RF Exposure Report

Project Number:	**5025746**	**Offer Number:**	**SUW-202210003579**
Report Number:	**5025746EMC01**	**Revision Level:**	**1**
Client:	**Deere & Company**		

Equipment Under Test: **Modular Telematics Gateway 4G LTE (MTG 4G LTE) with 18' LMR 240 UF Cable & MCR Whip Antenna**

Model Number: **MA4G**

FCC ID: **OV5-MA4G**

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

Report Revision on: **07 July 2023**

Test Result: **Compliant**

FOR THE SCOPE OF ACCREDITATION UNDER CERTIFICATE NUMBER: 3212.01
This 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.

Prepared by: Daniel Alvarez, RF/EMC Sr. Staff Engineer

Reviewed by: Martin Taylor, EMC/RF Project Engineer

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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

1.2 *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*

Manufacturer Name:	Deere & Company
Address:	One John Deere Place
City, State, Zip, Country:	Moline, IL 61265 USA
Product Description:	MTG 4G LTE
Model Number:	MA4G
PH Number:	90241530
Modes of Operation:	Wi-Fi 802.11 b/g/nHT20/nHT40 BT GFSK/ Pi/4DQPSK/8DPSK/ BLE 1M
Module Antenna Type:	MCR Wi-Fi Whip Antenna
Module Antenna Gain:	5 dBi
Sample Received Date:	23 March 2023
Dates of testing:	27 March 2023 – 19 June 2023

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	25.0	-0.1	0.0	24.9	309	20	0.061	1.00	6.15%	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	10.69%	Pass
LTE Band 17	704-716	25.0	-0.3	0.0	24.7	298	20	0.059	0.47	13%	Pass
WCDMA Band II	1850-1910	24.0	-0.1	0.0	23.9	245	20	0.049	1.00	4.88%	Pass
WCDMA Band IV	1710-1755	24.0	0.7	0.0	24.7	295	20	0.059	1.00	5.87%	Pass
WCDMA Band V	824-849	24.0	-0.3	0.0	23.7	237	20	0.047	0.55	8.57%	Pass
GSM 850	824-849	27.6	-0.3	0.0	27.3	542	20	0.108	0.55	19.63%	Pass
GSM 1900	1850-1910	24.6	-0.1	0.0	24.5	282	20	0.056	1.00	5.61%	Pass
WLAN 2.4	2400-2483.5	17.9	5.0	0.0	22.9	195	20	0.039	1.00	3.88%	Pass
Bluetooth	2400-2483.5	6.6	5.0	0.0	11.6	14	20	0.003	1.00	0.29%	Pass
Bluetooth LE	2400-2483.5	1.0	5.0	0.0	6.0	4	20	0.001	1.00	0.08%	Pass

2.4 *Simultaneous transmission RF Exposure Levels*

	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	--	4.1%	3.9%
Bluetooth	1.2%	--	--
Bluetooth LE	1.1%	--	--

Note: Highlighted value only indicates worst-case.

3 Revision History

Revision Level	Description of changes	Revision Date
0	Initial release	20 June 20, 2023
1	Updated sections 1.1, 1.3, and Equipment description on cover page.	07 July 2023