



Now that railways are relying more and more on GSM-R radio for voice and ETCS (European Train Control System) communication, any interruption to service from interference could have a serious operational and safety impact. With the introduction of UMTS (Universal Mobile Telecommunications System) into the extended public GSM band the likelihood of interference to GSM-R has been greatly increased. Studies have shown that until 2007, there were hardly any problems with interference affecting GSM-R. Since 2007, there have been increasing reports of interference in many European GSM-R networks, due to the use of the EGSM900 band and re-farming to allow UMTS.

The safe and cost effective way of reducing public band GSM interference is to employ the latest filter technology from Siemens Mobility. The optimum combination of size and performance permits ease of fitment to both new and existing ETCS and voice cab radio installations.

Two filter variants are offered; a permanent filter and a switched filter. Use of the switched filter enables GSM-R voice cab radios to roam onto the public network whenever the GSM-R network is unavailable. To ensure safe operation the filter will be manually switched in and out.

The filter can be easily retrofitted to existing installations by inserting it in line with the cable between the radio and the antenna. The filter will be fixed in position using the most appropriate method to ensure it is safe and secure.

Benefits

- Reduces interference from GSM public bands including extended public bands.
- Designed specifically for UMTS interference suppression.
- Innovative band pass filter design reduces interference affecting GSM-R mobiles.
- Low insertion loss.
- Enhances GSM-R system safety.
- Reduces train delays caused by interference to ETCS.
- Small and lightweight.
- Suitable for inline connection.
- Easy mounting.
- Suitable for on train use.

Features

Passband	873-924.9MHz
Passband insertion loss	873MHz – 880MHz <1dB
Passband insertion loss	880MHz – 924MHz <2dB
Passband insertion loss	924MHz – 924.5MHz <2.5dB
Passband insertion loss	924.5MHz – 924.9MHz <3dB
Stopband	926MHz – 927MHz >10dB
Stopband	927MHz - 960MHz >30dB
Power	8W GSM waveform. Given the 1:8 duty cycle of GSM, this is equivalent to 1W average
Temperature	-40 degrees C to +70 degrees C
Connector	N-type
Dimensions	250 x 90 x 65 mm
Weight	<3.5 kg
Applicable standards	EN50155
RoHS compliant	

GSM-R Bandpass Filter

Safe from GSM public network interference

www.siemens.co.uk/mobilecomms

SIEMENS

Siemens plc
Industry Sector
Mobility Division
Rail Automation
Sopers Lane, Poole
Dorset BH17 7ER
United Kingdom
Tel: +44 (0)1202 846000
Fax: +44 (0)1202 846202
Email: uk.mobility@siemens.com
www.siemens.co.uk/mobilecomms

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