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Suzhou ShiRuizhuo Technology Co., Ltd.

RF TEST REPORT

Report Type:
FCC Part 15.407 & ISED RSS-247 RF report-C2PC

Model:
RRAR5MON

REPORT NUMBER:
2607B1370SHA-003

ISSUE DATE:
Jul 31, 2026

DOCUMENT CONTROL NUMBER:
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TEST REPORT

Report no.: 2607B1370SHA-003

Applicant:	Suzhou ShiRuizhuo Technology Co., Ltd. Room 508, Building C, No.112 GLP I-Park, Sutong Road, Suzhou Industrial Park District, Suzhou City, Jiangsu Province, P.R. China
Manufacturer:	Suzhou ShiRuizhuo Technology Co., Ltd. Room 508, Building C, No.112 GLP I-Park, Sutong Road, Suzhou Industrial Park District, Suzhou City, Jiangsu Province, P.R. China
FCC ID:	2BQXJ-RRAR3MON01
IC:	34326-RRAR3MON01

SUMMARY:

The equipment complies with the requirements according to the following standard(s) or Specification:

47CFR Part 15 (2024): Radio Frequency Devices (Subpart E)

ANSI C63.10 (2020)+Cor.1(2023)+C63.10a(2024)+Errata to C63.10a(2024): American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices

RSS-247 Issue 4 (July 2025): Digital Transmission Systems (DTSs), Frequency Hopping Systems (FHSs) and Licence-Exempt Local Area Network (LE-LAN) Devices

RSS-Gen Issue 5 (April 2018)+A1(March 2019)+A2(February 2021): General Requirements for Compliance of Radio Apparatus

PREPARED BY:	**REVIEWED BY:**
Project Engineer Teddy Yin	Reviewer Wakeyou Wang

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TEST REPORT

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Revision History

Report No.	Version	Description	Issued Date
2607B1370SHA-003	Rev. 01	Initial issue of report	Jul 31, 2026

Statement

This report applies for C2PC (Existing Family) for FCC ID: 2BQXJ-RRAR3MON01, IC: 34326-RRAR3MON01. Add the new model/HVIN: RRAR5MON. Compared with the original product (model/HVIN: RRAR3MON, RRAR4MON), the new product (model/HVIN: RRAR5MON) only changes a bigger capacity battery pack and uses a bigger rated power charger, all others are fully same including the RF parts. After evaluation, Power line conducted emission and RSE were re-tested and the data is listed in this report. All other data refer to the original report: 2509B1059SHA-003.

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Measurement result summary

TEST ITEM	FCC REFERENCE	IC REFERENCE	RESULT
Spurious Emission (Radiated)	15.407(b) 15.205 15.209	RSS-Gen Issue 5 Clause 8.9&8.10	Pass
Power line conducted emission	15.407(b) 15.207	RSS-Gen Issue 5 Clause 8.8	Pass

Notes: 1: NA =Not Applicable
2. Determination of the test conclusion is based on IEC Guide 115 in consideration of measurement uncertainty.
3: Additions, Deviations and Exclusions from Standards: None.

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1 GENERAL INFORMATION

1.1 Description of Equipment Under Test (EUT)

Product name:	Robotic Lawn Mower
Type/Model/PMN/HVIN:	RRAR5MON
Description of EUT:	The EUT is Robotic Lawn Mower. The EUT contains WIFI2.4G, WIFI5G, BLE, 4G and LORA functions. This report is for WIFI5G. The worst data is listed in the report.
Rating:	Rated Input: 32VDC/5.8A
EUT type:	☐ Table top ☒ Floor standing
Hardware Version:	g33833fe
Software Version:	241c091M (master)
Sample No.:	A260715-60-002
Sample received date:	Jul 17, 2026
Date of test:	Jul 17~24, 2026

1.2 Technical Specification

Frequency Range:	5150 ~ 5250MHz(excluded Canada) 5250 ~ 5350MHz 5470 ~ 5725MHz 5725 ~ 5850MHz
Support Standards:	802.11a, 802.11n(HT20), 802.11n(HT40), 802.11ac(VHT20), 802.11ac(VHT40), 802.11ax(HE20), 802.11ax(HE40) , 802.11ax(HE80)
Type of Modulation:	802.11a, 802.11n, 802.11ac: OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM) 802.11ax: OFDMA (BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM)
Channel Number:	For 5180 ~ 5240MHz band: Channel 36 - 48(excluded Canada) For 5260 ~ 5320MHz Band: Channel 52 - 64 For 5500 ~ 5700MHz Band: Channel 100 - 140 For 5745 ~ 5825MHz band: Channel 149 - 165
Antenna Information:	2.14dBi, FPC antenna(Declared by manufacturer)
TPC Function:	☐ Support ☒ Not support

TEST REPORT

1.3 Description of Test Facility

Name:	Intertek Testing Services (Shanghai FTZ) Co., Ltd.
Address:	Building 86, No. 1198 Qinzhou Road(North), Shanghai 200233, P.R. China
Telephone:	86 21 61278200
Telefax:	86 21 54262353

The test facility is recognized, certified, or accredited by these organizations:	CNAS Accreditation Lab Registration No. CNAS L21189
	FCC Accredited Lab Designation Number: CN0175
	IC Registration Lab CAB identifier.: CN0014
	VCCI Registration Lab Registration No.: R-14243, G-10845, C-14723, T-12252
	A2LA Accreditation Lab Certificate Number: 3309.02

2 TEST SPECIFICATIONS

2.1 Standards or specification

47CFR Part 15 (2024)
ANSI C63.10 (2020)+Cor.1(2023)+C63.10a(2024)+Errata to C63.10a(2024)
RSS-247 Issue 4 (July 2025)
RSS-Gen Issue 5 (April 2018)+A1(March 2019)+A2(February 2021)
KDB 789033 D02 v02r01

2.2 Mode of operation during the test

Spurious Emission (Radiated): WIFI5G transmitting
Power line conducted emission: charging with the charger: TZAH01

2.3 Test software list

Test Items	Software	Manufacturer	Version
Conducted emission	ESxS-K1	R&S	V2.1.0
Radiated emission	ES-K1	R&S	V1.71

2.4 Test peripherals list

Item No.	Name	Band and Model	Description
1	Laptop computer	DELL 5480	/
2	Battery charger	TZAH01	/
3	Charging Station	MHCR05RR	/

2.5 Test environment condition:

Test items	Temperature	Humidity
Spurious Emission (Radiated)	22°C	55% RH
Power line conducted emission	22°C	55% RH

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2.6 Instrument list

Conducted Emission					
Used	Equipment	Manufacturer	Type	Internal no.	Due date
☒	Test Receiver	R&S	ESR7	EC 6194	2027-02-09
☒	Attenuator	Hua Xiang	Ts5-10db-6g	EC 6194-1	2027-01-13
☒	A.M.N.	R&S	ESH2-Z5	EC 3119	2027-07-23
☒	Shielded room	Zhongyu	-	EC 2838	2027-01-08
Radiated Emission					
Used	Equipment	Manufacturer	Type	Internal no.	Due date
☒	Test Receiver	R&S	ESIB 26	EC 3045	2026-08-18
☒	TRILOG broadband Antenna	Schwarzbeck	VULB9168	EC 6402	2027-04-07
☒	Pre-amplifier	Tonscend	tap01018050	EC 6432-1	2026-12-09
☒	Horn antenna	Tonscend	bha9120d	EC 6432-2	2027-04-10
☒	Horn antenna	ETS	3116c	EC 5955	2026-08-14
☒	Semi-anechoic chamber	Albatross	-	EC 3048	2027-06-09
Additional instrument					
Used	Equipment	Manufacturer	Type	Internal no.	Due date
☒	Therom-Hygrograph	Testo	175h1	EC 6640	2026-08-29
☒	Therom-Hygrograph	Testo	175h1	EC 6641	2026-08-29

2.7 Measurement uncertainty

The measurement uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

Test item	Measurement uncertainty
Maximum peak output power	± 0.74dB
26 dB Bandwidth & 99% Occupied Bandwidth	
Minimum 6dB Bandwidth	
Power spectral density	
Radiated Emissions in restricted frequency bands below 1GHz	± 4.90dB
Radiated Emissions in restricted frequency bands above 1GHz	± 5.02dB
Emission outside the frequency band	± 2.89dB
Power line conducted emission	± 3.19dB

3 Spurious Emission (Radiated)

Test result: **Pass**

3.1 Limit

The radiated emissions which fall in the restricted bands, and the radiated emissions below 1GHz, must comply with the radiated emission limits specified showed as below:

Frequencies (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 ~ 0.490	2400/F(kHz)	300
0.490 ~ 1.705	24000/F(kHz)	30
1.705 ~ 30.0	30	30
30 ~ 88	100	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

The radiated emissions which fall outside the restrict bands, should comply with the EIRP limit as below:

For transmitters operating in the 5.15 - 5.25 / 5.25 - 5.35 / 5.47 - 5.725GHz band:

Frequency (MHz)	EIRP Limit (dBm)	Equivalent Field Strength (3m) (dBµV/m)
<5150	-27	68.20
>5350		
<5470		
>5725		

For transmitters operating in the 5.725 - 5.85GHz band:

Frequency (MHz)	EIRP Limit (dBm/MHz)	Equivalent Field Strength (3m) (dBµV/m)
<5650	-27	68.20
5650 ~ 5700	-27 ~ 10	68.20 ~ 105.20
5700 ~ 5720	10 ~ 15.6	105.20 ~ 110.80
5720 ~ 5725	15.6 ~ 27	110.80 ~ 122.20
5850 ~ 5855	27 ~ 15.6	122.20 ~ 110.80
5855 ~ 5875	15.6 ~ 10	110.80 ~ 105.20
5875 ~ 5925	10 ~ -27	105.20 ~ 68.20
>5925	-27	68.20

3.2 Measurement Procedure

For Radiated emission below 30MHz:

a) The EUT was placed on the top of a rotating table 0.8 meters(0.1 meters for floor-standing device) above the ground at a 3 meters chamber room. The table was rotated 360 degrees to determine the position of the highest radiation.
b) The EUT was set 3 meters away from the interference-receiving antenna, the lowest height of the magnetic antenna was 1 m above the ground.
c) Both X and Y axes of the antenna are set to make the measurement.
d) For each suspected emission, the EUT was arranged to its worst case and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
e) The test-receiver system was set to peak or quasi-peak detect function and specified bandwidth with maximum hold mode.

NOTE:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 9kHz at frequency below 30MHz.

For Radiated emission above 30MHz:

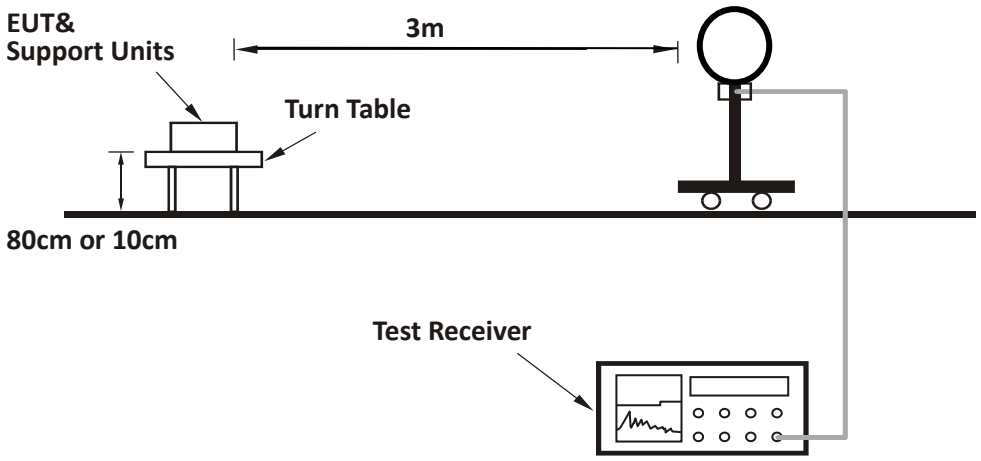
a) The EUT was placed on the top of a rotating table 0.8 meters (for 30MHz ~ 1GHz) / 1.5 meters (for above 1GHz) or 0.1 meters (for floor-standing device) above the ground at 3 meters chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
b) The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
c) The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
d) For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
e) The test-receiver system was set to peak or quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.
f) The test-receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

Note:

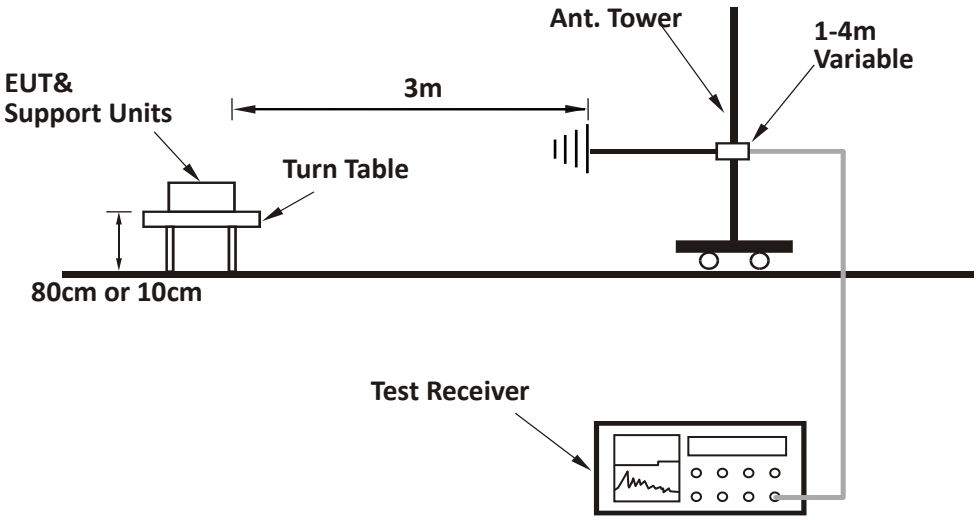
1. The resolution bandwidth of test receiver/spectrum analyzer is 120kHz for peak or quasi-peak detection at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz at frequency above 1GHz for peak detection above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is ≥ 1/T (Duty cycle < 98%) or 3 x RBW (Duty cycle ≥ 98%) for average detection (AV) at frequency above 1GHz.
4. All modes of operation were investigated and the worst-case emissions are reported.

3.3 Test Configuration

For Radiated emission below 30MHz:



For Radiated emission 30MHz to 1GHz:



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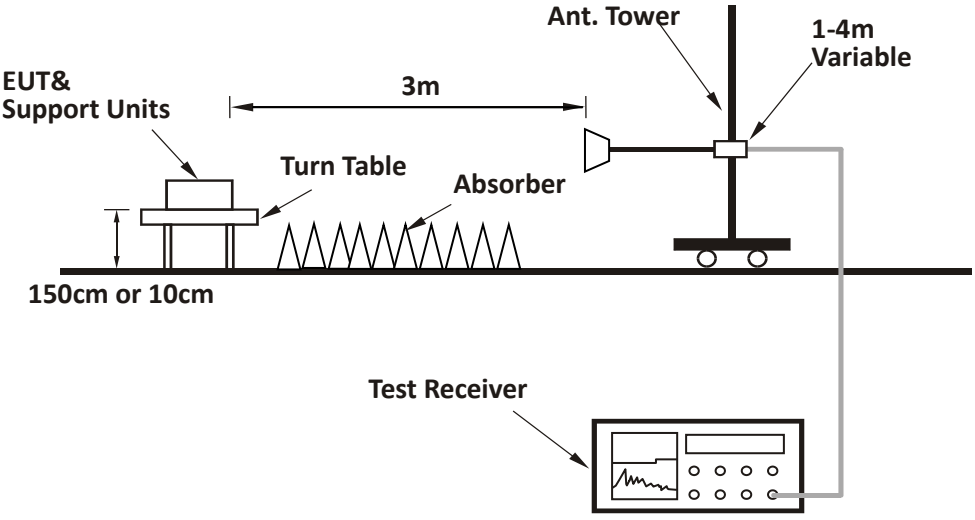
For Radiated emission above 1GHz:



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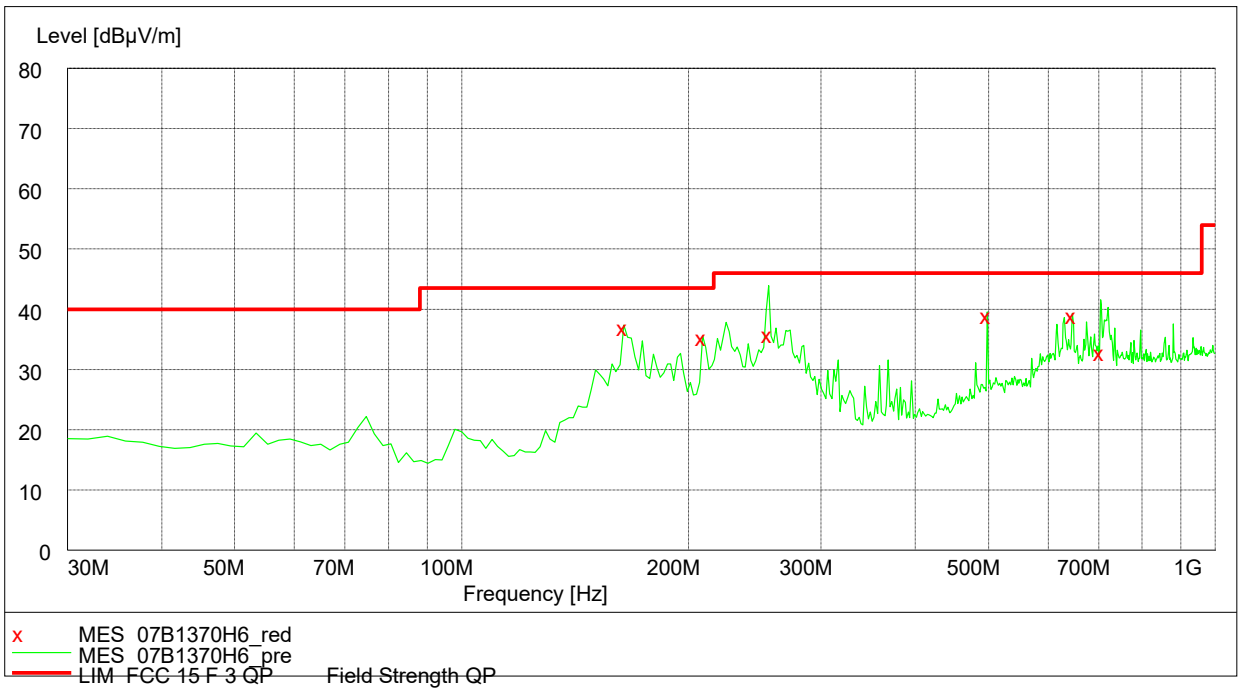
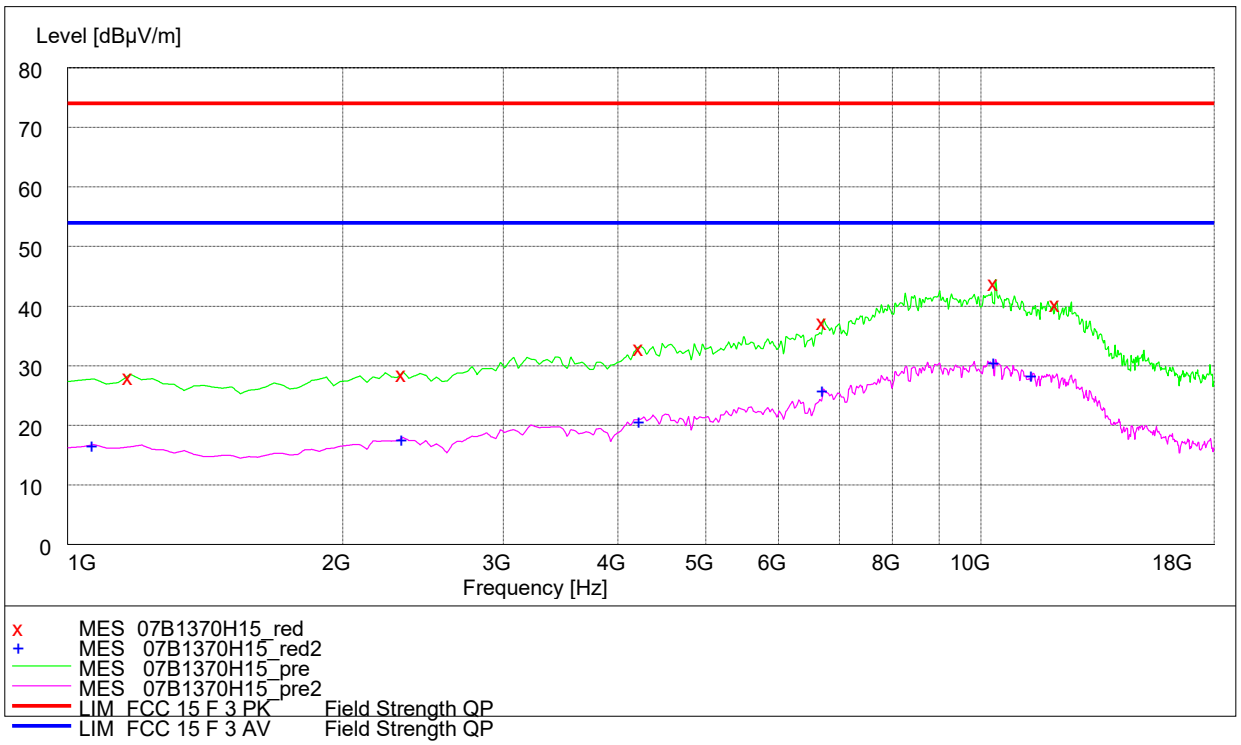
3.4 Test Results of Radiated Emissions

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line per 1 5.31(o) was not reported.

Horizontal





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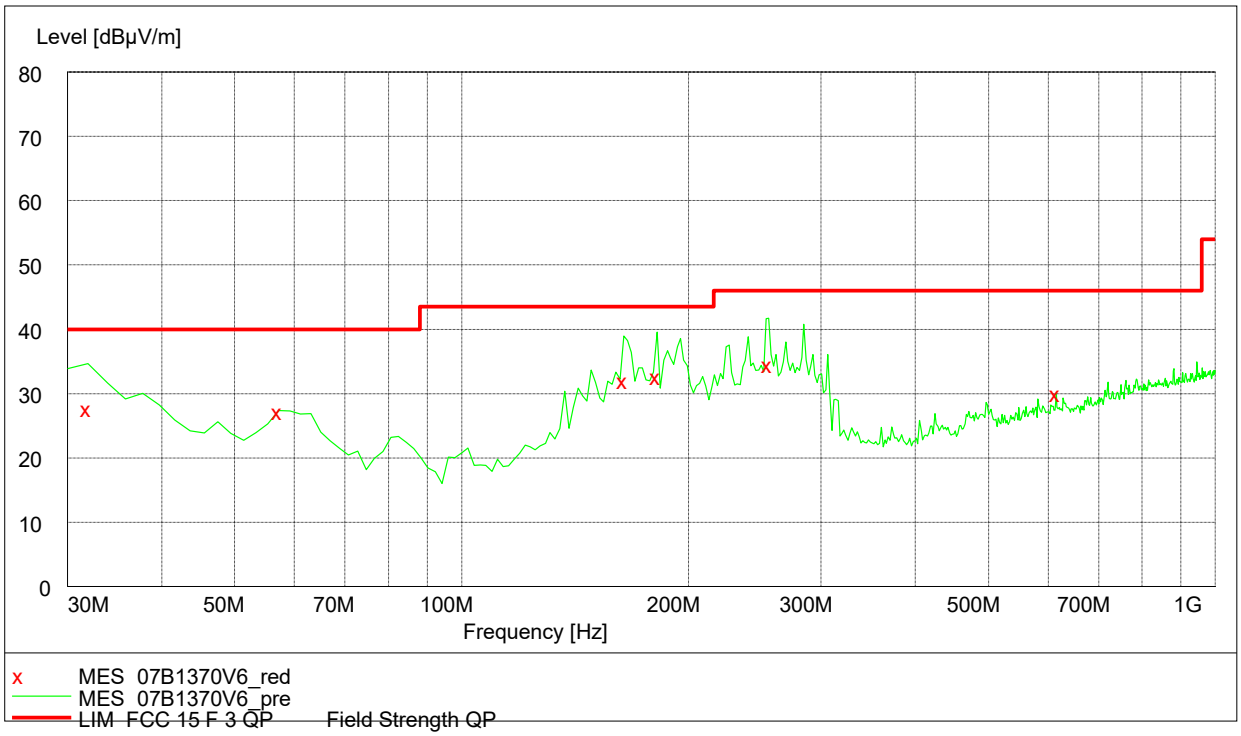
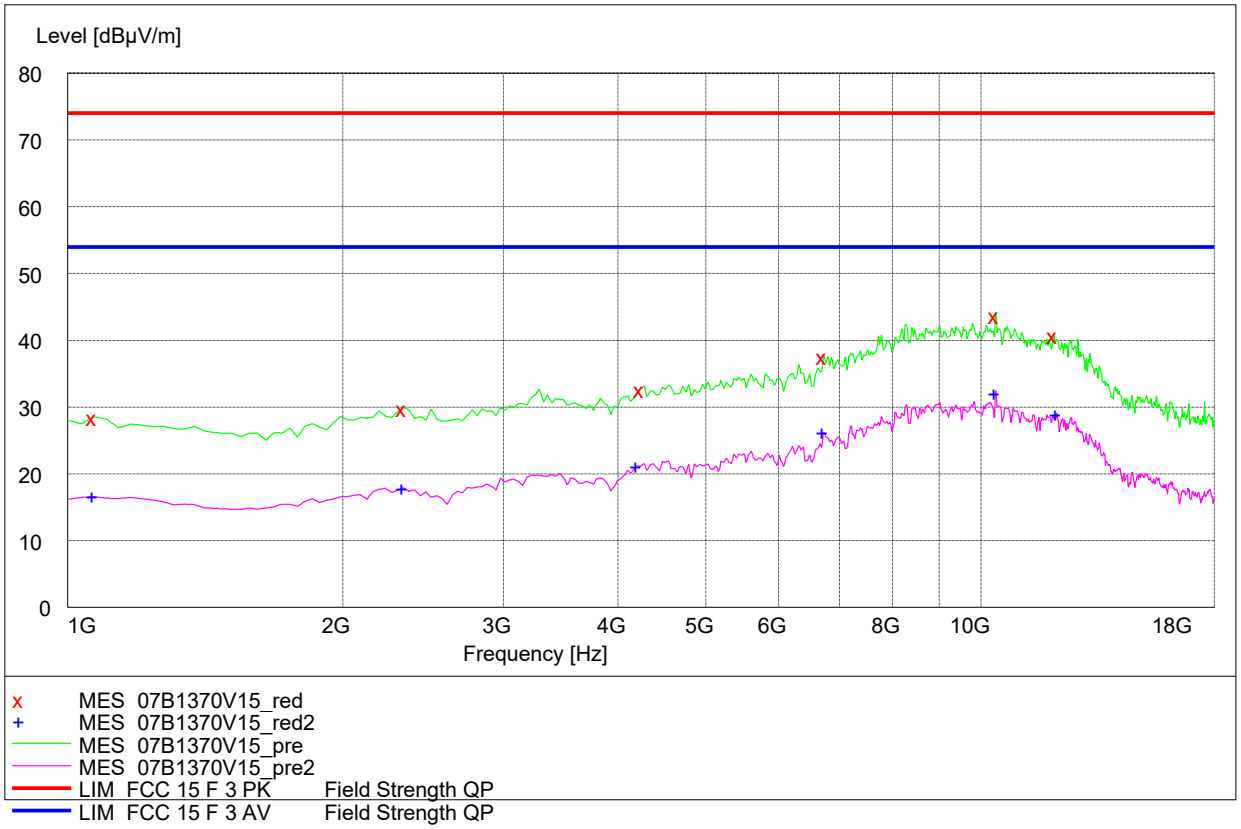
Vertical





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Test data

Antenna	Frequency (MHz)	Corrected Reading (dBuV/m)	Correct Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Detector
H	164.13	37.30	14.50	43.50	6.20	PK
H	208.84	35.60	11.70	43.50	7.90	PK
H	255.49	36.11	13.70	46.00	9.89	QP
H	498.48	39.15	20.10	46.00	6.85	QP
H	646.21	39.30	22.80	46.00	6.70	PK
H	704.53	33.09	23.60	46.00	12.91	QP
V	31.94	27.83	13.00	40.00	12.17	QP
V	57.21	27.40	14.20	40.00	12.60	PK
V	164.13	32.18	14.50	43.50	11.32	QP
V	181.62	32.77	13.00	43.50	10.73	QP
V	255.49	34.58	13.70	46.00	11.42	QP
V	615.11	30.10	22.40	46.00	15.90	PK
H	11000.00	44.62	2.82	68.20	23.58	PK
V	11000.00	43.78	2.82	68.20	24.42	PK

Note: WIFI5G/802.11a/ Channel 100

Remark: 1. Correct Factor = Antenna Factor + Cable Loss (- Amplifier, for higher than 1GHz), the value was added to Original Receiver Reading by the software automatically.
2. Corrected Reading = Original Receiver Reading + Correct Factor
3. Margin = Limit - Corrected Reading
4. If the PK Corrected Reading is lower than AV limit, the AV test can be elided.

Example: Assuming Antenna Factor = 30.20dB/m, Cable Loss = 2.00dB,
Gain of Preamplifier = 32.00dB, Original Receiver Reading = 10.00dBuV,
Limit = 40.00dBuV/m.
Then Correct Factor = 30.20 + 2.00 – 32.00 = 0.20dB/m;
Corrected Reading = 10dBuV + 0.20dB/m = 10.20dBuV/m;
Margin = 40.00dBuV/m - 10.20dBuV/m = 29.80dB.

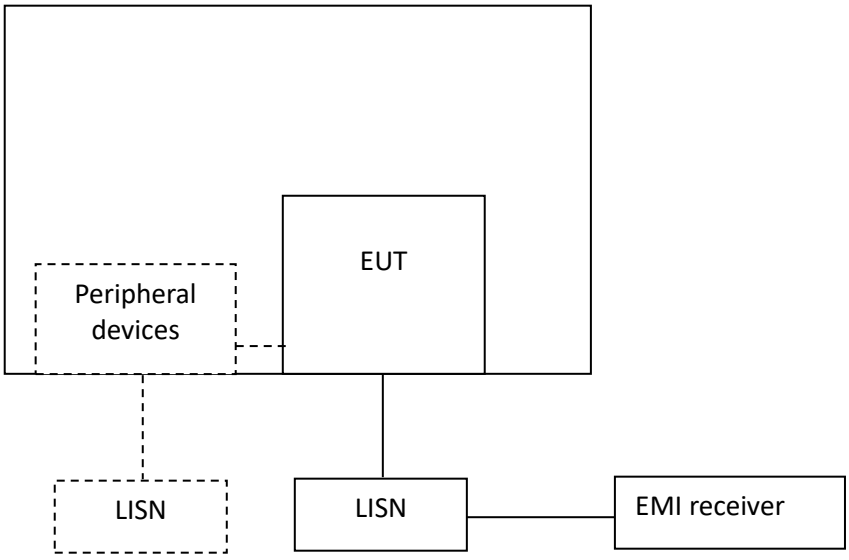
4 Power line conducted emission

Test result: **Pass**

4.1 Limit

Frequency of Emission (MHz)	Conducted Limit (dBuV)	
	QP	AV
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.		

4.2 Test Configuration



4.3 Measurement Procedure

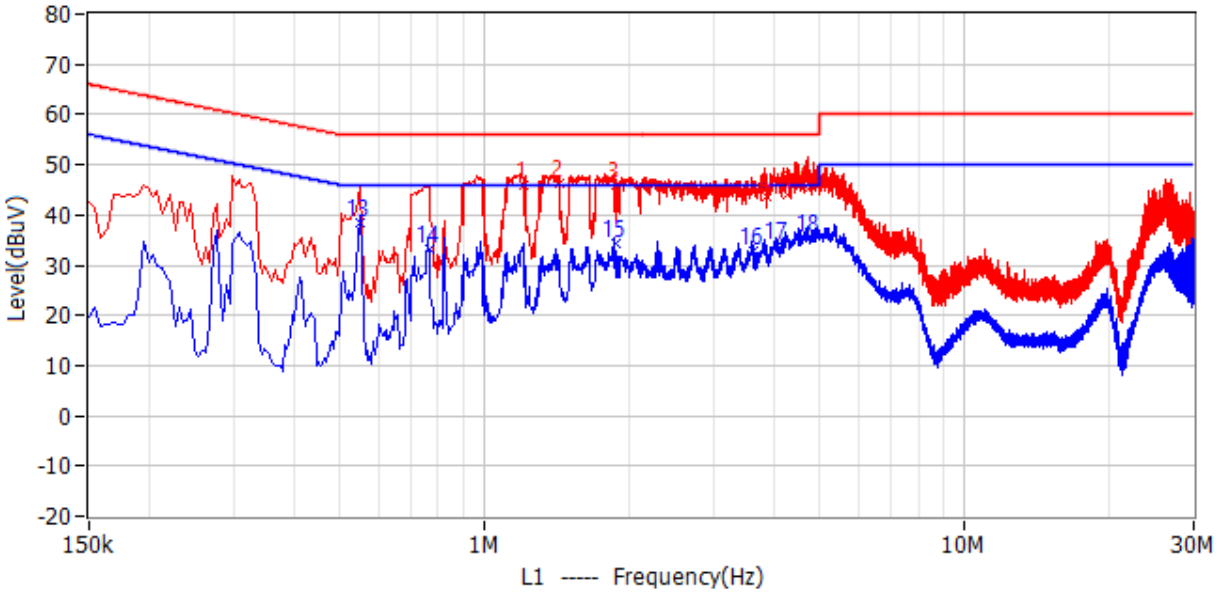
Measured levels of ac power-line conducted emission shall be the emission voltages from the voltage probe, where permitted, or across the 50 Ω LISN port (to which the EUT is connected), where permitted, terminated into a 50 Ω measuring instrument. All emission voltage and current measurements shall be made on each current-carrying conductor at the plug end of the EUT power cord by the use of mating plugs and receptacles on the LISN, if used. Equipment shall be tested with power cords that are normally supplied or recommended by the manufacturer and that have electrical and shielding characteristics that are the same as those cords normally supplied or recommended by the manufacturer. For those measurements using a LISN, the 50 Ω measuring port is terminated by a measuring instrument having 50 Ω input impedance. All other ports are terminated in 50 Ω loads.

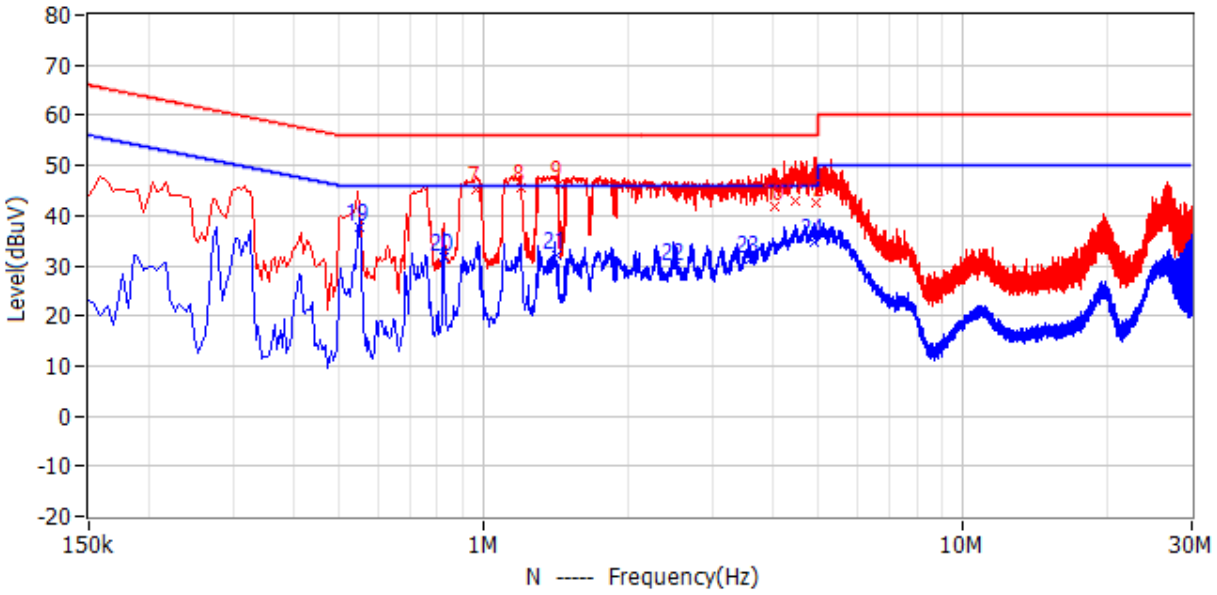
Tabletop devices shall be placed on a platform of nominal size 1 m by 1.5 m, raised 80 cm above the reference ground plane. The vertical conducting plane or wall of an RF-shielded (screened) room shall be located 40 cm to the rear of the EUT. Floor-standing devices shall be placed either directly on the reference ground-plane or on insulating material as described in ANSI C63.4. All other surfaces of tabletop or floor-standing EUTs shall be at least 80 cm from any other grounded conducting surface, including the case or cases of one or more LISNs.

The bandwidth of the test receiver is set at 9 kHz.

4.4 Test Results of Power line conducted emission

Power supply: 120V~, 60Hz





No.	Frequency	Limit dBuV	Level dBuV	Delta dB	Reading dBuV	Factor dB	Detector	Phase
1	1.203MHz	56.00	45.98	-10.02	35.68	10.30	QP	L1
2	1.433MHz	56.00	46.23	-9.77	35.93	10.30	QP	L1
3	1.874MHz	56.00	45.75	-10.25	35.35	10.40	QP	L1
4	3.863MHz	56.00	43.84	-12.16	33.24	10.60	QP	L1
5	4.277MHz	56.00	43.97	-12.03	33.37	10.60	QP	L1
6	4.718MHz	56.00	45.04	-10.96	34.34	10.70	QP	L1
7	964.500kHz	56.00	45.27	-10.73	34.97	10.30	QP	N
8	1.199MHz	56.00	45.53	-10.47	35.23	10.30	QP	N

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No.	Frequency	Limit dBuV	Level dBuV	Delta dB	Reading dBuV	Factor dB	Detector	Phase
9	1.437MHz	56.00	46.25	-9.75	35.85	10.40	QP	N
10	4.047MHz	56.00	41.92	-14.08	31.32	10.60	QP	N
11	4.452MHz	56.00	42.90	-13.10	32.30	10.60	QP	N
12	4.911MHz	56.00	42.50	-13.50	31.80	10.70	QP	N
13	550.500kHz	46.00	38.31	-7.69	28.11	10.20	CAV	L1
14	771.000kHz	46.00	33.18	-12.82	22.98	10.20	CAV	L1
15	1.878MHz	46.00	34.21	-11.79	23.81	10.40	CAV	L1
16	3.629MHz	46.00	32.72	-13.28	22.12	10.60	CAV	L1
17	4.079MHz	46.00	33.88	-12.12	23.28	10.60	CAV	L1
18	4.749MHz	46.00	35.51	-10.49	24.81	10.70	CAV	L1
19	550.500kHz	46.00	37.78	-8.22	27.58	10.20	CAV	N
20	825.000kHz	46.00	31.51	-14.49	21.21	10.30	CAV	N
21	1.424MHz	46.00	31.95	-14.05	21.55	10.40	CAV	N
22	2.517MHz	46.00	29.98	-16.02	19.48	10.50	CAV	N
23	3.611MHz	46.00	31.25	-14.75	20.65	10.60	CAV	N
24	4.871MHz	46.00	34.71	-11.29	24.01	10.70	CAV	N

Remark: 1. Factor = LISN Factor + Cable Loss, the value was added to Original Receiver Reading by the software automatically.

2. Level = Original Receiver Reading + Factor

3. Delta = Level- Limit

4. If the PK Corrected Reading is lower than AV limit, the AV test can be elided.

********** END **********