

Selective RF Repeater for TETRA

Repeater GR415 is an indoor bi-directional amplifier that offers an increase of signal strength in medium-sized rooms.

Key features:

- High output level
- Bi-directional
- Compact design for easy installation
- 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
- Customer specified frequency bands

Application areas:

- Inside buildings
- Airports
- Underground stations, tunnels



Figure 1: Repeater GR415 top view.

General description of the product:

Repeaters are used in emergency services and government communication systems 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, tunnels and etc.

Indoor repeater GR415 series can solve these problems by amplifying the available signal from an outdoor antenna into weak coverage area via indoor delivery network with single or multiple antennas. Very well filtered frequency bands provide possibility to improve signals in both downlink and uplink directions.

GR415 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 downlink and uplink.

Technical specifications:

Parameter	Specification
Frequency range	Uplink: 415-420MHz Downlink: 425-430MHz
Bandwidth	5MHz (other bandwidth is optionally available)
Gain	68dB \pm 2dB
Manual gain adjust range	15dB
Automatic gain control	30dB
Downlink output power	+16dBm @ one carrier +13dBm @ two carriers
Uplink output power	+16dBm @ one carrier +13dBm @ two carriers
Spurious emission	According to ETSI standards: < -36dBm
Noise figure	7.5dB max
VSWR	1.8:1 [50 Ω]
Supply voltage	DC: +9...+33V
Power consumption	+9V/1.0A +12V/0.8A +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
GR415-1/NN	With RF output connector

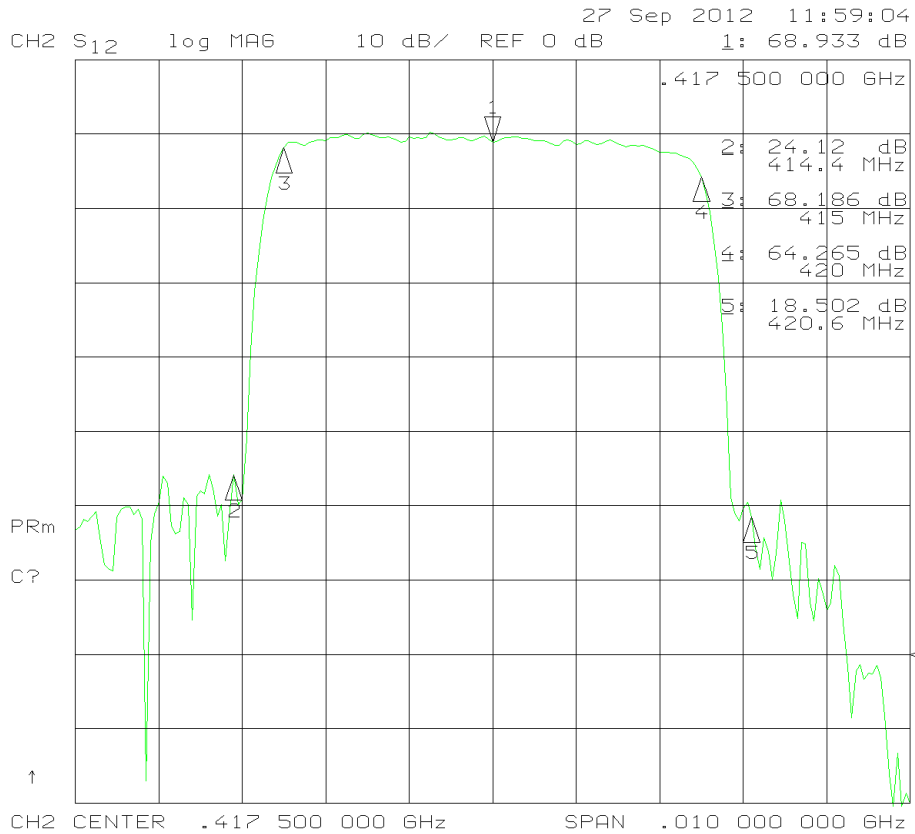


Figure 2: GR415 uplink transfer function example.

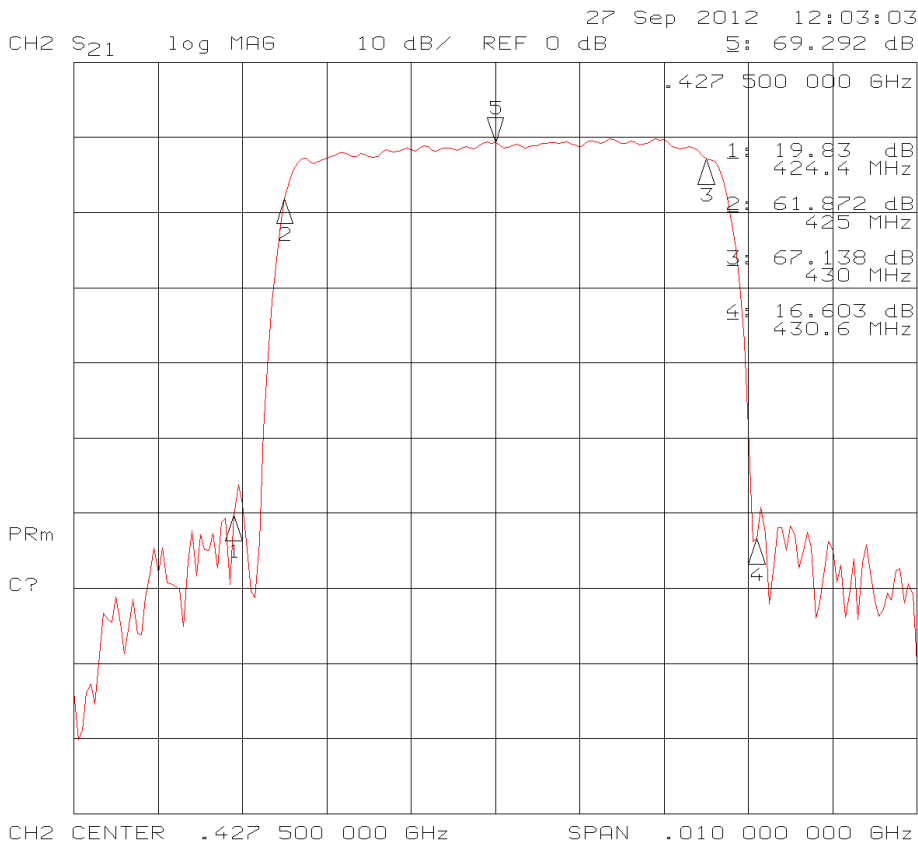


Figure 3: GR415 downlink transfer function example.