166 South Carter, Genoa City, WI 53128

Company:	Traffic and Parking Control Co., Inc.
Model:	RM8003-03
Project Number:	12348
Report Number:	27202 rev2.0

Title 47 Code of Federal Regulations
Part 15 – Radio Frequency Devices

Subpart C – Intentional Radiators – Section 15.247
Operation within the bands 902 - 928 MHz,
2400 - 2483.5 MHz, 5725 - 5875 MHz,
and 24.0 - 24.25 GHz.

THE FOLLOWING **MEETS** THE ABOVE TEST SPECIFICATION

(For Single-Modular Approval)

FCC ID: 2ANWN-RM8003-03

Formal Name:	100mW Radio Module
Kind of Equipment:	Fixed location 900 MHz ISM FHSS 100 mW transceiver module
Frequency Range:	902.4 to 927.6 MHz
Test Configuration:	Tabletop; Mounted to Mother Board / Perf-Board; 4 antenna options
Model Number(s):	RM8003-03
Model(s) Tested:	RM8003-03
Serial Number(s):	RM8003-2 (RF Conducted) RM8003-3 (Radiated and AC Line Conducted)
Date of Tests:	July 29 – August 9, and August 17, 2022
Conducted For:	Traffic and Parking Control Co., Inc. (TAPCO) 5100 W Brown Deer Road Brown Deer, WI 53223, USA

NOTICE: The test report contains test data, equipment lists, and/or other information regarding only the sample provided by the client for testing. This test report shall not be used to claim product approval or endorsement by any governmental, regulatory, or accrediting agency. Please see the "Description of Test Sample" page listed inside of this report.

166 South Carter, Genoa City, WI 53128

Company:	Traffic and Parking Control Co., Inc.
Model:	RM8003-03
Project Number:	12348
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SIGNATURE PAGE

Report By:

Craig Brandt
Test Engineer

Reviewed By:

William Stumpf
Technical Manager

Approved By:

Brian Mattson
General Manager

166 South Carter, Genoa City, WI 53128

Company:	Traffic and Parking Control Co., Inc.
Model:	RM8003-03
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Table of Contents

ANSI National Accreditation Board

CERTIFICATE OF ACCREDITATION

The ANSI National Accreditation Board

Hereby attests that

DLS Electronic Systems, Inc.
1250 Peterson Drive
Wheeling, IL 60090
(and satellite locations as shown on the scope)

Fulfills the requirements of

ISO/IEC 17025:2017
and
U.S. Federal Communication Commission (FCC) EMC and Telecommunications (EC&T) Testing Designation Program
and
Recognition of Telecommunications Testing - Innovation, Science, and Economic Development (ISED) Canada
and
FDA Accreditation Scheme for Conformity Assessment (ASCA) Pilot Program -Basic Safety and Essential Performance of Medical Electrical Equipment, Medical Electrical Systems, and Laboratory Medical Equipment

In the field of

TESTING

This certificate is valid only when accompanied by a current scope of accreditation document.
The current scope of accreditation can be verified at www.anab.org.

R. Douglas Leonard Jr., VP, PILR SBU
Expiry Date: 23 April 2024
Certificate Number: AT-1859

ANSI National Accreditation Board

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated April 2017).

SATELLITE SITE

DLS Electronic Systems, Inc. (Oats site)
166 South Carter
Genoa City, Wisconsin 53128
www.dlsemc.com

1.0 Summary of Test Report

It was determined that the 100mW Radio Module, model RM8003-03, complies with the requirements of Title 47 CFR Part 15 Subpart C Section 15.247.

Subpart C Applicable Technical Requirements Tested:

Section	Description	Procedure	Note	Compliant?
15.31(e)	Supply Voltage Statement	N/A		Yes
15.203	Antenna Requirement Statement	N/A		Yes
Informative	Duty Cycle of Test Unit	ANSI C63.10-2013 Section 11.6	1	Yes
15.247(a)(1)(i)	20 dB Emission Bandwidth	ANSI C63.10-2013 Section 6.9.2	1	Yes
15.247(b)(2) 15.247(b)(4)	Peak Conducted Output Power	ANSI C63.10-2013 Section 7.8.5	1	Yes
15.247(a)(1)	Minimum Carrier Frequency Separation	ANSI C63.10-2013 Section 7.8.2	1	Yes
15.247(a)(1)(i)	Number of Hopping Frequencies	ANSI C63.10-2013 Section 7.8.3	1	Yes
15.247(a)(1)(i)	Time of Occupancy	ANSI C63.10-2013 Section 7.8.4	1	Yes
15.247(d)	Authorized Band Edge	ANSI C63.10-2013 Section 6.10.4	1	Yes
15.247(d)	Emissions in Non-Restricted Frequency Bands	ANSI C63.10-2013 Section 7.8.8	1	Yes
15.247(d) 15.205(b) 15.209(a)	Emissions in Restricted Frequency Bands	ANSI C63.10-2013 Sections 6.5 & 6.6	2	Yes
15.207	AC Line Conducted Emissions	ANSI C63.10-2013 Section 6.2	3	Yes

Note 1: RF Conducted emission measurement.
Note 2: Radiated emission measurement. Tested in 3 orthogonal axes.
Note 3: AC Line Conducted measurement.

2.0 Introduction

During July 29th through August 9th, and August 17, 2022 the 100mW Radio Module, model RM8003-03, as provided by TAPCO was tested to the requirements of Title 47 CFR Part 15 Subpart C Section 15.247. To meet these requirements, the procedures contained within this report were performed by personnel of D.L.S. Electronic Systems, Inc.

3.0 Test Facilities

D.L.S. Electronic Systems, Inc. is a full-service EMC/Safety Testing Laboratory accredited to ISO 17025. ANAB Certificate and Scope can be viewed at http://www.dlsemc.com/certificate. Our facilities are registered with the FCC, ISED Canada, and VCCI.

Wisconsin Test Facility:
D.L.S. Electronic Systems, Inc.
166 S. Carter Street
Genoa City, Wisconsin 53128

Wheeling Test Facility:
D.L.S. Electronic Systems, Inc.
1250 Peterson Drive
Wheeling, IL 60090

FCC Registration #497383

4.0 Description of Test Sample

Description:

The device is a 900 MHz ISM FHSS 100 mW transceiver module intended for use in fixed traffic warning systems.

Type of Equipment / Frequency Range:

FHSS Transceiver Module, Minimum of 50 Hopping Frequencies, Proprietary Protocol / 902 – 928 MHz

Fixed installation with one antenna port (4 optional antennas)

4.0 Description of Test Sample (continued)

Physical Dimensions of Equipment Under Test:

Length: 35 mm x Width: 33 mm x Height: 11 mm

Power Source:

3.6 V – 4.8 V DC provided by a host device

Internal Frequencies:

30 MHz, 32.768 kHz

Transmit Frequencies Used For Test Purpose:

902.4 MHz, 915.0 MHz, 927.6 MHz

Type of Modulation(s) / Antenna Type:

2-GFSK, data rate 123 kHz /

1) Half-Wave Omni Fiberglass Dipole – 5.15 dBi
2) Quarter-Wave Omni Whip – 3 dBi
3) Low-Profile Omni 'Puck' – 4 dBi
4) Yagi – 10.65 dBi

5.0 Test Equipment

A list of the equipment used can be found in the table below. All primary equipment was calibrated against known reference standards with a verified traceable path to NIST.

RF Conducted Emissions 30 MHz-10 GHz – Site G1 – Test Equipment:

Description	Manufacturer	Model Number	Serial Number	Frequency Range	Cal Dates	Cal Due Dates
Receiver	Rohde & Schwarz	ESI 40	837808/005	20 Hz-40 GHz	2-8-22	2-8-23
Attenuator	Aeroflex/weinschel	75A-20-12	1071	DC-40 GHz	5-25-22	5-25-23
Cable	Micro-Coax	UFC142A	CBL-101	30 MHz-40 GHz	5-25-22	5-25-23
Test Software	Rohde & Schwarz	ESK1	V1.7.1	N/A	N/A	N/A

Radiated Emissions 30-1000 MHz – Site 2 – Test Equipment:

Description	Manufacturer	Model Number	Serial Number	Frequency Range	Cal Dates	Cal Due Dates
Receiver	Rohde & Schwarz	ESI 26	837491/010	20 Hz-26 GHz	3-28-22	3-28-23
Antenna	EMCO	3104C	0005-4891	20 MHz-200 MHz	5-13-21	5-13-23
Antenna	Electro-Metrics	LPA-25	1114	200 MHz-1 GHz	4-1-22	4-1-24
Cable	Pasternack Enterprises	PE3087-300	CBL-117	9 kHz-1 GHz	4-15-22	4-15-23
Cable	Pasternack Enterprises	PE3087-48	CBL-109	9 kHz-1 GHz	4-15-22	4-15-23
Cable	Pasternack Enterprises	PE3087-48	CBL-111	9 kHz-1 GHz	4-15-22	4-15-23
Cable	Beldin	9914	CBL-005	9 kHz-1 GHz	7-6-22	7-6-23
Test Software	Rohde & Schwarz	ESK1	V1.7.1	N/A	N/A	N/A

5.0 Test Equipment (continued)

Radiated Emissions 1-10 GHz – Site G1 – Test Equipment:

Description	Manufacturer	Model Number	Serial Number	Frequency Range	Cal Dates	Cal Due Dates
Receiver	Rohde & Schwarz	ESI 40	837808/005	20 Hz-40 GHz	2-8-22	2-8-23
Horn Antenna	EMCO	3115	9502-4451	1 GHz-18 GHz	10-7-21	10-7-23
Cable	Micro-Coax	UFB311A	CBL-096	30 MHz-18 GHz	5-24-22	5-24-23
Cable	Teledyne	096-0004-036	CBL-091	30 MHz-40 GHz	5-25-22	5-25-23
High Pass Filter	Planar	HP2G-1780-CD-SS	PF1228/0728	1 GHz-19 GHz	5-25-22	5-25-23
Preamplifier	Com-Power	PAM-118A22-10P	18040154	500 MHz-18 GHz	3-18-22	3-18-23
Test Software	Rohde & Schwarz	ESK1	V1.7.1	N/A	N/A	N/A

AC Line Conducted (Screen Room)

Description	Manufacturer	Model Number	Serial Number	Frequency Range	Cal Dates	Cal Due Dates
Receiver	Narda	9010F	020WW40102	10 Hz – 50 MHz	3-30-22	3-30-23
Cable	Beldin	9914	CBL-043	9 kHz – 30 MHz	4-27-22	4-27-23
Cable	Pasternack Enterprises	PE3087-72	CBL-112	9 kHz – 1 GHz	4-15-22	4-15-23
LISN	ComPower	LI-220A	192036	9 kHz – 30 MHz	8-18-21	8-18-22
High Pass Filter	Solar Electronics	7930-120	090702	120 kHz – 30 MHz	10-4-21	10-4-22
Limiter	Electro-Metrics	EM-7600	705	9 kHz – 100 MHz	10-4-21	10-4-22
Test Software	Narda	PMM Emission Suite	V2.4.0	N/A	N/A	N/A

6.0 Test Arrangements

Measurement Arrangement:

All emission measurements were performed at D.L.S. Electronic Systems, Inc. and set up according to ANSI C63.10-2013, unless otherwise noted. Description of procedures and measurements can be found in Section A – Measurement Data. See separate exhibit for photos of the test set up. See Section B for measurement uncertainty.

Unless otherwise noted, the bandwidth of the measuring receiver / analyzer used during testing is shown below.

Frequency Range	Bandwidth (-6 dB)
10 to 150 kHz	200 Hz
150 kHz to 30 MHz	9 kHz
30 MHz to 1 GHz	120 kHz
Above 1 GHz	1 MHz

7.0 Test Conditions

Temperature and Humidity:

73 °F at 62% RH

Supply Voltage:

Radiated and RF Conducted:

3.80 Volts DC provided from a linear bench supply

AC Line Conducted:

5.0 Volts DC provided from an AC/DC adapter
(120 V 60 Hz, Samsung model ATADS10JBE)

8.0 Modifications Made to EUT For Compliance

None noted at time of test.

9.0 Additional Descriptions

Unit used for RF Conducted testing:

> The radio module was connected to an LCD Interface board. Wires were connected to the ribbon cable connector for connection to power. Transmit configurations were selected via the LCD. Measurements were taken at the RPSMA-to-U.FL adapter which was connected to the radio's antenna port.

Unit used for Radiated and AC Line Conducted testing:

> The radio module was mounted to a perf-board. Some of the perf-board was cut out from under the radio so perf-board interference would be minimal. Wires were connected to the perf-board for connection to power. An LCD Interface was also connected to the perf-board via wires to be used in selecting transmit configurations.

In following FCC Part 15 and ANSI C63.10 requirements, the EUT was programmed for continuous transmit, modulated, with a 99.38% duty cycle using programming test software. The EUT was programmed for continuous transmission on the lowest channel of operation (902.4 MHz), on the middle channel of operation (915.0 MHz), and the highest channel of operation (927.6 MHz). For radiated measurements, the EUT was rotated through 3 orthogonal axes to find worst-case. See Section A for operation and setup specific to the FCC Rule part and ANSI C63.10 guidance.

10.0 FCC 15.31(e) Supply Voltage Requirement statement

FCC 15.31(e) - For intentional radiators, measurements of the variation of the input power or the radiated signal level of the fundamental frequency component of the emission, as appropriate, shall be performed with the supply voltage varied between 85% and 115% of the nominal rated supply voltage.

Compliance Statement: This device complies with the requirements of Part 15.31(e):

☐ This device is battery operated. All tests were performed using a new (or fully charged) battery.

☒ This device provides a constant regulated voltage to the RF circuitry regardless of supply voltage (see schematic diagrams).

☐ This device does not provide a constant regulated voltage to the RF circuitry regardless of supply voltage. Data has been supplied in this test report that supports compliance. Details:

11.0 FCC 15.203 Antenna Requirement statement

SECTION 15.203 ANTENNA REQUIREMENT

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device…. This requirement does not apply to carrier current devices or to devices operated under the provisions of Sections 15.211, 15.213, 15.217, 15.219, or 15.221.

Statement: This wireless device (Intentional Radiator) meets the requirements of FCC Part 15.203:

☐ The antenna is permanently attached

☒ The antenna has a unique coupling to the intentional radiator.
Description of coupling: **All radio modules will be sold with a 4" RP-SMA to U.FL adapter and one of the 4 types of antennas that were tested.**

☐ This intentional radiator is professionally installed

☐ This intentional radiator, in accordance with Section 15.31(d), must be measured at the installation site.

12.0 Results

Measurements were performed in accordance with ANSI C63.10-2013. Graphical and tabular data can be found in Section A at the end of this report.

13.0 Conclusion

The 100mW Radio Module, model RM8003-03, as provided by TAPCO, tested during July 29th through August 9th, and August 17, 2022 **meets** the requirements of Title 47 CFR Part 15 Subpart C Section 15.247.

Section A – Measurement Data

1.0 Duty Cycle of Test Unit

Rule Part:

Informative.

Test Procedure:

ANSI C63.10-2013, Section 11.6
Zero-span mode on a spectrum analyzer.

Limit:

Informative.

Results:

Duty Cycle of test sample = 99.38%
Duty Cycle Correction Factor = **N/A**

Sample Equation(s):

One cycle = ON + OFF time = 50.312625 ms
One ON time = 50.000000 ms
Duty cycle x = (50.000000 ms / 50.312625 ms) = 0.9938 = 99.38%

Notes:

Because the duty cycle of the test sample is > 98%, a duty cycle correction factor is not applicable.

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Company:	Traffic and Parking Control Co., Inc.
Model:	RM8003-03
Project Number:	12348
Report Number:	27202 rev2.0

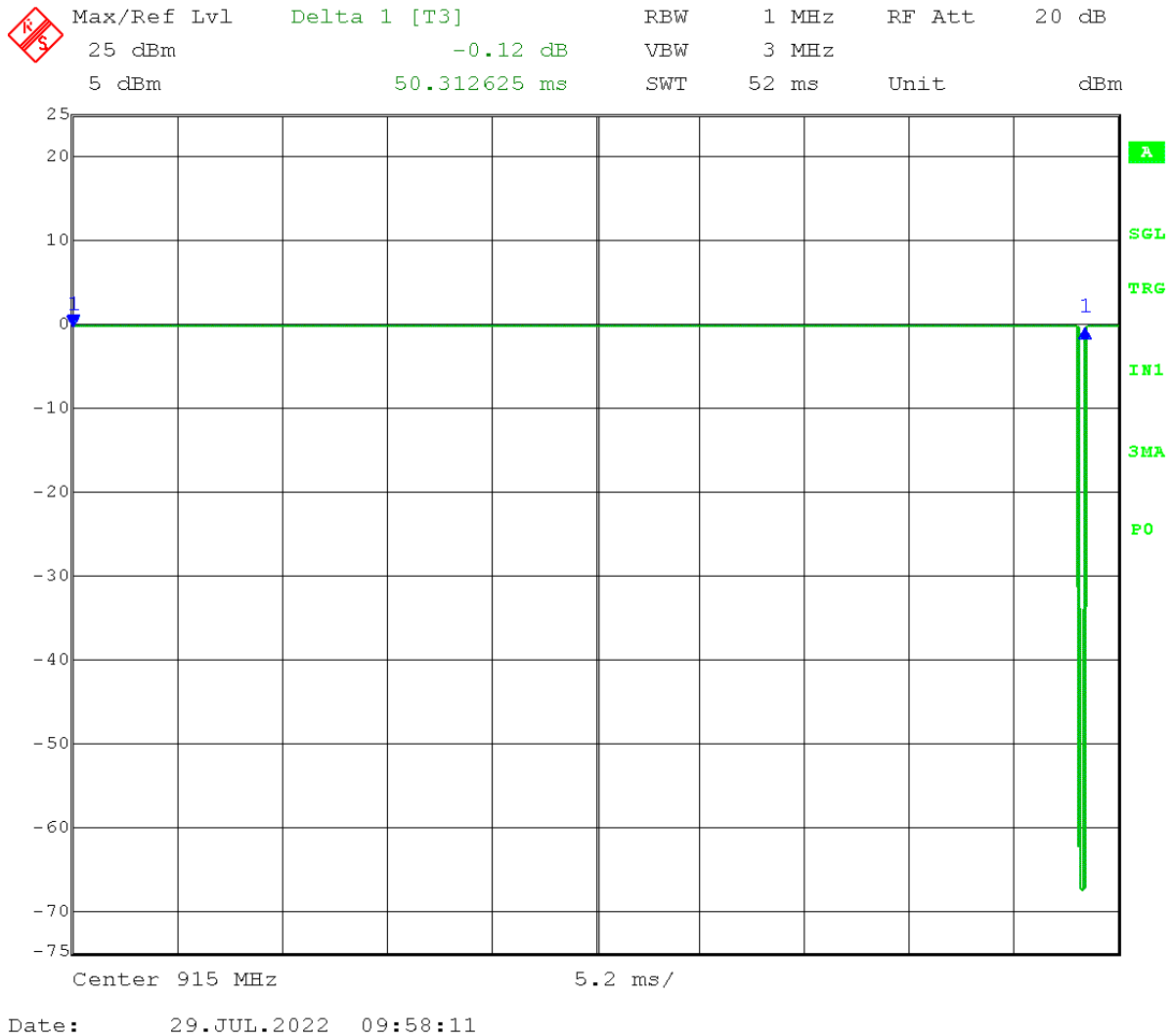
Section A

Test Date:	07-29-2022 71 °F 45% R.H.
Company:	Traffic and Parking Control Co., Inc.
EUT:	Model RM8003-03 100mW Radio Module
Test:	Duty Cycle of Test Unit - Conducted
Procedure:	C63.10-2013, Section 11.6
Operator:	cbrandt

Comment: Mid Channel: Frequency – 915.0 MHz

Duty cycle x = (50.000000 ms / 50.312625 ms) = 0.9938 = **99.38**%
Duty cycle of test unit is > 98%, therefore, duty cycle correction is not applicable
dccf: **N/A**

One cycle: 50.312625 ms



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Company:	Traffic and Parking Control Co., Inc.
Model:	RM8003-03
Project Number:	12348
Report Number:	27202 rev2.0

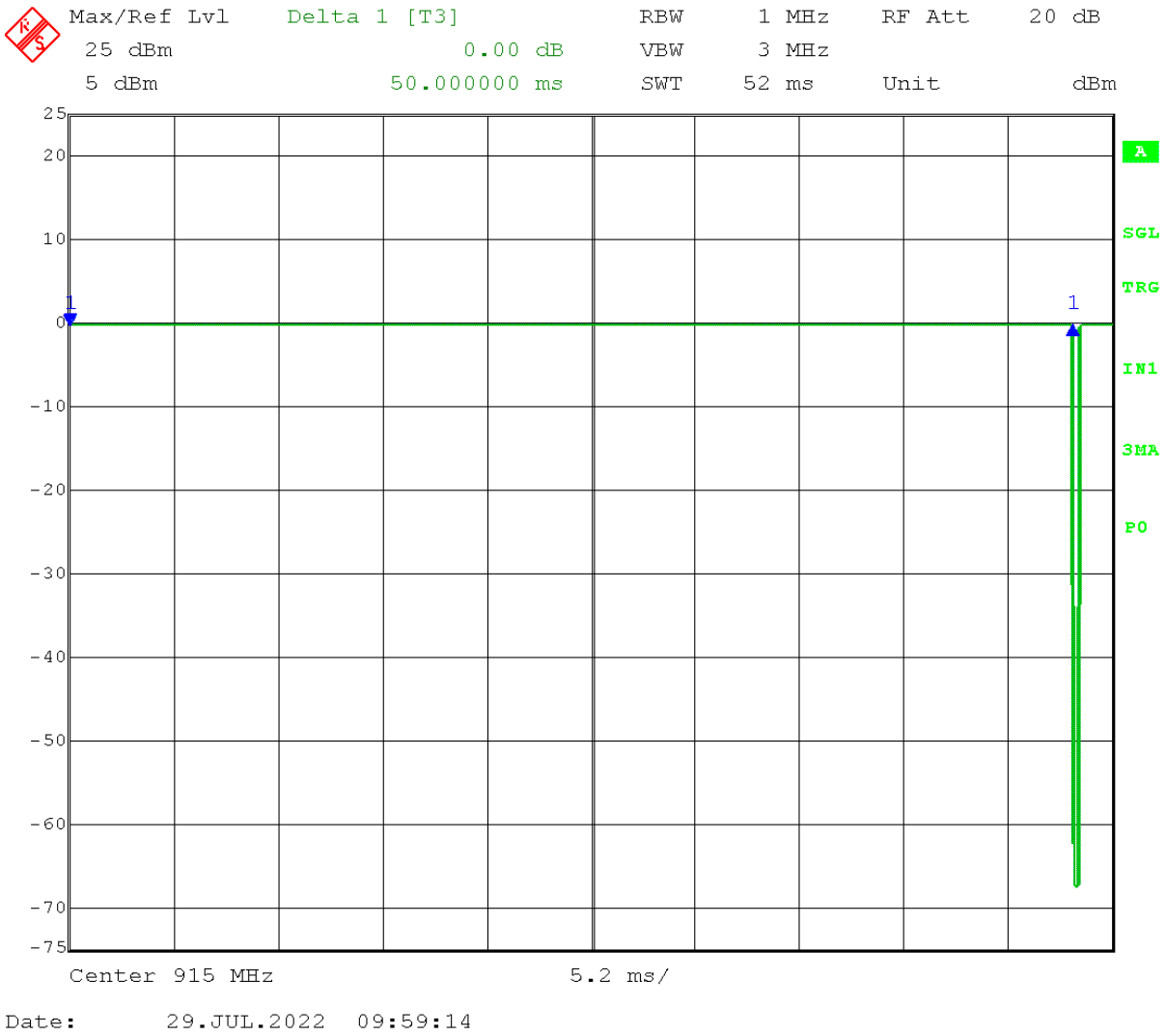
Section A

Test Date:	07-29-2022 71 °F 45% R.H.
Company:	Traffic and Parking Control Co., Inc.
EUT:	Model RM8003-03 100mW Radio Module
Test:	Duty Cycle of Test Unit - Conducted
Procedure:	C63.10-2013, Section 11.6
Operator:	cbrandt

Comment: Mid Channel: Frequency – 915.0 MHz

Duty cycle x = (50.000000 ms / 50.312625 ms) = 0.9938 = **99.38**%
Duty cycle of test unit is > 98%, therefore, duty cycle correction is not applicable
dccf: **N/A**

ON time during one cycle = 50.000000 ms



Section A

2.0 20 dB Emission Bandwidth

Rule Part:

Section 15.247(a)(1)(i)

Test Procedure:

ANSI C63.10-2013, Section 6.9.2
Occupied bandwidth – relative measurement procedure.

Limit:

The maximum allowed 20 dB bandwidth of a hopping channel is 500 kHz.

Results:

Compliant.
20 dB bandwidth = **246.49 kHz**

Notes:

In following FCC Part 15 and ANSI C63.10 requirements, the EUT was programmed for continuous transmit, modulated, with a 99.38% duty cycle using programming test software. The EUT was tested at the low, middle, and high channels of operation in accordance with FCC Part 15.31(m).

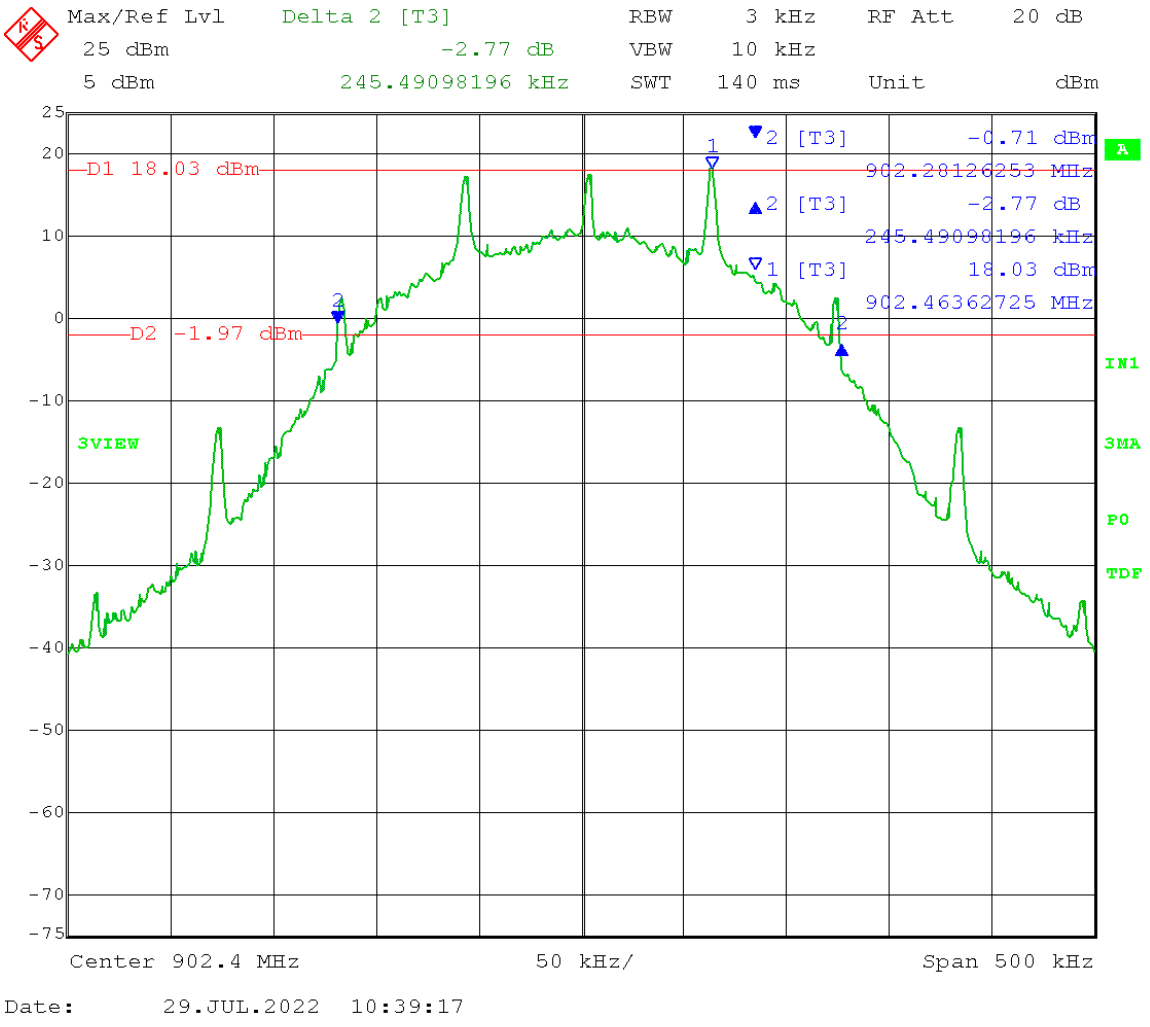
166 South Carter, Genoa City, WI 53128

Company: Traffic and Parking Control Co., Inc.
Model: RM8003-03
Project Number: 12348
Report Number: 27202 rev2.0

Section A

Test Date: 07-29-2022 72 °F 45% R.H.
Company: Traffic and Parking Control Co., Inc.
EUT: Model RM8003-03 100mW Radio Module
Test: 20 dB Emission Bandwidth
Procedure: ANSI C63.10-2013, Section 6.9.2
Operator: cbrandt
Comment: Low Channel: Frequency – 902.4 MHz
SPAN: between 2 and 5 times the OBW
RBW: between 1% and 5% of the OBW
Peak detector; max hold

20 dB Bandwidth = **245.49 kHz**



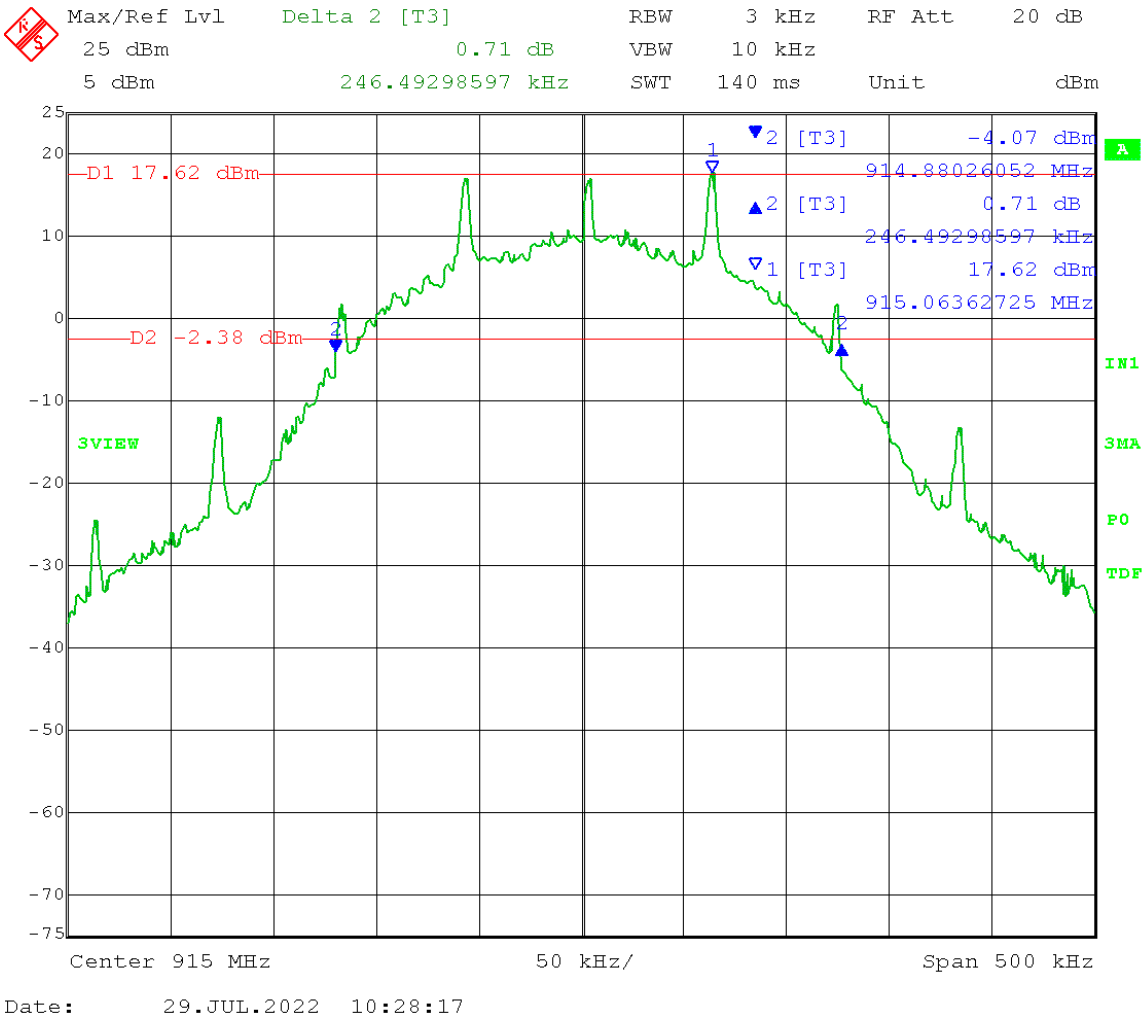
166 South Carter, Genoa City, WI 53128

Company:	Traffic and Parking Control Co., Inc.
Model:	RM8003-03
Project Number:	12348
Report Number:	27202 rev2.0

Section A

Test Date:	07-29-2022 72 °F 45% R.H.
Company:	Traffic and Parking Control Co., Inc.
EUT:	Model RM8003-03 100mW Radio Module
Test:	20 dB Emission Bandwidth
Procedure:	C63.10-2013, Section 6.9.2
Operator:	cbrandt
Comment:	Mid Channel: Frequency – 915.0 MHz SPAN: between 2 and 5 times the OBW RBW: between 1% and 5% of the OBW Peak detector; max hold

20 dB Bandwidth = **246.49 kHz**



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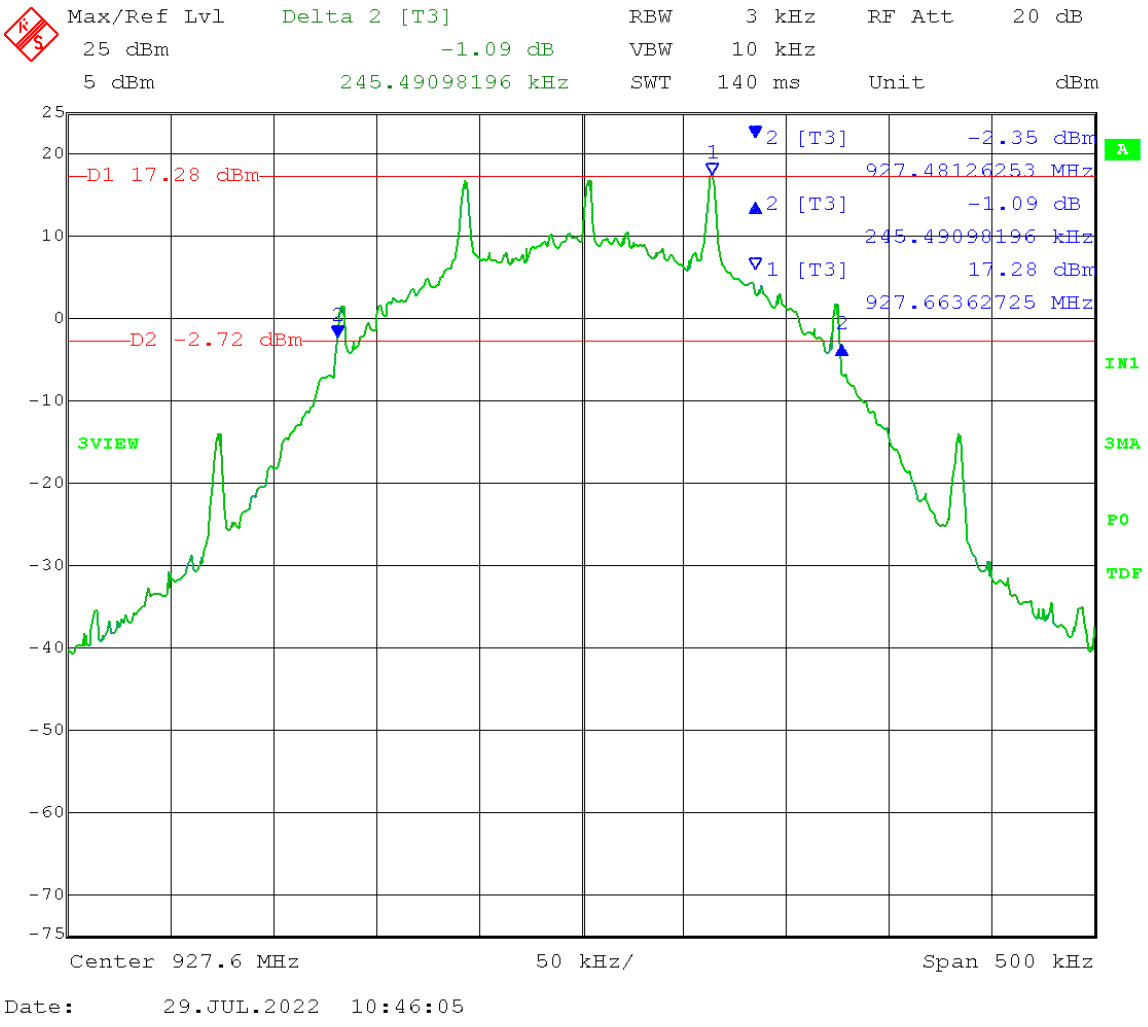
Company: Traffic and Parking Control Co., Inc.
Model: RM8003-03
Project Number: 12348
Report Number: 27202 rev2.0

Section A

Test Date: 07-29-2022 72 °F 45% R.H.
Company: Traffic and Parking Control Co., Inc.
EUT: Model RM8003-03 100mW Radio Module
Test: 20 dB Emission Bandwidth
Procedure: C63.10-2013, Section 6.9.2
Operator: cbrandt
Comment: High Channel: Frequency – 927.6 MHz
SPAN: between 2 and 5 times the OBW
RBW: between 1% and 5% of the OBW
Peak detector; max hold

20 dB Bandwidth = **245.49 kHz**



Section A

3.0 Peak Conducted Output Power

Rule Part:

Sections 15.247(b)(2) & 15.247(b)(4)

Test Procedure:

ANSI C63.10-2013, Section 7.8.5
Output power test procedure for frequency-hopping spread-spectrum (FHSS) devices

Limit:

15.247(b)(2): For frequency hopping systems operating in the 902-928 MHz band, employing at least 50 hopping channels: 1 Watt **(30 dBm**) RF Conducted

15.247(b)(4): When transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power shall be reduced below the stated value in 15.247(b)(2) by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Yagi antenna option: Gain is 10.65 dBi.
RF conducted output power limit = 30 dBm – (10.65 dBi – 6 dBi) = **25.35 dBm**

Results:

Compliant
Maximum Peak Output Power measured **20.45 dBm** (see page 25 of this report).

Notes:

In following FCC Part 15 and ANSI C63.10 requirements, the EUT was programmed for continuous transmit, modulated, with a 99.38% duty cycle using programming test software. The EUT was tested at the low, middle, and high channels of operation in accordance with FCC Part 15.31(m).

Per Tapco's request, this measurement was re-taken on the worst-case channel, with the unit from a cold-start and with a low duty-cycle (Peak detector and Max-hold). The result of this measurement yielded an output power measurement 0.15 dB higher than that of the test unit when transmitting continuously and stabilized in temperature. This higher level more closely represents the device as it will be used in its typical application.

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Company: Traffic and Parking Control Co., Inc.
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Project Number: 12348
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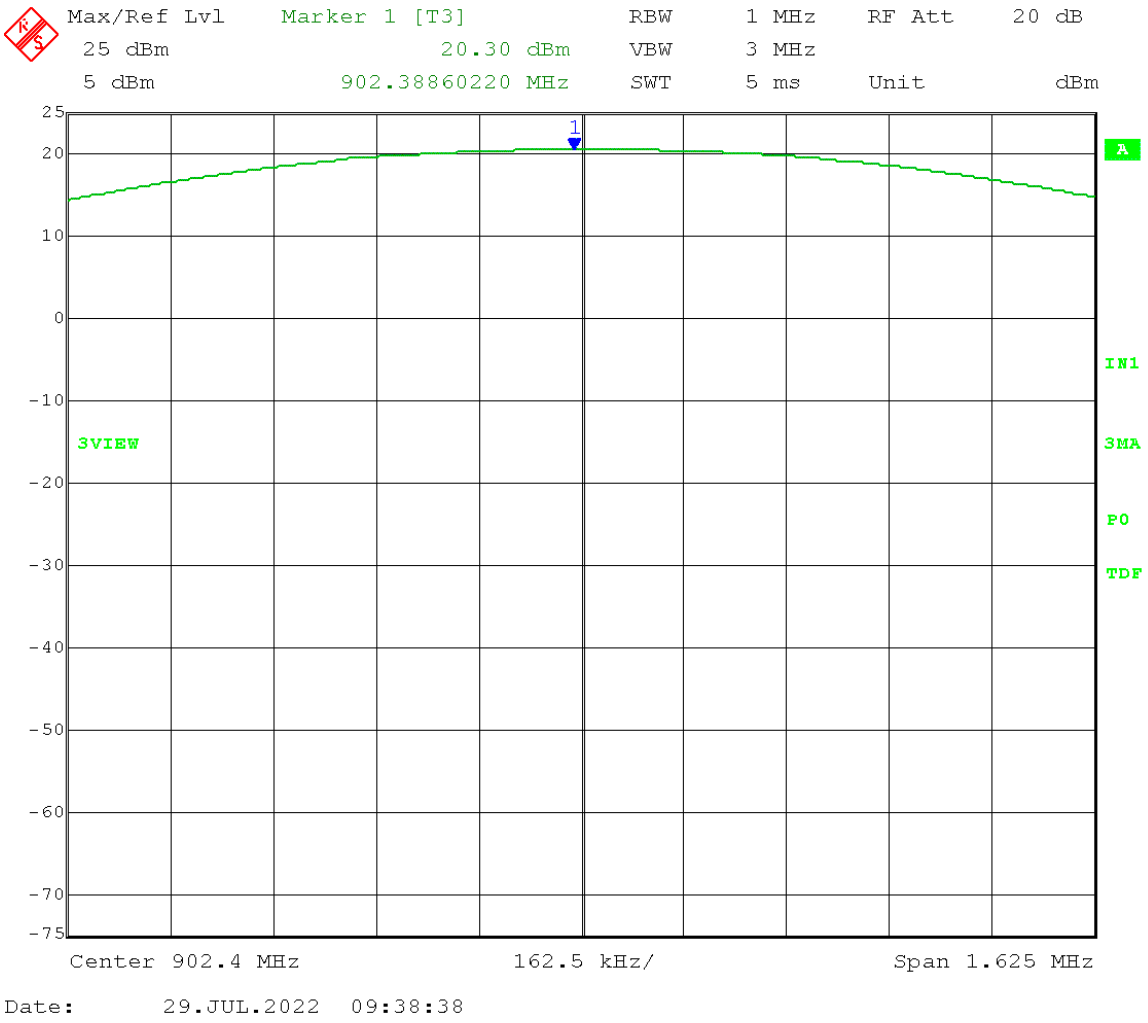
Section A

Test Date: 07-29-2022 71 °F 45% R.H.
Company: Traffic and Parking Control Co., Inc.
EUT: Model RM8003-03 100mW Radio Module
Test: Peak Conducted Output Power
Procedure: C63.10-2013, Section 7.8.5
Operator: cbrandt

Comment: Low Channel: Frequency – 902.4 MHz

Peak Conducted Output Power = **20.30 dBm**



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Company:	Traffic and Parking Control Co., Inc.
Model:	RM8003-03
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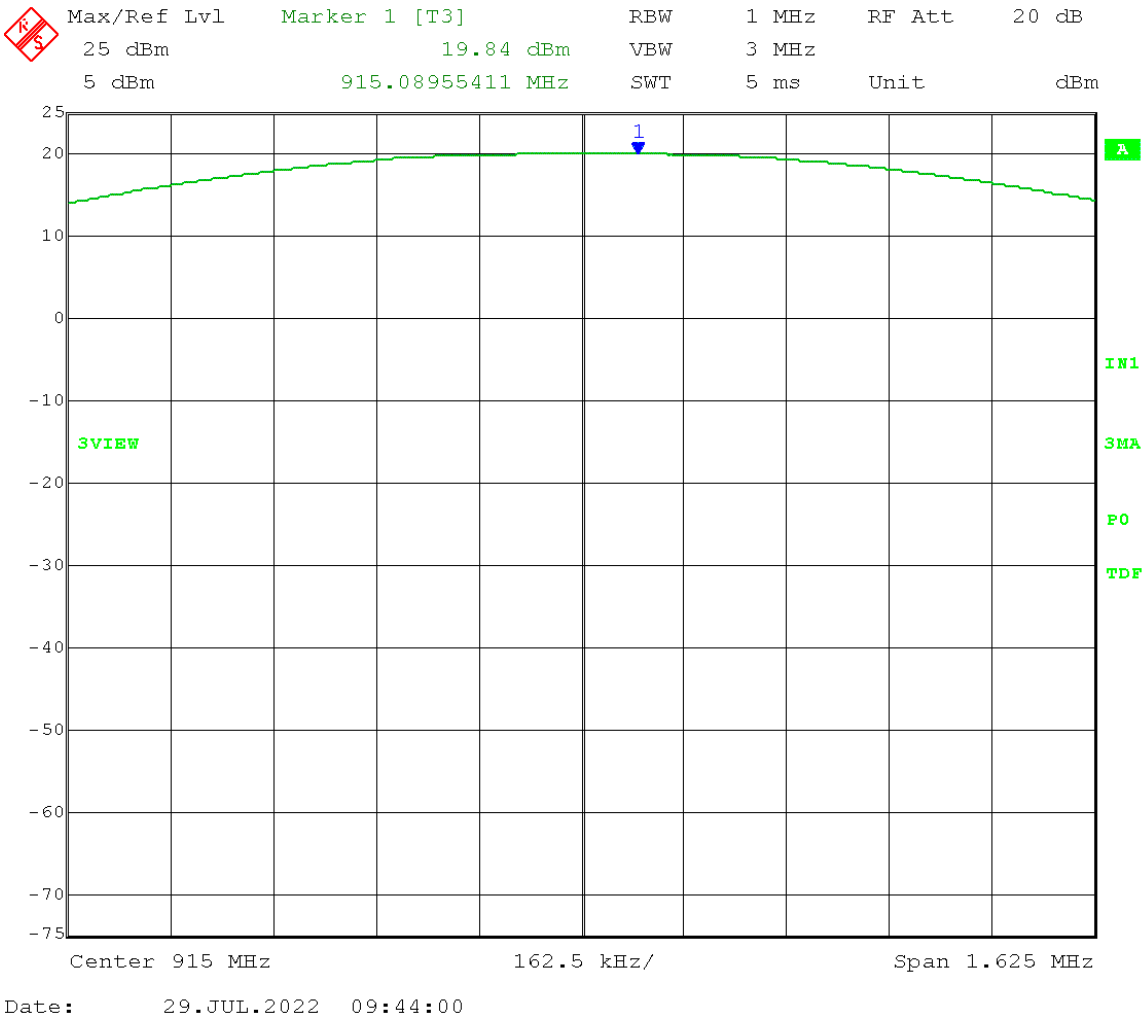
Section A

Test Date:	07-29-2022 71 °F 45% R.H.
Company:	Traffic and Parking Control Co., Inc.
EUT:	Model RM8003-03 100mW Radio Module
Test:	Peak Conducted Output Power
Procedure:	C63.10-2013, Section 7.8.5
Operator:	cbrandt

Comment: Mid Channel: Frequency – 915.0 MHz

Peak Conducted Output Power = **19.84 dBm**



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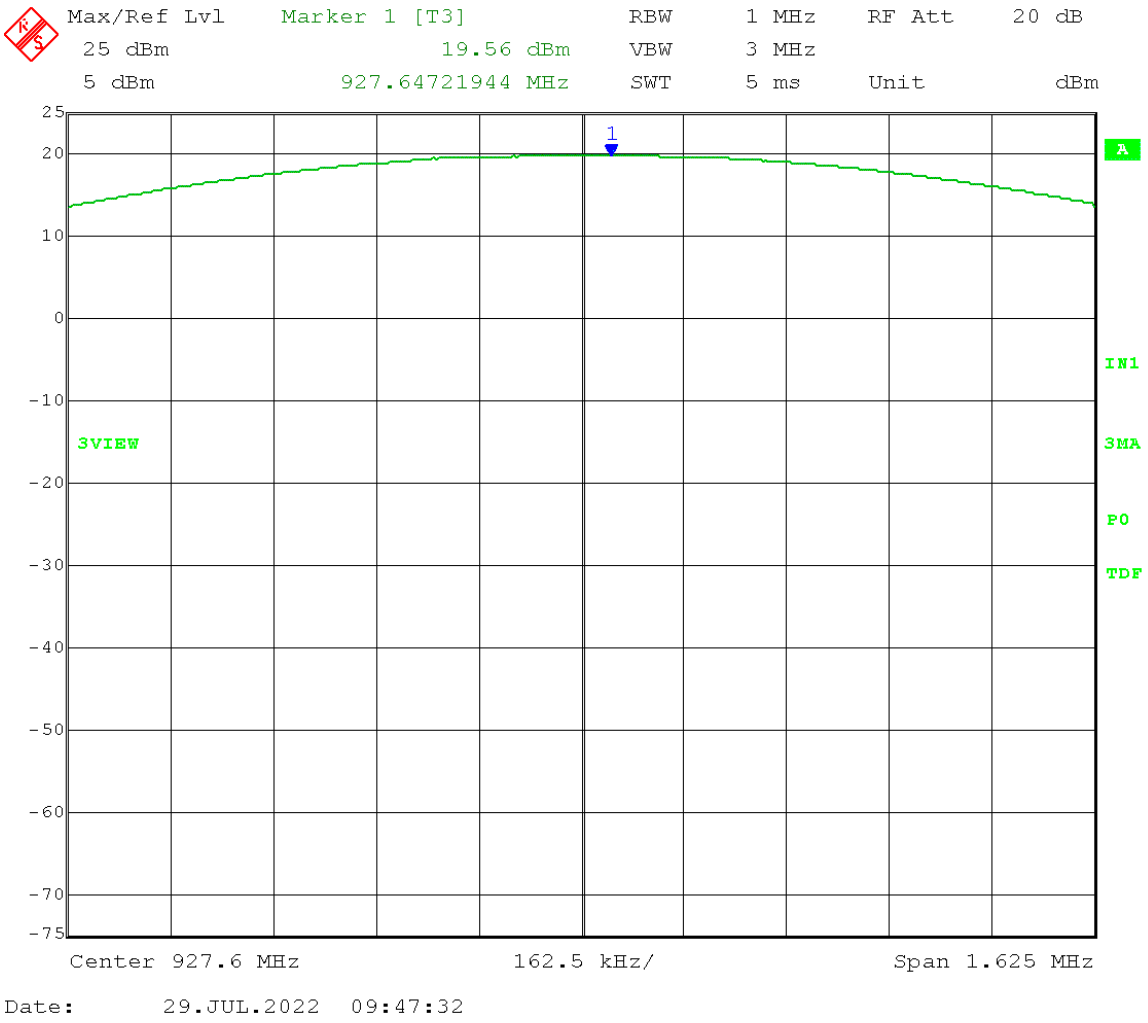
Section A

Test Date:	07-29-2022 71 °F 45% R.H.
Company:	Traffic and Parking Control Co., Inc.
EUT:	Model RM8003-03 100mW Radio Module
Test:	Peak Conducted Output Power
Procedure:	C63.10-2013, Section 7.8.5
Operator:	cbrandt

Comment: High Channel: Frequency – 927.6 MHz

Peak Conducted Output Power = **19.56 dBm**



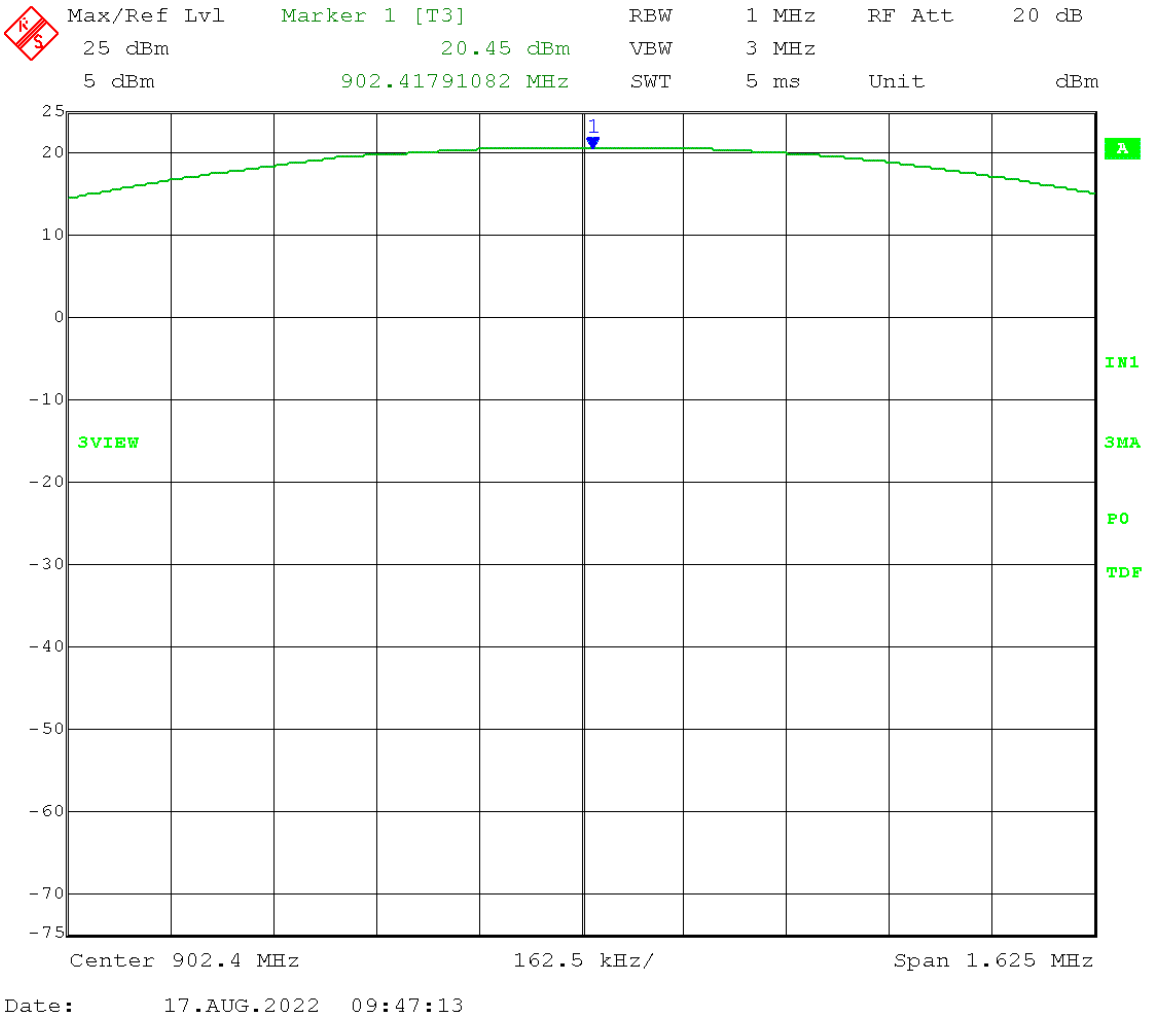
166 South Carter, Genoa City, WI 53128

Company:	Traffic and Parking Control Co., Inc.
Model:	RM8003-03
Project Number:	12348
Report Number:	27202 rev2.0

Test Date: 08-17-2022 70 °F 48% R.H.
Company: Traffic and Parking Control Co., Inc.
EUT: Model RM8003-03 100mW Radio Module
Test: Peak Conducted Output Power: Updated Power Measurement per Tapco's request
Procedure: C63.10-2013, Section 7.8.5
Operator: cbrandt

Comment: Low Channel: Frequency – 902.4 MHz (found to yield highest output power level)
EUT is cold and transmitting at low duty cycle

Peak Conducted Output Power = **20.45 dBm**



4.0 Minimum Carrier Frequency Separation

Rule Part:

Section 15.247(a)(1)

Test Procedure:

ANSI C63.10-2013, Section 7.8.2
Carrier frequency separation

Limit:

Minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater.

Results:

Compliant
Carrier Frequency Separation = **512.22 kHz**

Notes:

In following FCC Part 15 and ANSI C63.10 requirements, the EUT was programmed for continuous transmit, modulated, with its hopping function enabled.

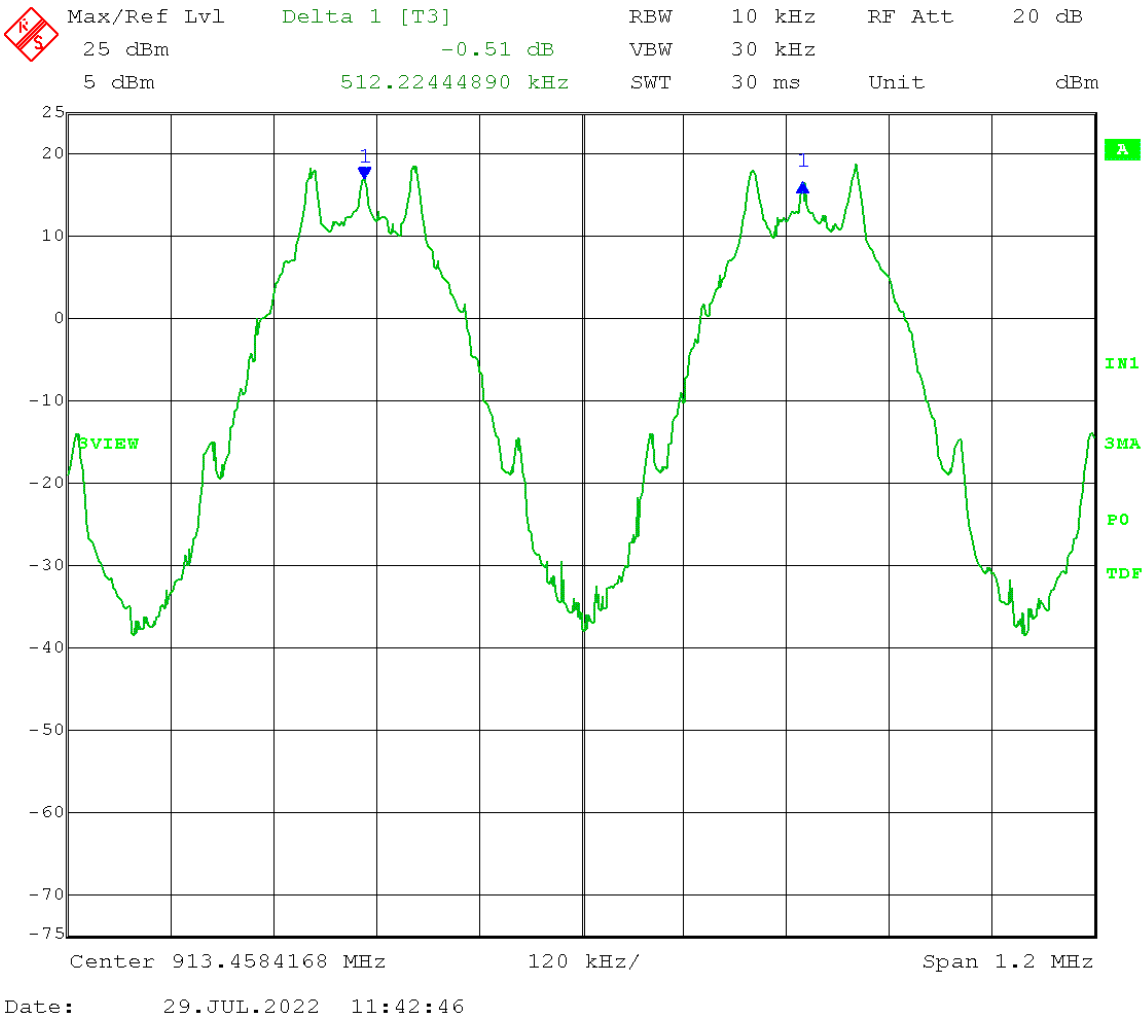
166 South Carter, Genoa City, WI 53128

Company:	Traffic and Parking Control Co., Inc.
Model:	RM8003-03
Project Number:	12348
Report Number:	27202 rev2.0

Section A

Test Date:	07-29-2022 74 °F 45% R.H.
Company:	Traffic and Parking Control Co., Inc.
EUT:	Model RM8003-03 100mW Radio Module
Test:	Minimum Carrier Frequency Separation
Procedure:	ANSI C63.10-2013, Section 7.8.2
Operator:	cbrandt
Limit:	Minimum separation of 25 kHz or the 20 dB bandwidth, whichever is greater.
Notes:	20 dB bandwidth = 245.49 kHz Limit: separation ≥ 245.49 kHz

Carrier Frequency Separation = **512.22 kHz**



5.0 Number of Hopping Frequencies

Rule Part:

Section 15.247(a)(1)(i)

Test Procedure:

ANSI C63.10-2013, Section 7.8.3
Number of hopping frequencies

Limit:

For frequency hopping systems operating in the 902-928 MHz band with a 20 dB bandwidth less than 250 kHz, the system shall use at least **50 hopping frequencies**.

Results:

Compliant
Number of hopping frequencies = **50**

Notes:

In following FCC Part 15 and ANSI C63.10 requirements, the EUT was programmed for continuous transmit, modulated, with its hopping function enabled.

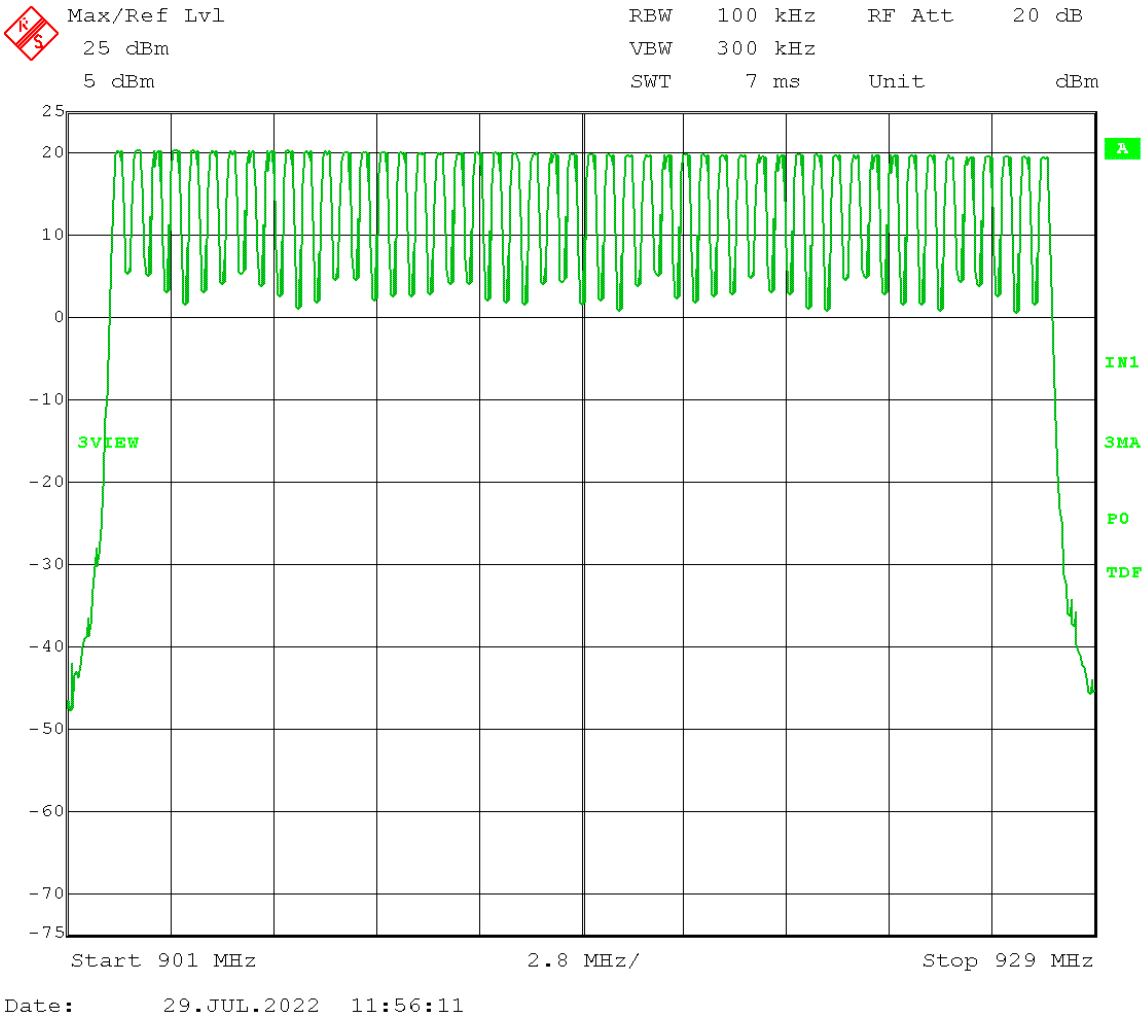
166 South Carter, Genoa City, WI 53128

Company:	Traffic and Parking Control Co., Inc.
Model:	RM8003-03
Project Number:	12348
Report Number:	27202 rev2.0

Section A

Test Date:	07-29-2022 74 °F 45% R.H.
Company:	Traffic and Parking Control Co., Inc.
EUT:	Model RM8003-03 100mW Radio Module
Test:	Number of hopping frequencies
Procedure:	ANSI C63.10-2013, Section 7.8.3
Operator:	cbrandt
Limit:	At least 50 hopping frequencies (20 dB Bandwidth < 250 kHz)

Number of hopping frequencies = 50



6.0 Time of Occupancy

Rule Part:

Section 15.247(a)(1)(i)

Test Procedure:

ANSI C63.10-2013, Section 7.8.4
Time of occupancy (dwell time)

Limit:

For frequency hopping systems operating in the 902-928 MHz band with a 20 dB bandwidth less than 250 kHz, the average time of occupancy on any frequency **shall not be greater than 0.4 seconds within a 20 second period.**

Results:

Compliant
Time of occupancy within a 20 second period = **0.234 seconds**

Notes:

In following FCC Part 15 and ANSI C63.10 requirements, the EUT was programmed for continuous transmit, modulated, with its hopping function enabled.

166 South Carter, Genoa City, WI 53128

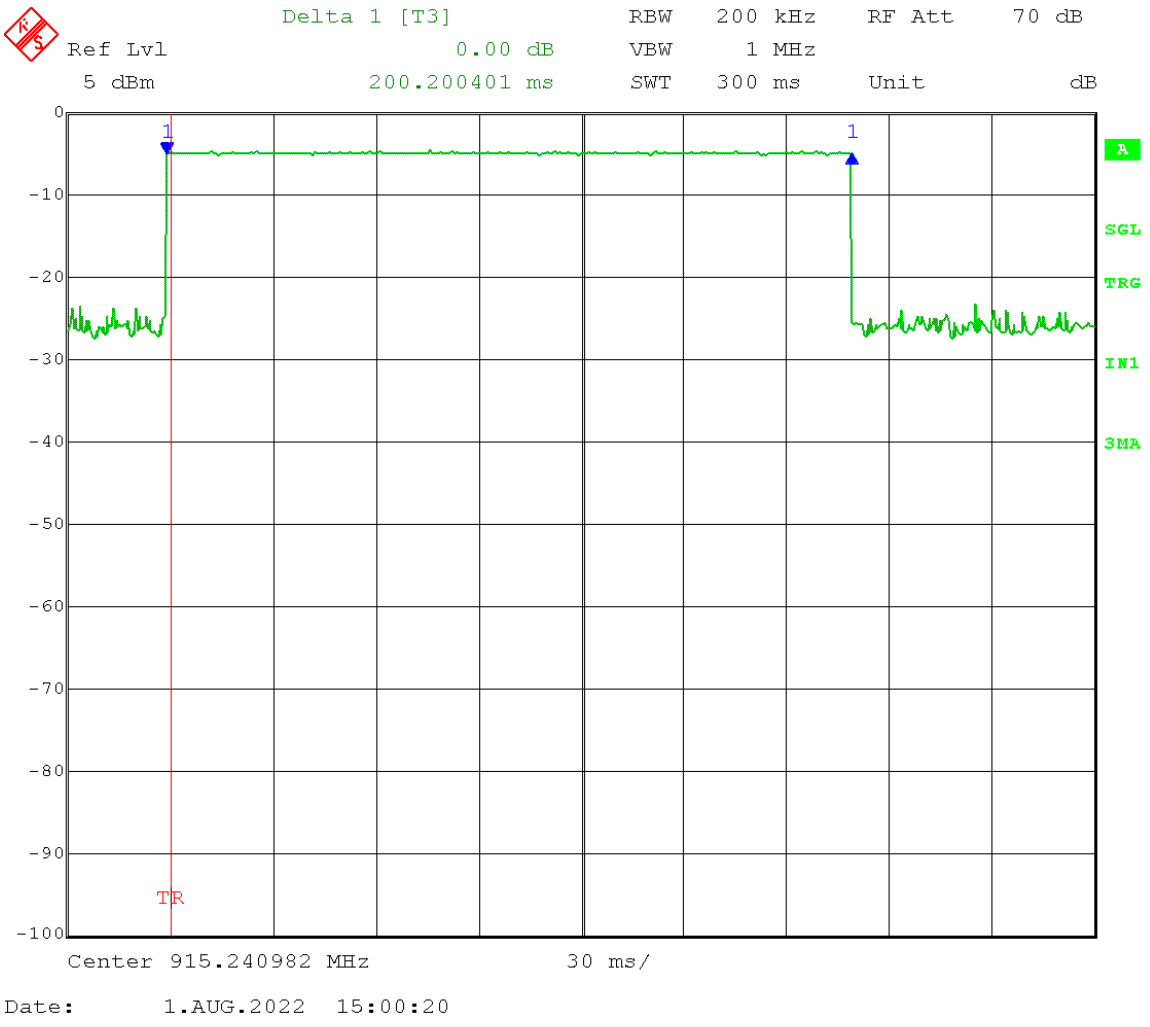
Company:	Traffic and Parking Control Co., Inc.
Model:	RM8003-03
Project Number:	12348
Report Number:	27202 rev2.0

Section A

Test Date:	08-01-2022 72 °F 45% R.H.
Company:	Traffic and Parking Control Co., Inc.
EUT:	Model RM8003-03 100mW Radio Module
Test:	Time of occupancy (dwell time)
Procedure:	ANSI C63.10-2013, Section 7.8.4
Operator:	cbrandt
Limit:	The average time of occupancy on any channel shall not be greater than 0.4 seconds within a 20 second period.

Time of occupancy = 200.20 ms x 1.17 ON times per 20 seconds
= **0.234 seconds** within a period of 20 seconds

Duration of one ON time: 200.20 ms



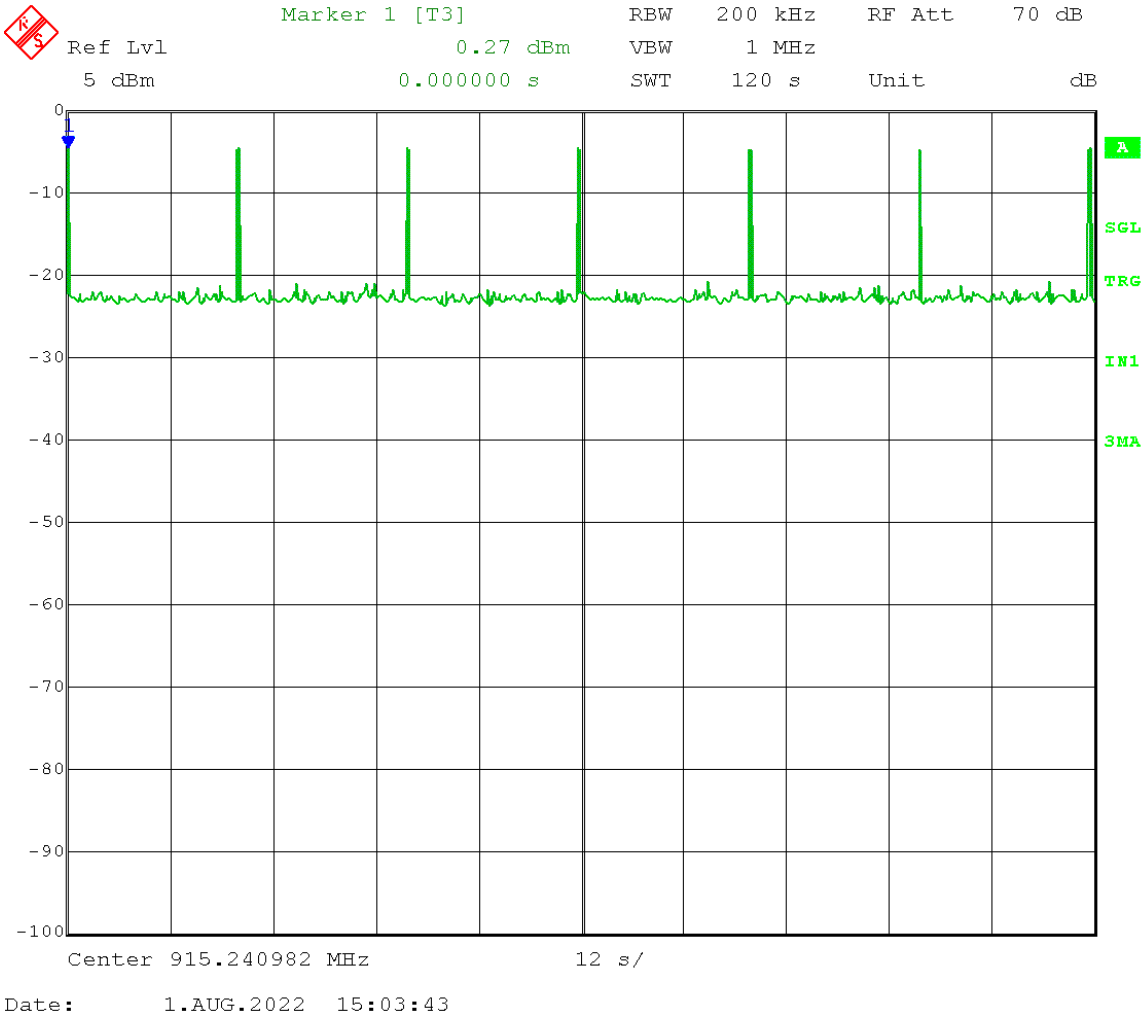
166 South Carter, Genoa City, WI 53128

Company:	Traffic and Parking Control Co., Inc.
Model:	RM8003-03
Project Number:	12348
Report Number:	27202 rev2.0

Section A

Test Date:	08-01-2022 72 °F 45% R.H.
Company:	Traffic and Parking Control Co., Inc.
EUT:	Model RM8003-03 100mW Radio Module
Test:	Time of occupancy (dwell time)
Procedure:	ANSI C63.10-2013, Section 7.8.4
Operator:	cbrandt
Limit:	The average time of occupancy on any channel shall not be greater than 0.4 seconds within a 20 second period.

Number of ON times per 120 seconds: 7 (averages to 1.17 ON times every 20 seconds)



7.0 Authorized Band Edge – Conducted

Rule Part:

Section 15.247(d)

Test Procedure:

ANSI C63.10-2013, Section 6.10.4
Authorized-band band-edge measurements (relative method).

Limit:

20 dB down from the highest emission level within the authorized band as measured with a 100 kHz resolution bandwidth (RBW).

Results:

Compliant

Notes:

In following FCC Part 15 and ANSI C63.10 requirements, the EUT was programmed for continuous transmit, modulated, with a 99.38% duty cycle using programming test software. The EUT was tested at the low and high channels of operation. This test was repeated with the transmitter frequency hopping function enabled.

166 South Carter, Genoa City, WI 53128

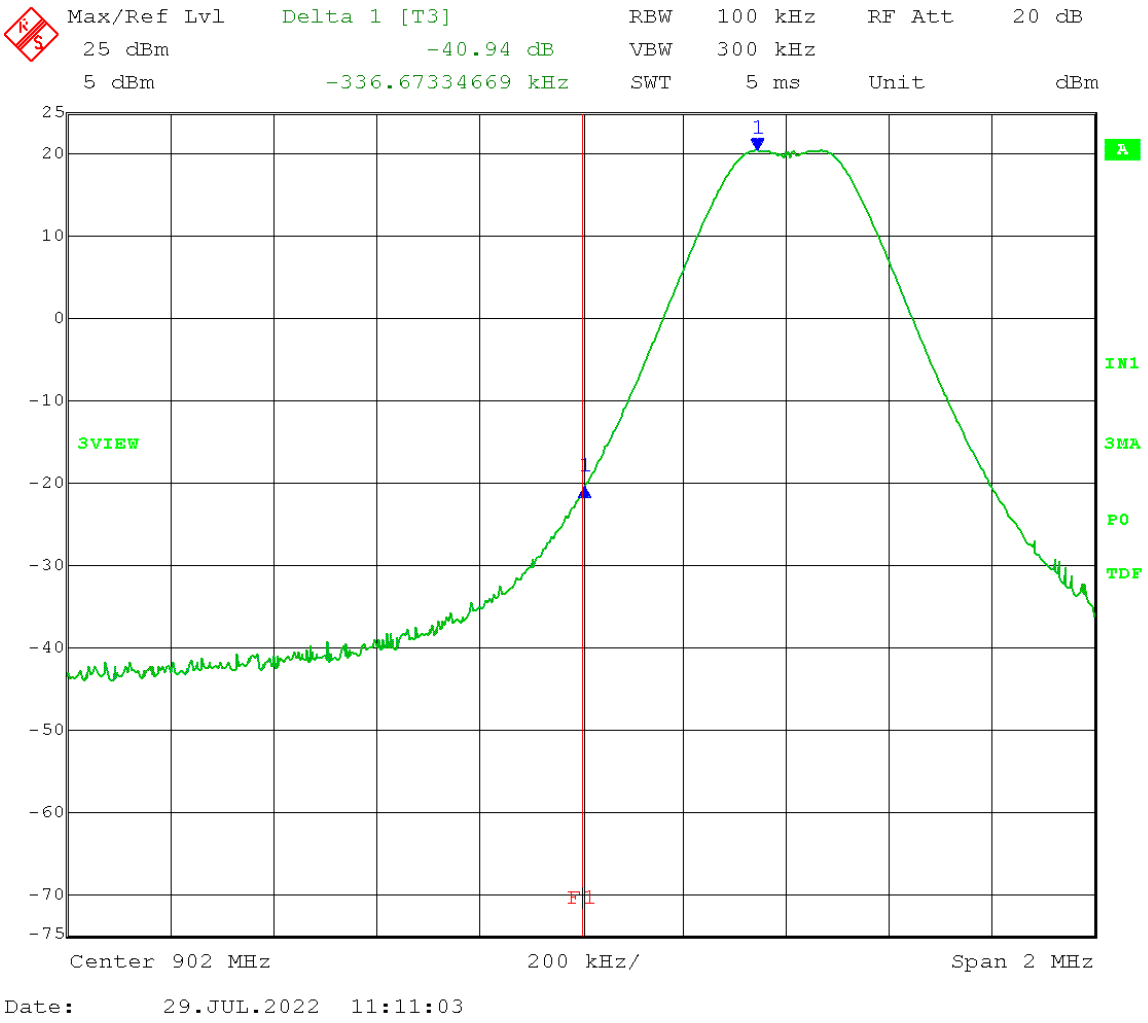
Company: Traffic and Parking Control Co., Inc.
Model: RM8003-03
Project Number: 12348
Report Number: 27202 rev2.0

Section A

Test Date: 07-29-2022 73 °F 45% R.H.
Company: Traffic and Parking Control Co., Inc.
EUT: Model RM8003-03 100mW Radio Module
Test: Lower Authorized-Band Band-Edge – Conducted
Procedure: ANSI C63.10-2013, Section 6.10.4
Operator: cbrandt
Comment: Low Channel: Frequency – 902.4 MHz
Hopping OFF

Authorized Band-Edge Frequency = 902 MHz
Band-Edge > 20 dB Below Peak In-Band Emission

Level at band-edge is **40.94** dB below the peak in-band emission.



166 South Carter, Genoa City, WI 53128

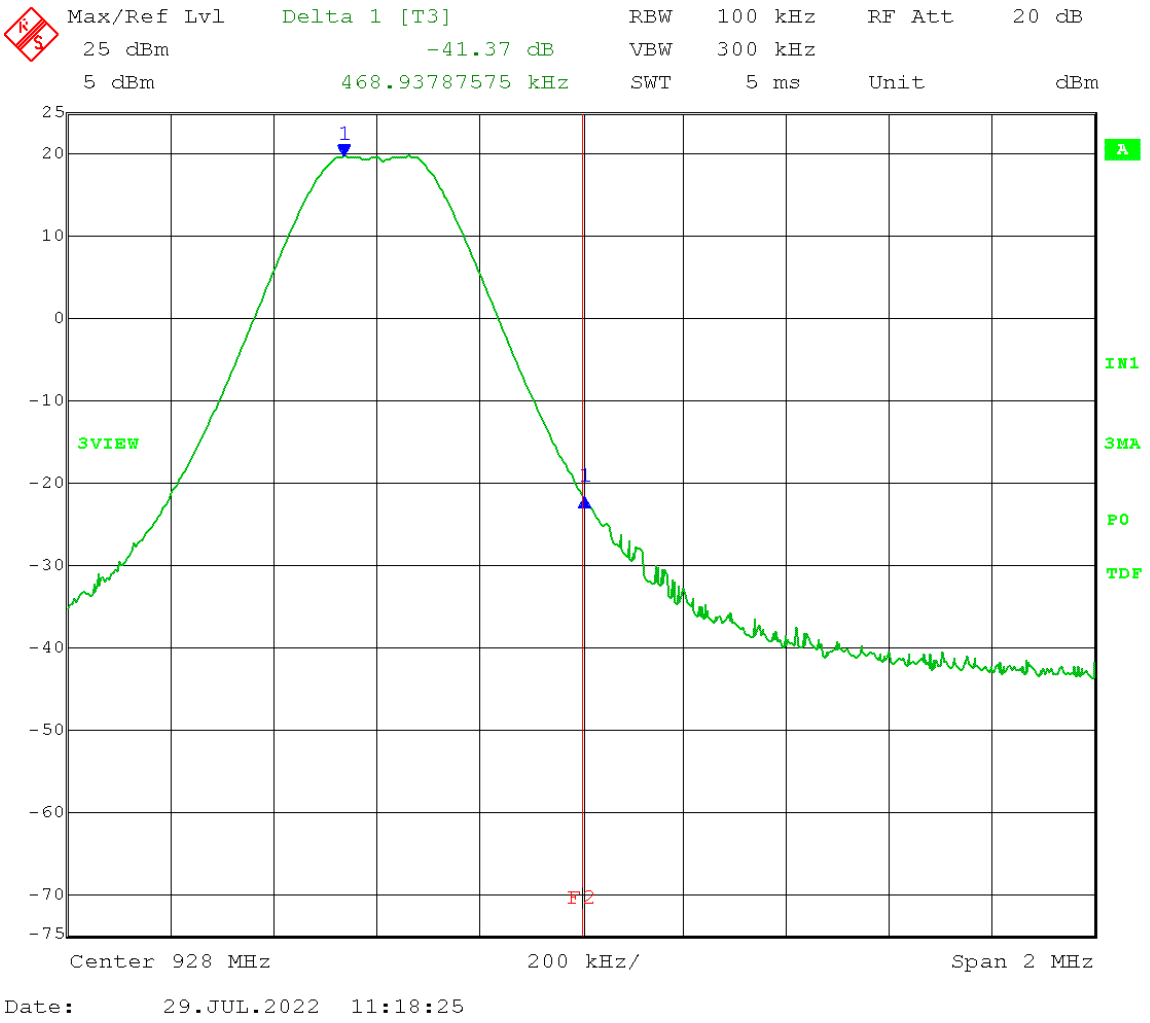
Company:	Traffic and Parking Control Co., Inc.
Model:	RM8003-03
Project Number:	12348
Report Number:	27202 rev2.0

Section A

Test Date:	07-29-2022 73 °F 45% R.H.
Company:	Traffic and Parking Control Co., Inc.
EUT:	Model RM8003-03 100mW Radio Module
Test:	Upper Authorized-Band Band-Edge – Conducted
Procedure:	ANSI C63.10-2013, Section 6.10.4
Operator:	cbrandt
Comment:	High Channel: Frequency – 927.6 MHz **Hopping OFF**

Authorized Band-Edge Frequency = 928 MHz
Band-Edge > 20 dB Below Peak In-Band Emission

Level at band-edge is **41.37** dB below the peak in-band emission.



166 South Carter, Genoa City, WI 53128

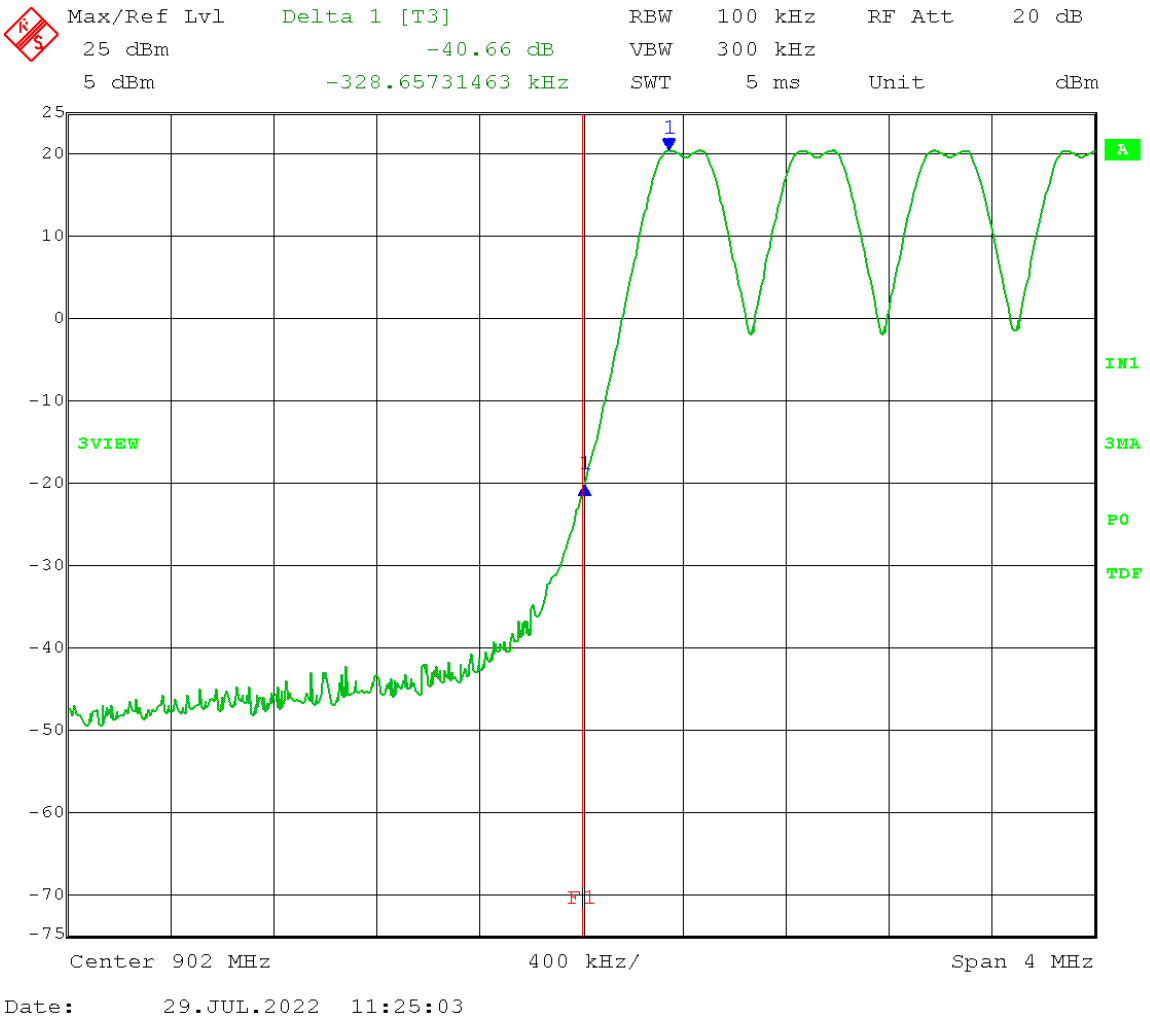
Company: Traffic and Parking Control Co., Inc.
Model: RM8003-03
Project Number: 12348
Report Number: 27202 rev2.0

Section A

Test Date: 07-29-2022 73 °F 45% R.H.
Company: Traffic and Parking Control Co., Inc.
EUT: Model RM8003-03 100mW Radio Module
Test: Lower Authorized-Band Band-Edge – Conducted
Procedure: ANSI C63.10-2013, Section 6.10.4
Operator: cbrandt
Comment: Low Channel: Frequency – 902.4 MHz
Hopping ON

Authorized Band-Edge Frequency = 902 MHz
Band-Edge > 20 dB Below Peak In-Band Emission

Level at band-edge is **40.66** dB below the peak in-band emission.



166 South Carter, Genoa City, WI 53128

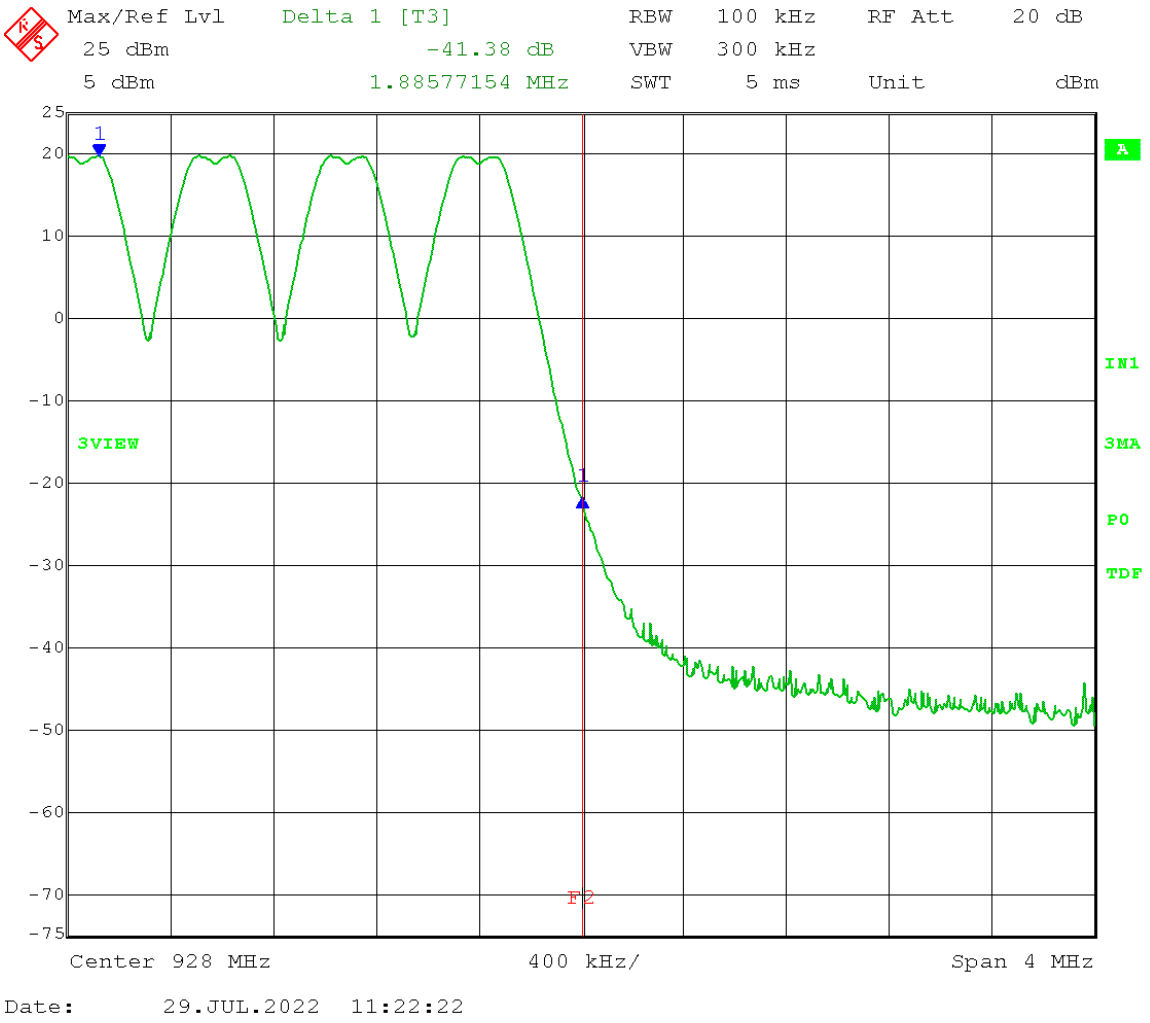
Company: Traffic and Parking Control Co., Inc.
Model: RM8003-03
Project Number: 12348
Report Number: 27202 rev2.0

Section A

Test Date: 07-29-2022 73 °F 45% R.H.
Company: Traffic and Parking Control Co., Inc.
EUT: Model RM8003-03 100mW Radio Module
Test: Upper Authorized-Band Band-Edge – Conducted
Procedure: ANSI C63.10-2013, Section 6.10.4
Operator: cbrandt
Comment: High Channel: Frequency – 927.6 MHz
Hopping ON

Authorized Band-Edge Frequency = 928 MHz
Band-Edge > 20 dB Below Peak In-Band Emission

Level at band-edge is **41.38** dB below the peak in-band emission.



8.0 Emissions in Non-Restricted Frequency Bands – Conducted

Rule Part:

Section 15.247(d)

Test Procedure:

ANSI C63.10-2013, Section 7.8.8
Conducted spurious emissions test methodology

Limit:

20 dB down from the highest emission level within the authorized band as measured with a 100 kHz resolution bandwidth (RBW).

Results:

Compliant

Notes:

In following FCC Part 15 and ANSI C63.10 requirements, the EUT was programmed for continuous transmit, modulated, with a 99.38% duty cycle using programming test software. The EUT was tested at the low, middle, and high channels of operation in accordance with FCC Part 15.31(m).

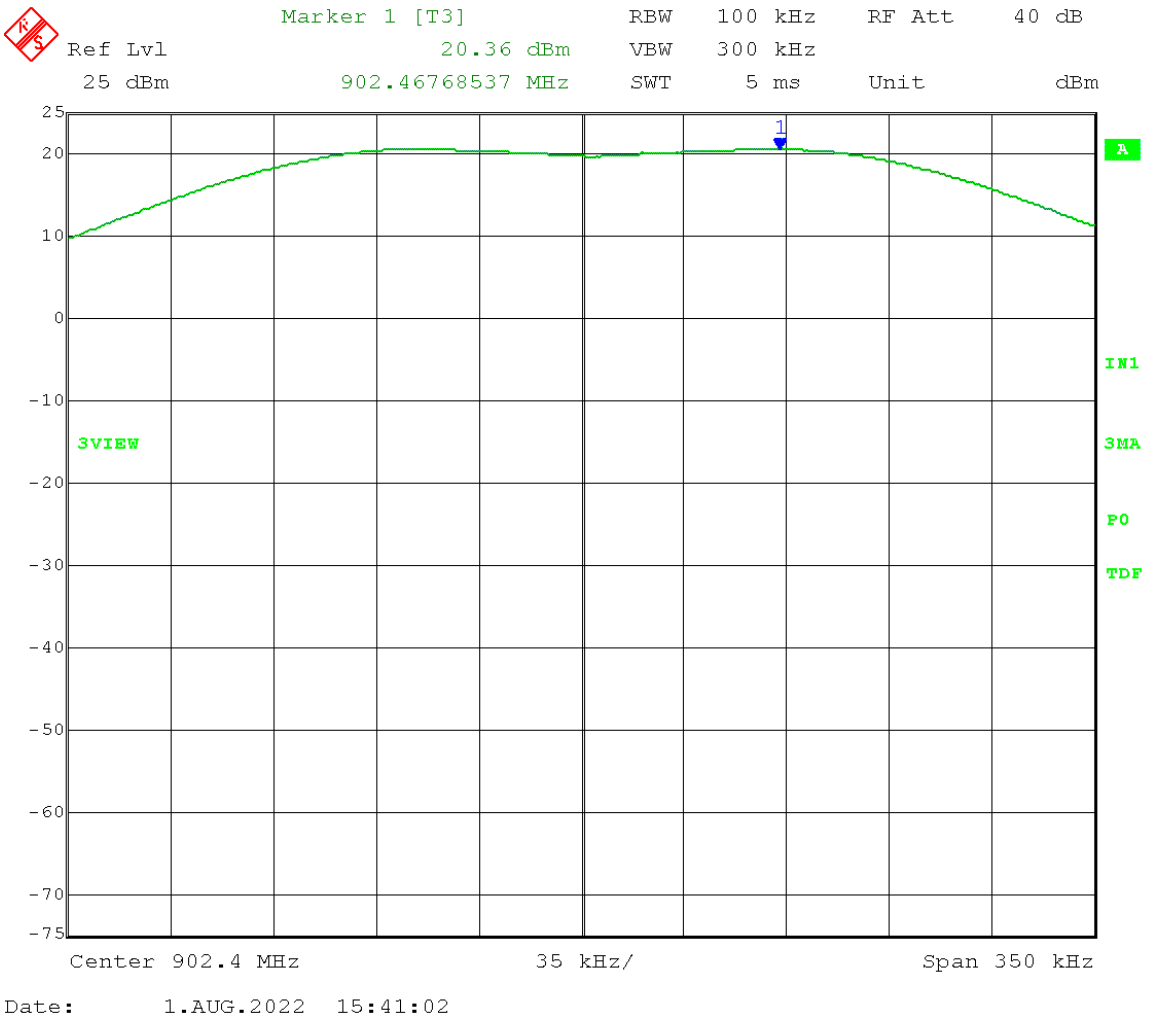
Section A

8.1 Non-Restricted Band Emissions – Low Channel

Test Date: 08-01-2022 72 °F 45% R.H.
Company: Traffic and Parking Control Co., Inc.
EUT: Model RM8003-03 100mW Radio Module
Test: Unwanted Emission Levels - Conducted
Operator: cbrandt
Procedure: ANSI C63.10-2013, Section 7.8.8

Comment: Low Channel: Frequency – 902.4 MHz

Reference Level measurement
Limit = 20.36 dBm – 20 dB = 0.36 dBm



166 South Carter, Genoa City, WI 53128

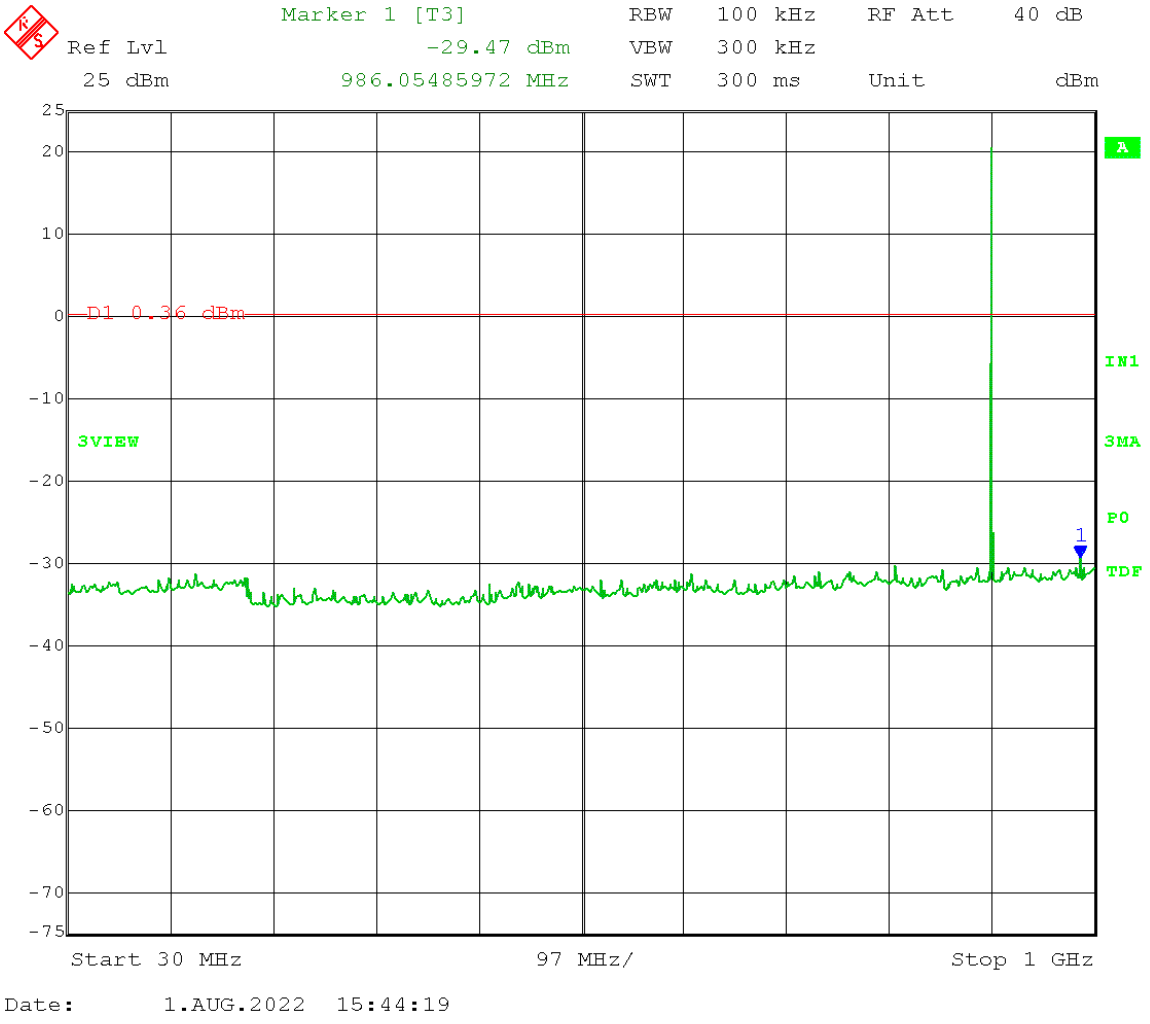
Company: Traffic and Parking Control Co., Inc.
Model: RM8003-03
Project Number: 12348
Report Number: 27202 rev2.0

Section A

Test Date: 08-01-2022 72 °F 45% R.H.
Company: Traffic and Parking Control Co., Inc.
EUT: Model RM8003-03 100mW Radio Module
Test: Unwanted Emission Levels - Conducted
Operator: cbrandt
Procedure: ANSI C63.10-2013, Section 7.8.8

Comment: Low Channel: Frequency – 902.4 MHz

Frequency Range: 30 – 1000 MHz
Limit = 20.36 dBm – 20 dB = 0.36 dBm



166 South Carter, Genoa City, WI 53128

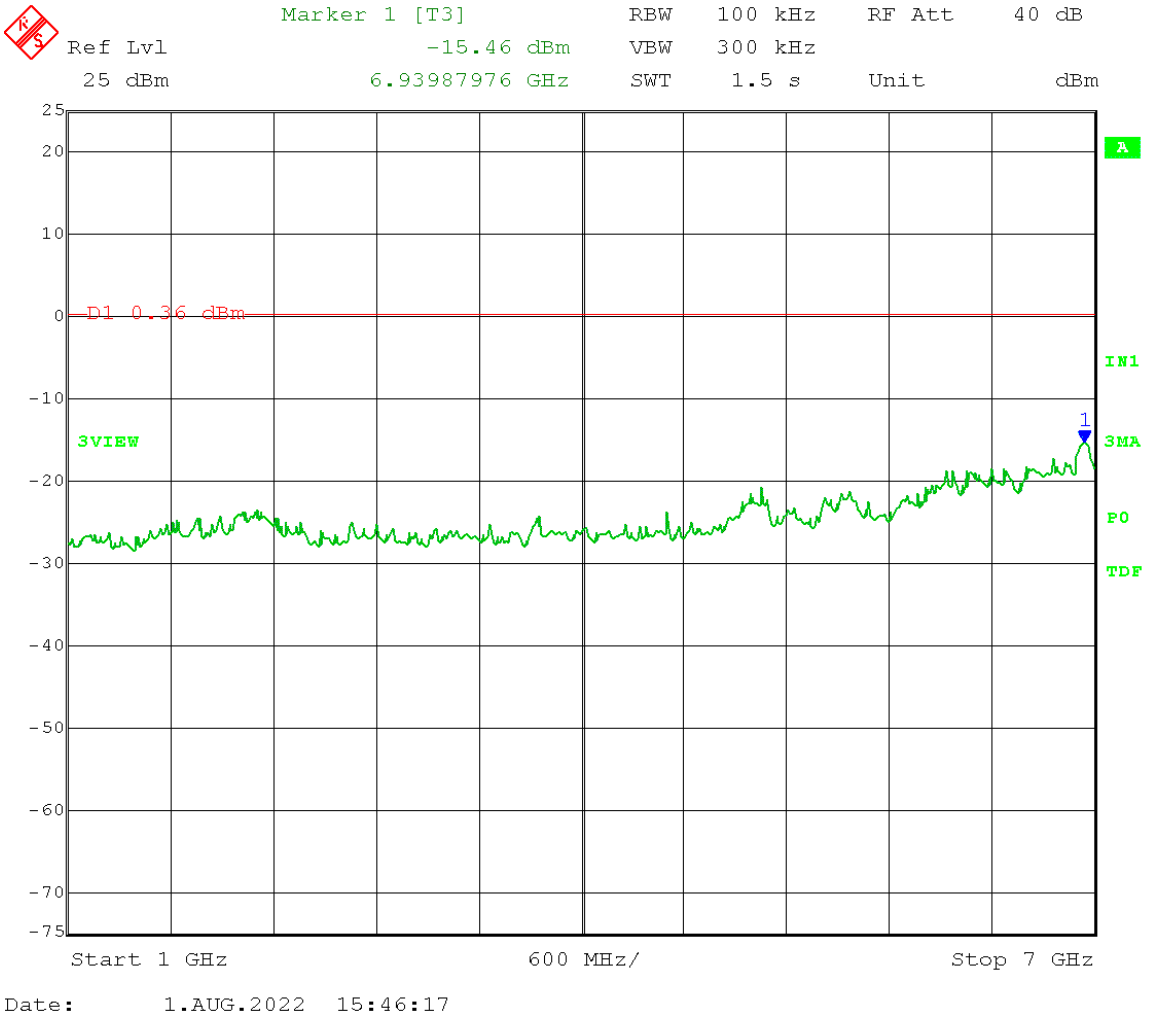
Company: Traffic and Parking Control Co., Inc.
Model: RM8003-03
Project Number: 12348
Report Number: 27202 rev2.0

Section A

Test Date: 08-01-2022 72 °F 45% R.H.
Company: Traffic and Parking Control Co., Inc.
EUT: Model RM8003-03 100mW Radio Module
Test: Unwanted Emission Levels - Conducted
Operator: cbrandt
Procedure: ANSI C63.10-2013, Section 7.8.8

Comment: Low Channel: Frequency – 902.4 MHz

Frequency Range: 1 – 7 GHz
Limit = 20.36 dBm – 20 dB = 0.36 dBm



166 South Carter, Genoa City, WI 53128

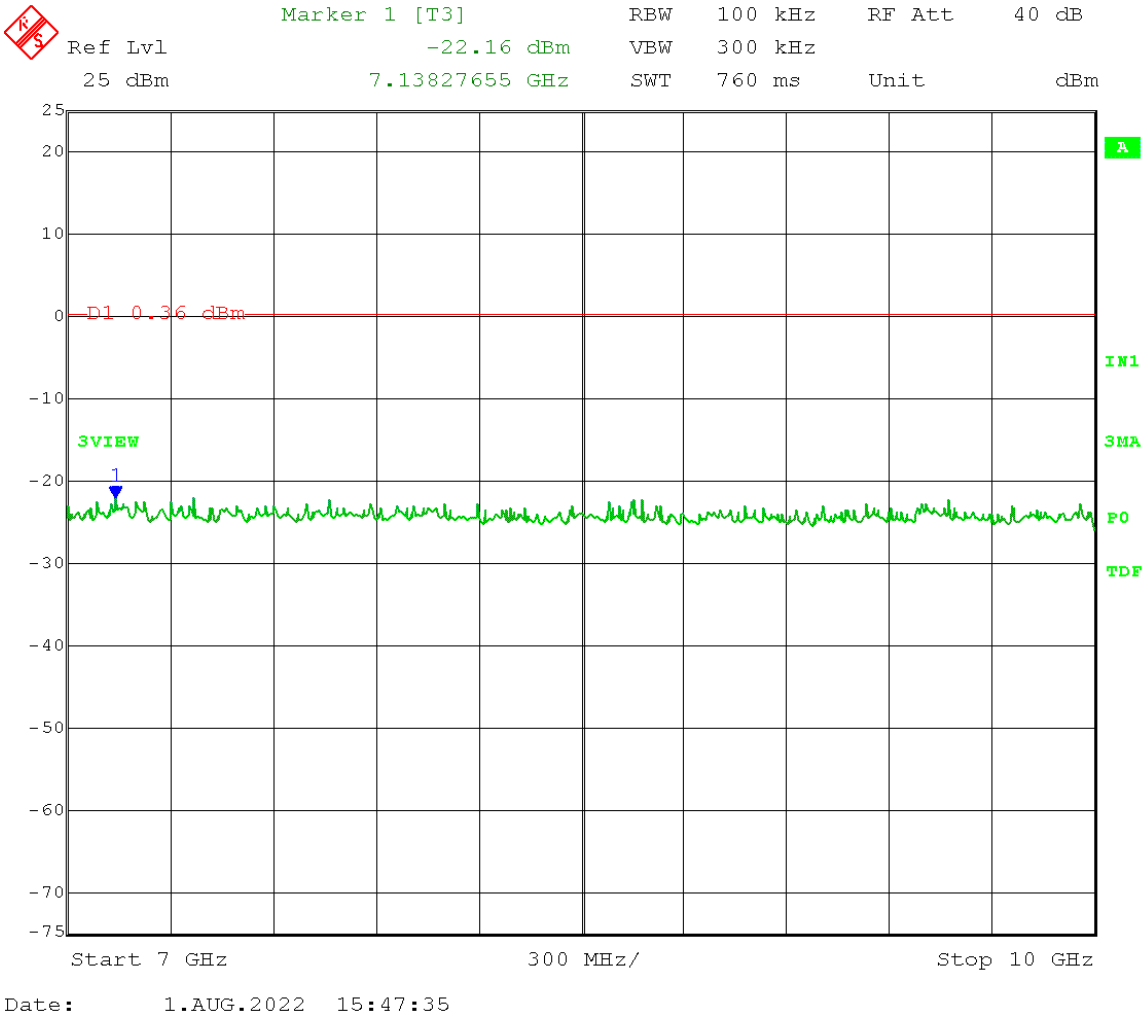
Company: Traffic and Parking Control Co., Inc.
Model: RM8003-03
Project Number: 12348
Report Number: 27202 rev2.0

Section A

Test Date: 08-01-2022 72 °F 45% R.H.
Company: Traffic and Parking Control Co., Inc.
EUT: Model RM8003-03 100mW Radio Module
Test: Unwanted Emission Levels - Conducted
Operator: cbrandt
Procedure: ANSI C63.10-2013, Section 7.8.8

Comment: Low Channel: Frequency – 902.4 MHz

Frequency Range: 7 – 10 GHz
Limit = 20.36 dBm – 20 dB = 0.36 dBm



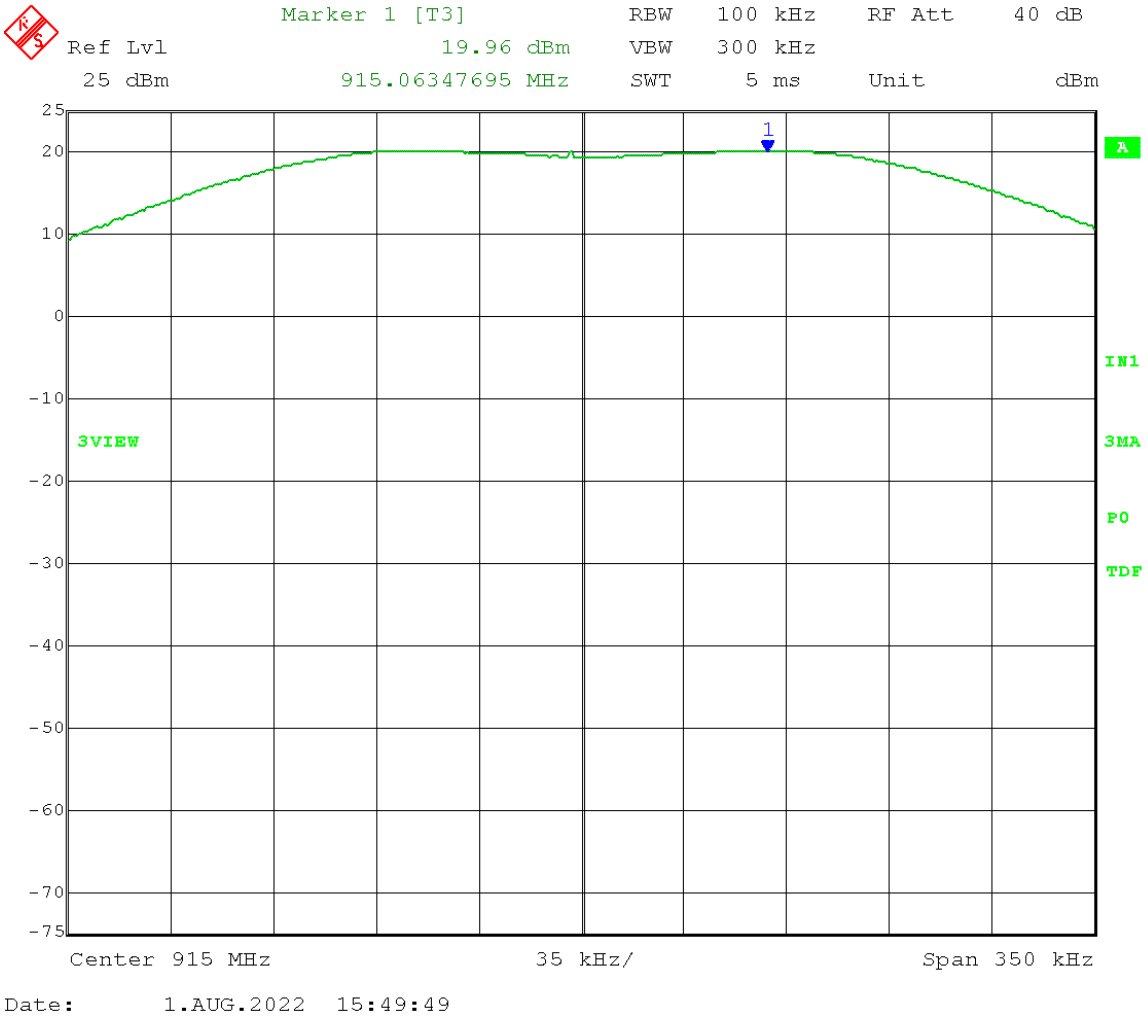
Section A

8.2 Non-Restricted Band Emissions – Middle Channel

Test Date: 08-01-2022 72 °F 45% R.H.
Company: Traffic and Parking Control Co., Inc.
EUT: Model RM8003-03 100mW Radio Module
Test: Unwanted Emission Levels - Conducted
Operator: cbrandt
Procedure: ANSI C63.10-2013, Section 7.8.8

Comment: Mid Channel: Frequency – 915.0 MHz

Reference Level measurement
Limit = 19.96 dBm – 20 dB = -0.04 dBm



166 South Carter, Genoa City, WI 53128

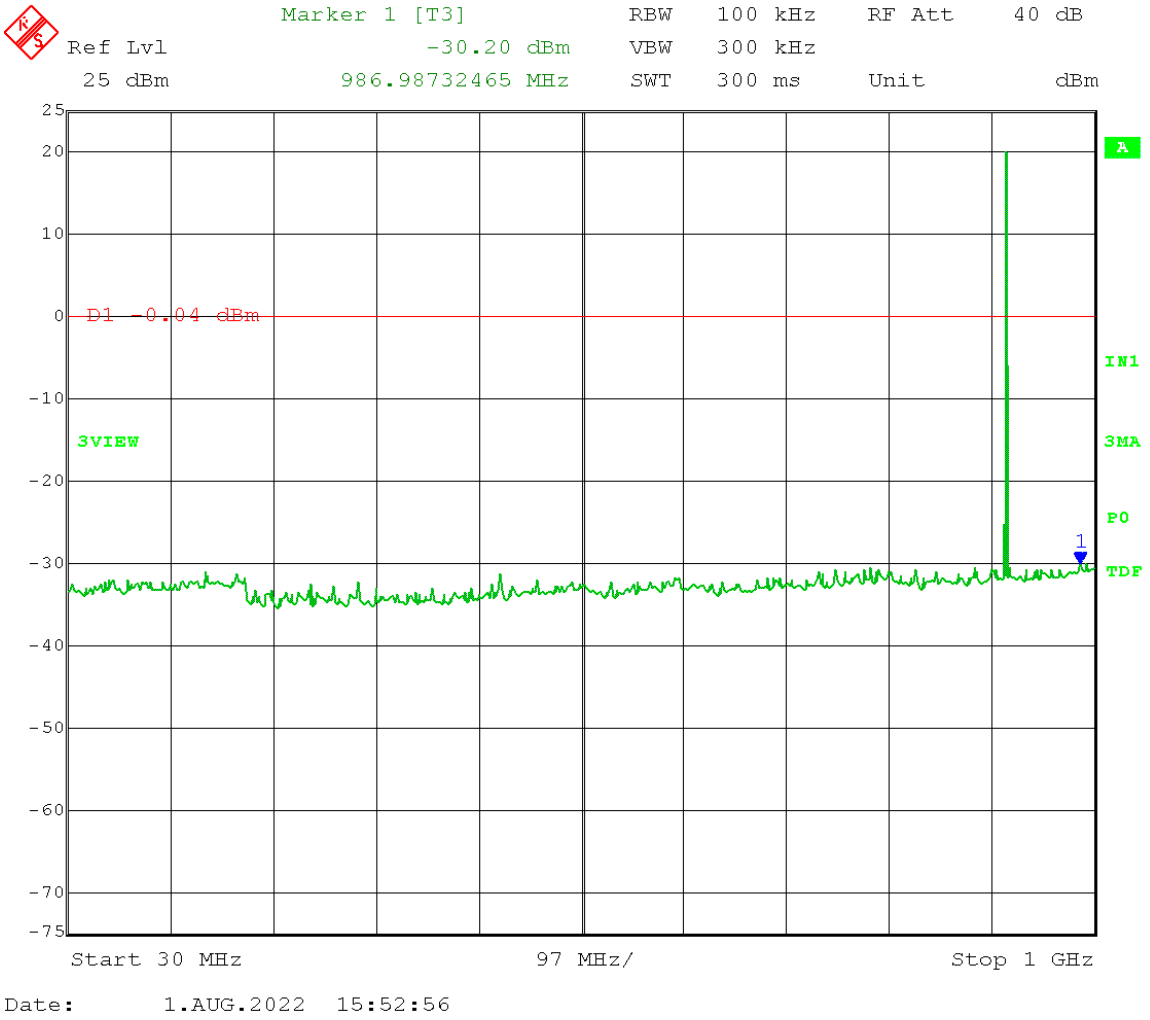
Company: Traffic and Parking Control Co., Inc.
Model: RM8003-03
Project Number: 12348
Report Number: 27202 rev2.0

Section A

Test Date: 08-01-2022 72 °F 45% R.H.
Company: Traffic and Parking Control Co., Inc.
EUT: Model RM8003-03 100mW Radio Module
Test: Unwanted Emission Levels - Conducted
Operator: cbrandt
Procedure: ANSI C63.10-2013, Section 7.8.8

Comment: Mid Channel: Frequency – 915.0 MHz

Frequency Range: 30 – 1000 MHz
Limit = 19.96 dBm – 20 dB = -0.04 dBm



166 South Carter, Genoa City, WI 53128

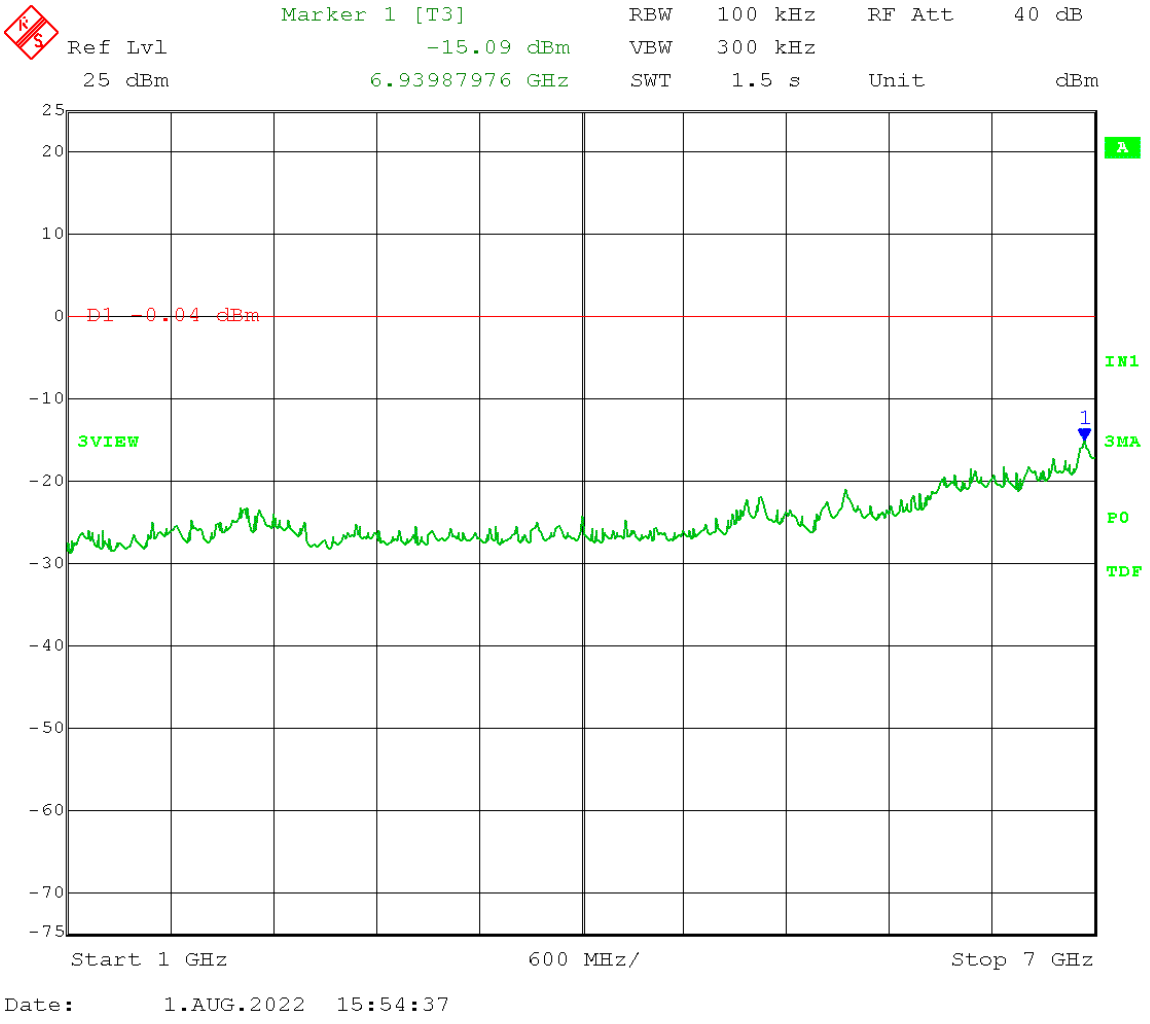
Company: Traffic and Parking Control Co., Inc.
Model: RM8003-03
Project Number: 12348
Report Number: 27202 rev2.0

Section A

Test Date: 08-01-2022 72 °F 45% R.H.
Company: Traffic and Parking Control Co., Inc.
EUT: Model RM8003-03 100mW Radio Module
Test: Unwanted Emission Levels - Conducted
Operator: cbrandt
Procedure: ANSI C63.10-2013, Section 7.8.8

Comment: Mid Channel: Frequency – 915.0 MHz

Frequency Range: 1 – 7 GHz
Limit = 19.96 dBm – 20 dB = -0.04 dBm



166 South Carter, Genoa City, WI 53128

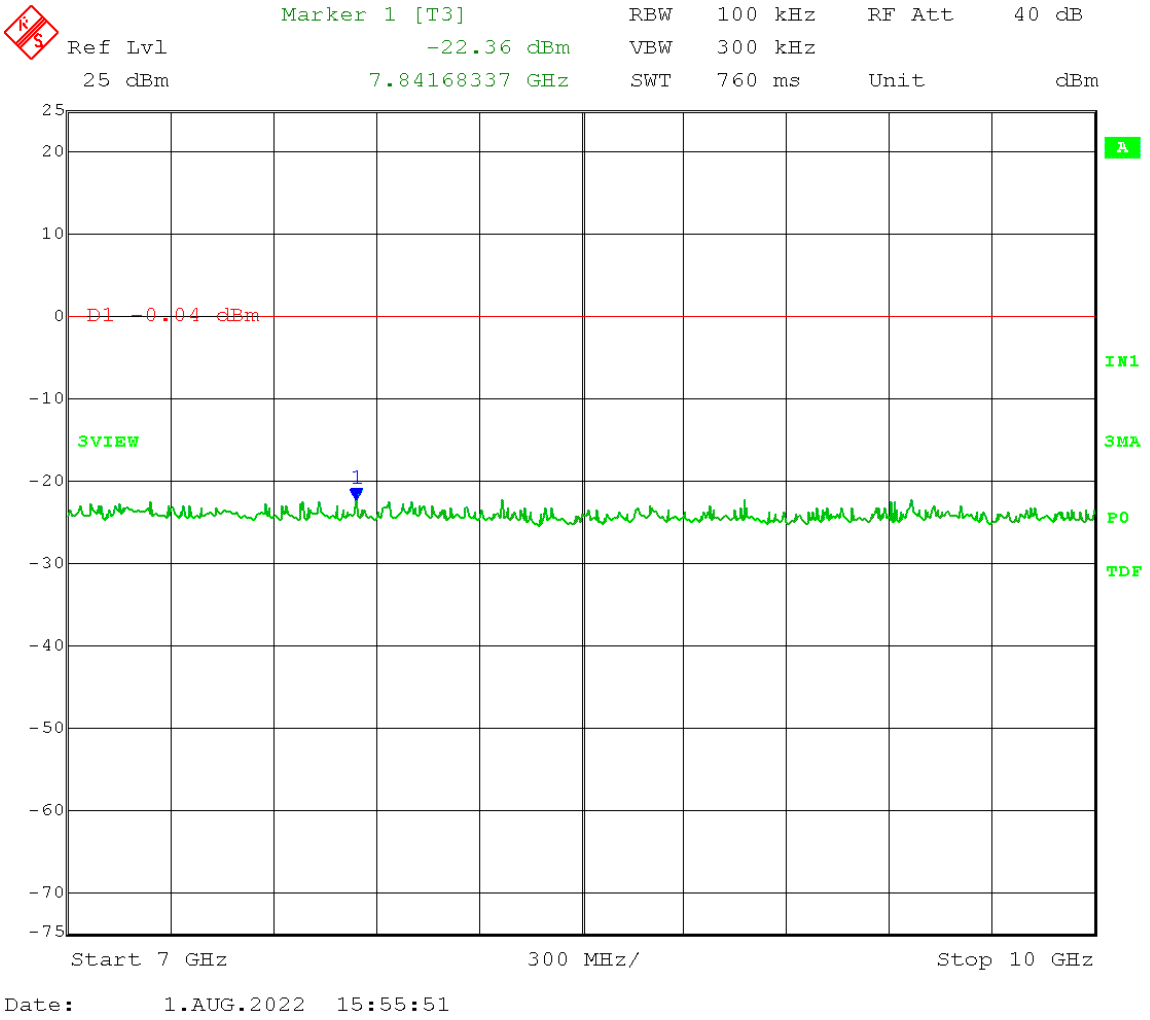
Company: Traffic and Parking Control Co., Inc.
Model: RM8003-03
Project Number: 12348
Report Number: 27202 rev2.0

Section A

Test Date: 08-01-2022 72 °F 45% R.H.
Company: Traffic and Parking Control Co., Inc.
EUT: Model RM8003-03 100mW Radio Module
Test: Unwanted Emission Levels - Conducted
Operator: cbrandt
Procedure: ANSI C63.10-2013, Section 7.8.8

Comment: Mid Channel: Frequency – 915.0 MHz

Frequency Range: 7 – 10 GHz
Limit = 19.96 dBm – 20 dB = -0.04 dBm



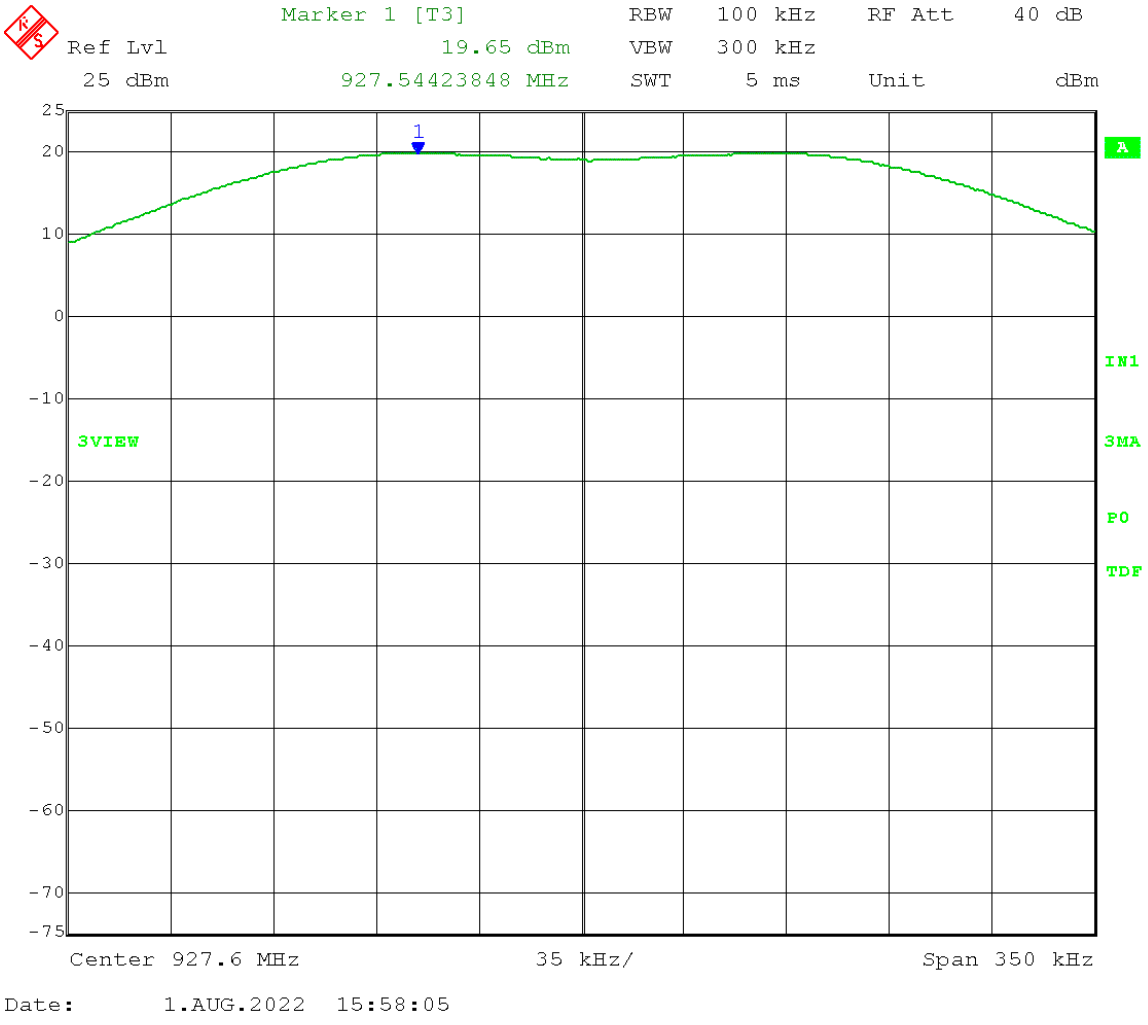
Section A

8.3 Non-Restricted Band Emissions – High Channel

Test Date: 08-01-2022 72 °F 45% R.H.
Company: Traffic and Parking Control Co., Inc.
EUT: Model RM8003-03 100mW Radio Module
Test: Unwanted Emission Levels - Conducted
Operator: cbrandt
Procedure: ANSI C63.10-2013, Section 7.8.8

Comment: High Channel: Frequency – 927.6 MHz

Reference Level measurement
Limit = 19.65 dBm – 20 dB = -0.35 dBm



166 South Carter, Genoa City, WI 53128

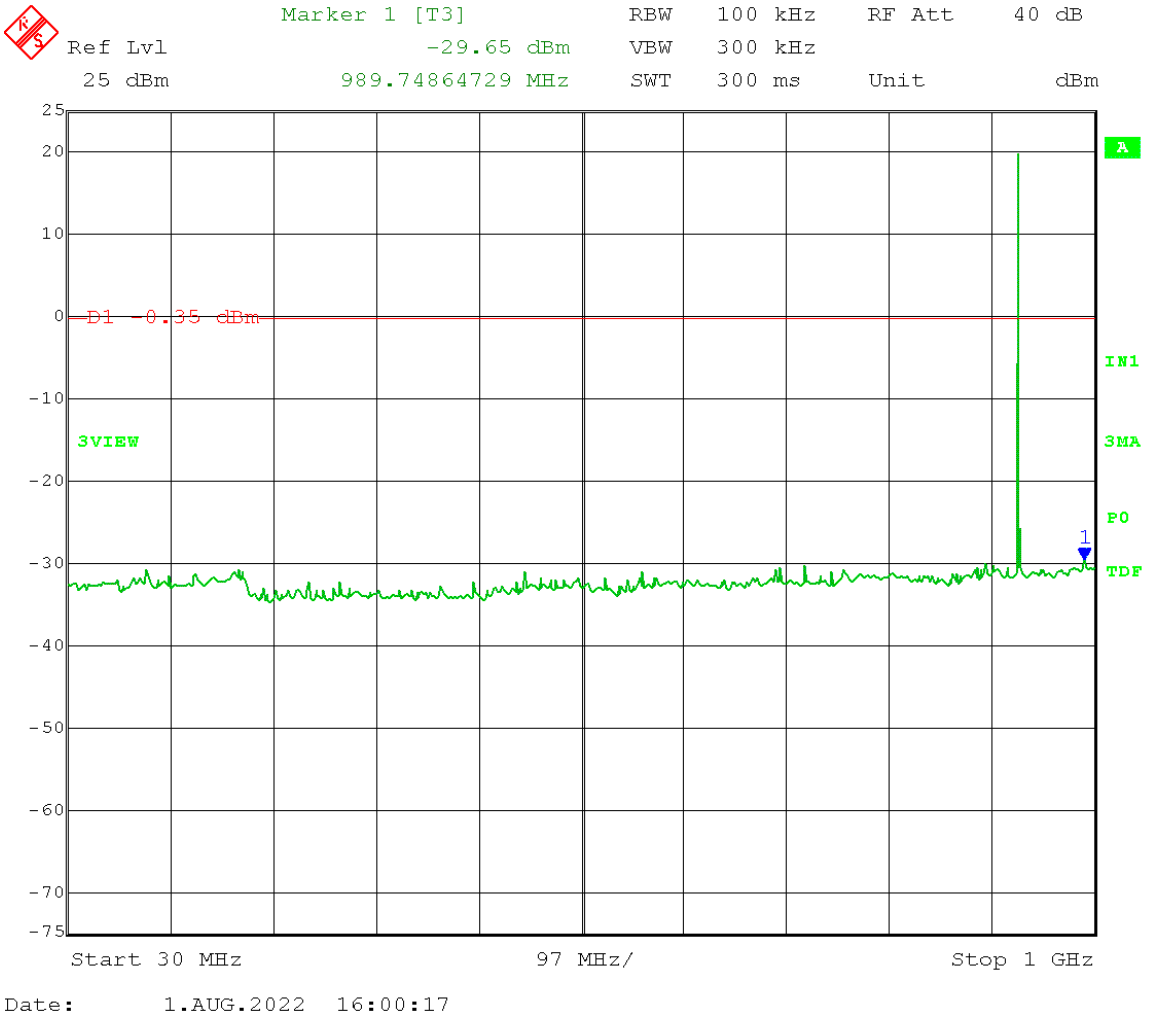
Company: Traffic and Parking Control Co., Inc.
Model: RM8003-03
Project Number: 12348
Report Number: 27202 rev2.0

Section A

Test Date: 08-01-2022 72 °F 45% R.H.
Company: Traffic and Parking Control Co., Inc.
EUT: Model RM8003-03 100mW Radio Module
Test: Unwanted Emission Levels - Conducted
Operator: cbrandt
Procedure: ANSI C63.10-2013, Section 7.8.8

Comment: High Channel: Frequency – 927.6 MHz

Frequency Range: 30 – 1000 MHz
Limit = 19.65 dBm – 20 dB = -0.35 dBm



166 South Carter, Genoa City, WI 53128

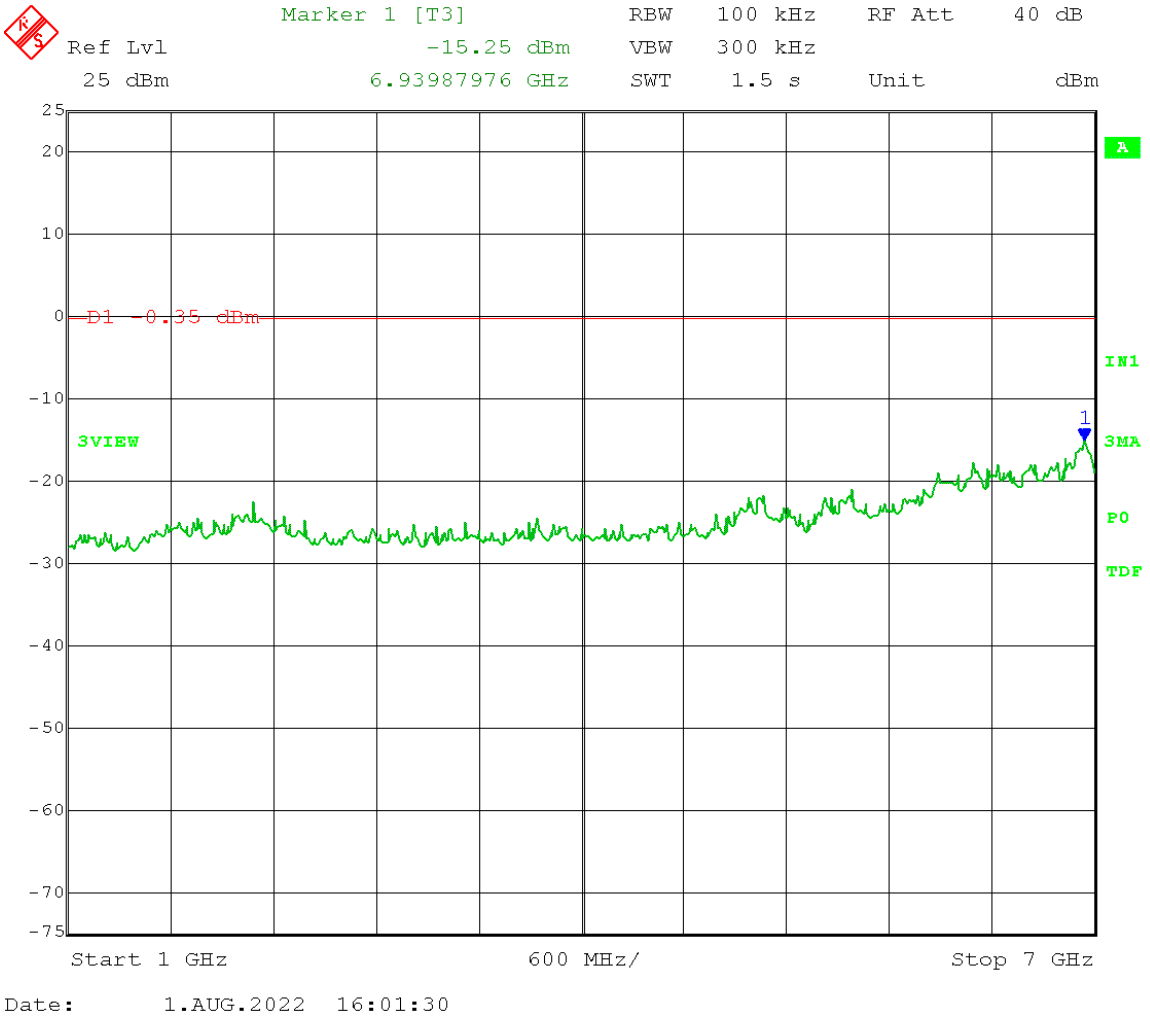
Company: Traffic and Parking Control Co., Inc.
Model: RM8003-03
Project Number: 12348
Report Number: 27202 rev2.0

Section A

Test Date: 08-01-2022 72 °F 45% R.H.
Company: Traffic and Parking Control Co., Inc.
EUT: Model RM8003-03 100mW Radio Module
Test: Unwanted Emission Levels - Conducted
Operator: cbrandt
Procedure: ANSI C63.10-2013, Section 7.8.8

Comment: High Channel: Frequency – 927.6 MHz

Frequency Range: 1 – 7 GHz
Limit = 19.65 dBm – 20 dB = -0.35 dBm



166 South Carter, Genoa City, WI 53128

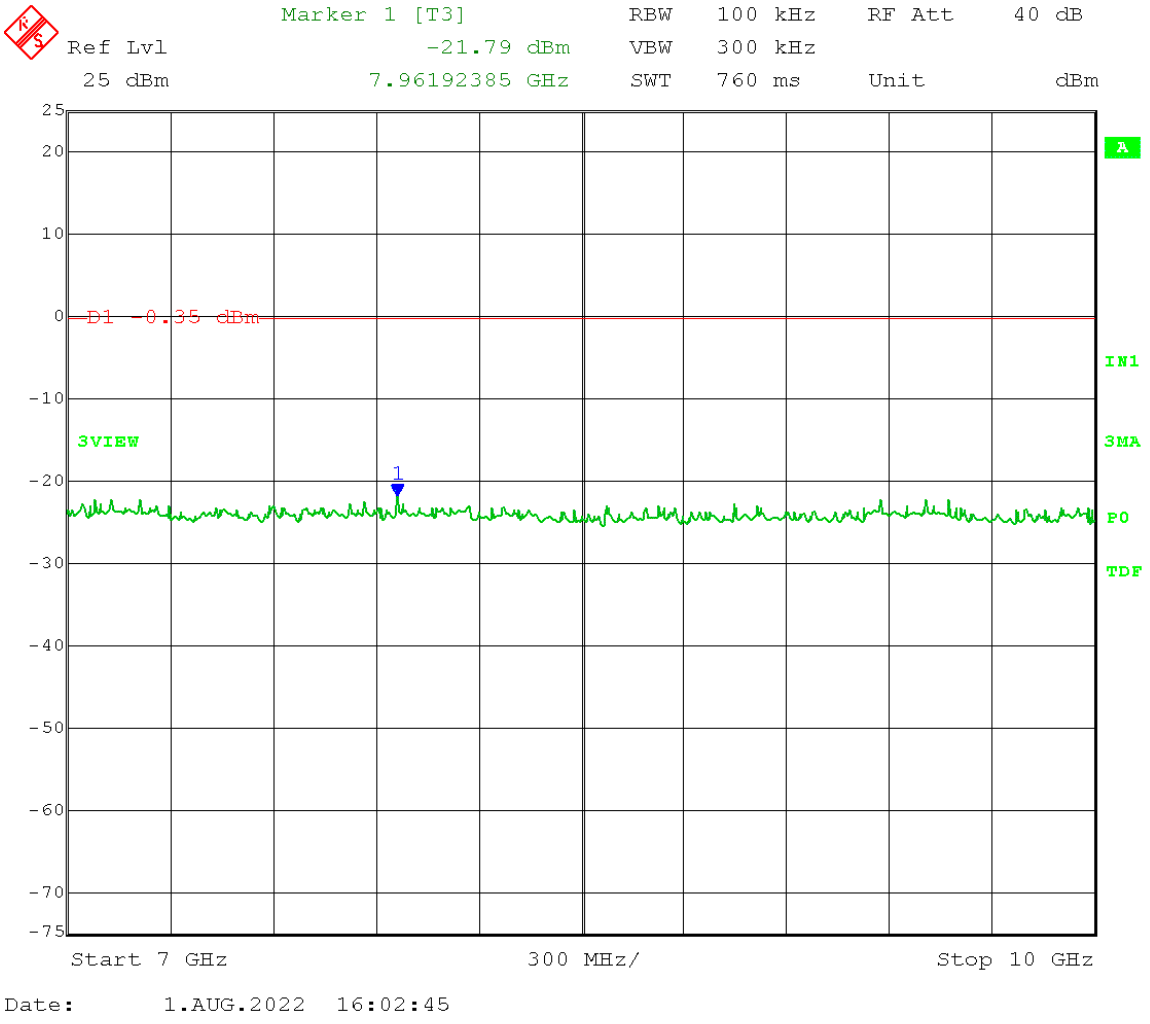
Company: Traffic and Parking Control Co., Inc.
Model: RM8003-03
Project Number: 12348
Report Number: 27202 rev2.0

Section A

Test Date: 08-01-2022 72 °F 45% R.H.
Company: Traffic and Parking Control Co., Inc.
EUT: Model RM8003-03 100mW Radio Module
Test: Unwanted Emission Levels - Conducted
Operator: cbrandt
Procedure: ANSI C63.10-2013, Section 7.8.8

Comment: High Channel: Frequency – 927.6 MHz

Frequency Range: 7 – 10 GHz
Limit = 19.65 dBm – 20 dB = -0.35 dBm



Section A

9.0 Emissions in Restricted Frequency Bands – Radiated

Rule Part:

Sections 15.247(d), 15.205(b), and 15.209(a)

Test Procedure:

ANSI C63.10-2013, Sections 6.5 & 6.6
Radiated emissions from unlicensed wireless devices in the frequency range of 30 MHz to 1000 MHz.
Radiated emissions from unlicensed wireless devices above 1 GHz.

Limit:

Table in FCC Part 15.209

Results:

Compliant

Notes:

In following FCC Part 15 and ANSI C63.10 requirements, the EUT was programmed for continuous transmit, modulated, with a 99.38% duty cycle using programming test software. The EUT was tested at the low, middle, and high channels of operation in accordance with FCC Part 15.31(m).

The EUT was rotated through 3 orthogonal axes to find the highest radiated field strength at each frequency of interest. The maximum field strength level of all emissions found inside of the restricted frequency bands of FCC Part 15.205 were measured and recorded.

The EUT was tested with 4 different antennas.

FCC Part 15.247 / 15.205 / 15.209

Electric Field Strength

EUT: Model RM8003-03 100mW Radio Module
Manufacturer: Traffic and Parking Control Co., Inc.
Operating Condition: 73 deg. F; 58% R.H.
Test Site: DLS O.F. Site 2
Operator: cbrandt #12348 10.65 dBi Yagi antenna
Test Specification: Radiated Emissions in Restricted Bands; 3.80 V DC
Comment: Low, Mid, High ch's; Continuous Tx (99.38% duty cycle)
Date: 08-04-2022

TEXT: "Vert 3 meters"

Short Description: Test Set-up

Test Set-up: EUT Measured at 3 Meters with VERTICAL Antenna Polarization

Equations: Total Level(dBµV/m) = Level(dBµV) + System Loss(dB) + Antenna Factor(dBµV/m)

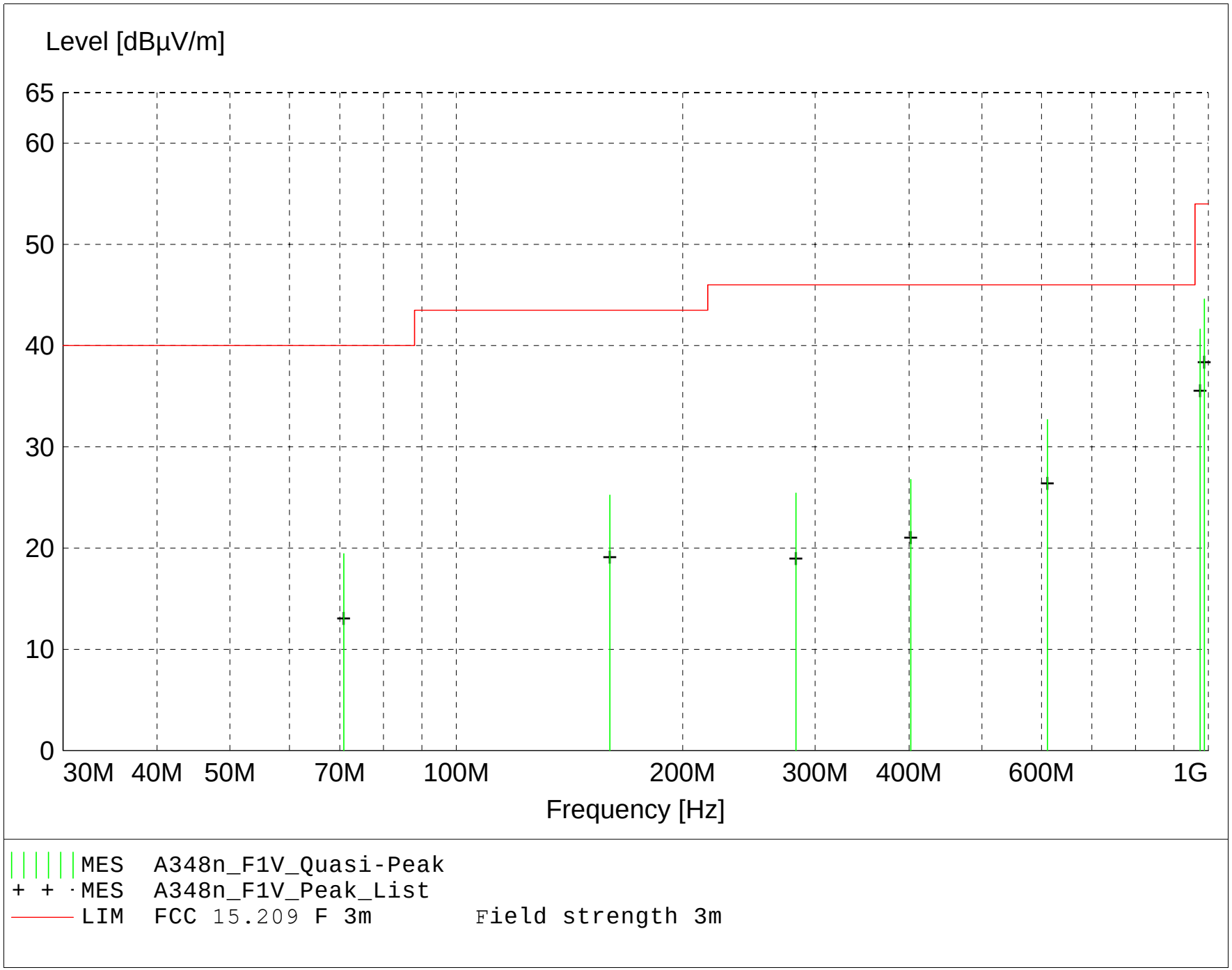
Margin(dB) = Limit(dBµV/m) - Total Level(dBµV/m)

Graph Markers: + Frequency marker (Level of marker not related to final level)

| Final maximized level using Quasi-Peak detector

X Final maximized level using Average dector

Final maximized level using Peak detector


Level [dBµV/m]
65
60
50
40
30
20
10
0
30M
40M
50M
70M
100M
200M
300M
400M
600M
1G
Frequency [Hz]
MES A348n_F1V_Quasi-Peak
MES A348n_F1V_Peak_List
LIM FCC 15.209 F 3m
Field strength 3m

MEASUREMENT RESULT: "A348n_F1V_Final"

8/4/2022 2:03PM

Frequency	Level	Antenna Factor	System Loss	Total Level	Limit	Margin	Height Ant.	EuT Angle	Final Detector	Comment
MHz	dBµV	dBµV/m	dB	dBµV/m	dBµV/m	dB	m	deg		
987.670000	15.17	23.67	5.8	44.6	54.0	9.4	1.17	0	QUASI-PEAK	High ch
975.070000	12.43	23.50	5.7	41.6	54.0	12.4	1.23	0	QUASI-PEAK	Mid ch
611.060000	9.44	18.91	4.3	32.7	46.0	13.3	1.20	0	QUASI-PEAK	noise floor
160.010000	9.39	13.71	2.1	25.2	43.5	18.3	1.00	180	QUASI-PEAK	noise floor
402.140000	8.01	15.30	3.5	26.8	46.0	19.2	1.00	0	QUASI-PEAK	noise floor
70.880000	10.84	7.18	1.4	19.4	40.0	20.6	1.00	180	QUASI-PEAK	noise floor
282.905000	9.20	13.39	2.9	25.4	46.0	20.6	1.00	160	QUASI-PEAK	noise floor

FCC Part 15.247 / 15.205 / 15.209

Electric Field Strength

EUT: Model RM8003-03 100mW Radio Module
Manufacturer: Traffic and Parking Control Co., Inc.
Operating Condition: 73 deg. F; 58% R.H.
Test Site: DLS O.F. Site 2
Operator: cbrandt #12348 10.65 dBi Yagi antenna
Test Specification: Radiated Emissions in Restricted Bands; 3.80 V DC
Comment: Low, Mid, High ch's; Continuous Tx (99.38% duty cycle)
Date: 08-04-2022

TEXT: "Horz 3 meters"

Short Description: Test Set-up

Test Set-up: EUT Measured at 3 Meters with HORIZONTAL Antenna Polarization

Equations: Total Level(dBµV/m) = Level(dBµV) + System Loss(dB) + Antenna Factor(dBµV/m)

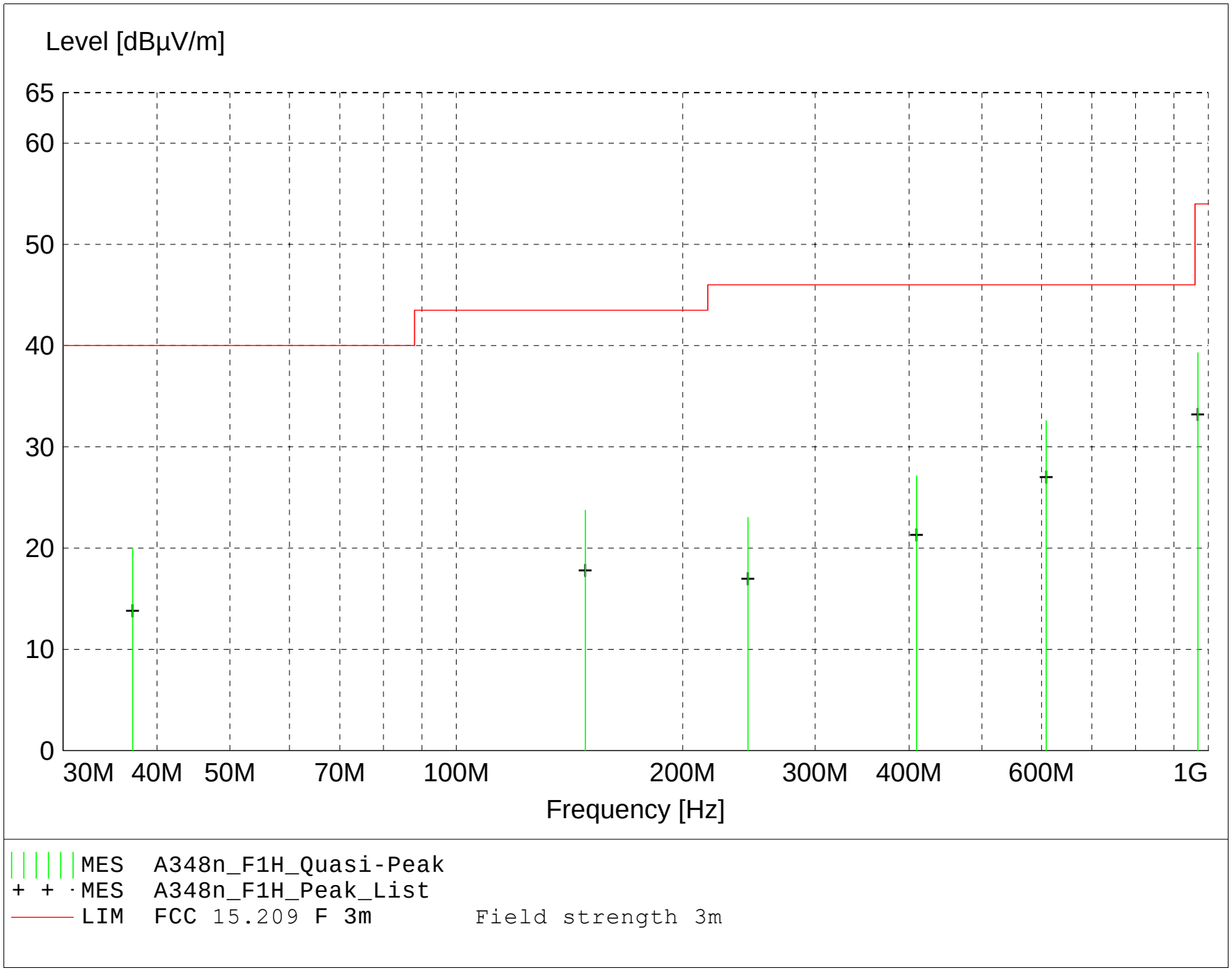
Margin(dB) = Limit(dBµV/m) - Total Level(dBµV/m)

Graph Markers: + Frequency marker (Level of marker not related to final level)

| Final maximized level using Quasi-Peak detector

X Final maximized level using Average dector

Final maximized level using Peak detector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60
50
40
30
20
10
0
30M
40M
50M
70M
100M
200M
300M
400M
600M
1G
Frequency [Hz]
MES A348n_F1H_Quasi-Peak
MES A348n_F1H_Peak_List
LIM FCC 15.209 F 3m
Field strength 3m

MEASUREMENT RESULT: "A348n_F1H_Final"

8/4/2022 1:53PM

Frequency	Level	Antenna Factor	System Loss	Total Level	Limit	Margin	Height Ant.	EuT Angle	Final Detector	Comment
MHz	dBµV	dBµV/m	dB	dBµV/m	dBµV/m	dB	m	deg		
608.790000	9.34	18.90	4.3	32.6	46.0	13.4	1.20	315	QUASI-PEAK	noise floor
968.640000	10.24	23.40	5.7	39.3	54.0	14.7	1.20	0	QUASI-PEAK	noise floor
409.295000	8.19	15.43	3.5	27.1	46.0	18.9	1.50	170	QUASI-PEAK	noise floor
148.490000	9.30	12.36	2.1	23.7	43.5	19.8	1.78	270	QUASI-PEAK	noise floor
37.130000	7.66	11.32	1.0	20.0	40.0	20.0	1.78	270	QUASI-PEAK	noise floor
244.205000	8.13	12.22	2.7	23.0	46.0	23.0	1.48	0	QUASI-PEAK	noise floor

FCC Part 15.247 / 15.205 / 15.209

Electric Field Strength

```
EUT:                  Model RM8003-03 100mW Radio Module
Manufacturer:         Traffic and Parking Control Co., Inc.
Operating Condition:  71 deg F  45% R.H.
Test Site:            DLS O.F. G1
Operator:             cbrandt   #12348        10.65 dBi Yagi
Test Specification:   Radiated Emissions in Restricted Bands;  3.80 V DC
Comment:              Low, Mid, High ch's;  Continuous Tx (99.38% duty cycle)
                      08-02-2022
```

TEXT: "Vert 3 meters"

```
  Short Description:            Test Set-up


Test Set-up:    EUT Measured at 3 Meters with VERTICAL Antenna Polarization


Sample Equations:   Total Level(dBµV/m) = Level(dBµV) + System Loss(dB) + Antenna Factor(dBµV/m)
                    24.6                = 35.51       + (-22.1)         + 11.20

                    Margin(dB)  = Limit(dBµV/m) - Total Level(dBµV/m)
                    15.4        = 40            - 24.6


Graph Markers:  +       Frequency marker (Level of marker not related to final level)

                |       Final maximized level using Quasi-Peak detector

                X       Final maximized level using Average dector

                #       Final maximized level using Peak detector

                -       Background Scan Peak Detector (Optional)

                -       Background Scan Average Detector (Optional)
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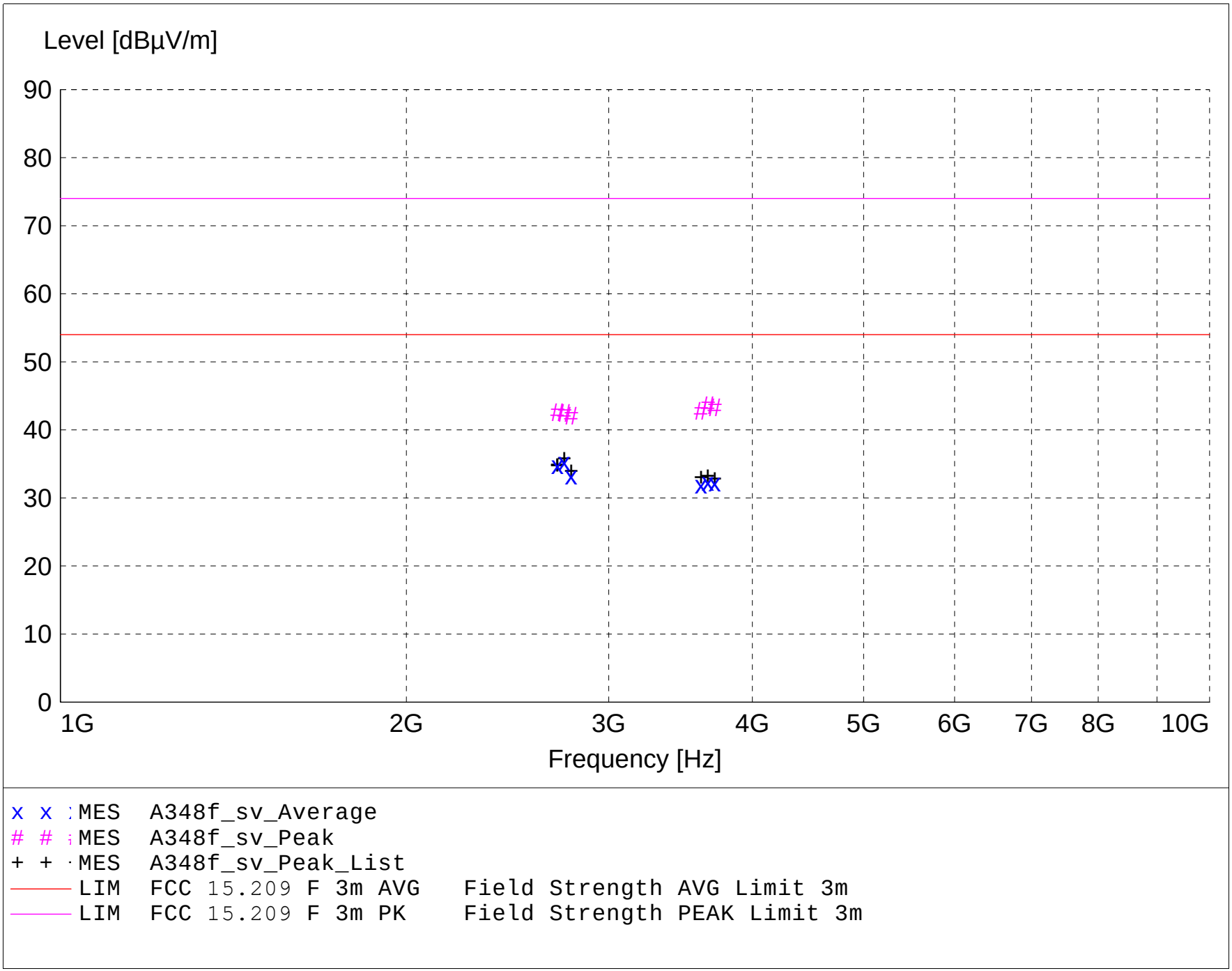


x x x MES A348f_sv_Average
MES A348f_sv_Peak
+ + + MES A348f_sv_Peak_List
——— LIM FCC 15.209 F 3m AVG Field Strength AVG Limit 3m
——— LIM FCC 15.209 F 3m PK Field Strength PEAK Limit 3m

MEASUREMENT RESULT: "A348f_sv_Final"

8/2/2022 10:19AM

Frequency	Level	Antenna Factor	System Loss	Total Level	Limit	Margin	Height Ant.	EuT Angle	Final Detector	Comment
MHz	dBµV	dBµV/m	dB	dBµV/m	dBµV/m	dB	m	deg		
2745.020000	45.94	28.81	-39.5	35.3	54.0	18.7	1.38	48	AVERAGE	Mid ch
2707.230000	45.32	28.90	-39.4	34.8	54.0	19.2	1.22	87	AVERAGE	Low ch
2782.810000	43.89	28.84	-39.5	33.2	54.0	20.8	1.68	22	AVERAGE	High ch
3660.000000	40.75	31.89	-40.2	32.4	54.0	21.6	1.71	332	AVERAGE	Mid ch
3710.390000	40.10	32.35	-40.2	32.2	54.0	21.8	1.98	301	AVERAGE	High ch
3609.630000	40.71	31.53	-40.2	32.0	54.0	22.0	1.90	214	AVERAGE	Low ch
3660.000000	51.93	31.89	-40.2	43.6	74.0	30.4	1.71	332	MAX PEAK	Mid ch
3710.390000	51.17	32.35	-40.2	43.3	74.0	30.7	1.98	301	MAX PEAK	High ch
3609.630000	51.55	31.53	-40.2	42.8	74.0	31.2	1.90	214	MAX PEAK	Low ch
2707.230000	53.14	28.90	-39.4	42.6	74.0	31.4	1.22	87	MAX PEAK	Low ch
2745.020000	53.14	28.81	-39.5	42.5	74.0	31.5	1.38	48	MAX PEAK	Mid ch
2782.810000	52.74	28.84	-39.5	42.1	74.0	31.9	1.68	22	MAX PEAK	High ch

FCC Part 15.247 / 15.205 / 15.209

Electric Field Strength

EUT: Model RM8003-03 100mW Radio Module
Manufacturer: Traffic and Parking Control Co., Inc.
Operating Condition: 71 deg F 45% R.H.
Test Site: DLS O.F. G1
Operator: cbrandt #12348 10.65 dBi Yagi
Test Specification: Radiated Emissions in Restricted Bands; 3.80 V DC
Comment: Low, Mid, High ch's; Continuous Tx (99.38% duty cycle)
08-02-2022

TEXT: "Horz 3 meters"

Short Description: Test Set-up

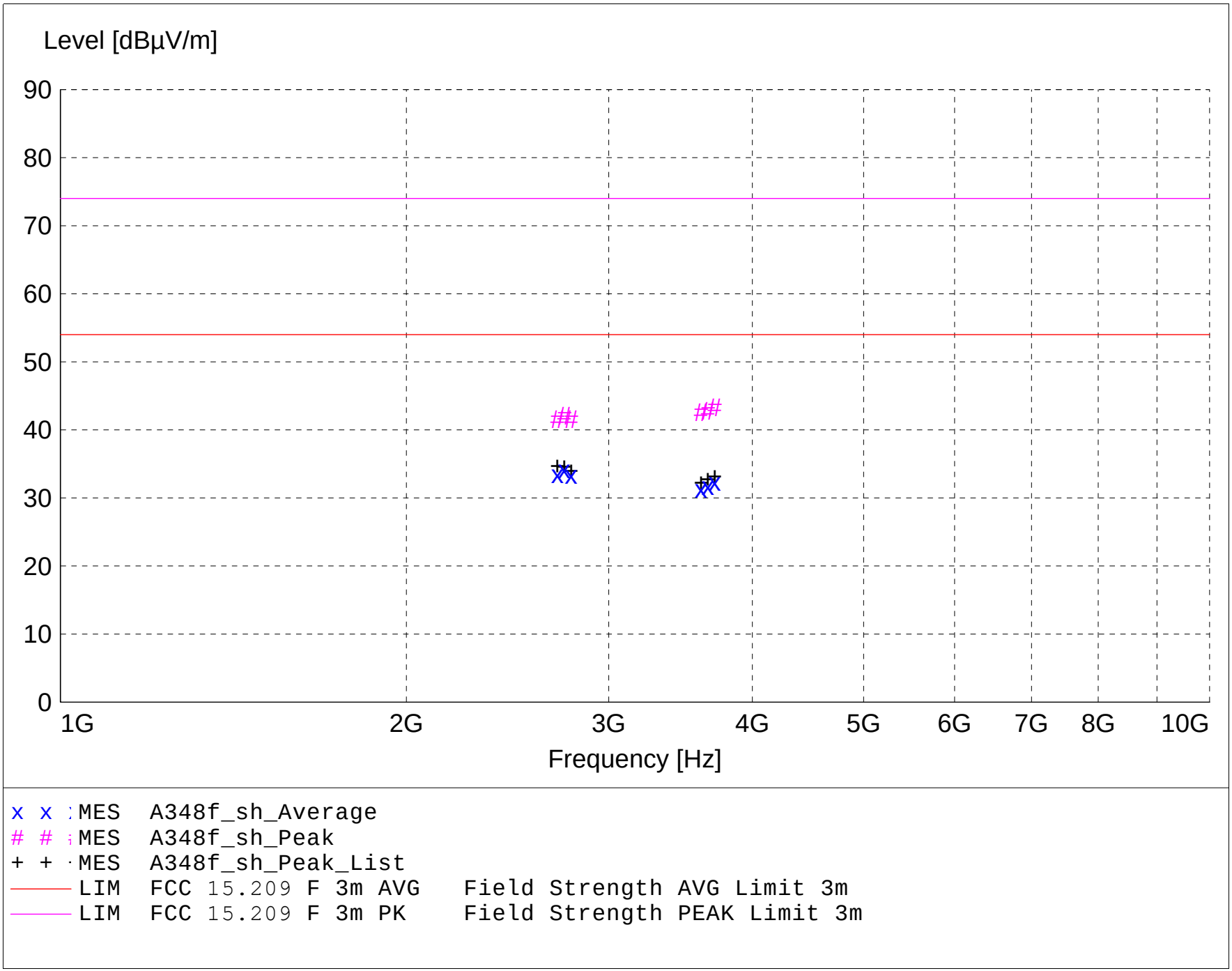
Test Set-up: EUT Measured at 3 Meters with HORIZONTAL Antenna Polarization

Sample Equations: Total Level(dBµV/m) = Level(dBµV) + System Loss(dB) + Antenna Factor(dBµV/m)
24.6 = 35.51 + (-22.1) + 11.20

Margin(dB) = Limit(dBµV/m) - Total Level(dBµV/m)
15.4 = 40 - 24.6

Graph Markers:

+	Frequency marker (Level of marker not related to final level)
|	Final maximized level using Quasi-Peak detector
X	Final maximized level using Average dector
#	Final maximized level using Peak detector
-	Background Scan Peak Detector (Optional)
-	Background Scan Average Detector (Optional)



x x x MES A348f_sh_Average
MES A348f_sh_Peak
+ + + MES A348f_sh_Peak_List
——— LIM FCC 15.209 F 3m AVG Field Strength AVG Limit 3m
——— LIM FCC 15.209 F 3m PK Field Strength PEAK Limit 3m

MEASUREMENT RESULT: "A348f_sh_Final"

8/2/2022 11:39AM

Frequency	Level	Antenna Factor	System Loss	Total Level	Limit	Margin	Height Ant.	EuT Angle	Final Detector	Comment
MHz	dBµV	dBµV/m	dB	dBµV/m	dBµV/m	dB	m	deg		
2745.010000	44.91	28.81	-39.5	34.2	54.0	19.8	1.83	240	AVERAGE	Mid ch
2707.200000	44.03	28.90	-39.4	33.5	54.0	20.5	2.09	218	AVERAGE	Low ch
2782.800000	44.01	28.84	-39.5	33.3	54.0	20.7	1.26	263	AVERAGE	High ch
3710.400000	40.24	32.35	-40.2	32.4	54.0	21.6	1.42	344	AVERAGE	High ch
3659.970000	40.06	31.89	-40.2	31.7	54.0	22.3	1.50	335	AVERAGE	Mid ch
3609.620000	40.01	31.53	-40.2	31.3	54.0	22.7	1.39	351	AVERAGE	Low ch
3710.400000	51.17	32.35	-40.2	43.3	74.0	30.7	1.42	344	MAX PEAK	High ch
3659.970000	51.17	31.89	-40.2	42.8	74.0	31.2	1.50	335	MAX PEAK	Mid ch
3609.620000	51.30	31.53	-40.2	42.6	74.0	31.4	1.39	351	MAX PEAK	Low ch
2745.010000	52.74	28.81	-39.5	42.1	74.0	31.9	1.83	240	MAX PEAK	Mid ch
2782.800000	52.20	28.84	-39.5	41.5	74.0	32.5	1.26	263	MAX PEAK	High ch
2707.200000	52.06	28.90	-39.4	41.5	74.0	32.5	2.09	218	MAX PEAK	Low ch

FCC Part 15.247 / 15.205 / 15.209

Electric Field Strength

EUT: Model RM8003-03 100mW Radio Module
Manufacturer: Traffic and Parking Control Co., Inc.
Operating Condition: 76 deg. F; 50% R.H.
Test Site: DLS O.F. Site 2
Operator: cbrandt #12348 5.15 dBi half-wave dipole
Test Specification: Radiated Emissions in Restricted Bands; 3.80 V DC
Comment: Low, Mid, High ch's; Continuous Tx (99.38% duty cycle)
Date: 08-05-2022

TEXT: "Vert 3 meters"

Short Description: Test Set-up

Test Set-up: EUT Measured at 3 Meters with VERTICAL Antenna Polarization

Equations: Total Level(dBµV/m) = Level(dBµV) + System Loss(dB) + Antenna Factor(dBµV/m)

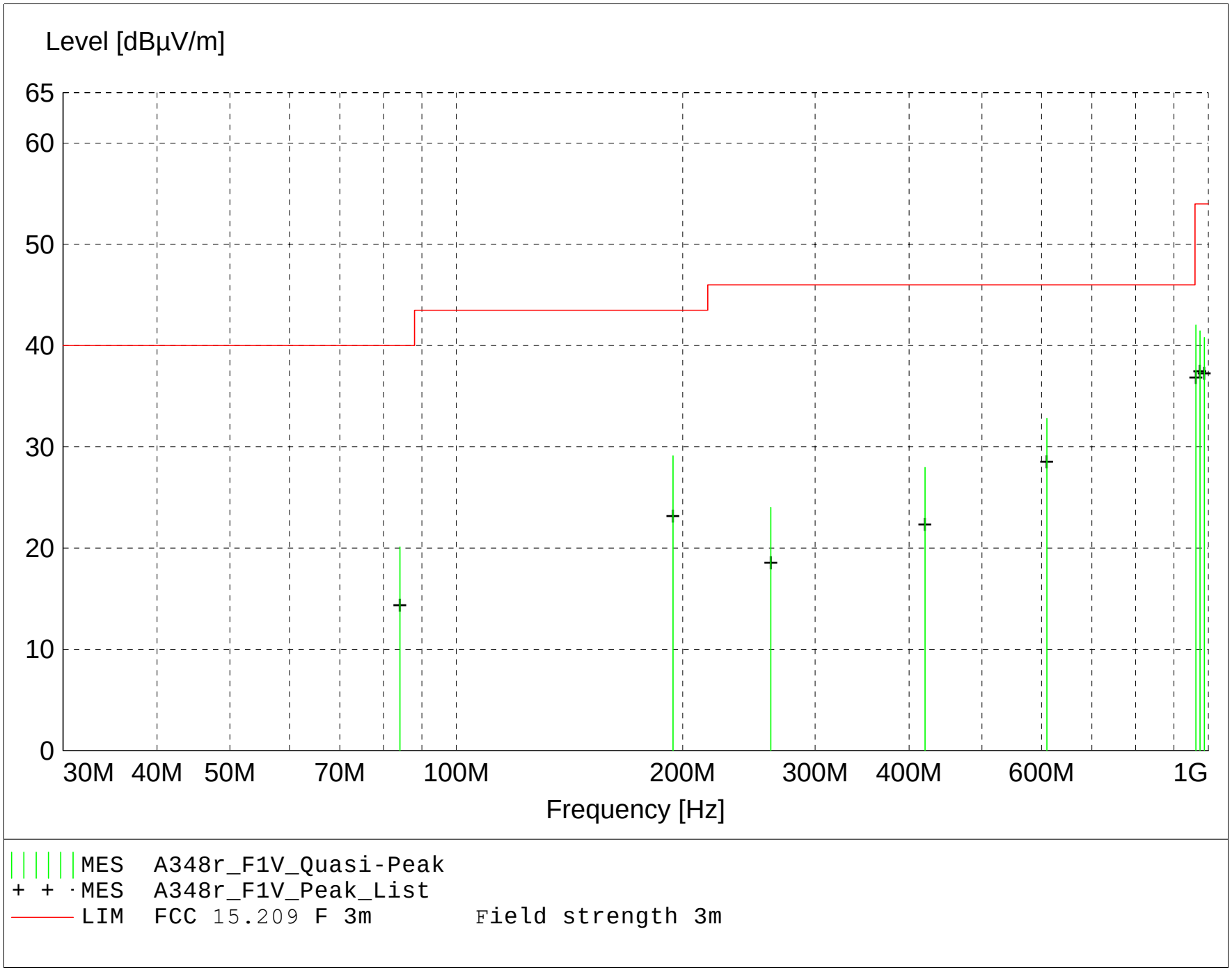
Margin(dB) = Limit(dBµV/m) - Total Level(dBµV/m)

Graph Markers: + Frequency marker (Level of marker not related to final level)

| Final maximized level using Quasi-Peak detector

X Final maximized level using Average dector

Final maximized level using Peak detector


Level [dBµV/m]
65
60
50
40
30
20
10
0
30M
40M
50M
70M
100M
200M
300M
400M
600M
1G
Frequency [Hz]
MES A348r_F1V_Quasi-Peak
MES A348r_F1V_Peak_List
LIM FCC 15.209 F 3m
Field strength 3m

MEASUREMENT RESULT: "A348r_F1V_Final"

8/5/2022 2:34PM

Frequency	Level	Antenna Factor	System Loss	Total Level	Limit	Margin	Height Ant.	EuT Angle	Final Detector	Comment
MHz	dBµV	dBµV/m	dB	dBµV/m	dBµV/m	dB	m	deg		
962.460000	13.03	23.35	5.7	42.0	54.0	12.0	1.46	180	QUASI-PEAK	Low ch
974.957500	12.25	23.50	5.7	41.5	54.0	12.5	1.44	205	QUASI-PEAK	Mid ch
609.814000	9.59	18.90	4.3	32.8	46.0	13.2	1.30	0	QUASI-PEAK	noise floor
987.655875	11.36	23.67	5.8	40.8	54.0	13.2	1.50	10	QUASI-PEAK	High ch
194.170000	9.30	17.45	2.4	29.1	43.5	14.4	1.00	90	QUASI-PEAK	noise floor
420.035000	8.78	15.60	3.6	28.0	46.0	18.0	1.20	180	QUASI-PEAK	noise floor
84.150000	11.24	7.28	1.6	20.1	40.0	19.9	1.00	90	QUASI-PEAK	noise floor
261.965000	8.19	13.10	2.7	24.0	46.0	22.0	1.20	0	QUASI-PEAK	noise floor

FCC Part 15.247 / 15.205 / 15.209

Electric Field Strength

EUT: Model RM8003-03 100mW Radio Module
Manufacturer: Traffic and Parking Control Co., Inc.
Operating Condition: 76 deg. F; 50% R.H.
Test Site: DLS O.F. Site 2
Operator: cbrandt #12348 5.15 dBi half-wave dipole
Test Specification: Radiated Emissions in Restricted Bands; 3.80 V DC
Comment: Low, Mid, High ch's; Continuous Tx (99.38% duty cycle)
Date: 08-05-2022

TEXT: "Horz 3 meters"

Short Description: Test Set-up

Test Set-up: EUT Measured at 3 Meters with HORIZONTAL Antenna Polarization

Equations: Total Level(dBµV/m) = Level(dBµV) + System Loss(dB) + Antenna Factor(dBµV/m)

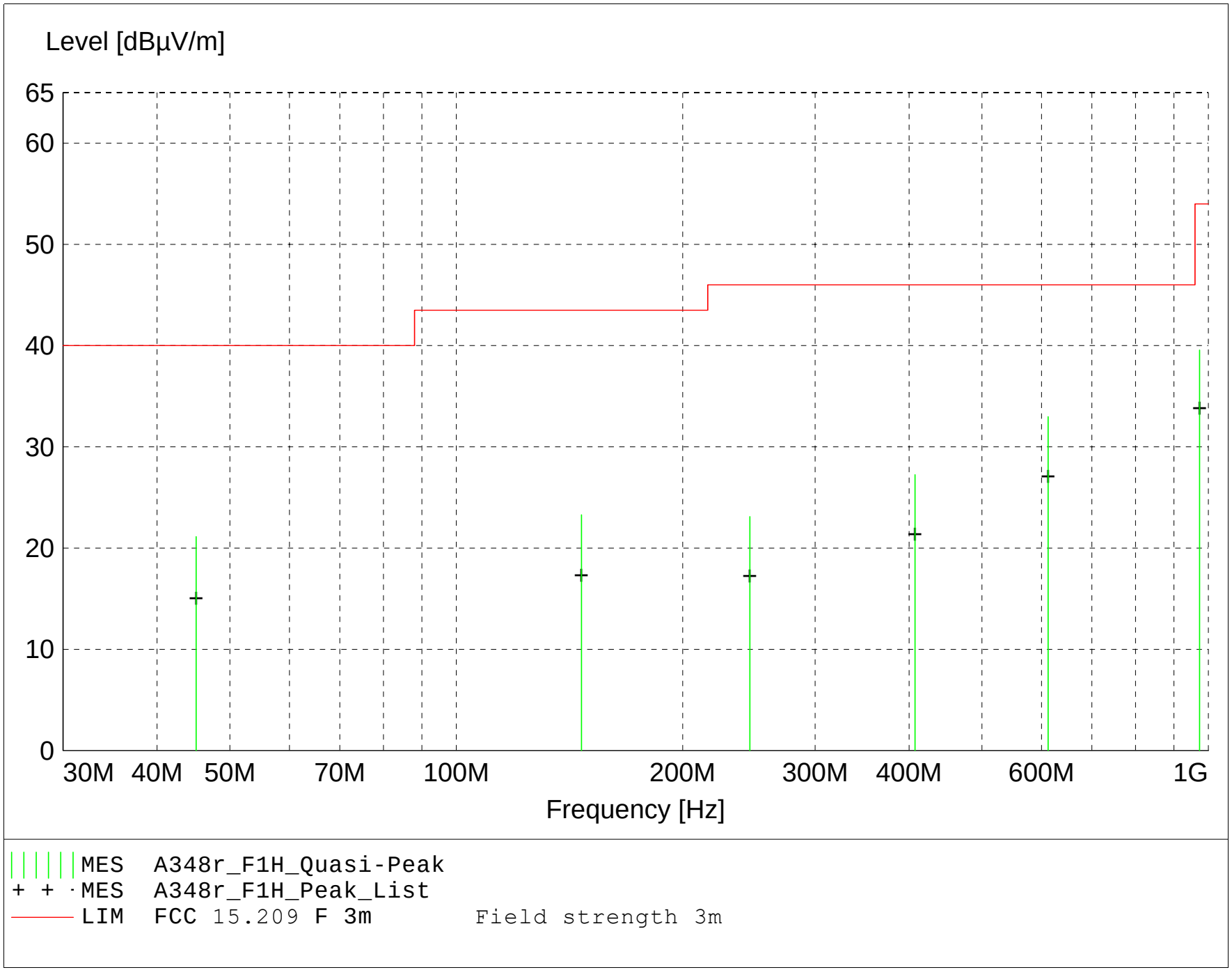
Margin(dB) = Limit(dBµV/m) - Total Level(dBµV/m)

Graph Markers: + Frequency marker (Level of marker not related to final level)

| Final maximized level using Quasi-Peak detector

X Final maximized level using Average dector

Final maximized level using Peak detector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65
60
50
40
30
20
10
0
30M
40M
50M
70M
100M
200M
300M
400M
600M
1G
Frequency [Hz]
MES A348r_F1H_Quasi-Peak
MES A348r_F1H_Peak_List
LIM FCC 15.209 F 3m
Field strength 3m

MEASUREMENT RESULT: "A348r_F1H_Final"

8/5/2022 2:32PM

Frequency	Level	Antenna Factor	System Loss	Total Level	Limit	Margin	Height Ant.	EuT Angle	Final Detector	Comment
MHz	dBµV	dBµV/m	dB	dBµV/m	dBµV/m	dB	m	deg		
612.140000	9.64	19.00	4.4	33.0	46.0	13.0	1.30	225	QUASI-PEAK	noise floor
973.630000	10.41	23.46	5.7	39.6	54.0	14.4	1.30	70	QUASI-PEAK	noise floor
407.420000	8.35	15.40	3.5	27.2	46.0	18.8	1.45	295	QUASI-PEAK	noise floor
45.080000	8.30	11.73	1.1	21.1	40.0	18.9	1.87	45	QUASI-PEAK	noise floor
146.680000	8.99	12.22	2.1	23.3	43.5	20.2	1.87	45	QUASI-PEAK	noise floor
245.660000	8.07	12.37	2.7	23.1	46.0	22.9	1.45	295	QUASI-PEAK	noise floor

FCC Part 15.247 / 15.205 / 15.209

Electric Field Strength

```
EUT:                  Model RM8003-03 100mW Radio Module
Manufacturer:         Traffic and Parking Control Co., Inc.
Operating Condition:  72 deg F  45% R.H.
Test Site:            DLS O.F. G1
Operator:             cbrandt   #12348        5.15 dBi half-wave dipole
Test Specification:   Radiated Emissions in Restricted Bands;  3.80 V DC
Comment:              Low, Mid, High ch's;  Continuous Tx (99.38% duty cycle)
                      08-01-2022
```

TEXT: "Vert 3 meters"

```
  Short Description:            Test Set-up


Test Set-up:    EUT Measured at 3 Meters with VERTICAL Antenna Polarization


Sample Equations:   Total Level(dBµV/m) = Level(dBµV) + System Loss(dB) + Antenna Factor(dBµV/m)
                    24.6                = 35.51       + (-22.1)         + 11.20

                    Margin(dB)  = Limit(dBµV/m) - Total Level(dBµV/m)
                    15.4        = 40            - 24.6


Graph Markers:  +       Frequency marker (Level of marker not related to final level)

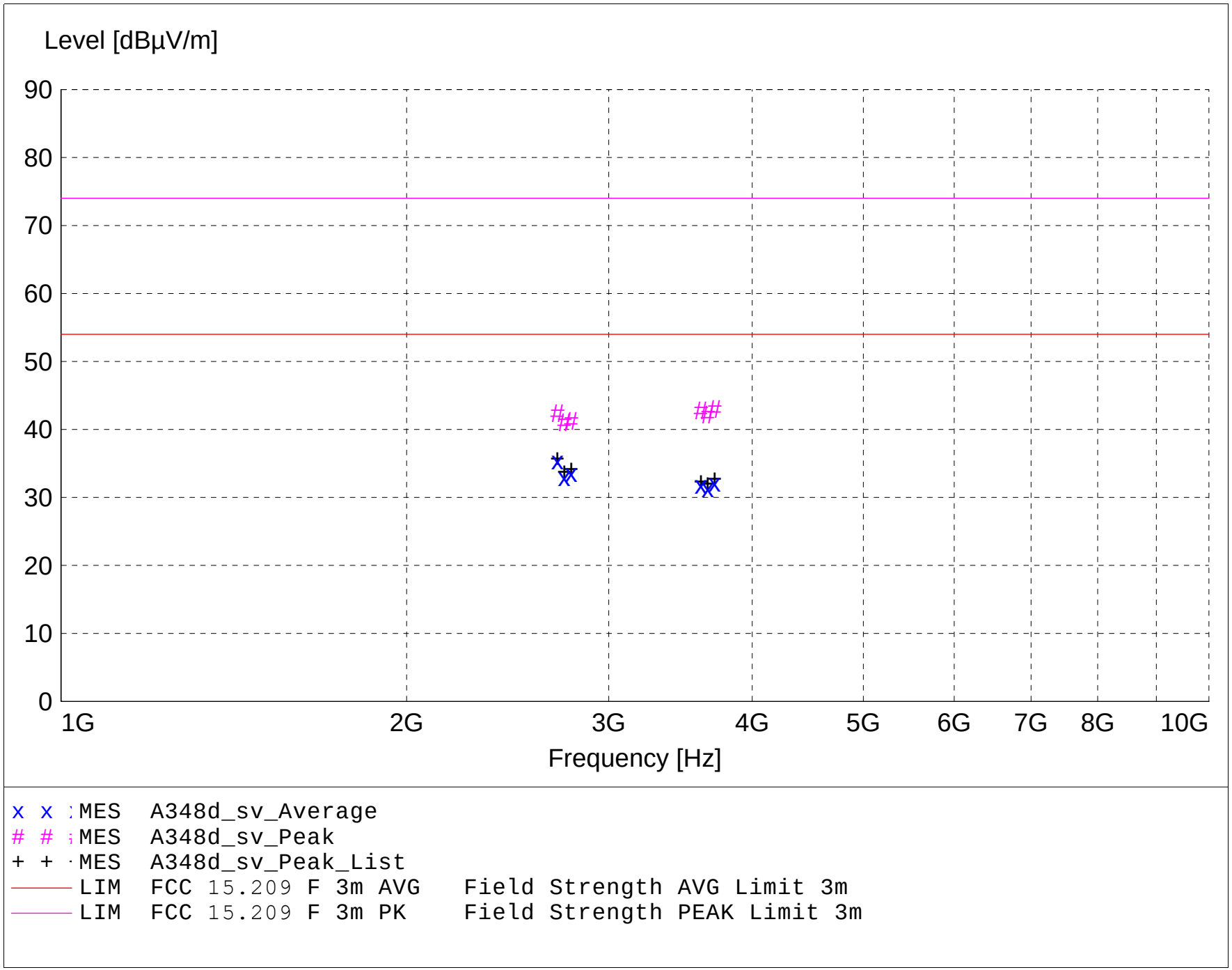
                |       Final maximized level using Quasi-Peak detector

                X       Final maximized level using Average dector

                #       Final maximized level using Peak detector

                -       Background Scan Peak Detector (Optional)

                -       Background Scan Average Detector (Optional)
```



x x x MES A348d_sv_Average
MES A348d_sv_Peak
+ + + MES A348d_sv_Peak_List
——— LIM FCC 15.209 F 3m AVG Field Strength AVG Limit 3m
——— LIM FCC 15.209 F 3m PK Field Strength PEAK Limit 3m

MEASUREMENT RESULT: "A348d_sv_Final"

8/1/2022 1:12PM

Frequency	Level	Antenna Factor	System Loss	Total Level	Limit	Margin	Height Ant.	EuT Angle	Final Detector	Comment
MHz	dBµV	dBµV/m	dB	dBµV/m	dBµV/m	dB	m	deg		
2707.210000	45.94	28.90	-39.4	35.4	54.0	18.6	1.38	73	AVERAGE	Low ch
2782.780000	44.26	28.84	-39.5	33.6	54.0	20.4	1.55	238	AVERAGE	High ch
2745.020000	43.65	28.81	-39.5	33.0	54.0	21.0	1.43	251	AVERAGE	Mid ch
3710.390000	40.06	32.35	-40.2	32.2	54.0	21.8	1.31	80	AVERAGE	High ch
3609.580000	40.58	31.53	-40.2	31.9	54.0	22.1	1.40	176	AVERAGE	None
3659.970000	39.73	31.89	-40.2	31.4	54.0	22.6	1.69	224	AVERAGE	Mid ch
3710.390000	50.90	32.35	-40.2	43.0	74.0	31.0	1.31	80	MAX PEAK	High ch
3609.580000	51.56	31.53	-40.2	42.8	74.0	31.2	1.40	176	MAX PEAK	None
2707.210000	52.94	28.90	-39.4	42.4	74.0	31.6	1.38	73	MAX PEAK	Low ch
3659.970000	50.51	31.89	-40.2	42.2	74.0	31.8	1.69	224	MAX PEAK	Mid ch
2782.780000	51.96	28.84	-39.5	41.3	74.0	32.7	1.55	238	MAX PEAK	High ch
2745.020000	51.69	28.81	-39.5	41.0	74.0	33.0	1.43	251	MAX PEAK	Mid ch

FCC Part 15.247 / 15.205 / 15.209

Electric Field Strength

EUT: Model RM8003-03 100mW Radio Module
Manufacturer: Traffic and Parking Control Co., Inc.
Operating Condition: 72 deg F 45% R.H.
Test Site: DLS O.F. G1
Operator: cbrandt #12348 5.15 dBi half-wave dipole
Test Specification: Radiated Emissions in Restricted Bands; 3.80 V DC
Comment: Low, Mid, High ch's; Continuous Tx (99.38% duty cycle)
08-01-2022

TEXT: "Horz 3 meters"

Short Description: Test Set-up

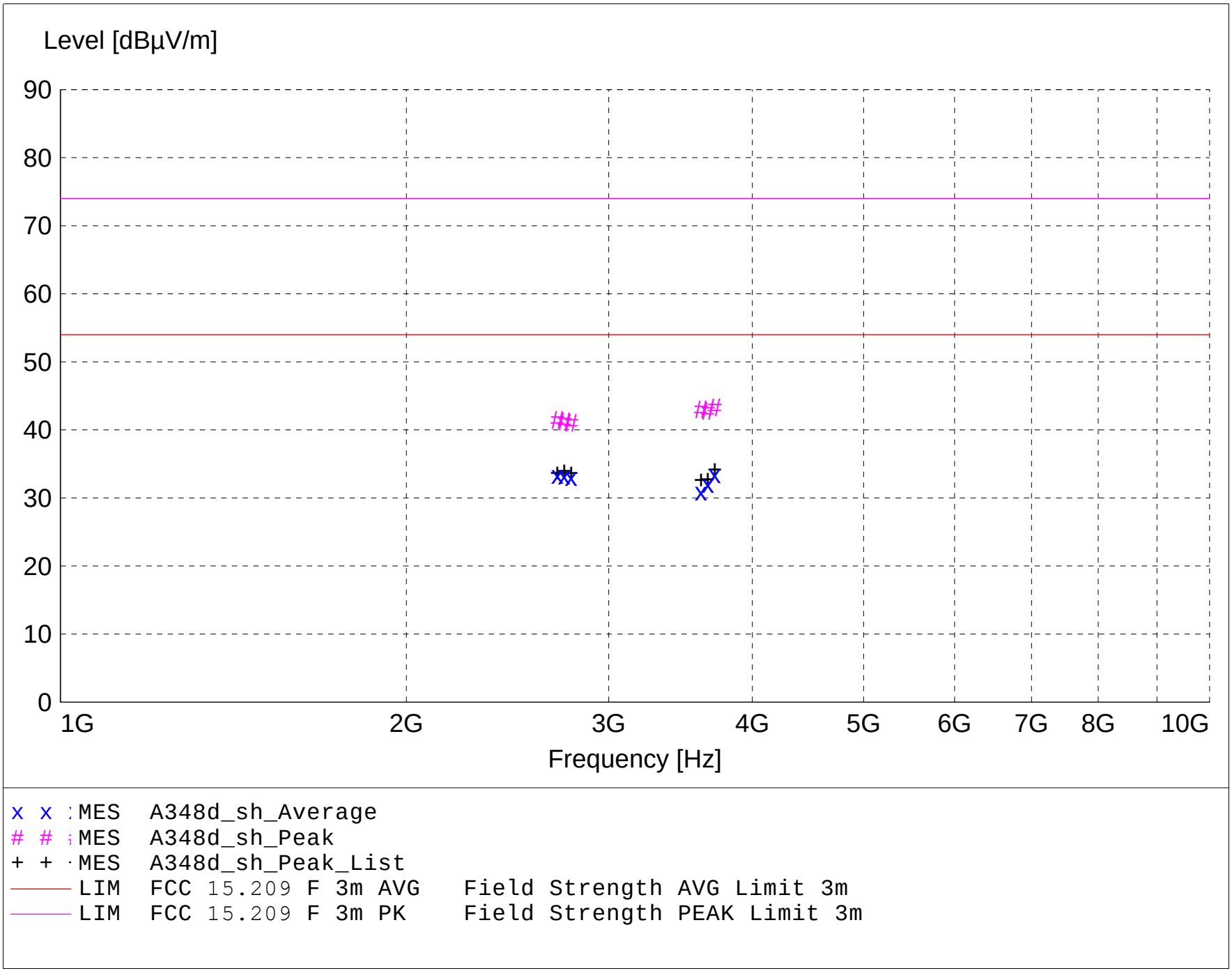
Test Set-up: EUT Measured at 3 Meters with HORIZONTAL Antenna Polarization

Sample Equations: Total Level(dBµV/m) = Level(dBµV) + System Loss(dB) + Antenna Factor(dBµV/m)
24.6 = 35.51 + (-22.1) + 11.20

Margin(dB) = Limit(dBµV/m) - Total Level(dBµV/m)
15.4 = 40 - 24.6

Graph Markers:

+	Frequency marker (Level of marker not related to final level)
|	Final maximized level using Quasi-Peak detector
X	Final maximized level using Average dector
#	Final maximized level using Peak detector
-	Background Scan Peak Detector (Optional)
-	Background Scan Average Detector (Optional)



x x x MES A348d_sh_Average
MES A348d_sh_Peak
+ + + MES A348d_sh_Peak_List
——— LIM FCC 15.209 F 3m AVG Field Strength AVG Limit 3m
——— LIM FCC 15.209 F 3m PK Field Strength PEAK Limit 3m

MEASUREMENT RESULT: "A348d_sh_Final"

8/1/2022 2:15PM

Frequency	Level	Antenna Factor	System Loss	Total Level	Limit	Margin	Height Ant.	EuT Angle	Final Detector	Comment
MHz	dBµV	dBµV/m	dB	dBµV/m	dBµV/m	dB	m	deg		
3710.400000	41.32	32.35	-40.2	33.4	54.0	20.6	1.67	176	AVERAGE	None
2707.200000	43.92	28.90	-39.4	33.4	54.0	20.6	1.64	69	AVERAGE	Low ch
2745.000000	43.95	28.81	-39.5	33.3	54.0	20.7	1.71	179	AVERAGE	Mid ch
2782.790000	43.77	28.84	-39.5	33.1	54.0	20.9	1.39	193	AVERAGE	High ch
3660.002500	40.41	31.89	-40.2	32.1	54.0	21.9	1.73	180	AVERAGE	Mid ch
3609.550000	39.68	31.53	-40.2	31.0	54.0	23.0	1.76	180	AVERAGE	None
3710.400000	51.16	32.35	-40.2	43.3	74.0	30.7	1.67	176	MAX PEAK	None
3609.550000	51.69	31.53	-40.2	43.0	74.0	31.0	1.76	180	MAX PEAK	None
3660.002500	51.16	31.89	-40.2	42.8	74.0	31.2	1.73	180	MAX PEAK	Mid ch
2707.200000	51.96	28.90	-39.4	41.4	74.0	32.6	1.64	69	MAX PEAK	Low ch
2745.000000	51.96	28.81	-39.5	41.3	74.0	32.7	1.71	179	MAX PEAK	Mid ch
2782.790000	51.69	28.84	-39.5	41.0	74.0	33.0	1.39	193	MAX PEAK	High ch

FCC Part 15.247 / 15.205 / 15.209

Electric Field Strength

EUT: Model RM8003-03 100mW Radio Module
Manufacturer: Traffic and Parking Control Co., Inc.
Operating Condition: 73 deg. F; 62% R.H.
Test Site: DLS O.F. Site 2
Operator: cbrandt #12348 4 dBi 'puck' antenna
Test Specification: Radiated Emissions in Restricted Bands; 3.80 V DC
Comment: Low, Mid, High ch's; Continuous Tx (99.38% duty cycle)
Date: 08-03-2022

TEXT: "Vert 3 meters"

Short Description: Test Set-up

Test Set-up: EUT Measured at 3 Meters with VERTICAL Antenna Polarization

Equations: Total Level(dBµV/m) = Level(dBµV) + System Loss(dB) + Antenna Factor(dBµV/m)

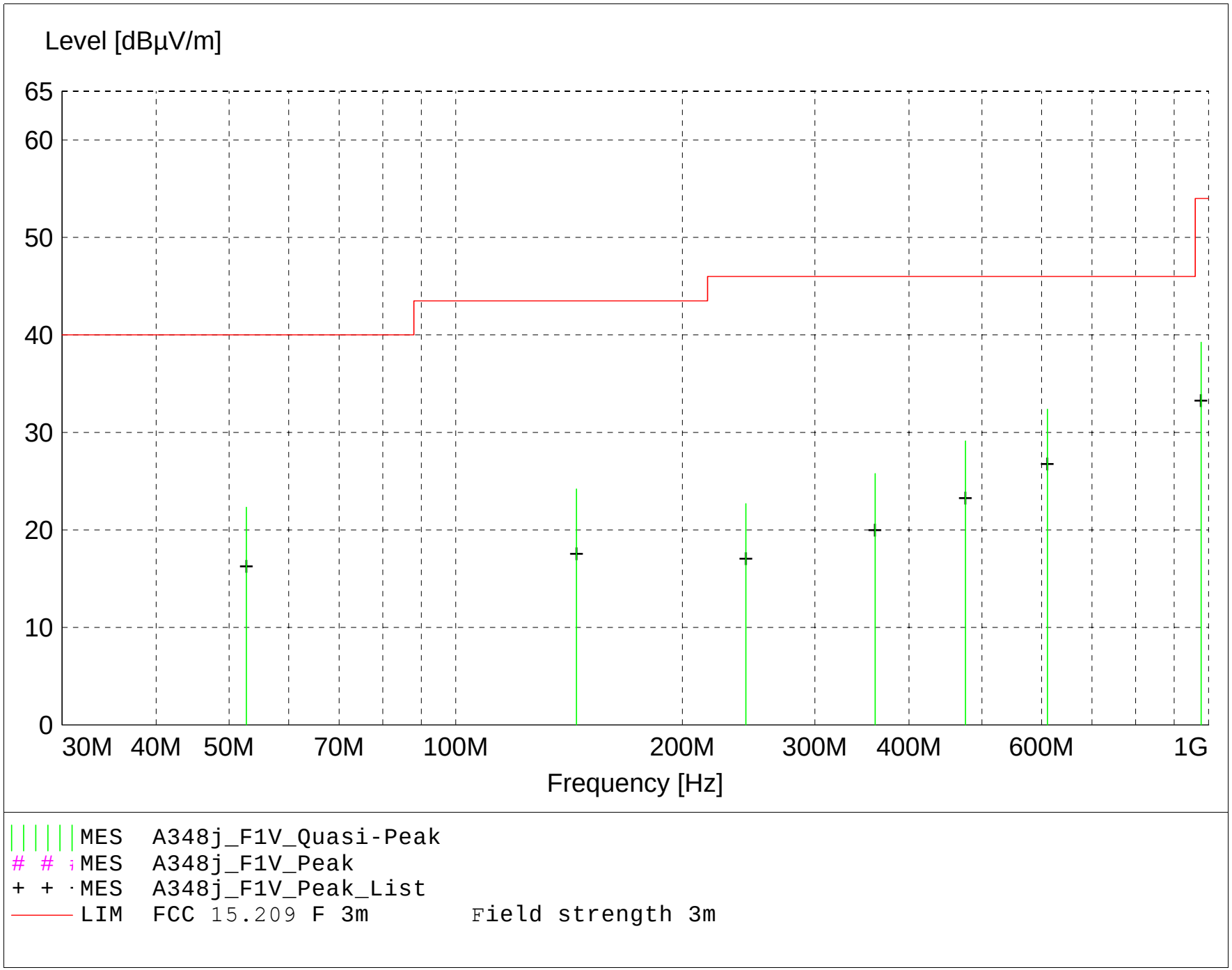
Margin(dB) = Limit(dBµV/m) - Total Level(dBµV/m)

Graph Markers: + Frequency marker (Level of marker not related to final level)

| Final maximized level using Quasi-Peak detector

X Final maximized level using Average dector

Final maximized level using Peak detector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50
40
30
20
10
0
30M
40M
50M
70M
100M
200M
300M
400M
600M
1G
Frequency [Hz]
MES A348j_F1V_Quasi-Peak
MES A348j_F1V_Peak
MES A348j_F1V_Peak_List
LIM FCC 15.209 F 3m
Field strength 3m

MEASUREMENT RESULT: "A348j_F1V_Final"

8/3/2022 1:37PM

Frequency	Level	Antenna Factor	System Loss	Total Level	Limit	Margin	Height Ant.	EuT Angle	Final Detector	Comment
MHz	dBµV	dBµV/m	dB	dBµV/m	dBµV/m	dB	m	deg		
610.820000	9.15	18.90	4.3	32.4	46.0	13.6	1.00	180	QUASI-PEAK	noise floor
977.390000	10.01	23.54	5.7	39.3	54.0	14.7	1.00	180	QUASI-PEAK	noise floor
475.320000	8.30	17.00	3.8	29.1	46.0	16.9	1.00	30	QUASI-PEAK	noise floor
52.710000	10.19	10.93	1.2	22.3	40.0	17.7	1.00	135	QUASI-PEAK	noise floor
144.700000	10.06	12.10	2.1	24.2	43.5	19.3	1.00	135	QUASI-PEAK	noise floor
360.690000	8.19	14.30	3.3	25.8	46.0	20.2	1.00	30	QUASI-PEAK	noise floor
242.920000	7.84	12.19	2.7	22.7	46.0	23.3	1.00	30	QUASI-PEAK	noise floor

FCC Part 15.247 / 15.205 / 15.209

Electric Field Strength

EUT: Model RM8003-03 100mW Radio Module
Manufacturer: Traffic and Parking Control Co., Inc.
Operating Condition: 73 deg. F; 62% R.H.
Test Site: DLS O.F. Site 2
Operator: cbrandt #12348 4 dBi 'puck' antenna
Test Specification: Radiated Emissions in Restricted Bands; 3.80 V DC
Comment: Low, Mid, High ch's; Continuous Tx (99.38% duty cycle)
Date: 08-03-2022

TEXT: "Horz 3 meters"

Short Description: Test Set-up

Test Set-up: EUT Measured at 3 Meters with HORIZONTAL Antenna Polarization

Equations: Total Level(dBµV/m) = Level(dBµV) + System Loss(dB) + Antenna Factor(dBµV/m)

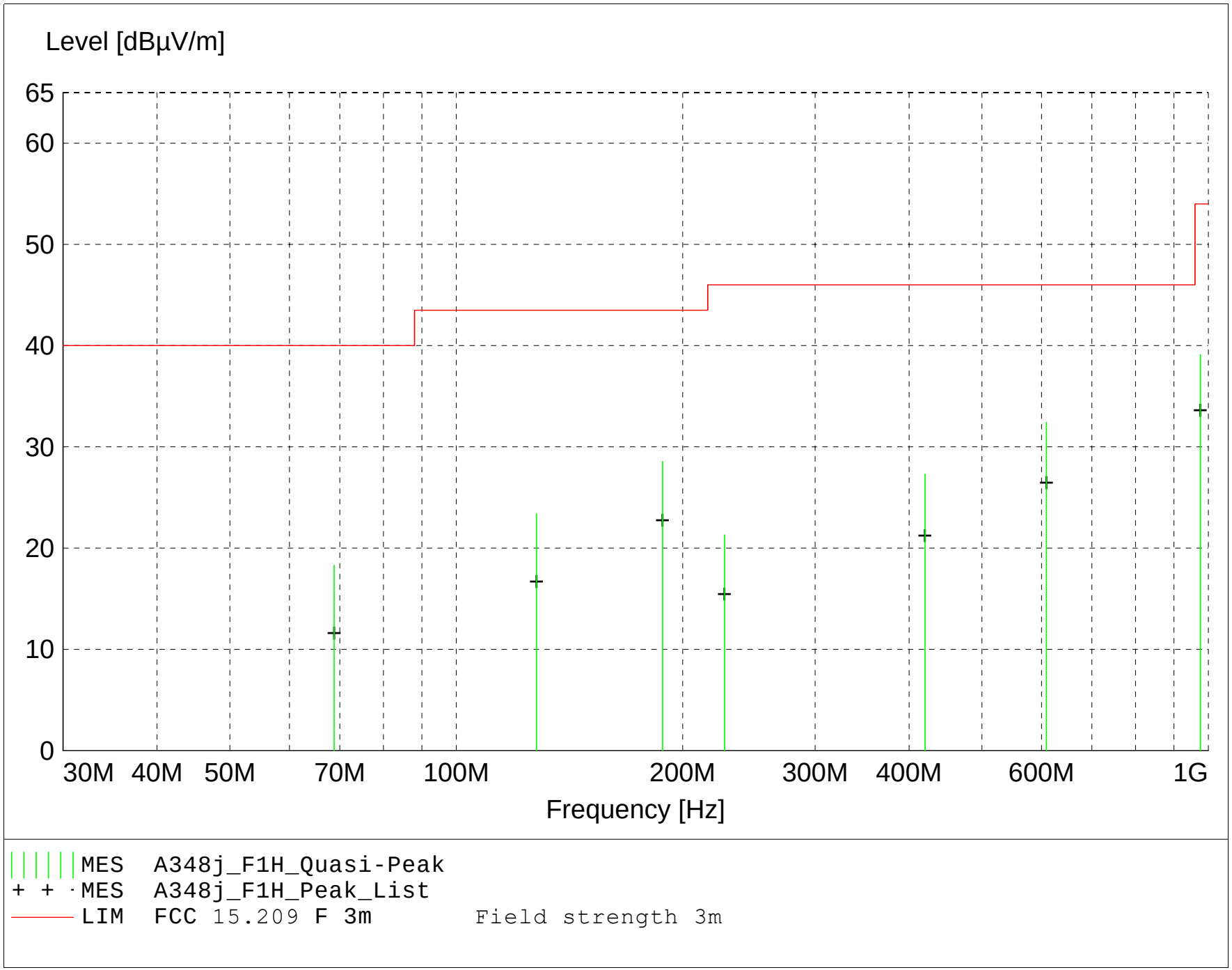
Margin(dB) = Limit(dBµV/m) - Total Level(dBµV/m)

Graph Markers: + Frequency marker (Level of marker not related to final level)

| Final maximized level using Quasi-Peak detector

X Final maximized level using Average dector

Final maximized level using Peak detector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60
50
40
30
20
10
0
30M
40M
50M
70M
100M
200M
300M
400M
600M
1G
Frequency [Hz]
MES A348j_F1H_Quasi-Peak
MES A348j_F1H_Peak_List
LIM FCC 15.209 F 3m
Field strength 3m

MEASUREMENT RESULT: "A348j_F1H_Final"

8/3/2022 1:56PM

Frequency	Level	Antenna Factor	System Loss	Total Level	Limit	Margin	Height Ant.	EuT Angle	Final Detector	Comment
MHz	dBµV	dBµV/m	dB	dBµV/m	dBµV/m	dB	m	deg		
609.095000	9.20	18.90	4.3	32.4	46.0	13.6	1.30	0	QUASI-PEAK	noise floor
975.605000	9.92	23.50	5.7	39.1	54.0	14.9	1.30	0	QUASI-PEAK	noise floor
188.040000	8.99	17.22	2.3	28.6	43.5	14.9	2.00	225	QUASI-PEAK	noise floor
419.990000	8.13	15.60	3.6	27.3	46.0	18.7	1.50	135	QUASI-PEAK	noise floor
127.830000	8.94	12.52	1.9	23.4	43.5	20.1	2.00	225	QUASI-PEAK	noise floor
68.800000	9.30	7.62	1.4	18.3	40.0	21.7	2.00	225	QUASI-PEAK	noise floor
227.390000	7.78	10.94	2.6	21.3	46.0	24.7	1.50	135	QUASI-PEAK	noise floor

FCC Part 15.247 / 15.205 / 15.209

Electric Field Strength

```
EUT:                  Model RM8003-03 100mW Radio Module
Manufacturer:         Traffic and Parking Control Co., Inc.
Operating Condition: 73 deg F  46% R.H.
Test Site:            DLS O.F. G1
Operator:             cbrandt   #12348        4 dBi 'puck' antenna
Test Specification:   Radiated Emissions in Restricted Bands;  3.80 V DC
Comment:              Low, Mid, High ch's;  Continuous Tx (99.38% duty cycle)
                      08-02-2022
```

TEXT: "Vert 3 meters"

```
  Short Description:            Test Set-up


Test Set-up:    EUT Measured at 3 Meters with VERTICAL Antenna Polarization


Sample Equations:   Total Level(dBµV/m) = Level(dBµV) + System Loss(dB) + Antenna Factor(dBµV/m)
                    24.6                = 35.51       + (-22.1)         + 11.20

                    Margin(dB)  = Limit(dBµV/m) - Total Level(dBµV/m)
                    15.4        = 40            - 24.6


Graph Markers:  +       Frequency marker (Level of marker not related to final level)

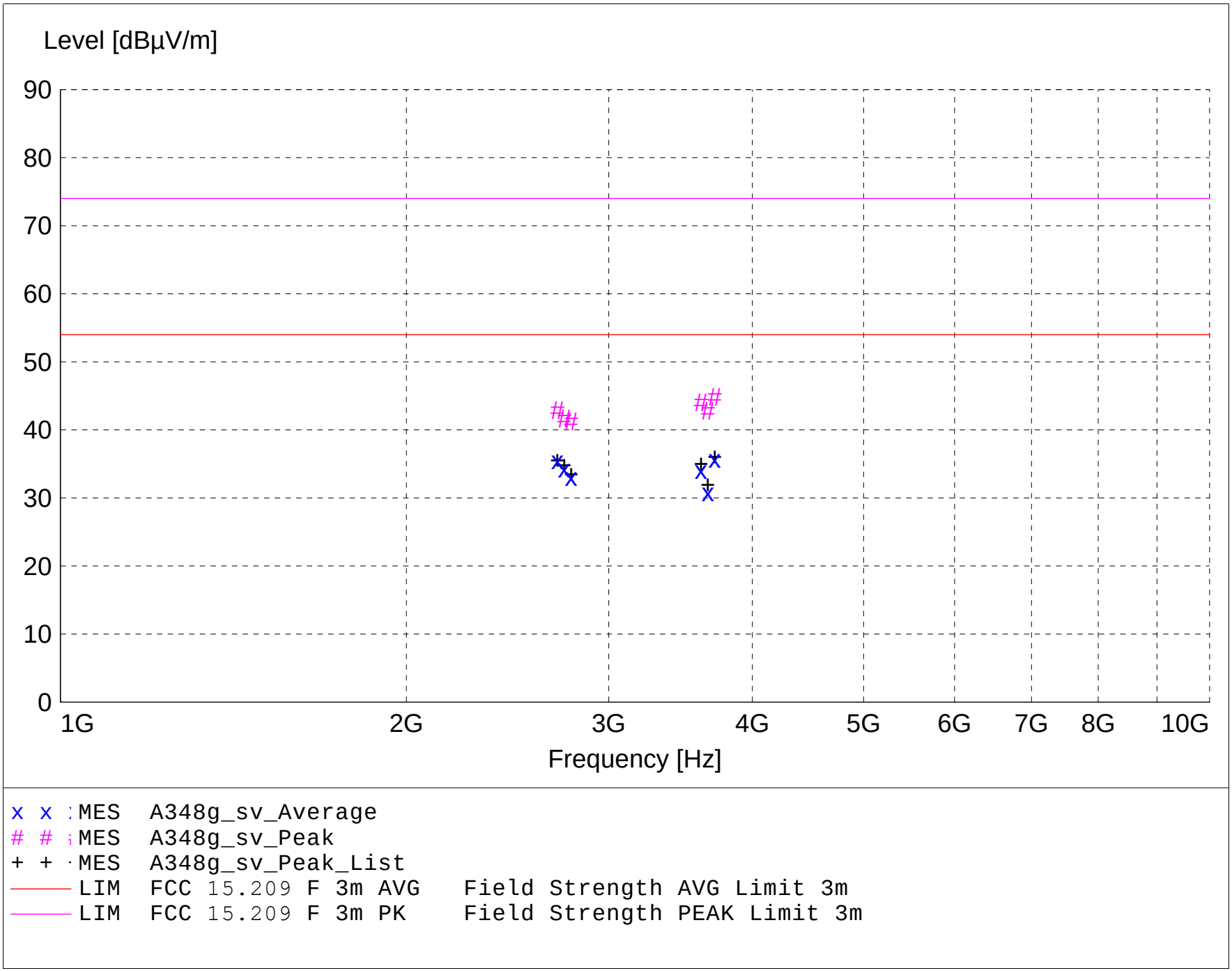
                |       Final maximized level using Quasi-Peak detector

                X       Final maximized level using Average dector

                #       Final maximized level using Peak detector

                -       Background Scan Peak Detector (Optional)

                -       Background Scan Average Detector (Optional)
```



x x x MES A348g_sv_Average
MES A348g_sv_Peak
+ + + MES A348g_sv_Peak_List
——— LIM FCC 15.209 F 3m AVG Field Strength AVG Limit 3m
——— LIM FCC 15.209 F 3m PK Field Strength PEAK Limit 3m

MEASUREMENT RESULT: "A348g_sv_Final"

8/2/2022 3:54PM

Frequency	Level	Antenna Factor	System Loss	Total Level	Limit	Margin	Height Ant.	EuT Angle	Final Detector	Comment
MHz	dBµV	dBµV/m	dB	dBµV/m	dBµV/m	dB	m	deg		
3710.410000	43.59	32.35	-40.2	35.7	54.0	18.3	1.72	190	AVERAGE	High ch
2707.220000	46.03	28.90	-39.4	35.5	54.0	18.5	1.43	161	AVERAGE	Low ch
2745.000000	45.01	28.81	-39.5	34.4	54.0	19.6	1.63	164	AVERAGE	Mid ch
3609.630000	42.80	31.53	-40.2	34.1	54.0	19.9	1.53	223	AVERAGE	Low ch
2782.810000	43.71	28.84	-39.5	33.0	54.0	21.0	1.52	165	AVERAGE	High ch
3659.940000	39.20	31.89	-40.2	30.8	54.0	23.2	1.65	240	AVERAGE	Mid ch
3710.410000	52.74	32.35	-40.2	44.9	74.0	29.1	1.72	190	MAX PEAK	High ch
3609.630000	52.74	31.53	-40.2	44.0	74.0	30.0	1.53	223	MAX PEAK	Low ch
2707.220000	53.41	28.90	-39.4	42.9	74.0	31.1	1.43	161	MAX PEAK	Low ch
3659.940000	51.17	31.89	-40.2	42.8	74.0	31.2	1.65	240	MAX PEAK	Mid ch
2745.000000	52.33	28.81	-39.5	41.7	74.0	32.3	1.63	164	MAX PEAK	Mid ch
2782.810000	51.93	28.84	-39.5	41.3	74.0	32.7	1.52	165	MAX PEAK	High ch

FCC Part 15.247 / 15.205 / 15.209

Electric Field Strength

```
EUT:                  Model RM8003-03 100mW Radio Module
Manufacturer:         Traffic and Parking Control Co., Inc.
Operating Condition: 73 deg F  46% R.H.
Test Site:            DLS O.F. G1
Operator:             cbrandt   #12348        4 dBi 'puck' antenna
Test Specification:   Radiated Emissions in Restricted Bands;  3.80 V DC
Comment:              Low, Mid, High ch's;  Continuous Tx (99.38% duty cycle)
                      08-02-2022
```

TEXT: "Horz 3 meters"

```
  Short Description:            Test Set-up


Test Set-up:    EUT Measured at 3 Meters with HORIZONTAL Antenna Polarization


Sample Equations:   Total Level(dBµV/m) = Level(dBµV) + System Loss(dB) + Antenna Factor(dBµV/m)
                    24.6                = 35.51       + (-22.1)         + 11.20

                    Margin(dB)  = Limit(dBµV/m) - Total Level(dBµV/m)
                    15.4        = 40            - 24.6


Graph Markers:  +       Frequency marker (Level of marker not related to final level)

                |       Final maximized level using Quasi-Peak detector

                X       Final maximized level using Average dector

                #       Final maximized level using Peak detector

                -       Background Scan Peak Detector (Optional)

                -       Background Scan Average Detector (Optional)
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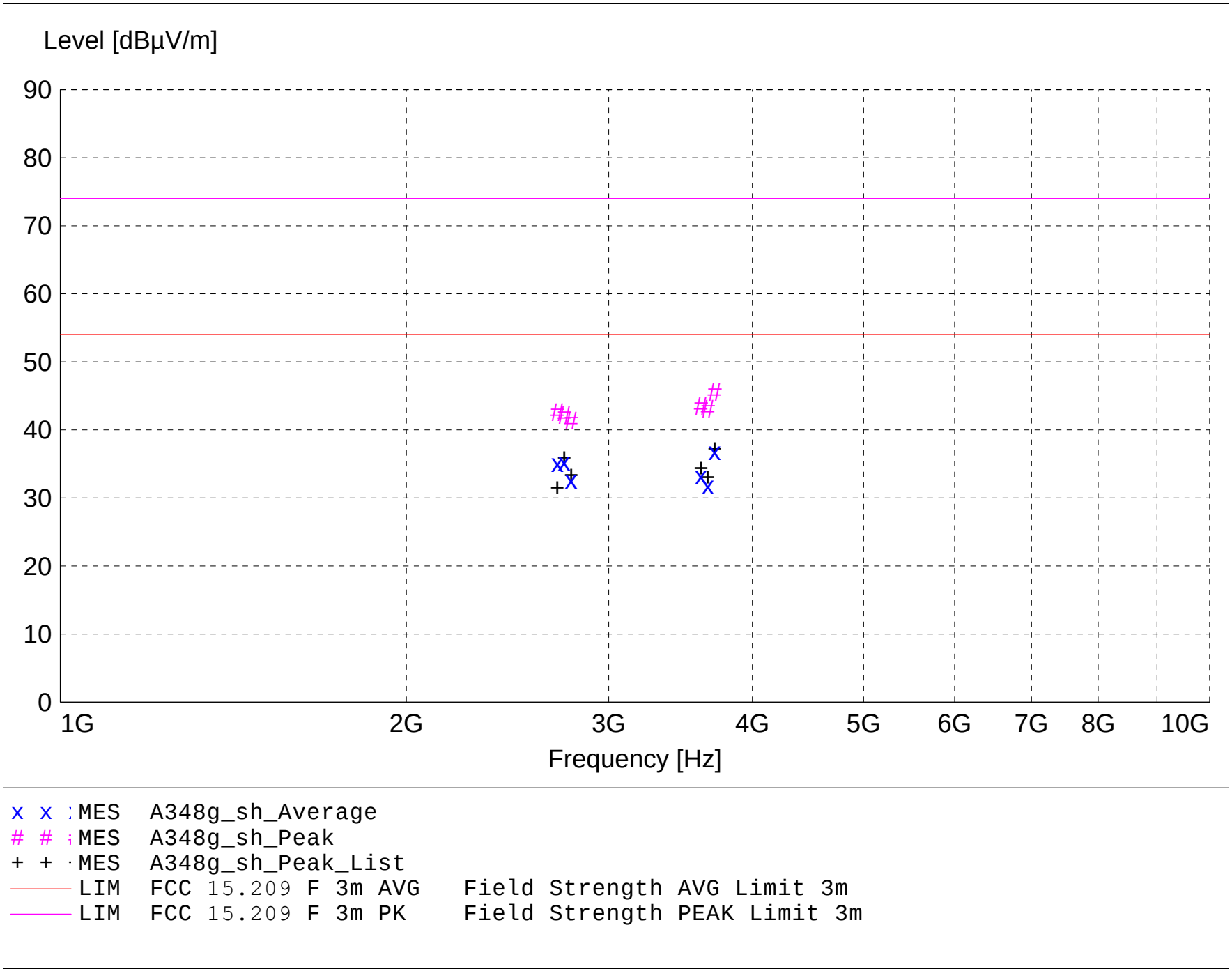


x x x MES A348g_sh_Average
MES A348g_sh_Peak
+ + + MES A348g_sh_Peak_List
——— LIM FCC 15.209 F 3m AVG Field Strength AVG Limit 3m
——— LIM FCC 15.209 F 3m PK Field Strength PEAK Limit 3m

MEASUREMENT RESULT: "A348g_sh_Final"

8/2/2022 2:14PM

Frequency	Level	Antenna Factor	System Loss	Total Level	Limit	Margin	Height Ant.	EuT Angle	Final Detector	Comment
MHz	dBµV	dBµV/m	dB	dBµV/m	dBµV/m	dB	m	deg		
3710.420000	44.75	32.35	-40.2	36.9	54.0	17.1	1.27	166	AVERAGE	High ch
2745.000000	45.98	28.81	-39.5	35.3	54.0	18.7	1.96	164	AVERAGE	Mid ch
2707.220000	45.70	28.90	-39.4	35.2	54.0	18.8	1.59	169	AVERAGE	Low ch
3609.610000	42.00	31.53	-40.2	33.3	54.0	20.7	2.56	189	AVERAGE	Low ch
2782.810000	43.28	28.84	-39.5	32.6	54.0	21.4	1.87	162	AVERAGE	High ch
3660.000000	40.24	31.89	-40.2	31.9	54.0	22.1	1.46	164	AVERAGE	Mid ch
3710.420000	53.41	32.35	-40.2	45.5	74.0	28.5	1.27	166	MAX PEAK	High ch
3609.610000	52.20	31.53	-40.2	43.5	74.0	30.5	2.56	189	MAX PEAK	Low ch
3660.000000	51.42	31.89	-40.2	43.1	74.0	30.9	1.46	164	MAX PEAK	Mid ch
2707.220000	53.14	28.90	-39.4	42.6	74.0	31.4	1.59	169	MAX PEAK	Low ch
2745.000000	52.88	28.81	-39.5	42.2	74.0	31.8	1.96	164	MAX PEAK	Mid ch
2782.810000	52.06	28.84	-39.5	41.4	74.0	32.6	1.87	162	MAX PEAK	High ch

FCC Part 15.247 / 15.205 / 15.209

Electric Field Strength

EUT: Model RM8003-03 100mW Radio Module
Manufacturer: Traffic and Parking Control Co., Inc.
Operating Condition: 72 deg. F; 61% R.H.
Test Site: DLS O.F. Site 2
Operator: cbrandt #12348 3 dBi Omni Whip
Test Specification: Radiated Emissions in Restricted Bands; 3.80 V DC
Comment: Low, Mid, High ch's; Continuous Tx (99.38% duty cycle)
Date: 08-08-2022

TEXT: "Vert 3 meters"

Short Description: Test Set-up

Test Set-up: EUT Measured at 3 Meters with VERTICAL Antenna Polarization

Equations: Total Level(dBµV/m) = Level(dBµV) + System Loss(dB) + Antenna Factor(dBµV/m)

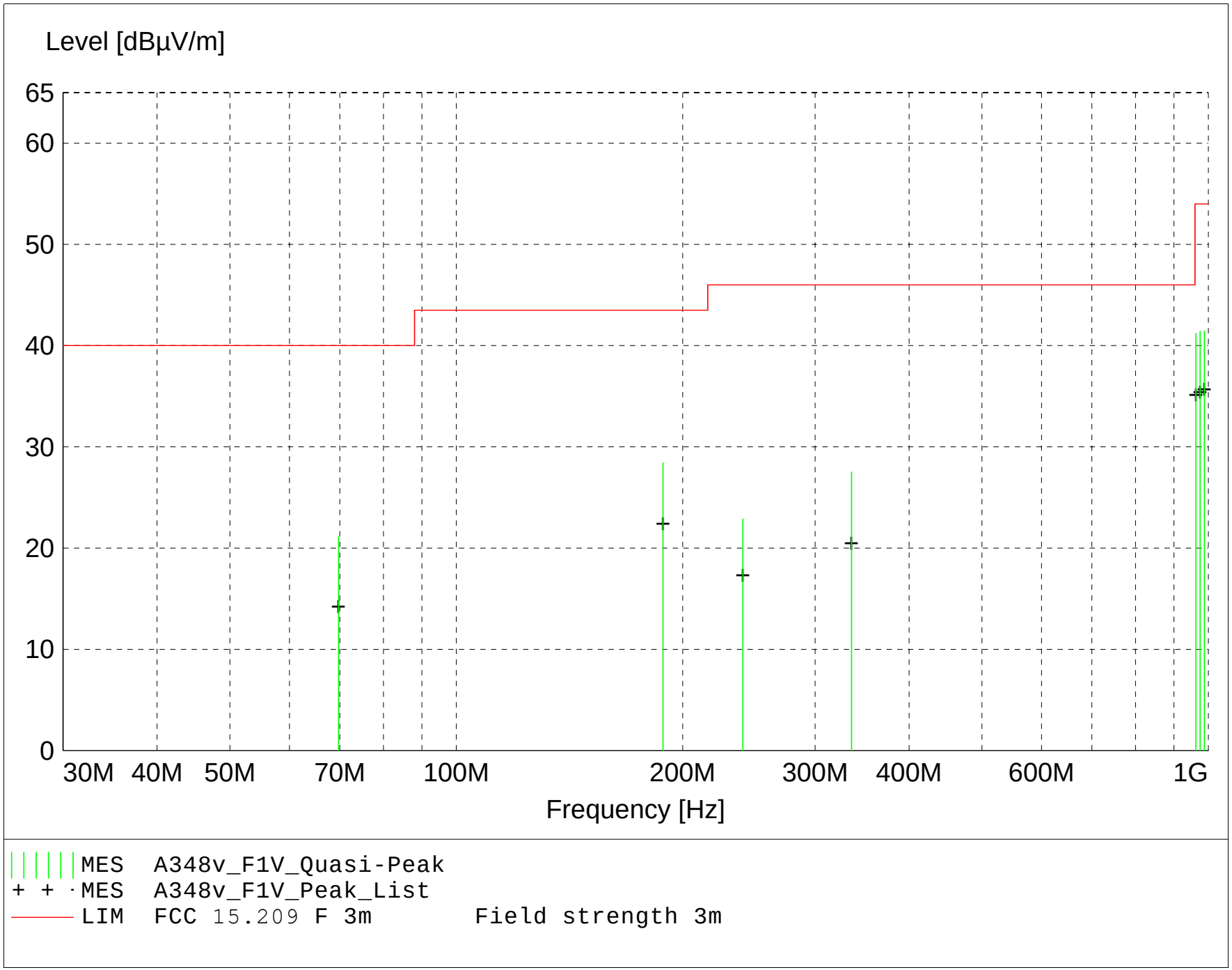
Margin(dB) = Limit(dBµV/m) - Total Level(dBµV/m)

Graph Markers: + Frequency marker (Level of marker not related to final level)

| Final maximized level using Quasi-Peak detector

X Final maximized level using Average dector

Final maximized level using Peak detector


Level [dBµV/m]
65
60
50
40
30
20
10
0
30M
40M
50M
70M
100M
200M
300M
400M
600M
1G
Frequency [Hz]
MES A348v_F1V_Quasi-Peak
MES A348v_F1V_Peak_List
LIM FCC 15.209 F 3m Field strength 3m

MEASUREMENT RESULT: "A348v_F1V_Final"

8/8/2022 2:30PM

Frequency	Level	Antenna Factor	System Loss	Total Level	Limit	Margin	Height Ant.	EuT Angle	Final Detector	Comment
MHz	dBµV	dBµV/m	dB	dBµV/m	dBµV/m	dB	m	deg		
987.550000	12.00	23.66	5.8	41.4	54.0	12.6	1.34	100	QUASI-PEAK	High ch
974.970000	12.22	23.50	5.7	41.4	54.0	12.6	1.37	110	QUASI-PEAK	Mid ch
962.360000	12.22	23.34	5.7	41.2	54.0	12.8	1.42	170	QUASI-PEAK	Low ch
188.290000	8.84	17.24	2.3	28.4	43.5	15.1	1.00	90	QUASI-PEAK	noise floor
335.390000	10.15	14.20	3.2	27.5	46.0	18.5	1.00	270	QUASI-PEAK	None
69.730000	12.32	7.40	1.4	21.1	40.0	18.9	1.00	90	QUASI-PEAK	noise floor
240.395000	8.30	11.94	2.7	22.9	46.0	23.1	1.00	315	QUASI-PEAK	noise floor

FCC Part 15.247 / 15.205 / 15.209

Electric Field Strength

EUT: Model RM8003-03 100mW Radio Module
Manufacturer: Traffic and Parking Control Co., Inc.
Operating Condition: 72 deg. F; 61% R.H.
Test Site: DLS O.F. Site 2
Operator: cbrandt #12348 3 dBi Omni Whip
Test Specification: Radiated Emissions in Restricted Bands; 3.80 V DC
Comment: Low, Mid, High ch's; Continuous Tx (99.38% duty cycle)
Date: 08-08-2022

TEXT: "Horz 3 meters"

Short Description: Test Set-up

Test Set-up: EUT Measured at 3 Meters with HORIZONTAL Antenna Polarization

Equations: Total Level(dBµV/m) = Level(dBµV) + System Loss(dB) + Antenna Factor(dBµV/m)

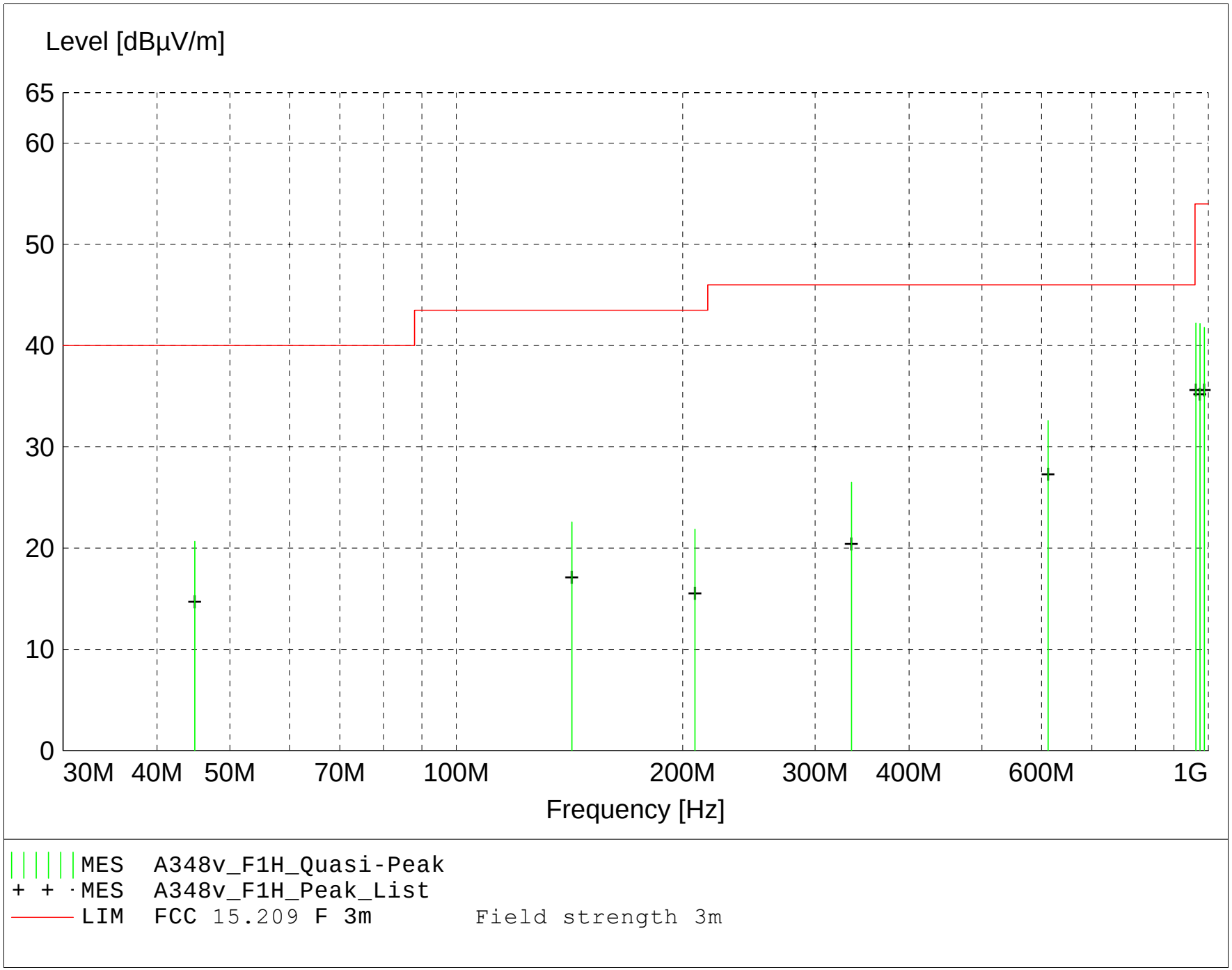
Margin(dB) = Limit(dBµV/m) - Total Level(dBµV/m)

Graph Markers: + Frequency marker (Level of marker not related to final level)

| Final maximized level using Quasi-Peak detector

X Final maximized level using Average dector

Final maximized level using Peak detector


Level [dBµV/m]
65
60
50
40
30
20
10
0
30M
40M
50M
70M
100M
200M
300M
400M
600M
1G
Frequency [Hz]
MES A348v_F1H_Quasi-Peak
MES A348v_F1H_Peak_List
LIM FCC 15.209 F 3m
Field strength 3m

MEASUREMENT RESULT: "A348v_F1H_Final"

8/8/2022 2:46PM

Frequency	Level	Antenna Factor	System Loss	Total Level	Limit	Margin	Height Ant.	EuT Angle	Final Detector	Comment
MHz	dBµV	dBµV/m	dB	dBµV/m	dBµV/m	dB	m	deg		
962.360000	13.22	23.34	5.7	42.2	54.0	11.8	1.80	220	QUASI-PEAK	Low ch
974.950000	12.96	23.50	5.7	42.2	54.0	11.8	1.75	225	QUASI-PEAK	Mid ch
987.560000	12.36	23.66	5.8	41.8	54.0	12.2	1.19	40	QUASI-PEAK	High ch
612.210000	9.25	19.00	4.4	32.6	46.0	13.4	1.80	30	QUASI-PEAK	noise floor
44.900000	7.84	11.74	1.1	20.7	40.0	19.3	1.80	290	QUASI-PEAK	noise floor
335.345000	9.15	14.20	3.2	26.5	46.0	19.5	2.06	195	QUASI-PEAK	None
142.430000	8.46	12.06	2.1	22.6	43.5	20.9	1.80	290	QUASI-PEAK	noise floor
207.680000	8.35	11.03	2.5	21.9	43.5	21.6	2.00	180	QUASI-PEAK	noise floor

FCC Part 15.247 / 15.205 / 15.209

Electric Field Strength

EUT: Model RM8003-03 100mW Radio Module
Manufacturer: Traffic and Parking Control Co., Inc.
Operating Condition: 72 deg F 45% R.H.
Test Site: DLS O.F. G1
Operator: cbrandt #12348 3 dBi Whip Antenna
Test Specification: Radiated Emissions in Restricted Bands; 3.80 V DC
Comment: Low, Mid, High ch's; Continuous Tx (99.38% duty cycle)
Date: 08-01-2022

TEXT: "Vert 3 meters"

Short Description: Test Set-up

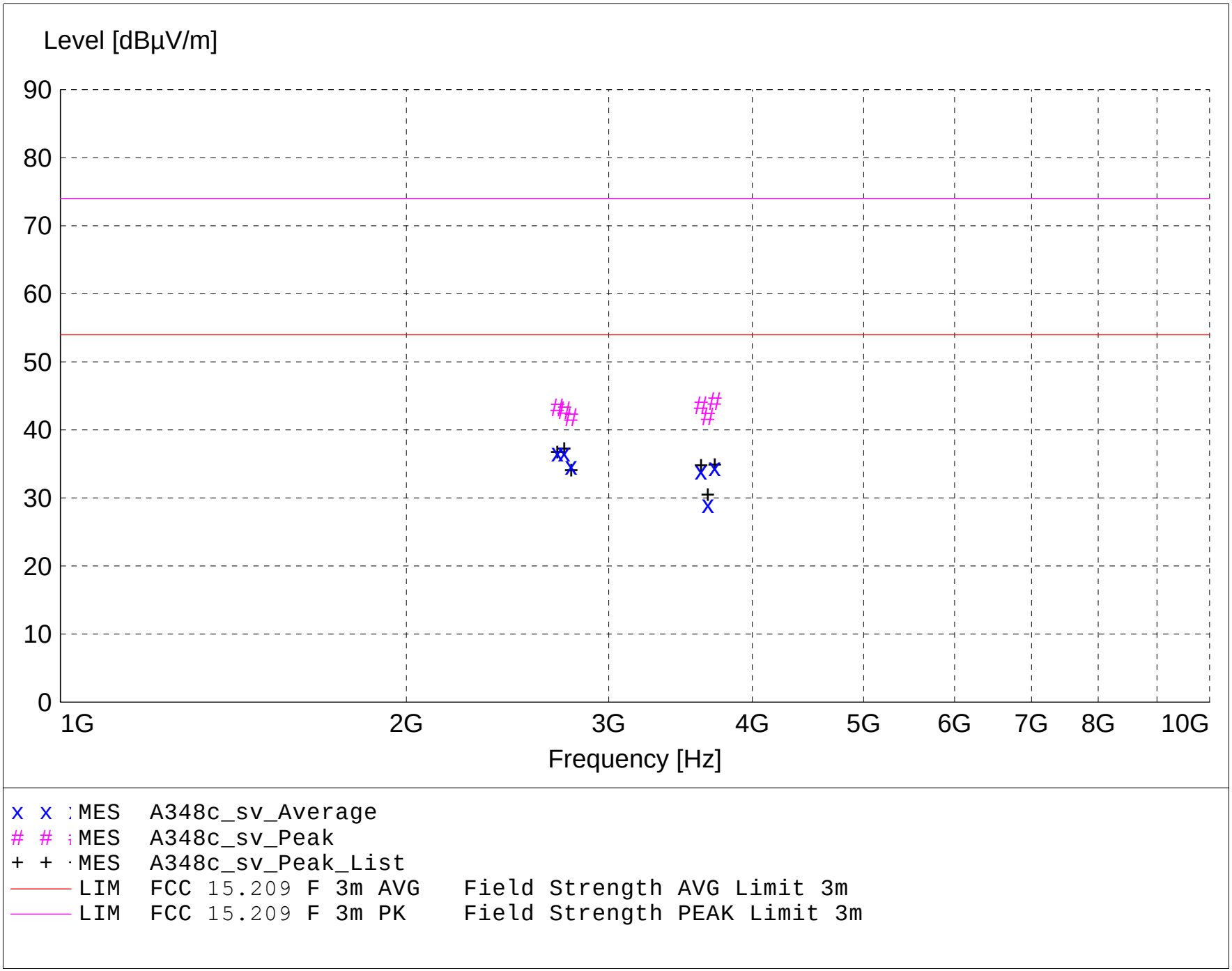
Test Set-up: EUT Measured at 3 Meters with VERTICAL Antenna Polarization

Sample Equations: Total Level(dBµV/m) = Level(dBµV) + System Loss(dB) + Antenna Factor(dBµV/m)
24.6 = 35.51 + (-22.1) + 11.20

Margin(dB) = Limit(dBµV/m) - Total Level(dBµV/m)
15.4 = 40 - 24.6

Graph Markers:

+	Frequency marker (Level of marker not related to final level)
|	Final maximized level using Quasi-Peak detector
X	Final maximized level using Average dector
#	Final maximized level using Peak detector
-	Background Scan Peak Detector (Optional)
-	Background Scan Average Detector (Optional)



x x x MES A348c_sv_Average
MES A348c_sv_Peak
+ + + MES A348c_sv_Peak_List
——— LIM FCC 15.209 F 3m AVG Field Strength AVG Limit 3m
——— LIM FCC 15.209 F 3m PK Field Strength PEAK Limit 3m

MEASUREMENT RESULT: "A348c_sv_Final"

8/1/2022 10:57AM

Frequency	Level	Antenna Factor	System Loss	Total Level	Limit	Margin	Height Ant.	EuT Angle	Final Detector	Comment
MHz	dBµV	dBµV/m	dB	dBµV/m	dBµV/m	dB	m	deg		
2745.010000	47.32	28.81	-39.5	36.7	54.0	17.3	1.42	81	AVERAGE	Mid ch
2707.190000	47.18	28.90	-39.4	36.6	54.0	17.4	1.54	149	AVERAGE	Low ch
2782.810000	45.34	28.84	-39.5	34.7	54.0	19.3	1.62	88	AVERAGE	High ch
3710.410000	42.43	32.35	-40.2	34.5	54.0	19.5	1.57	250	AVERAGE	High ch
3609.570000	42.73	31.53	-40.2	34.0	54.0	20.0	2.00	127	AVERAGE	Low ch
3659.930000	37.42	31.89	-40.2	29.1	54.0	24.9	1.59	5	AVERAGE	Mid ch
3710.410000	52.10	32.35	-40.2	44.2	74.0	29.8	1.57	250	MAX PEAK	High ch
3609.570000	52.38	31.53	-40.2	43.7	74.0	30.3	2.00	127	MAX PEAK	Low ch
2707.190000	53.86	28.90	-39.4	43.3	74.0	30.7	1.54	149	MAX PEAK	Low ch
2745.010000	53.60	28.81	-39.5	42.9	74.0	31.1	1.42	81	MAX PEAK	Mid ch
3659.930000	50.39	31.89	-40.2	42.0	74.0	32.0	1.59	5	MAX PEAK	Mid ch
2782.810000	52.52	28.84	-39.5	41.9	74.0	32.1	1.62	88	MAX PEAK	High ch

FCC Part 15.247 / 15.205 / 15.209

Electric Field Strength

EUT: Model RM8003-03 100mW Radio Module
Manufacturer: Traffic and Parking Control Co., Inc.
Operating Condition: 72 deg F 43% R.H.
Test Site: DLS O.F. G1
Operator: cbrandt #12348 3 dBi Whip Antenna
Test Specification: Radiated Emissions in Restricted Bands; 3.80 V DC
Comment: Low, Mid, High ch's; Continuous Tx (99.38% duty cycle)
Date: 07-29-2022 & 08-01-2022

TEXT: "Horz 3 meters"

Short Description: Test Set-up

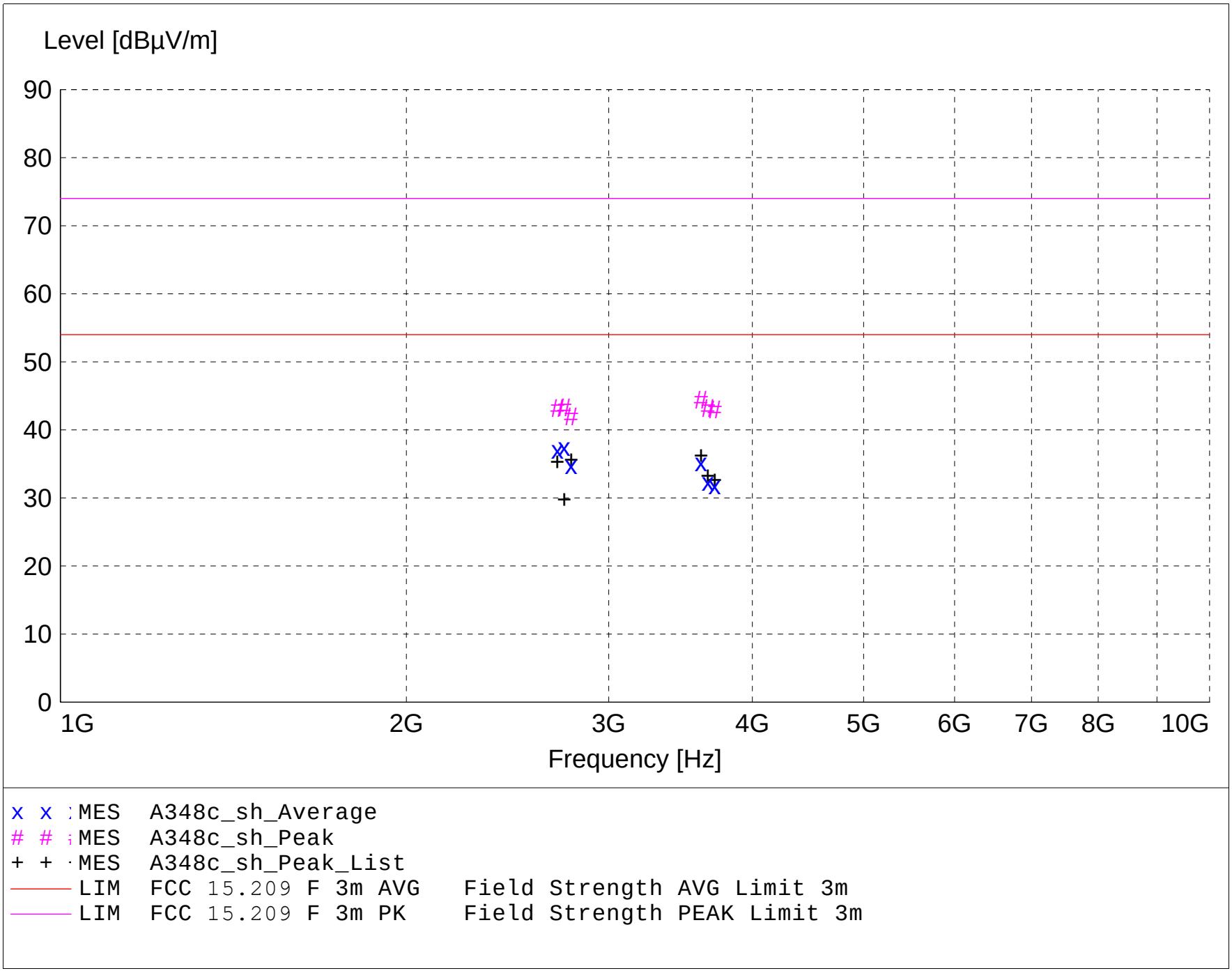
Test Set-up: EUT Measured at 3 Meters with HORIZONTAL Antenna Polarization

Sample Equations: Total Level(dBµV/m) = Level(dBµV) + System Loss(dB) + Antenna Factor(dBµV/m)
24.6 = 35.51 + (-22.1) + 11.20

Margin(dB) = Limit(dBµV/m) - Total Level(dBµV/m)
15.4 = 40 - 24.6

Graph Markers:

+	Frequency marker (Level of marker not related to final level)
|	Final maximized level using Quasi-Peak detector
X	Final maximized level using Average dector
#	Final maximized level using Peak detector
-	Background Scan Peak Detector (Optional)
-	Background Scan Average Detector (Optional)



x x x MES A348c_sh_Average
MES A348c_sh_Peak
+ + + MES A348c_sh_Peak_List
——— LIM FCC 15.209 F 3m AVG Field Strength AVG Limit 3m
——— LIM FCC 15.209 F 3m PK Field Strength PEAK Limit 3m

MEASUREMENT RESULT: "A348c_sh_Final"

8/1/2022 11:02AM

Frequency	Level	Antenna Factor	System Loss	Total Level	Limit	Margin	Height Ant.	EuT Angle	Final Detector	Comment
MHz	dBµV	dBµV/m	dB	dBµV/m	dBµV/m	dB	m	deg		
2745.010000	48.17	28.81	-39.5	37.5	54.0	16.5	1.08	206	AVERAGE	Mid ch
2707.220000	47.58	28.90	-39.4	37.0	54.0	17.0	1.20	203	AVERAGE	Low ch
3609.621350	43.89	31.53	-40.2	35.2	54.0	18.8	1.35	120	AVERAGE	Low ch
2782.810000	45.49	28.84	-39.5	34.8	54.0	19.2	1.17	137	AVERAGE	High ch
3660.010000	40.71	31.89	-40.2	32.4	54.0	21.6	1.25	323	AVERAGE	Mid ch
3710.410000	39.73	32.35	-40.2	31.8	54.0	22.2	1.18	321	AVERAGE	High ch
3609.621350	53.11	31.53	-40.2	44.4	74.0	29.6	1.35	120	MAX PEAK	Low ch
2745.010000	53.99	28.81	-39.5	43.3	74.0	30.7	1.08	206	MAX PEAK	Mid ch
3660.010000	51.56	31.89	-40.2	43.2	74.0	30.8	1.25	323	MAX PEAK	Mid ch
2707.220000	53.73	28.90	-39.4	43.2	74.0	30.8	1.20	203	MAX PEAK	Low ch
3710.410000	50.90	32.35	-40.2	43.0	74.0	31.0	1.18	321	MAX PEAK	High ch
2782.810000	52.66	28.84	-39.5	42.0	74.0	32.0	1.17	137	MAX PEAK	High ch

Section A

10.0 AC Line Conducted Emissions

Rule Part:

Sections 15.207

Test Procedure:

ANSI C63.10-2013, Section 6.2
Standard test method for ac powerline conducted emissions from unlicensed wireless devices.

Limit:

Table in FCC 15.207

Results:

Compliant

Notes:

In following FCC Part 15 and ANSI C63.10 requirements, the EUT was programmed for continuous transmit, modulated, with a 99.38% duty cycle using programming test software.

This was an AC Conducted emissions measurement.

The EUT was powered with 5.0 Volts DC from a Samsung model ATADS10JBE AC/DC adapter (Not provided with EUT). The power adapter was connected to a Line Impedance Stabilization Network using a 1-meter non-shielded power cord.

PMM NARDA REPORT: 12348 TAPCO RM003-3 Radio Module - Tx - Line 1_000

Report issuing date : 08-09-2022

Standard : FCC Part 15.209
Test Type : Voltage Mains Test
Test Site : DLS OATS Screen Room
Temperature : 73 °F
Humidity : 53 %
Test Specs : Line 1; Quasi-Peak Detector
Operator : cbrandt
DLS Project # : 12348
Result : Pass

EUT

Manufacturer : Traffic and Parking Control Co., Inc.
Model : RM8003-03
Product : 100 mW Radio Module
Notes : 120 V 60 Hz adapter providing 5 VDC to EUT
(Samsung model ATADS10JBE AC/DC adapter)
Comments : Continuous transmit mode

Testing Company : DLS Electronic Systems
Tel./Fax : 262-279-0210
Web site : http://www.dlsemc.com

Receiver Details

Model : PMM 9010F
Brand : Narda
S/N : 020WW40102
Last Calibration : 03/30/2022

NOTE: The column in the table that is labeled "delta" shows the margin in dB with respect to the limit. A negative number indicates the level of the emission is under the limit by the given value, while a positive number indicates the emission level is above the limit by the given value.

12348 TAPCO RM003-3 Radio Module - Tx - Line 1_000

	Start [MHz]	Stop [MHz]	Step	Detector	Hold Time	RBW	Min Att	Pre Amp	Pre Sel	Prompt start	Ancillary	L
1	0.15	30	AUTO (2.04468 kHz)	PQ	1500 ms	9 kHz-C	10	OFF	ON	...	...	...

Ancillary = General
Nr. of Worst = Infinite (2)

Limits:
FCC 15_207 QP

Factors:
LISN DLS#665
Cables 43 & 112
LIM #507 w CBL-035
HPF #592

Peak
QPeak

12348 TAPCO RM003-3 Radio Module - Tx - Line 1_000 09/08/2022 10:07:24
Rel. SW 2.40 (January 2021)
Rel. FW 2.02 21/04/21
Margin: 100 dB

	Frequency [MHz]	QPeak [dBµV]	Limit FCC 15_20.. [dBµV]	Delta [dB]	Factor LISN DLS#.. [dB]	Factor Cables 43.. [dB]	Factor LIM #507 .. [dB]	Factor HPF #592 [dB]
1	0.15	33.50	66.00	-32.50	0.08	0.03	9.71	2.23
2	0.15408936	32.09	65.78	-33.69	0.08	0.04	9.70	2.17
3	0.18680424	33.73	64.18	-30.45	0.06	0.08	9.67	1.85
4	0.26654676	33.43	61.22	-27.79	0.04	0.09	9.65	1.43
5	0.32584248	51.20	59.56	-8.36	0.04	0.07	9.64	1.22
6	0.50168496	36.11	56.00	-19.89	0.03	0.09	9.69	0.84
7	0.6509466	39.52	56.00	-16.48	0.03	0.12	9.67	0.63
8	0.97400604	38.79	56.00	-17.21	0.03	0.15	9.65	0.46
9	8.0322414	33.41	60.00	-26.59	0.04	0.54	9.73	0.17

PMM NARDA REPORT: 12348 TAPCO RM003-3 Radio Module - Tx - Line 1_001

Report issuing date : 08-09-2022

Standard	: FCC Part 15.207
Test Type	: Voltage Mains Test
Test Site	: DLS OATS Screen Room
Temperature	: 73 °F
Humidity	: 53 %
Test Specs	: Line 1; AVERAGE Detector
Operator	: cbrandt
DLS Project #	: 12348
Result	: Pass

EUT

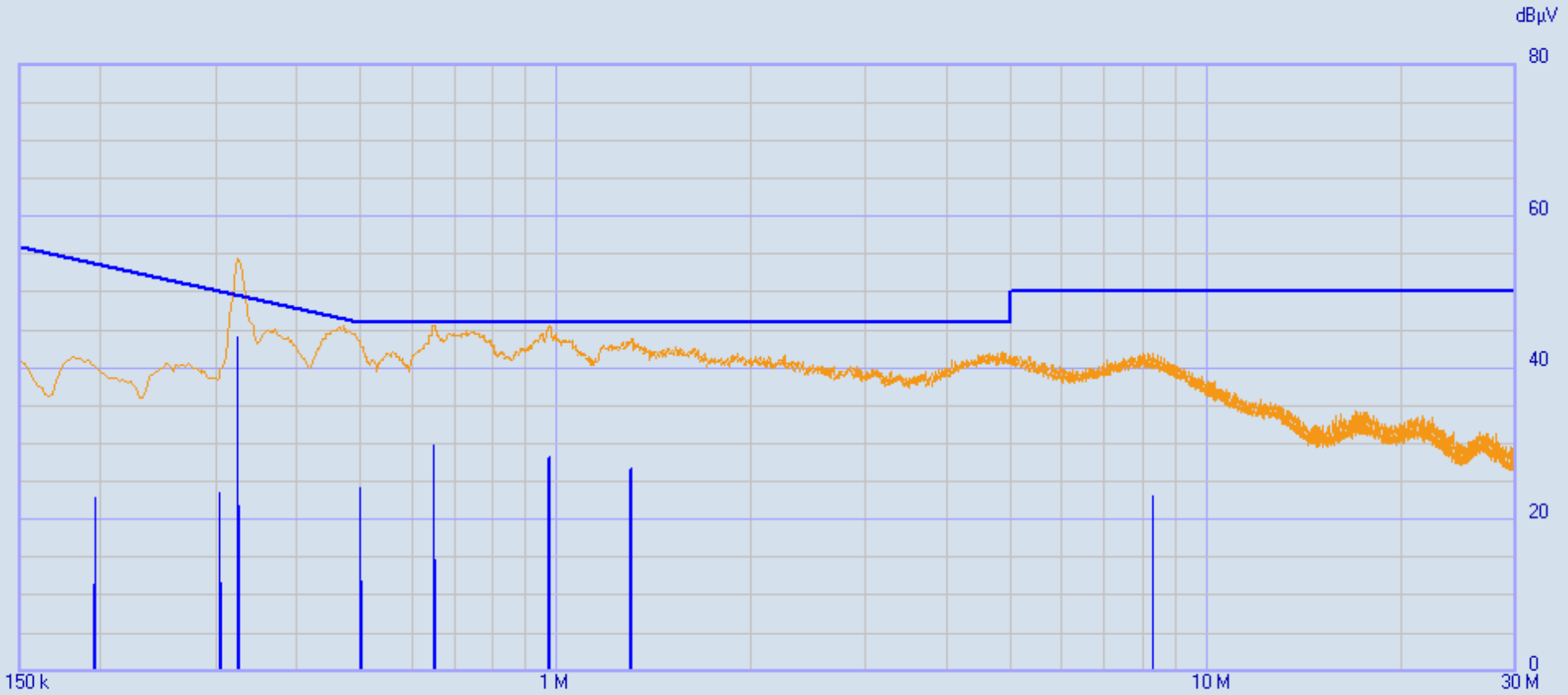
Manufacturer	: Traffic and Parking Control Co., Inc.
Model	: RM8003-03
Product	: 100 mW Radio Module
Notes	: 120 V 60 Hz adapter providing 5 VDC to EUT (Samsung model ATADS10JBE AC/DC adapter)
Comments	: Continuous transmit mode

Testing Company	: DLS Electronic Systems
Tel./Fax	: 262-279-0210
Web site	: http://www.dlsemc.com

Receiver Details

Model	: PMM 9010F
Brand	: Narda
S/N	: 020WW40102
Last Calibration	: 03/30/2022

NOTE: The column in the table that is labeled "delta" shows the margin in dB with respect to the limit. A negative number indicates the level of the emission is under the limit by the given value, while a positive number indicates the emission level is above the limit by the given value.



12348 TAPCO RM003-3 Radio Module - Tx - Line 1_001

	Start [MHz]	Stop [MHz]	Step	Detector	Hold Time	RBW	Min Att	Pre Amp	Pre Sel	Prompt start	Ancillary	L
1	0.15	30	AUTO (2.04468 kHz)	PC	1500 ms	9 kHz-C	10	OFF	ON	...	...	...

Ancillary = General
Nr. of Worst = Infinite (2)

Limits:
FCC 15_207 AV

Factors:
LISN DLS#665
Cables 43 & 112
LIM #507 w CBL-035
HPF #592

Peak
C-Avg

12348 TAPCO RM003-3 Radio Module - Tx - Line 1_001 09/08/2022 10:13:47
Rel. SW 2.40 (January 2021)
Rel. FW 2.02 21/04/21
Margin: 100 dB

	Frequency [MHz]	C-Avg [dBµV]	Limit FCC 15_20.. [dBµV]	Delta [dB]	Factor LISN DLS#.. [dB]	Factor Cables 43.. [dB]	Factor LIM #507 .. [dB]	Factor HPF #592 [dB]
1	0.15	21.10	56.00	-34.90	0.08	0.03	9.71	2.23
2	0.19498296	22.87	53.82	-30.95	0.05	0.08	9.66	1.78
3	0.30539568	23.48	50.09	-26.61	0.04	0.09	9.64	1.27
4	0.32584248	44.13	49.56	-5.43	0.04	0.07	9.64	1.22
5	0.50168496	24.25	46.00	-21.75	0.03	0.09	9.69	0.84
6	0.6509466	29.73	46.00	-16.27	0.03	0.12	9.67	0.63
7	0.97400604	28.20	46.00	-17.80	0.03	0.15	9.65	0.46
8	1.30319952	26.67	46.00	-19.33	0.03	0.19	9.66	0.35
9	8.24284344	23.01	50.00	-26.99	0.04	0.54	9.73	0.18

PMM NARDA REPORT: 12348 TAPCO RM003-3 Radio Module - Tx - Line 2_001

Report issuing date : 08-09-2022

Standard : FCC Part 15.207
Test Type : Voltage Mains Test
Test Site : DLS OATS Screen Room
Temperature : 73 °F
Humidity : 53 %
Test Specs : Line 2; Quasi-Peak Detector
Operator : cbrandt
DLS Project # : 12348
Result : Pass

EUT

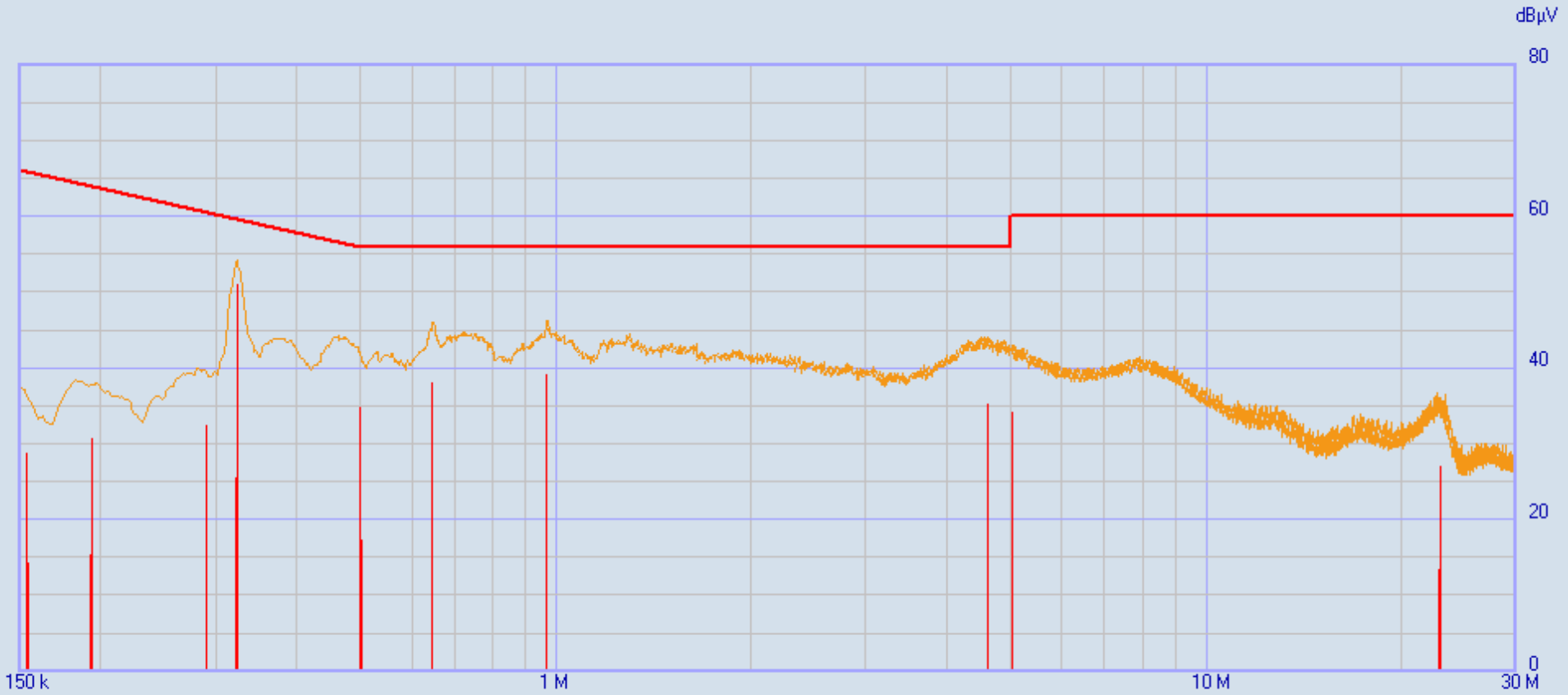
Manufacturer : Traffic and Parking Control Co., Inc.
Model : RM8003-03
Product : 100 mW Radio Module
Notes : 120 V 60 Hz adapter providing 5 VDC to EUT
(Samsung model ATADS10JBE AC/DC adapter)
Comments : Continuous transmit mode

Testing Company : DLS Electronic Systems
Tel./Fax : 262-279-0210
Web site : http://www.dlsemc.com

Receiver Details

Model : PMM 9010F
Brand : Narda
S/N : 020WW40102
Last Calibration : 03/30/2022

NOTE: The column in the table that is labeled "delta" shows the margin in dB with respect to the limit. A negative number indicates the level of the emission is under the limit by the given value, while a positive number indicates the emission level is above the limit by the given value.



12348 TAPCO RM003-3 Radio Module - Tx - Line 2_001

	Start [MHz]	Stop [MHz]	Step	Detector	Hold Time	RBW	Min Att	Pre Amp	Pre Sel	Prompt start	Ancillary	L
1	0.15	30	AUTO (2.04468 kHz)	PQ	1500 ms	9 kHz-C	10	OFF	ON	...	...	...

Ancillary = General
Nr. of Worst = Infinite (2)

Limits:
FCC 15_207 QP

Factors:
LISN DLS#665
Cables 43 & 112
LIM #507 w CBL-035
HPF #592

Peak
QPeak

12348 TAPCO RM003-3 Radio Module - Tx - Line 2_001 09/08/2022 10:26:30
Rel. SW 2.40 (January 2021)
Rel. FW 2.02 21/04/21
Margin: 100 dB

	Frequency [MHz]	QPeak [dBµV]	Limit FCC 15_20.. [dBµV]	Delta [dB]	Factor LISN DLS#.. [dB]	Factor Cables 43.. [dB]	Factor LIM #507 .. [dB]	Factor HPF #592 [dB]
1	0.15	29.75	66.00	-36.25	0.08	0.03	9.71	2.23
2	0.15408936	28.61	65.78	-37.17	0.08	0.04	9.70	2.17
3	0.19293828	30.70	63.91	-33.21	0.05	0.08	9.66	1.80
4	0.29108292	32.43	60.49	-28.06	0.04	0.10	9.64	1.31
5	0.3237978	50.85	59.61	-8.76	0.04	0.08	9.64	1.23
6	0.50168496	34.77	56.00	-21.23	0.03	0.09	9.69	0.84
7	0.64685724	38.04	56.00	-17.96	0.03	0.12	9.67	0.63
8	0.967872	39.07	56.00	-16.93	0.03	0.15	9.65	0.46
9	4.60944708	35.25	56.00	-20.75	0.04	0.39	9.68	0.16
10	5.01020436	33.98	60.00	-26.02	0.04	0.41	9.68	0.16
11	22.80914376	27.03	60.00	-32.97	0.04	0.82	9.76	0.28

PMM NARDA REPORT: 12348 TAPCO RM003-3 Radio Module - Tx - Line 2_000

Report issuing date : 08-09-2022

Standard	: FCC Part 15.207
Test Type	: Voltage Mains Test
Test Site	: DLS OATS Screen Room
Temperature	: 73 °F
Humidity	: 53 %
Test Specs	: Line 2; AVERAGE Detector
Operator	: cbrandt
DLS Project #	: 12348
Result	: Pass

EUT

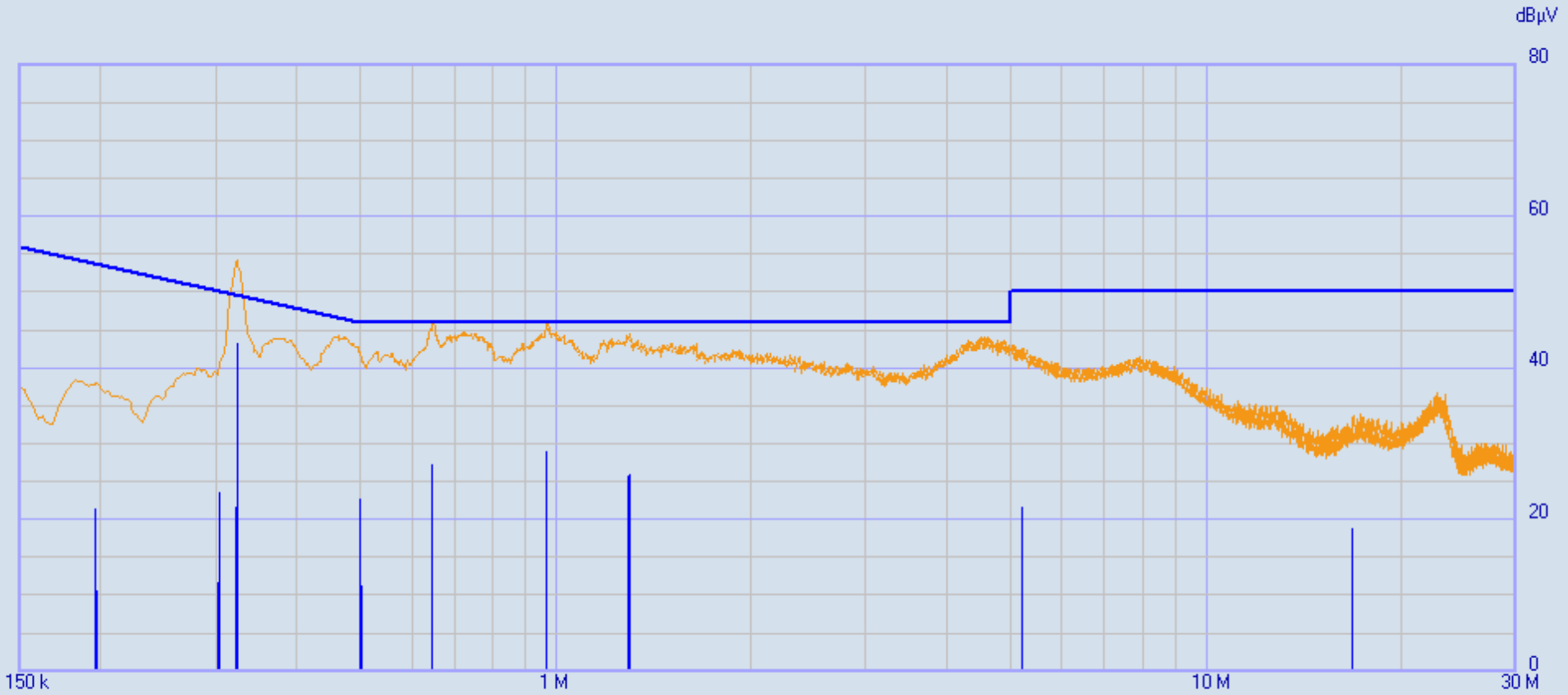
Manufacturer	: Traffic and Parking Control Co., Inc.
Model	: RM8003-03
Product	: 100 mW Radio Module
Notes	: 120 V 60 Hz adapter providing 5 VDC to EUT (Samsung model ATADS10JBE AC/DC adapter)
Comments	: Continuous transmit mode

Testing Company	: DLS Electronic Systems
Tel./Fax	: 262-279-0210
Web site	: http://www.dlsemc.com

Receiver Details

Model	: PMM 9010F
Brand	: Narda
S/N	: 020WW40102
Last Calibration	: 03/30/2022

NOTE: The column in the table that is labeled "delta" shows the margin in dB with respect to the limit. A negative number indicates the level of the emission is under the limit by the given value, while a positive number indicates the emission level is above the limit by the given value.



12348 TAPCO RM003-3 Radio Module - Tx - Line 2_000

	Start [MHz]	Stop [MHz]	Step	Detector	Hold Time	RBW	Min Att	Pre Amp	Pre Sel	Prompt start	Ancillary	L
1	0.15	30	AUTO (2.04468 kHz)	PC	1500 ms	9 kHz-C	10	OFF	ON	...	...	...

Ancillary = General
Nr. of Worst = Infinite (2)

Limits:
FCC 15_207 AV

Factors:
LISN DLS#665
Cables 43 & 112
LIM #507 w CBL-035
HPF #592

Peak
C-Avg

12348 TAPCO RM003-3 Radio Module - Tx - Line 2_000 09/08/2022 10:21:58
Rel. SW 2.40 (January 2021)
Rel. FW 2.02 21/04/21
Margin: 100 dB

	Frequency [MHz]	C-Avg [dBµV]	Limit FCC 15_20.. [dBµV]	Delta [dB]	Factor LISN DLS#.. [dB]	Factor Cables 43.. [dB]	Factor LIM #507 .. [dB]	Factor HPF #592 [dB]
1	0.15	20.42	56.00	-35.58	0.08	0.03	9.71	2.23
2	0.19702764	21.30	53.73	-32.43	0.05	0.08	9.66	1.76
3	0.303351	23.42	50.15	-26.73	0.04	0.09	9.64	1.28
4	0.3237978	43.17	49.61	-6.44	0.04	0.08	9.64	1.23
5	0.50168496	22.72	46.00	-23.28	0.03	0.09	9.69	0.84
6	0.64481256	27.23	46.00	-18.77	0.03	0.11	9.68	0.64
7	0.967872	28.91	46.00	-17.09	0.03	0.15	9.65	0.46
8	1.2950208	25.90	46.00	-20.10	0.03	0.19	9.66	0.35
9	5.19831492	21.62	50.00	-28.38	0.04	0.43	9.69	0.16
10	16.74871224	18.82	50.00	-31.18	0.04	0.74	9.76	0.23

Section B – Measurement Uncertainty

Compliance with the limits in this standard are based on the results of the compliance measurement. Our calculated measurement uncertainty including the measurement instrumentation, associated connections between the various instruments in the measurement chain, and other contributions, are provided in this section of the test report.

Radiated Emission 30 MHz to 25 GHz Uncertainty

Parameter		Expanded Uncertainty (K=2)
Occupied Channel Bandwidth		+/-1.14%
RF Output Power, Conducted		+/-0.89dB
Unwanted Emissions, Conducted		+/-2.62dB
All Emissions, Radiated		+/-4.95dB
DC and Low Frequency Voltages		+/-2.42%
Time		+/-0.01%
Duty Cycle		+/-0.05%

AC Line Conducted Emissions 150 kHz to 30 MHz Uncertainty

AC Line Conducted		Uncertainty (+ / - dB)
Contribution	Probability Distribution	
		150 kHz - 30 MHz
Combined Standard Uncertainty	Normal	1.05
Expanded Uncertainty	**Normal (k=2)**	**2.10**

166 South Carter, Genoa City, WI 53128

Company: Traffic and Parking Control Co., Inc.
Model: RM8003-03
Project Number: 12348
Report Number: 27202 rev2.0

END OF REPORT

Revision #	Date	Comments	By
1.0	08-12-2022	Initial Release	CB
2.0	10-04-2022	Adjustment made to Maximum Rated and Measured Output Power	CB