



# MOTOROLA CLS SERIES TWO-WAY RADIOS

In today's competitive business environment, easy, quick and affordable communication is very important. The CLS Series is designed to enable quick, one-touch communications leading to increased productivity and great customer service.

## SIMPLIFY DAILY TASKS

CLS Series radios are remarkably intuitive to use. At the touch of a button, you can communicate with individual employees or a group of employees. With little to no training required, it is ideal for high employee turnover industries. It will help you eliminate wasted time and inefficient processes.

## REDUCE COSTS

Utilize resources more efficiently and productively, and get the most out of your employees. Plus, there are no monthly fees or service contracts to worry about. Employees can communicate as often as necessary without worries about airtime.

## OFFER BEST IN CLASS CUSTOMER SERVICE

Customer needs will be better and more quickly served by enabling instant communication between employees. Increase customer as well as employee satisfaction.

## PERFECT FOR YOUR BUSINESS, WHETHER IT BE A RETAIL, GROCERY, RESTAURANT OR HOTEL

Raise the level of customer service by enabling communications instantly. All activities, from welcoming customers to addressing their requests, are enhanced with CLS Series radios.

In retail or grocery stores, cashiers can perform price checks at a moment's notice. Employees can instantly check stock when customers ask. In restaurants, CLS radios allow hosts, managers, kitchen and wait staff to instantly connect, minimizing wait times, getting food out quicker and controlling the pace of large parties. In hotels, coordinate restaurant and hotel staff, event planners, security, cleaning and maintenance personnel through efficient communication with minimal guest interference. The CLS Series radios make everything from arrival to departure seamless.

**PRODUCT SPEC SHEET**  
CLS SERIES

		CLS1110	CLS1410	CLS1413 <sup>1</sup>
<b>GENERAL SPECIFICATIONS</b>				
Frequency Range		UHF 459.5 - 469.5	UHF 459.5 - 469.5	UHF 459.5 - 469.5
Channel Capacity		1	4	4
Channel Bandwidth		12.5 kHz	12.5 kHz	12.5 kHz
PL Codes		38	38	38
DPL Codes		83	83	83
Range Coverage		200,000 sq ft <sup>2</sup> / 18,580 sq m	200,000 sq ft <sup>2</sup> / 18,580 sq m	200,000 sq ft <sup>2</sup> / 18,580 sq m
Average Battery Life @ 5/5/90		14 hours	14 hours	14 hours
Radio Dimensions (H x W x D):		4.1"x2.0"x1.1" inches	4.1"x2.0"x1.1" inches	4.1"x2.0"x1.1" inches
Weight		Less than 5 oz.	Less than 5 oz.	Less than 5 oz.
<b>TRANSMITTER</b>				
RF Output	Conducted into 50 Ohms	1.0 Watts	1.0 Watts	1.0 Watts
Frequency Stability		< 2.0 ppm	< 2.0 ppm	< 2.0 ppm
Spurs & Harmonics		< -45 dBc	< -45 dBc	< -45 dBc
FM Hum & Noise	@ 12.5kHz without Companding	-40 dB	-40 dB	-40 dB
	@ 25.0kHz	N/A	N/A	N/A
Modulation Limiting	@ 12.5kHz	± 2.5kHz	± 2.5kHz	± 2.5kHz
	@ 25.0kHz	N/A	N/A	N/A
Adjacent Channel Power		60dBc	60dBc	60dBc
Radiated Spurious Emissions	@ 12.5kHz	< -20dbm	< -20dbm	< -20dbm
	@ 25.0kHz	N/A	N/A	N/A
Audio Frequency Response (0.3 - 3.0 kHz)		+1 to -3 dB	+1 to -3 dB	+1 to -3 dB
Audio Distortion		< 2%	< 2%	< 2%
<b>RECEIVER</b>				
Sensitivity (12 dB SINAD)		-122 dBm (0.18 uV)	-122 dBm (0.18 uV)	-122 dBm (0.18 uV)
Adjacent Channel Selectivity	@ 12.5kHz	65 dB	65 dB	65 dB
	@ 25.0kHz	N/A	N/A	N/A
Intermodulation rejection		60dB	60dB	60dB
Spurious response Rejection (blocking 1Mhz)		85 db	85 db	85 db
Audio Distortion		< 5%	< 5%	< 5%
CSQ Hum & Noise @ 12.5kHz		-50dB	-50dB	-50dB
PL Hum & Noise @ 12.5kHz		N/A	N/A	N/A
DPL Hum & Noise @ 12.5kHz		- 45dB	- 45dB	- 45dB
Radiated Spurious Emissions (< 1GHz)		< -54 dBm	< -54 dBm	< -54 dBm
Radiated Spurious Emissions (> 1GHz)		< -52 dBm	< -52 dBm	< -52 dBm
Audio Output @ <5% Distortion		0.5W @ 8 ohms	0.5W @ 8 ohms	0.5W @ 8 ohms

**PRODUCT SPEC SHEET**  
CLS SERIES

**MILITARY STANDARDS**

	810-C		810-D		810-E		810-F		810-G	
	METHOD	PROCEDURES	METHOD	PROCEDURES	METHOD	PROCEDURES	METHOD	PROCEDURES	METHOD	PROCEDURES
Low Pressure	500.1	I	500.2	I, II	500.3	I, II	500.4	I, II	500.5	I, II
High Temperature	501.1	I, II	501.2	I, II	501.3	I, II	501.4	I, II	501.5	I, II
Low Temperature	502.1	I	502.2	I, II	502.3	I, II	502.4	I, II	502.5	I, II
Temperature Shock	503.1	I	503.2	I	503.3	I	503.4	I, II	503.5	I
Contamination by Fluids									504.1	II
Solar Radiation	505.1	I	505.2	I	505.3	I	505.4	I	505.5	I
Rain	506.1	I, II	506.2	I, II	506.3	I, II	506.4	III	506.5	III
Humidity	507.1	I, II	507.2	II, III	507.3	II, III	507.4		507.5	II
Dust	510.1	I	510.2	I	510.3	I	510.4	I, III	510.5	I
Vibration	514.2	VIII, X	514.3	I	514.4	I	514.5	I	514.6	I
Shock	516.2	I, II, V	516.3	I, IV	516.4	I, IV	516.5	I, IV	516.6	I, IV

CLS radios meet test methods from Military Standards 810 C, D, E, F, and G for 11 items including shock, vibration, extreme temperatures and dust. CLS radios also satisfy environmental and energy efficiency certifications (CE/CEC, ROHS and WEEE).

**ENVIRONMENTAL SPECIFICATIONS**

Operating Temperature	-30°C to +60°C (Radio)	
Storage Temperature	-40°C to +85°C (Radio)	
Shock & Vibration	Per MIL STDs	5 foot drop to concrete
Dust & Humidity	Per MIL STDs	IP5X IPX2
Enclosure Rating	Designed to meet NEMA3 types 1, 2, 5	
FCC (Federal Communications Committee) Designation: AZ489FT4860. IC (Industry Canada) Designation: 109U-89FT4860		

<sup>1</sup> Available in Canada Only

<sup>2</sup> Range will vary based on terrain and conditions.

<sup>3</sup> National Electrical Manufacturers Association

CLS radios' tough polycarbonate housings contain built-in anti-microbial properties that inhibit the growth of bacteria and mold on the radio surfaces (does not include accessories).

CLS chargers and power supplies are ROHS and CEC (California Energy Commission) Power Level V energy efficient compliant.

Specifications subject to change without notice. All specifications shown are typical.

**PRODUCT SPEC SHEET**  
CLS SERIES

Motorola Solutions, Inc. 1301 East Algonquin Road Schaumburg, Illinois 60196, U.S.A. 800-448-6686 [motorolasolutions.com/cls](http://motorolasolutions.com/cls)

MOTOROLA, MOTO, MOTOROLA SOLUTIONS and the Stylized M Logo are trademarks or registered trademarks of Motorola Trademark Holdings, LLC and are used under license. All other trademarks are the property of their respective owners. © 2014 Motorola Solutions, Inc. All rights reserved. R3-4-5004 06/14

