

OakDOT Speed Safety Program
Camera Calibration Records
11/12/2025

Calibration records appear in order of camera number:

Site ID Location

OAKF001 NB 4211 MLK Jr Way
OAKF002 SB 4211 MLK Jr Way
OAKF003 NB 5995 Claremont Ave
OAKF004 SB 5995 Claremont Ave
OAKF005 EB 2424 Foothill Blvd
OAKF006 WB 2424 Foothill Blvd
OAKF007 EB 2005 Foothill Blvd
OAKF008 WB 2005 Foothill Blvd
OAKF009 EB 1035 7th St
OAKF010 WB 1014 7th St
OAKF011 EB 1055 W Grand Ave
OAKF012 WB 1050 W Grand Ave
OAKF013 NB 2710 Broadway
OAKF014 SB 2735 Broadway
OAKF015 NB 2564 San Pablo Ave
OAKF016 SB 2551 San Pablo Ave
OAKF017 EB 452 7th St
OAKF018 EB 4635 Macarthur Blvd
OAKF019 WB 4635 Macarthur Blvd
OAKF020 NB 2374 Fruitvale Ave
OAKF021 SB 2500 Fruitvale Ave
OAKF022 EB 4001 International Blvd
OAKF023 WB 4000 International Blvd
OAKF024 NB Hegenberger Rd @ Spencer St
OAKF025 SB Hegenberger Rd @ Spencer St
OAKF026 NB 2206 73rd Ave
OAKF027 SB 2345 73rd Ave
OAKF028 NB 8648 Bancroft Ave
OAKF029 SB 8605 Bancroft Ave
OAKF030 NB 998 98th Ave
OAKF031 SB 998 98th Ave
OAKF032 NB 1928 98th Ave
OAKF033 SB 1928 98th Ave
OAKF034 EB 6161 Bancroft Ave
OAKF035 WB 6130 Bancroft Ave

According to California's AB645 legislation, camera calibration must be verified at least once per year by an independent calibration laboratory. The next camera calibration will be performed on or before 11/11/2026.

Camera systems and required signage approaches are inspected once every 30 days.

**Radar Sensor Calibration Verification
Test Report**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x000461A6**


**Description:
Radar Characteristics Validation
In compliance with:
SMS UMRR-11 T44 / UMRR-12 T48 RADAR QUALIFICATION USING SPECRA**

Date of Issue: November 11, 2025

Owner of EUT: Verra Mobility
1150 N. Alma School Rd
Mesa, AZ 85201

Attention of: Engineering Department
Phone: (480) 443-7000

Test Facility	
Test Laboratory	Applus + Keystone
Address	131 North Columbus Innerbelt
City, State, Zip Code	New Castle, PA 16101
Email	questions@keystonecompliance.com
Web Site	www.keystonecompliance.com

Test Personnel	
Name	Mathew Santiago
Title	EMC Test Engineer
Signature	

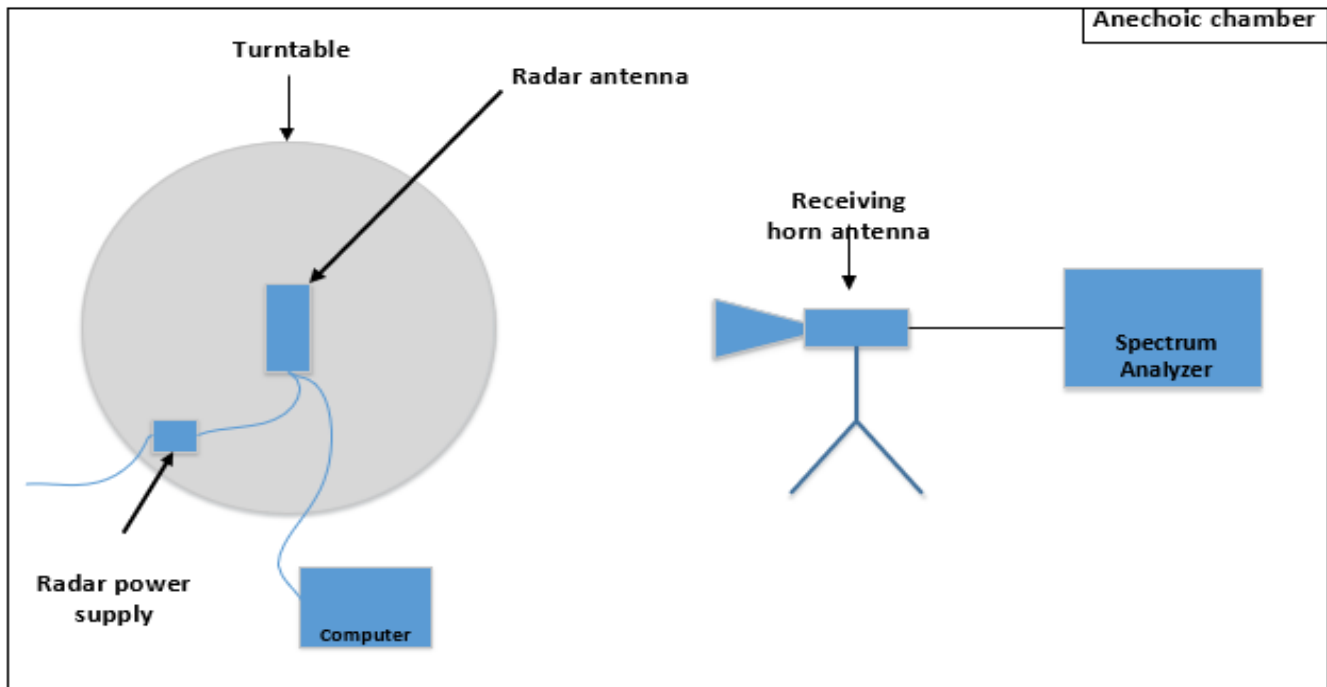
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Revision	Date	Description	Revised By
N/C	#####	Initial Release	Mathew Santiago

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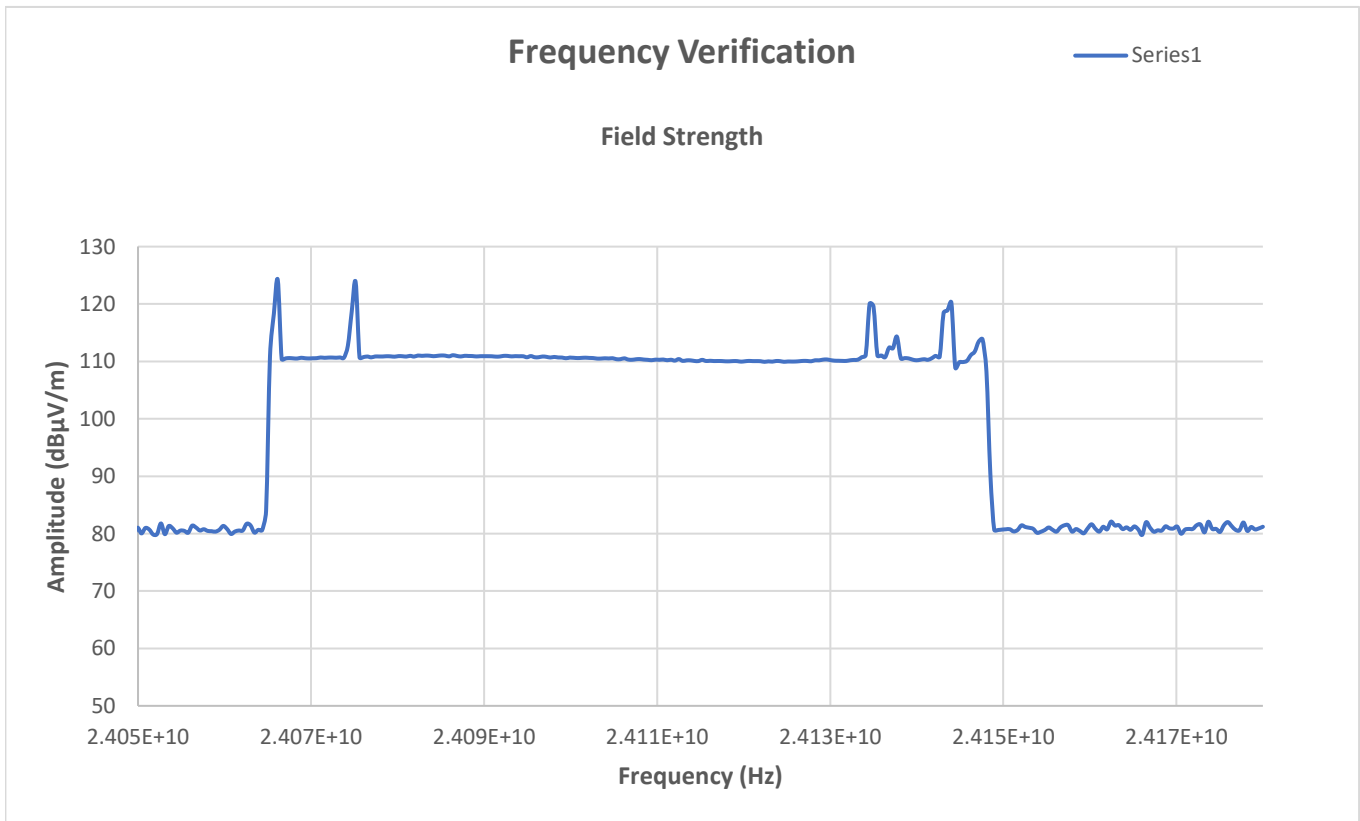
Test Setup Diagram



Test Equipment Utilized

Description	Manufacturer	Model #	Serial #	Asset #	Cal. Due Date
EMC Analyzer	Agilent	E7405	US40240238	EB046	1/29/2026
DRG Horn Antenna	ETS Lindgren	3116	00026390	EE017	5/21/2026
Pre-Amplifier	Keystone Compliance	PA-1	0002	EG003	6/30/2026
Turntable Controller	EMCO	1061.2.013	9401-1717	EI009	UWCE

Frequency Measurements:



Frequency Verification					
Nominal Frequency Range (GHz)	Measured Center Frequency (GHz)	Measured Frequency Bandwidth @ 20dB (MHz)	Amplitude (dBµV)	Bandwidth Limit (MHz)	Results
24.075-24.175	24.107	82.8	124.19	84.7 +/- 4.8	PASS



Report No.: 2403-267EA

Revision: N/C

**Radar Sensor Calibration Verification
Certificate of Calibration**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x000461A6**

**Description:
Radar Characteristics Validation
In compliance with:
SMS UMRR-11 T44 / UMRR-12 T48 RADAR QUALIFICATION USING SPECRA**

Date of Issue: November 11, 2025

Owner of EUT: Verra Mobility
1150 N. Alma School Rd
Mesa, AZ 85201

Attention of: Engineering Department
Phone: (480) 443-7000

Test Facility	
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Address	131 North Columbus Innerbelt
City, State, Zip Code	New Castle, PA 16101
Email	questions@keystonecompliance.com
Web Site	www.keystonecompliance.com

Test Personnel	
Name	Mathew Santiago
Title	EMC Test Engineer
Signature	

**Radar Sensor Calibration Verification
Certificate of Calibration**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x000461A6**

Date of Issue: November 11, 2025

This speed measuring device has been tested and verified to be functioning in accordance with the manufacture’s specifications.

The frequency measurements performed and reported within this report demonstrate that the SmartMicro UMRR-11 T44 radar system has an accuracy of less than or equal to 1 mph up to 100 mph and 1% accuracy thereafter up to 199 mph maximum.

FSK Frequency Set 1					
Nominal Frequency Range (GHz)	Measured Center Frequency (GHz)	Measured Frequency Bandwidth @ 20dB (MHz)	Amplitude (dBμV)	Bandwidth Limit (MHz)	Results
24.075-24.175	24.107	82.8	124.19	84.7 +/- 4.8	PASS

**Radar Sensor Calibration Verification
Test Report**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x000461AB**


**Description:
Radar Characteristics Validation
In compliance with:
SMS UMRR-11 T44 / UMRR-12 T48 RADAR QUALIFICATION USING SPECRA**

Date of Issue: November 11, 2025

Owner of EUT: Verra Mobility
1150 N. Alma School Rd
Mesa, AZ 85201

Attention of: Engineering Department
Phone: (480) 443-7000

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Email	questions@keystonecompliance.com
Web Site	www.keystonecompliance.com

Test Personnel	
Name	Mathew Santiago
Title	EMC Test Engineer
Signature	

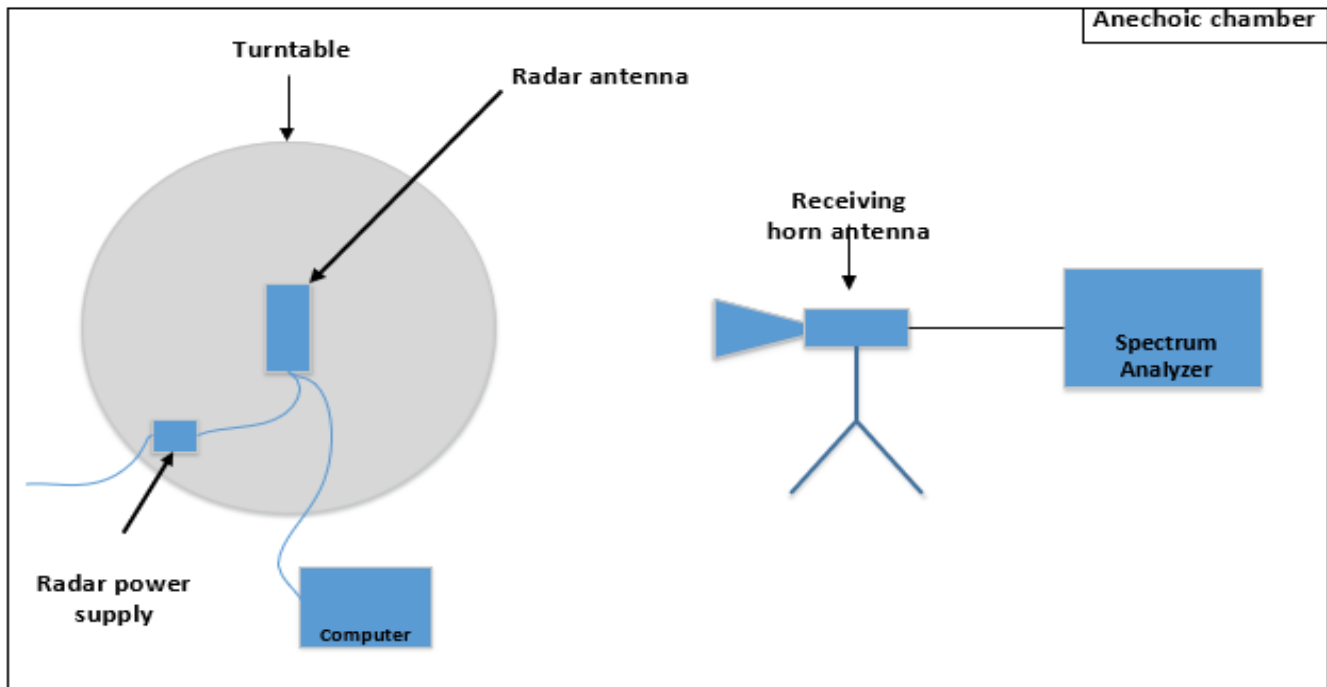
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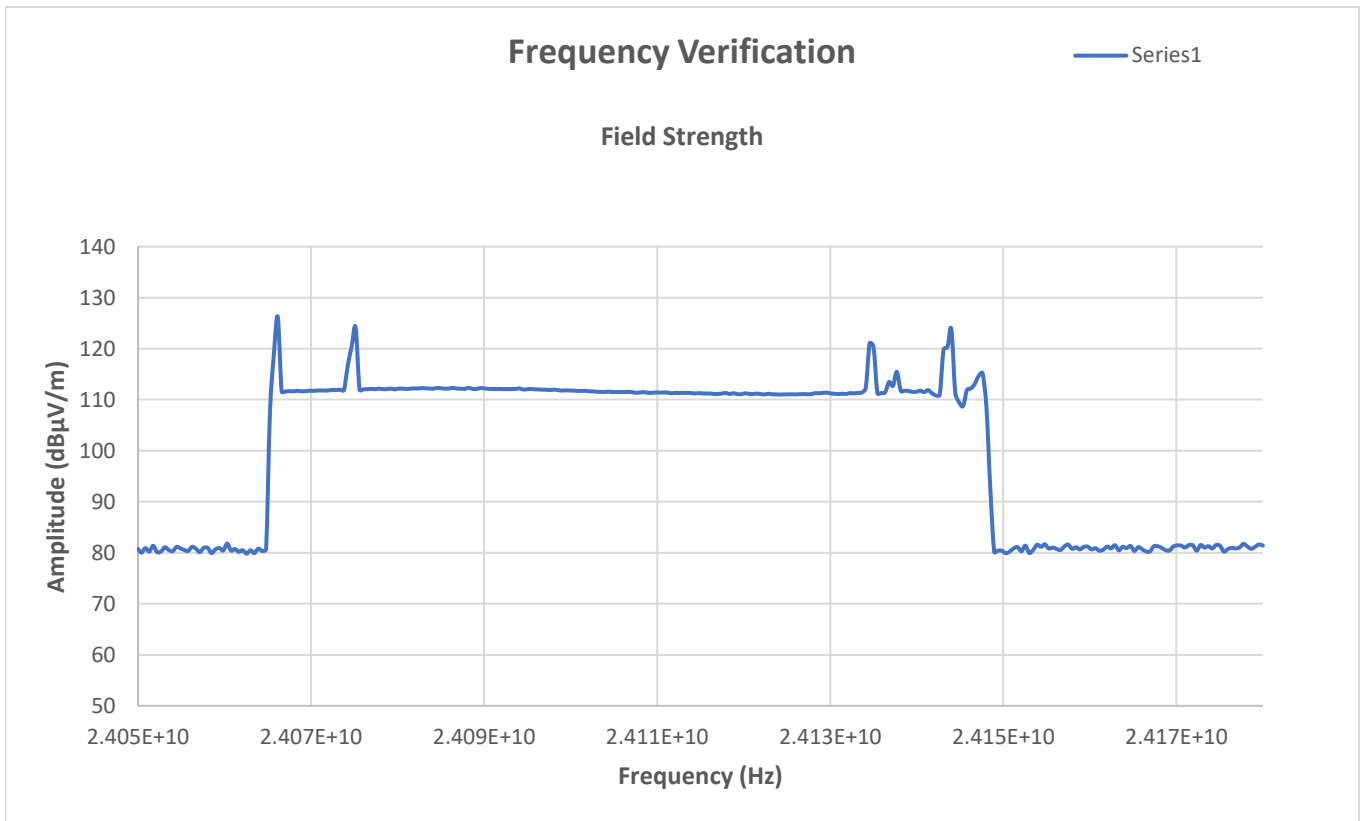
Test Setup Diagram



Test Equipment Utilized

Description	Manufacturer	Model #	Serial #	Asset #	Cal. Due Date
EMC Analyzer	Agilent	E7405	US40240238	EB046	1/29/2026
DRG Horn Antenna	ETS Lindgren	3116	00026390	EE017	5/21/2026
Pre-Amplifier	Keystone Compliance	PA-1	0002	EG003	6/30/2026
Turntable Controller	EMCO	1061.2.013	9401-1717	EI009	UWCE

Frequency Measurements:



Frequency Verification					
Nominal Frequency Range (GHz)	Measured Center Frequency (GHz)	Measured Frequency Bandwidth @ 20dB (MHz)	Amplitude (dBµV)	Bandwidth Limit (MHz)	Results
24.075-24.175	24.107	82.8	126.22	84.7 +/- 4.8	PASS



Report No.: 2403-267EA

Revision: N/C

**Radar Sensor Calibration Verification
Certificate of Calibration**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x000461AB**

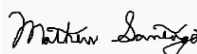
**Description:
Radar Characteristics Validation
In compliance with:
SMS UMRR-11 T44 / UMRR-12 T48 RADAR QUALIFICATION USING SPECRA**

Date of Issue: November 11, 2025

Owner of EUT: Verra Mobility
1150 N. Alma School Rd
Mesa, AZ 85201

Attention of: Engineering Department
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Email	questions@keystonecompliance.com
Web Site	www.keystonecompliance.com

Test Personnel	
Name	Mathew Santiago
Title	EMC Test Engineer
Signature	

**Radar Sensor Calibration Verification
Certificate of Calibration**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x000461AB**

Date of Issue: November 11, 2025

This speed measuring device has been tested and verified to be functioning in accordance with the manufacture's specifications.

The frequency measurements performed and reported within this report demonstrate that the SmartMicro UMRR-11 T44 radar system has an accuracy of less than or equal to 1 mph up to 100 mph and 1% accuracy thereafter up to 199 mph maximum.

FSK Frequency Set 1					
Nominal Frequency Range (GHz)	Measured Center Frequency (GHz)	Measured Frequency Bandwidth @ 20dB (MHz)	Amplitude (dBμV)	Bandwidth Limit (MHz)	Results
24.075-24.175	24.107	82.8	126.22	84.7 +/- 4.8	PASS

Radar Sensor Calibration Verification Test Report

Model: UMRR-11 T44

**Part Number / Serial Number:
0x00046320**


**Description:
Radar Characteristics Validation
In compliance with:
SMS UMRR-11 T44 / UMRR-12 T48 RADAR QUALIFICATION USING SPECRA**

Date of Issue: November 11, 2025

Owner of EUT: Verra Mobility
1150 N. Alma School Rd
Mesa, AZ 85201

Attention of: Engineering Department
Phone: (480) 443-7000

Test Facility	
Test Laboratory	Applus + Keystone
Address	131 North Columbus Innerbelt
City, State, Zip Code	New Castle, PA 16101
Email	questions@keystonecompliance.com
Web Site	www.keystonecompliance.com

Test Personnel	
Name	Mathew Santiago
Title	EMC Test Engineer
Signature	

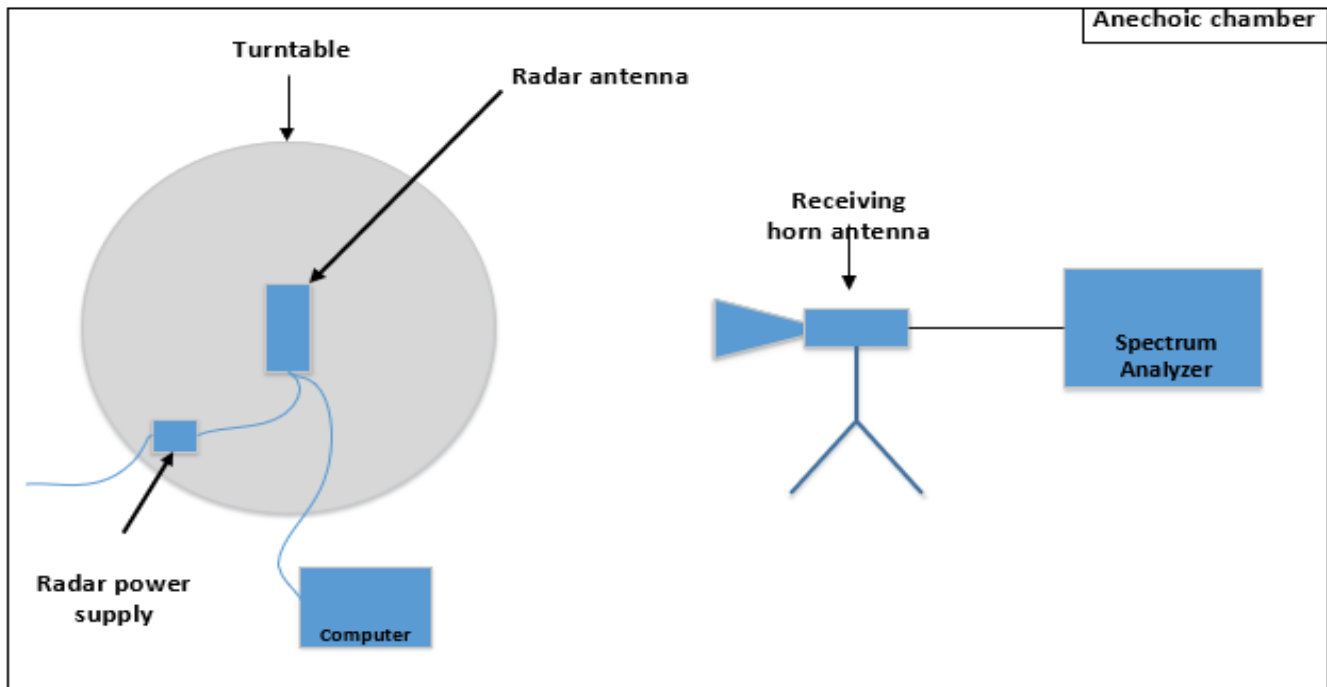
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N/C	#####	Initial Release	Mathew Santiago

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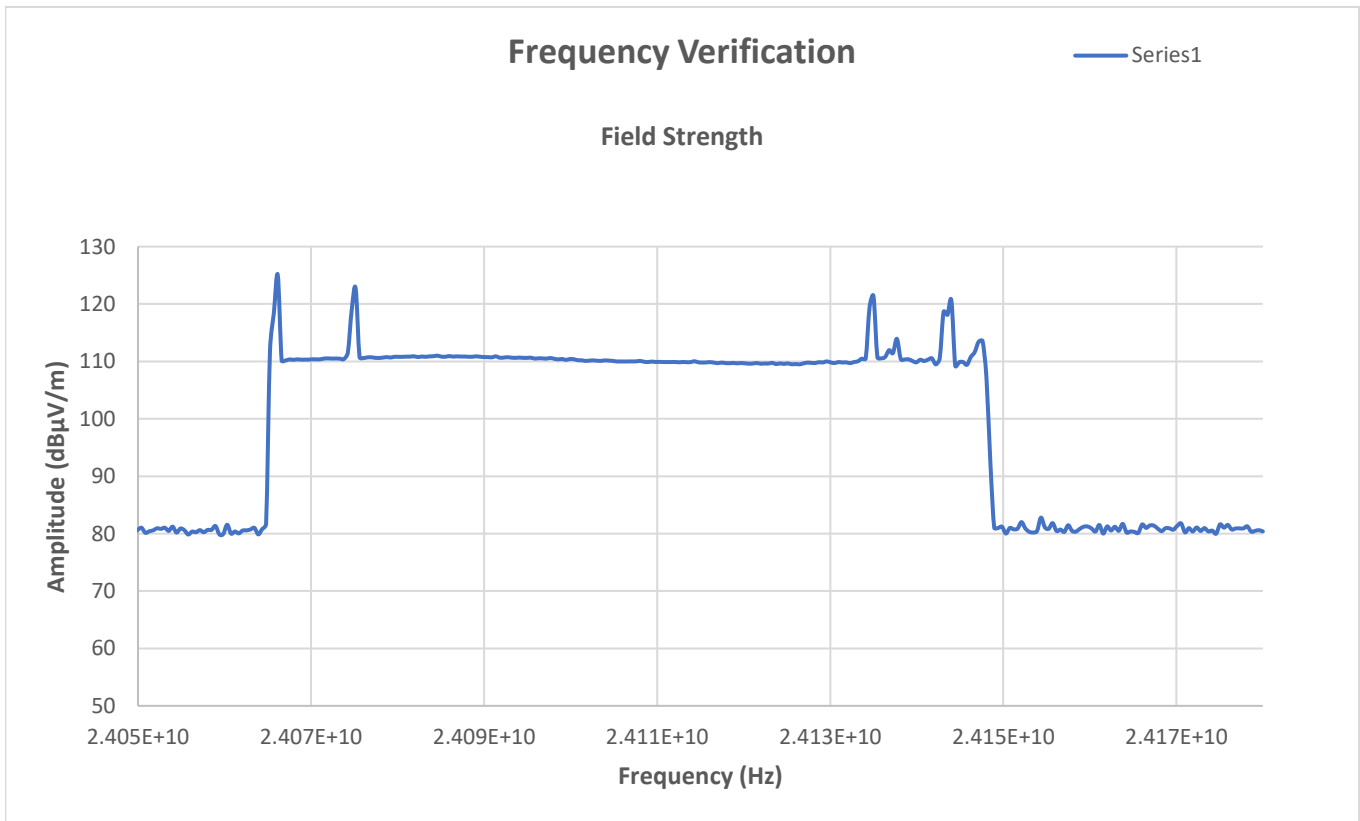
Test Setup Diagram



Test Equipment Utilized

Description	Manufacturer	Model #	Serial #	Asset #	Cal. Due Date
EMC Analyzer	Agilent	E7405	US40240238	EB046	1/29/2026
DRG Horn Antenna	ETS Lindgren	3116	00026390	EE017	5/21/2026
Pre-Amplifier	Keystone Compliance	PA-1	0002	EG003	6/30/2026
Turntable Controller	EMCO	1061.2.013	9401-1717	EI009	UWCE

Frequency Measurements:



Frequency Verification					
Nominal Frequency Range (GHz)	Measured Center Frequency (GHz)	Measured Frequency Bandwidth @ 20dB (MHz)	Amplitude (dBµV)	Bandwidth Limit (MHz)	Results
24.075-24.175	24.107	82.8	125.05	84.7 +/- 4.8	PASS



Report No.: 2403-267EA

Revision: N/C

**Radar Sensor Calibration Verification
Certificate of Calibration**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x00046320**


**Description:
Radar Characteristics Validation
In compliance with:
SMS UMRR-11 T44 / UMRR-12 T48 RADAR QUALIFICATION USING SPECRA**

Date of Issue: November 11, 2025

Owner of EUT: Verra Mobility
1150 N. Alma School Rd
Mesa, AZ 85201

Attention of: Engineering Department
Phone: (480) 443-7000

Test Facility	
Test Laboratory	Applus+ Keystone
Address	131 North Columbus Innerbelt
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Email	questions@keystonecompliance.com
Web Site	www.keystonecompliance.com

Test Personnel	
Name	Mathew Santiago
Title	EMC Test Engineer
Signature	

**Radar Sensor Calibration Verification
Certificate of Calibration**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x00046320**

Date of Issue: November 11, 2025

This speed measuring device has been tested and verified to be functioning in accordance with the manufacture’s specifications.

The frequency measurements performed and reported within this report demonstrate that the SmartMicro UMRR-11 T44 radar system has an accuracy of less than or equal to 1 mph up to 100 mph and 1% accuracy thereafter up to 199 mph maximum.

FSK Frequency Set 1					
Nominal Frequency Range (GHz)	Measured Center Frequency (GHz)	Measured Frequency Bandwidth @ 20dB (MHz)	Amplitude (dBμV)	Bandwidth Limit (MHz)	Results
24.075-24.175	24.107	82.8	125.05	84.7 +/- 4.8	PASS

Radar Sensor Calibration Verification Test Report

Model: UMRR-11 T44

**Part Number / Serial Number:
0x0004896E**


**Description:
Radar Characteristics Validation
In compliance with:
SMS UMRR-11 T44 / UMRR-12 T48 RADAR QUALIFICATION USING SPECRA**

Date of Issue: November 11, 2025

Owner of EUT: Verra Mobility
1150 N. Alma School Rd
Mesa, AZ 85201

Attention of: Engineering Department
Phone: (480) 443-7000

Test Facility	
Test Laboratory	Applus + Keystone
Address	131 North Columbus Innerbelt
City, State, Zip Code	New Castle, PA 16101
Email	questions@keystonecompliance.com
Web Site	www.keystonecompliance.com

Test Personnel	
Name	Mathew Santiago
Title	EMC Test Engineer
Signature	

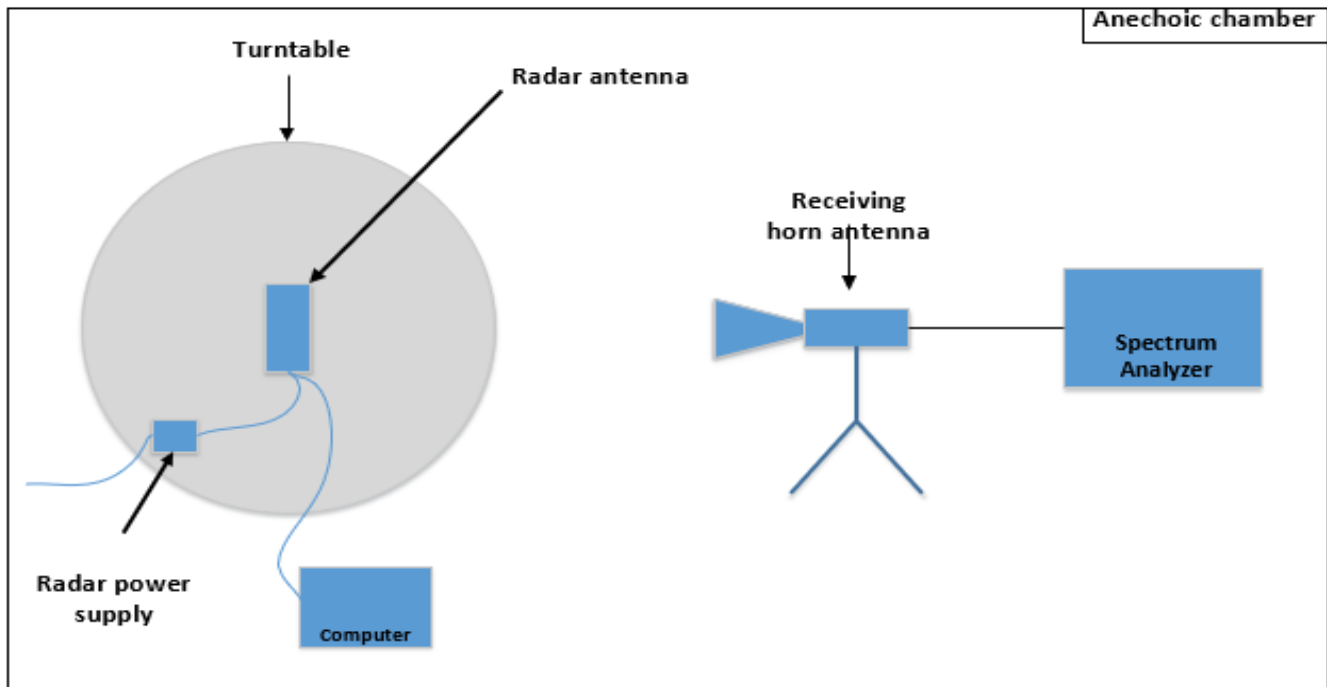
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Revision	Date	Description	Revised By
N/C	#####	Initial Release	Mathew Santiago

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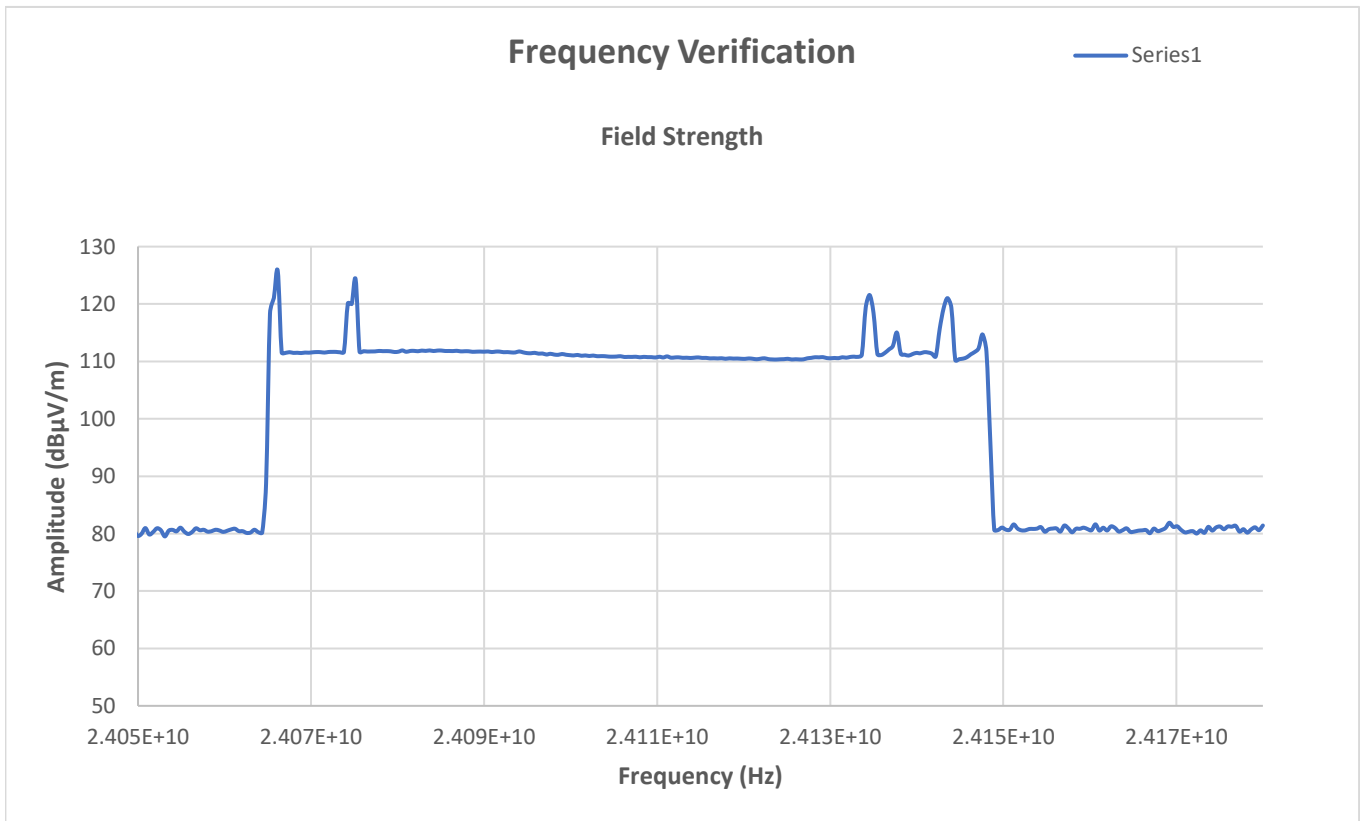
Test Setup Diagram



Test Equipment Utilized

Description	Manufacturer	Model #	Serial #	Asset #	Cal. Due Date
EMC Analyzer	Agilent	E7405	US40240238	EB046	1/29/2026
DRG Horn Antenna	ETS Lindgren	3116	00026390	EE017	5/21/2026
Pre-Amplifier	Keystone Compliance	PA-1	0002	EG003	6/30/2026
Turntable Controller	EMCO	1061.2.013	9401-1717	EI009	UWCE

Frequency Measurements:



Frequency Verification					
Nominal Frequency Range (GHz)	Measured Center Frequency (GHz)	Measured Frequency Bandwidth @ 20dB (MHz)	Amplitude (dBµV)	Bandwidth Limit (MHz)	Results
24.075-24.175	24.107	82.8	125.75	84.7 +/- 4.8	PASS



Report No.: 2403-267EA

Revision: N/C

**Radar Sensor Calibration Verification
Certificate of Calibration**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x0004896E**


**Description:
Radar Characteristics Validation
In compliance with:
SMS UMRR-11 T44 / UMRR-12 T48 RADAR QUALIFICATION USING SPECRA**

Date of Issue: November 11, 2025

Owner of EUT: Verra Mobility
1150 N. Alma School Rd
Mesa, AZ 85201

Attention of: Engineering Department
Phone: (480) 443-7000

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Address	131 North Columbus Innerbelt
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Web Site	www.keystonecompliance.com

Test Personnel	
Name	Mathew Santiago
Title	EMC Test Engineer
Signature	

**Radar Sensor Calibration Verification
Certificate of Calibration**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x0004896E**

Date of Issue: November 11, 2025

This speed measuring device has been tested and verified to be functioning in accordance with the manufacture’s specifications.

The frequency measurements performed and reported within this report demonstrate that the SmartMicro UMRR-11 T44 radar system has an accuracy of less than or equal to 1 mph up to 100 mph and 1% accuracy thereafter up to 199 mph maximum.

FSK Frequency Set 1					
Nominal Frequency Range (GHz)	Measured Center Frequency (GHz)	Measured Frequency Bandwidth @ 20dB (MHz)	Amplitude (dBμV)	Bandwidth Limit (MHz)	Results
24.075-24.175	24.107	82.8	125.75	84.7 +/- 4.8	PASS

Radar Sensor Calibration Verification Test Report

Model: UMRR-11 T44

**Part Number / Serial Number:
0x000461AC**


**Description:
Radar Characteristics Validation
In compliance with:
SMS UMRR-11 T44 / UMRR-12 T48 RADAR QUALIFICATION USING SPECRA**

Date of Issue: November 11, 2025

Owner of EUT: Verra Mobility
1150 N. Alma School Rd
Mesa, AZ 85201

Attention of: Engineering Department
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Web Site	www.keystonecompliance.com

Test Personnel	
Name	Mathew Santiago
Title	EMC Test Engineer
Signature	

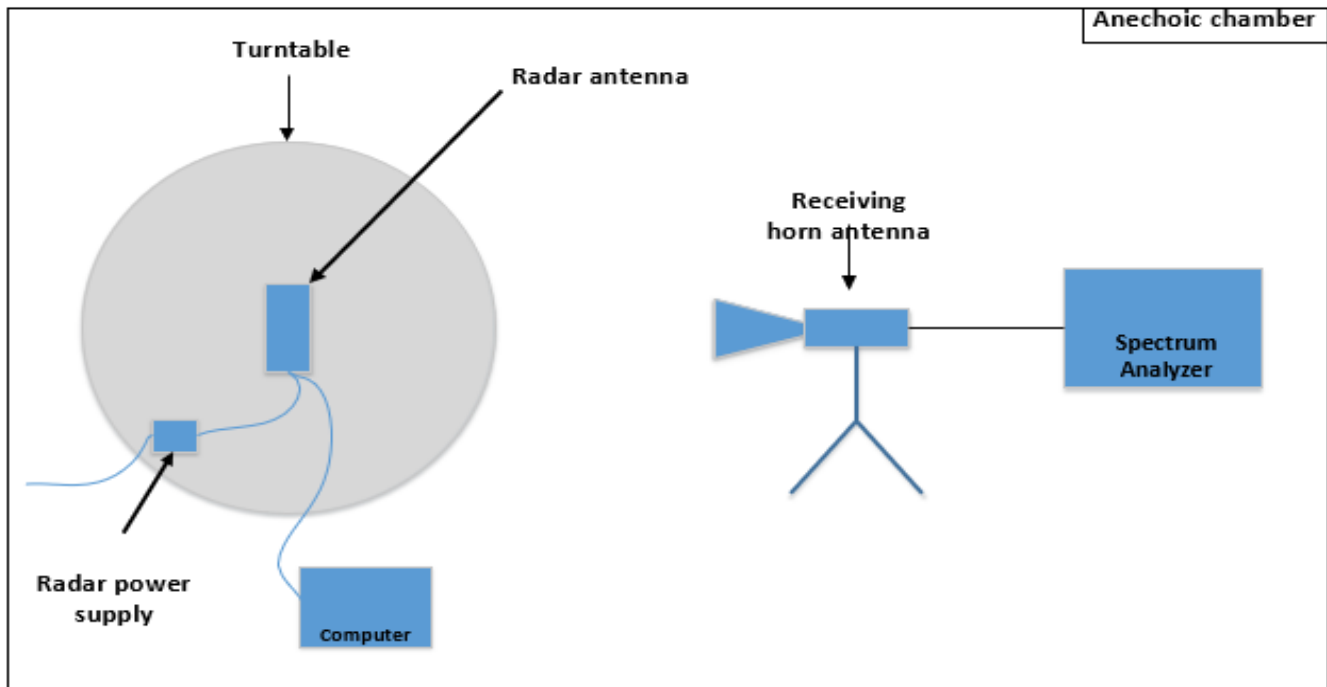
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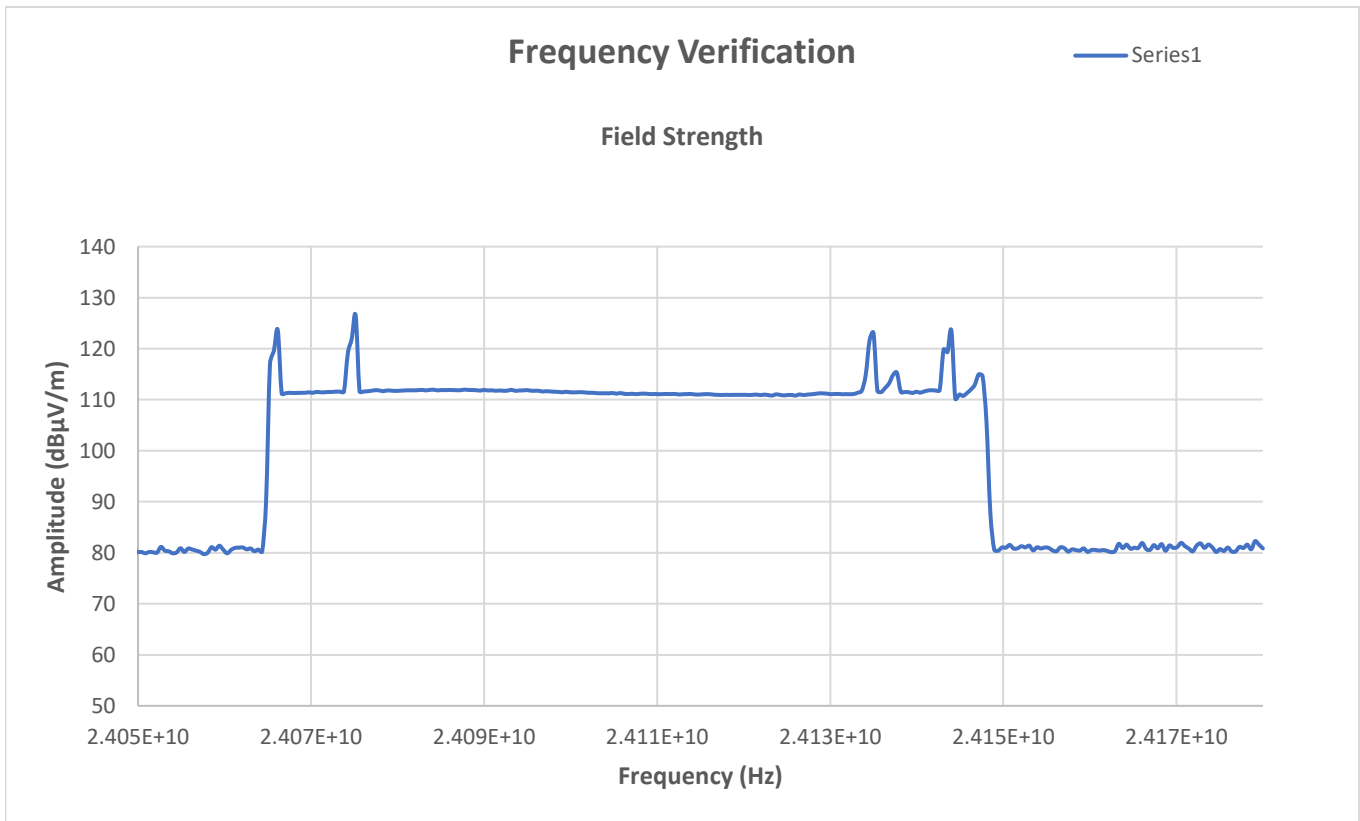
Test Setup Diagram



Test Equipment Utilized

Description	Manufacturer	Model #	Serial #	Asset #	Cal. Due Date
EMC Analyzer	Agilent	E7405	US40240238	EB046	1/29/2026
DRG Horn Antenna	ETS Lindgren	3116	00026390	EE017	5/21/2026
Pre-Amplifier	Keystone Compliance	PA-1	0002	EG003	6/30/2026
Turntable Controller	EMCO	1061.2.013	9401-1717	EI009	UWCE

Frequency Measurements:



Frequency Verification					
Nominal Frequency Range (GHz)	Measured Center Frequency (GHz)	Measured Frequency Bandwidth @ 20dB (MHz)	Amplitude (dBµV)	Bandwidth Limit (MHz)	Results
24.075-24.175	24.107	82.8	126.50	84.7 +/- 4.8	PASS

**Radar Sensor Calibration Verification
Certificate of Calibration**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x000461AC**

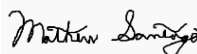
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In compliance with:
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Date of Issue: November 11, 2025

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Web Site	www.keystonecompliance.com

Test Personnel	
Name	Mathew Santiago
Title	EMC Test Engineer
Signature	

**Radar Sensor Calibration Verification
Certificate of Calibration**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x000461AC**

Date of Issue: November 11, 2025

This speed measuring device has been tested and verified to be functioning in accordance with the manufacture’s specifications.

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FSK Frequency Set 1					
Nominal Frequency Range (GHz)	Measured Center Frequency (GHz)	Measured Frequency Bandwidth @ 20dB (MHz)	Amplitude (dBμV)	Bandwidth Limit (MHz)	Results
24.075-24.175	24.107	82.8	126.50	84.7 +/- 4.8	PASS

**Radar Sensor Calibration Verification
Test Report**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x000488A2**


**Description:
Radar Characteristics Validation
In compliance with:
SMS UMRR-11 T44 / UMRR-12 T48 RADAR QUALIFICATION USING SPECRA**

Date of Issue: November 11, 2025

Owner of EUT: Verra Mobility
1150 N. Alma School Rd
Mesa, AZ 85201

Attention of: Engineering Department
Phone: (480) 443-7000

Test Facility	
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Web Site	www.keystonecompliance.com

Test Personnel	
Name	Mathew Santiago
Title	EMC Test Engineer
Signature	

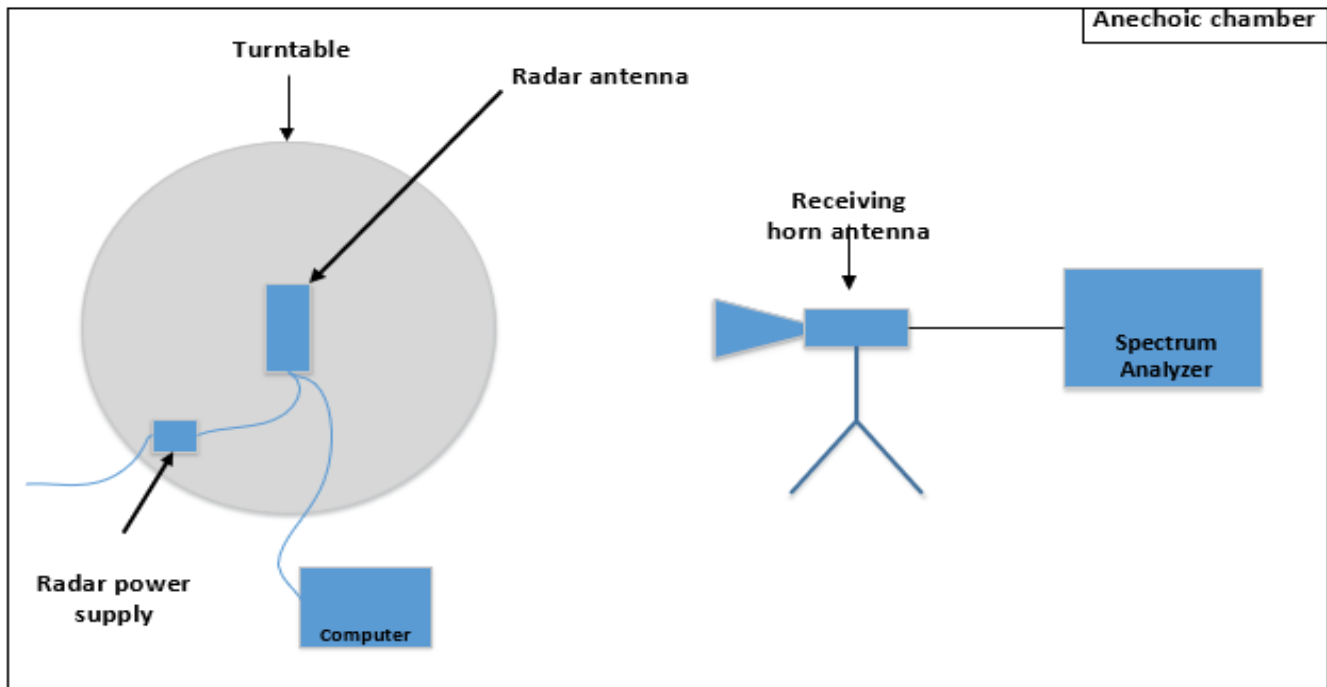
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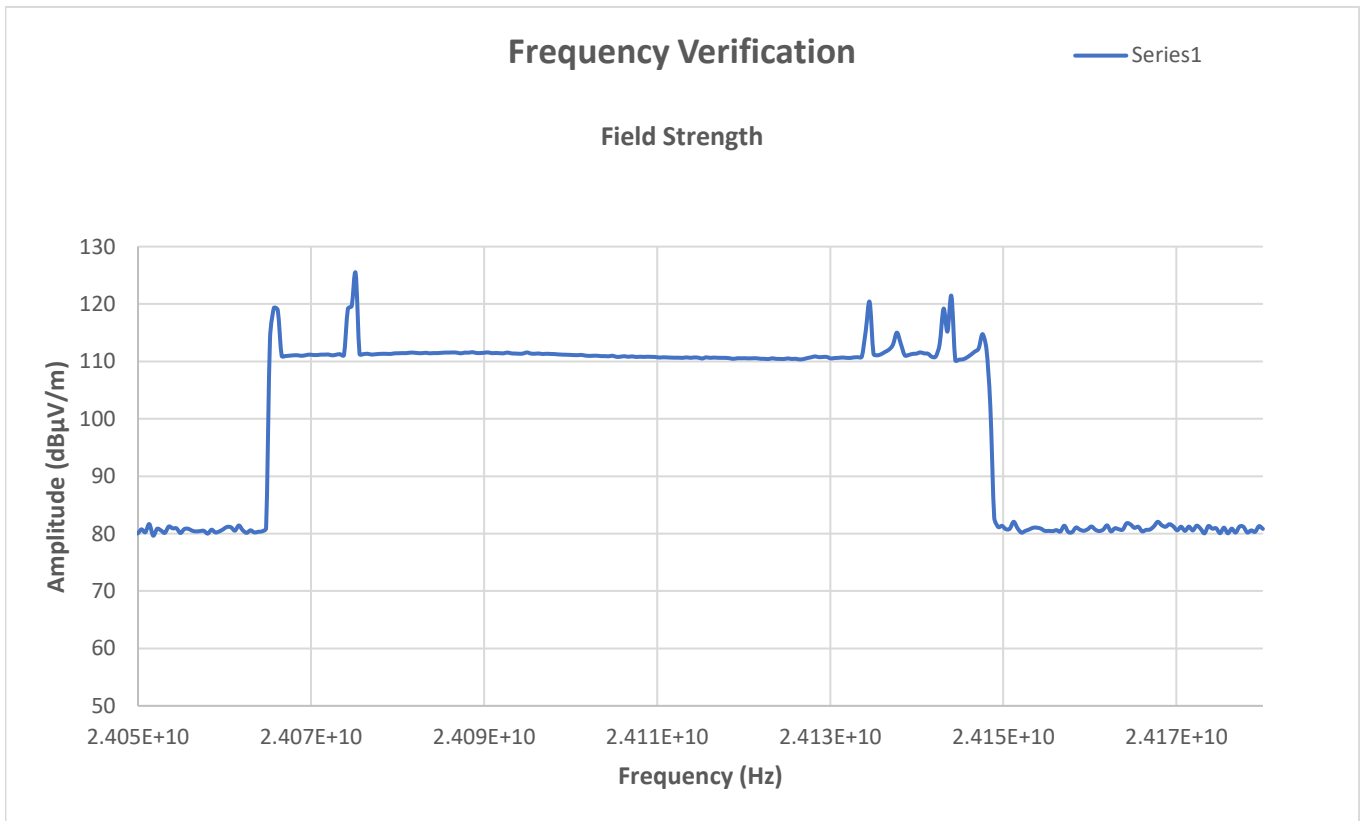
Test Setup Diagram



Test Equipment Utilized

Description	Manufacturer	Model #	Serial #	Asset #	Cal. Due Date
EMC Analyzer	Agilent	E7405	US40240238	EB046	1/29/2026
DRG Horn Antenna	ETS Lindgren	3116	00026390	EE017	5/21/2026
Pre-Amplifier	Keystone Compliance	PA-1	0002	EG003	6/30/2026
Turntable Controller	EMCO	1061.2.013	9401-1717	EI009	UWCE

Frequency Measurements:



Frequency Verification					
Nominal Frequency Range (GHz)	Measured Center Frequency (GHz)	Measured Frequency Bandwidth @ 20dB (MHz)	Amplitude (dBµV)	Bandwidth Limit (MHz)	Results
24.075-24.175	24.107	83.3	125.35	84.7 +/- 4.8	PASS

**Radar Sensor Calibration Verification
Certificate of Calibration**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x000488A2**

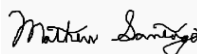
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Radar Characteristics Validation
In compliance with:
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Date of Issue: November 11, 2025

Owner of EUT: **Verra Mobility
1150 N. Alma School Rd
Mesa, AZ 85201**

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Web Site	www.keystonecompliance.com

Test Personnel	
Name	Mathew Santiago
Title	EMC Test Engineer
Signature	

**Radar Sensor Calibration Verification
Certificate of Calibration**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x000488A2**

Date of Issue: November 11, 2025

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FSK Frequency Set 1					
Nominal Frequency Range (GHz)	Measured Center Frequency (GHz)	Measured Frequency Bandwidth @ 20dB (MHz)	Amplitude (dBμV)	Bandwidth Limit (MHz)	Results
24.075-24.175	24.107	83.3	125.35	84.7 +/- 4.8	PASS

**Radar Sensor Calibration Verification
Test Report**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x0004889C**


**Description:
Radar Characteristics Validation
In compliance with:
SMS UMRR-11 T44 / UMRR-12 T48 RADAR QUALIFICATION USING SPECRA**

Date of Issue: November 11, 2025

Owner of EUT: Verra Mobility
1150 N. Alma School Rd
Mesa, AZ 85201

Attention of: Engineering Department
Phone: (480) 443-7000

Test Facility	
Test Laboratory	Applus + Keystone
Address	131 North Columbus Innerbelt
City, State, Zip Code	New Castle, PA 16101
Email	questions@keystonecompliance.com
Web Site	www.keystonecompliance.com

Test Personnel	
Name	Mathew Santiago
Title	EMC Test Engineer
Signature	

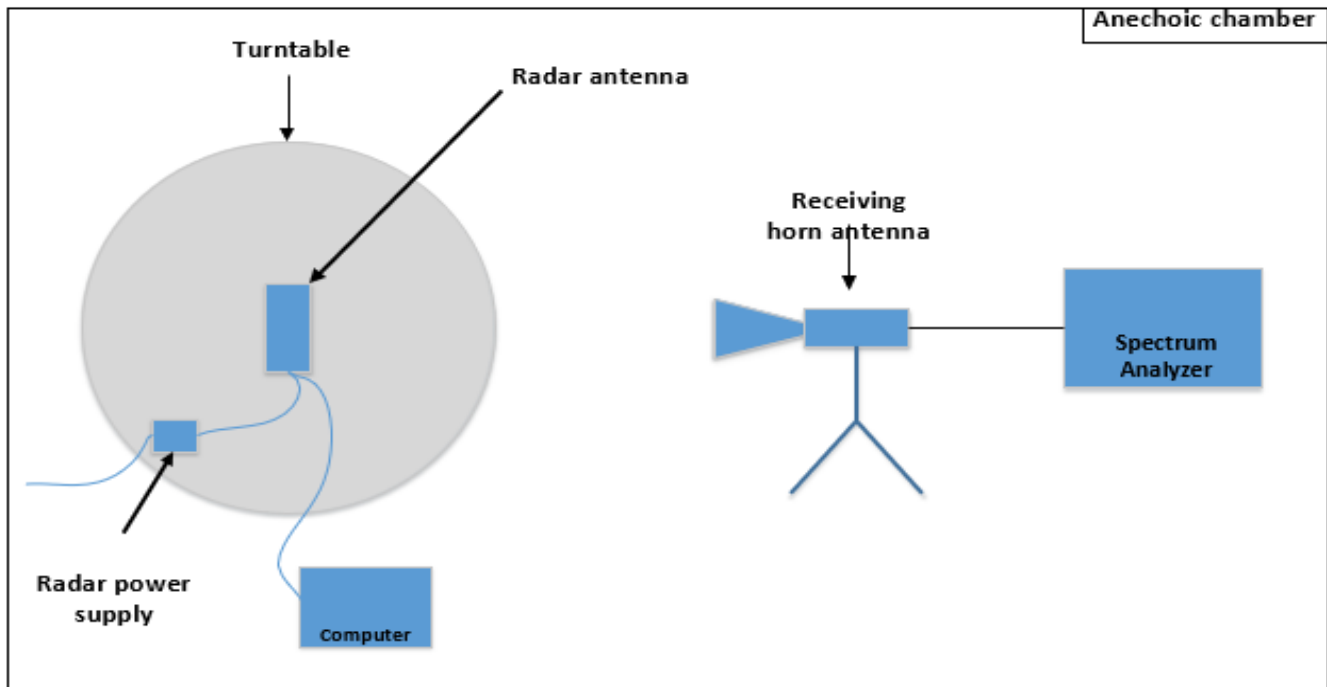
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Revision	Date	Description	Revised By
N/C	#####	Initial Release	Mathew Santiago

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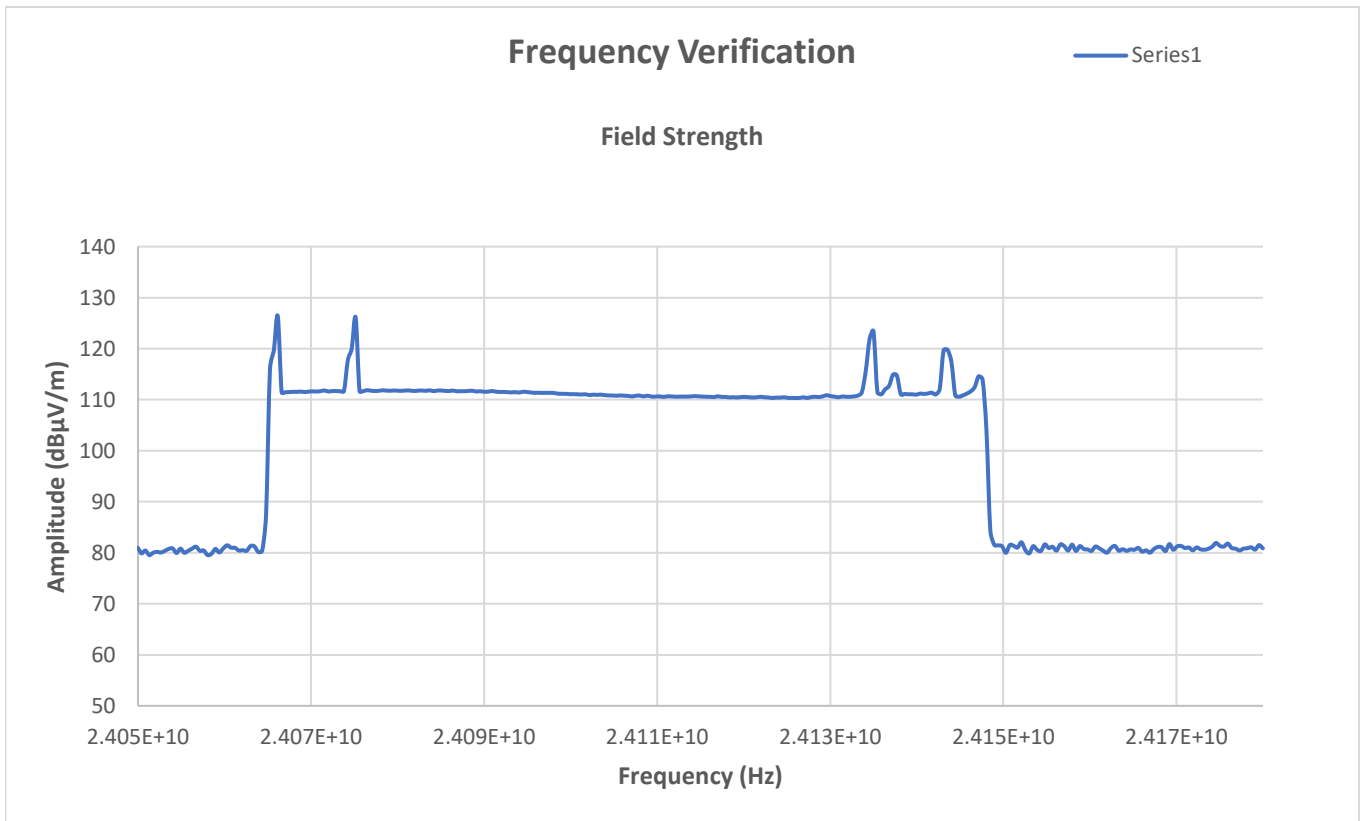
Test Setup Diagram



Test Equipment Utilized

Description	Manufacturer	Model #	Serial #	Asset #	Cal. Due Date
EMC Analyzer	Agilent	E7405	US40240238	EB046	1/29/2026
DRG Horn Antenna	ETS Lindgren	3116	00026390	EE017	5/21/2026
Pre-Amplifier	Keystone Compliance	PA-1	0002	EG003	6/30/2026
Turntable Controller	EMCO	1061.2.013	9401-1717	EI009	UWCE

Frequency Measurements:



Frequency Verification					
Nominal Frequency Range (GHz)	Measured Center Frequency (GHz)	Measured Frequency Bandwidth @ 20dB (MHz)	Amplitude (dBµV)	Bandwidth Limit (MHz)	Results
24.075-24.175	24.107	82.8	126.36	84.7 +/- 4.8	PASS



Report No.: 2403-267EA

Revision: N/C

**Radar Sensor Calibration Verification
Certificate of Calibration**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x0004889C**

**Description:
Radar Characteristics Validation
In compliance with:
SMS UMRR-11 T44 / UMRR-12 T48 RADAR QUALIFICATION USING SPECRA**

Date of Issue: November 11, 2025

Owner of EUT: Verra Mobility
1150 N. Alma School Rd
Mesa, AZ 85201

Attention of: Engineering Department
Phone: (480) 443-7000

Test Facility	
Test Laboratory	Applus+ Keystone
Address	131 North Columbus Innerbelt
City, State, Zip Code	New Castle, PA 16101
Email	questions@keystonecompliance.com
Web Site	www.keystonecompliance.com

Test Personnel	
Name	Mathew Santiago
Title	EMC Test Engineer
Signature	

**Radar Sensor Calibration Verification
Certificate of Calibration**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x0004889C**

Date of Issue: November 11, 2025

This speed measuring device has been tested and verified to be functioning in accordance with the manufacture’s specifications.

The frequency measurements performed and reported within this report demonstrate that the SmartMicro UMRR-11 T44 radar system has an accuracy of less than or equal to 1 mph up to 100 mph and 1% accuracy thereafter up to 199 mph maximum.

FSK Frequency Set 1					
Nominal Frequency Range (GHz)	Measured Center Frequency (GHz)	Measured Frequency Bandwidth @ 20dB (MHz)	Amplitude (dBμV)	Bandwidth Limit (MHz)	Results
24.075-24.175	24.107	82.8	126.36	84.7 +/- 4.8	PASS

**Radar Sensor Calibration Verification
Test Report**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x0004C146**


**Description:
Radar Characteristics Validation
In compliance with:
SMS UMRR-11 T44 / UMRR-12 T48 RADAR QUALIFICATION USING SPECRA**

Date of Issue: November 11, 2025

Owner of EUT: Verra Mobility
1150 N. Alma School Rd
Mesa, AZ 85201

Attention of: Engineering Department
Phone: (480) 443-7000

Test Facility	
Test Laboratory	Applus + Keystone
Address	131 North Columbus Innerbelt
City, State, Zip Code	New Castle, PA 16101
Email	questions@keystonecompliance.com
Web Site	www.keystonecompliance.com

Test Personnel	
Name	Mathew Santiago
Title	EMC Test Engineer
Signature	

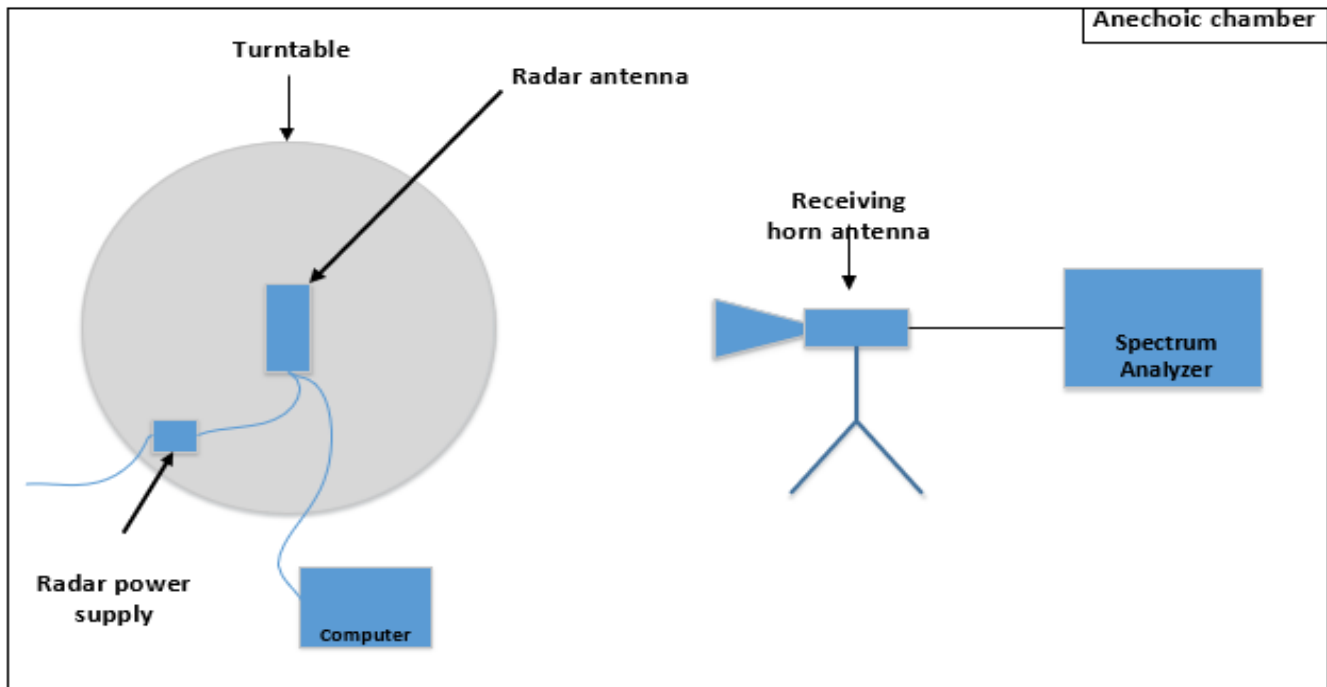
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Revision	Date	Description	Revised By
N/C	#####	Initial Release	Mathew Santiago

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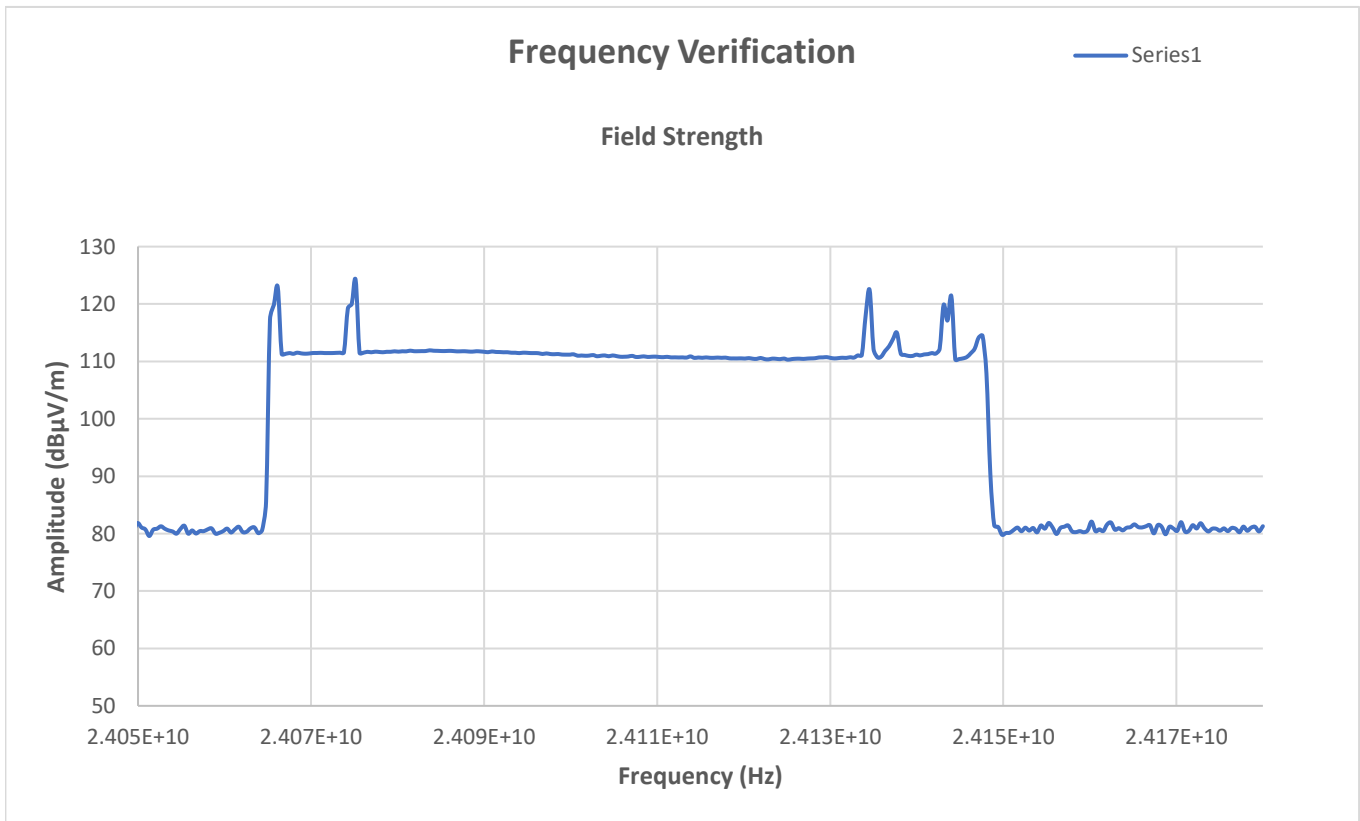
Test Setup Diagram



Test Equipment Utilized

Description	Manufacturer	Model #	Serial #	Asset #	Cal. Due Date
EMC Analyzer	Agilent	E7405	US40240238	EB046	1/29/2026
DRG Horn Antenna	ETS Lindgren	3116	00026390	EE017	5/21/2026
Pre-Amplifier	Keystone Compliance	PA-1	0002	EG003	6/30/2026
Turntable Controller	EMCO	1061.2.013	9401-1717	EI009	UWCE

Frequency Measurements:



Frequency Verification					
Nominal Frequency Range (GHz)	Measured Center Frequency (GHz)	Measured Frequency Bandwidth @ 20dB (MHz)	Amplitude (dBµV)	Bandwidth Limit (MHz)	Results
24.075-24.175	24.107	82.8	124.18	84.7 +/- 4.8	PASS



Report No.: 2403-267EA

Revision: N/C

**Radar Sensor Calibration Verification
Certificate of Calibration**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x0004C146**


**Description:
Radar Characteristics Validation
In compliance with:
SMS UMRR-11 T44 / UMRR-12 T48 RADAR QUALIFICATION USING SPECRA**

Date of Issue: November 11, 2025

**Owner of EUT: Verra Mobility
1150 N. Alma School Rd
Mesa, AZ 85201**

**Attention of: Engineering Department
Phone: (480) 443-7000**

Test Facility	
Test Laboratory	Applus+ Keystone
Address	131 North Columbus Innerbelt
City, State, Zip Code	New Castle, PA 16101
Email	questions@keystonecompliance.com
Web Site	www.keystonecompliance.com

Test Personnel	
Name	Mathew Santiago
Title	EMC Test Engineer
Signature	

**Radar Sensor Calibration Verification
Certificate of Calibration**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x0004C146**

Date of Issue: November 11, 2025

This speed measuring device has been tested and verified to be functioning in accordance with the manufacture’s specifications.

The frequency measurements performed and reported within this report demonstrate that the SmartMicro UMRR-11 T44 radar system has an accuracy of less than or equal to 1 mph up to 100 mph and 1% accuracy thereafter up to 199 mph maximum.

FSK Frequency Set 1					
Nominal Frequency Range (GHz)	Measured Center Frequency (GHz)	Measured Frequency Bandwidth @ 20dB (MHz)	Amplitude (dBμV)	Bandwidth Limit (MHz)	Results
24.075-24.175	24.107	82.8	124.18	84.7 +/- 4.8	PASS

**Radar Sensor Calibration Verification
Test Report**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x0004EC2A**


**Description:
Radar Characteristics Validation
In compliance with:
SMS UMRR-11 T44 / UMRR-12 T48 RADAR QUALIFICATION USING SPECRA**

Date of Issue: November 11, 2025

Owner of EUT: Verra Mobility
1150 N. Alma School Rd
Mesa, AZ 85201

Attention of: Engineering Department
Phone: (480) 443-7000

Test Facility	
Test Laboratory	Applus + Keystone
Address	131 North Columbus Innerbelt
City, State, Zip Code	New Castle, PA 16101
Email	questions@keystonecompliance.com
Web Site	www.keystonecompliance.com

Test Personnel	
Name	Mathew Santiago
Title	EMC Test Engineer
Signature	

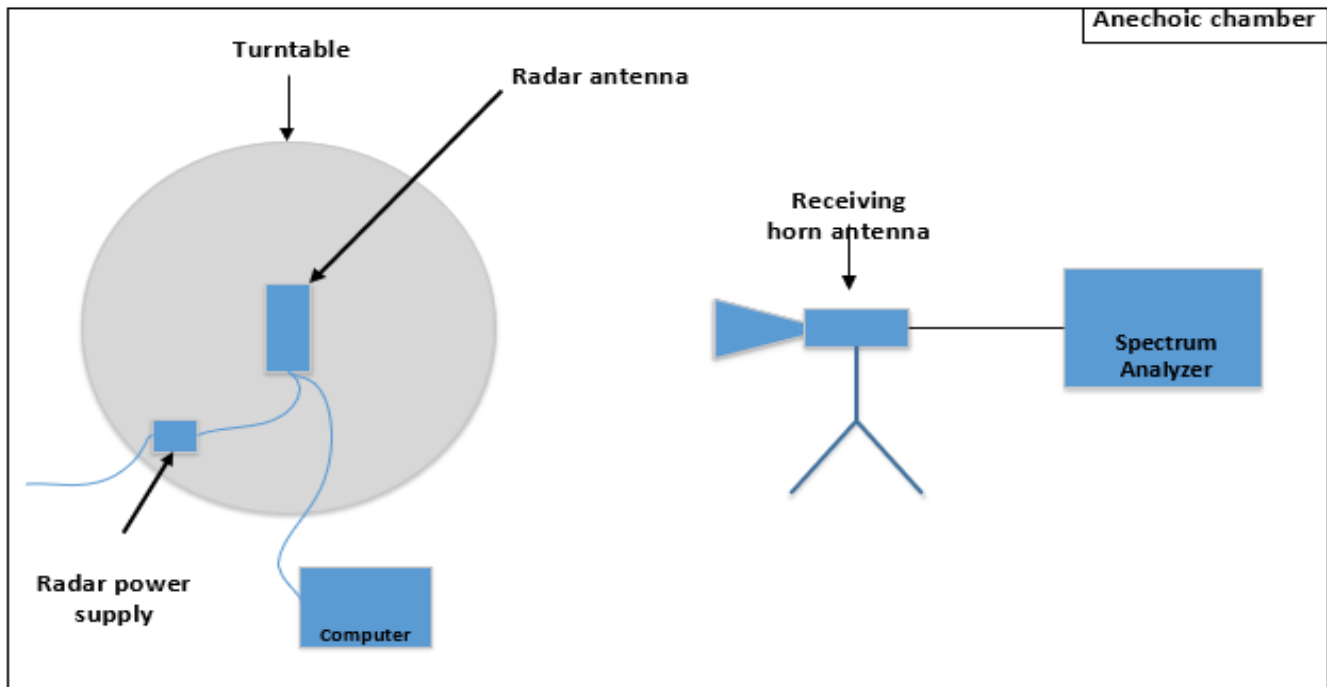
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Revision	Date	Description	Revised By
N/C	#####	Initial Release	Mathew Santiago

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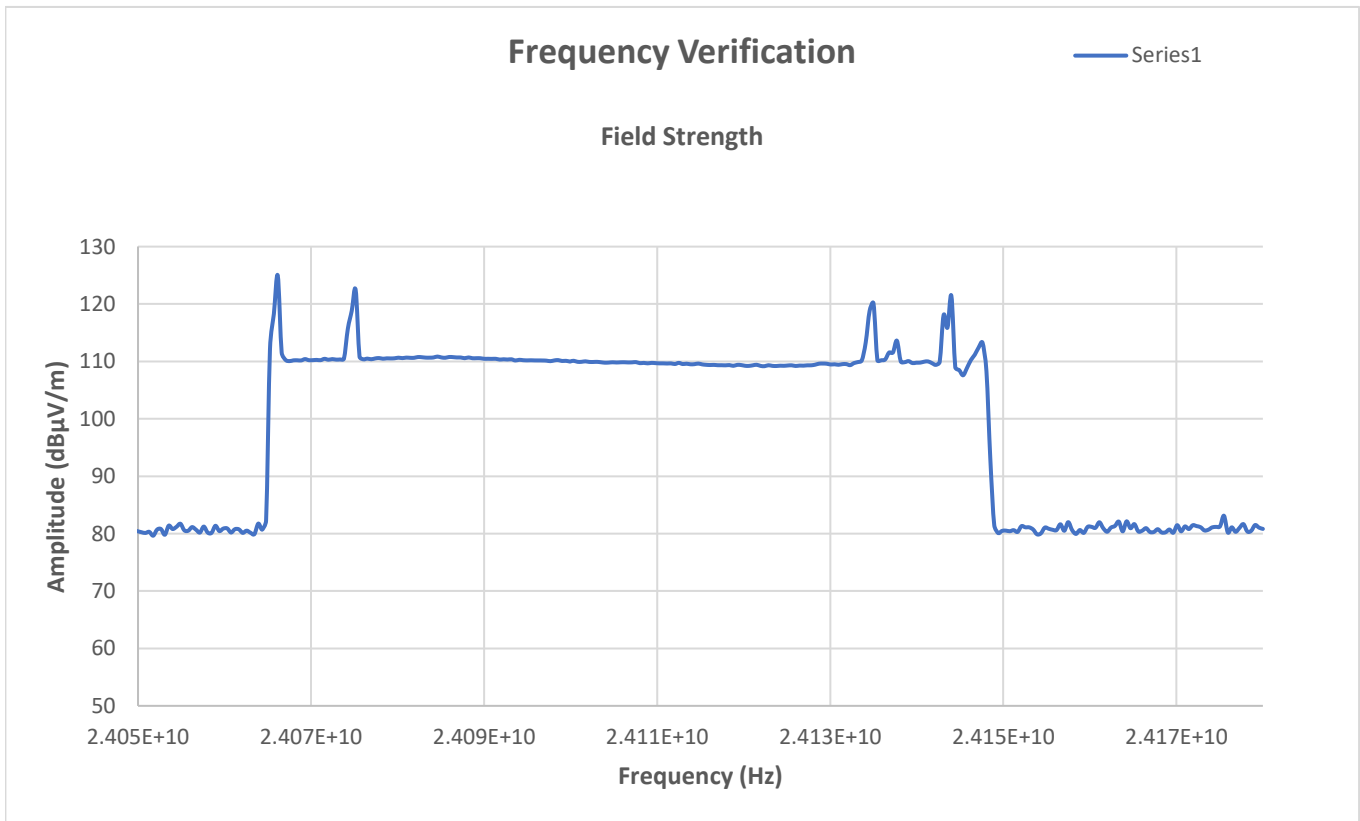
Test Setup Diagram



Test Equipment Utilized

Description	Manufacturer	Model #	Serial #	Asset #	Cal. Due Date
EMC Analyzer	Agilent	E7405	US40240238	EB046	1/29/2026
DRG Horn Antenna	ETS Lindgren	3116	00026390	EE017	5/21/2026
Pre-Amplifier	Keystone Compliance	PA-1	0002	EG003	6/30/2026
Turntable Controller	EMCO	1061.2.013	9401-1717	EI009	UWCE

Frequency Measurements:



Frequency Verification					
Nominal Frequency Range (GHz)	Measured Center Frequency (GHz)	Measured Frequency Bandwidth @ 20dB (MHz)	Amplitude (dBµV)	Bandwidth Limit (MHz)	Results
24.075-24.175	24.107	82.8	124.94	84.7 +/- 4.8	PASS



Report No.: 2403-267EA

Revision: N/C

**Radar Sensor Calibration Verification
Certificate of Calibration**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x0004EC2A**

**Description:
Radar Characteristics Validation
In compliance with:
SMS UMRR-11 T44 / UMRR-12 T48 RADAR QUALIFICATION USING SPECRA**

Date of Issue: November 11, 2025

Owner of EUT: Verra Mobility
1150 N. Alma School Rd
Mesa, AZ 85201

Attention of: Engineering Department
Phone: (480) 443-7000

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Address	131 North Columbus Innerbelt
City, State, Zip Code	New Castle, PA 16101
Email	questions@keystonecompliance.com
Web Site	www.keystonecompliance.com

Test Personnel	
Name	Mathew Santiago
Title	EMC Test Engineer
Signature	

**Radar Sensor Calibration Verification
Certificate of Calibration**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x0004EC2A**

Date of Issue: November 11, 2025

This speed measuring device has been tested and verified to be functioning in accordance with the manufacture’s specifications.

The frequency measurements performed and reported within this report demonstrate that the SmartMicro UMRR-11 T44 radar system has an accuracy of less than or equal to 1 mph up to 100 mph and 1% accuracy thereafter up to 199 mph maximum.

FSK Frequency Set 1					
Nominal Frequency Range (GHz)	Measured Center Frequency (GHz)	Measured Frequency Bandwidth @ 20dB (MHz)	Amplitude (dBμV)	Bandwidth Limit (MHz)	Results
24.075-24.175	24.107	82.8	124.94	84.7 +/- 4.8	PASS

**Radar Sensor Calibration Verification
Test Report**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x0004EC26**


**Description:
Radar Characteristics Validation
In compliance with:
SMS UMRR-11 T44 / UMRR-12 T48 RADAR QUALIFICATION USING SPECRA**

Date of Issue: November 11, 2025

Owner of EUT: Verra Mobility
1150 N. Alma School Rd
Mesa, AZ 85201

Attention of: Engineering Department
Phone: (480) 443-7000

Test Facility	
Test Laboratory	Applus + Keystone
Address	131 North Columbus Innerbelt
City, State, Zip Code	New Castle, PA 16101
Email	questions@keystonecompliance.com
Web Site	www.keystonecompliance.com

Test Personnel	
Name	Mathew Santiago
Title	EMC Test Engineer
Signature	

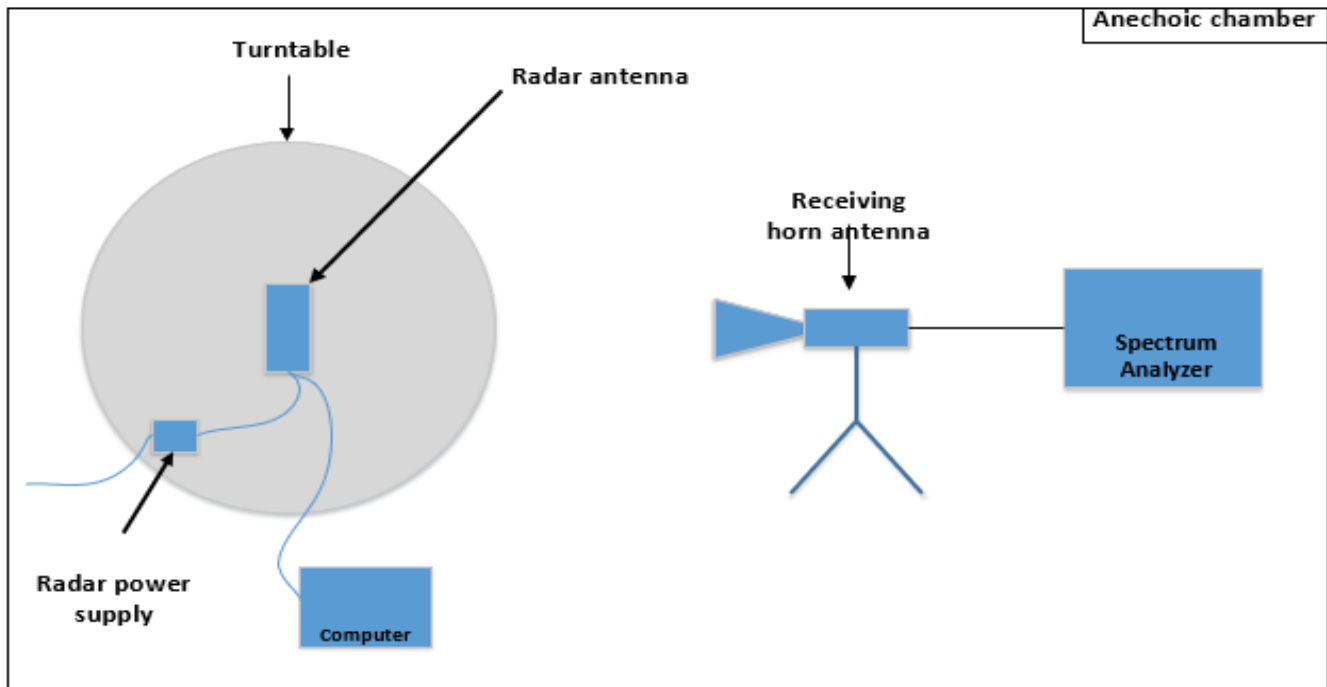
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Revision	Date	Description	Revised By
N/C	#####	Initial Release	Mathew Santiago

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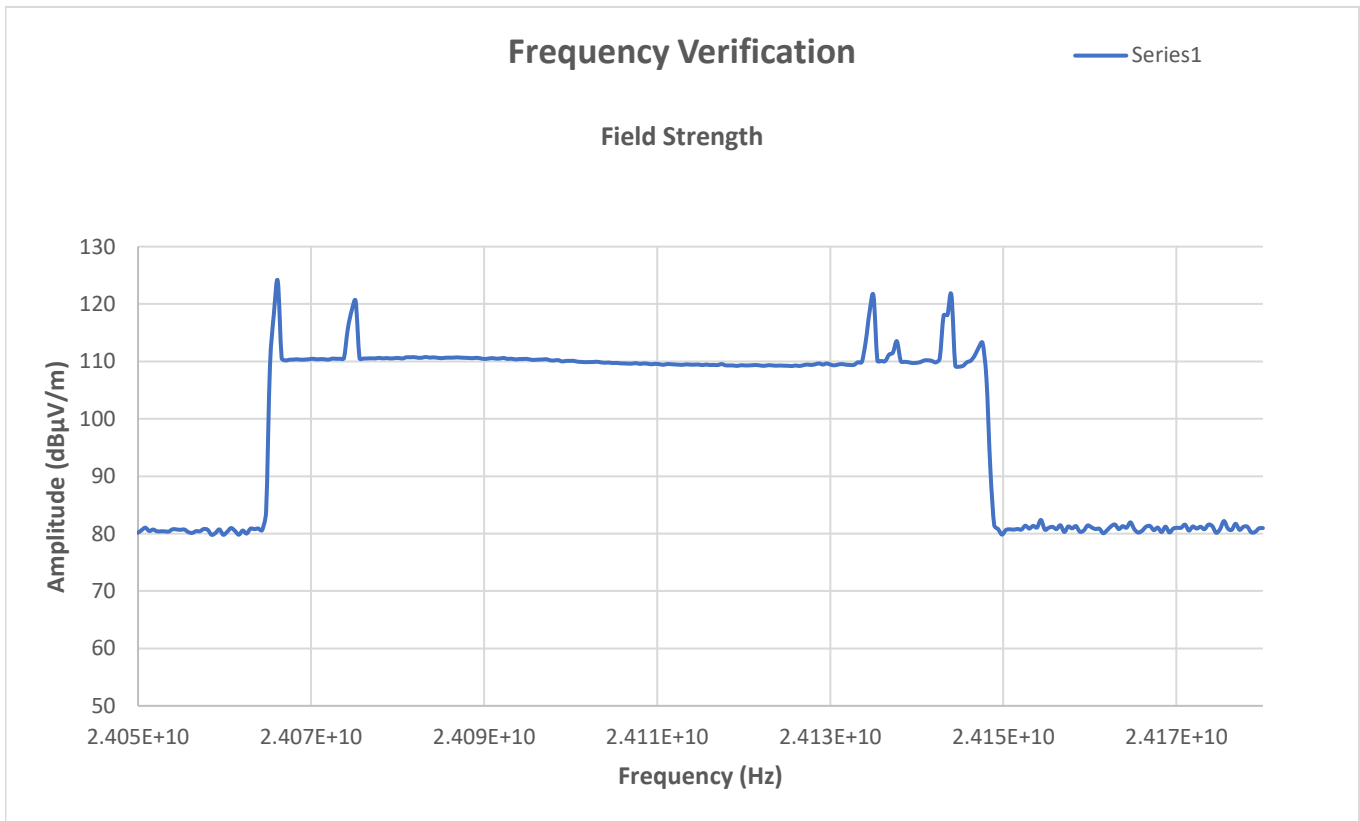
Test Setup Diagram



Test Equipment Utilized

Description	Manufacturer	Model #	Serial #	Asset #	Cal. Due Date
EMC Analyzer	Agilent	E7405	US40240238	EB046	1/29/2026
DRG Horn Antenna	ETS Lindgren	3116	00026390	EE017	5/21/2026
Pre-Amplifier	Keystone Compliance	PA-1	0002	EG003	6/30/2026
Turntable Controller	EMCO	1061.2.013	9401-1717	EI009	UWCE

Frequency Measurements:



Frequency Verification					
Nominal Frequency Range (GHz)	Measured Center Frequency (GHz)	Measured Frequency Bandwidth @ 20dB (MHz)	Amplitude (dBµV)	Bandwidth Limit (MHz)	Results
24.075-24.175	24.107	82.8	124.02	84.7 +/- 4.8	PASS



Report No.: 2403-267EA

Revision: N/C

**Radar Sensor Calibration Verification
Certificate of Calibration**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x0004EC26**


**Description:
Radar Characteristics Validation
In compliance with:
SMS UMRR-11 T44 / UMRR-12 T48 RADAR QUALIFICATION USING SPECRA**

Date of Issue: November 11, 2025

Owner of EUT: Verra Mobility
1150 N. Alma School Rd
Mesa, AZ 85201

Attention of: Engineering Department
Phone: (480) 443-7000

Test Facility	
Test Laboratory	Applus+ Keystone
Address	131 North Columbus Innerbelt
City, State, Zip Code	New Castle, PA 16101
Email	questions@keystonecompliance.com
Web Site	www.keystonecompliance.com

Test Personnel	
Name	Mathew Santiago
Title	EMC Test Engineer
Signature	

**Radar Sensor Calibration Verification
Certificate of Calibration**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x0004EC26**

Date of Issue: November 11, 2025

This speed measuring device has been tested and verified to be functioning in accordance with the manufacture’s specifications.

The frequency measurements performed and reported within this report demonstrate that the SmartMicro UMRR-11 T44 radar system has an accuracy of less than or equal to 1 mph up to 100 mph and 1% accuracy thereafter up to 199 mph maximum.

FSK Frequency Set 1					
Nominal Frequency Range (GHz)	Measured Center Frequency (GHz)	Measured Frequency Bandwidth @ 20dB (MHz)	Amplitude (dBμV)	Bandwidth Limit (MHz)	Results
24.075-24.175	24.107	82.8	124.02	84.7 +/- 4.8	PASS

**Radar Sensor Calibration Verification
Test Report**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x00049025**


**Description:
Radar Characteristics Validation
In compliance with:
SMS UMRR-11 T44 / UMRR-12 T48 RADAR QUALIFICATION USING SPECRA**

Date of Issue: November 11, 2025

Owner of EUT: Verra Mobility
1150 N. Alma School Rd
Mesa, AZ 85201

Attention of: Engineering Department
Phone: (480) 443-7000

Test Facility	
Test Laboratory	Applus + Keystone
Address	131 North Columbus Innerbelt
City, State, Zip Code	New Castle, PA 16101
Email	questions@keystonecompliance.com
Web Site	www.keystonecompliance.com

Test Personnel	
Name	Mathew Santiago
Title	EMC Test Engineer
Signature	

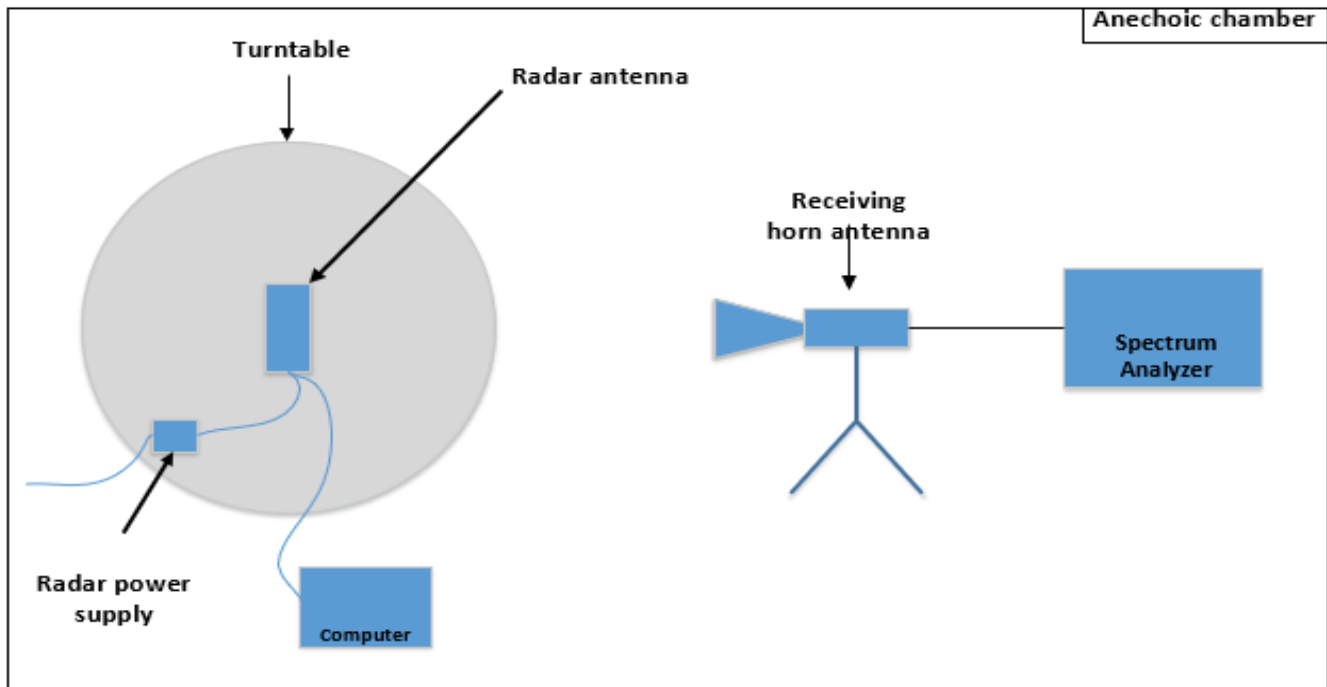
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Revision	Date	Description	Revised By
N/C	#####	Initial Release	Mathew Santiago

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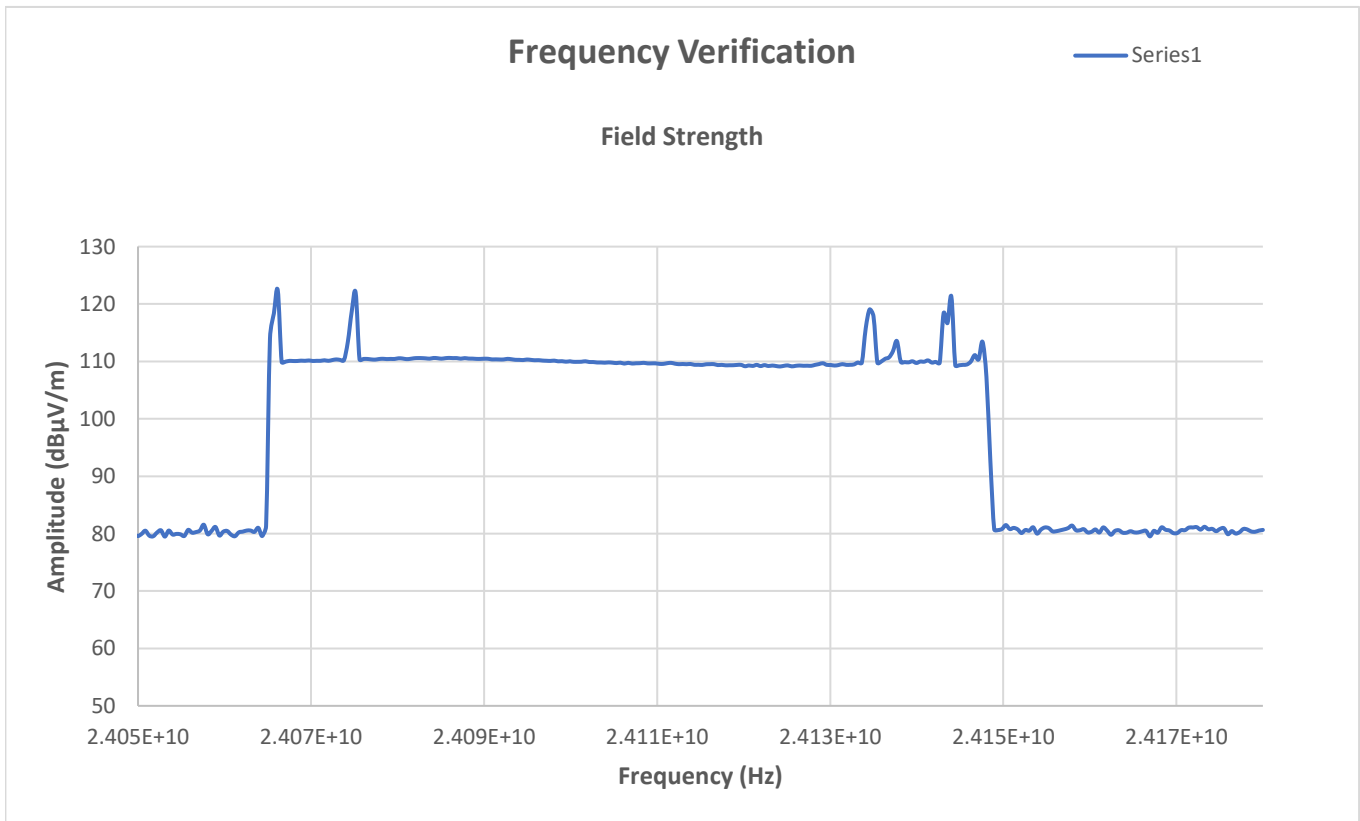
Test Setup Diagram



Test Equipment Utilized

Description	Manufacturer	Model #	Serial #	Asset #	Cal. Due Date
EMC Analyzer	Agilent	E7405	US40240238	EB046	1/29/2026
DRG Horn Antenna	ETS Lindgren	3116	00026390	EE017	5/21/2026
Pre-Amplifier	Keystone Compliance	PA-1	0002	EG003	6/30/2026
Turntable Controller	EMCO	1061.2.013	9401-1717	EI009	UWCE

Frequency Measurements:



Frequency Verification					
Nominal Frequency Range (GHz)	Measured Center Frequency (GHz)	Measured Frequency Bandwidth @ 20dB (MHz)	Amplitude (dBµV)	Bandwidth Limit (MHz)	Results
24.075-24.175	24.107	82.8	122.40	84.7 +/- 4.8	PASS

**Radar Sensor Calibration Verification
Certificate of Calibration**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x00049025**

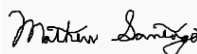
**Description:
Radar Characteristics Validation
In compliance with:
SMS UMRR-11 T44 / UMRR-12 T48 RADAR QUALIFICATION USING SPECRA**

Date of Issue: November 11, 2025

Owner of EUT: Verra Mobility
1150 N. Alma School Rd
Mesa, AZ 85201

Attention of: Engineering Department
Phone: (480) 443-7000

Test Facility	
Test Laboratory	Applus+ Keystone
Address	131 North Columbus Innerbelt
City, State, Zip Code	New Castle, PA 16101
Email	questions@keystonecompliance.com
Web Site	www.keystonecompliance.com

Test Personnel	
Name	Mathew Santiago
Title	EMC Test Engineer
Signature	

**Radar Sensor Calibration Verification
Certificate of Calibration**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x00049025**

Date of Issue: November 11, 2025

This speed measuring device has been tested and verified to be functioning in accordance with the manufacture’s specifications.

The frequency measurements performed and reported within this report demonstrate that the SmartMicro UMRR-11 T44 radar system has an accuracy of less than or equal to 1 mph up to 100 mph and 1% accuracy thereafter up to 199 mph maximum.

FSK Frequency Set 1					
Nominal Frequency Range (GHz)	Measured Center Frequency (GHz)	Measured Frequency Bandwidth @ 20dB (MHz)	Amplitude (dBµV)	Bandwidth Limit (MHz)	Results
24.075-24.175	24.107	82.8	122.40	84.7 +/- 4.8	PASS

**Radar Sensor Calibration Verification
Test Report**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x0004893E**


**Description:
Radar Characteristics Validation
In compliance with:
SMS UMRR-11 T44 / UMRR-12 T48 RADAR QUALIFICATION USING SPECRA**

Date of Issue: November 11, 2025

Owner of EUT: Verra Mobility
1150 N. Alma School Rd
Mesa, AZ 85201

Attention of: Engineering Department
Phone: (480) 443-7000

Test Facility	
Test Laboratory	Applus + Keystone
Address	131 North Columbus Innerbelt
City, State, Zip Code	New Castle, PA 16101
Email	questions@keystonecompliance.com
Web Site	www.keystonecompliance.com

Test Personnel	
Name	Mathew Santiago
Title	EMC Test Engineer
Signature	

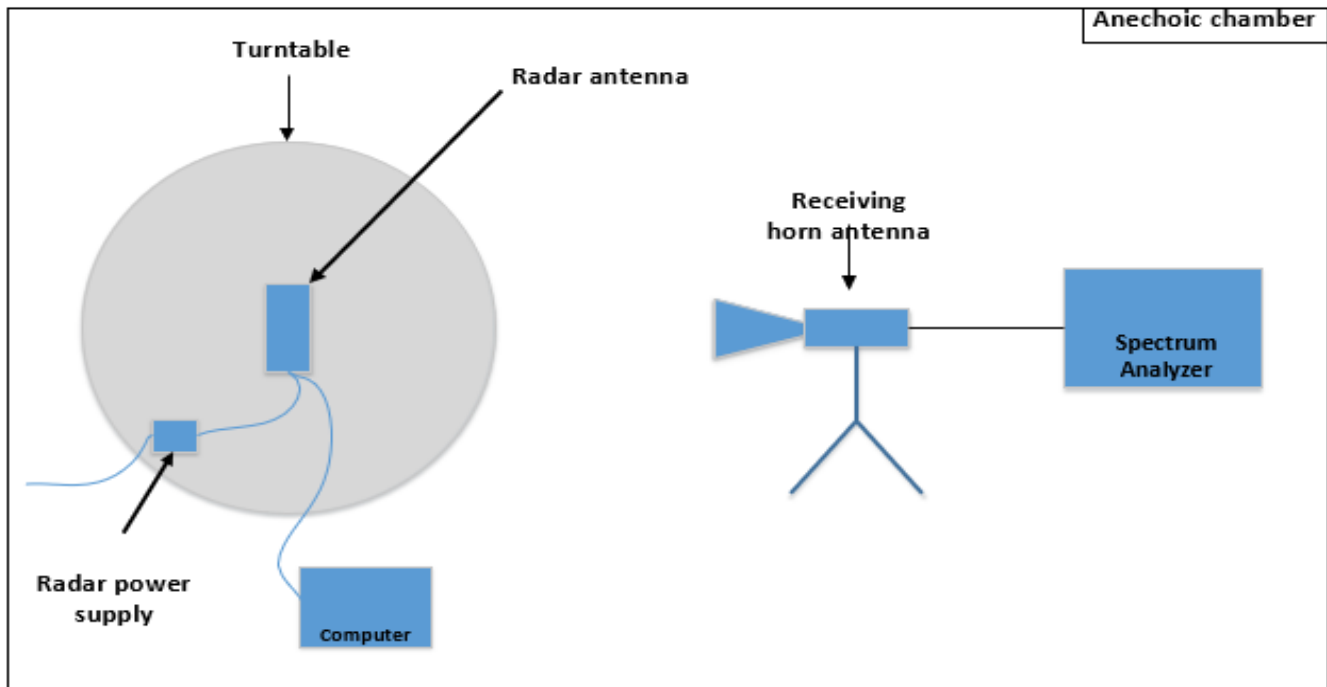
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Revision	Date	Description	Revised By
N/C	#####	Initial Release	Mathew Santiago

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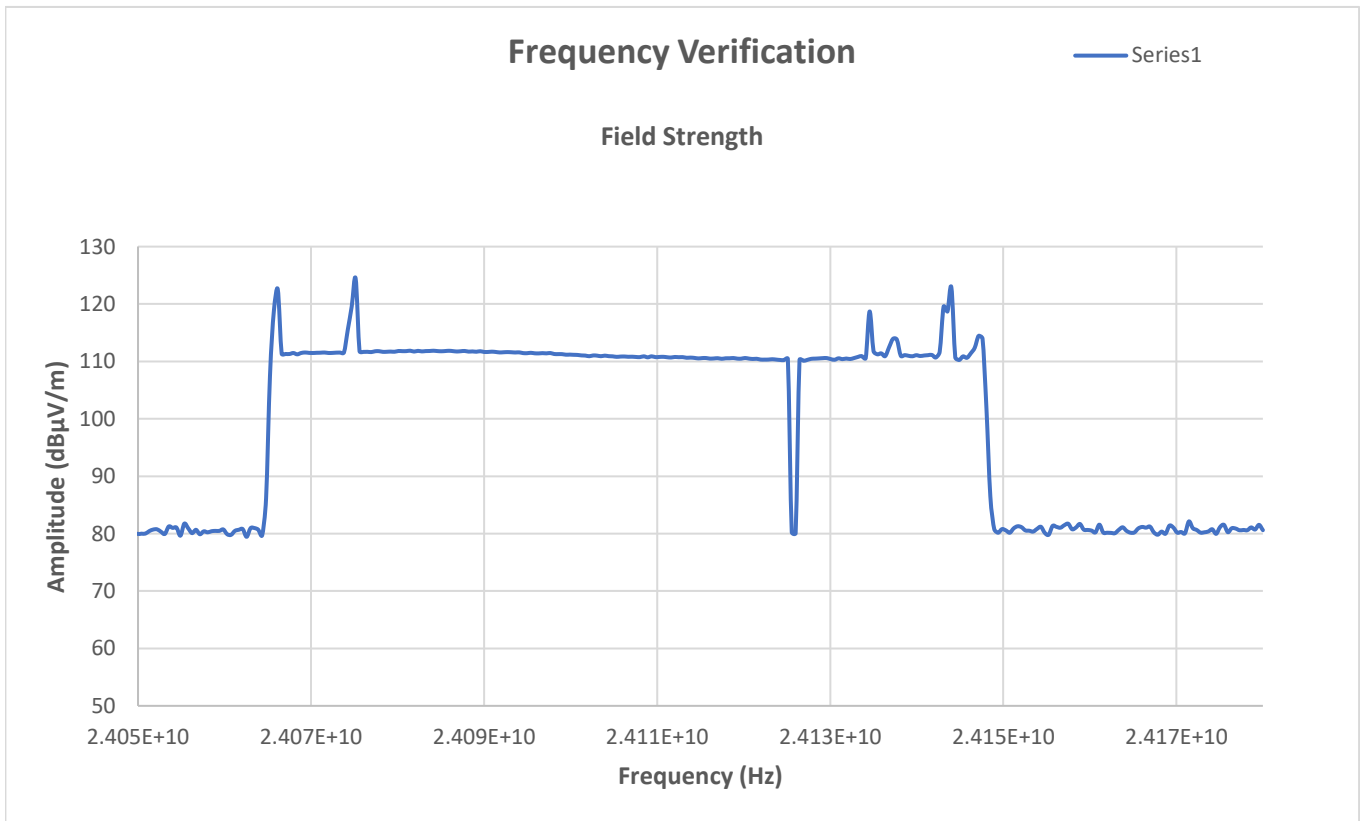
Test Setup Diagram



Test Equipment Utilized

Description	Manufacturer	Model #	Serial #	Asset #	Cal. Due Date
EMC Analyzer	Agilent	E7405	US40240238	EB046	1/29/2026
DRG Horn Antenna	ETS Lindgren	3116	00026390	EE017	5/21/2026
Pre-Amplifier	Keystone Compliance	PA-1	0002	EG003	6/30/2026
Turntable Controller	EMCO	1061.2.013	9401-1717	EI009	UWCE

Frequency Measurements:



Frequency Verification					
Nominal Frequency Range (GHz)	Measured Center Frequency (GHz)	Measured Frequency Bandwidth @ 20dB (MHz)	Amplitude (dBµV)	Bandwidth Limit (MHz)	Results
24.075-24.175	24.107	82.8	124.44	84.7 +/- 4.8	PASS



Report No.: 2403-267EA

Revision: N/C

**Radar Sensor Calibration Verification
Certificate of Calibration**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x0004893E**

**Description:
Radar Characteristics Validation
In compliance with:
SMS UMRR-11 T44 / UMRR-12 T48 RADAR QUALIFICATION USING SPECRA**

Date of Issue: November 11, 2025

Owner of EUT: Verra Mobility
1150 N. Alma School Rd
Mesa, AZ 85201

Attention of: Engineering Department
Phone: (480) 443-7000

Test Facility	
Test Laboratory	Applus+ Keystone
Address	131 North Columbus Innerbelt
City, State, Zip Code	New Castle, PA 16101
Email	questions@keystonecompliance.com
Web Site	www.keystonecompliance.com

Test Personnel	
Name	Mathew Santiago
Title	EMC Test Engineer
Signature	

**Radar Sensor Calibration Verification
Certificate of Calibration**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x0004893E**

Date of Issue: November 11, 2025

This speed measuring device has been tested and verified to be functioning in accordance with the manufacture’s specifications.

The frequency measurements performed and reported within this report demonstrate that the SmartMicro UMRR-11 T44 radar system has an accuracy of less than or equal to 1 mph up to 100 mph and 1% accuracy thereafter up to 199 mph maximum.

FSK Frequency Set 1					
Nominal Frequency Range (GHz)	Measured Center Frequency (GHz)	Measured Frequency Bandwidth @ 20dB (MHz)	Amplitude (dBμV)	Bandwidth Limit (MHz)	Results
24.075-24.175	24.107	82.8	124.44	84.7 +/- 4.8	PASS

**Radar Sensor Calibration Verification
Test Report**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x0004B5CE**


**Description:
Radar Characteristics Validation
In compliance with:
SMS UMRR-11 T44 / UMRR-12 T48 RADAR QUALIFICATION USING SPECRA**

Date of Issue: November 11, 2025

Owner of EUT: Verra Mobility
1150 N. Alma School Rd
Mesa, AZ 85201

Attention of: Engineering Department
Phone: (480) 443-7000

Test Facility	
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Web Site	www.keystonecompliance.com

Test Personnel	
Name	Mathew Santiago
Title	EMC Test Engineer
Signature	

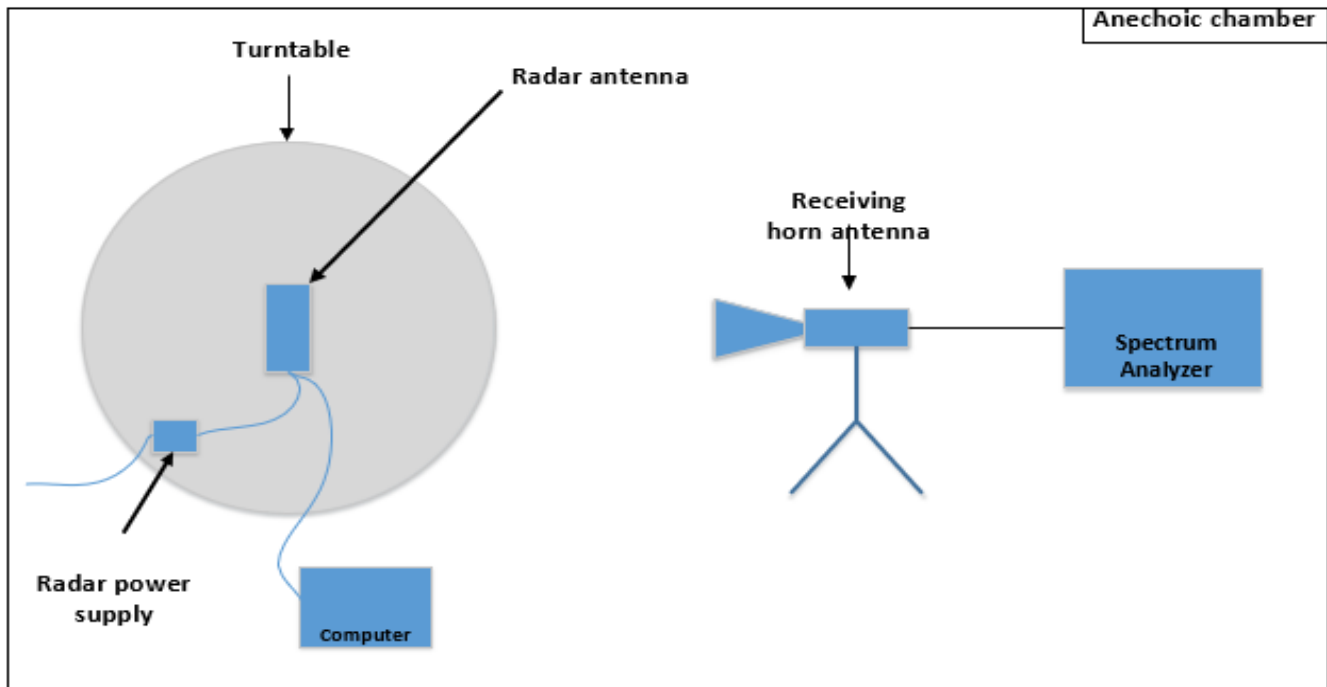
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Revision	Date	Description	Revised By
N/C	#####	Initial Release	Mathew Santiago

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Test Setup Diagram.....	4
Test Equipment Utilized.....	4
Frequency Characteristics Test Results.....	5

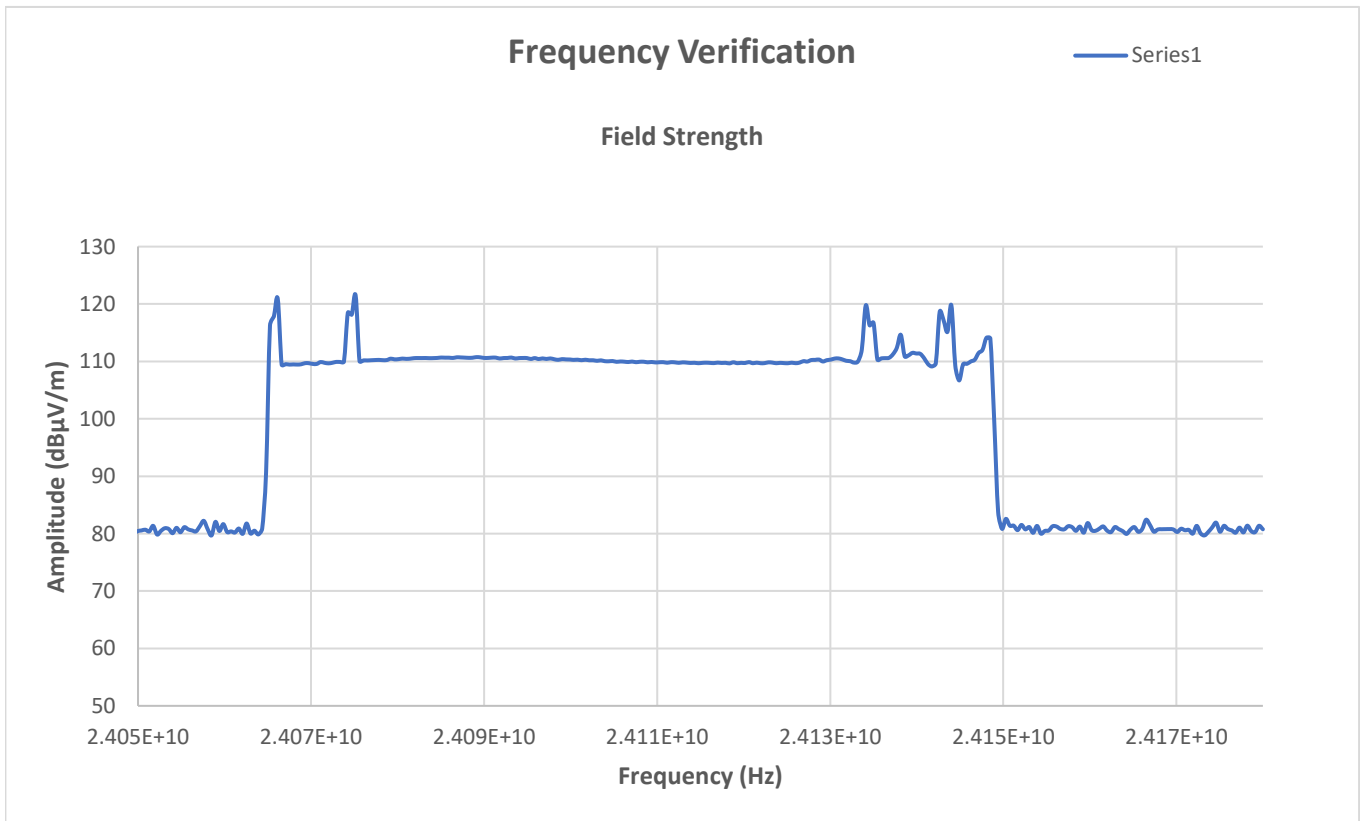
Test Setup Diagram



Test Equipment Utilized

Description	Manufacturer	Model #	Serial #	Asset #	Cal. Due Date
EMC Analyzer	Agilent	E7405	US40240238	EB046	1/29/2026
DRG Horn Antenna	ETS Lindgren	3116	00026390	EE017	5/21/2026
Pre-Amplifier	Keystone Compliance	PA-1	0002	EG003	6/30/2026
Turntable Controller	EMCO	1061.2.013	9401-1717	EI009	UWCE

Frequency Measurements:



Frequency Verification					
Nominal Frequency Range (GHz)	Measured Center Frequency (GHz)	Measured Frequency Bandwidth @ 20dB (MHz)	Amplitude (dBµV)	Bandwidth Limit (MHz)	Results
24.075-24.175	24.107	83.3	121.49	84.7 +/- 4.8	PASS

**Radar Sensor Calibration Verification
Certificate of Calibration**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x0004B5CE**

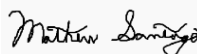
**Description:
Radar Characteristics Validation
In compliance with:
SMS UMRR-11 T44 / UMRR-12 T48 RADAR QUALIFICATION USING SPECRA**

Date of Issue: November 11, 2025

Owner of EUT: Verra Mobility
1150 N. Alma School Rd
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Attention of: Engineering Department
Phone: (480) 443-7000

Test Facility	
Test Laboratory	Applus+ Keystone
Address	131 North Columbus Innerbelt
City, State, Zip Code	New Castle, PA 16101
Email	questions@keystonecompliance.com
Web Site	www.keystonecompliance.com

Test Personnel	
Name	Mathew Santiago
Title	EMC Test Engineer
Signature	

**Radar Sensor Calibration Verification
Certificate of Calibration**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x0004B5CE**

Date of Issue: November 11, 2025

This speed measuring device has been tested and verified to be functioning in accordance with the manufacture’s specifications.

The frequency measurements performed and reported within this report demonstrate that the SmartMicro UMRR-11 T44 radar system has an accuracy of less than or equal to 1 mph up to 100 mph and 1% accuracy thereafter up to 199 mph maximum.

FSK Frequency Set 1					
Nominal Frequency Range (GHz)	Measured Center Frequency (GHz)	Measured Frequency Bandwidth @ 20dB (MHz)	Amplitude (dBμV)	Bandwidth Limit (MHz)	Results
24.075-24.175	24.107	83.3	121.49	84.7 +/- 4.8	PASS

Radar Sensor Calibration Verification Test Report

Model: UMRR-11 T44

**Part Number / Serial Number:
0x00048851**


**Description:
Radar Characteristics Validation
In compliance with:
SMS UMRR-11 T44 / UMRR-12 T48 RADAR QUALIFICATION USING SPECRA**

Date of Issue: November 11, 2025

Owner of EUT: Verra Mobility
1150 N. Alma School Rd
Mesa, AZ 85201

Attention of: Engineering Department
Phone: (480) 443-7000

Test Facility	
Test Laboratory	Applus + Keystone
Address	131 North Columbus Innerbelt
City, State, Zip Code	New Castle, PA 16101
Email	questions@keystonecompliance.com
Web Site	www.keystonecompliance.com

Test Personnel	
Name	Mathew Santiago
Title	EMC Test Engineer
Signature	

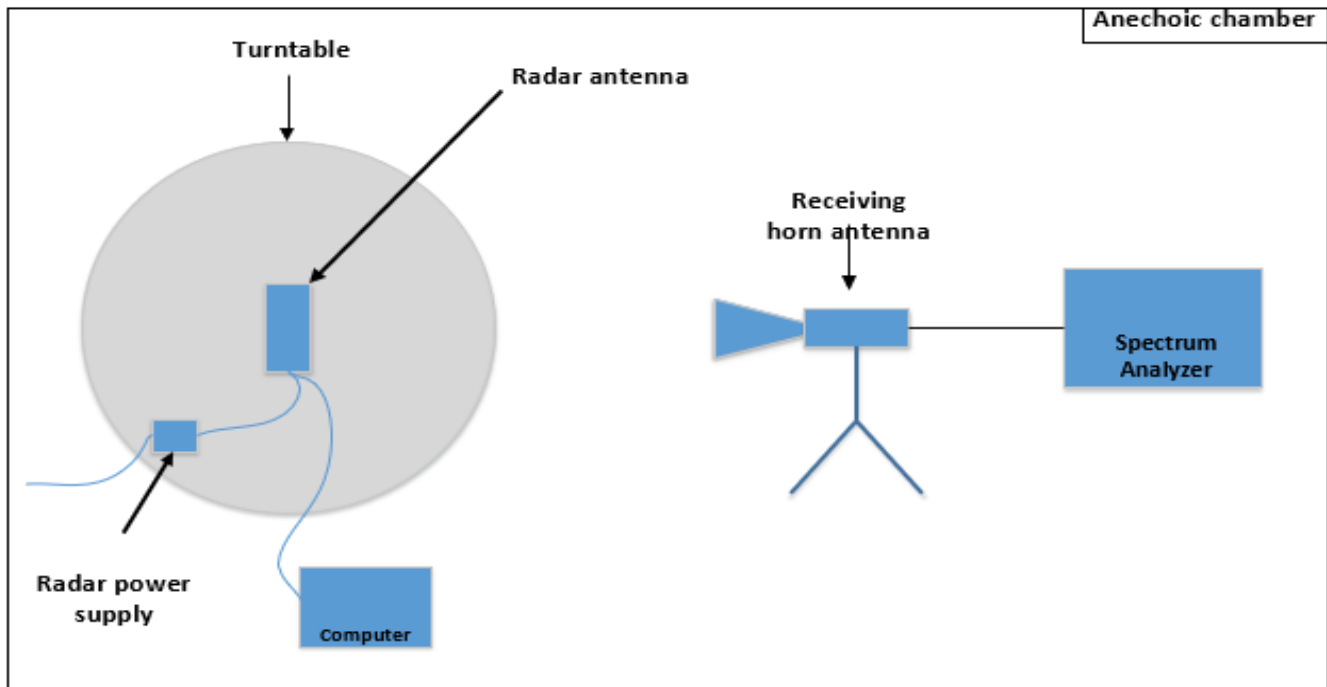
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Revision	Date	Description	Revised By
N/C	#####	Initial Release	Mathew Santiago

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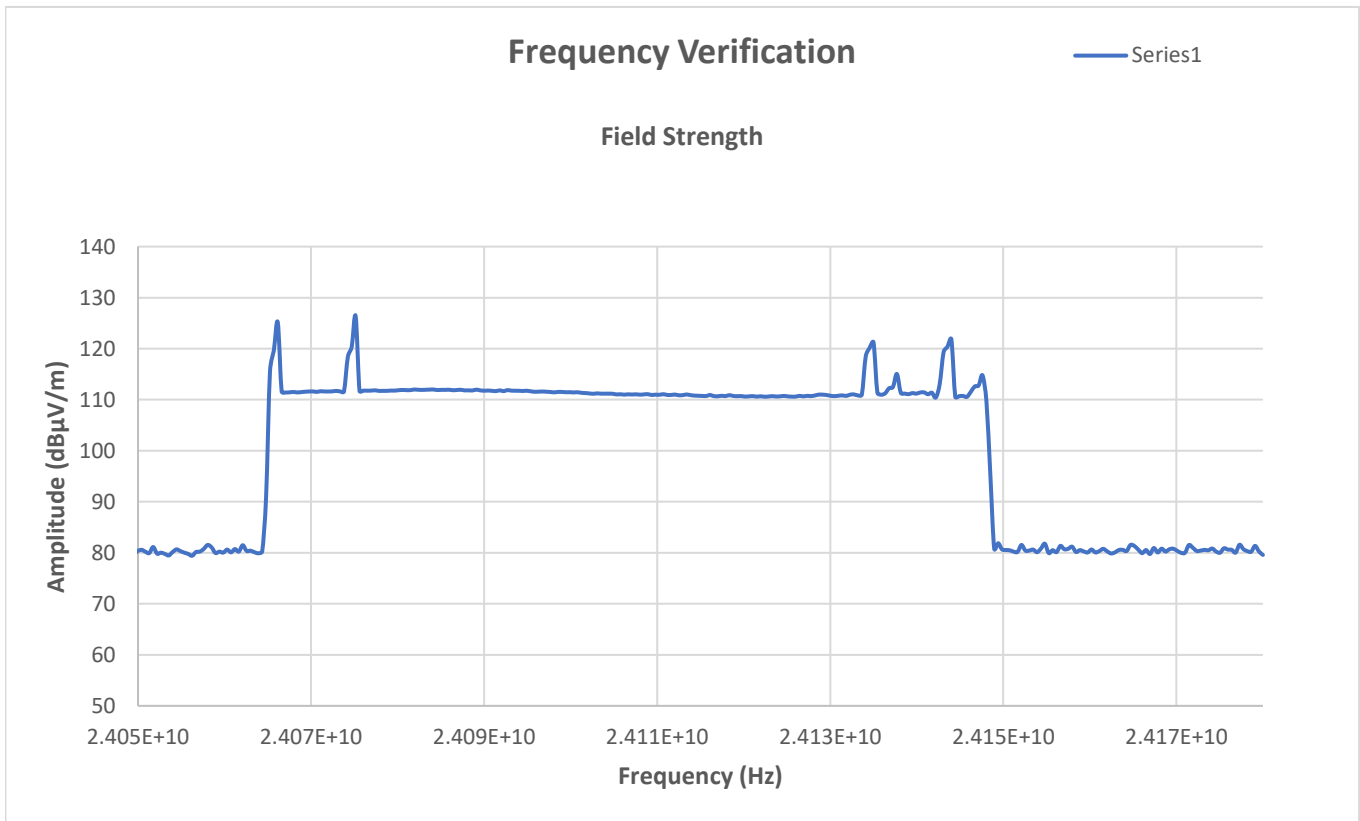
Test Setup Diagram



Test Equipment Utilized

Description	Manufacturer	Model #	Serial #	Asset #	Cal. Due Date
EMC Analyzer	Agilent	E7405	US40240238	EB046	1/29/2026
DRG Horn Antenna	ETS Lindgren	3116	00026390	EE017	5/21/2026
Pre-Amplifier	Keystone Compliance	PA-1	0002	EG003	6/30/2026
Turntable Controller	EMCO	1061.2.013	9401-1717	EI009	UWCE

Frequency Measurements:



Frequency Verification					
Nominal Frequency Range (GHz)	Measured Center Frequency (GHz)	Measured Frequency Bandwidth @ 20dB (MHz)	Amplitude (dBµV)	Bandwidth Limit (MHz)	Results
24.075-24.175	24.107	82.8	126.36	84.7 +/- 4.8	PASS



Report No.: 2403-267EA

Revision: N/C

**Radar Sensor Calibration Verification
Certificate of Calibration**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x00048851**


**Description:
Radar Characteristics Validation
In compliance with:
SMS UMRR-11 T44 / UMRR-12 T48 RADAR QUALIFICATION USING SPECRA**

Date of Issue: November 11, 2025

Owner of EUT: Verra Mobility
1150 N. Alma School Rd
Mesa, AZ 85201

Attention of: Engineering Department
Phone: (480) 443-7000

Test Facility	
Test Laboratory	Applus+ Keystone
Address	131 North Columbus Innerbelt
City, State, Zip Code	New Castle, PA 16101
Email	questions@keystonecompliance.com
Web Site	www.keystonecompliance.com

Test Personnel	
Name	Mathew Santiago
Title	EMC Test Engineer
Signature	

**Radar Sensor Calibration Verification
Certificate of Calibration**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x00048851**

Date of Issue: November 11, 2025

This speed measuring device has been tested and verified to be functioning in accordance with the manufacture’s specifications.

The frequency measurements performed and reported within this report demonstrate that the SmartMicro UMRR-11 T44 radar system has an accuracy of less than or equal to 1 mph up to 100 mph and 1% accuracy thereafter up to 199 mph maximum.

FSK Frequency Set 1					
Nominal Frequency Range (GHz)	Measured Center Frequency (GHz)	Measured Frequency Bandwidth @ 20dB (MHz)	Amplitude (dBμV)	Bandwidth Limit (MHz)	Results
24.075-24.175	24.107	82.8	126.36	84.7 +/- 4.8	PASS

Radar Sensor Calibration Verification Test Report

Model: UMRR-11 T44

**Part Number / Serial Number:
0x0004901D**


**Description:
Radar Characteristics Validation
In compliance with:
SMS UMRR-11 T44 / UMRR-12 T48 RADAR QUALIFICATION USING SPECRA**

Date of Issue: November 11, 2025

Owner of EUT: Verra Mobility
1150 N. Alma School Rd
Mesa, AZ 85201

Attention of: Engineering Department
Phone: (480) 443-7000

Test Facility	
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Address	131 North Columbus Innerbelt
City, State, Zip Code	New Castle, PA 16101
Email	questions@keystonecompliance.com
Web Site	www.keystonecompliance.com

Test Personnel	
Name	Mathew Santiago
Title	EMC Test Engineer
Signature	

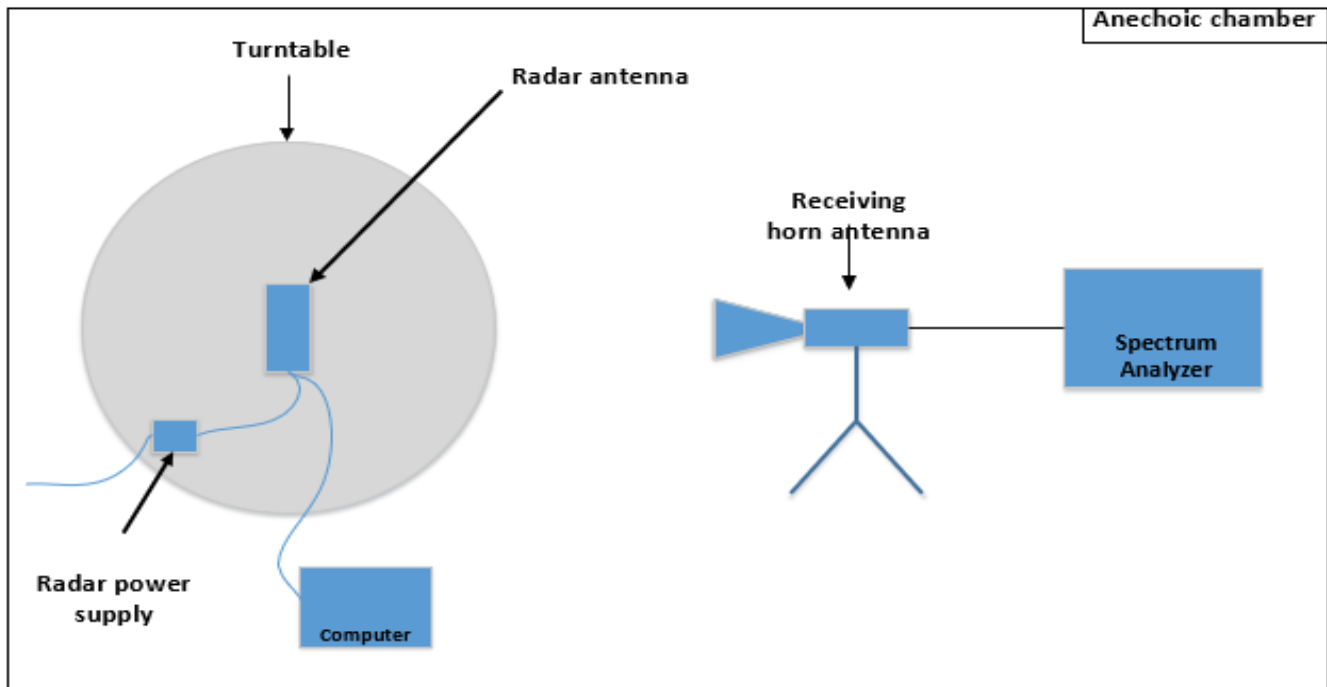
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Revision	Date	Description	Revised By
N/C	#####	Initial Release	Mathew Santiago

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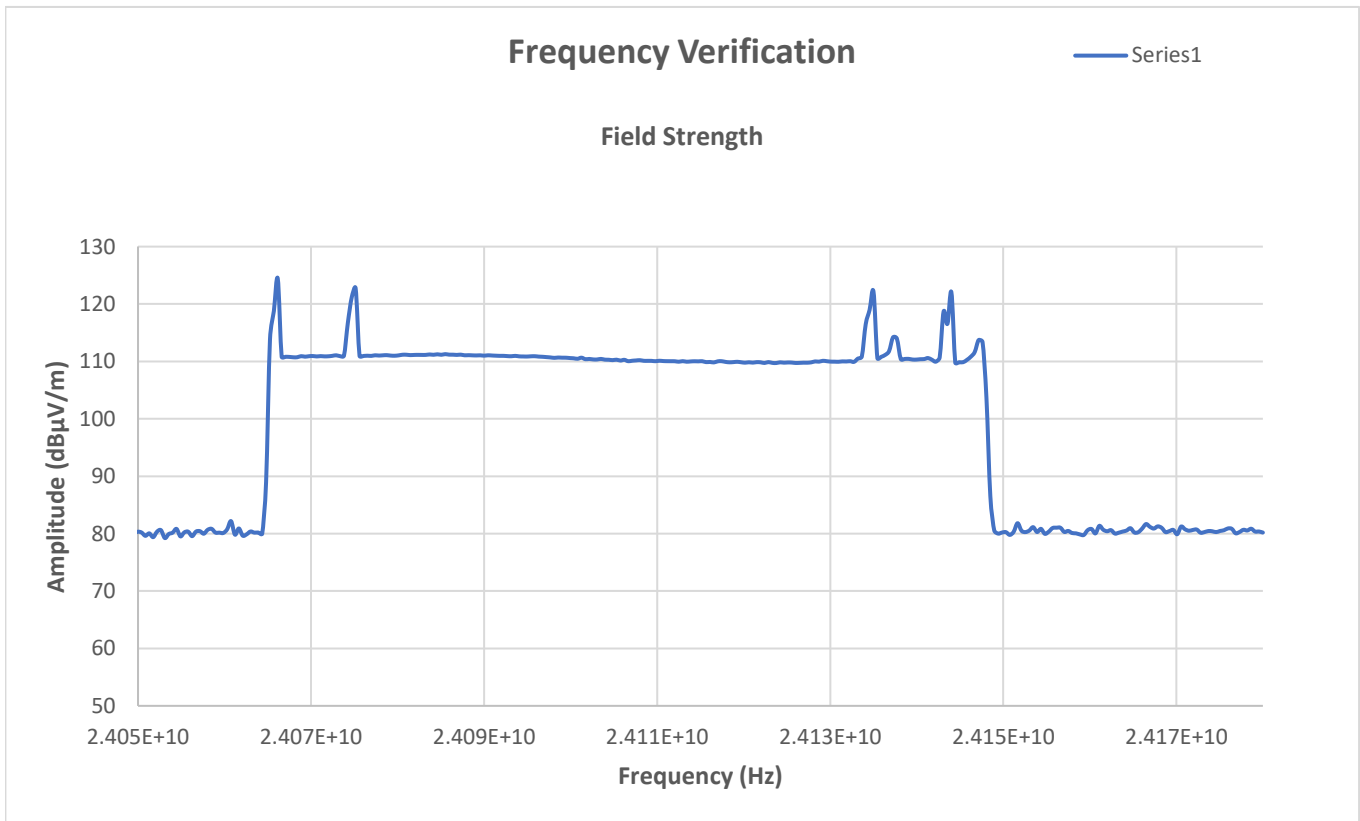
Test Setup Diagram



Test Equipment Utilized

Description	Manufacturer	Model #	Serial #	Asset #	Cal. Due Date
EMC Analyzer	Agilent	E7405	US40240238	EB046	1/29/2026
DRG Horn Antenna	ETS Lindgren	3116	00026390	EE017	5/21/2026
Pre-Amplifier	Keystone Compliance	PA-1	0002	EG003	6/30/2026
Turntable Controller	EMCO	1061.2.013	9401-1717	EI009	UWCE

Frequency Measurements:



Frequency Verification					
Nominal Frequency Range (GHz)	Measured Center Frequency (GHz)	Measured Frequency Bandwidth @ 20dB (MHz)	Amplitude (dBµV)	Bandwidth Limit (MHz)	Results
24.075-24.175	24.107	82.8	124.41	84.7 +/- 4.8	PASS

**Radar Sensor Calibration Verification
Certificate of Calibration**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x0004901D**

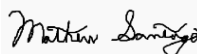
**Description:
Radar Characteristics Validation
In compliance with:
SMS UMRR-11 T44 / UMRR-12 T48 RADAR QUALIFICATION USING SPECRA**

Date of Issue: November 11, 2025

Owner of EUT: Verra Mobility
1150 N. Alma School Rd
Mesa, AZ 85201

Attention of: Engineering Department
Phone: (480) 443-7000

Test Facility	
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Address	131 North Columbus Innerbelt
City, State, Zip Code	New Castle, PA 16101
Email	questions@keystonecompliance.com
Web Site	www.keystonecompliance.com

Test Personnel	
Name	Mathew Santiago
Title	EMC Test Engineer
Signature	

**Radar Sensor Calibration Verification
Certificate of Calibration**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x0004901D**

Date of Issue: November 11, 2025

This speed measuring device has been tested and verified to be functioning in accordance with the manufacture’s specifications.

The frequency measurements performed and reported within this report demonstrate that the SmartMicro UMRR-11 T44 radar system has an accuracy of less than or equal to 1 mph up to 100 mph and 1% accuracy thereafter up to 199 mph maximum.

FSK Frequency Set 1					
Nominal Frequency Range (GHz)	Measured Center Frequency (GHz)	Measured Frequency Bandwidth @ 20dB (MHz)	Amplitude (dBμV)	Bandwidth Limit (MHz)	Results
24.075-24.175	24.107	82.8	124.41	84.7 +/- 4.8	PASS

**Radar Sensor Calibration Verification
Test Report**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x0004ED38**


**Description:
Radar Characteristics Validation
In compliance with:
SMS UMRR-11 T44 / UMRR-12 T48 RADAR QUALIFICATION USING SPECRA**

Date of Issue: November 11, 2025

Owner of EUT: Verra Mobility
1150 N. Alma School Rd
Mesa, AZ 85201

Attention of: Engineering Department
Phone: (480) 443-7000

Test Facility	
Test Laboratory	Applus + Keystone
Address	131 North Columbus Innerbelt
City, State, Zip Code	New Castle, PA 16101
Email	questions@keystonecompliance.com
Web Site	www.keystonecompliance.com

Test Personnel	
Name	Mathew Santiago
Title	EMC Test Engineer
Signature	

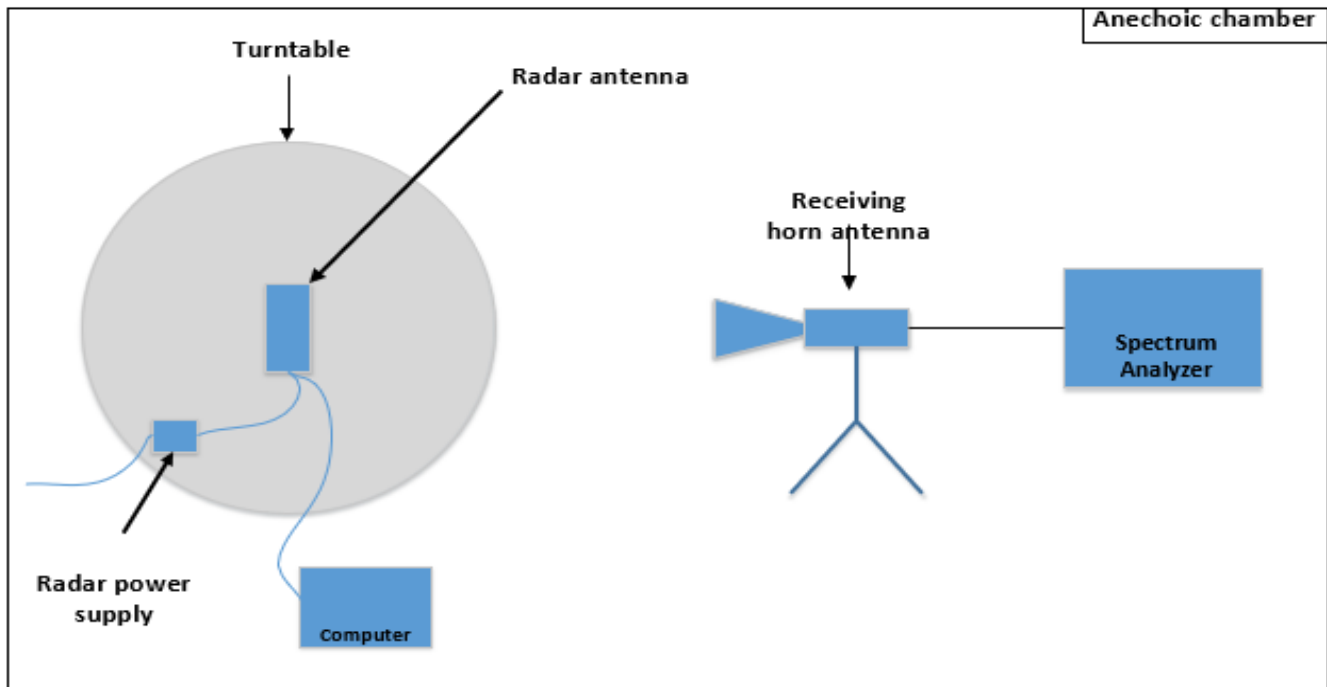
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Revision	Date	Description	Revised By
N/C	#####	Initial Release	Mathew Santiago

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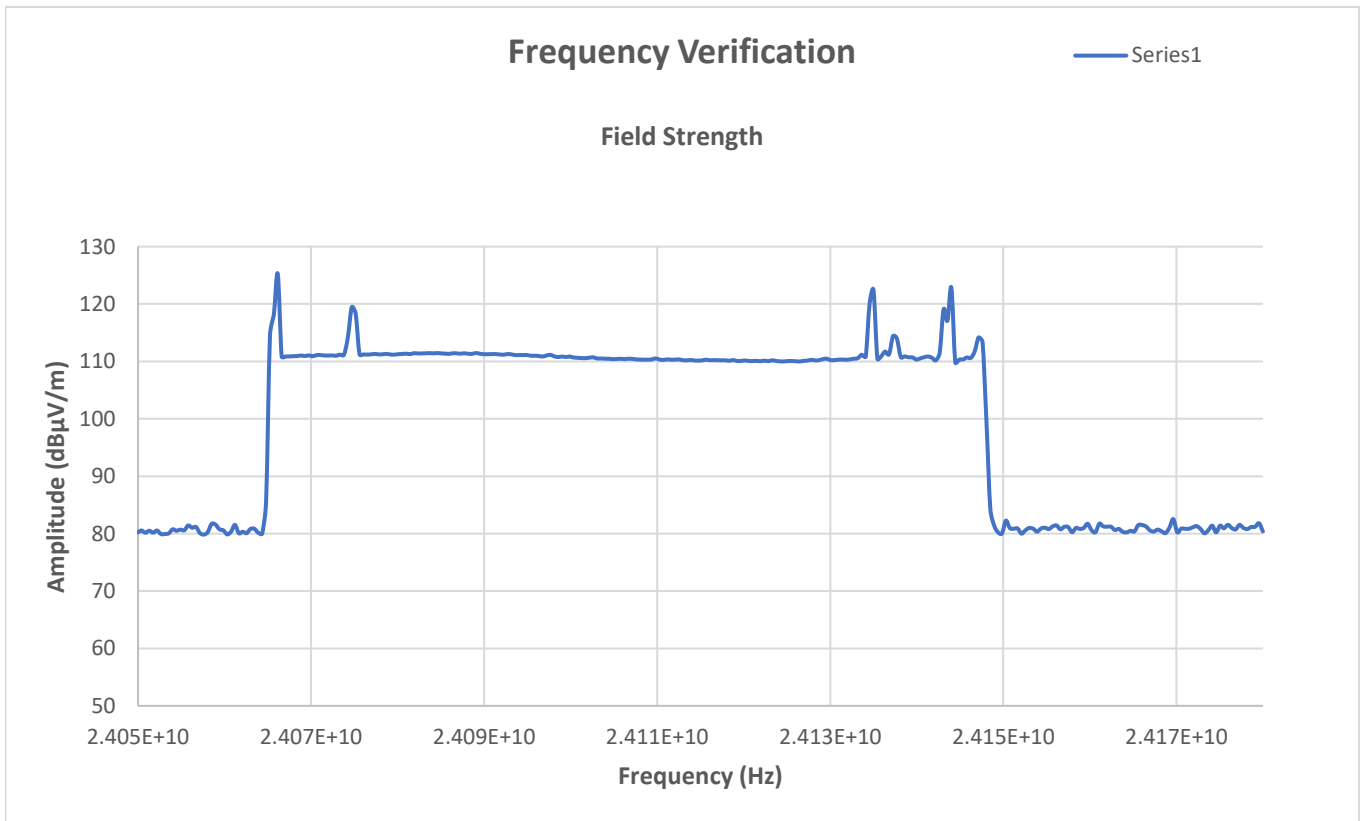
Test Setup Diagram



Test Equipment Utilized

Description	Manufacturer	Model #	Serial #	Asset #	Cal. Due Date
EMC Analyzer	Agilent	E7405	US40240238	EB046	1/29/2026
DRG Horn Antenna	ETS Lindgren	3116	00026390	EE017	5/21/2026
Pre-Amplifier	Keystone Compliance	PA-1	0002	EG003	6/30/2026
Turntable Controller	EMCO	1061.2.013	9401-1717	EI009	UWCE

Frequency Measurements:



Frequency Verification					
Nominal Frequency Range (GHz)	Measured Center Frequency (GHz)	Measured Frequency Bandwidth @ 20dB (MHz)	Amplitude (dBµV)	Bandwidth Limit (MHz)	Results
24.075-24.175	24.106	82.4	125.23	84.7 +/- 4.8	PASS



Report No.: 2403-267EA

Revision: N/C

**Radar Sensor Calibration Verification
Certificate of Calibration**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x0004ED38**


**Description:
Radar Characteristics Validation
In compliance with:
SMS UMRR-11 T44 / UMRR-12 T48 RADAR QUALIFICATION USING SPECRA**

Date of Issue: November 11, 2025

Owner of EUT: Verra Mobility
1150 N. Alma School Rd
Mesa, AZ 85201

Attention of: Engineering Department
Phone: (480) 443-7000

Test Facility	
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Address	131 North Columbus Innerbelt
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Email	questions@keystonecompliance.com
Web Site	www.keystonecompliance.com

Test Personnel	
Name	Mathew Santiago
Title	EMC Test Engineer
Signature	

**Radar Sensor Calibration Verification
Certificate of Calibration**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x0004ED38**

Date of Issue: November 11, 2025

This speed measuring device has been tested and verified to be functioning in accordance with the manufacture’s specifications.

The frequency measurements performed and reported within this report demonstrate that the SmartMicro UMRR-11 T44 radar system has an accuracy of less than or equal to 1 mph up to 100 mph and 1% accuracy thereafter up to 199 mph maximum.

FSK Frequency Set 1					
Nominal Frequency Range (GHz)	Measured Center Frequency (GHz)	Measured Frequency Bandwidth @ 20dB (MHz)	Amplitude (dBμV)	Bandwidth Limit (MHz)	Results
24.075-24.175	24.106	82.4	125.23	84.7 +/- 4.8	PASS

Radar Sensor Calibration Verification Test Report

Model: UMRR-11 T44

**Part Number / Serial Number:
0x0004ED3B**


**Description:
Radar Characteristics Validation
In compliance with:
SMS UMRR-11 T44 / UMRR-12 T48 RADAR QUALIFICATION USING SPECRA**

Date of Issue: November 11, 2025

Owner of EUT: Verra Mobility
1150 N. Alma School Rd
Mesa, AZ 85201

Attention of: Engineering Department
Phone: (480) 443-7000

Test Facility	
Test Laboratory	Applus + Keystone
Address	131 North Columbus Innerbelt
City, State, Zip Code	New Castle, PA 16101
Email	questions@keystonecompliance.com
Web Site	www.keystonecompliance.com

Test Personnel	
Name	Mathew Santiago
Title	EMC Test Engineer
Signature	

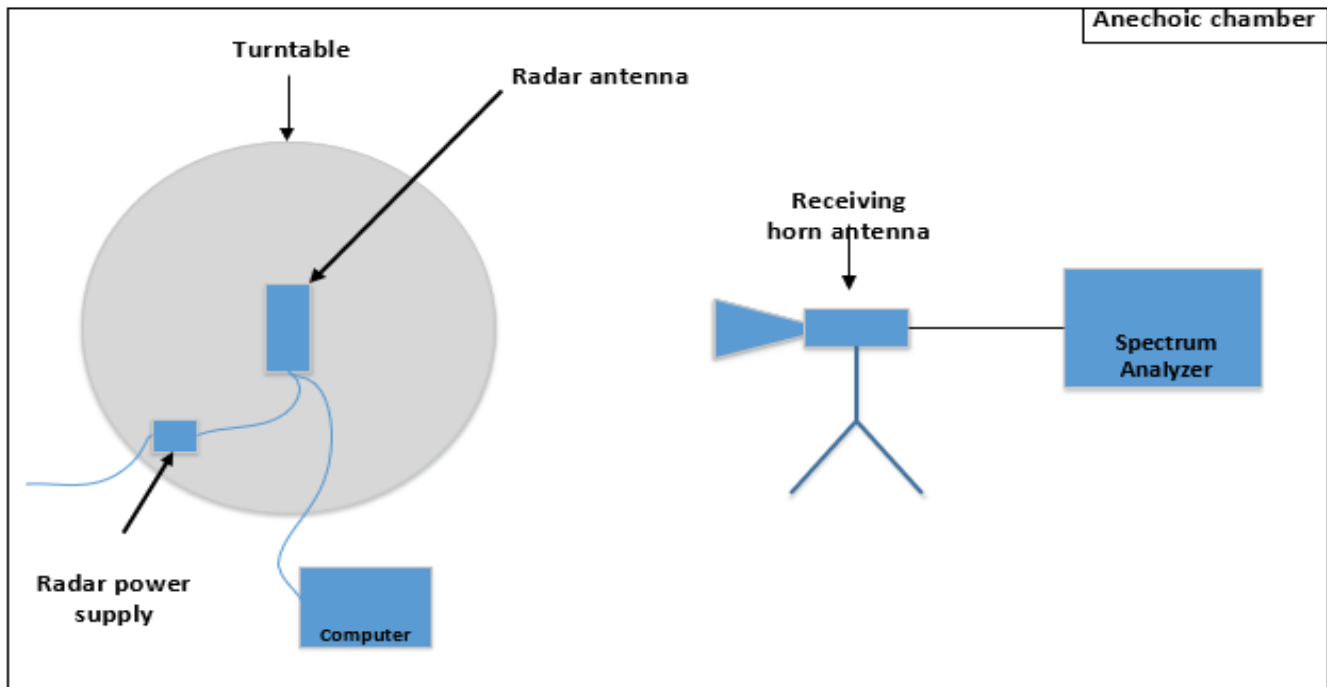
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Revision	Date	Description	Revised By
N/C	#####	Initial Release	Mathew Santiago

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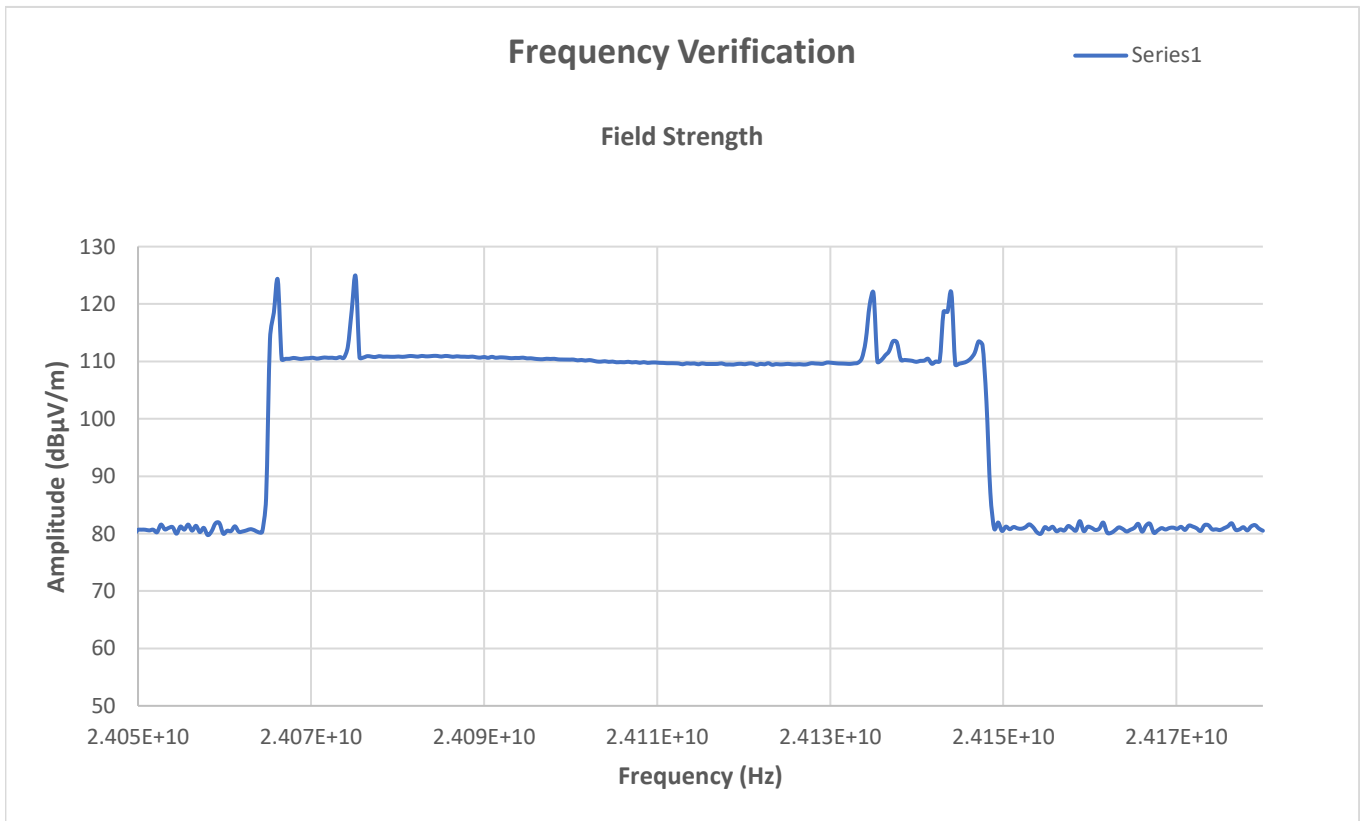
Test Setup Diagram



Test Equipment Utilized

Description	Manufacturer	Model #	Serial #	Asset #	Cal. Due Date
EMC Analyzer	Agilent	E7405	US40240238	EB046	1/29/2026
DRG Horn Antenna	ETS Lindgren	3116	00026390	EE017	5/21/2026
Pre-Amplifier	Keystone Compliance	PA-1	0002	EG003	6/30/2026
Turntable Controller	EMCO	1061.2.013	9401-1717	EI009	UWCE

Frequency Measurements:



Frequency Verification					
Nominal Frequency Range (GHz)	Measured Center Frequency (GHz)	Measured Frequency Bandwidth @ 20dB (MHz)	Amplitude (dBµV)	Bandwidth Limit (MHz)	Results
24.075-24.175	24.107	82.8	124.78	84.7 +/- 4.8	PASS



Report No.: 2403-267EA

Revision: N/C

**Radar Sensor Calibration Verification
Certificate of Calibration**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x0004ED3B**

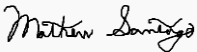
**Description:
Radar Characteristics Validation
In compliance with:
SMS UMRR-11 T44 / UMRR-12 T48 RADAR QUALIFICATION USING SPECRA**

Date of Issue: November 11, 2025

Owner of EUT: Verra Mobility
1150 N. Alma School Rd
Mesa, AZ 85201

Attention of: Engineering Department
Phone: (480) 443-7000

Test Facility	
Test Laboratory	Applus+ Keystone
Address	131 North Columbus Innerbelt
City, State, Zip Code	New Castle, PA 16101
Email	questions@keystonecompliance.com
Web Site	www.keystonecompliance.com

Test Personnel	
Name	Mathew Santiago
Title	EMC Test Engineer
Signature	

**Radar Sensor Calibration Verification
Certificate of Calibration**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x0004ED3B**

Date of Issue: November 11, 2025

This speed measuring device has been tested and verified to be functioning in accordance with the manufacture’s specifications.

The frequency measurements performed and reported within this report demonstrate that the SmartMicro UMRR-11 T44 radar system has an accuracy of less than or equal to 1 mph up to 100 mph and 1% accuracy thereafter up to 199 mph maximum.

FSK Frequency Set 1					
Nominal Frequency Range (GHz)	Measured Center Frequency (GHz)	Measured Frequency Bandwidth @ 20dB (MHz)	Amplitude (dBμV)	Bandwidth Limit (MHz)	Results
24.075-24.175	24.107	82.8	124.78	84.7 +/- 4.8	PASS

Radar Sensor Calibration Verification Test Report

Model: UMRR-11 T44

**Part Number / Serial Number:
0x0004ED30**


**Description:
Radar Characteristics Validation
In compliance with:
SMS UMRR-11 T44 / UMRR-12 T48 RADAR QUALIFICATION USING SPECRA**

Date of Issue: November 11, 2025

Owner of EUT: Verra Mobility
1150 N. Alma School Rd
Mesa, AZ 85201

Attention of: Engineering Department
Phone: (480) 443-7000

Test Facility	
Test Laboratory	Applus + Keystone
Address	131 North Columbus Innerbelt
City, State, Zip Code	New Castle, PA 16101
Email	questions@keystonecompliance.com
Web Site	www.keystonecompliance.com

Test Personnel	
Name	Mathew Santiago
Title	EMC Test Engineer
Signature	

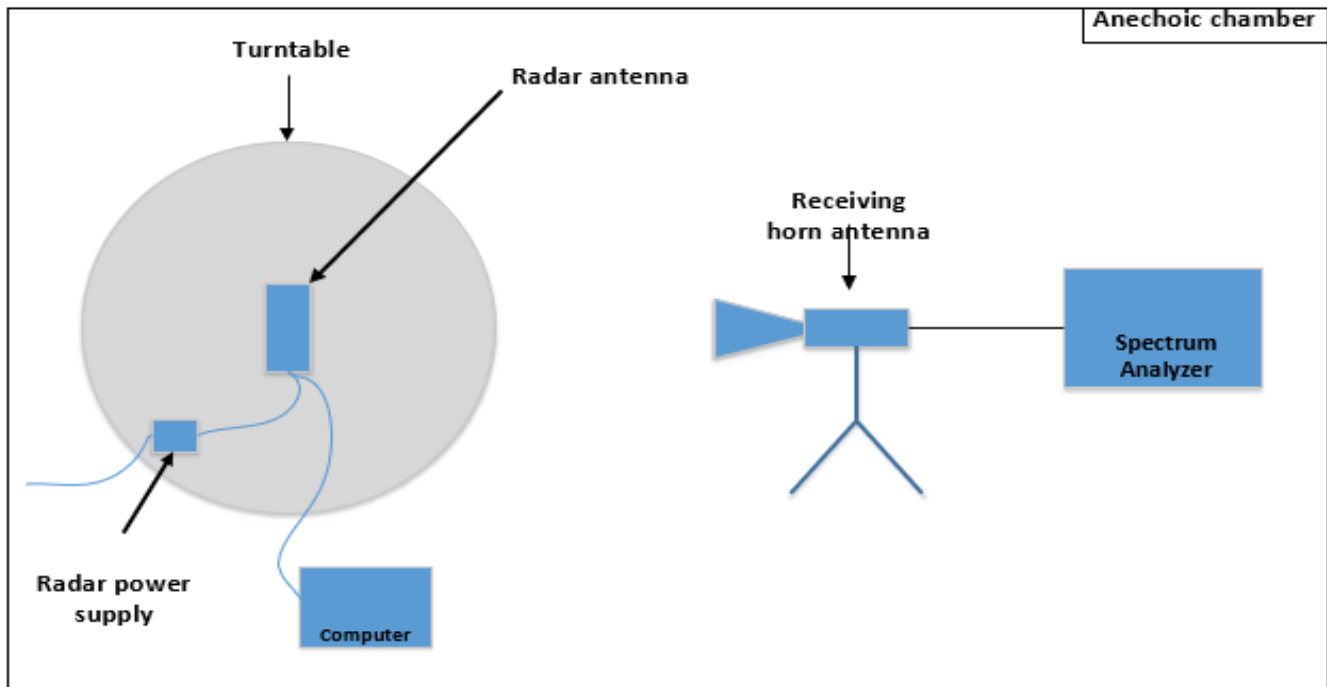
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Revision	Date	Description	Revised By
N/C	#####	Initial Release	Mathew Santiago

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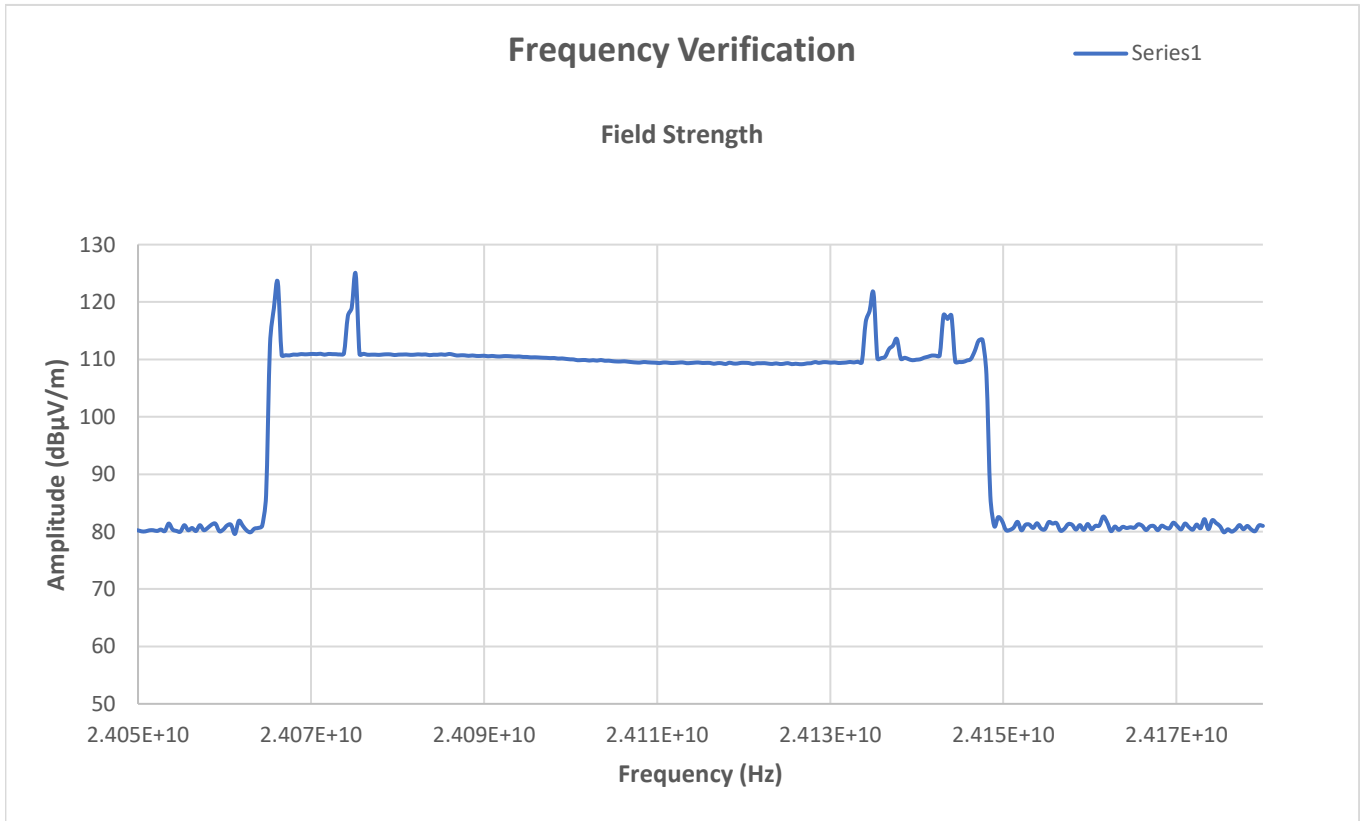
Test Setup Diagram



Test Equipment Utilized

Description	Manufacturer	Model #	Serial #	Asset #	Cal. Due Date
EMC Analyzer	Agilent	E7405	US40240238	EB046	1/29/2026
DRG Horn Antenna	ETS Lindgren	3116	00026390	EE017	5/21/2026
Pre-Amplifier	Keystone Compliance	PA-1	0002	EG003	6/30/2026
Turntable Controller	EMCO	1061.2.013	9401-1717	EI009	UWCE

Frequency Measurements:



Frequency Verification					
Nominal Frequency Range (GHz)	Measured Center Frequency (GHz)	Measured Frequency Bandwidth @ 20dB (MHz)	Amplitude (dBµV)	Bandwidth Limit (MHz)	Results
24.075-24.175	24.107	82.8	124.90	84.7 +/- 4.8	PASS



Report No.: 2403-267EA

Revision: N/C

**Radar Sensor Calibration Verification
Certificate of Calibration**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x0004ED30**


**Description:
Radar Characteristics Validation
In compliance with:
SMS UMRR-11 T44 / UMRR-12 T48 RADAR QUALIFICATION USING SPECRA**

Date of Issue: November 11, 2025

Owner of EUT: Verra Mobility
1150 N. Alma School Rd
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Phone: (480) 443-7000

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Email	questions@keystonecompliance.com
Web Site	www.keystonecompliance.com

Test Personnel	
Name	Mathew Santiago
Title	EMC Test Engineer
Signature	

**Radar Sensor Calibration Verification
Certificate of Calibration**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x0004ED30**

Date of Issue: November 11, 2025

This speed measuring device has been tested and verified to be functioning in accordance with the manufacture’s specifications.

The frequency measurements performed and reported within this report demonstrate that the SmartMicro UMRR-11 T44 radar system has an accuracy of less than or equal to 1 mph up to 100 mph and 1% accuracy thereafter up to 199 mph maximum.

FSK Frequency Set 1					
Nominal Frequency Range (GHz)	Measured Center Frequency (GHz)	Measured Frequency Bandwidth @ 20dB (MHz)	Amplitude (dBμV)	Bandwidth Limit (MHz)	Results
24.075-24.175	24.107	82.8	124.90	84.7 +/- 4.8	PASS

**Radar Sensor Calibration Verification
Test Report**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x0004EAC3**


**Description:
Radar Characteristics Validation
In compliance with:
SMS UMRR-11 T44 / UMRR-12 T48 RADAR QUALIFICATION USING SPECRA**

Date of Issue: November 11, 2025

Owner of EUT: Verra Mobility
1150 N. Alma School Rd
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Attention of: Engineering Department
Phone: (480) 443-7000

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Email	questions@keystonecompliance.com
Web Site	www.keystonecompliance.com

Test Personnel	
Name	Mathew Santiago
Title	EMC Test Engineer
Signature	

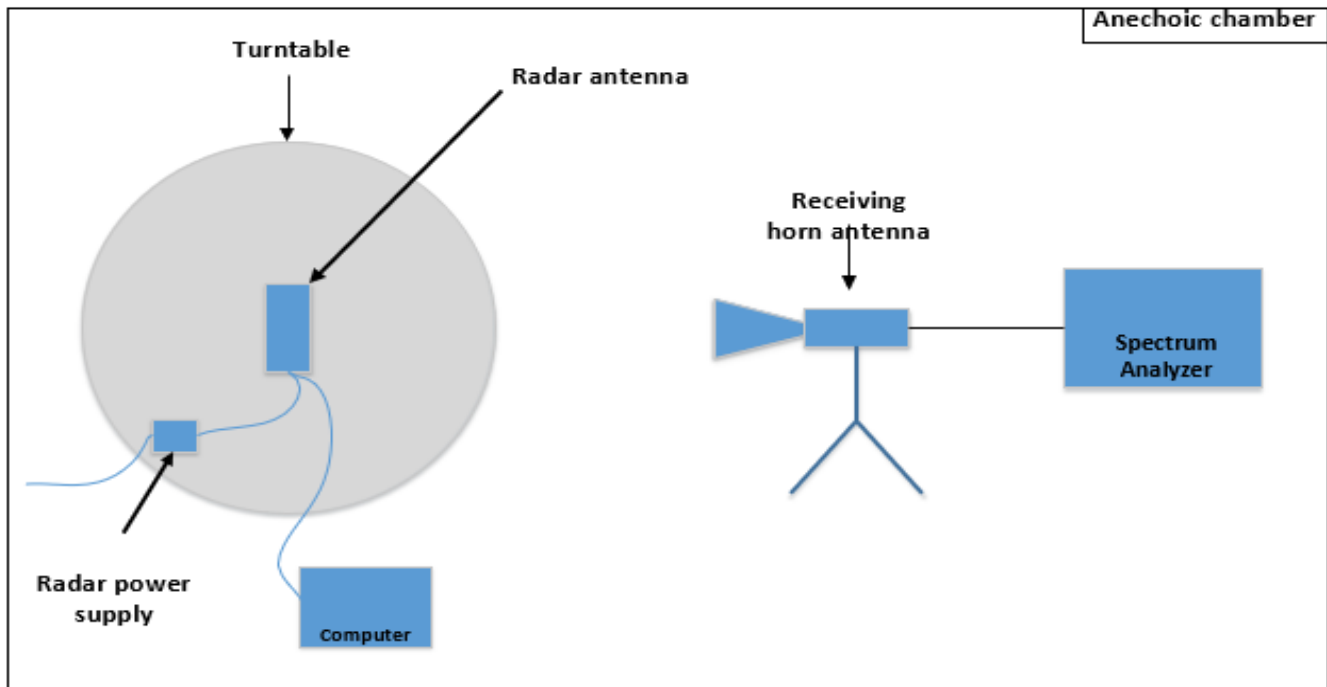
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Revision	Date	Description	Revised By
N/C	#####	Initial Release	Mathew Santiago

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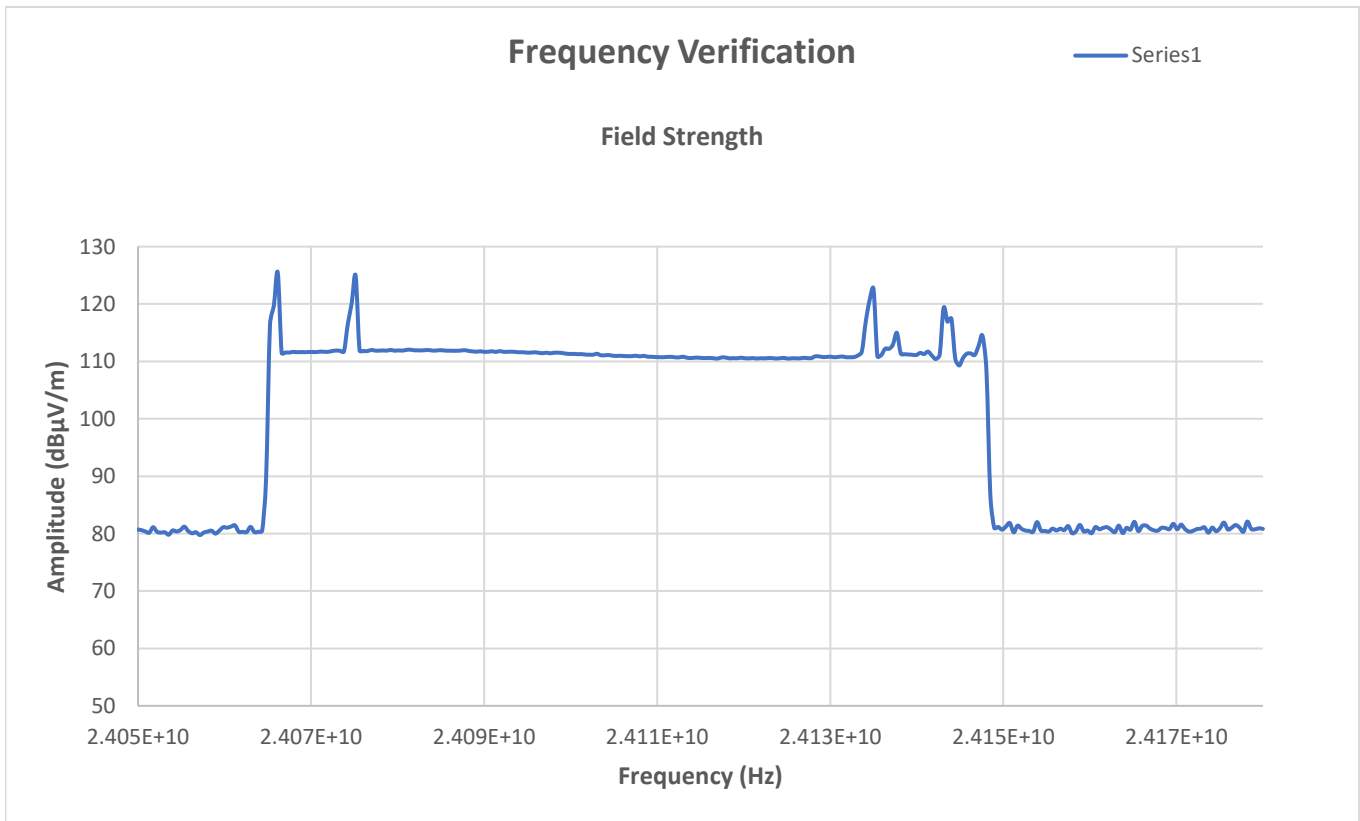
Test Setup Diagram



Test Equipment Utilized

Description	Manufacturer	Model #	Serial #	Asset #	Cal. Due Date
EMC Analyzer	Agilent	E7405	US40240238	EB046	1/29/2026
DRG Horn Antenna	ETS Lindgren	3116	00026390	EE017	5/21/2026
Pre-Amplifier	Keystone Compliance	PA-1	0002	EG003	6/30/2026
Turntable Controller	EMCO	1061.2.013	9401-1717	EI009	UWCE

Frequency Measurements:



Frequency Verification					
Nominal Frequency Range (GHz)	Measured Center Frequency (GHz)	Measured Frequency Bandwidth @ 20dB (MHz)	Amplitude (dBµV)	Bandwidth Limit (MHz)	Results
24.075-24.175	24.107	82.8	125.46	84.7 +/- 4.8	PASS



Report No.: 2403-267EA

Revision: N/C

**Radar Sensor Calibration Verification
Certificate of Calibration**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x0004EAC3**

**Description:
Radar Characteristics Validation
In compliance with:
SMS UMRR-11 T44 / UMRR-12 T48 RADAR QUALIFICATION USING SPECRA**

Date of Issue: November 11, 2025

Owner of EUT: Verra Mobility
1150 N. Alma School Rd
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Attention of: Engineering Department
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Email	questions@keystonecompliance.com
Web Site	www.keystonecompliance.com

Test Personnel	
Name	Mathew Santiago
Title	EMC Test Engineer
Signature	

**Radar Sensor Calibration Verification
Certificate of Calibration**

Model: UMRR-11 T44

Part Number / Serial Number:

0x0004EAC3

Date of Issue: November 11, 2025

This speed measuring device has been tested and verified to be functioning in accordance with the manufacture's specifications.

The frequency measurements performed and reported within this report demonstrate that the SmartMicro UMRR-11 T44 radar system has an accuracy of less than or equal to 1 mph up to 100 mph and 1% accuracy thereafter up to 199 mph maximum.

FSK Frequency Set 1					
Nominal Frequency Range (GHz)	Measured Center Frequency (GHz)	Measured Frequency Bandwidth @ 20dB (MHz)	Amplitude (dBμV)	Bandwidth Limit (MHz)	Results
24.075-24.175	24.107	82.8	125.46	84.7 +/- 4.8	PASS

**Radar Sensor Calibration Verification
Test Report**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x0004ED32**


**Description:
Radar Characteristics Validation
In compliance with:
SMS UMRR-11 T44 / UMRR-12 T48 RADAR QUALIFICATION USING SPECRA**

Date of Issue: November 11, 2025

Owner of EUT: Verra Mobility
1150 N. Alma School Rd
Mesa, AZ 85201

Attention of: Engineering Department
Phone: (480) 443-7000

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Web Site	www.keystonecompliance.com

Test Personnel	
Name	Mathew Santiago
Title	EMC Test Engineer
Signature	

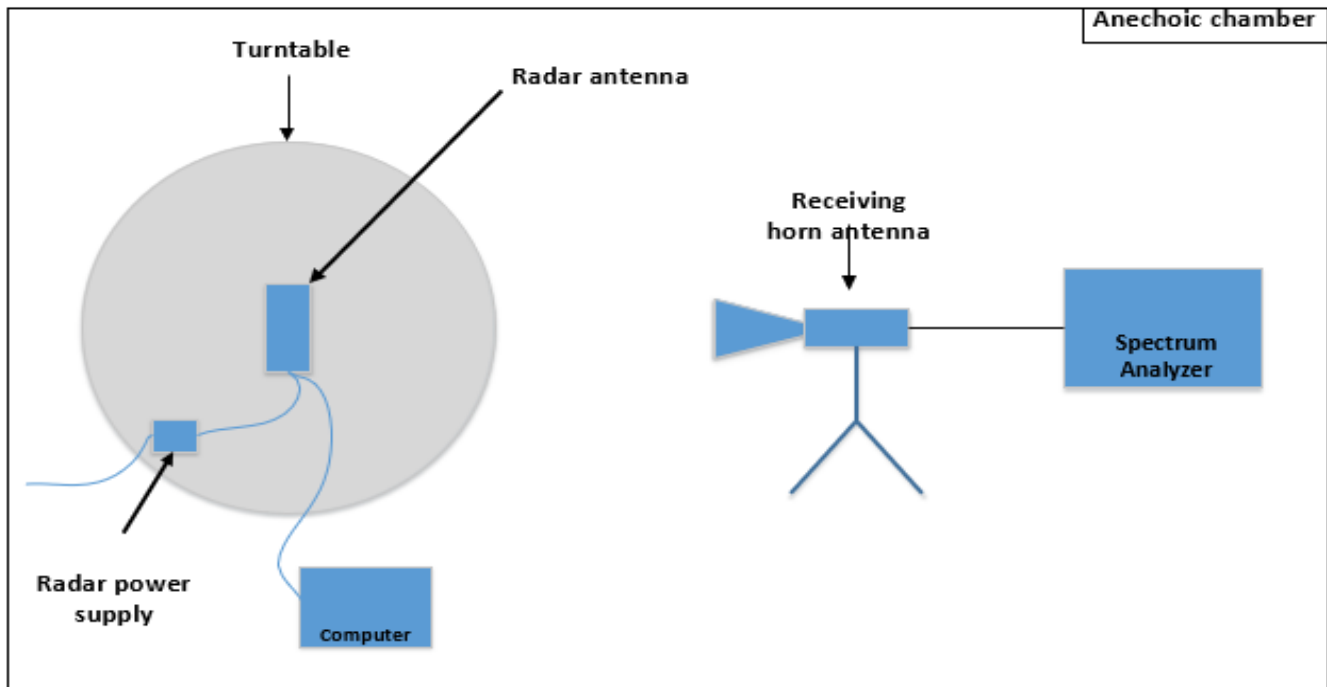
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Revision	Date	Description	Revised By
N/C	#####	Initial Release	Mathew Santiago

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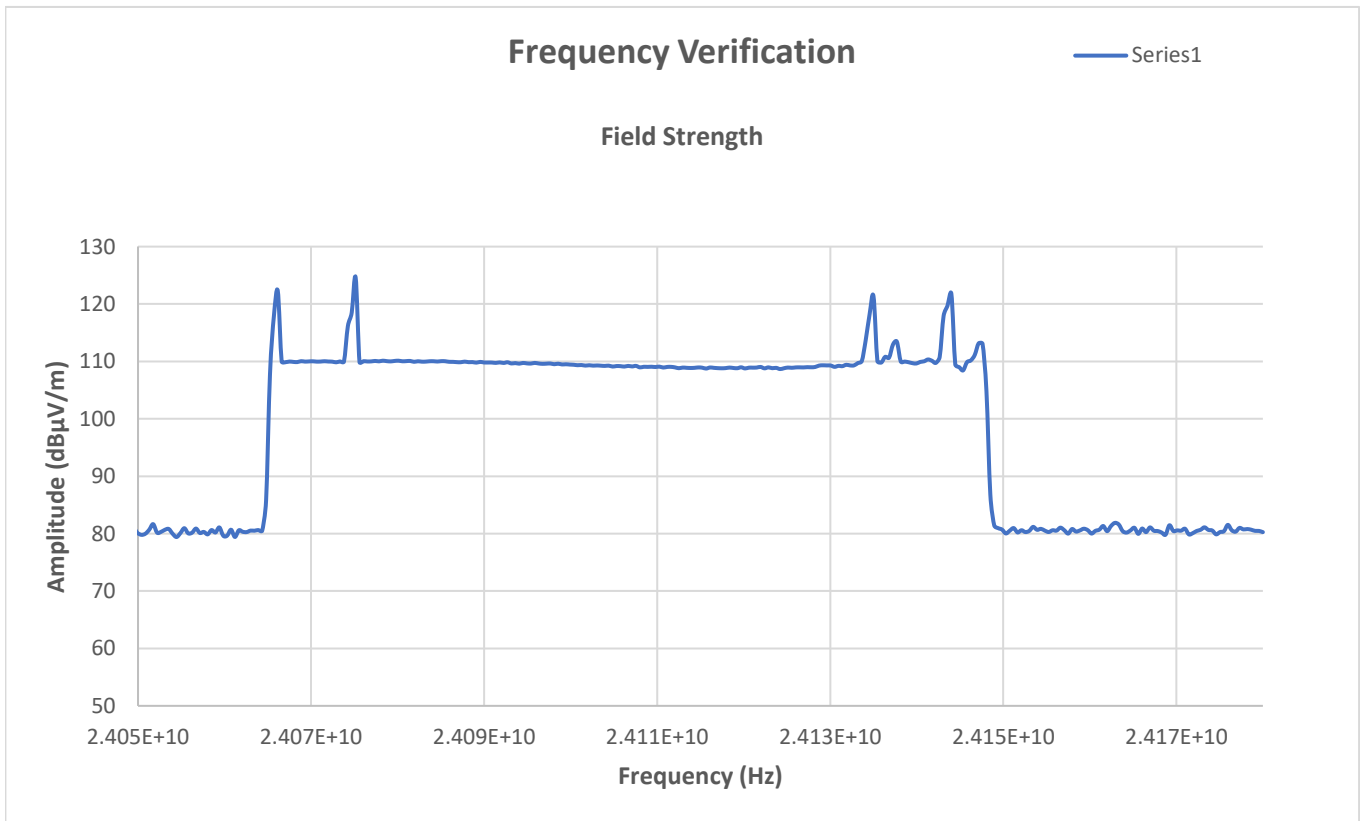
Test Setup Diagram



Test Equipment Utilized

Description	Manufacturer	Model #	Serial #	Asset #	Cal. Due Date
EMC Analyzer	Agilent	E7405	US40240238	EB046	1/29/2026
DRG Horn Antenna	ETS Lindgren	3116	00026390	EE017	5/21/2026
Pre-Amplifier	Keystone Compliance	PA-1	0002	EG003	6/30/2026
Turntable Controller	EMCO	1061.2.013	9401-1717	EI009	UWCE

Frequency Measurements:



Frequency Verification					
Nominal Frequency Range (GHz)	Measured Center Frequency (GHz)	Measured Frequency Bandwidth @ 20dB (MHz)	Amplitude (dBµV)	Bandwidth Limit (MHz)	Results
24.075-24.175	24.107	82.8	124.62	84.7 +/- 4.8	PASS



Report No.: 2403-267EA

Revision: N/C

**Radar Sensor Calibration Verification
Certificate of Calibration**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x0004ED32**

**Description:
Radar Characteristics Validation
In compliance with:
SMS UMRR-11 T44 / UMRR-12 T48 RADAR QUALIFICATION USING SPECRA**

Date of Issue: November 11, 2025

Owner of EUT: Verra Mobility
1150 N. Alma School Rd
Mesa, AZ 85201

Attention of: Engineering Department
Phone: (480) 443-7000

Test Facility	
Test Laboratory	Applus+ Keystone
Address	131 North Columbus Innerbelt
City, State, Zip Code	New Castle, PA 16101
Email	questions@keystonecompliance.com
Web Site	www.keystonecompliance.com

Test Personnel	
Name	Mathew Santiago
Title	EMC Test Engineer
Signature	

**Radar Sensor Calibration Verification
Certificate of Calibration**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x0004ED32**

Date of Issue: November 11, 2025

This speed measuring device has been tested and verified to be functioning in accordance with the manufacture’s specifications.

The frequency measurements performed and reported within this report demonstrate that the SmartMicro UMRR-11 T44 radar system has an accuracy of less than or equal to 1 mph up to 100 mph and 1% accuracy thereafter up to 199 mph maximum.

FSK Frequency Set 1					
Nominal Frequency Range (GHz)	Measured Center Frequency (GHz)	Measured Frequency Bandwidth @ 20dB (MHz)	Amplitude (dBμV)	Bandwidth Limit (MHz)	Results
24.075-24.175	24.107	82.8	124.62	84.7 +/- 4.8	PASS

**Radar Sensor Calibration Verification
Test Report**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x0004EB26**


**Description:
Radar Characteristics Validation
In compliance with:
SMS UMRR-11 T44 / UMRR-12 T48 RADAR QUALIFICATION USING SPECRA**

Date of Issue: November 11, 2025

Owner of EUT: Verra Mobility
1150 N. Alma School Rd
Mesa, AZ 85201

Attention of: Engineering Department
Phone: (480) 443-7000

Test Facility	
Test Laboratory	Applus + Keystone
Address	131 North Columbus Innerbelt
City, State, Zip Code	New Castle, PA 16101
Email	questions@keystonecompliance.com
Web Site	www.keystonecompliance.com

Test Personnel	
Name	Mathew Santiago
Title	EMC Test Engineer
Signature	

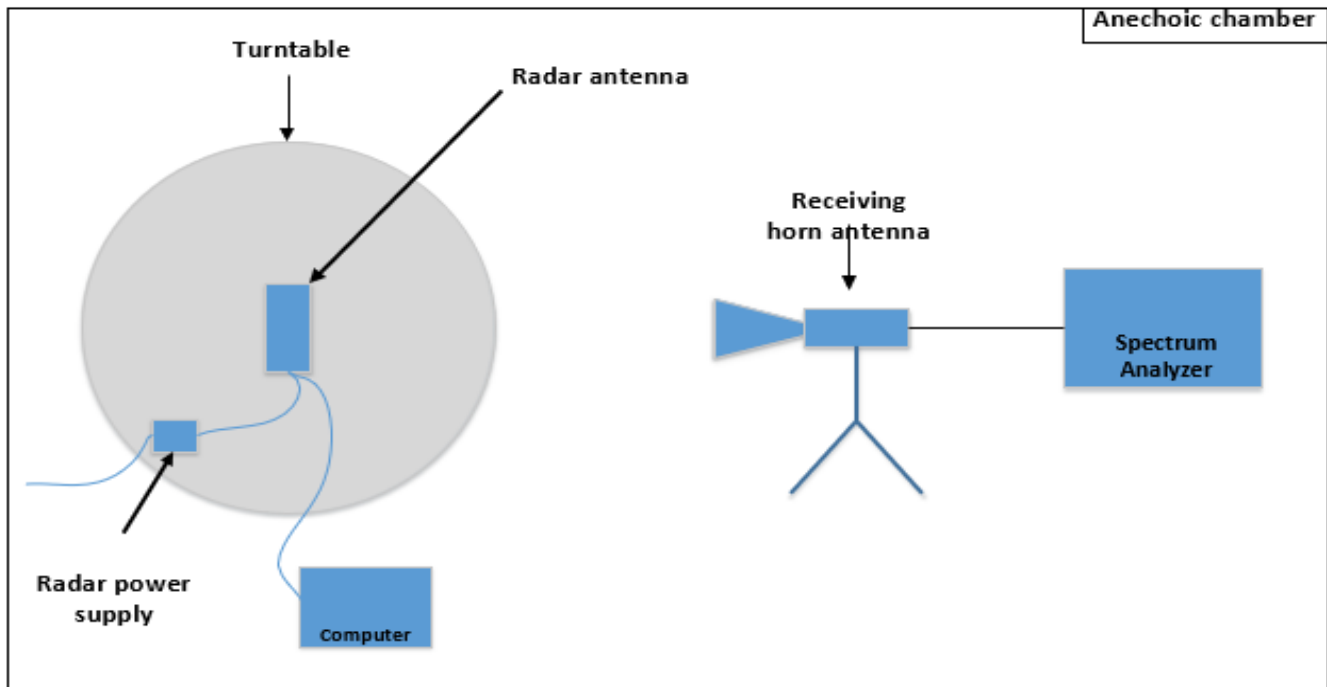
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Revision	Date	Description	Revised By
N/C	#####	Initial Release	Mathew Santiago

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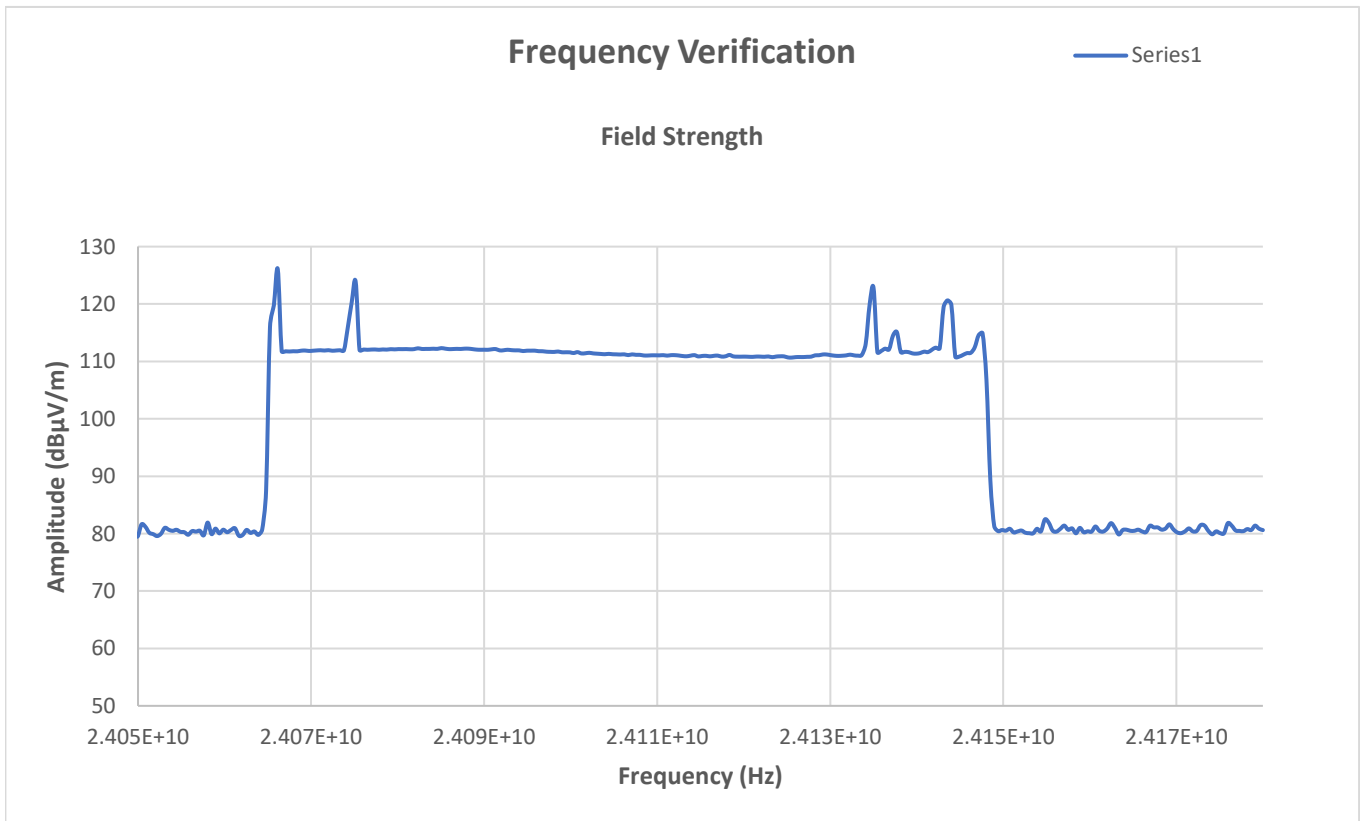
Test Setup Diagram



Test Equipment Utilized

Description	Manufacturer	Model #	Serial #	Asset #	Cal. Due Date
EMC Analyzer	Agilent	E7405	US40240238	EB046	1/29/2026
DRG Horn Antenna	ETS Lindgren	3116	00026390	EE017	5/21/2026
Pre-Amplifier	Keystone Compliance	PA-1	0002	EG003	6/30/2026
Turntable Controller	EMCO	1061.2.013	9401-1717	EI009	UWCE

Frequency Measurements:



Frequency Verification					
Nominal Frequency Range (GHz)	Measured Center Frequency (GHz)	Measured Frequency Bandwidth @ 20dB (MHz)	Amplitude (dBµV)	Bandwidth Limit (MHz)	Results
24.075-24.175	24.107	82.8	126.06	84.7 +/- 4.8	PASS



Report No.: 2403-267EA

Revision: N/C

**Radar Sensor Calibration Verification
Certificate of Calibration**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x0004EB26**

**Description:
Radar Characteristics Validation
In compliance with:
SMS UMRR-11 T44 / UMRR-12 T48 RADAR QUALIFICATION USING SPECRA**

Date of Issue: November 11, 2025

Owner of EUT: Verra Mobility
1150 N. Alma School Rd
Mesa, AZ 85201

Attention of: Engineering Department
Phone: (480) 443-7000

Test Facility	
Test Laboratory	Applus+ Keystone
Address	131 North Columbus Innerbelt
City, State, Zip Code	New Castle, PA 16101
Email	questions@keystonecompliance.com
Web Site	www.keystonecompliance.com

Test Personnel	
Name	Mathew Santiago
Title	EMC Test Engineer
Signature	

**Radar Sensor Calibration Verification
Certificate of Calibration**

Model: UMRR-11 T44

Part Number / Serial Number:

0x0004EB26

Date of Issue: November 11, 2025

This speed measuring device has been tested and verified to be functioning in accordance with the manufacture's specifications.

The frequency measurements performed and reported within this report demonstrate that the SmartMicro UMRR-11 T44 radar system has an accuracy of less than or equal to 1 mph up to 100 mph and 1% accuracy thereafter up to 199 mph maximum.

FSK Frequency Set 1					
Nominal Frequency Range (GHz)	Measured Center Frequency (GHz)	Measured Frequency Bandwidth @ 20dB (MHz)	Amplitude (dBμV)	Bandwidth Limit (MHz)	Results
24.075-24.175	24.107	82.8	126.06	84.7 +/- 4.8	PASS

**Radar Sensor Calibration Verification
Test Report**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x0004EC42**


**Description:
Radar Characteristics Validation
In compliance with:
SMS UMRR-11 T44 / UMRR-12 T48 RADAR QUALIFICATION USING SPECRA**

Date of Issue: November 11, 2025

Owner of EUT: Verra Mobility
1150 N. Alma School Rd
Mesa, AZ 85201

Attention of: Engineering Department
Phone: (480) 443-7000

Test Facility	
Test Laboratory	Applus + Keystone
Address	131 North Columbus Innerbelt
City, State, Zip Code	New Castle, PA 16101
Email	questions@keystonecompliance.com
Web Site	www.keystonecompliance.com

Test Personnel	
Name	Mathew Santiago
Title	EMC Test Engineer
Signature	

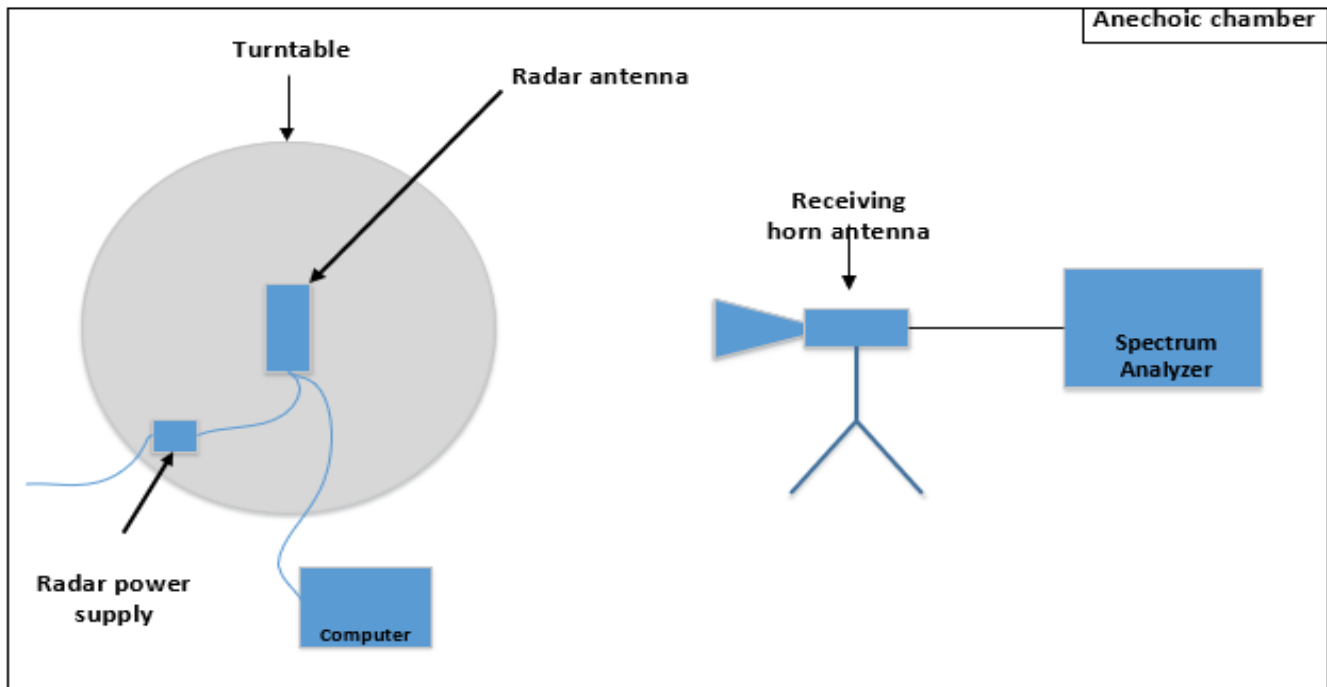
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Revision	Date	Description	Revised By
N/C	#####	Initial Release	Mathew Santiago

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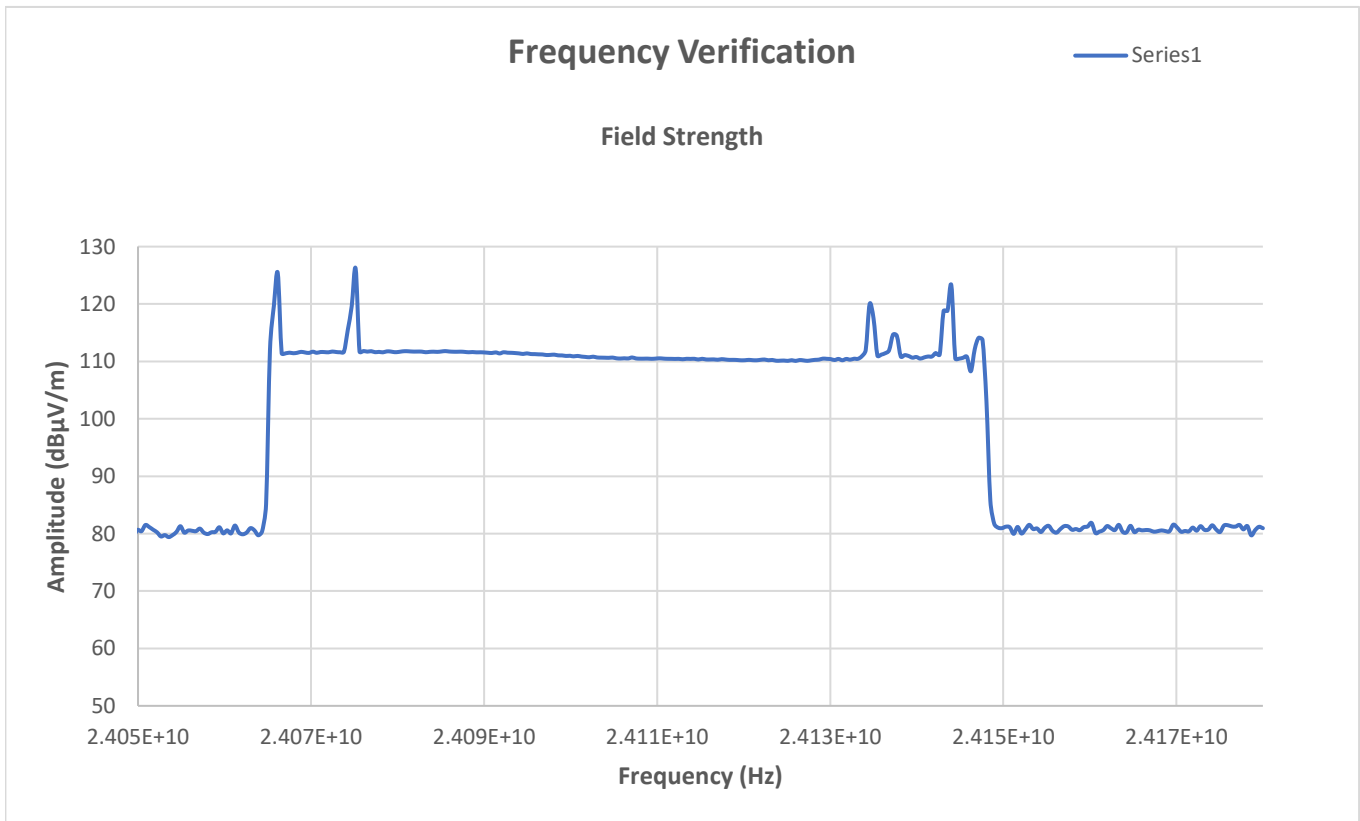
Test Setup Diagram



Test Equipment Utilized

Description	Manufacturer	Model #	Serial #	Asset #	Cal. Due Date
EMC Analyzer	Agilent	E7405	US40240238	EB046	1/29/2026
DRG Horn Antenna	ETS Lindgren	3116	00026390	EE017	5/21/2026
Pre-Amplifier	Keystone Compliance	PA-1	0002	EG003	6/30/2026
Turntable Controller	EMCO	1061.2.013	9401-1717	EI009	UWCE

Frequency Measurements:



Frequency Verification					
Nominal Frequency Range (GHz)	Measured Center Frequency (GHz)	Measured Frequency Bandwidth @ 20dB (MHz)	Amplitude (dBµV)	Bandwidth Limit (MHz)	Results
24.075-24.175	24.107	82.8	126.17	84.7 +/- 4.8	PASS



Report No.: 2403-267EA

Revision: N/C

**Radar Sensor Calibration Verification
Certificate of Calibration**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x0004EC42**

**Description:
Radar Characteristics Validation
In compliance with:
SMS UMRR-11 T44 / UMRR-12 T48 RADAR QUALIFICATION USING SPECRA**

Date of Issue: November 11, 2025

Owner of EUT: Verra Mobility
1150 N. Alma School Rd
Mesa, AZ 85201

Attention of: Engineering Department
Phone: (480) 443-7000

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Address	131 North Columbus Innerbelt
City, State, Zip Code	New Castle, PA 16101
Email	questions@keystonecompliance.com
Web Site	www.keystonecompliance.com

Test Personnel	
Name	Mathew Santiago
Title	EMC Test Engineer
Signature	

**Radar Sensor Calibration Verification
Certificate of Calibration**

Model: UMRR-11 T44

Part Number / Serial Number:

0x0004EC42

Date of Issue: November 11, 2025

This speed measuring device has been tested and verified to be functioning in accordance with the manufacture's specifications.

The frequency measurements performed and reported within this report demonstrate that the SmartMicro UMRR-11 T44 radar system has an accuracy of less than or equal to 1 mph up to 100 mph and 1% accuracy thereafter up to 199 mph maximum.

FSK Frequency Set 1					
Nominal Frequency Range (GHz)	Measured Center Frequency (GHz)	Measured Frequency Bandwidth @ 20dB (MHz)	Amplitude (dBμV)	Bandwidth Limit (MHz)	Results
24.075-24.175	24.107	82.8	126.17	84.7 +/- 4.8	PASS

**Radar Sensor Calibration Verification
Test Report**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x0004ED39**


**Description:
Radar Characteristics Validation
In compliance with:
SMS UMRR-11 T44 / UMRR-12 T48 RADAR QUALIFICATION USING SPECRA**

Date of Issue: November 11, 2025

Owner of EUT: Verra Mobility
1150 N. Alma School Rd
Mesa, AZ 85201

Attention of: Engineering Department
Phone: (480) 443-7000

Test Facility	
Test Laboratory	Applus + Keystone
Address	131 North Columbus Innerbelt
City, State, Zip Code	New Castle, PA 16101
Email	questions@keystonecompliance.com
Web Site	www.keystonecompliance.com

Test Personnel	
Name	Mathew Santiago
Title	EMC Test Engineer
Signature	

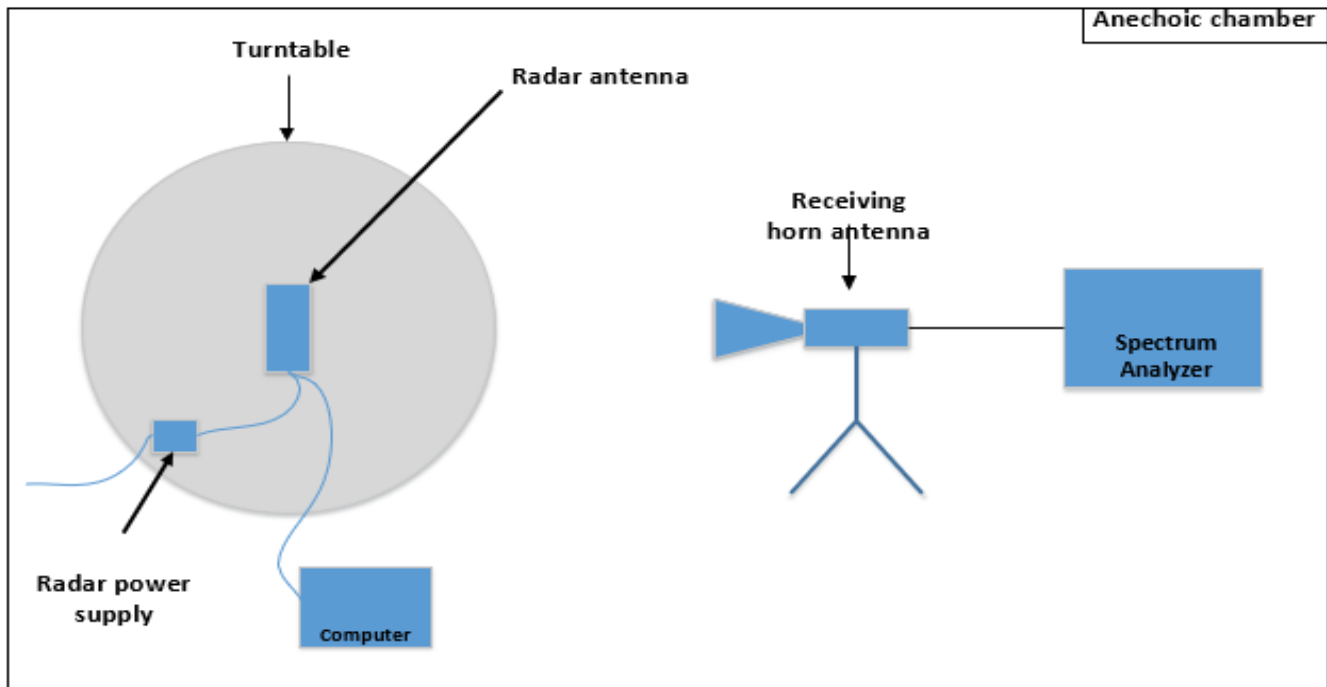
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Revision	Date	Description	Revised By
N/C	#####	Initial Release	Mathew Santiago

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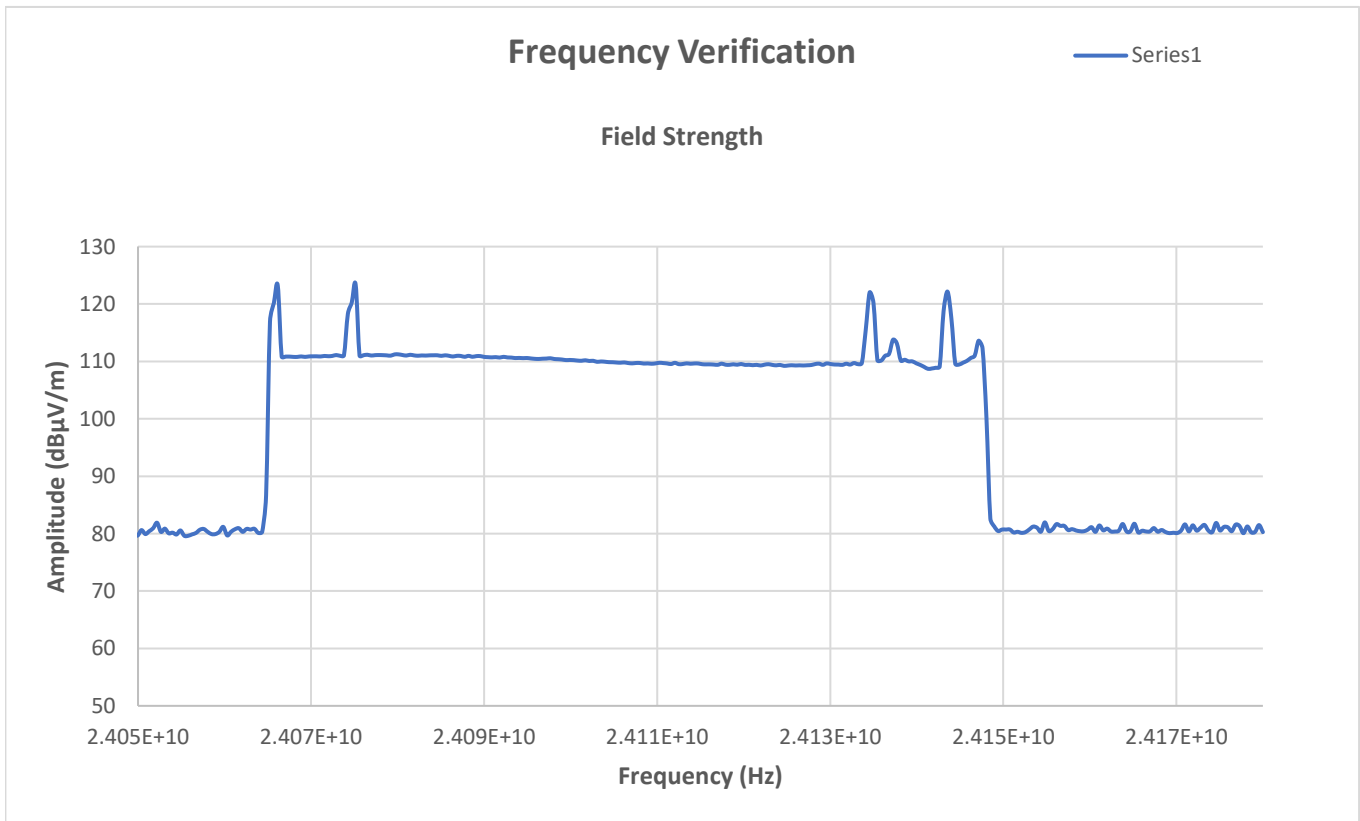
Test Setup Diagram



Test Equipment Utilized

Description	Manufacturer	Model #	Serial #	Asset #	Cal. Due Date
EMC Analyzer	Agilent	E7405	US40240238	EB046	1/29/2026
DRG Horn Antenna	ETS Lindgren	3116	00026390	EE017	5/21/2026
Pre-Amplifier	Keystone Compliance	PA-1	0002	EG003	6/30/2026
Turntable Controller	EMCO	1061.2.013	9401-1717	EI009	UWCE

Frequency Measurements:



Frequency Verification					
Nominal Frequency Range (GHz)	Measured Center Frequency (GHz)	Measured Frequency Bandwidth @ 20dB (MHz)	Amplitude (dBµV)	Bandwidth Limit (MHz)	Results
24.075-24.175	24.107	82.8	123.40	84.7 +/- 4.8	PASS

**Radar Sensor Calibration Verification
Certificate of Calibration**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x0004ED39**

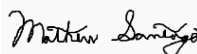
**Description:
Radar Characteristics Validation
In compliance with:
SMS UMRR-11 T44 / UMRR-12 T48 RADAR QUALIFICATION USING SPECRA**

Date of Issue: November 11, 2025

Owner of EUT: Verra Mobility
1150 N. Alma School Rd
Mesa, AZ 85201

Attention of: Engineering Department
Phone: (480) 443-7000

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Address	131 North Columbus Innerbelt
City, State, Zip Code	New Castle, PA 16101
Email	questions@keystonecompliance.com
Web Site	www.keystonecompliance.com

Test Personnel	
Name	Mathew Santiago
Title	EMC Test Engineer
Signature	

**Radar Sensor Calibration Verification
Certificate of Calibration**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x0004ED39**

Date of Issue: November 11, 2025

This speed measuring device has been tested and verified to be functioning in accordance with the manufacture’s specifications.

The frequency measurements performed and reported within this report demonstrate that the SmartMicro UMRR-11 T44 radar system has an accuracy of less than or equal to 1 mph up to 100 mph and 1% accuracy thereafter up to 199 mph maximum.

FSK Frequency Set 1					
Nominal Frequency Range (GHz)	Measured Center Frequency (GHz)	Measured Frequency Bandwidth @ 20dB (MHz)	Amplitude (dBμV)	Bandwidth Limit (MHz)	Results
24.075-24.175	24.107	82.8	123.40	84.7 +/- 4.8	PASS

Radar Sensor Calibration Verification Test Report

Model: UMRR-11 T44

**Part Number / Serial Number:
0x0004ED2F**


**Description:
Radar Characteristics Validation
In compliance with:
SMS UMRR-11 T44 / UMRR-12 T48 RADAR QUALIFICATION USING SPECRA**

Date of Issue: November 11, 2025

Owner of EUT: Verra Mobility
1150 N. Alma School Rd
Mesa, AZ 85201

Attention of: Engineering Department
Phone: (480) 443-7000

Test Facility	
Test Laboratory	Applus + Keystone
Address	131 North Columbus Innerbelt
City, State, Zip Code	New Castle, PA 16101
Email	questions@keystonecompliance.com
Web Site	www.keystonecompliance.com

Test Personnel	
Name	Mathew Santiago
Title	EMC Test Engineer
Signature	

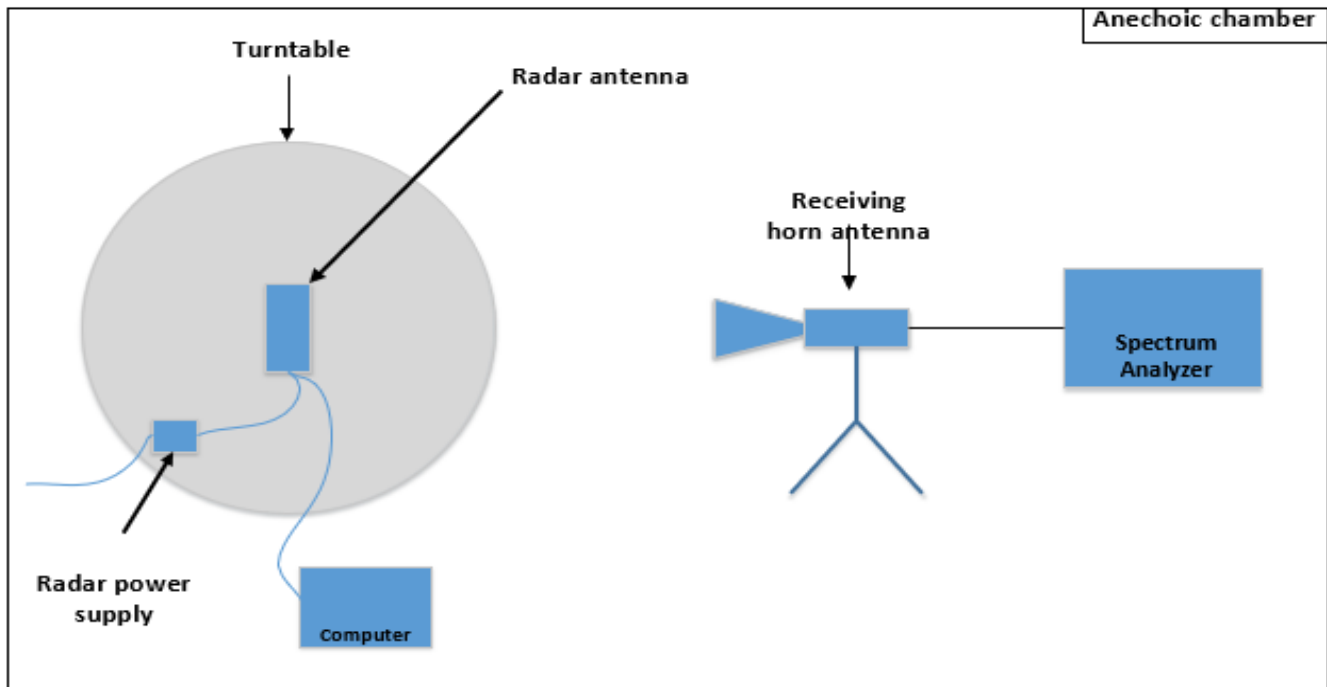
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Revision	Date	Description	Revised By
N/C	#####	Initial Release	Mathew Santiago

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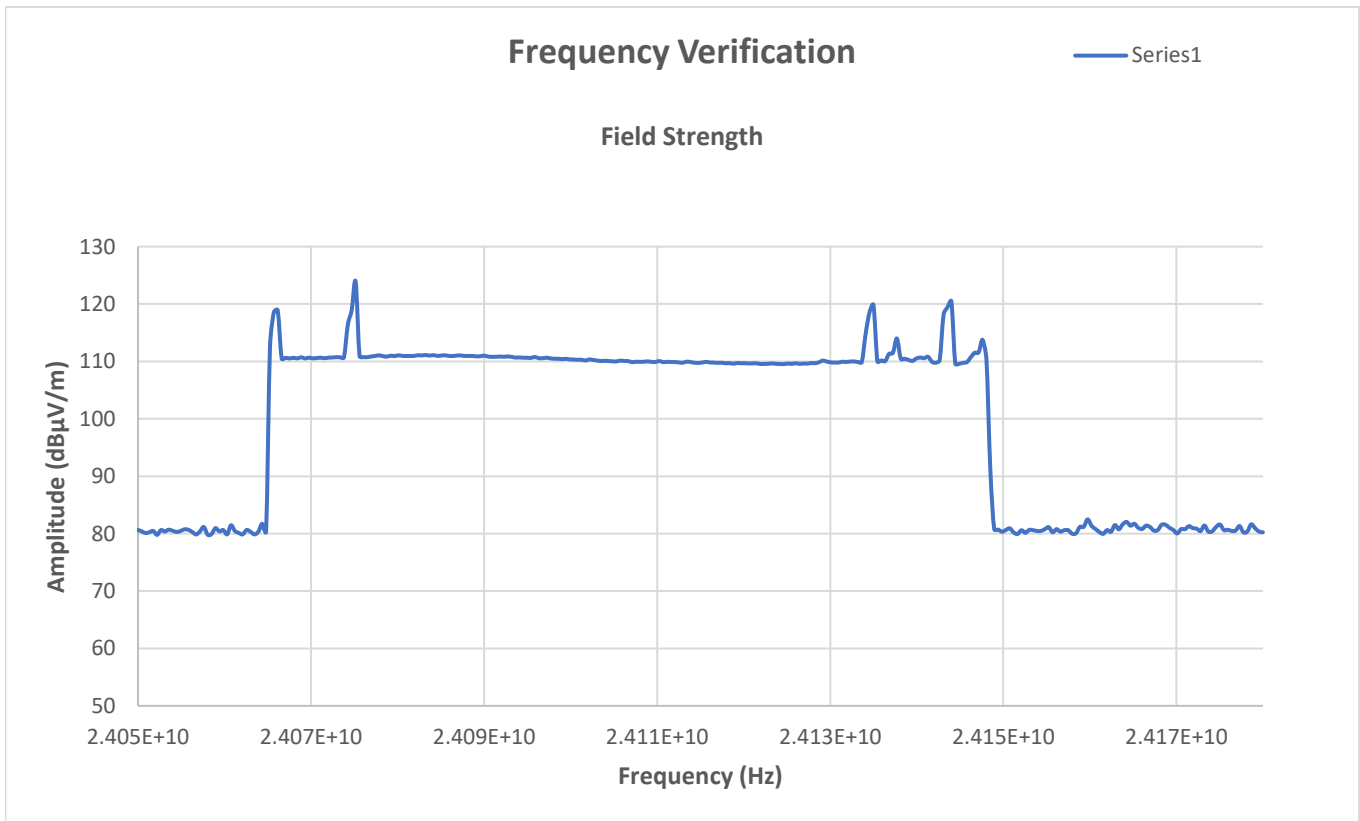
Test Setup Diagram



Test Equipment Utilized

Description	Manufacturer	Model #	Serial #	Asset #	Cal. Due Date
EMC Analyzer	Agilent	E7405	US40240238	EB046	1/29/2026
DRG Horn Antenna	ETS Lindgren	3116	00026390	EE017	5/21/2026
Pre-Amplifier	Keystone Compliance	PA-1	0002	EG003	6/30/2026
Turntable Controller	EMCO	1061.2.013	9401-1717	EI009	UWCE

Frequency Measurements:



Frequency Verification					
Nominal Frequency Range (GHz)	Measured Center Frequency (GHz)	Measured Frequency Bandwidth @ 20dB (MHz)	Amplitude (dBµV)	Bandwidth Limit (MHz)	Results
24.075-24.175	24.107	82.8	123.88	84.7 +/- 4.8	PASS



Report No.: 2403-267EA

Revision: N/C

**Radar Sensor Calibration Verification
Certificate of Calibration**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x0004ED2F**


**Description:
Radar Characteristics Validation
In compliance with:
SMS UMRR-11 T44 / UMRR-12 T48 RADAR QUALIFICATION USING SPECRA**

Date of Issue: November 11, 2025

Owner of EUT: Verra Mobility
1150 N. Alma School Rd
Mesa, AZ 85201

Attention of: Engineering Department
Phone: (480) 443-7000

Test Facility	
Test Laboratory	Applus+ Keystone
Address	131 North Columbus Innerbelt
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Email	questions@keystonecompliance.com
Web Site	www.keystonecompliance.com

Test Personnel	
Name	Mathew Santiago
Title	EMC Test Engineer
Signature	

**Radar Sensor Calibration Verification
Certificate of Calibration**

Model: UMRR-11 T44

Part Number / Serial Number:

0x0004ED2F

Date of Issue: November 11, 2025

This speed measuring device has been tested and verified to be functioning in accordance with the manufacture’s specifications.

The frequency measurements performed and reported within this report demonstrate that the SmartMicro UMRR-11 T44 radar system has an accuracy of less than or equal to 1 mph up to 100 mph and 1% accuracy thereafter up to 199 mph maximum.

FSK Frequency Set 1					
Nominal Frequency Range (GHz)	Measured Center Frequency (GHz)	Measured Frequency Bandwidth @ 20dB (MHz)	Amplitude (dBμV)	Bandwidth Limit (MHz)	Results
24.075-24.175	24.107	82.8	123.88	84.7 +/- 4.8	PASS

**Radar Sensor Calibration Verification
Test Report**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x0004ED34**


**Description:
Radar Characteristics Validation
In compliance with:
SMS UMRR-11 T44 / UMRR-12 T48 RADAR QUALIFICATION USING SPECRA**

Date of Issue: November 11, 2025

Owner of EUT: Verra Mobility
1150 N. Alma School Rd
Mesa, AZ 85201

Attention of: Engineering Department
Phone: (480) 443-7000

Test Facility	
Test Laboratory	Applus + Keystone
Address	131 North Columbus Innerbelt
City, State, Zip Code	New Castle, PA 16101
Email	questions@keystonecompliance.com
Web Site	www.keystonecompliance.com

Test Personnel	
Name	Mathew Santiago
Title	EMC Test Engineer
Signature	

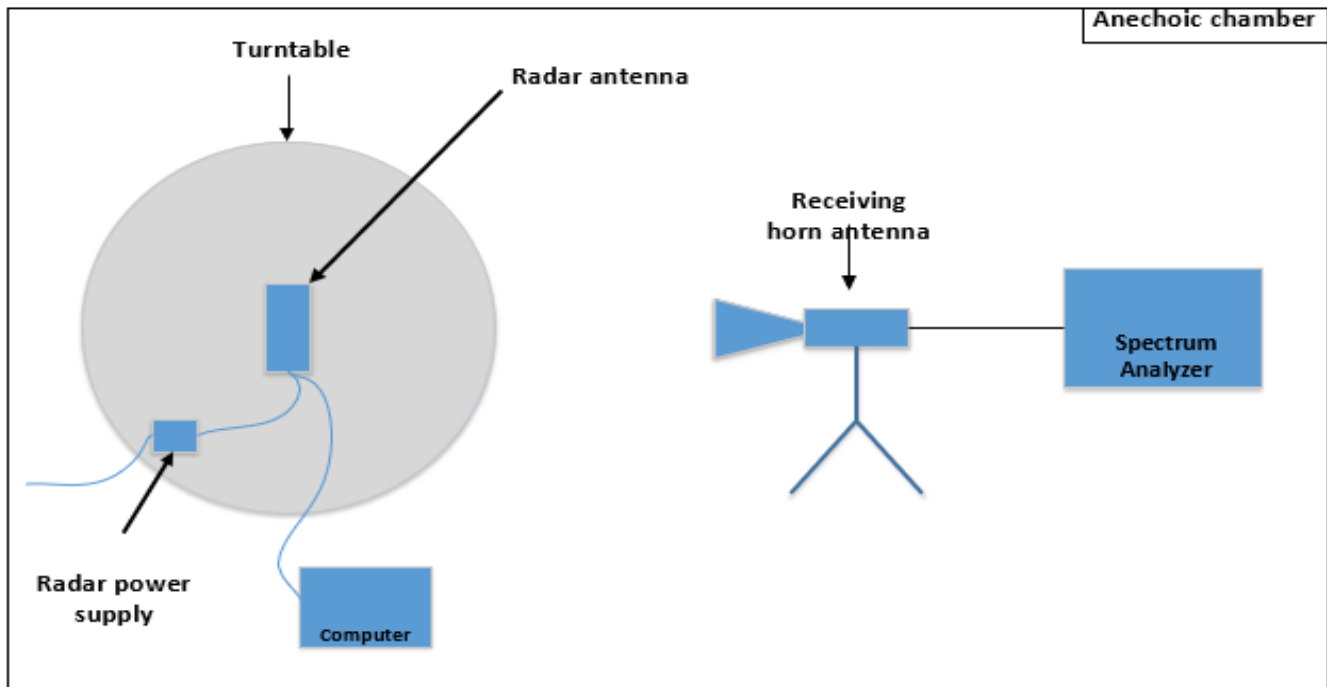
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Revision	Date	Description	Revised By
N/C	#####	Initial Release	Mathew Santiago

Contents

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Test Equipment Utilized.....	4
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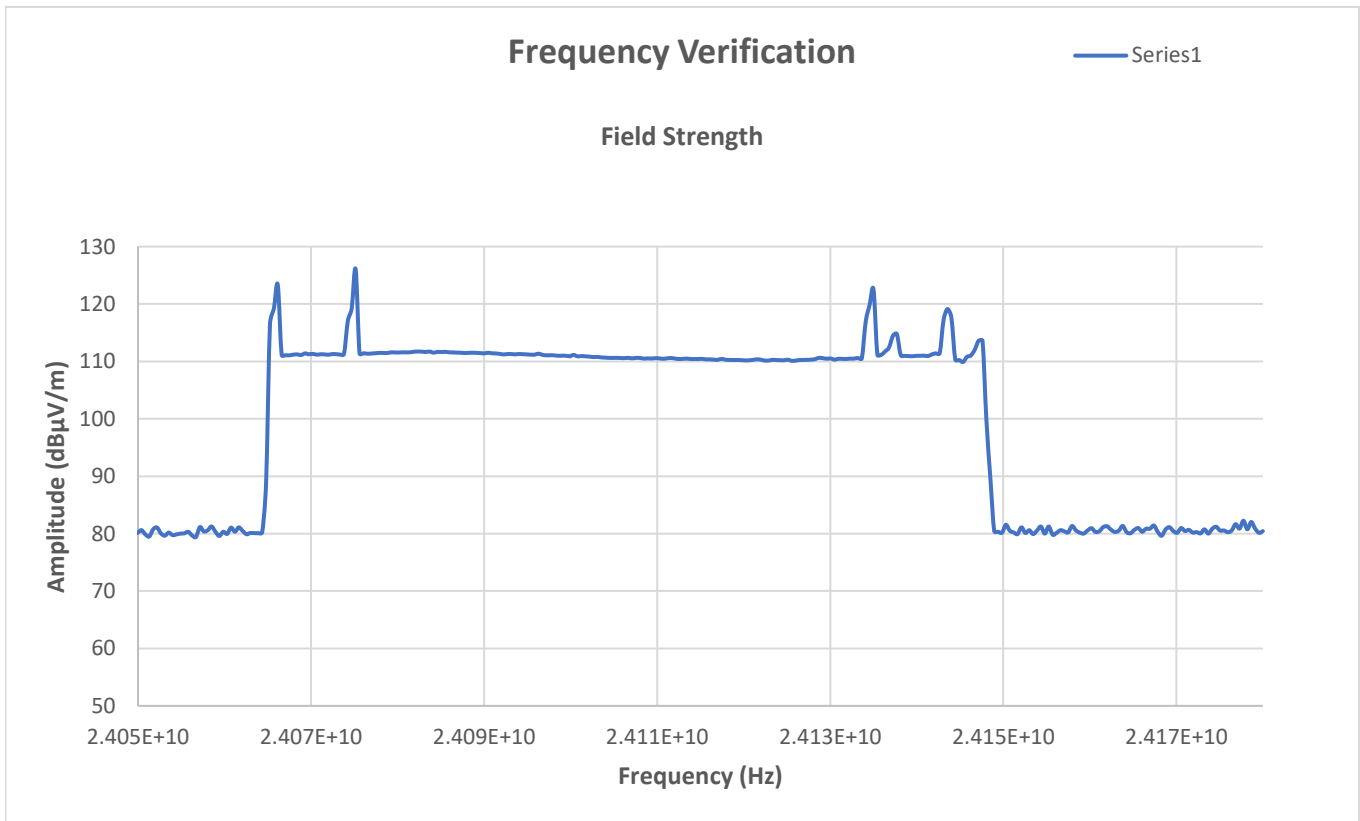
Test Setup Diagram



Test Equipment Utilized

Description	Manufacturer	Model #	Serial #	Asset #	Cal. Due Date
EMC Analyzer	Agilent	E7405	US40240238	EB046	1/29/2026
DRG Horn Antenna	ETS Lindgren	3116	00026390	EE017	5/21/2026
Pre-Amplifier	Keystone Compliance	PA-1	0002	EG003	6/30/2026
Turntable Controller	EMCO	1061.2.013	9401-1717	EI009	UWCE

Frequency Measurements:



Frequency Verification					
Nominal Frequency Range (GHz)	Measured Center Frequency (GHz)	Measured Frequency Bandwidth @ 20dB (MHz)	Amplitude (dBµV)	Bandwidth Limit (MHz)	Results
24.075-24.175	24.106	82.4	126.04	84.7 +/- 4.8	PASS

**Radar Sensor Calibration Verification
Certificate of Calibration**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x0004ED34**

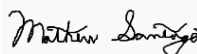
**Description:
Radar Characteristics Validation
In compliance with:
SMS UMRR-11 T44 / UMRR-12 T48 RADAR QUALIFICATION USING SPECRA**

Date of Issue: November 11, 2025

Owner of EUT: Verra Mobility
1150 N. Alma School Rd
Mesa, AZ 85201

Attention of: Engineering Department
Phone: (480) 443-7000

Test Facility	
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Address	131 North Columbus Innerbelt
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Email	questions@keystonecompliance.com
Web Site	www.keystonecompliance.com

Test Personnel	
Name	Mathew Santiago
Title	EMC Test Engineer
Signature	

**Radar Sensor Calibration Verification
Certificate of Calibration**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x0004ED34**

Date of Issue: November 11, 2025

This speed measuring device has been tested and verified to be functioning in accordance with the manufacture’s specifications.

The frequency measurements performed and reported within this report demonstrate that the SmartMicro UMRR-11 T44 radar system has an accuracy of less than or equal to 1 mph up to 100 mph and 1% accuracy thereafter up to 199 mph maximum.

FSK Frequency Set 1					
Nominal Frequency Range (GHz)	Measured Center Frequency (GHz)	Measured Frequency Bandwidth @ 20dB (MHz)	Amplitude (dBμV)	Bandwidth Limit (MHz)	Results
24.075-24.175	24.106	82.4	126.04	84.7 +/- 4.8	PASS

Radar Sensor Calibration Verification Test Report

Model: UMRR-11 T44

**Part Number / Serial Number:
0x0004ED2E**


**Description:
Radar Characteristics Validation
In compliance with:
SMS UMRR-11 T44 / UMRR-12 T48 RADAR QUALIFICATION USING SPECRA**

Date of Issue: November 11, 2025

Owner of EUT: Verra Mobility
1150 N. Alma School Rd
Mesa, AZ 85201

Attention of: Engineering Department
Phone: (480) 443-7000

Test Facility	
Test Laboratory	Applus + Keystone
Address	131 North Columbus Innerbelt
City, State, Zip Code	New Castle, PA 16101
Email	questions@keystonecompliance.com
Web Site	www.keystonecompliance.com

Test Personnel	
Name	Mathew Santiago
Title	EMC Test Engineer
Signature	

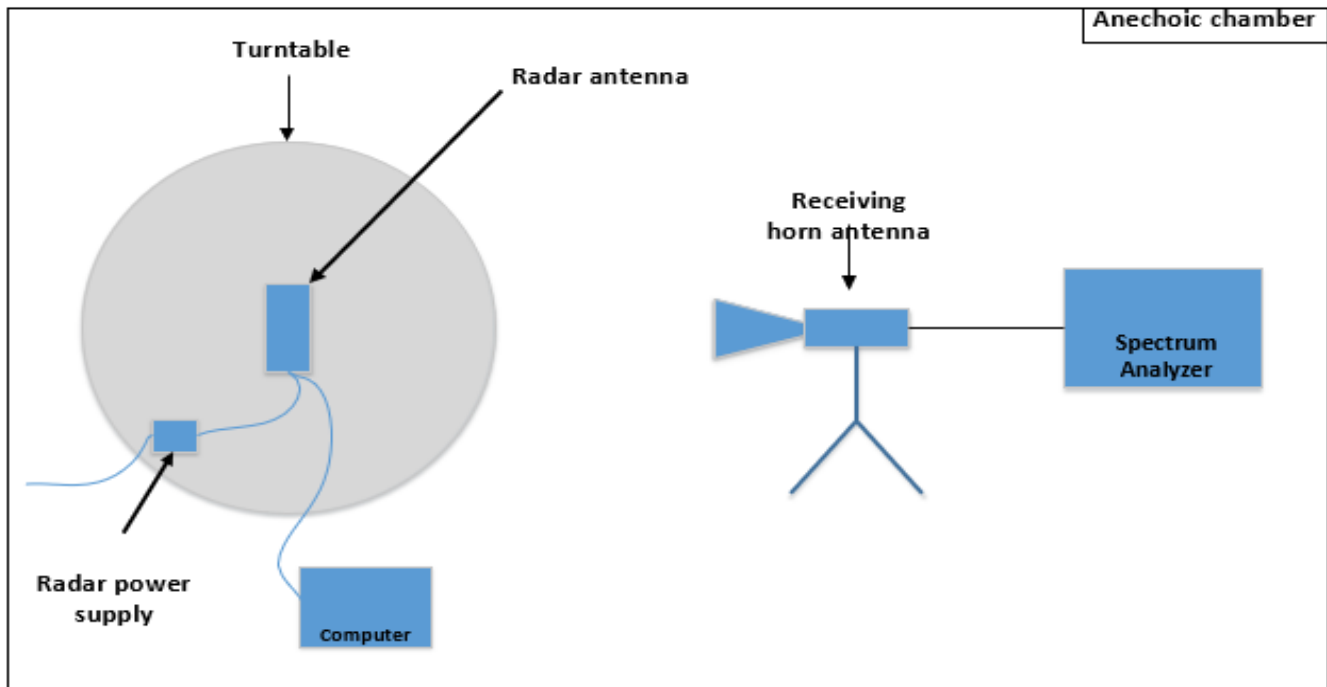
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Revision	Date	Description	Revised By
N/C	#####	Initial Release	Mathew Santiago

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Test Equipment Utilized.....	4
Frequency Characteristics Test Results.....	5

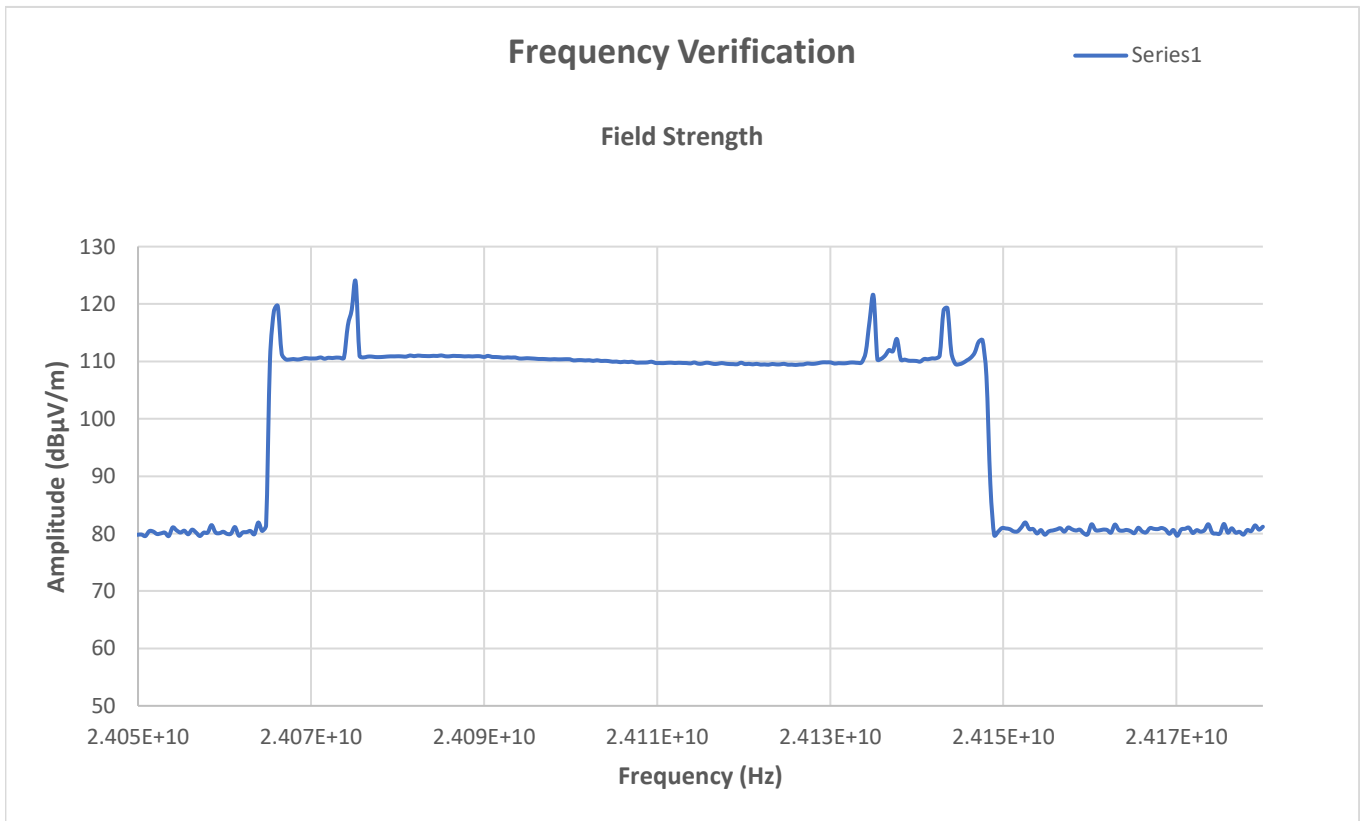
Test Setup Diagram



Test Equipment Utilized

Description	Manufacturer	Model #	Serial #	Asset #	Cal. Due Date
EMC Analyzer	Agilent	E7405	US40240238	EB046	1/29/2026
DRG Horn Antenna	ETS Lindgren	3116	00026390	EE017	5/21/2026
Pre-Amplifier	Keystone Compliance	PA-1	0002	EG003	6/30/2026
Turntable Controller	EMCO	1061.2.013	9401-1717	EI009	UWCE

Frequency Measurements:



Frequency Verification					
Nominal Frequency Range (GHz)	Measured Center Frequency (GHz)	Measured Frequency Bandwidth @ 20dB (MHz)	Amplitude (dBµV)	Bandwidth Limit (MHz)	Results
24.075-24.175	24.107	82.8	123.91	84.7 +/- 4.8	PASS



Report No.: 2403-267EA

Revision: N/C

**Radar Sensor Calibration Verification
Certificate of Calibration**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x0004ED2E**

**Description:
Radar Characteristics Validation
In compliance with:
SMS UMRR-11 T44 / UMRR-12 T48 RADAR QUALIFICATION USING SPECRA**

Date of Issue: November 11, 2025

Owner of EUT: Verra Mobility
1150 N. Alma School Rd
Mesa, AZ 85201

Attention of: Engineering Department
Phone: (480) 443-7000

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Email	questions@keystonecompliance.com
Web Site	www.keystonecompliance.com

Test Personnel	
Name	Mathew Santiago
Title	EMC Test Engineer
Signature	

**Radar Sensor Calibration Verification
Certificate of Calibration**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x0004ED2E**

Date of Issue: November 11, 2025

This speed measuring device has been tested and verified to be functioning in accordance with the manufacture’s specifications.

The frequency measurements performed and reported within this report demonstrate that the SmartMicro UMRR-11 T44 radar system has an accuracy of less than or equal to 1 mph up to 100 mph and 1% accuracy thereafter up to 199 mph maximum.

FSK Frequency Set 1					
Nominal Frequency Range (GHz)	Measured Center Frequency (GHz)	Measured Frequency Bandwidth @ 20dB (MHz)	Amplitude (dBμV)	Bandwidth Limit (MHz)	Results
24.075-24.175	24.107	82.8	123.91	84.7 +/- 4.8	PASS

Radar Sensor Calibration Verification Test Report

Model: UMRR-11 T44

**Part Number / Serial Number:
0x0004ED35**


**Description:
Radar Characteristics Validation
In compliance with:
SMS UMRR-11 T44 / UMRR-12 T48 RADAR QUALIFICATION USING SPECRA**

Date of Issue: November 11, 2025

Owner of EUT: Verra Mobility
1150 N. Alma School Rd
Mesa, AZ 85201

Attention of: Engineering Department
Phone: (480) 443-7000

Test Facility	
Test Laboratory	Applus + Keystone
Address	131 North Columbus Innerbelt
City, State, Zip Code	New Castle, PA 16101
Email	questions@keystonecompliance.com
Web Site	www.keystonecompliance.com

Test Personnel	
Name	Mathew Santiago
Title	EMC Test Engineer
Signature	

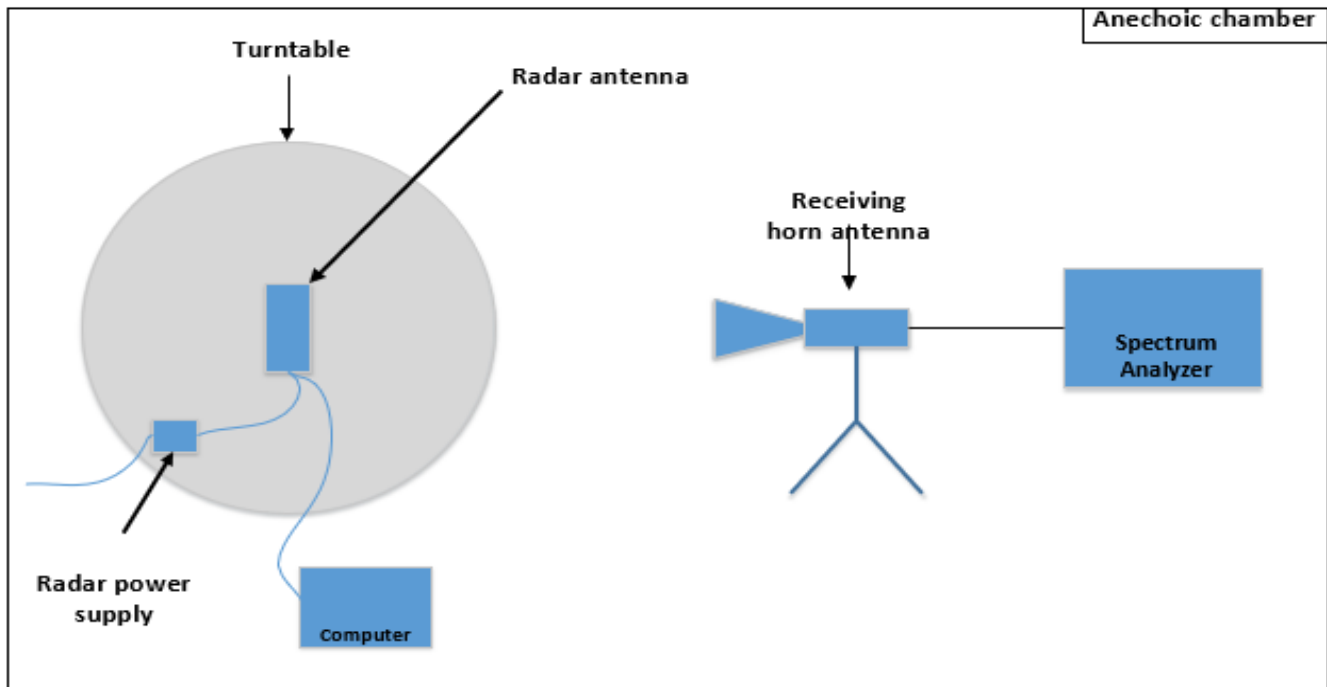
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Revision	Date	Description	Revised By
N/C	#####	Initial Release	Mathew Santiago

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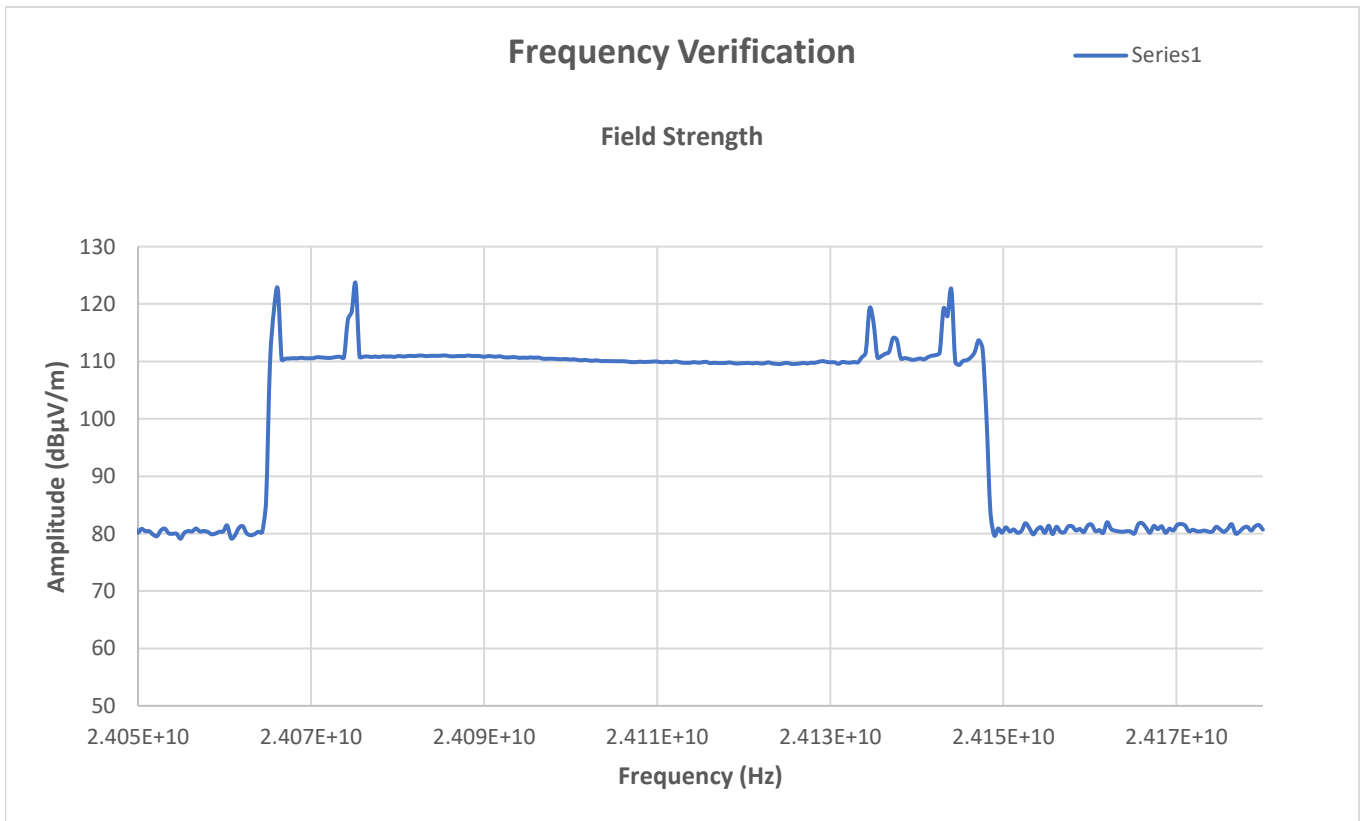
Test Setup Diagram



Test Equipment Utilized

Description	Manufacturer	Model #	Serial #	Asset #	Cal. Due Date
EMC Analyzer	Agilent	E7405	US40240238	EB046	1/29/2026
DRG Horn Antenna	ETS Lindgren	3116	00026390	EE017	5/21/2026
Pre-Amplifier	Keystone Compliance	PA-1	0002	EG003	6/30/2026
Turntable Controller	EMCO	1061.2.013	9401-1717	EI009	UWCE

Frequency Measurements:



Frequency Verification					
Nominal Frequency Range (GHz)	Measured Center Frequency (GHz)	Measured Frequency Bandwidth @ 20dB (MHz)	Amplitude (dBµV)	Bandwidth Limit (MHz)	Results
24.075-24.175	24.107	82.8	123.57	84.7 +/- 4.8	PASS

**Radar Sensor Calibration Verification
Certificate of Calibration**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x0004ED35**

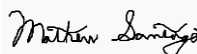
**Description:
Radar Characteristics Validation
In compliance with:
SMS UMRR-11 T44 / UMRR-12 T48 RADAR QUALIFICATION USING SPECRA**

Date of Issue: November 11, 2025

Owner of EUT: Verra Mobility
1150 N. Alma School Rd
Mesa, AZ 85201

Attention of: Engineering Department
Phone: (480) 443-7000

Test Facility	
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Address	131 North Columbus Innerbelt
City, State, Zip Code	New Castle, PA 16101
Email	questions@keystonecompliance.com
Web Site	www.keystonecompliance.com

Test Personnel	
Name	Mathew Santiago
Title	EMC Test Engineer
Signature	

**Radar Sensor Calibration Verification
Certificate of Calibration**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x0004ED35**

Date of Issue: November 11, 2025

This speed measuring device has been tested and verified to be functioning in accordance with the manufacture’s specifications.

The frequency measurements performed and reported within this report demonstrate that the SmartMicro UMRR-11 T44 radar system has an accuracy of less than or equal to 1 mph up to 100 mph and 1% accuracy thereafter up to 199 mph maximum.

FSK Frequency Set 1					
Nominal Frequency Range (GHz)	Measured Center Frequency (GHz)	Measured Frequency Bandwidth @ 20dB (MHz)	Amplitude (dBμV)	Bandwidth Limit (MHz)	Results
24.075-24.175	24.107	82.8	123.57	84.7 +/- 4.8	PASS

**Radar Sensor Calibration Verification
Test Report**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x0004EC45**


**Description:
Radar Characteristics Validation
In compliance with:
SMS UMRR-11 T44 / UMRR-12 T48 RADAR QUALIFICATION USING SPECRA**

Date of Issue: November 11, 2025

Owner of EUT: Verra Mobility
1150 N. Alma School Rd
Mesa, AZ 85201

Attention of: Engineering Department
Phone: (480) 443-7000

Test Facility	
Test Laboratory	Applus + Keystone
Address	131 North Columbus Innerbelt
City, State, Zip Code	New Castle, PA 16101
Email	questions@keystonecompliance.com
Web Site	www.keystonecompliance.com

Test Personnel	
Name	Mathew Santiago
Title	EMC Test Engineer
Signature	

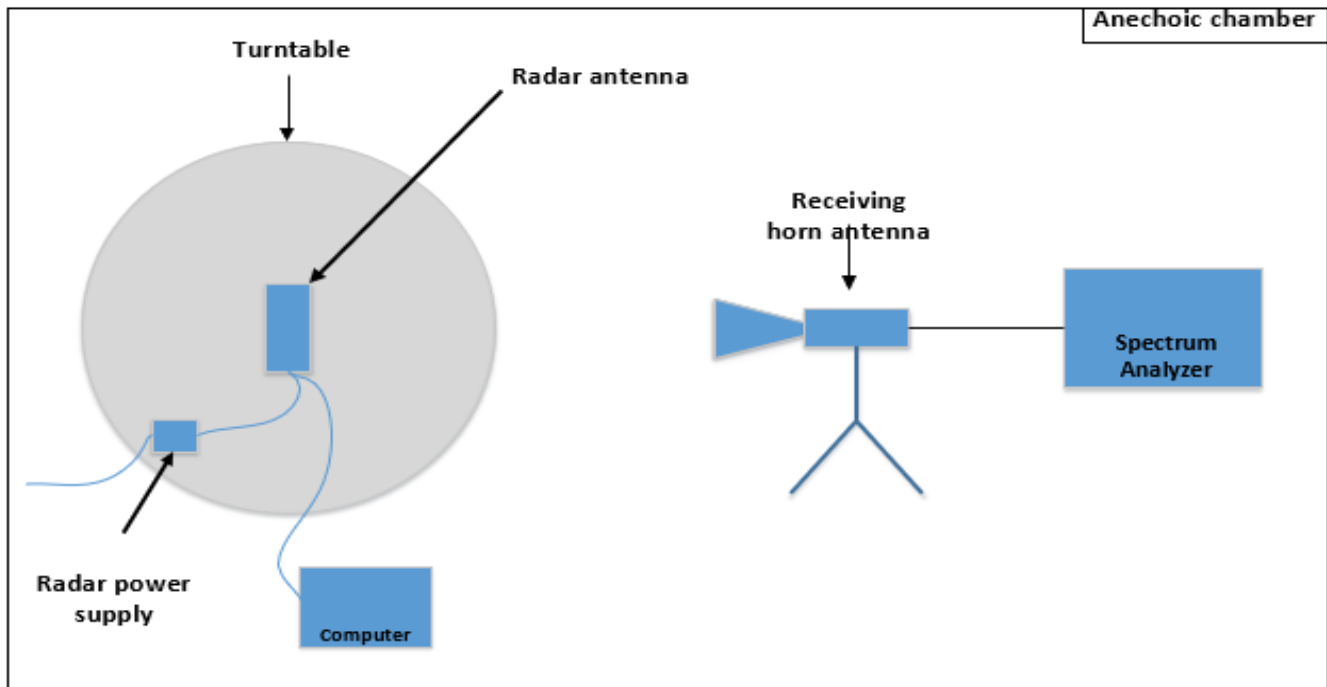
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Revision	Date	Description	Revised By
N/C	#####	Initial Release	Mathew Santiago

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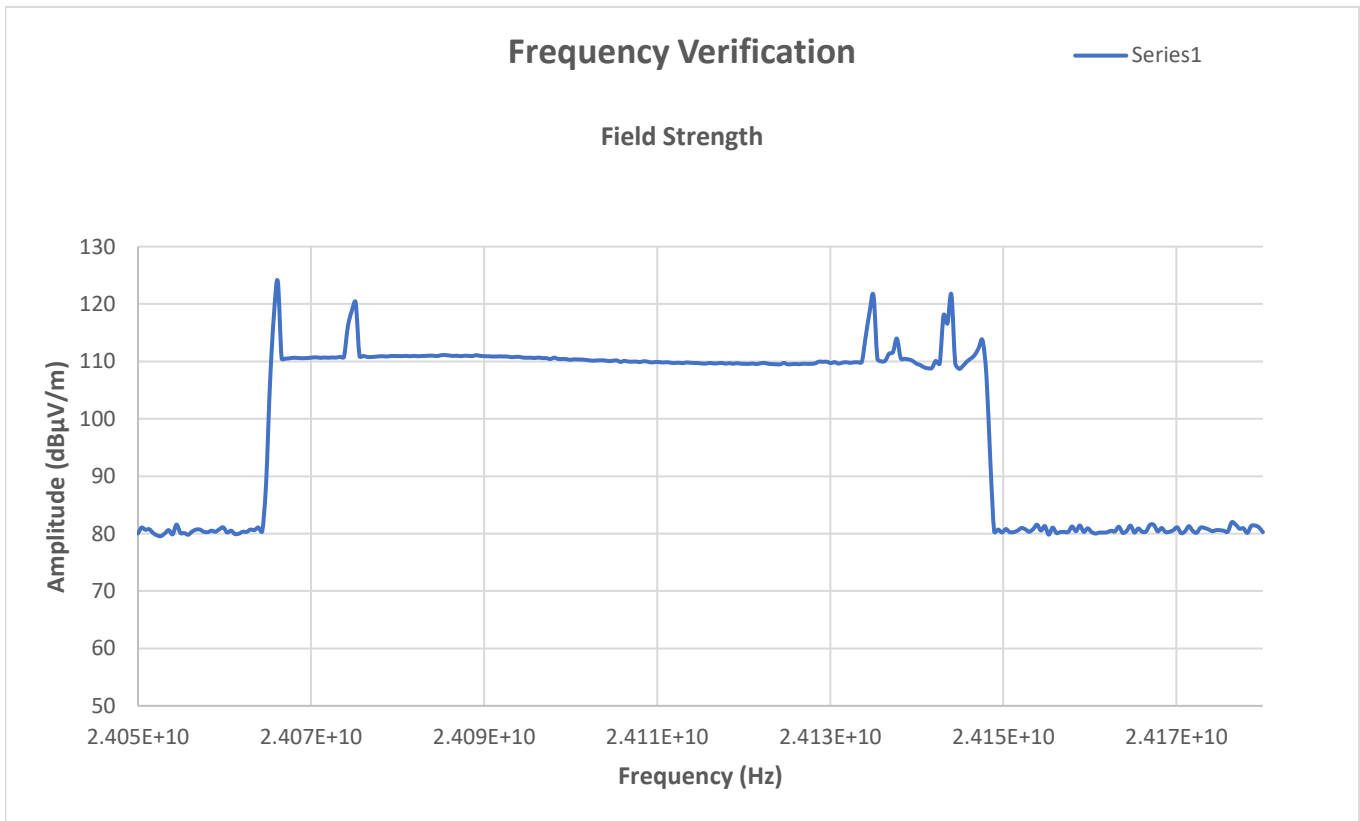
Test Setup Diagram



Test Equipment Utilized

Description	Manufacturer	Model #	Serial #	Asset #	Cal. Due Date
EMC Analyzer	Agilent	E7405	US40240238	EB046	1/29/2026
DRG Horn Antenna	ETS Lindgren	3116	00026390	EE017	5/21/2026
Pre-Amplifier	Keystone Compliance	PA-1	0002	EG003	6/30/2026
Turntable Controller	EMCO	1061.2.013	9401-1717	EI009	UWCE

Frequency Measurements:



Frequency Verification					
Nominal Frequency Range (GHz)	Measured Center Frequency (GHz)	Measured Frequency Bandwidth @ 20dB (MHz)	Amplitude (dBµV)	Bandwidth Limit (MHz)	Results
24.075-24.175	24.107	82.8	123.98	84.7 +/- 4.8	PASS



Report No.: 2403-267EA

Revision: N/C

**Radar Sensor Calibration Verification
Certificate of Calibration**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x0004EC45**

**Description:
Radar Characteristics Validation
In compliance with:
SMS UMRR-11 T44 / UMRR-12 T48 RADAR QUALIFICATION USING SPECRA**

Date of Issue: November 11, 2025

Owner of EUT: Verra Mobility
1150 N. Alma School Rd
Mesa, AZ 85201

Attention of: Engineering Department
Phone: (480) 443-7000

Test Facility	
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Address	131 North Columbus Innerbelt
City, State, Zip Code	New Castle, PA 16101
Email	questions@keystonecompliance.com
Web Site	www.keystonecompliance.com

Test Personnel	
Name	Mathew Santiago
Title	EMC Test Engineer
Signature	

**Radar Sensor Calibration Verification
Certificate of Calibration**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x0004EC45**

Date of Issue: November 11, 2025

This speed measuring device has been tested and verified to be functioning in accordance with the manufacture’s specifications.

The frequency measurements performed and reported within this report demonstrate that the SmartMicro UMRR-11 T44 radar system has an accuracy of less than or equal to 1 mph up to 100 mph and 1% accuracy thereafter up to 199 mph maximum.

FSK Frequency Set 1					
Nominal Frequency Range (GHz)	Measured Center Frequency (GHz)	Measured Frequency Bandwidth @ 20dB (MHz)	Amplitude (dBμV)	Bandwidth Limit (MHz)	Results
24.075-24.175	24.107	82.8	123.98	84.7 +/- 4.8	PASS

**Radar Sensor Calibration Verification
Test Report**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x0004EDC7**


**Description:
Radar Characteristics Validation
In compliance with:
SMS UMRR-11 T44 / UMRR-12 T48 RADAR QUALIFICATION USING SPECRA**

Date of Issue: November 11, 2025

Owner of EUT: Verra Mobility
1150 N. Alma School Rd
Mesa, AZ 85201

Attention of: Engineering Department
Phone: (480) 443-7000

Test Facility	
Test Laboratory	Applus + Keystone
Address	131 North Columbus Innerbelt
City, State, Zip Code	New Castle, PA 16101
Email	questions@keystonecompliance.com
Web Site	www.keystonecompliance.com

Test Personnel	
Name	Mathew Santiago
Title	EMC Test Engineer
Signature	

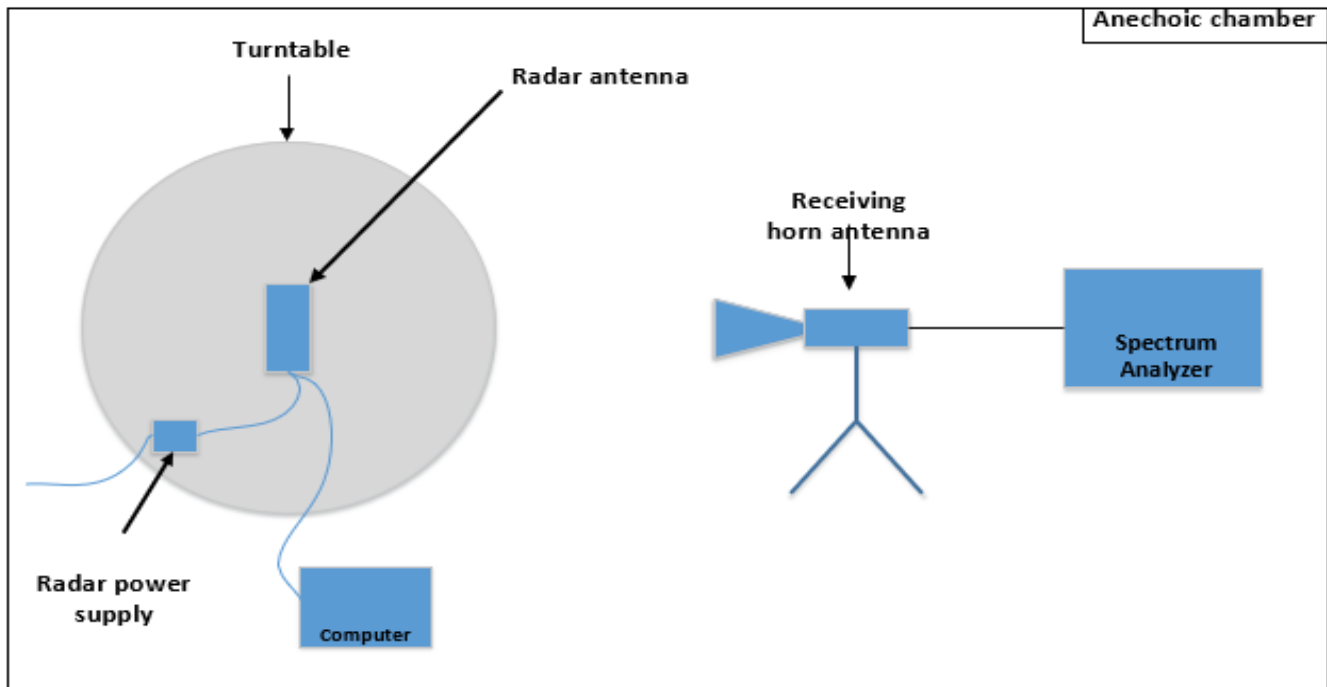
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Revision	Date	Description	Revised By
N/C	#####	Initial Release	Mathew Santiago

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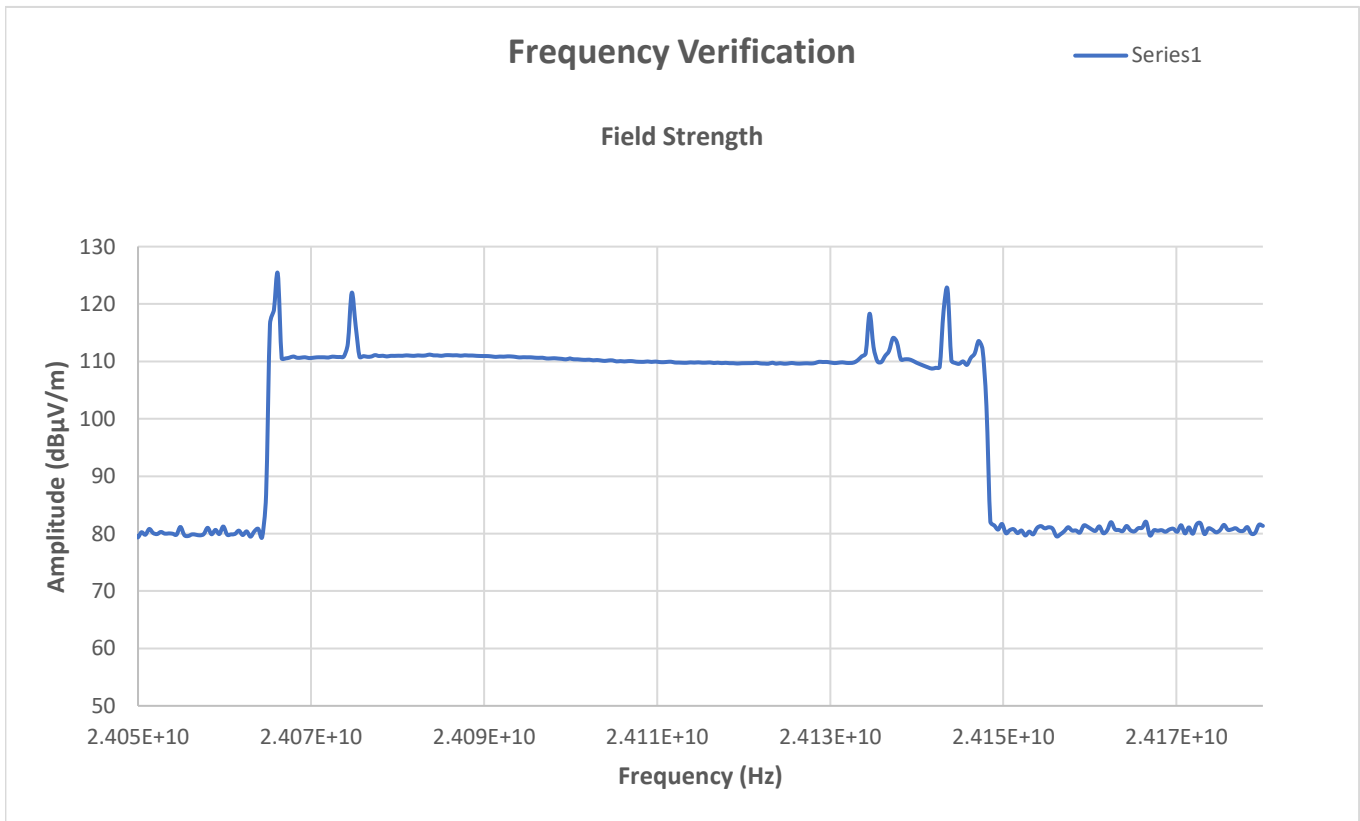
Test Setup Diagram



Test Equipment Utilized

Description	Manufacturer	Model #	Serial #	Asset #	Cal. Due Date
EMC Analyzer	Agilent	E7405	US40240238	EB046	1/29/2026
DRG Horn Antenna	ETS Lindgren	3116	00026390	EE017	5/21/2026
Pre-Amplifier	Keystone Compliance	PA-1	0002	EG003	6/30/2026
Turntable Controller	EMCO	1061.2.013	9401-1717	EI009	UWCE

Frequency Measurements:



Frequency Verification					
Nominal Frequency Range (GHz)	Measured Center Frequency (GHz)	Measured Frequency Bandwidth @ 20dB (MHz)	Amplitude (dBµV)	Bandwidth Limit (MHz)	Results
24.075-24.175	24.107	82.8	125.29	84.7 +/- 4.8	PASS

**Radar Sensor Calibration Verification
Certificate of Calibration**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x0004EDC7**

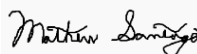
**Description:
Radar Characteristics Validation
In compliance with:
SMS UMRR-11 T44 / UMRR-12 T48 RADAR QUALIFICATION USING SPECRA**

Date of Issue: November 11, 2025

Owner of EUT: Verra Mobility
1150 N. Alma School Rd
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Attention of: Engineering Department
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Address	131 North Columbus Innerbelt
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Web Site	www.keystonecompliance.com

Test Personnel	
Name	Mathew Santiago
Title	EMC Test Engineer
Signature	

**Radar Sensor Calibration Verification
Certificate of Calibration**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x0004EDC7**

Date of Issue: November 11, 2025

This speed measuring device has been tested and verified to be functioning in accordance with the manufacture’s specifications.

The frequency measurements performed and reported within this report demonstrate that the SmartMicro UMRR-11 T44 radar system has an accuracy of less than or equal to 1 mph up to 100 mph and 1% accuracy thereafter up to 199 mph maximum.

FSK Frequency Set 1					
Nominal Frequency Range (GHz)	Measured Center Frequency (GHz)	Measured Frequency Bandwidth @ 20dB (MHz)	Amplitude (dBμV)	Bandwidth Limit (MHz)	Results
24.075-24.175	24.107	82.8	125.29	84.7 +/- 4.8	PASS

**Radar Sensor Calibration Verification
Test Report**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x00049020**


**Description:
Radar Characteristics Validation
In compliance with:
SMS UMRR-11 T44 / UMRR-12 T48 RADAR QUALIFICATION USING SPECRA**

Date of Issue: November 11, 2025

Owner of EUT: Verra Mobility
1150 N. Alma School Rd
Mesa, AZ 85201

Attention of: Engineering Department
Phone: (480) 443-7000

Test Facility	
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Address	131 North Columbus Innerbelt
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Email	questions@keystonecompliance.com
Web Site	www.keystonecompliance.com

Test Personnel	
Name	Mathew Santiago
Title	EMC Test Engineer
Signature	

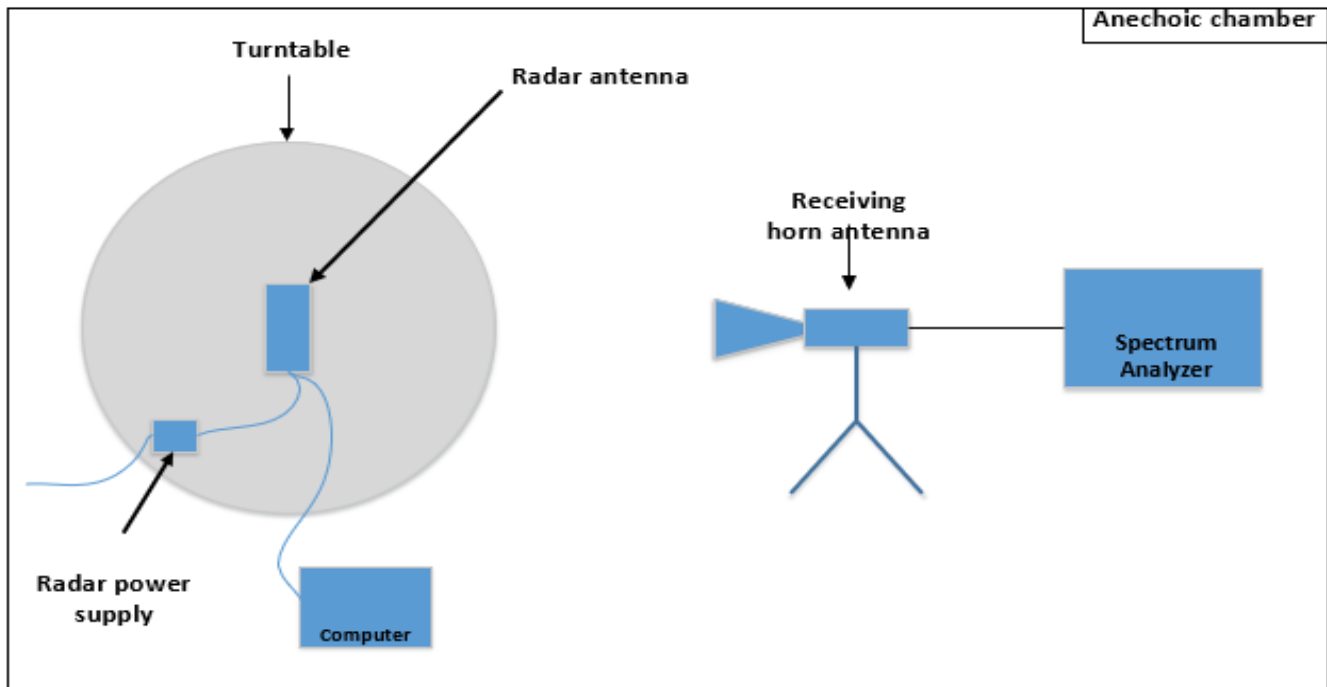
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Revision	Date	Description	Revised By
N/C	#####	Initial Release	Mathew Santiago

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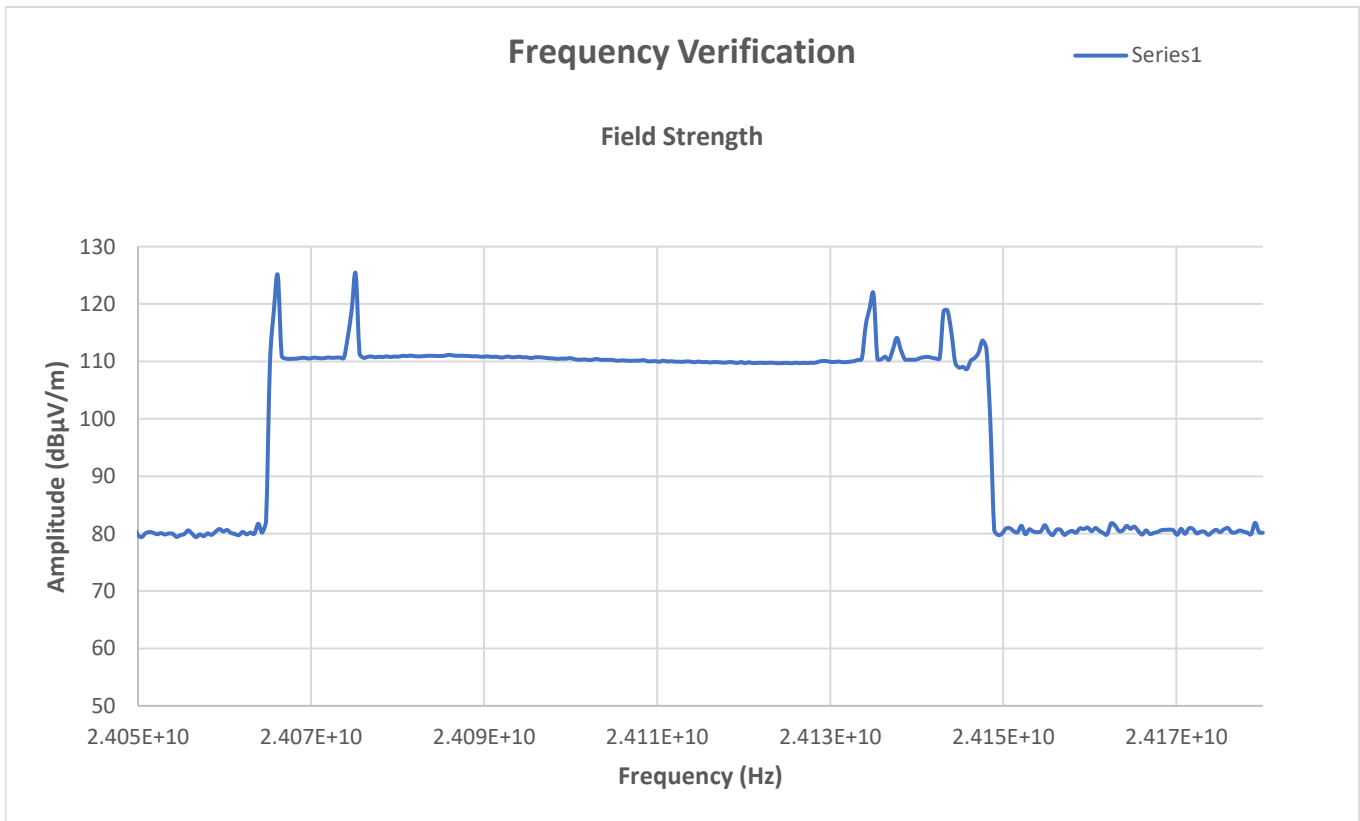
Test Setup Diagram



Test Equipment Utilized

Description	Manufacturer	Model #	Serial #	Asset #	Cal. Due Date
EMC Analyzer	Agilent	E7405	US40240238	EB046	1/29/2026
DRG Horn Antenna	ETS Lindgren	3116	00026390	EE017	5/21/2026
Pre-Amplifier	Keystone Compliance	PA-1	0002	EG003	6/30/2026
Turntable Controller	EMCO	1061.2.013	9401-1717	EI009	UWCE

Frequency Measurements:



Frequency Verification					
Nominal Frequency Range (GHz)	Measured Center Frequency (GHz)	Measured Frequency Bandwidth @ 20dB (MHz)	Amplitude (dBµV)	Bandwidth Limit (MHz)	Results
24.075-24.175	24.107	82.8	125.30	84.7 +/- 4.8	PASS



Report No.: 2403-267EA

Revision: N/C

**Radar Sensor Calibration Verification
Certificate of Calibration**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x00049020**


**Description:
Radar Characteristics Validation
In compliance with:
SMS UMRR-11 T44 / UMRR-12 T48 RADAR QUALIFICATION USING SPECRA**

Date of Issue: November 11, 2025

Owner of EUT: Verra Mobility
1150 N. Alma School Rd
Mesa, AZ 85201

Attention of: Engineering Department
Phone: (480) 443-7000

Test Facility	
Test Laboratory	Applus+ Keystone
Address	131 North Columbus Innerbelt
City, State, Zip Code	New Castle, PA 16101
Email	questions@keystonecompliance.com
Web Site	www.keystonecompliance.com

Test Personnel	
Name	Mathew Santiago
Title	EMC Test Engineer
Signature	

**Radar Sensor Calibration Verification
Certificate of Calibration**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x00049020**

Date of Issue: November 11, 2025

This speed measuring device has been tested and verified to be functioning in accordance with the manufacture’s specifications.

The frequency measurements performed and reported within this report demonstrate that the SmartMicro UMRR-11 T44 radar system has an accuracy of less than or equal to 1 mph up to 100 mph and 1% accuracy thereafter up to 199 mph maximum.

FSK Frequency Set 1					
Nominal Frequency Range (GHz)	Measured Center Frequency (GHz)	Measured Frequency Bandwidth @ 20dB (MHz)	Amplitude (dBμV)	Bandwidth Limit (MHz)	Results
24.075-24.175	24.107	82.8	125.30	84.7 +/- 4.8	PASS

**Radar Sensor Calibration Verification
Test Report**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x000489CA**


**Description:
Radar Characteristics Validation
In compliance with:
SMS UMRR-11 T44 / UMRR-12 T48 RADAR QUALIFICATION USING SPECRA**

Date of Issue: November 11, 2025

Owner of EUT: Verra Mobility
1150 N. Alma School Rd
Mesa, AZ 85201

Attention of: Engineering Department
Phone: (480) 443-7000

Test Facility	
Test Laboratory	Applus + Keystone
Address	131 North Columbus Innerbelt
City, State, Zip Code	New Castle, PA 16101
Email	questions@keystonecompliance.com
Web Site	www.keystonecompliance.com

Test Personnel	
Name	Mathew Santiago
Title	EMC Test Engineer
Signature	

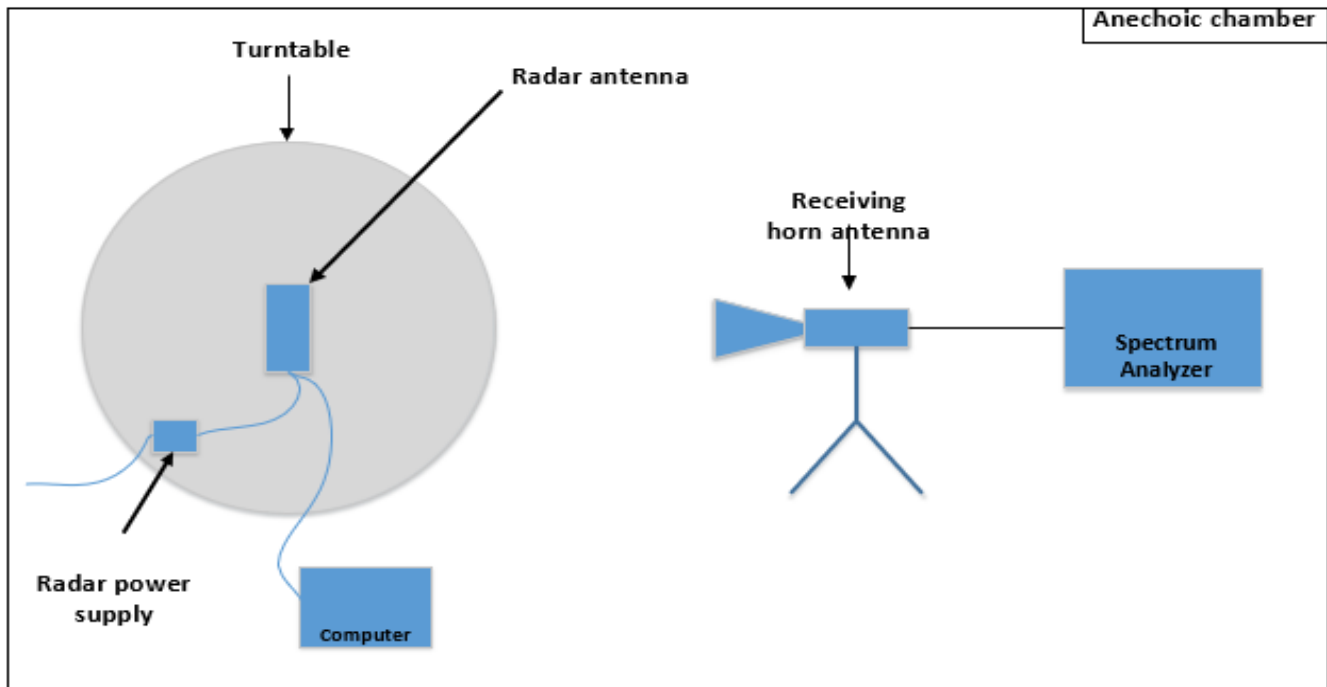
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Revision	Date	Description	Revised By
N/C	#####	Initial Release	Mathew Santiago

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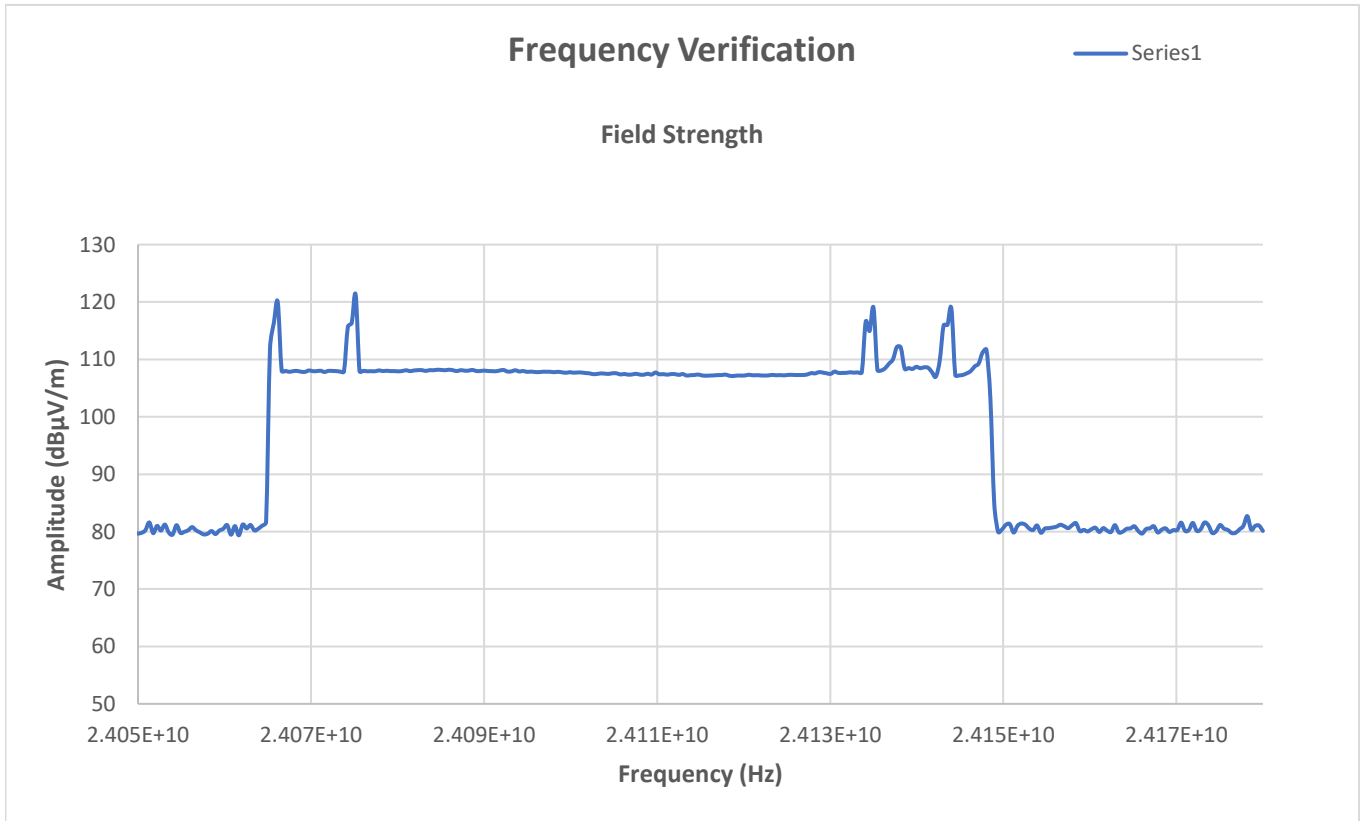
Test Setup Diagram



Test Equipment Utilized

Description	Manufacturer	Model #	Serial #	Asset #	Cal. Due Date
EMC Analyzer	Agilent	E7405	US40240238	EB046	1/29/2026
DRG Horn Antenna	ETS Lindgren	3116	00026390	EE017	5/21/2026
Pre-Amplifier	Keystone Compliance	PA-1	0002	EG003	6/30/2026
Turntable Controller	EMCO	1061.2.013	9401-1717	EI009	UWCE

Frequency Measurements:



Frequency Verification					
Nominal Frequency Range (GHz)	Measured Center Frequency (GHz)	Measured Frequency Bandwidth @ 20dB (MHz)	Amplitude (dBµV)	Bandwidth Limit (MHz)	Results
24.075-24.175	24.107	83.3	121.29	84.7 +/- 4.8	PASS



Report No.: 2403-267EA

Revision: N/C

**Radar Sensor Calibration Verification
Certificate of Calibration**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x000489CA**

**Description:
Radar Characteristics Validation
In compliance with:
SMS UMRR-11 T44 / UMRR-12 T48 RADAR QUALIFICATION USING SPECRA**

Date of Issue: November 11, 2025

Owner of EUT: Verra Mobility
1150 N. Alma School Rd
Mesa, AZ 85201

Attention of: Engineering Department
Phone: (480) 443-7000

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Address	131 North Columbus Innerbelt
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Email	questions@keystonecompliance.com
Web Site	www.keystonecompliance.com

Test Personnel	
Name	Mathew Santiago
Title	EMC Test Engineer
Signature	

**Radar Sensor Calibration Verification
Certificate of Calibration**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x000489CA**

Date of Issue: November 11, 2025

This speed measuring device has been tested and verified to be functioning in accordance with the manufacture's specifications.

The frequency measurements performed and reported within this report demonstrate that the SmartMicro UMRR-11 T44 radar system has an accuracy of less than or equal to 1 mph up to 100 mph and 1% accuracy thereafter up to 199 mph maximum.

FSK Frequency Set 1					
Nominal Frequency Range (GHz)	Measured Center Frequency (GHz)	Measured Frequency Bandwidth @ 20dB (MHz)	Amplitude (dBμV)	Bandwidth Limit (MHz)	Results
24.075-24.175	24.107	83.3	121.29	84.7 +/- 4.8	PASS

**Radar Sensor Calibration Verification
Test Report**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x00049023**


**Description:
Radar Characteristics Validation
In compliance with:
SMS UMRR-11 T44 / UMRR-12 T48 RADAR QUALIFICATION USING SPECRA**

Date of Issue: November 11, 2025

Owner of EUT: Verra Mobility
1150 N. Alma School Rd
Mesa, AZ 85201

Attention of: Engineering Department
Phone: (480) 443-7000

Test Facility	
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Address	131 North Columbus Innerbelt
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Email	questions@keystonecompliance.com
Web Site	www.keystonecompliance.com

Test Personnel	
Name	Mathew Santiago
Title	EMC Test Engineer
Signature	

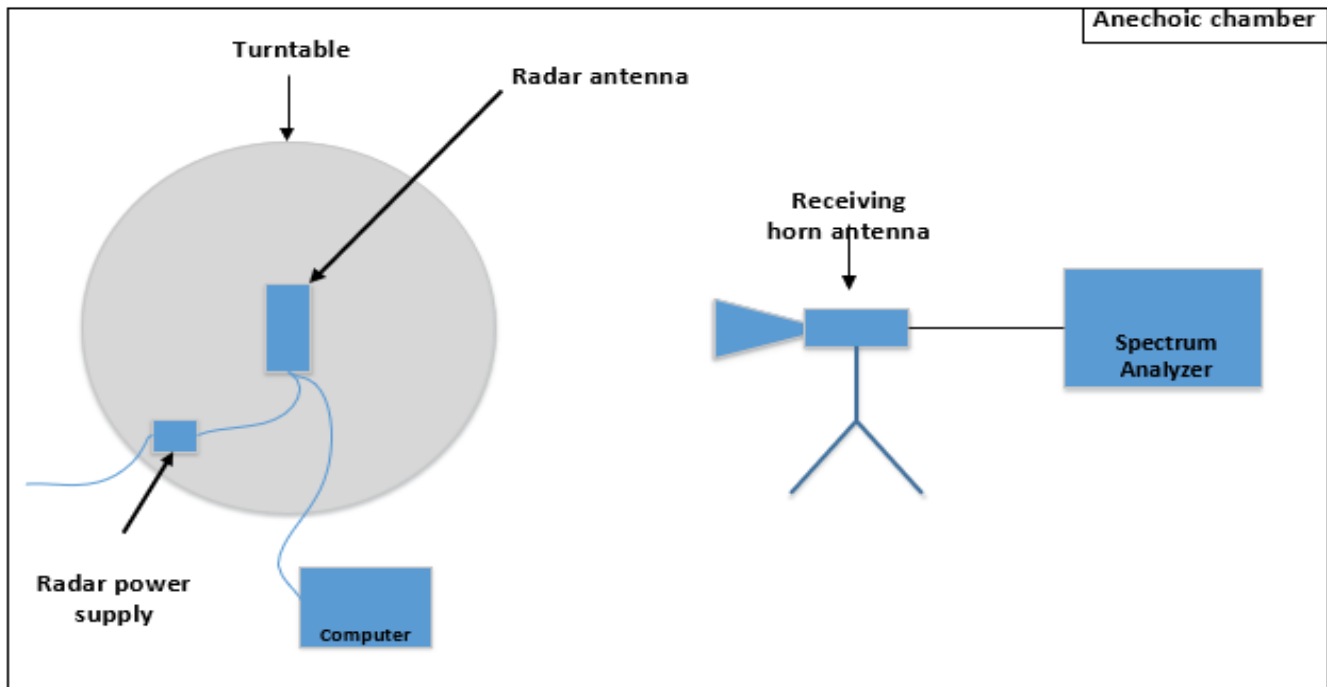
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Revision	Date	Description	Revised By
N/C	#####	Initial Release	Mathew Santiago

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Test Equipment Utilized.....	4
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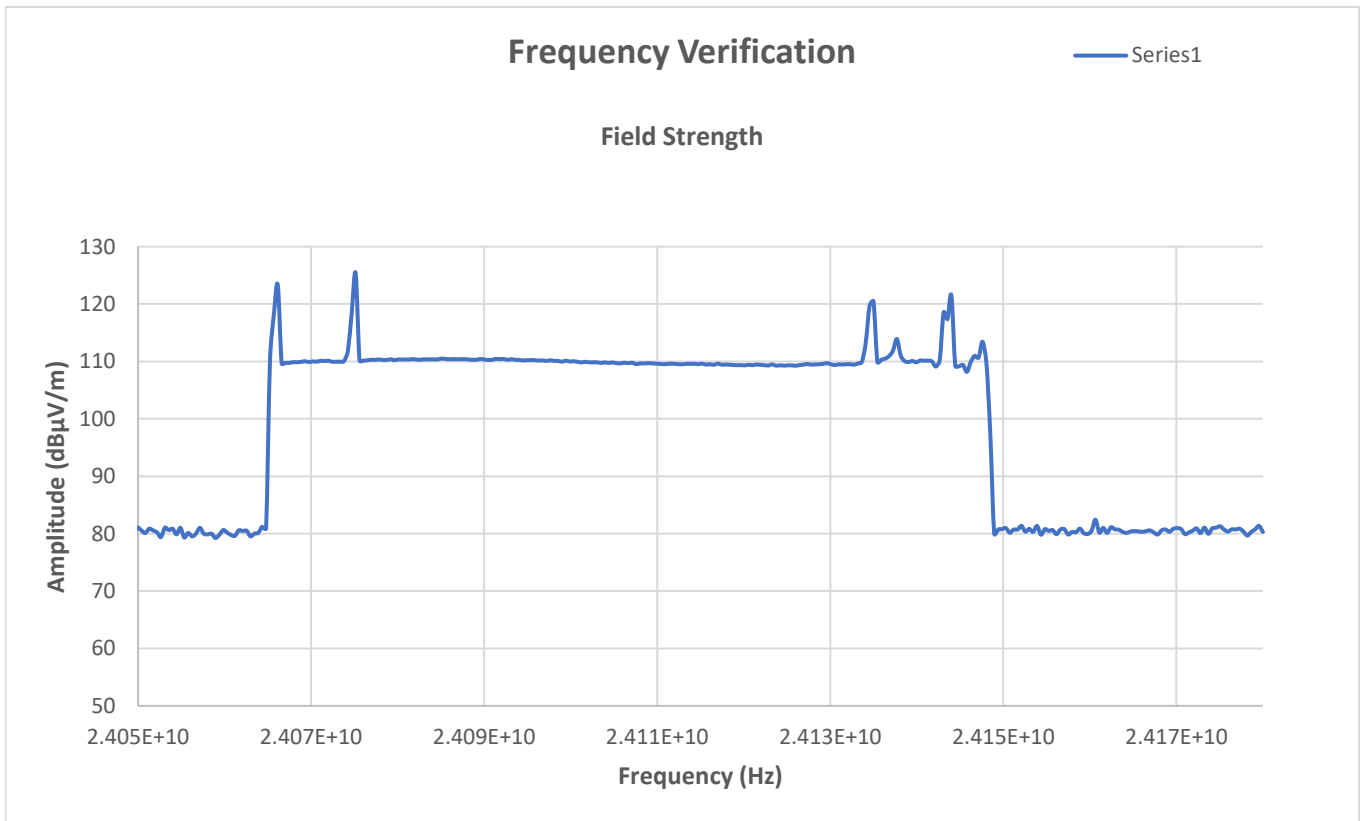
Test Setup Diagram



Test Equipment Utilized

Description	Manufacturer	Model #	Serial #	Asset #	Cal. Due Date
EMC Analyzer	Agilent	E7405	US40240238	EB046	1/29/2026
DRG Horn Antenna	ETS Lindgren	3116	00026390	EE017	5/21/2026
Pre-Amplifier	Keystone Compliance	PA-1	0002	EG003	6/30/2026
Turntable Controller	EMCO	1061.2.013	9401-1717	EI009	UWCE

Frequency Measurements:



Frequency Verification					
Nominal Frequency Range (GHz)	Measured Center Frequency (GHz)	Measured Frequency Bandwidth @ 20dB (MHz)	Amplitude (dBµV)	Bandwidth Limit (MHz)	Results
24.075-24.175	24.107	82.8	125.36	84.7 +/- 4.8	PASS



Report No.: 2403-267EA

Revision: N/C

**Radar Sensor Calibration Verification
Certificate of Calibration**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x00049023**


**Description:
Radar Characteristics Validation
In compliance with:
SMS UMRR-11 T44 / UMRR-12 T48 RADAR QUALIFICATION USING SPECRA**

Date of Issue: November 11, 2025

Owner of EUT: Verra Mobility
1150 N. Alma School Rd
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Attention of: Engineering Department
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Email	questions@keystonecompliance.com
Web Site	www.keystonecompliance.com

Test Personnel	
Name	Mathew Santiago
Title	EMC Test Engineer
Signature	

**Radar Sensor Calibration Verification
Certificate of Calibration**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x00049023**

Date of Issue: November 11, 2025

This speed measuring device has been tested and verified to be functioning in accordance with the manufacture’s specifications.

The frequency measurements performed and reported within this report demonstrate that the SmartMicro UMRR-11 T44 radar system has an accuracy of less than or equal to 1 mph up to 100 mph and 1% accuracy thereafter up to 199 mph maximum.

FSK Frequency Set 1					
Nominal Frequency Range (GHz)	Measured Center Frequency (GHz)	Measured Frequency Bandwidth @ 20dB (MHz)	Amplitude (dBμV)	Bandwidth Limit (MHz)	Results
24.075-24.175	24.107	82.8	125.36	84.7 +/- 4.8	PASS

**Radar Sensor Calibration Verification
Test Report**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x000488C5**


**Description:
Radar Characteristics Validation
In compliance with:
SMS UMRR-11 T44 / UMRR-12 T48 RADAR QUALIFICATION USING SPECRA**

Date of Issue: November 11, 2025

Owner of EUT: Verra Mobility
1150 N. Alma School Rd
Mesa, AZ 85201

Attention of: Engineering Department
Phone: (480) 443-7000

Test Facility	
Test Laboratory	Applus + Keystone
Address	131 North Columbus Innerbelt
City, State, Zip Code	New Castle, PA 16101
Email	questions@keystonecompliance.com
Web Site	www.keystonecompliance.com

Test Personnel	
Name	Mathew Santiago
Title	EMC Test Engineer
Signature	

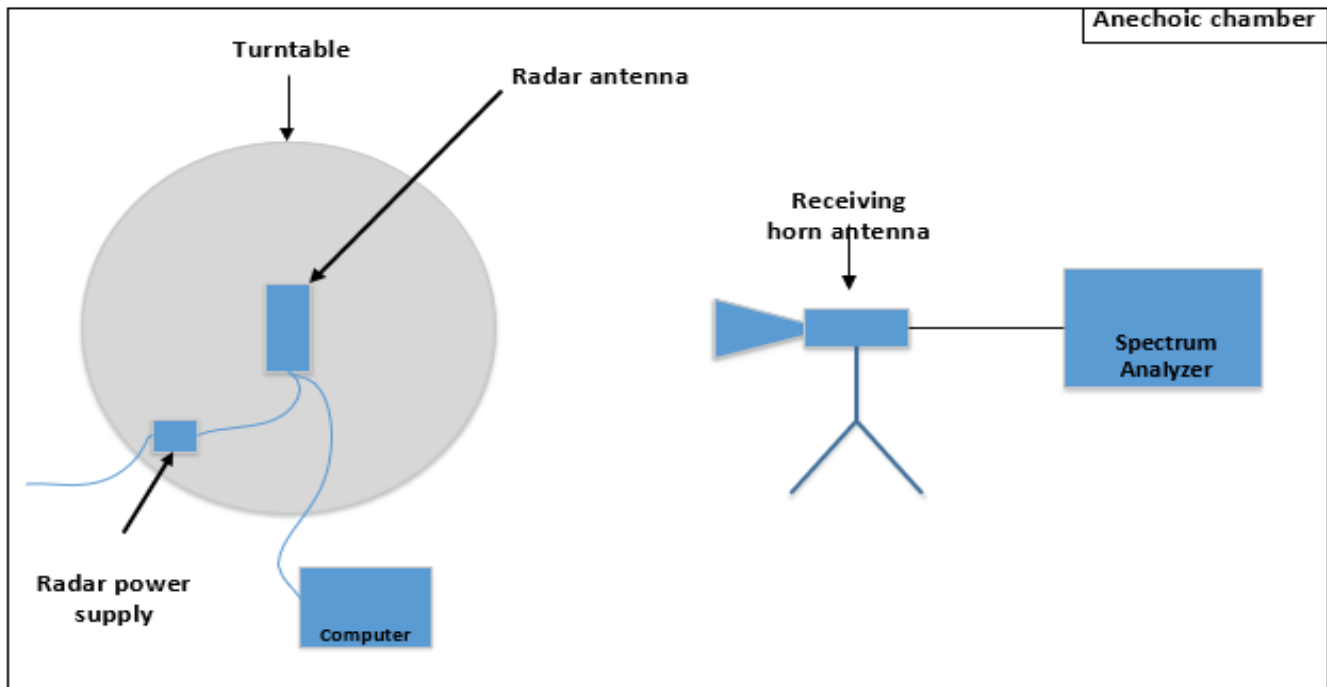
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Revision	Date	Description	Revised By
N/C	#####	Initial Release	Mathew Santiago

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Test Equipment Utilized.....	4
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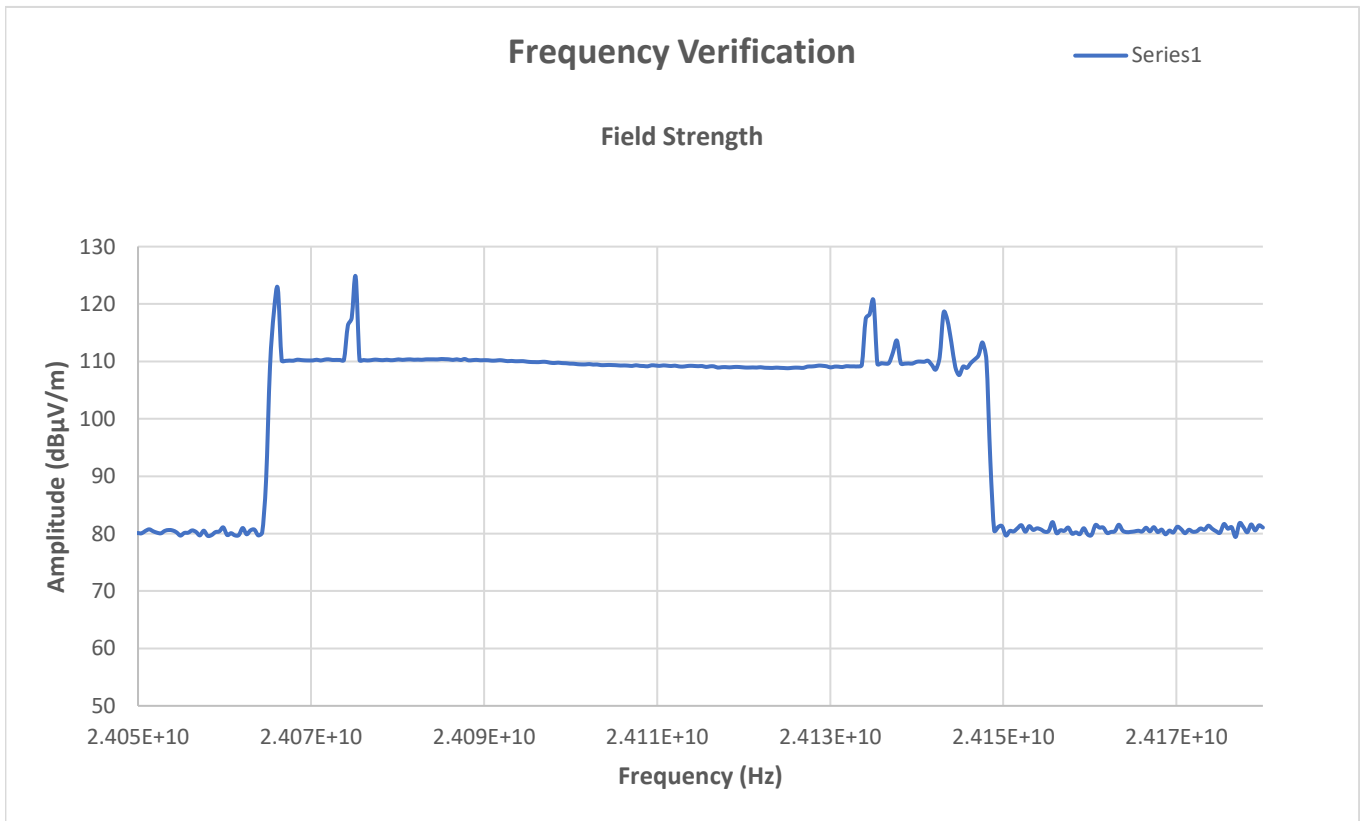
Test Setup Diagram



Test Equipment Utilized

Description	Manufacturer	Model #	Serial #	Asset #	Cal. Due Date
EMC Analyzer	Agilent	E7405	US40240238	EB046	1/29/2026
DRG Horn Antenna	ETS Lindgren	3116	00026390	EE017	5/21/2026
Pre-Amplifier	Keystone Compliance	PA-1	0002	EG003	6/30/2026
Turntable Controller	EMCO	1061.2.013	9401-1717	EI009	UWCE

Frequency Measurements:



Frequency Verification					
Nominal Frequency Range (GHz)	Measured Center Frequency (GHz)	Measured Frequency Bandwidth @ 20dB (MHz)	Amplitude (dBµV)	Bandwidth Limit (MHz)	Results
24.075-24.175	24.107	82.8	124.76	84.7 +/- 4.8	PASS

**Radar Sensor Calibration Verification
Certificate of Calibration**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x000488C5**

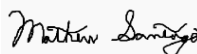
**Description:
Radar Characteristics Validation
In compliance with:
SMS UMRR-11 T44 / UMRR-12 T48 RADAR QUALIFICATION USING SPECRA**

Date of Issue: November 11, 2025

Owner of EUT: **Verra Mobility
1150 N. Alma School Rd
Mesa, AZ 85201**

Attention of: **Engineering Department
Phone: (480) 443-7000**

Test Facility	
Test Laboratory	Applus+ Keystone
Address	131 North Columbus Innerbelt
City, State, Zip Code	New Castle, PA 16101
Email	questions@keystonecompliance.com
Web Site	www.keystonecompliance.com

Test Personnel	
Name	Mathew Santiago
Title	EMC Test Engineer
Signature	

**Radar Sensor Calibration Verification
Certificate of Calibration**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x000488C5**

Date of Issue: November 11, 2025

This speed measuring device has been tested and verified to be functioning in accordance with the manufacture’s specifications.

The frequency measurements performed and reported within this report demonstrate that the SmartMicro UMRR-11 T44 radar system has an accuracy of less than or equal to 1 mph up to 100 mph and 1% accuracy thereafter up to 199 mph maximum.

FSK Frequency Set 1					
Nominal Frequency Range (GHz)	Measured Center Frequency (GHz)	Measured Frequency Bandwidth @ 20dB (MHz)	Amplitude (dBμV)	Bandwidth Limit (MHz)	Results
24.075-24.175	24.107	82.8	124.76	84.7 +/- 4.8	PASS

**Radar Sensor Calibration Verification
Test Report**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x0004B054**


**Description:
Radar Characteristics Validation
In compliance with:
SMS UMRR-11 T44 / UMRR-12 T48 RADAR QUALIFICATION USING SPECRA**

Date of Issue: November 11, 2025

Owner of EUT: Verra Mobility
1150 N. Alma School Rd
Mesa, AZ 85201

Attention of: Engineering Department
Phone: (480) 443-7000

Test Facility	
Test Laboratory	Applus + Keystone
Address	131 North Columbus Innerbelt
City, State, Zip Code	New Castle, PA 16101
Email	questions@keystonecompliance.com
Web Site	www.keystonecompliance.com

Test Personnel	
Name	Mathew Santiago
Title	EMC Test Engineer
Signature	

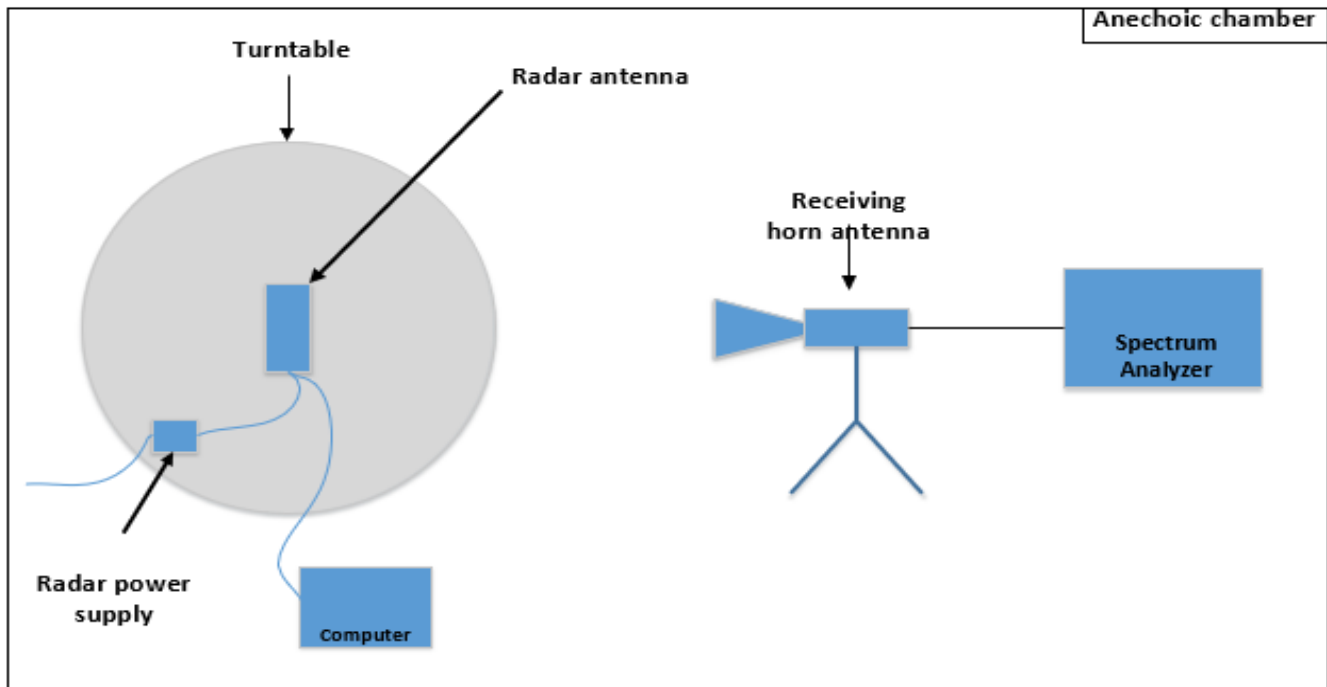
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Revision	Date	Description	Revised By
N/C	#####	Initial Release	Mathew Santiago

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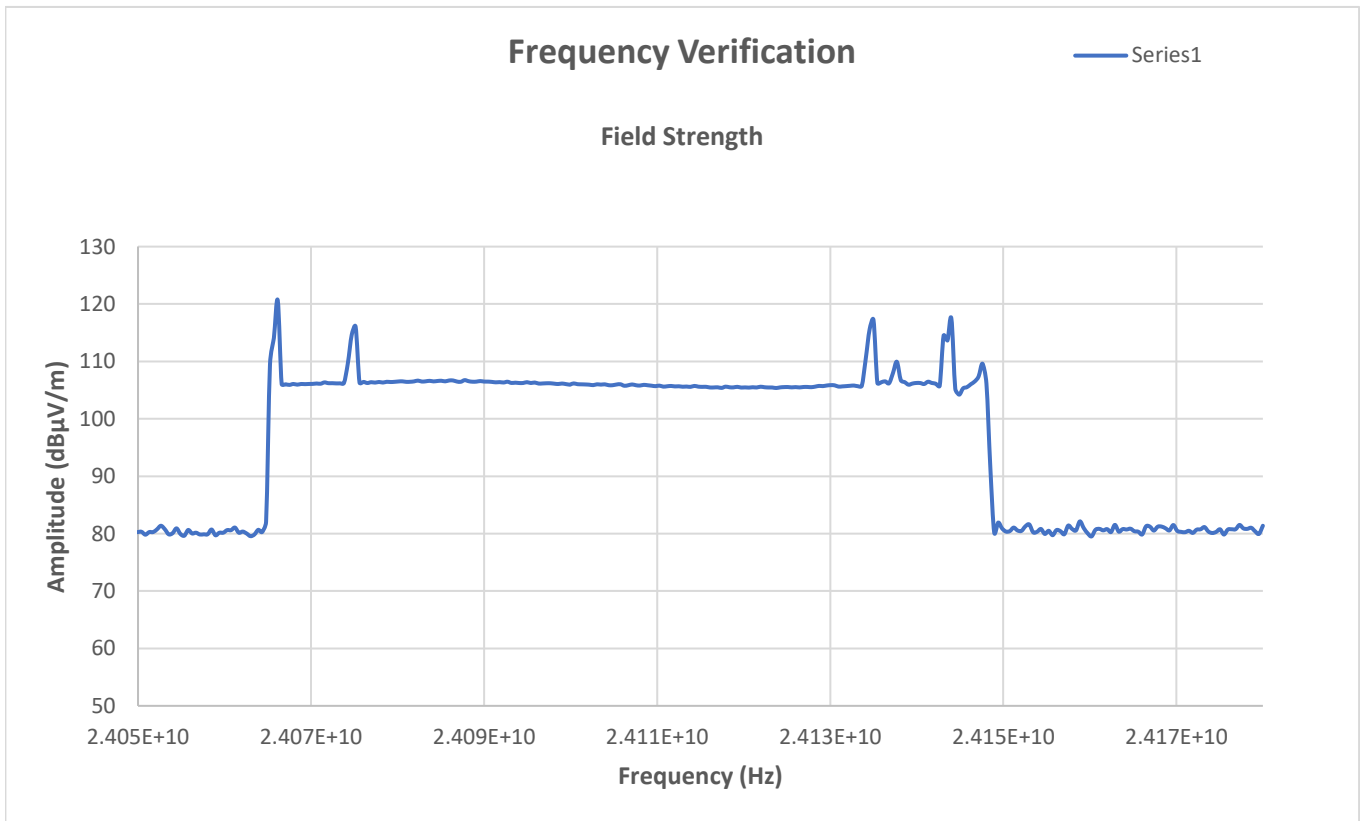
Test Setup Diagram



Test Equipment Utilized

Description	Manufacturer	Model #	Serial #	Asset #	Cal. Due Date
EMC Analyzer	Agilent	E7405	US40240238	EB046	1/29/2026
DRG Horn Antenna	ETS Lindgren	3116	00026390	EE017	5/21/2026
Pre-Amplifier	Keystone Compliance	PA-1	0002	EG003	6/30/2026
Turntable Controller	EMCO	1061.2.013	9401-1717	EI009	UWCE

Frequency Measurements:



Frequency Verification					
Nominal Frequency Range (GHz)	Measured Center Frequency (GHz)	Measured Frequency Bandwidth @ 20dB (MHz)	Amplitude (dBµV)	Bandwidth Limit (MHz)	Results
24.075-24.175	24.107	82.8	120.61	84.7 +/- 4.8	PASS



Report No.: 2403-267EA

Revision: N/C

**Radar Sensor Calibration Verification
Certificate of Calibration**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x0004B054**


**Description:
Radar Characteristics Validation
In compliance with:
SMS UMRR-11 T44 / UMRR-12 T48 RADAR QUALIFICATION USING SPECRA**

Date of Issue: November 11, 2025

Owner of EUT: Verra Mobility
1150 N. Alma School Rd
Mesa, AZ 85201

Attention of: Engineering Department
Phone: (480) 443-7000

Test Facility	
Test Laboratory	Applus+ Keystone
Address	131 North Columbus Innerbelt
City, State, Zip Code	New Castle, PA 16101
Email	questions@keystonecompliance.com
Web Site	www.keystonecompliance.com

Test Personnel	
Name	Mathew Santiago
Title	EMC Test Engineer
Signature	

**Radar Sensor Calibration Verification
Certificate of Calibration**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x0004B054**

Date of Issue: November 11, 2025

This speed measuring device has been tested and verified to be functioning in accordance with the manufacture’s specifications.

The frequency measurements performed and reported within this report demonstrate that the SmartMicro UMRR-11 T44 radar system has an accuracy of less than or equal to 1 mph up to 100 mph and 1% accuracy thereafter up to 199 mph maximum.

FSK Frequency Set 1					
Nominal Frequency Range (GHz)	Measured Center Frequency (GHz)	Measured Frequency Bandwidth @ 20dB (MHz)	Amplitude (dBμV)	Bandwidth Limit (MHz)	Results
24.075-24.175	24.107	82.8	120.61	84.7 +/- 4.8	PASS

**Radar Sensor Calibration Verification
Test Report**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x00048E5C**


**Description:
Radar Characteristics Validation
In compliance with:
SMS UMRR-11 T44 / UMRR-12 T48 RADAR QUALIFICATION USING SPECRA**

Date of Issue: November 11, 2025

Owner of EUT: Verra Mobility
1150 N. Alma School Rd
Mesa, AZ 85201

Attention of: Engineering Department
Phone: (480) 443-7000

Test Facility	
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Test Personnel	
Name	Mathew Santiago
Title	EMC Test Engineer
Signature	

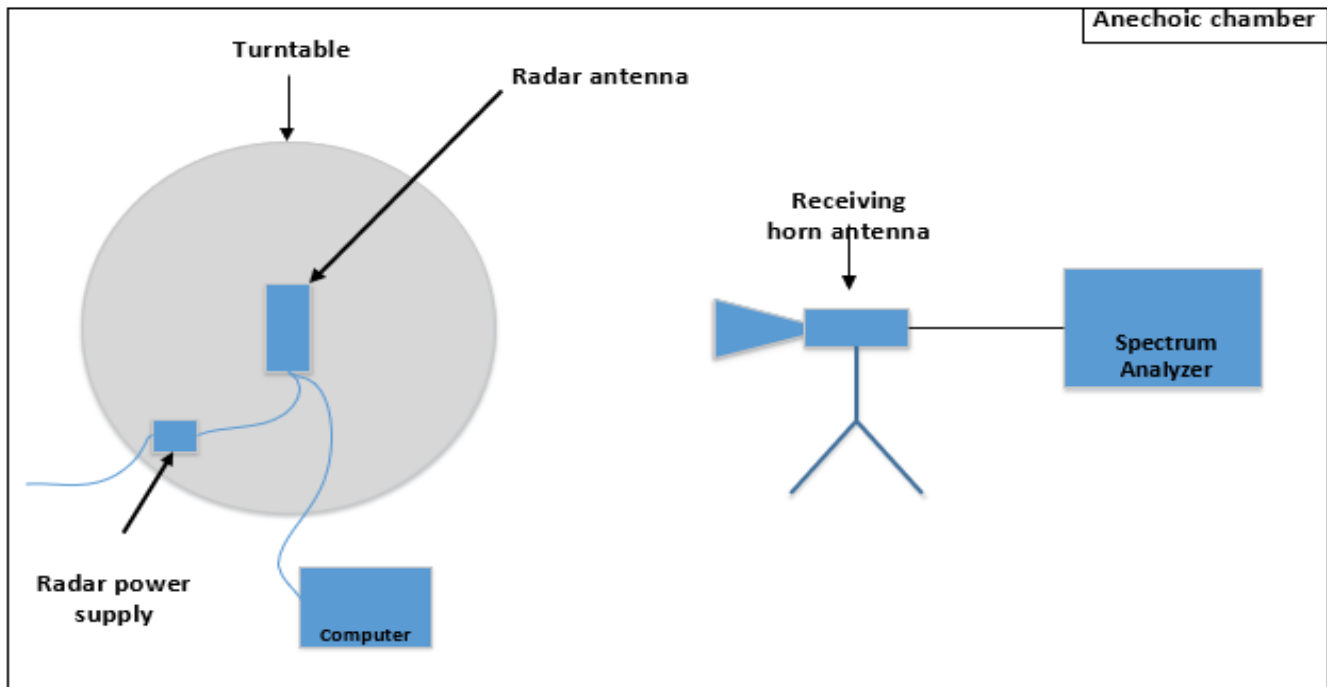
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Revision	Date	Description	Revised By
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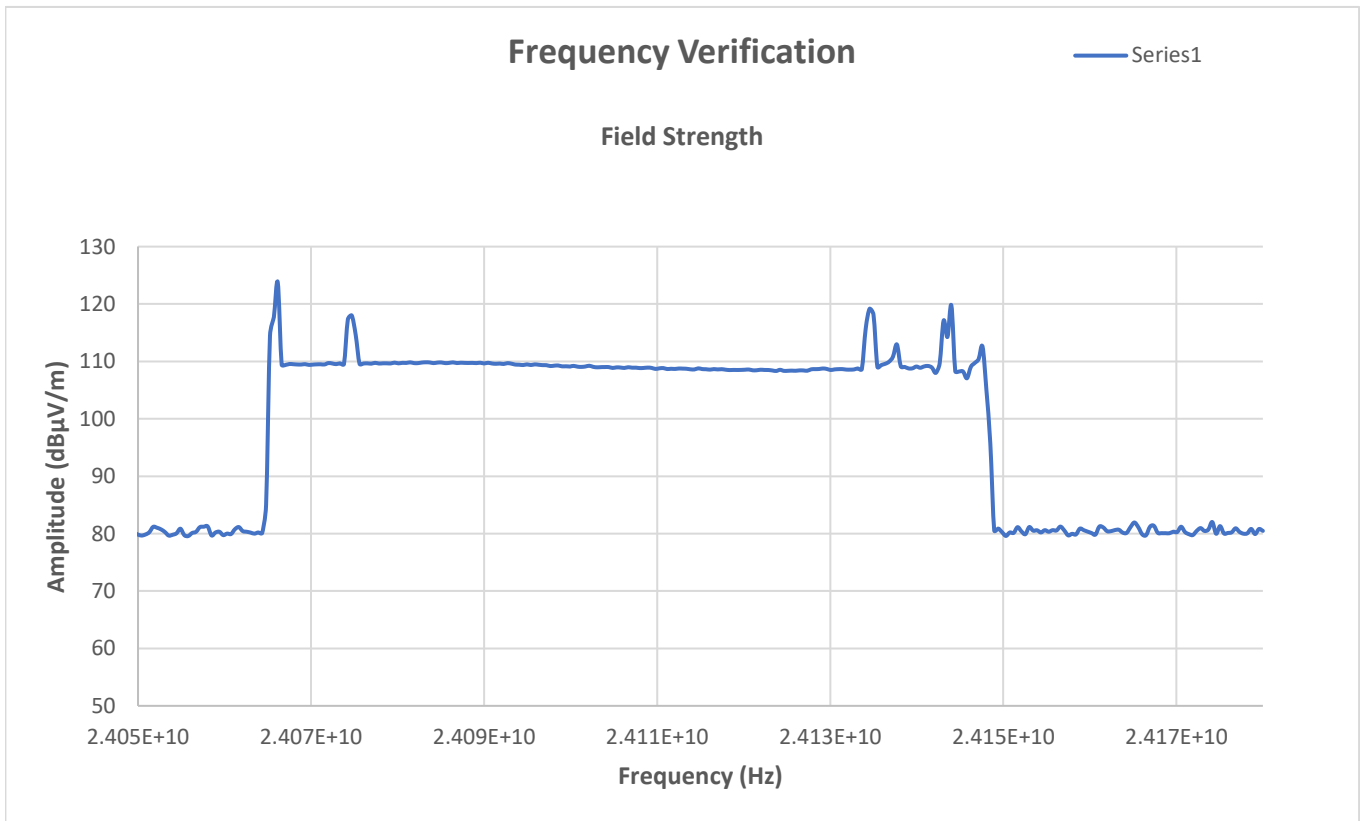
Test Setup Diagram



Test Equipment Utilized

Description	Manufacturer	Model #	Serial #	Asset #	Cal. Due Date
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Frequency Measurements:



Frequency Verification					
Nominal Frequency Range (GHz)	Measured Center Frequency (GHz)	Measured Frequency Bandwidth @ 20dB (MHz)	Amplitude (dBµV)	Bandwidth Limit (MHz)	Results
24.075-24.175	24.107	82.8	123.75	84.7 +/- 4.8	PASS



Report No.: 2403-267EA

Revision: N/C

**Radar Sensor Calibration Verification
Certificate of Calibration**

Model: UMRR-11 T44

**Part Number / Serial Number:
0x00048E5C**


**Description:
Radar Characteristics Validation
In compliance with:
SMS UMRR-11 T44 / UMRR-12 T48 RADAR QUALIFICATION USING SPECRA**

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**Radar Sensor Calibration Verification
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Model: UMRR-11 T44

**Part Number / Serial Number:
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24.075-24.175	24.107	82.8	123.75	84.7 +/- 4.8	PASS