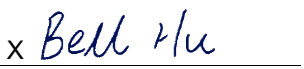


Prüfbericht-Nr.: Test report no.:	CN25PKKO 005	Auftrags-Nr.: Order no.:	168581316	Seite 1 von 12 Page 1 of 12
Kunden-Referenz-Nr.: Client reference no.:	N/A	Auftragsdatum: Order date:	2025-10-29	
Auftraggeber: Client:	Greenworks North America, LLC 500 South Main Street, Suite 450, Mooresville North Carolina United States 28115			
Prüfgegenstand: Test item:	Robotic Lawnmower/Tondeuse			
Bezeichnung / Typ-Nr.: Identification / Type no.:	C10X, C20X, C30X, C20, C10Z, C20Z, C30Z, RMC04VR, C40, C40Z, C80Z, C120Z, C80, C120, RMR20VR, G20AWD, G20AWDX, G40AWD, G40AWDX, G80AWDX, G120AWDX			
Auftrags-Inhalt: Order content:	Test Report			
Prüfgrundlage: Test specification:	CFR Title 47 FCC Part 2: Section 2.1091 RSS-102 Issue 6 December 2023			
Wareneingangsdatum: Date of sample receipt:	2025-11-06	Please refer to Photo Document		
Prüfmuster-Nr.: Test sample no.:	A004131142-001~009			
Prüfzeitraum: Testing period:	2025-11-26 - 2025-12-02			
Ort der Prüfung: Place of testing:	TÜV Rheinland (Shenzhen) Co., Ltd.			
Prüflaboratorium: Testing laboratory:	TÜV Rheinland (Shenzhen) Co., Ltd.			
Prüfergebnis*: Test result*:	Pass			
geprüft von: tested by:			genehmigt von: authorized by:	
Datum: Date:	2026-03-12	Ausstellungsdatum: Issue date:		2026-03-12
Stellung / Position:	Sachverständige(r)/Expert	Stellung / Position:		Sachverständige(r)/Expert
Sonstiges / Other:	FCC ID: 2BB85-GWRLM0506 IC: 33161-GWRLM0506 HVIN: C10X, C20X, C30X, C20, C10Z, C20Z, C30Z, RMC04VR, C40, C40Z, C80Z, C120Z, C80, C120, RMR20VR, G20AWD, G20AWDX, G40AWD, G40AWDX, G80AWDX, G120AWDX			
Zustand des Prüfgegenstandes bei Anlieferung: Condition of the test item at delivery:	Prüfmuster vollständig und unbeschädigt Test item complete and undamaged			
* Legende:	P(ass) = entspricht o.g. Prüfgrundlage(n)	F(ail) = entspricht nicht o.g. Prüfgrundlage(n)	N/A = nicht anwendbar	N/T = nicht getestet
* Legend:	P(ass) = passed a.m. test specification(s)	F(ail) = failed a.m. test specification(s)	N/A = not applicable	N/T = not tested
Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens. <i>This test report only relates to the above mentioned test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark.</i>				

Prüfbericht-Nr.: CN25PKKO 005
Test report no.:

Seite 2 von 12
Page 2 of 12

Anmerkungen
Remarks

1	Alle eingesetzten Prüfmittel waren zum angegebenen Prüfzeitraum gemäß eines festgelegten Kalibrierungsprogramms unseres Prüfhauses kalibriert. Sie entsprechen den in den Prüfprogrammen hinterlegten Anforderungen. Die Rückverfolgbarkeit der eingesetzten Prüfmittel ist durch die Einhaltung der Regelungen unseres Managementsystems gegeben. Detaillierte Informationen bezüglich Prüfkonditionen, Prüfequipment und Messunsicherheiten sind im Prüflabor vorhanden und können auf Wunsch bereitgestellt werden. <i>The equipment used during the specified testing period was calibrated according to our test laboratory calibration program. The equipment fulfils the requirements included in the relevant standards. The traceability of the test equipment used is ensured by compliance with the regulations of our management system. Detailed information regarding test conditions, equipment and measurement uncertainty is available in the test laboratory and could be provided on request.</i>
2	Wie vertraglich vereinbart, wurde dieses Dokument nur digital unterzeichnet. Der TÜV Rheinland hat nicht überprüft, welche rechtlichen oder sonstigen diesbezüglichen Anforderungen für dieses Dokument gelten. Diese Überprüfung liegt in der Verantwortung des Benutzers dieses Dokuments. Auf Verlangen des Kunden kann der TÜV Rheinland die Gültigkeit der digitalen Signatur durch ein gesondertes Dokument bestätigen. Diese Anfrage ist an unseren Vertrieb zu richten. Eine Umweltgebühr für einen solchen zusätzlichen Service wird erhoben. Informationen zur Verifizierung der Authentizität unserer Dokumente erhalten Sie auf folgender Webseite: go.tuv.com/digital-signature <i>As contractually agreed, this document has been signed digitally only. TUV Rheinland has not verified and unable to verify which legal or other pertaining requirements are applicable for this document. Such verification is within the responsibility of the user of this document. Upon request by its client, TUV Rheinland can confirm the validity of the digital signature by a separate document. Such request shall be addressed to our Sales department. An environmental fee for such additional service will be charged. For information on verifying the authenticity of our documents, please visit the following website: go.tuv.com/digital-signature</i>
3	Prüfklausel mit der Note * wurden an qualifizierte Unterauftragnehmer vergeben und sind unter der jeweiligen Prüfklausel des Berichts beschrieben. Abweichungen von Prüfspezifikation(en) oder Kundenanforderungen sind in der jeweiligen Prüfklausel im Bericht aufgeführt. <i>Test clauses with remark of * are subcontracted to qualified subcontractors and described under the respective test clause in the report.</i> <i>Deviations of testing specification(s) or customer requirements are listed in specific test clause in the report.</i>
4	Die Entscheidungsregel für Konformitätserklärungen basierend auf numerischen Messergebnissen in diesem Prüfbericht basiert auf der "Null-Grenzwert-Regel" und der "Einfachen Akzeptanz" gemäß ILAC G8:2019 und IEC Guide 115:2023, es sei denn, in der auf Seite 1 dieses Berichts genannten angewandten Norm ist etwas anderes festgelegt oder vom Kunden gewünscht. Dies bedeutet, dass die Messunsicherheit nicht berücksichtigt wird und daher auch nicht im Prüfbericht angegeben wird. Zu weiteren Informationen bezüglich des Risikos durch diese Entscheidungsregel siehe ILAC G8:2019. <i>The decision rule for statements of conformity, based on numerical measurement results, in this test report is based on the "Zero Guard Band Rule" and "Simple Acceptance" in accordance with ILAC G8:2019 and IEC Guide 115:2023, unless otherwise specified in the applied standard mentioned on Page 1 of this report or requested by the customer. This means that measurement uncertainty is not taken in account and hence also not declared in the test report. For additional information to the resulting risk based of this decision rule please refer to ILAC G8:2019.</i>

Prüfbericht - Nr.: CN25PKKO 005
Test Report No.:

Seite 3 von 12
Page 3 of 12

Test Summary

3.1.1 RF EXPOSURE COMPLIANCE
RESULT: Pass

Contents

1.	TEST SITES.....	5
1.1	TEST FACILITIES.....	5
1.2	TRACEABILITY.....	5
1.3	CALIBRATION.....	5
1.4	LOCATION OF ORIGINAL DATA.....	5
1.5	STATUS OF FACILITY USED FOR TESTING.....	5
2.	GENERAL PRODUCT INFORMATION.....	6
2.1	PRODUCT FUNCTION AND INTENDED USE.....	6
2.2	RATING AND SYSTEM DETAILS.....	6
3.	TEST RESULTS.....	8
3.1	RF EXPOSURE EVALUATION.....	8
3.1.1	RF Exposure Compliance.....	8

1. Test Sites

1.1 Test Facilities

TÜV Rheinland (Shenzhen) Co., Ltd.

2-3F, 101 & 102, No.2, Nuclear Power Industrial Park, Fuming Community, Fucheng Street, Longhua District, Shenzhen 518000, China

FCC Accreditation Designation No.: 694916

ISED wireless device testing laboratory: 25069

1.2 Traceability

All measurement equipment calibrations are traceable to NIST or where calibration is performed outside the United States, to equivalent nationally recognized standards organizations.

1.3 Calibration

Equipment requiring calibration is calibrated periodically by the manufacturer or according to manufacturer's specifications. Additionally all equipment is verified for proper performance on a regular basis using in house standards or comparisons.

1.4 Location of Original Data

The original copies of all test data taken during actual testing were attached at Appendixes of this report and delivered to the applicant. A copy has been retained in the TÜV Rheinland (Shenzhen) file for certification follow-up purposes.

1.5 Status of Facility Used for Testing

The TÜV Rheinland (Shenzhen) Co., Ltd. Test facility located at 2-3F, 101 & 102, No.2, Nuclear Power Industrial Park, Fuming Community, Fucheng Street, Longhua District, Shenzhen 518000, China is listed on the US Federal Communications Commission list of facilities approved to perform measurements.

2. General Product Information

2.1 Product Function and Intended Use

The Product is a Robotic Lawnmower/Tondeuse which supports Bluetooth, 2.4GHz Wi-Fi, LTE and Lora functions.

Models C10X, C20X, C30X, C20, C10Z, C20Z, C30Z, RMC04VR, C40, C40Z, C80Z, C120Z, C80, C120, RMR20VR, G20AWD, G20AWDX, G40AWD, G40AWDX, G80AWDX, G120AWDX are the same including the circuit theory, electrical design, the critical components except for the appearance and Recommended Mowing Area by the software setting.

This product contains a Lora Module "M4" (FCC ID: 2BM2K-M4; IC: 33426-M4) and a LTE module "MC116-NA" (FCC ID: ZMOMC116NA; IC: 21374-MC116NA).

For details refer to the User Manual, Technical Description and Circuit Diagram.

2.2 Rating and System details

Table 1: Technical Specification of EUT

General Information of EUT	Value
Kind of Equipment:	Robotic Lawnmower
Type Designation:	C10X, C20X, C30X, C20, C10Z, C20Z, C30Z, RMC04VR, C40, C40Z, C80Z, C120Z, C80, C120, RMR20VR, G20AWD, G20AWDX, G40AWD, G40AWDX, G80AWDX, G120AWDX
FCC ID:	2BB85-GWRLM0506
IC:	33161-GWRLM0506
HVIN:	C10X, C20X, C30X, C20, C10Z, C20Z, C30Z, RMC04VR, C40, C40Z, C80Z, C120Z, C80, C120, RMR20VR, G20AWD, G20AWDX, G40AWD, G40AWDX, G80AWDX, G120AWDX
Operating Voltage:	DC 21.6V input via internal rechargeable battery or charging by Charging Station
Testing Voltage:	Fully charged battery
Technical Specification of Bluetooth LE	
Operating Frequency:	2402-2480MHz
Type of Modulation:	GFSK
Channel Number:	40 channels
Data Rate:	1 Mbps, 2 Mbps
Channel Separation:	2 MHz
Antenna Type:	Integral Antenna
Antenna Gain:	2.77 dBi (Provided by the Client)
Technical Specification of 2.4GHz Wi-Fi	
Operating Frequency:	2412 - 2462MHz for 802.11b/g/n(HT20)
Type of Modulation:	DSSS(DBPSK/DQPSK/CCK) OFDM(BPSK/QPSK/16QAM/64QAM)
Data Rate:	1/2/5.5/11 Mbps for 802.11b 6/9/12/18/24/36/48/54 Mbps for 802.11g MCS0 ~ MCS7 for 802.11n

Prüfbericht - Nr.: CN25PKKO 005

Test Report No.:

Seite 7 von 12
Page 7 of 12

Channel Number:	11 channels for 802.11b/g/n(HT20)
Channel Separation:	5 MHz
Antenna Type:	Integral Antenna
Antenna Number:	1Tx1Rx
Antenna Gain:	2.77 dBi (Provided by the Client)
Technical Specification of Lora	
Operating Frequency:	902.5 – 927.49 MHz
Type of Modulation:	CSS
Channel Number:	50 channels
Channel Separation:	510kHz
Antenna Type:	Integral Antenna
Antenna Gain:	1.30 dBi (Provided by the Client)
Technical Specification of LTE	
LTE Operation Band:	LTE Band 2 Uplink: 1850-1910MHz, Downlink: 1930-1990MHz LTE Band 4 Uplink: 1710-1755MHz, Downlink: 2110-2155MHz LTE Band 5 Uplink: 824-849MHz, Downlink: 869-894MHz LTE Band12 Uplink: 699-716MHz, Downlink: 729-746MHz LTE Band13 Uplink: 777-787 MHz, Downlink: 746-756MHz LTE Band 17 Uplink: 706-714MHz, Downlink: 736-744MHz LTE Band 66 Uplink: 1710-1780MHz, Downlink: 2110-2180MHz
Type of Modulation:	QPSK, 16QAM
Antenna Type:	Integral Antenna
Antenna Gain:	LTE B2: 2.48dBi LTE B4: 1.99dBi LTE B5: 1.17dBi LTE B12: 1.70dBi LTE B13: 1.22dBi LTE B17: 1.70dBi LTE B66: 2.23dBi (Provided by the Client)

3. Test Results

3.1 RF Exposure Evaluation

3.1.1 RF Exposure Compliance

RESULT:**Pass**

Test standard : CFR Title 47 FCC Part 2.1091
RSS-102 Issue 6

Limit : Table 1 of CFR Title 47 FCC Part 1.1310
Section 6.6 of RSS-102 Issue 6

This device is mobile device, and the applicant declares that the minimum separation distance is greater than 20cm. Therefore, MPE measurement or computational modelling should be used to determine compliance.

Radio Frequency Exposure Calculation Formula:

$$S = \frac{PG}{4\pi R^2}$$

where: S = power density (in appropriate units, e.g. mW/cm²)
P = power input to the antenna (in appropriate units, e.g., mW)
G = power gain of the antenna in the direction of interest relative to an isotropic radiator
R = distance to the center of radiation of the antenna (appropriate units, e.g., cm)

or:

$$S = \frac{EIRP}{4\pi R^2}$$

where: EIRP = equivalent (or effective) isotropically radiated power

3.1.1.1 RF Exposure Compliance Requirement for FCC

a) Radio Frequency Exposure Limit

According to ANSI/IEEE C95.1-1992, the criteria listed in Table 1 shall be used to evaluate the environmental impact of human exposure to radio frequency (RF) radiation as specified in §1.1310.

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposures				
0.3-3.0	614	1.63	*(100)	6
3.0-30	1842/f	4.89/f	*(900/f ²)	6
30-300	61.4	0.163	1.0	6
300-1500			f/300	6
1500-100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*(180/f ²)	30
30-300	27.5	0.073	0.2	30
300-1500			f/1500	30
1500-100,000			1.0	30

f = frequency in MHz. * = Plane-wave equivalent power density.

b) RF Exposure Calculations for FCC, stand-alone mode

Operating Mode	Max. Peak power incl. tune-up (dBm)	Antenna Gain (dBi)	Max. EIRP (dBm)	Distance (cm)	MPE Pd (mW/cm ²)	Limit (mW/cm ²)	Verdict
Lora	21.0	1.30	22.3	20	0.0338	0.60	Pass
Bluetooth	7.0	2.77	9.77	20	0.0019	1.0	Pass
2.4GHz Wi-Fi	24.0	2.77	26.77	20	0.0946	1.0	Pass

Operating Mode	Max. Power incl. tune-up (dBm)	Antenna Gain (dBi)	Max. E.R.P./ E.I.R.P. (dBm)	Distance (cm)	Calculation (mW/cm ²)	FCC Limit (mW/cm ²)	Result
LTE B2	25	2.48	27.48	20	0.1114	1.0	PASS
LTE B4	25	1.99	26.99	20	0.0995	1.0	PASS
LTE B5	25	1.17	26.17	20	0.0824	0.55	PASS
LTE B12	25	1.70	26.70	20	0.0931	0.466	PASS
LTE B13	25	1.22	26.22	20	0.0834	0.52	PASS
LTE B17	25	1.70	26.7	20	0.0931	0.471	PASS
LTE B66	25	2.23	27.23	20	0.1052	1.0	PASS

c) RF Exposure Calculations for FCC, Simultaneous mode

Per KDB 447498 D01 v06, simultaneous transmission MPE test exclusion applies when the sum of the MPE ratios for all simultaneous transmitting antennas incorporated in a host device, based on calculated or measured field strengths or power density, is ≤ 1.0 .

Simultaneous transmission Scenarios

No.	Simultaneous transmission Scenarios
1	Lora + Bluetooth + LTE
2	Lora + 2.4GHz Wi-Fi +LTE

No.	Mode	Calculation (mW/cm ²)	Limit (mW/cm ²)	Calculation	Limit	Verdict
1	Lora	0.034	0.60	0.258	1	Pass
	Bluetooth	0.002	1.0			
	LTE	0.093	0.466			
2	Lora	0.034	0.60	0.242	1	Pass
	2.4GHz Wi-Fi	0.079	1.0			
	LTE	0.095	0.466			

d) Conclusion

Therefore the maximum calculations result of above are meet the requirement of Radio Frequency Exposure (MPE) limit.

3.1.1.2 RSS-102 Exemption Limits for Routine Evaluation – RF Exposure Evaluation

Field reference level (FRL) exposure evaluation is required if the separation distance between the user and/or bystander and the device's radiating element is greater than 20 cm (i.e. mobile devices), except when the device operates as follows:

- below 20 MHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than 1 W (adjusted for tune-up tolerance);
- at or above 20 MHz and below 48 MHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than $4.49/f^{0.5}$ W (adjusted for tune-up tolerance), where f is in MHz;
- at or above 48 MHz and below 300 MHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than 0.6 W (adjusted for tune-up tolerance);
- at or above 300 MHz and below 6 GHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than $1.31 \times 10^{-2} f^{0.6834}$ W (adjusted for tune-up tolerance), where f is in MHz;
- at or above 6 GHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than 5 W (adjusted for tune-up tolerance).

In these cases, the information contained in the RF exposure technical brief may be limited to information that demonstrates how the e.i.r.p. was derived.

a) RF Exposure Calculations for ISSED, Stand-alone mode

Operating Mode	Max. EIRP incl. tune-up (dBm)	Distance (cm)	Maximum EIRP (W)	Threshold power (W)	Verdict
*LORA	22.3	20	0.170	1.37	Pass
*Bluetooth	9.77	20	0.009	2.68	Pass
*2.4GHz Wi-Fi	26.77	20	0.475	2.70	Pass

Note: *refer to reports CN25PKKO 002 and 003 for output power.

Operating Mode	Max. average Power incl. tune-up (dBm)	Distance (cm)	Antenna gain (dBi)	EIRP (W)	Threshold power (W)	Verdict
LTE Band 2	25.00	20	2.48	0.560	2.239	Pass
LTE Band 4	25.00	20	1.99	0.500	2.122	Pass
LTE Band 5	25.00	20	1.17	0.414	1.288	Pass
LTE Band 12	25.00	20	1.70	0.468	1.151	Pass
LTE Band 13	25.00	20	1.22	0.419	1.238	Pass
LTE Band 17	25.00	20	1.70	0.468	1.157	Pass
LTE Band 66	25.00	20	2.23	0.528	2.122	Pass

Note: *refer to reports CN25PKKO 004 for output power.

Prüfbericht - Nr.: CN25PKKO 005
Test Report No.:**Seite 12 von 12**
Page 12 of 12**b) RF Exposure Calculations for ISED, Simultaneous mode**

Co-location Mode	Sum of the ratios	Limit	Verdict
LORA + Bluetooth + LTE B12	$0.17/1.37 + 0.009/2.68 + 0.468/1.151 = 0.534$	1.0	Pass
LORA + Wi-Fi + LTE B12	$0.17/1.37 + 0.475/2.7 + 0.468/1.151 = 0.707$	1.0	Pass

c) Conclusion

“RF Radiation Exposure Statement Caution: This Transmitter must be installed to provide a separation distance of at least 20 cm from all persons.”