



849 NW STATE ROAD 45
NEWBERRY, FL 32669 USA
PH: 888.472.2424 OR
352.472.5500
FAX: 352.472.2030
EMAIL: INFO@TIMCOENGR.COM
[HTTP:// WWW.TIMCOENGR.COM](http://WWW.TIMCOENGR.COM)

FCC PART 95
MURS TRANSCEIVER
RADIATED EMISSIONS TEST REPORT

APPLICANT	MOTOROLA SOLUTIONS, INC.
	8000 WEST SUNRISE BLVD FT. LAUDERDALE FL 33322-9947 USA
FCC ID	AZ489FT3837
MODEL NUMBER	RDM2070D
PRODUCT DESCRIPTION	MURS TRANSCEIVER
FCC STANDARD APPLIED	47 CFR § 95 Personal Radio Service Subpart J– Multi-Use Radio Service (MURS)
DATE SAMPLE RECEIVED	1/18/2016
DATE TESTED	1/18/2016
TESTED BY	Cory Leverett
APPROVED BY	Tim Royer
TEST RESULTS	☒ PASS ☐ FAIL

Report Number	Version Number	Description	Issue Date
121AUT16TestReport	Rev1	Initial Issue	02/01/2016

**THE ATTACHED REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL
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GENERAL REMARKS

The attached report shall not be reproduced except in full without the written permission of Timco Engineering Inc.

The test results relate only to the items tested.

Summary

The device under test does:

- ☒ Fulfill the general approval requirements as identified in this test report
- ☐ Not fulfill the general approval requirements as identified in this test report

Attestations

This equipment has been tested in accordance with the standards identified in this test report. To the best of my knowledge and belief, these tests were performed using the measurement procedures described in this report.

All instrumentation and accessories used to test products for compliance to the indicated standards are calibrated regularly in accordance with ISO 17025: 2005 requirements.

I attest that the necessary measurements were made, under my supervision, at:

Timco Engineering Inc.
849 NW State Road 45
Newberry, FL 32669

Authorized Signatory Name:

A handwritten signature in blue ink, appearing to read 'Cory Leverett', is written over a circular purple stamp. The stamp contains the text 'TIMCO ENGINEERING, INC.' and 'NEWBERRY, FL 32669'.

Cory Leverett
Engineering Project Manager

Date: 1 / 28 / 2016

GENERAL INFORMATION EUT Specification

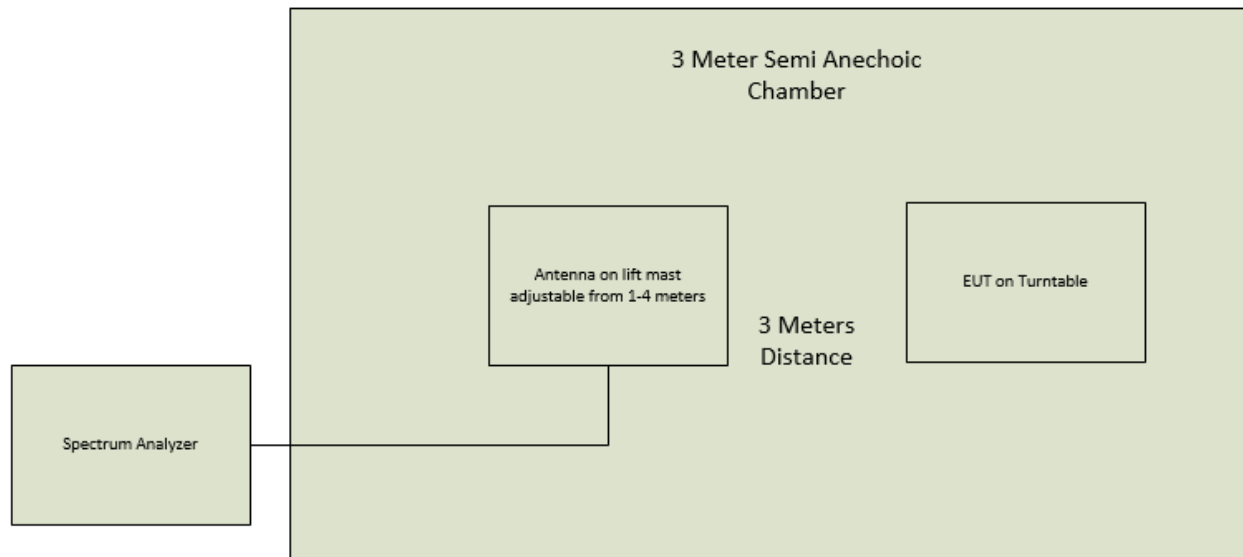
EUT Description	MURS TRANSCEIVER
EUT Application	Push to talk Radio
FCC ID	AZ489FT3837
Model Number	RDM2070D
Serial Number	N/A
Test Frequency	151.820, & 154.600 MHz
Type of Emission	11K0F3E
EUT Power Source	☐ 110–120Vac/50–60Hz (Optional AC power Adapter)
	☐ DC Power 13.8V
	☒ Battery Operated Exclusively
Test Item	☐ Prototype
	☒ Pre-Production
	☐ Production
Type of Equipment	☐ Fixed
	☐ Mobile
	☒ Portable
Antenna	Fixed
Test Conditions	The temperature was 24-26°C with a relative humidity of 50-65%.
Modification to the EUT	None
Test Exercise	The EUT was placed in continuous transmit mode of operation
Applicable Standards	ANSI/TIA 603-D:2010, FCC CFR 47 Part 95
Test Facility	Timco Engineering Inc. 849 NW State Road 45 Newberry, FL 32669 USA.

Notes: This EUT was tested with two different battery models.

Battery Model # 6080384X65, referred to in report as Low Capacity Battery
 Battery Model # 60012000002, referred to in report as High Capacity Battery

TEST PROCEDURES:

Field Strength of Spurious Emissions: The test procedure used was ANSI/TIA 603-D: using a Rohdes & Schwartz Spectrum Analyzer with pre-selector. The bandwidth (RBW) of the spectrum receiver was 100 kHz up to 1 GHz and 1 MHz above 1 GHz with an appropriate sweep speed. The VBW was greater than or equal to 3 times the RBW. The analyzer was calibrated in dB above a microvolt at the output of the antenna.



TEST REPORT SUMMARY

Rule Part No.	Scope of Work	Status Pass/ Fail/ NA
2.1053, 95.635(b)(7), IC RSS-210	Field Strength Spurious Emissions	Pass

FIELD STRENGTH OF SPURIOUS EMISSIONS

Rule Parts. No.: [FCC Part 2.1053](#), [95.635\(e\)](#).

Requirements: $50 + 10\log(3) = 53 \text{ dB}$

METHOD OF MEASUREMENT: The tabulated data shows the results of the radiated field strength emissions test. The spectrum was scanned from 30 MHz to at least the tenth harmonic of the fundamental. This test was conducted per ANSI/TIA 603-D: 2010 using the substitution method. Only the worst case for each antenna polarity is shown.

Test Data: Low Capacity Battery (Model # 6080384X65)

Emission Frequency (MHz)	Power Mode	ERP Power Output (dBm)	ERP Power Output (Watts)	FCC Requirement dB	Bandwidth - BW - kHz
151.82	Fixed	33.00	2.00	53.00	12.50
Emission Frequency (MHz)	Ant. Polarity		Below Carrier (dBc)	Margin	
303.64	V		82.41	29.41	
455.46	V		89.02	36.02	
607.28	V		89.99	36.99	
759.10	H		89.07	36.07	
910.92	V		82.32	29.32	
1,062.74	V		91.91	38.91	
1,214.56	V		91.10	38.10	
1,366.38	V		90.76	37.76	
1,518.20	H		91.80	38.80	

Emission Frequency (MHz)	Power Mode	ERP Power Output (dBm)	ERP Power Output (Watts)	FCC Requirement dB	Bandwidth - BW - kHz
154.60	Fixed	33.00	2.00	53.00	12.50
Emission Frequency (MHz)	Ant. Polarity		Below Carrier (dBc)	Margin	
309.20	V		74.32	21.32	
463.80	V		84.62	31.62	
618.40	V		90.80	37.80	
773.00	H		93.81	40.81	
927.60	H		83.52	30.52	
1,082.20	H		91.70	38.70	
1,236.80	H		89.53	36.53	
1,391.40	V		89.90	36.90	
1,546.00	H		91.62	38.62	

FIELD STRENGTH OF RADIATED EMISSIONS

Test Data: High Capacity Battery (Model# 60012000002)

Emission Frequency (MHz)	Power Mode	ERP Power Output (dBm)	ERP Power Output (Watts)	FCC Requirement dB	Bandwidth - BW - kHz
151.82	Fixed	33.00	2.00	53.00	12.50
Emission Frequency (MHz)	Ant. Polarity		Below Carrier (dBc)	Margin	
303.64	V		82.10	29.10	
455.46	V		87.39	34.39	
607.28	H		93.39	40.39	
759.10	V		86.95	33.95	
910.92	V		82.03	29.03	
1,062.74	H		71.65	51.65	
1,214.56	H		69.74	49.74	
1,366.38	H		70.61	50.61	
1,518.20	H		71.87	51.87	

Emission Frequency (MHz)	Power Mode	ERP Power Output (dBm)	ERP Power Output (Watts)	FCC Requirement dB	Bandwidth - BW - kHz
154.60	Fixed	33.00	2.00	53.00	12.50
Emission Frequency (MHz)	Ant. Polarity		Below Carrier (dBc)	Margin	
309.20	V		73.29	20.29	
463.80	V		82.90	29.90	
618.40	H		92.71	39.71	
773.00	V		91.20	38.20	
927.60	H		82.59	29.59	
1,082.20	H		104.41	51.41	
1,236.80	H		69.41	56.41	
1,391.40	H		70.91	57.91	
1,546.00	H		71.36	58.36	

EMC EQUIPMENT LIST

Device	Manufacturer	Model	Serial Number	Cal/ Char Date	Due Date
Antenna: Biconnical	Eaton	94455-1	1057	11/18/15	11/18/17
Antenna: Log-Periodic	Eaton	LPA-25	1122	11/18/15	11/18/17
CHAMBER	Panashield	N/A	N/A	01/05/16	03/01/16
Antenna: Double-Ridged Horn/ ETS Horn 1	ETS-Lindgren	3117	00035923	06/13/14	06/13/16
Software: Field Strength Program	Timco	N/A	Version 4.0	NA	NA
Antenna: Active Loop	ETS-Lindgren	6502	00062529	11/18/15	11/18/17
EMI Test Receiver R & S ESU 40 Chamber	Rohde & Schwarz	ESU 40	100320	03/11/14	03/11/16
Signal Generator HP 8648C	HP	8648C	3623A02898	08/29/13	02/29/16

* EMI RECEIVER SOFTWARE VERSION

The receiver firmware used was version 4.43 Service Pack 3