

TEST REPORT

of

FCC Part 15 Subpart C

☒ New Application; ☐ Change ID Application; ☐ Class II PC

Product : ProDVX APPC-10SLBe
Brand: ProDVX
Model: APPC-10SLBe 10 inch Android Panel PC
Impact
Model Difference: N/A
FCC ID: 2AR42APPC10SLBE
FCC Rule Part: §15.225, Cat: DXX
Applicant: ProDVX Europe B.V.
Address: Europalaan 10, 5232 BC Den Bosch, The Netherlands

Test Performed by:



International Standards Laboratory Corp. LT Lab.

TEL: +886-3-263-8888 FAX: +886-3-263-8899

No. 120, Lane 180, Hsin Ho Rd., Lung-Tan Dist., Tao Yuan City 325, Taiwan

Report No.: ISL-22LR0167FC
Issue Date :2022/10/03



Test results given in this report apply only to the specific sample(s) tested and are traceable to national or international standard through calibration of the equipment and evaluating measurement uncertainty herein.

The uncertainty of the measurement does not include in consideration of the test result unless the customer required the determination of uncertainty via the agreement, regulation or standard document specification.

This test report shall not be reproduced except in full, without the written approval of International Standards Laboratory Corp.

VERIFICATION OF COMPLIANCE

Applicant: ProDVX Europe B.V.
Product Description: ProDVX APPC-10SLBe
Brand Name: ProDVX
Model No.: APPC-10SLBe 10 inch Android Panel PC Impact
Model Difference: N/A.
FCC ID: 2AR42APPC10SLBE
Date of test: 2022/09/12 ~ 2022/09/30
Date of EUT Received: 2022/09/12

We hereby certify that:

All the tests in this report have been performed and recorded in accordance with the standards described above and performed by an independent electromagnetic compatibility consultant, International Standards Laboratory Corp.

The test results contained in this report accurately represent the measurements of the characteristics and the energy generated by sample equipment under test at the time of the test. The sample equipment tested as described in this report is in compliance with the limits of above standards.

Test By:



Date:

2022/10/03

Barry Lee / Senior Engineer

Prepared By:

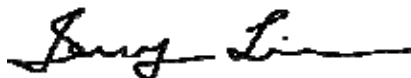


Date:

2022/10/03

Gigi Yeh / Senior Engineer

Approved By:



Date:

2022/10/03

Jerry Liu / Assistant Manager

Version

| Version No. | Date | Description |
|-------------|------------|------------------------------|
| 00 | 2022/10/03 | Initial creation of document |
| | | |

Uncertainty of Measurement

ISO/IEC 17025 requires that an estimate of measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor ($k=2$)).

| Parameter | Uncertainty ($k=2$) |
|------------------------------------|-----------------------|
| Conducted Emission (AC power line) | ± 0.852 dB |
| Spurious emissions, radiated | ± 3.46 dB |
| RF power, conducted | ± 1.386 dB |
| Power Density | ± 1.432 dB |
| RF Frequency | $\pm 0.00298\%$ |
| Time | $\pm 0.01\%$ |
| DC Voltage | $\pm 0.808\%$ |

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1 General Information

1.1 Product Description

General:

| General Information | | |
|---------------------|---|-----------------|
| Product Name: | ProDVX APPC-10SLBe | |
| Brand Name: | ProDVX | |
| Model Name: | APPC-10SLBe 10 inch Android Panel PC Impact | |
| Model Difference: | N/A | |
| Temperature Range | 0°C to 40°C | |
| Power Supply: | 12V DC from adaptor | |
| | Adaptor: | Model:2AAJ024FC |

| Information | |
|---------------------|--------------------|
| Frequency Range: | 13.56MHz |
| Max Output Power: | 59.18 dBuV/m at 3m |
| Channel number: | 1 channels |
| Modulation type: | ASK |
| Product HW Version: | 22080147 |
| Product SW Version: | 11 |
| Product FW Version: | 11 |
| Test SW Version: | NA |
| RFpower setting: | default |

The Test report is applied for NFC.

Remark: The above DUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

1.2 Related Submittal(s) / Grant (s)

This submittal(s) (test report) is intended for **FCC ID: 2AR42APPC10SLBE** filing to comply with Section 15.225 of the FCC Part 15, Subpart C Rules.

1.3 Test Methodology

Both conducted and radiated testing were performed according to the procedures in ANSI 63.4: 2014. Radiated testing was performed at an antenna to EUT distance 3 meters. Radiated testing was performed at an antenna to EUT distance 3 meters.

1.4 Test Facility

The measurement facilities used to collect the 3m Radiated Emission and AC power line conducted data are located on the address of **International Standards Laboratory Corp.** <LT Lab.> No. 120, Lane 180, Hsin Ho Rd., Lung-Tan Dist., Tao Yuan City 325, Taiwan which are constructed and calibrated to meet the FCC requirements in documents ANSI 63.4: 2014. FCC Registration Number is: TW0997, Canada Registration Number: 4067B-4.

1.5 Special Accessories

Not available for this EUT intended for grant.

1.6 Equipment Modifications

Not available for this EUT intended for grant.

2 System Test Configuration

2.1 EUT Configuration

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner which intends to maximize its emission characteristics in a continuous normal application.

2.2 EUT Exercise

The EUT (Transmitter) was tested with a test program to fix the Tx frequency that was for the purpose of the measurements. For more information please see test data and APPENDIX 1 for set-up photographs.

2.3 Test Procedure

2.3.1 Conducted Emissions

The EUT is placed on a turn table which is 0.8 m above ground plane. According to the requirements in Section 7 and 13 of ANSI C63.4: 2014, conducted emissions from the EUT are measured in the frequency range between 0.15 MHz and 30 MHz using CISPR Quasi-Peak and Average detector mode.

2.3.2 Radiated Emissions

The EUT is placed on a turn table which is 0.8 m/1.5 m (Frequency above 1 GHz) above ground plane. The turn table shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3 m away from the receiving antenna which varied from 1 m to 4 m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of the receiving antenna both horizontal and vertical. In order to find out the max. emission, the relative positions of this hand-held transmitter (EUT) were rotated through three orthogonal axes according to the requirements in Section 6 and 11 of ANSI C63.10: 2013.

2.4 Limitation

(1) Conducted Emission

According to section 15.207(a) Conducted Emission Limits is as following.

| Frequency range MHz | Limits dB (uV) | |
|---|-------------------|----------|
| | Quasi-peak | Average |
| 0.15 to 0.50 | 66 to 56 | 56 to 46 |
| 0.50 to 5 | 56 | 46 |
| 5 to 30 | 60 | 50 |
| Note | | |
| 1.The lower limit shall apply at the transition frequencies | | |
| 2.The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz. | | |

(2) Radiated Emission

1. The field strength of any emission within the band 13.553-13.567 MHz shall not exceed 15,848 microvolts/meter at 30 meters. (124dBuV/m at 3m)
2. Within the bands 13.410-13.553 MHz and 13.567-13.710 MHz, the field strength of any emissions shall not exceed 334 microvolts/meter at 30 meters. (90.47dBuV/m at 3m.)
3. Within the bands 13.110-13.410 MHz and 13.710-14.010 MHz the field strength of any emissions shall not exceed 106 microvolts/meter at 30 meters. (80.5dBuV/m at 3m.)
4. The field strength of any emissions appearing outside of the 13.110-14.010 MHz shall not exceed the general radiated emission limits in section 15.209(Intentional Radiators general limit).as below.

| Frequency (MHz) | Field strength $\mu\text{V}/\text{m}$ | Distance (m) | Field strength at 3m $\text{dB}\mu\text{V}/\text{m}$ |
|--------------------|--|--------------|---|
| 1.705-30 | 30 | 2 30 | 69.54 |
| 30-88 | 100 | 3 | 40 |
| 88-216 | 150 | 3 | 43.5 |
| 216-960 | 200 | 3 | 46 |
| Above 960 | 500 | 3 | 54 |

- Remark:
1. Emission level in dBuV/m= $20 \log (\mu\text{V/m})$
 2. Measurement was performed at an antenna to the closed point of EUT distance of meters.
 3. Only spurious frequency is permitted to locate within the Restricted Bands specified in provision of §15.205
 4. Emission spurious frequency which appearing within the Restricted Bands specified in provision of §15.205, then the general radiated emission limits in § 15.209 apply.
 - 5.

Limitation Calculation:

15,848 microvolts/meter at 30 meters = $20 \log (15,848)$ dBuV/m at 30m = 84 dBuV/m at 30m= 124 dBuV/m at 3m

30m to 3m distance correction factor: $40 \log (30/3) = 40 \text{ dB}$

(3) Frequency Tolerance

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

2.5 Configuration of Tested System

Fig. 2-1 Configuration of Tested System

Radiated Emission



Table 1 Equipment Used in Tested System

| Item | Equipment | Mfr/Brand | Model/ Type No. | Series No. | Data Cable | Power Cord |
|------|-----------|-----------|--------------------|------------|------------|------------|
| 1 | adaptor | CWT | 2AAJ024FC | NA | NA | 300cm |

Fig. 2-2 Configuration of Tested System

AC Conducted Emission

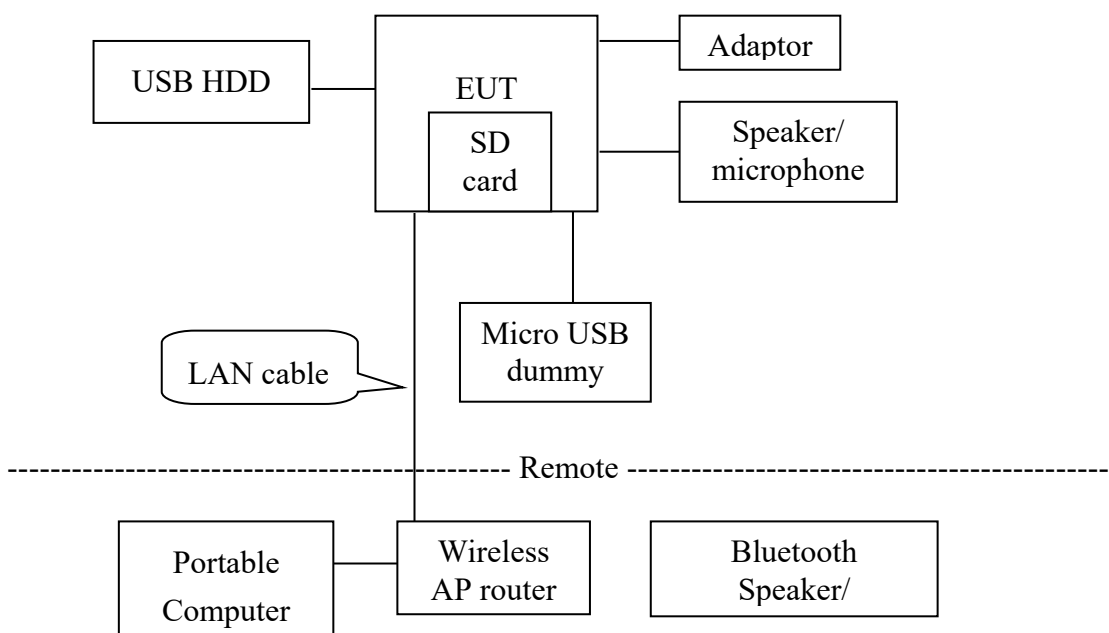


Table 2-2 Equipment Used in Tested System

| Item | Equipment | Mfr/Brand | Model/ Type No. | Series No. | Data Cable | Power Cord |
|------|-------------------------------------|-----------|--------------------|------------|-----------------------|-----------------------|
| 1 | USB HDD | AKiTiO | SK2-U31AS-A KT | N/A | Shielded /1m | N/A |
| 2 | Portable Computer | Lenovo | TP00067B | N/A | N/A | Non-shielded /1.8m |
| 3 | Speaker/ microphone | KOKA | ST-304 | N/A | Non-shielded /1.5m | N/A |
| 4 | Bluetooth Speaker/ microphone | N/A | SA-868 | N/A | N/A | N/A |
| 5 | Wireless AP router | ASUS | RT-AC66U | N/A | Non-shield / 10m | Non-shield / 1.8m |
| 6 | SD card | SanDisk | 11287080S2CA RD | N/A | N/A | N/A |

Note: All the above equipment/cables were placed in worse case positions to maximize emission signals during emission test.

Grounding: Grounding was in accordance with the manufacturer's requirements and conditions for the intended use.

3 Summary of Test Results

| FCC Rules | Description Of Test | Result |
|-----------------|---------------------|-----------|
| §15.207 | Conducted Emission | Compliant |
| §15.225 (a)-(d) | Radiated Emission | Compliant |
| §15.225 (e) | Frequency Stability | Compliant |

4 Description of test modes

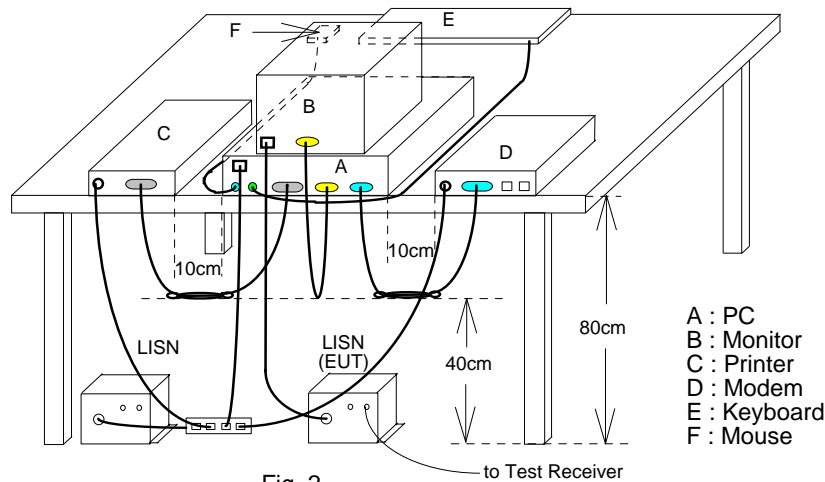
The EUT was tested when placed vertically on the table and the EUT stay in continuous transmitting mode.

5 Conducted Emissions Test

5.1 Measurement Procedure:

1. The EUT was placed on a table which is 0.8m above ground plane.
2. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
3. Repeat above procedures until all frequency measured were complete.

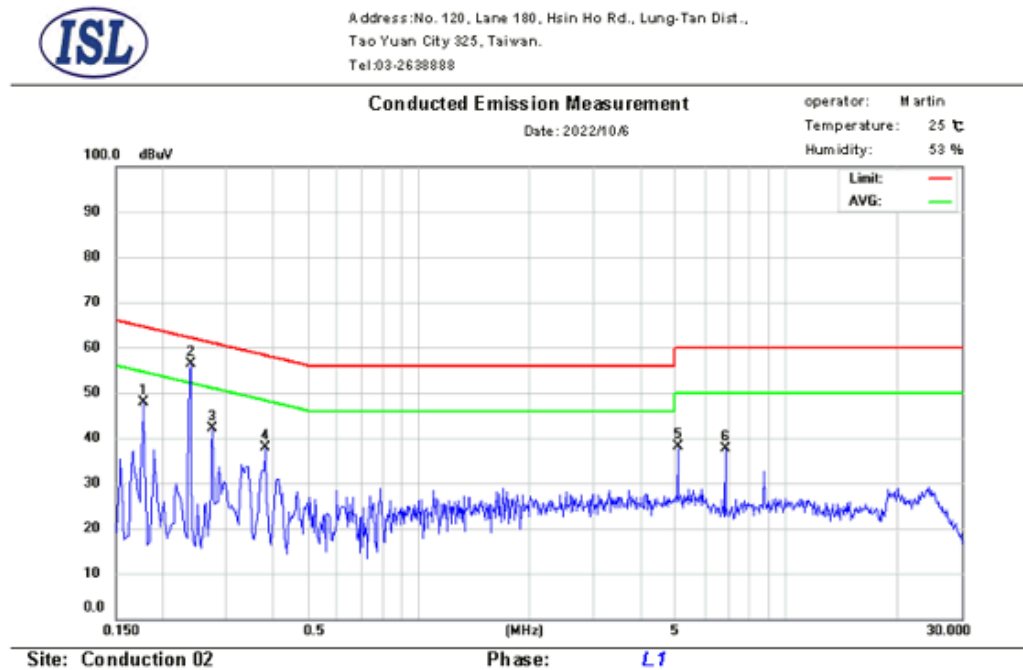
5.2 Test SET-UP (Block Diagram of Configuration)



5.3 Measurement Equipment Used:

| Location | Equipment Name | Brand | Model | S/N | Last Cal. Date | Next Cal. Date |
|---------------|-----------------------------|----------------|---------------|------------------|----------------|----------------|
| Conduction 02 | EMI Receiver 14 | ROHDE& SCHWARZ | ESCI | 101034 | 05/25/2022 | 05/25/2023 |
| Conduction 02 | Conduction 02-1 Cable | WOKEN | CFD 300-NL | Conduction 02 -1 | 10/13/2021 | 10/13/2022 |
| Conduction 02 | LISN 26 | R&S | ENV216 | 102378 | 12/03/2021 | 12/03/2022 |
| Conduction 02 | LISN 21 | R&S | ENV216 | 101476 | 07/20/2022 | 07/20/2023 |
| Conduction 02 | ISN T4 07 | Teseq GmbH | ISN T400A | 30449 | 07/28/2022 | 07/28/2023 |
| Conduction 02 | ISN T8 10 | TESEQ | ISN T800 | 42773 | 08/05/2022 | 08/05/2023 |
| Conduction 02 | ISN T8 CAT6A_01 | SCHWARZB ECK | NTFM 8158 | 8158 0123 | 01/25/2022 | 01/25/2023 |
| Conduction 02 | CDN ISN ST08A_1 | Teseq GmbH | CDN ISN ST08A | 43352 | 10/07/2021 | 10/07/2022 |
| Conduction 02 | Capacitive Voltage Probe 01 | SCHAFFNER | CVP 2200A | 18711 | 02/23/2022 | 02/23/2023 |
| Conduction 02 | Current Probe | SCHAFFNER | SMZ 11 | 18030 | 02/23/2022 | 02/23/2023 |

5.4 Measurement Result:



| No. | Frequency (MHz) | QP_R (dBuV) | AVG_R (dBuV) | Correct Factor (dB) | QP Emission (dBuV) | QP Limit (dBuV) | QP Margin (dB) | AVG Emission (dBuV) | AVG Limit (dBuV) | AVG Margin (dB) |
|-----|--------------------|----------------|-----------------|---------------------------|--------------------------|-----------------------|----------------------|---------------------------|------------------------|-----------------------|
| 1 | 0.178 | 30.87 | 6.71 | 9.67 | 40.54 | 64.58 | -24.04 | 16.38 | 54.58 | -38.20 |
| 2 | 0.238 | 24.93 | 4.41 | 9.67 | 34.60 | 62.17 | -27.57 | 14.08 | 52.17 | -38.09 |
| 3 | 0.274 | 21.73 | 5.36 | 9.67 | 31.40 | 61.00 | -29.60 | 15.03 | 51.00 | -35.97 |
| 4 | 0.382 | 19.13 | 11.76 | 9.68 | 28.81 | 58.24 | -29.43 | 21.44 | 48.24 | -26.80 |
| 5 | 5.074 | 13.23 | 6.43 | 9.81 | 23.04 | 60.00 | -36.96 | 16.24 | 50.00 | -33.76 |
| 6 | 6.834 | 9.91 | 3.19 | 9.84 | 19.75 | 60.00 | -40.25 | 13.03 | 50.00 | -36.97 |

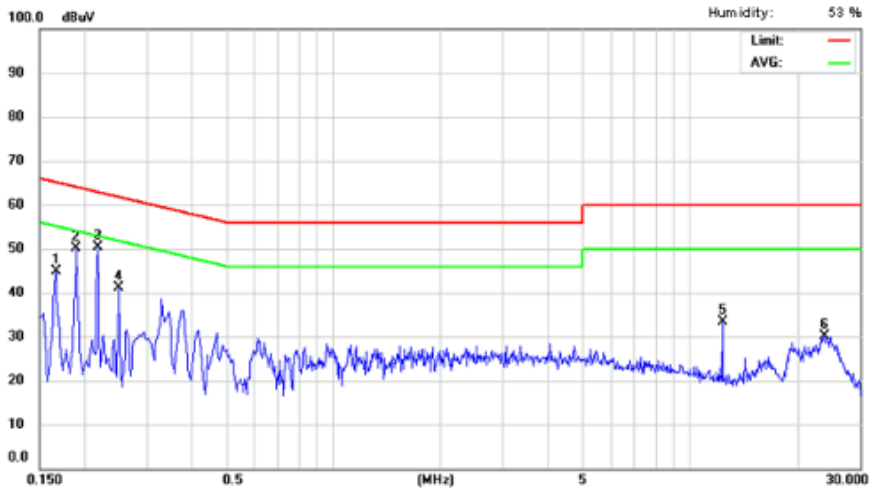


Address: No. 120, Lane 180, Hsin Ho Rd., Lung-Tan Dist.,
Tao Yuan City 325, Taiwan.
Tel: 03-2638888

Conducted Emission Measurement

operator: Martin
Temperature: 25 °C
Humidity: 53 %

Date: 2022/10/6



Site: Conduction 02

Phase: N

| No. | Frequency (MHz) | QP_R (dBuV) | AVG_R (dBuV) | Correct Factor (dB) | QP Emission (dBuV) | QP Limit (dBuV) | QP Margin (dB) | AVG Emission (dBuV) | AVG Limit (dBuV) | AVG Margin (dB) |
|-----|--------------------|----------------|-----------------|---------------------------|--------------------------|-----------------------|----------------------|---------------------------|------------------------|-----------------------|
| 1 | 0.166 | 31.79 | 8.20 | 9.67 | 41.46 | 65.16 | -23.70 | 17.87 | 55.16 | -37.29 |
| 2 | 0.190 | 28.85 | 8.02 | 9.67 | 38.52 | 64.04 | -25.52 | 17.69 | 54.04 | -36.35 |
| 3 | 0.218 | 25.76 | 8.08 | 9.67 | 35.43 | 62.89 | -27.46 | 17.75 | 52.89 | -35.14 |
| 4 | 0.250 | 20.43 | 4.46 | 9.67 | 30.10 | 61.76 | -31.66 | 14.13 | 51.76 | -37.63 |
| 5 | 12.362 | 5.63 | 0.47 | 9.95 | 15.58 | 60.00 | -44.42 | 10.42 | 50.00 | -39.58 |
| 6 | 23.922 | 14.20 | 3.26 | 10.07 | 24.27 | 60.00 | -35.73 | 13.33 | 50.00 | -36.67 |

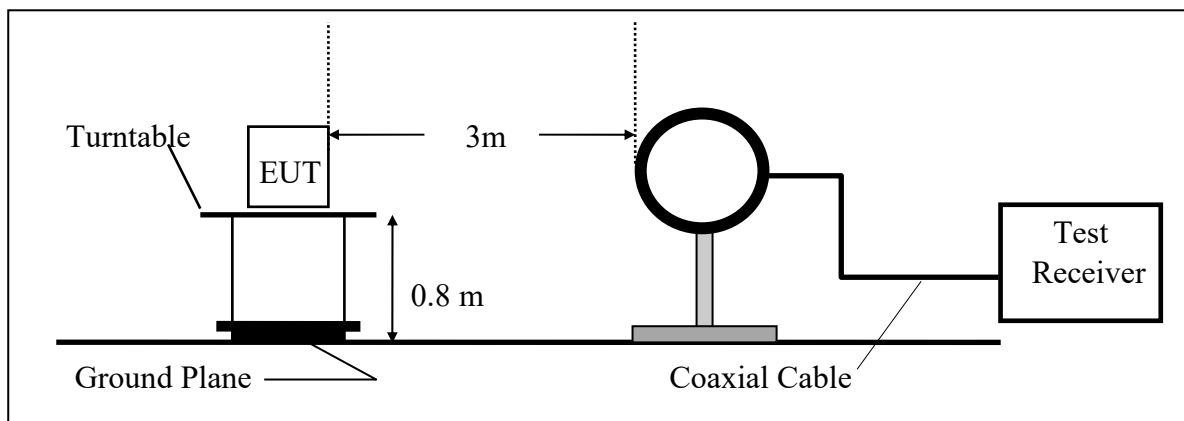
6. Radiated Emission Test

6.1 Measurement Procedure

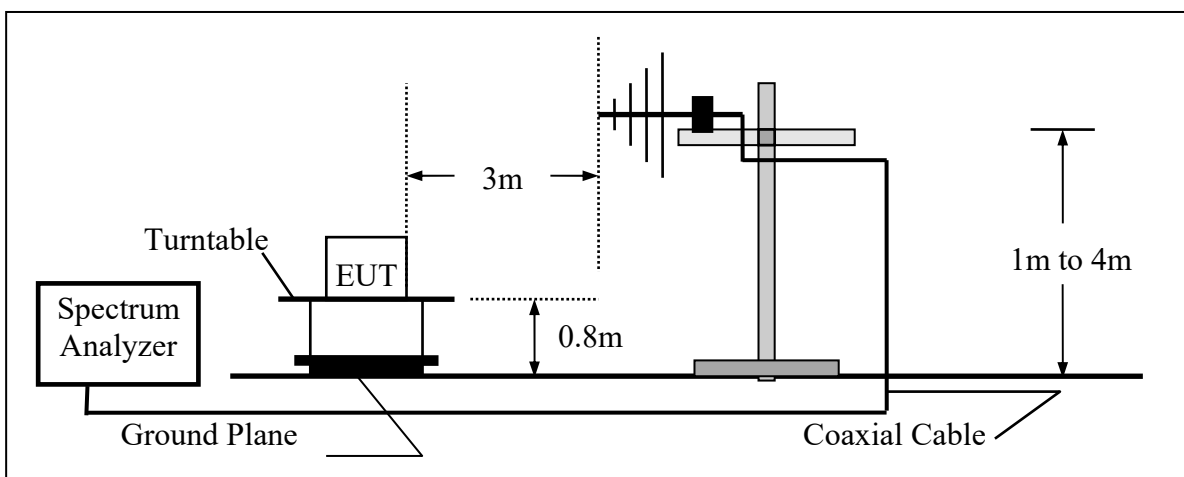
1. The EUT was placed on a turn table which is 0.8m above ground plane.
2. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
3. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
4. Repeat above procedures until all frequency measured were complete.

6.2 Test SET-UP (Block Diagram of Configuration)

(A) Radiated Emission Test Set-Up, Frequency Below 30MHz



(B) Radiated Emission Test Set-Up, Frequency Below 1000MHz



6.3 Measurement Equipment Used:

| Location | Equipment Name | Brand | Model | S/N | Last Cal. Date | Next Cal. Date |
|------------|--------------------------------|-------------------------|---|------------------------|----------------|----------------|
| Chamber 19 | Signal analyzer | R&S | FSV40 | 101919 | 08/17/2022 | 08/17/2023 |
| Chamber 19 | EMI Receiver | R&S | ESR3 | 102461 | 05/10/2022 | 05/10/2023 |
| Chamber 19 | Loop Antenna | EM | EM-6879 | 271 | 10/05/2022 | 10/05/2023 |
| Chamber 19 | Bilog Antenna (30MHz-1GHz) | Schwarzbeck | VULB9168 w 6dB Att. | 9168-736 | 03/09/2022 | 03/09/2023 |
| Chamber 19 | Horn antenna (1GHz-18GHz) | ETS | 3117 | 00218718 | 10/12/2022 | 10/12/2023 |
| Chamber 19 | Horn antenna (18GHz-26GHz) | Com-power | AH-826 | 081001 | 11/30/2021 | 11/30/2022 |
| Chamber 19 | Horn antenna (26GHz-40GHz) | Com-power | AH-640 | 100A | 03/18/2022 | 03/18/2023 |
| Chamber 19 | Preamplifier (9kHz-1GHz) | HP | 8447F | 3113A04621 | 06/24/2022 | 06/24/2023 |
| Chamber 19 | Preamplifier (1GHz - 26GHz) | EM | EM01M26G | 060681 | 05/12/2022 | 05/12/2023 |
| Chamber 19 | Preamplifier (26GHz-40GHz) | MITEQ | JS4-26004000- 27-5A | 818471 | 05/12/2022 | 05/12/2023 |
| Chamber 19 | RF Cable (100kHz-26.5GHz) | Huber Suhner & Woken | Sucoflex 104A & 18GHz SMA(M)-SM A(M)-10M | MY817/4A & 20200525 | 12/23/2021 | 12/23/2022 |
| Chamber 19 | RF Cable (18GHz-40GHz) | HUBER SUHNER | Sucoflex 102 | 27963/2&374 21/2 | 11/17/2021 | 11/17/2022 |
| Chamber 19 | Signal Generator | Anritsu | MG3692A | 20311 | 12/28/2021 | 12/28/2022 |
| Chamber 19 | Test Software | Audix | E3 Ver:6.120203b | N/A | N/A | N/A |

6.4 Field Strength Calculation

The field strength is calculated by adding the Antenna Factor and Cable Factor and subtracting the Amplifier Gain and Duty Cycle Correction Factor (if any) from the measured reading. The basic equation with a sample calculation is as follows:

$$FS = RA + AF + CL - AG$$

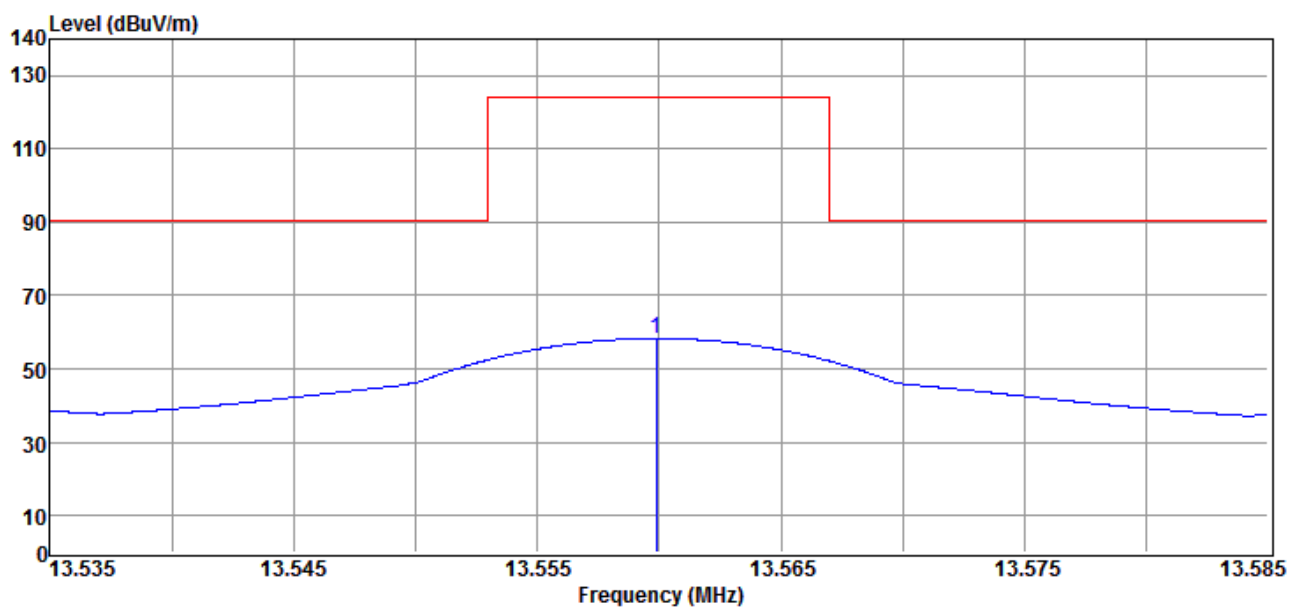
| | | |
|-------|------------------------|--|
| Where | FS = Field Strength | CL = Cable Attenuation Factor (Cable Loss) |
| | RA = Reading Amplitude | AG = Amplifier Gain |
| | AF = Antenna Factor | |

6.5 Measurement Result

Fundamental Measurement Result

Operation Mode : MASK
Fundamental Frequency : 13.56 MHz
Temp : 25

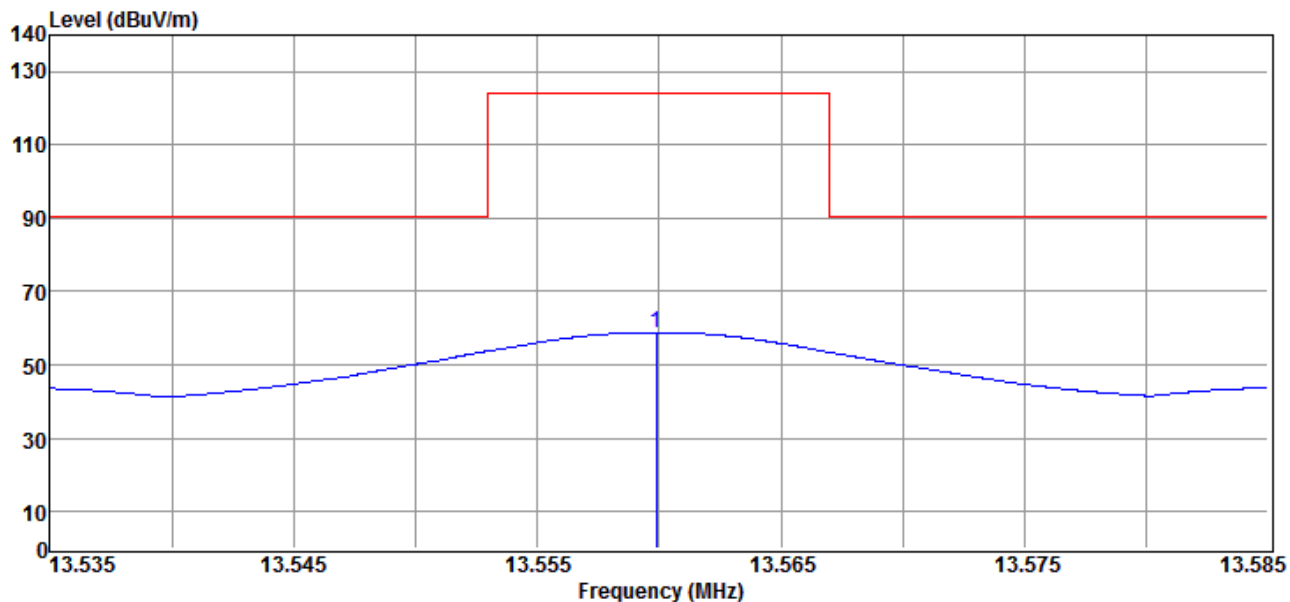
Test Date : 2022/09/30
Test By : Barry
Hum. : 60%



| No | Freq MHz | Reading dBuV | Factor dB/m | Level dBuV/m | Limit dBuV/m | Margin dB | Remark | Pol V/H |
|----|-------------|-----------------|----------------|-----------------|-----------------|--------------|--------|------------|
| 1 | 13.56 | 47.07 | 11.24 | 58.31 | 124.00 | -65.69 | Peak | VERTICAL |

Operation Mode : MASK
Fundamental Frequency : 13.56 MHz
Temp : 25

Test Date : 2022/09/30
Test By : Barry
Hum. : 60%



| No | Freq MHz | Reading dBuV | Factor dB/m | Level dBuV/m | Limit dBuV/m | Margin dB | Remark | Pol V/H |
|----|-------------|-----------------|----------------|-----------------|-----------------|--------------|--------|------------|
| 1 | 13.56 | 47.67 | 11.24 | 58.91 | 124.00 | -65.09 | Peak | HORIZONTAL |

Radiated Spurious Emission Measurement Result (below 1GHz)

Operation Mode: Transmitting Mode

Test Date: 2022/09/30

Fundamental Frequency: 13.56MHz

Test By: Barry

Temperature : 25

Humidity : 65 %

| No | Freq MHz | Reading dBuV | Factor dB/m | Level dBuV/m | Limit dBuV/m | Margin dB | Remark | Pol V/H |
|----|-------------|-----------------|----------------|-----------------|-----------------|--------------|--------|------------|
| 1 | 0.46 | 39.19 | 18.90 | 58.09 | 101.79 | -43.70 | Peak | VERTICAL |
| 2 | 1.00 | 25.83 | 14.49 | 40.32 | 68.76 | -28.44 | Peak | VERTICAL |
| 3 | 8.17 | 35.74 | 10.94 | 46.68 | 69.54 | -22.86 | Peak | VERTICAL |
| 4 | 15.40 | 39.24 | 11.15 | 50.39 | 69.54 | -19.15 | Peak | VERTICAL |
| 5 | 16.45 | 39.41 | 11.11 | 50.52 | 69.54 | -19.02 | Peak | VERTICAL |
| 6 | 22.11 | 41.06 | 11.68 | 52.74 | 69.54 | -16.80 | Peak | VERTICAL |
| 7 | 222.06 | 44.59 | -7.93 | 36.66 | 46.00 | -9.34 | Peak | VERTICAL |
| 8 | 295.78 | 42.03 | -4.21 | 37.82 | 46.00 | -8.18 | Peak | VERTICAL |
| 9 | 369.50 | 37.18 | -3.12 | 34.06 | 46.00 | -11.94 | Peak | VERTICAL |
| 10 | 783.69 | 29.54 | 4.65 | 34.19 | 46.00 | -11.81 | Peak | VERTICAL |
| 11 | 792.42 | 29.34 | 4.91 | 34.25 | 46.00 | -11.75 | Peak | VERTICAL |
| 12 | 814.73 | 36.05 | 5.08 | 41.13 | 46.00 | -4.87 | Peak | VERTICAL |

Remark:

- 1 No further spurious emissions detected from the lowest internal frequency and 30MHz.
- 2 Measuring frequencies from the lowest internal frequency to the 1GHz.
- 3 Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak / QP detector mode.
- 4 Measurement result within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 5 The IF bandwidth of SPA between 30MHz to 1GHz was 100kHz, VBW=300kHz.
- 6 Peak is below the average limit, so that the average result is not measured

Radiated Spurious Emission Measurement Result (below 1GHz)

Operation Mode: Transmitting Mode

Test Date: 2022/09/30

Fundamental Frequency: 13.56MHz

Test By: Barry

Temperature : 25

Humidity : 65 %

| No | Freq | Reading | Factor | Level | Limit | Margin | Remark | Pol |
|----|--------|---------|--------|--------|--------|--------|--------|------------|
| | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | | V/H |
| 1 | 0.34 | 36.79 | 21.54 | 58.33 | 108.89 | -50.56 | Peak | HORIZONTAL |
| 2 | 8.14 | 51.02 | 10.93 | 61.95 | 69.54 | -7.59 | Peak | HORIZONTAL |
| 3 | 11.41 | 45.21 | 11.37 | 56.58 | 69.54 | -12.96 | Peak | HORIZONTAL |
| 4 | 19.08 | 44.79 | 11.00 | 55.79 | 69.54 | -13.75 | Peak | HORIZONTAL |
| 5 | 23.43 | 43.77 | 12.10 | 55.87 | 69.54 | -13.67 | Peak | HORIZONTAL |
| 6 | 23.85 | 37.59 | 12.24 | 49.83 | 69.54 | -19.71 | Peak | HORIZONTAL |
| 7 | 147.37 | 34.90 | -5.21 | 29.69 | 43.50 | -13.81 | Peak | HORIZONTAL |
| 8 | 222.06 | 45.45 | -7.93 | 37.52 | 46.00 | -8.48 | Peak | HORIZONTAL |
| 9 | 295.78 | 44.61 | -4.21 | 40.40 | 46.00 | -5.60 | Peak | HORIZONTAL |
| 10 | 369.50 | 36.89 | -3.12 | 33.77 | 46.00 | -12.23 | Peak | HORIZONTAL |
| 11 | 514.03 | 36.24 | -0.24 | 36.00 | 46.00 | -10.00 | Peak | HORIZONTAL |
| 12 | 814.73 | 35.55 | 5.08 | 40.63 | 46.00 | -5.37 | Peak | HORIZONTAL |

Remark:

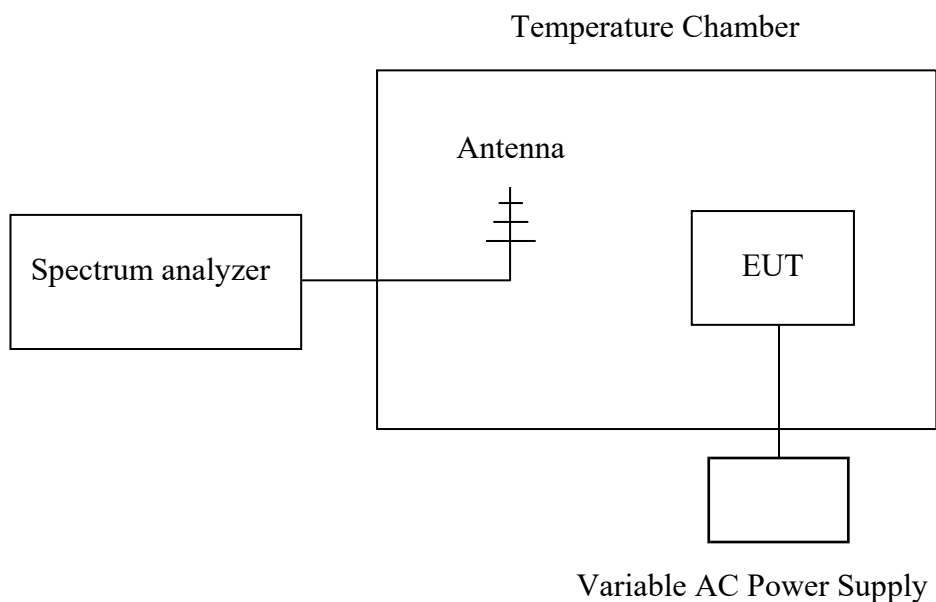
- 1 No further spurious emissions detected from the lowest internal frequency and 30MHz.
- 2 Measuring frequencies from the lowest internal frequency to the 1GHz.
- 3 Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak / QP detector mode.
- 4 Measurement result within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 5 The IF bandwidth of SPA between 30MHz to 1GHz was 100kHz, VBW=300kHz.
- 6 Peak is below the average limit, so that the average result is not measured

7. Frequency Tolerance

7.1 Measurement Procedure

1. The EUT was placed on a turn table which is 0.8m above ground plane.
2. Set EUT as normal operation
3. Set SPA Center Frequency = fundamental frequency, RBW, VBW= 10kHz, Span =100kHz.
4. Set SPA Max hold. Mark peak.
- 5.

7.2 Test SET-UP (Block Diagram of Configuration)



7.3 Measurement Equipment Used:

| Location Conducted | Equipment Name | Brand | Model | S/N | Last Cal. Date | Next Cal. Date |
|--------------------|--|-------------|----------------------------|--------------------------|----------------|----------------|
| Conducted | Power Meter | Anritsu | ML2495A | 1116010 | 09/29/2022 | 09/29/2023 |
| Conducted | Power Sensor | Anritsu | MA2411B | 34NKF50 | 09/29/2022 | 09/29/2023 |
| Conducted | Power Sensor | DARE | RPR3006W | 13I00030SNO33 | 01/07/2022 | 01/07/2023 |
| Conducted | Power Sensor | DARE | RPR3006W | 13I00030SNO34 | 01/07/2022 | 01/07/2023 |
| Conducted | Power Sensor | DARE | RPR3006W | 14I00889SNO35 | 06/29/2022 | 06/29/2023 |
| Conducted | Power Sensor | DARE | RPR3006W | 14I00889SNO36 | 06/29/2022 | 06/29/2023 |
| Conducted | Temperature Chamber | KSON | THS-B4H100 | 2287 | 05/20/2022 | 05/20/2023 |
| Conducted | DC Power supply | ABM | 8185D | N/A | 01/06/2022 | 01/06/2023 |
| Conducted | AC Power supply | EXTECH | CFC105W | NA | N/A | N/A |
| Conducted | Spectrum analyzer | Keysight | N9010A | MY56070257 | 09/28/2022 | 09/28/2023 |
| Conducted | Test Software | DARE | Radiation Ver:2013.1.23 | NA | NA | NA |
| Conducted | Test Software | R&S | CMUGO Ver:2.0.0 | N/A | N/A | N/A |
| Conducted | Universal Digital Radio Communication Tester | R&S | CMU200 | 111968 | 11/18/2021 | 11/18/2022 |
| Conducted | Wideband Radio Communication Tester | R&S | CMW500 | 1201.002K50108 793-JG | 10/26/2021 | 10/26/2022 |
| Conducted | BT Simulator | Agilent | N4010A | MY48100200 | NA | NA |
| Conducted | GPS Simulator | Welnavigate | GS-50 | 701523 | NA | NA |
| Conducted (TS8997) | Wideband Radio Communication Tester | R&S | CMW500 | 168811 | 09/22/2022 | 09/22/2023 |
| Conducted (TS8997) | Signal Generator | R&S | SMB100B | 101085 | 09/21/2022 | 09/21/2023 |
| Conducted (TS8997) | Vector Signal Generator | R&S | SMBV100A | 263246 | 09/21/2022 | 09/21/2023 |
| Conducted (TS8997) | Signal analyzer 40GHz | R&S | FSV40 | 101884 | 09/22/2022 | 09/22/2023 |
| Conducted (TS8997) | OSP150 extension unit CAM-BUS | R&S | OSP150 | 101107 | 09/21/2022 | 09/21/2023 |
| Conducted (TS8997) | Test Software | R&S | EMC32 Ver:11.10.00 | NA | NA | NA |

7.4 Measurement Results

Refer to attached data chart.

A. Temperature Variation

| Limit: +/- 0.01% | | | | | |
|------------------|------------------|-----------|-------------|-------------|--------|
| Power Supply | Environment | Frequency | Delta (kHz) | Limit (kHz) | Result |
| Vdc | Temperature (°C) | (MHz) | | | |
| 12 | -20 | 13.560076 | 0.003 | 1.356 | Pass |
| | -10 | 13.560074 | 0.001 | | Pass |
| | 0 | 13.560071 | -0.002 | | Pass |
| | 10 | 13.560072 | -0.001 | | Pass |
| | 20 | 13.560073 | 0.000 | | Pass |
| | 30 | 13.560078 | 0.005 | | Pass |
| | 40 | 13.560071 | -0.002 | | Pass |
| | 50 | 13.560074 | 0.001 | | Pass |

B. Supply Voltage Variation

| Limit: +/- 0.01% | | | | | |
|------------------|------------------|-----------|-------------|-------------|--------|
| Power Supply | Environment | Frequency | Delta (kHz) | Limit (kHz) | Result |
| Vdc | Temperature (°C) | (MHz) | | | |
| 12 | 20 | 13.560073 | 0.000 | 1.356 | Pass |
| 13.2 | 20 | 13.560075 | 0.002 | | Pass |
| 10.8 | 20 | 13.560072 | -0.001 | | Pass |