

## Mid-Band 6-Beam 4x4 Antenna [1695-2690 MHz]

### GP5124-07276

#### Description:

- 4x4 MIMO 6-beam antenna for high-capacity stadium/venue or special events applications
- 6-beams (24-ports) 1695-2690 MHz; each beam with 4x4 MIMO capability
- 6° Fixed Electrical Downtilt
- Patent pending technology allows for stable azimuth beam directions over the entire operating frequency band
- Excellent alternative to large lens-based multibeam antennas
- External ruggedized features of the antenna enclosure provide added protection during the installation process
- Optional heavy-duty transport case to prevent damage for multiple deployment scenarios



4x4 MIMO 1695-2690 MHz 6-Beam Antenna

#### Electrical Specifications

| Frequency Band [MHz]                              | 1695-1910                         | 1930-2020     | 2110-2200 | 2305-2360     | 2496-2690     |
|---------------------------------------------------|-----------------------------------|---------------|-----------|---------------|---------------|
| Gain, max. (dBi)                                  | 20.3                              | 20.7          | 21.1      | 21.3          | 21.8          |
| Gain, avg. (dBi)                                  | 18.8                              | 19.5          | 20.1      | 19.6          | 20.4          |
| Azimuth Beam Width, 3dB (°)                       | 11.6                              | 10.5          | 10.0      | 9.2           | 8.4           |
| Azimuth Beam Width, 10dB (°)                      | 20.3                              | 18.4          | 17.5      | 16.2          | 14.8          |
| Azimuth Beam Spacing (°)                          | 16                                |               |           |               |               |
| Azimuth Beam Crossover (dB)                       | 7.1                               | 8.4           | 9.4       | 11.6          | 12.9          |
| Elevation Beam Width, 3dB (°)                     | 15.6                              | 14.5          | 12.8      | 12.2          | 10.8          |
| Elevation Beam Width, 10dB (°)                    | 27.6                              | 25.8          | 22.1      | 21.6          | 18.9          |
| Electrical Downtilt (°)                           | 6 FET (per each 4x4 beam cluster) |               |           |               |               |
| First Upper Sidelobe Suppression (dB, avg.)       | 23                                | 21            | 18        | 20            | 22            |
| Front-to-Back Ratio, 180° (dB, avg.)              | 38                                | 40            | 39        | 36            | 37            |
| Cross-Polar Discrimination @ Boresight (dB, avg.) | 22                                | 23            | 24        | 20            | 30            |
| VSWR (max.) / RL (dB, min.)                       | 1.31:1 / 17.5                     | 1.33:1 / 17.0 |           | 1.27:1 / 18.5 | 1.40:1 / 15.5 |
| Port-to-Port Isolation, Intrabeam* (dB, min.)     | 29                                |               | 28        |               | 27            |
| Port-to-Port Isolation, Interbeam** (dB, min.)    | 17.5                              | 18.0          | 22.0      | 14.5          | 16.5          |
| PIM @ 2x43 dBm, dBc (max.)                        | -153                              |               |           |               |               |
| Max Power per Port (W)                            | 100                               |               |           |               |               |
| Polarization (°)                                  | Dual slant 45 (±45)               |               |           |               |               |
| Impedance (Ω)                                     | 50                                |               |           |               |               |

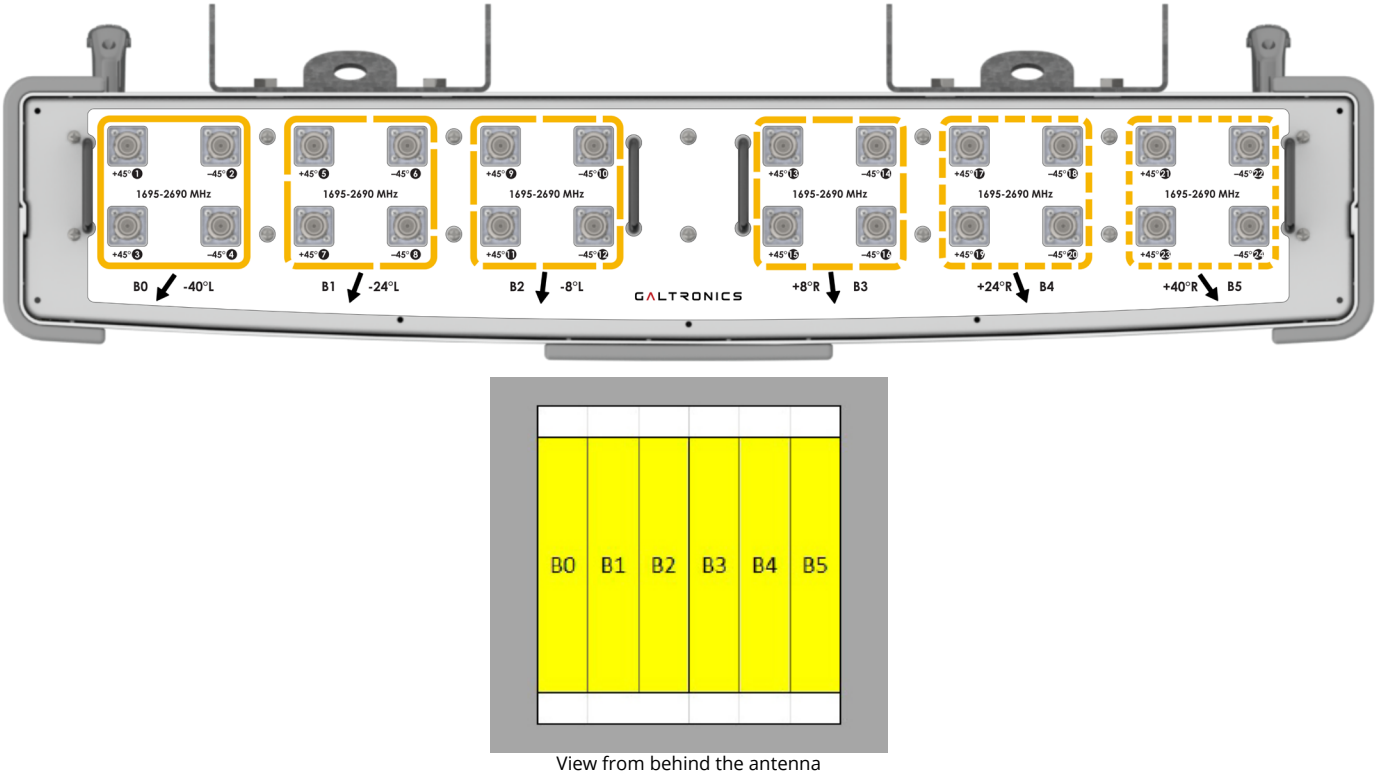
\* Port-port isolation between each cluster of four ports in the same 4x4 MIMO beam

\*\* Port-port isolation between any combination of ports between different beams

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| Electrical Specifications - BASTA             |           |           |           |           |           |
|-----------------------------------------------|-----------|-----------|-----------|-----------|-----------|
| Frequency Band [MHz]                          | 1695-1910 | 1930-2020 | 2110-2200 | 2305-2360 | 2496-2690 |
| Gain Over All Tilts, avg. (dBi)               | 18.8      | 19.5      | 20.1      | 19.6      | 20.4      |
| Gain Over All Tilts Tolerance (dB)            | 1.2       | 0.9       | 1.0       | 1.9       | 1.2       |
| AZ Beamwidth Tolerance (°)                    | 1.9       | 1.5       | 1.4       | 1.6       | 1.0       |
| EL Beamwidth Tolerance (°)                    | 0.9       | 0.5       | 0.5       | 0.7       | 0.8       |
| Upper Sidelobe Suppression, Peak to +20° (dB) | 19.8      | 18.2      | 15.5      | 15.8      | 20.5      |
| Front-to-Back Ratio, Total Power, +/-30° (dB) | 26.1      | 26.8      | 26.2      | 22.9      | 22.6      |
| Cross-Polar Discrimination at Boresight (dB)  | 16.7      | 19.8      | 18.8      | 12.5      | 20.7      |
| Azimuth Beam Peak Tolerance                   | 1.0       | 0.8       | 0.9       | 1.1       | 1.0       |
| Azimuth Beam Crossover Tolerance              | 1.3       | 1.1       | 1.4       | 2.3       | 2.3       |

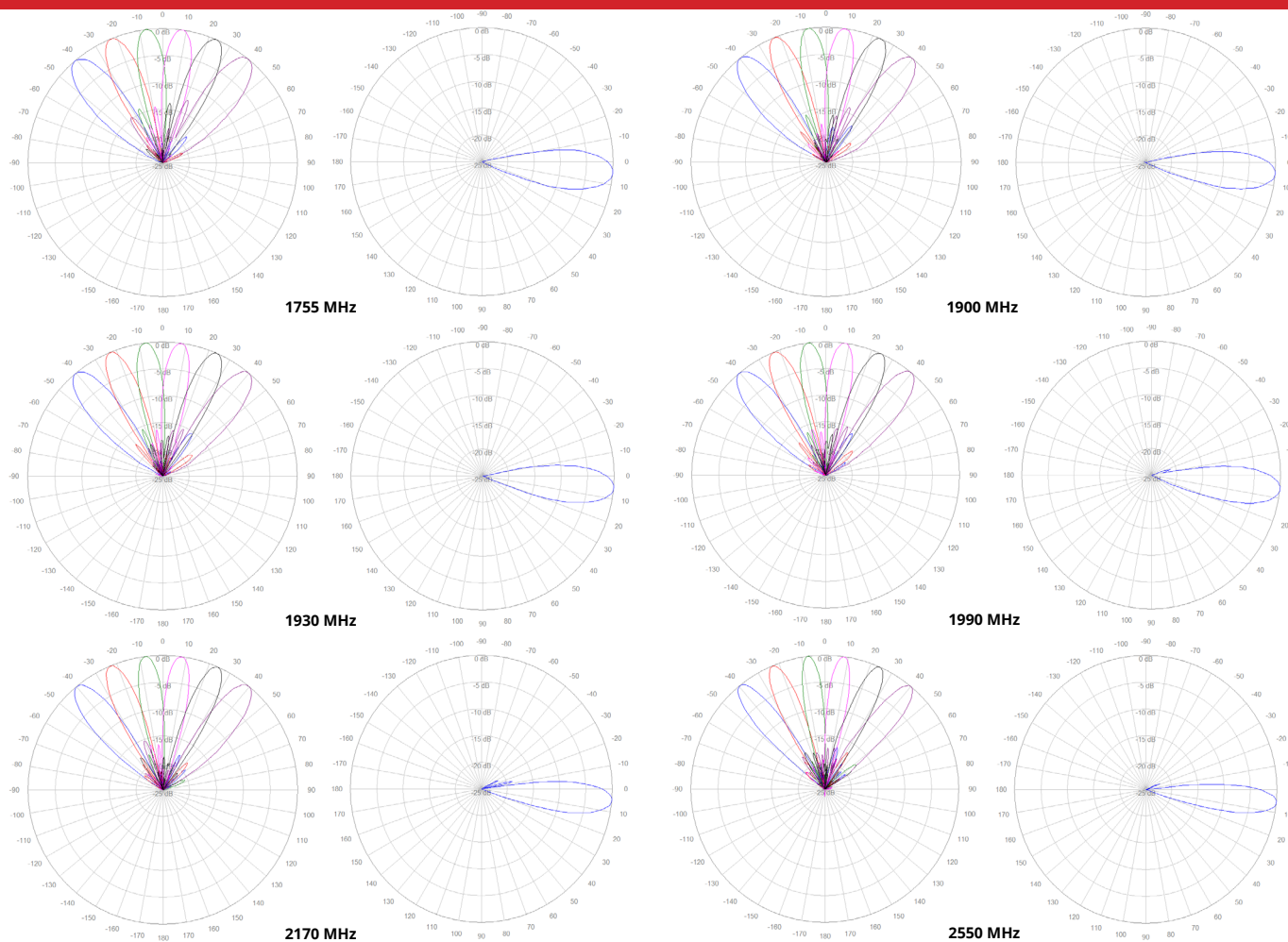
Bottom Plate & Port Designation Details



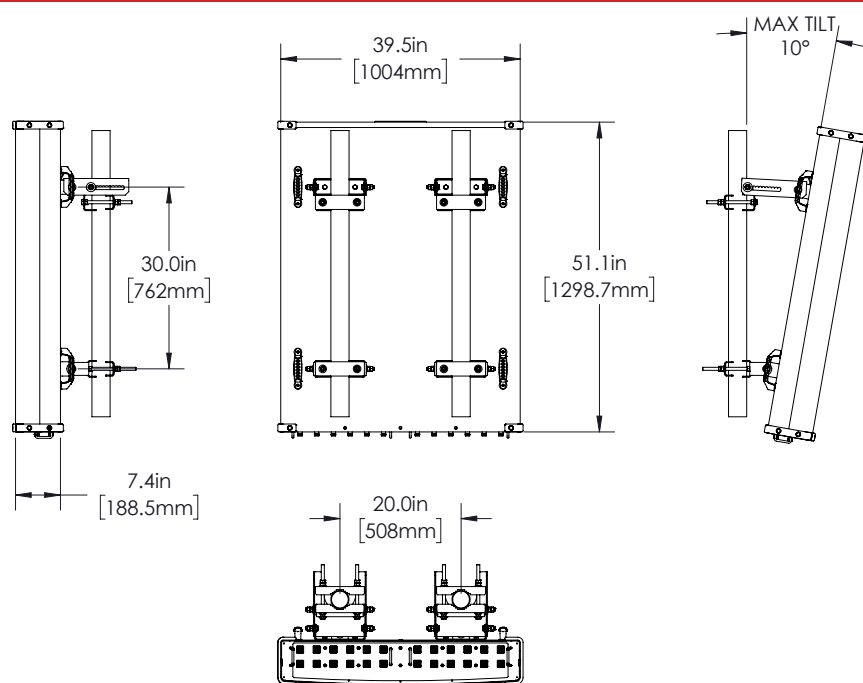
| Port/Beam Designator Table |         |                 |                   |          |
|----------------------------|---------|-----------------|-------------------|----------|
| Frequency Range            | Ports   | Beam Assignment | AZ Beam Direction | Downtilt |
| 1695-2690 MHz              | 1 - 4   | B0              | -40° L            | 6° Fixed |
| 1695-2690 MHz              | 5 - 8   | B1              | -24° L            | 6° Fixed |
| 1695-2690 MHz              | 9 - 12  | B2              | -8° L             | 6° Fixed |
| 1695-2690 MHz              | 13 - 16 | B3              | +8° R             | 6° Fixed |
| 1695-2690 MHz              | 17 - 20 | B4              | +24° R            | 6° Fixed |
| 1695-2690 MHz              | 21 - 24 | B5              | +40° R            | 6° Fixed |

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## 2D Antenna Patterns



## Antenna Outline



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## Mechanical Specifications

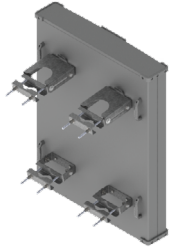
|                                            |                                                         |
|--------------------------------------------|---------------------------------------------------------|
| Operating Temperature                      | -40° to 158°F (-40° to +70°C)                           |
| Antenna Weight                             | 73 lbs (33.2 kg)                                        |
| Antenna Bracket Weight                     | 13.4 lbs (6.1 kg), 2x Brackets Per Antenna              |
| Antenna Dimension (Height x Width x Depth) | 51.1" (1298.7 mm) x 39.5" (1004.0 mm) x 7.4" (188.5 mm) |
| Input Connector Type                       | 24x 4.3/10 (F)                                          |
| Radome Material                            | ASA w/Heavy Duty Top/Bottom Caps                        |
| Radome Color                               | Gray                                                    |
| Wind Load, Front (@ 150 km/h)*             | 1666 N / 375 lbf                                        |
| Wind Load, Side (@ 150 km/h)*              | 364 N / 82 lbf                                          |
| Wind Load, Maximum (@ 150 km/h)*           | 1695 N / 381 lbf                                        |

\* Wind load based on calculations according to TIA-222-G

## Part Numbers & Ordering Options

| Description                                                                                        | Color | Mounting Kit                                 | Part Number      |
|----------------------------------------------------------------------------------------------------|-------|----------------------------------------------|------------------|
| 4x4 MIMO 1695-2690 MHz 6-Beam Antenna with 24x 4.3-10 (F) Connectors                               | Gray  | Includes 2x MK-06989 mounting kit assemblies | GP5124-07276-012 |
| 4x4 MIMO 1695-2690 MHz 6-Beam Antenna with 24x 4.3-10 (F) Connectors and Heavy Duty Transport Case | Gray  | Includes 2x MK-06989 mounting kit assemblies | GP5124-07276-112 |

## Mounting Brackets & Optional Accessories

| Description:                                                                                                                                                                                                                                                                                                                                                                               | Part Number:                                                                                          |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| <p><b>Heavy Duty Mounting Bracket (wind speed of 150 mph) [2x Included]</b></p> <p>The MK-06989 standard mounting bracket allows for easy installation of this Galtronics Multibeam Antenna. It provides 0°-10° of mechanical downtilt adjustability, and fits pole diameters ranging from 2" to 5".</p> <p><b>Note:</b> The MK-06989 mounting bracket can also be ordered separately.</p> |  <p>MK-06989</p> |

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