APX NEXT XN

ALL-BAND P25 SMART RADIO

OUTPERFORM THE UNEXPECTED

OPERATE IN UNCHARTED EXTREMES.

You've seen tough, but not like this. APX NEXT XN takes toughness to a new level, and is NFPA 1802 certified. Newly added software features enhance fireground safety and post incident review. Ruggedness and safety is bolstered with our leading APX audio in both the radio and XVN500 RSM, for the most intelligible audio in any environment. And when you need to go beyond voice, you are ultra connected with LTE, GPS, Wi-Fi and Bluetooth.

EFFORTLESS USABILITY AND VERSATILITY.

APX NEXT XN is designed for effortless usability in day-to-day operations and when everything is on the line. Oversized intuitive controls are glovable and minimized from accidental activations. When you need more data, the mission-critical touchscreen works in rain, heat, dust and dirt. ViQi understands a range of commands, so you can operate your radio with eyes-up awareness. Every interaction is simple, fast and logical. You stay focused on what matters—your call, your crew, and your safety.

EXPANDABLE INTELLIGENCE FOR TODAY AND BEYOND.

The nature of the incidents you call on can change rapidly, just like your needs for new technology. APX NEXT XN offers a secure extensible platform for new capabilities to be added as your needs evolve. Smart applications keep you connected when you go beyond system coverage and put intelligence into your hands with vital information, from location details to sharing important multimedia for enhanced collaboration with your crew. Because when you need information, you need it fast.

PROVISION AND OPTIMIZE FLEET MANAGEMENT.

Behind each of your firefighters stands a team—from technicians to IT staff to network engineers—working to keep them safe. APX NEXT XN gives you back time. With our RadioCentral suite you can keep radios in the field with remote updates and get insights to fleet optimization with radio analytics. A range of device services help manage your operations and help achieve performance targets. With APX NEXT XN, your ownership experience is streamlined, and your firefighters stay focused and ready.

MOTOROLA SOLUTIONS

MISSION-CRITICAL DESIGN

Performance antennas improve comfort and wearability

Exaggerated hard controls, protected against accidental activation

Large emergency button

Large color top screen displays critical information at a glance

High Dynamic Range microphones, for outstanding audio capture

East Zone TAC 1

11:30

En Route
My Status

East Zone
TAC 1

Zone | Contacts | More

Miller, David
Arriving to staging on Kedzie Ave.

New Message | All Messages

Night Mode | Brightness | Settings
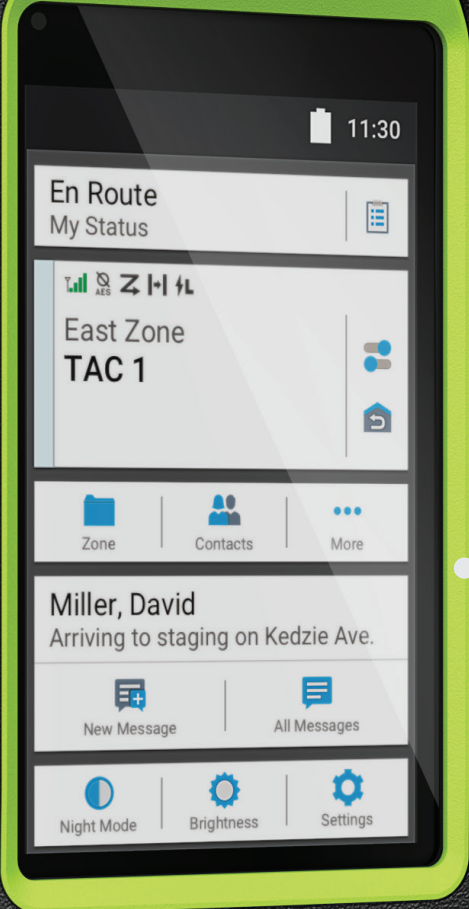
MOTOROLA

APX NEXT XN

Large PTT button

3 programmable side buttons

Mission-critical touchscreen: rugged, usable with gloves, readable in all lighting conditions

UL Division 2 Standard 3400 mAh battery

Oversized display sleep/wake and home button

Large ViQi button

V/U/7/800

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 Trunking: MDC 1200

ASTRO® 25 Integrated Voice and Data

SmartConnect Multi-net Connectivity*

FREQUENCY BANDS

Available in Multi-Band and Single-Band Configurations

All-band: Operation in VHF, UHF Range 1, UHF Range 2, 700 and 800 MHz Bands

Up to 3000 Channels

Up to 125 Zones

ADDITIONAL CONNECTIVITY

Bluetooth (Version 5.0)

Wi-Fi (802.11b/g/n/ac), 2.4 and 5 GHz Bands

LTE (FirstNet®, Verizon and Bell Mobility-certified)

NFC (Near-Field Communications)**

AUDIO FEATURES

3 W Speaker with Adaptive Equalization

2 Internal HDR Microphones

Adaptive Dual-sided Operation

Adaptive Noise Suppression Intensity

Adaptive Gain Control

Adaptive Windporting

IMPRES™ Audio Accessory Compatibility

MANAGEMENT

RadioCentral™*

SmartProgramming*

Customer Programming Software (CPS)

Radio Management*

LOCATION-TRACKING

Built-in GNSS (GPS, Galileo, GLONASS) and A-GPS

SmartLocate and Indoor Positioning*

Mission-critical Geofence**

SmartMapping*

SECURITY

256-bit AES*

Single-key ADP Encryption*

Software Key

P25 Authentication*

Multikey for 128 Keys and Multi-algorithm*

Over-The-Air Keyloading***

Over-The-Air Rekeying (OTAR)*

INGRESS PROTECTION

IEC 60529 - IP68 (2 m, 4 hrs)

MIL-STD Delta-T, 512.X Procedure 1

Hazard Zone Heat and Immersion Leakage Resistance****

MESSAGING

Text Messaging*

SmartMessaging*

HAZLOC / HAZARD ZONE

Class I, Division 2, Groups A, B, C, D

Class II, Division 2, Groups F, G

Class III, Hazardous Locations

NFPA 1802 Certified

USER INTERFACE

3.6" Mission-critical Touchscreen: 800x480 TFT 24-bit Full Color Transflective Display, 1 mm Toughened Glass Lens

Capacitive Touch Technology: Usable with Gloves Up to 4 mm Thick, Resistant to False Actuation from Fresh or Salt Water, Snow, Ice, Dirt or Grease

High Velocity User Interface: Large Touch Targets, Shallow Menu Hierarchy, Home Screen Information at a Glance, Integrated Applications

1.2" Top Display: 200x112 TFT 18-bit Color Transflective Screen, 1 Line of Icons, 2 Lines of Text, 14 Characters per Line, 2 mm Toughened Glass Lens

PTT Button: 1.50 x 0.67 in (38 x 17 mm)

Large 16-position Channel Selector

Large Angled Power/Volume Knob

Large Orange Emergency Button

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

Concentric 2-position Switch

ABC Zone Switch

ViQi Button (3-dot)

Display On/Off/Home Button

VIQI VOICE INTERACTION

Customizable Voice Announcements

Voice Control: Radio Operation with Intuitive Commands*

Virtual Partner Service*

ENERGY

Standard 3400 mAh UL Div 2 Battery

IMPRES 2 Smart Battery Technology

SENSORS

Ambient Light

Accelerometer x2 (Display Orientation, Man Down)

Magnetometer (eCompass)

Barometer**

OTHER FEATURES

Radio Profiles

Data logging & Self-checks

Hazard Zone Mode

Enhanced Data*

Multicast Voting Scan*

Man Down/Fall Alert*

DVRS PSU*

Digital Tone Signaling*

APX Personnel Accountability*

DIMENSIONS

Radio with Standard Battery, no Antenna

Height: 7 in (178 mm)

Width: 2.5 in (63 mm)

Depth: 2.1 in (54 mm)

Weight: 24 oz (680 g)

*Optional Feature
**Hardware-ready
***Included with OTAR

14.9 in (378 mm)

8.2 in (210 mm)

7 in (178 mm)

2.5 in (63 mm)

2.1 in (53 mm)

3.5 in (89 mm)

En Route
My Status

East Zone
TAC 1

Zone   Contacts   More

Miller, David
Arriving to staging on Kedzie Ave.

New Message   All Messages

Night Mode   Brightness   Settings

East Zone
TAC 1

PERFORMANCE

TRANSMITTER

	Footnote	VHF	UHF Range 1	UHF Range 2	700 MHz	800 MHz
Frequency Range / Bandsplits	-	136-174 MHz	380-470 MHz	450-520 MHz	762-776, 792-806 MHz	806-825, 851-870 MHz
Channel Spacing	1	12.5 / 20 / 25 kHz	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	Full Bandsplit
Rated RF Output Power (Adjustable)	2	1-6 W	1-5 W	1-5 W	1-2.5 W	1-3 W
Frequency Stability (-30 °C to +60 °C; +25 °C Ref.)	2	±1.0 ppm	±1.0 ppm	±1.0 ppm	±1.0 ppm	±1.0 ppm
Modulation Limiting (12.5 / 20 / 25 kHz Channel)	2	±2.5 / ±4 / ±5 kHz	±2.5 / ±4 / ±5 kHz	±2.5 / ±4 / ±5 kHz	±2.5 / ±4 / ±5 kHz	±2.5 / ±4 / ±5 kHz
Emissions (Conducted and Radiated)	2	-75 dBc	-75 dBc	-75 dBc	-75 dBc	-75 dBc
Audio Response	2	+1, -3 dB	+1, -3 dB	+1, -3 dB	+1, -3 dB	+1, -3 dB
FM Hum and Noise (12.5 / 25 kHz Channel)	2	-53 / -55 dB	-52 / -54 dB	-51 / -54 dB	-50 / -55 dB	-49 / -53 dB
Audio Distortion (12.5 / 25 kHz Channel)	2	0.9% / 0.9%	0.9% / 0.9%	0.9% / 0.9%	0.9% / 0.9%	0.9% / 0.9%

RECEIVER

	Footnote	VHF	UHF Range 1	UHF Range 2	700 MHz	800 MHz
Frequency Range / Bandsplits	-	136-174 MHz	380-470 MHz	450-520 MHz	762-776, 799-806 MHz	851-870 MHz
Channel Spacing	1	12.5 / 20 / 25 kHz	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	Full Bandsplit
Frequency Stability (-30 °C to +60 °C; +25 °C Ref.)	2	±1.0 ppm	±1.0 ppm	±1.0 ppm	±1.0 ppm	±1.0 ppm
Analog Sensitivity (12 dB SINAD)	2	0.178 µV (-122.0 dBm)	0.211 µV (-120.5 dBm)	0.211 µV (-120.5 dBm)	0.224 µV (-120.0 dBm)	0.237 µV (-119.5 dBm)
Digital Sensitivity (1% BER)	3	0.266 µV (-118.5 dBm)	0.298 µV (-117.5 dBm)	0.298 uV (-117.5 dBm)	0.335 µV (-116.5 dBm)	0.335 µV (-116.5 dBm)
Digital Sensitivity (5% BER)	3	0.158 µV (-123.0 dBm)	0.178 µV (-122.0 dBm)	0.178 µV (-122.0 dBm)	0.224 µV (-120.0 dBm)	0.224 µV (-120.0 dBm)
Selectivity (12.5 / 25 kHz Channel)	2	77 / 84 dB	74 / 81 dB	74 / 81 dB	72 / 80 dB	72 / 79 dB
Intermodulation Rejection	2	82 dB	80 dB	80 dB	80 dB	80 dB
Spurious Rejection	2	98 dB	95 dB	95 dB	98 dB	98 dB
FM Hum and Noise (12.5 / 25 kHz Channel)	2	55 / 59 dB	54 / 58 dB	54 / 58 dB	53 / 57 dB	52 / 56 dB
Audio Distortion	2	0.90%	0.90%	0.90%	0.90%	0.90%

IMPRES™ 2 BATTERIES

	Footnote	Part No	Capacity	Availability
Standard HazLoc	4	PMNN4812	3400	Included

ENCRYPTION

Supported Encryption Algorithms	ADP, AES, DES, DES-XL, DES-OFB, DVP-XL, Localized Algorithm
Encryption Algorithm Capacity	8
Encryption Keys per Radio	1024 Keys, Programmable for 128 Common Key References (CKR) or 16 Physical Identifiers (PID)
Encryption Keying	Local Key Loader and Over-the-Air Rekeying (OTAR)
Synchronization	XL - Counter Addressing; OFB - Output Feedback
Vector Generator	NIST-Approved Random Number Generator
Encryption Type	Digital and SecureNet, TLS1.2, SRTP
Key Storage	Tamper-protected Volatile or Non-volatile Memory
Key Erasure	Keyboard Command and Tamper Detection
Standards	140-3 Level 1 and Level 3, FIPS 197
Device Certificates	x.509v3 ECC-P384, x.509v3 RSA-2048
Cipher Suites FIPS 140-2 Level 1	ECDHE_ECDSA_WITH_AES256_GCM_SHA384 TLS_ECDHE_RSA_WITH_AES_256_GCM_SHA384 TLS_ECDHE_RSA_WITH_AES_256_CBC_SHA TLS_RSA_WITH_AES_256_GCM_SHA384 SRTP_AEAD_AES_256_GCM1

LOCATION-TRACKING

Constellations	GPS, A-GPS, GLONASS, Galileo	-
Tracking Sensitivity	-159 dBm	-
Accuracy	<5m (95%)	See footnote 5
Cold Start	<60 Seconds (95%)	See footnote 5
Hot Start	<5 Seconds (95%)	See footnote 5
Mode	Autonomous (Assisted Only)	-

WIRELESS

LTE	Footnote	
Bands Supported	-	2, 4, 12, 13, 14
Bands (Hardware Ready)	-	5, 17
Device Category	-	4
Certifications	6	FirstNet®, Verizon®, Bell Mobility
Wi-Fi		
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		5.0
Frequency Range		2402 - 2480 MHz
Security		128-bit AES-CCM Encryption

AUDIO

Audio Output Power at Rated	3 W
Audio Output Power at Max	5 W
Audio Response (EIA)	+1, -3 dB
Speech Loudness at 12 in (300 mm)	105 Phon
Audio Features	Adaptive Equalization Adaptive Dual-sided Operation Adaptive Noise Suppression Intensity Adaptive Gain Control Adaptive Windporting IMPRES Audio

ENVIRONMENTAL AND REGULATORY

MIL-STD

	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/Hot	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

NFPA 1802

	METHOD
Audio Speech Quality	Perceptual Objective Listening Quality Analysis performed and pass after all testing listed below
Heat and Immersion Leakage Resistance	350ºF (177°C) for 15 minutes, water immersion 4.9ft (1.5m) for 15 minutes. Repeated 6 times
Vibration Resistance	Vibrated for 3 hours, 1" (25mm) orbital path at 250rpm
Impact Acceleration	9.8 ft (3 m) dropped 8 times
Corrosion	48 hour salt spray. 48 hour 50% humidity chamber
Display Surface Abrasion	2.2lb (1kg) load, for 200 cycles
High Temperature Functionality	500ºF (260ºC) for 5 minutes
Heat and Flame	203ºF (95ºC) for 15 minutes, 10 seconds 950°C (1742ºF) direct flame
Product Label Durability	Label examination post heat and immersion test, corrosion test, high temperature test
Cable Pull-out	35 lbf (156 N) force
Case Integrity	442 lb (200 kg) compression load, 1 minute, all 4 faces
Water Drainage	Water is introduced into all openings, indentations, and grills until water overflows, without audio degradation
Tumble	3hrs, 15 RPM, Tumble Test in 46" Metal Drum. (2,700 total rotations)
TIA Transmit Power	Devices tested for carrier output and RF power output
TIA Carrier Frequency Stability	Devices tested for frequency stability and operating frequency accuracy
TIA Receiver Sensitivity	Devices tested for analog and digital reference sensitivity
Power Source Performance	Devices continuously operated for at least 8 hours on standard duty cycle 10-10-80 at max rated transmit power
Electronic Temperature Stress	Devices are operated after temperature exposure of -4°F (-20°C) for 4-hours, and +160°F (+71°C) for 4-hours
Antenna VSWR Swept Frequency	Antenna performance must be maintained after Drop/Impact, Tumble and Corrosion tests

ENVIRONMENTAL

Operating Temperature	-30 to +60 ºC (-22 to +140 ºF)	See footnote 7
Storage Temperature	-40 to +85 ºC (-40 to +185 ºF)	See footnote 7
Humidity	Per MIL-STD 810	-
ESD	IEC 801 - 2 kV	-
Dust Resistance	IP6X	-
Water Resistance (Submersion)	IPX8 (2 meters, 4 hours) MIL-STD Delta-T, 512.X Procedure 1	-

REGULATORY

FCC ID	AZ489FT7119
IC ID	109U-89FT7119
LMR	8K10F1D, 8K10F1E, 8K10F1W, 11K0F3E, 16K0F3E, 20K0F1E
Bluetooth	1M18G1D, 1M1F1D, 2M1F1D
Wi-Fi	12M9G1D, 16M7D1D, 17M9D1D, 36M2D1D, 17M5D1D, 18M4D1D, 36M8D1D, 76M1D1D
LTE	Band 2 (1850.7 - 1900 MHz), Modulation: *G7D, *D7W Band 4 (1710.7 - 1745 MHz), Modulation: *G7D, *D7W Band 12 (699.7 - 711 MHz), Modulation: *G7D, *D7W Band 13 (777 - 787 MHz), Modulation: *G7D, *D7W Band 14 (790.5 - 793 MHz), Modulation: *G7D, *D7W
All-band Model Number	H55TGU9PW8AN
Single-band Model Number	H45TGU9PW8AN

FOOTNOTES:

1. Please refer to local regulations for available channel bandwidths.
2. Measured conductively in analog mode per TIA / EIA 603 under nominal conditions, and at 1 W Rated Audio for Rx. Selectivity measured using the TIA-603 single-tone method.
3. Measured conductively in digital mode per TIA / EIA IS 102.
4. Listed by UL to non-incendive standards: UL 121201 and CAN/CSA C22.2 No. 213-17 as safe for use in Class I, Division 2, Groups A,B,C,D; Class II, Division 2, Groups F,G; Class III Hazardous Locations.
5. Measured conductively with >6 satellites visible at a nominal -130 dBm signal strength. Specs provided are 95th percentile values.
6. SIM cards for the listed carriers can be pre-installed at the Motorola Solutions factory or supplied by the end user via Bring Your Own SIM (BYOS) for certified carriers.
7. Temperatures listed are for radio specifications with LMR only. Front display, LTE, Wi-Fi, Bluetooth and GPS not available when radio internal temperature is below -20 ºC (-4 ºF). Batteries should be charged at 0 to +45 ºC (+32 to +113 ºF) and stored at +20 to +25 ºC (+68 to +77 ºF). Reference motorolasolutions.com/batterycare

All specifications are subject to change without notice. For full details consult product service manual, document no. MN005643A01.

ACCESSORIES

EXPAND AND CUSTOMIZE YOUR RADIO'S FUNCTIONALITY WITH BEST-IN-CLASS ACCESSORIES.

AUDIO
HEAR AND BE HEARD LIKE NEVER BEFORE

XVN500 Remote Speaker Microphone
PMMN4138

- Loudest, clearest speaker
- Four HDR microphones
- Enhanced windporting
- New adaptive noise suppression
- Dedicated ViQi button
- NFPA 1802 certified when used with APX NEXT XN

12-Pin Interface-to-10-Pin RFDC Adapter
PMKN4262

Adapter to be used with 3rd Party Radio Speaker Microphone

ANTENNAS
DESIGNED FOR WEARABILITY

Whip All-band Antenna 200 mm (V,U,7/800 MHz)
AN000417A01

CARRY
SECURE, EASY ACCESS

Boston Leather Carry Case
PMLN8328
Classic leather ready for extreme environments.

Fireman's Radio Carry Strap
RLN6486

Fireman's Radio Carry Strap XL
RLN6487
Boston Leather Fireman's Radio Strap
AY000223A01
Boston Leather Fireman's Radio Strap, XL
AY000229A01
Anti-sway Strap
RLN6488

ENERGY
MAXIMIZED POWER, LIFE AND MANAGEMENT

IMPRES 2 Multi-Unit Charger
NNTN9115

APX NEXT Pocket for IMPRES 2 Multi-unit Charge
NNTN9212
Only for use with NNTN8844

IMPRES 2 Single-Unit Charger
NNTN9199

IMPRES 2 Standard Capacity Battery
PMNN4812
3400 mAh UL Div 2 (see footnote 4)

For more information, please visit:
motorolasolutions.com/apxnextxnradio

MANAGED AND SUPPORT SERVICES

ACHIEVE MISSION CRITICAL PERFORMANCE

Rely on us to help you achieve your performance targets with the right service level you need for systems, devices and applications. Each package provides a higher level of support, transferring the risk and responsibility to Motorola Solutions.

Motorola Solutions provides a range of service capabilities, including:

MYVIEW
A web-based platform that gives you a transparent, single source view of fleet status and service delivery information to help make smarter, faster and more proactive decisions.

TECHNICAL SUPPORT
Industry certified technical engineers can troubleshoot and provide prompt resolution to any technical issues, whether on-site dispatch or remote.

HARDWARE REPAIR
AND SOFTWARE MAINTENANCE
Ensure continuous security, performance and enhanced functionality of your two-way radios by getting access to APX NEXT XN certified and tested release software updates and upgrades and protect your radios from normal wear and tear.

ACCIDENTAL DAMAGE
Radios are protected from accidental breakage or liquid spills and physical damage. With state-of-the-art diagnostic equipment all of your agency's radio components are protected in the event of an unexpected failure and are back in operation as soon as possible.

DEVICE PROGRAMMING
APX NEXT XN includes Customer Programming Software (CPS) for one-at-a-time programming. We can enable batch programming for radios with centralized management to dramatically reduce the time and resources needed to provision and update your radio fleet.

As an add-on service, our technical teams can help you provision and program your fleet of radios on-site and train your staff on the radio fleet commissioning and management.

PREVENTIVE MAINTENANCE
Our certified technicians conduct annual maintenance checks to help extend the useful life of your radios, reducing repair and replacement costs.

OUTPERFORM THE UNEXPECTED

For more information, please visit
motorolasolutions.com/apxnextxn

MOTOROLA SOLUTIONS

APX NEXT XN