

Logical Infrastructure (Changzhou) Technology Co.,Ltd

RF TEST REPORT

Report Type:

FCC Part 15.225 & ISED RSS-210 RF report

Model: LI-HS-1002-SH

REPORT NUMBER: 201102957SHA-001

ISSUE DATE: Aug 4, 2021

DOCUMENT CONTROL NUMBER: TTRFFCCPART15C_V1 © 2018 Intertek



| Intertek Total Quality. Assured. TEST REPORT | | Intertek Testing Services Shanghai Building No.86, 1198 Qinzhou Road (North) Caohejing Development Zone Shanghai 200233, China Telephone: 86 21 6127 8200 <u>www.intertek.com</u> Report no.: 201102957SHA-001 |
|--|---|--|
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| FCC ID IC | : | 2AUS7LIHS1002 25552-LIHS102S |

SUMMARY:

The equipment complies with the requirements according to the following standard(s) or Specification: **47CFR Part 15 (2019):** Radio Frequency Devices (Subpart C)

ANSI C63.10 (2013): American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices

RSS-210 Issue 10 (December 2019): Licence-exempt Radio Apparatus (All Frequency Bands): Category I Equipment

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

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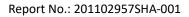
Reviewer Daniel Zhao

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Revision History

| Report No. | Version | Description | Issued Date |
|------------------|---------|-------------------------|-------------|
| 201102957SHA-001 | Rev. 01 | Initial issue of report | Aug 4, 2021 |
| | | | |
| | | | |

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Measurement result summary

| TEST ITEM | FCC REFERANCE | IC REFERANCE | RESULT |
|---------------------------|-------------------|--|--------|
| Fundamental emission | 15.225(a) (b) (c) | RSS-210 Annex B.6(a) (i) (ii) (iii) | Pass |
| Spurious emission | 15.225(d) | RSS-210 Annex B.6(a) (iiii) | Pass |
| Frequency stability | 15.225(e) | RSS-210 Annex B.6(b) | Pass |
| Conducted emissions | 15.207 | RSS-GEN Clause 8.8 | Pass |
| 99% and 20dB Bandwidth | 15.215(c) | RSS-GEN Clause 6.7 | Pass |
| Antenna requirement | 15.203 | - | 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: | Intelligent electronic swing handle |
|----------------------------|---|
| Type/Model/PMN/HVIN: | LI-HS-1002-SH |
| Description of EUT: | There is one model only. Among this report, the Smart PDU is used as peripheral to provide power & control to the EUT. The Smart PDU input: 100-240VAC, 1.0Amax. output: 5VDC |
| Rating: | 3~5VDC |
| EUT type: | Table top 🔲 Floor standing |
| Software Version: | V1.0 |
| Hardware Version: | V1.0 |
| Sample Identification No.: | 0210606-27-001 |
| Sample received date: | Dec 5, 2020 |
| Date of test: | Dec 6, 2020~Jul 12, 2021 |

1.2 Technical Specification

| Operation Frequency: | 13.56MHz | | |
|-----------------------------|--|--|--|
| Type of Modulation: | ASK | | |
| | Mobile | | |
| | Portable | | |
| Product Type: | Fix Location | | |
| Channel Number: | 1 | | |
| Antenna Designation: | Integral PCB antenna, non-user removable | | |
| Gain of Antenna: | 2.3dBi max (Declared by manufacture) | | |

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1.3 Description of Test Facility

| Name: | Intertek Testing Services Shanghai |
|------------|--|
| 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 L0139 |
|---|---|
| | FCC Accredited Lab Designation Number: CN0175 |
| | IC Registration Lab CAB identifier.: CN0051 |
| | 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 (2019) ANSI C63.10 (2013) RSS-210 Issue 10 (December 2019) RSS-Gen Issue 5 (April 2018)+A1(March 2019)

2.2 Mode of operation during the test

While testing, the internal modulation and continuously transmission was applied.

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 | Description | Band and Model | S/No |
|---------|-------------|----------------|------|
| 1 | Smart PDU | LI-PDU-6001 | / |
| 2 | / | / | / |

2.5 Test environment condition:

| Test items | Temperature | Humidity |
|-------------------------------|-------------|----------|
| Radiated emission | 24°C | 53% RH |
| Power line conducted emission | 24°C | 53% RH |

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2.6 Instrument list

| Condu | cted Emission | | | | |
|-------------|--------------------------|--------------|-----------|--------------|------------|
| Used | Equipment | Manufacturer | Туре | Internal no. | Due date |
| \boxtimes | Test Receiver | R&S | ESCS 30 | EC 2107 | 2021-07-15 |
| \boxtimes | A.M.N. | R&S | ESH2-Z5 | EC 3119 | 2021-11-30 |
| \boxtimes | Shielded room | Zhongyu | - | EC 2838 | 2022-01-07 |
| Radiate | ed Emission | | | | |
| Used | Equipment | Manufacturer | Туре | Internal no. | Due date |
| \boxtimes | Test Receiver | R&S | ESIB 26 | EC 3045 | 2021-09-16 |
| \boxtimes | Bilog Antenna | TESEQ | CBL 6112D | EC 4206 | 2021-09-24 |
| \boxtimes | Active loop antenna | Schwarzbeck | FMZB1519 | EC 5345 | 2022-03-24 |
| \boxtimes | Semi-anechoic chamber | Albatross | - | EC 3048 | 2021-07-31 |
| RF tes | t | | | | |
| Used | Equipment | Manufacturer | Туре | Internal no. | Due date |
| \boxtimes | PXA Signal Analyzer | Keysight | N9030A | EC 5338 | 2022-03-16 |
| \boxtimes | Climate chamber | GWS | MT3065 | EC 6021 | 2022-07-02 |
| \boxtimes | Coaxial cable | ETS | / | / | 2022-03-16 |
| Additi | onal instrument | | | | |
| Used | Equipment | Manufacturer | Туре | Internal no. | Due date |
| \boxtimes | Therom- Hygrograph | ZJ1-2A | S.M.I.F. | EC 5198 | 2022-01-05 |
| \boxtimes | Therom- Hygrograph | ZJ1-2A | S.M.I.F. | EC 3481 | 2022-01-05 |

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 | ± 0.74 dB |
| Radiated Emissions in restricted frequency bands below 1GHz | \pm 4.90dB |
| Radiated Emissions in restricted frequency bands above 1GHz | ± 5.02dB |
| Emission outside the frequency band | ± 2.89dB |
| Occupied Channel Bandwidth | ± 0.88 % |
| Power line conducted emission | ± 3.19dB |

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3 Fundamental Emission

| Test result: | Pass |
|--------------|------|
|--------------|------|

3.1 Limit

| Frequencies (MHz) | Limit at 30m (dBuV/m) | Limit at 3m (dBuV/m) |
|----------------------|--------------------------|-------------------------|
| 13.110 - 13.410 | 40.50 | 80.50 |
| 13.410 – 13.553 | 50.50 | 90.50 |
| 13.553 – 13.567 | 84.00 | 124.00 |
| 13.567 – 13.710 | 50.50 | 90.50 |
| 13.710 - 14.010 | 40.50 | 80.50 |

3.2 Measurement Procedure

- a) The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter 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 PK Detect Function and Specified Bandwidth with Maximum Hold Mode.

NOTE:

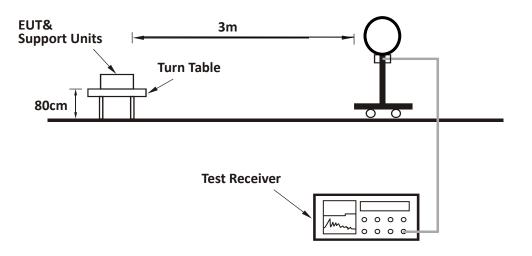
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 9kHz at frequency below 30MHz.

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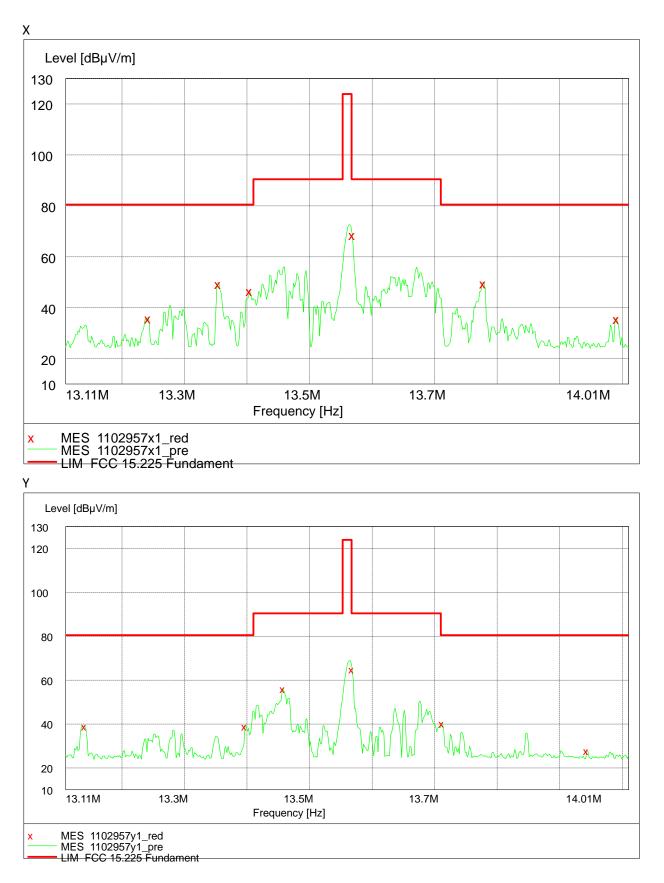
3.3 Test Configuration



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3.4 Test Results of Fundamental Emissions



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| Antenna Polarization | Frequency (MHz) | Corrected Reading (dBuV/m) | Correct Factor (dB/m) | Limit (dBuV/m) | Margin | Detector |
|-------------------------|--------------------|----------------------------------|--------------------------|-------------------|--------|----------|
| Х | 13.35 | 49.80 | 20.50 | 80.50 | 30.70 | PK |
| Х | 13.56 | 73.20 | 20.50 | 124.00 | 50.80 | PK |
| Х | 13.78 | 50.00 | 20.50 | 80.50 | 30.50 | PK |
| Y | 13.46 | 56.20 | 20.50 | 90.50 | 34.30 | PK |
| Y | 13.56 | 69.50 | 20.50 | 124.00 | 54.50 | PK |
| Y | 13.71 | 40.40 | 20.50 | 80.50 | 40.10 | PK |

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

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 = 40.00 dBuV/m - 10.20 dBuV/m = 29.80 dB.

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4 Spurious Emission

Test result: Pass

4.1 Limit

| 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 |

4.2 Measurement Procedure

For Radiated emission below 30MHz:

- f) The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter chamber room. The table was rotated 360 degrees to determine the position of the highest radiation.
- g) 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.
- h) Both X and Y axes of the antenna are set to make the measurement.
- i) 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.
- j) The test-receiver system was set to Quasi-Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

NOTE:

2. 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) above the ground at 3 meter 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

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maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

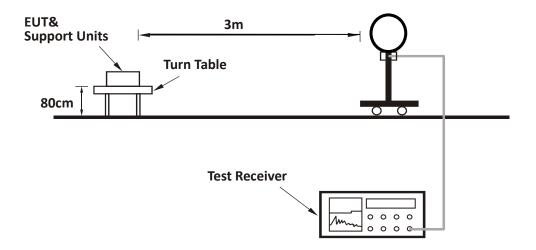
- d) For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e) The test-receiver system was set to quasi-peak detect function 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 and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
- 2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
- 3. All modes of operation were evaluated and the worst-case emissions were reported

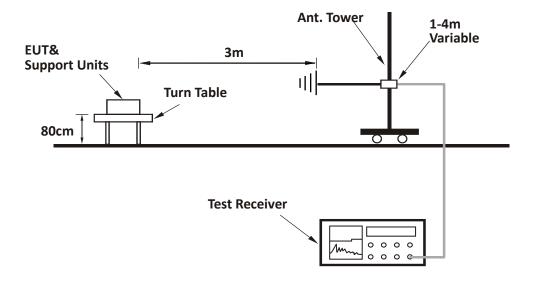
4.3 Test Configuration

For Radiated emission below 30MHz:

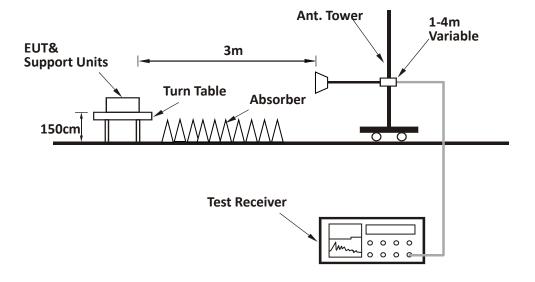




For Radiated emission 30MHz to 1GHz:



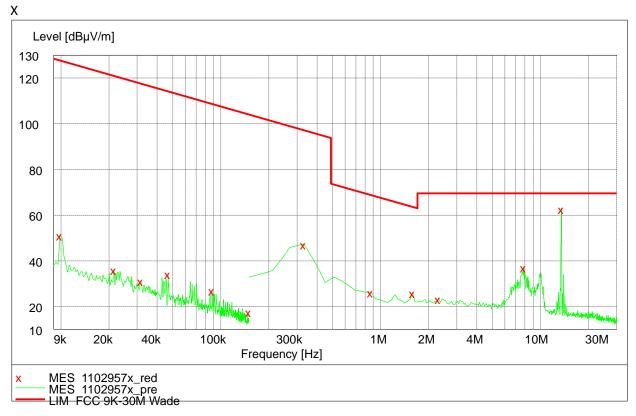
For Radiated emission above 1GHz:

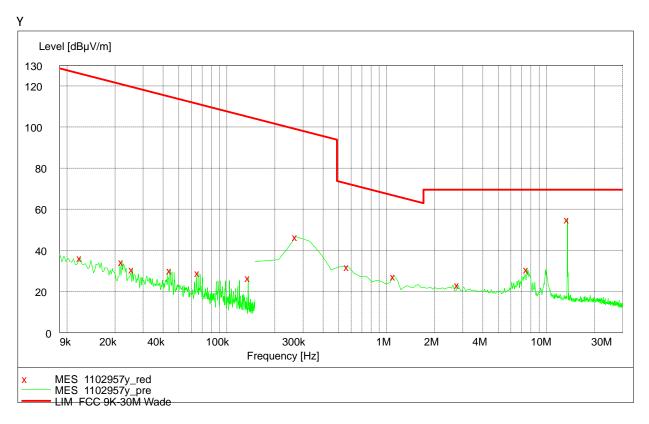


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4.4 Test Results of Radiated Emissions

below 30MHz:

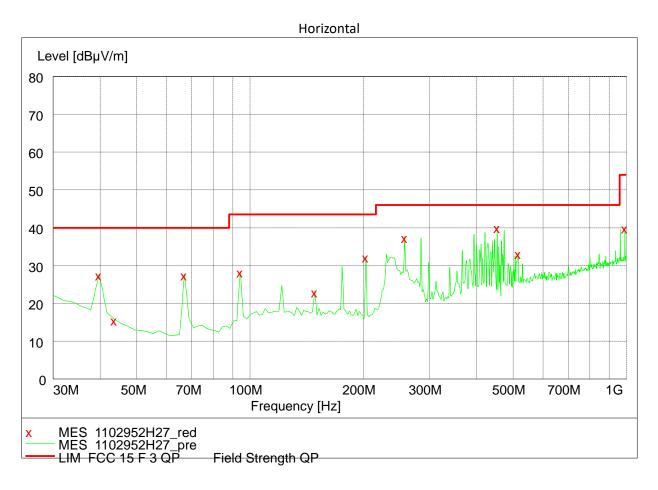






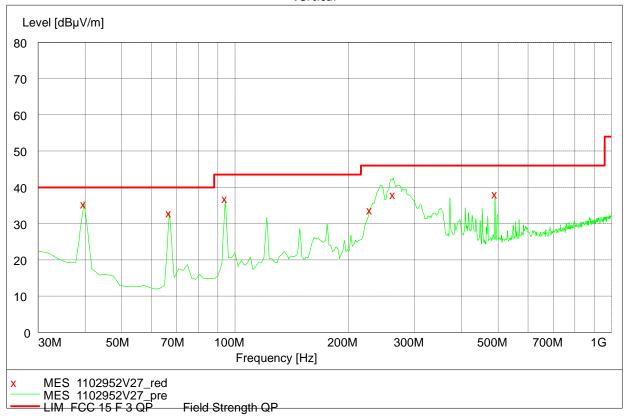
| Test data | | | | | | | |
|-------------------------|--------------------|----------------------------------|-----------------------------|-------------------|--------|----------|----------|
| Antenna Polarization | Frequency (MHz) | Corrected Reading (dBuV/m) | Correct Factor (dB/m) | Limit (dBuV/m) | Margin | Detector | Remark |
| Х | 0.33 | 47.40 | 10.60 | 97.20 | 49.80 | РК | Spurious |
| Х | 1.59 | 26.10 | 11.60 | 63.60 | 37.50 | РК | Spurious |
| Х | 7.87 | 37.40 | 11.80 | 69.50 | 32.10 | РК | Spurious |
| Y | 0.57 | 32.30 | 10.60 | 72.50 | 40.20 | РК | Spurious |
| Y | 1.11 | 27.70 | 11.60 | 66.70 | 39.00 | РК | Spurious |
| Y | 7.57 | 31.00 | 11.80 | 69.50 | 38.50 | РК | Spurious |

30MHz to 1000MHz:



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Vertical



Test data

| Antenna Polarization | Frequency (MHz) | Corrected Reading (dBuV/m) | Correct Factor (dB/m) | Limit (dBuV/m) | Margin | Detector |
|-------------------------|--------------------|----------------------------------|--------------------------|-------------------|--------|----------|
| Н | 39.72 | 27.70 | 13.60 | 40.00 | 12.30 | РК |
| Н | 66.93 | 27.70 | 7.30 | 40.00 | 12.30 | РК |
| Н | 94.15 | 28.40 | 10.90 | 43.50 | 15.10 | РК |
| Н | 203.01 | 32.40 | 11.10 | 43.50 | 11.10 | РК |
| Н | 257.43 | 37.60 | 15.10 | 46.00 | 8.40 | РК |
| Н | 453.77 | 40.30 | 18.80 | 46.00 | 5.70 | PK |
| V | 39.72 | 35.61 | 13.60 | 40.00 | 4.39 | PK |
| V | 66.93 | 33.10 | 7.30 | 40.00 | 6.90 | РК |
| V | 94.15 | 37.18 | 10.90 | 43.50 | 6.32 | РК |
| V | 228.28 | 34.00 | 11.80 | 46.00 | 12.00 | PK |
| V | 263.27 | 38.30 | 15.30 | 46.00 | 7.70 | QP |
| V | 490.70 | 38.40 | 19.50 | 46.00 | 7.60 | PK |

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,

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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. Total Quality. Assured.

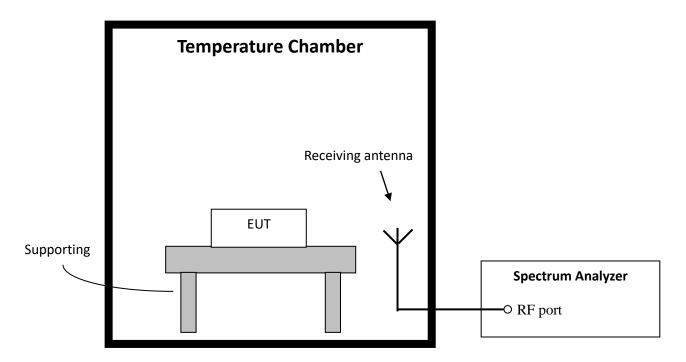
5 Frequency Stability (Temperature Variation)

Test result: PASS

5.1 Test limit

The frequency tolerance of the carrier signal shall be maintained within $\pm 0.01\%$ of the operating frequency over a temperature variation of -20 degrees to +50 degrees C at normal supply voltage.

5.2 Test Configuration



5.3 Test procedure and test setup

Test Procedure as per ANSI 63.10 clause 6.8.1.

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5.4 Test protocol

| Voltage (V) | Temp (ºC) | Freq measured (MHz) | Freq nominal (MHz) | Tolerance (%) | Limit (%) |
|----------------|--------------|------------------------|-----------------------|---------------|--------------|
| | -20 13.559 | | 0.007 | | |
| | -10 | 13.560 | | 0 | |
| | 0 | 13.560 | | 0 | |
| 120 | 10 | 13.560 | 13.560 | 0 | 0.01 |
| 120 | 20 | 13.560 | 13.560 | 0 | 0.01 |
| | 30 | 13.560 | | 0 | |
| | 40 | 13.560 | | 0 | |
| | 50 | 13.559 | | 0.007 | |



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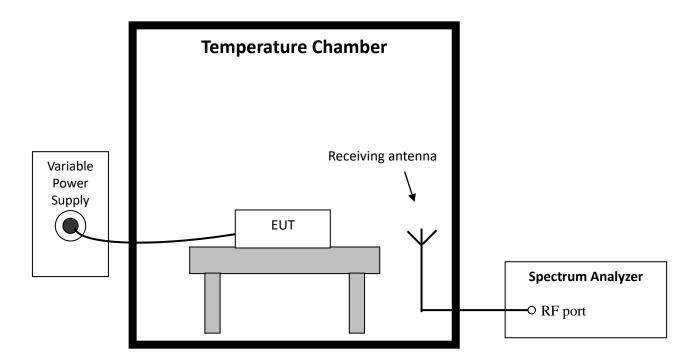
6 Frequency Stability (Voltage Variation)

Test result: PASS

6.1 Test limit

The frequency tolerance of the carrier signal shall be maintained within $\pm 0.01\%$ for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C. For battery operated equipment, the equipment tests shall be performed using a new battery.

6.2 Test Configuration



6.3 Test procedure and test setup

Test Procedure as per ANSI 63.10 clause 6.8.2.

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6.4 Test protocol

| Temp (ºC) | Voltage (V) | Freq Measured (MHz) | Freq nominal (MHz) | Tolerance (%) | Limit (%) |
|--------------|----------------|------------------------|-----------------------|---------------|--------------|
| | 120 | 13.560 | | 0 | |
| 20 | 102 | 13.559 | 13.560 | 0.007 | 0.01 |
| | 138 | 13.559 | | 0.007 | |

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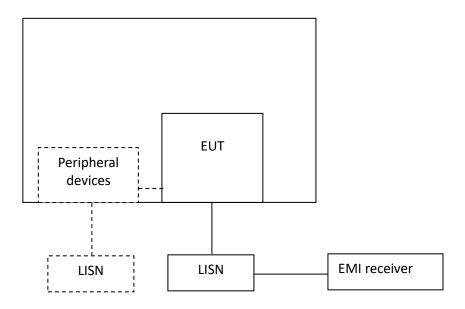
7 Conducted emissions

Test result: Pass

7.1 Limit

| From the of Emission (MUL-) | Conducted Emissions Limit (dBuV) | | | | |
|--|----------------------------------|------------|--|--|--|
| Frequency of Emission (MHz) | 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. | | | | | |

7.2 Test Configuration





7.3 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.

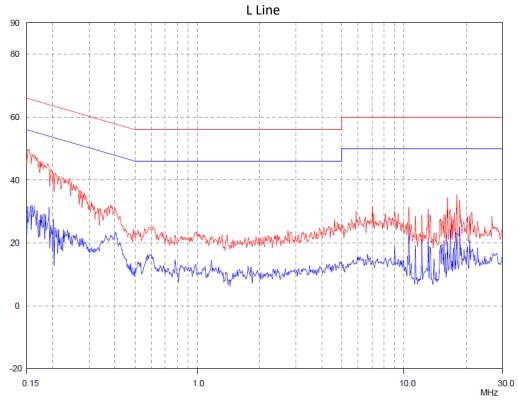
Tabletop devices shall be placed on a platform of nominal size 1 m by 1.5 m, raised 80 cm above the reference ground plane. The vertical conducting plane or wall of an RF-shielded (screened) room shall be located 40 cm to the rear of the EUT. Floor-standing devices shall be placed either directly on 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.

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7.4 Test Results of Conducted Emissions

Test Curve:

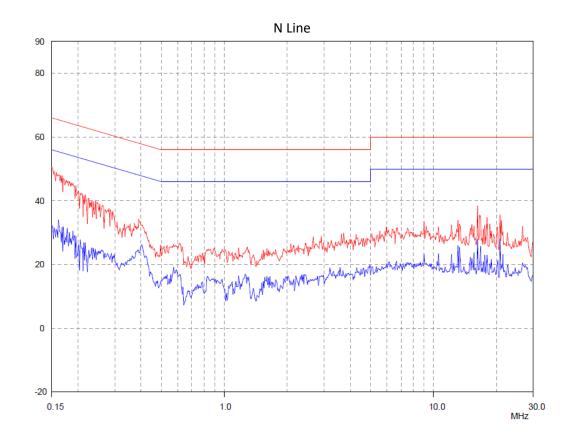


Test Data:

| Frequency (MHz) | Quasi-peak | | | Average | | | |
|--------------------|-----------------|-----------------|----------------|-----------------|-----------------|----------------|--|
| | level dB(μV) | Limit dB(µV) | Margin (dB) | level dB(μV) | limit dB(μV) | Margin (dB) | |
| 0.17 | * | 65.0 | * | * | 55.3 | * | |
| 0.22 | * | 62.7 | * | * | 51.9 | * | |
| 0.39 | * | 57.9 | * | * | 46.0 | * | |
| 4.29 | * | 56.0 | * | * | 46.0 | * | |
| 10.45 | * | 60.0 | * | * | 50.0 | * | |
| 19.40 | * | 60.0 | * | * | 50.0 | * | |

Note: *means margin is more than 10dB.

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Test Data:

| | Quasi-peak | | Average | | | | |
|------------------------------|------------------------|--|--|--|--|--|--|
| level Limit dB(μV) dB(μV) | | Margin (dB) | level dB(μV) | limit dB(μV) | Margin (dB) | | |
| * | 65.0 | * | * | 55.3 | * | | |
| * | 62.7 | * | * | 51.9 | * | | |
| * | 57.9 | * | * | 46.0 | * | | |
| * | 56.0 | * | * | 46.0 | * | | |
| * | 60.0 | * | * | 50.0 | * | | |
| * | 60.0 | * | * | 50.0 | * | | |
| | dB(μV) * * * * * * * * | level Limit dB(μV) dB(μV) * 65.0 * 62.7 * 57.9 * 56.0 * 60.0 | level dB(μV) Limit dB(μV) Margin (dB) * 65.0 * * 62.7 * * 57.9 * * 56.0 * | level dB(μV) Limit dB(μV) Margin (dB) level dB(μV) * 65.0 * * * 65.0 * * * 62.7 * * * 57.9 * * * 56.0 * * * 60.0 * * | $\begin{array}{c c c c c c c c c c c c c c c c c c c $ | | |

Note: *means margin is more than 10dB.

Remark: 1. Correct Factor = LISN Factor + Cable Loss, 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.

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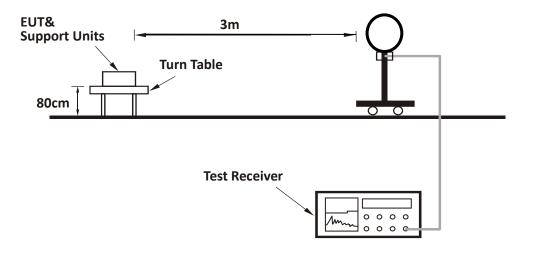
8 99% and 20dB Bandwidth

Test result: Pass

8.1 Limit

The 20dB bandwidth should be fallen in the allocated operating frequency range. No limit for 99% bandwidth.

8.2 Test Configuration



TEST REPORT

8.3 Measurement Procedure

The measurement was applied in a 3m semi-anechoic chamber.

The center of the loop antenna shall be 1 m above the horizontal metal ground plane. The following procedure shall be used for measuring (99 %) power bandwidth:

- 1. Set center frequency to the nominal EUT channel center frequency.
- 2. Set RBW = 1% to 5% of the OBW
- 3. Set VBW \geq 3 RBW

4. Video averaging is not permitted. Where practical, a sample detection and single sweep mode shall be used. Otherwise, peak detection and max hold mode (until the trace stabilizes) shall be used.

- 5. Use the 99 % power bandwidth function of the instrument (if available).
- 6. the 20dB bandwidth is also measured with the same setting.

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8.4 Test Results

| | Lower point (MHz) | Higher point (MHz) | Bandwidth (kHz) | Allocated bandwidth (MHz) |
|----------------|----------------------|-----------------------|--------------------|------------------------------|
| 99% Bandwidth | 13.5600 | 13.5620 | 2.052 | / |
| 20dB Bandwidth | 13.5605 | 13.5616 | 1.100 | 13.553 ~ 13.567 |

| Spectrun Occupied | n Analyzer 1 d BW | + | | | | | | | requency | - 湯 |
|-----------------------|---|---|----------------------------|--|--|-----------|-----------------------|-----------------------------|----------|----------|
| KEYSI | GHT Input: RF Coupling: DC Align: Auto/No F | Input Ζ: 50 Ω Corrections: Off Freq Ref: Int (S) NFE: Adaptive | Atten: 6 dB Preamp: Off | Trig: Free Run Gate: Off #IF Gain: Low | Center Freq: Avg Hold:>10 Radio Std: N | | z | Center Frequ 13.560710 M | <u> </u> | Settings |
| 1 Graph | • | | | | Mkr1 | 13.56071 | | Span 10.000 kHz | | |
| | v 15.0 dB | | Ref Value 68.01 | dBµA | | 4.13 | 3 dBµA | CF Step | | |
| 53.0 38.0 | | | | | | | | 1.000 kHz | | |
| 23.0 8.01 -6.99 | | | | | | | | Auto Man | | |
| -22.0 | | | | ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~ | | | | Freq Offset | | |
| -52.0 -67.0 | | | | | | | | 0 Hz | | |
| | 3.560710 MHz V 91.00 Hz | | #Video BW 300.0 | 00 Hz | | | an 10 kHz weep FFT | | | |
| 2 Metrics | • | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | Occupied Bandwidth | 052 kHz | | Total Power | | 4.88 dBµA | | | | |
| | Transmit Freq Error | -91 | Iz | % of OBW Pow | ver | 99.00 % | | | | |
| | x dB Bandwidth | 824 H | łz | x dB | | -26.00 dE | 3 | | | |
| | | | | | | | | | | |
| | 1 C 🗌 | Sep 26, 2019 2:27:35 PM | | | | | | | | |



9 Antenna requirement

Requirement:

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.

Result:

EUT uses permanently attached antenna to the intentional radiator, so it can comply with the provisions of this section.