

Band Selective RF Repeater for UMTS

The custom band repeater GR2100-01 is an indoor bi-directional amplifier that offers an increase in signal strength in medium-sized rooms.

Key features:

- Customer specified frequency band
- Compact design for easy installation
- Integrated antenna (or connector for indoor delivery network)
- Uplink & Downlink gain is separately adjustable
- Automatic gain control
- Low power consumption
- Small dimensions and light weight

Application areas:

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



Figure 1: Repeater GR2100 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 GR2100-01 series can solve these problems by amplifying the available signal from an outdoor antenna into weak coverage area via indoor antenna or indoor delivery network with multiple antennas.

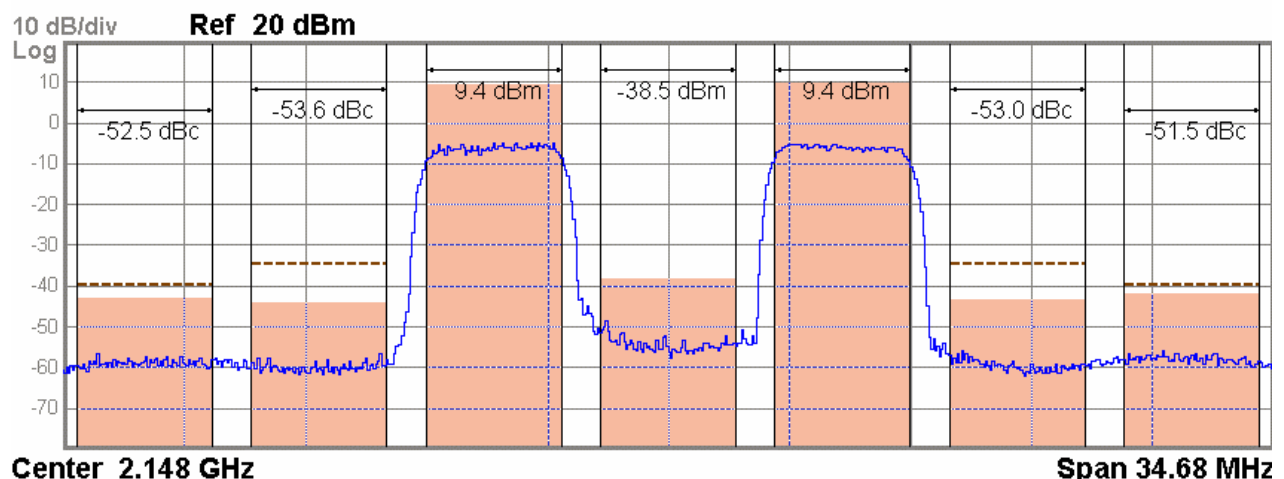


Figure 2: ACLR in case of two WCDMA signals (15MHz frequency band).

Technical specifications:

Parameter	Specification
Frequency range	Uplink: 1920-1980MHz Downlink: 2110-2170MHz
Number of channels	3
Bandwidth	15MHz (other bandwidths are optionally available)
Gain	60dB \pm 2dB
Manual gain adjust range	15dB
Automatic gain control	30dB
Downlink output power	+12dBm @ 2 WCDMA signals
Uplink output power	+15dBm @ 2 WCDMA signals
Spurious emission	According to 3GPP TS 25.106, TS 25.143: < -36dBm up to 1GHz < -30dBm from 1GHz
ACLR Adjacent channel leakage power ratio	> 45dBc @ 5MHz > 50dBc @ 10MHz
ACRR Adjacent channel rejection ratio	According to 3GPP TS 25.106, TS 25.143: > 20dBc
EVM Error vector magnitude	According to 3GPP TS 25.106, TS 25.143: < 12.5%
Noise figure	4dB max
VSWR Voltage standing wave ratio	1.8:1 [50 Ω]
Power supply	DC 9V/1.0A
RF connector	N-Female (SMA optionally)
Operating temperature range	-20 ... +60 °C
Dimensions	120 x 190 x 60mm

Ordering information:

Model	Description
GR2100-01/xN	With integrated antenna
GR2100-01/xNN	With RF output connector

x – service provider's identifier

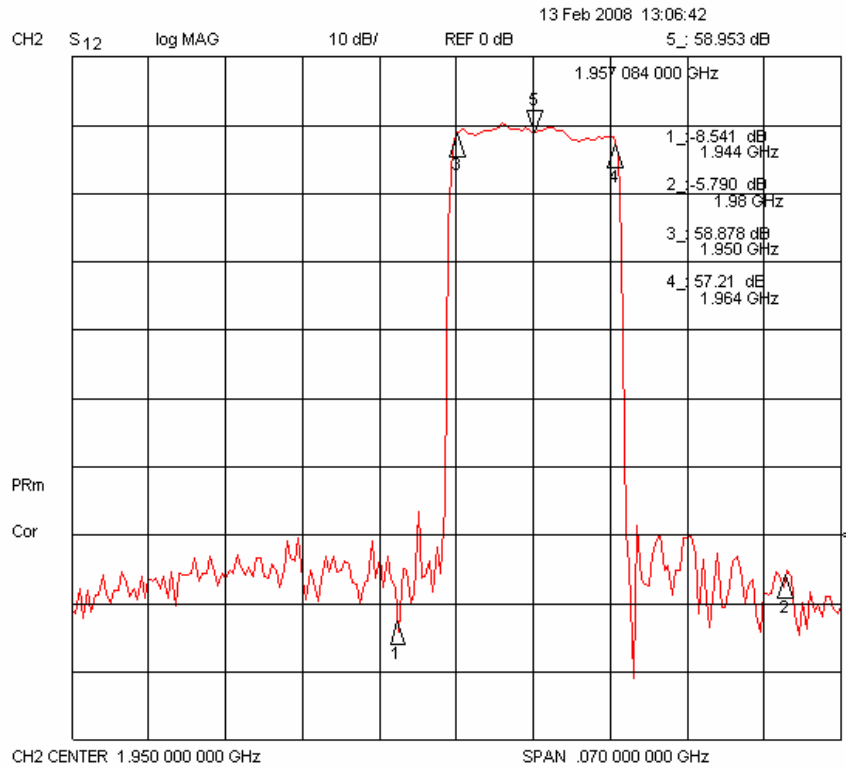


Figure 3: GR2100 transfer function example – uplink/15MHz band.

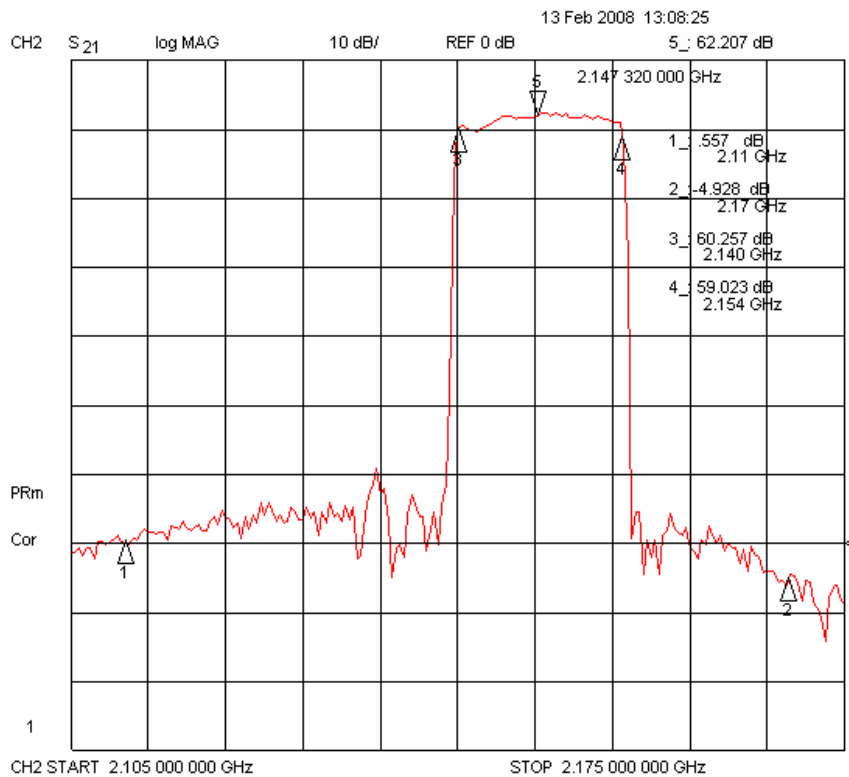


Figure 4: GR2100 transfer function example – downlink/15MHz band.