

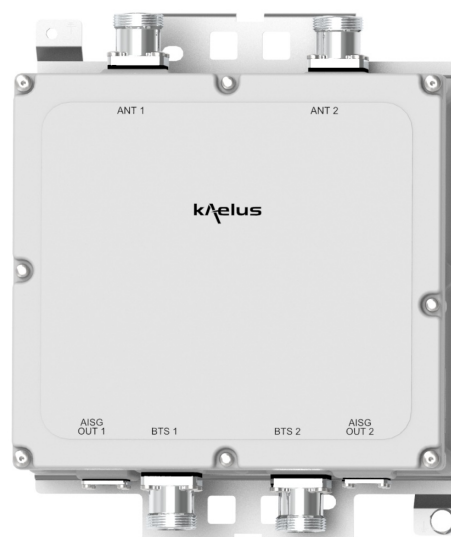
# MI-183

## TMA TWIN 1800/2100 WITH L-BAND BYPASS

Designed to be deployed in collocated L-Band, 1800 and 2100 systems, the Kaelus MI-183 enhances cell uplink coverage in 1800, 2100 through improved system noise figure, thereby saving operational and capital expenditure.

### FEATURES

- Improved base station sensitivity through gain in the 1800 and 2100 uplink
- Internal diplexing on the antenna port of L-Band, 1800 and 2100 bands: 2 Antenna ports
- Excellent noise figure performance
- Full AISG operation and RET antenna support, AISG2.0 compatible
- Small and light for minimum visual impact



### TECHNICAL SPECIFICATIONS

| BAND NAME                                                                                                                                                          | 1800                      | 2100                      |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|---------------------------|
| DOWNLINK                                                                                                                                                           |                           |                           |
| Passband                                                                                                                                                           | 1805 - 1880MHz            | 2110 - 2170MHz            |
| Insertion loss                                                                                                                                                     | 0.5dB typical             | 0.3dB typical             |
| Return loss                                                                                                                                                        | 18dB minimum              |                           |
| Maximum input power                                                                                                                                                | 200W (average)(*)         | 200W (average)(*)         |
| Intermodulation products                                                                                                                                           | -160dBc in RX band at ANT | -168dBc in RX band at ANT |
| UPLINK                                                                                                                                                             |                           |                           |
| Passband                                                                                                                                                           | 1710 - 1785MHz            | 1920 - 1980MHz            |
| Gain                                                                                                                                                               | 12dB nominal              |                           |
| Return loss                                                                                                                                                        | 16dB minimum              |                           |
| Bypass loss                                                                                                                                                        | 2dB typical               |                           |
| Noise figure                                                                                                                                                       | 1.4dB typical             | 1.3dB typical             |
| Output IP3                                                                                                                                                         | 25dBm typical             |                           |
| Maximum input power with no damage                                                                                                                                 | 12dB typical              |                           |
| L-BAND BYPASS PATH                                                                                                                                                 |                           |                           |
| Passband                                                                                                                                                           | 1427 - 1496MHz            |                           |
| Return loss                                                                                                                                                        | 18dB minimum              |                           |
| Insertion loss                                                                                                                                                     | 0.25dB typical            |                           |
| Maximum input power with no damage                                                                                                                                 | 200W (average)(*)         |                           |
| (*) For models with 4.3-10 connector, limited to 500W (average) combined power at the common port.                                                                 |                           |                           |
| ELECTRICAL                                                                                                                                                         |                           |                           |
| Impedance                                                                                                                                                          | 50Ohms                    |                           |
| POWER SUPPLY AND ALARM (CURRENT WINDOW ALARM MODE, DEFAULT)                                                                                                        |                           |                           |
| Current window alarm mode (CWA) is the default operating mode and can be configured to specific customer requirements. Please contact Kaelus for more information. |                           |                           |
| DC supply voltage                                                                                                                                                  | +9 to +15V DC             |                           |
| DC supply current, normal mode                                                                                                                                     | 165mA @ 12V               |                           |
| DC supply current, alarm mode                                                                                                                                      | 320mA max                 |                           |

| AISG MODE OF OPERATION (AUTO SELECTED ON VALID AISG 2.0 FRAMES)                                                                 |                                |
|---------------------------------------------------------------------------------------------------------------------------------|--------------------------------|
| AISG signals can be applied to the BTS ports. The TMA unit switches to AISG mode when valid frames are detected on either port. |                                |
| DC supply voltage                                                                                                               | +9.0V to +31V DC               |
| AISG version                                                                                                                    | 1.1 or 2.0                     |
| Power consumption, AISG mode                                                                                                    | < 4W                           |
| AISG connector, current rating                                                                                                  | IEC60130-9, 8-pin female, 1.6A |

| 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                                                    | RF: ±5kA (8/20us), AISG: ±2.5kA (8/20us) common mode                                                                           |
| MTBF                                                                    | >1,000,000 hours                                                                                                               |
| Compliance                                                              | EMC: EN 301 489-8<br>Safety: IEC/EN 62368-1<br>Operation: ETSI EN 300 019-1-4 class 4.1E<br>Storage: ETS 300 019-1-1 class 1.2 |

| MECHANICAL           |                                                                             |
|----------------------|-----------------------------------------------------------------------------|
| Dimensions H x D x W | 224 x 115 x 244 mm   8.8 x 4.5 x 9.61in (excluding brackets and connectors) |
| Weight               | 8kg   17.6lbs                                                               |
| Finish               | Powder coated, NCS 1502-R                                                   |
| Connectors           | See ordering information                                                    |
| Mounting             | Pole/wall bracket using two metal clamps, suits 40-140mm diameter poles     |

| SHIPPING INFORMATION               |                                           |
|------------------------------------|-------------------------------------------|
| Carton size                        | 360 x 260 x 180mm   14.7 x 10.24 x 7.09in |
| Gross weight (including packaging) | 9kg   20lb                                |

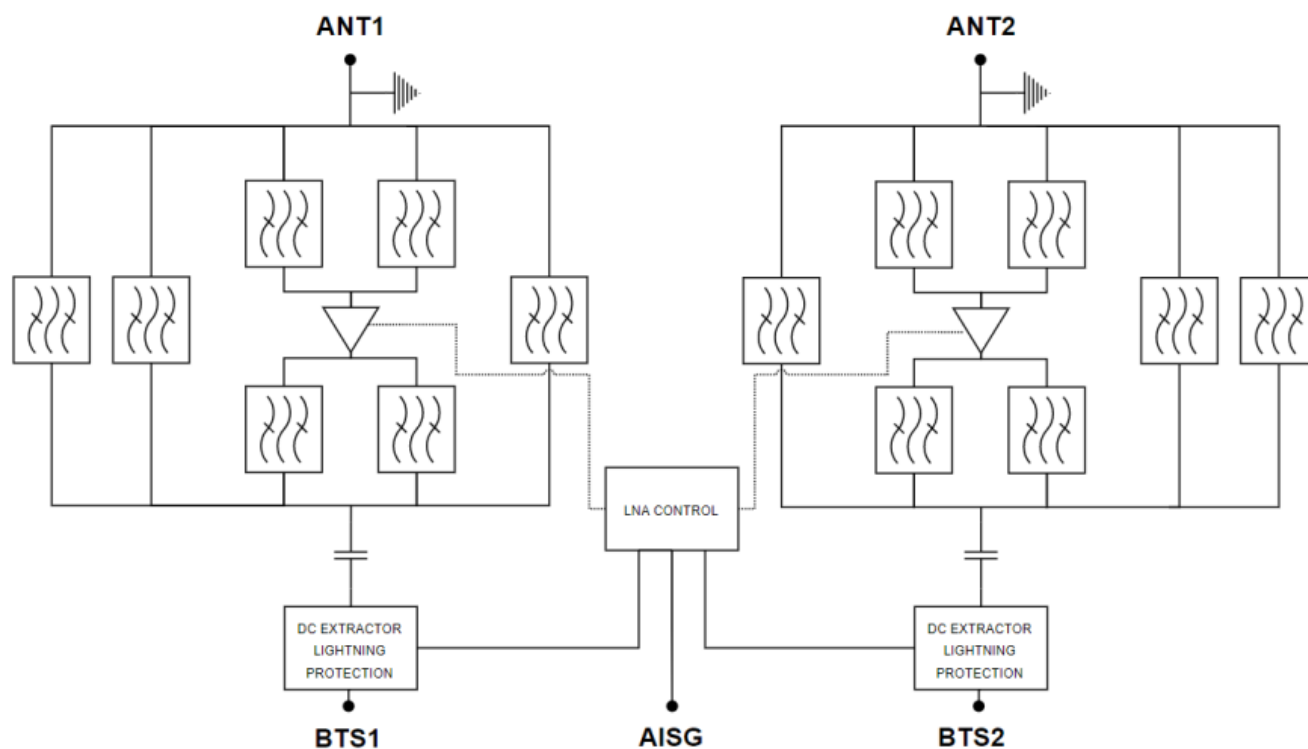
## ORDERING INFORMATION

| PART NUMBER | CONFIGURATION      | OPTIONAL FEATURES | CONNECTORS           | AISG MODE                  |
|-------------|--------------------|-------------------|----------------------|----------------------------|
| MI-18301    | TWIN, 2 in / 2 out | BASE MODEL        | 7/16 (F)<br>1xAISG   | COMMON MODE<br>ONETWO (*)  |
| MI-18302    | TWIN, 2 in / 2 out | BASE MODEL        | 7/16 (F)<br>1xAISG   | COMMON MODE<br>TWOTWO (**) |
| MI-18306    | TWIN, 2 in / 2 out | BASE MODEL        | 7/16 (F)<br>2xAISG   | INDEPENDENT                |
| MI-18331    | TWIN, 2 in / 2 out | BASE MODEL        | 4.3-10 (F)<br>1xAISG | COMMON MODE<br>ONETWO (*)  |
| MI-18332    | TWIN, 2 in / 2 out | BASE MODEL        | 4.3-10 (F)<br>1xAISG | COMMON MODE<br>TWOTWO (**) |
| MI-18336    | TWIN, 2 in / 2 out | BASE MODEL        | 4.3-10 (F)<br>2xAISG | INDEPENDENT                |

(\*) ONETWO: the TMA is identified as 1 logic unit with 2 subunits each

(\*\*) TWOTWO: the TMA is identified as 2 logic units with 2 subunits each

## ELECTRICAL BLOCK DIAGRAM



# MECHANICAL BLOCK DIAGRAM

