

RF Exposure Report

Project Number: 5335078**Offer Number: SUW-202506008473****Report Number: SUW5335078EMC02****Report Revision: 1****Client: Deere & Company****Equipment Under Test: JDLINK™ R Modem - 4G with 6-ft Cable & Whip Antenna****Model: MA4R****FCC ID: OV5-MA4R****Applicable Standards: 47 C.F.R. § 2.1091 (Mobile)****FCC KDB 447498 D01 General RF Exposure Guidance v06****FCC OET Bulletin 65****Report issued on: 10 September 2025****Result: Compliant**

FOR THE SCOPE OF ACCREDITATION UNDER CERTIFICATE NUMBER: 3212.01

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TABLE OF CONTENTS

1	GENERAL INFORMATION.....	3
1.1	CLIENT INFORMATION.....	3
1.1	TEST LABORATORY.....	3
1.2	GENERAL INFORMATION OF EUT.....	3
2	RF EXPOSURE.....	4
2.1	TEST RESULT.....	4
2.2	TEST METHOD.....	4
2.3	SINGLE TRANSMISSION RF EXPOSURE LEVELS (mW/cm ²).....	4
2.4	SIMULTANEOUS CONDITIONS.....	5
3	REVISION HISTORY.....	6

1 General Information

1.1 Client Information

Name: Deere & Company dba John Deere Intelligent Solutions Group
Address: 9505 Northpark Dr.
City, State, Zip, Country: Urbandale, IA 50131 USA

1.1 Test Laboratory

Name: SGS North America, Inc.
Address: 620 Old Peachtree Road NW, Suite 100
City, State, Zip, Country: Suwanee, GA 30024, USA

Accrediting Body: A2LA
Type of lab: Testing Laboratory
Certificate Number: 3212.01

1.2 General Information of EUT

Manufacturer Name: Deere & Company
Address: One John Deere Place
City, State, Zip, Country: Moline, IL 61265

Product Marketing Name (PMN): JDLINK™R Modem - 4G
Model Number (HVIN): MA4R
Serial Number: PCMA4RA504062
FCC ID: OV5-MA4R

Frequency Range: 2402 – 2480 MHz (BLE)
2412 – 2462 MHz (WLAN)

Data Mode: Bluetooth Low Energy (BLE): GFSK (1Mbps)
WLAN: 802.11 b/g/nHT20/nHT40

Max Conducted Output Power: BLE: 3.6 dBm
WLAN: 19.9 dBm

Antenna Type / Gain*: Whip Antenna / 5.45 dBi (BLE & WLAN)

Cellular Bands: Power and antenna gain values from original filing used

Rated Voltage: 9 – 32 Vdc
Test Voltage: 12 Vdc

Sample Received Date: 27 June 2025
Dates of testing: 01-11 July 2025

** Antenna gain was not measured by SGS laboratory and therefore SGS is not responsible for accuracy. Data obtained via customer, specification sheet, previous regulatory filing or other.*

2 RF Exposure

2.1 Test Result

Test Description	Product Specific Standard	Test Result
RF Exposure	FCC Part 1.1310	Compliant

2.2 Test Method

Using the maximum power (including tune-up tolerances), the power density was calculated.

The formula below calculates power density.

$$S = \frac{PG}{4\pi R^2} \quad \text{or} \quad S = \frac{EIRP}{4\pi R^2}$$

where:

S = Power density (mW/cm²)

P = Maximum sourced based average power delivered to antenna port (mW)

G = Maximum numeric power gain of antenna relative to an isotropic radiator (dBi -> linear)

R = Distance between by-stander and antenna (cm)

EIRP = Equivalent (or effective) isotropically radiated power

2.3 Single Transmission RF Exposure Levels (mW/cm²)

Band of Operation		Conducted Power w/tolerance dBm	Antenna Gain	Cable Loss	Average EIRP		Distance (R) cm	Power Density EIRP _{avg} /(4πR ²) mW/cm ²	FCC mW/cm ²	% of Limit	Verdict
Type	MHz				dBm	mW					
LTE Band 2	1850-1910	25.0	-0.1	0.0	24.9	309	20	0.061	1.00	6.1%	Pass
LTE Band 4	1710-1755	25.0	0.7	0.0	25.7	372	20	0.074	1.00	7.4%	Pass
LTE Band 5	824-849	25.0	-0.3	0.0	24.7	295	20	0.059	0.55	10.7%	Pass
LTE Band 7	2500-2570	25.0	2.4	0.0	27.4	551	20	0.110	1.00	11.0%	Pass
LTE Band 12	699-716	25.0	-0.2	0.0	24.8	302	20	0.060	0.47	12.9%	Pass
LTE Band 13	777-787	25.0	-0.2	0.0	24.8	302	20	0.060	0.52	11.6%	Pass
LTE Band 26	814-849	25.0	3.5	0.0	28.5	708	20	0.141	0.54	26.0%	Pass
LTE Band 38	2570-2620	25.0	3.5	0.0	28.5	708	20	0.141	1.00	14.1%	Pass
LTE Band 41	2496-2690	25.0	3.5	0.0	28.5	708	20	0.141	1.00	14.1%	Pass
LTE Band 66	1710-1780	25.0	0.7	0.0	25.7	372	20	0.074	1.00	7.4%	Pass
WCDMA Band II	1850-1910	24.0	-0.1	0.0	23.9	245	20	0.049	1.00	4.9%	Pass
WCDMA Band IV	1710-1755	24.0	0.7	0.0	24.7	295	20	0.059	1.00	5.9%	Pass
WCDMA Band V	824-849	24.0	-0.3	0.0	23.7	237	20	0.047	0.55	8.6%	Pass
GSM 850	824-849	27.6	-0.3	0.0	27.3	542	20	0.108	0.55	19.6%	Pass
GSM 1900	1850-1910	24.6	-0.1	0.0	24.5	282	20	0.056	1.00	5.6%	Pass
WLAN 2.4	2400-2483.5	19.9	5.5	0.0	25.4	343	20	0.068	1.00	6.8%	Pass
Bluetooth LE	2400-2483.5	3.6	5.5	0.0	9.0	8	20	0.002	1.00	0.2%	Pass

2.4 Simultaneous Conditions

Simultaneous transmissions are evaluated using the highest percent of the limit results from each technology in the following equation.

$$\frac{S_1}{S_1 \text{ Limit}} + \frac{S_2}{S_2 \text{ Limit}} + \dots + \frac{S_n}{S_n \text{ Limit}} \leq 1.0$$

Type	WLAN 2.4	Bluetooth LE
LTE Band 2	13.0%	6.3%
LTE Band 4	14.2%	7.6%
LTE Band 5	17.5%	10.8%
LTE Band 7	17.8%	11.1%
LTE Band 12	19.7%	13.1%
LTE Band 13	18.4%	11.8%
LTE Band 26	32.8%	26.1%
LTE Band 38	20.9%	14.2%
LTE Band 41	20.9%	14.2%
LTE Band 66	14.2%	7.6%
WCDMA Band II	11.7%	5.0%
WCDMA Band IV	12.7%	6.0%
WCDMA Band V	15.4%	8.7%
GSM 850	26.4%	19.8%
GSM 1900	12.4%	5.8%
WLAN 2.4	-	7.0%
Bluetooth LE	7.0%	-

The highlighted cell above indicates the highest combined % of the limit, which needs to be < 100%.

3 Revision History

Revision Level	Description of changes	Revision Date
0	Initial release	31 July 2025
1	Updated the WLAN/BLE antenna gain to match the antenna datasheet	10 September 2025