

D-MBR – EMEA & APAC Digital Multi-Band Repeater



Key features

- 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 800MHz, 900MHz, 1800MHz, 2100MHz and 2600MHz for all technologies
- Individual Gain and ALC Settings for each sub-band for single and multi-operator applications
- Supports multi operator and multi technology (GSM, W-CDMA, LTE) and MIMO
- MCPA technology providing downlink power of 30dBm composite per band

PBE Axell's new Digital Multi-Band Repeater (D-MBR) is a flexible multiband coverage solution optimised for in-building applications.

PBE Axell's D-MBR offers a completely new range of possibilities. Up to four different frequency bands can be implemented in one repeater casing. The solution can be equipped with modules covering all typical bands including 800MHz, 900MHz, 1800MHz, 2100MHz and 2600MHz 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. A dedicated module per band allows supporting the full instantaneous bandwidth (in each one of the 4 bands). This architecture provides redundancy, as a failure in one band will not affect the other bands.

The D-MBR supports all technologies such as GSM, W-CDMA and LTE. Optionally MIMO can be supported.

Using an advanced ALC mechanism each one of the sub bands has an individual gain and ALC setting.

The D-MBR is connected to one donor antenna and the radiating coaxial cable or distributed antenna system in the area to be covered. It also provides an efficient air interface for optical DAS.

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 PBE Axell advanced supervision and control software, the entire fleet of digital multi-band repeaters can be monitored.



PBE Axell's D-MBR repeater is powerful enough to drive a passive Distributed Antenna system (DAS) for coverage areas over 10,000m² in buildings, parking lots, malls, warehouses and offices.

Technical specification

Radio module	800MHz	900	1800	2100	2600
Frequency range UL / DL	832-862MHz / 791-821 MHz	880-915 MHz / 925-960 MHz	1710-1785MHz / 1805-1880MHz	1920-1980MHz / 2110-2170MHz	2500 -2570MHz / 2620 - 2690 MHz
Output power at antenna port (composite): DL/UL	+30dBm +23dBm	+30dBm +23dBm	+30dBm +23dBm	+30dBm +23dBm	+30dBm +23dBm
Pass band typical maximum gain	80dB	80dB	80dB	80dB	80dB
Supported modulations	LTE	GSM/WCDMA	GSM/WCDMA/LTE	WCDMA/LTE	LTE
Gain attenuation range (in 1dB steps)	0-25dB	0-25dB	0-25dB	0-25dB	0-25dB B steps)
Noise figure	4dB (UL) 5dB (DL)	4dB (UL) 5dB (DL)	3.5dB (UL) 5dB (DL)	3.5dB (UL) 5dB (DL)	3.5dB (UL) 5dB (DL)
Pass band ripple	± 2.5dB	± 2.5dB	± 2.5dB	± 2.5dB	± 2.5dB

Electrical specification

Power Supply	110/240 VAC
Power Consumption	320W max for 3 bands

Environmental specification

Operating Temperature Range	-10 to +50°C
Humidity	85%, ETS 300 019-1-3 Class 3.1
IP rating	IP 41

Mechanical specification

Dimensions	450 x 223 x 500 mm (b x h x d), 19" x 5U rack	
Installation	19" Rack, wall mount (optional)	
Weight	26-38 kg depending on configuration (1-4 bands)	
Complies with	EU Directives	2014/53/EU (RE-D) 2011/65/EU (RoHS2)
	Safety	EN60950-1
	EMC	EN 301 489-1 EN 301 489-50
	Radio	EN 301 908-1 EN 303 609 (GSM) EN 301 908-11 (3G) EN 301 908-15 (4G)

(*) Supports every BW option 200kHz - 20MHz by setting the start-stop frequency

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