

BD505LF

License-free DMR handheld radio (PMR446)



Excellent performance

With its innovative design, the BD505LF has better performance than analog radios. Due to an excellent reception sensitivity, the communications range further extended. The BD505LF DMR digital radio offers good performance and provides stable communication.

Analog and digital mode

The BD505LF supports both analog and digital mode. Users can switch between the two operating modes quickly and easily.

Clear voice

Use of digital coding and correction technology makes it possible to transmit human voices without any interference noise – even over large distances.

Technical Data BD505LF

General data	
Frequency range	UHF: 446 MHz
Supported operating modes	<ul style="list-style-type: none"> DMR Tier I (license-free DMR) ETSI TS 102 361-1/2/3 Analog PMR446
Channel capacity	8
Zone capacity	3
Channel spacing	12.5 kHz
Operating voltage	7.2 V
Battery service life (5/5/90 duty cycle)	approx. 16 h (digital) approx. 12 h (analog)
Standard battery	1500 mAh (lithium-ion battery)
Frequency stability	± 0.5 ppm
Antenna impedance	50 Ω
Dimensions (H × B × T)	108 × 54 × 29 mm
Weight (with antenna and standard battery)	approx. 220 g

Environmental conditions	
Operating temperature range	-30 °C to +60 °C
Storage temperature range	-40 °C to +85 °C
Electrostatic discharge (ESD)	IEC 61000-4-2 (Level 4), ± 8 kV (contact), ± 15 kV (air)
Protection against dust and moisture	IP54
Shock and vibration resistance	MIL-STD-810 G standard
Relative humidity	MIL-STD-810 G standard

Transmitter	
Transmitting power	0.5 W
Modulation	11K0F3E at 12.5 kHz 16K0F3E at 25 kHz
4FSK digital modulation	12.5 kHz (data only): 7K60FXD 12.5 kHz (data and voice): 7K60FXW
Interfering signals and harmonics	- 36 dBm (< 1 GHz) - 30 dBm (> 1 GHz)
Modulation limiting	± 2.5 kHz at 12.5 kHz ± 5.0 kHz at 25 kHz
Noise cancellation	40 dB at 12.5 kHz 45 dB at 25 kHz
Adjacent channel selectivity	60 dB at 12.5 kHz 70 dB at 25 kHz
Audio response (TIA-603D)	+1 dB to -3 dB
Audio distortion	≤ 3 %
Digital vocoder type	AMBE+2™
Digital protocol	ETSI-TS102 361-1, 2, 3

Receiver	
Sensitivity (analog)	0.22 µV (typical) (12 dB SINAD) 0.4 µV (typical) (20 dB SINAD)
Sensitivity (digital)	0.22 µV / BER 5%
Adjacent channel selectivity (ETSI)	60 dB at 12.5 kHz
Intermodulation	65 dB at 12.5 kHz
Spurious response rejection (ETSI)	70 dB at 12.5 kHz
Signal-noise ratio (S/N)	40 dB at 12.5 kHz
Nominal audio power output	0.5 W
Audio distortion	≤ 3 %
Audio response (TIA-603D)	+1 dB to -3 dB
Conducted spurious emission	< -57 dBm

All technical information was determined at the factory and in accordance with the corresponding standards. Subject to change on the basis of continuous development.



Hytera Mobilfunk GmbH

Address: Fritz-Hahne-Straße 7, 31848 Bad Münder, Germany.
Phone: + 49 (0)5042 / 998-0 Fax: + 49 (0)5042 / 998-105
E-Mail: info@hytera.de | www.hytera-mobilfunk.com



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Encryption features are optional and require the device to be configured separately. They are also subject to German and European export regulations.

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