



# 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, onetouch 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.

Proquency Range         UHF 458 5 - 468 5         UHF 458 5 - 468 5         UHF 458 5 - 468 5           Channel Bandwähth         1         4         4           Channel Bandwähth         12.5 kHz         14.5 kD3 nm         14.0 kD3 nm         12.5 kHz         12.5 kHz         12.5 kHz         12.5 kHz         12.5 kHz         10.0 kD3 nm         10.0 kD3 n			CLS1110	CLS1410	CLS14131	
Channel Capacity         1         4         4           Channel Barwwidth         12.5 kHz         11.2 5 kHz         11.5 kHz	GENERAL SPECIFICATIONS					
Drammal Bandwidth         12 5 kHz           PL Codes         38         38         38         38           DPL Codes         83         83         83         83           Bange Coverage         200.000 st KF /18 580 sg m         41 hours         42 hours         41 hours         41	Frequency Range		UHF 459.5 - 469.5	UHF 459.5 - 469.5	UHF 459.5 - 469.5	
PL Codes         38         38         38         38           DPL Codes         83         83         83         83           Brange Coverage         200,000 sq ft* / 18.580 sq m         200,000 sq ft* / 18.580 sq m         200,000 sq ft* / 18.580 sq m           Warage Battery Life @ 5/LY20         14 hours         14 hours         14 hours         41 hours           Radio Dimensions (H x W x D):         4.1"x2.0"x1.1" inches         41 hz.20"x1.1" inches         41 hz.20"x1.1" inches           Weight         Less than 5 oz.         Less than 5 oz.         Less than 5 oz.         Less than 5 oz.           TRANSMITTER         60 outsts         1.0 Watts         1.0 Watts         1.0 Watts         1.0 Watts           Frequency Stability         <2.0 ppm	Channel Capacity		1	4	4	
DPL Codes         83         83         83         83           Range Coverage         200.000 sq ft / 18 580 sq m         200.000 sq ft / 18 580 sq m         200.000 sq ft / 18 580 sq m           Average Battery Life @ 5/s/90         14 hours         14 hours         14 hours           Raflo Dimensions (H x W x D):         14 '1x20 X/11' inches         41 '1x20 X/11' inches         41 '1x20 X/11' inches           Raflo Dimensions (H x W x D):         Less than 5 oz.         Less than 5 oz.         Less than 5 oz.           TEAMSMITTER          1.0 Watts         1.0 Watts         1.0 Watts           Figuancy Stability                Spurs & Harmonics                  Spurs & Harmonics	Channel Bandwidth		12.5 kHz	12.5 kHz	12.5 kHz	
Range Coverage         200,000 sq fte' / 18.580 sq m         200,000 sq fte' / 18.580 sq m         200,000 sq fte' / 18.580 sq m           Average Battery Life @ 5/5/90         14 hours         14 hours         14 hours         14 hours           Radio Dimensions IH x W x D1:         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.           TRANSMITTER         0.0Watts         1.0 Watts         1.0 Watts         1.0 Watts           Frequency Stability         Conducted into 50 Ohms         1.0 Watts         1.0 Watts         1.0 Watts           Frequency Stability         Conducted into 50 Ohms         1.0 Watts         1.0 Watts         1.0 Watts           Sysrs & Harmonics         <	PL Codes		38	38	38	
Average Battery Life @ 5/6/30         14 hours         14 hours         14 hours           Badio 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           Badio Dimensions (H x W x D):         Less than 5 oz.         Less than 5 oz.         Less than 5 oz.           TRANSMITTER         F         F         Less than 5 oz.         Less than 5 oz.           Frequency Stability         Conducted into 50 Dhms         1.0 Watts         1.0 Watts         1.0 Watts           Spurs & Harmonics         < 4.45 dBc	DPL Codes		83	83	83	
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.           TRANSITTER          1.0 Watts         1.0 Watts         1.0 Watts           Pf Output         Conducted into 50 Ohms         1.0 Watts         1.0 Watts         1.0 Watts           Frequency Stability         <2.0 ppm	Range Coverage		200,000 sq ft² / 18.580 sq m	200,000 sq ft² / 18.580 sq m	200,000 sq ft² / 18.580 sq m	
Weight         Less than 5 oz.         Less than 5 oz.         Less than 5 oz.           TRANSMITTER          1.0 Watts         1.0 Watts         1.0 Watts           FP Output         Conducted into 50 0hms         1.0 Watts         1.0 Watts         1.0 Watts           Spurs & Harmonics         < 2.0 ppm	Average Battery Life @ 5/5/90		14 hours	14 hours	14 hours	
Transmitter           RF Output         Conducted into 50 Ohms         1.0 Watts         1.0 Watts         1.0 Watts           Frequency Stability         < 2.0 ppm	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	
RF Output         Conducted into 50 Ohms         1.0 Watts         1.0 Watts         1.0 Watts           Frequency Stability         < 2.0 ppm	Weight		Less than 5 oz.	Less than 5 oz.	Less than 5 oz.	
Frequency Stability         < 2.0 ppm	TRANSMITTER					
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         N/A           @ datated Spurious Emissions         @ 12.5kHz         ± 2.5kHz         ± 2.5kHz         ± 2.5kHz           @ datated Spurious Emissions         @ 12.5kHz         × 2.0dbm         < 2.0dbm	RF Output	Conducted into 50 Ohms	1.0 Watts	1.0 Watts	1.0 Watts	
NA         40 dB         40 dB         40 dB           @ 25 0kHz         N/A         N/A         N/A           Modulation Limiting         @ 12.5kHz         ± 2.5kHz         ± 2.5kHz         ± 2.5kHz         ± 2.5kHz           @ 25 0kHz         N/A         N/A         N/A         N/A           Adjacent Channel Power         60dBc         60dBc         60dBc           Radiated Spurious Emissions         @ 12.5kHz         < 20dbm	Frequency Stability		< 2.0 ppm	< 2.0 ppm	< 2.0 ppm	
@ 25.0kHz         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           Badiated Spurious Emissions         @ 12.5kHz         < 20dbm	Spurs & Harmonics		< -45 dBc	<-45 dBc	<-45 dBc	
Modulation Limiting         © 12.5kHz         ± 2.5kHz         ± 2.5kHz         ± 2.5kHz         ± 2.5kHz           Ø 25.0kHz         N/A         N/A         N/A         N/A           Adjacent Channel Power         600dBc         600dBc         600dBc         600dBc           Radiated Spurious Emissions         @ 12.5kHz         <-20dbm	FM Hum & Noise	@ 12.5kHz without Companding	-40 dB	-40 dB	-40 dB	
@ 25.0kHz         N/A         N/A           Adjacent Channel Power         60dBc         60dBc         60dBc           Radiated Spurious Emissions         @ 12.5kHz         <-20dbm		@ 25.0kHz	N/A	N/A	N/A	
Adjacent Channel Power         60dBc         60dBc         60dBc           Radiated Spurious Emissions         @ 12.5kHz         <-20dbm	Modulation Limiting	@ 12.5kHz	± 2.5kHz	± 2.5kHz	± 2.5kHz	
Adiated Spurious Emissions         @ 12.5kHz         <-20dbm         <-20dbm         <-20dbm           @ 25.0kHz         N/A         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%		@ 25.0kHz	N/A	N/A	N/A	
@ 25.0kHz         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%	Adjacent Channel Power		60dBc	60dBc	60dBc	
Audio Frequency Response (0.3 - 3.0 kHz)         +1 to -3 dB         +1 to -3 dB         +1 to -3 dB           Audio Distortion         <2%	Radiated Spurious Emissions	@ 12.5kHz	< -20dbm	< -20dbm	< -20dbm	
Adido Distortion< 2%< 2%< 2%RECEIVERSensitivity (12 dB SINAD)-122 dBm (0.18 uV)-122 dBm (0.18 uV)-122 dBm (0.18 uV)Adjacent Channel Selectivity@ 12.5kHz65 dB65 dB65 dB@ 25.0kHzN/AN/AN/AIntermodulation rejection60dB60dB60dBSpurious response Rejection (blocking 1Mhz)85 db85 db85 dbAdio Distortion< 5%		@ 25.0kHz	N/A	N/A	N/A	
RECEIVER           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         N/A           Intermodulation rejection         60dB	Audio Frequency Response (0.3 - 3.0 kHz	)	+1 to -3 dB	+1 to -3 dB	+1 to -3 dB	
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         N/A           Intermodulation rejection         60dB         6	Audio Distortion		<2%	<2%	<2%	
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%	RECEIVER					
@ 25.0kHz         N/A         N/A           Intermodulation rejection         60dB         60dB         60dB           Spurious response Rejection (blocking 1Mhz)         85 db         85 db         85 db           Audio Distortion         <5%	Sensitivity (12 dB SINAD)		-122 dBm (0.18 uV)	-122 dBm (0.18 uV)	-122 dBm (0.18 uV)	
Intermodulation rejection         60dB         60dB         60dB           Spurious response Rejection (blocking 1Mhz)         85 db         85 db         85 db           Audio Distortion         <5%	Adjacent Channel Selectivity	@ 12.5kHz	65 dB	65 dB	65 dB	
Spurious response Rejection (blocking 1Mhz)         85 db         85 db         85 db           Audio Distortion         <5%		@ 25.0kHz	N/A	N/A	N/A	
Audio Distortion         < 5%         < 5%           Audio Distortion         < 5%	Intermodulation rejection		60dB	60dB	60dB	
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           DPL Hum & Noise @ 12.5kHz         -45dB         -45dB         -45dB           Radiated Spurious Emissions (< 1GHz)	Spurious response Rejection (blocking 1M	/hz)	85 db	85 db	85 db	
PL Hum & Noise @ 12.5kHz         N/A         N/A           DPL Hum & Noise @ 12.5kHz         - 45dB         - 45dB         - 45dB           DPL Hum & Noise @ 12.5kHz         - 45dB         - 45dB         - 45dB           Radiated Spurious Emissions (< 1GHz)	Audio Distortion		< 5%	<5%	< 5%	
DPL Hum & Noise @ 12.5kHz         - 45dB         - 45dB         - 45dB           Radiated Spurious Emissions (< 1GHz)	CSQ Hum & Noise @ 12.5kHz		-50dB	-50dB	-50dB	
Radiated Spurious Emissions (< 1GHz)<-54 dBm<-54 dBmRadiated Spurious Emissions (> 1GHz)<-52 dBm	PL Hum & Noise @ 12.5kHz		N/A	N/A	N/A	
Radiated Spurious Emissions (> 1GHz) <-52 dBm <-52 dBm <-52 dBm	DPL Hum & Noise @ 12.5kHz		- 45dB	- 45dB	- 45dB	
	Radiated Spurious Emissions (< 1GHz)		< -54 dBm	< -54 dBm	< -54 dBm	
Audio Output @ <5% Distortion         0.5W @ 8 ohms         0.5W @ 8 ohms         0.5W @ 8 ohms	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	

## **MILITARY STANDARDS**

MILITARY STANDA	KD2										
		810-C		810-D		810-E		810-F		810-G	
	METHOD	PROCEDURES									
Low Pressure	500.1	I	500.2	I, II	500.3	l, 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	l, 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		506.5		
Humidity	507.1	I, II	507.2	II, III	507.3	II, III	507.4		507.5	11	
Dust	510.1	I	510.2	1	510.3	I	510.4	I, III	510.5	1	
Vibration	514.2	VIII, X	514.3	I	514.4	I	514.5	I	514.6	1	
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).

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 me	et NEMA3 types 1, 2, 5	

<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 Comission) Power Level V energy efficient compliant.

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



PRODUCT SPEC SHEET CLS SERIES

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