

RF TEST REPORT

Applicant Positec Technology (China) Co., Ltd.

FCC ID 2ASC3KR238

Product Robotic Lawnmower

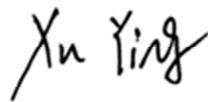
Brand KRESS

Model KR238

Report No. EFTA26030082-IE-05-R3V1

Issue Date May 12, 2026

Eurofins TA Technology (Shanghai) Co., Ltd. tested the above equipment in accordance with the requirements in **FCC CFR47 Part 15C**. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.



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Version	Revision Description	Issue Date
Rev.0	Initial issue of report.	April 27, 2026
Rev.1	Update description.	May 12, 2026
Note: This revised report (Report No.: EFTA26030082-IE-05-R3V1) supersedes and replaces the previously issued report (Report No.: EFTA26030082-IE-05-R3). Please discard or destroy the previously issued report and dispose of it accordingly.		

Summary of Measurement Results

Number	Test Case	Clause in FCC rules	Verdict
1	Maximum output power	Refer to the Module report (Model: ESP32-C3-MINI-1; Report No.: Report No.: R2103A0270-R1V2 for Bluetooth LE; FCC ID: 2AC7Z-ESPC3MINI1, Grant date: 06/16/2021)	
2	99% Bandwidth and 6dB Bandwidth		
3	Power spectral density		
4	Band Edge		
5	Spurious RF Conducted Emissions		
6	Unwanted Emissions	15.247(d), 15.205, 15.209	PASS
7	Conducted Emissions	15.207	PASS
Date of Testing: March 26, 2026 ~ April 10, 2026			
Date of Sample Received: March 9, 2026			
Note: All indications of Pass/Fail in this report are opinions expressed by Eurofins TA Technology (Shanghai) Co., Ltd. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only.			

This report is also used for standard upgrade.

According to customer requirements the detailed standard upgrade please refers to following table:

Old Standard(s)	New Standard(s)
ANSI C63.10-2013	ANSI C63.10-2020+Cor.1-2023

After technical evaluation, the original report conforms to the technical assessment of the new standards. So the standard upgrade does not require to add any test.

1. Test Laboratory

1.1. Notes of the Test Report

This report shall not be reproduced in full or partial, without the written approval of **Eurofins TA Technology (Shanghai) Co., Ltd.** The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. Measurement Uncertainties were not taken into account and are published for informational purposes only. This report is written to support regulatory compliance of the applicable standards stated above.

1.2. Test Facility

FCC (Designation number: CN1179, Test Firm Registration Number: 446626)

Eurofins TA Technology (Shanghai) Co., Ltd. has been listed on the US Federal Communications Commission list of test facilities recognized to perform measurements.

A2LA (Certificate Number: 3857.01)

Eurofins TA Technology (Shanghai) Co., Ltd. has been listed by American Association for Laboratory Accreditation to perform measurement.

1.3. Testing Location

Company: Eurofins TA Technology (Shanghai) Co., Ltd.
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City: Shanghai
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2. General Description of Equipment Under Test

2.1. Applicant and Manufacturer Information

Applicant	Positec Technology (China) Co., Ltd.
Applicant address	18, Dongwang Road, Suzhou Industrial Park, Jiangsu 215123, P.R.China
Manufacturer	Positec Technology (China) Co., Ltd.
Manufacturer address	18, Dongwang Road, Suzhou Industrial Park, Jiangsu 215123, P.R.China

2.2. General Information

EUT Description	
Model	KR238
Lab internal SN	260309-28-001
Hardware Version	PLH100.4.10
Software Version	6.1.6+14
Power Supply	Battery / AC adapter
Antenna Type	PCB Antenna
Antenna Connector	A permanently attached antenna (meet with the standard FCC Part 15.203 requirement)
Antenna Gain	3.96dBi
Additional Beamforming Gain	NA
Operating Frequency Range(s)	Bluetooth LE: 2402 ~2480 MHz
Modulation Type	Bluetooth LE: GFSK
Operating Voltage	Minimum: 46VDC Maximum: 62.5VDC
State voltage	60Vdc
EUT Accessory	
Adapter 1	Manufacturer: Positec Technology (China) Co., Ltd. Model: KA0086
Battery 1	Manufacturer: Positec Technology (China) Co., Ltd. Model: KA3310
Note:	
1. The EUT is sent from the applicant to Eurofins TA and the information of the EUT is declared by the applicant.	

3. Applied Standards

According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

Test standards:

FCC CFR47 Part 15C Radio Frequency Devices

ANSI C63.10-2020+Cor.1-2023

Reference standard:

KDB 558074 D01 15.247 Meas Guidance v05r02

4. Test Configuration

Test Mode

The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application.

In order to find the worst case condition, Pre-tests are needed at the presence of different data rate. Preliminary tests have been done on all the configuration for confirming worst case. Data rate below means worst-case rate of each test item.

Worst-case data rates are shown as following table.

Test Mode	Data Rate
Bluetooth (Low Energy)	1Mbps, 2Mbps

5. Test Case

5.1. Unwanted Emission

Ambient Condition

Temperature	Relative humidity	Pressure
25°C	57%	101.3 kPa

Method of Measurement

The test set-up was made in accordance to the general provisions of ANSI C63.10.

The Equipment Under Test (EUT) was set up on a non-conductive table in the semi-anechoic chamber. The test was performed at the distance of 3 m/10m below 1GHz, 3m above 1GHz between the EUT and the receiving antenna.

The turntable shall be rotated from 0 to 360 degrees for detecting the maximum of radiated spurious signal level. The measurements shall be repeated with orthogonal polarization of the test antenna. The data of cable loss and antenna factor has been calibrated in full testing frequency range before the testing. Sweep the Restricted Band and the emissions less than 20 dB below the permissible value are reported.

The radiated emissions measurements were made in a typical installation configuration.

Sweep the whole frequency band through the range from 9 kHz to the 10th harmonic of the carrier, and the emissions less than 20 dB below the permissible value are reported.

This method refer to ANSI C63.10.

The procedure for peak unwanted emissions measurements above 1000 MHz is as follows:

Set the spectrum analyzer in the following:

9kHz~150 kHz

RBW=200Hz, VBW=1kHz/ Sweep=AUTO

150 kHz~30MHz

RBW=9kHz, VBW=30kHz,/ Sweep=AUTO

Below 1GHz

RBW=100kHz / VBW=300kHz / Sweep=AUTO

a) Peak emission levels are measured by setting the instrument as follows:

Above 1GHz

PEAK: RBW=1MHz VBW=3MHz/ Sweep=AUTO

b) Average emission levels are measured by setting the instrument as follows:

Above 1GHz

AVERAGE: RBW=1MHz / VBW=3MHz / Sweep=AUTO

c) Detector: The measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.

d) Averaging type = power (i.e., rms) (As an alternative, the detector and averaging type may be set

for linear voltage averaging. Some instruments require linear display mode to use linear voltage averaging. Log or dB averaging shall not be used.)

e) Sweep time = auto.

f) Perform a trace average of at least 100 traces if the transmission is continuous. If the transmission is not continuous, then the number of traces shall be increased by a factor of $1 / D$, where D is the duty cycle. For example, with 50% duty cycle, at least 200 traces shall be averaged. (If a specific emission is demonstrated to be continuous—i.e., 100% duty cycle—then rather than turning ON and OFF with the transmit cycle, at least 100 traces shall be averaged.)

g) If tests are performed with the EUT transmitting at a duty cycle less than 98%, then a correction factor shall be added to the measurement results prior to comparing with the emission limit, to compute the emission level that would have been measured had the test been performed at 100% duty cycle. The correction factor is computed as follows:

1) If power averaging (rms) mode was used in the preceding step e), then the correction factor is $[10 \log (1 / D)]$, where D is the duty cycle. For example, if the transmit duty cycle was 50%, then 3 dB shall be added to the measured emission levels.

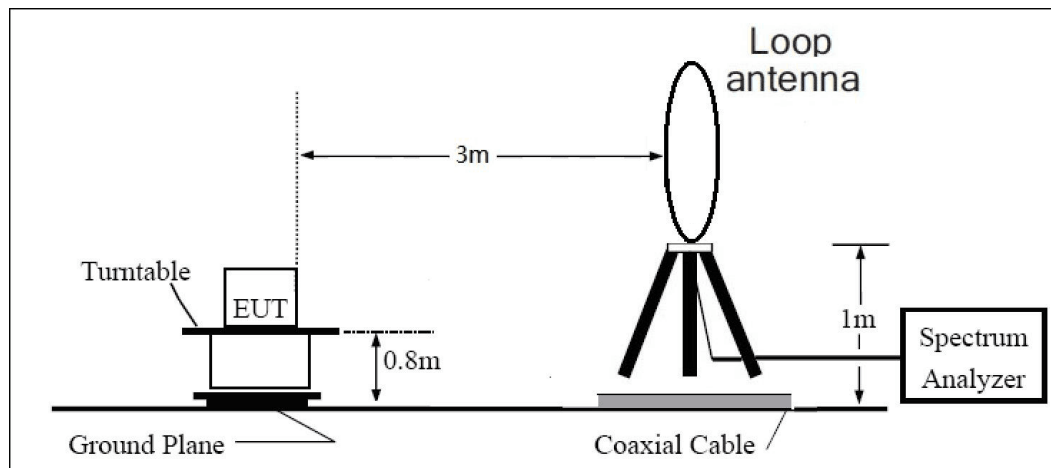
2) If linear voltage averaging mode was used in the preceding step e), then the correction factor is $[20 \log (1 / D)]$, where D is the duty cycle. For example, if the transmit duty cycle was 50%, then 6 dB shall be added to the measured emission levels.

3) If a specific emission is demonstrated to be continuous (100% duty cycle) rather than turning ON and OFF with the transmit cycle, then no duty cycle correction is required for that emission.

The test is in transmitting mode.

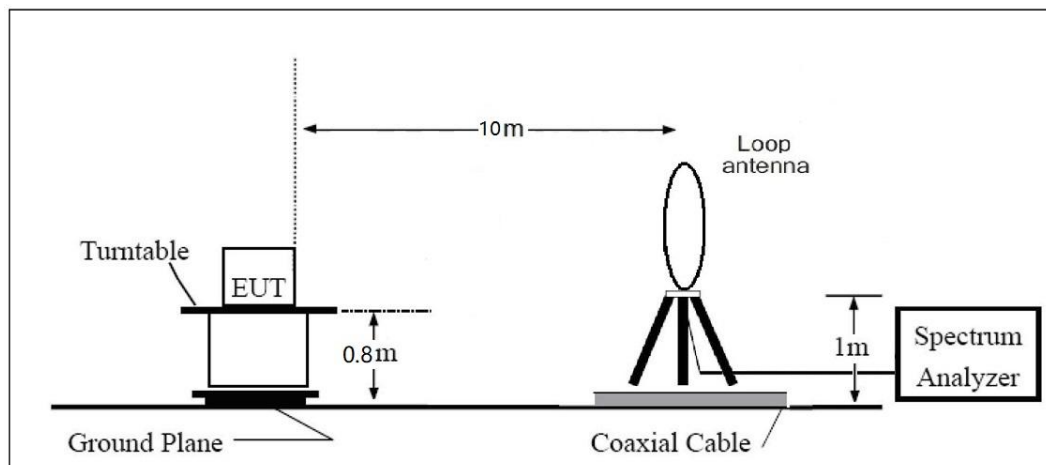
Test Setup

9kHz~ 30MHz



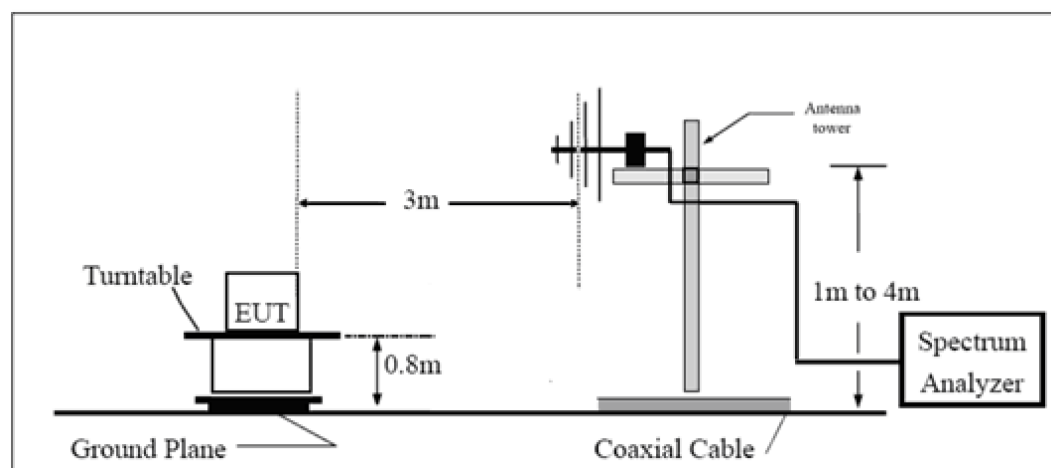
Note: Area side:2.4mX3.6m

Distance 10m



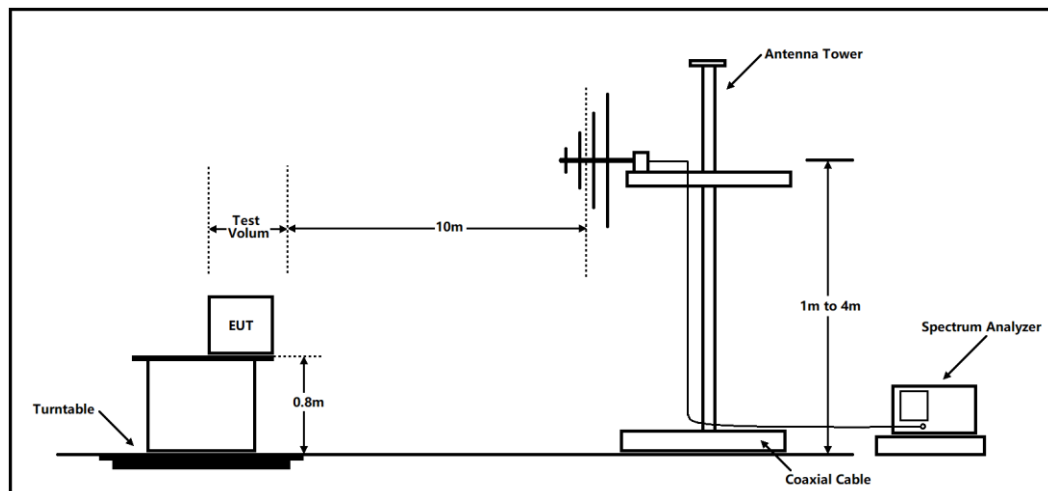
Note: Area side: 21m x 12m

30MHz~ 1GHz



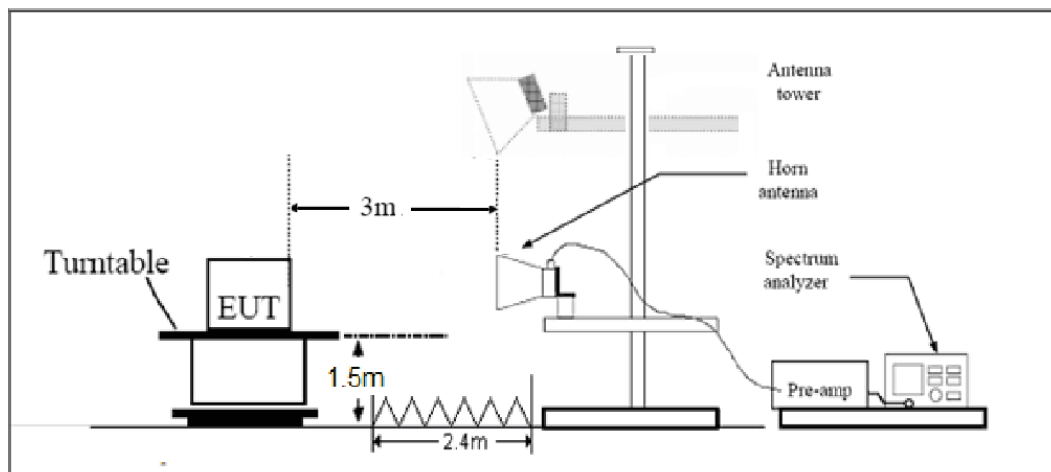
Note: Area side:2.4mX3.6m

Distance 10m



Note: Area side: 21m x 12m

Above 1GHz



Note: Area side:2.4mX3.6m

Limits

Rule Part 15.247(d) specifies that “In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a) (see § 15.205(c)).”

Limit in restricted band

Frequency of emission (MHz)	Field strength (μV/m)	Field strength (dBμV/m) @ 3 m	Field strength (dBμV/m) @ 10 m
0.009–0.490	2400/F(kHz)	/	/
0.490–1.705	24000/F(kHz)	/	/
1.705–30.0	30	/	/
30-88	100	40	30
88-216	150	43.5	33.5
216-960	200	46	36
960 -1000	500	54	44
Above 1000	500	54	--

§15.35(b)

There is also a limit on the radio frequency emissions, as measured using instrumentation with a peak detector function, corresponding to 20 dB above the maximum permitted average limit.

Peak Limit=74 dBμV/m

Average Limit=54 dBμV/m

Spurious Radiated Emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
¹ 0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	(²)
13.36-13.41			

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = 1.96$.

Frequency	Uncertainty for 3m
9kHz-30MHz	3.55 dB
30MHz-200MHz	4.17 dB
200MHz-1GHz	4.84 dB
1-18GHz	4.35 dB
18-26.5GHz	5.90 dB
26.5GHz~40GHz	5.92 dB
Frequency	Uncertainty for 10m
30MHz – 200MHz	3.39 dB
200MHz – 1GHz	3.82 dB
1GHz – 18GHz	6.51 dB
18GHz – 40GHz	6.31 dB

5.2. Conducted Emission

Ambient Condition

Temperature	Relative humidity	Pressure
25°C	57%	101.3 kPa

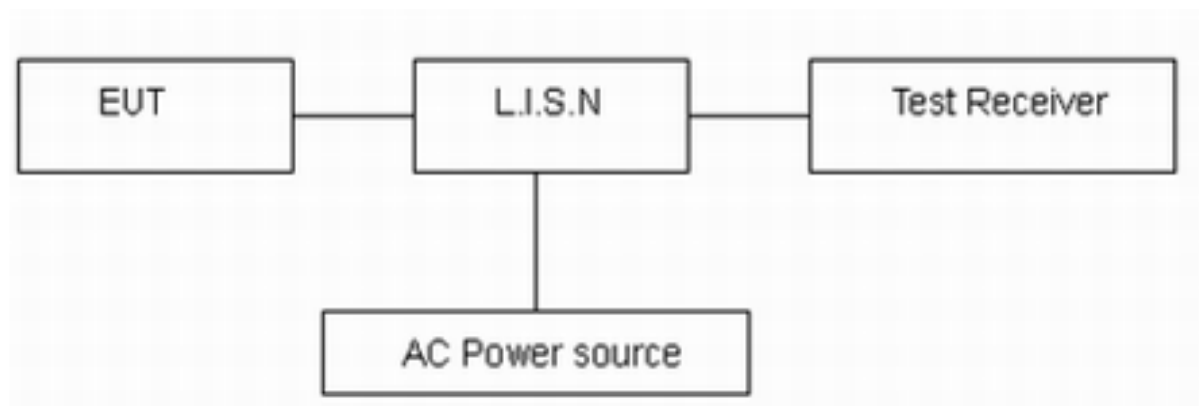
Methods of Measurement

The EUT is placed on a non-metallic table of 10cm height above the horizontal metal reference ground plane. During the test, the EUT was operating in its typical mode. The test method is according to ANSI C63.10. Connect the AC power line of the EUT to the L.I.S.N. Use EMI receiver to detect the average and Quasi-peak value. RBW is set to 9 kHz, VBW is set to 30kHz.

The measurement result should include both L line and N line.

The test is in transmitting mode.

Test Setup



Note: AC Power source is used to change the voltage 110V/60Hz.

Limits

Frequency (MHz)	Conducted Limits(dBμV)	
	Quasi-peak	Average
0.15 - 0.5	66 to 56 *	56 to 46*
0.5 - 5	56	46
5 - 30	60	50

decreases with the logarithm of the frequency.

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = 1.96$, $U = 2.69$ dB.

6. Test Results

6.1. Unwanted Emission

The detailed test data see EFTA26030082-IE-05-R3-ANNEX A Test Result.

6.2. Conducted Emission

The detailed test data see EFTA26030082-IE-05-R3-ANNEX A Test Result.

7. Main Test Instruments

Name	Manufacturer	Type	Serial Number	Calibration Date	Expiration Date
Spectrum Analyzer	KEYSIGHT	N9020A	MY51330870	2025-05-6	2026-05-5
Test software	MW	MTS8310	2.0.0.0	-	-
Attenuator	HASCO	HA18A-10	0003	-	-
Loop Antenna	SCHWARZBECK	FMZB1519	1519-047	2023-04-16	2026-04-15
EMI Test Receiver	R&S	ESR	102389	2025-05-06	2026-05-05
Signal Analyzer	R&S	FSV40	101298	2025-05-07	2026-05-06
TRILOG Broadband Antenna	SCHWARZBECK	VULB 9163	1023	2023-07-14	2026-07-13
Horn Antenna	R&S	HF 907	102723	2023-11-24	2026-11-23
Amplifier	R&S	SCU18	10034	2025-05-06	2026-05-05
Horn Antenna	R&S	BBHA 9170	01301	2023-09-16	2026-09-15
Amplifier	MicroWave	SCU40F1	100649	2025-12-01	2026-11-30
Software	R&S	EMC32	9.26.01	/	/
Artificial main network	R&S	ENV216	102191	2025-11-24	2026-11-23
EMI Test Receiver	R&S	ESR	101667	2025-05-06	2026-05-05
Software	R&S	ELEKTRA	5.02.1	/	/

8. The EUT Appearance

Refer to *EUT Appearance*.

9. Test Setup Photos

Refer to *Part15C Test Setup*.

***** END OF REPORT *****