

Data Sheet

EMEA

# 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.



**MOTOROLA** SOLUTIONS

# Key features

- UHF, VHF
- 64 channels
- Analogue only or analogue / digital models
- Transmit Interrupt
- Dual priority scan
- PL / DPL / QCII / MDC1200
- Secure Enhanced Linux operating system
- Enhanced privacy (optional)
- Analogue scrambling
- Radio disable / enable
- Lone worker
- Remote monitor
- Voice announcement
- Pre-programmed text messaging
- Loudness up to 101 phons
- SINC+ noise suppression (optional)
- Acoustic feedback suppression
- User-selectable audio profiles
- Automatic gain control
- Received audio levelling (optional)
- 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	UHF
Frequency	136-174 MHz	400-480 MHz
Typical RF Output		
High power	5W	4W
Low power	1W	1W
Channel spacing	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 <sup>1</sup> (h x w x d)	125 mm x 55 mm x 32 mm (4.9 x 2.2 x 1.3 in.)	
Weight <sup>2</sup>	261 g (9.2 oz)	
Battery life <sup>3</sup> (analogue / digital)	17 Hours / 22.5 Hours	
MOTOTRBO R2 WITH HIGH CAPACITY IP55 2300 MAH BATTERY (PMNN4598)		
Dimensions <sup>1</sup> (h x w x d)	125 mm x 55 mm x 37 mm (4.9 x 2.2 x 1.5 in.)	
Weight <sup>2</sup>	286 g (10.1 oz.)	
Battery life <sup>3</sup> (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 (ETSI / TIA603E / ANSI C63.26, C63.4)	< -36 dBm for < 1 GHz < -30 dBm for > 1 GHz
Adjacent channel power (ETSI / TIA603E)	> 60 dB @ 12.5 kHz > 70 dB @ 20/25 kHz
Frequency stability	± 0.5 ppm
Modulation limiting (ETSI / 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 (ETSI / TIA603E)	< -57 dBm for < 1 GHz < -47 dBm for > 1 GHz
Intermodulation (ETSI)	> 65 dB
Intermodulation (TIA603E)	> 70 dB
Adjacent channel selectivity (ETSI / 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 (ETSI / 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 <sup>4</sup>	-30 °C to 60 °C
Storage temperature <sup>4</sup>	-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
<b>GENERAL</b>	
Analogue only <sup>5</sup> or dual analogue and digital models	●
DMR standards compliant <sup>6</sup>	●
64 channels	●
2 programmable buttons	●
Pre-programmed text messaging <sup>6</sup>	●
Voice announcements	●
Home channel reminder	●
Late entry <sup>6</sup>	●
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	●
<b>AUDIO</b>	
Acoustic feedback suppressor <sup>6</sup>	●
User-selectable audio profile	●
Trill enhancement for rolling "R's"	●
SINC+ noise suppression	○
Automatic gain control	●
Received audio levelling	●

● Included ○ Optional — Not Included

	R2
<b>SAFETY</b>	
Lone worker <sup>5</sup>	●
Digital emergency <sup>6</sup>	●
Emergency search tone <sup>6</sup>	●
Basic privacy <sup>6</sup>	●
Enhanced privacy <sup>6</sup>	○
Transmit interrupt <sup>6</sup> (decode)	●
Remote monitor (decode)	●
Radio disable / enable (decode)	●
<b>SYSTEMS</b>	
Dual Capacity Direct Mode <sup>6</sup>	●
Single-site conventional	●
Extended Range Direct Mode <sup>6</sup>	●
IP Site Connect <sup>6</sup>	○
Capacity Plus single site, two repeaters <sup>6</sup>	○
<b>ANALOGUE FEATURES</b>	
Lone worker	●
Emergency alert	●
Analogue scrambling	●
PL / DPL / QCII / MDC1200 capable	●

<sup>1</sup> Dimensions at grip area.

<sup>2</sup> Excludes antenna.

<sup>3</sup> Typical battery life, 5/5/90 profile at maximum transmitter power. Actual observed runtimes may vary.

<sup>4</sup> Temperatures listed are for radio only. Minimum operating temperature with battery is -20 °C (-4 °F).

<sup>5</sup> Optional upgrade to analogue and digital operation available.

<sup>6</sup> Digital feature.

To learn more, visit:  
[motorolasolutions.com/R2](https://motorolasolutions.com/R2)

These models are available in Motorola Solutions EMEA region only.

Availability varies and 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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