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November 08, 2022

Xirgo Technologies, LLC
188 Camino Ruiz
Camarillo, CA

Dear Mr. Ed Gabrielian,

Enclosed is the RF Wireless test report for compliance testing of the, Xirgo Technologies, LLC., Asset Tracking/ FLEET TPMS as tested to the requirements of the

FCC Part §2.1053, §22.917(a), §24.238(a), §27.53(a)(4), §27.53(c)(2), §27.53(f) ,§27.53(g)
RSS-GEN Issue 5, April 2018 + Amendment 1 (March 2019) + Amendment 2 (February 2021)
RSS-130 Issue 2 February 2019
RSS-132 Issue, January 2013
RSS-133 Issue 6 January 2018
RSS-139 Issue 3 July 2015

The report is for Cellular only, Bluetooth testing will be covered on Bluetooth test report.
Thank you for using the services of Eurofins Electrical and Electronic Testing NA, Inc. Please contact me if you have any questions regarding these results or if Eurofins E&E can be of further service to you.

Sincerely yours,

Gary Chou

Documentation Department
Eurofins Electrical and Electronic Testing NA, Inc.

A2LA ACCREDITED
TESTINGCERT #0591.02

FCC/ ISED Test Report

Applicant name: Xirgo Technologies, LLC

Manufacturer name: Xirgo Technologies, LLC

Product: Asset Tracking/ FLEET TPMS

Report: WIR121141-FCC _ISED_ Xirgo _LTE

Applicant Address:

188 Camino Ruiz
Camarillo, CA

Manufacturer Address:

188 Camino Ruiz
Camarillo, CA

Prepared By:
Eurofins Electrical and Electronic Testing NA, Inc.
3162 Belick St.
Santa Clara CA, 95054

Applicant name: Xirgo Technologies, LLC

Product: Asset Tracking/ FLEET TPMS

Standard
47 CFR Part 2, 22, 24, 27
RSS-GEN Issue 5, April 2018 + Amendment 1 (March 2019) + Amendment 2 (February 2021)
RSS-130 Issue 2 February 2019
RSS-132 Issue, January 2013
RSS-133 Issue 6, January 2018
RSS-139 Issue 3 July 2015

Christopher Martin
Christopher Martin
Test Engineer, Wireless Laboratory

Engineering Statement: The measurements shown in this report were made in accordance with the procedures indicated, and the emissions from this equipment were found to be within the limits applicable. I assume full responsibility for the accuracy and completeness of these measurements, and for the qualifications of all persons taking them. It is further stated that upon the basis of the measurements made, the equipment tested is capable of operation in accordance with the requirements of FCC and ISED Rules under normal use and maintenance.

Gary Chou
Gary Chou
Wireless Engineering Manager, Wireless Laboratory

Report Status Sheet

Revision	Report Date	Reason for Revision
∅	November 08, 2022	Initial Issue.

Table of Contents

I. Executive Summary

A. Purpose of Test

An WIRELESS evaluation was performed to determine compliance of the Asset Tracking/ FLEET TPMS, with the requirements of 47 CFR FCC CFR Part 2, 22, 24, 27, RSS-GEN Issue 5 April 2018 + Amendment 1 (March 2019) + Amendment 2 (February 2021), RSS-130 Issue 2 February 2019, RSS-132 Issue 3, January 2013, RSS-133 Issue 6 January 2018, RSS-139 Issue 6 July 2015. All references are to the most current version of Title 47 of the Code of Federal Regulations in effect. In accordance with PVG-04 technical requirements.

B. Executive Summary

The following tests were conducted on a sample of the equipment for the purpose of demonstrating compliance with 47 CFR FCC CFR Part 2, 22, 24, 27, RSS-Gen Issue 5 2018, RSS-130 Issue 2 February 2019, RSS-132 Issue 3, January 2013, RSS-133 Issue 6 January 2018, RSS-139 Issue 6 July 2015. All tests were conducted using measurement procedure.

FCC ISED Clause	Description	Compliance
§2.1053 §22.917(a) §24.238 §27.53(l)(4)(6)	Radiated Spurious Emissions	Compliant
RSS-132§5.5 RSS-133§6.5 RSS-130§4.6 RSS-139§6.6	Radiated Spurious Emissions	Compliant

Note: For other test items please refer to
FCC ID report: XMR201910BG95M3
ISED ID Report: 10224A-2019BG95M3

Rationale:
Per KDB 996369 D04 "Modular Transmitter Integration Guide – Guidance for Host Product Manufacturers" only spot checks are reported in this filing.
Per ANSI C63.26: 2015 section 5.1.2.2, the results include worst case modulation only.

II. Equipment Information

A. Overview

Eurofins Electrical and Electronic Testing NA, Inc. was contracted by Xirgo Technologies, LLC to perform testing on the Xirgo Technologies, LLC, Asset Tracking/ FLEET TPMS.

EUT Summary Table

Product:	Asset Tracking/ FLEET TPMS	
Brand:	Xirgo	
Model(s) Tested:	XT4392	
	Input Power: Voltage: 8-32Vdc	
	Type of Modulations:	QPSK, 16QAM, 8PSK, GMSK
	Technology:	GSM/ / LTE CAT-M/ NB-IOT
	Operating Frequency :	GSM Band 850: 824.2 MHz ~ 824.8 MHz GSM Band 1900: 1850.2 MHz ~ 1909.8 MHz LTE Band 2: 1850 MHz ~ 1910 MHz LTE Band 4: 1710 MHz ~ 1755 MHz LTE Band 5: 824 MHz ~ 849 MHz LTE Band 12: 699 MHz ~ 716 MHz LTE Band 13: 777 MHz ~ 787 MHz LTE Band 71 : 663 MHz ~ 698 MHz
	Product:	Asset Tracking/ FLEET TPMS
	Brand:	Xirgo
	FCC ID:	GKM-XT4392
	ISED ID:	10281A-XT4392
	Antenna Type:	Flex Antenna
	Antenna Manufacturer/ Model	ANTENNA COMPANY/ AC31202-01 175-00032 0.01 22
	Antenna Gain:	699 MHz -716 MHz : 0.75 dBi 703 MHz -748 MHz : 1.16 dBi 777 MHz -787 MHz : 1.7 dBi 832 MHz -862 MHz : 1.4 dBi 1710 MHz - 1755 MHz : 4.7 dBi 1850 MHz - 1910 MHz : 4.5 dBi
	Antenna Port:	U.FL
Analysis:	The results obtained relate only to the item(s) tested.	
	Temperature: 15-35° C	

Environmental Test Conditions:	Relative Humidity: 30-60%
	Barometric Pressure: 860-1060 mbar
Evaluated by:	Christopher Martin
Date(s):	September 26, 2022

B. General Description of Applied Standards

References

The EUT is a RF Product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

- **FCC 47 CFR Part 2**
- **FCC 47 CFR Part 22(H)**
- **FCC 47 CFR Part 24(E)**
- **FCC 47 CFR Part 27**
- **RSS-GEN Issue 5, April 2018 + Amendment 1 (March 2019) + Amendment 2 (February 2021)**
- **RSS-130 Issue 2, February 2019**
- **RSS-132 Issue 3, January 2013**
- **RSS-133 Issue 6, January 2018**
- **RSS-139 Issue 3 July 2015**
- **ANSI/TIA/EIA-603-E 2016**
- **ANSI 63.26 2015**

C. Test Site

All testing was performed at Eurofins Electrical and Electronic Testing NA, Inc., 3162 Belick St. Santa Clara, CA 95054. All equipment used in making physical determinations is accurate and bears recent traceability to the National Institute of Standards and Technology.

Eurofins Electrical and Electronic Testing NA, Inc. has been accredited by the American Association for Laboratory Accreditation (A2LA) (Certificate #: 0591.02) in accordance with ISO/IEC 17025:2017.

Eurofins Electrical and Electronic Testing NA, Inc. is part of the Eurofins Electrical & Electronics (E&E) global compliance network.

D. Measurement Uncertainty

Test Method	Typical Expanded Uncertainty	K	Confidence Level
RF Frequencies	±4.52 Hz	2	95%
RF Power Conducted Emissions	±2.32 dB	2	95%
RF Power Conducted Spurious Emissions	±2.25 dB	2	95%
RF Power Radiated Emissions	±3.01 dB	2	95%

Uncertainty Calculations Summary

E. Modifications

a) Modifications to EUT

No modifications were made to the EUT.

b) Modifications to Test Standard

No modifications were made to the test standard.

F. Disposition of EUT

The test sample including all support equipment (if any), submitted to the Electromagnetic Compatibility Lab for testing was returned to Xirgo Technologies, LLC upon completion of testing.

III. Electromagnetic Compatibility Criteria for Intentional Radiators

Radiated Emission Measurement

The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least 43 +10 log10(P) dB. The limit of emission equal to –13dBm

Test Procedures:

a. Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8m height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The "Read Value" is the spectrum reading the maximum power value.

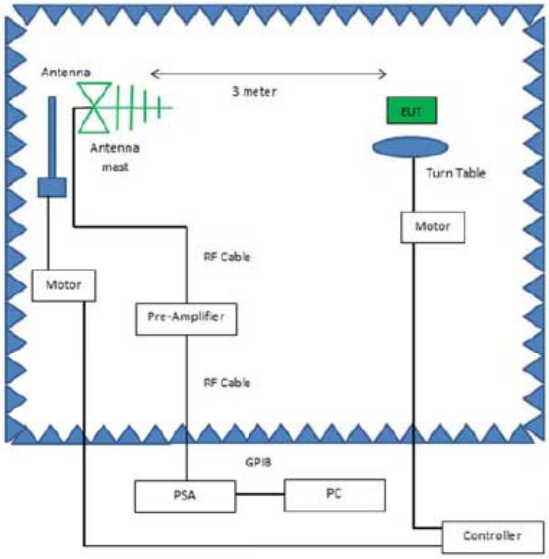
b. The substitution horn antenna is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a TX cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to "Read Value " of step a. Record the power level of S.G

c. EIRP = Output power level of S.G – TX cable loss + Antenna gain of substitution horn.

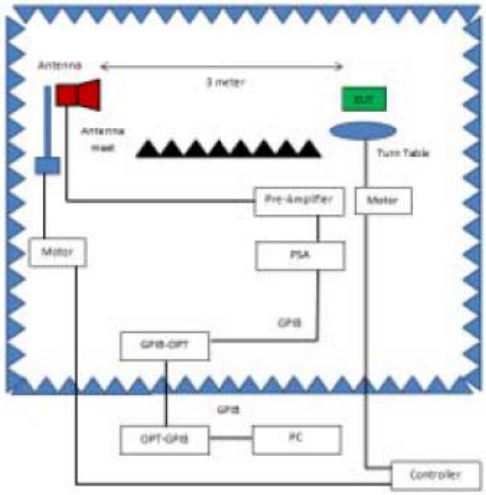
d. E.R.P power can be calculated form E.I.R.P power by subtracting the gain of dipole, E.R.P power = E.I.P.R power - 2.15dBi.

NOTE: The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1MHz/3MHz.

Deviation from Test Standard
No deviation.



Radiated Emissions, Below 1GHz, Test Setup



Radiated Emissions, Above 1GHz, Test Setup

Test Engineer: Christopher Martin

Test Date(s): September 26 ,2022
Note: The test data only shows worst cast result

Test Result:

LTE CAT M Band 2

Frequency Range	30 MHz ~ 1GHz	Operating Channel	Middle Channel

SPURIOUS EMISSION LEVEL				
Frequency (MHz)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin (dB)
38.73	V	-71.17	-13	-58.17
121.18	V	-71.67	-13	-58.67
808.91	V	-66.99	-13	-53.99
30.97	H	-75.11	-13	-62.11
203.63	H	-79.73	-13	-66.73
668.26	H	-69.03	-13	-56.03

LTE NB-IOT Band 2

Frequency Range	30 MHz ~ 1GHz	Operating Channel	Middle Channel

SPURIOUS EMISSION LEVEL				
Frequency (MHz)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin (dB)
38.73	V	-72.12	-13	-59.12
105.66	V	-72.27	-13	-59.27
798.24	V	-66.56	-13	-53.56
30	H	-74.78	-13	-61.78
105.66	H	-74.76	-13	-61.76
965.08	H	-62.77	-13	-49.77

LTE CAT-M Band 2

Frequency Range	1GHz ~ 26.5GHz	Operating Channel	Low Channel

SPURIOUS EMISSION LEVEL				
Frequency (MHz)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin (dB)
3700.38	V	-50.37	-13	-37.37
12556.42	V	-48.46	-13	-35.46
15880.54	V	-45.42	-13	-32.42
3700.15	H	-52.19	-13	-39.19
9236.26	H	-50.25	-13	-37.25
11091.41	H	-49.44	-13	-36.44

Frequency Range	1GHz ~ 26.5GHz	Operating Channel	Middle Channel

SPURIOUS EMISSION LEVEL				
Frequency (MHz)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin (dB)
6963.6	V	-50.02	-13	-40.74
12556.6	V	-48.29	-13	-37.76
15880.1	V	-45.22	-13	-35.26
3769.3	H	-52.99	-13	-38.19
9236.5	H	-50.58	-13	-35.84
11091.2	H	-49.43	-13	-32.53

Frequency Range	1GHz ~ 26.5GHz	Operating Channel	High Channel

SPURIOUS EMISSION LEVEL				
Frequency (MHz)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin (dB)
3820.14	V	-50.51	-13	-37.51
12556.53	V	-48.39	-13	-35.39
15880.54	V	-45.06	-13	-32.06
3820.26	H	-52.28	-13	-39.28
9236.19	H	-50.46	-13	-37.46
11091.47	H	-49.75	-13	-36.75

LTE CAT-M Band 4

Frequency Range	1GHz ~ 26.5GHz	Operating Channel	Low Channel

SPURIOUS EMISSION LEVEL				
Frequency (MHz)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin (dB)
3420.36	V	-50.45	-13	-37.45
5130.08	V	-51.49	-13	-38.49
16699.5	H	-44.37	-13	-31.37
3420.45	H	-50.54	-13	-37.54
5130.27	H	-51.18	-13	-38.18
6916	H	-50.26	-13	-37.26

Frequency Range	1GHz ~ 26.5GHz	Operating Channel	Middle Channel

SPURIOUS EMISSION LEVEL				
Frequency (MHz)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin (dB)
3473.5	V	-50.52	-13	-37.52
4954.2	V	-51.69	-13	-38.69
16699.5	H	-44.86	-13	-31.86
3473.5	H	-50.31	-13	-37.31
4962.7	H	-51.47	-13	-38.47
6916	H	-50.84	-13	-37.84

Frequency Range	1GHz ~ 26.5GHz	Operating Channel	High Channel

SPURIOUS EMISSION LEVEL				
Frequency (MHz)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin (dB)
3510.51	V	-50.24	-13	-37.24
5265.19	V	-51.43	-13	-38.43
16699.5	H	-44.19	-13	-31.19
3510.43	H	-50.71	-13	-37.71
5265.43	H	-51.59	-13	-38.59
6916	H	-50.63	-13	-37.63

LTE CAT-M Band 5

Frequency Range	1GHz ~ 26.5GHz	Operating Channel	Low Channel

SPURIOUS EMISSION LEVEL				
Frequency (MHz)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin (dB)
1648.52	V	-55.36	-13	-42.36
2472.35	V	-52.42	-13	-39.42
6921.13	V	-50.53	-13	-37.53
1648.73	H	-46.19	-13	-33.19
2472.43	H	-48.27	-13	-35.27
7369.42	H	-50.43	-13	-37.43

LTE CAT-M Band 5

Frequency Range	1GHz ~ 26.5GHz	Operating Channel	Middle Channel

SPURIOUS EMISSION LEVEL				
Frequency (MHz)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin (dB)
1681.7	V	-55.54	-13	-42.54
2511.3	V	-52.9	-13	-39.9
6921.1	V	-50.9	-13	-37.9
1681.7	H	-46.08	-13	-33.08
2511.3	H	-48.3	-13	-35.3
7369.9	H	-50.36	-13	-37.36

LTE CAT-M Band 5

Frequency Range	1GHz ~ 26.5GHz	Operating Channel	High Channel

SPURIOUS EMISSION LEVEL				
Frequency (MHz)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin (dB)
1698.27	V	-55.27	-13	-42.27
2547.41	V	-52.16	-13	-39.16
6921.42	V	-50.47	-13	-37.47
1698.75	H	-46.38	-13	-33.38
2547.63	H	-48.24	-13	-35.24
7369.39	H	-50.74	-13	-37.74

LTE CAT-M Band 12

Frequency Range	1GHz ~ 26.5GHz	Operating Channel	Low Channel

SPURIOUS EMISSION LEVEL				
Frequency (MHz)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin (dB)
1398.51	V	-54.25	-13	-41.49
2097.34	V	-47.36	-13	-34.4
15869.15	V	-45.42	-13	-32.06
1398.42	H	-50.53	-13	-37.83
2097.03	H	-52.19	-13	-39.07
10496.2	H	-48.27	-13	-35.19

Frequency Range	1GHz ~ 26.5GHz	Operating Channel	Middle Channel

SPURIOUS EMISSION LEVEL				
Frequency (MHz)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin (dB)
1414.8	V	-54.49	-13	-41.49
12515.8	V	-47.40	-13	-34.4
15869.9	V	-45.06	-13	-32.06
1418.2	H	-50.83	-13	-37.83
2128.8	H	-52.07	-13	-39.07
10496.2	H	-48.19	-13	-35.19

Frequency Range	1GHz ~ 26.5GHz	Operating Channel	High Channel

SPURIOUS EMISSION LEVEL				
Frequency (MHz)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin (dB)
1432.13	V	-54.16	-13	-41.49
2148.27	V	-47.39	-13	-34.4
15869.36	V	-45.25	-13	-32.06
1432.253	H	-50.61	-13	-37.83
2148.43	H	-52.37	-13	-39.07
10496.53	H	-48.78	-13	-35.19

LTE CAT-M Band 13

Frequency Range	1GHz ~ 26.5GHz	Operating Channel	Low Channel

SPURIOUS EMISSION LEVEL				
Frequency (MHz)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin (dB)
1554.23	V	-50.26	-13	-37.26
2331.75	V	-50.16	-13	-37.16
10684.43	V	-47.47	-13	-34.47
1554.29	H	-53.94	-13	-40.94
2331.16	H	-43.43	-13	-30.43
15358.18	H	-45.67	-13	-32.67

Frequency Range	1GHz ~ 26.5GHz	Operating Channel	Middle Channel

SPURIOUS EMISSION LEVEL				
Frequency (MHz)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin (dB)
2346.4	V	-50.09	-13	-37.09
8616	V	-50.75	-13	-37.75
10684.9	V	-47.76	-13	-34.76
1567.8	H	-53.03	-13	-40.03
2346.4	H	-43.54	-13	-30.54
15358.2	H	-45.81	-13	-32.81

Frequency Range	1GHz ~ 26.5GHz	Operating Channel	High Channel

SPURIOUS EMISSION LEVEL				
Frequency (MHz)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin (dB)
1574.26	V	-50.42	-13	-37.42
2361.42	V	-50.28	-13	-37.28
10684.41	V	-47.46	-13	-34.46
1574.47	H	-53.64	-13	-40.64
2361.25	H	-43.28	-13	-30.28
15358.37	H	-45.4	-13	-32.4

LTE NB-IOT Band 2

Frequency Range	1GHz ~ 26.5GHz	Operating Channel	Low Channel

SPURIOUS EMISSION LEVEL				
Frequency (MHz)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin (dB)
4955.9	V	-52.09	-13	-39.09
12471.6	V	-48.02	-13	-35.02
16743.7	V	-45.11	-13	-32.11
6071.1	H	-50.06	-13	-37.06
12475	H	-48.4	-13	-35.4
16774.3	H	-45.77	-13	-32.77

Frequency Range	1GHz ~ 26.5GHz	Operating Channel	Middle Channel

SPURIOUS EMISSION LEVEL				
Frequency (MHz)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin (dB)
3106.3	V	-53.74	-13	-40.74
6948.3	V	-50.76	-13	-37.76
12597.4	V	-48.26	-13	-35.26
5702.2	H	-51.19	-13	-38.19
10656	H	-48.84	-13	-35.84
16777.7	H	-45.53	-13	-32.53

Frequency Range	1GHz ~ 26.5GHz	Operating Channel	High Channel

SPURIOUS EMISSION LEVEL				
Frequency (MHz)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin (dB)
2972	V	-53.48	-13	-40.48
12811.6	V	-48.81	-13	-35.81
16597.5	V	-45.88	-13	-32.88
2972	H	-53.26	-13	-40.26
12476.7	H	-48.43	-13	-35.43
16684.2	H	-44.65	-13	-31.65

LTE NB-IOT Band 4

Frequency Range	1GHz ~ 26.5GHz	Operating Channel	Low Channel

SPURIOUS EMISSION LEVEL				
Frequency (MHz)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin (dB)
6028.6	V	-51.15	-13	-38.15
11594.4	V	-48.37	-13	-35.37
16607.7	H	-45.74	-13	-32.74
1561	H	-43.11	-13	-30.11
12082.3	H	-48.58	-13	-35.58
16743.7	H	-44.91	-13	-31.91

Frequency Range	1GHz ~ 26.5GHz	Operating Channel	Middle Channel

SPURIOUS EMISSION LEVEL				
Frequency (MHz)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin (dB)
7922.4	V	-50.19	-13	-37.19
12072.1	V	-48.08	-13	-35.08
16786.2	H	-44.95	-13	-31.95
5992.9	H	-51.12	-13	-38.12
12072.1	H	-47.86	-13	-34.86
16786.2	H	-44.75	-13	-31.75

Frequency Range	1GHz ~ 26.5GHz	Operating Channel	High Channel

SPURIOUS EMISSION LEVEL				
Frequency (MHz)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin (dB)
1601.8	V	-49.39	-13	-36.39
5991.2	V	-51.17	-13	-38.17
11548.5	H	-48.08	-13	-35.08
1448.8	H	-54.78	-13	-41.78
1601.8	H	-42.24	-13	-29.24
12362.8	H	-48.37	-13	-35.37

LTE NB-IOT Band 5

Frequency Range	1GHz ~ 26.5GHz	Operating Channel	Low Channel

SPURIOUS EMISSION LEVEL				
Frequency (MHz)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin (dB)
2472.2	V	-50.66	-13	-37.66
3221.9	V	-53.18	-13	-40.18
12471.6	V	-47.79	-13	-34.79
1647.7	H	-52.31	-13	-39.31
2472.2	H	-44.2	-13	-31.2
16709.7	H	-44.65	-13	-31.65

LTE NB-IOT Band 5

Frequency Range	1GHz ~ 26.5GHz	Operating Channel	Middle Channel

SPURIOUS EMISSION LEVEL				
Frequency (MHz)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin (dB)
1673.2	V	-54.39	-13	-41.39
2509.6	V	-52.86	-13	-39.86
11543.4	V	-48.56	-13	-35.56
1673.2	H	-50.02	-13	-37.02
2509.6	H	-47.65	-13	-34.65
12323.7	H	-48.26	-13	-35.26

LTE NB-IOT Band 5

Frequency Range	1GHz ~ 26.5GHz	Operating Channel	High Channel

SPURIOUS EMISSION LEVEL				
Frequency (MHz)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin (dB)
1697	V	-52.76	-13	-39.76
3422.5	V	-53.15	-13	-40.15
6147.6	V	-50.92	-13	-37.92
1697	H	-44	-13	-31
2545.3	H	-49.62	-13	-36.62
4927	H	-50.84	-13	-37.84

LTE NB-IOT Band 12

Frequency Range	1GHz ~ 26.5GHz	Operating Channel	Low Channel

SPURIOUS EMISSION LEVEL				
Frequency (MHz)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin (dB)
1499.8	V	-55.38	-13	-42.38
4301.4	V	-52.47	-13	-39.47
12439.3	V	-47.78	-13	-34.78
1397.8	H	-54.41	-13	-41.41
2096.5	H	-52.54	-13	-39.54
6919.4	H	-50.44	-13	-37.44

Frequency Range	1GHz ~ 26.5GHz	Operating Channel	Middle Channel

SPURIOUS EMISSION LEVEL				
Frequency (MHz)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin (dB)
1414.8	V	-53.82	-13	-40.82
5590	V	-50.13	-13	-37.13
9943.7	V	-49.47	-13	-36.47
1414.8	H	-46.01	-13	-33.01
2122	H	-50.88	-13	-37.88
5590	H	-50.84	-13	-37.84

Frequency Range	1GHz ~ 26.5GHz	Operating Channel	High Channel

SPURIOUS EMISSION LEVEL				
Frequency (MHz)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin (dB)
1431.8	V	-56.17	-13	-43.17
2331.1	V	-45.83	-13	-32.83
17836.8	V	-44.66	-13	-31.66
1431.8	H	-46.31	-13	-33.31
2147.5	H	-52.13	-13	-39.13
16753.9	H	-45.12	-13	-32.12

LTE NB-IOT Band 13

Frequency Range	1GHz ~ 26.5GHz	Operating Channel	Low Channel

SPURIOUS EMISSION LEVEL				
Frequency (MHz)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin (dB)
1552.5	V	-53.75	-13	-40.75
2360	V	-51.29	-13	-38.29
9785.6	V	-49.27	-13	-36.27
1552.5	H	-48.25	-13	-35.25
2331.1	H	-42.47	-13	-29.47
16592.4	H	-44.75	-13	-31.75

Frequency Range	1GHz ~ 26.5GHz	Operating Channel	Middle Channel

SPURIOUS EMISSION LEVEL				
Frequency (MHz)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin (dB)
1562.7	V	-55.27	-13	-42.27
2344.7	V	-52.36	-13	-39.36
5731.1	V	-51.26	-13	-38.26
1562.7	H	-51.09	-13	-38.09
2344.7	H	-43.99	-13	-30.99
6108.5	H	-50.99	-13	-37.99

Frequency Range	1GHz ~ 26.5GHz	Operating Channel	High Channel

SPURIOUS EMISSION LEVEL				
Frequency (MHz)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin (dB)
1572.9	V	-52.08	-13	-39.08
4910	V	-51.1	-13	-38.1
16544.8	V	-43.82	-13	-30.82
1572.9	H	-49.74	-13	-36.74
2360	H	-45.74	-13	-32.74
4910	H	-50.58	-13	-37.58

LTE NB-IOT Band 71

Frequency Range	1GHz ~ 26.5GHz	Operating Channel	Low Channel

SPURIOUS EMISSION LEVEL				
Frequency (MHz)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin (dB)
1324.7	V	-44.6	-13	-31.6
1987.7	V	-44.49	-13	-31.49
11774.6	V	-48.36	-13	-35.36
1324.7	H	-41.1	-13	-28.1
1987.7	H	-36.38	-13	-23.38
10708.7	H	-47.59	-13	-34.59

Frequency Range	1GHz ~ 26.5GHz	Operating Channel	Middle Channel

SPURIOUS EMISSION LEVEL				
Frequency (MHz)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin (dB)
1360.4	V	-56.91	-13	-43.91
2040.4	V	-50.44	-13	-37.44
7036.7	V	-51.14	-13	-38.14
1360.4	H	-51.91	-13	-38.91
2040.4	H	-43.49	-13	-30.49
6135.7	H	-51.21	-13	-38.21

Frequency Range	1GHz ~ 26.5GHz	Operating Channel	High Channel

SPURIOUS EMISSION LEVEL				
Frequency (MHz)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin (dB)
1394.4	V	-55.18	-13	-42.18
2040.4	V	-50.43	-13	-37.43
12456.3	V	-48.19	-13	-35.19
1394.4	H	-47.65	-13	-34.65
2093.1	H	-46.99	-13	-33.99
6091.5	H	-51.04	-13	-38.04

GSM 850

Frequency Range	1GHz ~ 26.5GHz	Operating Channel	Low Channel

SPURIOUS EMISSION LEVEL				
Frequency (MHz)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin (dB)
2472.16	V	-50.18	-13	-37.18
3221.29	V	-53.36	-13	-40.36
12471.37	V	-47.51	-13	-34.51
1647.42	H	-52.27	-13	-39.27
2472.53	H	-44.43	-13	-31.43
16709.27	H	-44.61	-13	-31.61

Frequency Range	1GHz ~ 26.5GHz	Operating Channel	Middle Channel

SPURIOUS EMISSION LEVEL				
Frequency (MHz)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin (dB)
1673.45	V	-54.42	-13	-41.42
2509.29	V	-52.37	-13	-39.37
11543.31	V	-48.59	-13	-35.59
1673.52	H	-50.24	-13	-37.24
2509.61	H	-47.47	-13	-34.47
12323.53	H	-48.26	-13	-35.26

Frequency Range	1GHz ~ 26.5GHz	Operating Channel	High Channel

SPURIOUS EMISSION LEVEL				
Frequency (MHz)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin (dB)
1697.51	V	-52.24	-13	-39.24
3422.37	V	-53.39	-13	-40.39
6147.43	V	-50.57	-13	-37.57
1697.29	H	-44.37	-13	-31.37
2545.75	H	-49.19	-13	-36.19
4927.46	H	-50.28	-13	-37.28

GSM 1900

Frequency Range	1GHz ~ 26.5GHz	Operating Channel	Low Channel

SPURIOUS EMISSION LEVEL				
Frequency (MHz)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin (dB)
4955.25	V	-52.36	-13	-39.36
12471.43	V	-48.27	-13	-35.27
16743.91	V	-45.84	-13	-32.84
6071.36	H	-50.56	-13	-37.56
12475.28	H	-48.35	-13	-35.35
16774.75	H	-45.76	-13	-32.76

Frequency Range	1GHz ~ 26.5GHz	Operating Channel	Middle Channel

SPURIOUS EMISSION LEVEL				
Frequency (MHz)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin (dB)
3106.47	V	-53.43	-13	-40.43
6948.39	V	-50.28	-13	-37.28
12597.64	V	-48.45	-13	-35.45
5702.28	H	-51.56	-13	-38.56
10656.94	H	-48.72	-13	-35.72
16777.39	H	-45.39	-13	-32.39

Frequency Range	1GHz ~ 26.5GHz	Operating Channel	High Channel

SPURIOUS EMISSION LEVEL				
Frequency (MHz)	Antenna Polarization	Level (dBm)	Limit (dBm)	Margin (dB)
2972.35	V	-53.28	-13	-40.28
12811.45	V	-48.61	-13	-35.61
16597.72	V	-45.72	-13	-32.72
2972.19	H	-53.13	-13	-40.13
12476.28	H	-48.67	-13	-35.67
16684.37	H	-44.45	-13	-31.45

Test Setup Photo

(Please refer to the attached file (Test Setup Photo)

IV. Test Equipment List

Calibrated test equipment utilized during testing was maintained in a current state of calibration per the requirements of ISO/IEC 17025:2017.

Asset #	Equipment	Manufacturer	Model	Last Cal Date	Cal Due Date
1S2003	EMI Test Receiver	Keysight	N9030B	October 08, 2021	October 08, 2022
1S2399	Turntable Controller	SUNOL SCIENCE	SC99V	Not Required	Not Required
1S2486	5 Meter Chamber Control Room	Panashield	5 Meter Control Room	Not Required	Not Required
1S2435	Horn Antenna	ETS-LINDGREN	3117	March 09, 2021	March 09, 2023
1S3826	Horn Antenna	ETS-LINDGREN	3117	March 09, 2021	March 09, 2023
1S4802	Preamplifier	EMC Instrument	EMC118A45SE	Note 1	Note 1
1S2668	Preamplifier	Sonoma Instrument	310N	Note 1	Note 1
1S2756	EXG Vector Signal Generator	Keysight	N5172B	August 27, 2022	August 27, 2024
1S2600	Antenna	TESEQ GmbH	D-12623	May 11, 2021	May 11, 2023
Note 1: Verified by calibrated instrumentation at the time of testing					

Table 1. Radiated Emission and Bandage Measurement, Test Equipment List

END OF REPORT

