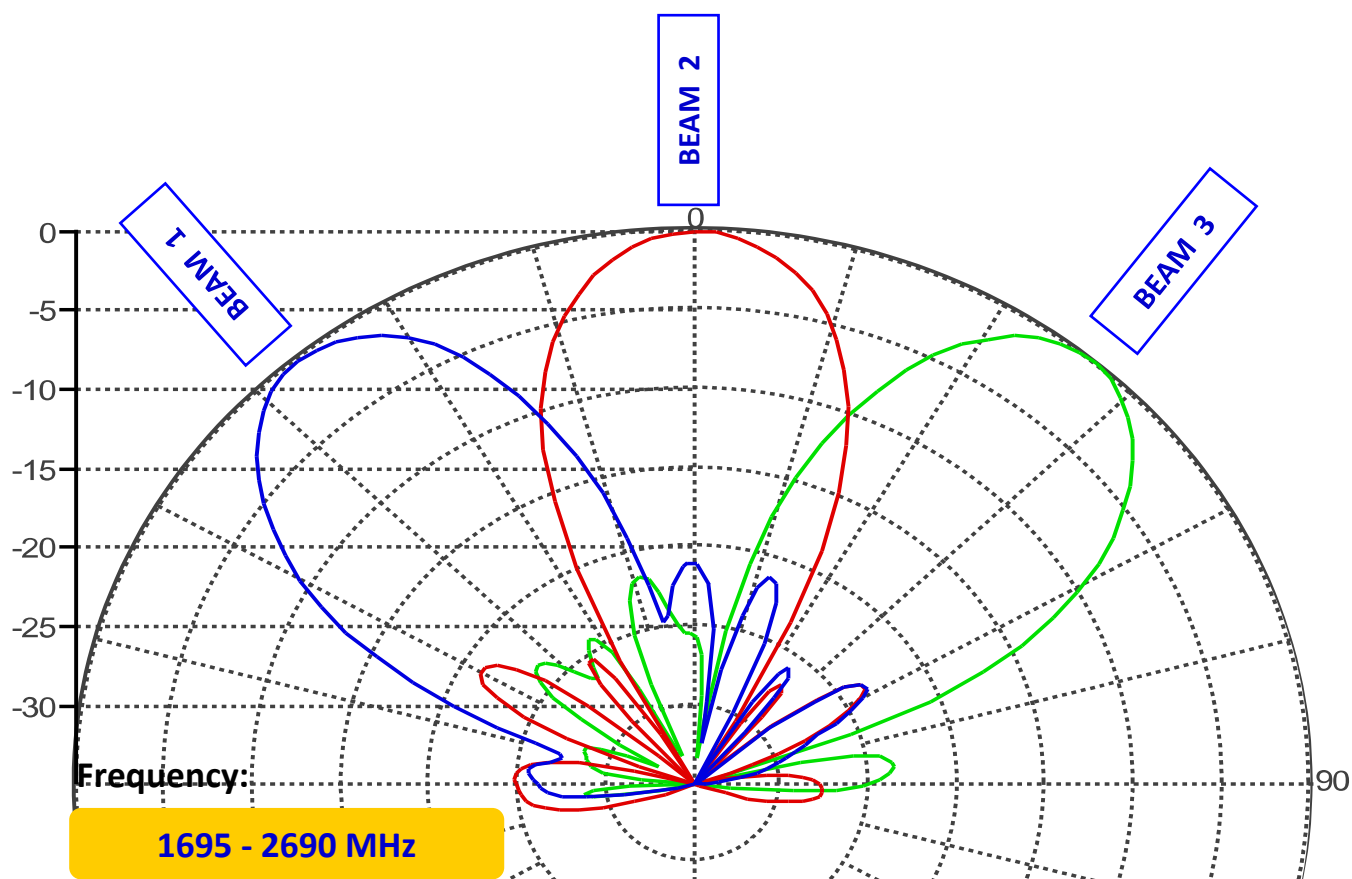
Revision History:

<u>Date</u>	<u>Description</u>	<u>Rev By</u>	<u>Check By</u>	<u>Rev no</u>
21-Feb-2024	Initial Release	RL	Pavel	0
17-Jul-2024	Include 2 Version of Installed RET Controller Information	RL	Pavel	1
05-Dec-2024	Revised HB from 1710 - 2690 MHz to 1695 - 2690 MHz	RL	Pavel	2
29-May-2025	Add VS version on the title page	RL	Pavel	3

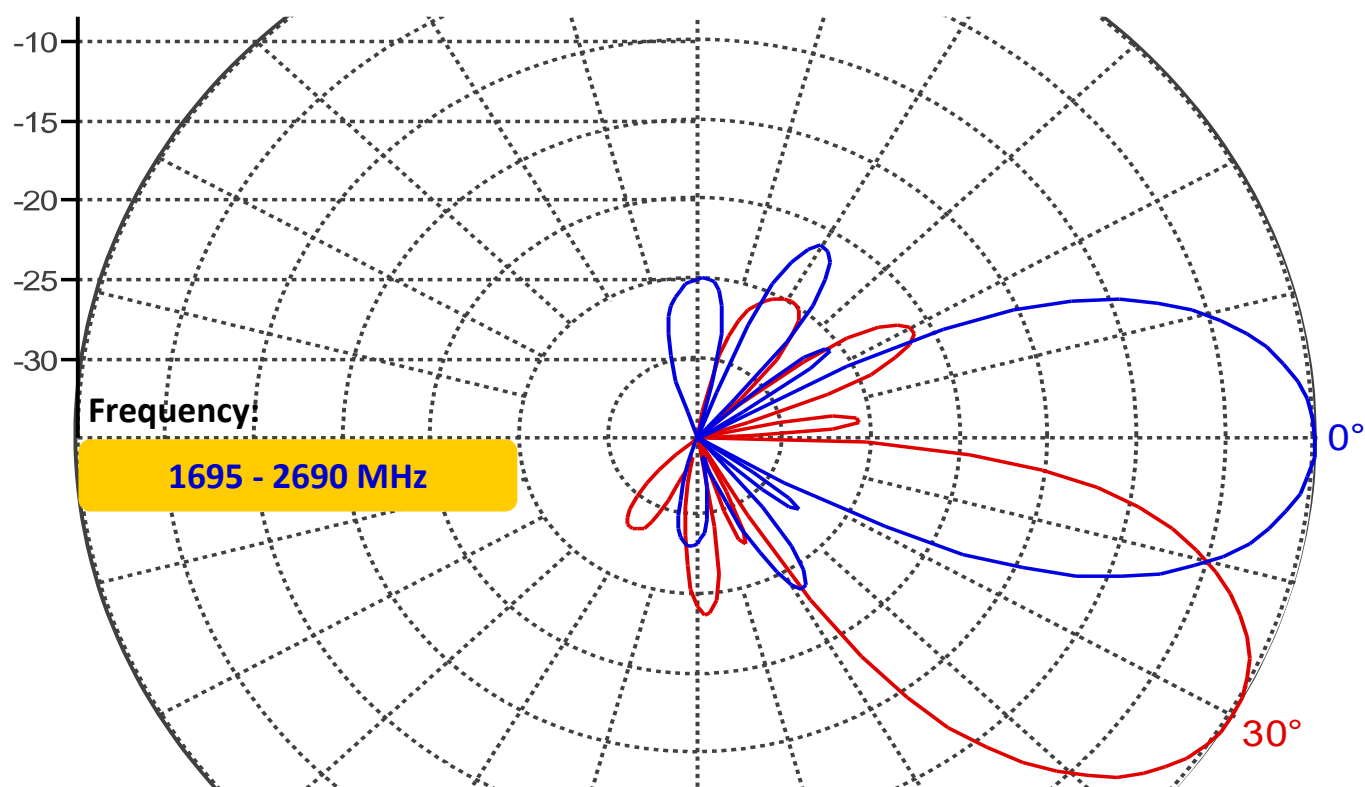
1.00 Pattern diagram

1.10 High band

1.11 Horizontal pattern

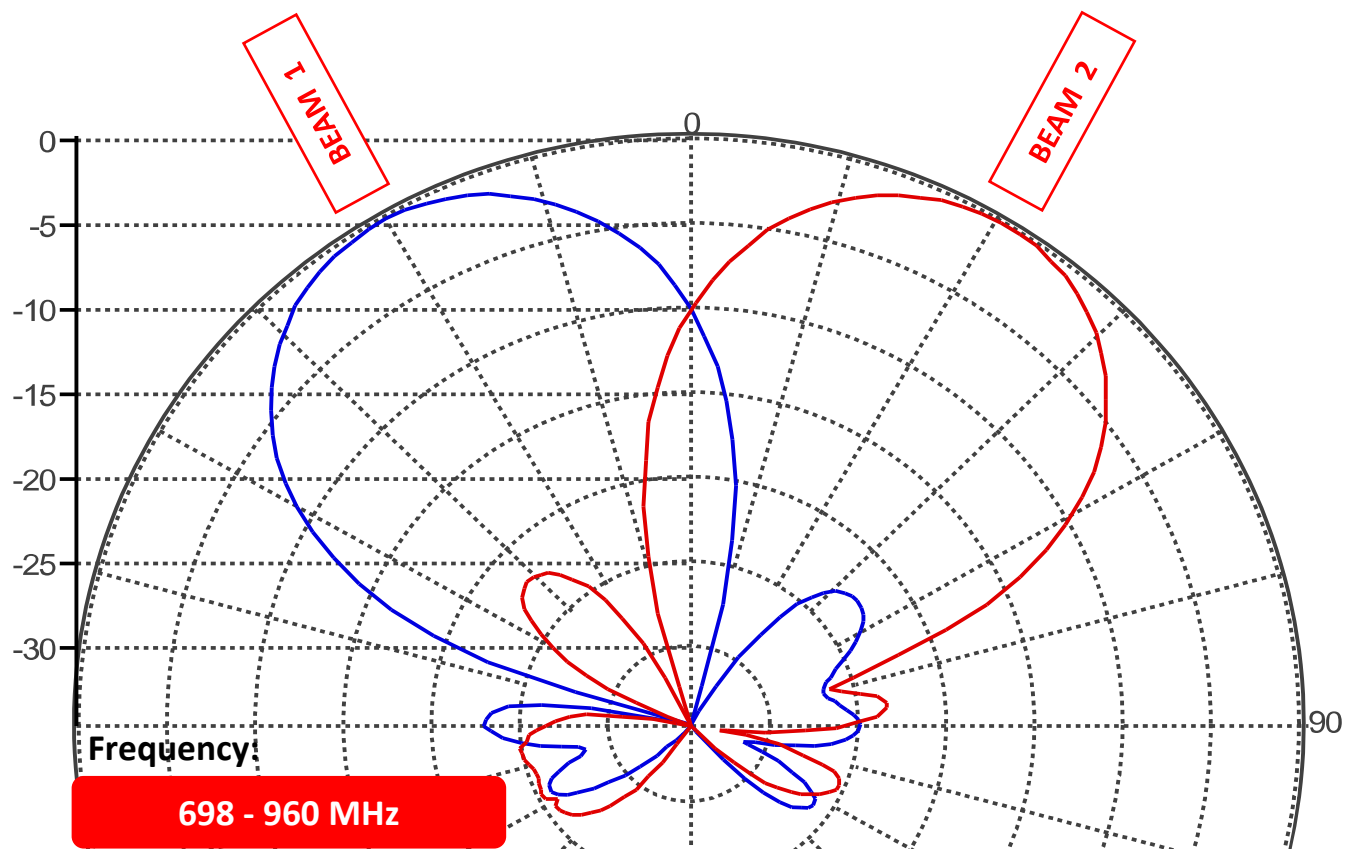


1.12 Vertical pattern

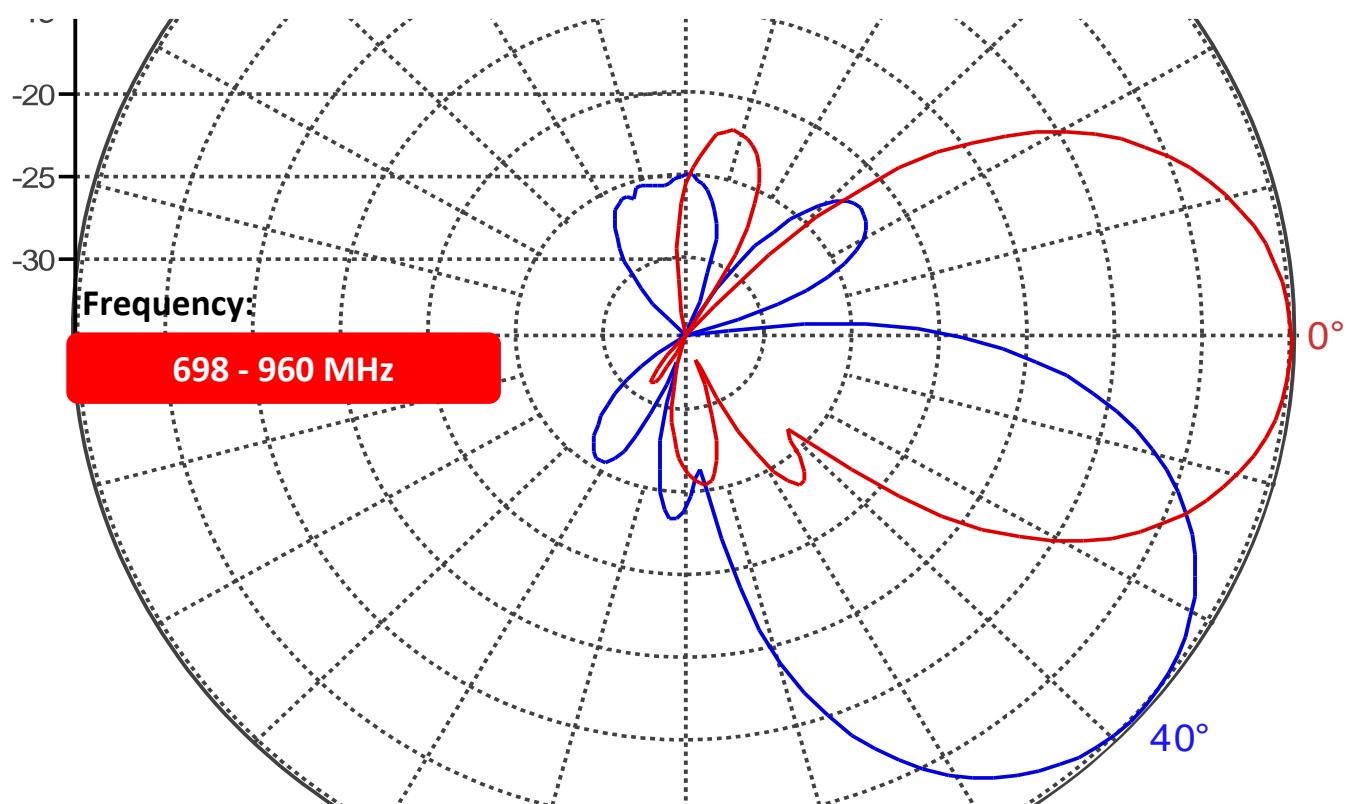


1.20 Low band

1.21 Horizontal pattern

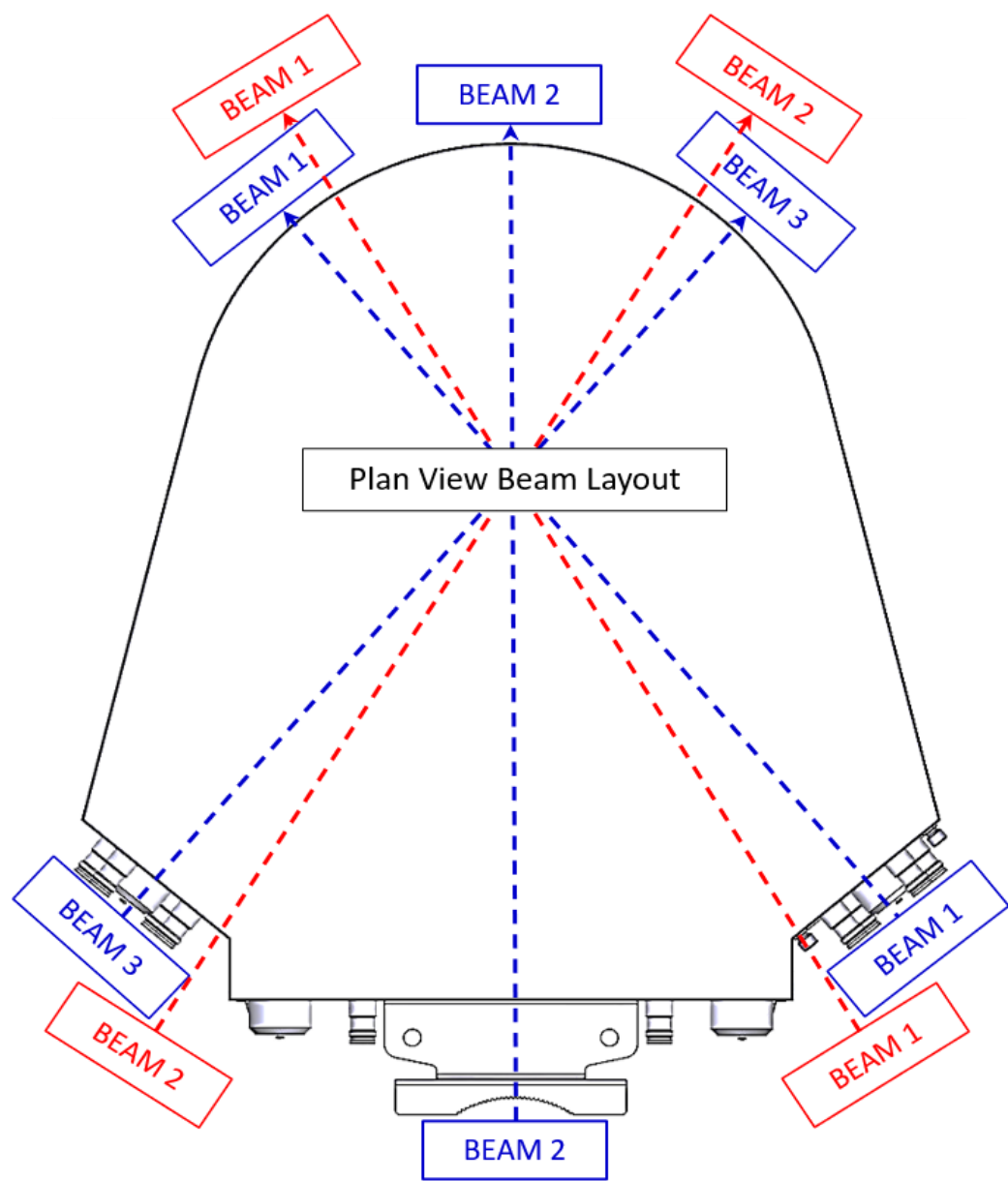


1.22 Vertical pattern



2.00 Beams and connector

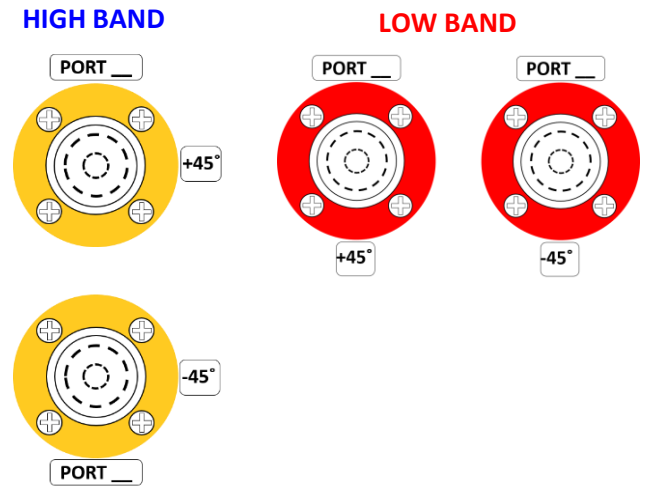
2.10 Plan view resultant beam layout



2.20 Connector port table

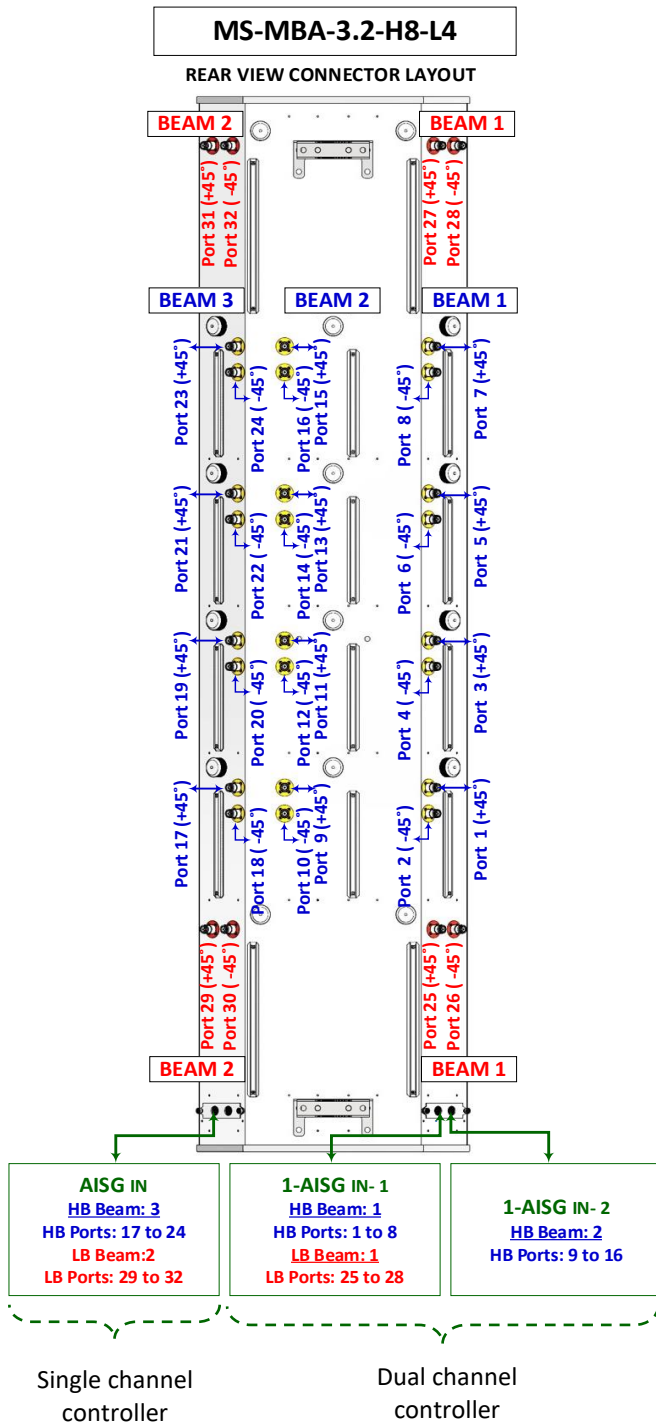
BEAM 2				BEAM 1	
Port 31 (+45°)	Port 32 (-45°)			Port 27 (+45°)	Port 28 (-45°)
BEAM 3		BEAM 2		BEAM 1	
Port 23 (+45°)	Port 24 (-45°)	Port 15 (+45°)	Port 16 (-45°)	Port 7 (+45°)	Port 8 (-45°)
Port 21 (+45°)	Port 22 (-45°)	Port 13 (+45°)	Port 14 (-45°)	Port 5 (+45°)	Port 6 (-45°)
Port 19 (+45°)	Port 20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

2.30 Connector detail



2.40 Connector layout

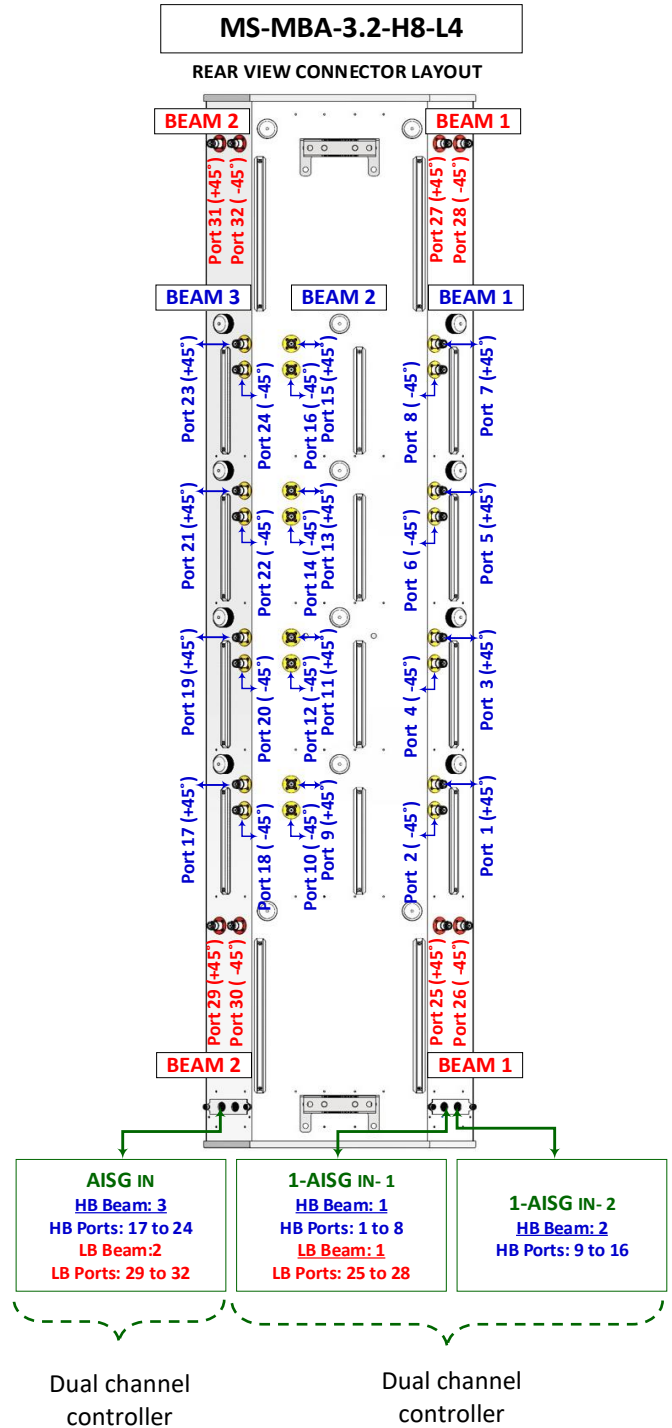
2.41 1 Dual channel + 1 Single channel controller



Note 1:

Antenna S/N 01 to 33 Installed with
1 x Dual channel and
1 x Single channel controller

2.42 2 Dual channel controller



Note 2:

Antenna S/N 39 onward installed with
2 x Dual channel controller

3.00 RET operations and information's

A standard AISG 2.0 compliant cable (not included) is used to connect the MDCU to the AISG interface control. Once connected, use an AISG 2.0 compliant Control software to perform a Sub Unit SCAN to identify the RET Elements.

3.10 Example of S/N 33 label reference



Model No. : MS-MBA-3.2-H8-L4-VSON
 Serial No. : MS-MBA-3.2-H8-L4-VSON00033
 Frequency: 698 - 960 MHz
 1695 – 2690 MHz

RET Controller Serial #
 MBA32H8L4VS033AMM
 MBA32H8L4VS033BMM
 MBA32H8L4VS033CMM

Delete Zero in front if the serial nos is more than 3 digits

Reminder: If Information Has Been Edited, Remember to Perform "Radio Hard Reset" for Changes to take Place

1 Dual Channel + 1 Single Channel Controller

3.11 1 Dual + 1 Single channel controller display

ALD List

NO	HDLC	Vendor	Serial Number	Product Number	H/W Version	S/W Version	3GPP	Device	AISG	Connect	Link
1	1	MS	MBA32H8L4VS033AMM	ACS-RMC20	1.00	3.02D3	6	Multi RET	2	Connect	Link
2	2	MS	MBA32H8L4VS033BMM	ACS-RMC20	1.00	3.02D2	6	Multi RET	2	Connect	Link
3	3	MS	MBA32H8L4VS033CMM	ACS-RMC00	1.00	3.02D3	6	Multi RET	2	Connect	Link

MBA32H8L4VS033AMM
 MBA32H8L4VS033BMM
 MBA32H8L4VS033CMM

ACS-RMC20
 ACS-RMC20
 ACS-RMC00

(Dual Channel Controller 1-AISG IN-1)

(Dual Channel Controller 1-AISG IN-2)

(Single Channel Controller AISG IN)

Model s/no. 3 digits

3.12 Beam nos and port nos display

RET ID : MSMBA32H8L4VS033AMM						BEAM 1
RET Status and Control						Port 1 to Port 8 BEAM 1 Port 25 to Port 28
Antenna Information List						
NO	Sector ID	Ant Model	Ant Serial	Current Tilt	Status	
1/3	HB - Beam 1 (Port, 1-4)	MBA-3.2-H8-L4	MBA3.2H8L4VSON033	0.0	Normal	
2/3	HB - Beam 1 (Port, 5-8)	MBA-3.2-H8-L4	MBA3.2H8L4VSON033	0.0	Normal	
3/3	LB - Beam 1 (Port, 25-28)	MBA-3.2-H8-L4	MBA3.2H8L4VSON033	0.0	Normal	

RET ID : MSMBA32H8L4VS033BMM						BEAM 2
RET Status and Control						Port 9 to Port 16
Antenna Information List						
NO	Sector ID	Ant Model	Ant Serial	Current Tilt	Status	
1/2	HB - Beam 2 (Port, 9-12)	MBA-3.2-H8-L4	MBA3.2H8L4VSON033	0.0	Normal	
2/2	HB - Beam 2 (Port, 13-16)	MBA-3.2-H8-L4	MBA3.2H8L4VSON033	0.0	Normal	

RET ID : MSMBA32H8L4VS033CMM						BEAM 3
RET Status and Control						Port 17 to Port 24 BEAM 2 Port 29 to Port 32
Antenna Information List						
NO	Sector ID	Ant Model	Ant Serial	Current Tilt	Status	
1/3	HB - Beam 3 (Port, 17-20)	MBA-3.2-H8-L4	MBA3.2H8L4VSON033	0.0	Normal	
2/3	HB - Beam 3 (Port, 21-24)	MBA-3.2-H8-L4	MBA3.2H8L4VSON033	0.0	Normal	
3/3	LB - Beam 2 (Port, 29-32)	MBA-3.2-H8-L4	MBA3.2H8L4VSON033	0.0	Normal	

3.20 Example of S/N 39 label reference



Model No. : MS-MBA-3.2-H8-L4-VSON
 Serial No. : MS-MBA-3.2-H8-L4-VSON00039
 Frequency: 698 - 960 MHz
 1695 – 2690 MHz

RET Controller Serial #
 MBA32H8L4VS039AMM
 MBA32H8L4VS039BMM
 MBA32H8L4VS039CMM

2 Dual Channel Controller

Delete Zero in front if the serial nos is more than 3 digits

Reminder: If Information Has Been Edited, Remember to Perform "Radio Hard Reset" for Changes to take Place

3.21 2 Dual channel controller display

ALD List

NO	HDLC	Vendor	Serial Number	Product Number	H/W Version	S/W Version	3GPP	Device	AISG	Connect	Link
1	1	MS	0000000000000000	ACS-RMC20	1.00	1.X	6	Multi RET	2	Connect	Link
2	2	MS	MBA32H8L4VS039AMM	ACS-RMC20	1.00	3.02D3	6	Multi RET	2	Connect	Link
3	3	MS	MBA32H8L4VS039BMM	ACS-RMC20	1.00	3.02D2	6	Multi RET	2	Connect	Link
4	4	MS	MBA32H8L4VS039CMM	ACS-RMC20	1.00	3.02D3	6	Multi RET	2	Connect	Link

MBA32H8L4VS039AMM

MBA32H8L4VS039BMM

MBA32H8L4VS039CMM

ACS-RMC20

ACS-RMC20

ACS-RMC20

(Dual Channel Controller 1-AISG IN-1)

(Dual Channel Controller 1-AISG IN-2)

(Dual Channel Controller 2-AISG IN-1)

Model s/no. 3 digits

3.22 Beam nos and port nos display

RET ID : MSMBA32H8L4VS039AMM

RET Status and Control

Antenna Information List

NO	Sector ID	Ant Model	Ant Serial	Current Tilt	Status
1/3	HB - Beam 1 (Port, 1-4)	MBA-3.2-H8-L4	MBA3.2H8L4VSON039	0.0	Normal
2/3	HB - Beam 1 (Port, 5-8)	MBA-3.2-H8-L4	MBA3.2H8L4VSON039	0.0	Normal
3/3	LB - Beam 1 (Port, 25-28)	MBA-3.2-H8-L4	MBA3.2H8L4VSON039	0.0	Normal

BEAM 1

Port 1 to Port 8

BEAM 1

Port 25 to Port 28

RET ID : MSMBA32H8L4VS039BMM

RET Status and Control

Antenna Information List

NO	Sector ID	Ant Model	Ant Serial	Current Tilt	Status
1/2	HB - Beam 2 (Port, 9-12)	MBA-3.2-H8-L4	MBA3.2H8L4VSON039	0.0	Normal
2/2	HB - Beam 2 (Port, 13-16)	MBA-3.2-H8-L4	MBA3.2H8L4VSON039	0.0	Normal

BEAM 2

Port 9 to Port 16

RET ID : MSMBA32H8L4VS039CMM

RET Status and Control

Antenna Information List

NO	Sector ID	Ant Model	Ant Serial	Current Tilt	Status
1/3	HB - Beam 3 (Port, 17-20)	MBA-3.2-H8-L4	MBA3.2H8L4VSON039	0.0	Normal
2/3	HB - Beam 3 (Port, 21-24)	MBA-3.2-H8-L4	MBA3.2H8L4VSON039	0.0	Normal
3/3	LB - Beam 2 (Port, 29-32)	MBA-3.2-H8-L4	MBA3.2H8L4VSON039	0.0	Normal

BEAM 3

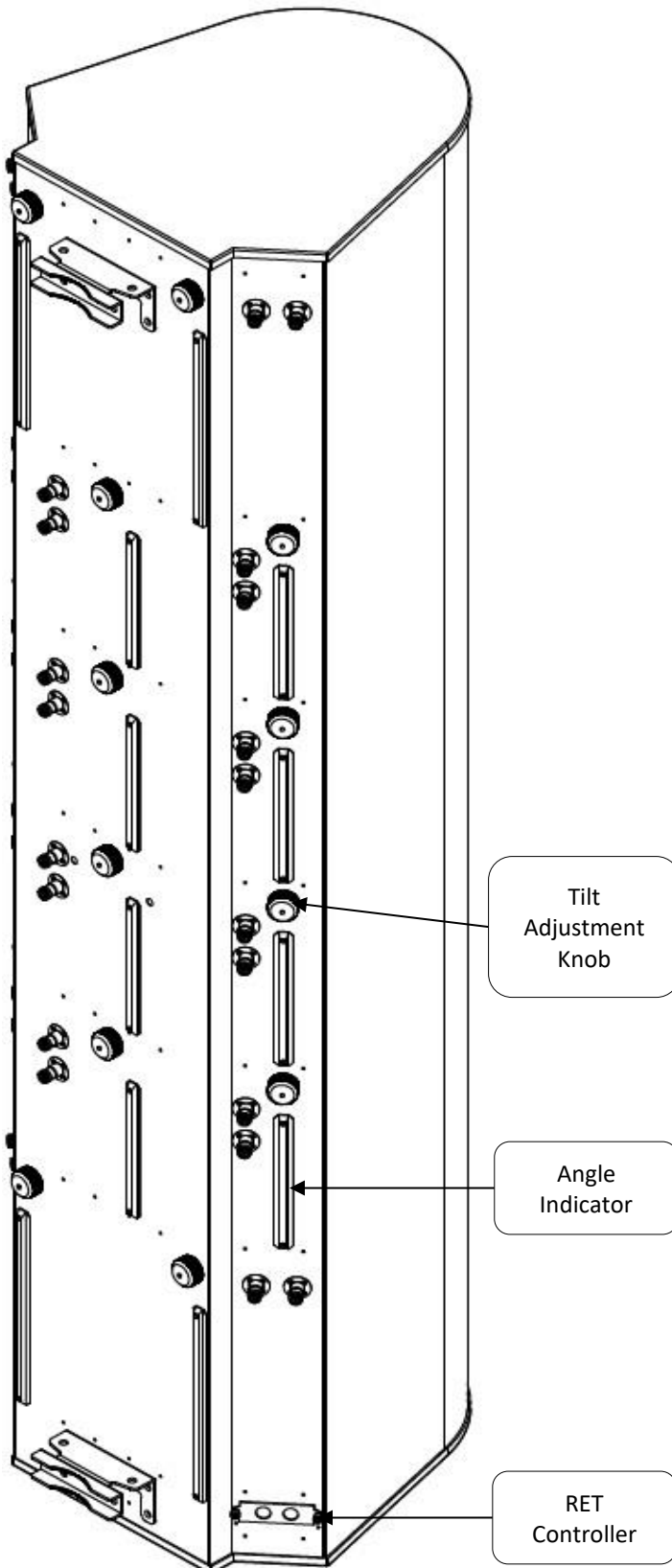
Port 17 to Port 24

BEAM 2

Port 29 to Port 32

4.00 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.



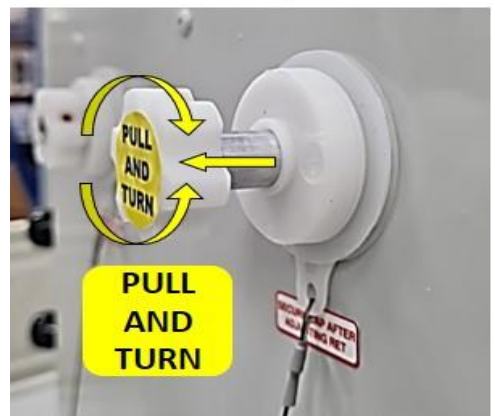
**Unscrew/Screw the cap
for tilt adjustment process**



**Engaged with internal
RET motor position**



**Pull handle out to disengaged
RET for tilt adjustment**



5.00 Bracket installation

5.10 Bolts and nuts and tools

5.11 Bolts and nuts



5.12 Bracket



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

5.20 Tools requirement

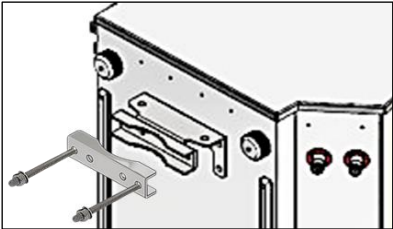
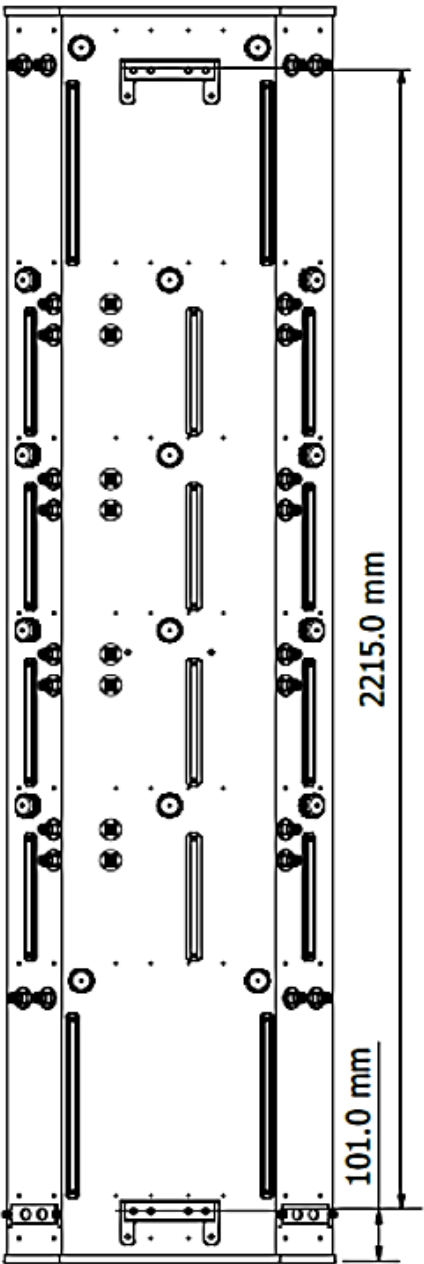
5.21 Adjustable spanner



5.22 M12 Spanner



5.30 Bracket spacing and installation sample



Before
installation

