

HIGH POWER CHANNEL SELECTIVE SMR/iDEN®/TDMA REPEATER

MAIN FEATURES

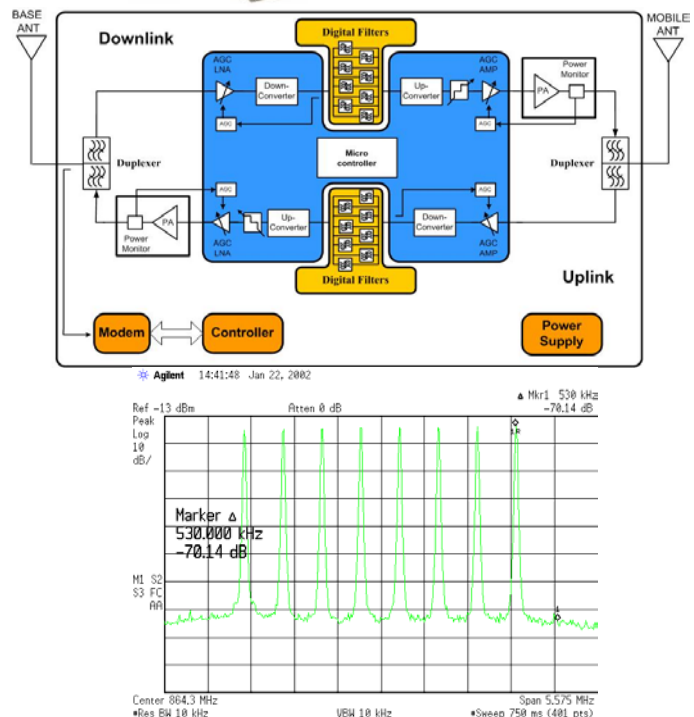
- 50 Watt 1dB Output Power
- 10 Watt Downlink Composite Power
- 90 dB RF Gain
- Flexible Software Controlled Filter Array
- 1 to 8 Programmable Filters, 1 to 8 Channels each Filter
- Separate Programmable Bandwidth for each Channel
- High Spectral Purity
- Small Dimensions
- Exceptionally linear operation
- Computer (Laptop) Control and monitor
- Output Power & Fault Monitor
- Special Tailoring Capability to meet Specific Customer Requirements
- Patent Pending

Dekolink's new Digital Channel Selective Repeater employs advanced Digital Signal Processing technology (DSP) that provides significant advantages over conventional repeaters.

This innovative system introduces new system capabilities, which enable a wide variety of applications particularly when adjacent channel selectivity and very high spectral purity and selectivity is required.

The Digital Channel Selective Repeater generates a flexible array of 8 DSP based software controlled independent variable bandwidth channels across the whole 800 MHz SMR band. Each channel parameters such as central frequency, bandwidth, and filter slopes, are all software controlled in a local mode and can be remotely controlled via a wireless modem.

The 800 MHz SMR band is crowded with many different services. Services such as IDEN, LMR, SMR and Public Safety are interfering with each other in the same geographical area making it often impossible to support these services simultaneously.



The Digital Channel Selective Repeater provides a very efficient solution to the 800MHz interference problem by enabling high spectral selectivity while maintaining a clear low noise spectrum. The Digital Channel Selective Repeater has a built-in software controlled frequency shift capability making this product ideal for those applications where frequency shifting is required and particularly in sites where high gain is required under poor antenna isolation conditions. Dekolink's Digital Channel Selective Repeater provides a 40dbm composite output power, ideal for outdoor applications. Dekolink also provides a cost effective medium power system providing the same features and capabilities but with 32 dBm composite power. These amplifiers are an excellent choice for in-building coverage applications when frequency selectivity is required.

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Electrical Specification

	Downlink	Up link
Frequency Range	See table below	
Pass band Gain @Min attenuation.	90 dB typical	
Filters Bandwidth	12.5 –250 KHz (Programmable)	
Delay	20-80 µSec. Depending on filter Bandwidth and required slope.	
Channel Setting Resolution	0.5 kHz	
Passband Ripple	± 2.5 dB max	
Channel Ripple	± 0.5 dB max	
Delay Variation	± 250 nSec max	
Noise Figure @max gain	5.0 dB	
3rd Order Output Intercept Point	+62 dBm typical	+50 dBm typical
IMD @ 4 tone	48 dBc typical @ 33dbm/tone	48 dBc typical @ 23 dbm/tone
IMD @ 8 tone	45 dBc typical @ 30dbm/tone	45 dBc typical @ 20 dbm/tone
Power Output @1 dB Gain Compression	50 Watt	10 Watt
Composite Output Power	+40dBm	+30 dBm
Automatic Gain Control (user enable)	15 dB attenuation Range	
Impedance Level	50 ohms	
V.S.W.R In/Out	1.5: 1 max	
Spurious Outputs	55 dBc max	
Power Supply	90 to 260 VAC	
Manual Gain Control	30 dB @2 dB/step	
Size	60x40x30 cm (23.6x15.7x12 inch)	
RF Connectors	N-type Female	
Weight	42 kg. (95 lb)	
Operating temperature	- 30°C to + 50°C	

* specifications are subject to change without notice

System Frequency range:

SYSTEM TYPE	DOWN-LINK (MHz)	UP-LINK (MHz)
iDEN / SMR / LMR 800	851-866	806-821
iDEN / SMR 900	935-941	896-902
Public-safety	851-869	806-824
NPSPEC	866-869	821-824
2 Way Paging	928-941	896-902