RF Exposure Report

Project Number: 4975321 **Proposal:** SUW-202108001433

Report Number: 4975321EMC13 **Revision Level:** 2

Client: Deere & Company

Equipment Under Test: JDLink™ M Modem - 4G

Model Number: MA4M

FCC ID: OV5-MA4M

Applicable Standards: 47 C.F.R. §§ 2.1091; FCC KDB 447498
FCC OET Bulletin 65 Supplement

Report issued on: 19 December 2022

Test Result: Compliant

FOR THE SCOPE OF ACCREDITATION UNDER CERTIFICATE NUMBER: 3212.01
Report must not be used by the client to claim product certification, approval, or endorsement by A2LA, NIST, or any agency of the Federal Government.

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Stephen Whalen, EMC/SAR Manager

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1 General Information

1.1 *Client Information*

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

1.2 *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

1.3 *General Information of EUT*

Product Description:	JDLink™ M Modem - 4G
Model Number:	MA4M
Serial Number:	PCMA4MA101508
Modes of Operation:	LTE Bands 2/4/5/7/12/13/26/38/41/66 WCDMA Bands II / IV / V GSM 850 / 1900 802.11 b/g/nHT20/nHT40 BT GFSK/ Pi/4DQPSK/8DPSK/LE
Antenna Type:	Internal Proprietary
IMEI:	351072640039594
Sample Received Date:	24 October 2022
Dates of testing:	5-14 November 2022

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

1.4 *Operating Modes and Conditions*

For this assessment, the EUT's maximum power including the maximum tolerance was considered.

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. Maximum antenna gain was assumed for this exercise.

2.3 *Single transmission RF Exposure Levels*

Band of Operation		Conducted Power w/tolerance	Antenna Gain	Cable Loss	Average EIRP		Distance (R)	Power Density $EIRP_{Avg}/(4\pi R^2)$	FCC	% of Limit	Verdict
Type	MHz	dBm			dBm	mW	cm	mW/cm^2	mW/cm^2		
LTE Band 2	1850-1910	23.4	3.2	0.0	26.6	454	20	0.090	1.00	9.03%	Pass
LTE Band 4	1710-1755	23.8	4.1	0.0	27.9	614	20	0.122	1.00	12.2%	Pass
LTE Band 5	824-849	23.3	0.0	0.0	23.3	213	20	0.042	0.55	7.72%	Pass
LTE Band 7	2500-2570	22.4	4.2	0.0	26.6	457	20	0.091	1.00	9.09%	Pass
LTE Band 12	699-716	23.3	0.0	0.0	23.3	212	20	0.042	0.47	9.06%	Pass
LTE Band 13	777-787	23.1	0.5	0.0	23.6	230	20	0.046	0.52	8.82%	Pass
LTE Band 26	814-849	23.3	0.0	0.0	23.3	216	20	0.043	0.54	7.91%	Pass
LTE Band 38	2570-2620	23.2	4.2	0.0	27.4	546	20	0.109	1.00	10.86%	Pass
LTE Band 41	2496-2620	23.4	4.2	0.0	27.6	579	20	0.115	1.00	11.53%	Pass
LTE Band 66	1710–1780	23.5	4.1	0.0	27.6	571	20	0.114	1.00	11.37%	Pass
WCDMA Band II	1850-1910	20.1	3.2	0.0	23.3	216	20	0.043	1.00	4.29%	Pass
WCDMA Band IV	1710-1755	20.4	4.1	0.0	24.5	284	20	0.056	1.00	5.65%	Pass
WCDMA Band V	824-849	19.9	0.0	0.0	19.9	98	20	0.020	0.55	3.56%	Pass
GSM 850	824-849	25.0	0.0	0.0	25.0	318	20	0.063	0.55	11.51%	Pass
GSM 1900	1850-1910	21.8	3.2	0.0	25.0	313	20	0.062	1.00	6.22%	Pass
WLAN 2.4	2400-2483.5	17.8	4.0	0.0	21.8	151	20	0.030	1.00	3.01%	Pass
Bluetooth	2400-2483.5	5.1	4.0	0.0	9.1	8	20	0.002	1.00	0.16%	Pass
Bluetooth LE	2400-2483.5	2.8	4.0	0.0	6.8	5	20	0.001	1.00	0.10%	Pass

2.4 *Simultaneous transmission RF Exposure Levels*

Simultaneous Transmissions - Percent of Limit			
	WLAN 2.4	Bluetooth	Bluetooth LE
LTE Band 2	7.2%	6.3%	6.2%
LTE Band 4	8.5%	7.6%	7.5%
LTE Band 5	11.8%	10.9%	10.8%
LTE Band 7	12.0%	11.1%	11.0%
LTE Band 12	14.0%	13.1%	13.0%
LTE Band 13	12.7%	11.8%	11.7%
LTE Band 26	27.0%	26.1%	26.0%
LTE Band 38	15.2%	14.3%	14.1%
LTE Band 41	15.2%	14.3%	14.1%
LTE Band 66	8.5%	7.6%	7.5%
WCDMA Band II	6.0%	5.1%	4.9%
WCDMA Band IV	7.0%	6.1%	5.9%
WCDMA Band V	9.7%	8.7%	8.6%
GSM 850	20.7%	19.8%	19.7%
GSM 1900	6.7%	5.8%	5.7%
WLAN 2.4	--	1.3%	1.1%
Bluetooth	1.3%	--	--
Bluetooth LE	1.1%	--	--

Note: Highlighted value only indicates worst-case.

3 Revision History

Revision Level	Description of changes	Revision Date
0	Initial release	19 December 2022
1	Added trademark symbol to name JDLink™	18 January 2023
2	Removed 2.1093 and 802.11a per the TCB comments Updated company name and address in section 1.1	16 February 2023