

# MI-202

## DIPLEXER 1695-2180/2600

The Kaelus MI-202 is a bi-directional Diplexer, designed to combine or split AWS and 2600 bands. The MI-202 provides low insertion loss and high return loss with excellent passive inter-modulation performance in an extremely small and lightweight IP67 capable package

### FEATURES

- Enables antenna & coax sharing for AWS and 2600 MHz bands systems
- Compact & lightweight - perfect for Small Cell applications
- Low insertion loss & high return loss
- Low passive IM performance
- Single twin and dual twin models available
- 7/16 (F) or 4.3-10 (F) connectors
- Hard Wired and DC Autosense versions available
- Provisions for wall or mast mounting



### TECHNICAL SPECIFICATIONS

| PORT NAME                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | LOW BAND                                                                          | HIGH BAND                |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|--------------------------|
| Passband                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 1695 - 2180 MHz                                                                   | 2496 - 2690 MHz          |
| Insertion loss                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 0.2 dB maximum                                                                    |                          |
| Return loss                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 20dB typical, 18dB minimum                                                        |                          |
| Maximum input power                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 400W (average)                                                                    | 250W (average)           |
| Intermodulation products                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | -160dBc with 2 x 20W carriers                                                     |                          |
| Rejection                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 50dB minimum in High band                                                         | 50dB minimum in Low band |
| ELECTRICAL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                   |                          |
| Impedance                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 50Ohms                                                                            |                          |
| DC / AISG                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                   |                          |
| For hardwired versions, DC/AISG can be fully connected (DC all) or a specific connection can be orderd (DC custom).<br>For DC autosense versions, the DC/AISG path is automatically selected. In bottom of the tower applications (combiner mode), each RF channel port is sequentially checked for the presence of DC voltage. If more than one port has voltage, the port that has the highest (programmed) priority is passed to the common port. If a short circuit is detected on the common port DC/AISG is disabled. In top-of-tower applications (splitter mode), DC/AISG is passed to all ports that do not present a short circuit. If a short circuit is detected, the shorted RF port will be disabled for DC/AISG while other RF ports remain connected. |                                                                                   |                          |
| Feature                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | DC-FIXED                                                                          | AUTOSENSE                |
| Insertion loss, single DC/AISG pass                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 1dB maximum                                                                       |                          |
| Return loss, single DC/AISG pass                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 12dB minimum                                                                      |                          |
| Input voltage range                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 8 – 30V DC, 0.3W                                                                  |                          |
| DC current rating                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 3A                                                                                | 2A, drop max 2.4V        |
| ENVIRONMENTAL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                   |                          |
| For further details of environmental compliance, please contact Kaelus.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                   |                          |
| Temperature range                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | -40°C to +65°C   -40°F to +149°F                                                  |                          |
| Ingress protection                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | IP67                                                                              |                          |
| Lightning protection                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 10kA maximum (8/20us)                                                             |                          |
| Compliance                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | ETSI 300 019-1-4 Class 4.1E (OPERATIONAL)<br>ETSI 300 019-1-1 Class 1.2 (STORAGE) |                          |

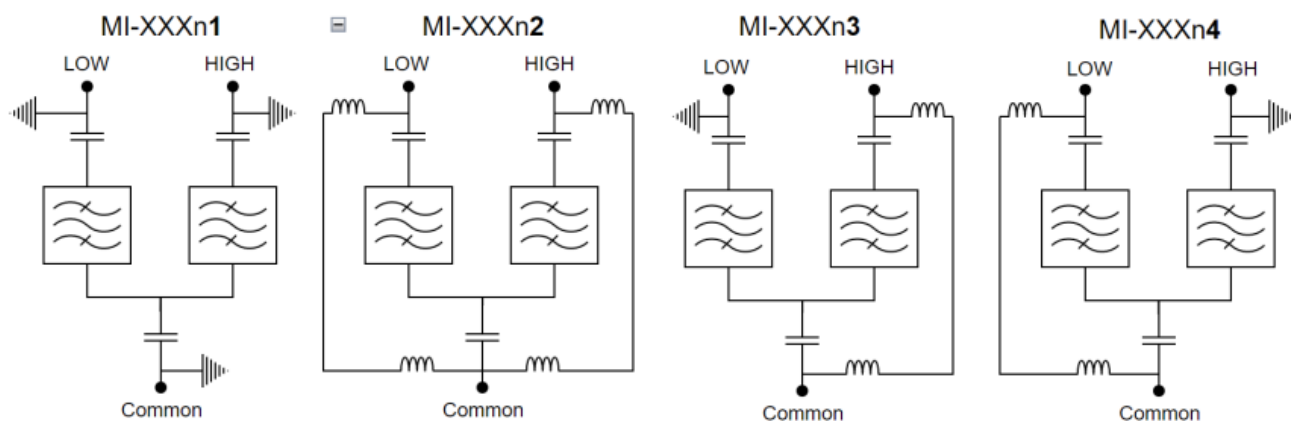
| MECHANICAL           |                                                                                                    |                                                                                                      |
|----------------------|----------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|
| Feature              | Single Mount                                                                                       | Dual Mount                                                                                           |
| Dimensions H x D x W | 110 x 48 x 126mm   4.33 x 1.89 x 4.96in<br>With Auto-Sense 110 x 64 x 126mm   4.33 x 2.52 x 4.96in | 110 x 106 x 126mm   4.33 x 4.17 x 4.96in<br>With Auto-Sense 110 x 134 x 126mm   4.33 x 5.28 x 4.96in |
| Weight               | 1.4kg   3.09lb<br>1.5kg   3.31lb with Auto-sense                                                   | 2.5kg   5.51lb<br>2.6kg   5.73lb with Auto-sense                                                     |
| Finish               | Painted, NCS 1502-R                                                                                |                                                                                                      |
| Mounting             | Pole/wall bracket supplied with two metal clamps for 45-178 mm diameter poles                      |                                                                                                      |

| SHIPPING INFORMATION               |                                             |                                            |
|------------------------------------|---------------------------------------------|--------------------------------------------|
| Feature                            | Single Mount                                | Dual Mount                                 |
| Carton size                        | 258 x 200 x 150 mm   10.16 x 7.78 x 5.90 in | 250 x 210 x 200 mm   9.48 x 8.27 x 7.87 in |
| Gross weight (including packaging) | 1.8 kg   3.97 lb                            | 3.0 kg   6.61 lb                           |
| Carton Qty / Pallet                | 150                                         | 72                                         |

## ORDERING INFORMATION

| PART NUMBER             | CONFIGURATION            | OPTIONAL FEATURES | CONNECTORS | DC/AISG CONFIGURATION   |
|-------------------------|--------------------------|-------------------|------------|-------------------------|
| MI-2023n                | Single Mount             | BASE MODEL        | 4.3-10 (F) | Refer to DC /AISG table |
| MI-2024n                | Dual Mount               | BASE MODEL        | 4.3-10 (F) | Refer to DC /AISG table |
| MI-2020n                | Single Mount             | BASE MODEL        | 7/16 (F)   | Refer to DC /AISG table |
| MI-2021n                | Dual Mount               | BASE MODEL        | 7/16 (F)   | Refer to DC /AISG table |
| DC / AISG CONFIGURATION |                          |                   |            |                         |
| MI-202nA                | Auto-Sence               |                   |            |                         |
| MI-202n1                | NO DC Path               |                   |            |                         |
| MI-202n2                | DC to 1800-2100 and 2600 |                   |            |                         |
| MI-202n3                | DC to 2600               |                   |            |                         |
| MI-202n4                | DC to 1800-2100          |                   |            |                         |

## ELECTRICAL BLOCK DIAGRAM



Note: single mount shown

## MECHANICAL BLOCK DIAGRAM

