

Dual-Band Selective RF Repeater for E-GSM 900MHz

The custom dual-band repeater GR920-02 is an indoor bi-directional amplifier that offers an increase of signal strength in medium-sized rooms.

Key features:

- Customer specified frequency bands
- Dual-band in DL/UL directions
- E-GSM ready
- Compact design for easy installation
- Integrated antenna (or connector for indoor delivery network)
- UL & DL gain is separately adjustable
- Automatic gain control
- Low power consumption
- Extended range of supply voltages: +9V up to +33V
- Small dimensions and light weight
- Status indicating LEDs

Application areas:

- Shopping centers
- Factories
- Hotels, offices
- Underground parking lots



Figure 1: Repeater GR920-02 top view.

General description of the product:

Repeaters are used in universal mobile communication system to provide signal coverage for an area with poor or no signal (e.g. blind spot).

Rantelon Ltd came across the insufficient coverage within buildings such as offices, parking lots, apartment buildings, shopping malls, subways and tunnels.

Indoor repeater GR920 series can solve these problems by amplifying the available signal from an outdoor antenna into weak coverage area via built-in antenna or indoor delivery network with multiple antennas. Two custom specified bands provide possibility to improve signals on both E-GSM and regular GSM frequencies.

GR920-02 is equipped with new switching power module allowing extended range of supply voltages: +9V up to +33V.

Three LEDs on the front panel indicate proper power supply and activity of automatic gain control circuit for both direction DL and UL.



Technical specifications:

Parameter	Specification
Frequency range	Uplink: 880-915MHz Downlink: 925-960MHz
Number of independent bands	Uplink: 2 Downlink: 2
Bandwidth	7.8MHz & 3.2MHz (other bandwidths are optionally available)
Gain	65dB \pm 2dB
Manual gain adjust range	15dB
Automatic gain control	30dB
Downlink output power	+14dBm @ two carriers
Uplink output power	+14dBm @ two carriers
Spurious emission	According to ETSI standards: < -36dBm
Noise figure	7.5dB max
VSWR Voltage standing wave ratio	1.8:1 [50 Ω]
Supply voltage	DC: +9...+33V
Power consumption	+9V/1.0A +24V/0.36A
RF connector	N-Female (SMA optionally)
Operating temperature range	-20 ... +60 °C
Dimensions	120 x 190 x 60mm

Ordering information:

Model	Description
GR920-02/xN	With integrated antenna
GR920-02/xNN	With RF output connector

x – service provider's identifier

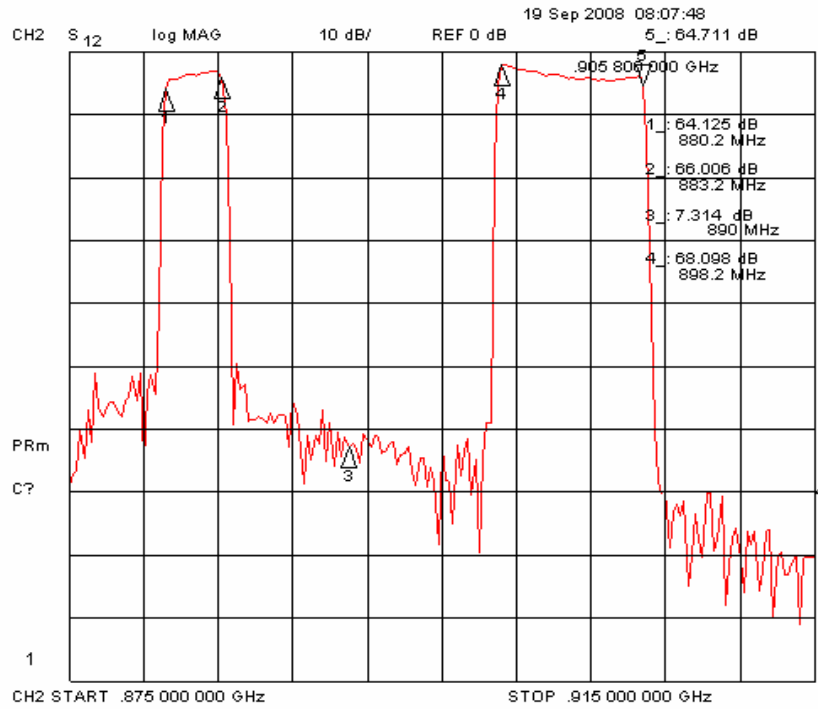


Figure 2: GR920-02 transfer function example – two independent bands on uplink frequencies.

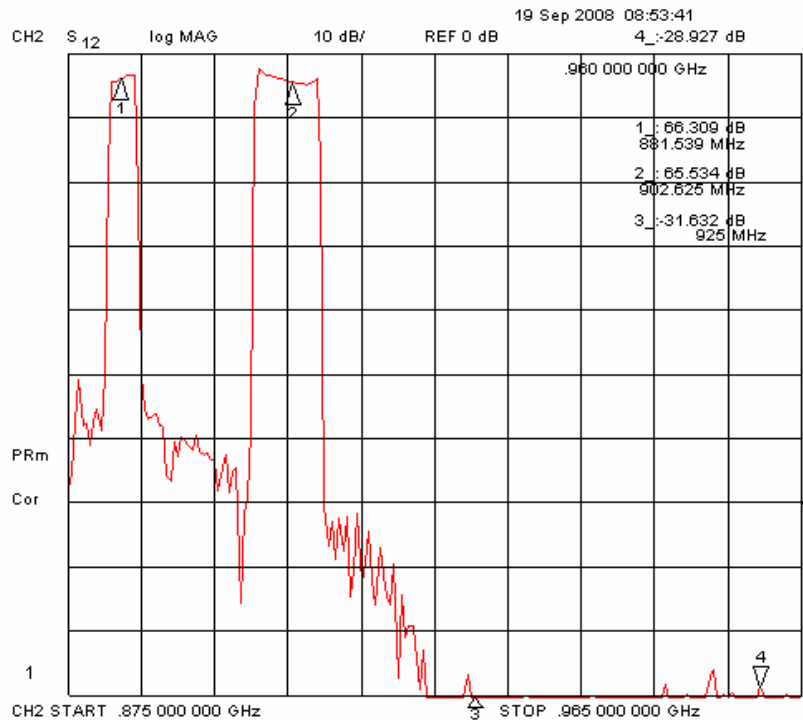


Figure 3: GR920-02 transfer function example – uplink/downlink isolation.