



Application

- Protection against GSM & UMTS interferences
- Reliability enhancement of ERTMS network
- Compliancy with ETCS requirements

Key Features

- Low insertion loss
- Compact and lightweight
- In-train usable
- Adaptable in existing installation

Benefits

- Enhanced reliability of ERTMS network
- Compliancy with ETCS requirements
- Avoid railway traffic troubles

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Solution for GSM-R coverage

GSM-R Mobile Station Protection Passive Filter



To protect GSM-R communication

The railway telecommunications migrate progressively to **ERTMS** system since 2000. All the voices and data communications between trains and control center use the standard **GSM-R**, in the band 876-880 MHz / 921-925 MHz, adjacent to public GSM band.

The quality of the link between rolling stocks and control center has to be extremely reliable to ensure the flowing freely railway traffic. If any problem occurs, the **traffic can be impacted** and the consequences are immediate: delayed trains, traffic troubles, unsatisfied customers, up to possible accidents.

The deployments and filed tests showed that **the proximity of GSM-P may cause interferences** up to serious troubles for the Mobile Station inside the train.

The "GSM-R Mobile Station Protection Passive Filter" permits to **filter the RX signal between** the antenna on the roof of the train and the input of the Mobile Station to avoid intermodulation in the receiver. The filter can be used with or without optional duplexers.

Compact and lightweight, this filter can be **easily added in an existing installation inside the rolling stock**.





Solution for GSM-R coverage

GSM-R Mobile Station Protection Passive Filter

RF Features	Specifications	
	Ref. 603 232	Ref. 603 233
Center Frequency	900.5 MHz	
Frequency Range	876.0 ~ 925.0 MHz	
Pass Band	49 MHz	
Ripple in BW	≤ 2.2 dB	≤ 2.1 dB
Insertion loss in BW	≤ 2.5 dB	≤ 2.4 dB
Rejection	30 dB @ 926 ~ 960 MHz	
Return Loss	≥ 20 dB	
Impedance	50 Ω	
Power	≤ 20 W CW	
Operating Temperature	0°C ~ +45°C	-10°C ~ +60°C (Invar)
Connectors type	N-Type Female	

