



Multi Band Repeater - MBR

Avitec's Multi Band Repeater is a flexible multi-band coverage solution optimised for mobile or other confined areas applications such as trains, busses or ferries as well as buildings. It is ideal for extending coverage into vehicles where the space for the equipment is limited. The size and weight of the Multi Band Repeater makes it particularly easy to install and maintain.

Based on extensive experience from these types of installations, Avitec can offer a complete package that includes the Multi Band Repeater and antenna system as well as the engineering competence necessary for a successful implementation. The offer could comprise of system design, optimisation of the installation in the specific vehicle as well as commissioning of the equipment.

The Multi Band Repeater's modularity opens up for a diverse array of possibilities. The configuration of the Multi Band Repeater can be made specific to accommodate the requested frequency bands. Up to nine modules can be included in one repeater. The solution may include amplification for GSM 900, GSM 1800, UMTS as well as GSM-R.

By eliminating the shielding effect from walls and windows, enhanced coverage inside the mobile application is achieved. A cellular operator can thereby increase its revenue by offering continuous communication to its subscribers. The GSM-R operator can ensure higher reliability and safety.

The Multi Band Repeater is connected to one donor antenna placed on the vehicle's roof and leaky coaxial cable alternatively antennas in the area to be covered. Configuration and monitoring of the Multi Band Repeater can be done either locally or remotely via wireless modem. Moreover, Avitec's advanced supervision and control software, the Avitec Element Manager (AEM), can be used to supervise the total fleet of Multi Band Repeater.



Specifications

Radio Module for GSM 900 (P-GSM)

Operating Frequency Range	890-915 MHz UL 935-960 MHz DL
Output power per operator band	
Uplink 1 RF carrier: +20dBm ± 1dB	2 RF carriers: +14dBm ± 1dB
Downlink 1 RF carrier: +16dBm ± 1dB	2 RF carriers: +10dBm ± 1dB
Maximum gain	65dB
Modules for E-GSM is also available	

Radio Module for GSM-R

Operating Frequency Range	876-880MHz UL 921-925MHz DL
Output power per operator band	
Uplink 1 RF carrier: +20dBm ± 1dB	2 RF carriers: +14dBm ± 1dB
Downlink 1 RF carrier: +16dBm ± 1dB	2 RF carriers: +10dBm ± 1dB
Maximum gain	65dB

Radio Module for GSM 1800

Operating Frequency Range	1710-1785MHz UL 1805-1880MHz DL
Output power per operator band	
Uplink 1 RF carrier: +20dBm ± 1dB	2 RF carriers: +14dBm ± 1dB
Downlink 1 RF carrier: +16dBm ± 1dB	2 RF carriers: +10dBm ± 1dB
Maximum gain	65dB

Radio Module for UMTS

Operating Frequency Range	1920-1980MHz UL 2110-2170MHz DL
Output power per operator band	
Uplink 1 UMTS RF carrier	+9dBm ± 1dB
2 UMTS RF carriers	+6dBm ± 1dB
Downlink 1 UMTS RF carrier	+3dBm ± 1dB
2 UMTS RF carriers	+0dBm ± 1dB
Maximum gain	65dB

Electrical Specification

Power Requirements	24VDC, or 110VDC
Power Consumption	max 150W

Environmental Specification

Operating Temperature Range	+5 to +40°C, ETS 300 019-1-3 Class 3.1
Storage Temperature Range	-40 to +85°C
Humidity	85%, ETS 300 019-1-3 Class 3.1

Reliability Specification

MTBF, complete system	>50 000 hrs
Mechanical Specification	
Dimensions:	450 x 230 x 320 mm (b x h x d) Can be designed for mounting in a 19"rack
Weight:	22 - 25 kg depending on configuration
Complies with	R & TTE Directive including: ETSI EN 301 502 (ETSI EN 300 609-4/GSM 11.26) ETSI EN 301 489 - 8 ETSI EN 301 489 - 23 ETSI TS 125 106

All data is subject to change without prior notice.