Hytera

Dual-mode Rugged Radio
PDC680

www.hytera-europe.com

Overview

Hytera PDC680 dual-mode rugged radio combines a mission-critical DMR radio with an Android-based smartphone in a single device. It harnesses the power of narrowband and broadband technologies to provide mission-critical voice call, photo and video taking, positioning, and more. This innovative radio enables seamless communications between the DMR network and public networks such as 2G, 3G, LTE, and WLAN.

As a professional rugged radio, the PDC680 is engineered for effortless usability. The ergonomic and modular design of the device's smart knob and keys makes the UI easy to accomplish tasks with one hand.

Key Features

All-in-one device

Dual screens

IP68

Smart knob

Loud and clear audio

AI-based noise cancellation

Remote control

Highlights

Precise positioning

The PDC680 provides fast and accurate positioning to track people or devices, whether indoor or outdoor. The GPS, Galileo, GLONASS, QZSS, BDS, and A-GPS are used for outdoor positioning, while the location-based service (LBS) and WLAN are adopted for indoor positioning.

Live streaming

Thanks to the dual HD cameras, the PDC680 allows you to capture on-site pictures and videos, and then send them to another radio or command centre in real time to dramatically improve situational awareness. The PDC680 also supports the external camera.

Automatic switch

The PDC680 can automatically switch between DMR network and public network. Thanks to the ability to register to both networks using the same ID, the PDC680 can always select the optimal one to deliver smooth and reliable voice communications everywhere.

Full range of apps

With the Android system, the PDC680 can support system-level apps developed by Hytera and other third-party apps. This helps you communicate and respond efficiently.

All-in-one device

With a highly integrated and modular design, the PDC680 combines a DMR radio and a smartphone into a single device. So you can effectively carry a broadband and narrowband handset in one lightweight device.

Loud and clear audio

Using the enlarged front chamber technology and professional acoustic design, the PDC680 can output sound at up to 128 dB. To ensure crystal clear audio in noisy environments, the PDC680 adopts AI-based noise cancellation, echo cancellation, and wind noise reduction technologies.

All-round security assurance

The PDC680 can secure the voice and data through authentication, software and hardware encryption. TrustZone protects the system; full-disk encryption (FDE) protects the user data; air interface encryption (AIE) and end-to-end encryption (E2EE) protect the voice and data communication; and remote control helps you manage radios.

Rugged and durable

Rated at IP68 and ESD IEC Level 4, the PDC680 withstands water, dust, and electrostatic discharge. It can also withstand 1.5-meter drop. The industrial-grade touchscreen stands up to continuous use in any weather. All these help the PDC680 survive harsh environments.

Smart management

You can remotely manage radios in batches, including upgrade, programming, permission control, key configuration, app management, device health management, and data backup and recovery.

Accessories

Standard

2,400 mAh Li-Polymer Battery

Charger

Power Adapter

Belt Clip

Antenna

Strap

Optional

USB Camera

BT Earpiece

Wireless PTT

Wireless Remote Speaker Microphone

PTT&MIC Controller

Water-proof Remote Speaker Microphone

Receive-only Earbud

Receive-only Swivel Earset

C-Earset

4,000 mAh Smart Battery

Charger (2A)

Specifications

Wireless Data Communication

DMR/Analog	340-470MHz
LTE	3GPP LTE FDD-LTE: B1/B2/B3/B4/B5/B7/B8/B20/B26/B28 TDD-LTE: B34/B38/B39/B40/B41
CDMA	CDMA 1xRTT BC0 CDMA2000 1xEV-DO BC0
WCDMA	B1/B2/B4/B5/B8
TD-SCDMA	B34/B39
GSM	850/900/1800/1900MHz
WLAN	802.11 a/b/g/n/ac, 2.4GHz/5GHz
NFC (Optional)	13.56MHz
BT	V4.2, BDR/EDR/BLE
Positioning	GPS/BDS/GLONASS/Galileo/QZSS/A-GPS Position performance for open zone : TTFF (Cold boot)< 1minute Horizontal position accuracy < 10meters

Transceiver

Channel Spacing	25/20/12.5kHz
TX Power	1W/3W (Analog) 1W/4W (DMR)
RX Sensitivity	0.2uV/-121dBm (12dB SINAD) 0.16uV/-123dBm (12dB SINAD) (Typical) 0.2uV/-121dBm @BER5%
Inter-modulation	TIA-603: 70dB@12.5/20/25kHz ETSI: 65dB@12.5/20/25kHz
Blocking	84dB
Suppression of Spurious Response	TIA_603: 70dB@12.5/20/25kHz ETSI: 70dB@12.5/20/25kHz
Adjacent Channel Selectivity	TIA_603: 60dB@12.5kHz/70dB@20/25kHz ETSI: 60dB@12.5kHz/70dB@20/25kHz
Frequency Stability	±0.5ppm
Audio Output	2W
Audio Distortion	≤3%
Digital Vocoder Type	AMBE+2™

General

Dimensions (H x W x D)	140 x 60 x 29.1mm
Weight (with antenna & battery)	325±5g
AP Processor	8-core, 1.8GHz
Operating System	Android 10
Google Certification	Google Mobile Services
Memory	RAM: 3GB; ROM: 32GB eMMC Supports up to 256GB with Micro SD card
Ports	13PIN Accessory/Charging Port
Top Screen	0.92"128x88 Color: black & white
Main Screen	3.6" 1280x720, Capacitive, Touch Screen, Gloves Proofed, Passive Stylus
Card Slots	2 Nano SIM cards 1 Micro SD card 1 Encryption card
Front Camera	8MP, Fixed Focus
Rear Camera	13MP, Auto Focus
Sensors	Proximity Sensor Ambient Light Sensor 6-axis sensor (accelerometer + gyroscope) Magnetometer Accelerometer

Battery

Standard	2400 mAh Li-polymer, 7.7V(Rated)
Optional High Capacity	4000 mAh, 7.7V(Rated)

Video and Photo

Video File Types	3GPP(.3gp), MPEG-4(.mp4) QuickTime(.mov), WEBM(.webm), Windows Media(.asf,.wmv), RealMedia(.rmvb, .rm) MPEG-PS(.mpg, .mpeg), MPEG-TS(.ts), AVI(.avi), Matroska(.mkv)
Image File Types	JPEG(.jpg), GIF(.gif), PNG(.png), BMP(.bmp)
Video Recording Quality	Front Camera: 1080P HD up to 30 frames per second(fps) Rear Camera: 1080P HD up to 30 frames per second(fps)

Audio

File Types	MP3(.mp3), WAV(.wav), 3GPP(.3gp), MPEG-4(.mp4,.m4a), ATDS raw AAC(.aac), MPEG-TS(.ts), FLAC(.flac), MIDI(.midi, .xmf, .mxmf), RTTTL/RTX(.rtttl, .rtx), OTA(.ota), iMelody(.imy), Ogg(.ogg), Matroska(.mka), QCELP(.qcp), RealMedia(.ra), Windows Media(.wma), AC3(.ac3)

Environment

Dust and Water Proofing	IEC60529- IP68 (2m, 4h), IEC60529- IP66
Shock and Vibration	MIL-STD-810 G
ESD	IEC 61000-4-2 (Level 4), ±8kV (Contact), ±15kV (Air)
Operating Temperature	-20°C - +60°C
Storage Temperature	-30°C - +80°C
Humidity	MIL-STD-810G, ≤ +65°C,95%RH

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