MOTOTRBO ION

YOUR BUSINESS RUNS ON VOICE AND DATA. BUT IF YOUR DEVICES CAN ONLY ACCESS ONE, YOU'RE NOT RUNNING AT YOUR BEST.

MOTOTRBO™ Ion is our first business-ready communication device with always-on voice and broadband data capabilities. It brings together renowned PTT performance, an open app ecosystem on the Android platform, and access to our unified technology ecosystem – from video security and analytics solutions, to best-in-class network security, to powerful new software and technology services like smart virtual assistants.

With MOTOTRBO Ion, teams stay connected across networks and devices. Business-critical data and workflows are unified and simplified, and the capabilities that your workforce needs to be at their best are always on.

KEY FEATURES

APPS ARE ON

- Android platform
- Open app ecosystem
- Motorola Solutions' unified technology ecosystem
- Full multimedia capabilities
- Intuitive touchscreen interface

UPTIME IS ON

- Fast setup and updates
- Seamless device management
- Managed and supported services

SECURITY IS ON

- Device security
- Application security
- Data security

DEPENDABILITY IS ON

- Built for any environment
- Industry-leading audio
- Ultra-rugged touchscreen
- Customisable experience
- Long battery life
- Redesigned antenna
- TIA4950 intrinsically safe

CONNECTIVITY IS ON

- Dedicated PTT device
- Seamless Voice Handover
- Full network interoperability with WAVE PTX™
- Digital Mobile Radio (DMR)
- 4G LTE
- Wi-Fi
- Wi-Fi Hotspot
- Bluetooth®
- 3G and 4G LTE cellular telephony
- HD Voice

MOTOROLA SOLUTIONS

FEATURES

CONNECTIVITY

LTE	B1, B2, B3, B4, B5, B7, B8, B20, B28, B38, B39, B40, B41
Bands Supported	UMTS: 850 MHz, 900 MHz, 1700 MHz, 1900 MHz, 2100 MHz
Device Class	4

DMR (MOTOTRBO)

Operational Systems	Digital and Analogue Modes, Conventional, Dual Capacity Direct Mode, IP Site Connect, Capacity Plus (Single- and Multi-Site), Capacity Max
Frequency Bands	UHF (400 -527 MHz)
	Up to 1000 Channels
	Up to 250 Zones
Channel Spacing	12.5, 20, 25 kHz

DMR TRANSMITTER SPEC

RF Output Power	4 W (high) / 1 W (low)
4FSK Digital Modulation	12.5 kHz Data: 7K60F1D and 7K60FXD 12.5 kHz Voice: 7K60F1E and 7K60FXE Combination of 12.5 kHz Voice and Data: 7K60F1W
Digital Protocol	ETSI TS 102 361, DMR Tier II & III
Conducted/Radiated Emissions (ETSI)	-36 dBm < 1 GHz, -30 dBm > 1 GHz
Adjacent Channel Power	60 dB (12.5 kHz channel), 70 dB (20/25 kHz channel)
Frequency Stability	± 0.5 ppm

DMR RECEIVER SPEC

Analogue Sensitivity (12dB)	0.16 uV
Digital Sensitivity (5% BER)	0.14 uV
Intermodulation (TIA603D)	70 dB
Adjacent Channel Selectivity, (TIA603A)-1T	60 dB (12.5 kHz channel), 70 dB (20/25 kHz channel)
Adjacent Channel Selectivity, (TIA603D)-2T	45 dB (12.5 kHz channel), 70 dB (20/25 kHz channel)
Spurious Rejection (TIA603D)	70 dB

Wi-Fi

Standards Supported	802.11 a/b/g/n/ac
Frequency Range	2.4 GHz, 5 GHz
Security	Supports WEP, WPA, WPA2, WPA3, Wi-Fi Enhanced Open

BLUETOOTH

Version	5.0 + LE +BR / EDR
Range	Class 1.5, 10m
Simultaneous Connections	1 x audio accessory and 1 x data device

GNSS SPECIFICATIONS

Time To First Fix, Cold Start	< 50 sec
Time To First Fix, Hot Start	< 5 sec
Horizontal Accuracy	< 5 m

LOCATION TRACKING

Built-in GNSS (GPS / GLONASS / BEIDOU / GALILEO) and AGPS
Indoor Positioning

BATTERY

Technology	IMPRES™ 2 Smart Battery
Battery Capacity	Standard 2820 mAh Standard HazLoc 2900 mAh
Power Supply	7.5 (Nominal)

AUDIO

Audio Output Power	Rated: 1 W @ 1% distortion Maximum: 3 W
Audio Response (EIA)	+1, -3 dB
Hum and Noise	-40 dB (12.5 kHz channel) -45 dB (20/25 kHz channel)
Conducted Spurious Emissions (TIA603D)	-57 dBm
Audio Features	Adaptive Speaker Equalisation Adaptive Dual Microphone Noise Suppression Adaptive Gain Control Adaptive Wind Noise Mitigation Automatic Acoustic Feedback Suppression Intelligent Audio IMPRES Audio Microphone Distortion Control User-Selectable Audio Profiles Trill Enhancement
Voice Interaction	Customisable Voice Announcements Voice Control: 13 Actions with Intuitive Commands

SOFTWARE

Operating System	Android 11
Google Certifications	Google Mobile Services Android Enterprise Recommended

VIDEO AND IMAGING

Supported Formats	H.263, H.264, MPEG-4 SP, VP8, JPEG (.jpg), GIF (.gif), PNG (.png), BMP (.bmp), WebP, (.webp) formats supported for playback, streaming, and recording
Supported File Types	3GPP (.3gp), MPEG-4 (.mp4), WebM (.webm), (.mkv)
Video Recording Quality	1080p (FHD) at 30 fps

SECURITY

Root Detection: Standard
Multi-Factor Authentication: Optional
Integrity Monitoring: Standard
Malware Blocking: Standard
Secure boot: Standard
Mobile Virtual Private Network: Optional

SPECIFICATIONS

HARDWARE

Main Display	102 mm colour display, 480 x 800 px Capacitive touchscreen with Gorilla Glass Usable with gloves up to 4 mm thick Resistant to false actuation from fresh or salt water, snow, dirt or grease
Top Display	27 mm Monochromatic LCD
Memory	4 GB RAM 64 GB[1] Internal Storage Storage is expandable with external up to 256 GB microSD™ card
Card Slot	eSIM[1] 1 x Nano SIM, 1 x Micro SD
Camera	Rear 13 MP High-Output LED Flash Auto Focus 8x Digital Zoom
Sensor Platform	Hall-Effect Sensor Barometer Ambient Light Sensor Gyroscope Accelerometer E-Compass
User Interface	High velocity user interface: large touch targets, shallow menu hierarchy, home screen information at a glance.
Physical Buttons	Dedicated PTT Button Dedicated Emergency Button 3 Programmable Buttons Power/Volume Knob Display On/Off Button Channel Selector
Antenna Length	6 cm or 9 cm, depending on frequency. Please refer to the MOTOTRBO Ion Accessory Catalogue for details.

HAZLOC PROTECTION

When properly equipped with Motorola UL-Approved battery, MOTOTRBO Ion is UL Approved to TIA-4950 for use in Hazardous Locations, Division 1, Class I, II, III, Groups C,D,E, F, G; Division 2, Class 1, Groups A, B, C, D, T3C. Tamb = -20 °C to +60 °C.

PHYSICAL[2]

Dimensions (H x W x D) with Standard Battery	143 mm x 70 mm x 29 mm
Dimensions (H x W x D) with Standard Hazloc Battery	143 mm x 70 mm x 38 mm
Weight with Standard Battery	414 g
Weight with Standard Hazloc Battery	439 g

RUGGEDNESS

Ingress Protection	IP68 (2 metres, 2 hours)

[1] "B" revision hardware has 64 GB internal storage and eSIM. Earlier models had 32 MB internal storage and no eSIM.
[2] Physical specifications and dimensions are listed without antenna.

ENVIRONMENTAL AND REGULATORY

MIL-STD 810

	MIL-STD 810C		MIL-STD 810D		MIL-STD 810E		MIL-STD 810F		MIL-STD 810G	
	Method	Proc./Cat.	Method	Proc./Cat.	Method	Proc./Cat.	Method	Proc./Cat.	Method	Proc./Cat.
Low Pressure	500.1	I	500.2	I/II	500.4	I/II	500.6	I/II	500.6	I/II
High Temperature	501.1	I, II	501.2	I/A1, II/A1	501.4	I/Hot, II/Hot	501.6	I/A1, II/A1	501.7	I/A1, II/A1
Low Temperature	502.1	I	502.2	I/C3, II/C1	502.4	I/C3, II/C1	502.6	I/C3, II/C1	502.7	I/C3, II/C1
Temperature Shock	503.1	I	503.2	I/A1, C3	503.4	I	503.6	I/C	503.7	I/C
Solar Radiation	505.1	II	505.2	I/Hot-Dry	505.4	I/Hot-Dry	505.6	I/A1	505.7	I/A1
Rain	506.1	I, II	506.2	I, II	506.4	I, III	506.6	I, III	506.6	I, III
Humidity	507.1	II	507.2	II/Hot-Humid	507.4	-	507.6	II/Aggravated	507.6	II/Aggravated
Salt Fog	509.1	I	509.2	I	509.4	-	509.6	-	509.7	-
Dust	510.1	I	510.2	I, II	510.4	I, II	510.6	I, II	510.7	I, II
Vibration	514.2	VIII/F, W, XI	514.3	I/10, II/3	514.5	I/24, II/5	514.7	I/24, II/5	514.8	I/24, II/5
Shock	516.2	II	516.3	I, IV	516.5	I, IV	516.7	I, IV	516.8	I, IV
Contamination by Fluids							504.2	II	504.3	2.2.6 b

ENVIRONMENTAL

Operating Temperature	-20 to +60 °C (-4 to +140 °F)
Storage Temperature	-40 to +85 °C (-40 to +185 °F)
Humidity	Per MIL-STD 810
Thermal Shock	Per MIL-STD 810
Electrostatic Discharge	IEC 61000-4-2 Level 4
Dust and Water Intrusion	IEC 60529 - IP68, 2 m for 2 hrs
Salt Fog	5% NaCl for 48 hrs at 35 °C, 48 hrs standing
Packaging Test	Per MIL-STD 810

REGULATORY

Model Number	MSLB-MKZ900i

For more information, please visit
motorolasolutions.com/ion

MOTOTRBO ION

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Availability is subject to individual country law and regulations. All specifications shown are typical unless otherwise stated and are subject to change without notice.

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