D-MBR - Americas

Digital Multi-Band Repeater

- Designed to meet North American frequency requirements
- Up to four frequency bands in one compact enclosure
- Software Defined Filtering of up to 12 sub-bands in each frequency band
- Band modules for 700MHz (LTE), 850MHz (Cellular), 1700MHz (AWS) and 1900MHz (PCS)
- Individual gain and ALC settings for each sub-band for single and multi-operator applications
- Ideal for flexible In-building applications
- Complies with TS 36.106 (LTE) and TS 25.106 (WCDMA) standards
- Supports 700MHz upper and lower bands simultaneously

The new Digital Multi-Band Repeater (D-MBR) from Axell Wireless is a flexible, multi-band coverage solution optimised for in-building applications.

The D-MBR is based on the Axell Wireless' innovative digital filtering technology (DSP) which supports current and future frequency allocations.

Up to four different frequency bands can be implemented in one repeater casing. The solution can be equipped with modules covering the 700MHz, 850MHz, 1700MHz and 1900MHz bands. For each frequency band, the D-MBR can provide selection and amplification of up to 12 sub bands of programmable bandwidth with the new software defined filtering module. Using an advanced ALC mechanism each one of the sub bands has an individual gain and ALC setting.

The Digital Mulit-band repeater has a separate module per each frequency band. This architecture allows redundancy, i.e. failure in one of the band modules will not have any impact on the other band modules. A dedicated DSP per band allows the support of full bandwidth per each band without any limitation.

The D-MBR is connected to one donor antenna placed on the roof of the building and the radiating coaxial cable or antennas in the area to be covered. Configuration and monitoring of the D-MBR can be done through an intuitive web management GUI, either locally or remotely via a wireless modem. With the Axell Wireless advanced supervision and control software, the entire fleet of digital multi-band repeaters can be monitored.

Axell Wireless D-MBR repeater is powerful enough to drive a passive Distributed Antenna system (DAS) for coverage areas over 100,000 ft^2 (10,000m^2) in buildings, parking lots, malls, warehouses and offices.

SPECIFICATIONS

RADIO MODULE FOR 700 MHz	UPLINK	DOWNLINK
Operating Frequency Range Lower band Upper band	698-716MHz 776 - 787MHz	728-746MHz 746-757MHz
Output power at antenna port (composite)	27dBm	33dBm
Pass band maximum gain	82dB	82dB
Gain attenuation range	0-25dB (in 1dB steps)	0-25dB (in 1dB steps)
Pass band ripple	± 25dB	± 25dB
Noise Figure @ max gain	4dB	5dB
Propagation delay	< 6 µsec	< 6 µsec
Number of filters (*)	1 to 12 or 1 to 8	1 to 12 or 1 to 8
RADIO MODULE FOR 850 MHz (CELLULAR)		
Operating Frequency Range	824-849MHz	869-894MHz
Output power at antenna port (composite)	27dBm	33dBm
Pass band maximum gain	82dB	82dB
Gain attenuation range	0-25dB (in 1dB steps)	0-25dB (in 1dB steps)
Pass band ripple	± 2.5dB	± 2.5dB
Noise Figure @ max gain	3.5dB	5dB
Propagation delay	< 6 µsec	< 6 µsec
Number of filters (*)	1 to 12 or 1 to 8	1 to 12 or 1 to 8
RADIO MODULE FOR 1700 MHz (AWS)		
Operating Frequency Range	1710-1755MHz	2110-2155MHz
Output power at antenna port (composite)	27dBm	30dBm
Pass band maximum gain	82dB	82dB
Gain attenuation range	0-25dB (in 1dB steps)	0-25dB (in 1dB steps)
Pass band ripple	± 2.5dB	± 2.5dB
Noise Figure @ max gain	3.5dB	5dB
Propagation delay	< 6 µsec	< 6 µsec
Number of filters (*)	1 to 12 or 1 to 8	1 to 12 or 1 to 8
RADIO MODULE FOR 1900MHz		
Operating Frequency Range	1850-1910 MHz	1930-1990MHz
Output power at antenna port (composite)	27dBm	30dBm
Pass band maximum gain	82dB	82dB
Gain attenuation range	0-25dB (in 1dB steps)	0-25dB (in 1dB steps)
Pass band ripple	± 2.5dB	± 2.5dB
Noise Figure @ max gain	3.5dB	5dB
Propagation delay	< 6 µsec	< 6 µsec
Number of filters (*)	1 to 12 or 1 to 8	1 to 12 or 1 to 8
ELECTRICAL SPECIFICATION		
Power Supply	110/240 VAC	
Power Consumption	max 320W for 3 bands, max 400W 4 bands	
ENVIRONMENTAL SPECIFICATION		
Operating Temperature Range	14°F to 122°F (-10°C to +50°C)	
Complies with	FCC, UL	
Humidity	85%	
MTBF, complete system	>70 000 hrs	
MECHANICAL SPECIFICATION		
Dimensions:	19” x 5U rack x 19.7” (b x h x d), 450 x 225 x 500 mm,	
Weight:	77 lbs (35 kg) for 3 bands, 86 lbs (39 kg) for 4 bands	
COMPLIANCE		
Radio	FCC	

ALL PARAMETERS ARE TYPICAL AT +77°F (+25°C). SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE
(*) Supports BW option up to 20 MHz by setting the start-stop frequency

ORDERING INFORMATION

Identification	Description part	Number
D-MBR Kit 700/850/1700/1900	Quad Band Kit 700/850/AWS/PCS, 8 filters per band, CDMA 1x modem	DR3307-30-81719
D-MBR Kit 700/850/1700/1900	Quad Band Kit 700/850/AWS/PCS, 12 filters per band, CDMA 1x modem	DR3307-30-81719-12
D-MBR Kit 700/850/1900	Tri Band Kit 700/850/PCS, 8 filters per band, CDMA 1x modem	DR3307-30-819
D-MBR Kit 700/850/1900	TriBand Kit 700/850/PCS, 12 filters per band, CDMA 1x modem	DR3307-30-819-12
D-MBR Kit 700/850/1900	TriBand Kit 700/850/PCS, 8 filters, 9 Plexer for AWS, CDMA 1x modem	DR27-78-3019
D-MBR Kit 700/850/1900	TriBand Kit 700/850/PCS, 12 filters, 9 Plexer for AWS, CDMA 1x modem	DR27-78-3019-12
D-MBR Kit 850/1700/1900	Tri Band Kit 850/AWS/PCS, 8 filters per band, CDMA 1x modem	DR3008-3017-3019
D-MBR Kit 850/1700/1900	Tri Band Kit 850/AWS/PCS, 12 filters per band, CDMA 1x modem	DR3008-30-1719-12
D-MBR Kit 850/1700/1900	Tri Band Kit 850/AWS/PCS, 8 filters, 9 Plexer for 700, CDMA 1x modem	DR2707-2708
D-MBR Kit 850/1700/1900	Tri Band Kit 850/AWS/PCS, 12 filters, 9 Plexer for 700, CDMA 1x modem	DR2707-2708-12
D-MBR Kit 700/850	Dual Band Kit 700/850, 8 filters, CDMA 1x modem	DR3307-3008
D-MBR Kit 700/850	Dual Band Kit 700/850, 12 filters, CDMA 1x modem	DR3307-3008-12
D-MBR Kit 700/850	Dual Band Kit 700/850, 8 filters, CDMA 1x modem, 7 Plexer for AWS	DR3307-3008-AD
D-MBR Kit 700/850	Dual Band Kit 700/850, 12 filters, CDMA 1x modem, 7 Plexer for AWS	DR3307-3008-12-AD
D-MBR Kit 700/1900	Dual Band Kit 700/1900, 8 filters, CDMA 1x modem	DR3307-3019
D-MBR Kit 700/1900	Dual Band Kit 700/1900, 12 filters, CDMA 1x modem	DR3307-3019-12
D-MBR Kit 700/1900	Dual Band Kit 700/1900, 8 filters, CDMA 1x modem, 7 Plexer for AWS	DR3307-3019-AD
D-MBR Kit 700/1900	Dual Band Kit 700/1900, 12 filters, CDMA 1x modem, 7 Plexer for AWS	DR3307-3019-12-AD
D-MBR Kit 850/1900	Dual Band Kit 850/1900, 8 filters, CDMA 1x modem	DR3008-3019
D-MBR Kit 850/1900	Dual Band Kit 850/1900, 12 filters,CDMA 1x modem	DR3008-3019-12
D-MBR Kit 850/1900	Dual Band Kit 850/1900, 8 filters, CDMA 1x modem, 6 Plexer for AWS	DR3008-3019-AD
D-MBR Kit 850/1900	Dual Band Kit 850/1900, 12 filters, CDMA 1x modem, 6 Plexer for AWS	DR3008-3019-12-AD

NOTE: OTHER KIT COMBINATIONS ARE AVAILABLE.

Individual Components		
D-MBR AK	Wall mount accessory kit for DMBR	D-MBR-WM-AK
DMBR Chassis	4 band D-MBR chassis, power supply, communication card	D-MBR-CH
DMBR Modem	D-MBR CDMA 1X Modem	D-MBR-CDMA-M
DMBR 700 33 dBm module	33 dBm, 8 filter 700 LTE module for DMBR	D-BM-3307
DMBR 700 33 dBm module	33 dBm, 12 filter 700 LTE module for DMBR	D-BM-3307-12
DMBR 850 30 dBm module	30 dBm, 8 filter 850 Cellular module for DMBR	D-BM-3008
DMBR 850 30 dBm module	30 dBm, 12 filter 850 Cellular module for DMBR	D-BM-3008-12
DMBR 1700 30 dBm module	30 dBm, 8 filter 1700 AWS module for DMBR	D-BM-3017
DMBR 1700 30 dBm module	30 dBm, 12 filter 1700 AWS module for DMBR	D-BM-3017-12
DMBR 1900 30 dBm module	30 dBm, 8 filter 1900 PCS module for DMBR	D-BM-3019
DMBR 1900 30 dBm module	30 dBm, 12 filter 1900 PCS module for DMBR	D-BM-3019-12

About Axell Wireless

Axell Wireless is one of the top 3 global providers of wireless coverage solutions and the market leader in the provision of solutions for the public safety market worldwide. Applications for Axell Wireless equipment include coverage solutions for all sorts of environments including road and rail tunnels, metros, small and large buildings and transportation systems such as railways and aeroplanes. With its headquarters in the UK, Axell Wireless has been operating for over 30 years and has a substantial international presence operating out of 10 offices across 4 continents. A proven track record combined with a worldwide reputation for providing innovative and high quality products have made Axell Wireless a truly global player in the wireless coverage industry.

www.axellwireless.com