

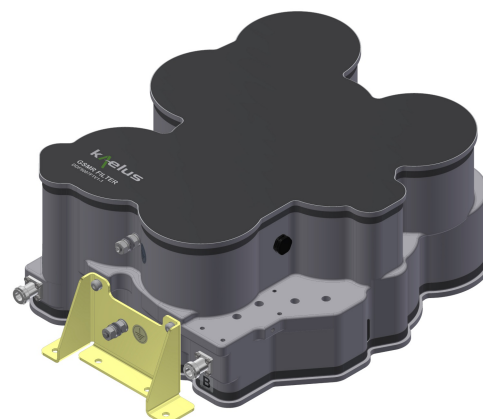
# DDF9007

## DUAL DUPLEX FILTER GSM-R 900MHZ

Dual Duplex GSM-R filters are two port units with the ability to simultaneously pass both uplink and downlink GSM-R signals

### FEATURES

- Designed for GSM-R cab radio use
- Low insertion loss (0.5dB typical)
- Provides 40 dB of rejection to adjacent EGSM900 uplink and downlink
- Comply to EN 45545-2 Fire Protection on Railway Vehicles
- CE/RoHS/ETSI compliant
- IP54 outdoor applications



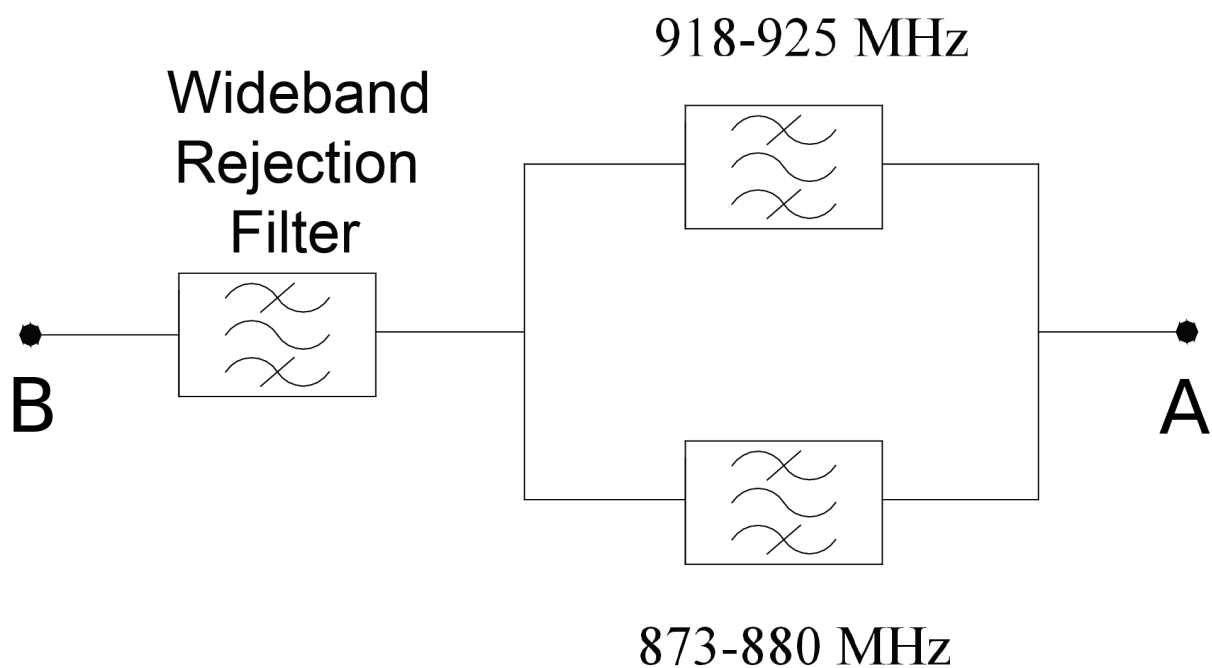
### TECHNICAL SPECIFICATIONS

| BAND NAME                                                               | DOWNLINK (TX)                                                                                                                                                                                               | UPLINK (RX)                                                  |
|-------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|
| RF PERFORMANCE                                                          |                                                                                                                                                                                                             |                                                              |
| Passband                                                                | 918 - 925 MHz                                                                                                                                                                                               | 873 - 880 MHz                                                |
| Bandwidth                                                               | 7MHz                                                                                                                                                                                                        |                                                              |
| Insertion loss                                                          | 2.0 dB maximum at band-edge, 0.5 dB typical at mid-band                                                                                                                                                     |                                                              |
| Return loss                                                             | 20 dB minimum all ports<br>918 - 924.8 MHz- 15 dB minimum all ports at -40° C<br>924.8 - 925 MHz- 10 dB minimum all ports at -40° C                                                                         | 20 dB minimum all ports<br>15 dB minimum all ports at -40° C |
| Maximum input power                                                     | 20 W                                                                                                                                                                                                        | 20 W                                                         |
| REJECTION CHARACTERISTIC (PORT A TO PORT B)                             |                                                                                                                                                                                                             |                                                              |
| DC - 872 MHz                                                            | 40 dB minimum                                                                                                                                                                                               |                                                              |
| 882 - 917 MHz                                                           | 40 dB minimum                                                                                                                                                                                               |                                                              |
| 925.5 - 926.2 MHz                                                       | 30 dB minimum                                                                                                                                                                                               |                                                              |
| 926.2 - 930 MHz                                                         | 40 dB minimum                                                                                                                                                                                               |                                                              |
| 930 - 2700 MHz                                                          | 50 dB minimum                                                                                                                                                                                               |                                                              |
| ELECTRICAL                                                              |                                                                                                                                                                                                             |                                                              |
| Impedance                                                               | 50 Ω                                                                                                                                                                                                        |                                                              |
| Intermodulation products                                                | < -150 dBc (in uplink band, 2x20 W carriers)                                                                                                                                                                |                                                              |
| ENVIRONMENTAL                                                           |                                                                                                                                                                                                             |                                                              |
| For further details of environmental compliance, please contact Kaelus. |                                                                                                                                                                                                             |                                                              |
| Temperature range                                                       | Storage temperature: -40° C to +55° C<br>Operating temperature: -25° C to +70° C, EN 50155 OT3<br>Increased operating temperature at switch on: ST0                                                         |                                                              |
| Ingress protection                                                      | IP54                                                                                                                                                                                                        |                                                              |
| Altitude                                                                | 1,400 m, EN 50125-1, Class A1                                                                                                                                                                               |                                                              |
| MTBF                                                                    | >1,000,000 hours                                                                                                                                                                                            |                                                              |
| Compliance                                                              | EN 50155 shock and vibration: Category 1, Class B - any orientation<br>EN 45545-2 Fire Protection on Railway Vehicles<br>ETSI 300 019-1-1 Class 1.2 Storage<br>ETSI 300 019-1-2 Class 2.3 Transport<br>RoHS |                                                              |
| Operational humidity                                                    | 95%                                                                                                                                                                                                         |                                                              |
| MECHANICAL                                                              |                                                                                                                                                                                                             |                                                              |
| Dimensions H x D x W                                                    | 295 x 350 x 150 mm (excluding brackets)                                                                                                                                                                     |                                                              |
| Weight                                                                  | 15.0 kg                                                                                                                                                                                                     |                                                              |
| Connectors                                                              | N type (F) X 2                                                                                                                                                                                              |                                                              |
| Mounting                                                                | Customer specific, includes grounding post                                                                                                                                                                  |                                                              |

## ORDERING INFORMATION

| PART NUMBER   | DESCRIPTION                 |
|---------------|-----------------------------|
| DDF9007F1V1-1 | Dual Duplexed Filter, GSM-R |

ELECTRICAL BLOCK DIAGRAM



### MECHANICAL BLOCK DIAGRAM

