

Data Sheet

APAC

MOTOTRBO™ R2

Portable two-way radio

An everyday workhorse, the MOTOTRBO R2 marries durability and ergonomics to ensure confident, easy handling. And with long range, configurable audio and seamless integration, the R2 is a reliable addition to an uninterrupted workday.

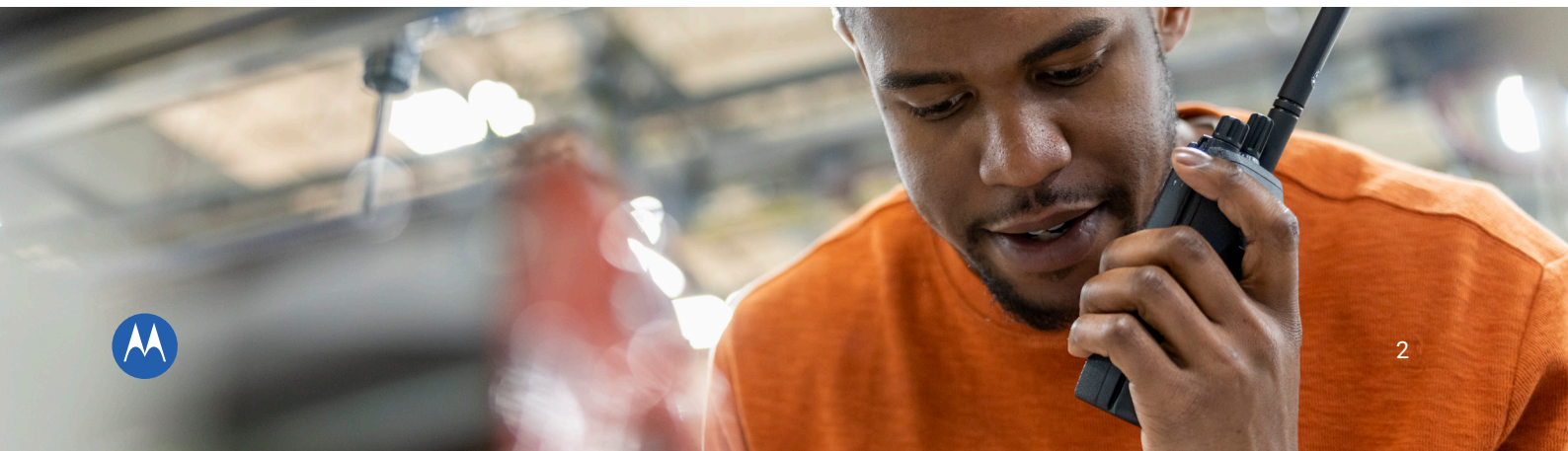


Key features

- VHF, 350MHz, UHF
- 64 channels
- Single-site conventional
- Extended Range Direct Mode
- Dual-Capacity Direct Mode
- IP Site Connect
- Capacity Plus single site, 2 repeaters
- Transmit Interrupt
- Dual priority scan
- Secure Enhanced Linux operating system
- Enhanced privacy
- Analogue scrambling
- Radio disable/enable
- Remote monitor
- Voice announcement
- Pre-programmed text messaging
- Loudness up to 101 phons
- SINC+ noise suppression
- Acoustic feedback suppression
- Quick Call II / MDC1200 capable
- User selectable audio profiles
- Automatic gain control
- Received audio levelling
- Sleek & ergonomic form factor
- Rugged to MIL-STD 810
- IP55 (dust and water ingress protection)
- 2 programmable buttons
- Home channel reminder
- Rental timer

Specifications

GENERAL SPECIFICATIONS				
Band	VHF	350 MHz	UHF Band 1	UHF Band 2
Frequency	136-174 MHz	350-400 MHz	400-470 MHz	450-527 MHz
Typical RF Output	5W	4W		
High power	1W	1W		
Low power				
Channel spacing	12.5 / 20.0 / 25.0 kHz	12.5 / 25.0 kHz	12.5 / 20.0 / 25.0 kHz	
Channel capacity	64			
Power supply	7.5V (nominal)			
MOTOTRBO R2 WITH SLIM IP55 2100 MAH BATTERY (PMNN4600)				
Dimensions ¹ (h x w x d)	125 mm x 55 mm x 32 mm			
Weight ²	261 g			
Battery life ³ (analogue / digital)	17 Hours / 22.5 Hours			
MOTOTRBO R2 WITH HIGH CAPACITY IP55 2300 MAH BATTERY (PMNN4598)				
Dimensions ¹ (h x w x d)	125 mm x 55 mm x 37 mm			
Weight ²	286 g			
Battery life ³ (analogue / digital)	19.5 Hours / 26.5 Hours			



Specifications

TRANSMITTER SPECIFICATIONS

FM modulation	12.5 kHz: 11K0F3E 20 / 25 kHz: 16K0F3E
4FSK digital modulation	12.5 kHz Data: 7K60F1D and 7K60FXD 12.5 kHz Voice: 7K60F1E and 7K60FXE Combination: 7K60F1W
Digital protocol	ETSI TS 102 361-1, -2, -3 DMR Tier II
Conducted/radiated spurious emissions (TIA603E / ANSI C63.26, C63.4)	< -36 dBm for < 1 GHz < -30 dBm for > 1 GHz
Adjacent channel power (TIA603E)	> 60 dB @ 12.5 kHz > 70 dB @ 20/25 kHz
Frequency stability	± 0.5 ppm
Modulation limiting (TIA603E)	± 2.5 kHz @ 12.5 kHz ± 4.0 kHz @ 20 kHz ± 5.0 kHz @ 25 kHz

RECEIVER SPECIFICATIONS

Analogue sensitivity (12dB SINAD)	0.18 µV (typical)
Digital sensitivity (5% BER)	0.16 µV (typical)
Conducted/radiated spurious emissions (TIA603E)	< -57 dBm for < 1 GHz < -47 dBm for > 1 GHz
Intermodulation (TIA603E)	> 70 dB
Adjacent channel selectivity (TIA603A)-1T	> 60 dB @ 12.5 kHz > 70 dB @ 20/25 kHz
Adjacent channel selectivity (TIA603E)-2T	> 55 dB @ 12.5 kHz > 70 dB @ 20/25 kHz
Spurious rejection (TIA603E)	> 70 dB
Frequency stability	± 0.5 ppm

AUDIO SPECIFICATIONS

Digital vocoder type	AMBE+2
Audio response (TIA603E / ANSI C63.26)	+1, -3 dB
Audio output power (rated / max)	1 W / 3 W
Audio distortion at rated power	3% (typical)
Maximum speech loudness (ISO 532B)	101 phons
Hum and noise	-40 dB @ 12.5 kHz -45 dB @ 20/25 kHz

ENVIRONMENTAL SPECIFICATIONS

Operating temperature ⁴	-30 °C to 60 °C
Storage temperature ⁴	-40 °C to 85 °C
Thermal shock	Per MIL-STD 810C, D, E, F, G, H
Humidity	Per MIL-STD 810C, D, E, F, G, H
Electrostatic discharge	IEC 61000-4-2 Level 4
Dust and water intrusion	IEC60529 IP55
Salt fog	Per MIL-STD 810C/D/E/F/G/H
Packaging test	Per MIL-STD 810C/D/E/F/G/H

MILITARY STANDARDS

	MIL-STD 810C		MIL-STD 810D		MIL-STD 810E		MIL-STD 810F		MIL-STD 810G		MIL-STD 810H	
	METHOD	PROCEDURE	METHOD	PROCEDURE	METHOD	PROCEDURE	METHOD	PROCEDURE	METHOD	PROCEDURE	METHOD	PROCEDURE
Low Pressure	500.1	I	500.2	II	500.3	II	500.4	II	500.6	II	500.6	II
High Temp	501.1	I, II	501.2	I/A1, II/A1	501.3	I/A1, II/A1	501.4	I/Hot, II/Hot	501.6	I/A1, II/A1	501.7	I/A1, II/A1
Low Temp	502.1	I	502.2	I, II	502.3	I, II	502.4	I, II	502.6	I, II	502.7	I, II
Temp Shock	503.1	I	503.2	A1/C3	503.3	A1/C3	503.4	I	503.6	I-C	503.7	I-C
Solar Radiation	505.1	II	505.2	I/A1	505.3	I/A1	505.4	I/A1	505.6	I/A1	505.7	I/A1
Rain	506.1	I, II	506.2	I, II	506.3	I, II	506.4	I, III	506.6	I, III	506.6	I, III
Humidity	507.1	II	507.2	II	507.3	II	507.4	-	507.6	II/Aggravated	507.6	II/Aggravated
Salt Fog	509.1	I	509.2	I	509.3	I	509.4	-	509.6	-	509.7	-
Blowing Dust & Sand	510.1	I / -	510.2	I, II	510.3	I, II	510.4	I, II	510.6	I, II	510.7	I, II
Vibration	514.2	VIII/CatF, XI	514.3	I/Cat10, II/Cat3	514.4	I/Cat10, III/Cat3	514.5	I/Cat24, II/Cat5	514.7	I/Cat24, II/Cat5	514.8	I/Cat24, II/Cat5
Shock	516.2	I, II	516.3	I, IV	516.4	I, IV	516.5	I, IV	516.7	I, IV	516.8	I, IV



Features

	R2
GENERAL	
Analogue and digital	●
DMR standards compliant ⁵	●
64 channels	●
2 programmable buttons	●
Pre-programmed text messaging ⁵	●
Voice announcements	●
Home channel reminder	●
Late entry ⁵	●
Dual priority scan	●
Nuisance channel delete	●
Secure Enhanced Linux operating system	●
TLS-PSK CPS/RM - Radio / repeater authentication	●
Rental timer	●
Internal Voice Operated Transmission (VOX)	●
Wide range of accessories	●
IP55 dust and water ingress protection	●
Rugged to MIL-STD 810	●
AUDIO	
Acoustic feedback suppressor ⁵	●
User-selectable audio profile	●
Trill enhancement for rolling "R's"	●
SINC+ noise suppression	○
Automatic gain control	●
Received audio levelling	○

	R2
SAFETY	
Enhanced privacy ⁵	○
Transmit interrupt ⁵ (decode)	●
Remote monitor (decode)	●
Radio disable / enable (decode)	●
SYSTEMS	
Dual Capacity Direct Mode ⁵	●
Single-site conventional	●
Extended Range Direct Mode ⁵	●
IP Site Connect ⁵	●
Capacity Plus single site, two repeaters ⁵	○
ANALOGUE FEATURES	
Lone worker	●
Emergency alert	●
Analogue scrambling	●
Quick Call II / MDC1200 capable	●

¹ Dimensions at grip area.
² Excludes antenna.
³ Typical battery life, 5/5/90 profile at maximum transmitter power. Actual observed runtimes may vary.
⁴ Temperatures listed are for radio only. Minimum operating temperature with battery is -20 °C.
⁵ Digital feature.

● Included ○ Optional — Not Included

To learn more, visit:
motorolasolutions.com/R2

These models are available in Motorola Solutions APAC region only.
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