

# APX N30

## Single-band P25 portable two-way radio

### Easy. Efficient. Essential.

Seamless communication from a sleek radio. Easy to use and simple to manage. The APX N30 single-band P25 portable radio connects your teams to reliable P25 radio networks with all the essential features they need and nothing that they don't. The radio solution for mobile workers in public works, government services, education teams and other municipal roles looking for APX performance in a pared down, cost effective package.

Small and sleek, it's a radio that's easy to carry while being tough enough for use in harsh environments. ViQi Basic Voice Control, large controls and display make it simple to use on the go. And with loud and clear audio, crucial messages get through, even in noisy environments.

The APX N30 works reliably and securely across a variety of frequencies, modes and protocols. It connects seamlessly with accessories and other devices via Bluetooth or Wi-Fi. With SmartConnect, it can even switch between radio coverage and Wi-Fi connections. Choose whether to program offline or optimize fleet management by programming them in batches to save valuable time and resources. With a portfolio of services and tech support, radios stay safe and reliable throughout their lifetime.





# Features

## OPERATION MODES

Digital Trunking: 9600 Baud APCO P25 phase 1 FDMA and phase 2 TDMA

Digital Conventional: APCO 25

Analog Trunking: 3600 Baud SmartNet®, SmartZone®, Omnilink®

Analog Conventional: MDC 1200

ASTRO® 25 Integrated Voice and Data

SmartConnect via Wi-Fi<sup>1</sup>

## FREQUENCY BANDS

7/800 MHz

VHF

UHF

Up to 512 channels

Up to 50 Zones

## ADDITIONAL CONNECTIVITY

Bluetooth (Version 4.2)

Wi-Fi 802.11 a/b/g/n/ac, 2.4 and 5 GHz Bands<sup>1</sup>

## AUDIO FEATURES

2 High Dynamic Range (HDR) Microphones

Adaptive Dual-sided Operation

Adaptive Equalization

Adaptive Gain Control

IMPRES Audio Accessory Compatibility

## MANAGEMENT

Customer Programming Software (CPS)

Radio Management (RM)

## LOCATION-TRACKING

Built-in GNSS (GPS, GLONASS)

## SENSORS

Accelerometer (Man Down/Fall Alert)<sup>1</sup>

## SECURITY

256-bit AES Software Encryption<sup>1</sup>

Single-key ADP encryption

Software Key

P25 Authentication<sup>1</sup>

Multikey for 48 keys and Multi-algorithm<sup>1</sup>

## HAZLOC (WHEN USED WITH DIV1 BATTERY)

Class I - Division 1 Groups C, D; Division 2 Groups A, B, C, D

Class II - Division 1 Groups E, F, G; Division 2 Groups F, G

Class III - Hazardous Locations

## MESSAGING

Canned Messages

## VOICE INTERACTION

Customizable Voice Announcements

ViQi Basic Voice Control: Actions with Predetermined Commands<sup>1</sup>

## ENERGY

Standard 2850 mAh Battery

Optional UL Div 1 3200 mAh Battery

IMPRES 2 Smart Battery Technology

## OTHER FEATURES

Radio Profiles

Enhanced Data<sup>1</sup>

Multicast Voting Scan<sup>1</sup>

Man Down/Fall Alert<sup>1</sup>

DVRS PSU<sup>1</sup>

Digital Tone Signaling<sup>1</sup>

APX Personnel Accountability<sup>1</sup>

Instant Recall

Geofence<sup>1</sup>

Data Modem Tethering<sup>1</sup>

Group Services<sup>1</sup>

## INGRESS PROTECTION

IP6x Dust

IPx8 submersion (2 m, 2 hr)

## USER INTERFACE

2.4" Mission-critical Display: 240x320 TFT 65k Color Transflective Display

PTT Button: 1.22 x 0.47 in (31 x 12 mm)

16-position Channel Selector

Power/Volume Knob

Orange Emergency Button

3 Programmable Side Buttons (1-dot, 2-dot, purple/3-dot)

2 Programmable Front Buttons

## DIMENSIONS (RADIO WITH STANDARD BATTERY, NO ANTENNA)

Height: 5.3 in (135 mm)

Width: 2.2 in (55 mm)

Depth: 1.3 in (33 mm)

Weight: 13.1 oz (370 g)

<sup>1</sup> Optional feature







# Performance

TRANSMITTER					
	NOTE	700 MHz	800 MHz	VHF	UHF
Frequency Range / Bandsplits	-	762-776, 792-806 MHz	806-825, 851-870 MHz	136-174 MHz	380-520 MHz
Channel Spacing	-	12.5 / 20 / 25 kHz	12.5 / 20 / 25 kHz	12.5 / 20 / 25 kHz	12.5 / 20 / 25 kHz
Maximum Frequency Separation	-	Full Bandsplit	Full Bandsplit	Full Bandsplit	Full Bandsplit
Rated RF Output Power (Adjustable)	1	1-2.5 W	1-3 W	1-5 W	1-5 W
Frequency Stability (-30 °C to +60 °C; +25 °C Ref.)	1	±1.0 ppm	±1.0 ppm	±1.0 ppm	±1.0 ppm
Modulation Limiting (12.5 / 20 / 25 kHz Channel)	1	±2.5 / ±4 / ±5 kHz	±2.5 / ±4 / ±5 kHz	±2.5 / ±4 / ±5 kHz	±2.5 / ±4 / ±5 kHz
Emissions (Conducted and Radiated)	1	-75 dBc	-75 dBc	-75 dBc	75 dBc
Audio Response	1	+1, -3 dB	+1, -3 dB	+1, -3 dB	+1, -3 dB
FM Hum and Noise (12.5 / 25 kHz Channel)	-	-45 / -47 dB	-45 / -47 dB	-47 / -47 dB	-49 / -50 dB
Audio Distortion (12.5 / 25 kHz Channel)	1	1.00%	1.00%	1.00%	1.00%

RECEIVER					
	NOTE	700 MHz	800 MHz	VHF	UHF
Frequency Range / Bandsplits	-	762-776, 799-806 MHz	851-870 MHz	136-174 MHz	380-520 MHz
Channel Spacing	-	12.5 / 20 / 25 kHz	12.5 / 20 / 25 kHz	12.5 / 20 / 25 kHz	12.5 / 20 / 25 kHz
Maximum Frequency Separation	-	Full Bandsplit	Full Bandsplit	Full Bandsplit	Full Bandsplit
Audio Output Power at Rated	1	0.5 W	0.5 W	0.5 W	0.5 W
Analog Sensitivity (12 dB SINAD)	2	0.25 µV	0.25 µV	0.216 µV	.199 uV
Digital Sensitivity (1% BER)	3	0.4 µV	0.4 µV	0.277 µV	.265 µV
Digital Sensitivity (5% BER)	3	0.25 µV	0.25 µV	0.188 µV	.177 uV
Selectivity (12.5 / 25 kHz Channel)	1	-61.3 / -75.2 dB	-61.3 / -75.2 dB	-62.3 / -78.2 dB	-62 / -76 dB
Intermodulation Rejection	-	-75 dB	-75 dB	-79.0 dB	-80 dB
Spurious Rejection	-	-76.6 dB	-76.6 dB	-80.5 dB	-88db
FM Hum and Noise (12.5 / 25 kHz Channel)	-	-47 / -53 dB	-47 / -53 dB	-45 / -51 dB	-50 / -55 dB
Audio Distortion	1	1.00%	1.00%	1.00%	1.00%



## IMPRES™ 2 BATTERIES

	FOOTNOTE	PART NO	CAPACITY	AVAILABILITY
Standard	-	PMNN4813	2850mAh	Included
HAZLOC	4	PMNN4815	3200mAh	Optional

## ENCRYPTION

Supported Encryption Algorithms	AES 256-bit Software Encryption (AES-256), DES-OFB
Encryption Keys per Radio	1024 Keys, Programmable for 48 Common Key References (CKR) or 16 Physical Identifiers (PID)
Encryption Keying	Local Key Loader
Vector Generator	NIST-Approved Random Number Generator
Synchronization	OFB - Output Feedback
Encryption Type	Digital, TLS1.2, SRTP
Key Storage	Non-volatile Memory
Key Erasure	Keyboard Command Detection
Standards	FIPS 140-3 Level 1, FIPS 197
Device Certificates	x.509v3 ECC-P384 x.509v3 RSA-2048
Cipher Suites FIPS 140-2	TLS_RSA_WITH_AES_256_GCM_SHA384 SRTP_AEAD_AES_256_GCM1

## LOCATION TRACKING

	FOOTNOTE	
Constellations	-	GPS and GLONASS
Tracking Sensitivity	-	-154 dBm
Accuracy	5	<10m (95%)
Cold Start	5	<60 Seconds (95%)
Hot Start	5	<5 Seconds (95%)
Mode	-	Autonomous (non-assisted) GPS

## WIRELESS

WIFI	FOOTNOTE	
Standards Supported	-	802.11a/ b/g/n/ac
Frequency Range	-	2400-2472, 5180-5825 MHz
Security	-	Supports WPA-2, WPA, WEP
Capacity	-	Up to 20 SSIDs
BLUETOOTH		
Version	-	4.2 (LE)
Frequency Range	-	2402 - 2480 MHz
		SSP Pairing
Security	-	128-bit AES-CDM Encryption for voice, data and signaling

## AUDIO

Audio Output Power at Rated	0.5 W
Audio Output Power at Max	2 W
Audio Response (EIA)	+1, -3 dB
Speech Loudness at 12 in (300 mm)	98 phon
Audio Features	Adaptive Equalization Adaptive Dual-sided Operation Adaptive Gain Control IMPRES Audio



# Environmental and Regulatory

MIL-STD 810										
	MIL-STD 810C		MIL-STD 810D		MIL-STD 810E		MIL-STD 810F		MIL-STD 810G/H	
	Method	Proc./Cat.	Method	Proc./Cat.	Method	Proc./Cat.	Method	Proc./Cat.	Method	Proc./Cat.
Low Pressure	500.1	I	500.2	II	500.3	II	500.4	II	500.5	II
High Temperature	501.1	I, II	501.2	I/A1, II/A1	501.3	I/A1, II/A1	501.4	I/Hot, II/BasicHot	501.5	I/A1, II/A1
Low Temperature	502.1	I	502.2	I/C3, II/C1	502.3	I/C3, II/C1	502.4	I/C3, II/C1	502.5	I/C3, II/C1
Temperature Shock	503.1	I	503.2	I/A1, C3	503.3	I/A1, C3	503.4	I	503.5	I/C
Solar Radiation	505.1	II	505.2	I	505.3	I	505.4	I	505.5	I/A1
Rain	506.1	I, II	506.2	I, II	506.3	I, II	506.4	I, III	506.5	I, III
Humidity	507.1	II	507.2	II	507.3	II	507.4	1 Proc	507.5	II/Aggravated
Salt Fog	509.1	I	509.2	I	509.3	I	509.4	1 Proc	509.5	1 Proc
Blowing Dust	510.1	I	510.2	I	510.3	I	510.4	I	510.5	I
Blowing Sand	1 Proc	1 Proc	510.2	II	510.3	II	510.4	II	510.5	II
Submersion	512.1	I	512.2	I	512.3	I	512.4	I	512.5	I
Vibration	514.2	VIII/F, Curve-W	514.3	I/10, II/3	514.4	I/10, II/3	514.5	I/24	514.6	I/24
Shock	516.2	I, III, V	516.3	I, V, VI	516.4	I, V, VI	516.5	I, V, VI	516.6	I, V, VI
Shock (Drop)	516.2	II	516.3	IV	516.4	IV	516.5	IV	516.6	IV

ENVIRONMENTAL		
	FOOTNOTE	
Operating Temperature	6	-30 to +60 °C (-22 to +140 °F)
Storage Temperature	6	-40 to +85 °C (-40 to +185 °F)
Humidity	-	Per MIL-STD 810
ESD	-	IEC 61000-4-2
Dust Resistance	-	IP6X
Water Resistance (Submersion)	-	IPX8 (2 meters, 2 hours)

REGULATORY				
	NOTE	MODEL NUMBER	FCC ID	IC ID
7/800 MHz	-	H25UCF9PW6AN	AZ489FT7161	109U-89FT7161
VHF	-	H25KDF9PW6AN	AZ489FT7162	109U-89FT7162
UHF	-	H15XDF9PW6AN	AZ489FT7175	109U-89FT7175
LMR	-	8K10F1D, 8K10F1E, 8K10F1W, 11K0F3E, 16K0F3E		
Bluetooth	-	860KF1D, 1M15G1D, 1M19G1D, 1M05F1D		
Wi-Fi (VHF, UHF, 7/800)	2.4 GHz	13M5G1D, 16M9D1D, 17M8D1D		
	5.0 GHz	16M8D1D, 16M9D1D, 17M0D1D, 17M7D1D, 17M8D1D		

1. Measured in the analog mode per TIA / EIA 603 under nominal conditions. Selectivity reflects newer 2-tone test method as defined in revision D TIA603-D issued in 2010.
2. Measured conductively in analog mode per TIA / EIA 603 under nominal conditions.
3. Measured conductively in digital mode per TIA / EIA IS 102.CAAA under nominal conditions.
4. Listed by UL to the standards ANSI/TIA 4950-A and CAN/CSA C22.2 NO. 157-92 Classification Rating: Class I, Division 1, Groups C, D; Class II, Division 1, Group E, F, G; Class III, Hazardous (Classified) Locations. ANSI/ISA 12.12.01-2015 and CAN/CSA C22.2 No. 213-15; Class I, Division 2, Groups A, B, C, D; T3C
5. Measured conductively with >6 satellites visible at a nominal -130 dBm signal strength. Specs provided are 95th percentile values.
6. Temperatures listed are for radio specifications. For battery, please refer to [motorolasolutions.com/batterycare](http://motorolasolutions.com/batterycare) to ensure best or optimum battery operation.

All specifications are subject to change without notice.







To learn more, visit: [www.motorolasolutions.com/apxn30](http://www.motorolasolutions.com/apxn30)



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